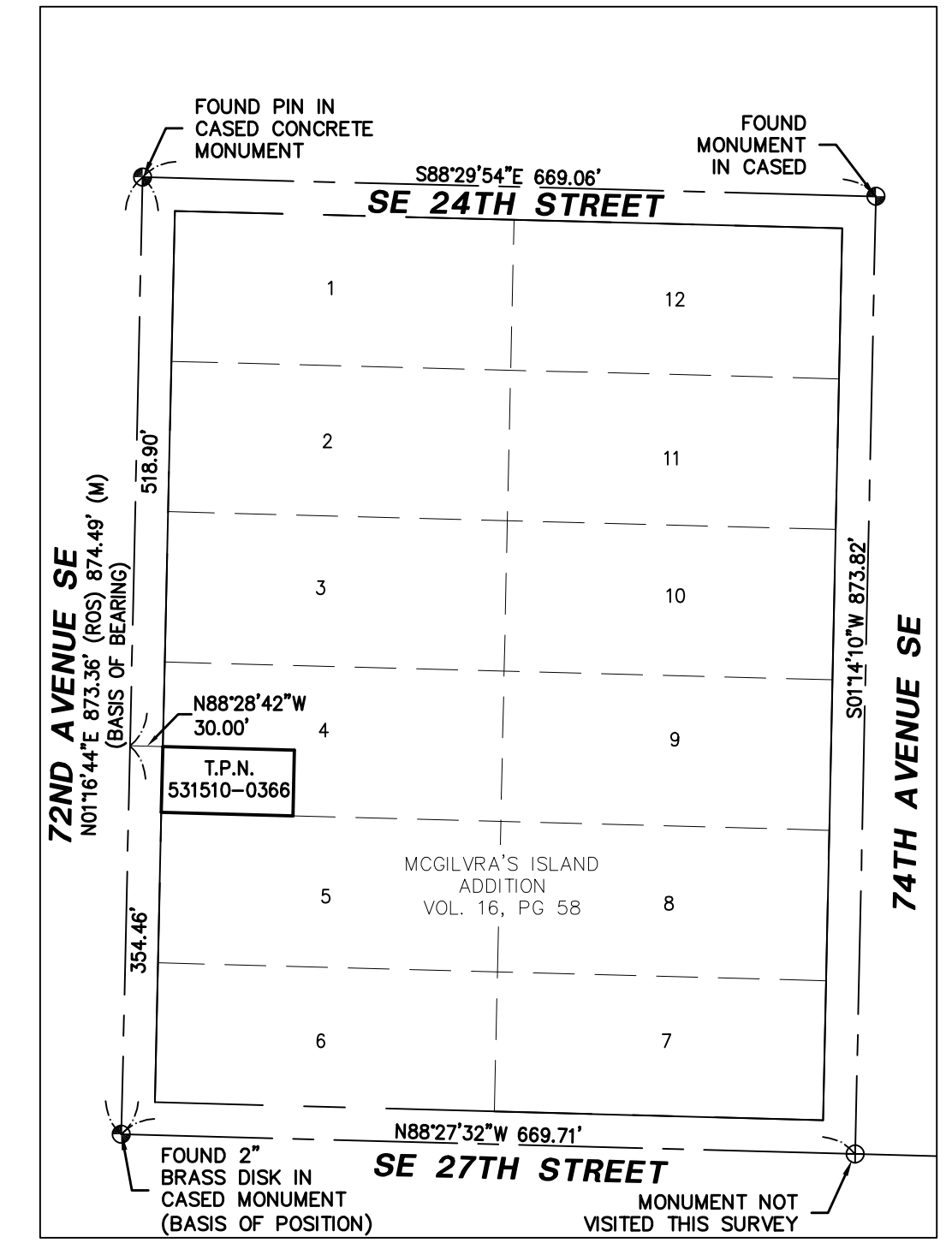
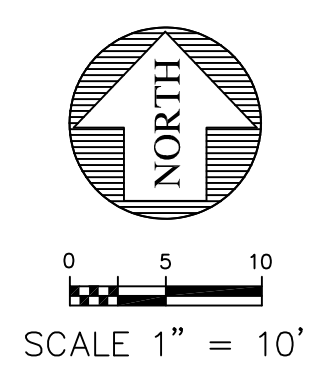
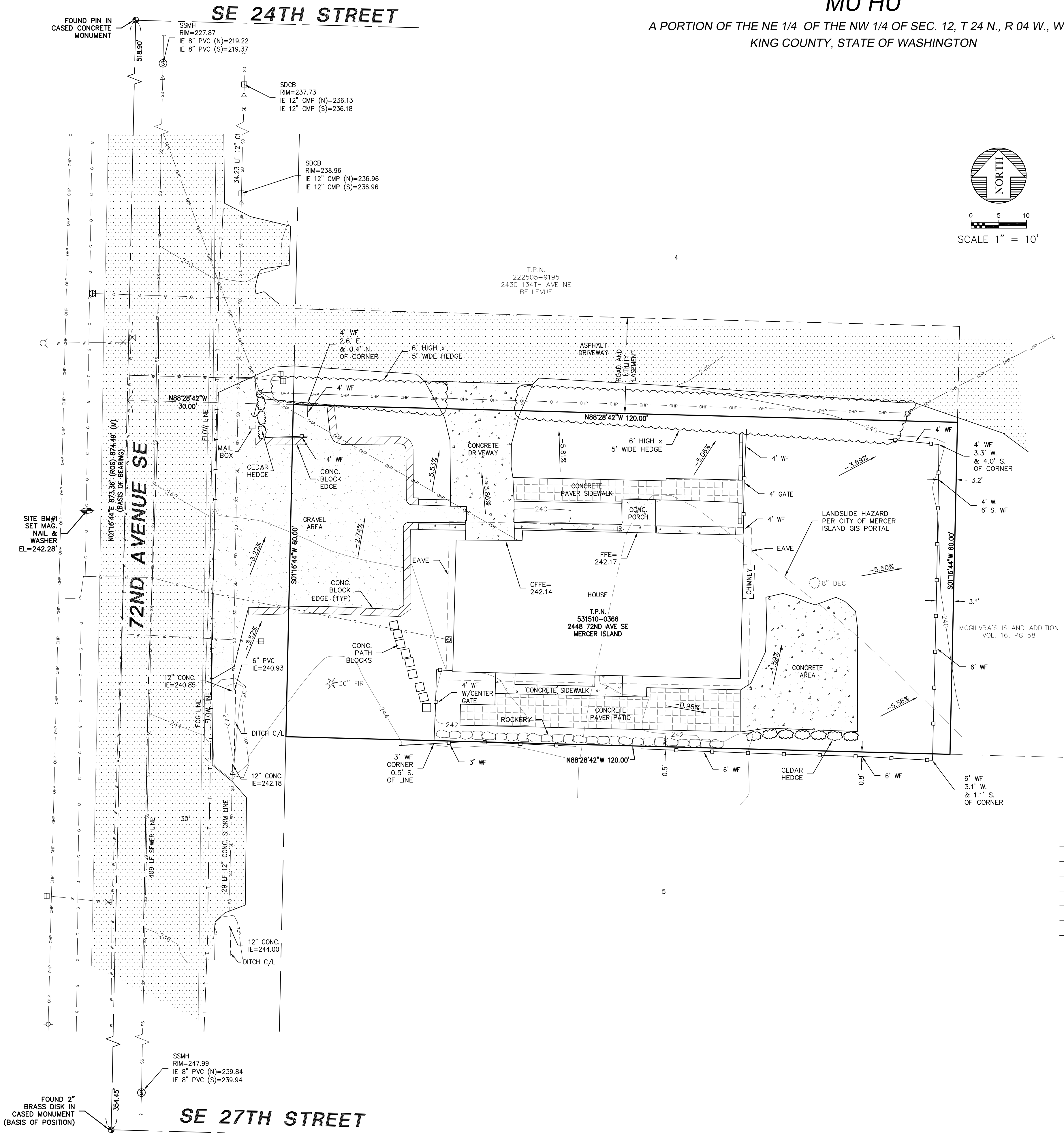


MU HU

A PORTION OF THE NE 1/4 OF THE NW 1/4 OF SEC. 12, T 24 N., R 04 W., W.M.
KING COUNTY, STATE OF WASHINGTON



CONTROL DETAIL 1"=150'

LEGEND

- FOUND MONUMENT IN CASE
- MONUMENT NOT VISITED
- FOUND REBAR & CAP
- BENCHMARK
- RECORD OF SURVEY 449/13
- MEASURED
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- IRRIGATION CONTROL VALVE
- SEWER MANHOLE
- CATCH BASIN
- GAS VALVE
- MAILBOX
- ROCKERY
- UTILITY POLE
- GUY ANCHOR
- GAS METER
- OVERHEAD POWER LINE
- FIBER OPTIC LINE
- WATER LINE
- STORM LINE
- SEWER LINE
- GAS LINE
- WOOD FENCE (WF)
- HEDGE LINE
- EVERGREEN TREE
- DECIDUOUS TREE
- CONCRETE
- ASPHALT
- GRAVEL

SURVEY NOTES:

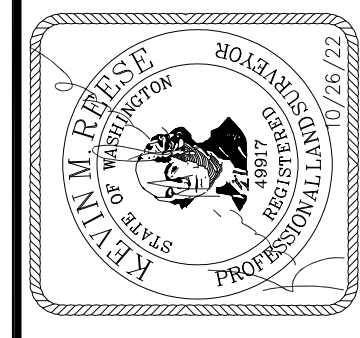
1. HORIZONTAL DATUM: NAD83-2011 EPOCH 2010.00 ESTABLISHED BY OBSERVATIONS TO THE WASHINGTON STATE REFERENCE NETWORK.
2. BASIS OF POSITION: HELD THE FOUND CONCRETE MONUMENT WITH 2" BRASS DISK, IN CASE, AT THE CENTERLINE INTERSECTION OF SE 27TH STREET AND 72ND AVE SE. (SEE MAP FOR LOCATION)
3. BASIS OF POSITION: HELD THE BEARING OF N01°16'44"E BETWEEN THE ABOVE NOTED BASIS OF POSITION AND FOUND CONCRETE MONUMENT WITH BRASS PIN, IN CASE, AT THE CENTERLINE INTERSECTION OF SE 24TH ST AND 72ND AVE SE. (SEE MAP FOR LOCATION)
- THIS SURVEY HOLDS RECORD OF SURVEY RECORDED IN VOLUME 449 OF SURVEYS, PAGE 13, FOR THE BLOCK SHOWN HEREON.
- A ROTATION OF 00°00'10" WAS APPLIED TO THE SURVEY IN TO BE ON THE ABOVE NOTED DATUM
4. THE FOLLOWING INFORMATION WAS ALSO REFERENCED IN PREPARING THE BOUNDARY SHOWN HERE ON:
 - A) RECORD OF SURVEY AS RECORDED IN VOLUME 396 OF SURVEYS, PAGE 297, RECORDS OF KING COUNTY, WA.
 - B) MCGILVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 16 OF PLATS, PAGE 58, RECORDS OF KING COUNTY, WASHINGTON.
 - C) KING COUNTY ASSESSOR'S MAP FOR THE NORTHWEST QUARTER OF SECTION 12, TOWNSHIP 24N, RANGE 4E, W.M.
5. VERTICAL DATUM: NAVD 88
- MASTER BENCHMARK: WASHINGTON STATE REFERENCE NETWORK. ELEVATION WAS DETERMINED BY GNSS OBSERVATIONS ON SITE BM #1.
- SITE BM #1: SET MAG NAIL WITH TAG IN ASPHALT 2.5 FEET WEST OF WEST FOG LINE ON 72ND AVE SE, +/- 30' SOUTHEAST OF FIRE HYDRANT. ELEVATION= 242.28 FEET
6. TRAVERSING AND DATA COLLECTION WERE PERFORMED USING A SPECTRA AND/OR TRIMBLE 5 SECOND TOTAL STATION. ALL FIELD WORK WAS PERFORMED, AND EQUIPMENT MAINTAINED, IN COMPLIANCE WITH WAC 332-130.
- ADDITIONAL FIELD WORK WAS PERFORMED USING SPECTRA SP-80 GNSS POSITIONING SYSTEMS, THE WASHINGTON STATE REFERENCE NETWORK, AND/OR THE NATIONAL GEODETIC SURVEY'S ONLINE POSITIONING USER SERVICE (OPUS).
7. ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES UNLESS OTHERWISE NOTED.
8. MONUMENTS SHOWN AS FOUND AND TOPOGRAPHIC INFORMATION SHOWN HEREON ARE THE RESULT OF A SURVEY BY ENCOMPASS, COMPLETED IN JANUARY 2022.
9. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. OTHER EASEMENTS AND ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
10. THE LEGAL DESCRIPTION SHOWN HEREON IS PER STATUTORY WARRANTY DEED AS RECORDED UNDER RECORDING NO. 20161129002481, RECORDS OF PIERCE COUNTY, WASHINGTON.
11. THE SUBJECT PROPERTY CONTAINS 7,200 SQUARE FEET OR 0.165 ACRES MORE OR LESS.
12. THE PURPOSE OF THIS EXHIBIT IS TO SHOW EXISTING CONDITIONS ON THE SUBJECT PROPERTY.
13. THE AVERAGE CONTOUR ELEVATION WITHIN THE VICINITY OF THE BUILDING FOOTPRINT IS ACCURATE WITHIN 6 INCHES VERTICALLY AND HORIZONTALLY FROM ACTUAL ELEVATIONS.

LEGAL

THE SOUTH 60 FEET OF THE WEST 120 FEET OF LOT 4, BLOCK 5, MCGILVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 16 OF PLATS, PAGE 58, IN KING COUNTY, WASHINGTON;

TOGETHER WITH AN EASEMENT FOR ROAD AND UTILITY PURPOSES OVER THE SOUTH 17.33 FEET OF THE NORTH 73.33 FEET OF THE WEST 120 FEET OF SAID LOT 4, BLOCK 5, MCGILVRA'S ISLAND ADDITION.

REVISIONS	DESCRIPTION	BY	DATE

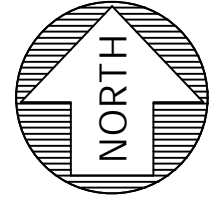


BOUNDARY TOPOGRAPHIC SURVEY
FOR
MU HU

Encompass
ENGINEERING & SURVEYING

Western Washington Division
165 NE Juniper Street, Suite 201 • Issaquah, WA 98027 • Phone: (509) 674-7433 • Fax: (425) 391-3055
Eastern Washington Division
407 Stillwater Blvd. • Cle Elum, WA 98922 • Phone: (509) 674-7433 • Fax: (509) 674-7419

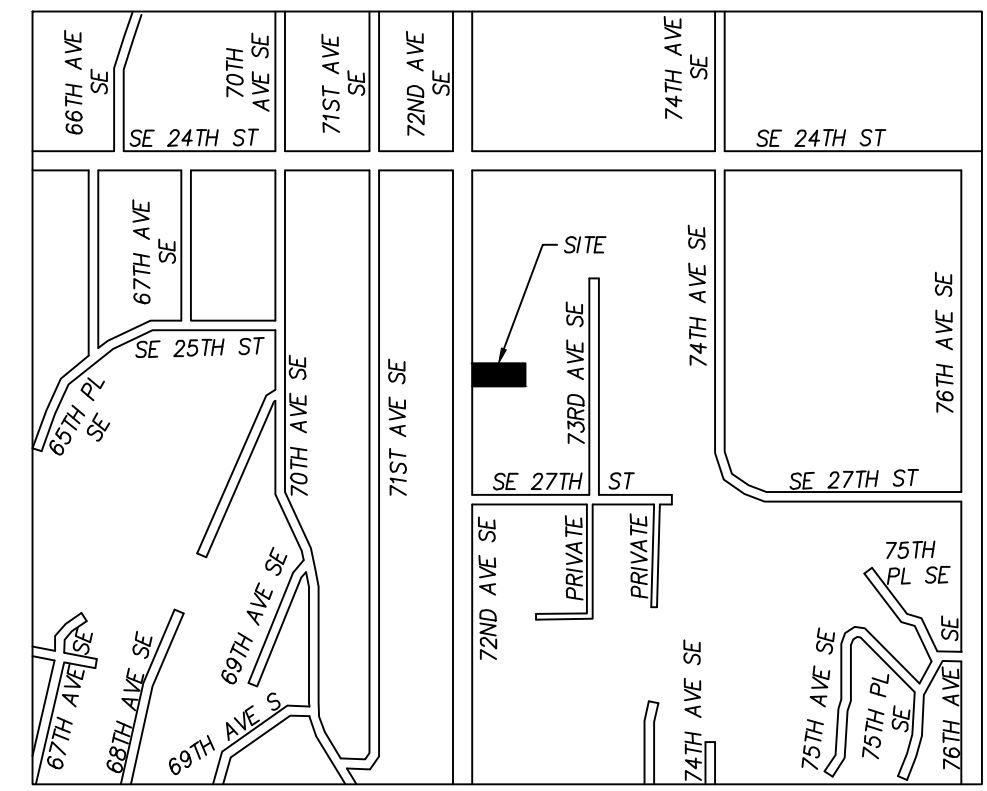
JOB NO.	21782
DATE	10/26/22
SCALE	1"=10'
DESIGNED	N/A
DRAWN	LFM
CHECKED	JLS
APPROVED	KMR
SHEET	1 OF 1



SCALE 1" = 10'

HU RESIDENCE

SE 1/4 OF SE 1/4 OF SECTION 12, T. 24 N., R. 04 E., W.M.
CITY OF MERCER ISLAND, KING COUNTY, STATE OF WASHINGTON



VICINITY MAP
NTS

PROJECT TEAM:

OWNER: HU MU
2448 72ND AVE SE
MERCER ISLAND, WA 98040
(425) 396-6167

**CIVIL ENGINEER/
SURVEYOR:** BRIANA BENNINGTON, PE / KEVIN REESE, PLS
ENCOMPASS ENGINEERING & SURVEYING
165 N.E. JUNIPER STREET, SUITE 201
ISSAQUAH, WA 98027
(425) 392-0250

ARCHITECT: PAUL MONSEF, RA
ATERA DESIGN STUDIO, LLC
451 DUVALL AVE NE, SUITE 115
RENTON, WA 98059
(425) 306-2758

**GEOTECHNICAL
ENGINEER:** MARC MCGINNIS, PE
GEOTECH CONSULTANTS, INC.
2401 10TH AVE E
SEATTLE, WA 98102
(425) 747-5618

SITE DATA:

SITE ADDRESS: 2448 72ND AVE SE
MERCER ISLAND, WA 98040

SITE AREA: 7,200 SF (0.165 AC) - AS SURVEYED

TAX PARCEL: 531510-0366

UTILITY DISTRICT INFORMATION:

WATER/SEWER: CITY OF MERCER ISLAND (206) 275-7608

FIRE DISTRICT: MERCER ISLAND FIRE DEPARTMENT (206) 275-7607

CABLE TV: COMCAST (800) 934-6489

GAS/ELECTRIC: PUGET SOUND ENERGY (888) 321-7779

ZONING INFORMATION:

ZONING: R-9.6

FRONT YARD SETBACK: 20'

SIDE YARD SETBACK: 10'

REAR YARD SETBACK: 25'

ON-SITE IMPERVIOUS COVERAGE:

HOUSE (ROOF): 2,343 SF

UNCOVERED PAVER WALKWAY: 45 SF

UNCOVERED CONCRETE DRIVEWAY (ON-SITE)*: 444 SF

TOTAL: 2,832 SF (39.33%)

*NOTE: AN ADDITIONAL 312 SF OF PROPOSED ASPHALT DRIVEWAY IS LOCATED OFF-SITE IN THE PUBLIC ROW.

LEGAL DESCRIPTION:

THE SOUTH 60 FEET OF THE WEST 120 FEET OF LOT 4, BLOCK 5, MCGILVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 16 OF PLATS, PAGE 58, IN KING COUNTY, WASHINGTON;

TOGETHER WITH AN EASEMENT FOR ROAD AND UTILITY PURPOSES OVER THE SOUTH 17.33 FEET OF THE NORTH 77.33 FEET OF THE WEST 120 FEET OF SAID LOT 4, BLOCK 5, MCGILVRA'S ISLAND ADDITION.

EXISTING UTILITY NOTE:

ALL LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.

CONTRACTOR RESPONSIBILITY:

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

DISCREPANCIES:

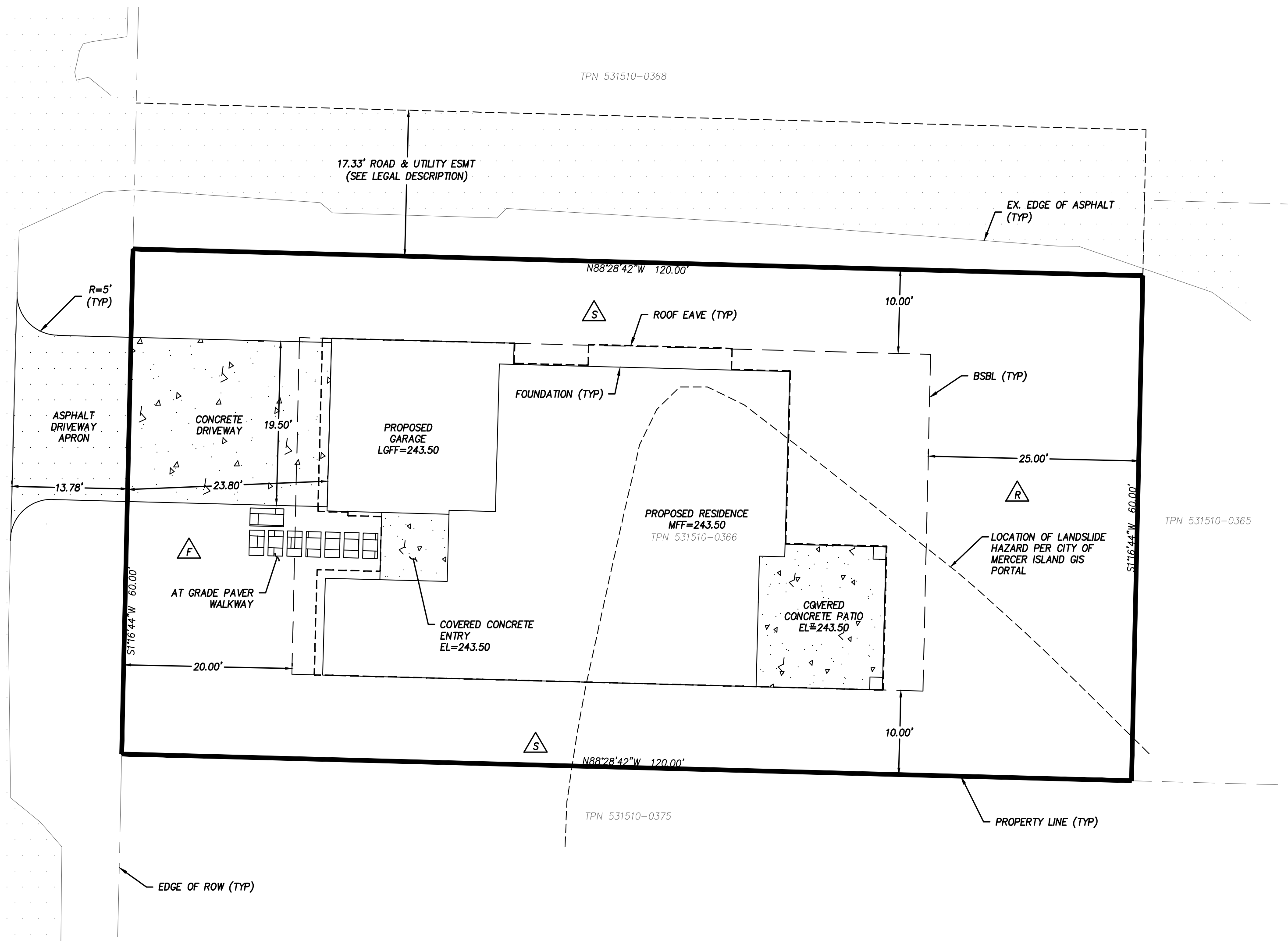
IF THERE ARE ANY DISCREPANCIES BETWEEN DIMENSIONS IN DRAWINGS AND EXISTING CONDITIONS WHICH WILL AFFECT THE WORK, THE CONTRACTOR SHALL BRING SUCH DISCREPANCIES TO THE ATTENTION OF THE ENGINEER FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF ALL WORK AND FOR THE COORDINATION OF ALL TRADES, SUBCONTRACTORS, AND PERSONS ENGAGED UPON THIS CONTRACT.

GENERAL NOTES:

- SPECIAL INSPECTIONS BY CITY INSPECTOR ARE REQUIRED DURING CONSTRUCTION. GENERAL CONTRACTOR TO COORDINATE.
- ALL EXISTING ON-SITE STRUCTURES AND ASSOCIATED UTILITIES TO BE DEMOLISHED, REMOVED, AND/OR ABANDONED PER APPLICABLE JURISDICTIONAL REQUIREMENTS.
- DEFICIENCIES, WHETHER CAUSED BY CONTRACTOR OPERATIONS OR NOT CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY.
- THE CONTRACTOR SHALL MAINTAIN ROADS AND STREETS ADJACENT TO THE PROJECT LIMITS WHEN AFFECTED BY THE CONTRACTOR'S OPERATION. THE CONTRACTOR SHALL REMOVE OR REPAIR ANY CONDITION RESULTING FROM THE WORK THAT MIGHT IMPEDE TRAFFIC OR CREATE A HAZARD. PUBLIC ROADWAYS SHALL BE BROOMED CLEAN AT THE END OF EACH WORK DAY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, AND ANY OTHER DEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC AND PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF THE WORK COVERED BY THE CONTRACT.
- ROCKERIES AND/OR RETAINING WALLS TO BE CONSTRUCTED PER GEOTECHNICAL AND/OR STRUCTURAL ENGINEER'S PLANS AND SPECIFICATIONS.
- ALL CONSTRUCTION TECHNIQUES AND MATERIALS SHALL BE PER CITY OF MERCER ISLAND STANDARDS/SPECIFICATIONS.

SITE IMPROVEMENT NOTES:

- THE PROPOSED PROJECT CONSISTS OF INSTALLING SITE UTILITIES, INSTALLING THE STRUCTURE FOUNDATIONS, BACKFILLING AND FINAL GRADING. THE WORK WILL REQUIRE THE CONSTRUCTION OF TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES. ANY TEMPORARY SHORING AND/OR PERMANENT RETAINING WALLS THAT MAY BE REQUIRED SHALL BE ADDRESSED BY THE PROJECT STRUCTURAL AND GEOTECHNICAL ENGINEERS.
- EXISTING UTILITIES HAVE BEEN SHOWN FOR CONVENIENCE BASED ON SURVEY MAPPING OF THE PROJECT SITE AND ADJACENT CITY RIGHT-OF-WAY. THE CONTRACTOR SHALL LOCATE ALL PRIMARY AND SECONDARY UTILITIES (I.E.: SIDE SEWERS, GAS, ELECTRICAL, COMMUNICATIONS, WATER, STORM DRAINAGE, ETC.) VIA POT-HOLING PRIOR TO CONSTRUCTION. CONFLICTS WITH ANY PROPOSED CONSTRUCTION ELEMENTS SHALL BE RESOLVED PRIOR TO BEGINNING CONSTRUCTION. A CONFLICT IS GENERALLY DEFINED AS A UTILITY THAT IS LOCATED WITHIN A ZONE 3 FEET OR LESS BELOW OR BESIDE, OR 5 FEET OR LESS ABOVE ANY UTILITY.
- PROTECTION OF CITY IMPROVEMENTS WITHIN ROW SHALL TAKE PLACE AT ALL TIMES DURING CONSTRUCTION.
- ANY WORK BEYOND THE LIMITS OF THE PROPERTY LINES SHALL REQUIRE A CONSTRUCTION EASEMENT TO BE REVIEWED AND APPROVED BY THE CITY PRIOR TO BEGINNING CONSTRUCTION.
- SOIL SHALL BE AMENDED PER CITY STANDARDS. SEE SOIL AMENDMENT NOTES ON SHEET 2.
- THE CONTRACTOR SHALL HAVE APPROVED PLANS, STANDARD NOTES, STANDARD DETAILS AND SPECIFICATIONS AVAILABLE ON JOBSITE.



06/09/2023

HU RESIDENCE
2448 72ND AVE SE - MERCER ISLAND, WA 98040
COVER SHEET & SITE PLAN



JOB NO.	21782
DATE	06/09/2023
SCALE	1"=10'
DESIGNED	BLB
DRAWN	PMS
CHECKED	CP
APPROVED	CP

SHEET 1 of 5

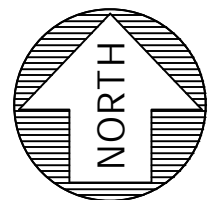


Know what's below.
Call before you dig.

SHEET INDEX:

TITLE	NO.
COVER SHEET & SITE PLAN	1
TESC PLAN	2
TESC DETAILS	3
GRADING & UTILITY PLAN	4
CONSTRUCTION DETAILS	5

FILENAME: J:\2171782 - HU\ENGINEERING\PLAN SHEETS\1 - COVER.DWG



SCALE 1" = 10'

HU RESIDENCE

SE 1/4 OF SE 1/4 OF SECTION 12, T. 24 N., R. 04 E., W.M.
CITY OF MERCER ISLAND, KING COUNTY, STATE OF WASHINGTON

EROSION & SEDIMENT CONTROL NOTES:

- APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
- THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
- THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
- 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 (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE ESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
- THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS, AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED. PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.
- 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.
- ALL DENUDE SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
 - * APRIL 1 TO OCTOBER 31 - SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
 - * NOVEMBER 1 TO MARCH 31 - SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
- AT NO TIME SHALL MORE THAN 1" 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.
- STABILIZED CONSTRUCTION ENTRANCES 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.
- ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.
- WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
- WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
- ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
- THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY OF MERCER ISLAND INSPECTOR.
- A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 4' HIGH TEMPORARY CONSTRUCTION FENCE (CYCLONE OR PLASTIC MESH) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL A DWELLING IS CONSTRUCTED AND OWNERSHIP TRANSFERRED TO THE FIRST OWNER/OCCUPANT.
- CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.
- OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
- ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "FILTER FABRIC SOCK" OR EQUIVALENT.
- THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY OF KIRKLAND. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.
- ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40% -70% PASSING; 2"-4" ROCK/30% -40% PASSING; AND 1"-2" ROCK/10% -20% PASSING.
- IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
- ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
- DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.
- PRIOR TO OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.
- IF A SEDIMENT POND IS NOT PROPOSED, A BAKER TANK OR OTHER TEMPORARY GROUND AND/OR SURFACE WATER STORAGE TANK MAY BE REQUIRED DURING CONSTRUCTION, DEPENDING ON WEATHER CONDITIONS.
- ANY AREA TO BE USED FOR INFILTRATION OR PERVIOUS PAVEMENT (INCLUDING A 5-FOOT BUFFER) MUST BE SURROUNDED BY SILT FENCE PRIOR TO CONSTRUCTION AND UNTIL FINAL STABILIZATION OF THE SITE TO PREVENT SOIL COMPACTION AND SILTATION BY CONSTRUCTION ACTIVITIES.

CONSTRUCTION NOTES:

- ACCESS EASEMENT MUST BE MAINTAINED AT ALL TIMES. NO CONSTRUCTION VEHICLES OR CONSTRUCTION INTERRUPTIONS WITHOUT PERMISSION. CONSTRUCTION ENTRANCE TO BE LOCATED OFF OF 72ND AVE. SE.
- EXISTING HEDGES, WALLS, AND FENCE IN ROW TO BE REMOVED. THESE EXISTING ELEMENTS SHALL NOT BE REINSTALLED OR REPLACED IN ROW.
- IF OFF-SITE FENCING IS TO BE REMOVED, PROVIDE DOCUMENTATION TO THE CITY THAT NEIGHBOR TO SOUTH AGREES TO SUCH REMOVAL AND WILL ALLOW ACCESS TO PROPERTY.
- CONTRACTOR TO PROVIDE CITY WITH OCTV INSPECTION OF EXISTING SEWER STUB PRIOR TO REUSE.

SOIL MANAGEMENT AREAS:

- (A) STOCKPILE EXISTING TOP SOIL (3,406 SF). REPLACE AND AMEND AS NEEDED
- (B) UNDISTURBED EXISTING SOIL (1,715 SF)

POST-CONSTRUCTION SOIL MANAGEMENT

THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP 15.13. 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.

BMP 15.13: POST-CONSTRUCTION SOIL QUALITY AND DEPTH (FROM 2014 DEPT. OF ECOLOGY SIMMWW)
NATURALLY OCCURRING (UNDISTURBED) SOIL AND VEGETATION PROVIDE IMPORTANT STORMWATER FUNCTIONS INCLUDING: WATER INFILTRATION; NUTRIENT, SEDIMENT, AND POLLUTANT ADSORPTION; SEDIMENT AND POLLUTANT BIODEGRADATION; WATER INTERFLOW STORAGE AND TRANSMISSION; AND POLLUTANT DECOMPOSITION. THESE FUNCTIONS ARE LARGELY LOST WHEN DEVELOPMENT STRIPS AWAY NATIVE SOIL AND VEGETATION AND REPLACES IT WITH MINIMAL TOPSOIL AND SOD, NOT ONLY ARE THESE IMPORTANT STORMWATER FUNCTIONS LOST, BUT SUCH LANDSCAPES THEMSELVES BECOME POLLUTION GENERATING PERVIOUS SURFACES DUE TO INCREASED USE OF PESTICIDES, FERTILIZERS AND OTHER LANDSCAPING AND HOUSEHOLD/INDUSTRIAL CHEMICALS, THE CONCENTRATION OF PET WASTES, AND POLLUTANTS THAT ACCOMPANY ROADSIDE LITTER.
ESTABLISHING SOIL QUALITY AND DEPTH REGAINS GREATER STORMWATER FUNCTIONS IN THE POST DEVELOPMENT LANDSCAPE, PROVIDES INCREASED TREATMENT OF POLLUTANTS AND SEDIMENTS THAT RESULT FROM DEVELOPMENT AND HABITATION, AND MINIMIZES THE NEED FOR SOME LANDSCAPING CHEMICALS, THUS REDUCING POLLUTION THROUGH PREVENTION.
ESTABLISHING A MINIMUM SOIL QUALITY AND DEPTH IS NOT THE SAME AS PRESERVATION OF NATURALLY OCCURRING SOIL AND VEGETATION. HOWEVER, ESTABLISHING A MINIMUM SOIL QUALITY AND DEPTH WILL PROVIDE IMPROVED ON-SITE MANAGEMENT OF STORMWATER FLOW AND WATER QUALITY.
SOIL ORGANIC MATTER CAN BE ATTAINED THROUGH NUMEROUS MATERIALS SUCH AS COMPOST, COMPOSTED WOODY MATERIAL, BIOSOLIDS, AND FOREST PRODUCT RESIDUALS. IT IS IMPORTANT THAT THE MATERIALS USED TO MEET THE SOIL QUALITY AND DEPTH BMP BE APPROPRIATE AND BENEFICIAL TO THE PLANT COVER TO BE ESTABLISHED. LIKEWISE, IT IS IMPORTANT THAT IMPORTED TOPSOILS IMPROVE SOIL CONDITIONS AND DO NOT HAVE AN EXCESSIVE PERCENT OF CLAY FINES.

STEP 1
IDENTIFY AREAS OF THE SITE THAT WILL NOT BE DISTURBED DURING CONSTRUCTION (CLEARED, GRADED, OR DRIVEN ON). FENCE THOSE AREAS TO PREVENT IMPACTS DURING CONSTRUCTION. IF NEITHER SOILS NOR VEGETATION ARE DISTURBED, THESE AREAS DO NOT REQUIRE AMENDMENT.

STEP 2
IN DISTURBED AREAS (COMPACTED BY CONSTRUCTION TRAFFIC):

- SCARIFY THE TOP 4 INCHES OF SUBSOIL
- USE A CAT-MOUNTED RIPPER, TRACTOR-MOUNTED DISC, OR TILLER TO MIX THE FIRST LIFT OF TOPSOIL INTO THE SUBSOIL (KNOWN AS SCARIFYING, RIPPERING, OR TILLING)
- USE THE EQUIPMENT LISTED IN THE PREVIOUS BULLET TO SCARIFY (TILL OR RIP) SOILS TO A DEPTH OF 12 INCHES BEFORE TILLING IN AT LEAST 8 INCHES OF COMPOST

STEP 3
THREE OPTIONS TO RESTORE DISTURBED SOILS INCLUDE:
 OPTION 1: TILL COMPOST (1.75 INCHES FOR TURF AREAS; 3 INCHES FOR PLANTING BEDS) INTO EXISTING SOIL, OR

OPTION 2: STOCKPILE AND REUSE EXISTING TOPSOIL (AMEND IF NEEDED TO MEET 5% ORGANIC MATTER CONTENT FOR TURF AREAS; 10% ORGANIC MATTER CONTENT FOR PLANTING BEDS), OR

OPTION 3: IMPORT 6 INCHES OF COMPOST-AMENDED TOPSOIL (25% COMPOST FOR TURF AREAS; 40% COMPOST FOR PLANTING BEDS) AND SCARIFY (TILL OR RIP) INTO EXISTING SOIL IN TWO 3-INCH LIFTS

TREE PROTECTION MEASURES

BELOW IS A LIST OF GENERAL TREE PROTECTION MEASURES REQUIRED BY THE CITY OF MERCER ISLAND. PLEASE REFER TO THE ARBORIST REPORT BY ARBORISTS NORTHWEST FOR ADDITIONAL SITE-SPECIFIC TREE PROTECTION MEASURES.

TREE PROTECTION FENCING FOR DEMOLITION:

- TREE PROTECTION FENCES WILL NEED TO BE PLACED AROUND EACH TREE OR GROUP OF TREES TO BE RETAINED.
- TREE PROTECTION FENCES ARE TO BE PLACED ACCORDING TO THE ATTACHED DRAWINGS.
- TREE PROTECTION FENCES MUST BE INSPECTED AND APPROVED BY THE CITY PRIOR TO THE BEGINNING OF ANY DEMOLITION OR CONSTRUCTION WORK ACTIVITIES.
- NOTHING MUST BE PARKED OR STORED WITHIN THE TREE PROTECTION FENCES-NO EQUIPMENT, VEHICLES, SOIL, DEBRIS, OR CONSTRUCTION SUPPLIES OF ANY SORTS.
- THE AREA OUTSIDE THE TREE PROTECTION FENCES IS THE WORK/DEVELOPMENT ZONE.
- THE AREA INSIDE THE TREE PROTECTION FENCING IS THE TREE PROTECTION ZONE.
- FENCES SHALL BE ANCHORED SO THEY CAN NOT BE MOVED.

SIGNS:

- THE TREE PROTECTION FENCES NEED TO BE CLEARLY MARKED WITH THE FOLLOWING OR SIMILAR TEXT IN FOUR INCH OR LARGER LETTERS:
 "TREE PROTECTION FENCE
 DO NOT ENTER THIS AREA
 DO NOT PARK OR STORE MATERIALS
 WITHIN THE PROTECTION AREA"

- ANY QUESTIONS, CONTACT MERCER ISLAND CODE COMPLIANCE: (206) 275-7712 CODECOMPLIANCE@MERCERGOV.WA.GOV
- TREE PROTECTION FENCES MUST BE INSPECTED AND APPROVED BY THE CITY PRIOR TO ANY DEMOLITION OR CLEAN-UP WORK BEGINNING.
- ANY EXCAVATION, INCLUDING FOUNDATION, NEAR TREES 1 AND 2 SHALL HAVE ARBORIST SUPERVISION
- MINIMIZE OVER EXCAVATION FOR FOUNDATIONS
- THE ARBORIST SHALL SUPERVISE TREE/SHRUB REMOVAL- AVOID ALL DAMAGE TO EXCEPTIONAL AND CITY TREE ROOTS

MULCH:

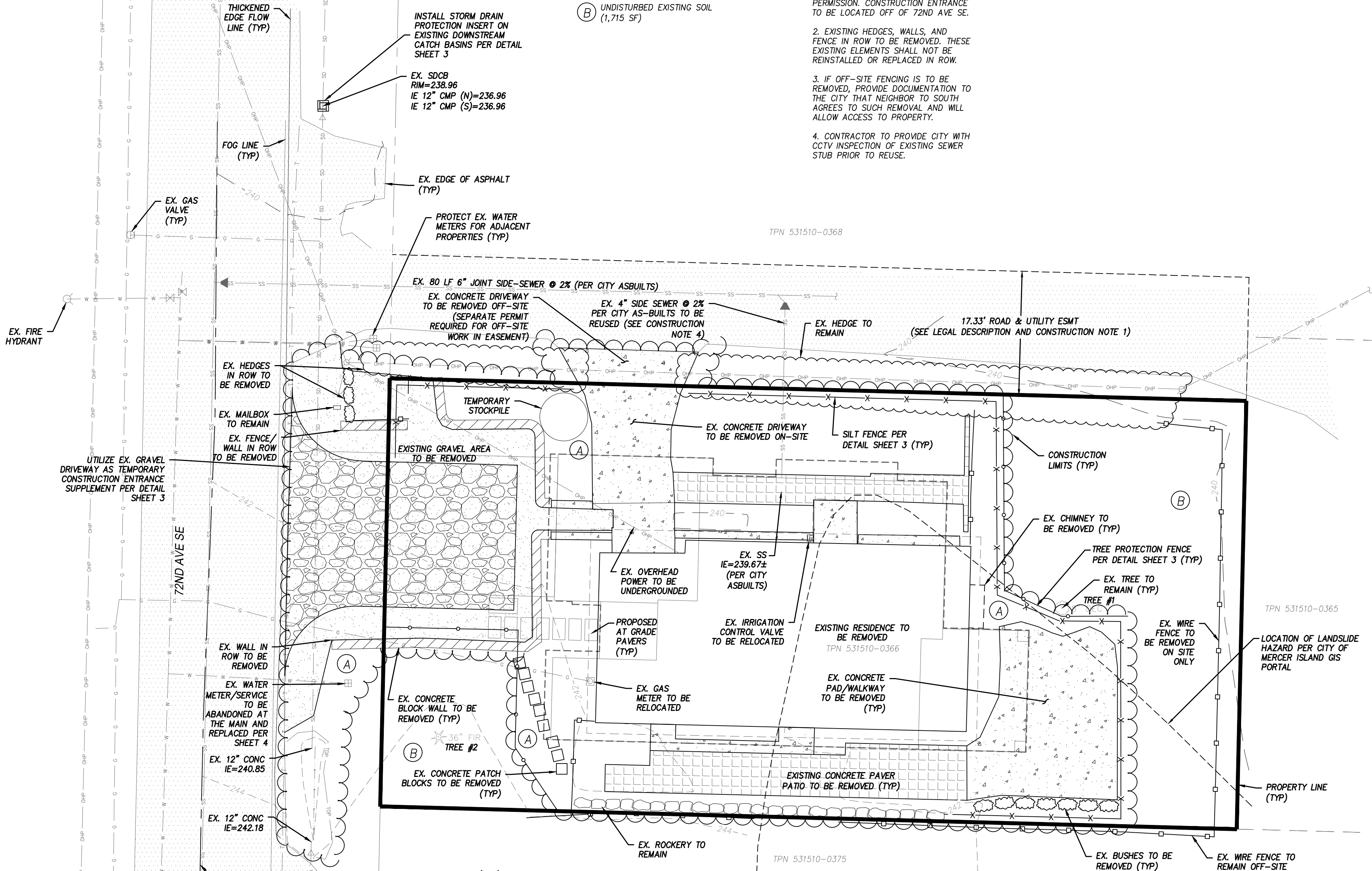
- THE AREA WITHIN THE TREE PROTECTION FENCING MUST BE COVERED WITH WOOD CHIPS, HOG FUEL, OR SIMILAR MATERIALS TO A DEPTH OF 6 TO 8 INCHES. THE MATERIALS SHOULD BE PLACED PRIOR TO BEGINNING CONSTRUCTION AND REMAIN UNTIL THE TREE PROTECTION FENCING IS TAKEN DOWN.

CANOPY PRUNING:

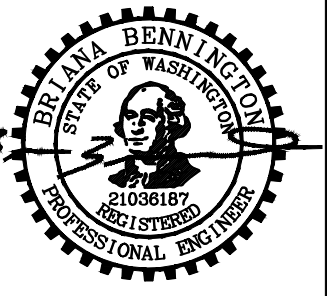
- THE CANOPIES OF SOME OF THE TREES MAY NEED TO BE PROPERLY PRUNED TO ALLOW FOR EQUIPMENT, BUILDING, AND CONSTRUCTION CLEARANCE. THE PRUNING MUST BE DONE BY AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST USING CORRECT PRUNING TECHNIQUES. (ANSI A300 PRUNING STANDARDS AND ANSI Z31.1 SAFETY STANDARDS AS WELL AS ALL OSHA, WSHA, AND LOCAL STANDARDS MUST BE FOLLOWED.)
- PLANT DEBRIS CAN BE CHIPPED AND UTILIZED ON SITE FOR THE MULCH UNDER THE TREES.

DEMOLITION AND REMOVAL OF THE EXISTING IMPROVEMENTS:

- WHEN DEMOLITION OCCURS, CONSTRUCTION EQUIPMENT MUST BE KEPT OUTSIDE THE TREE PROTECTION ZONE.
- DEMOLITION MUST FOLLOW THIS PROCESS TO PROTECT THE LONG TERM SURVIVABILITY OF THE TREES:
- AN INTERNATIONAL SOCIETY OF ARBORICULTURE, (ISA) CERTIFIED ARBORIST MUST BE WORKING WITH AND IN CONTROL OF ALL EQUIPMENT OPERATORS.
- THE CERTIFIED ARBORIST SHOULD BE OUTFITTED WITH A SHOVEL, HAND PRUNERS, A PAIR OF LOPPERS, A HANDSAW, AND A POWER SAW (A RECIPROCATING SAW, SUCH AS A "SAWZALL" IS RECOMMENDED).



REVISIONS	DATE	BY	DESCRIPTION
REVISED PER CITY COMMENTS #1	10/27/2022	BLB	
REVISED PER CITY COMMENTS #2	03/06/2023	BLB	
REVISED PER CITY COMMENTS #3	05/07/2023	BLB	
REVISED PER CITY COMMENTS #4	06/09/2023	BLB	



06/09/2023

HU RESIDENCE
2448 72ND AVE SE - MERCER ISLAND, WA 98040
TESC PLAN

Encompass
ENGINEERING & SURVEYING

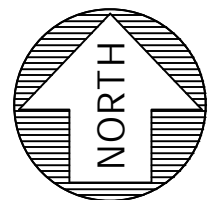
Western Washington Division
165 NE Juniper Street, Suite 201, Issaquah, WA 98027 Phone: (425) 392-0250
Eastern Washington Division
407 Southwater Blvd., Cle Elum, WA 98922 Phone: (509) 674-7433

JOB NO.	21782
DATE	06/09/2023
SCALE	1"=10'
DESIGNED	BLB
DRAWN	PMS
CHECKED	CP
APPROVED	CP
SHEET	2 of 5



Know what's below.
Call before you dig.

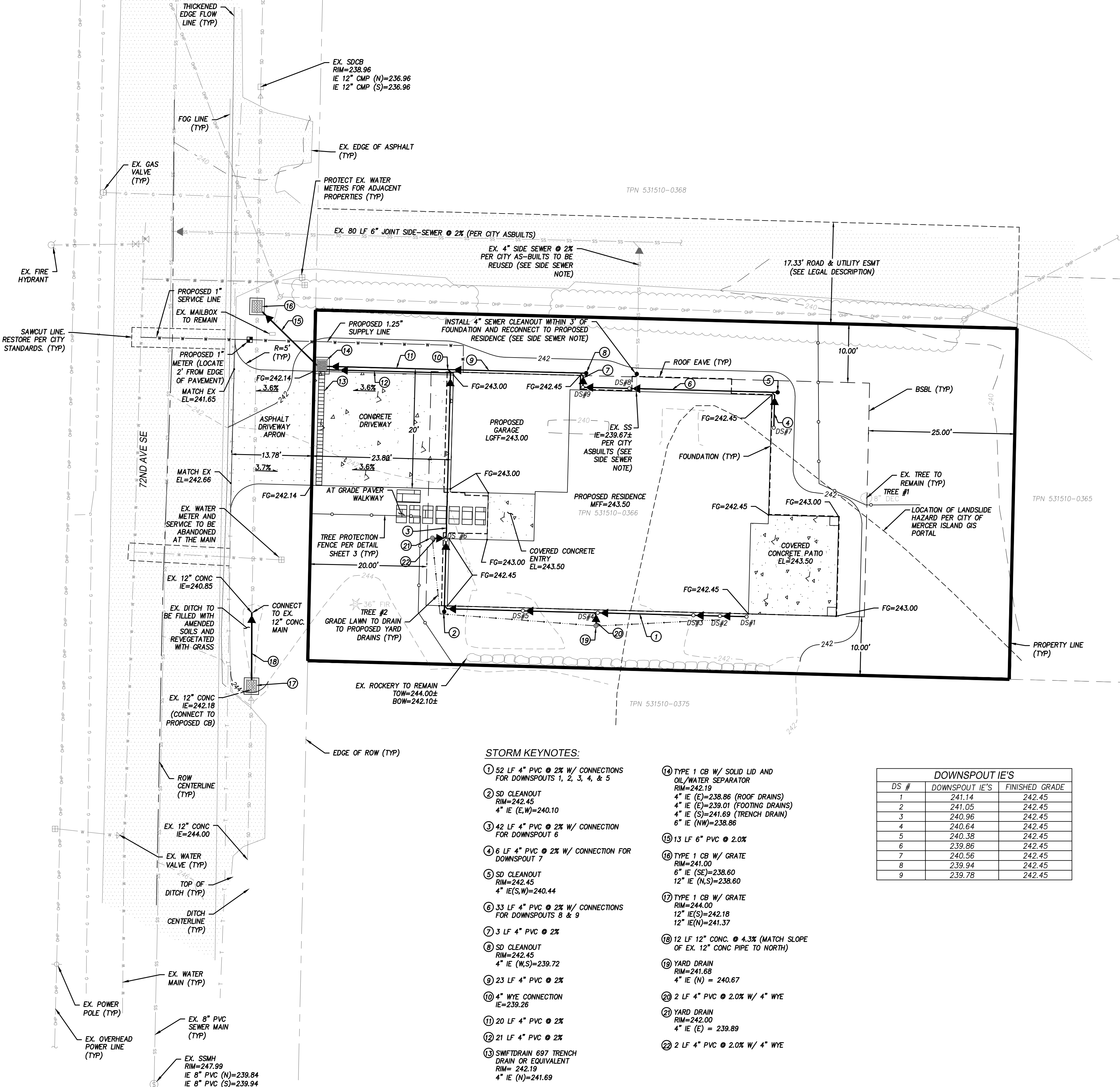
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SCALE 1" = 10'

HU RESIDENCE

SE 1/4 OF SE 1/4 OF SECTION 12, T. 24 N., R. 04 E., W.M.
CITY OF MERCER ISLAND, KING COUNTY, STATE OF WASHINGTON



ARCHITECTURAL, STRUCTURAL & GEOTECHNICAL NOTES

- THESE PLANS ARE APPROVED FOR STANDARD ROAD AND DRAINAGE IMPROVEMENTS ONLY. PLANS FOR STRUCTURES SUCH AS RETAINING WALLS REQUIRE A SEPARATE REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- SPECIAL INSPECTIONS FOR GEOTECHNICAL AND/OR STRUCTURAL ASPECTS OF THE PROJECT MAY BE REQUIRED DURING VARIOUS STAGES OF THE PROJECT. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION AND OBTAINING INSPECTIONS WHEN AND WHERE NECESSARY.
- SEE ARCHITECTURAL PLANS FOR BUILDING SECTIONS AND ALL LOCATIONAL/DIMENSIONAL ASPECTS OF BUILDINGS.
- SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL BUILDING AND RETAINING WALL DETAILS.
- COORDINATE ALL SITE CIVIL CONSTRUCTION WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL/PLUMBING AND LANDSCAPE PLANS AND IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
- PRIOR TO CONSTRUCTION THE EARTHWORK/GENERAL CONTRACTOR TO BE COMPLETELY FAMILIAR WITH THE GEOTECHNICAL REPORT AND RECOMMENDATIONS. PLEASE REVIEW GEOTECH CONSULTANTS, INC'S REPORT DATED JANUARY 12, 2022 AND CONTACT MARC MCGINNIS, PE ON ANY QUESTIONS OR CONCERNS REGARDING HIS RECOMMENDATIONS.

STRUCTURAL NOTES

- THESE PLANS ARE APPROVED FOR STANDARD ROAD AND DRAINAGE IMPROVEMENTS ONLY. PLANS FOR STRUCTURES MAY REQUIRE A SEPARATE REVIEW AND APPROVAL.
- ROCKERIES ARE CONSIDERED TO BE A METHOD OF BANK STABILIZATION AND EROSION CONTROL. ROCKERIES SHALL NOT BE CONSTRUCTED TO SERVE AS RETAINING WALLS. GEOTECHNICAL ENGINEERING MAY BE NECESSARY.

BUILDING STAKING NOTE:

CONTRACTOR TO USE ARCHITECTURAL PLANS FOR ACCURATE LOCATION & CONSTRUCTION STAKING OF ALL SITE IMPROVEMENTS SUCH AS BUILDINGS, DRIVEWAYS, WALLS, WALKS, PATIOS & OTHER APPURTENANCES ON THE PROPERTY.

DRAINAGE NOTES:

- PROOF OF LIABILITY INSURANCE SHALL BE SUBMITTED TO THE CITY PRIOR TO THE PRECONSTRUCTION MEETING.
- 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.
- STEEL PIPE SHALL BE GALVANIZED AND HAVE ASPHALT TREATMENT #1 OR BETTER INSIDE AND OUTSIDE (KCRS 7.03).
- 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.
- ALL CATCH BASIN GRATES SHALL BE STAMPED "OUTFALL TO STREAM, DUMP NO POLLUTANTS".
- ALL DRIVEWAY CULVERTS LOCATED WITHIN RIGHT-OF-WAY SHALL BE OF SUFFICIENT LENGTH TO PROVIDE A MINIMUM 3:1 SLOPE FROM THE EDGE OF THE DRIVEWAY TO THE BOTTOM OF THE DITCH. CULVERTS SHALL HAVE BEVELED END SECTIONS TO MATCH THE SIDE SLOPE.
- 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.

GRADING NOTES:

- 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.
- THE ON-SITE TOPOGRAPHICAL MAPPING WAS PROVIDED BY ENCOMPASS ENGINEERING & SURVEYING.
- ALL TEMPORARY OR PERMANENT SLOPES SHALL NOT EXCEED 2.5H:1V UNLESS APPROVED BY A GEOTECHNICAL ENGINEER.
- FILL MATERIAL PLACED UNDER BUILDING FOUNDATIONS OR PAVEMENT SHALL BE CRUSHED BASE ROCK OR COMPACTED STRUCTURAL FILL IN ACCORDANCE TO WSDOT STANDARD SPECIFICATIONS.
- ROCKERY AND/OR RETAINING WALLS GREATER THAN FOUR (4) FEET IN HEIGHT REQUIRES A BUILDING PERMIT.
- 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.

SIDE SEWER NOTE:

CCTV INSPECTION OF THE EXISTING 4" SIDE SEWER TO THE MAIN IS REQUIRED TO BE PROVIDED TO THE CITY PRIOR TO REUSE. IF THE RESULT OF THE INSPECTION IS NOT IN SATISFACTORY CONDITION, AS DETERMINED BY THE INSPECTOR, REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED.

GRADING QUANTITIES:

CUT= 5 CY
FILL= 30 CY
NET= 25 CY± (FILL)
*CONTRACTOR TO VERIFY

SOIL AMENDMENT NOTE:

SOIL AMENDMENT REQUIRED FOR ALL DISTURBED PVIOUS SURFACES. (APPROXIMATELY 16.6 CY)

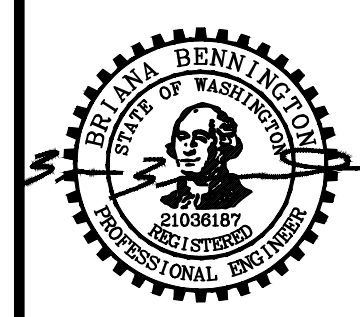
FOOTING DRAIN NOTE:

ALL FOOTING DRAINS AROUND THE FOUNDATION ARE TO BE 4" PERFORATED PIPE @ IE = 239.45. DO NOT CONNECT FOOTING DRAINS TO ROOF DRAIN SYSTEM. PIPE FOOTING DRAINS TO PROPOSED ON-SITE CATCH BASIN VIA SOLID 4" PVC @ 2% MINIMUM SLOPE (SEE STORM KEYNOTE 12).

- ### STORM KEYNOTES:
- 52 LF 4" PVC @ 2% W/ CONNECTIONS FOR DOWNSPOUTS 1, 2, 3, 4, & 5
 - SD CLEANOUT RIM=242.45 4" IE (E,W)=240.10
 - 42 LF 4" PVC @ 2% W/ CONNECTION FOR DOWNSPOUT 6
 - 6 LF 4" PVC @ 2% W/ CONNECTION FOR DOWNSPOUT 7
 - SD CLEANOUT RIM=242.45 4" IE(S,W)=240.44
 - 33 LF 4" PVC @ 2% W/ CONNECTIONS FOR DOWNSPOUTS 8 & 9
 - 3 LF 4" PVC @ 2%
 - SD CLEANOUT RIM=242.45 4" IE (W,S)=239.72
 - 23 LF 4" PVC @ 2%
 - 4" WYE CONNECTION IE=239.26
 - 20 LF 4" PVC @ 2%
 - 21 LF 4" PVC @ 2%
 - SMFT DRAIN 697 TRENCH DRAIN OR EQUIVALENT RIM= 242.19 4" IE (N)=241.69
 - TYPE 1 CB W/ SOLID LID AND OIL/WATER SEPARATOR RIM=242.19 4" IE (E)=238.86 (ROOF DRAINS) 4" IE (E)=239.01 (FOOTING DRAINS) 4" IE (S)=241.69 (TRENCH DRAIN) 6" IE (NW)=238.86
 - 13 LF 6" PVC @ 2.0%
 - TYPE 1 CB W/ GRATE RIM=241.00 6" IE (SE)=238.60 12" IE (N,S)=238.60
 - TYPE 1 CB W/ GRATE RIM=244.00 12" IE(S)=242.18 12" IE(N)=241.37
 - 12 LF 12" CONC. @ 4.3% (MATCH SLOPE OF EX. 12" CONC PIPE TO NORTH)
 - YARD DRAIN RIM=241.68 4" IE (N) = 240.67
 - 2 LF 4" PVC @ 2.0% W/ 4" WYE
 - YARD DRAIN RIM=242.00 4" IE (E) = 239.89
 - 2 LF 4" PVC @ 2.0% W/ 4" WYE

DS #	DOWNSPOUT IE'S	FINISHED GRADE
1	241.14	242.45
2	241.05	242.45
3	240.96	242.45
4	240.64	242.45
5	240.38	242.45
6	239.86	242.45
7	240.56	242.45
8	239.94	242.45
9	239.78	242.45

NO.	DATE	DESCRIPTION
1	10/17/2022	REVISED PER CITY COMMENTS #1
2	03/06/2023	REVISED PER CITY COMMENTS #2
3	05/07/2023	REVISED PER CITY COMMENTS #3
4	06/09/2023	REVISED PER CITY COMMENTS #4



06/09/2023

HU RESIDENCE
2448 72ND AVE SE - MERCER ISLAND, WA 98040
GRADING & DRAINAGE PLAN

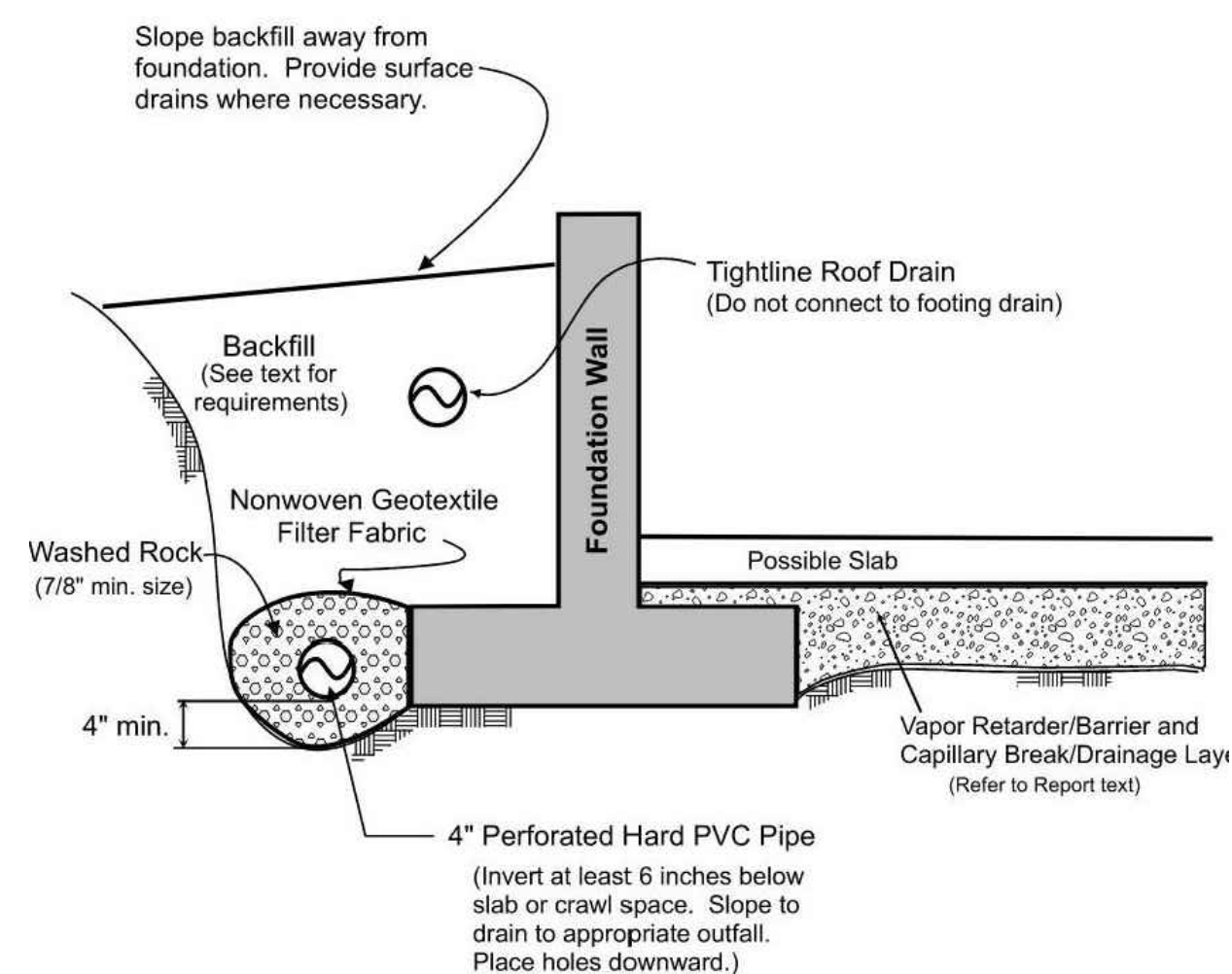


JOB NO.	21782
DATE	06/09/2023
SCALE	1"=10'
DESIGNED	BLB
DRAWN	PMS
CHECKED	CP
APPROVED	CP
SHEET	4 of 5



FILENAME: J:\2171782 - HU HU\ENGINEERING\PLAN SHEETS\3 - UTILITING

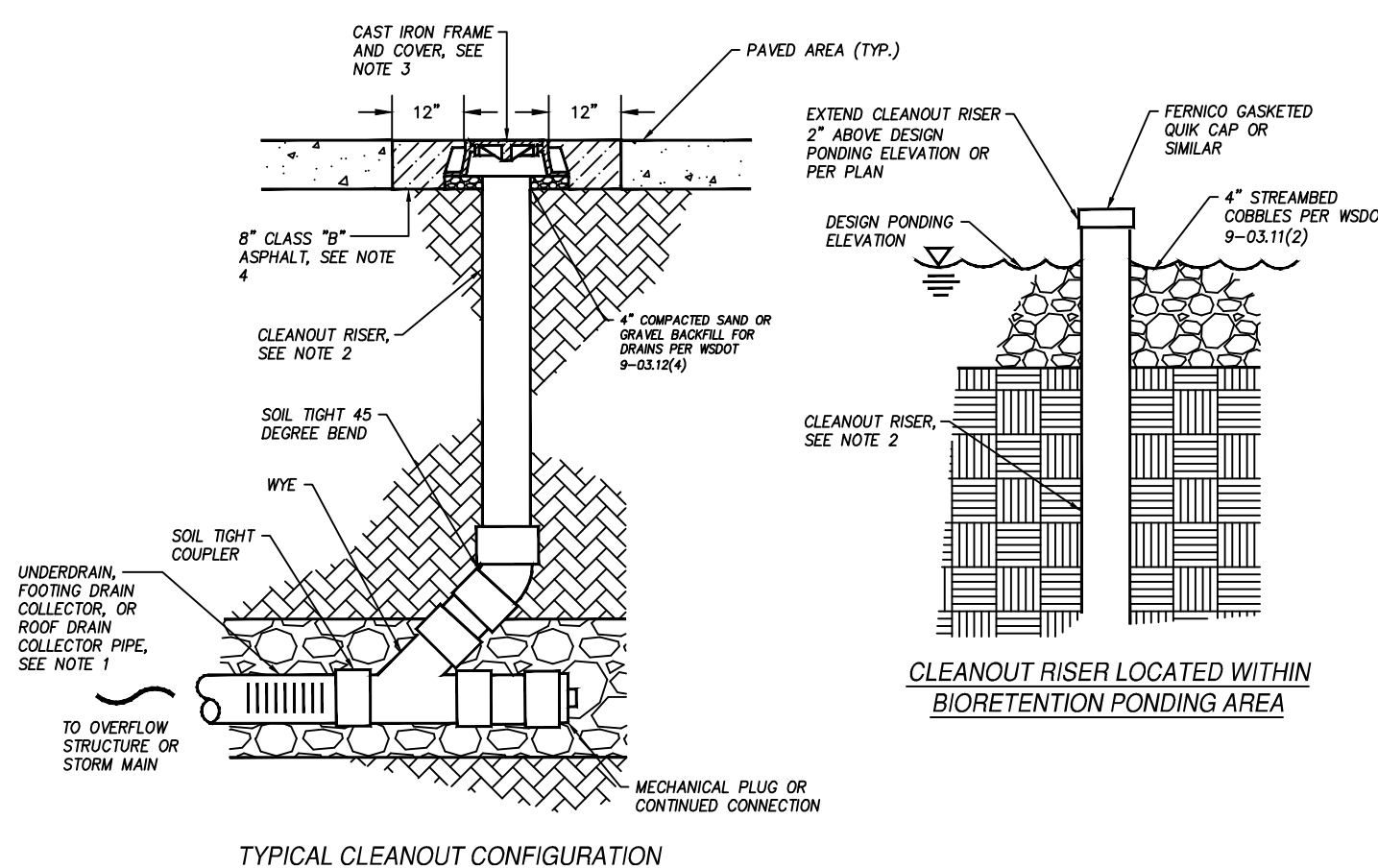
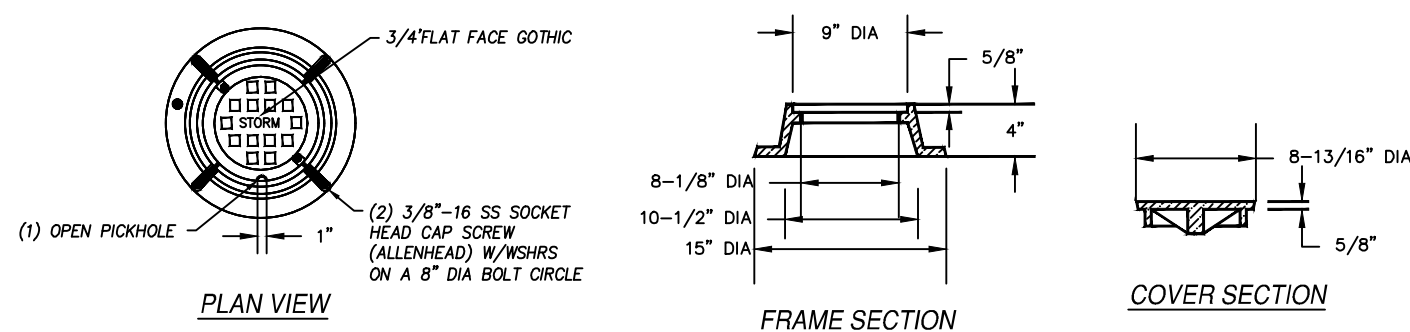
HU RESIDENCE
SE 1/4 OF SE 1/4 OF SECTION 12, T. 24 N., R. 04 E., W.M.
CITY OF MERCER ISLAND, KING COUNTY, STATE OF WASHINGTON



- NOTES:**
- In crawl spaces, provide an outlet drain to prevent buildup of water that bypasses the perimeter footing drains.
 - Refer to report text for additional drainage, waterproofing, and slab considerations.

