

URBAN EDEN

UNIVERSITY OF NORTH CAROLINA CHARLOTTE

SOLAR DECATHLON 2013

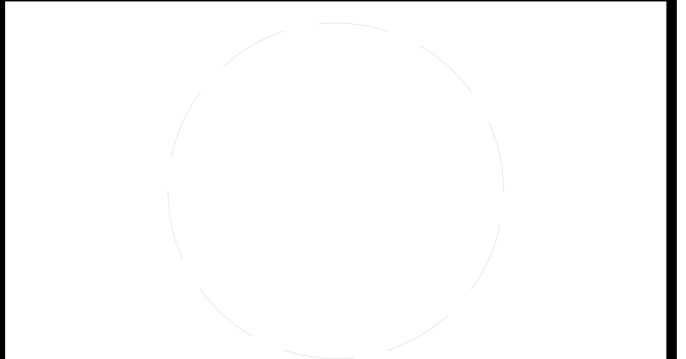
AS-BUILT DRAWING SET

22 AUGUST 2013



TEAM NAME: TEAM UNCC
 ADDRESS: UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE
 9201 UNIVERSITY CITY BLVD
 CHARLOTTE, NC 28223
 CONTACT: MONA AZARBAYJANI
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01	10.10.12	80% DOE SUBMISSION
02	11.20.12	80% DOE RE-SUBMISSION
03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

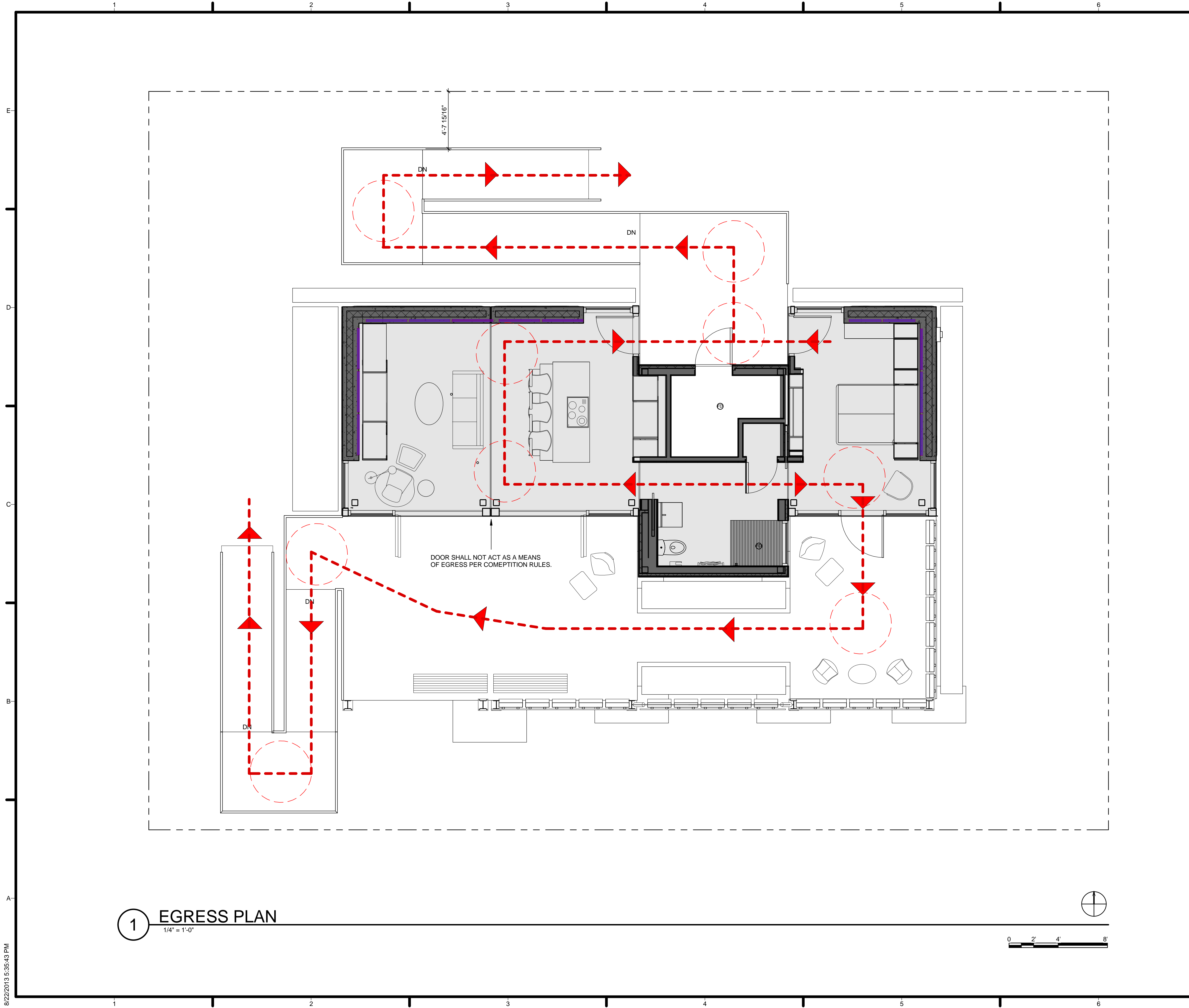
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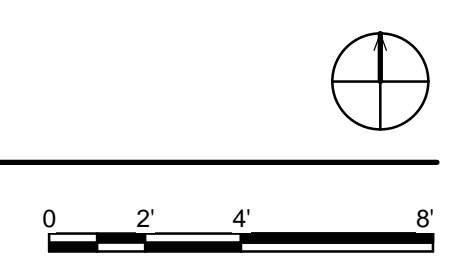
SHEET TITLE
 COVER SHEET

G-000





1 EGRESS PLAN
1/4" = 1'-0"



GENERAL SHEET NOTES

REFERENCE KEYNOTES

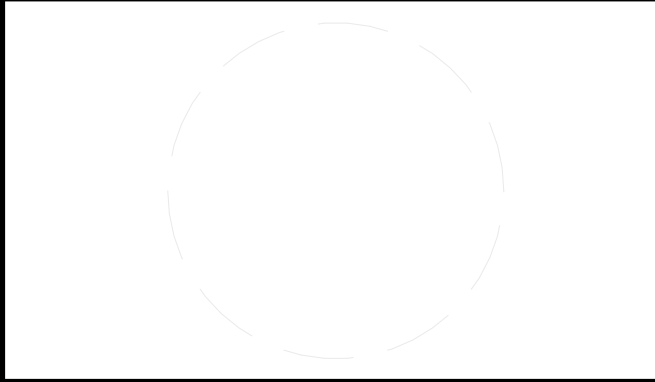
SHEET KEYNOTES



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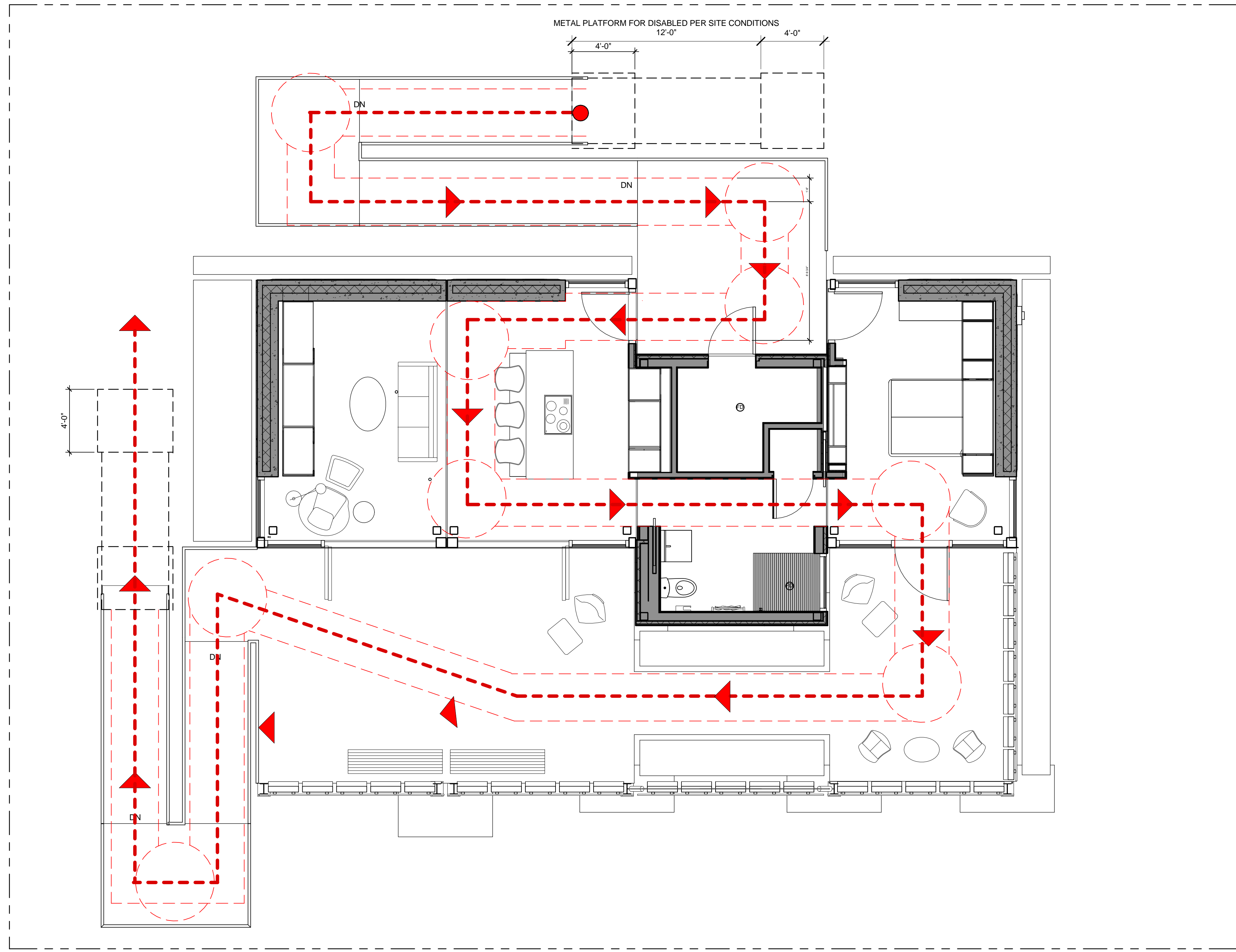
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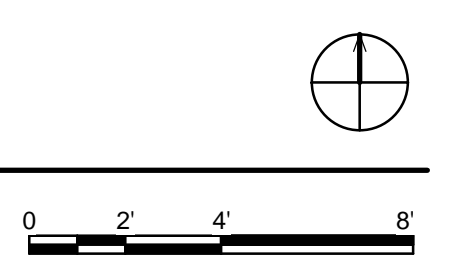
SHEET TITLE
 EGRESS PLAN

G-102

8/22/2013 5:35:43 PM



1 ADA TOUR ROUTE COMPLIANCE
1/4" = 1'-0"



GENERAL SHEET NOTES

1. PLAN COMPLIES WITH OPTIONAL ACCESSIBILITY PATH: TYPE B-OPTIONAL; COMPLYING WITH REQUIREMENTS PROVIDED IN ICC A117.1-2003 SECTION 1004 AS "ADAPTABLE" FOR ACCESSIBLE ELEMENTS.
2. BOTH MILLWORK AND FURNITURE ARE SHOWN ON PLAN.
3. RAMP TO BE BUILT TO LONGER DIMENSION AND CUT TO FIT GRADE ON SITE. MAXIMUM SLOPE OF RAMP SHALL BE 1:21
4. HOUSE TOUR PLANS PROVIDED FOR COMPETITION ONLY AND HAS NO IMPACT ON CONSTRUCTION REQUIREMENTS OR SEQUENCING.

REFERENCE KEYNOTES

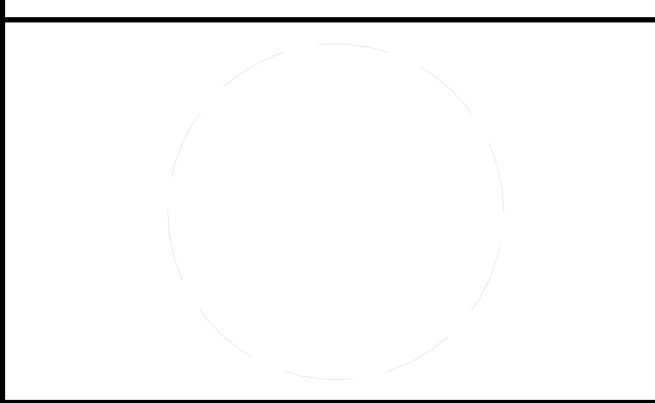
SHEET KEYNOTES



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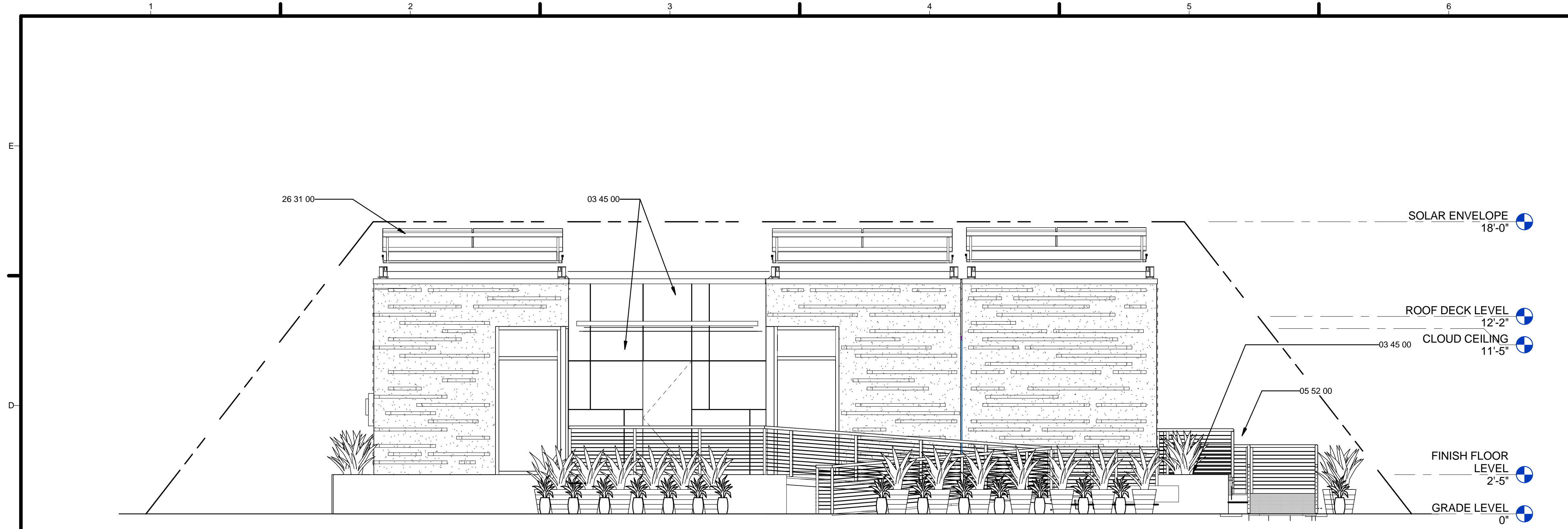
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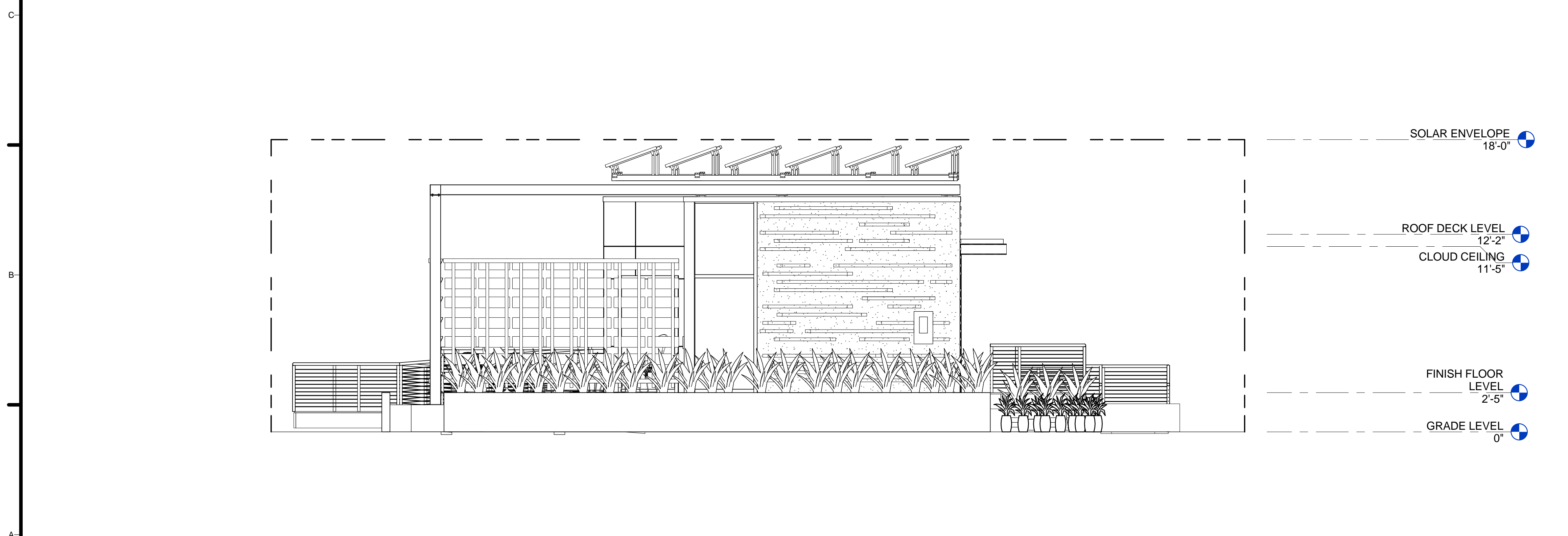
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SHEET TITLE
ADA TOUR ROUTE COMPLIANCE PLAN

G-103



1 NORTH SOLAR ENVELOPE
1/4" = 1'-0"



2 EAST SOLAR ENVELOPE
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SCOPE OF WORK TO FALL WITH IN SOLAR ENVELOPE. MAXIMUM HEIGHT OF BUILT STRUCTURE IS LIMITED TO 18'-0", MAXIMUM WIDTH IS LIMITED TO 78'-0".

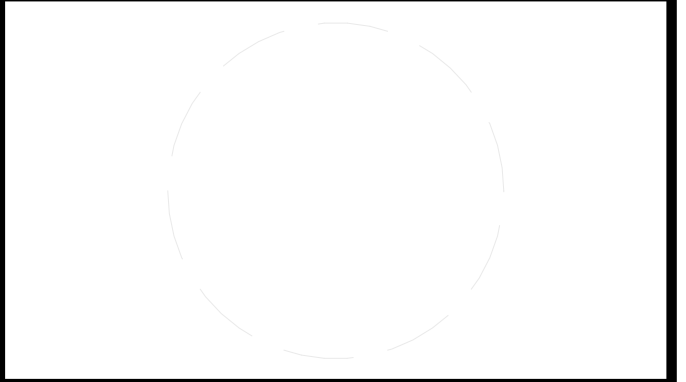
REFERENCE KEYNOTES

03 45 00	PRECAST ARCHITECTURAL CONCRETE
05 52 00	METAL RAILINGS
26 31 00	PHOTOVOLTAIC COLLECTORS

SHEET KEYNOTES

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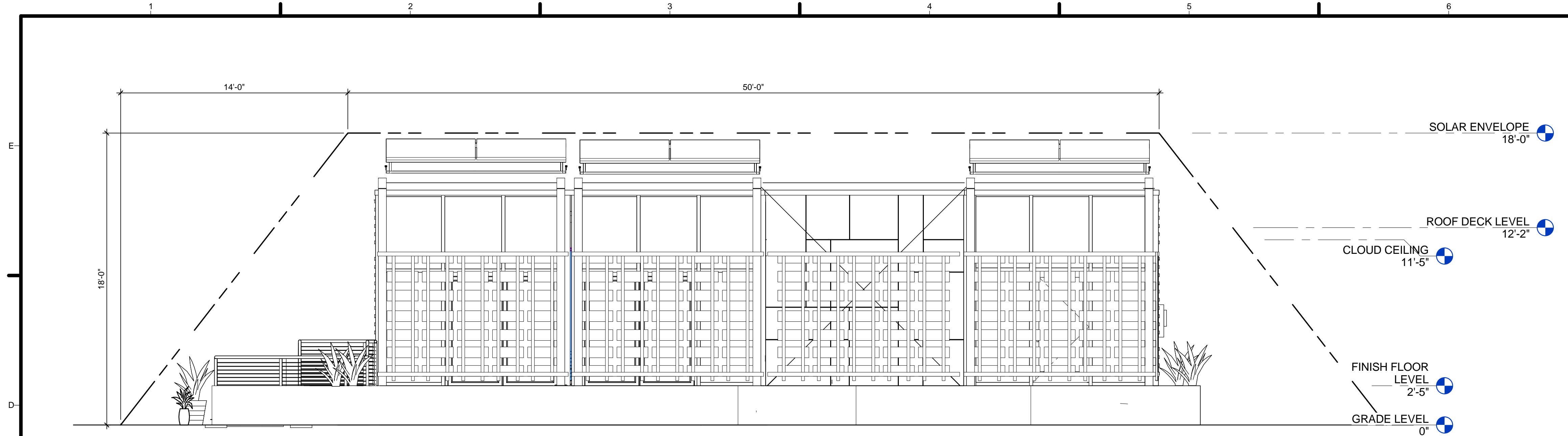
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04	04.05.13	100% DOE RE-SUBMISSION
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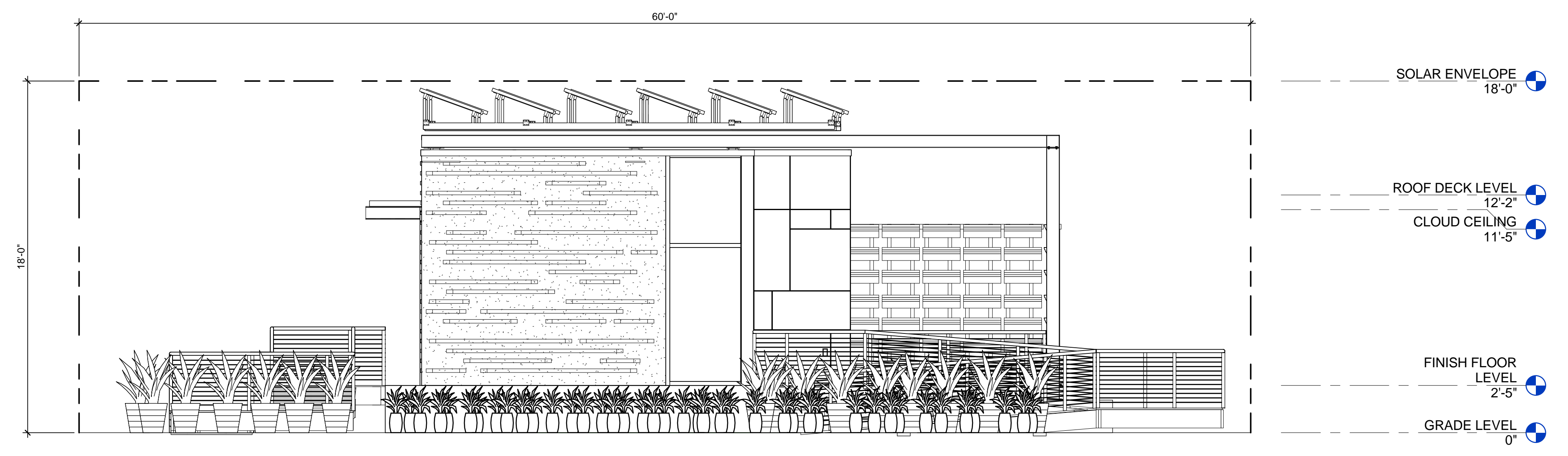
SHEET TITLE
SOLAR ENVELOPE COMPLIANCE ELEVATIONS

G-201

8/22/2013 5:36:12 PM



1 SOUTH SOLAR ENVELOPE
1/4" = 1'-0"



2 WEST SOLAR ENVELOPE
1/4" = 1'-0"

GENERAL SHEET NOTES

1. SCOPE OF WORK TO FALL WITH IN SOLAR ENVELOPE. MAXIMUM HEIGHT OF BUILT STRUCTURE IS LIMITED TO 18'-0", MAXIMUM WIDTH IS LIMITED TO 78'-0", MAXIMUM DEPTH IS 60'-0".

REFERENCE KEYNOTES

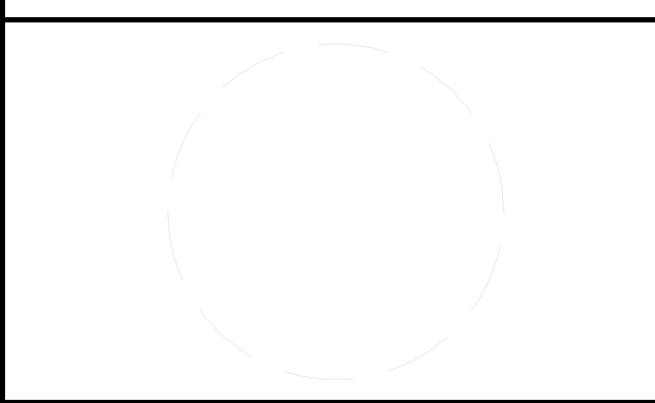
SHEET KEYNOTES



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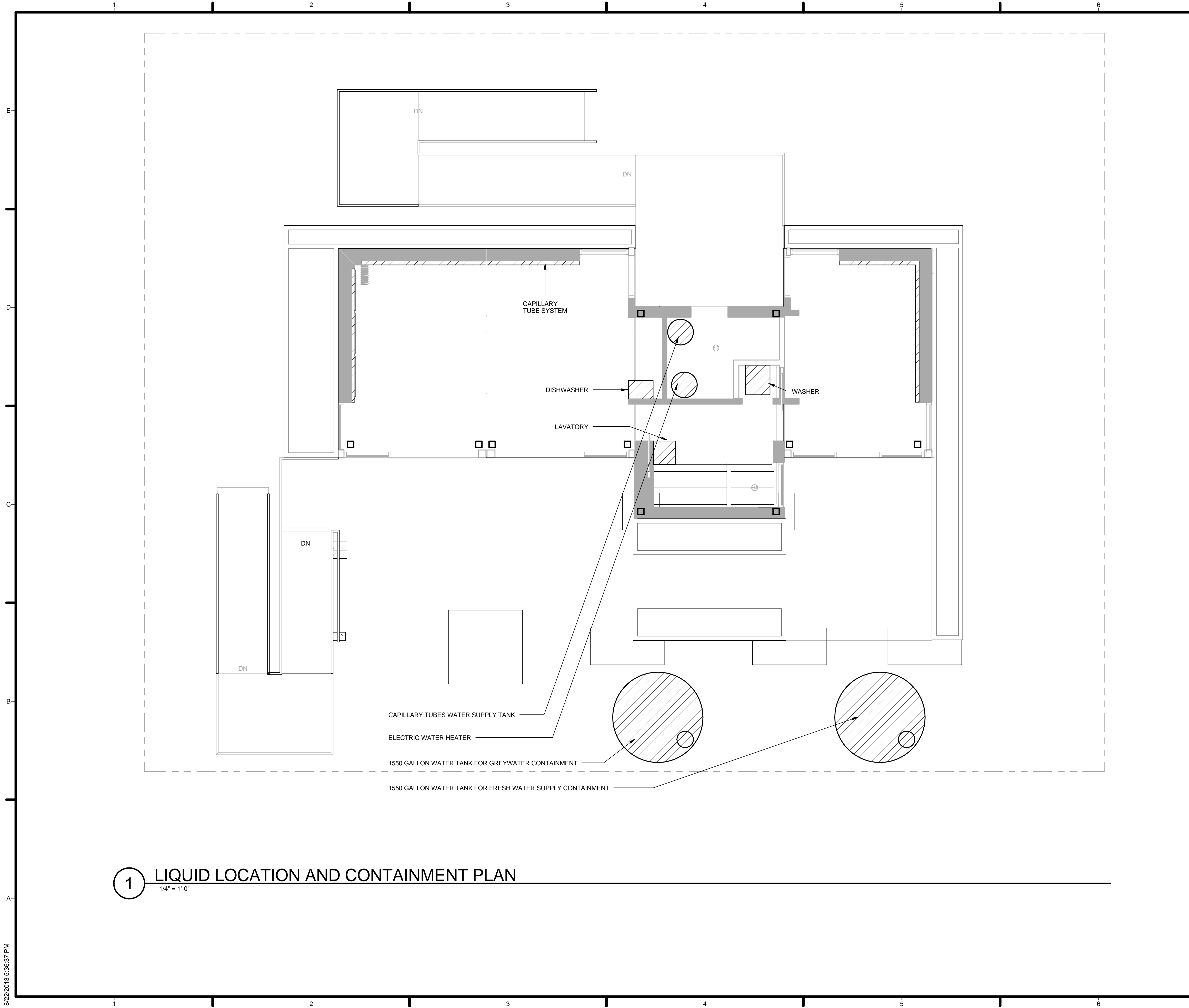
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05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION

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SHEET TITLE
**SOLAR ENVELOPE
 COPMLIANCE
 ELEVATIONS**

G-202



GENERAL SHEET NOTES

1. HATCH PATTERN INDICATES ALL CONTAINERS, EQUIPMENT, AND FIXTURES THAT WILL CONTAIN LIQUID ON SITE AT ANY POINT DURING COMPETITION. IN COMPLIANCE WITH SPILL CONTAINMENT REGULATIONS
2. ALL PRESSURIZED WATER SYSTEMS SHALL HAVE PROPER CONTAINMENT AND SHALL BE EQUIPPED WITH AN OVERFLOW PAN OR VALVE AND DRAIN BELOW UNIT
3. IN THE EVENT OF A SPILL, TEAM IS TO CONSULT SAFETY PLAN AND CONTACT EVENT ORGANIZERS
4. SEE P-SERIES SHEETS FOR A SCHEDULE OF LIQUID CONTAINMENT DEVICES

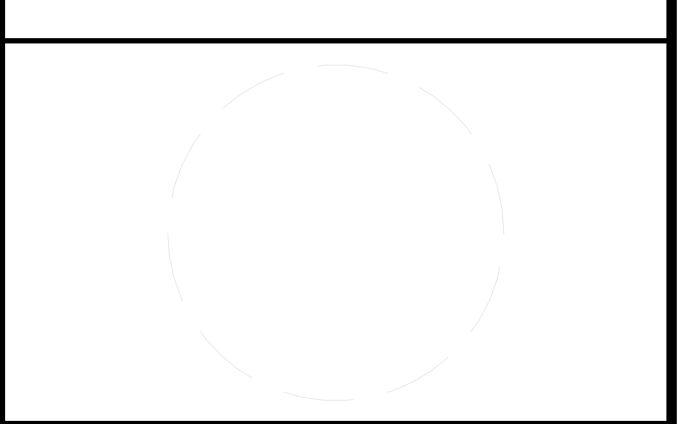
REFERENCE KEYNOTES

SHEET KEYNOTES



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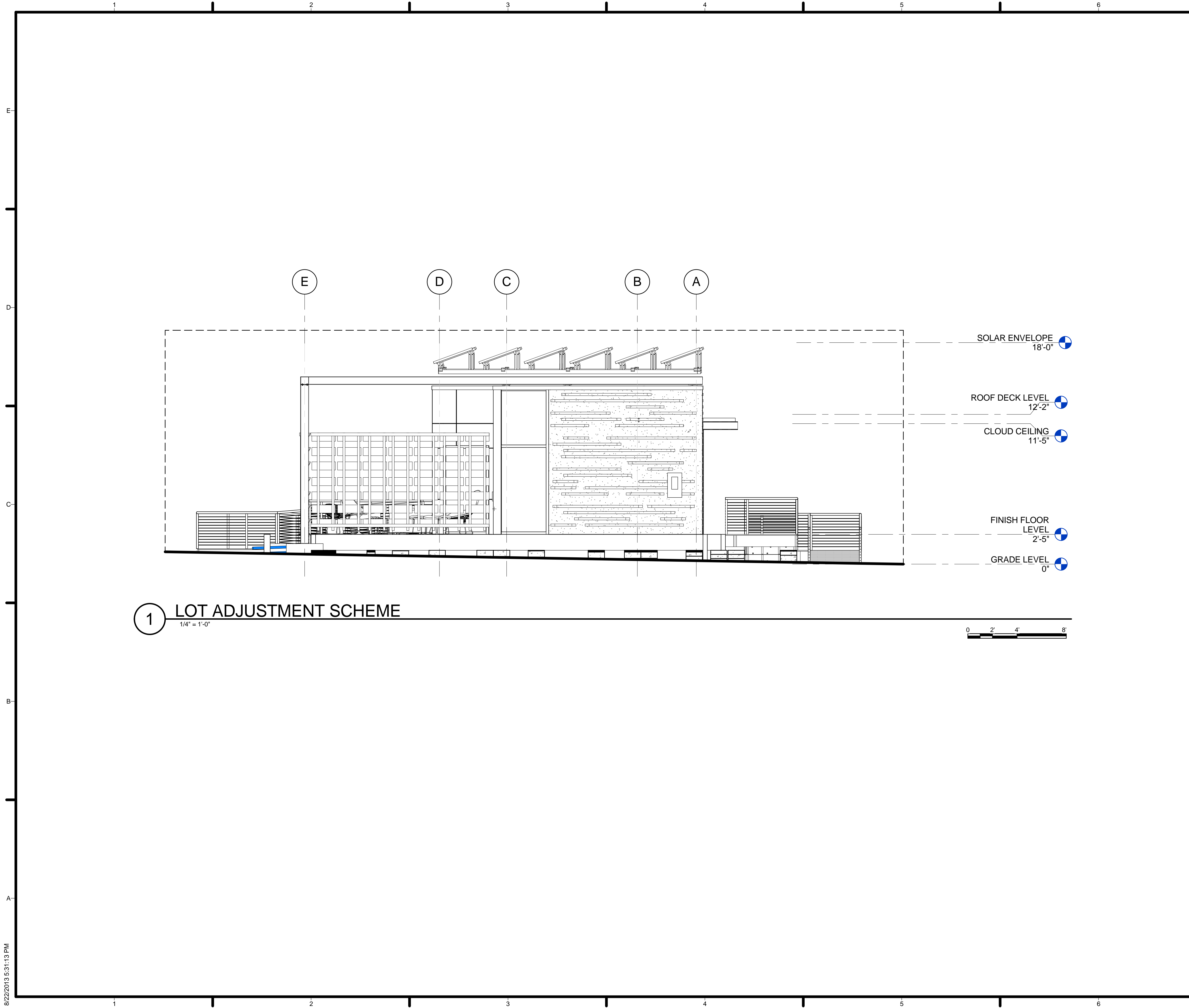
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SHEET TITLE
LIQUID LOCATION AND SPILL CONTAINMENT PLAN

H-101

1 LIQUID LOCATION AND CONTAINMENT PLAN
 1/4" = 1'-0"



GENERAL SHEET NOTES

1. FOUNDATION AND RAMP TO ACCOMMODATE SITE SLOPE CHANGE PER COMPETITION RULES.

REFERENCE KEYNOTES

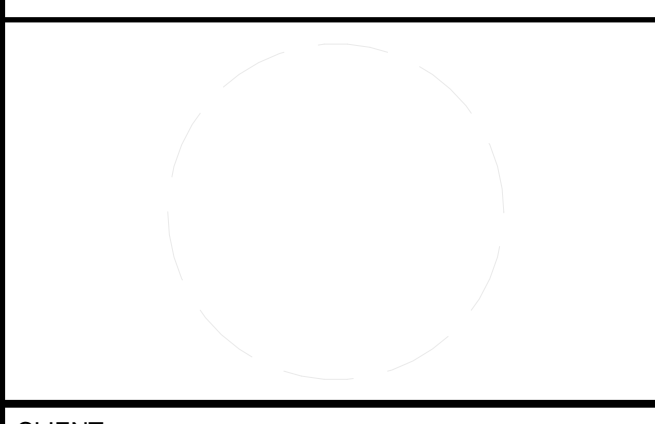
SHEET KEYNOTES



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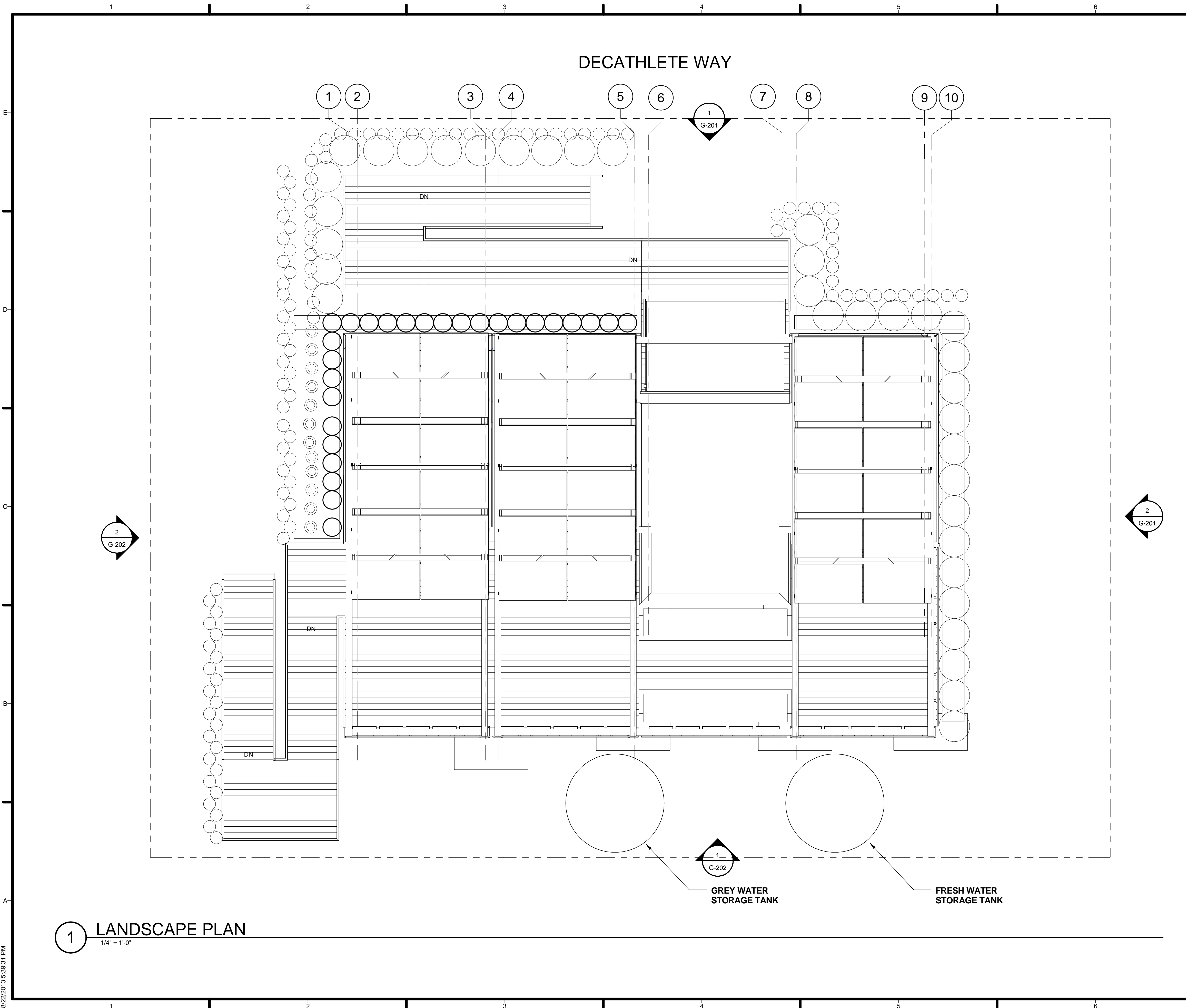
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SHEET TITLE
 LOT CONDITION
 ADJUSTMENT DETAILS

C-100



GENERAL SHEET NOTES

1. FOR PLANT TYPE SEE LANDSCAPE SCHEDULE ON L-602 FOR FURTHER INFORMATION
 2. ALL POTTED PLANTS TO BE FIXED IN RESPONSE TO COMPETITION RULES. ALL PLANTS TO FIT WITH IN PLYWOOD PLANTERS AND REMAIN 18" ABOVE GRADE.

REFERENCE KEYNOTES

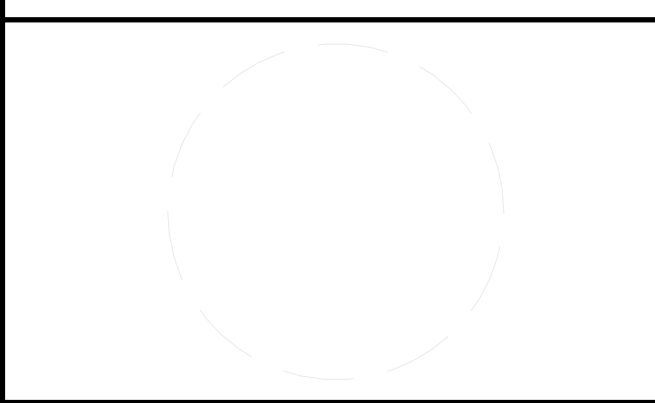
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SHEET KEYNOTES



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MARK	DATE	DESCRIPTION

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SHEET TITLE
LANDSCAPE AND PLANTING SITE PLAN

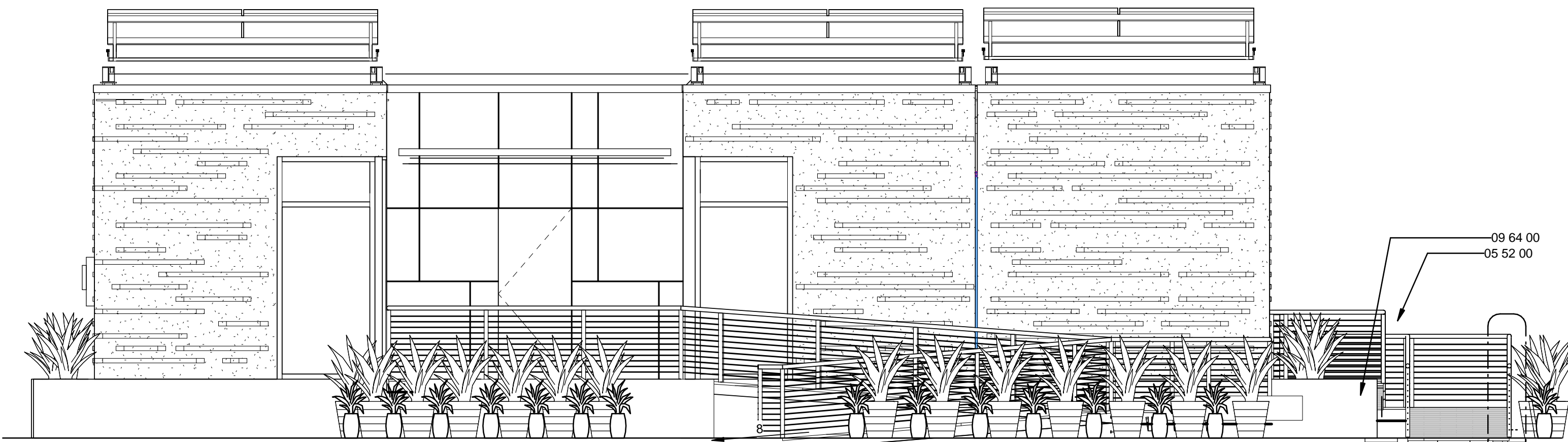
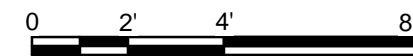
L-101

1 LANDSCAPE PLAN
 1/4" = 1'-0"

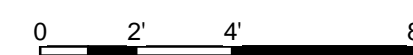
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2 SOUTH PLANTING ELEVATION
1/4" = 1'-0"



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



GENERAL SHEET NOTES

REFERENCE KEYNOTES

05 52 00 METAL RAILINGS
09 64 00 WOOD FLOORING
32 94 33 PLANTERS

SHEET KEYNOTES



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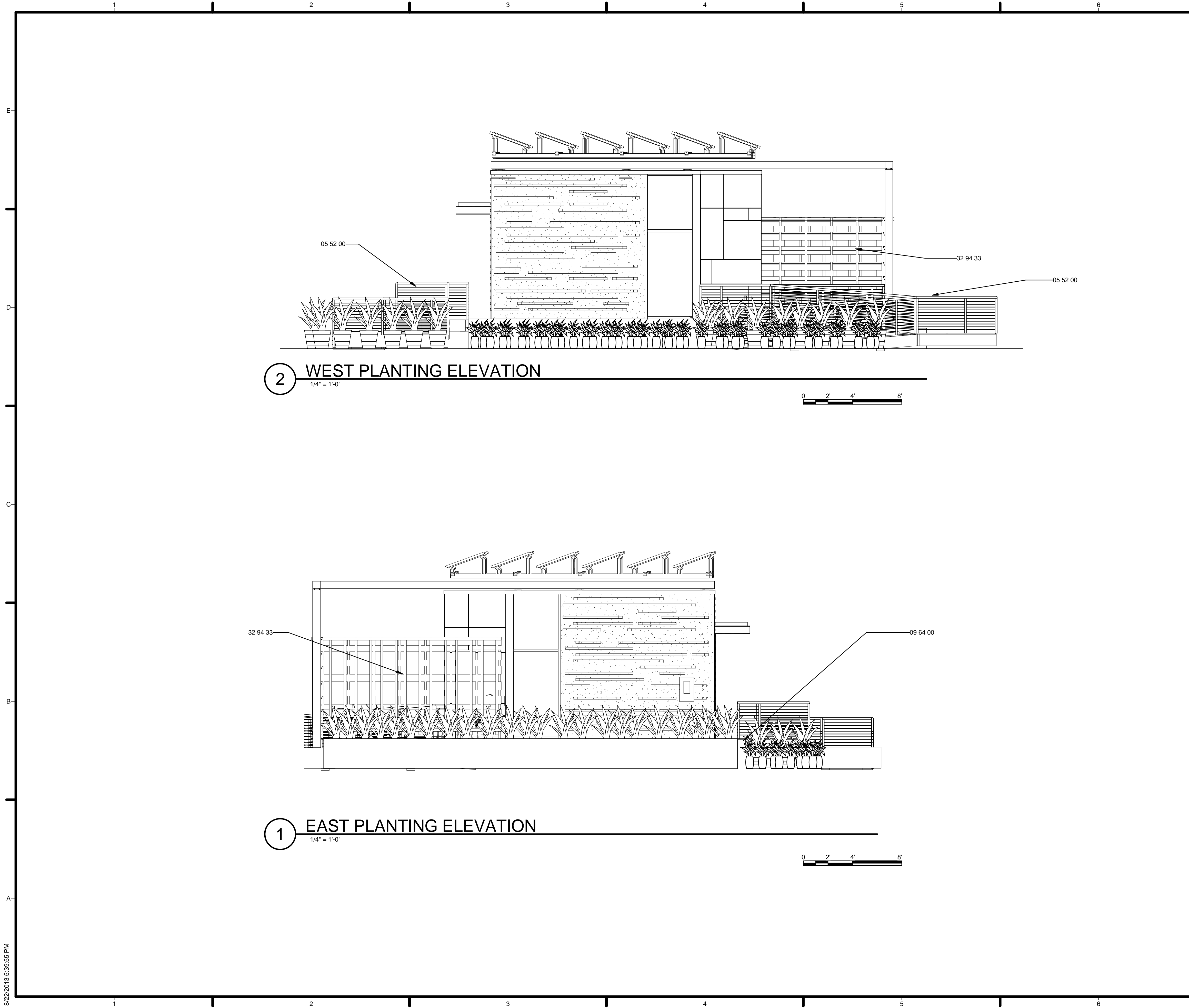
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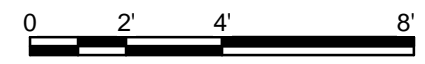
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LANDSCAPE ELEVATIONS

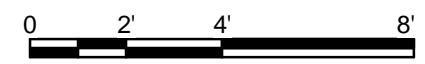
L-201



2 WEST PLANTING ELEVATION
1/4" = 1'-0"



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



GENERAL SHEET NOTES

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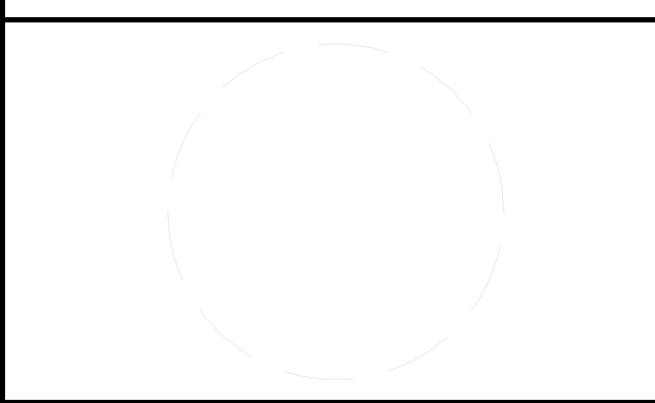
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32 94 33	PLANTERS

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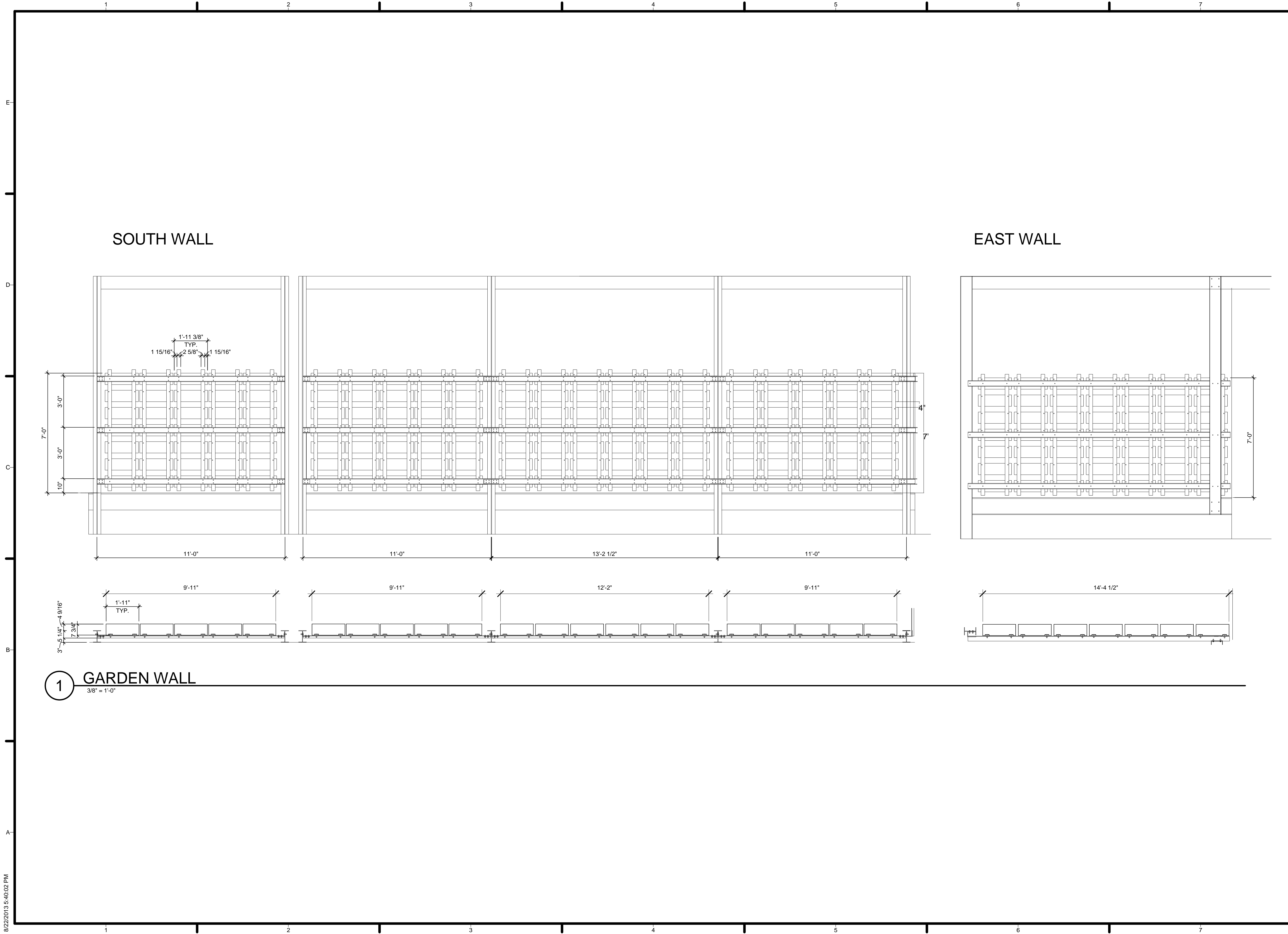
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LANDSCAPE ELEVATIONS

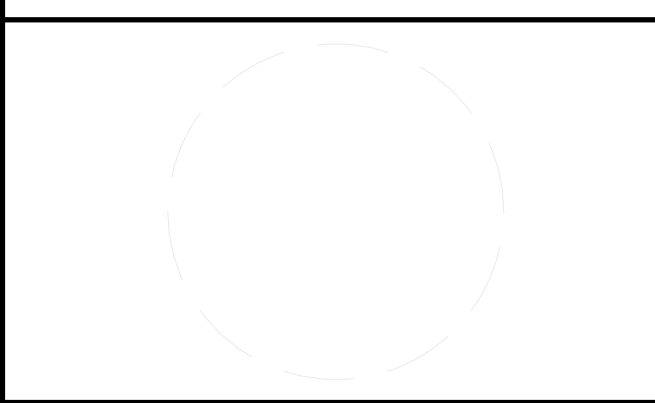
L-202



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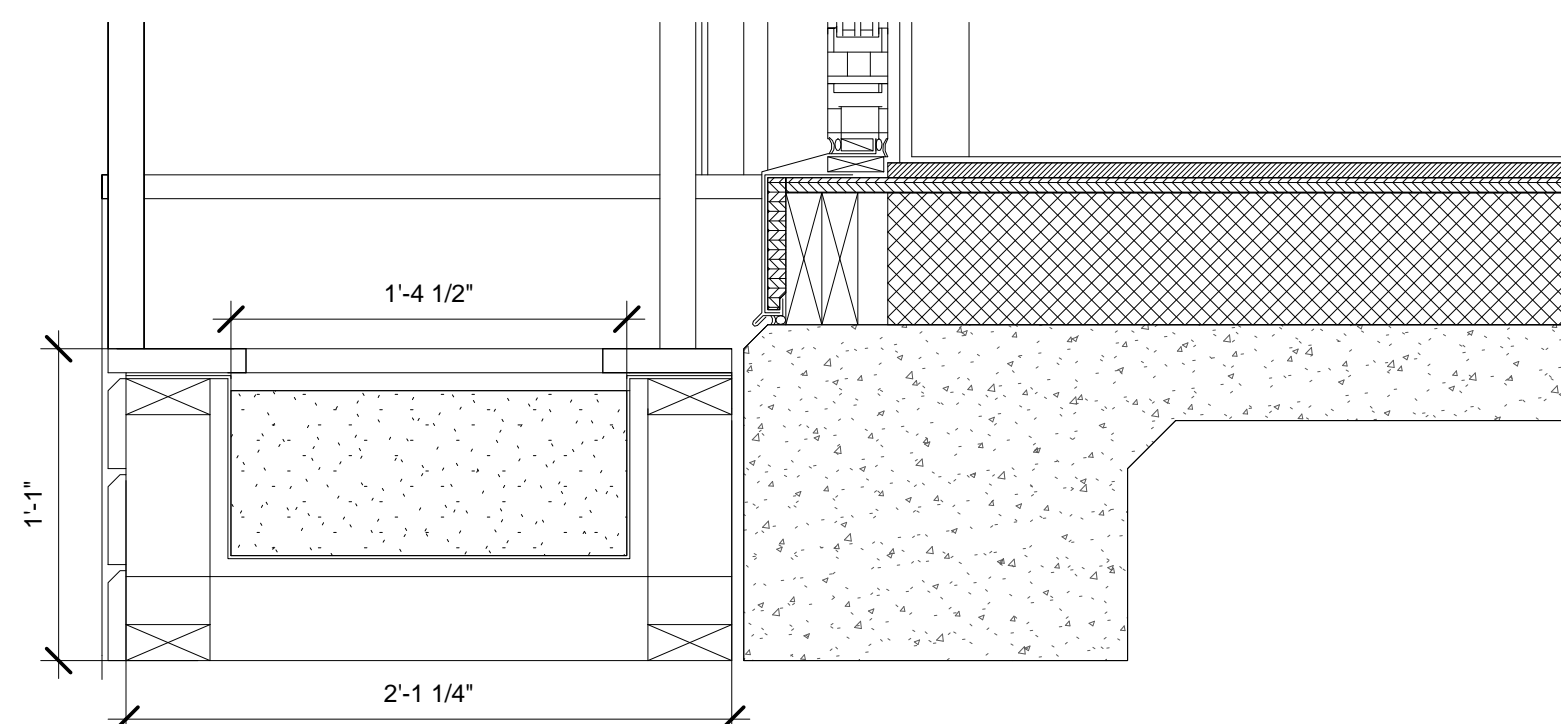
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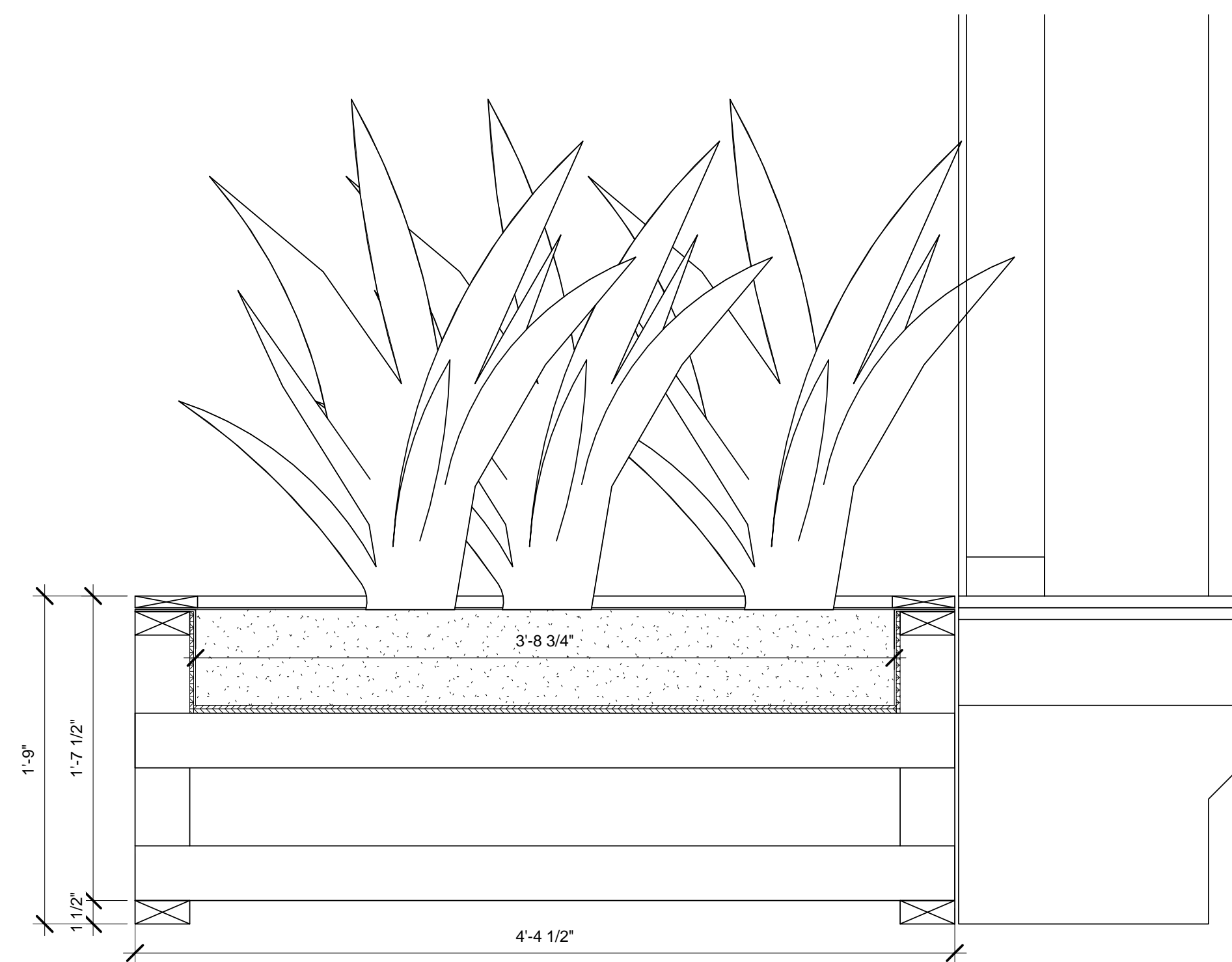
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SHEET TITLE
PLANTING DETAILS

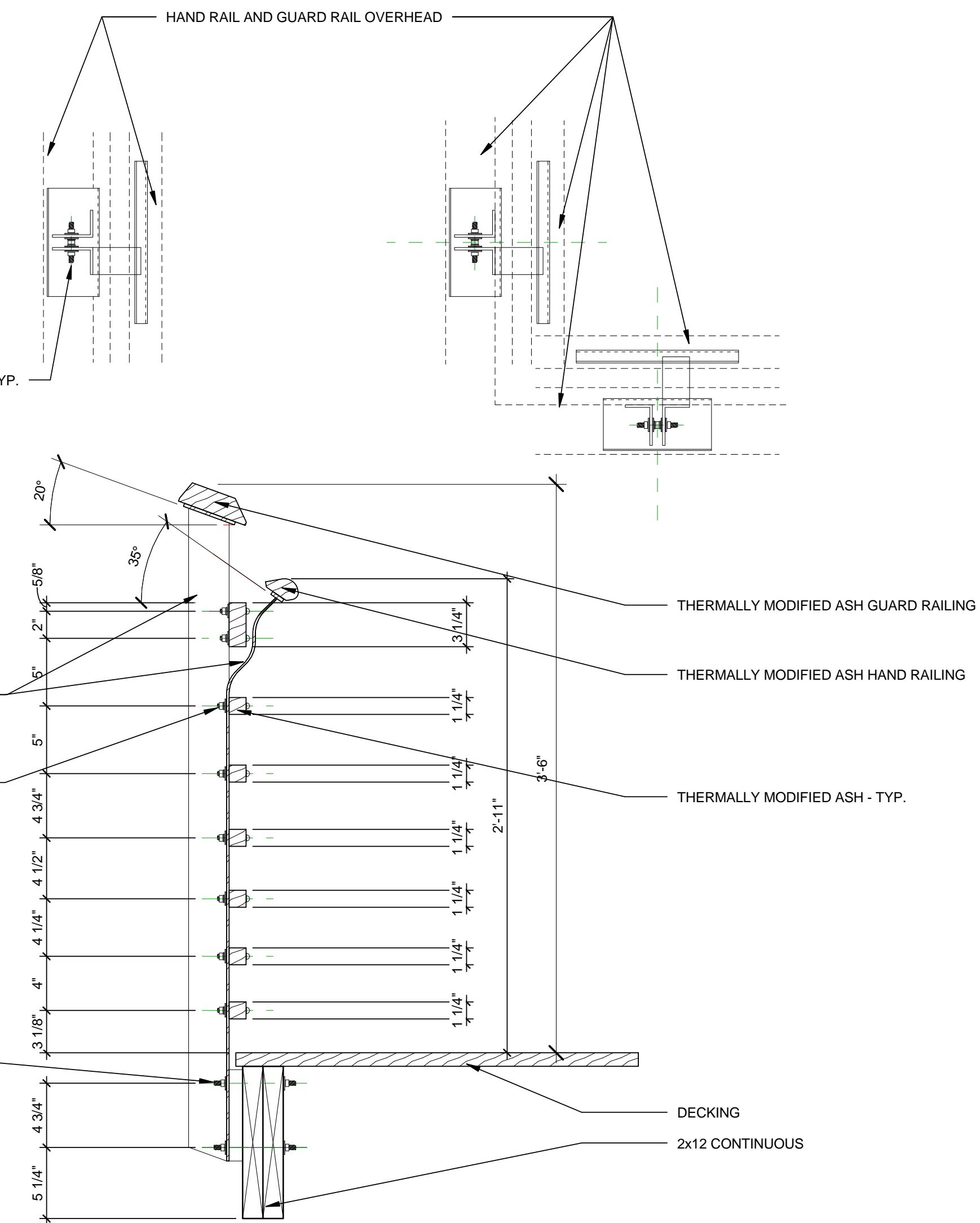
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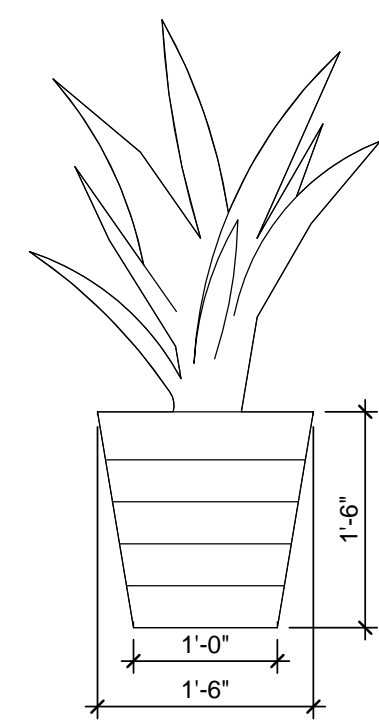
1 TYP. WATER FEATURE
1 1/2" = 1'-0"



