

illinois 2011
www.solardecathlon.illinois.edu

A sunburst graphic consisting of several black lines of varying lengths radiating from a central point, positioned behind the 'Re' text.

Re
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Re_home

The University of Illinois at Urbana-Champaign
2011 Solar Decathlon Competition Entry

As Built Contract Document Submittal
Submission Date: August 11, 2011

Lead Contact: Xinlei Wang
email: xwang2@illinois.edu
phone: (217) 333-4446
address: 332C ASEB
1304 W. Pennsylvania Ave.
Urbana, IL 61801

Architecture Contact: Mark Taylor
email: mstaylor@illinois.edu
phone: (217) 244-3425
address: 117 Temple Hoyne Buell Hall
611 E. Loredo Taft
Urbana, IL 61801

Architecture Student Contact: Michael Hines
email: mhhines2@illinois.edu

Engineering Student Contact: Chris Cirone
email: ccirone2@illinois.edu

www.solardecathlon.illinois.edu

www.solardecathlon.gov



TEAM NAME:	UNIVERSITY OF ILLINOIS	
ADDRESS:	611 LORADO TAFT DR. CHAMPAIGN, IL 61820	
CONTACT:	SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU	
CONSULTANTS:	MSA PROFESSIONAL SERVICES HOMEWAY HOMES UNIVERSITY OF ILLINOIS FACILITIES AND SERVICES	
CLIENT:	U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV	
MR	3/18/2011	DOE CD Submission
MH	5/3/2011	Documents adjusted per CD submittal review commentary
MH	8/11/2011	As Built Drawing Submission
MARK	DATE	DESCRIPTION
LOT NUMBER: LOT #305		
DRAWN BY: AUTHOR		
CHECKED BY: CHECKER		
COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN		
SHEET TITLE		
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G-001		

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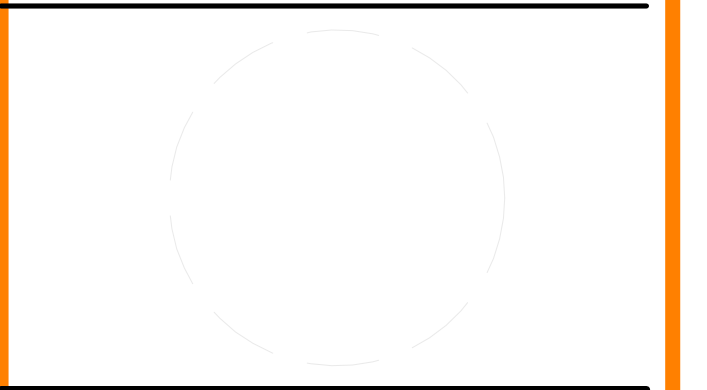
GENERAL SHEET NOTES

- 1.) SQUARE FOOTAGE IS DEFINED BY ANSI Z765-2003 PER SOLAR DECATHLON RULE 6.2
- 2.) FINISHED SQUARE FOOTAGE OF 977.4 SQUARE FEET.
- 3.) FINISHED SQUARE FOOTAGE CALCULATIONS FOR THIS HOUSE WERE MADE BASED ON PLAN DIMENSIONS ONLY AND MAY VARY SLIGHTLY FROM THE FINISHED SQUARE FOOTAGE OF THE HOUSE AS BUILT.



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
 WWW.SOLARDECATHLON.ILLINOIS.EDU

CONSULTANTS
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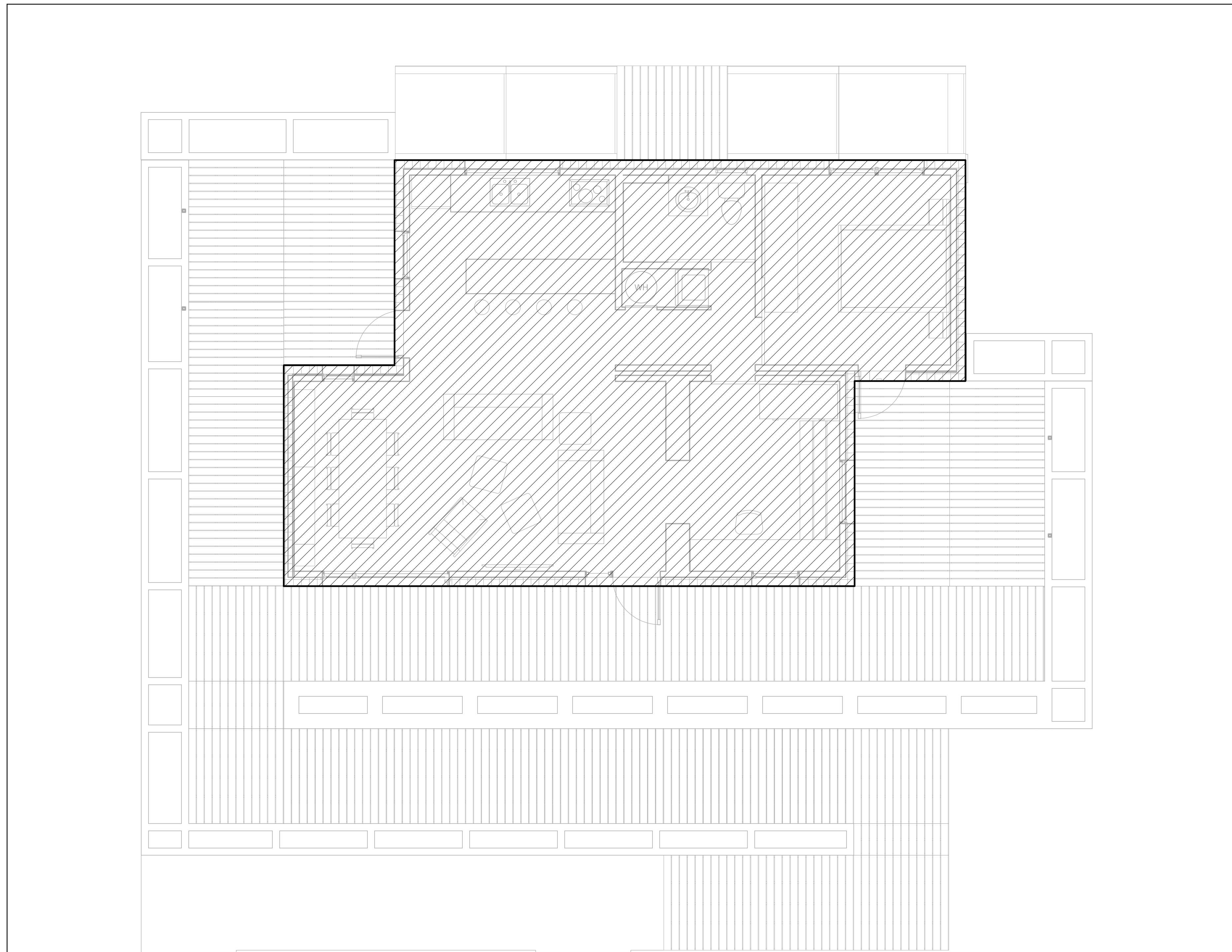
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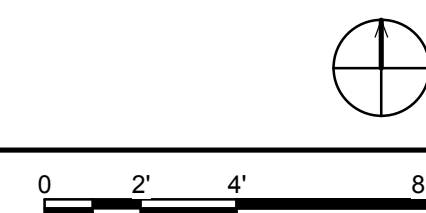
SHEET TITLE

**FINISHED SQUARE
 FOOTAGE
 COMPLIANCE PLAN**

G-101



(A1) FINISHED SQUARE FOOTAGE PLAN
 1/4" = 1'-0"