ROOF/FOOTING DRAIN DETAIL

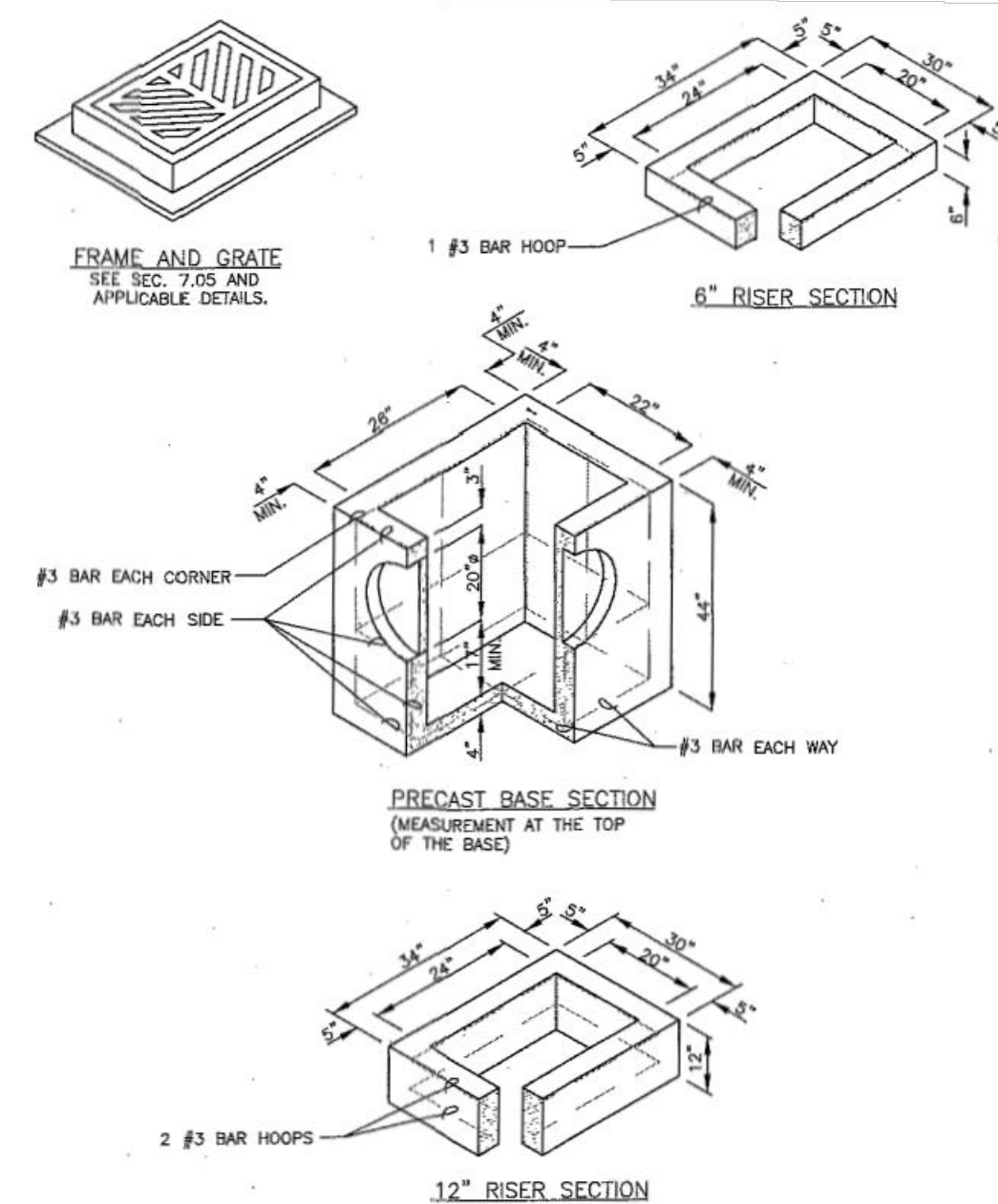
NO SCALE



- NOTES:**
- DIAMETER TO BE 6-INCHES MINIMUM PRIVATE, 8-INCHES MINIMUM PUBLIC UNDERDRAIN PIPE.
 - CLEANOUT RISER SHALL BE SAME SIZE AND MATERIAL AS CONNECTED UNDERDRAIN, FOOTING DRAIN COLLECTOR, OR ROOF DRAIN COLLECTOR PIPE.
 - FRAME AND COVER SHALL BE E.J. PRODUCT NO. 00367549801 OR APPROVED EQUAL. COVER TO BE LOCKING WITH ALLEN HEAD BOLT, MARKED "STORM".
 - FOR CLEANOUTS FULLY OR PARTIALLY WITHIN UNPAVED AREAS OUTSIDE OF BIORETENTION PONDING AREA, POUR 8" THICK, 2'X2' SQUARE CONCRETE COLLAR AROUND FRAME. CONCRETE COLLAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
- GENERAL NOTES:**
- CLEANOUTS FOR UNDERDRAIN, FOOTING DRAIN COLLECTOR, AND ROOF DRAIN COLLECTOR PIPES SHALL BE INSTALLED AT A MINIMUM OF EVERY 100 FEET, AT EVERY 90 DEGREE OR SECOND 45 DEGREE BEND, AT THE END OF EVERY COLLECTOR PIPE, AND AT EACH END OF AN UNDERDRAIN PIPE NOT CONNECTED TO AN OVERFLOW STRUCTURE. CLEANOUTS SHALL BE INSTALLED TO ALLOW FOR MAINTENANCE ACCESS TO ALL PIPES.
 - ALL FITTINGS SHALL BE SOIL TIGHT.
 - CLEANOUT RISER SHALL BE LOCATED OUTSIDE OF BIORETENTION PONDING WHERE POSSIBLE.
 - CLEANOUTS SHALL NOT BE LOCATED WITHIN THE STREET TRAVEL LANE, UNLESS OTHERWISE APPROVED BY THE CITY.

STORM CLEANOUT DETAIL

NO SCALE

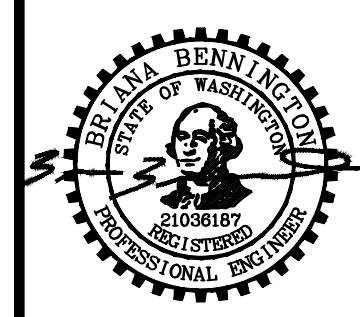


- NOTES:**
- CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA STANDARD SPECIFICATIONS.
 - AS AN ACCEPTABLE ALTERNATIVE TO REBAR, WELDED WIRE FABRIC HAVING A MIN. AREA OF 0.12 SQ. IN. PER FT. MAY BE USED. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A497 (ASTM M 221). WIRE FABRIC SHALL NOT BE PLACED IN KNOCKOUTS.
 - ALL REINFORCED CAST-IN-PLACE CONCRETE SHALL BE CLASS 4000.
 - PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2 IN. MIN. ALL PIPE SHALL BE INSTALLED IN FACTORY PROVIDED KNOCKOUTS. UNUSED KNOCKOUTS NEED NOT BE GROUDED IF WALL IS LEFT INTACT.
 - KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS.
 - ROUND KNOCKOUTS MAY BE ON ALL 4 SIDES, WITH MAX. DIAM. OF 20 IN. KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE.
 - THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 3 FT.
 - THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2" PER FT.
 - CATCH BASIN FRAME AND GRATE SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-622E. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
 - FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.
 - FOR CATCH BASINS IN PARKING LOTS REFER TO WSDOT/APWA STANDARD DWG. B-5.60-01.
 - EDGE OF RISER OR BRICK SHALL NOT BE MORE THAN 2 IN. FROM VERTICAL EDGE OF CATCH BASIN WALL.
 - SEE THE WSDOT/APWA STANDARD SPECIFICATIONS SECTION 9-05.15 FOR METAL CASTINGS REQUIREMENTS.

TYPE 1 CATCH BASIN DETAIL

NO SCALE

REVISIONS	DESCRIPTION	BY	DATE
REVISED PER CITY COMMENTS #1		BLB	10/17/2022
REVISED PER CITY COMMENTS #2		BLB	03/06/2023
REVISED PER CITY COMMENTS #3		BLB	05/07/2023
REVISED PER CITY COMMENTS #4		BLB	06/09/2023



06/09/2023

HU RESIDENCE
2448 72ND AVE SE - MERCER ISLAND, WA 98040
CONSTRUCTION DETAILS

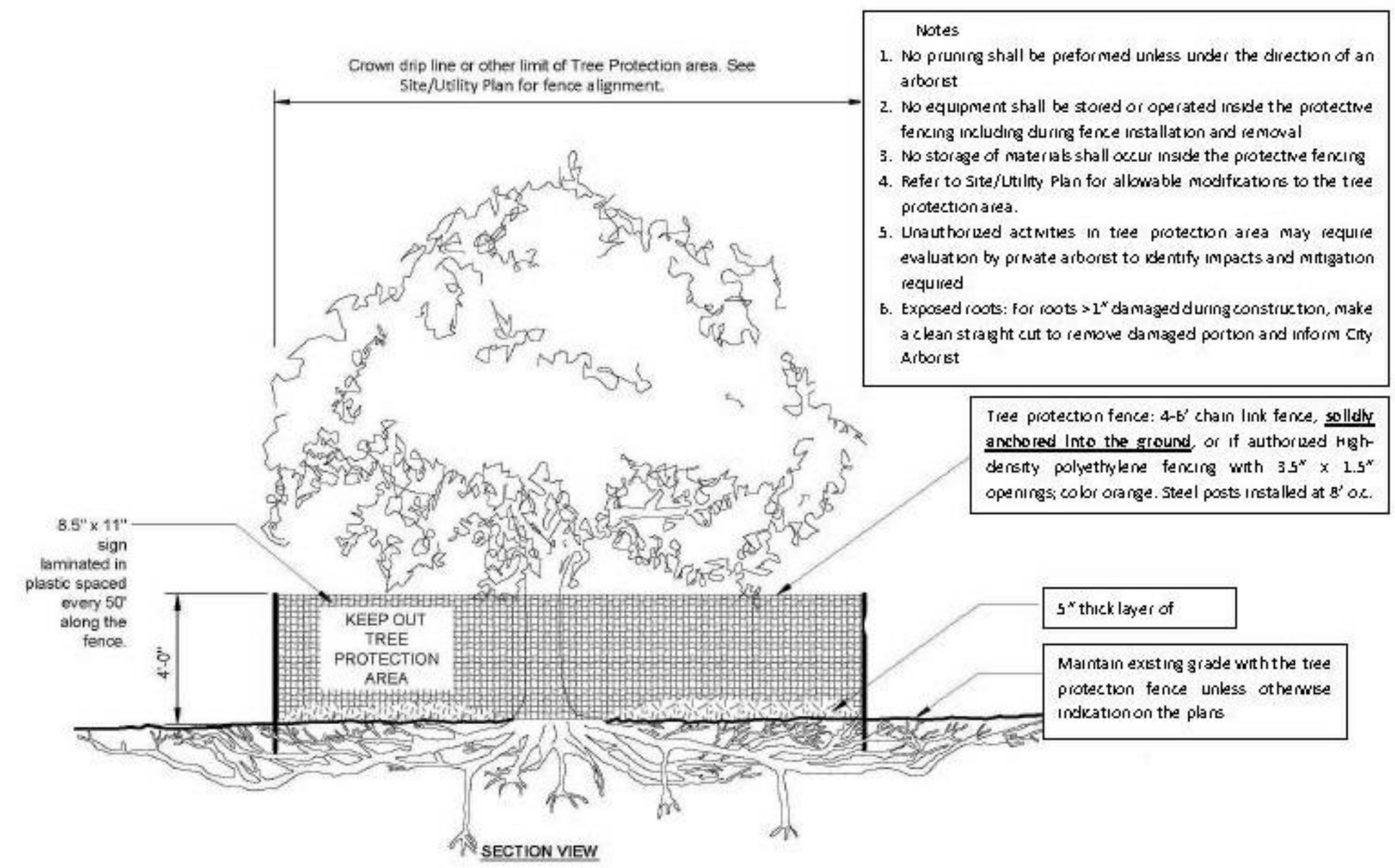
Compass
ENGINEERING & SURVEYING
Western Washington Division
165 NE Juniper Street, Suite 201, Issaquah, WA 98027 Phone: (425) 392-0250
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JOB NO.	21782
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APPROVED	CP
SHEET	5 of 5



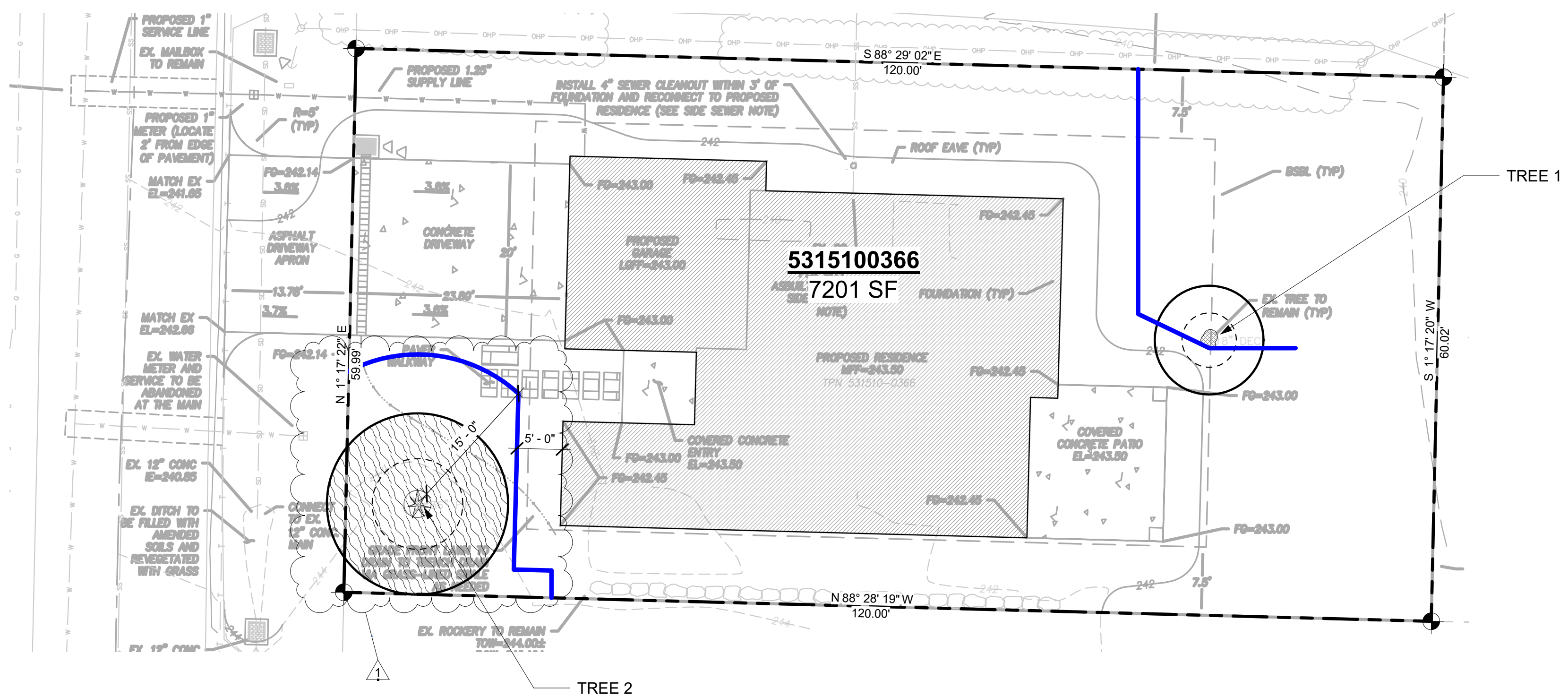
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No.	Description	Date
1	Sub 2 City Comment Response	03/13/23



2 Mercer Island Tree Protection Detail
 1/4" = 1'-0"

	TREE DRIP LINE (DL)
	DIAMETER STANDARD HEIGHT (DSH)
	EVERGREEN TREE
	DECIDUOUS TREE
	TREE TO BE REMOVED
	TREE PROTECTION FENCING
	NEW TREE
	MULCH COVER - 5"-6"



ARBORISTS SITE PLAN
 1" = 10'-0"



TREE #	TREE TYPE	DBH	DRILINE	CONDITION	RETAIN OR REMOVE
1.	JAPANESE MAPLE <i>ACER PALMATUM</i>	8.8	12'	GOOD	RETAIN
2.	DOUGLAS FIR <i>PSEUDOTSUGA MENZIESII</i>	32	20'	FAIR	RETAIN

PREPARED BY:
 NEAL BAKER
 ARBORISTS NW.COM
 ISA CERT. PN1075A
 TRAQ ISA (TREE RISK ASSESSMENT QUALIFIED)
 MEMBER AREA & SOCA
 PH: 206 779 2579

HU PROJECT

2448 72nd AVE SE Mercer Island, WA.

HU PROJECT

ARBORIST TREE PLAN

Project number	22021
Date	--
Drawn by	CW
Checked by	NB

X100

Scale As indicated

HU RESIDENCE

ABBREVIATIONS

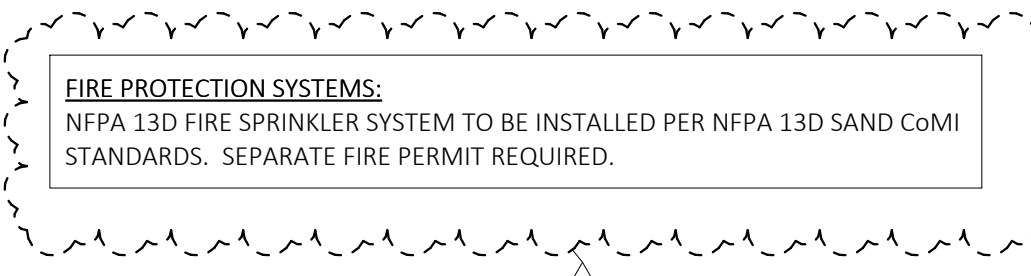
A.C.T.	ACOUSTICAL CLG TILE	REFER	REFRIGERATOR
BLK'G	BLOCKING	R.A.	RETURN AIR
		R.O.	ROUGH OPENING
		R&S	ROD AND SHELF
CD	CARBON MONOXIDE DETECTOR	S.A.	SUPPLY AIR
CLG	CEILING	SCHD	SCHEDULE
C.T.	COMMON TRUSS	SD	SMOKE DETECTOR
CLR	CLEAR	SH	SHELVES
COMP	COMPOSITION	SHT	SHEET
CONC	CONCRETE	SHWR	SHOWER
		SIM	SIMILAR
DBL	DOUBLE	S.S.	STAINLESS STEEL
DIA	DIAMETER	STOR	STORAGE
		SUSP	SUSPENDED
F.D.	FLOOR DRAIN	TEL	TELEPHONE
F.E.	FIRE EXTINGUISHER	THERM	THERMOSTAT
F.E.C.	FIRE EXTINGUISHER CABINET	TYP	TYPICAL
F.F.	FINISH FLOOR	U.C.L.	UNDERCABINET LIGHTS
FLR	FLOOR	U.N.O.	UNLESS NOTED OTHERWISE
FRM'G	FRAMING	V	VINYL
		VB	VAPOR BARRIER
G.T.	GIRDER TRUSS	V.C.T.	VINYL COMPOSITION TILE
G.W.B.	GYP SUM WALL BOARD	VTOS	VENT TO OUTSIDE
GYP	GYP SUM	W.C.	WATER CLOSET
		W.P.	WATER PROOF
HDWD	HARDWOOD	w/	WITH
HDWR	HARDWARE	w/o	WITHOUT
HT	HEIGHT	WD	WOOD
H.M.	HIP MASTER	W/D	WASHER AND DRYER
MFR	MANUFACTURER		
MIL	MILLIMETERS		
N.I.C.	NOT IN CONTRACT		
N.T.S.	NOT TO SCALE		
O.C.	ON CENTER		
PLYW'D	PLYWOOD		
P.T.	PRESSURE TREATED		

TYP WINDOW NOTES:

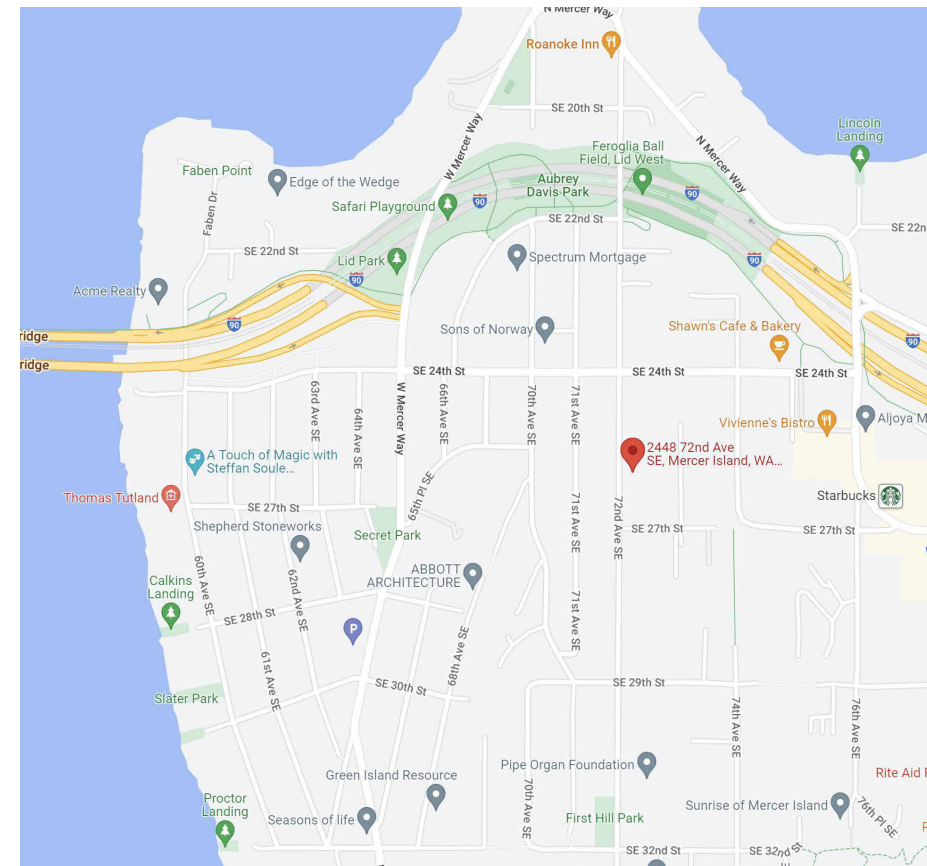
- SEE ARCHITECTURAL FLOOR PLANS FOR WINDOW LOCATIONS AND DESIGNATIONS. SEE ELEVATIONS & BUILDING SECTIONS FOR WINDOW HEAD/SILL LOCATIONS.
- ALL RESIDENTIAL WINDOWS ARE BASED UPON COEUR D'ALENE VINYL WINDOWS. EXCEPT AS NOTED.
- NOT USED
- WINDOW DIMENSIONS SHOWN ARE SUGGESTED. ROUGH OPENINGS, NET DIMENSIONS TO BE PER MANUFACTURER. VERIFY WITH MFR.
- ALL WINDOWS TO BE FIXED UNLESS SHOWN/NOTED OTHERWISE.
- PROVIDE SAFETY GLAZING PER KEYNOTE P-4 AS LOCATED ON FLOOR PLANS.
- GLAZING TO BE PER ENERGY COMPLIANCE NOTES. SEE SHEETS A000 - A002

TYP DOOR NOTES:

- ALL RESIDENTIAL SLIDING GLASS DOORS ARE BASED ON COEUR D'ALENE VINYL SLIDING DOORS.
- GLAZING TO BE PER ENERGY COMPLIANCE NOTES. SEE SHEETS A000 - A002.
- PROVIDE SAFETY GLAZING PER GENERAL NOTES.
- NOT USED.
- PROVIDE MIN 0.20 U-VALUE AT SOLID CORE FLUSH DOORS WHERE EXPOSED TO AMBIENT TEMPERATURE.



VICINITY MAP



ENERGY CODE NOTES

ENERGY COMPLIANCE

PROPOSED RESIDENCE TO COMPLY WITH THE PRESCRIPTIVE REQUIREMENTS OF THE 2018 W.S.E.C. - SEE WSEC FORM/REQUIREMENTS ON SHEET A002.

MECHANICAL VENTILATION REQUIREMENTS

PROPOSED RESIDENCE TO COMPLY WITH THE PRESCRIPTIVE VENTILATION REQUIREMENTS OF SECTION M1507 OF THE IRC.

AN INTERMITTENT WHOLE HOUSE VENTILATION SYSTEM INTEGRATED WITHIN THE FORCED AIR SYSTEM

**SEE THE MECHANICAL VENTILATION M1507 OF THE WA STATE RESIDENTIAL CODE SECTION ON SHEET A002

[HEATING OPTION #2] HEAT PUMP

[1.3] EFFICIENT BUILDING ENVELOPE:
PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE R402.1.1 WITH THE FOLLOWING MODIFICATIONS:

- FENESTRATION U = 0.28
- FLOOR R-38
- SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE
- SLAB BELOW GRADE SLAB R-10 PERIMETER AND UNDER ENTIRE SLAB

[3.5] HIGH EFFICIENCY HVAC EQUIPMENT:
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0.
PROPOSED MODEL:

- HITACHI MINI VRF 208/230V HEAT PUMP SYSTEM
- EFFICIENCY: 11.0 HSPF

HEAT PUMP SUPPLEMENTARY HEAT, IF PROVIDED, SHALL BE PER R403.1.2.

- AT FINAL INSPECTION THE AUXILIARY HEAT LOCK OUT CONTROL SHALL BE SET TO 35°F OR LESS.

[4.2] HIGH EFFICIENCY HVAC DISTRIBUTION:
HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEM(S) INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF SECTION R403.3.7.

- LOCATING SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION.
- ELECTRIC RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION.
- DIRECT COMBUSTION HEATING EQUIPMENT WITH AFUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.

THE MINIMUM FLOOR/CEILING INSULATION MAY BE INSTALLED TO THE NON CONDITIONED SIDE, WITH DUCT WORK ABOVE WITHIN THE AIR CAVITY, PROVIDED THAT CONTINUOUS INSULATION IS INSTALLED TOP OF THE CEILING BELOW AND IS COMBINED WITH PERIMETER INSULATION THAT MEETS OR EXCEEDS THE R-VALUE REQUIREMENTS FOR WALLS.

[5.5] EFFICIENT WATER HEATING 5C:
THE PROPOSED WATER HEATING SYSTEM SHALL INCLUDE A HIGH EFFICIENCY WATER HEATER WITH A MINIMUM EF OF 0.91.

PROPOSED MODEL:

- RUUD® HYBRID BUILDER RESIDENTIAL ELECTRIC WATER HEATER, MODEL PRO H80 T2RU310BM
- UNIFORM ENERGY FACTOR: 3.5

- NOTE:**
- FIELD INSPECTOR TO VERIFY RECEIPT OF BLOWER DOOR TEST
 - FIELD INSPECTOR TO VERIFY RECEIPT OF DUCT LEAKAGE TEST

PROJECT INFO

PROJECT ADDRESS:

2448 72ND AVENUE SOUTHEAST
MERCER ISLAND, WA, 98040

BUILDER:

ATERA HOMES, LLC
451 DUVALL AVE NE, SUITE 115
RENTON, WA, 98059

CONTACT: MILTON ORELLANA
PHONE: (425) 306-2758
EMAIL: build@aterahomes.com

DESIGNER:

ATERA DESIGN STUDIO, LLC
451 DUVALL AVE NE, SUITE 115
RENTON, WA 98059

CONTACT: MILTON ORELLANA
PHONE: (425) 306-2758
EMAIL: studio@aterahomes.com

ENGINEER:

L2 ENGINEERS, LLC
17848 NE 198TH PLACE
WOODINWILLE, WA 98072

CONTACT: BRIAN LOSBOUGH, P.E.
PHONE: (206) 251-2346
EMAIL: BRIAN@L2ENGINEERS.COM

SCOPE OF WORK:

CONSTRUCT A NEW 2,996 SQ FT SINGLE FAMILY RESIDENCE.

BIDDER DESIGN:

ELECTRICAL, MECHANICAL, PLUMBING, MFR TRUSS CONNECTIONS, EXTERIOR CLADDING TO BE BIDDER DESIGNED/DEFERRED SUBMITTAL (PER 106.3.4.2)

LEGAL DESCRIPTION:

THE SOUTH 60 FEET OF THE WEST 120 FEET OF LOT 4, BLOCK 5, MCGILVRA'S ISLAND ADDITION, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 16 OF PLATS, PAGE 58, IN KING COUNTY, WASHINGTON; TOGETHER WITH AN EASEMENT FOR ROAD AND UTILITY PURPOSES OVER THE SOUTH 17.33 FEET OF THE NORTH 77.33 FEET OF THE WEST 120 FEET OF SAID LOT 4, BLOCK 5, MCGILVRA'S ISLAND ADDITION.

CODE INFORMATION:

GENERAL INFORMATION:

BUILDING AREAS: SEE SQUARE FOOTAGE SCHED. THIS SHEET.
CODE COMPLIANCE: 2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 UNIFORM PLUMBING CODE
2018 WASHINGTON STATE ENERGY CODE
2018 WASHINGTON STATE AMENDMENTS
CONTR. CLASS: TYPE Vb CONSTRUCTION
GLAZING: SEE ENERGY CODE NOTES SHT A000
PARCEL #: 531510-0366
ZONE: R9.6

PARCEL DESCRIPTION:

PROPERTY TYPE: R - RESIDENTIAL SINGLE
PRESENT USE: FAMILY RES USE/ZONE
LOT AREA: 7,200 SF

AREA, SQUARE FOOTAGE...

Name	Area
Garage	435 SF
Main Floor	1539 SF
Upper Floor	1022 SF
Gross Building Area: 3	2996 SF
Cov'd Patio	246 SF
Cov'd Porch	61 SF
Exterior Area: 2	308 SF
Grand total: 5	3303 SF

DRAWING INDEX

NUMBER	SHEET NAME	REV. ID	REV. DATE
A000	COVER SHEET	2	*****TBD*** *****
A001	CODE NOTES	1	20230125
A002	ENERGY NOTES		
A003	ENERGY/VENTING CALCULATIONS		
A100	SURVEY		
A101	SITE PLAN & AREA/HT CALCULATIONS	2	*****TBD*** *****
A301	MAIN FLOOR		
A401	UPPER FLOOR	1	20230125
A501	ROOF PLAN	1	20230125
A601	ELEVATIONS	2	*****TBD*** *****
A701	SECTIONS	1	20230125
A702	SECTIONS	1	20230125
A703	SECTIONS	1	20230125
A704	SECTIONS	1	20230125

ARCHITECTURAL 'A': 14

S001	STRUCTURAL NOTES & DETAILS		
S002	STRUCTURAL NOTES		
S101	FOUNDATION/MAIN FLOOR FRAMING PLAN		
S102	UPPER FLOOR/MAIN ROOF FRAMING PLAN		
S103	ROOF FRAMING PLAN		
S201	FOUNDATION HOLDOWNS		
S202	MAIN FLOOR SHEARWALLS & UPPER FLOOR HOLDOWNS		
S203	UPPER FLOOR SHEARWALLS		
S301	SIMPSON HOLDOWN & TENSION TIES STANDARD DTLS		
S302	SIMPSON HOLDOWN & TENSION TIES STANDARD DTLS		
S303	SIMPSON HOLDOWN & TENSION TIES STANDARD DTLS		

STRUCTURAL 'S': 11

D101	FOUNDATION & FRAM'G DETAILS		
D102	FRAMING DETAILS		
D201	STAIR & RAILING DETAILS	1	20230125
D301	ROOF DETAILS		
D401	SPECIALTY DETAILS	2	*****TBD*** *****

DETAIL 'D': 5

SYMBOLS & LEGEND:

	NEW WALL: INFILL PHASE		EXISTING WALL: SHELL / CORE PHASE
	GRID LINES		SHEET LAYOUT DESIGNATION: VIEW # / SHEET #
	EXIST. CONTOURS		ELEVATION DESIGNATION: VIEW # / SHEET #
	NEW CONTOURS		DOOR TAG: -SEE DOOR SCHEDULE.
	WINDOW TAG: -SEE WINDOW SCHEDULE		SHEARWALL TAG: SEE SHEARWALL SCHEDULE
	EXHAUST FAN PER M1507: -50 CFM MIN., TYP. U.N.O. -100 CFM MIN. @ KITCH.		INDICATES STRUCTURAL KEYNOTE WITH INDEXED NUMBER. SEE STRUCTURAL KEYNOTE SCHEDULE.
	WHOLE HOUSE EXHAUST FAN: -SEE MECHANICAL VENTILATION REQUIREMENTS UNDER THE ENERGY CODE NOTES ON SHT A000 FOR THE PROPOSED VENTILATION RATE. -MAX SOUND RATING 1.0 SONE -MIN. SOUND RATING 0.1IN W.C. -SEE M1505.4 ON SHT A002		110V SMOKE DETECTOR PER R314: -W/ DISCONNECTION SWITCH & BATTERY BACKUP & INTERCONNECTIVITY PER R314.4.
	THERMOSTAT: -PROVIDE 2x8 BLK'G AT 1" A.F.F.		CARBON MONOXIDE DETECTOR PER R315: W/ INTERCONNECTIVITY PER R315.5
	24HR TIMER TO W.H. FAN -SEE M1505.4.2 ON SHT A002		HEAT DETECTOR PER IRC314.2.3 w/ INTERCONNECTIVITY PER R314.4.1
			FURNACE/WATER HEATER: -PROVIDE COMBUSTIONABLE AIR FROM OUTSIDE. -PROVIDE PRESSURE RELIEF LINE TO OUTSIDE. -SECURE WATER HEATER TOP & BOTTOM.

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No.	Date	Description
1	20230125	SUB2 City Comment Submittal
2	*****TBD*****	SUB2 City Comment Submittal

ATERA DESIGN STUDIO
451 DUVALL AVE NE
RENTON, WA 98059



HU RESIDENCE
 2448 72nd AVE SE, Mercer Island

PERMIT SET

COVER SHEET

PROJECT NO: 21014
ISSUE DATE: 2022/06/29

A000

SCALE 24X36: 1:1
*NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



CHAPTER 1: ADMINISTRATION

R101 TITLE, SCOPE AND PURPOSE

- 1. THIS COVERSHEET HAS BEEN PREPARED IN A GENERIC OUTLINE FORM FOLLOWING THE STANDARDS SET BY THE INTERNATIONAL RESIDENTIAL CODE (IRC). NOT ALL ITEMS ARE NECESSARILY REQUIRED TO COMPLETE THIS SPECIFIC PROJECT, COORDINATE PLANS WITH IRC. THIS SET OF WORKING DRAWINGS IS CONSIDERED A "BUILDER SET" AND DOES NOT INCLUDE SPECIFICATIONS OR BUILDING MATERIALS LIST. THEREFORE IT IS THE CONTRACTOR/OWNER RESPONSIBILITY TO PROVIDE AND COORDINATE SPECIFICATIONS, INCLUDING PRODUCT SELECTION AND INSTALLATION OR ASSEMBLY. ITEMS CALLED OUT ARE DONE SO FOR CONVENIENCE ONLY.
2. DO NOT SCALE THESE DRAWINGS FOR CRITICAL DIMENSIONS. VERIFY ALL DIMENSIONS AND DATUM'S BEFORE COMMENCING WORK AND BE RESPONSIBLE FOR THEIR ACCURACY AND REPORT DISCREPANCIES / OMISSIONS TO THE DESIGNER IMMEDIATELY.

CHAPTER 3: BUILDING PLANNING

R301 DESIGN CRITERIA

[B] R301.2 CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA. BUILDINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE IRC. ADDITIONAL CRITERIA SHALL BE ESTABLISHED BY THE LOCAL JURISDICTION AND SET FORTH IN TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA.

Table with 2 columns: Design Criteria and Value. Includes GROUND SNOW LOAD (25), WIND SPEED, SEISMIC DESIGN CATEGORY, SUBJECT TO DAMAGE FROM (WEATHERING: MODERATE, FROST LINE DEPTH: 18", TERMITE: MODERATE), WINTER DESIGN TEMP (26), ICE SHIELD UNDERLAYMENT REQUIRED (NO), FLOOD HAZARDS, AIR FREEZING INDEX (113), MEAN ANNUAL TEMP (53).

R301.4 DEAD LOAD.

THE ACTUAL WEIGHTS OF MATERIALS AND CONSTRUCTION SHALL BE USED FOR DETERMINING DEAD LOAD. DEAD LOADS USED FOR THIS PROJECT ARE AS FOLLOWS:

Table with 2 columns: Component and Load. Includes FLOOR (15 PSF), ROOF (12 PSF), WALLS (10 PSF).

R301.5 LIVE LOAD.

THE MINIMUM UNIFORMLY DISTRIBUTED LIVE LOAD SHALL BE AS PROVIDED IN

TABLE R301.5.

TABLE R301.5 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

Table with 2 columns: Location and Load. Includes ATTICS WITH STORAGE (20 PSF), DECKS (40 PSF), EXTERIOR BALCONIES (60 PSF), FIRE ESCAPES (40 PSF), GUARDRAILS AND HANDRAILS (200 PLF), GUARDRAIL IN-FILL COMPONENTS (200 PLF), PASSENGER VEHICLE GARAGES (200 PSF), ROOMS OTHER THAN SLEEPING ROOMS (40 PSF), SLEEPING ROOMS (30 PSF), STAIRS (40 PSF).

R301.6 ROOF LOAD.

ROOF SHALL BE DESIGNED FOR THE LIVE LOAD INDICATED IN TABLE R301.6 THE SNOW LOAD INDICATED IN TABLE R301.2(1), WHICHEVER IS GREATER.

TABLE R301.6.

MINIMUM ROOF LIVE LOADS IN POUNDS-FORCE PER SQUARE

Table with 3 columns: Roof Slope and Tributary Loaded Area in S.F. for any structural member (0 to 200, 2001 to 600, Over 600). Includes FLAT OR RISE LESS THAN 4" PER FOOT (1:3), RISE LESS 4" PER FOOT (1:3) TO 12" PER FOOT (1:1), RISE 12" PER FOOT (1:1) AND GREATER.

R301.8 NOMINAL SIZES.

...WHERE DIMENSIONS OF LUMBER ARE SPECIFIED, THEY SHALL BE DEEMED TO BE NOMINAL DIMENSIONS UNLESS SPECIFICALLY DESIGNATED AS ACTUAL DIMENSIONS.

R317 PROTECTION AGAINST DECAY

317.1 LOCATION REQUIRED.

IN AREAS SUBJECT TO DECAY DAMAGE AS ESTABLISHED BY TABLE R301.2(1) LOCATIONS REQUIRED BY SECTION R317.1 SHALL BE PRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA U1 FOR THE SPECIES, PRODUCT, PRESERVATIVE AND END USE. PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AWPA U1

317.1.1 FIELD TREATMENT

FIELD-CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESERVATIVE-TREATED WOOD SHALL BE TREATED IN THE FIELD IN ACCORDANCE WITH AWPA M4.

6.1 GENERAL

- ALL CUTS, HOLES AND INJURIES SUCH AS ABRASIONS OR HOLES FROM REMOVAL OF NAILS AND SPIKES WHICH MAY PENETRATE THE TREATED ZONE SHALL BE FIELD TREATED. AN AWPA ACCEPTED PRESERVATIVE SYSTEM, DETERMINED APPROPRIATE IN ACCORDANCE WITH AWPA M4 SECTION 7, SHALL BE USED FOR FIELD TREATMENT.
APPLY PRESERVATIVES IN ACCORDANCE WITH THE PRODUCT LABEL.
COAT ANY SURFACE THAT IS EXPOSED BY DAMAGE OR FIELD FABRICATION WHILE NOT USING EXCESS PRESERVATIVE.
ANY EXCESS PRESERVATIVE NOT ABSORBED BY THE WOOD PRODUCT SHALL BE CLEANED FROM THE SURFACE PRIOR TO THE USE OF THE PRODUCT.
BORED HOLES FOR CONNECTORS OR BOLTS MAY BE TREATED BY PUMPING COAL-TAR ROOFING CEMENT MEETING ASTM D5643 INTO HOLES USING A GREASE GUN OR SIMILAR DEVICE.
CAREFUL ATTENTION SHOULD BE GIVEN TO MATERIALS PLACED INTO WET ENVIRONMENTS.
AREA TO BE TREATED SHALL BE CLEAN, DRY AND FREE OF EXCESS PRESERVATIVE.

7.1 PRESERVATIVES

- THE PRESERVATIVE SYSTEM FOR FIELD TREATMENT SHALL BE DETERMINED BY THE TYPE OF PRESERVATIVE ORIGINALLY USED TO PROTECT THE PRODUCT.
THE PRESERVATIVES DESIGNATED IN AWPA M4 SECTIONS 7.1.1, AND 7.1.2 ARE SUITABLE ALTERNATIVES WHEN NO MATCH CAN BE FOUND.

317.1.2 GROUND CONTACT.

ALL WOOD IN CONTACT WITH THE GROUND SHALL BE APPROVED PRESSURE-PRESERVATIVE-TREATED WOOD SUITABLE FOR GROUND CONTACT USE

317.3 FASTENERS.

FASTENERS FOR PRESSURE PRESERVATIVE AND FIRE-RETARDANT-TREATED WOOD SHALL BE OF HOT-DIPPED GALVANNEZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.

EXCEPTION:

- ONE-HALF-INCH DIAMETER OR GREATER STEEL BOLTS.
FASTENERS OTHER THAN NAILS AND TIMBER RIVETS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B 695, CLASS 55 MINIMUM

CHAPTER 4: FOUNDATIONS

R401 GENERAL

401.1 APPLICATION.

THE PROVISIONS SET FORTH IN CHAPTER 4 OF THE IRC SHALL CONTROL THE DESIGN AND CONSTRUCTION OF THE FOUNDATION AND FOUNDATION SPACES FOR ALL BUILDINGS. IN ADDITION TO THE PROVISIONS OF THIS CHAPTER, THE DESIGN AND CONSTRUCTION OF FOUNDATIONS IN AREAS PRONE TO FLOODING AS ESTABLISHED BY TABLE R301.2(1) SHALL MEET THE PROVISIONS OF SECTION R322.

401.4 SOIL TESTS.

IN AREAS LIKELY TO HAVE EXPANSIVE, COMPRESSIBLE, SHIFTING OR OTHER UNKNOWN SOIL CHARACTERISTICS, THE BUILDING OFFICIAL SHALL DETERMINE WHETHER TO REQUIRE A SOIL TEST TO DETERMINE THE SOIL'S CHARACTERISTICS AT A PARTICULAR LOCATION, 401.4.1 GEOTECHNICAL EVALUATION. SEE SECTION SOILS AND FOUNDATION ON SHEET 5001 FOR PRESUMED LOADING

R402 MATERIALS

402.2 CONCRETE

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AS SHOWN IN TABLE R402.2. CONCRETE SUBJECT TO WEATHERING AS INDICATED IN TABLE R301.2(1), SHALL BE AIR ENTRAINED AS SPECIFIED IN TABLE R402.2

TABLE R402.2

MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE

Table with 3 columns: Type of Locations of Conc. Construction and Tributary Loaded Area in Square Feet for any structural member (Negligible, Moderate, Severe). Includes BASEMENT WALLS, FNDN'S EXPOSED TO WEATHER, BASEMENT SLABS & INTERIOR SLABS ON GRADE, EXCEPT GAR. FLOOR SLABS, BASEMENT WALLS, FNDN WALLS, EXTERIOR WALLS EXPOSED TO WEATHER, PORCHES, CARPORT SLABS & STEPS EXPOSED TO WEATHER & GARAGE FLOOR SLABS.

R403 FOOTINGS

403.1 GENERAL

ALL EXTERIOR WALLS SHALL BE SUPPORTED ON CONTINUOUS SOLID OR FULLY GROUTED MASONRY OR CONCRETE FOOTINGS, WOOD FOUNDATIONS, OR OTHER APPROVED STRUCTURAL SYSTEMS, WHICH SHALL BE OF SUFFICIENT DESIGN TO ACCOMMODATE ALL LOADS ACCORDING TO SECTION R301 AND BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R403. OF THE IRC. FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL.

403.1.4.1 FROST PROTECTION.

FOUNDATION WALLS, PIERS AND OTHER PERMANENT SUPPORTS OF BUILDINGS AND STRUCTURES SHALL BE PROTECTED FROM FROST BY EXTENDING FOOTINGS BELOW THE FROST LINE AS SPECIFIED IN TABLE R301.2(1). EXCEPTION: DECKS NOT SUPPORTED BY A DWELLING NEED NOT BE PROVIDED WITH FOOTINGS THAT EXTEND BELOW THE FROST LINE.

403.1.6 FOUNDATION ANCHORAGE.

WHEN BRACED WALL PANELS ARE SUPPORTED DIRECTLY ON CONTINUOUS FOUNDATIONS, THE WALL WOOD SILL PLATE SHALL BE ANCHORED TO THE FOUNDATION IN ACCORDANCE WITH SECTION 403.1.6. OF THE IRC.

- SILL PLATE SHALL BE ANCHORED TO THE FOUNDATION WITH ANCHOR BOLTS SPACED A MAXIMUM OF 6 FEET ON CENTER. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PLATE SECTION WITH ONE BOLT LOCATED NOT MORE THAN 12 INCHES FROM EACH END OF THE PLATE SECTION.
BOLTS SHALL BE AT LEAST 1/2 INCH IN DIAMETER AND SHALL EXTEND A MINIMUM OF 7 INCHES INTO MASONRY OR CONCRETE.
SILLS AND SOLE PLATES SHALL BE PROTECTED AGAINST DECAY AND TERMITES WHERE REQUIRED BY SECTIONS R318 AND R319. OF THE IRC.
EXCEPTION: FOUNDATION ANCHOR STRAPS, SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2-INCH-DIAMETER ANCHOR BOLTS.

403.1.6.1 FOUNDATION ANCHORAGE IN SEISMIC DESIGN CATEGORIES D0, D1, D2, AND E.

IN ADDITION TO THE REQUIREMENTS OF SECTION R403.1.6., THE FOLLOWING REQUIREMENTS SHALL APPLY TO WOOD LIGHT-FRAME STRUCTURES IN SEISMIC DESIGN CATEGORIES D1 AND D2.

- 1/4" X 3" X 3" PLATE WASHERS CONFORMING TO SECTION R602.11.1 SHALL BE USED ON EACH BOLT.
INTERIOR BRACED WALL PLATES SHALL HAVE ANCHOR BOLTS SPACED AT NOT MORE THAN 6 FEET ON CENTER AND LOCATED WITHIN 12 INCHES FROM THE ENDS OF EACH PLATE SECTION WHEN SUPPORTED ON A CONTINUOUS FOUNDATION.
INTERIOR BEARING WALL SOLE PLATES SHALL HAVE ANCHOR BOLTS SPACED AT NOT MORE THAN 6 FEET ON CENTER AND LOCATED WITHIN 12 INCHES FROM THE ENDS OF EACH PLATE SECTION WHEN SUPPORTED ON A CONTINUOUS FOUNDATION.
THE MAXIMUM ANCHOR BOLT SPACING SHALL BE 4 FEET FOR BUILDINGS OVER TWO STORIES IN HEIGHT.
STEPPED CRIPPLE WALLS SHALL CONFORM TO SECTION R602.11.3.

R404 FOUNDATION WALLS

404.1 CONCRETE AND MASONRY FOUNDATION WALLS. CONCRETE AND MASONRY FOUNDATION WALLS SHALL BE SELECTED AND CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404.1.3 OF THE IRC OR IN ACCORDANCE WITH ACI 318, NCM A TR68-A OR ACI 530/ASCE 5/TMS 402 OR OTHER APPROVED STRUCTURAL STANDARDS.

404.3 WOOD SILL PLATES.

WOOD SILL PLATES SHALL BE A MINIMUM OF 2-INCH BY 4-INCH NOMINAL LUMBER. SILL PLATE ANCHORAGE SHALL BE IN ACCORDANCE WITH SECTIONS R403.1.6 AND R602.11.

CHAPTER 5: FLOORS

R501 GENERAL

501.1 APPLICATION.

FLOOR CONSTRUCTION SHALL BE IN ACCORDANCE TO THE PROVISIONS SET FORTH IN CHAPTER 5 OF THE IRC.

501.2 REQUIREMENTS.

FOR FLOOR CONSTRUCTION LOADING, SEE SECTION R301.

CHAPTER 6: WALL CONSTRUCTION

R601 GENERAL

R601.1 APPLICATION.

WALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE PROVISIONS SET FORTH IN CHAPTER 6 OF THE IRC.

R601.2 REQUIREMENTS.

FOR WALL CONSTRUCTION LOADING, SEE SECTION R301.

R602.3. DESIGN & CONSTRUCTION

SEE TABLE R602.3(1) ON THIS SHEET FOR FASTENER / NAILING SCHEDULE

R613 EXTERIOR WINDOWS AND GLASS DOORS

613.1 GENERAL.

THE PROVISIONS SET FORTH IN SECTION 613. OF THE IRC, SHALL CONTROL THE PERFORMANCE AND CONSTRUCTION REQUIREMENTS FOR EXTERIOR WINDOW SYSTEMS INSTALLED IN WALL SYSTEMS. WATERPROOFING, SEALING AND FLASHING SYSTEMS ARE NOT INCLUDED IN THE SCOPE OF THIS SECTION.

613.2 PERFORMANCE.

EXTERIOR WINDOWS AND DOORS SHALL BE DESIGNED TO RESIST THE DESIGN WIND LOADS SPECIFIED IN TABLE R301.2(2), ADJUSTED FOR HEIGHT AND EXPOSURE PER TABLE R301.2(3).

CHAPTER 7: WALL COVERING

R701 GENERAL

701.1 APPLICATION.

THE PROVISIONS SET FORTH IN CHAPTER 7 OF THE IRC, SHALL CONTROL THE DESIGN AND CONSTRUCTION OF THE INTERIOR AND EXTERIOR WALL COVERING FOR ALL BUILDINGS.

701.2 INSTALLATION.

PRODUCTS SENSITIVE TO ADVERSE WEATHER SHALL NOT BE INSTALLED UNTIL ADEQUATE WEATHER PROTECTION FOR THE INSTALLATION IS PROVIDED. EXTERIOR SHEATHING SHALL BE DRY BEFORE APPLYING EXTERIOR COVER.

CHAPTER 8: ROOF-CEILING CONSTRUCTION

R801 GENERAL

801.1 APPLICATION.

THE PROVISIONS SET FORTH IN CHAPTER 8 OF THE IRC, SHALL CONTROL THE DESIGN AND CONSTRUCTION OF THE ROOF-CEILING SYSTEM FOR ALL BUILDINGS.

801.2 REQUIREMENTS.

ROOF AND CEILING CONSTRUCTION SHALL BE CAPABLE OF ACCOMMODATING ALL LOADS IMPOSED ACCORDING TO SECTION R301 AND OF TRANSMITTING THE RESULTING LOADS TO THE SUPPORTING STRUCTURAL ELEMENTS.

801.3 ROOF DRAINAGE.

IN AREAS WHERE EXPANSIVE OR COLLAPSIBLE SOILS ARE KNOWN TO EXIST, ALL DWELLINGS SHALL HAVE A CONTROLLED METHOD OF WATER DISPOSAL FROM ROOFS THAT WILL COLLECT AND DISCHARGE ALL ROOF DRAINAGE TO THE GROUND SURFACE AT LEAST 5 FEET FROM FOUNDATION WALLS OR TO AN APPROVED DRAINAGE SYSTEM.

CHAPTER 9: ROOF ASSEMBLIES

R901 GENERAL

901.1 SCOPE.

THE PROVISIONS SET FORTH IN CHAPTER 9 OF THE IRC, SHALL GOVERN THE DESIGN, MATERIALS, CONSTRUCTION AND QUALITY OF ROOF ASSEMBLIES.

UNIFORM PLUMBING CODE

PROTECTION OF PIPING, MATERIALS, AND STRUCTURES

SECTION 313.12 RATPROOFING

- STRAINER PLATES ON DRAIN INLETS SHALL HAVE 3/4-INCH OPENINGS MAX.
METER BOXES SHALL BE CONSTRUCTED IN SUCH A MANNER THAT RATS CANNOT ENTER A BLDG BY FOLLOWING THE SERVICE PIPES FROM THE BOX INTO THE BLDG.
WHERE OPENINGS HAVE BEEN MADE IN WALLS, FLOORS, OR CLGS FOR THE PASSAGE OF PIPES, SUCH OPENINGS SHALL BE CLOSED AND PROTECTED BY THE INSTALLATION OF APPROVED METAL COLLARS SECURELY FASTENED TO THE ADJOINING STRUCTURE.
TUB WASTE OPENINGS IN FRAMED CONSTRUCTION TO CRAWL SPACES AT OR BELOW THE FIRST FLOOR SHALL BE PROTECTED BY THE INSTALLATION OF APPROVED METAL COLLARS OR METAL SCREEN, WITH 3/4-INCH OPENINGS MAX, AND SECURELY FASTENED TO THE ADJOINING STRUCTURE.

Table with 3 columns: No, Date, Description. Includes entry 1, 2023/07/25, SUB2 City Comment Submitted

ATERA DESIGN STUDIO
451 DUVALL AVE NE
RENTON, WA 98059



HU RESIDENCE
2448 72nd AVE SE, Mercer Island

PERMIT SET

CODE NOTES

PROJECT NO: 21014
ISSUE DATE: 2022/06/29

A001

SCALE 24X36:
* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

GENERAL CONSTRUCTION SPECS. AND CODE COMPLIANCE (2018 IRC, UPC & 2018 W.S.E.C.)

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Area Schedule (Energy/Venting Calculations)				
Name	Area	Perimeter	Level	
FLOOR INSUL	1541 SF	180'-0"	Level 1	
CLG - FLAT	507 SF	118'-0"	Level 2	
CLG - FLAT	126 SF	39'-6"	Level 2	
CLG - FLAT	53 SF	25'-6"	Level 2	
FLOOR INSUL	42 SF	33'-0"	Level 2	
FLOOR INSUL	199 SF	64'-0"	Level 2	
CLG - FLAT	482 SF	97'-0"	T.O. PL LVL2	
CLG - VAULT	383 SF	76'-0"	T.O. PL LVL2	
CLG - VAULT	167 SF	48'-0"	T.O. PL LVL2	
CLG - VAULT	103 SF	36'-6"	T.O. PL LVL2	

CRAWL SPACE VENTING									
NAME	AREA	PERIMETER	AREA CALCULATIONS			VENTS REQUIRED		VENTING PROVIDED	
			NET AREA	NET FREE AREA	VENTING REQUIRED	VENT SIZE: 14" x 8" VENT AT .75 EFF	TOTAL VENTS REQUIRED	TOTAL VENTS SHOWN	TOTAL VENTING AREA PROVIDED
1	1404 SF	178'-8"	1404 SF	300	4.68 SF	0.583	8.03	16	9 SF

ROOF VENTING SCHEDULE											
NAME	GROSS AREA	AREA CALCULATIONS			EAVE/PARAPET VENTING			ROOF JACKS			NOTES
		NET VENTABLE AREA	REQUIRED VENTING	% AT EAVES	REQUIRED EAVE	LF OF VENT	PROVIDED	REQUIRED JACKS	# OF JACKS	AREA PROVIDED	
1A	437 SF	0 SF	0.00 SF	0%	0.00 SF	0	0.00 SF	0.00 SF	0	0.00 SF	SPRAY FOAM PER PLANS
1B	38 SF	0 SF	0.00 SF	0%	0.00 SF	0	0.00 SF	0.00 SF	0	0.00 SF	SPRAY FOAM PER PLANS
1C	97 SF	0 SF	0.00 SF	0%	0.00 SF	0	0.00 SF	0.00 SF	0	0.00 SF	SPRAY FOAM PER PLANS
2A	1013 SF	0 SF	0.00 SF	0%	0.00 SF	0	0.00 SF	0.00 SF	0	0.00 SF	SPRAY FOAM PER PLANS

SPRAY FOAM NOTES:

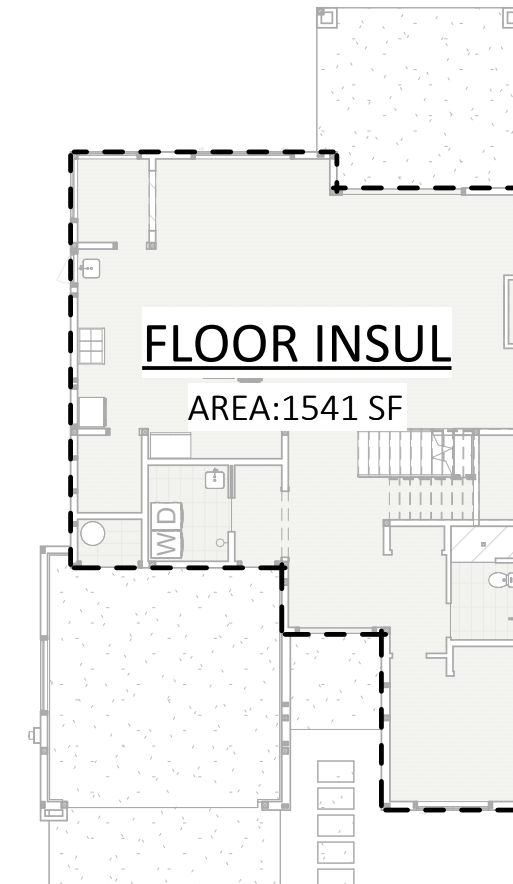
- WHERE SPRAY FOAM IS NOTED ON THE PLANS, NO VENTING IS REQUIRED: PROVIDE MIN 2" CLOSED CELL SPRAY FOAM INSULATION DIRECTLY TO THE UNDERSIDE OF THE ROOF/FLOOR SHEATHING.
- PROVIDE SOLID EAVE BLOCKING, TYP
- A COPY OF THE ICC-ES REPORT FOR THE INSULATION PRODUCT MUST BE PROVIDED ON SITE FOR THE FIELD INSPECTOR. THE APPLIED SPRAY FOAM MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS BY A CERTIFIED INSTALLER

CRAWL SPACE VENTING NOTES:

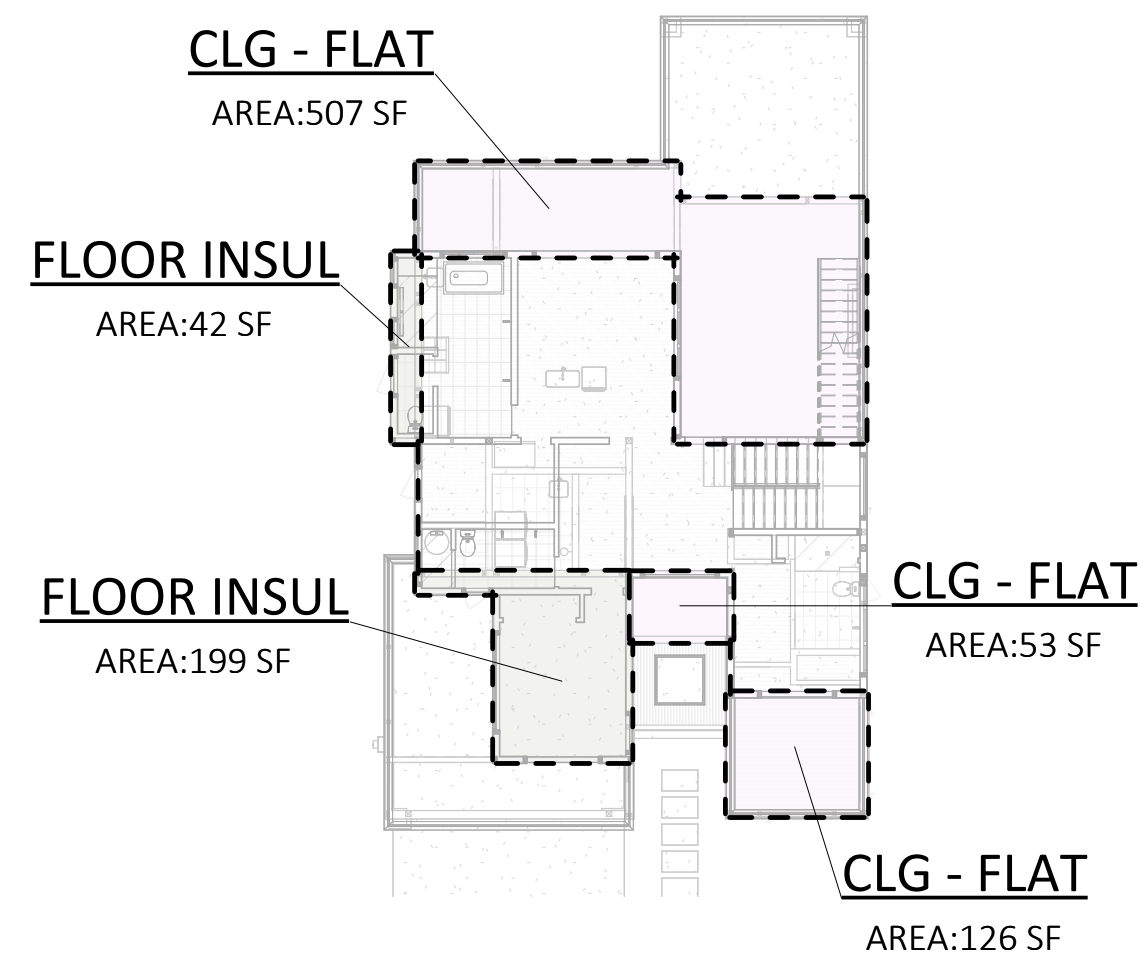
- THE UNCONDITIONED, UNDER-FLOOR, SPACE BETWEEN THE BOTTOM OF THE FLOOR JOISTS AND THE EARTH UNDER ANY BUILDING SHALL HAVE VENTILATION OPENINGS THROUGH FOUNDATION WALLS OR EXTERIOR WALLS.
- A GROUND COVER OF SIX MIL (0.006 INCH THICK BLACK POLYETHYLENE OR APPROVED EQUAL SHALL BE LAID OVER THE GROUND WITHIN CRAWL SPACES. THE GROUND COVER SHALL BE OVERLAPPED SIX INCHES MINIMUM AT THE JOINTS AND SHALL EXTEND TO THE FOUNDATION WALL.
- THE MINIMUM NET AREA OF VENTILATION OPENINGS SHALL NOT BE LESS THAN 1 SQUARE FOOT FOR EACH 300 SQUARE FEET OF UNDER-FLOOR AREA. REQUIRED OPENINGS SHALL BE EVENLY PLACED TO PROVIDE CROSS VENTILATION OF THE SPACE EXCEPT ONE SIDE OF THE BUILDING SHALL BE PERMITTED TO HAVE NO VENTILATION OPENINGS.
- VENTILATION OPENINGS SHALL BE COVERED FOR THEIR HEIGHT AND WIDTH WITH ANY OF THE FOLLOWING MATERIALS PROVIDED THAT THE LEAST DIMENSION OF THE COVERING SHALL NOT EXCEED 1/4 INCH:
 - PERFORATED SHEET METAL PLATES NOT LESS THAN 0.070 INCH THICK.
 - EXPANDED SHEET METAL PLATES NOT LESS THAN 0.047 INCH THICK.
 - CAST-IRON GRILL OR GRATING.
 - EXTRUDED LOAD-BEARING BRICK VENTS.
 - HARDWARE CLOTH OF 0.035 INCH (0.89 MM) WIRE OR HEAVIER.
 - CORROSION-RESISTANT WIRE MESH, WITH THE LEAST DIMENSION BEING 1/8 INCH

AREA SCHEDULE ...	
NAME	AREA
Garage	435 SF
Main Floor	1539 SF
Upper Floor	1022 SF
2996 SF	
Covr'd Patio	246 SF
Covr'd Porch	61 SF
308 SF	
3303 SF	

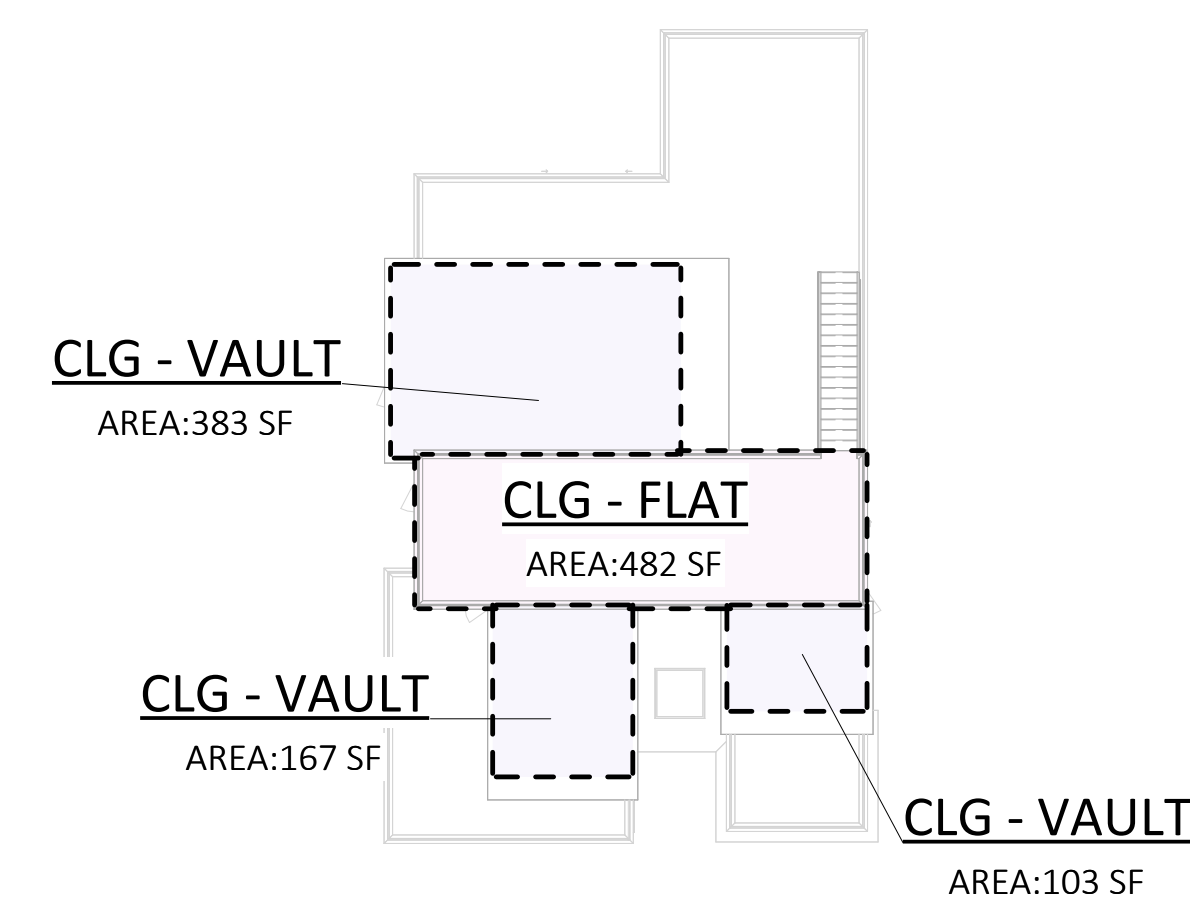
F.A.R. COVERAGE CALCULATIONS:
 SITE AREA: 7,200.06 SF
 MAX LOT COVERAGE: 45% OF NET LOT AREA, OR 3,000 SF, WHICHEVER IS LESS. 19.02.020 D.3.A.
 PROPOSED FLOOR AREA: 2,996 SF
 PROPOSED F.A.R.: 41.6%



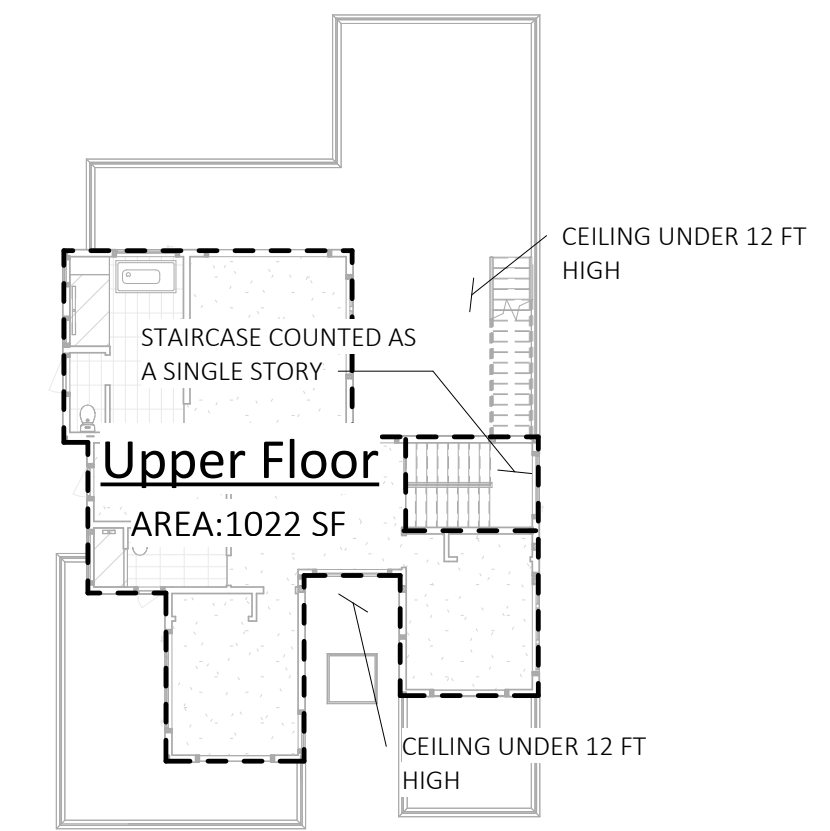
5 WSEC ENERGY CALCS - MAIN
 SCALE: 1/16" = 1'-0"