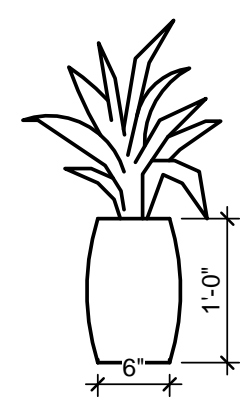
2 TYP. PLANTER BOX
1 1/2" = 1'-0"



5 RAILING DETAILS
1 1/2" = 1'-0"



3 TYP. PLANTING DETAIL (LARGE)
3/4" = 1'-0"



4 TYP. PLANTING DETAIL (SMALL)
3/4" = 1'-0"

GENERAL SHEET NOTES

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SHEET TITLE
PLANTING DETAILS

L-602

Vertical gardens				
Bedroom Panels (2 units of 35 planters each)				
Mark	Latin Name	Common Name	total # of plants	# per Plant Box
gren	Althernanthera Ficoida	grenadine	21	3
ivy	Hedera helix	common ivy	28	4
bfl	Dianella	blue flax lilies	28	4
crs	Cordyline Australis	Red Sensation	21	3
Kitchen Panel (edibles)				
Mark	Latin Name	Common Name	total # of plants	# per Plant Box
ore	Origanum vulgare	oregano	3	3
sag	Salvia officinalis	sage	3	3
par	Petroselinum	parsley	3	3
mnt	Mentha piperita/ Mentha spicata	mint	3	3
chi	Allium schoenoprasum	chives	6	6
pep	n/a	peppers	10	2
tom	n/a	trailing tomatoes	10	2
bb	n/a	Bulls Blood	25	5
spi	n/a	spinach	25	5
let	n/a	lettuce	25	5
oni	n/a	onions	30	6
Living Room Panel				
Mark	Latin Name	Common Name	total # of plants	# per Plant Box
ros	Rosmarinus officinalis	Rosemary "Blue Lagoon"	14	2
hon	Greater Periwinkle	Vinca Major	21	3
dai	Erigeron Karvinskianus sf	Santa Barbara daisy	21	3
lav	Lavandule species sf	lavender	21	3
gibw	Pelargonium Peltatum	Geranium Ivy Blizzard White	14	2
Bathroom Panel				
Mark	Latin Name	Common Name	total # of plants	# per Plant Box
ore	Origanum vulgare	oregano	3	3
sag	Salvia officinalis	sage	3	3
par	Petroselinum	parsley	3	3
mnt	Mentha piperita/ Mentha spicata	mint	3	3
chi	Allium schoenoprasum	chives	5	5
straw	Fragaria Ananassa	strawberries	24	4
bas	Ocimum basilicum	basil	3	3
tom	n/a	trailing tomatoes	12	2
bb	n/a	Bulls Blood	18	3
spi	n/a	spinach	30	5
let	n/a	lettuce	30	5
oni	n/a	onions	36	6
Planter Boxes				
Mark	Latin Name	Common Name	total # of plants	# per Plant Box
lil	Liriope Gigantea	Giant Lilyturf	57	n/a
frg	Calamagrostis x Acutiflora	Feather Reed Grass	14	n/a

GENERAL SHEET NOTES

REFERENCE KEYNOTES

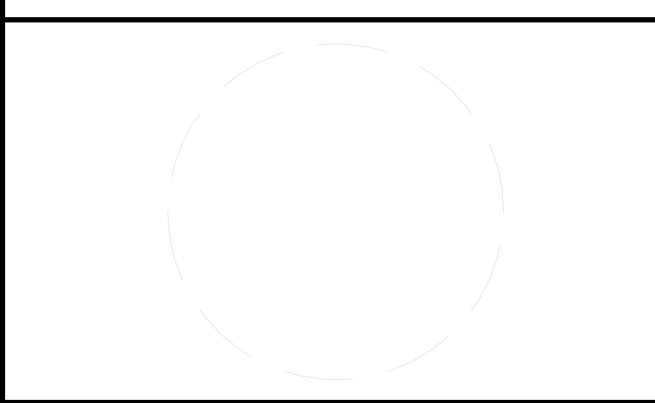
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PLANTING SCHEDULES

L-603

	1	2	3	4	5	6	7						
E	<p>FOUNDATIONS</p> <p>1. ALL FOOTINGS ARE DESIGNED TO BEAR ON RESIDUAL SOIL OR COMPACTED ENGINEERED FILL AND TO HAVE A MINIMUM BEARING CAPACITY AS LISTED UNDER "STRUCTURAL DESIGN DATA" IN THE GENERAL NOTES. FOOTING EXCAVATIONS ARE TO BE INSPECTED BY AN INDEPENDENT TESTING LABORATORY FOR SUITABLE SOILS, BEARING PRESSURE, AND COMPACTION. COMPACTION OF SOIL UNDER FOOTINGS TO BE 100% OF THE MAXIMUM STANDARD PROCTOR DRY DENSITY.</p> <p>CONCRETE</p> <p>1. CONCRETE SHALL BE BATCHED USING MATERIALS AND PROPORTIONS DESIGNATED IN THE APPROVED DESIGN MIXES. THE GENERAL CONTRACTOR SHALL PROVIDE QUALITY CONTROL OF THE CONCRETE MIX. THE ADDITION OF WATER TO INCREASE SLUMPS ABOVE THE LEVEL SPECIFIED OR TO RETEMPER CONCRETE WHICH HAS EXPERIENCED SLUMP LOSS DUE TO EXCESSIVE MIXING OR HEAT BUILD-UP IS NOT PERMITTED. QUALITY ASSURANCE TESTING SHALL BE PROVIDED BY QUALIFIED TESTING LAB AS APPROVED AND PAID FOR BY THE OWNER.</p> <p>2. CONCRETE SHALL BE HANDLED, PLACED, AND CONSOLIDATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS</p> <p>3. SEE SPECIFICATIONS FOR CURING AND HOT- AND COLD-WEATHER REQUIREMENTS FOR CONCRETE.</p> <p>4. PROVIDE PREMOLDED EXPANSION-JOINT FILLER AT EDGES OF SLABS ON GRADE AGAINST VERTICAL SURFACES.</p> <p>5. CONCRETE SHALL BE NORMAL WEIGHT CONCRETE. CONCRETE SHALL HAE THE FOLLOWING 28-DAY COMPRESSIVE STRENGTH UNLESS NOTED OTHERWISE IN THE PLANS OF SPECIFICATIONS:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">FOOTINGS</td> <td style="width: 50%;">3000 PSI</td> </tr> </table> <p>6. CONCRETE PERMANENTLY EXPOSED TO WEATHER SHALL HAVE A MAXIMUM W/C RATIO OF 0.45 AND SHALL CONTAIN APPROXIMATELY 6% ENTRAINED AIR, SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.</p> <p>REINFORCING STEEL</p> <p>1. DETAILING, FABRICATION, STORAGE, AND INSTALLATION OF REINFORCING, UNLESS OTHERWISE SHOWN ON THE PLAN, SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315), BOTH BY THE AMERICAN CONCRETE INSTITUTE.</p> <p>2. REINFORCING STEEL SHALL CONFORM TO ASTM A185, GRADE 60. REINFORCING STEEL WELDED TO EMBEDDED STEEL PLATES OR SHAPES SHALL CONFORM TO ASTM A706. DO NOT WELD REINFORCING BARS TO EACH OTHER.</p> <p>3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.</p> <p>4. UNLESS NOTED OTHERWISE ON PLANS OR IN DETAILS, REINFORCING BARS MARKED ON THE PLANS AS BEING CONTINUOUS SHALL BE LAPPED AT SPLICE LOCATIONS AS SHOWN IN SCHEDULE. FOR SPLICES AT CORNERS OR INTERSECTIONS OF WALL AND BEAMS, SEE TYPICAL DETAILS.</p> <p>5. REINFORCING STEEL SHALL BE CLEAN OF MUD, DEBRIS, LOOSE RUST, CEMENT GROUT, OR ANY OTHER MATERIAL WHICH MAY INHIBIT BOND BETWEEN THE STEEL AND THE CONCRETE.</p> <p>6. REINFORCING SHALL BE SECURELY TIED AND ANCHORED IN PLACE BEFORE CONCRETE PLACEMENT, TO PREVENT DISLOCATION.</p> <p>7. UNLESS OTHERWISE NOTED, MINIMUM CONCRETE COVERAGE ON REINFORCING STEEL SHALL BE AS FOLLOWS:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">FOOTINGS- ALL FACES</td> <td style="width: 50%;">3"</td> </tr> <tr> <td>WALLS- EXPOSED TO SOIL</td> <td>2"</td> </tr> </table> <p>8. BARS SHALL BE BENT ONLY USING APPROVED METHODS. BARS SHALL NOT BE BENT AFTER PARTIAL EMBEDMENT IN HARDENED CONCRETE.</p> <p>STRUCTURAL STEEL</p> <p>1. ROLLED STEEL SHAPES (EXCEPT ANGLES) SHALL CONFORM TO ASTM A572, GRADE 50, Fy=50 KSI STEEL. PIPE SHALL CONFORM TO ASTM A53, TYPE-E, GRADE-B, Fy=35 KSI. COLD FORMED STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE-B, Fy=46 KSI. ANGLES, PLATES AND BARS SHALL CONFORM TO ASTM A36, Fy=36 KSI.</p> <p>2. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS.</p> <p>3. WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED BY TESTS AS PRESCRIBED IN THE "STANDARD CODE FOR WELDING IN BUILDING CONSTRUCTION" BY THE AMERICAN WELDING SOCIETY, TO PERFORM THE TYPE OF WORK REQUIRED.</p> <p>4. WELDS SHALL BE MADE USING E70XX LOW-HYDROGEN ELECTRODES UNLESS OTHERWISE NOTED. GALVANIZED STEEL SHALL BE WELDED WITH E6011 ELECTRODES. WELDS SHALL BE CLEANED AND TOUCHED UP WITH THE APPROPRIATE PAINT OR ZINC COATING.</p> <p>5. UNLESS OTHERWISE NOTED ON THE PLANS, BOLTED FIELD CONNECTIONS SHALL BE MADE USING 3/4" DIAMETER HIGH-STRENGTH BOLTS CONFORMING TO ASTM A325-N.</p> <p>6. CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR AND APPROVED BY THE ENGINEER. SHOP DRAWINGS SHALL BE SEALED BY A REGISTERED STRUCTURAL ENGINEER IN NC WHERE CONNECTION DESIGN IS PROVIDED BY THE FABRICATOR.</p> <p>7. PROVIDE ADEQUATE SEPERATION BETWEEN STRUCTURAL STEEL AND ALUMINUM AND OTHER DISSIMILAR METALS TO PREVENT GALVANIC CORROSION. SEPERATION MATERIALS SHALL BE ADEQUATE TO TRANSFER LOADS.</p> <p>8. ALL SHOP FILLET WELDS SHAL BE A MINIMUM 3/16" AND ALL FIELD FILLET WELDS SHALL BE A MINIMUM 1/4".</p> <p>9. PROVIDE 1/2" DIA. x LENGTH REQUIRED THREADED STUDS FOR ATTACHMENT OF WOOD BLOCKING TO STEEL SHAPES AS REQUIRED.</p> <p>10. SEE ARCHITECTURAL DRAWINGS FOR FIREPROOFING REQUIREMENTS.</p> <p>11. ALL STEEL SHAPES THAT ARE EXPOSED TO MOISTURE OR THE WEATHER, INCLUDING LINTELS AND EMBED SHAPES AND PLATES IN CONCRETE MEMBERS ADHACENT TO EXTERIOR WALLS SHALL BE HOT DIPPED GALVANIZED. HOT DIP GALVANIZING SHALL CONFORM TO ASTM A153, CLASS B. STRUCTURAL STEEL LOCATED LOCATED DIRECTLY BEHIND BRIK VENEER IS CONSIDERED EXPOSED TO MOISTURE UNLESS THE STEEL IS BEHIND SHEATHING WITH A VAPOR BARRIER.</p>						FOOTINGS	3000 PSI	FOOTINGS- ALL FACES	3"	WALLS- EXPOSED TO SOIL	2"	
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D	<p>PRECAST CONCRETE</p> <p>1. THE MANUFACTURER OF PRECAST CONCRETE MEMBERS SHALL BE RESPONSIBLE FOR THE STRUCTURE AND FINISH OF THE PRECAST MEMBERS AND CONNECTIONS OF THE MEMBERS TO THE SUPPORTING STRUCTURAL MEMBERS. THE DSGINS SHALL MEET THE REQUIREMENTS OF THE NORTH CAROLINA STATE BUILDING CODE AND THE LATEST EDITION OF THE PCI MANUAL OF STRUCTURAL DESIGN OF ARCHITECTURAL PRECAST CONCRETE.</p> <p>2. THE MEMBER AND CONNECTION DESIGNS SHALL BE PERFORMED BY A REGISTERED PROFESSIONAL ENGINEER AND SHALL CONSIDER THE EFFECTS OF GRAVITY, WIND, SEISMIC, THERMAL, OR OTHER LOADING CONDITIONS AND COMBINATIONS THEREOF. SEE CONTRACT DOCUMENTS FOR SPECIAL DESIGN REQUIREMENTS AND CONDITIONS. IF MEMBER REINFORCING IS SHOWN OR IF CONNECTION MATERIAL SIZES ARE SHOWN, THEY SHALL BE TAKEN AS MINIMUM REQUIREMENTS. CONNECTIONS SHALL ACCOMMODATE VOLUME CHANGE MOVEMENT MOVEMENT OF THE PRECAST MEMBER.</p> <p>3. CONNECTION DESIGNS SHALL INCLUDE ALL CONNECTION MATERIALS REQUIRED TO PROVIDE PROPER SUPPORT FOR THE PRECAST MEMBERS, INCLUDING ITEMS EMBEDDED IN THE SUPPORTING STRUCTURE.</p> <p>4. PRECAST CONNECTION DETAILS SHOWN ON THE DRAWINGS INDICATE LOCATIONS AND CONFIGURATIONS USED IN DESIGN OF THE SUPPORTING STRUCTURE. ANY CHANGES IN CONNECTION LOCATION OR CONFIGURATION MUST BE APPROVED BY THE ENGINEER BEFORE IMPLEMENTATION.</p> <p>5. ALL CONNECTION PLATES AND SHAPES SHALL BE ASTM A36, GALVANIZED. SHEAR STUDS SHALL BE ASTM A108. PRECAST MEMBERS FOR WELD JOINTS SHALL BE ASTM A706, GRADE 60. WELDING ELECTRODES SHALL BE E70XX, LOW HYDROGEN.</p> <p>6. AFTER WELDING, THE CONNETIONS SHALL BE CLEANED TO BRIGHT METAL CONDITION AND TOUCHED-UP WITH (3) COATS OF ORGANIC ZINC COLD GALVANIZING COMPOUND WITH A MINIMUM OF 94% ZINC DUST IN THE DRY FILM, 8 MILS MINIMUM DRY FILM THICKNESS.</p> <p>MISCELLANEOUS ITEMS</p> <p>1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS, AND DRAWINGS OF OTHER TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE WORK OF ALL TRADES IS COORDINATED WITH THE STRUCTURAL WORK.</p> <p>2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, ERECTING, AND REMOVING ANY SHORING AND BRACING REQUIRED DURING CONSTRUCTION.</p> <p>3. THE ENGINEER SHALL BE NOTIFIED AT THE PROPER TIME WHEN ITEMS ARE READY FOR FIELD REVIEW. SUFFICIENT NOTICE SHALL BE GIVEN TO ALLOW SCDULING OF THE FIELD REVIEW.</p> <p>4. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE HAS REACHED ITS REQUIRED COMPRESSIVE STRENGTH. USE MECHANICAL HAND-TAMPERS FOR COMPACTING AGAINST BACKFILL AGAINST WALLS.</p> <p>5. ALL EMBED PLATES EXPOSED TO THE EXTERIOR CAST IN PRECAST OR CAST-IN-PLACE METAL ROOF DECKING</p> <p>1. SEE PLAN NOTES FOR METAL DECKING REQUIREMENTS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.</p> <p>CONSTRUCTION AND SAFETY</p> <p>1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT.</p> <p>2. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT THE SMAE AGAINST INJURY, DAMAMGE OR LOSS.</p> <p>3. NO OPENINGS NOR ANY CHANGES IN SIZE, DIMENSION OR LOCATION SHALL BE MADE IN ANY STRUCTURAL ELEMNTS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.</p> <p>4. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURE. SUCH LOADS SHALL NOT EXCEED THE LIVE LOAD CAPACITY OF THE STRUCTURE AT ANY TIME, AS INDICATED ON THE DRAWINGS.</p> <p>5. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND ANY TEMPORARY BRACING OR SUPPORT REQUIRED TO ACCOMODATE THE CONTRACTOR'S MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.</p> <p>6. THE CONTRACTOR SHALL INFORM THE STRUCTURAL ENGINEER, IN WRITING, OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH A DEVIATION BY VIRTUE OF THE STRUCTURAL ENGINEER'S REVIEW OF SHOP DRAWINGS PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE STRUCTURAL ENGINEER OF SUCH DEVIATION AT TIME OF SUBMISSION, AND THE STRUCTURAL ENGINEER HAS GIVEN WRITTEN APPROVAL FOR THE SPECIFIC DEVIATION.</p> <p>7. ALL THINGS WHICH IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES IN THE PLANS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER. CORRECTIONS OR WRITTEN INTERPRETATIONS SHALL BE ISSUED BEFORE CONSTRUCTION OF THE AFFECTED WORK AREA MAY PROCEED.</p> <p>8. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS OR PRECEEDING WITH NEW WORK AFFECTED BY EXISTING CONDITIONS. STRUCTURAL ENGINEER SHALL BE INFORMED IN WRITING OF CONFLICTS BETWEEN EXISTING AND PROPOSED NEW CONSTRUCTION.</p> <p>9. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL DIMENSIONS SHOWN ON THE CONTRACT DOCUMENTS, INCONSISTENCIES ON THE STRUCTURAL DRAWINGS OR BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER CONTRACT, SHOP, FABRICATION OR OTHER DRAWINGS OR INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH AFFECTED WORK.</p> <p>10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING REQUIREMENTS FOR OPENINGS AND DEPRESSED SLAB AREAS AND THE INSTALLATION OF ANCHOR BOLTS, CLIPS, INSERTS, CONNECTION ELEMENTS, SLEEVE, SLOTS, CONDUITS, ELECTRICAL BOXES, AND OTHER REQUIRED ITEM TO BE EMBEDDED IN CONCRET, WITH DRAWING OF ALL TRADES. ANY CONFLICTS OR DISCREPANCIES SHALL BE RESOLVED WITH THE ARCHITECT PRIOR TO PLACEMENTS OF CONCRETE.</p>												
C	<p>LIGHT GAUGE METAL FRAMING</p> <p>1. ALL LIGHT STRUCTUREAL STEEL MEMBERS THAT SUPPORT THE ROOF AND/OR FLOORS LOADS SHALL BE FORMED FROM STEEL SECTIONS THAT CONFORM TO THE SPECIFICATIONS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA).</p> <p>2. ALL LIGHT STRUCTURAL STEEL MEMBERS SHALL HAVE A MINIMUM Fy= 33 KSI.</p> <p>3. 8" STRUCTURAL WALL STUDS SHALL BE EQUAL TO SSMA DESIGNATION 800S162-43, SPACED AT 16" C/C U.O.N., WITH GROSS PROPERTIES EQUAL TO: A= 0.537 IN2, Ix=4.633 IN4, Sx= 1.158 IN3, Iy=0.160 IN4, Rx=2.937 IN, Ry=0.546 IN.</p> <p>4. 6" STRUCTURAL WALL STUDS SHALL BE EQUAL TO SSMA DESIGNATION 600S162-43, SPACED AT 16" C/C U.O.N., WITH GROSS PROPERTIES EQUAL TO: A=0.447 IN2, Ix=2.316 IN4, Sx= 0.772 IN3, Iy=0.148 IN4, Rx=2.276 IN, Ry=0.576 IN.</p> <p>5. 4" STRUCTURAL WALL STUDS SHALL BE EQUAL TO SSMA DESIGNATION 400S162-33, SPACED AT 16" C/C U.O.N., WITH GROSS PROPERTIES EQUAL TO: A=0.275 IN2, Ix=0.692 IN4, Sx= 0.346 IN3, Iy=0.103 IN4, Rx=1.586 IN, Ry=0.611 IN.</p> <p>6. 3 1/2" STRUCTURAL WALL STUDS SHALL BE EQUAL TO SSMA DESIGNATION 350S162-33, SPACED AT 16" C/C U.O.N., WITH GROSS PROPERTIES EQUAL TO: A=0.258 IN2, Ix=0.508 IN4, Sx= 0.290 IN3, Iy=0.098 IN4, Rx= 1.404 IN, Ry=0.576 IN.</p> <p>7. 2 1/2" STRUCTURAL WALL STUDS SHALL BE EQUAL TO SSMA DESIGNATION 250S162-43, SPACED AT 16" C/C U.O.N., WITH GROSS PROPERTIES EQUAL TO: A=0.289 IN2, Ix=0.302 IN4, Sx= 0.242 IN3, Iy=0.111 IN4, Rx= 1.022 IN, Ry=0.62 IN.</p> <p>8. FURNISH AND INSTALL CONTINUOUS MECHANICAL LATERAL BRACING AT 48" C/C OR AS REQUIRED BY THE STRUCTURAL WALL STUD MANUFACTURER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.</p> <p>9. 4" x 98 MIL. FLAT STRAPS SHALL BE USED AS "X-BRACED" BAY. A MINIMUM FILLET WELD LENGTH OF 7 1/2" IS REQUIRED AT EACH END OF STRAPS TO DEVELOP FULL TENSION CAPACITY.</p> <p>10. FOUR (4) STUDS ARE REQUIRED AT EACH END OF EACH "X-BRACED" BAY. THESE STUDS SHALL BE STICH WELDED TOGETHER. SEE APPLICABLE DETAILS.</p> <p>11. THE LENGTH OF AN "X-BRACED" BAY WILL BE EQUAL TO THE HEIGHT OF THE BAY, MINIMUM , U.O.N.</p> <p>12. A CONTINUOUS L-6"x 4" X 5/16" SHALL BE INSTALLED ABOVE THE TOP "RUNNER" AT ALL LOAD BEARING STUD WALLS U.O.N. THIS LOAD DISTRIBUTION ANGLE SHALL NOT BE SPLICED ABOVE ANY WALL OPENING (WINDOW, DOOR, LOUBER, ETC.). PLACE TWO (2) STUDS MINIMUM BELOW SPLICE LOCATIONS (ON EACH SIDE OF SPLICE).</p> <p>13. SUBMIT 4 COPEIS OF MANUFACTURER'S DATA INDICATING WALL STUD/ JOINT PROPERTIES AND BRACING.</p> <p>TIMBER AND LUMBER FRAMING</p> <p>1. ALL FRAMING LUMBER SHALL BE SOUTHERN YELLOW PINE NO.2 GRADE.</p> <p>2. LUMBER IN CONTACT WIHT MASONRY OR CONCRETE SHALL BE PRESERVATIVELY TREATED.</p> <p>3. PLYWOOD ROOF AND FLOOR DECKS SHALL BE ORIENTED WITH LONG DIMENSIONS OF PANELS PERPENDICULAR TO FRAMING.</p> <p>4. PLYWOOD FLOOR DECK SHALL BE TOUNGE AND GROOVE; 3/4" NOMINAL THICKNESS; SPAN RATED 48/24. FLOOR DECK SHALL BE GLUED TO FRAMING WITH NO. 10 SCREWS @ 8" C/C.</p> <p>5. PLYWOOD ROOF DECK SHALL BE TOUNGE AND GROOVE; 3/4" NOMINAL THICKNESS; SPAN RATED 48/24. SECURE PANELS TO FRAMING WITH NO. 10 SCREWS @ 8" C/C AROUND ALL PANEL EDGES AND AT 8" C/C IN FIELD OF PANEL.</p> <p>6. PROVIDE EXTERIOR DECKING ATTACHMENT TO 2X8 AND 2X12 SUPPORT MEMBERS WITH (2)-S.S. DECK SCREWS AT EACH BEARING LOCATION. COUNTERSINK ALL SCREWS.</p> <p>7. ALL EXTERIOR CONNECTORS SHALL BE HOT DIPPED GALV. OR STAINLESS STEEL.</p> <p>8. EXTERIOR DECKING SHALL BE THERMALLY MODIFIED ASH, AS SPECIFIED BY ARCHITECT.</p> <p>STRUCTURAL DESIGN DATA</p> <p>1. CODES AND STANDARDS: A. 2012 INTERNATIONAL BUILDING CODE B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTUES, ACSE 7-10. C. BUILDING CODE REQUIREMENTS FOR STUCTURAL CONCRETE, ACI 318-11. D. SPECIFICATOIN FOR STRUCTURAL STEEL BUILDINGS AISC 360-10. E. AF&PA- NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION.</p> <p>2. FOUNDATIONS: A. FOOTINGS- ALLOWABLE SOIL BEARING PRESSURE... 3000 PSF</p> <p>3. GRAVITY LOADS: A. LIVE FLOOR LOADS... 100 PSF B. ROOF LIVE LOADS (MINIMUM)... 20 PSF C. SUSPENDEDE DEAD LOADS (CEILING, M.E.P., SPRINKLERS)... 5 PSF</p> <p>4. WIND LOADS A. BASIC WIND VELOCITY... 110 MPH B. OCCUPANCY CATEGORY... II C. EXPOSURE CATEGORY... C D. INTERNAL PRESSURE COEFFICIENT... +/- 0.18 E. COMPONENTS & CLADDING DESIGN PRESSURE MIN TRIBUTARY AREAS: (1) ZONE 1- ROOF... 24 PSF (2) ZONE 2- ROOF EDGE... 29 PSF (3) ZONE 3- ROOF CORNER... 27 PSF (4) ZONE 4- WALL... 24 PSF (5) ZONE 5- WALL CORNER... 28 PSF F. DESIGN BASE SHEAR: (1) EAST- WEST DIRECTION... 5 KIPS/ POD (2) NORTH-SOUTH DIRECTION... 3.5 KIPS/POD</p> <p>5. EARTHQUAKE LOAD: A. MAPPED SPECTRAL RESONSE ACCELERATION, SHORT PERIOD... SS= 1.528 B. MAPPED SPECTRAL RESONSE ACCELERATION, 1 SECOND PERIOD... S1= 0.564 C. MAPPED SPECTRAL RESONSE ACCELERATION, SHORT PERIOD... SDS= 1.02 D. MAPPED SPECTRAL RESONSE ACCELERATION, 1 SECOND PERIOD... SD1= 0.564 E. SITE CLASS... D F. OCCUPANCY CATEGORY... II G. IMPORTANCE FACTOR... 1.0 H. SEISMIC DESIGN CATEGORY... D I. SIESMIC FORCE RESTRAINING SYSTEM... (1) DUAL SYSTEM INTERMEDIATE PRECAST SHEARWALLS AND ORDINARY STEEL MOMENT FRAMES (2) RESPONSE MODIFICATION COEFFICIENT (R)... 3.5 (3) SYSTEM OVERSTREACH FACTOR (OO)... 3.0 (4) DEFLECTION AMPLITUDE FACTOR (Cd)... 4.0 F. ANALYSIS PROCEDURE- EQUIVALENT LATERAL FORCE G. DESIGN BASE SHEAR (1) EAST-WEST DIRECTION... 23 KIPS (2) NORTH- SOUTH DIRECTION... 23 KIPS</p>												

GENERAL SHEET NOTES

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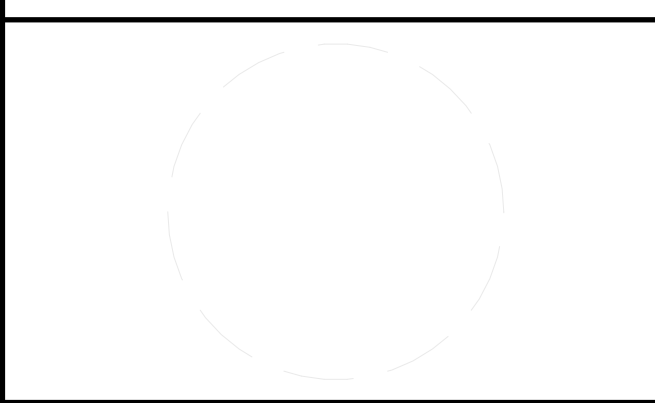
REFERENCE KEYNOTES

SHEET KEYNOTES



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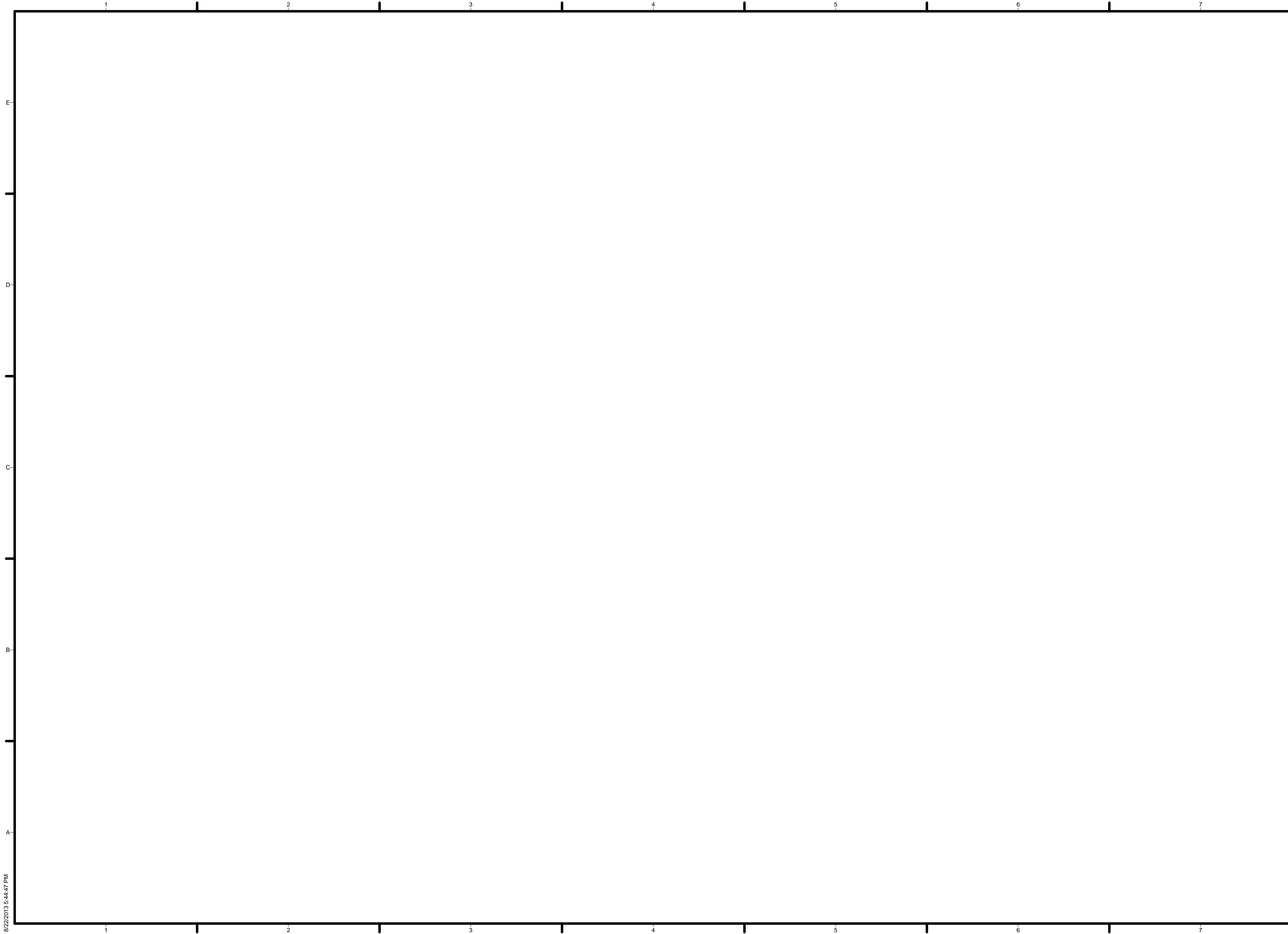
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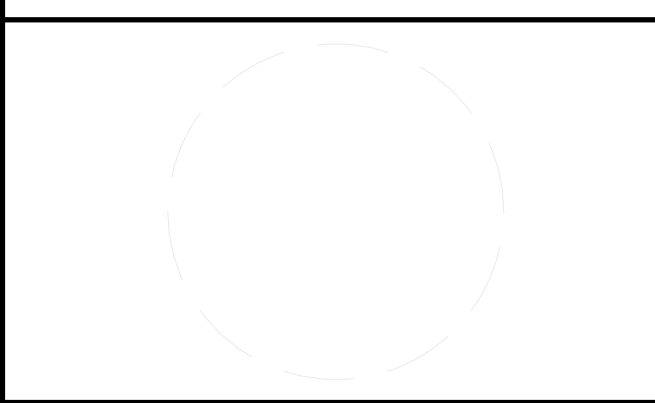
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SHEET TITLE
GENERAL NOTES

S 1.0

File # 130027-S2002.DWG

PRECAST FOOTING SCHEDULE

MARK	SIZE	DEPTH	TOP REINF.	BOTT. REINF.
F20	2'-0"x2'-0"	8"	—	(3)-#5 EACH WAY
F30	3'-0"x3'-0"	8"	—	(4)-#5 EACH WAY
F3060	3'-0"x6'-0"	1'-8"	—	#6@12" EACH WAY
F3060A	3'-0"x6'-0"	8"	—	#5@12" EACH WAY
F60	6'-0"x6'-0"	1'-8"	#6@12" EACH WAY	#6@12" EACH WAY

FOOTING SCHEDULE NOTES:

- FOOTING MARKS "F_" DESIGNATE THE PLAN SIZE OF THE FOOTING IN TENTHS OF A FOOT. RECTANGULAR FOOTINGS ARE NOTED WITH A DUAL DESIGNATION. VARIATIONS OF FOOTINGS WITH THE SAME PLAN DIMENSIONS ARE IDENTIFIED WITH A SUFFIX IN PARENTHESIS (-).
- LOCATE FOOTINGS AS SHOWN ON FOUNDATION PLAN.

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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MARK	DATE	DESCRIPTION
01	10.10.12	80% DOE SUBMISSION
02	11.20.12	80% DOE RE-SUBMISSION
03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

LOT NUMBER: LOT 112

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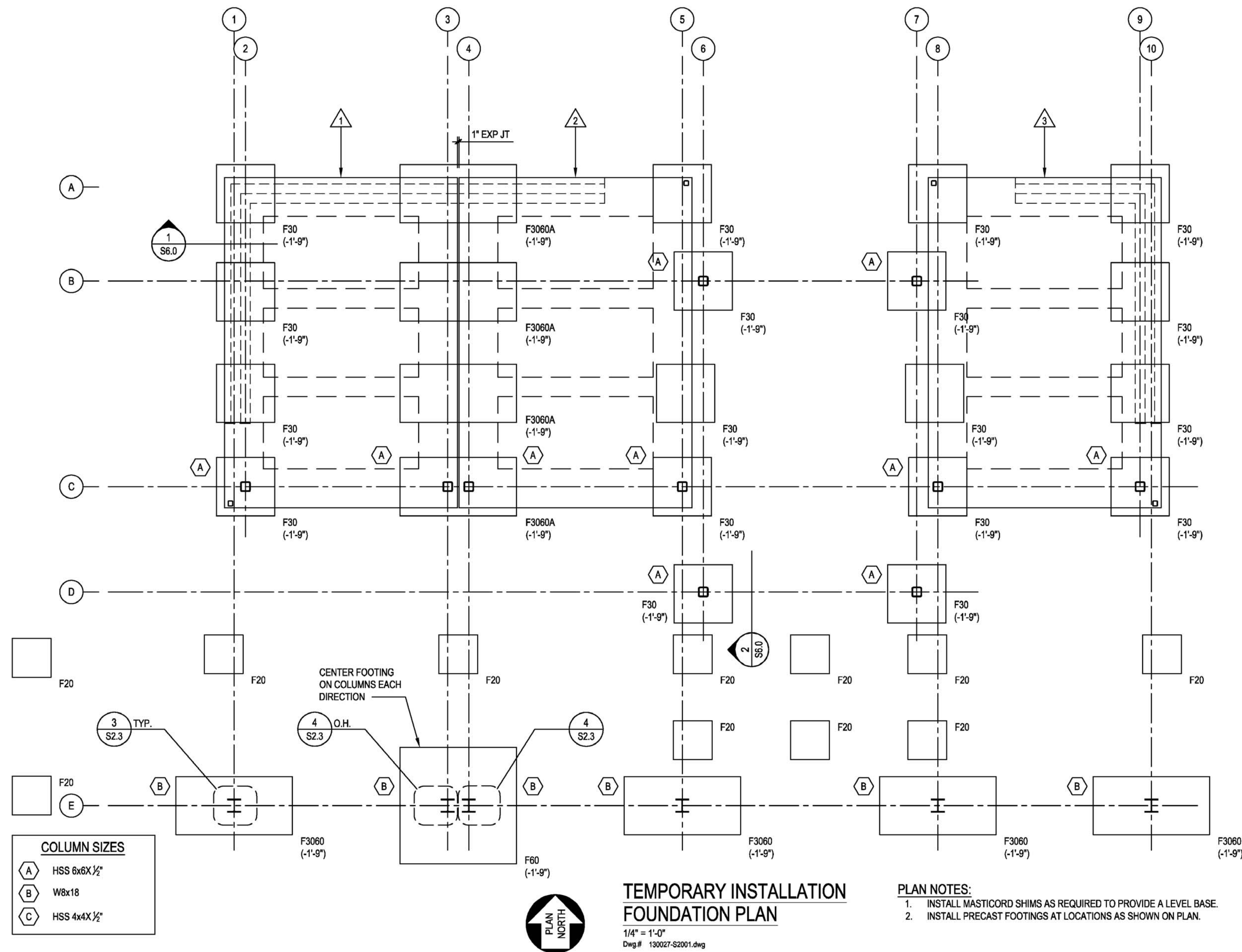
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SHEET TITLE

**TEMPORARY
INSTALLATION
FOUNDATION PLAN**

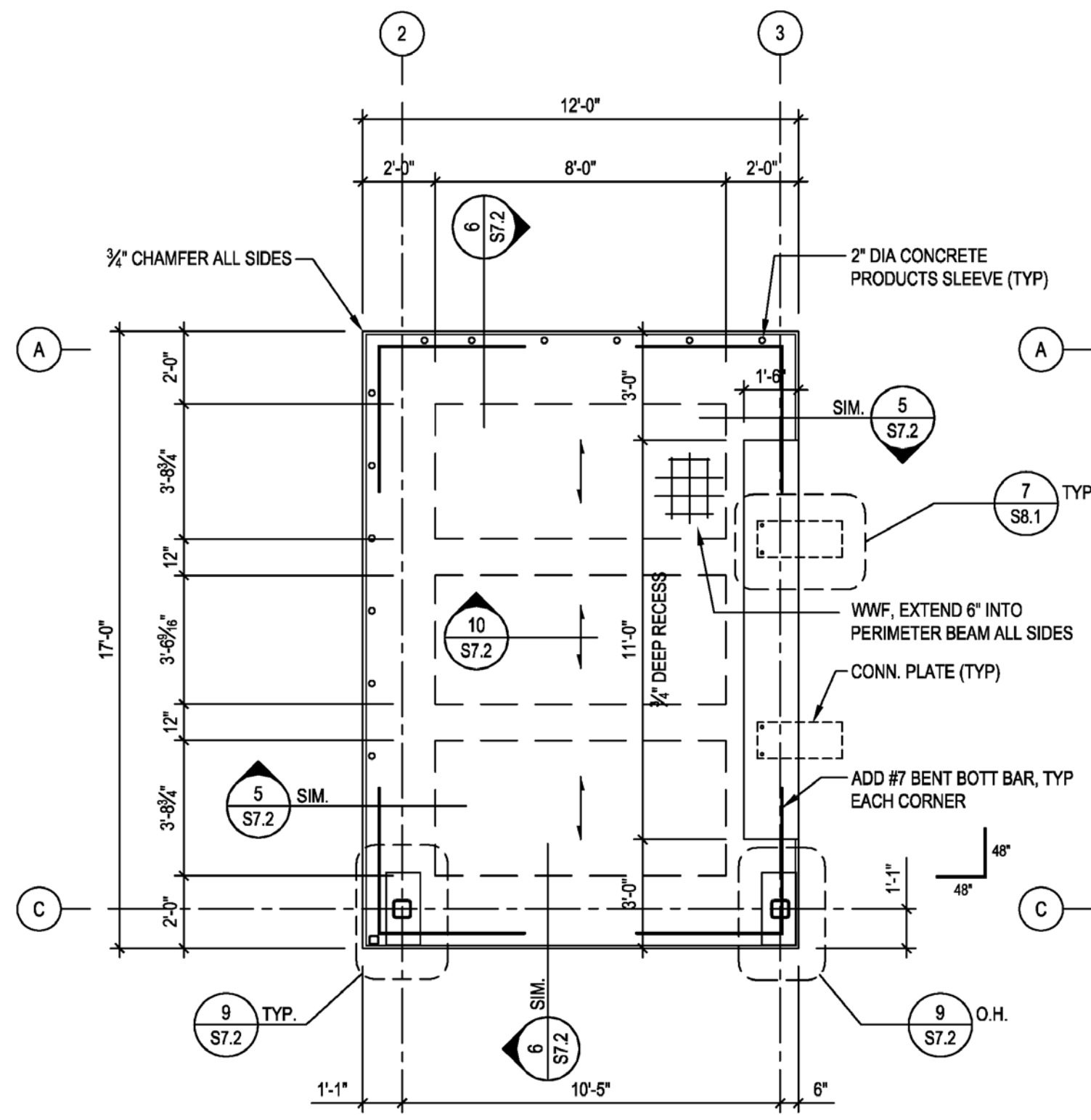
S 2.0



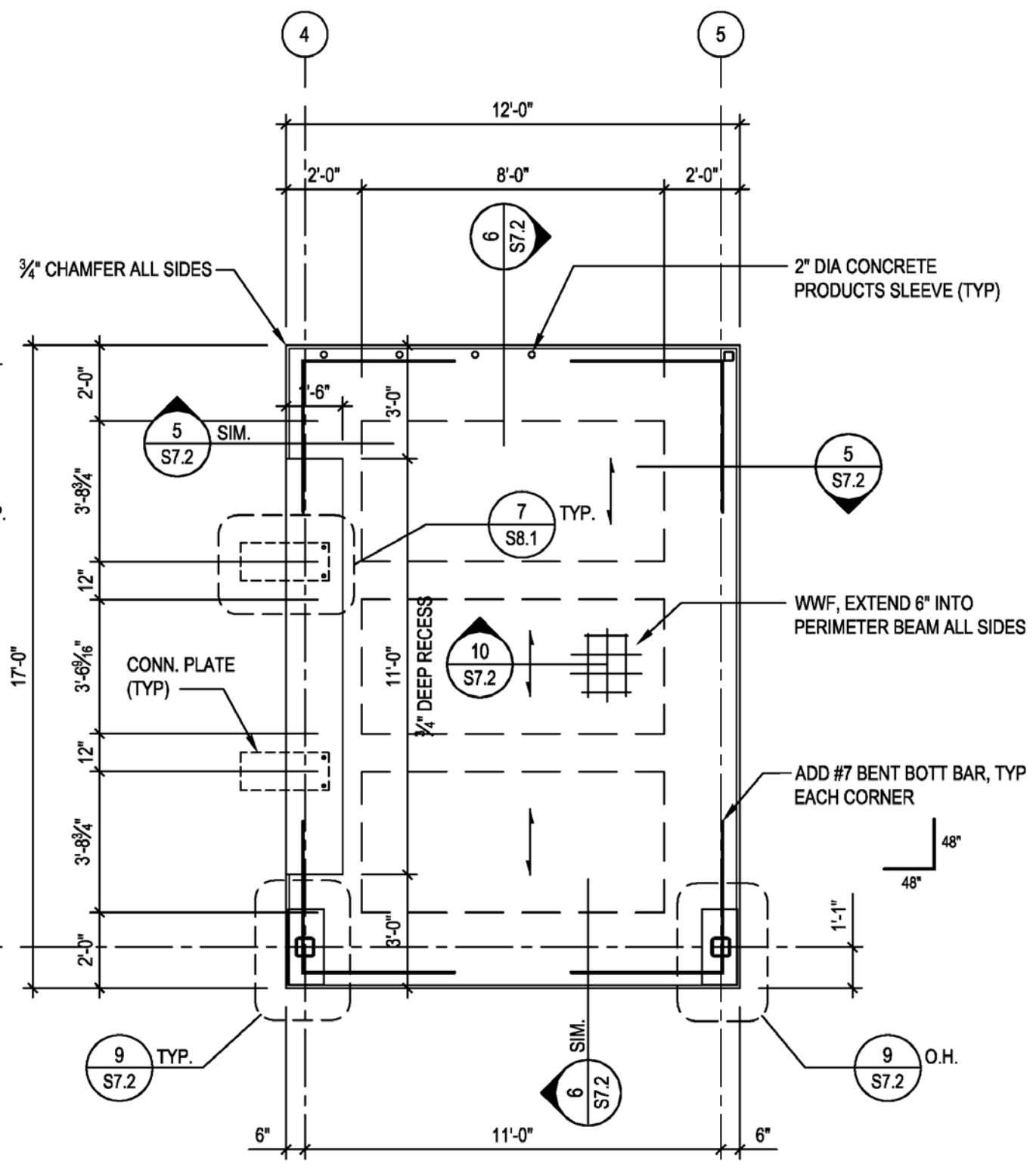
**TEMPORARY INSTALLATION
FOUNDATION PLAN**

- PLAN NOTES:**
- INSTALL MASTICORD SHIMS AS REQUIRED TO PROVIDE A LEVEL BASE.
 - INSTALL PRECAST FOOTINGS AT LOCATIONS AS SHOWN ON PLAN.

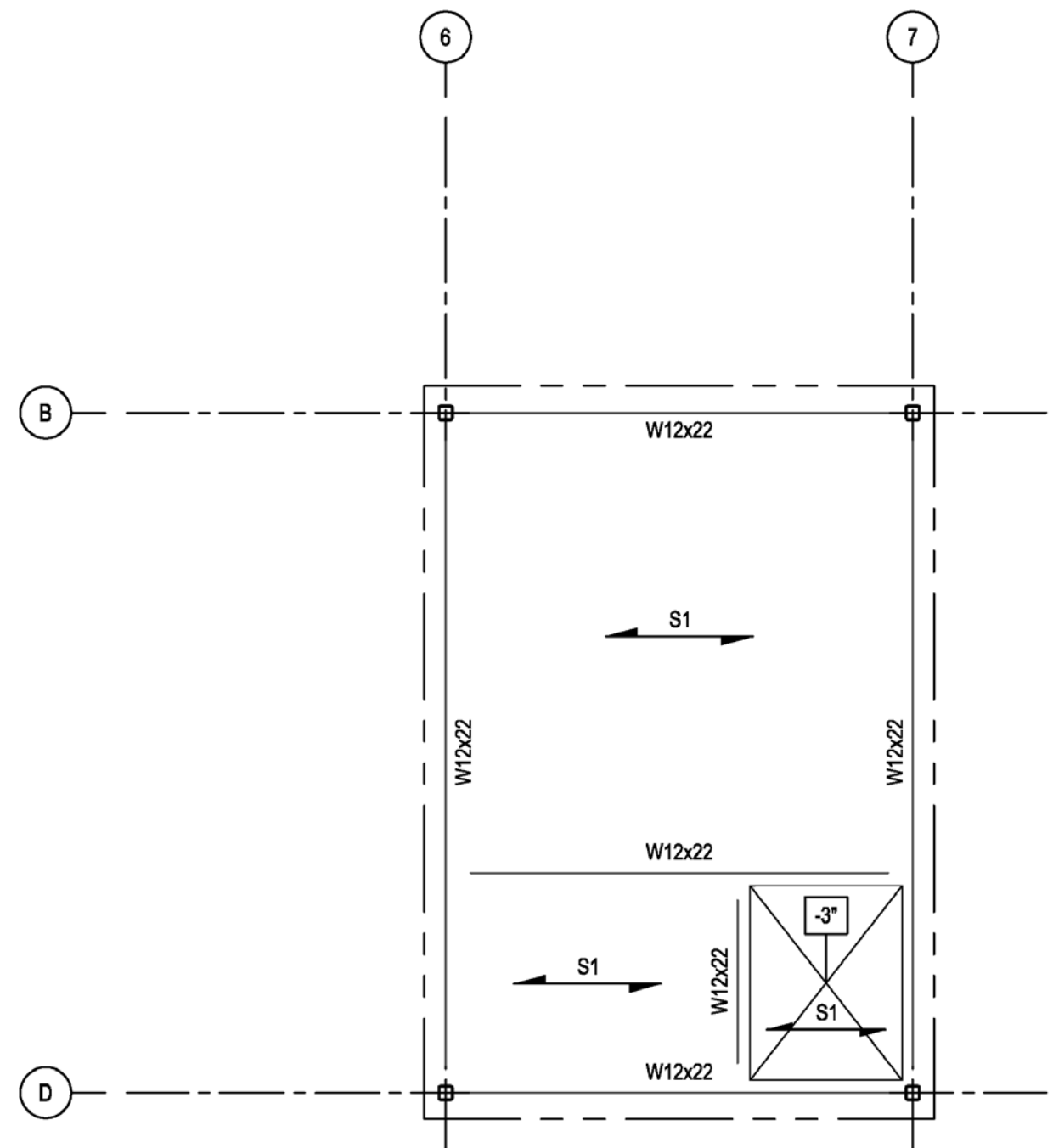
8/22/2013 5:45:20 PM



1 PLAN - PC FLOOR PANEL
 S2.0 1/4" = 1'-0"
 Dwg.# 130027-S2002.dwg

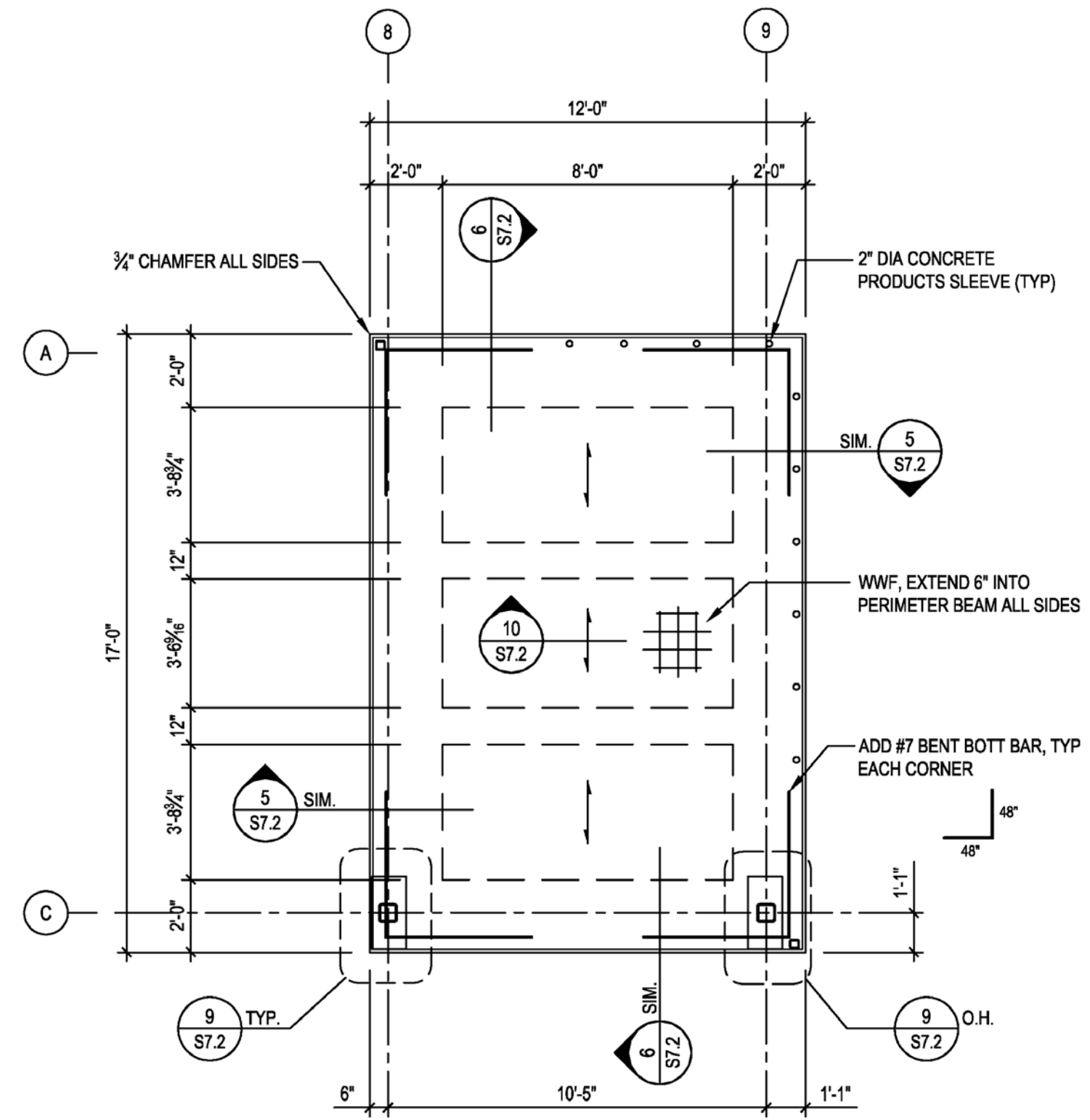


2 PLAN - PC FLOOR PANEL
 S2.0 1/4" = 1'-0"
 Dwg.# 130027-S2002.dwg



PLAN NOTES
 1. S1 INDICATES LIGHT GAGE METAL JOISTS 800S200-54 @ 16" O.C. SEE GENERAL NOTES AND SPECIFICATIONS.
 2. FLOOR DECKING SHALL BE 3/4" THICK PLYWOOD (3) SPAN CONTINUOUS. ATTACH TO JOISTS W/ #10 TEK SCREWS @ 8" O.C. MIN. SEE SPECIFICATIONS.

FLOOR FRAMING PLAN
 1/4" = 1'-0"
 Dwg.# 130027-S2002.dwg



3 PLAN - PC FLOOR PANEL
 S2.0 1/4" = 1'-0"
 Dwg.# 130027-S2002.dwg

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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01	10.10.12	80% DOE SUBMISSION
02	11.20.12	80% DOE RE-SUBMISSION
03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

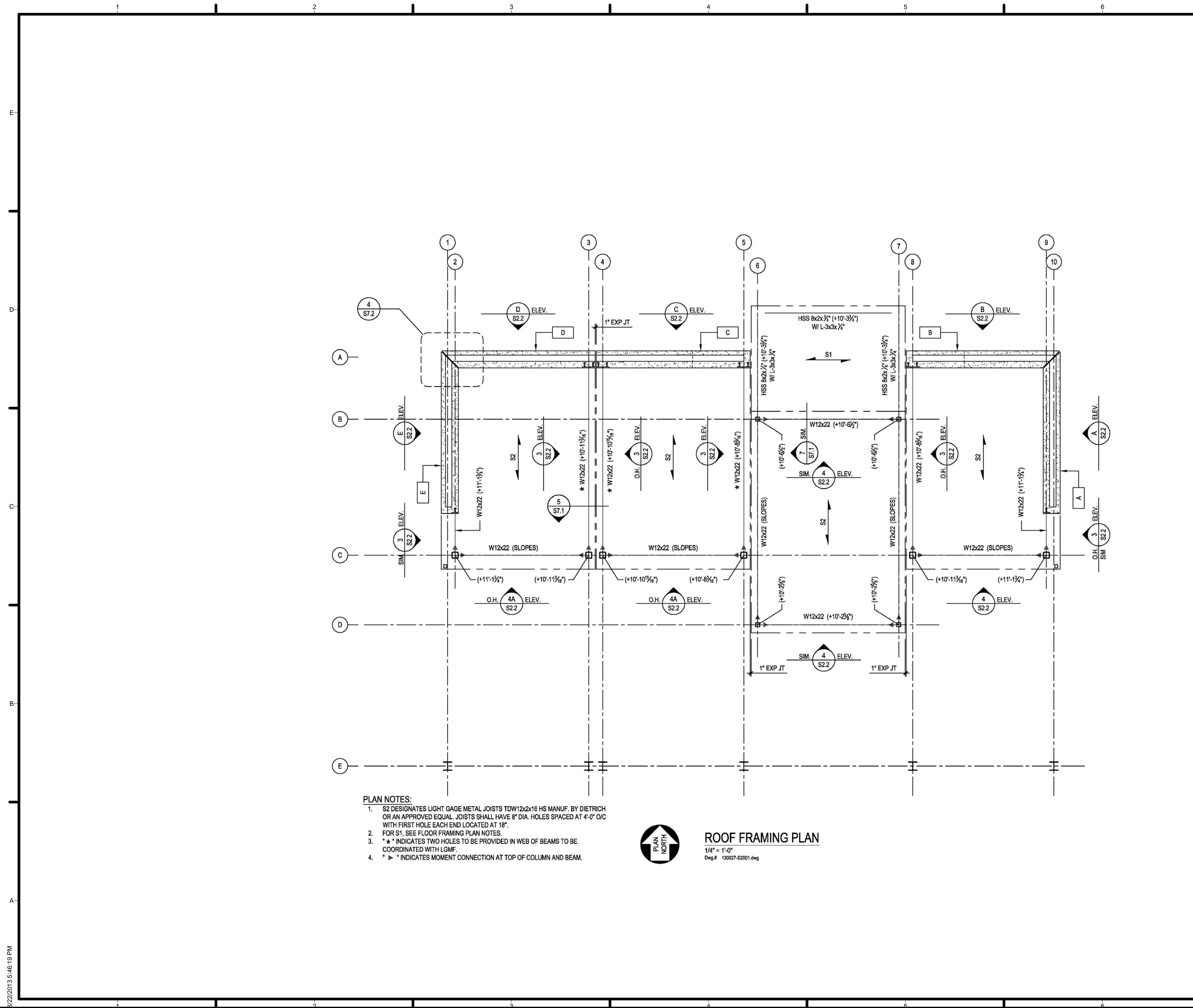
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SHEET TITLE

**TEMPORARY
 INSTALLATION
 FOUNDATION**

S 2.0.1



- PLAN NOTES:**
- S2 DESIGNATES LIGHT GAGE METAL JOISTS TDW12x2x16 HS MANUF. BY DIETRICH OR AN APPROVED EQUAL. JOISTS SHALL HAVE 8" DIA. HOLES SPACED AT 4'-0" O/C WITH FIRST HOLE EACH END LOCATED AT 18".
 - FOR S1, SEE FLOOR FRAMING PLAN NOTES.
 - * * * INDICATES TWO HOLES TO BE PROVIDED IN WEB OF BEAMS TO BE COORDINATED WITH LGMF.
 - * ► * INDICATES MOMENT CONNECTION AT TOP OF COLUMN AND BEAM.



