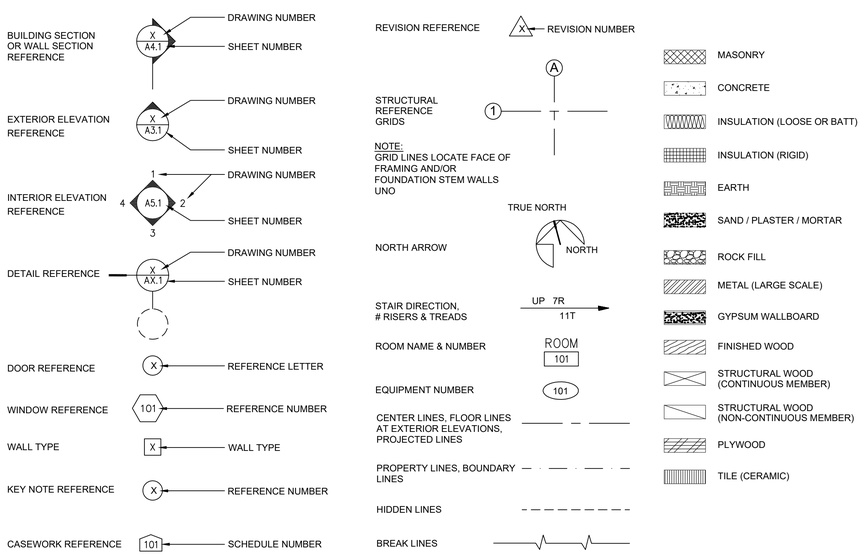
LI RESIDENCE CUSTOM

WEAVER CONSTRUCTION

4657 86TH AVE. SE
MERCER ISLAND, WA 98040
PARCEL NUMBER #759810-0545

PERSPECTIVE IMAGE

SYMBOLS



PROJECT PARTICIPANTS

OWNER:	PAUL LI PH: (703) 965-9722
CONTRACTOR:	WEAVER CONSTRUCTION WILLIAM WEAVER PH: (408) 348-3095
ENGINEERING:	CSES EVAN APOLIS 6311 17TH. AVE NE SEATTLE, WA 98115 PH: 206-527-1288
DESIGNER / DRAFTSMAN:	LURE DESIGN SOLUTIONS SHAWN SULLIVAN 4402 242ND PLACE SW MOUNTLAKE TERRACE, WA 98043 PH: (425) 870-0383
CIVIL ENGINEER:	CANON KATIE ROLLINS PH: (310) 382-5133
ARBORIST:	BENJAMIN MARK 11415 NE 128TH ST. SUITE 110 KIRKLAND, WA 98034 PH: (425)-820-3420:

SQUARE FOOTAGE

LOWER FLOOR	
(INCLUDES 82 SF / 500 SF ADU)	2364 SF
UPPER FLOOR	1623 SF
TOTAL	3987 SF
GARAGE	580 SF
REAR COVERED PATIO	334 SF

LEGAL DESCRIPTION

SCHMIDS VITUS E SEATTLE ACRE TRS S 80 FT OF E 125 FT

PLAT BLOCK: 14
PLAT LOT: 5

PROJECT DATA

JURISDICTION:	MERCER ISLAND
PROJECT ADRESS:	4657 86TH AVE SE MERCER ISLAND , WA 98040
TAX ACCOUNT NO.:	#759810-0545
PROPERTY TYPE:	RESIDENTIAL (R)
ZONING.:	R 9.6
LOT SIZE:	10,000 SF-- .23 ACRES
OCCUPANCY GROUP:	R
CONSTRUCTION TYPE	TYPE V-NR
SEWER:	IN STREET
WATER :	IN STREET
GAS :	IN STREET
ENVIRONMENTAL :	NONE
DRAINAGE	DOWNSPOUT TO TIGHTLINE/SANITARY SEWER

PROJECT DESCRIPTION

DEMO / REMOVE AN EXISTING SINGLE STORY RESIDENCE WITH ATTACHED GARAGE, THE EXISTING FOUNDATION AND LOWER FLOOR CONCRETE SLAB WILL BE REMAIN AND BE MODIFIED AS REQUIRED TO ACCOMMODATE THE NEW STRUCTURE. TREES ARE PROPOSED TO BE REMOVED AND ARE IDENTIFIED IN THE ARBORIST REPORT.

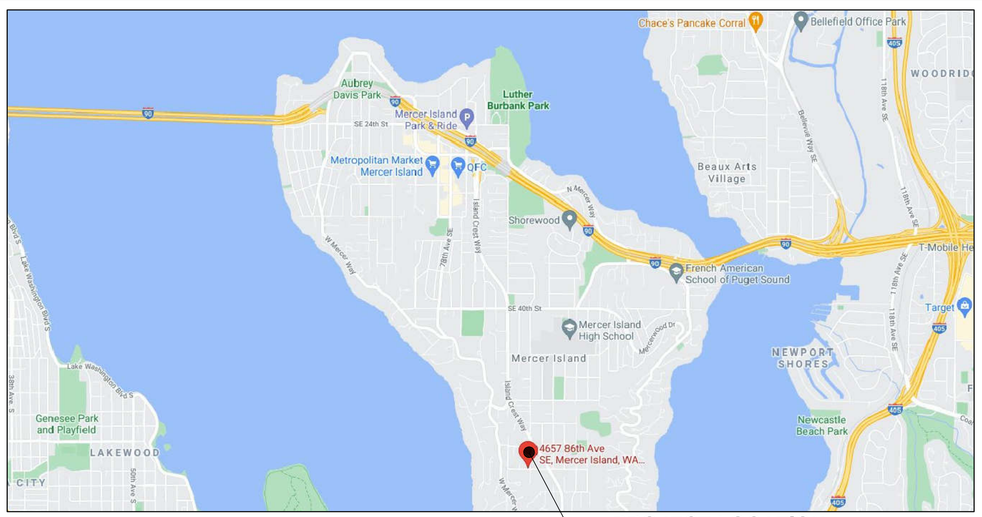
A PROPOSED NEW 3987 SQUARE TWO STORY RESIDENCE W/ AN ATTACHED (2) CAR GARAGE, REAR COVERED PATIO AND A 500 SF ADU WILL BE CONSTRUCTED. SITE IMPROVEMENTS TO INCLUDE A NEW CONCRETE DRIVEWAY AND A NEW SIDEWALK ACCESSING THE MAIN ENTRY TO THE HOME.

CODE SUMMARY

- MERCER ISLAND CITY CODE (MICC)
- 2018 INTERNATIONAL BUILDING CODE (IRC)
- 2018 INTERNATIONAL MECHANICAL CODE (IMC)
- 2018 INTERNATIONAL FIRE CODE (IMC)
- WASHINGTON STATE ENERGY CODE (WCEC)
- 2018 UNIFORM PLUMBING CODE CODE (UPC)

BUILDING

VICINITY MAP



PROJECT LOCATION

DRAWING INDEX

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

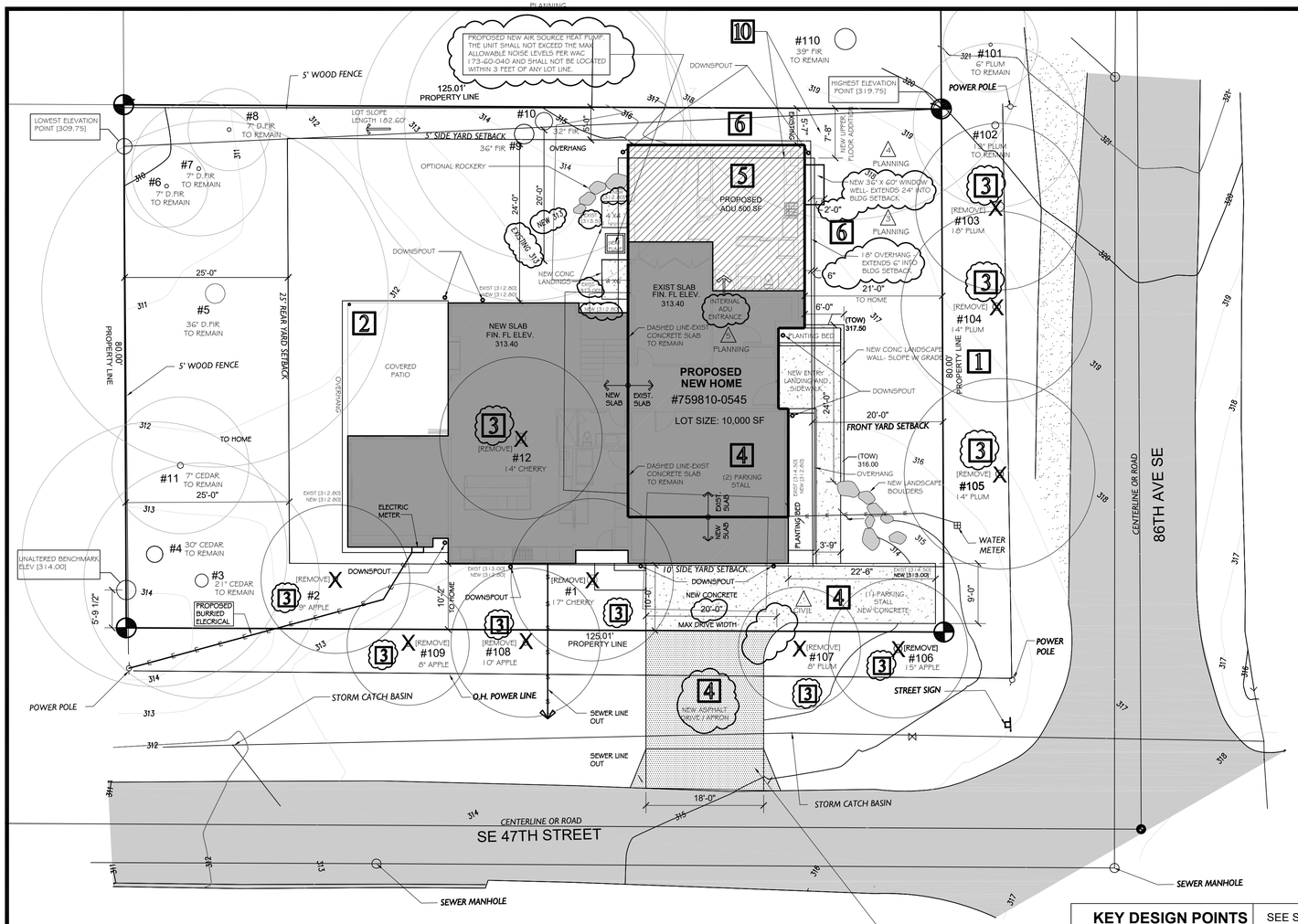
PERMIT SET

lure. DESIGN SOLUTIONS
Designer
Shawn Sullivan
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425.870.0383

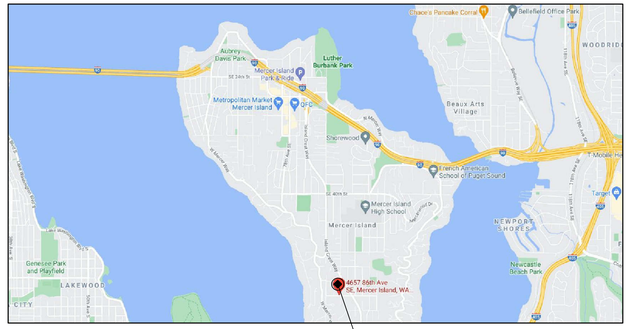
LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

COVER SHEET

DATE: 01-04- 2022
DESIGNED: SLS
DRAWN: SLS
JOB NO: 2022- 01
SHEET: A0



VICINITY MAP



PROJECT PARTICIPANTS

OWNER:	PAUL LI PH: (703) 965-9722
CONTRACTOR:	WEAVER CONSTRUCTION WILLIAM WEAVER PH: (408) 348-3095
ENGINEERING:	CSES EVAN APOLIS 6311 17TH. AVE NE SEATTLE, WA 98115 PH: 206-527-1288
DESIGNER / DRAFTSMAN:	LURE DESIGN SOLUTIONS SHAWN SULLIVAN 4402 242ND PLACE SW MOUNTLAKE TERRACE, WA 98043 PH: (425) 870-0383
CIVIL ENGINEER:	CANON KATIE ROLLINS PH: (310) 382-5133
ARBORIST:	BENJAMIN MARK 11415 NE 128TH ST. SUITE 110 KIRKLAND, WA 98034 PH: (425)-820-3420:

PROJECT DATA

JURISDICTION:	MERCER ISLAND
PROJECT SITE:	4657 86TH AVE SE MERCER ISLAND , WA 98040
TAX ACCOUNT NO.:	#759810-0545
PROPERTY TYPE:	RESIDENTIAL (R)
ZONING.:	R 9.6
LOT SIZE:	10,000 SF-- .23 ACRES
OCCUPANCY GROUP:	R
ENVIRONMENTAL :	NONE
WATER :	IN STREET
SEWER:	IN STREET

SQUARE FOOTAGE INFO.

LOWER FLOOR INCLUDES 82 SF / 500SF ADU	2364 SF
UPPER FLOOR	1623 SF
TOTAL	3987 SF
GARAGE	580 SF
REAR COVERED PATIO	334 SF

LEGAL DESCRIPTION

SCHMIDS VITUS E SEATTLE ACRE TRS S 80 FT OF E 125 FT
PLAT BLOCK: 14
PLAT LOT: 5

KEY DESIGN POINTS

SEE SHEETS A1.1 AND A 1.2 FOR CODE STUDY INFORMATION

1 YARD REQUIREMENTS:
- 86TH AVE SE IS THE FRONT YARD
- BUILDING SET BACKS:
  20FT FRONT, 25FT REAR AND TOTAL SUM OF 15FT FOR SIDE YARDS

2 NEW CONCRETE FOUNDATION, LANDING WITHIN EXISTING TREE DRIP LINE:
- -AN ARBORIST REPORT HAS BEEN OBTAINED TO ADDRESS THE FOLLOWING ITEMS BELOW AS WELL AS TO ESTABLISH THE LIMITS OF DISTURBANCE PARAMETERS.
- -THE PROPOSED NEW NORTHWEST CORNER OF THE NEW COVERED PATIO IS LOCATED WITHIN THE DRIP LINE OF THE ADJACENT EXISTING FIR TREE #5
- -SEE ATTACHED ARBORIST REPORT FOR DETAILED INFORMATION

3 EXISTING TREES / PROPOSED TREE REMOVAL / REPLANTING

-TREES PROPOSED TO BE REMOVED DUE TO NEW CONSTRUCTION ACTIVITY-
- (#1,#2 AND #12) -THESE TREES WILL BE REPLACED WITH NEW TREES- SEE ATTACHED REPLANTING PLAN
- (#106,#108 AND #109) -FEE IN LEIU OF REPLACEMENT WILL BE REQUESTED FOR THESE TREES- SEE ATTACHED REPLANTING PLAN

-TREES PROPOSED TO BE REMOVED DUE TO BEING UNHEALTHY / NON-VIABLE TREES-
- (#103, #104, #105 AND #107) -THESE TREES ARE NOT PROPOSED TO BE REPLACED
- -ALL OTHER EXISTING TREES TO REMAIN AND BE PROTECTED DURING CONSTRUCTION
- - SEE ATTACHED ARBORIST REPORT FOR DETAILED INFORMATION

4 DRIVEWAY ACCESS / PARKING:
- -THE EXISTING DRIVEWAY WILL BE REMOVED /DEMOED AND A NEW 18' WIDE CONC. DRIVEWAY INSTALLED.
- -NEW DRIVEWAY ACCESS IS PROPOSED AT 18' WIDE AND IN SIMILAR LOCATION TO EXISTING DRIVEWAY.
- -A NEW DRIVEWAY / APRON WILL BE INSTALLED AS REQUIRED. SEE CIVIL ENGINEER DRAWINGS FOR DETAILED INFORMATION. THE PORTION OF THE DRIVEWAY AND APRON LOCATED IN THE ROW WILL BE ASHPALTED
- -(2) PARKING STALLS ARE PROVIDED INSIDE GARAGE
- -(1) EXTERIOR PARKING STALL IS PROVIDED AS SHOWN

5 PROPOSED ADU
- - ADU UNITS MUST NOT EXCEED 500 SF
- - A 500 SF ADU IS PROPOSED TO BE LOCATED IN THE NORTH EAST PORTION OF THE LOWER FLOOR.
- - A SEPARATE ENTRANCE IN NOT PROPOSED
- - ALLOWABLE GFA CAN BE INCREASED BY TO 45% THUS 4500 SF

6 PLANNING
GROSS FLOOR AREA (GFA): (SEE SHEET A1.2 FOR DIAGRAMS AND CALCULATIONS)
- - THE GROSS FLOOR AREA = 40% MAX OF LOT SIZE
- - LOT SIZE IS 10000 SF. 10000 X .40 = 4000 SF
- - MAX ADU OF 500 SF INCREASE ALLOWED.
- -ALLOWABLE GFA : 4000 + 500= 4500 SF

EXCLUDED GFA : (SEE SHEET 1.1 FOR DIAGRAMS AND CALCULATIONS)
- - A PORTION OF THE LOWER FLOOR IS UNDER GRADE AT THE NORTH EAST CORNER OF THE HOME.
- -PORPOSED GFA : 4698 SF
- -TOTAL EXCLUDED: 206.08 SF
- -TOTAL ADJUSTED ALLOWABLE: 4698-206= 4492 SF < 4500SF

7 LOT COVERAGE: - (SEE SHEET A1.3 FOR DIAGRAMS AND CALCULATIONS)
- - LOT SIZE IS 10000 SF.
- - SITE SLOPE WAS CALCULATED TO BE LESS THAN -15% THUS 40% LOT COVERAGE MAX
- - ALLOWABLE LOT COVERAGE: 10000 X .40 = 4000 SF OR 40%
- - ALLOWABLE LOT COVERAGE: 3997 SF OR 39.9%

8 HARDSCAPE: (SEE SHEET A1.4 FOR DIAGRAMS AND CALCULATIONS)
- - HARDSCAPE= REQUIRED TO BE MAX. OF 9% (LOT IS 10,000 SF)
- - 60% LANDSCAPE AREA REQ'D...DRIVEWAYS AND DRIVING SURFACES PROHIBITED IN LANDSCAPE AREA
- - ALLOWABLE HARDSCAPE: 10000 X .09 = 900 SF OR 9%
- - PROPOSED HARDSCAPE: 255 SF OR 3%

9 BUILDING HEIGHT LIMITS - (SEE SHEET A1.5 FOR DIAGRAMS AND CALCULATIONS)
- - NO BUILDING SHALL EXCEED 30 FT IN HEIGHT ABOVE THE AVERAGE BUILDING ELEVATION TO THE HIGHEST POINT OF THE ROOF
- - THE MAX BUILDING FACADE HEIGHT ON THE DOWN HILL SIDE OF A SLOPING LOT SHALL NOT EXCEED 30 FEET IN HEIGHT. THE BUILDING FACADE HEIGHT SHALL BE MEASURED FROM THE EXISTING GRADE, WHICHEVER IS LOWER, AT THE FURTHEST DOWNHILL EXTENT OF THE PROPOSED BUILDING, TO THE TOP OF THE EXTERIOR WALL FACADE SUPPORTING THE ROOF FRAMING, RAFTERS, TRUSSES ETC.
- - AVERAGE BUILDING ELEVATION = 313. 89 (ABE)
- - MAX BUILDING HEIGHT = 343. 89 (MAX)

10 SIDE YARD DEPTH REQUIREMENTS
- -THE EXISTING FOUNDATION OF THE LOWER FLOOR IS TO REMAIN. THE PROPOSED NON-GABBLED (NO OVERHANG) ROOF HEIGHT IS (23') FROM LOWEST GRADE. THIS IS IS OVER THE 15 FT ALLOWED THUS THE PROPOSED SECOND STORY WILL STEP BACK 2'-0" TO ACCOMMODATE THE REQUIRED 7'-6" SETBACK.

WATER METER / SUPPLY

PROVIDE NEW OR UPSIZED WATER AND OR WATER SUPPLY LINE
- 1" MIN. METER SIZE
- 1.25" MIN. SUPPLY LINE
- CONSULT W/ FIRE SPRINKLER CONTRACTOR FOR SIZING REVIEW

SURVEYS REQUIRED

1) AN IMPERVIOUS SURFACE, LOT COVERAGE AND OR HARD SURFACE SURVEY IS REQ'D PRIOR TO FINAL INSPECTION
2) A PROPERTY LINE /SETBACK SURVEY IS REQ'D PRIOR TO FINAL INSPECTION

SITE WALLS

FALL PROTECTION WILL BE PROVIDED IF A VERTICAL HAZARD OF 30" OR GREATER IS WITHIN 36" HORIZONTAL OF A WALKING SURFACE

CIVIL ENGINEERING

-SEE ATTACHED CIVIL ENGINEERING PLANS FOR DRAINAGE / ADDITIONAL SITE WORK INFORMATION

LOT SLOPE

-HIGHEST POINT	319.75'
-LOWEST POINT	309.75'
- DIFFERENCE IN ELEVATION	10.00'
- HORIZONTAL DIFFERENCE	182.60'
-SLOPE:	
10' / 182.60' = .054	5.4%

NOXIOUS WEED REMOVAL

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

FIRE SPRINKLER / ALARM

-A FIRE SPRINKLER SYSTEM IS REQUIRED PER NFPA 13D
- A MONITORED HOUSEHOLD FIRE ALARM IS REQUIRED PER NFPA 72
- NOR-TECH FIRE SYSTEMS WILL BE DESIGNING THE SYSTEM AND APPLYING FOR A SEPARATE PERMIT

TABLE- R402.1.1 -INSULATION AND FENESTRATION MIN. REQUIREMENTS

FENESTRATION:	U FACTOR .30
SKYLITE:	U-FACTOR .50
ATTIC / CEILING	R-VALUE R49
WOOD FRAMED WALLS (16 O.C.)	R-VALUE R21
FLOOR SYSTEM	R-VALUE R30
BELOW GRADE WALL (CAVITY INSUL W/ THERMAL BREAK)	R-VALUE R30
SLAB ON GRADE (R-VALUE AND MIN. DEPTH)	R10 / 2 FT

BLDG

ENERGY CODE REQUIREMENTS

PER TABLE R406.3 MEDIUM DWELLING UNIT REQUIRES (6) ENERGY CREDITS

1.1	(.5) CREDITS	*VERTICAL FENESTRATION U=.24
3.5	(1.5) CREDITS	*AIR-SOURCE CENTRALLY DUCTED HEAT PUMP WITH HSPF OF 11.0
5.1	(.5) CREDITS	*DRAIN WATER RECOVERY SYSTEM
5.5	(2) CREDITS	*HE ELECTRIC WATER HEATER
7.1	(.5) CREDITS	*HE ELECTRIC WATER HEATER
OPTION 1	(1) CREDIT	*FUEL NORMALIZATION CREDIT

TOTAL CREDITS SELECTED- 6 CREDITS

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

lure. DESIGN SOLUTIONS
Designer
Shawn Sullivan
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

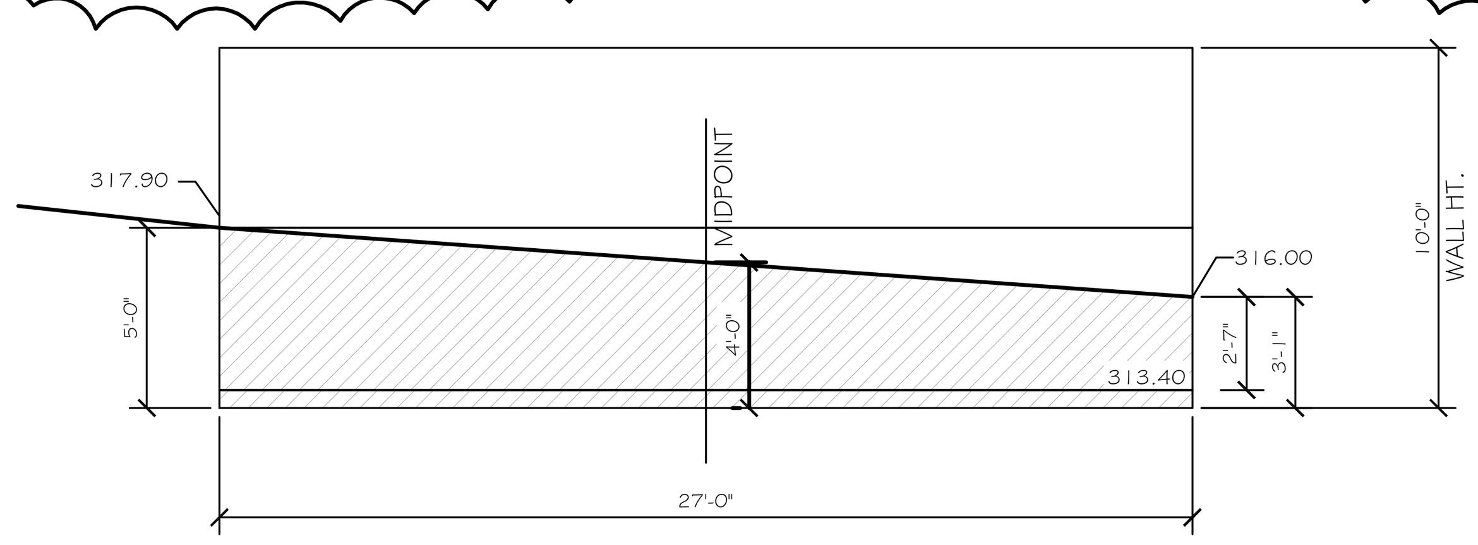
SITE PLAN

DATE: 01-04- 2022
DESIGNED: SLS
DRAWN: SLS
JOB NO: 2022- 01
SHEET: A1.0

TABLE OF WALL LENGTHS AND COVERAGES

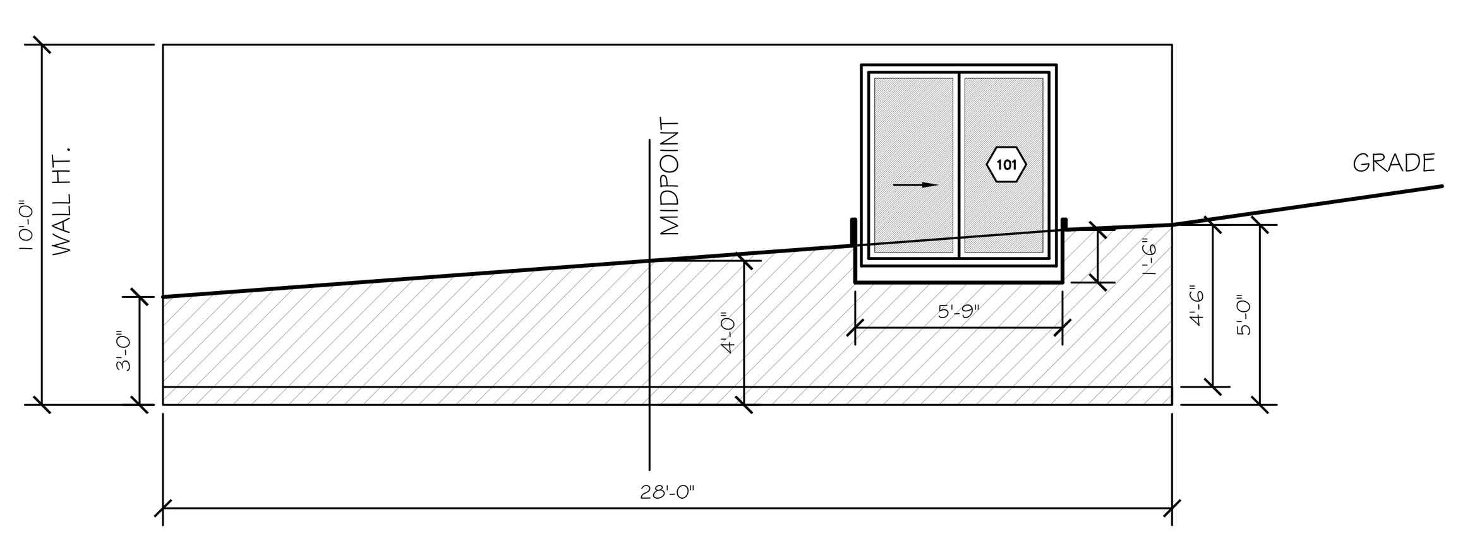
WALL SEGMENTS	WALL LENGTH	X COVERAGE	= RESULTS
A	27.0'	40%	10.80
B	28.0'	34%	9.52
C	4.0'	0%	0%
D	12.3'	0%	0%
E	1.5'	0%	0%
F	23.6'	0%	0%
G	24.5'	0%	0%
H	2.0'	0%	0%
I	8.0'	0%	0%
J	2.0'	0%	0%
K	19.5'	0%	0%
L	3.8'	0%	0%
M	2.3'	0%	0%
N	1.3'	0%	0%
O	13.0'	0%	0%
P	17.0'	0%	0%
Q	15.3'	0%	0%
R	20.3'	0%	0%
S	20.0'	0%	0%
T	1.5'	0%	0%
U	7.5'	0%	0%
V	25.8'	0%	0%
TOTAL	280.20'	N/A'	20.32% OF WALLS BELOW GRADE

SEGMENT A



4.0 / 10 X 100 = 40% COVERAGE

SEGMENT B

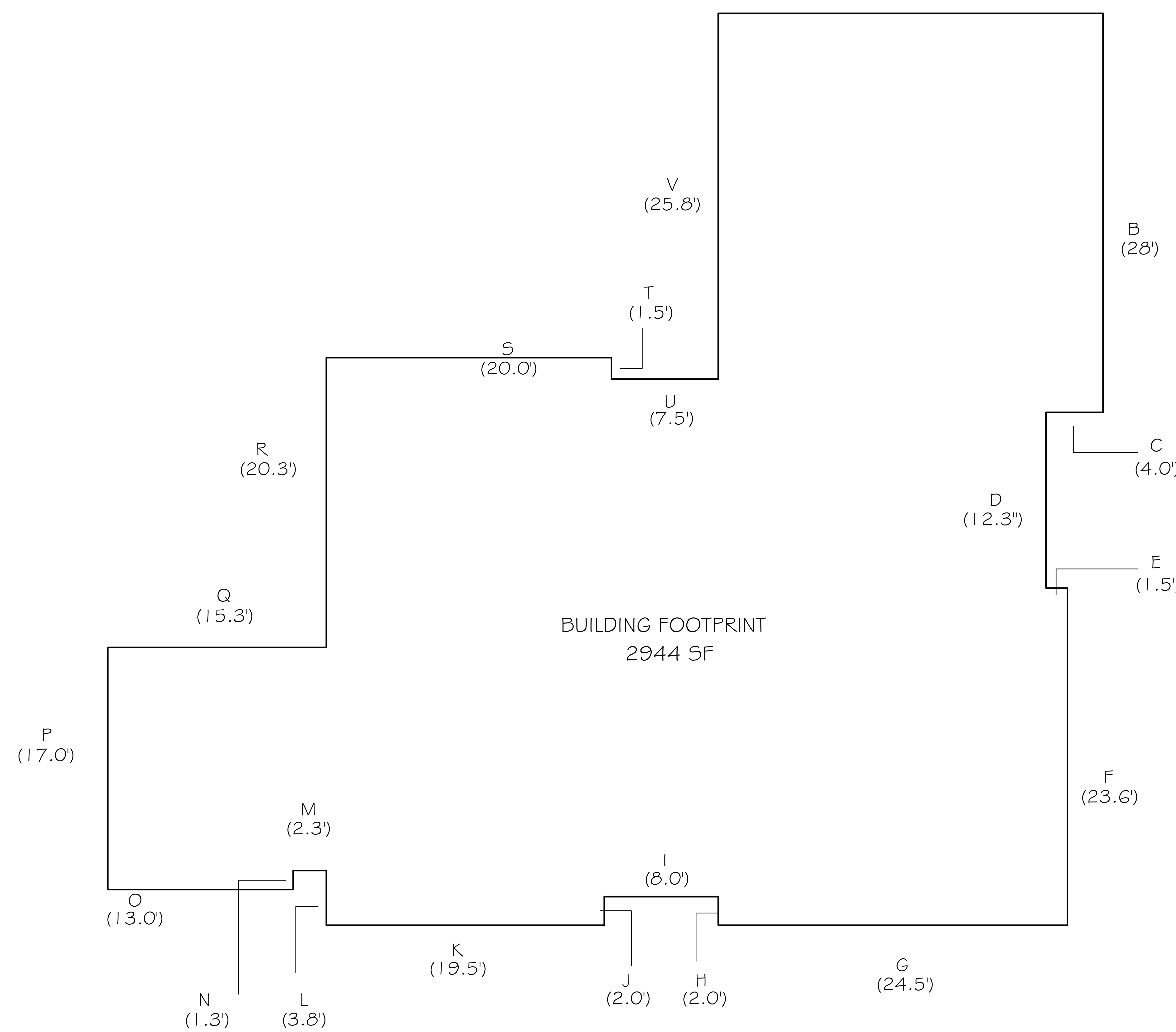


4.00/10.00 X 100 = 40% MINUS WINDOW WELL %

WINDOW WELL % TO DEDUCT
1.5' X 5.75' = 8.62 SF
TOTAL WALL SF= 10' X 28' = 128 SF
8.62 / 128= 6%

40% - 6%= 34% COVERAGE

7 PLANNING



6 PLANNING

North

MAIN FLOOR FOOTPRINT- DIAGRAM

Li Residence- Custom Residence SCALE: 3/16"=1'-0"

EXLUDEDED GFA CACULATIONS

FORMULA

TOTAL BASEMENT AREA X SUM OF (WALL SEGMENT COVERAGE X WALL SEGMENT LENGTH) / TOTAL OF ALL WALL LENGTHS = PORTION OF EXCLUDED BASEMENT FLOOR AREA

2944 SF X 20.32 / 280.2

2944 SF X .07 = 206.08

206 SF EXCLUDED FROM THE GFA

7 PLANNING

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

ure. DESIGN SOLUTIONS
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE

CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

EXCLUDED GFA CALCULATIONS

DATE: 01-04- 2022
DESIGNED: SLS
DRAWN: SLS
JOB NO: 2022- 01
SHEET: A.1.1

ZONING

ZONING - R9.6

ALLOWABLE GFA

ALLOWABLE GFA IS 40% OF LOT AREA -

10,000 X .40 = 4000 SF

ADDITIONAL ALLOWED (ADU) + 500 SF

8 PLANNING

TOTAL ALLOWBALE GFA

4000 + 500 + 4500 SF

GFA CALCULATIONS

MAIN FLOOR GFA

LIVING #1 -	488
LIVING #2 -	1243
ENTRY -	102
STAIR -	164
GARAGE-	580
ADU-	500
	3077 SF

UPPER FLOOR GFA

LIVING #3 - 1621 SF

TOTAL GFA

3077 + 1621 = 4698 SF

TOTAL PROPOSED GFA 4698 SF

TOTAL ALLOWABLE= 4500 SF

10 PLANNING

EXCLUDED GFA (SEE SHT A1.1 FOR CLACS)

TOTAL EXCLUDED= 206.08 SF

TOTAL ADJUSTED ALLOWBALE GFA

4698 -206 = 4492 SF

9 PLANNING

4492 < 4500 THUS OK

22.5 SF REMAINS

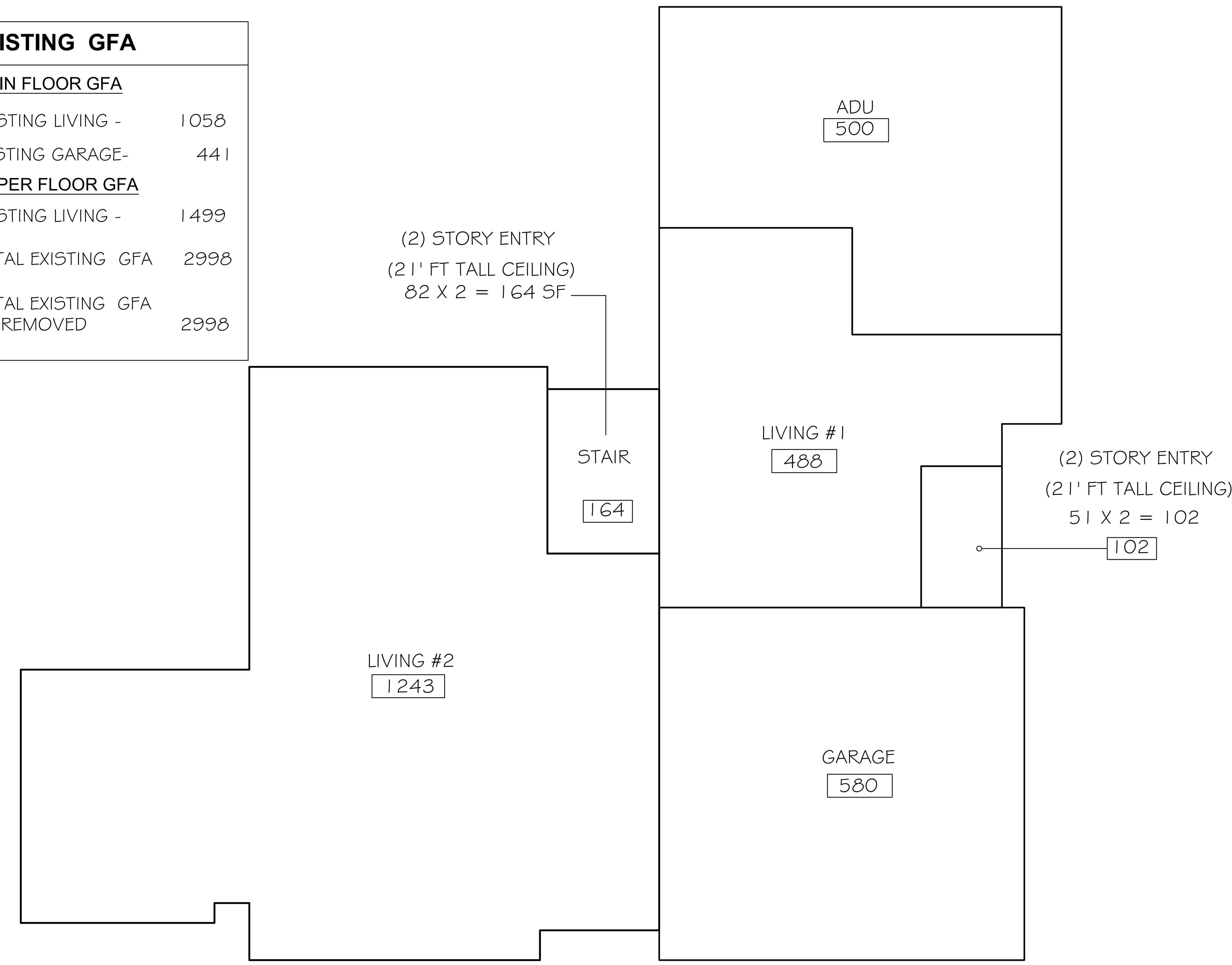
EXISTING GFA

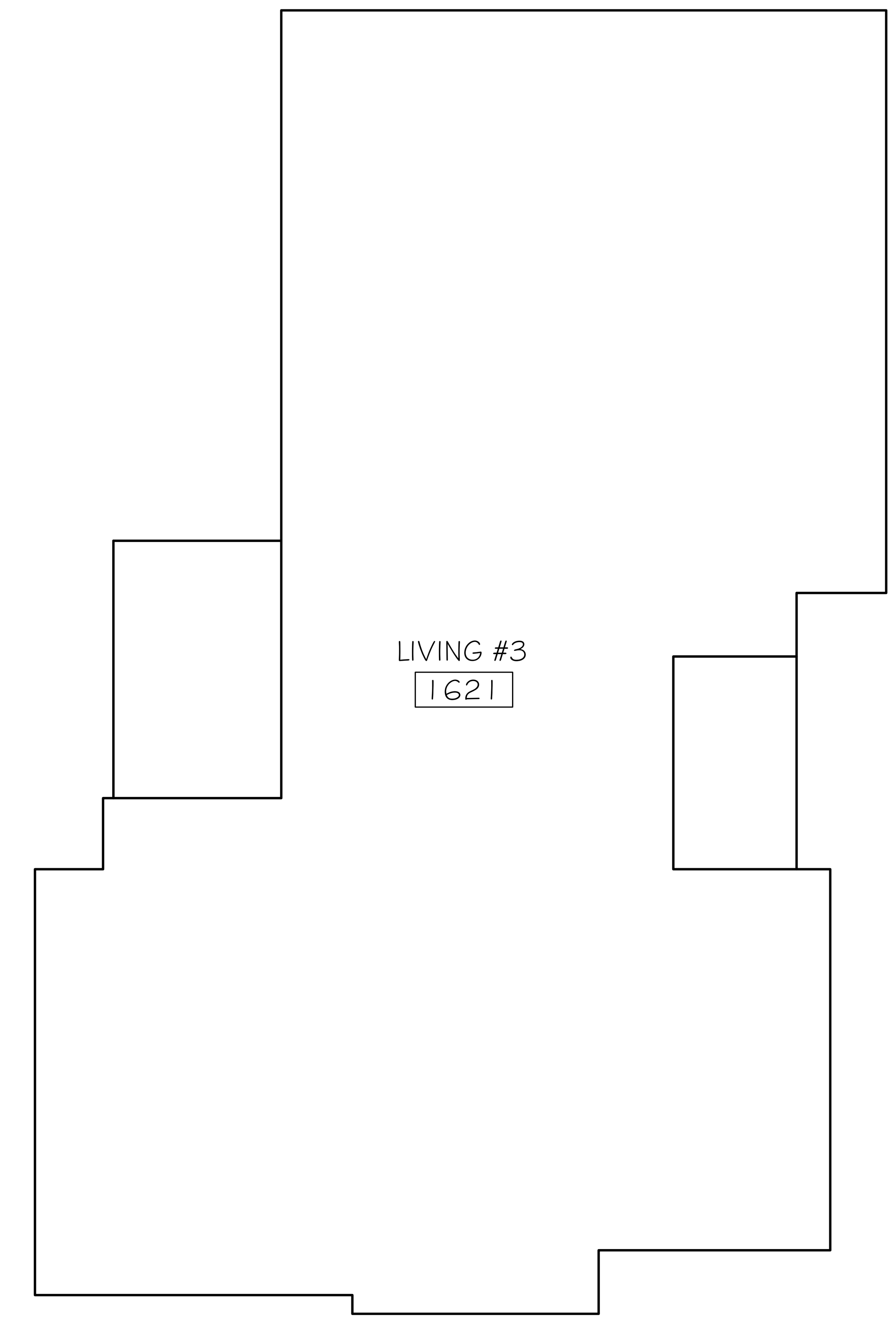
MAIN FLOOR GFA

EXISTING LIVING -	1058
EXISTING GARAGE-	441

UPPER FLOOR GFA

EXISTING LIVING -	1499
TOTAL EXISTING GFA	2998
TOTAL EXISTING GFA TO REMOVED	2998





North

MAIN FLOOR PLAN- GFA DIAGRAM

Li Residence- Custom Residence SCALE: 3/16"=1'-0"

North

UPPER FLOOR PLAN- GFA DIAGRAM

Li Residence- Custom Residence SCALE: 3/16"=1'-0"

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

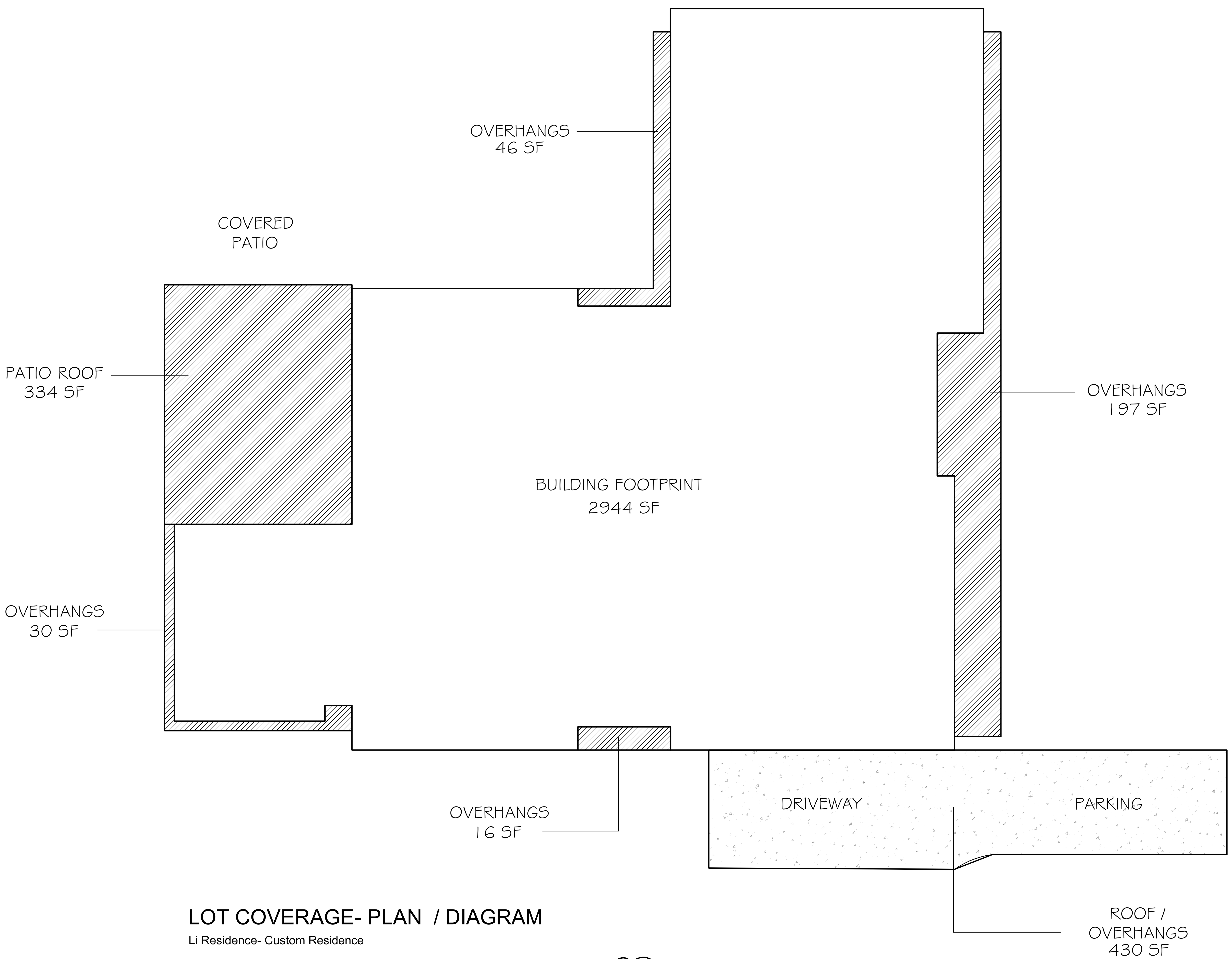
PERMIT SET

Shawn Sullivan
Designer

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

GFA CALCULATIONS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A1.2



LOT COVERAGE- PLAN / DIAGRAM

Li Residence- Custom Residence

LOT COVERAGE- DIAGRAM

Li Residence- Custom Residence SCALE: 3/16"=1'-0"

North

HATCH REPRESENTS
DRIVEWAY / PARKING

HATCH REPRESENTS
(ROOF OVERHANGS AND BUILDING CANTILEVERS ETC.)

