

CARPENTRY

- ALL SIZES SHOWN ON THE DRAWINGS ARE STATED IN TERMS OF STANDARD NOMINAL SIZES.
- ALL LUMBER STRESSES SHOWN BELOW ARE FOR VISUALLY STRESS-RATED LUMBER USED AT 19% MAXIMUM MOISTURE CONTENT AT TIME OF ENCLOSURE, SINGLE MEMBER USE.
- IN INTERIOR LOCATIONS SUBJECT TO WATER SPLASH AND IN EXTERIOR LOCATIONS SUBJECT TO WEATHER, ALL WOOD SHALL BE TREATED WOOD. ALL SILL PLATES AND SLEEPERS ON A CONCRETE (INCLUDING GROUT) SLAB OR FOUNDATION WALL THAT IS IN DIRECT CONTACT WITH EARTH SHALL BE TREATED WOOD. WHERE TREATED LUMBER MEMBERS ARE CUT, NOTCHED, OR DRILLED THEY SHALL BE TREATED WITH A PRESERVATIVE APPROVED BY THE ARCHITECT AND THE ENFORCEMENT AGENCY.
- ALL LUMBER SHALL BE DOUGLAS FIR (LARCH) OF THE GRADE SHOWN BELOW UNLESS OTHERWISE NOTED AND SHALL CONFORM TO THE WESTERN LUMBER GRADING RULES '05 BY WPPA OR THE STANDARD GRADING RULES NO. 17, 2004 BY WCLIB. ALL LUMBER SHALL BE GRADE MARKED AS CALLED FOR BELOW. ALL LUMBER EXPOSED TO WEATHER SHALL BE TREATED WOOD. BENDING STRESSES NOTED BELOW ARE BASE STRESSES WITHOUT INCREASES OR DECREASES FOR VARIOUS TREATMENTS, SIZE OR SHAPE FACTORS, DURATION OF LOADING, ETC. STRESSES ARE SHOWN FOR SINGLE MEMBER USES ONLY.

USE	GRADE	STRESS
HORIZONTAL FRAMING: 2X4 & 2X6 2X8 & WIDER 3X & 4X BEAMS 6X BEAMS	NO. 2 NO. 1 OR BETTER NO. 1 NO. 1	F/B = 900 PSI F/B = 1200 PSI F/B = 1000 PSI F/B = 1350 PSI
VERTICAL FRAMING: 2X & 3X STUDS 4X POSTS 6X LARGER POSTS	NO. 2 NO. 2 NO. 1	F/B = 900 PSI F/B = 900 PSI F/B = 1200 PSI
MUD SILLS, LEDGERS	NO. 2 PRESSURE TREATED	F/B = 900 PSI
DECKING	COMMERCIAL DEX	F/B = 1450 PSI
OTHER U.O.N.	NO. 2	F/B = 900 PSI

- IDENTIFICATION. ALL LUMBER, PLYWOOD, AND STRUCTURAL GLUED LAMINATED TIMBER SHALL CONFORM TO THE APPLICABLE STANDARDS OR GRADING RULES SPECIFIED IN THE UBC AND SHALL BE SO IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION BY AN APPROVED AGENCY. ALL LUMBER, TIMBER AND PLYWOOD REQUIRED TO BE TREATED WOOD SHALL BE IDENTIFIED BY THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY WHICH MAINTAINS CONTINUED SUPERVISION, TESTING AND INSPECTION OVER THE QUALITY OF THE PRODUCT AS SPECIFIED IN UBC STANDARD NO. 23-1 AND 23-2.
- IDENTIFICATION. ALL LUMBER AND PLYWOOD SHALL CONFORM TO THE APPLICABLE STANDARDS OR GRADING RULES SPECIFIED IN THE UBC AND SHALL BE SO IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION BY AN APPROVED AGENCY. ALL LUMBER AND PLYWOOD REQUIRED TO BE TREATED WOOD SHALL BE IDENTIFIED BY THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY WHICH MAINTAINS CONTINUED SUPERVISION, TESTING AND INSPECTION OVER THE QUALITY OF THE PRODUCT AS SPECIFIED IN UBC STANDARD NO. 23-1 AND 23-2.
- ALL NAILS SHALL BE COMMON WIRE NAILS. AT ALL EXPOSED NAILING TO WEATHER, (I.E. DECKING & SIDING), USE HOT DIPPED GALVANIZED NAILS HAVING A GALVANIZED COATING OF NOT LESS THAN 1.5 OZ. OF ZINC PER SQUARE FOOT. USE OF PLASTIC COATED OR CASING NAILS IS NOT ALLOWED.
- TIMBER CONNECTORS NOTED ON THE DRAWINGS HAVE BEEN BASED ON THE CAPACITIES OF "SIMPSON STRONG-TIE" CONNECTORS. SUBSTITUTIONS OF ALTERNATE CONNECTOR MANUFACTURERS WILL BE ACCEPTABLE AS LONG AS THE LOAD CAPACITIES MEET OR EXCEED THOSE OF "SIMPSON STRONG-TIE" AND AS LONG AS THOSE LOADS ARE SUBSTANTIATED BY AN ICBO REPORT. CONTRACTORS WISHING TO USE AN ALTERNATE MANUFACTURER SHALL LIST EACH CONNECTOR TYPE SPECIFIED WITH THE PROPOSED ALTERNATE MANUFACTURER'S DESIGNATION, CHANGE ORDERS APPROVED BY THE STRUCTURAL ENGINEER AND THE ENFORCEMENT AGENCY WILL BE REQUIRED FOR ANY SUBSTITUTIONS. ("SIMPSON STRONG-TIE" ICBO NOS.: 1211, 1258, 4448, 4935, AND NER NOS.: 209, 393, 413, 421, 422, 432, 443, AND 469).
- TIMBER CONNECTORS NOTED ON THE DRAWINGS HAVE BEEN BASED ON THE CAPACITIES OF "SIMPSON STRONG-TIE" CONNECTORS. SUBSTITUTIONS OF ALTERNATE CONNECTOR MANUFACTURERS WILL BE ACCEPTABLE AS LONG AS THE LOAD CAPACITIES MEET OR EXCEED THOSE OF "SIMPSON STRONG-TIE" AND AS LONG AS THOSE LOADS ARE SUBSTANTIATED BY A CITY OF LOS ANGELES RESEARCH REPORT. CONTRACTORS WISHING TO USE AN ALTERNATE MANUFACTURER SHALL LIST EACH CONNECTOR TYPE SPECIFIED WITH THE PROPOSED ALTERNATE MANUFACTURER'S DESIGNATION, CHANGE ORDERS APPROVED BY THE STRUCTURAL ENGINEER AND THE ENFORCEMENT AGENCY WILL BE REQUIRED FOR ANY SUBSTITUTIONS PRIOR TO INSTALLATION. ("SIMPSON STRONG-TIE" LARR NOS.: 22086, 24818, 24947, 24949, 25064, 25074, 25076, 25119).
- WHERE THERE ARE A NUMBER OF NAILING ALTERNATIVES LISTED IN THE MANUFACTURER'S CATALOG FOR A PARTICULAR CONNECTOR, THE NAILING ALTERNATIVE PROVIDING THE HIGHEST LOAD CAPACITY SHALL BE USED. USE MANUFACTURER SUPPLIED "SHORT" NAILS WHERE THE THICKNESS OF LUMBER PRECLUDES THE USE OF COMMON NAILS.
- ALL PLYWOOD USED FOR STRUCTURAL PURPOSES WHICH IS EXPOSED IN OUTDOOR APPLICATIONS SHALL BE OF THE EXTERIOR TYPE. ALL PLYWOOD USED FOR STRUCTURAL PURPOSES IN LOCATIONS NOT EXPOSED TO WEATHER SHALL BE EXTERIOR TYPE OR INTERIOR TYPE WITH EXTERIOR GLUE. ALL PLYWOOD SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF UBC STANDARD NO. 23-2. ALL PLYWOOD USED IN HORIZONTAL DIAPHRAGMS AND VERTICAL SHEAR WALLS SHALL BE FIVE PLY MINIMUM. THIS PLYWOOD IS ALL-VENEER PLYWOOD.
- PLYWOOD USED FOR HORIZONTAL AND VERTICAL DIAPHRAGMS SHALL CONFORM TO UBC STANDARD NO. 23-2. PLYWOOD FOR HORIZONTAL DIAPHRAGMS SHALL HAVE A PANEL INDEX RATING CORRESPONDING TO THE JOIST SPACING AND LOADS SHOWN IN THE CONTRACT DOCUMENTS, AND SHALL BE CAPABLE OF SUPPORTING CONCENTRATED LOADS OF NOT LESS THAN 300 LBS WITHOUT FAILURE. THE CONCENTRATED LOAD SHALL BE APPLIED BY A LOADED DISC, 3-IN OR SMALLER IN DIAMETER. THIS PLYWOOD IS ALL-VENEER PLYWOOD.
- PLYWOOD JOINTS SHALL OCCUR ON THE CENTER OF FRAMING MEMBERS AND BLOCKING. NAILS SHALL NOT BE PLACED LESS THAN 3/8" IN FROM THE PANEL EDGE AT 2X MEMBERS, NOT LESS THAN 1/2" AT 3X MEMBERS, SHALL BE SPACED NOT MORE THAN 6" ON CENTER ALONG PANEL EDGE BEARINGS, AND SHALL BE FIRMLY DRIVEN INTO FRAMING MEMBERS. THE MINIMUM EDGE DISTANCE FOR NAILS IN THE RECEIVING MEMBERS AND THE PLYWOOD SHALL BE 3/8" FOR 2X NOMINAL RECEIVING MEMBERS AND 1/2" FOR 3X NOMINAL RECEIVING MEMBERS. FLAT BLOCKING RECEIVING 10D NAILS SHALL BE 3"x4" NOMINAL OR LARGER. IN HORIZONTAL PLYWOOD DIAPHRAGMS NO PANEL LESS THAN 24" WIDE SHALL BE USED. IN VERTICAL PLYWOOD DIAPHRAGMS NO PANEL LESS THAN 12" WIDE SHALL BE USED.
- CONTRACTOR SHALL CLOSELY EXAMINE ANY WOOD FRAMING LAID OPEN BY REMODEL WORK FOR SIGNS OF DECAY OR INSECT INFESTATION. SHOULD SUCH BE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SO THAT REMEDIAL ACTION CAN BE TAKEN. IN GENERAL, ANY WOOD WITH FUNGUS INFESTATION OR INSECT INFESTATION THAT SUBSTANTIALLY REDUCES THE LOAD CARRYING CAPACITY OF THE MEMBER SHALL BE REPLACED WITH NEW MATERIALS TO PROVIDE A NET DIMENSION OF SOUND WOOD AT LEAST EQUAL TO THE DEFECTIVE MATERIAL. SHOULD SECTIONS OF SILL PLATE NEED TO BE REMOVED BECAUSE OF SUCH DEFECTS, THE MINIMUM LENGTH OF REMOVED SECTION SHALL BE 32", BUT IN NO CASE LESS THAN THAT REQUIRED TO TOTALLY REMOVE THE INFECTED MATERIAL. NEW SILL PLATES SHALL BE PRESSURE TREATED WOOD, A MINIMUM OF 32" LONG, ANCHORED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND GENERAL NOTES. TEMPORARY SHORING DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- LUMBER SHOULD BE SO HANDLED AND STORED AS TO PREVENT MARRING AND MOISTURE ABSORPTION FROM RAIN. STORAGE OF LUMBER SHALL BE SUCH THAT NO LUMBER TO BE USED IN CONSTRUCTION IS IN DIRECT CONTACT WITH THE GROUND.
- NOTCHING. NOTCHING OF BEAMS IS NOT PERMITTED UNLESS SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS.

15. GENERAL CONSTRUCTION REQUIREMENTS:

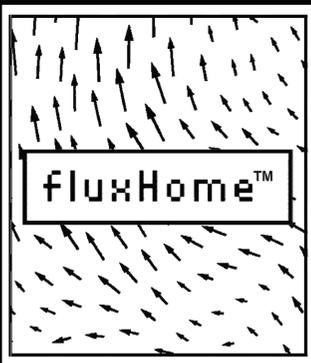
- PREPARATION OF BUILDING SITE. ALL STUMPS AND ROOTS SHALL BE REMOVED FROM THE SOIL TO A DEPTH OF AT LEAST 12" BELOW THE SURFACE OF THE GROUND IN THE AREA TO BE OCCUPIED BY THE BUILDING. ALL WOOD FORMS WHICH HAVE BEEN USED IN PLACING CONCRETE, IF WITHIN THE GROUND OR BETWEEN FOUNDATION SILLS AND THE GROUND, SHALL BE REMOVED BEFORE A BUILDING IS OCCUPIED OR USED FOR ANY PURPOSE. BEFORE COMPLETION, LOOSE OR CASUAL WOOD SHALL BE REMOVED FROM DIRECT CONTACT WITH THE GROUND UNDER THE BUILDING.
- PROTECTION AGAINST DECAY AND TERMITES:
 - PLATES, SILLS AND SLEEPERS. ALL FOUNDATION PLATES OR SILLS AND SLEEPERS ON A CONCRETE OR MASONRY SLAB WHICH IS IN DIRECT CONTACT WITH EARTH, AND SILLS WHICH REST ON CONCRETE OR MASONRY FOUNDATIONS, SHALL BE TREATED WOOD, ALL MARKED OR BRANDED BY AN APPROVED AGENCY, BOTTOMS OF SILLS ON EXTERIOR FOUNDATION WALLS SHALL BE NOT LESS THAN 6" ABOVE OUTSIDE FINISHED EARTH GRADE. ON EXTERIOR WALLS WHERE THE EARTH IS PAVED WITH AN ASPHALT OR CONCRETE SLAB AT LEAST 18" WIDE AND DRAINING AWAY FROM THE BUILDING, THE BOTTOM OF SILLS MAY BE 2" ABOVE THE TOP OF SUCH PAVING.
 - COLUMNS AND POSTS. ALL WOOD COLUMNS AND POSTS SHALL BE FRAMED TO TRUE END BEARINGS. SUPPORTS SHALL BE DESIGNED TO HOLD THE COLUMN OR POST SECURELY IN POSITION AND TO PROTECT ITS BASE FROM DETERIORATION. IN AREAS EXPOSED TO WATER SPLASH AND IN EXTERIOR LOCATIONS, WOOD COLUMN AND POSTS SHALL BE SUPPORTED BY PIERS PROJECTING AT LEAST 2" ABOVE THE FINISHED FLOOR AND SHALL BEAR ON A METAL BASE PLATE OR A FOUNDATION PLATE OR SILL AS SPECIFIED IN SUBSECTION PARAGRAPH ABOVE. POSTS OR COLUMNS OF TREATED WOOD MAY BE PLACED DIRECTLY ON CONCRETE, SOLID MASONRY OR GROUTED MASONRY.
 - WOOD AND EARTH SEPARATION. PROTECTION OF WOOD AGAINST DETERIORATION AS SET FORTH IN THE PREVIOUS PARAGRAPHS FOR SPECIFIED APPLICATIONS IS REQUIRED. IN ADDITION, WOOD USED IN CONSTRUCTION OF PERMANENT STRUCTURES AND LOCATED NEARER THAN 6" TO EARTH SHALL BE TREATED WOOD. WHERE LOCATED ON CONCRETE SLABS PLACED ON EARTH, WOOD SHALL BE TREATED WOOD. WHERE NOT SUBJECT TO WATER SPLASH OR TO EXTERIOR MOISTURE AND LOCATED ON CONCRETE HAVING A MINIMUM THICKNESS OF 3" WITH AN IMPERVIOUS MEMBRANE INSTALLED BETWEEN CONCRETE AND EARTH, THE WOOD MAY BE UNTREATED.
 - MOISTURE CONTENT OF TREATED WOOD. WHEN WOOD PRESURE TREATED WITH A WATER-BORNE PRESERVATIVE IS USED IN ENCLOSED LOCATIONS WHERE DRYING IN SERVICE CAN NOT READILY OCCUR, SUCH WOOD SHALL BE AT A MOISTURE CONTENT OF 19% OR LESS BEFORE BEING COVERED WITH INSULATION, INTERIOR WALL FINISH, FLOOR COVERING OR OTHER MATERIAL.
 - WEATHER EXPOSURE-TREATED WOOD SHALL BE USED FOR THOSE PORTIONS OF WOOD MEMBERS WHICH FORM THE STRUCTURAL SUPPORTS OF BUILDINGS, BALCONIES, PORCHES OR SIMILAR PERMANENT BUILDING APPURTENANCES WHEN SUCH MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE PROTECTION FROM A ROOF, EAVE, OVERHANG OR OTHER COVERING TO PREVENT WATER OR MOISTURE ACCUMULATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS. SUCH MEMBERS MAY INCLUDE: HORIZONTAL MEMBERS SUCH AS GIRDERS, JOISTS AND DECKING; OR VERTICAL MEMBERS SUCH AS POSTS, POLES AND COLUMNS.
- FASTENING.
 - THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS SHALL BE NOT LESS THAN THAT SET FORTH IN THE NAILING SCHEDULE BELOW.
 - PILOT HOLES SHALL BE PROVIDED FOR ALL NAILS 20D AND LARGER. PILOT HOLES SHALL HAVE A DIAMETER OF APPROXIMATELY 75% OF THE NAIL SHANK DIAMETER.
 - NAILS IN PLYWOOD SHALL NOT BE OVERDRIVEN TO THE EXTENT THAT NAILHEADS PENETRATE THE FACE PLY MORE THAN THE THICKNESS OF THE NAIL HEAD.
 - MACHINE APPLIED NAILING. USE OF MACHINE NAILING IS SUBJECT TO SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND IS SUBJECT TO THE APPROVAL OF THE PROJECT STRUCTURAL ENGINEER. SUCH APPROVAL IS DEPENDENT ON CONTINUOUS SATISFACTORY PERFORMANCE. MACHINE NAILING IS NOT ALLOWED IN 5/16" PLYWOOD. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
 - ALL BOLTED WOOD CONNECTIONS SHALL BE MADE WITH BOLTS CONFORMING TO THE REQUIREMENTS OF ASTM A307. BOLT HOLES SHALL BE 1/32 INCH TO 1/16" LARGER THAN THE BOLT, DEPENDING ON THE SIZE OF THE BOLT. TIGHT FIT REQUIRING FORCIBLE DRIVING OF BOLTS IS NOT RECOMMENDED. RETIGHTEN ALL BOLTS BEFORE CLOSING-IN.
 - A WASHER NOT LESS THAN A STANDARD CUT WASHER, OR IN LIEU THEREOF A METAL PLATE OR STRAP 12 GA. OR THICKER, SHALL BE INSTALLED BETWEEN THE WOOD AND THE BOLT HEAD AND BETWEEN THE WOOD AND THE NUT.
 - ALL WOOD CONNECTIONS MADE WITH LAG SCREWS SHALL BE MADE WITH SCREWS CONFORMING TO THE REQUIREMENTS OF ANSIA/SME STANDARD B18.2.1. LEAD HOLES FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK, AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60% TO 75% OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION. USE 60% FOR LAG SCREWS LESS THAN 5/8", AND 75% FOR 5/8" & LARGER SCREWS.
 - THE THREADED PORTION OF THE SCREW SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING WITH A WRENCH, NOT BY DRIVING WITH A HAMMER.
 - SOAP OR OTHER LUBRICANT SHALL BE USED ON THE SCREWS OR IN THE LEAD HOLE TO FACILITATE INSERTION AND TO PREVENT DAMAGE TO THE SCREW.
 - A WASHER NOT LESS THAN A STANDARD CUT WASHER, OR IN LIEU THEREOF A METAL PLATE OR STRAP 12 GA. OR THICKER, SHALL BE INSTALLED BETWEEN THE WOOD AND THE HEAD OF THE SCREW.
 - LEAD HOLES SHALL BE PREBORED AND SHALL HAVE A DIAMETER OF 70% OF THE ROOT DIAMETER OF THE SCREW. SCREWS SHALL BE SCREWED INTO PLACE, NOT DRIVEN INTO PLACE.
- WATER SPLASH. WHERE WOOD FRAME WALLS AND PARTITIONS ARE COVERED ON THE INTERIOR WITH PLASTER, TILE OR SIMILAR MATERIALS AND ARE SUBJECT TO WATER SPLASH, THE FRAMING SHALL BE PROTECTED WITH APPROVED WATERPROOF PAPER.

16. CONVENTIONAL CONSTRUCTION PROVISIONS:

- FOUNDATION PLATES OR SILLS. SILLS UNDER BEARING, EXTERIOR, OR SHEAR WALLS SHALL BE BOLTED TO THE MASONRY OR CONCRETE WITH NOT SMALLER THAN 5/8"x12" BOLTS SPACED AT NOT MORE THAN 4 FT ON CENTER. THERE SHALL BE A BOLT WITHIN 9" OF EACH END OF EACH PIECE OF SILL. WHERE SILLS ARE BORED OR NOTCHED EXCEEDING 1/3 THE SILL WIDTH, EXTRA BOLTS SHALL BE REQUIRED AS GIVEN FOR ENDS OF SILL PIECES. SUCH SILLS SHALL BE COMPLETELY BEDDED SO AS TO OBTAIN A CONTINUOUS BEARING. SILL PLATE ANCHORAGE AT SHEAR WALLS SHALL BE AS SPECIFIED IN THE SHEAR WALL SCHEDULE. TREATED WOOD SILLS WHERE CUT, DRILLED OR NOTCHED SHALL BE TREATED WITH A PRESERVATIVE APPROVED BY THE ARCHITECT. NO SILL PLATE SHALL BE LESS THAN 48" IN LENGTH, AND NO SILL PLATE SHALL BE ANCHORED WITH LESS THAN TWO BOLTS.
- WALL FRAMING. STUDS SHALL BE PLACED WITH THEIR WIDE DIMENSION PERPENDICULAR

TO THE WALL. NOT LESS THAN THREE STUDS SHALL BE INSTALLED AT EACH CORNER OF AN EXTERIOR WALL. WHERE WOOD AND MASONRY OR CONCRETE WALLS INTERSECT, THE END STUD SHALL BE FASTENED WITH BOLTS OR OTHER DEVICES AT TOP, BOTTOM AND MIDHEIGHT WITH AT LEAST THE EQUIVALENT OF 1 BOLT OF 1/2" DIAMETER PASSING THROUGH THE END STUD AND EMBEDDED IN THE MASONRY OR CONCRETE A MINIMUM OF 4". ALL STUDS SHALL BE CAPPED WITH DOUBLE TOP PLATES, OVERLAPPING AT INTERSECTIONS. SPLICES IN DOUBLE TOP PLATES SHALL BE OFFSET AT LEAST 48".

- BRACING. ALL EXTERIOR WALLS AND MAIN CROSS-STUD PARTITIONS WHICH ARE NOT PART OF THE LATERAL LOAD-RESISTING SYSTEM SHALL BE EFFECTIVELY AND THOROUGHLY BRACED AT EACH END, OR AS NEAR THERE TO AS POSSIBLE, AND AS OTHERWISE NECESSARY TO RESIST WIND AND SEISMIC FORCES BY ONE OF THE FOLLOWING METHODS. FOR METHOD (B), THE MINIMUM WIDTH OF BRACED PANEL SHALL BE 48" MINIMUM. FOR METHODS (C) AND (D), THE MINIMUM WIDTH OF BRACED PANEL SHALL BE 96" WHEN APPLIED TO ONLY ONE FACE, AND 48" IF APPLIED TO BOTH FACES. ALL VERTICAL JOINTS OF PANEL SHEATHING SHALL OCCUR OVER STUDS. HORIZONTAL JOINTS SHALL OCCUR OVER BLOCKING EQUAL IN SIZE TO THE STUDDING.
 - NOMINAL 1"x4" CONTINUOUS DIAGONAL BRACES LET INTO TOP AND BOTTOM PLATES AND INTERVENING STUDS, PLACED AT AN ANGLE NOT MORE THAN 60 DEGREES NOR LESS THAN 45 DEGREES FROM THE HORIZONTAL, AND ATTACHED TO THE FRAMING IN ACCORDANCE WITH UBC TABLE 23-I-Q.
 - PLYWOOD SHEATHING WITH A THICKNESS NOT LESS THAN 5/16" FOR 16" STUD SPACING AND NOT LESS THAN 3/8" FOR 24" STUD SPACING IN ACCORDANCE WITH UBC TABLES 23-I-M-1 AND 23-I-N-1.
 - GYPSUM BOARD SHEATHING NOT LESS THAN 1/2" THICK ON STUDS SPACED NOT OVER 24" ON CENTER AND NAILED AT 7" ON CENTER WITH NAILS AS REQUIRED IN UBC TABLE 25-I.
 - PORTLAND CEMENT PLASTER ON STUDS SPACED 16" ON CENTER INSTALLED IN ACCORDANCE WITH UBC TABLE 25-I.
 - PIPES IN WALLS. STUD PARTITIONS CONTAINING PLUMBING, HEATING, OR OTHER PIPES SHALL BE SO FRAMED AND THE JOISTS UNDERNEATH SO SPACED AS TO GIVE PROPER CLEARANCE FOR THE PIPING. WHERE A PARTITION CONTAINING SUCH PIPING RUNS PARALLEL TO THE FLOOR JOISTS, THE JOISTS UNDERNEATH SUCH PARTITIONS SHALL BE DOUBLED AND SPACED TO PERMIT THE PASSAGE OF SUCH PIPES AND SHALL BE BRIDGED. NOTCHES SHALL NOT BE PLACED IN STUDS UNLESS FULLY DETAILED ON THE CONTRACT DOCUMENTS.
 - CUTTING AND NOTCHING. ANY CUTTING AND NOTCHING SHALL BE ONLY AS DETAILED ON THE CONTRACT DOCUMENTS.
 - BORED HOLES. HOLES EXCEEDING 1/3 OF THE WIDTH OF THE MEMBER BEING PENETRATED SHALL NOT BE PLACED IN STUDS UNLESS FULLY DETAILED ON THE CONTRACT DOCUMENTS. HOLES NOT EXCEEDING 1/3 OF THE STUD WIDTH SHALL BE NEATLY BORED AND SHALL BE LOCATED IN THE CENTER OF THE MEMBER BEING PENETRATED.
 - FRAMING DETAILS. JOISTS SHALL BE SUPPORTED LATERALLY AT THE ENDS AND AT EACH SUPPORT BY SOLID BLOCKING 2" MINIMUM IN THICKNESS, EXCEPT WHERE THE ENDS OF JOISTS ARE SUPPORTED BY JOISTS HANGERS OR ARE NAILED DIRECTLY TO THE SUPPORTING MEMBER. ALL JOISTS SHALL HAVE A MINIMUM OF 1 1/2" OF BEARING ON WOOD OR METAL, AND NOT LESS THAN 3" ON MASONRY OR CONCRETE. DOUBLE ALL TRIM JOISTS SUPPORTING HEADERS AT OPENINGS IN THE FRAMING THAT REQUIRE CUTTING OF A JOIST TO ACCOMMODATE THE OPENING, OR AS DETAILED ON THE PLANS.
 - RAFTER TIES. RAFTERS SHALL BE NAILED TO ADJACENT CEILING JOISTS TO FORM A CONTINUOUS TIE BETWEEN EXTERIOR WALLS WHEN SUCH JOISTS ARE PARALLEL TO CEILING JOISTS TO FORM A CONTINUOUS TIE BETWEEN EXTERIOR WALLS WHEN SUCH JOISTS ARE PARALLEL TO THE RAFTERS. WHERE NOT PARALLEL, RAFTERS SHALL BE TIED TO "X4" NOMINAL MINIMUM SIZED CROSS TIES. RAFTER TIE SHALL BE SPACED NOT MORE THAN 4 FT. ON CENTER.
 - BLOCKING AND BRIDGING. ROOF JOISTS OR RAFTERS OF MORE THAN 8" IN DEPTH AND FLOOR JOISTS OF MORE THAN 4" IN DEPTH SHALL BE PROVIDED WITH BRIDGING TO DISTRIBUTE SUPERIMPOSED LOADS. FLOOR JOISTS SHALL BE BRIDGED A MAXIMUM OF 8 FEET ON CENTER AND ROOF JOISTS OR RAFTERS A MAXIMUM OF 10 FEET ON CENTER BY SOLID BLOCKING 2" THICK AND THE FULL DEPTH OF THE JOIST OR RAFTER, OR BY WOOD CROSS BRACING OF NOT LESS THAN "X3", OR NAILED METAL CROSS BRIDGING OF EQUAL STRENGTH. WHERE CROSS BRIDGING IS USED, THE LOWER ENDS OF SUCH CROSS BRIDGING SHALL BE DRIVEN UP AND NAILED AFTER THE FLOOR, SUBFLOOR OR ROOF HAS BEEN NAILED.
- 17. LATERAL SUPPORT.**
- SOLID-SAWN RECTANGULAR LUMBER BEAMS, RAFTERS AND JOISTS SHALL BE SUPPORTED LATERALLY TO PREVENT ROTATION OR LATERAL DISPLACEMENT IN ACCORDANCE WITH THE FOLLOWING: IF THE RATIO OF DEPTH TO THICKNESS, BASED ON NOMINAL DIMENSIONS, IS:
- TWO TO 1, NO LATERAL SUPPORT IS REQUIRED.
 - THREE TO 1 OR 4 TO 1, THE ENDS SHALL BE HELD IN POSITION, AS BY FULL-DEPTH SOLID BLOCKING, BRIDGING, NAILING OR BOLTING TO OTHER FRAMING MEMBERS, APPROVED HANGERS OR OTHER ACCEPTABLE MEANS.
 - FIVE TO 1, ONE EDGE SHALL BE HELD IN LINE FOR ITS ENTIRE LENGTH.
 - SIX TO 1, BRIDGING, FULL-DEPTH SOLID BLOCKING OR CROSS BRACING SHALL BE INSTALLED AT INTERVALS NOT EXCEEDING 8 FT. UNLESS BOTH EDGES ARE HELD IN LINE.
 - EXCEPTION: BRIDGING, FULL DEPTH BLOCKING OR CROSS BRACING MAY BE INSTALLED AT INTERVALS NOT EXCEEDING 10 FT FOR ROOF JOISTS OR RAFTERS.
 - SEVEN TO 1, BOTH EDGES SHALL BE HELD IN LINE FOR THEIR ENTIRE LENGTH.