ROOF FRAMING PLAN
 1/4" = 1'-0"
 Dwg.# 130027-S2001.dwg

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

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SHEET TITLE
ROOF FRAMING PLAN

S 2.2

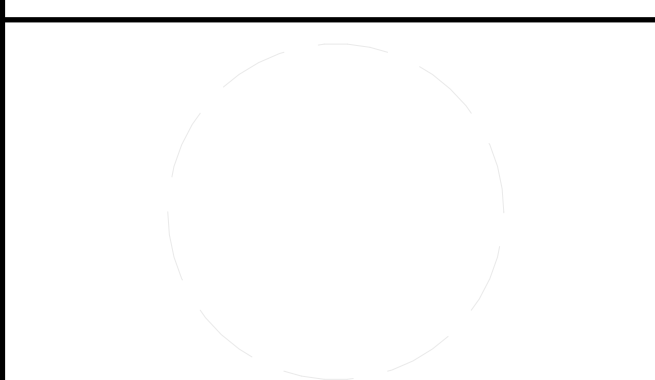
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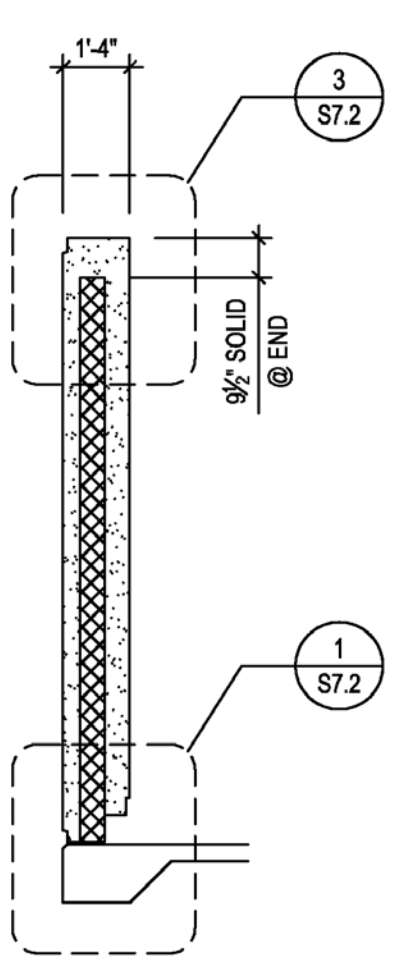
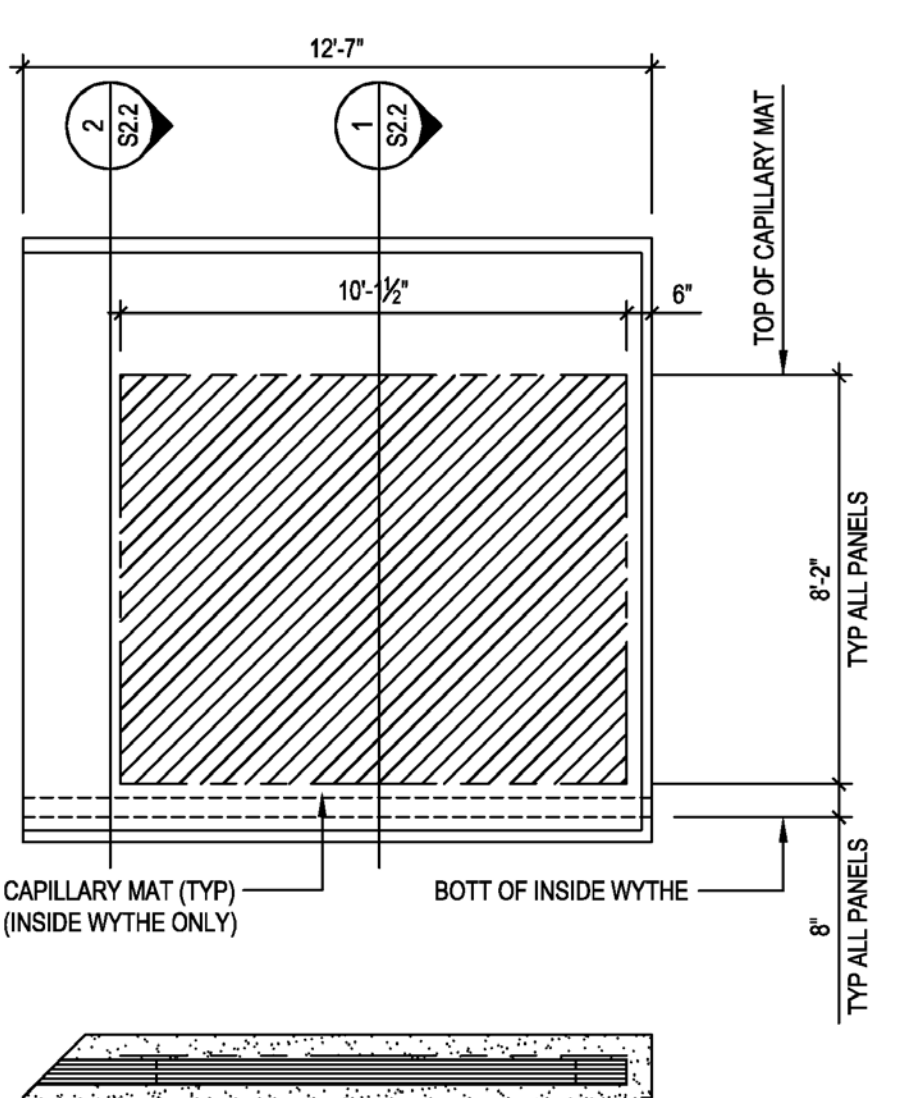
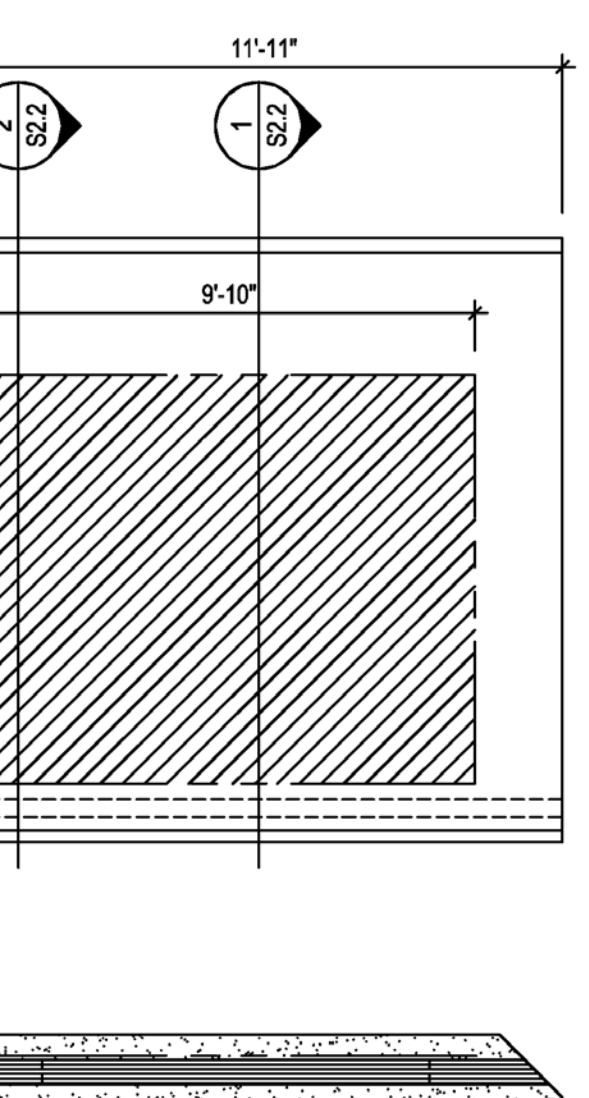
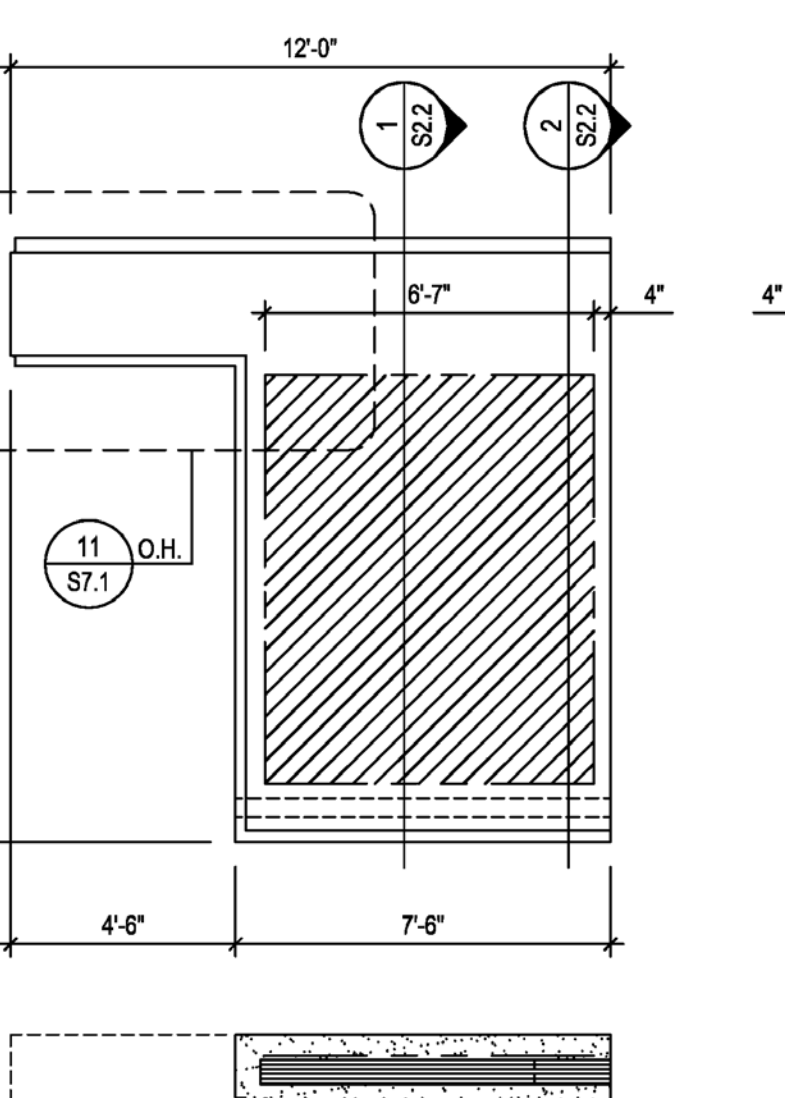
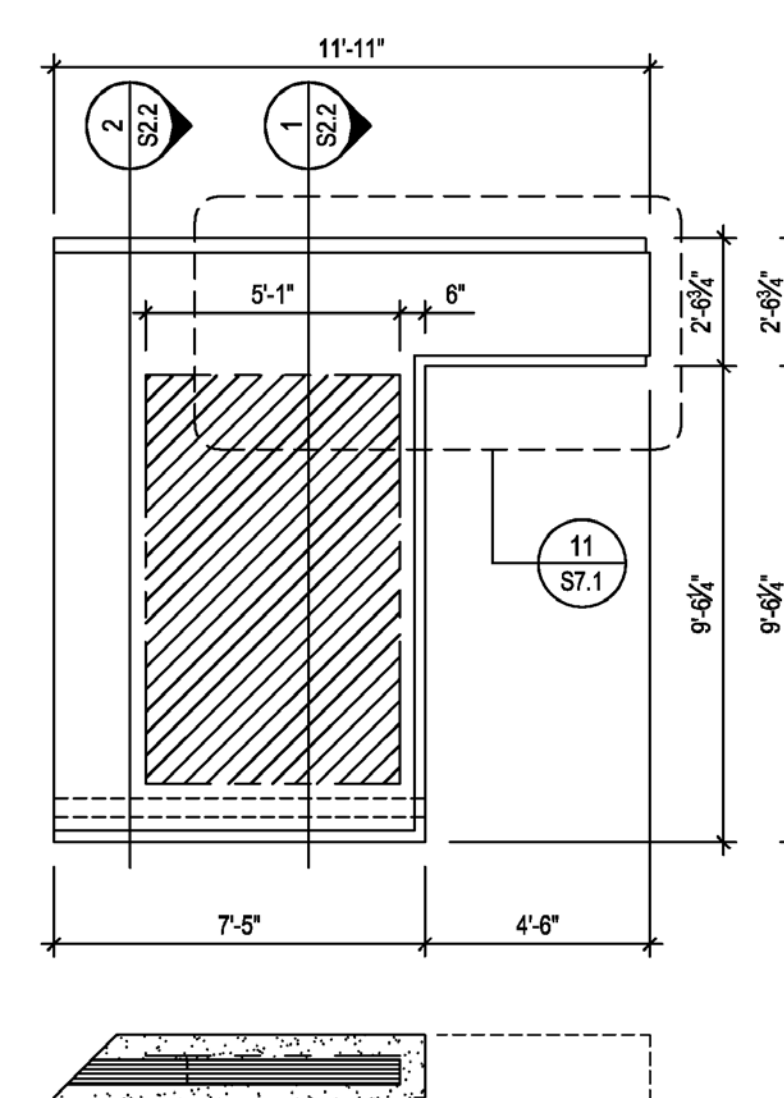
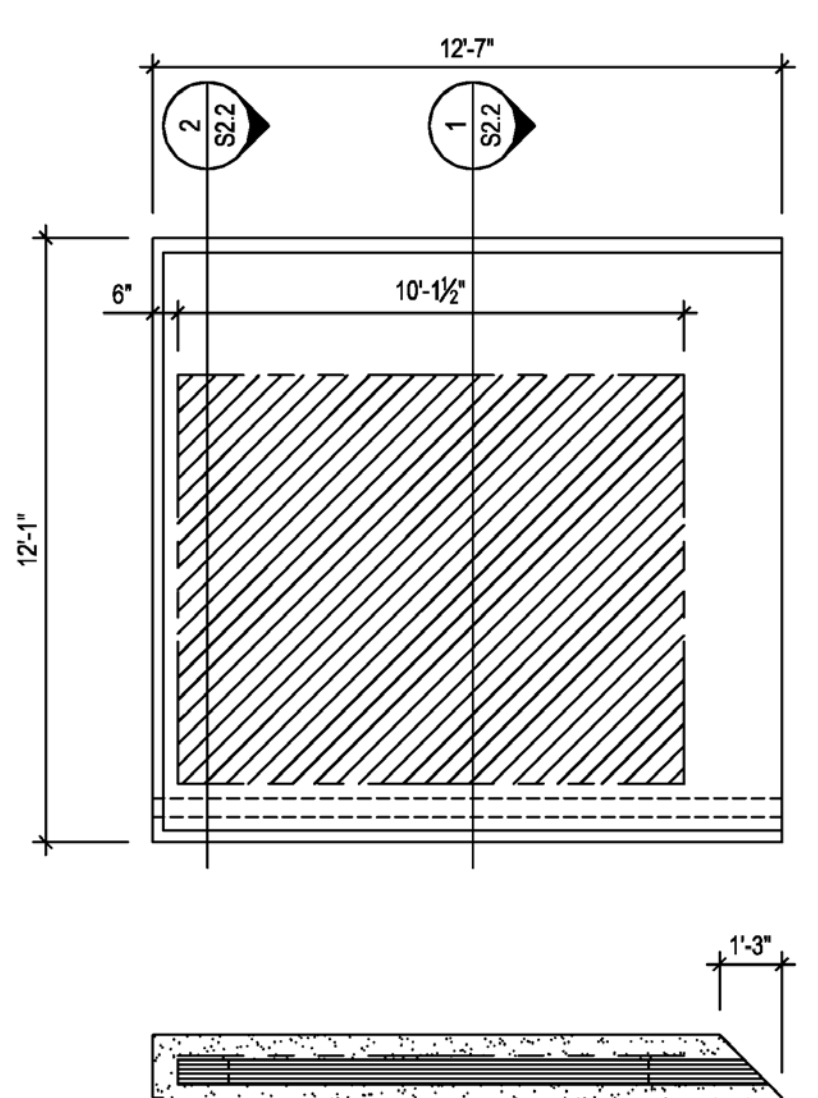
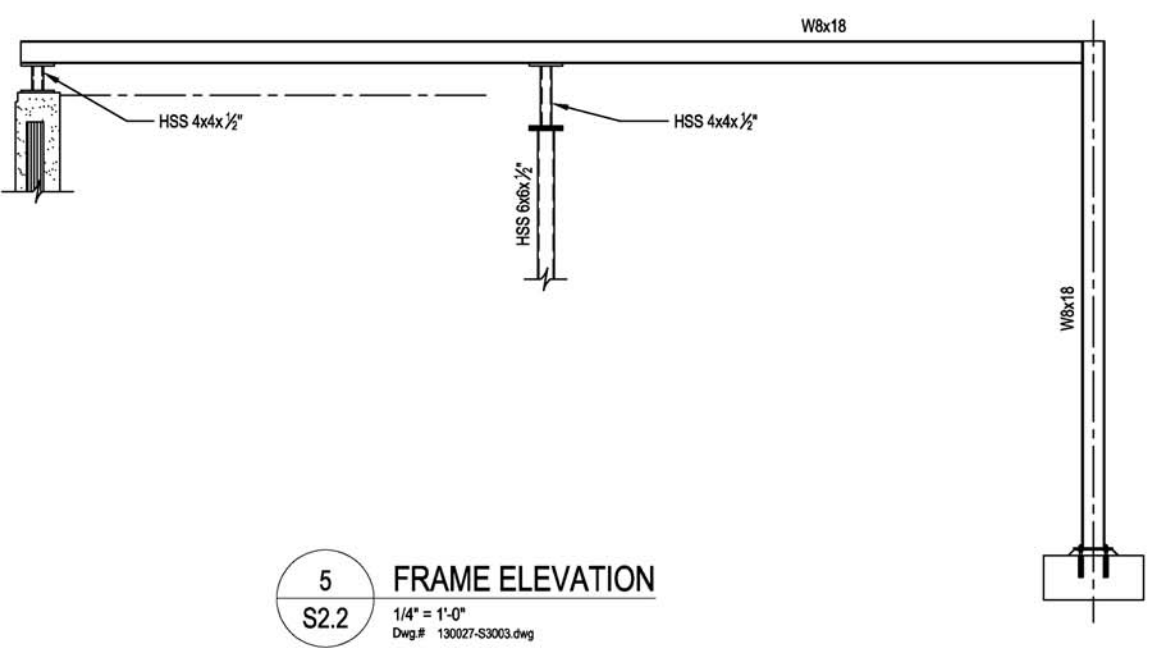
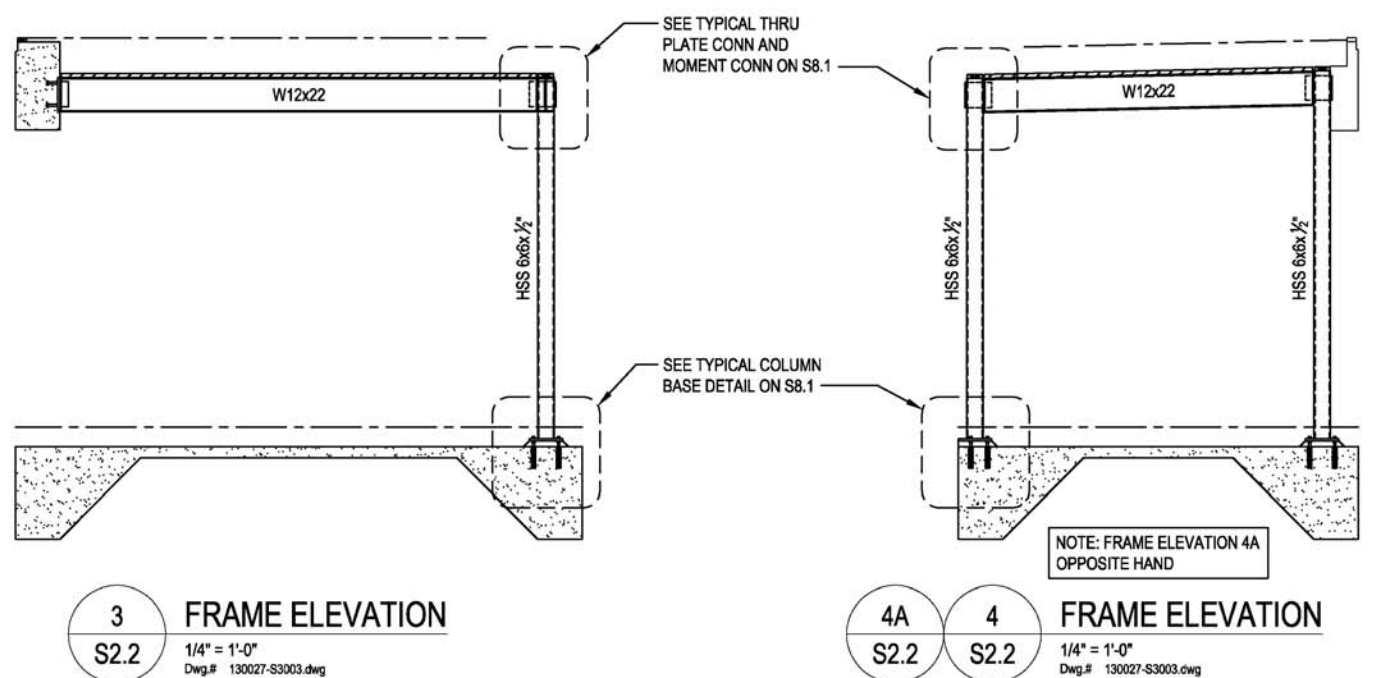
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05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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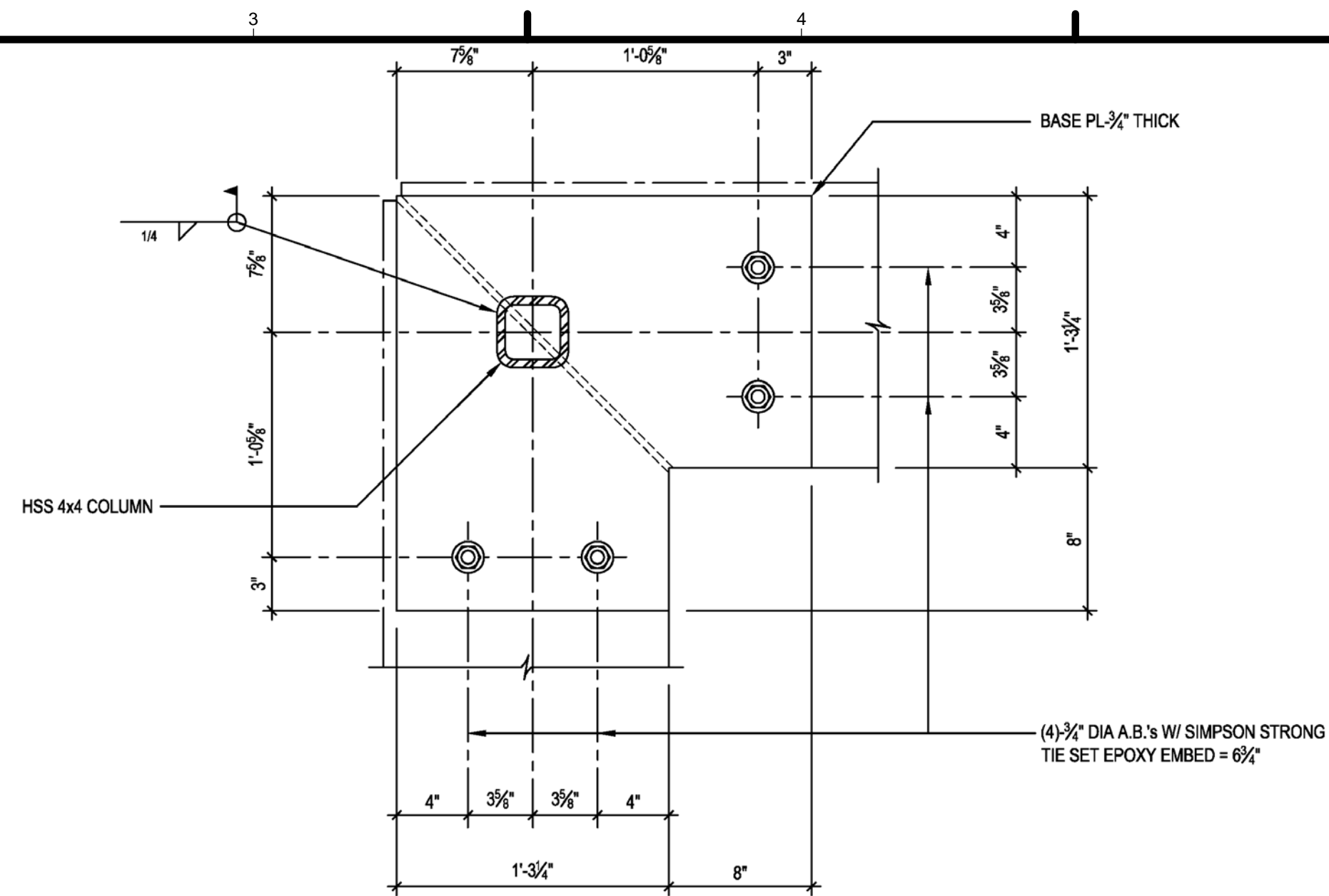
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SHEET TITLE
ROOF FRAMING PLAN

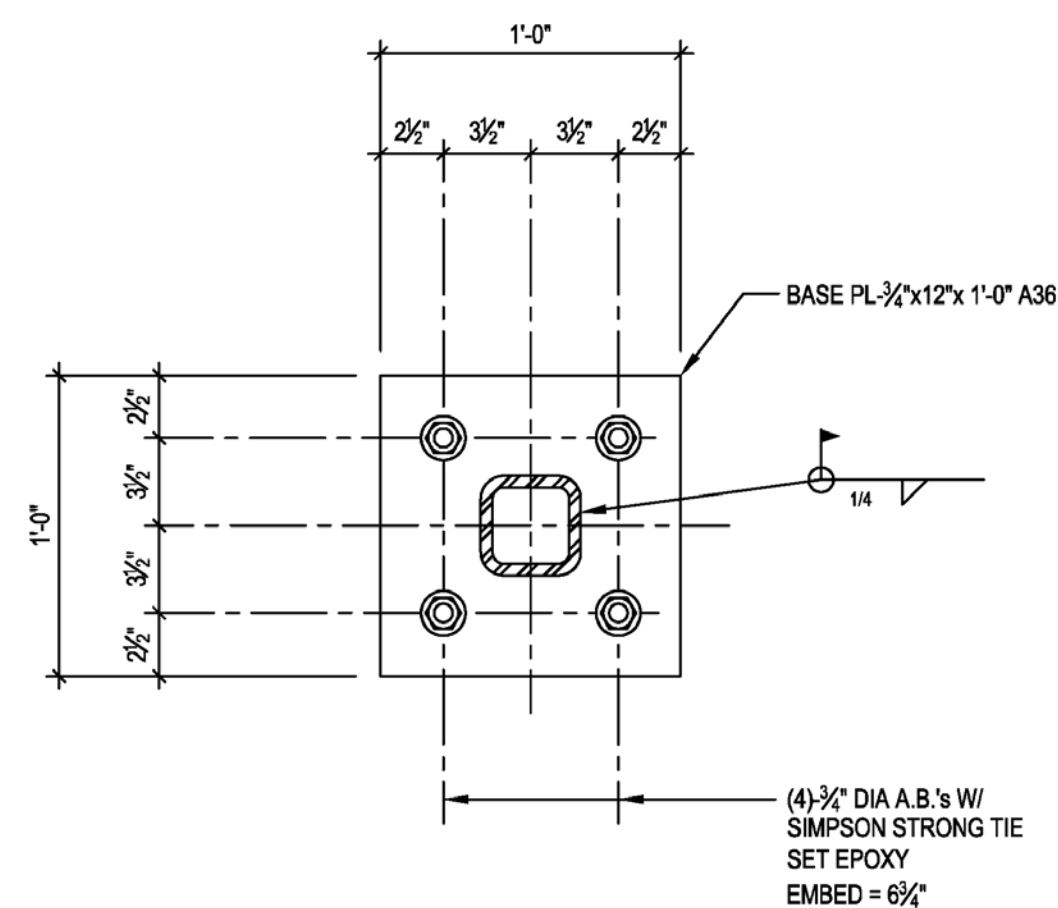
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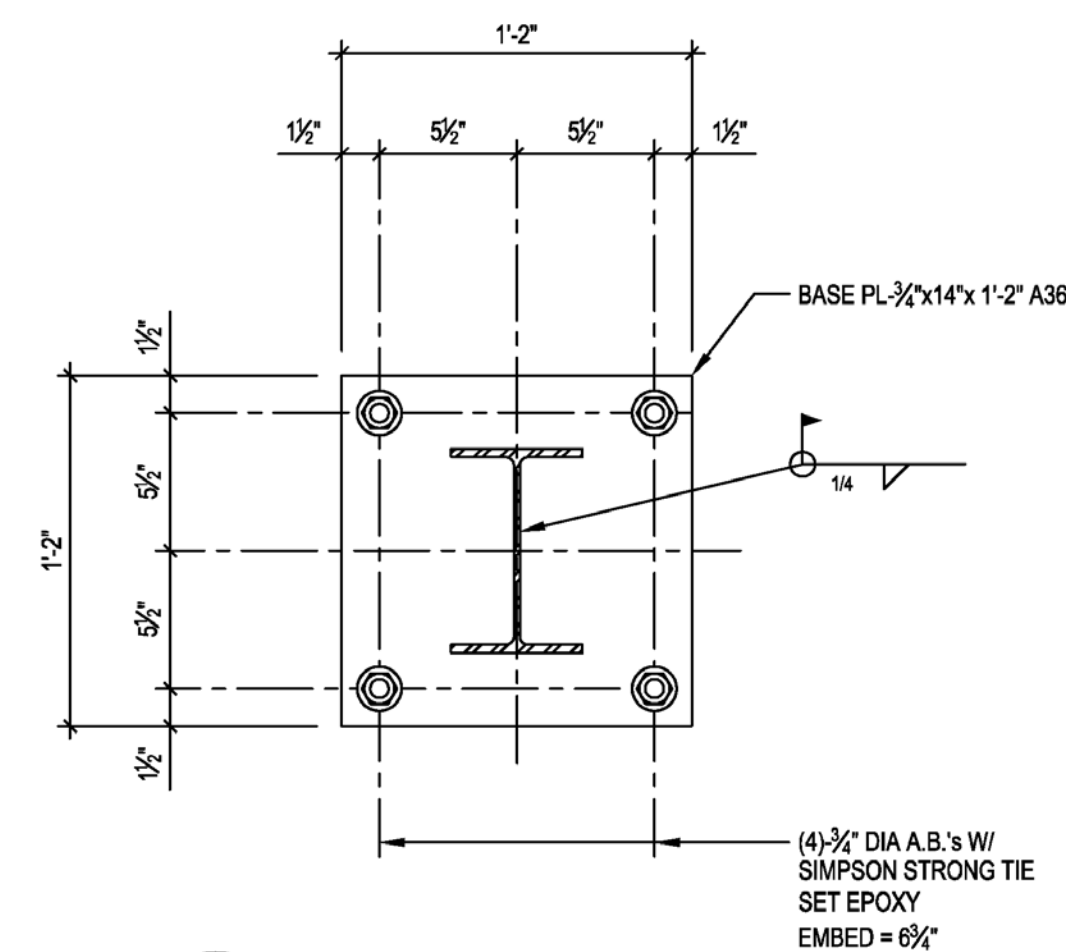
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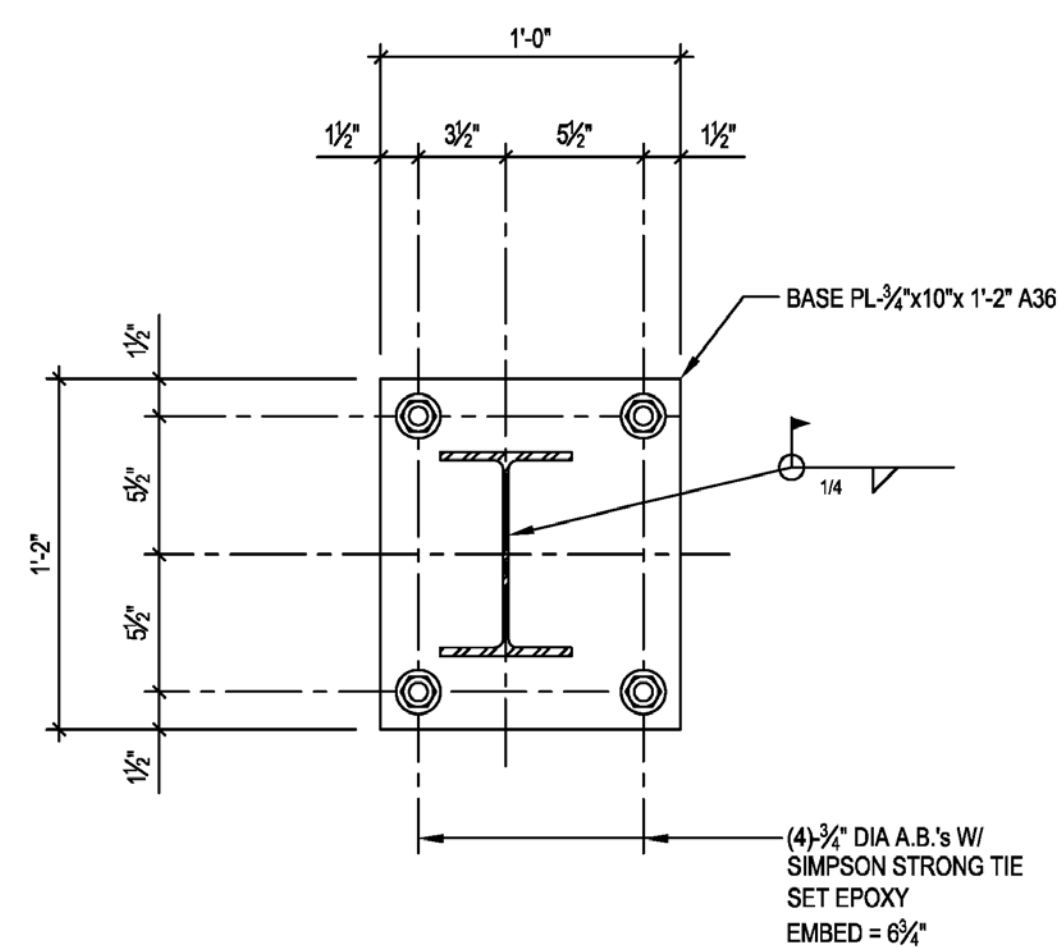
1 PLAN DETAIL
S2.3
1-1/2" = 1'-0"
Dwg.# 130027-ST007.dwg



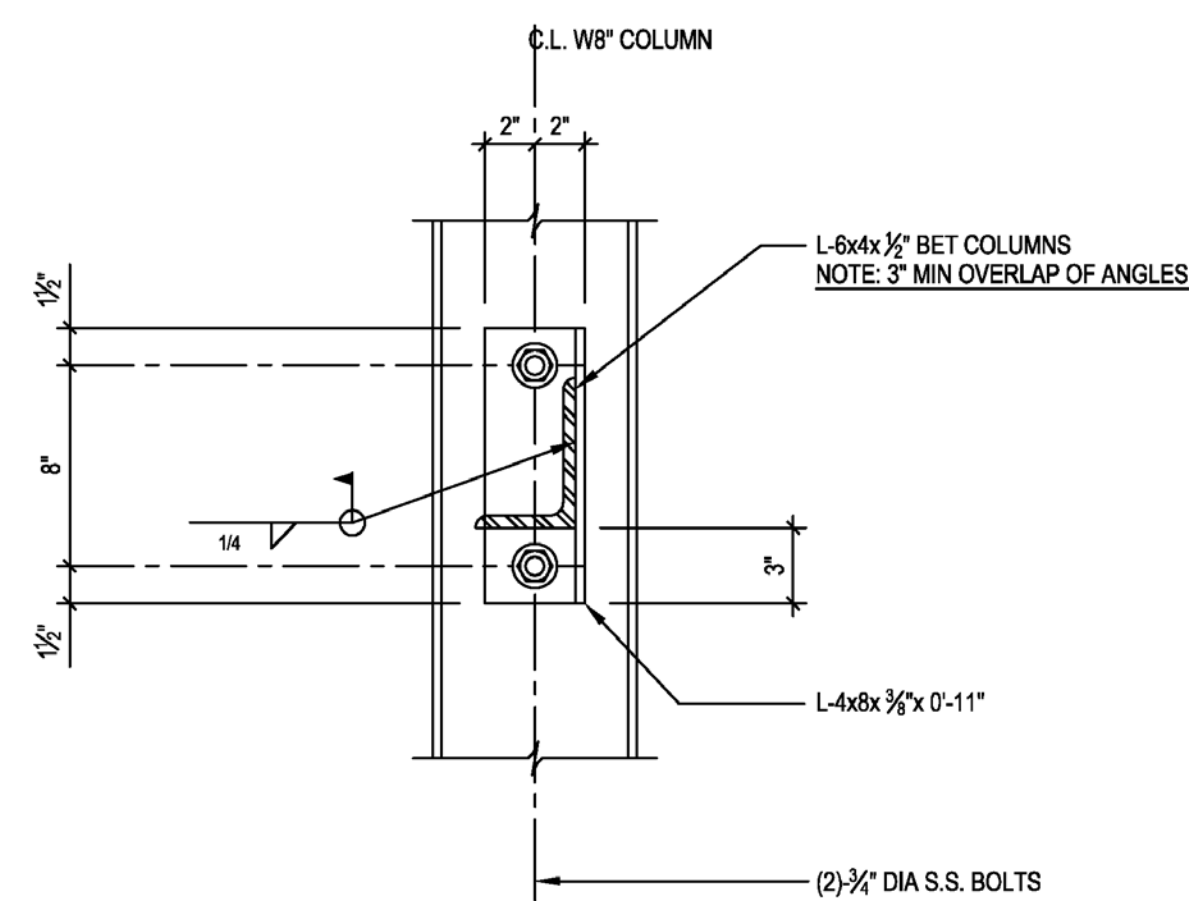
2 PLAN DETAIL
S2.3
1-1/2" = 1'-0"
Dwg.# 130027-ST007.dwg



3 PLAN DETAIL
S2.3
1-1/2" = 1'-0"
Dwg.# 130027-ST007.dwg



4 PLAN DETAIL
S2.3
1-1/2" = 1'-0"
Dwg.# 130027-ST007.dwg



5 PLANTER HORIZ SUPPORT DETAIL
S2.3
1-1/2" = 1'-0"
Dwg.# 130027-ST007.dwg

GENERAL SHEET NOTES

REFERENCE KEYNOTES

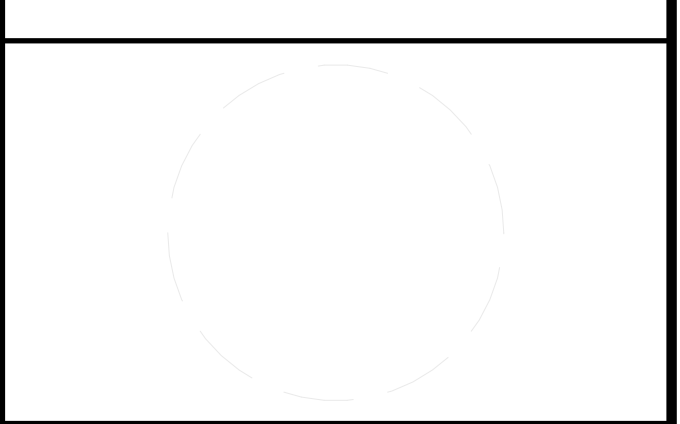
SHEET KEYNOTES



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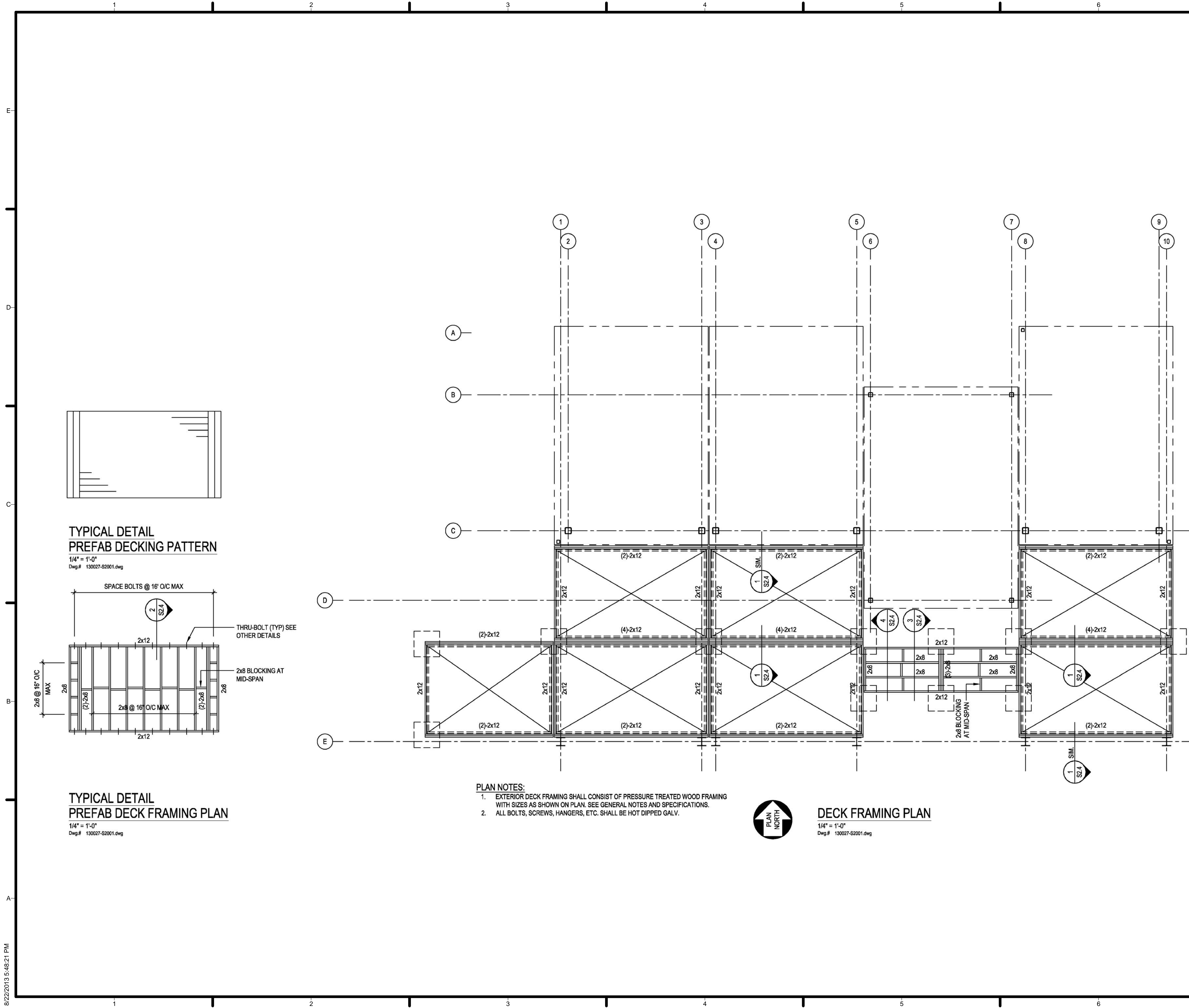
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SHEET TITLE
SOLAR PANEL FRAMING PLAN

S 2.3.1



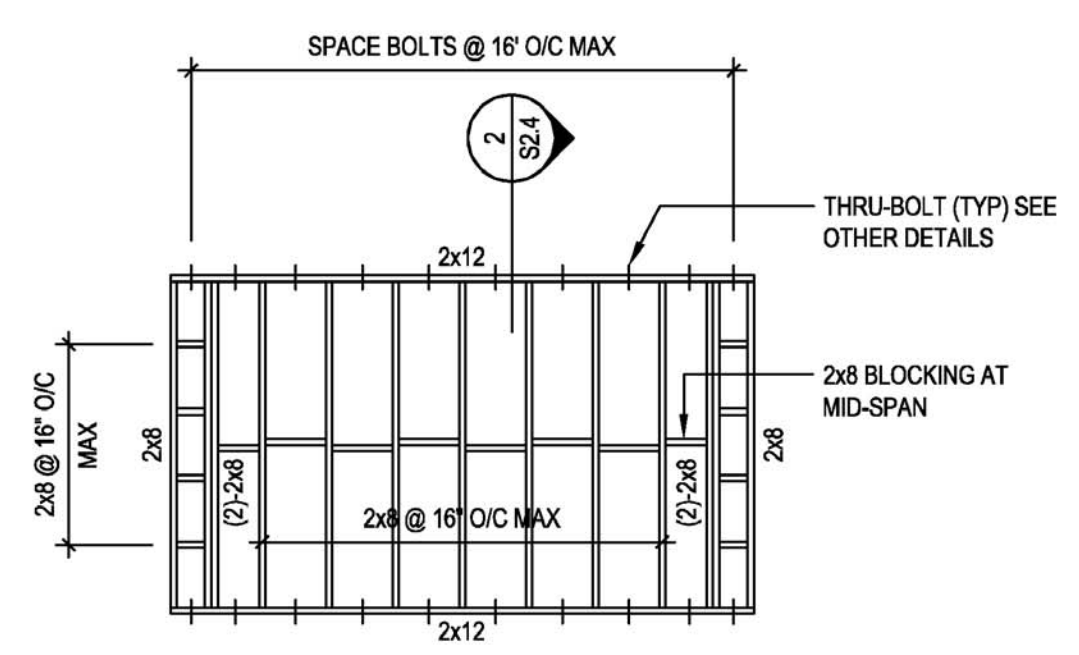
GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

TYPICAL DETAIL
PREFAB DECKING PATTERN

1/4" = 1'-0"
Dwg.# 130027-S2001.dwg



TYPICAL DETAIL
PREFAB DECK FRAMING PLAN

1/4" = 1'-0"
Dwg.# 130027-S2001.dwg

- PLAN NOTES:**
- EXTERIOR DECK FRAMING SHALL CONSIST OF PRESSURE TREATED WOOD FRAMING WITH SIZES AS SHOWN ON PLAN. SEE GENERAL NOTES AND SPECIFICATIONS.
 - ALL BOLTS, SCREWS, HANGERS, ETC. SHALL BE HOT DIPPED GALV.



DECK FRAMING PLAN

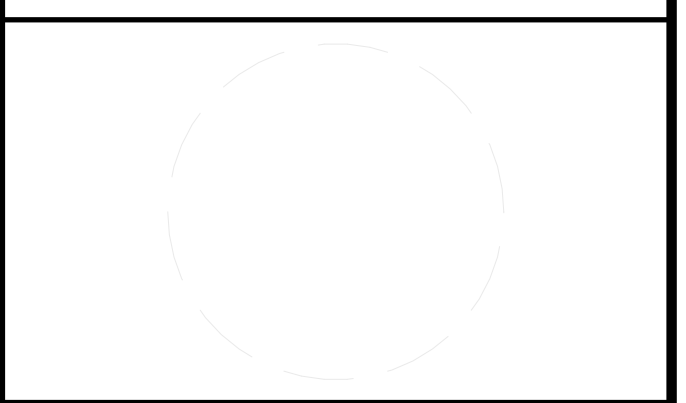
1/4" = 1'-0"
Dwg.# 130027-S2001.dwg



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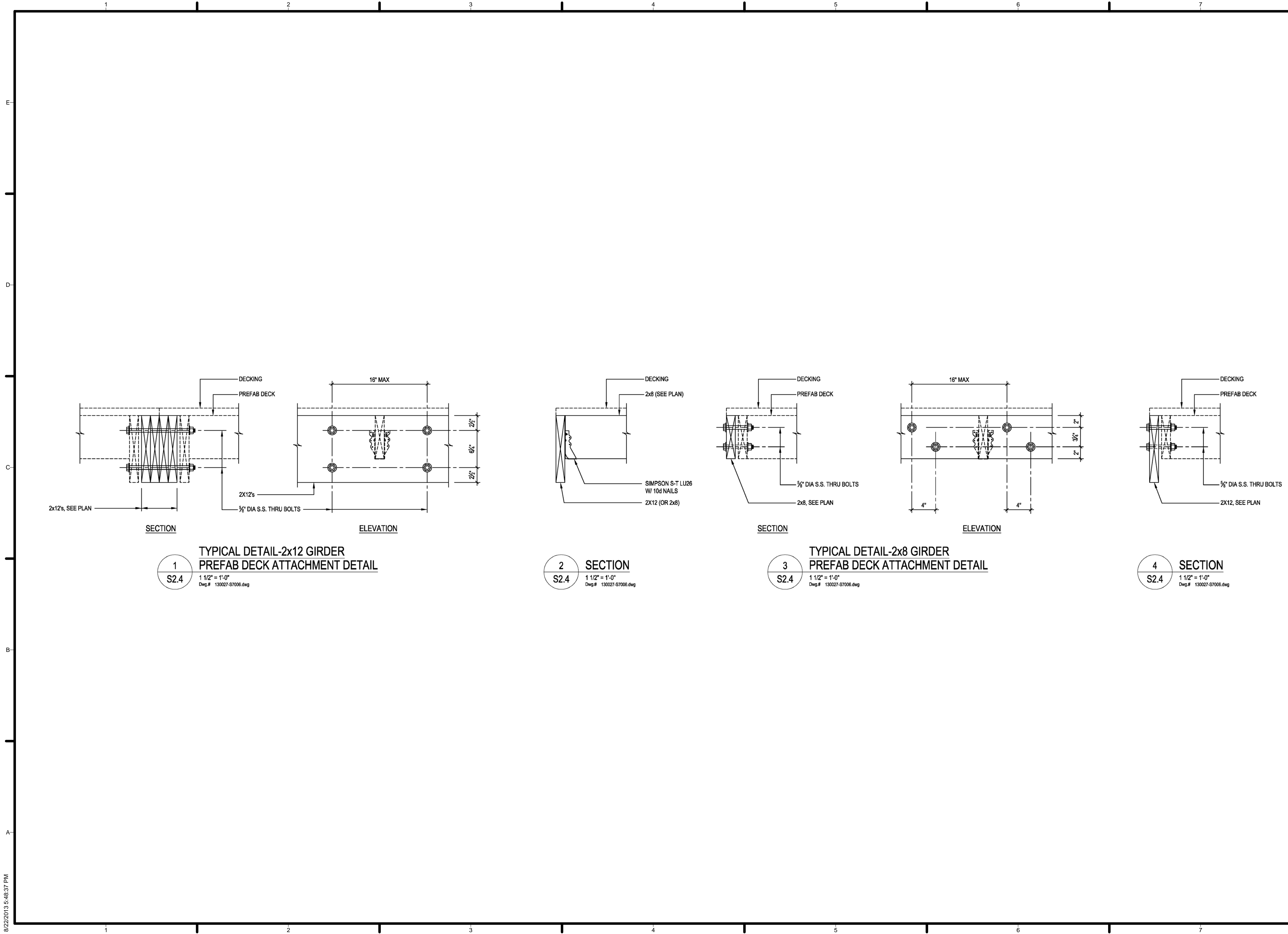
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SHEET TITLE
**DECK FRAMING PLAN
 AND DETAILS**

S 2.4



1
S2.4

**TYPICAL DETAIL-2x12 GIRDER
PREFAB DECK ATTACHMENT DETAIL**
1 1/2" = 1'-0"
Dwg.# 130027-S7006.dwg

2
S2.4

SECTION
1 1/2" = 1'-0"
Dwg.# 130027-S7006.dwg

3
S2.4

**TYPICAL DETAIL-2x8 GIRDER
PREFAB DECK ATTACHMENT DETAIL**
1 1/2" = 1'-0"
Dwg.# 130027-S7006.dwg

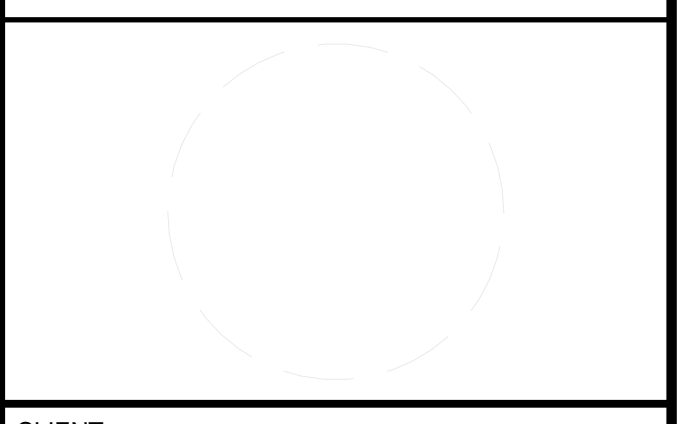
4
S2.4

SECTION
1 1/2" = 1'-0"
Dwg.# 130027-S7006.dwg



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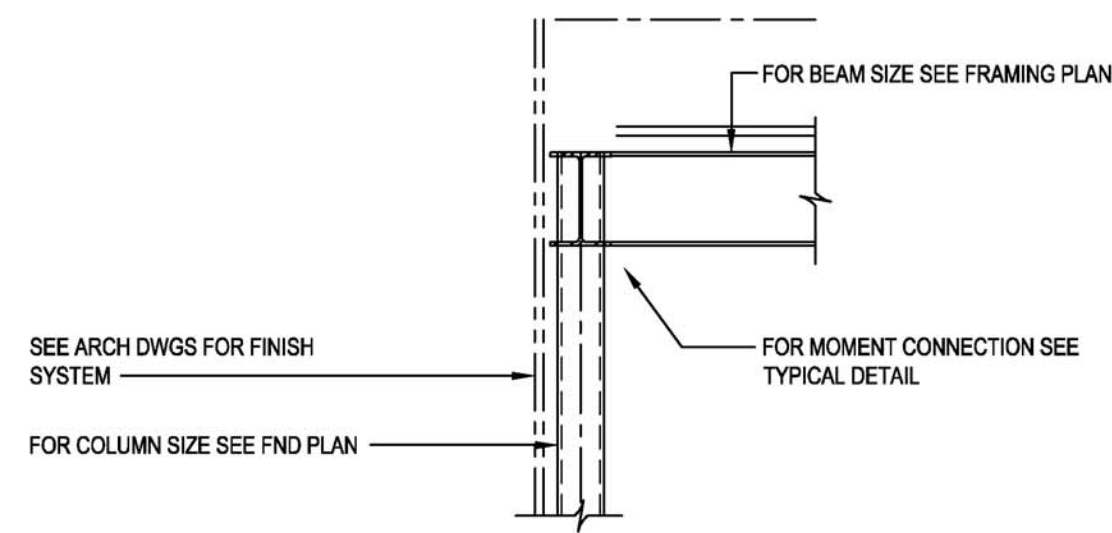
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02	11.20.12	80% DOE RE-SUBMISSION
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05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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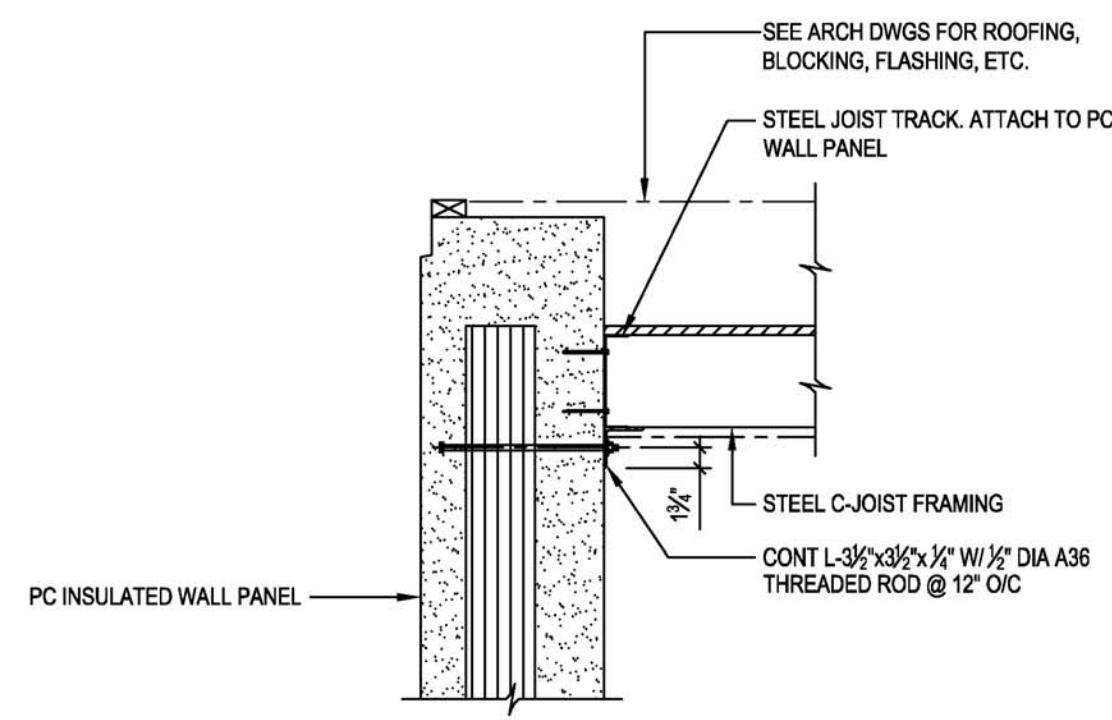
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SHEET TITLE
**DECK FRAMING PLAN
AND DETAILS**

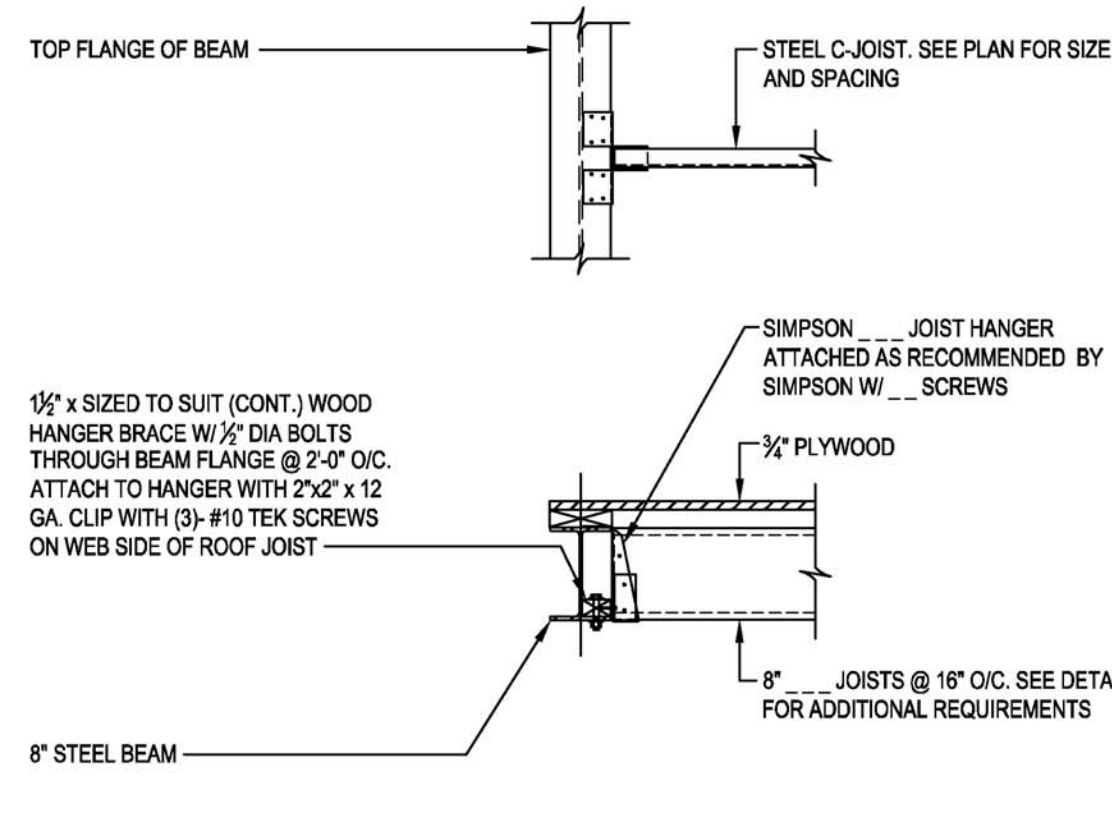
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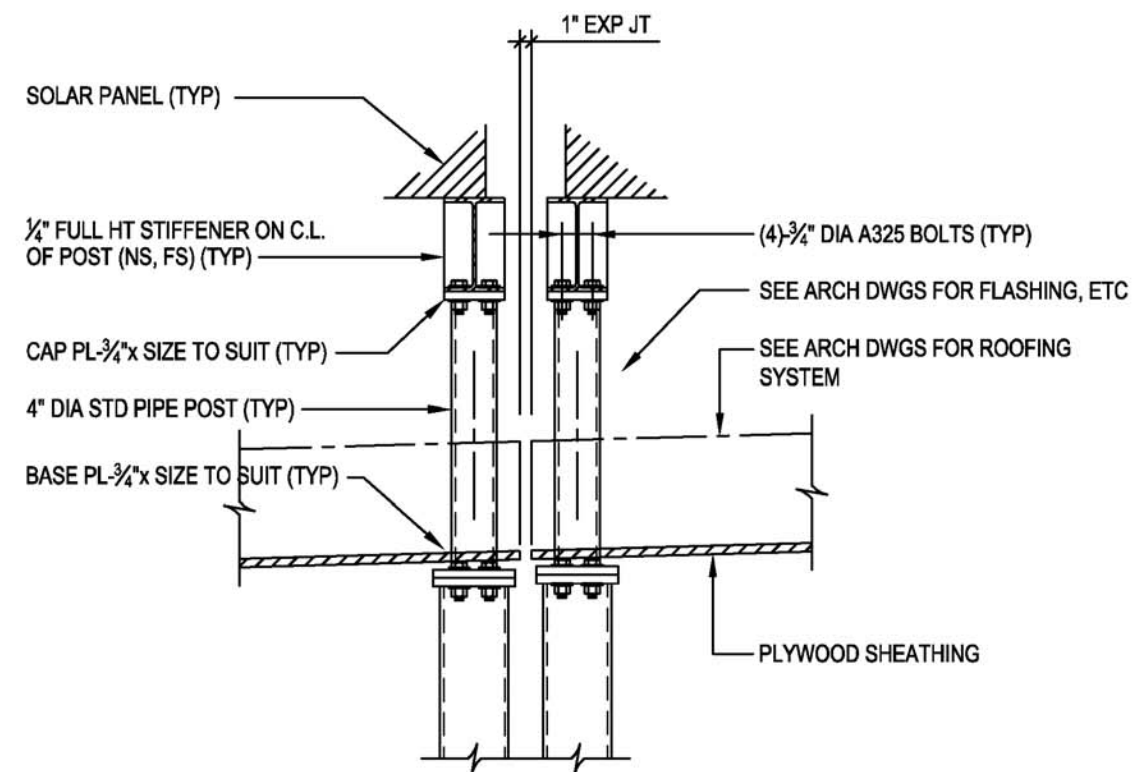
1 SECTION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



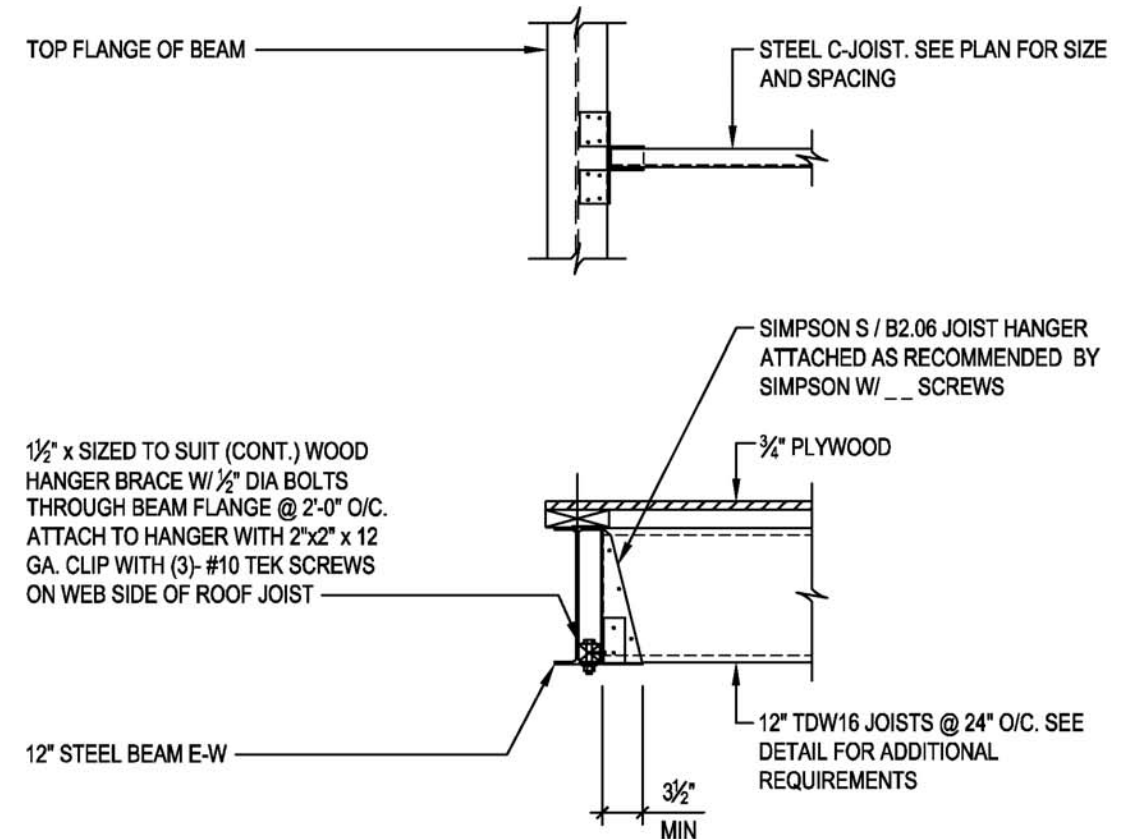
4 SECTION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



