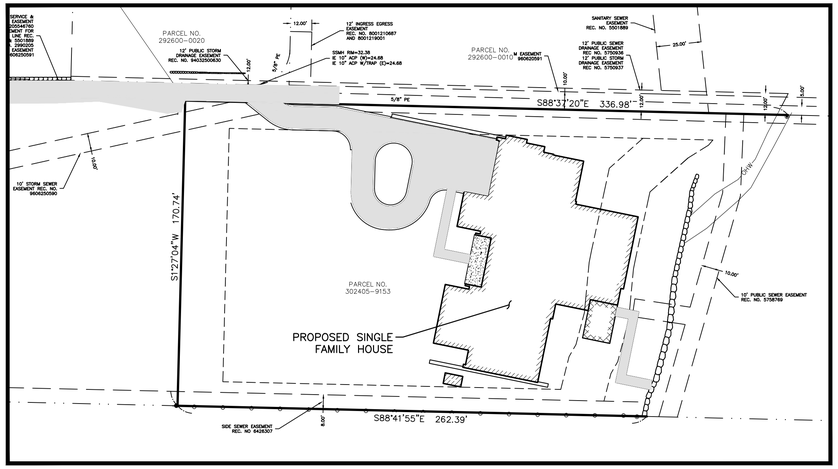
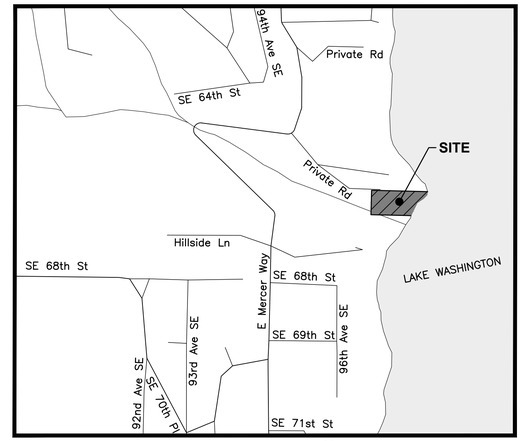
KONERU SINGLE FAMILY RESIDENCE (PERMIT NO. 2112-250)

6610 EAST MERCER WAY
MERCER ISLAND, WA. 98040

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'



VICINITY MAP
1"=500'

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
C4.2	UTILITY DETAILS
C4.3	WATER SERVICE PROFILE
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
8/19/22	RESPONSE TO COMMENTS DATED 7/21/22	

PACE
An Engineering Services Company
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014 | f. 425.827.5043
Civil | Structural | Planning | Survey
www. paceengrs.com

JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

John E. Anderson, PE
Digitally signed by John E. Anderson
DN: cn=John E. Anderson, o=PACE, ou=, email=johna@paceengrs.com, c=US
Date: 2022.12.06 14:59:08 -08'00'

DHEERAJ KONERU
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: MA	CHECKED BY: JA

PACE PROJECT NO. 21436.00

SHEET **C0.0**

FILE NAME: P:\P21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\P21436_CVR-SFR.DWG
SAVE TIME: 11/7/2022 10:23:28 AM PLOT TIME: 12/6/2022 1:58 PM
USER: JAY
XREF FILES: X21436_BRR.dwg X21436_SITE.dwg Y21436-SRV.dwg X21436_HA.dwg 9433-11-SRV.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%

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SYM	DATE	REVISION
	8/19/22	RESPONSE TO COMMENTS DATED 7/21/22

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JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

John E. Anderson

Digitally signed by John E. Anderson
Date: 2022.08.19 15:47:16 -07'00'

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

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

GENERAL NOTES

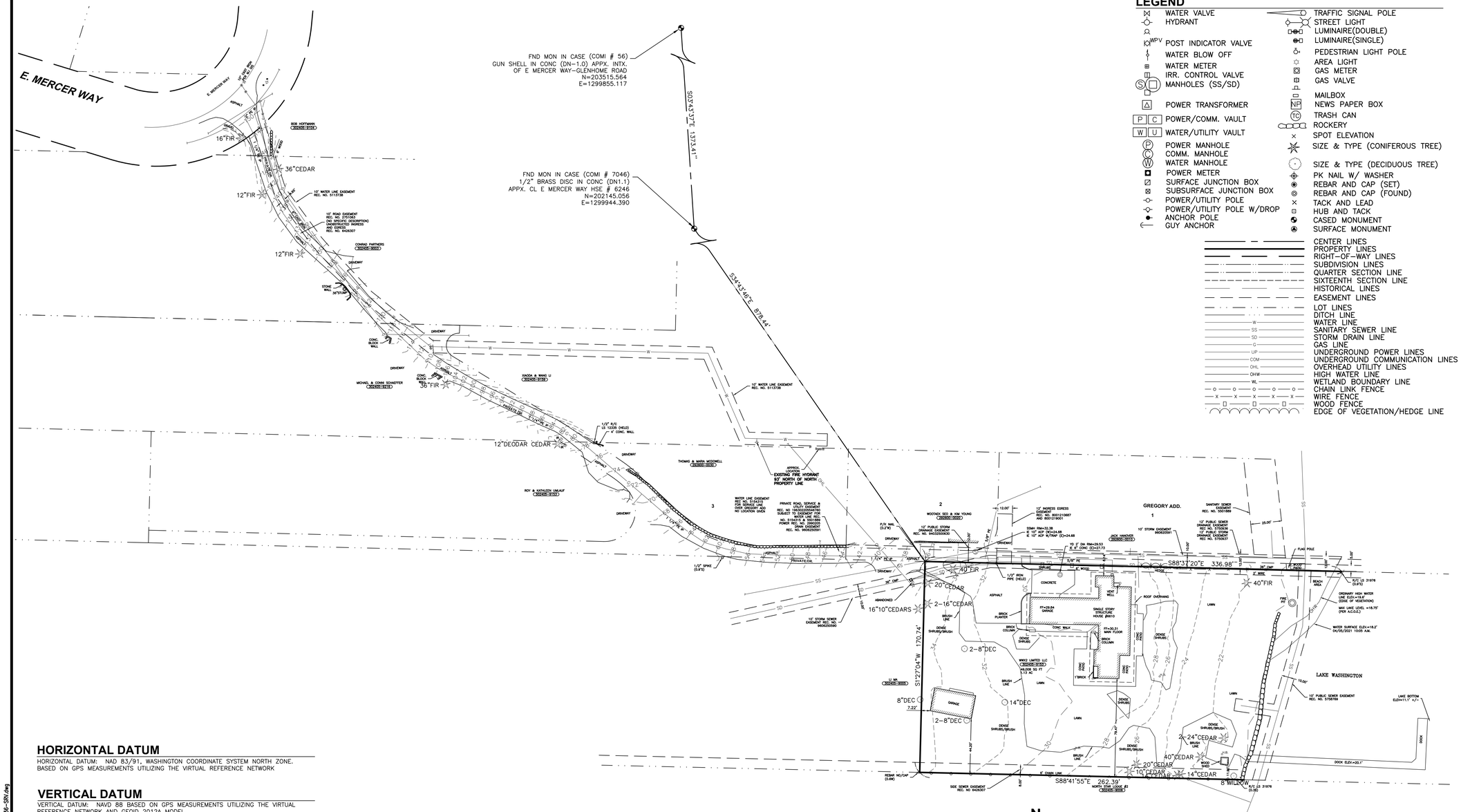
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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

PACE PROJECT NO. 21436.00

SHEET C0.1

FILE NAME: P:\P21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SIR BUILDING PERMIT\P21436_CVR-SPR.DWG
SAVE TIME: 11/7/2022 10:25:28 AM PLOT TIME: 12/6/2022 1:56 PM
XREF FILES: X21436_BDR.dwg X21436_SITE.dwg Y21436-SRV.dwg X21436_HA.dwg 9433-11-SRV.dwg



HORIZ. 0 20 40 80
Scale In Feet

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)

SYM	REVISION	DATE
	RESPONSE TO COMMENTS DATED 7/21/22	8/19/22

PACE
An Engineering Services Company
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014 | f. 425.827.5043
Civil | Structural | Planning | Survey
www. paceengrs.com

JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

John E. Anderson

Digitally signed by John E. Anderson
Email: jea@paceengrs.com,
OU=PACE, CN=John E. Anderson
Date: 2022.12.06 14:15:54-08'00'

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

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

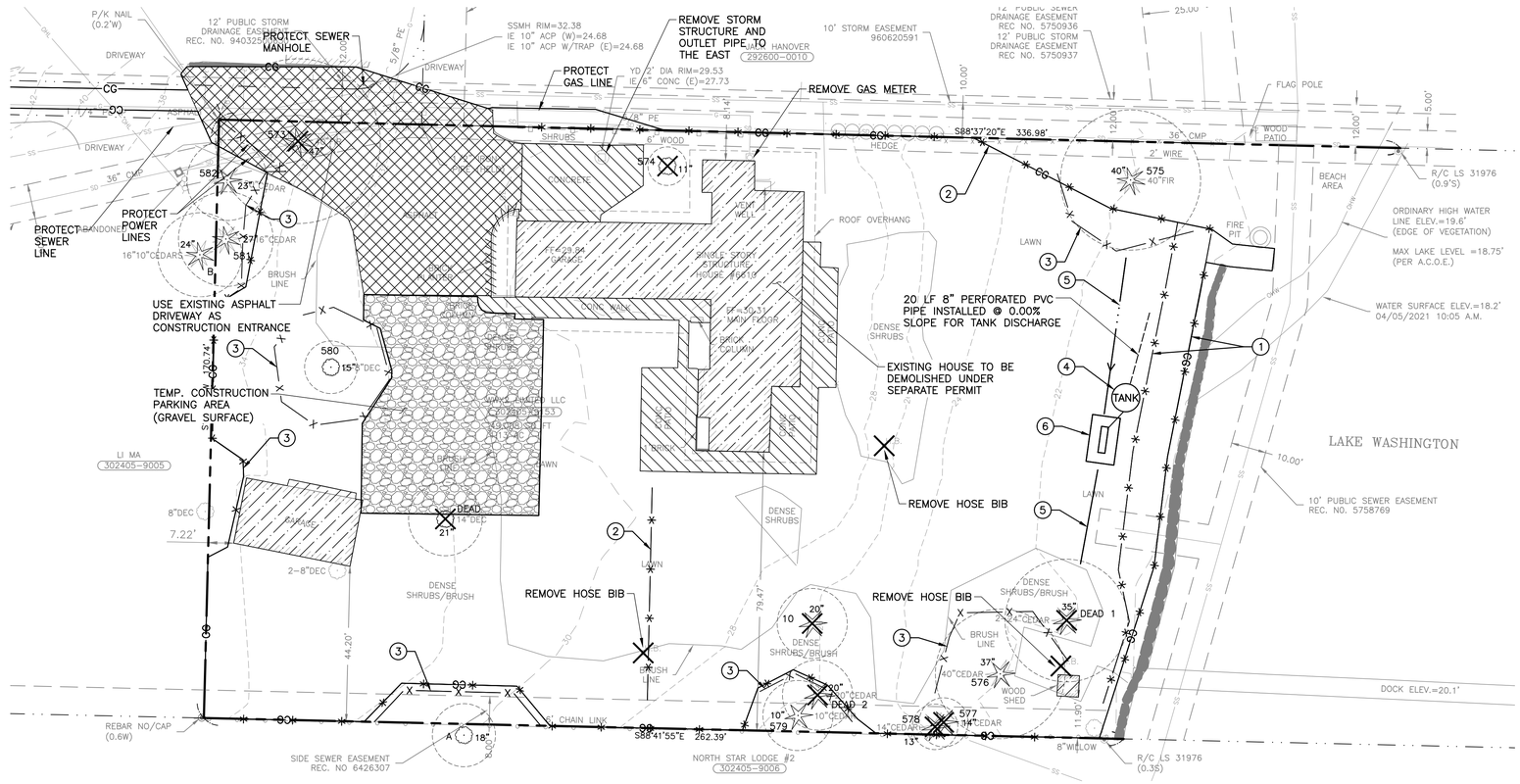
EXISTING CONDITIONS

VERIFY SCALE
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: MA	CHECKED BY: JA
PACE PROJECT NO. 21436.00	

SHEET **C1.0**

FILE NAME: P:\P21\21436 KONERU, RESIDENCE\CAD\ENGINEERING SHEETS\SFR BUILDING PERMIT\P21436_EC-SFRLDING
SAVE TIME: 8/16/2022 10:01:50 AM PLOT TIME: 12/6/2022 1:58 PM
LAST SAVED BY: JAY
XREF FILES: X21436_BDR.dwg X21436_DEMO.dwg 9433-11-SRV.dwg X21436-SRV.dwg



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 DOUBLE LAYER OF SILT FENCE (10-FT APART UNLESS OTHERWISE SHOWN) AT CLEARING LIMITS PER DETAIL SHEET C2.1.
2. INSTALL SINGLE LAYER OF SILT FENCE PER DETAIL SHEET C2.1.
3. INSTALL TREE PROTECTION FENCING PER DETAIL ON SHEET C2.1.
4. BAKER TANK – RAIN FOR RENT EZ KLEAN 2400 GALLON TANK OR SIMILAR TANK/CAPACITY AT THE DISCRETION OF THE CONTRACTOR.
5. INSTALL INTERCEPTOR SWALE WITH CHECK DAMS PER DETAIL ON SHEET C2.1.
6. SEDIMENT TRAP PER DETAIL ON SHEET C2.1. WATER TO BE PUMPED TO BAKER TANK.

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.

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

N

HORIZ. 0 10 20 40
Scale In Feet

SYM	REVISION	DATE
	RESPONSE TO COMMENTS DATED 7/21/22	8/19/22

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JOHN E. ANDERSON
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26878
REGISTERED PROFESSIONAL ENGINEER

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Digitally signed by John E. Anderson
Email: jeanderson@paceengrs.com, OU=PACE, CN=John E. Anderson

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MERCER ISLAND, WA 98040

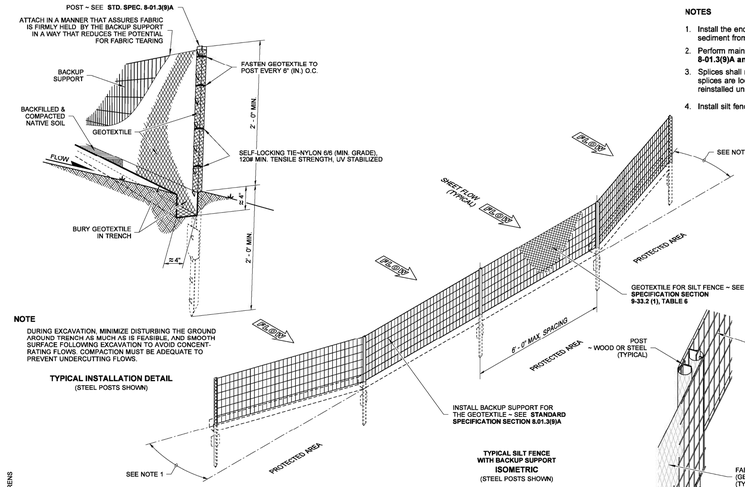
TESC PLAN

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: MA	CHECKED BY: JA
PACE PROJECT NO. 21436.00	

SHEET C2.0

FILE NAME: P:\P21\21436 KONERU, RESIDENCE\CAD\ENGINEERING SHEETS\SFR BUILDING PERMIT\P21436_TESC-SFR.DWG
SAVE TIME: 11/30/2022 5:42:53 PM PLOT TIME: 12/6/2022 1:59 PM
LAST SAVE BY: JAY
XREF FILES: X21436_BSR.dwg X21436-SRV.dwg X21436_TREE.dwg X21436_TESC.dwg 9433-11-SRV.dwg



NOTE

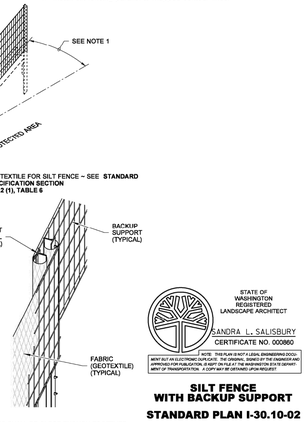
DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL
(STEEL POSTS SHOWN)

TYPICAL SILT FENCE WITH BACKUP SUPPORT
ISOMETRIC
(STEEL POSTS SHOWN)

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.



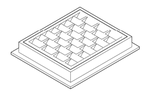
SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
(STEEL POSTS SHOWN)

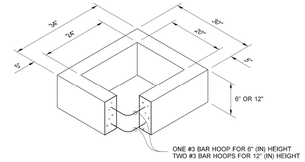
STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
CERTIFICATE NO. 000860
NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC COPY OF THE ORIGINAL APPROVED PLAN. IF APPROVED FOR PUBLICATION, A COPY ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY 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 3/22/13
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

DRAWN BY: BILL BERENS



FRAME AND VANED GRATE



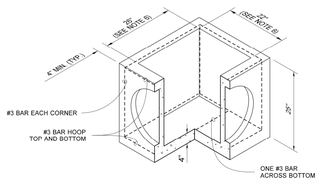
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	**MAXIMUM INSIDE DIAMETER (INCHES)**
REINFORCED OR PLAIN CONCRETE	**12"**
ALL METAL PIPE	**15"**
CPSSP ★ (STD. SPEC. SECT. 9-05.20)	**12"**
POLYPROPYLENE (STD. SPEC. SECT. 9-05.24)	**12"**
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	**15"**
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	**15"**

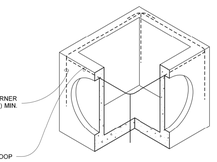
★ **CORRUGATED POLYETHYTLENE STORM SEWER PIPE**

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 18" (in) . Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the precast base section.
7. All pickup holes shall be grouted full after the inlet has been placed.



PRECAST BASE SECTION

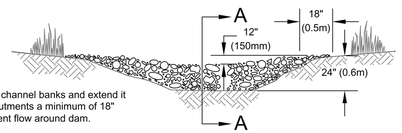


SEE NOTE 1
ALTERNATIVE PRECAST BASE SECTION

JULIE HEILMAN
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
Julie Heilman
Heilman, Julie
Feb 20 2018 12:51 PM
CONCRETE INLET

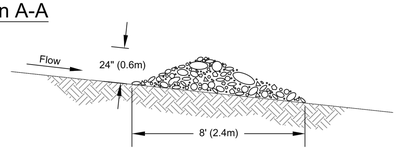
STANDARD PLAN B-25.60-02
SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Carpenter, Jeff
Feb 23 2018 7:43 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

View Looking Upstream

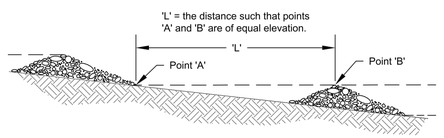


Note:
Key stone into channel banks and extend it beyond the abutments a minimum of 18" (0.5m) to prevent flow around dam.

Section A-A



Spacing Between Check Dams



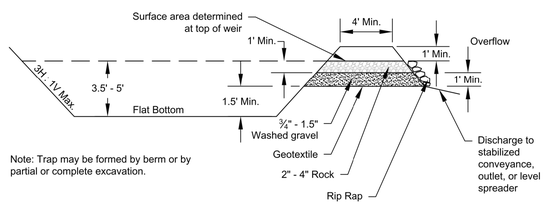
NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Rock Check Dam

Revised June 2016

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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

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TREE PROTECTION AREA (TPZ)

KEEP OUT!

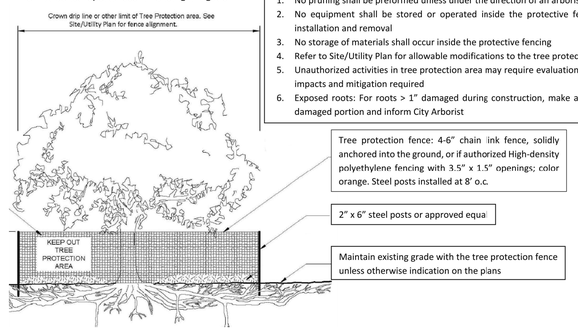
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees
3. Arborist reports recommending mitigation

Notes

1. No pruning shall be preformed unless under the direction of an arborist
2. No equipment shall be stored or operated inside the protective fencing including during fence installation and removal
3. No storage of materials shall occur inside the protective fencing
4. Refer to Site/Utility Plan for allowable modifications to the tree protection area.
5. Unauthorized activities in tree protection area may require evaluation by private arborist to identify impacts and mitigation required
6. Exposed roots: For roots > 1" damaged during construction, make a clean straight cut to remove damaged portion and inform City Arborist



Any Work in the protected area must be with the permission of the City Arborist john.kenney@mercergov.org

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

DATE	SYM	REVISION
8/19/22		RESPONSE TO COMMENTS DATED 7/21/22

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JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER
John E. Anderson
Digitally signed by John E. Anderson
DN: cn=John E. Anderson, o=PACE, ou=Civil, email=johne@paceengrs.com, c=US
Date: 2022.12.06 14:16:48-08'00'

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

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

TESC DETAILS

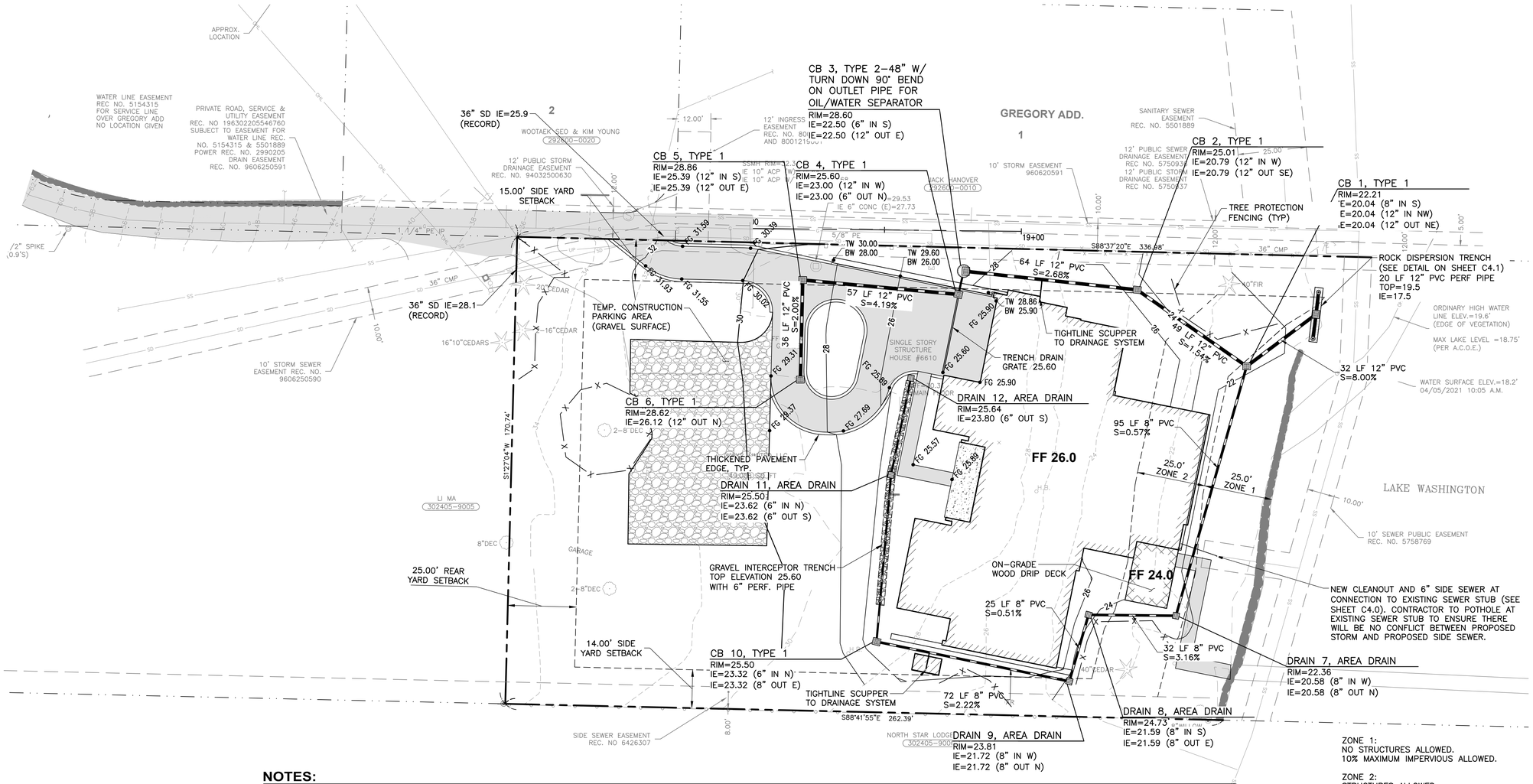
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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

PACE PROJECT NO. 21436.00

SHEET **C2.1**

FILE NAME: P:\21\21436 KONERU, RESIDENCE\CAD\ENGINEERING SHEETS\SFR BUILDING PERMIT\P21436_TESC-SFR.DWG
SAVE TIME: 11/30/2022 5:42:53 PM PLOT TIME: 12/6/2022 1:59 PM
USER NAME: JAY
XREF FILES: X21436_BDR.dwg X21436-SRV.dwg X21436_TREE.dwg X21436_TESC.dwg 9433-11-SRV.dwg



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 PER CONCRETE INLET DETAIL ON SHEET C2.1
		CB TYPE 1
		SS CLEANOUT
	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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UNDERGROUND SERVICE (USA)

N

HORIZ. 0 10 20 40
Scale In Feet

DATE	REVISION	SYM
8/19/22	RESPONSE TO COMMENTS DATED 7/21/22	

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Kirkland, WA 98033
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JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED PROFESSIONAL ENGINEER

John E. Anderson
Digitally signed by John E. Anderson
Date: 2022.08.19 08:57:40 -07'00'

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

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

STORM & GRADING PLAN

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 C3.0

FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SRR BUILDING PERMIT\P21436_GRUT-SPR.DWG
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USER NAME: JAY
XREF FILES: X21436_BRR.dwg X21436-SRV-XDMD.dwg X21436_SITE.dwg D21436_COR.dwg X21436_SD.dwg X21436_FG.dwg X21436_HA.dwg X21436_TESC.dwg X21436_TREE.dwg 9433-11-SRV.dwg

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.
6. ALL WATER INFRASTRUCTURE TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD WATER DETAILS. APPLICABLE DETAILS INCLUDED ON SHEET C4.1.
7. TV INSPECTION OF EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED PRIOR TO ANY WORK RELATED TO THE SIDE SEWER. IF THE RESULT OF THE TV INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED.
8. NO VERTICAL BENDS WILL BE NECESSARY ON THIS PROJECT. THRUST BLOCKING WILL ONLY BE NEEDED FOR HORIZONTAL BENDS.