LOT COVERAGE

LOT AREA -	10,000 SF
ALLOWABLE LOT COVERAGE -	40%
10,000 X .40=	4000 SF
EXISTING LOT COVERAGE -	
EXIST. MAIN STRUCTURE ROOF AREA (FOOTPRINT + OVERHANGS)	1834 SF
EXIST. DRIVEWAY	294 SF
COVED PATIO	130 SF
TOTAL EXISTING=	2258 SF
TOTAL LOT COVERAGE AREA TO BE REMOVED=	2258 SF
PROPOSED LOT COVERAGE -	
MAIN STRUCTURE ROOF AREA (FOOTPRINT + OVERHANGS)	3233 SF
REAR COVERED PATIO ROOF	334 SF
DRIVEWAY / PAVED ACCESS-	430 SF
TOTAL PROPOSED=	3997 SF
3997 /10,000 =	39.9%

REQUIRED LANDSCAPE

LOT AREA -	10,000 SF
ALLOWABLE LOT COVERAGE -	60%
10,000 X .60=	6000 SF

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

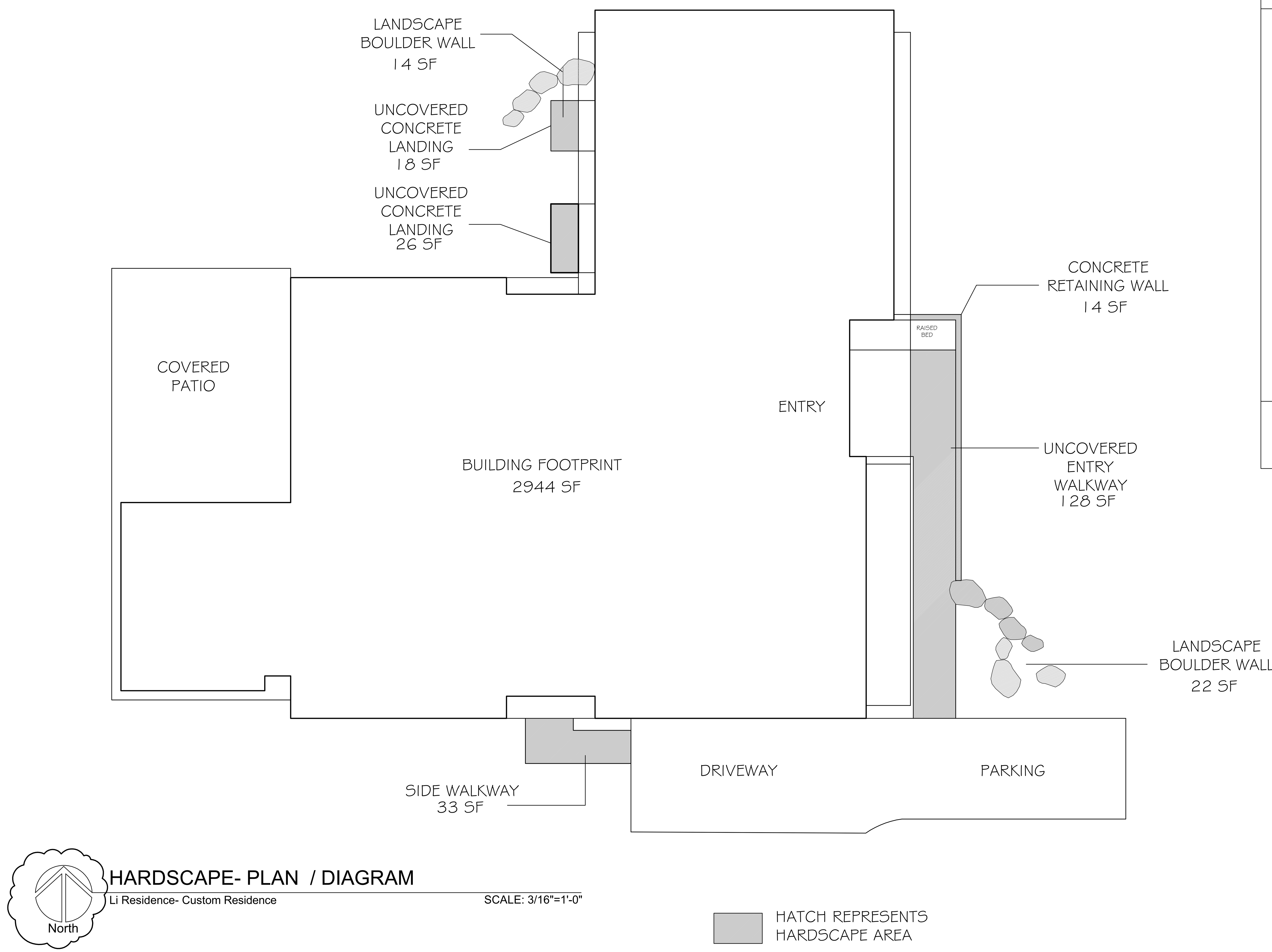
lure. DESIGN SOLUTIONS
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE

CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

LOT COVERAGE
DIAGRAM / CALCS

DATE: 01-04- 2022
DESIGNED: SLS
DRAWN: SLS
JOB NO: 2022- 01
SHEET:
A1.3



HARDSCAPE- PLAN / DIAGRAM

Li Residence- Custom Residence

SCALE: 3/16"=1'-0"

HATCH REPRESENTS HARDSCAPE AREA

HARDSCAPE

LOT AREA -	10,000 SF
ALLOWABLE HARDSCAPE -	9%
10,000 X .09=	900 SF
EXISTING HARDSCAPE -	
UNCOVERED PATIO	68 SF
UNCOVERED DECK	302 SF
TOTAL HARDSCAPE AREA	370 SF
TOTAL HARDSCAPE AREA TO BE REMOVED	370 SF
PROPOSED HARDSCAPE -	
UNCOVERED WALKWAYS	161 SF
REAR CONCRETE LANDINGS (PATIO)	44 SF
BOULDER WALLS /RETAINING WALLS	50 SF
TOTAL PROPOSED=	255 SF
255 / 1000= .025....03	3%

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

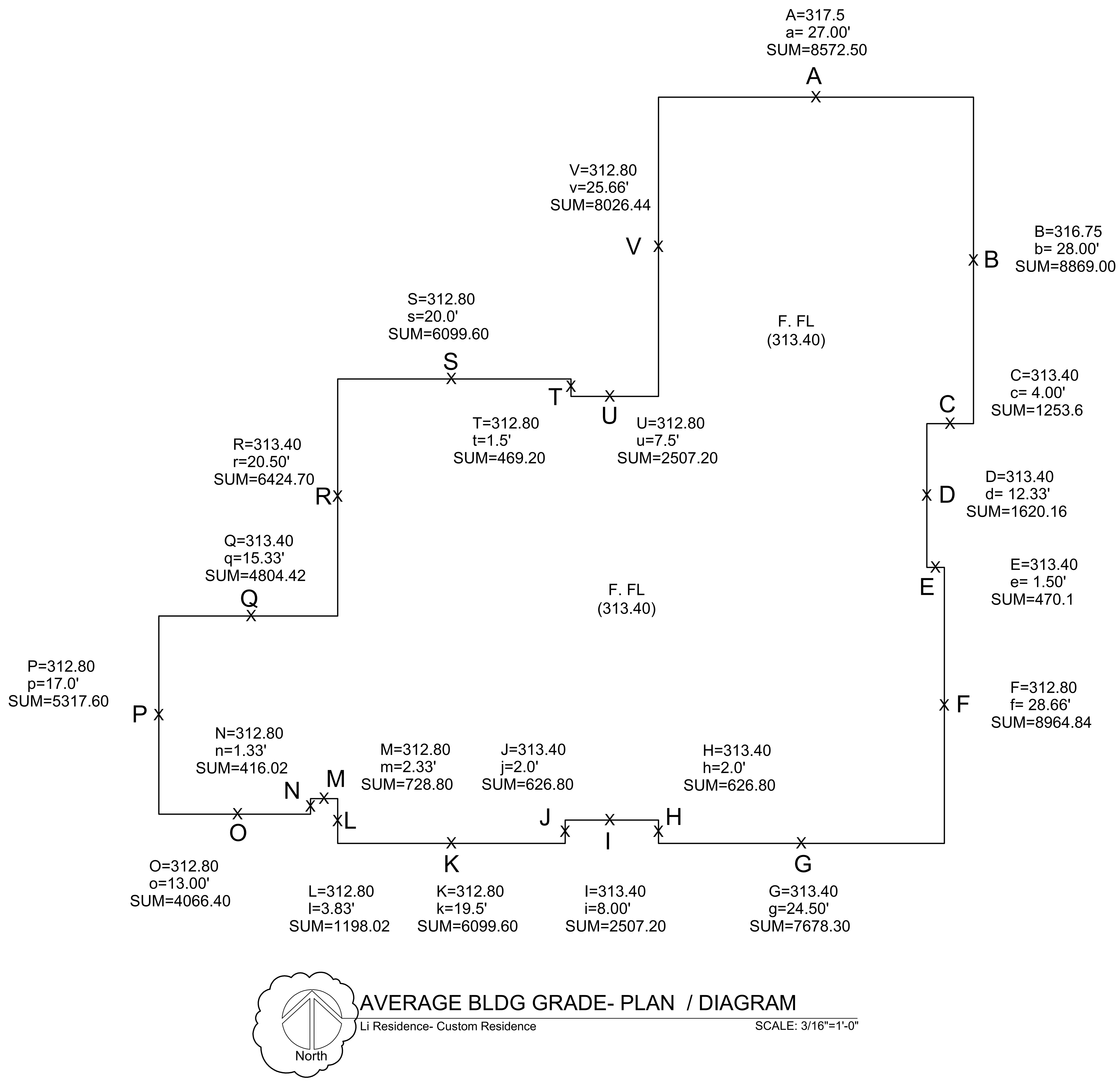
lure. DESIGN SOLUTIONS
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE

CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

HARDSCAPE COVERAGE DIAGRAM / CALCS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A1.4



AVERAGE BLDG GRADE- PLAN / DIAGRAM

Li Residence- Custom Residence SCALE: 3/16"=1'-0"

CHART

ELEV X WALL LENGTH = SUM

SEGMENT	ELEV	WALL LENGTH	SUM
A	317.5	27.00'	8572.50
B	316.75	28.00'	8869.00
C	313.40	4.00'	1253.6
D	313.40	12.33'	3864.22
E	313.40	1.5'	470.10
F	312.80	28.66'	8964.84
G	313.40	24.50'	7678.30
H	313.40	2.0'	626.80
I	313.40	8.00'	2507.20
J	313.40	2.0'	626.80
K	312.80	19.5'	6099.60
L	312.80	3.83'	1198.02
M	312.80	2.33'	728.82
N	312.80	1.33'	416.02
O	312.80	13.0'	4066.40
P	312.80	17.0'	5317.60
Q	313.40	15.33'	4804.42
R	313.40	20.50'	6424.70
S	312.80	20.0'	6256.00
T	312.80	1.50'	469.20
U	312.80	7.5'	2346.00
V	312.80	25.66'	8026.44
TOTALS		285.47'	89606.58

FORMULA(AVERAGE BUILDING ELEV)

$$\frac{\text{WEIGHTED SUM OF MID-POINT ELEVATION}}{\text{SUM OF WALL SEGMENT LENGTHS}} = \text{ABE}$$

$$\frac{89606.58}{285.47} = \boxed{313.89 \text{ (ABE)}}$$

ALLOWABLE BUILDING HEIGHT MAX

ALLOWABLE BUILDIN HT + 30' ABOVE (ABE)

313.89 (ABE) + 30 = ELEV 343.89

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

AVERAGE BUILDING ELEV
DIAGRAM / CALCS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A1.5

GENERAL NOTES.

1. PROVIDE ROOF DRAINS, FLOOR DRAINS AND GUTTERS PER ROOF PLAN

2. DOWNSPOUTS TO BE TIGHTLINED TO PERIMETER DRAIN SYSTEM PER CIVIL ENGINEER

3. SLOPE GRADE AWAY FROM FOUNDATION

4. PROVIDE WATERPROOF MEMBRANE AT ALL FLAT/LOW SLOPE ROOF CONDITIONS. CONSULT ROOFING CONTRACTOR / WATERPROOFING CONSULTANT FOR WATERPROOF SYSTEMS

5. . WRAP CONTINUOUS WATERPROOF MEMBRANE UP ALL VERTICAL SURFACES A MIN' OF 12". PROVIDE CONTINUOUS WRAP UP AND OVER TOP OF ALL CURB LOCATIONS

6. PROVIDE METAL FLASHING CAPS AT ALL ROOF CURB LOCATIONS

7. PROVIDE ICE AND WATER-SHIELD MEMBRANE AT SLOPES $\frac{2}{12}$ OR LESS IF COMP SHINGLES ARE PROVIDED.

8. ALL OVERHANG DIMENSIONS ARE FROM FACE OF EXTERIOR STUD WALL OR EDGE OF BEAM TO EXTERIOR EDGE OR RAFTER TAIL

9.PROVIDE STANDING SEAM METAL ROOFING W/ CONCEALED FASTENERS AND HIGH TEMP ICE & WATER-SHIELD AT UPPER FLOOR ROOF.

10. PROVIDE R-49 SPRAY FOAM INSULATION AT ROOF RAFTERS- (ALL CEILING/ ROOF) SEE PLANS FOR SPECIFIC NOTES

11. ALL TOP PLATE HEIGHTS ARE NOTED BY [ ]

12. CONTRACTOR IS RESPONSIBLE FOR ALL FOR PROPER FLASHING AND WATERPROOFING METHODS AT ROOF, WALLS, COVERED DECKS AND CANOPIES.

13. SEE EXTERIOR ELEVATIONS FOR GENERAL EXTERIOR MATERIAL TYPE

14. DRAWING REVISIONS ARE INDICATED BY △X

15. CENTER DOORS IN ROOMS OR PROVIDE 4" MIN. WALL RETURN UNLESS OTHERWISE NOTED

16. SMOKE DETECTOR (PLACED IN EVERY BEDROOM AND IN HALLWAY OUTSIDE OF BEDROOM DOOR) SIGNIFIED BY ⊙ SD

17. CARBON MONOXIDE DETECTORS PLACED IN HALLWAY OUTSIDE OF BEDROOM DOOR) SIGNIFIED BY ⊙ CO

18.

LANDINGS / IRC R311.4.3
* Door Widthx36"D MIN
* 7-3/4" MAX DROP

19. EGRESS:

- BEDROOM SILLS AT 44" MAX ABOVE FIN FLOOR
- MIN. 20" W X 24" HIGH OPENING
- MIN. 5.7 SF FT CLEAR OPENING SIZE

20. STAIRWAY REQUIREMENTS

(INTERIOR AND EXTERIOR)

- MAX. 7-3/4" RISE AND MIN. 10 " RUN
- MIN. 6'-8" HEADROOM CLEARANCE
- HANDRAILS AT 34-38" ABOVE THE STAIR NOSING
- HANDRAIL GRASP DIMENSIONS BETWEEN 1-1/4" -2"
- PROVIDE CONTINUOUS HANDRAIL OR TERMINATE AT NEWEL POSTS OR SAFETY TERMINAL
- WHERE HANDRAIL IS USED AS GUARDRAIL, 4" CLEAR MAX. OPENINGS
- ALL GUARDRAIL TO BE A MIN OF 36" HT.

21.DUCT TESTING:
CONTRACTOR TO PROVIDE A COPY OF THE "DUCT LEAKAGE AFFIDAVIT FOR NEW CONSTRUCTION" TO THE BUILDING INSPECTOR, PRIOR TO APPROVED FINAL INSPECTION.

22. BLOWER DOOR TESTING:
AIR LEAKAGE SHALL NOT EXCEED 5 AIR CHANGES/ HOUR, AND SHALL BE TESTED PER R402.4.1.2. PROVIDE A WRITTEN REPORT OF THE TEST RESULTS, SIGNED BY THE TESTING PARTY, TO THE BUILDING INSPECTOR, PRIOR TO APPROVED FINAL INSPECTION.

23. INSULATION CERTIFICATE:
CONTRACTOR SHALL COMPLETE AND POST A "INSULATION CERTIFICATE FOR RESIDENTIAL CONSTRUCTION" WITHIN 3' OF THE ELECTRICAL PANEL PRIOR TO FINAL INSPECTION.

24. PROVIDE A PROGRAMMABLE THERMOSTAT FOR THE PRIMARY SPACE CONDITIONING SYSTEM WITHIN EACH DWELLING UNIT PER SEC R403.1.1

25. A MIN. OF 75% OF PERMANENTLY INSTALLED LAMPS IN LIGHT FIXTURES SHALL BE HIGH EFFICACY LAMPS.

26. ALL EXHAUST FANS TO VENT DIRECTLY TO THE EXTERIOR OF THE BUILDING PER M1501.1

27. PROVIDE WHOLE HOUSE FAN EQUIPPED WITH THE OPTION TO OPERATE INTERMITTENT / CONTINUOUSLY WITH AUTO / MANUAL TIMER CONTROLS
CONTINOUS PROVIDE FAN SIZE PER TABLE M1507.3.3(1)
DWELLING UNIT 3001 SF-4500 SF W/ 6-7 BEDROOMS = 105 CFM MIN. CONTINUOUS OR
INTERMITTENT PROVIDE FAN SIZE PER TABLE M1507.3.3(2)
(50% MIN. RUN -TIME EA. 4 HR SEGMENT)
105 CFM X 2 = 210 CFM MIN

28. ALL PROPOSED EXTERIOR LIGHTING WILL SHIELD LIGHTING AND DIRECT IT AWAY FROM ADJACENT PROPERTIES

29.THE PROPOSED PRIMARY HEATING SYSTEM IS A FORCED AIR FURNACE WITH AIR SOURCE HEAT PUMP. ALL DUCTS AND FURNACE LOCATED INSIDE CONDITIONS SPACE

29.SAFTEY GLASS (S.G.):
PROVIDE SAFETY GLASS IN ALL WINDOWS THAT MEASURE LARGER THAN 9 SF OR THE BOTTOM EDGE IS LESS THAN 18 ABOVE FINISH FLOOR. (SEE WIDOW SCHEDULE OR TYPES)

30.SEE SHEET A1.1 -A1.5 FOR CODE STUDY INFORMATION

31. PER R302.11, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE.

BUILDING 1

32.PER R314.2.3 PROVIDED HEAT DETECTOR OR HEAT ALARM CENTRALLY LOCATION IN GARAGE PER MANUFACTURER'S INSTRUCTIONS SIGNIFIED BY ⊙ HEAT

BUILDING 4

WATER METER / SUPPLY

PROVIDE NEW OR UPSIZED WATER AND OR WATER SUPPLY LINE

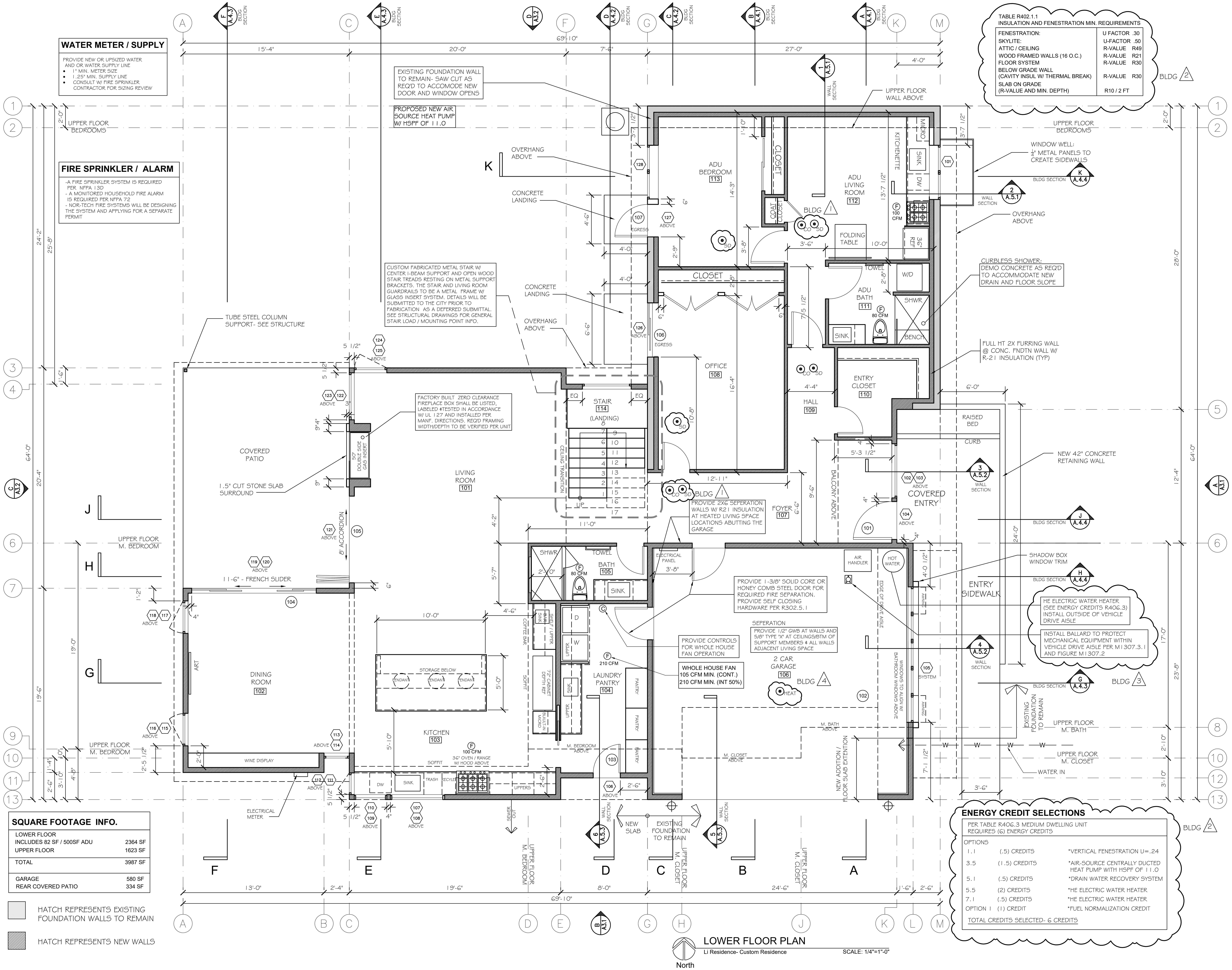
- 1" MIN. METER SIZE
- 1.25" MIN. SUPPLY LINE
- CONSULT W/ FIRE SPRINKLER CONTRACTOR FOR SIZING REVIEW

FIRE SPRINKLER / ALARM

-A FIRE SPRINKLER SYSTEM IS REQUIRED PER NFPA 13D
- A MONITORED HOUSEHOLD FIRE ALARM IS REQUIRED PER NFPA 72
- NOR-TECH FIRE SYSTEMS WILL BE DESIGNING THE SYSTEM AND APPLYING FOR A SEPARATE PERMIT

TABLE R402.1.1
INSULATION AND FENESTRATION MIN. REQUIREMENTS

FENESTRATION:	U FACTOR .30
SKYLITE:	U-FACTOR .50
ATTIC / CEILING	R-VALUE R49
WOOD FRAMED WALLS (16 O.C.)	R-VALUE R21
FLOOR SYSTEM	R-VALUE R30
BELOW GRADE WALL (CAVITY INSUL W/ THERMAL BREAK)	R-VALUE R30
SLAB ON GRADE (R-VALUE AND MIN. DEPTH)	R10 / 2 FT



ENERGY CREDIT SELECTIONS

PER TABLE R406.3 MEDIUM DWELLING UNIT REQUIRES (6) ENERGY CREDITS

OPTIONS		
1.1	(.5) CREDITS	*VERTICAL FENESTRATION U=.24
3.5	(1.5) CREDITS	*AIR-SOURCE CENTRALLY DUCTED HEAT PUMP WITH HSPF OF 11.0
5.1	(.5) CREDITS	*DRAIN WATER RECOVERY SYSTEM
5.5	(2) CREDITS	*HE ELECTRIC WATER HEATER
7.1	(.5) CREDITS	*HE ELECTRIC WATER HEATER
OPTION 1	(1) CREDIT	*FUEL NORMALIZATION CREDIT

TOTAL CREDITS SELECTED- 6 CREDITS

SQUARE FOOTAGE INFO.

LOWER FLOOR	
INCLUDES 82 SF / 500SF ADU	2364 SF
UPPER FLOOR	1623 SF
TOTAL	3987 SF
GARAGE	580 SF
REAR COVERED PATIO	334 SF

HATCH REPRESENTS EXISTING FOUNDATION WALLS TO REMAIN

HATCH REPRESENTS NEW WALLS

LOWER FLOOR PLAN
Li Residence- Custom Residence
SCALE: 1/4"=1'-0"
North

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

lure. DESIGN SOLUTIONS
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE

CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED LOWER FLOOR PLAN

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A2.1

GENERAL NOTES.

1. PROVIDE ROOF DRAINS, FLOOR DRAINS AND GUTTERS PER ROOF PLAN

2. DOWNSPOUTS TO BE TIGHTLINED TO PERIMETER DRAIN SYSTEM PER CIVIL ENGINEER

3. SLOPE GRADE AWAY FROM FOUNDATION

4. PROVIDE WATERPROOF MEMBRANE AT ALL FLAT/LOW SLOPE ROOF CONDITIONS. CONSULT ROOFING CONTRACTOR / WATERPROOFING CONSULTANT FOR WATERPROOF SYSTEMS

5. . WRAP CONTINUOUS WATERPROOF MEMBRANE UP ALL VERTICAL SURFACES A MIN' OF 12". PROVIDE CONTINUOUS WRAP UP AND OVER TOP OF ALL CURB LOCATIONS

6. PROVIDE METAL FLASHING CAPS AT ALL ROOF CURB LOCATIONS

7. PROVIDE ICE AND WATER-SHIELD MEMBRANE AT SLOPES $\frac{2}{12}$ OR LESS IF COMP SHINGLES ARE PROVIDED.

8. ALL OVERHANG DIMENSIONS ARE FROM FACE OF EXTERIOR STUD WALL OR EDGE OF BEAM TO EXTERIOR EDGE OR RAFTER TAIL

9.PROVIDE STANDING SEAM METAL ROOFING W/ CONCEALED FASTENERS AND HIGH TEMP ICE & WATER-SHIELD AT UPPER FLOOR ROOF.

10. PROVIDE R-49 SPRAY FOAM INSULATION AT ROOF RAFTERS- (ALL CEILING/ ROOF) SEE PLANS FOR SPECIFIC NOTES

11. ALL TOP PLATE HEIGHTS ARE NOTED BY [ ]

12. CONTRACTOR IS RESPONSIBLE FOR ALL FOR PROPER FLASHING AND WATERPROOFING METHODS AT ROOF, WALLS, COVERED DECKS AND CANOPIES.

13. SEE EXTERIOR ELEVATIONS FOR GENERAL EXTERIOR MATERIAL TYPE

14. DRAWING REVISIONS ARE INDICATED BY X

15. CENTER DOORS IN ROOMS OR PROVIDE 4" MIN. WALL RETURN UNLESS OTHERWISE NOTED

16. SMOKE DETECTOR (PLACED IN EVERY BEDROOM AND IN HALLWAY OUTSIDE OF BEDROOM DOOR) SIGNIFIED BY ⊙ SD

17. CARBON MONOXIDE DETECTORS PLACED IN HALLWAY OUTSIDE OF BEDROOM DOOR) SIGNIFIED BY ⊙ CO

18.

LANDINGS / IRC R311.4.3
* Door Widthx36"D MIN
* 7-3/4" MAX DROP

19. EGRESS:

- BEDROOM SILLS AT 44" MAX ABOVE FIN FLOOR
- MIN. 20" W X 24" HIGH OPENING
- MIN. 5.7 SF FT CLEAR OPENING SIZE

20. STAIRWAY REQUIREMENTS

(INTERIOR AND EXTERIOR)

- MAX. 7-3/4" RISE AND MIN. 10 " RUN
- MIN. 6'-8" HEADROOM CLEARANCE
- HANDRAILS AT 34-38" ABOVE THE STAIR NOSING
- HANDRAIL GRASP DIMENSIONS BETWEEN 1-1/4" -2"
- PROVIDE CONTINUOUS HANDRAIL OR TERMINATE AT NEWEL POSTS OR SAFETY TERMINAL
- WHERE HANDRAIL IS USED AS GUARDRAIL, 4" CLEAR MAX. OPENINGS
- ALL GUARDRAIL TO BE A MIN OF 36" HT.

21.DUCT TESTING:
CONTRACTOR TO PROVIDE A COPY OF THE "DUCT LEAKAGE AFFIDAVIT FOR NEW CONSTRUCTION" TO THE BUILDING INSPECTOR, PRIOR TO APPROVED FINAL INSPECTION.

22. BLOWER DOOR TESTING:
AIR LEAKAGE SHALL NOT EXCEED 5 AIR CHANGES/ HOUR, AND SHALL BE TESTED PER R402.4.1.2. PROVIDE A WRITTEN REPORT OF THE TEST RESULTS, SIGNED BY THE TESTING PARTY, TO THE BUILDING INSPECTOR, PRIOR TO APPROVED FINAL INSPECTION.

23. INSULATION CERTIFICATE:
CONTRACTOR SHALL COMPLETE AND POST A "INSULATION CERTIFICATE FOR RESIDENTIAL CONSTRUCTION" WITHIN 3' OF THE ELECTRICAL PANEL PRIOR TO FINAL INSPECTION.

24. PROVIDE A PROGRAMMABLE THERMOSTAT FOR THE PRIMARY SPACE CONDITIONING SYSTEM WITHIN EACH DWELLING UNIT PER SEC R403.1.1

25. A MIN. OF 75% OF PERMANENTLY INSTALLED LAMPS IN LIGHT FIXTURES SHALL BE HIGH EFFICACY LAMPS.

26. ALL EXHAUST FANS TO VENT DIRECTLY TO THE EXTERIOR OF THE BUILDING PER M1501.1

27. PROVIDE WHOLE HOUSE FAN EQUIPPED WITH THE OPTION TO OPERATE INTERMITTENT / CONTINUOUSLY WITH AUTO / MANUAL TIMER CONTROLS
CONTINOUS PROVIDE FAN SIZE PER TABLE M1507.3.3(1)
DWELLING UNIT 3001 SF-4500 SF W/ 6-7 BEDROOMS = 105 CFM MIN. CONTINUOUS OR
INTERMITTENT PROVIDE FAN SIZE PER TABLE M1507.3.3(2)
(50% MIN. RUN -TIME EA. 4 HR SEGMENT)
105 CFM X 2 = 210 CFM MIN

28. ALL PROPOSED EXTERIOR LIGHTING WILL SHIELD LIGHTING AND DIRECT IT AWAY FROM ADJACENT PROPERTIES

29.THE PROPOSED PRIMARY HEATING SYSTEM IS A FORCED AIR FURNACE WITH AIR SOURCE HEAT PUMP. ALL DUCTS AND FURNACE LOCATED INSIDE CONDITIONS SPACE

29.SAFTEY GLASS (S.G.):
PROVIDE SAFETY GLASS IN ALL WINDOWS THAT MEASURE LARGER THAN 9 SF OR THE BOTTOM EDGE IS LESS THAN 18 ABOVE FINISH FLOOR. (SEE WIDOW SCHEDULE OR TYPES)

30.SEE SHEET A1.1 -A1.5 FOR CODE STUDY INFORMATION

31. PER R302.11, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE.

BUILDING 3

32.PER R314.2.3 PROVIDED HEAT DETECTOR OR HEAT ALARM GARAGE IN CENTRAL LOCATION PER MANUFACTURER'S INSTRUCTIONS SIGNIFIED BY ⊙ HEAT

BUILDING 4

WATER METER / SUPPLY

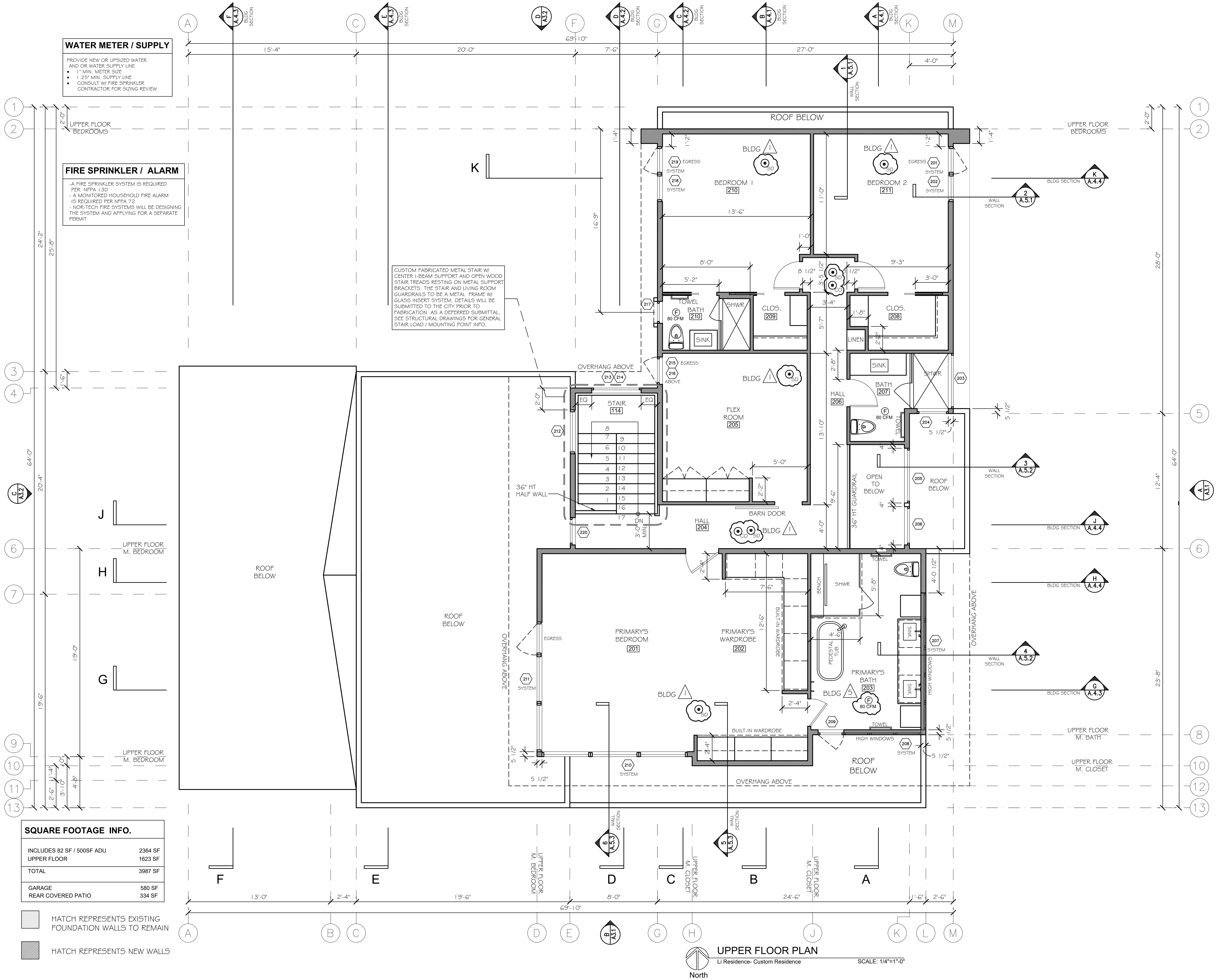
PROVIDE NEW OR UPSIZED WATER AND OR WATER SUPPLY LINE

- 1" MIN. METER SIZE
- 1.25" MIN. SUPPLY LINE
- CONSULT W/ FIRE SPRINKLER CONTRACTOR FOR SIZING REVIEW

FIRE SPRINKLER / ALARM

-A FIRE SPRINKLER SYSTEM IS REQUIRED PER NFPA 13D
- A MONITORED HOUSEHOLD FIRE ALARM IS REQUIRED PER NFPA 72
- NOR-TECH FIRE SYSTEMS WILL BE DESIGNING THE SYSTEM AND APPLYING FOR A SEPARATE PERMIT

CUSTOM FABRICATED METAL STAIR W/ CENTER I-BEAM SUPPORT AND OPEN WOOD STAIR TREADS RESTING ON METAL SUPPORT BRACKETS. THE STAIR AND LIVING ROOM GUARDRAILS TO BE A METAL FRAME W/ GLASS INSERT SYSTEM. DETAILS WILL BE SUBMITTED TO THE CITY PRIOR TO FABRICATION AS A DEFERRED SUBMITTAL. SEE STRUCTURAL DRAWINGS FOR GENERAL STAIR LOAD / MOUNTING POINT INFO.



SQUARE FOOTAGE INFO.

INCLUDES 82 SF / 500SF ADU	2364 SF
UPPER FLOOR	1623 SF
TOTAL	3987 SF
GARAGE	580 SF
REAR COVERED PATIO	334 SF

HATCH REPRESENTS EXISTING FOUNDATION WALLS TO REMAIN

HATCH REPRESENTS NEW WALLS

UPPER FLOOR PLAN
Li Residence- Custom Residence
SCALE: 1/4"=1'-0"
North

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

lure. DESIGN SOLUTIONS
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

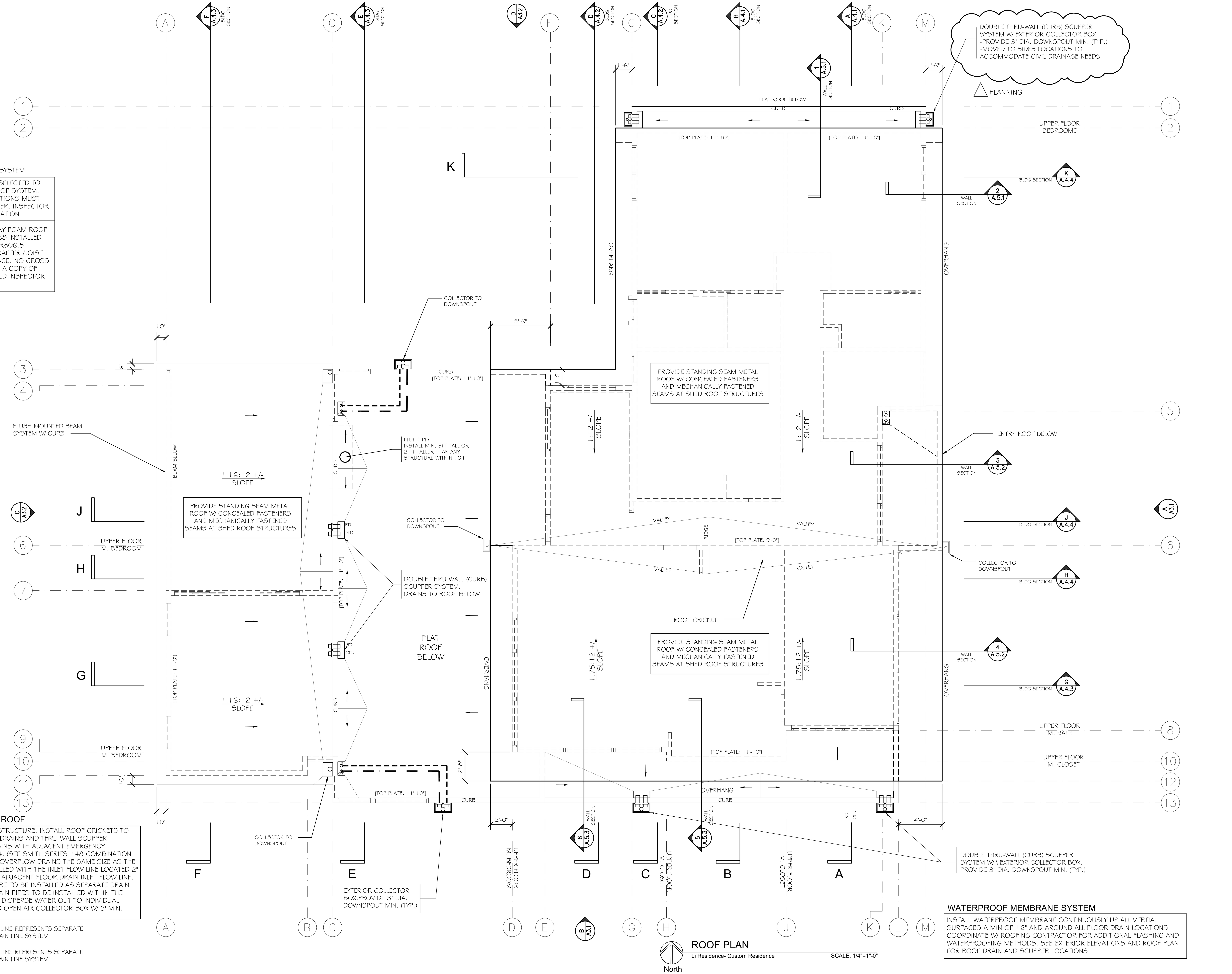
PROPOSED UPPER FLOOR PLAN

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A2.2

UNVENTED ROOF INSULATION SYSTEM

NOTE: THIS SYSTEM IS SELECTED TO ALLOW FOR AN UNVENTED ROOF SYSTEM. ANY REVISIONS OR SUBSTITUTIONS MUST BE APPROVED BY THE DESIGNER. INSPECTOR TO APPROVE PROPER INSTALLATION

PROVIDE "CLOSED CELL" SPRAY FOAM ROOF INSULATION SYSTEM MIN. R-38 INSTALLED BY CERTIFIED INSTALLER PER R806.5 REQUIREMENTS. FILL ENTIRE RAFTER/JOIST CAVITY TO ELIMINATE AIR SPACE. NO CROSS VENTILATION REQ'D. PROVIDE A COPY OF ICC ESR ON JOBSITE FOR FIELD INSPECTOR VERIFICATION



ROOF DRAINAGE - FLAT ROOF

OPEN WEB FLOOR JOISTS PER STRUCTURE. INSTALL ROOF CRICKETS TO DIRECT WATER FLOW TO ROOF DRAINS AND THRU WALL SCUPPER SYSTEMS. PROVIDE FLOOR DRAINS WITH ADJACENT EMERGENCY OVERFLOW DRAINS PER R903.4. (SEE SMITH SERIES 148 COMBINATION ROOF AND OVERFLOW DRAIN). OVERFLOW DRAINS THE SAME SIZE AS THE FLOOR DRAINS MUST BE INSTALLED WITH THE INLET FLOW LINE LOCATED 2" ABOVE THE LOW POINT OF THE ADJACENT FLOOR DRAIN INLET FLOW LINE. OVERFLOW AND DRAIN LINES ARE TO BE INSTALLED AS SEPARATE DRAIN SYSTEMS. ALL HORIZONTAL DRAIN PIPES TO BE INSTALLED WITHIN THE OPEN WEBS OF THE JOISTS TO DISPERSE WATER OUT TO INDIVIDUAL SCUPPERS AND FINALLY OUT TO OPEN AIR COLLECTOR BOX W/ 3" MIN. DOWNSPOUT.

MAIN DRAIN LINE — DASHED LINE REPRESENTS SEPARATE MAIN DRAIN LINE SYSTEM

OVERFLOW DRAIN LINE — DASHED LINE REPRESENTS SEPARATE MAIN DRAIN LINE SYSTEM

ROOF PLAN

Li Residence- Custom Residence — SCALE: 1/4"=1'-0"

North

WATERPROOF MEMBRANE SYSTEM

INSTALL WATERPROOF MEMBRANE CONTINUOUSLY UP ALL VERTIAL SURFACES A MIN OF 12" AND AROUND ALL FLOOR DRAIN LOCATIONS. COORDINATE W/ ROOFING CONTRACTOR FOR ADDITIONAL FLASHING AND WATERPROOFING METHODS. SEE EXTERIOR ELEVATIONS AND ROOF PLAN FOR ROOF DRAIN AND SCUPPER LOCATIONS.