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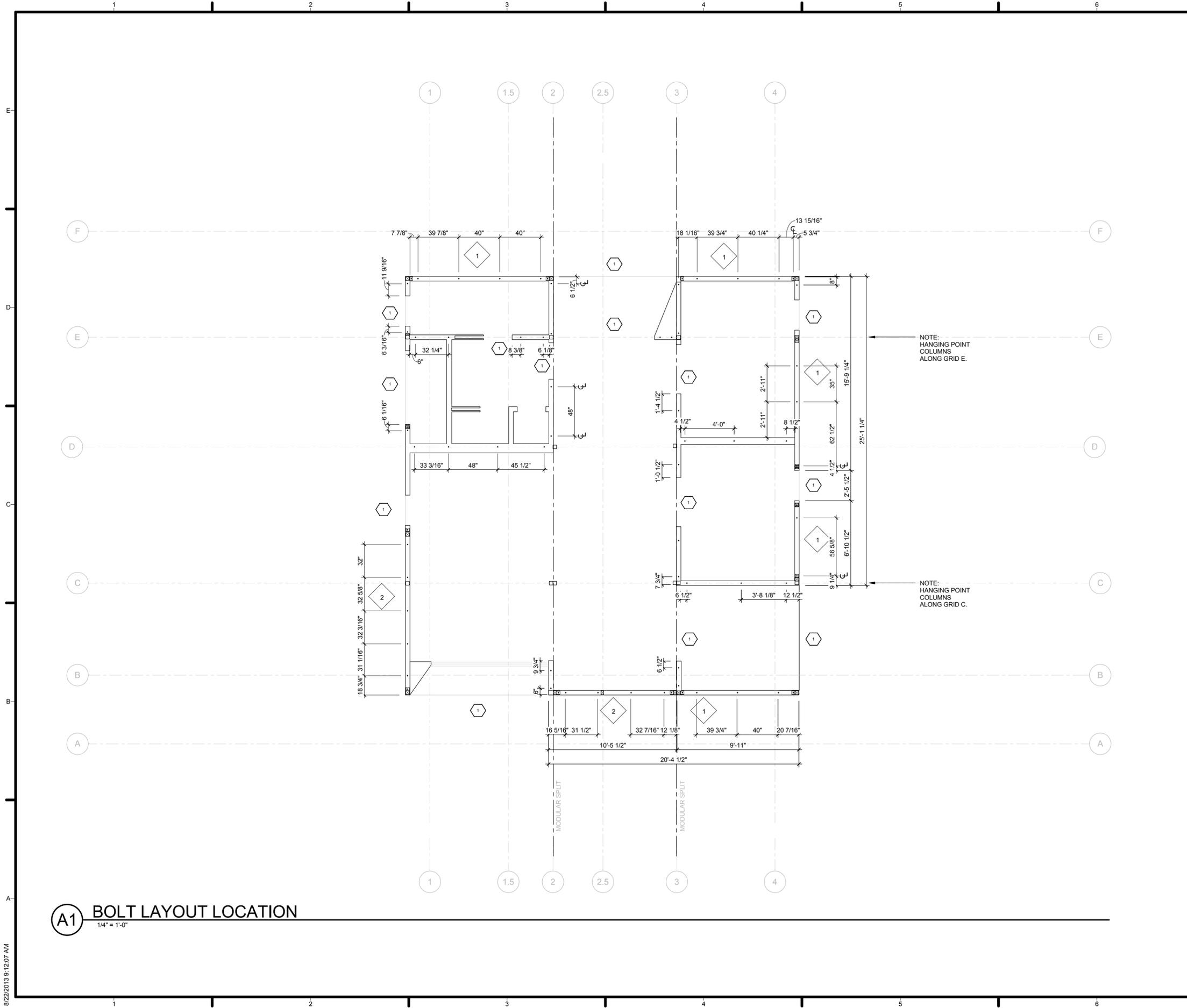


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SHEET TITLE

GENERAL NOTES

S-003



GENERAL SHEET NOTES

1. S-401B IS A BOLT LAYOUT DRAWING FOR FLOOR AND CEILING. HOWEVER, THERE WILL BE ADDITIONAL BOLTS AT CEILING LEVEL WHERE DOORWAYS AND OPENINGS WITH NO SILL PLATE THAT DO HAVE A TOP PLATE OVER A LINTEL.

SHEET KEYNOTES

1. FENESTRATION

SYMBOL LEGEND

-  TIMBER SHEAR WALL (2X4 @ 16" O.C. U.N.O.)
-  TIMBER PARTITION WALL (2X4 @ 16" O.C. U.N.O.)
-  SHEAR WALL TYPE. SEE SHEAR WALL SCHEDULE
-  HSS 3.5X3.5X1/4 STEEL COLUMN TYP. U.N.O.
-  4X4 WOOD POST
-  HOLD DOWN
-  HOLES PER APPROVED SHOP DRAWINGS.
-  BOLT HOLE FOR TOP PLATE @ OPENING AND DOOR WAY

REFERENCE KEYNOTES



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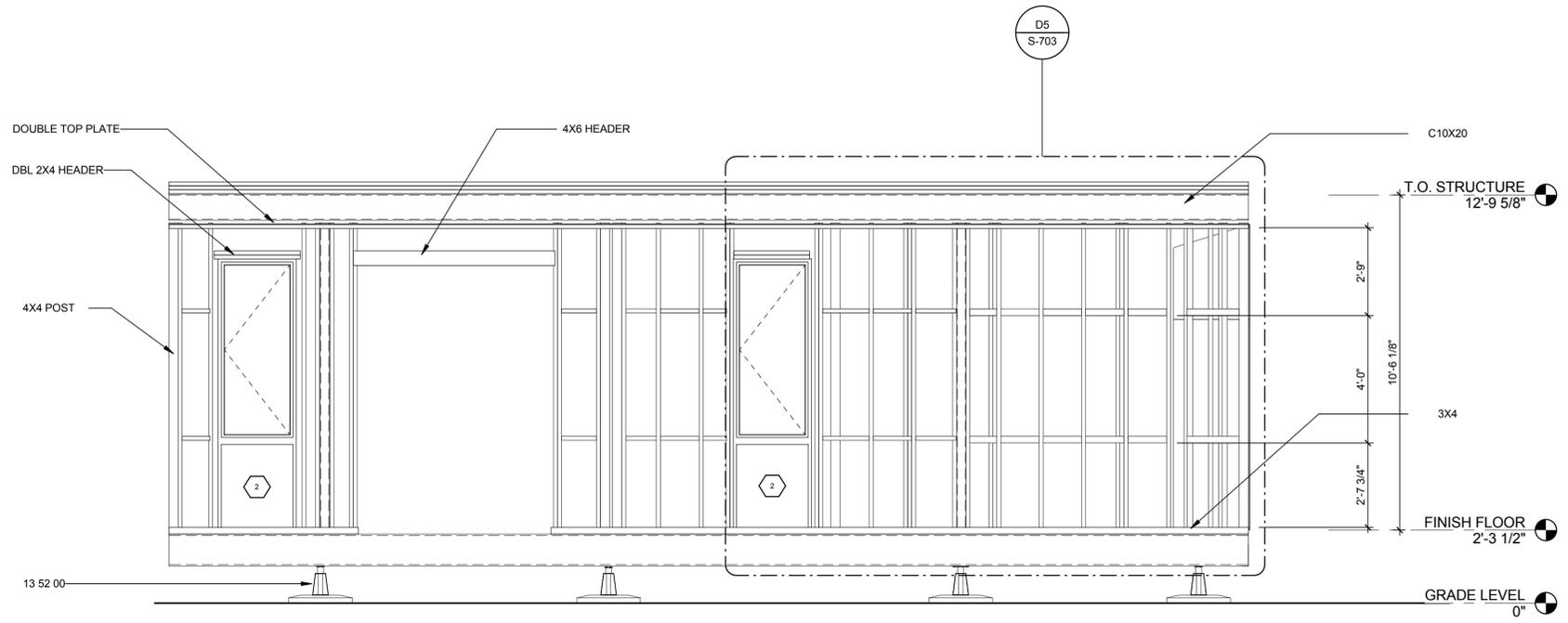


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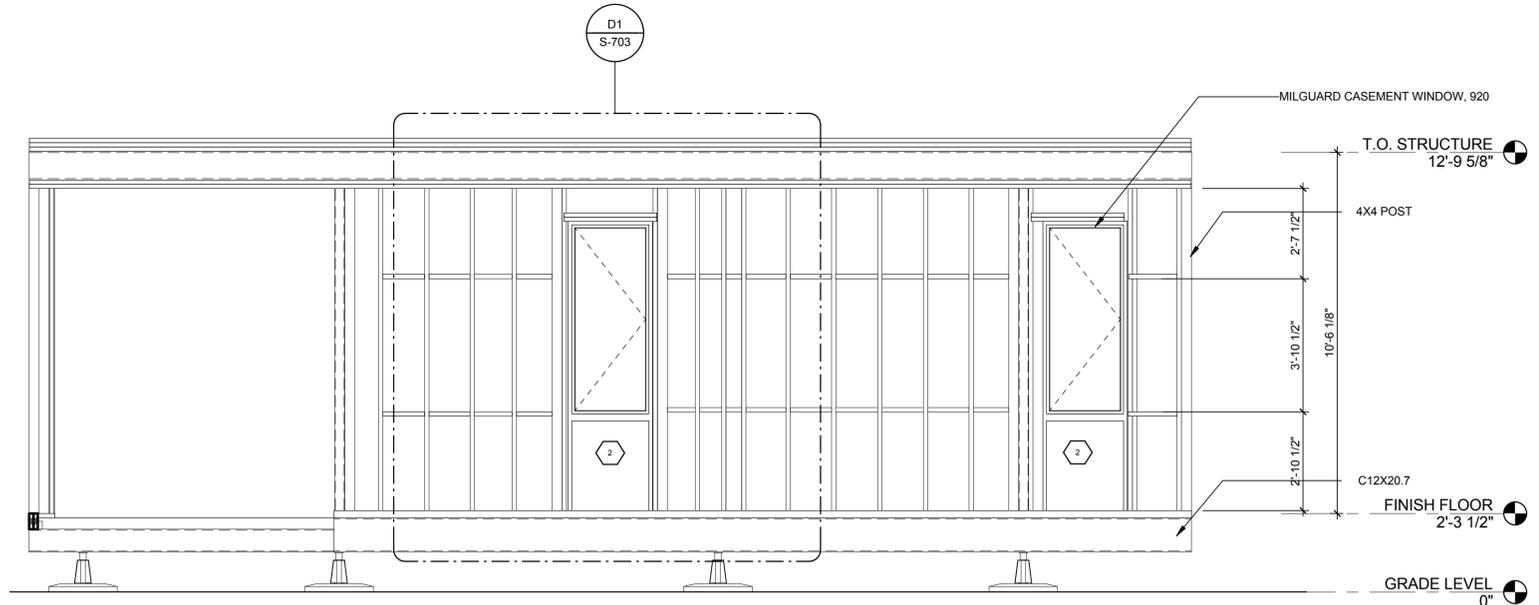
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SHEET TITLE
BOTTOM PLATE BOLT LAYOUT

S-401B



C1 FRAMING ELEVATION - WEST
3/8" = 1'-0"



A1 FRAMING ELEVATION - EAST
3/8" = 1'-0"



GENERAL SHEET NOTES

1. 1/2" OSB INSTALL ON EXTERIOR WALLS FOR SHEAR RESISTANCE
2. 2. 3x4 BLK. MUST PLACE ON SHEERWALL TYPE II



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 WATT HALL 204 LOS ANGELES, CA
 90089-0291 (213) 740-2723
 CONTACT: PROJECT MANAGER:
 FACULTY ADVISOR:

SHEET KEYNOTES

1. TIMBERLAND WOOD STUD @ 16" O.C.
2. FIXED LITE PANE

REFERENCE KEYNOTES

05 12 39.B6	C12X20.7
05 12 39.B9	C10X20
06 11 00.A8	DOUBLE TOP PLATE
06 11 00.D10	DBL 2X4 HEADER
06 11 00.K1	3X4
06 11 00.L2	4X4 POST
06 11 00.L4	4X6 HEADER
08 51 13.C1	MILGUARD CASEMENT WINDOW, 920
13 52 00	SEISMIC PIER

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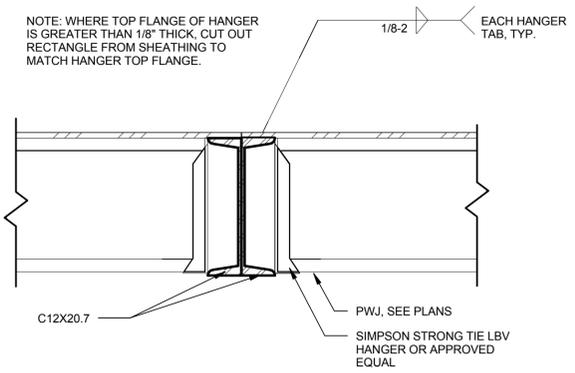


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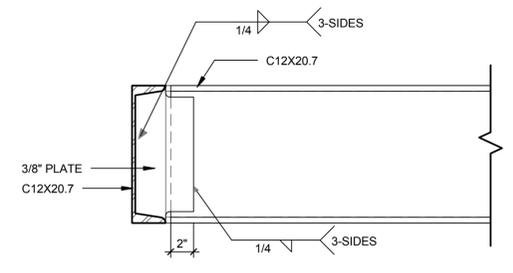
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FRAMING ELEVATIONS

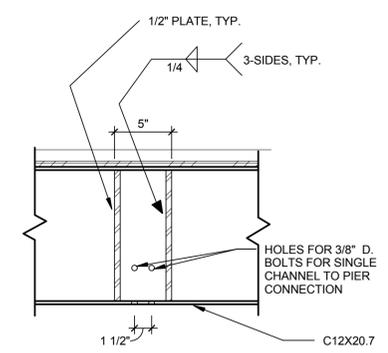
S-601



D1 TYP. PWJ HANGER TO STEEL BEAM W/O NAILER
1 1/2" = 1'-0"



D4 TYP. SHEAR CONNECTION TO BEAM
1 1/2" = 1'-0"



D6 CHANNEL STIFFENER PLATE
1 1/2" = 1'-0"

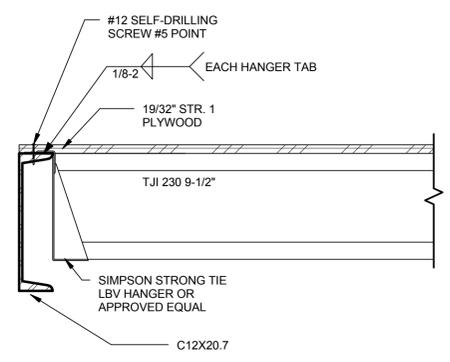
GENERAL SHEET NOTES

- 1. 19/32" @ SB Diaphragm
- 2. OSB TERM @ SPLIT SEAM

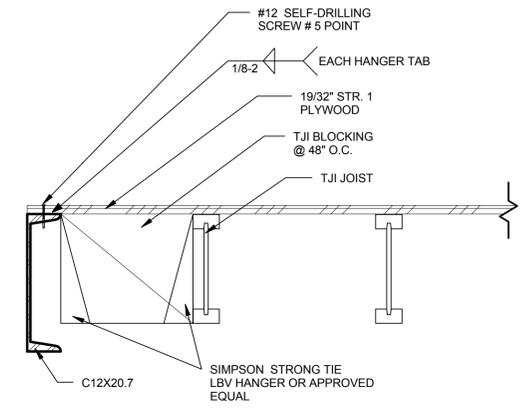


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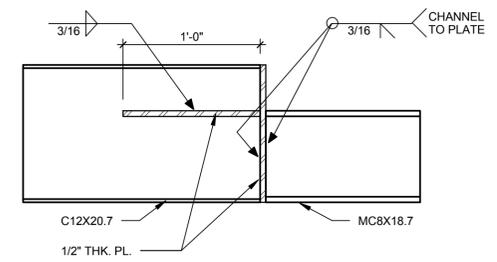
SHEET KEYNOTES



C1 TYP. FLOOR JOIST PERPENDICULAR TO BEAM
1 1/2" = 1'-0"

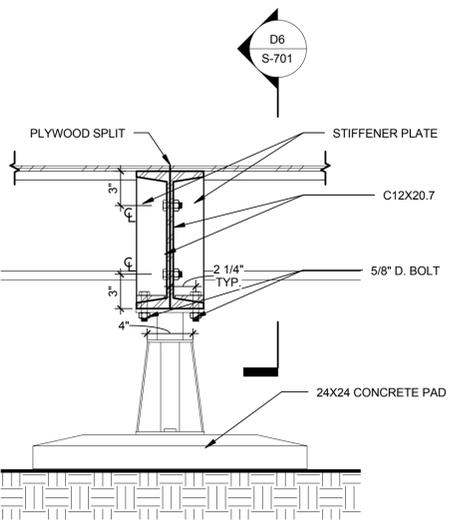


C3 TYP. FLOOR JOIST PARALLEL TO BEAM
1 1/2" = 1'-0"

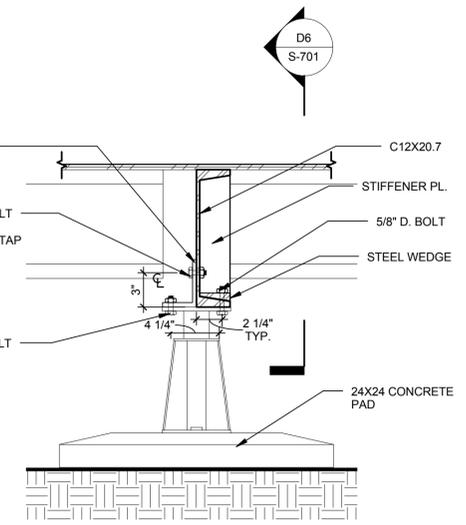


C6 TYP. SPLICED C CHANNEL
1 1/2" = 1'-0"

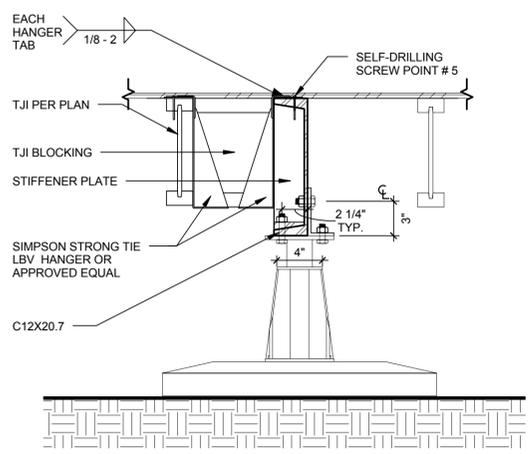
REFERENCE KEYNOTES



A1 CHANNEL TO PIER CONNECTION
1 1/2" = 1'-0"



A4 TYP. BRACE @ SUPPORT
1 1/2" = 1'-0"



A6 SEISMIC PIER PLAN
1 1/2" = 1'-0"

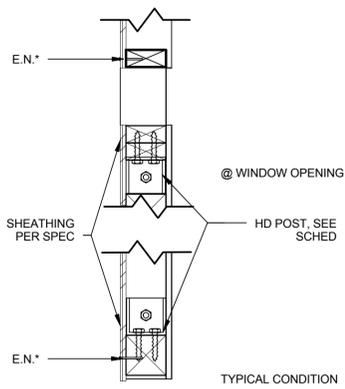
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FLOOR DETAILS

S-701



PWJ HANGER SCHEDULE				
	@ WOOD BEAM OR LEDGER	@ STEEL BEAM W/ NAILER	@ STEEL BEAM W/ OUTNAILER	REMARKS
TJI 230 9-1/2"	LBV	-	LBV WELDED	NO WEB STIFF. REQ.

HDU SCHEDULE				
SYMBOL	HOLDOWN SIZE	POST SIZE (MIN. X STUD WIDTH)	NO. OF SIMPSON SCREWS	ANCHOR BOLT DIA.
1	HDU2-SDS2.5	4X	6	5/8" Ø
2	HDU4-SDS2.5	4X	10	5/8" Ø

GENERAL SHEET NOTES

- HANGER DESIGNATIONS ARE FOR HANGERS MANUFACTURED BY SIMPSON. FOR SUBSTITUTIONS, SEE GENERAL NOTES.
- FOR WELDED HANGERS TO STEEL BEAM, USE TWO 1/8"-2 WELDS ON EACH TAB.
- HOLDOWN DESIGNATIONS & CONNECTORS ARE FOR HOLDOWNS MANUFACTURED BY SIMPSON.
- USE SIMPSON SDS 1/4"x2 1/2" WOOD SCREWS.



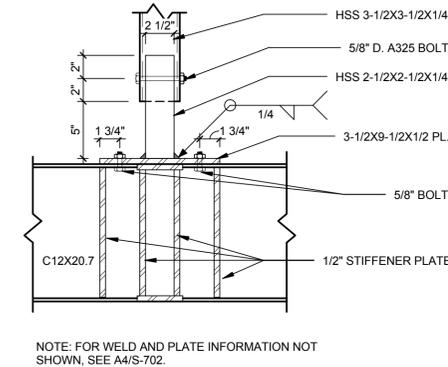
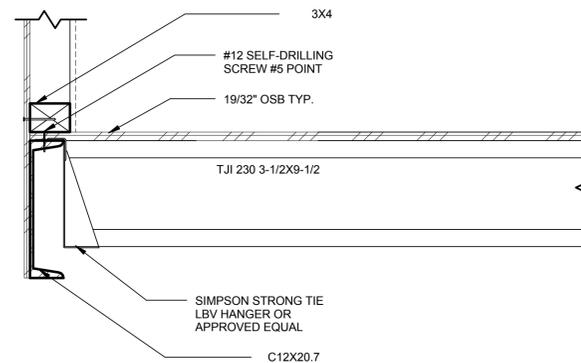
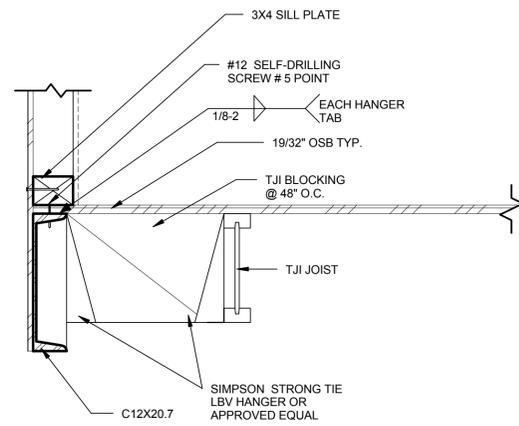
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D1 TYP. HDU HOLDOWN POST DETAILS
 1 1/2" = 1'-0"

D3 PWJ HANGER SCHEDULE
 12" = 1'-0"

D5 TYPICAL HDU HOLDOWN SCHEDULE
 12" = 1'-0"

SHEET KEYNOTES



C1 TYP. FLOOR @ EXTERIOR PARALLEL TO TJI
 1 1/2" = 1'-0"

C4 TYP FLOOR @ EXTERIOR TO TJI
 1 1/2" = 1'-0"

C5 TEMP. COLUMN DETAIL @ FLOOR
 1 1/2" = 1'-0"

REFERENCE KEYNOTES

05 12 39.B6	C12X20.7
06 05 23.B3	5/8" LAG SCREW
06 11 00.K1	3X4

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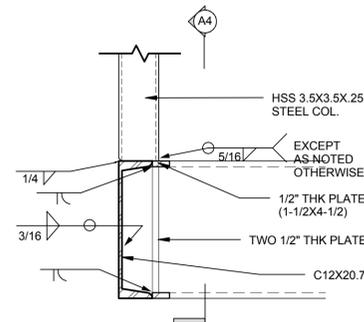
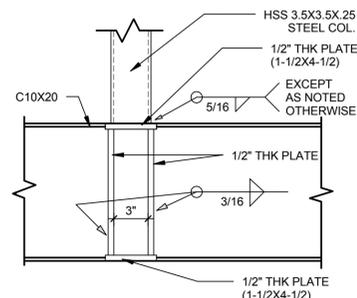
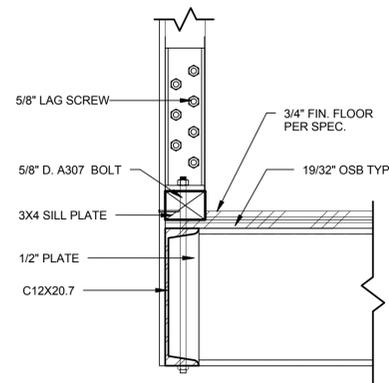
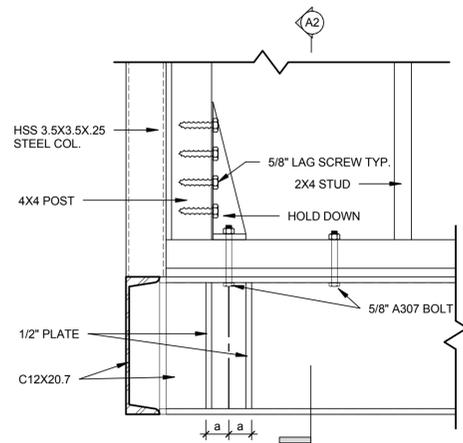