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GENERAL SHEET NOTES

1.) EXIT ROUTES AS PER SOLAR DECATHLON RULE 6-3



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 CHAMPAIGN, IL 61820
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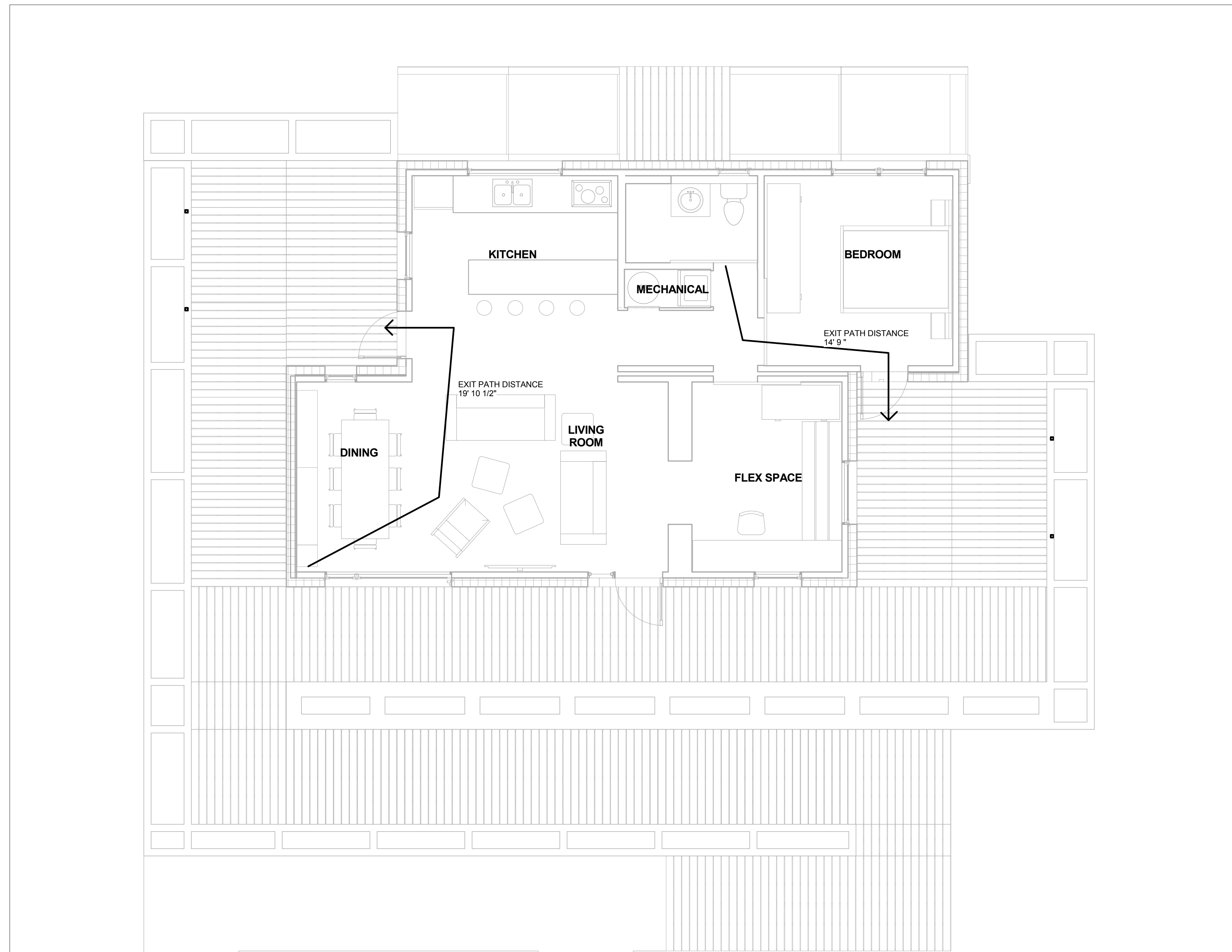
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 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
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SHEET TITLE

EGRESS PLAN

G-102



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

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GENERAL SHEET NOTES

1.) ADA ACCESSIBLE ROUTE AS PER SOLAR DECATHLON RULE 11.4



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ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

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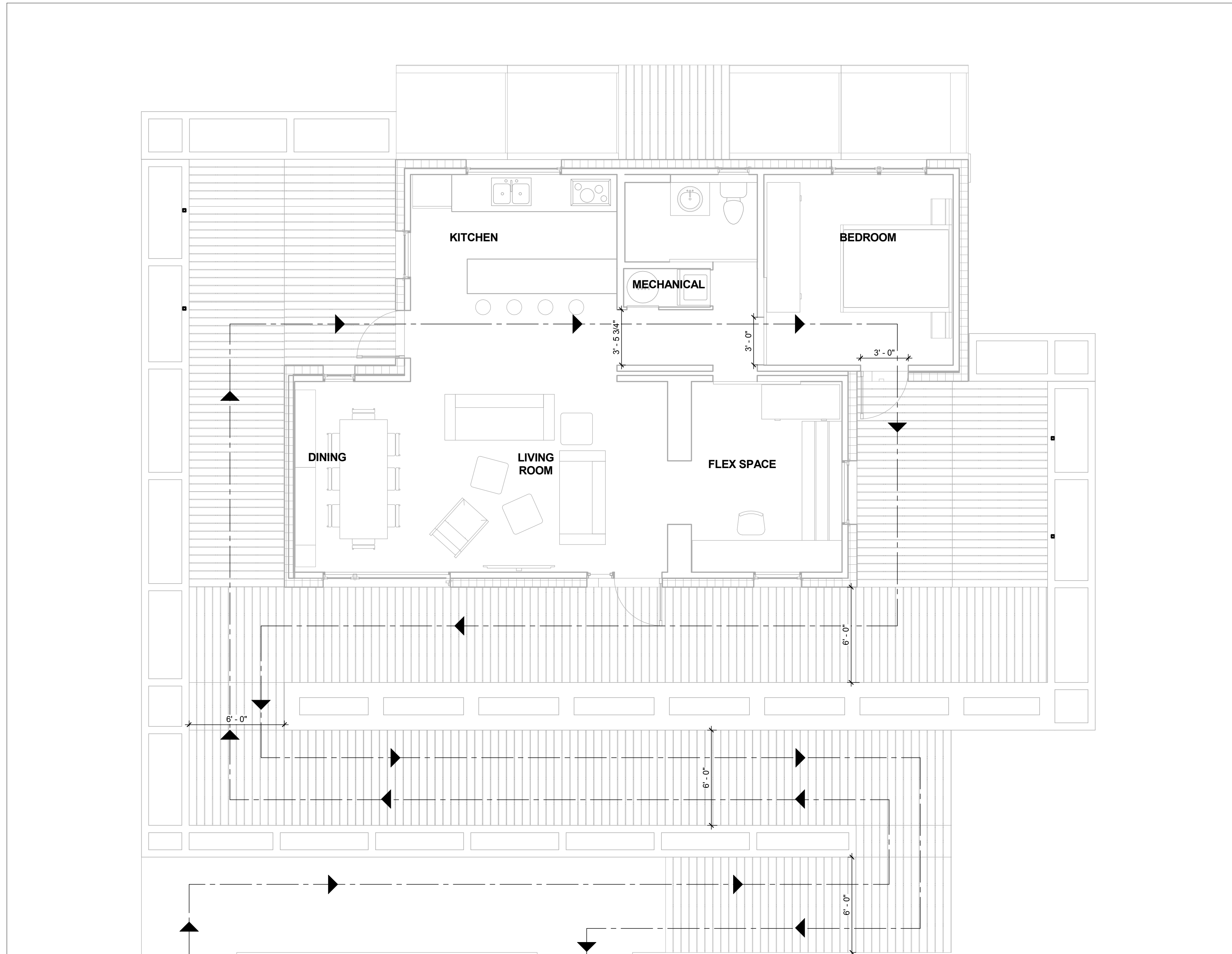


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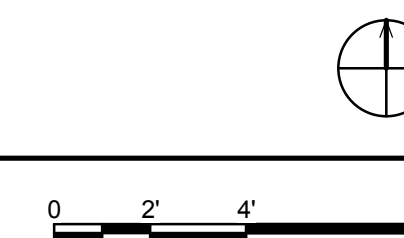
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SHEET TITLE
ADA TOUR ROUTE COMPLIANCE PLAN

