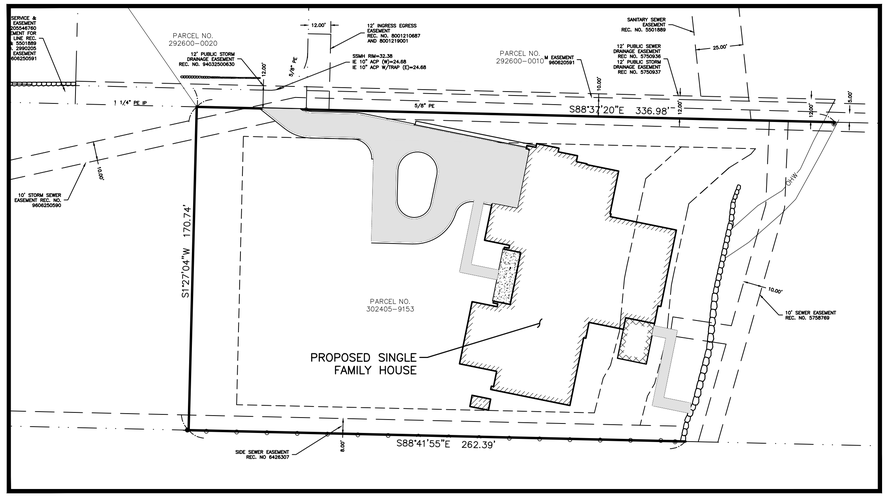
KONERU SINGLE FAMILY RESIDENCE (PERMIT NO. 2112-250)

6610 EAST MERCER WAY
MERCER ISLAND, WA. 98040

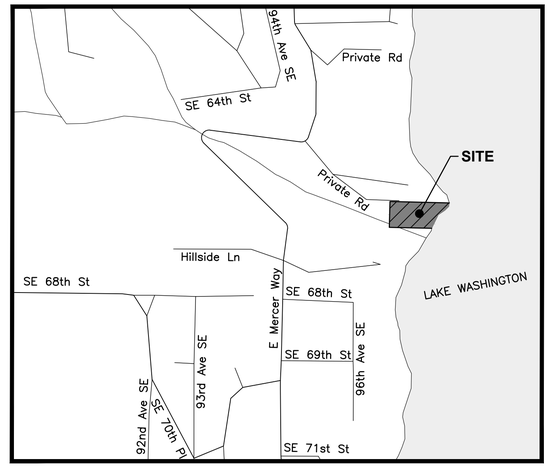
PACE
An Engineering Services Company

PROJECT CONTACTS	
OWNER/APPLICANT:	DHEERAJ KONERU
	7002 93RD AVENUE SE MERCER ISLAND, WA 98040
ENGINEER/SURVEY:	PACE ENGINEERS, INC.
	11255 KIRKLAND WAY, SUITE 300 KIRKLAND, WA 98033 JOHN ANDERSON, PE BILL HAWKINS, PLS PHONE: (425) 827-2014 EMAIL: JOHNA@PACEENGRS.COM BILLH@PACEENGRS.COM
ARBORIST:	TREE 133, LLC
	12408 17TH AVENUE NE SEATTLE, WA. 98125 CRAIG BACHMANN, CERTIFIED ARBORIST PHONE: (206) 745-0473 ARBORIST@TREE133.COM
GEOTECHNICAL:	GEOTECH CONSULTANTS, INC.
	2401 10TH AVENUE E. SEATTLE, WA 98102 MARC MCGINNIS, PE PHONE: (425) 747-5618 EMAIL:



SITE MAP
SCALE: 1"=40'

N



VICINITY MAP
1"=500'

N

SHEET INDEX	
SHEET NO.	SHEET TITLE
C0.0	COVER
C0.1	NOTES
C1.0	EXISTING CONDITIONS
C2.0	TESC PLAN
C2.1	TESC DETAILS
C3.0	STORM & GRADING PLAN
C4.0	UTILITY PLAN
C4.1	UTILITY DETAILS
L1.0	TREE RETENTION PLAN

PROJECT INFORMATION	
SITE DATA	
ADDRESS:	6610 EAST MERCER WAY
PARCEL NUMBER:	3024059153
PARCEL AREA:	50,094 SF
LEGAL DESCRIPTION:	THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF. TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1. TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED. SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON
ZONING SUMMARY	
EXISTING ZONING:	R-15
MINIMUM LOT SIZE:	15,000 SQ. FT.
MAXIMUM HEIGHT:	30' ABOVE ABE
MAX. LOT COVERAGE:	LOT 1 13,588 SQ. FT.
BUILDING SETBACKS	
SIDE:	SUM 15' WITH 5' MIN.
REAR:	25
FRONT:	20

PROJECT INFORMATION		
DEVELOPMENT SUMMARY		
PROPOSED NUMBER LOTS:	1	
NUMBER OF DWELLING UNITS:	1	
GROSS SITE AREA:	50,094	SQ. FT.
NET SITE AREA:	50,094	SQ. FT.
EXISTING IMPERVIOUS AREA:	9,073	SQ. FT.
PROPOSED IMPERVIOUS AREA:	13,527	SQ. FT.

CITY OF MERCER ISLAND FILE NUMBER	
PRE-SUBMITTAL CONFERENCE NUMBER:	PRE21-023

UTILITY PURVEYORS	
WATER:	CITY OF MERCER ISLAND
SEWER:	CITY OF MERCER ISLAND
ELECTRICITY:	PUGET SOUND ENERGY
GAS:	PUGET SOUND ENERGY
TELEPHONE:	CENTURY LINK
CABLE:	CENTURY LINK/XFINITY
SCHOOL DISTRICT:	MERCER ISLAND SCHOOL DISTRICT

EARTHWORK SUMMARY	
APPROX. CUT	464 CY
APPROX. FILL	1251 CY
NET	787 CY FILL

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

DATE
REVISION
SYM

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An Engineering Services Company
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26878
REGISTERED
PROFESSIONAL ENGINEER

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7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

COVER SHEET

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SCALE:	DATE:
AS SHOWN	05/11/22
DESIGNED BY:	CHECKED BY:
MA	JA

PACE PROJECT NO. 21436.00

SHEET C0.0

FILE NAME: P:\P\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\P21436_CVR-SFR.DWG
SAVE TIME: 5/09/2022 11:18:39 PM PLOT TIME: 6/10/2022 7:33 PM
USER NAME: JAY PULLEN
XREF FILES: P21436_BDR.dwg P21436_SITE.dwg Y21436-SRV.dwg 9433-11-SRV.dwg Y21436_JH.dwg

DRAINAGE NOTES:

1. PROOF OF LIABILITY INSURANCE SHALL BE SUBMITTED TO CITY PRIOR TO THE PRECONSTRUCTION MEETING.

2. ALL PIPE AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH WSDOT 7-02.3(1). THIS SHALL INCLUDE LEVELING AND COMPACTING THE TRENCH BOTTOM, THE TOP OF THE FOUNDATION MATERIAL, AND ANY REQUIRED PIPE BEDDING, TO A UNIFORM GRADE SO THAT THE ENTIRE PIPE IS SUPPORTED BY A UNIFORMLY DENSE UNYIELDING BASE.

3. STEEL PIPE SHALL BE GALVANIZED AND HAVE ASPHALT TREATMENT #1 OR BETTER INSIDE AND OUTSIDE

4. ALL DRAINAGE STRUCTURES, SUCH AS CATCH BASINS AND MANHOLES, NOT LOCATED WITHIN A TRAVELED ROADWAY OR SIDEWALK, SHALL HAVE SOLID LOCKING LIDS. ALL DRAINAGE STRUCTURES ASSOCIATED WITH A PERMANENT RETENTION/DETENTION FACILITY SHALL HAVE SOLID LOCKING LIDS.

5. ALL CATCH BASIN GRATES SHALL CONFORM TO WSDOT DRAWING NUMBERS B-35.20-00 AND B-35.40-00, WHICH INCLUDES THE STAMPING "OUTFALL TO STREAM, DUMP NO POLLUTANTS".

6. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED,MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1 FOOT, AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"- 8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; AND -2" ROCK/10%-20% PASSING. INSTALLATION SHALL BE IN ACCORDANCE WITH WSDOT STANDARDS

PERMANENT SEEDING NOTES

1. SEEDING SHOULD BE DONE IMMEDIATELY AFTER FINAL SHAPING IF COMPLETED DURING THE PERIODS OF APRIL 1 THROUGH JUNE 30 AND SEPTEMBER 1 THROUGH OCTOBER 1 (IF PLANTED BETWEEN JULY 1 AND AUGUST 31 IRRIGATION MAY BE REQUIRED). SITES WHICH CANNOT BE SEEDED DURING THIS TIME PERIOD SHOULD BE PROTECTED UNTIL THE NEXT SEEDING PERIOD WITH MULCH.

2. PERMANENT VEGETATION MAY BE IN THE FORM OF GRASS SEED MIXTURES, SOD, OR WETLANDS SEED/TUBER MIXTURES. SEED ESTABLISHMENT SHALL INCLUDE THE USE OF SUPPLEMENTAL MATERIALS, SUCH AS MULCH.

3. SITE PREPARATION - INSTALL ALL REQUIRED SURFACE WATER CONTROL MEASURES.

4. SEEDBED PREPARATION MAY INCLUDE THE FOLLOWING:

   A. IF INFERTILE OR COARSE TEXTURED SUBSOIL WILL BE EXPOSED DURING GRADING, STOCKPILE TOPSOIL AND RE-SPREAD IT OVER THE FINISHED SLOPE AND ROLL IT TO PROVIDE A FIRM SEEDBED.

   B. IF CONSTRUCTION FILLS HAVE LEFT SOIL EXPOSED WITH A LOOSE, ROUGH, OR IRREGULAR SURFACE, TRACK WALK UP SLOPE.

   C. IF CUTS OR CONSTRUCTION EQUIPMENT HAVE LEFT A TIGHTLY COMPACTED SURFACE, BREAK WITH CHISEL PLOW OR OTHER SUITABLE IMPLEMENT. PERFORM ALL CULTURAL OPERATIONS ACROSS OR AT RIGHT ANGLES TO THE SLOPES (CONTOURED). THE SEEDBED SHOULD BE FIRM WITH A FAIRLY FINE SURFACE AFTER ROUGHENING.

5. FERTILIZATION - IN GENERAL, 10-20-20 N-P-K FERTILIZER AT A RATE OF 90 LBS./ACRE. DEVELOPMENTS ADJACENT TO WATER BODIES AND WETLANDS MUST USE SLOW RELEASE LOW-PHOSPHORUS FERTILIZER (TYPICAL 3-1-2 N-P-K).

6. "HYDROSEEDING" APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED, AS LONG AS TACKIFIER IS INCLUDED.

7. SEEDING - APPLY APPROPRIATE MIXTURE TO THE PREPARED SEEDBED AT A RATE OF 120 LBS./ACRE. COVER THE SEED WITH TOPSOIL OR MULCH NO DEEPER THAN 1/2 INCH.

8. INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RE-SEEDINGS IMMEDIATELY.
   A. IF VEGETATIVE COVER IS INADEQUATE TO PREVENT RILL EROSION, OVERSEED AND FERTILIZE IN ACCORDANCE WITH SOIL TEST.

   B. IF A STAND HAS LESS THAN 40% COVER, REEVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. RE-ESTABLISH THE STAND FOLLOWING SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS, OMITTING LIME AND FERTILIZER IN THE ABSENCE OF SOIL TEST RESULTS.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MERCER ISLAND STANDARDS, AND THE CITY CONDITIONS OF APPROVAL. IT SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICANT AND THE PROFESSIONAL CIVIL ENGINEER TO CORRECT ANY ERROR, OMISSION, OR VARIATION FROM THE ABOVE REQUIREMENTS FOUND IN THESE PLANS. ALL CORRECTIONS SHALL BE AT NO ADDITIONAL COST OR LIABILITY TO KING COUNTY.

2. BEFORE ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY, A PRE-CONSTRUCTION MEETING MUST BE HELD BETWEEN THE CITY INSPECTION UNIT, THE APPLICANT, AND THE APPLICANT'S CONSTRUCTION REPRESENTATIVE.

3. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS. CONSTRUCTION NOISE SHALL BE LIMITED AS PER CODE; NORMALLY, THIS IS 7 A.M. TO 10 P.M. WEEKDAYS AND 9 A.M. TO 10 P.M. ON WEEKENDS.

4. IT SHALL BE THE APPLICANT'S/CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION EASEMENTS NECESSARY BEFORE INITIATING OFF-SITE WORK WITHIN THE ROAD RIGHTS-OF-WAY. DATUM SHALL BE KCAS UNLESS OTHERWISE APPROVED BY THE CITY. GROUNDWATER SYSTEM CONSTRUCTION SHALL BE WITHIN A RIGHT-OF-WAY OR APPROPRIATE DRAINAGE EASEMENT, BUT NOT UNDERNEATH THE ROADWAY SECTION. ALL GROUNDWATER SYSTEMS MUST BE CONSTRUCTED IN ACCORDANCE WITH SECTION B1 3.02 OF THE APWA STANDARD SPECIFICATIONS.

5. ALL UTILITY TRENCHES SHALL BE BACK FILLED AND COMPACTED TO 95 PERCENT DENSITY.

6. OPEN CUTTING OF EXISTING ROADWAYS IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE CITY AND NOTED ON THESE APPROVED PLANS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS 1-07.23 - TRAFFIC CONTROL, SHALL APPLY.

EMBANKMENT NOTES

1. EMBANKMENTS SHALL BE CONSTRUCTED IN ALL ASPECTS TO THE PROVISIONS OF SECTION 2.03 OF THE WSDOT / APWA STANDARD SPECIFICATIONS.

2. COMPACTION OF THE TOP TWO FEET OF FILL SUBGRADE AND TOP SIX INCHES OF CUT SUBGRADE SHALL MEET A MINIMUM 95% MAXIMUM DENSITY IN ACCORDANCE WITH WSDOT / APWA STANDARD SPECIFICATION SECTION 2-03.3(14)C - METHOD B. SUBGRADE FILL BELOW THE TOP TWO FEET SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY.

3. IN CASES WHERE TESTS DO NOT MEET THE MINIMUM STANDARD, CORRECTIVE ACTION SHALL BE TAKEN SUCH AS ADDING WATER, AERATING, REPLACING MATERIAL, OR APPLYING MORE COMPACTIVE EFFORT AS DIRECTED BY THE DEVELOPERS GEOTECHNICAL ENGINEER. RETESTS SHALL SHOW PASSING DENSITIES PRIOR TO PLACING THE NEXT LIFT OF SUBGRADE FILL.

4. IMMEDIATELY UPON COMPLETING EMBANKMENT CONSTRUCTION, THE SIDESLOPES SHALL BE SEEDED WITH A KING COUNTY APPROVED EROSION CONTROL SEED MIX AND JUTE MATTING PLACED AND ANCHORED PER MANUFACTURER. NO FERTILIZER SHALL BE USED. 5. SIDESLOPES SHALL NOT EXCEED 2:1 WITHOUT RECEIVING PRIOR APPROVAL FROM THE DEVELOPER'S GEOTECHNICAL ENGINEER.

GRADING NOTES:

1. ALL CUT MATERIAL GENERATED DURING THE PROJECT THAT IS NOT ACCEPTABLE FOR USE AS COMPACTED FILL MATERIAL AT ANOTHER LOCATION ON-SITE MUST BE HAULED TO AN APPROVED LOCATION OFF-SITE.

2. ALL TEMPORARY OR PERMANENT SLOPES SHALL NOT EXCEED 2H:1V UNLESS APPROVED BY A GEOTECHNICAL ENGINEER.

3. FILL MATERIAL PLACED UNDER BUILDING FOUNDATIONS OR PAVEMENT SHALL BE CRUSHED BASE ROCK OR COMPACTED STRUCTURAL FILL IN ACCORDANCE TO WSDOT STANDARD SPECIFICATIONS.

4. ROCKERY AND/OR RETAINING WALLS GREATER THAN FOUR (4) FEET IN HEIGHT REQUIRES A BUILDING PERMIT FROM THE CITY OF MERCER ISLAND.

5.

6. IT WILL BE THE PERMITEE'S RESPONSIBILITY TO SUCCESSFULLY CAP AND ABANDON ALL EXISTING UTILITIES WITHIN THE DEVELOPMENT IN ACCORDANCE TO THE GOVERNING UTILITY AGENCY.

7. ALL STRUCTURAL FILL AND BACKFILL AREAS MUST BE INSPECTED AND APPROVED AFTER STRIPPING AND PRIOR TO PLACING FILL, BY THE PROJECT GEOTECHNICAL ENGINEER OR DESIGNATED REPRESENTATIVE. PROPER FILL PLACEMENT AND COMPACTION SHALL BE VERIFIED WITH FIELD AND LABORATORY DENSITY TESTING BY THE GEOTECHNICAL ENGINEER OR A QUALIFIED TESTING LABORATORY. WRITTEN CERTIFICATION OF ALL APPROVALS SHALL BE GIVEN TO THE KING COUNTY SITE INSPECTOR.

ADDITIONAL NOTES

1. THIS PLAN MAY NOT SHOW THE LOCATION OF ALL EXISTING UTILITIES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.

2. THE CONTRACTOR SHALL EXPOSE ALL EXISTING PIPING THAT WILL BE CONNECTED TO WITH NEW PIPING. DEPTH, LOCATION, AND CONDITION SHALL BE RELAYED TO THE ENGINEER IF CONDITIONS VARY SIGNIFICANTLY FROM WHAT IS DETAILED OR ANTICIPATED.

STRUCTURAL NOTES

1. ROCKERIES ARE CONSIDERED TO BE A METHOD OF BANK STABILIZATION AND EROSION CONTROL. ROCKERIES SHALL NOT BE CONSTRUCTED TO SERVE AS RETAINING WALLS. ALL ROCKERIES SHALL BE DESIGNED. SEE DETAIL INCLUDED IN PLAN SET.

EROSION AND SEDIMENT CONTROL NOTES:

1. APPROVAL OF THIS EROSION AND SEDIMENT 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, ETC.).

2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/ESC SUPERVISOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED BY A CONTINUOUS LENGTH OF SURVEY TAPE (OR FENCING, IF REQUIRED) PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE APPLICANT/ESC SUPERVISOR FOR THE DURATION OF CONSTRUCTION.

4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING SO AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.

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 MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G. ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).

6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/ESC SUPERVISOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE TESC FACILITIES DURING THE WET SEASON (OCT. 1 TO APRIL 30) AND OF MONTHLY REVIEWS DURING THE DRY SEASON (MAY 1 TO SEPT. 30).

7. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G., SEEDING, MULCHING, PLASTIC COVERING, ETC.).

8. ANY AREA NEEDING ESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.

9. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

10. AT NO TIME SHALL MORE THAN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.

11. STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

12. ANY PERMANENT FLOW CONTROL FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION SYSTEM, THE TEMPORARY FACILITY MUST BE GRADED SO THAT THE BOTTOM AND SIDES ARE AT LEAST THREE FEET ABOVE THE FINAL GRADE OF THE PERMANENT FACILITY.

13. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO TO THREE INCHES.

14. PRIOR TO THE BEGINNING OF THE WET SEASON (OCT. 1), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. DISTURBED AREAS SHALL BE SEEDED WITHIN ONE WEEK OF THE BEGINNING OF THE WET SEASON. A SKETCH MAP OF THOSE AREAS TO BE SEEDED AND THOSE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE DDES INSPECTOR. THE DDES INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

SEEDING NOTES

TEMPORARY SEED MIX	WEIGHT	PURITY	GERMINATION
CHEWINGS OR RED FESCUE FESTUCA RUBRA VAR. COMMUTATA OR FESTUCA RUBRA	40%	98%	90%
ANNUAL OR PERENNIAL RYE LOLIUM MULTIFLORUM OR LOLIUM PERENN	40%	98%	90%
RED TOP OR COLONIAL BENTGRASS AGROSTIS ALBA OR AGROSTIS TENUIS	10%	92%	85%
WHITE DUTCH CLOVER TRIFOLIUM REPENS	10%	92%	85%

LANDSCAPE SEED MIX	WEIGHT	PURITY	GERMINATION
CHEWINGS OR RED FESCUE FESTUCA RUBRA VAR. COMMUTATA OR FESTUCA RUBRA	40%	98%	90%
PERENNIAL RYE BLEND LOLIUM PERENNE	40%	98%	90%

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

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GENERAL NOTES

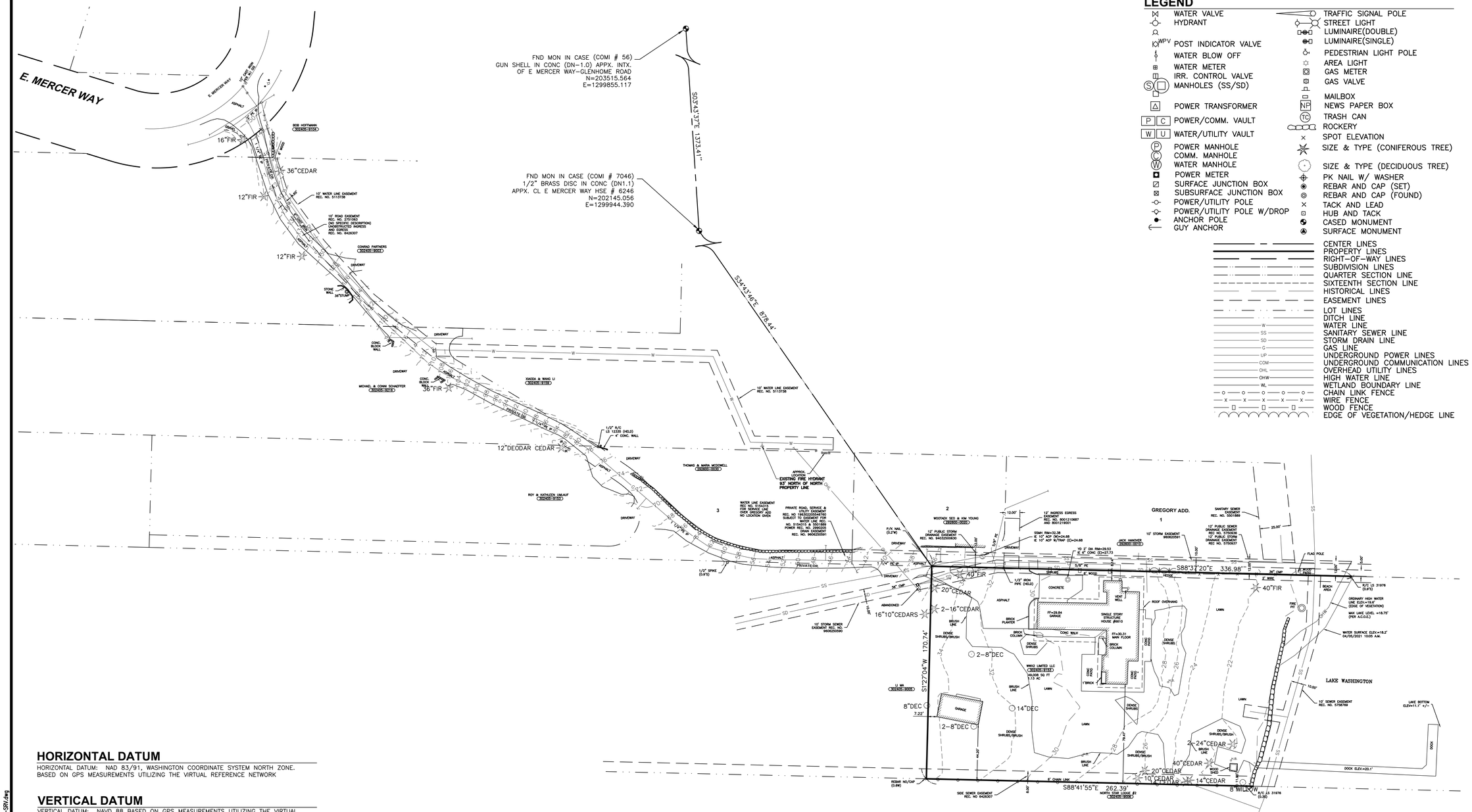
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SCALE:	DATE:
AS SHOWN	05/11/22
DESIGNED BY:	CHECKED BY:
MA	JA

PACE PROJECT NO. 21436.00

SHEET C0.1

FILE NAME: P:\P21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\GFR BUILDING PERMIT\P21436_CVR-SFR.DWG
SAVE TIME: 5/26/2022 11:16:58 PM PLOT TIME: 6/10/2022 4:33 PM
USER NAME: JAY PULLEN
XREF FILES: 21436_BDR.dwg P21436_SITE.dwg P21436-SFR.dwg 9433-11-SFR.dwg P21436_JHA.dwg



LEGEND

- WATER VALVE
- HYDRANT
- WPV POST INDICATOR VALVE
- WATER BLOW OFF
- WATER METER
- IRR. CONTROL VALVE
- MANHOLES (SS/SD)
- POWER TRANSFORMER
- P C POWER/COMM. VAULT
- W U WATER/UTILITY VAULT
- POWER MANHOLE
- COMM. MANHOLE
- WATER MANHOLE
- POWER METER
- SURFACE JUNCTION BOX
- SUBSURFACE JUNCTION BOX
- POWER/UTILITY POLE
- POWER/UTILITY POLE W/DROP
- ANCHOR POLE
- GUY ANCHOR
- TRAFFIC SIGNAL POLE
- STREET LIGHT
- LUMINAIRE(DOUBLE)
- LUMINAIRE(SINGLE)
- PEDESTRIAN LIGHT POLE
- AREA LIGHT
- GAS METER
- GAS VALVE
- MAILBOX
- NP NEWS PAPER BOX
- TC TRASH CAN
- ROCKERY
- SPOT ELEVATION
- SIZE & TYPE (CONIFEROUS TREE)
- SIZE & TYPE (DECIDUOUS TREE)
- PK NAIL W/ WASHER
- REBAR AND CAP (SET)
- REBAR AND CAP (FOUND)
- TACK AND LEAD
- HUB AND TACK
- CASED MONUMENT
- SURFACE MONUMENT
- CENTER LINES
- PROPERTY LINES
- RIGHT-OF-WAY LINES
- SUBDIVISION LINES
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- HISTORICAL LINES
- EASEMENT LINES
- LOT LINES
- DITCH LINE
- W WATER LINE
- SS SANITARY SEWER LINE
- SD STORM DRAIN LINE
- G GAS LINE
- UP UNDERGROUND POWER LINES
- COM UNDERGROUND COMMUNICATION LINES
- OHL OVERHEAD UTILITY LINES
- OHW HIGH WATER LINE
- WL WETLAND BOUNDARY LINE
- CHAIN LINK FENCE
- WIRE FENCE
- WOOD FENCE
- EDGE OF VEGETATION/HEDGE LINE

HORIZONTAL DATUM

HORIZONTAL DATUM: NAD 83/91, WASHINGTON COORDINATE SYSTEM NORTH ZONE.
BASED ON GPS MEASUREMENTS UTILIZING THE VIRTUAL REFERENCE NETWORK

VERTICAL DATUM

VERTICAL DATUM: NAVD 88 BASED ON GPS MEASUREMENTS UTILIZING THE VIRTUAL REFERENCE NETWORK AND GEOID 2012A MODEL.

ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS OTHERWISE NOTED.

THE LOCATION AND DESCRIPTION OF ALL SURVEY MARKERS SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS TAKEN IN APRIL, 2021, UNLESS OTHERWISE INDICATED.

WORK PERFORMED IN CONJUNCTION WITH THIS SURVEY UTILIZED THE FOLLOWING EQUIPMENT AND PROCEDURES: (A) 1" TRIMBLE S7 SERIES ELECTRONIC TOTAL STATION, MAINTAINED TO THE MANUFACTURER'S SPECIFICATIONS PER W.A.C. 332-130-100. (B) FIELD TRAVERSE, EXCEEDING REQUIREMENTS SET FORTH IN W.A.C. 332-130-090. (C) LEASE SQUARE ADJUSTMENT USING StarNet VERSION 9.0 EXCEEDING REQUIREMENTS PER W.A.C. 332-130-080.

THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT PURPORT TO SHOW ALL EASEMENTS.

THIS TOPOGRAPHIC SURVEY DRAWING ACCURATELY PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY UPON INFORMATION PROVIDED BY OTHERS AND PACE ENGINEERS, INC. DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THEIR ACCURACY OR COMPLETENESS. CONTRACTOR/ENGINEERS SHALL VERIFY EXACT SIZE AND LOCATION PRIOR TO CONSTRUCTION.
CALL FOR LOCATE: UTILITY LOCATION SERVICE: 811

RECORD LEGAL DESCRIPTION:

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1.

TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

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

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

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JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

EXISTING CONDITIONS

VERIFY SCALE
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SCALE:	DATE:
AS SHOWN	05/11/22
DESIGNED BY:	CHECKED BY:
MA	JA
PACE PROJECT NO. 21436.00	

SHEET C1.0

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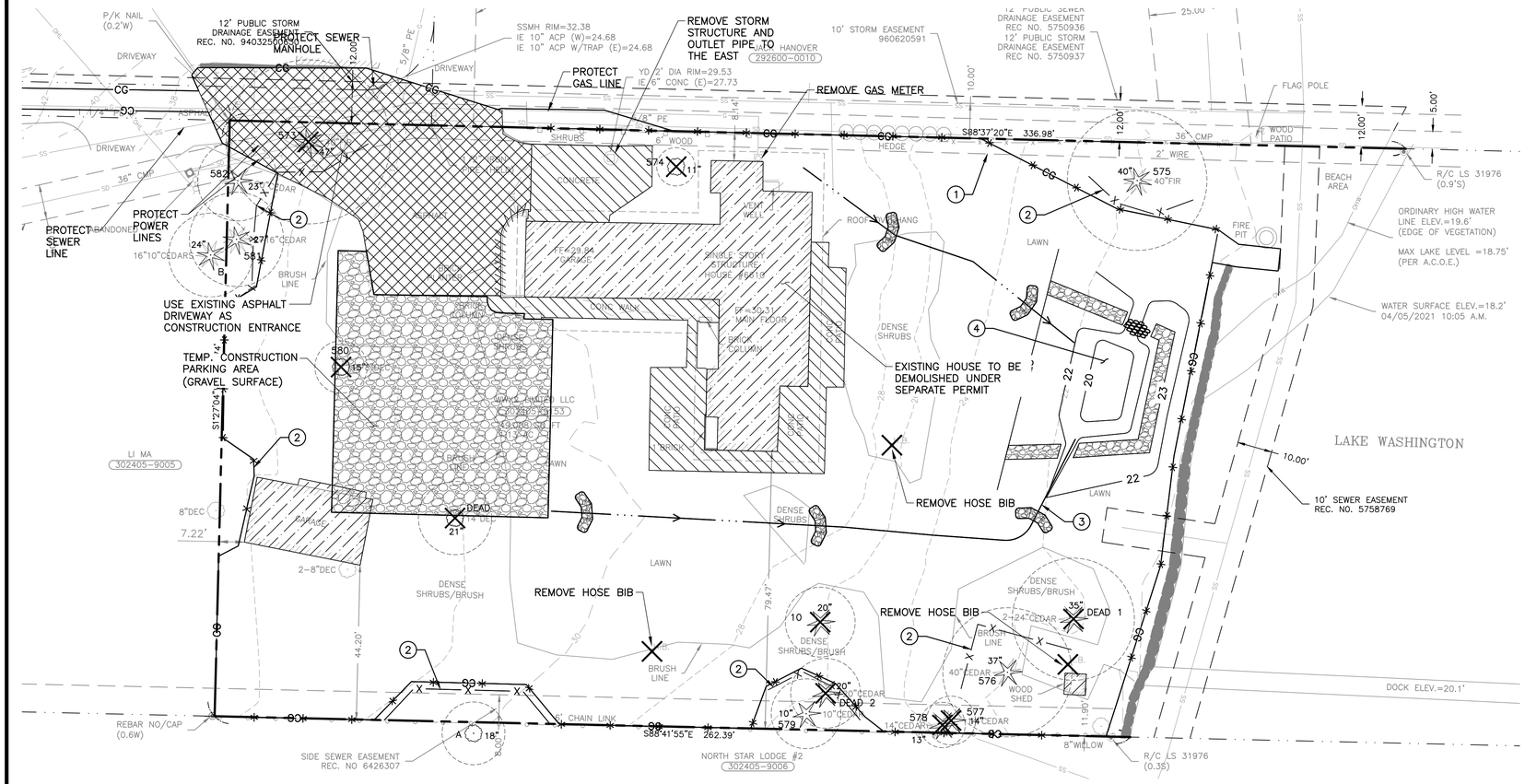

LEGEND:

- INLET PROTECTION
- SILT FENCE
- CLEARING AND GRADING LIMITS (CG)
- TREE PROTECTION FENCE PER CITY OF MERCER ISLAND DETAIL ON SEE SHEET C2.1 (X)
- INTERCEPTOR SWALE
- DEMOLISH FEATURE
- STRUCTURE TO BE DEMOLISHED
- PAVEMENT TO BE REMOVED
- CONCRETE TO BE REMOVED
- OBJECT TO BE REMOVED
- ROCK CHECK DAM PER DOE DETAIL ON SHEET C2.1
- TEMPORARY SEDIMENT TRAP

GENERAL NOTES:

1. PRIOR TO ORDERING MATERIALS AND CONSTRUCTION, THE CONTRACTOR SHALL REVIEW THE PROJECT PLANS AND SITE CONDITIONS AND IDENTIFY IF ANY CONFLICTS EXIST. THE CONTRACTOR SHALL CALL "ONE-CALL" AND IDENTIFY AND ABOVE OR BELOW GRADE FEATURES ARE IN CONFLICT WITH THE PLANS. IF CONFLICTS EXIST CONTACT PACE ENGINEERS (425) 827-2014 WITH THE HORIZONTAL AND VERTICAL LOCATION OF THE CONFLICTS.
2. ALL WORK SHALL BE PERFORMED PER THE MOST CURRENT VERSION OF THE CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS AS PROVIDED IN THIS PLAN SET.
3. SITE INPSECTIONS SHALL BE CONDUCTED BY A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) WHO SHALL BE PRESENT ON-SITE OR ON-CALL AT ALL TIMES.

PROJECT CESCL:_____

PHONE: _____

EROSION CONTROL NOTES:

1. INSTALL SILT FENCE AT CLEARING LIMITS PER DETAIL X.XX ON SHEET C2.1.
2. INSTALL TREE PROTECTION FENCING PER DETAIL ON SHEET C2.1.
3. INSTALL INTERCEPTOR SWALE WITH CHECK DAMS PER DETAIL ON SHEET C2.1.
4. SEDIMENT TRAP PER DETAIL ON SHEET 2.1.
   TOP OF BERM ELEVATION = 23.0
   BOTTOM OF POND ELEVATION = 20.0
   MINIMUM SURFACE AREA REQUIRED = 730 SF

CONSTRUCTION SEQUENCE

1. INSTALL FILTER FABRIC FENCES WHERE SHOWN ON THE PLAN.
2. INSTALL PROTECTION FENCING AROUND TREES WHERE SHOWN ON THE PLAN.
3. COORDINATE AND ATTEND PRE-CONSTRUCTION MEETING WITH CITY INSPECTOR.
4. INSTALL ROCK FOR CONSTRUCTION ACCESS.
5. DEMOLISH EXISTING HOUSE, GARAGE AND SHED WITHIN THE PROPERTY.
6. ROUGH GRADE SITE TO ESTABLISH BUILDING PAD AND DRIVEWAY.
7. INSTALL SEWER, STORM, WATER SERVICE LINES. FROM MAIN TO BUILDING SITE
8. INSTALL BUILDING FOUNDATION.
9. FINISH GRADE LOT AND INSTALL LANDSCAPE PLANTING.
10. INSTALL FINAL PAVEMENT LIFT FOR DRIVEWAY.
11. REMOVE TESC MEASURES UPON APPROVAL OF CITY OF MERCER ISLAND INSPECTOR.

N

HORIZ. 0 10 20 40 Scale In Feet

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TESC PLAN

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PACE PROJECT NO. 21436.00

SHEET C2.0

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USER NAME: JAY PULLEN
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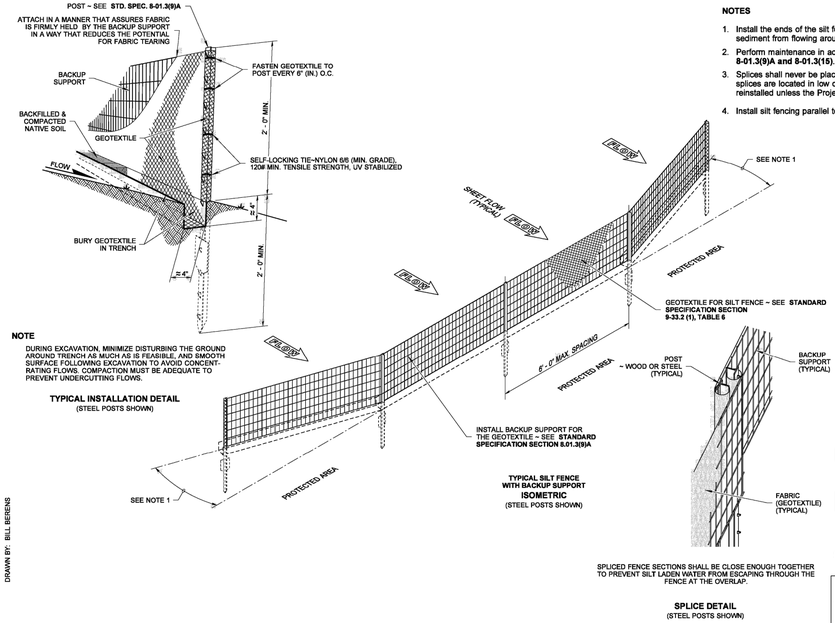


NOTES

1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
2. Perform maintenance in accordance with **Standard Specifications 8-01.3(9)A and 8-01.3(15).**
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.

SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

DRAWN BY: BILL BERENS

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
CERTIFICATE NO. 000860
NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC SUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

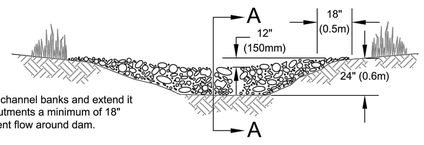
SILT FENCE WITH BACKUP SUPPORT

STANDARD PLAN I-30.10-02

SHEET 1 OF 1 SHEET

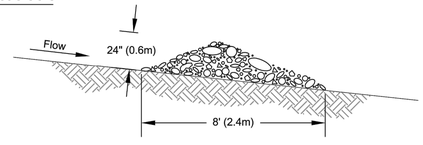
APPROVED FOR PUBLICATION
Pasco Bakotich III — STATE DESIGN ENGINEER — *3/22/13* — DATE
Washington State Department of Transportation

View Looking Upstream

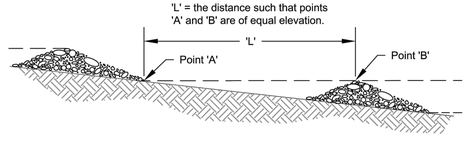


Note:
Key stone into channel banks and extend it beyond the abutments a minimum of 18" (0.5m) to prevent flow around dam.

Section A-A



Spacing Between Check Dams

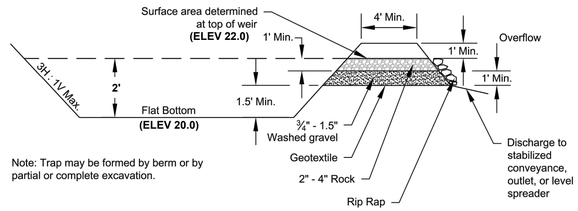


NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Rock Check Dam

Revised June 2016



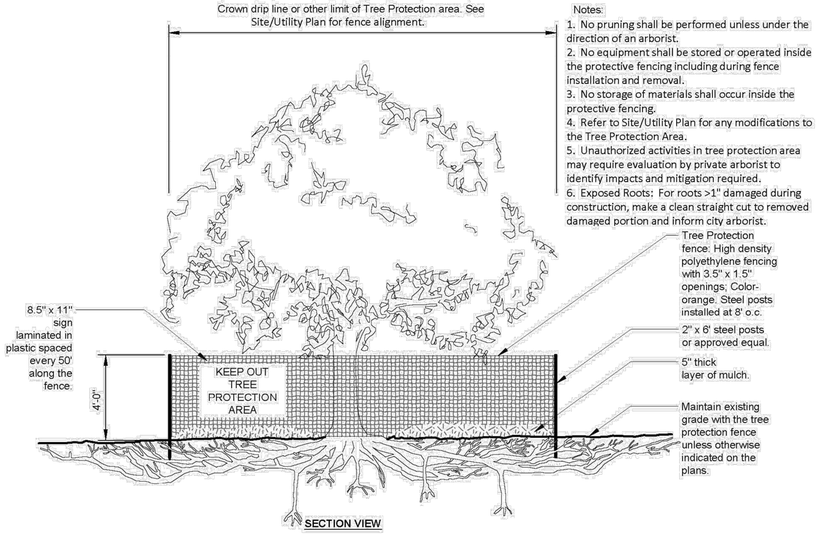
Note: Trap may be formed by berm or by partial or complete excavation.

NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Cross Section of Sediment Trap

Revised June 2016



TREE PROTECTION DETAIL

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TESC DETAILS

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DESIGNED BY: MA	CHECKED BY: JA

PACE PROJECT NO. 21436.00

SHEET **C2.1**

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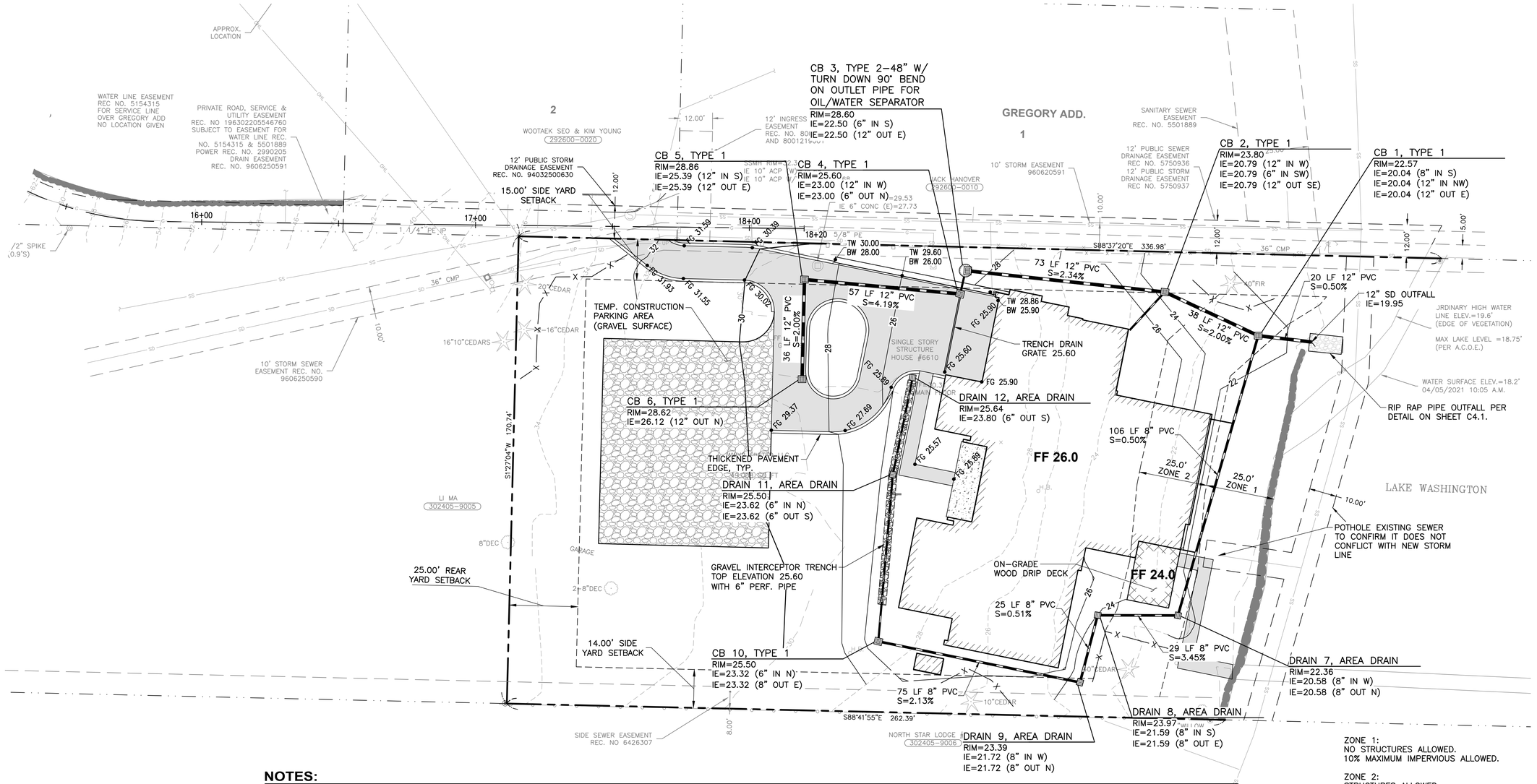

LEGEND

SD	STORM DRAIN (<6")
RD	ROOF DRAIN
UD	UNDER DRAIN
SD	EX. STORM DRAIN
SS	SANITARY SEWER
SS	EX. SANITARY SEWER
W	WATER LINE
W	EXISTING WATER LINE

EXISTING	PROPOSED	
		AREA DRAINS
		CB TYPE 1
		SS CLEANOUT
S		SSMH 48"
		WATER METER
		2 NOZZLE FIRE HYDRANT/FDC
		3 NOZZLE FIRE HYDRANT
H.B.	H.B.	HOSE BIB

NOTES:

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.

DESIGN GUIDELINES
L 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.
L 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 2014 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON VOLUME V – CHAPTER 5 – PAGE 911 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
b. ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.
c. 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.
L 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. 2014 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON VOLUME V – CHAPTER 5 – PAGE 912. 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,
5. DOES NOT NEED TO BE AMENDED.