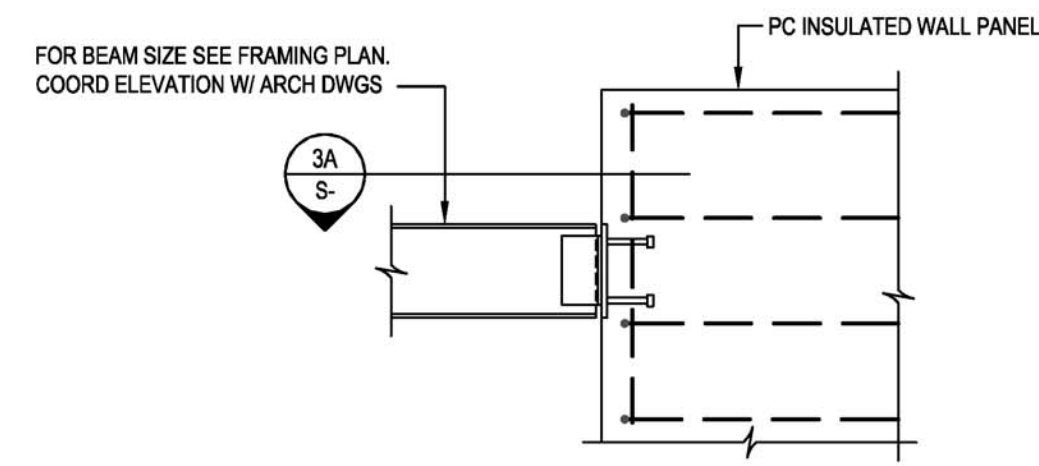
8 TYPICAL 8" STEEL C-JOIST CONNECTION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



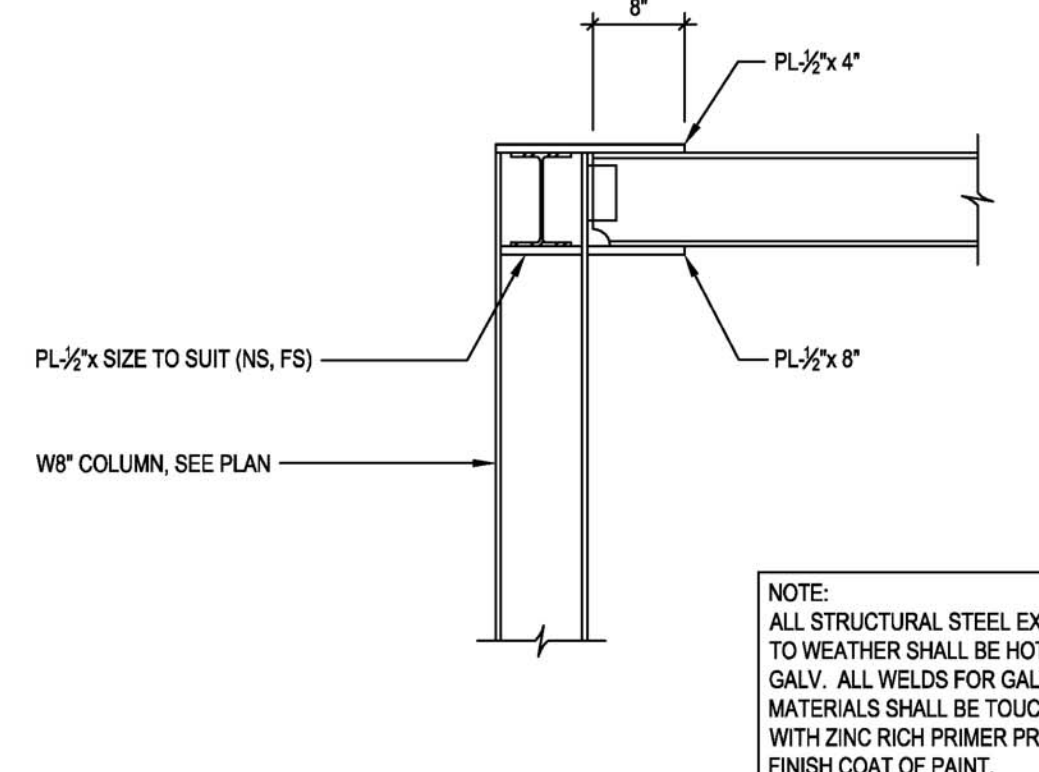
5 SECTION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



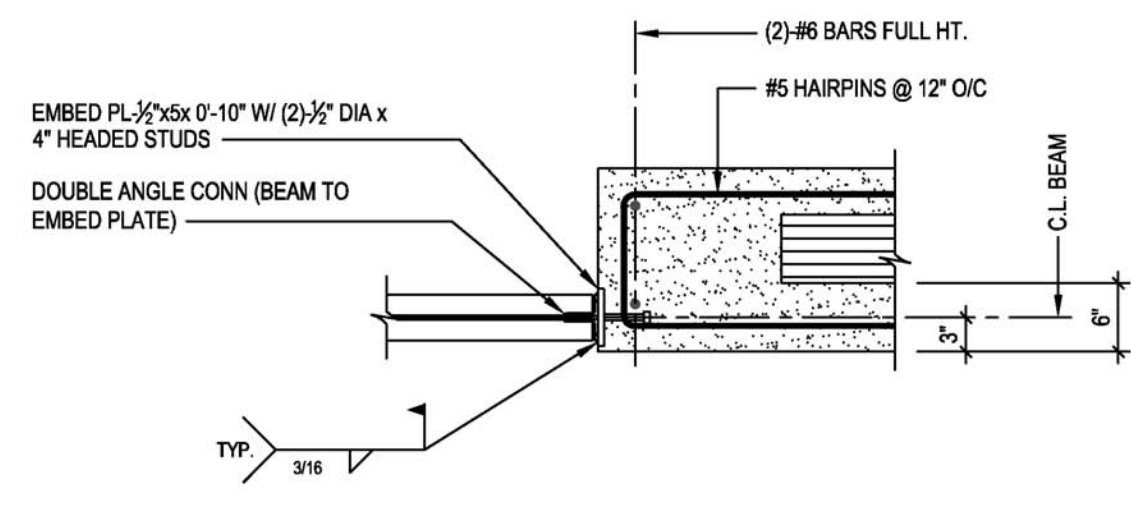
9 TYPICAL 12" STEEL C-JOIST CONNECTION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



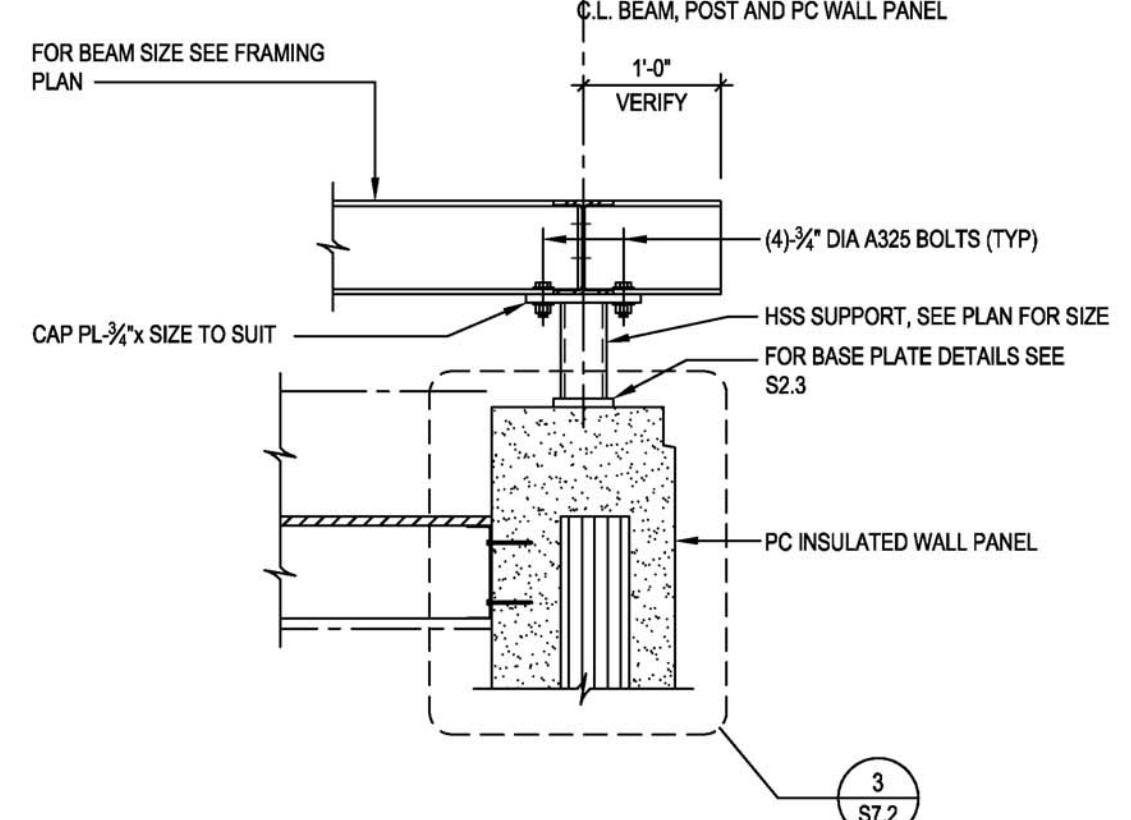
3 DETAIL
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



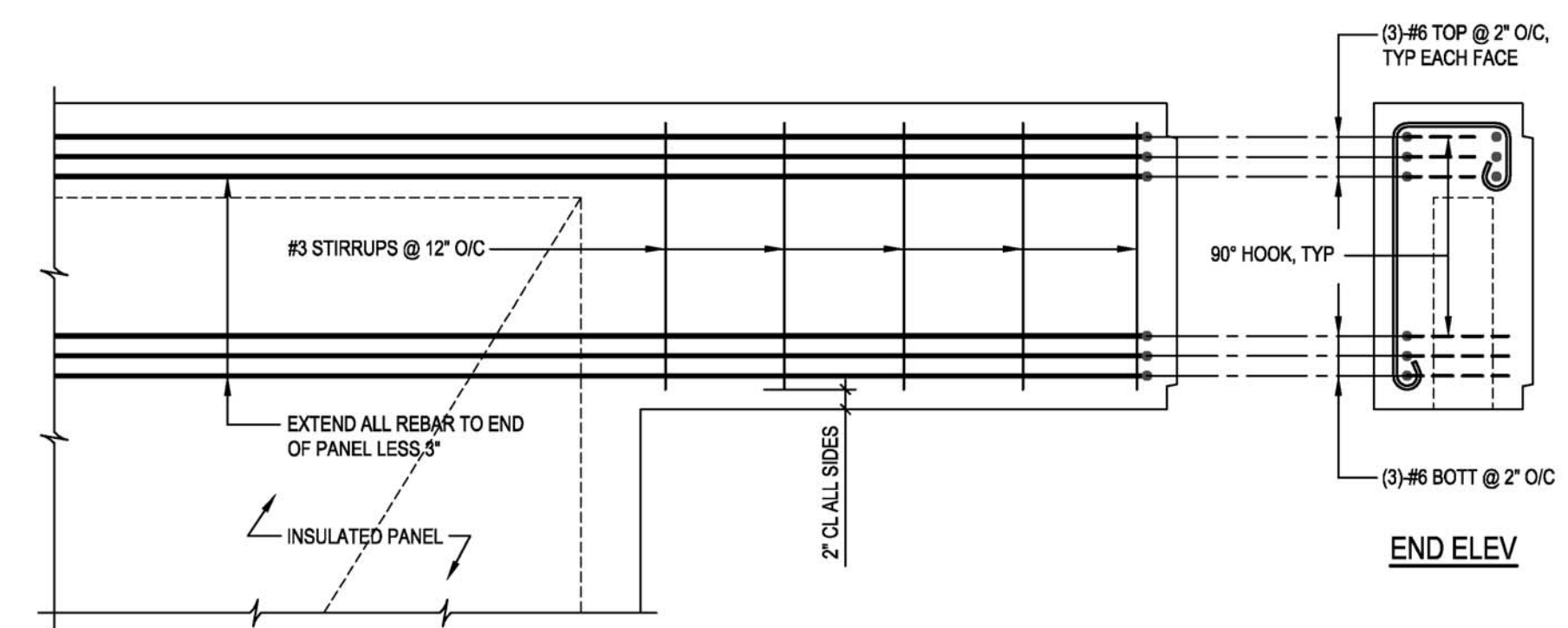
6 SECTION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



3A PLAN DETAIL
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



7 SECTION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



11 PARTIAL ELEVATION
S7.1
3/4" = 1'-0"
Dwg # 130027-S7004.dwg



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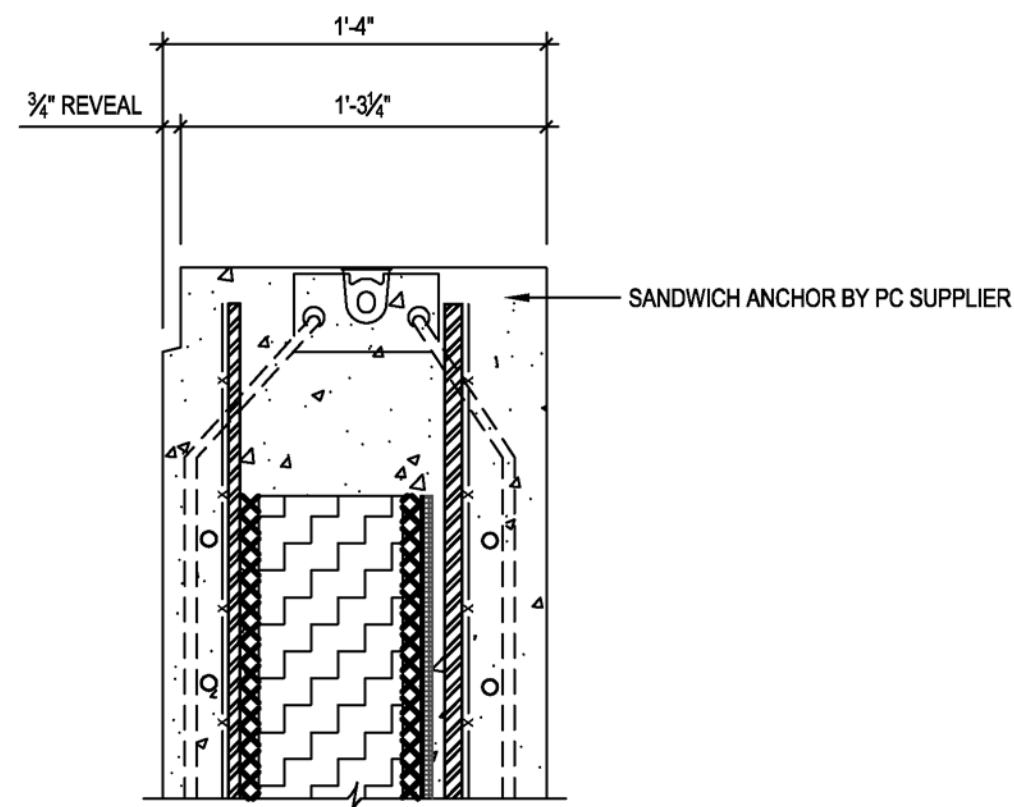
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05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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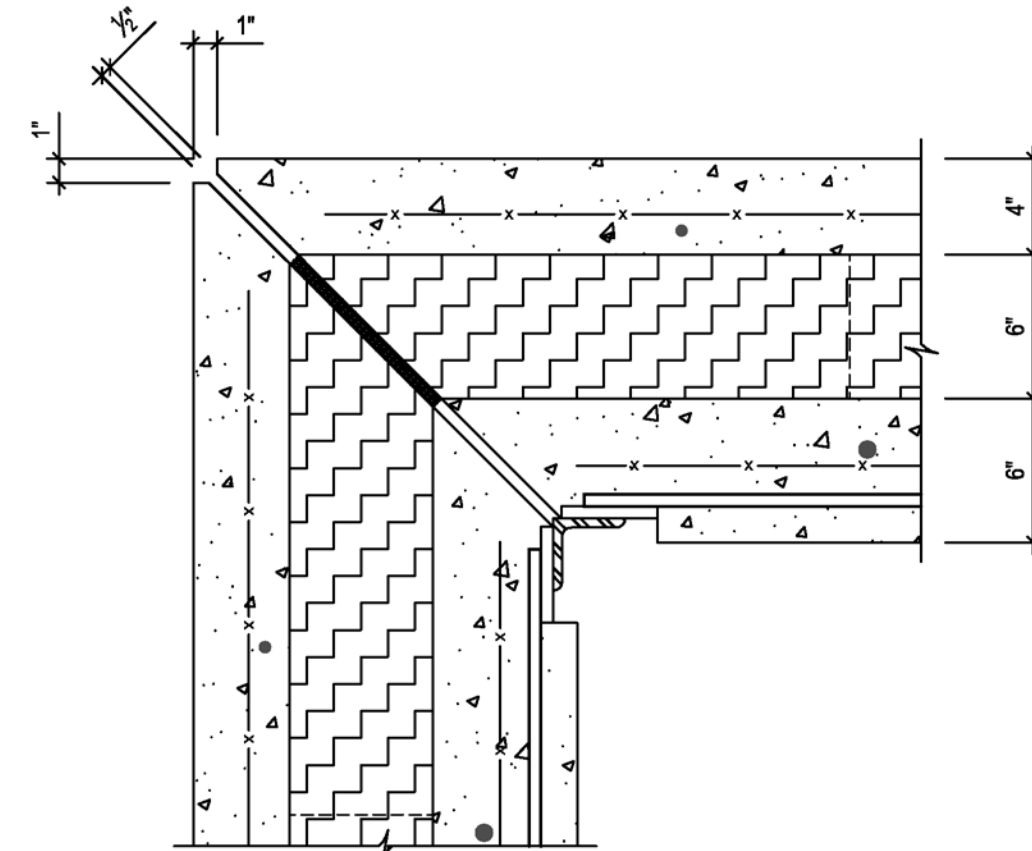
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SHEET TITLE
SECTIONS AND DETAILS

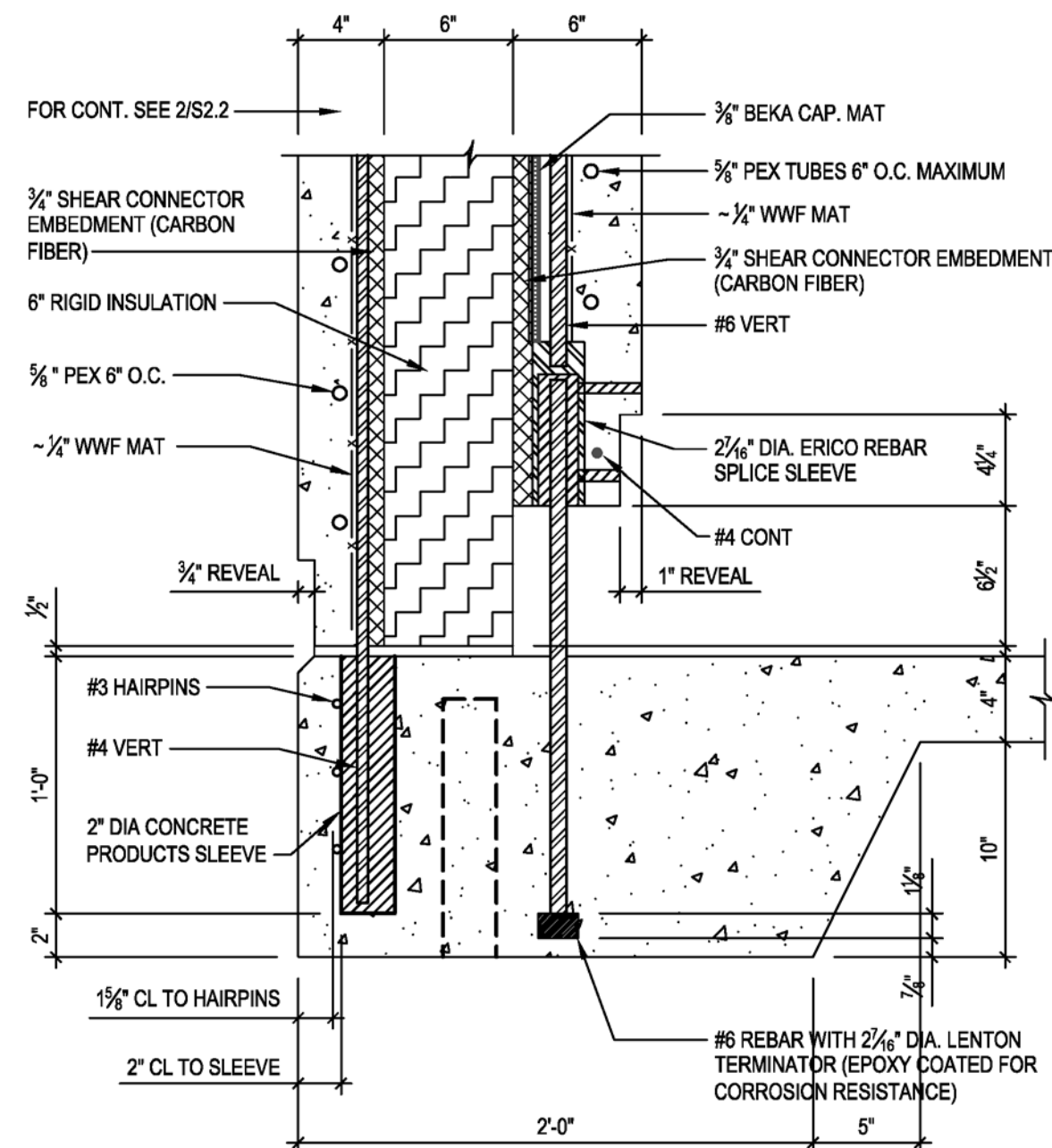
S 7.1



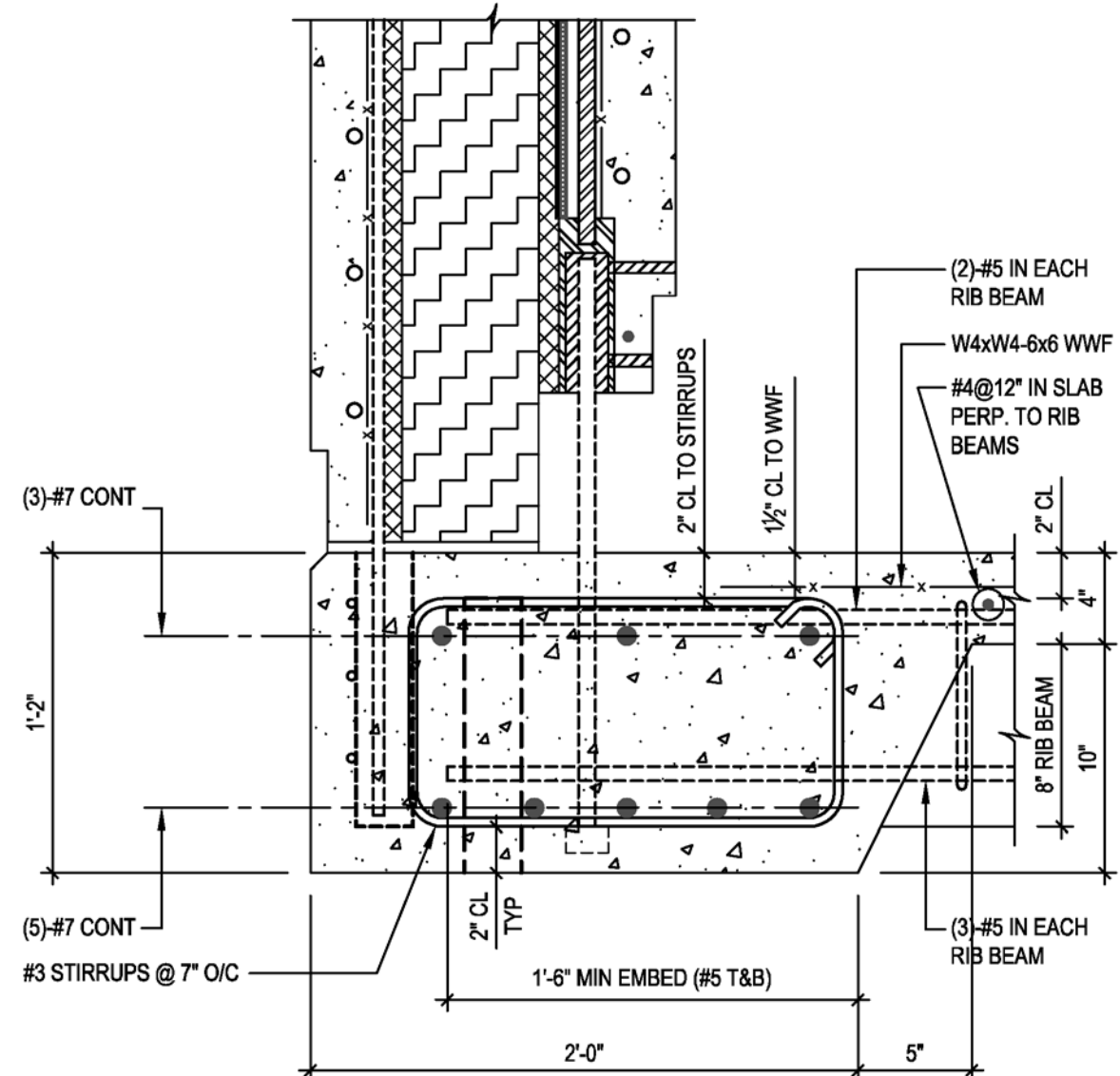
3
TYPICAL DETAIL
WALL PANEL @ TOP EACH END
1 1/2" = 1'-0"
Dwg.# 130027-S7000.dwg



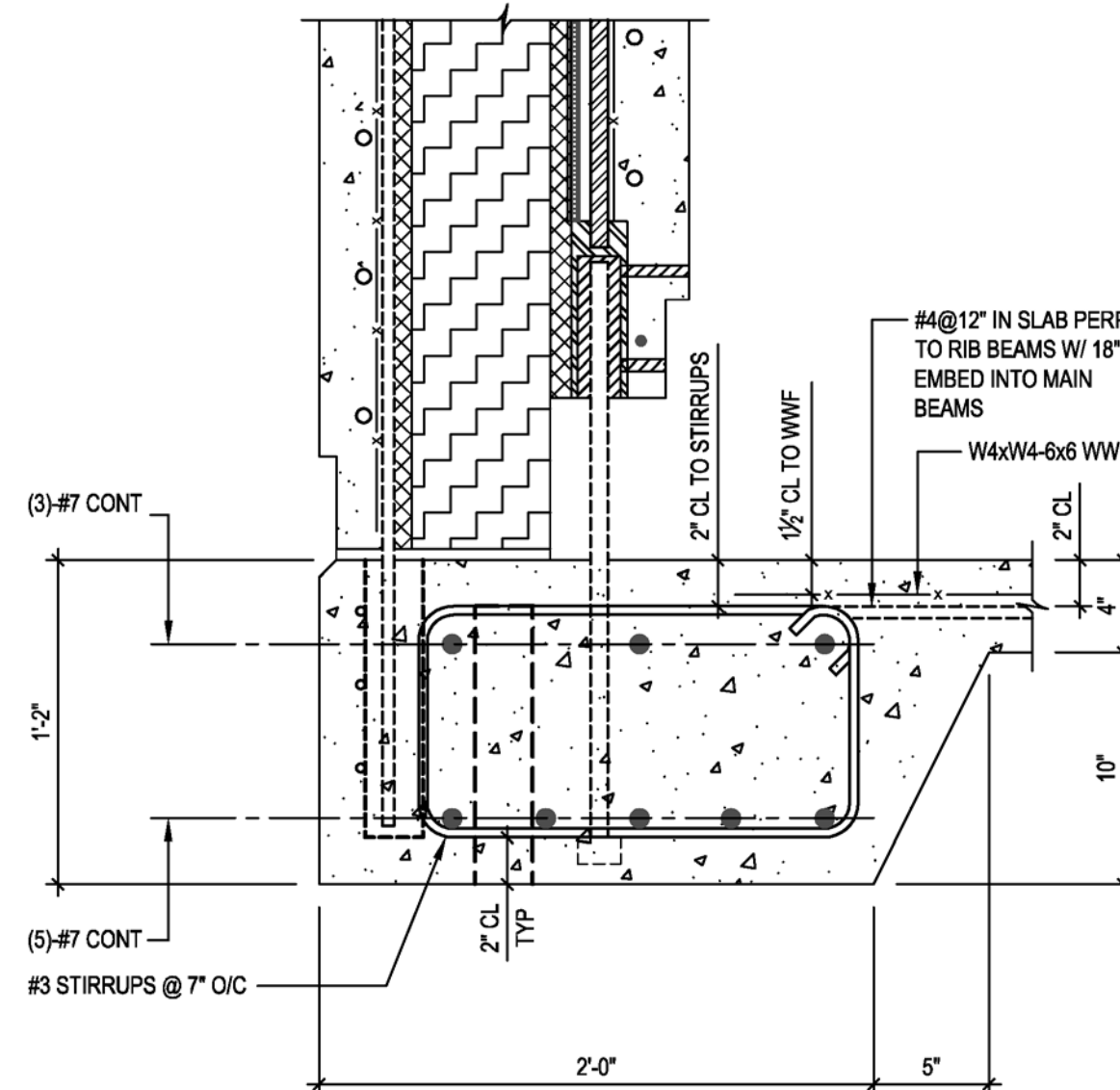
4
TYPICAL DETAIL
CORNER CONNECTION
1 1/2" = 1'-0"
Dwg.# 130027-S7002.dwg



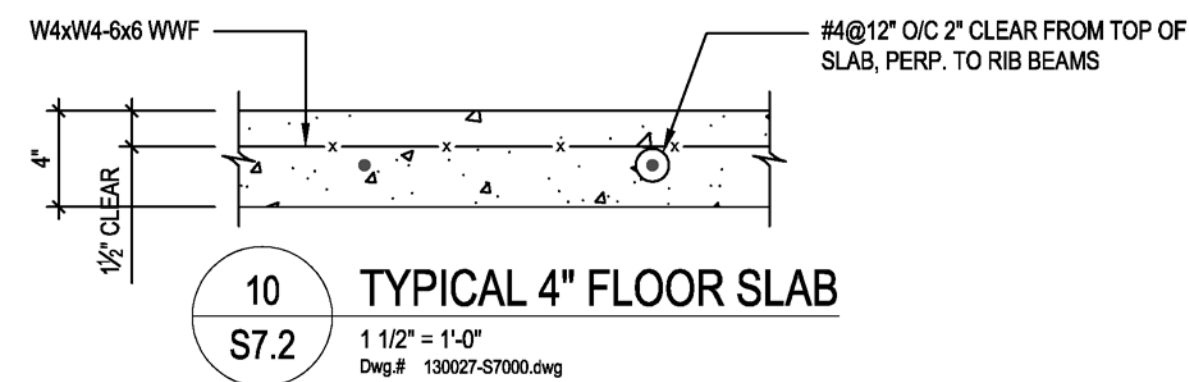
1
TYPICAL DETAIL
WALL PANEL @ #6 REBAR
1 1/2" = 1'-0"
Dwg.# 130027-S7000.dwg



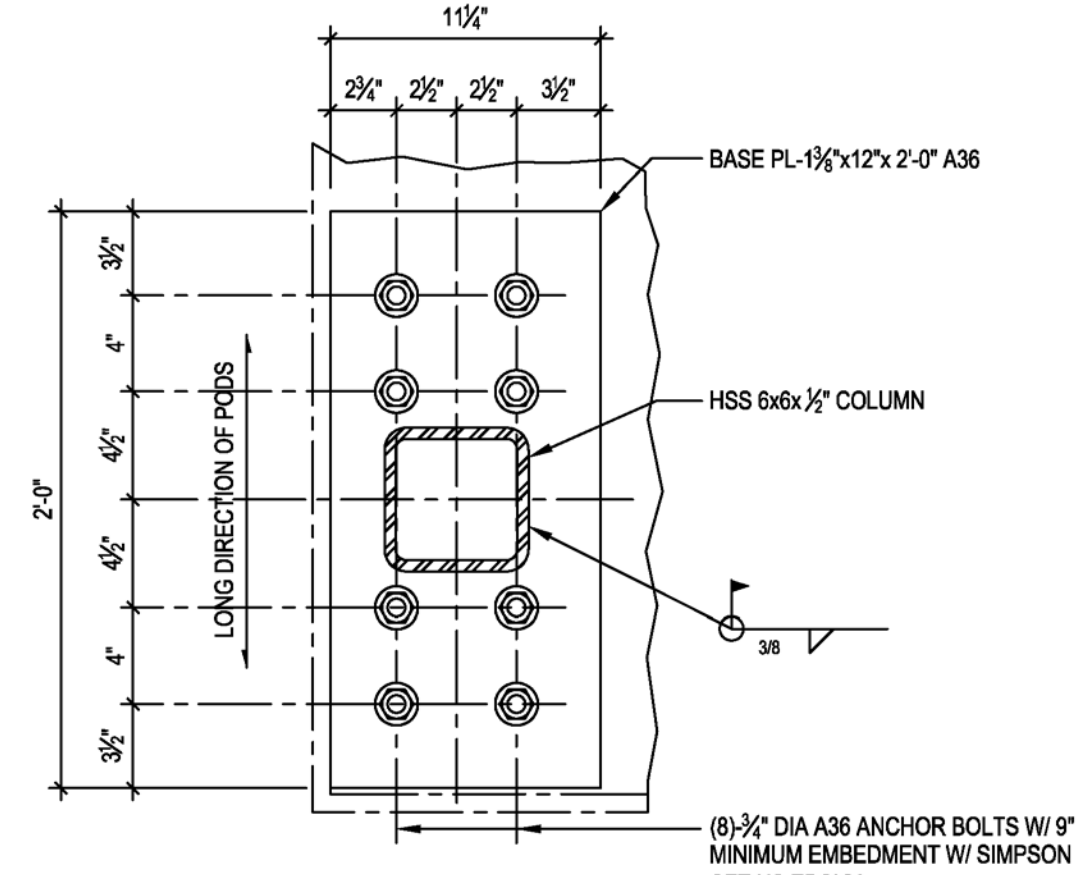
5
SECTION
1 1/2" = 1'-0"
Dwg.# 130027-S7000.dwg



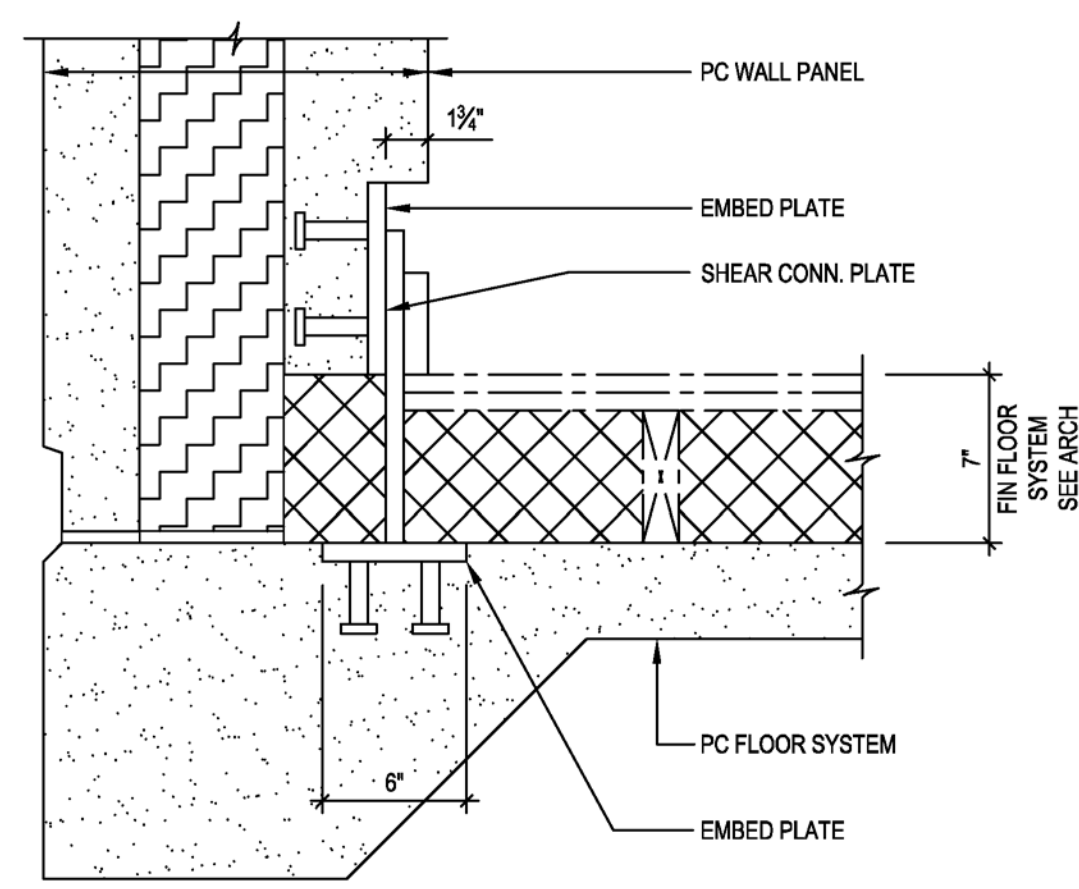
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SECTION
1 1/2" = 1'-0"
Dwg.# 130027-S7000.dwg



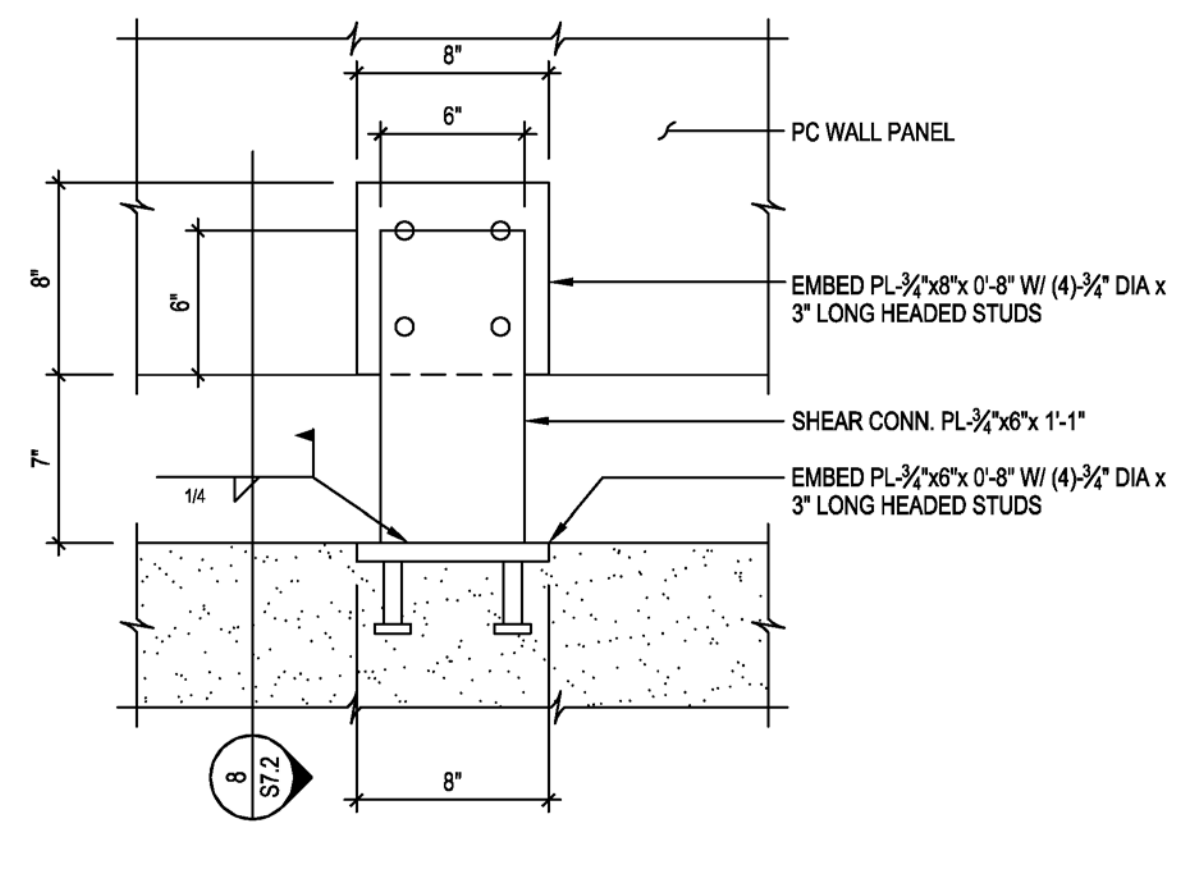
10
TYPICAL 4" FLOOR SLAB
1 1/2" = 1'-0"
Dwg.# 130027-S7000.dwg



9
TYPICAL PLAN DETAIL-POST INSTALLED
BASE PLATE FOR CONCRETE PODS
1 1/2" = 1'-0"
Dwg.# 130027-S7000.dwg



8
SECTION
1 1/2" = 1'-0"
Dwg.# 130027-S7005.dwg

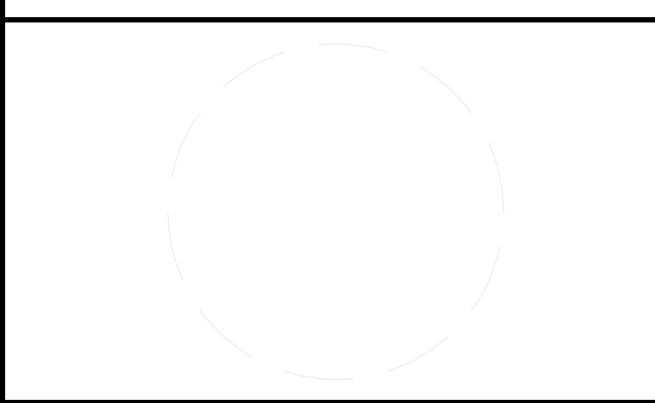


7
TYPICAL DETAIL
ELEVATION - WALL PANEL SHEAR CONN.
1 1/2" = 1'-0"
Dwg.# 130027-S7005.dwg



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MARK	DATE	DESCRIPTION
01	10.10.12	80% DOE SUBMISSION
02	11.20.12	80% DOE RE-SUBMISSION
03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION

MARK	DATE	DESCRIPTION

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SHEET TITLE

DETAILS

S 7.2



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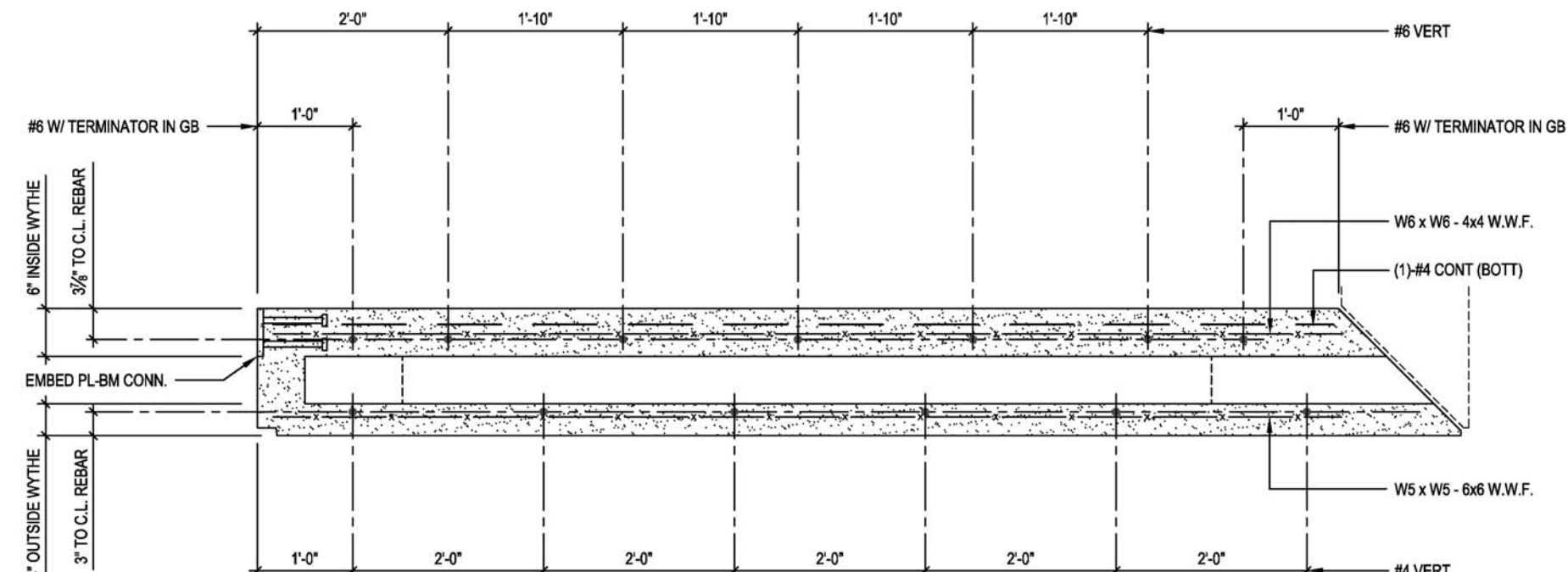
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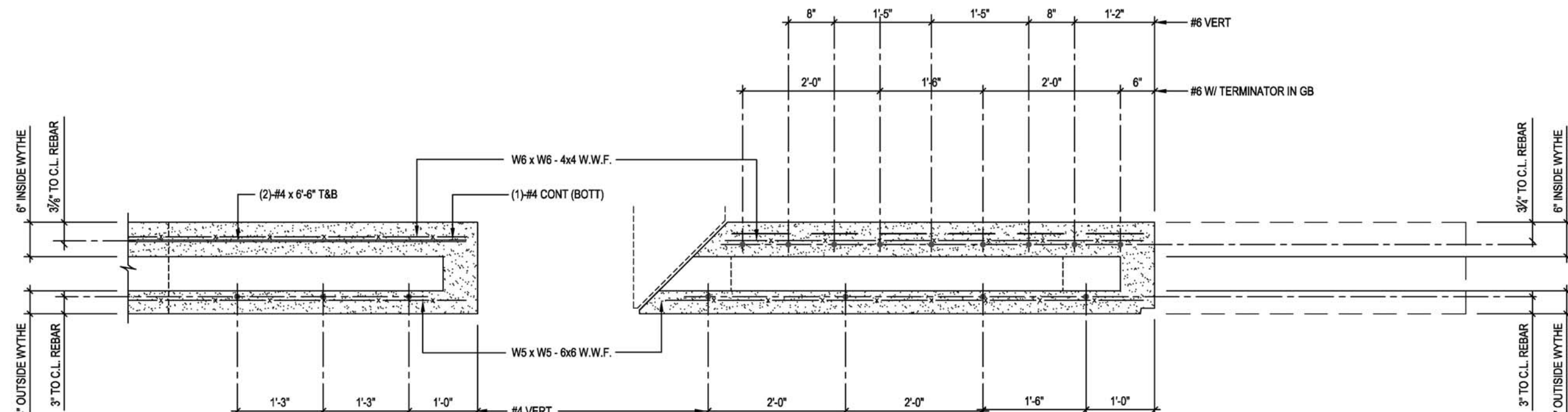
SHEET TITLE

DETAILS

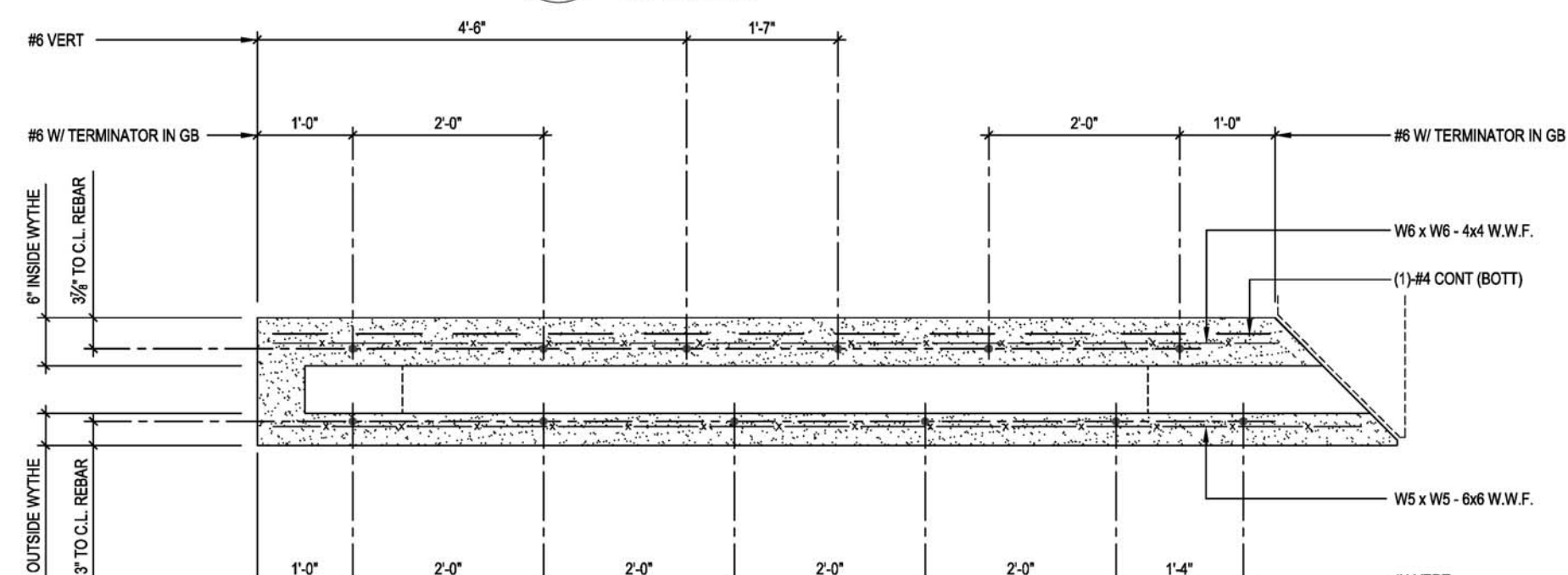
S 7.3



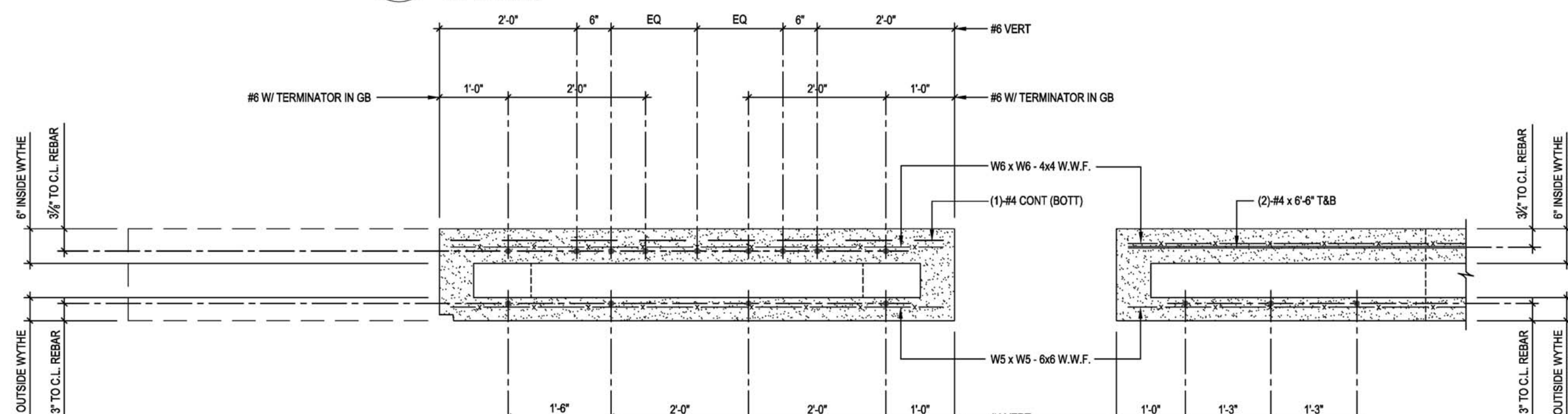
1 PLAN DETAIL - REINFORCING LAYOUT
 WALL PANEL 'A' (WALL PANEL 'E' OPP HD)
 S7.3
 3/4" = 1'-0"
 Dep # 130027-S3001.dwg



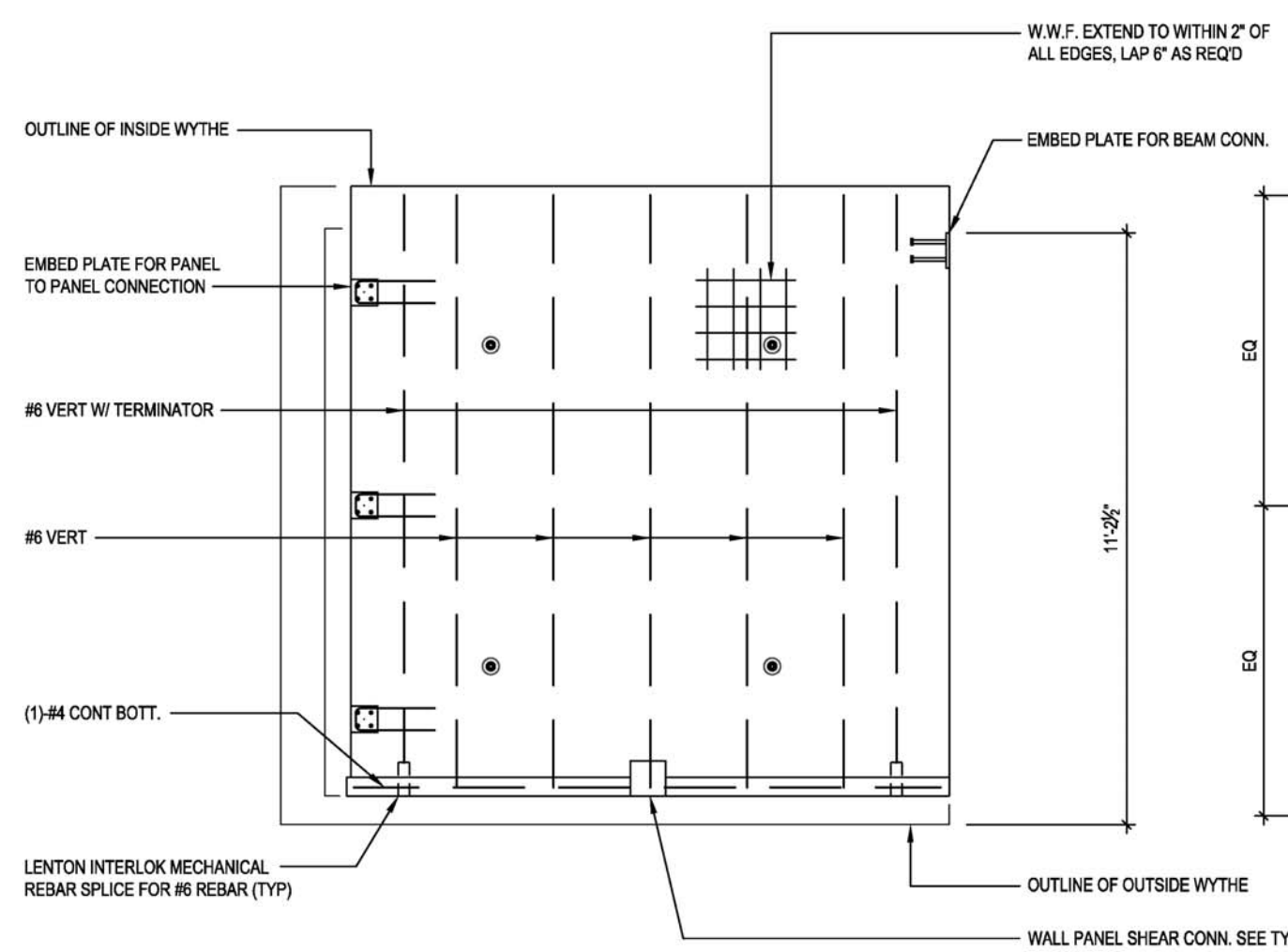
2 PLAN DETAIL - REINFORCING LAYOUT
 WALL PANEL 'B'
 S7.3
 3/4" = 1'-0"
 Dep # 130027-S3001.dwg



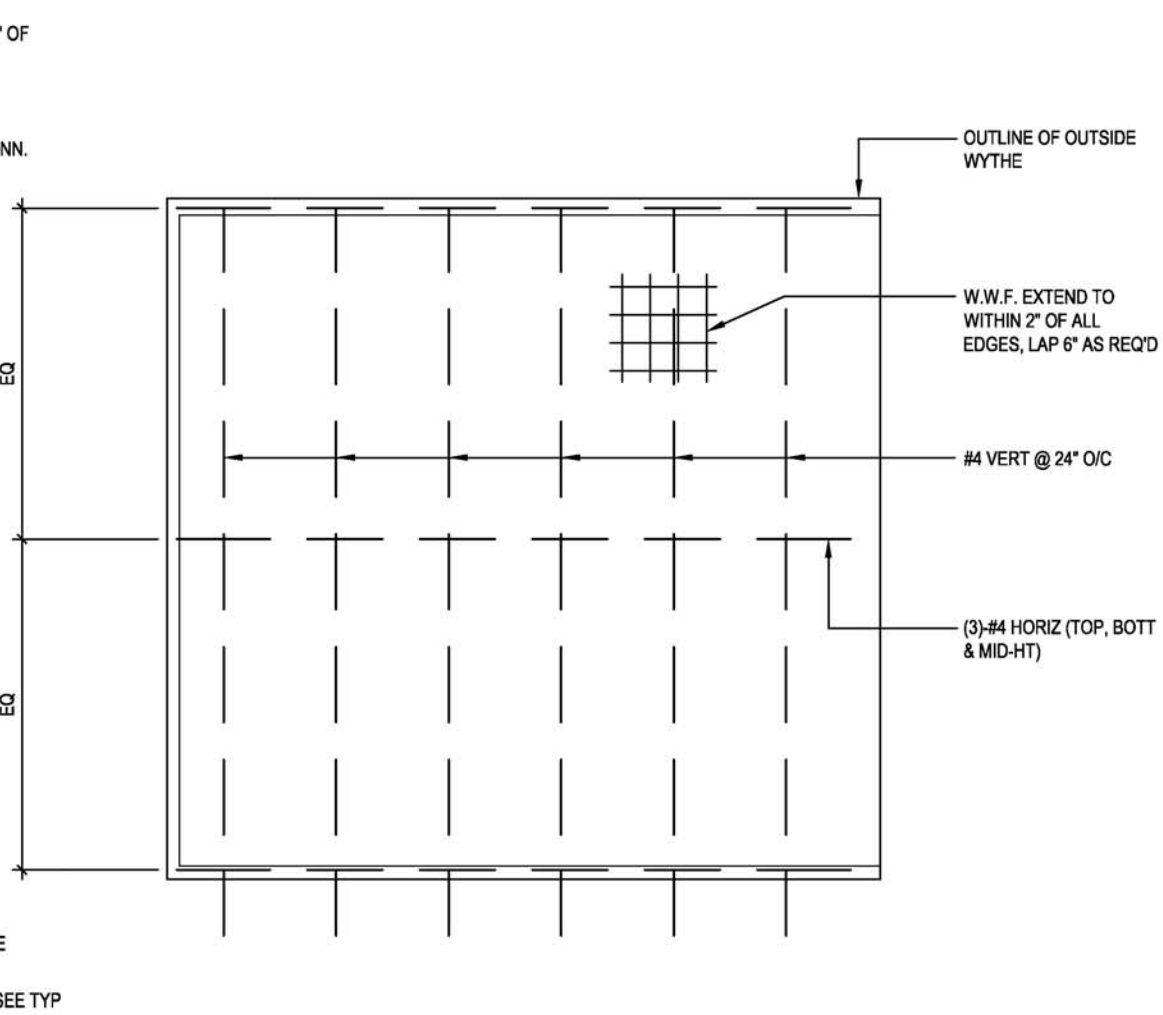
3 PLAN DETAIL - REINFORCING LAYOUT
 WALL PANEL 'D'
 S7.3
 3/4" = 1'-0"
 Dep # 130027-S3001.dwg



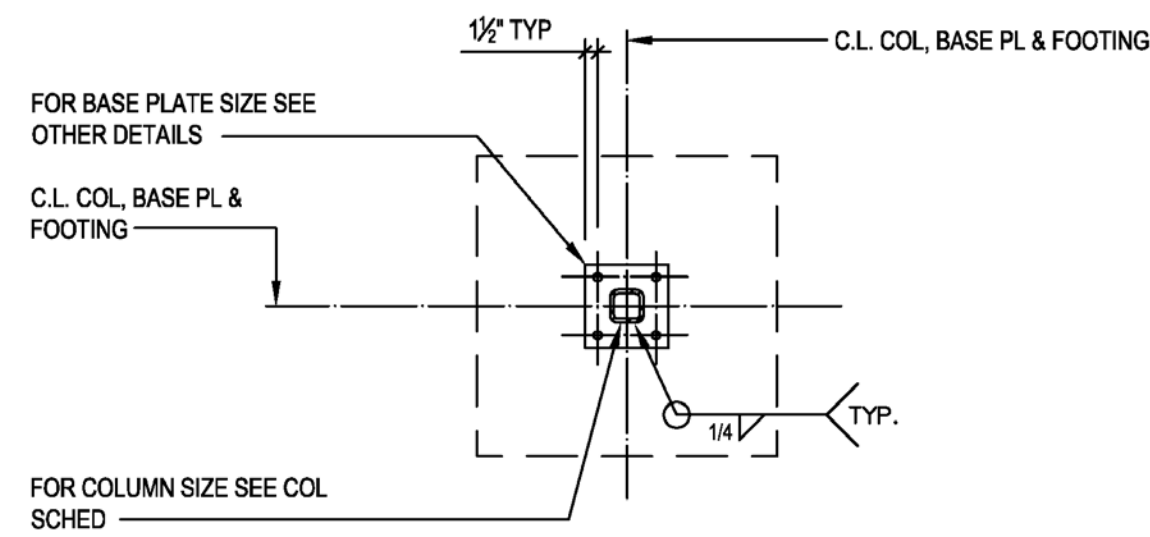
4 PLAN DETAIL - REINFORCING LAYOUT
 WALL PANEL 'C'
 S7.3
 3/4" = 1'-0"
 Dep # 130027-S3001.dwg



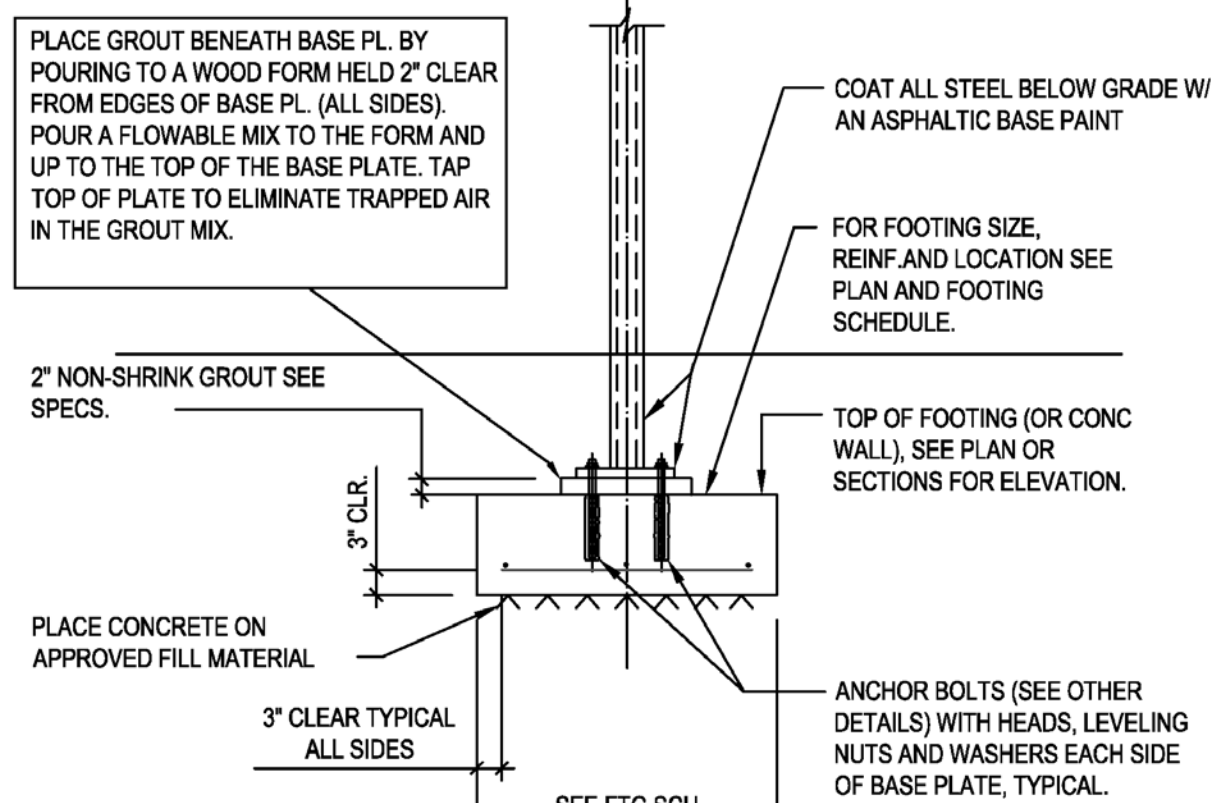
5 TYPICAL DETAIL - ELEVATION
 REINFORCING LAYOUT INSIDE WYTHE
 S7.3
 3/8" = 1'-0"
 Dep # 130027-S3002.dwg