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

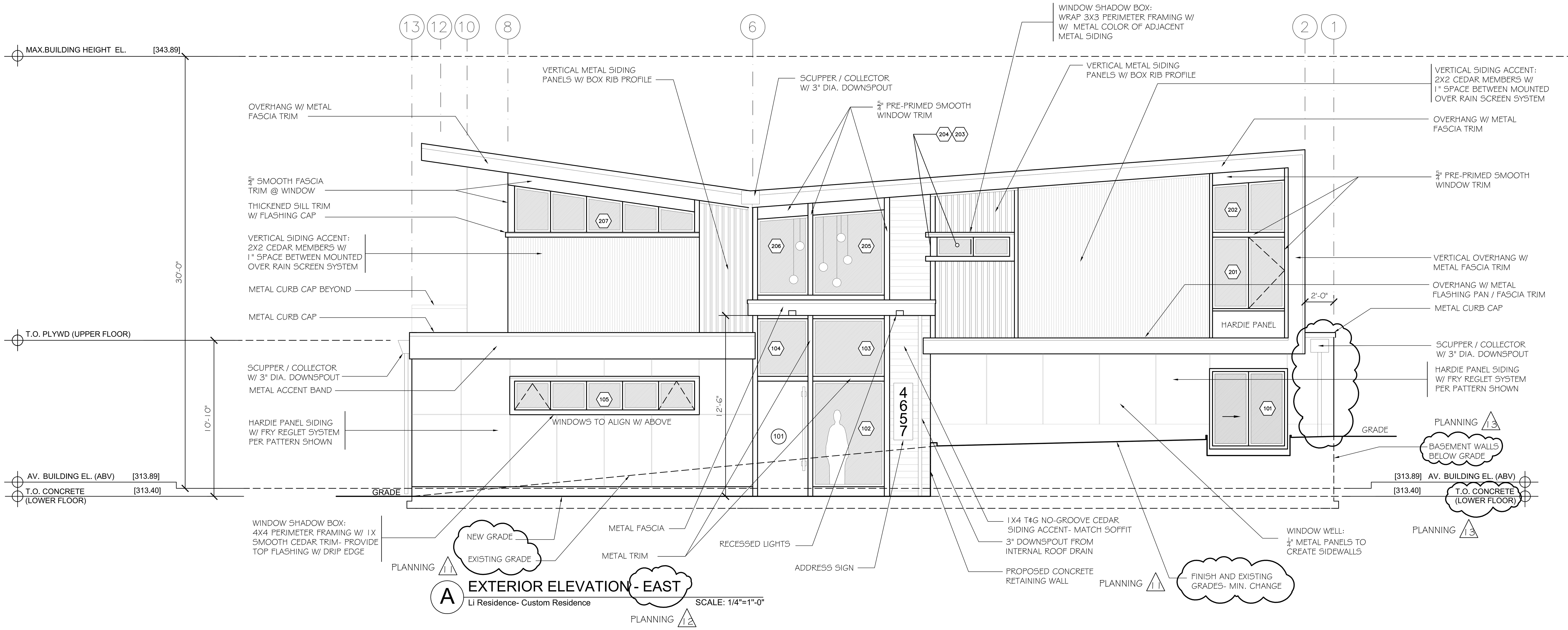
ure. DESIGN SOLUTIONS — Designer — Shawn Sullivan

LI RESIDENCE

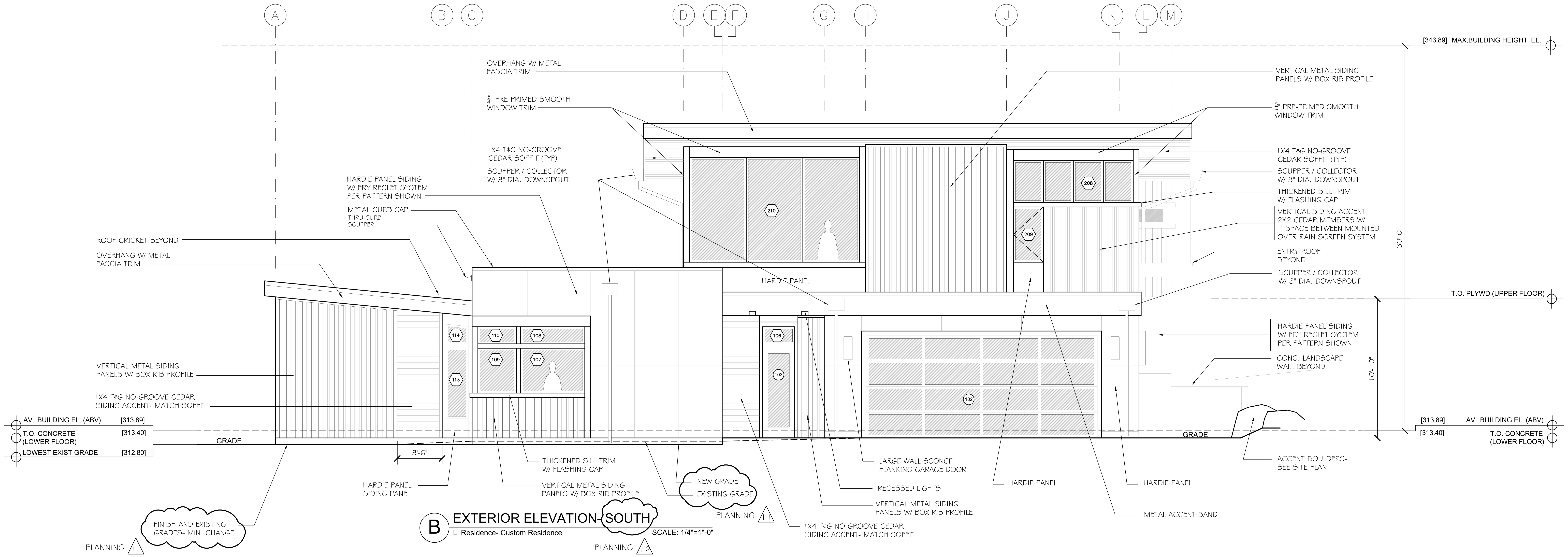
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED ROOF PLAN

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A2.3



A EXTERIOR ELEVATION - EAST
Li Residence- Custom Residence
SCALE: 1/4"=1'-0"
PLANNING 12



B EXTERIOR ELEVATION-SOUTH
Li Residence- Custom Residence
SCALE: 1/4"=1'-0"
PLANNING 12

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

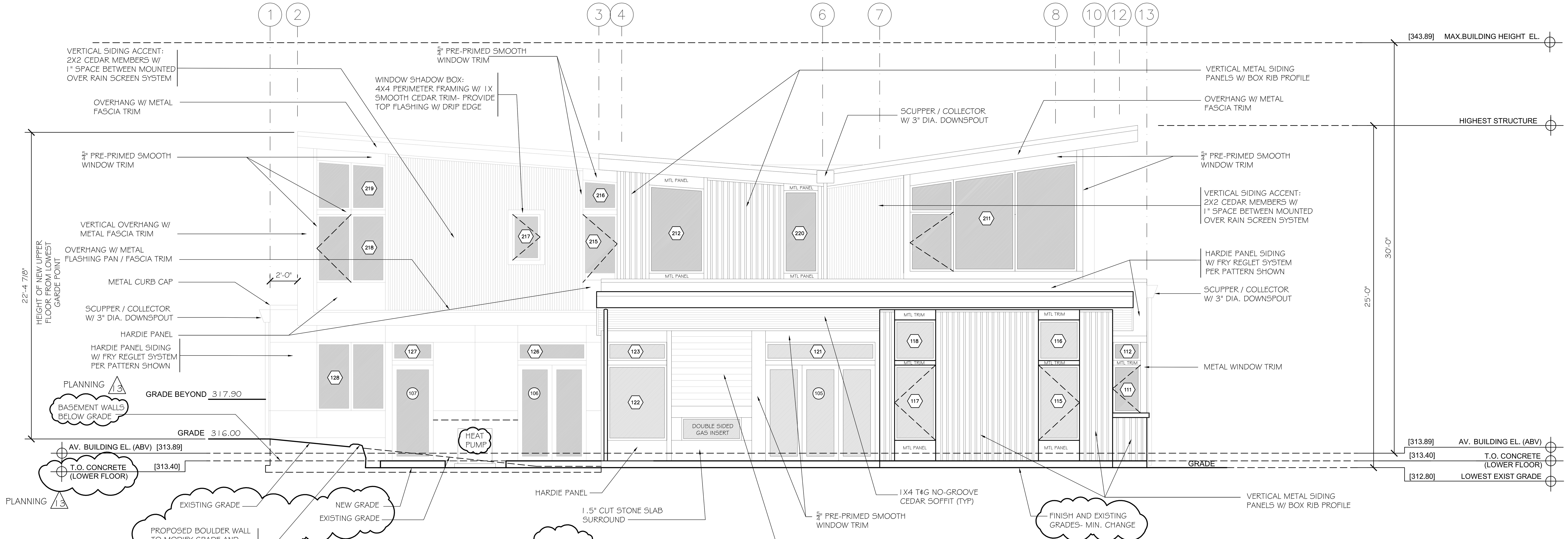
PERMIT SET

lure. DESIGN SOLUTIONS
Shawn Sullivan
Designer

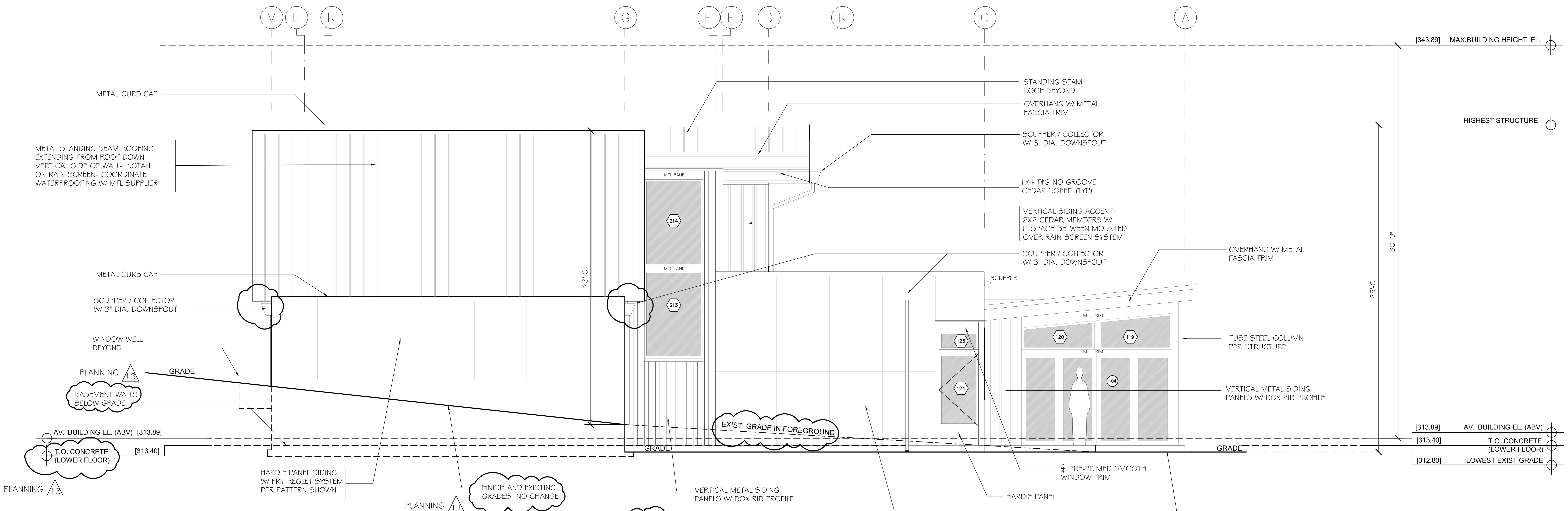
LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED EXTERIOR ELEVATIONS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A3.1



C EXTERIOR ELEVATION- WEST
Li Residence- Custom Residence
SCALE: 1/4"=1'-0"
PLANNING 2



D EXTERIOR ELEVATION- NORTH
Li Residence- Custom Residence
SCALE: 1/4"=1'-0"
PLANNING 2

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

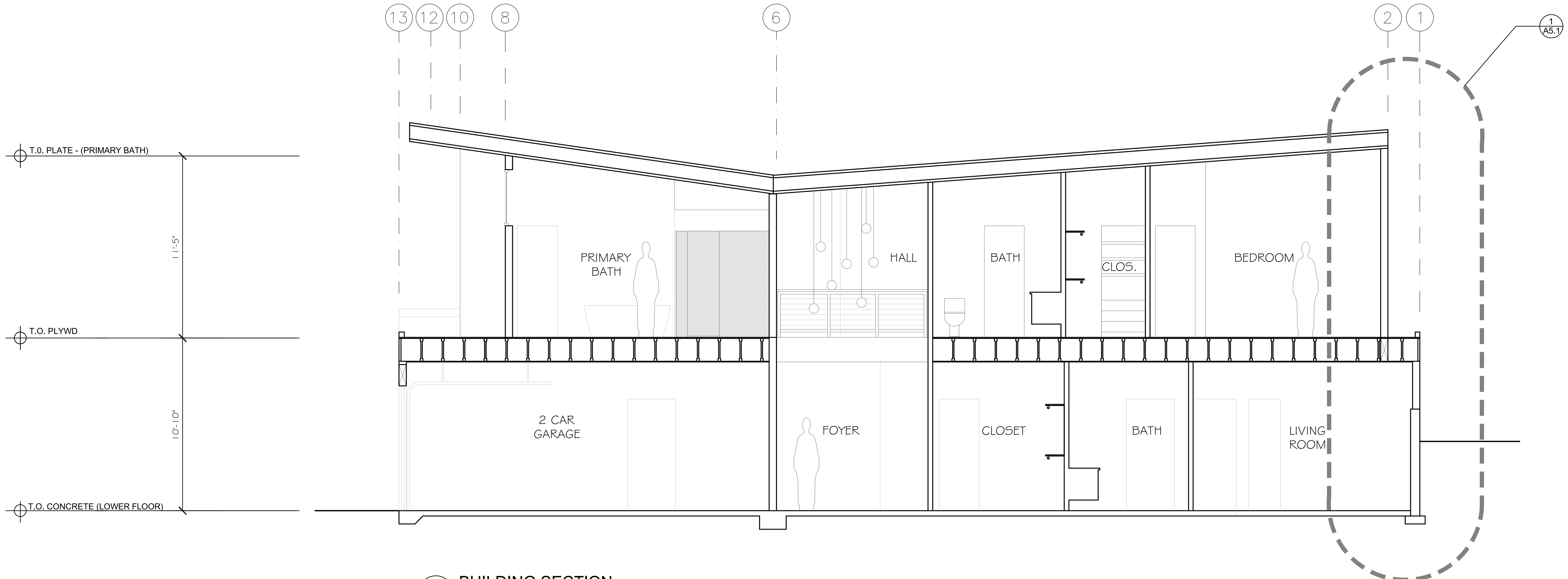
PERMIT SET

ure. DESIGN SOLUTIONS
Shawn Sullivan
Designer

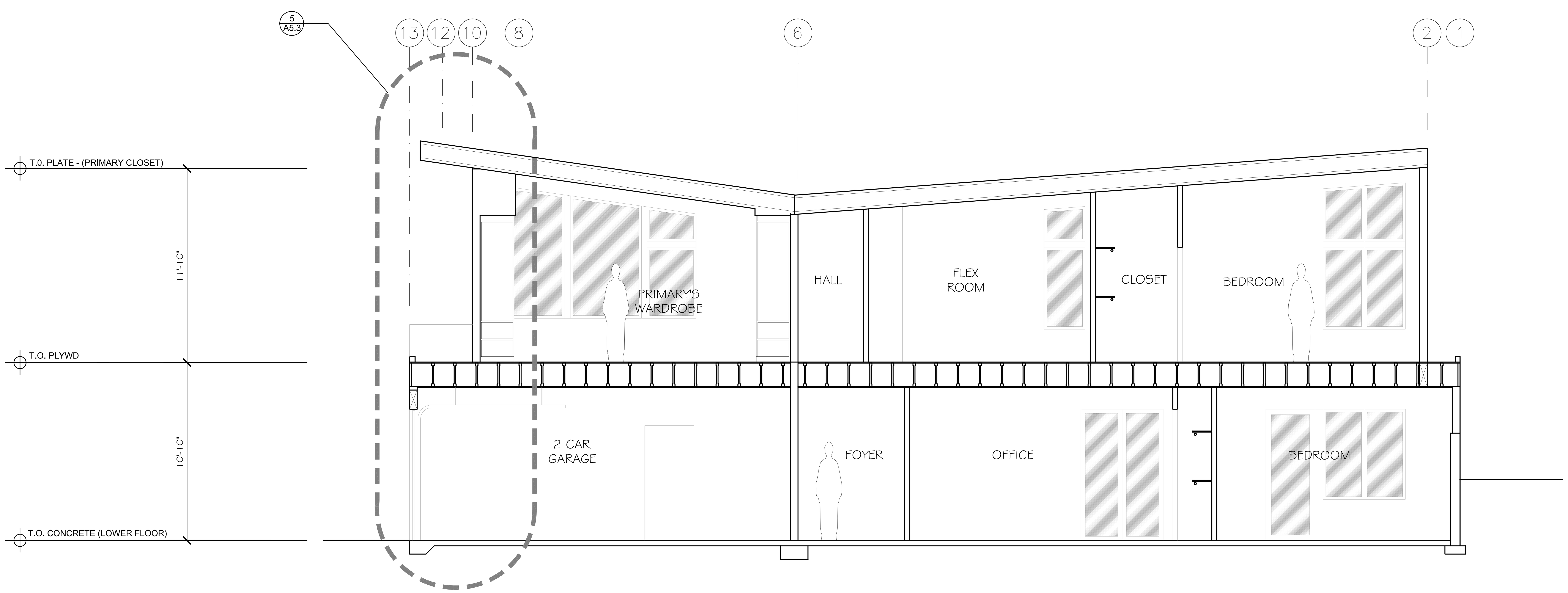
LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED EXTERIOR ELEVATIONS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A3.2



A BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1'-0"



B BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1'-0"

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

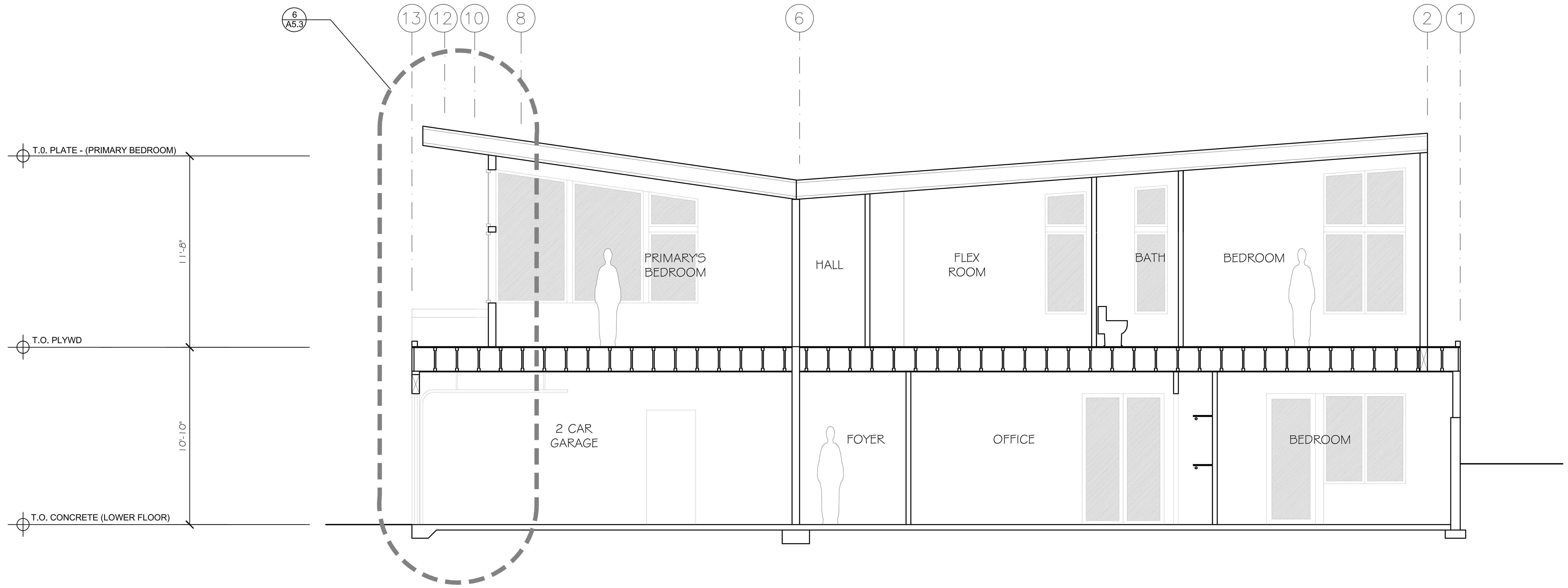
lure. DESIGN SOLUTIONS
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE

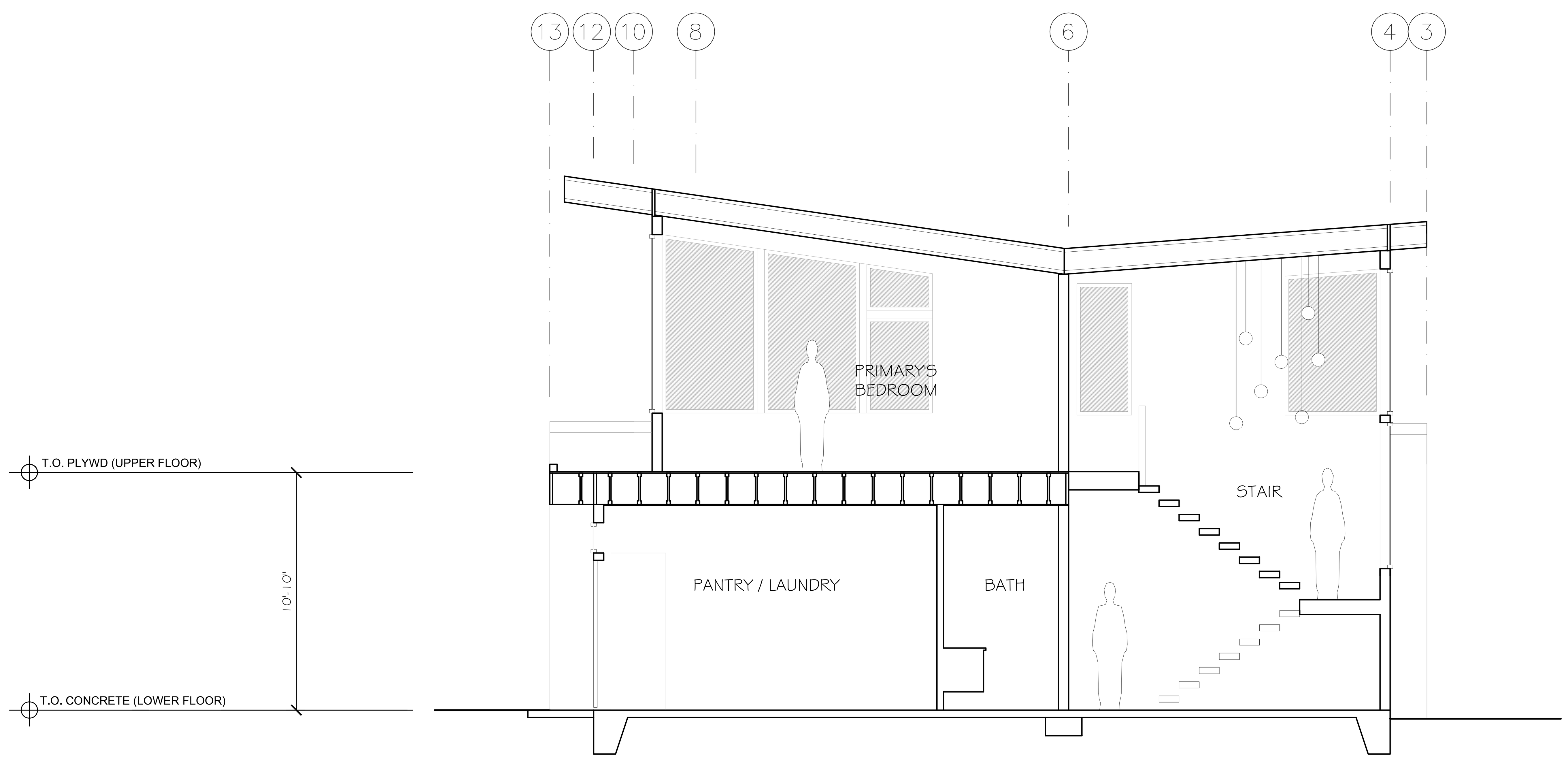
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED BUILDING SECTIONS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A4.1



C BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1'-0"



D BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1'-0"

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

lure. DESIGN SOLUTIONS

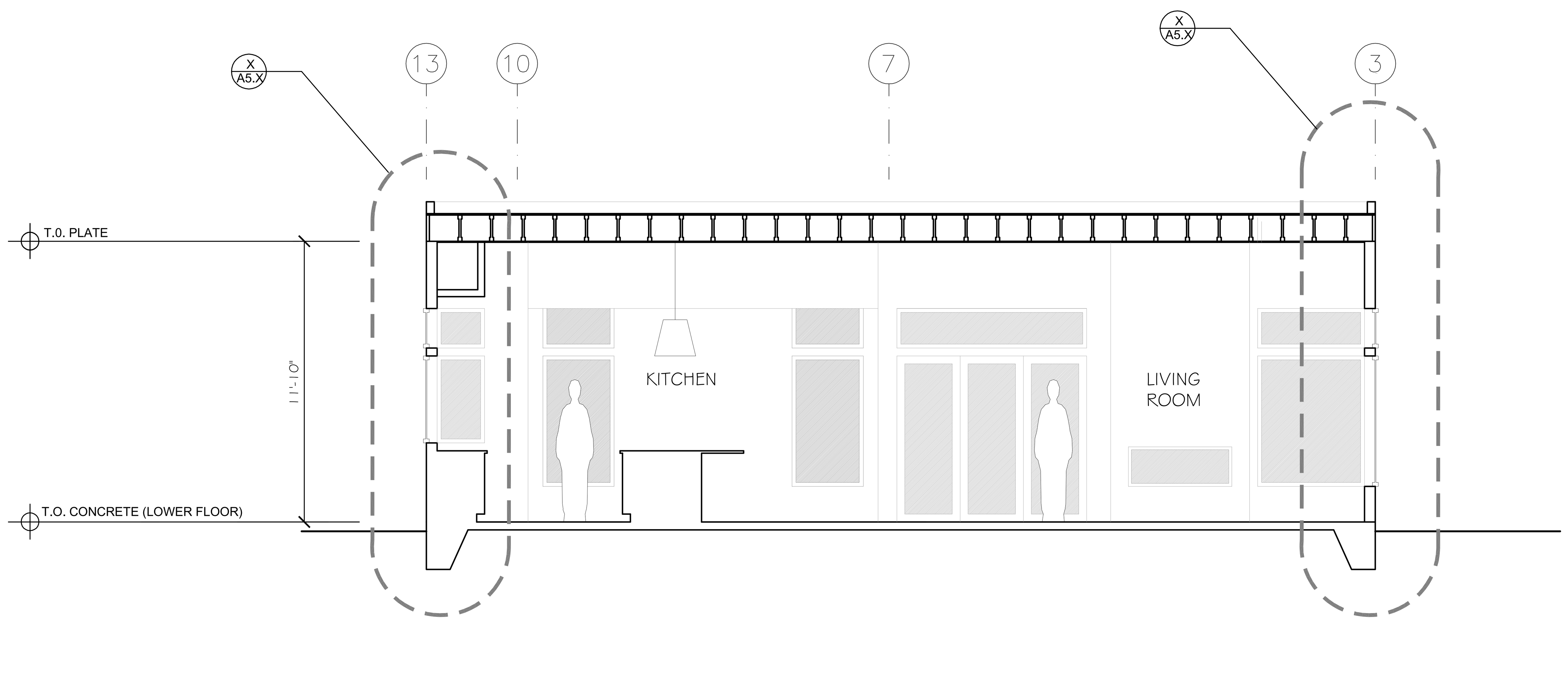
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE

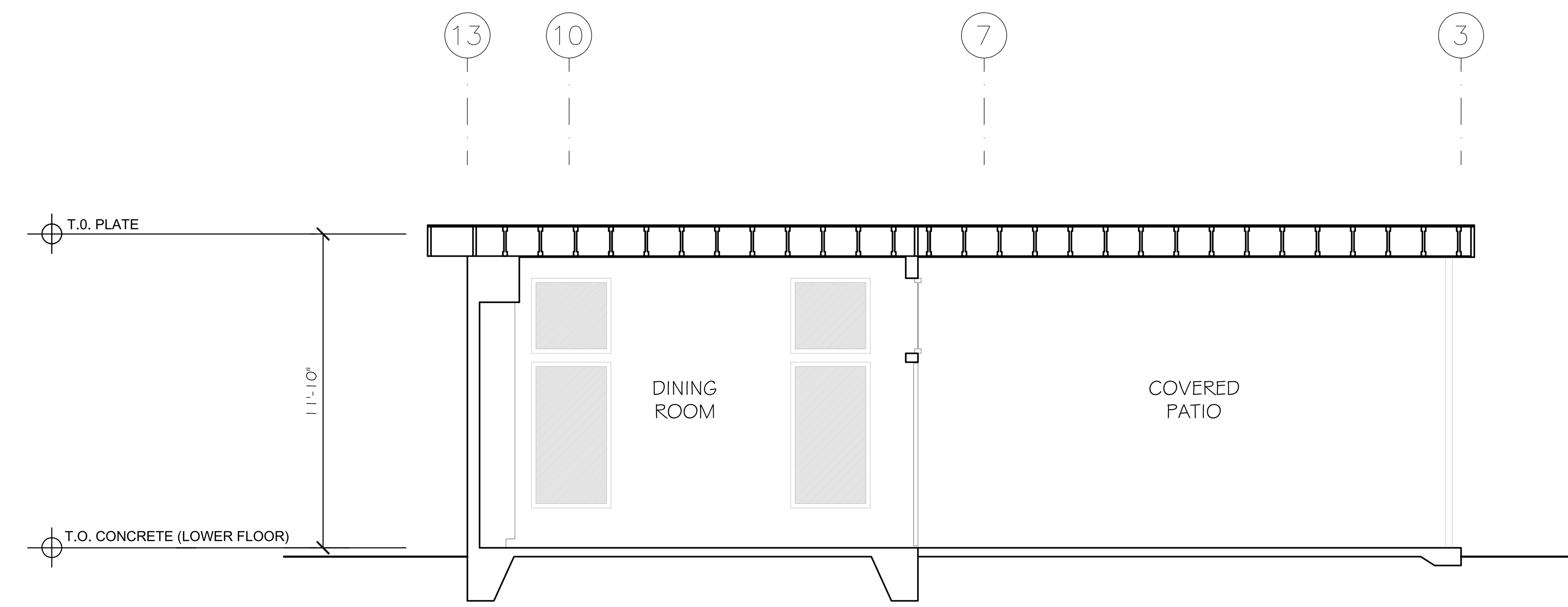
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED BUILDING SECTIONS

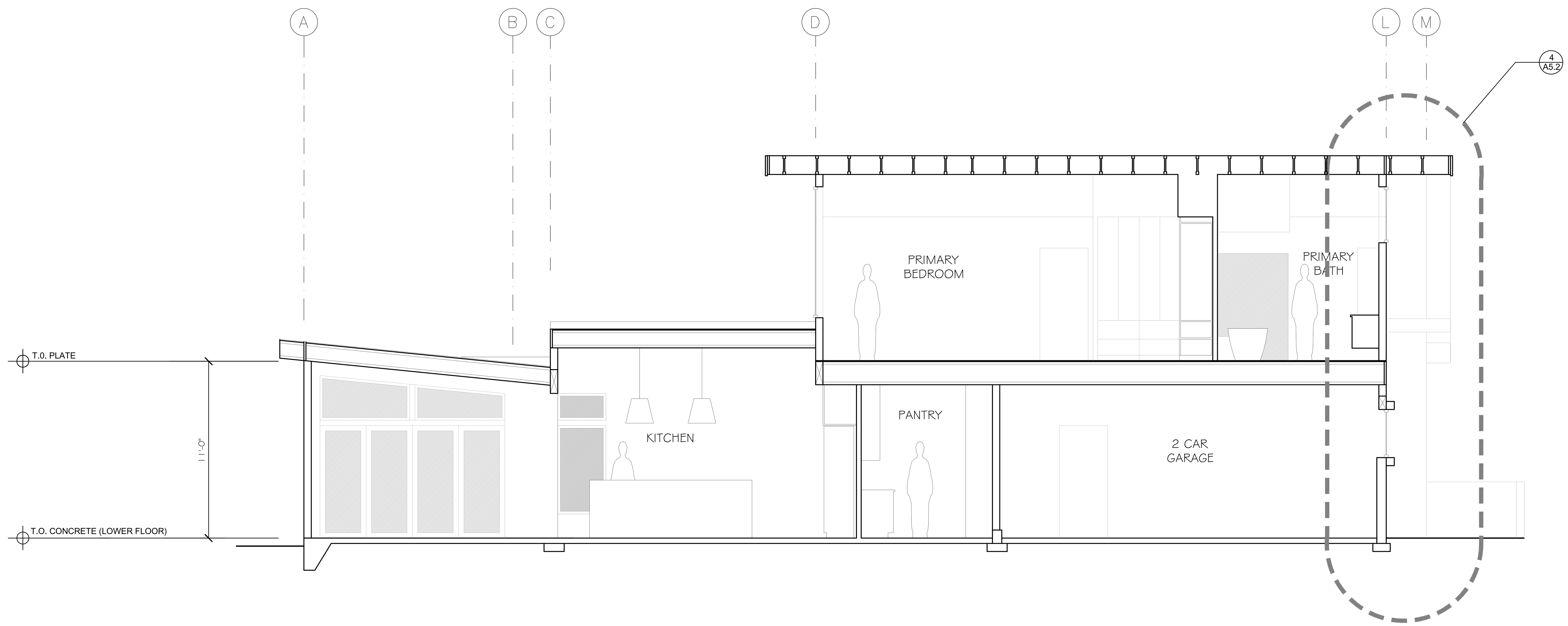
DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A4.2



E BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1'-0"



F BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1'-0"



G BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1'-0"

Misc. Info:

1.	FINAL CD SET 10-14-2022
2.	PERMIT REV 03-20-2023
3.	
4.	
5.	

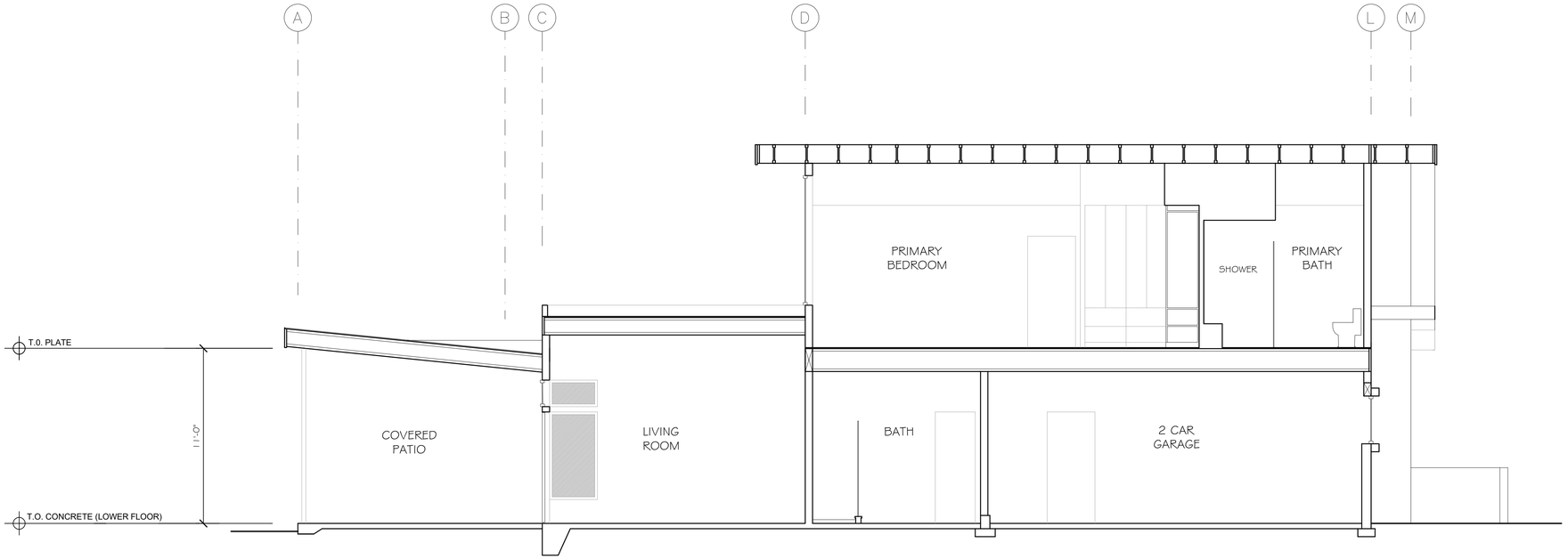
PERMIT SET

Shawn Sullivan, Designer

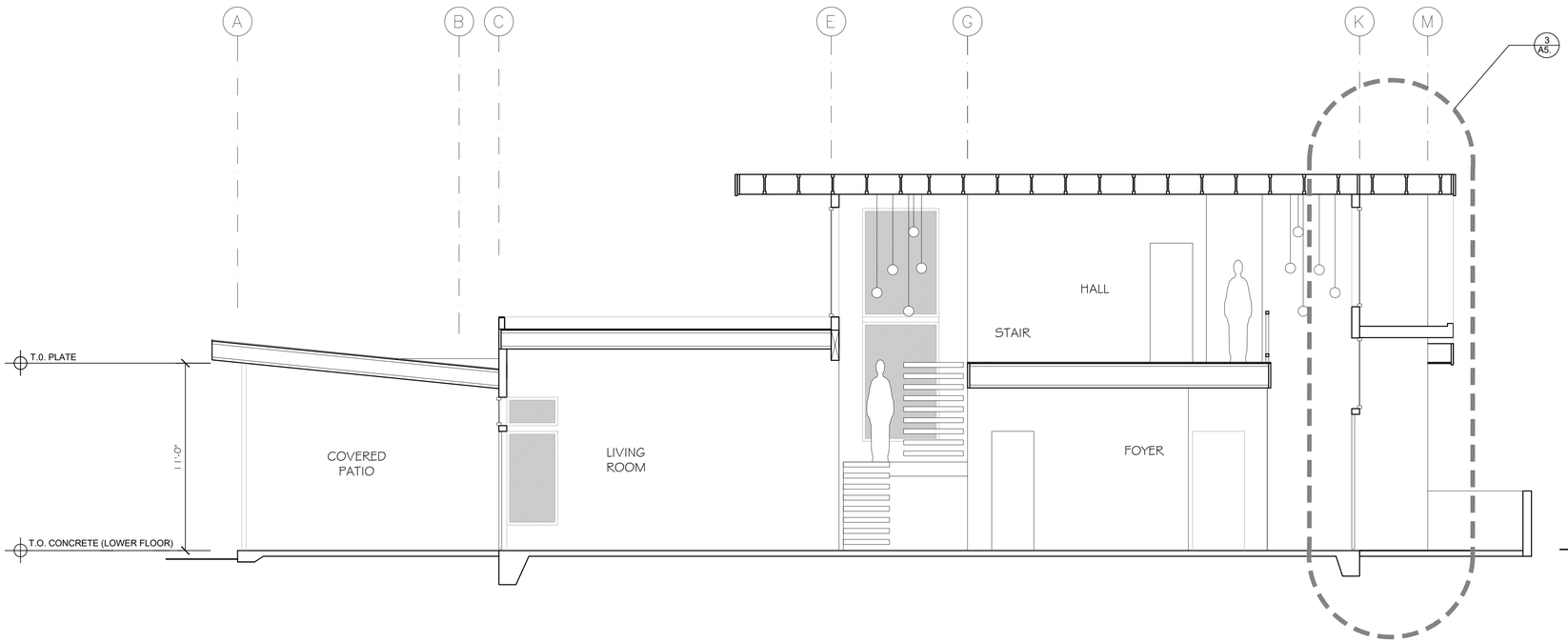
LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED BUILDING SECTIONS

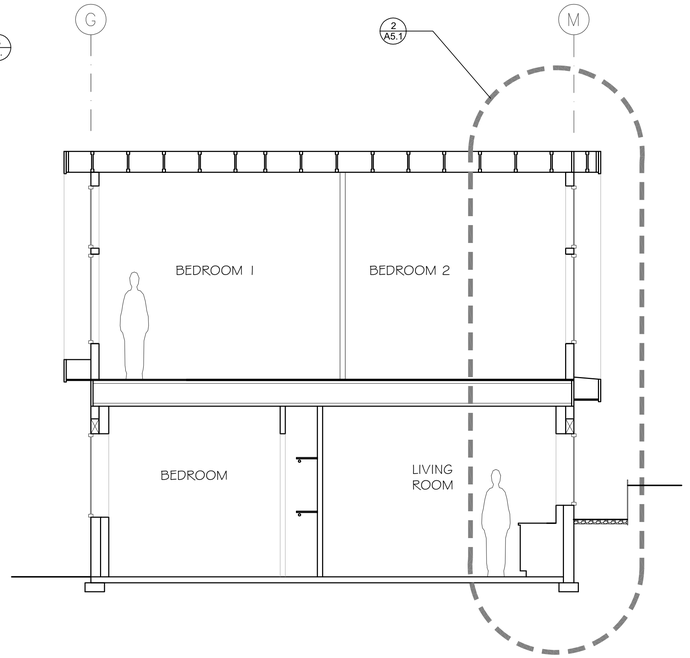
DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A4.3



H BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1"-0"



J BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1"-0"



K BUILDING SECTION
Li Residence- Custom Residence SCALE: 1/4"=1"-0"

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

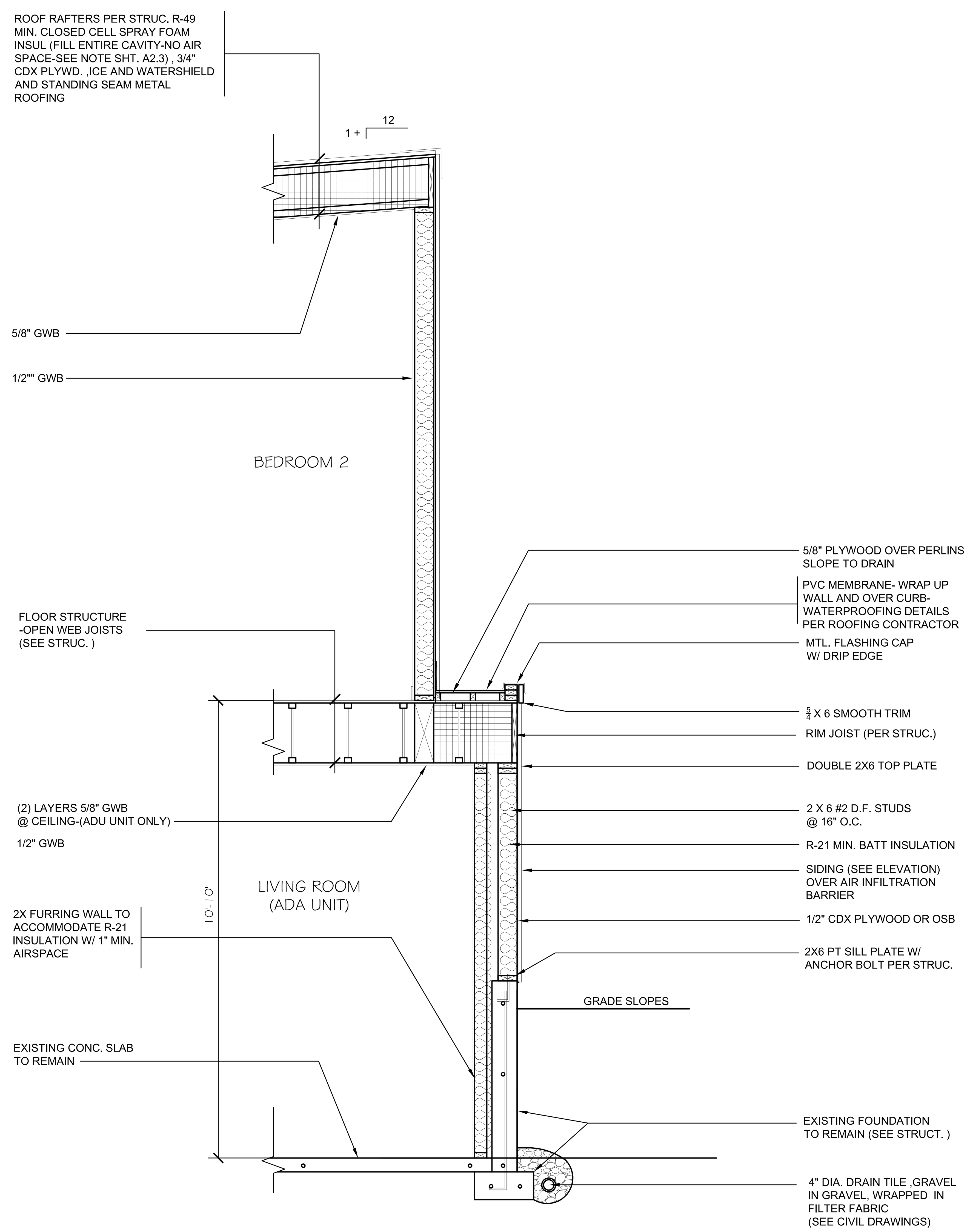
PERMIT SET

Designer
Shawn Sullivan
DESIGN SOLUTIONS
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043

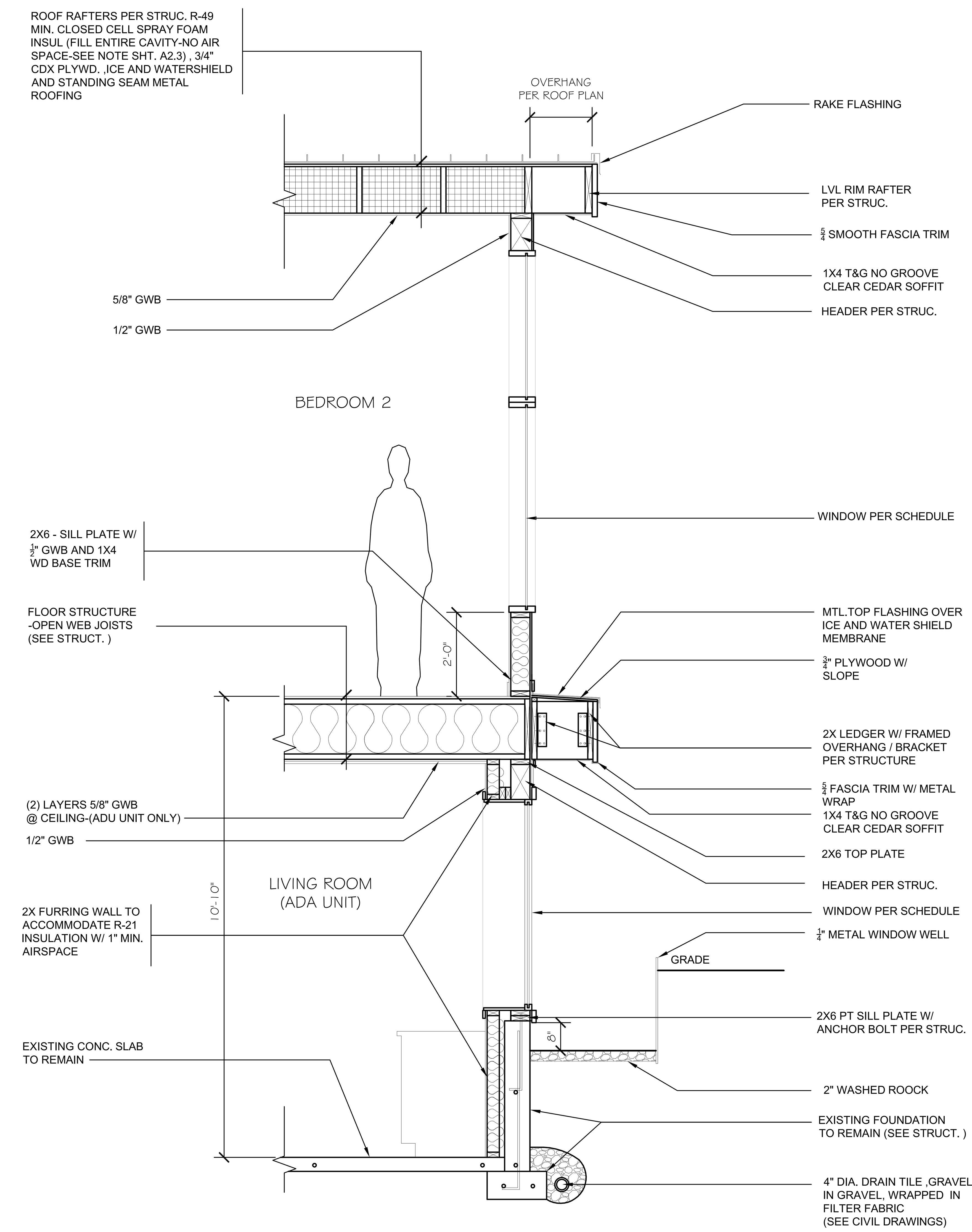
LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED BUILDING SECTIONS

DATE: 01-04- 2022
DESIGNED: SLS
DRAWN: SLS
JOB NO: 2022- 01
SHEET: A4.4



1 **WALL SECTION**
Li Residence- Custom Residence SCALE: 1/2"=1'-0"



2 **WALL SECTION**
Li Residence- Custom Residence SCALE: 1/2"=1'-0"

Misc. Info:	
1.	FINAL CD SET 10-14-2022
2.	PERMIT REV 03-20-2023
3.	
4.	
5.	