SYM	RESPONSE TO COMMENTS DATED 7/21/22 REVISION	DATE
		8/19/22

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John E. Anderson
Digitally signed by John E. Anderson
DN: C=US, E=johna@paceengrs.com, O=PACE, CN=John E. Anderson
Date: 2022.12.06 14:17:45-08'00'

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

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

UTILITY PLAN

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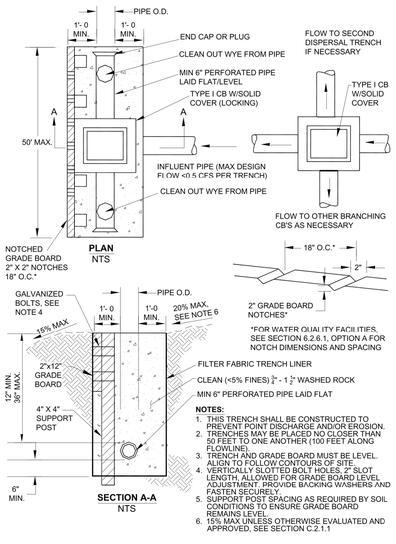
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AS SHOWN	05/11/22
DESIGNED BY: MA	CHECKED BY: JA

PACE PROJECT NO. 21436.00

SHEET **C4.0**

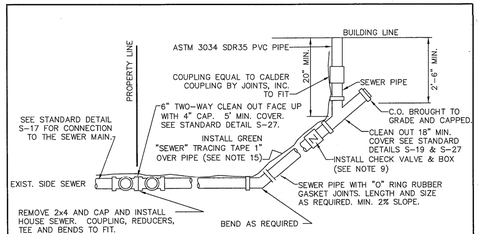
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USER: MARK JAY
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FIGURE 4.2.2.B FLOW DISPERSAL TRENCH



NOTES:

1. THIS TRENCH SHALL BE CONSTRUCTED TO PREVENT POINT DISCHARGE AND/OR EROSION.
2. TRENCHES MAY BE PLACED NO CLOSER THAN 50 FEET TO ONE ANOTHER (100 FEET ALONG FLOWLINE).
3. TRENCH AND GRADE BOARD MUST BE LEVEL. ALIGN TO FOLLOW CONTOURS OF SITE.
4. VERTICALLY SLOTTED BOLT HOLES, 2" SLOT LENGTH, ALLOWED FOR GRADE BOARD LEVEL ADJUSTMENT. PROVIDE BACKING WASHERS AND FASTEN SECURELY.
5. SUPPORT POST SPACING AS REQUIRED BY SOIL CONDITIONS TO ENSURE GRADE BOARD REMAINS LEVEL.
6. 15% MAX UNLESS OTHERWISE EVALUATED AND APPROVED, SEE SECTION C.2.1.1



BUILDING CONNECTION

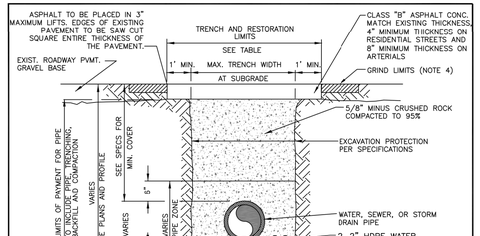
NOTES

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 1/8 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.

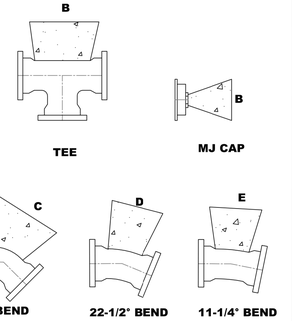
CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

TRENCH SECTION

REV DATE							APPROVED
					3-29-2021	NO SCALE	W-3

THRUST BLOCKING TABLE

PIPE SIZE	MINIMUM BEARING AREA AGAINST UNDISTURBED SOIL IN SQUARE FEET				
	A	B	C	D	E
4	2	2	2	2	2
6	4	3	2	2	2
8	7	5	4	2	2
10	11	8	6	3	2
12	16	12	9	5	3
14	22	16	12	6	3
16	29	20	16	8	4



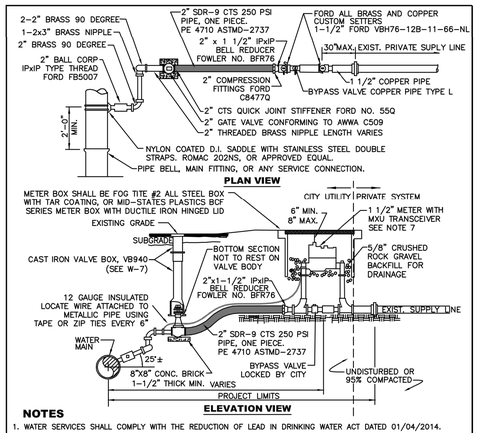
NOTES

1. ROMAC MJ WEDGE ACTION RETAINER MAY BE SUBSTITUTED FOR VERTICAL BLOCKING UPON PRIOR APPROVAL OF THE CITY ENGINEER.
2. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.
3. THRUST BLOCKS SHALL BE CAST-IN-PLACE AND BE CONSTRUCTED WITH CLASS 3000 OR COMMERCIAL CONCRETE.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF BOLTS AND JOINTS TO PERMIT TAKING UP OR DISMANTLING JOINT. WRAP FITTINGS WITH 8 MIL THICK POLYETHYLENE SHEETING PRIOR TO POURING CONCRETE.
5. BEARING AREA MUST BE ADJUSTED FOR HIGHER INTERNAL PRESSURES AND LOWER SOIL BEARING VALUES.
6. THE CONTRACTOR SHALL INSTALL BLOCK WHICH IS ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY STAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

HORIZONTAL CONCRETE BLOCKING

		3-30-2021	NO SCALE	W-5A



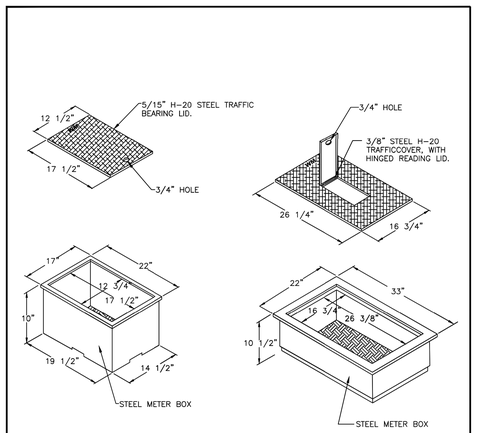
NOTES

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



1" STEEL METER BOX **2" STEEL METER BOX**

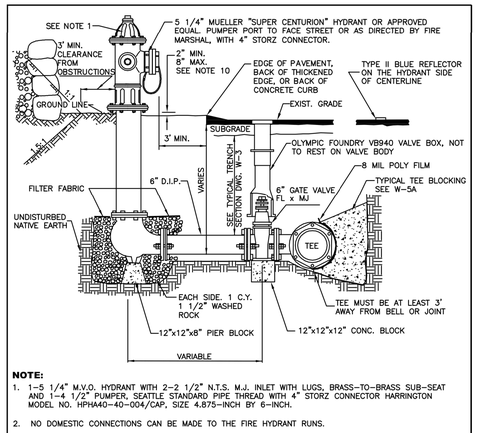
NOTES

1. FOR 1" STEEL BOX, USE FOG TITE J20S LID OR EQUAL, WITH A 3/4" ROUND HOLE.
2. 2" METER BOX SHALL BE FOG TITE #2J20S ALL STEEL BOX WITH TAR COATING. LID SHALL BE HINGED WITH 3/4" DIA. LIFTING HOLE.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

1" AND 2" STEEL WATER METER BOX

REV DATE							APPROVED
					12-23-2013	NO SCALE	W-17



NOTE:

1. 1-5 1/4" M.V.O. HYDRANT WITH 2-2 1/2" N.T.S. M.J. INLET WITH LUGS, BRASS-TO-BRASS SUB-SEAT AND 1-4 1/2" PUMPER, SEATTLE STANDARD PIPE THREAD WITH 4" STORZ CONNECTOR HARRINGTON MODEL NO. HPH440-40-004/CAP. SIZE 4.875-INCH BY 6-INCH.
2. NO DOMESTIC CONNECTIONS CAN BE MADE TO THE FIRE HYDRANT RUNS.
3. ANY FIRE HYDRANT RUN OVER 18 FEET IN LENGTH OF PIPE SHALL HAVE RESTRAINED JOINT GASKETS.
4. USE ROMA GRIP, OR APPROVED EQUAL, PIPE RESTRAINERS AT VALVE AND HYDRANT BASE.
5. HYDRANT SHALL BE PAINTED WITH 2 COATS OF FARWEST #250 HIGH GLOSS WHITE PAINT, OR APPROVED EQUAL, APPLIED WITH A PAINT BRUSH. DO NOT APPLY PAINT TO STORZ FITTING, BRASS PORT THREADS, OR BELOW SAFETY FLANGE.
6. BOLLARDS MAY BE USED TO PROTECT THE HYDRANT WHEN NO CURBS ARE PRESENT OR IN EXPOSED AREAS OF PARKING LOTS.
7. STRAIGHT PIPE TO HYDRANTS FROM MAIN, NO BENDS.
8. REMOVE CHAINS FROM HYDRANT CAPS.
9. VALVE AND HYDRANT MUST BE PLUMB.
10. THIS DISTANCE IS MEASURED FROM BOTTOM OF SAFETY FLANGE TO LEVEL OF FINISH GRADE BELOW HYDRANT.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

FIRE HYDRANT CONNECTION

REV DATE							APPROVED
					02-23-2021	NO SCALE	W-24

CALL BEFORE YOU DIG 811
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SYM	DATE
	8/19/22
	RESPONSE TO COMMENTS DATED 7/21/22 REVISION

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DN: E=jea@paceengrs.com, O=PACE, CN=John E. Anderson
Date: 2022.12.06 14:18:18-08'00'

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

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

UTILITY DETAILS

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

PACE PROJECT NO. 21436.00

SHEET **C4.1**

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PLOT TIME: 12/6/2022 2:00 PM
USER: JAY
XREF FILES: X21436_SFR.dwg X21436_SFR-DEMO.dwg X21436_SITE.dwg X21436_SD.dwg X21436_MA.dwg X21436_WA-SFR.dwg X21436_TREE.dwg 9433-11-SRV.dwg

GENERAL NOTES

A. SEE W-19B FOR MATERIAL LIST.

B. VALVE ASSEMBLY TO BE CENTERED IN VAULT.

C. TEE AND GATE VALVE REQUIRED ON MAIN.

D. WHEN DOUBLE CHECK VALVE ASSEMBLY IS USED IN SAME LINE WITH DOMESTIC BUILDING METER, METERED DETECTOR BYPASS SHALL BE OMITTED.

E. ASSEMBLY TO BE MAINTAINED BY OWNER AND ANNUAL CERTIFICATION IS REQUIRED.

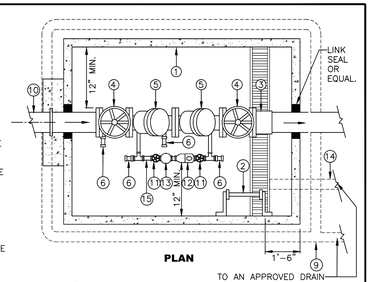
F. THE CITY OF MERCER ISLAND MUST TEST AND CERTIFY THE FIRE LINE BEFORE CONNECTION TO THE CITY SYSTEM IS ALLOWED.

G. FIRELINE SHALL NOT BE PUT INTO SERVICE UNTIL THE DOUBLE CHECK VALVE ASSEMBLY IS APPROVED BY THE CITY.

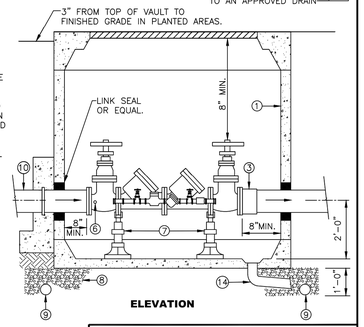
H. VAULT PENETRATIONS SHALL BE BE CORE DRILLED.

I. A THRUST RING OR APPROVED EQUAL SHALL BE INSTALLED ON INLET SIDE OF PIPE RESTRAINED JOINT.

J. MATERIALS FOR BY PASS SHALL BE ALL BRASS AND COPPER WITH SWIVEL COUPLINGS BETWEEN SHUT-OFF VALVES FOR REPLACEMENT.



PLAN



ELEVATION

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

DOUBLE DETECTOR CHECK VALVE ASSEMBLY

7-01-2014 | NO SCALE | **W-19A**

REV	DATE					APPROVED

KEY NO.	QUANTITY 4"	QUANTITY 6" & 8"	MATERIAL
1	1	–	PRE CAST CONCRETE VAULT AS APPROVED BY THE CITY ENGINEER
1	–	1	PRE CAST CONCRETE VAULT AS APPROVED BY THE CITY ENGINEER
1	1	–	PRE CAST CONCRETE VAULT AS APPROVED BY THE CITY ENGINEER
1	–	1	PRE CAST CONCRETE VAULT AS APPROVED BY THE CITY ENGINEER
1	–	1	PRE CAST CONCRETE VAULT AS APPROVED BY THE CITY ENGINEER
1	1	1	LW PRODUCTS ALUMINUM, SINGLE DOOR, H-20 OR EQUAL.
2	1	1	FABRICATED BOLT-ON LADDER. USE THREE SETS OF MOUNTING BRACKETS ATTACHED TO VAULT WALL WITH 5/8" DIAMETER CORROSION RESISTANT ANCHOR BOLTS (HILTI KWIK BOLT, PHILIPS RED HEAD OR APPROVED EQUAL). ALL STEEL FOR LADDER SHALL BE A-36, OSHA APPROVED HOT DIPPED GALVANIZED AFTER FABRICATION. SEE DRAWING NO. W-27C.
3	1	–	4" DIAMETER FLEXIBLE FLANGED COUPLING ADAPTER ROCKWELL TYPE 912
3	–	1	8" OR 6" DIAMETER FLEXIBLE FLANGED COUPLING ADAPTER ROCKWELL TYPE 912
4	1	–	4" O.S. & Y. GATE VALVE U.L. APPROVED
4	–	1	8" OR 6" O.S. & Y. GATE VALVE U.L. APPROVED
5	1	–	4" D.S.H.S. APPROVED DOUBLE CHECK VALVE ASSEMBLY, INCLUDING 2 O.S. & Y. GATE VALVES, TEST COCK, 3/4" DOUBLE CHECK VALVE, SINGLE OR MULTI JET METER (TO READ IN CUBIC FEET) AND 3/4" BRASS OR COPPER BYPASS WITH IN LINE VALVE.
5	–	1	8" OR 6" D.S.H.S. APPROVED DOUBLE CHECK VALVE ASSEMBLY, INCLUDING 2 O.S. & Y. GATE VALVES, TEST COCK, 3/4" DOUBLE CHECK VALVE, SINGLE OR MULTI JET METER (TO READ IN CUBIC FEET) AND 3/4" BRASS OR COPPER BYPASS WITH IN LINE VALVES.
6	1	1	3/4" DIAMETER TEST COCKS
7	2	2	ADJUSTABLE PIPE SADDLE SUPPORT (ITT GRINNEL FIG 264 OR APPROVED EQUAL). ATTACH TO VAULT FLOOR WITH FOUR 1/2" DIAMETER CORROSION RESISTANT ANCHOR BOLTS (HILT KIWI BOLT, PHILIPS RED HEAD OR APPROVED EQUAL). SEE DRAWING NO. W-27C.
8	–	–	PEA GRAVEL BACKFILL FOR PIPE BEDDING UNDER PRECAST CONCRETE UTILITY VAULT.
9	–	–	4" DIAMETER UNDERDRAIN, CONNECT TO DRAINAGE SYSTEM, SCHEDULE 200 PERFORATED PVC WITH GALVANIZED SCREEN EACH END.
10	–	–	4" DIAMETER CL. 52 DUCTILE IRON PIPE
10	–	–	6" OR 8" DIAMETER CL. 52 DUCTILE IRON PIPE
11	1	1	3/4" GATE VALVE U.L. LISTED
12	1	1	5/8" x 3/4" ACCULINK MULTINET MASTER METER WITH SENSUS COMPATABLE MXU READ IN CU. FT. MULTI-JET
13	1	1	3/4" DOUBLE CHECK VALVE
14	1	1	SOLID PVC PIPE SUMP DRAIN. SIZE PER MANUFACTURER'S RECOMMENDATION. CONNECT TO DRAINAGE STRUCTURE AS APPROVED
15	1	1	3/4" "Y" STRAINER

NOTES

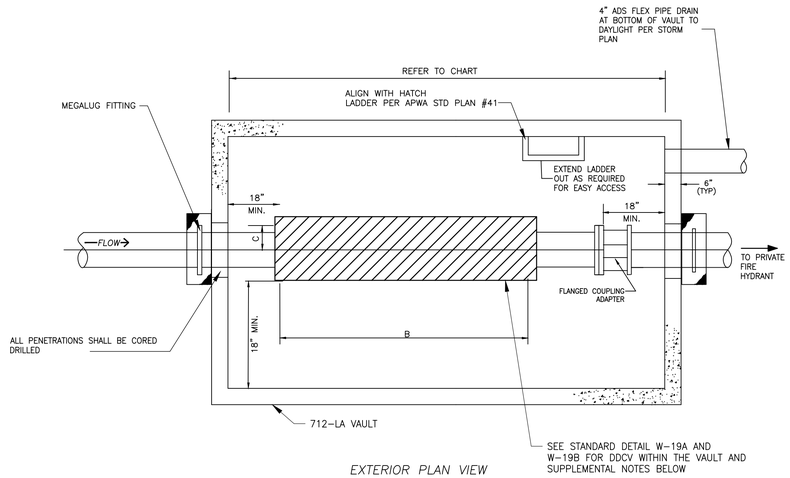
1. ALL VAULT, BASED AND TOPS TO BE COATED WITH DAMPPROOFING.
2. SIZE DETERMINED ON BASIS OF ACTUAL FIRE DEMAND.
3. SEE W-19A FOR ADDITIONAL DETAILED MATERIAL NOTES.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

MATERIAL LIST
DOUBLE DETECTOR CHECK

7-01-2014 | NO SCALE | **W-19B**

REV	DATE					APPROVED



EXTERIOR PLAN VIEW

SUPPLEMENTAL NOTES:

1. DDCVA VAULT SHALL BE OLDCASTLE PRECAST VAULT NO. 712-LA WITH INSIDE DIMENSIONS 7.5' HEIGHT x 7' WIDTH x 12' LENGTH OR APPROVED EQUAL. ACCESS HATCH SHALL BE LW HHD-1B-DOUBLE LEAF (H-30 RATING) OR APPROVED EQUAL. CONTRACTOR TO VERIFY VAULT WILL MEET ALL CLEARANCE REQUIREMENTS ON PLANS. VAULT LID TO BE SLOPED TO FIT EXISTING PAVED DRIVEWAY.
2. ACCESS LADDER TO BE ALIGNED WITH VAULT HATCH AND LOCATED WITH 18" MINIMUM CLEARANCE ON ALL SIDES.
3. 8" MINIMUM CLEARANCE PROVIDED BETWEEN GATE VALVE AND BOTTOM OF HATCH WHEN GATE VALVE IS FULL OPEN.
4. DDCVA SHALL BE 6" WATTS SERIES 709 OSY OR APPROVED EQUAL. CITY TO APPROVE DDCVA SUBMITTAL PRIOR TO INSTALLATION.
5. CLASS 52 DI PIPE SHALL BE CEMENT LINED EXCEPT AS SHOWN.
6. DRAIN PIPE SHALL BE 4" SCHEDULE 40 PVC WITH IE OF ±103.00. SUMP WITH GALVANIZED GRATING PER OLDCASTLE PRECAST VAULT SPECIFICATIONS.
7. TEMPORARY SUPPORT SHALL BE PROVIDED UNDER VALVES AT THE TIME OF INSTALLATION. AFTER COMPLETE INSTALLATION, INSTALL PERMANENT PIPE SUPPORT STANDS.
8. ALL MJ JOINTS TO BE RESTRAINED WITH MEGALUG OR EQUAL ON FIRE LINE W/ CONCRETE BLOCKING ON ALL BENDS.
9. LINK SEAL OR EQUAL TO BE USED AT ALL PIPE PENETRATION POINTS ON VAULT.

VAULT SIZES

DCVA SIZE	APPROXIMATE EQUIP DIMENSIONS A	B	C	MINIMUM INSIDE VAULT DIMENSIONS (EXCLUDES SIAMESE CONNECTION) LENGTH	WIDTH	HEIGHT
4" X 3/4"	2'-9"	4'-3"	0'-6"	10'-0"	5'-0"	6'-6"
6" X 3/4"	3'-9"	5'-6"	0'-8"	11'-0"	6'-0"	6'-6"
8" X 3/4"	4'-5"	6'-4"	0'-9"	12'-0"	6'-0"	6'-6"
10" X 1"	6'-0"	8'-6"	0'-11"	14'-6"	7'-0"	6'-6"

REQUIRED FOR THIS PROJECT →

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SYM	REVISION	DATE
	RESPONSE TO COMMENTS DATED 7/21/22	8/19/22

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John E. Anderson

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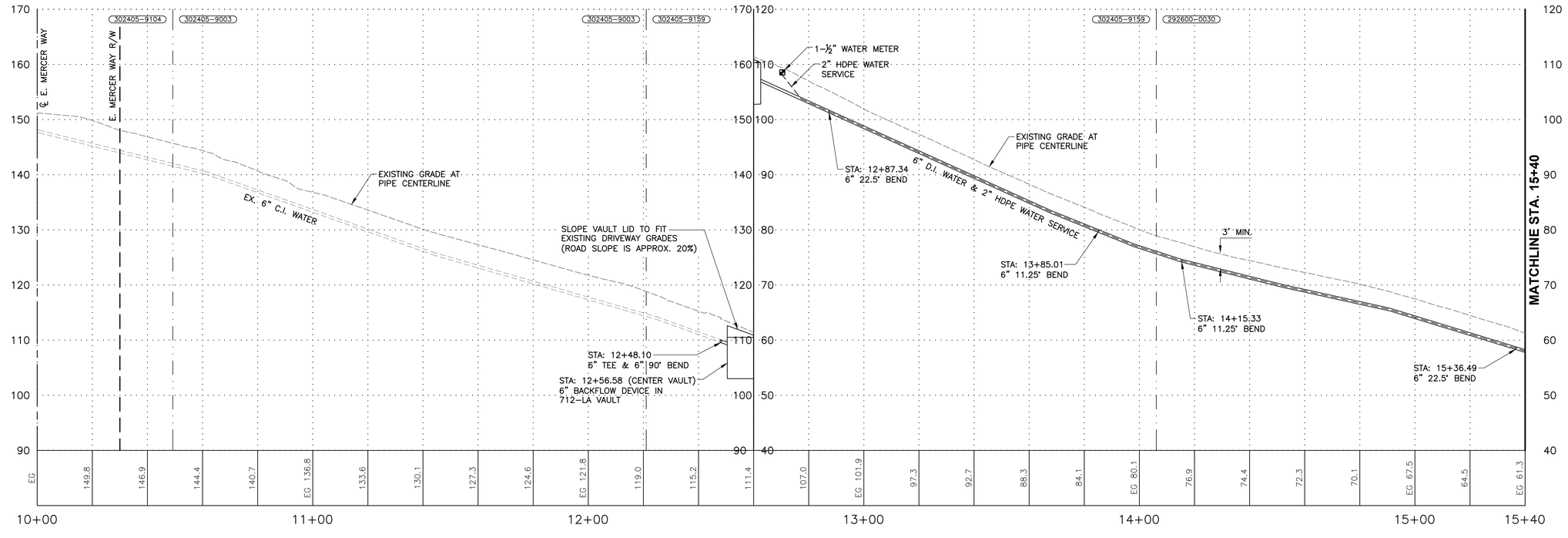
UTILITY DETAILS

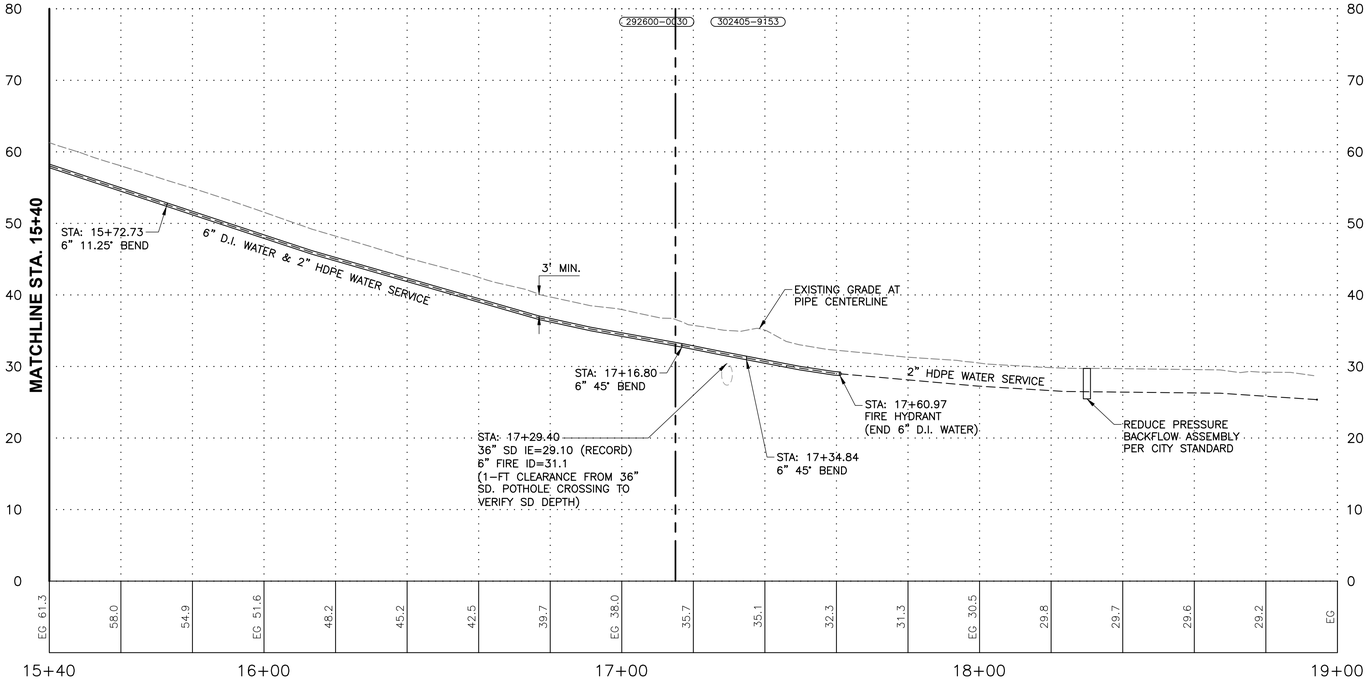
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BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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

SHEET **C4.1**

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NOTE:

NO VERTICAL BENDS WILL BE NECESSARY ON THIS PROJECT. THRUST BLOCKING WILL ONLY BE NEEDED FOR HORIZONTAL BENDS.