G-103



(A1) TOUR ROUTE AND ADA ACCESSIBILITY PLAN
1/4" = 1'-0"



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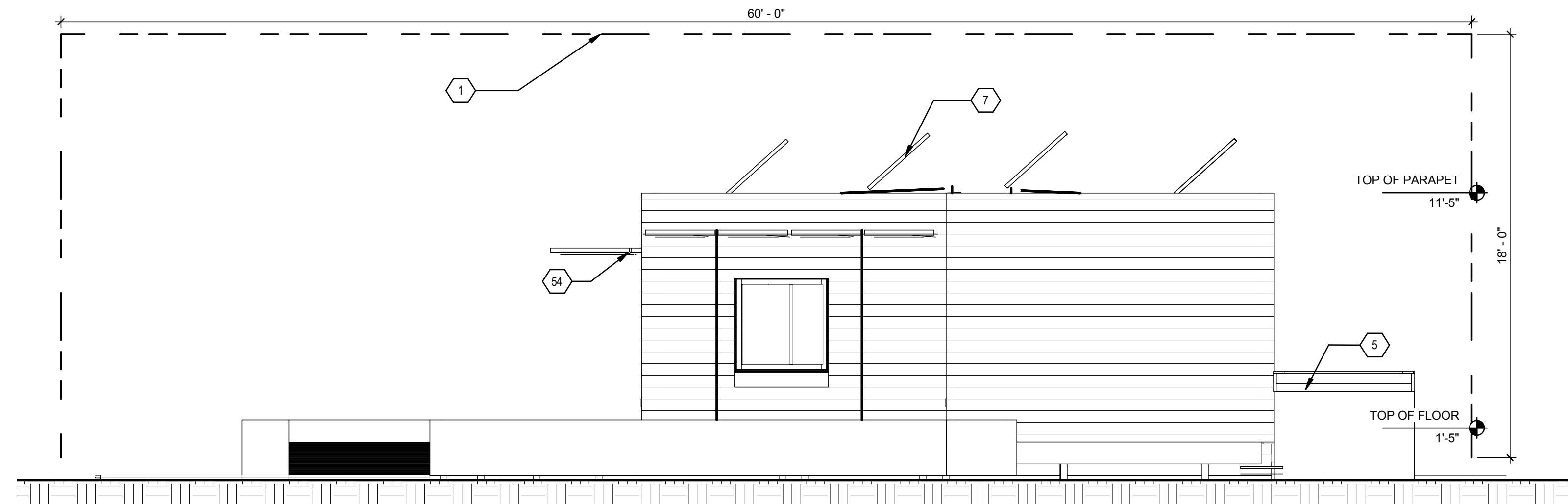
GENERAL SHEET NOTES

1.) ALL HOME ELEMENTS MUST BE PLACED WITHIN THE SOLAR ENVELOPE DEFINED BY THE DEPARTMENT OF ENERGY, DURING THE DESIGNATED COMPETITION PERIOD.

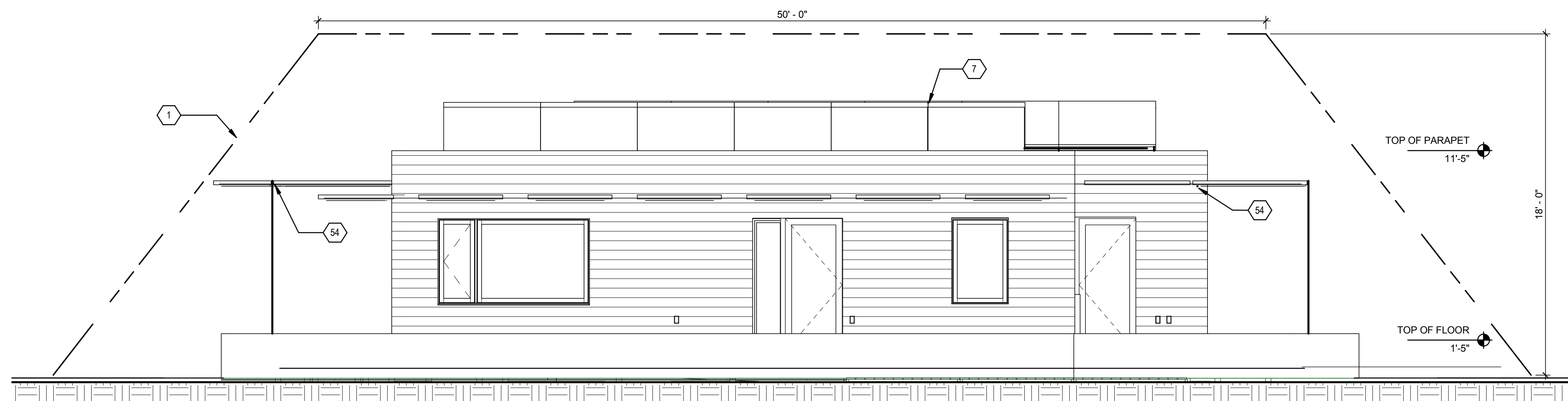


SHEET KEYNOTES

- 1 ORGANIZER DEFINED SOLAR ENVELOPE
- 5 WATER TANK ENCLOSURE
- 7 PHOTOVOLTAIC ARRAY
- 54 STEEL PERGOLA STRUCTURE



C2 SOLAR ENVELOPE COMPLIANCE EAST ELEVATION
1/4" = 1'-0"



A1 SOLAR ENVELOPE COMPLIANCE SOUTH ELEVATION
1/4" = 1'-0"



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
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SHEET TITLE
SOLAR ENVELOPE COMPLIANCE ELEVATIONS
G-201

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 ADDRESS: 611 LORADO TAFT DR.
 CHAMPAIGN, IL 61820
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SHEET TITLE
 GENERAL PROJECT RENDERINGS

G-901

(A1) Re home Rendering
 1/2" = 1'-0"