PERMIT SET

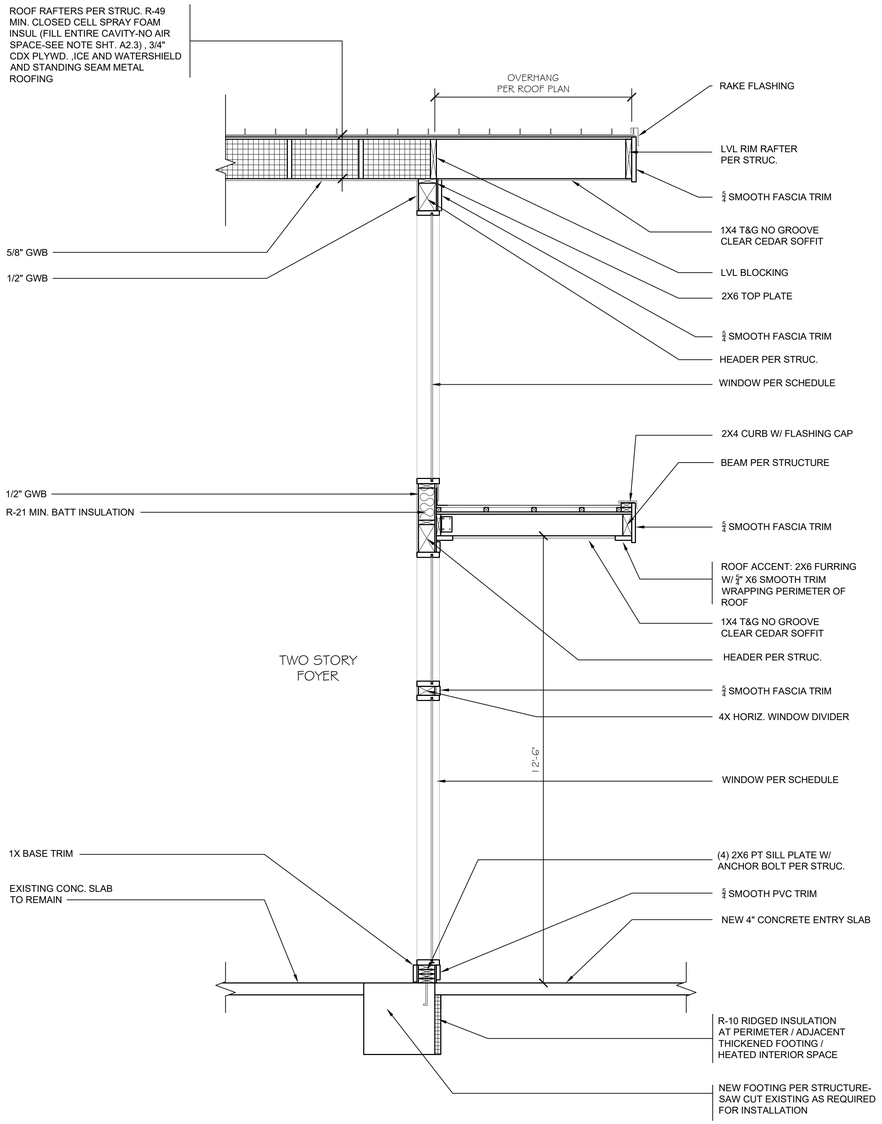
lure. DESIGN SOLUTIONS

Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

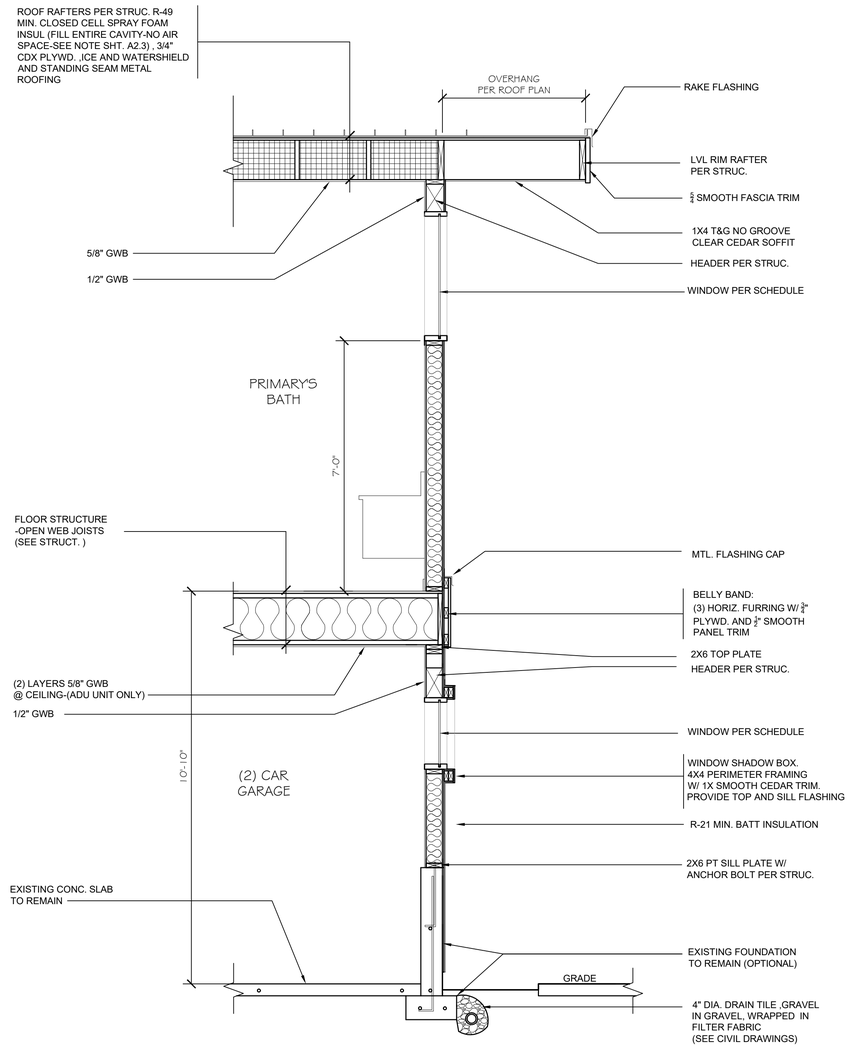
LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED WALL SECTIONS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A5.1



3 WALL SECTION
Li Residence- Custom Residence SCALE: 1/2"=1'-0"



4 WALL SECTION
Li Residence- Custom Residence SCALE: 1/2"=1'-0"

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

ure. DESIGN SOLUTIONS
Designer
Shawn Sullivan
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
ACCESSORY DWELLING

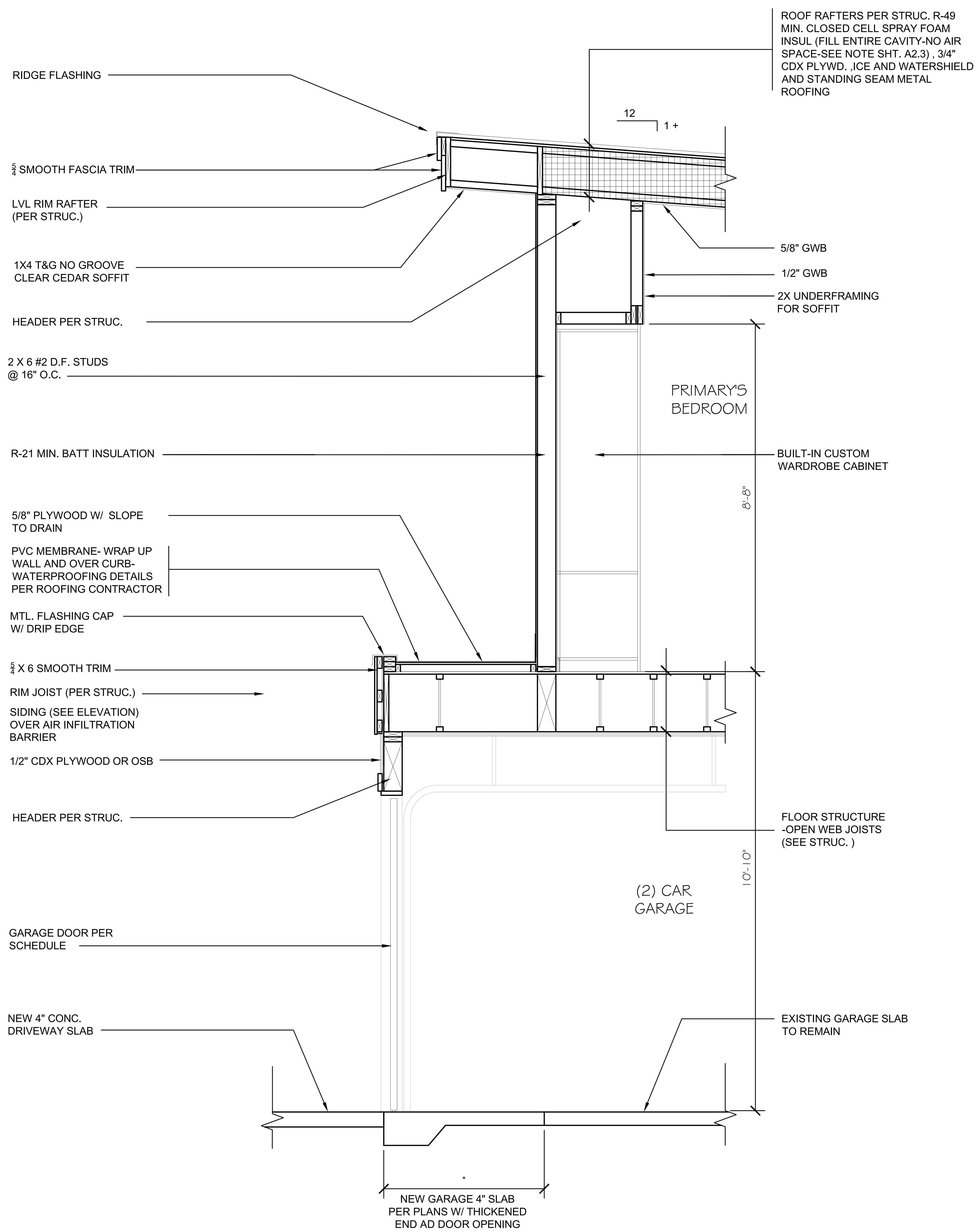
LI RESIDENCE

CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

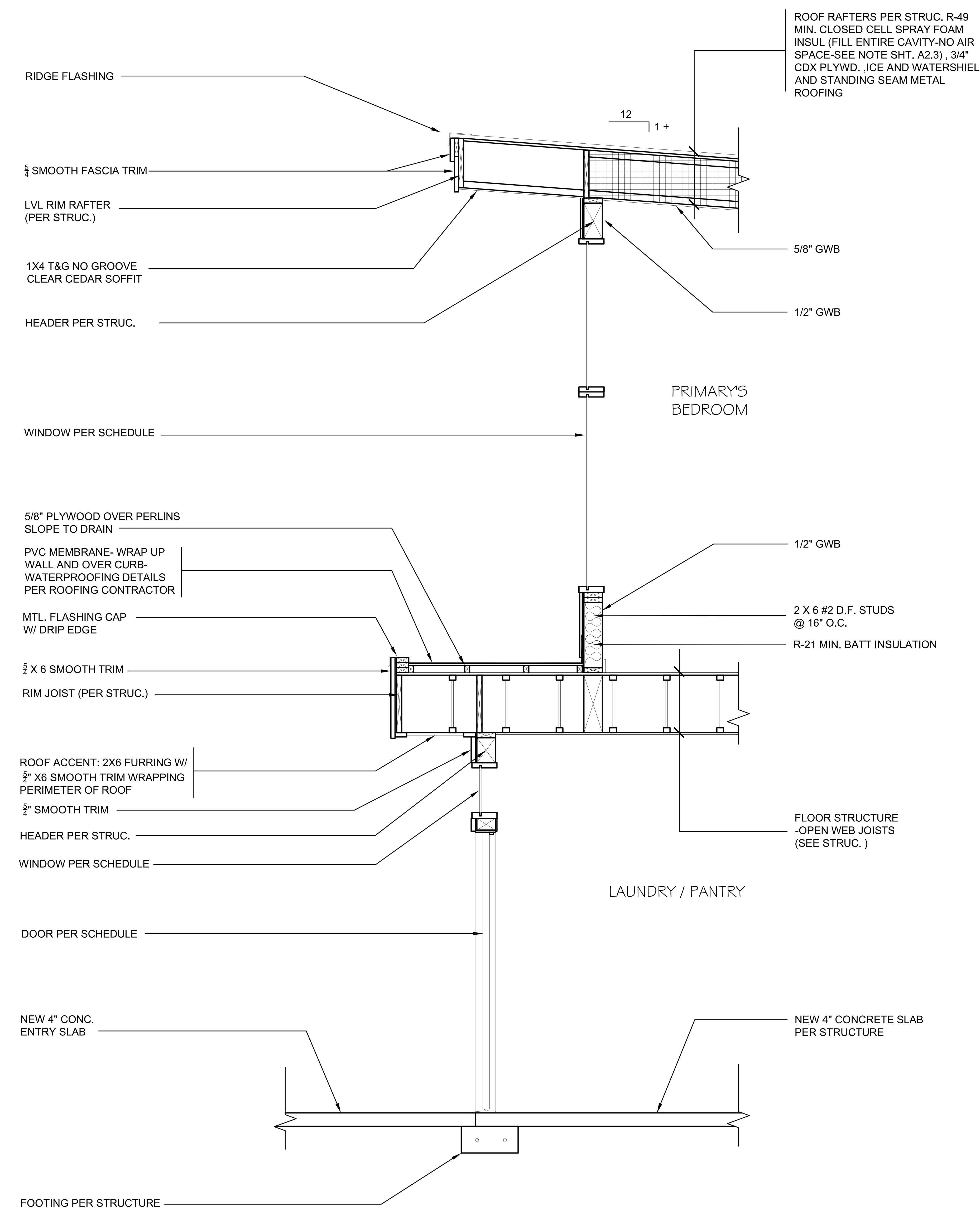
PROPOSED WALL SECTIONS

DATE: 01-04- 2022
DESIGNED: SLS
DRAWN: SLS
JOB NO: 2022- 01
SHEET:

A5.2



5 WALL SECTION
Li Residence- Custom Residence SCALE: 1/2"=1'-0"



6 WALL SECTION
Li Residence- Custom Residence SCALE: 1/2"=1'-0"

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

lure. DESIGN SOLUTIONS
Designer
Shawn Sullivan
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED WALL SECTIONS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A5.3

WINDOW SCHEDULE (APPROX. R.0.SIZES)

LOWER FLOOR

WNDW NO.	ROOM NAME	R.O. SIZE W X H	MATERIAL	TYPE	SYSTEM / GROUP	STYLE	OPERATION	NOTES	U-FACTOR	
101	ADU- LIVING ROOM	5^{0} X 5^{0}	ALUMINUM	A		SLIDER		SAFETY GLAZING	.24 MIN.	
102	FOYER	5^{0} X 7^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
103	FOYER	5^{0} X 4^{0}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
104	FOYER	2^{6} X 1^{0}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
105	GARAGE	SEE WINDOW SYSTEM 105	ALUMINUM		SEE SYSTEM 105			SAFETY GLAZING	.24 MIN.	
106	LAUNDRY /PANTRY	2^{6} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
107	KITCHEN	5^{0} X 3^{6}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
108	KITCHEN	5^{0} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
109	KITCHEN	3^{0} X 3^{6}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
110	KITCHEN	3^{0} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
111	KITCHEN	2^{0} X 3^{6}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
112	KITCHEN	2^{0} X 1^{4}	ALUMINUM	C		CASEMENT	TBD	SAFETY GLAZING	.24 MIN.	
113	DINING ROOM	1^{9} X 5^{6}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
114	DINING ROOM	1^{9} X 1^{9} (SLOPED TOP)	ALUMINUM	D		PICTURE		SAFETY GLAZING	.24 MIN.	
115	DINING ROOM	3^{0} X 5^{6}	ALUMINUM	C		CASEMENT	TBD	SAFETY GLAZING	.24 MIN.	
116	DINING ROOM	3^{0} X 3^{0}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
117	DINING ROOM	3^{0} X 5^{6}	ALUMINUM	C		CASEMENT	TBD	SAFETY GLAZING	.24 MIN.	
118	DINING ROOM	3^{0} X 3^{0}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
119	DINING ROOM	5^{7} X 2^{9} (SLOPED TOP)	ALUMINUM	E		PICTURE		SAFETY GLAZING	.24 MIN.	
120	DINING ROOM	5^{7} X 2^{2} (SLOPED TOP)	ALUMINUM	E		PICTURE		SAFETY GLAZING	.24 MIN.	
121	LIVING ROOM	8^{0} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
122	LIVING ROOM	4^{4} X 5^{6}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
123	LIVING ROOM	4^{4} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
124	LIVING ROOM	3^{0} X 5^{6}	ALUMINUM	C		CASEMENT	TBD	SAFETY GLAZING	.24 MIN.	
125	LIVING ROOM	3^{0} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
126	OFFICE	5^{0} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
127	ADU-BEDROOM	3^{0} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
128	ADU-BEDROOM	5^{0} X 5^{0}	ALUMINUM	A		SLIDER		SAFETY GLAZING	.24 MIN.	

*VERIFY /MEASURE ALL R.O. FOR ACCURATE WINDOWS SIZES PRIOR TO ORDERING / MANUFACTURING

*WINDOW SIZES ABOVE REFLECT APPROXIMATE R.O. (ROUGH OPENINGS). WINDOWS TO BE SIZED ACCORDINGLY

* SEE PLANS AND ELEVATIONS FOR WINDOW TAG LOCATION XXX

* SAFTEY GLAZING TO BE PROVIDE PER LOCAL CODE REQUIREMENTS

WINDOW SCHEDULE (APPROX. R.0.SIZES)

UPPER FLOOR

WNDW NO.	ROOM NAME	R.O. SIZE W X H	MATERIAL	TYPE	SYSTEM / GROUP	STYLE	OPERATION	NOTES	U-FACTOR	GLAZING AREA
201	BEDROOM	SEE WINDOW SYSTEM 201	ALUMINUM		SEE SYSTEM 201			SAFETY GLAZING	.24 MIN.	
202	BEDROOM	SEE WINDOW SYSTEM 202	ALUMINUM		SEE SYSTEM 202			SAFETY GLAZING	.24 MIN.	
203	BATHROOM	5^{0} X 1^{4}	ALUMINUM	A		SLIDER		SAFETY GLAZING	.24 MIN.	
204	BATHROOM	2^{10} X 1^{4}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
205	FOYER	5^{0} X 6^{0} (SLOPED TOP)	ALUMINUM	E		PICTURE		SAFETY GLAZING	.24 MIN.	
206	FOYER	3^{6} X 5^{6} (SLOPED TOP)	ALUMINUM	E		PICTURE		SAFETY GLAZING	.24 MIN.	
207	PRIMARY'S BATH	SEE WINDOW SYSTEM 207	ALUMINUM		SEE SYSTEM 207			SAFETY GLAZING	.24 MIN.	
208	PRIMARY'S BATH	SEE WINDOW SYSTEM 208	ALUMINUM		SEE SYSTEM 208			SAFETY GLAZING	.24 MIN.	
209	PRIMARY'S BATH	2^{4} X 4^{4}	ALUMINUM	C		CASEMENT	TBD	SAFETY GLAZING	.24 MIN.	
210	PRIMARY'S BEDROOM	SEE WINDOW SYSTEM 210	ALUMINUM		SEE SYSTEM 210			SAFETY GLAZING	.24 MIN.	
211	PRIMARY'S BEDROOM	SEE WINDOW SYSTEM 211	ALUMINUM		SEE SYSTEM 211			SAFETY GLAZING	.24 MIN.	
212	STAIR	5^{0} X 6^{8} (SLOPED TOP)	ALUMINUM	D		PICTURE		SAFETY GLAZING	.24 MIN.	
213	STAIR	4^{6} X 6^{8}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
214	STAIR	4^{6} X 6^{8}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
215	FLEX ROOM	2^{6} X 5^{0}	ALUMINUM	C		CASEMENT	TBD	SAFETY GLAZING	.24 MIN.	
216	FLEX ROOM	2^{6} X 2^{2} (SLOPED TOP)	ALUMINUM	D		PICTURE		SAFETY GLAZING	.24 MIN.	
217	BATHROOM	2^{0} X 3^{4}	ALUMINUM	C		CASEMENT		SAFETY GLAZING	.24 MIN.	
218	BEDROOM	SEE WINDOW SYSTEM 218	ALUMINUM		SEE SYSTEM 218			SAFETY GLAZING	.24 MIN.	
219	BEDROOM	SEE WINDOW SYSTEM 219	ALUMINUM		SEE SYSTEM 219			SAFETY GLAZING	.24 MIN.	
220	STAIR	2^{6} X 6^{0}	ALUMINUM	B		PICTURE		SAFETY GLAZING	.24 MIN.	
								SAFETY GLAZING	.24 MIN.	

*VERIFY /MEASURE ALL R.O. FOR ACCURATE WINDOWS SIZES PRIOR TO ORDERING / MANUFACTURING

*WINDOW SIZES ABOVE REFLECT APPROXIMATE R.O. (ROUGH OPENINGS). WINDOWS TO BE SIZED ACCORDINGLY

* SEE PLANS AND ELEVATIONS FOR WINDOW TAG LOCATION XXX

* SAFTEY GLAZING TO BE PROVIDE PER LOCAL CODE REQUIREMENTS

EXTERIOR DOOR SCHEDULE)

LOWER FLOOR

WNDW NO.	ROOM NAME	R.O. SIZE W X H	MATERIAL	TYPE		OPERATION	NOTES	U-FACTOR	
101	FOYER	3^{6} X 8^{0}	ALUMINUM	A		LH SWING			
102	GARAGE	18^{0} X 8^{0}	ALUMINUM	C		OVER HEAD	(16) RELITES	.24 MIN.	
103	LAUNDRY / PANTRY	2^{6} X 7^{0}	ALUMINUM	B		RH SWING	FULL LITE	.24 MIN.	
104	DINING ROOM	11^{6} X 7^{0}	ALUMINUM	D		FENCH SLIDER	FULL LITE	.24 MIN.	
105	LIVING ROOM	8^{0} X 7^{0}	ALUMINUM	E		ACCORDION	FULL LITE-(3) PANEL	.24 MIN.	
106	OFFICE	5^{0} X 7^{0}	ALUMINUM	E		SLIDING DOOR	FULL LITE	.24 MIN.	
107	ADU BEDROOM	3^{0} X 7^{0}	ALUMINUM	B		RH-R SWING	FULL LITE	.24 MIN.	

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

DESIGN SOLUTIONS
Shawn Sullivan Designer
4402 242ND PLACE SW
MOUNTLAKE TERRACE, WA 98043
425-870-0383

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED
WINDOW AND EXTERIOR
DOOR SCHEDULES

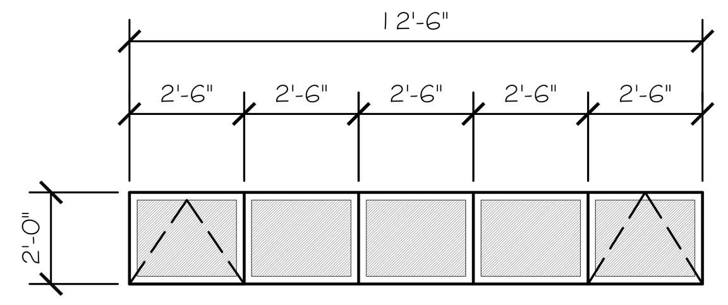
DATE: 01-04- 2022
DESIGNED: SLS
DRAWN: SLS
JOB NO: 2022- 01
SHEET:
A6.1

WINDOW SYSTEMS

*VERIFY ALL R.O. FOR WINDOWS SIZE PRIOR TO ORDERING / MANUFACTURING
* SEE PLANS AND ELEVATIONS FOR WINDOW TAG LOCATION (100)
* SAFTEY GLAZING TO BE PROVIDE PER LOCAL CODE REQUIREMENTS

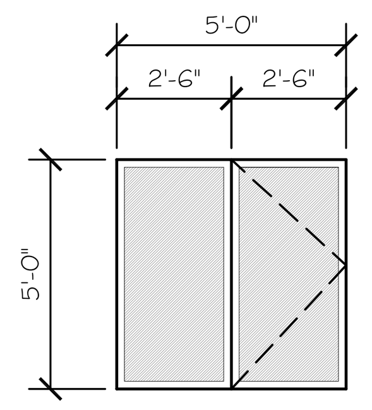
ENERGY CODE INFO

* SEE SCHEDULE FOR GLAZING SIZES
* PROVIDE GLAZING U-FACTOR OF .30 OR BETTER



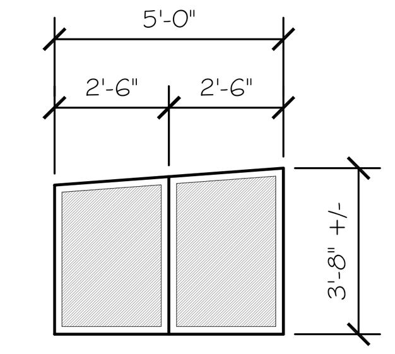
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (3)
* CASEMENT (2)- AWNING
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (105)



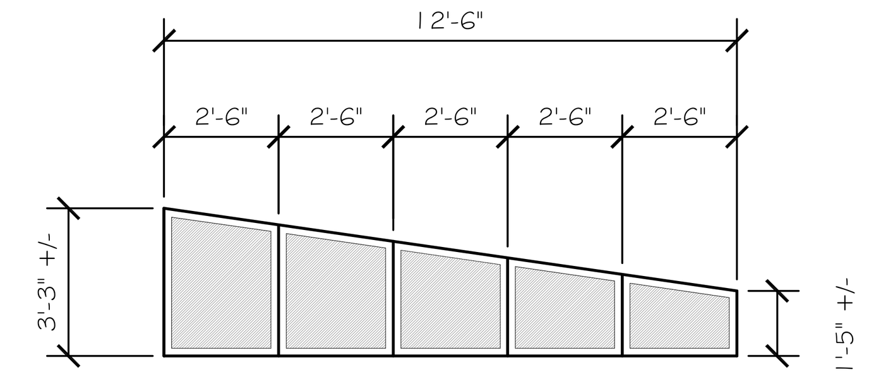
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (3)
* CASEMENT (1)- EGRESS
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (201)



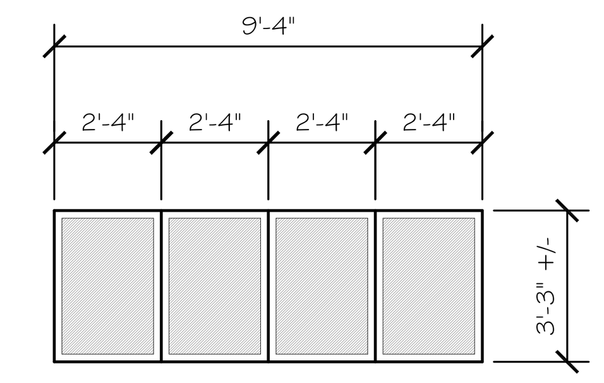
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (4)
* TRAPEZOIDS (SLOPED TOP)
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (202)



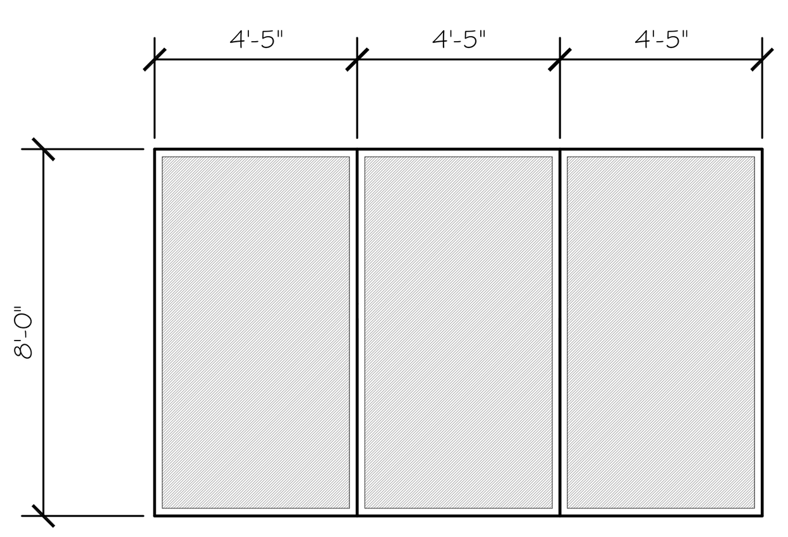
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (5)
* TRAPEZOIDS (SLOPED TOP)
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (207)



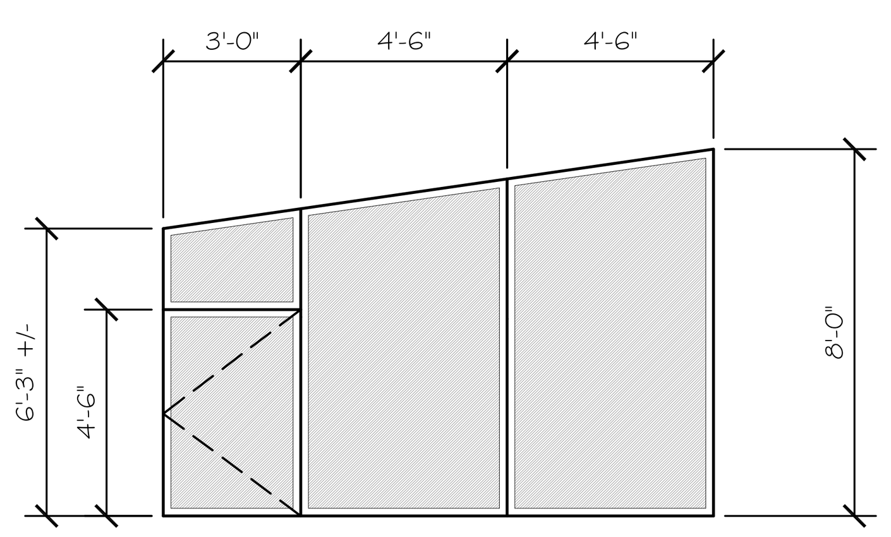
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (4)
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (208)



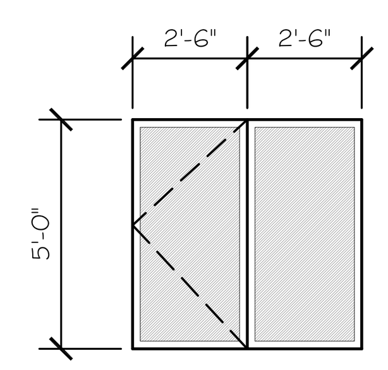
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (3)
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (210)



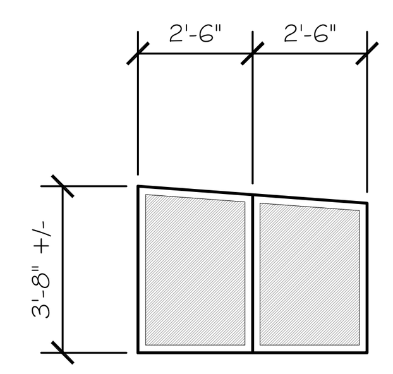
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (3)
* CASEMENT (1)
* TRAPEZOIDS (SLOPED TOP)
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (211)



* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (3)
* CASEMENT (1)- EGRESS
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

WINDOW SYSTEM (218)



* ALUMINUM CLAD
* COLOR BLACK
* PICTURE (4)
* TRAPEZOIDS (SLOPED TOP)
* MULLED W/ VERTICAL FLAT STEEL 1X4
* SAFETY GLAZING

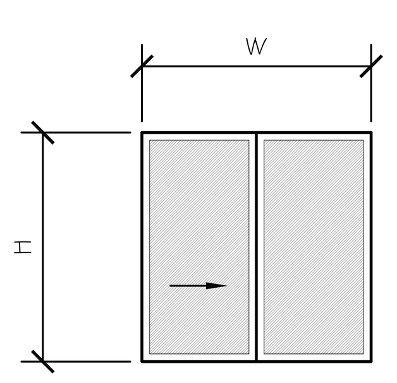
WINDOW SYSTEM (219)

WINDOW TYPES

*VERIFY ALL R.O. FOR WINDOWS SIZE PRIOR TO ORDERING / MANUFACTURING
* SEE PLANS AND ELEVATIONS FOR WINDOW TAG LOCATION (100)
* SAFTEY GLAZING TO BE PROVIDE PER LOCAL CODE REQUIREMENTS

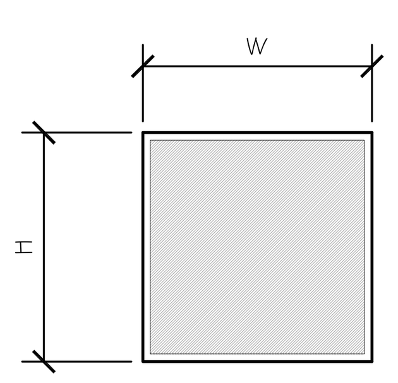
ENERGY CODE INFO

* SEE SCHEDULE FOR GLAZING SIZES
* PROVIDE GLAZING U-FACTOR OF .30 OR BETTER



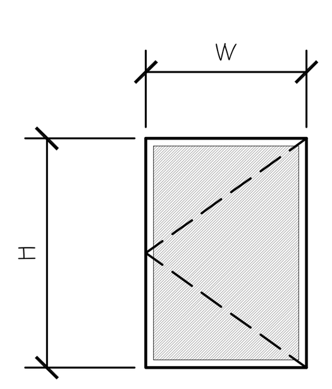
* ALUMINUM CLAD
* COLOR BLACK
* SLIDER

TYPE A



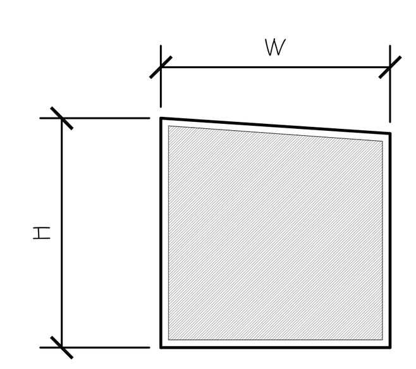
* ALUMINUM CLAD
* COLOR BLACK
* PICTURE

TYPE B



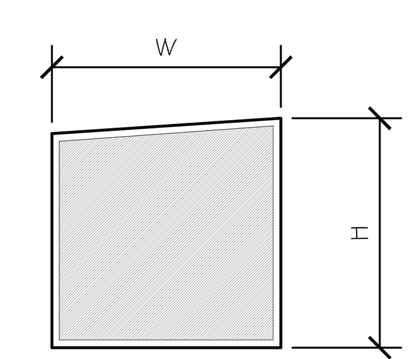
* ALUMINUM CLAD
* COLOR BLACK
* CASEMENT

TYPE C



* ALUMINUM CLAD
* COLOR BLACK
* PICTURE
* TRAPEZOID (SLOPED TOP)

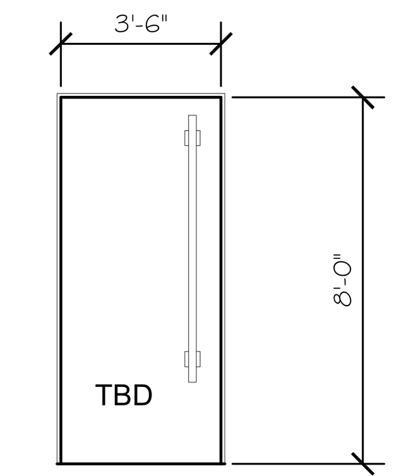
TYPE D



* ALUMINUM CLAD
* COLOR BLACK
* PICTURE
* TRAPEZOID (SLOPED TOP)

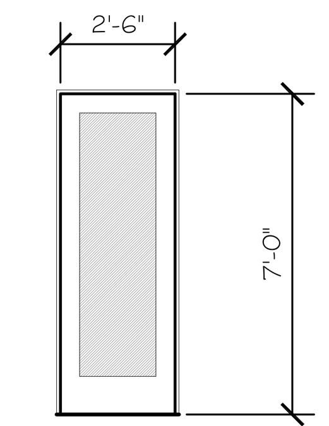
TYPE E

EXTERIOR DOOR TYPES



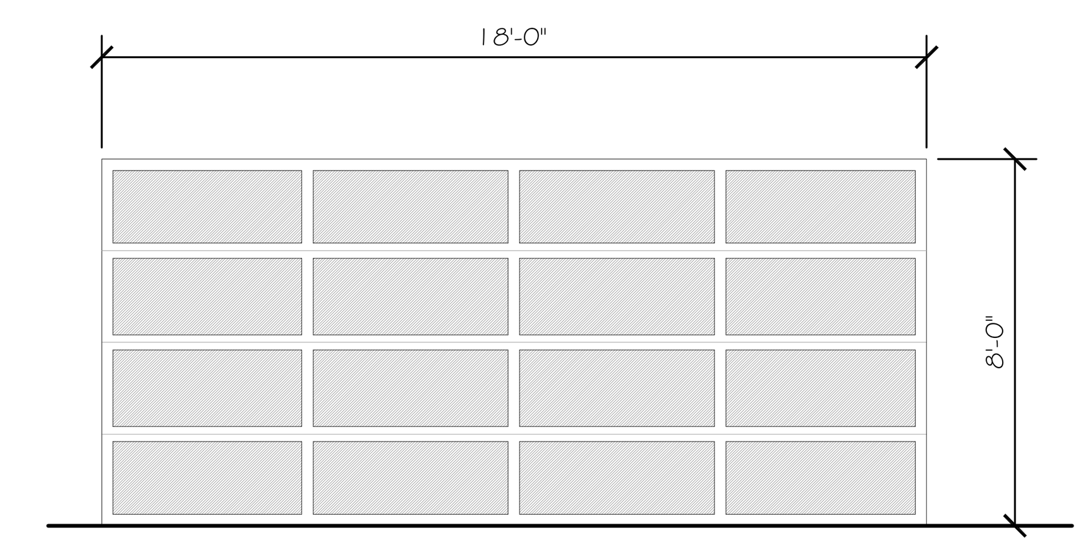
* WOOD
* NO PANEL
* LARGE VERTICAL HANDLE

TYPE A



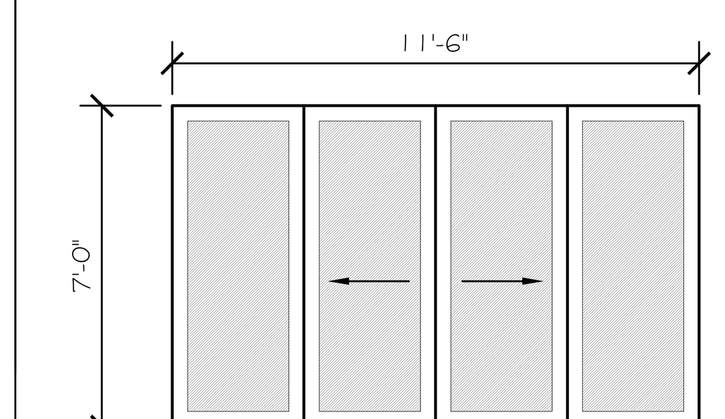
* ALUMINUM
* FULL LITE
* SAFTEY GLAZING

TYPE B



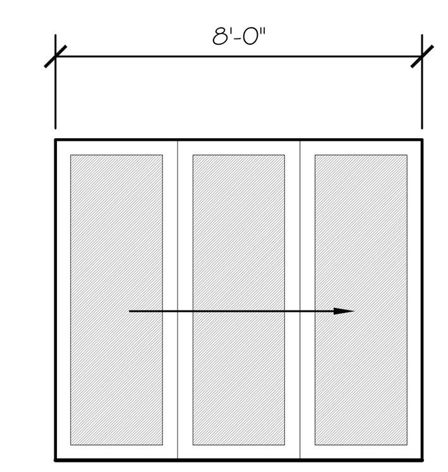
* ALUMINUM
* RELITES (16)
* RELITES FROSTED GLASS

TYPE C



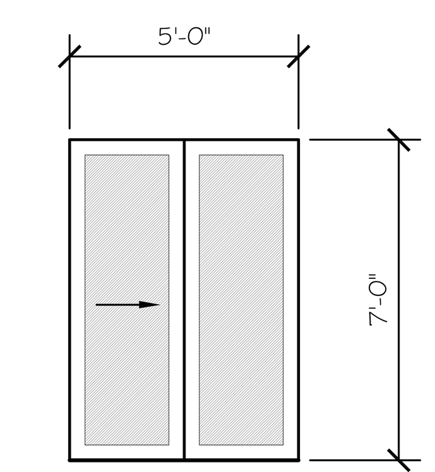
* FRENCH SLIDER
* ALUMINUM
* FULL LITE
* SAFTEY GLAZING

TYPE D



* ACCORDION DOOR
* ALUMINUM
* FULL LITE
* PANELS (3)
* SAFTEY GLAZING
* STACKING TO EXTERIOR

TYPE E



*SLIDING DOOR
* ALUMINUM
* FULL LITE
* SAFTEY GLAZING

TYPE F

Misc. Info:	
1. FINAL CD SET	10-14-2022
2. PERMIT REV	03-20-2023
3.	
4.	
5.	

PERMIT SET

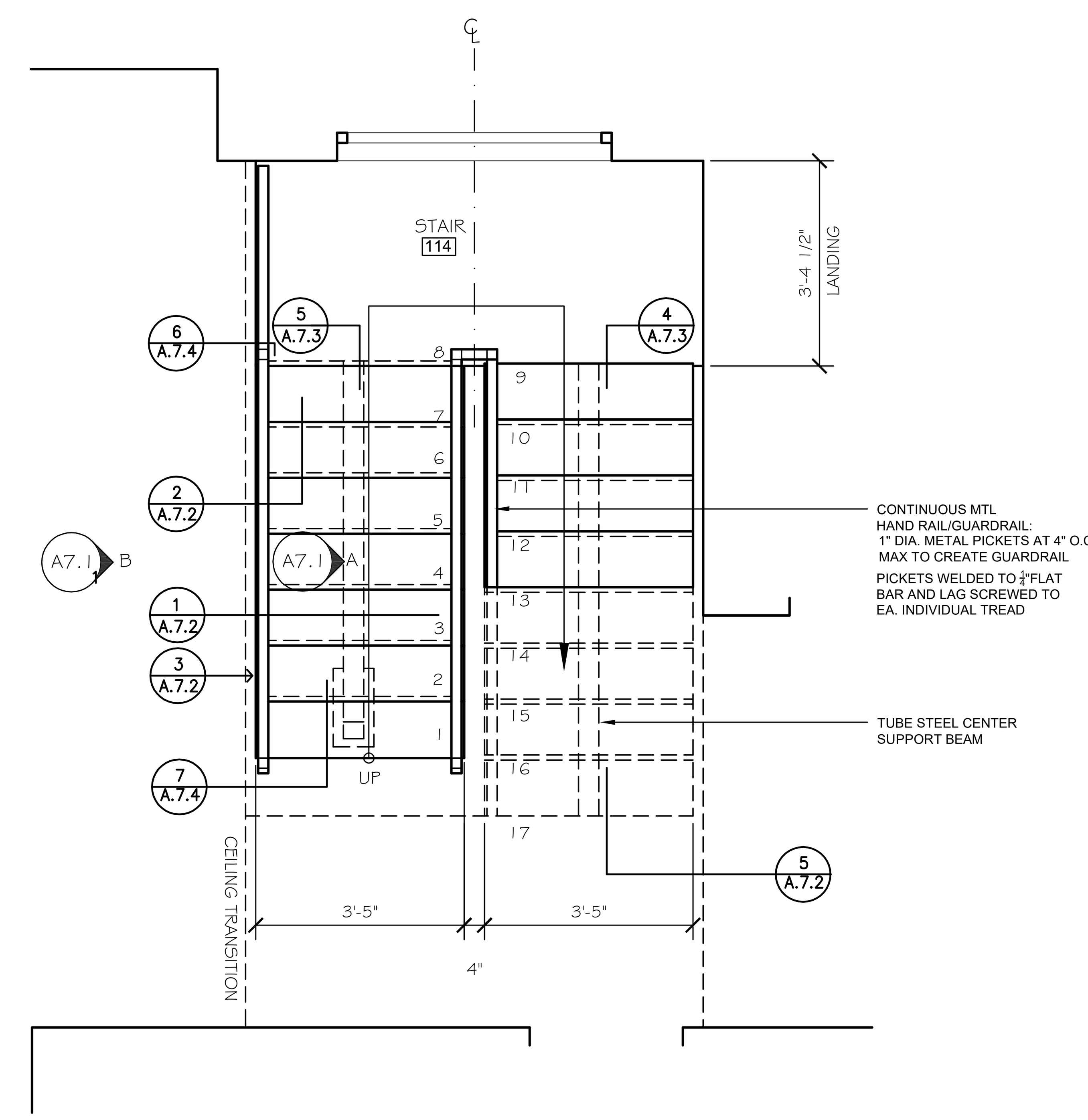
lure. DESIGN SOLUTIONS
Shawn Sullivan
Designer

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

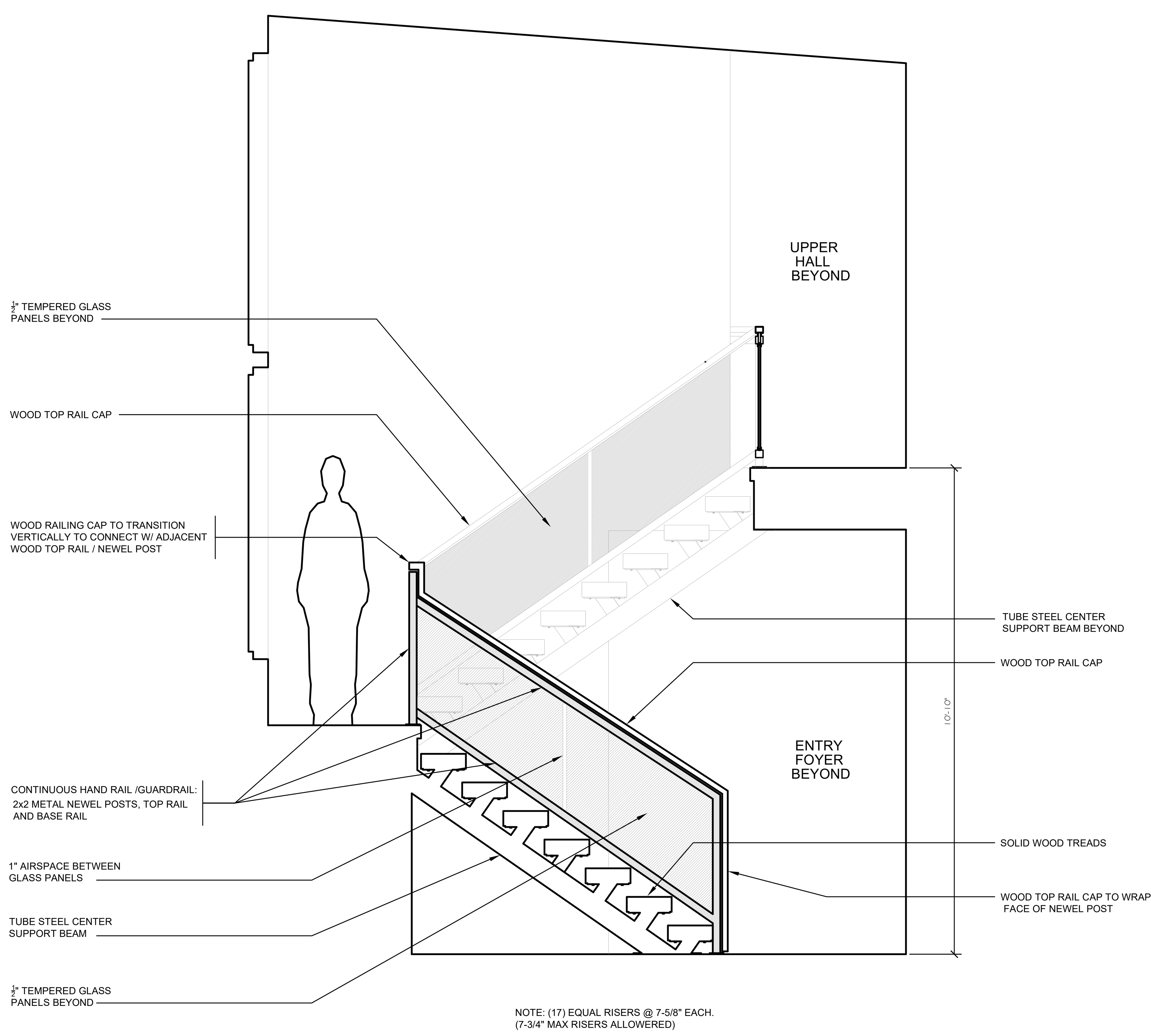
PROPOSED WINDOW AND DOOR SYSTEMS AND TYPES

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A6.2

Misc. Info:	
1. FINAL CD SET	10-14-2022
2. PERMIT REV	03-20-2023
3.	
4.	
5.	