HORIZ. 0 10 20 40 Scale In Feet

VERT. 0 5 10 20 Scale In Feet

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	RESPONSE TO COMMENTS DATED 7/21/22	8/19/22

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MERCER ISLAND, WA 98040

UTILITY DETAILS

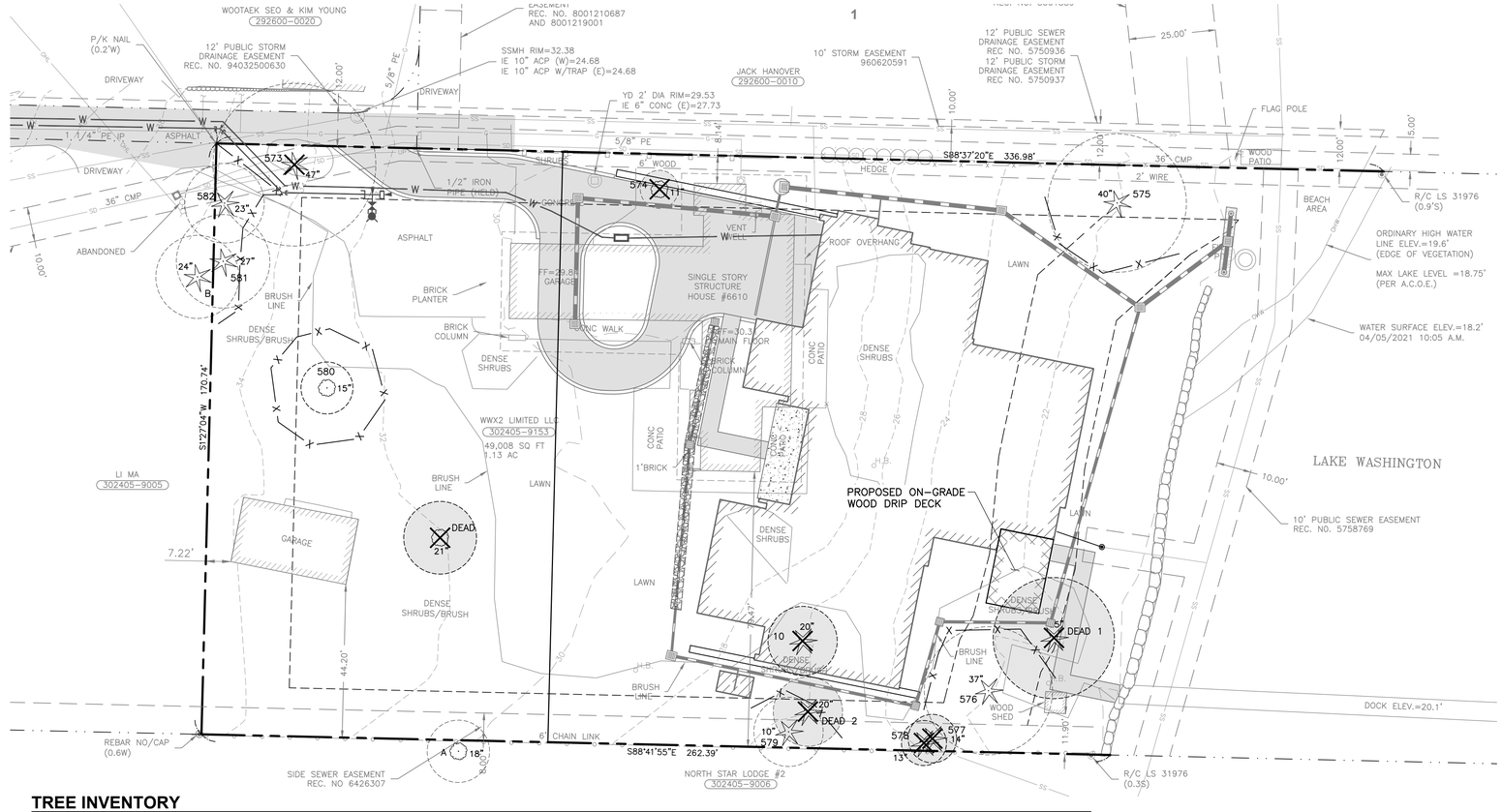
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SCALE:	DATE:
AS SHOWN	05/11/22
DESIGNED BY: MA	CHECKED BY: JA

PACE PROJECT NO. 21436.00

SHEET **C4.1**

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PLOT TIME: 12/8/2022 2:00 PM
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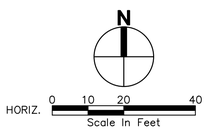


LEGEND

- 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	Retain	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	Remove	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



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John E. Anderson
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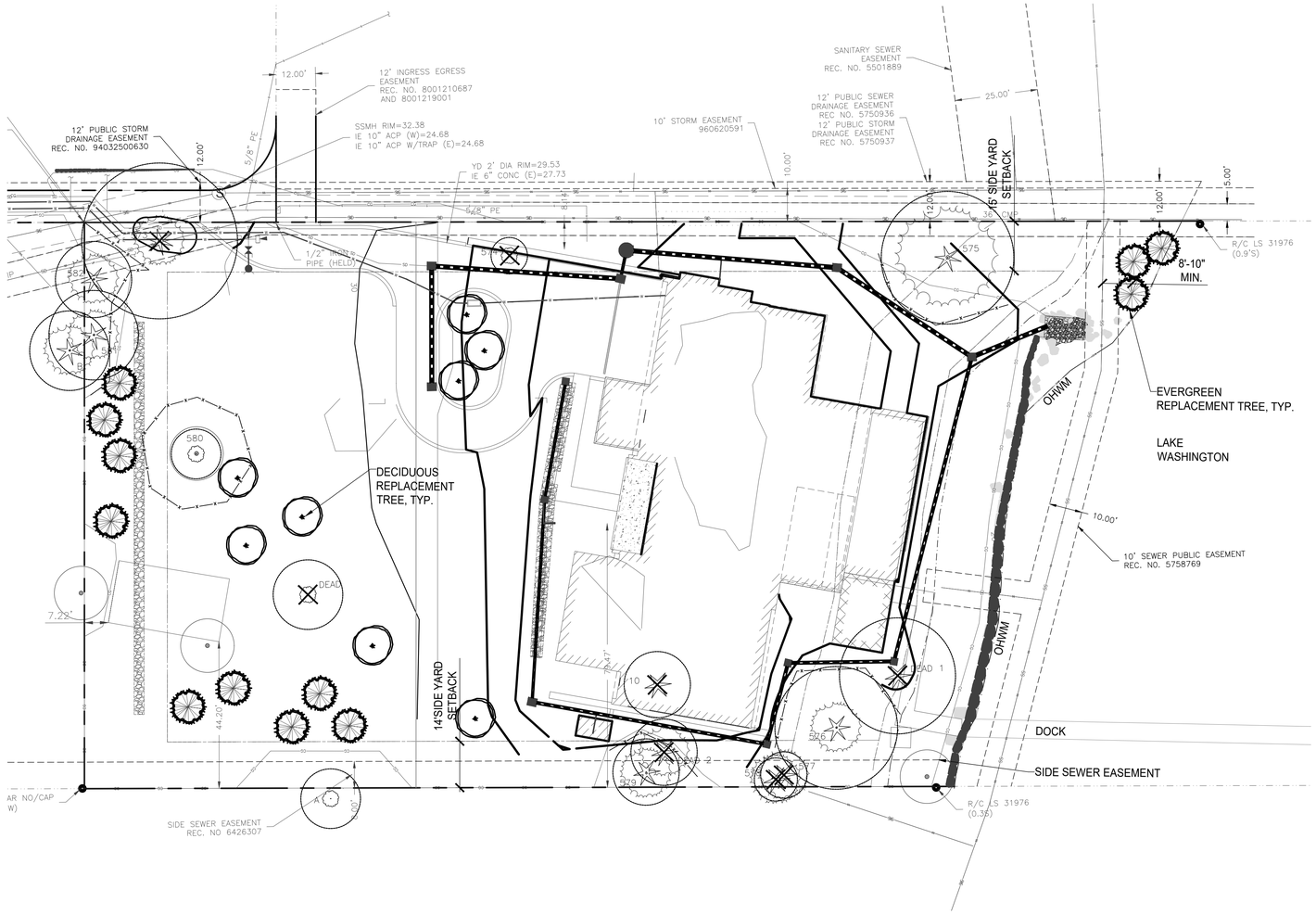
TREE RETENTION PLAN

VERIFY SCALE
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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

SHEET L1.0

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REPLACEMENT TREE SCHEDULE

SYMBOL	BOTANICAL NAME/ COMMON NAME	SIZE	QTY.	REMARKS
DECIDUOUS TREES			8	
	ACER CIRCINATUM VINE MAPLE	1-1/2" CAL.		MULTI-STEMMED
	ACER GLABRUM VAR DOUGLASII ROCKY MOUNTAIN MAPLE	1-1/2" CAL.		
	ACER RUBRUM 'SCARLET SENTINEL' SCARLET SENTINEL RED MAPLE	1-1/2" CAL.		
	CERCIDIPHYLLUM JAPONICUM KATSURA TREE	1-1/2" CAL.		
	CORNUS NUTTALLII PACIFIC DOGWOOD	1-1/2" CAL.		
EVERGREEN TREES			12	
	PINUS CONTORTA VAR CONTORTA SHORE PINE	6-7' HT.		
	PSEUDOTSUGA MENZIESII DOUGLAS FIR	6-7' HT.		
	THUJA PLICATA WESTERN RED CEDAR	6-7' HT.		

GENERAL NOTES

1. SEE CIVIL PLANS FOR EXISTING TREE TABLE AND TREE PROTECTION NOTES AND DETAILS.

5' 10' 20' 40'

SCALE: 1" = 10' - 0"

Koneru
21.14

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LANDSCAPE ARCHITECT

DARWIN D. WEBB
CERTIFICATE NO. 564

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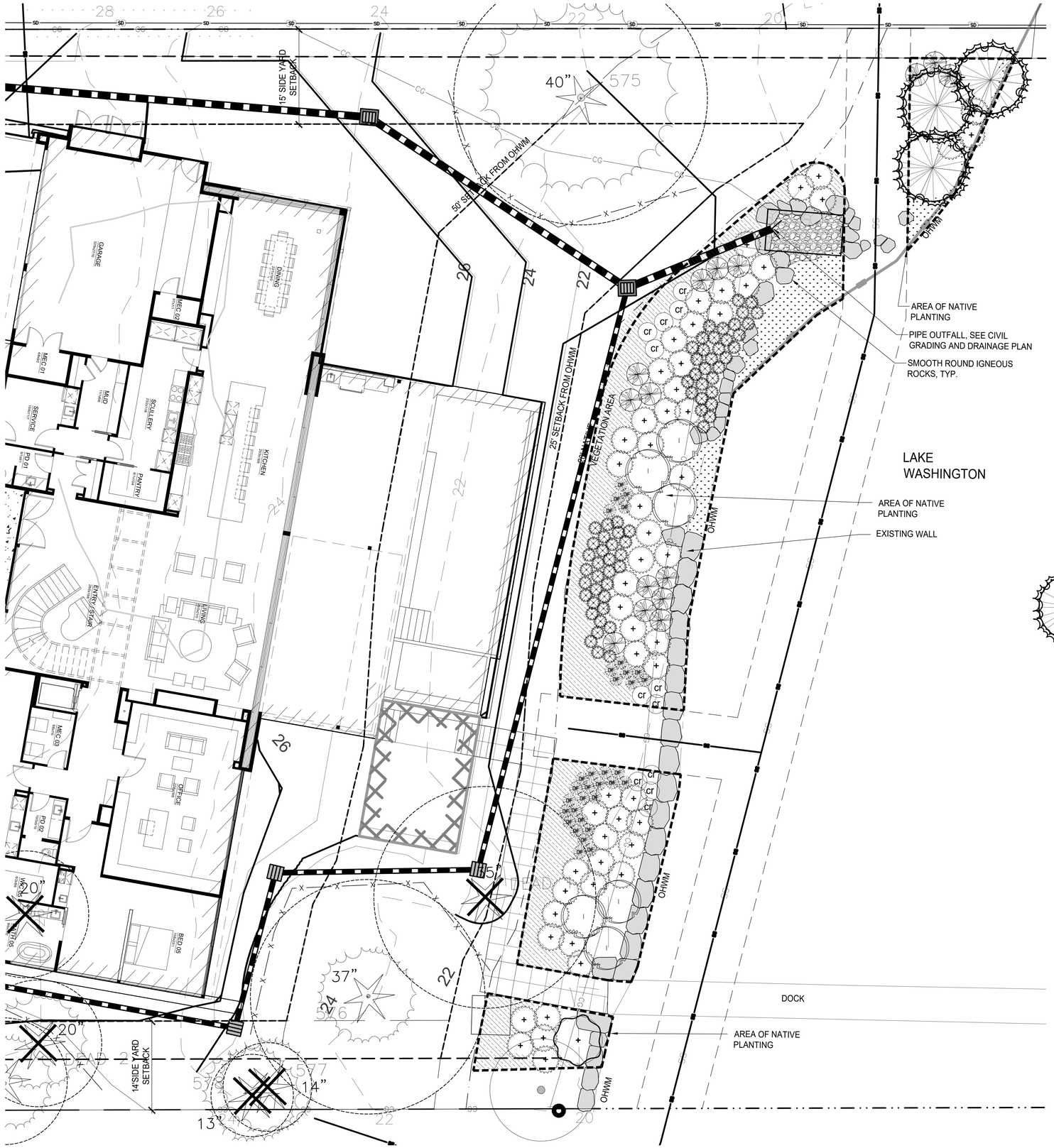
NO.:	DATE:	DESCRIPTION:
1	09.23.22	PERMIT REVISIONS
2	11.08.22	PERMIT REVISIONS

PROJECT #: 21.14

DRAWN: NP
CHECKED: DW

TITLE: TREE REPLACEMENT PLAN

SHEET: L1.1



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	
cr	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 (75.6%) 2,899 S.F.

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

Koneru
21.14

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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
4	09.23.22	PERMIT REVISIONS
5	11.08.22	PERMIT REVISIONS

PROJECT #: 21.14

DRAWN: RB
CHECKED: DW

TITLE: SHORELINE PLANTING PLAN

SHEET: L3.0

GENERAL NOTES & 2018 WSEC REQUIREMENTS + 2018 IRC REQUIREMENTS

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, OR 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 THE 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, WHOLE HOUSE 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 M1504.4.1.3.
- 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 HOUSE 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 LOCATED IN ACCORDANCE WITH 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 AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). WHERE OUTDOOR AIR IS PREVIDED 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 (MERVe) 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 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 M1504.4.1.7.

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.

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, AS APPLICABLE).
   - 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*, ADNOR 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-38
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. R-10 CONTINUOUS INSULATION IS REQUIRED UNDER HEATED SLAB ON GRADE FLOORS. SEE SECTION R402.2.9.1;
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 R606.5, 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.

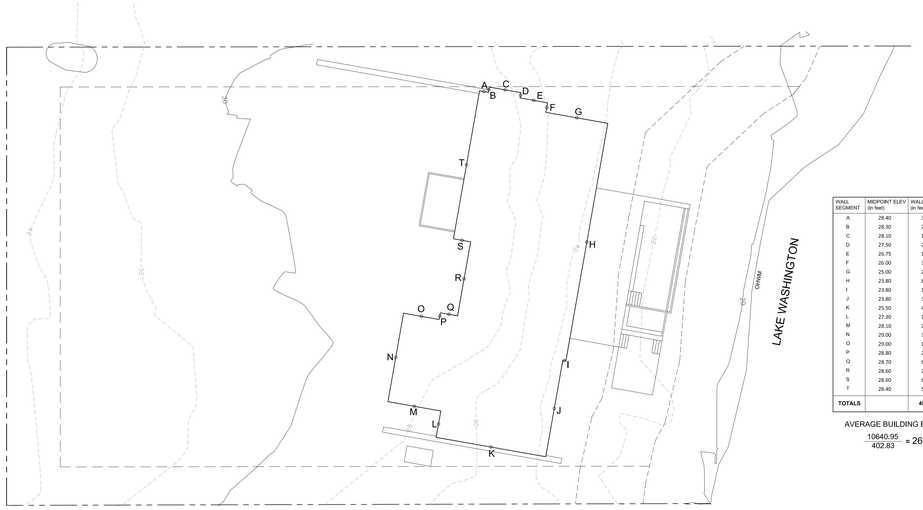
THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). FOR THIS TEST ONLY, THE VOLUME OF THE HOME SHALL BE THE CONDITIONED FLOOR AREA 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 ANSI/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 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 SPECIFI



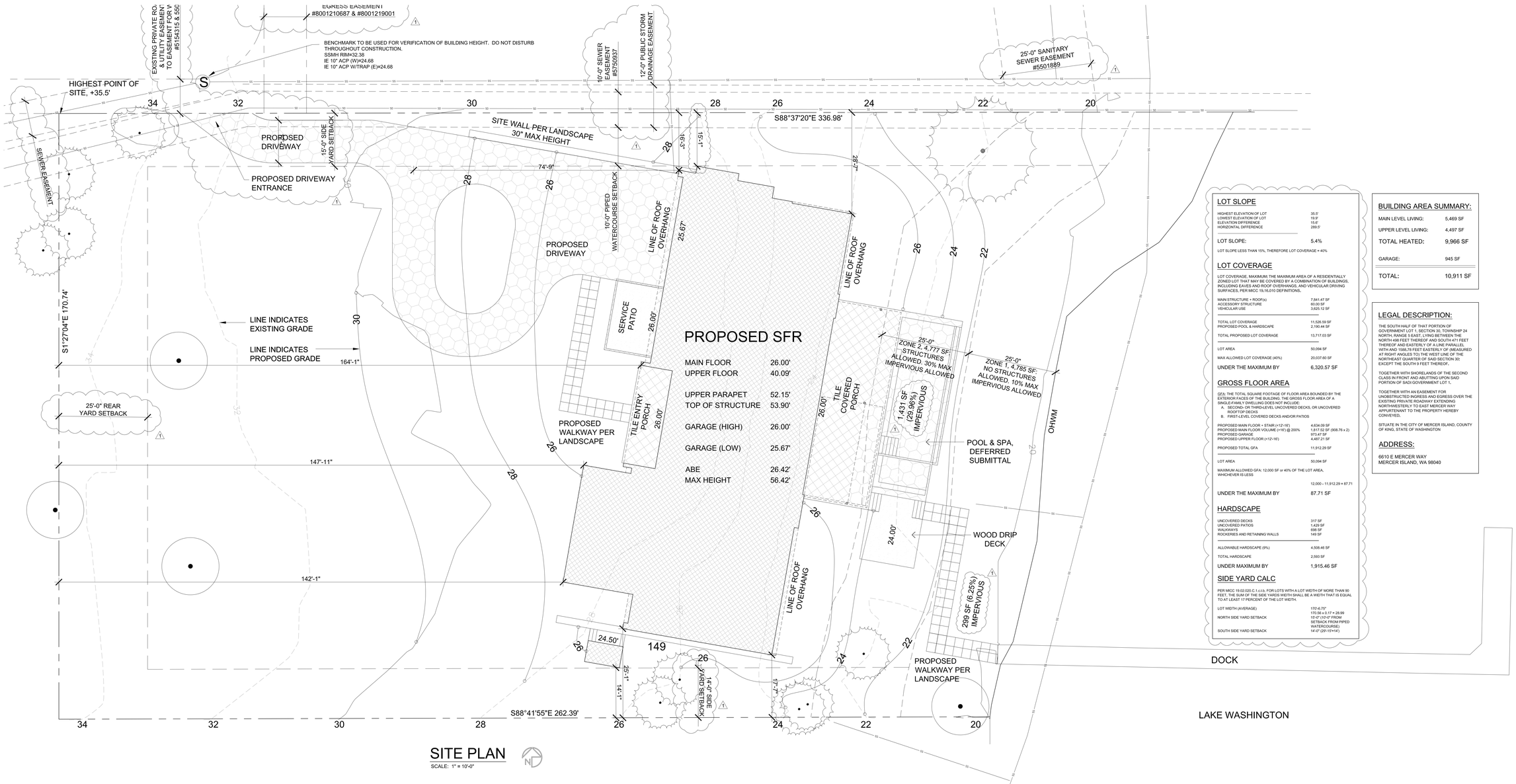
WALL SEGMENT	MIDPOINT ELEV (in feet)	WALL LENGTH (in feet)	TOTALS (in feet)
A	28.40	3.33	94.57
B	28.30	2.00	56.60
C	28.10	12.00	337.20
D	27.50	2.00	55.00
E	26.75	10.42	278.65
F	26.00	3.63	94.25
G	25.00	23.42	585.42
H	23.80	89.92	2140.02
I	23.80	1.67	39.65
J	23.80	36.46	867.71
K	25.50	41.50	1058.25
L	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'-19')	4,634.09 SF
PROPOSED MAIN FLOOR VOLUME (>19') @ 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 (9%)	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:

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 SAID 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

ADDRESS:

6610 E MERCER WAY
MERCER ISLAND, WA 98040

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Revisions	Comment
2021.11.17	Updated Plans to Structural
2021.12.13	Structural Backcheck 01
2021.12.15	Structural Backcheck 02
2021.12.22	Structural Backcheck 03
2022.05.02	Permit Corrections
2022.05.04	Structural Backcheck
2022.06.12	Commentary Response
2022.07.13	**Cycle 2 Structural Backcheck**
2022.08.18	**Cycle 3 Structural Backcheck**

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

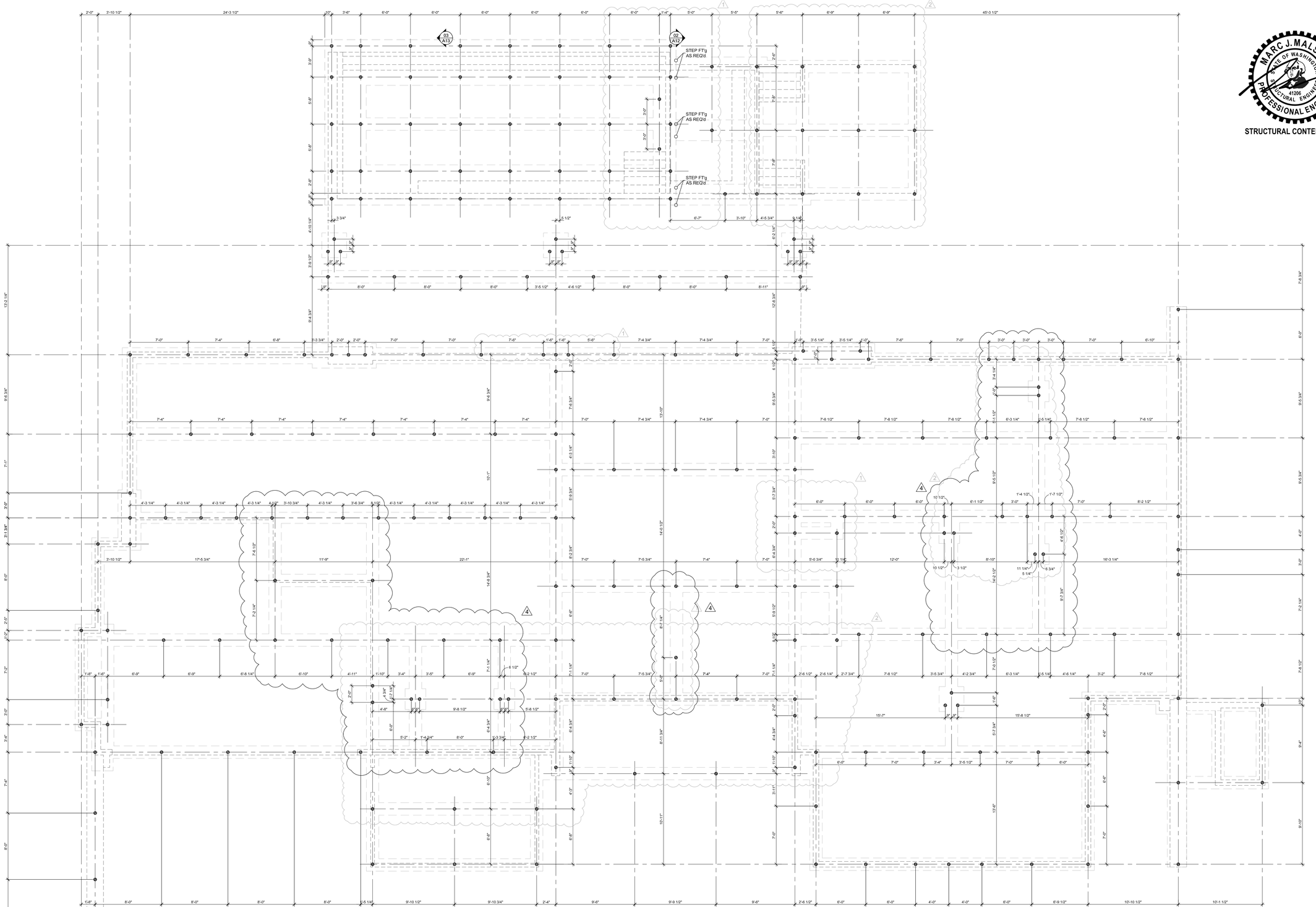
KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Arch Site Plan