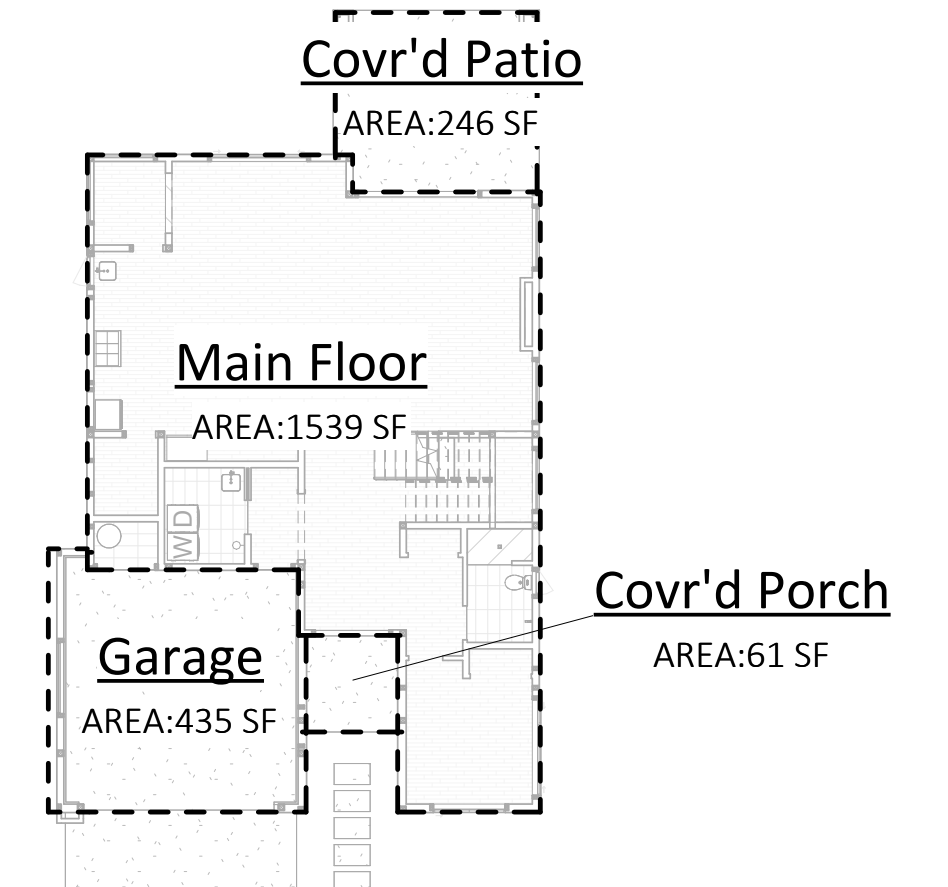
4 WSEC ENERGY CALCS - UPPER
 SCALE: 1/16" = 1'-0"



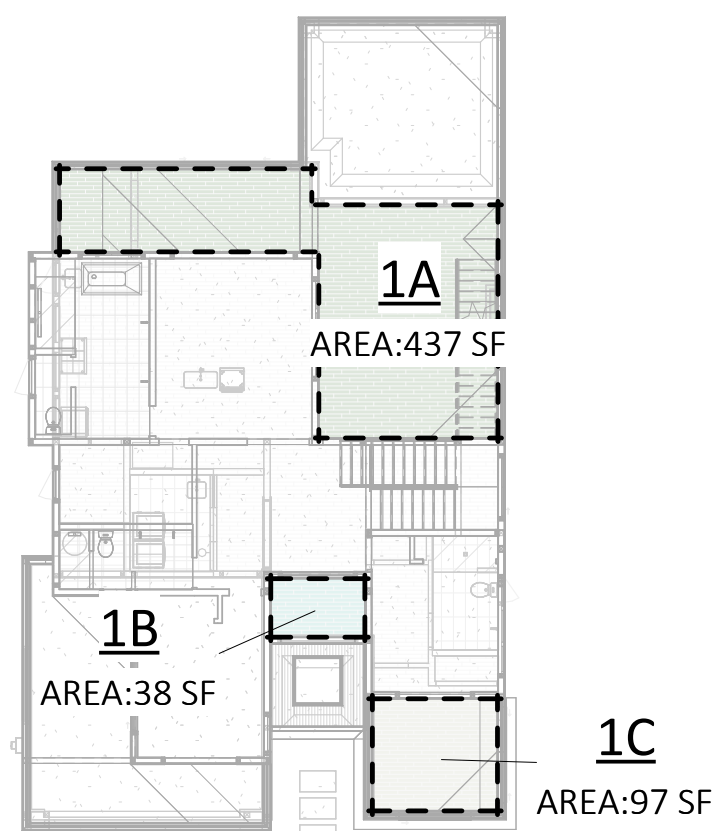
3 WSEC ENERGY CALCS - ROOF
 SCALE: 1/16" = 1'-0"



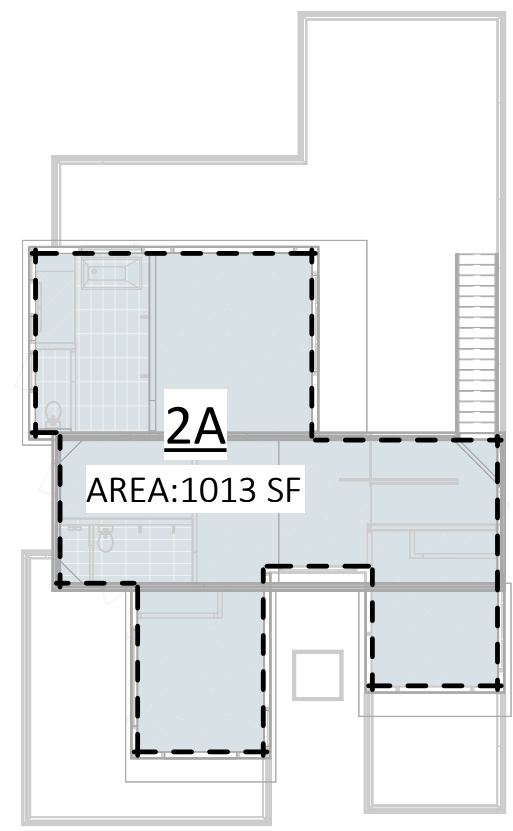
2 GROSS AREA PLAN - UPPER
 SCALE: 1/16" = 1'-0"



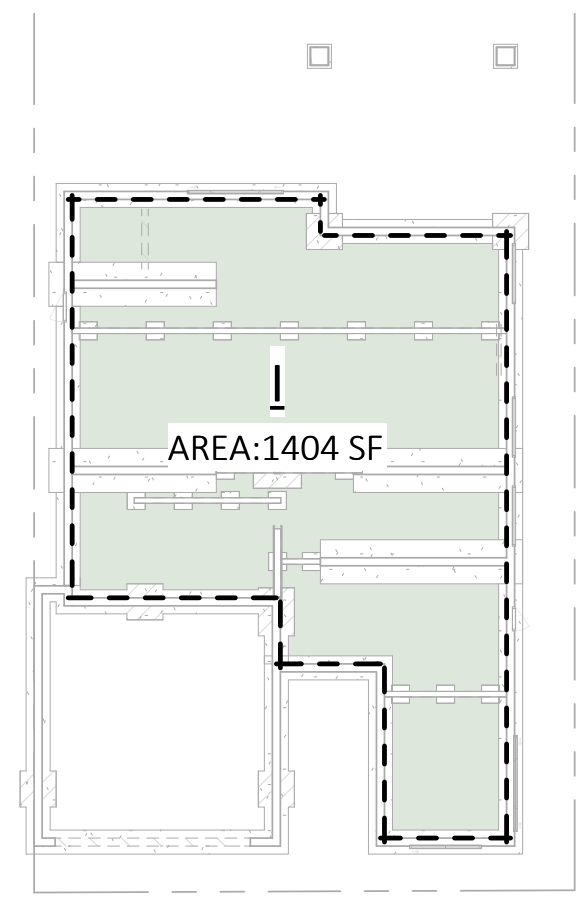
1 GROSS AREA PLAN - MAIN
 SCALE: 1/16" = 1'-0"



7 ROOF VENTING - MAIN
 SCALE: 1/16" = 1'-0"



6 ROOF VENTING - UPPER
 SCALE: 1/16" = 1'-0"



8 CRAWL SPACE VENTING CALCS
 SCALE: 1/16" = 1'-0"

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PERMIT SET

ENERGY/VENTING CALCULATIONS

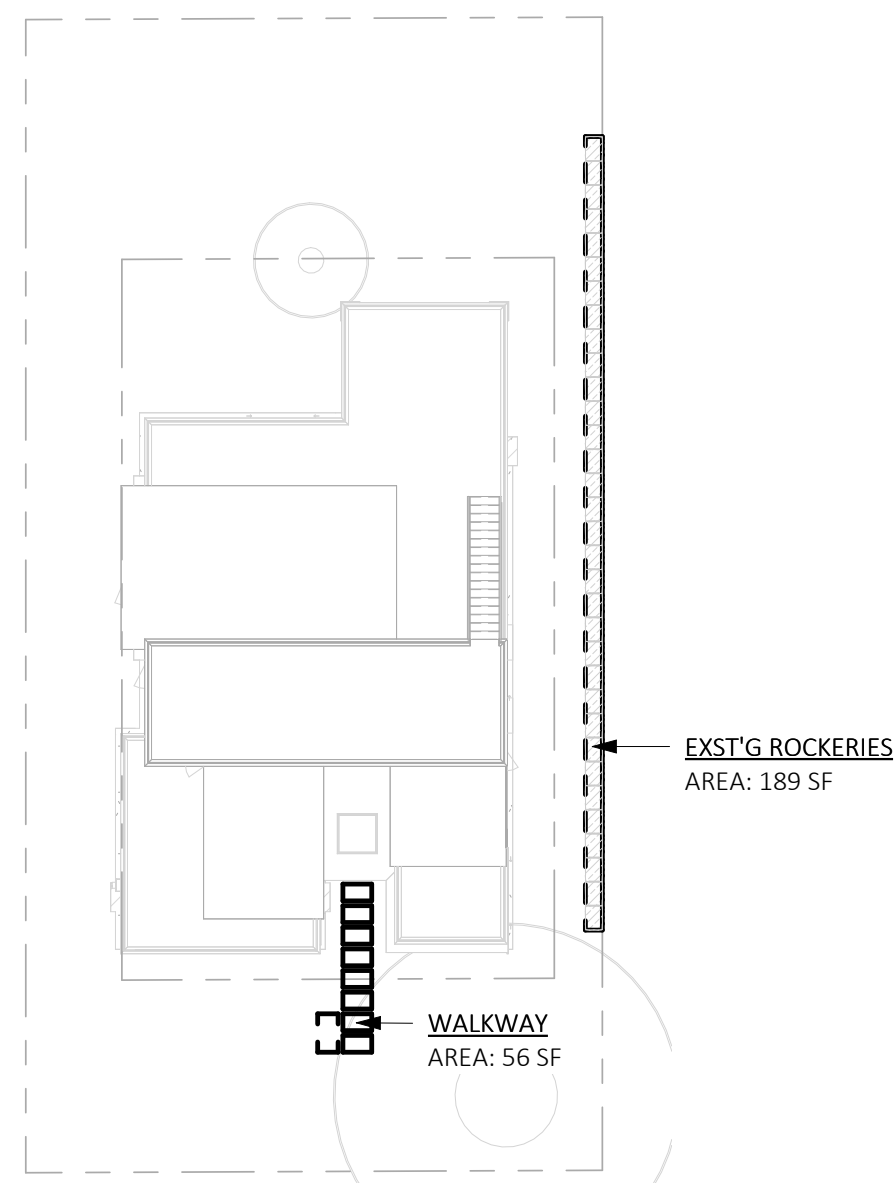
PROJECT NO: 21014
 ISSUE DATE: 2022/06/29

A003

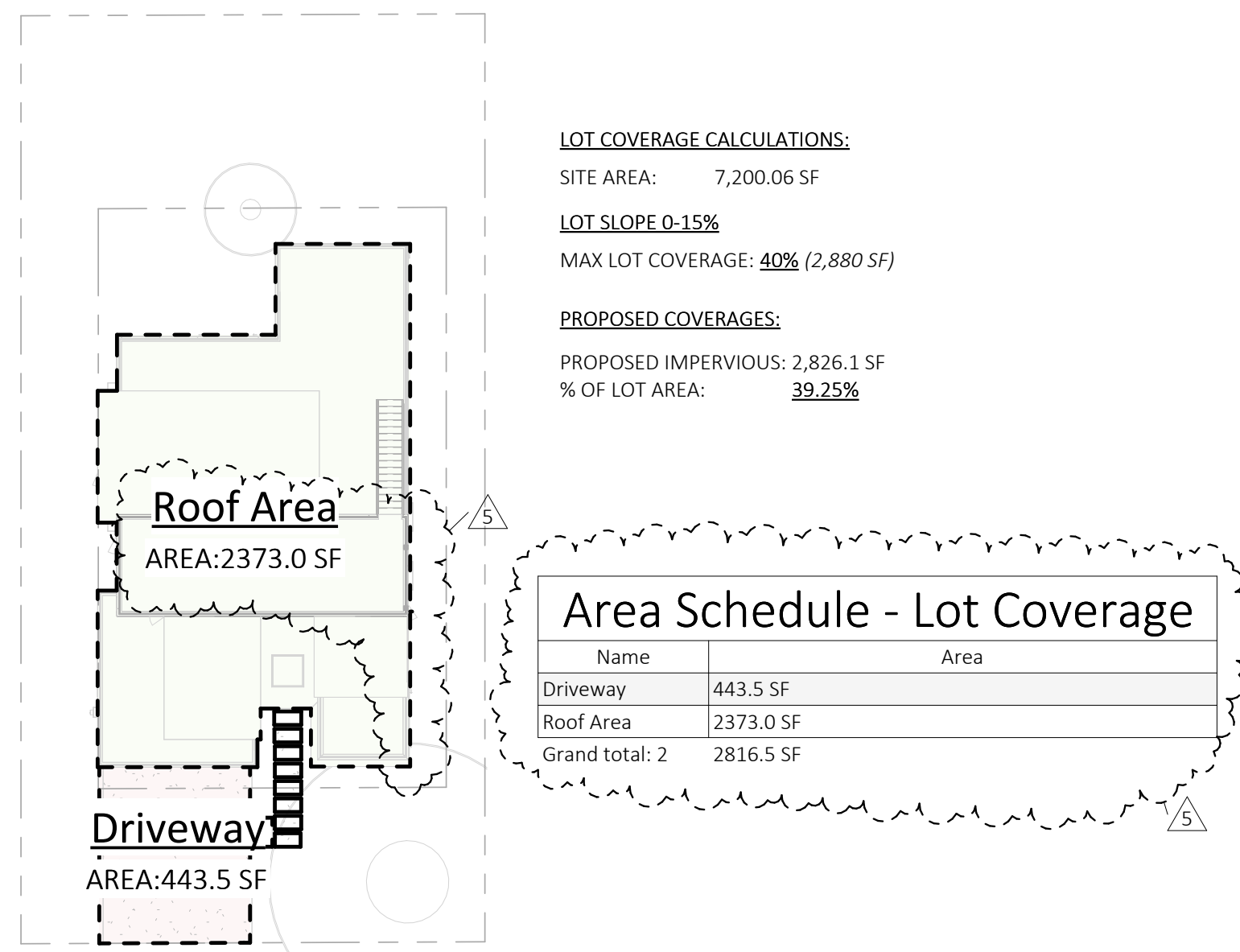
SCALE 24X36: 1/16" = 1'-0"
 * NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



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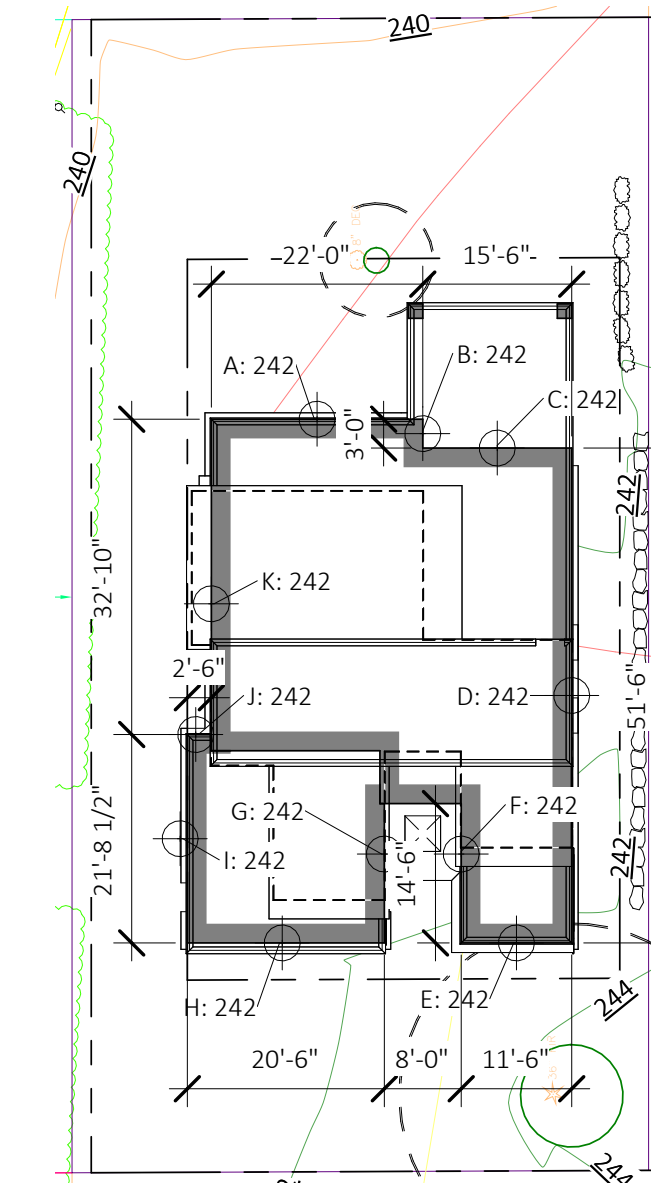


HARDSCAPE COVERAGE CALCULATIONS:
 SITE AREA: 7,200.06 SF
LOT SLOPE 0-15%
 MAX HARDSCAPES: 9% (648 SF)
EXISTING HARDSCAPE:
 EXST'G HARDSCAPE: 1,262 SF
 REMOVED HARDSCAPE: 1,073 SF
 HARDSCAPE TO REMAIN: 189 SF
PROPOSED HARDSCAPES:
 PROPOSED HARDSCAPES: 56 SF
TOTAL HARDSCAPE:
 TOTAL HARDSCAPE: 245 SF
 % OF LOT AREA: 3.4%



LOT COVERAGE CALCULATIONS:
 SITE AREA: 7,200.06 SF
LOT SLOPE 0-15%
 MAX LOT COVERAGE: 40% (2,880 SF)
PROPOSED COVERAGES:
 PROPOSED IMPERVIOUS: 2,826.1 SF
 % OF LOT AREA: 39.25%

Name	Area
Driveway	443.5 SF
Roof Area	2373.0 SF
Grand total: 2	2816.5 SF



TREE RETENTION CALCULATIONS:
 TOTAL TREES RETAINED: 40"
 TOTAL TREES TO BE REMOVED: 0"
 PROPOSED TREE RETENTION %: 100%

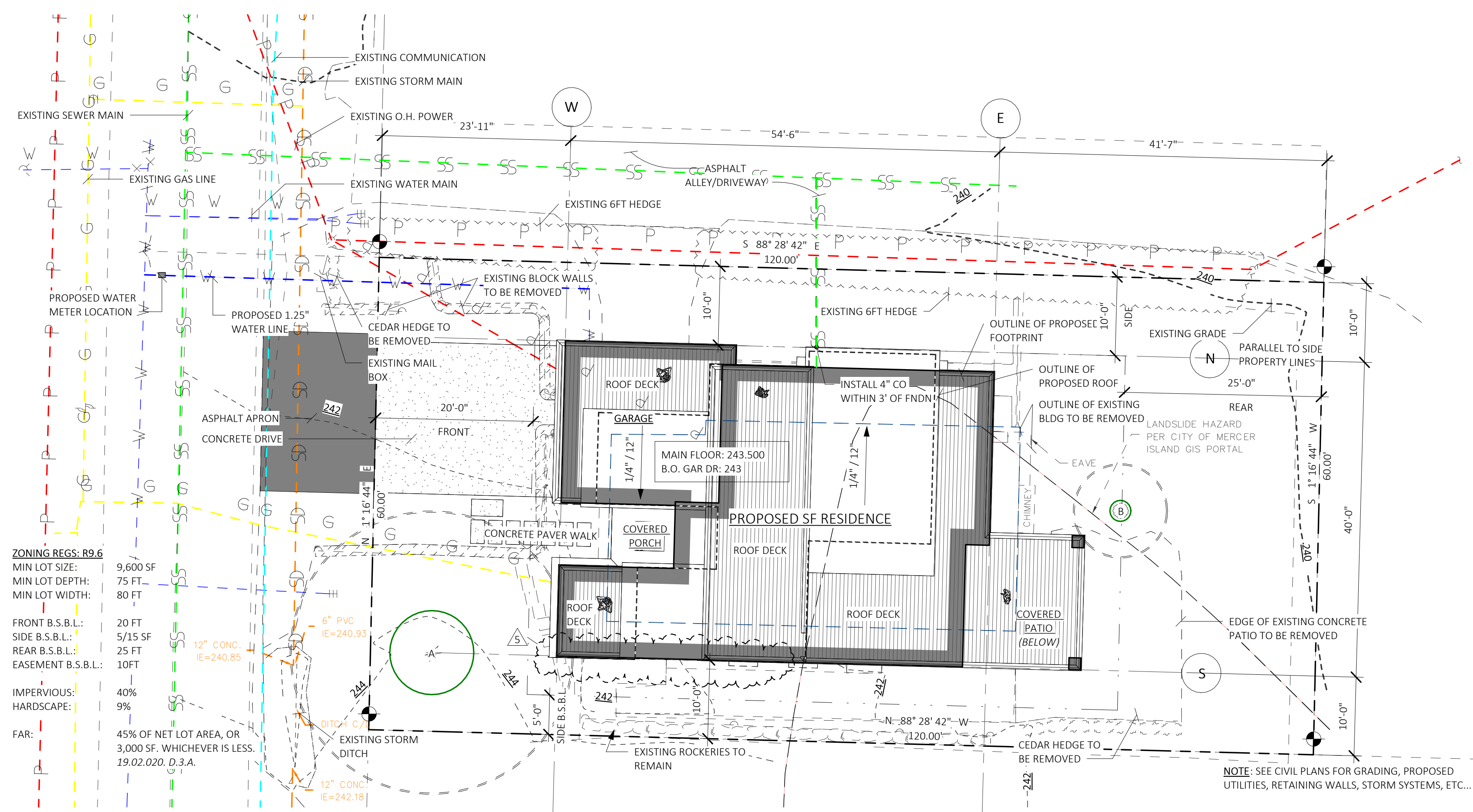
A.B.E. ID	A.B.E.	SEGMENT LENGTH	A.B.E. * LENGTH
A	242	22	5324
B	242	3	726
C	242	15.5	3751
D	242	51.5	12463
E	242	11.5	2783
F	242	14.5	3509
G	242	14.5	3509
H	242	21.25	5142.5
I	242	21.9	5299.8
J	242	3.25	786.5
K	242	32.9	7961.8
Grand total: 11		211.8	51255.6

AVERAGE BLDG ELEVATION CALCULATIONS:
 51,255.6 / 211.8 = 242 A.B.E.

3 HARDSCAPE COVERAGE CALCS
 SCALE: 1" = 20'-0"

2 LOT COVERAGE CALCS
 SCALE: 1" = 20'-0"

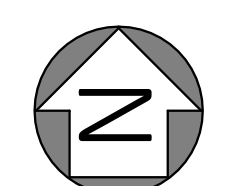
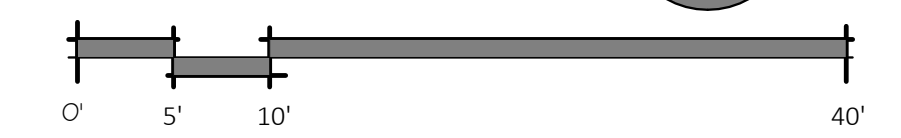
1 AVERAGE BLDG HT CALCULATIONS
 SCALE: 1" = 20'-0"



ZONING REGS: R9.6
 MIN LOT SIZE: 9,600 SF
 MIN LOT DEPTH: 75 FT
 MIN LOT WIDTH: 80 FT
 FRONT B.S.B.L.: 20 FT
 SIDE B.S.B.L.: 5/15 SF
 REAR B.S.B.L.: 25 FT
 EASEMENT B.S.B.L.: 10 FT
 IMPERVIOUS HARDSCAPE: 40%
 FAR: 45% OF NET LOT AREA, OR 3,000 SF, WHICHEVER IS LESS, 19.02.020, D.3.A.

NOTE: SEE CIVIL PLANS FOR GRADING, PROPOSED UTILITIES, RETAINING WALLS, STORM SYSTEMS, ETC...

SEE SHEET A002 FOR F.A.R. CALCULATIONS



MARK	RETAINED	EXISTING D.B.H.	RETAINED D.B.H.	TYPE SPECIES
A	Yes	32"	32"	DOUGLAS FIR
B	Yes	8"	8"	JAPANESE MAPLE
2		40"	40"	

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SITE PLAN & AREA/HT CALCULATIONS

PROJECT NO: 21014
 ISSUE DATE: 2022/06/29

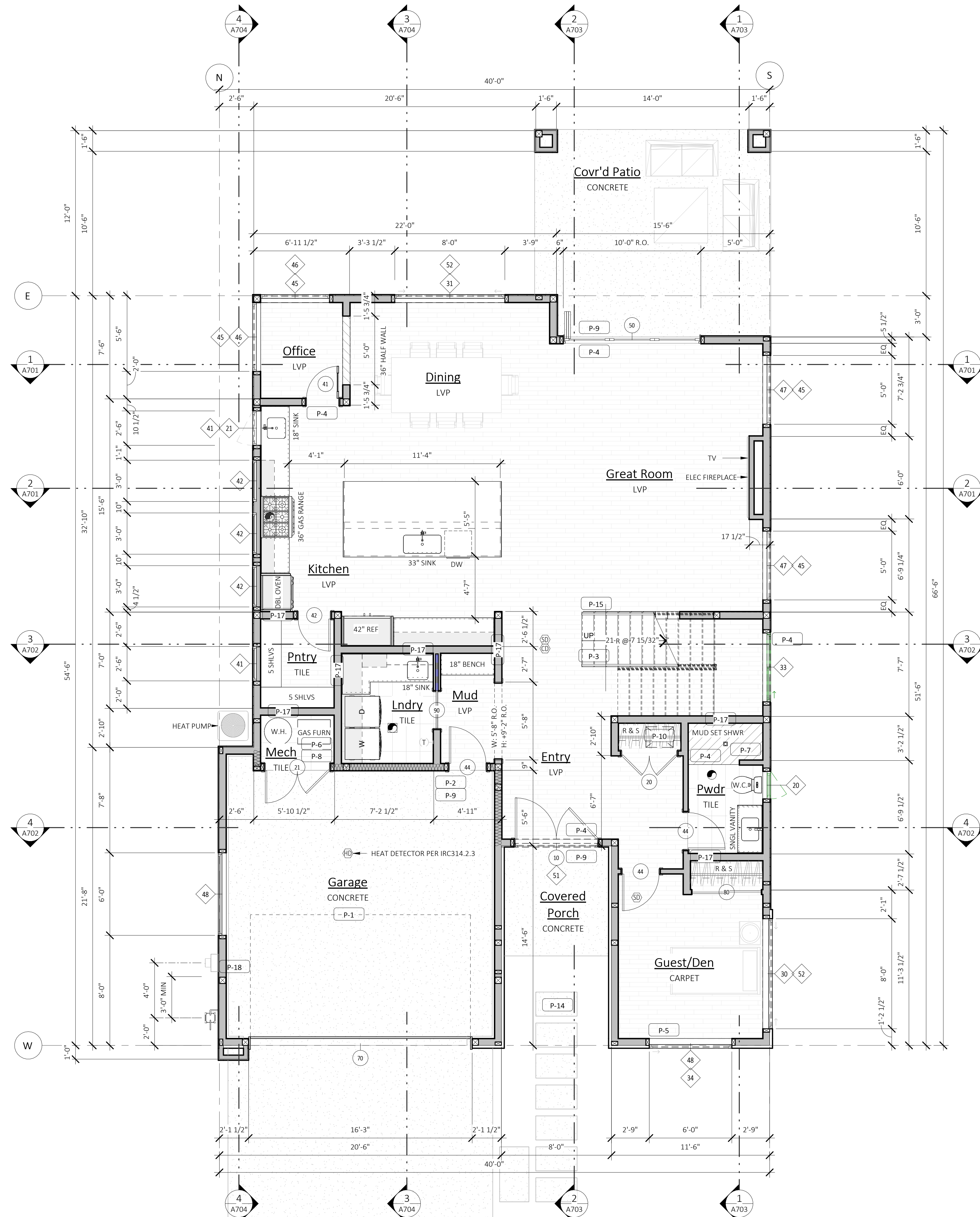
A101

SCALE 24X36: As indicated
 *NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

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DOOR SCHEDULE						
TYPE MARK	DESCRIPTION	SIZE		COUNT	DOOR PANEL	
		WIDTH	HT		CONSTRUCTION	GLAZING AREA
10	HINGED DOUBLE EXTERIOR - ENTRY	6'-0"	8'-0"	1	S.C.	0 SF
20	HINGED DOUBLE INTERIOR PANEL	4'-0"	8'-0"	1	S.C.	0 SF
21	HINGED DOUBLE INTERIOR PANEL	4'-8"	8'-0"	1	S.C.	0 SF
22	HINGED DOUBLE INTERIOR PANEL	5'-0"	8'-0"	1	S.C.	0 SF
30	HINGED - SINGLE - EXTERIOR - FULL LITE	3'-0"	8'-0"	1	S.C.	0 SF
40	HINGED - SINGLE - INTERIOR - FULL LITE	2'-4"	7'-0"	1	S.C.	0 SF
41	HINGED - SINGLE - INTERIOR - FULL LITE	2'-4"	8'-0"	1	S.C.	0 SF
42	HINGED - SINGLE - INTERIOR	2'-4"	8'-0"	4	S.C.	0 SF
43	HINGED - SINGLE - INTERIOR	2'-6"	8'-0"	2	S.C.	0 SF
44	HINGED - SINGLE - INTERIOR	2'-8"	8'-0"	3	S.C.	0 SF
50	LA CANTINA FOLDING DOOR	10'-0"	9'-11 1/2"	1		0 SF
60	2-PANEL SLIDING GLASS DOOR	6'-0"	8'-0"	2	VINYL	96 SF
61	3-PANEL SLIDING GLASS DOOR	10'-0"	7'-10"	1	VINYL	78 SF
70	OVERHEAD GARAGE DOOR	16'-0"	9'-0"	1		0 SF
80	SLIDING CLOSET - BI-PASS	5'-0"	8'-0"	1	H.C.	0 SF
81	SLIDING CLOSET - BI-PASS	6'-0"	8'-0"	2	H.C.	0 SF
90	SLIDING INTERIOR POCKET	2'-8"	8'-0"	1	S.C.	0 SF
Grand total: 25						174 SF

WINDOW SCHEDULE						
TYPE MARK	STYLE	SIZE			COUNT	IS EGRESS
		WIDTH	HT	AREA		
10	Double Casement + Picture	8'-0"	6'-0"	96 SF	2	No
20	Casement	2'-0"	4'-6"	18 SF	2	No
21	Casement	2'-6"	4'-6"	11 SF	1	Yes
22	Casement	2'-6"	6'-0"	15 SF	1	Yes
23	Casement	3'-0"	4'-6"	14 SF	1	Yes
30	Horz Sliding Dbl-Vent	8'-0"	5'-0"	80 SF	2	Yes
31	Horz Sliding Dbl-Vent	8'-0"	6'-0"	48 SF	1	Yes
32	Horz Sliding Half-Vent	5'-0"	5'-0"	25 SF	1	Yes
33	Horz Sliding Half-Vent	5'-0"	6'-0"	30 SF	1	Yes
34	Horz Sliding Half-Vent	6'-0"	5'-0"	30 SF	1	Yes
40	Picture	2'-0"	2'-0"	8 SF	2	No
41	Picture	2'-6"	1'-6"	8 SF	2	No
42	Picture	3'-0"	1'-6"	14 SF	3	No
43	Picture	3'-0"	5'-0"	15 SF	1	No
44	Picture	4'-0"	2'-0"	8 SF	1	No
45	Picture	5'-0"	1'-6"	30 SF	4	No
46	Picture	5'-0"	4'-0"	60 SF	3	No
47	Picture	5'-0"	6'-0"	90 SF	3	No
48	Picture	6'-0"	1'-6"	18 SF	2	No
49	Picture	6'-0"	4'-0"	24 SF	1	No
50	Picture	6'-0"	6'-0"	36 SF	1	No
51	Picture	6'-2"	1'-6"	9 SF	1	No
52	Picture	8'-0"	1'-6"	24 SF	2	No
80	Skylight	4'-0"	4'-0"	16 SF	1	
Grand total: 40						726 SF



GENERAL PLAN NOTES:

- SEE SHEET A001 FOR GENERAL CONSTRUCTION SPECIFICATIONS.
- SEE BUILDING ELEVATIONS FOR WINDOW OPERATION.
- SEE "TYPICAL BUILDING MATERIALS" LIST ON THE ELEVATION SHEET(S).
- FOR THE SYMBOLS & LEGEND SEE SHEET A000.
- SEE STRUCTURAL SHEETS FOR SHEARWALL DESIGNATIONS & HOLD-DOWNS AND SHEET(S) S201-S203 FOR SHEARWALL DETAILS / SCHEDULE.
- SEE SHEET A201-A301 FOR WINDOWS SCHEDULE. SEE SHEET A201-A301 FOR DOOR SCHEDULE. SEE ELEVATIONS SHEETS FOR WINDOW OPERATION.
- WINDOW DIMENSIONS SHOWN ARE SUGGESTED NOMINAL/ROUGH OPENINGS, NET DIMENSIONS TO BE PER MANUFACTURER.

KEYNOTES - FLOORPLAN

ID	DESCRIPTION
P-1	GARAGE/HOUSE OCCUPANCY SEPARATION. PER IRC R302.6 a) 1/2" GYP. AT GARAGE SIDE BETWEEN RESIDENCE AND ATTIC. b) 5/8" TYPE "X" GYP SEPARATING HABITABLE ROOMS ABOVE. c) 1/2" GYP. AT WALLS SUPPORTING HABITABLE ROOMS ABOVE."
P-2	DOOR BETWEEN GARAGE AND HOUSE SHALL BE EQUIPPED WITH A SELF-CLOSING DEVICE, AND BE A MIN 1 3/8" THICK SOLID WOOD DOOR OR 20 MIN. F.R. DOOR. PER IRC SECTION R302.5.1
P-3	STAIR ASSEMBLY: PER IRC SECTION R311.7.7 a) WIDTH 36" MIN., HEADROOM 6'-8" MIN. b) RISER 7-3/4" MAX.; TREAD 10" MIN. c) TOP OF HANDRAIL AT 34" MIN. AND 38" MAX ABOVE TREAD NOSING d) HANDRAIL WIDTH 1-1/4" MIN. AND 2" MAX. e) INSTALL FIRE BLOCKING IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. f) COVER USABLE SPACE UNDER STAIR WITH 1/2" GYP."
P-4	SAFETY GLAZING PER IRC SECTION R308.4
P-5	EGRESS WINDOW PER IRC SECTION R310. PROVIDE MIN NET CLEARANCE OF 5 SF AT GRADE FLOOR OPENINGS AND 5.7 SF ABOVE. MIN SILL HEIGHT TO BE 44" A.F.F.
P-6	IGNITERS: A) FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN ABOVE TOP OF SLAB, PROVIDE (2) LAYERS OF FLOOR SHEATHING OVER FRAMING. PER IRC SECTION G2408. B) HEAT-PRODUCING EQUIPMENT AND APPLIANCES SHALL BE INSTALLED TO MAINTAIN THE REQUIRED CLEARANCES TO COMBUSTIBLE CONSTRUCTION AS SPECIFIED IN THE LISTING AND MANUFACTURER'S INSTRUCTIONS. PER IRC G2408.5
P-7	COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NONABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS. PER IRC SECTION R307.2. FOR GROUND FLR WASTE OPENING REQ SEE UPC NOTES ON SHT A001
P-8	HIGH EFFICIENCY GAS FURNACE. SIZE PER WSEC PRESCRIPTIVE ENERGY CODE COMPLIANCE FORMS. a) PROVIDE DUCT LEAKAGE, SEALING & TESTING PER WSEC 502 & 503. b) THERMOSTAT PER WSEC 503.8. c) SEE WSEC NOTES ON SHEET A001
P-9	7-3/4" MAX. RISER WITH 10" MIN. TREAD DEPTH. IF MORE THAN (4) RISERS HANDRAIL REQUIRED PER IRC SECTION R311.7.7. a) PROVIDE 36"x36" MIN. LANDING AT EXTERIOR DOORS PER IRC SECTION R311.3
P-10	PROVIDE CRAWL SPACE ACCESS, MIN. 18" X 24" UNOBSTRUCTED ACCESS. PER IRC SECTION R408.4
P-14	SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS.
P-15	36" MIN. GUARDRAIL. AT STAIRS SLOPES AT 36" ABOVE STAIR NOSINGS. PER SEE IRC SECTION 312
P-17	2x6 WALL FOR PLUMBING / HVAC.
P-18	A PERMANENT CERTIFICATE SHALL BE POSTED WITHIN 36" OF THE ELECTRICAL DISTRIBUTION PANEL. SEE SECTION M1505.4 ON SHEET A002 THE MAIN ELECTRICAL PANEL SHALL HAVE A RESERVED SPACE FOR FUTURE SOLAR ELECTRIC INSTALLATION PER IRC T103.9. A PERMANENT CERTIFICATE FOR SOLAR-READY ZONE IS TO BE POSTED PER IRC T103.10.

AREA SCHEDULE ...

NAME	AREA
Garage	435 SF
Main Floor	1539 SF
Upper Floor	1022 SF
	2996 SF
Cov'd Patio	246 SF
Cov'd Porch	61 SF
	308 SF
	3303 SF

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HU RESIDENCE
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PERMIT SET
 MAIN FLOOR

PROJECT NO: 21014
 ISSUE DATE: 2022/06/29

A301

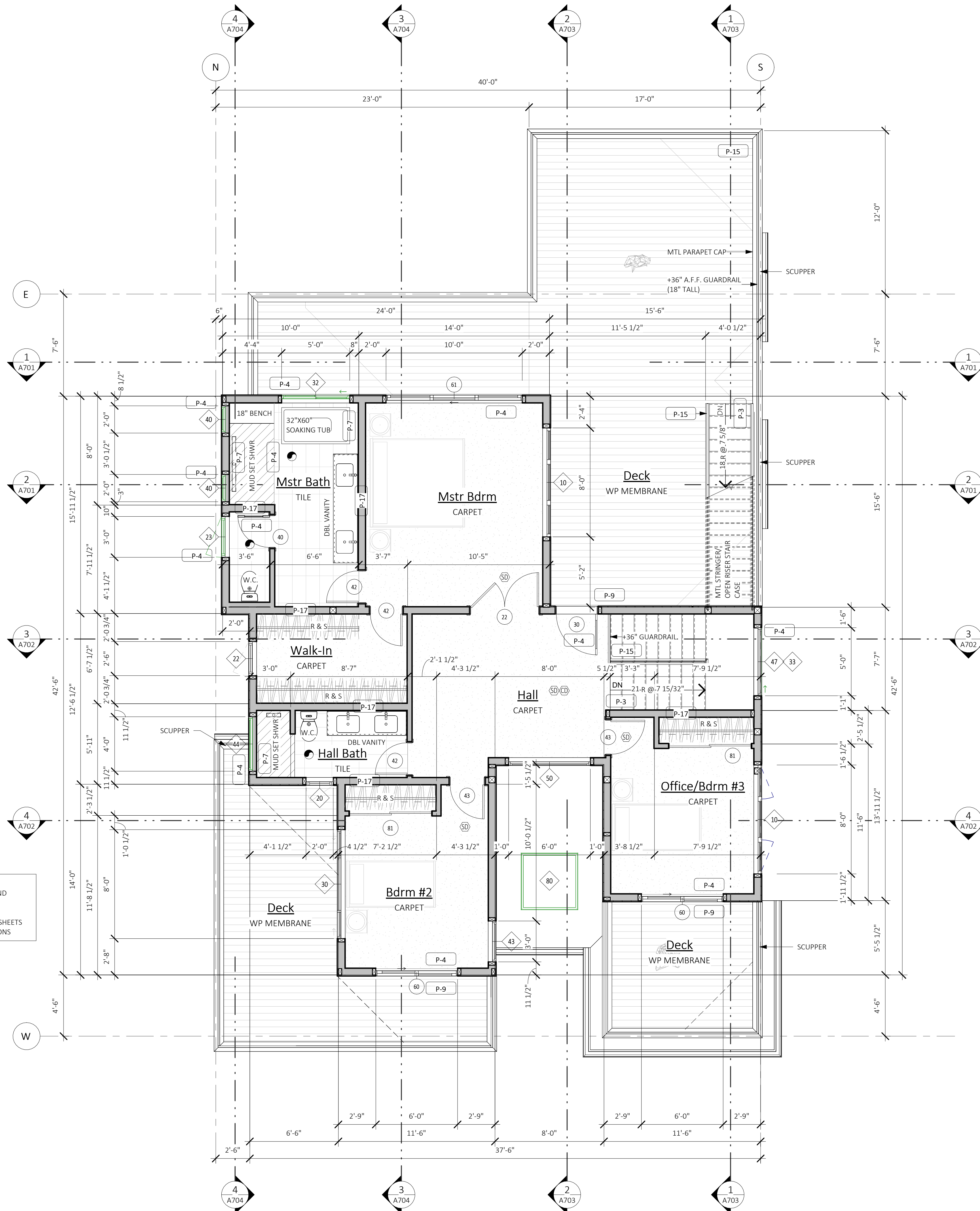
SCALE 24X36: 1/4" = 1'-0"
 * NOTE: 1 X 17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



DOOR SCHEDULE						
TYPE MARK	DESCRIPTION	SIZE		COUNT	DOOR PANEL	
		WIDTH	HT		CONSTRUCTION	GLAZING AREA
10	HINGED DOUBLE EXTERIOR - ENTRY	6'-0"	8'-0"	1	S.C.	0 SF
20	HINGED DOUBLE INTERIOR PANEL	4'-0"	8'-0"	1	S.C.	0 SF
21	HINGED DOUBLE INTERIOR PANEL	4'-8"	8'-0"	1	S.C.	0 SF
22	HINGED DOUBLE INTERIOR PANEL	5'-0"	8'-0"	1	S.C.	0 SF
30	HINGED - SINGLE - EXTERIOR - FULL LITE	3'-0"	8'-0"	1	S.C.	0 SF
40	HINGED - SINGLE - INTERIOR - FULL LITE	2'-4"	7'-0"	1	S.C.	0 SF
41	HINGED - SINGLE - INTERIOR - FULL LITE	2'-4"	8'-0"	1	S.C.	0 SF
42	HINGED - SINGLE - INTERIOR	2'-4"	8'-0"	4	S.C.	0 SF
43	HINGED - SINGLE - INTERIOR	2'-6"	8'-0"	2	S.C.	0 SF
44	HINGED - SINGLE - INTERIOR	2'-8"	8'-0"	3	S.C.	0 SF
50	LA CANTINA FOLDING DOOR	10'-0"	9'-11 1/2"	1		0 SF
60	2-PANEL SLIDING GLASS DOOR	6'-0"	8'-0"	2	VINYL	96 SF
61	3-PANEL SLIDING GLASS DOOR	10'-0"	7'-10"	1	VINYL	78 SF
70	OVERHEAD GARAGE DOOR	16'-0"	9'-0"	1		0 SF
80	SLIDING CLOSET - BI-PASS	5'-0"	8'-0"	1	H.C.	0 SF
81	SLIDING CLOSET - BI-PASS	6'-0"	8'-0"	2	H.C.	0 SF
90	SLIDING INTERIOR POCKET	2'-8"	8'-0"	1	S.C.	0 SF
Grand total: 25						174 SF

WINDOW SCHEDULE						
TYPE MARK	STYLE	SIZE			COUNT	IS EGRESS
		WIDTH	HT	AREA		
10	Double Casement + Picture	8'-0"	6'-0"	96 SF	2	No
20	Casement	2'-0"	4'-6"	18 SF	2	No
21	Casement	2'-6"	4'-6"	11 SF	1	Yes
22	Casement	2'-6"	6'-0"	15 SF	1	Yes
30	Casement	3'-0"	4'-6"	14 SF	1	Yes
33	Horz Sliding Dbl-Vent	8'-0"	5'-0"	80 SF	2	Yes
31	Horz Sliding Dbl-Vent	8'-0"	6'-0"	48 SF	1	Yes
32	Horz Sliding Half-Vent	5'-0"	5'-0"	25 SF	1	Yes
33	Horz Sliding Half-Vent	5'-0"	6'-0"	30 SF	1	Yes
34	Horz Sliding Half-Vent	6'-0"	5'-0"	30 SF	1	Yes
40	Picture	2'-0"	2'-0"	8 SF	2	No
41	Picture	2'-6"	1'-6"	8 SF	2	No
42	Picture	3'-0"	1'-6"	14 SF	3	No
43	Picture	3'-0"	5'-0"	15 SF	1	No
44	Picture	4'-0"	2'-0"	8 SF	1	No
45	Picture	5'-0"	1'-6"	30 SF	4	No
46	Picture	5'-0"	4'-0"	60 SF	3	No
47	Picture	5'-0"	6'-0"	90 SF	3	No
48	Picture	6'-0"	1'-6"	18 SF	2	No
49	Picture	6'-0"	4'-0"	24 SF	1	No
50	Picture	6'-0"	6'-0"	36 SF	1	No
51	Picture	6'-2"	1'-6"	9 SF	1	No
52	Picture	8'-0"	1'-6"	24 SF	2	No
80	Skylight	4'-0"	4'-0"	16 SF	1	
Grand total: 40						726 SF

NOTE:
SPECIAL INSPECTION OF THE ROOF MEMBRANE AND PEDESTAL DECKING INSTALLATION REQUIRED.
SEE SHEETD401 FOR WATERPROOF DECKING CUT SHEETS AND DETAILS. INSTALL PER MFR RECOMMENDATIONS



GENERAL PLAN NOTES:

- SEE SHEET A001 FOR GENERAL CONSTRUCTION SPECIFICATIONS.
- SEE BUILDING ELEVATIONS FOR WINDOW OPERATION.
- SEE "TYPICAL BUILDING MATERIALS" LIST ON THE ELEVATION SHEET(S).
- FOR THE SYMBOLS & LEGEND SEE SHEET A000.
- SEE STRUCTURAL SHEETS FOR SHEARWALL DESIGNATIONS & HOLDDOWNS AND SHEET(S) S201-S203 FOR SHEARWALL DETAILS/SCHEDULE.
- SEE SHEET A201-A301 FOR WINDOWS SCHEDULE. SEE SHEET A201-A301 FOR DOOR SCHEDULE. SEE ELEVATIONS SHEETS FOR WINDOW OPERATION.
- WINDOW DIMENSIONS SHOWN ARE SUGGESTED NOMINAL/ROUGH OPENINGS, NET DIMENSIONS TO BE PER MANUFACTURER.

KEYNOTES - FLOORPLAN

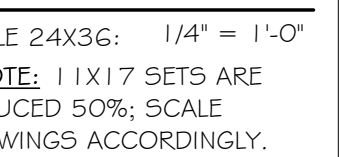
ID	DESCRIPTION
P-1	GARAGE/HOUSE OCCUPANCY SEPARATION. PER IRC R302.6 a) 1/2" GYP. AT GARAGE SIDE BETWEEN RESIDENCE AND ATTIC. b) 5/8" TYPE 'X' GYP SEPARATING HABITABLE ROOMS ABOVE. c) 1/2" GYP. AT WALLS SUPPORTING HABITABLE ROOMS ABOVE."
P-2	DOOR BETWEEN GARAGE AND HOUSE SHALL BE EQUIPPED WITH A SELF-CLOSING DEVICE, AND BE A MIN 1 3/8" THICK SOLID WOOD DOOR OR 20 MIN. F.R. DOOR. PER IRC SECTION R302.5.1
P-3	STAIR ASSEMBLY: PER IRC SECTION R311.7.3) a) WIDTH 36" MIN.; HEADROOM 6'-8" MIN. b) RISER 7-3/4" MAX.; TREAD 10" MIN. c) TOP OF HANDRAIL AT 34" MIN. AND 38" MAX ABOVE TREAD NOSING d) HANDRAIL WIDTH 1-1/4" MIN. AND 2" MAX. e) INSTALL FIRE BLOCKING IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. f) COVER USABLE SPACE UNDER STAIR WITH 1/2" GYP."
P-4	SAFETY GLAZING PER IRC SECTION R308.4
P-5	EGRESS WINDOW PER IRC SECTION R310. PROVIDE MIN NET CLEARANCE OF 5 SF AT GRADE FLOOR OPENINGS AND 5.7 SF ABOVE. MIN SILL HEIGHT TO BE 44" A.F.F.
P-6	IGNITERS: a) FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN ABOVE TOP OF SLAB, PROVIDE (2) LAYERS OF FLOOR SHEATHING OVER FRAMING. PER IRC SECTION G2408. b) HEAT-PRODUCING EQUIPMENT AND APPLIANCES SHALL BE INSTALLED TO MAINTAIN THE REQUIRED CLEARANCES TO COMBUSTIBLE CONSTRUCTION AS SPECIFIED IN THE LISTING AND MANUFACTURER'S INSTRUCTIONS. PER IRC G2408.5
P-7	COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NONABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS. PER IRC SECTION R307.2. FOR GROUND FLR WASTE OPENING REQ SEE UPC NOTES ON SHT A001
P-8	HIGH EFFICIENCY GAS FURNACE, SIZE PER WSEC PRESCRIPTIVE ENERGY CODE COMPLIANCE FORMS. a) PROVIDE DUCT LEAKAGE, SEALING & TESTING PER WSEC 502 & 503. b) THERMOSTAT PER WSEC 503.8. c) SEE WSEC NOTES ON SHEET A001
P-9	7-3/4 MAX. RISER WITH 10" MIN. TREAD DEPTH. IF MORE THAN (4) RISERS. HANDRAIL REQUIRED PER IRC SECTION R311.7.7. a) PROVIDE 36"x36" MIN. LANDING AT EXTERIOR DOORS PER IRC SECTION R311.3
P-10	PROVIDE CRAWL SPACE ACCESS, MIN. 18" X 24" UNOBSTRUCTED ACCESS. PER IRC SECTION R408.4
P-14	SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS.
P-15	36" MIN. GUARDRAIL. AT STAIRS SLOPES AT 36" ABOVE STAIR NOSINGS. PER SEE IRC SECTION 312
P-17	2x6 WALL FOR PLUMBING / HVAC.
P-18	A PERMANENT CERTIFICATE SHALL BE POSTED WITHIN 36" OF THE ELECTRICAL DISTRIBUTION PANEL. SEE SECTION M1505.4 ON SHEET A002 THE MAIN ELECTRICAL PANEL SHALL HAVE A RESERVED SPACE FOR FUTURE SOLAR ELECTRIC INSTALLATION PER IRC T103.9. A PERMANENT CERTIFICATE FOR SOLAR-READY ZONE IS TO BE POSTED PER IRC T103.10.

AREA SCHEDULE ...

NAME	AREA
Garage	435 SF
Main Floor	1539 SF
Upper Floor	1022 SF
	2996 SF
Covr'd Patio	246 SF
Covr'd Porch	61 SF
	308 SF
	3303 SF

A401

SCALE 24X36: 1/4" = 1'-0"
* NOTE: 1:1 X 1:7 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



PERMIT SET

UPPER FLOOR

PROJECT NO: 21014
ISSUE DATE: 2022/06/29

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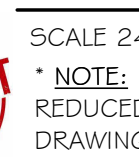
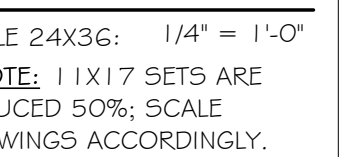
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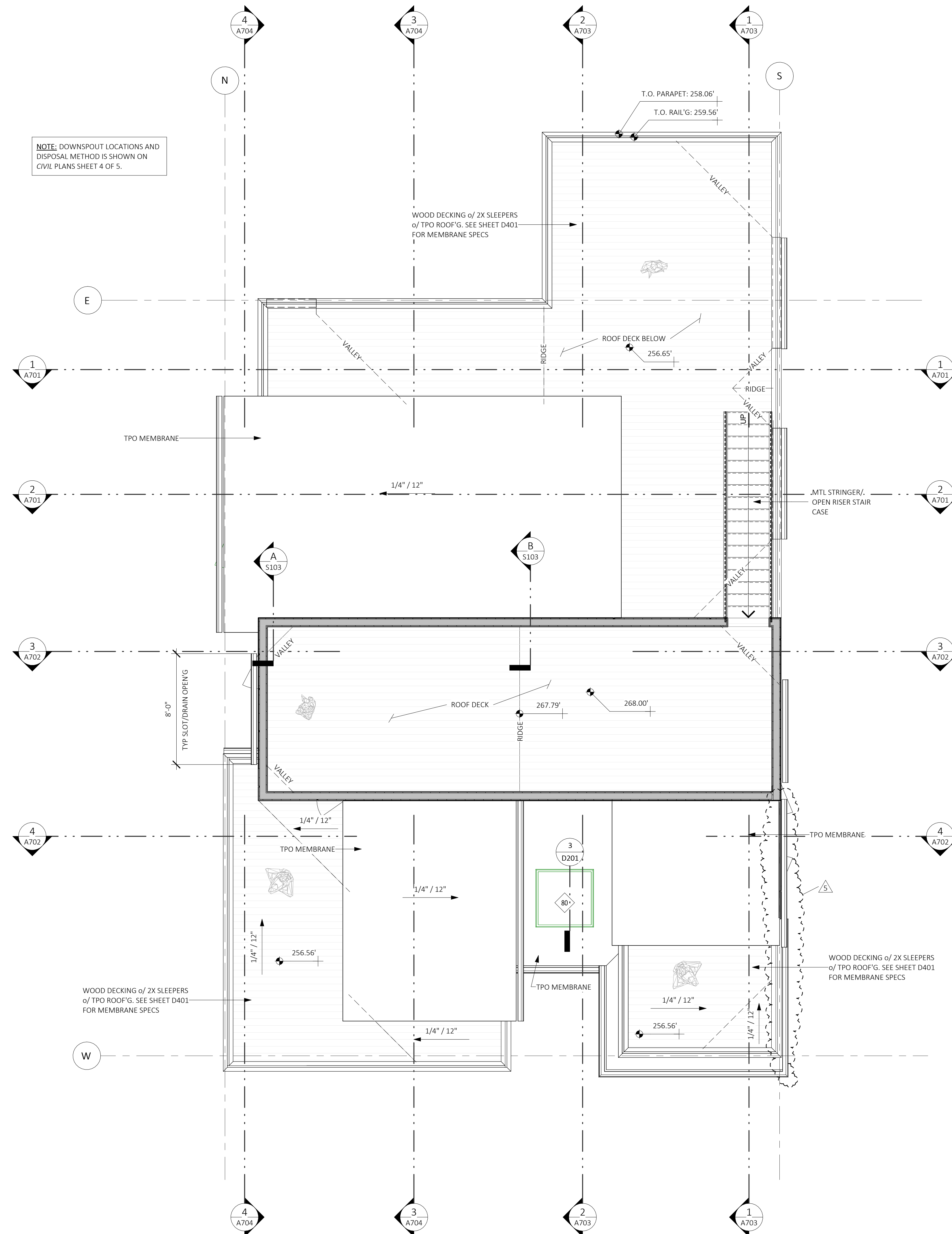
UPPER FLOOR

PROJECT NO: 21014
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A401

SCALE 24X36: 1/4" = 1'-0"
* NOTE: 1:1 X 1:7 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.





NOTE: DOWNSPOUT LOCATIONS AND DISPOSAL METHOD IS SHOWN ON CIVIL PLANS SHEET 4 OF 5.

GENERAL FRAMING NOTES:

- SEE SECTION R301, SHEET A001 FOR GENERAL DESIGN CRITERIA.
- SEE STRUCTURAL SHEETS FOR SHEARWALL DESIGNATIONS & HOLDDOWNS AND SHEET(S) **S201-S203** FOR SHEARWALL DESIGNATIONS/ SCHEDULE.
- TRUSS DESIGN BY MANUFACTURER. TRUSS DESIGN DRAWINGS SHALL BE PREPARED PER IRC SECTION R802.10.1 AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION.
 - * TRUSS DESIGN PER IRC SECTION R802.10.2
 - * FIELD ALTERATIONS MUST BE DESIGNED BY MFR. PER IRC SECTION R802.10.4
 - * SEE STRUCTURAL PLANS FOR DESIGN LOADS.
 - * TRUSS MFR TO PROVIDE ADEQUATE BEARING AREA TO RESOLVE REACTION (PERPENDICULAR TO GRAIN) AT ALL HIGHLY LOADED GIRDER TRUSSES.
- PROVIDE 2x4 RAFTER/TRUSS TAIL - TYP. U.N.O.
- ROOF PITCH: EXTERIOR PER ELEVATIONS & INTERIOR PER SECTIONS.
- ROOF FRAMING SPACING, 24" o.c. U.N.O.
- SEE ELEVATIONS AND/OR SECTIONS FOR ROOF PITCH, PLATE HEIGHT AND HEADER HEIGHT.
- FASTENERS: ALL FRAMING SHALL BE NAILED IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS. POSITIVE CONNECTIONS SHALL BE PROVIDED WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING.
- INSTALL 2X FIREBLOCKING PER R302.11 AS FOLLOWS:
 - a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORZ AT INTERVALS NOT EXCEEDING 10 FEET.
 - b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.
 - c) IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
 - d) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS. THE INTEGRITY OF ALL FIREBLOCKS SHALL BE MAINTAINED.
- SEE SHT **A003** FOR ROOF & CRAWL SPACE AREA VENTILATION CALCULATIONS

SPRAY FOAM NOTES:

- WHERE SPRAY FOAM IS NOTED ON THE PLANS, NO VENTING IS REQUIRED: PROVIDE MIN 2" CLOSED CELL SPRAY FOAM INSULATION DIRECTLY TO THE UNDERSIDE OF THE ROOF/FLOOR SHEATHING.
- PROVIDE SOLID EAVE BLOCKING, TYP
- A COPY OF THE ICC-ES REPORT FOR THE INSULATION PRODUCT MUST BE PROVIDED ON SITE FOR THE FIELD INSPECTOR.
- THE APPLIED SPRAY FOAM MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS BY A CERTIFIED INSTALLER

ROOF VENTING NOTES:

- (4) 2" DIA EAVE VENTS PER BLOCK= 5.024 SQ. IN. / L.F. (80% NET FREE AREA)
- ROOF JACKS - 50 SQ. IN. EACH
- INSTALL ONE LOW ROOF JACK, WITHIN 36" OF EAVE, FOR EVERY 12 LF OF EAVE WITHIN 60" OF PROPERTY LINE
- MINIMUM NET AREA SHALL BE NOT LESS THAN 1 S.F. PER 150 S.F. OF ATTIC AREA OR 1 S.F. PER 300 S.F. OF ATTIC AREA IF NOT LESS THAN 40 PERCENT, BUT NOT MORE THAN 50 PERCENT, OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED NOT MORE THAN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY.
 - A. THE BALANCE OF THE REQUIRED VENTILATION PROVIDED SHALL BE LOCATED IN THE BOTTOM ONE-THIRD OF THE ATTIC SPACE.
- AS AN ALTERNATIVE, THE NET FREE CROSS-VENTILATION AREA MAY BE REDUCED TO 1/300 WHEN A CLASS I OR II VAPOR BARRIER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.

KEYNOTES - FRAMING

ID	DESCRIPTION
FR-4	UPSET - BOTTOM OF BEAM EVEN w/ BOTTOM OF JOISTS. TOP OF BEAM EXTENDS ABOVE JOISTS.
FR-5	TOP OF BEAM IS FLUSH w/ BOTTOM OF JOISTS w/ NO TOP PLATE. CUT ADJACENT FRAMING MEMBERS INTO BEAM FOR ADEQUATE SUPPORT.
FR-9	TOP OF BEAM 5" BELOW TOP OF JOISTS TO ALLOW FOR HVAC.

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No.	Date	Description
1	2023/07/25	SUB2 City Comment Submittal
5	2023/06/07	SUB5 City Comments

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HU RESIDENCE
2448 72nd AVE SE, Mercer Island

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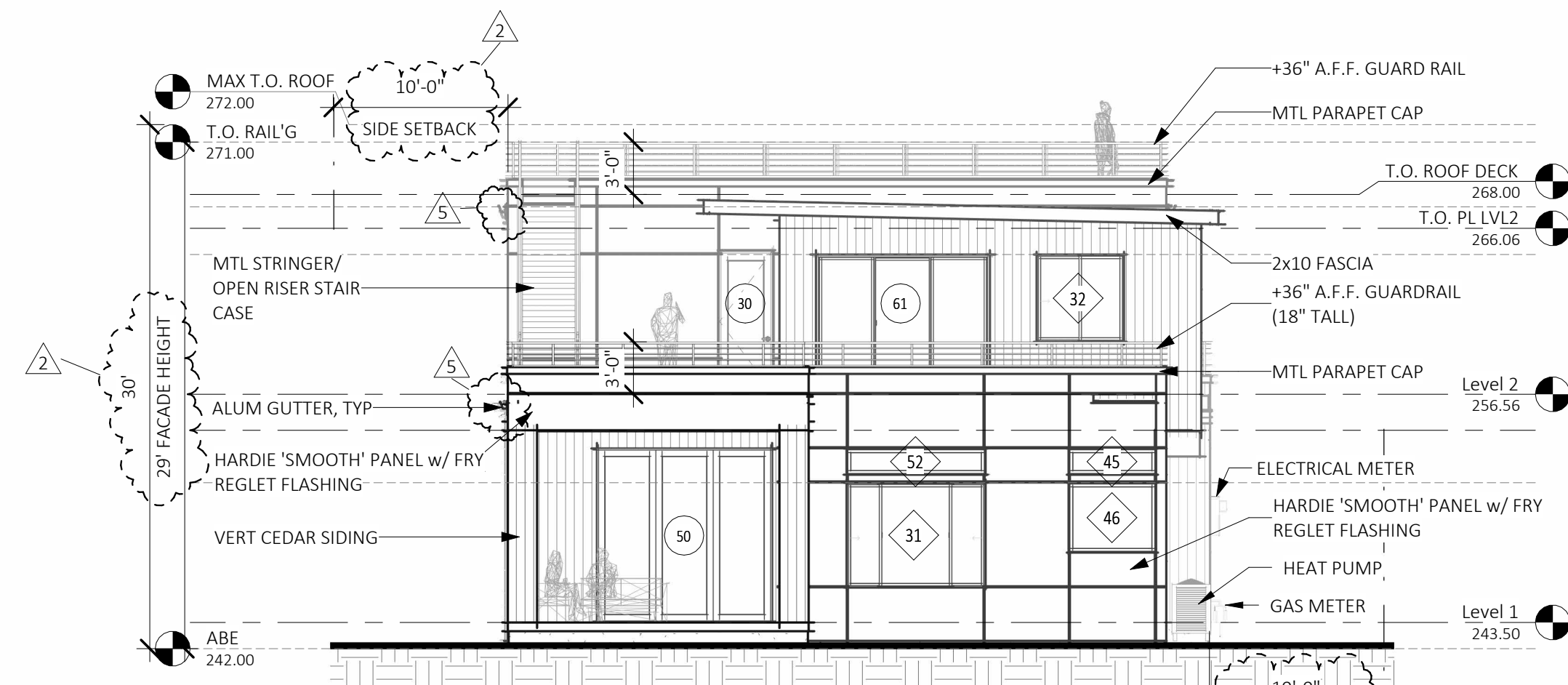
ROOF PLAN

PROJECT NO: 21014
ISSUE DATE: 2022/06/29

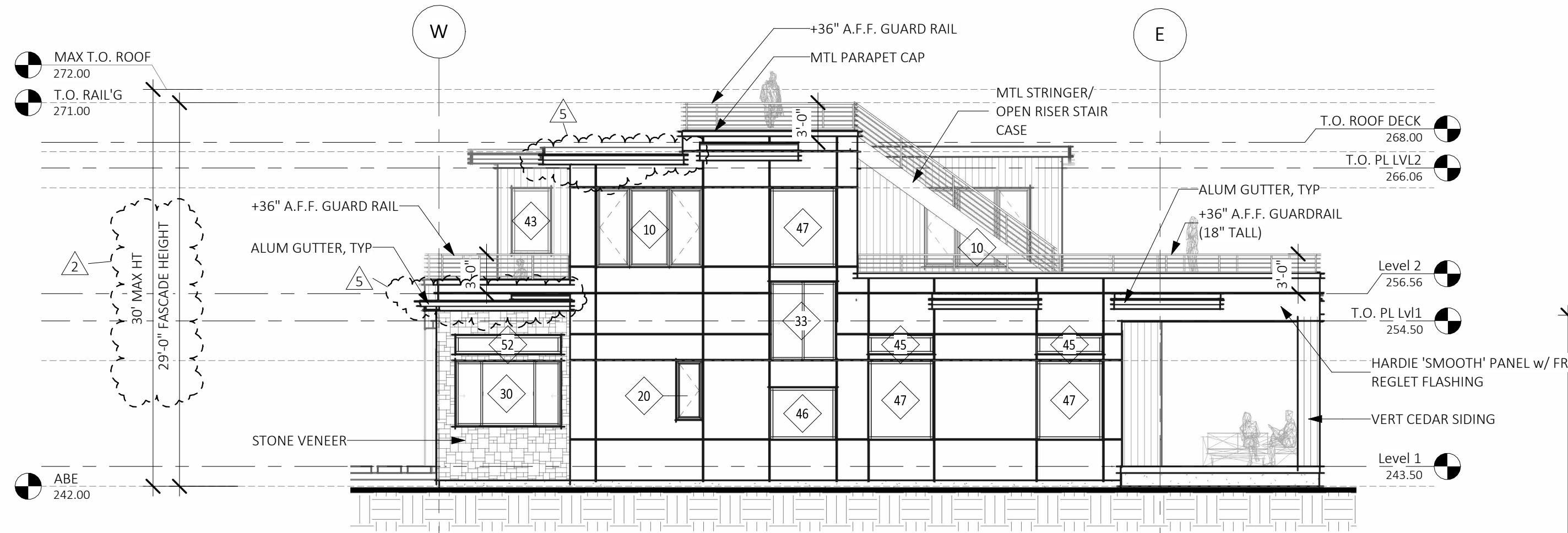
A501

SCALE 24X36: 1/4" = 1'-0"
*NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

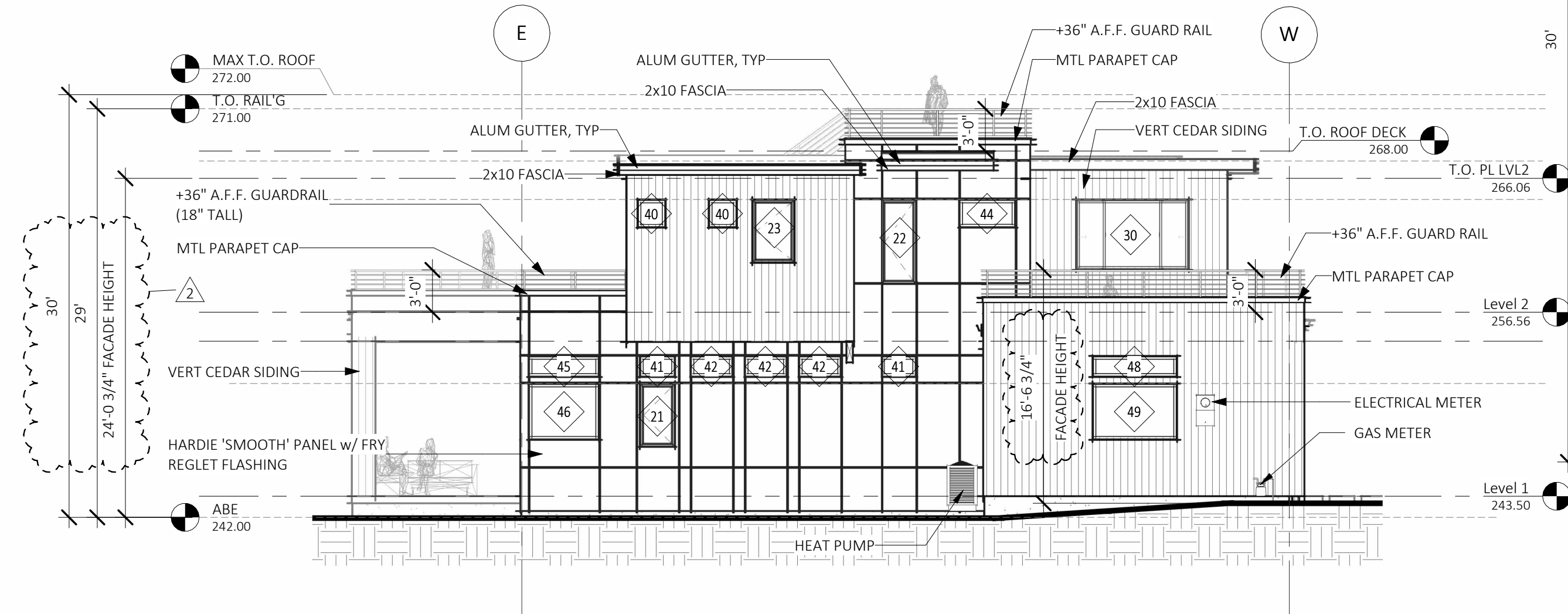




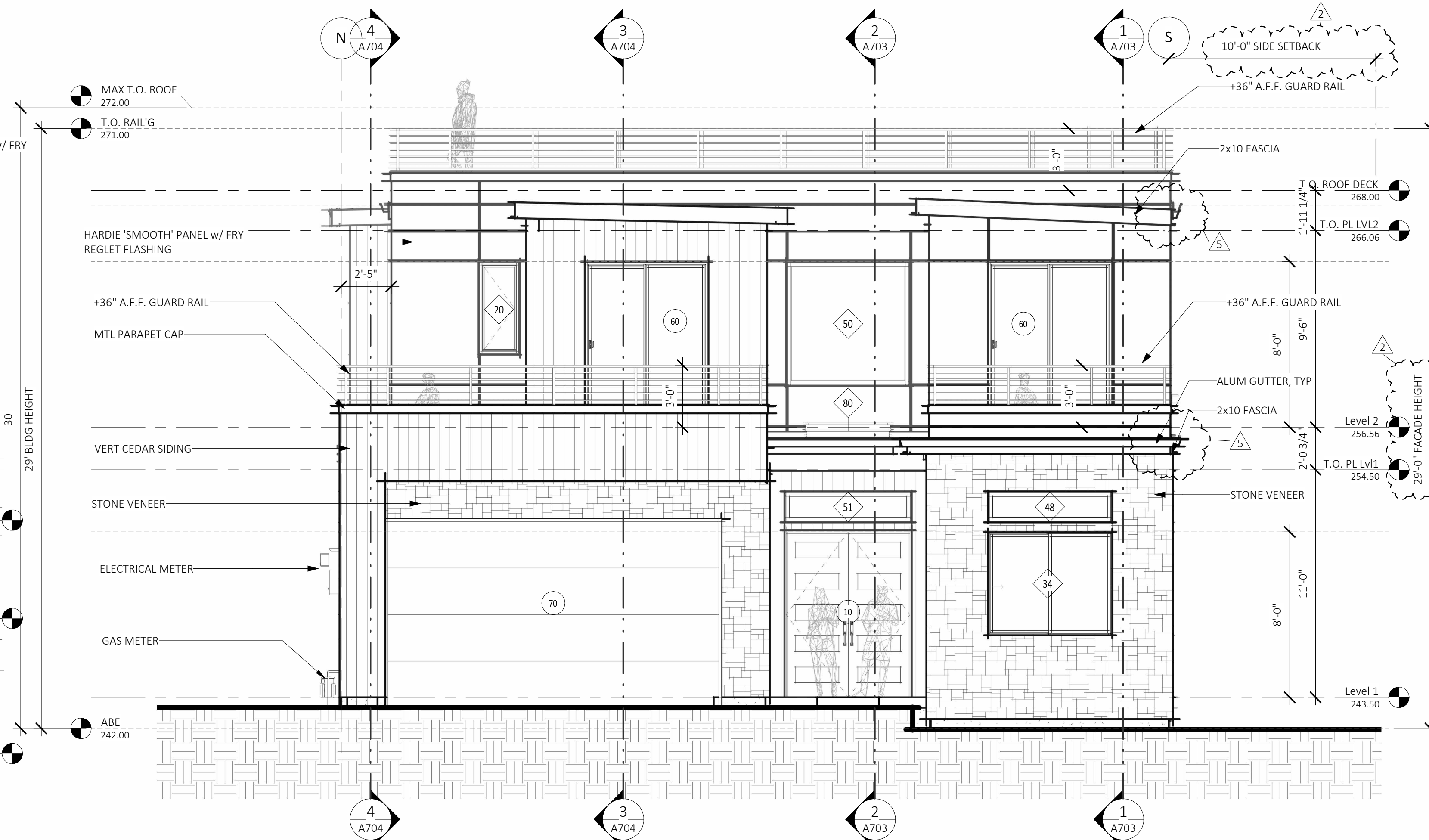
2 EAST ELEVATION
SCALE: 1/8" = 1'-0"



4 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



3 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



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

TYPICAL BUILDING MATERIALS:

ROOF CONSTRUCTION

ROOFING: TPO MEMBRANE
 BUILDING PAPER: PER MFR
 SHEATHING: PER SHEARWALL SCHEDULE
 FRAMING: PER PLANS
 INSULATION: R-49 BLOWN IN (R-38 VAULTED)
 SOFFIT: T&G WHERE NOTED
 GWB: 5/8" GWB

FLOOR CONSTRUCTION

FLOORING: FINISH PER PLANS
 SUBFLOOR: 3/4" T&G (PLYWOOD, COMPLY OR EQUAL)
 FRAMING: PER PLANS
 INSULATION: R-38 BATT
 SOFFIT: HARDIA PANEL WHERE NOTED

EXTERIOR WALL CONSTRUCTION

SIDING MATERIAL: PER ELEVATIONS
 BUILDING PAPER: 15# BUILDING PAPER
 SHEATHING: PER SHEARWALL SCHEDULE
 FRAMING: 2x6 STUDS AT 16" oc U.N.O.
 INSULATION: R-21 BATT w/ INTEGRAL VAPOR BARRIER
 GWB: 1/2" GWB

TRIM

WINDOW: (WITH NO BRICK MOLD) 1/2" FLASHING
 CORNER BOARDS: INSIDE: 2x2
 OUTSIDE: 'X' FLASHING
 FASCIA: 2x8 (PER DETAILS) U.N.O.