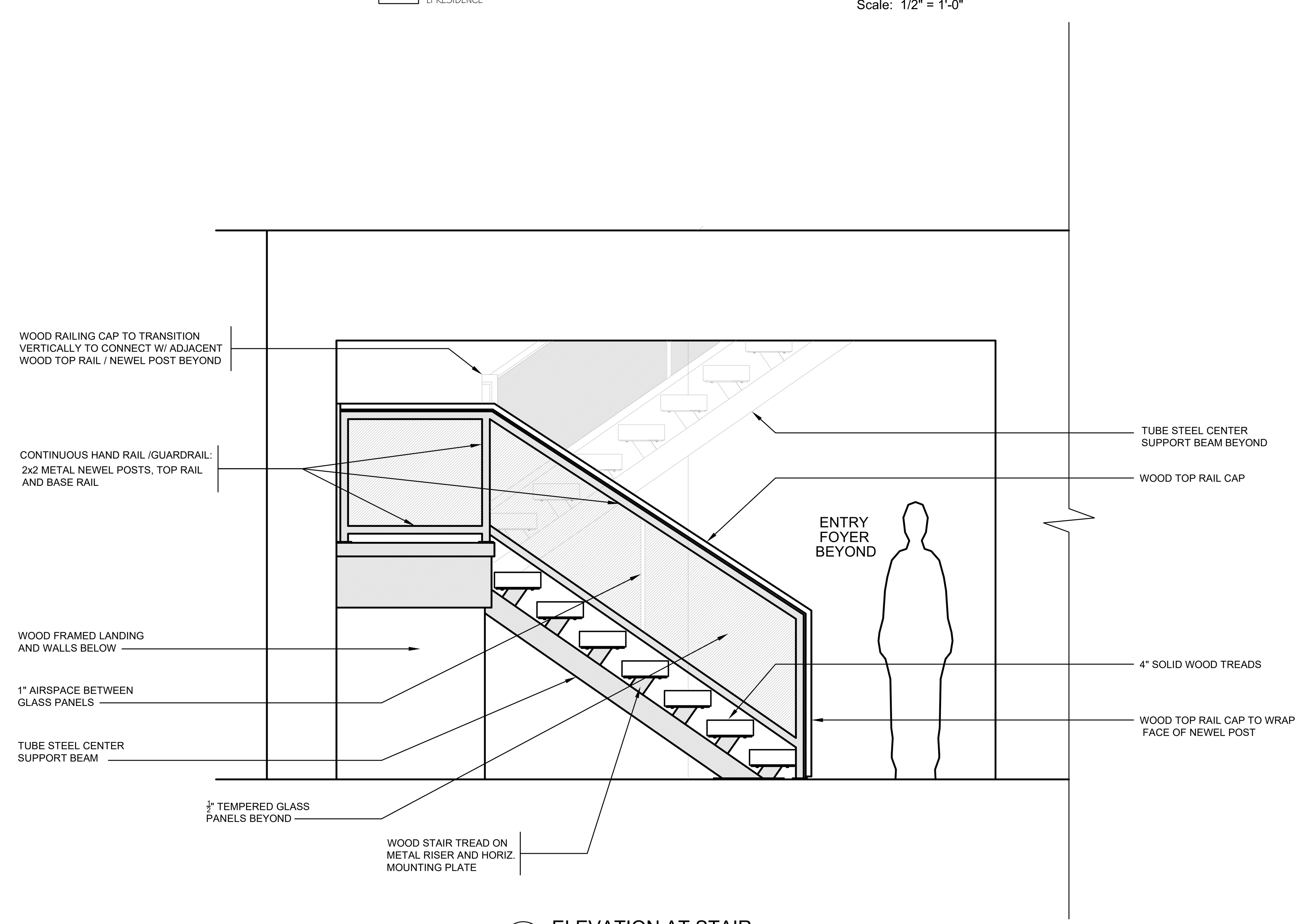


114 STAIR PLAN
LI RESIDENCE
Scale: 1/2" = 1'-0"



NOTE: (17) EQUAL RISERS @ 7-5/8" EACH. (7-3/4" MAX RISERS ALLOWERED)

A ELEVATION AT STAIR - GAURDRAIL
LI RESIDENCE
Scale: 1/2" = 1'-0"



B ELEVATION AT STAIR
LI RESIDENCE
Scale: 1/2" = 1'-0"

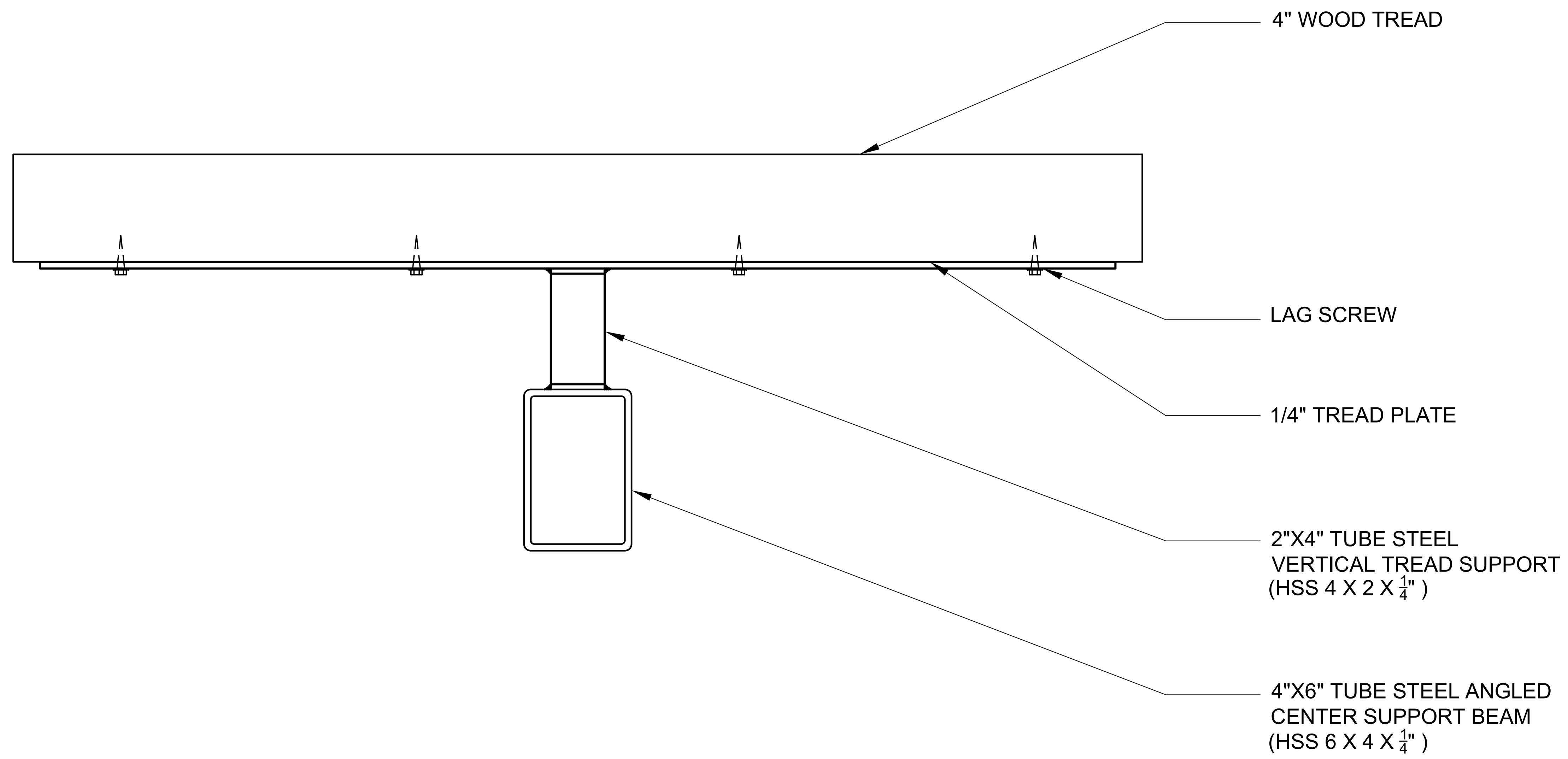
PERMIT SET

Shawn Sullivan
Designer

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

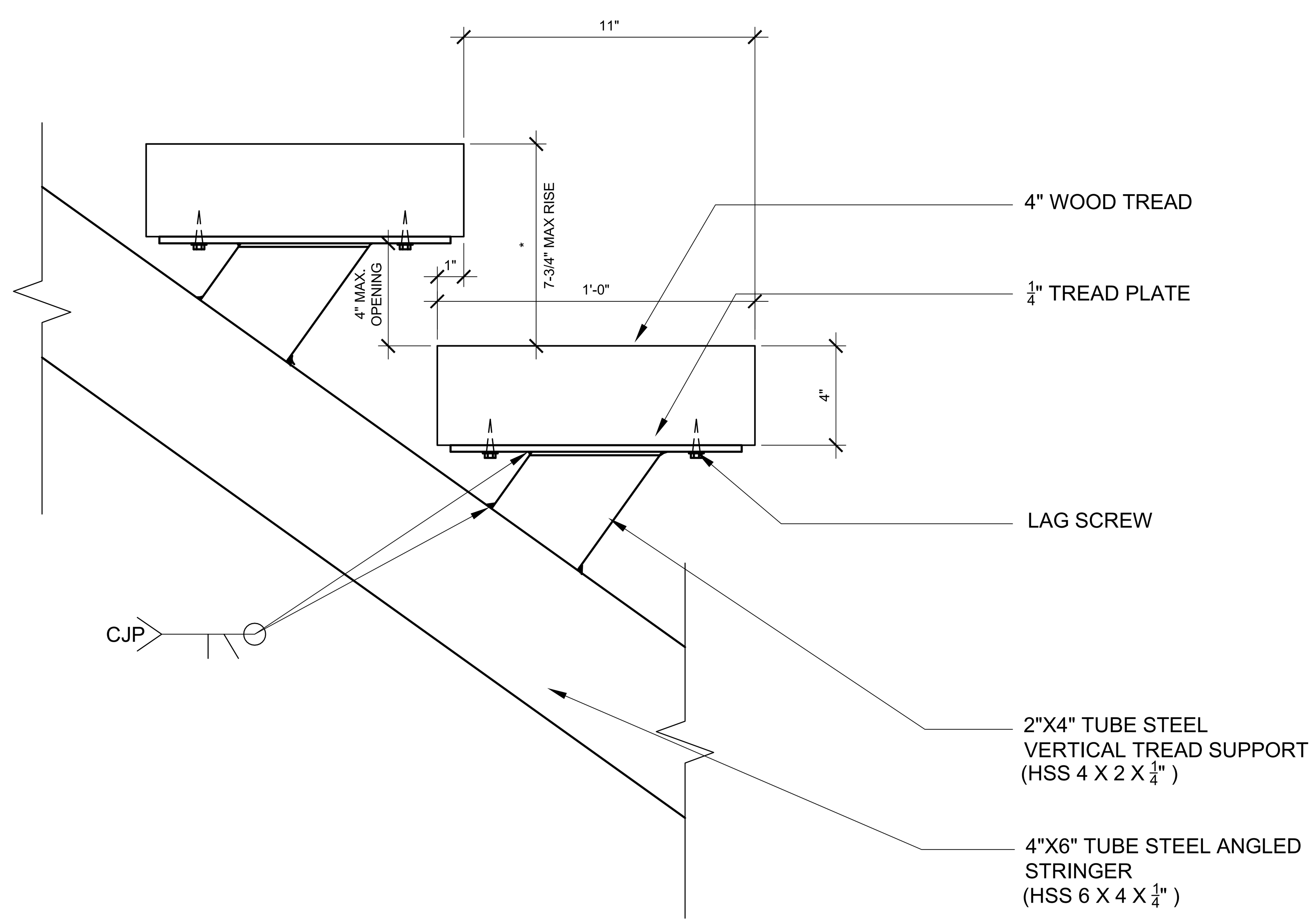
PROPOSED STAIR PLANS AND ELVATIONS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A7.1



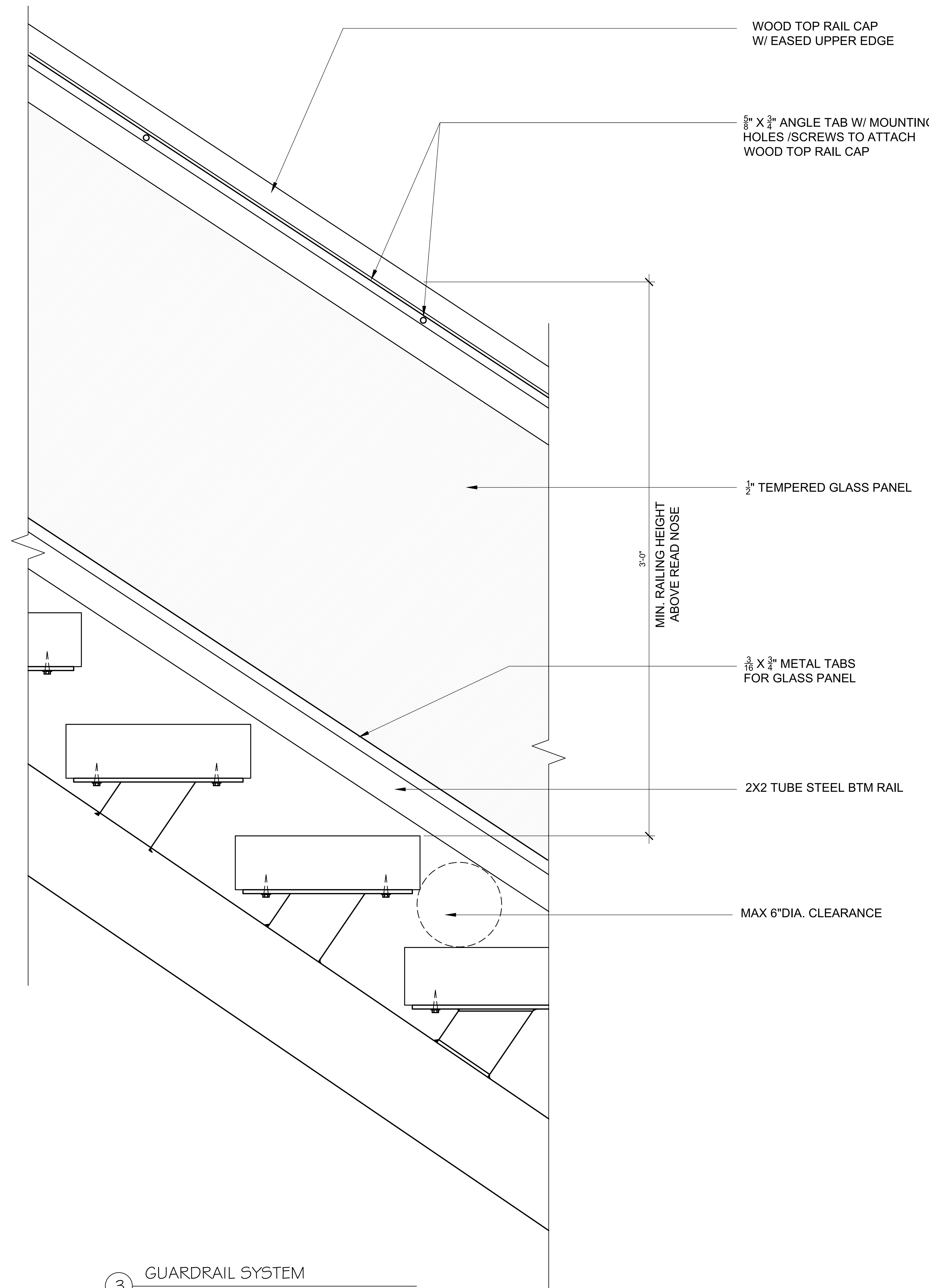
1 TREAD SUPPORT SYSTEM
LI RESIDENCE SCALE: 3"= 1'-0"

*SEE RELATED STRUCTURAL DETAILS



2 TREAD SUPPORT SYSTEM
LI RESIDENCE SCALE: 3"= 1'-0"

*SEE RELATED STRUCTURAL DETAILS



3 GUARDRAIL SYSTEM
LI RESIDENCE SCALE: 3"= 1'-0"

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

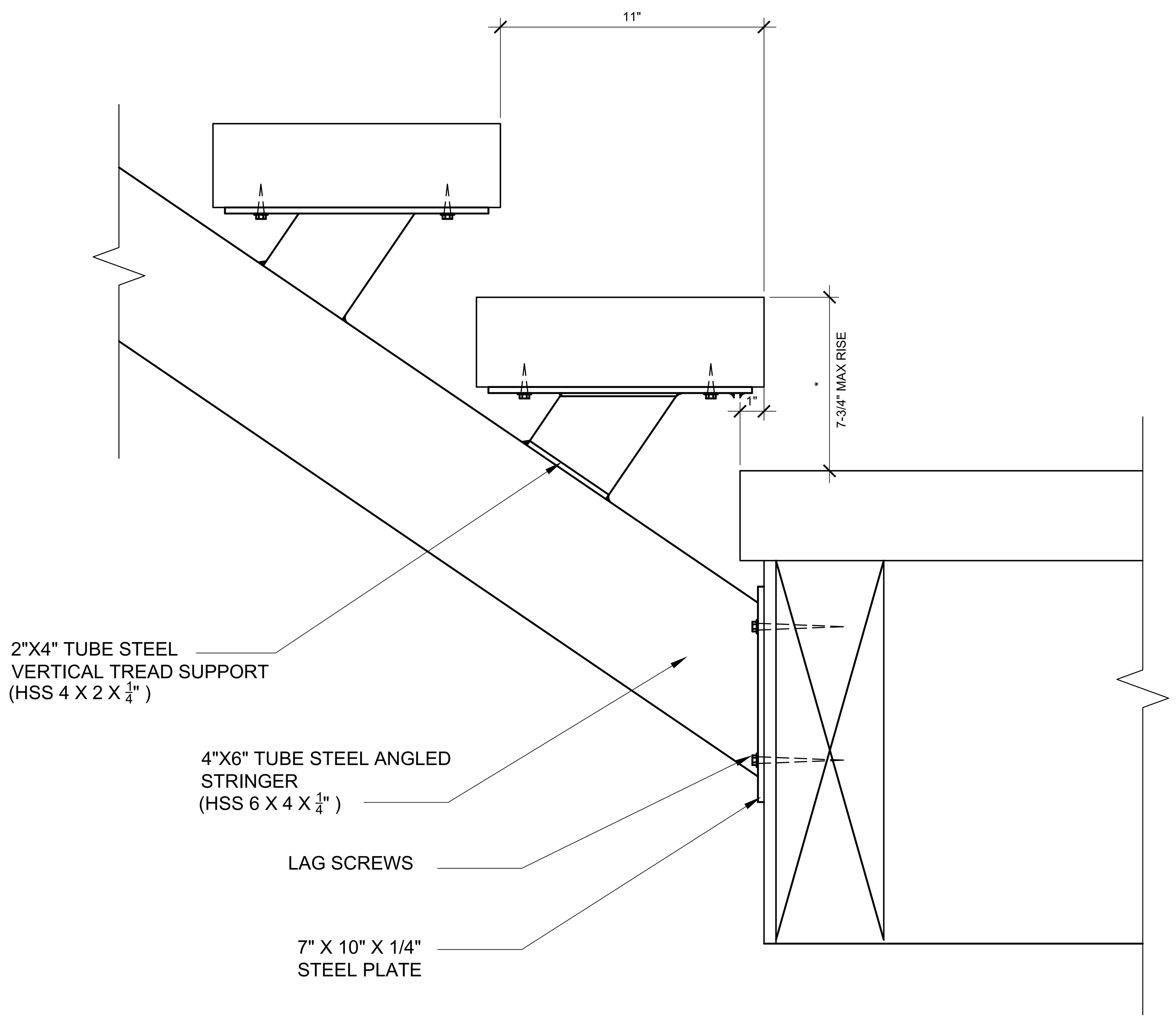
PERMIT SET

ure. DESIGN SOLUTIONS
Shawn Sullivan
Designer

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

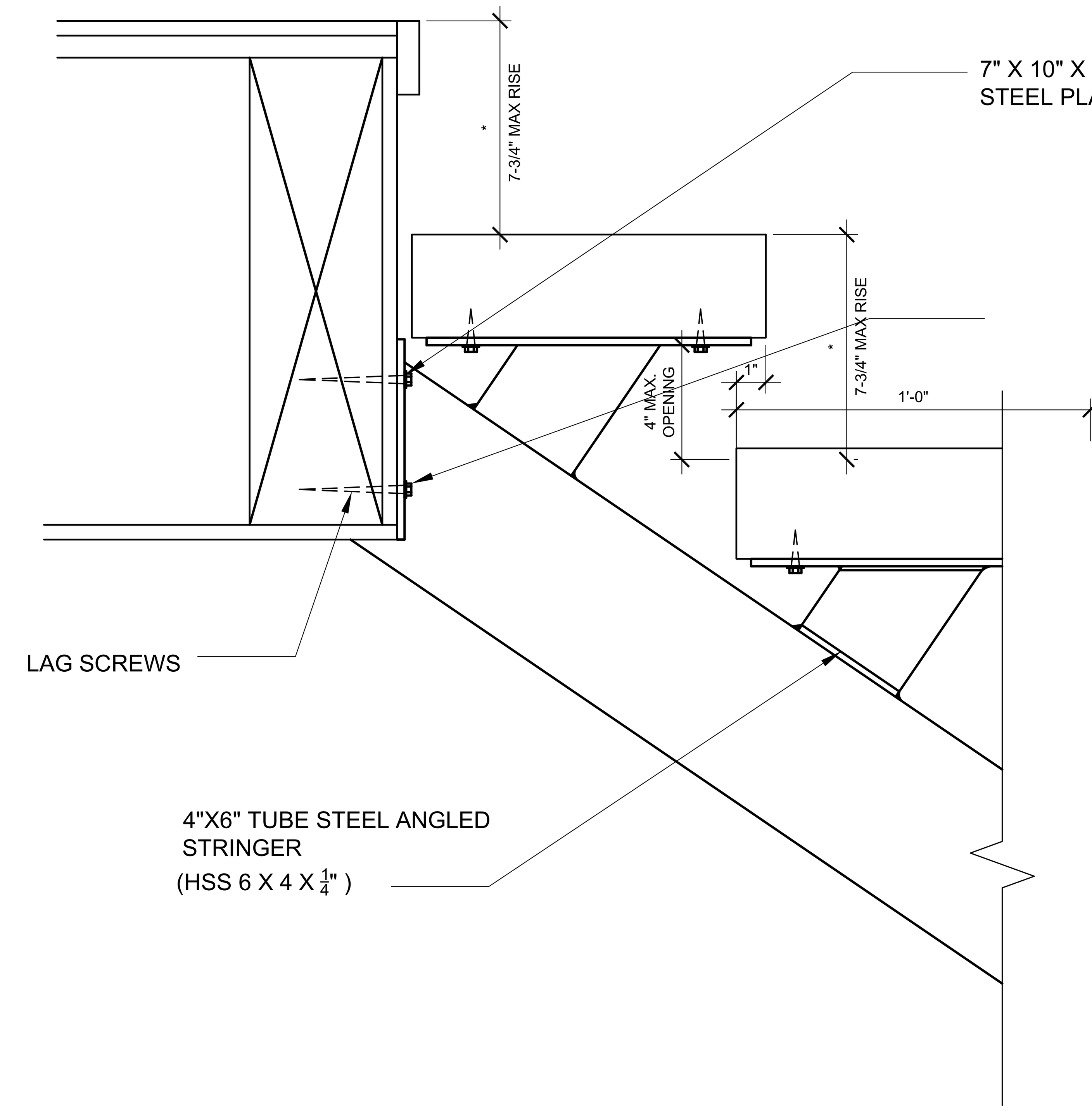
PROPOSED
STAIR DETAILS

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A7.2



4 STAIR LANDING CONNECTION
LI RESIDENCE SCALE: 3"= 1'-0"

*SEE RELATED STRUCTURAL DETAILS



5 STAIR LANDING CONNECTION
LI RESIDENCE SCALE: 3"= 1'-0"

*SEE RELATED STRUCTURAL DETAILS

Misc. Info:
1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

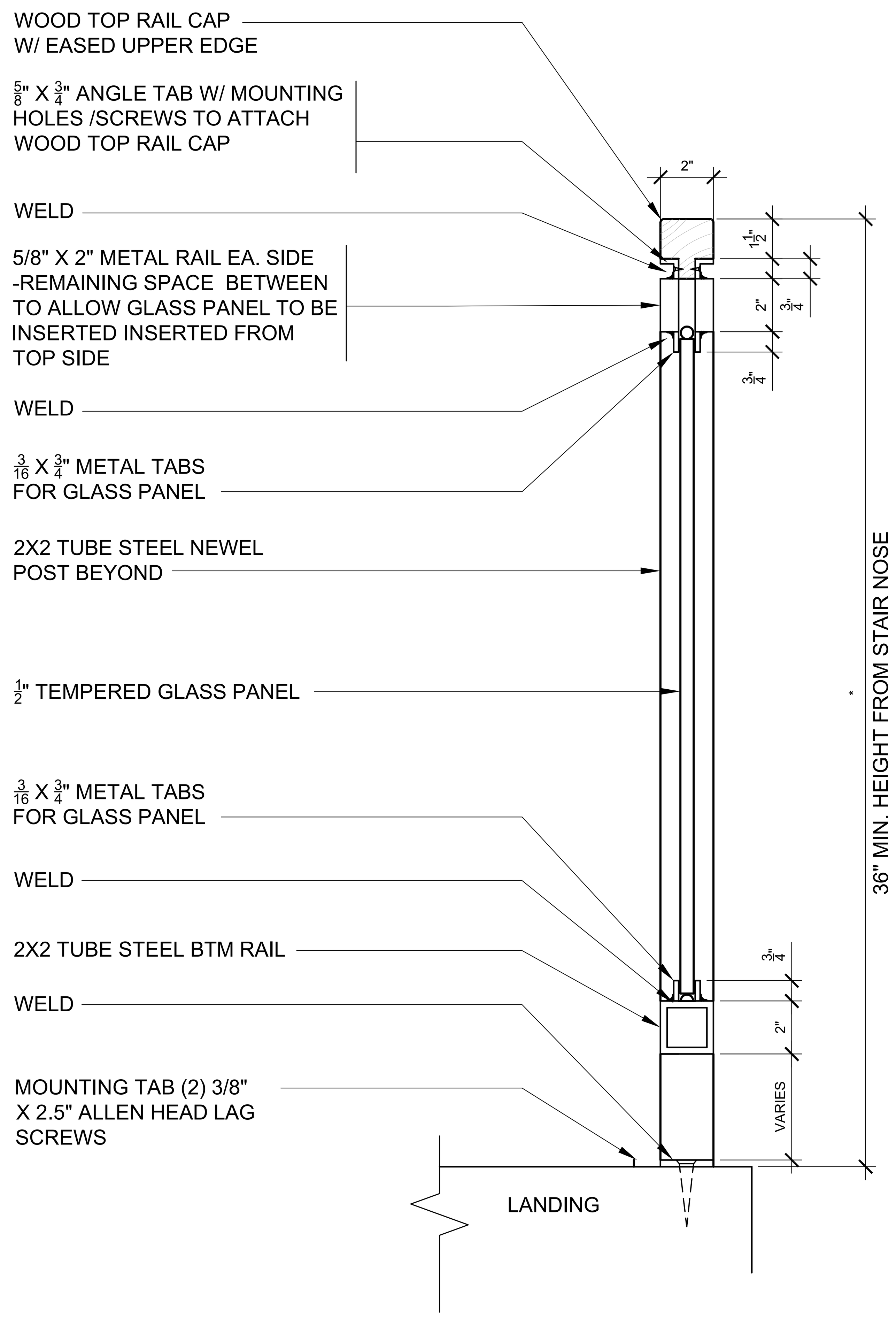
PERMIT SET

ure. DESIGN SOLUTIONS
Shawn Sullivan
Designer

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED STAIR DETAILS

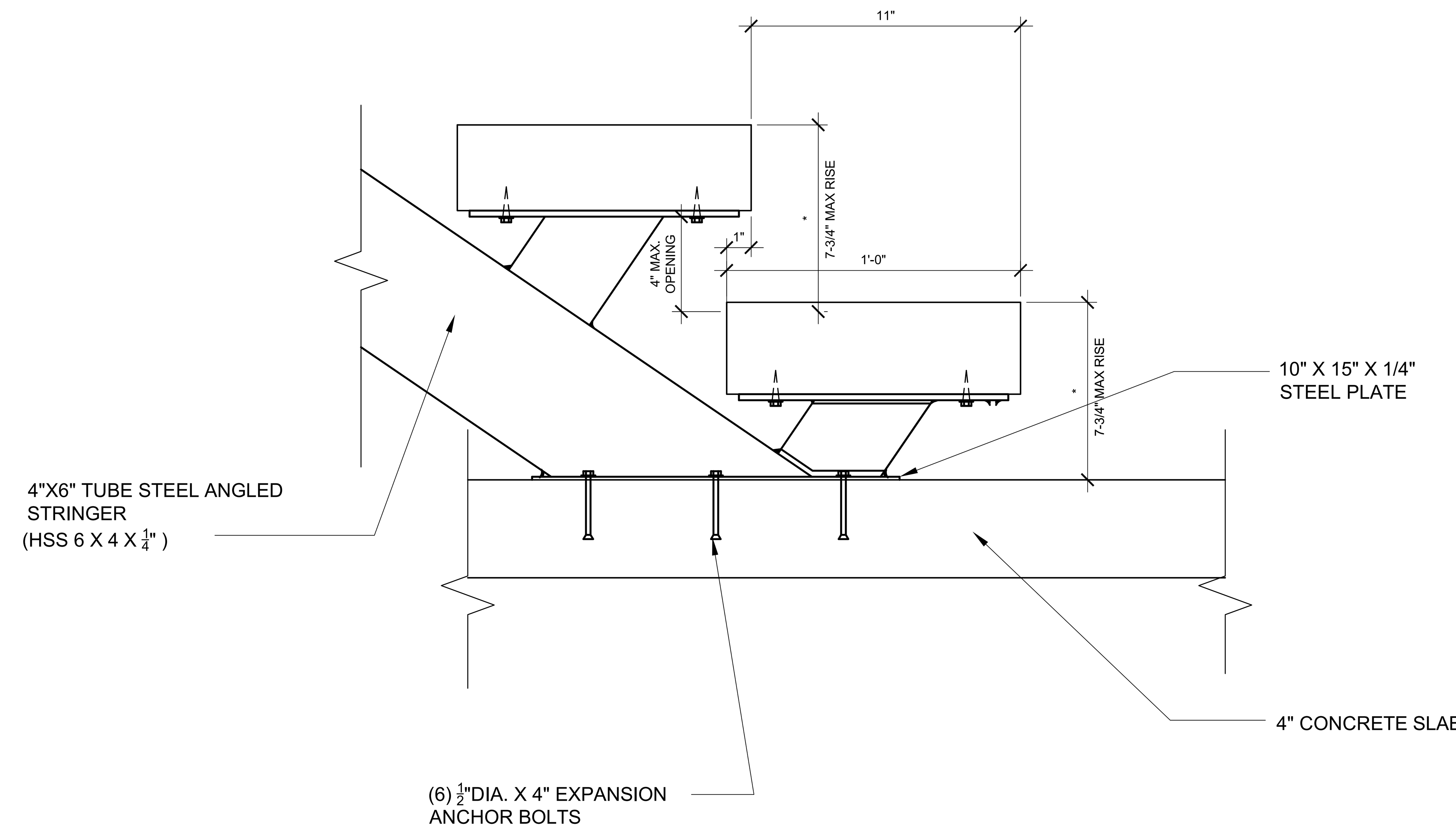
DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A7.3



6 GUARDRAIL / NEWEL POST

LI RESIDENCE SCALE: 3"= 1'-0"

*SEE RELATED STRUCTURAL DETAILS



7 BASE ATTACHMENT TO CONCRETE SLAB

LI RESIDENCE SCALE: 3"= 1'-0"

*SEE RELATED STRUCTURAL DETAILS

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

ure. DESIGN SOLUTIONS
Shawn Sullivan, Designer

LI RESIDENCE

CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

PROPOSED STAIR DETAILS

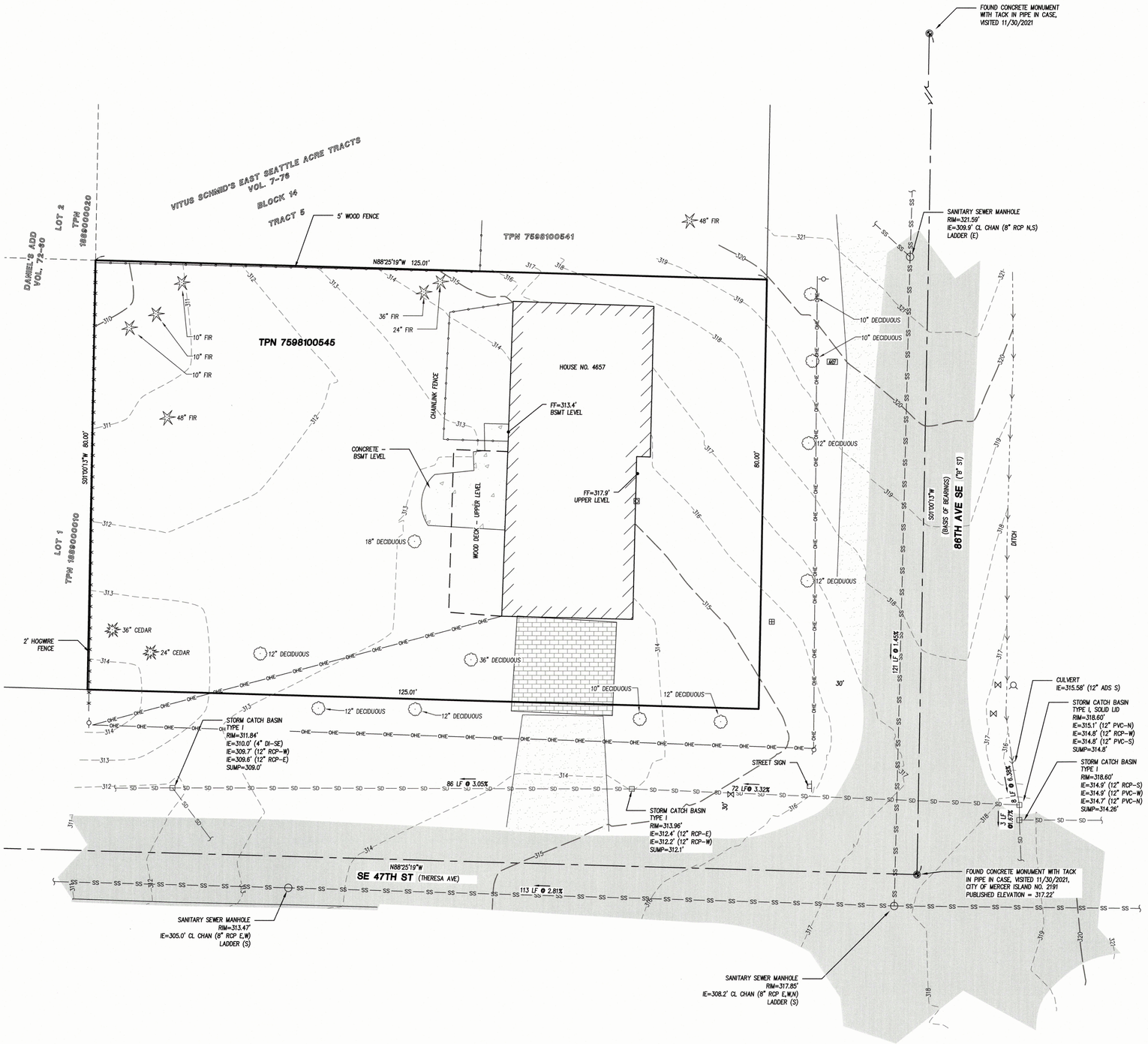
DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	A7.4

WEAVER TOPO

TOPOGRAPHIC SURVEY

A PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 24 NORTH, RANGE 5 EAST, W.M.

KING COUNTY, WASHINGTON



GRAPHIC SCALE

10 0 5 10

(IN FEET)

1 inch = 10ft.

APEX

LEGAL DESCRIPTION

(PER STATUTORY WARRANTY DEED, KING CO, REC. NO. 20211005001771)

THE SOUTH 80 FEET OF THE EAST 125 FEET OF TRACT 5 IN BLOCK 14 OF THE VITUS SCHMID'S EAST SEATTLE, ACRE TRACTS, AS PER PLAT RECORDED IN VOLUME 7 OF PLATS, PAGE 76, RECORDS OF KING COUNTY AUDITOR;

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

HORIZONTAL DATUM

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

VERTICAL DATUM

NAVD 88 BASED ON MERCER ISLAND MONUMENT NO. 2191 AT THE INTERSECTION OF SE 47TH ST AND 86TH AVE SE WITH A PUBLISHED ELEVATION OF 317.22 FEET.

SURVEY NOTES

1. DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION, AND MEETS OR EXCEEDS ACCURACY REQUIREMENTS CONTAINED IN W.A.C. 332.130.090. ALL MEASURING INSTRUMENTS EMPLOYED IN THIS SURVEY HAVE BEEN MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. THIS MAP GRAPHICALLY REPRESENTS CONDITIONS AND FEATURES EXISTING AT THE TIME OF THIS SURVEY ONLY, WHICH WAS PERFORMED DURING NOVEMBER, 2021.
3. THE CERTIFICATION OF THIS SURVEY AND MAP IS EXCLUSIVE TO THE NAMED CLIENT WHO REQUESTED THIS SURVEY. IT WAS SPECIFICALLY DESIGNED TO MEET THEIR STATED NEED(S). THAT CERTIFICATION DOES NOT EXTEND TO ANY OTHER PARTIES OR FOR ANY ALTERNATIVE USE OF THIS MAP WITHOUT THE EXPRESS RECERTIFICATION BY THE SURVEYOR NAMING THOSE PARTIES.
4. THE PURPOSE OF THIS SURVEY IS TO PROVIDE A TOPOGRAPHIC MAP OF THE EXISTING CONDITIONS WITHIN PARCEL NO. 7598100545 FOR PLANNING, DESIGN AND CONSTRUCTION.
5. UTILITIES OTHER THAN SHOWN MAY EXIST ON THE SITE. THE SURVEYOR DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY. THE SURVEYOR DOES CERTIFY THAT THEY ARE SHOWN AS ACCURATELY AS POSSIBLE FROM FIELD SURVEY INFORMATION.
6. KING COUNTY PARCEL NO. 7598100545.
7. PARCEL AREA: 10,000 SQUARE FEET (.23 ACRES).
8. ALL DISTANCES AND DIMENSIONS SHOWN ARE U.S. SURVEY FEET GROUND MEASUREMENTS.
9. CONTOUR INTERVALS ARE 1-FOOT AND ARE COMPUTER GENERATED FROM GROUND FIELD TOPOGRAPHY GATHERED FOR THIS SURVEY UTILIZING ELECTRONIC DATA COLLECTION.
10. WE HAVE USED GRAPHIC SYMBOLS TO REPRESENT SOME FEATURES ON THIS MAP, SUCH AS UTILITIES, TREES AND FENCES. THE DEFAULT SIZE OF THOSE SYMBOLS MAY NOT REFLECT THE TRUE SIZE OF THE FEATURE THAT WAS MAPPED.
11. BUILDINGS ARE MEASURED AT THE OUTSIDE COVERING/SIDING.
12. THE PROPERTY LINES SHOWN HEREON ARE NOT THE RESULT OF AN OFFICIAL BOUNDARY SURVEY BY APEX ENGINEERING AND SHOULD BE USED FOR GENERAL REFERENCE ONLY.

REFERENCES

1. VITUS SCHMID'S EAST SEATTLE ACRE TRACTS, VOL. 7, OF PLATS, PG. 76, KING CO. AFN. 78513.
2. DANIEL'S ADDITION, VOL. 72 OF PLATS, PAGE 60, KING CO. AFN. 5540769.
3. RECORD OF SURVEY, BK. 105 OF SURVEYS, PG. 294, KING CO. REC. NO. 9510179009.
4. RECORD OF SURVEY, BK. 153 OF SURVEYS, PG 014, KING CO. REC. NO. 20020612900029.
5. SHORT PLAT, BK. 289, PG. 281 OF SURVEYS, KING CO. REC. NO. 20120731900002.

LEGEND

- FOUND MONUMENT AS DESCRIBED
- STORM CATCH BASIN
- STORM CULVERT
- SANITARY SEWER MANHOLE
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- GAS METER
- UTILITY POLE
- SIGN
- MAIL BOX
- DECIDUOUS TREE (DIAMETER AS NOTED)
- CEDAR TREE (DIAMETER AS NOTED)
- FIR TREE (DIAMETER AS NOTED)
- IE INVERT ELEVATION
- FF FINISH FLOOR ELEVATION
- TPN TAX PARCEL NUMBER
- CL CENTERLINE
- RCP REINFORCED CONCRETE PIPE
- DI DUCTILE IRON PIPE
- ADS CORRUGATED PLASTIC PIPE
- PVC PLASTIC PIPE

- WOOD FENCE (AS NOTED)
- CHAIN LINK FENCE (AS NOTED)
- WIRE FENCE (AS NOTED)
- STORM DITCH LINE
- OHE OHE OVERHEAD POWER LINE
- SD SD SD BURIED STORM DRAIN LINE
- SS SS SS BURIED SANITARY SEWER LINE
- MINOR CONTOUR
- MAJOR CONTOUR
- ASPHALT SURFACE
- CONCRETE SURFACE
- GRAVEL SURFACE
- BRICK SURFACE

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS MAP CORRECTLY REPRESENTS A TOPOGRAPHIC SURVEY MADE BY ME OR UNDER MY DIRECTION AND TO THE BEST OF MY KNOWLEDGE REPRESENTS THE TOPOGRAPHIC FEATURES AS THEY EXIST ON THE GROUND AS OF 11/30/2021.

KURT A PARCHER P.L.S. NO. 49286 — DATE 12/17/2021

REV NO	REVISION DESCRIPTION	DATE	BY

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

TITLE

WEAVER TOPO
TOPOGRAPHIC SURVEY
4657 - 86TH AVE SE
MERCER ISLAND, WA 98040

CLIENT

CAMERON WEAVER
23631 - 140TH AVE SE
KENT, WA 98042

DATE SEALED 12/17/2021

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

PROJECT MANAGER KURT A. PARCHER

DESIGN

DRAWN WEL

CHECKED

SEC 18 T 24N R 05E

FILE NO 35969-SV

DATE 12/17/2021

SCALE 1"=10'

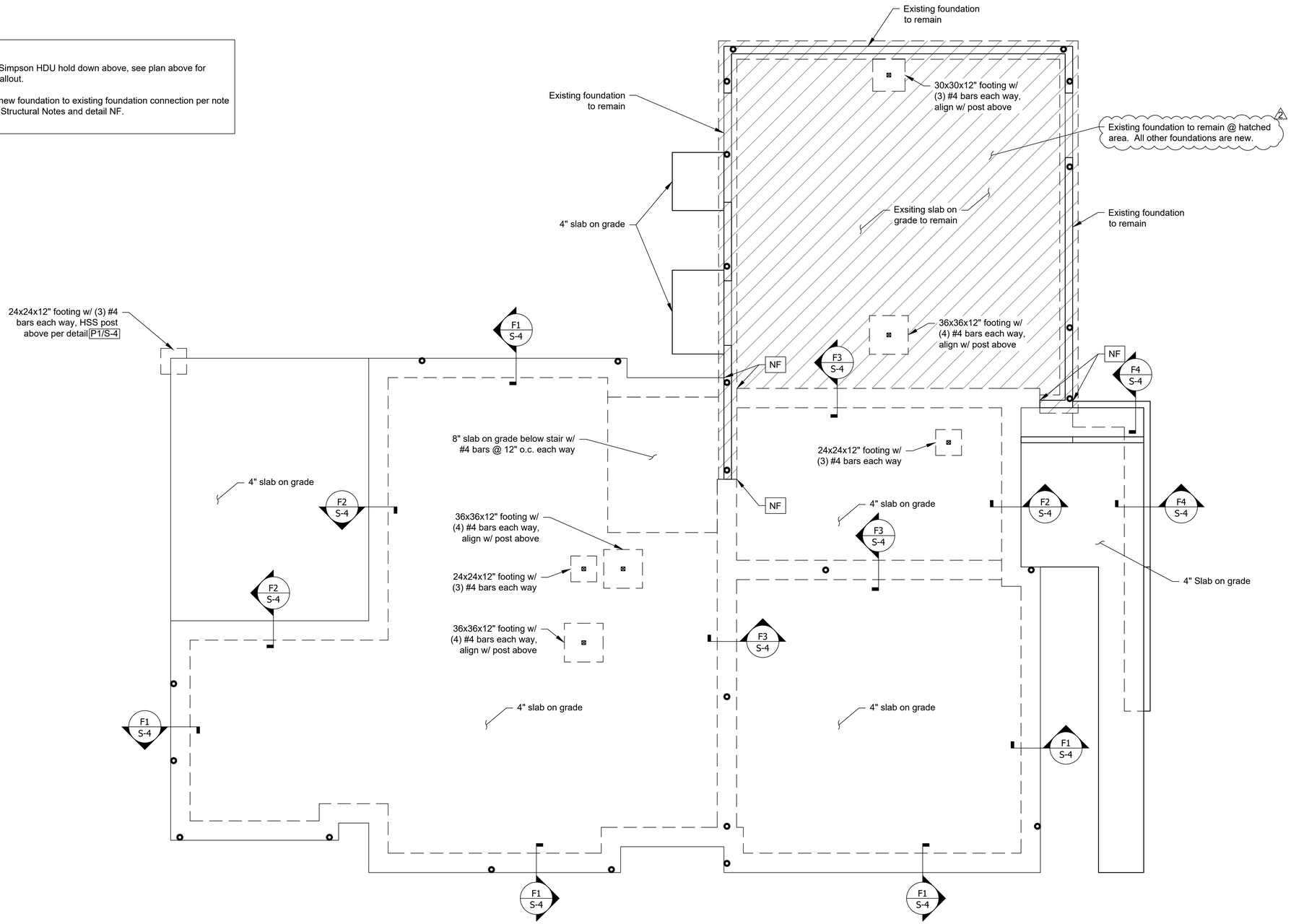
SHEET 1 OF 1

FILE NO 35969

I:\35969\Survey\35969-sv.dwg

NOTES:

- ⊙ Denotes a Simpson HDU hold down above, see plan above for hardware callout.
- NF Denotes a new foundation to existing foundation connection per note "NF" in the Structural Notes and detail NF.