6 TYPICAL DETAIL - ELEVATION
 REINFORCING LAYOUT OUTSIDE WYTHE
 S7.3
 3/8" = 1'-0"
 Dep # 130027-S3002.dwg



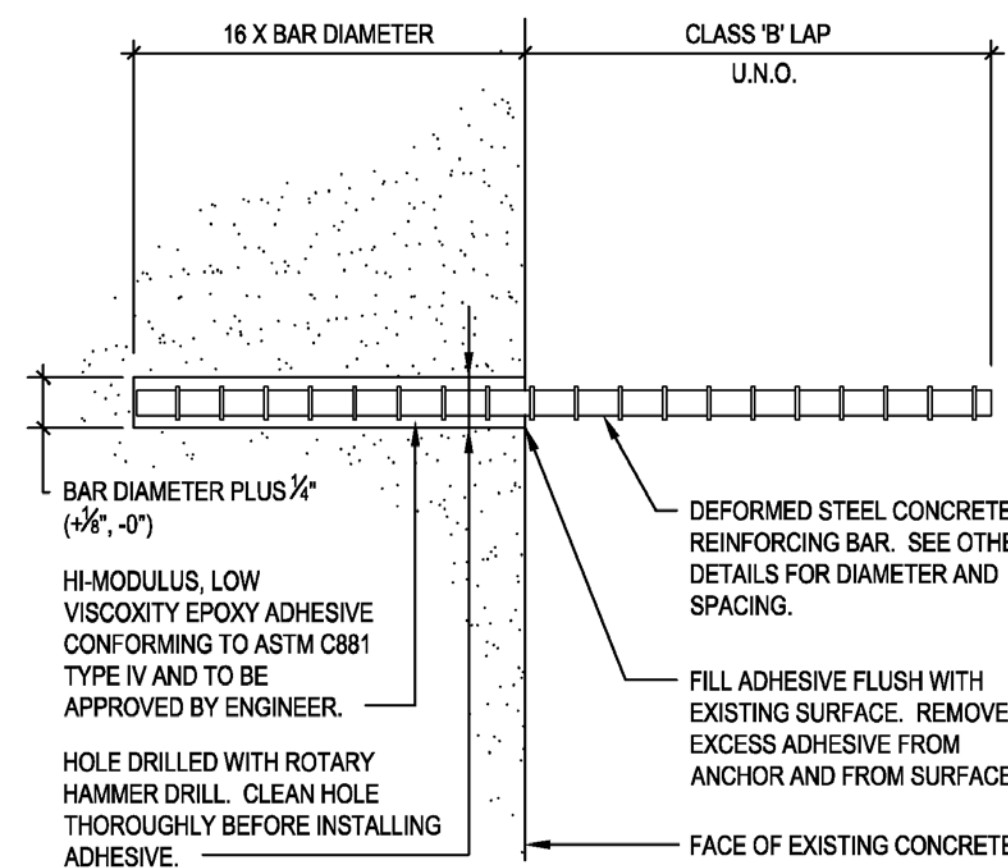
PLAN



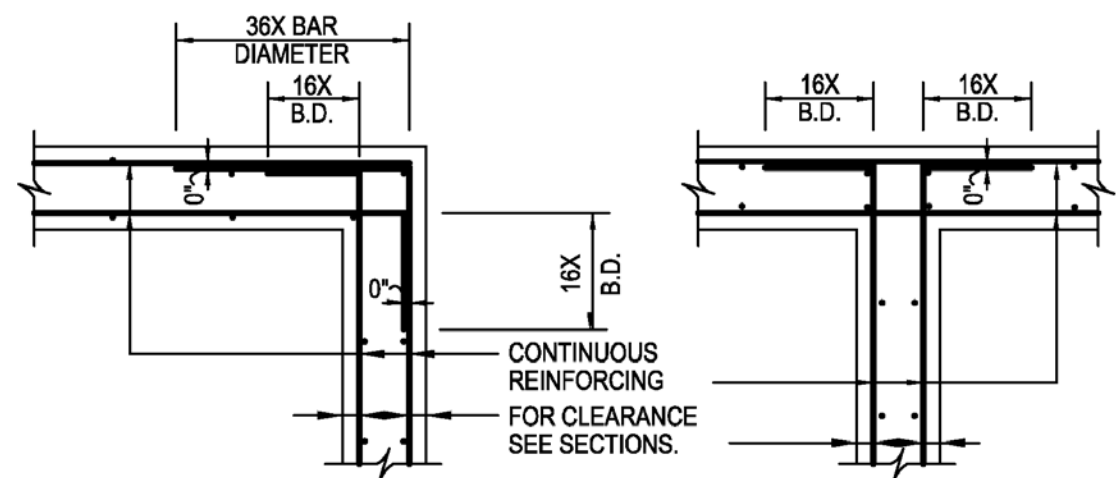
ELEVATION

**TYPICAL DETAIL
COLUMN BASE AND FOOTING**

1
S8.1
1/2" = 1'-0"
Dwg.# 130027-S8010.dwg



CONCRETE REINFORCING BAR DOWELS

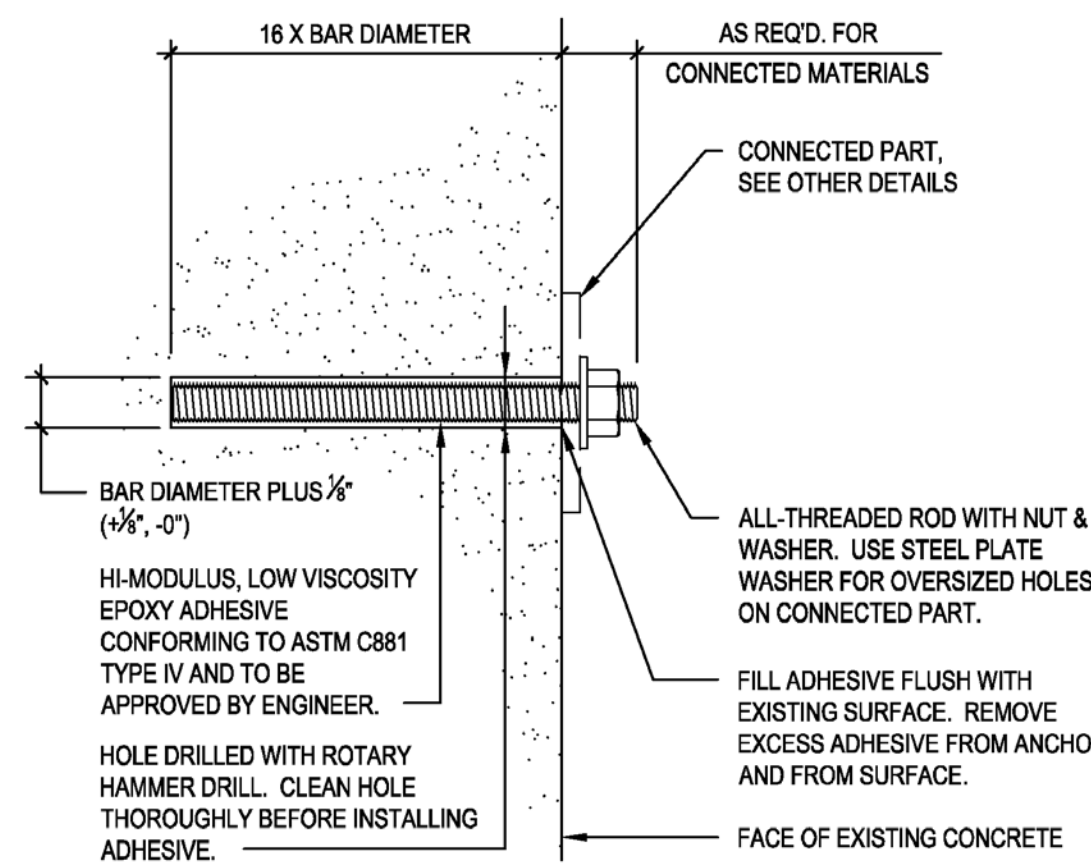


CORNER - 2 LAYERS

INTERSECTION - 2 LAYERS

**TYPICAL DETAIL
CONTINUOUS WALL REINFORCING**

2
S8.1
1/2" = 1'-0"
Dwg.# 130027-S8223.dwg



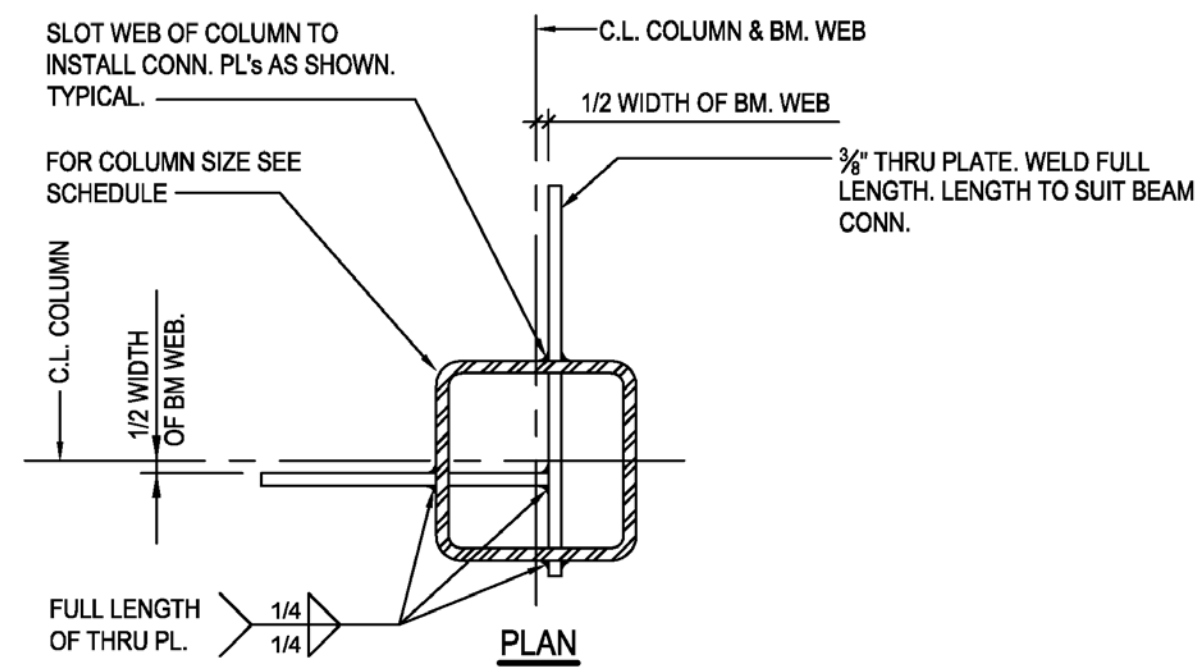
THREADED ROD ANCHOR

**TYPICAL DETAIL
ADHESIVE ANCHORING OF RODS AND DOWELS**

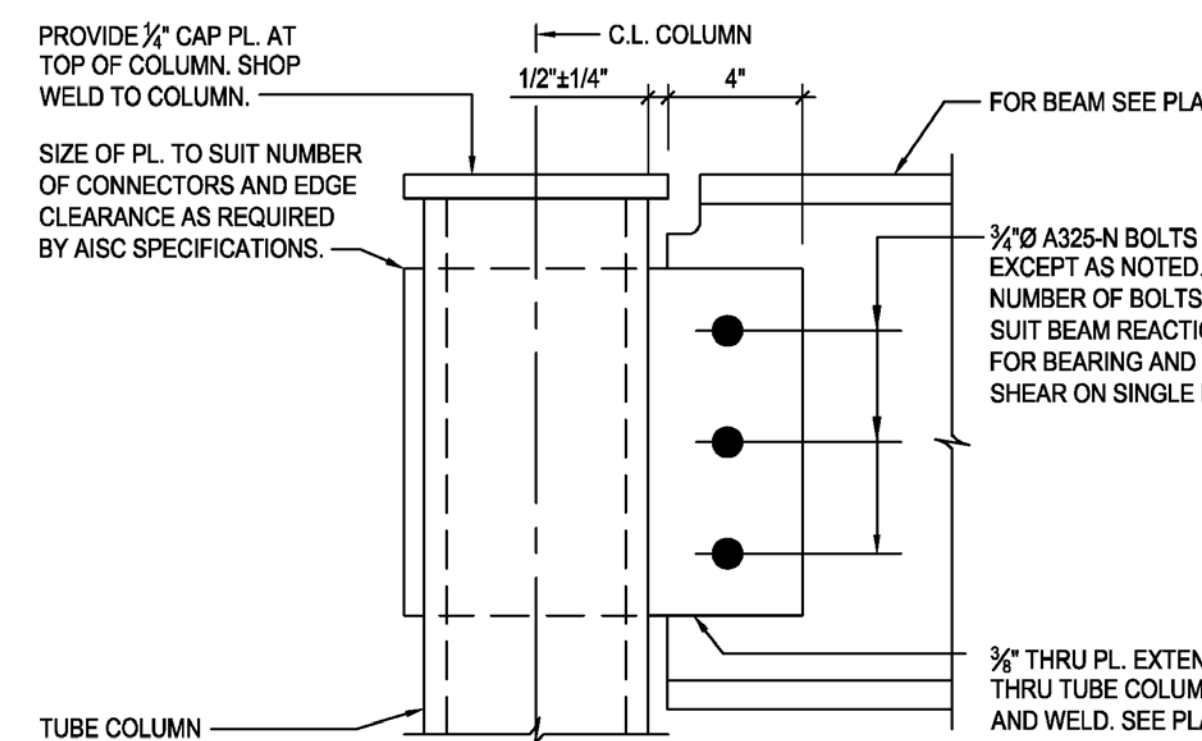
5
S8.1
3" = 1'-0"
Dwg.# 130027-S8326.dwg

ADHESIVE ANCHOR INSTALLATION NOTES:

1. ALL RODS OR DOWELS SET INTO ADHESIVE SHALL BE CLEAN AND FREE OF OIL OR GREASE.
2. ACCURATELY MARK THE SURFACE (WITHIN 1/16") THAT WILL RECEIVE THE NEW ANCHORS WITH THE LOCATION SHOWN IN THE CONNECTION DETAIL.
3. PRIOR TO DRILLING ANCHOR HOLES, LOCATE WITH A PACHOMETER OR 1/8" DIA. DRILLED PROBE HOLES EXISTING REINFORCING STEEL WHICH MAY BE BELOW THE SURFACE AT THE SPECIFIED ANCHOR LOCATION. ADJUST ANCHOR LOCATIONS TO AVOID CUTTING OF ANY EXISTING REINFORCING STEEL. POSITIONS OF RELOCATED ANCHORS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO DRILLING THE HOLES FOR THE ANCHORS.
4. DRILL HOLES USING A ROTARY TYPE HAMMER DRILL WITH CARBIDE BITS. EQUIPMENT FOR DRILLING SHALL BE APPROVED BY THE ADHESIVE MANUFACTURER. HOLES SHALL BE DRILLED AT A 90° ANGLE (±2°) FROM FACE OF THE MEMBER. IMPROPERLY DRILLED HOLES SHALL BE REJECTED AND FILLED WITH A NON-SHRINK, NON-METALLIC GROUT AND NEW HOLES DRILLED AT THE CONTRACTOR'S EXPENSE.
5. BLOW EACH HOLE CLEAN WITH OIL-FREE COMPRESSED AIR. CLEAN EACH HOLE WITH A BOTTLE BRUSH AND REPEAT CLEANING WITH COMPRESSED AIR. HOLES SHALL BE THOROUGHLY CLEANED OF ALL DUST, LOOSE PARTICLES OF MATERIAL AND OTHER BOND INHIBITING MATERIAL.
6. PROPORTION, MIX, CONDITION, AND INSTALL ADHESIVE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED SPECIFICATIONS AND INSTRUCTIONS, AND THE REQUIREMENTS SHOWN IN THE CONTRACT DOCUMENTS.
7. MIX AND INJECT THE ADHESIVE INTO EACH HOLE BEGINNING AT THE BACK OR BOTTOM OF THE HOLE USING A PIPE OR TUBE. AS THE HOLE IS FILLED, WITHDRAW THE PIPE NOZZLE AT THE SAME RATE AS THE HOLE IS FILLED. INJECT THE ADHESIVE INTO THE HOLE UNTIL THE HOLE IS ONE-HALF TO THREE-QUARTERS FULL. APPLY ADHESIVE TO FULLY COAT THE LENGTH OF ANCHOR TO BE EMBEDDED, THEN INSERT THE ANCHOR INTO THE HOLE IN ONE CONTINUOUS STROKE AND WHILE ROTATING ONE FULL REVOLUTION. THE ANCHOR BOLT SHALL NOT BE MOVED BACK AND FORTH, AS THIS WILL ENTRAP AIR, AS DOES EXCESSIVE ROTATION. INJECT ADDITIONAL ADHESIVE AS REQUIRED TO FILL VOID AROUND ANCHOR.
8. AFTER ADHESIVE HAS FULLY CURED, INSTALL WASHERS AND NUTS ON THREADED ROD ANCHORS AS REQ'D AND TIGHTEN EACH NUT. DO NOT EXCEED THE MAX. TORQUE SPECIFIED BY THE ADHESIVE MANUF. ALL NUTS SHALL BE RETORQUED WITHIN 24 TO 72 HOURS AFTER INITIAL TORQUING. DO NOT TORQUE NUTS NOTED TO BE FINGER TIGHT.



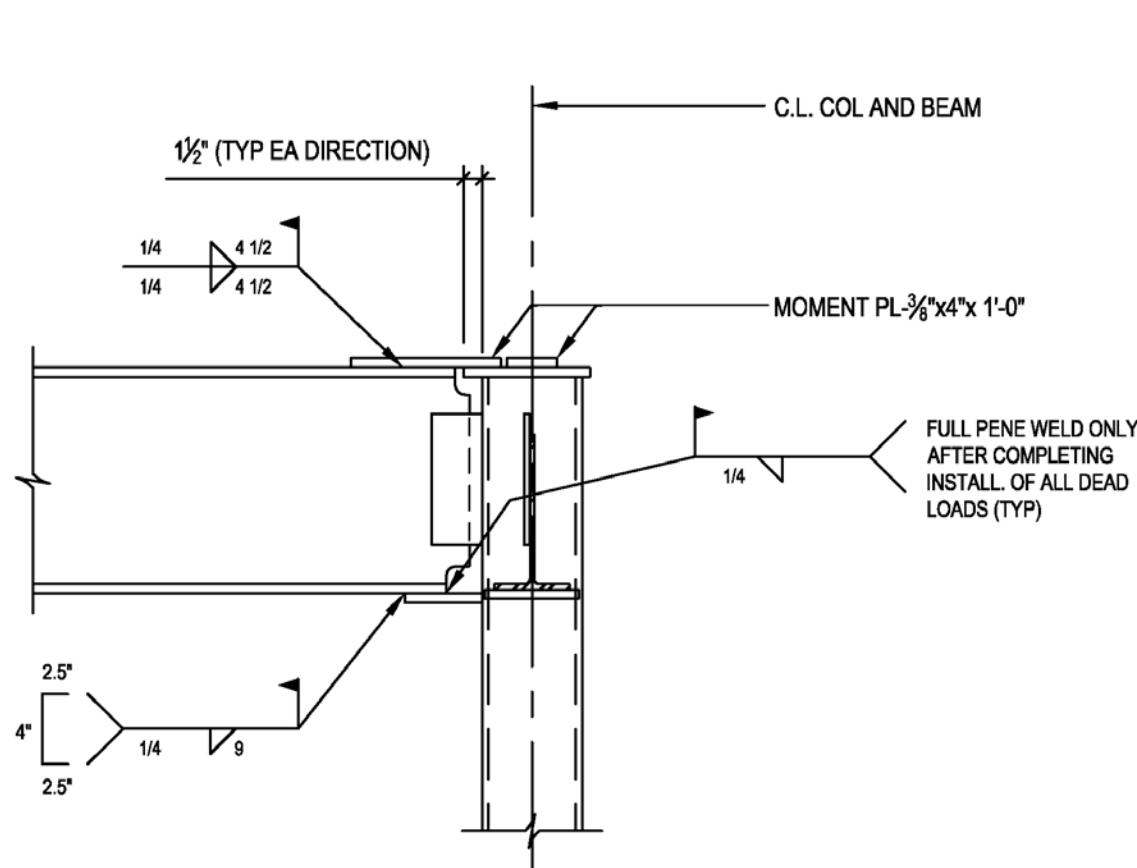
PLAN



ELEVATION

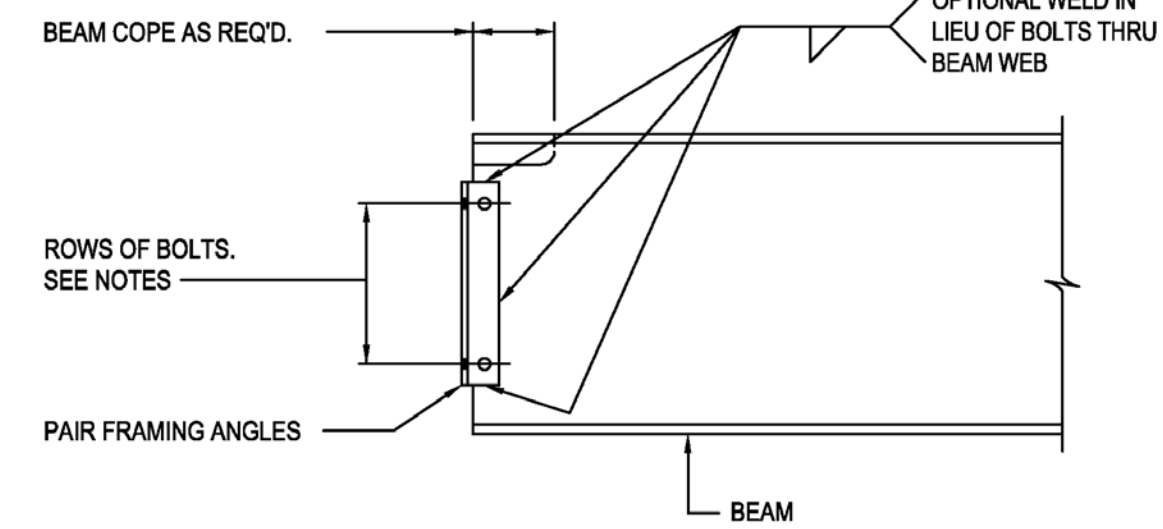
**TYPICAL DETAIL
HSS COLUMN THRU PLATE CONNECTION**

3
S8.1
3" = 1'-0"
Dwg.# 130027-S8018.DWG



**TYPICAL DETAIL
MOMENT CONNECTION**

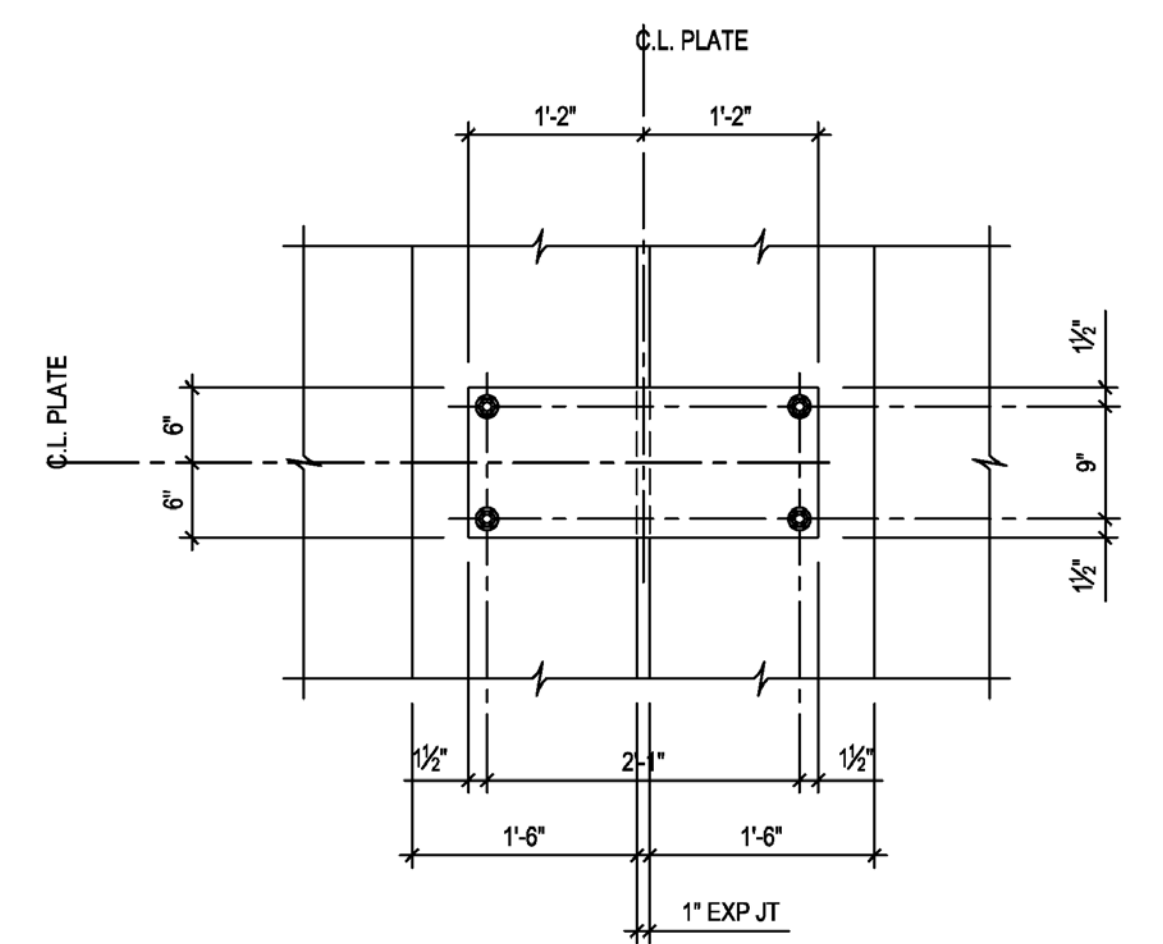
6
S8.1
3/4" = 1'-0"
Dwg.# 130027-S7003.dwg



- NOTES:**
1. CONNECTIONS SHALL BE DESIGNED AND DETAILED BY STEEL FABRICATOR IN ACCORD WITH ALL APPLICABLE PROVISIONS OF THE AISC MANUAL OF STEEL CONSTRUCTION AND APPROVED BY THE ARCHITECT/ENGINEER.
 2. MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE AS FOLLOWS: 2 ROWS FOR W8" AND W10"; 3 ROWS FOR W12" AND W14"; 4 ROWS FOR W16" AND W18"; 5 ROWS FOR W21" AND W24"; 6 ROWS FOR W27"; 7 ROWS FOR W30"; AND 8 ROWS FOR W33" AND 9 ROWS FOR W36" BEAMS.
 3. THE REACTION USED IN DESIGN SHALL BE ONE-HALF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM UNLESS A LARGER REACTION IS INDICATED IN THE CONTRACT DOCUMENTS.
 4. DUE CONSIDERATION SHALL BE GIVEN TO BOLT SHEAR, BOLT BEARING ON CONNECTING MATERIAL, BEAM WEB TEAR-OUT (BLOCK SHEAR), SHEAR ON NET AREA OF THE CONNECTION ANGLES AND LOCAL BENDING STRESSES.

**TYPICAL DETAIL
FRAMED BEAM CONNECTION**

4
S8.1
3/4" = 1'-0"
Dwg.# 130027-S8001.dwg



PLAN DETAIL

7
S8.1
3/4" = 1'-0"
Dwg.# 130027-S7009.dwg



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03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

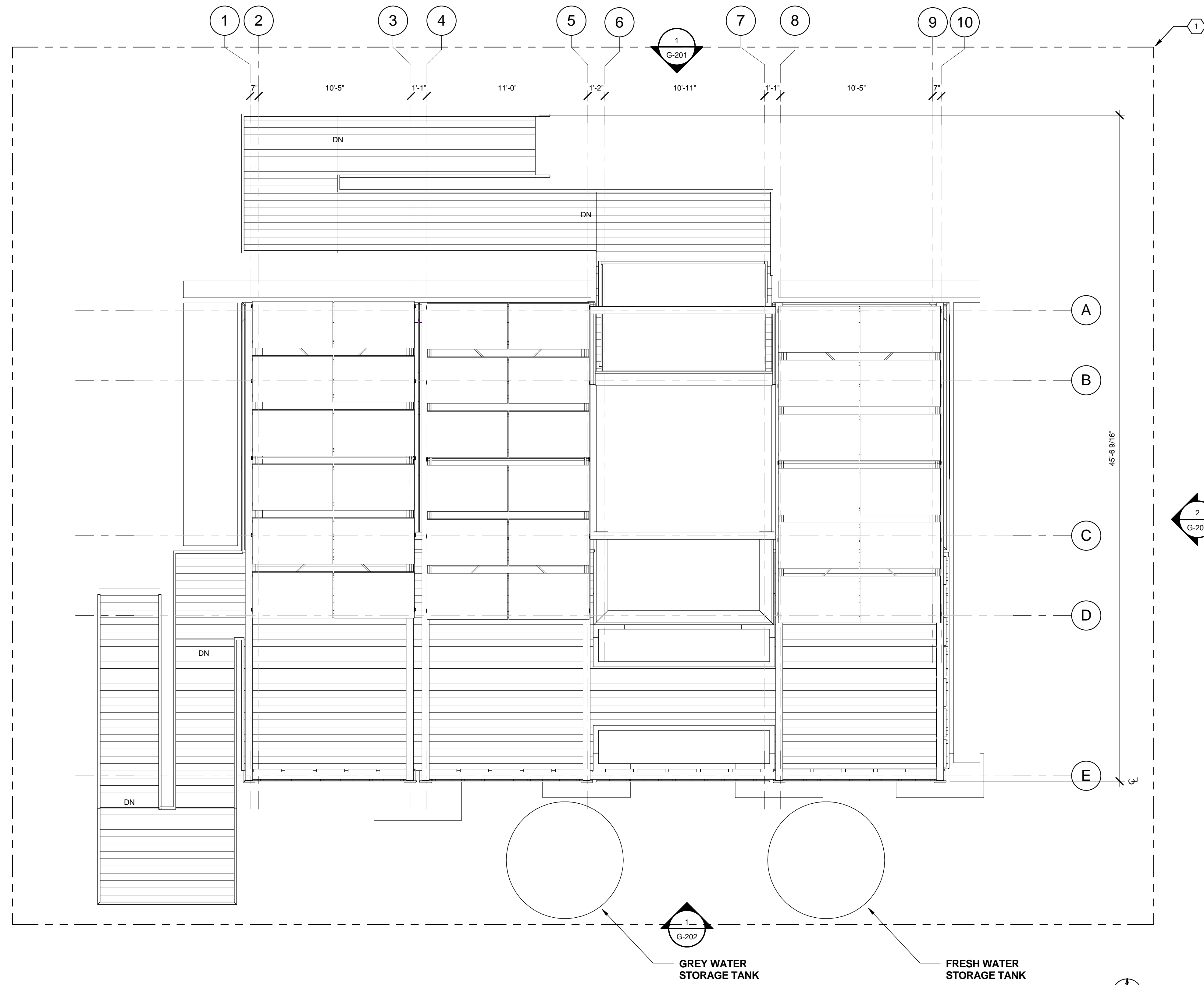
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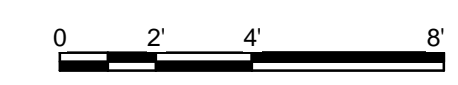
SHEET TITLE
TYPICAL DETAILS

S 8.1

DECATHLETE WAY



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



GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

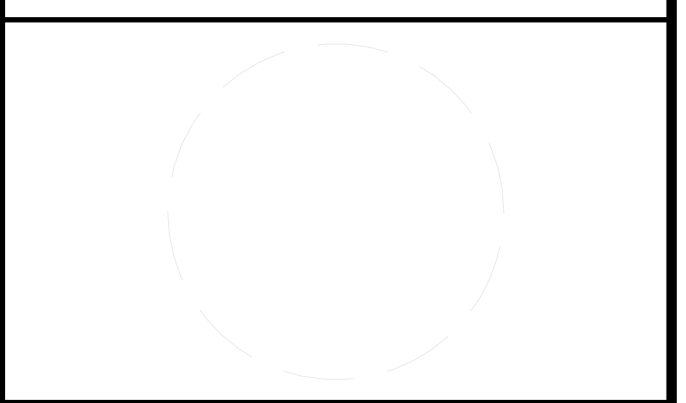
1 SOLAR ENVELOPE



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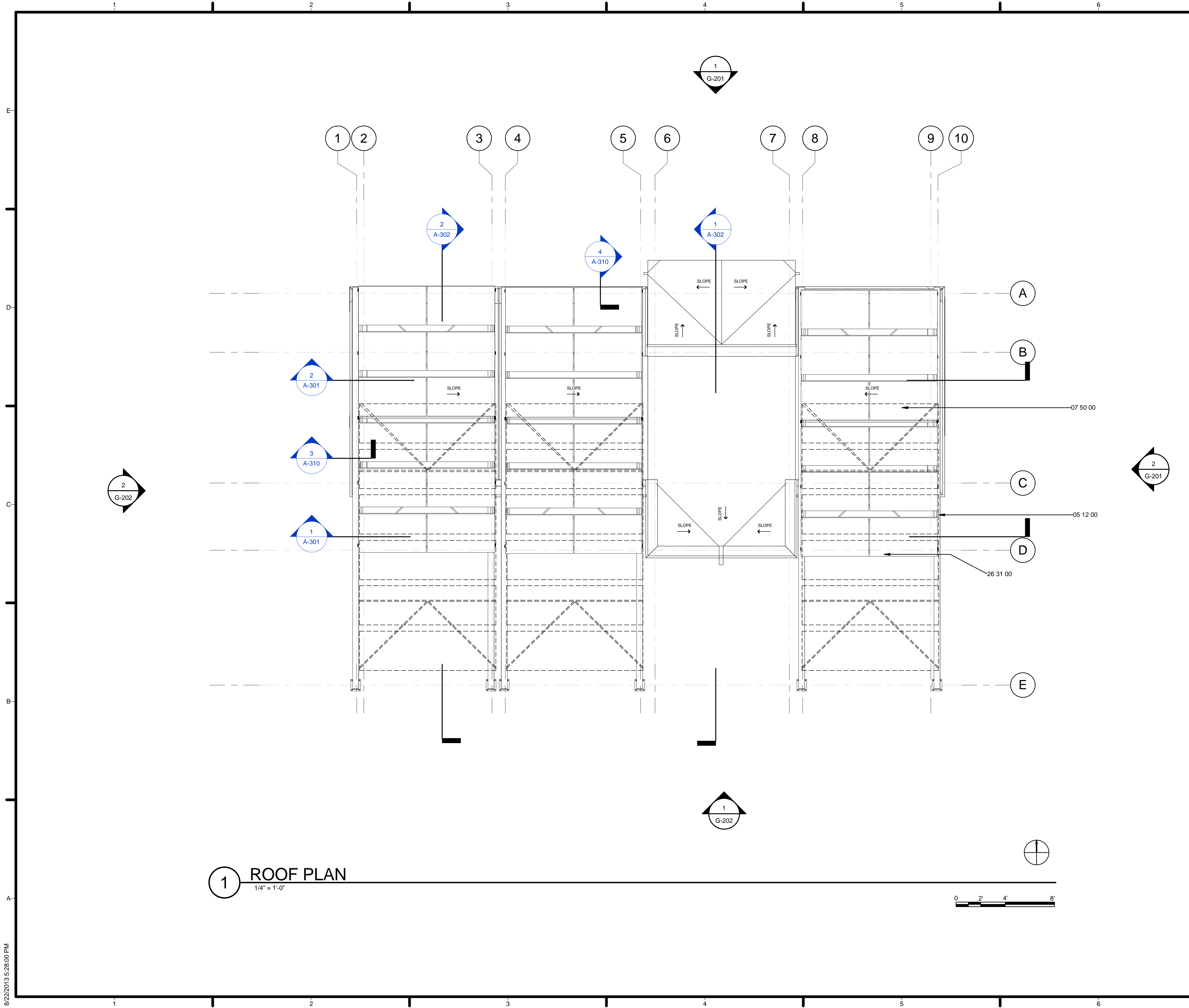
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05	08.22.13	AS-BUILT SUBMISSION

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SHEET TITLE
SITE PLAN

A-101



GENERAL SHEET NOTES

- 1. SEE STRUCTURAL PLANS AND SECTIONS FOR SLOPE OF ROOF DETAILS.
- 2. PHOTOVOLTAIC RACKS ARE MOVABLE PER USER CONTROL.

REFERENCE KEYNOTES

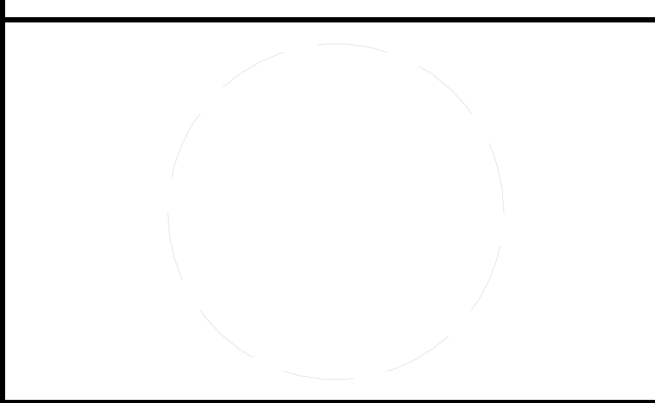
05 12 00	STRUCTURAL STEEL FRAMING
07 50 00	MEMBRANE ROOFING
26 31 00	PHOTOVOLTAIC COLLECTORS

SHEET KEYNOTES



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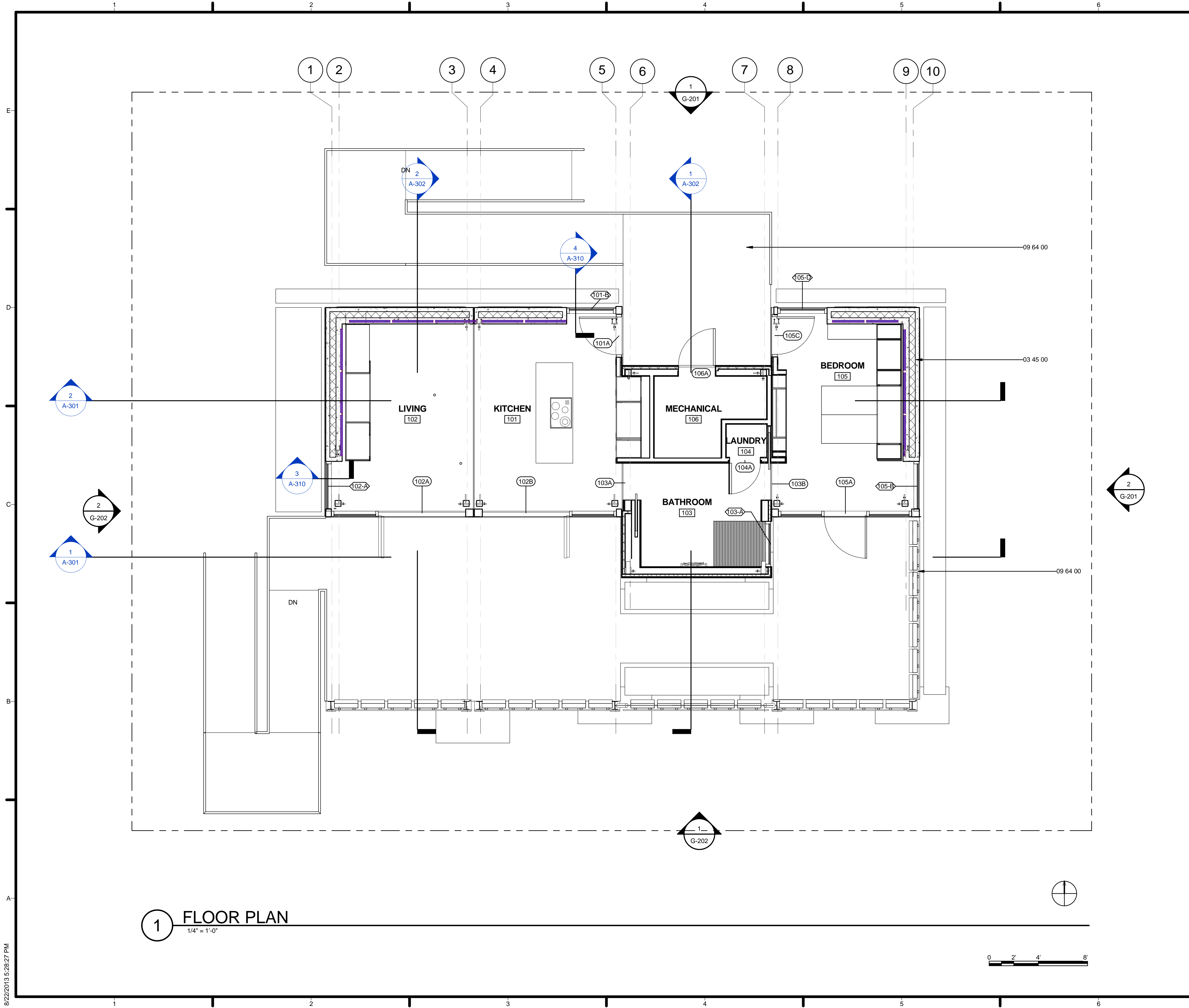
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 ROOF PLAN

A-102

8/22/2013 5:28:00 PM



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

GENERAL SHEET NOTES

REFERENCE KEYNOTES

03 45 00 PRECAST ARCHITECTURAL CONCRETE
09 64 00 WOOD FLOORING

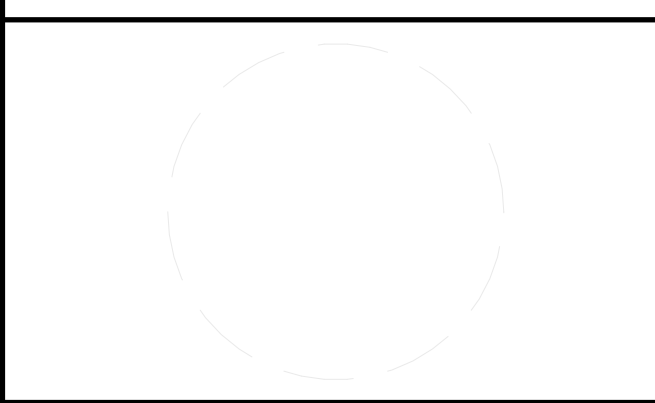
SHEET KEYNOTES



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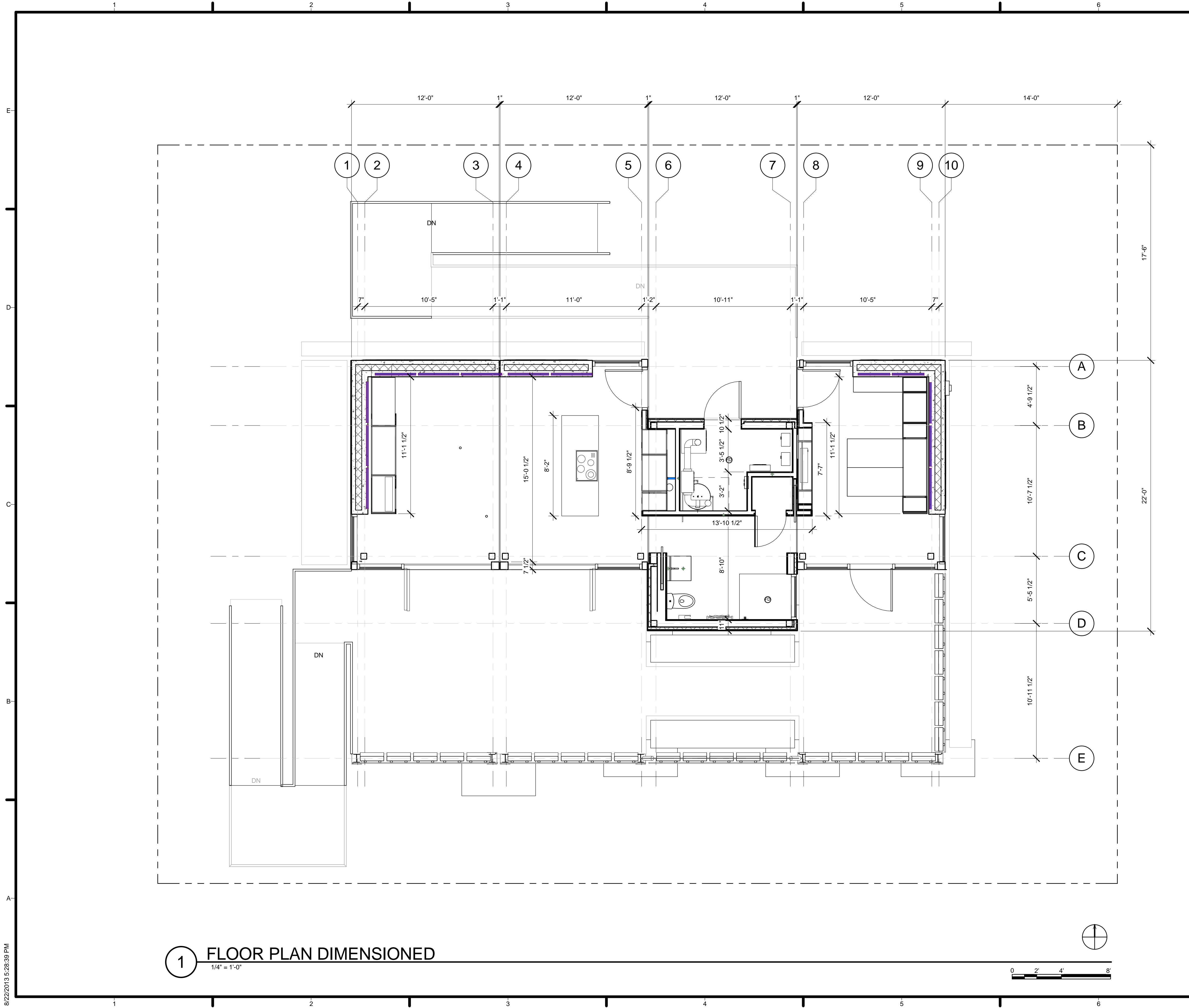
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SHEET TITLE
FIRST FLOOR PLAN

A-111

8/22/2013 5:28:27 PM



GENERAL SHEET NOTES

REFERENCE KEYNOTES

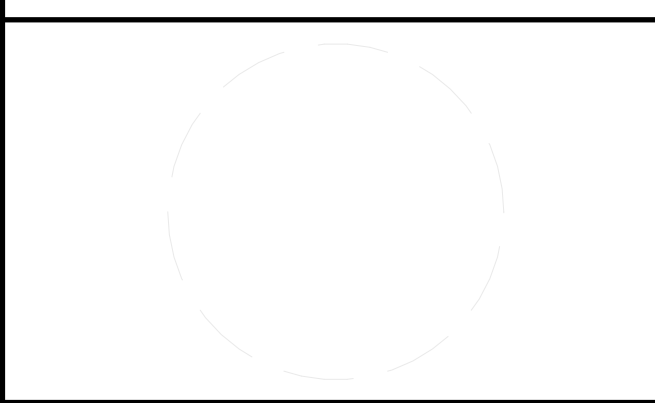
SHEET KEYNOTES



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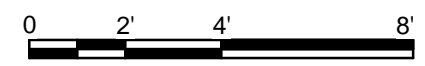
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SHEET TITLE
DIMENSIONED FLOOR PLAN

A-112

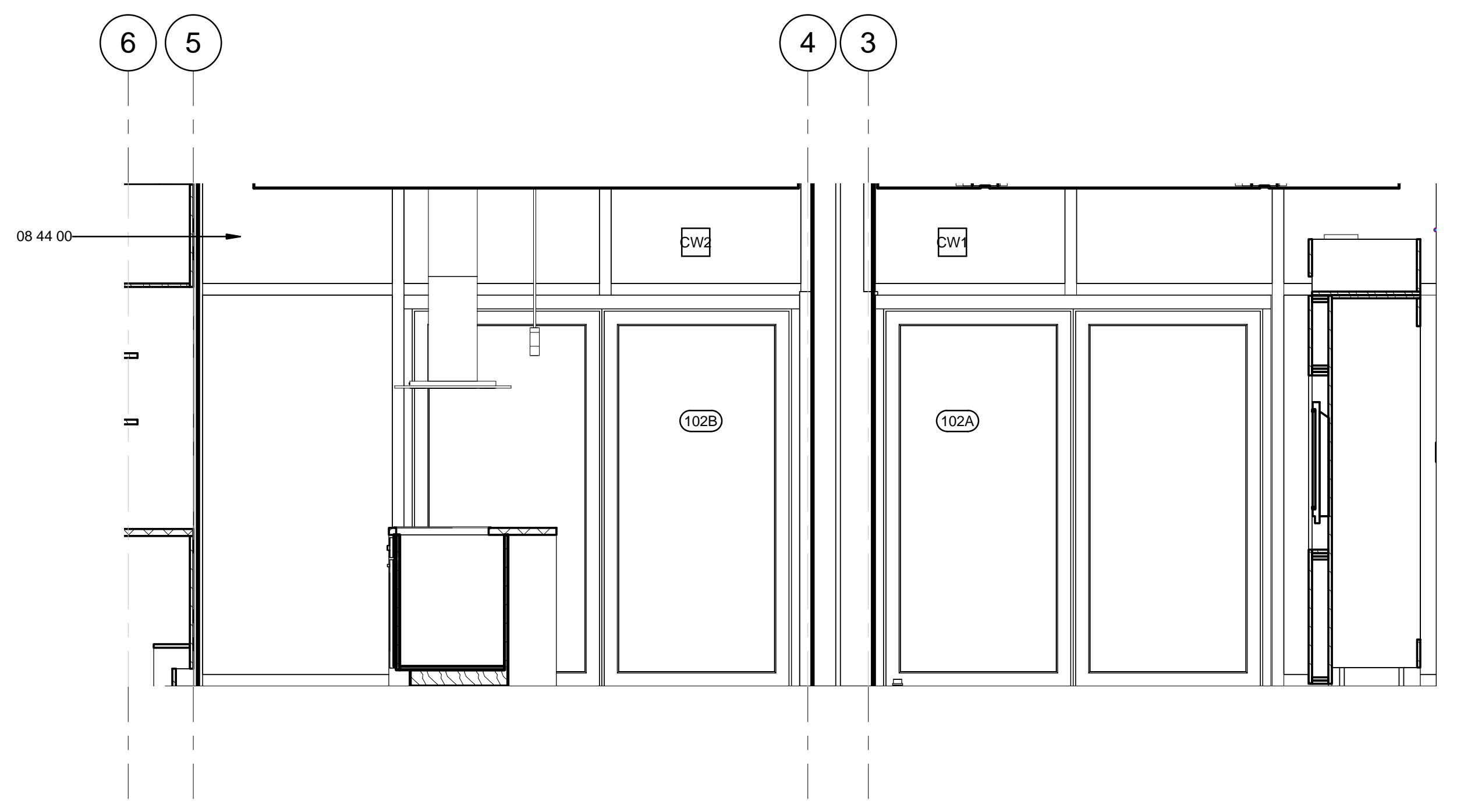
1 FLOOR PLAN DIMENSIONED
 1/4" = 1'-0"



8/22/2013 5:28:39 PM



1 POD A/B NORTH
1/2" = 1'-0"



2 POD A/B SOUTH
1/2" = 1'-0"

GENERAL SHEET NOTES

- 1. ALL HEIGHT DIMENSIONS ARE RELATIVE TO THE TOP OF THE FINISH FLOOR.
- 2. SEE FINISH SCHEDULE FOR WALL TREATMENT.

REFERENCE KEYNOTES

08 44 00 CURTAIN WALL AND GLAZED ASSEMBLIES

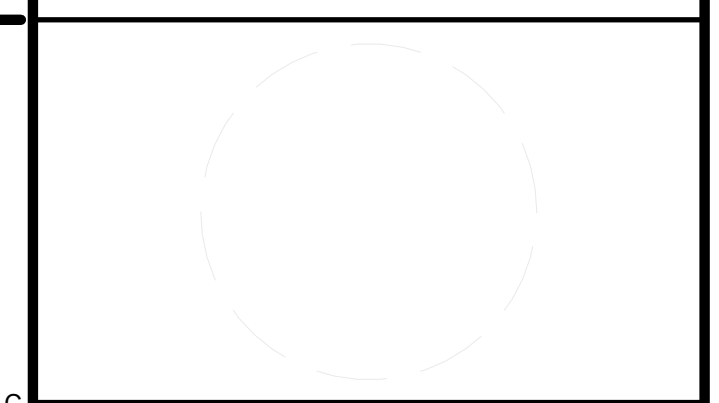
SHEET KEYNOTES



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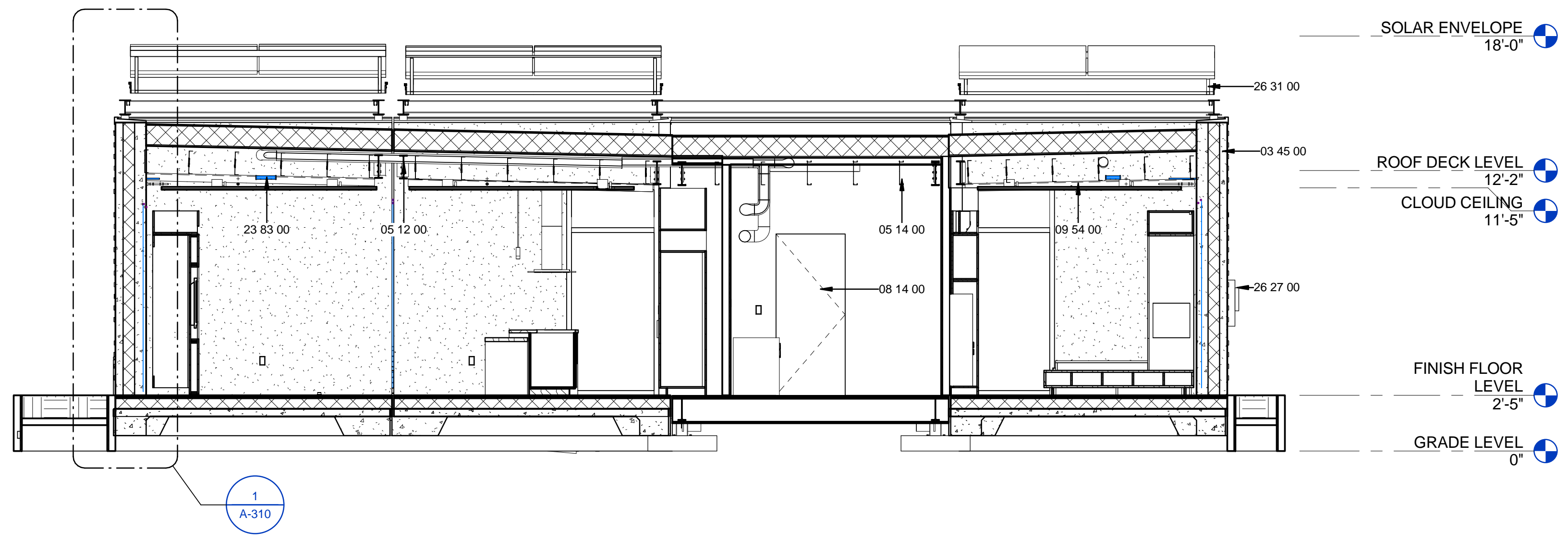
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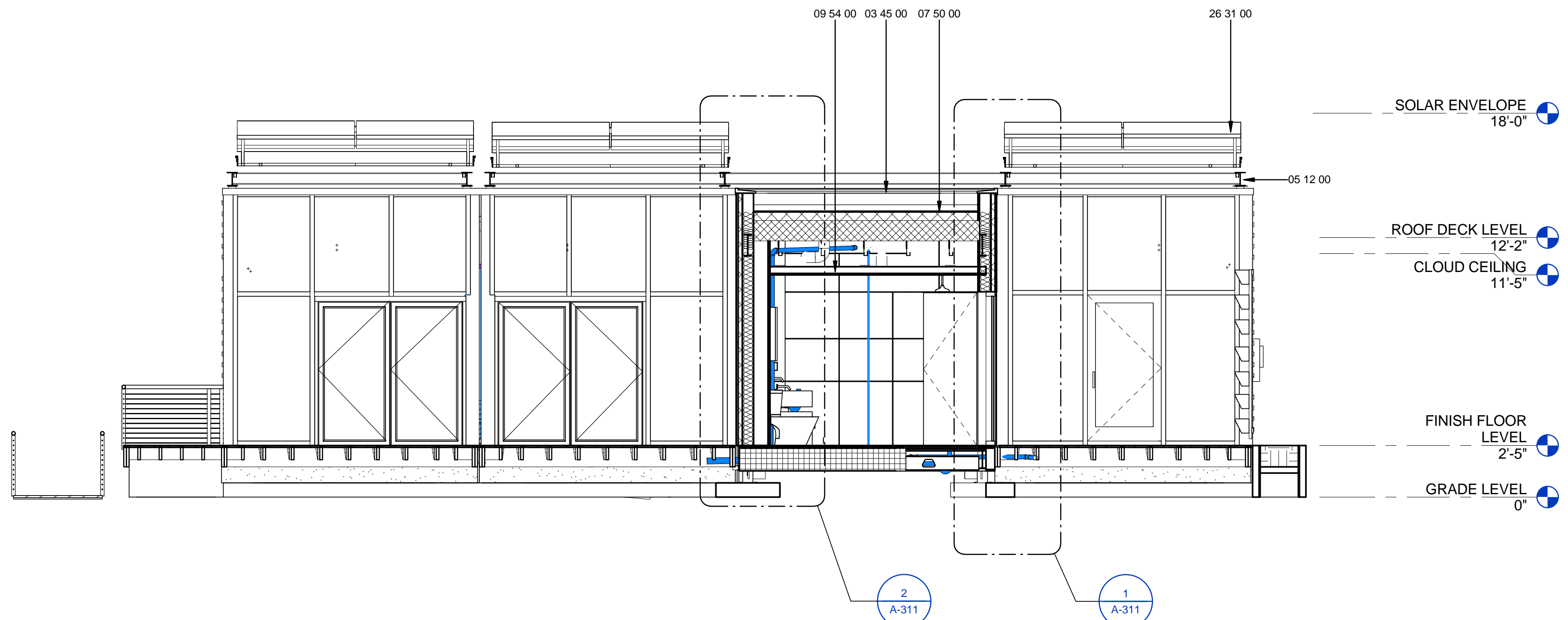
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SHEET TITLE
INTERIOR ELEVATIONS

A-213



2 BUILDING SECTION @ LIVING KITCHEN-MECH BEDROOM
1/4" = 1'-0"



1 BUILDING SECTION @ BATH
1/4" = 1'-0"

GENERAL SHEET NOTES

REFERENCE KEYNOTES

03 45 00	PRECAST ARCHITECTURAL CONCRETE
05 12 00	STRUCTURAL STEEL FRAMING
05 14 00	STRUCTURAL ALUMINUM FRAMING
07 50 00	MEMBRANE ROOFING
08 14 00	WOOD DOORS
09 54 00	SPECIALTY CEILINGS
23 83 00	RADIANT HEATING UNITS
26 27 00	LOW-VOLTAGE DISTRIBUTION EQUIPMENT
26 31 00	PHOTOVOLTAIC COLLECTORS