A1



PIN PILE PLAN

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

PILE DRIVING SCHEDULE (A)(C)

HAMMER WEIGHT (LBS)	6" PILE REFUSAL CRITERIA (B)
1,100	20
2,000	10
3,000	6

A. SCHEDULE OF DRIVING CRITERIA FOR 6" PIPE w/ A 15 TON ALLOWABLE AXIAL COMPRESSION LOAD PER SOILS ENGINEER
B. SECONDS PER INCH OF PENETRATION

LEGEND:

⊕ 6" Ø EXTRA-STRONG GALVANIZED PIPE PILE (15-TON CAPACITY) REFER TO 2/S3.1 FOR EMBEDMENT INTO FOOTING

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. 6" DIAMETER EXTRA-STRONG 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

MARC J. MALSAM
STATE OF WASHINGTON
41206
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

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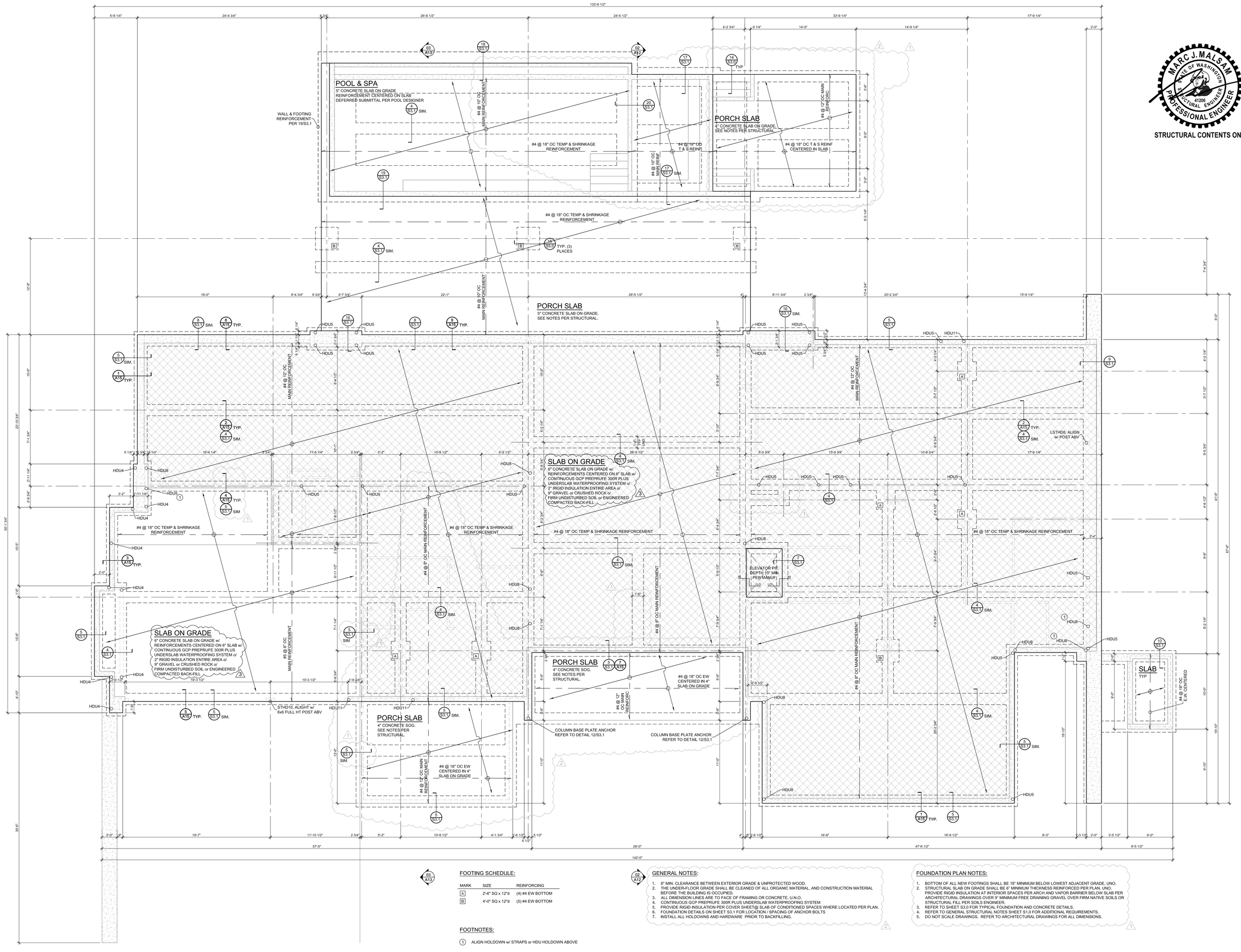
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7604
STATE OF WASHINGTON

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Mercer Island. WA 98040

PERMIT SET

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. CONTINUOUS GCP PREPRUFE 300R PLUS UNDERSLAB WATERPROOFING SYSTEM
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

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STATE OF WASHINGTON
7866

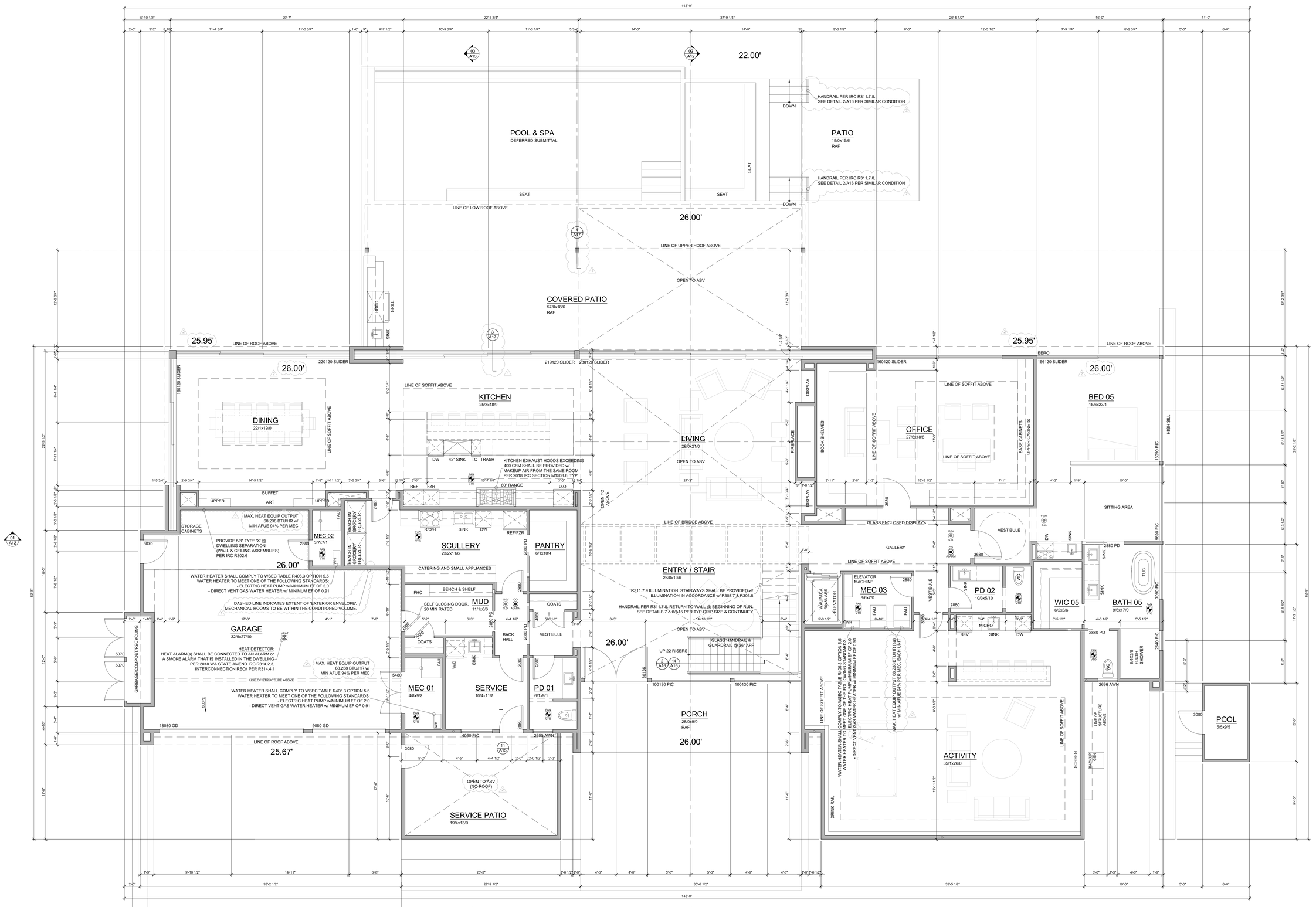
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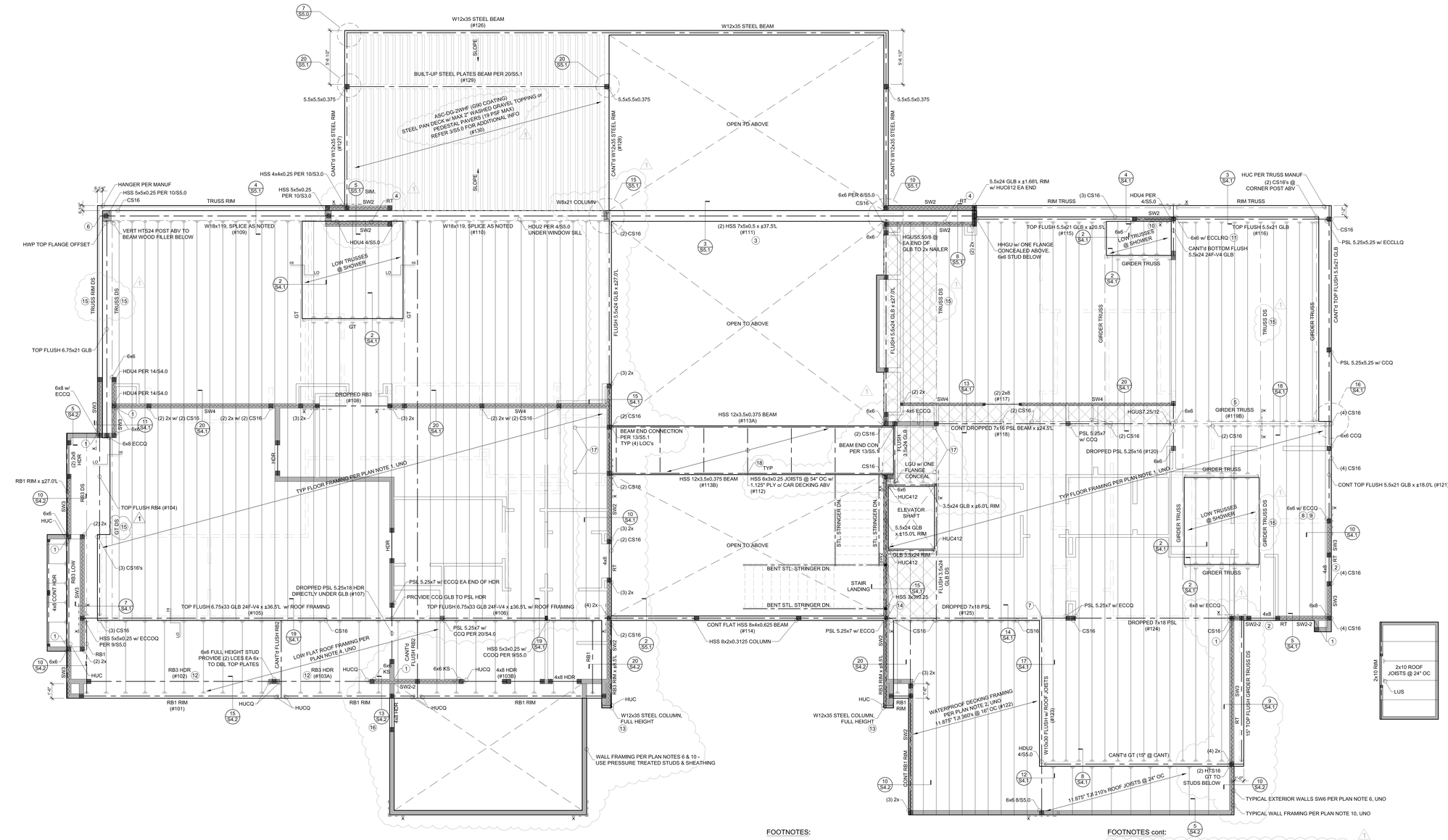
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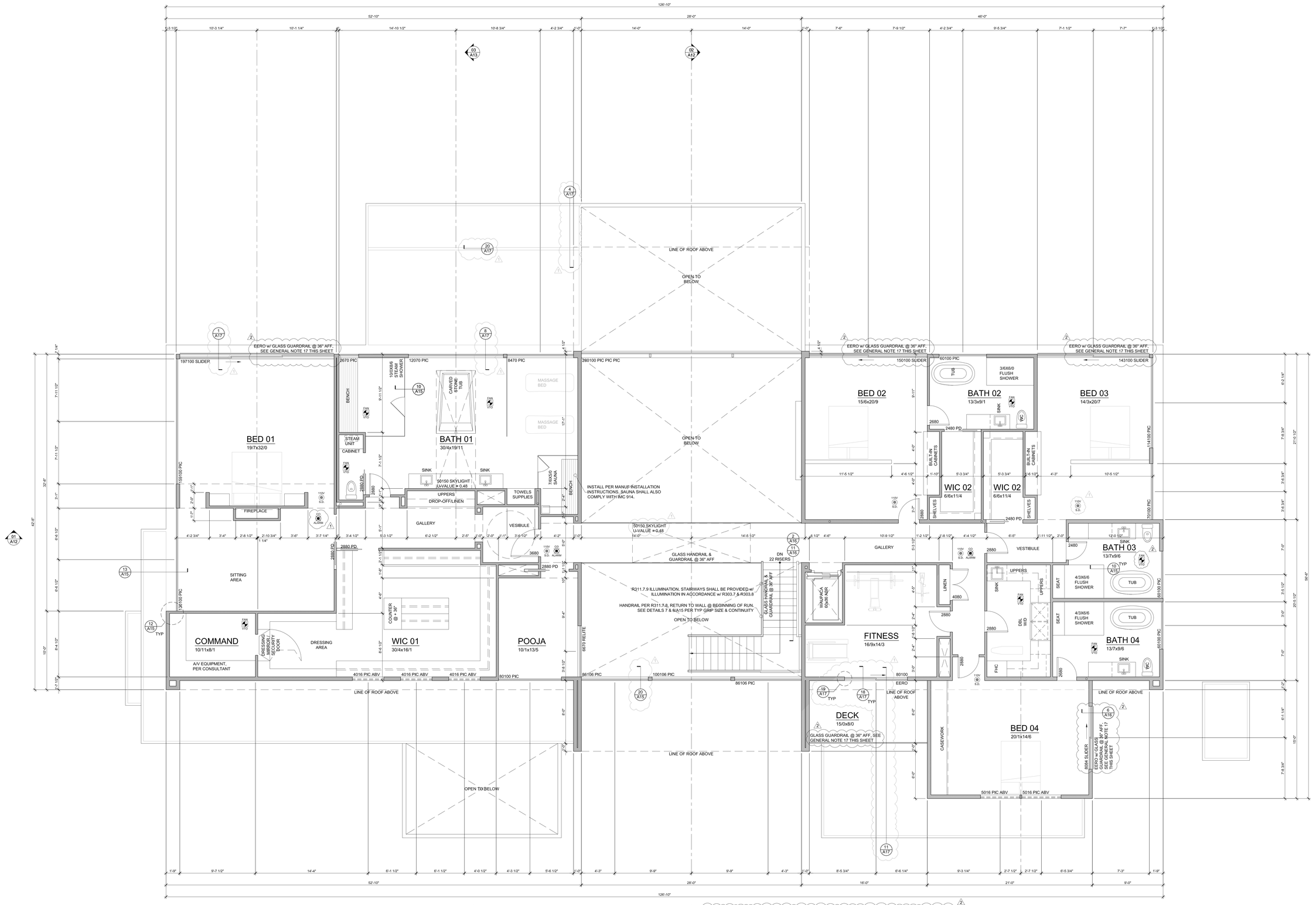
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Structural SOG Reinforcing Plan

A4


143'-0"
22.00'
26.00'
25.95'
25.67'
POOL & SPA
DEFERRED SUBMITTAL
PATIO
19/0x15/6
RAF
HANDRAIL PER IRC R311.7.8,
SEE DETAIL 2/A16 PER SIMILAR CONDITION
DOWN
SEAT
LINE OF LOW ROOF ABOVE
LINE OF UPPER ROOF ABOVE
OPEN TO ABV
COVERED PATIO
57/0x18/6
RAF
HOOD
GRILL
SINK
LINE OF ROOF ABOVE
220120 SLIDER
219120 SLIDER
280120 SLIDER
160120 SLIDER
156120 SLIDER
EERO
KITCHEN
25/3x18/9
LINE OF SOFFIT ABOVE
DINING
22/1x19/0
LIVING
28/0x21/10
DW
42" SINK
TC
TRASH
KITCHEN EXHAUST HOODS EXCEEDING
400 CFM SHALL BE PROVIDED w/
MAKEUP AIR FROM THE SAME ROOM
PER 2018 IRC SECTION M1503.6, TYP
60" RANGE
REF
FZR
R/O/H
SINK
DW
REF/FZR
D.O.
OPEN TO ABOVE
LINE OF BRIDGE ABOVE
SCULLERY
23/2x11/6
PANTRY
6/1x10/4
CATERING AND SMALL APPLIANCES
BENCH & SHELF
FHC
MUD
11/1x6/6
SELF CLOSING DOOR,
20 MIN RATED
COATS
BACK
HALL
VESTIBULE
ENTRY / STAIR
28/0x19/6
R311.7.9 ILLUMINATION. STAIRWAYS SHALL BE PROVIDED w/
ILLUMINATION IN ACCORDANCE w/ R303.7 & R303.8
HANDRAIL PER R311.7.8, RETURN TO WALL @ BEGINNING OF RUN.
SEE DETAILS 7 & 8/A15 PER TYP GRIP SIZE & CONTINUITY
OPEN TO ABV
GLASS HANDRAIL &
GUARDRAIL @ 36" AFF
UP 22 RISERS
80136
100130 PIC
PORCH
28/0x9/0
RAF
OFFICE
27/6x18/8
LINE OF SOFFIT ABOVE
BASE CABINETS
UPPER CABINETS
DISPLAY
BOOK SHELVES
FIREPLACE
BED 05
15/6x23/1
HIGH SILL
13090 PIC
SITTING AREA
GLASS ENCLOSED DISPLAYS
GALLERY
VESTIBULE
ELEVATOR
MACHINE
MEC 03
8/6x7/0
WHIPACA
65/436 ABR
ELEVATOR
PD 02
10/3x5/10
MICRO
BEV
SINK
DW
WC
WIC 05
6/2x8/6
BATH 05
9/6x17/0
TUB
7090 PIC
9690 PIC
2880 PD
2636 AWN
2640 PIC
6/4X5/8
FIXED GLASS
SHOWER
ACTIVITY
35/1x26/0
SCREEN
BACKUP GEN
DRINK RAIL
WATER HEATER SHALL COMPLY TO WSEC TABLE R406.3 OPTION 5.5
WATER HEATER TO MEET ONE OF THE FOLLOWING STANDARDS:
- ELECTRIC HEAT PUMP w/MINIMUM EF OF 2.0
- DIRECT VENT GAS WATER HEATER w/ MINIMUM EF OF 0.91
MAX. HEAT EQUIP OUTPUT 68,238 BTU/HR (ea)
w/ MIN AFUE 94% PER MEC, EACH UNIT
GARAGE
32/9x27/10
HEAT DETECTOR:
HEAT ALARM(s) SHALL BE CONNECTED TO AN ALARM or
A SMOKE ALARM THAT IS INSTALLED IN THE DWELLING
PER 2018 WA STATE AMEND IRC R314.2.3,
INTERCONNECTION REQ'I PER R314.4.1
LINE OF STRUCTURE ABOVE
MAX. HEAT EQUIP OUTPUT
68,238 BTU/HR w/
MIN AFUE 94% PER MEC
MEC 01
4/8x9/2
SERVICE
10/4x11/7
PD 01
6/1x9/1
GARBAGE/COMPOST/RECYCLING
18080 GD
9080 GD
4050 PIC
2650 AWN
LINE OF SOFFIT ABOVE
SERVICE PATIO
19/4x13/0
OPEN TO ABV
(NO ROOF)
POOL
5/5x9/5
BUFFET
ART
UPPER
STORAGE
CABINETS
MAX. HEAT EQUIP OUTPUT
68,238 BTU/HR w/
MIN AFUE 94% PER MEC
PROVIDE 5/8" TYPE 'X' @
DWELLING SEPARATION
(WALL & CEILING ASSEMBLIES)
PER IRC R302.6
MEC 02
3/7x7/1
DISHDRAW
GROCERY
FREEZER
WATER HEATER SHALL COMPLY TO WSEC TABLE R406.3 OPTION 5.5
WATER HEATER TO MEET ONE OF THE FOLLOWING STANDARDS:
- ELECTRIC HEAT PUMP w/MINIMUM EF OF 2.0
- DIRECT VENT GAS WATER HEATER w/ MINIMUM EF OF 0.91
DASHED LINE INDICATES EXTENT OF EXTERIOR ENVELOPE;
MECHANICAL ROOMS TO BE WITHIN THE CONDITIONED VOLUME.
3070
5070
5480
3080
3680
2880
3660
3680
3660
3660
3660


W12x35 STEEL BEAM (#126)
W12x35 STEEL BEAM
BUILT-UP STEEL PLATES BEAM PER 20/S5.1 (#129)
ASC-DG-2WHF (G90 COATING) STEEL PAN DECK w/ MAX 2" WASHED GRAVEL TOPPING or PEDESTAL PAVERS (19 PSF MAX) REFER 3/S5.0 FOR ADDITIONAL INFO (#130)
OPEN TO ABOVE
CANT'd W12x35 STEEL RIM (#127)
CANT'd W12x35 STEEL RIM (#128)
W8x21 COLUMN
HANGER PER MANUF
HSS 5x5x0.25 PER 10/S5.0
CS16
TRUSS RIM
HSS 4x4x0.25 PER 10/S3.0
HSS 5x5x0.25 PER 10/S3.0
VERT HTS24 POST ABV TO BEAM WOOD FILLER BELOW
HWP TOP FLANGE OFFSET
W18x119, SPLICE AS NOTED (#109)
W18x119, SPLICE AS NOTED (#110)
HDU2 PER 4/S5.0 UNDER WINDOW SILL
HDU4 4/S5.0
LOW TRUSSES @ SHOWER
(2) HSS 7x5x0.5 x ±37.5'L (#111)
HGUS5.50/8 @ EA END OF GLB TO 2x NAILER
5.5x24 GLB x ±1.66'L RIM w/ HUC612 EA END
RIM TRUSS
(3) CS16
HDU4 PER 4/S5.0
HUC PER TRUSS MANUF (2) CS16's @ CORNER POST ABV
TOP FLUSH 5.5x21 GLB x ±20.5'L (#115)
HHGU w/ ONE FLANGE CONCEALED ABOVE. 6x6 STUD BELOW
GIRDER TRUSS
CANT'd BOTTOM FLUSH 5.5x24 24F-V4 GLB
TOP FLUSH 5.5x21 GLB (#116)
6x6 w/ ECCLRQ
PSL 5.25x5.25 w/ ECCLLQ
PSL 5.25x5.25 w/ CCQ
CANT'd TOP FLUSH 5.5x21 GLB
TOP FLUSH 6.75x21 GLB
TOP FLUSH RB4 (#104)
TYP FLOOR FRAMING PER PLAN NOTE 1, UNO
RB1 RIM x ±27.0'L
(3) CS16's
HSS 5x5x0.25 w/ ECCQQ PER 9/S5.0
RB1
RB1 RIM (#101)
6x6 FULL HEIGHT STUD PROVIDE (2) LCES EA 6x TO DBL TOP PLATES
RB3 HDR (#102)
RB3 HDR (#103A)
RB3 HDR (#103B)
HUCQ
6x6 KS
4x8 HDR
RB1 RIM x ±8.5'L
W12x35 STEEL COLUMN, FULL HEIGHT
WALL FRAMING PER PLAN NOTES 6 & 10 - USE PRESSURE TREATED STUDS & SHEATHING
DROPPED RB3 (#108)
HSS 12x3.5x0.375 BEAM (#113A)
HSS 12x3.5x0.375 BEAM (#113B)
BEAM END CONNECTION PER 13/S5.1 TYP (4) LOC's
BEAM END CON PER 13/S5.1
HSS 6x3x0.25 JOISTS @ 54" OC w/ 1.125" PLY o/ CAR DECKING ABV (#112)
LGU w/ ONE FLANGE CONCEAL
CONT DROPPED 7x16 PSL BEAM x ±24.5'L (#118)
PSL 5.25x7 w/ CCQ
DROPPED PSL 5.25x16 (#120)
GIRDER TRUSS
GIRDER TRUSS (#119B)
CONT TOP FLUSH 5.5x21 GLB x ±18.0'L (#121)
ELEVATOR SHAFT
5.5x24 GLB x ±15.0'L RIM
3.5x24 GLB x ±6.0'L RIM
GLB 3.5x24 RIM
HUC412
BENT STL. STRINGER DN.
STAIR LANDING
HSS 3x3x0.25
DROPPED PSL 5.25x18 HDR DIRECTLY UNDER GLB (#107)
PSL 5.25x7 w/ CCQ EA END OF HDR
PROVIDE CCQ GLB TO PSL HDR
TOP FLUSH 6.75x33 GLB 24F-V4 x ±36.5'L w/ ROOF FRAMING (#105)
TOP FLUSH 6.75x33 GLB 24F-V4 x ±36.5'L w/ ROOF FRAMING (#106)
LOW FLAT ROOF FRAMING PER PLAN NOTE 4, UNO
CONT FLAT HSS 8x4x0.625 BEAM (#114)
HSS 8x2x0.3125 COLUMN
PSL 5.25x7 w/ CCQ PER 20/S4.0
HSS 5x3x0.25 w/ CCQQ PER 9/S5.0
DROPPED 7x18 PSL (#125)
DROPPED 7x18 PSL (#124)
PSL 5.25x7 w/ ECCQQ
6x8 w/ ECCQQ
2x10 ROOF JOISTS @ 24" OC
LUS
2x10 RIM
WATERPROOF DECKING FRAMING PER PLAN NOTE 2, UNO
11.875" TJI 360I'S @ 16" OC (#122)
11.875" TJI 210I'S ROOF JOISTS @ 24" OC
(2) HTS16 OT TO STUDS BELOW
TYPICAL EXTERIOR WALLS SW6 PER PLAN NOTE 6, UNO
TYPICAL WALL FRAMING PER PLAN NOTE 10, UNO
CANT'd GT (15° @ CANT)
15" TOP FLUSH GIRDER TRUSS DS
WT10x30 FLUSH w/ ROOF JOISTS (#123)
HDU2 4/S5.0
6x8 8/S5.0
GIRDER TRUSS DS
LOW TRUSSES @ SHOWER
(2) 2x8 (#117)
(2) 2x w/ (2) CS16
SW2
SW3
SW4
SW2-2
RT
GT
HDR
4x8
4x6 ECCQ
6x8 ECCQ
6x6 HUC
6x8 w/ ECCQ
4x6 (CONT HDR)
RB1 LOW
RB1 DS
GT DS
TRUSS RIM DS
TRUSS DS
GIRDER TRUSS
CONT RB1 RIM
CANT'd FLUSH RB2
RB1 RIM x ±8.5'L
FLUSH 5.5x24 GLB x ±27.0'L
FLUSH 5.5x24 GLB x ±27.0'L
FLUSH 3.5x24 GLB DS
STL. STRINGER DN.
STL. STRINGER DN.
4x8 HDR
4x8 HDR
HUC
HUCQ
HUCQ
HUCQ
HUCQ
6x6
(3) 2x
(2) 2x
(4) 2x
(2) CS16
(4) CS16
6x6 CCQ
4x8
RT
SW2-2
SW3
SW4
SW



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.
17. PER IRC R308.4.4.1 EXCEPTION, GLASS BALUSTER PANELS SHALL BE LAMINATED GLASS w/ TWO or MORE PLIES OF EQUAL THICKNESS AND OF SAME GLASS TYPE. NO ATTACHED TOP RAIL or HANDRAIL REQUIRED.