ELEVATION NOTES:

- INSTALL APPROVED CORROSION-RESISTANT FLASHING, TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS PER R708.3. SELF-ADHERED MEMBRANES USED AS FLASHING SHALL COMPLY WITH AAMA 711. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH. APPROVED CORROSION-RESISTANT FLASHINGS SHALL BE INSTALLED AT ALL OF THE FOLLOWING LOCATIONS:
 - EXTERIOR WINDOW AND DOOR OPENINGS. FLASHING AT EXTERIOR WINDOW AND DOOR OPENINGS SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH OR TO THE WATER-RESISTIVE BARRIER FOR SUBSEQUENT DRAINAGE.
 - AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.
 - UNDER AND AT THE ENDS OF MASONRY, WOOD OR METAL COPINGS AND SILLS.
 - CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM.
 - WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD-FRAME CONSTRUCTION.
 - AT WALL AND ROOF INTERSECTIONS.
 - AT BUILT-IN GUTTERS.
- PER IRC R703.12.1, ADHERED MASONRY VENEER IS REQUIRED TO HAVE THE FOLLOWING CLEARANCES:
 - 4" MINIMUM ABOVE THE EARTH
 - 2" MINIMUM ABOVE PAVED AREAS, AND
 - 1/2" MINIMUM ABOVE EXTERIOR WALKING SURFACES WHICH ARE SUPPORTED BY THE SAME FOUNDATION THAT SUPPORTS THE EXTERIOR WALL.
- STONE VENEER TO BE SUPPLIED BY ELDERADO STONE OR APPROVED EQUAL. STONE VENEER MAXIMUM WEIGHT 15 psf.

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1	2023/07/25	SUB2 City Comment Submittal
2	2023/07/25	SUB2 City Comment Submittal
3	2023/07/25	SUB5 City Comments

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 ELEVATIONS

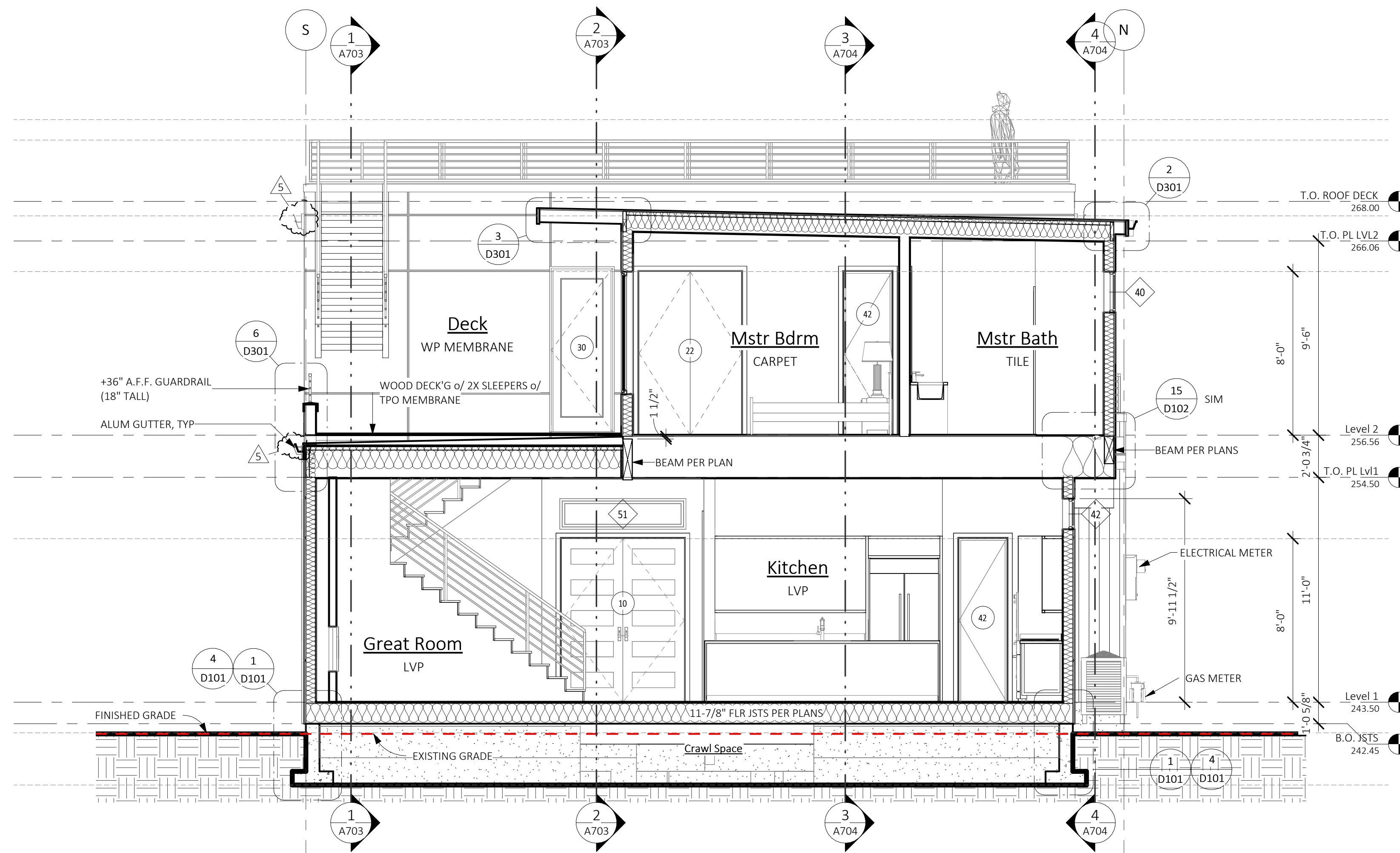
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A601

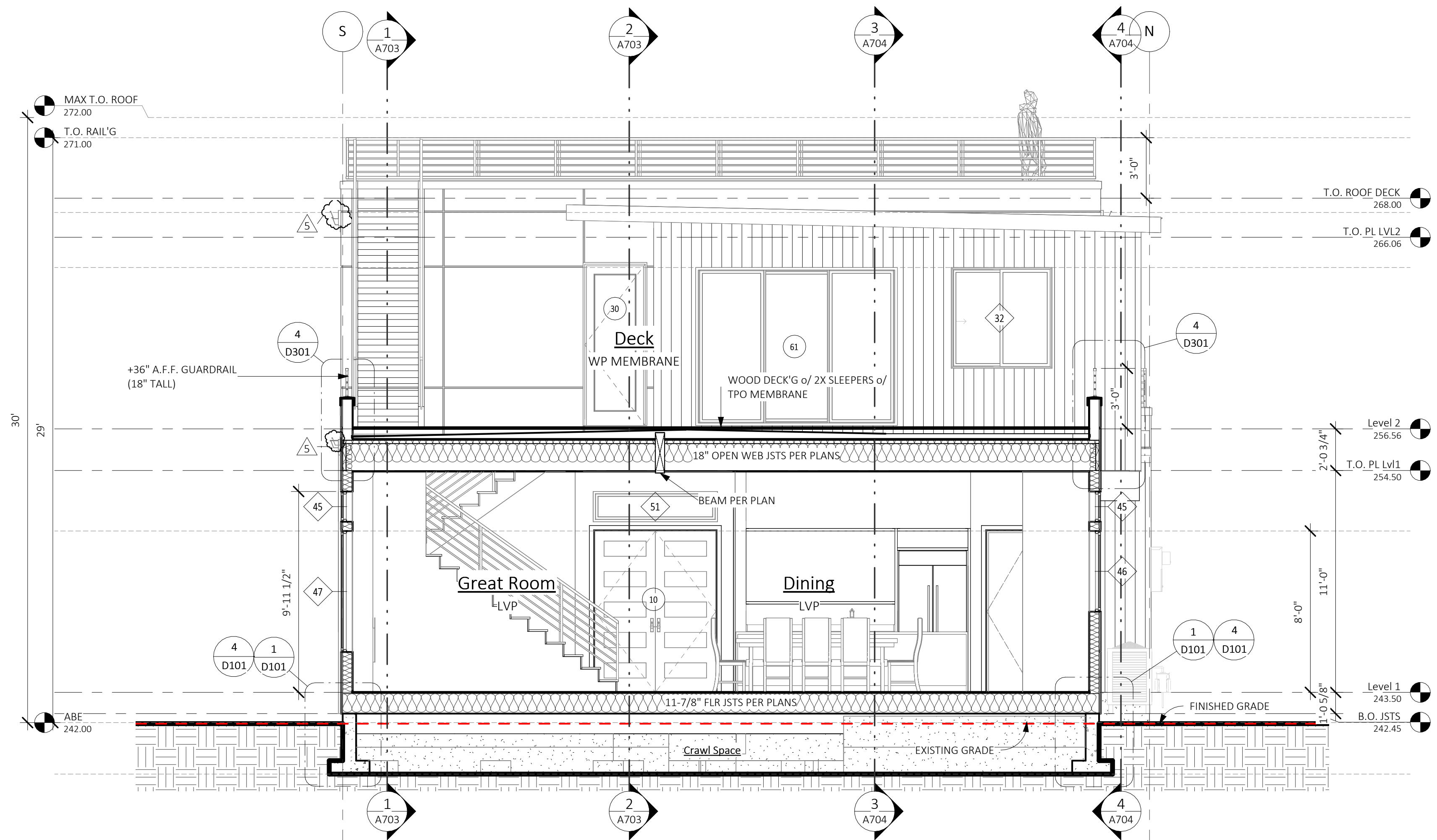
SCALE 24X36: As indicated
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2 Section E/W 2
SCALE: 1/4" = 1'-0"



1 Section E/W 1
SCALE: 1/4" = 1'-0"

TYPICAL BUILDING MATERIALS:

ROOF CONSTRUCTION

- ROOFING: TPO MEMBRANE
- BUILDING PAPER: PER MFR
- SHEATHING: PER SHEARWALL SCHEDULE
- FRAMING: PER PLANS
- INSULATION: R-49 BLOWN IN (R-38 VAULTED)
- SOFFIT: T&G WHERE NOTED
- GWBS: 5/8" GWB

FLOOR CONSTRUCTION

- FLOORING: FINISH PER PLANS
- SUBFLOOR: 3/4" T&G (PLYWOOD, COMPLY OR EQUAL)
- FRAMING: PER PLANS
- INSULATION: R-38 BATT
- SOFFIT: HARDIA PANEL WHERE NOTED

EXTERIOR WALL CONSTRUCTION

- SIDING MATERIAL: PER ELEVATIONS
- BUILDING PAPER: 15# BUILDING PAPER
- SHEATHING: PER SHEARWALL SCHEDULE
- FRAMING: 2x6 STUDS AT 16" oc U.N.O.
- INSULATION: R-21 BATT w/ INTEGRAL VAPOR BARRIER
- GWBS: 1/2" GWB
- TRIM**
- WINDOW: (WITH NO BRICK MOLD) 2" FLASHING
- CORNER BOARDS: INSIDE: 2x2
OUTSIDE: 'X' FLASHING
- FASCIA: 2x8 (PER DETAILS) U.N.O.

No.	Date	Description
1	2023/07/25	SUB2 City Comment Submittal
5	2023/06/07	SUB5 City Comments

ATERA DESIGN STUDIO
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SECTIONS

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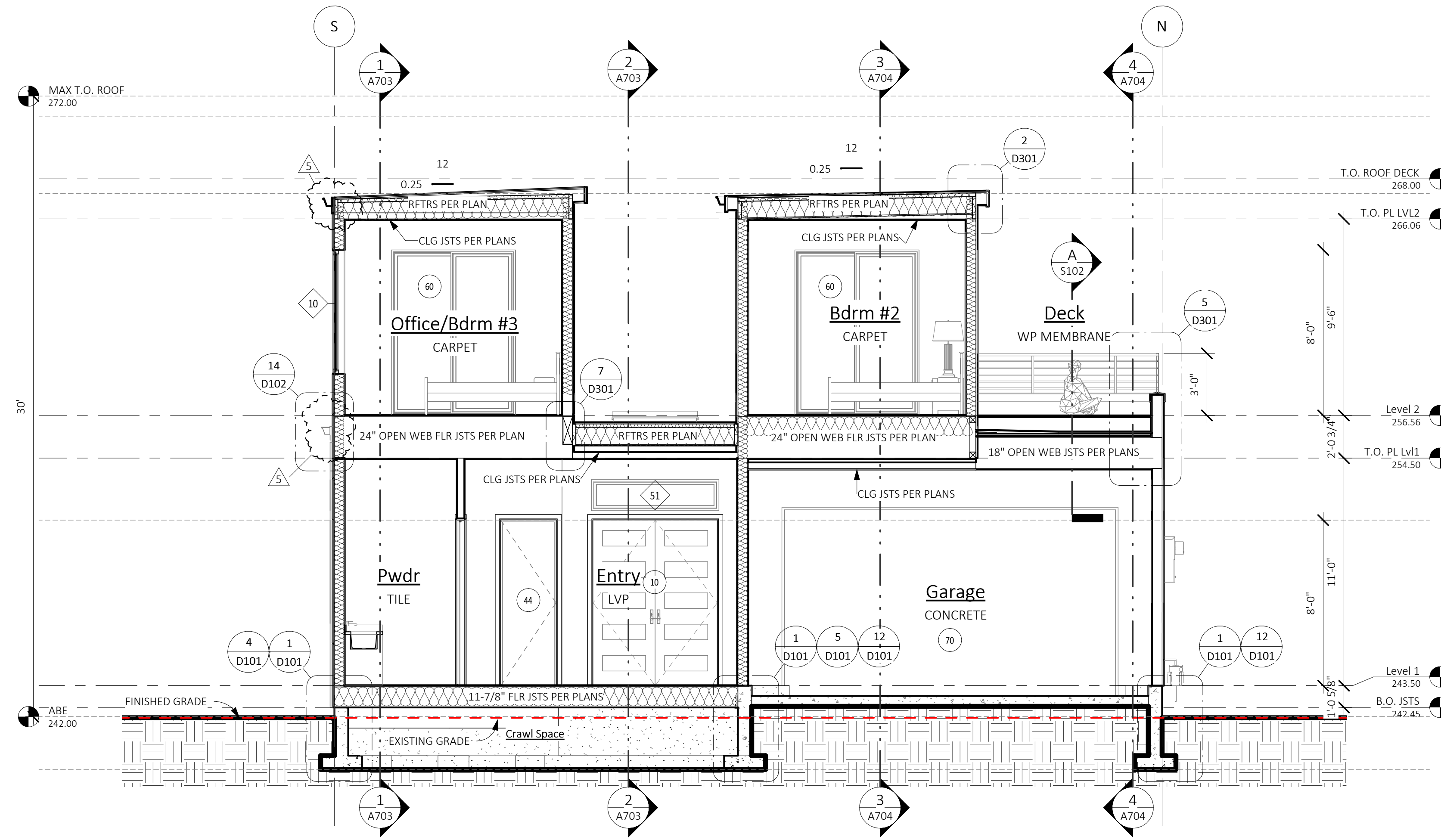
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SCALE 24X36: 1/4" = 1'-0"
*NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

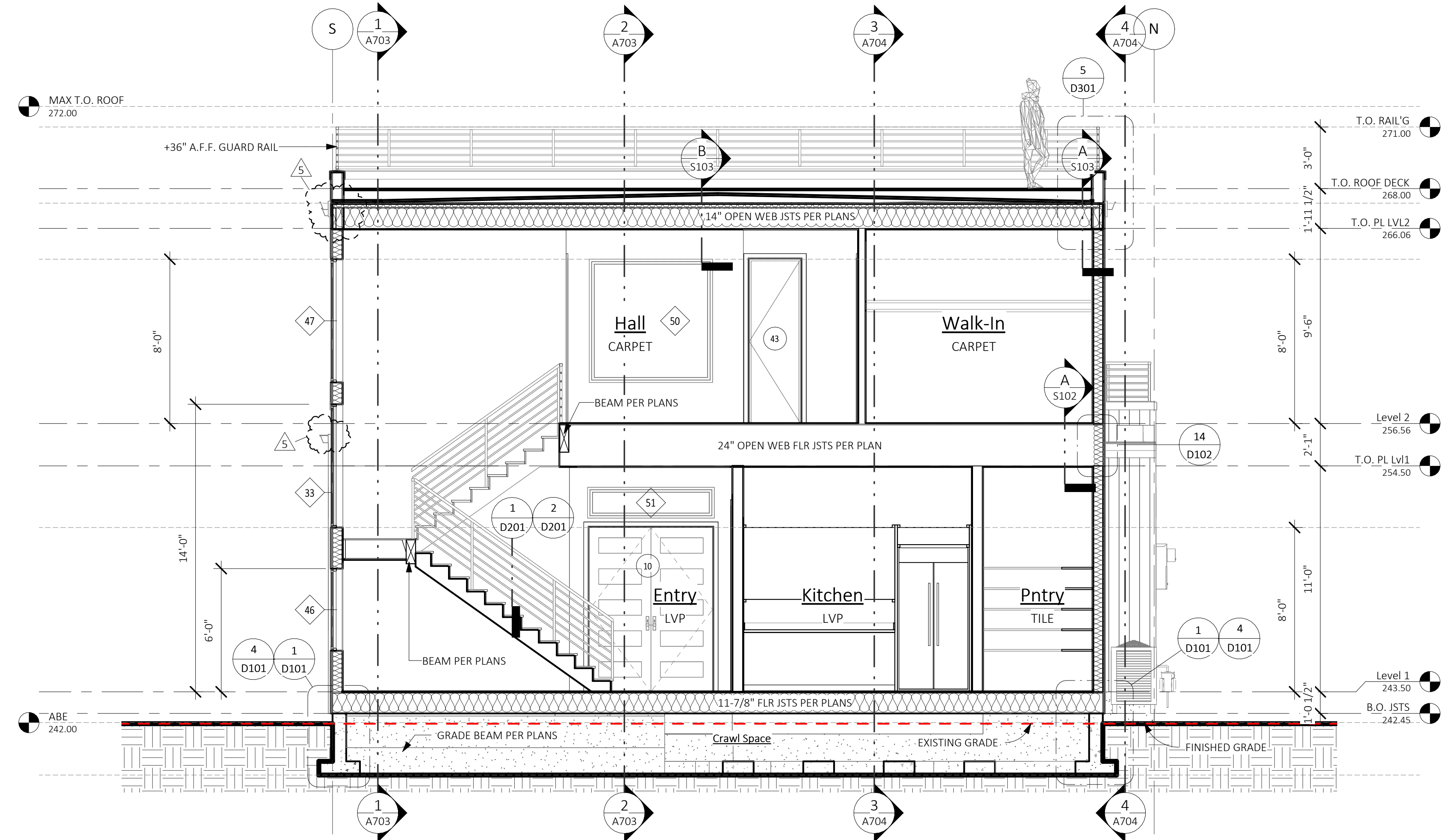
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4 Section E/W 4
SCALE: 1/4" = 1'-0"



3 Section E/W 3
SCALE: 1/4" = 1'-0"

TYPICAL BUILDING MATERIALS:

ROOF CONSTRUCTION

ROOFING: TPO MEMBRANE
 BUILDING PAPER: PER MFR
 SHEATHING: PER SHEARWALL SCHEDULE
 FRAMING: PER PLANS
 INSULATION: R-49 BLOWN IN (R-38 VAULTED)
 SOFFIT: T&G WHERE NOTED
 GWB: 5/8" GWB

FLOOR CONSTRUCTION

FLOORING: FINISH PER PLANS
 SUBFLOOR: 3/4" T&G (PLYWOOD, COMPLY OR EQUAL)
 FRAMING: PER PLANS
 INSULATION: R-38 BATT
 SOFFIT: HARDIA PANEL WHERE NOTED

EXTERIOR WALL CONSTRUCTION

SIDING MATERIAL: PER ELEVATIONS
 BUILDING PAPER: 15# BUILDING PAPER
 SHEATHING: PER SHEARWALL SCHEDULE
 FRAMING: 2x6 STUDS AT 16" oc U.N.O.
 INSULATION: R-21 BATT w/ INTEGRAL VAPOR BARRIER
 GWB: 1/2" GWB

TRIM

WINDOW: (WITH NO BRICK MOLD) 'Z' FLASHING
 CORNER BOARDS: INSIDE: 2x2
 OUTSIDE: 'X' FLASHING
 FASCIA: 2x8 (PER DETAILS) U.N.O.

No.	Date	Description
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SECTIONS

PROJECT NO: 21014
 ISSUE DATE: 2022/06/29

A702

SCALE 24X36: 1/4" = 1'-0"
 *NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

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TYPICAL BUILDING MATERIALS:

ROOF CONSTRUCTION

ROOFING:	TPO MEMBRANE
BUILDING PAPER:	PER MFR
SHEATHING:	PER SHEARWALL SCHEDULE
FRAMING:	PER PLANS
INSULATION:	R-49 BLOWN IN (R-38 VAULTED)
SOFFIT:	T&G WHERE NOTED
GWB:	5/8" GWB

FLOOR CONSTRUCTION

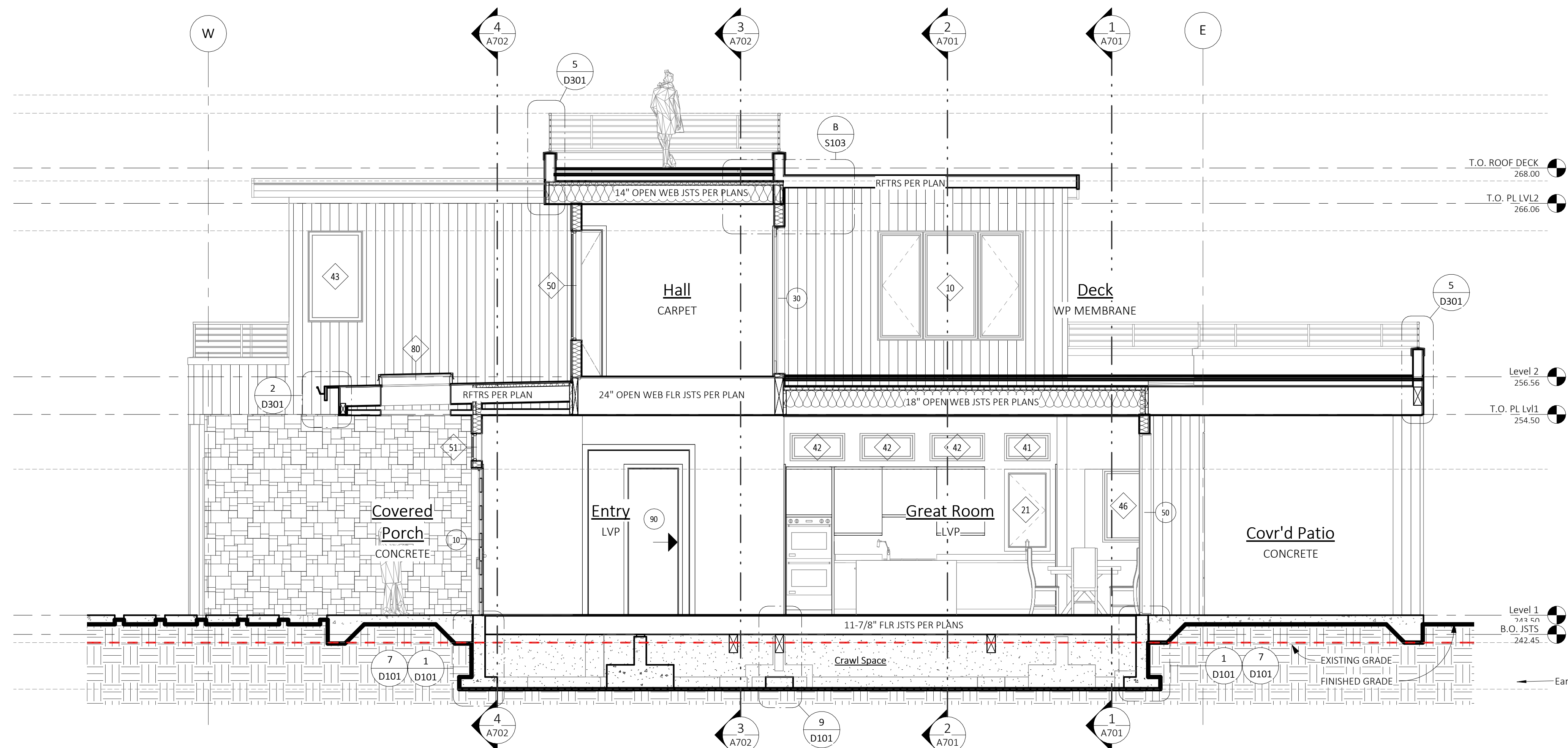
FLOORING:	FINISH PER PLANS
SUBFLOOR:	3/4" T&G (PLYWOOD, COMPLY OR EQUAL)
FRAMING:	PER PLANS
INSULATION:	R-38 BATT
SOFFIT:	HARDIA PANEL WHERE NOTED

EXTERIOR WALL CONSTRUCTION

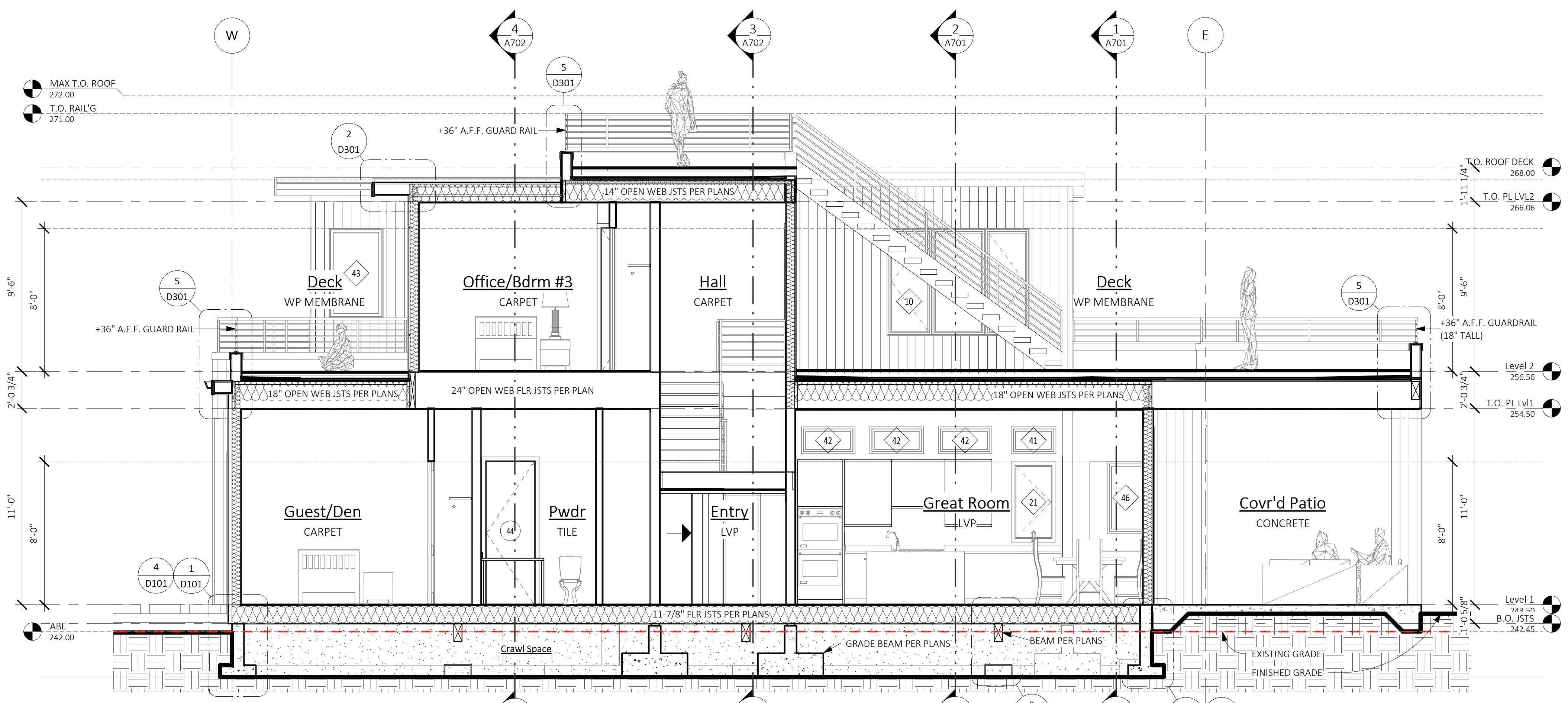
SIDING MATERIAL:	PER ELEVATIONS
BUILDING PAPER:	15# BUILDING PAPER
SHEATHING:	PER SHEARWALL SCHEDULE
FRAMING:	2x6 STUDS AT 16" oc U.N.O.
INSULATION:	R-21 BATT w/ INTEGRAL VAPOR BARRIER
GWB:	1/2" GWB

TRIM

WINDOW:	'Z' FLASHING
(WITH NO BRICK MOLD)	
INSIDE:	2x2
CORNER BOARDS:	OUTSIDE: 'X' FLASHING
FASCIA:	2x8 (PER DETAILS) U.N.O.



2 Section N/S 2
SCALE: 1/4" = 1'-0"



1 Section N/S 1
SCALE: 1/4" = 1'-0"

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No.	Date	Description
1	2023/07/25	SUB2 City Comment Submittal

ATERA DESIGN STUDIO
 451 DUVALL AVE NE
 RENTON, WA 98059

HU RESIDENCE
 2448 72nd AVE SE, Mercer Island

PERMIT SET

SECTIONS

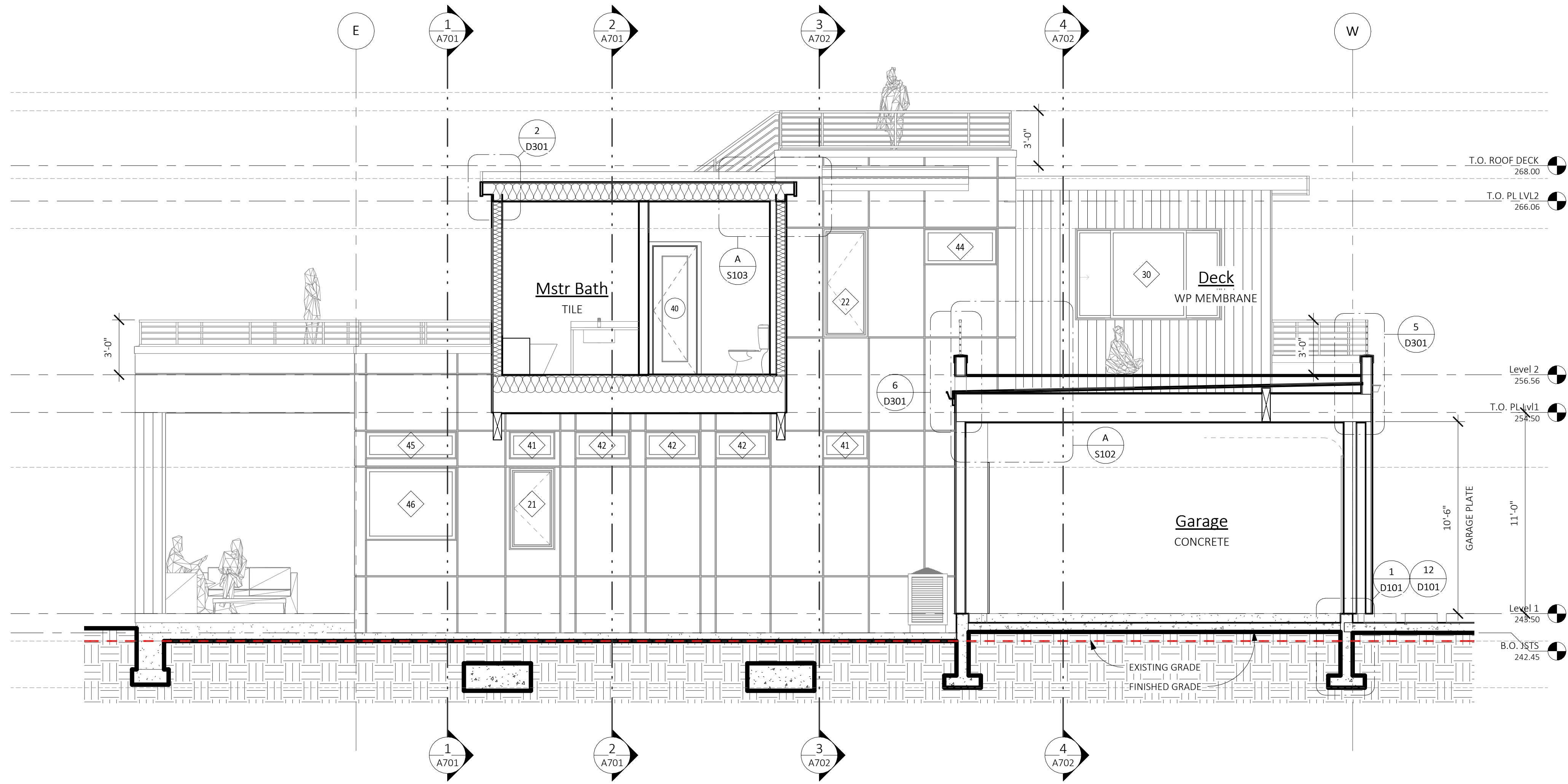
PROJECT NO:	21014
ISSUE DATE:	2022/06/29

A703

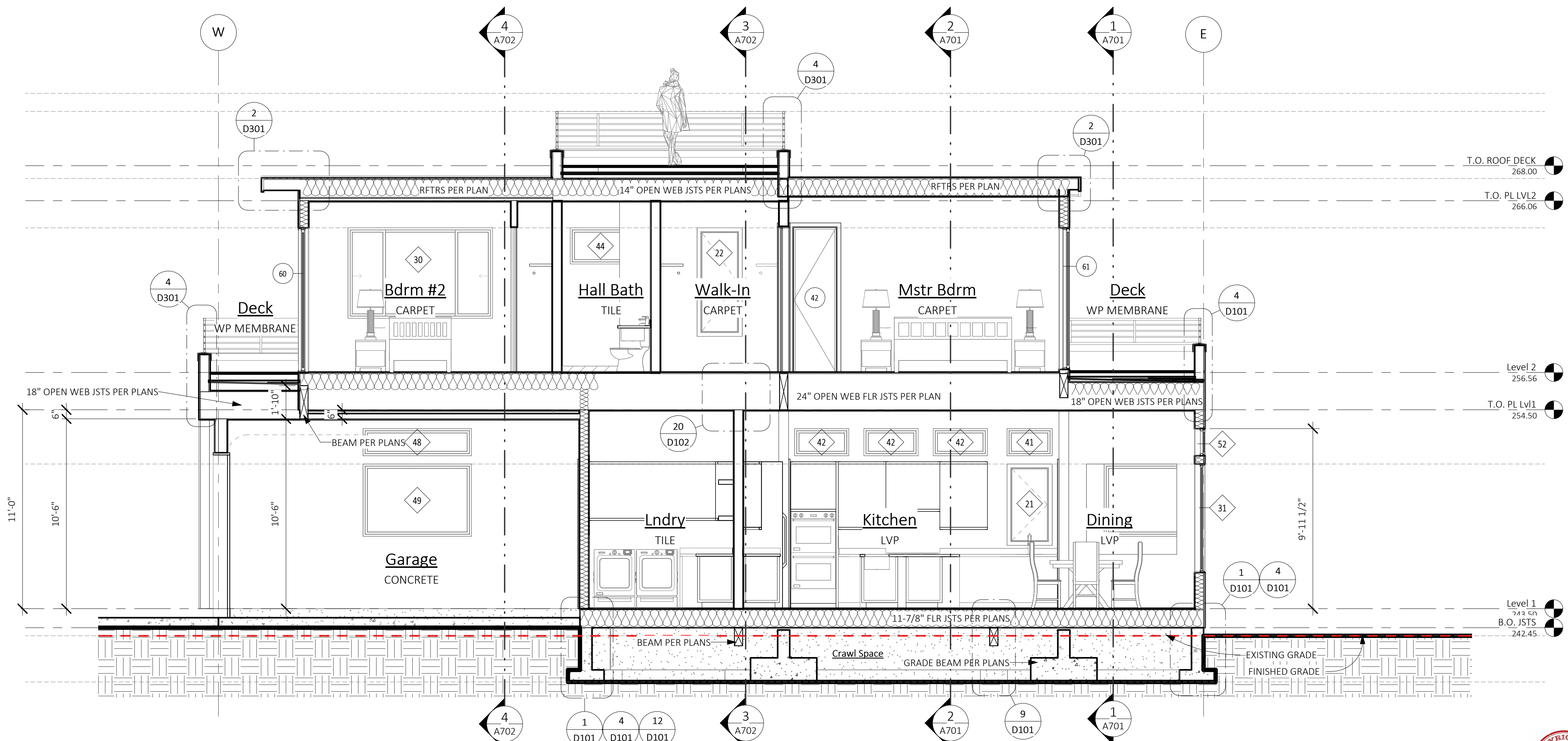
SCALE 24X36: 1/4" = 1'-0"
 *NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

3/15/2023 8:48:41 AM Autodesk Docs/21014 Hu Residence, Mercer Island/21014 OSD, Hu Residence, Mercer Island.rvt





4 Section N/S 4
SCALE: 1/4" = 1'-0"



3 Section N/S 3
SCALE: 1/4" = 1'-0"

TYPICAL BUILDING MATERIALS:

ROOF CONSTRUCTION	
ROOFING:	TPO MEMBRANE
BUILDING PAPER:	PER MFR
SHEATHING:	PER SHEARWALL SCHEDULE
FRAMING:	PER PLANS
INSULATION:	R-49 BLOWN IN (R-38 VAULTED)
SOFFIT:	T&G WHERE NOTED
GWB:	5/8" GWB
FLOOR CONSTRUCTION	
FLOORING:	FINISH PER PLANS
SUBFLOOR:	3/4" T&G (PLYWOOD, COMPLY OR EQUAL)
FRAMING:	PER PLANS
INSULATION:	R-38 BATT
SOFFIT:	HARDIA PANEL WHERE NOTED
EXTERIOR WALL CONSTRUCTION	
SIDING MATERIAL:	PER ELEVATIONS
BUILDING PAPER:	15# BUILDING PAPER
SHEATHING:	PER SHEARWALL SCHEDULE
FRAMING:	2x6 STUDS AT 16" oc U.N.O.
INSULATION:	R-21 BATT w/ INTEGRAL VAPOR BARRIER
GWB:	1/2" GWB
TRIM	
WINDOW: (WITH NO BRICK MOLD)	2" FLASHING
CORNER BOARDS:	INSIDE: 2x2 OUTSIDE: 1" FLASHING
FASCIA:	2x8 (PER DETAILS) U.N.O.

3/15/2023 8:48:40 AM Autodesk Docs/21.0.14 Hv Residence, Mercer Island/2.0.14 OS/CD, Hv Residence, Mercer Island.rvt

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No.	Date	Description
1	2023/07/25	SUB2 City Comment Submittal

ATERA DESIGN STUDIO
451 DUVALL AVE NE
RENTON, WA 98059

HU RESIDENCE
2448 72nd AVE SE, Mercer Island

PERMIT SET

SECTIONS

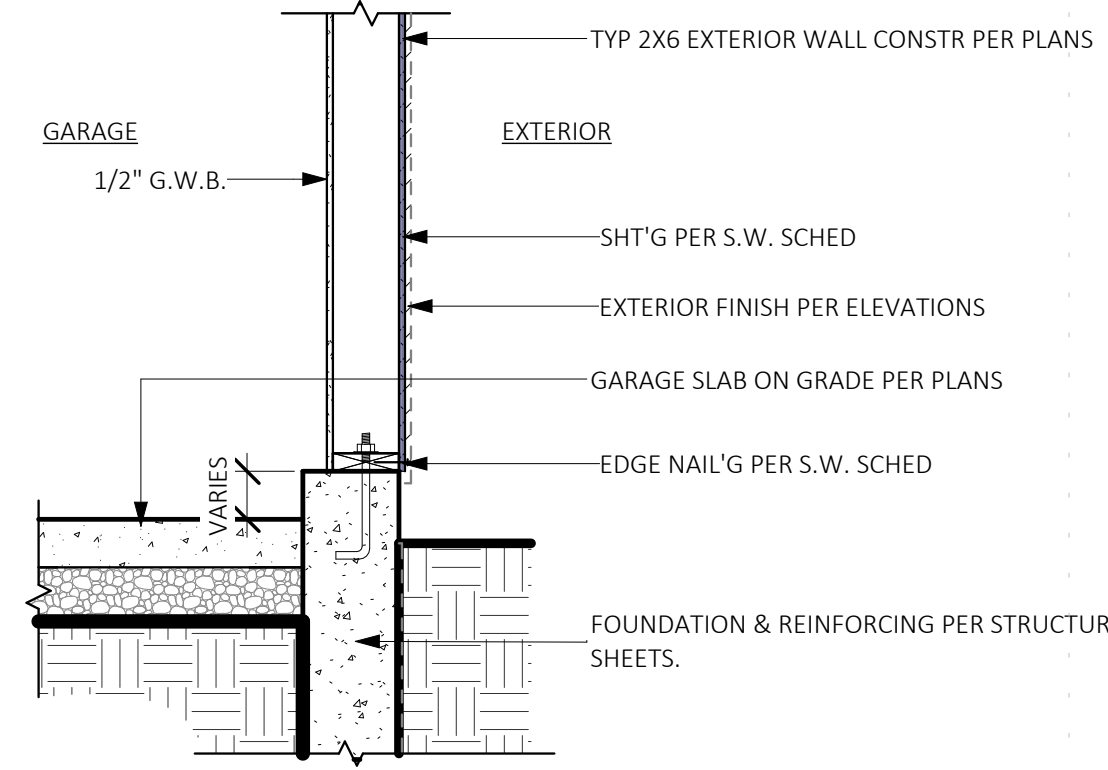
PROJECT NO: 21014
ISSUE DATE: 2022/06/29

A704

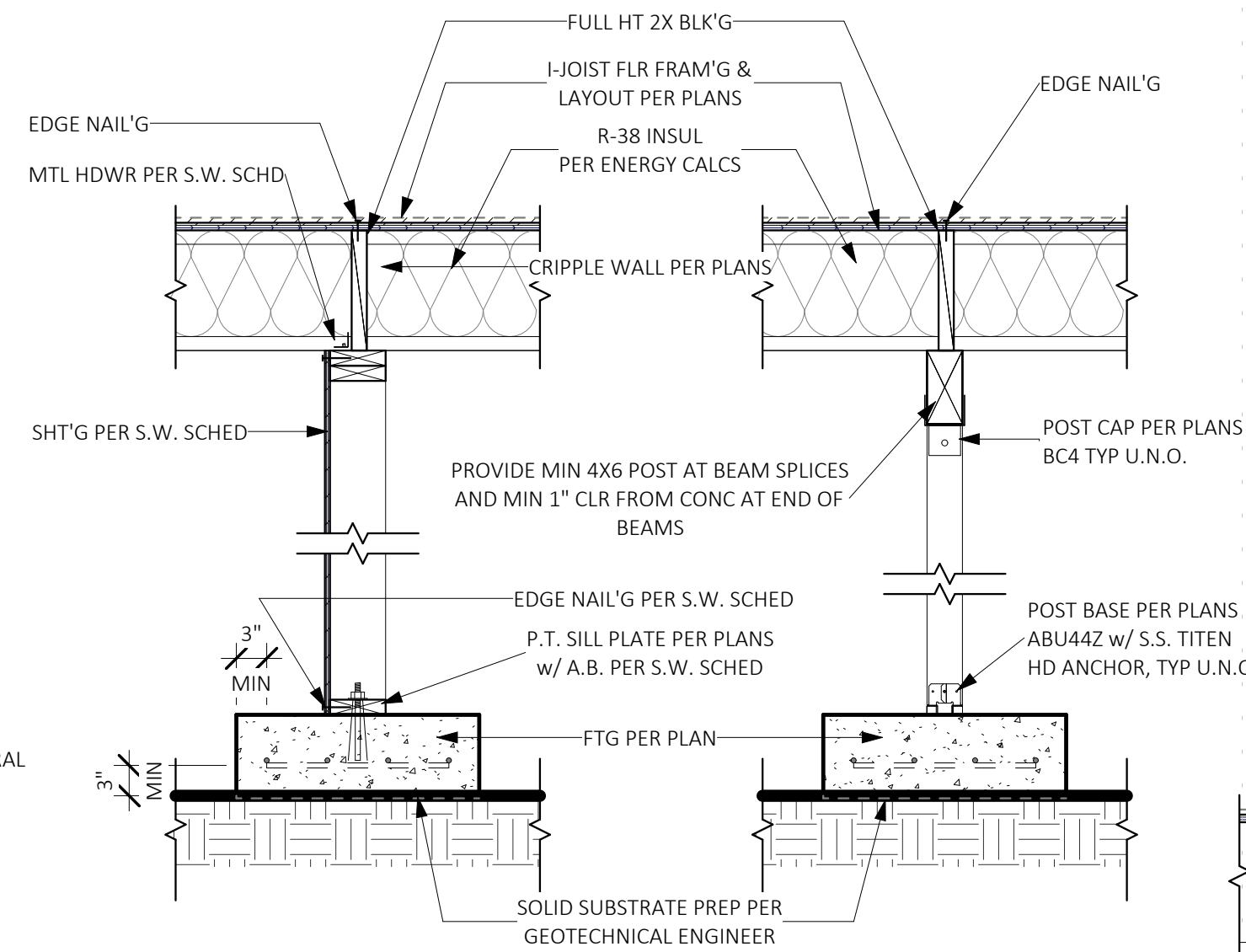
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* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



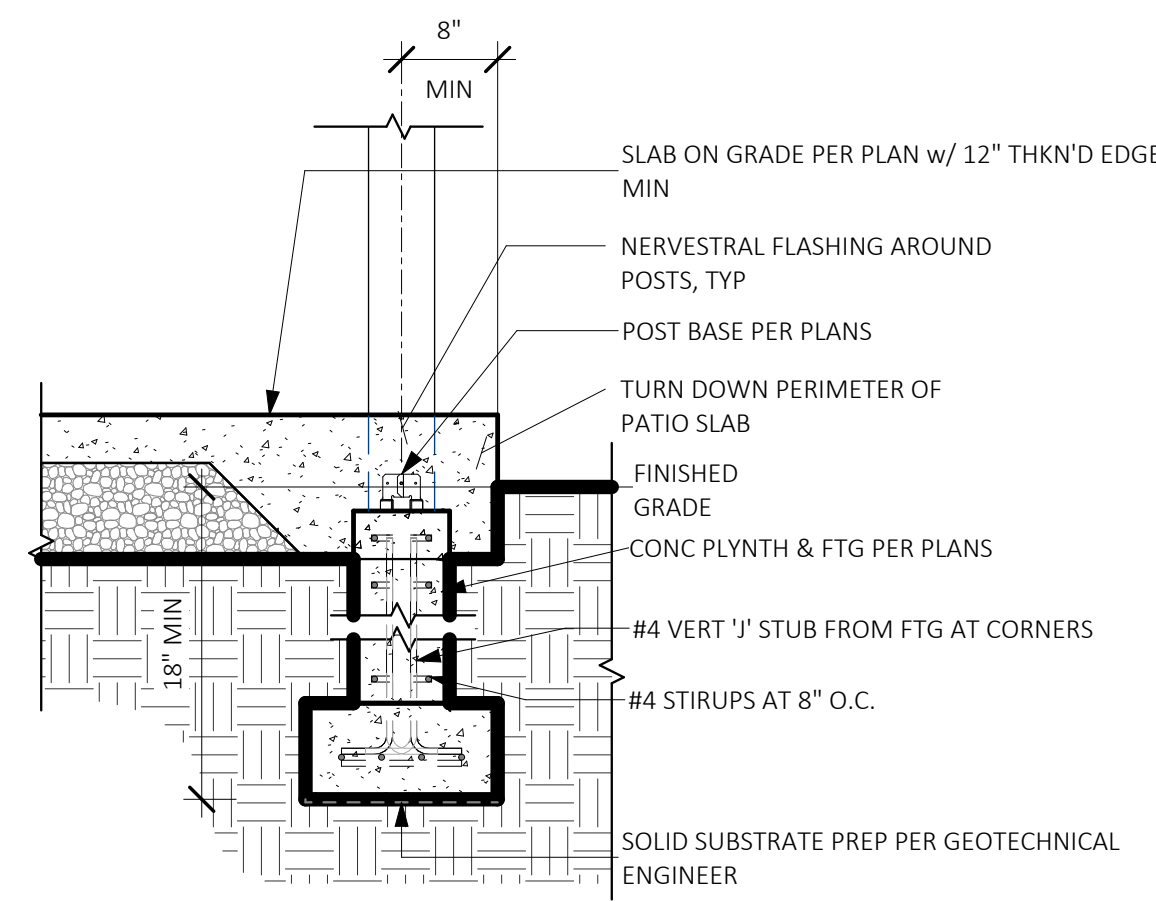
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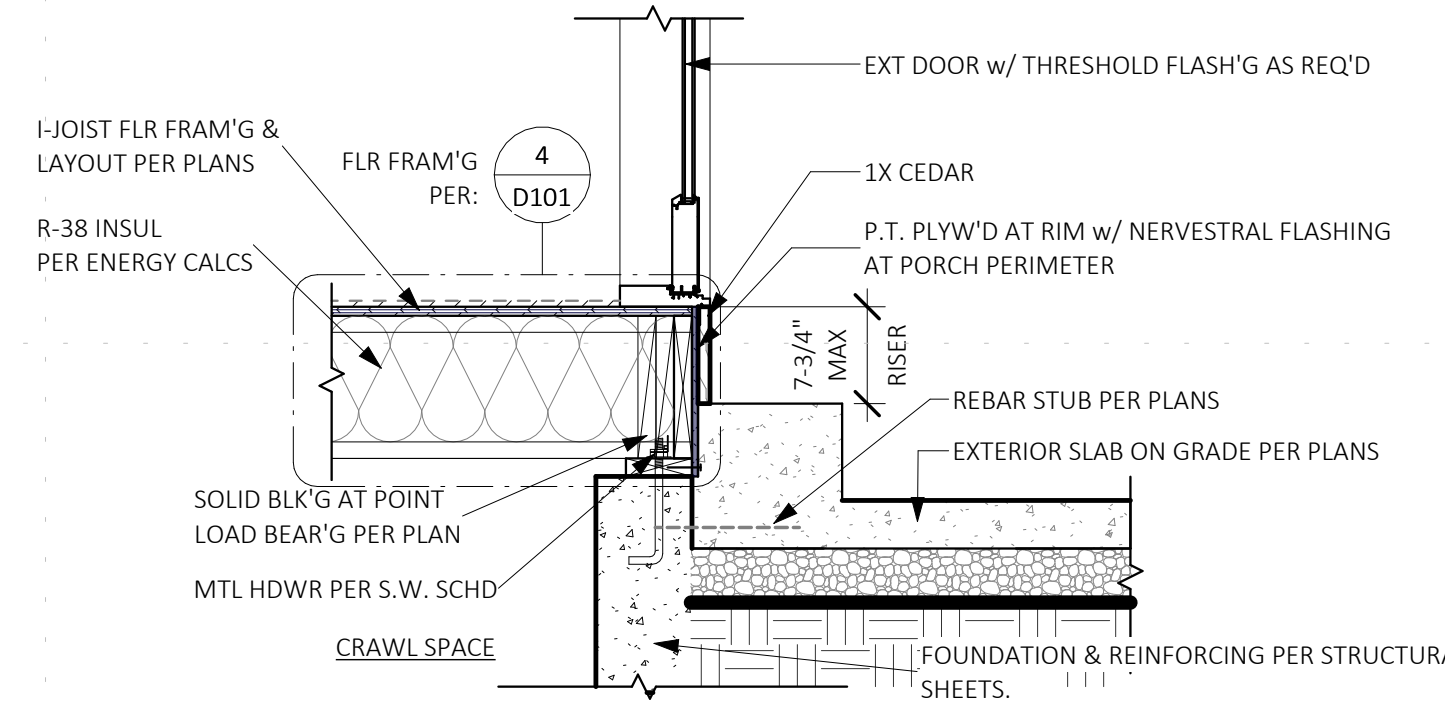
12 SLAB AT STEM WALL
SCALE: 3/4" = 1'-0"



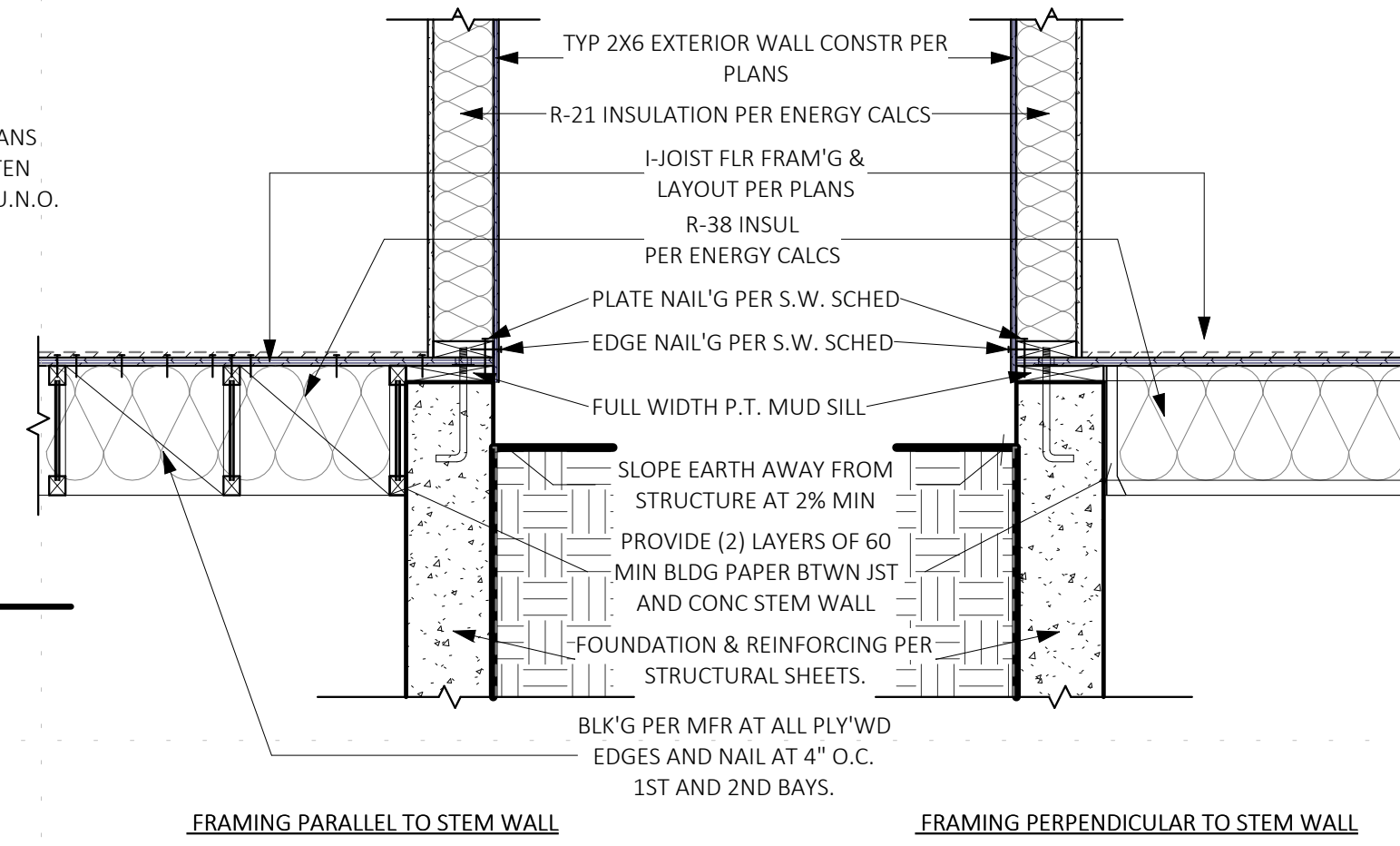
9 FRAM'G / FNDN - JOIST OVER
SCALE: 3/4" = 1'-0"



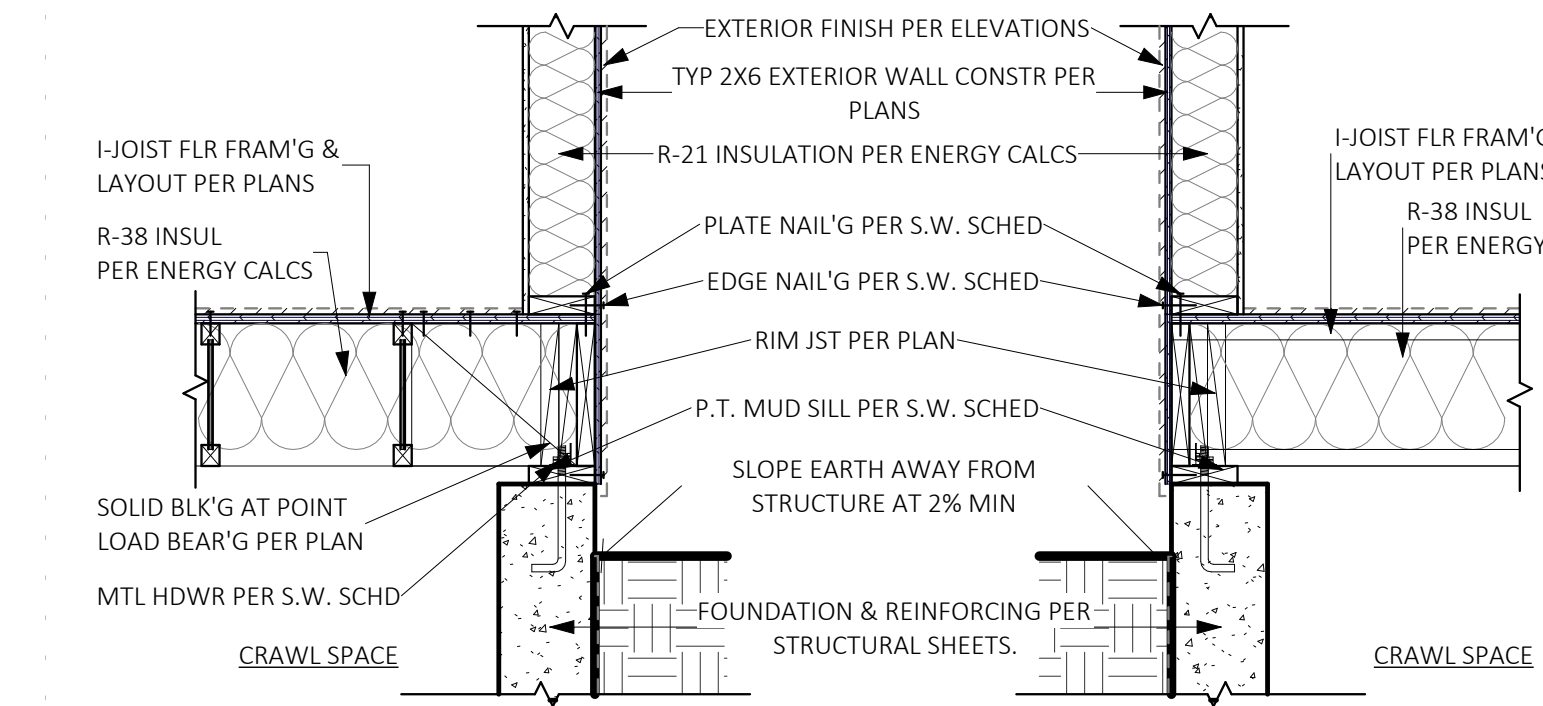
11 FRAM'G / FNDN - JOIST OVER
SCALE: 3/4" = 1'-0"