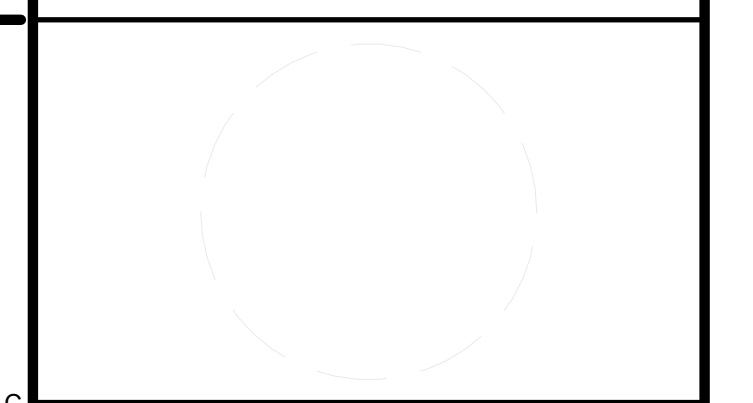
SHEET KEYNOTES



URBANEDEN
UNC CHARLOTTE

TEAM NAME: TEAM UNCC
 ADDRESS: UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE
 9201 UNIVERSITY CITY BLVD
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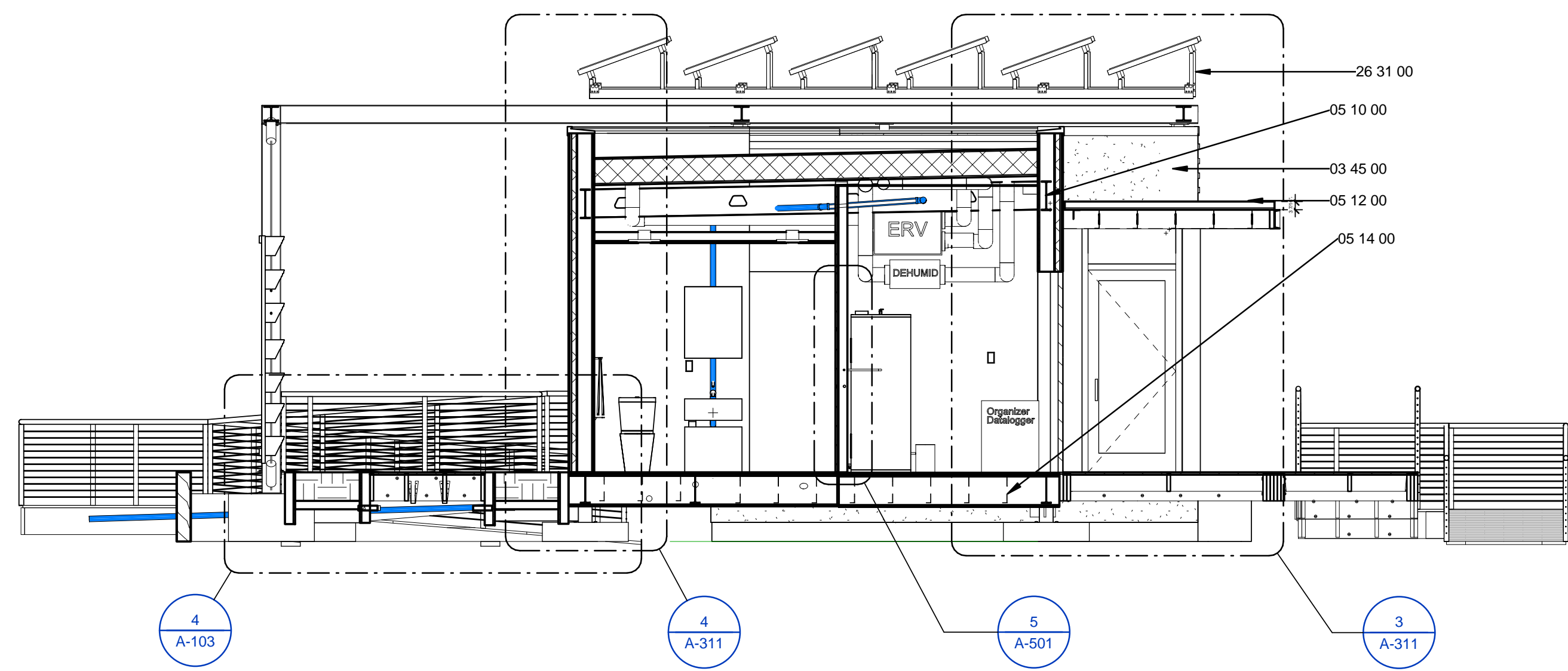
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03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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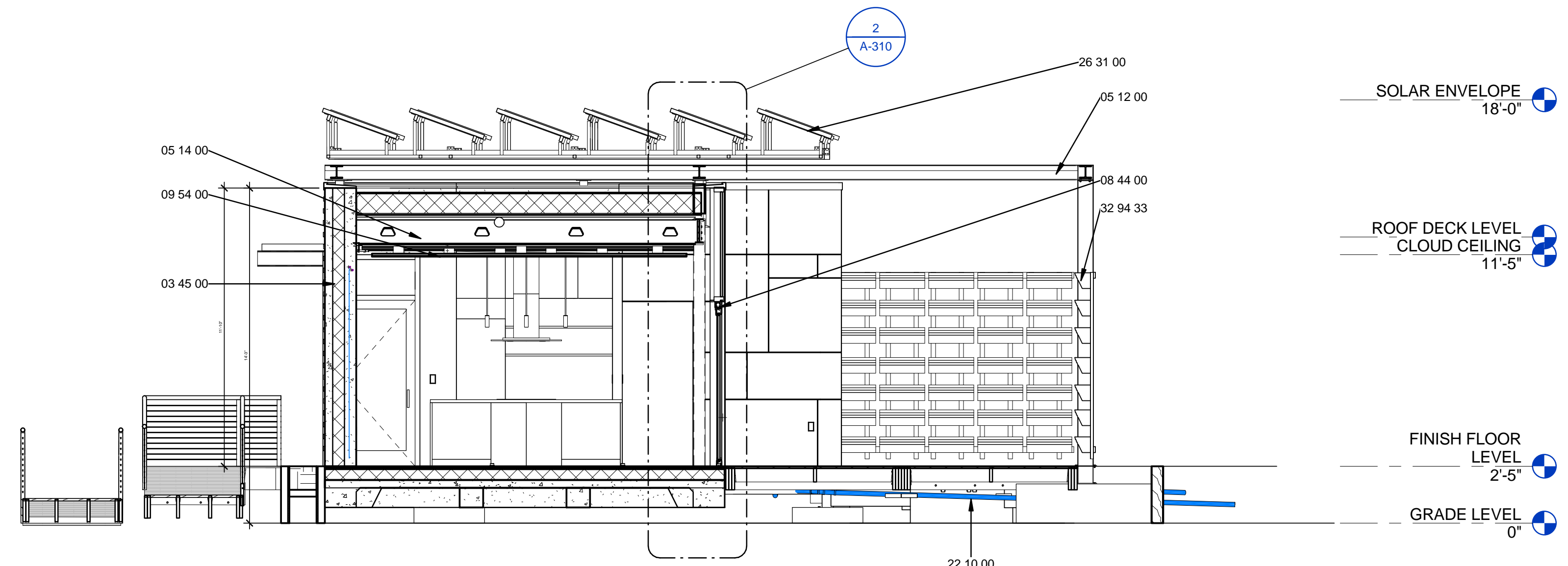
LOT NUMBER: LOT 112
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SHEET TITLE
BUILDING SECTIONS

A-301



1 BUILDING SECTION @ BATH-MECH
 1/4" = 1'-0" 0 2' 4' 8'



2 BUILDING SECTION @ LIVING
 1/4" = 1'-0" 0 2' 4' 8'

GENERAL SHEET NOTES

REFERENCE KEYNOTES

03 45 00	PRECAST ARCHITECTURAL CONCRETE
05 10 00	STRUCTURAL METAL FRAMING
05 12 00	STRUCTURAL STEEL FRAMING
05 14 00	STRUCTURAL ALUMINUM FRAMING
08 44 00	CURTAIN WALL AND GLAZED ASSEMBLIES
09 54 00	SPECIALTY CEILING
22 10 00	PLUMBING PIPING AND PUMPS
26 31 00	PHOTOVOLTAIC COLLECTORS
32 94 33	PLANTERS

SHEET KEYNOTES



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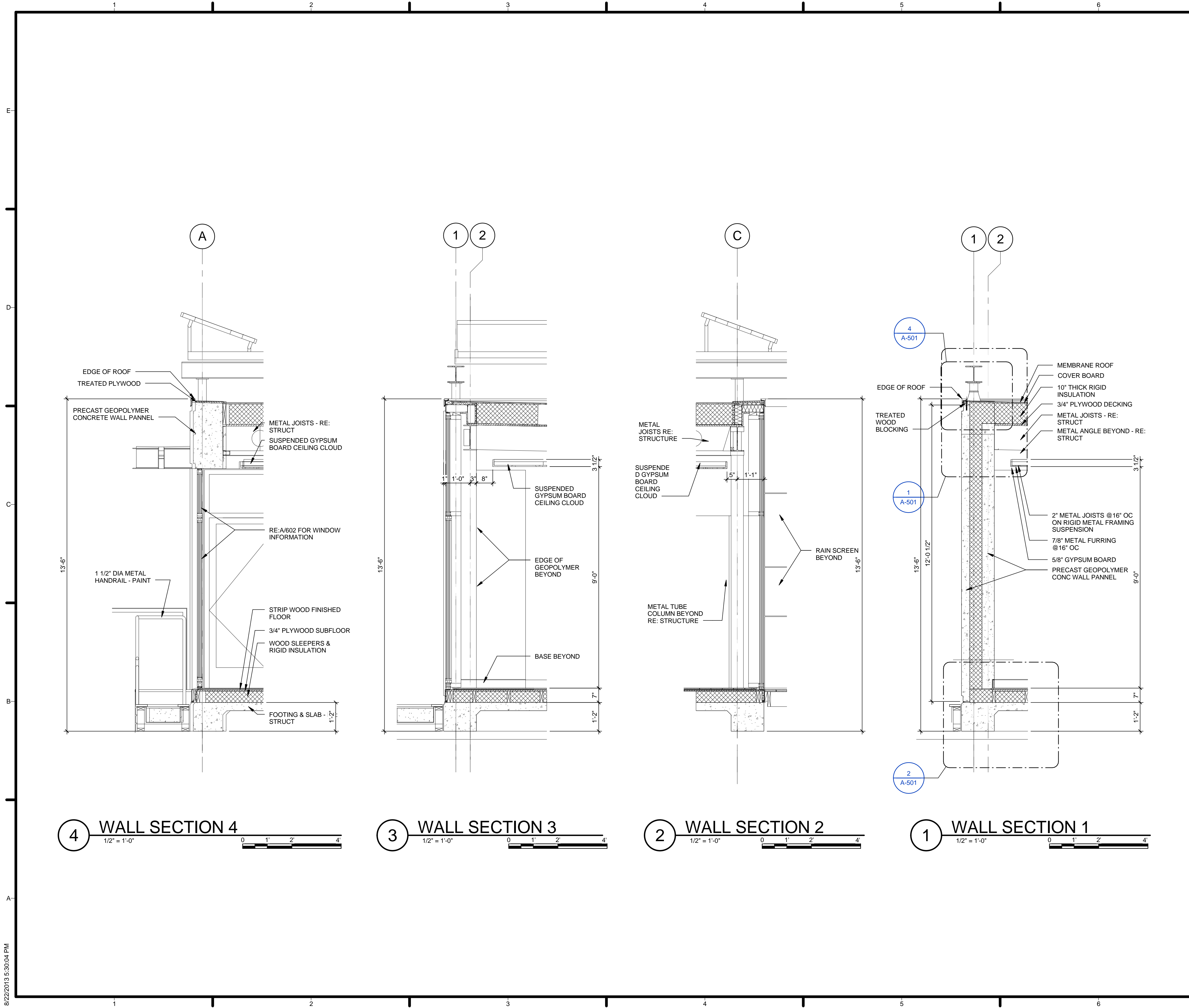
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SHEET TITLE
BUILDING SECTIONS

A-302



GENERAL SHEET NOTES

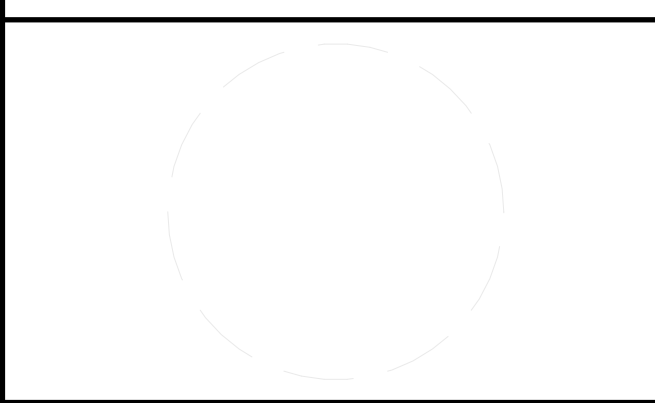
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SHEET KEYNOTES

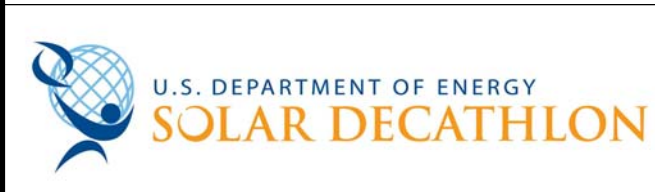


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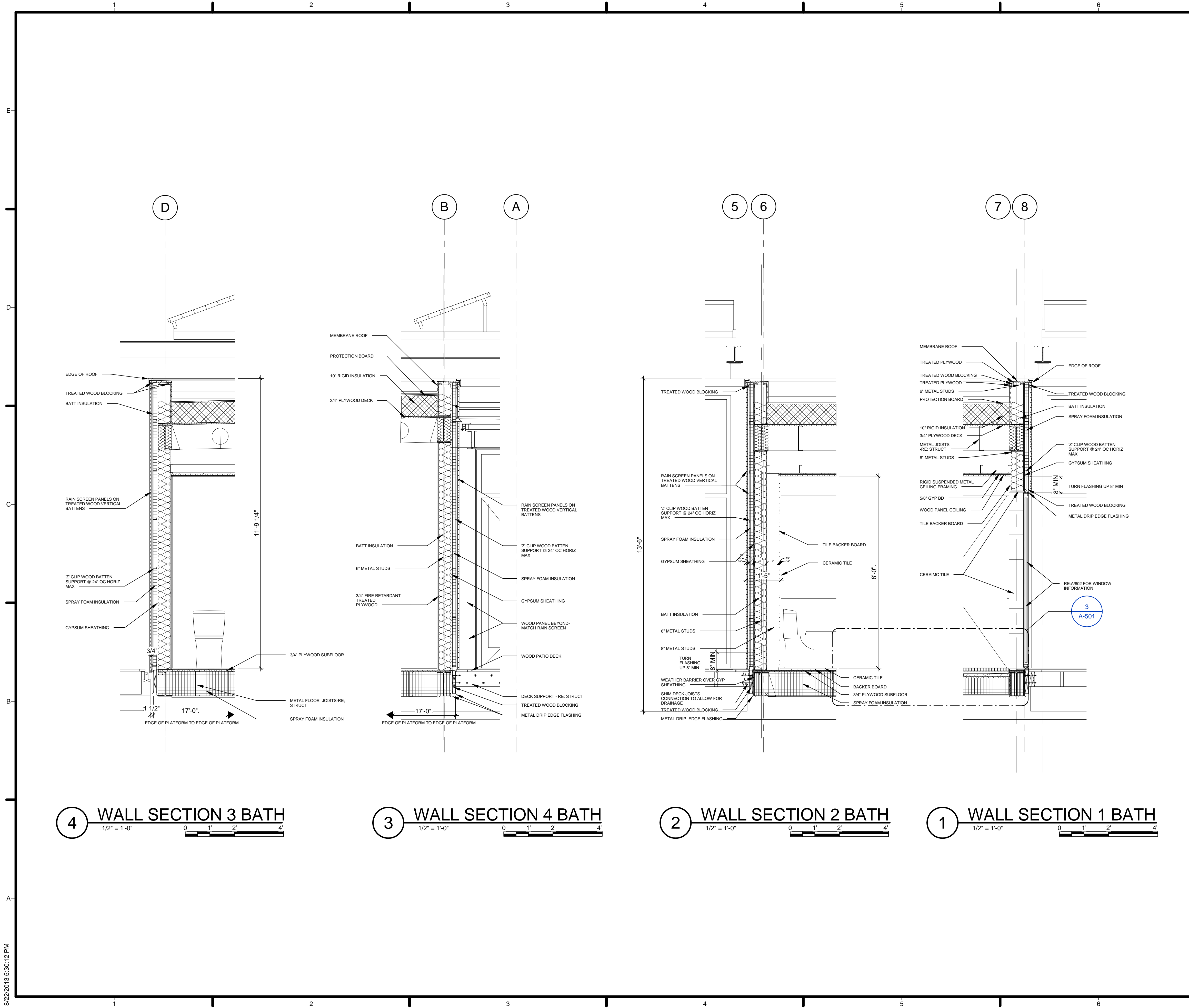
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SHEET TITLE
 WALL SECTIONS

A-310



GENERAL SHEET NOTES

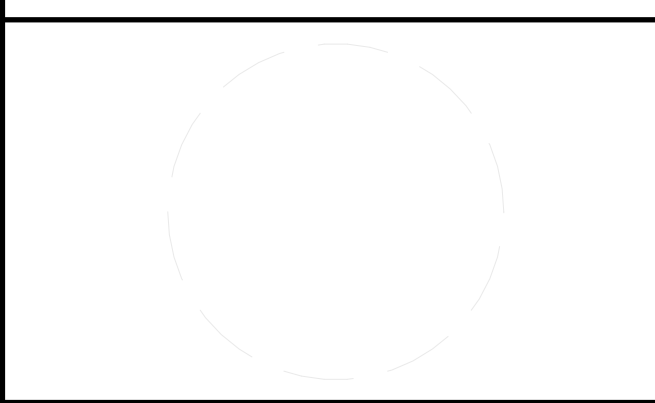
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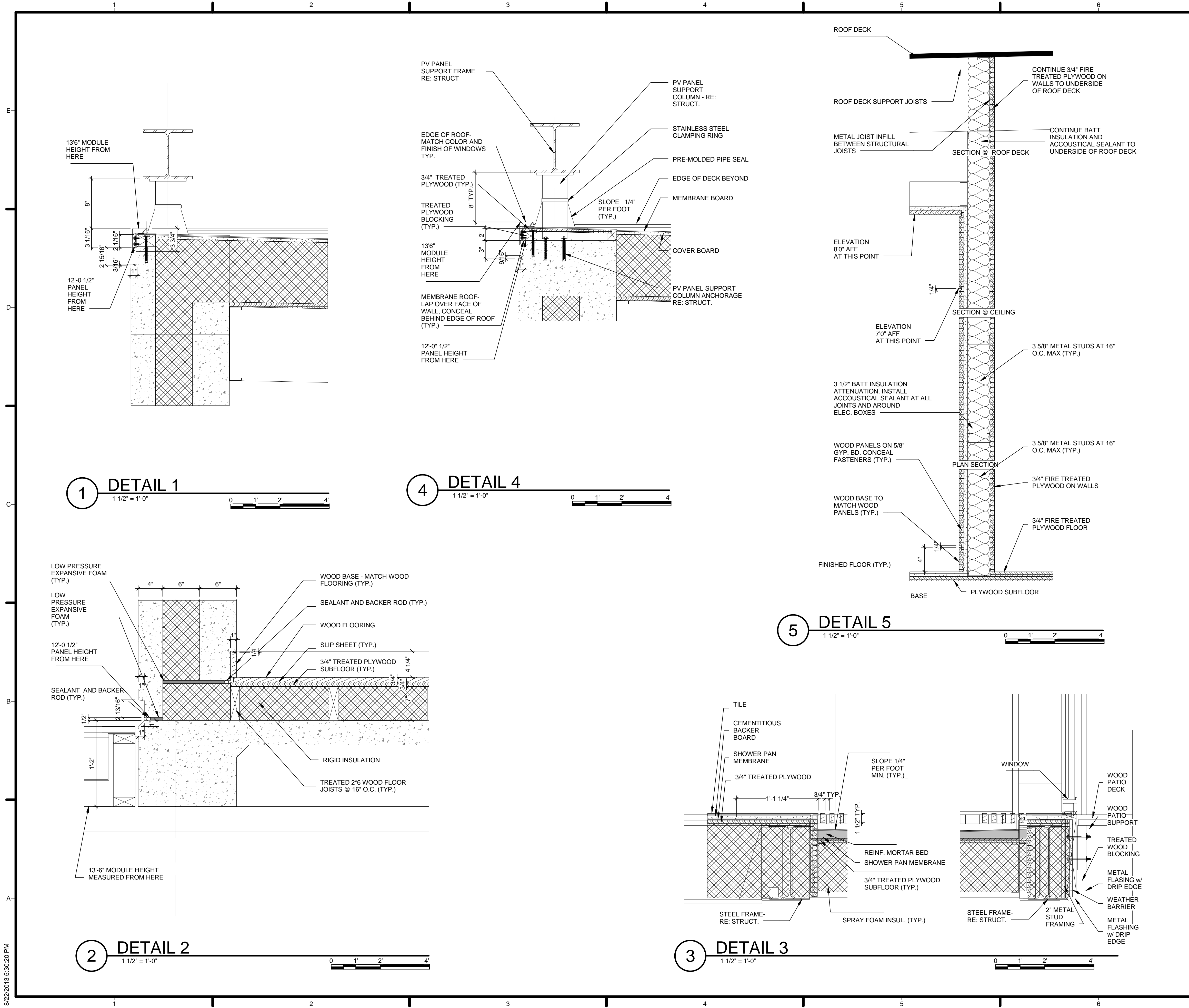
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 COPYRIGHT: NONE; PROJECT IS PUBLIC DOMAIN

SHEET TITLE
 WALL SECTIONS

A-311



GENERAL SHEET NOTES

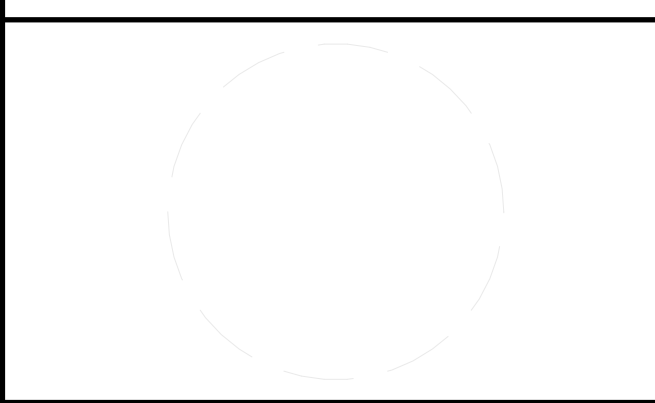
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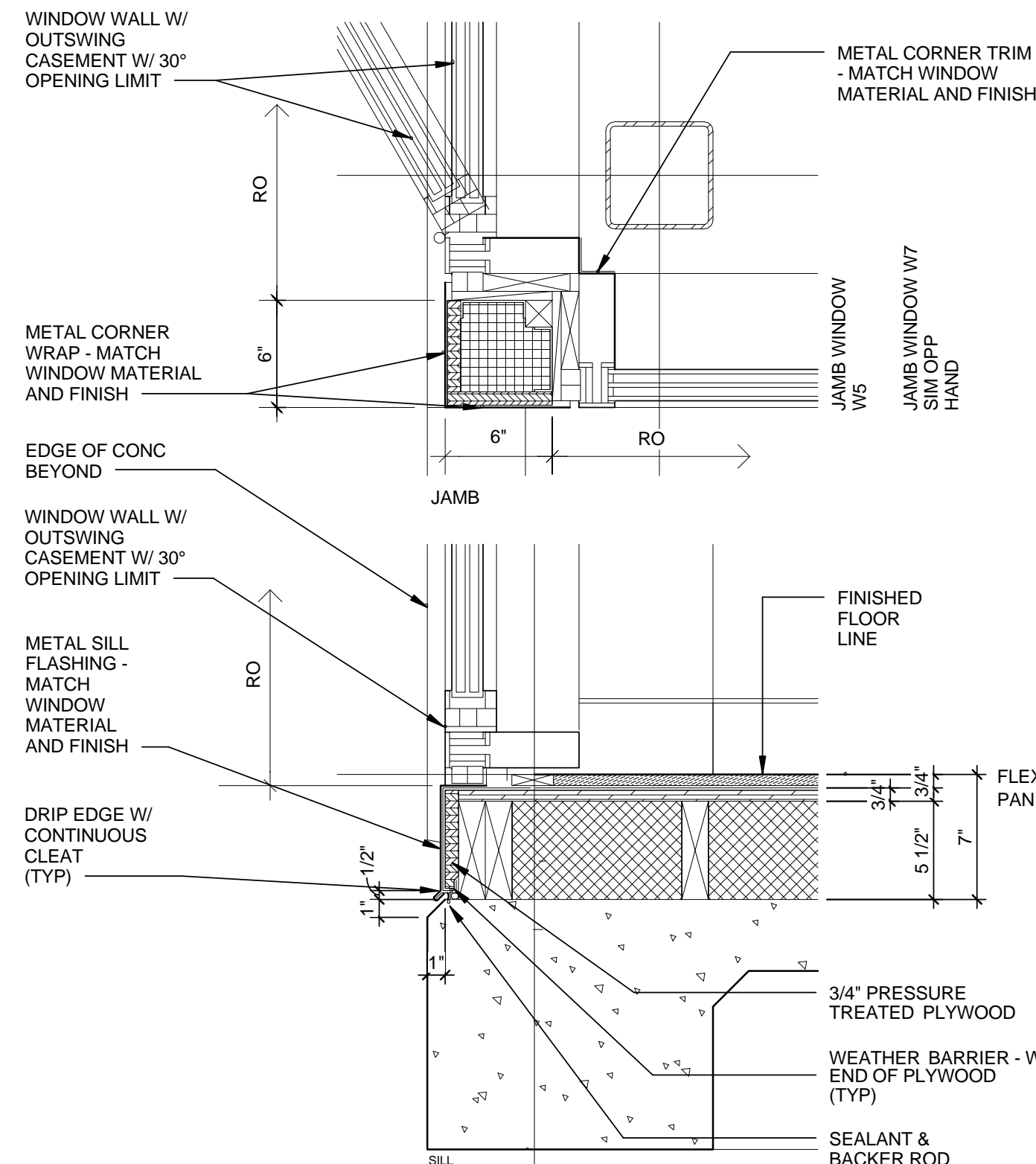
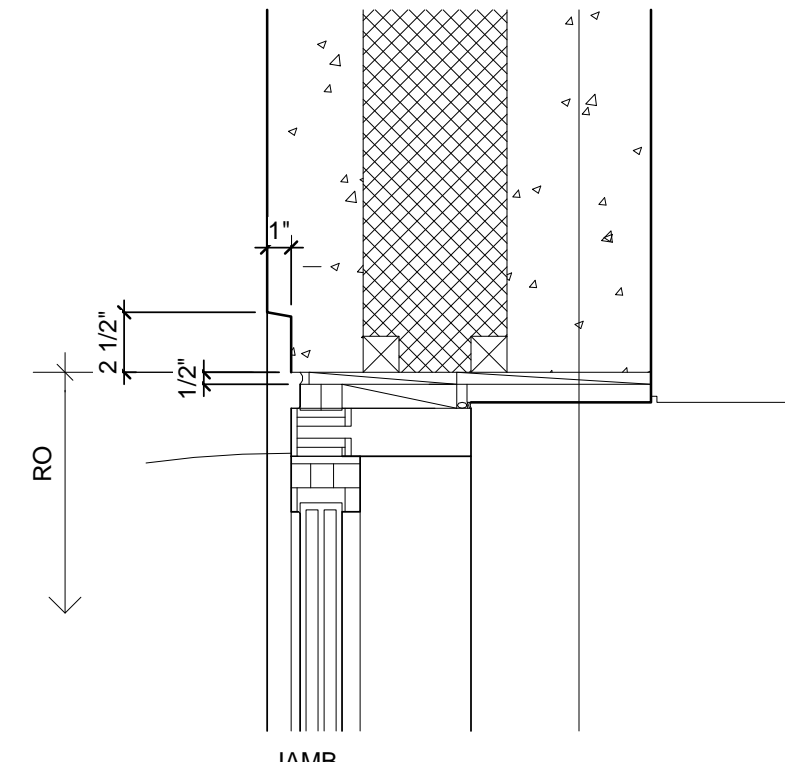
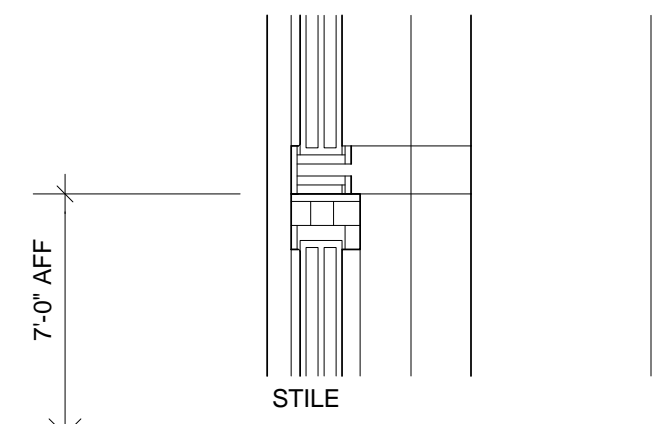
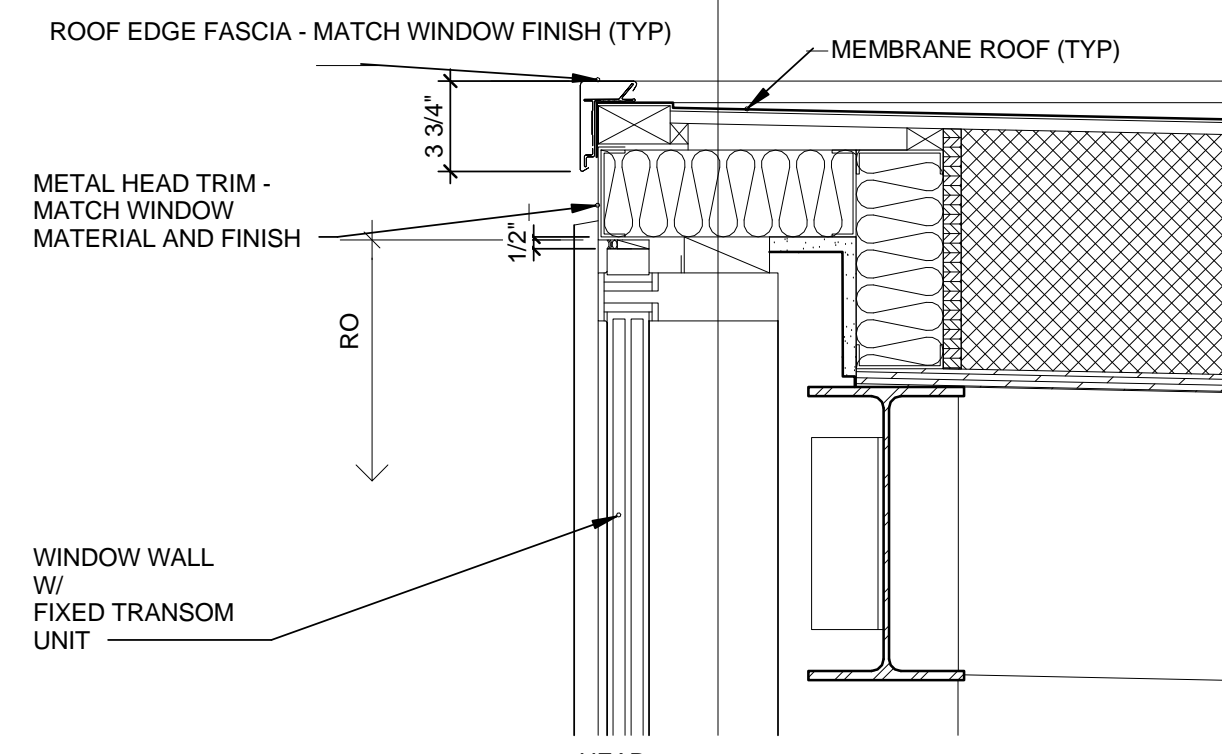
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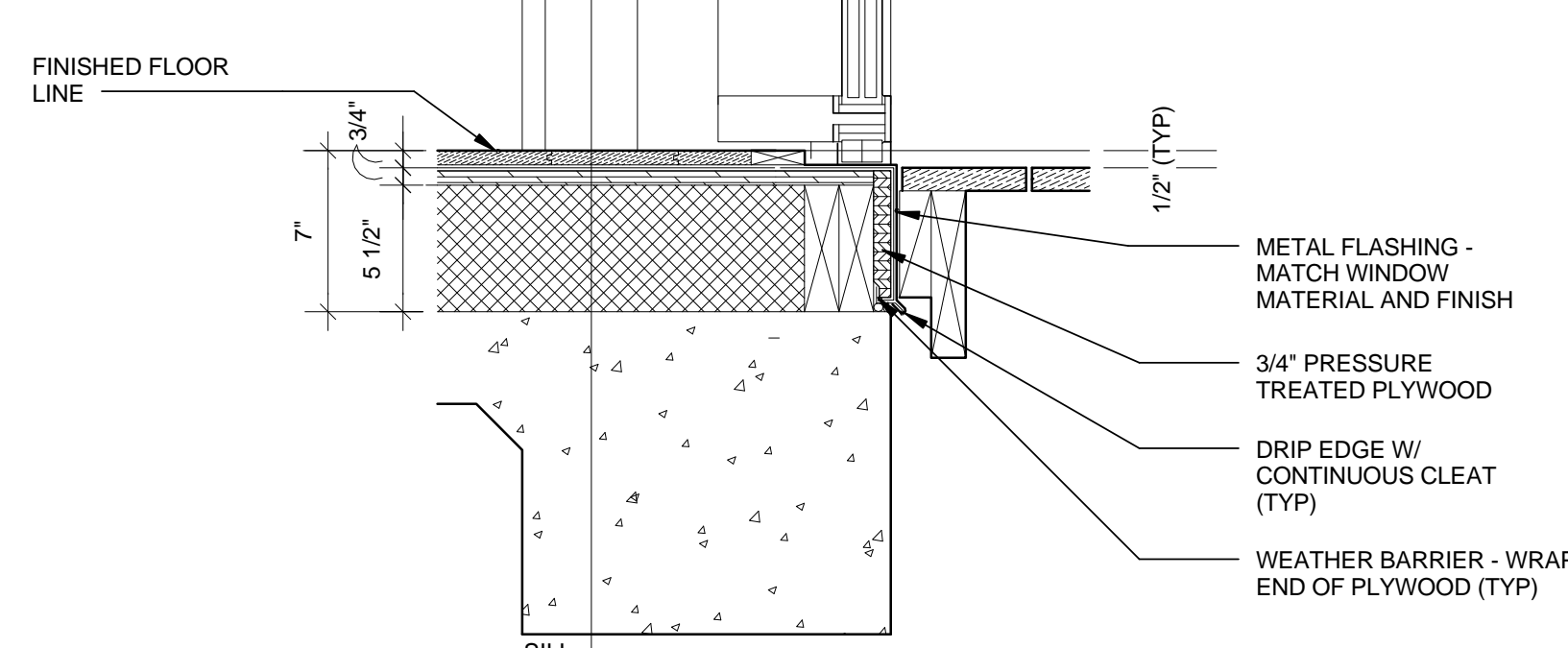
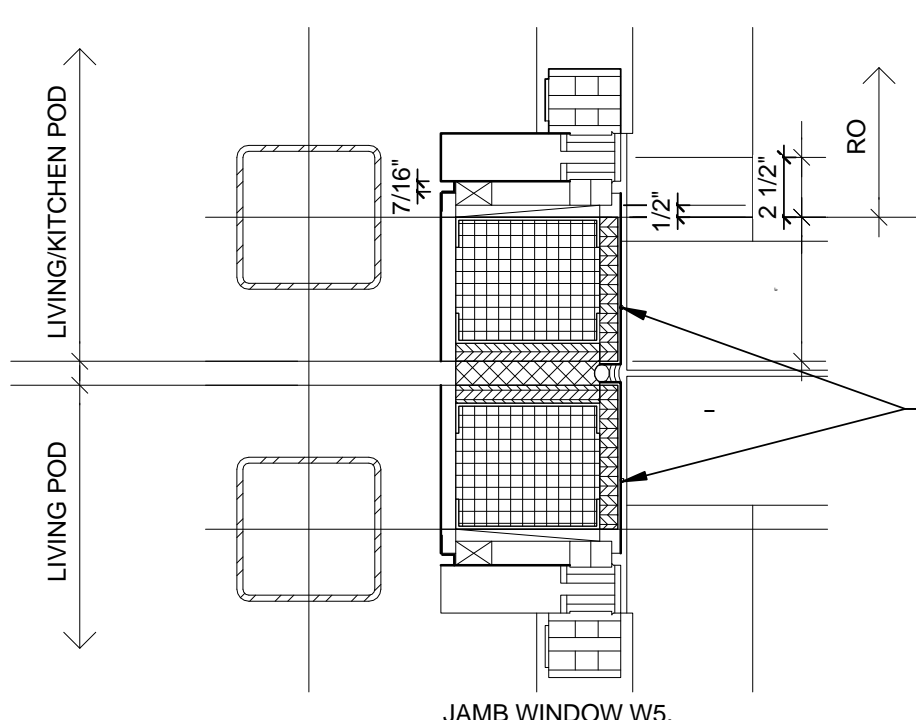
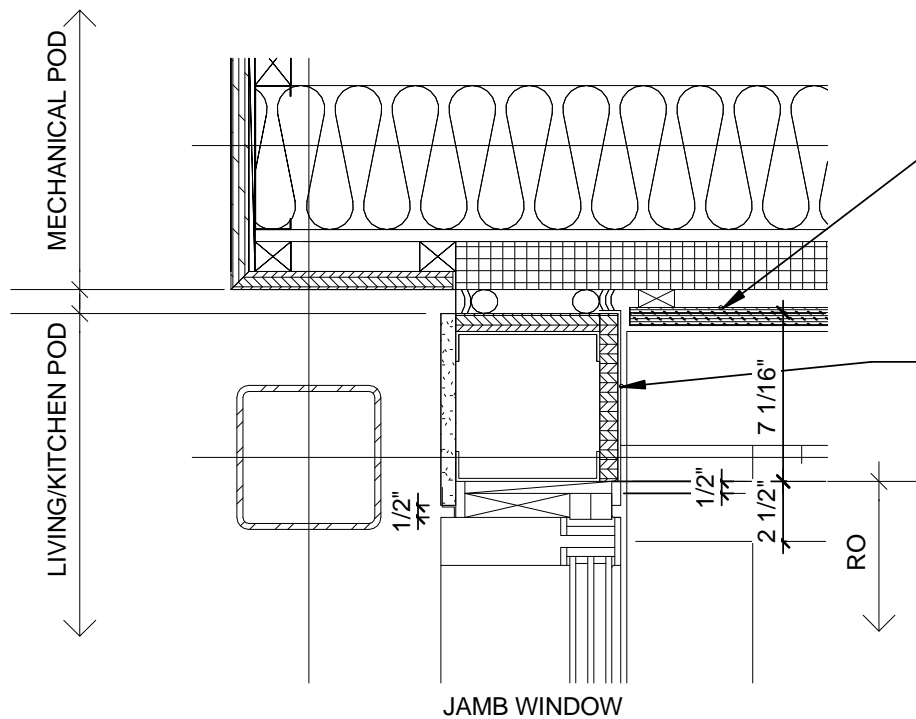
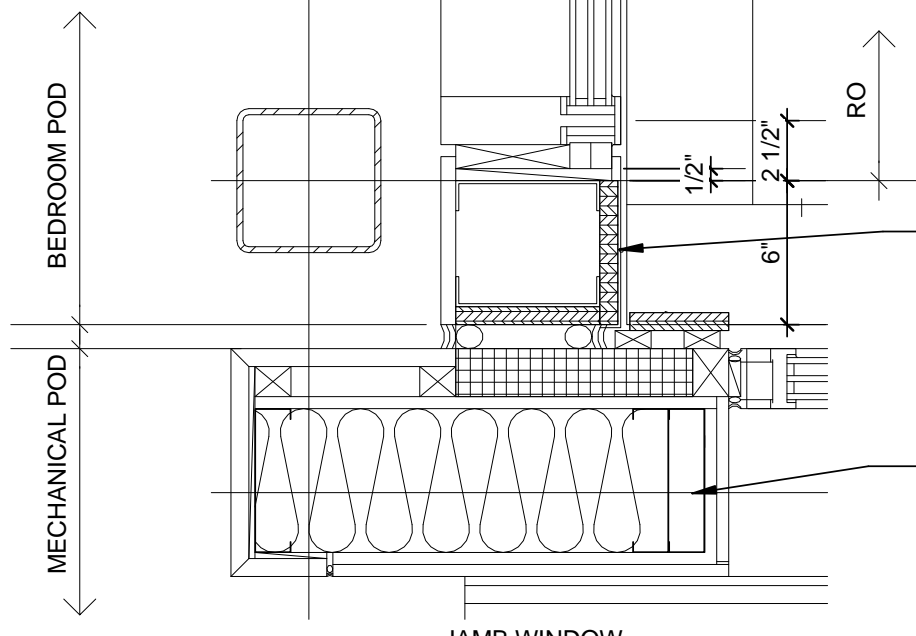
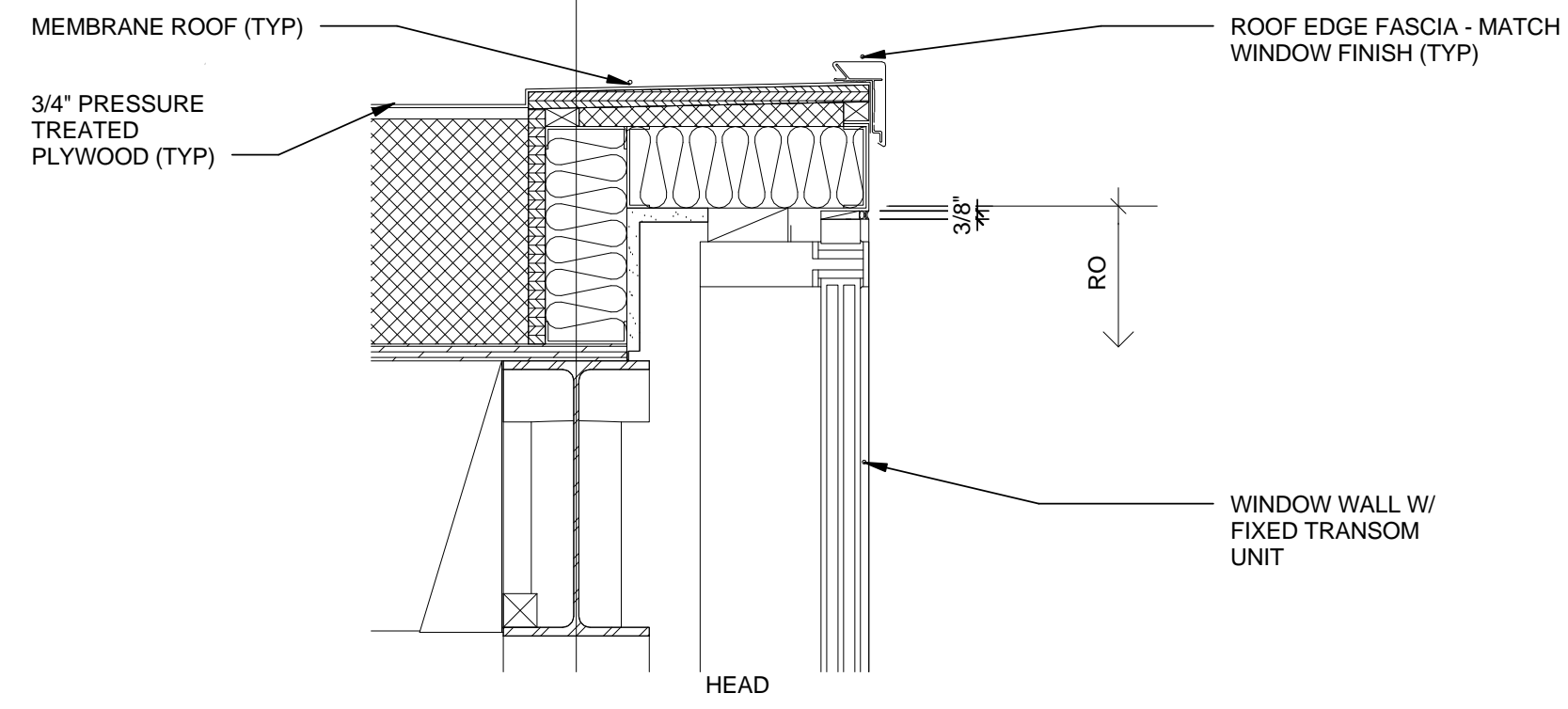
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SHEET TITLE
 DETAILS

A-501



1 W4
1 1/2" = 1'-0"



2 W5, W6, W7
1 1/2" = 1'-0"



GENERAL SHEET NOTES

1. SEE A-601 FOR WINDOW & DOOR SCHEDULE

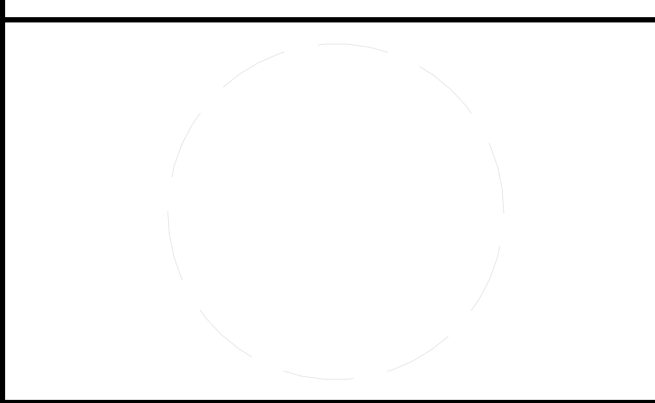
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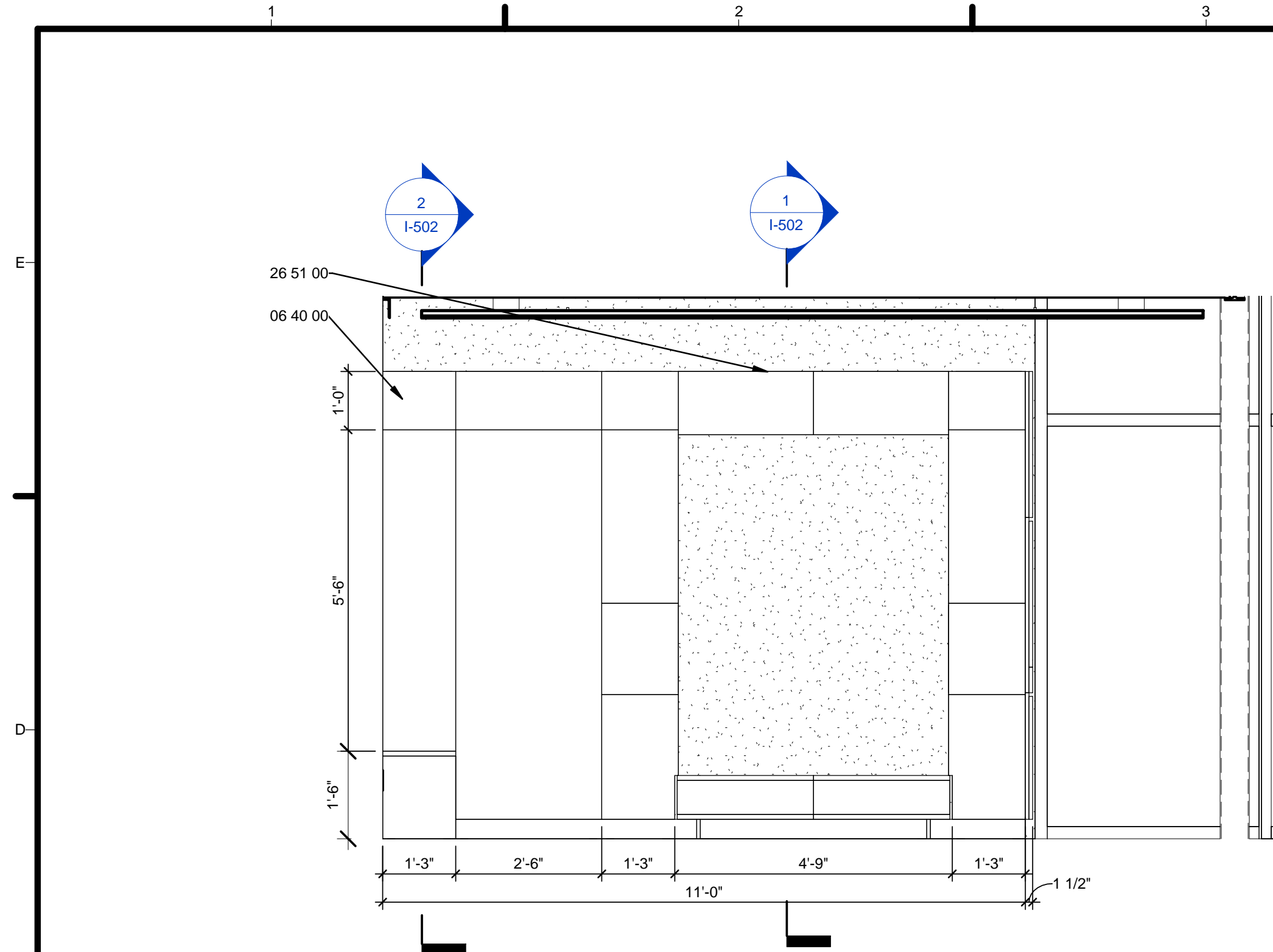
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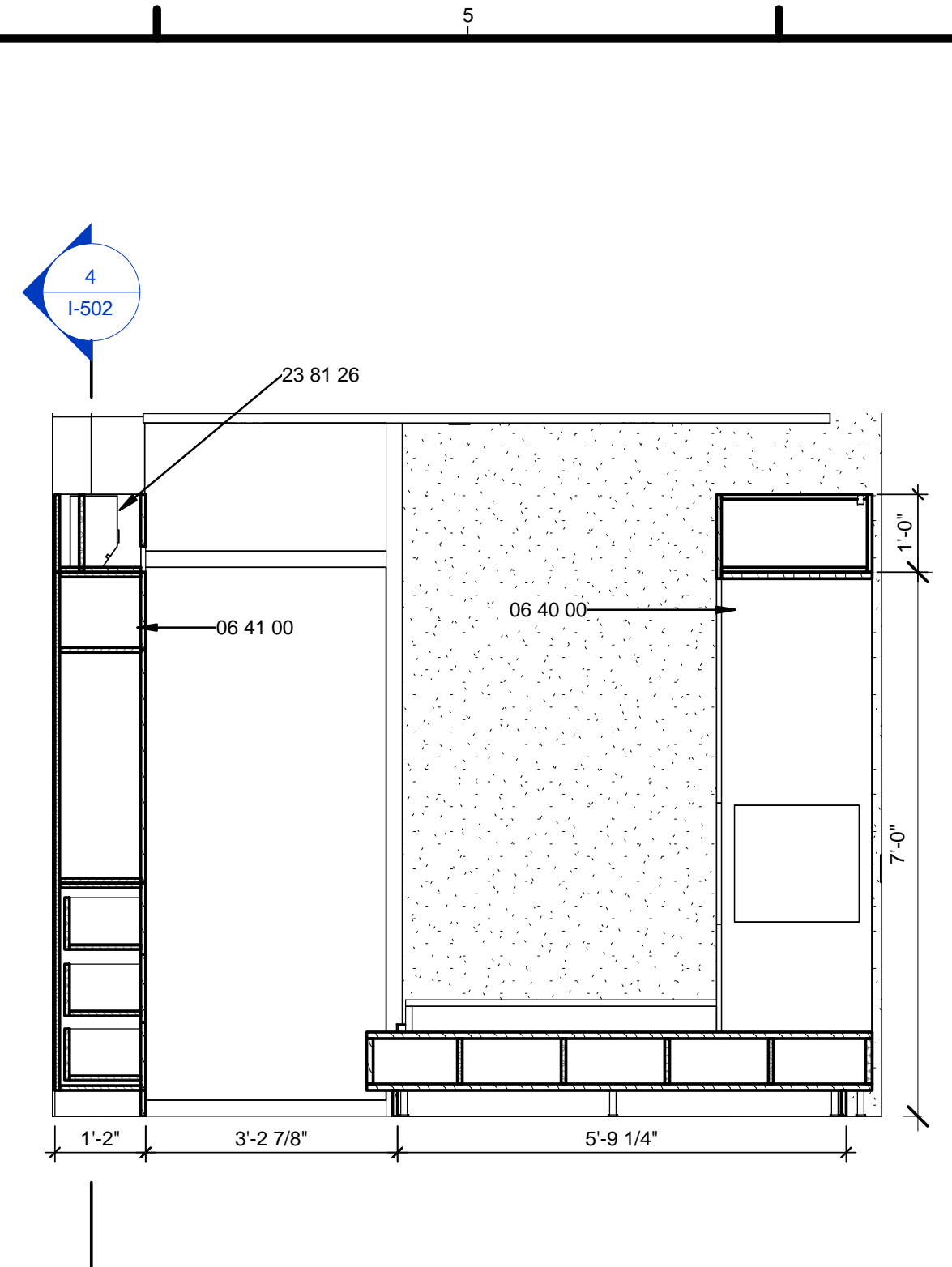
SHEET TITLE
 WINDOW DETAILS

A-532

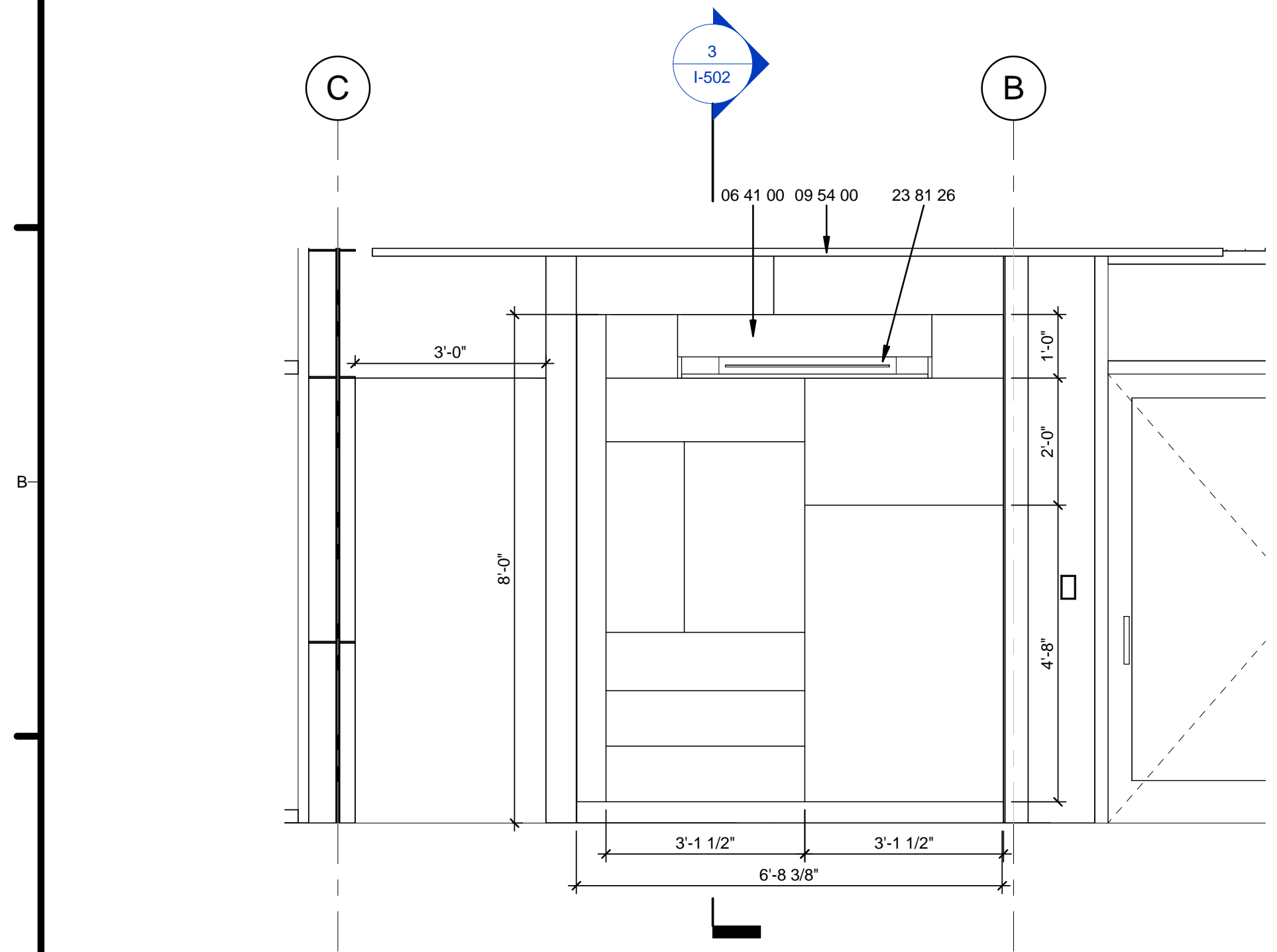
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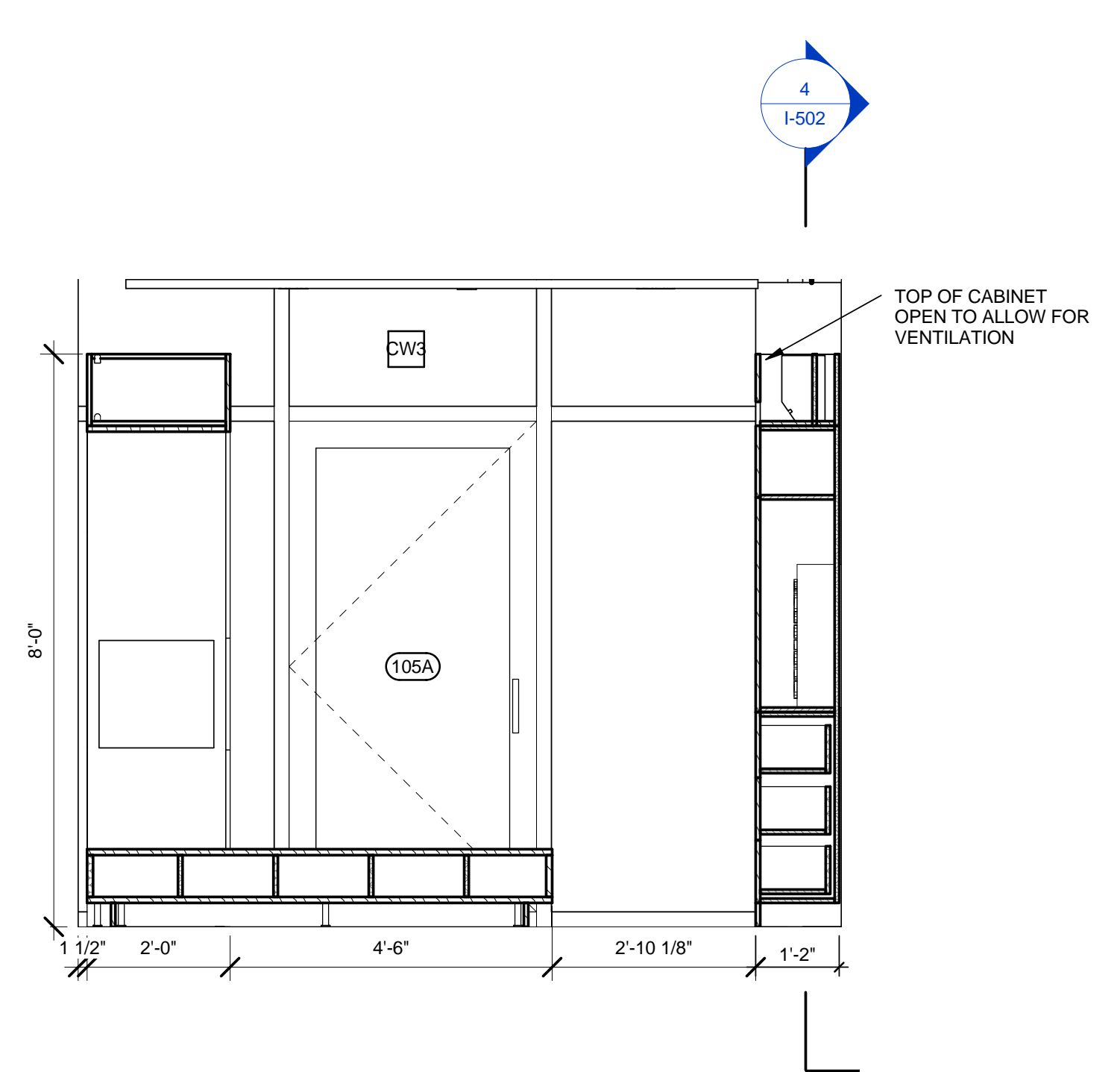
2 BEDROOM EAST
1/2" = 1'-0"



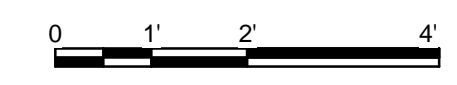
1 BEDROOM NORTH
1/2" = 1'-0"



4 BEDROOM WEST
1/2" = 1'-0"



3 BEDROOM SOUTH
1/2" = 1'-0"



GENERAL SHEET NOTES

1. ALL HEIGHT DIMENSIONS ARE RELATIVE TO THE TO POF THE FINISH FLOOR.
2. SEE SCHEDULE FOR WALL FINISHES
3. MINI SPLIT TO BE MOUNTED INSIDE OF CABINET. TOP OF CABINET TO BE OPEN TO ALLOW FOR INCREASED AIR FLOW.

REFERENCE KEYNOTES

06 40 00	ARCHITECTURAL WOODWORK
06 41 00	ARCHITECTURAL WOOD CASEWORK
09 54 00	SPECIALTY CEILINGS
23 81 26	SPLIT SYSTEM AIR CONDITIONERS
26 51 00	INTERIOR LIGHTING

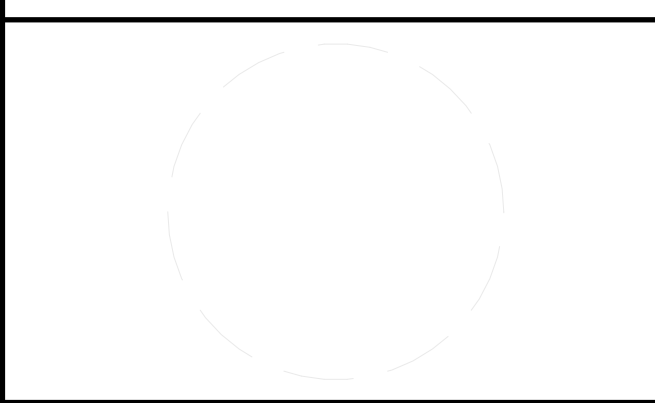
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05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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LOT NUMBER: LOT 112
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SHEET TITLE
INTERIOR DESIGN ELEVATIONS

I-203

1. PROVIDE A COMPLETE, HYDRAULICALLY CALCULATED, AUTOMATIC SPRINKLER SYSTEM, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO DELIVER ALL SYSTEMS COMPLETE, IN PERFECT WORKING ORDER AND IN FULL ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13, SCO, THE OWNERS INSURANCE UNDERWRITER AND LOCAL AUTHORITIES.

2. OBTAIN CURRENT WATER FLOW TEST INFORMATION BEFORE STARTING ANY SPRINKLER SHOP DRAWINGS. THE FLOW TEST INCLUDED WITHIN THESE DOCUMENTS ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR MUST VERIFY THE WATER SUPPLY BY TEST, USING TWO HYDRANTS AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION.

3. OBTAIN A COMPLETE AND CURRENT SET OF THE PROJECT CONSTRUCTION DOCUMENTS INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING DRAWINGS, EXISTING CONDITIONS AND COORDINATE SPRINKLER SHOP DRAWINGS WITH ALL TRADES, NEW AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

4. PROVIDE SHOP DRAWINGS INCLUDING BUT NOT LIMITED TO ALL ITEMS WHICH APPLY AS OUTLINED IN NFPA-13 SECTION "WORKING PLANS" AND IN NFPA 13 SECTION "HYDRAULIC CALCULATIONS".

5. THE SPRINKLER CONTRACTOR SHALL DETERMINE AND NOTE ON THE SHOP DRAWINGS; THE HAZARD CLASSIFICATION USED TO DETERMINE SPRINKLER SPACING AND DESIGN DENSITIES.

6. PRIOR TO THE START OF CONSTRUCTION, THE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND SUBMITTING TO ALL AUTHORITIES HAVING JURISDICTION AND THE DESIGN OF AN ENGINEER/ARCHITECT COMPLETE DESIGN/SHOP DRAWINGS AND HYDRAULIC CALCULATIONS BOTH BEARING A CURRENT NICET LEVEL 3 CERTIFICATION NUMBER AND SIGNATURE.

7. OBTAIN A PERMIT FROM THE FIRE PREVENTION BUREAU PRIOR TO THE INSTALLATION OF THE FIRE SUPPRESSION SYSTEM AS REQUIRED.

8. PROVIDE ALL NECESSARY OFFSETS, RISES OR DROPS IN THE PIPING AND AUXILIARY DRAINS AS REQUIRED BY ALL APPLICABLE CODES WHETHER OR NOT SHOWN ON THE PLANS.

9. THE DESIGN, MATERIALS, AND INSTALLATION SHALL MEET OR EXCEED ALL REQUIREMENTS OF THE N.F.P.A. CODES, STATE FIRE MARSHAL, LOCAL FIRE MARSHAL HAVING JURISDICTION, OWNERS INSURANCE CARRIER, SCO AND GOVERNING CITY AND COUNTY CODES WHEN APPLICABLE.

10. WARRANTY THE SYSTEM, LABOR, MATERIALS AND EQUIPMENT FOR ONE YEAR AFTER OWNERS ACCEPTANCE. REPLACE OR REPAIR DEFECTIVE WORKMANSHIP, EQUIPMENT AND MATERIALS AT NO ADDITIONAL COST TO THE OWNER.

11. THE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING THE SEISMIC PROTECTION REQUIREMENTS FOR THE PROJECT AND THE SEISMIC DESIGN CONFORMING TO ALL APPLICABLE CODES.

12. PROPERLY SUPPORT AND BRACE VERTICALLY AND HORIZONTALLY ALL PIPING, APPARATUS, EQUIPMENT, ETC. IN ACCORDANCE WITH ALL APPLICABLE CODES TO PREVENT EXCESSIVE MOVEMENT DURING SYSTEM OPERATION AND SEISMIC CONDITIONS.