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STORM & GRADING PLAN

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MA	JA

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SHEET C3.0

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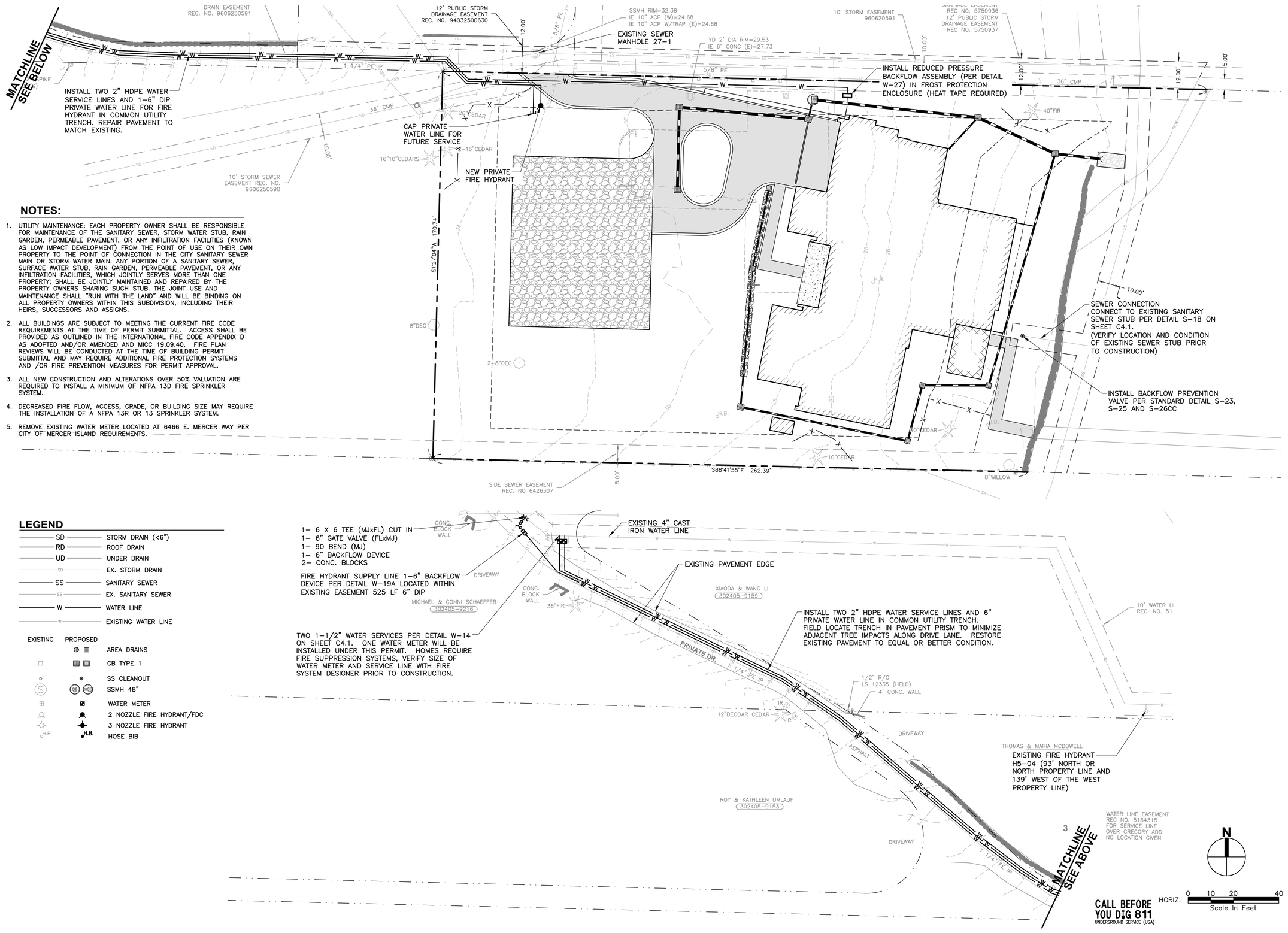

NOTES:

1. UTILITY MAINTENANCE: EACH PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE SANITARY SEWER, STORM WATER STUB, RAIN GARDEN, PERMEABLE PAVEMENT, OR ANY INFILTRATION FACILITIES (KNOWN AS LOW IMPACT DEVELOPMENT) FROM THE POINT OF USE ON THEIR OWN PROPERTY TO THE POINT OF CONNECTION IN THE CITY SANITARY SEWER MAIN OR STORM WATER MAIN. ANY PORTION OF A SANITARY SEWER, SURFACE WATER STUB, RAIN GARDEN, PERMEABLE PAVEMENT, OR ANY INFILTRATION FACILITIES, WHICH JOINTLY SERVES MORE THAN ONE PROPERTY; SHALL BE JOINTLY MAINTAINED AND REPAIRED BY THE PROPERTY OWNERS SHARING SUCH STUB. THE JOINT USE AND MAINTENANCE SHALL "RUN WITH THE LAND" AND WILL BE BINDING ON ALL PROPERTY OWNERS WITHIN THIS SUBDIVISION, INCLUDING THEIR HEIRS, SUCCESSORS AND ASSIGNS.
2. ALL BUILDINGS ARE SUBJECT TO MEETING THE CURRENT FIRE CODE REQUIREMENTS AT THE TIME OF PERMIT SUBMITTAL. ACCESS SHALL BE PROVIDED AS OUTLINED IN THE INTERNATIONAL FIRE CODE APPENDIX D AS ADOPTED AND/OR AMENDED AND MICC 19.09.40. FIRE PLAN REVIEWS WILL BE CONDUCTED AT THE TIME OF BUILDING PERMIT SUBMITTAL AND MAY REQUIRE ADDITIONAL FIRE PROTECTION SYSTEMS AND /OR FIRE PREVENTION MEASURES FOR PERMIT APPROVAL.
3. ALL NEW CONSTRUCTION AND ALTERATIONS OVER 50% VALUATION ARE REQUIRED TO INSTALL A MINIMUM OF NFPA 13D FIRE SPRINKLER SYSTEM.
4. DECREASED FIRE FLOW, ACCESS, GRADE, OR BUILDING SIZE MAY REQUIRE THE INSTALLATION OF A NFPA 13R OR 13 SPRINKLER SYSTEM.
5. REMOVE EXISTING WATER METER LOCATED AT 6466 E. MERCER WAY PER CITY OF MERCER ISLAND REQUIREMENTS.

LEGEND

SD	STORM DRAIN (<6")
RD	ROOF DRAIN
UD	UNDER DRAIN
SD	EX. STORM DRAIN
SS	SANITARY SEWER
SS	EX. SANITARY SEWER
W	WATER LINE
W	EXISTING WATER LINE

EXISTING	PROPOSED	
		AREA DRAINS
		CB TYPE 1
		SS CLEANOUT
		SSMH 48"
		WATER METER
		2 NOZZLE FIRE HYDRANT/FDC
		3 NOZZLE FIRE HYDRANT
H.B.	H.B.	HOSE BIB

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FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\P21436_UT-SFR.DWG
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DATE	REVISION	SYM

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UTILITY PLAN

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MA	JA

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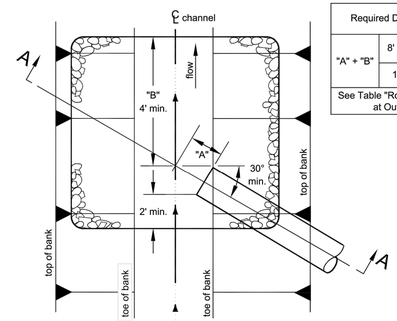
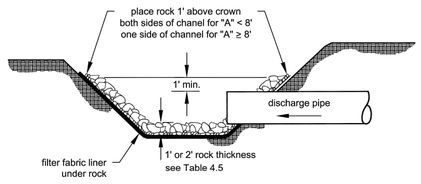
SHEET C4.0



Plan



Section A-A

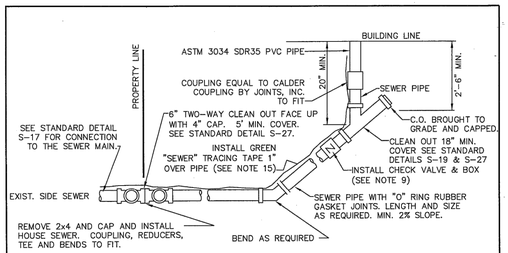
Required Dimensions	
"A" + "B"	8' for rock lining
	12' for rip rap
See Table "Rock Protection at Outfalls"	

NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Pipe/Culvert Outfall Discharge Protection

Revised June 2017



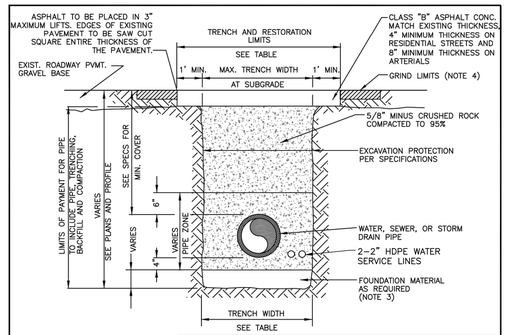
BUILDING CONNECTION

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**



WIDTH TRENCH

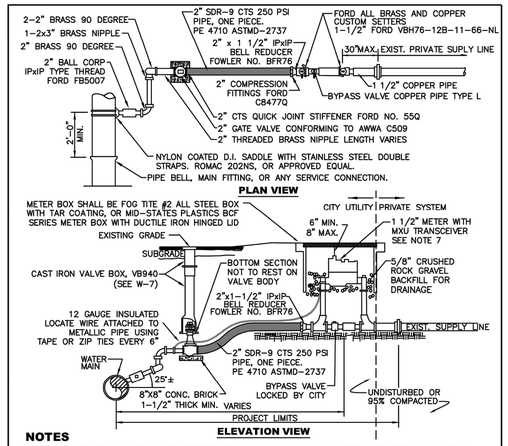
PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
WATER SERVICES	2'-0"	2'-0"	4'-0"
4" OR 6"	2'-2"	3'-0"	5'-0"
8"	2'-4"	4'-0"	6'-0"
10"	2'-6"	4'-0"	6'-0"
12"	2'-8"	4'-6"	6'-6"
16"	3'-0"	5'-0"	7'-0"

NOTES

1. CALL IN LOCATES TWO BUSINESS DAYS BEFORE YOU DIG. (1-800-424-5555)
2. IN RIGHT-OF-WAY USE 100% 5/8 MINUS CRUSHED ROCK FOR BEDDING, PIPE ZONE AND BACKFILL
3. FOUNDATION MATERIAL SHALL BE 1 ¼" MINUS CRUSHED ROCK OR OTHER AGGREGATE AS APPROVED BY CITY ENGINEER.
4. GRIND AND OVERLAY LIMITS SHALL EXTEND A MINIMUM OF 10' PAST THE END OF TRENCH AREAS.
5. SEAL ALL FINAL PATCHING AND PAVING SEAMS WITH LIQUID ASPHALT. SQUEEGEE OR MOP THE SEALER. COVER WITH DRY SAND.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
TRENCH SECTION

							APPROVED
					3-29-2021	NO SCALE	**W-3**

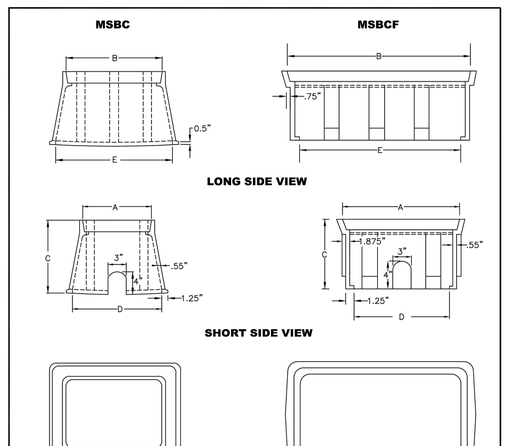


NOTES

1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18". MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24", ALL HORIZONALLY STAGGERED.
3. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
4. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
5. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
6. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
7. WATER METER SUPPLIED BY CITY.
8. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
9. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
1-1/2" WATER METER INSTALLATION

REV DATE						APPROVED
				02-05-2021	NO SCALE	**W-14**



WATER SERVICE SIZE	PART NO.	A	B	C	D	E
1"	MSBCF1324-12	13.75"	23.1875"	12"	12.125"	24.5"
2"	MSBC1730-18	17.625"	30.5"	18"	22.875"	35"

NOTES:

1. METER BOX SHALL BE MID-STATES PLASTICS AS SHOWN, WITH A DUCTILE IRON LID WITH A FLIP OR HINGED INSPECTION LID TO INCLUDE A 3/4" PICK HOLE.
2. PLASTIC WATER METER BOXES SHALL NOT BE INSTALLED WITHIN A DRIVING OR PARKING AREA.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
1" & 2" PLASTIC WATER METER BOX

REV DATE						APPROVED
				12-23-2013	NO SCALE	**W-18A**

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

SYM	REVISION	DATE

PACE
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JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

UTILITY DETAILS

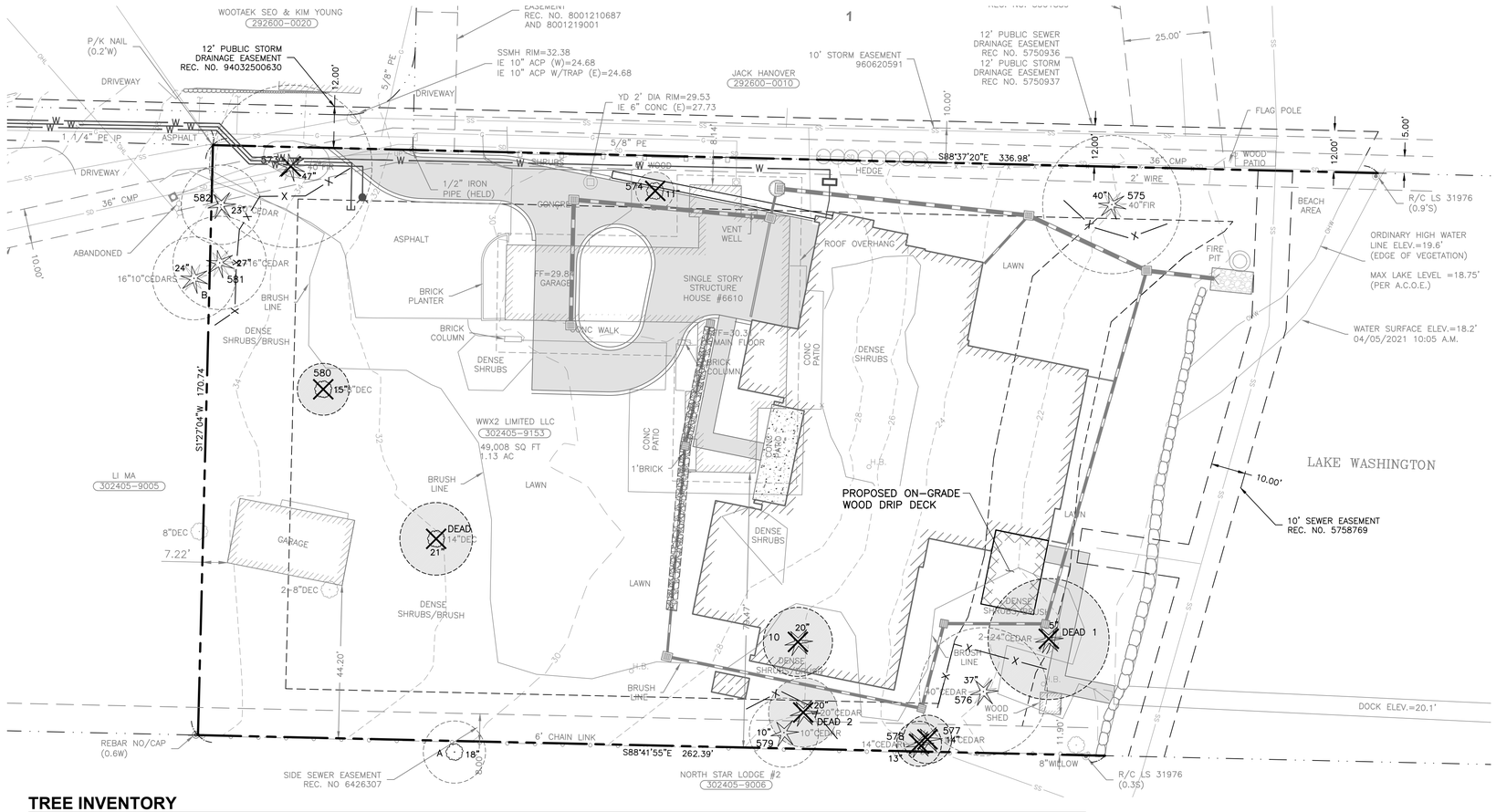
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SCALE:	DATE:
AS SHOWN	05/11/22
DESIGNED BY: MA	CHECKED BY: JA

PACE PROJECT NO. 21436.00

SHEET **C4.1**

FILE NAME: P:\P21\21436 KONERU RESIDENCE\CAD\ENGINEERING SHEETS\GFR BUILDING PERMIT\P21436_UT-STR.DWG
SAVE TIME: 6/6/2022 1:53:17 PM PLOT TIME: 6/10/2022 9:43:54 PM
USER NAME: JAY PULLEN
XREF FILES: X21436_BOR.dwg X433-11-STR.dwg X21436-STR-DSWD.dwg X21436_SITE.dwg X21436_SD.dwg X21436_JH.dwg X21436_WA-STR.dwg X21436_TREE.dwg



LEGEND

- 888 — VIABLE TREE TO REMAIN
- 889 — VIABLE TREE TO BE REMOVED DUE TO PROJECT OR NOT-SUITABLE TO MAINTAIN
- CONIFEROUS
- DECIDUOUS TREE
- DRIP LINE PER TABLE
- —*— TREE PROTECTION
- A-C TREES LOCATED OFF SITE

TREE INVENTORY

Tree ID	Scientific Name	Common Name	DSH (inches)	DSH Multistem	Health Condition	Structural Condition	Dripline Radius (feet) N	E	S	W	Exceptional Threshold	Exceptional	24-Inch DSH or Greater	MLOD (feet)	RLOD (feet)	Proposed Action	Notes
573	*Pseudotsuga menziesii*	*Douglas-fir*	47.0		Good	Good	24.0	24.5	22.5	28.5	*30.0*	Exceptional - Size	Yes	20	47	Remove	Pavement on all sides, center of drive, crown raised, end weight reduction pruning on north side, water main bored beneath tree
574	*Cornus florida*	*Eastern Dogwood*	10.7	8.8,6.1	Good	Good	6.4	8.9	11.9	12.9	*12.0*		-	6	10	Remove	Hollow tree, very old specimen
575	*Pseudotsuga menziesii*	*Douglas-fir*	39.5		Good	Good	21.6	19.6	23.6	25.6	*30.0*	Exceptional - Size	Yes	16	40	Retain	Top blown out repeatedly, storm damaged limbs, excellent health, soil saturated, gnarled trunk
576	*Thuja plicata*	*Western Redcedar*	37.0		Fair	Good	18.5	20.5	18.5	19.5	*30.0*	Exceptional - Size	Yes	15	37	Retain	Thin canopy, drought stress
577	*Thuja plicata*	*Western Redcedar*	14.0		Fair	Good	11.6	10.6	10.6	4.6	*30.0*		-	6	14	Remove	
578	*Thuja plicata*	*Western Redcedar*	13.0		Fair	Good	4.5	11.5	10.5	11.5	*30.0*		-	6	13	Remove	
579	*Thuja plicata*	*Western Redcedar*	10.0		Fair	Good	8.4	8.4	8.4	8.4	*30.0*		-	6	10	Retain	
580	*Magnolia x soulangiana*	*Saucer magnolia*	15.0	9,12	Good	Fair	23.6	20.6	15.1	9.6	-		-	6	15	Remove	Phototropic sprouting, failed tree on too
581	*Thuja plicata*	*Western Redcedar*	27.0		Good	Good	21.1	23.1	19.1	5.1	*30.0*		Yes	11	27	Retain	Codominant at 6' with narrow union
582	*Thuja plicata*	*Western Redcedar*	23.0		Good	Good	22.0	21.0	11.0	19.0	*30.0*		-	10	23	Retain	
Dead 1	*Thuja plicata*	*Western Redcedar*	34.8	27,14,17	N/A	N/A	16.5	23.0	21.5	22.5	*30.0*	Exceptional - Size	Yes	15	N/A	Reduce to wildlife snag	Dead tree, clear signs of purposeful girdling, codominant at base, good candidate for wildlife snag
Dead 2	*Thuja plicata*	*Western Redcedar*	20.0		N/A	N/A	16.8	19.8	18.8	18.8	*30.0*		-	8	N/A	Remiove	Dead tree, clear signs of purposeful girdling, funnel sticking out of tree, likely for herbicide application
A	*Fraxinus pennsylvanica*	*Green Ash*	18.0		Good	Good	30.8	30.8	30.8	30.8	*30.0*		-	8	18	Retain	
B	*Thuja plicata*	*Western Redcedar*	23.7	11,21	Good	Good	15.0	13.0	19.0	21.0	*30.0*		-	10	24	Retain	Codominant with narrow union, part of grove with tree 582 and 581

N

HORIZ. 0 10 20 40
Scale In Feet

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

DATE	REVISION	SYM

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BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

TREE RETENTION PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SCALE: 1"=20'	DATE: 05/11/22
DESIGNED BY: MA	CHECKED BY: JA
PACE PROJECT NO. 21436.00	

SHEET L1.0

FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\ENGINEERING SHEETS\STR BUILDING PERMIT\P21436_TREE-STR.DWG
SAVE TIME: 5/20/2022 3:04:20 PM
USER NAME: JAY PULLEN
XREF FILES: X21436_BRR.dwg 9433-11-STR.dwg X21436-STR.dwg X21436_TREE.dwg X21436_SITE.dwg X21436_WA.dwg X21436_TREE-HATCH.dwg X21436_SD.dwg X21436_WA-STR.dwg
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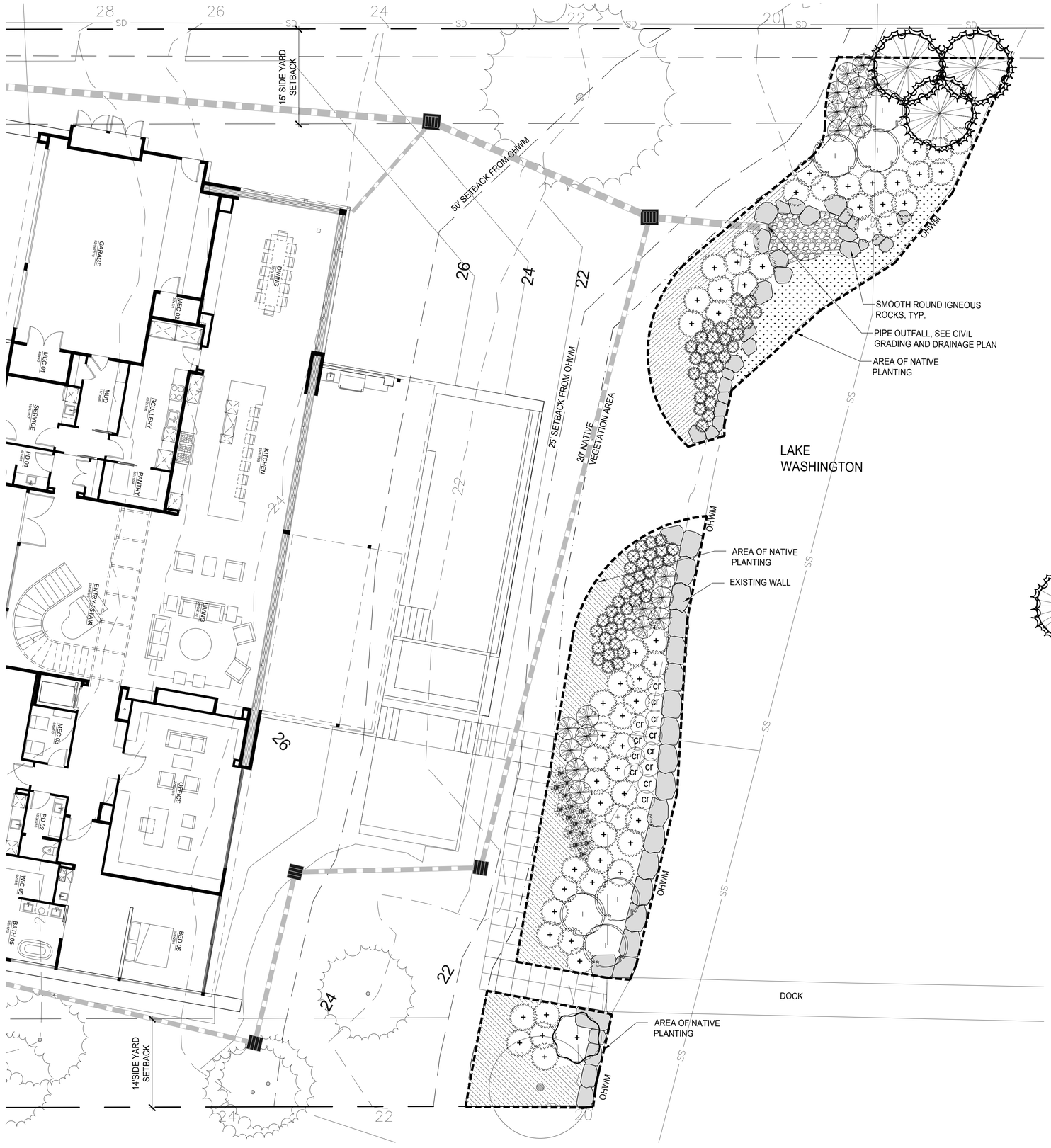

Koneru
21.14

Darwin Webb
LANDSCAPE ARCHITECTS P.S.
485 Rainier Blvd N.#103B
Issaquah, WA 98027
p. 425.391.6946
f. 425.391.1292
www.darwinwebb.com

PLANT SCHEDULE

TREES

SYMBOL	BOTANICAL NAME/ COMMON NAME	SIZE	QTY.	REMARKS
	PINUS CONTORTA SHORE PINE	4'-5' SP.		

SHRUBS

CORNUS SERICEA REDTWIG DOGWOOD	1 GAL.		
GAULTHERIA SHALLON SALAL	1 GAL.		
SALIX SCOULERIANA SCOULER'S WILLOW	1 GAL.		

PERENNIALS AND GROUNDCOVERS

ARCTOSTAPHYLLOS UVA-URSI KINNIKINNICK	4" POT	SPACING @ 18" OC
BLECHNUM SPICANT DEER FERN	1 GAL.	
CAREX OBNUPTA SLOUGH SEDGE	4" POT	
CAREX ROSTRATA BEAKED SEDGE	4" POT	
POLYSTICHUM MUNITUM SWORD FERN	1 GAL.	
SCIRPUS ACUTUS HARDSTEM BULLRUSH	4" POT	SPACING @ 18" OC

NOTE:
ALL PROPOSED PLANTS ARE PACIFIC NORTHWEST NATIVES

AREA CALCULATIONS

TOTAL AREA BETWEEN OHWM AND 20' SETBACK = 3,833 S.F.
3,833 X .751 = 2,878.58 S.F. REQUIRED NATIVE VEGETATION

.TOTAL PROPOSED NATIVE VEGETATION (80.75%) 3,095 S.F.

4' 8' 16' 32'
SCALE: 1/8" = 1' - 0"

KONERU RESIDENCE

6610 E Mercer Way
Mercer Island, WA 98040

STATE OF WASHINGTON
REGISTERED LANDSCAPE ARCHITECT

DARWIN D. WEBB
CERTIFICATE NO: 564

ISSUES:

NO.:	DATE:	DESCRIPTION:
1	12.17.21	REVIEW
2	05.25.22	REVISIONS
3	06.09.22	REVISIONS

PROJECT #: 21.14

DRAWN: RB
CHECKED: DW

TITLE: SHORELINE PLANTING PLAN

SHEET: L3.0

GENERAL NOTES & 2018 WSEC REQUIREMENTS + 2018 IRC REQUIREMENTS

6610 EAST MERCER WAY, MERCER ISLAND, WA 98040

1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2018 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODE, CHAPTER 51-20 AND 51-21 WAC, THE AMERICANS WITH DISABILITIES ACT, AND ALL RULES, REGULATIONS AND ORDINANCES OF THE GOVERNING AUTHORITY.
2. ENGINEERED DESIGN IN ACCORDANCE WITH THE IBC IS PERMITTED.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND SITE CONDITIONS, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS PRIOR TO PROCEEDING WITH THE WORK.\
4. DO NOT SCALE THE DRAWINGS FOR CRITICAL DIMENSIONS. DIMENSIONS ARE SHOWN TO FACE OF STUDS, POSTS AND CONCRETE UNLESS INDICATED OTHERWISE.
5. THE PROJECT SHALL BE SCHEDULED AND INSTALLATION OF ELEMENTS COORDINATED AS NECESSARY BY THE CONTRACTOR TO PERMIT WORK BETWEEN DIFFERENT TRADES TO PROCEED WITHOUT UPSETTING PROPER CONSTRUCTION SEQUENCES OR DELAYING THE PROJECT SCHEDULE.
6. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH-OPENING DIMENSIONS WITH THE DOOR AND WINDOW MANUFACTURERS.
8. PLUMBING, ELECTRICAL AND MECHANICAL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS FOR THIS PROJECT AND COMPLY WITH ALL LOCAL CODES, SUBMIT PLANS FOR APPROVAL AND OBTAIN PERMIT BEFORE STARTING WORK.
9. SHOWN ONLY ONCE. TYPICAL DETAILS ARE NOT REFERENCED AT ALL LOCATIONS; THE INTENT IS THAT THEY APPLY THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
10. ALL REQUIRED SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
11. ALL DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENT HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
12. ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
13. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
14. INSPECTIONS ARE TO BE PER IRC SECTION R109.
15. ADDRESS MUST BE POSTED AND VISIBLE AT CONSTRUCTION SITE PER IRC SEC R319: BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.

IRC M1505 (WA AMENDMENTS)

IRC M1505.4: WHOLE-HOUSE VENTILATION SYSTEM

WAC 51.51.1505 M1505.4: WHOLE HOUSE MECHANICAL VENTILATION SYSTEM. EACH DWELLING UNIT SHALL BE EQUIPPED WITH A VENTILATION SYSTEM. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SECTIONS M1504.1 THROUGH 1505.4.4

IRC M1505.4.1: SYSTEM DESIGN. THE WHOLE HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS, ASSOCIATED DUCTS AND CONTROLS. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM WITH SUPPLY AND EXHAUST FANS PER SECTIONS M1505.4.1.2, M1505.4.1.3, M1505.4.1.4 AND M1505.4.1.5. LOCAL EXHAUST FANS ARE PERMITTED TO SERVE AS PART OF THE WHOLE HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS PER SECTION M1505.4.2. THE SYSTEMS SHALL BE DESIGNED AND INSTALLED TO EXHAUST AND/OR SUPPLY THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION M1505.4.3 AS MODIFIED BY WHOLE HOUSE VENTILATION SYSTEM COEFFICIENTS IN SECTION M1505.4.3.1 WHERE APPLICABLE. THE WHOLE HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED PER SECTION M1505.4.2 UNLESS CONFIGURED WITH INTERMITTENT OFF CONTROLS PER SECTION M1505.4.3.2.

WAC 51-51-1505 AMENDMENT M1505.4.1.1: WHOLE HOUSE SYSTEM COMPONENT REQUIREMENTS. WHOLE HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WAS STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHOLE HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.31. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN w.c. (25 Pa) STATIC PRESSURE IN ACCORDANCE WITH HVI PROCEDURES SPECIFIED IN SECTIONS M1505.4.1.2 AND M105.4.1.3.

EXCEPTION: HVAC AIR HANDLERS, ERV/HRV UNITS, AND REMOTE MOUNTED FANS NEED NOT MEET THE SOUND REQUIREMENTS. TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE MOUNTED FAN MUST BE MOUNTED OUTSIDE THE HABITABLE SPACES, BATHROOMS, TOILETS, AND HALLWAYS, AND THERE MUST BE AT LEAST 4 FT. OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.
THE WHOLE HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.
EXCEPTION: INTERIOR JOINING SPACES PROVIDED WITH A 30 CFM WHOLE HOUSE TRANSFER RAN OR A PERMANENT OPENING WITH AN AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE INTERIOR ADJOINING SPACE BUT NOT LESS THAN 25 SQUARE FEET DO NOT REQUIRE DUCTED OUTDOOR VENTILATION AIR TO BE SUPPLIED DIRECTLY TO THE SPACE. WHOLE HOUSE TRANSFER FANS SHALL MEET THE SONE RATING OF SECTION M1505.4.1.1 AND SHALL HAVE WHOLE HOSE VENTILATION CONTROLS THAT COMPLY WITH SECTION M1505.4.2

WAC 51-51-1505 M1505.4.1.2: EXHAUST FANS. EXHAUST FANS REQUIRED SHALL BE DUCTED DIRECTLY TO THE OUTSIDE. EXHAUST AIR OUTLETS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE AND EQUIPPED WITH BACKDRAFT DAMPERS OR MOTORIZED DAMPERS IN ACCORDANCE WITH THE WA STATE ENERGY CODE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916 AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION. BATHROOM EXHAUST FANS THAT ARE DESIGNED FOR INTERMITTENT EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE M1505.4.3(3) SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST FANS SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.

WAC 51.51.1505 M1505.4.1.3: SUPPLY FANS. SUPPLY FANS USED IN MEETING THE REQUIREMENTS OF THIS SECTION SHALL SUPPLY OUTDOOR AIR FROM INTAKE OPENINGS IN ACCORDANCE WITH IMC SECTIONS 401.4 AND 401.5. WHEN DESIGNED FOR INTERMITTENT OFF OPERATION, SUPPLY SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS IN ACCORDANCE WITH THE WA STATE ENERGY CODE. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW ANSD SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). WHERE OUTDOOR AIR IS PROVIDED BY SUPPLY FAN SYSTEMS THE OUTDOOR AIR SHALL BE FILTERED. THE FILTER SHALL BE ACCESSIBLE FOR REGULAR MAINTENANCE AND REPLACEMENT. THE FILTER SHALL HAVE A MINIMUM EFFICIENCY RATING VALUE (MERVo OF AT LEAST 8.

WAC 51.51.1505 M1505.4.1.4: BALANCED WHOLE HOUSE VENTILATION SYSTEM. A BALANCED WHOLE HOUSE VENTILATING SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10 PERCENT OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10 PERCENT OR 5cfm, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. BALANCED VENTILATION SYSTEMS WITH BOTH SUPPLY AND EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.

WAC 51.51.1505 M1505.4.1.5: FURNACE INTEGRATED SUPPLY. SYSTEMS USING SPACE HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY DISTRIBUTION ARE NOT PERMITTED.

EXCEPTION: AIR HANDLER FANS SHALL HAVE MULTI-SPEED OR VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25 PERCENT OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS R303.2 AND R303.6 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10 PERCENT OF THE WHOLE HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.

WAC 51.51.1505 M1505.4.1.6: TESTING. WHOLE HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTIONS M1505.4.3 AND M1505.4.4. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FAN'S INLET TERMINALS, OUTLET TERMINALS, OR GRILLES OR IN THE CONNECTED VENTILATION DUCTS. WHERE REQUIRED BY THE BUILDING OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7.

WAC 51.51.1505 M1505.4.1.7: CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING. WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS THE CERTIFICATE SHALL LIST THE FLOW RATE DETERMINED FROM THE DELIVERED AIRFLOW OF THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.3.1.

WAC 51.51.1505 M1505.4.2: SYSTEM CONTROLS. THE WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:

1. THE WHOLE HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE OCCUPANT;
2. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING: "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT;
3. WHOLE HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS AND SIZING ARE PROVIDED PER SECTION M1505.4.3.2.

WAC 51.51.1505 M1505.4.3: MECHANICAL VENTILATION RATE. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15-1

EQUATION 15-1 VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.01 X TOTAL SQ. FT.) + [7.5 X (NUMBER OF BEDROOMS +1)] BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT.

IRC TABLE 1505.4.3(1)

WHOLE-HOUSE MECHANICAL VENTILATION AIRFLOW RATE

EQUATION 15-1
VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.1 x TOTAL SF AREA OF HOUSE) + [7.5 x (NUMBER OF BEDROOMS + 1)] BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT

DWELLING UNIT FLOOR AREA (Square feet)	NUMBER OF BEDROOMS				
	0-1	2	3	4	5+
	AIRFLOW IN CFM				
< 500	30	30	35	45	50
501 - 1,000	30	35	40	50	55
1,001 - 1,500	30	40	45	55	60
1,501 - 2,000	35	45	50	60	65
2,001 - 2,500	40	50	55	65	70
2,501 - 3,000	45	55	60	70	75
3,001 - 3,500	50	60	65	75	80
3,501 - 4,000	55	65	70	80	85
4,001 - 4,500	60	70	75	85	90
4,501 - 5,000	65	75	80	90	95

CFM = (0.01 x 9,966 SF) + [7.5 x (5+1)]
CFM = 99.66 + 45
CFM = 147

M1505.4.3.1 VENTILATION QUALITY ADJUSTMENT. THE MIN. WHOLE HOUSE VENTILATION RATE FROM SECTION 1505.4.3 SHALL BE ADJUSTED BY THE SYSTEM COEFFICIENT IN TABLE M1505.4.3(2) BASED ON THE SYSTEM TYPE NOT MEETING THE DEFINITION OF A *BALANCED WHOLE HOUSE VENTILATION* SYSTEM AND/OR NOT MEETING THE DEFINITION OF *DISTRIBUTED WHOLE HOSE VENTILATION* SYSTEM.

IRC TABLE 1505.4.3(2)

SYSTEM COEFFICIENT (Csystem)

SYSTEM TYPE	DISTRIBUTED	NOT DIST.
BALANCED	1.0	1.25
NOT BALANCED	1.25	1.5

M1505.4.3.2 INTERMITTENT OFF OPERATION. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH ADVANCED CONTROLS THAT ARE CONFIGURED TO OPERATE THE SYSTEM WITH INTERMITTENT OFF OPERATION SHALL OPERATE FOR AT LEAST A TWO HOURS IN EACH FOUR-HOUR SEGMENT. THE WHOLE HOUSE VENTILATION AIRFLOW RATE DETERMINED IN ACCORDANCE WITH SECTION M1505.4.3 AS CORRECTED BY SECTION M1505.4.3.1 IS ,MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(3).

IRC TABLE 1505.4.3(3)

INTERMITTENT OFF WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS

RUN TIME % EA 4hr SEGMENT	50%	66%	75%	100%
FACTOR	2	1.5	1.3	1.0

M1505.4.4 LOCAL EXHAUST RATES. LOCAL EXHAUST SYSTEMS SHALL BE DESIGNED TO HAVE THE CAPACITY TO EXHAUST THE MIN. AIRLOW RATE DETERMINED IN ACCORDANCE WITH TABLE M1505.4.4(1). IF THE LOCAL EXHAUST FAN IS INCLUDED IN THE WHOLE HOUSE VENTILATION SYSTEM, IN ACCORDANCE WITH SECTION 1505.4.1 THEN THE EXHAUST FAN SHALL BE CONTROLLED TO OPERATE AS SPECIFIED IN SECTION M1505.4.2
M1505.4.4.1 LOCAL EXHAUST. BATHROOMS, TOILET ROOMS, AND KITCHENS SHALL INCLUDE A LOCAL EXHAUST SYSTEM. SUCH LOCAL EXHAUST SYSTEMS SHALL HAVE THE CAPACITY TO EXHAUST THE MIN. AIRFLOW RATE IN ACCORDANCE WITH TABLE M1505.4.4(1). FANS REQUIRED BY THIS SECTION SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OR AUTOMATIC OCCUPANCY SENSOR, HUMIDITY SENSOR OR POLLUTANT SENSOR CONTROLS. AN "ON/OFF" SWITCH SHALL MEET THIS REQUIREMENT FOR MANUAL CONTROLS. MANUAL FAN CONTROLS SHALL BE READILY ACCESSIBLE IN THE ROOM SERVED BY THE FAN.

IRC TABLE 1505.4.4(1)

MIN. LOCAL EXHAUST RATES

AREAS TO BE EXHAUSTED	INTERMITTENT	CONTINUOUS
KITCHEN	100 cfm	30 cfm
BATHROOMS - TOILET ROOMS	50 cfm	20 cfm

M1505.4.4 LOCAL EXHAUST FANS. EXHAUST FANS SHALL MEET THE FOLLOWING CRITERIA:

1. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS AND RATING PROCEDURE, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE).
   EXCEPTION: WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED FOR LOCAL EXHAUST FOR A KITCHEN, THE DEVICE IS NOT REQUIRED TO BE RATED PER THESE STANDARDS.
2. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BU TABLE M1505.4.4(1). THE AIRFLOWS REQUIRED REFER TO THE DELIVERED AIRFLOW OF THE SYSTEM AS INSTALLED AND TESTED USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASUREMENT DEVICE. LOCAL EXHAUST SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY THIS SECTION.
3. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BY TABLE M1505.4.4(1).
   EXCEPTIONS:
   1. AN EXHAUST AIRFLOW RATING AT A PRESSURE OF 0.25 IN. w.g. MAY BE USED, PROVIDED THE DUCT SIZING MEETS THE PRESCRIPTIVE REQUIREMENTS OF TABLE M1505.4.4(2).
   2. WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED TO SATISFY THE LOCAL VENTILATION REQUIREMENTS FOR KITCHENS, THE RANGE HOOD OR DOWN DRAFT EXHAUST SHALL NOT BE LESS THAN 100 cfm AT 0.10 IN. w.g.

IRC TABLE 1505.4.4(2)

PRESCRIPTIVE EXHAUST DUCT SIZING

FAN TESTED cfm @ 0.25 (Square feet)	MIN. FLEX DIA. (IN.)	MAX. LENGTH (FT.)	MIN. SMOOTH DIA. (IN.)	MAX. LENGTH (FT.)	MAX. ELBOWS
50	4	25	4	70	3
50	5	90	5	100	3
50	6	NO LIMIT	6	NO LIMIT	3
80	4	NA	4	20	3
80	5	15	5	100	3
80	6	90	6	NO LIMIT	3
100	5	NA	5	50	3
100	6	45	6	NO LIMIT	3
125	6	15	6	NO LIMIT	3
125	7	70	7	NO LIMIT	3

BUILDING THERMAL ENVELOPE

COMPLIANCE & CERTIFICATE POSTED

THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R401 THROUGH R404 OF THE WSEC. IN ADDITION, *DWELLING UNITS* AND *SLEEPING UNITS* IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SECTION R406 OF THE WSEC.

R401.3 CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, *BELOW-GRADE WALL,* ADN/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION; THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING; AND THE RESULTS FROM THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FLOW RATE TEST. WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES OF EFFICIENCIES OF HEATING, COOLING WHOLE-HOUSE MECHANICAL VENTILATION, AND SERVICE WATER HEATING APPLIANCES. WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER", "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE *LISTED* FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS.
THE *CODE OFFICIAL* MAY REQUIRE THAT DOCUMENTATION FOR ANY REQUIRED TEST RESULTS INCLUDE AN ELECTRONIC RECORD OF THE TIME, DATE, AND LOCATION OF THE TEST. A DATE-STAMPED SMART PHONE PHOTO OR AIR LEAKAGE TESTING SOFTWARE MAY BE USED TO SATISFY THIS REQUIREMENT.

FENESTRATION

AN AREA-WEIGHTED AVERAGE OF FENESTRATION PRODUCTS SHALL BE PERMITTED TO SATISFY THE U-FACTOR REQUIREMENTS.

UP TO 15 SQUARE FEET OF GLAZED FENESTRATION PER DWELLING UNIT SHALL BE PERMITTED TO BE EXEMPT FROM U-FACTOR.

ONE SIDE-HINGED OPAQUE DOOR ASSEMBLY UP TO 24 SQUARE FEET IN AREA IS EXEMPTED FROM THE U-FACTOR REQUIREMENT.

INSULATION

A. CEILINGS (VAULTED)= R-38, MIN
   1. PROVIDE MINIMUM R-10 SPRAY FOAM INSULATION @ BOTTOM SIDE OF SHEATHING. COMPLETELY FILL REMAINING JOIST CAVITY WITH BATT INSULATION. TOTAL INSULATION VALUE (SPRAY FOAM + BATT) TO BE R-38 MIN
   2. SPRAY FOAM INSULATION TO MEET THE REQUIREMENTS SET FORTH IN IRC R806.5. ITEM 5.1.33

B. WOOD FRAMED WALLS = R-21 INT.
   1. ALL EXTERIOR WALL CAVITIES, INCLUDING CAVITIES ISOLATED DURING FRAMING, MUST BE FILLED WITH UNCOMPRESSED INSULATION.
   2. RIGID BOARD INSULATION IS TO BE PLACED BEHIND ALL RECESSED FIXTURES IN EXTERIOR WALLS.
   3. FACED BATTS ARE LAPPED AND ARE TO BE STAPLED TO FACE OF STUDS.
   4. INSULATE BEHIND TUB/ SHOWER PARTITIONS AND CORNERS.

C. FLOORS = R-30
   1. FLOOR INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING.
   2. INSULATION SUPPORTS SHALL BE INSTALLED SO SPACING IS NO MORE THAN 24-INCHES ON CENTER.
   3. FOUNDATION VENTS SHALL BE PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION.

D. SLAB-ON-GRADE = R-10
   1. 2" RIGID INSULATION UNDER ENTIRE CONCRETE SLAB IN HEATED SPACES. THE INSULATION SHALL EXTEND DOWNWARD FROM THE TOP OF THE SLAB FOR A MINIMUM DISTANCE AS SHOWN IN THE TABLE OR TO THE TOP OF THE FOOTING, WHICHEVER IS LESS, OR DOWNWARD TO AT LEAST THE BOTTOM OF THE SLAB AND THEN HORIZONTALLY TO THE INTERIOR OR EXTERIOR FOR THE TOTAL DISTANCE SHOWN IN THE TABLE.
   2. A TWO-INCH BY TWO-INCH (MAXIMUM) PRESSURE TREATED NAILER MAY BE PLACED AT THE FINISHED FLOOR ELEVATION FOR ATTACHMENT OF INTERIOR FINISH MATERIALS.

E. 4X HEADERS = R-10

F. DUCTS = DUCTS SHALL BE INSULATED TO A MINIMUM OF R-8.
   EXCEPTION: DUCTS OR PORTIONS THEREOF LOCATED COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE.

G. PIPING = MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105°F OR BELOW 55°F SHALL BE INSULATED TO A MINIMUM OF R-6.
   1. PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSED BY SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.

   INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM THERMAL RESISTANCE (R-VALUE) OF R-4.

H. ELECTRIC WATER HEATERS = ALL ELECTRIC WATER HEATERS IN UNHEATED SPACES OR ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10, AND A MIN. COMPRESSIVE STRENGTH OF 40 psi OR ENGINEERED TO SUPPORT THE APPLIANCE.

MOISTURE CONTROL

VAPOR RETARDERS

SLABS	CONTINUOUS GCP PREPRUFE 300R PLUS UNDERSLAB WATERPROOFING SYSTEM
FLOORS	3/4" CDX PLYWOOD or 3/4" O.S.B.
WALLS	KRAFT FACED FIBERGLASS BATTS
CEILING	NO PVA PAINT @ UNVENTED CEILING PER IRC R806.5, INTERIOR VAPOR RETARDER SHALL NOT BE INSTALLED ON THE CEILING SIDE @ UNVENTED CEILING CONDITIONS.

1. ATTIC ACCESS AND DOORS ARE TO BE BAFFLED, WEATHER-STRIPPED AND INSULATED.
2. EXTERIOR DOORS AND WINDOWS ARE TO BE CAULKED AND WEATHER-STRIPPED.
3. RECESSED LIGHT FIXTURES TO LIMIT AIR LEAKAGE PER WSEC 402.4.4.
4. ALL PLUMBING, ELECTRICAL AND HVAC PENETRATIONS IN FLOORS, WALLS AND CEILING ARE TO BE CAULKED AND SEALED.
5. ELECTRICAL OUTLET AND LIGHT SWITCH BOXES ON EXTERIOR WALLS MUST BE SEALED AT THE BACK OF THE RECEPTACLE WITH A FACE PLATE GASKET.
6. SILL PLATE TO BE CAULKED OR GLUED TO SUB-FLOOR.
7. CAULK/SEAL RIM JOISTS BETWEEN STORIES.
8. FIRE-STOP ALL PENETRATIONS AS REQUIRED BY THE CODE & BUILDING DEPARTMENT.

AIR LEAKAGE AND TESTING

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS R402.4.1 THROUGH R402.4.4.

THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). FOR THIS TEST ONLY, THE VOLUME OF THE HOME SHALL BE THE CONDITIONED FLOOR AREA IN FT² MULTIPLIED BY 8.5 FEET. WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE.

R402.4.1.1 INSTALLATION. THE COMPONENTS OF THE BUILDING THERMAL ENVELOPE AS LISTED IN TABLE R402.4.1.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE CRITERIA LISTED IN TABLE R402.4.1.1, AS APPLICABLE TO THE METHOD OF CONSTRUCTION. WHERE REQUIRED BY THE CODE OFFICIAL, AN APPROVED THIRD PARTY SHALL INSPECT ALL COMPONENTS AND VERIFY COMPLIANCE.