4 FRAM'G / FNDN - JOIST OVER
SCALE: 3/4" = 1'-0"

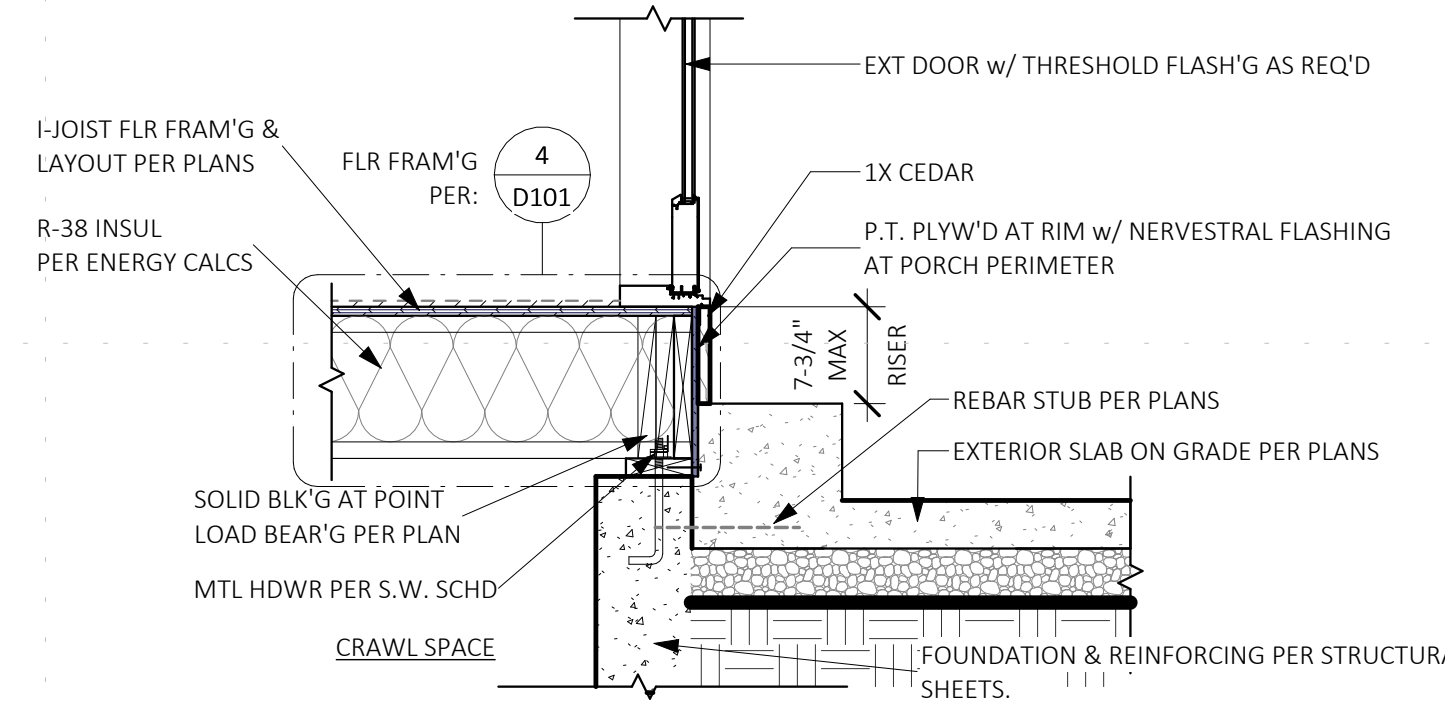


5 FRAM'G / FNDN - DROPPED JOISTS
SCALE: 3/4" = 1'-0"

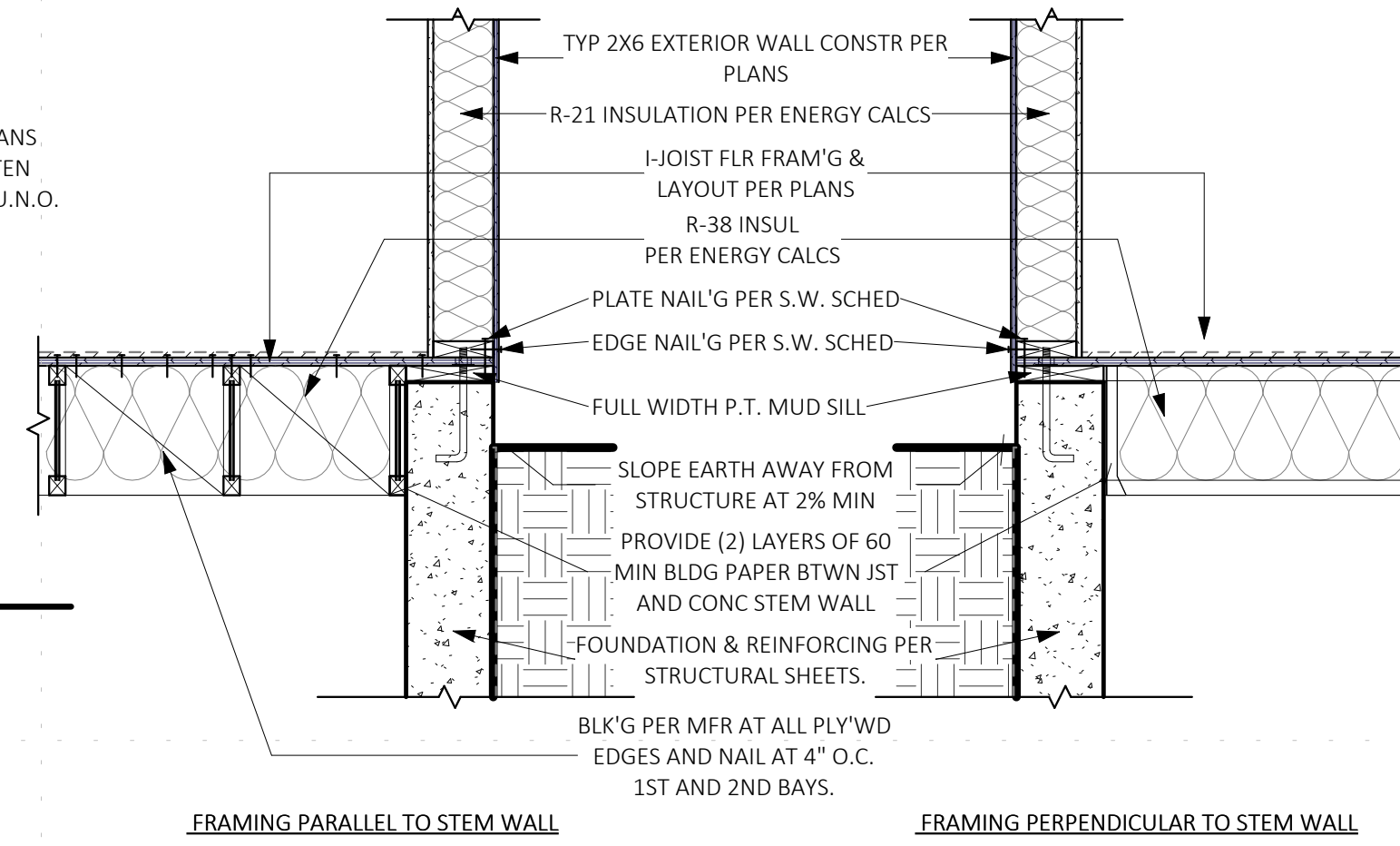


4 FRAM'G / FNDN - JOIST OVER
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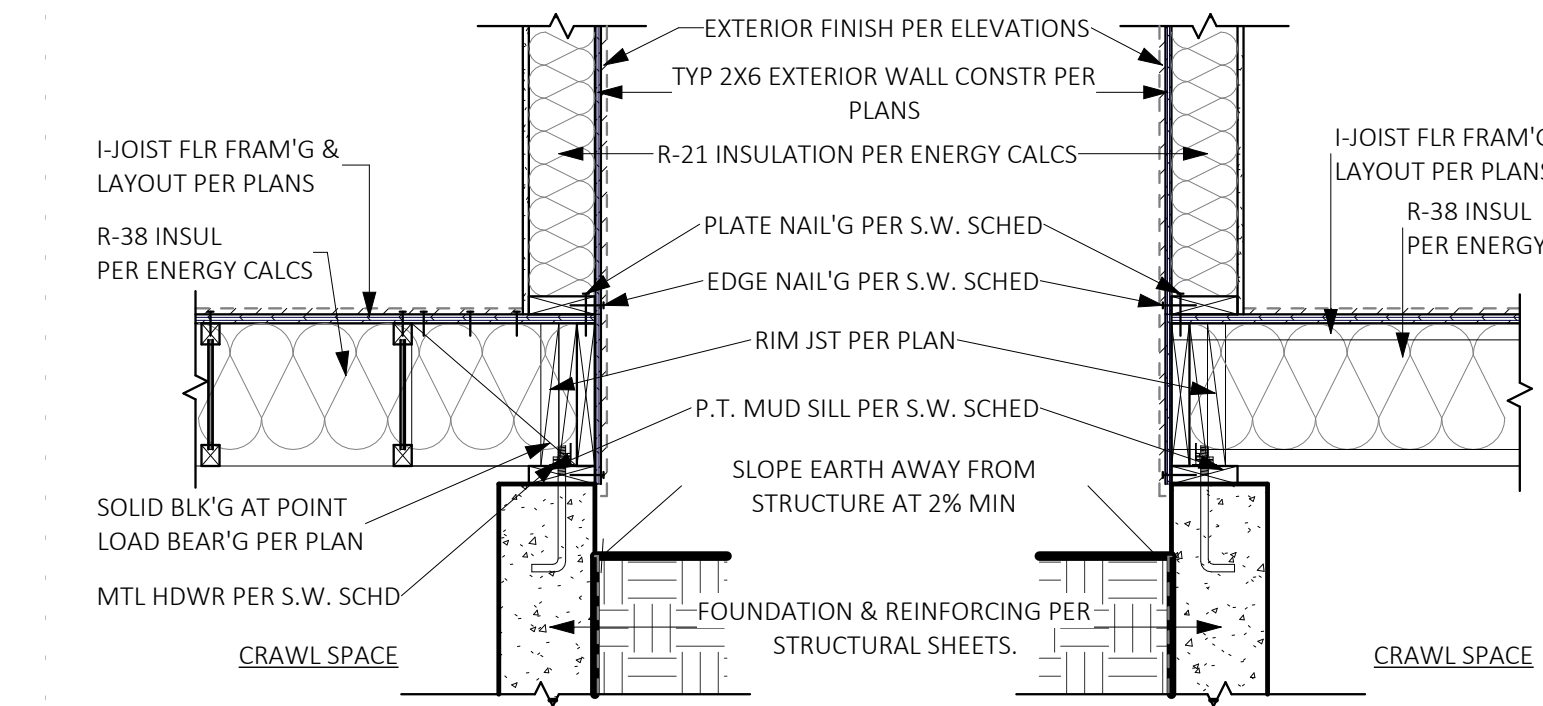
7 FRAM'G / FNDN - DROPPED JOISTS
SCALE: 3/4" = 1'-0"



6 FRAM'G / FNDN - JOIST OVER
SCALE: 3/4" = 1'-0"

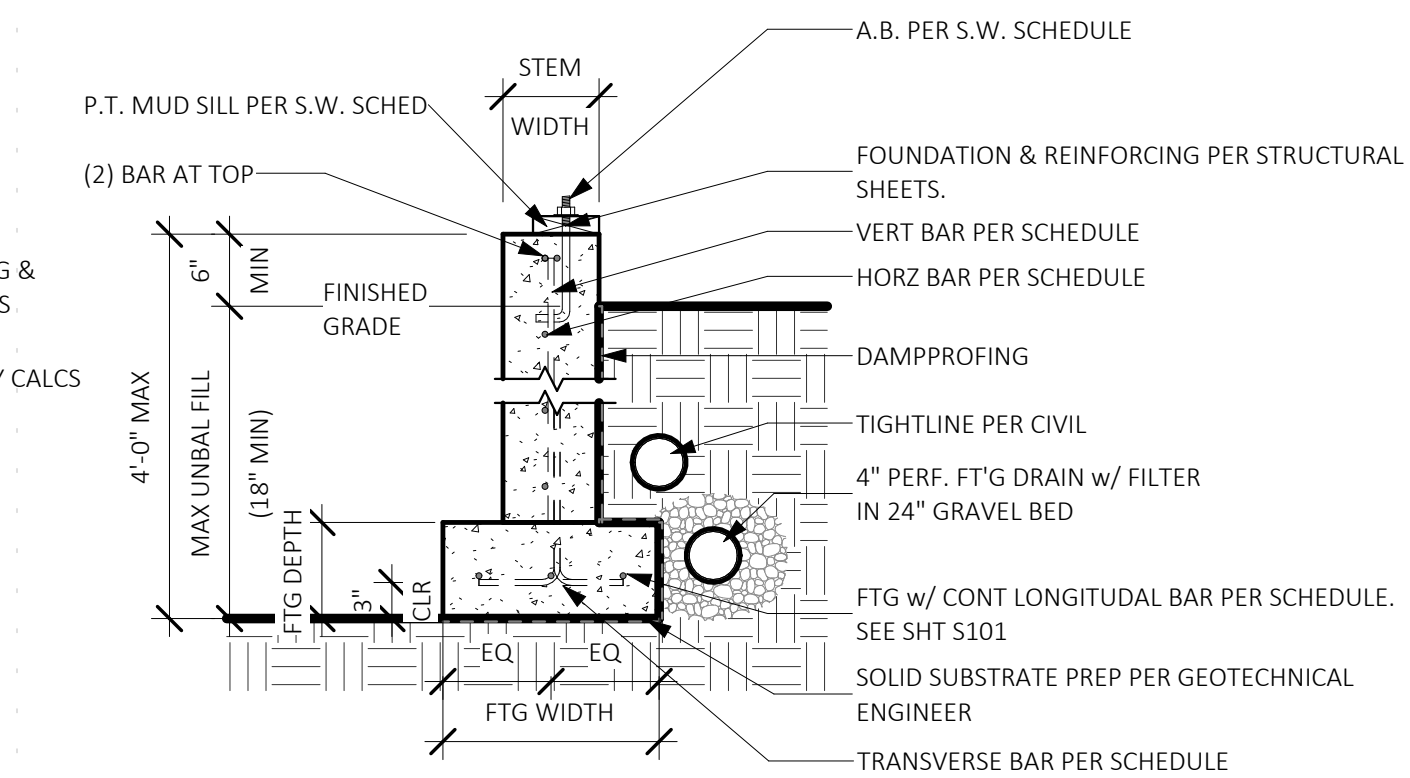


5 FRAM'G / FNDN - DROPPED JOISTS
SCALE: 3/4" = 1'-0"



4 FRAM'G / FNDN - JOIST OVER
SCALE: 3/4" = 1'-0"

FNDN SCHEDULE - TYP									
MAX UNBAL FILL	FOOTING				STEM WALL				
	DEPTH	WIDT H	TOE	HEEL	LONGITUDINAL BAR	TRANSVERSE BAR	WIDTH	HORIZONTAL REINFORCING	VERTICAL REINFORCING
2'-6"	8"	1'-6"	5"	5"	(3) #4 BAR CONT BOT	#4 AT 8" O.C.	8"	#4 HORZ BAR CENTERED AT 12" O.C.	#4 VERT BAR CENTERED AT 12" O.C.
4'-0"	11"	2'-8"	8"	1'-4"	(2) #4 BAR CONT TOP & BOT	PER DETAILS	8"	#4 HORZ BAR CENTERED AT 12" O.C.	#4 VERT BAR CENTERED AT 12" O.C.



1 FOUNDATION DETAIL - TYP
SCALE: 3/4" = 1'-0"

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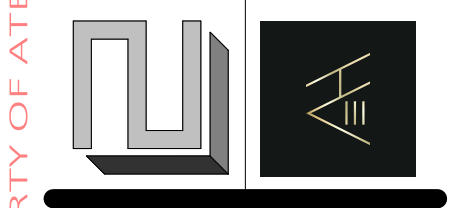
Description

Date

No.

L2 ENGINEERS
17848 NE 198TH PLAVE
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO
451 DUVALL AVE. NE,
RENTON, WA 98059



HU RESIDENCE

2448 72nd AVE SE, Mercer Island

PERMIT SET

FOUNDATION & FRAM'G DETAILS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

D101

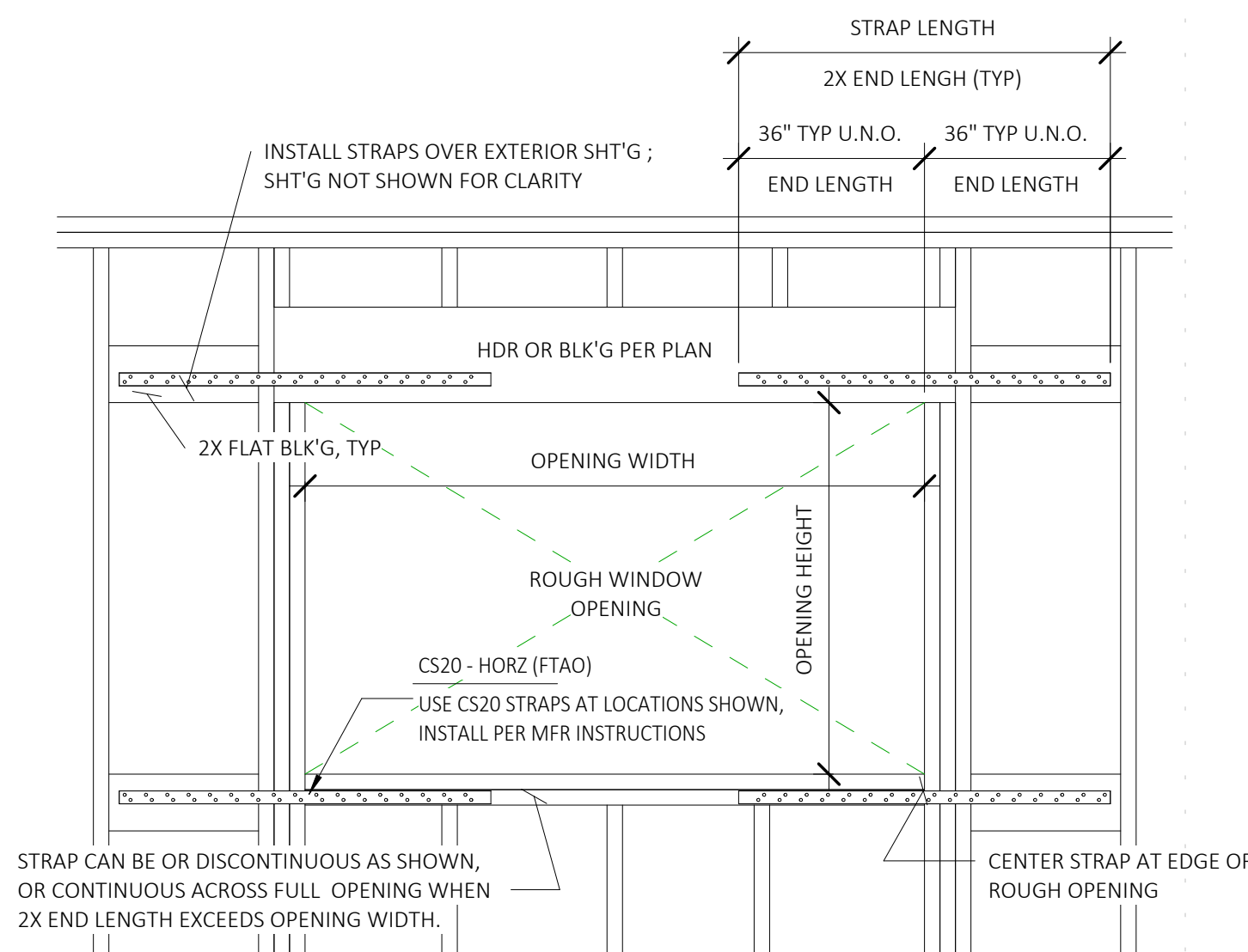
SCALE 24X36: 3/4" = 1'-0"
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3/15/2023 8:48:48 AM Autodesk Docs//721014 Hu Residence, Mercer Island/21014.05CD_Hu Residence, Mercer Island.rvt

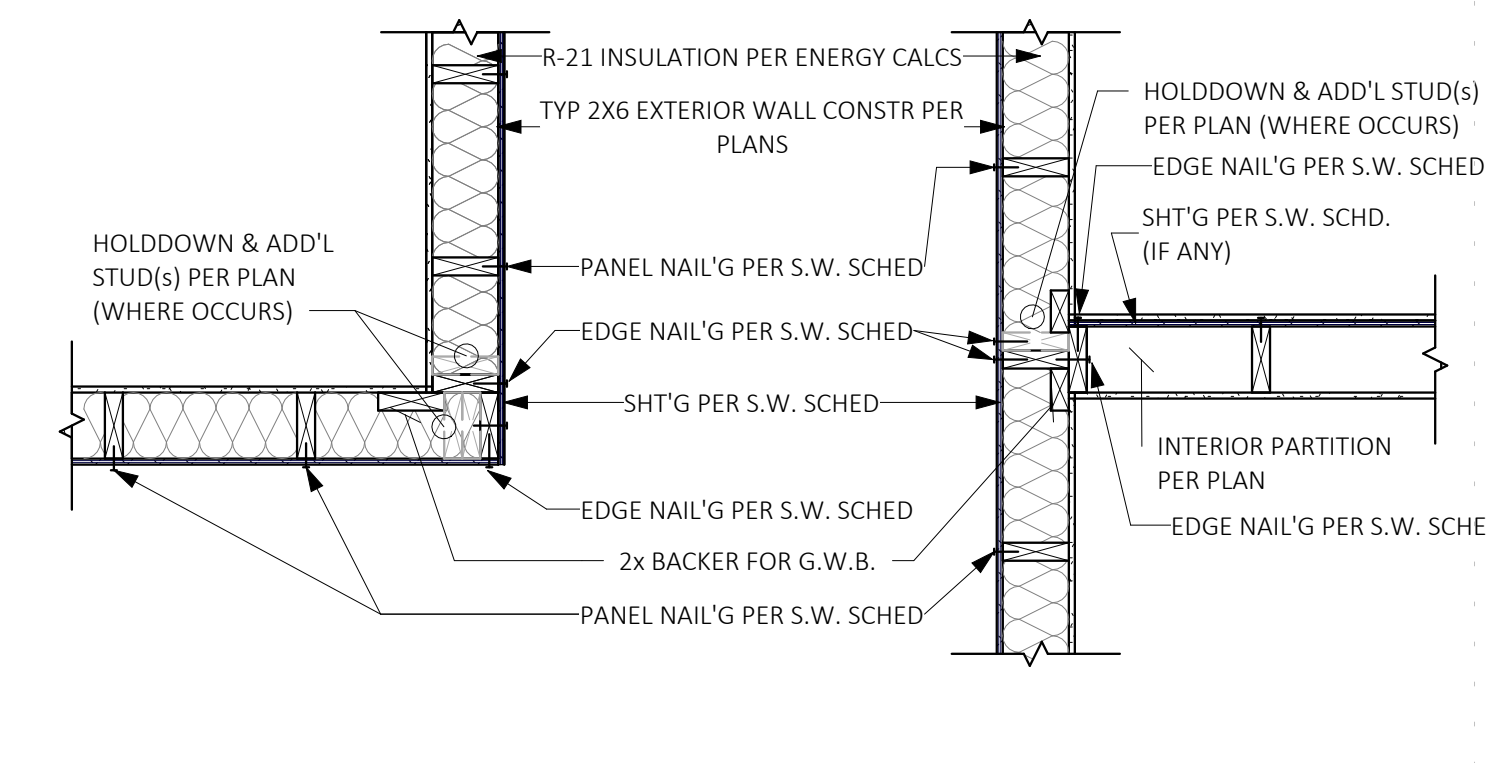
23

FORCE TRANSFER AT OPENING
SCALE: 3/4" = 1'-0"



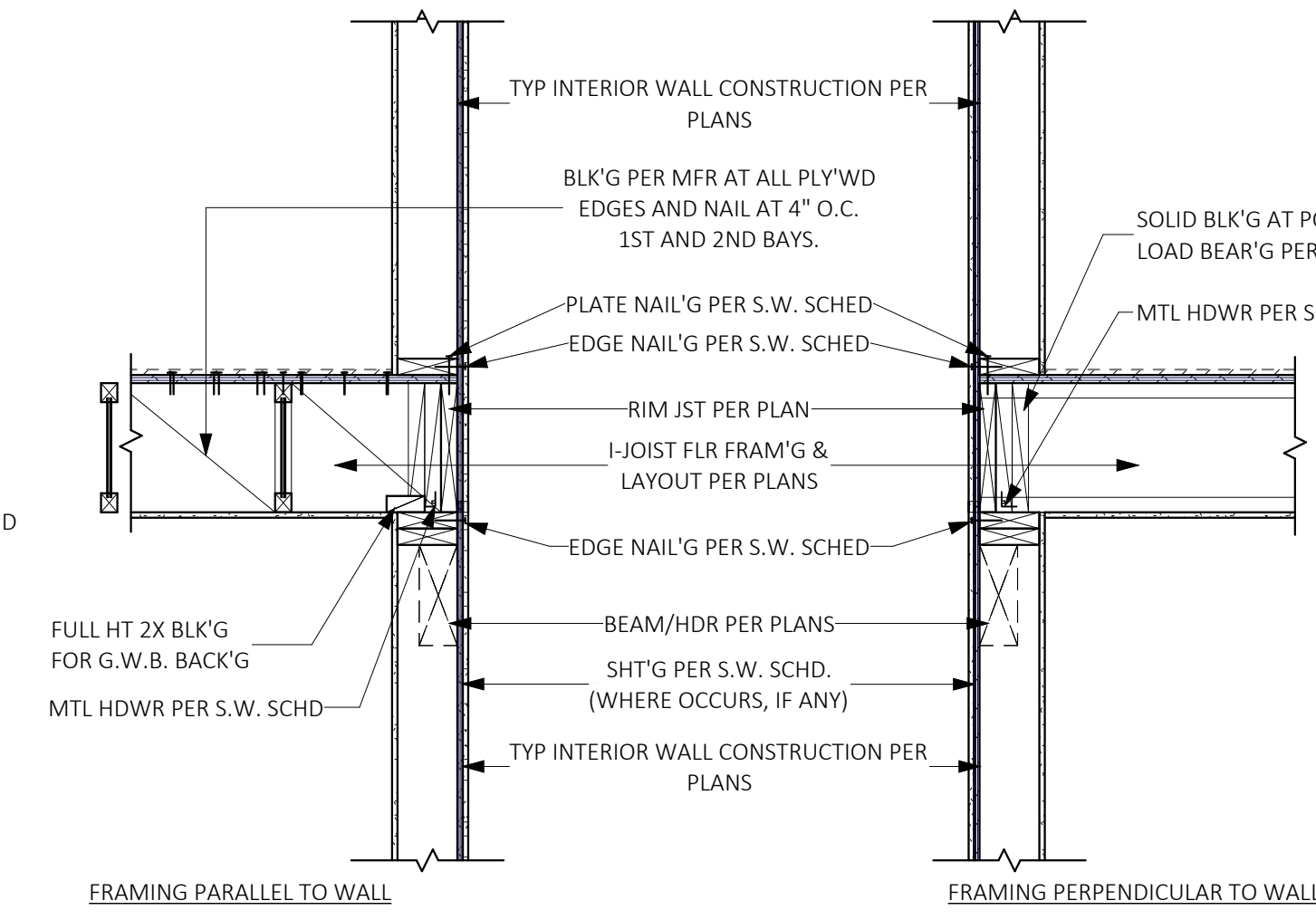
22

INT/EXT WALL FRAMING DETAIL
SCALE: 3/4" = 1'-0"



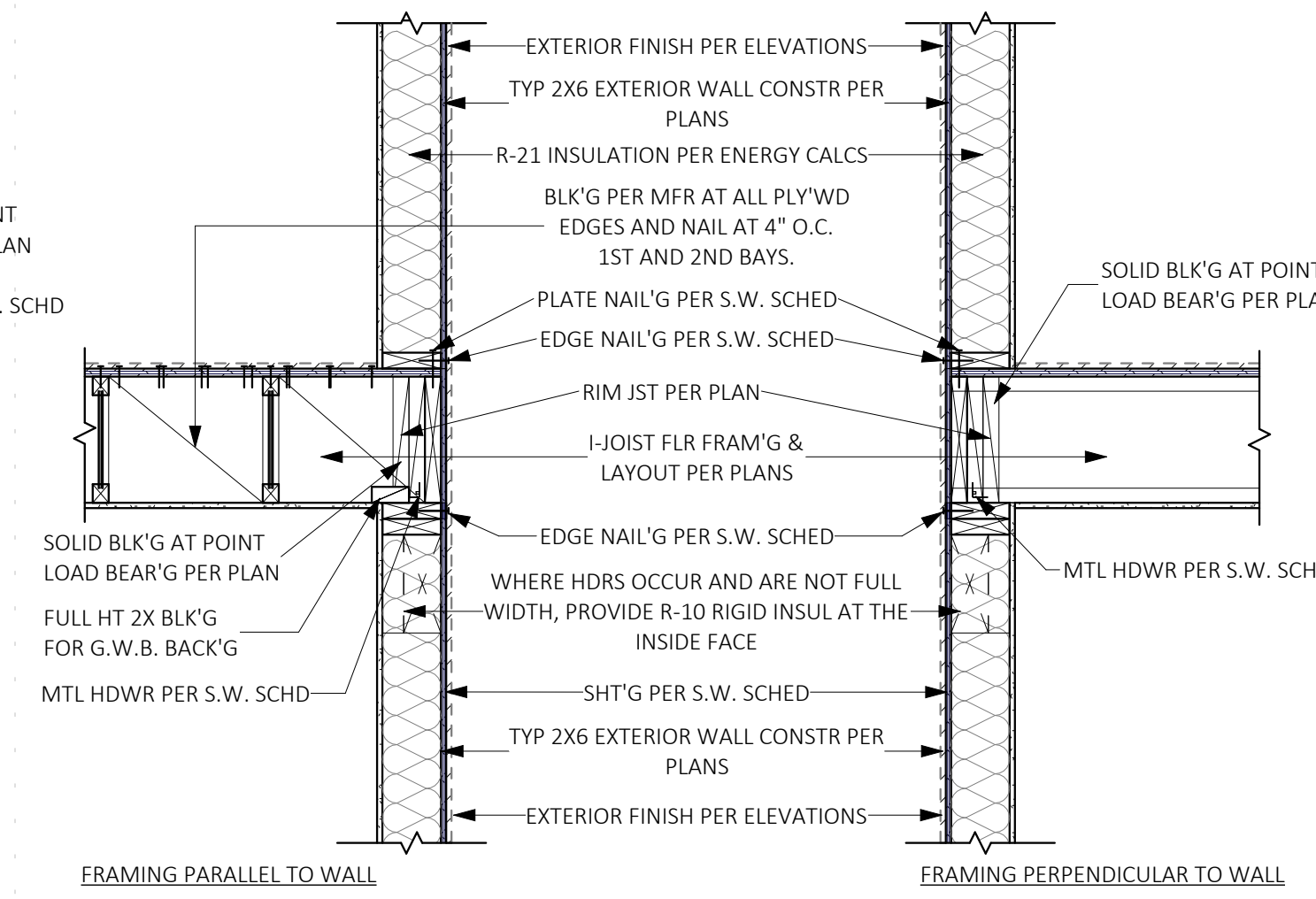
17

INTERIOR WALL/FLOOR JOISTS - STACKED
SCALE: 3/4" = 1'-0"



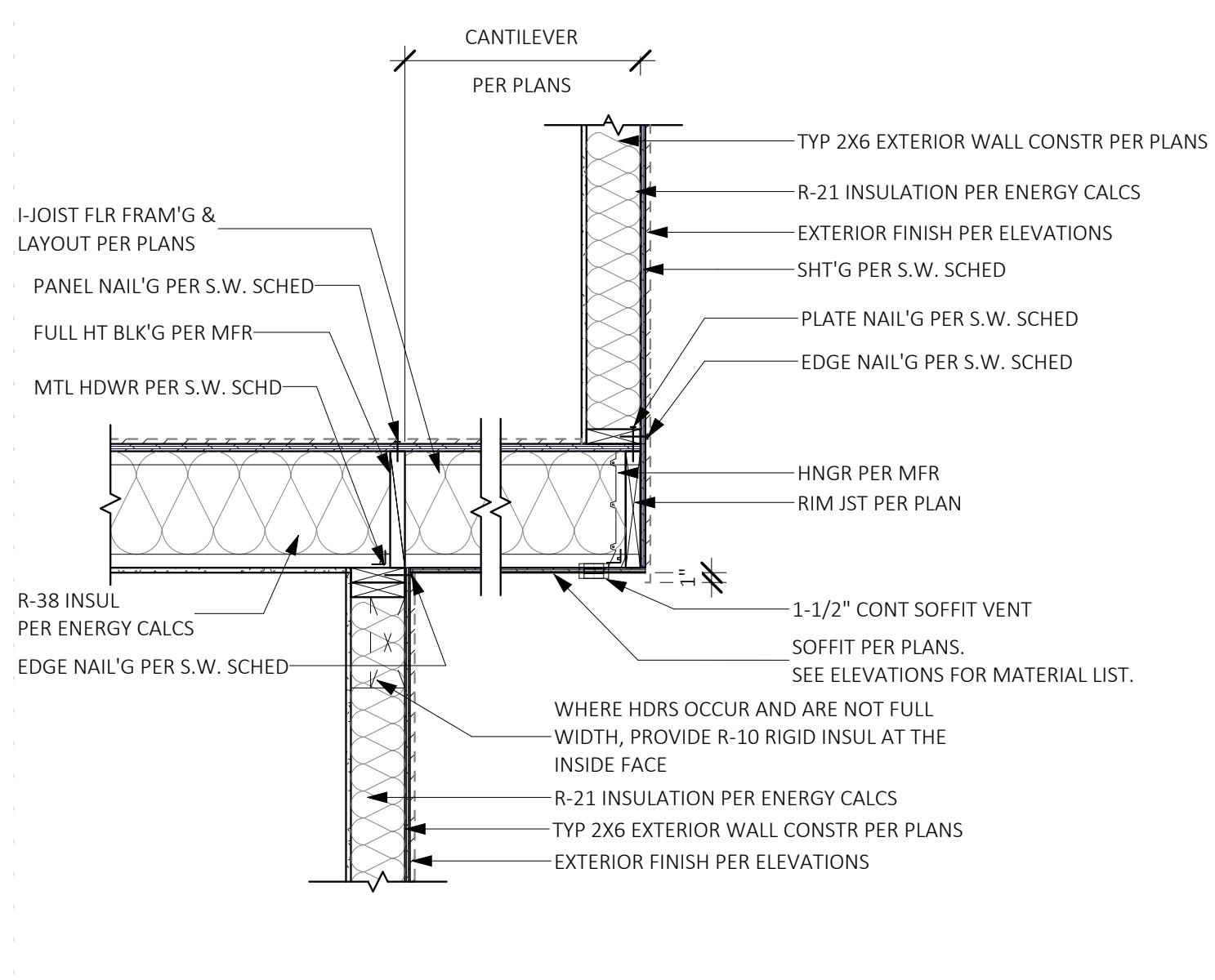
14

EXTERIOR WALL TO FLOOR JOISTS
SCALE: 3/4" = 1'-0"



15

CANTILEVERED FRM'G AT EXT WALL
SCALE: 3/4" = 1'-0"



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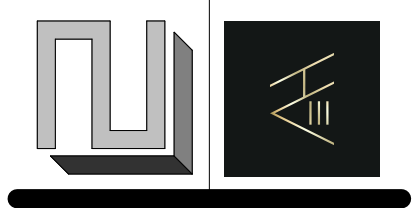
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No. _____ Date _____

01/13/2023

L2 ENGINEERS
17848 NE 198TH PLAVE
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO
451 DUVALL AVE NE,
RENTON, WA 98059



HU RESIDENCE
2448 72nd AVE SE, Mercer Island

PERMIT SET

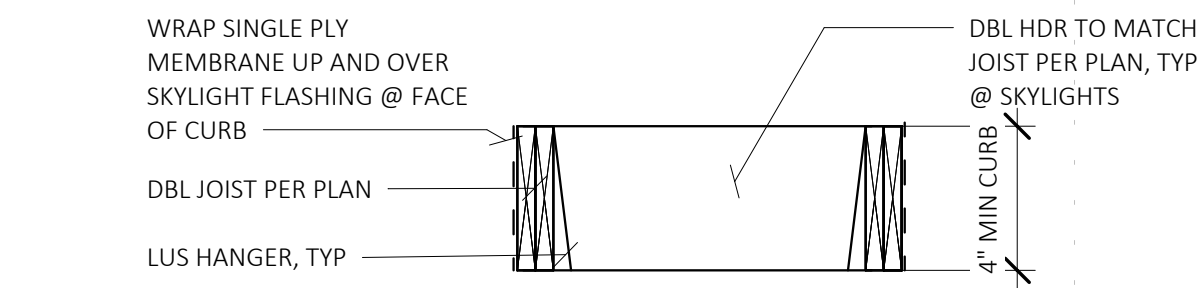
FRAMING DETAILS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

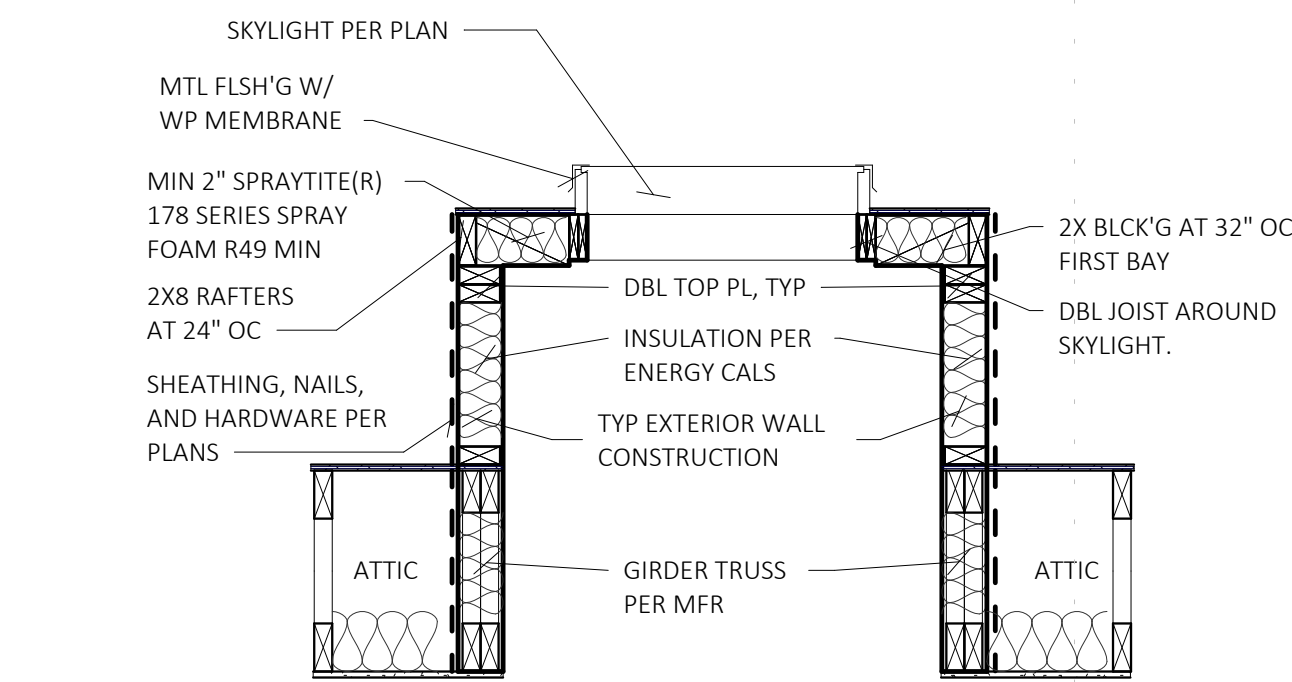
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SCALE 24X36: 3/4" = 1'-0"
* NOTE: 11x17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

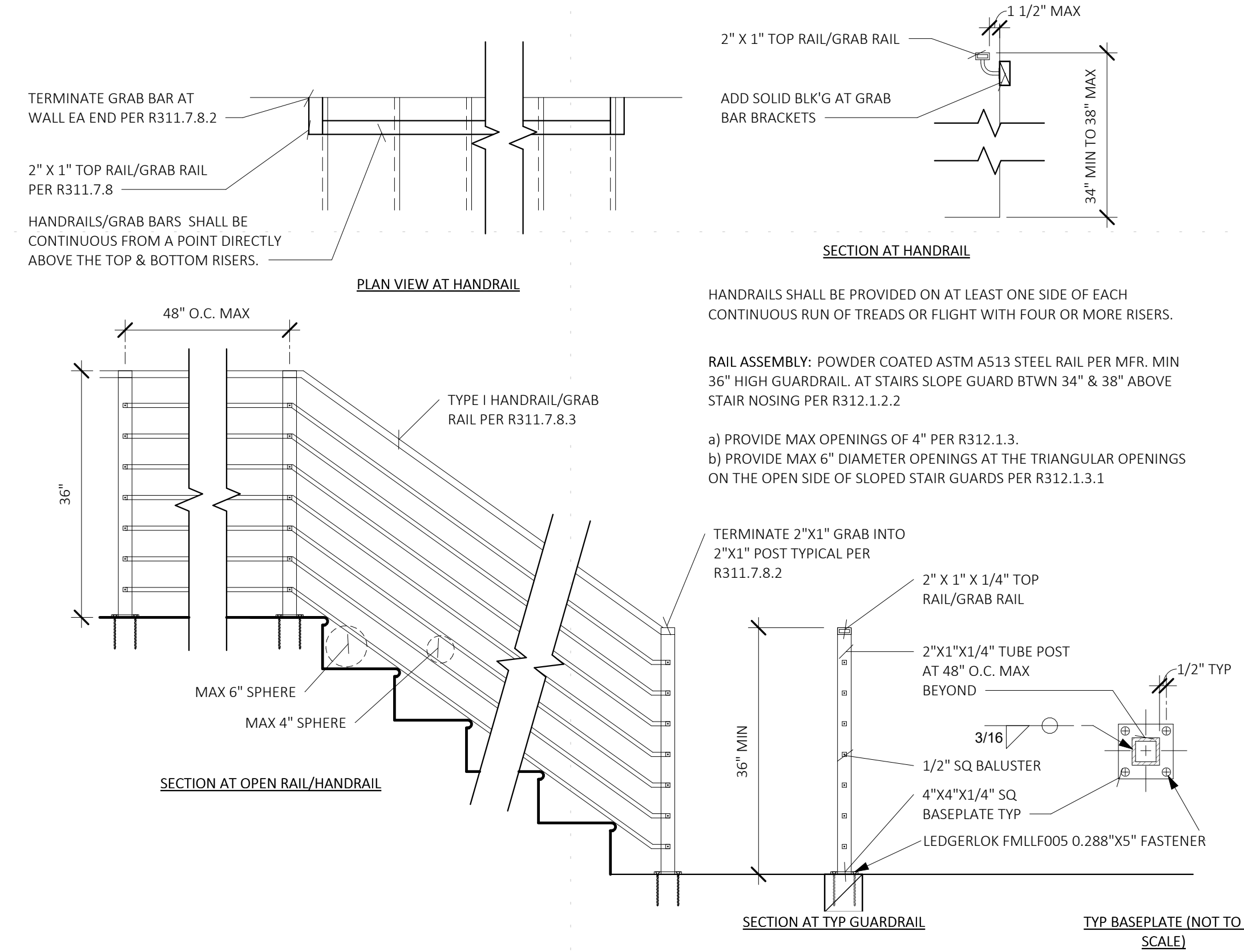




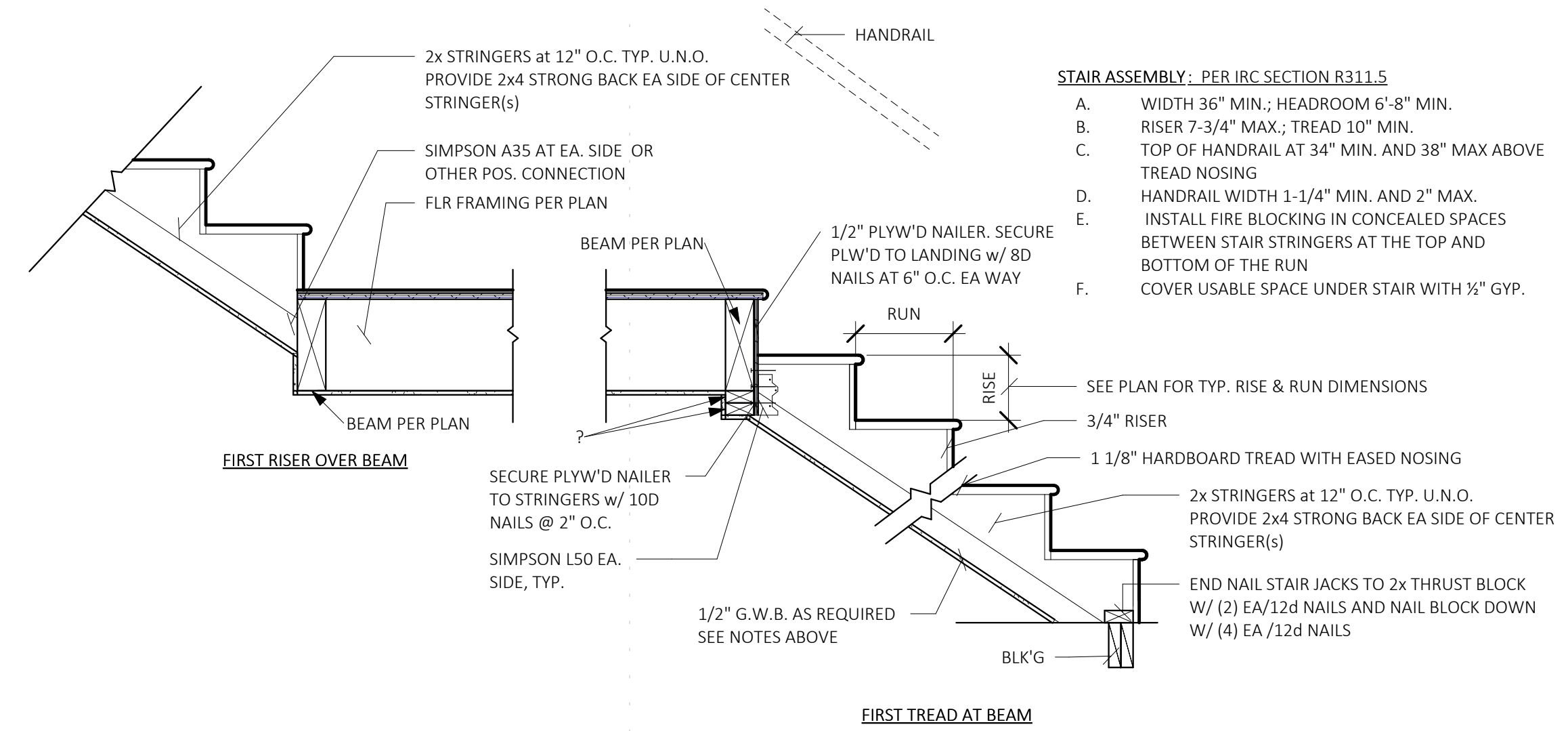
4 ROOF - SKYLIGHT CURB
SCALE: 3/4" = 1'-0"



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



2 TYP RAILING/GRAB BAR DETAIL
SCALE: 3/4" = 1'-0"



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

NOTE: THIS IS A STANDARD DETAILS SHEET PREPARED FOR SINGLE FAMILY HOUSING TYPE V NONRATED CONSTRUCTION. THESE DETAILS HAVE BEEN PREPARED TO COVER GENERAL CONSTRUCTION CONDITIONS. NOT ALL DETAILS ON THIS SHEET ARE NECESSARILY INCORPORATED INTO THIS PROJECT. COORDINATE WITH PLANS.

STANDARD DETAIL SHEET

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No. 1

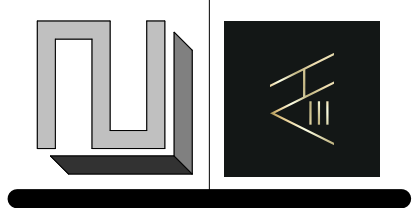
Date 2023/01/25

Description SUB2 City Comment Submittal

01/13/2023

L2 ENGINEERS
17848 NE 198TH PLAVE
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO
451 DUVALL AVE NE,
RENTON, WA 98059



HU RESIDENCE

2448 72nd AVE SE, Mercer Island

PERMIT SET

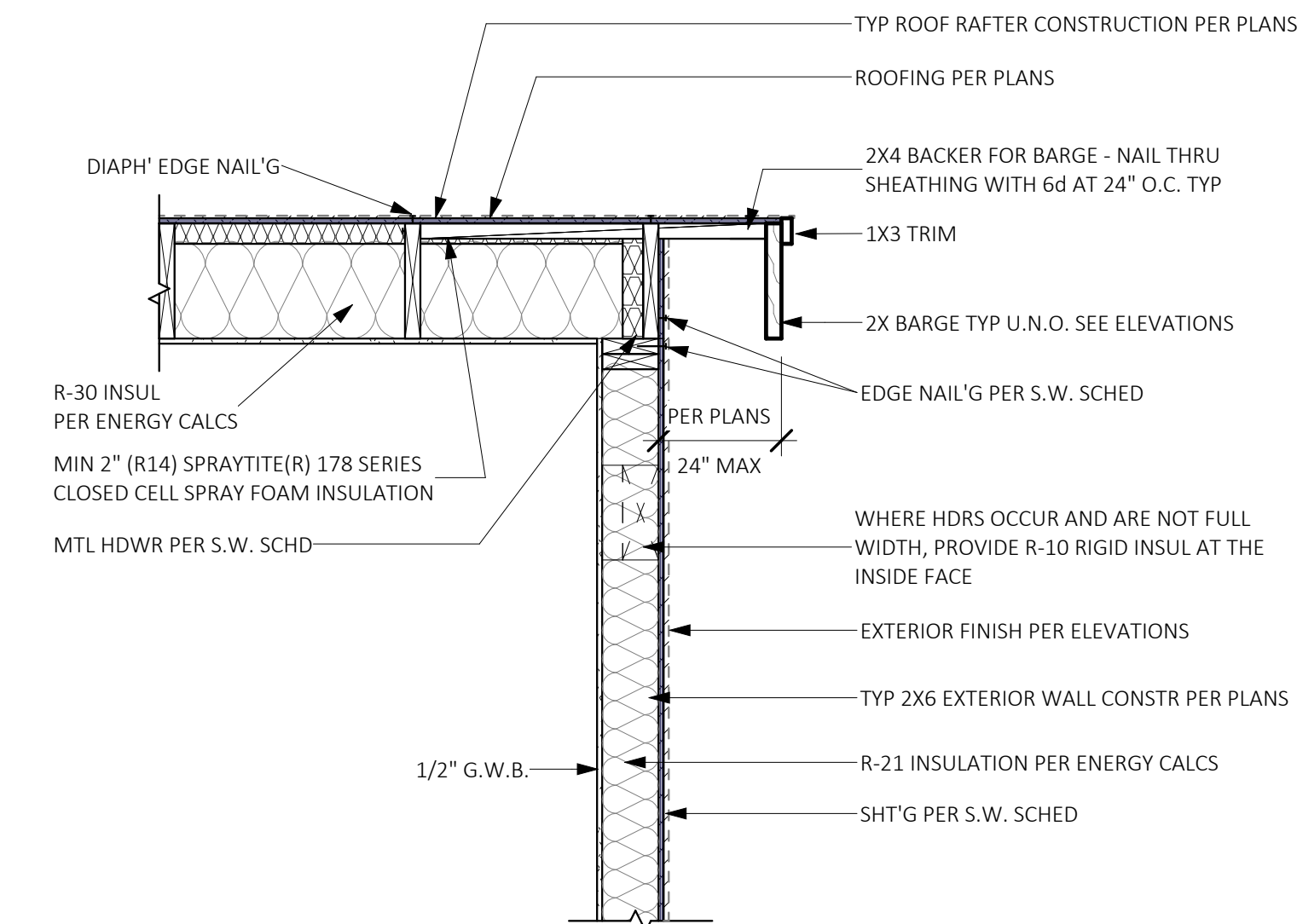
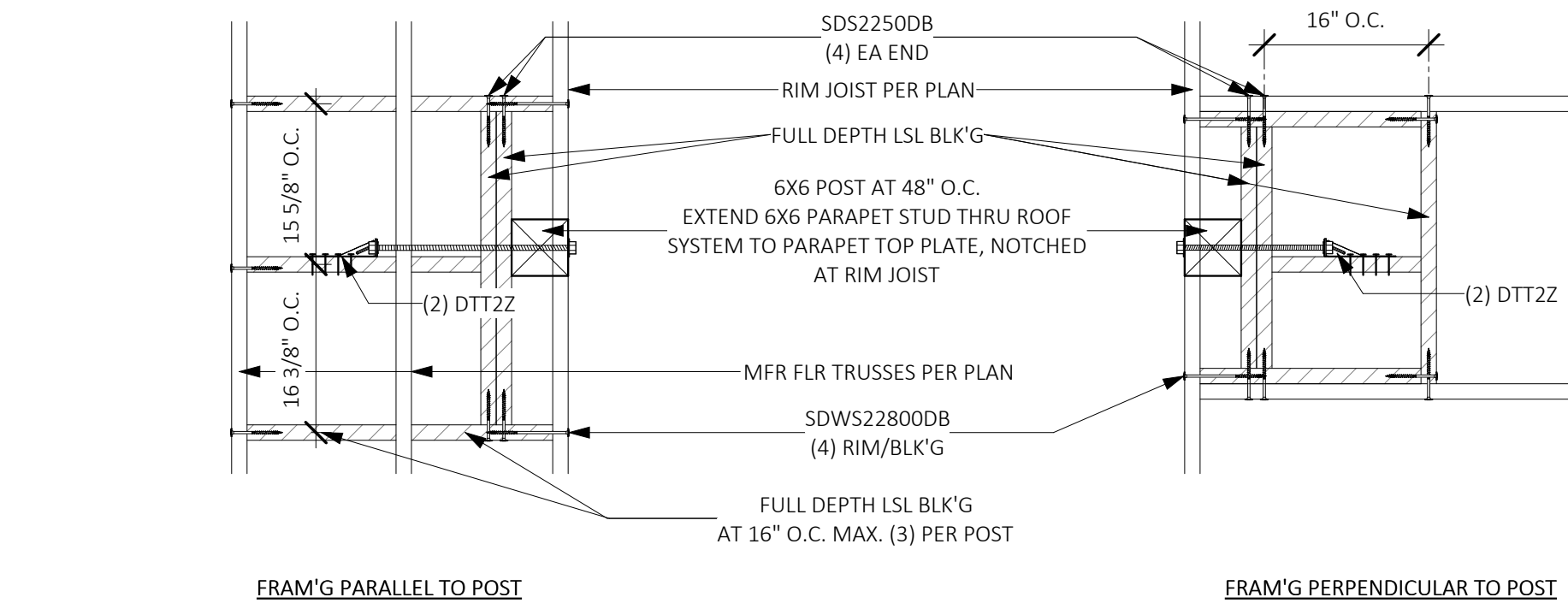
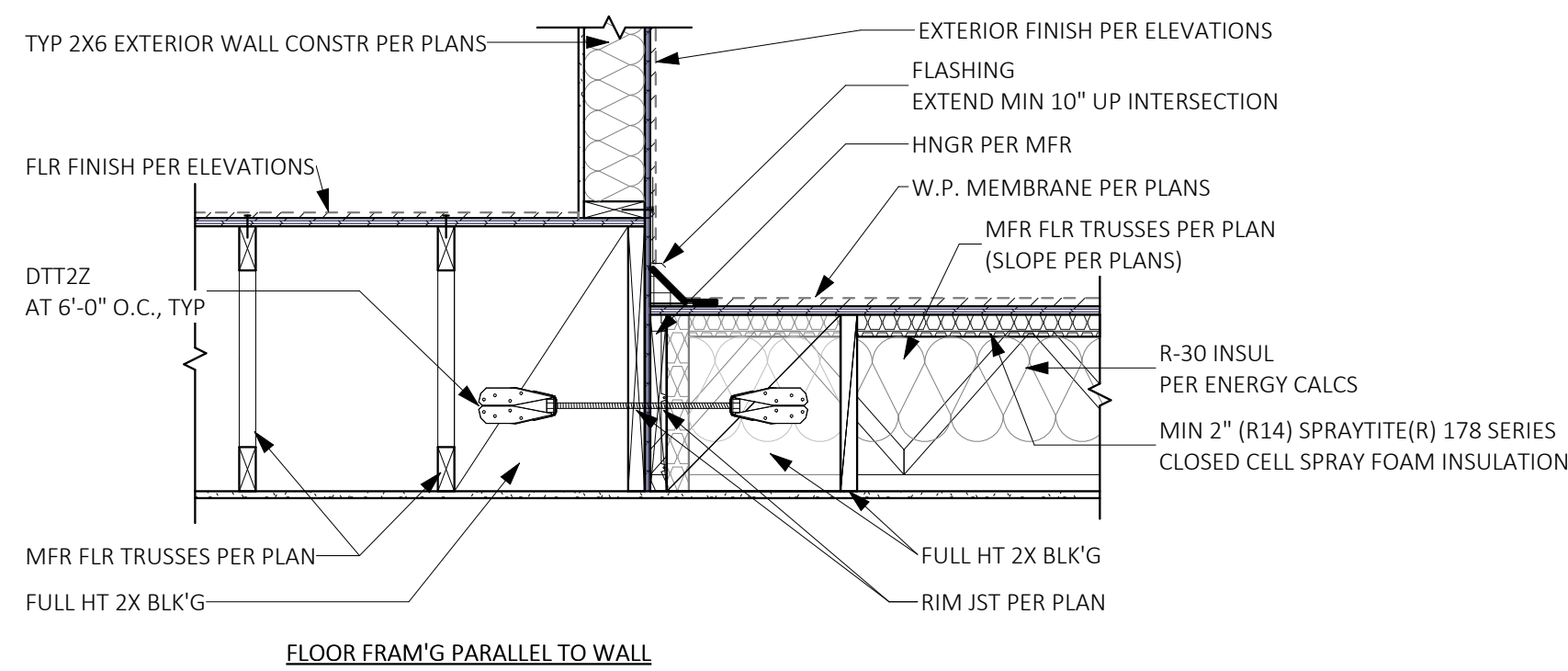
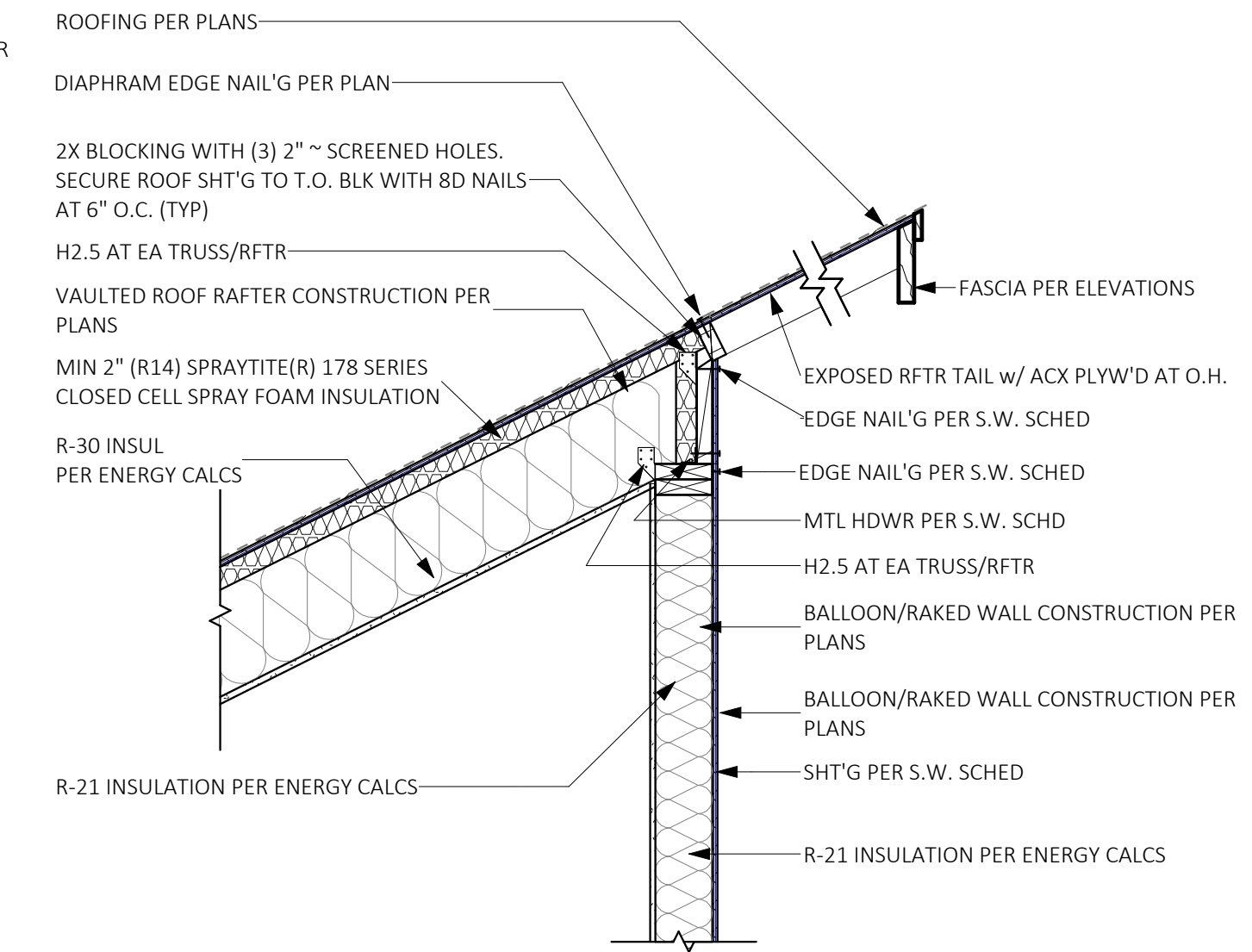
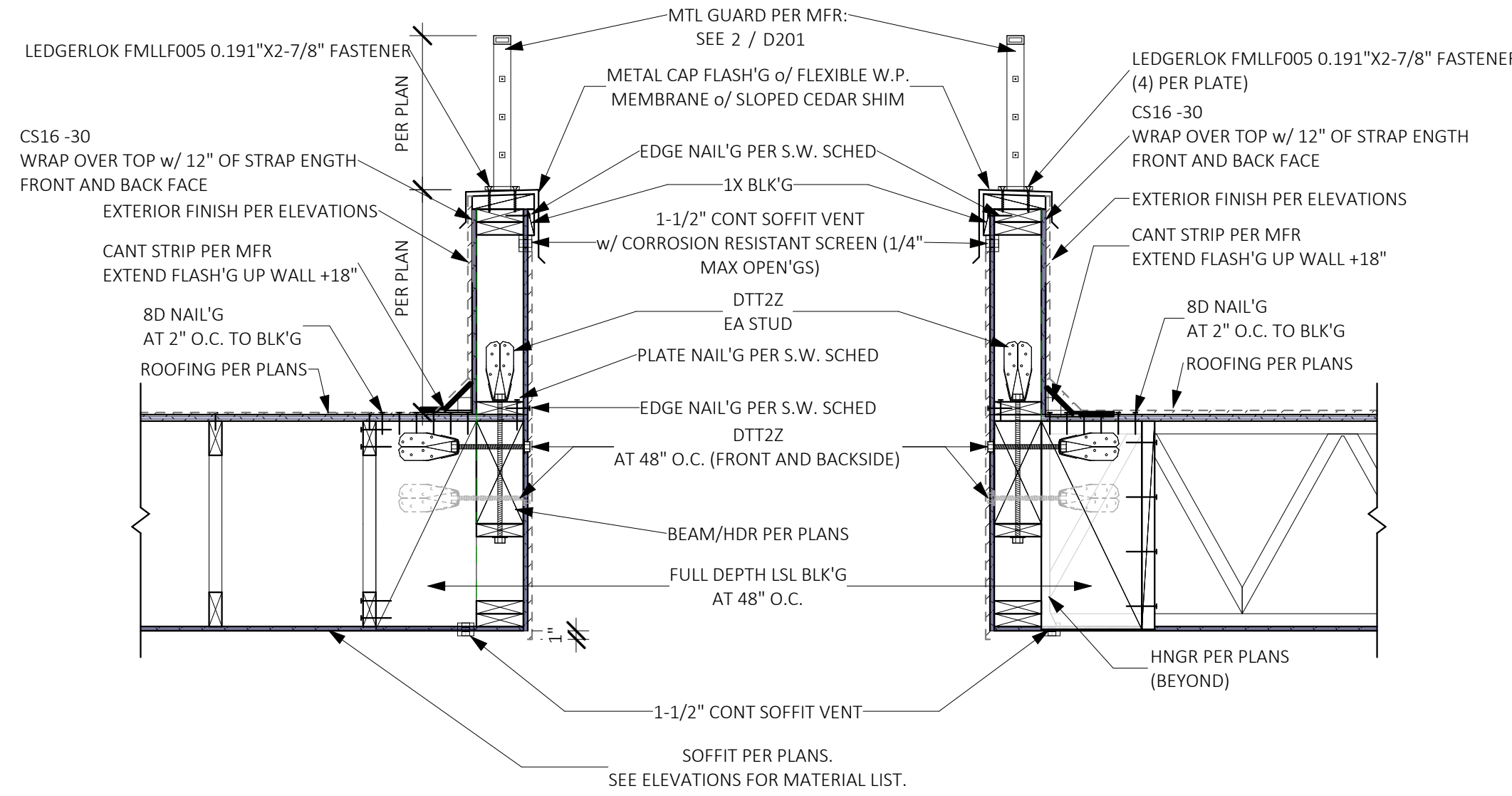
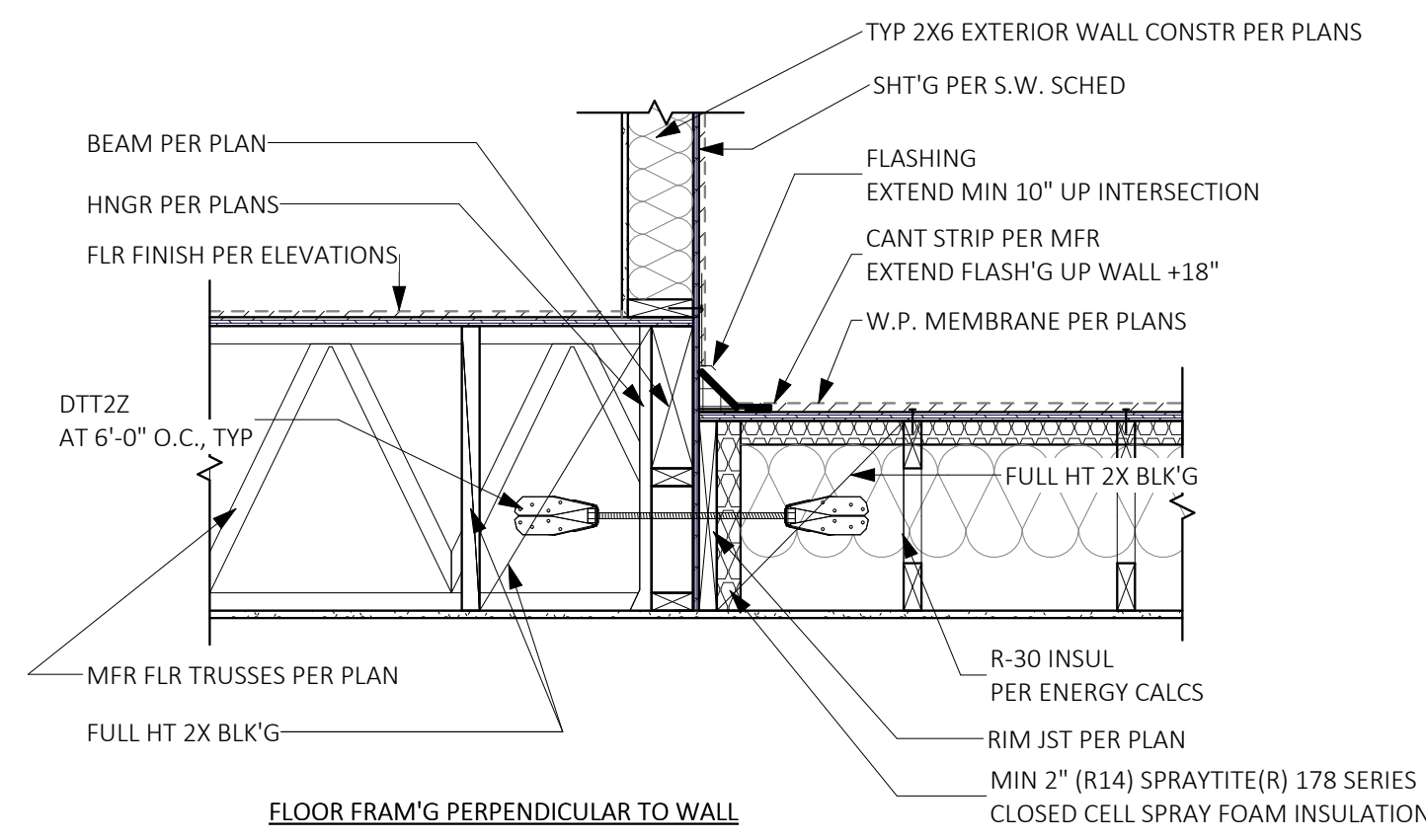
STAIR & RAILING DETAILS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

D201

SCALE 24X36: 3/4" = 1'-0"
* NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.