1 Foundation Plan

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

JOHN S. ARGLE
STATE OF WASHINGTON
23434
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Consulting Structural Engineering Services
6311 17th Ave NE, Seattle, WA 98115
Phone: 206-527-1288
Email: john@cses-engineering.com

Li Residence

4657 86th Ave SE
Mercer Island, WA 98040

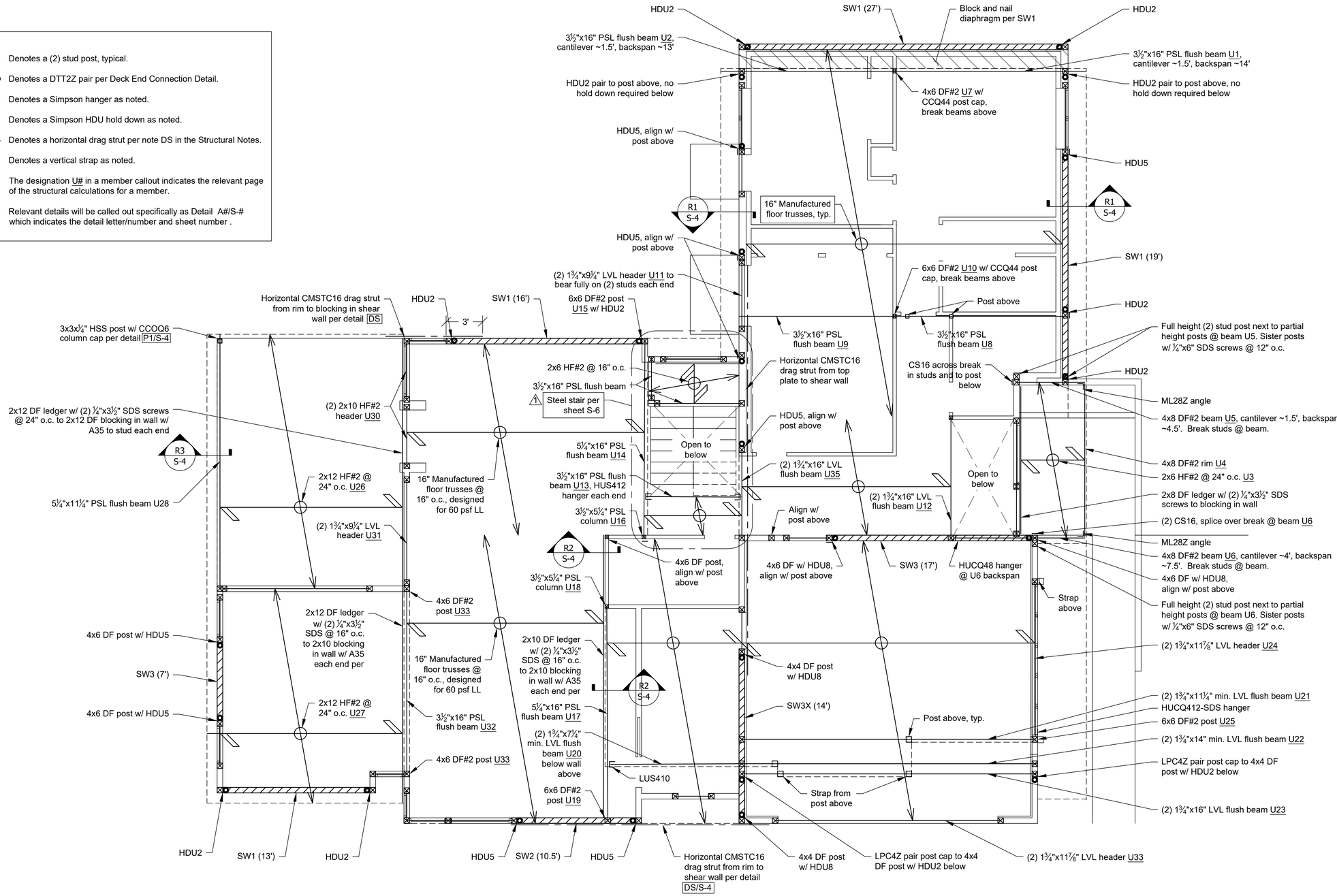
Revisions:
1 10-24-22
2 2-16-23

Date:
10-24-22

Sheet:
S-1

NOTES:

- ⊠ Denotes a (2) stud post, typical.
- Denotes a DTT2Z pair per Deck End Connection Detail.
- ⊏ Denotes a Simpson hanger as noted.
- Denotes a Simpson HDU hold down as noted.
- Denotes a horizontal drag strut per note DS in the Structural Notes.
- ⊠| Denotes a vertical strap as noted.
- U# The designation U# in a member callout indicates the relevant page of the structural calculations for a member.
- A#/S-# Relevant details will be called out specifically as Detail A#/S-# which indicates the detail letter/number and sheet number .



1 Upper Floor Framing and Ground Floor Wall Plan

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

JOHN S. APOLIS
STATE OF WASHINGTON
23434
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Consulting Structural Engineering Services
6311 17th Ave NE, Seattle, WA 98115
Phone: 206-527-1288
Email: john@cses-engineering.com

Li Residence

4657 86th Ave SE
Mercer Island, WA 98040

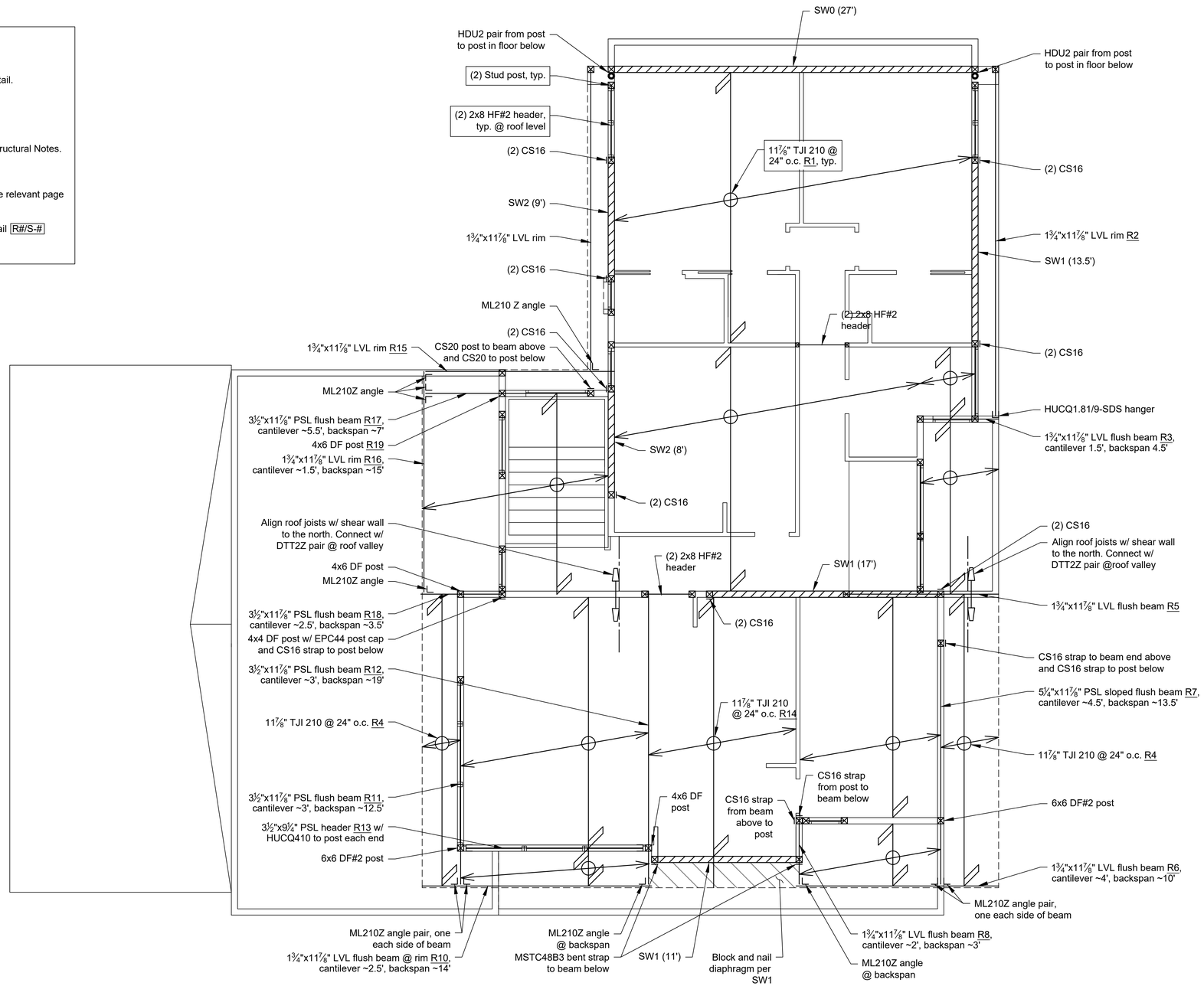
Revisions:
1 10-24-22
2 2-16-23

Date:
10-24-22

Sheet:
S-2

NOTES:

- ⊠ Denotes a (2) stud post, typical.
- Denotes a DTT2Z pair per Deck End Connection Detail.
- ⊏ Denotes a Simpson hanger as noted.
- Denotes a Simpson HDU hold down as noted.
- Denotes a horizontal drag strut per note DS in the Structural Notes.
- ⊠ Denotes a vertical strap as noted.
- R# The designation R# in a member callout indicates the relevant page of the structural calculations for a member.
- R#/S-# Relevant details will be called out specifically as Detail R#/S-# which indicates the detail number/sheet number .



1 Roof Framing and Upper Floor Wall Plan

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

Consulting Structural Engineering Services
6311 17th Ave NE, Seattle, WA 98115
Phone: 206-527-1288
Email: john@cses-engineering.com

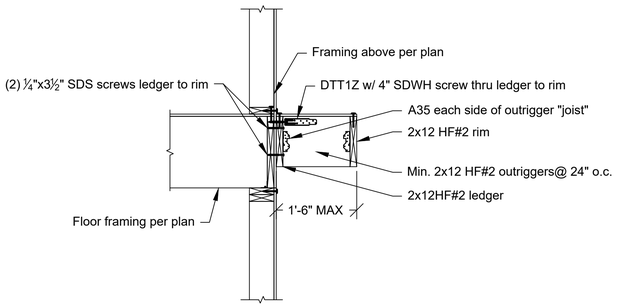
Li Residence

4657 86th Ave SE
Mercer Island, WA 98040

Revisions:
1 10-24-22
2 2-16-23

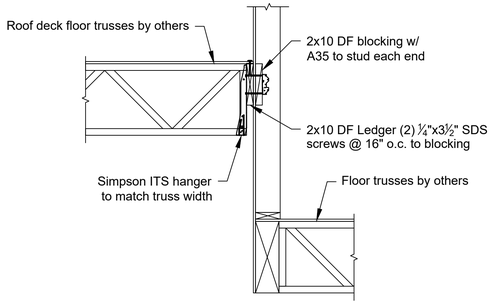
Date:
10-24-22

Sheet:
S-3



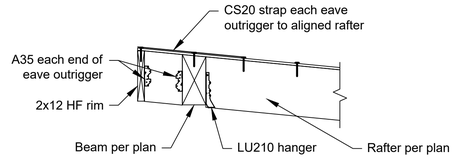
R1 Roof Accent Eave Detail

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



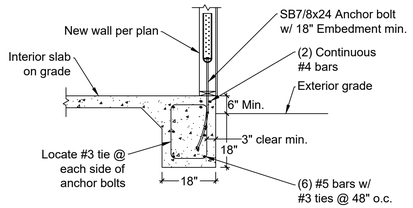
R2 Roof Deck Ledger Attachment Detail

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



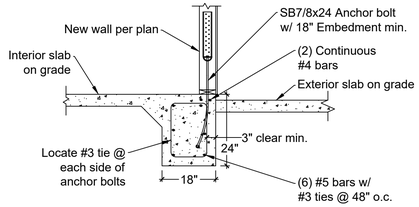
R3 West Roof Eave Detail

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



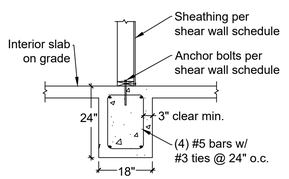
F1 Exterior Footing Detail

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



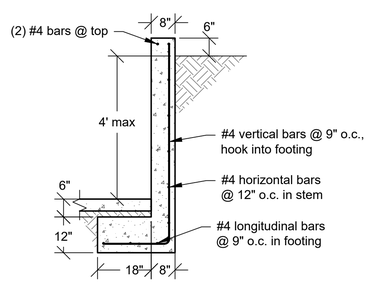
F2 Exterior Footing Detail

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



F3 Grade Beam Detail

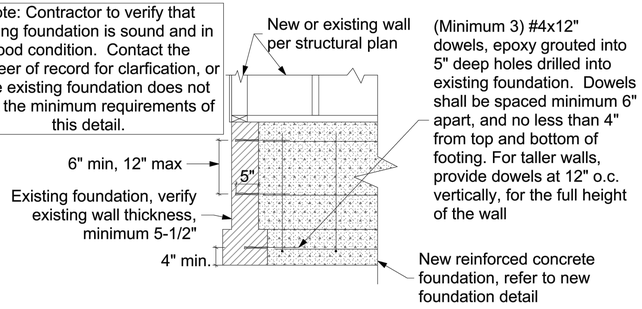
Scale: 1/2" = 1'-0"



F4 Entry Retaining Wall Detail

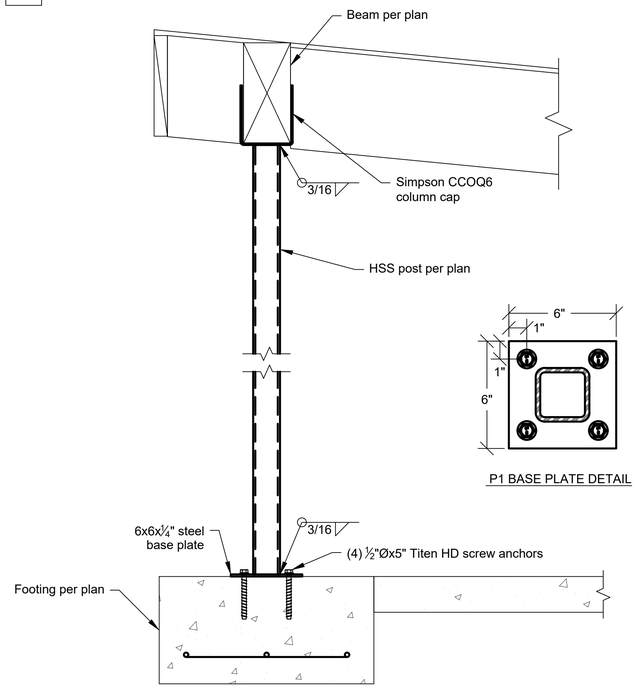
Scale: 1/2" = 1'-0"

Note: Contractor to verify that existing foundation is sound and in good condition. Contact the engineer of record for clarfication, or if the existing foundation does not meet the minimum requirements of this detail.



NF New Foundation Connection to Existing Detail

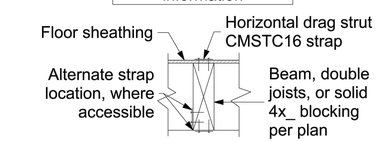
Scale: 3/4" = 1'-0"



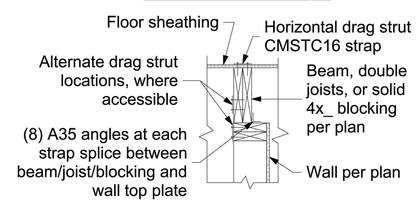
P1 Patio Steel Post Detail

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

See note "DS" in the structural notes for more information



Detail at floor framing



Detail at wall

DS Drag Strut Typical Detail

Scale: 1" = 1'-0"

JOHN S. APOLIS
STATE OF WASHINGTON
23434
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Consulting Structural Engineering Services
6311 17th Ave NE, Seattle, WA 98115
Phone: 206-527-1288
Email: john@cses-engineering.com

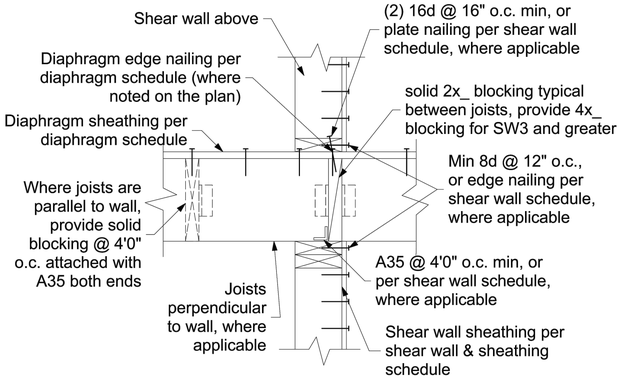
Li Residence

4657 86th Ave SE
Mercer Island, WA 98040

Revisions:
1 10-24-22
2 2-16-23

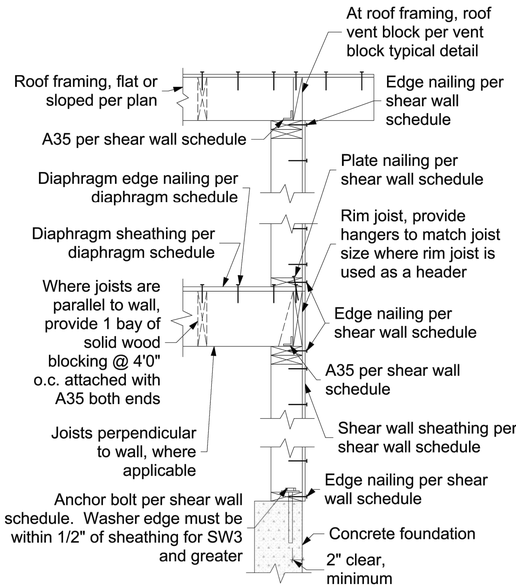
Date:
10-24-22

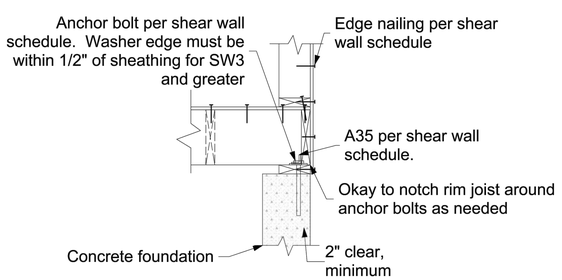
Sheet:
S-4



W1 Interior Shear Wall Typical Detail

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

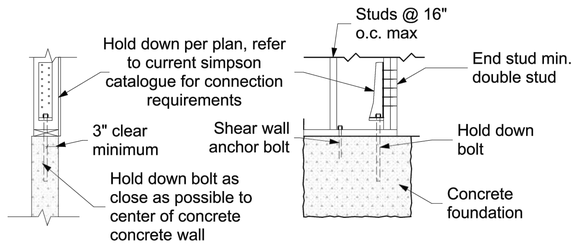




Alternate Condition

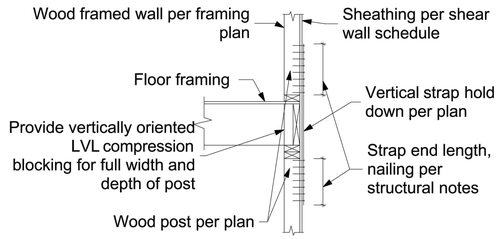
W2 Exterior Shear Wall Typical Detail

Scale: 1" = 1'-0"



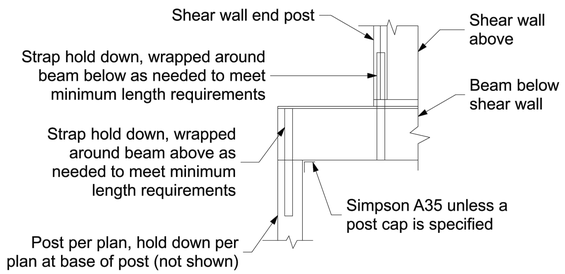
HD1 HDU Hold Down Typical Detail

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



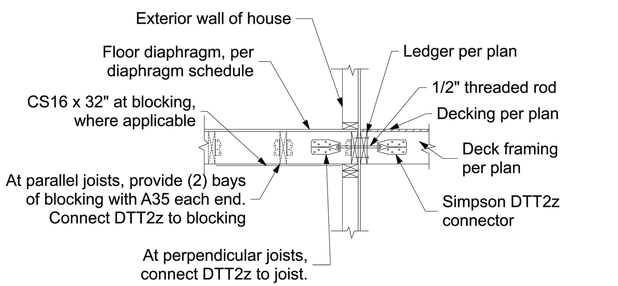
HD2 Strap Hold Down Typical Detail

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



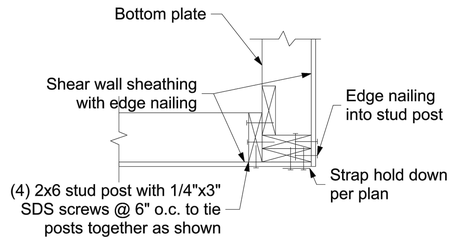
HD3 Discontinuous Hold Down Typical Detail

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

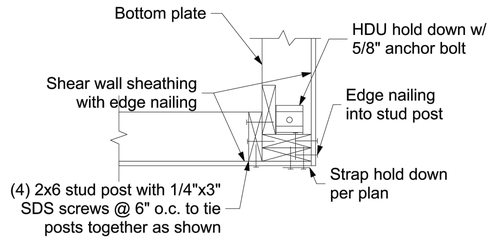


D1 Deck End Connection Detail

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



Strap Hold Down Configuration



HDU Configuration

HD4 Corner Hold Down Typical Detail

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

JOHN S. APOLIS
STATE OF WASHINGTON
23434
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Consulting Structural Engineering Services
6311 17th Ave NE, Seattle, WA 98115
Phone: 206-527-1288
Email: john@cses-engineering.com

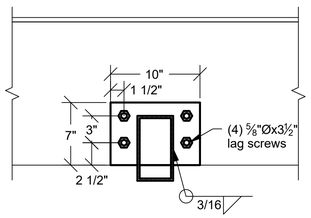
Li Residence

4657 86th Ave SE
Mercer Island, WA 98040

Revisions:
1 10-24-22
2 2-16-23

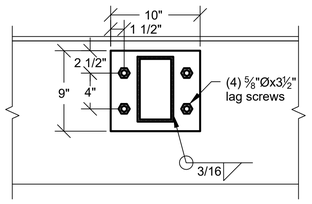
Date:
10-24-22

Sheet:
S-5



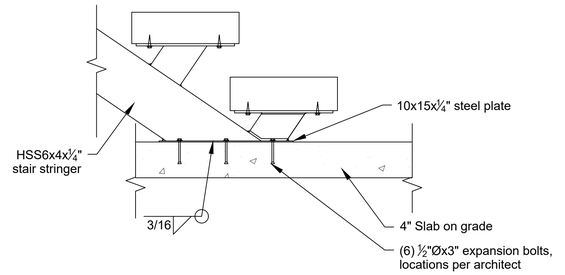
S1 Stringer to Landing Upper Connection Detail

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



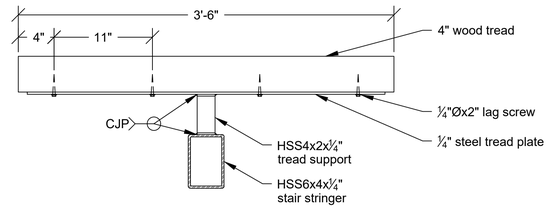
S2 Stringer to Landing Lower Connection Detail

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



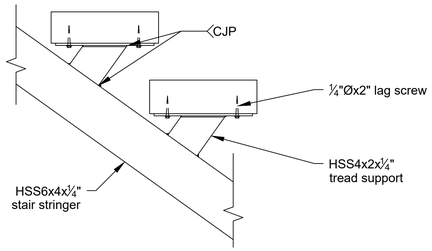
S3 Stringer to Concrete Detail

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



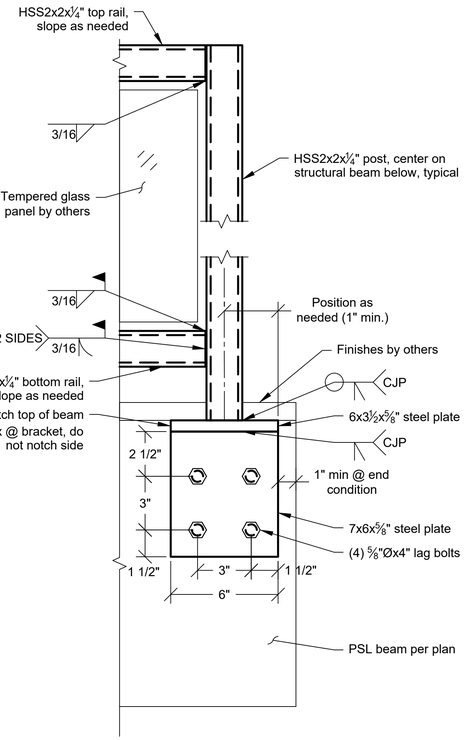
S4 Steel Stair Tread Detail

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



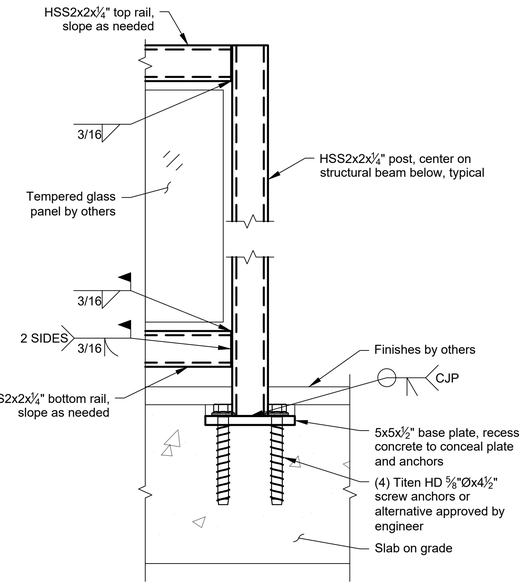
S5 Tread Support Connection Detail

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



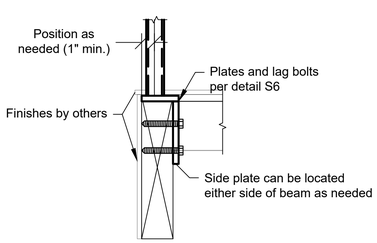
S6 Railing Post @ Landing Detail

Scale: 3" = 1'-0"



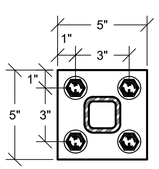
S7 Railing Post @ Slab Detail

Scale: 3" = 1'-0"



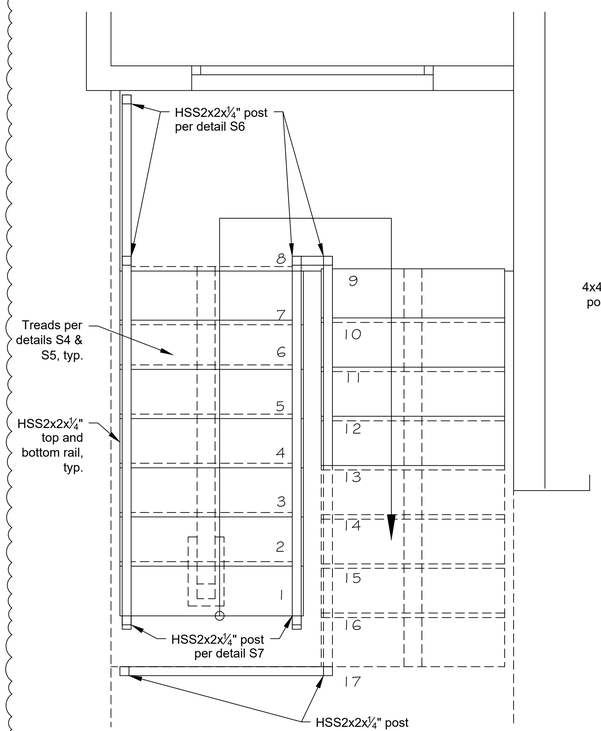
S8 Railing Post @ Landing Section

Scale: 3" = 1'-0"



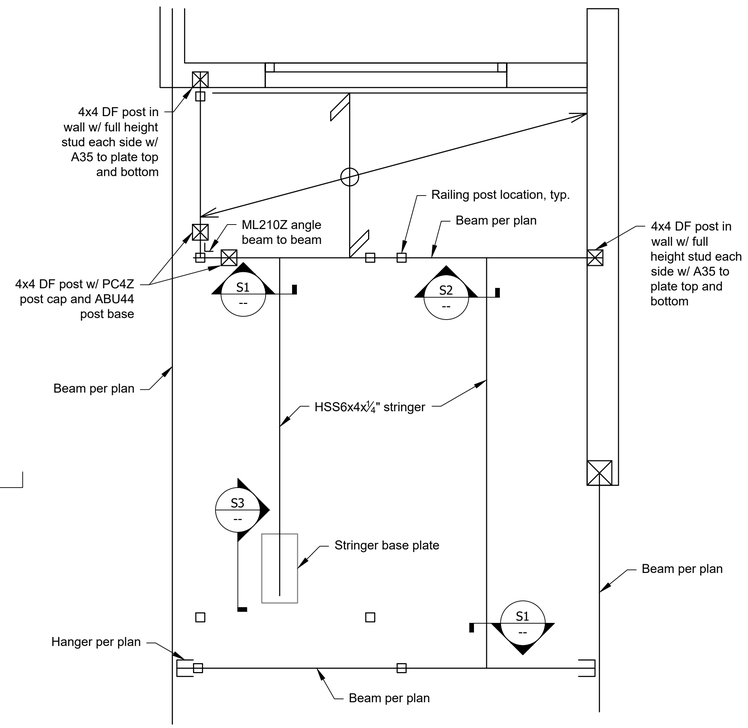
S9 Railing @ Slab Base Plate Detail

Scale: 3" = 1'-0"



1 Steel Stair Railing Plan

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



2 Steel Stair Framing Plan

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

JOHN S. APOLIS
STATE OF WASHINGTON
23434
PROFESSIONAL ENGINEER

Consulting Structural Engineering Services
6311 17th Ave NE, Seattle, WA 98115
Phone: 206-527-1288
Email: john@cses-engineering.com

Li Residence

4657 86th Ave SE
Mercer Island, WA 98040

Revisions:
1 10-24-22
2 2-16-23

Date:
10-24-22

Sheet:
S-6

Structural Notes:

Applicable Codes and Standards:

2018 International Building Code (IBC) and other applicable local building codes.
ASCE/SEI 7-16 - "Minimum Design Loads for Buildings and Other Structures"
2018 NDS for wood structures.
American Wood Preservers Bureau - AWPB Standards for Pressure Treated Material.
American Concrete Institute - ACI 315, ACI 318, ACI 301, ACI 307.
American Institute of Steel Construction - "Specification for the Design, Fabrication, and Erection of Structural Steel."
American Welding Society - AWS Structural Welding Code.

Structural design shall be in accordance with the latest edition of above codes and standards. Contractor shall comply with the latest edition of all applicable codes and standards.

Design Loads:

Live load:	**roof**	**25 psf (snow)**
	floors	**40 psf (60 psf decks)**
Dead load:	**solar panels**	**4 psf**

Wind load: **Basic wind speed 110 mph, exposure B, KzT=1.60**
Building Category: Enclosed, Wind Important Factor Iw = 1.0
Refer to calculation page L1 for design wind forces.
Internal pressure 5 psf, Components and cladding design per 1609.6.4.4.1

Seismic loading per IBC Section 1613, Site Class D.
The basic structural type is a bearing wall system with light framed walls with shear panels. Rw = 6.5 (wood structural panels), soil type D.
Seismic importance factor 1.0, Seismic Use Group I
Design and Analysis by Simplified Design Procedure
Peak Ground Accelerations (PGA) based on USGS Hazards Program, by lat/long.
PGA 1 sec = .499 PGA .2 sec = 1.436
Seismic base shear = 0.147 * Dead Load

Foundations:

Soil parameters (assumed): Vertical allowable soil pressure: 1,500 psf
All soil conditions are to be field verified during construction. Footings shall bear on firm natural soils or on structural fill placed over firm natural soils, and inspected in place. Footings shall extend 18 inches minimum below adjacent exterior finished grade and shall extend 12 inches minimum below existing interior grade unless otherwise noted on plans. Structural fill shall be placed in 12-inch maximum horizontal lifts (loose thickness) and compacted to 90 percent of maximum dry density in accordance with ASTM D-1557. Imported structural fill shall be granular material containing no more than 5 percent fines, passing no. 200 sieve. Structural fill in place shall be tested by a licensed soil engineer or approved by the building inspector.

Drainage behind the concrete walls shall be provided conforming to the construction details.

Cast in Place Concrete:

Concrete shall attain a minimum compressive strength of 2,500 psi at 28 days (5-½ sack mix). An alternate mix provided by the concrete supplier and pre-approved by the building department is acceptable.
Reinforcing steel shall conform to ASTM A-615, Grade 60 (Fy=60,000 psi) for all bars. Provide all wall and footing horizontal bars with 2'-0" x 2'-0" corner bars of the same size at all corners and wall intersections. Minimum lap splice 48 bar diameters.

Concrete protection for reinforcement shall be:

Concrete exposed to earth or weather	**1.5" (#5 & smaller) 2" (#6 & larger)**
Concrete cast against earth	**3"**
Slabs	**0.75"**

Structural steel:

Plates, ASTM A36, Fy=36 ksi. Shapes, ASTM A992, Fy=50 ksi. Structural Steel Tube (HSS) per ASTM A500, Fy=46 ksi. Structural Steel Pipe per ASTM A53, Fy=35 ksi.

Bolts:

Bolts which are used in connections of steel beams to other steel beams or to the concrete supporting structure shall conform to ASTM A325. Anchor bolts shall conform to F1554. All other bolts shall conform to ASTM A307.
Minimum anchor bolt size and spacing shall be ½" diameter bolts @ 6' o.c. Shear wall anchor bolts per the shear wall schedule.
For cast-in-place anchors, provide 7" minimum embedment into the new concrete foundation.
For retrofitted anchors, provide 5" minimum embedment into the existing concrete foundation. Epoxy grout with Simpson SET epoxy.
Provide 3"x3" square x 0.229" thick bolt washers where anchor bolts connect the sill plate to the concrete foundation.

Welding:

Use E70xx electrodes for welding. All fillet welds shall be 3/16" or equal to minimum thickness of member being welded, whichever is greater, unless otherwise shown. All welding shall conform to the provisions of AWS and shall be performed by welders certified in accordance with AWS and WABO.

Wood Framing Specifications:

All sill plates and other wood framing which is in contact with concrete or masonry must be preservative-treated in accordance with AWPA U1 and M4 standards. For anchor bolts connecting wood sill plates to concrete or masonry, provide galvanized steel washers and nuts on top of the sill, minimum washer size 3" x 3" x 1/4" thick.

Where toenails are used for stud wall construction, a minimum of (2) toenails at top and bottom of each stud shall be provided. Toenails shall be 16d nails driven at approximately a 45 degree angle, with a minimum of 1-1/2" of the nail shank shall be embedded in both the stud and the plate. End nails driven through the plate and into the stud end grain are not permitted. Simpson A34 clips at top and bottom of each stud are permitted where correct toenailing is not provided.

Wherever joists bear on a wall or beam, either a continuous rim joist or solid wood blocking must be provided. Blocking shall be connected to the joists with A35 angles at each end. Individual blocks may be omitted to allow for ducting or other openings. Consult with the engineer of record if more than 25% of the blocking is omitted.

Where LVLs are specified with a thickness greater than 1-3/4", the beam may be built up out of multiple 1-3/4" LVL beams connected per truss-joist TJ-9000 specifier's guide.

Unless noted otherwise, the following grades and species shall be used for structural lumber:

2x joists	**Hem-Fir #2**
2x, 3x, and 4x studs	**DF/L standard for plywood or WSP shear walls**
	Hem-Fir standard for other walls
4x and 6x beams	**DF-L #2**
Microllam LVL lumber	**LVL 1.9E, Fb = 2600 psi, Fv = 285 psi (minimums)**
Parallam lumber	**2.0 WS, Fb = 2900 psi, Fv = 290 psi (minimums)**
Glu-lam lumber	**24F-V4 for simple span beams, 24F-V8 for cantilever beams**

All framing connections shall be per Table 2304.10.1 of the IBC, unless otherwise noted.

Preservative-Treated Wood and Fasteners:

All wood in contact with concrete or masonry shall be preservative-treated, in accordance with AWPA U1 and M4 standards.

All fasteners installed in preservative-treated wood shall be hotdipped zinc-coated galvanized with a minimum coating weight complying with ASTM A 153.

Fasteners other than nails and timber rivets are permitted to be mechanically deposited zinc-coated with coating weights complying with ASTM B 695, Class 55 minimum. Plain carbon steel fasteners in wood preservated-treated with SBX/DOT or zinc borate are not required to be galvanized.

Plywood Thickness, Grade, and Nailing:

Install plywood sheets with face grain perpendicular to framing. Stagger joints in adjacent sheets. If not otherwise noted, use nailing schedule, Table 2304.6.1 of the IBC.

Manufactured Trusses:

Manufactured trusses specified on the plans are prefabricated products manufactured by a truss manufacturer. The contractor shall submit shop drawings and stamped structural design calculations for review. The manufacturer's installation instructions shall be available on the job site at the time of inspection. Truss design and shop drawings shall include location and weight of all equipment being supported by these trusses.

The truss live loading shall be per IRC Section 301.5 and Table 301.5, especially noting footnotes b and g.

The truss design shall be per IRC Sections 502.11.1 and 802.10.2, especially indicating the truss design and manufacturing shall be per ANSI/TPI 1.

The truss temporary and permanent bracing shall be per IRC Sections 502.11.2 and 802.10.3 as well as the Truss Plate Institute's Building Component Safety Information.

Truss alterations shall not occur unless the approval of a designprofessional as indicated in IRC Sections 502.11.3 and 802.10.4.

Manufactured Joists:

"TJI" Joists specified on the plans are prefabricated products manufactured by the Weyerhaeuser Corporation. The contractor shall submit shop drawings and stamped structural design calculations for review. Joist design and shop drawings shall include location and weight of all equipment being supported by these joists. The manufacturer's installation instructions shall be available on the job site at the time of inspection. Other suppliers may be used, upon approval by the engineer of record.

Provide solid blocking between TJI joists at 8' o.c. along the span.

Blocking shall be solid engineered lumber to match the joist depth. TJI blocking is not permitted.
See the TJ-9001 Installation Guide for connection and framing requirements.

Metal Framing Connectors:

Unless otherwise noted: Metal framing connectors shall be manufactured by the Simpson company, or approved equal. Unless noted otherwise, use U-series joist hangers to match joist size (e.g., U210 for 2x10 joist). Provide H1 or H2.5 hurricane ties, or other connectors with similar capacity, at every roof joist or truss, and H6 or H7 at ends of roof beams and girder trusses. Where supported by wood posts, wood beams shall be connected to the tops of the posts using Simpson AC, PCZ or EPCZ post caps, and to the bottoms of the posts bearing on wood framing using Simpson AC connectors or A35 clips. Where supported by perpendicular beams, wood beams shall be connected by HU-series face mount beam hangers. Provide Simpson AB_ or PB post bases to connect posts to concrete foundations. Unless otherwise specified, the maximum number of nails or screws should always be installed on any connector.

Bearing Walls:

All walls supported by continuous concrete footings shall be connected to the foundation per 2018 IRC section 403.1.6. 1/2" diameter anchor bolts shall be provided at 4' o.c., or two per wall segment, minimum. Anchor bolts shall penetrate 7" into the concrete foundation.

Drag Strut Note "DS"

Provide a continuous horizontal connection between the indicated beams, walls, and blocking, using the following method.

Connect the beams, blocking, rim joist, or top plates in the line specified, using a horizontal Simpson CMSTC16 strap or alternate strap specified on the plans. Individual members must be connected together, with the strap extending 3' onto each member. Where blocking is used, the strap must be continuous across all blocking members. The strap must be nailed using 16d sinkers, with a nailing pattern per the Simpson specifications.

The strap may be installed either on top of the plywood floor diaphragm, or connecting a beam or joist, as applicable and feasible.

Beams or joists may be connected to a wall top plate by (8) A35s.

Where no parallel members occur below the strap, provide 3-1/2" wide by 5-1/2" deep (minimum) solid wood blocking in the floor or roof framing, below the strap, for nailing. The blocking should be attached to the perpendicular joists with Simpson A34 framing anchors at both ends of each block.

Straps may be installed on top of a ridge, but not on the bottom.

Refer to the latest edition of the Simpson Catalog for required nailing and other requirements.

Refer to the Drag Strut Typical Detail provided with these plans.

Connection of New Foundation to Existing, Note "NF":

At each location where the new concrete foundation abuts the existing foundation, connect the new to the existing using minimum (3) #4 by 18" long rebar dowels, epoxy grouted into 5/8" diameter by 5" deep holes drilled into the existing foundation. Each dowel shall be no closer than 3" to any edge or corner of concrete. Minimum spacing between dowels shall be 6". For concrete wall intersections longer than 3'-0" in any direction, additional dowels shall be located at 12" o.c. for the full height or length of the new foundation concrete.

Contact the engineer (prior to construction) for evaluation and approval of the existing foundation system, if there are any significant cracks in the existing foundation within 6 feet of the new foundation, or if there is any indication that the existing foundation is in poor condition, including visible rock pockets, non-uniform concrete, spalling, noticeable settlement of the existing footing, or other distress.

Hold Down Notes

Convention for showing shear walls and hold downs: Shear walls are shown on the framing plan for the floor above. (For example, first floor shear walls will be shown on the second floor framing plan, and the shear walls for the topmost floor will be shown on the roof framing plan.) Hold downs are located at the bottom of that shear wall, and connect the end of the shear wall to wall framing or a structural beam located in the floor below the shear wall. Contact the engineer of record for clarification if needed.

Hold downs for each floor must be continuously connected to hold downs on the floor below (or to other intermediate wood framing where so indicated), until they are finally connected to the concrete foundation.

Hold downs shall be installed so as to be as far apart as is reasonable. Hold downs may be located on either the near side or the far side of the post or double stud to which they are attached. In no case shall a hold down bolt be located farther than 6" from the end of the shear wall, except with prior written approval of the engineer. Refer to the latest edition of the Simpson Catalog for details.

Where multiple studs are called out at a hold down, nail studs together with (2) 16d nails at 8" o.c. or 1/4" x 3" Simpson SDS Screws at 12" o.c.

Where a hold down post lands on a rim joist, provide full depth vertically oriented blocking under the post.

Strap Hold Downs:
Provide a vertically oriented strap hold down consisting of one or two of the Simpson vertical strap ties listed below, connecting the end stud or post of the shear wall indicated to new or existing studs in the wall framing below, or to a wood beam supporting the shear wall, where applicable.
Straps shall be installed so that the minimum end length is provided to both connected posts or studs. Where a strap is connected to a beam below, the strap shall be wrapped around the beam until the minimum end length is reached.
See Strap Hold Down Typical Detail.

CS16 **denotes a Simpson CS16 strap, with a minim end length of 14", and (13) 8d nails each end.**

CMSTC16 **denotes a Simpson CMSTC16 strap, with a minim end length of 25", and (29) 16d sinker nails each end.**

CMST14 **denotes a Simpson CMST14 strap, with a minim end length of 34", and (38) 10d nails each end.**

CMST12 **denotes a Simpson CMST12 strap, with a minim end length of 44", and (49) 10d nails each end.**

Rod Hold Downs:

HDUx **denotes a Simpson HDU(2,4,5,8,or 11)-SDS2.5 hold down. For hold down bolts at existing concrete foundations, use the following bolts:**

For HDU2,4,5: 5/8" diameter A307 threaded steel rod may be used, which shall be epoxy grouted into a 3/4" diameter hole with a minimum embedment of 10".
See Retrofit HDU Typical Detail.

For hold downs at new concrete foundations, provide the following bolts.

For HDU2,4,5: Simpson SB5/8x24 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature.

For HDU8: Simpson SB7/8x24 may be used, installed per the most recent edition of the Simpson Strong-Tie Literature.
Where the hold down is too high off of the concrete foundation to adequately connect to the specified anchor, A 7/8" diameter threaded rod and ASTM A194-2H coupler connecting to the specified anchor may be used.

Special Note:
All holes for hold down bolts which are installed into existing foundations must be inspected during the installation of the hold down. Either the building inspector, the structural engineer of record, or the special inspection agency must perform the inspection and approve it before the bolts may be epoxy grouted into the holes. The epoxy grout used must be Simpson SET-XP unless otherwise noted by the engineer of record.

For drilled holes into existing concrete, no less than 2" must be provided between the edge of the hole and the face of concrete. The Engineer of Record or Special Inspector must witness the installation of hold down bolts, including cleaning the holes with compressed air and a wire brush before the anchor is installed. The hole shall be filled with enough epoxy that when the anchor is inserted, the epoxy rises to the top of the concrete. Care shall be taken that no air bubbles persist in the epoxy.

The contractor must verify that the existing foundation stem wall is uncracked and continuous, and is sound and in good condition, within 5 feet of any retrofitted shear wall or hold down, in any direction, except with prior written approval of the engineer. The existing concrete foundation stem wall shall be at least 6" thick and 2'-6" in height. The concrete shall be of good quality, hard and uniform, with appropriate aggregate type, size and distribution, and with no visible rock pockets or other similar deficiencies.

Any existing cracks located within 10' of any hold down must be completely filled with an appropriate epoxy based concrete repair product. The product to be used shall be approved in writing by the engineer prior to filling the cracks.

Contact the engineer of record prior to proceeding if any of these requirements are not met, or if the installation of the hold downs results in any visible damage to the existing foundation.

SHEAR WALL SCHEDULE

(Lumber for shear walls is HF#2 or better, unless otherwise noted.)

Type	Material	Edge Nailing	Field Nailing	A.B. Size/Spacing	Plate Nailing	Plates	A35 Spacing	Shear Capacity
SW0	15/32" WSP one side, unblocked	8d @ 6"	8d @ 12"	1/2"Ø @ 72"	(2) 16d @ 12"	2x_	24"	100 plf
SW1	15/32" WSP one side	8d @ 6"	8d @ 12"	1/2"Ø @ 48"	(2) 16d @ 9"	2x_	24"	230 plf
SW2	15/32" WSP one side	8d @ 4"	8d @ 12"	1/2"Ø @ 32"	(2) 16d @ 6"	2x_	16"	350 plf
SW3	15/32" WSP one side	10d @ 3"	10d @ 12"	5/8"Ø @ 24"	(2) 16d @ 4"	3x_	12"	550 plf
SW3X	15/32" WSP one side	10d @ 2"	10d @ 12"	5/8"Ø @ 24"	5/8"Ø x 8" Lag @ 24"	3x_	9"	710 plf

For shear wall callouts on the Structural Framing Plans: SW x (y') denotes a shear wall type "x" with a minimum length of "y" feet. See Exterior Shear Wall Typical Detail.

- For SW3 and greater: studs, plates, and blocking where two WSP panels abut shall have a minimum 3" nominal thickness. Double 2x_ members may be used for studs if the members are connected by plate nailing. Note 10d nails at WSP panel edges.

- "WSP" refers to "Wood Structural Panel", either plywood or other wood materials.
- Provide double stud minimum at both ends of all shear walls.
- At the roof or top level of any shear wall, "A35 spacing", and all other relevant connector specifications, apply to assemblies at both the top and bottom of the shear wall. At lower levels, apply to the bottom of the wall only.
- Provide floor diaphragm edge nailing per diaphragm schedule through floor plywood into blocking, parallel joist framing, or top plates (whichever applies) of all shear walls.
- Provide 3x_ plates, and 4x_ rim joists, minimum, where lag screws are specified for plate nailing.
- Where shear wall edge nails are spaced closer than 3" o.c., or spaced 3" o.c. with 10d nails, foundation sill plates and all framing members receiving edge nailing from abutting panels shall not be less than a single 3x_ member.
- Provide 4x_ or double 2x_ framing where A35 angles are used on both sides of one piece of wood.
- Where a shear wall terminates above the foundation level (no shear wall below), provide minimum 4x_ blocking or double joist framing (as applicable) below the shear wall."&" Plate nailing per this schedule shall be nailed into this blocking at the bottom of the shear wall.
- Shear wall nails shall be placed no closer than 3/8" from a panel edge or perpendicular face of stud.
- Maximum spacing between nails shall not exceed 12".
- Shear wall nailing shall be common or galvanized box nails, unless lag screws are noted. Galvanized nails shall be hot dipped or tumbled.