WINDOWS, SKYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NO MORE THAN 0.3 CFM PER SQUARE FOOT, AND SWINGING DOORS NO MORE THAN 0.5 CFM PER SQUARE FOOT, WHEN TESTED ACCORDING TO NFRC 400 OR AAMA/WDMA/CSA 101/I.S.2/A440 BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER.
EXCEPTIONS:
1. FIELD-FABRICATED FENESTRATION PRODUCTS (WINDOWS, SKYLIGHTS AND DOORS).
2. CUSTOM EXTERIOR FENESTRATION PRODUCTS MANUFACTURED BY A SMALL BUSINESS PROVIDED THEY MEET THE APPLICABLE PROVISIONS OF CHAPTER 24 OF THE INTERNATIONAL BUILDING CODE. ONCE VISUAL INSPECTION HAS CONFIRMED THE PRESENCE OF A GASKET, OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST.

RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE TYPE IC-RATED AND CERTIFIED UNDER ASTM E283 AS HAVING AN AIR LEAKAGE RATE NOT MORE THAN 2.0 CFM WHEN TESTED AT A 1.57 PSF PRESSURE DIFFERENTIAL AND SHALL HAVE A LABEL ATTACHED SHOWING COMPLIANCE WITH THIS TEST METHOD. ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.

ALL DUCTS MUST BE LEAK TESTED IN ACCORDANCE w/ WSU RS-33 USING THE MAXIMUM DUCT LEAKAGE RATE SPECIFIED. TOTAL LEAKAGE MUST BE VERIFIED BY EITHER THE ROUGH-IN TEST OR POST-CONSTRUCTION TEST PER WSEC R403.3.3. TOTAL LEAKAGE MUST BE LESS THAN OR EQUAL TO 4 CFM PER 100 SF OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1" WG (25PA) ACROSS THE ENTIRE SYSTEM.

ELECTRIC POWER & LIGHTING

LIGHTING EQUIPMENT

R404.1 A MINIMUM OF 90 PERCENT OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.
R404.1.1 FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS.

WA STATE ENERGY CREDITS

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

EACH DWELLING UNIT IN ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 SO AS TO ACHIEVE THE REQUIRED MINIMUM NUMBER OF CREDITS:

2018 WSEC TABLE R402.1.1

CLIMATE ZONE 5 AND MARINE 4	R-VALUE	EQUIV U-FACTORS
FENESTRATION U-FACTOR	N/A	0.28*
CEILING (VAULT) R-VALUE	38	0.026
WOOD FRAMED WALL R-VALUE	21 int.	0.056
FLOOR R-VALUE	38*	0.026*
SLAB R-VALUE	10, entire slab*	N/A
* INDICATES INCREASED VALUE DUE TO REQUIRED ENERGY CREDITS		

2018 WSEC CREDITS SELECTED

ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS PER WSEC R406: LARGE DWELLING UNIT (>/= 5,000 SF): 7.0 CREDITS REQUIRED		
SYSTEM	FUEL NORMALIZATION CREDIT TABLE R406.2	CREDIT
2	HEAT PUMP. EQUIPMENT LISTED IN TABLE C403.3.2(1) or C403.3.2(2).	1.0
OPTION	EFFICIENT BUILDING ENVELOPE OPTIONS	
1.3	PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE 402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.28 SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB	0.5
	HIGH EFFICIENCY HVAC EQUIPMENT OPTIONS	
3.5	AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0	1.5
	EFFICIENT WATER HEATING OPTIONS	
5.3	WATER HEATING SYSTEM: ENERGY STAR RATED GAS OR P WATER HEATER WITH MIN. UEF OF 0.91 OR SOLAR WATER HEATING SUPPLEMENTING A MIN. STD. WATER HEATER.	1.0
	RENEWABLE ELECTRIC ENERGY (3 CREDITS MAX.)	
6.1	SUPPLY MIN 3600 kWh OF ELECTRICAL GENERATION ANNUALLY BY ON-SITE SOLAR EQUIPMENT. SOLAR DESIGN TO MEET NATIONAL RENEWABLE ENERGY LABORATORY CALC. PVWATTs	3.0
FOR FULL TEXT AND INFORMATION, SEE WSEC, SECTION R406	TOTAL	7.0

KONERU [residence]

PROJECT CONTACTS

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7002 93RD AVE. SE
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ARBORIST: TREE133 LLC

PROJECT MANAGER: CRAIG BACHMANN
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PROJECT INFO

BUILDING AREA

MAIN FLOOR HEATED	5,469 SF
UPPER FLOOR HEATED	4,497 SF
TOTAL LIVING	9,966 SF
GARAGE	945 SF

PROJECT DESCRIPTION

DEMO EXISTING SFR HOME, CONSTRUCT NEW SFR AND SITE IMPROVEMENTS

RELATED PERMITS:	SUB21-008TYPE III - SHORT PLAT
PROJECT ADDRESS:	6610 EAST MERCER WAY
PARCEL NO.:	3024059153
LOT SIZE:	50,094 SF (1.15 AC)
ZONE:	R-15
SETBACKS:	
SHORELINE / REAR	ZONE 1 - 25'-0", NO STRUCTURES ALLOWED & 10% MAX IMPERVIOUS ZONE 2 - 25'-0", STRUCTURES ALLOWED & 30% MAX COVERAGE 50'-0" TOTAL
FRONT	20'-0"
SIDE	29'-0", 17% LOT WIDTH (170'-9")
BUILDING HEIGHT:	30'-0" ABOVE AVERAGE BUILDING ELEVATION
LOT COVERAGE:	40% @ LOT SLOPE LESS THAN 15% 20,0387.60 SF ALLOWED - 13,527 SF PROPOSED
GROSS FLOOR AREA:	12,000 SF or 40% OF THE LOT AREA, WHICHEVER IS LESS 10,911 SF PROPOSED
TREE RETENTION:	SEE ARBORIST REPORT AND CIVIL PLANS
SEISMIC DESIGN:	CATEGORY 'D2'
WIND DESIGN:	110 MPH & EXPOSURE 'D'
FIRE SUPPRESSION:	NFPA 13R FIRE SPRINKLER SYSTEM (>5,000 SF) NFPA 72 FIRE ALARM SYSTEM
CONSTRUCTION:	TYP VB

LEGAL DESCRIPTION

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGELES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1.

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

DRAWING INDEX

VICINITY MAP NTS

NORTHWEST PERSPECTIVE

NORTHEAST PERSPECTIVE

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McCULLOUGH
ARCHITECTS

Revisions	Comment
2021.11.17	**Updated Plans to Structural**
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2022.06.12	**Commentary Response**

Date:	**2021.10.13**
Job No:	**21-041**
Project No:	
Drawn:	**DJR**
Approved:	**APM**

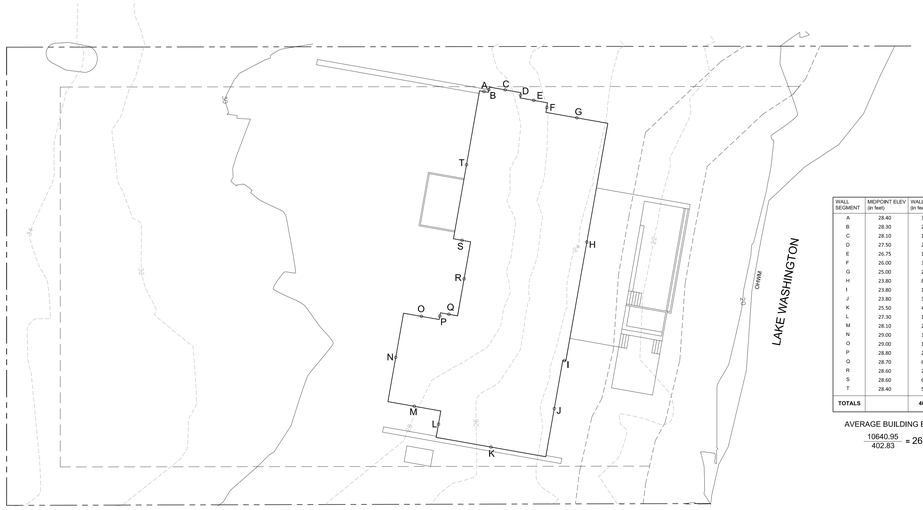
REGISTERED ARCHITECT
7806
PHILIP McCULLOUGH
STATE OF WASHINGTON

KONERU RESIDENCE
6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Cover Sheet

A0



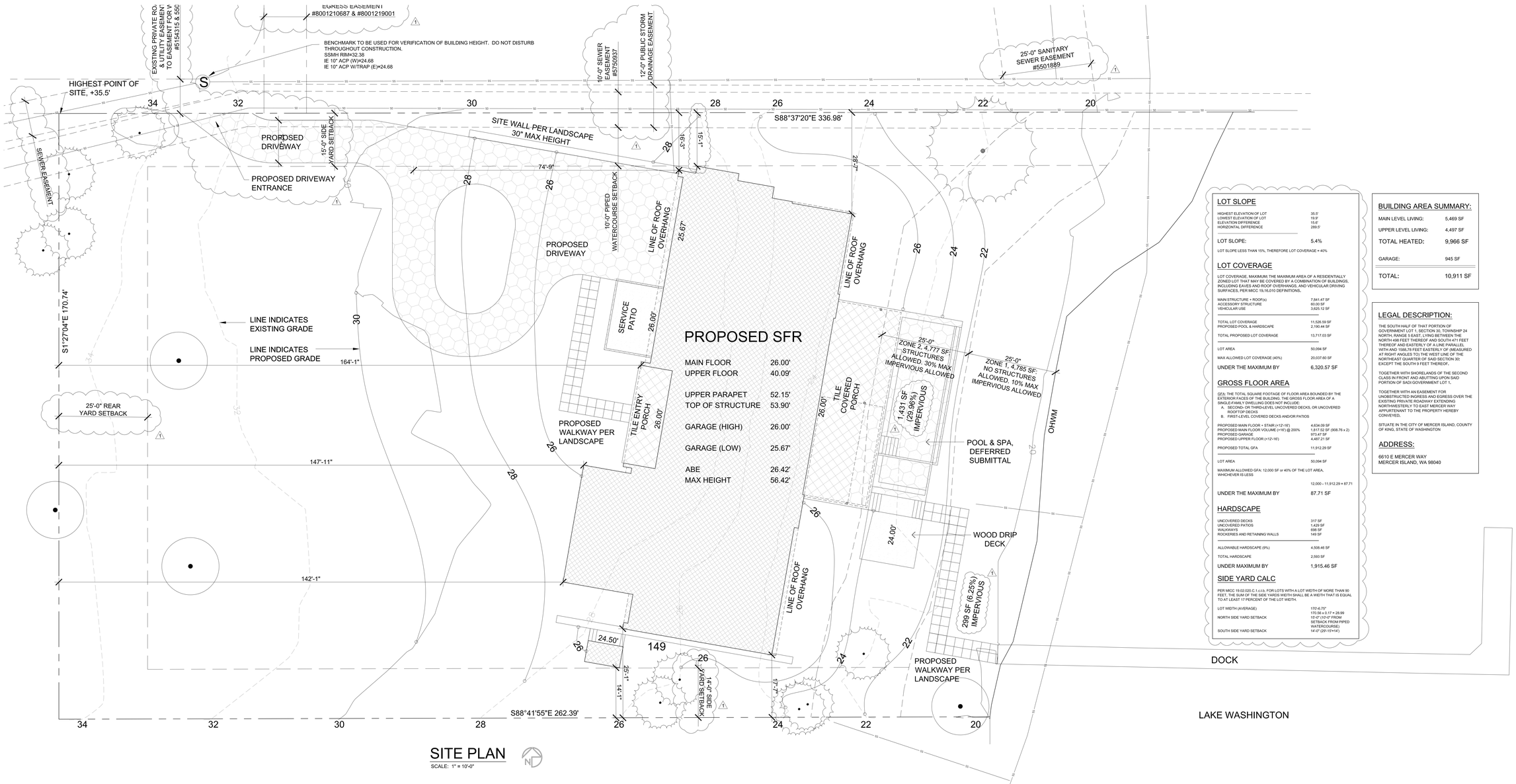
WALL SEGMENT	MIDPOINT ELEV (in feet)	WALL LENGTH (in feet)	TOTALS (in feet)
A	28.40	3.33	94.57
B	28.30	2.00	56.60
C	28.10	12.00	337.20
D	27.50	2.00	55.00
E	26.75	10.42	278.65
F	26.00	3.63	94.25
G	25.00	23.42	585.42
H	23.80	89.92	2140.02
I	23.80	1.67	39.65
J	23.80	36.46	867.71
K	25.50	41.50	1058.25
L	27.30	10.00	273.00
M	28.10	20.00	562.00
N	29.00	33.46	970.29
O	29.00	13.50	391.50
P	28.80	2.54	73.20
Q	28.70	6.50	186.55
R	28.60	28.00	800.80
S	28.60	6.50	185.90
T	28.40	56.00	1590.40
TOTALS		**402.83**	**10640.95**

AVERAGE BUILDING ELEVATION (ABE)

$\frac{10640.95}{402.83}$ = 26.42' (ABE)

ABE PLAN

SCALE: 1" = 20' -0



SITE PLAN

SCALE: 1" = 10'-0"

LOT SLOPE

HIGHEST ELEVATION OF LOT	35.5'
LOWEST ELEVATION OF LOT	19.8'
ELEVATION DIFFERENCE	15.6'
HORIZONTAL DIFFERENCE	289.5'
LOT SLOPE:	5.4%

LOT SLOPE LESS THAN 15%, THEREFORE LOT COVERAGE = 40%

LOT COVERAGE

LOT COVERAGE, MAXIMUM: THE MAXIMUM AREA OF A RESIDENTIALLY ZONED LOT THAT MAY BE COVERED BY A COMBINATION OF BUILDINGS, INCLUDING EAVES AND ROOF OVERHANGS, AND VEHICULAR DRIVING SURFACES, PER MICC 19.16.010 DEFINITIONS.

MAIN STRUCTURE + ROOF(s)	7,641.47 SF
ACCESSORY STRUCTURE	60.00 SF
VEHICULAR USE	3,825.12 SF
TOTAL LOT COVERAGE	11,526.59 SF
PROPOSED POOL & HARDSCAPE	2,190.44 SF
TOTAL PROPOSED LOT COVERAGE	13,717.03 SF
LOT AREA	50,094 SF
MAX ALLOWED LOT COVERAGE (40%)	20,037.60 SF
UNDER THE MAXIMUM BY	6,320.57 SF

GROSS FLOOR AREA

GFA: THE TOTAL SQUARE FOOTAGE OF FLOOR AREA BOUNDED BY THE EXTERIOR FACES OF THE BUILDING. THE GROSS FLOOR AREA OF A SINGLE-FAMILY DWELLING DOES NOT INCLUDE:

A. SECOND- OR THIRD-LEVEL UNCOVERED DECKS, OR UNCOVERED ROOFTOP DECKS
B. FIRST-LEVEL COVERED DECKS AND/OR PATIOS

PROPOSED MAIN FLOOR + STAIR (<12'-16')	4,634.09 SF
PROPOSED MAIN FLOOR VOLUME (>16') @ 200%	1,817.52 SF (908.76 x 2)
PROPOSED GARAGE	973.47 SF
PROPOSED UPPER FLOOR (<12'-16')	4,487.21 SF
PROPOSED TOTAL GFA	11,912.29 SF
LOT AREA	50,094 SF
MAXIMUM ALLOWED GFA; 12,000 SF or 40% OF THE LOT AREA, WHICHEVER IS LESS	12,000 - 11,912.29 = 87.71
UNDER THE MAXIMUM BY	87.71 SF

HARDSCAPE

UNCOVERED DECKS	317 SF
UNCOVERED PATIOS	1,429 SF
WALKWAYS	698 SF
ROCKERIES AND RETAINING WALLS	149 SF
ALLOWABLE HARDSCAPE (5%)	4,508.46 SF
TOTAL HARDSCAPE	2,593 SF
UNDER MAXIMUM BY	1,915.46 SF

SIDE YARD CALC

PER MICC 19.02.020.C.1.c.ii.b, FOR LOTS WITH A LOT WIDTH OF MORE THAN 90 FEET, THE SUM OF THE SIDE YARDS WIDTH SHALL BE A WIDTH THAT IS EQUAL TO AT LEAST 17 PERCENT OF THE LOT WIDTH.

LOT WIDTH (AVERAGE)	170'-6.75' 170.56 x 0.17 = 28.99
NORTH SIDE YARD SETBACK	15'-0" (10'-0" FROM SETBACK FROM PIPED WATERCOURSE)
SOUTH SIDE YARD SETBACK	14'-0" (20'-15'=14')

BUILDING AREA SUMMARY:

MAIN LEVEL LIVING:	5,469 SF
UPPER LEVEL LIVING:	4,497 SF
TOTAL HEATED:	9,966 SF
GARAGE:	945 SF
TOTAL:	10,911 SF

LEGAL DESCRIPTION:

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

ADDRESS:

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Comment

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Drawn: DJR
Approved: APM

REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON 7866

KONERU RESIDENCE

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Mercer Island. WA 98040

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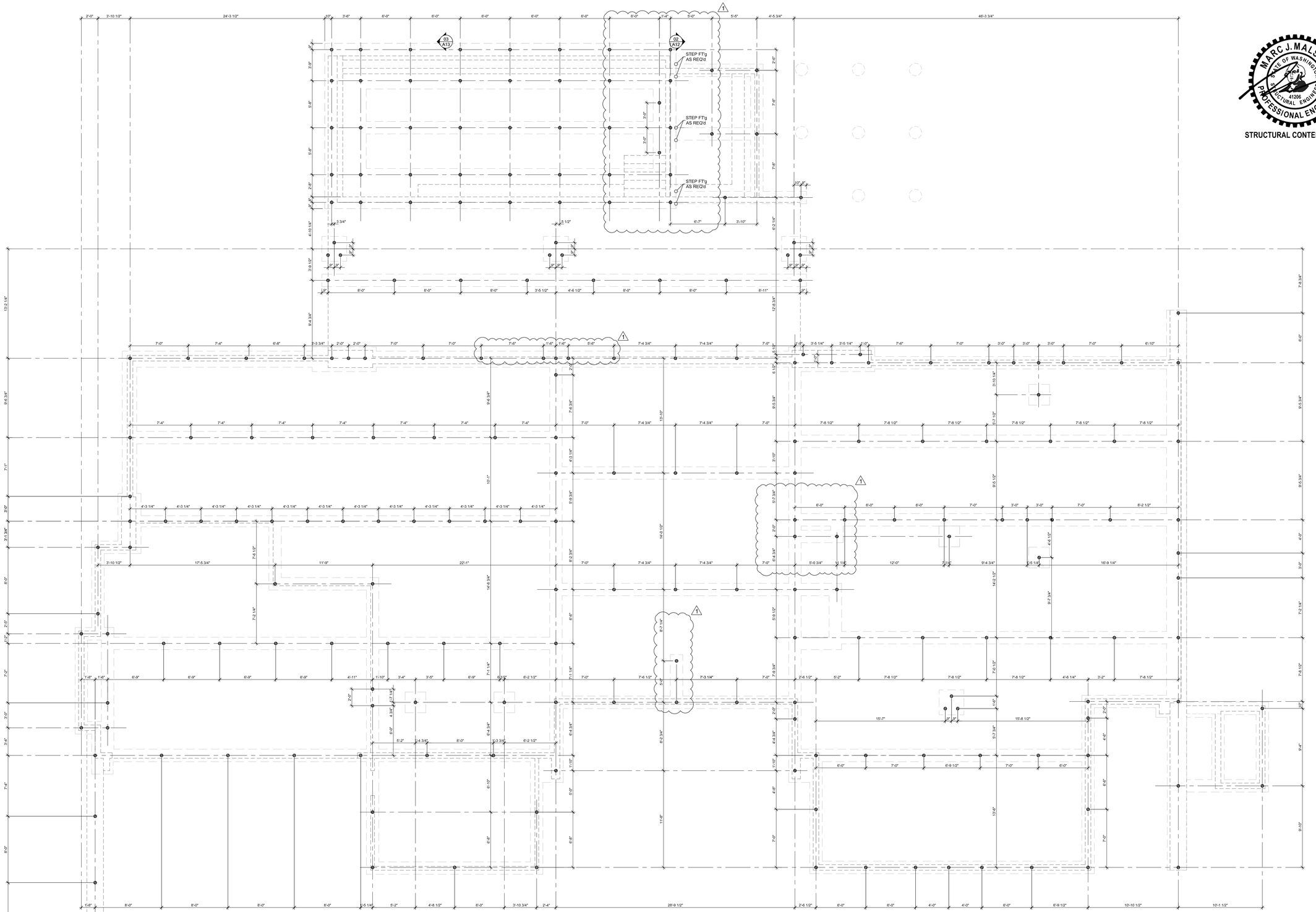
Arch Site Plan

A1



PIN PILE PLAN

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

03 A13

PILE DRIVING SCHEDULE (A)(B)

HAMMER WEIGHT (LBS)	4" PILE REFUSAL CRITERIA (B)
1,100	10
2,000	4

A. SCHEDULE OF DRIVING CRITERIA FOR 4" PIPE w/ A 10 TON ALLOWABLE AXIAL COMPRESSION LOAD PER SOILS ENGINEER
B. SECONDS PER INCH OF PENETRATION

LEGEND:

(P) 4" Ø STANDARD WEIGHT GALVANIZED PIPE PILE (10-TON CAPACITY) REFER TO 2/S3.1 FOR EMBEDMENT INTO FOOTING

02 A12

GENERAL NOTES:

1. ALL DIMENSION LINES ARE TO FACE OF CENTERLINE OF PIN PILE OR CONCRETE, U.N.O.
2. REFER TO STRUCTURAL FOUNDATION DETAILS FOR LOCATION / SPACING OF ANCHOR BOLTS

PILE SPECIFICATIONS:

1. 4" DIAMETER STANDARD WEIGHT GALVANIZED PIPE PILES SHALL BE DRIVEN TO REFUSAL WITH A MINIMUM 1,100-LB HYDRAULIC HAMMER AS DEFINED BY THE GEOTECHNICAL ENGINEER. THE DRIVING CRITERIA WILL BE DETERMINED BASED ON THE ACTUAL HAMMER SIZE SELECTED BY THE CONTRACTOR AND THE STATIC LOAD TEST PROGRAM.
2. PIPE PILES SHALL BE INSTALLED IN STRICT CONFORMANCE TO THE SOILS ENGINEER'S REQUIREMENTS INCLUDING THE APPROPRIATE ANALYSIS/EVALUATION AND TESTING REQUIREMENTS.
3. GEOTECHNICAL SPECIAL INSPECTOR SHALL BE CONTINUOUSLY PRESENT DURING PIPE PILE INSTALLATION AND TESTING.
4. THE GEOTECHNICAL ENGINEER OF RECORD OR THEIR REPRESENTATIVE SHALL PROVIDE FULL TIME OBSERVATION OF PILE INSTALLATION.
5. STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE A OR B, Fy = 35 KSI. PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED SLEEVE COUPLERS.
6. PIPE PILES NEED TO BE PLACED WITHIN 3" OF SPECIFIED LOCATION. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES.

PIN PILE PLAN NOTES:

1. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SOILS REPORT FOR ADDITIONAL PILE INSTALLATION REQUIREMENTS.
3. CONTRACTOR TO VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS, SURVEY DRAWINGS, AND EXISTING SITE CONDITIONS.
4. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

2 1 0 5 10

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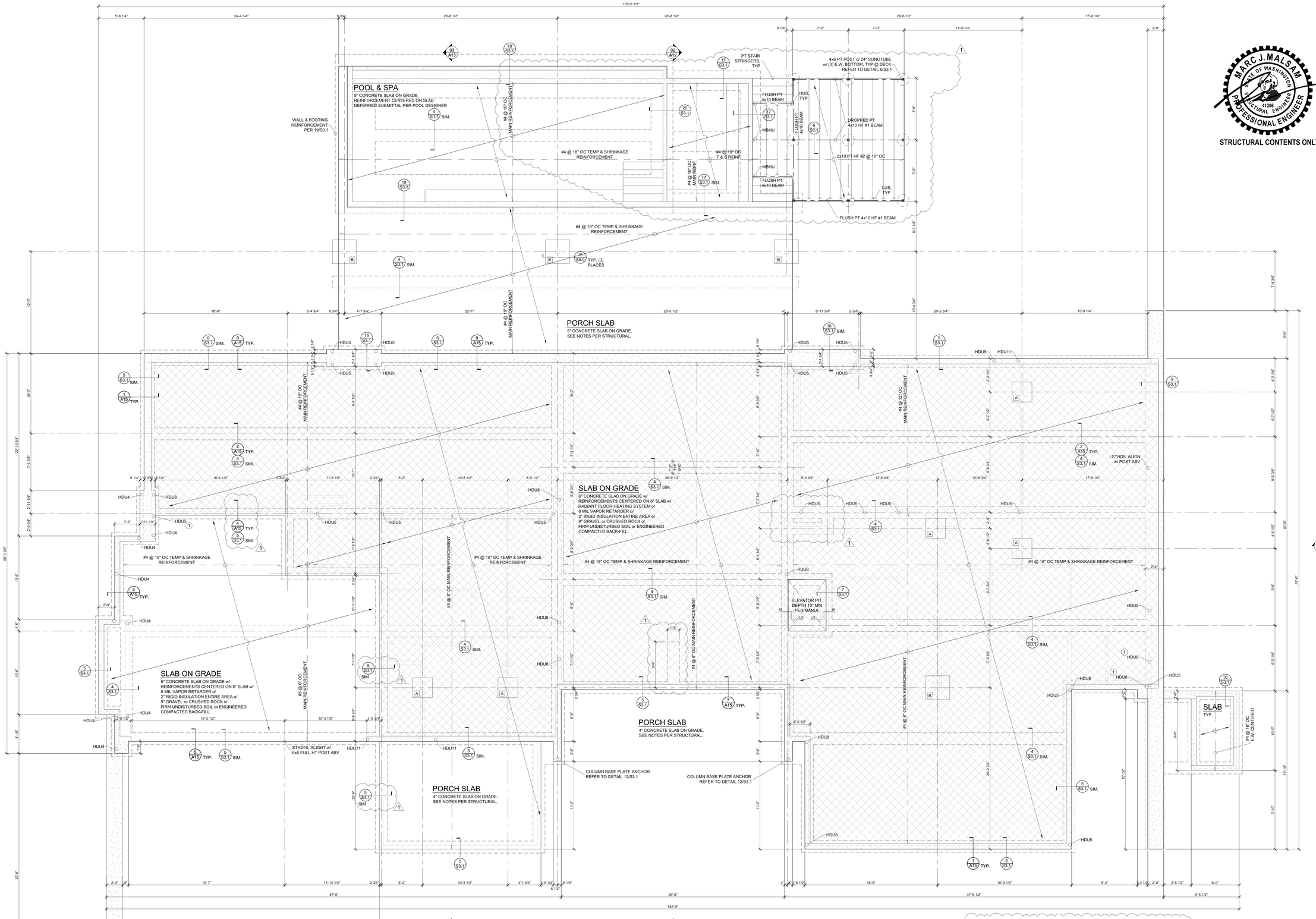
Pin Pile Plan

A2



FOOTING SCHEDULE:

MARK	SIZE	REINFORCING
A	2'-6" SQ x 12"d	(4) #4 EW BOTTOM
B	4'-0" SQ x 12"d	(5) #4 EW BOTTOM

FOOTNOTES:

(1) ALIGN HOLDOWN w/ STRAPS or HDU HOLDOWN ABOVE

GENERAL NOTES:

1. 8" MIN. CLEARANCE BETWEEN EXTERIOR GRADE & UNPROTECTED WOOD.
2. THE UNDER-FLOOR GRADE SHALL BE CLEANED OF ALL ORGANIC MATERIAL, AND CONSTRUCTION MATERIAL BEFORE THE BUILDING IS OCCUPIED.
3. ALL DIMENSION LINES ARE TO FACE OF FRAMING OR CONCRETE, U.N.O.
4. PROVIDE MIN. 6 MIL VAPOR BARRIER @ SLAB ON GRADE.
5. PROVIDE RIGID INSULATION PER COVER SHEET@ SLAB OF CONDITIONED SPACES WHERE LOCATED PER PLAN.
6. FOUNDATION DETAILS ON SHEET S3.1 FOR LOCATION / SPACING OF ANCHOR BOLTS
7. INSTALL ALL HOLDOWNS AND HARDWARE PRIOR TO BACKFILLING.

FOUNDATION PLAN NOTES:

1. BOTTOM OF ALL NEW FOOTINGS SHALL BE 18" MINIMUM BELOW LOWEST ADJACENT GRADE, UNO.
2. STRUCTURAL SLAB ON GRADE SHALL BE 6" MINIMUM THICKNESS REINFORCED PER PLAN, UNO. PROVIDE RIGID INSULATION AT INTERIOR SPACES PER ARCH AND VAPOR BARRIER BELOW SLAB PER ARCHITECTURAL DRAWINGS OVER 9" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL PER SOILS ENGINEER.
3. REFER TO SHEET S3.0 FOR TYPICAL FOUNDATION AND CONCRETE DETAILS.
4. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
5. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

STRUCTURAL SOG REINFORCING PLAN

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

2 1 0 5 10

STRUCTURAL CONTENTS ONLY

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REGISTERED PROFESSIONAL ENGINEER 7564 STATE OF WASHINGTON

KONERU RESIDENCE

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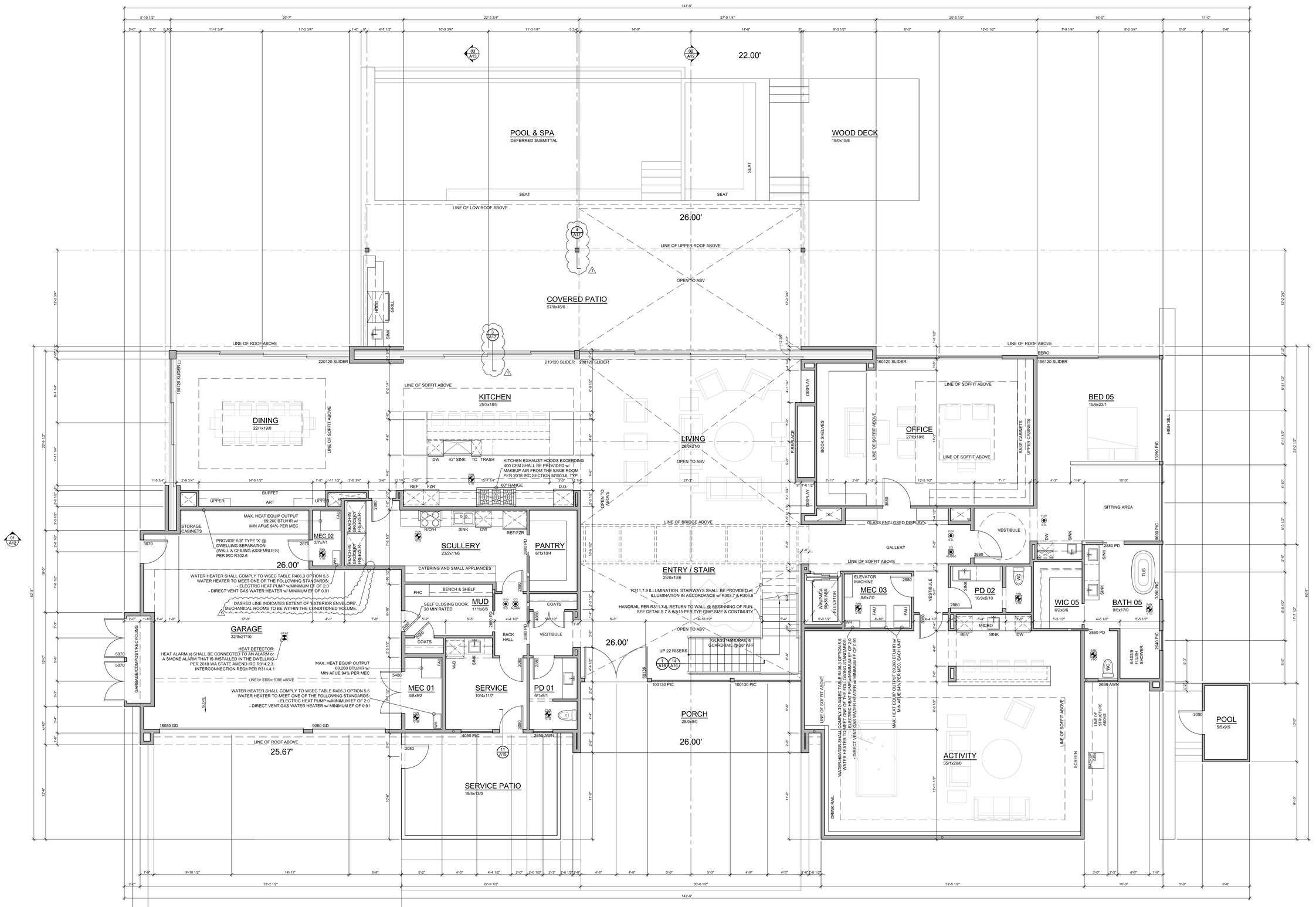
PERMIT SET

Structural SOG Reinforcing Plan

A4



MAIN FLOOR PLAN

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

5,469 SF // 9,966 SF TOTAL CONDITIONED // 945 GARAGE

GENERAL NOTES:

1. SEE ELEVATIONS, SECTIONS AND ROOF PLAN FOR PLATE HEIGHTS.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2828= 2'-8"w x 2'-8"h)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2x4 STUDS AT 16" O.C., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. PER IRC SEC R311.7.5, MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
13. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
14. PROVIDE GUARDS (MIN, 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
15. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH, 51-51 WAC R1004.1.1.
16. ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS.

PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET, PER I.R.C. 313.4 INTERCONNECTED w/ EMERGENCY BATTERY BACKUP
- CO ALARM — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- VTD — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET.
- HEAT — INDICATES HEAT ALARM

306.1 ACCESS. APPLIANCES, CONTROLS DEVICES, HEAT EXCHANGERS AND HVAC SYSTEM COMPONENTS THAT UTILIZE ENERGY SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT w/o DISABLING THE FUNCTION OF A FIRE-RESISTANCE-RATED ASSEMBLY OR REMOVING PERMANENT CONSTRUCTION, OTHER APPLIANCES, VENTING SYSTEMS or ANY OTHER PIPING OR DUCTS NOT CONNECTED TO THE APPLIANCE BEING INSPECTED, SERVICED, REPAIRED or REPLACED. A LEVEL WORKING SPACE NOT LESS THAN 30 INCHES DEEP AND 30 INCHES WIDE (762 MM BY 762 MM) SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE AN APPLIANCE.

2 1 0 5 10

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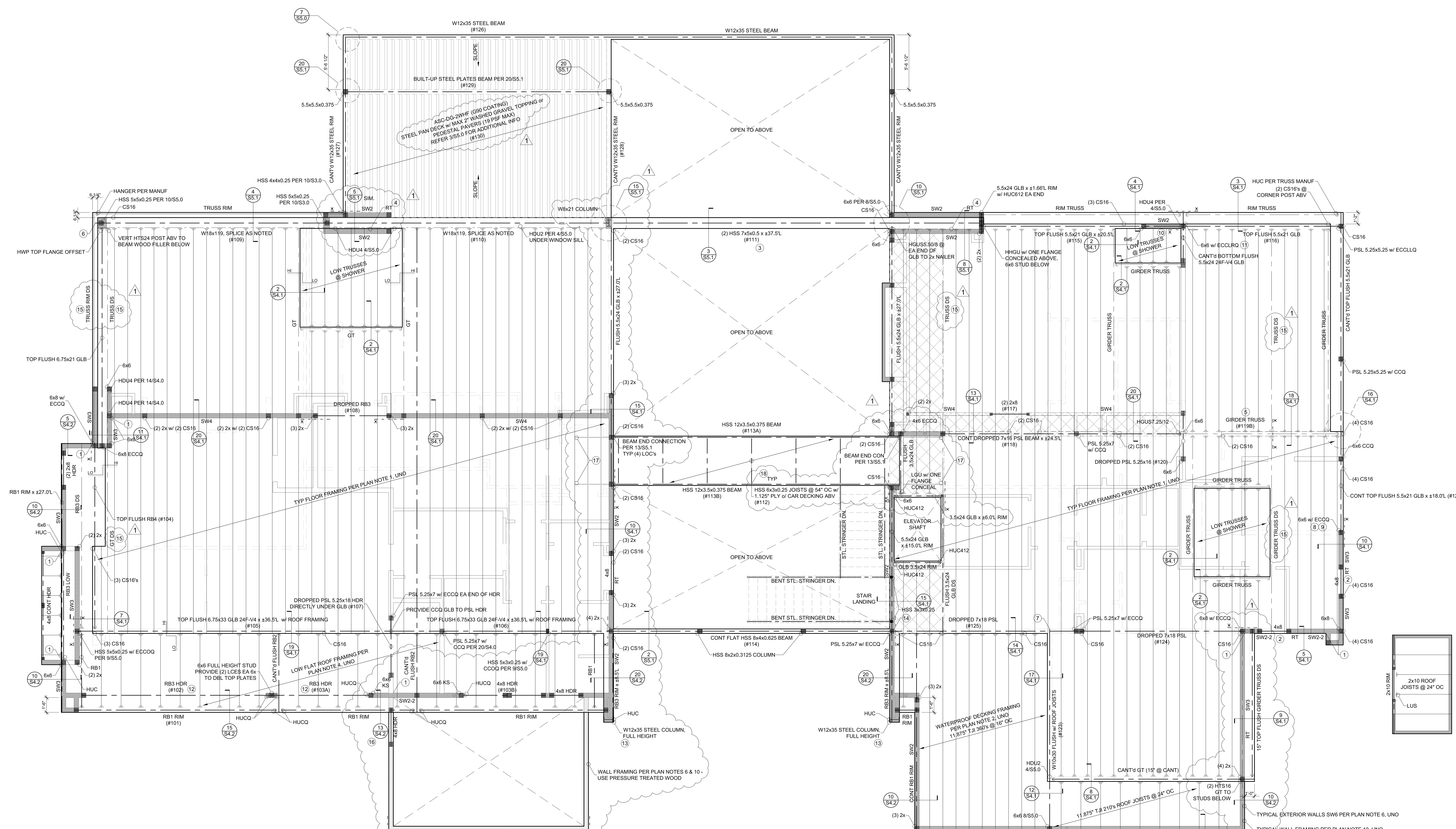
Main Floor Plan

A5



FOOTNOTES:

1. SHEARWALL SHEATHING CONTINUOUS THRU WALL INTERSECTION
2. SHEATHE AND NAIL ABOVE AND BELOW WINDOW AND PANEL EDGE NAIL AROUND OPENING PER SHEARWALL SCHEDULE
3. (2) HSS 7x5x1/2 BUILT-UP BEAM SHALL BE GROOVE WELD TOGETHER TOP AND BOTTOM AND PROVIDE 1/2" DIAM. WTS AT 36"oc FOR 2x NAILER CONNECTION EACH SIDE OF BUILT-UP BEAM AND USE 5/4" WOOD NAILER TOP AND BOTTOM OF BUILT-UP BEAM WITH TB SCREWS AT 36"oc STAGGERED INTO HSS BEAMS, PRE-DRILL AS REQUIRED
4. TRUSS MANUFACTURER TO DESIGN RIM TRUSS TO TRANSFER 600 PLF LATERALLY FROM TOP TO BOTTOM CHORD
5. TRUSS MANUFACTURER TO DESIGN GIRDER TRUSS FOR A 4,500 LBS (WIND/SEISMIC) POINT LOAD AT HOLDOWN AND PROVIDE VERTICAL MEMBER TO RECEIVE HOLDOWN NAILS
6. PROVIDE (1)L90 WITH #9 x 1-1/2" SD CONNECTORS SCREWS EACH SIDE OF STEEL BEAM SNUG FIT WOOD FILLER TO TRUSS, (2)L90 TOTAL AND TRUSS MANUFACTURER TO PROVIDE VERTICAL MEMBERS TO RECEIVE L90 FASTENERS
7. PROVIDE 3-1/2" BEARING LENGTH OF STEEL BEAM TO TOP OF PSL WITH (2)1/2" DIAM. x 6" LAG BOLTS AT BEAM GAGE WITH 2-1/2" EDGE DISTANCE FROM FACE OF PSL BEAM
8. RAISE TOP OF POST TO BOTTOM OF GLB 21" DEPTH TOP FLUSH BEAM AND PROVIDE POST CAP PER PLAN, REFER DETAIL 18/S4.0
9. PROVIDE HORIZ CS16 x 4'-6" STRAP AT TOP PLATE AND WRAP AROUND CENTERED ON POST PER PLAN, REFER DETAIL 18/S4.0
10. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF GLB 21" DEPTH BEAM AND DBL 2x6 TOP PLATES AS REQUIRED TO BE FLUSHED WITH FLOOR FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 16"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES TO BOTTOM OF BEAM
11. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF GLB 21" DEPTH BEAM AND POST CAP AS REQUIRED TOP FLUSHED WITH FLOOR TRUSSES
12. PLACE GARAGE HEADER DIRECTLY ABOVE DOOR ROUGH OPENING
13. PROVIDE FULL HEIGHT SOLID WOOD FILLER AS REQUIRED FOR NAILER AND BOLT WITH 5/8" WTS AT 32"oc, REFER DETAIL 12/S3.1
14. POCKET BEAM INTO WALL WITH BUILT-UP 2x BEARING STUDS TO MATCH BEAM WIDTH AND (1)2x FULL HEIGHT STUD EACH SIDE WITH A35 EACH TOP AND BOTTOM

FOOTNOTES cont:

15. TRUSS MANUFACTURER TO DESIGN DRAG TRUSS FOR 300 lbs/ft OF LATERAL LOAD
16. PROVIDE LSL 3.5x11.875 BLOCKING BETWEEN TJI RAFTERS OVER SHEARWALL SW2-2, CONNECTION PER DETAIL 13/S4.2
17. PROVIDE DTT2Z @ THIRD FLOOR TRUSS BAY PER DETAIL 13/S5.1
18. 3/16 FILLET WELD AROUND ONTO HSS 12x3.5x0.375 BRIDGE BEAM

UPPER FLOOR & LOWER FLOOR FRAMING NOTES:

1. TYPICAL FLOOR FRAMING CONSISTS OF 1/4" TILE o/ 1-1/8" GYPCRETE PER ARCH o/ 1-1/8" T&G APA RATED SHEATHING (SPAN RATING 48 oc) OVER PREFABRICATED TRUSSES AT 16"oc, UNO. TRUSSES TO BE A MIN DEPTH OF 24".
2. TYPICAL WATER PROOF DECK FRAMING CONSISTS OF CONCRETE PAVERS (18 PSF MAX) o/ TAPERED RIGID INSULATION PER ARCH o/ 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 360's AT 16"oc, UNO.
3. GLUE AND NAIL FLOOR AND WATERPROOF DECK SHEATHING w/ 8d AT 6"oc AT FRAMED PANEL EDGES AND AT 12"oc IN THE FIELD, UNO.
4. TYPICAL LOWER ROOF FRAMING CONSISTS OF 2" THICK MAX. WASHED GRAVEL TOPPING (20 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 210's AT 24"oc, UNO. PROVIDE H8 EACH END OF ALL RAFTERS, H8 EACH SIDE OF ALL MULTIPLE RAFTERS, UNO.
5. NAIL NEW ROOF SHEATHING w/ 8d AT 6"oc AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12"oc IN THE FIELD, UNO.
6. "SW_" INDICATES SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE ON 5/S4.0 FOR ADDITIONAL INFORMATION. ALL EXTERIOR WALLS ARE SW6, UNO.
7. ALL HEADERS REQUIRED ARE SHOWN ON PLAN AND SHALL BE (2)2x8, UNO. REFER TO DETAIL 10/S4.0 FOR ADDITIONAL REQUIREMENTS.
8. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF ALL HEADERS, BEAMS, AND GIRDER TRUSSES 6'-0" IN LENGTH AND OVER, UNO.
9. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING SOLID THRU FLOOR TO MATCHING SUPPORTS BELOW, UNO.
10. TYPICAL WALL FRAMING CONSISTS OF 2x4'S OR 2x6's AT 16"oc AT EXTERIOR WALLS AND 2x4's OR 2x6's AT 16"oc AT INTERIOR WALLS PER ARCH DRAWINGS, UNO.
11. REFER TO SHEET S4.0 FOR TYPICAL WOOD FRAMING DETAILS.
12. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
13. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

FLUSH BEAM SCHEDULE:

MARK	SIZE (1)	BRG STUDS	HANGER, UNO
RB1	1.75x11.875 LSL	2	HUS1.81/10
RB2	3.5x11.875 GLB or 3.5x11.875 LSL	2 2	HHUS410 HHUS410
RB3	5.5x11.875 GLB or 5.25x11.875 PSL	3 3	HGUS5.50/10 HGUS5.50/10
RB4	7x11.875 PSL	4	HGUS7.25/10

(1) ALL GLB ARE 24F-V4, UNO

LEGEND:

- X _ _ HORIZ CS16 x 3'-0" LONG - TOP PLATE TO TOP PLATE (@ BREAK) or TOP FLUSHED BEAM TO TOP PLATE or RIM TO RIM or BEAM TO BEAM or BEAM TO RT or TOP PLATES TO TOP PLATES (XX INDICATES 2-CS16 STRAPS)
- DS — DRAG STRUT - NAIL THRU SHEATHING w/ 8d NAILS @ 4" OC INTO ENTIRE LENGTH OF MEMBER
- KS — KING STUD
- (X) — NUMBER OF BUILT-UP STUDS
- GT — GIRDER TRUSS
- RT — RIM TRUSS
- BLOCK DIAPHRAGM - PROVIDE FLAT 2x4 BLK'g w/ 8d @ 4" OC @ ALL PANEL EDGES @ 8d @ 12" OC IN THE FIELD
- INDICATES EXTENT OF SHEARWALL SEGMENT
- BEARING WALL

UPPER FLOOR & LOW ROOF FRAMING PLAN

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

2 1 0 5 10

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KONERU RESIDENCE

6610 E Mercer Way
Mercer Island, WA 98040

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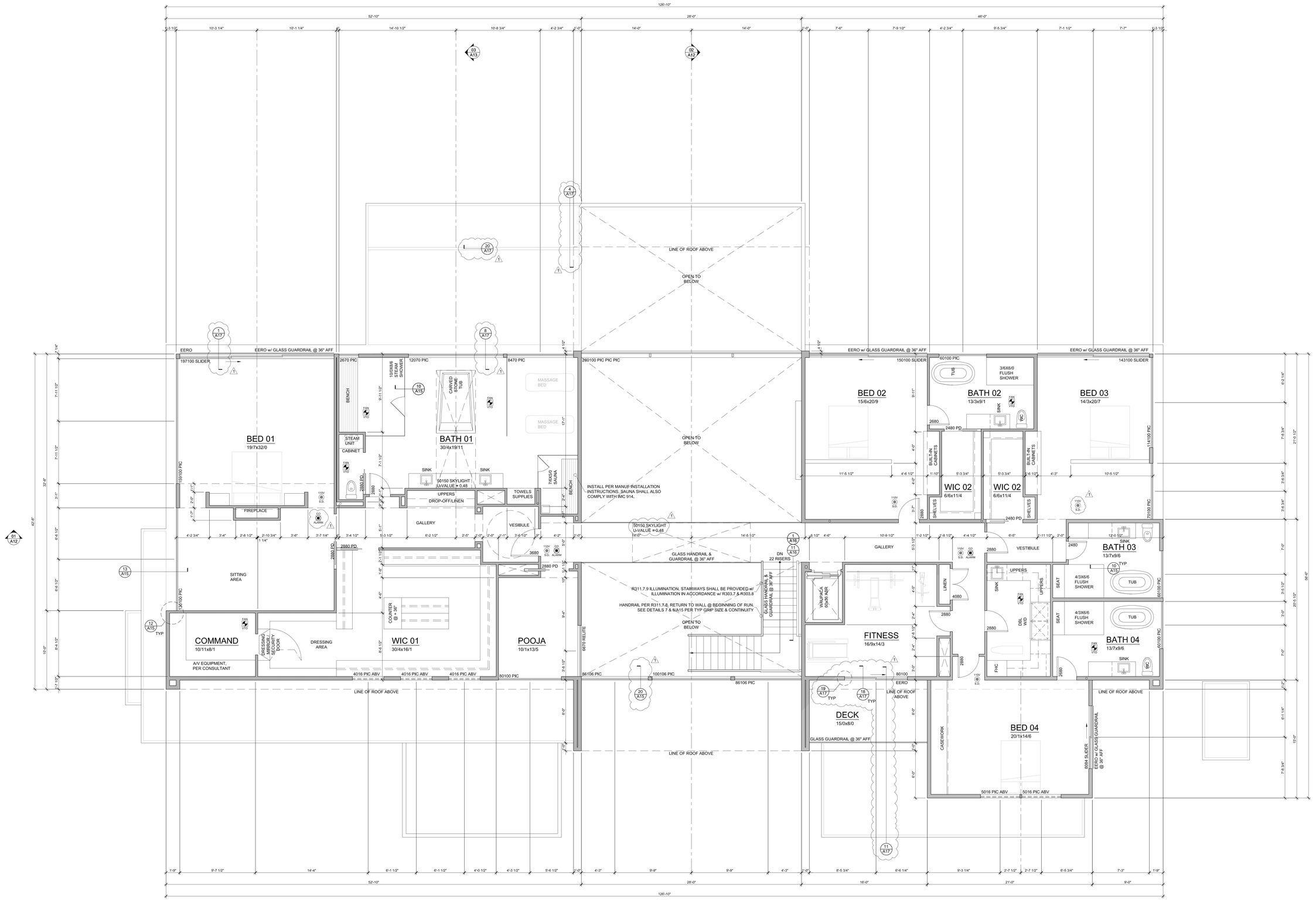
Upper Floor & Lower Roof Framing Plan

A6



UPPER FLOOR PLAN

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

4,497 SF

GENERAL NOTES:

1. SEE ELEVATIONS, SECTIONS AND ROOF PLAN FOR PLATE HEIGHTS.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2828= 2'-8"w x 2'-8"h)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2x4 STUDS AT 16" O.C., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. PER IRC SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
13. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
14. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
15. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH, 51-51 WAC R1004.1.1.
16. ALL SHOWERHEAD AND KITCHEN SINK FAUCETS INSTALLED IN THE HOUSE SHALL BE RATED AT 1.75 GPM OR LESS. ALL OTHER LAVATORY FAUCETS SHALL BE RATED AT 1.0 GPM OR LESS.

PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET, PER I.R.C. 313.4 INTERCONNECTED w/ EMERGENCY BATTERY BACKUP
- CO ALARM — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- FAN VTO — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET.

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KONERU RESIDENCE

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Mercer Island. WA 98040

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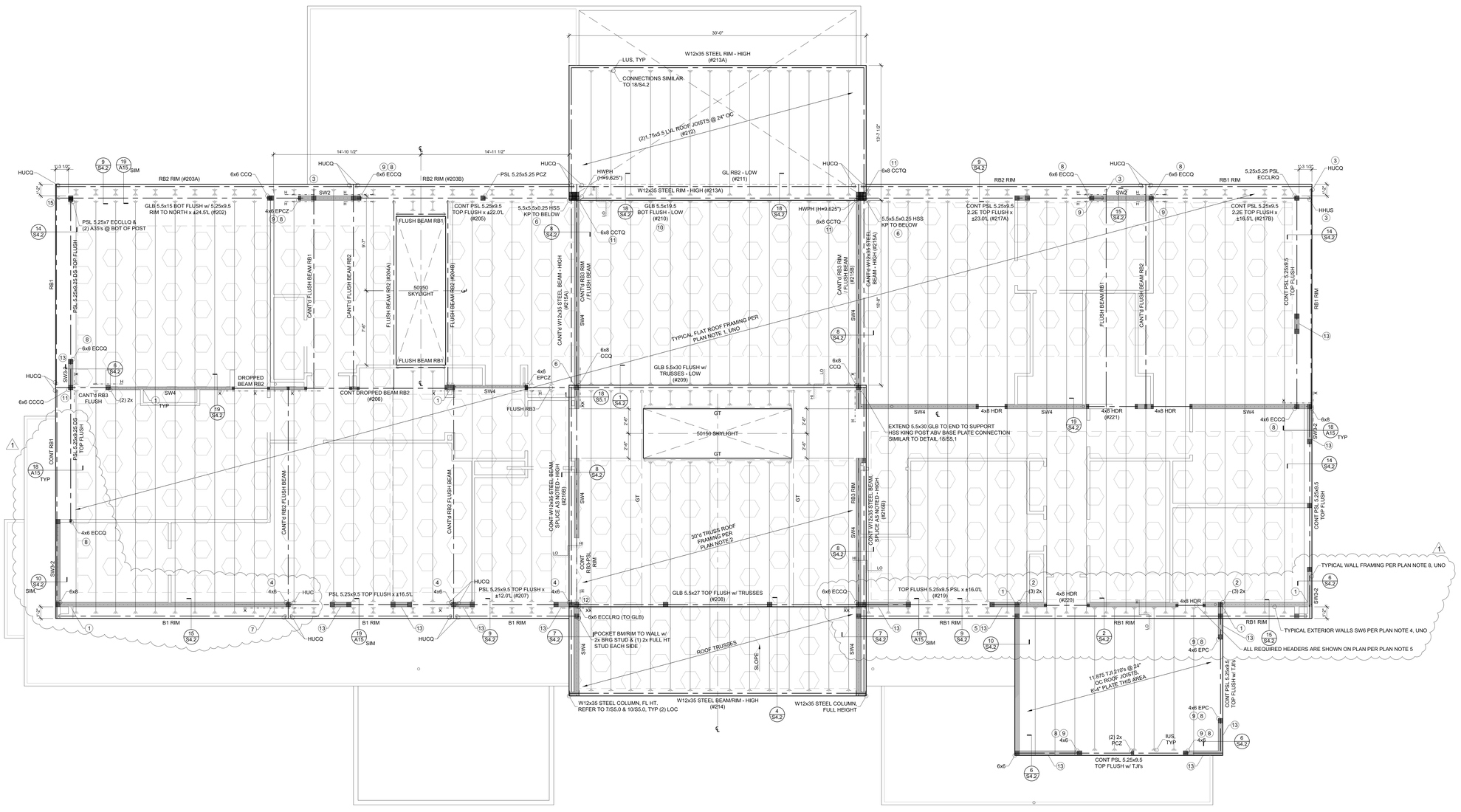
Upper Floor Plan

A7



UPPER ROOF FRAMING PLAN

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

GENERAL NOTES:

1. EAVE OVERHANG PER PLAN. APPLY ROOFING IN ACCORDANCE WITH I.R.C. SEC. 905. PROVIDE DRIP EDGE PER R905.2.8.5.
2. HEADERS (HDR) TO BE PER STRUCTURAL. FILL CAVITIES WITH RIGID INSULATION WHERE POSSIBLE.
3. COLUMNS @ HEADERS, BEAMS, & GIRDERS TO BE (2) 2x STUDS (U.N.O.)

FLUSH BEAM SCHEDULE:

MARK	SIZE ①	BRG STUDS	HANGER, UNO
RB1	1.75x11.875 LSL	2	HUS1.81/10
RB2	3.5x11.875 GLB or 3.5x11.875 LSL	2 2	HHUS410 HHUS410
RB3	5.5x11.875 GLB or 5.25x11.875 PSL	3 3	HGUS5.50/10 HGUS5.50/10
RB4	7x11.875 PSL	4	HGUS7.25/10

① ALL GLB ARE 24F-V4, UNO

LEGEND:

- X _ _ HORIZ CS16 x 3'-0" LONG - TOP PLATE TO TOP PLATE (@ BREAK) or TOP FLUSHED BEAM TO TOP PLATE or RIM TO RIM or BEAM TO BEAM (XX INDICATES 2-CS16 STRAPS)
- DS DRAG STRUT - NAIL THRU SHEATHING w/ 8d NAILS @ 4" OC INTO ENTIRE LENGTH OF MEMBER
- (X) NUMBER OF BUILT-UP STUDS
- GT GIRDER TRUSS
- RT RIM TRUSS
- KP KING POST
- INDICATES EXTENT OF SHEARWALL SEGMENT
- BEARING WALL
- INDICATES EXTENT OF SOLAR PANELS ABOVE, 5 PSF MAX. SEE LAYOUT PER SOLAR DESIGNER.

FOOTNOTES:

1. SHEARWALL SHEATHING CONTINUOUS THRU WALL INTERSECTION
2. PROVIDE (2)A35 TOP AND BOTTOM OF POST/BUILT-UP STUDS
3. HANGER PER PLAN INSTALL UPSIDE DOWN
4. PROVIDE VERT. HTS20 STRAP EACH BEAM END TO POST BELOW (AT EACH END OF EACH BEAM WERE HANGER NOT OCCURS)
5. PROVIDE (5)LTP5's ORIENT UPRIGHT AND CENTERED ON 2x SHIM BETWEEN BEAM AND DOUBLE TOP PLATES FOR DRAG CONNECTION.
6. PROVIDE HSS 3-1/2x3-1/2x1/4 MIN. KING POST (KP) AT HIGH STEEL BEAM AND SET COLUMN BASE PLATE AND CONNECTION TO TOP OF ROOF BEAM BELOW, REFER 18/s5.1
7. PROVIDE SNUG FIT LSL 1-3/4" BLOCKING BETWEEN (3) RAFTER BAYS WITH A35 TO TOP PLATE AND PROVIDE HORIZ CS16 x 6'-0" OVER ROOF SHEATHING - LAP RIM/BEAM 1'-6" AND NAIL REMAINING LENGTH TO LSL 1-3/4" BLKG
8. RAISE TOP OF POST TO BOTTOM OF 9-1/2" DEPTH TOP FLUSH BEAM AND PROVIDE POST CAP PER PLAN, REFER DETAIL 18/S4.0
9. PROVIDE HORIZ CS16 x 4'-6" STRAP AT TOP PLATE AND WRAP AROUND CENTERED ON POST PER PLAN
10. RAISED BOTTOM OF BEAM (+/-) 2-1/4" FROM BOTTOM OF TJI RAFTERS
11. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND POST CAP AS REQUIRED TOP FLUSHED WITH TOP OF TJI RAFTERS
12. NOTCH BOTTOM OF RB3-PSL BEAM TO FIT INTO RAISED POST CAP - NO OVERCUTS
13. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND DBL 2x6 TOP PLATES TO BE FLUSHED WITH TOP OF ROOF FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 16"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES CENTERED INTO BOTTOM OF BEAM, (2) SDWS SCREWS MIN. EACH WALL PANEL
14. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND DBL 2x6 TOP PLATES TO BE FLUSHED WITH TOP OF ROOF FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 8"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES CENTERED INTO BOTTOM OF BEAM
15. PROVIDE LS70 EACH FACE, (2) TOTAL WITH #9 x 1-1/2" SD CONNECTOR SCREWS IN LIEU OF NAILS

ROOF FRAMING NOTES:

1. TYPICAL ROOF FRAMING CONSISTS OF SOLAR PANELS (5 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 360's AT 24"oc, UNO. PROVIDE H8 EACH END OF ALL RAFTERS, H8 EACH SIDE OF ALL MULTIPLE RAFTERS, UNO.
2. TRUSS ROOF FRAMING PER PLAN CONSISTS OF SOLAR PANELS (5 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER PREFABRICATED TRUSSES AT 24"oc, UNO. TRUSSES TO BE A MIN DEPTH OF 24". PROVIDE H2.5A EACH END OF ALL TRUSSES, H2.5A EACH SIDE OF ALL MULTIPLE TRUSSES, UNO. REFER TO ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
3. NAIL ROOF SHEATHING W/ 8d AT 6"oc AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12"oc IN THE FIELD, UNO.
4. "SW_" INDICATES SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE ON S/S4.0 FOR ADDITIONAL INFORMATION. ALL EXTERIOR WALLS ARE SW6, UNO.
5. ALL HEADERS REQUIRED ARE SHOWN ON PLAN AND SHALL BE (2)2x8, UNO. REFER TO DETAIL 10/S4.0 FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF ALL HEADERS AND BEAMS 6'-0" IN LENGTH AND OVER, UNO.
7. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING SOLID THRU FLOOR TO MATCHING SUPPORTS BELOW.
8. TYPICAL WALL FRAMING CONSISTS OF 2x6's AT 16"oc AT EXTERIOR WALLS AND 2x4's OR 2x6's AT 16"oc AT INTERIOR WALLS PER ARCH DRAWINGS, UNO.
9. REFER TO SHEET S4.0 FOR TYPICAL WOOD FRAMING DETAILS.
10. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
11. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

2 1 0 5 10

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Approved: APM

MARC J. MALSAM — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON — 41206

KONERU RESIDENCE

6610 E Mercer Way
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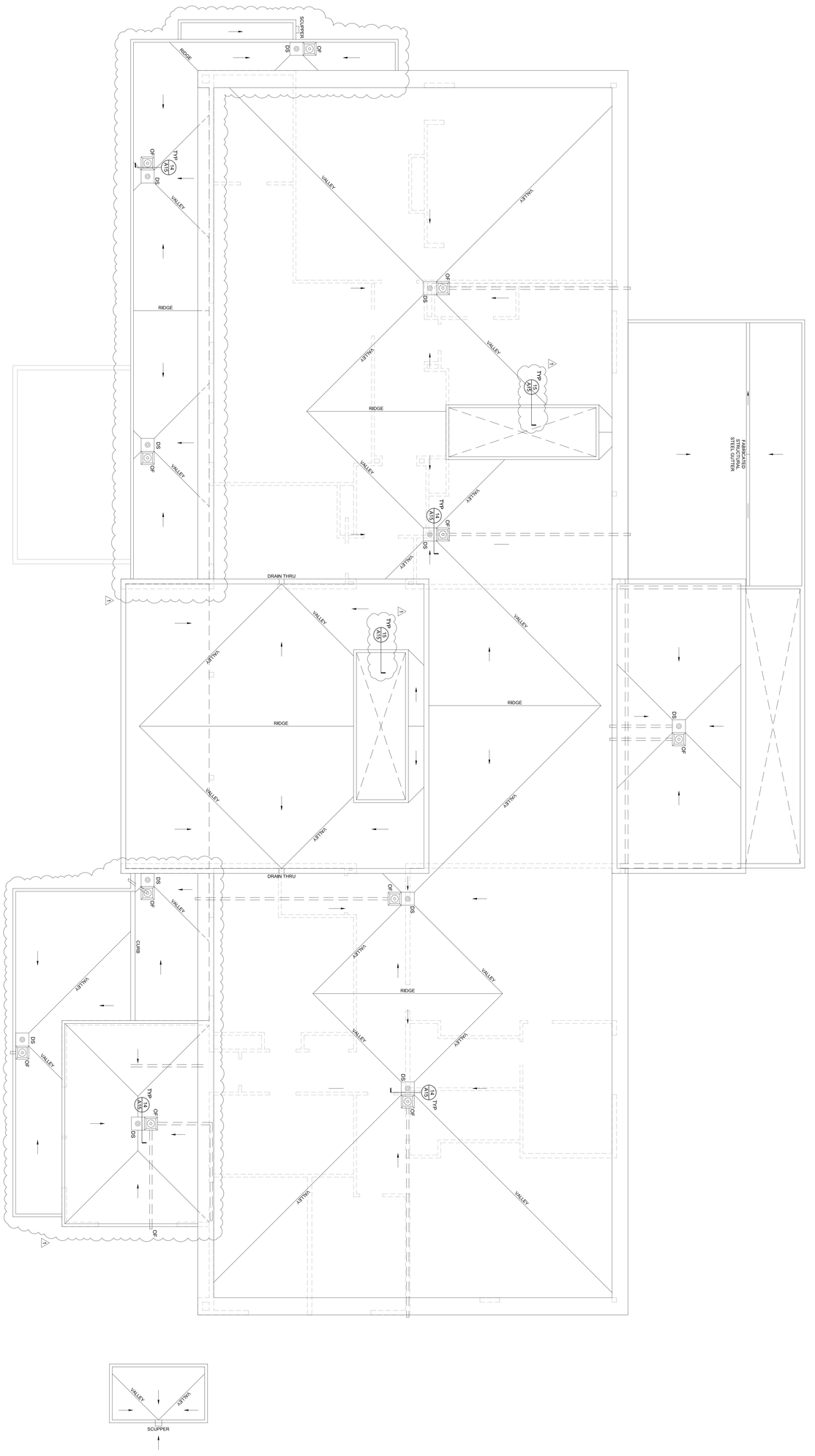
Upper Roof Framing Plan

A8



ROOF DRAINAGE PLAN

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

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A. PHILIP MCCULLOUGH
STATE OF WASHINGTON

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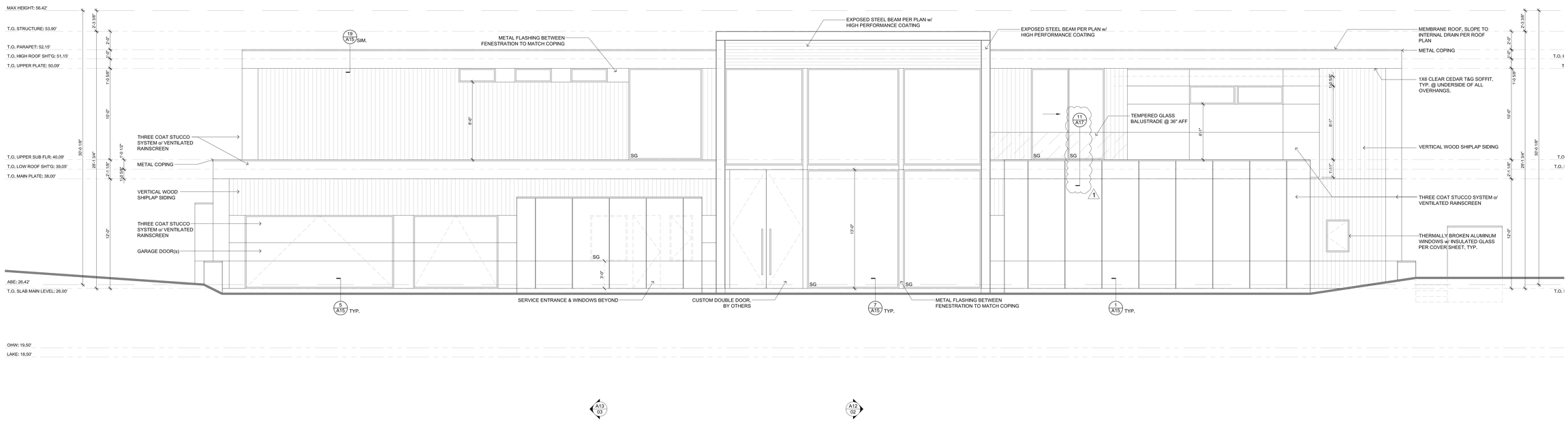
Roof Drainage Plan

A9



WEST ELEVATION

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

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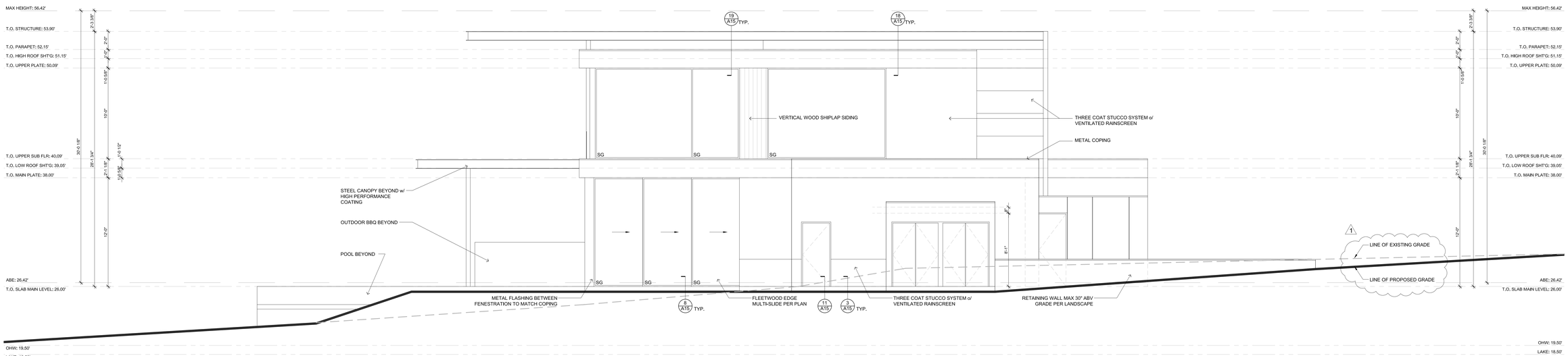

NORTH ELEVATION

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

2 1 0 5 10

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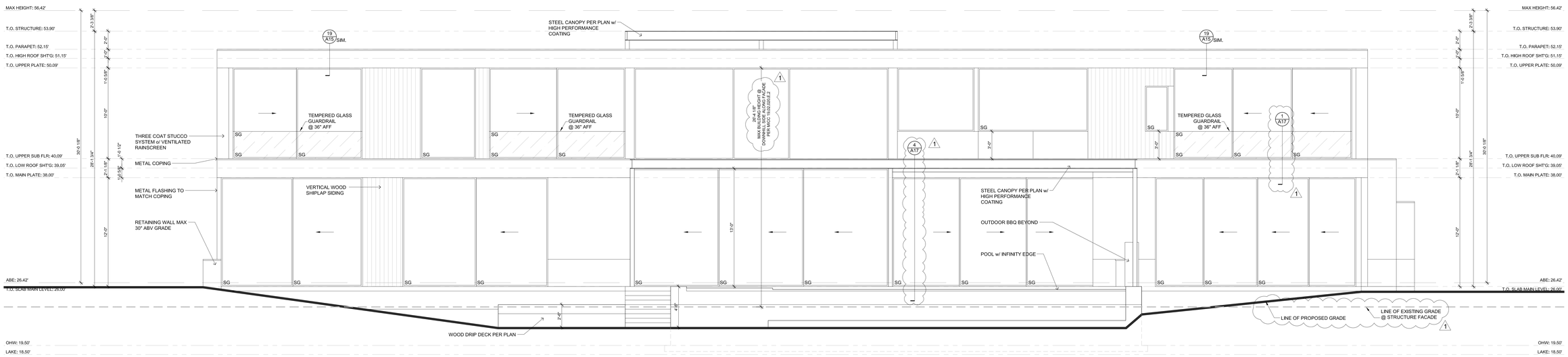
Exterior Elevations

A10



EAST ELEVATION

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

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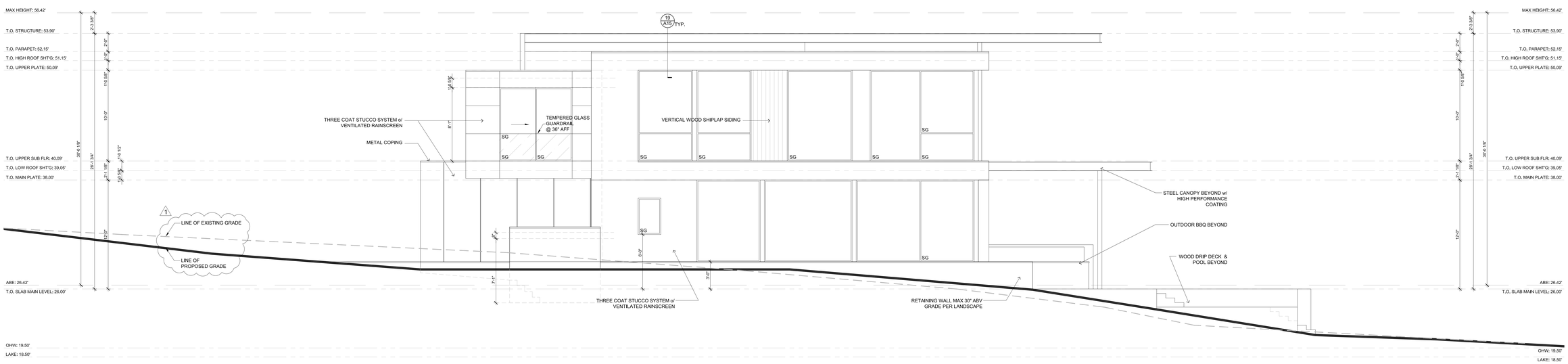

SOUTH ELEVATION

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

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KONERU RESIDENCE

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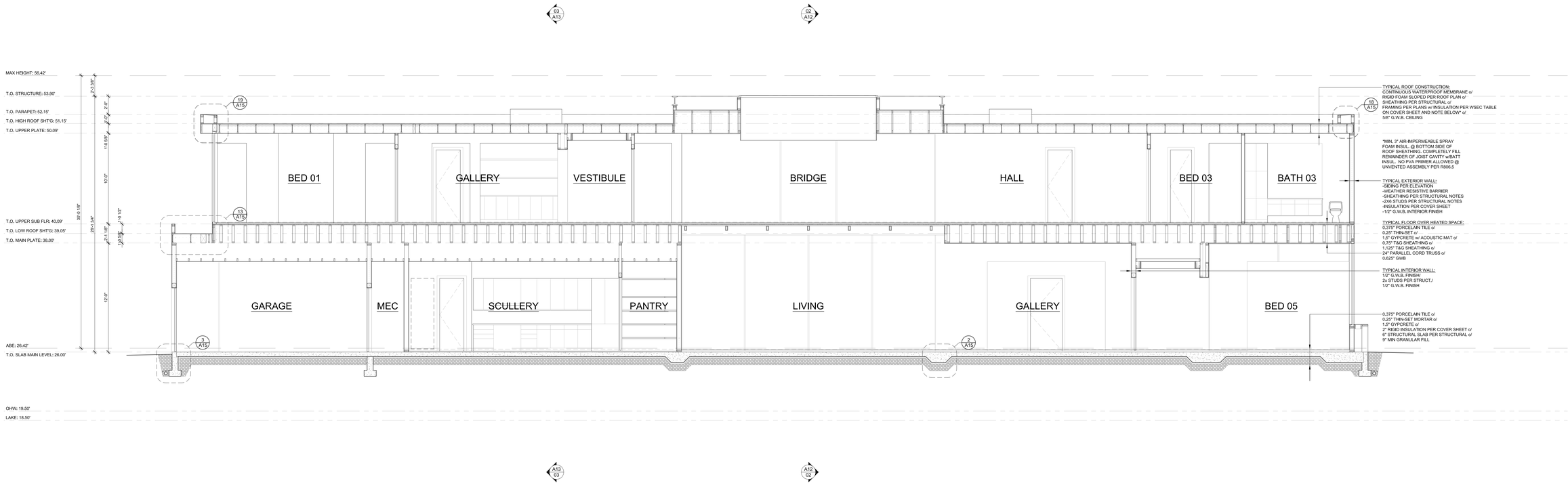
Exterior Elevations

A11



SECTION 01

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

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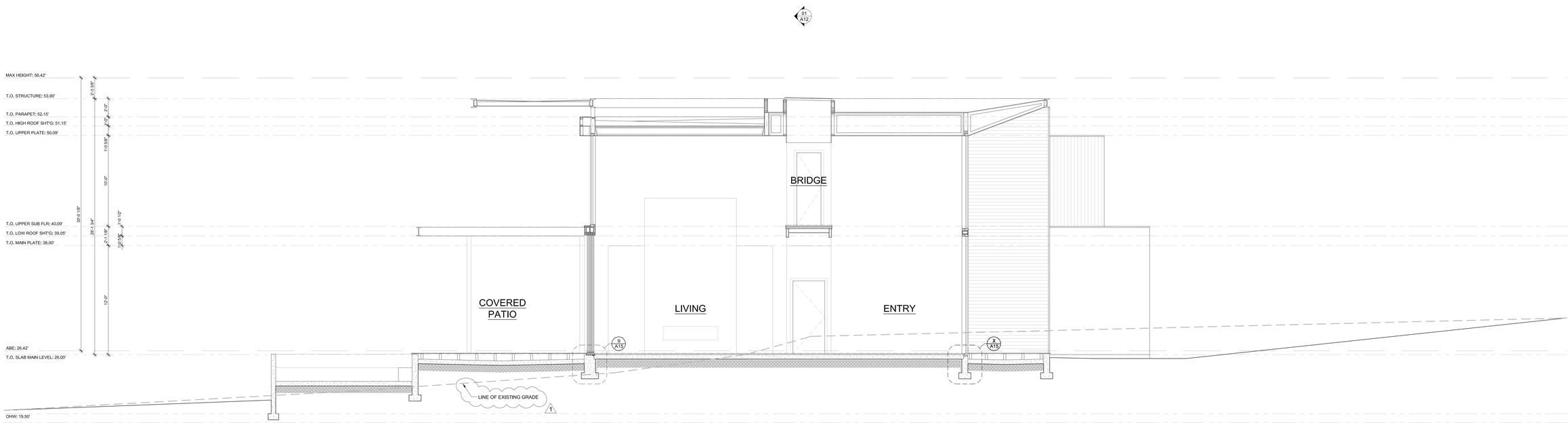

SECTION 02

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

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Comment

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

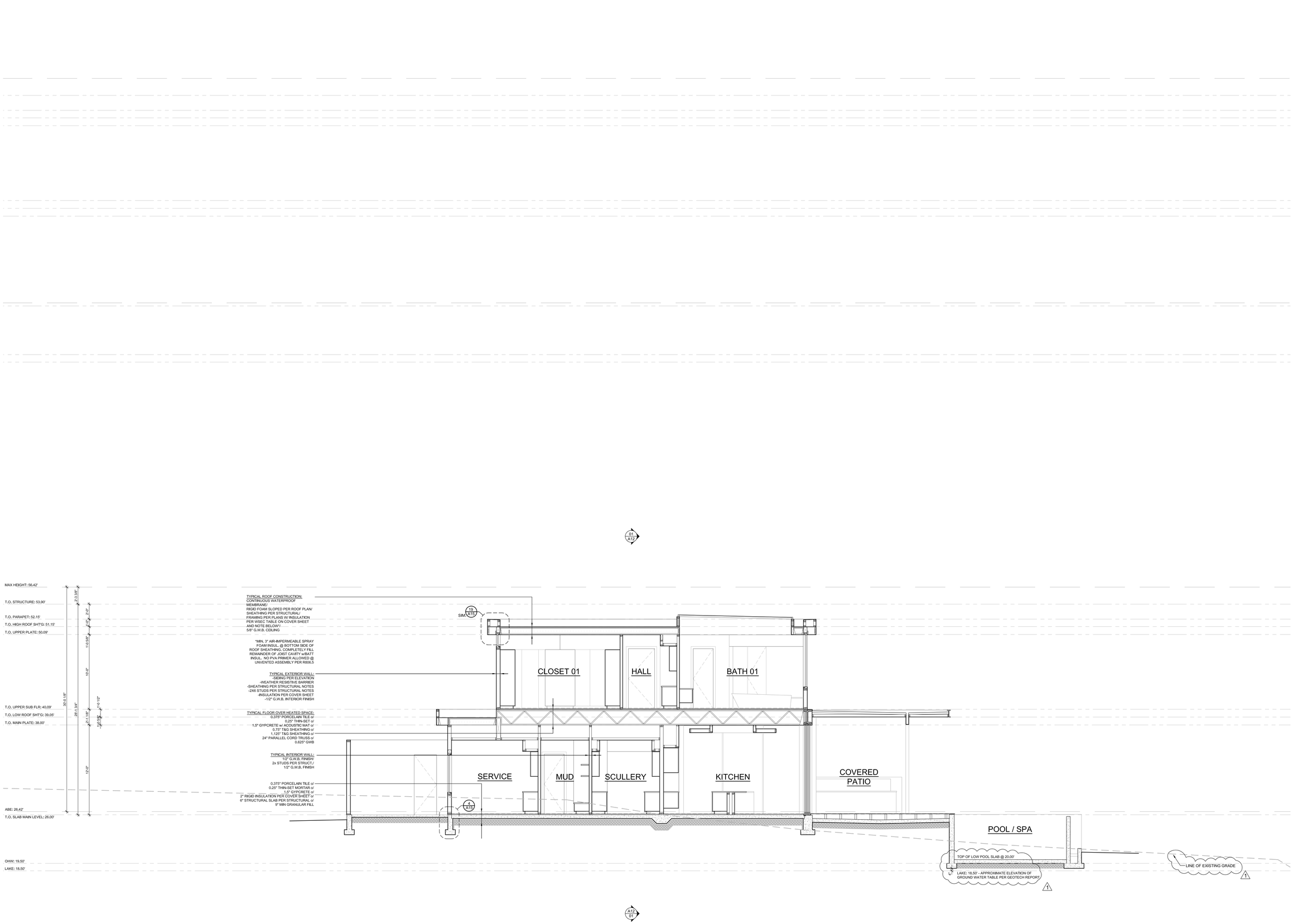
KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Building Sections

A12



SECTION 04

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

2 1 0 5 10

Date: 2021.10.13
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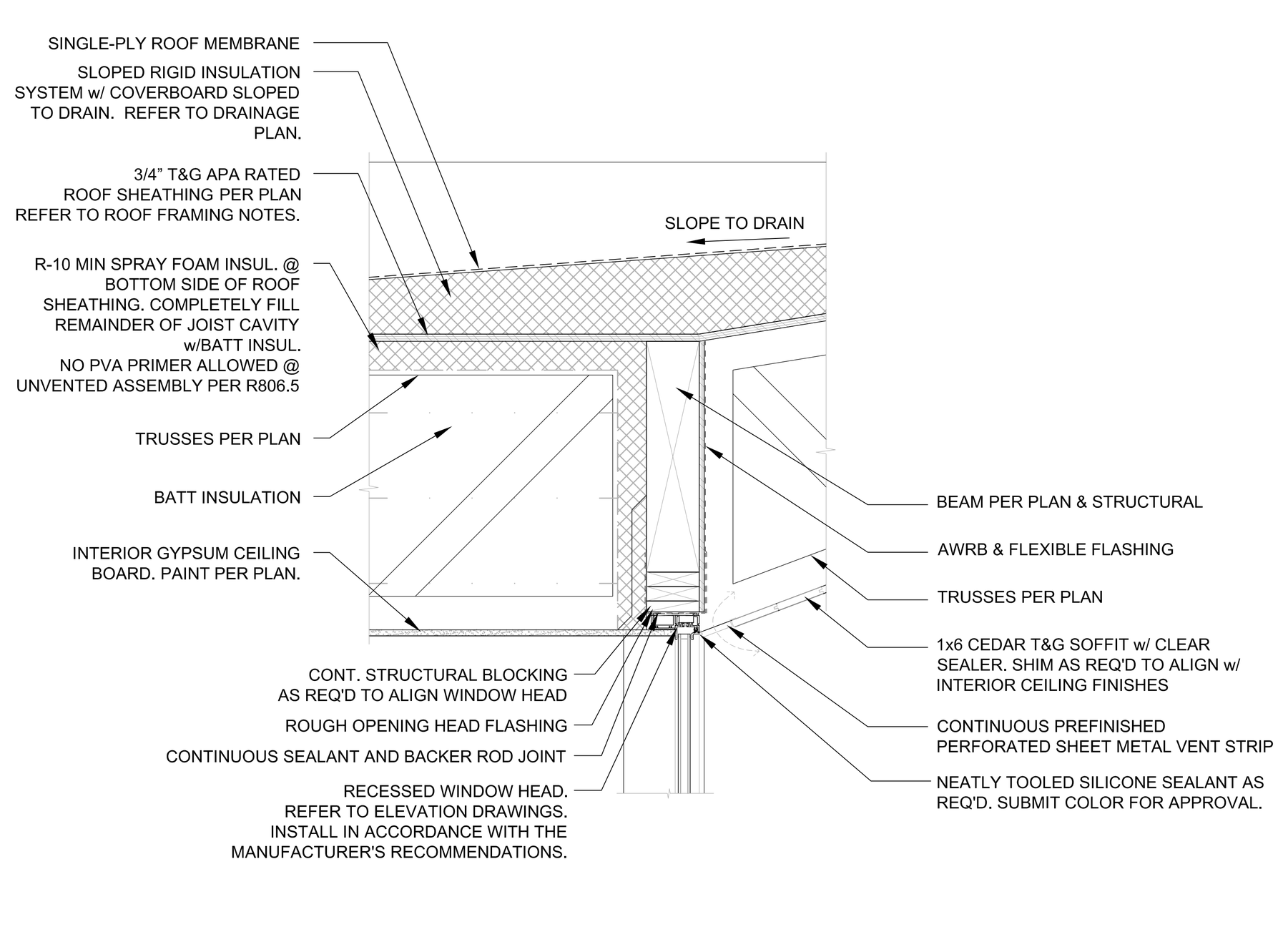
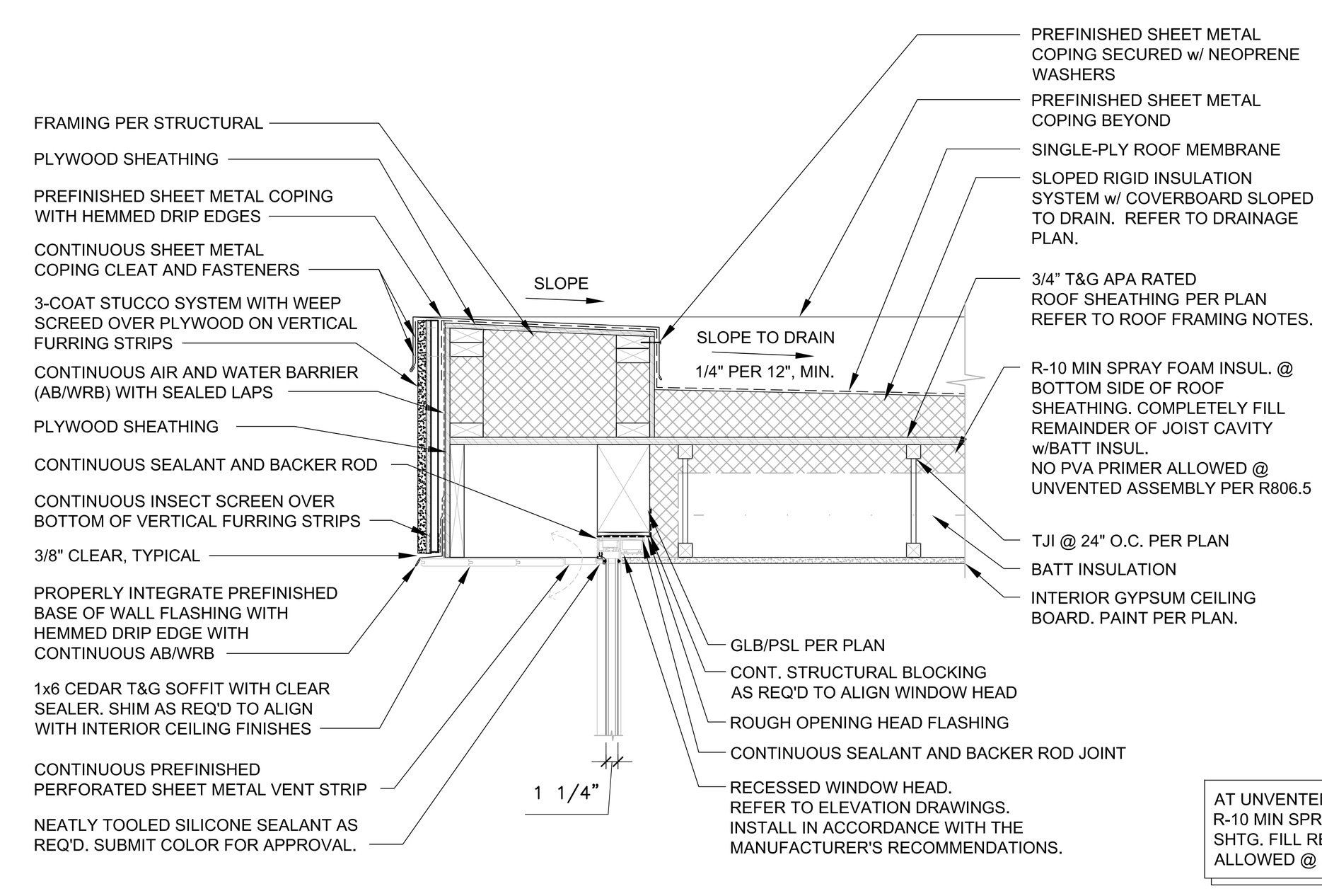
Building Sections

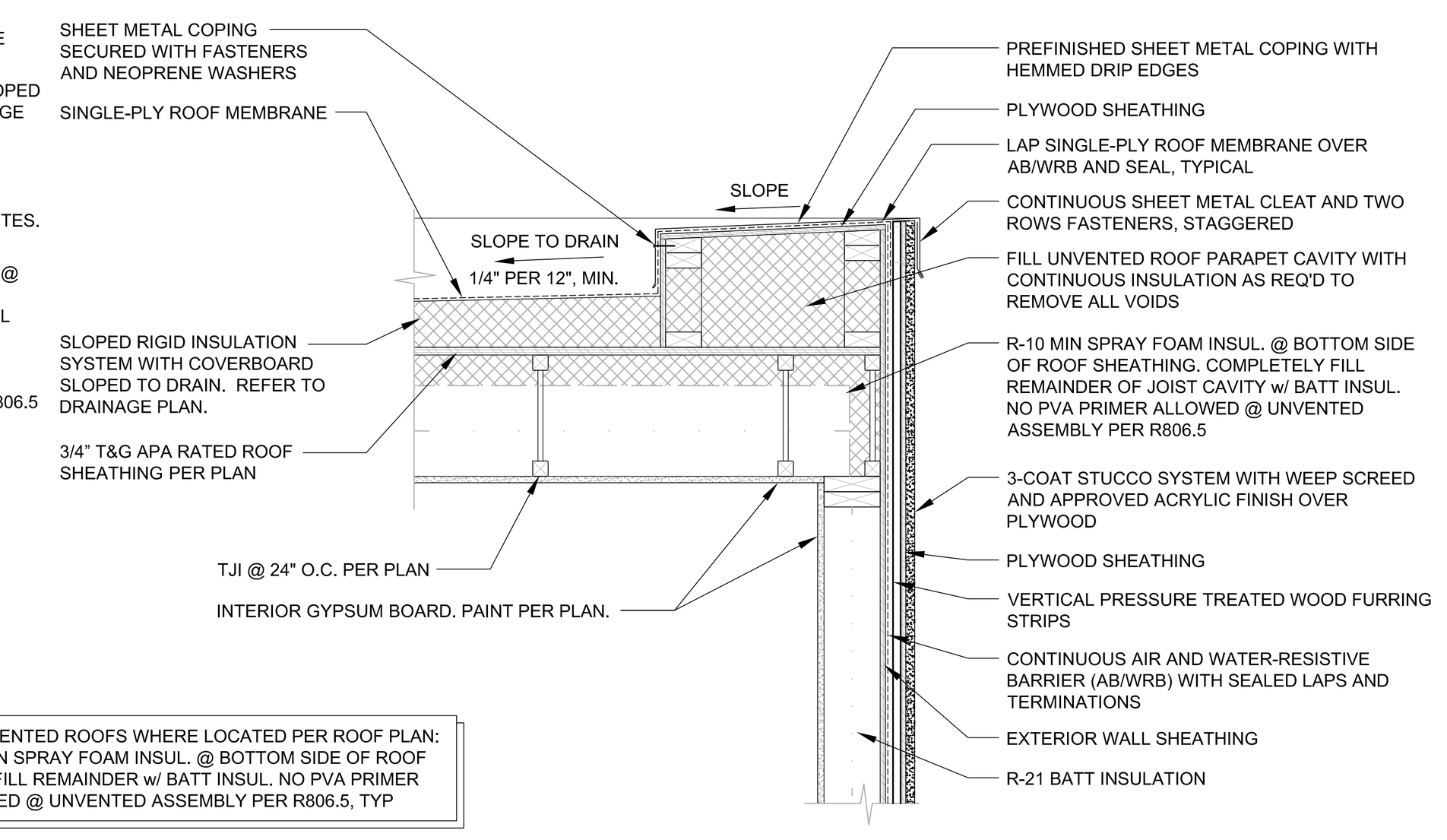
A13



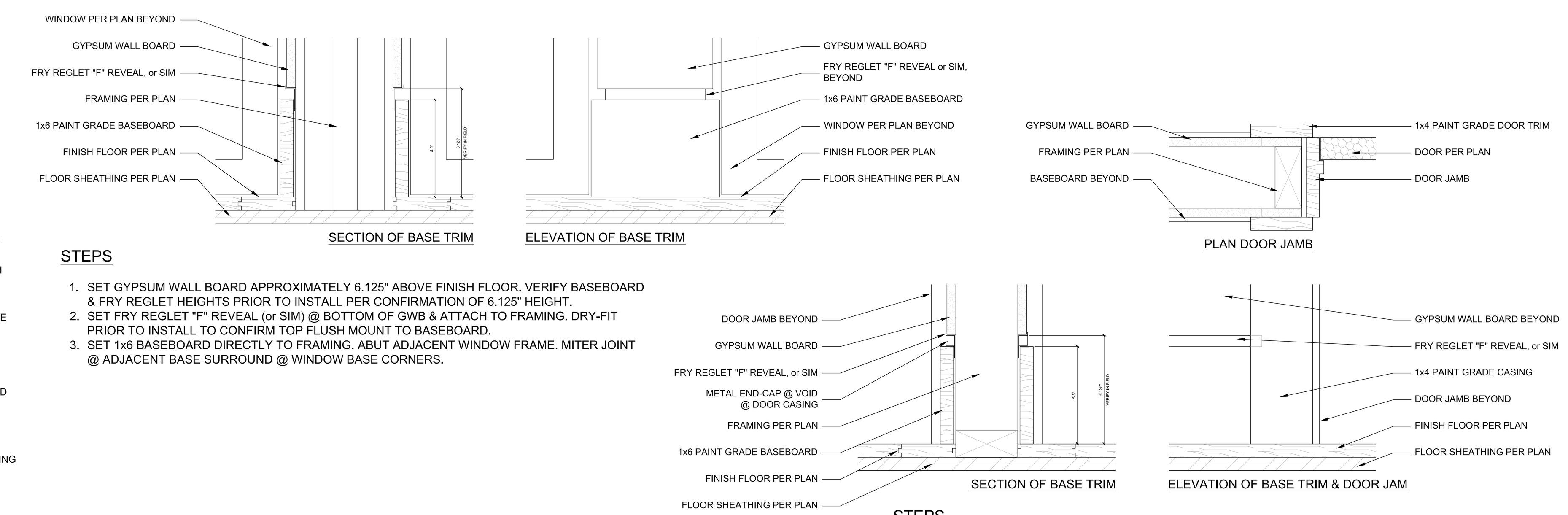
RECESSED WINDOW HEAD AT ENTRY PORTAL (20)
SCALE: 3/4" = 1'-0"



TYPICAL - ROOF EAVE @ UNVENTED PARAPET (19)
SCALE: 3/4" = 1'-0"



TYPICAL - ROOF @ UNVENTED PARAPET (18)
SCALE: 3/4" = 1'-0"



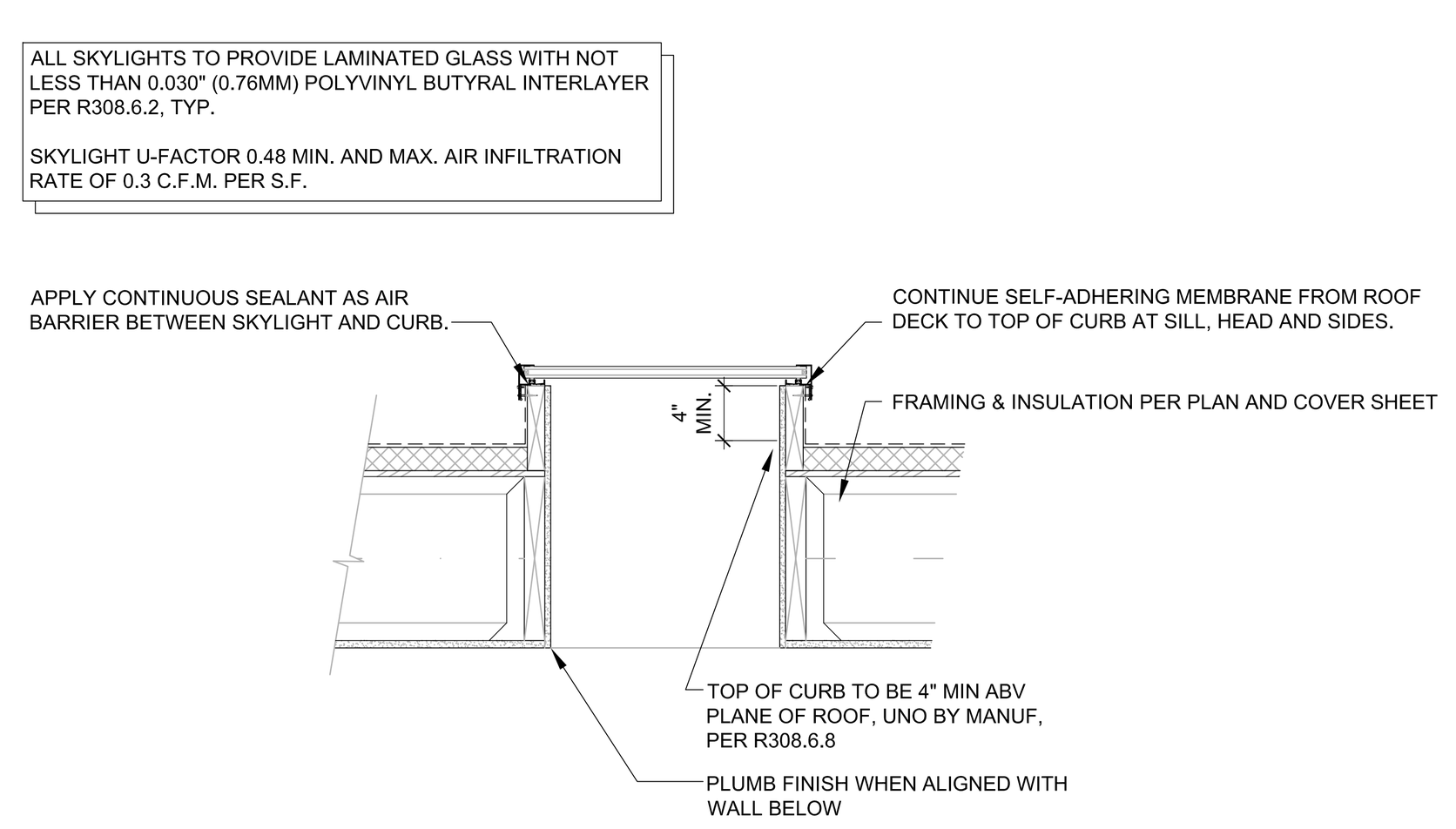
STEPS

1. SET GYPSUM WALL BOARD APPROXIMATELY 6.125" ABOVE FINISH FLOOR. VERIFY BASEBOARD & FRY REGLET HEIGHTS PRIOR TO INSTALL PER CONFIRMATION OF 6.125" HEIGHT.
2. SET FRY REGLET "F" REVEAL (or SIM) @ BOTTOM OF GWB & ATTACH TO FRAMING. DRY-FIT PRIOR TO INSTALL TO CONFIRM TOP FLUSH MOUNT TO BASEBOARD.
3. SET 1x6 BASEBOARD DIRECTLY TO FRAMING. ABUT ADJACENT WINDOW FRAME. MITER JOINT @ ADJACENT BASE SURROUND @ WINDOW BASE CORNERS.