13. ALL SPRINKLER ALARM, TAMER AND DETECTION SYSTEMS ARE TO BE CONNECTED TO THE BUILDINGS CENTRAL FIRE ALARM SYSTEM.

14. VALVES, HEADS, FLOW SWITCHES, ETC., SHALL CARRY EITHER THE F.M. OR U.L. APPROVAL AND CONFORM TO ALL REQUIREMENTS AS LISTED IN THE LATEST EDITION OF THE NFPA CODES.

15. ABOVE GRADE PIPE AND FITTINGS: BLACK STEEL CONFORMING TO ASTM SPECIFICATIONS FOR BLACK AND HOT DIPPED ZINC COATED (GALVANIZED) SELDED AND SEAMLESS STEEL PIPE FOR ORDINARY USES, ANSI/ASTM A53. FITTINGS SHALL BE WELDED, SCREWED, OR GROOVED MECHANICAL JOINT. PLASTIC PIPE AND FITTING ARE NOT ACCEPTABLE.

16. PIPE HANGERS: SHALL CONFORM TO N.F.P.A. AND U.L. STANDARDS FOR SPACING, NUMBER, SIZE, AND TYPE. PIPE TO BE GENERALLY SUPPORTED BY CLAMPS AND RODS SECURED TO OVERHEAD CONSTRUCTION. CONTRACTOR SHALL LOCATE ALL HANGERS LOCATIONS. COORDINATE HANGER ATTACHMENT SELECTION WITH EXISTING STRUCTURE.

17. TESTING AND FLUSHING; OVERHEAD SPRINKLER PIPING: TESTED FOR A PERIOD OF TWO HOURS AT HYDROSTATIC PRESSURE OF 20 LBS. AND ALL PIPING, VALVES, HEADS, ETC. SHALL BE WATERTIGHT.

18. PROVIDE RECORD DRAWINGS WHICH CLEARLY SHOW ALL UNDERGROUND PIPING DIMENSIONED FROM ANY PERMANENT STRUCTURE, AND ALL WORK ADDED TO THE CONTRACT DOCUMENTS.

19. INSTALLATION DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF QUALIFIED DESIGN PROFESSIONAL WHO CAN BE A PROFESSIONAL ENGINEER (PE) REGISTERED IN NORTH CAROLINA OR A MINIMUM LEVEL III TECHNICIAN CERTIFIED IN FIRE PROTECTION ENGINEERING TECHNOLOGY AND AUTOMATIC SPRINKLER SYSTEM LAYOUT BY THE NATIONAL INSTITUTE FOR CERTIFICATIONS IN ENGINEERING TECHNOLOGIES (NICET). SUBMITTALS, DRAWINGS, AND HYDROLIC CALCULATIONS SHALL BEAR THE PE SEAL OR NICET CERTIFICATION NUMBER AND SIGNATURE.

20. CONTRACTOR LICENSE, QUALIFICATIONS, AND RESPONSIBILITIES: THE CONTRACTOR MUST BE LICENSED BY THE NORTH CAROLINA STATE BOARD OF EXAMINERS OF PLUMBING, HEATING, AND FIRE SPRINKLER CONTRACTORS. THE CONTRACTOR MAY BE REQUIRED TO FURNISH EVIDENCE OF SATISFACTORY PERFORMANCE ON PREVIOUS SPRINKLER SYSTEM INSTALLATIONS OF EQUIVALENT SIZE, TYPE, AND COMPLEXITY.

21. FIRE PROTECTION SYSTEMS SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE DOCUMENTS, NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), NORTH CAROLINA BUILDING CODE (NCBC), NORTH CAROLINA STATE CONSTRUCTION OFFICE (SCO) AND THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).

22. EQUIPMENT LESS THAN 110 VOLT, ALL RELAYS, ACTUATORS, PRESSURE, FLOW, PNEUMATIC-ELECTRIC, AND ELECTRIC-PNEUMATIC SWITCHES, EMERGENCY BREAK-GLASS STATIONS, DISCONNECT SWITCHES BEYOND TERMINATION POINT, AND OTHER APPURTENANCES ASSOCIATED WITH EQUIPMENT PARTIES. "FOR STATE BUILDING PROJECTS, THE OWNER IS NORMALLY REPRESENTED BY THE STATE CONSTRUCTION OFFICE OR BY THE FACILITY'S CONSTRUCTION PROJECT COORDINATOR, AS APPLICABLE FOR PRIVATE SECTOR PROJECTS, THE INSURANCE CARRIER MAY BE THE REPRESENTATIVE OF THE BUILDING OWNER."

23. ALL WIRING REQUIRED FOR CONTROLS AND INSTRUMENTATION NOT INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED BY FIRE ALARM CONTRACTOR. ALL SPRINKLER FLOW AND TAMPER SWITCHES SHALL BE FURNISHED AND INSTALLED BY FIRE PROTECTION CONTRACTOR, AND WIRED BY ELECTRICAL CONTRACTOR.

24. PRESSURE HYDROSTATIC TESTS SHALL BE DONE WITH ALL SPRINKLER HEADS INSTALLED, WHERE AN EXISTING SPRINKLER SYSTEM IS BEING EXPANDED OR RENOVATED, THE CONTRACTOR IS RESPONSIBLE FOR THE INTEGRITY OF ALL NEW PIPING PLUS EXISTING PIPING WITHIN THREE FEET OF NEW OR RENOVATED WORK, AND THE OWNER IS RESPONSIBLE FOR THE INTEGRITY OF THE BALANCE OF THE SYSTEM, DURING THE PRESSURE TEST.

A. PRIOR TO FINAL INSPECTION BY THE AHJ AND/OR THE OWNER'S REPRESENTATIVE, THE SYSTEM INSTALLER IS TO SUBMIT NFPA-REQUIRED CONTRACTOR'S MATERIAL AND TEST CERTIFICATE(S) FOR ABOVEGROUND, AND UNDERGROUND, PIPING. SEND COPIES TO THE FOLLOWING

B. THE SPECIFYING ENGINEER (PE), IF ANY

C. THE AUTHORITY HAVING JURISDICTION (AHJ)

D. REPRESENTATIVE OF THE BUILDING OWNER

NOTE: IF THE SPRINKLER CONTRACTOR DID NOT PROVIDE THE UNDERGROUND PIPING, THE RESPONSIBLE CONTRACTOR MUST SUBMIT THAT CERTIFICATION. THE SPRINKLER CONTRACTOR IS NOT TO CONNECT THE RISE UNTIL UNDERGROUND PIPING HAS BEEN FLUSHED, TESTED, AND CERTIFIED BY THE RESPONSIBLE CONTRACTOR AND WITNESSED BY ONE OF THE ABOVE MENTIONED PARTIES. "FOR STATE BUILDING PROJECTS, THE OWNER IS NORMALLY REPRESENTED BY THE STATE CONSTRUCTION OFFICE OR BY THE FACILITY'S CONSTRUCTION PROJECT COORDINATOR, AS APPLICABLE FOR PRIVATE SECTOR PROJECTS, THE INSURANCE CARRIER MAY BE THE REPRESENTATIVE OF THE BUILDING OWNER."

25. APPLICABLE STANDARDS AND CODES:

2007NFPA-13 "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS"

2007NFPA-14 "STANDARD FOR THE INSTALLATION OF STANPIPES AND HOSE SYSTEMS"

LATEST EDITION NFPA-24 "STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES"

2007NFPA-72 "NATIONAL FIRE ALARM AND SIGNALING CODE"

2012 NC BUILDING CODE

2012 NC FIRE PREVENTION CODE

GENERAL SHEET NOTES

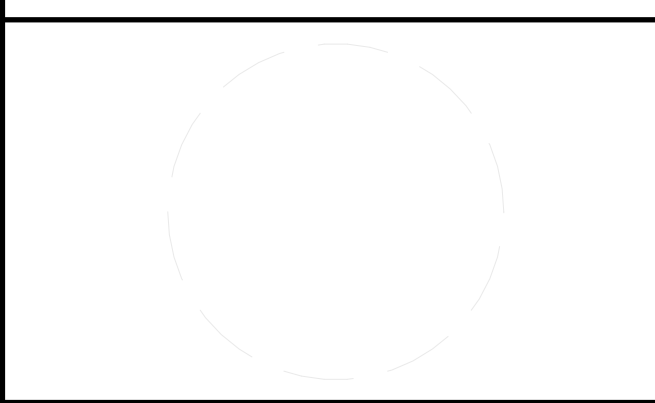
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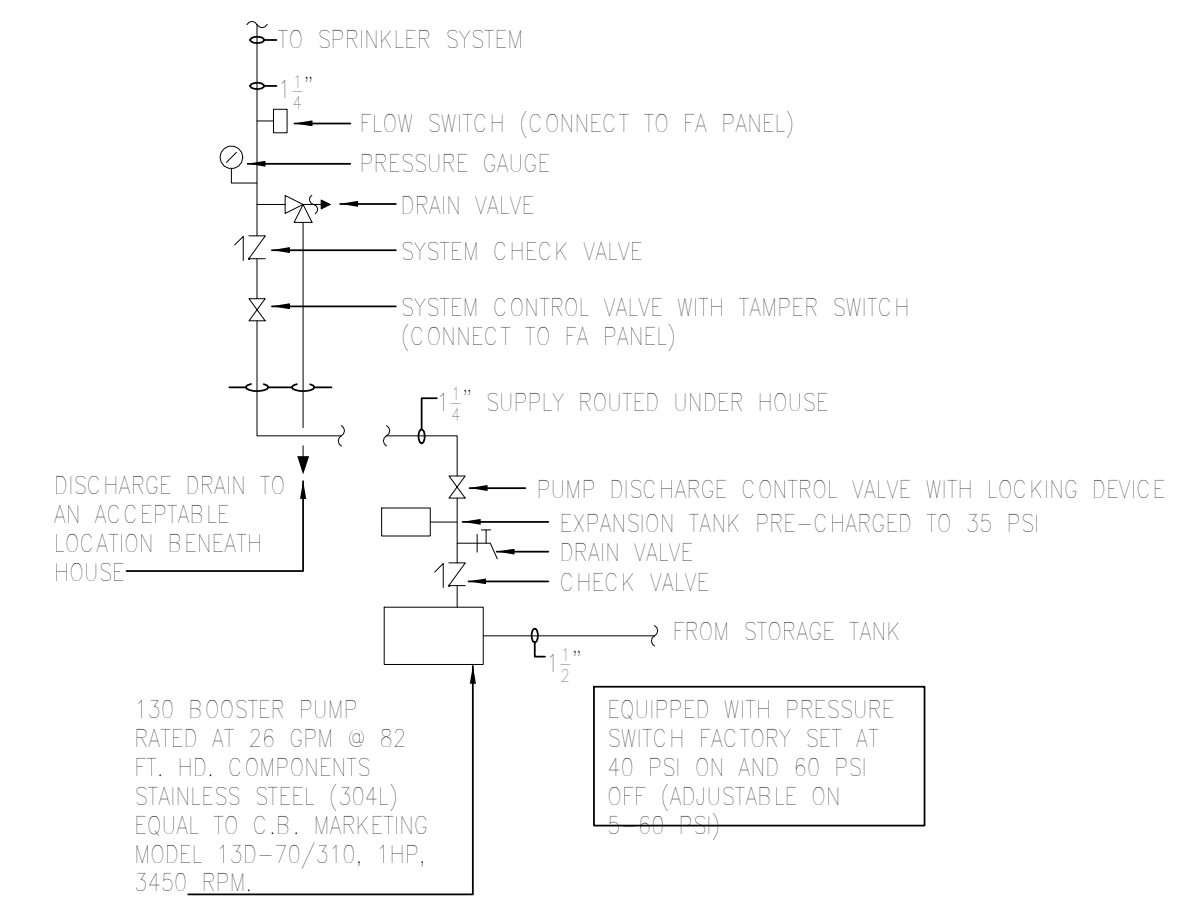
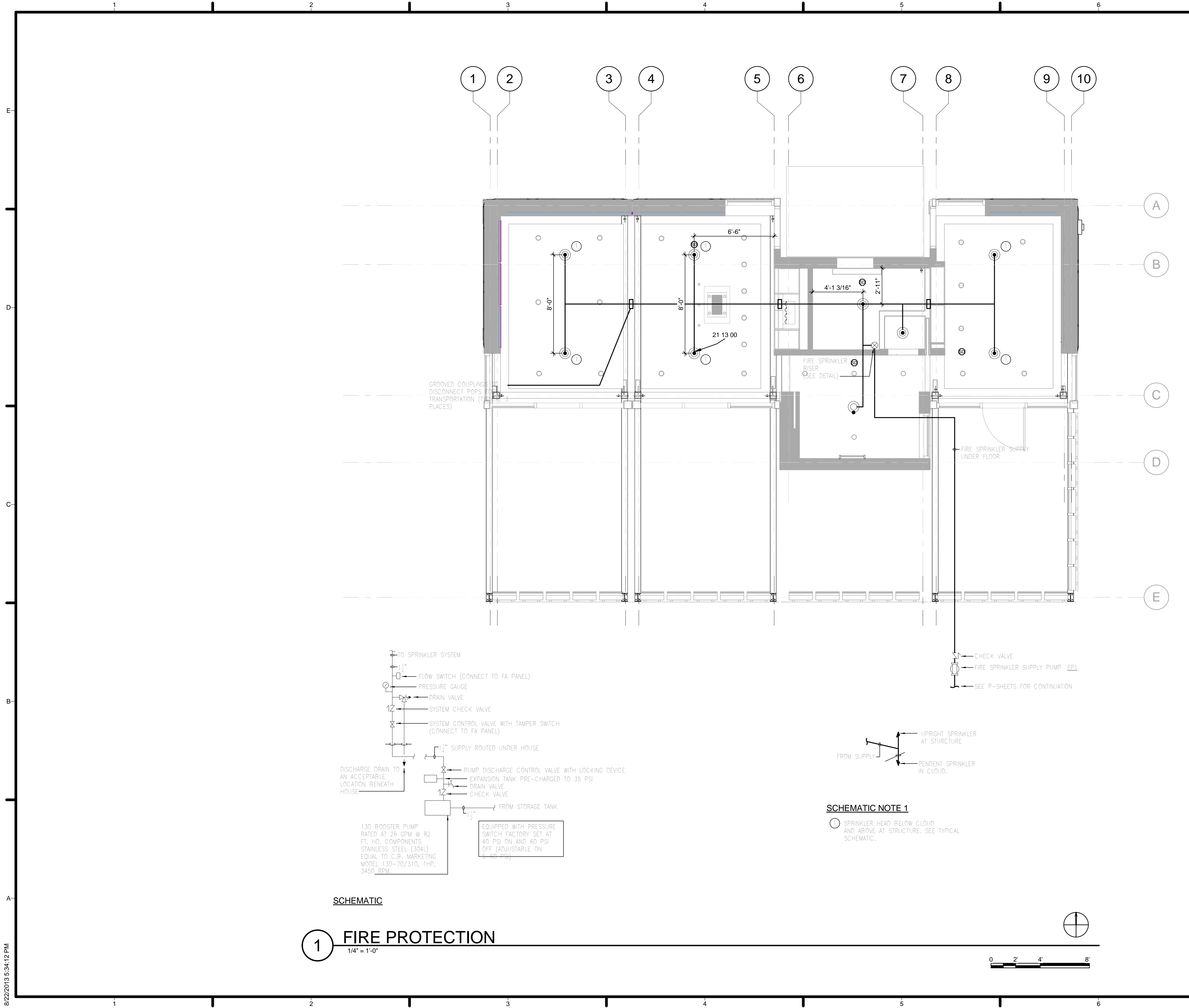
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MARK	DATE	DESCRIPTION
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SHEET TITLE
 FIRE PROTECTION NOTES AND SYMBOLS

F-001



SCHEMATIC

1 FIRE PROTECTION
1/4" = 1'-0"

SCHEMATIC NOTE 1
 ○ SPRINKLER HEAD BELOW CLOUD AND ABOVE AT STRUCTURE. SEE TYPICAL SCHEMATIC.

GENERAL SHEET NOTES

1. REFER TO F-001 FOR MORE INFORMATION AND GENERAL NOTES RELATED TO FIRE SUPPRESSION.

REFERENCE KEYNOTES

21 13 00 FIRE-SUPPRESSION SPRINKLER SYSTEMS

SHEET KEYNOTES

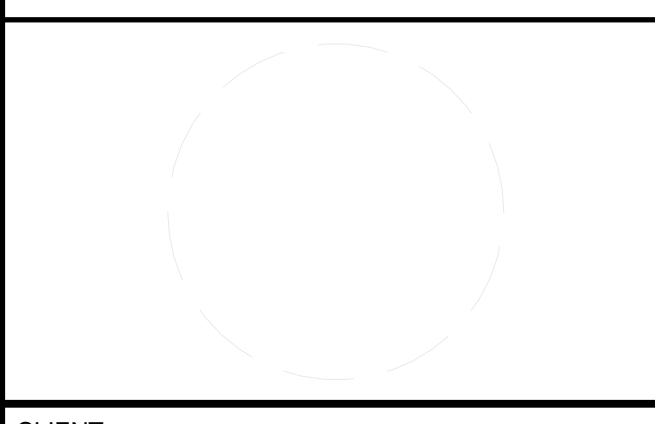


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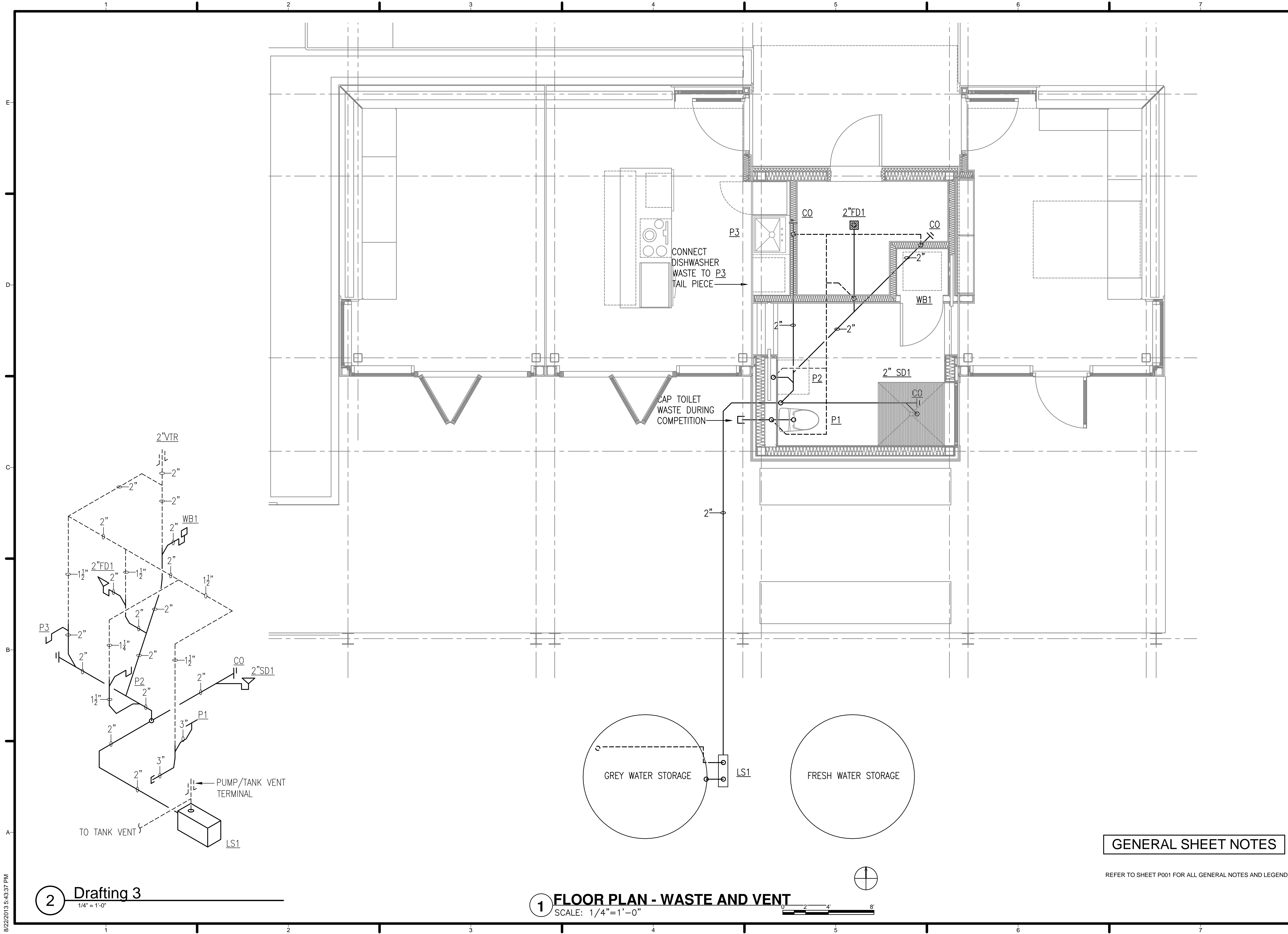
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02	11.20.12	80% DOE RE-SUBMISSION
03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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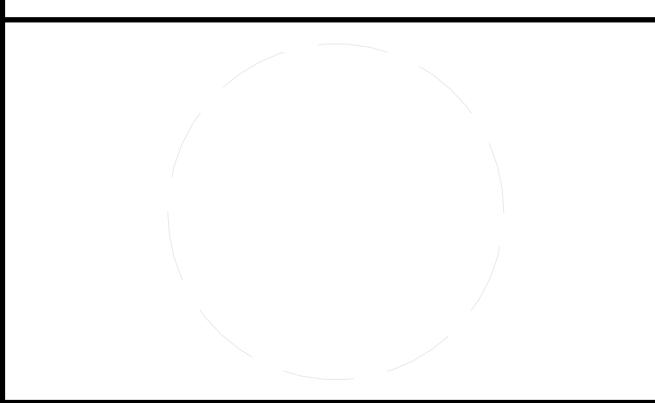
SHEET TITLE
 FIRE DETECTION AND ALARM

F-101



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SHEET TITLE
WASTE AND VENT PIPING PLAN

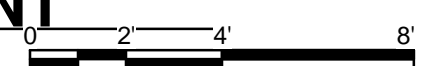
P-101

GENERAL SHEET NOTES

REFER TO SHEET P001 FOR ALL GENERAL NOTES AND LEGEND.

2 Drafting 3
 1/4" = 1'-0"

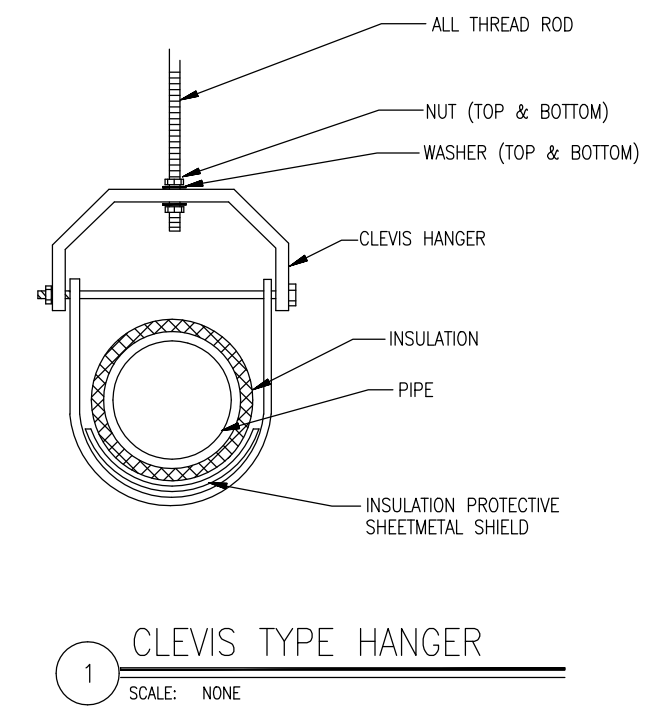
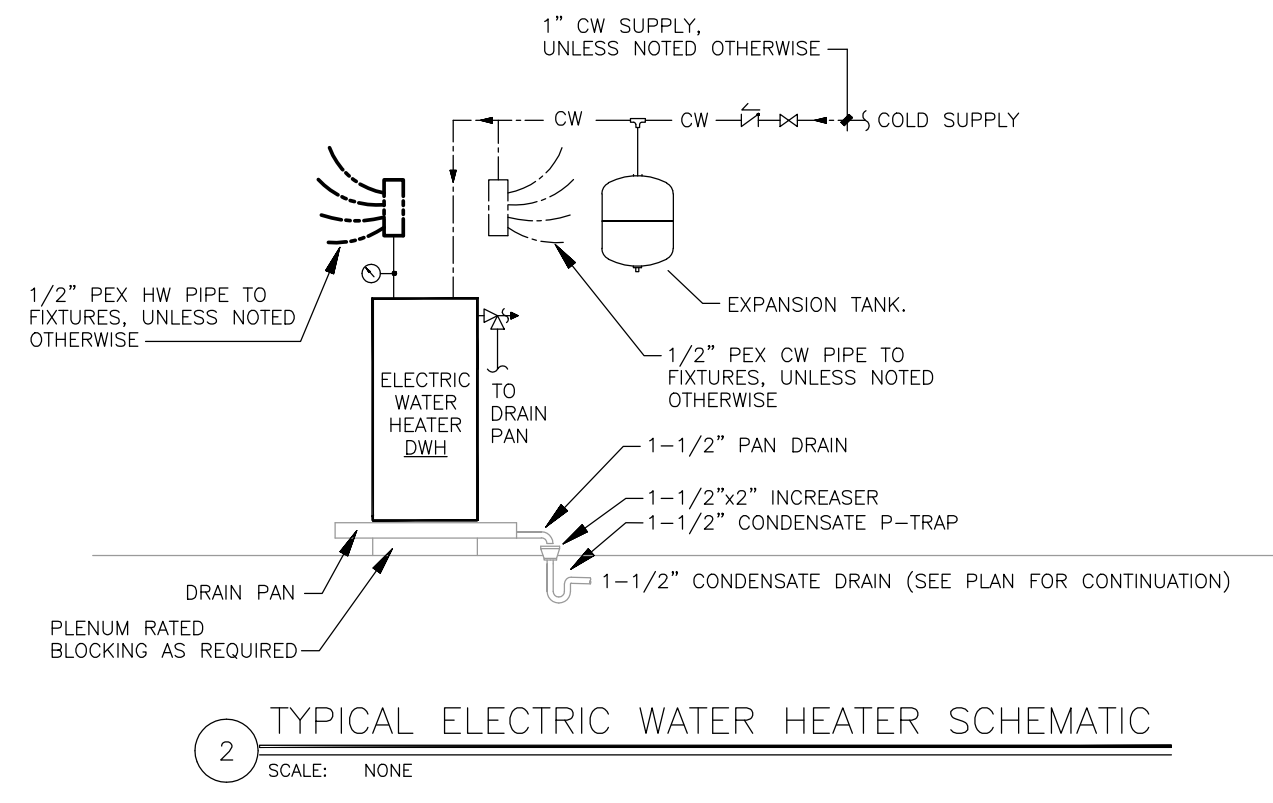
1 FLOOR PLAN - WASTE AND VENT
 SCALE: 1/4" = 1'-0"



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WATER HEATER SCHEDULE									
MARK	MANUFACTURER	MODEL	BASIS OF DESIGN			TANK CAPACITY (GALLONS)	DIAMETER	HEIGHT	DESCRIPTION
			ELEC KW	GPH RECOVERY @ 80°F RISE	DESIGN				
DWH	VAUGHN	#550WHT3838	240V/60HZ/1PH/4.5KW	21	50	25"	66"	HEAT PUMP HOT WATER HEATER	

PUMP SCHEDULE									
MARK	BASIS OF DESIGN	GPM	FT. OF HEAD	DESIGN DEPTH	DESIGN DIMENSIONS	RPM	HP	ELECTRICAL	REMARKS
FP1	C.B. MARKETING MODEL 130-70/310	26	82	-	-	3450	1	230/1/60	STAINLESS STEEL PUMP COMPONENTS AND SENSING LINE. DISCHARGE CHECK VALVE. LOCKABLE/INDICATING CONTROL VALVE. SUCTION CONNECTION: 1.25"/1.5"/2" FNPT. DISCHARGE CONNECTION: 1" FNPT.
DP1	B&G ESV MODEL 15V3CA3/20	7.0	70	-	-	3500	.3	115/230V/1/60	



PLUMBING SCHEDULE					
SYMBOL	DESCRIPTION	WASTE	COLD WATER	HOT WATER	SPECIFICATION
P2	LAVATORY SELF-RIMMING	1 1/2"	1/2"	1/2"	FIXTURE: SELF-RIMMING, CENTER DRAIN, LESS FAUCET DECK, WHITE VITREOUS CHINA WITH OVERFLOW. FAUCET: SINGLE LEVER FAUCET W/ 0.5 GPM FLOW RESTRICTOR. TRAP: WASTE ASSY., 17 GAUGE CHROME PLATED CAST BRASS, P-TRAP WITH CLEAN OUT PLUG. (SEE NOTE 1 BELOW)
P3	KITCHEN SINK TOP MOUNT DISHWASHER CONNECTION	1 1/2"	1/2"	1/2"	FIXTURE: TOP MOUNT, STAINLESS STEEL, 18 GAUGE, SINGLE BOWL, 3-HOLE DRILLING. FAUCET: PROVIDE W/ 1.5 GPM FLOW RESTRICTOR. TRAP: OFFSET WASTE ASSY., 17 GAUGE CHROME PLATED CAST BRASS, P-TRAP WITH CLEAN OUT PLUG. (SEE NOTE 1 BELOW) PROVIDE DISHWASHER TAIL PIECE, AND HOT WATER CONNECTION, INSTALL DISHWASHER DRAIN LINE PER LOCAL AHJ REQUIREMENTS
CD	CLEANOUT	4"	-	-	CAST IRON CLEANOUT FERRULE WITH GAS TIGHT ABS TAPERED THREADED PLUG.
ED1	FLOOR DRAIN	2"	-	-	CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, WEEPHOLES AND STANDARD ROUND POLISHED STAINLESS STEEL STRAINER. PROVIDE DEEP SEAL TRAPS.
SD1	SHOWER DRAIN	2"	-	-	SEE ARCHITECTURAL PLANS FOR SPECIFICS.
WB1	WASHING MACHINE BOX	2"	3/4"	3/4"	SPECIALTY PRODUCTS MODEL OB-207-1 WASHING MACHINE BOX WITH INTEGRATED SHOCK ARRESTORS AND VALVES. PROVIDE WITH FACEPLATE.
IM1	ICE MAKER BOX	-	1/4"	-	RECESSED STAINLESS STEEL ICE MAKER BOX WITH SHUTOFF VALVE AND 3/4" COMPRESSION FITTING CONNECTION.

NOTES:
 1. P.C. TO PROVIDE AND INSTALL TRUBRO "LAV-GUARD" ON ALL EXPOSED COLD AND HOT WATER PIPES, STOPS, WASTE PIPE AND P-TRAP. COORDINATE COLOR WITH ARCHITECT.
 2. P.C. TO PROVIDE 3-WAY STOP ON COLD WATER SIDE OF SINK FURNISHED AND INSTALLED BY OTHERS. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL SERVICE ROUGH-INS. FINAL CONNECTION BY EQUIPMENT INSTALLER.
 3. P.C. TO PROVIDE HEAVY DUTY STOPS AND HEAVY DUTY BRASS TRAPS W/ DRAIN PLUGS.

GENERAL NOTES

- THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS, REFER TO THE ARCHITECTURAL PLANS.
- COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION OF ANY WORK.
- VERIFY THE LOCATION OF ALL EQUIPMENT SUPPLIED BY OTHERS.
- PROVIDE A DIELECTRIC UNION WHEN CONNECTING DISSIMILAR METALS.
- PROVIDE FIRE RATED SLEEVES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS ARE MADE. ALL OPENINGS WILL BE MADE FIREPROOF.
- ALL NEW UNDERGROUND WATER PIPING SHALL BE INSTALLED BELOW THE FROST LINE BUT NOT LESS THAN 24" BELOW FINISHED GRADE TO PIPE CROWN.
- ALL VENT LINES SHALL SLOPE UP TO VENT THROUGH ROOF. VENT THROUGH ROOF SHALL BE 10'-0" MINIMUM FROM ANY FRESH AIR INTAKES.
- ALL WASTE STACKS SHALL HAVE A CLEAN OUT AT THE BASE OF THE STACK. COORDINATE LOCATION OF CLEAN OUTS WITH CASEWORK.
- PROVIDE ISOLATION VALVES AT ALL FIXTURES.
- SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- ALL WALL MOUNTED LAVATORIES TO HAVE INSULATION ON ANY EXPOSED PIPES.
- COMPLETELY ROD AND FLUSH OUT ALL SANITARY WASTE LINES AFTER BUILDING IS COMPLETED.
- PROVIDE CHROME ESCUTCHEON RINGS AT ALL EXPOSED CEILING AND WALL PENETRATIONS.
- DIMENSION ACTUAL LOCATION OF ALL UNDERGROUND WATER LINES ON AS-BUILT DRAWINGS. A MINIMUM OF TWO DIMENSIONS FROM BUILDING REFERENCE POINTS SHALL BE PROVIDED WITH A BURY DEPTH INDICATED.
- ALL UNDERGROUND LINES OUTSIDE BUILDING FOOTPRINTS SHALL BE REQUIRED TO HAVE A MAGNETIC-TYPE WARNING TAPE INSTALLED IN THE BACKFILL AT LEAST SIX (6) INCHES BELOW GRADE.
- PROVIDE 12 INCH CLEARANCE AROUND AUDIO VISUAL EQUIPMENT WHEN ROUTING PLUMBING PIPING.
- PIPING SUPPORT SHALL BE FROM STRUCTURAL STEEL. SUPPORT FROM THE METAL ROOF DECK OR BAR JOIST BRIDGING ANGLES IS PROHIBITED.
- ALL METAL PIPING TO BE BONDED ACCORDING TO CURRENT NEC CODES.
- PROVIDE HEAT TRACE TO PLUMBING FIXTURES AND PIPING NOT IN CONDITIONED SPACES. HEAT TRACE TO BE MINIMUM 8 Watts/FT.

MATERIAL SCHEDULE	
PIPING	DESCRIPTION
DOMESTIC WATER PIPE	ABOVEGROUND: SUPPLY PIPING TO MANIFOLDS - SCHEDULE 40 CPVC DOWNSTREAM MANIFOLDS - PEX TUBING AND BRASS FITTINGS WITH COMP RINGS, ASTM F876
WASTE AND VENT PIPE	PVC SCHEDULE 40 PIPE AND FITTINGS ASTM D1785 FOR PIPE ASTM D2466 FOR FITTINGS

PLUMBING LEGEND	
SYMBOL	DESCRIPTION
SS	SOIL, WASTE OR SANITARY SEWER PIPING
-----	VENT PIPING
-----	COLD WATER PIPING
-----	HOT WATER PIPING
⊕	ACCESSIBLE PLUMBING FIXTURE
⊕	RISER DOWN (ELBOW)
⊕	RISER UP (ELBOW)
VTR	VENT THROUGH ROOF
∞	CLEAN OUT
FD	FLOOR DRAIN
⊕	BALL VALVE
⊕	CHECK VALVE (ARROW INDICATES FLOW DIRECTION)
⊕	RELIEF VALVE
⊕	TEMPERATURE GAUGE

GENERAL SHEET NOTES

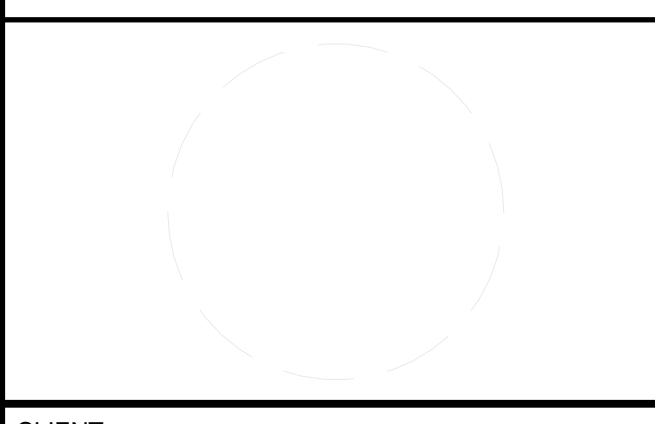
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REFERENCE KEYNOTES

SHEET KEYNOTES



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SHEET TITLE
 PLUMBING SYMBOLS AND NOTES

P-103

GENERAL SHEET NOTES

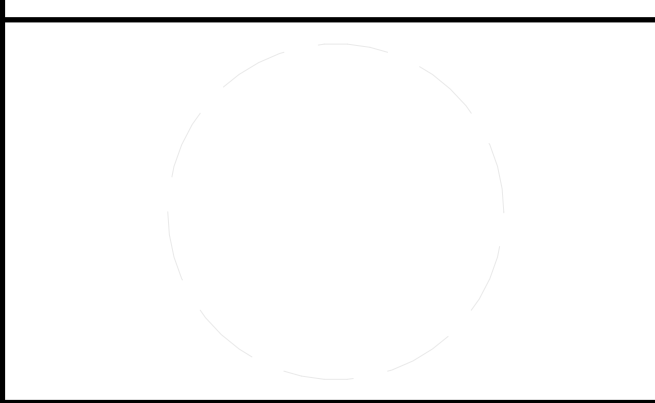
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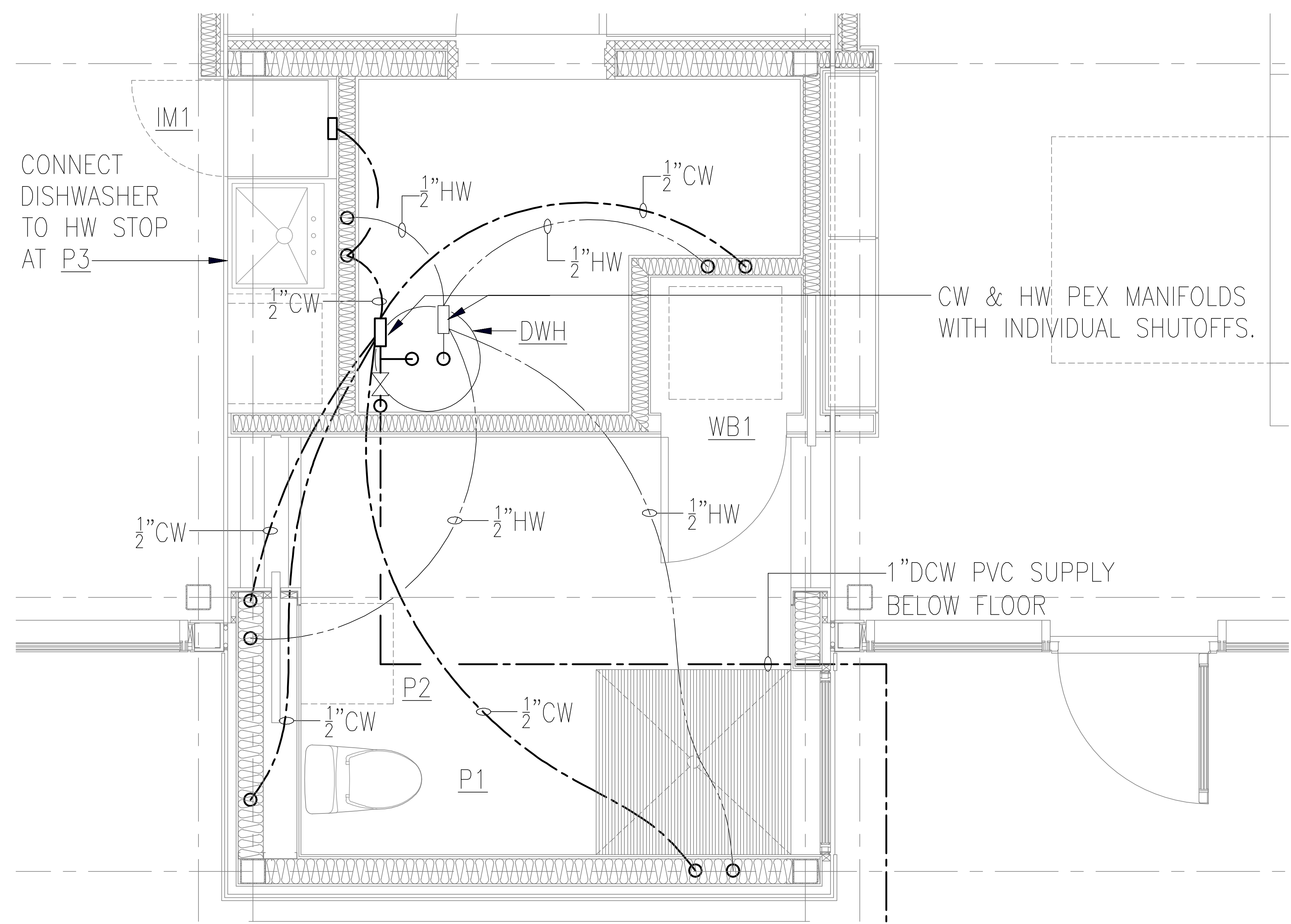
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SHEET TITLE
WATER SUPPLY CORE PLAN

P-111



1 WATER SUPPLY CORE PLAN
 1/2" = 1'-0"

GENERAL SHEET NOTES

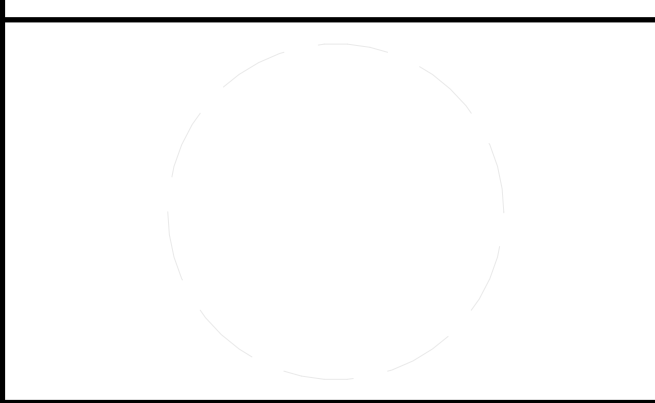
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SHEET TITLE
SCHEDULES

P-602

Capillary Schedule (all PVC Pipe counts are estimates, ± 1 tube)

REFERENCE NO.	DESCRIPTION	COUNT	MANUFACTURER	MODEL	SUPPLY FITTING	Supplier	Individual Price (\$)	Total Price (\$)	Website
Plastic Core	10ft PVC Tubing	14	Charlotte P&F	PVC 07200 0600	2"	Lowe's	7.01	98.14	Click for Website
Foam Core	10ft PVC Tubing	1	Charlotte P&F	PVC 4300	3"	Home Depot	10.42	10.42	Click for Website
Plastic Core	10ft PVC Tubing	2	Charlotte P&F	PVC 4112	1 1/2"	Lowe's	5.26	10.52	Click for Website
Plastic Core	Sanitary Wye fitting	2	Charlotte P&F	03471	2"x2"x1 1/2"	Charlotte P&F	11.04	22.08	Click for Website
	Sanitary Wye fitting	8	Charlotte P&F	03464	2"x2"x 2"	Charlotte P&F	4	32	Click for Website
	Sanitary Wye fitting	1	Charlotte P&F	03463	1.5"x1.5"x1.5"	Charlotte P&F	8.5	8.5	Click for Website
	Sanitary Wye fitting	1	Charlotte P&F		1.5"x1.5"x1.25"	Charlotte P&F		0	Click for Website
	Sanitary Wye fitting	1	Charlotte P&F	03473	3"x3"x2"	Charlotte P&F	2.459	2.459	Click for Website
	P-Trap	1	Charlotte P&F	03670	3"	Charlotte P&F	7.457	7.457	Click for Website
	P-Trap	4	Charlotte P&F	03677	2in	Charlotte P&F	4.67	18.66	Click for Website
	P-Trap	1	Charlotte P&F	03676	1 1/2"	Charlotte P&F	2.66	2.656	Click for Website
	45° Sanitary Curve (1/8)	1	Charlotte P&F	03402	2"	Charlotte P&F	0.1324	0.1324	Click for Website
	Reducing Curve	1	Charlotte P&F	04196	1 1/2" > 2"	Charlotte P&F	2.827	2.827	Click for Website
Estimate #	PVC Coupling	10	Charlotte P&F	03190	2"	Charlotte P&F	3.04	30.4	Click for Website
Estimate #	PVC Coupling	3	Charlotte P&F	03189	1 1/2"	Charlotte P&F	2.34	7.02	Click for Website
	Flex Hose Dishwasher	1			> 1 1/4"			0	Click for Website
	Increaser Coupling	1			1 1/4" > 1 1/2"			0	Click for Website
	Increaser Coupling	1	Charlotte P&F	03205	2" > 3"	Charlotte P&F	0.792	0.792	Click for Website
	90 bend Coupling	2	Charlotte P&F	03434	1 1/2"	Charlotte P&F	0.4995	0.999	Click for Website
	90 bend Coupling	2	Charlotte P&F	03387	2"	Charlotte P&F	0.7584	1.5168	Click for Website
	PVC Cap	1	Mueller	447-030HC	3"	Home Depot	2	2	Click for Website
	Cleanouts	2	NIBCO	C4818	2"	Home Depot	3.65	7.3	Click for Website
House to Tank Connections									
	10ft PVC Tubing	3	Charlotte P&F	PVC 07200 0600	2"	Lowe's	7.01	21.03	Click for Website
	Evac Pump	1	Zoeller Pumps	Qwik Jon® Ultima 204	3"	Zoeller Pumps	487	487	Click for Website
	Sanitary Double Split	1	Charlotte P&F	03427	2"	Charlotte P&F	1.0452	1.0452	Click for Website
	90 bend Coupling	2	Charlotte P&F	03387	2"	Charlotte P&F	0.7584	1.5168	Click for Website
Do Not Assume To Buy									
	Floor Drain Mech Room	1	Grainger	22F418	2"	Grainger	63.65	63.65	Click for Website
	Alt. Floor Drain	1	Josam	30802-4CP	2"	Josam		0	Click for Website

PVC Count	3"	2"	1 1/2"	1 1/4"
Feet	20	79	30	15

If you purchase one of these, cross out one 2" P-trap

1 CAPILLARY SCHEDULE
1/4" = 1'-0"

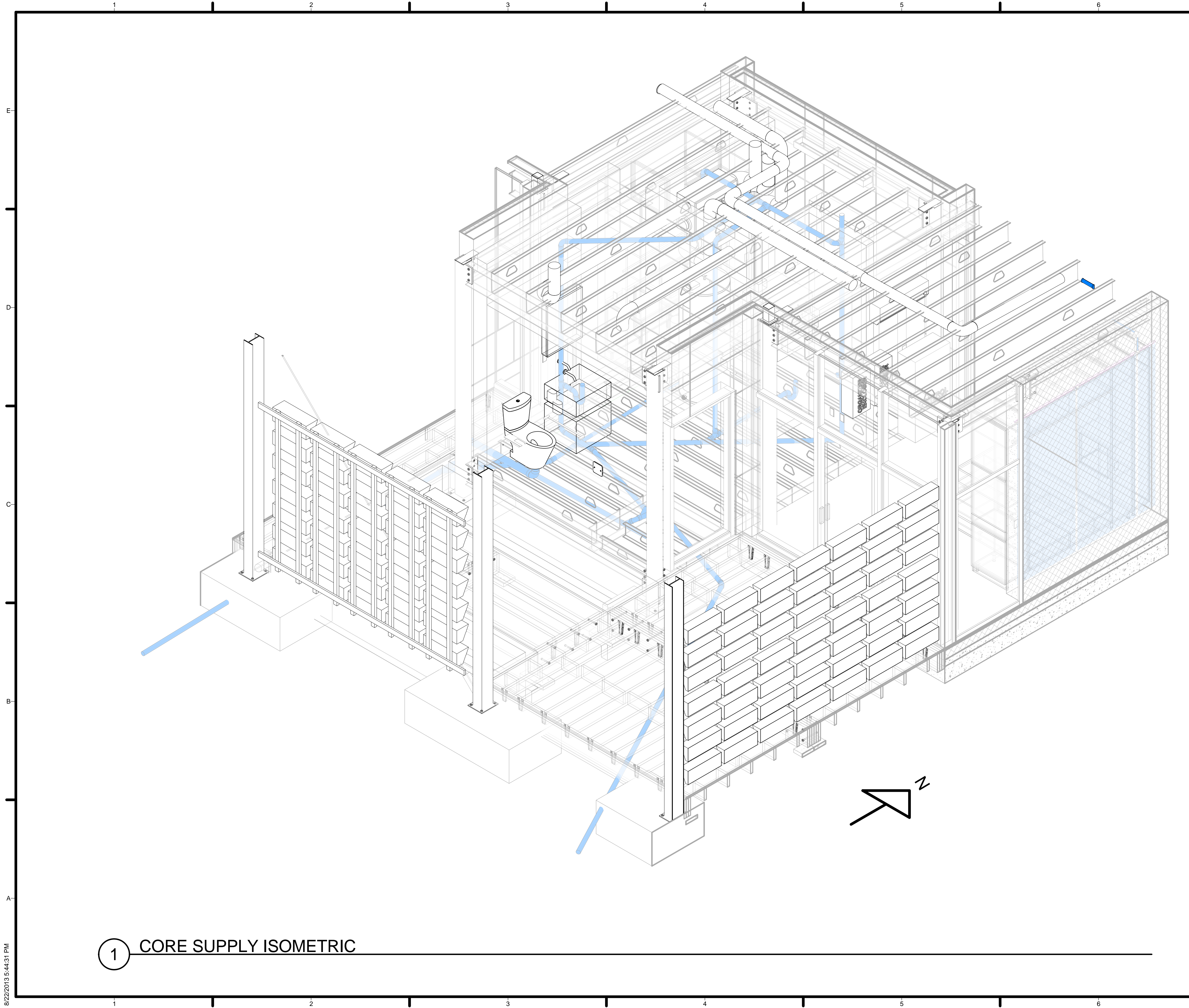
PVC and CPVC Pipes - Schedule 40

Nominal Pipe Size	Outside Diameter	Minimum Wall Thickness	Nominal Inside Diameter	Weight
(inches)	(inches)	(inches)	(inches)	(lb/ft)
				PVC CPVC
1/2"	0.84	0.109	0.622	0.16 0.17
3/4"	1.05	0.113	0.824	0.21 0.23
1	1.315	0.133	1.049	0.32 0.34
1 1/4	1.66	0.14	1.38	0.43 0.46
1 1/2	1.9	0.145	1.61	0.51 0.55
2	2.375	0.154	2.067	0.68 0.74
2 1/2	2.875	0.203	2.469	1.07 1.18
3	3.5	0.216	3.068	1.41 1.54
4	4.5	0.237	4.026	2.01 2.2
5	5.563	0.258	5.047	2.73
6	6.625	0.28	6.065	3.53 3.86
8	8.625	0.322	7.981	5.39 5.81
10	10.75	0.365	10.02	7.55 8.24
12	12.75	0.406	11.938	10.01 10.89
14	14	0.438	13.124	11.8
16	16	0.5	15	15.43

Bell-End Pipes

Ø Nom.	Ø A		Ø B		C
	Min.	Max.	Min.	Max.	
1 1/4	1.675	1.68	1.648	1.658	1.87
1 1/2	1.905	1.914	1.88	1.888	2
2	2.381	2.393	2.363	2.375	2.25
2 1/2	2.882	2.896	2.861	2.875	2.5
3	3.508	3.524	3.484	3.5	3.25
4	4.509	4.527	4.482	4.5	4
5	5.573	5.593	5.543	5.563	4
6	6.636	6.658	6.603	6.625	6
8	8.64	8.67	8.595	8.625	6
10	10.761	10.791	10.722	10.752	8
12	12.763	12.793	12.721	12.751	8.5
14	14.03	14.045	13.985	14	9
16	16.037	16.052	15.985	16	10
18	18.041	18.056	17.985	18	12
20	20.045	20.06	19.985	20	12
24	24.06	24.075	24	24.015	14

2 PVC PIPE SCHEDULE
1/4" = 1'-0"



GENERAL SHEET NOTES

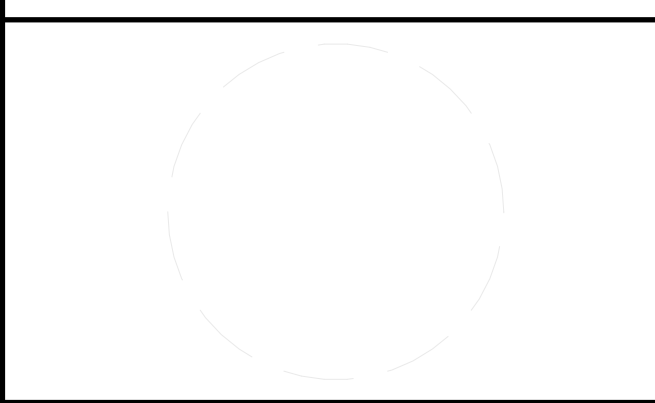
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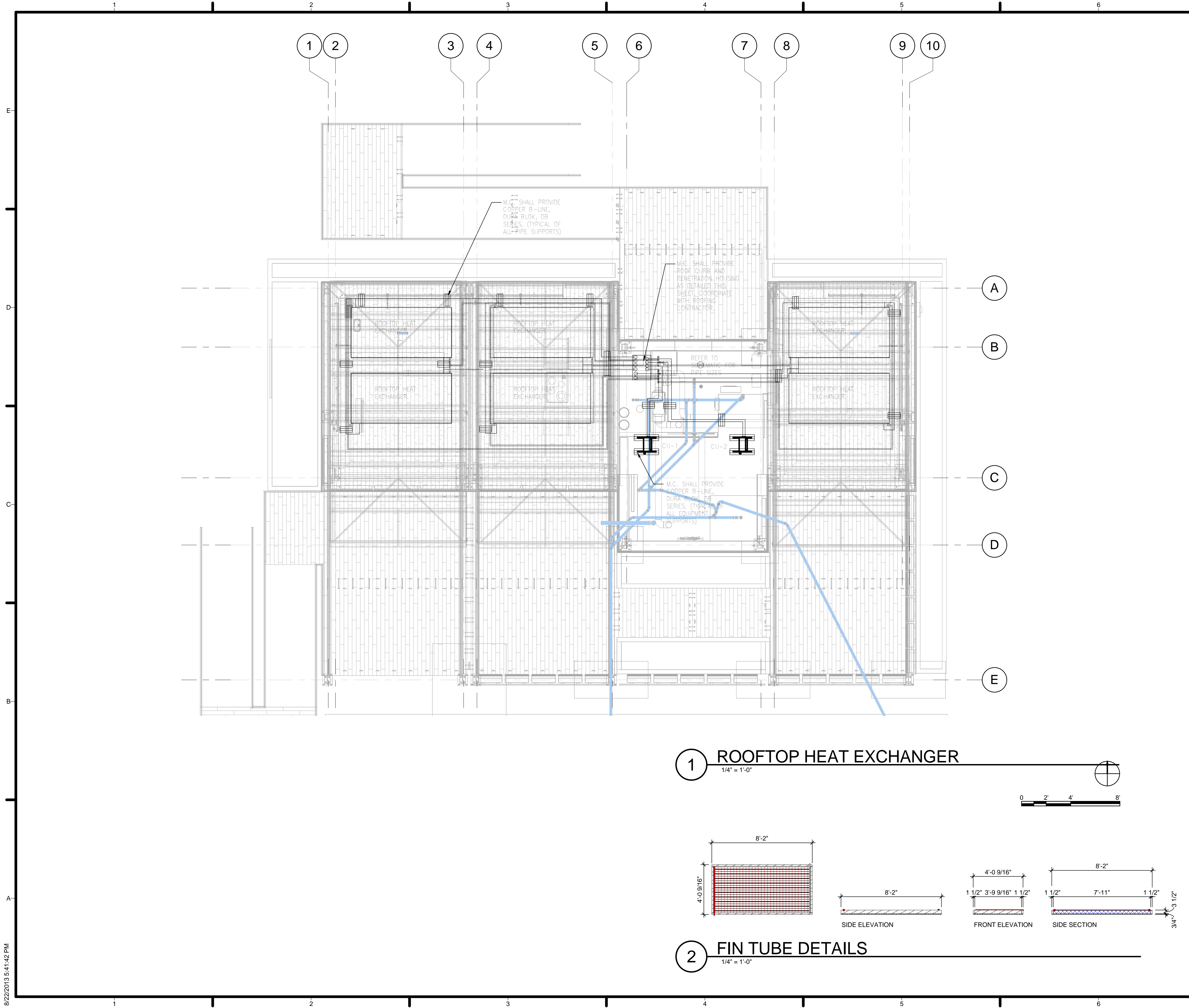
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SHEET TITLE
PLUMBING ISOMETRICS

P-901

1 CORE SUPPLY ISOMETRIC

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GENERAL SHEET NOTES

1. SEE M-601 FOR HVAC SCHEDULES AND DETAILED INFORMATION.

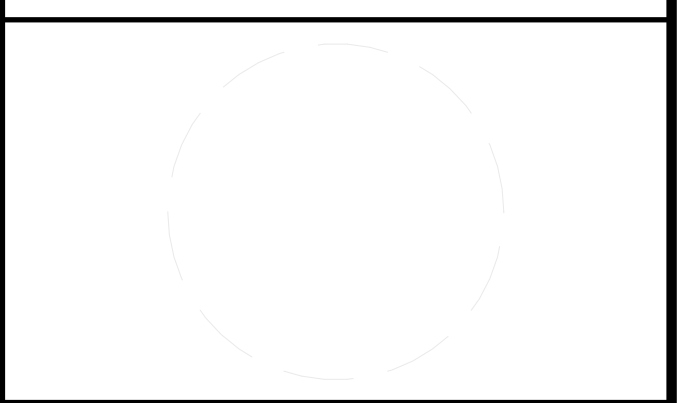
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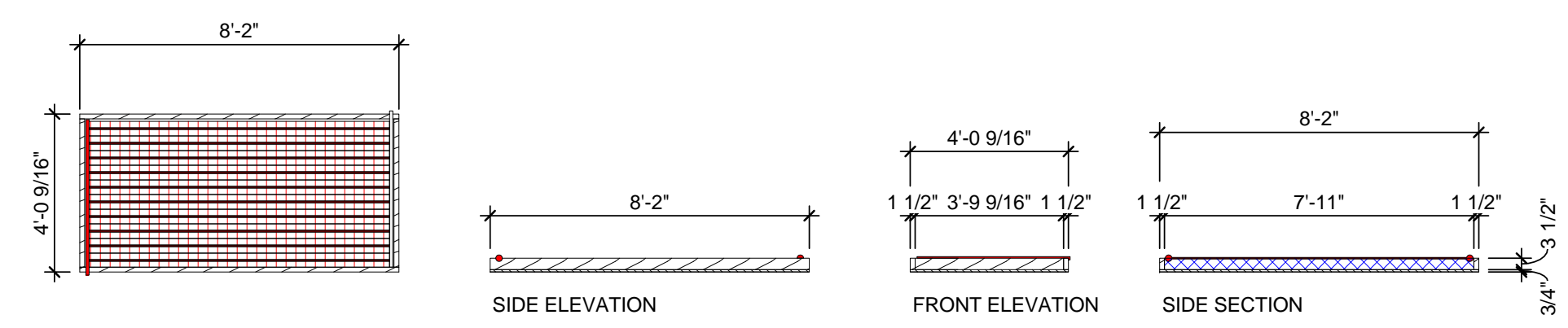
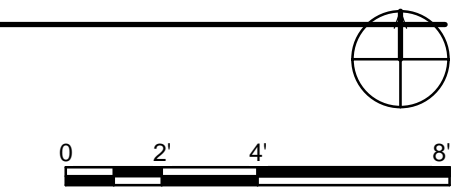
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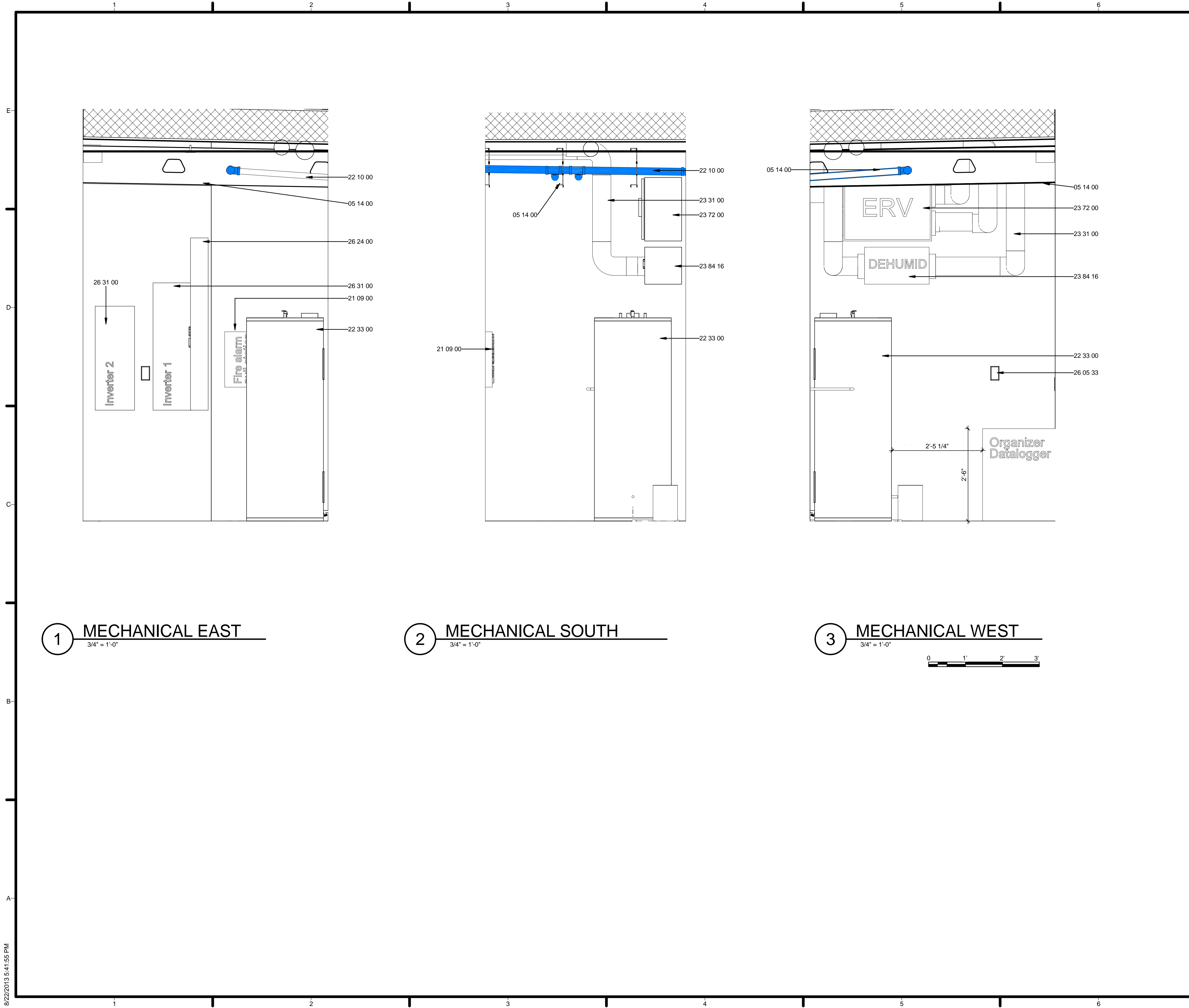
SHEET TITLE
ROOF PLAN HVAC

M-102

1 ROOFTOP HEAT EXCHANGER
 1/4" = 1'-0"



2 FIN TUBE DETAILS
 1/4" = 1'-0"



GENERAL SHEET NOTES

1. SEE M-501 FOR MECHANICAL DETAILS

REFERENCE KEYNOTES

- 05 14 00 STRUCTURAL ALUMINUM FRAMING
- 21 09 00 INSTRUMENTATION AND CONTROL FOR FIRE-SUPPRESSION SYSTEMS
- 22 10 00 PLUMBING PIPING AND PUMPS
- 22 33 00 ELECTRIC DOMESTIC WATER HEATERS
- 23 31 00 HVAC DUCTS AND CASINGS
- 23 72 00 AIR-TO-AIR ENERGY RECOVERY EQUIPMENT
- 23 84 16 DEHUMIDIFIERS
- 26 05 33 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS
- 26 24 00 SWITCHBOARDS AND PANELBOARDS
- 26 31 00 PHOTOVOLTAIC COLLECTORS

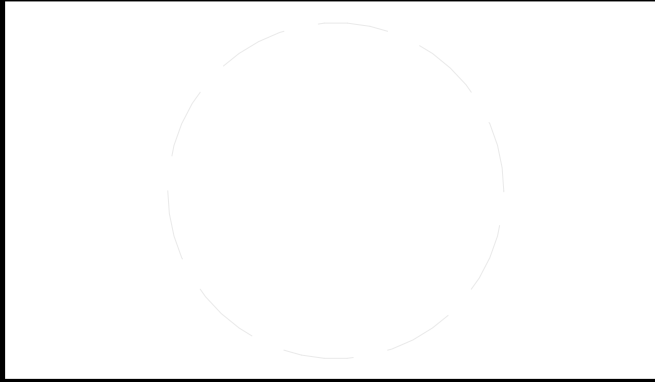
SHEET KEYNOTES



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01	10.10.12	80% DOE SUBMISSION
02	11.20.12	80% DOE RE-SUBMISSION
03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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SHEET TITLE
MECHANICAL ELEVATIONS

M-201

ARCHITECTURAL LINEAR SLOT		
SYM	SIZE	TYPE
⊖	0-100 CFM 8" INLET, 2' LINEAR LENGTH, (2) 1" SLOT, 2-WAY THROW	KRUEGER DFB
⊖	100-200 CFM 8" INLET, 2' LINEAR LENGTH, (2) 1.5" SLOT, 2-WAY THROW	KRUEGER DFB
⊖	200-300 CFM 10" INLET, 2' LINEAR LENGTH, (2) 2" SLOT, 2-WAY THROW	KRUEGER DFB

ACCEPTABLE MANUFACTURERS: NALOR, METALAIRE, TITUS, PRICE
SEE ARCH. CEILING PLAN FOR PROPER FRAME STYLE

NOT DONE

MINI SPLIT HVAC INDOOR UNIT			
GENERAL	MARK	AHU-1	AHU-2
	LOCATION	104 MECH.	104 MECH.
	MANUFACTURER	TRANE	TRANE
	MODEL/SIZE	4MXR509A10N08A	4MXR509A10N08A
	ENERGY EFFICIENCY RATIO (SEER)	14.2	14.2
ELECTRICAL	OPERATING WEIGHT (POUNDS)	22.0	22.0
	TOTAL CAPACITY (BTUH)	9600	9600
	INDOOR UNIT POWERED FROM OUTDOOR UNIT (SINGLE POINT CONNECTION)		

OUTDOOR UNIT			
GENERAL	MARK	CU-1	CU-2
	MANUFACTURER	TRANE	TRANE
ELECTRICAL	MODEL/SIZE	4TKR509A10N08A	4TKR509A10N08A
	ENERGY EFFICIENCY RATIO (EER)	14.2	14.2
ELECTRICAL	VOLTS	240	240
	PHASE	1	1
	HZ	60	60
	MOCP	15	15
MINIMUM CIRCUIT AMPACITY			
NOTES:			
1. SIZE REFRIGERANT LINES ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.			
2. PROVIDE ALL UNITS WITH CONDENSATE PUMP.			
3. PROVIDE LOW AMBIENT TO 0°F CONTROL.			
4. PROVIDE WITH DISCONNECT.			