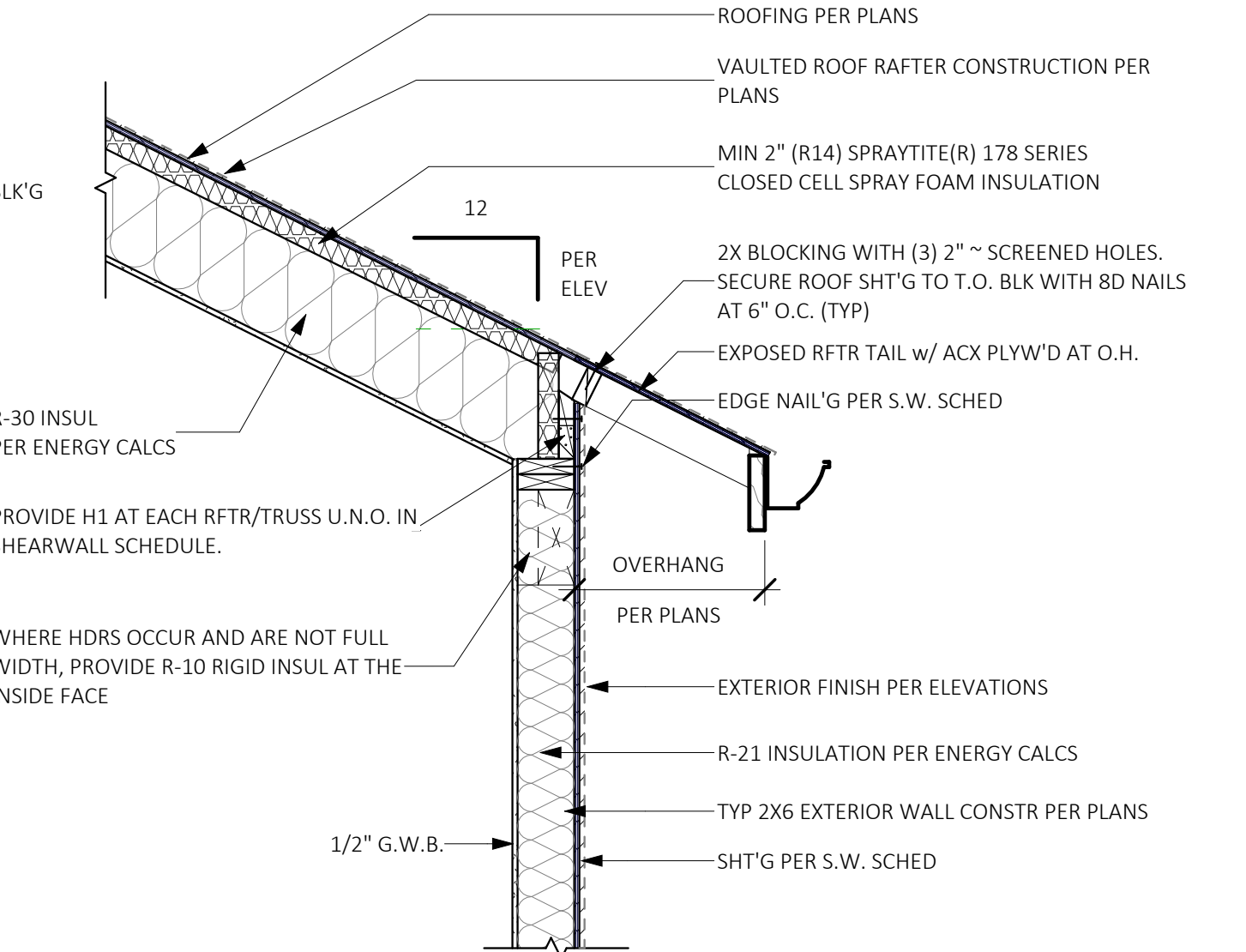
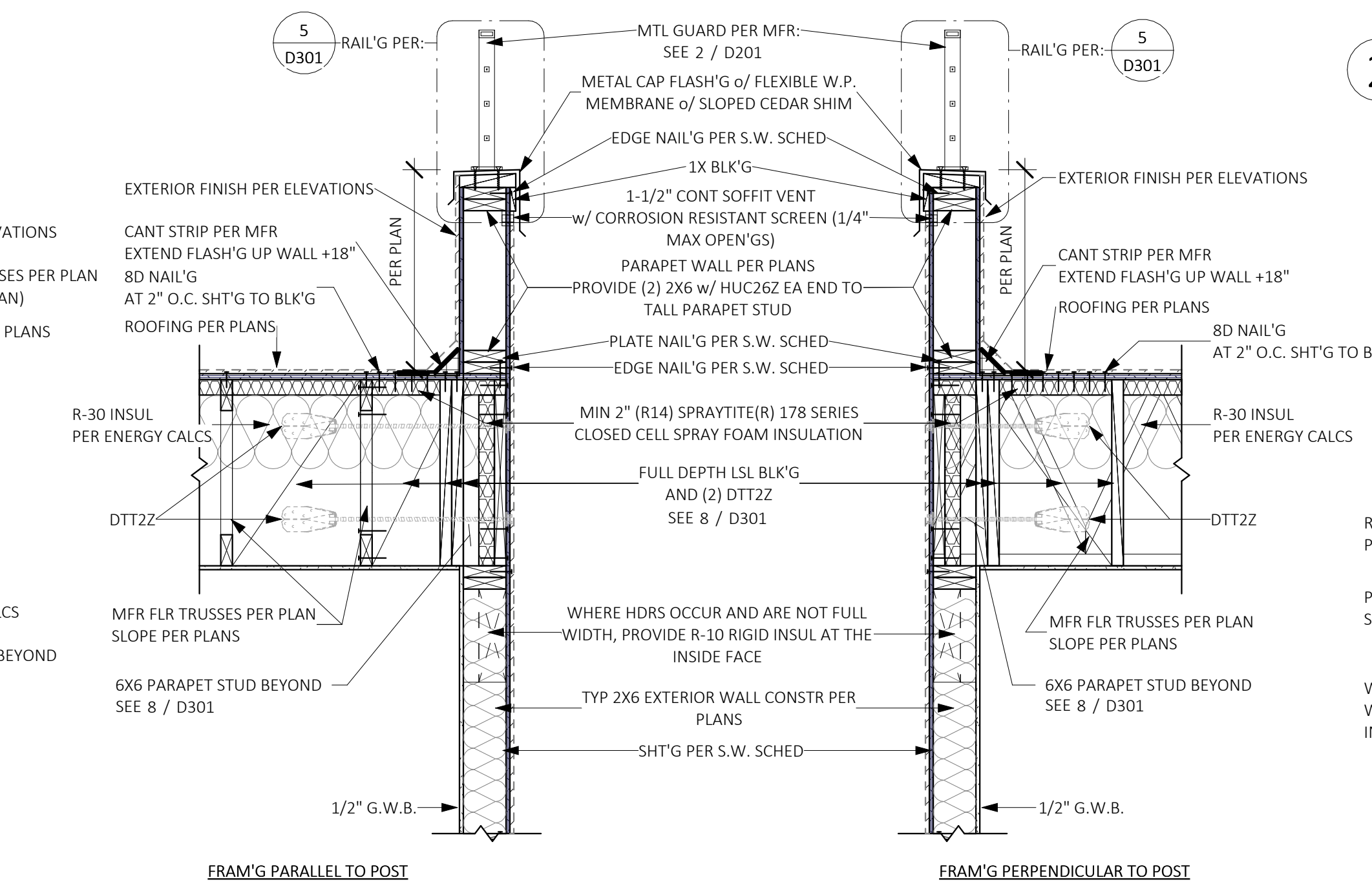
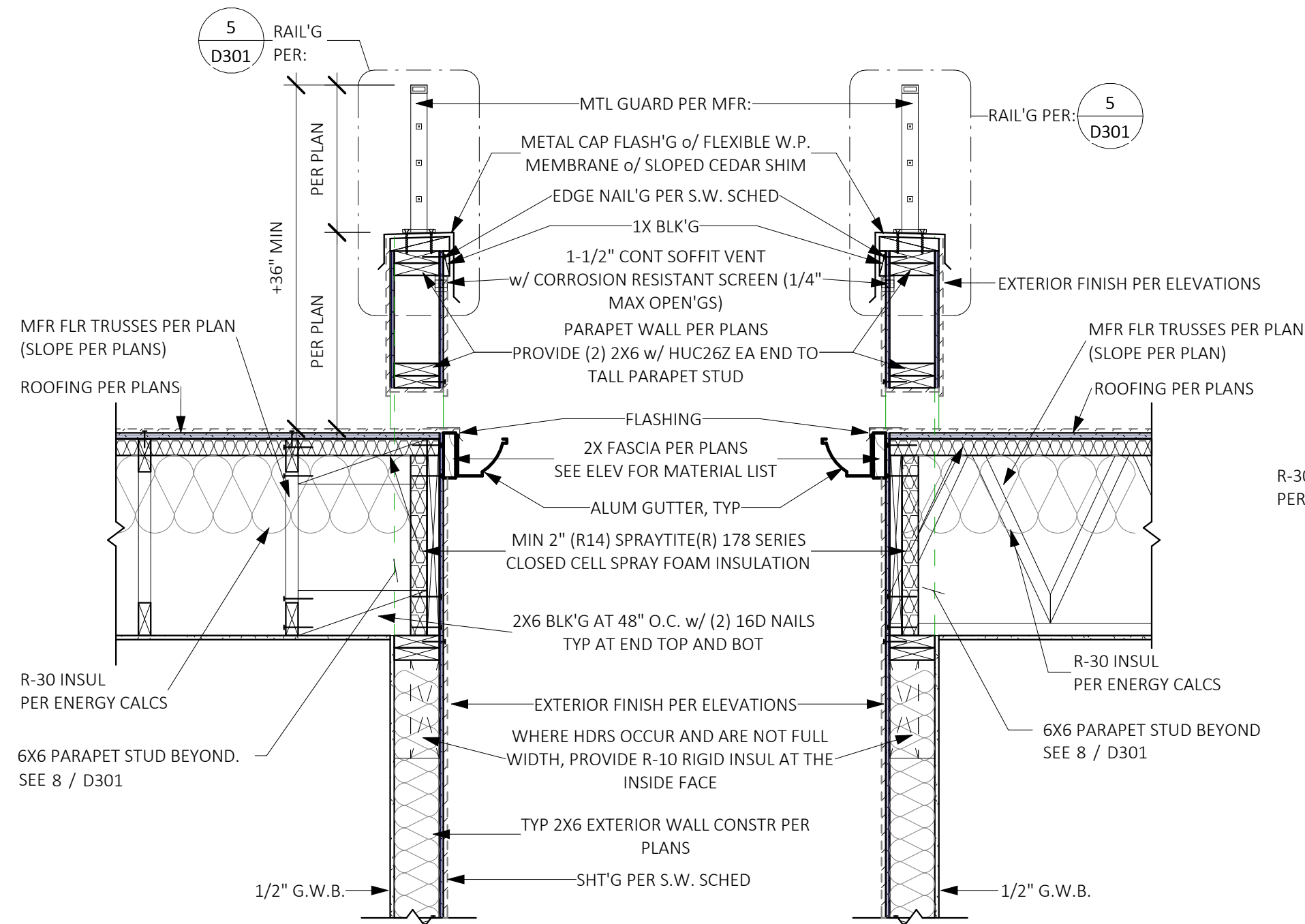




7 BALCONY/WALL CONNECTION
SCALE: 3/4" = 1'-0"

8 PLAN VIEW AT PARAPET STUD
SCALE: 3/4" = 1'-0"

2 GABLE END DETAIL- VAULT'D RFR
SCALE: 3/4" = 1'-0"



6 PARAPET DETAIL w/ GUTTER
SCALE: 3/4" = 1'-0"

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

1 EAVE DETAIL - VAULTED RAFTER
SCALE: 3/4" = 1'-0"

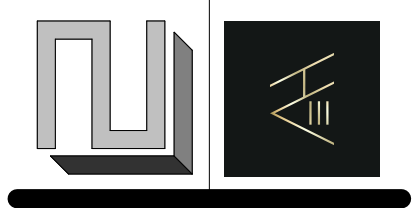
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No.	Date	Description

L2 ENGINEERS
17848 NE 198TH AVE
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO
451 DUVAL AVE NE,
RENTON, WA 98059



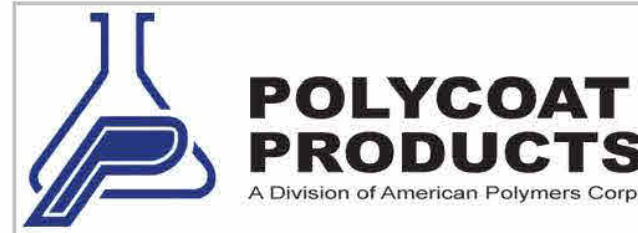
HU RESIDENCE
2448 72nd AVE SE, Mercer Island

PERMIT SET
ROOF DETAILS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

D301
SCALE 24X36: 3/4" = 1'-0"
* NOTE: 11x17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.





POLYCOAT-AQUASEAL® 5000
Single Component, Bitumen Modified
Waterproofing Membrane System

Technical Data Sheet

System Description:

Polycoat-Aquaseal® 5000 is a single component, liquid applied, bitumen modified, coal tar free, moisture cured polyurethane waterproofing membrane. It is available in three application versions: Horizontal (H), Vertical (V), and Water Catalyzing (WC) – available only in horizontal. Polycoat-Aquaseal® 5000 is in complete compliance with SCAQMD air quality standards, and has VOC levels equal to or less than 100 grams per liter.

- FEATURES**
- Economical
 - Labor Saving
 - Meets the Criteria of ASTM C-836 and E-96
 - User Friendly
 - Resistant to Bacteria

- TYPICAL USES**
- Bridges
 - Planters
 - Between Slabs
 - Shower Pans
 - Tunnels
 - Basements
 - Foundation Walls
 - Water Storage Tanks

Approved City of Los Angeles RR# 25935

Color: Black

Packaging: 5 gallon (18.9 liter) pail, 55 gallon drum, net fill 50 gallons (189 liters)

Mixing For Polycoat-Aquaseal® 5000H / 5000V

Before application, Polycoat-Aquaseal® 5000 should be thoroughly mixed using a mechanical mixer at slow speed to ensure a homogeneous material. Take care not to allow entrapment of air into the material.

Mixing For Polycoat-Aquaseal® 5000WC-H:

Before application, mix Polycoat-Aquaseal® 5000WC using a mechanical mixer at slow speed. Mix Polycoat-Aquaseal® 5000WC with water (water must be added) at a ratio of one quart of water to five gallons of Polycoat-Aquaseal® 5000WC. This will yield 5 1/2 gallons of membrane. The mixing ratio is 20 parts Polycoat-Aquaseal® 5000WC membrane to 1 part of water (20:1). Use care not to allow the entrapment of air into the mixture.

Polycoat-Aquaseal® 5000 (100 VOC) Properties:

Based on Drawn Down Film	5000H Horizontal	5000V Vertical	5000WC-H Water Catalyzed	Green Concrete
Hardness, ASTM D-2240	50 ± 5 Shore A	45 ± 5 Shore A	25 ± 5 Shore A	Polycoat-Aquaseal® 5000 May be applied to Green Concrete. (1) Prime the wall with a thin (5 mil) application of Aquaseal 5000V diluted with a manufacturer approved and AQMD compliant solvent at a ratio of 1 quart of solvent per 5 gallons of Aquaseal 5000. The coverage rate for this prime coat should be around 200 square feet per gallon. This should fill all of the bug holes in a poured wall that typically cause outgassing resulting in pin holing in the coating. (2) Follow Step 1 with a standard two to three coat application of Aquaseal 5000V at 30 mils per coat (50 square feet per gallon) depending on whether a 60 or 90 mil application is desired. The standard Aquaseal 5000 may be applied to both fully cured (28 days for poured in place and 10 days after grouting for block) and green concrete.
Tear Resistance, Die C, ASTM D-624	40 ± 20 pli 21 ± 3.5 kNm	35 ± 10 pli 14 ± 2 kNm	50 ± 5 pli 8.8 ± 0.9 kNm	
Tensile Strength, ASTM D-412	350 ± 50 psi 3.45 ± 0.3 Mpa	350 ± 50 psi 2.1 ± 0.3 Mpa	300 ± 50 psi 2.1 ± 0.3 Mpa	
Ultimate Elongation, ASTM D-412	300 ± 50%	300 ± 50%	650 ± 50%	
Specific Gravity	1.32	1.23	1.12	
Total Solids by Weight, ASTM D-236	92 ± 3%	92 ± 3%	95 ± 1%	
Total Solids by Volume, ASTM D-2697	90 ± 3%	90 ± 3%	94 ± 1%	
Viscosity at 80°F (27°C)	5000 ± 2000 cps -25°F to 200°F -31.7°C to 93.3°C	40,000 ± 20,000 cps -25°F to 200°F -31.7°C to 93.3°C	-	
Service Temperature	-25°F to 200°F -31.7°C to 93.3°C	-25°F to 200°F -31.7°C to 93.3°C	-	
Volatile Organic Compounds, ASTM D-2369-81	0.83 lb/gal 100 gm/liter	0.83 lb/gal 100 gm/liter	<0.5 lb/gal <60 gm/liter	

Polycoat-Aquaseal® 5000 Waterproofing Membrane System

Page 1 of 2

14722 Spring Ave • Santa Fe Springs, CA 90670-5108 USA • Tel: 562-802-8634 • Fax: 562-921-7363 • www.polycoatusa.com

Joints, Cracks and Flashing:

Apply a stripe coat of Polycoat-Aquaseal® 5000 over all cracks up to 1/16" in width. All cracks over 1/16" in width must be caulked with a polyurethane sealant.

All metal flashings must be primed with manufacturer's recommended primer.

Application:

Polycoat-Aquaseal® 5000 may be applied with a brush, squeegee, trowel, roller or airless sprayer. Over smooth surfaces, such as poured-in-place concrete, apply Polycoat-Aquaseal® 5000 evenly in two 30 mil coats.

Polycoat-Aquaseal® 5000WC-H (Water Catalyzed) can be applied at any thickness.

Curing:

At 75°F (24°C) and 50% relative humidity, allow each coat of Polycoat-Aquaseal® 5000 Vertical, Horizontal and Green Concrete to cure 16 hours minimum.

Cure time will vary depending on temperature and humidity. If more than 48 hours pass between coats the surface must be re-primed.

For Polycoat-Aquaseal® 5000 WC applications, at 75°F (24°C) and 50% relative humidity, allow coating to cure a minimum of 2-4 hours before proceeding to subsequent coats. Cure time will vary depending on temperature and humidity. If more than 48 hours pass between coats the surface must be re-primed.

Polycoat-Aquaseal® 5000 is very sensitive to heat and moisture. Higher temperatures and/or high humidity will accelerate the cure time. Use caution in thickness of application. Limit single coat thickness to 30-40 wet mils.

Equipment Cleanup:

Equipment should be cleaned with an environmentally safe solvent, as permitted under local regulations, immediately after use.

Storage:

Polycoat-Aquaseal® 5000 has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

Limitations:

Surfaces must be dry, clean and free of foreign matter.

Not UV stable.

Cannot withstand direct wear or abrasion.

Containers that have been opened must be used as soon as possible.

Do not dilute under any circumstance.

The following conditions must not be coated with Polycoat Products deck coating systems or products: on grade slabs, split slabs with a between slab membrane, sandwich slabs with insulation, and slabs over unvented metal pan.

Warning:

This product contains Aromatic Hydrocarbons, Isocyanates and Solvent.

Limited Warranty:

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local Polycoat Products representative or visit our website for current technical data and instructions.

Polycoat Products warrants its products to be free of manufacturing defects and that they will meet Polycoat Products current published physical properties. Polycoat Products warrants that its products, when properly installed by a state licensed waterproofing contractor according to Polycoat Products guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. There are no other warranties by Polycoat Products of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Polycoat Products shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. Polycoat Products shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Polycoat Products reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

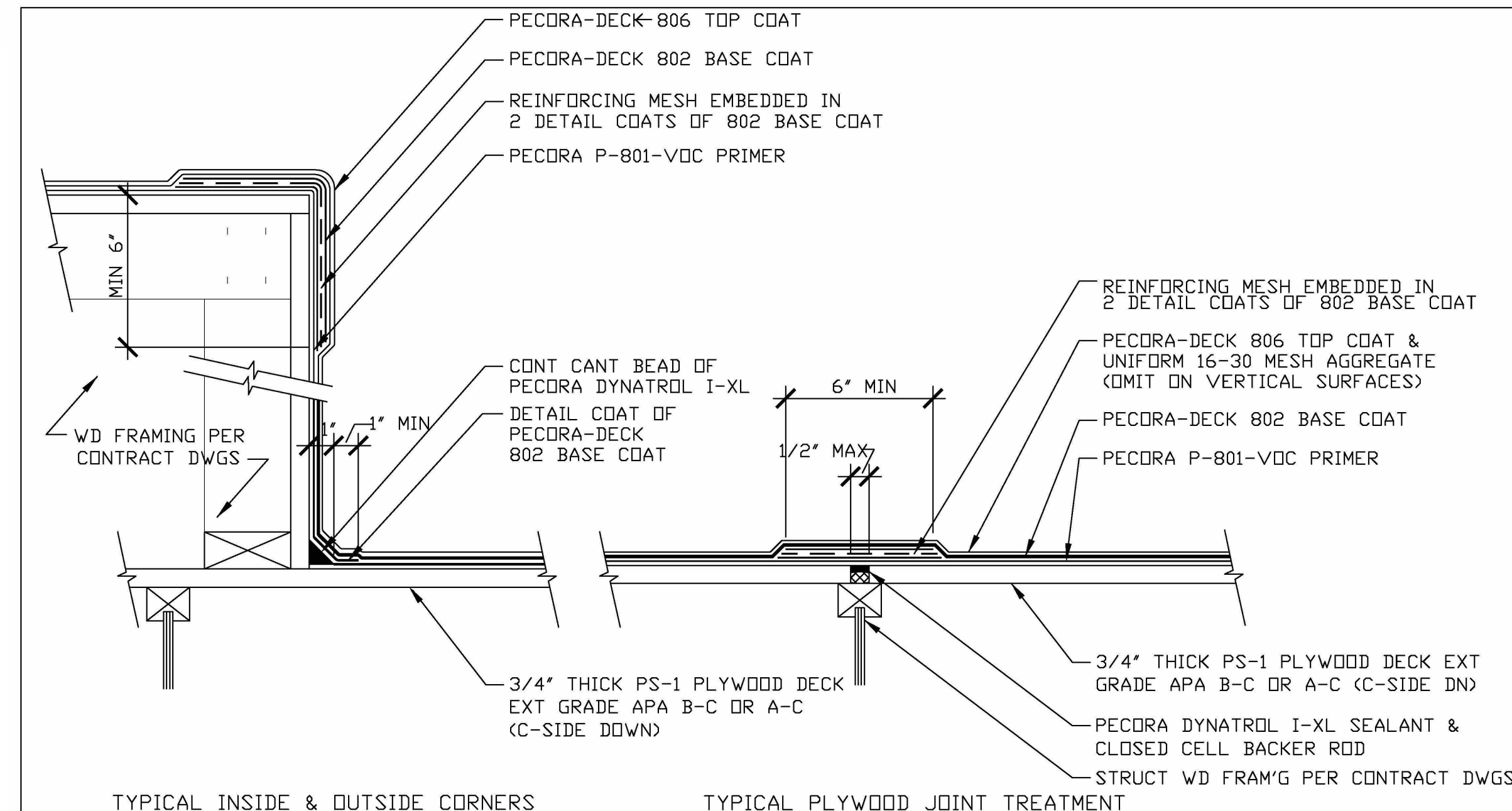
Disclaimer:

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the user's responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Polycoat Products makes no claim that these tests or any other tests, accurately represent all environments.

Rev. 8/1/13

Polycoat-Aquaseal® 5000 Waterproofing Membrane System

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- NOTES:**
- WHERE PECDRA 800 WATERPROOF MEMBRANE IS NOTED ON CONTRACT DWGS., PROVIDE PECDRA-DECK 8313 PLYWOOD DECK PEDESTRIAN DECK COATING SYSTEM AS DETAILED.
 - THE FOLLOWING REINFORCING MESH PRODUCTS ARE ACCEPTABLE TO PECORA CORP. FOR PLYWOOD JOINT & CORNER REINFORCEMENT:
 TIE TEX T-272 BY TIE TEX INTERNATIONAL
 PERMAGLAS MESH PG-242 BT SAINT GDBAIN
 WEB SEAL TAPE BY ETRNABOND
 - PECORA CORP IS NOT A LICENSED DESIGN PROFESSIONAL IN THE STATE OF WASHINGTON AND IS THEREFORE NOT RESPONSIBLE FOR THE ROOF DECK DESIGN, INCLUDING STRUCTURAL FRAMING & SHEATHING.

BERINGER RESIDENCE, 7916 E MERCER WAY, MERCER ISLAND, WA
 WALKING DECK COATING DETAILS
 PECDRA-DECK 8313, PLYWOOD DECK

NO SCALE MAY 3, 2019 DRAWING NO: 050319.01

PECORA CORPORATION
 Architectural Waterproofing Products
 U.S.A. • Since 1882

No.	Date	Description
1	2023/07/25	SUB2 City Comment Submittal
2	2023/07/25	SUB2 City Comment Submittal

ATERA DESIGN STUDIO
 451 DUVALL AVE. NE
 RENTON, WA 98059

HU RESIDENCE
 2448 72nd AVE SE, Mercer Island

PERMIT SET

SPECIALTY DETAILS

PROJECT NO: 21014
 ISSUE DATE: 2022/06/29

D401

SCALE 24X3G:
 * NOTE: 1/1 X 1/7 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



STRUCTURAL NOTES

GENERAL REQUIREMENTS

BUILDING CODE & REFERENCE STANDARDS:

THE "INTERNATIONAL BUILDING CODE" (IBC), 2018 EDITION, AS ADOPTED AND MODIFIED BY THE CITY OF CITY, GOVERNS THE DESIGN AND CONSTRUCTION OF THIS PROJECT. REFERENCE TO A SPECIFIC SECTION IN THE CODE DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE ENTIRE MATERIALS REFERENCE STANDARDS NOTED BELOW. THE LATEST EDITION OF THE MATERIALS REFERENCE STANDARDS SHALL BE USED.

SCOPE OF STRUCTURAL WORK:

STRUCTURAL DESIGN OF A NEW HOUSE.

DEFINITIONS:

THE FOLLOWING DEFINITIONS APPLY TO THESE GENERAL NOTES:

- "STRUCTURAL ENGINEER OF RECORD" (EOR) - THE STRUCTURAL ENGINEER WHO IS LEGALLY RESPONSIBLE FOR STAMPING & SIGNING THE STRUCTURAL DOCUMENTS FOR THE PROJECT. THE EOR IS RESPONSIBLE FOR THE DESIGN OF THE PRIMARY STRUCTURAL SYSTEM.
"SPECIALTY STRUCTURAL ENGINEER" (SSE) - A LICENSED PROFESSIONAL ENGINEER, NOT THE EOR, WHO PERFORMS SPECIALTY STRUCTURAL ENGINEERING SERVICES NECESSARY TO COMPLETE THE STRUCTURE, WHO HAS EXPERIENCE AND TRAINING IN THE SPECIFIC SPECIALTY. THE GENERAL CONTRACTOR, SUBCONTRACTOR, OR SUPPLIER WHO IS RESPONSIBLE FOR THE DESIGN, FABRICATION AND INSTALLATION OF SPECIALTY-ENGINEERED ELEMENTS SHALL RETAIN THE SSE. SUBMITTALS SHALL BE STAMPED AND SIGNED BY THE SSE. DOCUMENTS STAMPED AND SIGNED BY THE SSE SHALL BE COMPLETED BY OR UNDER THE DIRECT SUPERVISION OF THE SSE WITH A PE OR SE LICENSE ISSUED BY THE STATE OF WASHINGTON.
"DEFERRED SUBMITTALS - DEFERRED SUBMITTAL IS ENGINEERING WORK TO BE DESIGNED-BY-OTHERS OR BIDDER-DESIGNED.

NOTE PRIORITIES:

NOTES ON THE INDIVIDUAL DRAWINGS SHALL GOVERN OVER THESE GENERAL NOTES.

SPECIFICATIONS:

REFER TO THESE NOTES, STRUCTURAL DRAWINGS, AND ARCHITECTURAL DRAWINGS WHICH SERVE AS SPECIFICATIONS FOR THIS PROJECT.

STRUCTURAL DETAILS:

THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT AND ARE NOT INTENDED TO SHOW ALL DETAILS OF THE WORK.

ARCHITECTURAL DRAWINGS:

REFER TO THE ARCHITECTURAL DRAWINGS FOR INFORMATION INCLUDING, BUT NOT LIMITED TO: DIMENSIONS, ELEVATIONS, SLOPES, DOOR AND WINDOW OPENINGS, NON-BEARING WALLS, CURTAIN WALLS, STAIRS, ELEVATORS, CURBS, DRAINS, DEPRESSIONS, RAILINGS, WATERPROOFING, FINISHES AND OTHER NONSTRUCTURAL ITEMS.

STRUCTURAL RESPONSIBILITIES:

THE EOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED STATE.

CONTRACTOR RESPONSIBILITIES:

THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND ALL JOB RELATED SAFETY STANDARDS SUCH AS OSHA AND WSHA. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY.

THE CONTRACTOR SHALL SUBMIT PLANS SHOWING THE LOCATION, WEIGHT, SIZE AND ANCHORAGE OF ALL HANGERS SUPPORTING ALL MECHANICAL, ELECTRICAL, PLUMBING OR SPRINKLER LOADS IN EXCESS OF 50 POUNDS. ALL ROOF-MOUNTED EQUIPMENT SHALL BE INCLUDED ON THESE PLANS AND SHALL SHOW THE WEIGHTS, SIZES, MOUNTING/ATTACHMENT DETAILS, AND LOCATIONS. SUBMIT PLANS TO THE EOR FOR REVIEW PRIOR TO INSTALLATION.

DISCREPANCIES:

IN CASE OF DISCREPANCIES BETWEEN THESE GENERAL NOTES, THE CONTRACT DRAWINGS AND SPECIFICATIONS, AND/OR REFERENCE STANDARDS, THE EOR SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE EOR BEFORE PROCEEDING WITH THE WORK. ACCORDINGLY, ANY CONFLICT IN OR BETWEEN THE CONTRACT DOCUMENTS SHALL NOT BE A BASIS FOR ADJUSTMENT IN THE CONTRACT PRICE.

SITE VERIFICATION:

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR CONSTRUCTION. CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE EOR BEFORE PROCEEDING WITH THE WORK. ALL UNDERGROUND UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO EXCAVATION OR DRILLING.

ADJACENT UTILITIES:

THE CONTRACTOR SHALL DETERMINE THE LOCATIONS OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO EXCAVATION. ANY UTILITY INFORMATION SHOWN ON THE DRAWINGS AND DETAILS IS APPROXIMATE AND NOT NECESSARILY COMPLETE.

DESIGN CRITERIA

CONSTRUCTION LOADS:

LOADS ON THE STRUCTURE DURING CONSTRUCTION SHALL NOT EXCEED THE DESIGN LOADS OR THE CAPACITY OF THE PARTIALLY COMPLETED CONSTRUCTION.

SNOW LOAD:

THE ROOF SNOW LOAD IS DETERMINED BY USING CHAPTER 7 OF ASCE 7-16 IN ACCORDANCE WITH IBC SECTION 1608 AND WITH THE FOLLOWING FACTORS:

MINIMUM ROOF DESIGN LOAD: 25 PSF WITHOUT DRIFT
GROUND SNOW LOAD, PG: 20 PSF
IMPORTANCE FACTOR, IS: 1.0
FLAT ROOF SNOW LOAD, PF: 25 PSF
THERMAL FACTOR, CT: 1.0

WIND DESIGN:

WIND LOAD IS DETERMINED USING CHAPTER 28 OF ASCE 7-16 IN ACCORDANCE WITH IBC SECTION 1609 WITH THE FOLLOWING FACTORS:

BASIC WIND SPEED V = 97 MPH
WIND IMPORTANCE FACTOR IW = 1.0
EXPOSURE CATEGORY = B
RISK CATEGORY = II
KZT = 1.6

SEISMIC DESIGN:

EARTHQUAKE DESIGN IS DETERMINED USING CHAPTER 12 ASCE 7-16 IN ACCORDANCE WITH IBC CHAPTER 16 WITH THE FOLLOWING FACTORS:

IMPORTANCE FACTOR IE = 1.0
RISK CATEGORY = II
SS = 1.395 G
SI = 0.486 G
SITE CLASS = D
SDS = 1.116 G
SDI = 0.590 G
SEISMIC DESIGN CATEGORY = D

WOOD STRUCTURE (SUPER-STRUCTURE):

BASIC SEISMIC FORCE RESISTING SYSTEM: A-15 (BEARING WALL SYSTEMS) LIGHT-FRAMED WALLS WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE

ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE, PER ASCE 7-10, SECTION 12.8

R = 6.5
CS = 0.172
CD = 4
W = 122K
Q = 2.5+
p = 1.3

DESIGN BASE SHEAR:

DESIGN BASE SHEAR (WIND GOVERNED), V(LULT) = 15.86 (N/S), V(ASD) = 6.4 (E/W)

DEFLECTIONS:

FLOOR TOTAL LOAD DEFLECTION LIMIT: L/360
FLOOR LIVE LOAD DEFLECTION LIMIT: L/480
ROOF TOTAL LOAD DEFLECTION LIMIT: L/240
ROOF LIVE LOAD DEFLECTION LIMIT: L/360

LIVE LOADS: (HOUSE)

ROOF (LIVE): 20 PSF
ROOF (SNOW): 25 PSF
BALCONIES AND DECKS: 1.5X OCCUPANCY SERVED
RESIDENTIAL FLOOR: 40 PSF
RESIDENTIAL GARAGE: 40 PSF
STAIRS & LANDINGS: 40 PSF OR 300LB (4"x4" SQ)
GUARD RAILS: 50 PLF

DEFERRED SUBMITTAL LOADS:

ALL PRE-ENGINEERED, PRE-FABRICATED, PRE-MANUFACTURED, OR OTHER PRODUCTS DESIGNED BY OTHERS SHALL BE DESIGNED FOR THE TRIBUTARY DEAD AND LIVE LOADS PLUS WIND, EARTHQUAKE, AND COMPONENT, AND CLADDING LOADS WHEN APPLICABLE. DESIGN SHALL CONFORM TO THE PROJECT DRAWINGS AND SPECIFICATIONS, REFERENCE STANDARDS, AND GOVERNING.

ROOF DEAD LOAD: 15 PSF
ROOF SNOW LOAD: 25 PSF
FLOOR DEAD LOAD: 15 PSF
FLOOR LIVE LOAD: 40 PSF
STAIRS & LANDINGS: 40 PSF OR 300LB (4"x4" SQ)
GUARD RAILS: 50 PLF OR 200 LB POINT LOAD

SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED TO THE DESIGNER/EOR PRIOR TO ANY FABRICATION OR CONSTRUCTION FOR ALL STRUCTURAL ITEMS AS NOTED BELOW. THE CONTRACTOR SHALL REVIEW AND PLACE A SHOP DRAWINGS STAMP ON THE SUBMITTAL BEFORE FORWARDING TO THE EOR. SUBMITTALS SHALL BE MADE IN TIME TO PROVIDE A MINIMUM OF ONE WEEK FOR REVIEW BY THE EOR. ADDITIONAL SUBMITTALS REQUIRED FOR THIS PROJECT ARE SPECIFIED IN THE SPECIFIC SECTIONS BELOW.

REFERENCE THE INDIVIDUAL MATERIAL SECTION FOR SPECIFIC INFORMATION TO BE INCLUDED IN THE SUBMITTAL. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF THE WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER WHO IS RESPONSIBLE FOR THE DESIGN.

- CONCRETE REINFORCING
EMBEDDED STEEL ITEMS
GLULAM BEAMS
TJ'S

ALTERNATES:

PRODUCT OR MANUFACTURER COMPONENTS SPECIFIED IN THESE DRAWINGS ARE USED AS THE BASIS OF DESIGN FOR THIS PROJECT. ALTERNATES FOR SPECIFIED ITEMS MAY BE SUBMITTED TO THE EOR FOR REVIEW. HOWEVER, CONTRACTOR SHALL SUBMIT A CURRENT ICC-ES/IAQMO-ER REPORT IDENTIFYING THAT AN ALTERNATIVE COMPONENT HAS THE SAME OR GREATER LOAD CAPACITY THAN THE SPECIFIED ITEM.

SHOP DRAWING REVIEW:

REVIEW BY THE DESIGNER/EOR IS FOR GENERAL COMPLIANCE WITH THE DESIGN CONCEPT AND THE CONTRACT DOCUMENTS. DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE EOR, AND THEREFORE, MUST BE VERIFIED BY THE GENERAL CONTRACTOR. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, NOR DEPARTURES THEREFROM.

THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY; FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS; FOR SELECTING FABRICATION PROCESSES; FOR TECHNIQUES OF ASSEMBLY; AND FOR PERFORMING WORK IN A SECURE MANNER. WHEN SHOP DRAWINGS (COMPONENT DESIGN DRAWINGS) DIFFER FROM OR ADD TO THE REQUIREMENTS OF THE STRUCTURAL DRAWINGS THEY SHALL BE DESIGNED AND STAMPED BY THE RESPONSIBLE SSE. ALLOW ONE WEEK FOR EOR REVIEW TIME.

DEFERRED SUBMITTALS:

PER IBC SECTION 107.3.4.1, DRAWINGS, CALCULATIONS, AND PRODUCT DATA FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED-BY-OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF THE WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER (SSE) WHO IS RESPONSIBLE FOR THE DESIGN AND SHALL BE SUBMITTED TO THE ARCHITECT/EOR AND THE BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATION. ALLOW ONE WEEK FOR EOR REVIEW TIME.

THE SSE SHALL SUBMIT STAMPED AND SIGNED CALCULATIONS AND SHOP DRAWINGS TO THE EOR FOR REVIEW. REVIEW OF THE SSE'S SHOP DRAWINGS IS FOR GENERAL COMPLIANCE WITH DESIGN CRITERIA AND COMPATIBILITY WITH THE DESIGN OF THE PRIMARY STRUCTURE AND DOES NOT RELIEVE THE SSE OF RESPONSIBILITY FOR THAT DESIGN. ALL NECESSARY BRACING, TIES, ANCHORAGE, AND PROPRIETARY PRODUCTS SHALL BE FURNISHED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR THE SSE'S DESIGN DRAWINGS AND CALCULATIONS. SUBMITTED DRAWINGS SHALL INDICATE ALL REACTION FORCES IMPARTED TO THE PRIMARY STRUCTURE. THE DESIGN OF THE CONNECTION TO THE PRIMARY STRUCTURE IS THE RESPONSIBILITY OF THE SUPPLIER AND SSE. SUBSEQUENT TO EOR REVIEW, EOR WILL FORWARD DEFERRED SUBMITTAL DOCUMENTS TO THE BUILDING OFFICIAL WITH NOTATION INDICATING THAT THE DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING.

DEFERRED SUBMITTALS INCLUDE THE FOLLOWING:

- HANDRAILS & GUARDRAILS
PREFABRICATED WOOD TRUSSES
PREFABRICATED METAL STAIRS
OPEN WEB WOOD JOISTS

COMPONENTS:

ACCORDANCE WITH ASCE 7-10, CHAPTER 13 AND THE PROJECT SPECIFICATIONS. NONSTRUCTURAL COMPONENTS DESIGNED BY OTHERS SHALL NOT INDUCE TORSIONAL LOADING INTO SUPPORTING STEEL STRUCTURAL MEMBERS WITHOUT ADDITIONAL BRACING OF THOSE MEMBERS TO ELIMINATE TORSIONAL FORCES. TORSIONAL BRACING SHALL BE DESIGNED BY THE STRUCTURAL COMPONENT DESIGNER AND APPROVED BY THE EOR. ANCHORAGE TO THE PRIMARY STRUCTURE IS PER THE BIDDER-DESIGN CONTRACTOR OR SUPPLIER.

TESTS & INSPECTIONS INSPECTIONS:

ALL CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL IN ACCORDANCE WITH IBC SEC 110. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS WITH THE BUILDING OFFICIAL. SUBMIT COPIES OF ALL INSPECTION REPORTS TO THE ARCHITECT/EOR FOR REVIEW. THE BUILDING OFFICIAL MAY ACCEPT INSPECTION OF AND REPORTS BY APPROVED INSPECTION AGENCIES IN LIEU OF BUILDING OFFICIAL'S INSPECTIONS. THE CONTRACTOR SHALL OBTAIN APPROVAL OF BUILDING OFFICIAL TO USE THE THIRD-PARTY INSPECTION AGENCY AND CONTRACTOR SHALL ALERT THE ARCHITECT/EOR AS SUCH.

SOILS AND FOUNDATIONS

REFERENCE STANDARDS: CONFORM TO IBC CHAPTER 18 "SOILS AND FOUNDATIONS."

GEOTECHNICAL REPORT:

- RECOMMENDATIONS CONTAINED IN:
GEOTECHNICAL ENGINEERING STUDY BY: GEOTECH CONSULTANTS, INC. MEMO "FOUNDATION AND CRITICAL AREA CONSIDERATIONS, AND INFILTRATION FEASIBILITY ASSESSMENT" PROPOSED NEW RESIDENCE 2448 - 72ND AVE SE, MERCER ISLAND, WASHINGTON, DATED JANUARY 12, 2022

GEOTECHNICAL INSPECTION:

SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS SHALL BE AS REQUIRED BY SECTION 1705.6 AND TABLE 1705.6. ASSUMED VALUES SHALL BE FIELD VERIFIED BY THE BUILDING OFFICIAL PRIOR TO PLACING CONCRETE. THE BUILDING OFFICIAL SHALL BE PERMITTED TO WAIVE THE REQUIREMENT FOR A GEOTECHNICAL INVESTIGATION WHERE SATISFACTORY DATA FROM ADJACENT AREA IS AVAILABLE THAT DEMONSTRATES AN INVESTIGATION IS NOT NECESSARY FOR ANY OF THE CONDITIONS IN SECTIONS 1803.5.1 - 1803.5.6 AND SECTIONS 1803.5.10 - 1803.5.11.

DESIGN SOIL VALUES:

ALLOWABLE SOIL BEARING PRESSURE
2,500 PSF DL + LL
3,332 PSF DL + LL + SEISMIC/WIND
PASSIVE PRESSURE: 250 PCF
ACTIVE PRESSURE: 35 PCF
COEFFICIENT OF FRICTION: 0.4

SLABS ON-GRADE & FOUNDATIONS:

ALL SLABS-ON-GRADE AND FOUNDATIONS SHALL BEAR ON STRUCTURAL COMPACTED FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT OR AS NOTED IN THESE DOCUMENTS. EXTERIOR PERIMETER FOOTINGS SHALL BEAR NOT LESS THAN 18 INCHES BELOW FINISH GRADE, OR AS REQUIRED BY THE GEOTECHNICAL ENGINEER AND THE BUILDING OFFICIAL. INTERIOR FOOTINGS SHALL BEAR NOT LESS THAN 12 INCHES BELOW FINISH FLOOR.

FOUNDATION STEM WALLS:

UNLESS OTHERWISE NOTED ON THE DRAWINGS, THE MAXIMUM UNBALANCED SOIL CONDITION FOR ALL FOUNDATION STEM WALLS (DIFFERENCE IN ELEVATION BETWEEN INTERIOR AND EXTERIOR SOIL GRADES) SHALL BE 2'-6". MAINTAIN A MINIMUM 8" SEPARATION BETWEEN FINISH GRADE AND UNTREATED WOOD FRAMING.

BACKFILLING:

BACKFILL BEHIND RETAINING AND FOUNDATION WALLS SHALL BE OF FREE-DRAINING MATERIAL PLACED IN MAXIMUM LOOSE LIFTS OF 12" OR AS DIRECTED BY THE GEOTECHNICAL REPORT. BACKFILL BEHIND WALLS SHALL NOT BE PLACED BEFORE THE WALL IS PROPERLY SUPPORTED BY THE FLOOR SLAB OR TEMPORARY BRACING. BACKFILL SHALL BE COMPACTED USING HAND-OPERATED EQUIPMENT ONLY. THE CONTRACTOR SHALL REFRAIN FROM OPERATING HEAVY EQUIPMENT BEHIND RETAINING AND FOUNDATION WALLS WITHIN A DISTANCE EQUAL TO OR GREATER THAN THE HEIGHT OF THE WALL, UNLESS OTHERWISE APPROVED BY THE EOR. ALL TOPSOIL ORGANICS AND LOOSE SURFACE SOIL SHALL BE REMOVED FROM BENEATH FILL SUPPORTING CONCRETE SLAB OR PAVING.

CAST-IN-PLACE CONCRETE REFERENCE STANDARDS:

CONFORMS TO THE LATEST EDITIONS OF THE FOLLOWING: (1) ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY". (2) IBC CHAPTER 19.

FIELD REFERENCE:

THE CONTRACTOR SHALL KEEP A COPY OF ACI FIELD REFERENCE MANUAL, SP-15, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) WITH SELECTED ACI AND ASTM REFERENCES."

CONCRETE MIXTURES:

CONFORM TO ACI 318 CHAPTER 19 " CONCRETE: DESIGN AND DURABILITY REQUIREMENTS. "

MATERIALS:

CONFORM TO ACI 318 CHAPTERS 19 & 20.

SUBMITTALS:

PROVIDE ALL SUBMITTALS REQUIRED BY ACI 301 SEC 4.1.2. SUBMIT MIX DESIGNS FOR EACH MIX IN THE TABLE BELOW.

SPECIAL INSPECTIONS:

IN ADDITION TO THE INSPECTIONS REQUIRED BY IBC SEC 110, A SPECIAL INSPECTOR SHALL BE HIRED BY THE OWNER AS AN INDEPENDENT THIRD-PARTY INSPECTOR TO PERFORM THE SPECIAL INSPECTIONS PER IBC CH. 17. SPECIAL INSPECTIONS SHALL BE PERFORMED BY AN APPROVED TESTING AGENCY AS OUTLINED IN THE SPECIAL INSPECTION SCHEDULE, THE CONTRACT DOCUMENTS, AND/OR THE PROJECT SPECIFICATION. SPECIAL INSPECTIONS SHALL MEET THE REQUIREMENTS OUTLINES IN THE SPECIFIC MATERIALS SECTIONS OF IBC SEC 1705. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING THE INSPECTIONS, PER THE CITY/BUILDING OFFICIAL.

PREFABRICATED CONSTRUCTION:

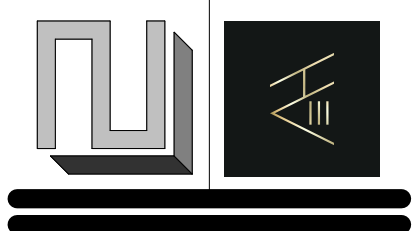
ALL PREFABRICATED CONSTRUCTION SHALL CONFORM TO THE INSPECTION REQUIREMENTS OF THE SAME MATERIAL OR CONSTRUCTION TYPE USED FOR THIS PROJECT.

Table with 5 columns: ITEM, CI, PI, REFERENCE STANDARD, IBC REFERENCE, REMARKS. Contains sections for CONCRETE, SOILS, and WOOD.

Vertical text on the right margin: Description, No., Date



L2 ENGINEERS
17848 NE 198TH PLAVE
WOODINVILLE, WA 98072
ATERA DESIGN STUDIO
451 DUVALL AVE NE,
RENTON, W A 98059



HU RESIDENCE
2448 72nd AVE SE, Mercer Island

PERMIT SET
STRUCTURAL NOTES & DETAILS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

S001
SCALE 24X36:
* NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.



TABLE OF MIX DESIGN REQUIREMENTS

MEMBER TYPE/LOCATION	STRENGTH	TEST AGE	MAXIMUM AGGREGATE	EXPOSURE CLASSIFICATION	MAXIMUM W/C RATIO	MINIMUM AIR CONTENT
FOUNDATIONS, RETAINING WALLS, AND THEIR FOOTINGS:	4,500 PSI	28	1"	F2, C0	0.45	4.5%
EXTERIOR SLABS-ON-GRADE:	5,000 PSI	28	1"	F3, C2	0.40	6.0%

MIX DESIGN NOTES:

- W/C RATIO:** WATER-CEMENTITIOUS MATERIAL RATIOS SHALL BE BASED ON THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS. RATIOS NOT SHOWN IN THE TABLE ABOVE ARE CONTROLLED BY STRENGTH REQUIREMENTS.
- CEMENTITIOUS CONTENT:**
 - THE USE OF FLY ASH, OTHER POZZOLANS, SILICA FUME, OR SLAG SHALL CONFORM TO ACI 301 SEC 4.2.2. MAXIMUM AMOUNT OF FLY ASH SHALL BE 20% OF TOTAL CEMENTITIOUS CONTENT UNLESS REVIEWED AND APPROVED OTHERWISE BY EOR.
- AIR CONTENT:** CONFORM TO ACI 301 SEC 4.2.2.4. HORIZONTAL EXTERIOR SURFACES IN CONTACT WITH THE SOIL REQUIRE ENTRAINED AIR. USE EXPOSURE CATEGORY F0, S0, W0, AND C0 UNLESS NOTED OTHERWISE. TOLERANCE IS +/- 1.5%. AIR CONTENT SHALL BE MEASURED AT POINT OF PLACEMENT.
- EXPOSURE CLASSIFICATION:** THE MIX DESIGN PROVIDED SHALL MEET THE REQUIREMENTS OF ACI 318 CHAPTER 19, BASED ON THE EXPOSURE CLASSIFICATION INDICATED IN THE TABLE ABOVE.
- SLUMP:** UNLESS OTHERWISE SPECIFIED OR PERMITTED, CONCRETE SHALL HAVE AT THE POINT OF DELIVERY, A SLUMP OF 4" +/- 1". FOR ADDITIONAL CRITERIA, REFERENCE ACI 301 SEC 4.2.2.2.
- NON-CHLORIDE ACCELERATOR:** NON-CHLORIDE ACCELERATING ADMIXTURE MAY BE USED IN CONCRETE SLABS PLACED AT AMBIENT TEMPERATURES BELOW 50F AT THE CONTRACTOR'S OPTION.

FORMWORK:

CONFORM TO ACI 301 SEC 2 "FORMWORK AND FORM ACCESSORIES." REMOVAL OF FORMS SHALL CONFORM TO SEC 2.3.2 EXCEPT STRENGTH INDICATED IN SEC 2.3.2.5 SHALL BE 0.75 F'C.

MEASURING, MIXING, AND DELIVERY:

CONFORM TO ACI 301 SEC 4.3.

HANDLING, PLACING, CONSTRUCTING, AND CURING:

CONFORM TO ACI 301 SEC 5.

EMBEDDED ITEMS:

POSITION AND SECURE IN PLACE EXPANSION JOINT MATERIAL, ANCHORS AND OTHER STRUCTURAL AND NON-STRUCTURAL EMBEDDED ITEMS BEFORE PLACING CONCRETE. CONTRACTOR SHALL REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND ARCHITECTURAL DRAWINGS AND COORDINATE ALL OTHER EMBEDDED ITEMS.

TESTING AND ACCEPTANCE:

TESTING: OBTAIN SAMPLES AND CONDUCT TESTS IN ACCORDANCE WITH ACI 301 SEC 1.6.4.2. ADDITIONAL SAMPLES MAY BE REQUIRED TO OBTAIN CONCRETE STRENGTHS AT ALTERNATE INTERVALS THAN SHOWN BELOW.

- CURE 4 CYLINDERS FOR 28-DAY TEST. TEST 1 CYLINDER AT 7 DAYS, TEST 2 CYLINDERS AT 28 DAYS, AND HOLD 1 CYLINDER IN RESERVE FOR USE AS THE EOR DIRECTS. AFTER 56 DAYS, UNLESS NOTIFIED BY THE EOR TO THE CONTRARY, THE RESERVE CYLINDER MAY BE DISCARDED WITHOUT BEING TESTED FOR SPECIMENS MEETING 28-DAY STRENGTH REQUIREMENTS.

ACCEPTANCE: STRENGTH IS SATISFACTORY WHEN:

- THE AVERAGES OF ALL SETS OF 3 CONSECUTIVE TESTS EQUAL OR EXCEED THE SPECIFIED STRENGTH. NO INDIVIDUAL TEST FALLS BELOW THE SPECIFIED STRENGTH BY MORE THAN 500 PSI. A "TEST" FOR ACCEPTANCE IS THE AVERAGE STRENGTH OF THE TWO CYLINDERS TESTED AT THE SPECIFIED TEST AGE.

CONCRETE REINFORCEMENT:

REFERENCE STANDARDS: CONFORM TO:

- ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE. " SEC 3 " REINFORCEMENT, AND REINFORCEMENT SUPPORTS."
- IBC CHAPTER 19, CONCRETE.
- ACI 318 AND ACI 318R.
- ACI SP-66 "ACI DETAILING MANUAL" INCLUDING ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
- CRSI MSP-2 "MANUAL OF STANDARD PRACTICE."
- ANSI/AWS D1.4 "STRUCTURAL WELDING CODE - REINFORCING STEEL."

SUBMITTALS:

CONFORM TO ACI 301 SEC 3.1.1 "SUBMITTALS, DATA, AND DRAWINGS." SUBMIT PLACING DRAWINGS SHOWING FABRICATION DIMENSIONS AND LOCATIONS FOR PLACEMENT OF REINFORCEMENT AND REINFORCEMENT SUPPORTS.

MATERIALS:

REINFORCING BARS: ASTM A615, GRADE 60, DEFORMED BARS.
SMOOTH WELDED WIRE FABRIC: ASTM A185
DEFORMED WELDED WIRE FABRIC: ASTM A497
BAR SUPPORTS: CRSI MSP-2, CHAPTER 3 "BAR SUPPORTS."
TIE WIRE: 16.5 GAGE OR HEAVIER, BLACK ANNEALED.

WELDING:

BAR SHALL NOT BE WELDED UNLESS AUTHORIZED. WHEN AUTHORIZED, CONFORM TO ACI 301, SEC 3.2.2.2. "WELDING" AND PROVIDE ASTM A706, GRADE 60 REINFORCEMENT.

PLACING:

CONFORM TO ACI 301, SEC 3.3.2 "PLACEMENT." PLACING TOLERANCES SHALL CONFORM TO SEC 3.3.2.1 "TOLERANCES."

CONCRETE COVER:

CONFORM TO THE FOLLOWING COVER REQUIREMENTS FROM ACI 301, TABLE 3.3.2.3

- CONCRETE CAST AGAINST EARTH: 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER (#5 & SMALLER): 1-1/2"
- CONCRETE EXPOSED TO EARTH OR WEATHER (#6 & LARGER): 2"
- BAR IN SLABS AND WALLS: 3/4"

SPICES & DEVELOPMENT LENGTH:

CONFORM TO ACI 301, SEC 3.3.2.7. LAP ALL CONTINUOUS REINFORCEMENT AND CORNER BARS PER SCHEDULE. THE SPICES AND DEVELOPMENT LENGTHS INDICATED ON INDIVIDUAL SHEETS CONTROL OVER THE SCHEDULE.

USE CLASS B SPICES UNLESS OTHERWISE NOTED. MECHANICAL CONNECTIONS MAY BE USED WHEN APPROVED BY THE EOR. *WWF TO BE LAPPED A MINIMUM 8" ON ALL SIDES AND EDGES.

REINFORCING BAR CHART			
BAR SIZE	TOP BARS	OTHER BARS	DEVELOPMENT LENGTH, Ld
#4	33"	25"	19"
#5	41"	31"	24"
#6	48"	37"	29"
#7	70"	54"	41"
#8	80"	62"	47"
#9	90"	70"	53"
#10	100"	78"	59"
#11	110"	85"	65"

SCHEDULE NOTES:

- ALL LENGTHS ARE IN INCHES AND FOR F'C= 4,000 PSI.
- "TOP BARS" ARE HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF CONC IS CAST IN THE MEMBER BELOW THE BAR.
- FOR F'C = 5,000 PSI USE 90% OF LENGTH.
- FOR F'C = 3,000 PSI USE 115% OF LENGTH.

FIELD BENDING:

CONFORM TO ACI 301 SEC 3.3.2.8. "FIELD BENDING OR STRAIGHTENING." BAR SIZES #3 THROUGH #5 MAY BE FIELD BENT COLD THE FIRST TIME. OTHER BARS REQUIRE PREHEATING. DO NOT TWIST BARS.

CORNER BARS:

PROVIDE MATCHING-SIZED "L" CORNER BARS FOR ALL HORIZONTAL WALL AND FOOTING BARS WITH THE APPROPRIATE SPLICE LENGTH, UNO.

TYPICAL CONCRETE REINFORCEMENT:

UNLESS NOTED ON THE PLANS, CONCRETE WALLS SHALL HAVE THE FOLLOWING MINIMUM REINFORCEMENT. CONTRACTOR SHALL CONFIRM MINIMUM REINFORCEMENT OF WALLS WITH EOR PRIOR TO REBAR FABRICATION.

WOOD FRAMING REFERENCE STANDARDS:

CONFORM TO:

- IBC CHAPTER 23 "WOOD."
- NDS AND NDS SUPPLEMENT - "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION."
- ANSI/TPI 1 "NATIONAL DESIGN STANDARD FOR METAL-PLATE-CONNECTED WOOD TRUSS CONSTRUCTION."
- BCSI 2013 "BUILDING COMPONENT SAFETY INFORMATION."

IDENTIFICATION:

ALL SAWN LUMBER AND PRE-MANUFACTURED WOOD PRODUCTS SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION ISSUED BY THE CERTIFYING AGENCY.

MATERIALS:

SAWN LUMBER: CONFORM TO GRADING RULES OF WWPA, WCLIB, OR NLGA. FINGER JOINTED STUDS ACCEPTABLE AT INTERIOR NON-STRUCTURAL WALLS ONLY.

MEMBER USE	SIZE	SPECIES	GRADE
STUDS & PLATES	2X4, 3X4, 2X6, 3X6	DF	NO. 2
POSTS	4X4, 4X6, 4X8	DF	NO. 2
BEAMS	4X8 -- 4X12	DF	NO. 2
BEAMS	6X8 -- 6X12	DF	NO. 2
POSTS	6X	DF	NO. 2
P.T. FRAMING	ALL	HF	NO. 2

GLUED LAMINATED TIMBER:

CONFORM TO AITC 117 "STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES, MANUFACTURING AND DESIGN" AND ANSI/AITC A190.1 "STRUCTURAL GLUED LAMINATED TIMBER." GLUED LAMINATED MEMBER BEAMS SHALL NOT BE CAMBERED, UNLESS SHOWN OTHERWISE ON THE PLANS OR SPECIFICATIONS.

MEMBER USE	SIZES	SPECIES	STRESS CLASS	USES
BEAMS ALL	DF/DF	24F-V4		ALL SPANS

WOOD STRUCTURAL SHEATHING (PLYWOOD):

WOOD APA-RATED STRUCTURAL SHEATHING INCLUDES: ALL VENEER PLYWOOD, ORIENTED STRAND BOARD, WAFFERBOARD, PARTICLEBOARD, T1-T1 SIDING, AND COMPOSITES OF VENEER AND WOOD BASED MATERIAL. CONFORM TO PRODUCT STANDARDS PS-1-95 AND PS-2-92 OF THE U.S. DEPT. OF COMMERCE AND THE AMERICAN PLYWOOD ASSOCIATION (APA)

MINIMUM APA RATING				
LOCATION	THICKNESS	SPAN RATING	PLYWOOD GRADE	EXPOSURE
ROOF	19/32"	40/20	C-D	1
FLOOR	23/32" T&G	24 OC	STURD-I-FLOOR	1
WALLS	15/32"	32/16	C-D	1

JOIST HANGERS AND CONNECTORS:

SIMPSON STRONG-TIE COMPANY INC. AS SPECIFIED IN THEIR LATEST CATALOGS WAS USED AS THE BASIS OF DESIGN FOR THIS PROJECT. ALTERNATE CONNECTORS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC-ESR/IAPMO-ER APPROVAL FOR EQUIVALENT OR GREATER LOAD CAPACITIES AND ARE REVIEWED AND APPROVED BY THE EOR PRIOR TO ORDERING.

CONNECTORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE 1/2 OF THE NAILS OR BOLTS IN EACH MEMBER. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE FULL LENGTH COMMON. NAIL STRAPS TO WOOD FRAMING AS LATE AS POSSIBLE IN THE FRAMING PROCESS TO ALLOW THE WOOD TO SHRINK AND THE BUILDING TO SETTLE.

NAILS AND STAPLES:

CONFORM TO IBC SEC 2303.6 "NAILS AND STAPLES." UNLESS NOTED ON PLANS, NAIL PER IBC TABLE 2304.10.1. UNLESS NOTED OTHERWISE ALL NAILS SHALL BE COMMON. NAIL SIZES SPECIFIED ON THE DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

COMMON NAILS

SIZE	LENGTH	DIAMETER
8D	2-1/2"	0.131"
10D	3"	0.148"
16D	3-1/2"	0.162"
16D SINKER	3-1/4"	0.148"

LAG BOLTS/BOLTS:

CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.

WOOD HOLDOWNS:

HOLDOWNS SPECIFIED ARE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY INC. ADDITIONAL FRAMING MEMBERS SHALL BE PROVIDED PER THE MANUFACTURER'S REQUIREMENTS. ACCEPTABLE EQUIVALENT PRODUCT SUBSTITUTIONS ARE AVAILABLE FROM OTHER MANUFACTURERS WITH EOR APPROVAL. DO NOT COUNTERSINK HOLDOWN BOLTS.

ENGINEERED WOOD PRODUCTS (EWP):

THE FOLLOWING MATERIALS ARE BASED ON LUMBER MANUFACTURED BY TRUSJOIST BY WEYERHAEUSER. TRUS-JOIST BY WEYERHAEUSER WAS USED AS THE BASIS OF DESIGN FOR THIS PROJECT. ALTERNATE PRODUCTS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THEY HAVE CURRENT ICC-ESR/IAPMO-ER APPROVAL FOR EQUIVALENT OR GREATER LOAD AND STIFFNESS PROPERTIES AND ARE REVIEWED AND APPROVED BY THE EOR. A HUD MATERIAL RELEASE FORM IS REQUIRED FOR ALL MANUFACTURED WOOD PRODUCTS LISTED BELOW.

- PARALLEL STRAND LUMBER (PSL):** CONFORM TO ICC ES REPORT NO. ESR-1387, CCMC REPORT NO. 11161-R, OR NES REPORT NO. NER-481. USE 2.2E UNLESS NOTED OTHERWISE.
- LAMINATED STRAND LUMBER (LSL):** CONFORM TO ICC ES REPORT NO. ESR-1387, CCMC REPORT NO. 12627-R, OR NES REPORT NO. NER - 481.
- JOISTS:** CONFORM TO ICC ES REPORT NO. ER-1153. PRODUCTS SHALL BE TESTED AND EVALUATED IN ACCORDANCE WITH ASTM D5055. THE MANUFACTURER SHALL DESIGN THE JOISTS FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. JOISTS SHALL HAVE WOOD CHORDS AND SOLID WOOD WEBS.
- OPEN WEB WOOD JOISTS (OWWJ):** CONFORM TO ICC ES REPORT NO. [PFC-4354/ESR-1774] OR NES REPORT NO. NER-148. THE MANUFACTURER SHALL DESIGN THE JOISTS FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. JOISTS SHALL HAVE WOOD CHORDS AND EITHER WOOD OR METAL WEBS.

NAILING REQUIREMENTS:

PROVIDE MINIMUM NAILING IN ACCORDANCE WITH IBC TABLE 2304.10.1 "FASTENING SCHEDULE" EXCEPT AS NOTED ON THE DRAWINGS. NAILING FOR ROOF/FLOOR DIAPHRAGMS/SHEAR WALLS SHALL BE PER DRAWINGS. NAILS SHALL BE DRIVEN FLUSH AND SHALL NOT FRACTURE THE SURFACE OF SHEATHING.

STANDARD LIGHT-FRAME CONSTRUCTION:

UNLESS NOTED ON THE DRAWINGS, CONSTRUCTION SHALL CONFORM TO IBC SEC 2308 "CONVENTIONAL LIGHT-FRAME CONSTRUCTION" AND IBC SEC 2304 "GENERAL CONSTRUCTION REQUIREMENTS."

- WALL FRAMING:** (UNLESS NOTED OTHERWISE ON PLANS AND DETAILS) ALL INTERIOR WALLS SHALL BE 2X4 @ 16"OC AND ALL EXTERIOR WALLS SHALL BE 2X6 @ 16"OC. PROVIDE (2) BUNDLED STUDS MIN AT WALL ENDS AND EACH SIDE OF ALL OPENINGS. ALL SOLID SAWN LUMBER BEAMS AND HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (2) TRIM AND (1) KING STUD AND ALL GLULAM OR ENGINEERED WOOD BEAMS AND HEADERS BY (2) TRIM AND (2) KING STUDS. PROVIDE MINIMUM (2) 2X8 HEADERS AT ALL INTERIOR AND EXTERIOR WALL OPENINGS. STITCH-NAIL BUNDLED STUDS WITH (2) 10D @ 12"OC. PROVIDE SOLID BLOCKING THRU FLOORS TO SUPPORTS BELOW FOR BEARING WALLS AND POSTS. ATTACH BOTTOM PLATES OF STUD WALLS TO WOOD FRAMING BELOW WITH 16D @ 12"OC OR TO CONCRETE WITH 5/8" DIA. ANCHOR BOLTS X 7" EMBEDMENT AT 48"OC. REFER TO SHEAR WALL SCHEDULE FOR SPECIFIC SHEATHING, STUD, AND NAILING REQUIREMENTS AT SHEAR WALLS. PROVIDE GYPSUM SHEATHING ON INTERIOR SURFACES AND PLYWOOD SHEATHING ON EXTERIOR SURFACES.
- ROOF/FLOOR FRAMING:** (UNLESS NOTED OTHERWISE ON PLANS AND DETAILS) PROVIDE DOUBLE JOISTS/RAFTERS UNDER ALL PARALLEL BEARING PARTITIONS AND SOLID BLOCKING AT ALL BEARING POINTS. PROVIDE DOUBLE JOISTS AROUND ALL ROOF/FLOOR OPENINGS. MULTI-JOISTS/RAFTERS SHALL BE STITCH-NAILED TOGETHER WITH (2)10D @ 12"OC. PROVIDE ROOF SHEATHING EDGE CLIPS CENTERED BETWEEN FRAMING AT UNBLOCKED PLYWOOD EDGES. ALL FLOOR SHEATHING SHALL HAVE TONGUE AND GROOVE JOINTS OR BE SUPPORTED BY SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF ROOF/FLOOR SHEATHING. ROOF/FLOOR SHEATHING SHALL BE LAID FACE GRAIN PERPENDICULAR TO FRAMING MEMBERS.

MOISTURE CONTENT:

WOOD MATERIAL USED FOR THIS PROJECT SHALL HAVE MAXIMUM MOISTURE CONTENT OF 19% EXCEPT FOR THE PRESSURE-TREATED WOOD SILL PLATE. REFER TO TESTING & INSPECTIONS FOR THE VERIFICATION OF THESE LIMITS. THE MAXIMUM MOISTURE CONTENT REQUIRED MAY BE LESS THAN 19% WHEN BASED ON A PARTICULAR CLADDING/INSULATION SYSTEM. REFER TO THE ARCHITECT'S DRAWINGS, AND PROJECT SPECIFICATIONS, OR WITH CLADDING INSTALLER FOR MAXIMUM RECOMMENDED MOISTURE CONTENT.

CLADDING COMPATIBILITY:

THE ARCHITECT/OWNER SHALL REVIEW THE CLADDING AND INSULATION SYSTEMS PROPOSED FOR THE PROJECT WITH RESPECT TO THEIR PERFORMANCE OVER WOOD STUDS WITH MOISTURE CONTENTS GREATER THAN 19%. EIFS SYSTEMS SHOULD BE AVOIDED ON WOOD-FRAMED PROJECTS DUE TO PROBLEMS WITH MOISTURE-PROOFING.

PRESERVATIVE TREATMENT:

WOOD MATERIALS ARE REQUIRED TO BE "TREATED WOOD" UNDER CERTAIN CONDITIONS IN ACCORDANCE WITH IBC SEC 2304.12 "PROTECTION AGAINST DECAY AND TERMITES." CONFORM TO THE APPROPRIATE STANDARDS OF THE AMERICAN WOOD-PRESERVERS ASSOCIATION (AWPA) FOR SAWN LUMBER, GLUED LAMINATED TIMBER, ROUND POLES, WOOD PILES, AND MARINE PILES. FOLLOW AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) QUALITY ASSURANCE PROCEDURES. PRODUCTS SHALL BEAR THE APPROPRIATE MARK.

METAL CONNECTORS/PT WOOD:

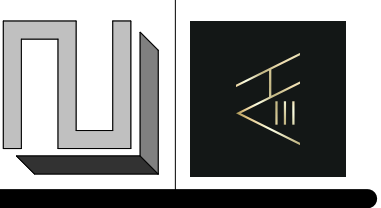
ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE STAINLESS STEEL TYPE 316L. AT THE OWNER'S RISK AND DISCRETION, HOT-DIPPED GALVANIZED METAL HARDWARE AND FASTENERS MAY BE INVESTIGATED FOR USE IN LIEU OF STAINLESS STEEL PROVIDED THAT THE FINISH HAS A MINIMUM ZINC CONTENT OF AT LEAST 1.85 OZ./SF AND ITS USE IS COORDINATED BY THE CONTRACTOR AND WOOD SUPPLIER FOR THE EXPECTED ENVIRONMENT AND MOISTURE EXPOSURE FOR APPROPRIATE USE BASED ON THE METHOD OF PRESERVATIVE TREATMENT OF THE WOOD.

Description
Date
No.