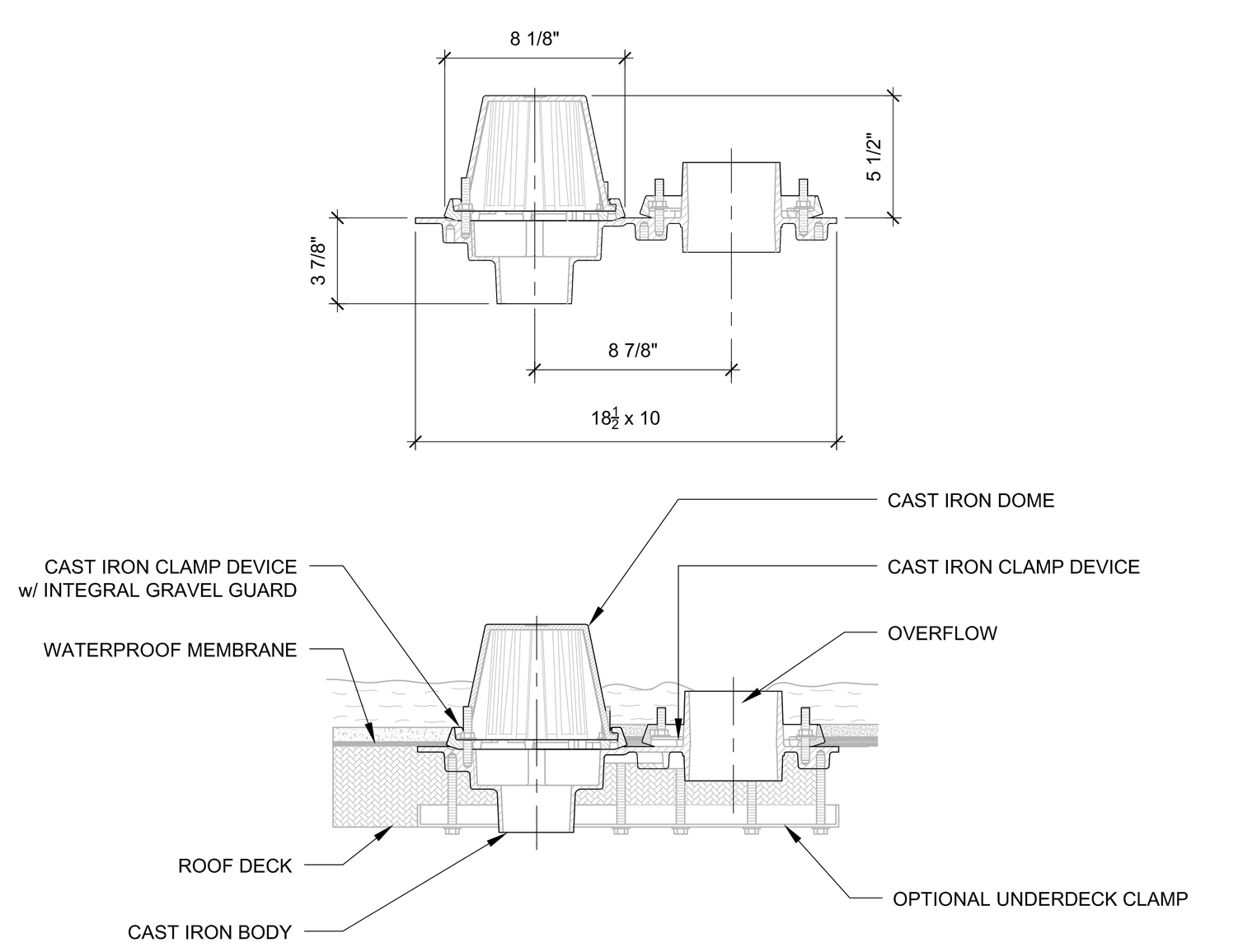
STEPS

1. SET GYPSUM WALL BOARD APPROXIMATELY 6.125" ABOVE FINISH FLOOR. VERIFY BASEBOARD & FRY REGLET HEIGHTS PRIOR TO INSTALL PER CONFIRMATION OF 6.125" HEIGHT.
2. SET FRY REGLET "F" REVEAL (or SIM) @ BOTTOM OF GWB & ATTACH TO FRAMING. DRY-FIT PRIOR TO INSTALL TO CONFIRM TOP FLUSH MOUNT TO BASEBOARD.
3. SET 1x4 DOOR CASING.
4. SET 1x6 BASEBOARD DIRECTLY TO FRAMING. ABUT ADJACENT DOOR TRIM WHERE APPLICABLE.

BASEBOARD & DOOR JAMB INTERSECTION DETAIL (16)
SCALE: 3/4" = 1'-0"

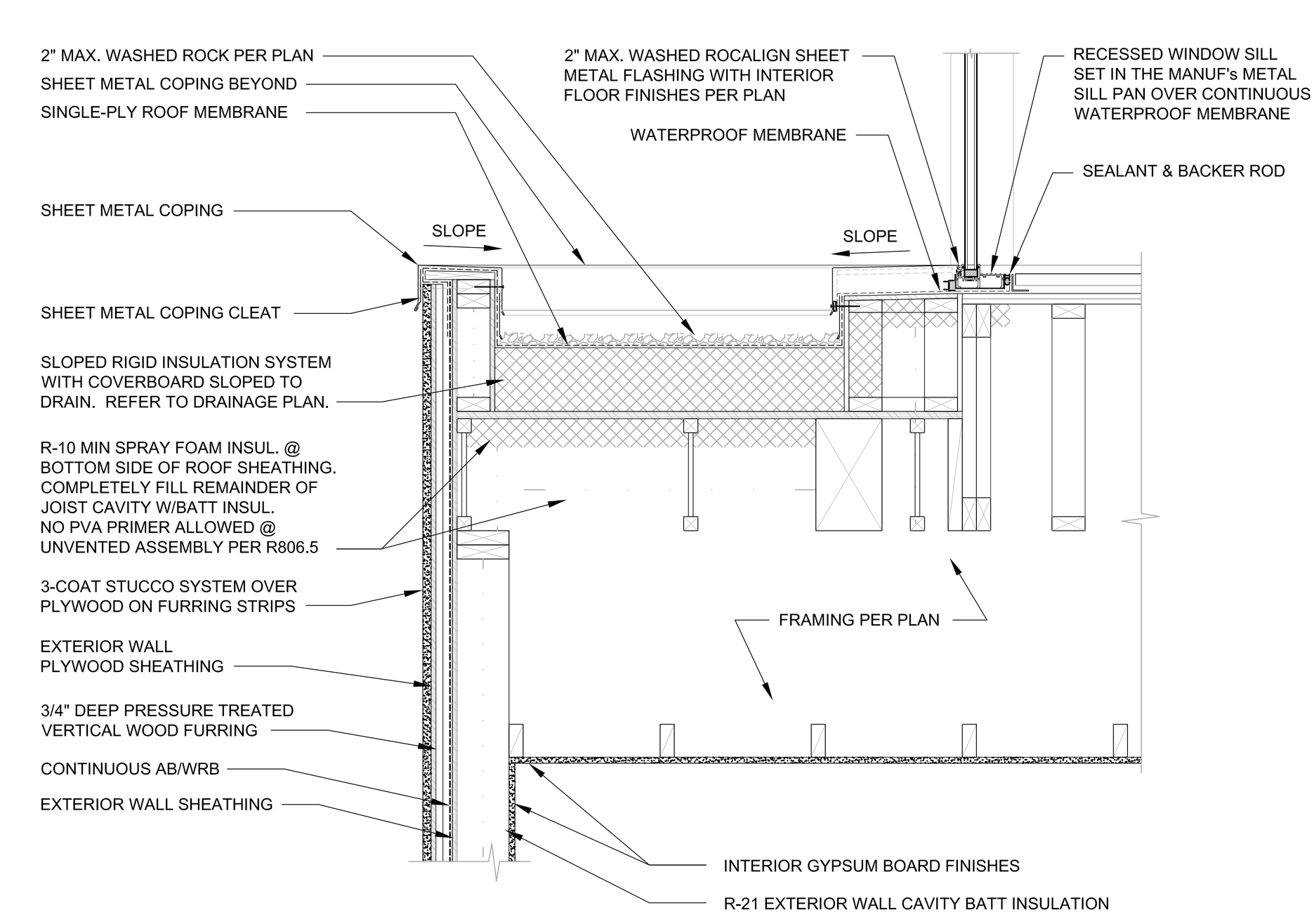


TYPICAL SKYLIGHT INSTALLATION (15)
SCALE: 3/4" = 1'-0"

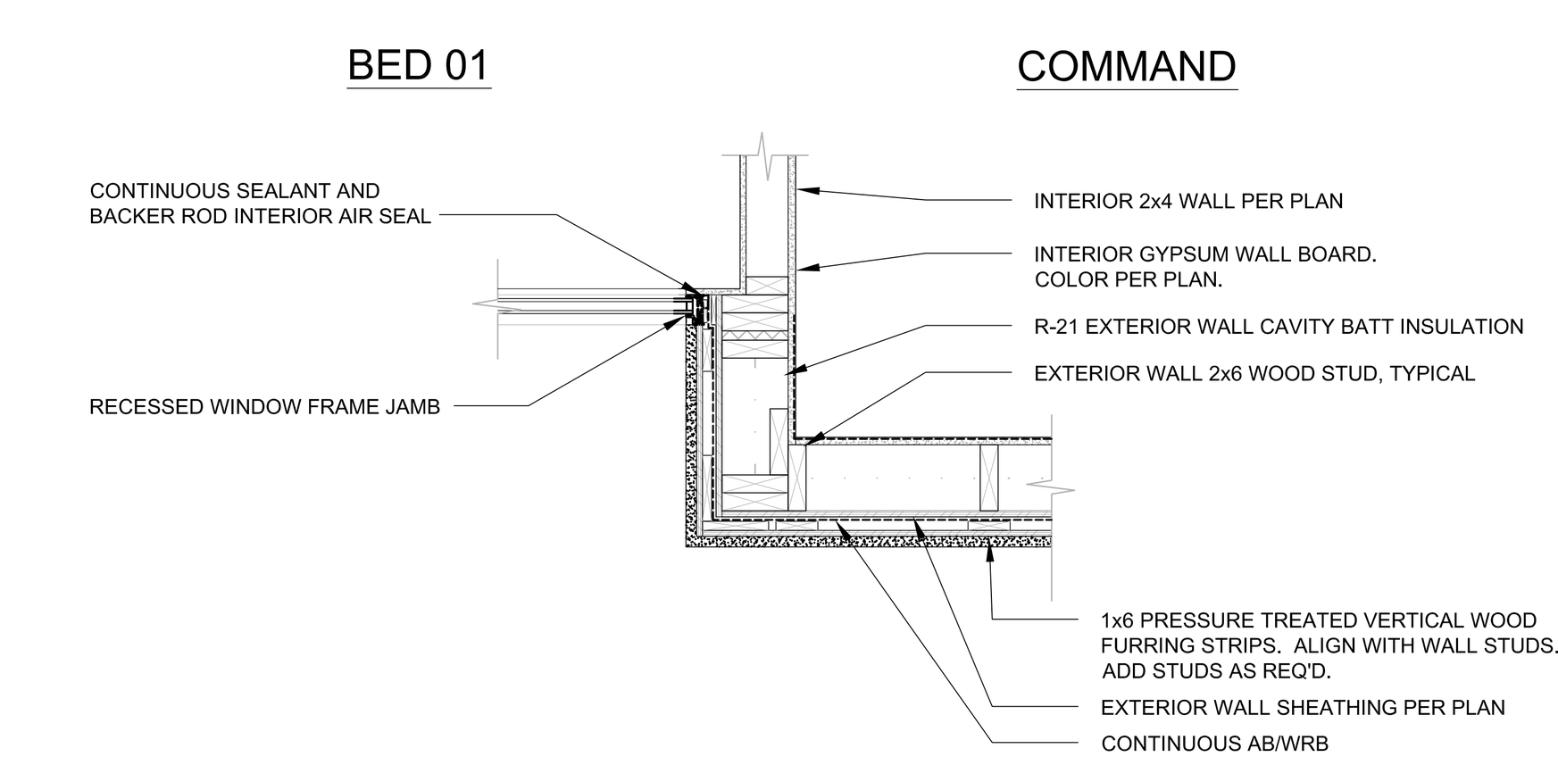


ROOF DRAIN & OVERFLOW @ DECK (14)
SCALE: 3/4" = 1'-0"

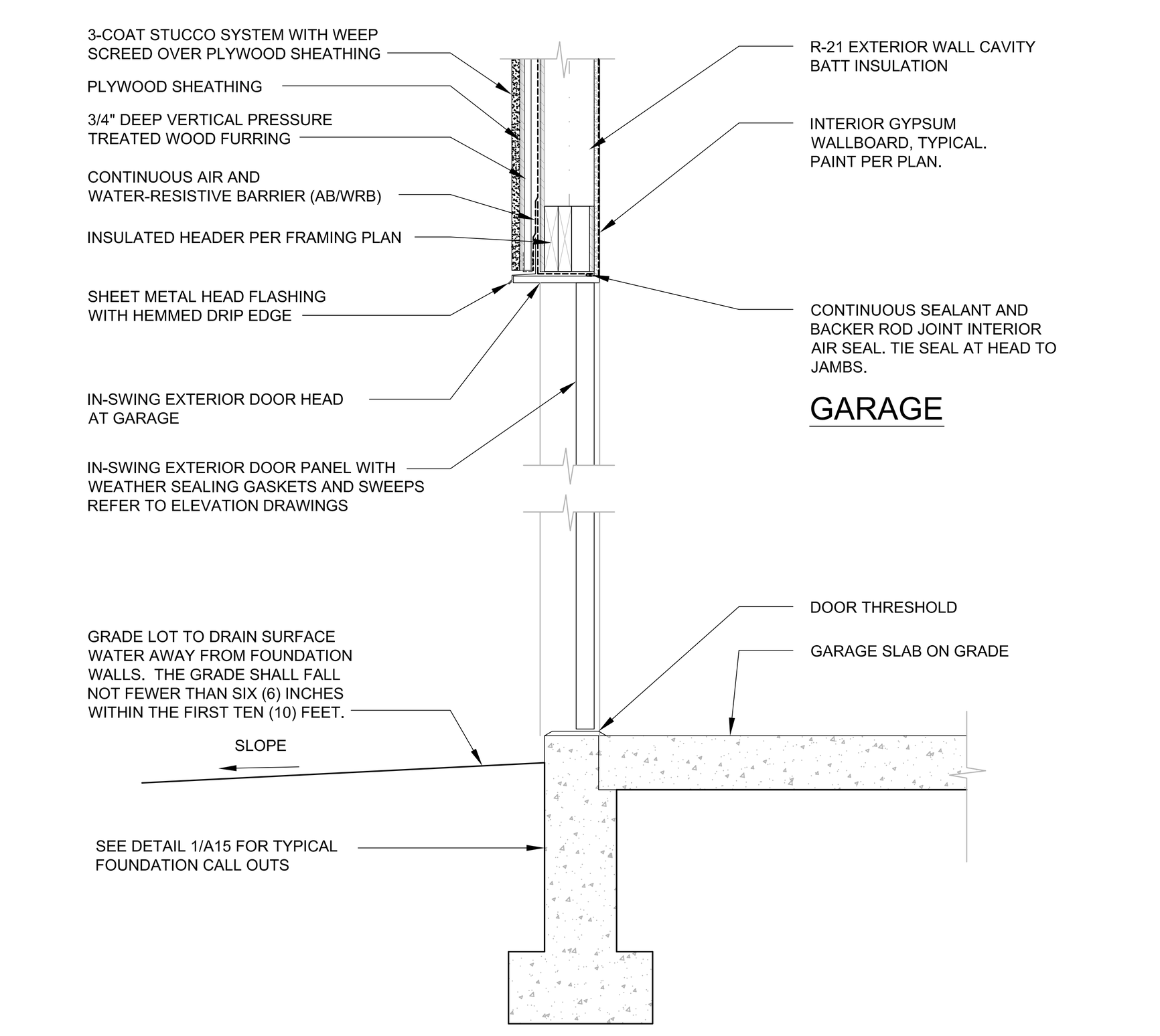
TYPICAL - ROOF @ UNVENTED PARAPET



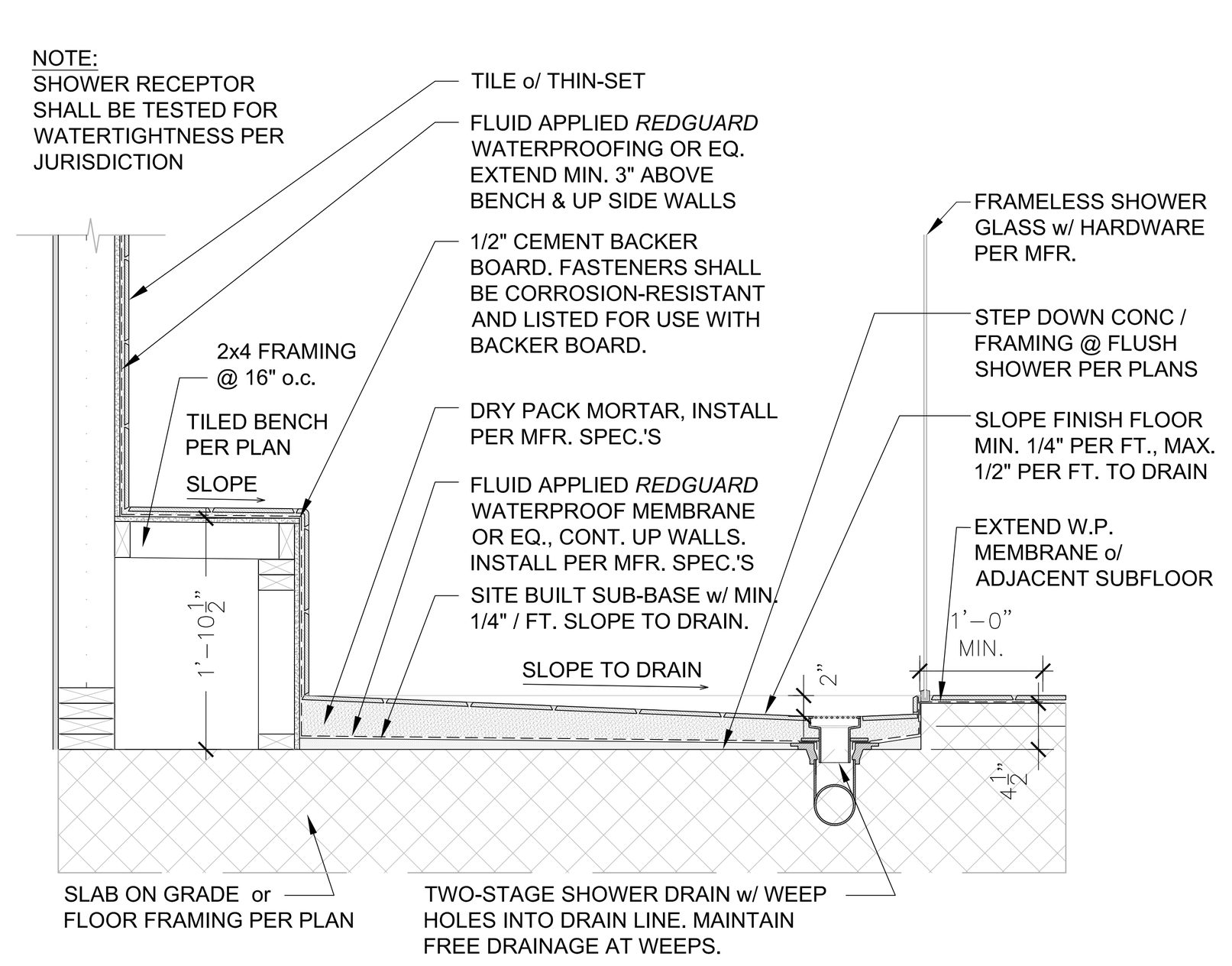
LOW ROOF AT RECESSED WINDOW SILL (13)
SCALE: 3/4" = 1'-0"



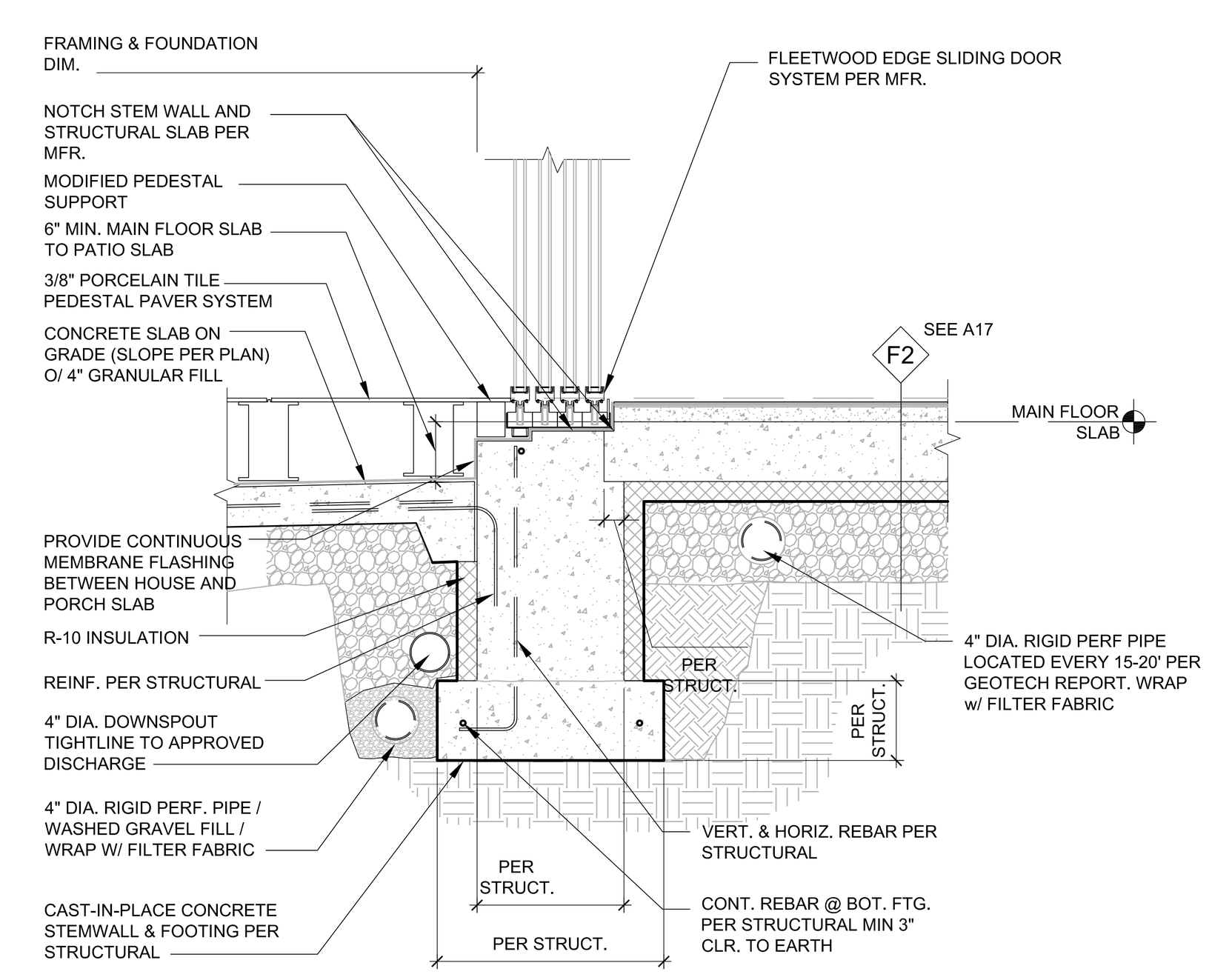
TYPICAL - RECESSED WINDOW JAMB (12)
SCALE: 3/4" = 1'-0"



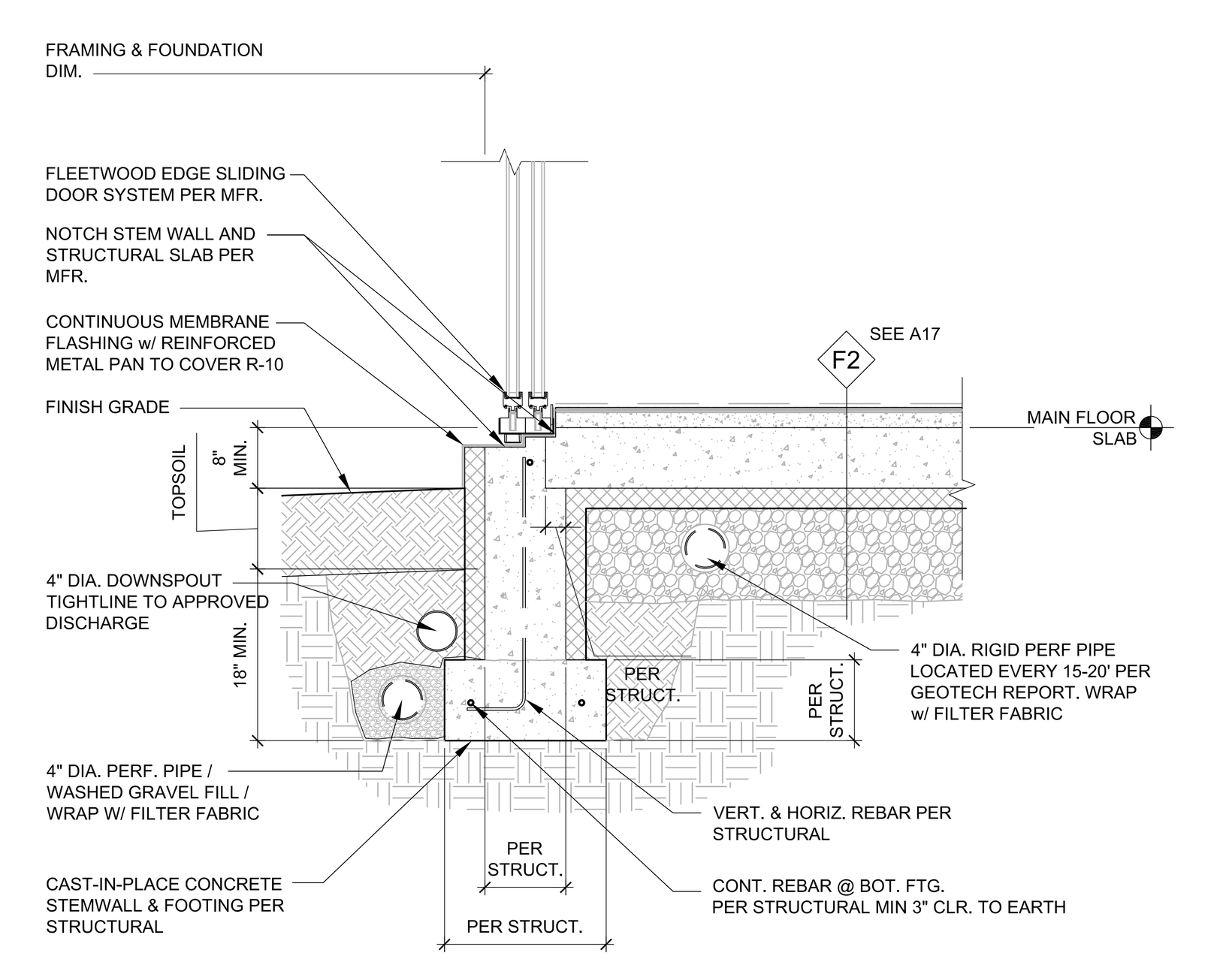
TYPICAL - EXTERIOR SWING DOOR (11)
SCALE: 3/4" = 1'-0"



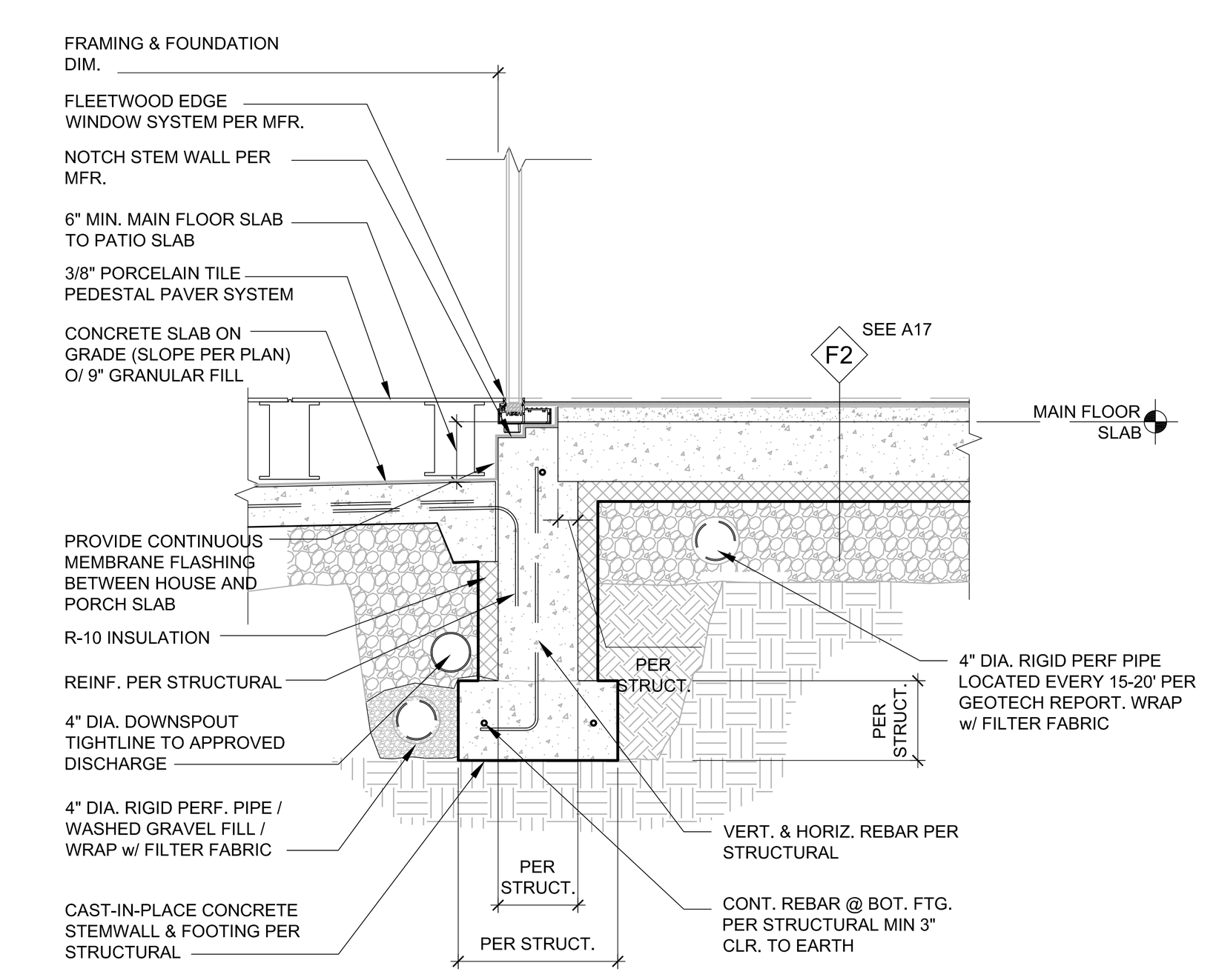
RECESSED MUD SET SHOWER (10)
SCALE: 3/4" = 1'-0"



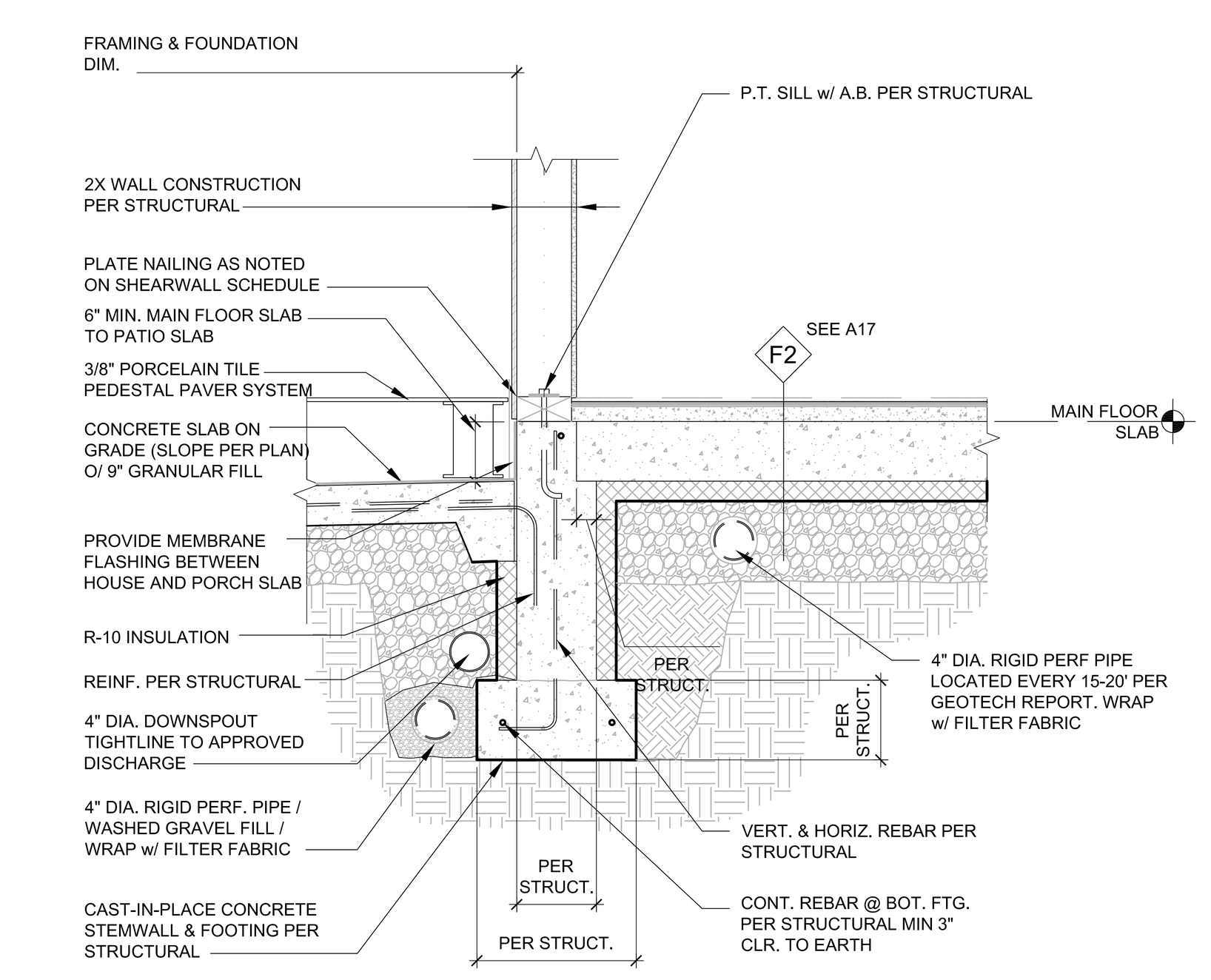
PORCH SLAB @ SLIDING DOOR SILL (9)
SCALE: 3/4" = 1'-0"



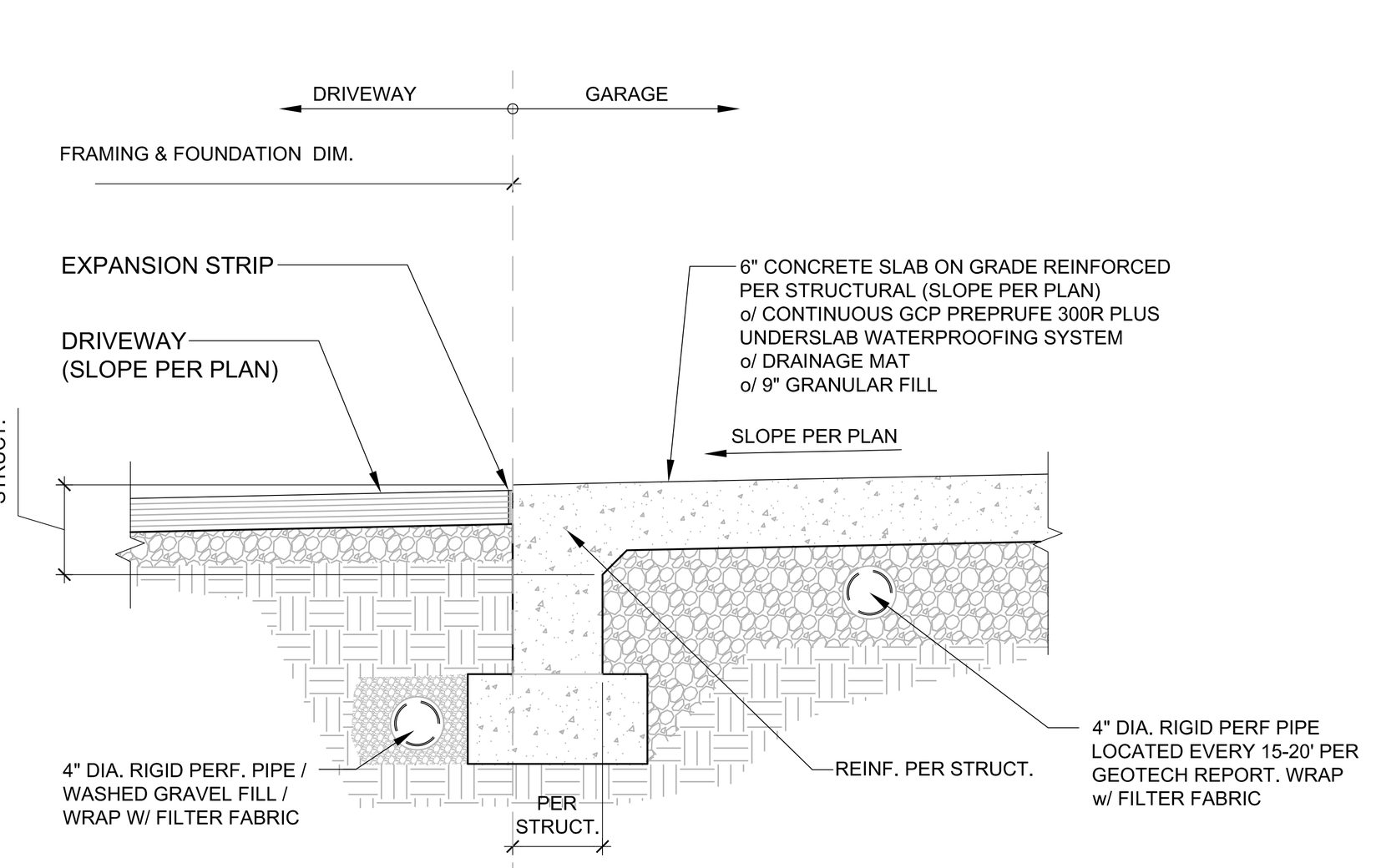
SLIDING DOOR SILL @ HOUSE PERIMETER (8)
SCALE: 3/4" = 1'-0"



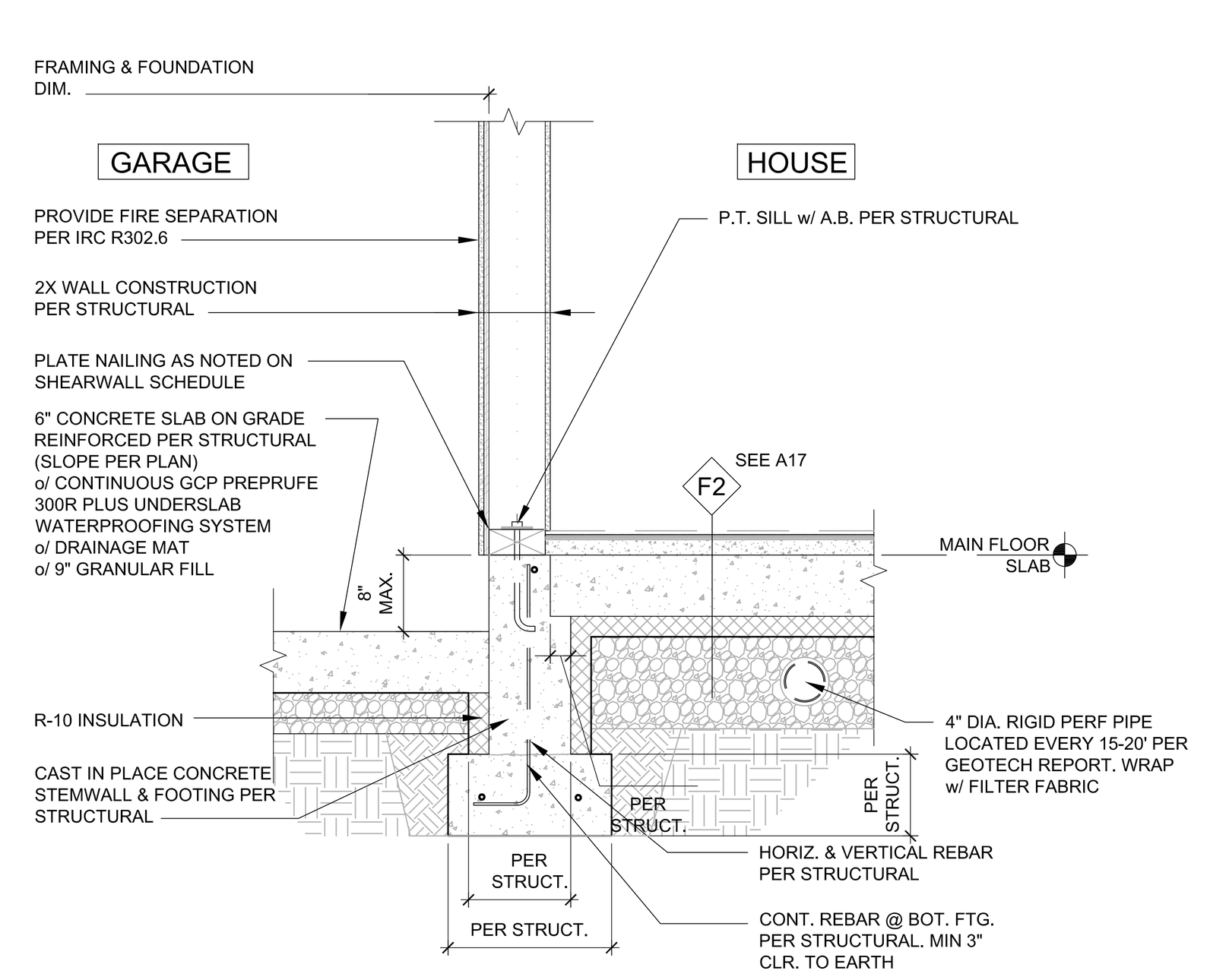
PORCH SLAB @ WINDOW (7)
SCALE: 3/4" = 1'-0"