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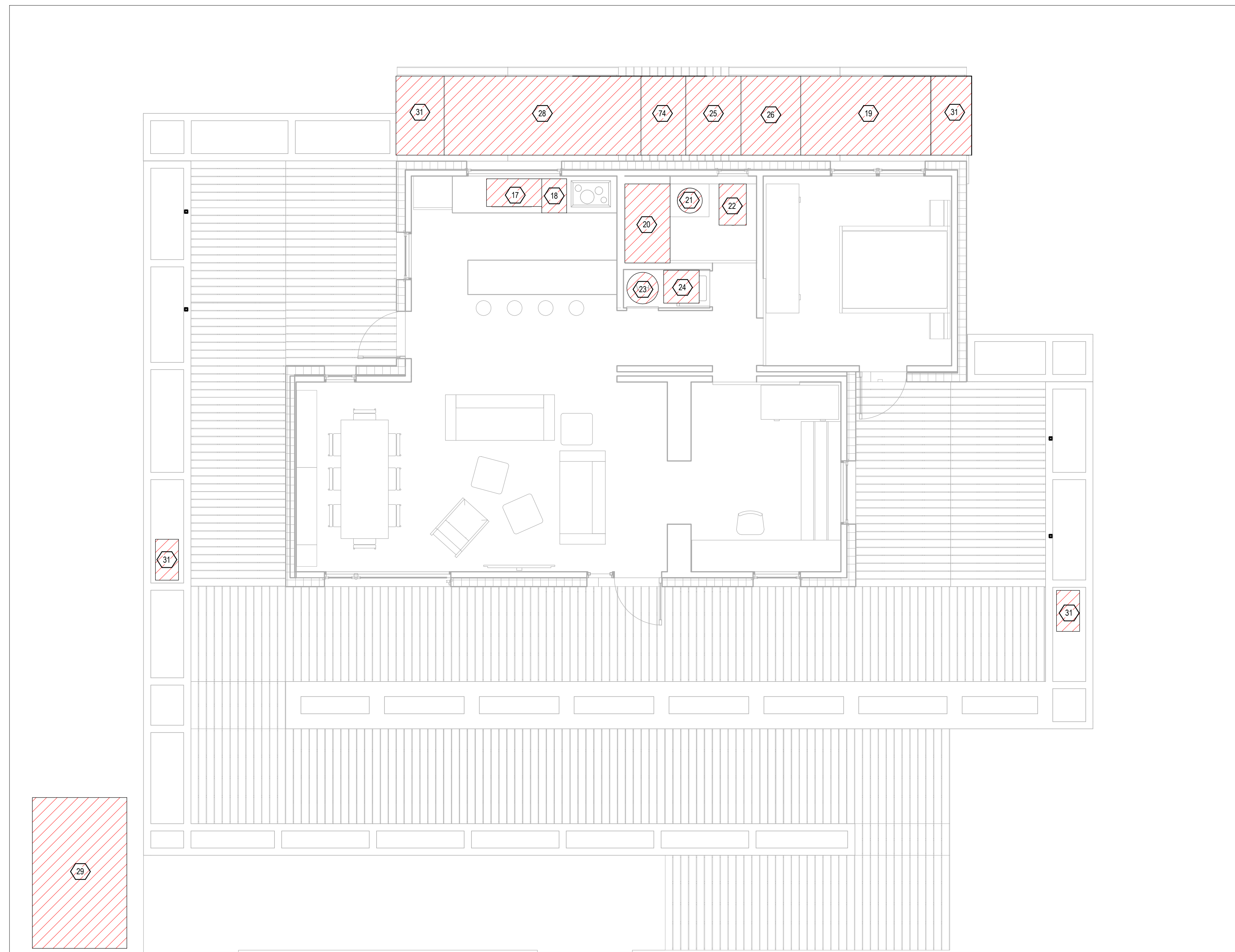
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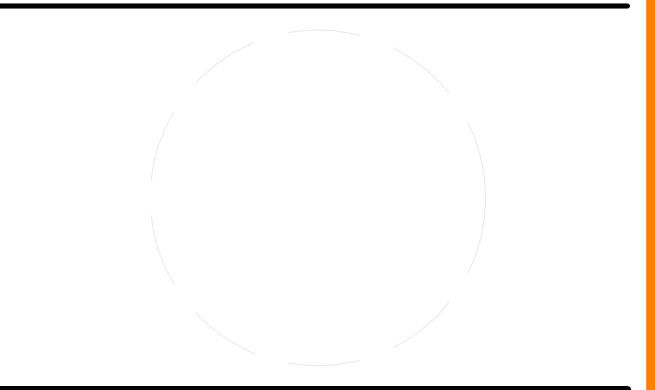
GENERAL SHEET NOTES

1. ALL EQUIPMENT, TANKS AND TANKS THAT WILL CONTAIN FLUIDS AT ANY POINT DURING THE COMPETITION ARE OUTLINED ON THIS DRAWING. THE ILLINOIS SOLAR DECATHLON TEAM IS NOT UTILIZING SOLAR HOT WATER OR THERMAL WATER STORAGE DURING THE COMPETITION.
2. ALL PRESSUREIZED WATER SYSTEMS SHALL HAVE PROPER CONTAINMENT AND WILL BE EQUIPPED WITH AN OVERFLOW PAN AND DRAIN BELOW THE UNIT.
3. A CONDENSATION PAN WITH DRAIN TUBING HAS BEEN PROVIDED FOR EACH HEAT EXCHANGER LOCATED WITHIN THE HOUSE.
4. THE TOILET, WHILE SHOWN, WILL NOT BE PLUMBED OR FUNCTIONAL FOR THE EVENT AND WILL BE MARKED AS SUCH WITH SIGNAGE TO PREVENT ANY ACCIDENTAL USE.
5. IN THE EVENT OF ANY SPILL, THE TEAM SHALL CONSULT THE SAFETY PLAN AND CONTACT THE EVENT ORGANIZERS
6. IN ALL CASES THIS DOCUMENT IS SUPERCEDED BY THE REQUIREMENTS SET FORTH BY THE NATIONAL PARK SERVICE. THIS DOCUMENT SERVES AS A SUPPLEMENT TO THESE REQUIREMENTS.



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
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MR	3/18/2011	DOE CD Submission
MH	5/2/2011	Updated to reflect movement of rear water storage tanks

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

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SHEET TITLE

LIQUID LOCATION AND SPILL CONTAINMENT PLAN

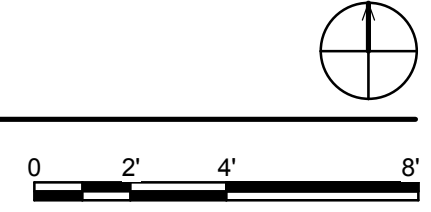
H-101

SHEET KEYNOTES

- 17 KITCHEN SINK
- 18 DISHWASHER
- 19 GREYWATER STORAGE
- 20 SHOWER
- 21 SINK
- 22 TOILET
- 23 HOTWATER TANK WITH DRIP PAN
- 24 CLOTHES WASHER
- 25 SUMP PUMP
- 26 BLACK WATER TANK
- 28 SUPPLY WATER TANK
- 29 GAS GENERATOR DRIP PAN
- 31 RAIN BARREL
- 74 PRESSURE TANK

A1 LIQUID LOCATION AND SPILL CONTAINMENT PLAN

1/4" = 1'-0"



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GENERAL CIVIL NOTES

- 1.) THE LOCATION OF EXISTING UNDERGROUND UTILITIES, SUCH AS WATER MAINS, SEWERS, GAS LINES, ETC. HAS NOT BEEN DETERMINED AND HAS NOT BEEN SHOWN ON THE PLANS. BEFORE CONSTRUCTION, OWNER SHOULD HIRE A LICENSED CIVIL ENGINEER TO DETERMINE LOCATION BASED ON THE BEST AVAILABLE INFORMATION. ALL INFORMATION SHOWN IS GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE OWNER AND THE ENGINEER DO NOT ASSUME RESPONSIBILITY IN THE EVENT THAT DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED AND THAT THE ACTUAL LOCATION OF THOSE WHICH EXIST MAY BE DIFFERENT FROM THE LOCATION ASSUMED.
- 2.) CONTRACTOR SHALL NOTIFY THE OWNER, ENGINEER AND THE LOCAL PRESIDING MUNICIPALITY A MINIMUM OF 48 HOURS IN ADVANCE OF PERFORMING ANY WORK.
- 3.) ALL AREAS, ON OR OFF SITE, DISTURBED DURING CONSTRUCTION OPERATIONS AND NOT PART OF THE WORK AS SHOWN HERON SHALL BE RESTORED TO ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER. IT IS INCUMBENT UPON CONTRACTOR TO SHOW THAT DAMAGED AREAS WERE NOT DISTURBED BY CONSTRUCTION OPERATIONS
- 4.) THESE DRAWINGS ASSUME THAT THE CONTRACTOR WILL UTILIZE AN ELECTRONIC DRAWING FILE AND STAKE ALL SITE IMPROVEMNTS USING COORDINATES TIED INTO THE CONTROL POINTS. THE DIMENSIONS INDICATED ON THE DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY.
- 5.) IN THE CASE OF CONFLICT BETWEEN THESE DRAWINGS, THE FOUNDATION DRAWINGS AND THE ARCHITECTURAL SITE PLAN, THE USER OF THIS INFORMATION SHALL CONTACT THE ENGINEER IMMEDIATELY.
- 6.) OWNER TO COORDINATE THE EXACT LOCATIONS OF ALL UTILITY SERVICE LINES WITH PLUMBING DRAWINGS. REFER TO PLUMBING DRAWINGS FOR CONTINUATION OF ALL UTILITIES WITHIN 5 FEET OF BUILDING AREA
- 7.) CONTRACTOR SHALL FIELD VERIFY INVERT & LOCATIONS OF EXISTING UTILITY MAINS PRIOR TO INSTALLING ANY ON-SITE UTILITIES OR STRUCTURES.
- 8.) SEPARATION OF WATER AND SEWER LINES SHALL BE 10' MINIMUM HORIZONTALLY. IF 10' IS NOT POSSIBLE, SEWER SHALL BE OF WATER MAIN QUALITY MATERIAL AND CONSTRUCTION.
- 9.) CLEAN OUT ALL EXISTING AND PROPOSED STORM INLETS AND CATCH BASISNS AT THE COMPLETION OF CONSTRUCTION
- 10.) THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" CURRENT EDITION SHALL GOVERN WORK WHERE APPLICABLE.