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SHEET TITLE
FLOOR DETAILS

S-702

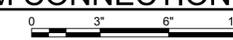


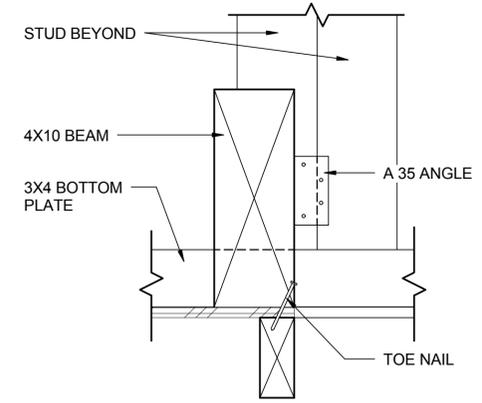
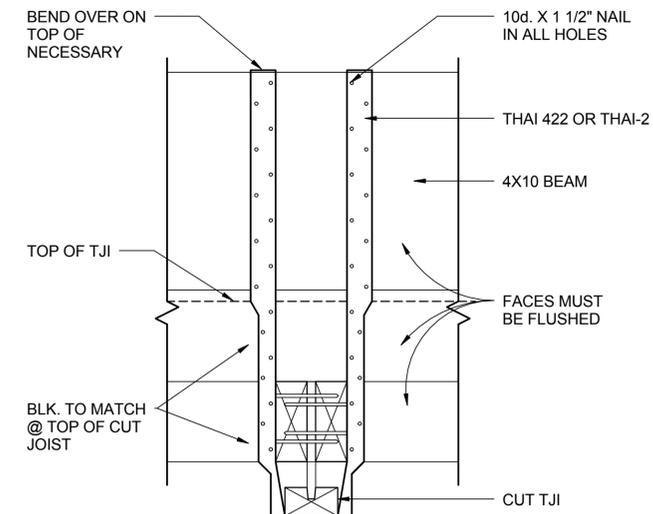
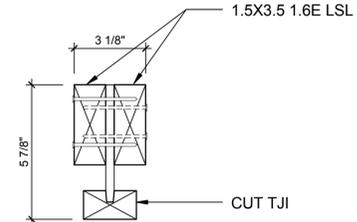
A1 HD TO BEAM CONNECTION
 1 1/2" = 1'-0"

A2 SECTION DETAIL
 1 1/2" = 1'-0"

A4 SECTION DETAIL
 1 1/2" = 1'-0"

A5 COLUMN TO BEAM CONNECTION
 1 1/2" = 1'-0"

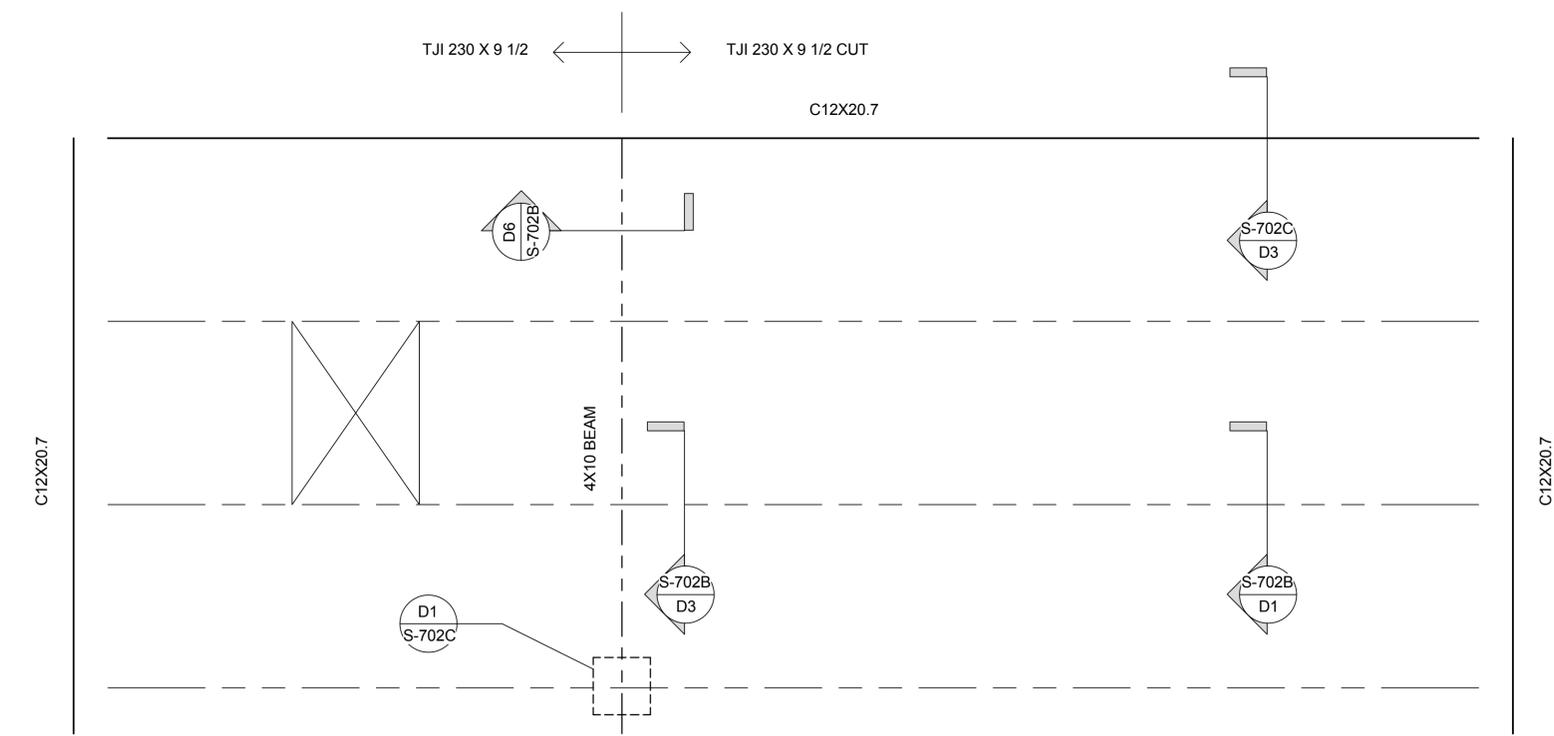




D1 CUT TJI @ SHOWER FOR DEPRESSION
3" = 1'-0"

D3 CUT TJI SUPPORT @ SHOWER
3" = 1'-0"

D6 BEAM SUPPORT NORTH END
3" = 1'-0"



A1 ENLARGED FLOOR FRAMING @ SHOWER
1 1/2" = 1'-0"

GENERAL SHEET NOTES

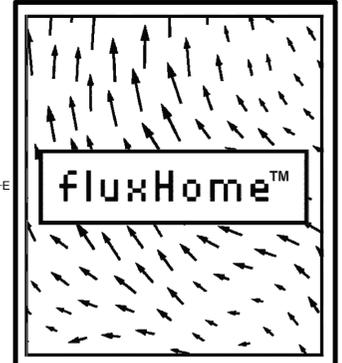
- FRAMING AT SHOWER IS MODIFIED FOR APPROPRIATE WATER DRAINAGE.
- TJI JOISTS NEED TO BE REINFORCED AND APPROPRIATE HANGERS. SEE DETAIL DRAWINGS.

SHEET KEYNOTES

SYMBOL LEGEND

- MODIFIED TJI
- 4X10 BEAM
- STEEL FRAME

REFERENCE KEYNOTES



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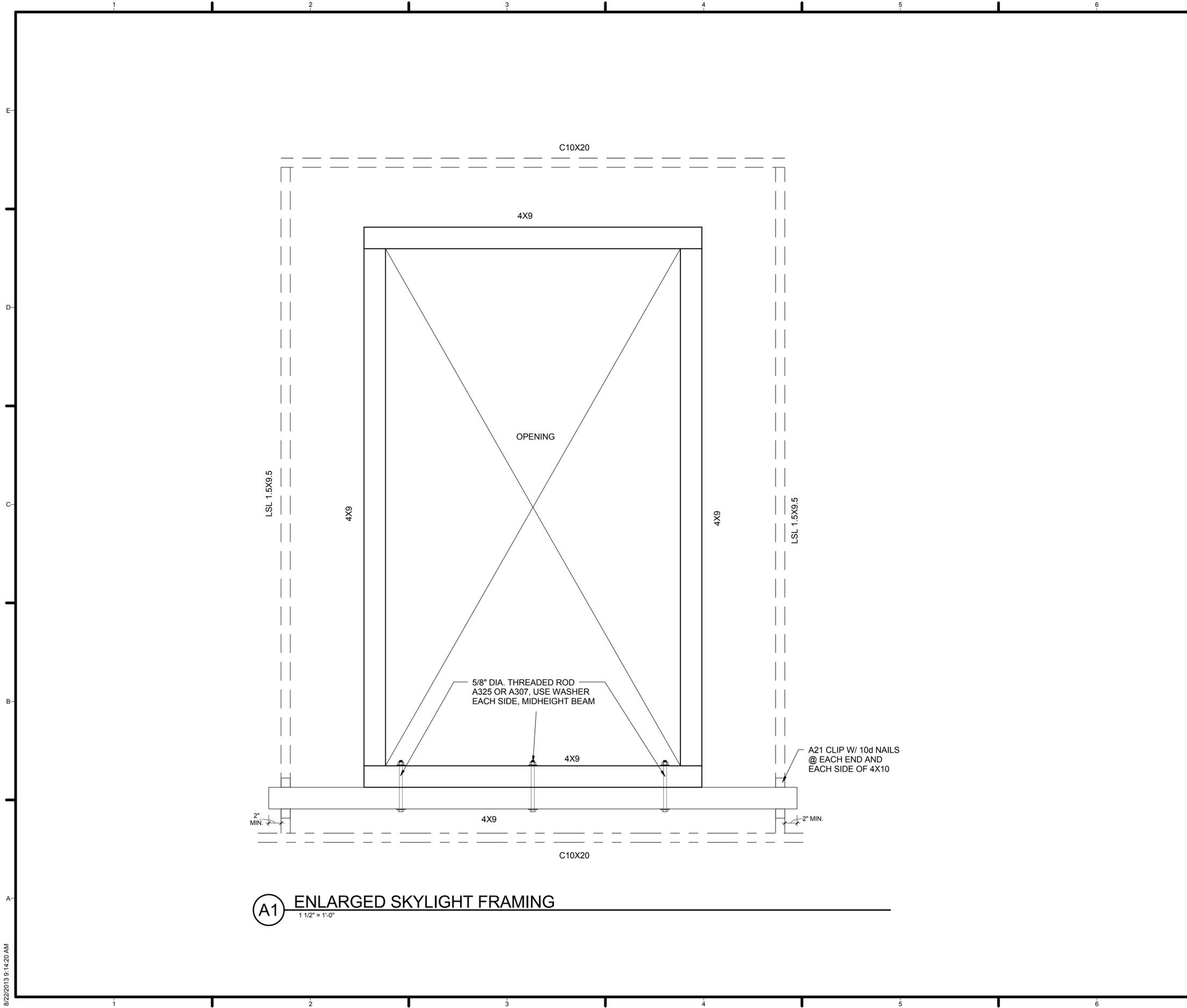
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SHEET TITLE
ENLARGED BATHROOM FLOOR FRAMING

S-702B



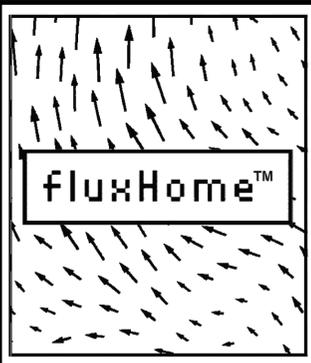
(A1) ENLARGED SKYLIGHT FRAMING
 1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. SKYLIGHT FRAMING IS TAPERED ON ALL SIDES. REFER TO SHEET A-313.

SHEET KEYNOTES

REFERENCE KEYNOTES



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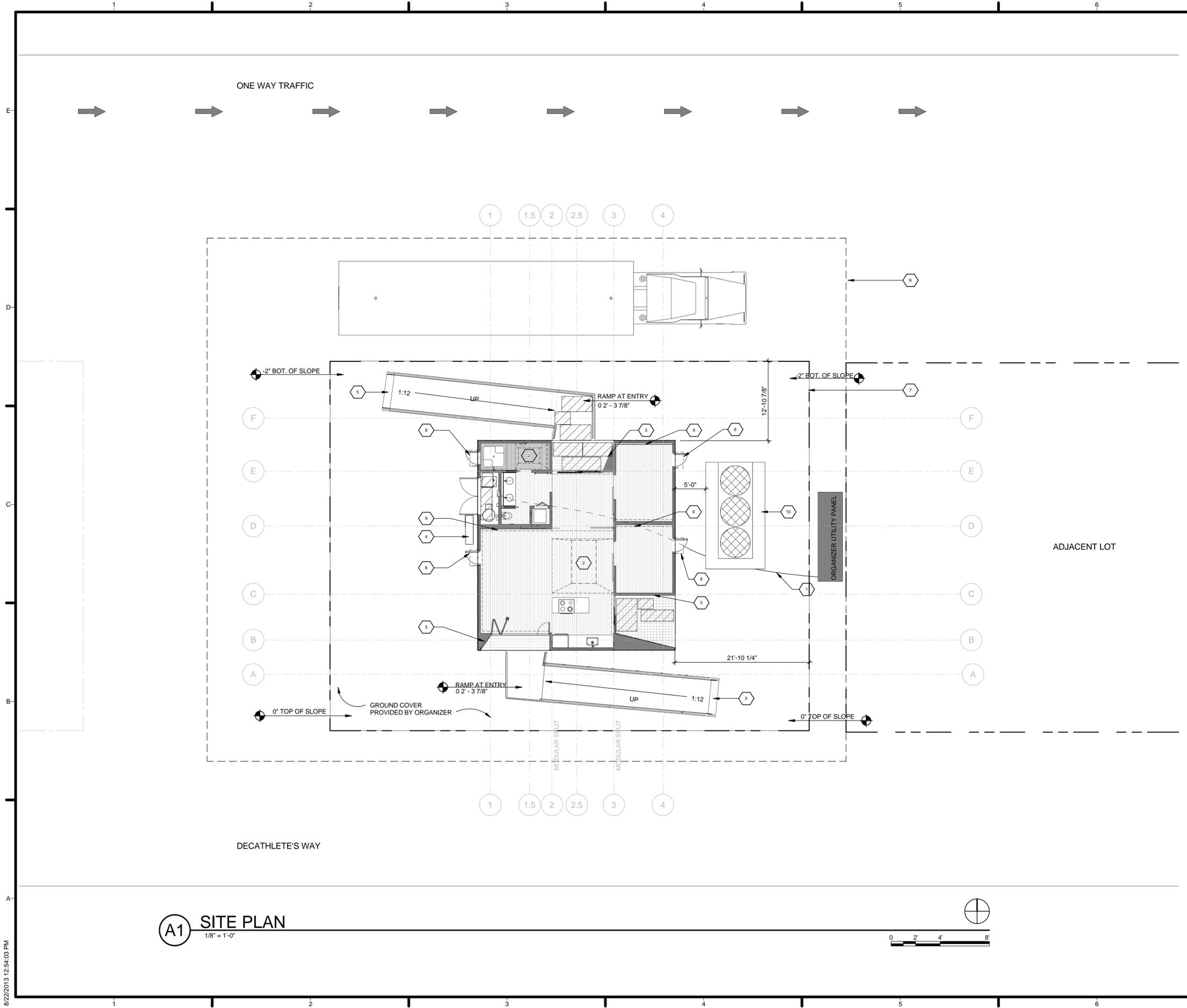
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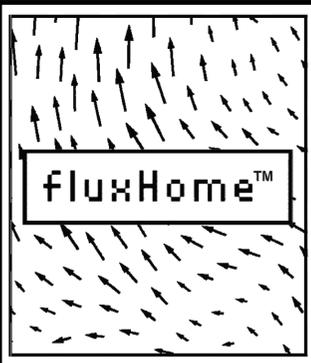
SHEET TITLE
ENLARGED SKYLIGHT FRAMING

S-705



GENERAL SHEET NOTES

1. GRID 2 & 3 DENOTE MODULAR SPLIT LINE OF THE BUILDING
2. ALL EQUIP. AND STORAGE MUST BE WITHIN DESIGNATED CONSTRUCTION AREA.
3. DIMENSIONS SHOWN TO F.O.F.
4. SITE SLOPE APPROXIMATED AS SHOWN. TO BE VERIFIED ON SITE.
5. TEMPORARY CONTAINER WILL BE REMOVED OFF SITE AFTER THE HOUSE IS ASSEMBLED.



SHEET KEYNOTES

1. POWER CABLE LINE
2. OPERABLE SKYLIGHT ABOVE
3. VERTICAL GARDEN
4. HEAT PUMP
5. METAL PLATE PROVIDED BY TEAM
6. CONSTRUCTION AREA BOUNDARY
7. SOLAR ENVELOPE
8. ALUMINUM SOLAR BAFFLE
9. LED UPLIGHT ABOVE CABINET.
10. SHADED STRUCTURE FOR SUPPLY WATER TANKS.

SYMBOL LEGEND

- SUPPLY WATER TANKS
- WASTE WATER COLLECTION TANK

REFERENCE KEYNOTES

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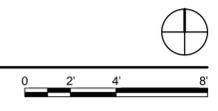
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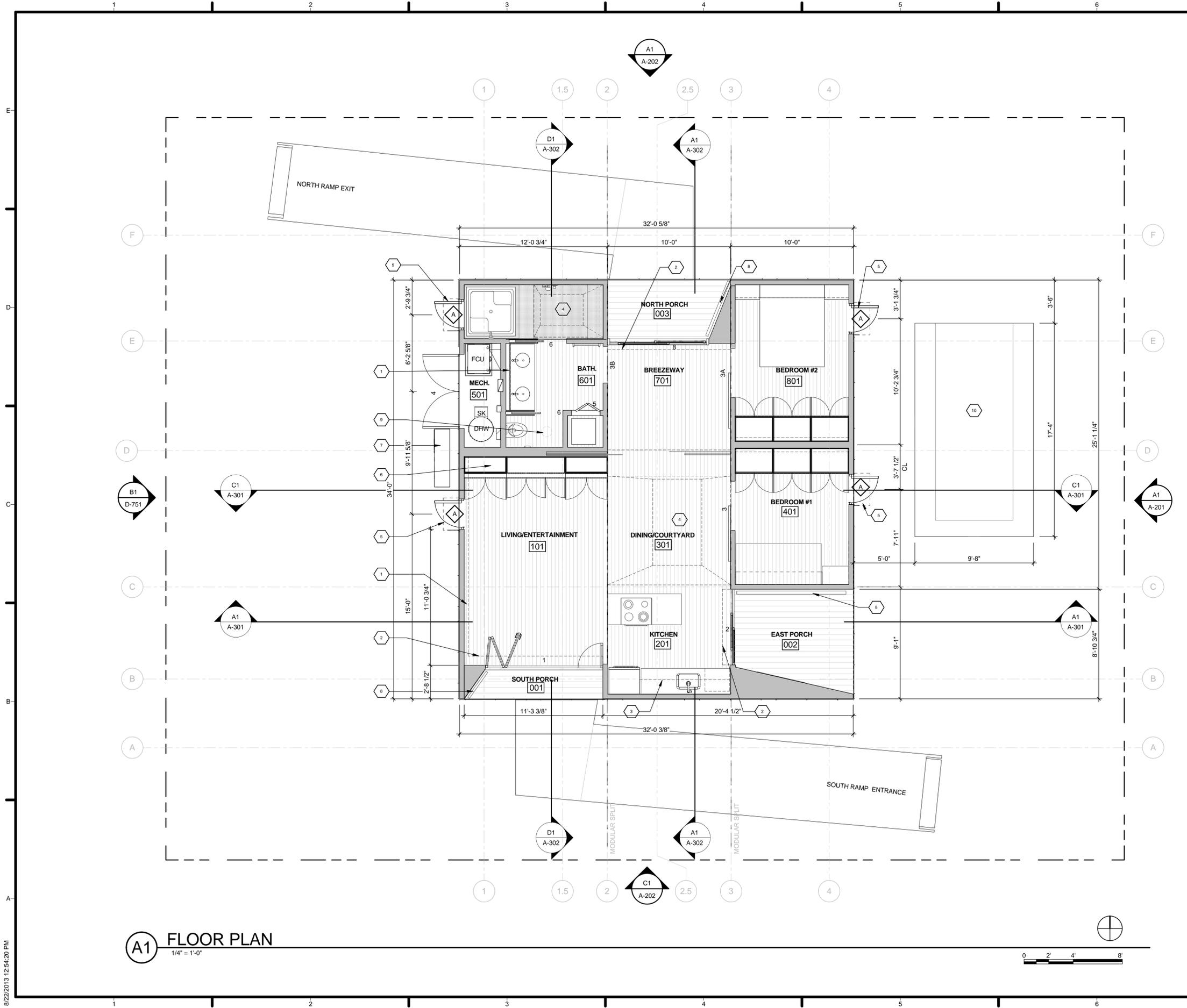
SITE PLAN

A-101

A1 SITE PLAN
 1/8" = 1'-0"



8/22/2013 12:54:03 PM



GENERAL SHEET NOTES

1. GRIDLINES ALIGN WITH CP SEISMIC PIER FOOTING.
2. GRID 2 & 3 DENOTE MODULAR SPLIT
3. ELEVATION DATUM MEASURES FROM THE HIGHEST POINT OF GRADE WITHIN PROPERTY LINE.
4. DRAWING OF EXTERIOR SHINGLE IS NOTATIONAL NOT ACTUAL. SEE WALL SECTION FOR DETAILS.
5. SPOT ELEVATION IS RELATIVE TO F.O.F



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SHEET KEYNOTES

1. CEILING COVE FOR LED LIGHTING
2. CEILING COVE FOR DRAPES
3. CABINET ABOVE
4. SKYLIGHT ABOVE. SEE A-312 & A-313 FOR DETAILS
5. WINDOW TO BE INSTALLED WITH CASEMENT ON TOP & FIXED ON BOTTOM. SEE A-312 FOR DETAILS. TYP
6. BUILT-IN CASE WORK TO BE INSTALLED WITH LED UPLIGHTING
7. MONOBLOC HEAT PUMP UNIT
8. GREEN WALL
9. SUN TUNNEL OVERHEAD
10. WATER SUPPLY TANK SHADING

SYMBOL LEGEND

- SUPPLY WATER TANKS
- FCU FAN COIL UNIT
- DHW DOMESTIC HOT WATER
- SK SOALAR KIT

REFERENCE KEYNOTES

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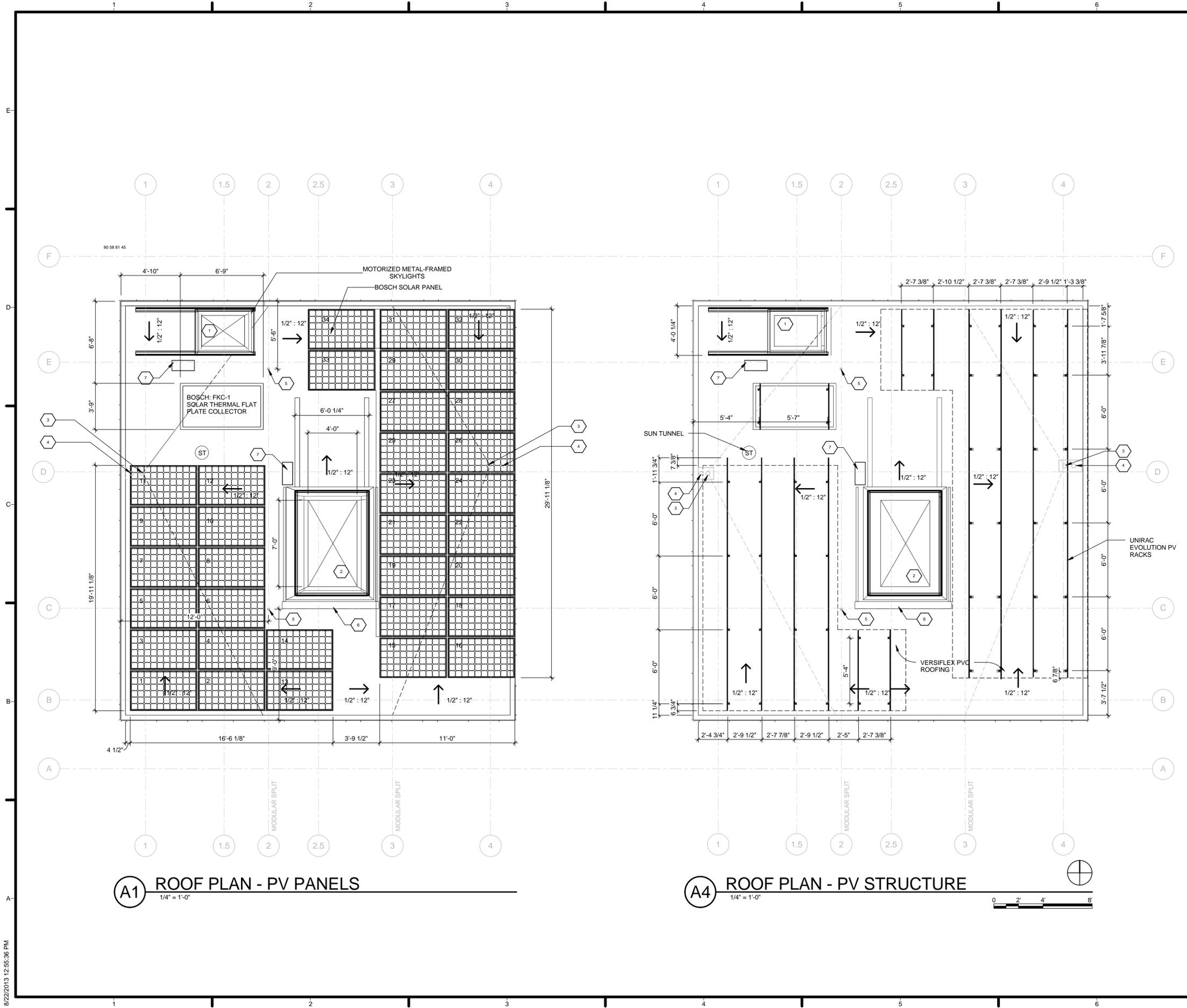
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SHEET TITLE
 FLOOR PLAN

A-111

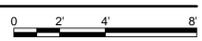
A1 FLOOR PLAN
 1/4" = 1'-0"





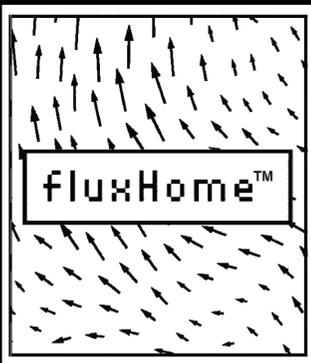
A1 ROOF PLAN - PV PANELS
1/4" = 1'-0"

A4 ROOF PLAN - PV STRUCTURE
1/4" = 1'-0"



GENERAL SHEET NOTES

1. HOUSE AND FLEX SPACE ROOF TO BE EQUIPPED WITH FALL RESTRAINTS THAT COMPLY WITH SAFETY REQUIREMENT
2. PIPES FOR ROOF DRAINS & OVERFLOW ARE BUILT INSIDE WALL AND MUST CONTAIN ALL SPILLAGE TO PREVENT RUNOFF ON THE SITE



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SHEET KEYNOTES

1. OPERABLE SKYLIGHT ABOVE BATHROOM. SEE A-312 FOR DETAILS
2. OPERABLE SKYLIGHT ABOVE COURTYARD. SEE A-313 FOR DETAILS
3. VERSIFLEX ROOF DRAIN
4. VERSIFLEX OVERFLOW DRAIN
5. FALL RESTRAIN HOOK
6. SUNESTA SKYLIGHT SHADING
7. OPERABLE SKYLIGHT MOTOR