ENERGY RECOVERY UNIT																			
MARK	BASIS OF DESIGN		WEIGHT (LBS)	LOCATION	EXHAUST AIR CFM	SUPPLY AIR CFM	FAN DATA					HEATING PERFORMANCE				SINGLE POINT ELECTRICAL			
	MANUF.	MODEL/SIZE					EXTERNAL SP (IN.WC)	MAX RPM	MOTOR HP	AIRFLOW (CFM)	AVG. POWER (W)	HEATING EAT °F	HEATING REC. EFF. %	COOLING EAT °F	COOLING REC. EFF. %	VOLTS/PH/HZ	MCA	MOCP	FLA
ERV-1	TRANE	TERVR100A9P00A	58	104 MECH.	129	129	0.4	1750	0.09	130	102	32	71	95	48	120/1/60	15	15	1.3

NOTES:
1. ERV PROVIDES MINIMUM OUTSIDE AIR REQUIRED BY CODE.
2. PROVIDE DISCONNECT.

DEHUMIDIFIER SCHEDULE														
MARK	BASIS OF DESIGN		WEIGHT (LBS)	LOCATION	BLOWER CFM	FAN DATA			MIN. PERF.		FILTER DATA		ELECTRICAL DATA	
	MANUF.	MODEL/SIZE				EXTERNAL SP (IN.WC)	MAX RPM	MOTOR HP	H2O REMOVAL (PT/D)	REMOVAL EFF. (PT/KWH)	MERV	EFF. %	VOLTS/PH/HZ	AMPS
DH-1	THERMA-STOR	ULTRA-AIRE 65H	55	104 MECH.	190	0.4	1750	0.09	65	4.1	11	65	120/1/60	1.5

NOTES:
1. PROVIDE UNIT WITH DISCONNECT.

PUMP SCHEDULE															
MARK	BASIS OF DESIGN			LOCATION	TYPE	SERVICE	CAPACITY (GPM)	TOTAL HEAD (FT H2O)	SPEED (RPM)	CONNECTION SIZE (IN.)		MOTOR HP	IMPELLER	ELECTRICAL VOLTS/ &/HZ	NOTES
	MANUFACTURER	SERIES	MODEL							SUCTION	DISCHARGE				
P-1	BELL & GOSSETT	PL-36	-	MECH ROOM	IN LINE	HOT WATER PRIMARY	25	20	3300	1.5	1.5	0.17	-	120/1/60	1,2

NOTES:
1. PROVIDE WITH VFD.
2. PUMP HEAD BASED ON SYSTEM PRESSURE DROP.

1 HVAC SCHEDULE
3" = 1'-0"

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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MARK	DATE	DESCRIPTION

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SHEET TITLE

SCHEDULES

M-601

ELECTRICAL GENERAL NOTES

- PERFORM WORK IN A FIRST CLASS WORKMANLIKE MANNER. MEET ALL REQUIREMENTS SET FORTH BY LOCAL ORDINANCES AND/OR GOVERNING AUTHORITIES.
- ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, LATEST EDITION NEC AND THE LATEST EDITION OF ALL LOCAL CODES, RULES, AND ORDINANCES HAVING JURISDICTION.
- PROVIDE ALL LABOR, MATERIALS, AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK SHOWN AND/OR NOTED ON THE DRAWINGS.
- ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- VISIT THE JOB SITE PRIOR TO BID AND VERIFY ALL CONDITIONS, LOCATIONS, DIMENSIONS AND COUNTS AS SHOWN AND/OR NOTED ON THE DRAWINGS. THIS SHALL INCLUDE ANY AND ALL FABRICATIONS REQUIRED PRIOR TO INSTALLATION.
- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR FOR THE ADVANCED ORDERING OF LONG LEAD ITEMS SO AS NOT TO INTERFERE WITH THE PRODUCTION OF OTHER TRADES RESULTING IN ANY DOWN OR LAG TIME.
- CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN (1) YEAR FROM DATE OF ACCEPTANCE, UNLESS INDICATED OR SPECIFIED OTHERWISE.
- DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT UNLESS NOTED OTHERWISE.
- ALL ELECTRICAL EQUIPMENT, DEVICES, WIRE, ETC., SHALL BE LISTED FOR THE INTENDED USE, WITH UNDERWRITER'S LABORATORIES, INC. (UL) WHERE STANDARDS HAVE BEEN ESTABLISHED BY UL. AS A MINIMUM, ALL EQUIPMENT SHALL MEET APPLICABLE STANDARDS FRO THE TYPE OF EQUIPMENT AND INTENDED USE OF THE FOLLOWING:
 - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
 - ILLUMINATING ENGINEERS SOCIETY (IES).
 - AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
 - NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).
 NOTE: THESE STANDARDS ARE SUBORDINATE TO CODES AND STANDARDS SET BY UL.
- IT SHALL NOT BE THE INTENT OF THESE PLANS AND/OR SPECIFICATION TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- ALL CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT ROUTING SHALL BE DETERMINED IN THE FIELD, UNLESS OTHERWISE NOTED. PROVIDE AND INSTALL PROPER NUMBER OF CONDUCTORS IN ALL RACEWAYS AS REQUIRED TO ACCOMPLISH THE PROPER FUNCTIONING OF THE DEVICE OR EQUIPMENT AS SHOWN.
- KEEP ALL AREAS IN WHICH WORK IS BEING PERFORMED, FREE FROM DEBRIS AT ALL TIMES AND SAID AREAS SHALL BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.
- ALL EQUIPMENT, WIRING, DEVICES, ETC., SHALL BE NEW AND AS SPECIFIED.
- COORDINATE ALL SITE WORK WITH PRIOR TO INSTALLATION.
- FOR ELECTRIC POWER SYSTEM:
 - COORDINATE POWER SERVICE WITH COMPETITION ORGANIZERS.
- ALL CONDUCTORS SHALL BE IN CONDUIT OR NON-METALLIC CABLE, INTERMEDIATED (IMC) OR RIGID GALVANIZED STEEL (RGS) EXCEPT THAT: (a) POLYVINYL CHLORIDE (PVC) CONDUITS MAY BE USED IN CONCRETE SLABS, WALLS, AND UNDERGROUND PROVIDED ELBOWS AND RISERS ARE RGS; (b) ELECTRICAL METALLIC TUBING (EMT) MAY BE USED IN OR ON WALL OR CEILING WHERE NOT SUBJECT TO MECHANICAL DAMAGE, DAMP CONDITIONS OR CORROSIVE CONDITIONS; (c) LIQUID-TIGHT FLEXIBLE CONDUIT WHERE REQUIRED; (d) FLEXIBLE METALLIC CONDUIT WHERE REQUIRED IN DRY LOCATION;
- APPLY BITUMASTIC COATING TO ALL CONDUITS IN SLABS OR UNDERGROUND.
- ALL CONDUCTORS SHALL BE COPPER, RATED 75c WET/DRY EXCEPT WHERE OTHERWISE REQUIRED BY U.L. OR CODES (UON). MINIMUM WIRE SIZE SHALL BE #12 AWG EXCLUDING CONTROL WIRING. PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT.
- WIREWAYS SHALL BE SIZED AS REQUIRED, PER NEC, UNLESS OTHERWISE NOTED.
- ALL ELECTRICAL EQUIPMENT SHALL BE RAIN/TIGHT WHERE EXPOSED TO THE WEATHER. AL FLEX CONDUITS CONNECTED TO SUCH EQUIPMENT SHALL BE LIQUID-TIGHT.
- OUTLET BOXES SHALL BE STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS AND SPECIAL ENCLOSURE FOR OTHER CLASSIFIED AREAS. PROPER PLASTER RINGS SHALL BE USED WITH OUTLET BOXES. ALL OUTLET BOXES SHALL BE SET PROPERLY AT INSTALLATION AS NO "GOOF" RINGS WILL BE ALLOWED. ALL OUTLET BOXES SHALL BE SECURELY FASTENED. ALL DEVICES SHALL BE WHITE (DECORA TYPE) WITH STAINLESS STEEL PLATES (UON).
- MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC, AS INDICATED OR REQUIRED, WITH OVERLOAD RELAYS OR FUSES IN EACH HOT LEG.
- FURNISH AND INSTALL DISCONNECT SWITCHES AND WIRING FOR AIR CONDITIONING SYSTEM AS PER MANUFACTURER RECOMMENDATIONS. CONTROLS ARE TO BE SUPPLIED BY AIR CONDITIONING CONTRACTOR. PROVIDE ALL CONTROL WIRING FOR A/C CENSORING AND CONTROL UNITS, COORDINATE WIRING DIAGRAMS AND EXACT MOUNTING LOCATIONS.
- ALL DISCONNECT SWITCHES SHALL BE SIZED BY NEC TO ACCOMMODATE EQUIPMENT SERVED, INCLUDING REQUIRED FUSES, U.O.N., DISCONNECT SWITCHES SHALL BE HORSEPOWER RATED, HEAVY-DUTY TYPE.
- TWO AND THREE-POLE CIRCUIT BREAKERS SHALL HAVE COMMON TRIP. NO TIE HANDLES SHALL BE PERMITTED. ALL PANELBOARDS SHALL HAVE COPPER BUS. ALL CIRCUIT BREAKER SHALL BE INVERSE TIME-TYPE (THERMAL-MAGNETIC).
- WHERE CORE DRILLING OF FLOOR/WALLS IS REQUIRED. SEAL OPENINGS WATERTIGHT AFTER UTILITIES HAVE BEEN INSTALLED. LOCATION OF CORED HOLES SHALL BE COORDINATED WITH LOCATION OF EQUIPMENT IN A MANNER TO BE CLEAN AND FUNCTIONAL INSTALL ONLY ONE CONDUIT PER HOLE AND SEAL THE OPENING AROUND THE CONDUIT AS SPECIFIED.
- PROVIDE LAMPS WITH FIXTURES, SEE LUMINAIRE SCHEDULE FOR LAMP TYPE.
- ALL CONNECTIONS TO GROUND RODS & BUILDING STEEL SHALL BE MADE WITH UL APPROVED WELDED CONNECTIONS, UNLESS OTHERWISE NOTED.
- PROVIDED MOUNTING BACKBOARDS FOR ELECTRICAL AND COMMUNICATION EQUIPMENT. BACKBOARDS SHALL BE OF TYPE "AC" PLYWOOD, PAINTED ON BOTH SIDES AND EDGES WITH TWO COATS OF LIGHT GREY PAINT.

COMMUNICATIONS LEGEND:

ALL MAY NOT APPLY

◀	COMMUNICATION OUTLET, MOUNT AT 18" AFF TO THE CENTER OF DEVICE, UNO WITH 1" ABOVE ACCESSIBLE CEILING.
◀	TELEPHONE OUTLET, MOUNT AT 18" AFF TO THE CENTER OF DEVICE, UNO WITH 3/4" ABOVE ACCESSIBLE CEILING.
◀	TELEPHONE/DATA OUTLET, MOUNT AT 18" AFF TO THE CENTER OF DEVICE, UNO WITH 3/4" ABOVE ACCESSIBLE CEILING.
◀	COMMUNICATION OUTLET, MOUNT AT 42" AFF TO THE CENTER OF DEVICE, UNO WITH 1" ABOVE ACCESSIBLE CEILING.
◀	TELEPHONE OUTLET, MOUNT AT 42" AFF OR 6" ABOVE BACKSPASH TO THE CENTER, UNO.
◀	TELEPHONE/DATA OUTLET, MOUNT AT 42" AFF OR 6" ABOVE BACKSPASH TO THE CENTER, UNO.
◀	FLUSH MOUNTED FLOOR BOX WITH COMMUNICATION OUTLET, 1" FOR DATA TO NEAREST WALL & ROUTED UP TO ABOVE ACCESSIBLE CEILING, UNO.
◀	FLUSH MOUNTED CEILING BOX WITH COMMUNICATION OUTLET.
▽	OUTLET FOR WIRELESS ACCESS POINT WITH 1" TO ABOVE ACCESSIBLE CEILING.
◻	DOOR BELL PUSH BUTTON AT 48" AFF TO THE CENTER OF DEVICE, UNO.
◻	DOOR BELL TRANSFORMER, LOCATED ABOVE CEILING.
◻	WALL MOUNTED SOUND SYSTEM SPEAKER, MOUNT HIGH ON WALL.
◻	CEILING MOUNTED SOUND SYSTEM SPEAKER.
◻	LOW VOLTAGE STEP DOWN TRANSFORMER FOR DOOR BELL.
◻	CABLE TV OUTLET RECESSED ON WALL, MOUNT AT 18" AFF TO THE CENTER UNO WITH 3/4" TO ABOVE ACCESSIBLE CEILING, UNO. A-INDICATES WALL MOUNT AT 44" AFF OR 6" ABOVE COUNTERTOP.
◻	SIGNAL BELL FOR DOOR BELL SYSTEM.
◻	DOOR BELL BUZZER AT 84" AFF TO THE BOTTOM OF DEVICE, UNO.
◻	TERMINAL GROUND BAR, SEE TELECOM PLANS FOR SIZE AND CONFIGURATION.
◻	SLEEVES WITH INSULATED BUSHINGS FOR COMMUNICATION WIRING PATHWAYS.

POWER LEGEND:

ALL MAY NOT APPLY

⊕	FLUSH MOUNTED CEILING DUPLEX RECEPTACLE.
⊕	DUPLEX RECEPTACLE, 125 VOLT, MOUNT AT 24" AFF TO THE CENTER, UNO.
⊕	FLUSH MOUNTED FLOOR DUPLEX RECEPTACLE.
⊕	DUPLEX RECEPTACLE, 125 VOLT, MOUNT AT 42" AFF OR 6" ABOVE BACKSPASH TO THE CENTER, UNO.
⊕	PROFESSI MOUNTED DUPLEX RECEPTACLE, NEMA 5-20R, 125V, 60°C, HORIZONTAL MOUNT.
⊕	DOUBLE DUPLEX RECEPTACLE WITH COMMON BOX AND COVER PLATE, MOUNT AT 24" AFF TO THE CENTER, UNO.
⊕	FLUSH MOUNTED FLOOR DOUBLE DUPLEX RECEPTACLE.
⊕	DOUBLE DUPLEX RECEPTACLE, 125 VOLT, MOUNT AT 42" AFF OR 6" ABOVE BACKSPASH TO THE CENTER, UNO.
⊕	SINGLE RECEPTACLE, 125 VOLT, MOUNT 24" AFF TO CENTER, UNO.
⊕	SPECIAL RECEPTACLE, NEMA CONFIGURATION AS INDICATED, MOUNT AT 24" AFF TO THE CENTER, UNO.
○	JUNCTION BOX, SIZE PER NEC.
◻	FLUSH MOUNTED FLOOR JUNCTION BOX, SIZE PER NEC.
◻	WALL MOUNTED JUNCTION BOX, SIZE PER NEC.
◻	LOADCENTER PANEL BOARD, SEE SCHEDULE FOR MOUNTING.
◻	PANELBOARD, SEE SCHEDULE FOR MOUNTING.
◻	PUSH BUTTON OR EMERGENCY POWER OFF SWITCH.
◻	MUSHROOM-STYLE PUSH BUTTON.
⊕	ELECTRIC MOTOR.
⊕	FLUSH MOUNTED FLOOR DUPLEX RECEPTACLE AND COMMUNICATION OUTLET.
⊕	FLUSH MOUNTED FLOOR DOUBLE DUPLEX RECEPTACLE AND COMMUNICATION OUTLET.
⊕	ELECTRICAL POWER COMPANY METER.
⊕	MANUAL MOTOR SWITCH WITH HOA, 1P, 120V.
⊕	HEAVY DUTY TOGGLE SWITCH, 2P, 208V.
⊕	MOMENTARY CONTACT SWITCH, MOUNT AT 36" AFF TO CENTER OF DEVICE UNO.
⊕	TERMINAL GROUND BAR.
⊕	NON-FUSED DISCONNECT SWITCH MOUNTED 4"-12" MAX AFF TO OPERATING HANDLE, UNO, COORDINATE VOLTAGE AND CURRENT RATING WITH EQUIPMENT BEING SERVED.
⊕	FUSED DISCONNECT SWITCH MOUNTED 4"-12" MAX AFF TO OPERATING HANDLE, UNO, COORDINATE VOLTAGE AND CURRENT RATING WITH EQUIPMENT BEING SERVED.

INTERIOR LIGHTING LEGEND:

ALL MAY NOT APPLY

⊕	UNDER CABINET LUMINAIRE WITH DESIGNATION.
⊕	1X3 LUMINAIRE WITH DESIGNATION.
⊕	1X4 LUMINAIRE WITH DESIGNATION.
⊕	1X1 LUMINAIRE WITH DESIGNATION.
⊕	LUMINAIRE WITH DESIGNATION.
⊕	PENDANT LIGHT WITH DESIGNATION.
⊕	EMERGENCY BATTERY PACK, SEE LUMINAIRE SCHEDULE.
⊕	EMERGENCY BATTERY PACK AND SINGLE FACE EXIT SIGN.
⊕	CEILING MOUNTED SINGLE FACE EXIT SIGN.
⊕	WALL MOUNTED SINGLE FACE EXIT SIGN.
⊕	OCCUPANCY SENSOR SWITCH WITH OVERRIDE SWITCH, MOUNTED 36" AFF TO CENTER OF DEVICE UNO.
⊕	3 WAY TOGGLE DUAL SWITCH, MOUNT 36" AFF TO CENTER OF DEVICE UNO.
⊕	DUAL TECHNOLOGY OCCUPANCY SENSOR, CEILING MOUNTED.
⊕	DUAL TECHNOLOGY OCCUPANCY SENSOR, WALL MOUNTED 72" AFF TO CENTER OF DEVICE UNO.
⊕	CEILING MOUNTED PHOTO-CELL.
⊕	SINGLE POLE TOGGLE SWITCH MOUNTED 36" AFF TO CENTER OF DEVICE UNO.
⊕	SINGLE POLE KEYSwitch, MOUNT 36" AFF TO CENTER OF DEVICE UNO.
⊕	3 WAY TOGGLE SWITCH, MOUNT 36" AFF TO CENTER OF DEVICE UNO.
⊕	3 WAY KEYSwitch, MOUNT 36" AFF TO CENTER OF DEVICE UNO.
⊕	3 WAY TOGGLE SWITCH, MOUNT 36" AFF TO CENTER OF DEVICE UNO.
⊕	3 WAY KEYSwitch, MOUNT 36" AFF TO CENTER OF DEVICE UNO.
⊕	3 WAY TOGGLE DUAL SWITCH, MOUNT 36" AFF TO CENTER OF DEVICE UNO.
⊕	SINGLE POLE TOGGLE DUAL SWITCH MOUNTED 36" AFF TO CENTER OF DEVICE UNO.
⊕	3 WAY TOGGLE DUAL SWITCH, MOUNT 36" AFF TO CENTER OF DEVICE UNO.

FIRE ALARM LEGEND:

ALL MAY NOT APPLY

⊕	CEILING MOUNTED SMOKE DETECTOR.
⊕	CEILING MOUNTED SMOKE DETECTOR FOR ELEVATOR RECALL.
⊕	CEILING MOUNTED SMOKE DETECTOR FOR KITCHEN HOOD.
⊕	CEILING MOUNTED SMOKE DETECTOR W/SOUNDER BASE.
⊕	WALL MOUNTED SMOKE DETECTOR.
⊕	CEILING MOUNTED HEAT DETECTOR.
⊕	CEILING MOUNTED STROBE DEVICE; *CB - INDICATES CANDELA RATING.
⊕	DUCT SMOKE DETECTOR.
⊕	FIRE ALARM PULL STATION, MOUNT 48" AFF TO THE CENTER OF DEVICE UNO.
⊕	FIRE ALARM HORN/STROBE UNIT, WALL MOUNT AT 84" AFF TO BOTTOM OF DEVICE UNO; *CB - INDICATES CANDELA RATING.
⊕	FIRE ALARM SPKAKER/STROBE UNIT, WALL MOUNT AT 84" AFF TO BOTTOM OF DEVICE UNO; *CB - INDICATES CANDELA RATING.
⊕	FIRE ALARM STROBE ONLY UNIT, WALL MOUNT 84" AFF TO BOTTOM OF DEVICE UNO; *CB - INDICATES CANDELA RATING.
⊕	CEILING MOUNTED FIRE ALARM HORN/STROBE UNIT; *CB - INDICATES CANDELA RATING.
⊕	FIRE ALARM CONTROL PANEL.
⊕	FIRE ALARM TERMINAL CABINET.
⊕	SUPPLEMENTARY NOTIFICATION APPLIANCE CIRCUIT PANEL.
⊕	FIRE ALARM LCD ANNUNCIATOR.
⊕	DIGITAL ALARM COMMUNICATOR.
⊕	MAGNETIC DOOR HOLDER.
⊕	MONITOR MODULE.
⊕	ISOLATION MODULE.
⊕	REMOTE INDICATOR FOR DUCT DETECTOR, MOUNT ON WALL AT 36" AFF TO TOP OF DEVICE UNO.
⊕	CONTROL MODULE.
⊕	TAMPER SWITCH.
⊕	FLOW SWITCH.
⊕	POST INDICATOR VALVE.
⊕	BEAM TIRE DETECTOR.

EXTERIOR LIGHTING LEGEND:

ALL MAY NOT APPLY

⊕	WALL RECESSED LUMINAIRE WITH DESIGNATION.
⊕	POLE MOUNTED AREA LUMINAIRE WITH DESIGNATION.
⊕	1X8 LUMINAIRE WITH DESIGNATION.
⊕	ROLLARD LUMINAIRE WITH DESIGNATION.
⊕	LUMINAIRE WITH DESIGNATION.

ABBREVIATIONS:

A	AMPERES
AF	ABOVE FINISHED FLOOR
AG	ABOVE FINISHED GROUND
ATS	AUTOMATIC TRANSFER SWITCH
BAS	BUILDING AUTOMATION SYSTEM PANEL
C	CONDUIT
CATV	CABLE TELEVISION
Ca	CANDELA RATING
CB	CIRCUIT BREAKER
EC	ELECTRICAL CONTRACTOR
EW	ELECTRIC WATER COOLER CONNECTION WITH GROUND FAULT PROTECTION
EX	EXISTING TO REMAIN
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FSS	FUSIBLE SAFETY SWITCH
G	EQUIPMENT GROUNDING CONDUCTOR
GF	GROUND FAULT CIRCUIT INTERRUPTER
GC	GENERAL CONTRACTOR
LG	LIGHTING CONTRACTOR
P	PHASE
PH	PANELBOARD
PP	POWER POLE
REC	RECEPTACLE
RM	EXISTING DEVICE TO REMAIN
TR	TELEPHONE TERMINAL BOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VAV	VARIABLE AIR VOLUME BOX
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS, WIRES
WP	WEATHERPROOF
WG	WIRE GUARD
XFR	TRANSFORMER

ELECTRICAL SUMMARY

ELECTRICAL SYSTEMS AND EQUIPMENT	
METHOD OF COMPLIANCE: Energy Code: <input checked="" type="checkbox"/> Prescriptive <input type="checkbox"/> Performance ASHRAE 90.1: <input type="checkbox"/> Prescriptive <input type="checkbox"/> Performance	
<input type="checkbox"/> Energy Cost Budget	
LIGHTING SCHEDULE	
LAMP TYPE REQUIRED IN FIXTURE	N/A
NUMBER OF LAMPS IN FIXTURE	N/A
BALLAST TYPE USED IN FIXTURE	N/A
NUMBER OF BALLASTS IN FIXTURE	N/A
TOTAL WATTAGE PER FIXTURE	N/A
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	N/A
EXTERIOR LAMP EFFICIENCY	N/A
EQUIPMENT SCHEDULES WITH MOTORS	
MOTOR HORSEPOWER	N/A
NUMBER OF PHASES	N/A
MINIMUM EFFICIENCY	N/A
MOTOR TYPE	N/A
# OF POLES	N/A
ADDITIONAL PRESCRIPTIVE COMPLIANCE:	
<input type="checkbox"/> 506.2.1	More Efficient Mechanical Equipment
<input type="checkbox"/> 506.2.2	Reduced Lighting Power Density
<input type="checkbox"/> 506.2.3	Energy Recovery Ventilation System
<input type="checkbox"/> 506.2.4	Higher Efficiency Service Water Heating
<input type="checkbox"/> 506.2.5	On-site Supply of Renewable Energy
<input type="checkbox"/> 506.2.6	Automatic Daylighting Control Systems

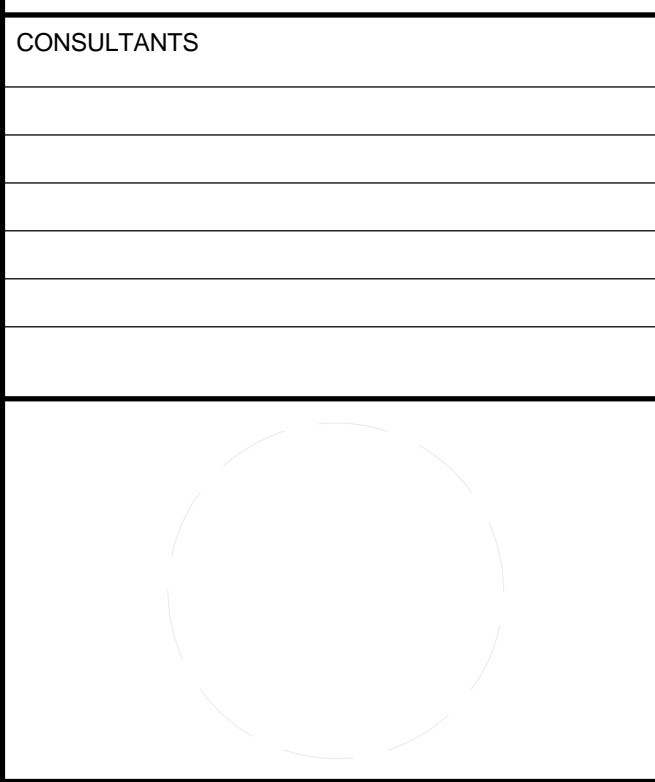
GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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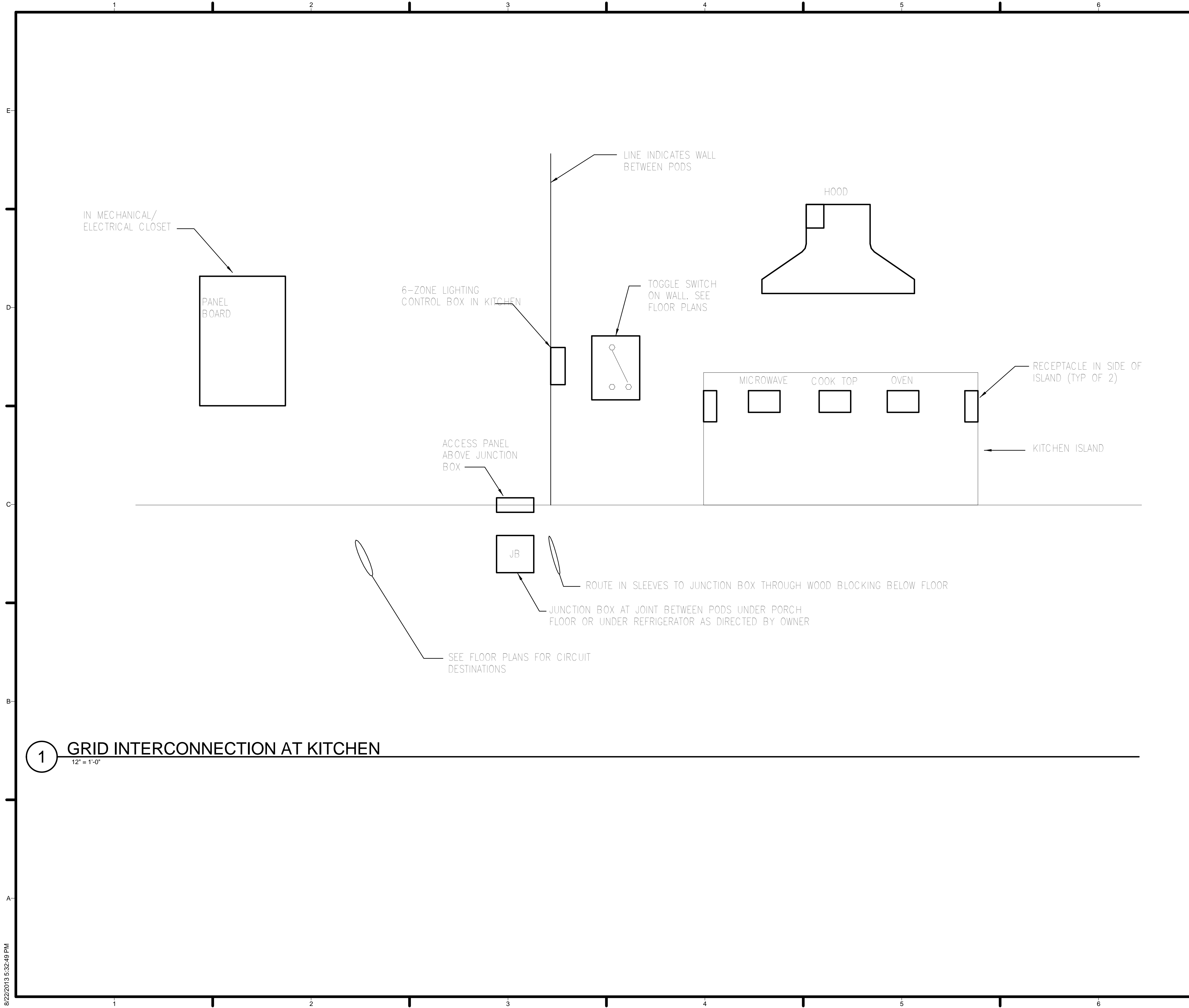
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02	11.20.12	80% DOE RE-SUBMISSION
03	02.14.13	100% DOE SUBMISSION
04	04.05.13	100% DOE RE-SUBMISSION
05	08.22.13	AS-BUILT SUBMISSION

MARK	DATE	DESCRIPTION
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SHEET TITLE
 ELECTRICAL SYMBOLS AND NOTES

E-001



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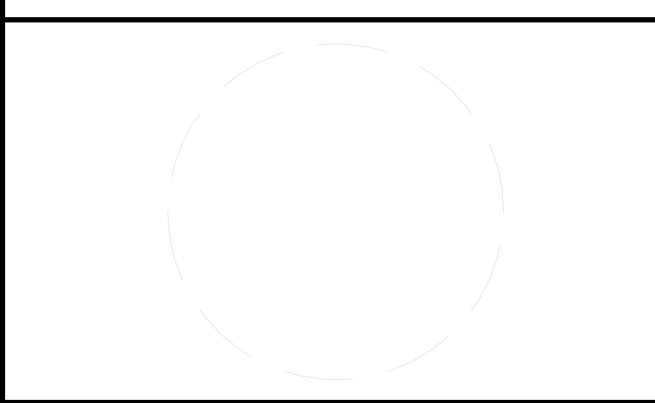
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SHEET TITLE
DETAILS

E-501

1 GRID INTERCONNECTION AT KITCHEN
 1/2" = 1'-0"

PANELBOARD "P"															LOCATION: MECHANICAL ROOM										150 A MAIN BUS RATING									
VOLTAGE : 240 / 120V 1PH 3W															MOUNTING: SURFACE										MAIN CIRCUIT BREAKER									
CKT	LOAD DESCRIPTION	LOAD (KVA)						WIRE SIZE	C (IN)	TRIP/ POLE	PHASE	BRKR	TRIP/ POLE	WIRE SIZE	C (IN)	LOAD (KVA)						CKT												
		LTG	REC	MTR	H/C	OTH	KIT									LTG	REC	MTR	H/C	OTH	KIT													
1	GENERAL LIGHTING (LCP)	1.50					2#12, 1#12G	1/2	20/1			20/1	2#12, 1#12G	1/2	0.36				0.50	FRIDGE, KITCHEN REC.	2													
3	MECHANICAL ROOM RECEPTS	0.36					2#12, 1#12G	1/2	20/1			20/1	2#12, 1#12G	1/2	1.70				1.70	MICROWAVE	4													
5	BEDROOM RECEPTS	1.08					2#12, 1#12G	1/2	20/1			15/1	2#12, 1#12G	1/2	0.36				0.52	RANGE HOOD, KITCHEN REC.	6													
7	LIVING ROOM RECEPTS	1.08					2#12, 1#12G	1/2	20/1			20/1	2#12, 1#12G	1/2				1.50	DISHWASHER	8														
9	BATHROOM RECEPTS	0.36					2#12, 1#12G	1/2	20/1			20/1	2#12, 1#12G	1/2				2.05	OVEN	10														
11	EXTERIOR RECEPTS	0.36					2#12, 1#12G	1/2	20/1			20/2	3#12, 1#12G	1/2				2.05		12														
13	EXTERIOR PV MOTOR RACK 1	1.08					2#12, 1#12G	1/2	15/1			15/1	2#12, 1#12G	1/2				4.20		14														
15	EXTERIOR PV MOTOR RACK 2	1.08					2#12, 1#12G	1/2	15/1			40/2	3#8, 1#10G	3/4				4.20	COOKTOP	16														
17	EXTERIOR PV MOTOR RACK 3	1.08					2#12, 1#12G	1/2	15/1			20/1	2#12, 1#12G	3/4				1.10	WASHER	18														
19	CU-1			0.40			2#12, 1#12G	1/2	15/2			40/2	3#8, 1#10G	3/4				2.75	DRYER	20														
21				0.40			2#12, 1#12G	1/2	15/2			15/1	2#12, 1#12G	1/2			1.00	ERV-1, DH-1	22															
23	CU-2			0.40			2#12, 1#12G	1/2	15/2			15/1	2#12, 1#12G	1/2			0.51			24														
25				0.40			2#12, 1#12G	1/2	15/2			15/1	2#12, 1#12G	1/2					WATER PUMP	26														
29	EXTERIOR ROOF RECEPT			0.72			2#12, 1#12G	1/2	20/1			20/1							SPARE	28														
31	INVERTER 1 (8KVA)			3.00			2#8, 1#10G	3/4	40/2			20/1							SPARE	30														
33	INVERTER 2 (3KVA)			1.50			2#10, 1#10G	1/2	20/2			40/2	2#8, 1#10G	3/4			2.25		WATER HEATER	32														
35	SPARE			1.50			2#10, 1#10G	1/2	20/2			20/1					2.25		SPARE	34														
37	SPARE								20/1			20/1							SPARE	36														
39	SPARE								20/1			20/1							SPARE	38														
									20/1			20/1							SPARE	40														

CONNECTED LOAD		KVA	AMPS	22,000 AMPS MIN. INTERRUPTING CAPACITY (RMS SYM. AMPS)	
PHASE A	25.0	208			
PHASE B	24.4	203			
TOTAL	49.4	206			

CONNECTED (KVA)		DEMAND (KVA)		LARGEST MOTOR (KVA)
LIGHTING/CONTINUOUS	1.5	1.5		
RECEPTACLES	7.2	7.2		
MOTORS	0.0	0.0		
HVAC	8.3	8.3		
OTHER	9.0	9.0		
KITCHEN	23.3	15.2		
TOTAL DEMAND LOAD	41.2	41.2	KVA	
DEMAND AMPS	172	172	AMPS	

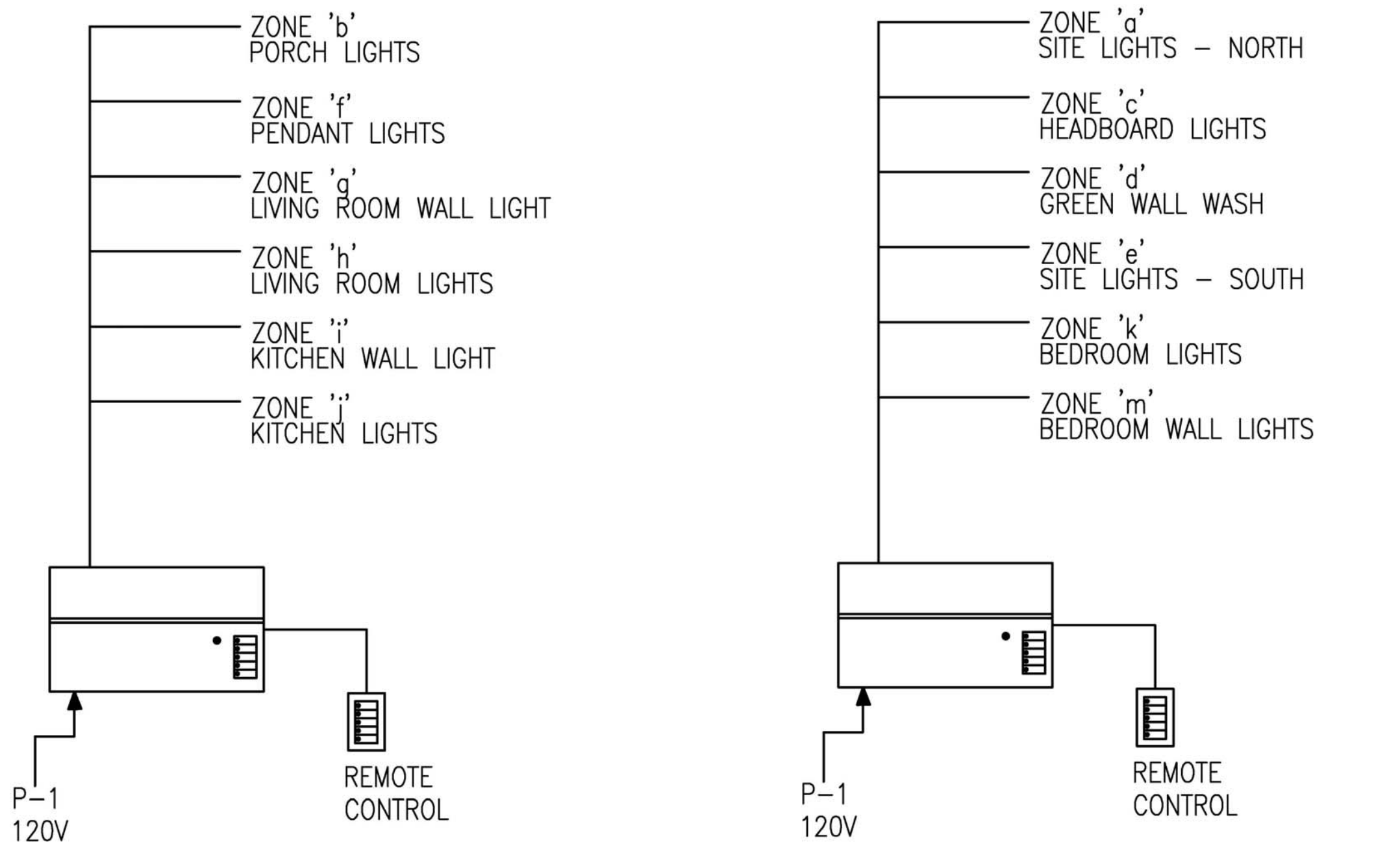
NOTES:
A. LOAD CENTRE CONSTRUCTION
B. COPPER BUSES.
C. WIRE SIZES ARE MINIMUM, INCREASE FOR VOLTAGE DROP.
D. PROVIDE ARCFULT PROTECTION FOR DWELLING UNIT CIRCUITS PER NEC

KEYED NOTES:
(LC) VIA LIGHTING CONTROLLER

LUMINAIRE SCHEDULE											
TYPE	MANUFACTURER AND CATALOG NUMBER	LAMPS			BALLAST		INPUT WATTS	MOUNTING	DESCRIPTION		
		TYPE	NO.	WATTS	TYPE	NO.					
C	LITHONIA, RAZ24	LED		13			13	UNDERCABINET			
C1	LITHONIA, RAZ12	LED		7			7	UNDERCABINET			
P	SISTEMALUX 01-120V-11	LED	3000	1			1	PENDANT	DECORATIVE PENDANT WITH POLISHED ALUMINUM HOUSING, 5' COAXIAL CABLE SUSPENSION WIRING AND INTEGRAL ELECTRONIC POWER SUPPLY. JUNCTION BOX NOT INCLUDED.		
M	LITHONIA, RAZ24, RAZLS26	LED		13			13	UNDERSHELF			
R	PRESCOLITE, LCLD-120-DM-6LCLD-6-35K-8-BLANK-WH-WT-B6	LED	3500K	25			25	RECESSED	DOWNLIGHT WITH 6" DIAMETER APERTURE, WITH INTEGRAL LED ASSEMBLY AND DRIVER, 1375 LUMENS, ALZAK REFLECTOR, DIMMING TO 10%, WET LOCATION LABEL.		
R1	FINTELITE, HP-4 R-7-SO-3500-120V-SC-C3F	LED	3500K	27			27	RECESSED	LINEAR DOWNLIGHT WITH 4" APERTURE, WITH INTEGRAL LED ASSEMBLY AND DRIVER, 2622 LUMENS, MATTIE WHITE STEEL REFLECTOR, DIMMING TO 10%.		
R2	FINTELITE, HP-4 R-6-SO-3500-120V-SC-C3F	LED	3500K	27			27	RECESSED	LINEAR DOWNLIGHT WITH 4" APERTURE, WITH INTEGRAL LED ASSEMBLY AND DRIVER, 2622 LUMENS, MATTIE WHITE STEEL REFLECTOR, DIMMING TO 10%.		
R3	FINTELITE, HP-4 R-8-SO-3500-120V-SC-C3F	LED	3500K	36			36	RECESSED	LINEAR DOWNLIGHT WITH 4" APERTURE, WITH INTEGRAL LED ASSEMBLY AND DRIVER, 2622 LUMENS, MATTIE WHITE STEEL REFLECTOR, DIMMING TO 10%.		
W	KIM LIGHTING, KLV721/3L3K/BL	LED	3500K	4			4	WALL	4.5" DIAMETER ADJUSTABLE SPOT WITH 2" STEM, DIE-CAST ALUMINUM BODY AND HOUSING, TEMPERED CLEAR SODA LIME GLASS LENS. WET LOCATION LABEL.		
W1	LITHONIA, WL4 2SL D20 LP835 NX	LED	3500K	20			20	WALL			
W2	HEAFELE, 833.74.100	LED		2			2	WALL			
W3	FINELITE, HP-4 WM-ID-4-SO-3500-TG-120V-SC-MB	LED		9			9	WALL			
W4	EDGE LIGHTING, TV-W-1-SA	LED		7			7	WALL			
W5	PHILIPS, 523-000030-02	LED		15			15	SURFACE LIGHT	Require 3 - 4' lengths to wash 12' wall		

LUMINAIRE SCHEDULE NOTES:
ABBREVIATIONS:
CWA = CONSTANT WATTAGE AUTOTRANSFORMER (PULSE START)
DTT = DOUBLE TWIN TUBE COMPACT FLUORESCENT
DM = DIMMING BALLAST
EB = ELECTRONIC BALLAST
ESB = ELECTRONIC ENERGY-SAVING BALLAST
ESBD = ELECTRONIC STEPPED DIMMING BALLAST
HPF = HIGH POWER FACTOR
MAG = MAGNETIC
TRT = TRIPLE TUBE COMPACT FLUORESCENT

NOTES:
1. VERIFY LUMINAIRE FINISH COLOR WITH ARCHITECT AND OWNER.
2. COORDINATE MOUNTING WITH CEILING TYPE.
3. FLUORESCENT LAMPS SHALL BE CRI 80, MINIMUM, AND TCLP COMPLIANT.
4. FLUORESCENT BALLASTS SHALL BE ELECTRONIC AND SOUND RATING "A".
5. PROVIDE ALL NECESSARY SUPPORT HARDWARE AND ADAPTERS FOR EACH LUMINAIRE.
6. PROVIDE DIMMING CONTROLS FROM SAME MANUFACTURER AS DIMMING BALLAST CONTROLLED.
7. COORDINATE VOLTAGE OF LUMINAIRE WITH CIRCUIT VOLTAGE. PROVIDE MULTI TAP BALLASTS.



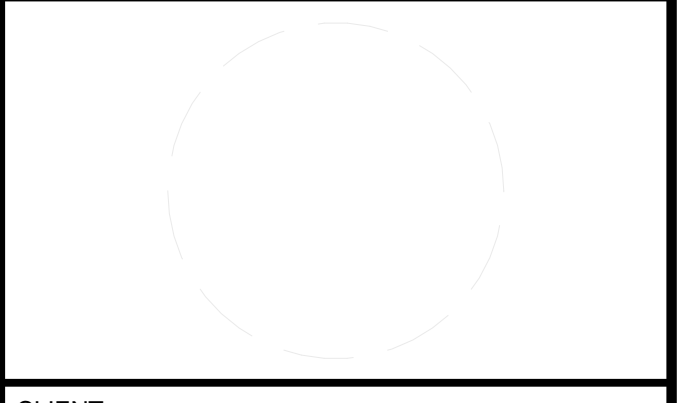
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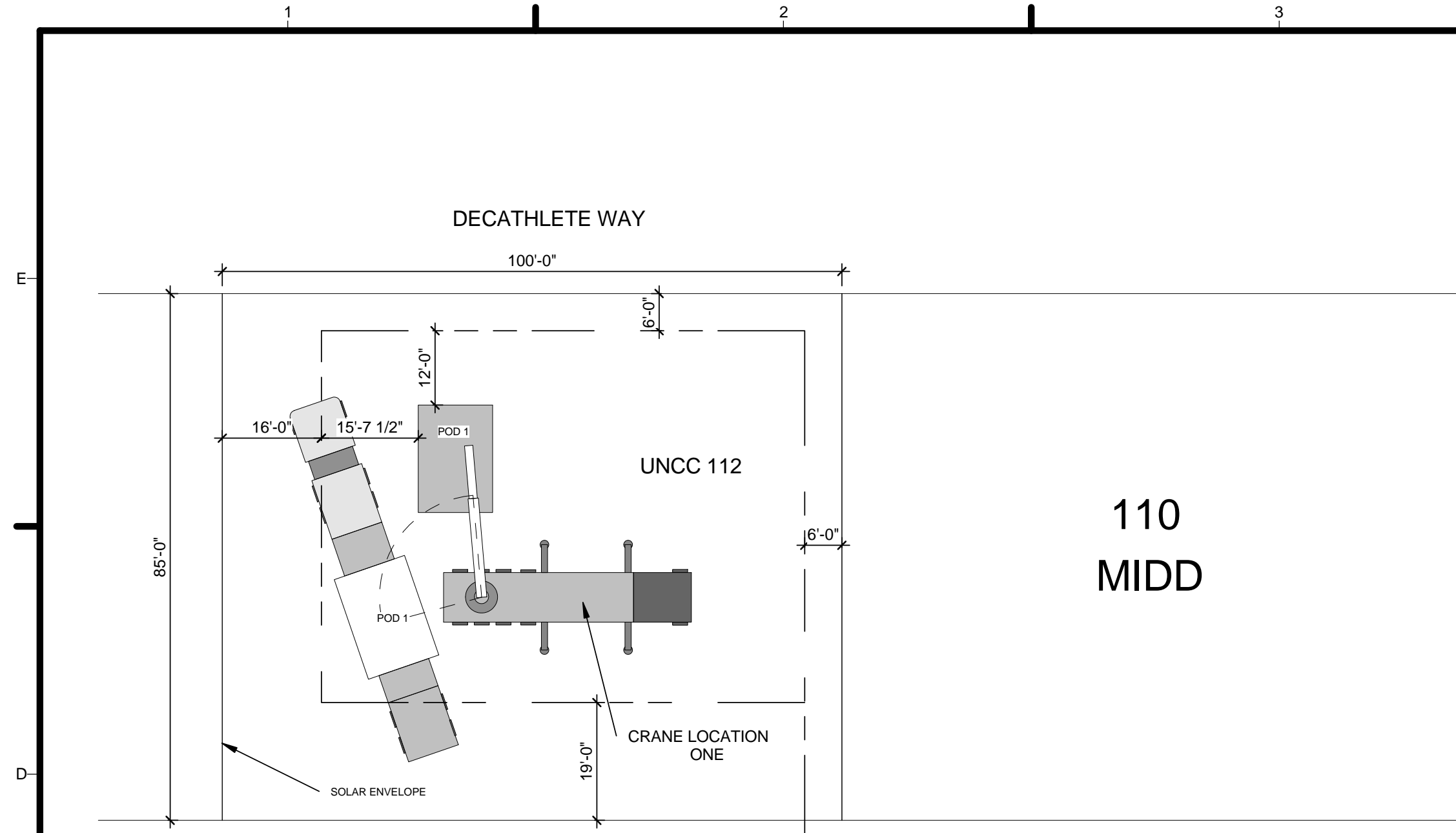


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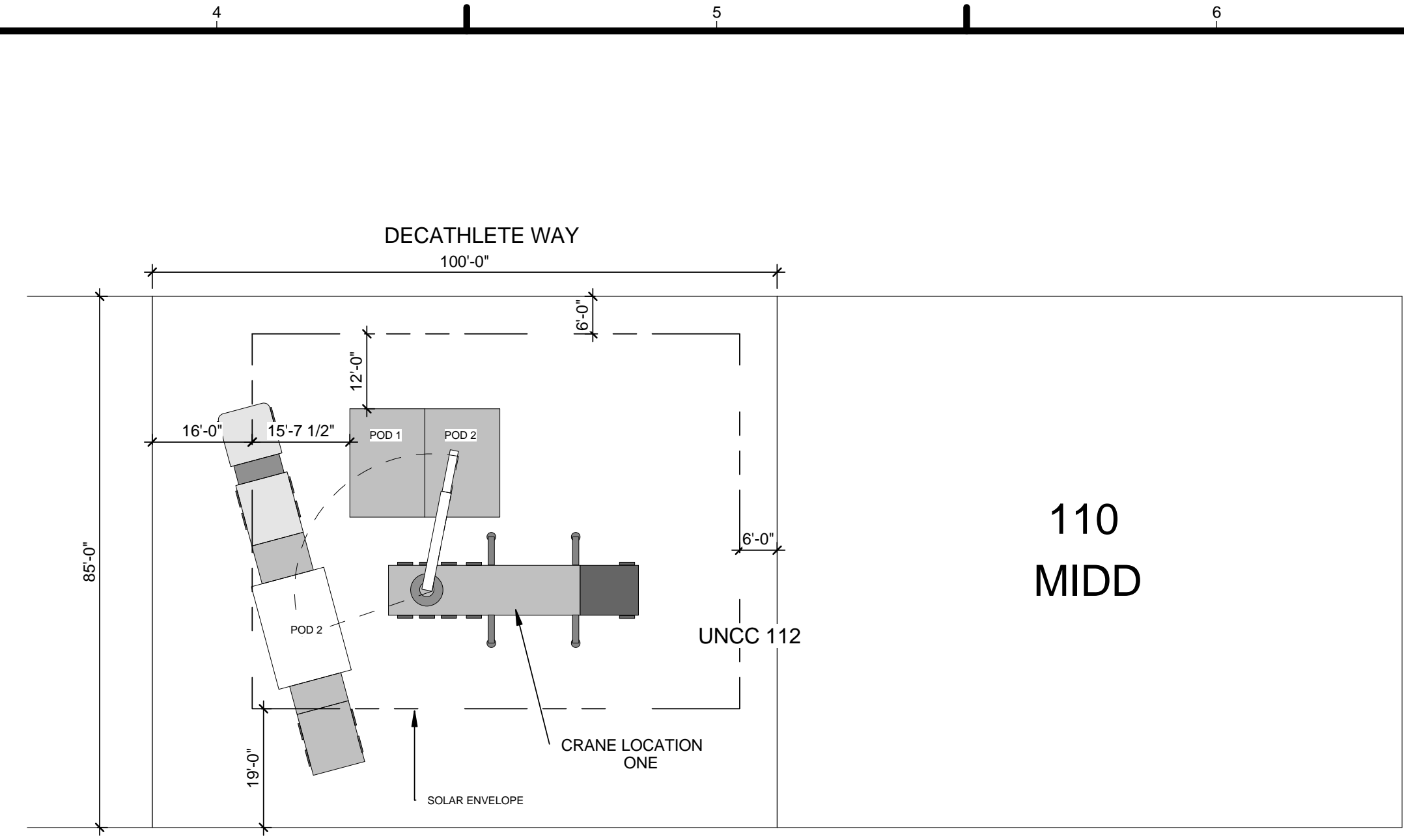
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SCHEDULES

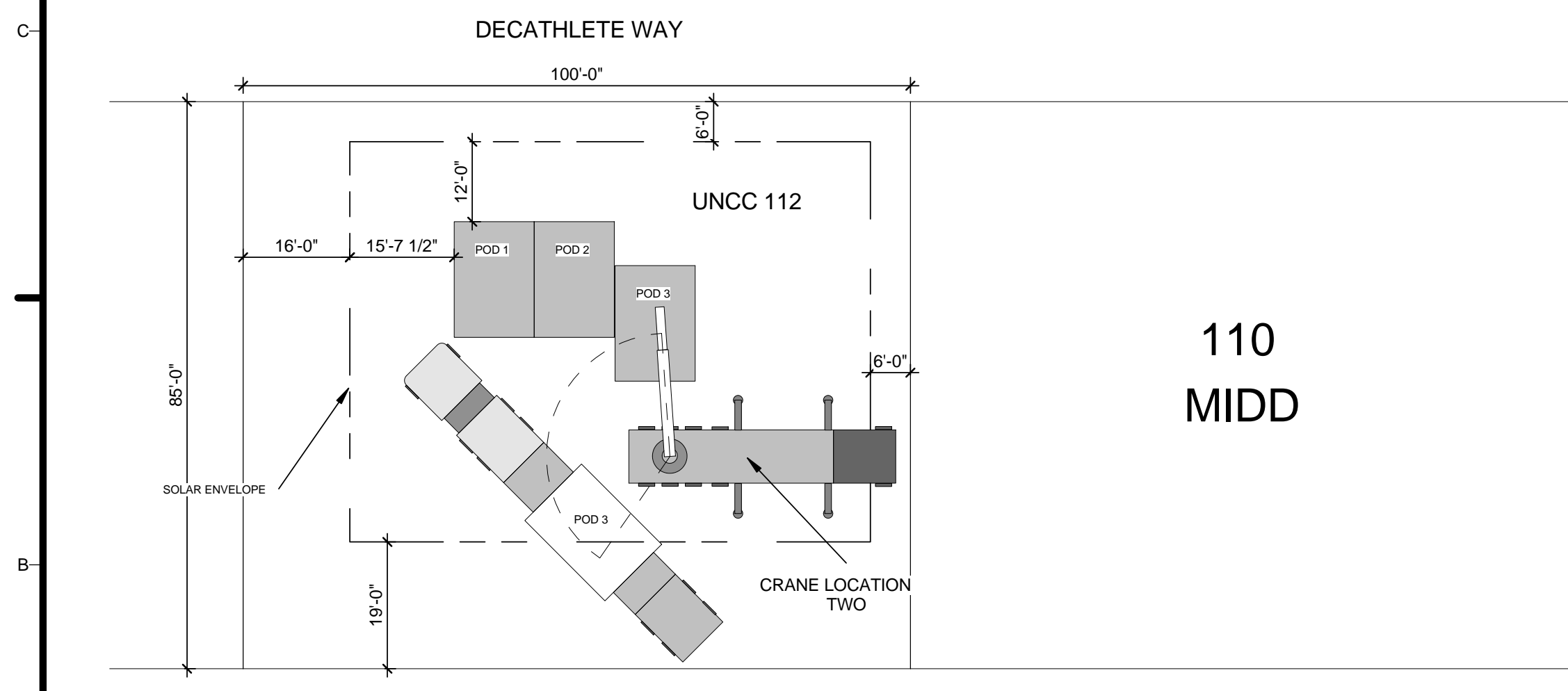
E-605



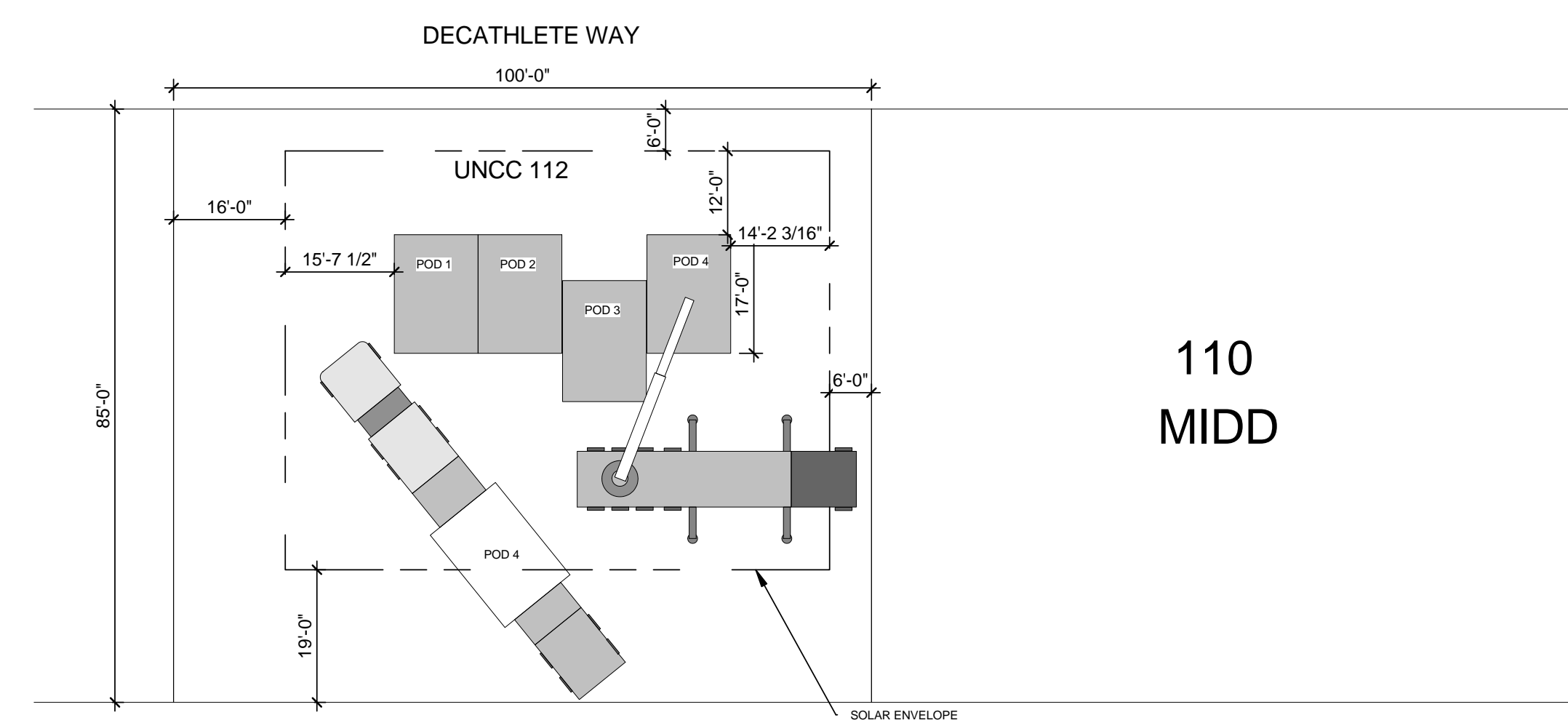
1 SEQUENCE 1
1" = 20'-0"



2 SEQUENCE 2
1" = 20'-0"



3 SEQUENCE 3
1" = 20'-0"



4 SEQUENCE 4
1" = 20'-0"

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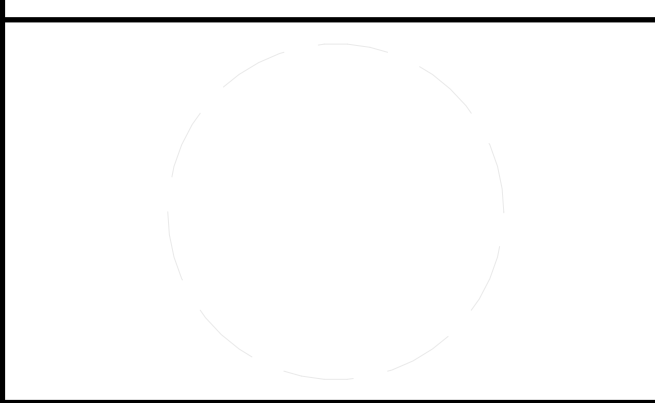
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SHEET TITLE
ARRIVAL SEQUENCE PLANS

O-101