 GENERAL CIVIL NOTES
1/4" = 1'-0"



TEAM NAME: UNIVERSITY OF ILLINOIS
 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
 WWW.SOLARDECATHLON.ILLINOIS.EDU

CONSULTANTS
 MSA PROFESSIONAL SERVICES
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 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
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SHEET TITLE
 CIVIL NOTES AND SYMBOLS

C-001

GENERAL SHEET NOTES

1. EACH DWELLING SHALL BE PROVIDED WITH GROUNDING ELECTRODES IN ACCORDANCE WITH IRC E3608. 1.4 ROD AND PIPE ELECTRODES. THE LENGTH OF THE GROUND ROD SHALL BE EXACTLY 8 FEET IN LENGTH.
2. PLEASE REFER TO THE STAMPED STRUCTURAL CALCULATIONS IN THE PROJECT MANUAL FOR FURTHER CLARIFICATION ON GROUND LOADING CONDITIONS.



SHEET KEYNOTES

72 ELECTRICAL METER HOUSING

TEAM NAME: UNIVERSITY OF ILLINOIS
 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
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CONSULTANTS
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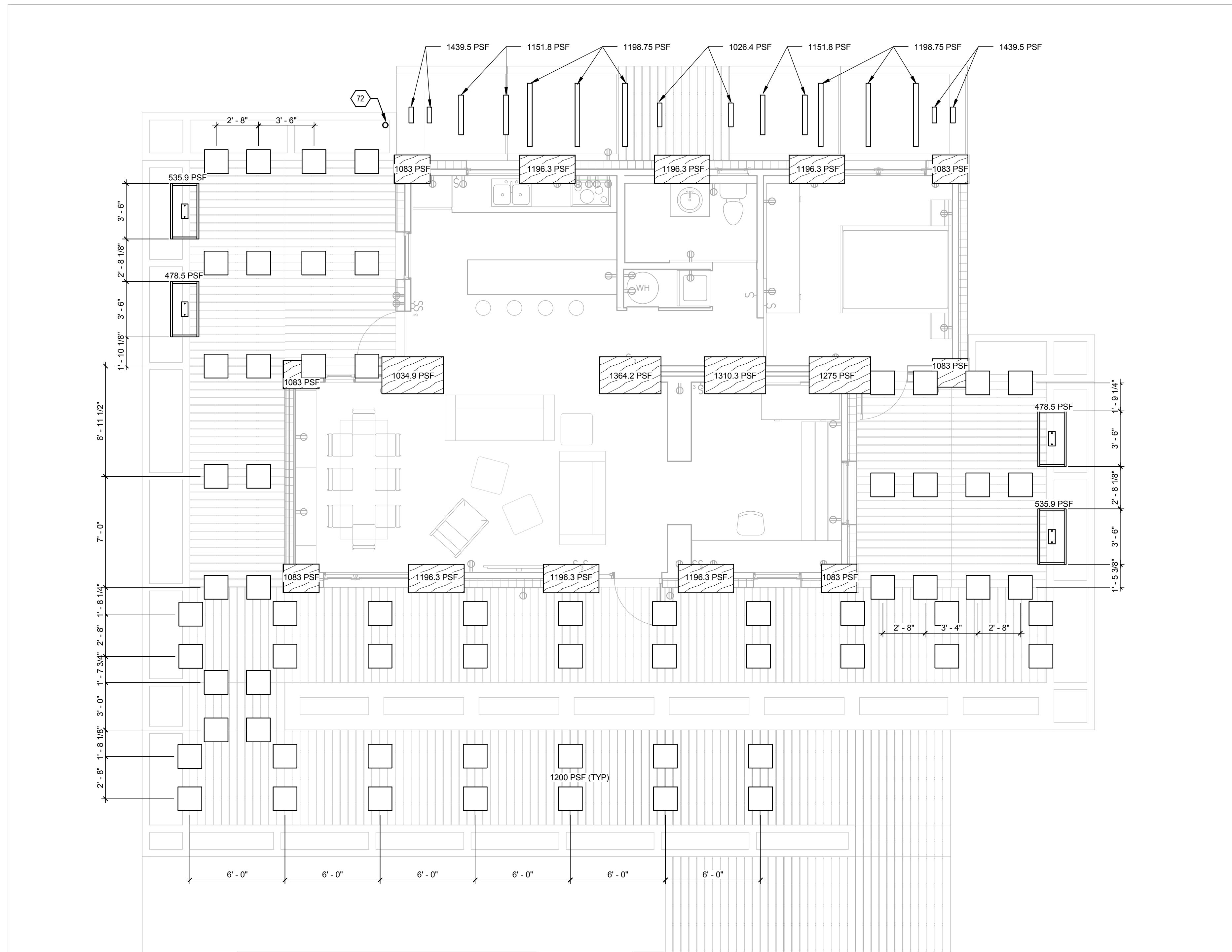
MR	DATE	DESCRIPTION
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SHEET TITLE

GROUND CONTACT PLAN

C-101



(A1) GROUND CONTACT PLAN
 1/4" = 1'-0"



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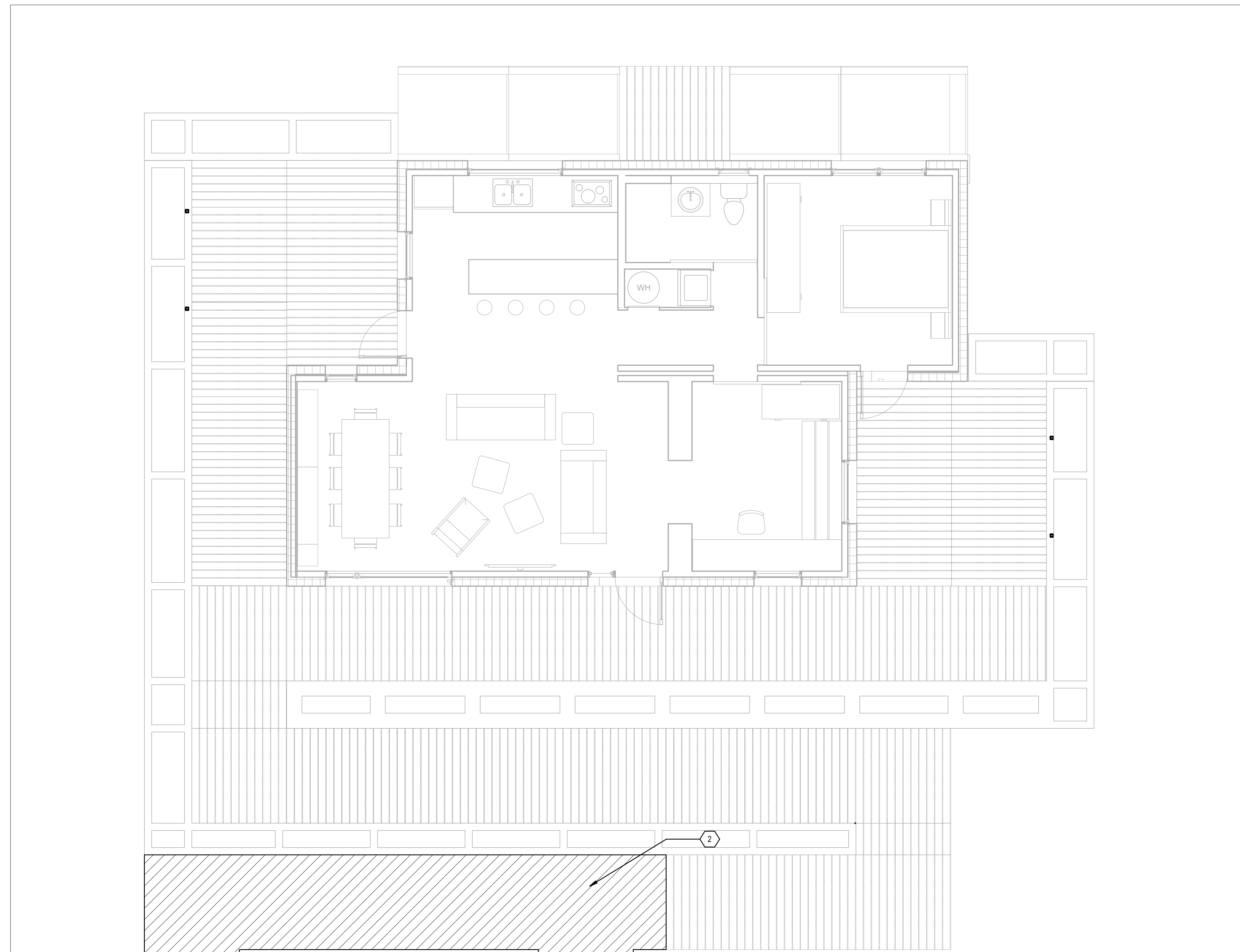
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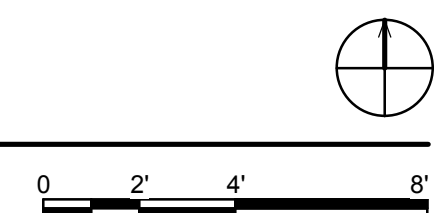
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A1 ORGANIZER SUPPLIED PAVING PLAN
 1/4" = 1'-0"