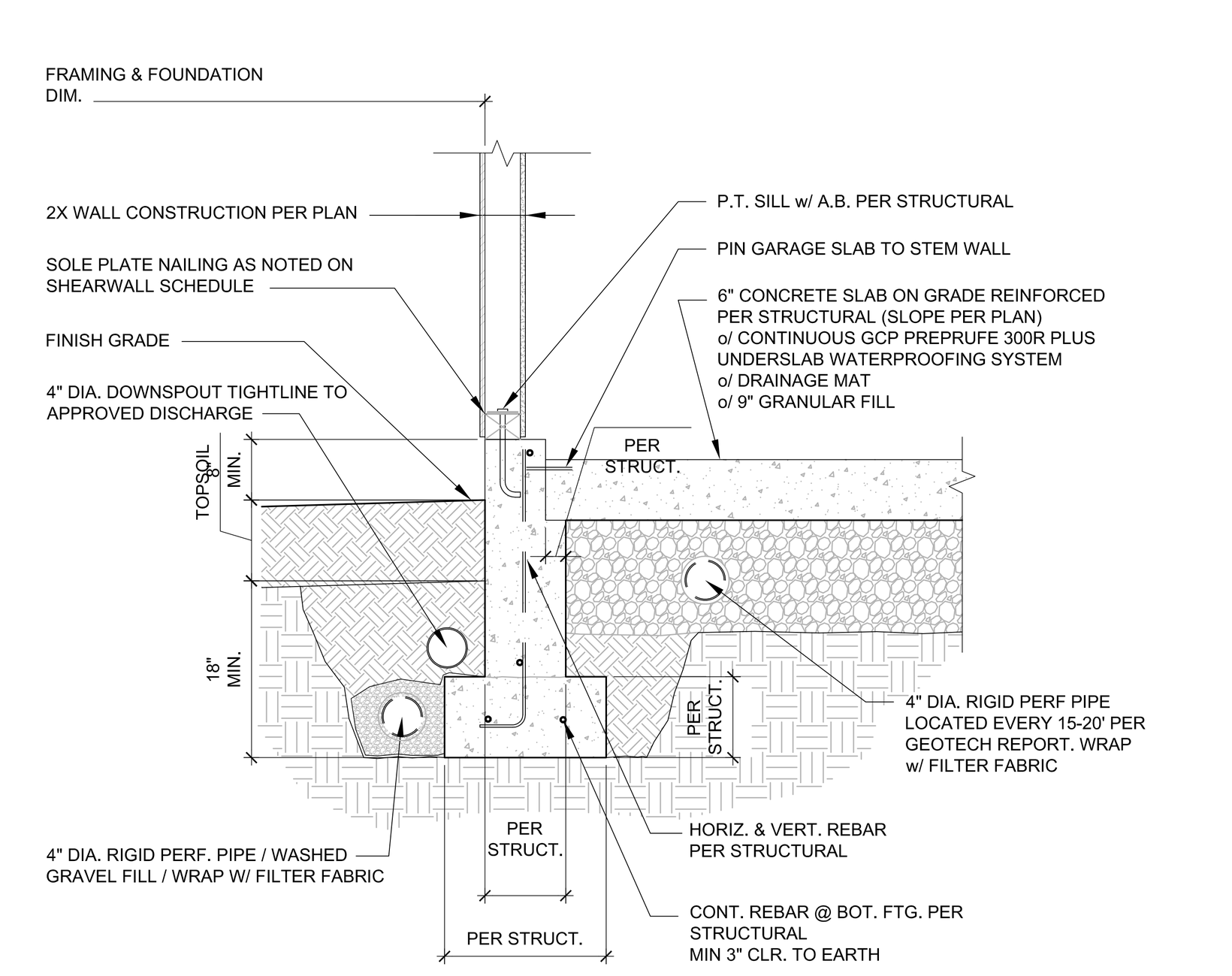
PORCH SLAB @ HOUSE PERIMETER (6)
SCALE: 3/4" = 1'-0"



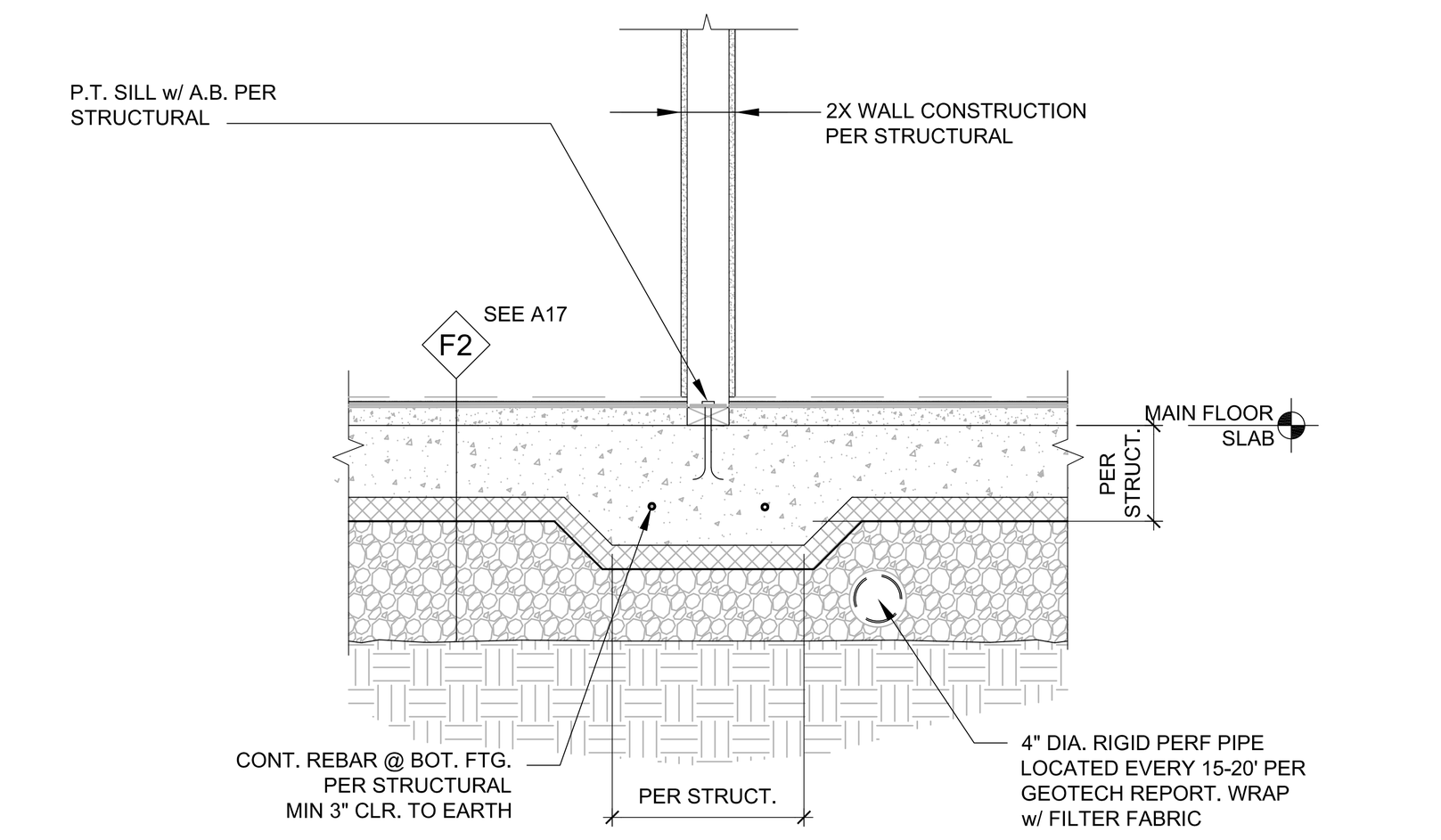
FOUNDATION @ GARAGE DOOR (5)
SCALE: 3/4" = 1'-0"



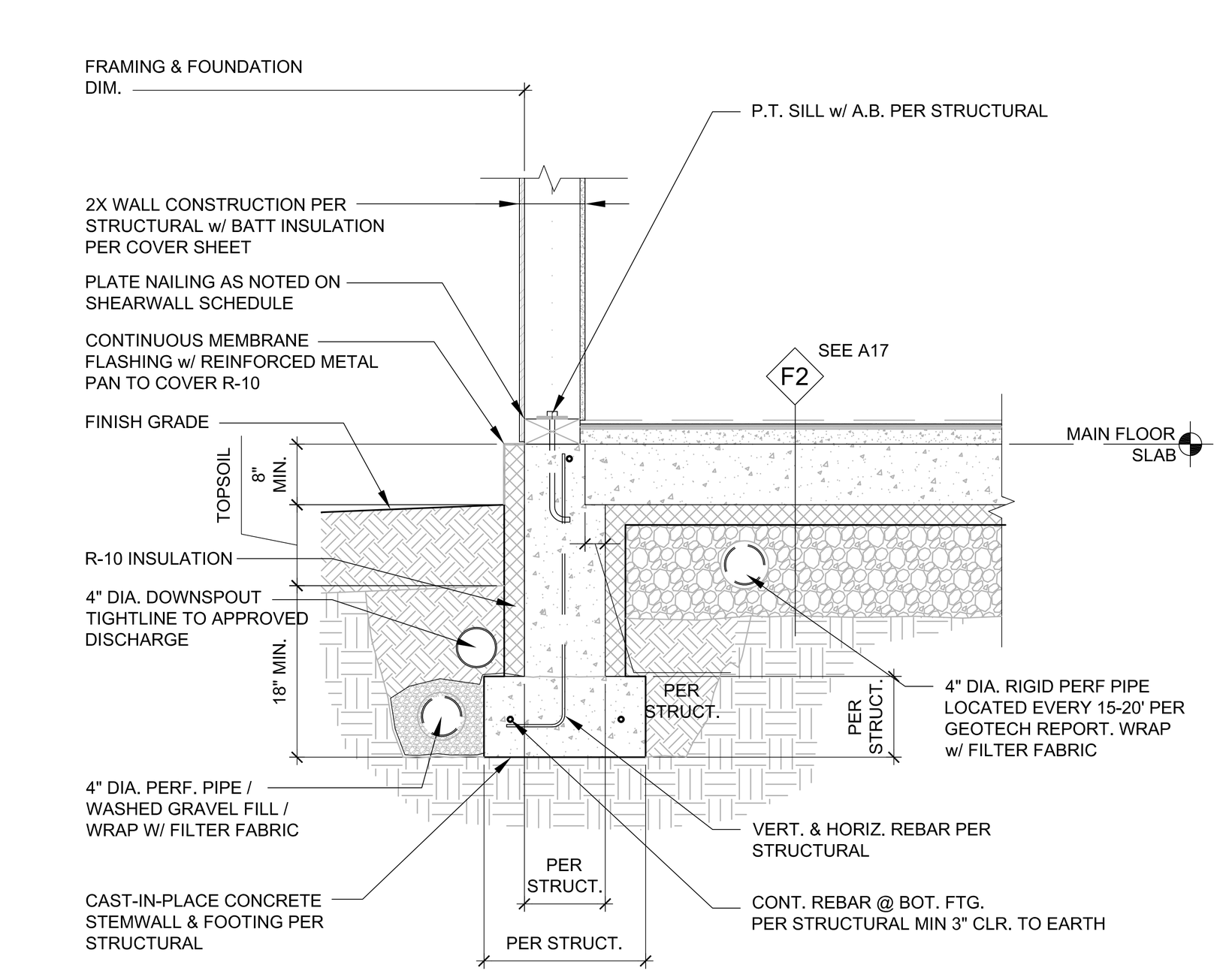
FOUNDATION @ GARAGE-HOUSE (4)
SCALE: 3/4" = 1'-0"



FOUNDATION @ GARAGE PERIMETER (3)
SCALE: 3/4" = 1'-0"



INTERIOR THICKENED SLAB (2)
SCALE: 3/4" = 1'-0"



FOUNDATION @ HOUSE PERIMETER (1)
SCALE: 3/4" = 1'-0"

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McCULLOUGH ARCHITECTS

Revisions	Comment
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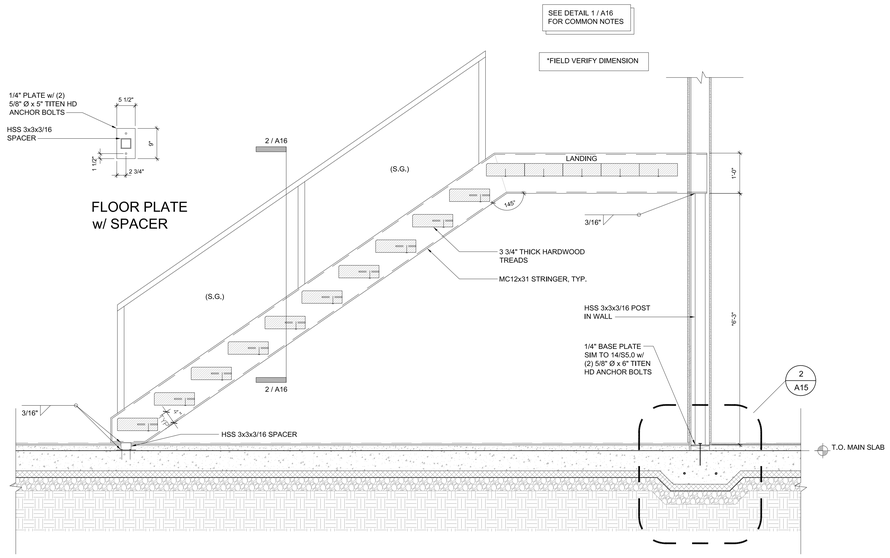
PERMIT SET

Architectural Details

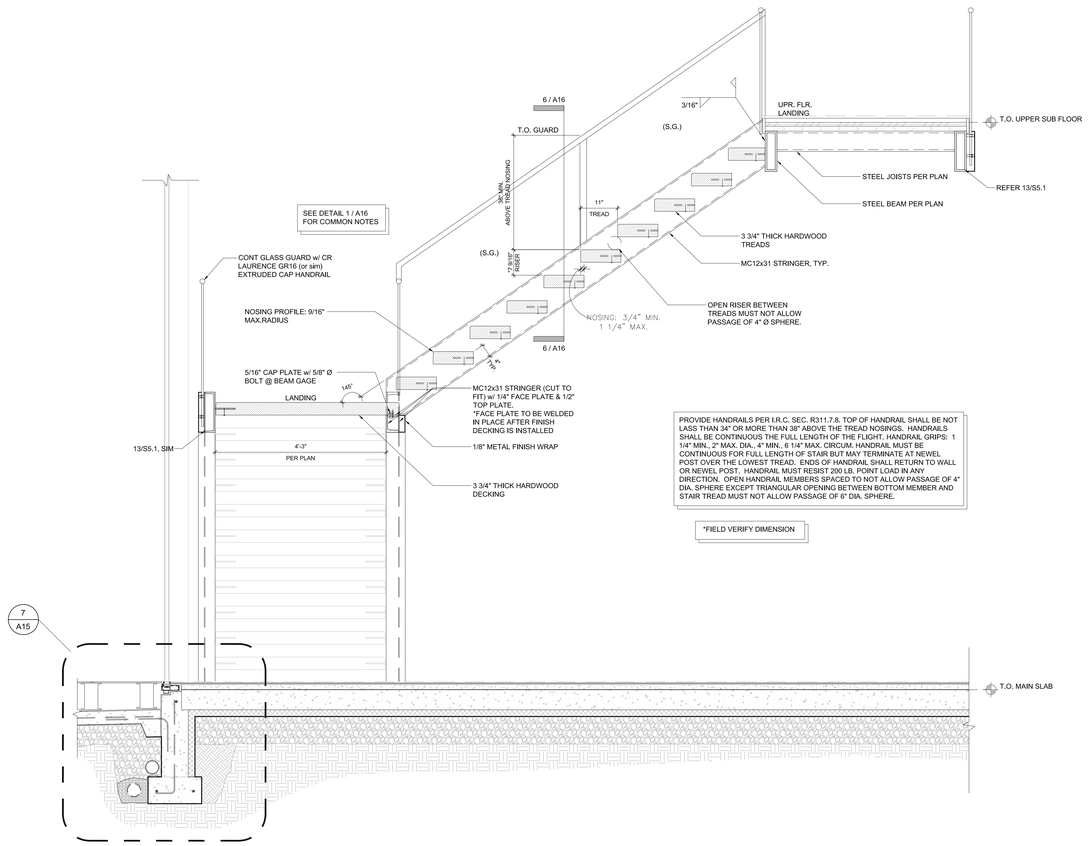
A15



OPEN RISER STAIR - LOWER SECTION

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

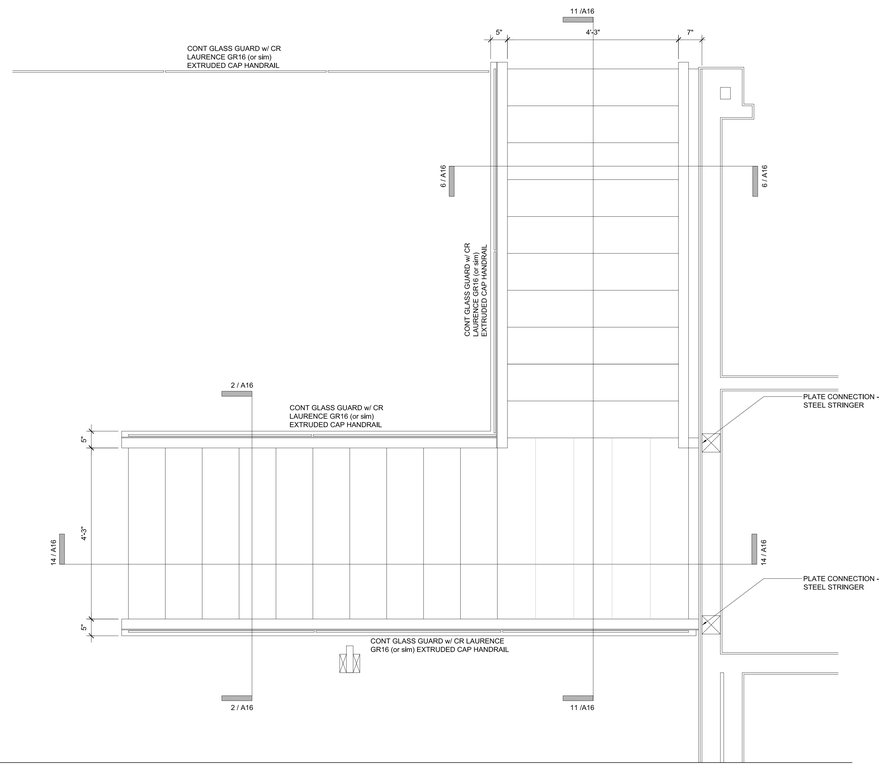
14



OPEN RISER STAIR - UPPER SECTION

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

11



FOUNDATION @ GARAGE DOOR

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

STAIR PLAN

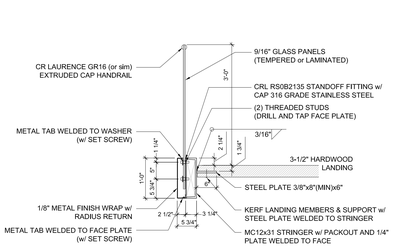
SCALE: 3/4" = 1'-0"

4

NOT USED

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

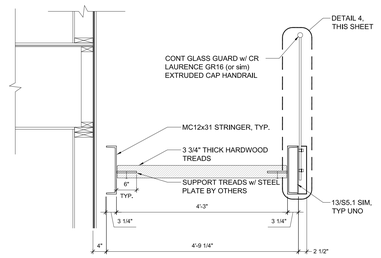
3



STRINGER & GUARDRAIL DETAIL, TYP

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

8



UPPER STAIR SECTION

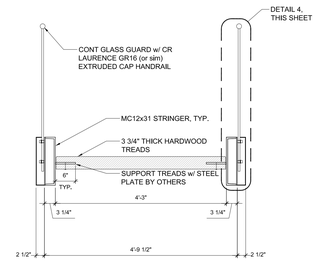
SCALE: 3/4" = 1'-0"

6

NOT USED

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

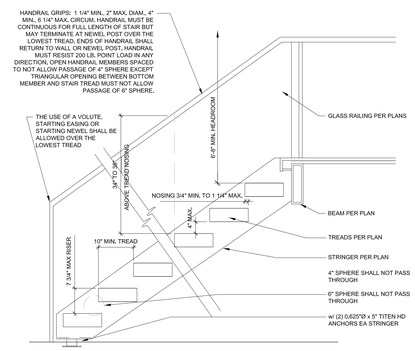
3



LOWER STAIR SECTION

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

2



TYPICAL OPEN RISER INTERIOR STAIR

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

1

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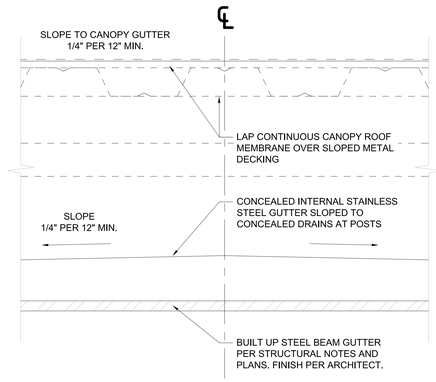
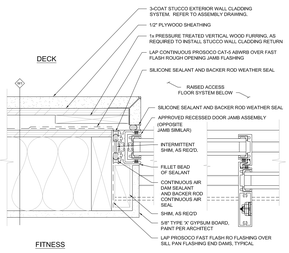
Stair Sections & Details

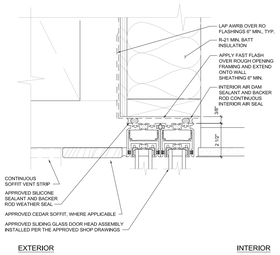
A16



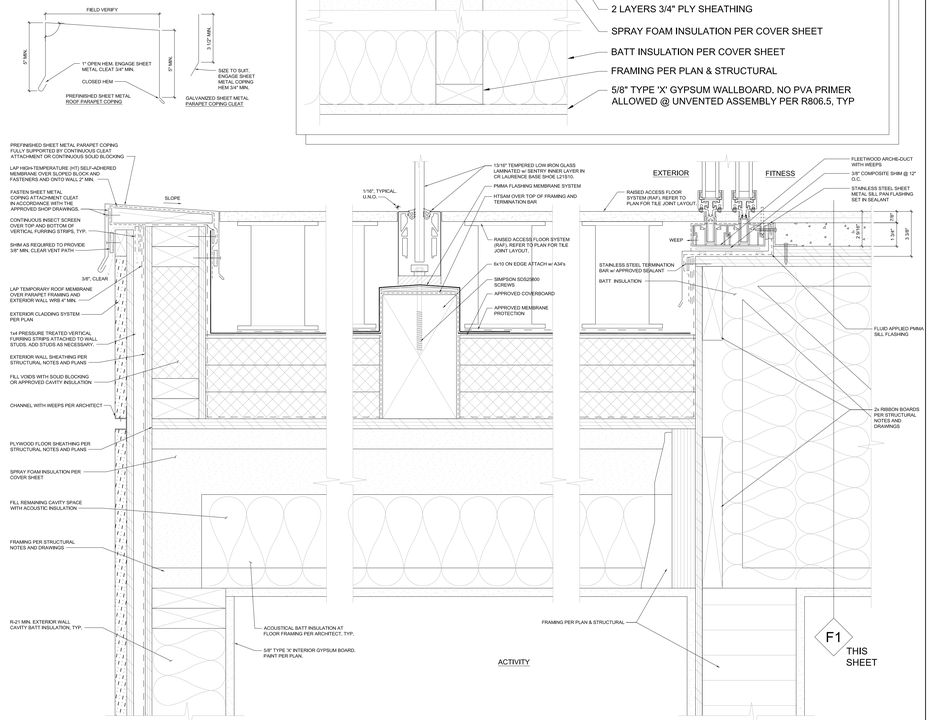
CANOPY GUTTER SECTION
SCALE: 3" = 1'-0" 20



RECESSED SLIDING DOOR JAMB - TYP
SCALE: 3" = 1'-0" 19

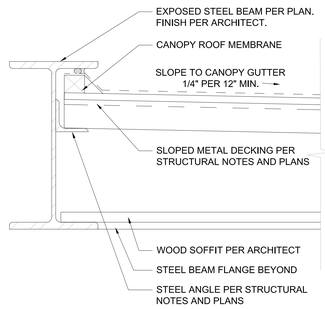


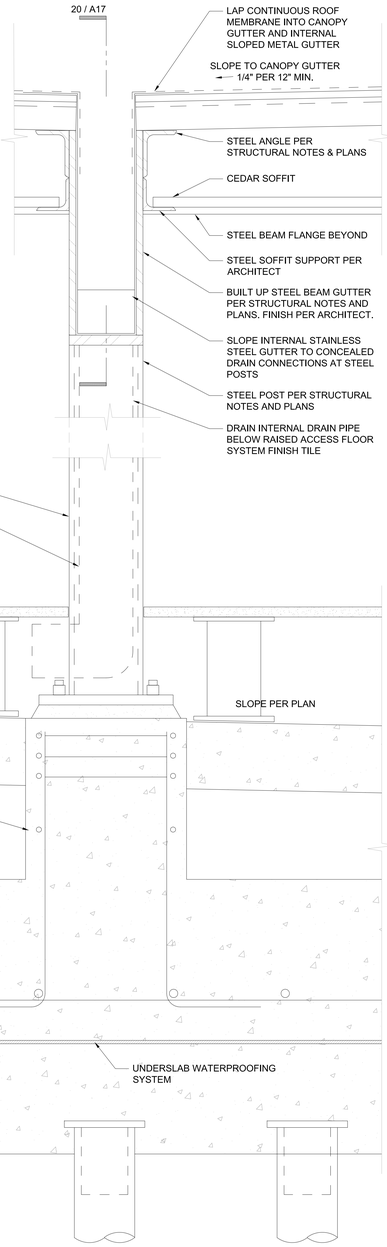
RECESSED SLIDING DOOR HEAD - TYP
SCALE: 3" = 1'-0" 18



TYP - UPPER FLOOR ASSEMBLY
F1
NTS

- 12 MM PORCELAIN PORCELANOSA TILE w/ 1/16" JOINTS (59"x118")
- 3/8" THIN-SET MORTAR
- ANTI-FRACTURE MEMBRANE
- GYPCRETE TOPPING SLAB & RADIANT HEATING SYSTEM
- 2 LAYERS 3/4" PLY SHEATHING
- SPRAY FOAM INSULATION PER COVER SHEET
- BATT INSULATION PER COVER SHEET
- FRAMING PER PLAN & STRUCTURAL
- 5/8" TYPE 'X' GYPSUM WALLBOARD. NO PVA PRIMER ALLOWED @ UNVENTED ASSEMBLY PER R806.5, TYP

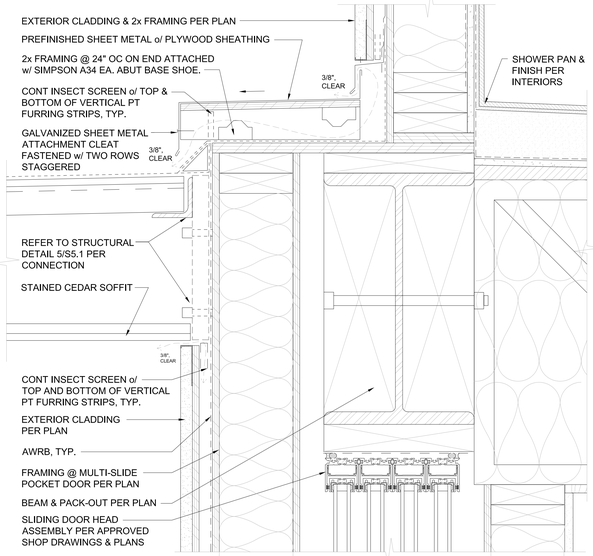




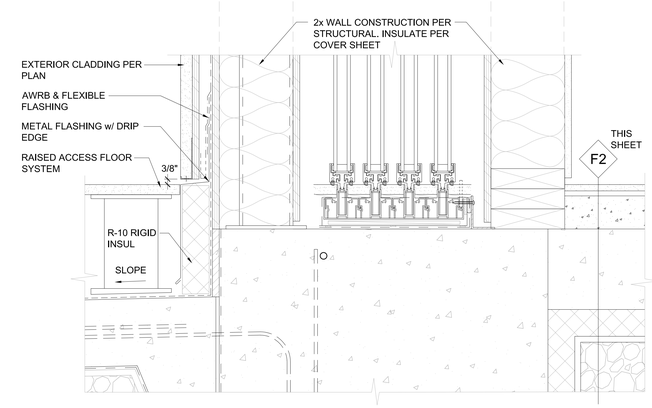
CANOPY COLUMN, EDGE, & GUTTER CROSS SECTION
SCALE: 3" = 1'-0" 4

TYP - SLAB ON GRADE FLOOR ASSEMBLY
F2
NTS

- 12 MM PORCELAIN PORCELANOSA TILE w/ 1/16" JOINTS (59"x118")
- 3/8" THIN-SET MORTAR
- ANTI-FRACTURE MEMBRANE
- GYPCRETE TOPPING SLAB & RADIANT HEATING SYSTEM
- 6" CONCRETE SLAB ON GRADE PER STRUCTURAL
- CONTINUOUS GCP PREPRUFE 300R PLUS UNDERSLAB WATERPROOFING SYSTEM
- R-10 CONTINUOUS UNDERSLAB RIGID INSULATION
- UNDERSLAB DRAINAGE MAT
- 9" WASHED ROCK DRAINAGE COURSE PER GEOTECH
- FIRM UNDISTURBED SOIL or ENGINEERED COMPACTED BACK-FILL



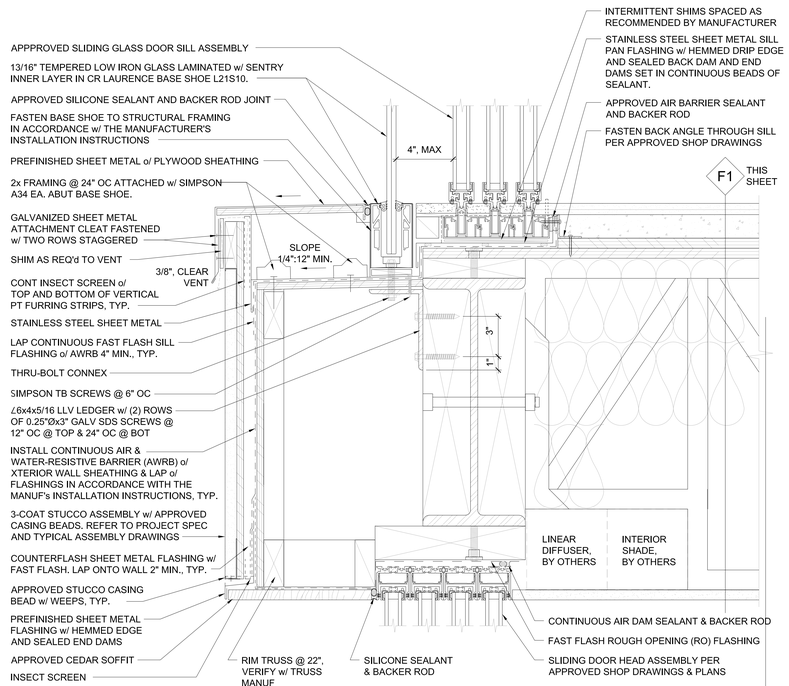
CANOPY CONNECTION TO STRUCTURE
SCALE: 3" = 1'-0" 8



FLEETWOOD EDGE MULTI-SLIDE POCKET
SCALE: 3" = 1'-0" 3

EXTERIOR

INTERIOR



GLASS GUARDRAIL @ EERO SLIDING GLASS DOOR, TYP
SCALE: 3" = 1'-0" 1

FITNESS PATIO SECTION
SCALE: 3" = 1'-0" 11

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Architectural Details

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GENERAL STRUCTURAL NOTES

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

CRITERIA

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) 2018 EDITION.

2. DESIGN LOADING CRITERIA

FLOOR LIVE LOAD (RESIDENTIAL)	40 PSF
FLOOR LIVE LOAD (RESIDENTIAL DECKS AND BALCONIES)	60 PSF
SNOW	25 PSF
WIND	METHOD - DIRECTIONAL PROCEDURE Kzt=1.0, GCpi=0.18, 110 MPH (RISK CATEGORY II), EXPOSURE "C"
EARTHQUAKE	ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS SDC D, SITE CLASS E, Ie=1.0, Ss=1.45, S1=0.50, Sds=1.059, Sd1=0.567, Cs=0.163, R=6.5, SEISMIC DESIGN BASE SHEAR Vsx=68.0 KIPS(ULTIMATE)

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

4. PRIMARY STRUCTURAL ELEMENTS NOT DIMENSIONED ON THE STRUCTURAL PLANS AND DETAILS SHALL BE LOCATED BY THE ARCHITECTURAL PLANS AND DETAILS. VERTICAL DIMENSION CONTROL IS DEFINED BY THE ARCHITECTURAL WALL SECTIONS, BUILDING SECTIONS, AND PLANS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. CONFORM TO ASCE 37-14 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION."

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTOR'S WORK. THE STRUCTURAL ENGINEER HAS NO OVERALL SUPERVISORY AUTHORITY OR ACTUAL AND/OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE STRUCTURAL ENGINEER HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES TO THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

7. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

9. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT THE TIME OF INSPECTION FOR THE INSPECTORS USE AND REFERENCE.

10. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

    REINFORCING STEEL
    STRUCTURAL STEEL
    METAL DECKING
    GLUED LAMINATED MEMBERS
    MANUFACTURED LUMBER (PSL'S, LSL'S, LVL'S)
    PLYWOOD WEB JOISTS
    CONNECTOR PLATE WOOD FLOOR TRUSSES
    CONNECTOR PLATE WOOD ROOF TRUSSES
    PREFABRICATED STAIR SYSTEM

    APPROVED SETS OF SHOP DRAWINGS SHALL ALSO BE SUBMITTED TO THE BUILDING DEPARTMENT AS REQUIRED BY THE JURISDICTION. IF THERE IS A DOUBT WHETHER OR NOT A POST-PERMIT SUBMITTAL IS NECESSARY OR WILL BE ACCEPTED, CONSULT THE BUILDING CODE REVIEWER FOR THE ORIGINAL PERMIT. NO DRAWING SHOULD BE SUBMITTED TO THE BUILDING OFFICIAL THAT STILL BEARS THE DISPOSITION OF "REVISE AND RESUBMIT" OR SIMILAR LANGUAGE.

11. SHOP DRAWING REVIEW OF DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND (1)COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED WITHIN (2)WEEKS OF RECEIPT WITH A NOTATION INDICATING THAT THE SUBMITTAL HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTED ITEMS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE BUILDING OFFICIAL AS REQUIRED BY THE JURISDICTION.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

12. SHOP DRAWINGS OF DESIGN BUILD COMPONENTS INCLUDING AWNINGS, BALCONIES, BASE ISOLATORS, CANOPIES, CURTAIN WALL SYSTEMS, ELEVATORS, EXTERIOR CLADDING, FALL PROTECTION ANCHORS, HOLD-DOWN SYSTEMS (MULTI-STORY), SKYLIGHT FRAMES, STAIR SYSTEMS, STEEL STUD FRAMING, STORAGE RACKS (GREATER THAN 6 FEET IN HEIGHT), AND SUNROOMS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO REVIEW OF THE ARCHITECT OR ENGINEER OF RECORD FOR GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE MADE AVAILABLE UPON WRITTEN REQUEST.

QUALITY ASSURANCE

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13. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110, 1704 AND 1705 OF THE IBC BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION SHALL BE PERFORMED.

SOIL CONDITIONS, FILL PLACEMENT, AND DENSITY	PER SOILS REPORT
PILE OR PIER FOUNDATIONS	PER SOILS REPORT
EPOXY GROUTED INSTALLATIONS	PER MANUFACTURER
STRUCTURAL STEEL FABRICATION AND ERECTION	PER AISC 360
METAL DECK INSTALLATION (INCLUDING FIELD WELDING)	PER SDI QA/QC

14. STRUCTURAL OBSERVATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1704.6 OF THE IBC FOR THE FOLLOWING BUILDING ELEMENTS:

    CONCRETE CONSTRUCTION
    STRUCTURAL STEEL CONSTRUCTION
    SHEARWALLS
    HOLDOWNS

    THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD ADEQUATE NOTICE TO SCHEDULE APPROPRIATE SITE VISITS FOR STRUCTURAL OBSERVATION.

    STRUCTURAL OBSERVATION MEANS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED IN SECTION 110 OR SPECIAL INSPECTIONS IN SECTION 1705 OR OTHER SECTIONS OF THE IBC.

    THE OWNER SHALL EMPLOY THE STRUCTURAL ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, TO PERFORM STRUCTURAL OBSERVATION. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR, AND THE BUILDING OFFICIAL. THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFYING ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

GEOTECHNICAL

15. SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN IN THE SOILS REPORT OR AS DIRECTED BY THE SOILS ENGINEER. FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTING DEPTHS/ELEVATIONS SHOWN ON PLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY; THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND SOILS ENGINEER. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SOILS REPORT.

LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED)	SEE SOILS REPORT / 45 PCF
TRAFFIC SURCHARGE	90 PSF
SEISMIC SURCHARGE	8H
PASSIVE PRESSURE	300 PCF
4" DIAMETER STANDARD WEIGHT PIPE PILE CAPACITY	10 TONS

SOILS REPORT REFERENCE: GEOTECHNICAL ENGINEERING STUDY AND CRITICAL AREA STUDY OF PROPOSED PROPERTY REDEVELOPMENT LOCATED AT 6610 EAST MERCER WAY, MERCER ISLAND, WASHINGTON, 98040, PREPARED BY GEOTECH CONSULTANTS, INC, REPORT NUMBER JN21151, DATED JUNE 8, 2021.

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16. 4" DIAMETER STANDARD WEIGHT PIPE PILES SHALL BE DRIVEN TO REFUSAL AS DEFINED BY THE SOILS ENGINEER. PIPE PILES SHALL BE INSTALLED IN STRICT CONFORMANCE TO SOILS ENGINEER'S REQUIREMENTS. TESTING OF PILES SHALL BE ACCORDANCE WITH SOILS ENGINEER'S REQUIREMENTS AND AT A MINIMUM BE TESTED IN ACCORDANCE TO ASTM STANDARD D1143-81 FOR A MINIMUM OF (1)PILE OR 3% OF 3", 4" AND 6" DIAMETER PILES UP TO (5)PILES OF EACH SIZE MAXIMUM; USE OF THE QUICK LOAD TEST METHOD IN THE STANDARD IS THE MINIMUM REQUIRED. STEEL PIPE SHALL CONFORM TO ASTM 53, GRADE A OR B, Fy = 35 KSI. PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED SLEEVE COUPLERS. PIPE JOINTS SHOULD NOT BE WELDED TOGETHER. PILES SHALL BE PLACED WITHIN 3" OF SPECIFIED LOCATION. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES.

17. SPECIAL INSPECTION OF PILES SHALL BE REQUIRED FOR INSTALLATION AND TESTING.

CONCRETE

18. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318 AND ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 3000 PSI. SLUMP OF CONCRETE SHALL NOT EXCEED 6". STRUCTURAL DESIGN IS BASED ON A CONCRETE STRENGTH OF f'c = 2500 PSI, THEREFORE NO CONCRETE STRENGTH TESTING REQUIRED. CONCRETE EXPOSURE CATEGORIES ARE F1, S0, W0, AND C1.

    ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14, TABLE 19.3.3.1.

19. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, fy = 60 KSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, fy = 40 KSI. WELDED WIRE WIRE FABRIC SHALL CONFORM TO ASTM A1064. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, fy = 60 KSI.

20. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315-99 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT #6 AND SMALLER 48 BAR DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS #5 AND SMALLER 48 BAR DIAMETERS OR 2'-0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-14, CLASS B. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

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

21. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#6 BARS OR LARGER)	2"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER (#5 BARS OR SMALLER)	1-1/2"
COLUMN TIES OR SPIRALS AND BEAM STIRRUPS	1-1/2"
SLABS AND WALLS (INT FACE)	GREATER OF BAR DIAMETER PLUS 1/8" OR 3/4"

ANCHORAGE

22. EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "SET-XP" EPOXY ADHESIVE AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2508 AND IAMPO-UES REPORT ER-265. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED. RODS SHALL BE ASTM A36, UNO.

23. HEAVY DUTY THREADED CONCRETE ANCHORS SPECIFIED ON THE DRAWINGS SHALL BE "TITEN HD SCREW ANCHOR" AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2713 AND ESR-1056, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE REQUIREMENTS. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED.

24. EXPANSION BOLTS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "STRONG-BOLT 2" ANCHORS AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT CONFORMANCE TO ICC-ES REPORT ESR-3037 AND IAPMO-UES REPORT ER-240, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE REQUIREMENTS. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED.

25. DRIVE PINS AND OTHER POWDER-ACTUATED FASTENERS SHALL BE LOW VELOCITY TYPE (PDPWL-300MG, 0.145" DIAMETER, UNO) AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY OR AN APPROVED EQUIVALENT IN STRENGTH AND EMBEDMENT. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2138. MINIMUM EMBEDMENT IN CONCRETE SHALL BE 1", UNO. MAINTAIN AT LEAST 3" TO NEAREST CONCRETE EDGE.

WOOD

26. ALL 2x LUMBER SHALL BE KILN DRIED OR MC-19, AND ALL LUMBER SHALL BE GRADED AND MARKED IN CONFORMANCE WITH WCLIB STANDARD GRADING RULES FOR WEST COAST LUMBER NO 17. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

JOISTS AND BEAMS	(2x, 3x, 4x MEMBERS)	DOUGLAS FIR-LARCH NO 2 MINIMUM BASE VALUE, Fb = 900 PSI
BEAMS	(6x AND LARGER)	DOUGLAS FIR-LARCH NO 2 MINIMUM BASE VALUE, Fb = 875 PSI
POSTS	(4x MEMBERS)	DOUGLAS FIR-LARCH NO 2 MINIMUM BASE VALUE, Fc = 1350 PSI
	(6x AND LARGER)	DOUGLAS FIR-LARCH NO 2 MINIMUM BASE VALUE, Fc = 600 PSI
STUDS, PLATES AND MISC FRAMING		DOUGLAS FIR-LARCH NO 2

27. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA-EWS IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA-EWS CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN GLULAM BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI, UNO. ALL CANTILEVER GLULAM BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI, UNO. GLUED LAMINATED COLUMNS SHALL BE DOUGLAS FIR COMBINATION 3, L2D GRADE, Fc = 2300 PSI, Fb = 2000 PSI, E = 1900 KSI.

28. MANUFACTURED LUMBER, PSL, LVL, AND LSL, SHALL BE MANUFACTURED UNDER A PROCESS APPROVED BY THE NATIONAL RESEARCH BOARD. EACH PIECE SHALL BEAR A STAMP OR STAMPS NOTING THE NAME AND PLANT NUMBER OF THE MANUFACTURER, THE GRADE, THE NATIONAL RESEARCH BOARD NUMBER, AND THE QUALITY CONTROL AGENCY. ALL PSL, LVL, AND LSL LUMBER SHALL BE MANUFACTURED IN ACCORDANCE WITH ICC-ES REPORT ESR-1387 USING DOUGLAS FIR VENEER GLUED WITH A WATERPROOF ADHESIVE MEETING THE REQUIREMENTS OF ASTM D2559 WITH ALL GRAIN PARALLEL WITH THE LENGTH OF THE MEMBER. THE MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

PSL (2.0E)	Fb = 2900 PSI	E = 2000 KSI	Fv = 290 PSI
LVL (2.0E)	Fb = 2600 PSI	E = 2000 KSI	Fv = 285 PSI
LSL (1.55E)	Fb = 2325 PSI	E = 1550 KSI	Fv = 310 PSI
PSL COLUMN (1.8E)	Fc = 2500 PSI	E = 1800 KSI	Fv = 190 PSI

DESIGN SHOWN ON PLANS IS BASED ON LUMBER MANUFACTURED BY THE TRUS-JOIST CORPORATION. ALTERNATE MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE JOIST HANGERS AND OTHER HARDWARE MAY BE SUBSTITUTED FOR ITEMS SHOWN PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH MEMBERS PROVIDED.

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

29. PREFABRICATED PLYWOOD WEB JOIST DESIGN SHOWN ON PLANS IS BASED ON JOISTS MANUFACTURED BY THE TRUS-JOIST CORPORATION. ALTERNATE PLYWOOD WEB JOIST MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE JOIST HANGERS AND OTHER HARDWARE MAY BE SUBSTITUTED FOR ITEMS SHOWN PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH PLYWOOD WEB JOIST PROVIDED.

30. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS-1 OR PS-2. ORIENTED STRAND BOARD OF EQUIVALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.

    WALL SHEATHING SHALL BE 7/16" or 1/2" (NOMINAL) WITH SPAN RATING 24/0

    FLOOR SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

    WATERPROOF DECK SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

    FLAT ROOF SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

    ROOF SHEATHING SHALL BE 1/2" or 7/16" (NOMINAL) WITH SPAN RATING 32/16
    FOR ROOFS WITH A PITCH GREATER THAN 2:12

    REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

31. ALL WOOD IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN APPROVED PRESERVATIVE OR (2)LAYERS OF ASPHALT IMPREGNATED BUILDING PAPER SHALL BE PROVIDED BETWEEN UNTREATED WOOD AND CONCRETE OR MASONRY.

32. PRESSURE TREATED WOOD (INCLUDES PRESERVATIVE AND FIRE TREATED) SHALL BE TREATED PER AWPA STANDARDS. PRESSURE TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO RETENTION OF 0.25 PCF. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO A RETENTION OF 0.40 PCF. SODIUM BORATE (SBX) TREATED WOOD SHALL NOT BE USED WHERE EXPOSED TO WEATHER. FASTENERS AND TIMBER CONNECTORS WITHOUT AMMONIA IN DIRECT CONTACT WITH ACQ-A TO A RETENTION LEVEL OF 0.40 PCF), CBA-A (UP TO A RETENTION LEVEL OF 0.41 PCF), CA-B (UP TO A RETENTION LEVEL OF 0.21 PCF), SHALL BE G185 OR A185 HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A653. FASTENERS AND TIMBER CONNECTORS WITH AMMONIA IN DIRECT CONTACT WITH ACQ-A (OVER A RETENTION LEVEL OF 0.40 PCF), CBA-A (OVER A RETENTION LEVEL OF 0.41 PCF), CA-B (OVER A RETENTION LEVEL OF 0.21 PCF), OR WITH ACZA TREATED WOOD SHALL BE TYPE 304 OR 316 STAINLESS STEEL.

33. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2019. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

    ALL 2x JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL TJI JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "IUS" SERIES JOIST HANGERS. ALL DOUBLE-JOISTS BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "MIU" SERIES JOIST HANGERS.

    WHERE CONNECTOR STRAPS CONNECT (2)MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER.

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

34. WOOD FASTENERS

    A. NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	TYPE	LENGTH	DIAMETER
8d	COMMON	2-1/2"	0.131"
10d	GUN	3"	0.131"
12d	GUN	3-1/4"	0.131"
16d	GUN	3-1/2"	0.131"

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

NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED.

B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2018 EDITION) WITH A LEAD BORE HOLE OF 60-70% OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS. BOLT HOLES SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. HOLES SHALL BE ACCURATELY ALIGNED IN MAIN MEMBERS AND SIDE PLATES/MEMBERS. BOLTS SHALL NOT BE FORCIBLY DRIVEN.

C. SDS AND SDWS SCREWS CALLED OUT ON PLAN ARE TIMBER SCREWS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. SCREWS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. EQUIVALENT SCREWS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. LAG SCREWS ARE NOT AN EQUIVALENT SUBSTITUTION.

35. WOOD FRAMING NOTES - THE FOLLOWING APPLY UNLESS NOTED OTHERWISE ON THE PLANS:

    A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE IBC, THE AITC "TIMBER CONSTRUCTION MANUAL", AND THE AF&PA "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION". MINIMUM NAILING, SHALL CONFORM TO TABLE 2304.10.1. OF THE IBC, UNO. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

    B. WALL FRAMING: REFER TO ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16"oc, UNO. (2)STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. (2)2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS IN STRUCTURAL WALLS, UNO. NAIL MULTI-MEMBER HEADERS WITH (2)ROWS 10d AT 12"oc. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

    ALL WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A DOUBLE TOP PLATE. END NAIL TOP PLATE AND BOTTOM PLATE TO EACH STUD WITH (3)10d NAILS. FACE NAIL DOUBLE TOP PLATES WITH 10d AT 12"oc AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE (12)10d NAILS AT 4"oc EACH SIDE OF JOINT. AT TOP PLATE INTERSECTIONS PROVIDE (3)10d FACE NAILS.

    ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH (2)ROWS OF 12d NAILS AT 16"oc, OR ATTACHED TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS AT 4'-0"oc EMBEDDED 7" MINIMUM, UNO. THERE SHALL BE A MINIMUM OF (2)BOLTS PER PLATE SECTION WITH (1)BOLT LOCATED NOT MORE THAN 12" OR LESS THAN 4-1/2" FROM EACH END OF THE PLATE SECTION. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH (2)ROWS OF 10d AT 16"oc. UNLESS NOTED OTHERWISE, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH #6 x 1-1/4" TYPE S OR W SCREWS AT 12"oc. UNLESS NOTED OTHERWISE, 7/16" OR 1/2" (NOMINAL) APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS AT 6"oc AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES) AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d NAILS AT 12"oc. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL ENDS.

    C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS, UNO. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL TIMBER JOISTS TO SUPPORTS WITH (3)10d NAILS AND NAIL TJI JOISTS TO SUPPORTS WITH (2)10d NAILS. ATTACH JOISTS TO BEAMS WITH SIMPSON JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH (2)ROWS 10d AT 12"oc. TOENAIL RIM JOIST TO TOP PLATE WITH 10d AT 6"oc. TOENAIL BLOCKING BETWEEN JOISTS TO TOP PLATE WITH (3)10d NAILS.

    UNLESS NOTED OTHERWISE ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS WITH END JOINTS STAGGERED, AND NAILED AT 6"oc WITH 8d NAILS TO FRAMED PANEL EDGES, STRUTS AND OVER STUD WALLS AS SHOWN ON PLANS AND AT 12"oc TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 10d AT 12"oc, UNO.

36. NOTCHES AND HOLES IN WOOD FRAMING:

    A. SAWN LUMBER JOISTS AND RAFTERS: NOTCHES AT THE ENDS OF JOISTS SHALL NOT EXCEED 1/4 THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF JOISTS SHALL NOT EXCEED 1/6 THE JOIST DEPTH, BE LONGER THAN 1/3 THE JOIST DEPTH, OR BE LOCATED IN THE MIDDLE 1/3 OF THE SPAN. HOLES SHALL NOT BE WITHIN 2" OF THE TOP OR BOTTOM OF THE JOIST AND THE DIAMETER SHALL NOT EXCEED 1/3 THE JOIST DEPTH. SPACING BETWEEN HOLES SHALL BE A MINIMUM OF (2)TIMES THE DIAMETER OF THE LARGEST HOLE OR 2" AND SHALL BE LOCATED A MINIMUM OF 2" FROM ANY NOTCH.

    B. EXTERIOR AND BEARING WALLS: WOOD STUDS ARE PERMITTED TO BE NOTCHED TO A DEPTH NOT EXCEEDING 1/4 OF ITS WIDTH. A HOLE NOT GREATER IN DIAMETER THAN 40% OF THE STUD WIDTH IS PERMITTED IN WOOD STUDS. HOLES SHALL NOT BE WITHIN 5/8" TO THE EDGE OF THE STUD. SPACING BETWEEN HOLES SHALL BE A MINIMUM OF (2)TIMES THE DIAMETER OF THE LARGEST HOLE OR 2" AND SHALL NOT BE LOCATED AT THE SAME SECTION AS A NOTCH.

    C. CUTS, NOTCHES, AND HOLES IN MANUFACTURED LUMBER, PREFABRICATED PLYWOOD WEB JOISTS, AND PREFABRICATED TRUSSES ARE PROHIBITED EXCEPT WHERE NOTED ON STRUCTURAL PLANS OR PERMITTED BY MANUFACTURER'S RECOMMENDATIONS.

37. ELECTRICAL, MECHANICAL, PLUMBING, AND DRAINAGE SYSTEMS SHALL BE DESIGNED TO ACCOMMODATE THE DIFFERENTIAL SHRINKAGE OR MOVEMENT OF THE WOOD STRUCTURE (3/8" PER FLOOR).

⚠ 38. DEFLECTION OF CANTILEVERS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR DURING CONSTRUCTION. CONTRACTOR TO VERIFY AND ENSURE ALL POST CAPS AND POST BEARING CONDITIONS ARE INSTALLED IN STRICT CONFORMANCE TO THE STRUCTURAL PLANS. CANTILEVERS IN WOOD FRAMING CAN DEFLECT UP TO 1/8" PER FOOT (I.E. 4' CANTILEVER MAY DEFLECT 1/2"). IF DEFLECTION EXCEEDS 1/8" PER FOOT NOTIFY STRUCTURAL ENGINEER IMMEDIATELY. BEFORE FINISHES ARE INSTALLED, FLOORS AT OR ABOVE CANTILEVERS MAY REQUIRE LEVELING COMPOUND AND SOFFITS FURRED TO MAKE THEM LEVEL.

39. PREFABRICATED CONNECTOR PLATE WOOD FLOOR TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION", ANSI/TPI 1 BY THE TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADING SHALL BE AS FOLLOWS:

TOP CHORD LIVE LOAD	40 PSF
TOP CHORD DEAD LOAD	25 PSF
BOTTOM CHORD DEAD LOAD	5 PSF
TOTAL LOAD	70 PSF

REFER TO PLAN FOR ADDITIONAL LOADING. ALL FLOOR TRUSSES SHALL BE DESIGNED FOR A MAXIMUM LIVE LOAD DEFLECTION OF THE SPAN DIVIDED BY 480.

WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. PROVIDE FOR SHAPE BEARING POINTS, INTERSECTIONS, ETC, SHOWN ON THE DRAWINGS. PROVIDE ALL TRUSS TO TRUSS AND TRUSS TO GIRDER TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

40. PREFABRICATED CONNECTOR PLATE WOOD ROOF TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION", ANSI/TPI 1 BY THE TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADING SHALL BE AS FOLLOWS:

TOP CHORD LIVE LOAD	25 PSF
TOP CHORD DEAD LOAD	15 PSF
BOTTOM CHORD DEAD LOAD	5 PSF
TOTAL LOAD	45 PSF
WIND UPLIFT (TOP CHORD)	10 PSF
BOTTOM CHORD LIVE LOAD	10 PSF
(BOTTOM CHORD LIVE LOAD DOES NOT ACT CONCURRENTLY WITH THE ROOF LIVE LOAD)	

REFER TO PLAN FOR ADDITIONAL LOADING

TRUSSES SHALL BE DESIGNED TO NOT ALLOW LIMITED STORAGE PER IBC TABLE 1607.1. WEBS SHALL BE CONFIGURED SO THAT ALL OPENINGS ARE SMALLER THAN 24" WIDE x 42" HIGH.

WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. PROVIDE FOR SHAPES, BEARING POINTS, INTERSECTIONS, HIPS, VALLEYS, ETC, SHOWN ON THE DRAWINGS. EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS, USE OF GIRDER TRUSSES, JACK TRUSSES, STEP-DOWN TRUSSES, ROOF OVER-FRAMING, ETC SHALL BE DETERMINED BY THE MANUFACTURER UNLESS SPECIFICALLY INDICATED ON THE PLANS. PROVIDE ALL TRUSS TO TRUSS AND TRUSS TO GIRDER TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

STEEL

41. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON:

    A. AISC 360 AND CHAPTER 22 OF THE INTERNATIONAL BUILDING CODE.

    B. APRIL 14, 2010 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, AMENDED AS NOTED IN THE CONTRACT DOCUMENTS, BY THE DELETION OF PARAGRAPH 4.4.1, AND REVISE REFERENCE FROM "STRUCTURAL DESIGN DRAWINGS" TO "CONTRACT DOCUMENTS" IN PARAGRAPH 3.1.

    C. SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS.

42. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	ASTM SPECIFICATION	Fy
A. WIDE FLANGE SHAPES	A992	50 KSI
B. HP-SHAPES	A572 (GRADE 50)	50 KSI
C. OTHER SHAPES, PLATES, AND RODS	A36	36 KSI
D. STRUCTURAL PIPE	A53 (GRADE B)	35 KSI
E. HOLLOW STRUCTURAL SECTIONS:		
SQUARE OR RECTANGULAR	A500 (GRADE C)	50 KSI
ROUND	A500 (GRADE C)	46 KSI
F. CONVENTIONAL HIGH-STRENGTH BOLTS (3/4"ROUND, UNO)	F3125 (GRADE A325)	
G. COMMON BOLTS (WOOD APPLICATIONS)	A307	
H. ANCHOR BOLTS	F1554 (GRADE 36)	
I. HEADED SHEAR STUDS	A108	

43. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL CONFORM TO SECTION 10 OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

44. ALL A325 CONNECTION BOLTS NEED ONLY BE TIGHTENED TO A SNUG TIGHT CONDITION, DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. THIS MAY BE ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING AN ORDINARY SPUD WRENCH.

45. ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AWS STANDARDS AND SHALL BE PERFORMED BY WABO CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. ALL COMPLETE JOINT PENETRATION GROOVE WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CVN TOUGHNESS OF 20 FT-LBS AT -20 DEGREES(F) AND 40 FT-LBS AT 70 DEGREES(F), AS DETERMINED BY AWS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

ABBREVIATIONS

±	PLUS OR MINUS
Ø	DIAMETER
AB	ANCHOR BOLT
ABV	ABOVE
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
APPROX	APPROXIMATELY
ARCH	ARCHITECT, ARCHITECTURAL
BLDG	BUILDING
BLKG	BLOCKING
BLW	BELOW
BM	BEAM
BMU	BRICK MASONRY UNIT
BOE	BOTTOM OF EXCAVATION
BOT	BOTTOM
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
C	CAMBER
CBF	CONCENTRICALLY BRACED FRAME
CGS	CENTER GRAVITY OF STEEL
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
℄	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CP	COMPLETE PENETRATION
CTR	CENTER
CTRD	CENTERED
CY	CUBIC YARD
DBL	DOUBLE
DEMO	DEMOLISH
DET	DETAIL
DEV	DEVELOPMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTRIBUTED
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DP	DEEP/DEPTH
DS	DRAG STRUT
DWGS	DRAWINGS
(E)	EXISTING
EA	EACH
EE	EACH END
EF	EACH FACE
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDMENT
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FF	FINISHED FLOOR
FIN	FINISH
FLR	FLOOR
FRMG	FRAMING
FRP	FIBER REINFORCED PLASTIC
FS	FAR SIDE
FT	FEET
FTG	FOOTING
GA	GAGE, GAUGE
GALV	GALVANIZED
GL	GLUE LAMINATED TIMBER
GR	GRADE
GT	GIRDER TRUSS
GWB	GYPSUM WALLBOARD
HD	HOLDOWN
HDR	HEADER
HF	HEM FIR
HGR	HANGER
HM	HIP MASTER
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IN	INCH
INSUL	INSULATION
IRC	INTERNATIONAL RESIDENTIAL CODE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 POUNDS)
KP	KING POST
KSF	KIPS PER SQ FT
L	ANGLE
L	LENGTH
LBS	POUNDS
LF	LINEAL FOOT
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATE, LOCATION
LONG	LONGITUDINAL
LSH	LONG SLOTTED HOLE
LSL	LAMINATED STRUCTURAL LUMBER
LVL	LAMINATED VENEER LUMBER
MAT	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURE
MIN	MINIMUM
MISC	MISCELLANEOUS
MRF	MOMENT RESISTANT FRAME
MTL	METAL
NO	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
oc	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
PAF	POWDER ACTUATED FASTENER
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE
PL	PROPERTY LINE
PLF	POUNDS PER LINEAR FOOT
PLY	PLYWOOD
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED LUMBER
P-T	POST-TENSIONED
R	RADIUS
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
RET	RETAINING
RO	ROUGH OPENING
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FOOT
SHTG	SHEATHING
SIM	SIMILAR
SOG	SLAB ON GRADE
SPEC	SPECIFICATIONS
SQ	SQUARE
SR	STUD RAIL
SS	STAINLESS STEEL
STAGG	STAGGER/STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SW	SHEARWALL
SYM	SYMMETRICAL
T&G	TONGUE AND GROOVE
TDS	TIE DOWN SYSTEM
TEMP	TEMPORARY
THK	THICKNESS
THKD	THICKENED
THRD	THREADED
THRU	THROUGH
TOW	TOP OF WALL
TPL	TRIPLE
TRANSV	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WIDE OR WIDTH
w/	WITH
w/o	WITHOUT
WD	WOOD
WHS	WELDED HEADED STUD
WP	WORKING POINT
WTS	WELDED THREADED STUD
WWM	WELDED WIRE MESH

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REV	DESCRIPTION	DATE
	PERMIT SET	12.23.21
△1	PERMIT CORRECTIONS	5.5.22

ARCH McCULLOUGH ARCHITECTS
206.443.1181

GENERAL STRUCTURAL NOTES

S1.0

SCALE - NTS

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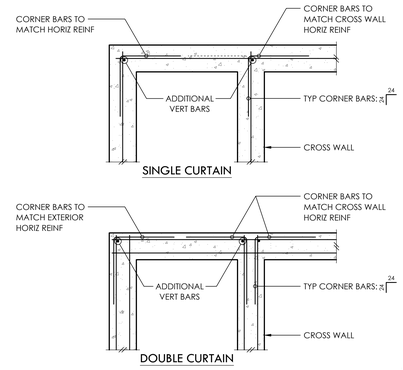

TYP CORNER BARS AT CONCRETE WALLS AND FTGS 5

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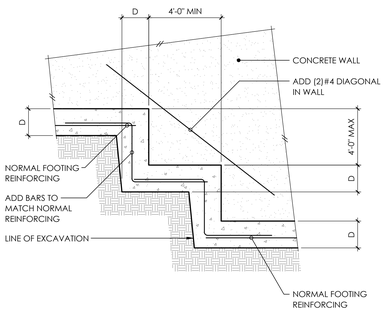

TYPICAL STEPPED FOOTING 10

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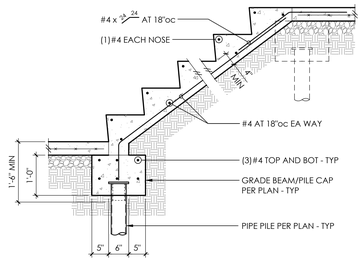
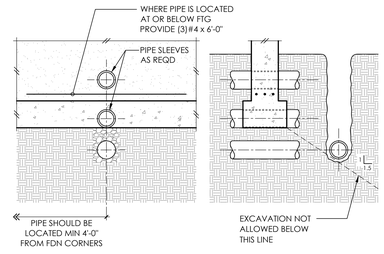


NOTE:

EXACT CONFIGURATION OF STAIR INCLUDING TREAD AND RISER DIMS PER ARCH DRAWINGS

TYPICAL STAIR ON GRADE 14



PIPE AND TRENCH LOCATIONS 15

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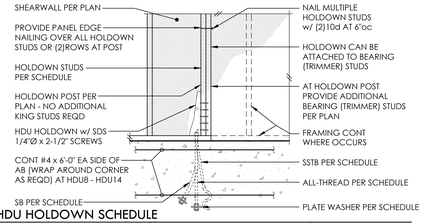
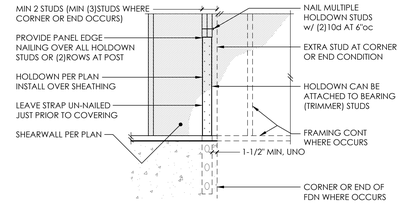


HDU HOLDOWN SCHEDULE

PLAN	AT STEMWALL		AT FOOTING①②			HD POST①	
MARK	AB	EMBED	ALL-THREAD	WASHER	EMBED	4x WALL	6x WALL
HDU2	5/8"Ø - SSTB16(L)	12-5/8"	5/8"Ø	1-3/4"SQ x 1/2	9"	(2)2x4	(2)2x6
HDU4	5/8"Ø - SB5/8 x 24	18"	5/8"Ø	1-3/4"SQ x 1/2	9"	(2)2x4	(2)2x6
HDU5	5/8"Ø - SB5/8 x 24	18"	5/8"Ø	1-3/4"SQ x 1/2	9"	(2)2x4	(2)2x6
HDU8	7/8"Ø - SB7/8 x 24	18"	7/8"Ø	2-1/2"SQ x 1/2	12"	4x6	6x6
HDU11	1"Ø - SB1 x 30③	24"	1"Ø	3"SQ x 5/8	12"	4x8	6x6
HDU14	-	-	1"Ø	3"SQ x 5/8	12"	4x12	6x8

① ALL HOLDOWN ANCHOR BOLTS THAT NEED TO BE EMBEDDED INTO FOOTING ARE SPECIFICALLY SHOWN ON PLAN
② A307 ALL-THRD w/ PLATE WASHER PER SCHEDULE AND DOUBLE NUT BOT OR EQUIVALENT SIMPSON PAB
③ MINIMUM SIZE OF POST UNO ON FRAMING PLANS
④ REQUIRES MINIMUM 8" THICK CONCRETE WALL

19



LSTHD/STHD HOLDOWN SCHEDULE

PLAN MARK	NAILS①	HD POST②
LSTHD8(RJ)	(20)16d SINKERS	DBL STUD
STHD10(RJ)	(28)16d SINKERS	DBL STUD
STHD14(RJ)	(30)16d SINKERS	DBL STUD

① 16d SINKERS = 0.148"Ø x 3-1/4"
② MINIMUM SIZE OF POST UNO ON FRAMING PLANS

20

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	PERMIT SET	12.23.21
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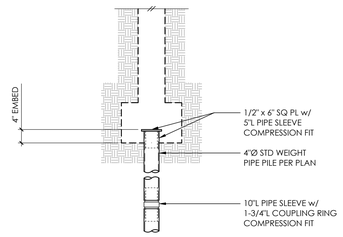
ARCH McCULLOUGH ARCHITECTS 206.443.1181

TYPICAL CONCRETE DETAILS

S3.0

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

Plotted by: jasonhead
Plotted Date: Jun 15, 2022 - 10:47am



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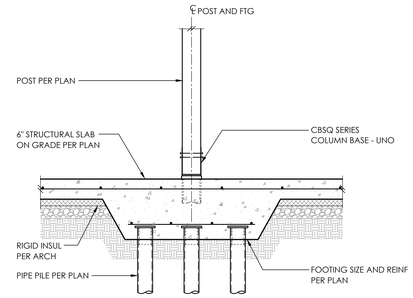

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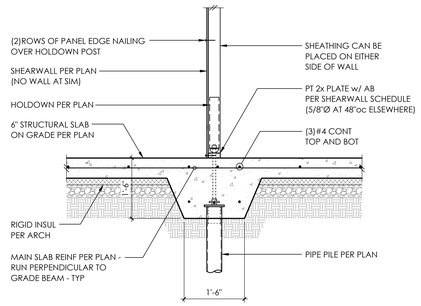

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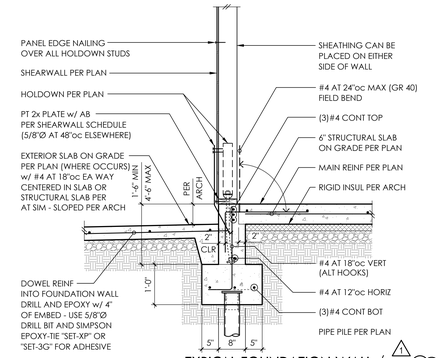
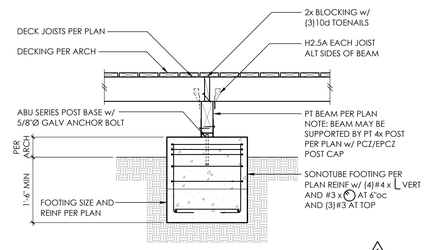


TYPICAL FOUNDATION WALL / STRUCTURAL SLAB ON GRADE 5



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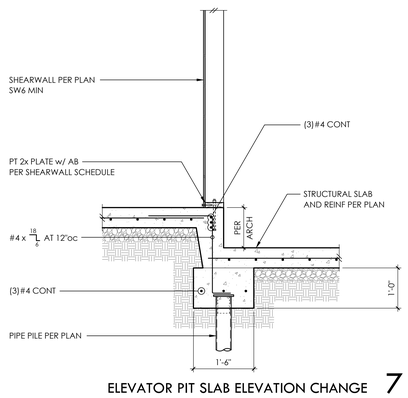
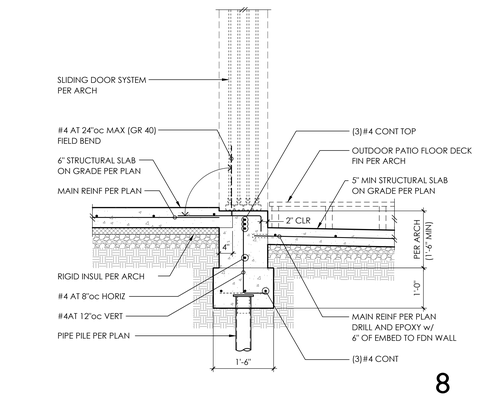


ELEVATOR PIT SLAB ELEVATION CHANGE 7



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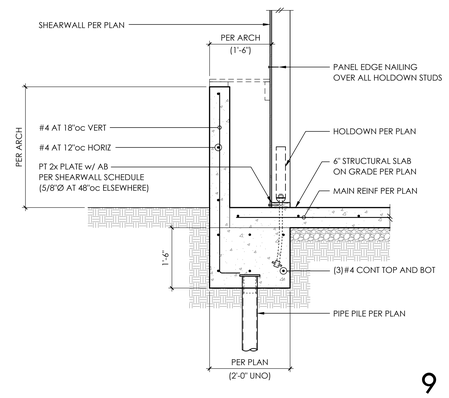

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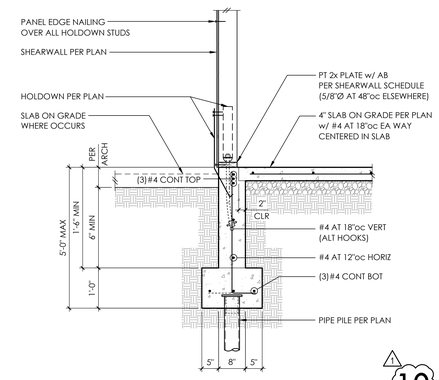

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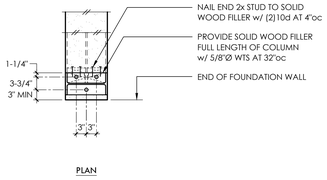
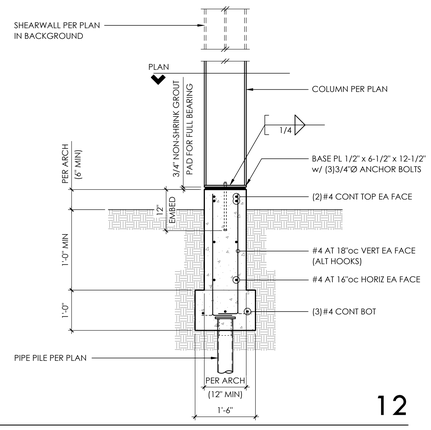


PLAN



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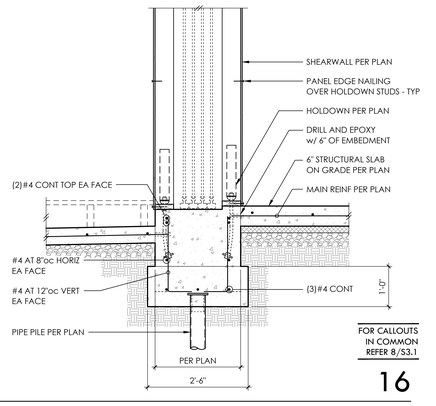
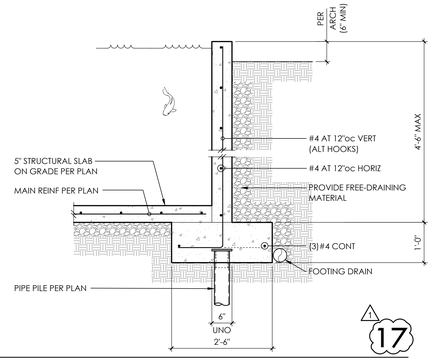


FOR CALLOUTS IN COMMON REFER 8/S3.1

16



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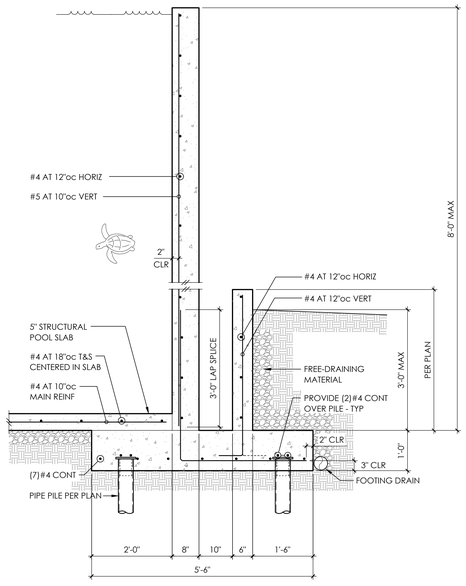

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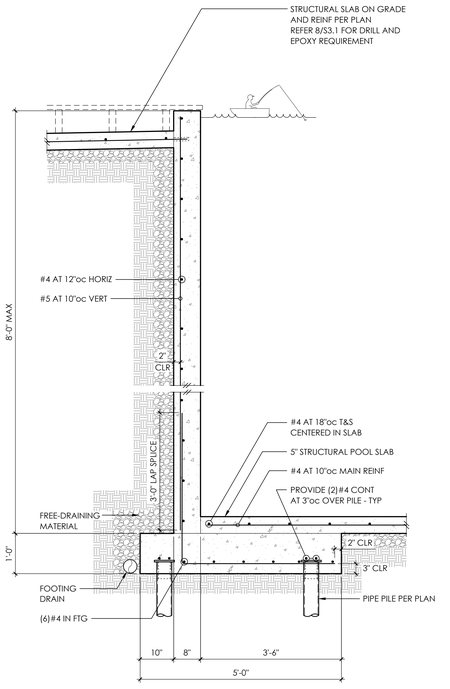

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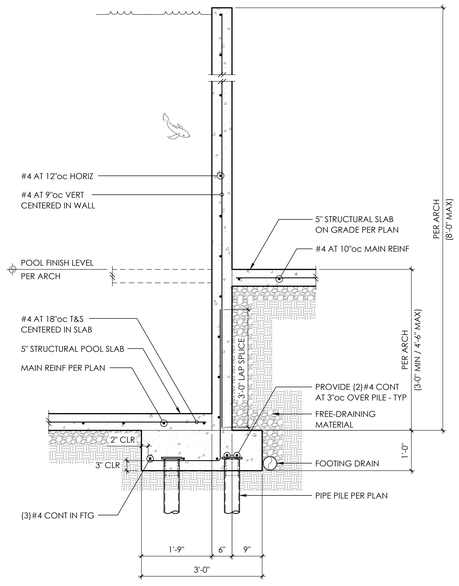

20

MALSAM TSANG STRUCTURAL ENGINEERING
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PROJECT NO	0426.2021.03.01
PROJECT MANAGER	WAC
DRAWN	JAS
ENGINEER	JOSEPH MARQUEZ 206.602.5122 JOSEPHM@MALSAM-TSANG.COM

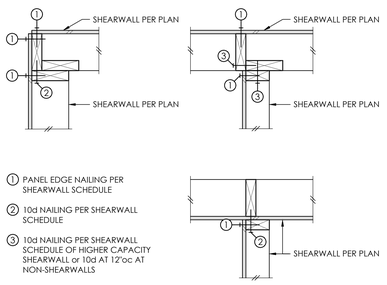
REV	DESCRIPTION	DATE
	PERMIT SET	12.23.21
1	PERMIT CORRECTIONS	5.5.22

ARCH McCULLOUGH ARCHITECTS 206.443.1181

CONCRETE DETAILS

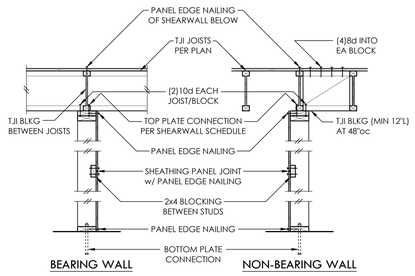
S3.1
SCALE - 3/4" = 1'-0"

Plotted by: jasonhead
Plotted Date: Jun 15, 2022 - 10:47am



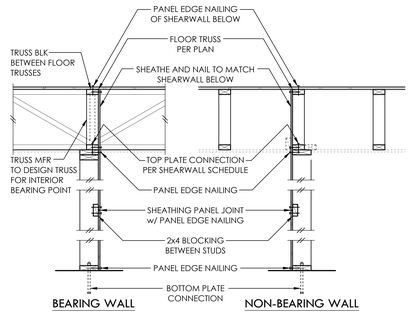
SCALE: 1-1/2" = 1'-0"

TYPICAL SHEARWALL INTERSECTIONS 1



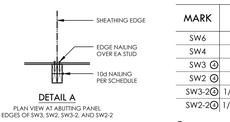
NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, UNO

TYPICAL SHEARWALL CONSTRUCTION 2



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

TYPICAL SHEARWALL CONSTRUCTION 3



DETAIL A
PLAN VIEW AT ABUTTING PANEL EDGES OF SW3, SW2, SW3-2, AND SW2-2

SHEARWALL SCHEDULE①②③④⑤⑥⑦

MARK	SHEATHING	PANEL EDGE NAILING	TOP PLATE CONNECTION		BASE PLATE CONNECTION	
			TRUSS	RIM/BEAM ⑤	AT WOOD	AT CONCRETE
SW6	1/2" PLY or 7/16" OSB	8d AT 6"oc	10d AT 6"oc	A35 AT 30"oc	12d AT 6"oc	5/8"Ø AB AT 48"oc
SW4	1/2" PLY or 7/16" OSB	8d AT 4"oc	10d AT 4"oc	A35 AT 18"oc	12d AT 4"oc	5/8"Ø AB AT 42"oc
SW3 ④	1/2" PLY or 7/16" OSB	8d AT 3"oc	(2)ROWS 10d AT 6"oc	A35 AT 16"oc	(2)ROWS 12d AT 6"oc	5/8"Ø AB AT 36"oc
SW2 ④	1/2" PLY or 7/16" OSB	8d AT 2"oc	(2)ROWS 10d AT 4"oc	A35 AT 12"oc	(2)ROWS 12d AT 4"oc	5/8"Ø AB AT 24"oc
SW3-2④	1/2" PLY or 7/16" OSB EA SIDE	8d AT 3"oc EA SIDE	N/A	A35 AT 8"oc	(2)ROWS 12d AT 3"oc	5/8"Ø AB AT 18"oc
SW2-2④	1/2" PLY or 7/16" OSB EA SIDE	8d AT 2"oc EA SIDE	N/A	A35 AT 6"oc	(3)ROWS 12d AT 3"oc	5/8"Ø AB AT 12"oc

① BLOCK PANEL EDGES WITH 2x4 LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d AT 12"oc.

② 8d NAILS SHALL BE 0.131"Ø x 2-1/2", 10d NAILS SHALL BE 0.131"Ø x 3", AND 12d NAILS SHALL BE 0.131"Ø x 3-1/4".

③ EMBED ANCHOR BOLTS AT LEAST 7". ALL BOLTS SHALL HAVE 3" x 3" x 0.229" PLATE WASHERS, THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) w/ SHEATHING. AT 2x6 SW3-2 AND SW2-2 WALLS, PROVIDE 4-1/2" x 3" x 0.229" PLATE WASHERS CENTERED ON PLATE.

④ 3x STUDS OR DBL STUDS NAILED TOGETHER w/ 10d NAILING IS REQD AT ABUTTING PANEL EDGES OF SW3, SW2, SW3-2, AND SW2-2. REFER TO DETAIL A. WHERE 3x STUDS ARE USED, STAGGER NAILS AT ADJOINING PANEL EDGES. ABUTTING PANEL EDGES SHALL BE OFFSET EACH SIDE OF WALL AT SW3-2 AND SW2-2.

⑤ TWO STUDS MINIMUM OR POST PER PLAN ARE REQUIRED AT EACH END OF ALL SHEARWALLS AND ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING.

⑥ ALL EXTERIOR WALLS SHALL BE SW6, UNLESS NOTED OTHERWISE.

⑦ NAILS SHALL NOT BE SPACED LESS THAN 3/8" FROM EDGES OF SHEATHING. SHEATHING NAILS SHALL BE DRIVEN SO THEIR HEADS ARE FLUSH WITH SHEATHING (NOT COUNTERSUNK).

⑧ LTP4's INSTALLED OVER SHEATHING WITH 8d (0.131"Ø x 2-1/2") NAILS MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.

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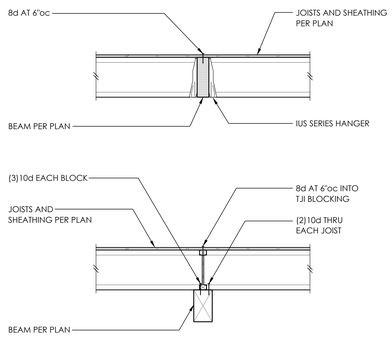
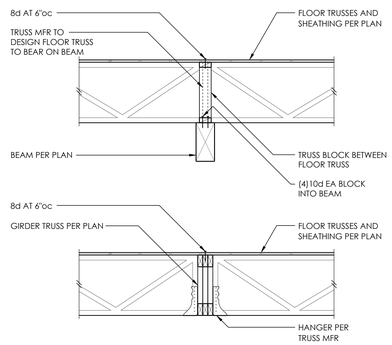
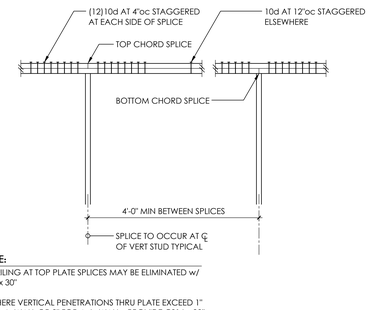


TYPICAL FLUSH AND DROPPED BEAM 7



TYPICAL DROPPED BEAM AND GIRDER TRUSS 8

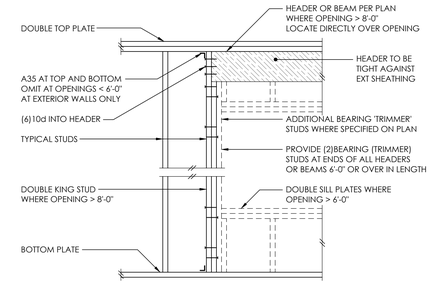


NOTE:
1. NAILING AT TOP PLATE SPLICES MAY BE ELIMINATED w/ CS16 x 30"

2. WHERE VERTICAL PENETRATIONS THRU PLATE EXCEED 1" FOR A 4x WALL OR 3" FOR A 6x WALL - PROVIDE CS16 x 30" AT TOP PLATE

3. MINIMUM EDGE DISTANCE FOR VERTICAL PENETRATIONS THRU TOP PLATE IS 1-1/4"

AT SHEARWALLS
TYPICAL TOP PLATE SPLICE 9



TYPICAL HEADER SUPPORT 10

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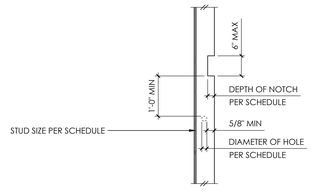
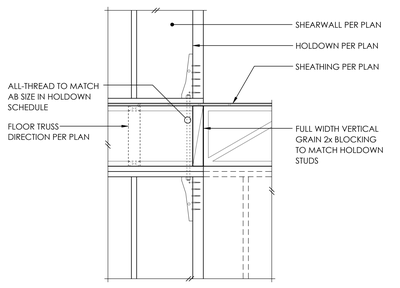
12

BEARING AND EXTERIOR WALLS			NON-BEARING WALLS		
STUD SIZE	MAX DEPTH OF NOTCH	MAX DIA. OF HOLE	STUD SIZE	MAX DEPTH OF NOTCH	MAX DIA. OF HOLE
2x4	3/4"	1-3/8"	2x4	1-3/8"	2"
2x6	1-1/4"	2-1/8"	2x6	2-1/4"	3-1/4"

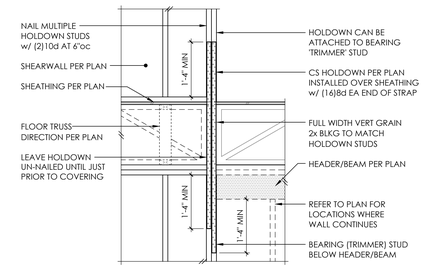
HOLE AND NOTCH SIZE FOR NON-BEARING WALLS MAY BE USED FOR BEARING WALLS IF REQUIRED NUMBER OF STUDS ARE DOUBLED. DOUBLE STUDS SHALL BE LIMITED TO TWO SUCCESSIVE STUDS.



TYPICAL ALLOWABLE HOLES AND NOTCHES IN WALL STUDS 13



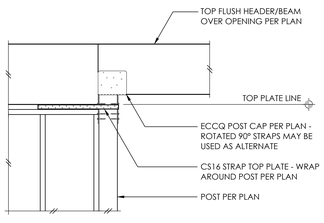
TYPICAL HDU HOLDOWN 14



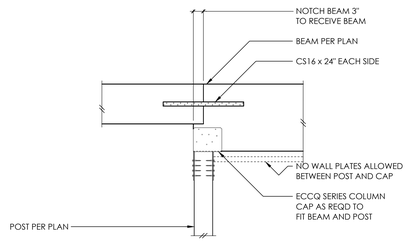
TYPICAL CS16 HOLDOWN 15

16

17



TYPICAL HEADER/BEAM END CONNECTION OVER WDO/SGD 18



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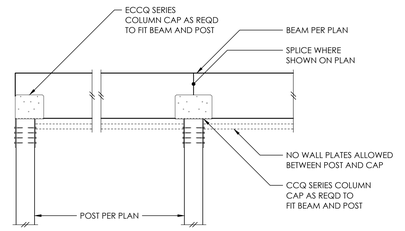

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PROFESSIONAL ENGINEER

PROJECT NO	0426.2021.03.01
PROJECT MANAGER	WAC
DRAWN	JAS
ENGINEER	JOSEPH MARQUEZ
	206.602.5122
	JOSEPHM@MALSAM-TSANG.COM

REV	DESCRIPTION	DATE
	PERMIT SET	12.23.21
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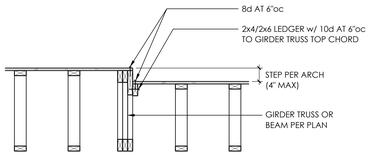
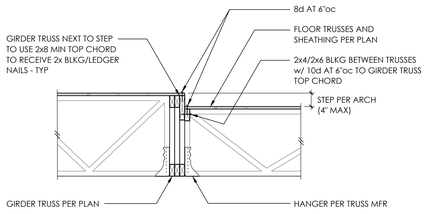
ARCH McCULLOUGH ARCHITECTS 206.443.1181

TYPICAL WOOD FRAMING DETAILS

S4.0
SCALE - 3/4" = 1'-0"



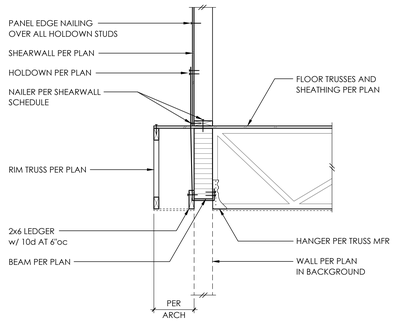
AT PARALLEL CONDITION



AT PERPENDICULAR CONDITION

TYPICAL TRUSS TO GIRDER TRUSS STEP

1 2



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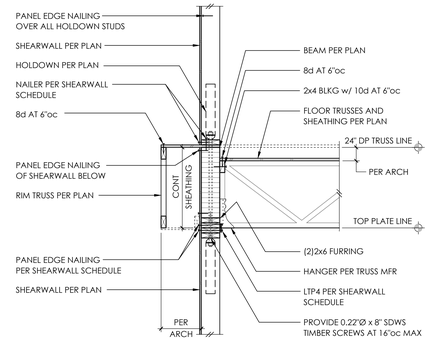

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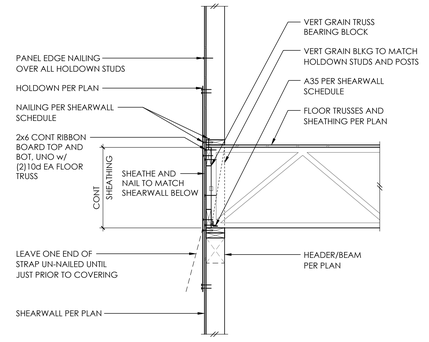

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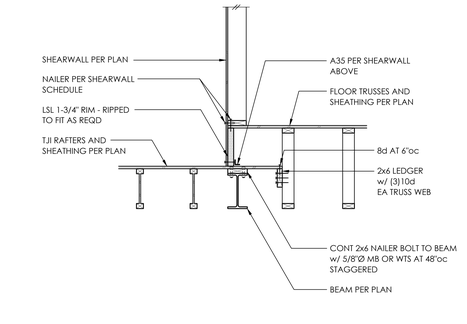

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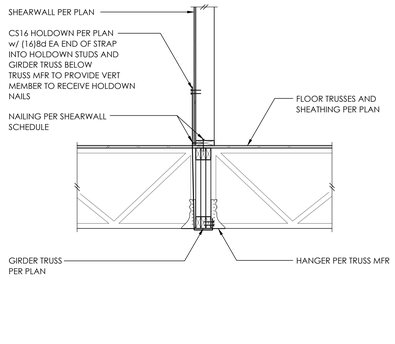

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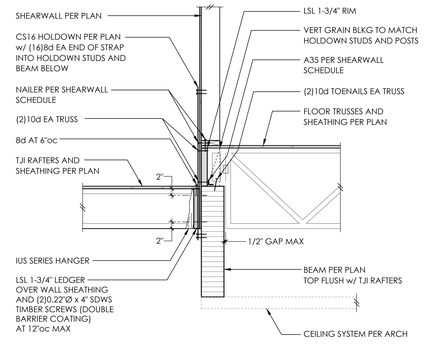

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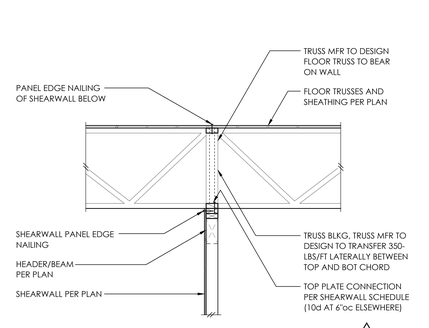

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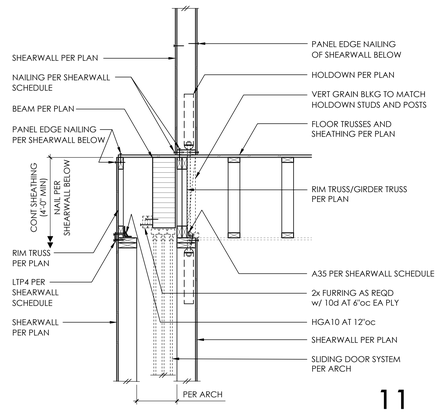

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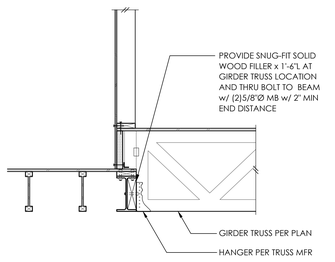
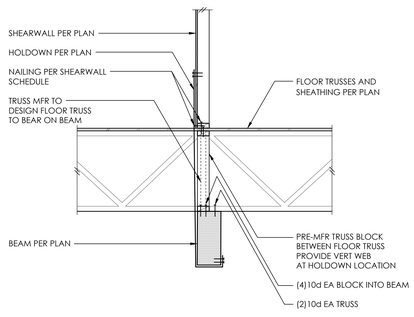


NOTE:
HDU HOLDOWN PER PLAN
NOT SHOWN FOR CLARITY

FOR CALLOUTS
IN COMMON
REFER 17/S4.1

12



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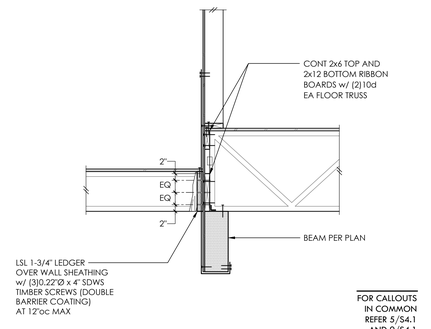
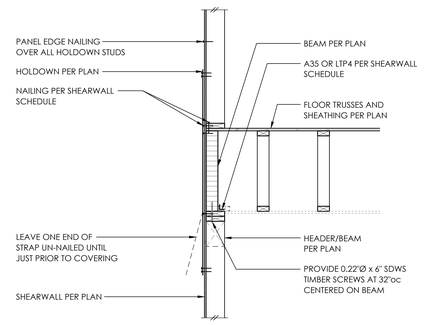


FOR CALLOUTS
IN COMMON
REFER 5/S4.1
AND 9/S4.1

14



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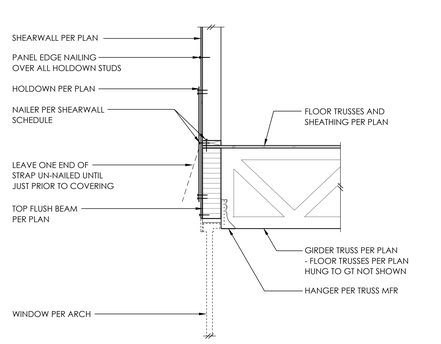

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17

TYPICAL GIRDER TRUSS 18

19

1
20

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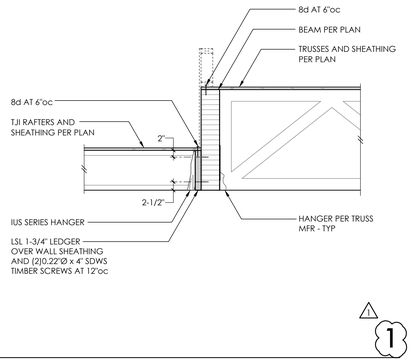

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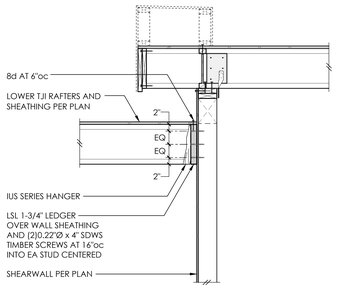

FOR CALLOUTS IN COMMON REFER 15/S4.2

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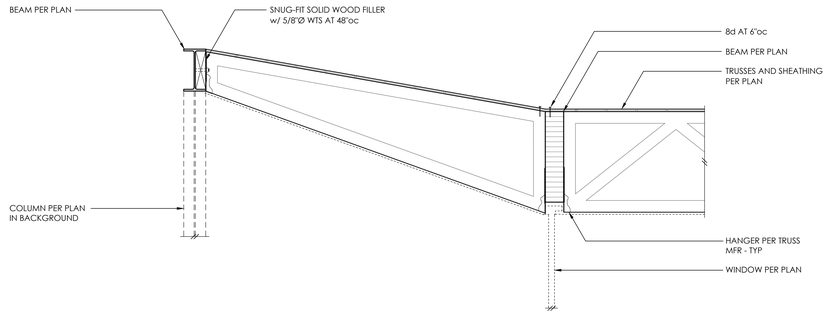

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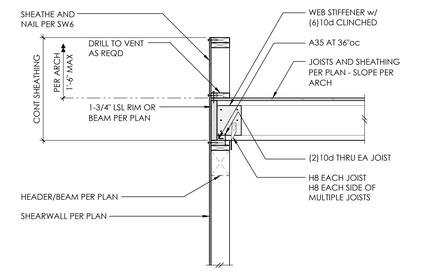