REFERENCE KEYNOTES

08 63 53	MOTORIZED METAL-FRAMED SKYLIGHTS
26 24 16	BOSCH SOLAR PANEL

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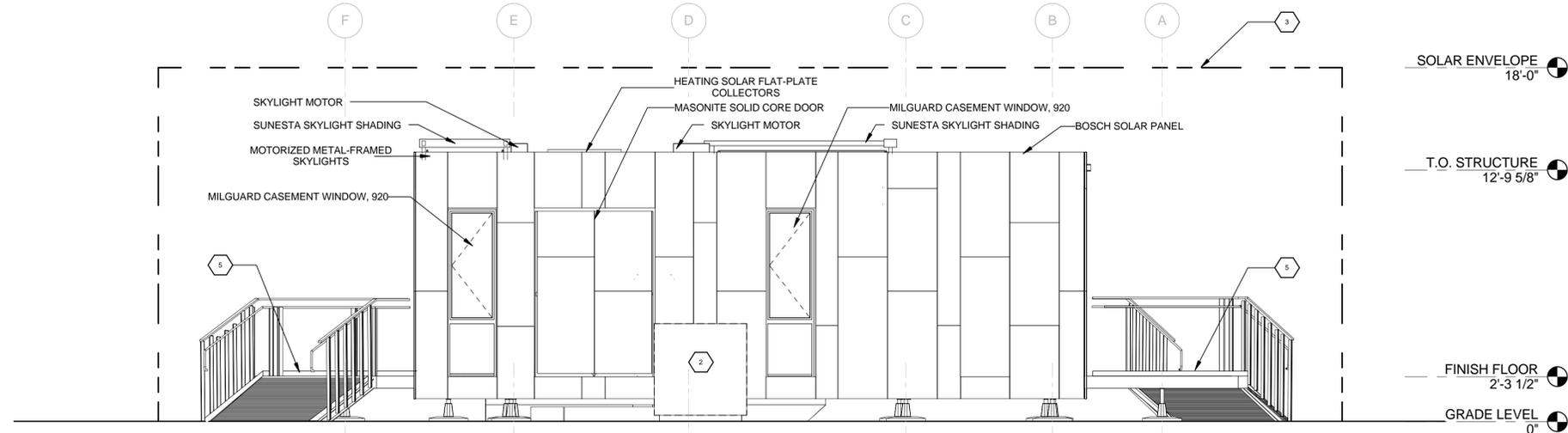


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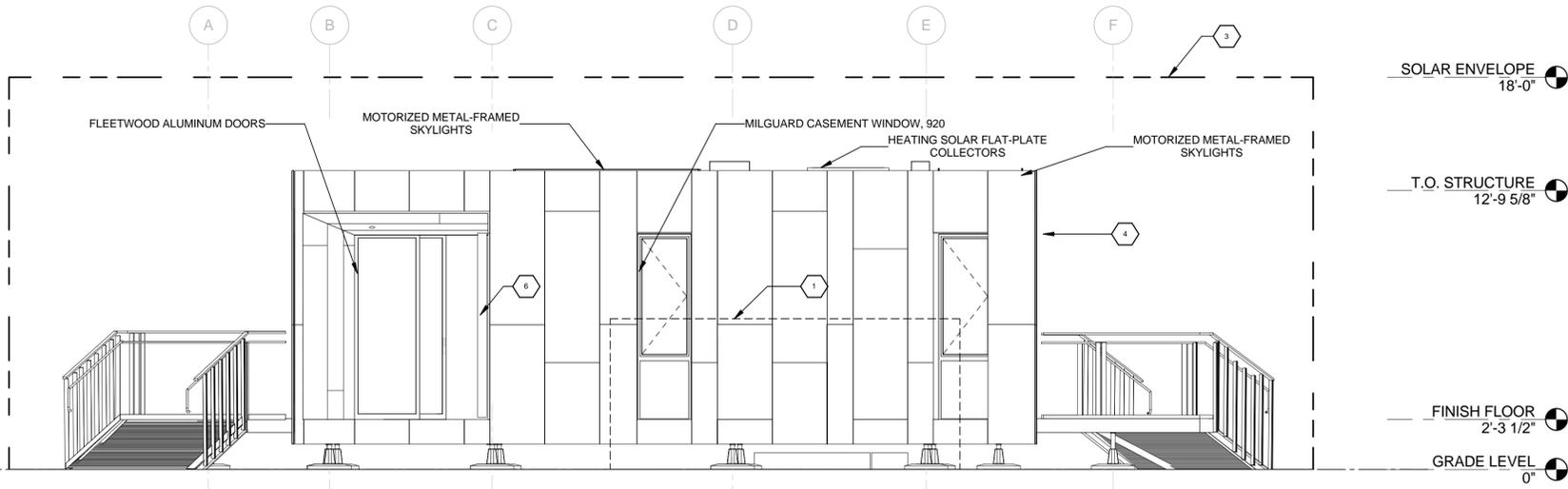
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ROOF PLAN

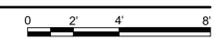
A-113



C1 WEST ELEVATION
1/4" = 1'-0"

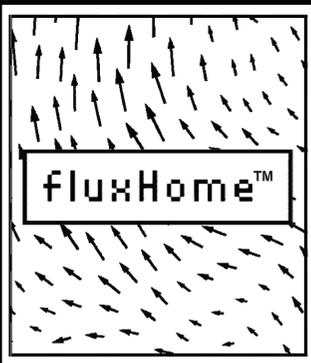


A1 EAST ELEVATION
1/4" = 1'-0"



GENERAL SHEET NOTES

1. EXTERIOR SKIN DRAWING IS FOR NOTATION, NOT ACTUAL. SEE WALL SECTIONS FOR DETAILS.
2. SUPPLY WATER TANKS ARE SHADED. SEE A-711 FOR DETAILS.
3. EXTERIOR CLADDING IS FOR NOTATION NOT ACTUAL.



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SHEET KEYNOTES

1. SUPPLY WATER TANKS SHADING STRUCTURE
2. DAIKIN ALTHERMA MONOBLOC UNIT
3. SOLAR ENVELOPE
4. EXTERIOR CLADDING
5. BOTTOM EDGE PROTECTION 3" TALL
6. GREEN WALL

REFERENCE KEYNOTES

08 14 00.A3	MASONITE SOLID CORE DOOR
08 32 13	FLEETWOOD ALUMINUM DOORS
08 51 13.C1	MILGUARD CASEMENT WINDOW, 920
08 63 53	MOTORIZED METAL-FRAMED SKYLIGHTS
23 56 13.13	HEATING SOLAR FLAT-PLATE COLLECTORS
26 24 16	BOSCH SOLAR PANEL

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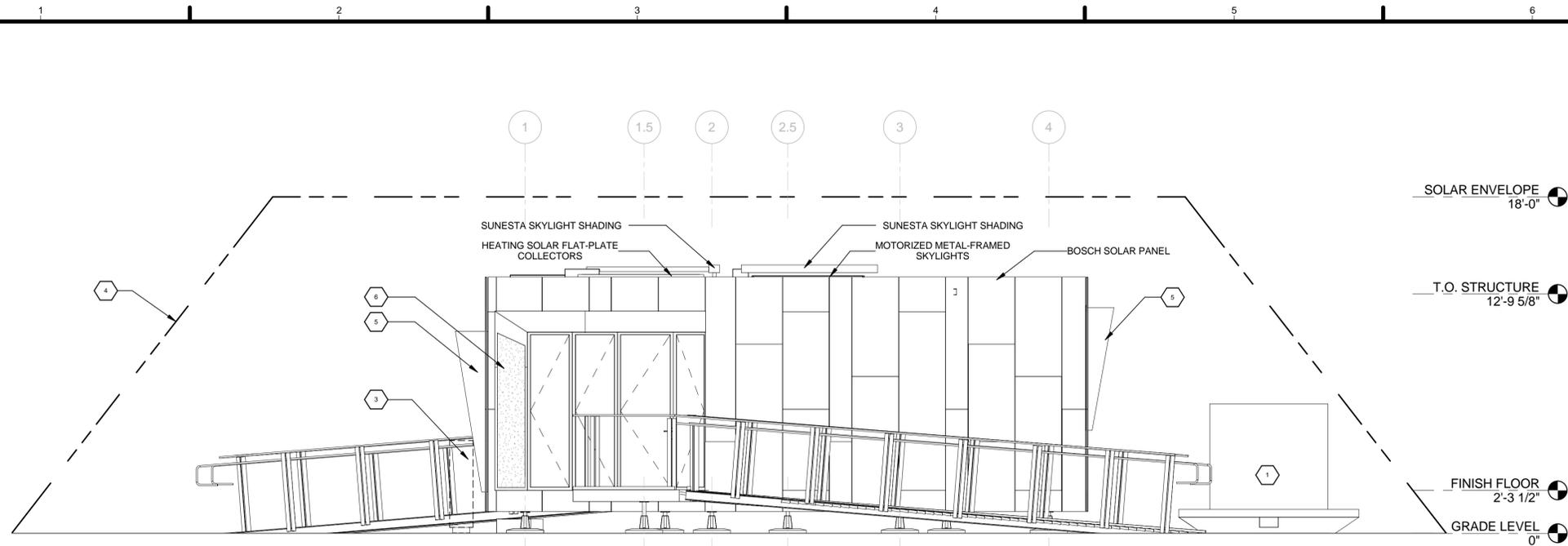


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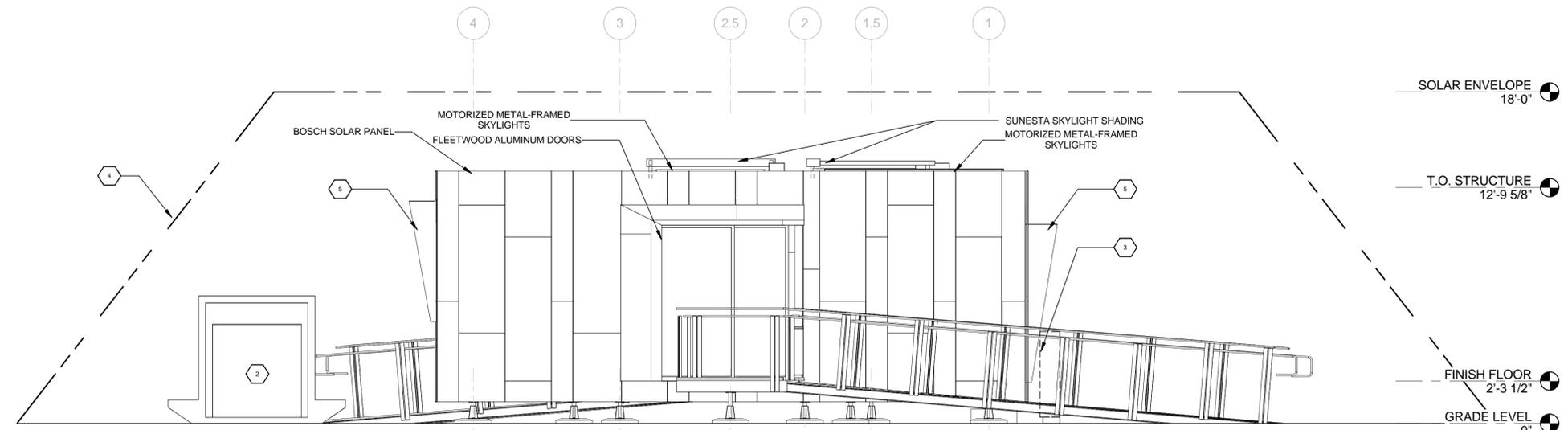
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EXTERIOR ELEVATIONS

A-201



C1 SOUTH ELEVATION
1/4" = 1'-0"



A1 NORTH ELEVATION
1/4" = 1'-0"



GENERAL SHEET NOTES

1. EXTERIOR SKIN DRAWING IS FOR NOTATION, NOT ACTUAL. SEE WALL SECTIONS FOR DETAILS.
2. SUPPLY WATER TANKS ARE SHADED. SEE A-711 FOR DETAILS.
3. EXTERIOR CLADDING IS FOR NOTATION NOT ACTUAL.

SHEET KEYNOTES

1. SUPPLY WATER SHADING STRUCTURE
2. SUPPLY WATER TANKS
3. DAIKIN ALTHERMA MONOBLOC UNIT
4. SOLAR ENVELOPE
5. ALUMINUM HOOD
6. GREEN WALL

REFERENCE KEYNOTES

08 32 13	FLEETWOOD ALUMINUM DOORS
08 63 53	MOTORIZED METAL-FRAMED SKYLIGHTS
23 56 13.13	HEATING SOLAR FLAT-PLATE COLLECTORS
26 24 16	BOSCH SOLAR PANEL



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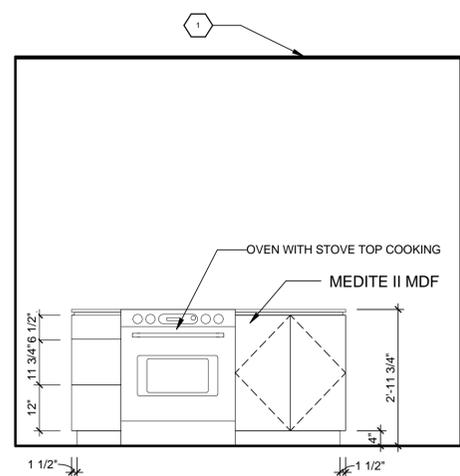


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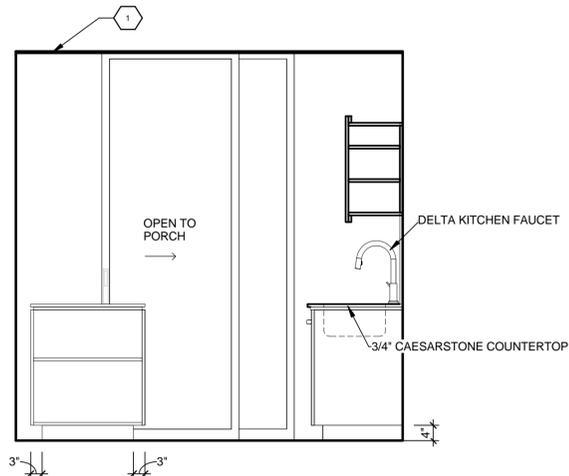
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SHEET TITLE
EXTERIOR ELEVATIONS

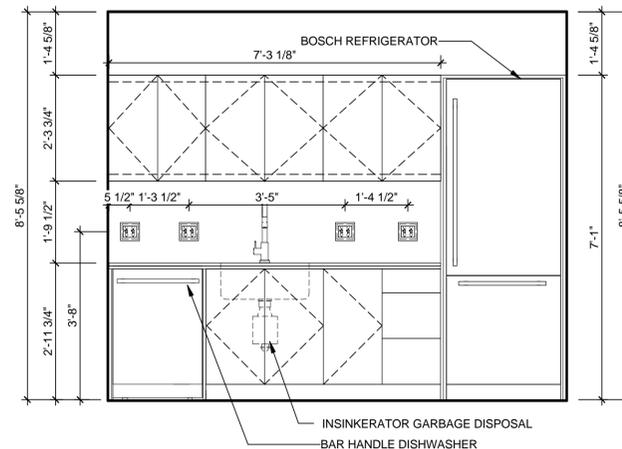
A-202



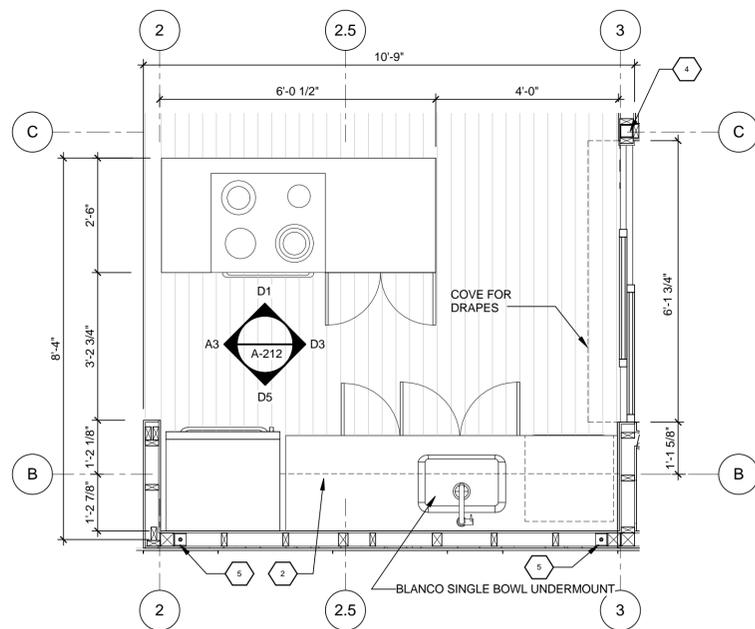
D1 KITCHEN ISLAND - NORTH ELEVATION
1/2" = 1'-0"



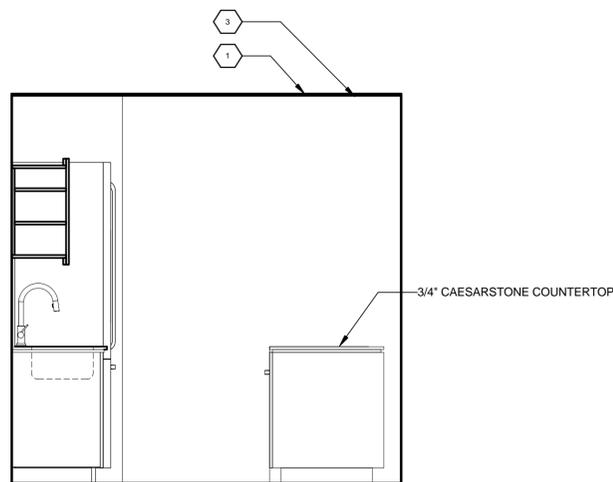
D3 KITCHEN - EAST SECTION
1/2" = 1'-0"



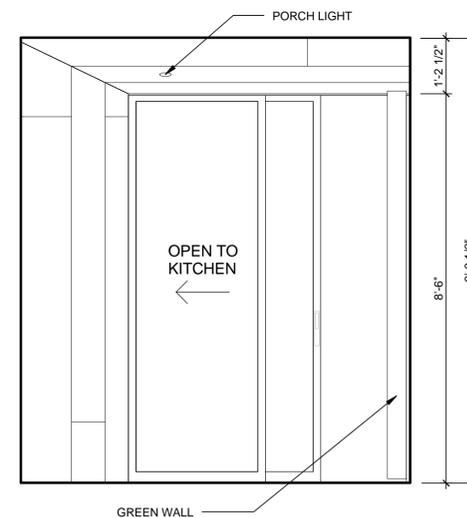
D5 KITCHEN SOUTH ELEVATION
1/2" = 1'-0"



A1 KITCHEN ENLARGED PLAN
1/2" = 1'-0"



A3 KITCHEN - WEST SECTION
1/2" = 1'-0"



A5 EAST PORCH - ELEVATION
1/2" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

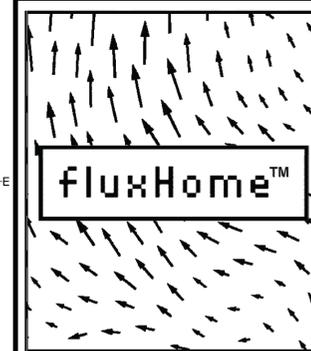
- 1. AIR SUPPLY VENT
- 2. CABINET ABOVE
- 3. KITCHEN EXHAUST FAN
- 4. HSS 3.5 x 3.5 x 0.25
- 5. HOLD DOWN

SYMBOL LEGEND

- * SPRINKLER

REFERENCE KEYNOTES

- 11 31 13.A1 BOSCH REFRIGERATOR
- 11 31 13.A5 OVEN WITH STOVE TOP COOKING
- 11 31 13.A6 BAR HANDLE DISHWASHER
- 12 36 40.A1 3/4" CAESARSTONE COUNTERTOP
- 22 41 16.A14 BLANCO SINGLE BOWL UNDERMOUNT
- 22 41 39 DELTA KITCHEN FAUCET



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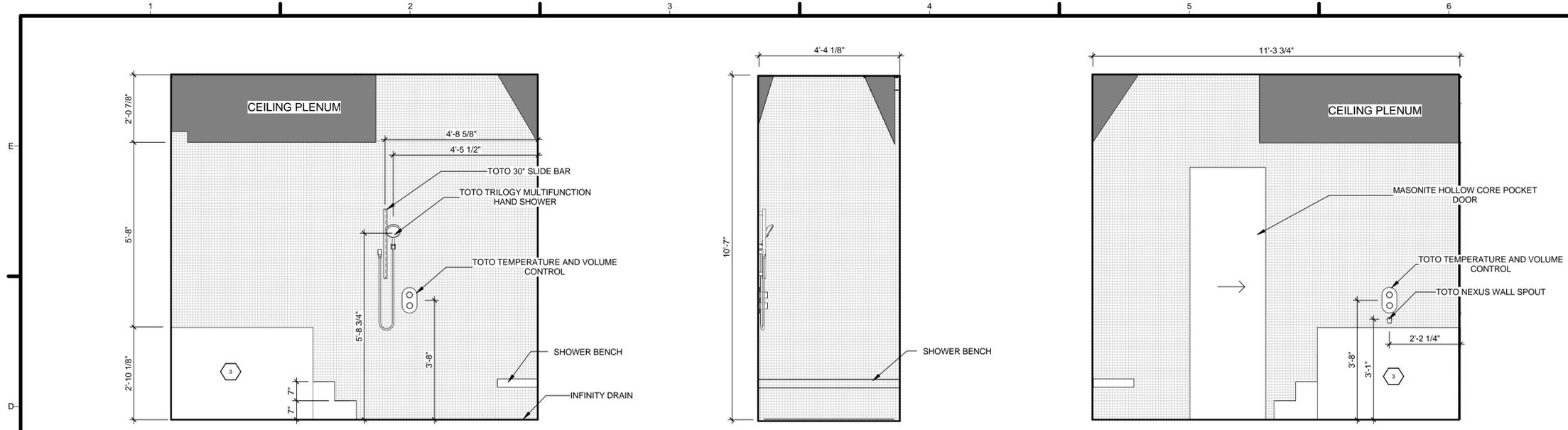
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SHEET TITLE

ENLARGED PLANS AND ELEVATIONS - KITCHEN

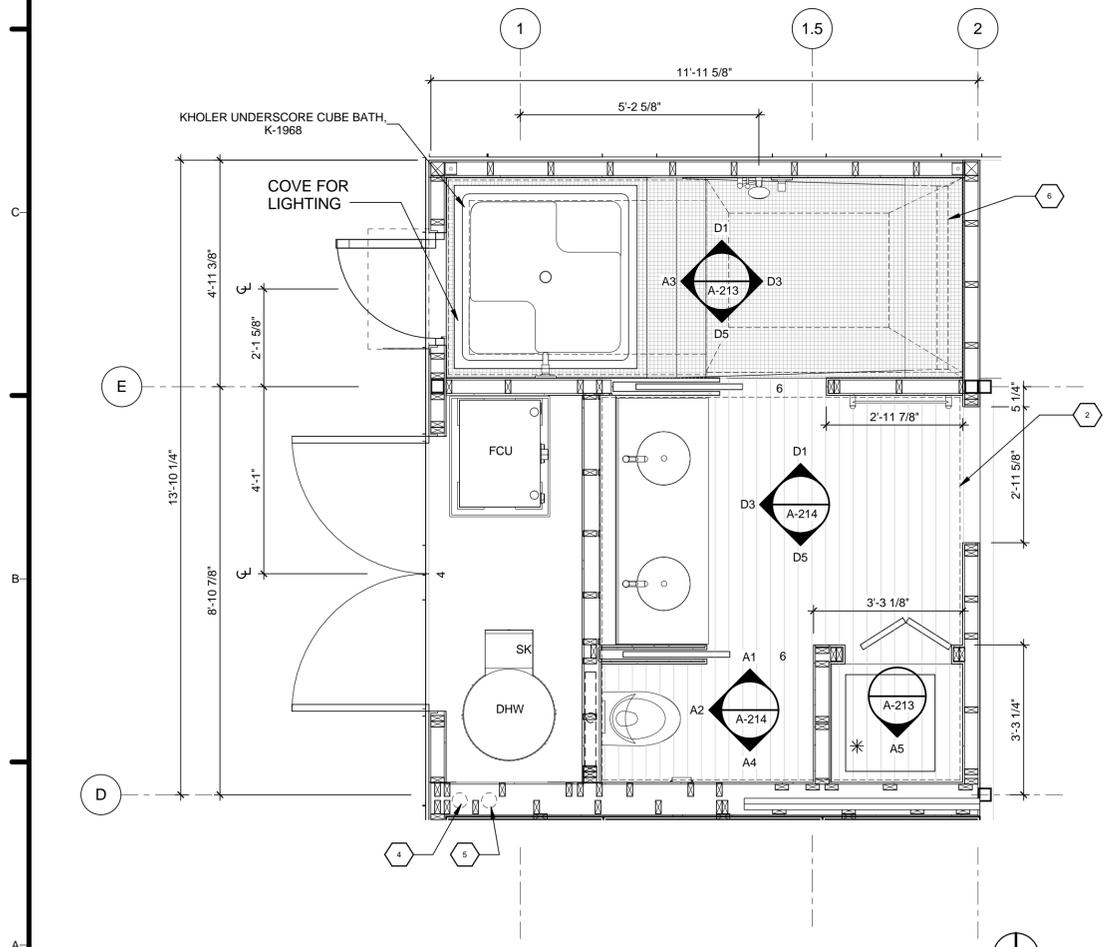
A-212



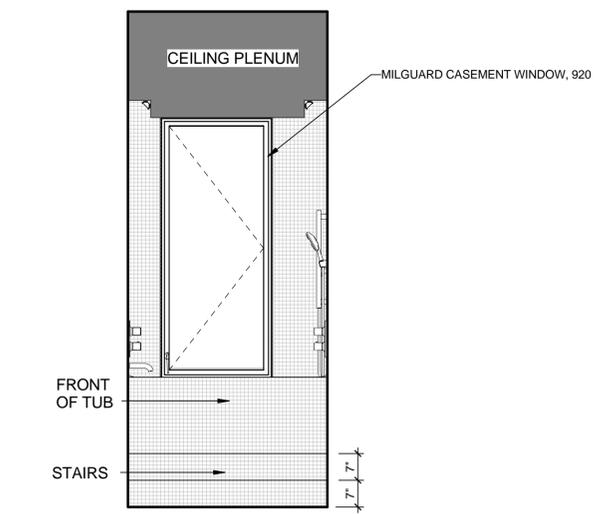
D1 BATH + SHOWER - NORTH ELEVATION
1/2" = 1'-0"

D3 BATH + SHOWER - EAST ELEVATION
1/2" = 1'-0"

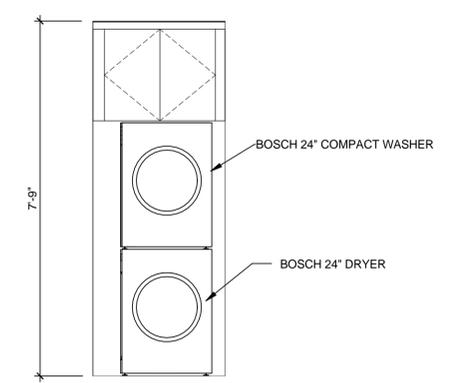
D5 BATH + SHOWER - SOUTH ELEVATION
1/2" = 1'-0"



A1 BATHROOM / MECH CLOSET - ENLARGED PLAN
1/2" = 1'-0"



A3 BATHTUB - EAST ELEVATION
1/2" = 1'-0"



A5 W/D - SOUTH ELEVATION
1/2" = 1'-0"

GENERAL SHEET NOTES

1. FOR MECHANICAL CLOSET ELEVATION, SEE E-302.

SHEET KEYNOTES

1. SKYLIGHT
2. DROPPED CEILING
3. BATHTUB
4. ROOF RAIN DRAIN
5. ROOF RAIN OVERFLOW DRAIN
6. DRAIN BELOW

SYMBOL LEGEND

* SPRINKLER

REFERENCE KEYNOTES

08 14 73.C1	MASONITE HOLLOW CORE POCKET DOOR
08 51 13.C1	MILGUARD CASEMENT WINDOW, 920
10 80 13	TOTO 30" SLIDE BAR
11 31 23.A1	BOSCH 24" COMPACT WASHER
21 05 23	TOTO TEMPERATURE AND VOLUME CONTROL
22 13 19.13.A1	INFINITY DRAIN
22 41 19.D2	KHOLER UNDERSCORE CUBE BATH, K-1968
22 41 39.A3	TOTO NEXUS WALL SPOUT
22 41 39.A4	TOTO TRILOGY MULTIFUNCTION HAND SHOWER