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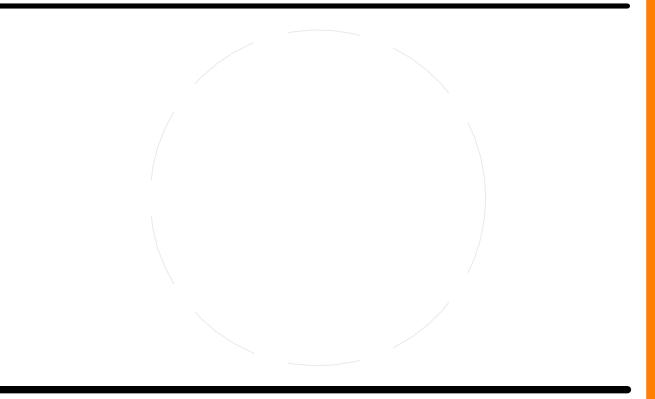
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SHEET KEYNOTES	
2	ORGANIZER SUPPLIED MAT/T



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 ADDRESS: 611 LORADO TAFT DR.
 CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
 WWW.SOLARDECATHLON.ILLINOIS.EDU

CONSULTANTS
 MSA PROFESSIONAL SERVICES
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 UNIVERSITY OF ILLINOIS FACILITIES AND SERVICES



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SHEET TITLE
ORGANIZER SUPPLIED PAVING PLAN

C-102

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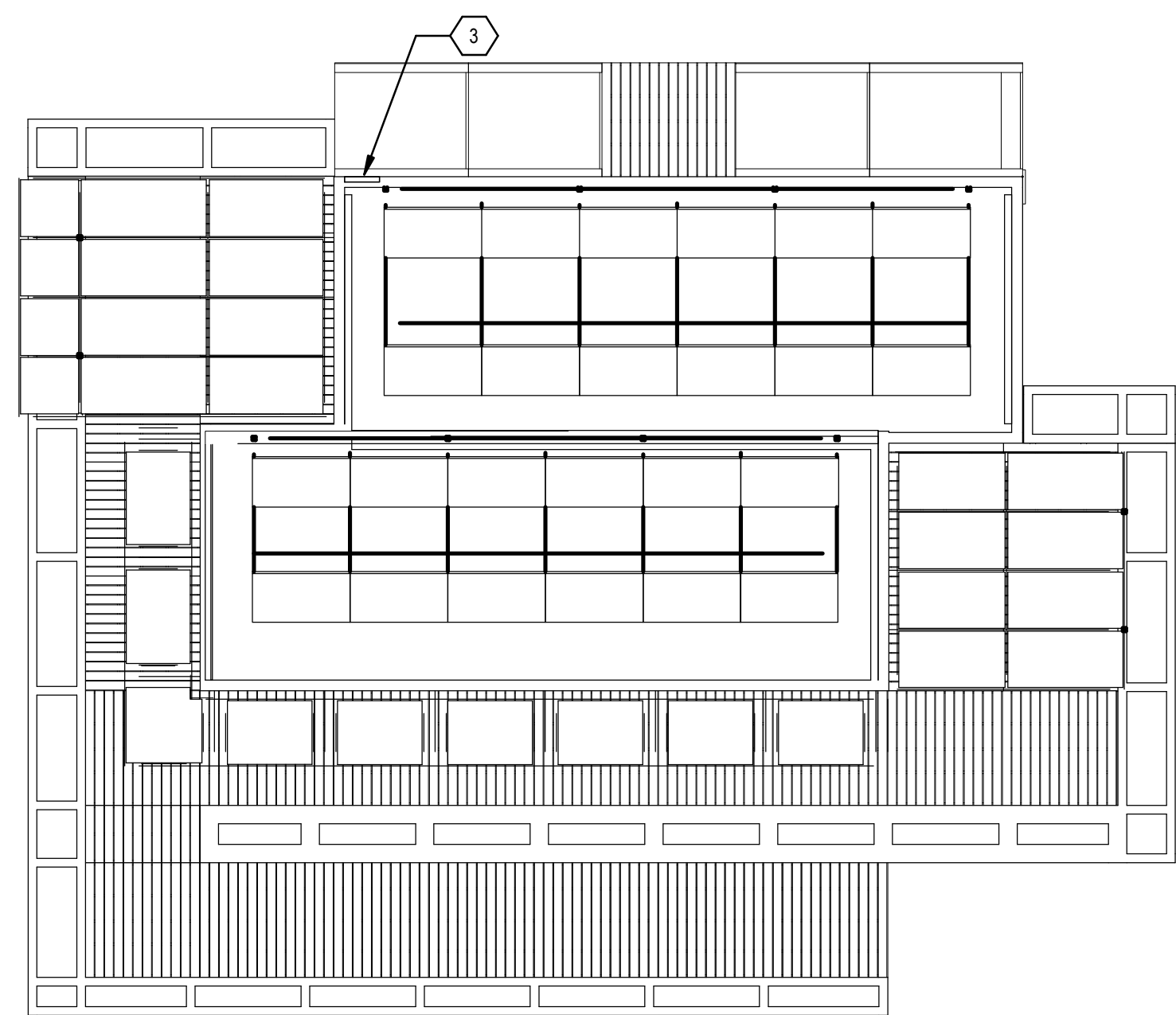
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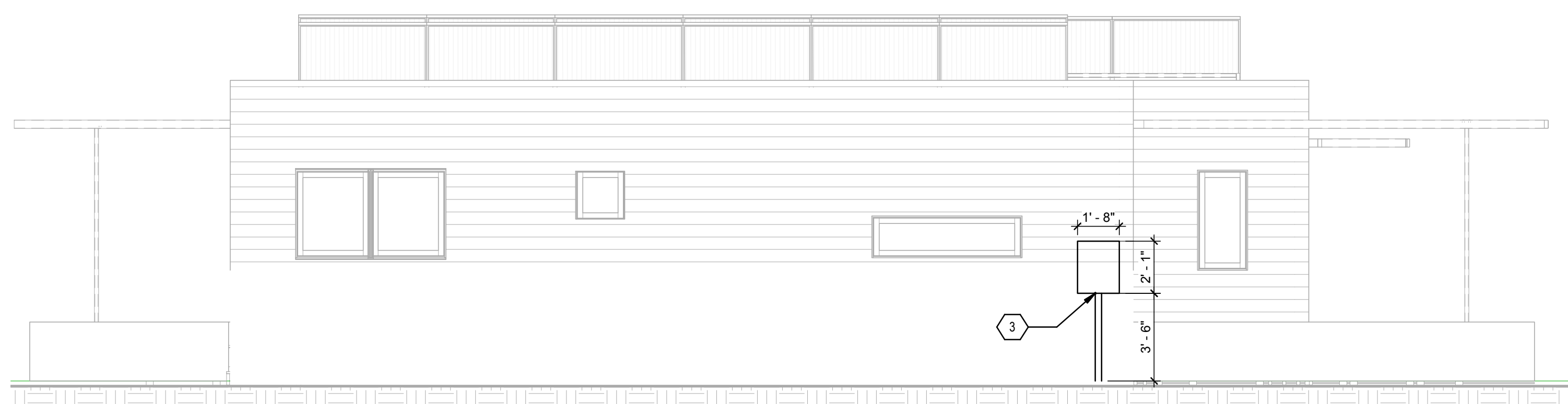
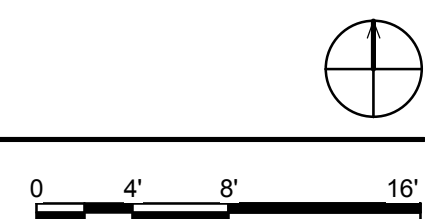
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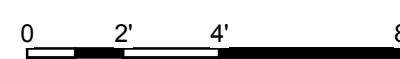
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C1 ELECTRICAL SITE PLAN
1/8" = 1'-0"