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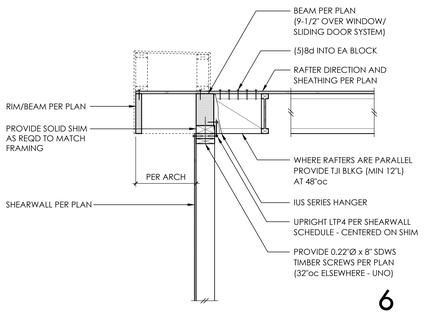

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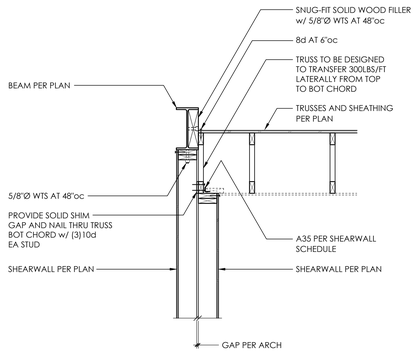

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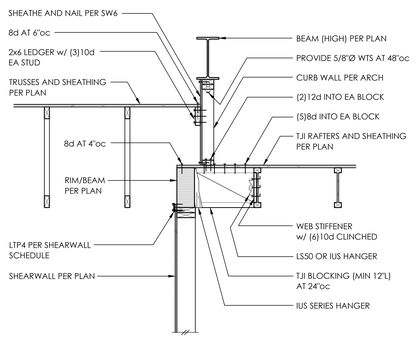

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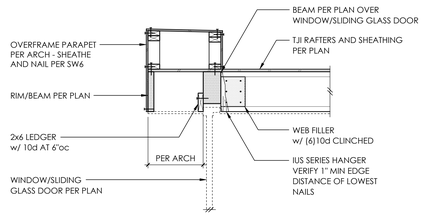

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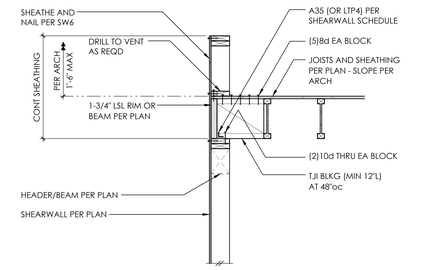

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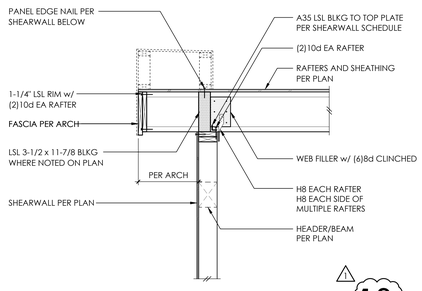

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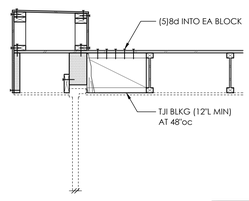

FOR CALLOUTS IN COMMON REFER 9/S4.2

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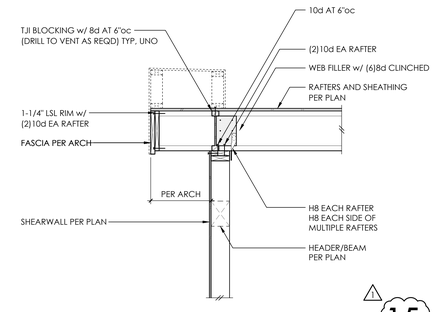

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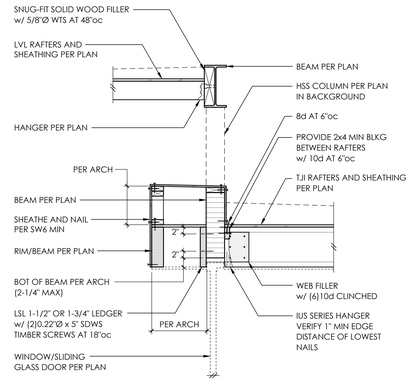

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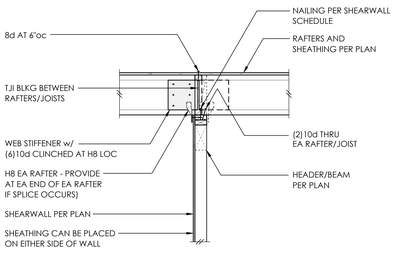

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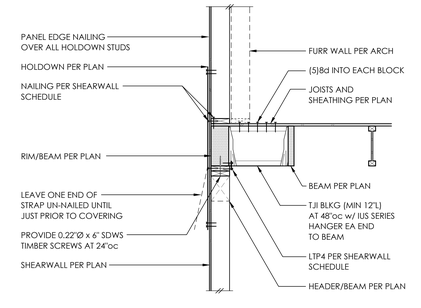

20

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MARC J. MALSAM
STATE OF WASHINGTON
21586
REGISTERED
PROFESSIONAL ENGINEER

PROJECT NO	0426.2021.03.01
PROJECT MANAGER	WAC
DRAWN	JAS
ENGINEER	JOSEPH MARQUEZ
	206.602.5122
	JOSEPHM@MALSAM-TSANG.COM

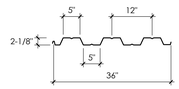
REV	DESCRIPTION	DATE
	PERMIT SET	12.23.21
1	PERMIT CORRECTIONS	5.5.22

ARCH McCULLOUGH ARCHITECTS
206.443.1181

WOOD FRAMING DETAILS

S4.2
SCALE - 3/4" = 1'-0"

Plotted By: JoanMarq
Plotted Date: Jan 13, 2022 - 10:47am



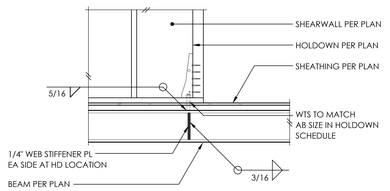
DG-2WHF STEEL DECK WITH G90 COATING.
MINIMUM SECTION PROPERTIES:

DECK GAUGE	I^+ (in^4)	I^- (in^4)	S^+ (in^3)	S^- (in^3)	
16	1.303	1.132	0.803	0.792	[PROPERTIES PER FOOT OF WIDTH]

1

1. USE 16 GAUGE DECK AS NOTED AT LEFT AND ON PLAN.
2. FOLLOW SPAN LAYOUTS AS SHOWN ON PLAN.
3. CONNECT DECK SEAMS WITH BUTTON PUNCHES AT 24"oc AND ARC SPOT WELD AT 12"oc EA END - PROVIDE 2" MIN BEARING LENGTH EACH END.
4. DECK TYPE MUST STRICTLY MEET CRITERIA LISTED AT LEFT. SUBMIT DECK INFORMATION TO ENGINEER PRIOR TO BEGINNING SHOP DRAWINGS
5. 2" THICK MAX (19.0 PSF MAX) WASHED GRAVEL TOPPING OVER STEEL PAN DECK

ASC STEEL ROOF DECK 3



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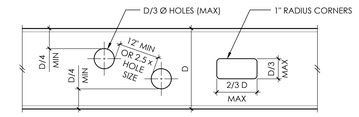
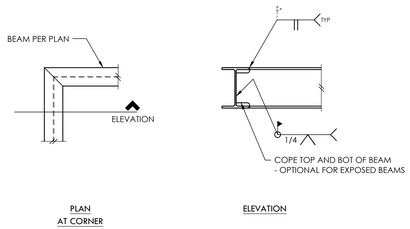


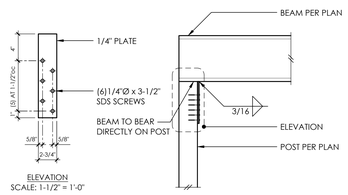
1. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF ALL BEAM PENETRATIONS w/ MECHANICAL DRAWINGS. ALL PENETRATIONS LARGER THAN 2"Ø SHALL BE SHOWN ON SHOP DRAWINGS OR SKETCHES AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. FIELD CUTTING NOT PERMITTED WITHOUT APPROVAL.
2. OPENINGS MAY OCCUR IN MIDDLE HALF OF BEAM LENGTH ONLY.
3. NO CUTTING MAY OCCUR IN TOP OR BOTTOM QUARTER OF BEAM DEPTH.
4. ADJACENT OPENINGS MUST BE SPACED AT THE GREATER OF, 12" OR 2.5 x LARGER OPENING SIZE, EDGE TO EDGE.
5. MAXIMUM SIZES OF OPENINGS SHALL BE D/3 Ø OR D/3 x 2D/3 AS SHOWN.
6. NO OPENINGS SHALL OCCUR WITHIN 12" OF AN ADJACENT BEAM CONNECTION.
7. REQUIRED OPENINGS NOT MEETING ABOVE CRITERIA SHALL BE SUBMITTED TO ENGINEER FOR REINFORCING DESIGN.

TYPICAL STEEL BEAM PENETRATIONS 5



6

TYPICAL BEAM CORNER CONNECTION (WELD) 7



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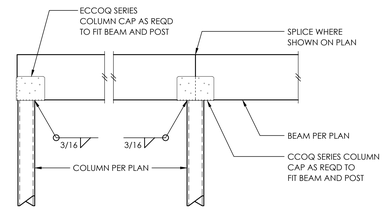
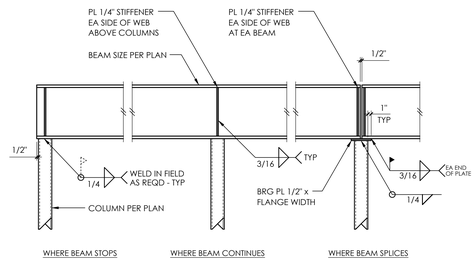


TYPICAL CCOQ / ECCOQ COLUMN CAP 9



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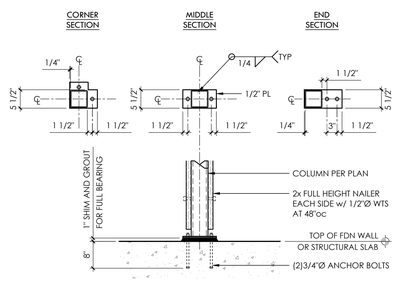
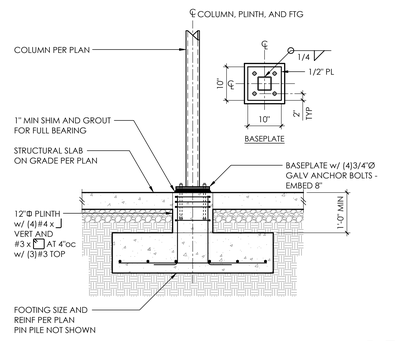


BASEPLATE - HSS COLUMN 14



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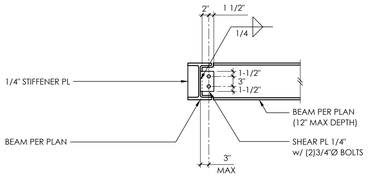
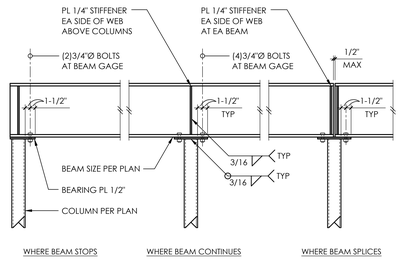


TYPICAL BEAM TO BEAM CONNECTION 19



NOTE
BEARING PLATE THICKNESS SHALL BE 3/4" WHERE DEPTH OF SUPPORTED MEMBER EXCEEDS 24"

20

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PROJECT NO	0426.2021.03.01
PROJECT MANAGER	WAC
DRAWN	JAS
ENGINEER	JOSEPH MARQUEZ
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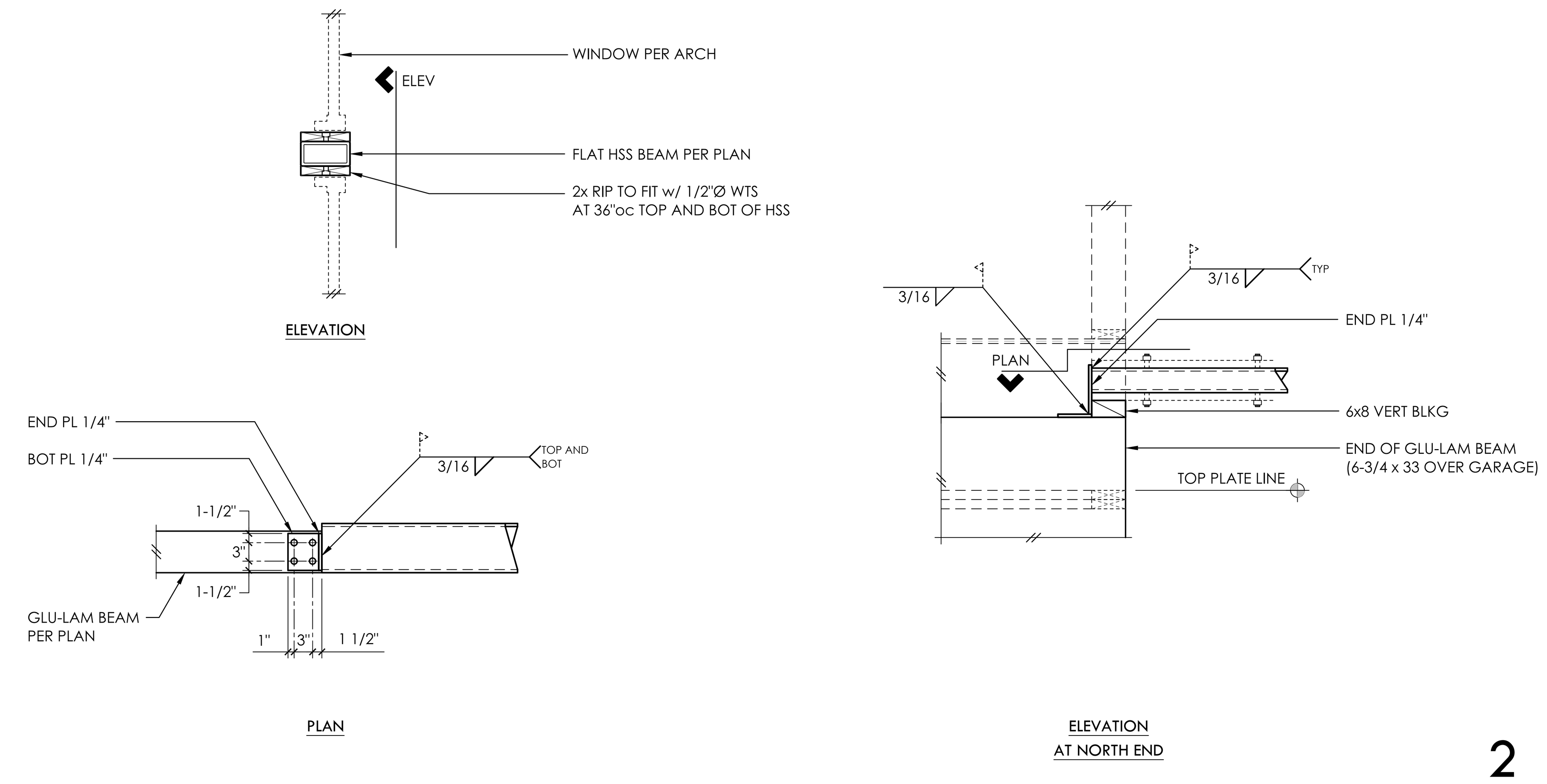
REV	DESCRIPTION	DATE
	PERMIT SET	12.23.21
1	PERMIT CORRECTIONS	5.5.22

ARCH McCULLOUGH ARCHITECTS 206.443.1181

STEEL FRAMING DETAILS

S5.0
SCALE - 3/4" = 1'-0"

Plotted By: jasonfreed
Plotted Date: Jun 15, 2022 - 10:47am



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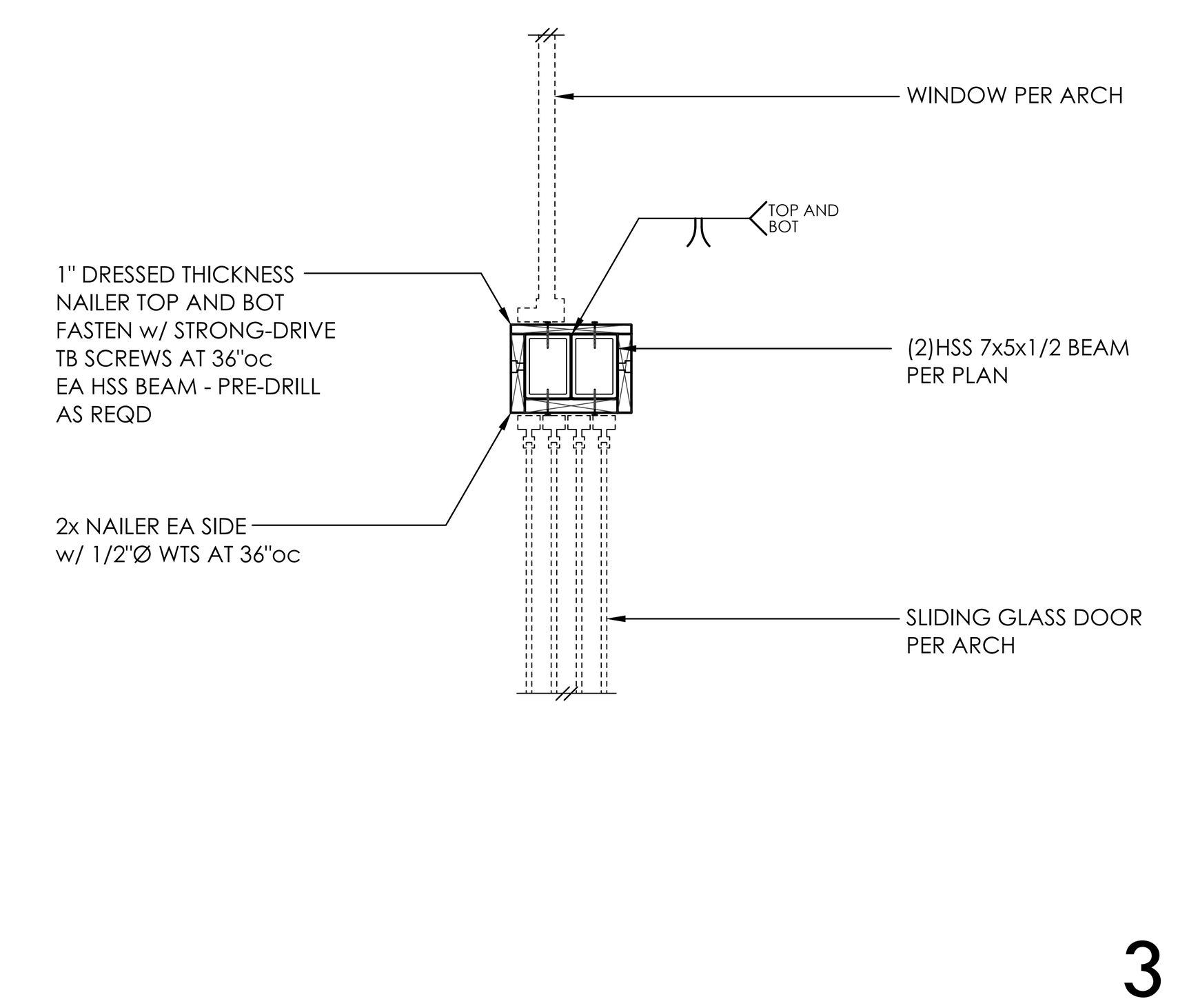

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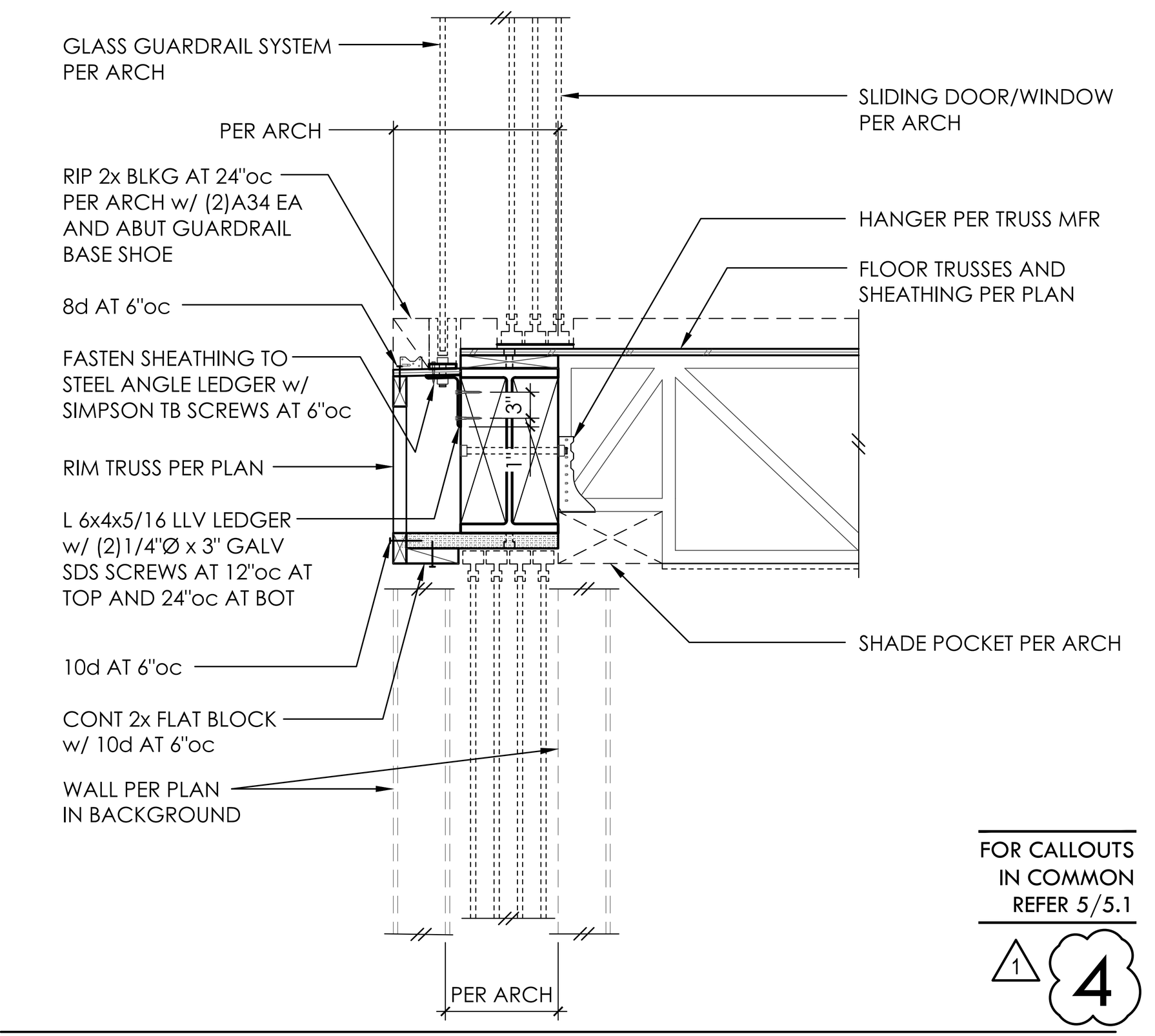

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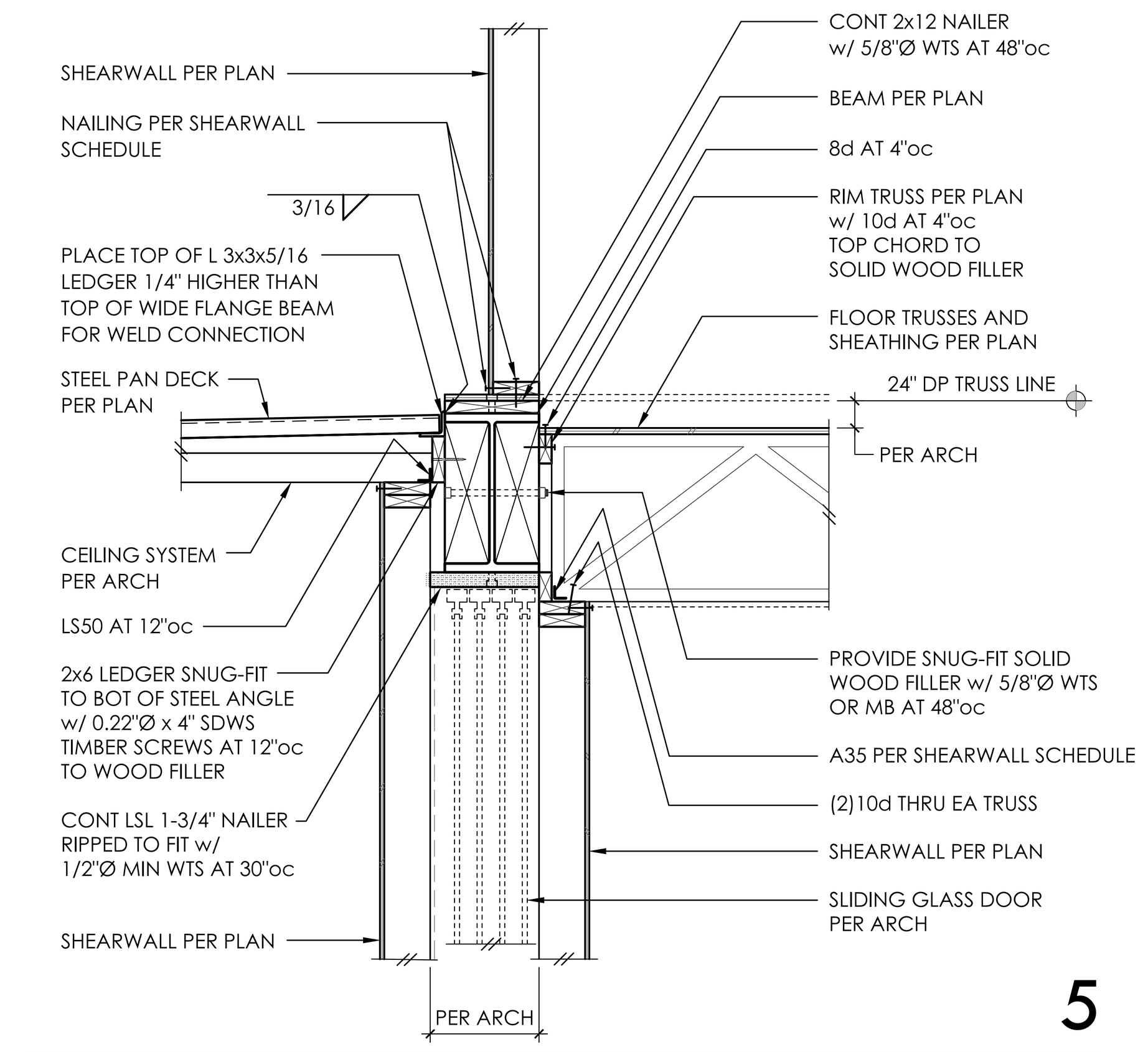

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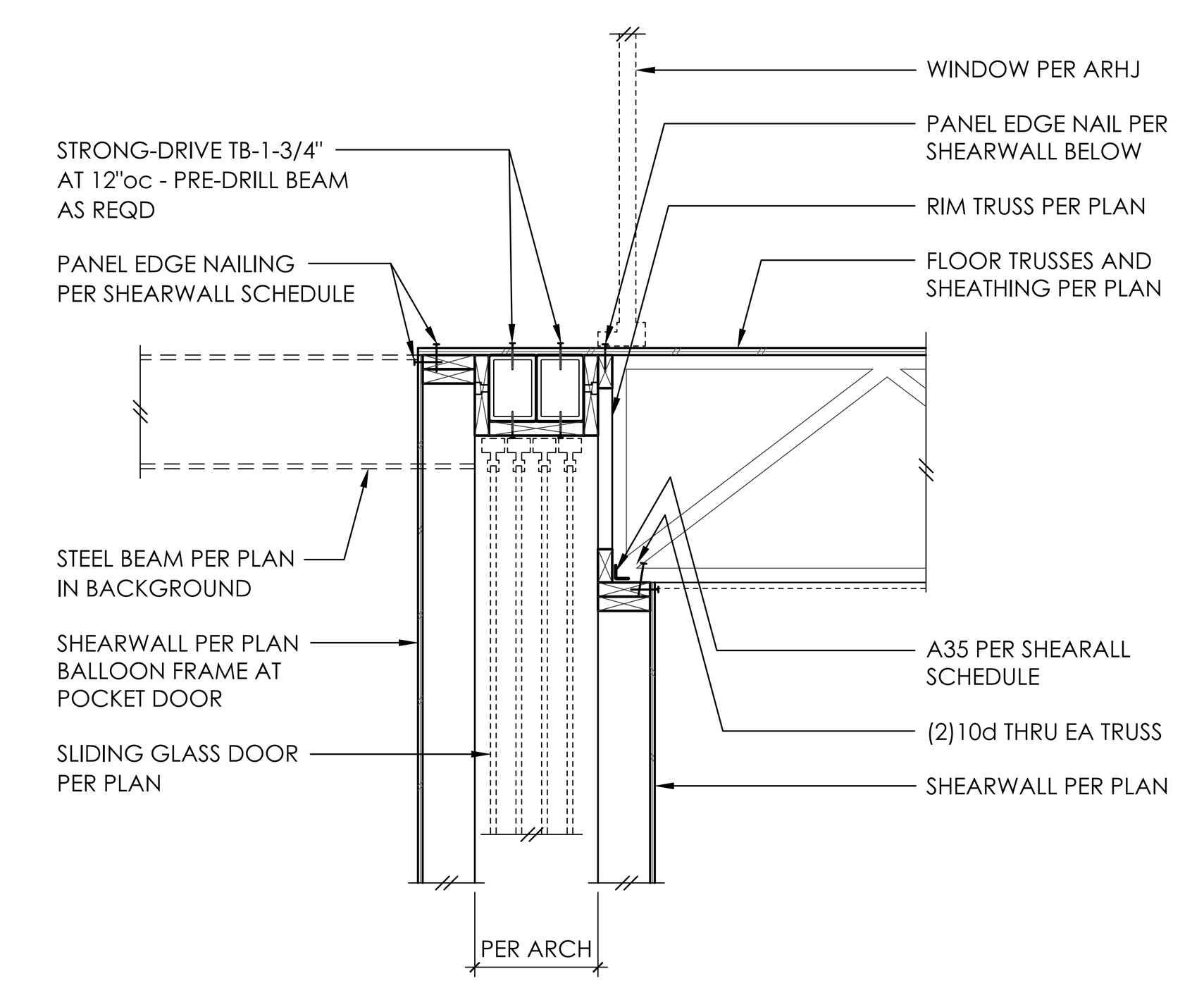

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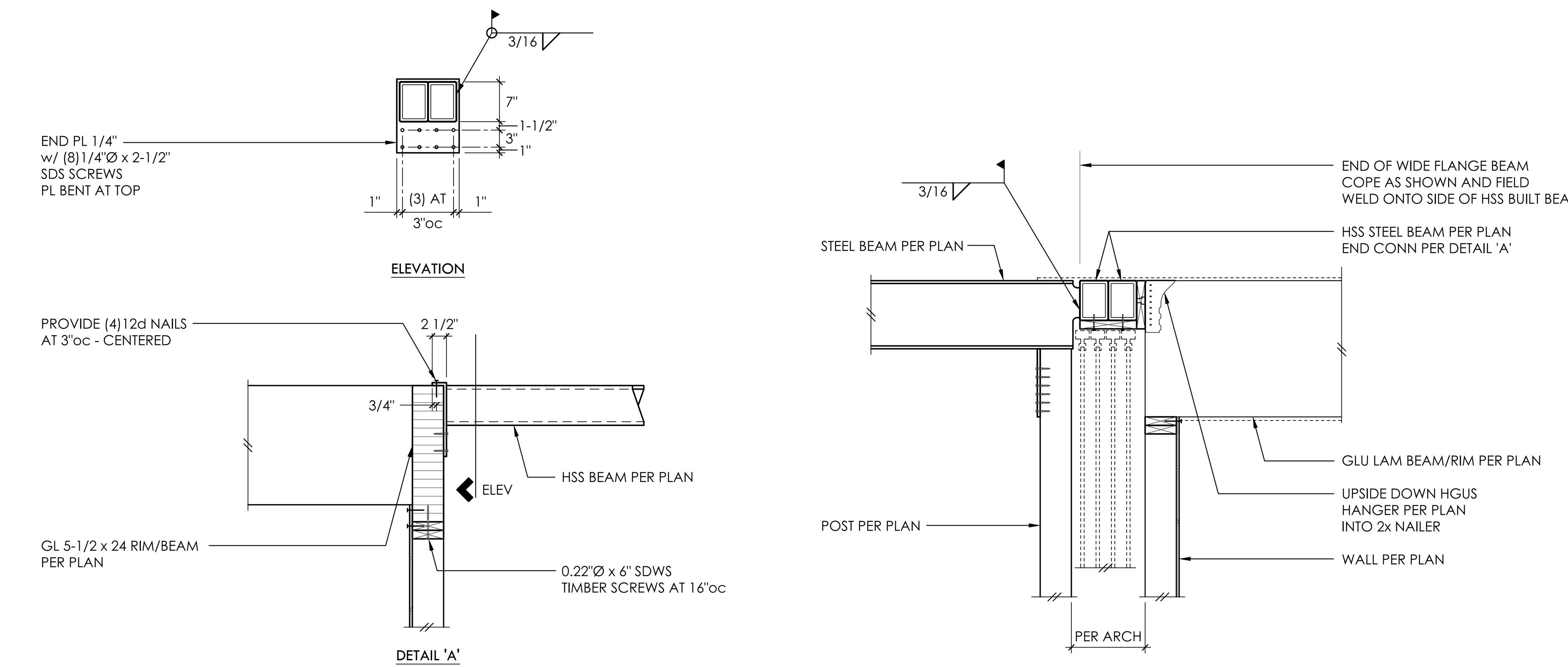

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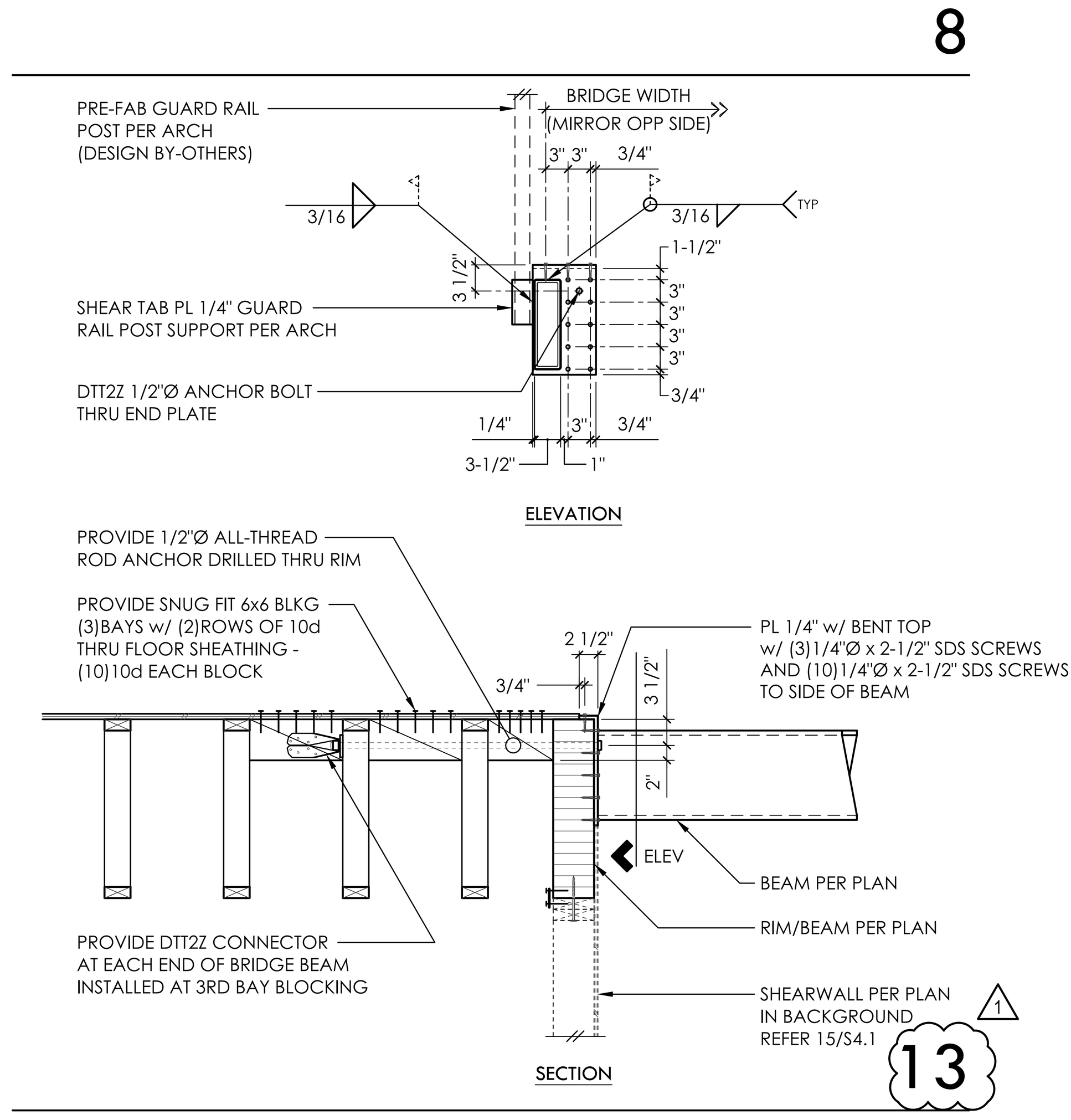

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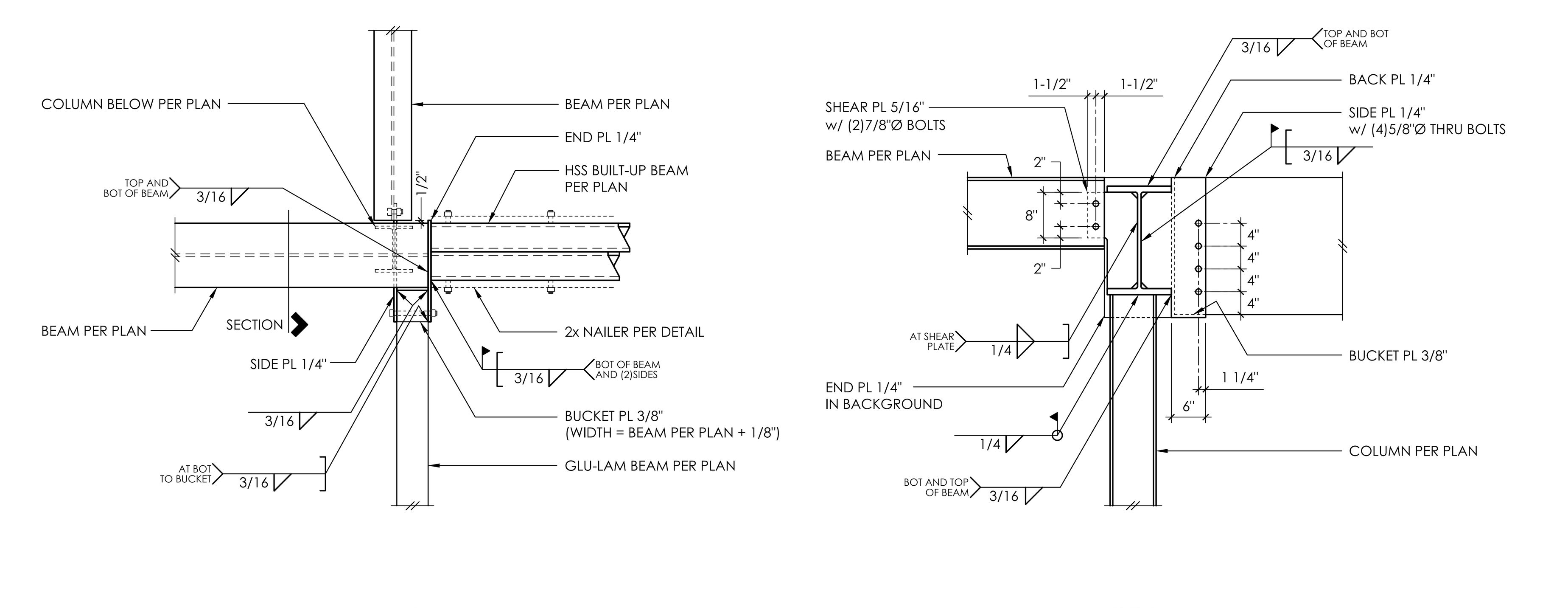

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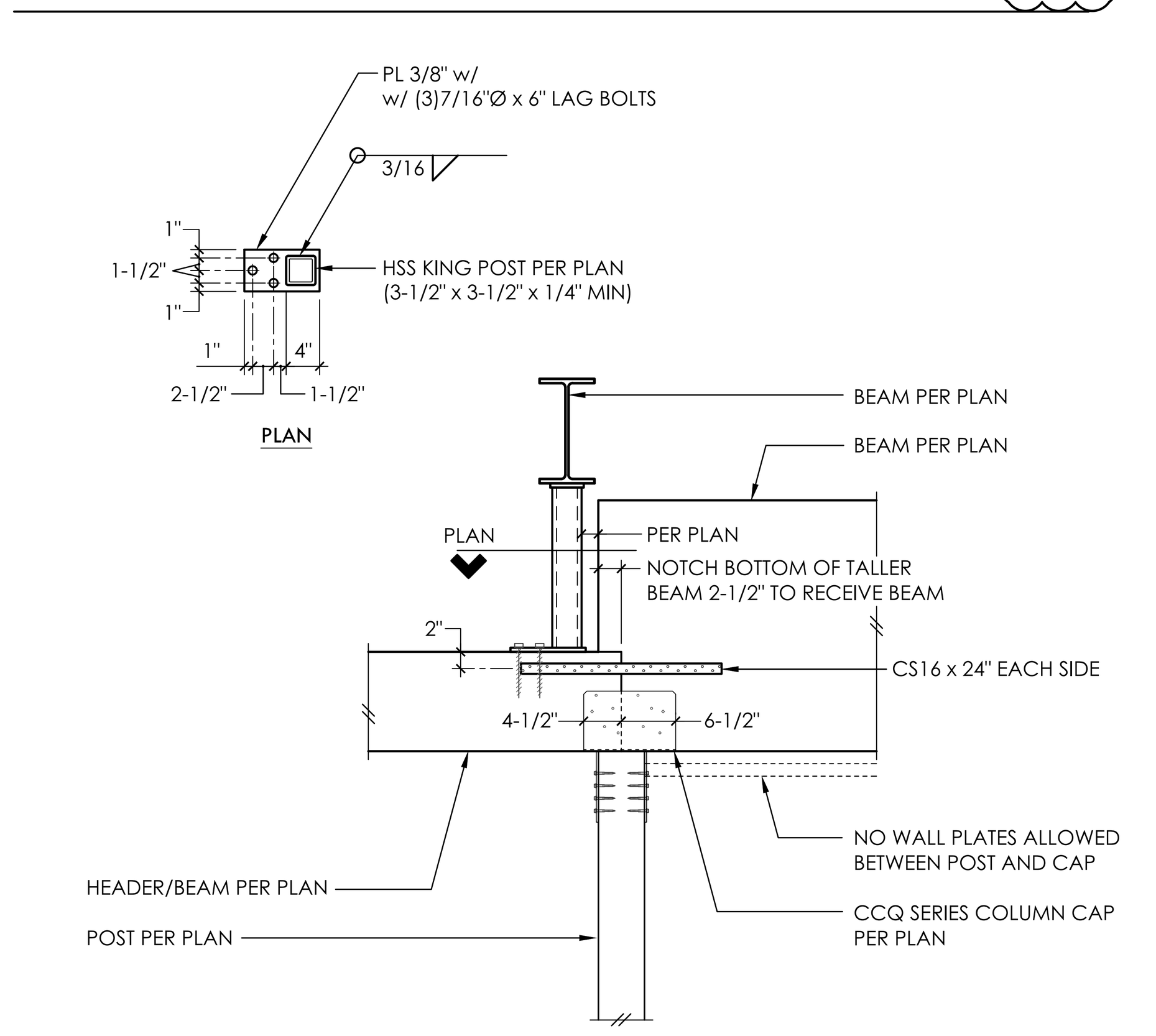

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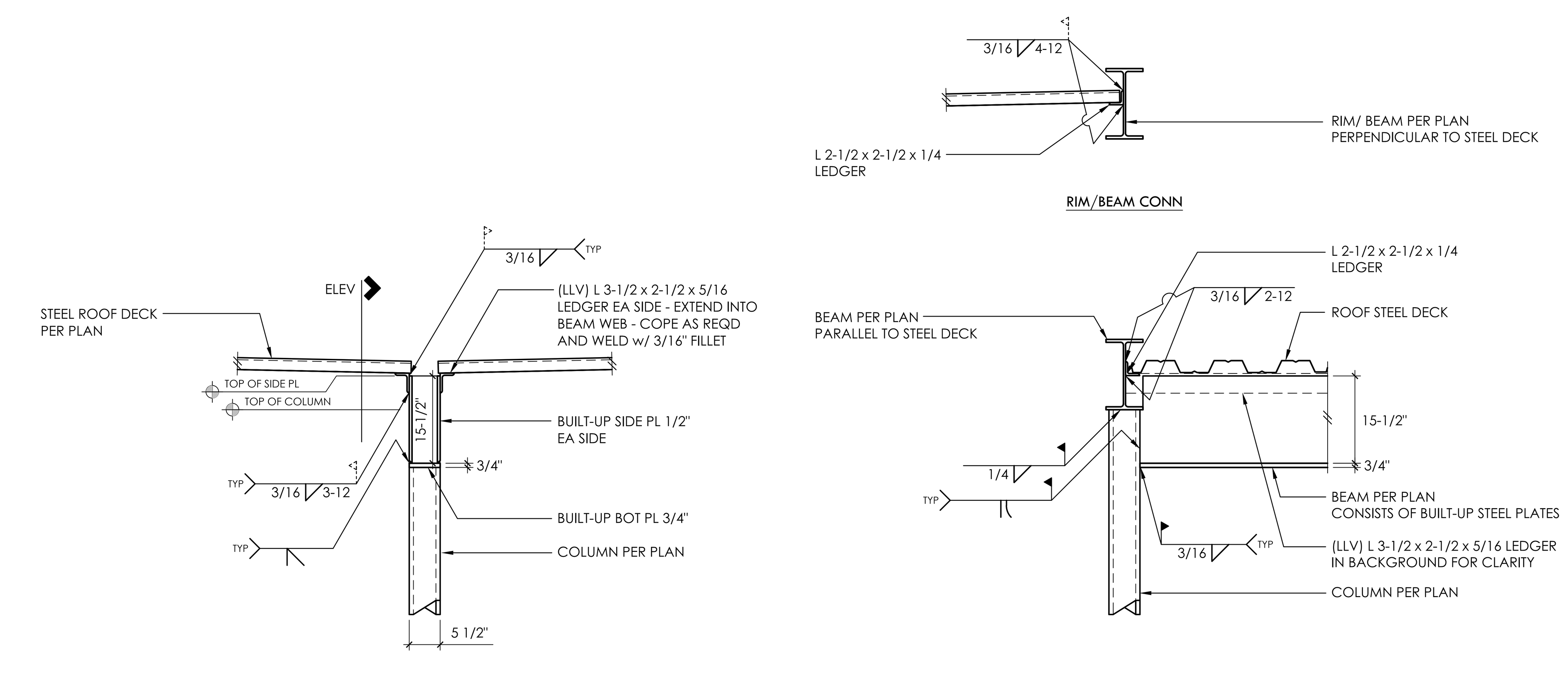

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ENGINEER	JOSEPH MARQUEZ
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REV	DESCRIPTION	DATE
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ARCH McCULLOUGH ARCHITECTS 206.443.1181

STEEL FRAMING DETAILS

S5.1

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