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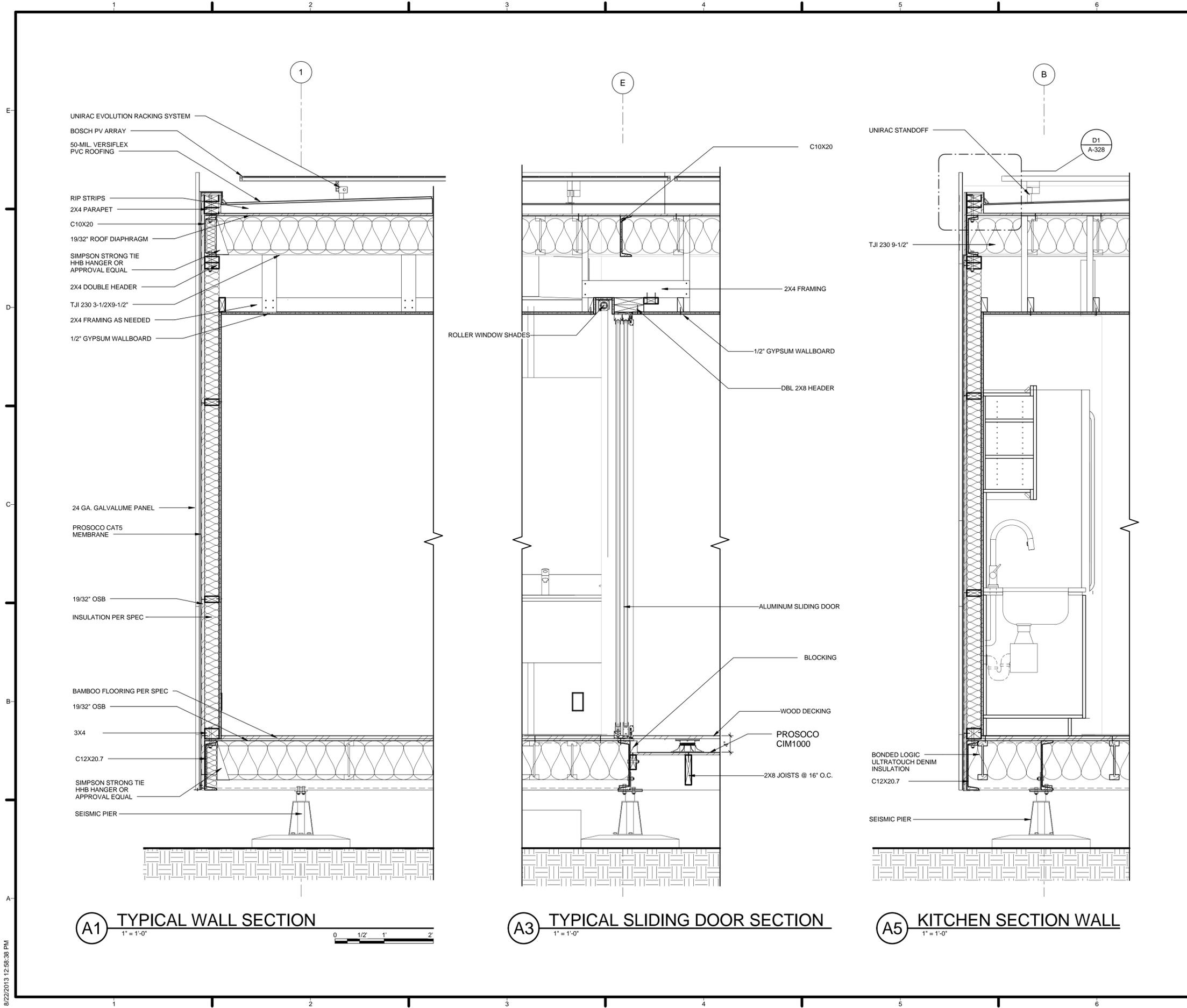


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ENLARGED PLANS AND ELEVATIONS - BATHROOM/MECH

A-213



GENERAL SHEET NOTES

GENERAL SHEET NOTES

SHEET KEYNOTES

SHEET KEYNOTES

REFERENCE KEYNOTES

05 12 39.B6	C12X20.7
05 12 39.B9	C10X20
06 11 00.A1	BLOCKING
06 11 00.D3	2X4 FRAMING
06 11 00.G6	2X8 JOISTS @ 16" O.C.
06 11 00.G15	DBL 2X8 HEADER
06 11 00.K1	3X4
06 15 00	WOOD DECKING
06 17 33	WOOD I-JOISTS
08 11 00.A0	ALUMINUM SLIDING DOOR
09 29 00.A3	1/2" GYPSUM WALLBOARD
12 24 13	ROLLER WINDOW SHADES
13 52 00	SEISMIC PIER



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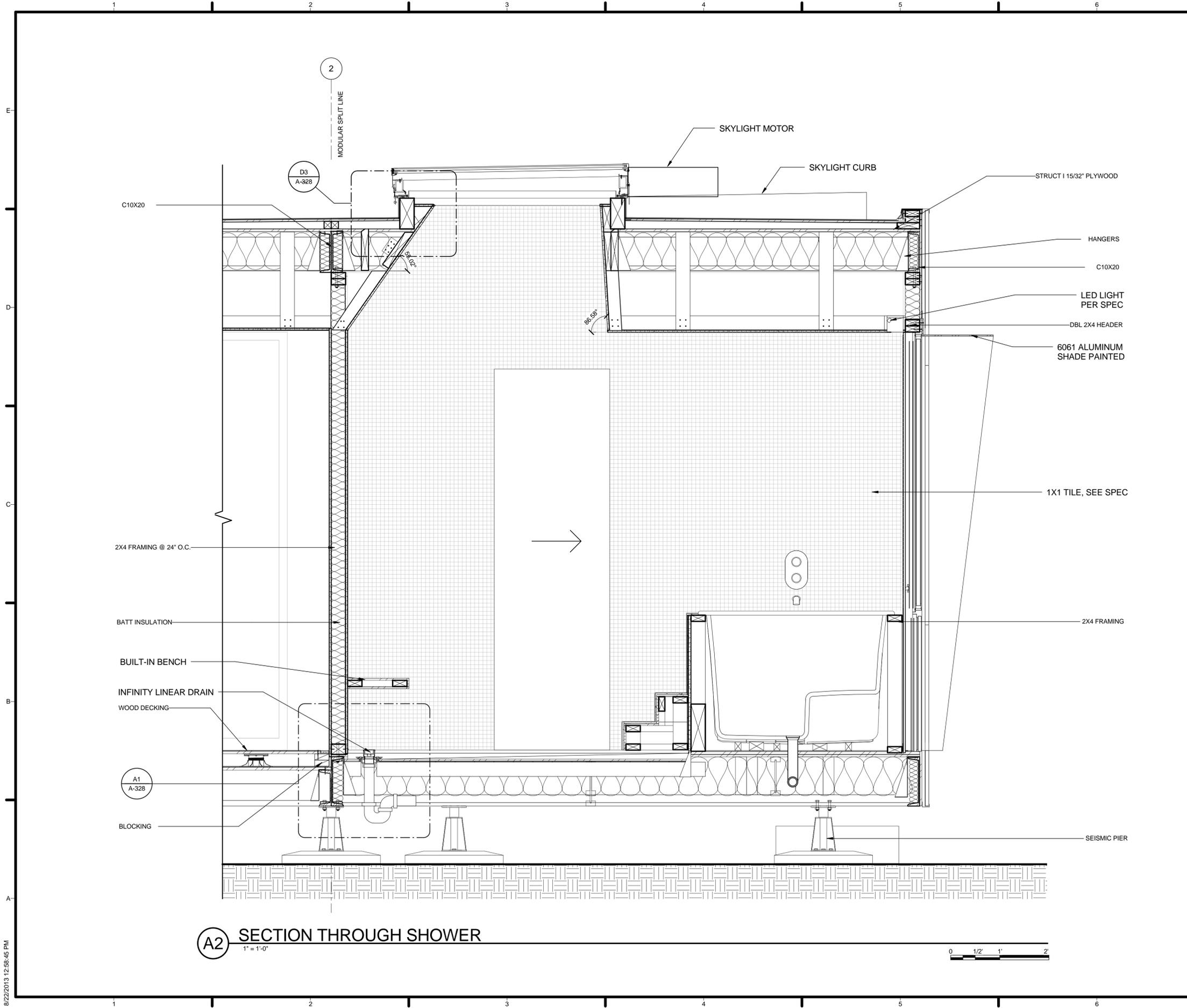


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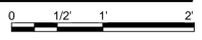
SHEET TITLE

WALL SECTIONS

A-311



A2 SECTION THROUGH SHOWER
1" = 1'-0"



GENERAL SHEET NOTES

SHEET KEYNOTES

REFERENCE KEYNOTES

05 12 39.B9	C10X20
06 05 23.J0	HANGERS
06 11 00.A1	BLOCKING
06 11 00.D3	2X4 FRAMING
06 11 00.D6	2X4 FRAMING @ 24" O.C.
06 11 00.D10	DBL 2X4 HEADER
06 11 00.G1	2X8
06 15 00	WOOD DECKING
06 16 00.E5	STRUCT I 15/32" PLYWOOD
07 21 16.A10	BATT INSULATION
13 52 00	SEISMIC PIER
22 41 39	DELTA KITCHEN FAUCET



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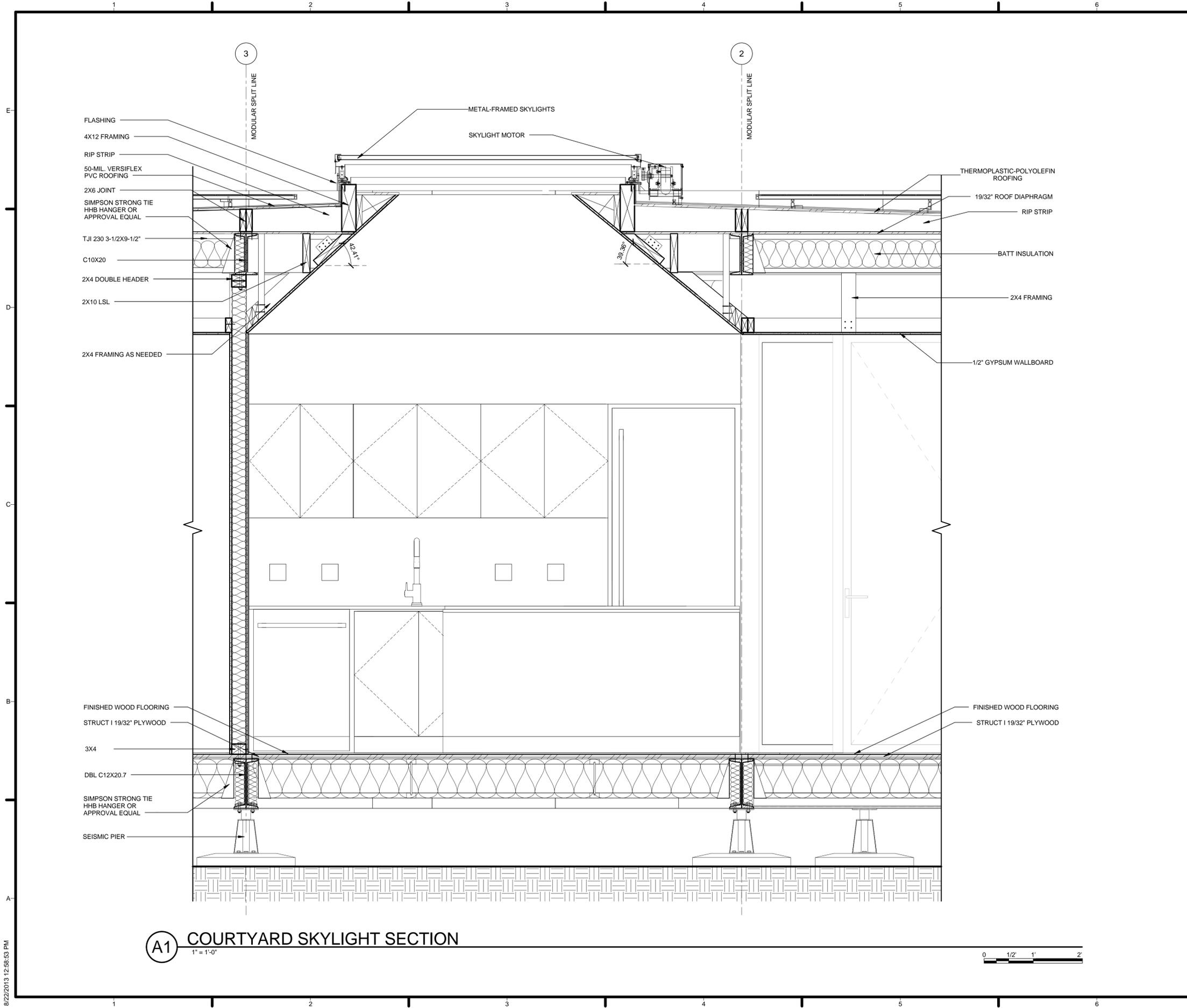
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SHEET TITLE
WALL SECTIONS

A-312



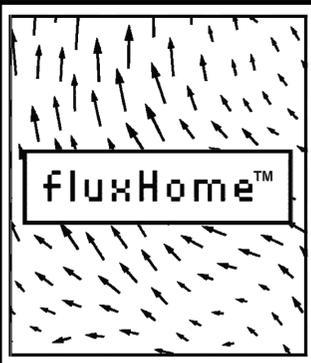
GENERAL SHEET NOTES

1. FOR KITCHEN CASEWORK, SEE SHOP DRAWINGS.
2. SKYLIGHT SHOP DRAWING IS PROVIDED BY CONTRACTOR.

SHEET KEYNOTES

REFERENCE KEYNOTES

05 12 39.B9	C10X20
06 11 00.D3	2X4 FRAMING
06 11 00.D6	2X4 FRAMING @ 24" O.C.
06 11 00.K1	3X4
07 21 16.A10	BATT INSULATION
07 54 23	THERMOPLASTIC-POLYOLEFIN ROOFING
08 63 00	METAL-FRAMED SKYLIGHTS
09 29 00.A3	1/2" GYPSUM WALLBOARD
13 52 00	SEISMIC PIER



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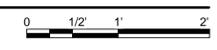
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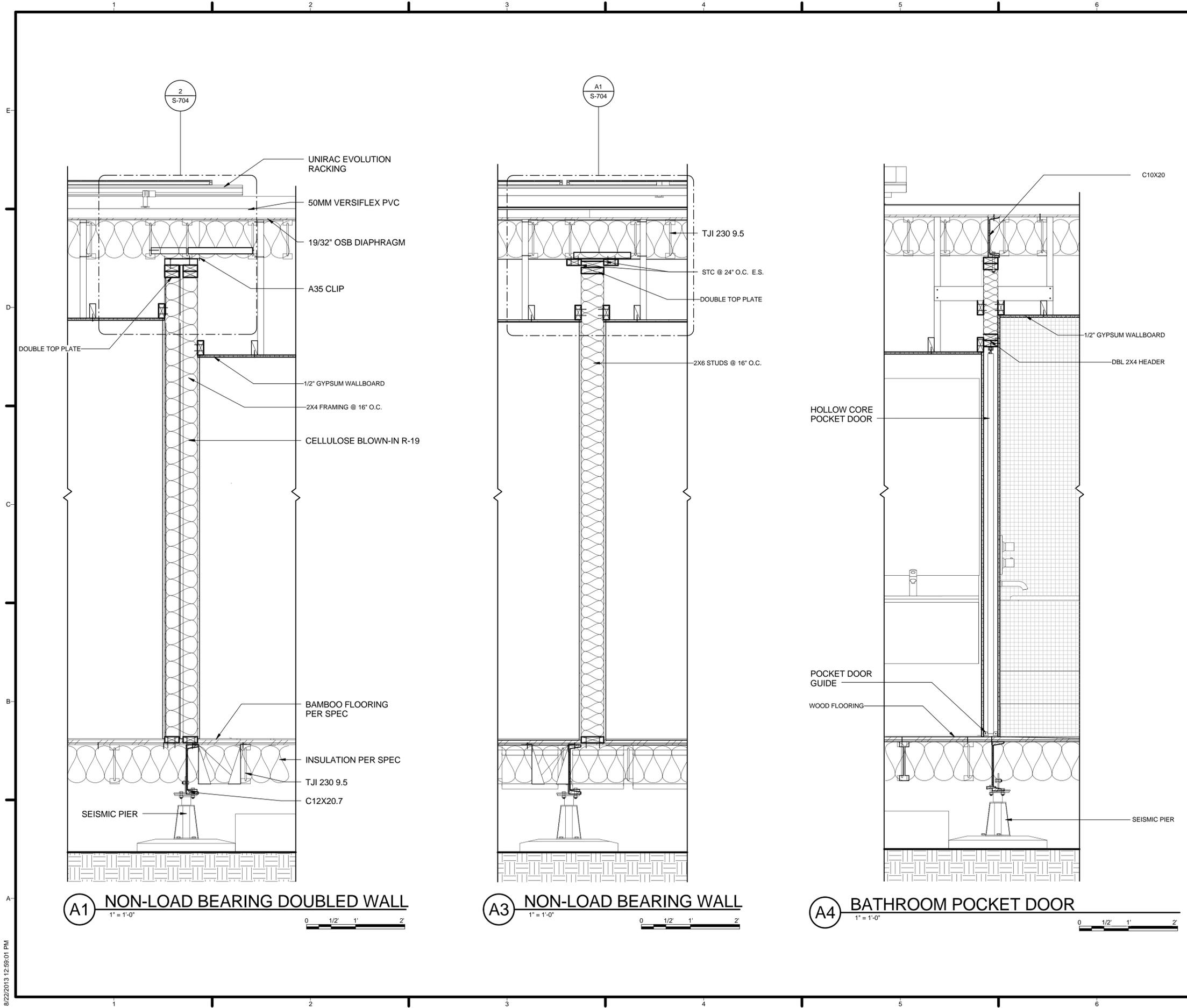
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SHEET TITLE
WALL SECTIONS

A-313

A1 COURTYARD SKYLIGHT SECTION
 1" = 1'-0"





GENERAL SHEET NOTES

SHEET KEYNOTES

REFERENCE KEYNOTES

05 12 39.B9	C10X20
06 11 00.A8	DOUBLE TOP PLATE
06 11 00.D5	2X4 FRAMING @ 16" O.C.
06 11 00.D10	DBL 2X4 HEADER
06 11 00.F7	2X6 STUDS @ 16" O.C.
06 17 33	WOOD I-JOISTS
09 29 00.A3	1/2" GYPSUM WALLBOARD
09 64 00	WOOD FLOORING
13 52 00	SEISMIC PIER



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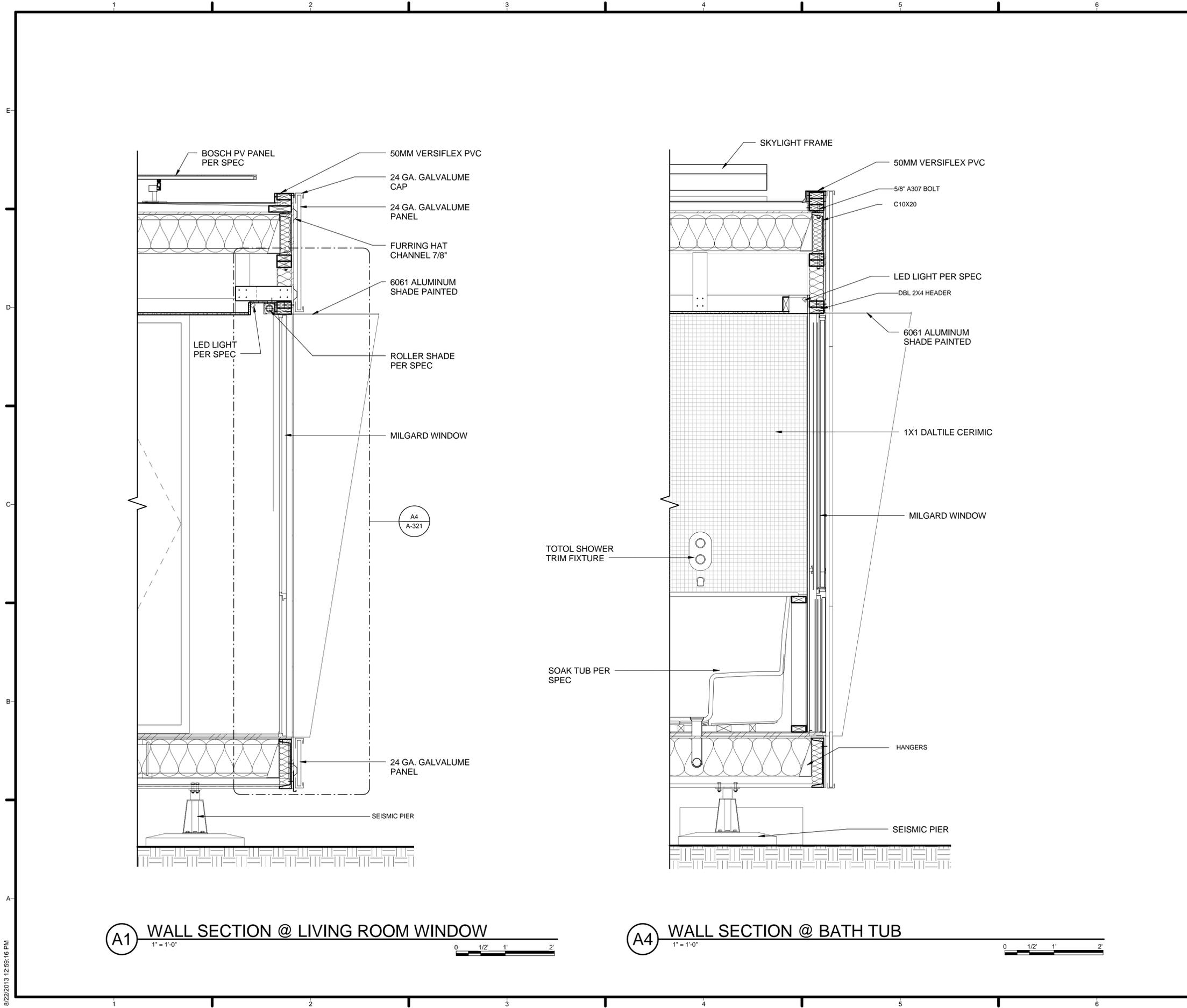


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SHEET TITLE
WALL SECTIONS

A-314



GENERAL SHEET NOTES

SHEET KEYNOTES

REFERENCE KEYNOTES

05 05 23.A2	5/8" A307 BOLT
05 12 39.B9	C10X20
06 05 23.J0	HANGERS
06 11 00.D10	DBL 2X4 HEADER
06 11 00.G1	2X8
13 52 00	SEISMIC PIER
22 41 39	DELTA KITCHEN FAUCET

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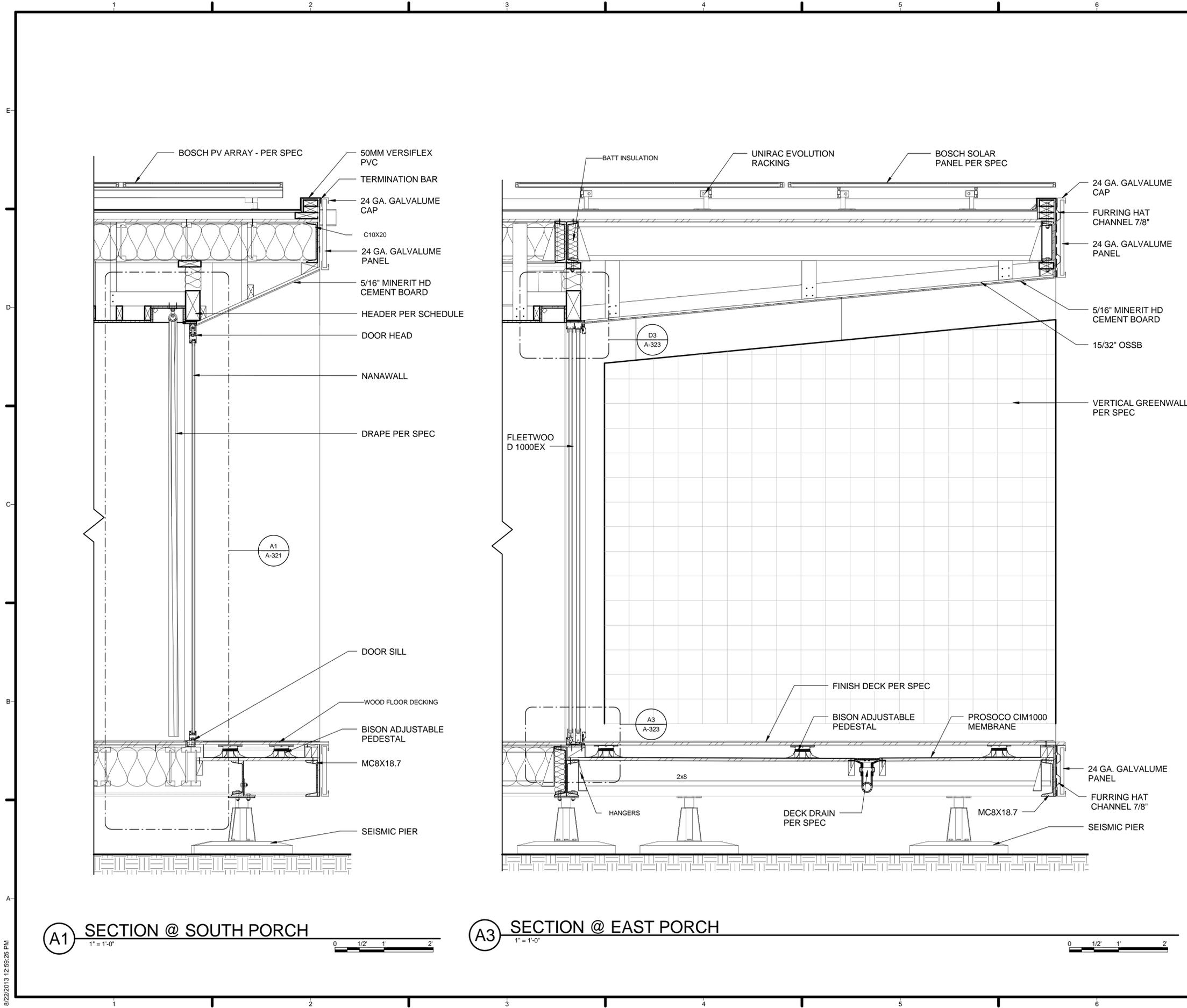
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WALL SECTIONS