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

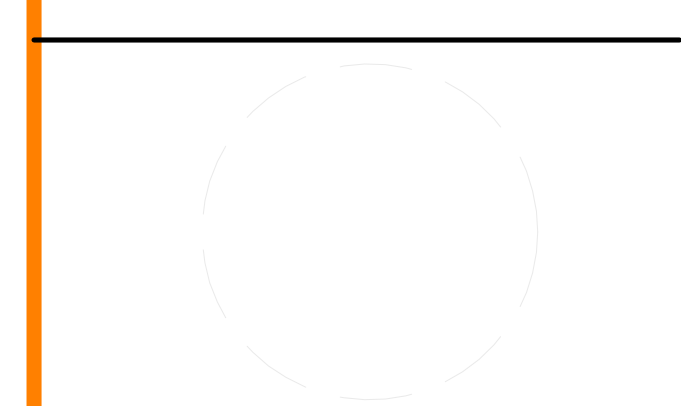


SHEET KEYNOTES	
3	ELECTRICAL METER HOUSING



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
 WWW.SOLARDECATHLON.ILLINOIS.EDU

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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
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SHEET TITLE
SITE UTILITY PLAN

C-103

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GENERAL SHEET NOTES

- 1/2" STEEL SHIM PLATES ARE TO BE ADDED TO WOOD FOUNDATIONS TO ACCOMMODATE POSSIBLE 18" VARIATION IN SITE CONDITIONS.

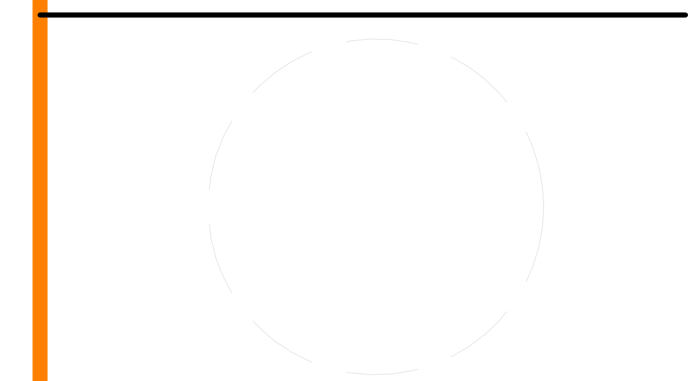


REFERENCE KEYNOTES

05 05 23.H6	1" SHEAR CONNECTORS
05 05 23.I1	1/2" STEEL PLATE
05 12 77.N99	WT8X18
06 11 00.F1	2X6
06 16 00.D14	1" PLYWOOD

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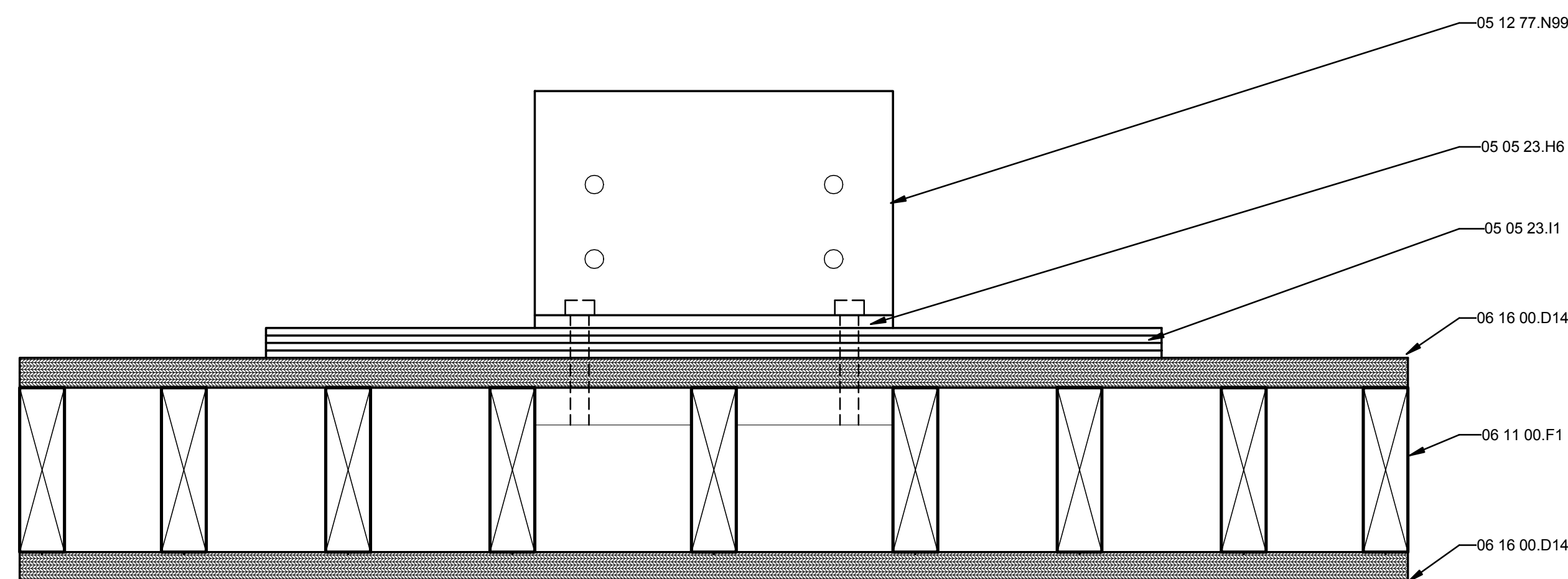


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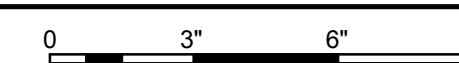
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SHEET TITLE
**LOT CONDITION
 ADJUSTMENT DETAILS**

C-501



(A1) FOUNDATION FOOTING FOR SITE ADJUSTMENT
 3" = 1'-0"



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GENERAL SHEET NOTES

1. ALL VEGETATION TYPES SHOWN OCCUPYING THE PLANTER BOXES ARE SUBJECT TO CHANGE DUE TO AVAILABILITY DURING THE COMPETITION PERIOD.



SHEET KEYNOTES

- 2 ORGANIZER SUPPLIED MAT
- 5 WATER TANK ENCLOSURE
- 30 VEGETABLE GARDEN
- 32 PLANTER WITH SEATING
- 33 BENCH DISPLAY SPACE

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 CONTACT: SOLARDECATHLON@UIUC.EDU
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MH	5/2/2011	Water tank enclosure added decks adjusted, vegetation clarified.