- Lag screw plate connectors shall penetrate 3.5" minimum, and plates or beams receiving lag screws shall have a minimum width of 3.5".
- Where hold downs are specified, the shear wall bolt shall be located within 6 inches of the end of the shear wall, unless otherwise approved by the engineer of record. Minimum end studs shall be as specified in the most recent Simpson catalog.
- Shear wall edge nailing through shear wall sheathing shall be provided into all studs attached to a hold down.
- Retrofit anchor bolts shall have a minimum embedment of 5" into the concrete foundation.
- Cast in place anchor bolts shall have a minimum embedment of 7" into the concrete foundation.
- For SW3 and greater, foundation anchor bolt plate washers shall extend to within 1/2" of the edge of the sheathing.
- Plate nails shall be nailed into a solid wood rim joist.
- 2x_ plates may be substited for 3x_ plates if panels are nailed with edge nailing directly to the rim joist.
- Where 3x_ plates are used, (2) 20d common nails must be used instead of (2) 16d common nails to connect studs to the bottom plate.
- For SW3 and greater at existing walls, Retrofit High Strength Shear Wall Typical Detail may be used.
- Where Roof ventilation is required over a shear wall, see roof ventilation detail.

Diaphragm Schedule

(Lumber for diaphragm construction is HF#2 or better, unless otherwise noted.)

Type	Material	Edge Nailing	Field Nailing	Edge Blocking	Remarks
Roof	15/32" CDX 24/0	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard
Floor	23/32" CDX 48/24	8d @ 6" o.c.	8d @ 12" o.c.	no	Minimum Standard

- "WSP" refers to "Wood Structural Panel", either plywood or other wood materials.
- Rim joists at exterior walls shall be continuous for tension. At rim joist splice locations, provide (2) CS16 horizontal straps, minimum 24"
- Where roof or floor framing is cantilevered over an exterior wall below, provide solid blocking with Diaphragm edge nailing between joists.
- This is the minimum required diaphragm construction. Where otherwise noted on the plans, additional blocking or nailing may be required.

JOHN S. APOLIS
STATE OF WASHINGTON
23434
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

Consulting Structural Engineering Services
6311 17th Ave NE, Seattle, WA 98115
Phone: 206-527-1288
Email: john@cses-engineering.com

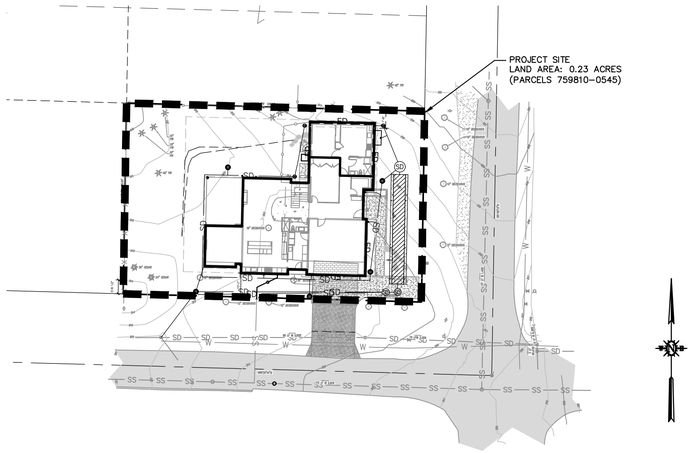
Li Residence
4657 86th Ave SE
Mercer Island, WA 98040

Revisions:
1 10-24-22
2 2-16-23

Date:
10-24-22

Sheet:
S-7

LI RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WASHINGTON



PROJECT SITE
1" = 30'

GENERAL SITE NOTES

1. EXISTING FEATURES, TOPOGRAPHIC AND BOUNDARY INFORMATION SHOW ON THESE PLANS ARE FROM TOPOGRAPHIC SURVEY PROVIDED BY APEX, DATED 12/17/2021
2. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE FOLLOWING:
   A. STANDARDS OF THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OFFICE OF STANDARDS AND RULES OF THE STATE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH,
   B. THE REQUIREMENTS OF ALL PERMITS ISSUED FOR WORK BY THE CITY OF MERCER ISLAND. WHERE CONFLICTS EXIST BETWEEN ANY OF THE ABOVE LISTED SPECIFICATIONS, THE MOST STRINGENT LISTED SPECIFICATION SHALL APPLY.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE ALL PERMITS NECESSARY TO PERFORM WORK. INCLUDING BUT NOT LIMITED TO WORK WITHIN THE PUBLIC RIGHT-OF-WAY, GRADING, TREE REMOVAL, AND UTILITY MODIFICATIONS.
4. CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO PERFORM THE WORK SHOWN ON THE APPROVED PLANS.
5. IT SHALL BE THE RESPONSIBILITY OF THE VARIOUS CONTRACTORS TO COORDINATE THEIR WORK SO AS TO ELIMINATE CONFLICTS AND WORK TOWARD THE GENERAL GOOD AND COMPLETION OF THE ENTIRE PROJECT.
6. ALL WORKMANSHIP AND MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE OF GOOD QUALITY AND NEW. NEITHER FINAL ACCEPTANCE NOR FINAL PAYMENT BY THE OWNER SHALL RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR FAULTY MATERIALS OR WORKMANSHIP.
7. IN THE EVENT OF ANY CONFLICT OF INFORMATION SHOWN ON THE APPROVED PLANS OR ANY CONFLICT BETWEEN THE APPROVED PLANS AND THE INTENT OF A CONSISTENT AND FUNCTIONAL PRODUCT, THE CONTRACTOR SHALL SO NOTIFY THE OWNER IN WRITING, UPON WHICH NOTICE THE OWNER SHALL RESOLVE THE CONFLICTS BY THE ISSUANCE OF A WRITTEN ORDER, REVISED PLANS, OR BOTH. THE CONTRACTOR SHALL BEAR FULL COST AND RESPONSIBILITY FOR WORK AFFECTED BY SUCH CONFLICTS AND PERFORMED BY CONTRACTOR PRIOR TO SUCH NOTICE TO THE OWNER AND ISSUANCE OF SUCH ORDER AND/OR REVISED PLANS.
8. CONTRACTOR SHALL EXERCISE ALL NECESSARY CAUTION TO AVOID DAMAGE TO ANY EXISTING TREES, OR SURFACE IMPROVEMENTS, OR TO ANY EXISTING DRAINAGE STRUCTURE, WATER STRUCTURE, SEWER CLEANOUTS, MANHOLES, OR JUNCTION BOXES FOR UNDERGROUND ELECTRIC, GAS, TELEPHONE, CABLE TV. STORM, SANITARY, WATER OR OTHER UTILITIES WHICH ARE TO REMAIN IN PLACE AND SHALL BEAR FULL RESPONSIBILITY FOR ANY DAMAGE THERETO.
9. ALL KNOWN EXISTING UTILITY LINES ARE SHOWN FOR INFORMATION ONLY, CONTRACTOR SHALL EXERCISE ALL NECESSARY CAUTION TO ANY EXISTING UTILITY LINES OR FACILITIES TO REMAIN IN PLACE, WHETHER OR NOT SUCH FACILITATES APPEAR ON THE APPROVED PLANS, AND SHALL BEAR FULL RESPONSIBILITY FOR ANY DAMAGE THERETO.
10. CONTRACTOR SHALL CONTACT THE "CALL BEFORE YOU DIG" UNDERGROUND UTILITY LOCATING SERVICE (811) AND THE AFFECTED UTILITY COMPANY PRIOR TO STARTING WORK TO REQUEST AND OBTAIN MARKING OF EXISTING UNDERGROUND FACILITIES.
11. CONTRACTORS SHALL HIRE A LICENSED LAND SURVEYOR TO PROVIDE CONSTRUCTION STAKING IN ORDER TO ENSURE THE PROJECT IS CONSTRUCTED TO THE LINES AND GRADES INDICATED ON THE APPROVED PLANS.
12. INSPECTION OF WORK: CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF REQUIRE INSPECTIONS WITH THE APPROPRIATE AGENCIES AND UTILITY COMPANIES AND CITY OF MEDINA STANDARDS.
13. ENGINEER OF RECORD SHALL BEAR NO RESPONSIBILITY FOR METHODS AND PROCEDURES OF WORK ESTABLISHED BY CONTRACTOR. JOBSITE CONDITIONS, JOBSITE SAFETY, OR CONFORMANCE WITH SAFETY PROCEDURES AND REQUIREMENTS.
14. IN CONFORMANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS BOTH THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER OF RECORD.
15. ALL UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE PROJECT AND BE PLACED AT A SUITABLE DISPOSAL SITE.
16. AN EMERGENCY ON-SITE BACK-UP POWER SUPPLY AND AN EXTERNAL ALARM SYSTEM FOR SYSTEM FAILURE AND HIGH WATER LEVEL INDICATOR ARE REQUIRED FOR THE PUMP SYSTEM.
17. PRIVATE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR ANY AND ALL CLAIMS FOR INJURES AND DAMAGE DUE TO THE OPERATION OR NON-OPERATION OF THE PUMP SYSTEM.
18. 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.

PROJECT INFORMATION:

SITE ADDRESS: 4657 86TH AVE. SE,
MERCER ISLAND, WA 98040

PARCEL NUMBER: 7598100545

LEGAL DESCRIPTION: (PER STATUTORY WARRANTY DEED, KING CO, REC. NO. 20211005001771)

THE SOUTH 80 FEET OF THE EAST 125 FEET OF TRACT 5 IN BLOCK 14 OF THE VITUS SCHMID'S EAST SEATTLE, ACRE TRACTS, AS PER PLAT RECORDED IN VOLUME 7 OF PLATS, PAGE 76, RECORDS OF KING COUNTY AUDITOR;

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

UTILITIES:

WATER:
CITY OF MERCER ISLAND
611 SE 36TH STREET,
MERCER ISLAND, WA 98040
(206) 275-7602

SEWER:
CITY OF MERCER ISLAND
611 SE 36TH STREET,
MERCER ISLAND, WA 98040
(206) 275-7602

FIRE:
MERCER ISLAND FIRE DEPARTMENT

ELECTRIC/GAS:
PSE

OWNER:

PAUL LI
(703)965-9722

DEVELOPER:

CAMERON WEAVER
WW SUSTAINABLE, LLC
23613 140TH AVE. SE
KENT, WA 98042

CIVIL ENGINEER:

CANNON
ATTN: KATIE ROLLINS
PE: ED COLLINS
PHONE: (425) 677-2325
1700 NW GILMAN BLVD, SUITE 100
ISSAQUAH, WA 98027

SURVEYOR:

APEX ENGINEERING LLC
2601 SOUTH 35TH STREET, SUITE 200
TACOMA, WA 98409
253 473-0599

ARCHITECT:

LURE. DESIGN SOLUTIONS
13842 NE 8TH STREET, #E102
BELLEVUE, WA 98005
(425) 870-0383

VICINITY MAP
NTS

SHEET INDEX

No.	SHEET TITLE
C1	TITLE SHEET
C2	DRAINAGE & BMP PLAN
C3	UTILITY CONEECTIONS PLAN
C4	GRADING AND DRAINAGE DETAILS
C5	GRADING AND DRAINAGE DETAILS
C6	TESC PLAN
C7	TESC NOTES AND STANDARD DETAILS
C8	TESC DETAILS
C9	TESC DETAILS

ABBREVIATIONS

ASPHALT CONCRETE	AC	EDGE OF PAVEMENT	EP
CENTERLINE	CL / ℄	MANHOLE RIM ELEVATION	RIM
BACK OF WALK	BOW	MATCH EXISTING	ME
EACH WAY	E.W.	ON CENTER	O.C.
EXISTING GRADE	EG	RIGHT OF WAY	ROW
EXISTING	(E)	STANDARD	STD
FINISHED SURFACE	FS	STORM DRAIN	SD
FINISHED GRADE	FG	SANITARY SEWER	SS
HIGH POINT	HP	TOP OF CURB	TC
INVERT	INV	TOP OF GRATE	TG
MINIMUM	MIN	BOTTOM OF WALL	BW
PROPERTY LINE	PL / ℄	TOP OF WALL	TW
PUBLIC UTILITY EASEMENT	PUE	UNLESS NOTED OTHERWISE	U.N.O.
		UNIFORM PLUMBING CODE	UPC

LEGEND

	EXISTING	PROPOSED
LOT BOUNDARY		
PROPERTY LINE		
EASEMENT/SETBACK		
STREET CENTERLINE		
BUILDING		
GRADE BREAK		
CONTOURS		
WATER MAIN OR LATERAL	W	W
SANITARY SEWER	SS	SS
STORM DRAIN LINE	SD	SD
GAS LINE	G	
FOUNDATION DRAIN		FD
		RD
DRY UTILITY LATERAL		JT
AC PAVING		
CONCRETE		
STORM DRAIN INLET		
CLEANOUT TO GRADE		
YARD DRAIN		
JUNCTION BOX		
CATCH BASIN		
DOWNSPOUT SPLASH		

EXISTING UNDERGROUND UTILITY INFORMATION SHOWN ON THESE PLANS IS BASED UPON A COMBINATION OF SOURCES INCLUDING FIELD TOPOGRAPHIC SURVEY AND CITY SYSTEM MAPS. CONTRACTOR SHALL BE ADVISED THAT UNDERGROUND UTILITIES NOT IDENTIFIED ON THESE PLANS MAY EXIST WITHIN THE PROJECT SITE, AND SHALL EXERCISE APPROPRIATE CARE DURING EXCAVATION ACTIVITIES. CONTRACTOR SHALL POTHOLE AND FIELD VERIFY EXISTING UNDERGROUND UTILITY SIZE AND LOCATIONS AT CRITICAL LOCATIONS PRIOR TO CONSTRUCTION, AND NOTIFY ENGINEER IF DISCREPANCIES EXIST.

WILLIAM N. TAYLOR — STATE OF WASHINGTON — 26198 — REGISTERED PROFESSIONAL ENGINEER

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

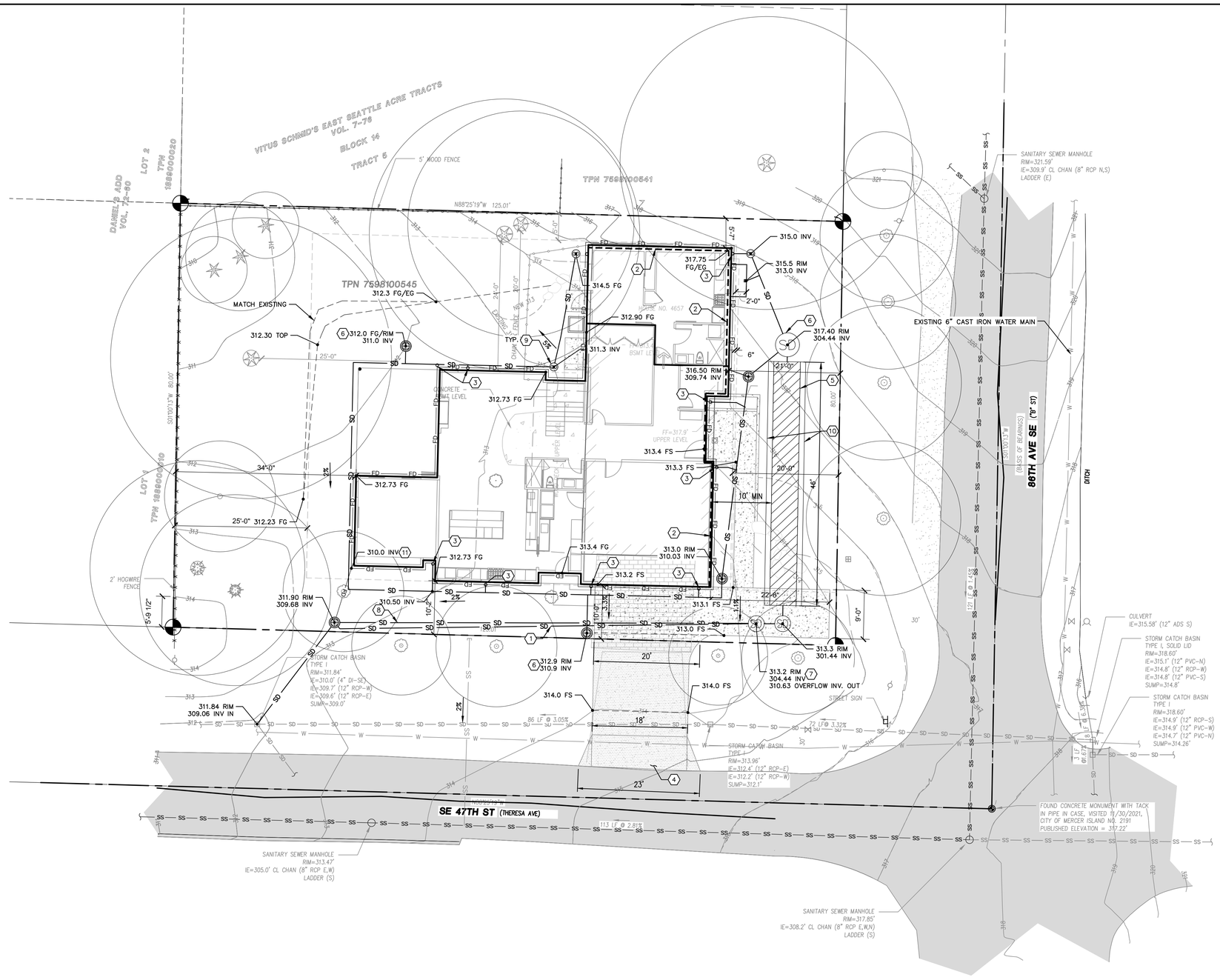
TITLE SHEET

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C1 OF 8

CALL BEFORE YOU DIG 811

F:\proj\2022\220418\4 production and drafting\Const Dwgs\Civil\CE220418AA0001.dwg 3-14-23 05:15:07 PM LukasE



CONSTRUCTION NOTES

1. 6" OVERFLOW DISCHARGE PIPE.
2. EXISTING RAISED FOOTING TO REMAIN. REUSE EXISTING FOUNDATION DRAIN WHERE POSSIBLE (SEE STORM DRAIN NOTE 3).
3. CONNECT DOWNSPOUT STORMDRAIN LINE.
4. ASPHALT RURAL DRIVEWAY APRON PER MODIFIED KING COUNTY STANDARD FIG 3-003 ON SHEET C4. OMIT PIPE.
5. 60" DIA. DETENTION PIPE, PER DETAIL A SHEET C5. GEOTECHNICAL ENGINEER TO PROVIDE MEASURES TO PROTECT EXISTING FOUNDATION DURING EXCAVATION.
6. NYLOPLAST CATCH BASIN, PER DETAIL A SHEET C5 (GRATED COVER).
7. DUAL PUMP OUTLET STRUCTURE, PER DETAIL 1 SHEET C5.
8. EMERGENCY OVERFLOW PIPE.
9. STORM DRAIN CLEANOUT (SOLID COVER).
10. CONCRETE PIPE ANCHORS PER DETAIL 2 ON SHEET C5. GEOTECHNICAL ENGINEER TO DETERMINE IF GROUNDWATER IS PRESENT AT BOTTOM OF EXCAVATION AND IF ANCHORS ARE REQUIRED.
11. FOOTING DRAIN CONNECTION POINT TO TIGHTLINE.

STORM DRAINAGE NOTES

1. STORM PIPE SHALL BE PVC CONFORMING TO ASTM D-3034 SDR 35 (4" – 15") OR ASTM F-679 (18"–27"). BEDDING AND BACKFILL SHALL BE AS SHOWN IN THE STANDARD DETAILS.
2. INSTALL FOOTING DRAINS AROUND ALL BUILDING PERIMETER FOOTINGS. THE FOOTING DRAINAGE SYSTEM AND THE ROOF DOWNSPOUT SYSTEM SHALL NOT BE INTERCONNECTED AND SHALL SEPARATELY CONVEY COLLECTED FLOWS TO THE CONVEYANCE SYSTEM OR TO ON-SITE STORMWATER FACILITIES.
3. EXISTING FOOTING DRAIN MUST BE TV INSPECTED. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING FOOTING DRAIN IS REQUIRED.
4. CONNECT ALL ROOF DRAIN DOWNSPOUTS TO BELOW GROUND STORM DRAIN SYSTEM, UNLESS SPLASH BLOCK SHOWN.
5. YARD DRAIN CATCH BASINS SHALL BE NYLOPLAST DRAIN BASIN WITH 8" CIRCLE GRATE (UNLESS OTHERWISE NOTED) OR APPROVED EQUAL (DRAIN BASIN SHALL BE 12" MIN OR LARGER TO ACCOMMODATE CONNECTED PIPES). SEE DETAIL C ON SHEET C4. CATCH BASINS WITHIN DRIVEWAY OR OTHER VEHICULAR AREAS SHALL HAVE TRAFFIC RATED GRATE AND FRAME. SEE NOTE 8.
6. PROVIDE BACK OF WALL DRAINS BEHIND ALL RETAINING WALLS.
7. PIPES ROUTED BELOW RETAINING WALLS SHALL BE SUFFICIENTLY PROTECTED FROM WALL LOADING. FOR LANDSCAPE WALLS, PROVIDE 6" SLURRY ENCASEMENT OF PIPE AT MINIMUM WITHIN THE ZONE OF INFLUENCE OF WALL.
8. YARD DRAIN TYPE AND MANUFACTURER FOR YARD DRAINS THAT ARE NOT ON THE MAIN STORM DRAIN CONVEYANCE LINE SHALL BE COORDINATED BY LANDSCAPE ARCHITECT.
9. IF THE EXISTING CATCH BASIN IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING CATCH BASIN IS REQUIRED.
10. WHERE TWO STORM DRAINS INTERSECT AND THERE IS NO PROPOSED INLET, PROVIDE CONNECTION WITH WYE/T JUNCTION

GENERAL NOTES

1. ALL GRADING AND DRAINAGE SHALL CONFORM TO THE CURRENT BUILDING CODE.
2. ALL DISTURBED PERVIOUS AREA SHALL BE AMENDED PER BMP T5.13 'POST-CONSTRUCTION SOIL QUALITY AND DEPTH' (SEE DETAIL B, SHEET C4)

GRADING NOTES

1. PRIOR TO CONSTRUCTING FLATWORK NEAR EXTERIOR DOORS, CONTRACTOR SHALL COORDINATE DOOR THRESHOLD DROP WITH ARCHITECTURAL PLANS.
2. ALL FLATWORK ADJACENT TO BUILDINGS SHALL BE SLOPED AT A MINIMUM OF 2% FOR 10' AWAY FROM THE BUILDING UNLESS NOTED OTHERWISE.
3. FINISHED GRADE (PERVIOUS AREA) DIRECTLY ADJACENT TO BUILDINGS SHALL BE SLOPED AT 5% MINIMUM FOR 10' AWAY FROM THE BUILDING, OR TO A DESIGNATED SWALE SLOPED AT 2% MINIMUM.
4. FINISHED GRADE (DIRT OR LANDSCAPE AREA) DIRECTLY OUTSIDE OF THE BUILDING SHALL BE 8" MINIMUM AND 12" MAXIMUM BELOW FINISHED FLOOR UNLESS NOTED WITH A SPECIALLY DESIGNED FOOTING. FOOTING EMBEDMENT SHOULD MEET MINIMUM REQUIREMENTS PER STRUCTURAL ENGINEER.
5. NO SLOPES SHALL EXCEED 2:1 HORIZONTAL TO VERTICAL.
6. DRIVEWAYS SHALL NOT EXCEED 20% MAX SLOPE THROUGH EXPECTED DRIVE PATH.
7. CONTRACTOR TO INSTALL STAIRS, STAIR LANDINGS AND HANDRAILS AS REQUIRED BY THE WASHINGTON BUILDING CODE.
8. PRIOR TO CONSTRUCTION, PROJECT GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE THESE PLANS FOR CONFORMANCE WITH THEIR RECOMMENDATIONS, INCLUDING EARTHWORK AND GRADING, FOUNDATION AND WALL DRAINS, INFILTRATING STORMWATER BMPS, BUILDING PAD PREPARATION.
9. PROVIDE LANDINGS OUTSIDE OF ALL EXTERIOR DOORS PER WASHINGTON BUILDING CODE.

STORM DRAIN LEGEND

- YARD DRAIN WITH GRATE SET AT ELEVATION TO ACCEPT SURFACE FLOW.
- CLEANOUT TO GRADE
- SD — 6" STORM DRIAN LINE AT 0.8% MINIMUM SLOPE

WILLIAM N. TAYLOR
STATE OF WASHINGTON
26198
REGISTERED
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

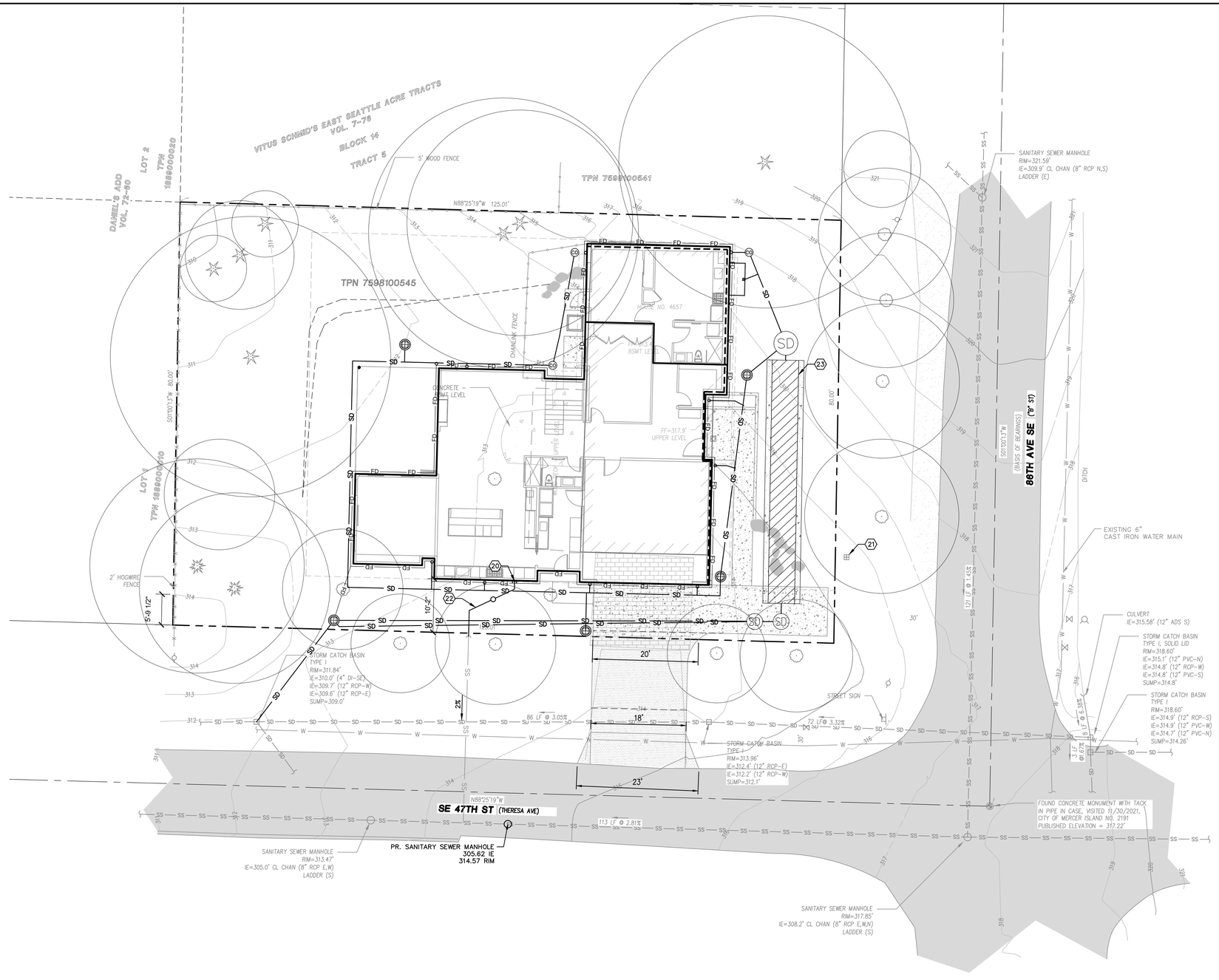
Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

DRAINAGE & BMP PLAN

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C2 OF 8



CONSTRUCTION NOTES

20. CONNECT PROPOSED SEWER TO EXISTING MAIN USING 6" SDR 35 PVC. PER CITY OF MERCER ISLAND SEWER STD DETAIL S-18 & S-22 ON SHEET C4
21. EXISTING WATER METER BOX TO BE REMOVED AND EXISTING WATER SERVICE TO BE ABANDONED AT THE MAIN. CONSTRUCT NEW 1" WATER METER AND SERVICE PER CITY AND FIRE REQUIREMENTS
22. SEWER CHECK VALVE PER CITY OF MERCER ISLAND SEWER STD DETAIL S-18
23. ON-SITE DETENTION SYSTEM.

UTILITY NOTES

1. THE TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN ON SE 47TH ST IS REQUIRED PRIOR TO ANY WORK RELATED TO THE SIDE SEWER. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED.
2. FRANCHISE UTILITIES ARE NOT REVIEWED OR APPROVED BY THE CITY OF MERCER ISLAND,

0 10 20
1 INCH = 10 FEET

WILLIAM N. TAYLOR
STATE OF WASHINGTON
26198
REGISTERED
PROFESSIONAL ENGINEER

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

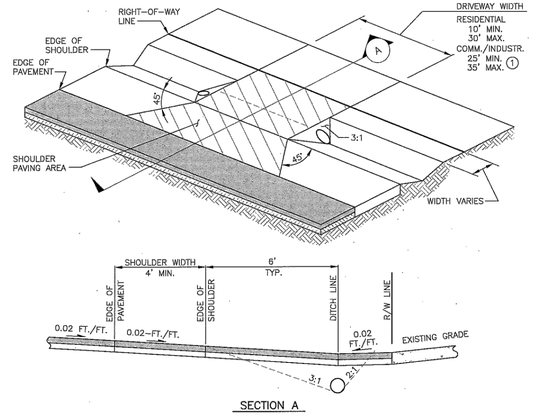
Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

UTILITY CONECTIONS PLAN

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C3 OF 8



SECTION A

NOTES:

1. WITHIN THE RIGHT-OF-WAY DRIVEWAYS SHALL BE PAVED FROM THE RIGHT-OF-WAY LINE TO THE EDGE OF PAVEMENT WITH HOT MIX ASPHALT. NO CONCRETE IS ALLOWED WITHIN THE RIGHT-OF-WAY UNLESS AS SPECIFIED IN SEC.4.02.
2. COMMERCIAL/INDUSTRIAL DRIVEWAYS WIDER THAN 35 FT. MAY BE APPROVED BY THE COUNTY ROAD ENGINEER CONSIDERING BOTH TRAFFIC SAFETY AND THE ACTIVITY BEING SERVED.
   ALL COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL HAVE AN EXPANSION JOINT LOCATED MID-WIDTH. (SEE SEC. 3.04.)
3. PIPE SHALL BE:
   A. SIZED TO CONVEY COMPUTED STORM WATER RUNOFF, AND
   B. MIN. 12" DIAM., AND
   C. EQUAL TO OR LARGER THAN EXISTING PIPES WITHIN 500 FT. UPSTREAM.
4. EXPOSED PIPE ENDS SHALL BE BEVELED TO MATCH THE SLOPE FACE AND PROJECT NO MORE THAN 2" BEYOND SLOPE SURFACE. PROJECTING HEADWALLS ARE NOT ACCEPTABLE.
5. ALL TYPES OF PIPE SHALL HAVE MIN. 12" COVER TO FINISH GRADE.
6. PIPE SHALL BE INSTALLED IN A STRAIGHT UNIFORM ALIGNMENT AT A MIN. 0.5% SLOPE (0.5 FT. PER 100 FT.) WITH THE DOWNSTREAM END LOWER THAN THE UPSTREAM END.
7. PIPE MAY BE OMITTED IF ROADSIDE DITCH DOES NOT EXIST AND DRIVEWAY DOES NOT BLOCK NATURAL FLOW.
8. DRIVEWAY SLOPE SHALL MATCH TO BACK EDGE OF SHOULDER, BUT SHOULDER SLOPE AND EDGE OF SHOULDER SHALL NOT BE ALTERED AS A RESULT OF DRIVEWAY CONSTRUCTION.
9. SEE SEC. 3.01 AND 4.01 FOR DRIVEWAY AND SURFACING STANDARDS.
10. PIPING OF DITCHES SHALL BE ALLOWED ONLY WHERE DRIVEWAY ACCESS IS NECESSARY.

Department of Transportation
Road Services Division
2016 Design and Construction Standards
King County

SHOULDER AND DITCH SECTION DRIVEWAY

3-14

FIG. 3-003

DISCONNECTION

WHEN DEMOLISHING AN EXISTING BUILDING, THE BUILDING SIDE SEWER SHALL BE DISCONNECTED PRIOR TO REMOVAL OF BUILDING FOUNDATIONS. THE CONTRACTOR SHALL INSTALL A MECHANICAL PLUG WITH NON-SHRINK GROUT AT THE END OF THE SIDE SEWER TO REMAIN IN PLACE. DISCONNECTION'S SHALL BE PERFORMED IN THE PRESENCE OF THE CITY'S UTILITY INSPECTOR. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT DRAWING DEPICTING THE DISCONNECTED SIDE SEWER UPON COMPLETION OF THE WORK.

RECONNECTION

WHEN RECONNECTING TO AN EXISTING SIDE SEWER, THE POINT OF RECONNECTION WILL BE DETERMINED BASED ON THE MAGNITUDE OF THE CONSTRUCTION ON THE PROPERTY.

1. PARTIAL INTERIOR REMODEL AND/OR BUILDING ADDITION WITH NO ADDITIONAL PLUMBING FIXTURES – NO SIDE SEWER REPLACEMENT REQUIRED UNLESS A KNOWN PROBLEM EXISTS IN THE SIDE SEWER.
2. PARTIAL INTERIOR REMODEL AND/OR BUILDING ADDITION WITH ADDITIONAL PLUMBING FIXTURES– ASSESS CONDITION OF EXISTING SIDE SEWER THROUGH VIDEO INSPECTION FROM BUILDING TO PROPERTY LINE AND REPLACE AS NEEDED.
3. COMPLETE INTERIOR REMODEL OF RESIDENCE – ASSESS CONDITION OF EXISTING SIDE SEWER THROUGH VIDEO INSPECTION FROM BUILDING TO PROPERTY LINE AND REPLACE AS NEEDED. IF EXISTING SIDE SEWER IS ASBESTOS CEMENT OR CONCRETE, SIDE SEWER SHALL BE REPLACED FROM BUILDING TO PROPERTY LINE, UNLESS THE APPLICANT PROVES, TO THE SATISFACTION OF THE CITY ENGINEER, THAT THE SIDE SEWER IS WATER TIGHT AND IN SOUND CONDITION.*
4. COMPLETE INTERIOR REMODEL AND BUILDING ADDITION – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
5. CONSTRUCTION OF A NEW SINGLE FAMILY RESIDENCE – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*

BACK WATER VALVE INSTALLATION PER CITY ENGINEER, IF SCENARIO 2, 3, 4, OR 5 IS DIRECTLY ATTACHED TO THE LAKE LINE OR THE ELEVATION OF THE LOWEST DRAIN IN THE RESIDENCE IS LOWER THAN THE RIM ELEVATION OF THE UPSTREAM SEWER MANHOLE ON THE MAIN.

VIDEO INSPECTION OF THE EXISTING SIDE SEWER, BETWEEN THE PROPERTY LINE AND THE SEWER MAIN SHALL BE PERFORMED FOR SCENARIOS NUMBER 4 AND 5.

PROVIDE A COPY OF THE VIDEO DOCUMENTATION (VIDEO AND HARDCOPY REPORT) TO THE CITY ENGINEER.

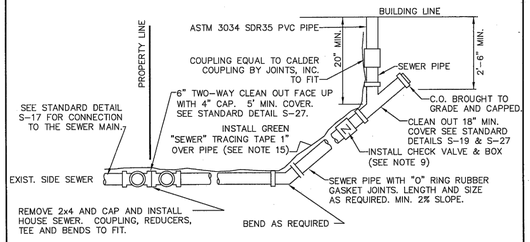
REPLACEMENT OR REPAIR OF THAT PORTION OF THE SIDE SEWER BETWEEN THE PROPERTY LINE AND THE SEWER MAIN, WILL BE DETERMINED BY THE CITY ENGINEER, BASED ON THE VIDEO INSPECTION.

*IF THE EXISTING SIDE SEWER IS PVC AND IS LESS THAN TEN YEARS OLD, THE SIDE SEWER DOES NOT HAVE TO BE REPLACED IF A VIDEO INSPECTION AND/OR HYDROSTATIC PRESSURE TEST CONFIRMS THAT THE SIDE SEWER IS IN PROPER WORKING CONDITION. THESE TESTS SHALL BE PERFORMED AFTER ALL HEAVY EQUIPMENT THAT COULD DAMAGE THE SIDE SEWER IS OFF OF THE SITE.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
RESIDENTIAL SIDE SEWER DISCONNECTION & RECONNECTION

REV	DATE						APPROVED

6-5-2009 | NO SCALE | **S-22**



BUILDING CONNECTION

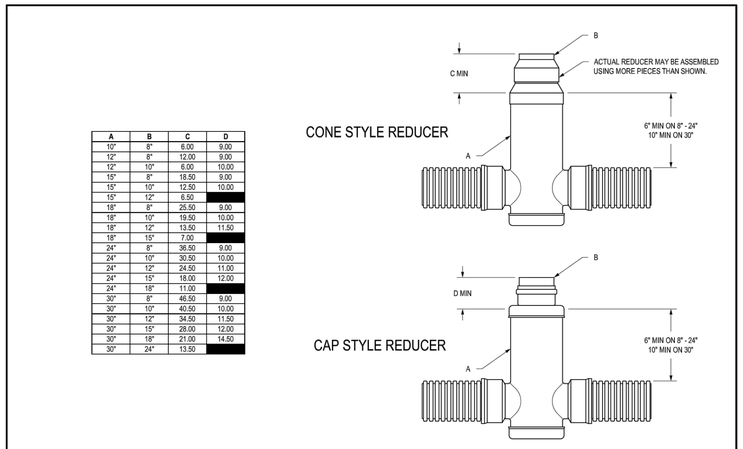
NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH ⅛ BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT".
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
HOUSE SEWER CONNECTION

REV	DATE						APPROVED

6-5-2009 | NO SCALE | **S-18**



A	B	C	D
10"	8"	6.00	9.00
12"	8"	12.00	9.00
12"	10"	6.00	10.00
15"	8"	18.50	9.00
15"	10"	12.50	10.00
15"	12"	6.50	
18"	8"	25.50	9.00
18"	10"	19.50	10.00
18"	12"	13.50	11.50
18"	15"	7.00	
24"	8"	38.50	9.00
24"	10"	30.50	10.00
24"	12"	24.50	11.00
24"	15"	18.00	12.00
24"	18"	11.00	
30"	8"	46.50	9.00
30"	10"	40.50	10.00
30"	12"	34.50	11.50
30"	15"	28.00	12.00
30"	18"	21.00	14.50
30"	24"	13.50	

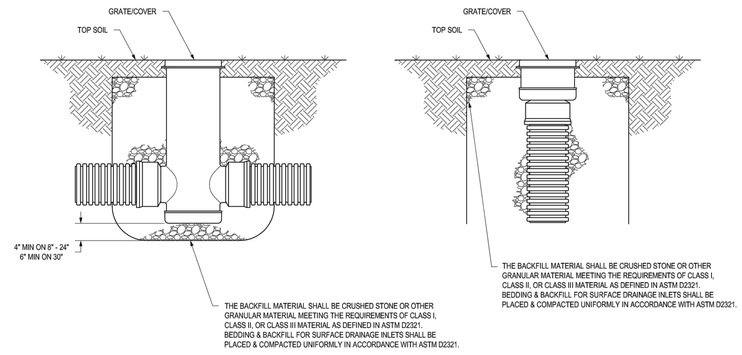
NOTE: DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY

DRAWN BY	CJA
DATE	2-6-03
REVISED BY	JJC
DATE	7-10-13
DWG SIZE	A
MATERIAL	
PROJECT NO./NAME	
SCALE	1:25
SHEET	1 OF 1
DWG NO.	7001-110-104
REV	E

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

TITLE: DRAIN BASIN WITH REDUCER OPTIONS

NON TRAFFIC INSTALLATION

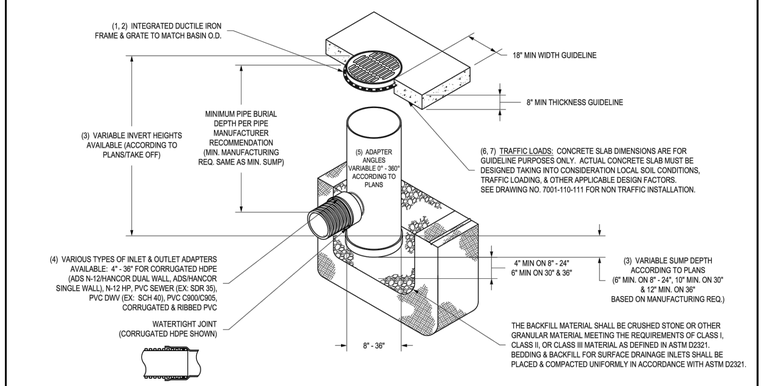


DRAWN BY	CJA
DATE	9-30-99
REVISED BY	NMH
DATE	03-11-16
DWG SIZE	A
MATERIAL	
PROJECT NO./NAME	
SCALE	1:25
SHEET	1 OF 1
DWG NO.	7001-110-111
REV	E

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

TITLE: DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION

NYLOPLAST DRAIN BASIN WITH STANDARD GRATE



1 - 8" - 30" STANDARD GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 12" - 30" FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. 8" & 10" STANDARD GRATES FIT DIRECTLY ONTO DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
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 (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 12" - 30" STANDARD GRATES SHALL MEET H-20 LOAD RATING.
7 - 8" & 10" STANDARD GRATES ARE RATED FOR LIGHT DUTY APPLICATIONS ONLY; NO CONCRETE COLLAR NEEDED FOR LIGHT DUTY RATING.

DRAWN BY	EBC
DATE	1-23-06
REVISED BY	NMH
DATE	06-12-18
DWG SIZE	A
MATERIAL	
PROJECT NO./NAME	
SCALE	1:40
SHEET	1 OF 1
DWG NO.	7001-110-144
REV	J

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

TITLE: DRAIN BASIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL

TYPICAL YARD DRAIN/CATCH BASIN (C)

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CK'D. BY	APR'D BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

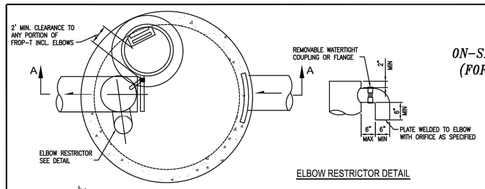
GRADING AND DRAINAGE DETAILS

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C4 OF 8

F:\proj\2022\220418\4 production and drafting\Const Dwgs\Civil\CE220418DS0001.dwg 3-14-23 05:15:58 PM LukasE

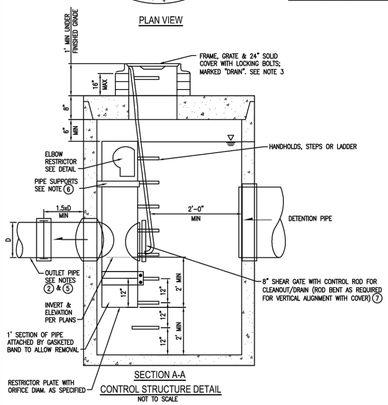
ATTACHMENT 1
CITY OF MERCER ISLAND
ON-SITE DETENTION SYSTEM WORKSHEET
(FOR NEW PLUS REPLACED IMPERVIOUS AREA OF 9,500 SF OR LESS)



PLAN VIEW

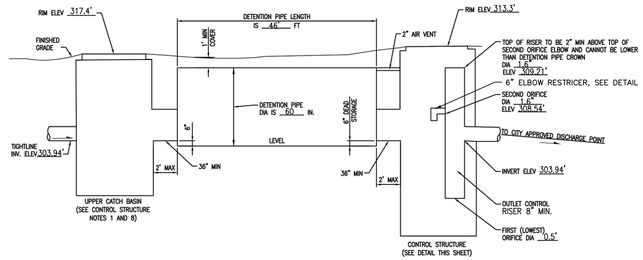
ELBOW RESTRICTOR DETAIL

OWNER: LI RESIDENCE	ADDRESS: 4657 86TH AVE. SE	PREPARED BY: CANNON	
PERMIT #:	MERCER ISLAND, WA	PHONE: (425)677-2323	
		DATE: 03/2022	
NEW PLUS REPLACED IMPERVIOUS SURFACE AREA (SF): 4,650	DETENTION PIPE DIA (INCH): 60"	DETENTION PIPE LENGTH (FT): 46'	ORIFICE #1 DIA 0.5 INCH, ELEV 301.94'
SOIL TYPE: B/D	PIPE MATERIAL: HDPE		ORIFICE #2 DIA 1.6 INCH, ELEV 308.54'
			PUMPED DISCHARGE DOWNSTREAM OF ORIFICE DISCHARGE CALCULATED AS MAXIMUM DISCHARGE OF 22.4 GPM



SECTION A-A

CONTROL STRUCTURE DETAIL
NOT TO SCALE



ON-SITE DETENTION SYSTEM
NOT TO SCALE (ENGINEER TO FILL IN BLANKS)

CONTROL STRUCTURE NOTES:

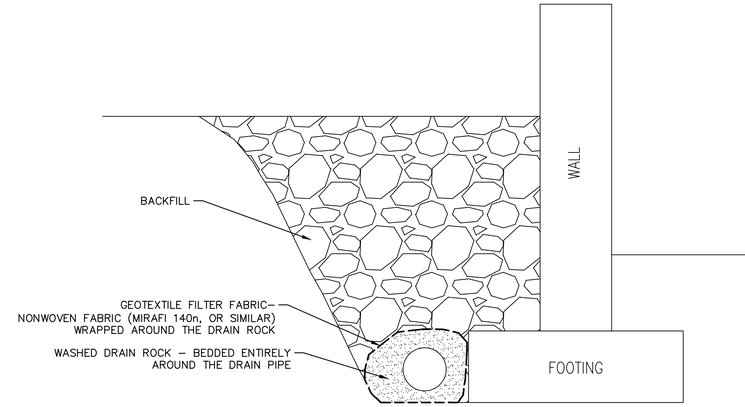
1. USE A MINIMUM OF A 54 IN. DIAM. TYPE 2 CATCH BASIN. THE ACTUAL SIZE IS DEPENDENT ON CONNECTING PIPE MATERIAL AND DIAMETER.
2. OUTLET PIPE: MIN. 6 INCH.
3. METAL PARTS: CORROSION RESISTANT. NON-GALVANIZED PARTS PREFERRED. GALVANIZED PIPE PARTS TO HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
   A. CLEANOUT GATE IS VISIBLE FROM TOP;
   B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE;
   C. FRAME IS CLEAR OF CURB.
5. IF METAL OUTLET PIPE CONNECTS TO CEMENT CONCRETE PIPE, OUTLET PIPE TO HAVE SMOOTH O.D. EQUAL TO CONCRETE PIPE I.D. LESS 1/4 IN.
6. PROVIDE AT LEAST ONE 3 X 0.090 GAUGE SUPPORT BRACKET ANCHORED TO CONCRETE WALL WITH 5/8 IN. STAINLESS STEEL EXPANSION BOLTS OR EMBEDDED SUPPORTS 2 IN. INTO CATCH BASIN WALL (MAXIMUM 3'-0" VERTICAL SPACING).
7. THE SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION 2033A; OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND THE GATE FLANGE. INSTALL THE GATE SO THAT THE LEVEL-LINE MARK IS LEVEL WHEN THE GATE IS CLOSED. THE MATING SURFACES OF THE LID AND THE BODY SHALL BE MACHINED FOR PROPER FIT. ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE UPPER CATCH BASIN IS REQUIRED IF THE LENGTH OF THE DETENTION PIPE IS GREATER THAN 50 FT.