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.

2 1 0 5 10

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Approved: APM

REGISTERED ARCHITECT — 7844 — STATE OF WASHINGTON

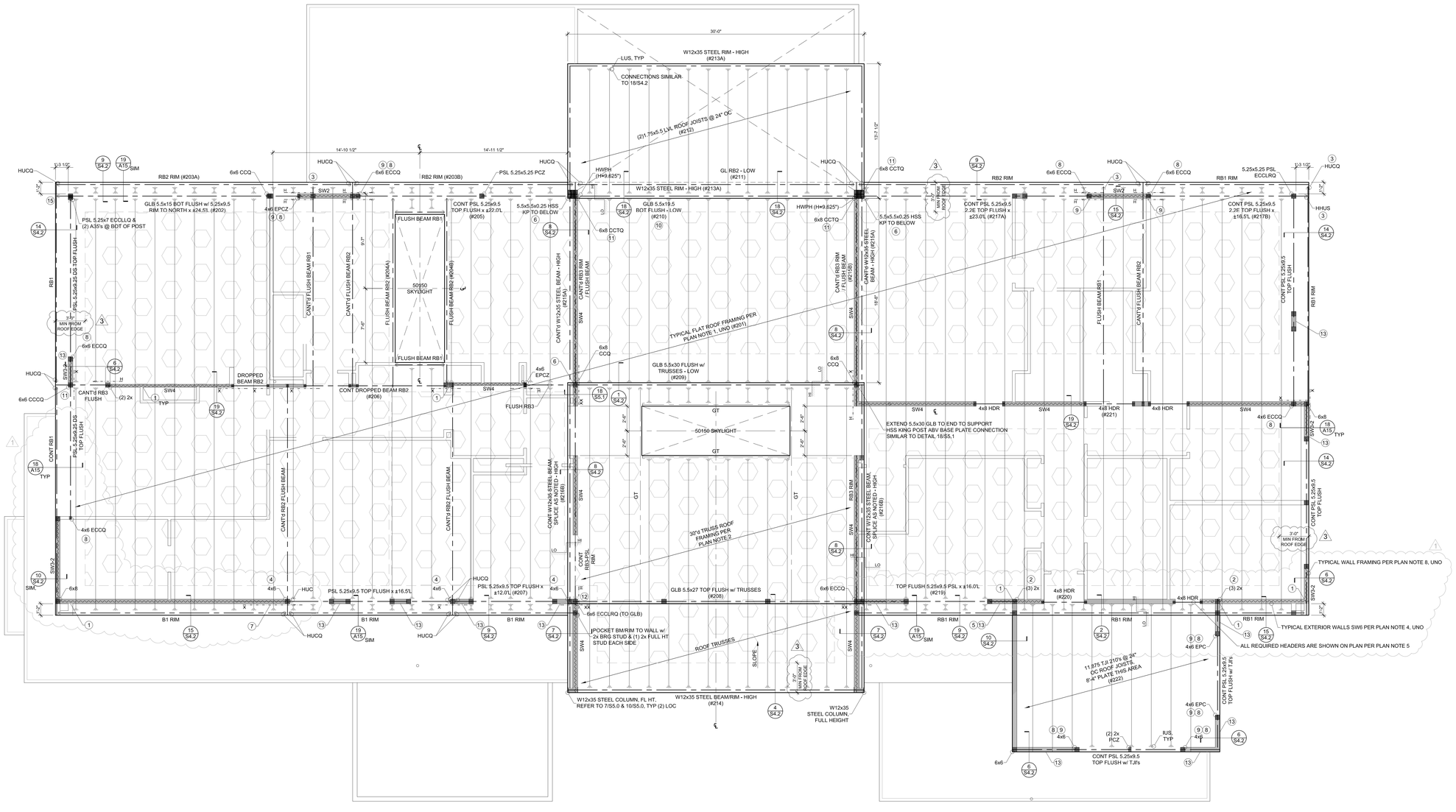
KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Upper Floor Plan

A7



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 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.

UPPER ROOF FRAMING PLAN

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

2 1 0 5 10

STRUCTURAL CONTENTS ONLY

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

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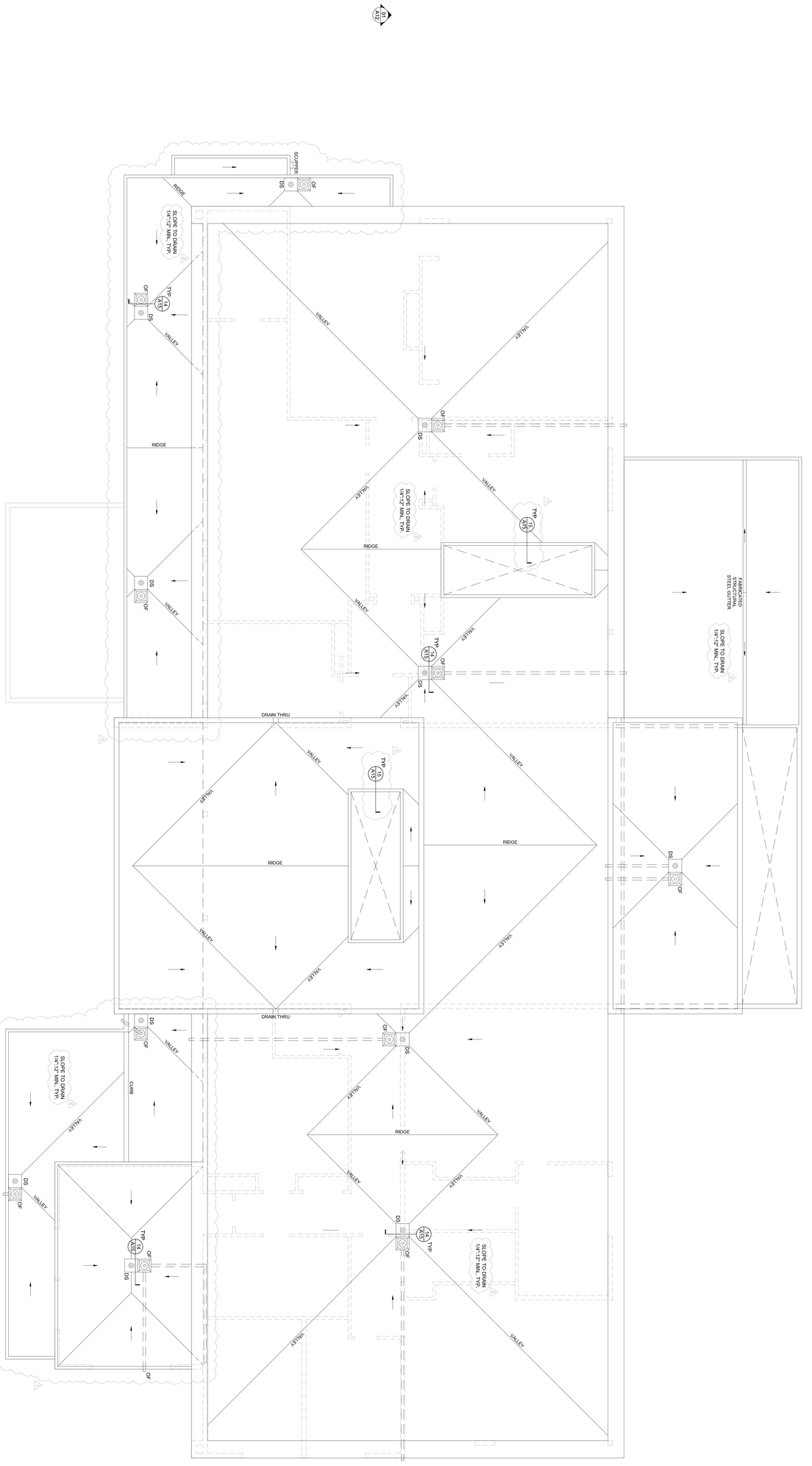
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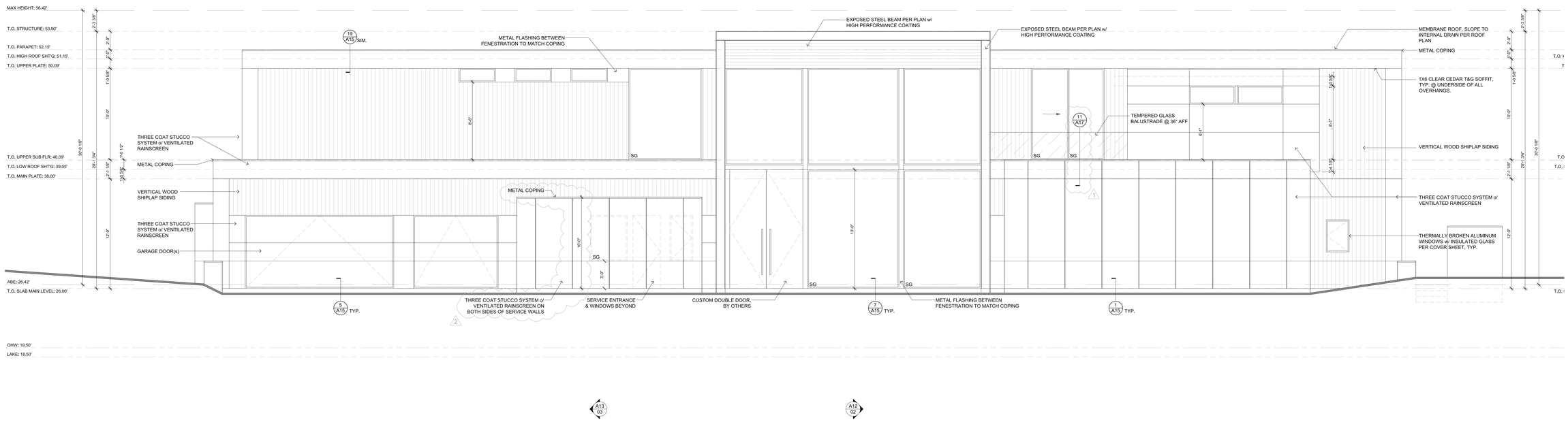
Upper Roof Framing Plan

A8

ROOF DRAINAGE PLAN

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

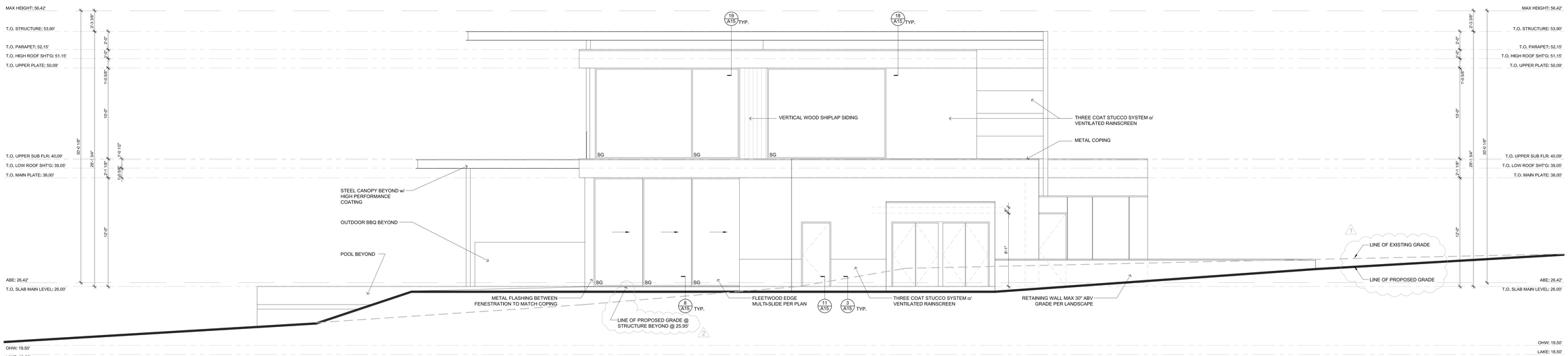




WEST ELEVATION

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

2 1 0 5 10



NORTH ELEVATION

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

2 1 0 5 10

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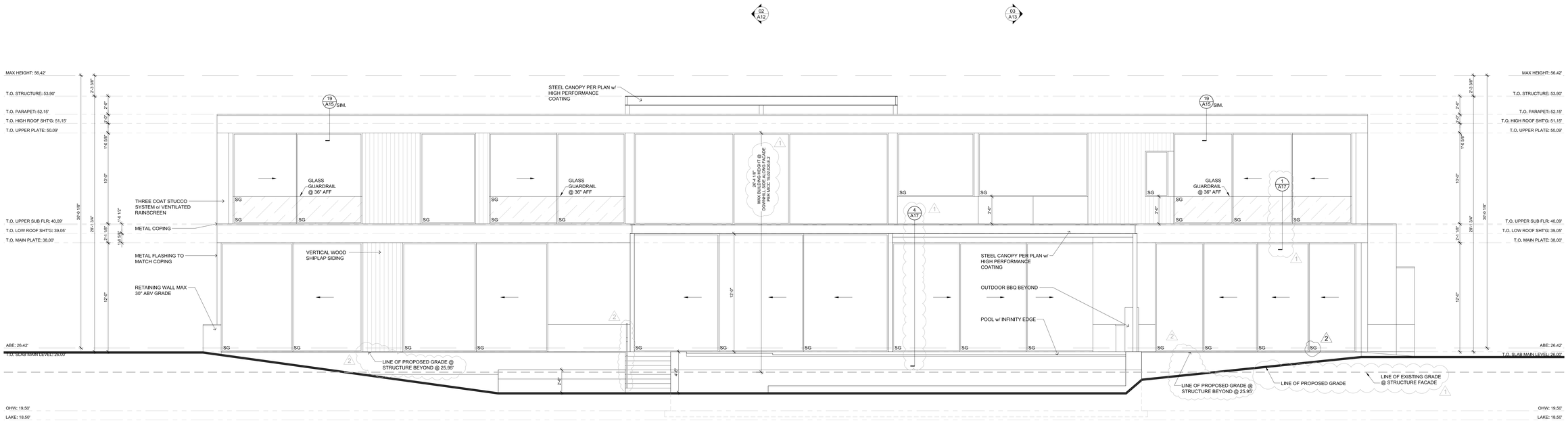
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Exterior Elevations

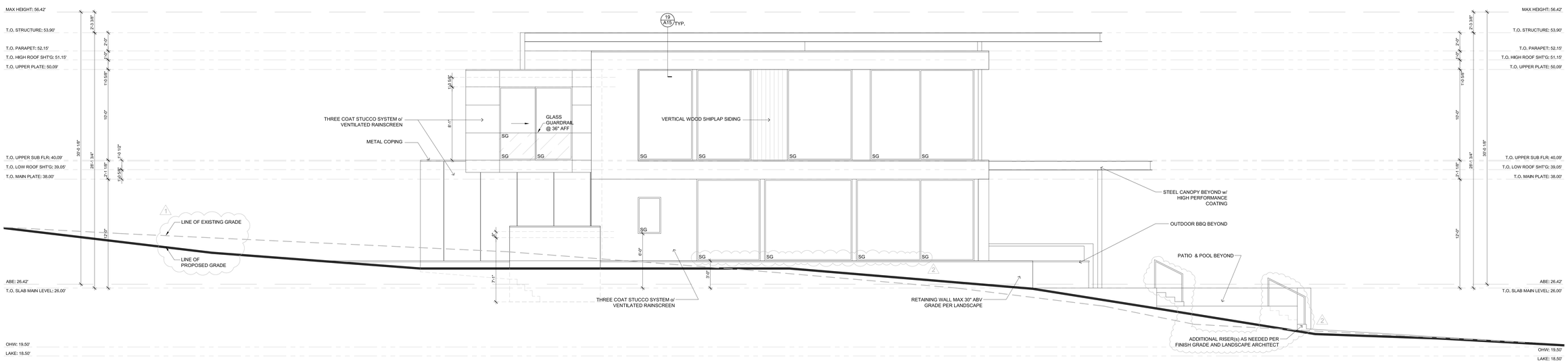
A10



EAST ELEVATION

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

2 1 0 5 10



SOUTH ELEVATION

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

2 1 0 5 10

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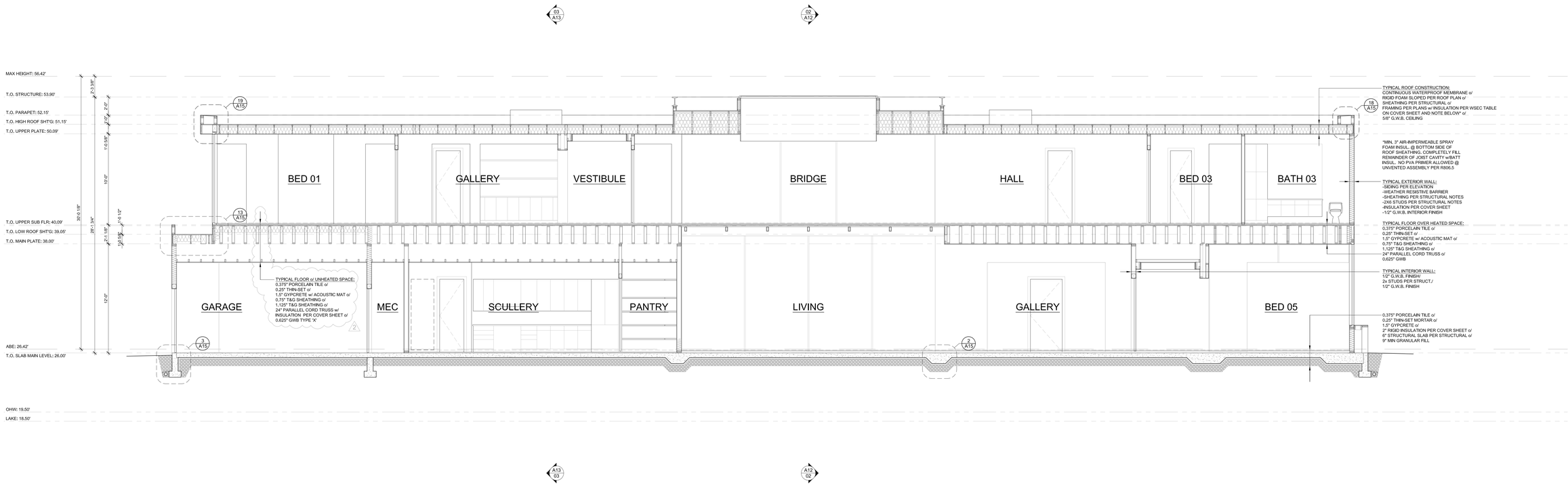
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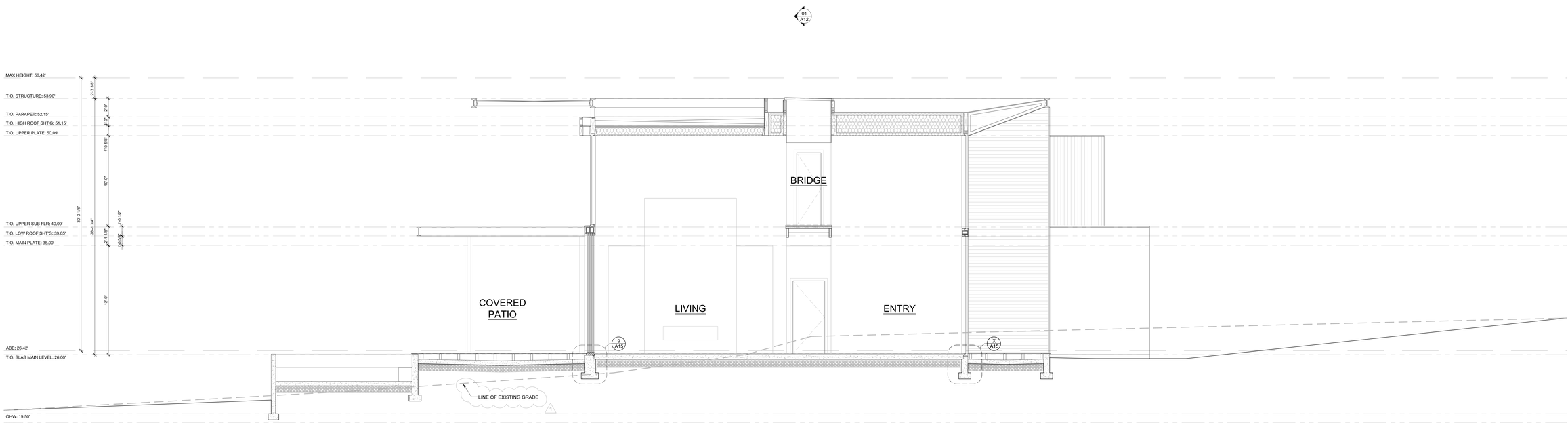
A11



SECTION 01

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

2 1 0 5 10



SECTION 02

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

2 1 0 5 10

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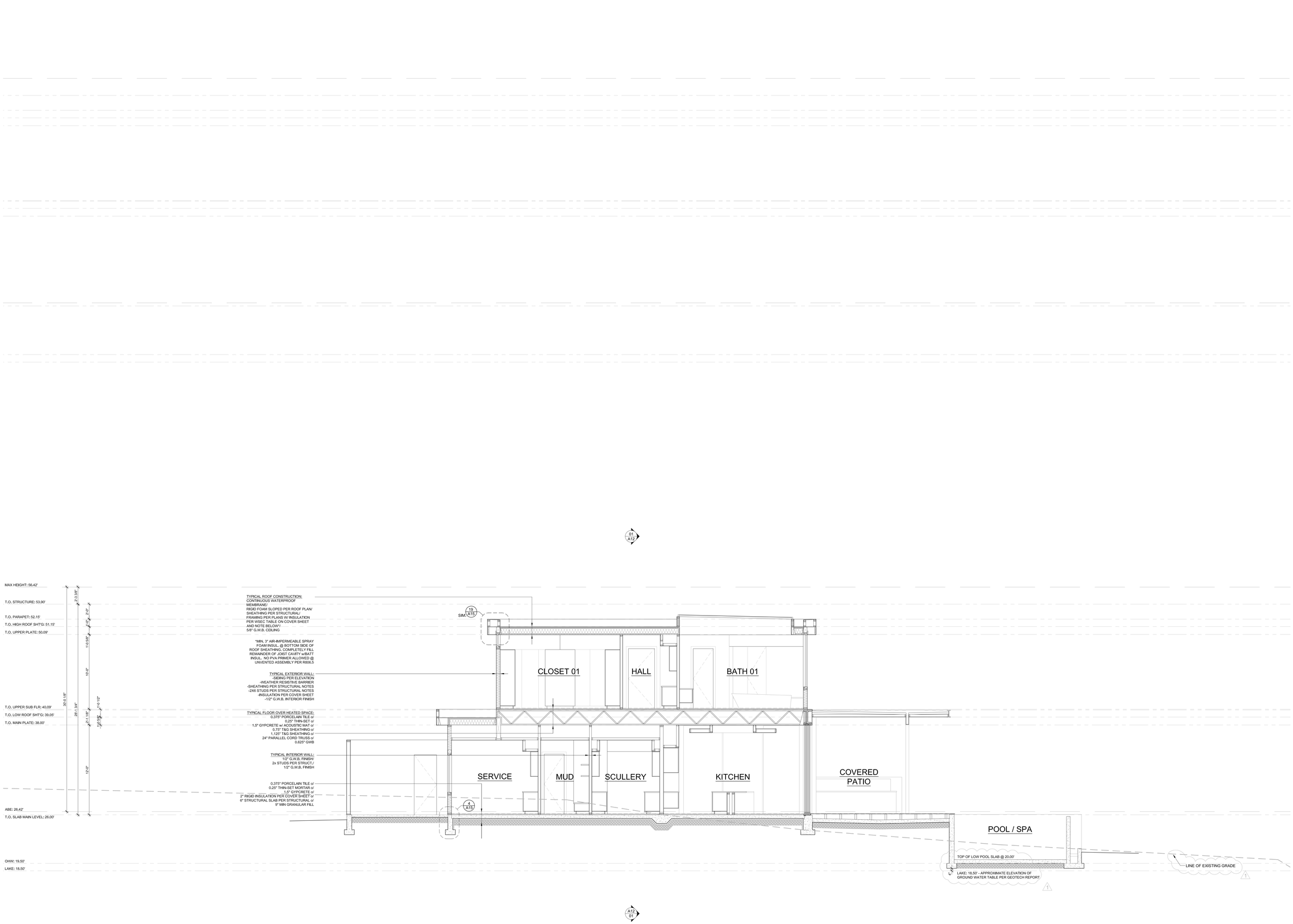
KONERU RESIDENCE