A-316



GENERAL SHEET NOTES

GENERAL SHEET NOTES

SHEET KEYNOTES

SHEET KEYNOTES

REFERENCE KEYNOTES

05 12 39.B9 C10X20
 06 05 23.J0 HANGERS
 06 15 13 WOOD FLOOR DECKING
 07 21 16.A10 BATT INSULATION



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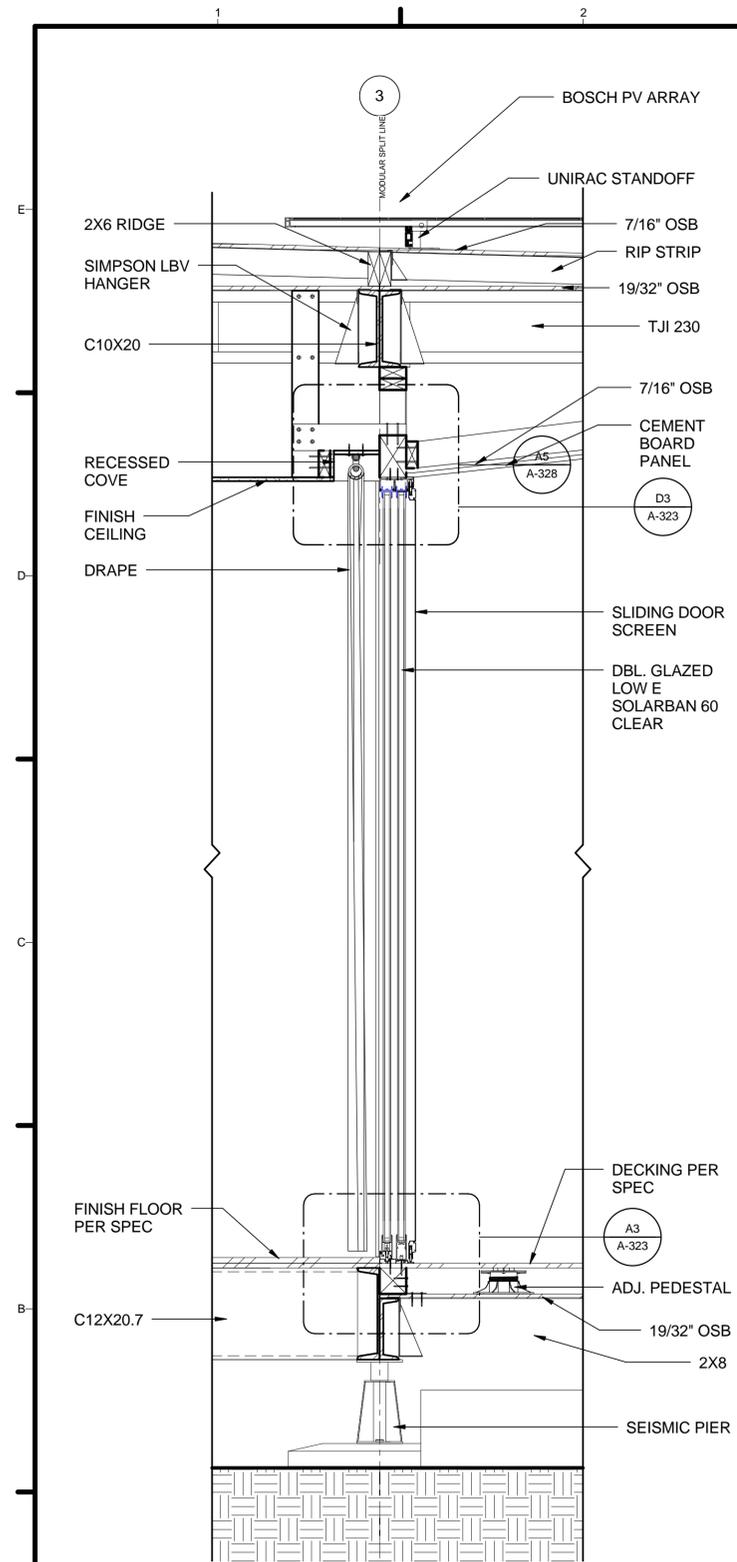


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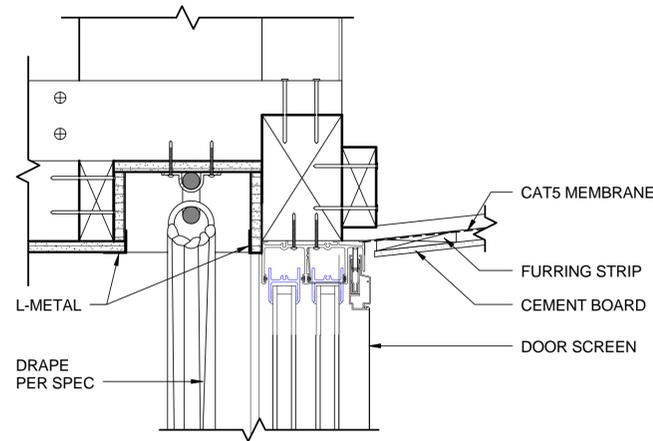
WALL SECTIONS

A-317

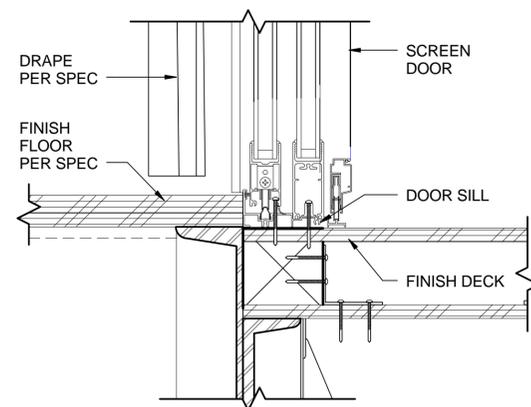
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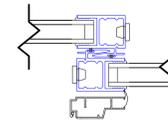
A1 SLIDING DOOR AT EAST PORCH
1" = 1'-0"



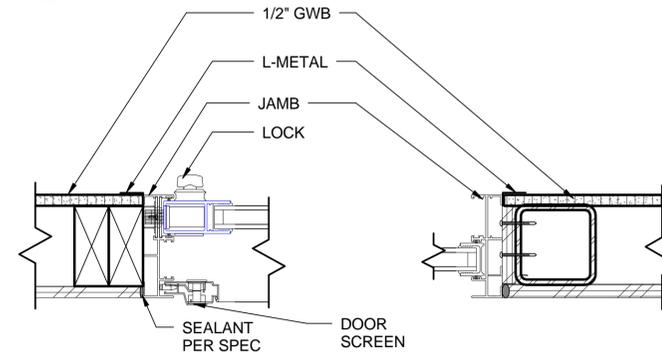
D3 COVE / HEAD AT EAST PORCH
3" = 1'-0"



A3 BOTTOM SILL AT EAST PORCH
3" = 1'-0"



E4 INTERLOCKER
3" = 1'-0"



D4 LOCK JAMB
3" = 1'-0"

D5 FIXED JAMB
3" = 1'-0"



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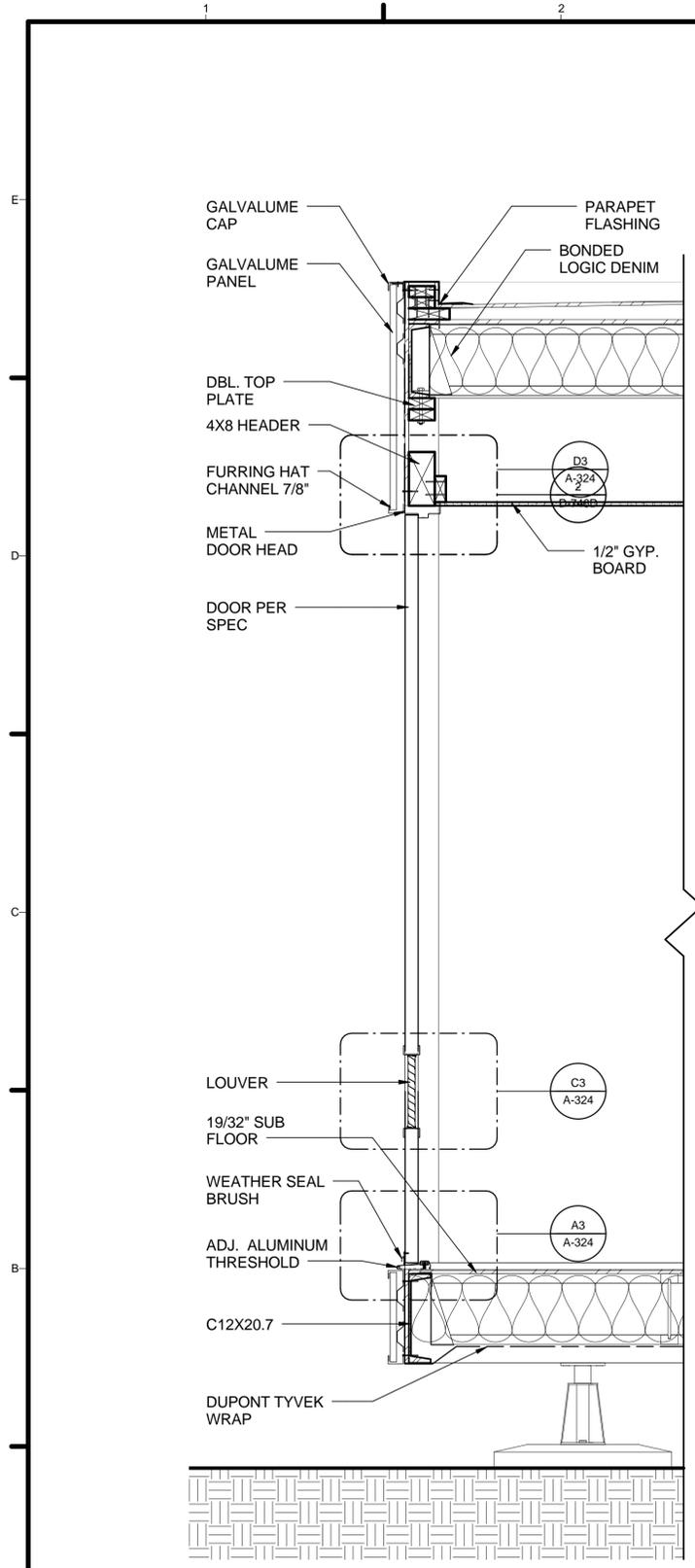


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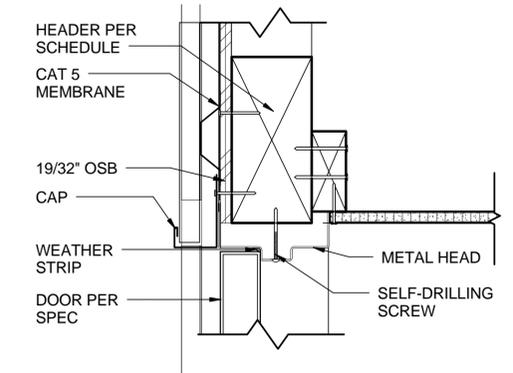
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SHEET TITLE

SLIDING DOOR DETAILS

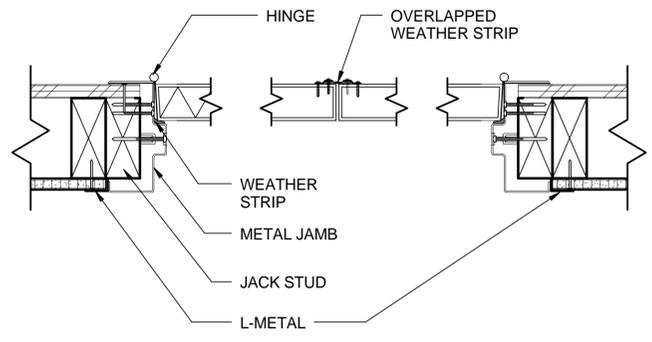
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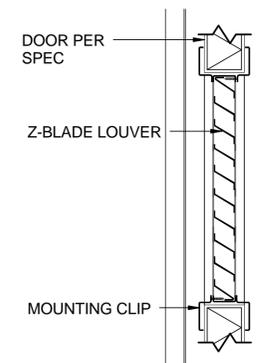
A1 SECTION THROUGH MECH. DOOR
1" = 1'-0"



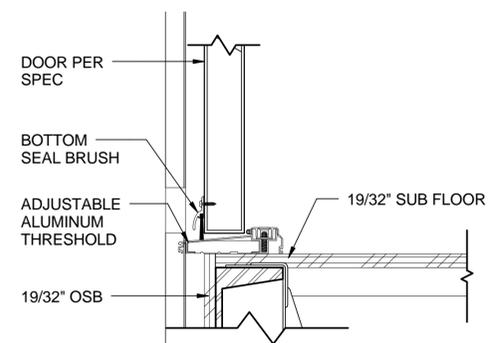
D3 MECH. HEAD DETAIL
3" = 1'-0"



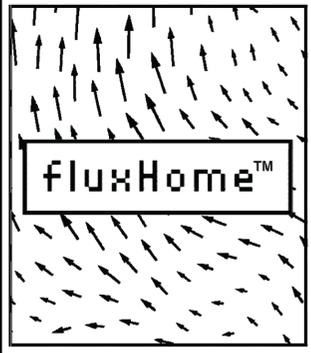
D5 MECHANICAL DOOR JAMB DETAIL
3" = 1'-0"



C3 MECH. DOOR LOUVER DETAIL
3" = 1'-0"



A3 MECH. DOOR THRESHOLD DETAIL
3" = 1'-0"



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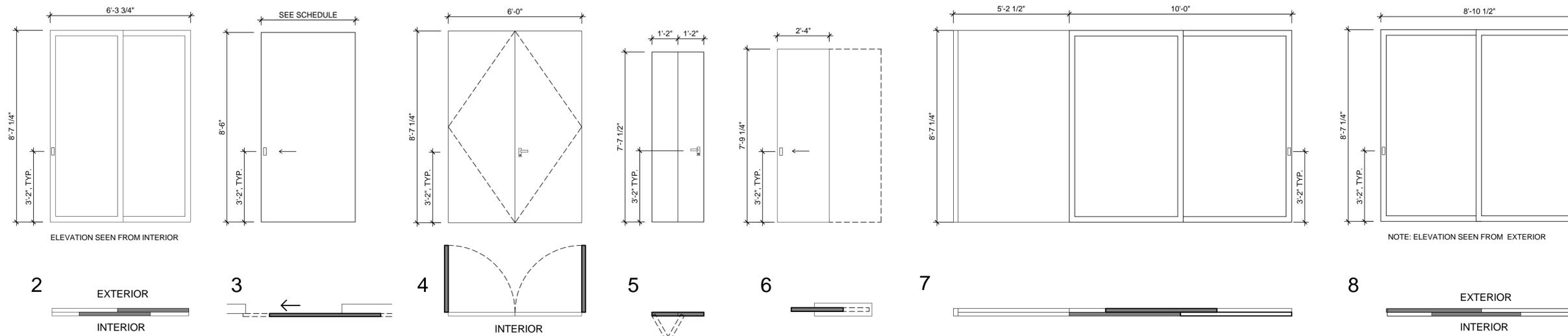
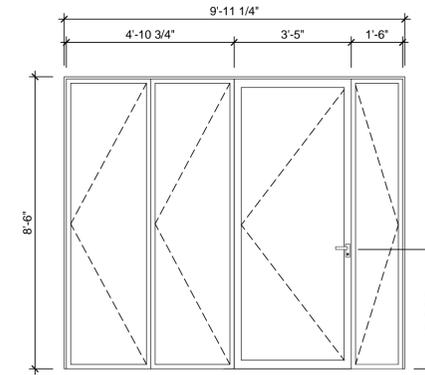
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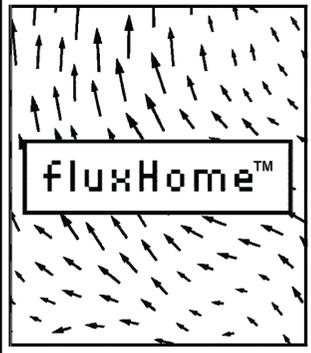
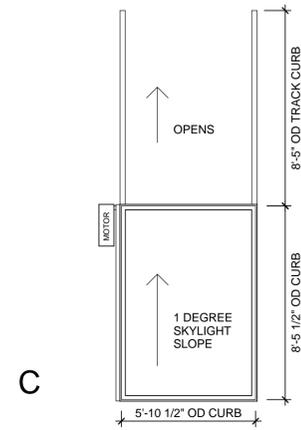
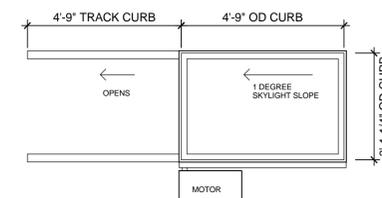
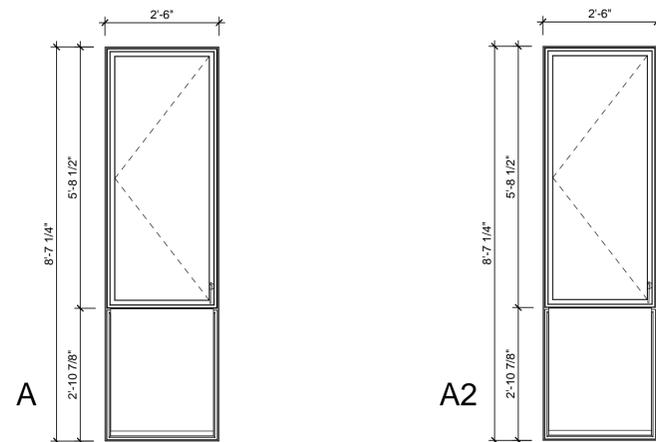
MECH. DOOR DETAILS

A-324

DOOR SCHEDULE															
MARK	LOCATION	EXTERIOR DOOR			NET FRAME		FINISH MATERIAL	FRAME			MANUFACTURER	MODEL #	QUANTITY	COMMENTS	
		TYPE	WIDTH	HEIGHT	THICKNESS	WIDTH		HEIGHT	HEAD	JAMB					MATERIAL
1	SOUTH ENTRY DOOR	FOLDING	9'-10"	8'-6"	2"	9'-11 1/4"	8'-8"	DBL GLAZED LOW E INSULATED TEMP.	A1/A-317	A1/A-317	ALUM	NANAWALL	SL45	1	DBL. GLAZED SOLARBAN 70 CLEAR
2	EAST PORCH	SLIDING	6'-3 3/4"	8'-7 1/4"		6'-3 3/4"	8'-7 1/4"	DBL GLAZED LOW E INSULATED TEMP.	A2/A-317	A2/A-317	ALUM	FLEETWOOD	1070EX	1	DBL. GLAZED SOLARBAN 60 CLEAR
4	MECHANICAL	HINGED	(2) 3'-0"	8'-7 1/4"	1-3/4"	6'-0"	8'-7 1/4"	EXTERIOR PAINT			WD	ABS	SOLID CORE FLUSH	1	SOLID WD. DOOR W/ EXT. PAINT FINISH
8	NORTH ENTRY DOOR	SLIDING	8'-10 1/2"	8'-7 1/4"		8'-10 1/2"	8'-7 1/4"	DBL GLAZED LOW E INSULATED TEMP.	A3/A-311	A3/A-311	ALUM	FLEETWOOD	1070EX	1	DBL. GLAZED SOLARBAN 60 CLEAR
INTERIOR DOOR															
NET FRAME															
3	BEDROOM #1	SLIDING	4'-0"	8'-6"	1-3/8"	4'-2"	8'-7 1/2"	PRIMED FOR PAINT	A1/A-313	A1/A-313	-	DOOR AMERICA	HOLLOW CORE FLUSH	1	CLG. MOUNT WITH JOHNSON HARDWARE
3A	BEDROOM #2	SLIDING	4'-0"	8'-6"	1-3/8"	4'-2"	8'-7 1/2"	PRIMED FOR PAINT	A1/A-313	A1/A-313	-	DOOR AMERICA	HOLLOW CORE FLUSH	1	CLG. MOUNT WITH JOHNSON HARDWARE
3B	BATHROOM	SLIDING				3'-2 1/8"	7'-10 1/4"								
5	WD	BIFOLD	(2) 1'-2"	7'-7 1/2"	1-3/8"	2'-4"	7'-7 1/2"	PRIMED FOR PAINT			WD	ABS	HOLLOW CORE FLUSH	1	BRUSHED NICKLE, BALDWIN HARDWARE
6	SHOWER/BATH	POCKET	2'-4"	7'-9 1/4"	1-3/8"	2'-6 1/8"	7'-9 1/4"	EXTERIOR PAINT	A4/A-314	A4/A-314	WD	ABS	HOLLOW CORE FLUSH	1	HOLLOW WD. DOOR. W/ EXT. PAINT FINISH ON 1 FACE
6	W/C	POCKET	2'-4"	7'-9 1/4"	1-3/8"	2'-4"	7'-9 1/4"	PRIMED FOR PAINT	A4/A-314	A4/A-314	WD	ABS	HOLLOW CORE FLUSH	1	JOHNSON POCKET DOOR FRAME, 203070PF
7	BREEZEWAY	SLIDING	10'-0"	8'-7 1/4"		10'-0"	8'-7 1/4"	SGL. GLAZE TEMP. - ARTIC SNOW	A3/A-315	A3/A-315	ALUM	FLEETWOOD	1050	1	PANELS SLIDE INTO WALL CAVITY WHEN OPENED



WINDOW SCHEDULE															
MARK	WINDOW TYPE	DIMENSIONS		NET FRAME		THICKNESS	MANUFACTURER	TYPE	DETAIL			GLAZING	HEAD HEIGHT	COMMENTS	
		WIDTH	HEIGHT	WIDTH	HEIGHT				HEAD	JAMB	SILL				
A	CASEMENT/FIXED	2'-6"	8'-7 1/4"	2'-6"	8'-7 1/4"	1 1/2"	MILGARD	ALUMINUM	A4/A-316	A4/A-316	A4/A-316	DBL. GLAZED SOLARBAN 60 CLEAR	DBL. GLAZED SOLARBAN 60 TRANSLUCENT-30 ARTIC SNOW	—	QUANTITY: 3
A 2	CASEMENT/FIXED	2'-6"	8'-7 1/4"	2'-6"	8'-7 1/4"	1 1/2"	MILGARD	ALUMINUM	A4/A-316	A4/A-316	A4/A-316	DBL. GLAZED SOLARBAN 60 TRANSLUCENT-30 ARTIC SNOW	DBL. GLAZED SOLARBAN 60 TRANSLUCENT-30 ARTIC SNOW	—	QUANTITY: 1
B	SKYLIGHT	2'-7"	3'-7"	2'-7"	3'-7"	1 5/16"	SUN VALLEY SKYLIGHTS	SINGLE UNIT RETRACTABLE	A2/A-312	A2/A-312	A2/A-312	DBL. GLAZED SOLARBAN 60 TRANSLUCENT - 30 ARTIC SNOW		—	QUANTITY: 1
C	SKYLIGHT	4'-1"	8'-3/4"	4'-1"	7'-1"	1 5/16"	SUN VALLEY SKYLIGHTS	SINGLE UNIT RETRACTABLE	A1/A-313	A1/A-313	A1/A-313	DBL. GLAZED SOLARBAN 60 CLEAR		—	QUANTITY: 1



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SHEET TITLE

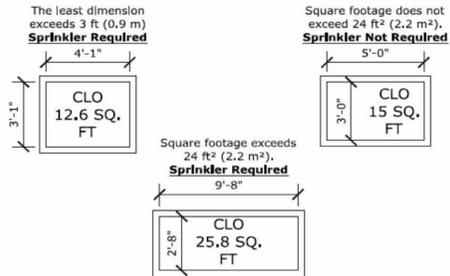
WINDOW/ DOOR SCHEDULE

A-600

AquaSAFE™ GENERAL NOTES:

1. THIS SYSTEM IS DESIGNED AS PER NFPA 13D 2013 EDITION AS A RESIDENTIAL MULTIPURPOSE SYSTEM SECTION 3.3.11.3.
2. UPONOR COMPANY RESERVES THE EXCLUSIVE RIGHTS TO ALL DETAILS AND DRAWINGS AS SHOWN ON THIS SHEET. THESE DETAILS AND DRAWINGS ARE PROPRIETARY INFORMATION OF UPONOR COMPANY AND UNAUTHORIZED USE MAY BE SUBJECT TO PROSECUTION TO THE FULL EXTENT OF THE LAW.
3. THE DESIGN OF THIS SYSTEM IS DICTATED BY SPECIFIC CEILING HEIGHTS AND ROOM SIZES. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT THE CONDITIONS SHOWN ON THESE PLANS ARE EXACTLY AS THEY EXIST IN THE FIELD. DEVIATIONS FROM THE DESIGN MAY CAUSE THE SYSTEM TO BE UNABLE TO CONTROL A FIRE. IF THE BUILDING CONSTRUCTION DIFFERS FROM THE FIRE SPRINKLER PLAN, CONTACT THE SYSTEM DESIGNER IMMEDIATELY.
4. THIS SYSTEM AND THE ACCOMPANYING HYDRAULIC CALCULATIONS ARE DESIGNED IN COMPLIANCE WITH NFPA 13D 2013 EDITION.
5. "STAND ALONE" OR "MULTIPURPOSE, WET PIPE" SYSTEMS ARE NOT PERMITTED TO USE ANTI-FREEZE.
6. MODIFICATIONS ARE PROHIBITED. SPRINKLERS THAT HAVE BEEN PAINTED, CAULKED, MODIFIED OR DAMAGED MUST BE REPLACED.
7. WATER SHUT OFF VALVE IS NOT PERMITTED.
8. OWNERS MANUAL MUST BE PROVIDED TO THE OWNER.
9. AT THE MAIN SHUT OFF VALVE, A TAG OR A SIGN STATING THE FOLLOWING IS REQUIRED: "WARNING, THE WATER SYSTEM FOR THIS HOME SUPPLIES FIRE SPRINKLERS THAT REQUIRE CERTAIN FLOWS AND PRESSURES TO FIGHT A FIRE. DEVICES THAT RESTRICT THE FLOW OR DECREASE THE PRESSURE OR AUTOMATICALLY SHUT OFF THE WATER TO THE FIRE SPRINKLER SYSTEM, SUCH AS WATER SOFTENERS, FILTRATION SYSTEMS AND AUTOMATIC SHUT OFF VALVES, SHALL NOT BE ADDED TO THIS SYSTEM WITHOUT REVIEW OF THE FIRE SPRINKLER SYSTEM BY A FIRE PROTECTION SPECIALIST. **DO NOT REMOVE THIS SIGN.**"
10. ALL INTERIOR PIPING TO BE UPONOR™ AquaPEX® UNLESS NOTED.
11. UPONOR™ AquaPEX™ TUBING TO BE SUPPORTED PER NFPA 13D AND MANUFACTURER'S RECOMMENDATIONS.
12. MINIMUM SPACING BETWEEN SPRINKLERS IS 8'-0" REFER TO SPACING CHARTS FOR MAXIMUM SPACING BETWEEN SPRINKLERS AND FROM WALLS.
13. SPRINKLERS ARE NOT NECESSARILY CENTERED IN ROOMS DUE TO LIGHT FIXTURES OR OTHER CEILING MOUNTED OBSTRUCTIONS.
14. THE PLUMBING TIE IN CONNECTIONS ARE SCHEMATIC IN NATURE AND CAN BE INSTALLED OFF THE SPRINKLER LOOP ANYWHERE BETWEEN SPRINKLER TO SPRINKLER CONNECTION.
15. THIS SUGGESTED LAYOUT IS BASED UPON INFORMATION PROVIDED BY OTHERS. CHANGES IN CONSTRUCTION OR FIELD CONDITIONS MAY OCCUR WHICH MAY REQUIRE CHANGES TO THE LAYOUT. IT IS THE RESPONSIBILITY OF THE INSTALLER TO NOTIFY UPONOR TECHNICAL SERVICES OF SUCH CHANGES.
16. NFPA 13D 8.2.5.7* SHADOW AREAS
 - 8.2.5.7* SHADOW AREAS SHALL BE PERMITTED IN THE PROTECTION AREA OF A SPRINKLER AS LONG AS THE CUMULATIVE DRY AREAS DO NOT EXCEED 15 FT² PER SPRINKLER.
 - 8.2.5.7 CORRIDORS BEING PROTECTED WITH SIDEWALL SPRINKLERS WILL FREQUENTLY HAVE SMALL AREAS BEHIND THE SPRINKLERS THAT ARE INSET FOR DOORWAYS. EVEN THOUGH THESE AREAS ARE SLIGHTLY BEHIND THE SPRINKLERS, IT IS NOT THE INTENT OF NFPA 13D TO REQUIRE ADDITIONAL SPRINKLER PROTECTION IN THESE DOORWAYS. EXAMPLES OF SHADOW AREAS ARE PROVIDED IN FIGURE A.8.2.5.7 (A) AND FIGURE A.8.2.5.7 (B).
17. NFPA 13D 8.3 LOCATION OF SPRINKLERS.
 - 8.3.1 SPRINKLERS SHALL BE INSTALLED IN ALL AREAS EXCEPT WHERE OMISSION IS PERMITTED BY 8.3.2 THROUGH 8.3.8.
 - 8.3.2 SPRINKLERS SHALL NOT BE REQUIRED IN BATHROOMS OF 55 FT² (5.1 M²) AND LESS
 - 8.3.3 SPRINKLERS SHALL NOT BE REQUIRED IN CLOTHES CLOSETS, LINEN CLOSETS, AND PANTRIES THAT MEET ALL OF THE FOLLOWING CONDITIONS:
 - (1) THE AREA OF THE SPACE DOES NOT EXCEED 24 FT² (2.2 M²).
 - (2) THE SHORTEST DIMENSION DOES NOT EXCEED 3 FT (0.9 M).
 - (3) THE WALLS AND CEILINGS ARE SURFACED WITH NONCOMBUSTIBLE OR LIMITED-COMBUSTIBLE MATERIALS AS DEFINED IN NFPA 220, STANDARD ON TYPES OF BUILDING CONSTRUCTION.
 - 8.3.4* SPRINKLERS SHALL NOT BE REQUIRED IN GARAGES, OPEN ATTACHED PORCHES, CARPORTS, AND SIMILAR STRUCTURES
 - 8.3.4 ALTHOUGH NFPA 13D DOES NOT REQUIRE GARAGES TO BE SPRINKLERED, SOME AUTHORITIES HAVING JURISDICTION TAKE IT UPON THEMSELVES TO ADD THIS REQUIREMENT LOCALLY. IN SUCH CIRCUMSTANCES, RESIDENTIAL OR QUICK-RESPONSE SPRINKLERS WITH A TWO-SPRINKLER DESIGN IN THE GARAGE WITH THE SAME PIPING USED IN THE REST OF THE DWELLING MAY BE USED. IT IS RECOGNIZED THAT RESIDENTIAL SPRINKLERS HAVE NOT BEEN TESTED SPECIFICALLY FOR FIRES IN GARAGES, BUT FIELD EXPERIENCE HAS SHOWN THAT THE SPRINKLERS HELP TO ALERT OCCUPANTS TO THE FACT THAT THERE IS A FIRE, CAN REDUCE THE POSSIBILITY OF FLASHOVER, AND CAN IMPROVE THE CHANCES FOR OCCUPANTS TO ESCAPE.
 - 8.3.5 SPRINKLERS SHALL NOT BE REQUIRED IN ATTICS WITH OR WITHOUT STORAGE, PENTHOUSE EQUIPMENT ROOMS, ELEVATOR MACHINE ROOMS, CONCEALED SPACES DEDICATED EXCLUSIVELY TO AND CONTAINING ONLY DWELLING UNIT VENTILATION EQUIPMENT, FLOOR/CEILING SPACES, ELEVATOR SHAFTS, CRAWL SPACES, AND OTHER CONCEALED SPACES THAT ARE NOT USED OR INTENDED FOR LIVING PURPOSES.
 - 8.3.5.1 SUCH SPACES THAT CONTAIN FUEL-FIRED EQUIPMENT SHALL ALSO COMPLY WITH 8.3.5.1.1 OR 8.3.5.1.2.
 - 8.3.5.1.1 WHERE THE FUEL-FIRED EQUIPMENT IS ABOVE ALL OF THE OCCUPIED AREAS OF THE DWELLING UNIT, NO SPRINKLER PROTECTION SHALL BE REQUIRED IN THE CONCEALED SPACE.
 - 8.3.5.1.2 WHERE FUEL-FIRED EQUIPMENT IS BELOW OR ON THE SAME LEVEL AS OCCUPIED AREAS OF THE DWELLING UNIT, AT LEAST ONE QUICK-RESPONSE INTERMEDIATE TEMPERATURE SPRINKLER SHALL BE INSTALLED ABOVE THE EQUIPMENT OR AT THE WALL SEPARATING THE SPACE WITH THE FUEL-FIRED EQUIPMENT FROM THE OCCUPIED SPACE.
 - 8.3.6 SPRINKLERS SHALL NOT BE REQUIRED IN COVERED, UNHEATED PROJECTIONS OF THE BUILDING AT ENTRANCES/EXITS AS LONG AS THE DWELLING UNIT HAS ANOTHER MEANS OF EGRESS.
 - 8.3.7 SPRINKLERS SHALL NOT BE REQUIRED FOR CEILING POCKETS THAT MEET THE FOLLOWING CONDITIONS:
 - (1) THE TOTAL VOLUME OF ALL UNPROTECTED CEILING POCKETS IN A COMPARTMENT DOES NOT EXCEED 100 FT³ (2.83 M³).
 - (2) THE ENTIRE FLOOR UNDER THE UNPROTECTED CEILING POCKET IS PROTECTED BY THE SPRINKLERS AT THE LOWER CEILING ELEVATION.
 - (3)* THE INTERIOR FINISH OF THE UNPROTECTED CEILING POCKET EXCLUDING DECORATIVE TREATMENTS IS NONCOMBUSTIBLE OR LIMITED-COMBUSTIBLE MATERIAL.
 - (4) SKYLIGHTS NOT EXCEEDING 32 FT² (2.97 M²) SHALL BE PERMITTED TO HAVE A PLASTIC COVER.
 - 8.3.8 SPRINKLERS SHALL NOT BE REQUIRED IN CLOSETS IN GARAGES AND EXTERIOR CLOSETS (REGARDLESS OF SIZE) LOCATED ON EXTERIOR BALCONIES, EXTERIOR BREEZEWAYS/CORRIDORS, OR ACCESSED FROM OUTDOORS WHERE THE CLOSET DOES NOT HAVE DOORS OR UNPROTECTED PENETRATIONS DIRECTLY INTO THE DWELLING UNIT.
 - 8.3.9 SPRINKLERS SHALL BE INSTALLED IN ANY CLOSET USED FOR HEATING AND/OR AIR-CONDITIONING EQUIPMENT, WASHERS AND/OR DRYERS, OR WATER HEATERS EXCEPT AS ALLOWED BY 8.3.8.
18. INSULATION GUIDE LINES PER NFPA 13D.
 - 9.1.1* WET PIPE SYSTEMS IN AREAS ABOVE 40°F. A WET PIPE SYSTEM SHALL BE PERMITTED TO BE TO BE USED WHERE ALL PIPING IS INSTALLED IN AREAS MAINTAINED ABOVE 40°F, INCLUDING AREAS PROPERLY INSULATED TO MAINTAIN 40°F.
 - 9.1.1.1 IN AREAS SUBJECT TO FREEZING, CARE SHOULD BE TAKEN IN UNHEATED ATTIC SPACES TO COVER SPRINKLER PIPING COMPLETELY WITH INSULATION. INSTALLATION SHOULD FOLLOW THE GUIDELINES OF THE INSULATION MANUFACTURER. FIGURE A.8.3.1(A) THROUGH FIGURE A.8.3.1(E) SHOW SEVERAL METHODS THAT CAN BE CONSIDERED. THESE ARE FOR ILLUSTRATIVE PURPOSES ONLY. CONSULTATION WITH THE GENERAL CONTRACTOR AND/OR OWNER IS RECOMMENDED TO ENSURE PROPER METHODS AND MATERIALS ARE USED TO MAKE SURE 40°F WILL BE MAINTAINED.

See General Notes 8.6.3 for Closet Requirements



Slope Guide

Slope Rise/Run	Pitch Degrees	Slope Rise/Run	Pitch Degrees
0/12	0°	9/12	36.87°
1/12	4.76°	10/12	39.81°
2/12	9.46°	11/12	42.51°
3/12	14.04°	12/12	45°
4/12	18.43°	13/12	47.29°
5/12	22.62°	14/12	49.40°
6/12	26.57°	15/12	51.34°
7/12	30.26°	16/12	53.13°
8/12	33.69°	17/12	54.78°
		18/12	56.31°

NFPA 13D Table 7.5.5.3 Distances From Heat Sources

Heat Source	Ordinary Temp. 135°-170°	Intermediate Temp. 175°-225°
Side of Fireplace	36"	12"
Front of Fireplace	60"	36"
Wood Burning Stove	42"	12"
Kitchen Range	18"	9"
Wall Oven	18"	9"
Hot Air Flues	18"	9"
Uninsulated Heat Ducts	18"	9"
Uninsulated Hot Water Pipes	12"	6"
Side of Hot Air Diffuser	24"	12"
Front of Hot Air Diffuser	36"	18"
Hot Water Heater	6"	3"
Furnace	6"	3"
50W-250W Light Fixture	6"	3"
250W-499W Light Fixture	12"	6"

Insulation Recommendations

In areas subject to freezing, care should be taken in unheated attic spaces to cover Uponor AquaPEX tubing completely with insulation. Insulation should follow the guidelines of the insulation manufacturer. See Uponor Document "Uponor AquaSAFE Attic Insulation Guidelines" for attic installation guidelines (Provided in Contractors Documents package or online at www.Uponorprc.com).

Extreme Temperature Installations

AquaSAFE Residential Fire Safety systems are often installed in attics or other areas exposed to temperature extremes of heat and/or cold. Follow the recommended extreme weather installation instructions to isolate and protect system components from extreme temperatures. Because this system also delivers domestic cold water directly to plumbing fixtures, Uponor highly recommends that you protect the tubing with adequate insulation in warm weather areas to minimize heating of the cold water supply.

Installation methods include, but are not limited to:

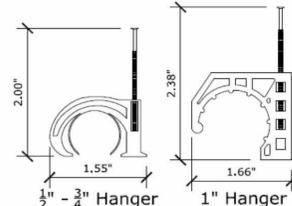
- Tenting over the fire sprinkler piping.
- Additional layers of batt insulation.
- Increased depth of blown-in insulation.

Caution: If you will be installing spray foam insulation, make sure to protect all components during application. Consult with the spray foam manufacturer to ensure compatibility with all products before application.

Consultation with local building officials is encouraged to ensure compliance with local building codes.

Bending PEX Tubing

The minimum bend radius of Uponor PEX tubing in any direction is six times the outside diameter (6 x OD). Bend supports are available for 3/8", 1/2", 3/4" and 1" Uponor AquaPEX tubing to facilitate 90-degree rigid bends.

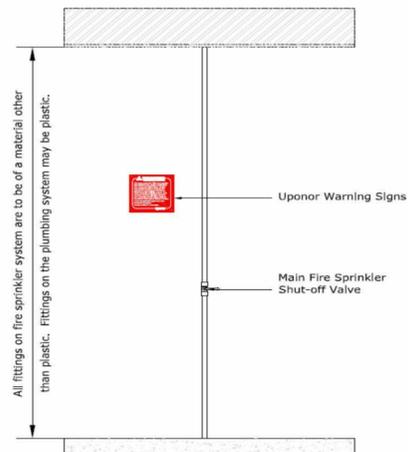


Recommended Tubing Length Between Fittings

Fitting Size	Minimum Tubing Length
3/8" ProPEX Fitting	2"
1/2" ProPEX Fitting	2 1/2"
3/4" ProPEX Fitting	3 1/2"
1" ProPEX Fitting	4 1/2"
1 1/4" ProPEX Fitting	5 1/2"

Standard Riser Assembly

In a multi-purpose system a single control valve controls both domestic and fire safety needs.



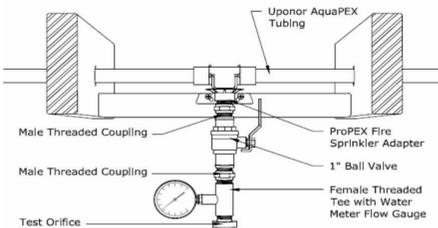
Tubing Support Spacing:

(Anchor AquaPEX Tubing Securely Enough to Support the Tubing, Yet Relaxed Enough to Allow the Tubing to Expand and Contract)

1. Along Horizontal Runs, Install Supports Every 32", If Horizontal Runs are Continuously Supported, Place Tubing Supports at Six-Foot Intervals.
2. Along Vertical Runs, Install Supports Every Four to Five Feet, at Each Floor and at a Mid-story Guide.

In-line Flow Test

The In-line Flow Test can be constructed on site. It performs a flow test to ensure proper system operation and flow.



Flow Test

To ensure the system provides enough water for proper fire sprinkler performance, you should conduct a flow verification test.

Note: The NFPA 13D Installation Standard does not require flow verification.

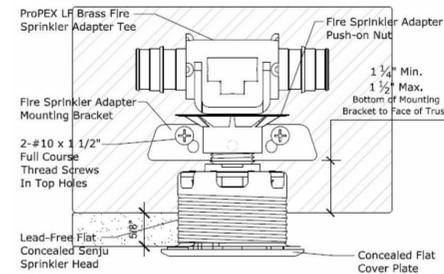
Before performing a flow verification test, confirm the water pressures by contacting the Water and Sewer Department of your local city. Ensure the available water pressure matches the pressure used in the system design.

Note: The sprinkler plan indicates the most hydraulically remote sprinkler (or pair of sprinklers). For test requirements on other sprinklers, consult your local code.

Note: It is a good idea to notify the fire inspector at least 24 hours prior to performing a flow verification test. This may speed up the inspection process and eliminate the need to repeat the test for the inspector.

Note: See "AquaSAFE Flow Test Instruction Sheet" (Provided in Contractors Documents package or online at www.Uponorprc.com) for more information on Flow Test Setup, Assembly, Performing the Test and Troubleshooting. If there are any questions please contact Uponor.

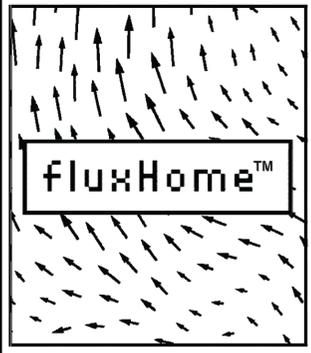
Senju RC-RES: Traditional Wood Framing Construction



DISCLAIMER

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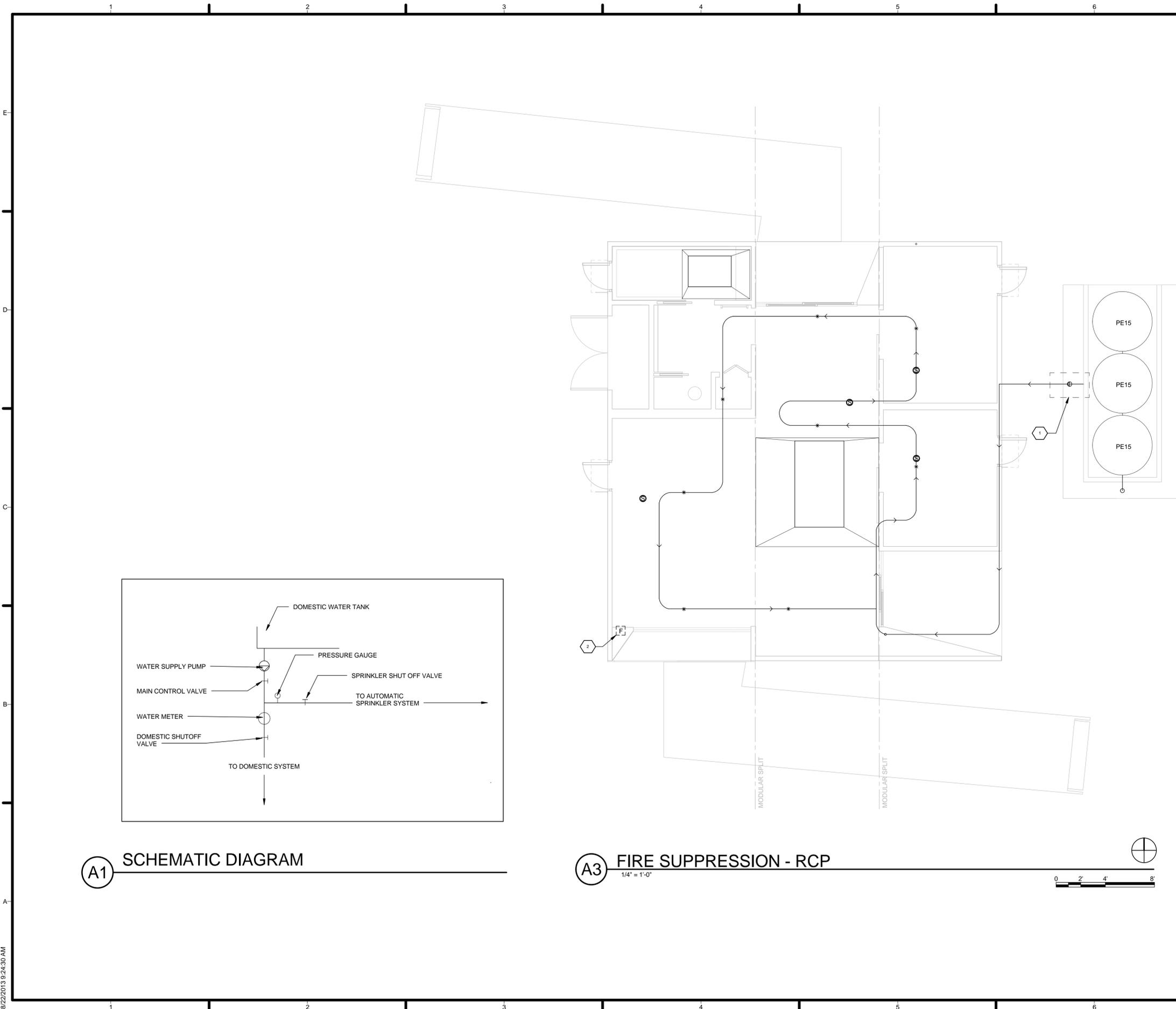
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SHEET TITLE

FIRE SUPPRESSION NOTES

F-101



A1 SCHEMATIC DIAGRAM

A3 FIRE SUPPRESSION - RCP
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SPRINKLER SHOULD NOT BE COORDINATED AND INSTALLED SUCH THAT THERE IS NO OBSTRUCTION IN ITS SPRAY PATTERN. OTHERWISE ADDITIONAL SPRINKLERS ARE REQUIRED
2. SPACING NOT EXCEED 20'
3. EMERGENCY FIRE SUPPRESSION WATER TO BE STORED IN APPROPRIATE DOMESTIC WATER SUPPLY TANK
4. ALL SMOKE DETECTORS TO BE HARD-WIRED WITH BATTERY BACKUP
5. FIRE EXTINGUISHERS SHOULD BE MOUNTED ON BRACKETS OR IN WALL CABINETS WITH THE CARRYING HANDLE 42" TO 60" ABOVE THE FLOOR
6. SEE P-602 FOR PLUMBING EQUIPMENT SCHEDULE

SHEET KEYNOTES

1. REFER TO FIGURE F.1
2. FIRE EXTINGUISHER IS RECESSED INTO THE WALL

SYMBOL LEGEND

- CEILING MOUNTED FIRE SUPPRESSION
- SMOKE DETECTOR
- FIRE EXTINGUISHER
- 1" FIRE RESISTANT PIPE
- WATER SUPPLY STORAGE
- PUMP
- PE01 DOMESTIC WATER SUPPLY TANK

REFERENCE KEYNOTES



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SHEET TITLE
FIRE DETECTION AND SUPPRESSION

F-102

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(A2) FIRE SPRINKLER COVERAGE - PLAN
 1/4" = 1'-0"

GENERAL SHEET NOTES

- 1. THE AREA OF COVERAGE OF A SINGLE SPRINKLER SHALL NOT EXCEED 400 SQUARE FEET
- 2. SPACING NOT EXCEED 20'

SHEET KEYNOTES

SYMBOLS LEGEND

- SPRINKLER COVERAGE AREA
- SPRINKLER

REFERENCE KEYNOTES



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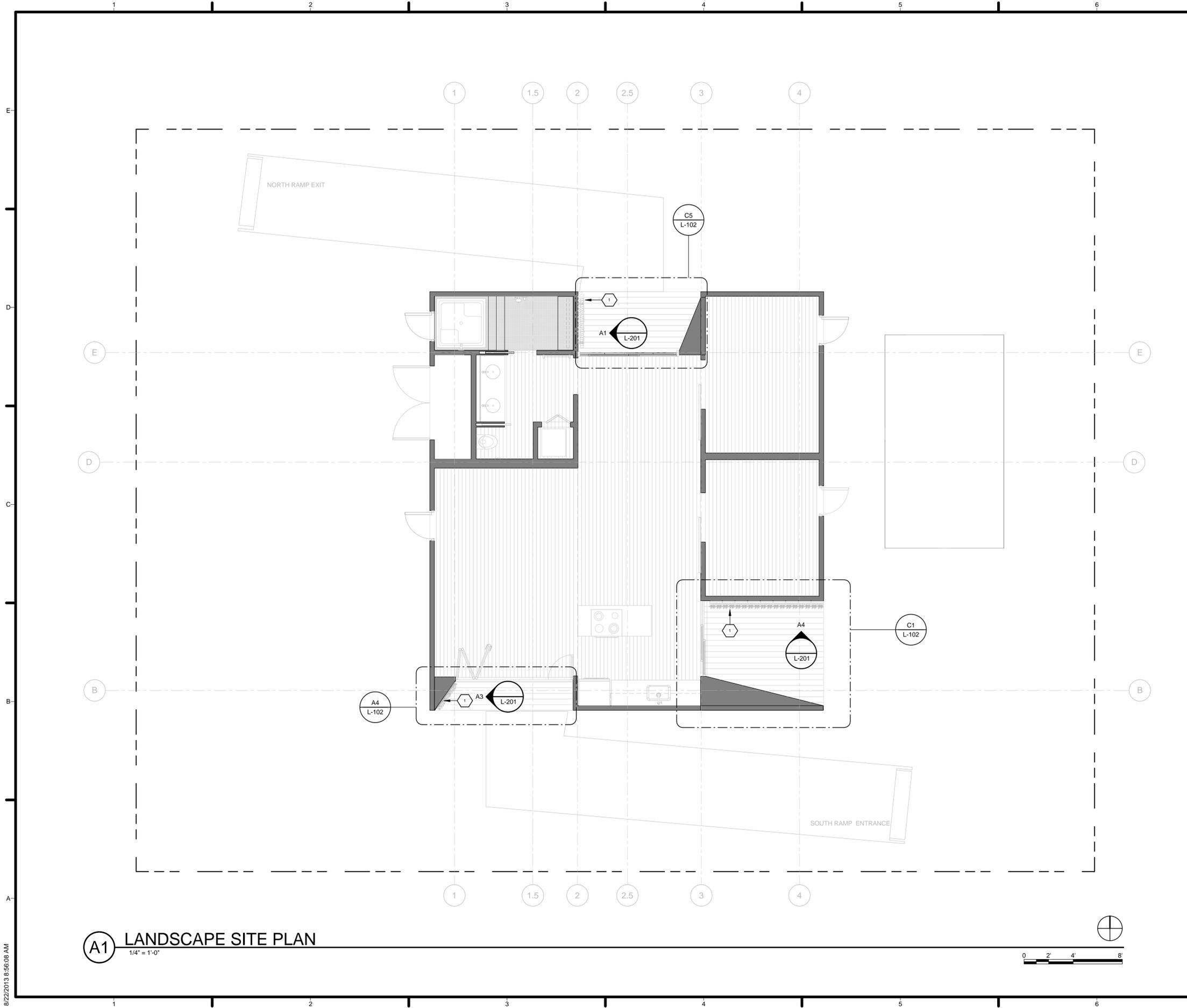
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SHEET TITLE
FIRE SPRIKLER COVERAGE
F-103



GENERAL SHEET NOTES

SHEET KEYNOTES

1. LIVING WALL SYSTEM

REFERENCE KEYNOTES

LANDSCAPE SITE PLAN

L-101



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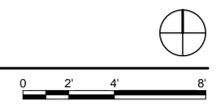
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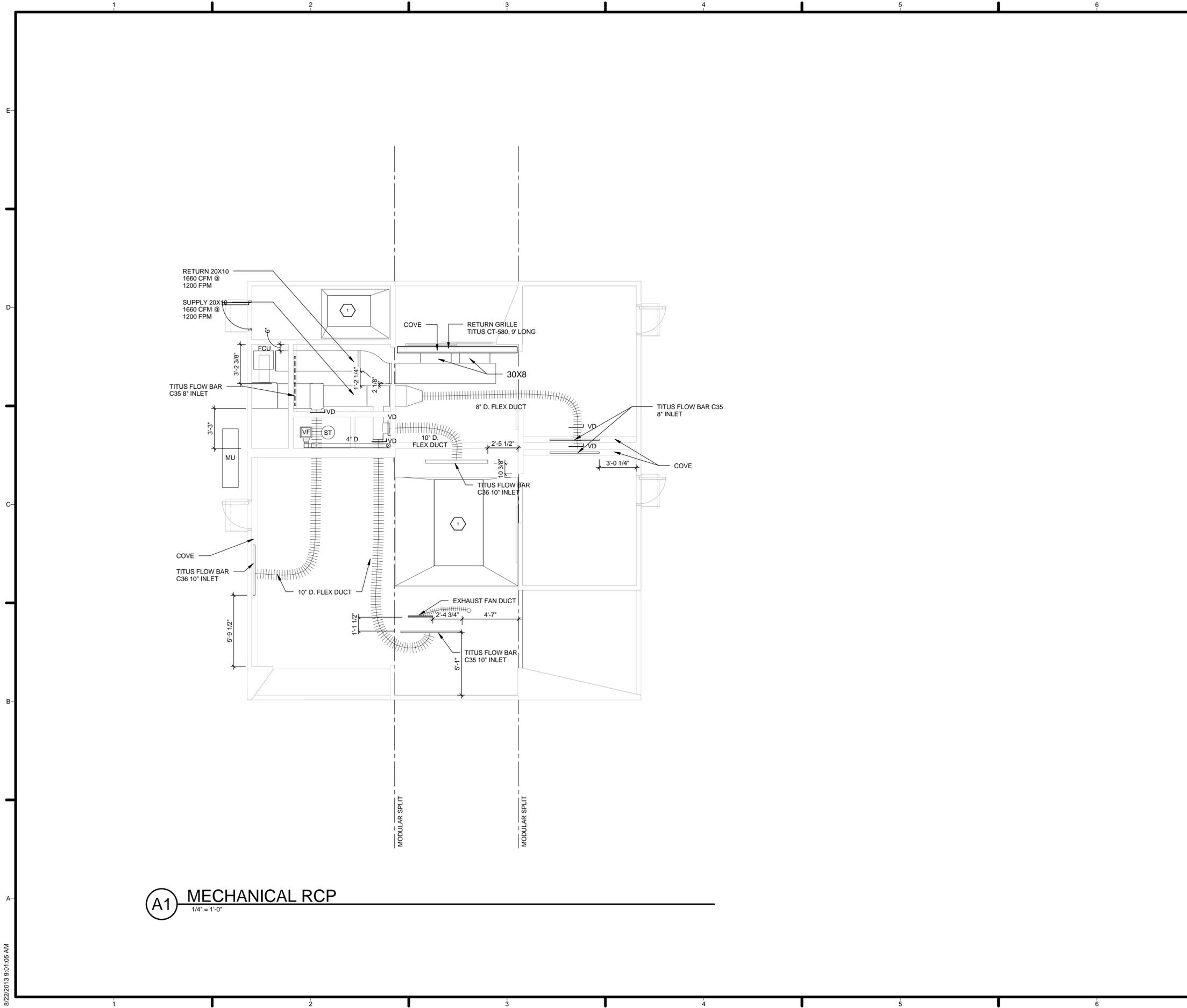
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(A1) LANDSCAPE SITE PLAN
 1/4" = 1'-0"



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A1 MECHANICAL RCP
 1/4" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

SYMBOL LEGEND

---	BUILDING BREAK LINE
FCU	FAN COIL UNIT
DHW	DOMESTIC HOT WATER
SK	SOLAR KIT
TM	TRUFLOW MANIFOLD
MU	MONOBLOC UNIT
VD	VOLUME DAMPER
ST	SUN TUNNEL

REFERENCE KEYNOTES



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SHEET TITLE
MECHANICAL RCP

M-101

1.5" SLOT WIDTH	1-SLOT 8" INLET	AIRFLOW, CFM	180	230	380	210	450
		TOTAL PRESSURE	0.090	0.146	0.400	0.086	0.396
		STATIC PRESSURE	0.038	0.119	0.326	0.064	0.292
		NOISE CRITERIA	15	24	43	14	43
		THROW	10-14-19	12-15-22	16-20-28	10-15-21	18-22-31
		LENGTH	4 FT	4 FT	4 FT	5 FT	5 FT
QUANTITY	2	1	1	1	1		

D1 C35 PERFORMANCE DATA

ROOM	TRACE CFM	SUPPLY DIFFUSER TITUS FLOWBAR HIGH THROW	RETURN GRILLE, FLOOR MOUNTED TITUS CT-PP-0
401 KIDS ROOM	143	1.5" SLOT, 8" INLET, 4FT	
301 - 701 DINING (LIVING-2)	395	2.5" SLOT, 10" INLET, 5 FT	9' LINEAR PLENUM BEHIND
801 MASTER BEDROOM	148	1.5" SLOT, 8" INLET, 4FT	
601 BATHROOM	220	1.5" SLOT, 8" INLET, 4FT	
201 KITCHEN	164	1.5" SLOT, 8" INLET, 5FT	
101 LIVING-1	366	2.5" SLOT, 10" INLET, 4 FT	
	1,436		