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17848 NE 198TH PLAVE
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO
451 DUVALL AVE NE
RENTON, WA 98059



HU RESIDENCE
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PERMIT SET

STRUCTURAL NOTES

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

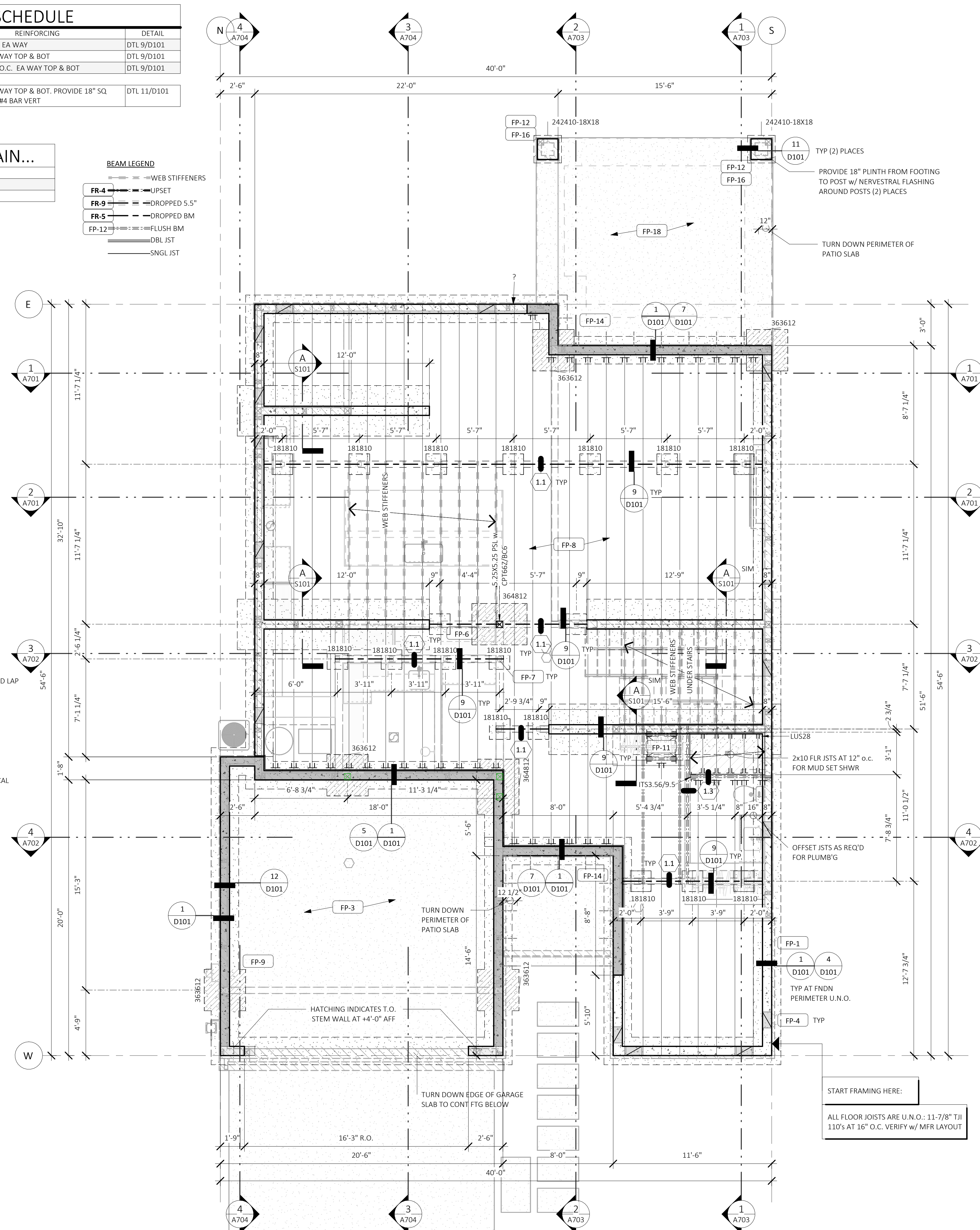
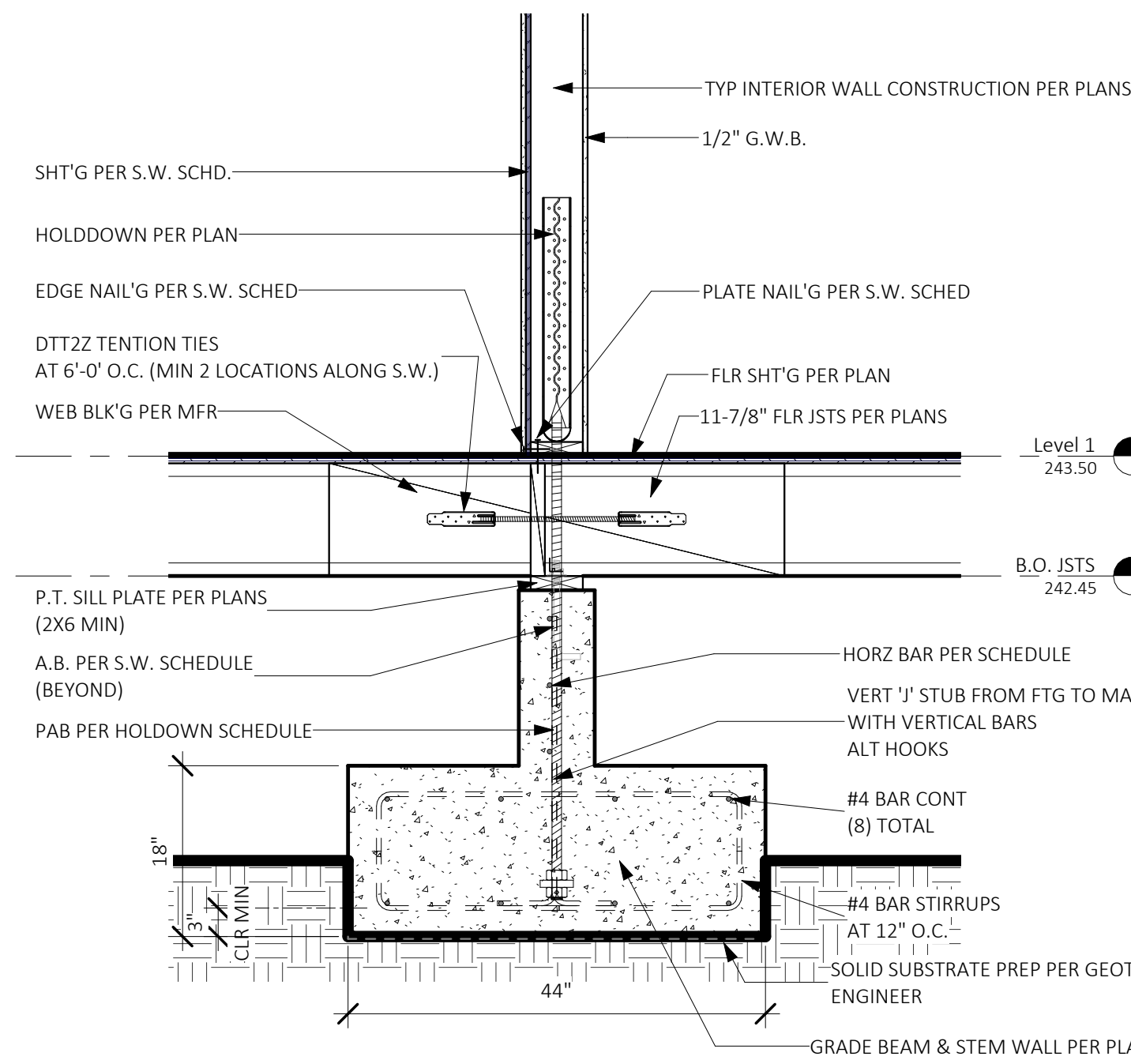
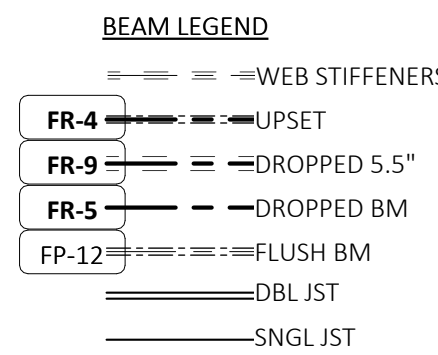
S002

SCALE 24X36:
* NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.



FOOTING SCHEDULE			
MARK	SIZE	REINFORCING	DETAIL
181810	18" X 18" X 10" THK	(3) #4 BOT BAR EA WAY	DTL 9/D101
363612	36" X 36" X 12" THK	(4) #4 BAR EA WAY TOP & BOT	DTL 9/D101
364812	36" X 48" X 12" THK	#4 BAR AT 10" O.C. EA WAY TOP & BOT	DTL 9/D101
Footing-MAT-Rectangular: Z5			
242410-18X18	24" X 24" X 10" THK	(3) #4 BAR EA WAY TOP & BOT. PROVIDE 18" SQ PLYNTH w/ (4) #4 BAR VERT	DTL 11/D101
Footing-MAT-Rectangular w Plynth: 2			

BEAM SCHEDULE - MAIN...	
ID	SIZE
1.1	4X8, TYP
1.3	5-1/2"X9-1/4" PSL



SYMBOLS & LEGEND:

- POINT LOAD FROM ABOVE. PROVIDE SOLID BLK'G THROUGH JOIST SYSTEM
- (1) 2x STUD
- (2) 2x STUD, TYP. LARGER MEMBERS AS NOTED ON PLANS
- SIMPSON OR OTHER APPROVED ALTERNATE HANGER. USE ALL REQUIRED FASTENERS
- INDICATES BEAM CALCULATION WITH INDEXED NUMBER
- WALL ABOVE
- BEARING WALL BELOW
- NON BEARING WALL BELOW
- SHEARWALL BELOW
- BEARING WALL ABOVE

GENERAL FRAMING NOTES:

- SEE SHEET S001 FOR GENERAL DESIGN CRITERIA.
- SEE SHEET(S) S201-203 FOR SHEARWALL DESIGNATIONS, HOLDDOWNS, AND SHEARWALL SCHEDULE.
- U.N.O. ALL HEADERS ARE: 4x8 DF #2 (UP TO 8' SPAN) TRIMMER STUD UP TO 6'-0" SPAN AND PROVIDE (2) TRIMMER STUDS OVER 6'-0" U.N.O.
- TRUSS DESIGN BY MANUFACTURER. TRUSS DESIGN DRAWINGS SHALL BE PREPARED PER IRC SECTION R802.10.1 AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION.
 - * TRUSS DESIGN PER IRC SECTION R802.10.2
 - * FIELD ALTERATIONS MUST BE DESIGNED BY MFR. PER IRC SECTION R802.10.4
 - * SEE SHEET(S) S001 FOR DESIGN LOADS.
 - * TRUSS MFR TO PROVIDE ADEQUATE BEARING AREA TO RESOLVE REACTION (PERPENDICULAR TO GRAIN) AT ALL HIGHLY LOADED GIRDER TRUSSES.
- PROVIDE 2x4 RAFTER/TRUSS TAIL - TYP. U.N.O.
- ROOF PITCH: EXTERIOR PER ELEVATIONS & INTERIOR PER SECTIONS.
- ROOF FRAMING SPACING, 24" o.c. U.N.O.
- SEE ELEVATIONS AND/OR SECTIONS FOR ROOF PITCH, PLATE HEIGHT AND HEADER HEIGHT.
- FRAMING LUMBER: FRAMING LUMBER SHALL BE MARKED IN ACCORDANCE TO W.C.L.B. STANDARD GRADING RULES FOR WEST COAST LUMBER #16, LATEST EDITION. ALL KILN DRIED MIN. 19.
 - a) JOIST AND RAFTERS: SEE SHT S002
 - b) BEAMS AND STRINGERS: SEE SHT S002
 - c) POST AND TIMBERS: SEE SHT S002
 - d) STUDS, PLATES, AND MISC. LIGHT FRAMING: SEE SHT S002
 - e) TJI'S AND MICROLUMS: PER MANUFACTURER.
 - f) GLUE LAMINATED TIMBER: SEE SHT S002
 - g) ALL OTHER LUMBER: HEM-FIR STANDARD OR BETTER.
 - h) PLYWOOD/ORIENTED STRAND BOARD (OSB): SEE SHT S002
 - i) WALL SHEATHING: SEE SHT S002
 - j) FLOOR SHEATHING: 23/32" APA RATED STRUCTURAL SHT'G FACE GRAIN PERP TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP. U.N.O.
 - k) ROOF SHEATHING: 15/32" APA RATED STRUCTURAL SHT'G FACE GRAIN PERP TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP.
 - l) OTHER: AS NOTED ON DRAWINGS. SEE SHT S002
- FASTENERS: ALL FRAMING SHALL BE NAILED IN ACCORDANCE WITH TABLE R602.3.1(3) OF THE IRC. SEE SHEET A001
 - * POSITIVE CONNECTIONS SHALL BE PROVIDED WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING.
- INSTALL 2X FIRELOCKING PER R302.11 AS FOLLOWS:
 - a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORIZ AT INTERVALS NOT EXCEEDING 10 FEET.
 - b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORIZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.
 - c) IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
 - d) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS. THE INTEGRITY OF ALL FIREBLOCKS SHALL BE MAINTAINED.
- SEE SHT A002 FOR ROOF & CRAWL SPACE AREA VENTILATION CALCULATIONS

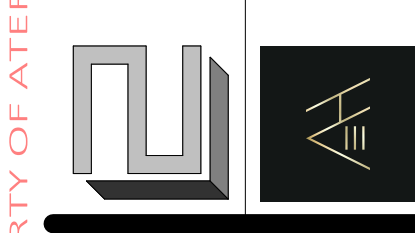
KEYNOTES - FOUNDATION

ID	DESCRIPTION
FP-1	CONCRETE STEM WALL 8" WIDE w/ FTG PER DETAILS.
FP-3	CONCRETE SLAB ON GRADE SHALL BE 4" THICK STEEL TROWLED FINISH w/ W1.4xW1.4 WWF ON 4" GRANULAR FILL. SLOPE TO AND PROVIDE THICKENED EDGE AT O.H. GAR DOOR. PER IRC SECTION R506
FP-4	14"x8" CRAWL SPACE VENT INSTALLED IN RIM JOIST. SEE CRAWL SPACE CALCULATIONS ON SHEET A003.
FP-6	BEAM LINE PER PLAN w/ SOLID BLK'G OVER. PROVIDE MIN 1" CLEARANCE FROM CONCRETE AT ENDS OF BEAM.
FP-7	4x4 POST - TYP. U.N.O. PROVIDE 4x6 AT BEAM SPLICES AND PROVIDE POSITIVE CONNECTION PER IRC SECTION R407.3
FP-8	6 MIL BLACK POLYETHYLENE GROUND COVER OR APPROVED EQ. OVERLAP EDGES 12" MIN AT JOINTS AND EXTEND UP FOUNDATION WALL. PER WSEC 502.1.6.7.
FP-9	ELECTRICAL SERVICE: VERIFY LOCATION WITH SITE CONDITIONS
FP-11	PROVIDE CRAWL SPACE ACCESS, MINIMUM 18" X 24" UNOBSTRUCTED ACCESS PER IRC SECTION R408.3. INSULATE AND WEATHER-STRIP PER ENERGY REQUIREMENTS (WSEC 502.1.4.4). ALLOW 18" MINIMUM SPACE UNDER WOOD JOISTS AND 12" MINIMUM SPACE UNDER WOOD GIRDERS.
FP-12	MAT FOOTING PER FTG SCHEDULE. SEE DETAILS FOR ADDITIONAL INFORMATION.
FP-14	#4 REBAR STUB-OUT AT 24" O.C. AROUND PERIMETER OF CONC. PORCH/PATIO.
FP-16	EXTEND PIER MIN. 18" BELOW SURROUNDING GRADE. PER IRC TABLE R301.2.
FP-18	CONCRETE SLAB ON GRADE SHALL BE 4" THICK STEEL BRUSHED FINISH w/ W1.4xW1.4 WWF ON 4" GRANULAR FILL. AT EXTERIOR PATIOS, SLOPE AWAY FROM BLDG 2% MIN. PER IRC SECTION R506.

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 RENTON, WA 98059



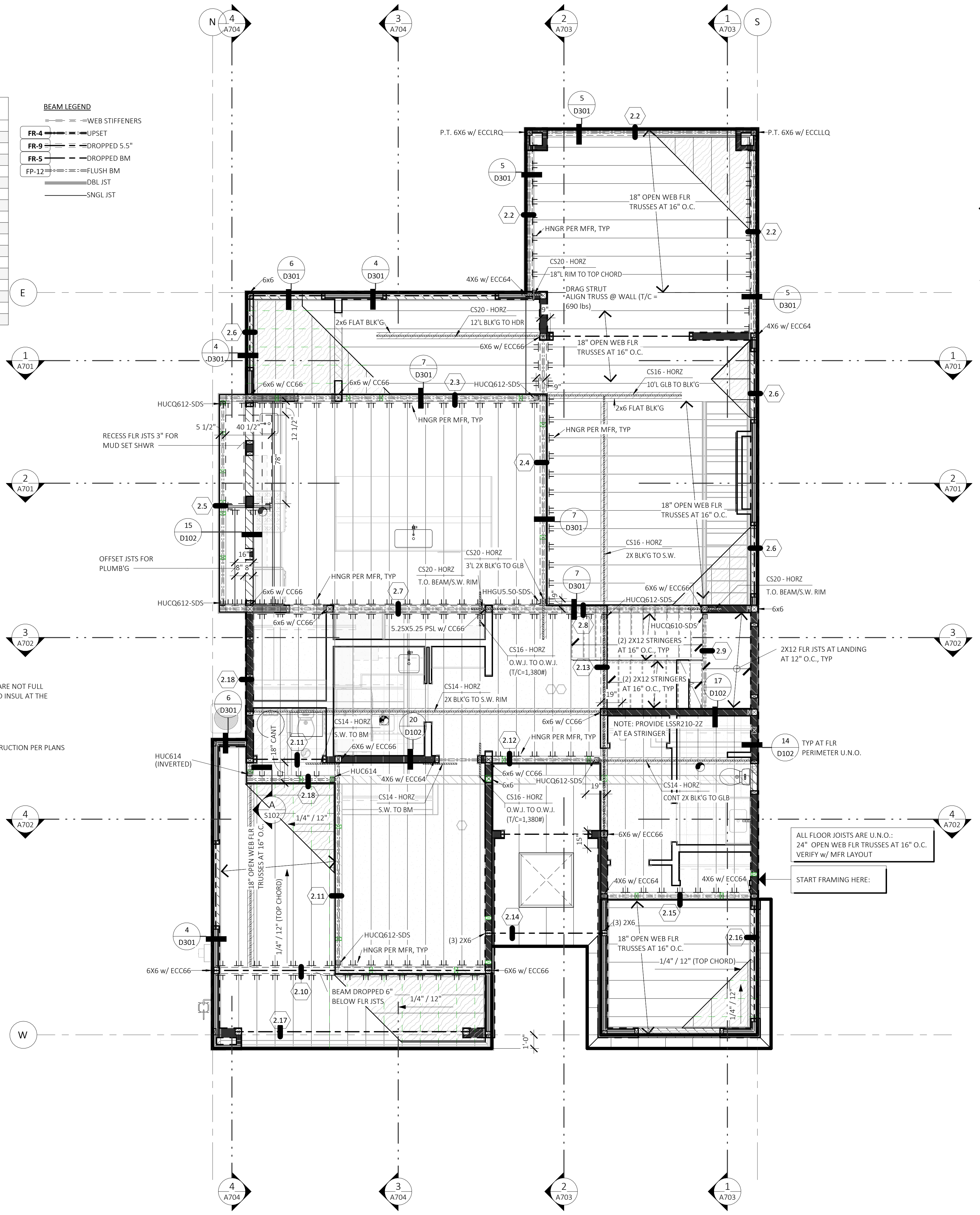
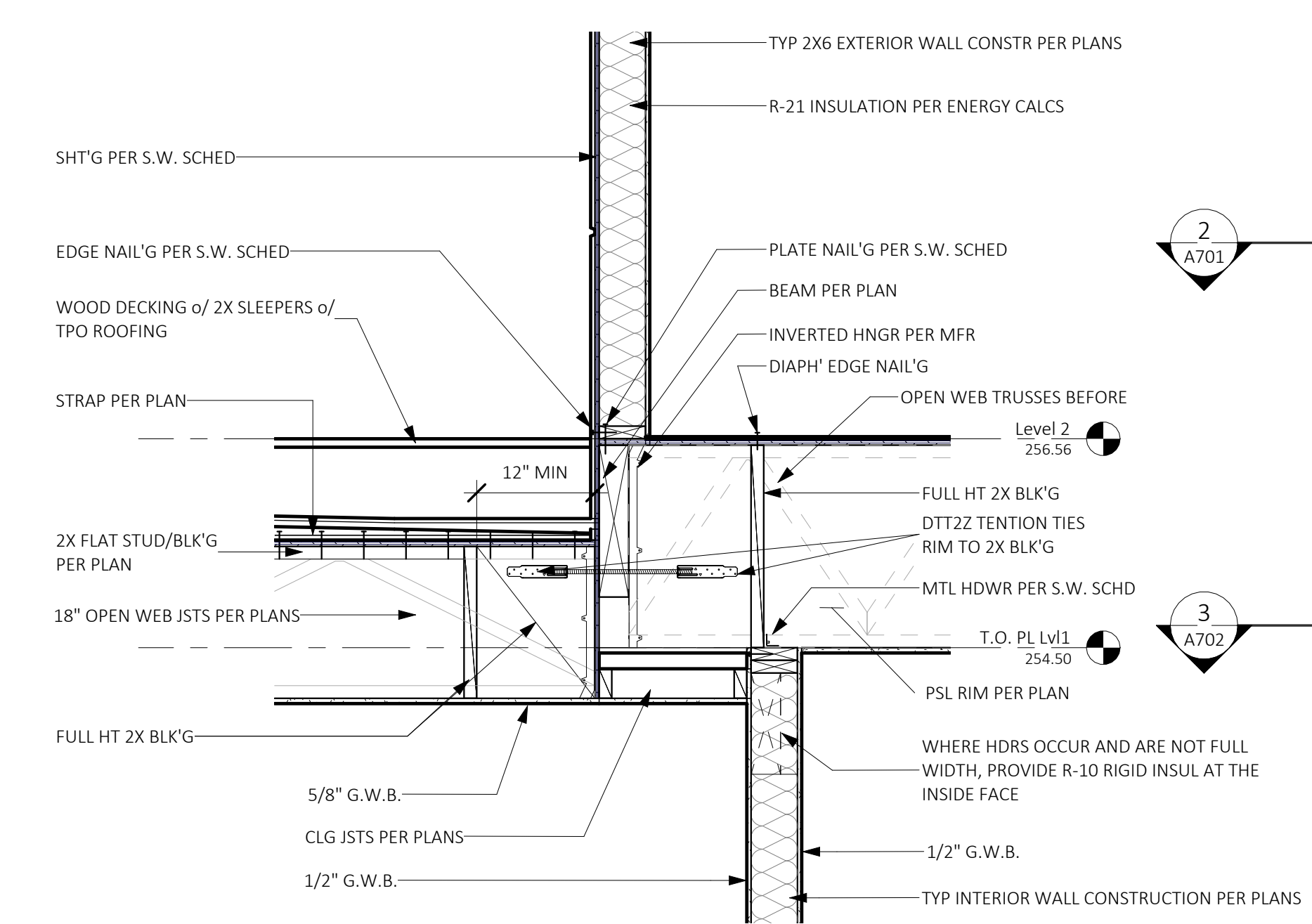
HU RESIDENCE
 2448 72nd AVE SE, Mercer Island

PERMIT SET
FOUNDATION/MAIN FLOOR FRAMING PLAN
 PROJECT NO: 21014
 ISSUE DATE: 2022/06/29
 DRAWN BY: SPM

S101
 SCALE 24X36: As Indicated
 * NOTE: 11x17 SETS ARE REDUCED 50%; SCALE DRAWINGS ACCORDINGLY.

BEAM SCHEDULE - UPPER FRAMING		
ID	SIZE	
2.2	5-1/2" X 12" GLB	
2.3	5-1/2" X 16" GLB (3-SPAN)	
2.4	5-1/4" X 24" PSL	
2.5	5-1/2" X 16" GLB	
2.6	3-1/2" X 9" GLB	
2.7	5-1/2" X 20" GLB (3-SPAN)	
2.8	5-1/2" X 20" GLB	
2.9	6X14	
2.10	5-1/4" X 22" PSL	
2.11	5-1/2" X 12" GLB	
2.12	5-1/2" X 12" GLB (2-SPAN)	
2.13	5-1/2" X 14" GLB (2-SPAN)	
2.14	4X8	
2.15	3-1/2" X 10-1/2" GLB	
2.16	3-1/2" X 9" GLB	
2.17	5-1/2" X 12" GLB	
2.18	3-1/2" X 18" PSL RIM	

BEAM LEGEND	
FR-4	UPSET
FR-9	DROPPED 5.5"
FR-5	DROPPED BM
FP-12	FLUSH BM
	DBL JST
	SINGL JST



- ### SYMBOLS & LEGEND:
- POINT LOAD FROM ABOVE. PROVIDE SOLID BLK'G THROUGH JOIST SYSTEM (1) 2x STUD
 - (2) 2x STUD, TYP. LARGER MEMBERS AS NOTED ON PLANS
 - SIMPSON OR OTHER APPROVED ALTERNATE HANGER. USE ALL REQUIRED FASTENERS
 - INDICATES BEAM CALCULATION WITH INDEXED NUMBER
 - WALL ABOVE
 - BEARING WALL BELOW
 - NON BEARING WALL BELOW
 - SHEARWALL BELOW
 - BEARING WALL ABOVE

- ### GENERAL FRAMING NOTES:
- SEE SHEET S001 FOR GENERAL DESIGN CRITERIA.
 - SEE SHEET(S) S201-203 FOR SHEARWALL DESIGNATIONS, HOLDDOWNS, AND SHEARWALL SCHEDULE.
 - U.N.O. ALL HEADERS ARE: **4x8 DF #2 (UP TO 8' SPAN)** TRIMMER STUD UP TO 6'-0" SPAN AND PROVIDE (2) TRIMMER STUDS OVER 6'-0" U.N.O.
 - TRUSS DESIGN BY MANUFACTURER. TRUSS DESIGN DRAWINGS SHALL BE PREPARED PER IRC SECTION R802.10.1 AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION.
 - * TRUSS DESIGN PER IRC SECTION R802.10.2
 - * FIELD ALTERATIONS MUST BE DESIGNED BY MFR. PER IRC SECTION R802.10.4
 - * SEE SHEET(S) S001 FOR DESIGN LOADS.
 - * TRUSS MFR TO PROVIDE ADEQUATE BEARING AREA TO RESOLVE REACTION (PERPENDICULAR TO GRAIN) AT ALL HIGHLY LOADED GIRDER TRUSSES.
 - PROVIDE 2x4 RAFTER/TRUSS TAIL - TYP. U.N.O.
 - ROOF PITCH: EXTERIOR PER ELEVATIONS & INTERIOR PER SECTIONS.
 - ROOF FRAMING SPACING, 24" o.c. U.N.O.
 - SEE ELEVATIONS AND/OR SECTIONS FOR ROOF PITCH, PLATE HEIGHT AND HEADER HEIGHT.
 - FRAMING LUMBER: FRAMING LUMBER SHALL BE MARKED IN ACCORDANCE TO W.C.L.B. STANDARD GRADING RULES FOR WEST COAST LUMBER #16, LATEST EDITION. ALL KILN DRIED MIN. 19.
 - a) JOIST AND RAFTERS: SEE SHT S002
 - b) BEAMS AND STRINGERS: SEE SHT S002
 - c) POST AND TIMBERS: SEE SHT S002
 - d) STUDS, PLATES, AND MISC. LIGHT FRAMING: SEE SHT S002
 - e) TJI'S AND MICROLAMS: PER MANUFACTURER
 - f) GLUE LAMINATED TIMBER: SEE SHT S002
 - g) ALL OTHER LUMBER: **HFM-FIR STANDARD OR BETTER**
 - h) PLYWOOD/ORIENTED STRAND BOARD (OSB): SEE SHT S002
 - i) WALL SHEATHING: SEE SHT S002
 - j) FLOOR SHEATHING: 23/32" APA RATED STRUCTURAL SHIT'G FACE GRAIN PER TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP U.N.O.
 - k) ROOF SHEATHING: 15/32" APA RATED STRUCTURAL SHIT'G FACE GRAIN PER TO FLR FRAM'G W/ 10d @ 6" OC PANEL EDGES, & 12" O.C. FIELD, UNBLOCKED, TYP
 - l) OTHER: AS NOTED ON DRAWINGS. SEE SHT S002
 - FASTENERS: ALL FRAMING SHALL BE NAILED IN ACCORDANCE WITH TABLE R602.3(1) OF THE IRC. SEE SHEET A001
 - * POSITIVE CONNECTIONS SHALL BE PROVIDED WHERE POSTS AND BEAM OR GIRDER CONSTRUCTION IS USED TO SUPPORT FLOOR FRAMING.
 - * INSTALL 2X FIREBLOCKING PER R302.11 AS FOLLOWS:
 - a) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS, VERT AT THE CLG AND FLR LEVELS AND HORZ AT INTERVALS NOT EXCEEDING 10 FEET.
 - b) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERT AND HORZ SPACES SUCH AS OCCUR AT SOFFITS, DROP CLGS AND COVE CLGS.
 - c) IN CONCEALED SPACES BTWN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
 - d) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS.
 - THE INTEGRITY OF ALL FIREBLOCKS SHALL BE MAINTAINED.
 - SEE SHT A002 FOR ROOF & CRAWL SPACE AREA VENTILATION CALCULATIONS

KEYNOTES - FRAMING	
ID	DESCRIPTION
FR-4	UPSET - BOTTOM OF BEAM EVEN w/ BOTTOM OF JOISTS. TOP OF BEAM EXTENDS ABOVE JOISTS.
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FR-9	TOP OF BEAM 5" BELOW TOP OF JOISTS TO ALLOW FOR HVAC.

(C) ATERA DESIGN STUDIO LLC. PLANS AND DESIGNS (DRAWINGS) FORTHWITH REMAIN THE PROPERTY OF ATERA DESIGN STUDIO. REPRODUCTION WITHOUT PERMISSION IS PROHIBITED.

Description: **HU RESIDENCE**
 Date: **2448 72nd AVE SE, Mercer Island**
 No.: **21014**
 Project: **UPPER FLOOR/MAIN ROOF FRAMING PLAN**
 Project No: 21014
 Issue Date: 2022/06/29
 Drawn By: SPM
S102
 Scale: 24X36: As indicated
 * NOTE: 11x17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.

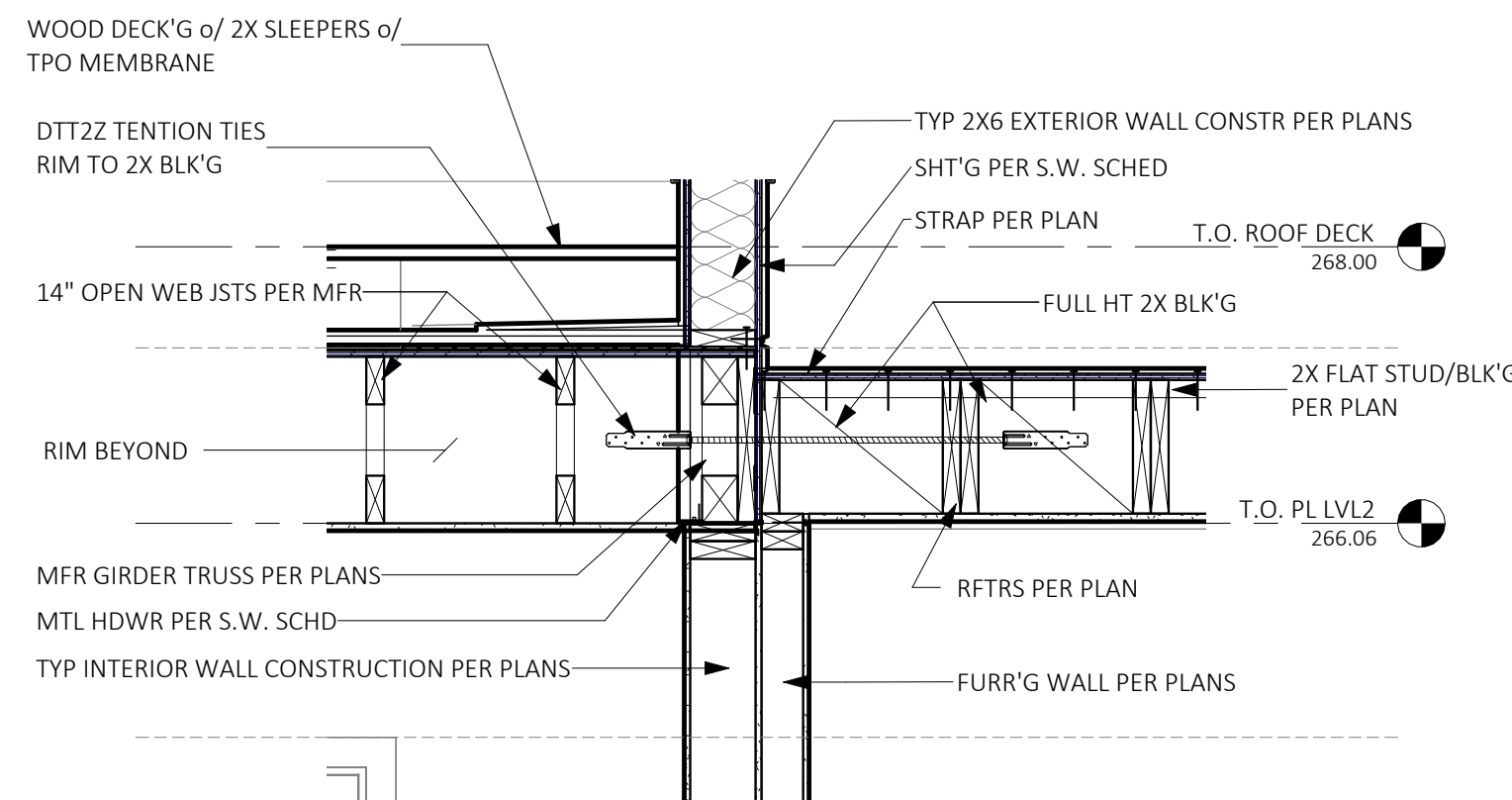
L2 ENGINEERS
 17848 NE 198TH PLAVE
 WOODINVILLE, WA 98072
 ATERA DESIGN STUDIO
 451 DUVAL AVENUE NE
 RENTON, WA 98059
 01/13/2023

BEAM SCHEDULE - UPPER ROOF

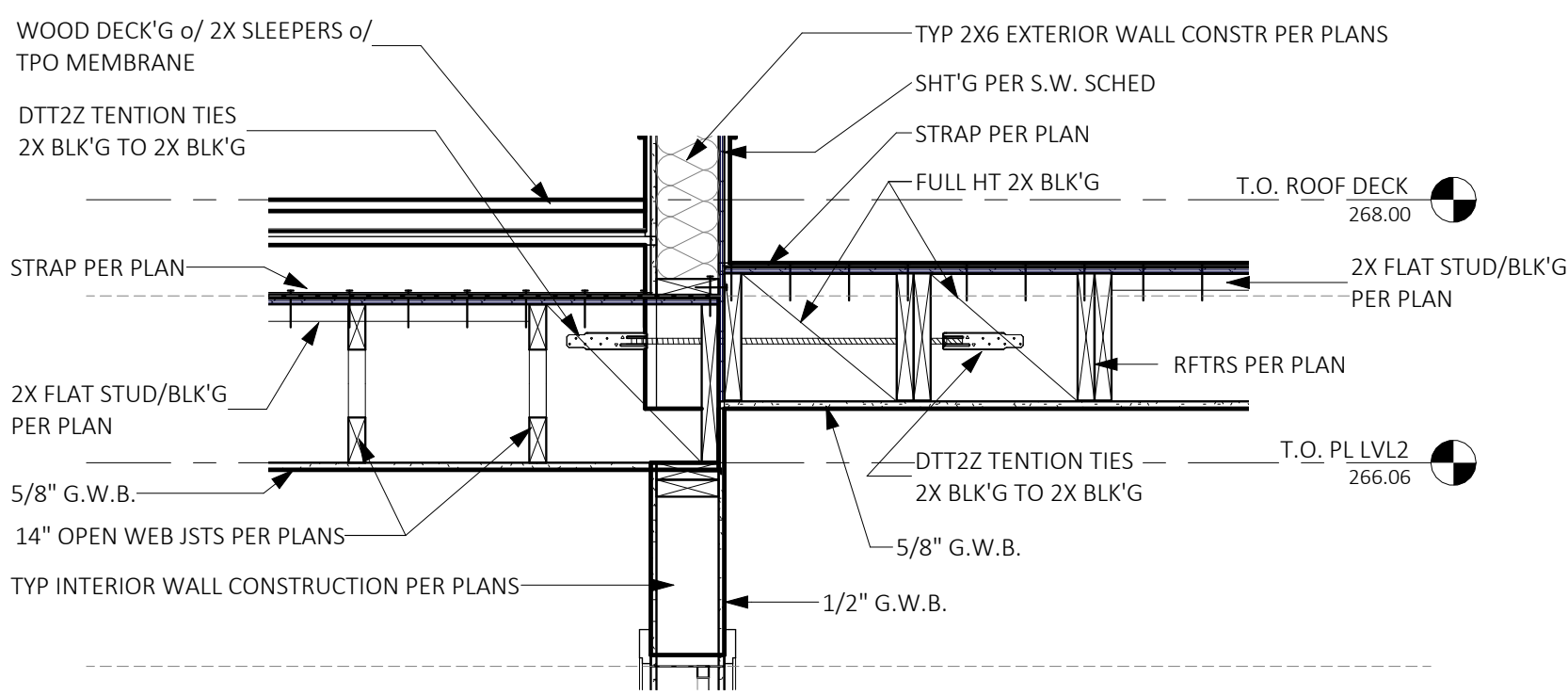
ID	SIZE
3.1	4X8
3.2	5-1/2" X 7-1/2" GLB

BEAM LEGEND

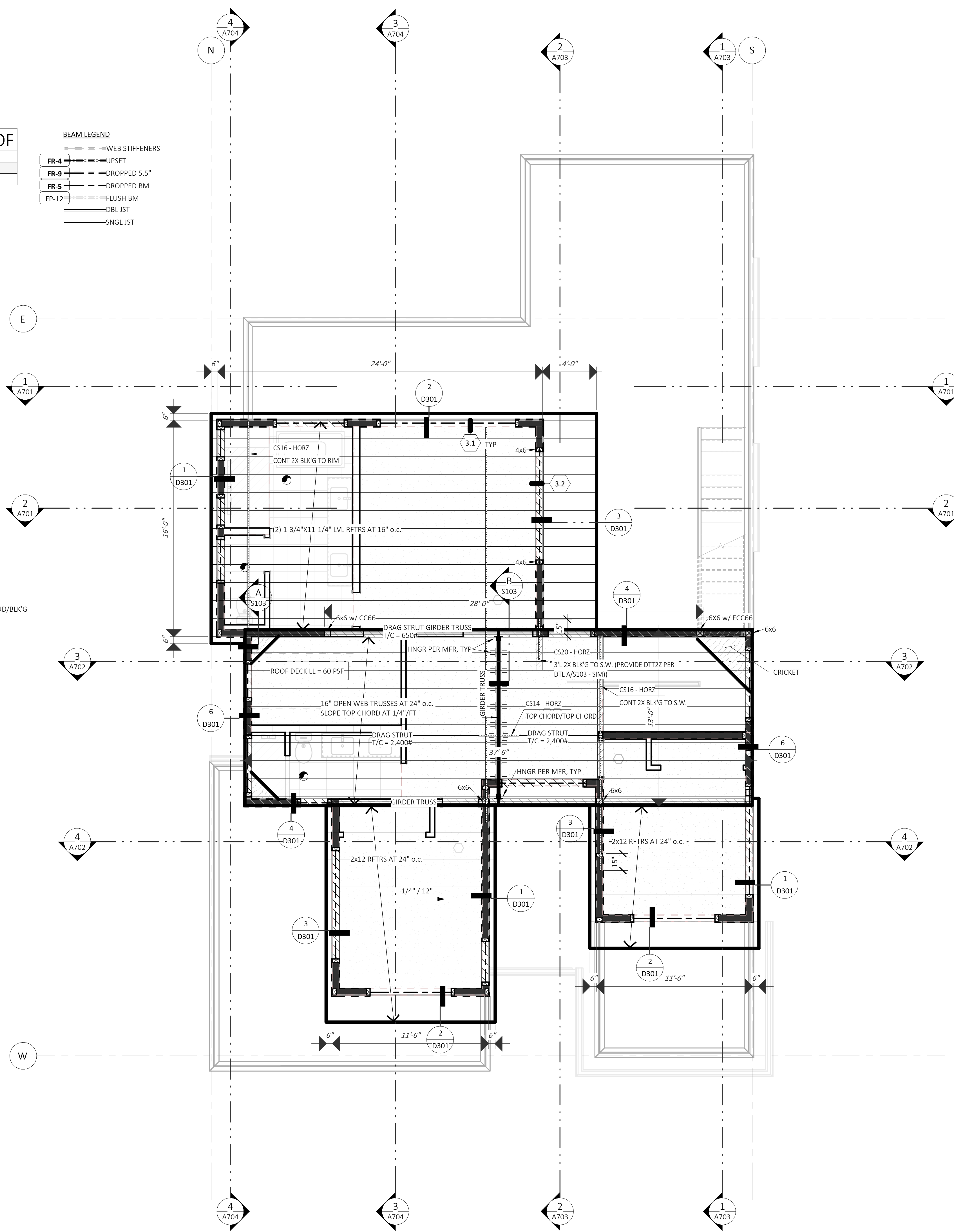
---	WEB STIFFENERS
FR-4	UPSET
FR-9	DROPPED 5.5"
FR-5	DROPPED BM
FP-12	FLUSH BM
---	DBL IJT
---	SINGL IJT



A DTTZ AT ROOF
SCALE: 3/4" = 1'-0"



B DTTZ AT ROOF
SCALE: 3/4" = 1'-0"



SYMBOLS & LEGEND:

- POINT LOAD FROM ABOVE. PROVIDE SOLID BLK'G THROUGH JOIST SYSTEM
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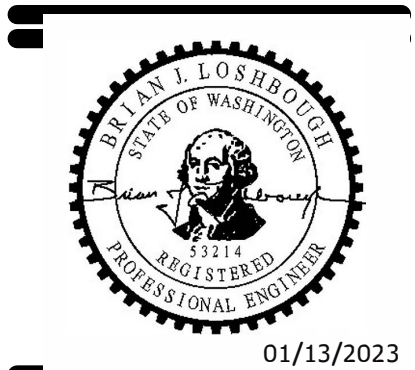
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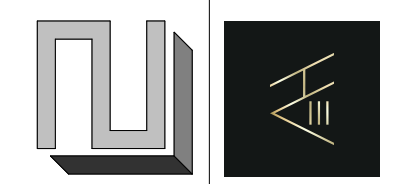
KEYNOTES - FRAMING

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L2 ENGINEERS
 17848 NE 198TH PLAVE
 WOODINVILLE, WA 98072
 ATERA DESIGN STUDIO
 451 DUVAL AVE NE,
 RENTON, WA 98059



HU RESIDENCE
 2448 72nd AVE SE, Mercer Island

PERMIT SET

ROOF FRAMING PLAN

PROJECT NO: 21014
 ISSUE DATE: 2022/06/29
 DRAWN BY: SPM

S103

SCALE 24X36: As indicated
 * NOTE: 11x17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



Holdowns and Tension Tie SCHEDULE

TYPE	MIN END STUD	FASTENERS			DETAIL	Count	Manufacturer	ALLOWABLE UPLIFT (DF / HF)
		ANCHOR BOLT	NAILS/SCREWS	CONCRETE ANCHOR				
CS16-11"			(22) 10d		DTL 272/S303	4	Simpson Strong Tie or EQ.	1705 / --
CS14-15"			(30) 10d		DTL 272/S303	2	Simpson Strong Tie or EQ.	2490 / --
CMSTC16-20"			(58) 16d SINKER		DTL 272/S303	8	Simpson Strong Tie or EQ.	4960 / --
(2) HDU11-SDS2.5 2	4X	1"	(30) SDS 1/4"x2 1/2"		DTL 52/S302	2	Simpson Strong Tie or EQ.	9535 / --
FLOOR TO FLOOR								
LSTHD8/LSTHD8RJ	(2) 2X		(20) 0.148 X 3-1/4"		DTL 58/S301	6	Simpson Strong Tie or EQ.	1610 / --
STHD10/STHD10RJ	(2) 2X		(28) 0.148 X 3-1/4"		DTL 58/S301	2	Simpson Strong Tie or EQ.	2175 / --
STHD14/STHD14RJ	(2) 2X		(30) 0.148 X 3-1/4"		DTL 58/S301	5	Simpson Strong Tie or EQ.	3500 / --
HDU8-SDS2.5	4X6	7/8"	(20) SDS 1/4"x2 1/2"	PAB6	DTL 52/S302	8	Simpson Strong Tie or EQ.	7870 / 6580
HDU11-SDS2.5	4X8	1"	(30) SDS 1/4"x2 1/2"	PAB7	DTL 52/S302	11	Simpson Strong Tie or EQ.	11175 / 9610
HDU14-SDS2.5	6X6	1"	(36) SDS 1/4"x2 1/2"	PAB8	DTL 52/S302	3	Simpson Strong Tie or EQ.	14445 / 12425
HD19	6X6	1-1/4"	(5) 1" BOLTS	PAB10	DTL 56/S301	2	Simpson Strong Tie or EQ.	19070 / 16210
HOLDDOWN								
MSTC48B3	(2) 2X		REF DETAIL		DTL 269/S303	9	Simpson Strong Tie or EQ.	3795 / 3900
MSTC66B3Z	4X		REF DETAIL		DTL 269/S303	1	Simpson Strong Tie or EQ.	4490 / --
OVERHANG								

WOOD FRAMED SHEARWALL SCHEDULE

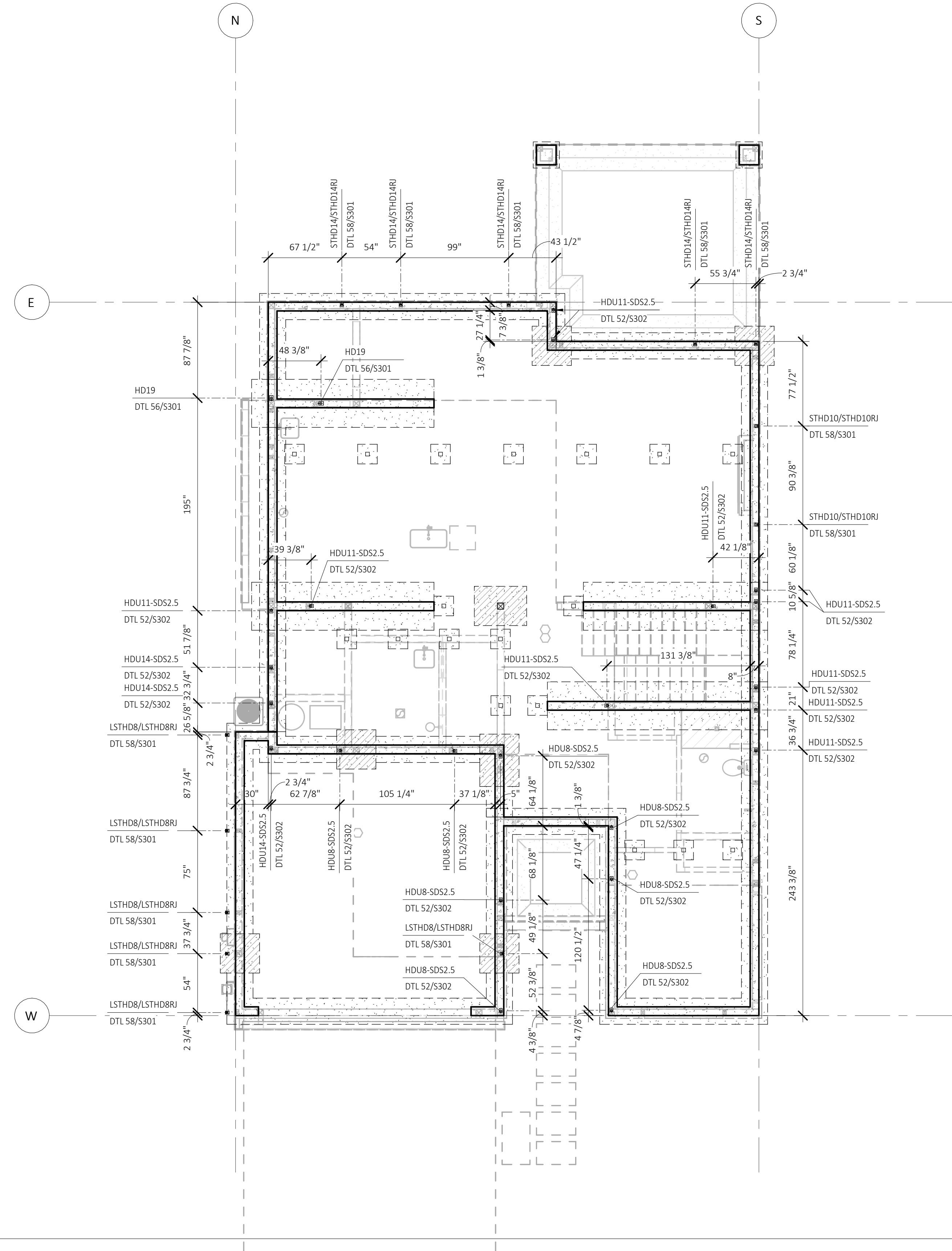
SHEARWALL TYPE	WALL SHT'G APA RATED	EDGE NAIL'G	BOT PLATE CONNECTION	FRAM'G CONNECTION AT WALL BELOW	MIN RIM THICKNESS	FRAM'G AT PANEL EDGES	BLK'G AT PANEL EDGES	P.T. 2X SILL		P.T. 3X SILL	
								ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)	ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)
sw6	15/32"	8D AT 6" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 18" O.C.	1-1/4"	2X	2X	5/8" DIA AT 48" O.C.	242 / 339	5/8" DIA AT 60" O.C.	242 / 339
sw4	15/32"	8D AT 4" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 12" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 32" O.C.	353/495	5/8" DIA AT 40" O.C.	353/495
sw3	15/32"	8D AT 3" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 10" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 24" O.C.	456 / 637	5/8" DIA AT 32" O.C.	456 / 637
sw2	15/32"	8D AT 2" O.C.	(2) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C.	3-1/2"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 18" O.C.	595 / 832	5/8" DIA AT 24" O.C.	595 / 832
2sw4	15/32" BOTH SIDES	8D AT 4" O.C.	(3) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 5" O.C.	3-1/2"	3X	3X	5/8" DIA AT 24" O.C.	707 / 990	5/8" DIA AT 24" O.C.	707 / 990
2sw3	15/32" BOTH SIDES	8D AT 3" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 8" O.C. AND A35 AT 8" O.C.	3-1/2"	3X	3X	5/8" DIA AT 16" O.C.	911 / 1274	5/8" DIA AT 16" O.C.	911 / 1274
2sw2	15/32" BOTH SIDES	8D AT 2" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C. AND A35 AT 6" O.C.	3-1/2"	3X	3X	5/8" DIA AT 12" O.C.	1190 / 1469	5/8" DIA AT 12" O.C.	1190 / 1469

SHEARWALL LEGEND:

- # SHEARWALL TAG: SEE SHEARWALL SCHEDULE AND STRUCTURAL NOTES ON THIS SHEET.
- ALL EXTERIOR WALLS TO BE SW6 SHEAR WALLS U.N.O.
- FOR WALL CONSTRUCTION FOR WALLS THAT EXTEND THRU WINDOWS SHEATH ABV AND BELOW WINDOW & STRAP PER DETAIL ON SHEET D101
- HDN INDICATES STRUCTURAL KEYNOTE FOR HOLDOWN WITH INDEXED NUMBER. SEE STRUCTURAL KEYNOTE SCHEDULE THIS SHEET. SEE STRUCTURAL NOTES ON SHEET S101
- - - EXTENT OF SHEARWALL
- - - SHEARWALL BELOW

SHEAR WALL NOTES

1. ALL NAILS ARE COMMON. UNO. REFERENCE GENERAL STRUCTURAL NOTES FOR NAIL DIAMETER AND LENGTH. REFERENCE SHEAR WALL KEY DETAIL FOR DESCRIPTION OF TERMS.
2. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF SHEAR WALLS ARE TYPICALLY AT WINDOWS, DOORWAYS OR AS SHOWN ON PLAN.
3. EDGE NAILING IS REQUIRED AT ALL HOLDDOWN POS. EDGE NAILING IS REQUIRED TO EACH STUD USED IN BUILT-UP HOLDDOWN POS. REFERENCE HOLDDOWN SCHEDULE & DETAILS FOR ADDITIONAL INFORMATION.
4. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS UNO IN SCHEDULE. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH EDGE NAILING AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND EDGE NAILING AT 6"OC WHERE STUDS ARE SPACED AT 24"
5. SIMPSON STRONG-TIE "A35" MAY BE USED IN LIEU OF "LTP5." "LTP2" CLIPS SHALL BE ORIENTED LENGTHWISE 1 (HORIZONTAL) AT PLATE TO RIM. USE 0.131" x1 NAILS WHERE CLIPS ARE ATTACHED DIRECTLY TO FRAMING. USE Ø 2 1 0.131" x2 WHERE CLIPS ARE INSTALLED OVER SHEATHING. Ø 2
6. 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE SECURED TOGETHER WITH FASTENERS OF THE SAME DIAMETER AND SPACING AS THE BOTTOM PLATE ATTACHMENT PER SCHEDULE. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6"OC ON EITHER SIDE, THE WIDTH OF THE NAILED FACE OF THE FRAMING MEMBER SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED. ALTERNATIVELY, PANELS SHALL BE STAGGERED SO THAT EDGE JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
7. ANCHOR BOLTS SHALL BE PROVIDED WITH MINIMUM 0.229"x 3"x 3" HOT-DIPPED GALVANIZED STEEL PLATE WASHERS PER DETAILS ON DRAWINGS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE PROVIDE AN ANCHOR BOLT AT EACH END OF EACH PLATE AND SHALL BE AT LEAST 7 TIMES THE ANCHOR BOLT DIAMETER FROM THE ENDS OF THE PLATE, BUT NOT MORE THAN 1 THE TABULATED ANCHOR BOLT SPACING OR 12", WHICHEVER IS LESS. SEE ANCHOR BOLT DETAIL FOR PLATE 2 5 WASHER REQUIREMENTS. [ALT: " 8 Øx8" TITEN HD ANCHOR SCREWS MAY BE USED IN LIEU OF ANCHOR BOLTS AT EXISTING CONCRETE, WITH PLATE WASHER & SPACING REQUIREMENTS PER SCHEDULE.]
8. PROVIDE HOT-DIPPED GALVANIZED NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) AT ALL PRESSURE TREATED LUMBER. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
9. PANELS MAY BE INSTALLED HORIZONTALLY IF STUDS ARE SPACED AT 16"OC MAX.
10. STAGGER EDGE NAILING.
11. THE TOP EDGE OF THE WOOD STRUCTURAL PANEL SHALL BE ATTACHED TO THE UPPER TOP PLATE. ROOF OR UPPER LEVEL UPLIFT CONNECTORS SHALL BE ON THE SAME SIDE OF THE WALL AS THE SHEATHING.
12. THE BOTTOM EDGE OF THE WOOD STRUCTURAL PANEL SHALL EXTEND TO AND BE ATTACHED TO THE BOTTOM OR SILL PLATE. REFERENCE DETAIL BELOW FOR STAGGERED NAIL AND SCREW SPACING AT RIM BOARDS.
13. WALL TYPE ACCEPTABLE WITH TRUSJOIST AND BOISE CASCADE RIM JOIST AND BLOCKING.



Description

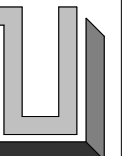
Date

No.



01/13/2023

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WOODINVILLE, WA 98072



ATERA DESIGN STUDIO
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RENTON, W A 98059

HU RESIDENCE

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PERMIT SET

FOUNDATION
HOLDDOWNS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

S201

SCALE 24X36: 3/16" = 1'-0"
* NOTE: 11X17 SETS ARE
REDUCED 50%; SCALE
DRAWINGS ACCORDINGLY.



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Holddowns and Tension Tie SCHEDULE

TYPE	MIN END STUD	FASTENERS			DETAIL	Count	Manufacturer	ALLOWABLE UPLIFT (DF / HF)
		ANCHOR BOLT	NAILS/SCREWS	CONCRETE ANCHOR				
CS16-11"			(2) 10d		DTL 272/S303	4	Simpson Strong Tie or EQ.	1705 / --
CS14-15"			(30) 10d		DTL 272/S303	2	Simpson Strong Tie or EQ.	2490 / --
CMSTC16-20"			(58) 16d SINKER		DTL 272/S303	8	Simpson Strong Tie or EQ.	4960 / --
(2) HDU11-SDS2.5 2	4X	1"	(30) SDS 1/4"x2 1/2"		DTL 52/S302	2	Simpson Strong Tie or EQ.	9535 / --
FLOOR TO FLOOR								
LSTHD8/LSTHD8RJ	(2) 2X		(20) 0.148 X 3-1/4"		DTL 58/S301	6	Simpson Strong Tie or EQ.	1610 / --
STHD10/STHD10RJ	(2) 2X		(28) 0.148 X 3-1/4"		DTL 58/S301	2	Simpson Strong Tie or EQ.	2175 / --
STHD14/STHD14RJ	(2) 2X		(30) 0.148 X 3-1/4"		DTL 58/S301	5	Simpson Strong Tie or EQ.	3500 / --
HDU8-SDS2.5	4X6	7/8"	(20) SDS 1/4"x2 1/2"	PAB6	DTL 52/S302	8	Simpson Strong Tie or EQ.	7870 / 6580
HDU11-SDS2.5	4X8	1"	(30) SDS 1/4"x2 1/2"	PAB7	DTL 52/S302	11	Simpson Strong Tie or EQ.	11175 / 9610
HDU14-SDS2.5	6X6	1"	(36) SDS 1/4"x2 1/2"	PAB8	DTL 52/S302	3	Simpson Strong Tie or EQ.	14445 / 12425
HD19	6X6	1-1/4"	(5) 1" BOLTS	PAB10	DTL 56/S301	2	Simpson Strong Tie or EQ.	19070 / 16210
HOLDDOWN								
MSTC4883	(2) 2X		REF DETAIL		DTL 269/S303	9	Simpson Strong Tie or EQ.	3795 / 3900
MSTC6683Z	4X		REF DETAIL		DTL 269/S303	1	Simpson Strong Tie or EQ.	4490 / --
OVERHANG								

WOOD FRAMED SHEARWALL SCHEDULE

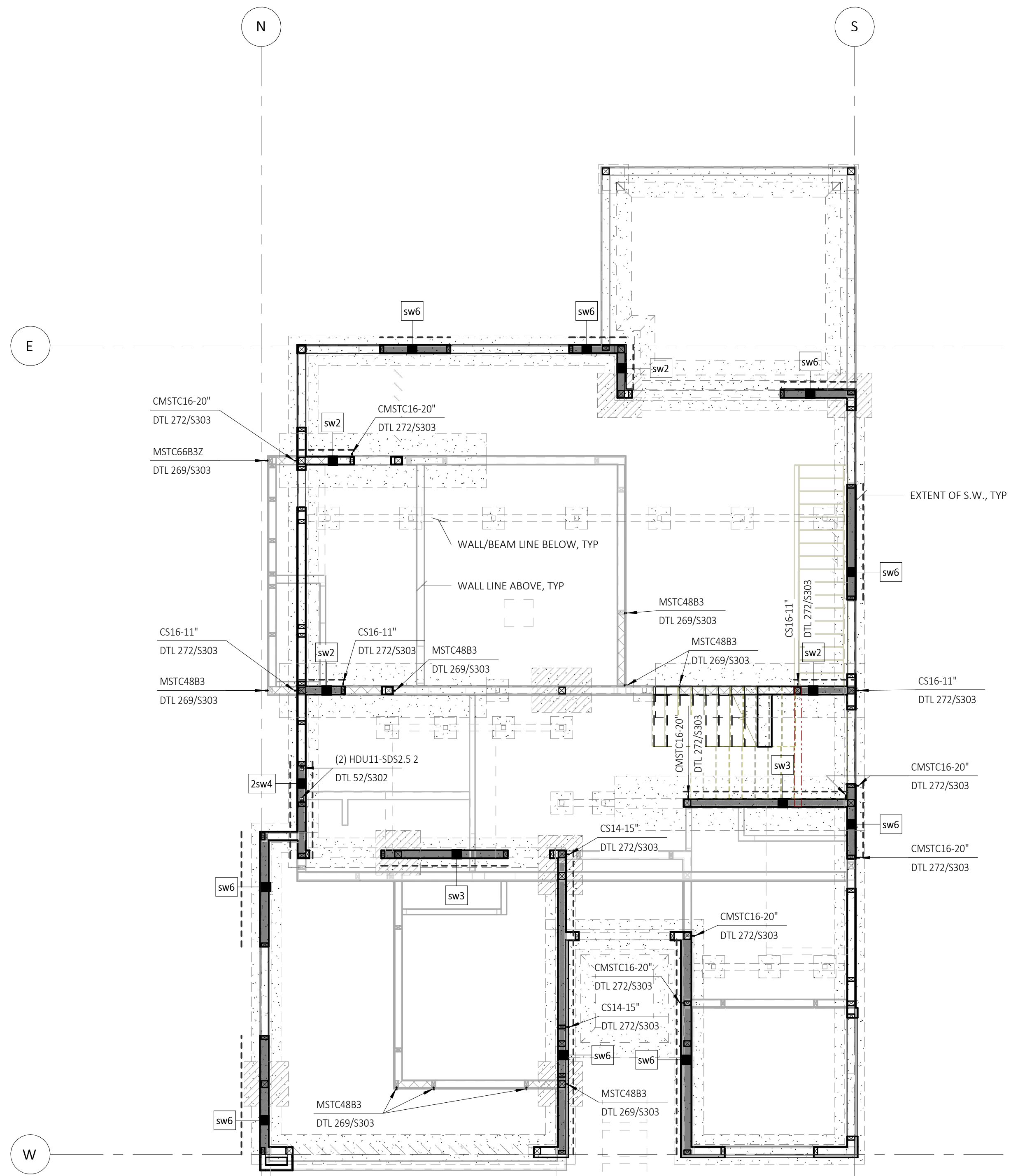
SHEARWALL TYPE	WALL SHT'G APA RATED	EDGE NAIL'G	BOT PLATE CONNECTION	FRAM'G CONNECTION AT WALL BELOW	MIN RIM THICKNESS	FRAM'G AT PANEL EDGES	BLK'G AT PANEL EDGES	P.T. 2X SILL		P.T. 3X SILL	
								ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)	ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)
sw6	15/32"	8D AT 6" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 18" O.C.	1-1/4"	2X	2X	5/8" DIA AT 48" O.C.	242 / 339	5/8" DIA AT 60" O.C.	242 / 339
sw4	15/32"	8D AT 4" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 12" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 32" O.C.	353/495	5/8" DIA AT 40" O.C.	353/495
sw3	15/32"	8D AT 3" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 10" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 24" O.C.	456 / 637	5/8" DIA AT 32" O.C.	456 / 637
sw2	15/32"	8D AT 2" O.C.	(2) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C.	3-1/2"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 18" O.C.	595 / 832	5/8" DIA AT 24" O.C.	595 / 832
2sw4	15/32" BOTH SIDES	8D AT 4" O.C.	(3) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 5" O.C.	3-1/2"	3X	3X			5/8" DIA AT 24" O.C.	707 / 990
2sw3	15/32" BOTH SIDES	8D AT 3" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 8" O.C. AND A35 AT 8" O.C.	3-1/2"	3X	3X			5/8" DIA AT 16" O.C.	911 / 1274
2sw2	15/32" BOTH SIDES	8D AT 2" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C. AND A35 AT 6" O.C.	3-1/2"	3X	3X			5/8" DIA AT 12" O.C.	1190 / 1469

SHEARWALL LEGEND:

- # SHEARWALL TAG: SEE SHEARWALL SCHEDULE AND STRUCTURAL NOTES ON THIS SHEET.
- ALL EXTERIOR WALLS TO BE SW6 SHEAR WALLS U.N.O.
- FOR WALL CONSTRUCTION FOR WALLS THAT EXTEND THRU WINDOWS SHEATH AND BELOW WINDOW & STRAP PER DETAIL ON SHEET D101
- INDICATES STRUCTURAL KEYNOTE FOR HOLDDOWN WITH INDEXED NUMBER. SEE STRUCTURAL KEYNOTE SCHEDULE THIS SHEET. SEE STRUCTURAL NOTES ON SHEET S101
- - - EXTENT OF SHEARWALL
- - - SHEARWALL BELOW

SHEAR WALL NOTES

1. ALL NAILS ARE COMMON. UNO. REFERENCE GENERAL STRUCTURAL NOTES FOR NAIL DIAMETER AND LENGTH. REFERENCE SHEAR WALL KEY DETAIL FOR DESCRIPTION OF TERMS.
2. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF SHEAR WALLS ARE TYPICALLY AT WINDOWS, DOORWAYS OR AS SHOWN ON PLAN.
3. EDGE NAILING IS REQUIRED AT ALL HOLDDOWN POSTS. EDGE NAILING IS REQUIRED TO EACH STUD USED IN BUILT-UP HOLDDOWN POSTS. REFERENCE HOLDDOWN SCHEDULE & DETAILS FOR ADDITIONAL INFORMATION.
4. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS UNO IN SCHEDULE. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH EDGE NAILING AT 12"OC WHERE STUDS ARE SPACED AT 16"OC AND EDGE NAILING AT 6"OC WHERE STUDS ARE SPACED AT 24"
5. SIMPSON STRONG-TIE "A35" MAY BE USED IN LIEU OF "LTP5." "LT2P" CLIPS SHALL BE ORIENTED LENGTHWISE 1 (HORIZONTAL) AT PLATE TO RIM. USE 0.131" x1 NAILS WHERE CLIPS ARE ATTACHED DIRECTLY TO FRAMING. USE Ø 2 1 0.131" x2 WHERE CLIPS ARE INSTALLED OVER SHEATHING. Ø 2
6. (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE SECURED TOGETHER WITH FASTENERS OF THE SAME DIAMETER AND SPACING AS THE BOTTOM PLATE ATTACHMENT PER SCHEDULE. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6"OC ON EITHER SIDE, THE WIDTH OF THE NAILED FACE OF THE FRAMING MEMBER SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED. ALTERNATIVELY, PANELS SHALL BE STAGGERED SO THAT EDGE JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
7. ANCHOR BOLTS SHALL BE PROVIDED WITH MINIMUM 0.229" x 3" x 3" HOT-DIPPED GALVANIZED STEEL PLATE WASHERS PER DETAILS ON DRAWINGS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE PROVIDE AN ANCHOR BOLT AT EACH END OF EACH PLATE AND SHALL BE AT LEAST 7 TIMES THE ANCHOR BOLT DIAMETER FROM THE ENDS OF THE PLATE, BUT NOT MORE THAN 1 THE TABULATED ANCHOR BOLT SPACING OR 12", WHICHEVER IS LESS. SEE ANCHOR BOLT DETAIL FOR PLATE 2 5 WASHER REQUIREMENTS. [ALT: " 8 ØX8" TITEN HD ANCHOR SCREWS MAY BE USED IN LIEU OF ANCHOR BOLTS AT EXISTING CONCRETE. WITH PLATE WASHER & SPACING REQUIREMENTS PER SCHEDULE.]
8. PROVIDE HOT-DIPPED GALVANIZED NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) AT ALL PRESSURE TREATED LUMBER. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
9. PANELS MAY BE INSTALLED HORIZONTALLY IF STUDS ARE SPACED AT 16"OC MAX.
10. STAGGER EDGE NAILING.
11. THE TOP EDGE OF THE WOOD STRUCTURAL PANEL SHALL BE ATTACHED TO THE UPPER TOP PLATE. ROOF OR UPPER LEVEL UPLIFT CONNECTORS SHALL BE ON THE SAME SIDE OF THE WALL AS THE SHEATHING.
12. THE BOTTOM EDGE OF THE WOOD STRUCTURAL PANEL SHALL EXTEND TO AND BE ATTACHED TO THE BOTTOM OR SILL PLATE. REFERENCE DETAIL BELOW FOR STAGGERED NAIL AND SCREW SPACING AT RIM BOARDS.
13. WALL TYPE ACCEPTABLE WITH TRUSIOIST AND BOISE CASCADE RIM JOIST AND BLOCKING.

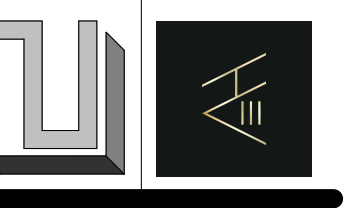


Description
Date
No.