ON-SITE DETENTION SYSTEM NOTES:

1. CALL DEVELOPMENT SERVICES (206-275-7605) 24 HOURS IN ADVANCE FOR A DETENTION SYSTEM INSPECTION BEFORE BACKFILLING AND FOR FINAL INSPECTIONS.
2. RESPONSIBILITY FOR OPERATION AND MAINTANANCE OF DRAINAGE SYSTEMS ON PRIVATE PROPERTY IS RESPONSIBILITY OF THE PROPERTY OWNER. MATERIAL ACCUMULATED IN THE STORAGE PIPE MUST BE REMOVED FROM CATCH BASINS TO ALLOW PROPER OPERATION. THE OUTLET CONTROL ORIFICE MUST BE KEPT OPEN AT ALL TIMES.
3. PIPE MATERIAL, JOINT, AND PROTECTIVE TREATMENT SHALL BE IN ACCORDANCE WITH SECTION 7.04 AND 9.05 OF THE WSDOT STANDARD SPECIFICATION FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST VERSION. SUCH MATERIALS INCLUDE THE FOLLOWING, LINED CORRUGATED POLYETHYLENE PIPE (LDPE), ALUMINIZED TYPE 2 CORRUGATED STEEL PIPE AND PIPE ARCH (METCS AASHTO DESIGNATIONS M274 AND M36), CORRUGATED OR SPIRAL RIB ALUMINUM PIPE, OR REINFORCED CONCRETE PIPE. CORRUGATED STEEL PIPE IS NOT ALLOWED.
4. FOOTING DRAINS SHALL NOT BE CONNECTED TO THE DETENTION SYSTEM.

ONSITE DETENTION SYSTEM
NOT TO SCALE

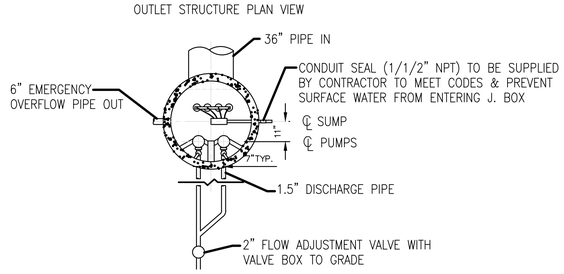
A

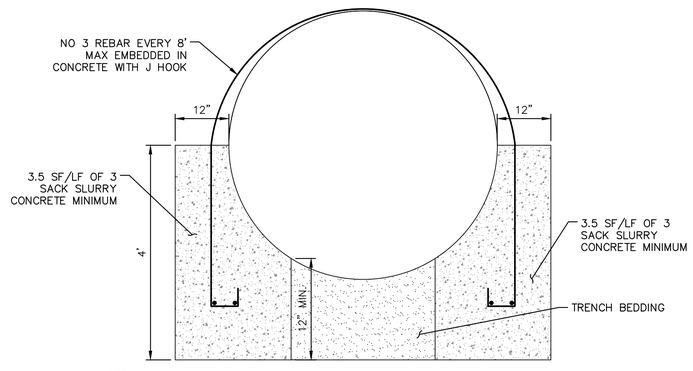


TYPICAL FOOTING DRAIN
NOT TO SCALE

3

NOTES:
1. DO NOT REPLACE RIGID PVC PIPE WITH FLEXIBLE CORRUGATED PIPE
2. PERFORATED PVC PIPE SHOULD BE TIGHT JOINTED AND LAID WITH PERFORATIONS ORIENTED DOWNWARD. THE PIPE SHOULD BE GENTLY SLOPED TO PROVIDE FLOW TOWARD THE TIGHTLINE OR DISCHARGE LOCATION.
3. DO NOT CONNECT OTHER DRAINAGE LINES INTO THE WALL DRAIN SYSTEM.
4. BACKFILL SHOULD MEET STRUCTURAL FILL SPECIFICATIONS IF IT WILL SUPPORT DRIVEWAYS, SIDEWALKS, PATIOS, OR OTHER STRUCTURES. REFER TO THE GEOTECHNICAL ENGINEERING REPORT FOR STRUCTURAL FILL RECOMMENDATIONS.



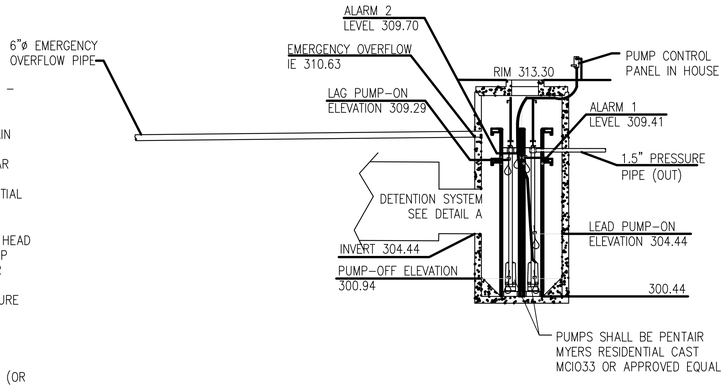


NOTES:
1. INSTALL PIPE ANCHOR FOR LENTH OF 60" PIPE (46 LF)
2. INSTALL PIPE ANCHOR ONLY AS REQUIRED BY GEOTECHNICAL ENGINEER IF GROUNDWATER IS PRESENT. GEOTECHNICAL ENGINEER TO REVIEW THIS DETAIL FOR CONFORMANCE WITH THEIR REQUIREMENTS.

CONCRETE PIPE ANCHOR
NOT TO SCALE

2

SPECIFICATIONS:
1. PROVIDE DUPLEX PUMP SYSTEM
2. TOTAL ESTIMATED HEAD LOSS (INCLUDING ELEVATION, FRICTION FITTINGS) = 13.74 FT – WITH ADJUSTMENT VALVE OPEN
3. PUMPS SHALL HAVE VARIABLE OUTPUT CAPABILITY WITH 22.4 GPM TO STORM DRAIN SYSTEM.
4. PUMPS AND CONTROLS SHALL HAVE 5 YEAR MINIMUM WARRANTY
5. PUMPS SHALL BE PENTAIR MYERS RESIDENTIAL CAST MCIO33, OR APPROVED EQUAL PER MANUFACTURER'S ENGINEERED DESIGN.
6. SUPPLIER SHALL CONFIRM TOTAL DYNAMIC HEAD BASED ON PIPING PLAN AND PROVIDE PUMP SYSTEM DESIGN AND EQUIPMENT DATA FOR APPROVAL PRIOR TO INSTALLATION.
7. ANY CONTROLS LOCATED IN PUMP STRUCTURE SHALL BE WATER AND EXPLOSION PROOF.
8. CONTROL PANEL SHALL BE SJE/RHOMBUS DUPLEX ALTERNATING WITH NEMA 4X ENCLOSURE, HIGH WATER ALARM, MOTOR CONTRACTOR, RUN LIGHTS, H-O-A SWITCH (OR APPROVED EQUAL).
9. POWER SUPPLY FROM HOUSE PANEL BY CONTRACTOR SUBJECT TO BUILDING ELECTRICAL INSPECTION. COORDINATE PUMP SELECTION WITH POWER SUPPLY.



STORMWATER DETENTION AND PUMP STATION
NOT TO SCALE

1

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

GRADING AND DRAINAGE DETAILS

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C5 OF 8

T.E.S.C. LEGEND

─□─	LIMIT OF DISTURBANCE FENCE
─○─	REINFORCED SILT FENCING PER DETAIL 4 SHEET C9
‒ ‒ ‒	WATTLES PER DETAIL 2 SHEET C8.
▨	TEMPORARY CONSTRUCTION ENTRANCE PER DETAIL 1 SHEET C8
∿→	DIRECTION OF SURFACE FLOW
○	TREE PROTECTION. INSTALL HIGH VISIBILITY FENCING PER DETAIL 5 SHEET C9. FINAL TREE PROTECTION PER LANDSCAPE PLANS AND ARBORIST
○	STORM DRAIN PROTECTION PER DETAIL 3 SHEET C8.
✕	REMOVE TREE, FINAL TREE REMOVAL PER LANDSCAPE PLANS & ARBORIST
🟪	PROPOSED PLANTING BED (100 SF TOTAL). AMEND SOIL PER DETAIL B ON SHEET C7
🟫	PROPOSED TURF AREA (2400 SF). AMEND SOIL PER DETAIL B ON SHEET C7

T.E.S.C. NOTES

1. ALL DISTURBED SOIL AREAS SHALL BE TREATED WITH SOIL AMENDMENT PER DETAIL B ON SHEET C4.

2. CONTRACTOR TO INSTALL AND MAINTAIN ALL EROSION CONTROL BMP'S AS SHOWN ON THIS PLAN IN ACCORDANCE WITH DEPARTMENT OF ECOLOGY STORMWATER POLLUTION PREVENTION REQUIREMENTS SUMMARIZED ON SHEETS C7 & C9. IF BMP INSTALLATION AND MAINTENANCE IN INADEQUATE TO MEET THESE REQUIREMENTS CONTRACTOR TO PROVIDE ADDITIONAL BMPS AT NO ADDITIONAL COST TO OWNER.

CONFIRM TREES TO BE PROTECTED, REMOVED, AND PRESERVATION MEASURES WITH PROJECT ARBORISTS.

DISCHARGE CLEAN, NON-TURBID DEWATERING WATER DIRECTLY TO SURFACE WATER. DEWATERING WATER WHICH HAS SIMILAR CHARACTERISTICS TO STORMWATER RUNOFF AT THE SITE SHOULD BE DISCHARGED TO SEDIMENT TRAP.

3. ALL CONSTRUCTION FENCING TO NOT EXCEED 3' HEIGHT WITHIN RIGHT OF WAY.

WILLIAM N. TAYLOR
26198

REV. NO	DATE	REVISED	DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

TESC PLAN

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C6 OF 8

F:\proj\2022\220418\4 production and drafting\Const Dwgs\Civil\CE220418EC0001.dwg 3-17-23 12:43:05 PM LukasE

ESC STANDARD NOTES

1. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES).
2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACE-MENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLIC-ANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLIC-ANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEAR-ING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A MAJOR STORM EVENT.
8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAV-ING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
9. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

CONSTRUCTION SEQUENCE

HOLD THE PRE-CONSTRUCTION MEETING.

1. POST SIGN WITH NAME AND PHONE NUMBER OF ESC SUPERVISOR.
2. FENCE CLEARING LIMITS.
3. INSTALL CATCH BASIN PROTECTION.
4. GRADE AND INSTALL CONSTRUCTION ENTRANCES.
5. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
6. CONSTRUCT SURFACE WATER CONTROLS SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
7. INSTALL STORM DRAINAGE AND SANITARY SEWER SYSTEMS.
8. INSTALL WATER SYSTEM, IRRIGATION, AND DRY UTILITIES AS SHOWN ON PLANS.
9. INSTALL ASPHALT CONCRETE PAVEMENT, CURBING AND CEMENT CONCRETE AS SHOWN ON PLANS.
10. MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
11. RELOCATE EROSION CONTROL MEASURES, OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY OF MERCER ISLAND CLEARING AND GRADING STANDARDS.
12. COVER ALL AREAS THAT WILL BE UNWORKED FOR MORE THAN SEVEN DAYS DURING THE WET SEASON WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, OR EQUIVALENT.
13. STABILIZED ALL AREAS WITHIN SEVEN DAYS OF REACHING FINAL GRADE.
14. SEED, SOD, STABILIZE, OR COVER ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
15. UPON COMPLETION OF THE PROJECT, STABILIZED ALL DISTURBED AREAS AND REMOVE BMPS IF APPROPRIATE.

BMP T5.13: Post-Construction Soil Quality and Depth

Applications and Limitations

Establishing a minimum soil quality and depth is not the same as preservation of naturally occurring soil and vegetation. However, establishing a minimum soil quality and depth will provide improved on-site management of stormwater flow and water quality.

Soil organic matter can be attained through numerous materials such as compost, composted woody material, biosolids, and forest product residuals. It is important that the materials used to meet the soil quality and depth BMP be appropriate and beneficial to the plant cover to be established. Likewise, it is important that imported topsoils improve soil conditions and do not have an excessive percent of clay fines.

This BMP can be considered infeasible on till soil slopes greater than 33 percent.

Design Guidelines

- Soil retention. Retain, in an undisturbed state, the duff layer and native topsoil to the maximum extent practicable. In any areas requiring grading remove and stockpile the duff layer and topsoil on site in a designated, controlled area, not adjacent to public resources and critical areas, to be reapplied to other portions of the site where feasible.
- Soil quality. All areas subject to clearing and grading that have not been covered by impervious surface, incorporated into a drainage facility or engineered as structural fill or slope shall, at project completion, demonstrate the following:
  1. 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.
  2. Mulch planting beds with 2 inches of organic material
  3. Use compost and other materials that meet these organic content requirements:
     a. The organic content for "pre-approved" amendment rates can be met only using compost meeting the compost specification for BMP T7.30: Bioretention Cells, Swales, and Planter Boxes (p.959), 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.

        The carbon to nitrogen ratio may be as high as 35:1 for plantings composed entirely of plants native to the Puget Sound Lowlands region.

     b. Calculated amendment rates may be met through use of composted material meeting (a.) above; or other organic materials amended to meet the carbon to nitrogen ratio requirements, and not exceeding the contaminant limits identified in Table 220-B, Testing Parameters, in WAC 173-350-220.

The resulting soil should be conducive to the type of vegetation to be established.

- Implementation Options: The soil quality design guidelines listed above can be met by using one of the methods listed below:
  1. Leave undisturbed native vegetation and soil, and protect from compaction during construction.
  2. Amend existing site topsoil or subsoil either at default "pre-approved" rates, or at custom calculated rates based on tests of the soil and amendment.
  3. Stockpile existing topsoil during grading, and replace it prior to planting. Stockpiled topsoil must also be amended if needed to meet the organic matter or depth requirements, either at a default "pre-approved" rate or at a custom calculated rate.
  4. Import topsoil mix of sufficient organic content and depth to meet the requirements.

More than one method may be used on different portions of the same site. Soil that already meets the depth and organic matter quality standards, and is not compacted, does not need to be amended.

☑ Stockpile and amend	Turf: 2400 SF x 5.4 CY ÷ 1,000 SF = 13 CY Planting beds: 100 SF x 9.3 CY ÷ 1,000 SF= 1 CY Total Quantity = 14 CY Scarification depth: 8 inches	Product: BMPT7.3

SOIL QUALITY AND DEPTH (B)

GUIDE TO MULCH MATERIALS, RATES AND USE

MULCH MATERIAL	QUALITY STANDARDS	APPLICATION RATES	REMARKS
STRAW	AIR DRIED; FREE FROM UNDESIRABLE SEED & COARSE MATERIAL.	2"-3" THICK; 5 BALES PER 1000SF OR 2-3 TONS PER ACRE	COST-EFFECTIVE PROTECTION WHEN APPLIED WITH ADEQUATE THICKNESS. HAND-APPLICATION GENERALLY REQUIRES GREATER THICKNESS THAN BLOWN STRAW. THE THICKNESS OF STRAW MAY BE REDUCED BY HALF WHEN USED IN CONJUNCTION WITH SEEDING. IN WINDY AREAS STRAW MUST BE HELD IN PLACE BY CRIMPING, USING A TACKIFIER, OR COVERING WITH NETTING. BLOWN STRAW ALWAYS HAS TO BE HELD IN PLACE WITH A TACKIFIER AS EVEN LIGHT WINDS WILL BLOW IT AWAY. STRAW, HOWEVER, HAS SEVERAL DEFICIENCIES THAT SHOULD BE CONSIDERED WHEN SELECTING MULCH MATERIALS. IT OFTEN INTRODUCES AND/OR ENCOURAGES THE PROPAGATION OF WEED SPECIES AND IT HAS NO SIGNIFICANT LONG-TERM BENEFITS. STRAW SHOULD BE USED ONLY IF MULCHES WITH LONG-TERM BENEFITS ARE UNAVAILABLE LOCALLY. IT SHOULD ALSO NOT BE USED WITHIN THE ORDINARY HIGH-WATER ELEVATION OF SURFACE WATERS (DUE TO FLOTATION).
HYDROMULCH	NO GROWTH INHIBITING FACTORS.	APPOX. 25-30 LBS PER 1000 SF OR 1500-2000 LBS PER ACRE	SHALL BE APPLIED WITH HYDROMULCHER. SHALL NOT BE USED WITHOUT SEED AND TACKIFIER UNLESS THE APPLICATION RATE IS AT LEAST DOUBLED. FIBERS LONGER THAN ABOUT ¾-1 INCH CLOG HYDROMULCH EQUIPMENT. FIBERS SHOULD BE KEPT TO LESS THAN ¾ INCH.
COMPOSTED MULCH AND COMPOST	NO VISIBLE WATER OR DUST DURING HANDLING. MUST BE PURCHASED FROM SUPPLIER WITH SOLID WASTE HANDLING PERMIT (UNLESS EXEMPT).	2" THICK MIN.; APPROX. 100 TONS PER ACRE (APPROX. 800 LBS PER YARD)	MORE EFFECTIVE CONTROL CAN BE OBTAINED BY INCREASING THICKNESS TO 3". EXCELLENT MULCH FOR PROTECTING FINAL GRADES UNTIL LANDSCAPING BECAUSE IT CAN BE DIRECTLY SEEDED OR TILLED INTO SOIL AS AN AMENDMENT. COMPOSTED MULCH HAS A COARSER SIZE GRADATION THAN COMPOST. IT IS MORE STABLE AND PRACTICAL TO USE IN WET AREAS AND DURING RAINY WEATHER CONDITIONS.
CHIPPED SITE VEGETATION	AVERAGE SIZE SHALL BE SEVERAL INCHES. GRADATIONS FROM FINES TO 6 INCHES IN LENGTH FOR TEXTURE, VARIATION, AND INTERLOCKING PROPERTIES.	2" MINIMUM THICKNESS	THIS IS A COST-EFFECTIVE WAY TO DISPOSE OF DEBRIS FROM CLEARING AND GRUBBING, AND IT ELIMINATES THE PROBLEMS ASSOCIATED WITH BURNING. GENERALLY, IT SHOULD NOT BE USED ON SLOPES ABOVE APPROX. 10% BECAUSE OF ITS TENDENCY TO BE TRANSPORTED BY RUNOFF. IT IS NOT RECOMMENDED WITHIN 200 FEET OF SURFACE WATERS. IF SEEDING IS EXPECTED SHORTLY AFTER MULCH, THE DECOMPOSITION OF THE CHIPPED VEGETATION MAY TIE UP NUTRIENTS IMPORTANT TO GRASS ESTABLISHMENT.
WOOD-BASED MULCH	NO VISIBLE WATER OR DUST DURING HANDLING. MUST BE PURCHASED FROM A SUPPLIER WITH A SOLID WASTE HANDLING PERMIT OR ONE EXEMPT FROM SOLID WASTE REGULATIONS.	2" THICK; APPROX. 100 TONS PER ACRE (APPROX. 800 LBS. PER CUBIC YARD)	THIS MATERIAL IS OFTEN CALLED "HOG OR HOGGED FUEL." IT IS USABLE AS A MATERIAL FOR STABILIZED CONSTRUCTION ENTRANCES (BMP C105) AND AS A MULCH. THE USE OF MULCH ULTIMATELY IMPROVES THE ORGANIC MATTER IN THE SOIL. SPECIAL CAUTION IS ADVISED REGARDING THE SOURCE AND COMPOSITION OF WOODBASED MULCHES. ITS PREPARATION TYPICALLY DOES NOT PROVIDE ANY WEED SEED CONTROL, SO EVIDENCE OF RESIDUAL VEGETATION IN ITS COMPOSITION OR KNOWN INCLUSION OF WEED PLANTS OR SEEDS SHOULD BE MONITORED AND PREVENTED (OR MINIMIZED).

WILLIAM N. TAYLOR — STATE OF WASHINGTON — 26198 — REGISTERED PROFESSIONAL ENGINEER

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

TESC NOTES AND STANDARD DETAILS

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C7 OF 8

BMP C105: Stabilized Construction Entrance / Exit

Purpose

Stabilized Construction entrances are established to reduce the amount of sediment transported onto paved roads by vehicles or equipment. This is done by constructing a stabilized pad of quarry spalls at entrances and exits for construction sites.

Conditions of Use

Construction entrances shall be stabilized wherever traffic will be entering or leaving a construction site if paved roads or other paved areas are within 1,000 feet of the site.

For residential construction provide stabilized construction entrances for each residence, rather than only at the main subdivision entrance. Stabilized surfaces shall be of sufficient length/width to provide vehicle access/parking, based on lot size/configuration.

On large commercial, highway, and road projects, the designer should include enough extra materials in the contract to allow for additional stabilized entrances not shown in the initial Construction SWPPP. It is difficult to determine exactly where access to these projects will take place; additional materials will enable the contractor to install them where needed.

Design and Installation Specifications

See Figure II-4.1.1 Stabilized Construction Entrance (p.273) for details. Note: the 100' minimum length of the entrance shall be reduced to the maximum practicable size when the size or configuration of the site does not allow the full length (100').

Construct stabilized construction entrances with a 12-inch thick pad of 4-inch to 8-inch quarry spalls, a 4-inch course of asphalt treated base (ATB), or use existing pavement. Do not use crushed concrete, cement, or calcium chloride for construction entrance stabilization because these products raise pH levels in stormwater and concrete discharge to surface waters of the State is prohibited.

A separation geotextile shall be placed under the spalls to prevent fine sediment from pumping up into the rock pad. The geotextile shall meet the following standards:

Grab Tensile Strength (ASTM D4751)	200 psi min.
Grab Tensile Elongation (ASTM D4632)	30% max.
Mullen Burst Strength (ASTM D3786-80a)	400 psi min.
AOS (ASTM D4751)	20-45 (U.S. standard sieve size)

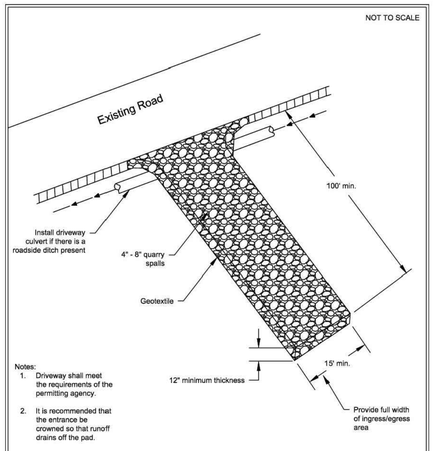
- Consider early installation of the first lift of asphalt in areas that will paved; this can be used as a stabilized entrance. Also consider the installation of excess concrete as a stabilized entrance. During large concrete pours, excess concrete is often available for this purpose.
- Fencing (see BMP C103: High Visibility Fence (p.269)) shall be installed as necessary to restrict traffic to the construction entrance.
- Whenever possible, the entrance shall be constructed on a firm, compacted subgrade. This can substantially increase the effectiveness of the pad and reduce the need for maintenance.
- Construction entrances should avoid crossing existing sidewalks and back of walk drains if at all possible. If a construction entrance must cross a sidewalk or back of walk drain, the full length of the sidewalk and back of walk drain must be covered and protected from sediment leaving the site.

Maintenance Standards

Quarry spalls shall be added if the pad is no longer in accordance with the specifications.

- If the entrance is not preventing sediment from being tracked onto pavement, then alternative measures to keep the streets free of sediment shall be used. This may include replacement/cleaning of the existing quarry spalls, street sweeping, an increase in the dimensions of the entrance, or the installation of a wheel wash.
- Any sediment that is tracked onto pavement shall be removed by shoveling or street sweeping. The sediment collected by sweeping shall be removed or stabilized on site. The pavement shall not be cleaned by washing down the street, except when high efficiency sweeping is ineffective and there is a threat to public safety. If it is necessary to wash the streets, the construction of a small sump to contain the wash water shall be considered. The sediment would then be washed into the sump where it can be controlled.
- Perform street sweeping by hand or with a high efficiency sweeper. Do not use a non-high efficiency mechanical sweeper because this creates dust and throws soils into storm systems or conveyance ditches.
- Any quarry spalls that are loosened from the pad, which end up on the roadway shall be removed immediately.
- If vehicles are entering or exiting the site at points other than the construction entrance(s), fencing (see BMP C103) shall be installed to control traffic.
- Upon project completion and site stabilization, all construction accesses intended as permanent access for maintenance shall be permanently stabilized.

Figure II-4.1.1 Stabilized Construction Entrance



DEPARTMENT OF ECOLOGY State of Washington

Figure II-4.1.1
Stabilized Construction Entrance
Revised June 2015

STABILIZED CONSTRUCTION ENTRANCE 1

BMP C235: Wattles

Purpose

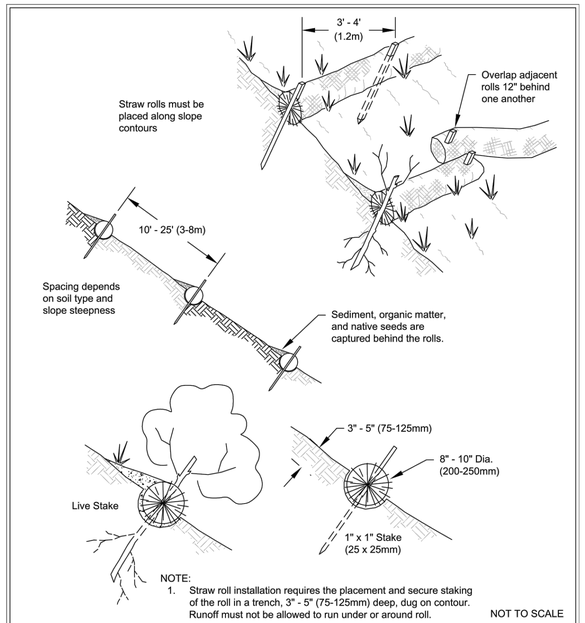
Wattles are temporary erosion and sediment control barriers consisting of straw, compost, or other material that is wrapped in netting made of natural plant fiber or similar encasing material. They reduce the velocity and can spread the flow of rill and sheet runoff, and can capture and retain sediment.

Conditions of Use

- Wattles shall consist of cylinders of plant material such as weed-free straw, coir, wood chips, excelsior, or wood fiber or shavings encased within netting made of natural plant fibers unaltered by synthetic materials.
- Use wattles:
  - In disturbed areas that require immediate erosion protection.
  - On exposed soils during the period of short construction delays, or over winter months.
  - On slopes requiring stabilization until permanent vegetation can be established.
- The material used dictates the effectiveness period of the wattle. Generally, wattles are effective for one to two seasons.
- Prevent rilling beneath wattles by entrenching and overlapping wattles to prevent water from passing between them.

Design Criteria

- See Figure II-3.24: Wattles for typical construction details.
- Wattles are typically 8 to 10 inches in diameter and 25 to 30 feet in length.
- Install wattles perpendicular to the flow direction and parallel to the slope contour.
- Place wattles in shallow trenches, staked along the contour of disturbed or newly constructed slopes. Dig narrow trenches across the slope (on contour) to a depth of 3- to 5-inches on clay soils and soils with gradual slopes. On loose soils, steep slopes, and areas with high rainfall, the trenches should be dug to a depth of 5- to 7- inches, or 1/2 to 2/3 of the thickness of the wattle.
- Start building trenches and installing wattles from the base of the slope and work up. Spread excavated material evenly along the uphill slope and compact it using hand tamping or other methods.



DEPARTMENT OF ECOLOGY State of Washington

Wattles

Revised December 2016

- Construct trenches at intervals of 10- to 25-feet depending on the steepness of the slope, soil type, and rainfall. The steeper the slope the closer together the trenches.
- Install the wattles snugly into the trenches and overlap the ends of adjacent wattles 12 inches behind one another.
- Install stakes at each end of the wattle, and at 4-foot centers along entire length of wattle.
- If required, install pilot holes for the stakes using a straight bar to drive holes through the wattle and into the soil.
- Wooden stakes should be approximately 0.75 x 0.75 x 24 inches min. Willow cuttings or 3/8-inch rebar can also be used for stakes.
- Stakes should be driven through the middle of the wattle, leaving 2 to 3 inches of the stake protruding above the wattle.

Maintenance Standards

- Wattles may require maintenance to ensure they are in contact with soil and thoroughly entrenched, especially after significant rainfall on steep sandy soils.
- Inspect the slope after significant storms and repair any areas where wattles are not tightly abutted or water has scoured beneath the wattles.

WATTLES 2

BMP C220: Storm Drain Inlet Protection

Purpose

Storm drain inlet protection prevents coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

Conditions of Use

Use storm drain inlet protection at inlets that are operational before permanent stabilization of the disturbed drainage area. Provide protection for all storm drain inlets downslope and within 500 feet of a disturbed or construction area, unless conveying runoff entering catch basins to a sediment pond or trap.

Also consider inlet protection for lawn and yard drains on new home construction. These small and numerous drains coupled with lack of gutters in new home construction can add significant amounts of sediment into the roof drain system. If possible delay installing lawn and yard drains until just before landscaping or cap these drains to prevent sediment from entering the system until completion of landscaping. Provide 18-inches of sod around each finished lawn and yard drain.

Table II-4.2.2 Storm Drain Inlet Protection (p.358) lists several options for inlet protection. All of the methods for storm drain inlet protection tend to plug and require a high frequency of maintenance. Limit drainage areas to one acre or less. Possibly provide emergency overflows with additional end-of-pipe treatment where stormwater ponding would cause a hazard.

Table II-4.2.2 Storm Drain Inlet Protection

Type of Inlet Protection	Emergency Overflow	Applicable for Paved/ Earthen Surfaces	Conditions of Use
Drop Inlet Protection			
Excavated drop inlet protection	Yes, temporary flooding will occur	Earthen	Applicable for heavy flows. Easy to maintain. Large area Requirement: 30'x30'/acre
Block and gravel drop inlet protection	Yes	Paved or Earthen	Applicable for heavy concentrated flows. Will not pond.
Gravel and wire drop inlet protection	No		Applicable for heavy concentrated flows. Will pond. Can withstand traffic.
Catch basin filters	Yes	Paved or Earthen	Frequent Maintenance required.
Curb Inlet Protection			
Curb inlet protection with wooden weir	Small capacity overflow	Paved	Used for sturdy, more compact installation.
Block and gravel curb inlet protection	Yes	Paved	Sturdy, but limited filtration.
Culvert Inlet Protection			
Culvert inlet Sediment trap			18 month expected life.

Maintenance Standards

- Inspect catch basin filters frequently, especially after storm events. Clean and replace clogged inserts. For systems with clogged stone filters: pull away the stones from the inlet and clean or replace. An alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

STORM DRAIN INLET PROTECTTION 3

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

TESC DETAILS

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C8 OF 8

BMP C233: Silt Fence

Purpose

Use of a silt fence reduces the transport of coarse sediment from a construction site by providing a temporary physical barrier to sediment and reducing the runoff velocities of overland flow. See Figure II-4.2.12 Silt Fence (p.369) for details on silt fence construction.

Conditions of Use

Silt fence may be used downslope of all disturbed areas.

- Silt fence shall prevent soil carried by runoff water from going beneath, through, or over the top of the silt fence, but shall allow the water to pass through the fence.
- Silt fence is not intended to treat concentrated flows, nor is it intended to treat substantial amounts of overland flow. Convey any concentrated flows through the drainage system to a sediment pond.
- Do not construct silt fences in streams or use in V-shaped ditches. Silt fences do not provide an adequate method of silt control for anything deeper than sheet or overland flow.

Figure II-4.2.12 Silt Fence

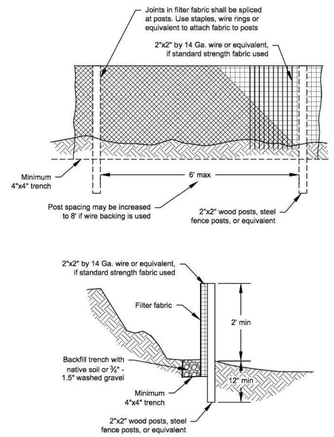


Figure II-4.2.12
Silt Fence

Revised October 2014

DEPARTMENT OF ECOLOGY
State of Washington

Design and Installation Specifications

- Use in combination with sediment basins or other BMPs.
- Maximum slope steepness (normal (perpendicular) to fence line) 1H:1V.
- Maximum sheet or overland flow path length to the fence of 100 feet.
- Do not allow flows greater than 0.5 cfs.
- The geotextile used shall meet the following standards. All geotextile properties listed below are minimum average roll values (i.e., the test result for any sampled roll in a lot shall meet or exceed the values shown in Table II-4.2.3 Geotextile Standards (p.370)):

Table II-4.2.3 Geotextile Standards

Polymeric Mesh AOS (ASTM D4751)	0.60 mm maximum for slit film woven (#30 sieve). 0.30 mm maximum for all other geotextile types (#50 sieve). 0.15 mm minimum for all fabric types (#100 sieve).
Water Permittivity (ASTM D4491)	0.02 sec^{-1} minimum
Grab Tensile Strength (ASTM D4632)	180 lbs. Minimum for extra strength fabric. 100 lbs minimum for standard strength fabric.
Grab Tensile Strength (ASTM D4632)	30% maximum
Ultraviolet Resistance (ASTM D4355)	70% minimum

- Support standard strength fabrics with wire mesh, chicken wire, 2-inch x 2-inch wire, safety fence, or jute mesh to increase the strength of the fabric. Silt fence materials are available that have synthetic mesh backing attached.
- Filter fabric material shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0°F. to 120°F.
- One-hundred percent biodegradable silt fence is available that is strong, long lasting, and can be left in place after the project is completed, if permitted by local regulations.
- Refer to Figure II-4.2.12 Silt Fence (p.369) for standard silt fence details. Include the following standard Notes for silt fence on construction plans and specifications:

1. The contractor shall install and maintain temporary silt fences at the locations shown in the Plans.
2. Construct silt fences in areas of clearing, grading, or drainage prior to starting those activities.
3. The silt fence shall have a 2-feet min. and a 2½-feet max. height above the original ground surface.
4. The filter fabric shall be sewn together at the point of manufacture to form filter fabric lengths as required. Locate all sewn seams at support posts. Alternatively, two sections of silt fence can be overlapped, provided the Contractor can demonstrate, to the satisfaction of the Engineer, that the overlap is long enough and that the adjacent fence sections are close enough together to prevent silt laden water from escaping through the fence at the overlap.
5. Attach the filter fabric on the up-slope side of the posts and secure with staples, wire, or in accordance with the manufacturer's recommendations. Attach the filter fabric to the posts in a manner that reduces the potential for tearing.
6. Support the filter fabric with wire or plastic mesh, dependent on the properties of the geotextile selected for use. If wire or plastic mesh is used, fasten the mesh securely to the up-slope side of the posts with the filter fabric up-slope of the mesh.
7. Mesh support, if used, shall consist of steel wire with a maximum mesh spacing of 2-inches, or a prefabricated polymeric mesh. The strength of the wire or polymeric mesh shall be equivalent to or greater than 180 lbs. grab tensile strength. The polymeric mesh must be as resistant to the same level of ultraviolet radiation as the filter fabric it supports.
8. Bury the bottom of the filter fabric 4-inches min. below the ground surface. Backfill and tamp soil in place over the buried portion of the filter fabric, so that no flow can pass beneath the fence and scouring cannot occur. When wire or polymeric back-up support mesh is used, the wire or polymeric mesh shall extend into the ground 3-inches min.
9. Drive or place the fence posts into the ground 18-inches min. A 12–inch min. depth is allowed if topsoil or other soft subgrade soil is not present and 18-inches cannot be reached. Increase fence post min. depths by 6 inches if the fence is located on slopes of 3H:1V or steeper and the slope is perpendicular to the fence. If required post depths cannot be obtained, the posts shall be adequately secured by bracing or guying to prevent overturning of the fence due to sediment loading.
10. Use wood, steel or equivalent posts. The spacing of the support posts shall be a maximum of 6-feet. Posts shall consist of either:
    - Wood with dimensions of 2-inches by 2-inches wide min. and a 3-feet min. length. Wood posts shall be free of defects such as knots, splits, or gouges.
    - No. 6 steel rebar or larger.
    - ASTM A 120 steel pipe with a minimum diameter of 1-inch.
    - U, T, L, or C shape steel posts with a minimum weight of 1.35 lbs./ft.
    - Other steel posts having equivalent strength and bending resistance to the post sizes listed above.
11. Locate silt fences on contour as much as possible, except at the ends of the fence, where the fence shall be turned uphill such that the silt fence captures the runoff water and prevents water from flowing around the end of the fence.
12. If the fence must cross contours, with the exception of the ends of the fence, place gravel check dams perpendicular to the back of the fence to minimize concentrated flow and erosion. The slope of the fence line where contours must be crossed shall not be steeper than 3H:1V.
    - Gravel check dams shall be approximately 1-foot deep at the back of the fence. Gravel check dams shall be continued perpendicular to the fence at the same elevation until the top of the check dam intercepts the ground surface behind the fence.
    - Gravel check dams shall consist of crushed surfacing base course, gravel backfill for walls, or shoulder ballast. Gravel check dams shall be located every 10 feet along the fence where the fence must cross contours.

Maintenance Standards

- Repair any damage immediately.
- Intercept and convey all evident concentrated flows uphill of the silt fence to a sediment pond.
- Check the uphill side of the fence for signs of the fence clogging and acting as a barrier to flow and then causing channelization of flows parallel to the fence. If this occurs, replace the fence or remove the trapped sediment.
- Remove sediment deposits when the deposit reaches approximately one-third the height of the silt fence, or install a second silt fence.
- Replace filter fabric that has deteriorated due to ultraviolet breakdown.

REINFORCED SILT FENCE 4

BMP C103: High Visibility Fence

Purpose

Fencing is intended to:

1. Restrict clearing to approved limits.
2. Prevent disturbance of sensitive areas, their buffers, and other areas required to be left undisturbed.
3. Limit construction traffic to designated construction entrances, exits, or internal roads.
4. Protect areas where marking with survey tape may not provide adequate protection.

Conditions of Use

To establish clearing limits plastic, fabric, or metal fence may be used:

- At the boundary of sensitive areas, their buffers, and other areas required to be left uncleared.
- As necessary to control vehicle access to and on the site.

Design and Installation Specifications

High visibility plastic fence shall be composed of a high-density polyethylene material and shall be at least four feet in height. Posts for the fencing shall be steel or wood and placed every 6 feet on center (maximum) or as needed to ensure rigidity. The fencing shall be fastened to the post every six inches with a polyethylene tie. On long continuous lengths of fencing, a tension wire or rope shall be used as a top stringer to prevent sagging between posts. The fence color shall be high visibility orange. The fence tensile strength shall be 360 lbs./ft. using the ASTM D4595 testing method.

If appropriate install fabric silt fence in accordance with BMP C233: Silt Fence (p.367) to act as high visibility fence. Silt fence shall be at least 3 feet high and must be highly visible to meet the requirements of this BMP.

Metal fences shall be designed and installed according to the manufacturer's specifications.

Metal fences shall be at least 3 feet high and must be highly visible.

Fences shall not be wired or stapled to trees.

Maintenance Standards

If the fence has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.

HIGH VISIBILITY FENCE 5

WILLIAM N. TAYLOR STATE OF WASHINGTON 26198 REGISTERED PROFESSIONAL ENGINEER

REV. NO	DATE	REVISED — DESTROY ALL PRINTS BEARING EARLIER DATE	REV. BY	CKD. BY	APRD BY

Cannon
1050 Southwood Drive
San Luis Obispo, CA 93401
P 805.544.7407 F 805.544.3863

LI RESIDENCE

TESC DETAILS

MERCER ISLAND, WASHINGTON

DRAWN BY	DATE	CA JOB NO.
SEM	3/14/2023	220418
CHECKED BY	SCALE	SHEET
KR	AS SHOWN	C9 OF 8

PROPOSED REPLACEMENT TREE

A DOUGLAS FIR

TREE REPLANTING PER MICC19.10

- TREES CAN BE REPLANTED BENEATH THE CANOPY OF EXISTING TREES.
-NEW TREES TO BE PLANTED NO LESS THAN 10 FEET FROM OTHER TREES, FENCES, STRUCTURES OR UTILITIES
-50% OF NEW REPLACEMENT TREES TO BE NATIVE SPECIES
-CONIFEROUS REPLACEMENT TREES MUST BE MIN. 6 FEET TALL
-DECIDUOUS REPLACEMENT TREES MUST BE MIN. 1.5" DIA
-REMOVING TREES LESS THAN 10" REQUIRES (1) REPLACEMENTS
- REMOVING TREES 10" UP TO 24" REQUIRES (2) REPLACEMENTS

TREE WATERING

AN IRRIGATION DRIP LINE / RING SYSTEM WILL BE PROVIDED FOR WATERING NEWLY PLANTED REPLACEMENT TREES.

ARBORIST REPORT

SEE ATTACHED ARBORIST REPORT FOR ADDITIONAL TREE PROTECTION AND ADDITIONAL INFORMATION

PROPOSED TREE TO BE REMOVED / REQ'D REPLACEMENT

NO.	SPECIES	SIZE	REASON FOR REMOVAL	REQ'D REPLANTING
#1	CHERRY	17"	NEW CONSTRUCTION ACTIVITY	2
#2	APPLE	9"	NEW CONSTRUCTION ACTIVITY	1
#12	CHERRY	14"	NEW CONSTRUCTION ACTIVITY	2
#103	PLUM	18"	UNHEALTHY / NON-VIABLE	0
#104	PLUM	14"	UNHEALTHY / NON-VIABLE	0
#105	PLUM	14"	UNHEALTHY / NON-VIABLE	0
#106	PLUM	15"	NEW CONSTRUCTION ACTIVITY	2
#107	PLUM	8"	UNHEALTHY / NON-VIABLE	0
#108	APPLE	10"	NEW CONSTRUCTION ACTIVITY	1
#109	APPLE	8"	NEW CONSTRUCTION ACTIVITY	1
TOTAL REQUIRED TREE REPLACEMENT				9

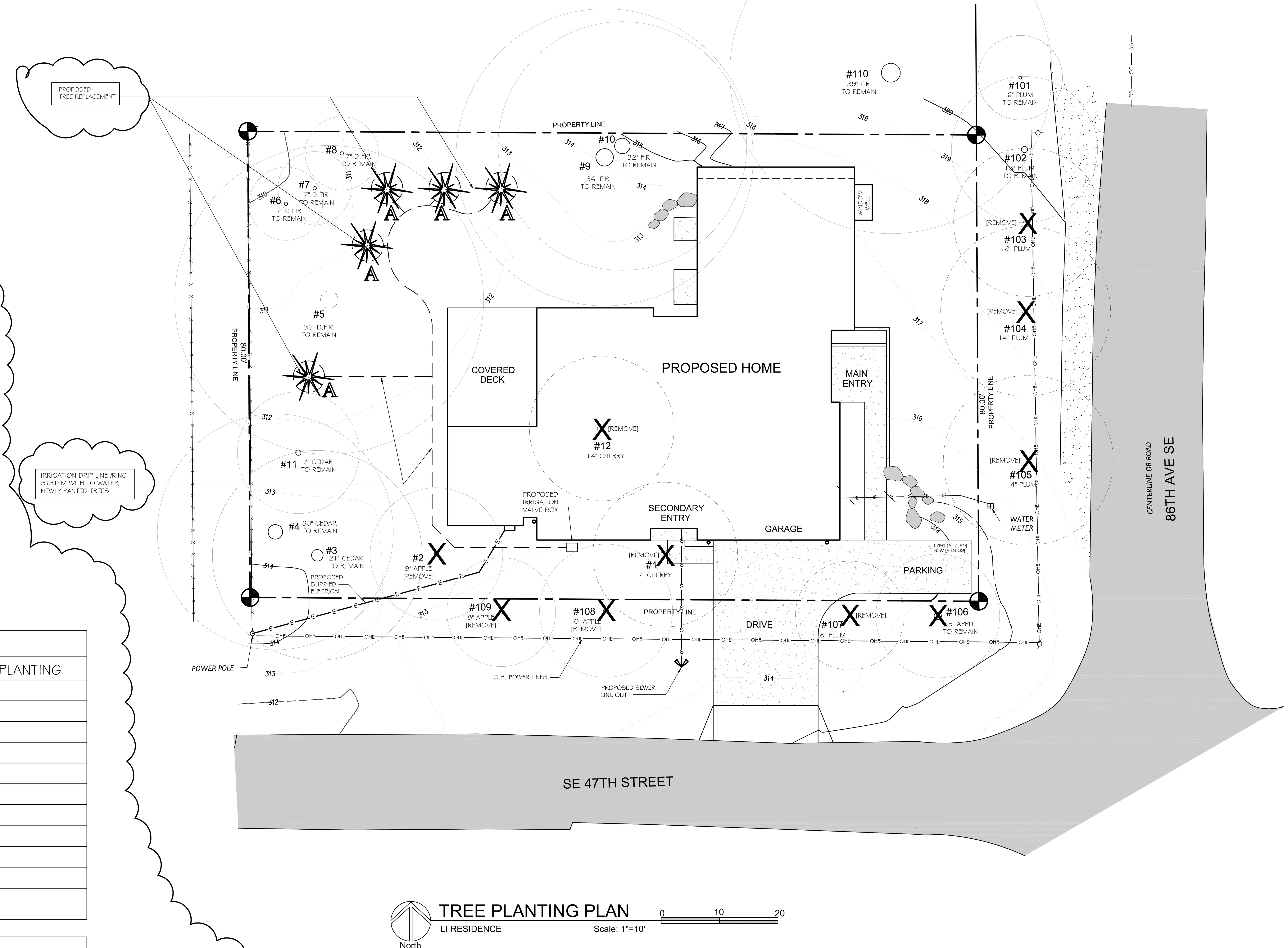
PROPOSED TREE TO BE PLANTED

-(5) TREES ARE PROPOSED TO BE REPLANTED WITHIN THE PROPERTY UNDER THE EXISTING TREES CANOPY 10' FROM EXISTING TREES, STRUCTURES AND FENCES. THIS STILL ALLOWS FOR A COMFORTABLE REAR YARDS SPACE FOR LAWN AND LANDSCAPE.

FEE IN LIEU OF REPLACEMENT

-(4) TREES ARE SELECTED FOR FEE IN LIEU OF"

EXISTING UTILITIES LOCATED IN THE ROW LIMIT THE AREA OF REPLANTING AND THE HOME OWNER WISHED NOT TO HAVE TREES LOCATED UNDER POWER LINES THAT WILL EVENTUALLY REQUIRE UNSIGHTLY PRUNING AND TRIMMING.



TREE PLANTING PLAN
LI RESIDENCE
Scale: 1"=10'

PROPOSED TREE TO BE PLANTED

PLANT ID	QUANTITY	REPLANTING TREE LIST	SIZE	SPECIES
A	5	DOUGLAS FIR	6 FT TALL MIN.	NATIVE
TOTAL	5			

△ TREE

Misc. Info:

1. FINAL CD SET 10-14-2022
2. PERMIT REV 03-20-2023
3.
4.
5.

PERMIT SET

lure. DESIGN SOLUTIONS
Shawn Sullivan
Designer

LI RESIDENCE
CUSTOM RESIDENCE
4657 86TH AVE. SE
MERCER ISLAND, WA 98040

TREE REPLANTING PLAN

DATE:	01-04- 2022
DESIGNED:	SLS
DRAWN:	SLS
JOB NO:	2022- 01
SHEET:	L1.0