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Building Sections

A12



SECTION 03

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

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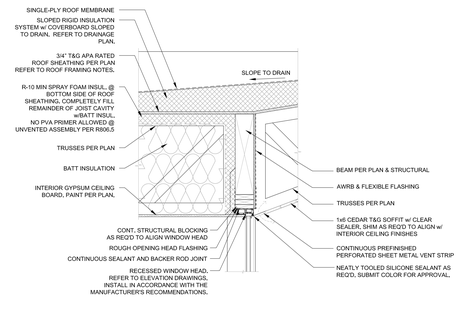
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Building Sections

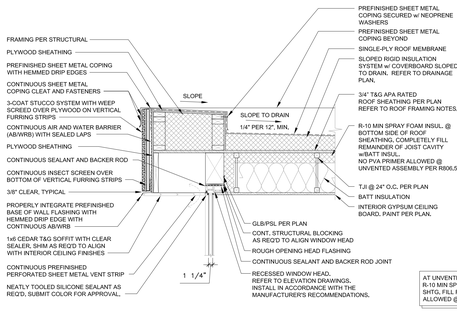
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RECESSED WINDOW HEAD AT ENTRY PORTAL

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

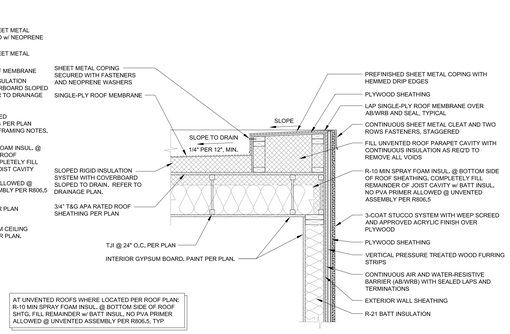
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TYPICAL - ROOF EAVE @ UNVENTED PARAPET

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

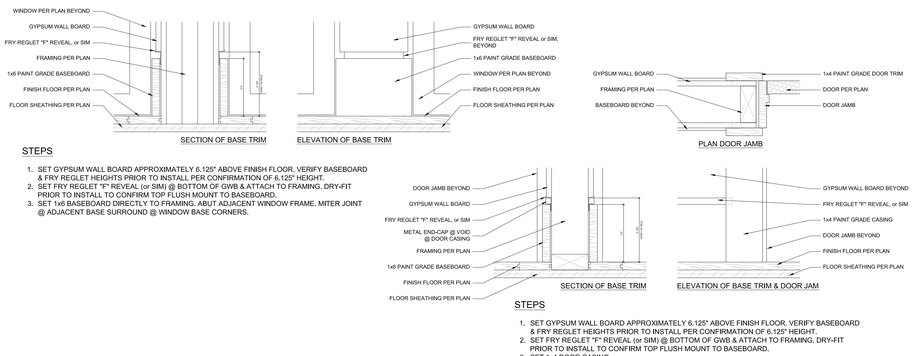
19



TYPICAL - ROOF @ UNVENTED PARAPET

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

18



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.

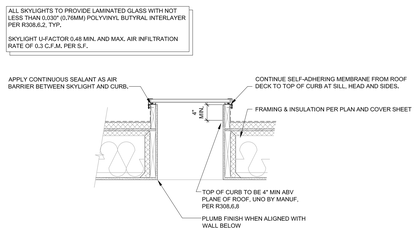
STEPS

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

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

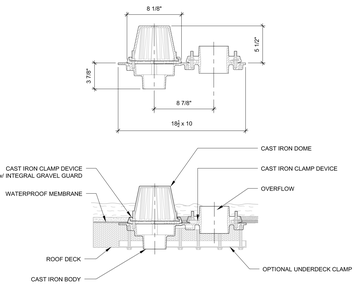
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TYPICAL SKYLIGHT INSTALLATION

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

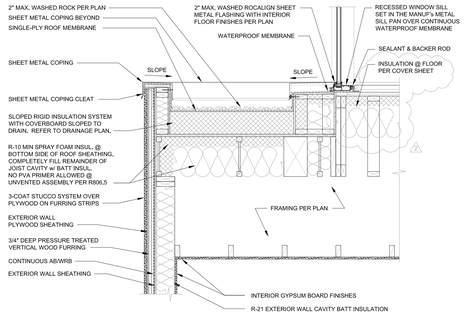
15



ROOF DRAIN & OVERFLOW @ DECK

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

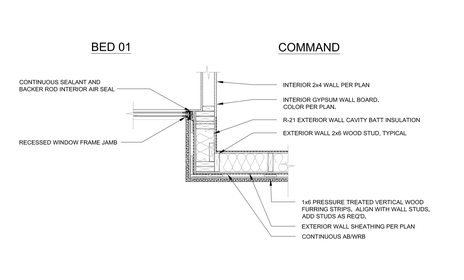
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LOW ROOF AT RECESSED WINDOW SILL

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

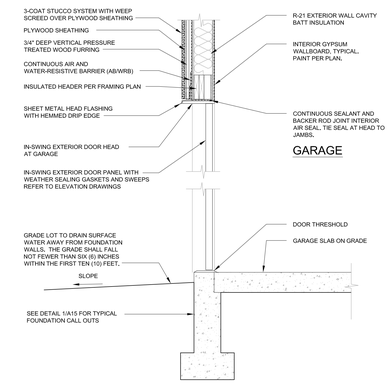
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TYPICAL - RECESSED WINDOW JAMB

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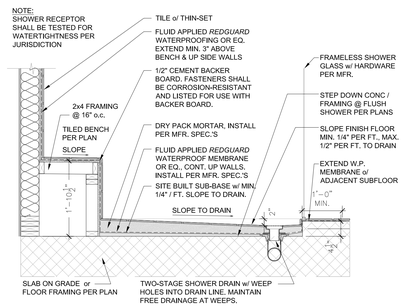
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TYPICAL - EXTERIOR SWING DOOR

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

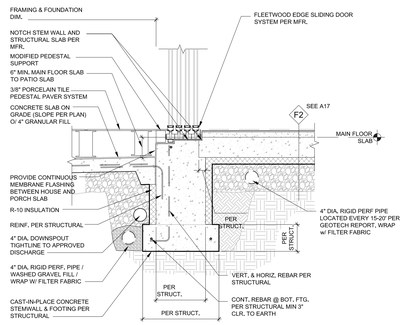
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RECESSED MUD SET SHOWER

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

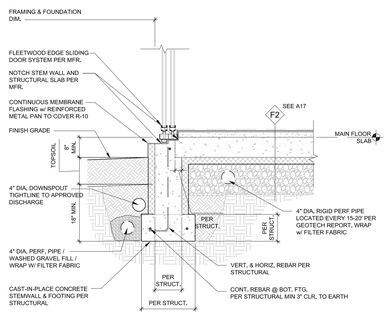
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PORCH SLAB @ SLIDING DOOR SILL

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

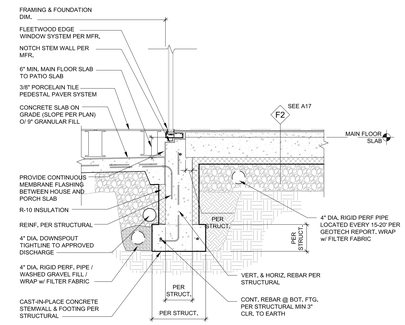
9



SLIDING DOOR SILL @ HOUSE PERIMETER

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

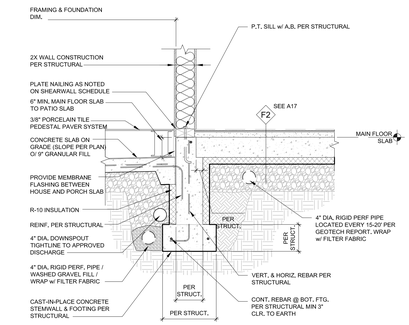
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PORCH SLAB @ WINDOW

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

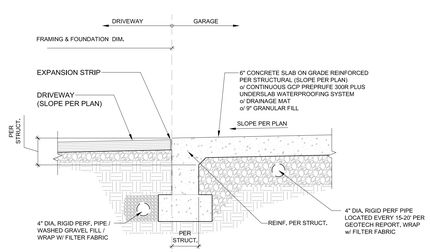
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PORCH SLAB @ HOUSE PERIMETER

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

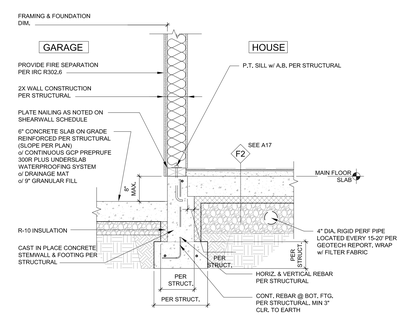
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FOUNDATION @ GARAGE DOOR

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

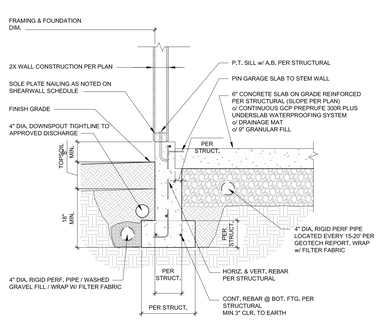
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FOUNDATION @ GARAGE-HOUSE

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

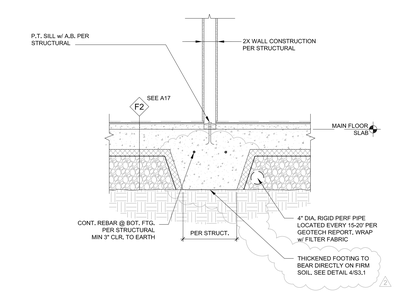
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FOUNDATION @ GARAGE PERIMETER

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

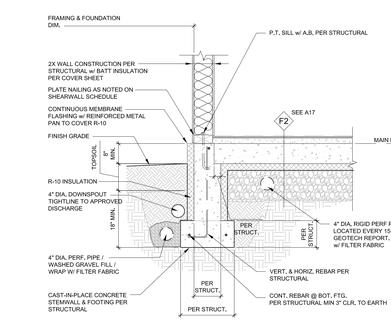
3



INTERIOR THICKENED SLAB

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

2



FOUNDATION @ HOUSE PERIMETER

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

1

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Comment
Updated Plans to Structural
Structural Backcheck 01
Structural Backcheck 02
Structural Backcheck 03
Permit Corrections
Commentary Response
Cycle 2 Structural Backcheck
Cycle 3 Structural Backcheck

Revisions
2021.11.17
2021.12.13
2021.12.15
2021.12.22
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Date: **2021.10.13**
Job No: **21-041**
Project No:
Drawn: **DJR**
Approved: **APM**

REGISTERED ARCHITECT
JEFFREY M. MCCULLOUGH
7864
STATE OF WASHINGTON

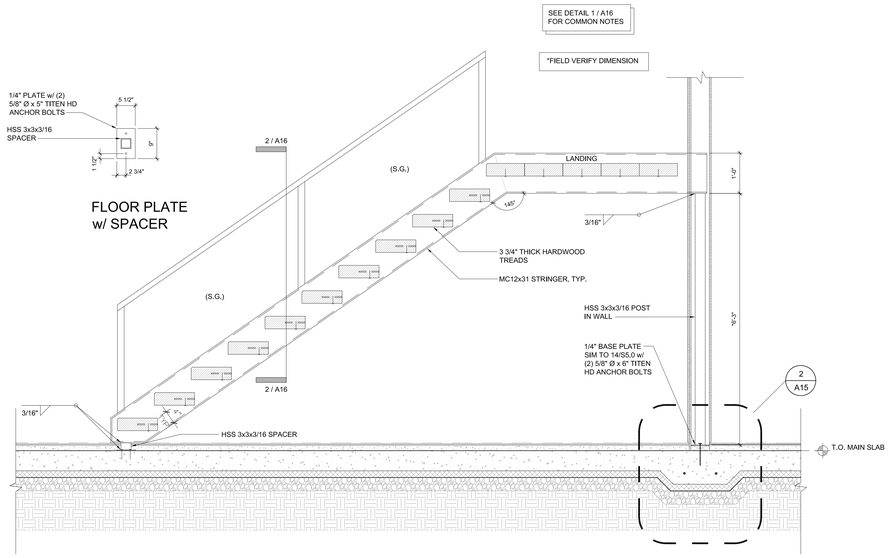
KONERU RESIDENCE

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Mercer Island, WA 98040

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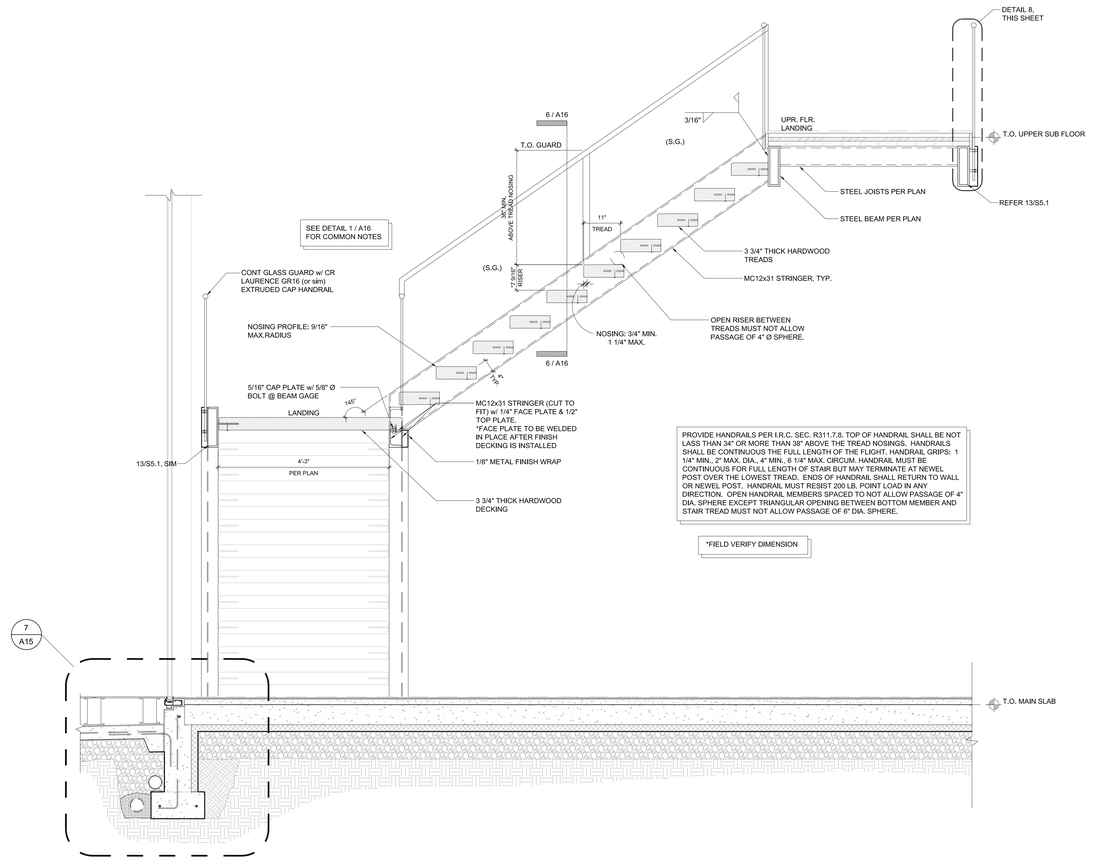
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OPEN RISER STAIR - LOWER SECTION

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

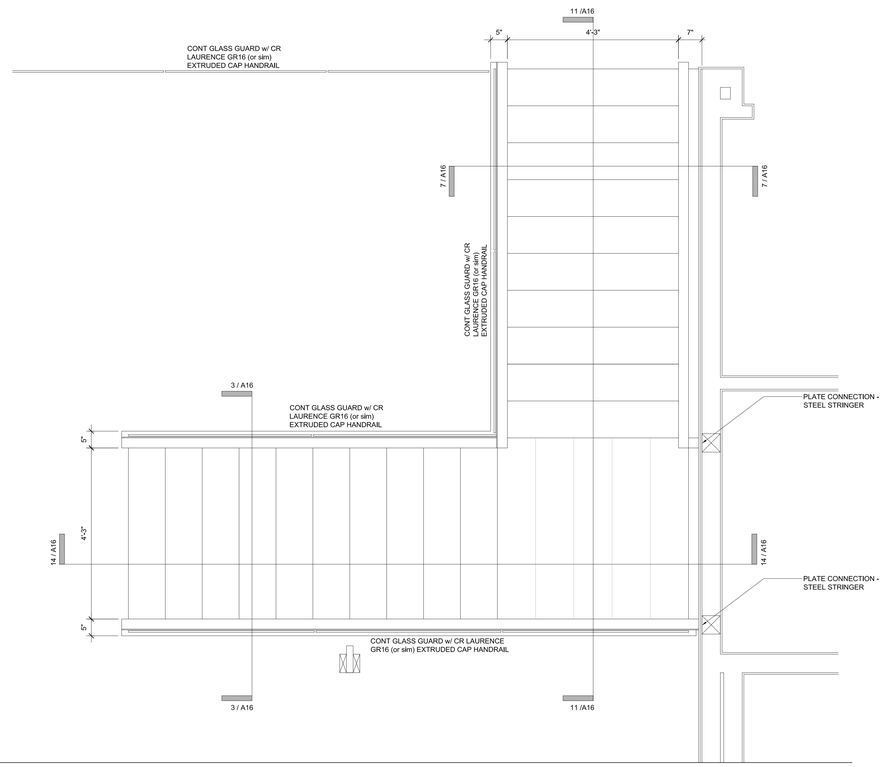
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OPEN RISER STAIR - UPPER SECTION

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

11



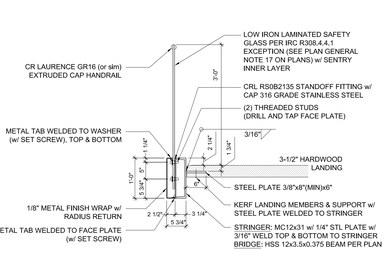
FOUNDATION @ GARAGE DOOR

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

STAIR PLAN

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

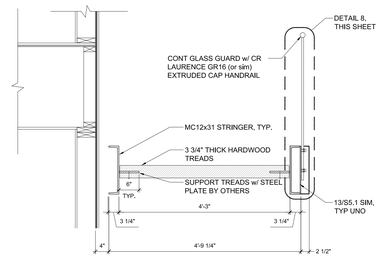
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STRINGER & BRIDGE GUARDRAIL DETAIL, TYP

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

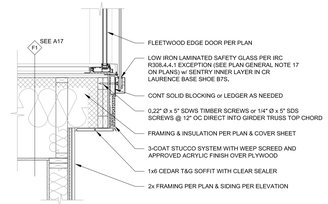
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UPPER STAIR SECTION

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

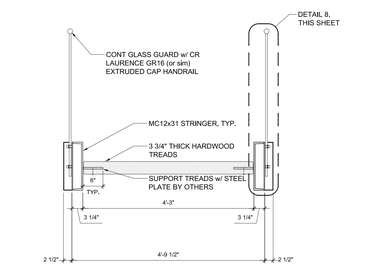
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GUARDRAIL @ BED 04

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

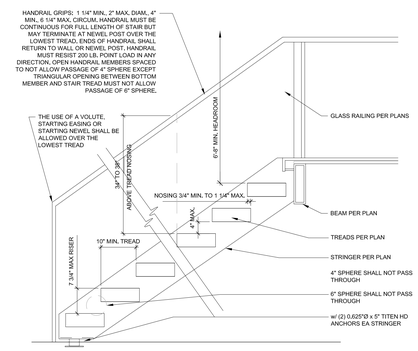
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LOWER STAIR SECTION

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

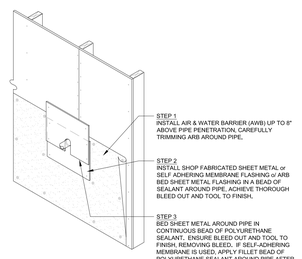
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TYPICAL OPEN RISER INTERIOR STAIR

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

2



TYPICAL PIPE & OVERFLOW DRAIN OUTLET FLASHING

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

1

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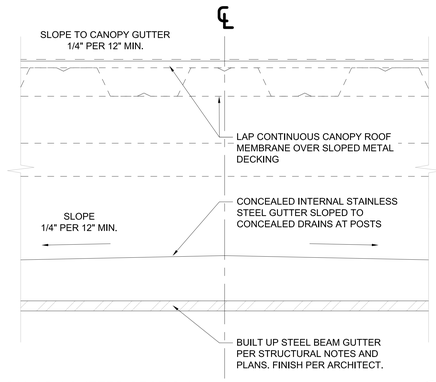
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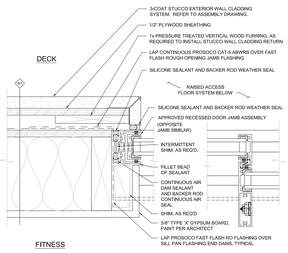
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Stair Sections & Details

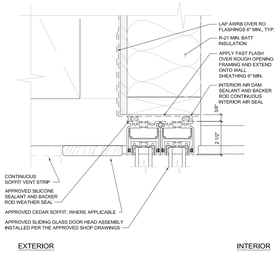
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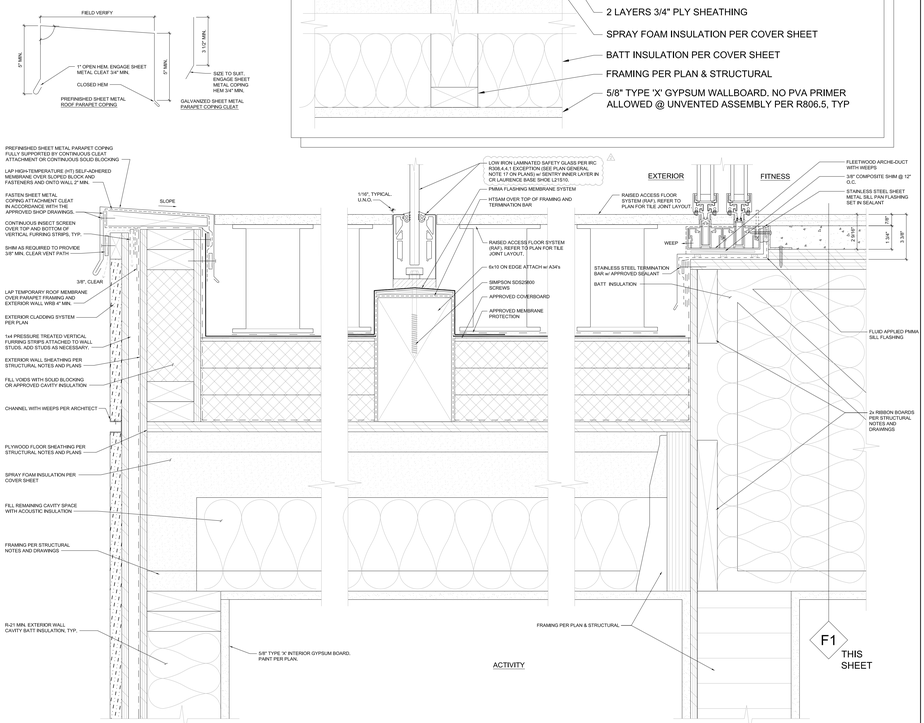
CANOPY GUTTER SECTION
SCALE: 3" = 1'-0" 20



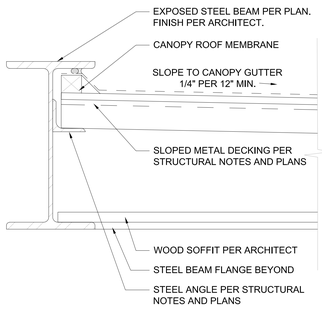
RECESSED SLIDING DOOR JAMB - TYP
SCALE: 3" = 1'-0" 19