L2 ENGINEERS
17848 NE 198TH PLAVE
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO
451 DUVALL AVE NE,
RENTON, W A 98059



HU RESIDENCE
2448 72nd AVE SE, Mercer Island

PERMIT SET

MAIN FLOOR
SHEARWALLS &
UPPER FLOOR
HOLDDOWNS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

S202

SCALE 24X36: 3/16" = 1'-0"
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REDUCED 50%; SCALE
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Holdowns and Tension Tie SCHEDULE

TYPE	MIN END STUD	FASTENERS			DETAIL	Count	Manufacturer	ALLOWABLE UPLIFT (DF / HF)
		ANCHOR BOLT	NAILS/SCREWS	CONCRETE ANCHOR				
CS16-11"			(22) 10d		DTL 272/S303	4	Simpson Strong Tie or EQ.	1705 / --
CS14-15"			(30) 10d		DTL 272/S303	2	Simpson Strong Tie or EQ.	2490 / --
CMSTC16-20"			(58) 16d SINKER		DTL 272/S303	8	Simpson Strong Tie or EQ.	4960 / --
(2) HDU11-SDS2.5 2	4X	1"	(30) SDS 1/4"x2 1/2"		DTL 52/S302	2	Simpson Strong Tie or EQ.	9535 / --
FLOOR TO FLOOR								
LSTHD8/LSTHD8RJ	(2) 2X		(20) 0.148 X 3-1/4"		DTL 58/S301	6	Simpson Strong Tie or EQ.	1610 / --
STHD10/STHD10RJ	(2) 2X		(28) 0.148 X 3-1/4"		DTL 58/S301	2	Simpson Strong Tie or EQ.	2175 / --
STHD14/STHD14RJ	(2) 2X		(30) 0.148 X 3-1/4"		DTL 58/S301	5	Simpson Strong Tie or EQ.	3500 / --
HDU8-SDS2.5	4X6	7/8"	(20) SDS 1/4"x2 1/2"	PAB6	DTL 52/S302	8	Simpson Strong Tie or EQ.	7870 / 6580
HDU11-SDS2.5	4X8	1"	(30) SDS 1/4"x2 1/2"	PAB7	DTL 52/S302	11	Simpson Strong Tie or EQ.	11175 / 9610
HDU14-SDS2.5	6X6	1"	(36) SDS 1/4"x2 1/2"	PAB8	DTL 52/S302	3	Simpson Strong Tie or EQ.	14445 / 12425
HD19	6X6	1-1/4"	(5) 1" BOLTS	PAB10	DTL 56/S301	2	Simpson Strong Tie or EQ.	19070 / 16210
HOLDDOWN								
MSTC48B3	(2) 2X		REF DETAIL		DTL 269/S303	9	Simpson Strong Tie or EQ.	3795 / 3900
MSTC68B3Z	4X		REF DETAIL		DTL 269/S303	1	Simpson Strong Tie or EQ.	4490 / --
OVERHANG								

WOOD FRAMED SHEARWALL SCHEDULE

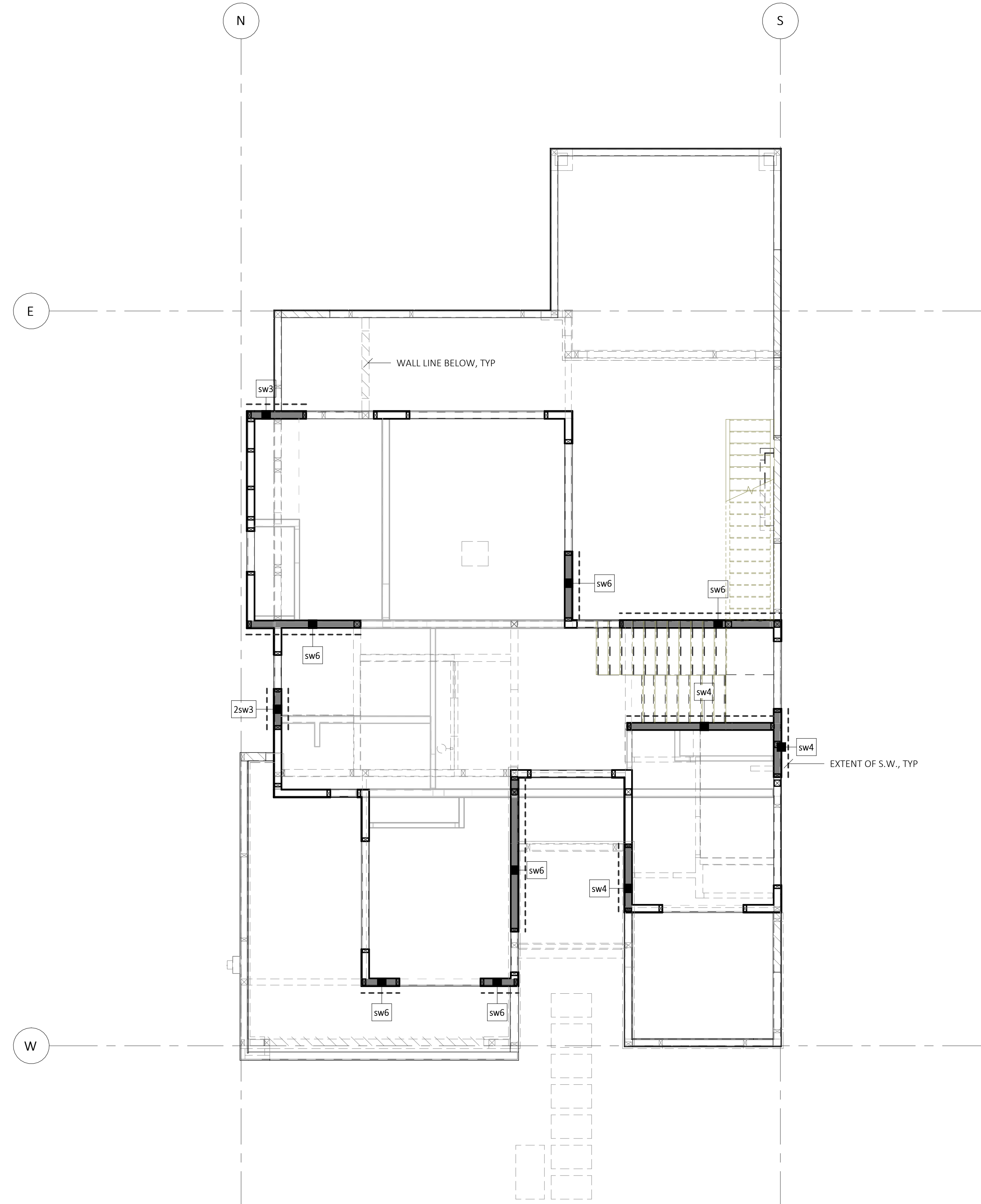
SHEARWALL TYPE	WALL SHT'G APA RATED	EDGE NAIL'G	BOT PLATE CONNECTION	FRAM'G CONNECTION AT WALL BELOW	MIN RIM THICKNESS	FRAM'G AT PANEL EDGES	BLK'G AT PANEL EDGES	P.T. 2X SILL		P.T. 3X SILL	
								ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)	ANCHOR BOLT	SHEAR CAPACITY (WIND/SEISMIC)
sw6	15/32"	8D AT 6" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 18" O.C.	1-1/4"	2X	2X	5/8" DIA AT 48" O.C.	242 / 339	5/8" DIA AT 60" O.C.	242 / 339
sw4	15/32"	8D AT 4" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 12" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 32" O.C.	353/495	5/8" DIA AT 40" O.C.	353/495
sw3	15/32"	8D AT 3" O.C.	(2) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 10" O.C.	1-3/4"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 24" O.C.	456 / 637	5/8" DIA AT 32" O.C.	456 / 637
sw2	15/32"	8D AT 2" O.C.	(2) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C.	3-1/2"	3X OR (2) 2X	3X OR FLAT 2X	5/8" DIA AT 18" O.C.	595 / 832	5/8" DIA AT 24" O.C.	595 / 832
2sw4	15/32" BOTH SIDES	8D AT 4" O.C.	(3) ROWS 16D COMMON AT 6" O.C. STAGGERED	LPTS'S AT 5" O.C.	3-1/2"	3X	3X	5/8" DIA AT 24" O.C.	707 / 990	5/8" DIA AT 32" O.C.	707 / 990
2sw3	15/32" BOTH SIDES	8D AT 3" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 8" O.C. AND A35 AT 8" O.C.	3-1/2"	3X	3X	5/8" DIA AT 16" O.C.	911 / 1274	5/8" DIA AT 24" O.C.	911 / 1274
2sw2	15/32" BOTH SIDES	8D AT 2" O.C.	(3) ROWS 16D COMMON AT 4" O.C. STAGGERED	LPTS'S AT 6" O.C. AND A35 AT 6" O.C.	3-1/2"	3X	3X	5/8" DIA AT 12" O.C.	1190 / 1469	5/8" DIA AT 12" O.C.	1190 / 1469

SHEARWALL LEGEND:

- # SHEARWALL TAG: SEE SHEARWALL SCHEDULE AND STRUCTURAL NOTES ON THIS SHEET.
 - ALL EXTERIOR WALLS TO BE SW6 SHEAR WALLS U.N.O.
 - FOR WALL CONSTRUCTION FOR WALLS THAT EXTEND THRU WINDOWS SHEATH ABV AND BELOW WINDOW & STRAP PER DETAIL ON SHEET D101
- HHDN INDICATES STRUCTURAL KEYNOTE FOR HOLDOWN WITH INDEXED NUMBER. SEE STRUCTURAL KEYNOTE SCHEDULE THIS SHEET. SEE STRUCTURAL NOTES ON SHEET S101
- DET #/# -- -- EXTENT OF SHEARWALL
- - - SHEARWALL BELOW

SHEAR WALL NOTES

1. ALL NAILS ARE COMMON. UNO. REFERENCE GENERAL STRUCTURAL NOTES FOR NAIL DIAMETER AND LENGTH. REFERENCE SHEAR WALL KEY DETAIL FOR DESCRIPTION OF TERMS.
2. PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF THE WALLS INDICATED ON THE PLANS. ENDS OF SHEAR WALLS ARE TYPICALLY AT WINDOWS, DOORWAYS OR AS SHOWN ON PLAN.
3. EDGE NAILING IS REQUIRED AT ALL HOLDDOWN POSTS. EDGE NAILING IS REQUIRED TO EACH STUD USED IN BUILT-UP HOLDDOWN POSTS. REFERENCE HOLDDOWN SCHEDULE & DETAILS FOR ADDITIONAL INFORMATION.
4. INTERMEDIATE FRAMING TO BE 2x MINIMUM MEMBERS UNO IN SCHEDULE. ATTACH SHEATHING TO INTERMEDIATE FRAMING WITH EDGE NAILING AT 12" OC WHERE STUDS ARE SPACED AT 16" OC AND EDGE NAILING AT 6" OC WHERE STUDS ARE SPACED AT 24"
5. SIMPSON STRONG-TIE "A35" MAY BE USED IN LIEU OF "LTPS." "LTPS" CLIPS SHALL BE ORIENTED LENGTHWISE 1 (HORIZONTAL) AT PLATE TO RIM. USE 0.131" x 1" NAILS WHERE CLIPS ARE ATTACHED DIRECTLY TO FRAMING. USE Ø 2 1/2 0.131" x 2 WHERE CLIPS ARE INSTALLED OVER SHEATHING. Ø 2
6. (2) 2x STUDS NAILED TOGETHER MAY BE USED IN PLACE OF SINGLE 3x STUD. DOUBLE 2x STUDS SHALL BE SECURED TOGETHER WITH FASTENERS OF THE SAME DIAMETER AND SPACING AS THE BOTTOM PLATE ATTACHMENT PER SCHEDULE.
7. WHERE SHEATHING IS APPLIED ON BOTH SIDES OF A SHEAR WALL AND NAIL SPACING IS LESS THAN 6" OC ON EITHER SIDE, THE WIDTH OF THE NAILED FACE OF THE FRAMING MEMBER SHALL BE 3" NOMINAL OR GREATER AT ADJOINING PANEL EDGES AND NAILS AT ALL PANEL EDGES SHALL BE STAGGERED. ALTERNATIVELY, PANELS SHALL BE STAGGERED SO THAT EDGE JOINTS ON OPPOSITE SIDES ARE NOT LOCATED ON THE SAME STUD.
8. ANCHOR BOLTS SHALL BE PROVIDED WITH MINIMUM 0.229" x 3" x 3" HOT-DIPPED GALVANIZED STEEL PLATE WASHERS PER DETAILS ON DRAWINGS. EMBED ANCHOR BOLTS 7" MINIMUM INTO THE CONCRETE PROVIDE AN ANCHOR BOLT AT EACH END OF EACH PLATE AND SHALL BE AT LEAST 7 TIMES THE ANCHOR BOLT DIAMETER FROM THE ENDS OF THE PLATE, BUT NOT MORE THAN 1 THE TABULATED ANCHOR BOLT SPACING OR 12", WHICHEVER IS LESS. SEE ANCHOR BOLT DETAIL FOR PLATE 2 5 WASHER REQUIREMENTS. [ALT: " 8 ØX8" TITEN HD ANCHOR SCREWS MAY BE USED IN LIEU OF ANCHOR BOLTS AT EXISTING CONCRETE, WITH PLATE WASHER & SPACING REQUIREMENTS PER SCHEDULE.]
9. PROVIDE HOT-DIPPED GALVANIZED NAILS AND CONNECTOR PLATES (FRAMING ANGLES, ETC.) AT ALL PRESSURE TREATED LUMBER. REFERENCE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
10. PANELS MAY BE INSTALLED HORIZONTALLY IF STUDS ARE SPACED AT 16" OC MAX.
11. STAGGER EDGE NAILING.
12. THE TOP EDGE OF THE WOOD STRUCTURAL PANEL SHALL BE ATTACHED TO THE UPPER TOP PLATE. ROOF OR UPPER LEVEL UPLIFT CONNECTORS SHALL BE ON THE SAME SIDE OF THE WALL AS THE SHEATHING.
13. THE BOTTOM EDGE OF THE WOOD STRUCTURAL PANEL SHALL EXTEND TO AND BE ATTACHED TO THE BOTTOM OR SILL PLATE. REFERENCE DETAIL BELOW FOR STAGGERED NAIL AND SCREW SPACING AT RIM BOARDS.
14. WALL TYPE ACCEPTABLE WITH TRUSJOIST AND BOISE CASCADE RIM JOIST AND BLOCKING.



Description

Date

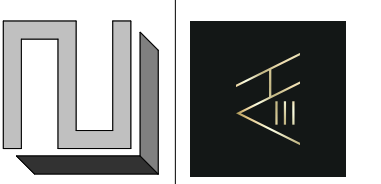
No.



01/13/2023

L2 ENGINEERS
17848 NE 198TH PLAVE
WOODINVILLE, WA 98072

ATERA DESIGN STUDIO
451 DUVALL AVE NE,
RENTON, W A 98059



HU RESIDENCE

2448 72nd AVE SE, Mercer Island

PERMIT SET

UPPER FLOOR
SHEARWALLS

PROJECT NO: 21014
ISSUE DATE: 2022/06/29
DRAWN BY: SPM

S203

SCALE 24X36: 3/16" = 1'-0"
* NOTE: 11X17 SETS ARE REDUCED 50% SCALE DRAWINGS ACCORDINGLY.



SIMPSON Strong-Tie

LSTHD/STHD

Strap-Tie Holdowns (cont.)

StrapMate® Strap Holder

The StrapMate is designed to keep the STHD and LSTHD straps vertically aligned during the concrete pour to minimize possibility of spalling. The friction fit allows for quick and easy installation.

Features:

- The StrapMate is reusable
- Works with STHD, LSTHD
- Designed to fit 3/4" plywood forms up to 1 1/2" LVL forms and larger
- The strap is positioned on the front edge of the form board

Material: Engineered composite plastic

Model No.	Nails (in.)
SM1	(2) 0.131 x 2 1/4 Duplex

SM1 StrapMate Strap Holder

SIMPSON Strong-Tie

LSTHD/STHD

Strap-Tie Holdowns

This product is preferable to similar connectors because of its easier installation, higher loads, lower installed cost, or a combination of these features.

The STHD is an embedded strap-tie holdown offering high load and a staggered nail pattern to help minimize spalling. The STHD incorporates many features that aid correct installation and improve performance. When installed on the forms with the StrapMate® strap holder the unique design of the STHD delivers enhanced stability before and during the pour to help prevent both parallel and perpendicular movement (relative to the form). This results in accurate positioning of the strap and reduced possibility of spalling.

Features:

- The pattern allows for nailing to the edges of double 2x's
- Strap nail slots are countersunk to provide a lower nail head profile
- The slots below the embedment line enable increased front-to-back concrete bond and help to reduce spalling
- Rim joint (RJ) models accommodate up to a 17" clear span without any loss of strap nailing

Material: LSTHD, LSTHD-RJ — 14 gauge; all others — 12 gauge

Finish: Galvanized

Installation:

- See Holdown and Tension Tie General Notes on pp. 49-50
- Use tables for both standard concrete and post-tension slab installations
- Install before concrete pour with a StrapMate, or other holding device
- Nail strap from the bottom up. Install strap plumb
- Strap may be bent one full cycle (bent horizontal 90° then bent vertical) to aid wall placement, but may cause spalling behind the strap. If the spall is 1" or less, measured from the embedment line to the bottom of the spall, full loads apply. 1" to 4" spalls for LSTHD achieve 0.9 times table loads. STHD10 and STHD14 achieve full load for spalls less than 4". Any portion of the strap left exposed should be protected against corrosion.
- Other than where noted in the two-pour detail, do not install where:
 - (a) A horizontal cold joint exists within the embedment depth between the slab and foundation wall or footing beneath, unless provisions are made to transfer the load, or the slab is designed to resist the load imposed by the anchor; or
 - (b) Slabs are poured over concrete block foundation walls.
- Additional studs attached to the shearwall studs or post may be required by the designer for wall sheathing nailing
- Wood shrinkage after strap installation across horizontal members may cause strap to buckle outward
- For installations in severe corrosion environments, refer to strongtie.com/cipcorrosion for additional considerations.
- See installation illustrations on p. 60 for rebar information.

For Two-Pour Installation for Downturn Footings

- For STHD10 installed through a 4"-thick slab, use the equivalent 6"-sternwall loads of the LSTHD
- For STHD14 installed through a 4"-thick slab, use the equivalent 8"-sternwall loads of the LSTHD
- For STHD14 installed through a 6"-thick slab, use the equivalent 8"-sternwall loads of the LSTHD

Codes: See p. 11 for Code Reference Key Chart

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SIMPSON Strong-Tie

LSTHD/STHD

Strap-Tie Holdowns (cont.)

Tension Loads for STHD Installations

Min. Stemwall (in.)	Model No.	Strap Length (in.)	Standard		I _c (in.)	Uncracked						Cracked						Code Ref.
			Standard	Rim Joint		Midwall	Corner	Endwall	Midwall	Corner	Endwall	Midwall	Corner	Endwall				
6	LSTHD	LSTHD10RJ	18%	32%	8	2,010	1,483	3,265	2,985	2,590	1,620	2,565	2,225	1,395	BC, FL, LA			
	STHD10	STHD10RJ	24%	38%	10	2,410	1,743	3,535	3,535	1,960	2,910	2,910	1,635					
	STHD14	STHD14RJ	26%	39%	14	2,910	1,843	4,035	4,035	3,065	4,035	4,035	3,065					
	LSTHD	LSTHD10	18%	32%	8	2,010	1,483	3,265	2,985	2,590	1,620	2,565	2,225	1,395				
8	LSTHD	LSTHD10RJ	18%	32%	8	2,285	1,683	3,535	3,535	2,135	3,015	4,020	3,350	2,480	BC, FL, LA			
	STHD10	STHD10RJ	24%	38%	10	2,685	1,943	4,135	4,135	2,335	3,215	4,220	3,550	2,680				
	STHD14	STHD14RJ	26%	39%	14	3,185	2,043	4,635	4,635	2,535	3,415	4,420	3,750	2,880				
	LSTHD	LSTHD10	18%	32%	8	2,285	1,683	3,535	3,535	2,135	3,015	4,020	3,350	2,480				
6	LSTHD	LSTHD10RJ	18%	32%	8	2,270	1,673	3,525	3,525	2,125	2,995	4,010	3,340	2,470	BC, FL, LA			
	STHD10	STHD10RJ	24%	38%	10	2,670	1,933	4,125	4,125	2,325	3,205	4,210	3,540	2,670				
	STHD14	STHD14RJ	26%	39%	14	3,170	2,033	4,625	4,625	2,525	3,405	4,410	3,740	2,870				
	LSTHD	LSTHD10	18%	32%	8	2,270	1,673	3,525	3,525	2,125	2,995	4,010	3,340	2,470				

SDC C-F - Allowable Tension Loads for DF/SP/SPFH (160)

Min. Stemwall (in.)	Model No.	Strap Length (in.)	I _c (in.)	Required Nails (in.)	Midwall	Corner	Endwall	Midwall	Corner	Endwall	Code Ref.
6	LSTHD	LSTHD10RJ	18%	32%	8	1,615	1,615	2,550	2,550	1,435	BC, FL, LA
	STHD10	STHD10RJ	24%	38%	10	1,915	1,915	2,855	2,855	1,735	
	LSTHD	LSTHD10	18%	32%	8	1,615	1,615	2,550	2,550	1,435	
	STHD10	STHD10RJ	24%	38%	10	1,915	1,915	2,855	2,855	1,735	
8	LSTHD	LSTHD10RJ	18%	32%	8	1,815	1,815	2,750	2,750	1,635	BC, FL, LA
	STHD10	STHD10RJ	24%	38%	10	2,115	2,115	3,055	3,055	1,935	
	LSTHD	LSTHD10	18%	32%	8	1,815	1,815	2,750	2,750	1,635	
	STHD10	STHD10RJ	24%	38%	10	2,115	2,115	3,055	3,055	1,935	

Notes:

- Allowable loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.
- Concrete shall have a minimum compressive strength of $f'_c = 2,000$ psi.
- 0.148" x 3" or 0.148" x 2.5" nails may be used as a direct replacement for the required nails shown in the table with no load reduction when they are installed directly over framing or over 1/2" maximum structural sheathing.
- Use the number of nails listed in the table or as otherwise specified. In many cases, not all nail holes will be filled. Nail strap from the bottom up.
- Deflection at the highest allowable loads for installations over wood double studs is as follows: installed on framing: STHD10 = 0.097", STHD14 = 0.117", and LSTHD14 = 0.119". Installed over 1 1/2" maximum structural sheathing: LSTHD10 = 0.114", STHD10 = 0.146", and STHD14 = 0.164".
- To obtain LFD values, multiply ASD seismic load values by 1.43 and wind load values by 1.67.
- For 2012, 2015, 2018 and 2021 IBC, Section 1613.1, detached one- and two-family dwellings in Seismic Design Category (SDC) Q may use "Wind and SDC ABE" allowable loads.
- Minimum center-to-center spacing at these times is the required embedment, 3 x L_e, for STHD strap-tie holdowns acting in tension simultaneously. Midwall installation is based on 1.5 x L_e end distance.
- See technical bulletin T-C-SCLLM at strongtie.com for installation on structural composite lumber posts or columns.
- For brick ledge applications, use full loads shown for STHD14 installed in 6" stem wall.
- For slab-on-grade installation, use full loads shown for LSTHD/STHD installed in 8" stem wall.
- Fasteners: Nail dimensions are listed diameter by length. See pp. 21-22 for fastener information.

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Spall Reduction System for STHD Holdown

Features:

- Built-in tab
- StrapMate® locator line
- Additional diamond hole in RJ versions and optional diamond hole in RJ versions

Benefits:

- Built-in Tab:
 - Reduces spalling and costly repairs
 - No additional labor to install
 - Holds STHD away from form board
- StrapMate Locator Line:
 - Easy inspection to ensure proper location
 - Allows adjustment without removing STHD
- Additional Diamond Hole:
 - One more fastener to help prevent the STHD RJ models from bowing out at the rim joint section

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SIMPSON Strong-Tie

HDB/HD

Holdowns (cont.)

These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Material	Dimensions (in.)										Fasteners (in.)	Minimum Wood Member Size (in.)	Allowable Tension Loads (lb)		Deflection at Highest Allowable Load (in.)	Code Ref.	
		Base (in.)	Body (in.)	HB	SB	W	H	B	CL	SO	Anchor Dia. Bolt			Stud Bolt	DF/SP			SPFH
HDB3B	—	12	4 1/2	2 1/2	2 1/2	2 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(2) 1/4"	3/8 x 3/8	1,895	1,610	0.156	BC, FL, LA
															2,145	2,145	0.169	
															3,130	3,050	0.12	
HDB3B	1/4"	10	5 1/2	3	2 1/2	2 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(2) 1/4"	3/8 x 3/8	3,750	3,190	0.129	BC, FL, LA
															4,505	3,785	0.156	
															4,935	4,195	0.15	
HDB3B	1/4"	10	5 1/2	3	2 1/2	2 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(3) 1/4"	3/8 x 3/8	6,645	5,650	0.142	BC, FL, LA
															7,310	6,215	0.154	
															7,945	6,245	0.155	
HDB3B	1/4"	7	6 1/2	3 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(3) 1/4"	3/8 x 4 1/8	9,920	8,430	0.178	BC, FL, LA
															9,920	8,430	0.178	
															13,335	11,055	0.177	
HD12	1/4"	3	7	4	3 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	(1) 1/2"	3/8 x 7/8	10,335	8,530	0.179	BC, FL, LA
															11,055	9,215	0.171	
															12,665	10,765	0.167	
HD19	1/4"	3	7	4	3 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	(1) 1/2"	3/8 x 7/8	14,220	12,085	0.162	BC, FL, LA
															13,775	9,215	0.177	
															14,220	12,085	0.162	
HD19	1/4"	3	7	4	3 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	(1) 1/2"	3/8 x 7/8	13,335	11,055	0.177	BC, FL, LA
															14,220	12,085	0.162	
															15,510	12,690	0.164	
HD19	1/4"	3	7	4	3 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	(1) 1/2"	3/8 x 7/8	16,735	14,225	0.191	BC, FL, LA
															16,735	14,225	0.191	
															19,360	15,270	0.18	
HD19	1/4"	3	7	4	3 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	(1) 1/2"	5/8 x 5/8	19,070	16,210	0.137	BC, FL, LA
															19,070	16,210	0.137	
															19,070	16,210	0.137	

Notes:

- To achieve published loads, machine bolts shall be installed with the nut on the opposite side of the holdown. If this orientation is reversed, the designer shall reduce the allowable loads shown per NDS requirements and when both threads are in the shear plane.
- All references to bolts are for structural quality through bolts (not lag screws or carriage bolts) equal to or better than ASTM A307. Grade 50 is required.
- HD19 with 1 1/2" anchor rod requires No. 1 post (or better) to achieve published loads.

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SIMPSON Strong-Tie

HDB/HD

Holdowns

Simpson Strong-Tie offers a wide variety of bolted holdowns offering low-deflection performance for a range of load requirements.

The HDB3B is a light-duty holdown designed for use in shearwalls and braced-wall panels, as well as other lateral applications.

The HD5B, HD7B and HD9B bolted holdowns incorporate the proven design of our HD3B SDS-style holdown and feature a unique seat design which greatly minimizes deflection under load. HDB and HD holdowns are self-jigging, ensuring that the code-required minimum of seven bolt diameters from the end of the post is met. They can be installed directly on the sill plate or raised above it and are suitable for back-to-back applications where eocentricity is a concern. HDBs and HDs are designed to provide loads for intermediate-load-range shearwalls, braced-wall panels and lateral applications.

Material: See table

Finish: HDB3B-HDB9/HD7B/HD9B — Galvanized; HD — Simpson Strong-Tie gray paint, HDG available.

For stainless steel options, see engineering letter L-C-SSHD at strongtie.com.

Installation:

- See Holdown and Tension Tie General Notes on pp. 49-50
- Bolt holes shall be a minimum of 1/4" to a maximum of 1/2" larger than the bolt diameter (per 2015/2018 NDS, section 12.1.3.2)
- Stud bolts should be snugly tightened with standard cut washers between the wood and nut/BPs are required in the City and County of Los Angeles
- HD and HDB holdowns are self-jigging and will ensure minimum bolt end distance when installed flush with the sill plate
- Standard cut washer is required under the anchor nut for HD12 with 1" anchor and HD19 with 1 1/2" anchors

Codes: See p. 11 for Code Reference Key Chart

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SIMPSON Strong-Tie

HDB/HD

Holdowns (cont.)

These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Material	Dimensions (in.)										Fasteners (in.)	Minimum Wood Member Size (in.)	Allowable Tension Loads (lb)		Deflection at Highest Allowable Load (in.)	Code Ref.	
		Base (in.)	Body (in.)	HB	SB	W	H	B	CL	SO	Anchor Dia. Bolt			Stud Bolt	DF/SP			SPFH
HDB3B	—	12	4 1/2	2 1/2	2 1/2	2 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(2) 1/4"	3/8 x 3/8	1,895	1,610	0.156	BC, FL, LA
															2,145	2,145	0.169	
															3,130	3,050	0.12	
HDB3B	1/4"	10	5 1/2	3	2 1/2	2 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(2) 1/4"	3/8 x 3/8	3,750	3,190	0.129	BC, FL, LA
															4,505	3,785	0.156	
															4,935	4,195	0.15	
HDB3B	1/4"	10	5 1/2	3	2 1/2	2 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(3) 1/4"	3/8 x 3/8	6,645	5,650	0.142	BC, FL, LA
															7,310	6,215	0.154	
															7,945	6,245	0.155	
HDB3B	1/4"	7	6 1/2	3 1/2	2 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	(3) 1/4"	3/8 x 4 1/8	9,920	8,430	0.178	BC, FL, LA
															9,920	8,430	0.178	
															13,335	11,055	0.177	
HD12	1/4"	3	7	4	3 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	(1) 1/2"	3/8 x 7/8	10,335	8,530	0.179	BC, FL, LA
															11,055	9,215	0.171	
															12,665	10,765	0.167	
HD19	1/4"	3	7	4	3 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	(1) 1/2"	3/8 x 7/8	14,220	12,085	0.162	BC, FL, LA
															13,775	9,215	0.177	
															14,220	12,085	0.162	
HD19	1/4"	3																

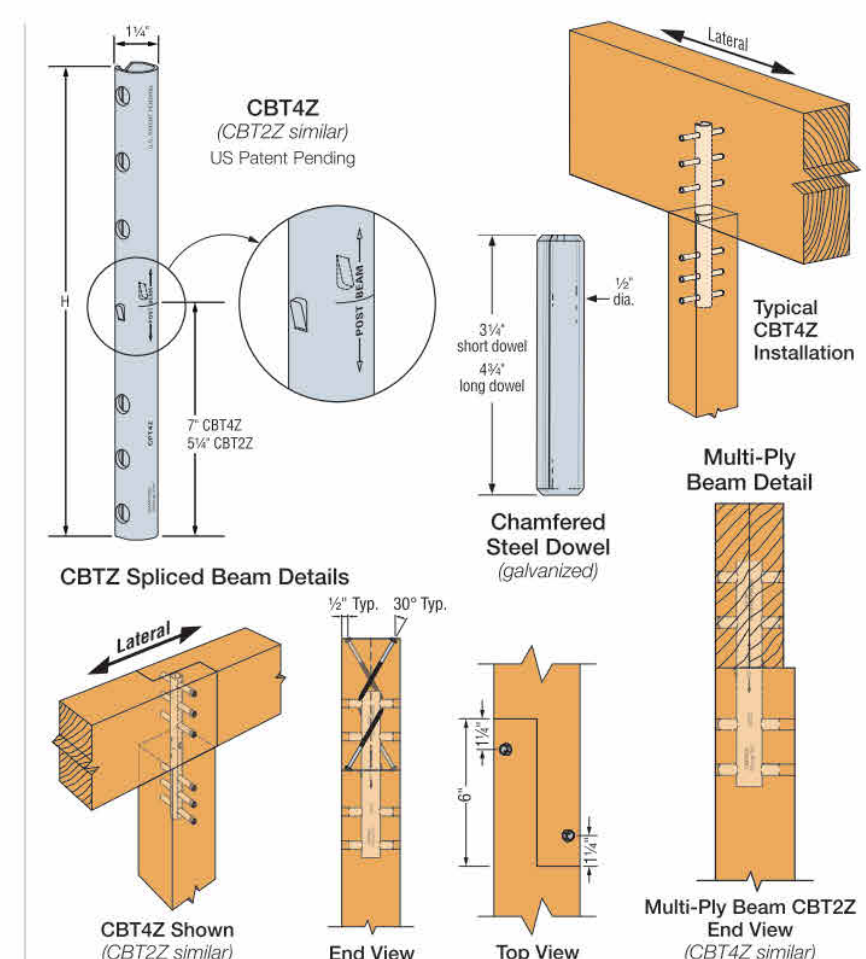
Simpson Strong-Tie® Wood Construction Connectors
CBTZ

Concealed Beam Tie

CBTZ is part of the concealed structural connector line that combines structural strength with invisibility. Designed to connect horizontal beams atop a vertical post, the CBTZ continues the structural load path into the foundation through the CPTZ. The simple cylindrical design allows installations with a common drill bit, eliminating challenging kerf cuts. The CBTZ is available in two models designed to connect beams and posts of a variety of sizes. It is part of a concealed connector system that includes the CPTZ and C-TZ.

- Flattened sides assist installer while using the CBTZ as a template
- Locator tabs provide proper dimensional layout
- Required dowel pins included
- Orientation markings distinguish which end installs into the post and which end goes into the beam

Material: 12 gauge
Finish: CBT - ZMAX® coating; the 1/2" diameter drift dowels are mechanically galvanized in accordance with ASTM B685, Class 55.
Installation:
• Use all specified fasteners; see General Notes
• 1/2" dowels included
• CBTZ requires a minimum 6" deep normal beam
• For step-by-step installation instructions, see technical bulletin T-C-CBTZINS or view our video on strongtie.com
Codes: See p. 11 for Code Reference Key Chart



These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Post (Min.)	Beam (Min.)	Dimensions (in.)		CBTZ Fasteners		Splice Fasteners		Allowable Loads (DF/SP)				Code Ref.		
			W	H	Post	Type	Quantity	Type	Continuous Beam Uplift (160)	End of Beam Uplift (160)	Down (160)	Down (100)			
CBTZ2	4x4	4x6	1 1/4	10	2	2	1/2" x 3 1/4" dowel	Standard Installation	2,020	750	6,880	1,585	550	6,880	IBC, FL, LA
CBTZ4	6x6	6x8	1 1/4	14	3	3	1/2" x 4 1/4" dowel	Standard Installation	4,215	1,655	10,140	3,685	1,055	10,140	IBC, FL, LA
CBTZ2	4x4	2x6	1 1/4	10	2	2	1/2" x 2 1/4" dowel	Alternate Installation - Multi-ply Beam	1,015	550	3,795	1,015	550	3,795	IBC, FL, LA
CBTZ4	6x6	3x8	1 1/4	14	3	3	1/2" x 3 1/4" dowel	Alternate Installation - Spliced Beam	2,240	1,055	14,700	2,240	1,055	14,700	IBC, FL, LA

- Uplift and lateral loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.
- Downloads shall be reduced where limited by capacity of the post.
- CPTZ concealed post ties are supplied with 1/2" diameter dowel pins. Alternative 1/2" diameter hex- or square-head machine bolts may be used for loads tested.
- Lag screws or carriage bolts are not permitted.
- Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers. Values in the tables reflect dowel or bolt installation into the wide face.
- See figure for placement of the additional SDS fasteners required for the splice connector.
- Dowels included in CBTZ kits do not match required lengths for the multi-ply application. The sizes shown in the table above need to be ordered separately or trimmed in the field.
- Build-up (multiple members) must be fastened together to act as one to resist the applied load (including the connector fasteners). This must be determined by the designer.
- Center CBTZ on built-up beam. Loads are applicable to beam installation flush to one side of post or beam centered on post.

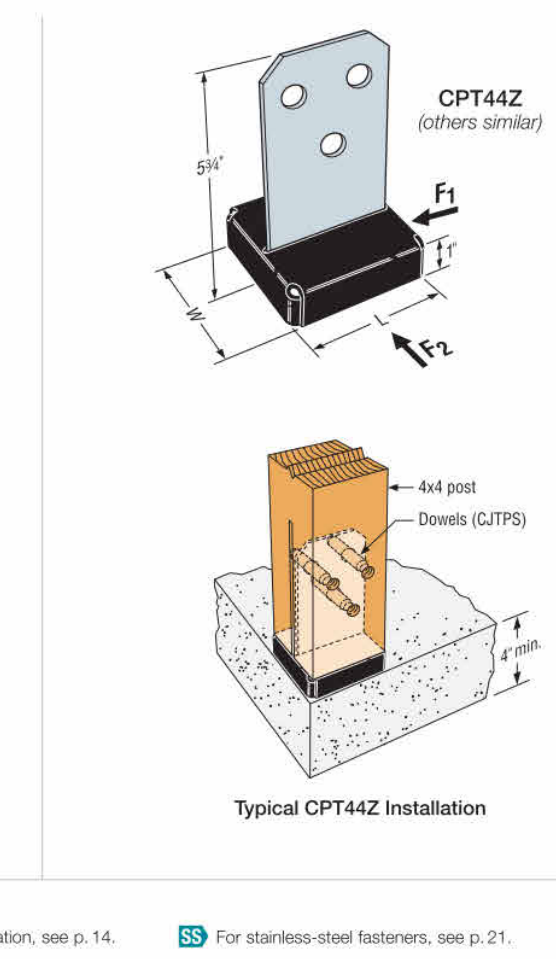
Simpson Strong-Tie® Wood Construction Connectors
CPTZ

Concealed Post Tie

The CPTZ concealed post base provides a clean, concealed look while providing a 1" standoff height above concrete. The 1" standoff reduces the potential for decay at the post end and satisfies code requirements for posts that are exposed to weather, water splash or in basements. It is part of a system of concealed connectors that includes the CBTZ and C-TZ.

- The CPTZ is tested and load-rated for uplift, downward and lateral load.
- Simpson Strong-Tie saves installers time by providing all the necessary components to make the post connection in one box (anchors not included).
- There are two anchorage solutions available. See tables for information.
- Solutions have been calculated per ACI 318 to determine their allowable load in different concrete configurations.

Material: See table below
Finish: Knife plate, washers and standoff base are ZMAX® galvanized steel. The standoff base has an additional textured, flat black powder-coat finish for aesthetic purposes. The 1/2" diameter drift dowels are mechanically galvanized in accordance with ASTM B685, Class 55. If substituting 1/2" diameter bolts, a hot-dip galvanized finish is recommended. Some available in stainless steel (see table).
Installation:
• Use all specified fasteners; see General Notes
• More extensive installation instructions are available through our Literature Library app or by visiting strongtie.com
• Post bases do not provide adequate resistance to prevent members from rotating about the base and therefore are not recommended for non-braced, or non-top-supported installations
Codes: See p. 11 for Code Reference Key Chart



These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Nominal/Post Size	Beam (Min.)	Kerf Plate (in.)	Dimensions (in.)		Fasteners		Allowable Loads (DF/SP)				Code Ref.		
				W	L	Anchor	Post	Uplift (160)	Down (100)	F ₁ (160)	F ₂ (160)			
CPT44Z	4x4	4x4	12	10	3 1/2	2	1/2"	1/2" x 2 1/4" dowel	3,035	11,455	600	605	IBC, FL, LA	
CPT66Z	6x6	6x6	12	10	5 1/2	2	1/2"	1/2" x 4 1/4" dowel	4,055	20,130	655	1,025	IBC, FL, LA	
CPT88Z	8x8	8x8	12	10	7 1/2	2	1/2"	1/2" x 4 1/4" dowel	3,315	4,055	22,805	740	1,080	IBC, FL, LA

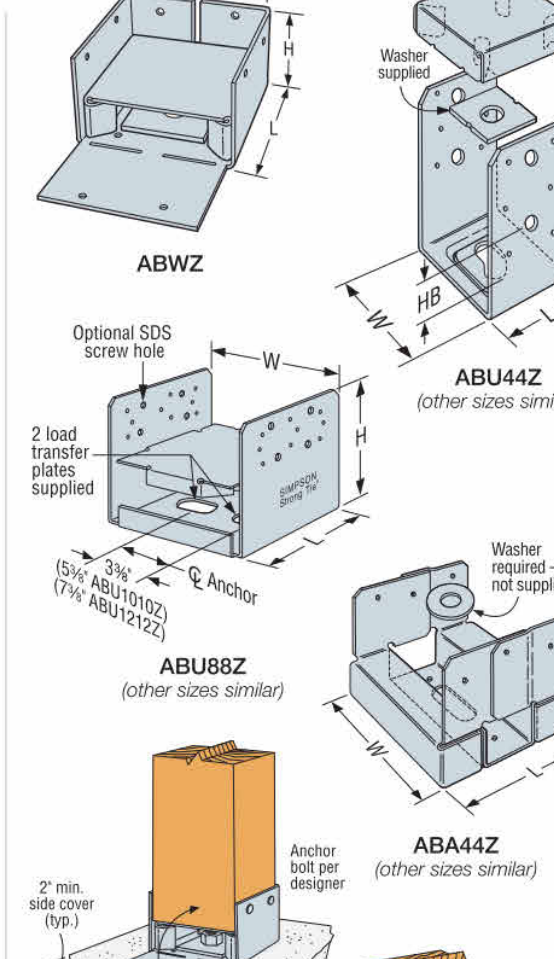
- Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.
- Downloads shall be reduced where limited by capacity of the post.
- CPTZ concealed post ties are supplied with 1/2" diameter dowel pins. Alternative 1/2" diameter hex- or square-head machine bolts may be used for loads tested.
- Lag screws or carriage bolts are not permitted.
- Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers. For SCL columns, the fasteners for these products should always be installed in the wide face. See technical bulletin T-C-SCL-CLM for more information.

Simpson Strong-Tie® Wood Construction Connectors
ABA/ABU/ABW

Adjustable and Standoff Post Bases

Additional standoff bases are on p. 331.
The ABA series of retrofit adjustable post bases provide a 1" standoff for the post, are stocked for adjustability and can be installed with nails, Strong-Drive® SD Connector screws or bolts (ABU). Depending on the application needs, these adjustable standoff post bases are designed for versatility, cost-effectiveness and maximum uplift performance.

- The 1" standoff helps prevent rot at the end of the post and meets code requirements for structural posts installed in basements or exposed to weather or water splash
- Material: Varies (see table)
- Finish: ZMAX® and some in stainless steel; see Corrosion Information, pp. 12-15
- Installation:
• Use all specified fasteners; see General Notes
• See our Anchoring, Fastening, Restoration and Strengthening Systems for Concrete and Masonry catalog, or visit strongtie.com for retrofit anchor options, such as Titan HD®, Stainless Steel Titan HD or SET-3G®.
- Post bases do not provide adequate resistance to prevent members from rotating about the base and therefore are not recommended for non-top-supported installations (such as fences or unbraced carports).
- Place the base, cut washers (or load transfer plates) and nuts on the anchor bolts. Make any necessary adjustments to post placement and tighten the nut securely on the anchor bolt.
- See strongtie.com for information on hollow column installation.



These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Nominal Beam Size	Material (Min.)	Dimensions (in.)		Fasteners (Min.)	DF/SP Allowable Loads		SP/FF Allowable Loads		Code Ref.			
			Base	Strap		W	L	Uplift (160)	Down (100)		Uplift (160)	Down (100)	
ABA16Z	Double 2x	12	12	3 1/2	5	7	1/2"	(12) 0.162 x 3 1/2	2,030	6,475	1,820	6,075	IBC, FL, LA
ABA24Z	2x	12	12	3 1/2	5	7	1/2"	(12) 0.162 x 3 1/2	2,355	3,990	1,850	7,095	IBC, FL, LA
ABA48Z	Rough 4x	12	12	4	6	8 1/4	1/2"	(12) 0.162 x 3 1/2	2,155	3,890	1,850	7,095	IBC, FL, LA
ABU6Z	Triple 2x	12	10	5 1/2	5	6 1/4	1/2"	(12) 0.162 x 3 1/2	1,405	12,715	1,165	8,115	IBC, FL, LA
ABU6Z	4x	12	10	5 1/2	5	6 1/4	1/2"	(12) 0.162 x 3 1/2	1,905	12,920	1,640	11,110	IBC, FL, LA
ABU6Z	Rough 6x	12	10	6	6	5 1/4	1/2"	(12) 0.162 x 3 1/2	1,905	12,920	1,640	11,110	IBC, FL, LA

- Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.
- Downloads may not be increased for short-term loading.
- Specifier is to design concrete and anchorage for uplift capacity.
- Beam depth must be a minimum of 7 1/2".
- Shims are required for double 2x (1 shim) and triple 2x (2 shim) installations as shown in the illustration. Additional fasteners of shims to beam is not required.
- Fasteners: Nail dimensions are listed diameter by length. See pp. 21-22 for fastener information.

Simpson Strong-Tie® Wood Construction Connectors
ABA/ABU/ABW

Adjustable and Standoff Post Bases (cont.)

These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Nominal Post Size	Material (Min.)	Dimensions (in.)		Fasteners (Min.)	DF/SP Allowable Loads		SP/FF Allowable Loads		Code Ref.				
			Base	Strap		W	L	Uplift (160)	Down (100)		Uplift (160)	Down (100)		
ABA44Z	4x4	16	16	3 1/2	3 1/2	3 1/2	1/2"	(8) 0.148 x 3	—	690	—	5,925	IBC, FL, LA	
ABW44Z	4x4	16	16	3 1/2	3 1/2	2 1/2	1/2"	(8) 0.148 x 3	—	—	—	7,190	IBC, FL, LA	
ABA44Z	4x4	16	12	3 1/2	3 1/2	5 1/2	1 1/4	(12) 0.162 x 3 1/2	2	1/2"	1,900	2,300	7,570	IBC, FL, LA
ABA44RZ	Rough 4x4	16	16	4 1/4	3 1/2	2 1/2	1/2"	(8) 0.148 x 3	—	655	—	7,215	IBC, FL, LA	
ABA44RZ	Rough 4x4	16	16	4 1/4	1 1/4	1 1/4	1/2"	(8) 0.148 x 3	—	835	—	7,190	IBC, FL, LA	
ABA44RZ	Rough 4x4	16	12	4 1/4	3 1/2	5 1/2	1 1/4	(12) 0.162 x 3 1/2	2	1/2"	1,900	2,300	7,570	IBC, FL, LA
ABA48Z	4x6	14	14	3 1/2	5 1/2	3 1/2	1 1/4	(8) 0.162 x 3 1/2	—	870	—	10,500	IBC, FL, LA	
ABW48Z	4x6	12	16	3 1/2	5 1/2	3 1/2	1 1/4	(10) 0.148 x 3	—	845	—	4,590	IBC, FL, LA	
ABA48Z	4x6	12	12	3 1/2	5	7	2 1/4	(8) 0.162 x 3 1/2	2	1/2"	2,465	2,265	12,520	IBC, FL, LA
ABA48RZ	Rough 4x6	14	14	4 1/4	5 1/2	2 1/2	1 1/4	(8) 0.162 x 3 1/2	—	870	—	10,695	IBC, FL, LA	
ABW48RZ	Rough 4x6	12	16	4	6	2 1/4	1 1/4	(10) 0.148 x 3	—	780	—	4,590	IBC, FL, LA	
ABA48RZ	Rough 4x6	12	12	4 1/4	5 1/2	6 1/4	2 1/4	(12) 0.162 x 3 1/2	2	1/2"	2,465	2,265	12,520	IBC, FL, LA
ABU5-Z	5 1/4 x 5 1/2	12	10	5 1/2	5	6 1/4	1 1/4	(12) 0.162 x 3 1/2	2	1/2"	2,235	2,235	10,570	IBC, FL, LA
ABU5-Z	5 1/4 x 6	12	10	6 1/4	5	6 1/4	1 1/4	(12) 0.162 x 3 1/2	2	1/2"	2,235	2,235	10,570	IBC, FL, LA
ABU5Z	5 1/4 x 5 1/2	12	10	5 1/2	5	6 1/4	1 1/4	(12) 0.162 x 3 1/2	—	2,475	—	10,860	IBC, FL, LA	
ABU6Z	6x6	14	14	5 1/2	5 1/2	3 1/2	1 1/4	(8) 0.162 x 3 1/2	—	850	—	10,245	IBC, FL, LA	
ABW6Z	6x6	12	14	5 1/2	5 1/2	3 1/2	1 1/4	(12) 0.148 x 3	—	1,190	—	12,935	IBC, FL, LA	
ABU6Z	6x6	12	10	5 1/2	5	6 1/4	1 1/4	(12) 0.162 x 3 1/2	2	1/2"	2,475	2,190	18,205	IBC, FL, LA
ABA68Z	Rough 6x6	14	14	6	5 1/2	2 1/2	1 1/4	(8) 0.162 x 3 1/2	—	850	—	11,500	IBC, FL, LA	
ABW68Z	Rough 6x6	12	14	6	6	2 1/4	1 1/4	(12) 0.148 x 3	—	1,190	—	12,935	IBC, FL, LA	
ABU68Z	Rough 6x6	12	10	6 1/4	5 1/2	6 1/4	1 1/4	(12) 0.162 x 3 1/2	2	1/2"	2,475	2,190	18,205	IBC, FL, LA
ABW7-Z	7 1/4 x 7 1/4	12	14	7 1/4	7 1/4	3	1 1/4	(12) 0.148 x 3	—	840	—	14,530	IBC, FL, LA	
ABU8Z	8x8	14	12	7 1/4	7	7	2 1/4	(2) (18) 0.162 x 3 1/2	—	2,570	—	22,405	IBC, FL, LA	
ABU8RZ	Rough 8x8	14	12	8	7	7	2 1/4	(2) (18) 0.162 x 3 1/2	—	2,450	—	19,870	IBC, FL, LA	
ABU1010Z	10x10	14	14	9 1/4	9	7 1/4	2 1/4	(2) (22) 0.162 x 3 1/2	—	2,270	—	32,020	IBC, FL, LA	
ABU1010RZ	Rough 10x10	14	14	10	9	7	2 1/4	(2) (22) 0.162 x 3 1/2	—	1,830	—	31,650	IBC, FL, LA	
ABU1212Z	12x12	12	12	11 1/4	11	7 1/4	2 1/4	(2) (22) 0.162 x 3 1/2	—	3,000	—	34,745	IBC, FL, LA	
ABU1212RZ	Rough 12x12	12	12	11	7	7	2 1/4	(2) (22) 0.162 x 3 1/2	—	3,000	—	34,745	IBC, FL, LA	

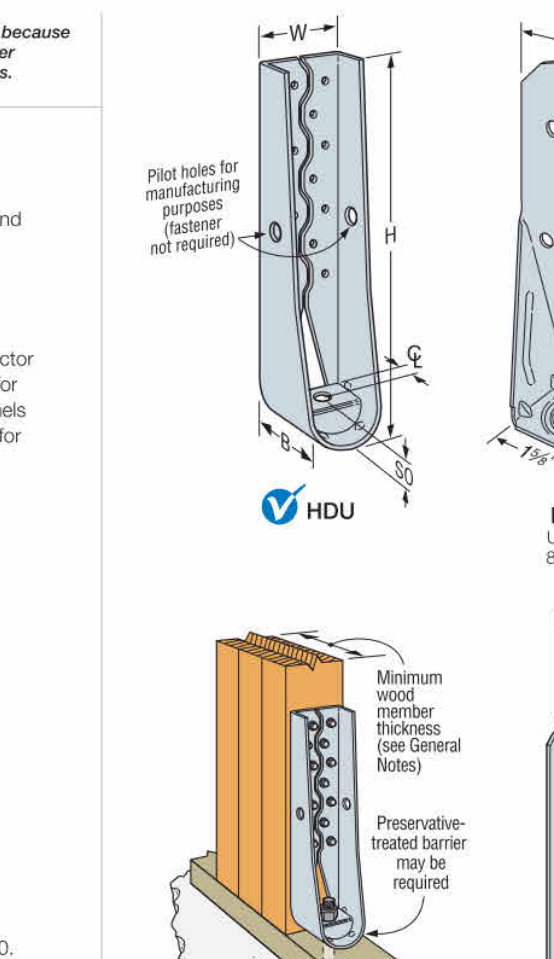
- Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.
- Downloads may not be increased for short-term loading.
- Specifier is to design concrete and anchorage for uplift loads.
- ABU products may be installed with other bolts or nails (not both) to achieve table loads. ABU6Z, ABU8RZ, ABU1010Z, ABU1010RZ, and ABU1212RZ may be installed with eight 1/2" x 3" Strong-Drive SDS Heavy-Duty Connector screws (sold separately) for the same table load.
- For higher downloads, pack grout solid under 1" standoff plate before installation. Base download on column or concrete, according to the code.
- H dimension is the distance from the bottom of the post up to the first bolt hole.
- Structural composite lumber columns have sides that show either the wide face or the edges of the lumber strands/veneers. For SCL columns, the fasteners for these products should always be installed in the wide face. See technical bulletin T-C-SCL-CLM for more information.
- Downloads shall be reduced where limited by capacity of the post.
- Fasteners: Nail dimensions are listed diameter by length. See pp. 21-22 for fastener information.

Simpson Strong-Tie® Wood Construction Connectors
HDU/DTT

Holdowns

HDU holdowns are pre-deflected during the manufacturing process, virtually eliminating deflection under load due to material stretch. They use Strong-Drive® SDS Heavy-Duty Connector screws which install easily, reduce fastener slip and provide a greater net section when compared to bolts.

- The DTT tension ties are designed for lighter-duty holdown applications on single 2x posts. The DTT is installed with nails or Strong-Drive SD Connector screws and the DTT2 installs easily with the Strong-Drive SDS Heavy-Duty Connector screws (included). The DTT2 holdowns have been tested for use in designed shearwalls and prescriptive braced wall panels as well as prescriptive wood-deck applications (see p. 295 for deck applications).
- For more information on holdown options, contact Simpson Strong-Tie.



These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Ga.	Dimensions (in.)		Fasteners (Min.)	Minimum Wood Member Size (in.)		Allowable Tension Loads (lb)		Code Ref.	
		W	H		DF/SP	SP/FF				
HDU	14	1 1/2	7 1/4	1 1/4	1 1/4	1 1/2	840	840	0.17	IBC, FL, LA
DTT2	14	3 1/4	6 1/4	1 1/4	1 1/4	1 1/2	910	640	0.167	IBC, FL, LA
DTT2-SDS2	14	3 1/4	6 1/4	1 1/4	1 1/4	1 1/2	1,825	1,800	0.105	IBC, FL, LA
HDU-SDS2	14	3	8 1/4	3 1/4	1 1/4	1 1/4	2,145	1,835	0.128	IBC, FL, LA
HDU-SDS2	14	3	10 1/4	3 1/4	1 1/4	1 1/4	2,145	2,105	0.128	IBC, FL, LA
HDU-SDS2	14	3	13 1/4	3 1/4	1 1/4	1 1/4	3,075	2,215	0.088	IBC, FL, LA
HDU-SDS2	14	3	16 1/4	3 1/4	1 1/4	1 1/4	3,075	3,285	0.114	IBC, FL, LA
HDU-SDS2	14	3	19 1/4	3 1/4	1 1/4	1 1/4	5,645	4,340	0.115	IBC, FL, LA
HDU-SDS2	14	3	22 1/4	3 1/4	1 1/4	1 1/4	6,765	5,820	0.111	IBC, FL, LA
HDU-SDS2	14	3	25 1/4	3 1/4	1 1/4	1 1/4	6,970	5,995	0.116	IBC, FL, LA
HDU-SDS2	14	3	28 1/4	3 1/4	1 1/4	1 1/4	7,870	6,580	0.113	IBC, FL, LA
HDU11-SDS2	10	3	22 1/4	3 1/4	1 1/4	1 1/4	9,335	8,030	0.137	IBC, FL, LA
HDU11-SDS2	10	3	25 1/4	3 1/4	1 1/4	1 1/4	11,175	9,610	0.137	IBC, FL, LA
HDU14-SDS2	7	3	25 1/4	3 1/4	1 1/4	1 1/4	10,770	9,260	0.122	IBC, FL, LA
HDU14-SDS2	7	3	28 1/4	3 1/4	1 1/4	1 1/4	14,390	12,375	0.17	

Simpson Strong-Tie® Wood Construction Connectors
CS/CMST/CMSTC/CSHP

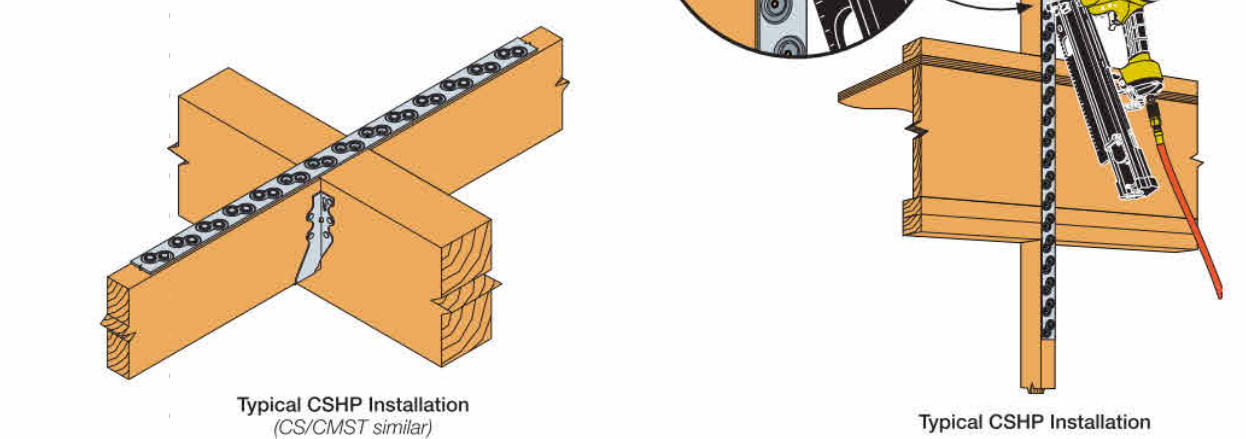


Coiled Straps (cont.)

- These products are available with additional corrosion protection. For more information, see p. 14.
- For stainless-steel fasteners, see p. 21.
- Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 348-352 for more information.

Model No.	Total L.	Ga.	DF/SP		SP/FF		Allowable Tension Loads (160)	Code Ref.
			Fasteners (No.)	End Length (in.)	Fasteners (No.)	End Length (in.)		
CMST12	40'	12	(74) 0.162 x 2 1/2	33	(84) 0.162 x 2 1/2	38	9,215	IBC, FL, LA
			(86) 0.148 x 2 1/2	39	(96) 0.148 x 2 1/2	44	9,215	
CMST14	52 1/2'	14	(56) 0.162 x 2 1/2	26	(66) 0.162 x 2 1/2	30	6,475	IBC, FL, LA
			(66) 0.148 x 2 1/2	30	(76) 0.148 x 2 1/2	34	6,475	
CMST16	54'	16	(50) 0.148 x 3/4	20	(58) 0.148 x 3/4	25	4,690	IBC, FL, LA
			(26) 0.148 x 2 1/2	15	(30) 0.148 x 2 1/2	16	2,490	
CS14	100'	14	(30) 0.131 x 2 1/2	16	(36) 0.131 x 2 1/2	19	2,490	IBC, FL, LA
			(20) 0.148 x 2 1/2	11	(22) 0.148 x 2 1/2	13	1,705	
CS16	150'	16	(20) 0.131 x 2 1/2	13	(26) 0.131 x 2 1/2	15	1,705	IBC, FL, LA
			(12) 0.148 x 2 1/2	7	(14) 0.148 x 2 1/2	9	1,030	
CS20	250'	20	(14) 0.131 x 2 1/2	9	(16) 0.131 x 2 1/2	9	1,030	IBC, FL, LA
			(10) 0.148 x 2 1/2	9	(16) 0.148 x 2 1/2	10	1,540	
CSHP18	75'	18	(16) 0.131 x 2 1/2	10	(18) 0.131 x 2 1/2	11	1,540	IBC, FL, LA
			(12) 0.148 x 2 1/2	8	(12) 0.148 x 2 1/2	8	1,160	
CSHP20	75'	20	(12) 0.131 x 2 1/2	8	(14) 0.131 x 2 1/2	9	1,160	IBC, FL, LA
			(10) 0.148 x 2 1/2	8	(10) 0.148 x 2 1/2	8	1,160	

1. See pp. 266-267 for Straps and Ties General Notes.
2. Calculate the connector value for a reduced number of nails as follows:
Allowable Load = No. of Nails Used / Table Load
No. of Nails in Table
Example: CMST12 in strap with 40 nails total. (Half of the nails in each member being connected)
Allowable Load = 40 Nails / (Table Load)
3. See p. 274 for alternate nailing and lap splice information.
4. Fasteners: Nail dimensions are listed diameter by length. See pp. 21-22 for fastener information.



Simpson Strong-Tie® Wood Construction Connectors
MST/MSTA/MSTC



Strap Ties (cont.)

- These products are available with additional corrosion protection. For more information, see p. 14.
- Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 348-352 for more information.

Floor to Floor Span Table

Model No.	Clear Span (in.)	Allowable Tension Loads (DF/SP)		Allowable Tension Loads (SP/FF)	
		Fasteners (No.)	End Length (in.)	Fasteners (No.)	End Length (in.)
MST49	18	(26) 0.148 x 2 1/2	2,020	2,020	2,020
		(26) 0.148 x 2 1/2	2,020	2,020	2,020
MST28	18	(12) 0.148 x 3/4	1,350	995	995
		(16) 0.148 x 3/4	1,535	1,330	1,330
MST40	24	(26) 0.148 x 3/4	1,920	1,660	1,660
		(26) 0.148 x 3/4	2,690	2,325	2,325
MST32	24	(32) 0.148 x 3/4	3,070	2,655	2,655
		(36) 0.148 x 3/4	3,455	2,990	2,990
MST36	24	(44) 0.148 x 3/4	4,225	3,650	3,650
		(48) 0.148 x 3/4	4,610	3,985	3,985
MST38	24	(48) 0.148 x 3/4	4,775	4,150	4,150
		(54) 0.148 x 3/4	5,375	4,645	4,645
MST66	18	(64) 0.148 x 3/4	5,850	5,505	5,505
		(68) 0.148 x 3/4	5,850	5,850	5,850
MST78	24	(64) 0.148 x 3/4	5,850	5,505	5,505
		(72) 0.148 x 3/4	5,850	5,850	5,850
MST80	24	(78) 0.148 x 3/4	5,850	5,850	5,850
		(14) 0.162 x 2 1/2	1,270	1,500	1,500
MST137	18	(20) 0.162 x 2 1/2	2,460	2,140	2,140
		(22) 0.162 x 2 1/2	2,705	2,355	2,355
MST148	18	(32) 0.162 x 2 1/2	3,210	2,780	2,780
		(32) 0.162 x 2 1/2	3,950	3,425	3,425
MST172	24	(34) 0.162 x 2 1/2	4,200	3,640	3,640
		(34) 0.162 x 2 1/2	4,405	3,995	3,995
MST160	24	(40) 0.162 x 2 1/2	5,240	4,700	4,700
		(46) 0.162 x 2 1/2	6,235	5,405	5,405
MST172	30	(48) 0.162 x 2 1/2	6,505	5,640	5,640
		(54) 0.162 x 2 1/2	6,730	6,345	6,345
MST172	24	(62) 0.162 x 2 1/2	6,730	6,475	6,475
		(62) 0.162 x 2 1/2	6,730	6,475	6,475

1. See pp. 266-267 for Straps and Ties General Notes.
2. Install sole or nails as specified by designer. Sole and nail values may not be combined.
3. Allowable loads are based on parallel-to-grain loading and minimum member thickness: MST - 2 1/2".
4. Splitting may be a problem with installations on lumber smaller than 3 1/2". either fill every nail hole with 0.148" x 1 1/2" nails or fill every other hole with 0.162" x 2 1/2" nails. Reduce the allowable load based on the size and quantity of fasteners used.
5. Fasteners: Nail dimensions are listed diameter by length. See pp. 21-22 for fastener information.

Simpson Strong-Tie® Wood Construction Connectors
CS/CMST/CMSTC/CSHP



Coiled Straps (cont.)

Lap splicing of coiled straps can be used to extend standard strap lengths for oblique continuous drag elements and diagonal chord members. The Strap Lap Splices table provides the minimum splice length (L_{sp}) and fasteners, within the splice length, to achieve the highest allowable capacity of the strap.
The Allowable Loads for Alternative Nailing table provides information for coiled straps when installed with different nailing schedules. The highest allowable load given for each model is limited by the steel capacity.
The Engineer/Designer of Record must evaluate and determine the adequacy of the coiled strap's lap splice and alternate nailing applications to meet their design loads.

Allowable Loads for Alternative Nailing

Model No.	Total Coil Length (ft.)	Ga.	Fasteners (No.)		DF/SP Allowable Tension Loads (160)	End Length (in.)	Nail Installed in Every Hole	Nail Installed in Every Other Hole
			Fasteners (No.)	End Length (in.)				
CMST12	40	12	(66) 0.162 x 2 1/2	8,415	30	58		
			(56) 0.162 x 2 1/2	7,395	27	51		
			(50) 0.162 x 2 1/2	6,375	23	44		
			(76) 0.148 x 2 1/2	8,320	35	66		
			(68) 0.148 x 2 1/2	7,445	31	59		
			(60) 0.148 x 2 1/2	6,570	28	52		
CMST14	52 1/2	14	(40) 0.162 x 2 1/2	5,615	22	42		
			(48) 0.162 x 2 1/2	4,880	19	35		
			(32) 0.162 x 2 1/2	3,745	15	28		
			(56) 0.148 x 2 1/2	5,770	27	51		
			(50) 0.148 x 2 1/2	4,975	23	44		
			(42) 0.148 x 2 1/2	4,180	20	37		
CMST16	54	16	(42) 0.162 x 2 1/2	4,690	17	32		
			(24) 0.162 x 2 1/2	3,875	14	26		
			(26) 0.162 x 2 1/2	2,965	11	20		
			(18) 0.162 x 2 1/2	2,050	8	14		
			(68) 0.148 x 2 1/2	4,610	19	35		
			(32) 0.148 x 2 1/2	3,840	16	29		
CMST18	54	18	(20) 0.148 x 2 1/2	3,070	13	23		
			(26) 0.148 x 2 1/2	2,305	10	17		
			(16) 0.148 x 2 1/2	1,535	7	11		
			(24) 0.148 x 2 1/2	2,390	13	23		
			(20) 0.148 x 2 1/2	2,190	13	22		
			(28) 0.131 x 2 1/2	2,340	15	27		
CS14	100	14	(18) 0.148 x 2 1/2	1,700	11	18		
			(16) 0.148 x 2 1/2	1,510	9	15		
			(20) 0.131 x 2 1/2	1,570	11	19		
			(18) 0.131 x 2 1/2	1,415	11	18		
			(10) 0.148 x 2 1/2	915	6	10		
			(8) 0.131 x 2 1/2	910	7	11		
CS16	150	16	(10) 0.148 x 2 1/2	1,415	11	19		
			(10) 0.148 x 2 1/2	1,415	11	19		
			(12) 0.131 x 2 1/2	1,440	8	14		
			(10) 0.148 x 2 1/2	1,200	8	12		
			(14) 0.131 x 2 1/2	1,445	9	16		
			(12) 0.148 x 2 1/2	1,240	8	14		
CS20	250	20	(10) 0.148 x 2 1/2	1,150	8	12		
			(8) 0.148 x 2 1/2	920	6	10		
			(10) 0.131 x 2 1/2	965	8	12		
			(8) 0.131 x 2 1/2	790	6	10		
			(10) 0.148 x 2 1/2	1,150	8	12		
			(10) 0.148 x 2 1/2	920	6	10		

Strap Lap Splices

Model No.	Ga.	Strap Lap Splice	
		Minimum Fasteners per Splice	Min. Splice Length, L _{sp} (in.)
CMST12	12	(8) 0.162 x 2 1/2	18
		(13) 0.148 x 2 1/2	21
CMST14	14	(15) 0.148 x 2 1/2	15
		(11) 0.162 x 2 1/2	10
CMST16	16	(11) 0.148 x 2 1/2	10
		(7) 0.131 x 2 1/2	9
CS14	14	(7) 0.131 x 2 1/2	9
		(5) 0.148 x 2 1/2	8
CS16	16	(6) 0.131 x 2 1/2	9
		(5) 0.148 x 2 1/2	8
CS20	20	(5) 0.148 x 2 1/2	8
		(7) 0.131 x 2 1/2	9
CSHP18	18	(7) 0.148 x 2 1/2	9
		(7) 0.131 x 2 1/2	9
CSHP20	20	(8) 0.148 x 2 1/2	8
		(7) 0.131 x 2 1/2	9

1. See pp. 266-267 for Straps and Ties General Notes.
2. 0.148" x 2 1/2" nails can be replaced by 0.148" x 3 1/2" nails.
3. No other nail substitution is allowed for lap splices.
4. Refer to the applicable code for minimum edge distance and minimum end distance.
5. No strap modification is allowed and the splice must meet both the minimum number of fasteners and the minimum splice length.

Simpson Strong-Tie® Wood Construction Connectors
CS/CMST/CMSTC/CSHP



Coiled Straps (cont.)

Lap splicing of coiled straps can be used to extend standard strap lengths for oblique continuous drag elements and diagonal chord members. The Strap Lap Splices table provides the minimum splice length (L_{sp}) and fasteners, within the splice length, to achieve the highest allowable capacity of the strap.
The Allowable Loads for Alternative Nailing table provides information for coiled straps when installed with different nailing schedules. The highest allowable load given for each model is limited by the steel capacity.
The Engineer/Designer of Record must evaluate and determine the adequacy of the coiled strap's lap splice and alternate nailing applications to meet their design loads.

Allowable Loads for Alternative Nailing

Model No.	Total Coil Length (ft.)	Ga.	Fasteners (No.)		DF/SP Allowable Tension Loads (160)	End Length (in.)	Nail Installed in Every Hole	Nail Installed in Every Other Hole
			Fasteners (No.)	End Length (in.)				
CMST12	40	12	(66) 0.162 x 2 1/2	8,415	30	58		
			(56) 0.162 x 2 1/2	7,395	27	51		
			(50) 0.162 x 2 1/2	6,375	23	44		
			(76) 0.148 x 2 1/2	8,320	35	66		
			(68) 0.148 x 2 1/2	7,445	31	59		
			(60) 0.148 x 2 1/2	6,570	28	52		
CMST14	52 1/2	14	(40) 0.162 x 2 1/2	5,615	22	42		
			(48) 0.162 x 2 1/2	4,880	19	35		
			(32) 0.162 x 2 1/2	3,745	15	28		
			(56) 0.148 x 2 1/2	5,770	27	51		
			(50) 0.148 x 2 1/2	4,975	23	44		
			(42) 0.148 x 2 1/2	4,180	20	37		
CMST16	54	16	(42) 0.162 x 2 1/2	4,690	17	32		
			(24) 0.162 x 2 1/2	3,875	14	26		
			(26) 0.162 x 2 1/2	2,965	11	20		
			(18) 0.162 x 2 1/2	2,050	8	14		
			(68) 0.148 x 2 1/2	4,610	19	35		
			(32) 0.148 x 2 1/2	3,840	16	29		
CMST18	54	18	(20) 0.148 x 2 1/2	3,070	13	23		
			(26) 0.148 x 2 1/2	2,305	10	17		
			(16) 0.148 x 2 1/2	1,535	7	11		
			(24) 0.148 x 2 1/2	2,390	13	23		
			(20) 0.148 x 2 1/2	2,190	13	22		
			(28) 0.131 x 2 1/2	2,340	15	27		
CS14	100	14	(18) 0.148 x 2 1/2	1,700	11	18		