C1 DIFFUSER SELECTIONS

DOMESTIC HOT WATER TANK		
EKHWS080BA3VJU		
WATER VOLUME	GAL	79.2
MAX WATER TEMPERATURE	F (C)	185 (85)
MAX WATER PRESSURE	PSI	145
INSULATION MIN. THICKNESS	IN	1.5/8
HEIGHT	IN	63
DIAMETER	IN	22 7/8
BOOSTER HEATER	KW	3
PIPING CONNECTIONS	WATER INLET HE DIAMETER	IN Ø 3/4 FBSP
	WATER OUTLET HE DIAMETER	IN Ø 3/4 FBSP
	COLD WATER IN DIAMETER	IN Ø 3/4 FBSP
	COLD WATER OUT DIAMETER	IN Ø 3/4 FBSP
MAX. CIRCUIT AMPS (MCA)	A	14.3
MAX OVERCURRENT PROTECTION (MOP)	A	20
POWER SUPPLY		208-230V/1PH/60HZ
MATERIAL INSIDE TANK		STAINLESS STEEL (DIN 1.4521) - 316L
MATERIAL OUTSIDE CASING		EPOXY-COATED MILD STEEL
COLOR		NEUTRAL WHITE
DIMENSIONS (NET)	HXWXD	63 X 22 27/32 X 22 27/32
EMPTY WEIGHT	LBS	129.8

B1 DOMESTIC HOT WATER TANK

HEATING/COOLING & DOMESTIC HOT WATER EQUIPMENT SCHEDULE							
MARK	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	SERVICE	SIZE	REF. NUMBER
MU	OUTDOOR MONOBLOC UNIT	OUTSIDE MECH CLOSET	DAIKIN ALTHERMA	EBLQ048BA6VJU	HEATING/COOLING	56.5 x 55.8 x 15.0"	23 33 46
DHW	DOMESTIC WATER HEATER	MECH CLOSET	DAIKIN ALTHERMA	EKHWS080BA3VJU	WATER HEATER	79.2 GALLON TANK	23 33 30
SK	SOLAR KIT	MECH CLOSET	DAIKIN ALTHERMA	EKSOLHWBAVJU	HEAT EXCHANGER	30 1/32" X 12" X 10 1/32"	
FCU	FAN COIL UNIT	MECH CLOSET	DAIKIN ALTHERMA	EFWT048AEVLU	HEATING/COOLING	48" X 21 1/4" X 28"	
TM	TRUFLOW CLASSIC MANIFOLD	MECH CLOSET	UPONOR	A2610300	-	1.94" X 12.6" X 10.34"	
VF	VENTILATION FAN	W/C	AERO PURE	AP 70 G6, WHITE	VENTILATION	10 1/2" X 11 3/8" X 7 5/8"	
TSTAT	HEATING AND COOLING THERMOSTAT	NORTH WALL OF LIVING ROOM	CRESTRON	CHV-TSTATW	THERMOSTAT	2.75" LCD DISPLAY	
SC	SOLAR COLLECTOR	ROOF	AO SMITH	CR 140 AP	SOLAR COLLECTOR	4'-0" X 10'-0"	

A1 HEATING/COOLING & DOMESTIC HOT WATER EQUIPMENT SCHEDULE

FAN COIL UNIT		
CAPACITY		048
		EFWT048AEVLU
COOLING PERFORMANCE		
NOMINAL CAPACITY	BTU/HR	42,700
NOMINAL SENSIBLE CAPACITY	BTU/HR	34,700
EWT RANGE	F	40-50 F
NOMINAL FLOW RATE	GPM	8
NOMINAL PRESSURE DROP	FT HD	5.4
HEATING PERFORMANCE (HOT WATER HEATING)		
NOMINAL CAPACITY	BTU/HR	50,200
EWT RANGE	F	100 - 125 F
NOMINAL FLOW RATE	GPM	8
NOMINAL PRESSURE DROP	FT HD	5.4
AIRFLOW RATE		
NOMINAL	CFM	1600
TOTAL EXTERNAL STATIC PRESSURE	WG*	0.3" WG STD, 0.5" WG MAX
BLOWER SPEED SETTING		"A" FACTORY SETTING
MOTOR RATING	HP	3/4 HP
AIRFLOW ARRANGEMENT		UPFLOW, HORIZONTAL L, HORIZONTAL R (POSSIBLE)
ELECTRICAL DATA (NO ELECTRIC HEAT OPTIONS)		
POWER SUPPLY		120 V/1/60HZ
MIN CIRCUIT AMPS (MCA)		14.0
MAX OVERCURRENT PROTECTION (MOP)	A	15
ELECTRICAL DATA (WITH ELECTRIC HEAT OPTIONS)		
POWER SUPPLY		208-230V/1PH/60HZ
MIN CIRCUIT AMPS (MCA)		6.0
MAX OVERCURRENT PROTECTION (MOP)	A	15
ELECTRICAL HEATER OPTIONS 10 TO 25 KW		10 KW, 15 KW, 20 KW
ELECTRICAL HEAT INTEGRAL DISCONNECT		FACTORY INSTALLED SERVICE SWITCH OVER 10 KW (NO DISCONNECT)
PHYSICAL DATA		
DIMENSION	HXWXD	48 X 23 X 20
WEIGHT	LBS	230
INSULATION TYPE / R- RATING		1/2" JM TUF-SKIN
INSTALLATION CLEARANCES		U.L. LISTED FOR INSTALLATION WITH ZERO INCHES CLEARANCE TO COMBUSTIBLE MATERIALS
CONNECTION TYPE		
INLET/OUTLET CONNECTIONS	IN	1-1/8
CONNECTION TYPE		SWEAT
FEATURE		
THERMOSTAT CONNECTION		24 V
AIR FILTER (MERV 8 THROWAWAY)		20 X 25 X 1

C3 FAN COIL UNIT

4" DUCT VENTILATION FAN PERFORMANCE					
0.1 PS - STATIC PRESSURE (INH2O)			0.25 PS		
AIRFLOW (CFM)	SOUND (SONES)	POWER (WATTS)	POWER (WATTS)	EFFICACY (CFM/WATT)	AIRFLOW (CFM)
50	< 0.3	5.1	9.8	50	50

B3 VENTILATION FAN PERFORMANCE

OUTDOOR MONOBLOC UNIT		
MONOBLOC		EBLQ036BA6VJU
APPLICATION		
FUNCTION		REVERSIBLE
APPLICATION		LOW TEMPERATURE
NOMINAL CAPACITY (3)	HEATING	38,200 BTU/HR
	COOLING	43,800 BTU/HR
NOMINAL INPUT (3)	HEATING	2.53 kW
	COOLING	3.91 kW
COP		4.32
EER		11.21
OPERATION RANGE	HEATING	5 - 95 F
	COOLING	50 - 114.8 F
	DOMESTIC	5 - 95 F
SOUND POWER	HEATING	64
	COOLING	65
SOUND PRESSURE	HEATING	51
	COOLING	50
REFRIGERANT CHARGE	R-410A	6.5
POWER SUPPLY		208-230V/1PH/60Hz
MINIMUM CIRCUIT AMPS (MCA)		26.5
MAXIMUM OVERCURRENT PROTECTION (MOP)		30
DIMENSIONS HxWxD		55 27/32 x 56 1/2 x 15 1/32
WEIGHT	NET	397
	GROSS	441
	HEATING	59 - 131 F
LEAVING WATER TEMPERATURE RANGE	COOLING	41 - 71.6 F
	VOLUME	2.64 GAL
EXPANSION VESSEL	MAX WATER PRESSURE	43.5 PSI
	PRE PRESSURE	14.5 PSI
WATER PIPING CONNECTIONS DIAMETER		1 1/4 Female BSP in.
SAFETY VALVE		< 43.5 PSI
TOTAL WATER VOLUME		1.45 GAL
PUMP (NOMINAL ESP)	HEATING	7.61 PSI
	COOLING	8.11 PSI
WATER SIDE HEAT EXCHANGER	WATER VOLUME	0.27 GAL
	WATER FLOW RATE	4.23 MIN. GPM / 15.32 MAX. GPM
	WATER FLOW RATE NOM HEATING	8.48 GPM
	WATER FLOW RATE NOM COOLING	9.72 GPM
	CAPACITY	6 kW
FACTORY MOUNTED BACK UP HEATER	CAPACITY STEPS	2
	MAX OVERCURRENT PROTECTION (MOP)	28.6
	MINIMUM CIRCUIT AMPS (MCA)	30
	POWER SUPPLY	208-230V/1PH/60Hz

B5 OUTDOOR MONOBLOC UNIT

SOLAR KIT			
		EKSOLHWBAVJU	
HEAT EXCHANGER	PRESS. DROP	PSI	3.12
	MAX INLET TEMP	F (C)	230 (110)
	HEAT EXCHANGE CAPACITY	W/K	1400
PUMP	LOGARITHMIC MEAN TEMPERATURE DIFFERENCE	A	5
	# OF SPEEDS		3
WATER CIRCUIT	POWER INPUT	W	46
	PIPING CONNECTIONS DIA.	IN	3/4 FBSP
AMBIENT TEMPERATURE	MAX.	F	95(35)
	MIN.	F	33.8 (1)
POWER SUPPLY			208-230V/1PH/60HZ
POWER SUPPLY INTAKE			FROM INDOOR UNIT
DIMENSIONS (NET)	HXWXD	IN	30 1/32 X 12 X 10 1/32

A5 SOLAR KIT



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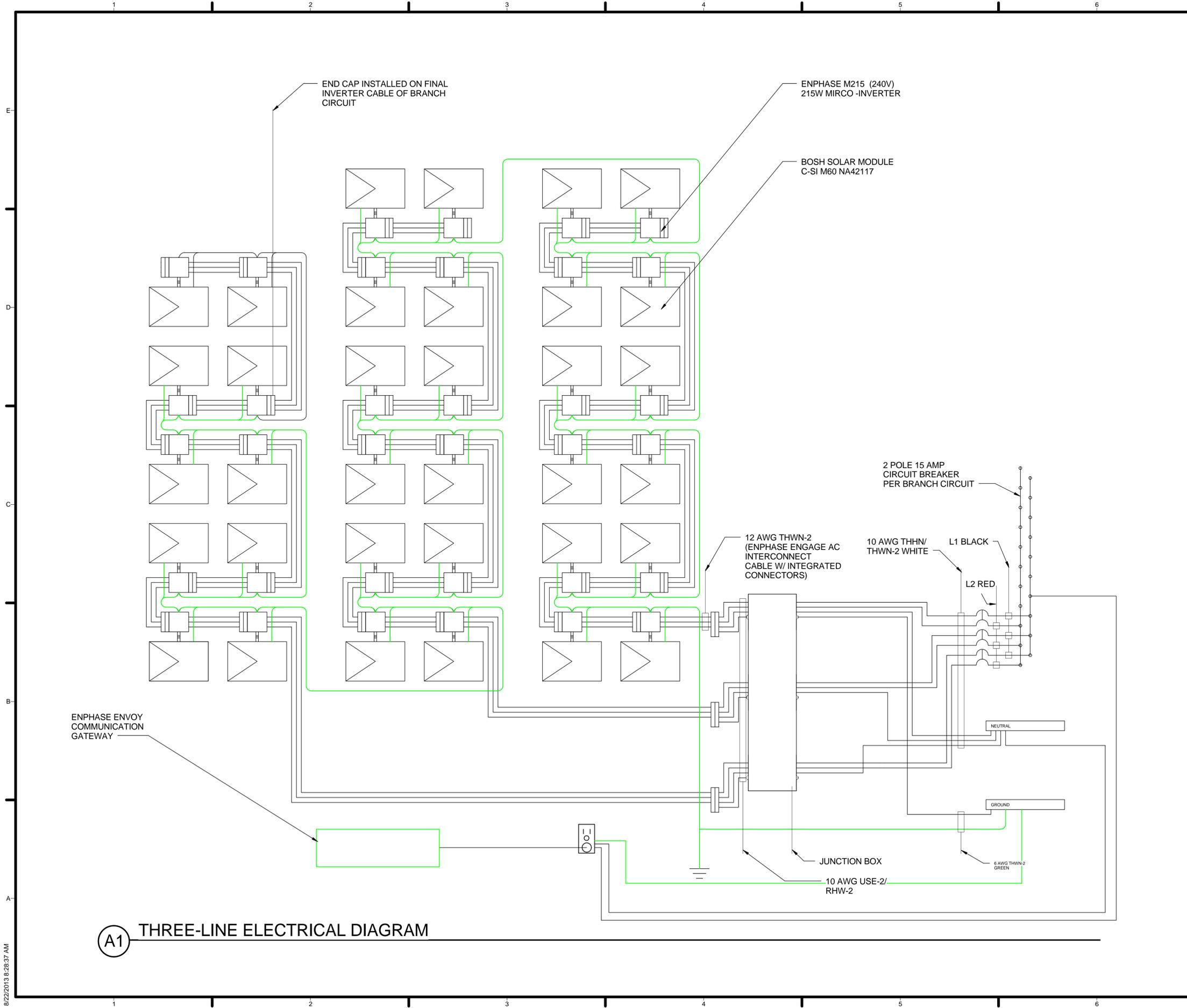
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MECHANICAL SCHEDULE

M-602



GENERAL SHEET NOTES

1. PV DESIGN WILL COMPLY WITH LUMOS LSX 250 SERIES MAXIMUM QUANTITY (13) OF MICROINVERTERS PER 240W BRANCH UNIT.

SHEET KEYNOTES

REFERENCE KEYNOTES



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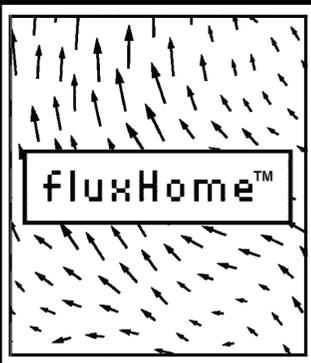
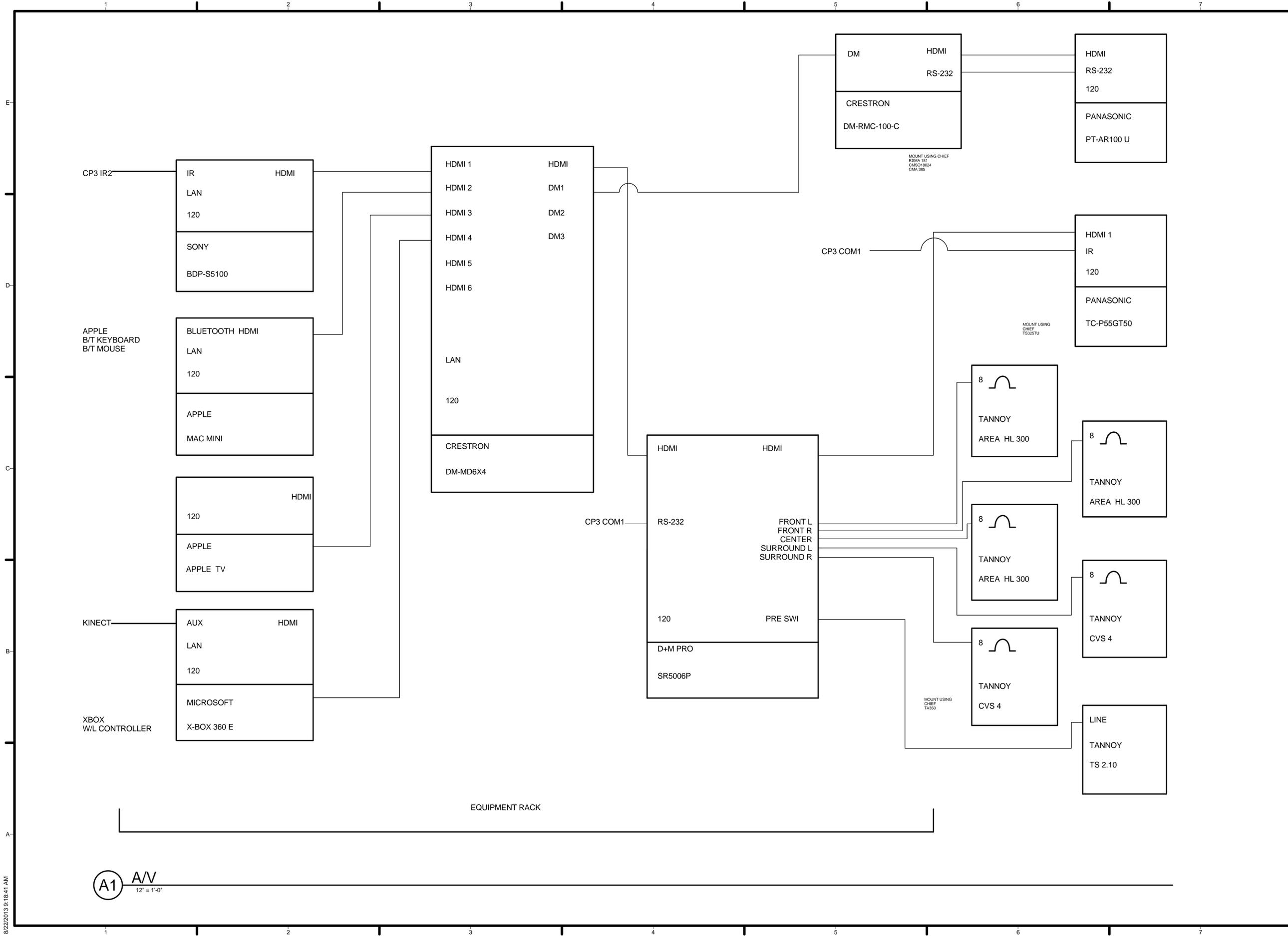
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**THREE-LINE
 DIAGRAM**

E-602

(A1) THREE-LINE ELECTRICAL DIAGRAM

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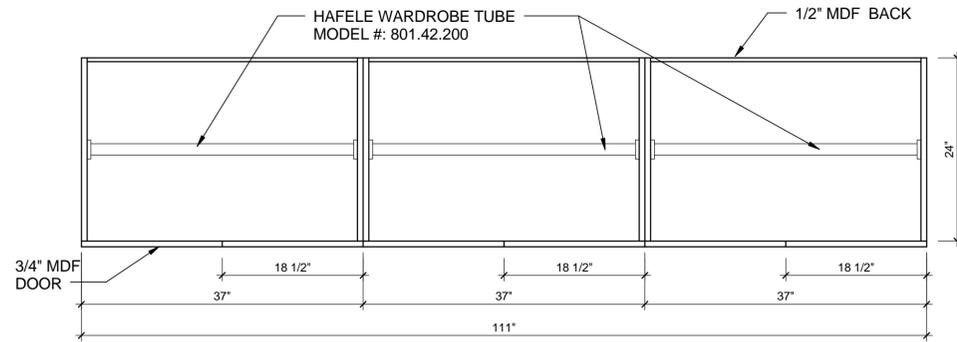
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A/V

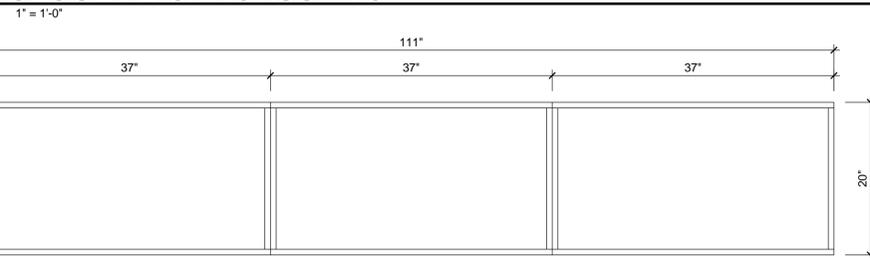
T-103

(A1) A/V
 12" = 1'-0"

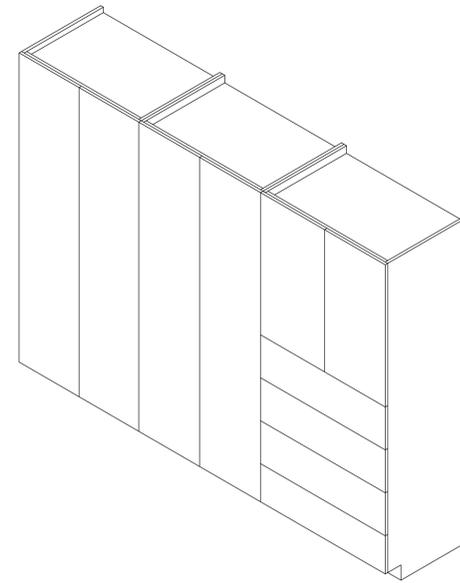
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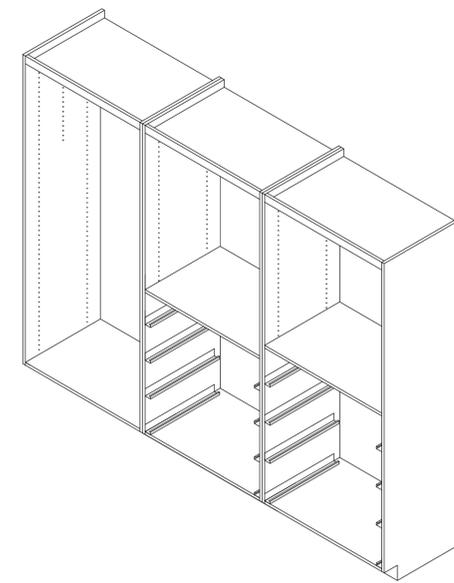
D1 CLOSET 2 CARCASS - TOP



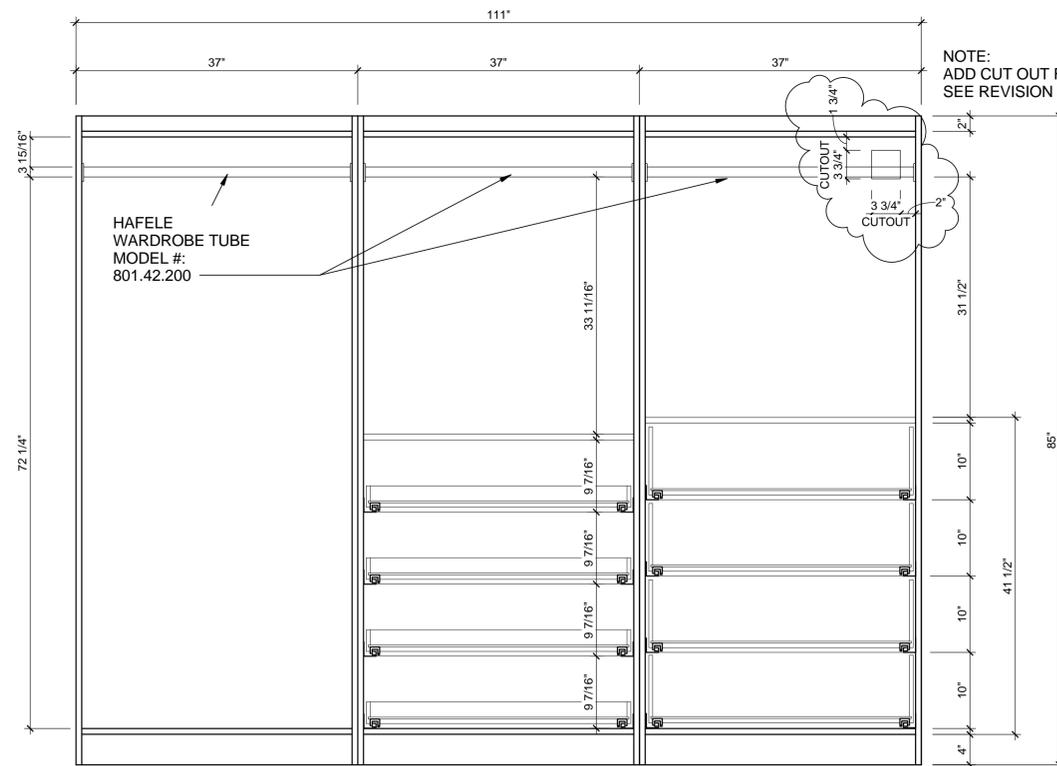
C1 CLOSET 2 BASE - TOP



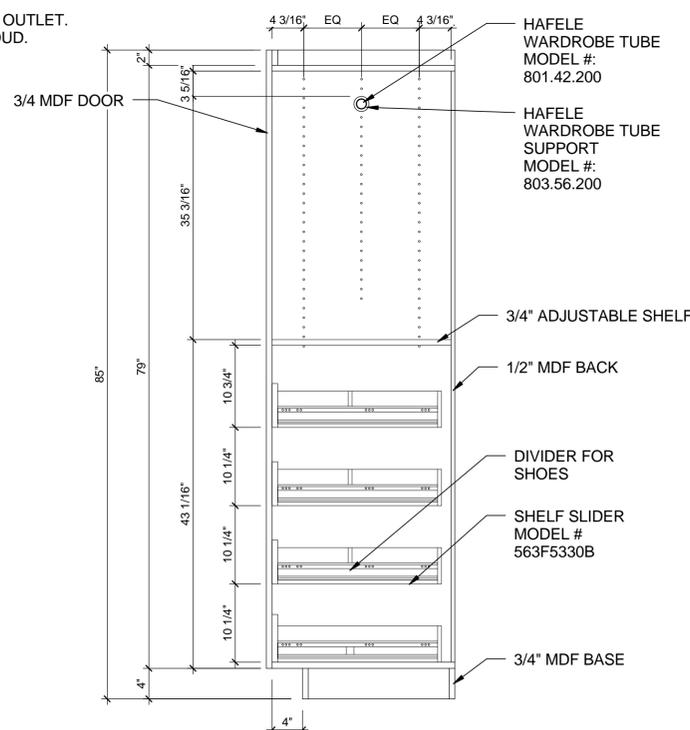
D4 CLOSET 2 - ISOMETRIC



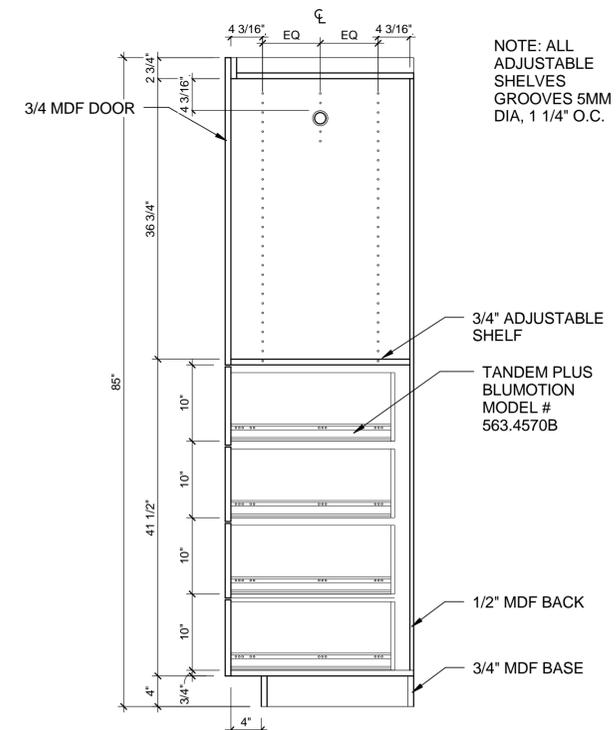
D6 CLOSET 2 CARCASS - ISOMETRIC



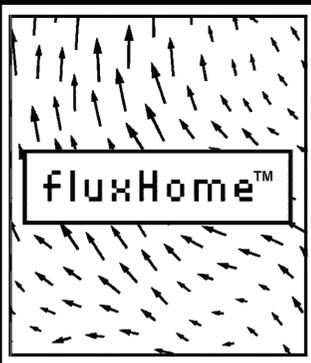
A1 CLOSET 2 CARCASS + SHELVES - FRONT



A4 BEDROOM 2 UNIT A - SECTION



A6 BEDROOM 2 UNIT B - SECTION



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BEDROOM #2 CLOSET

Z-109