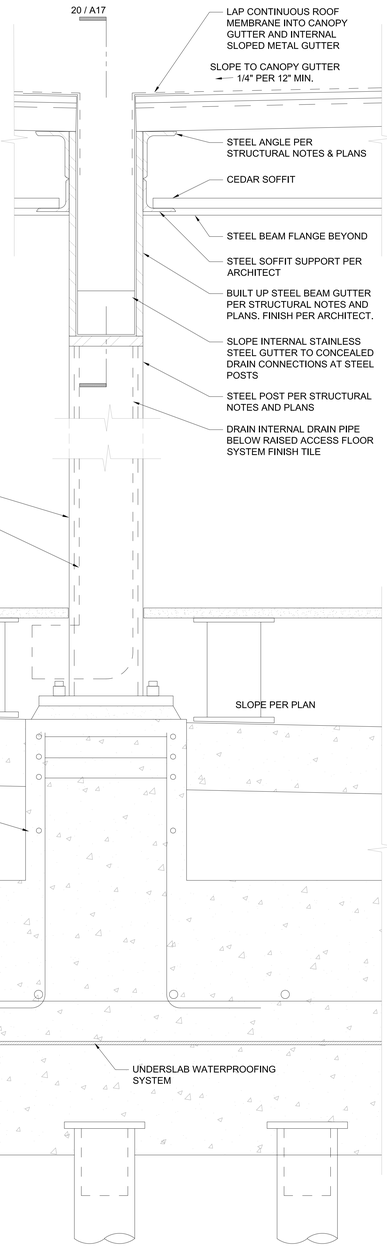


RECESSED SLIDING DOOR HEAD - TYP
SCALE: 3" = 1'-0" 18

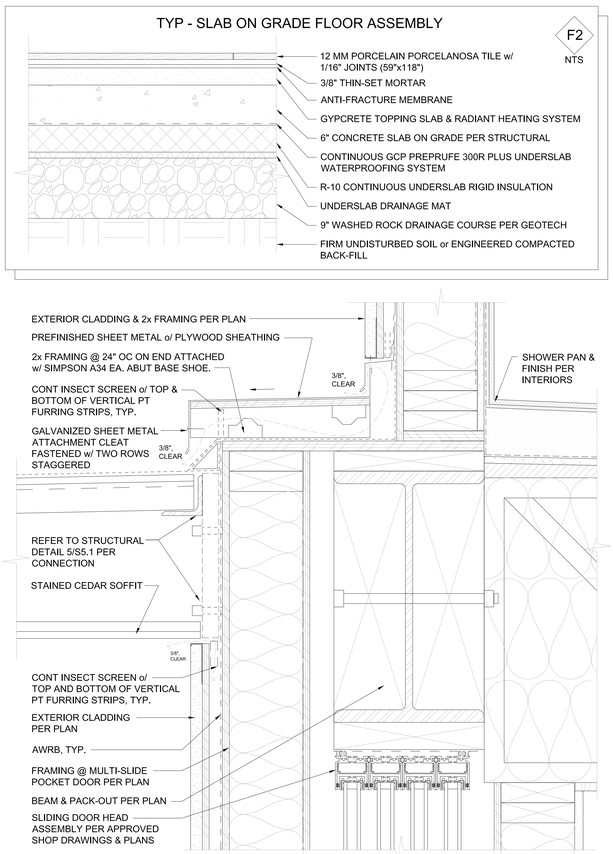


FITNESS PATIO SECTION
SCALE: 3" = 1'-0" 11

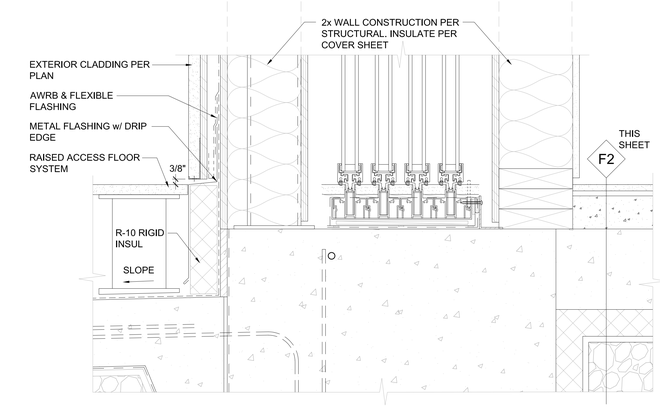




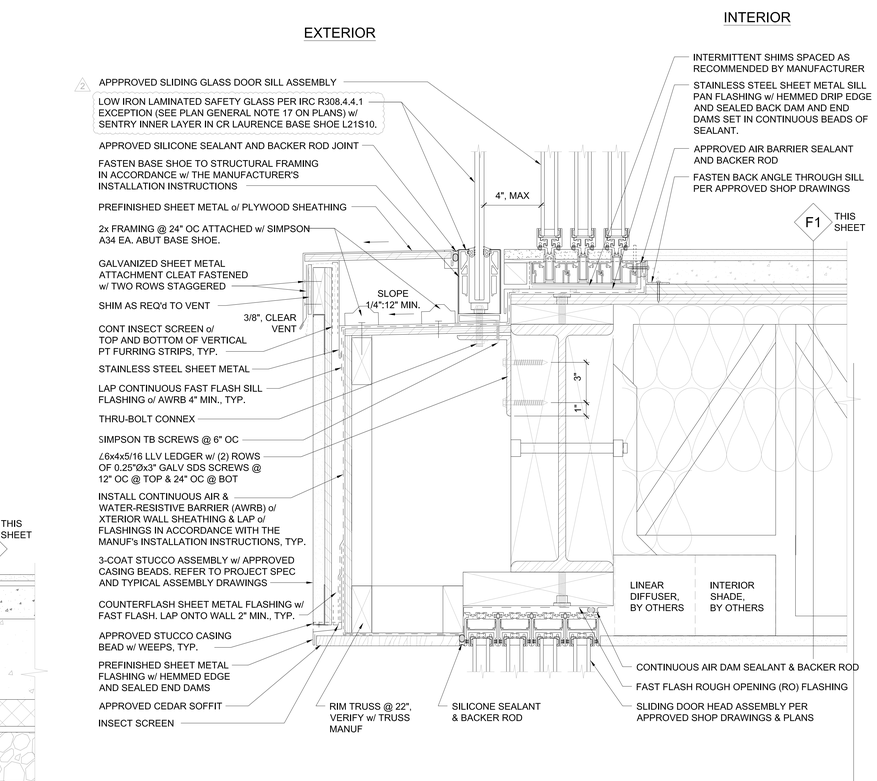
CANOPY COLUMN, EDGE, & GUTTER CROSS SECTION
SCALE: 3" = 1'-0" 4



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



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



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

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Mercer Island, WA 98040

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A17

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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
RAIN ON SNOW	5 PSF
SOLAR PANEL	5 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

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

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.

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 S3, 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-2269. 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, 12D 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 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 F

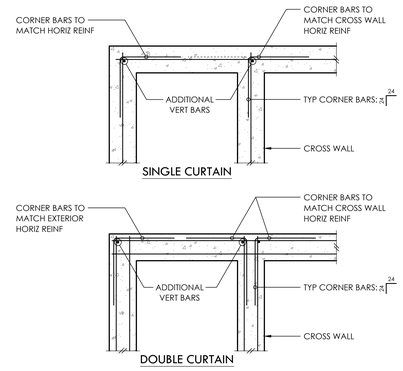
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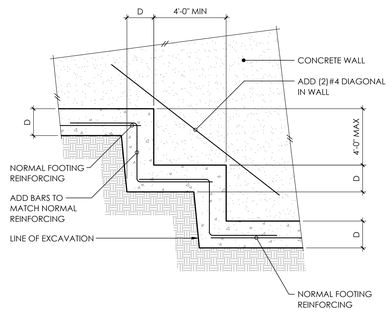
TYP CORNER BARS AT CONCRETE WALLS AND FTGS 5

6

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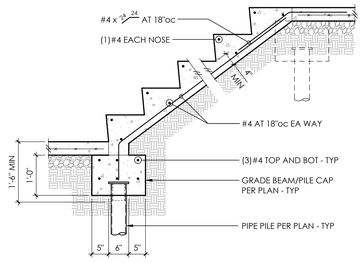


TYPICAL STEPPED FOOTING 10

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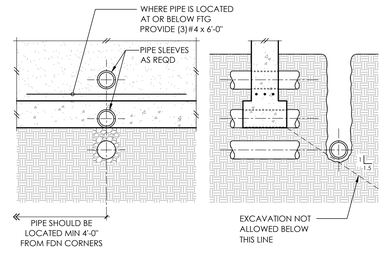
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NOTE:

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

TYPICAL STAIR ON GRADE 14

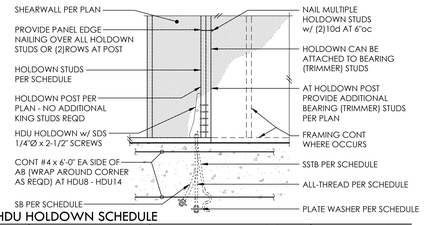


PIPE AND TRENCH LOCATIONS 15

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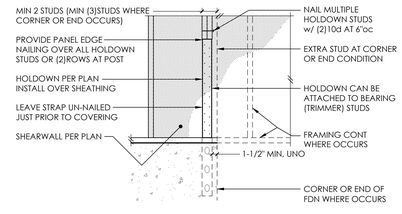


HDU HOLDOWN SCHEDULE

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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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
2	PERMIT CORRECTIONS	7.13.22
3	PERMIT CORRECTIONS	8.19.22

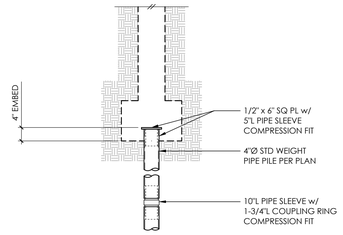
ARCH McCULLOUGH ARCHITECTS 206.443.1181

TYPICAL CONCRETE DETAILS

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

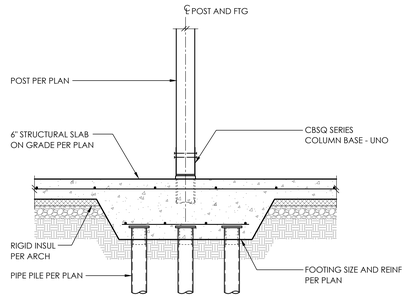
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Plotted Date: Aug 16, 2022 - 7:15pm

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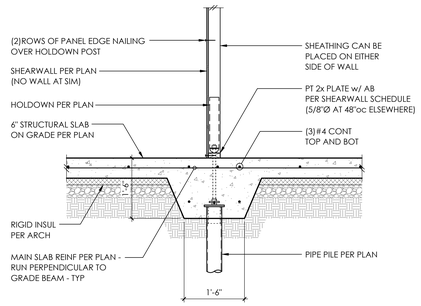


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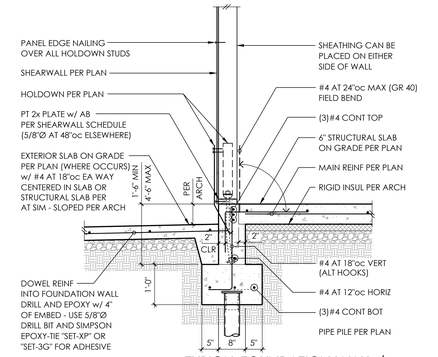
TYPICAL PIPE PILE 2



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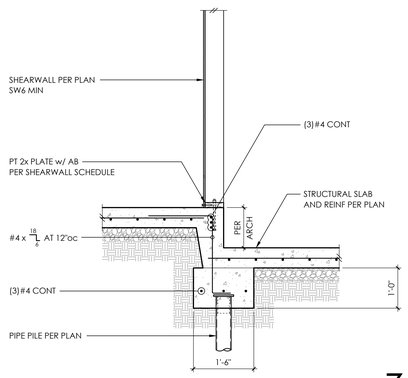


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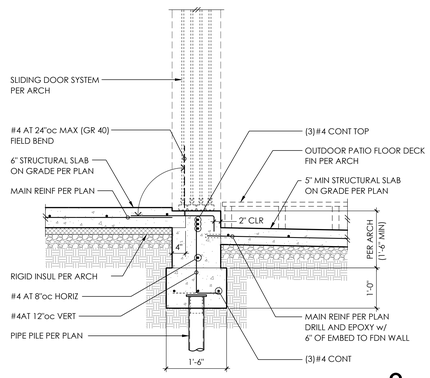


TYPICAL FOUNDATION WALL /
STRUCTURAL SLAB ON GRADE 5

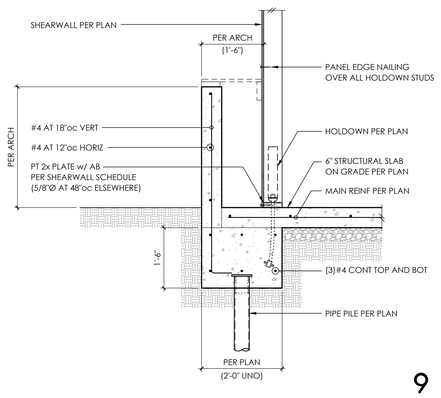
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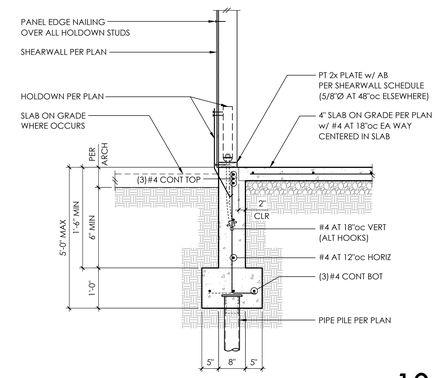
ELEVATOR PIT SLAB ELEVATION CHANGE 7



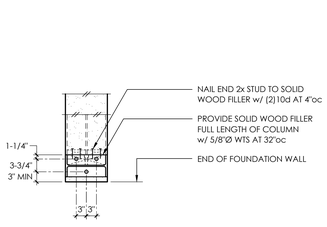
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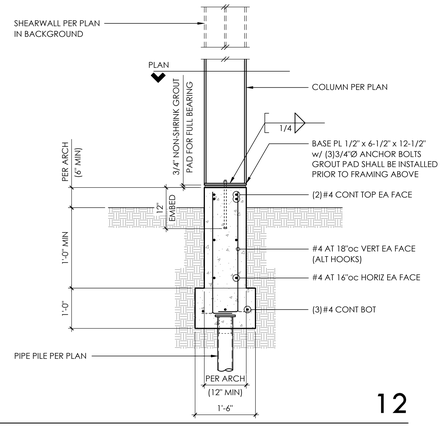
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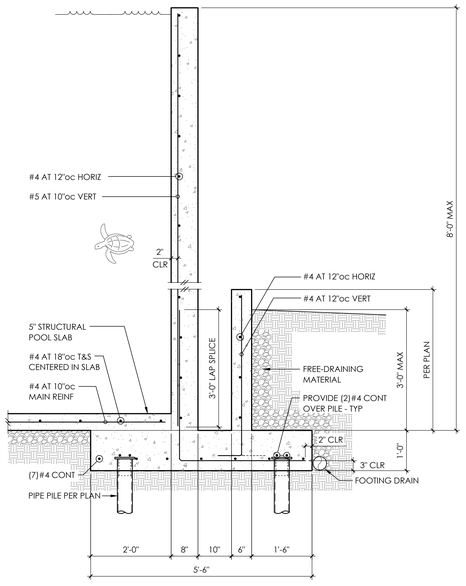
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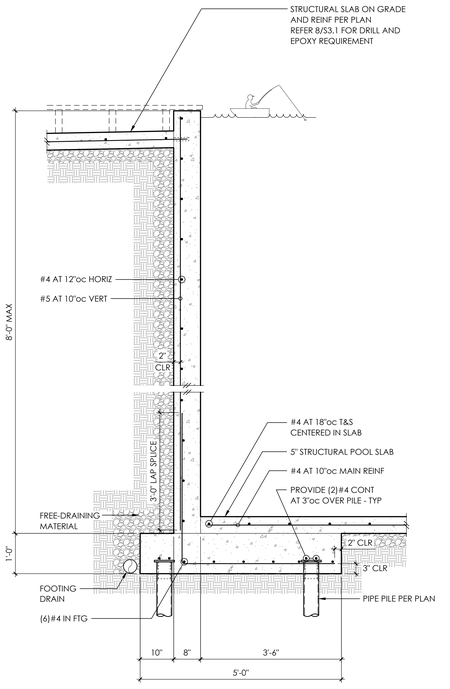
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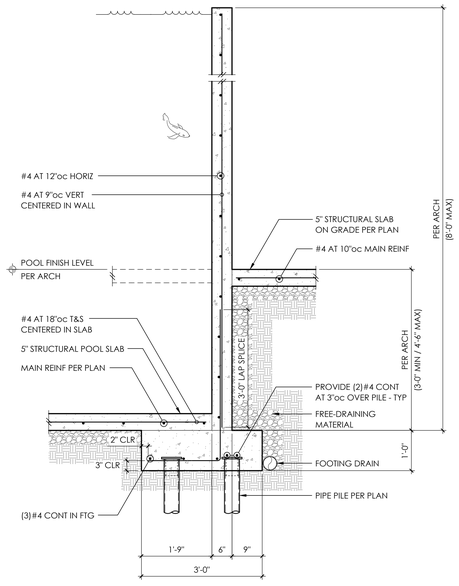
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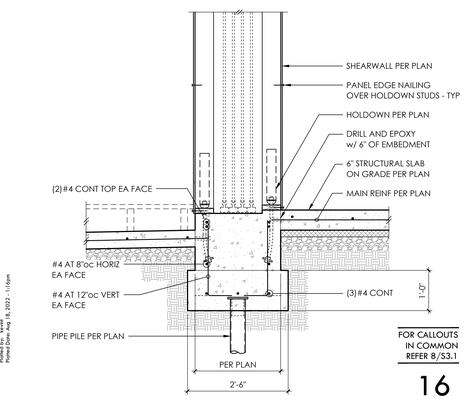
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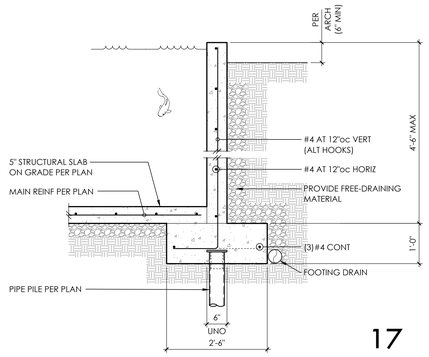


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FOR CALLOUTS
IN COMMON
REFER 8/S3.1

16



17

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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
2	PERMIT CORRECTIONS	7.13.22
3	PERMIT CORRECTIONS	8.19.22

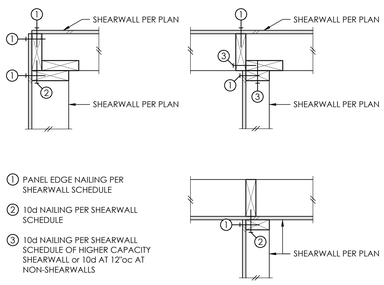
ARCH McCULLOUGH ARCHITECTS
206.443.1181

CONCRETE DETAILS

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

Plotted By: kurtM
Plotted Date: Aug 16, 2022 - 7:15pm

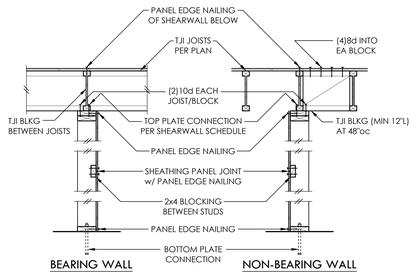
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1. PANEL EDGE NAILING PER SHEARWALL SCHEDULE
2. 10d NAILING PER SHEARWALL SCHEDULE
3. 10d NAILING PER SHEARWALL SCHEDULE OF HIGHER CAPACITY SHEARWALL or 10d AT 12"oc AT NON-SHEARWALLS

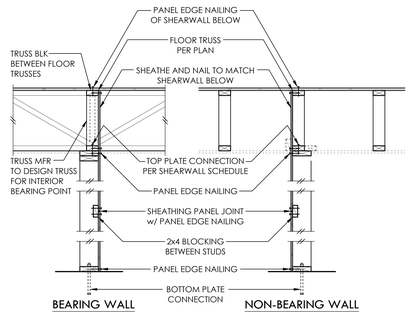
SCALE: 1-1/2" = 1'-0"

TYPICAL SHEARWALL INTERSECTIONS 1



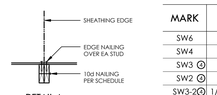
NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, UNO

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.

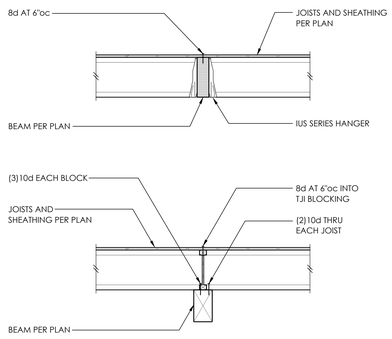
⑥ ALL EXTERIOR WALLS SHALL BE SW6, UNLESS NOTED OTHERWISE.

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).

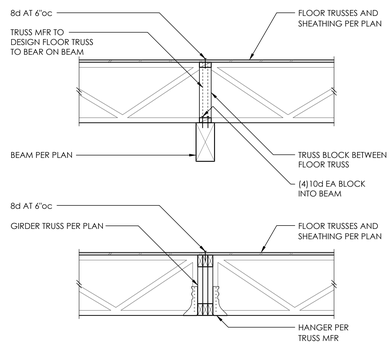
⑧ LTP4's INSTALLED OVER SHEATHING WITH 8d (0.131"Ø x 2-1/2") NAILS MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.

5

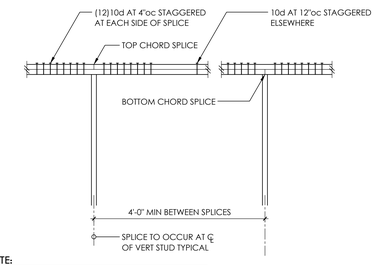
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TYPICAL FLUSH AND DROPPED BEAM 7



TYPICAL DROPPED BEAM AND GIRDER TRUSS 8

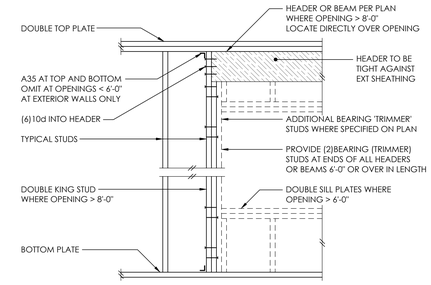


NOTE:
1. NAILING AT TOP PLATE SPLICES MAY BE ELIMINATED w/ CS16 x 30"

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



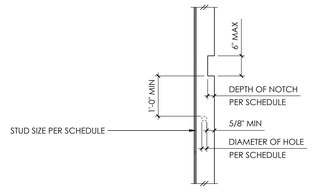
TYPICAL HEADER SUPPORT 10

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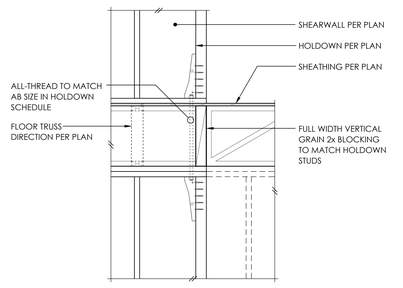
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BEARING AND EXTERIOR WALLS			NON-BEARING WALLS		
STUD SIZE	MAX DEPTH OF NOTCH	MAX DIA. OF HOLE	STUD SIZE	MAX DEPTH OF NOTCH	MAX DIA. OF HOLE
2x4	3/4"	1-3/8"	2x4	1-3/8"	2"
2x6	1-1/4"	2-1/8"	2x6	2-1/4"	3-1/4"

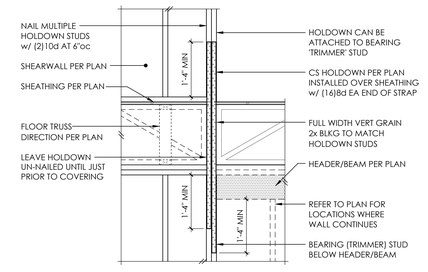
HOLE AND NOTCH SIZE FOR NON-BEARING WALLS MAY BE USED FOR BEARING WALLS IF REQUIRED NUMBER OF STUDS ARE DOUBLED. DOUBLE STUDS SHALL BE LIMITED TO TWO SUCCESSIVE STUDS.



TYPICAL ALLOWABLE HOLES AND NOTCHES IN WALL STUDS 13



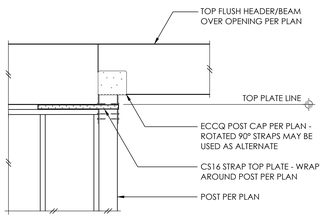
TYPICAL HDU HOLDOWN 14



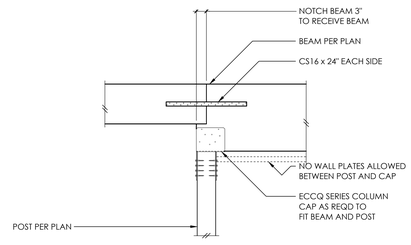
TYPICAL CS16 HOLDOWN 15

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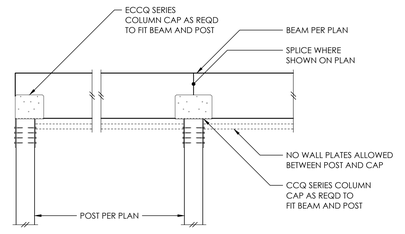
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TYPICAL HEADER/BEAM END CONNECTION OVER WDO/SGD 18



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REGISTERED
PROFESSIONAL ENGINEER

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

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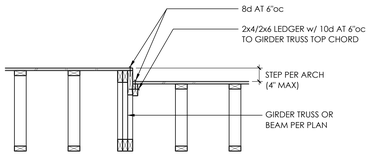
ARCH McCULLOUGH ARCHITECTS 206.443.1181

TYPICAL WOOD FRAMING DETAILS

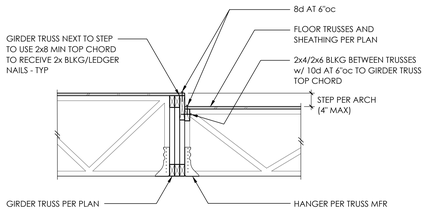
S4.0
SCALE - 3/4" = 1'-0"

Plotted by: kwmt
Plotted Date: Aug 16, 2022 - 7:15pm

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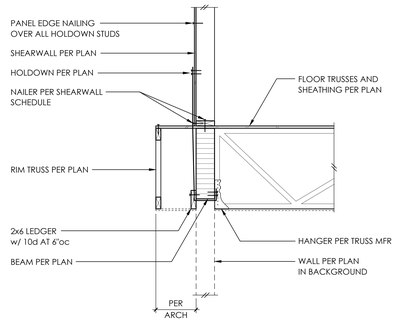
AT PARALLEL CONDITION



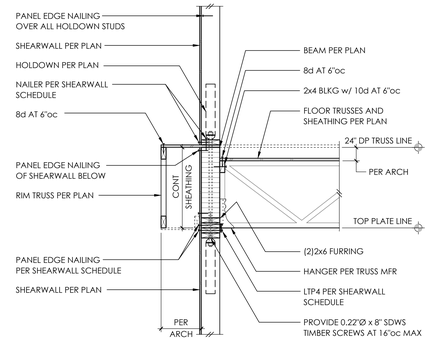
AT PERPENDICULAR CONDITION

TYPICAL TRUSS TO GIRDER TRUSS STEP

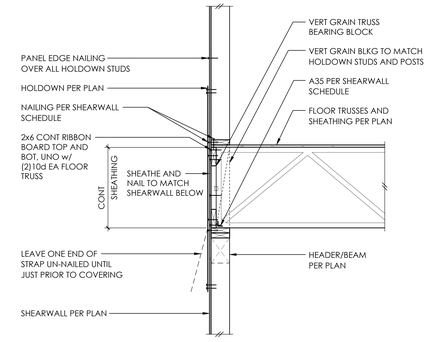
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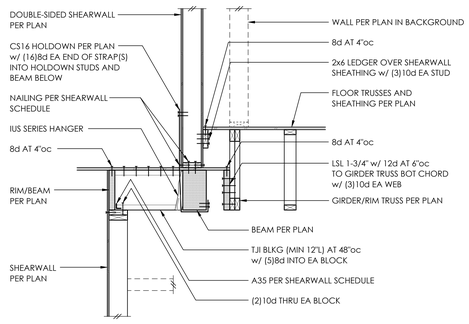
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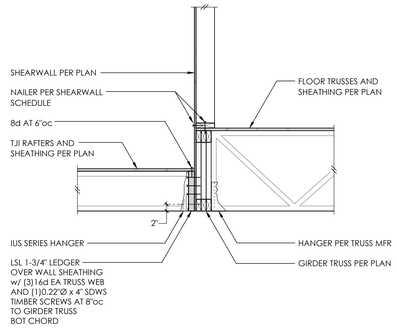
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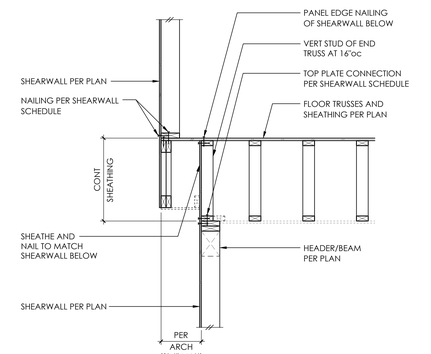
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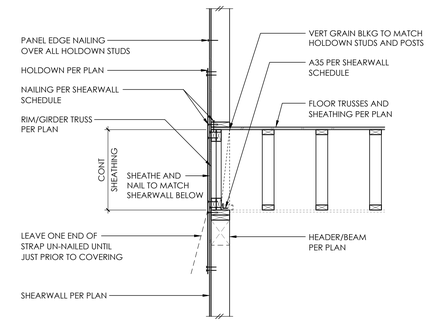
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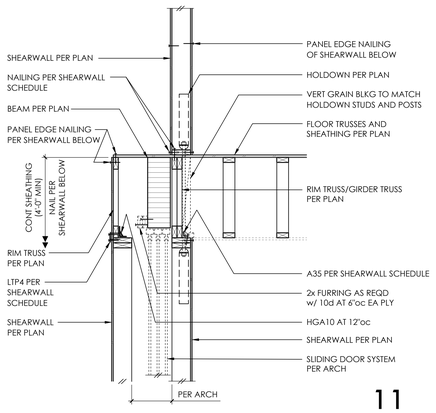
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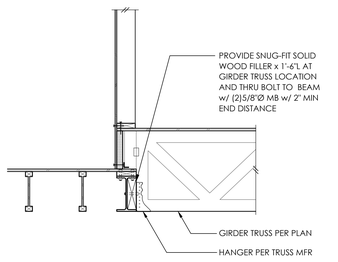
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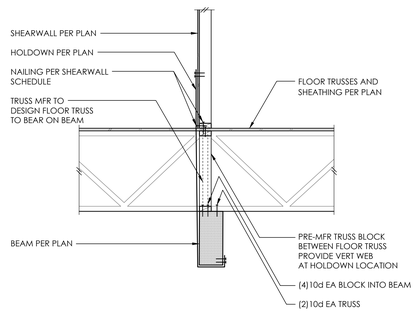
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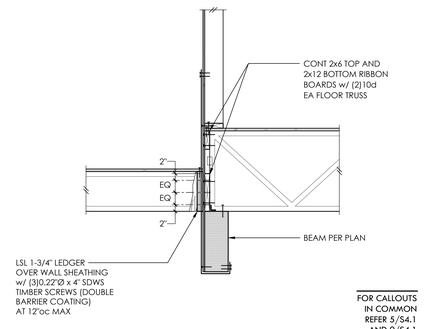
NOTE:
HDU HOLDOWN PER PLAN
NOT SHOWN FOR CLARITY

FOR CALLOUTS
IN COMMON
REFER 17/S4.1

12

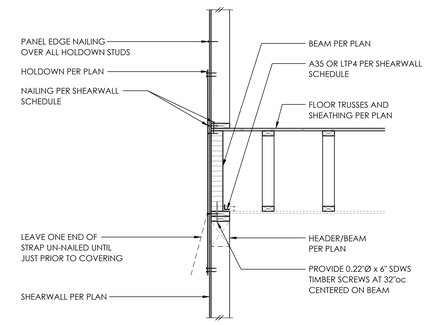


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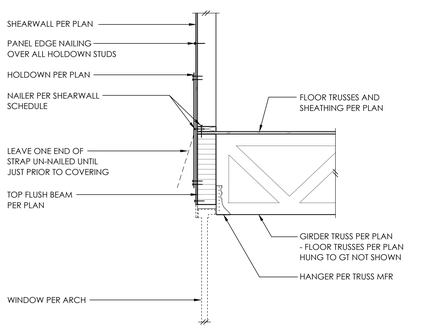


FOR CALLOUTS
IN COMMON
REFER 5/S4.1
AND 9/S4.1

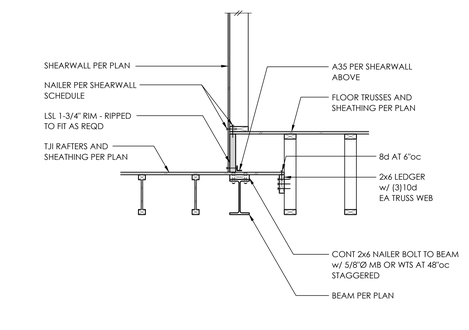
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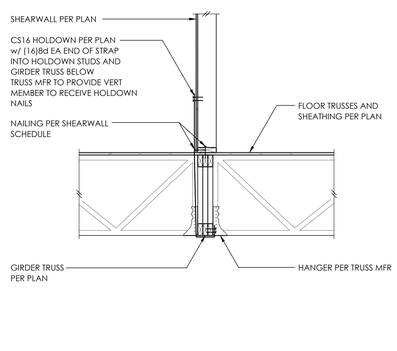
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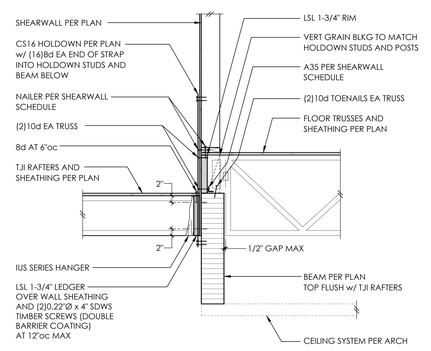
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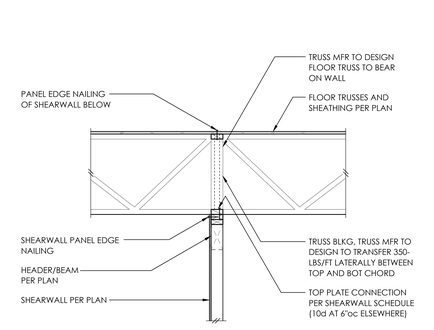
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TYPICAL GIRDER TRUSS 18



19



20

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STATE OF WASHINGTON
21096
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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
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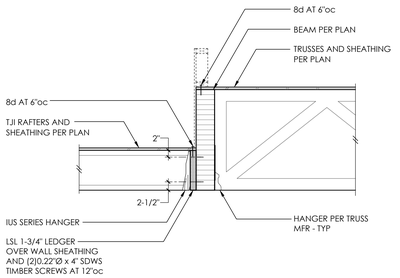
ARCH McCULLOUGH ARCHITECTS
206.443.1181

WOOD FRAMING DETAILS

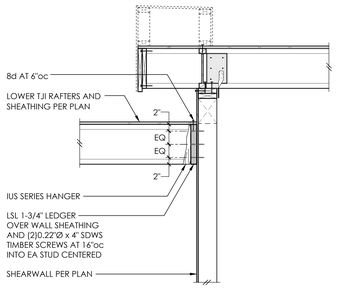
S4.1
SCALE - 3/4" = 1'-0"

Plotted By: kwhit
Plotted Date: May 16, 2022 - 7:15pm

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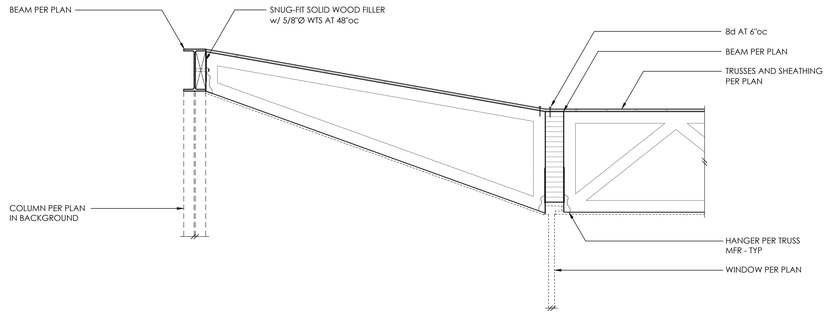


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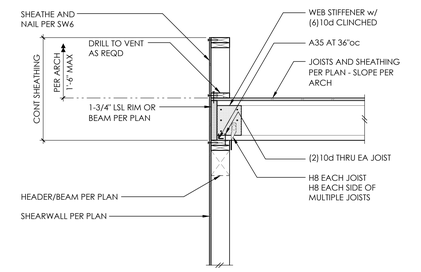


FOR CALLOUTS IN COMMON REFER 1/S4.2

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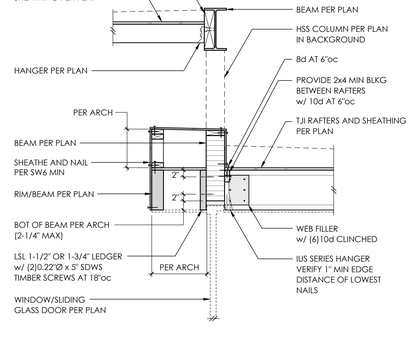


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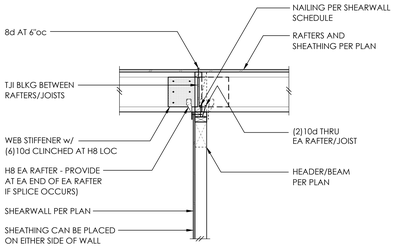


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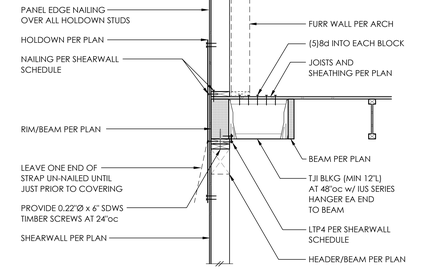
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FOR CALLOUTS IN COMMON REFER 9/S4.2

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11 12 16 17

Plotted by: kevinf
Plotted Date: Aug 16, 2022 - 1:17pm

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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

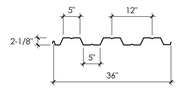
REV	DESCRIPTION	DATE
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ARCH McCULLOUGH ARCHITECTS 206.443.1181

WOOD FRAMING DETAILS

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

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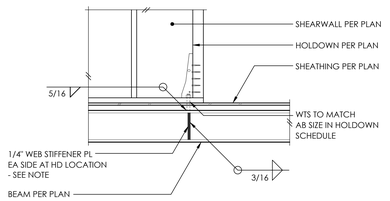
DG-2WHF STEEL DECK WITH G90 COATING.
MINIMUM SECTION PROPERTIES:

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

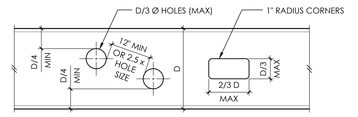
1. USE 16 GAUGE DECK AS NOTED AT LEFT AND ON PLAN.
2. FOLLOW SPAN LAYOUTS AS SHOWN ON PLAN.
3. CONNECT DECK SEAMS WITH BUTTON PUNCHES AT 24"oc AND ARC SPOT WELD AT 12"oc EA END - PROVIDE 2" MIN BEARING LENGTH EACH END.
4. DECK TYPE MUST STRICTLY MEET CRITERIA LISTED AT LEFT. SUBMIT DECK INFORMATION TO 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



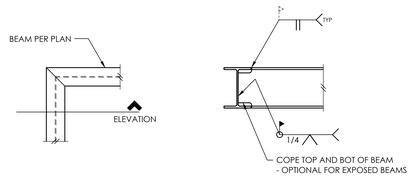
NOTE:
STIFFENER PLATE MAY BE OMITTED FOR HDU2 HOLDOWN TO CLEAR SNUG-FIT SOLID WOOD FILLER PER PLAN

4



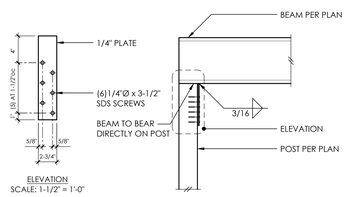
1. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF ALL BEAM PENETRATIONS w/ MECHANICAL DRAWINGS. ALL PENETRATIONS LARGER THAN 2"Ø SHALL BE SHOWN ON SHOP DRAWINGS OR SKETCHES AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. FIELD CUTTING NOT PERMITTED WITHOUT APPROVAL.
2. OPENINGS MAY OCCUR IN 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

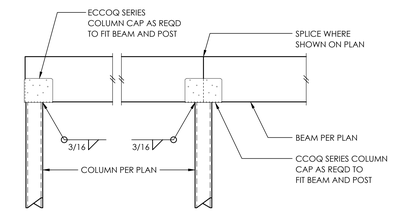


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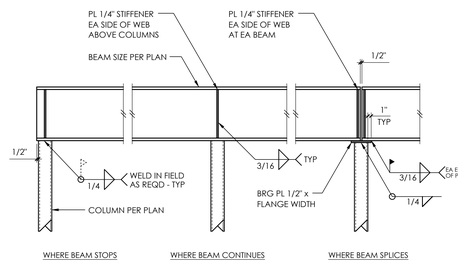
TYPICAL BEAM CORNER CONNECTION (WELD) 7



8



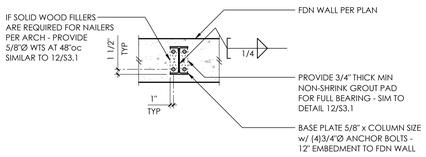
TYPICAL CCOQ / ECCOQ COLUMN CAP 9



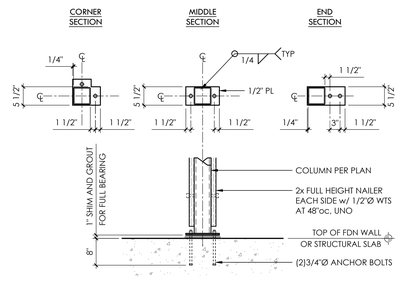
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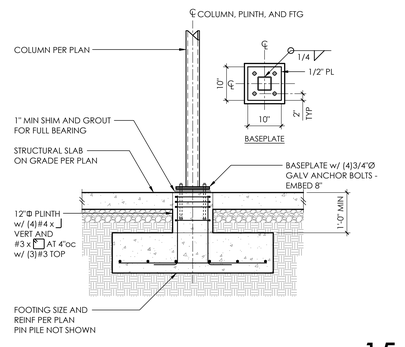
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WIDE FLANGE COLUMN BASE PLATE (PLAN) 13



BASEPLATE - HSS COLUMN 14

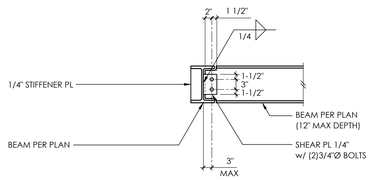


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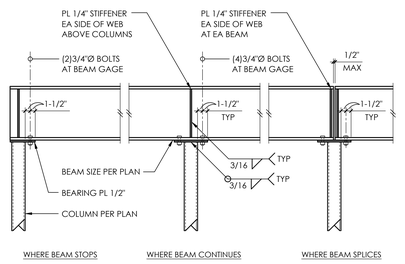
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TYPICAL BEAM TO BEAM CONNECTION 19



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

20

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	JOSEPHM@MALSAM-TSANG.COM

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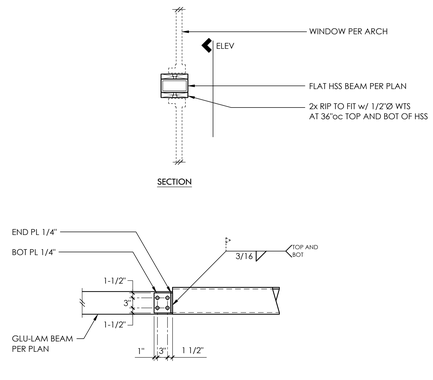
ARCH McCULLOUGH ARCHITECTS
206.443.1181

STEEL FRAMING DETAILS

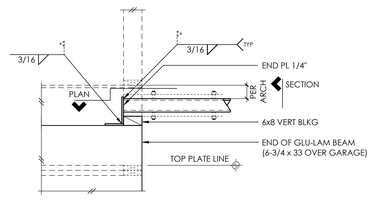
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Plotted By: kevinf
Plotted Date: Aug 16, 2022 - 1:17pm

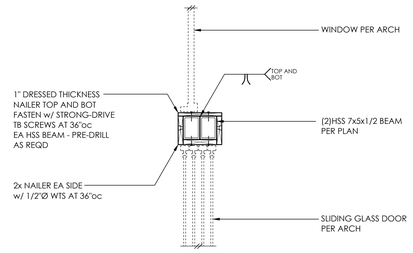
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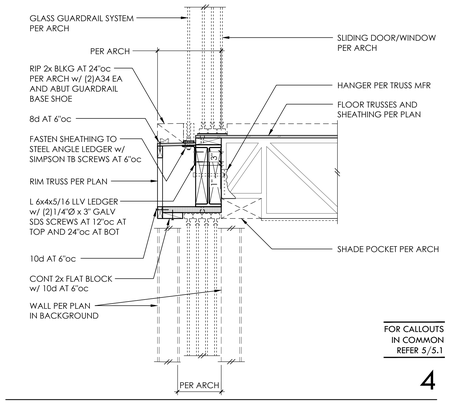
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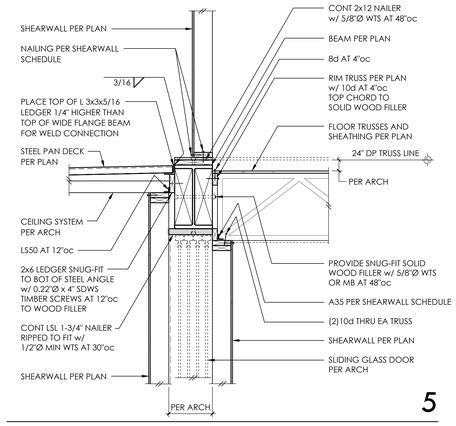


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FOR CALLOUTS
IN COMMON
REFER 5/S.1

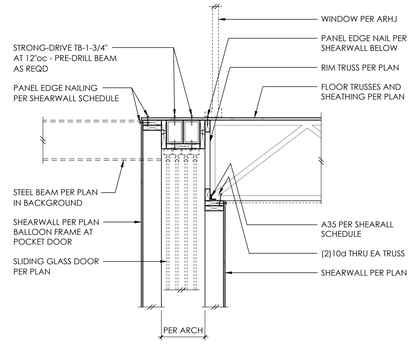
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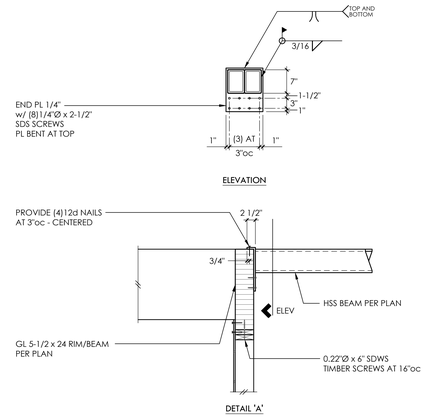
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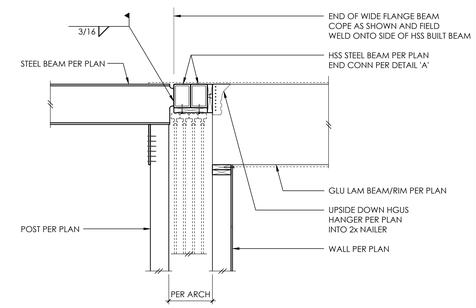
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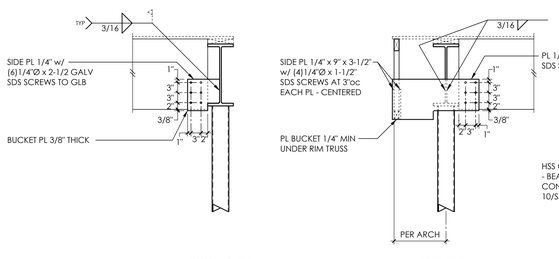
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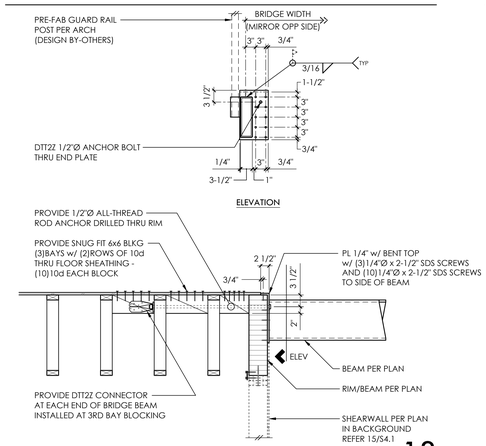


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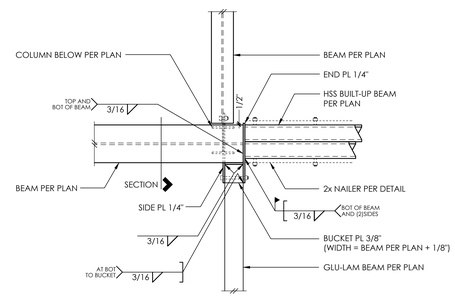
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FOR CALLOUTS
IN COMMON
REFER 4/S5.1

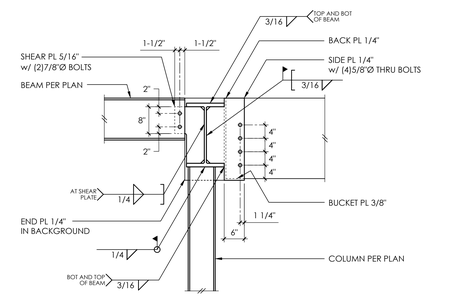
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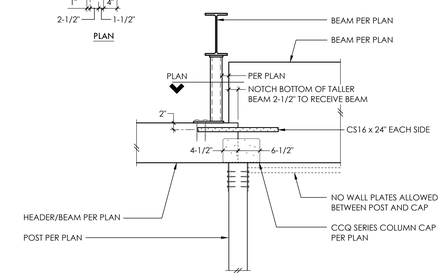
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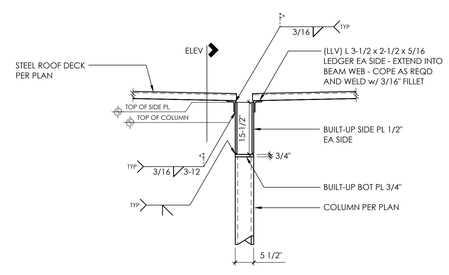
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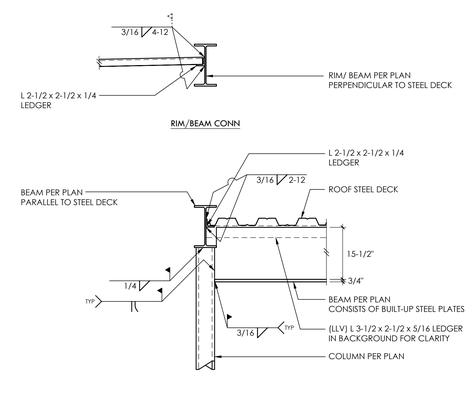
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ENGINEER JOSEPH MARQUEZ
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ARCH McCULLOUGH ARCHITECTS
206.443.1181

STEEL FRAMING
DETAILS

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

Plotted By: kwatt
Plotted Date: Aug 16, 2022 - 1:17pm