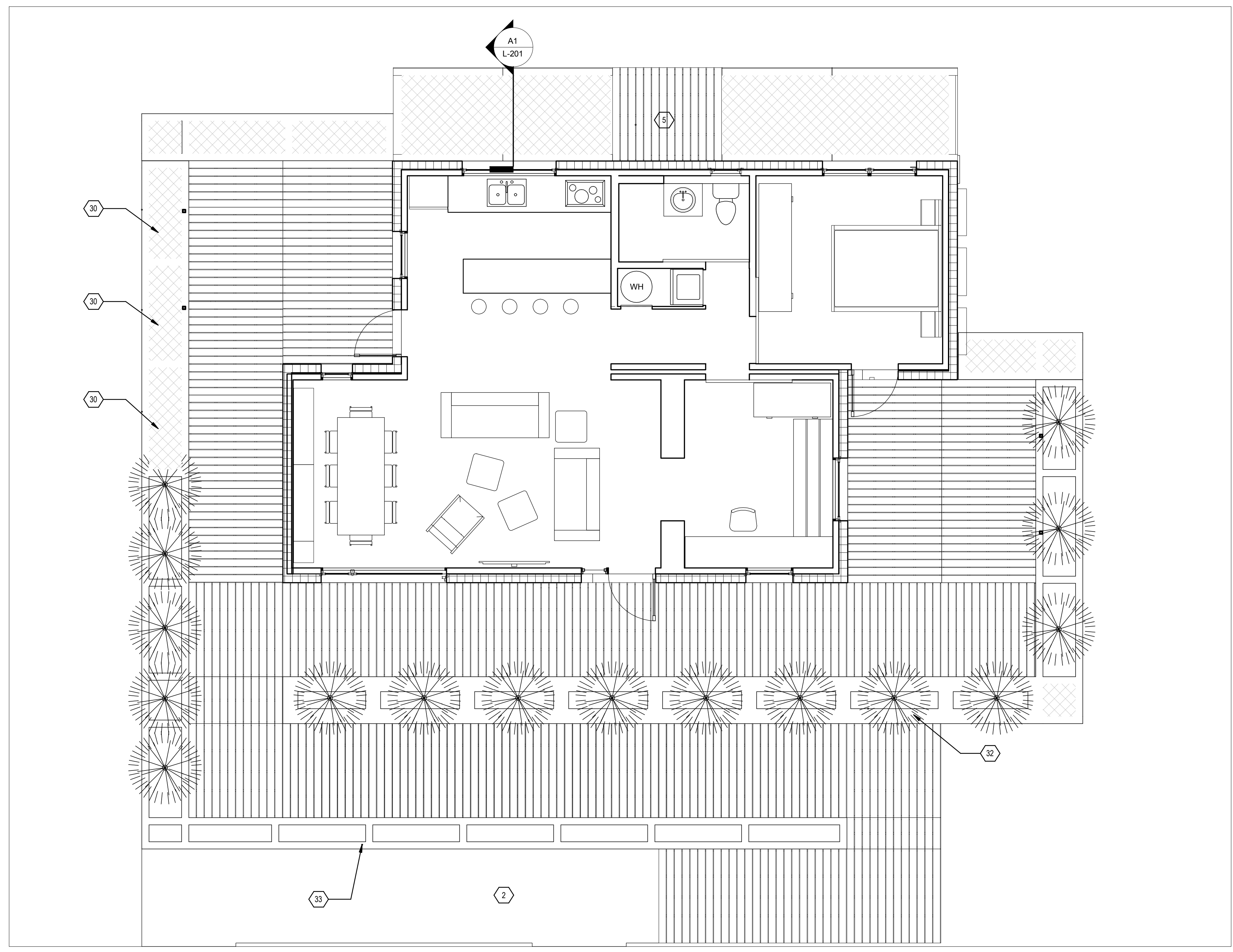
MARK	DATE	DESCRIPTION
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SHEET TITLE

LANDSCAPE AND PLANTING SITE PLAN

L-101



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



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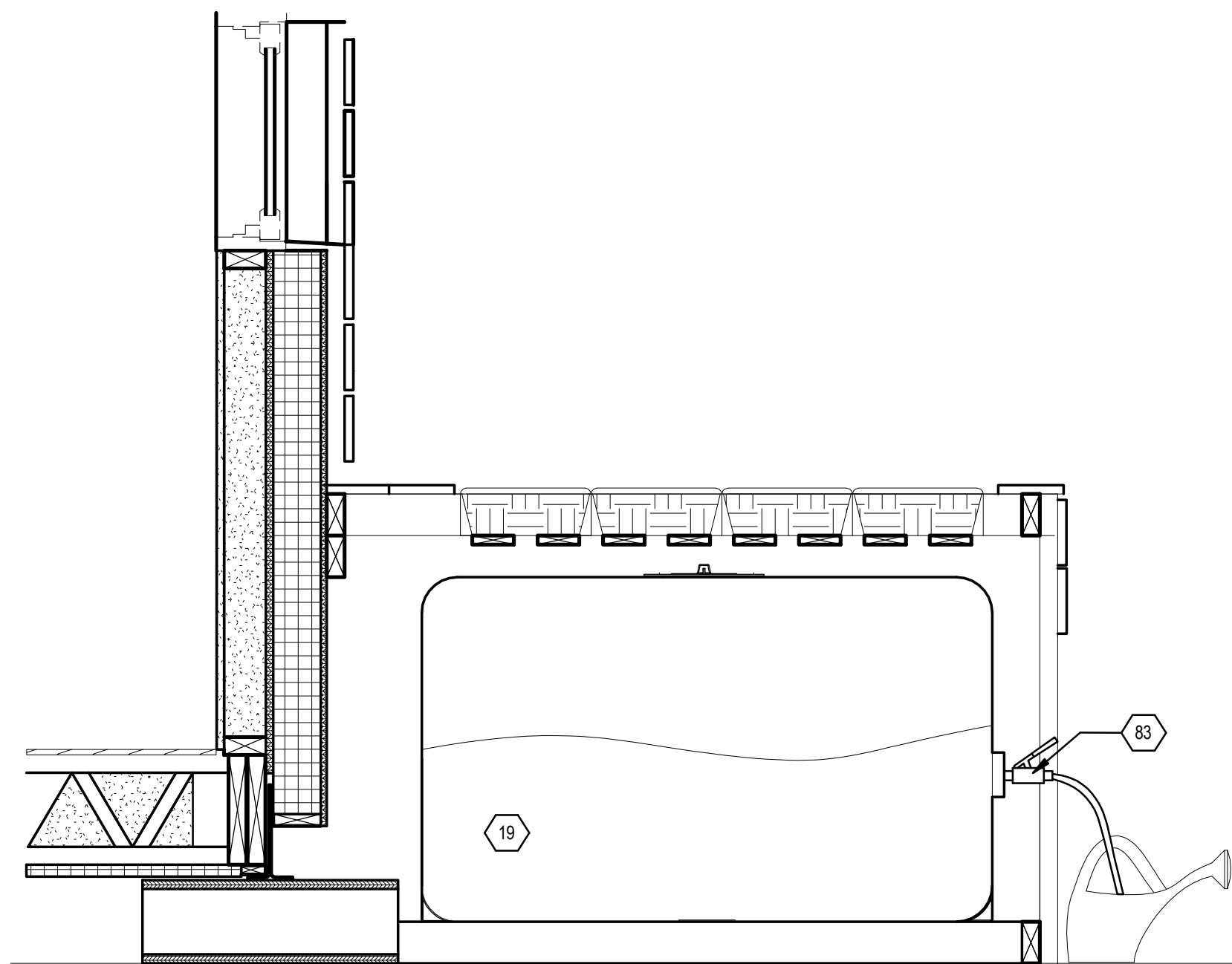
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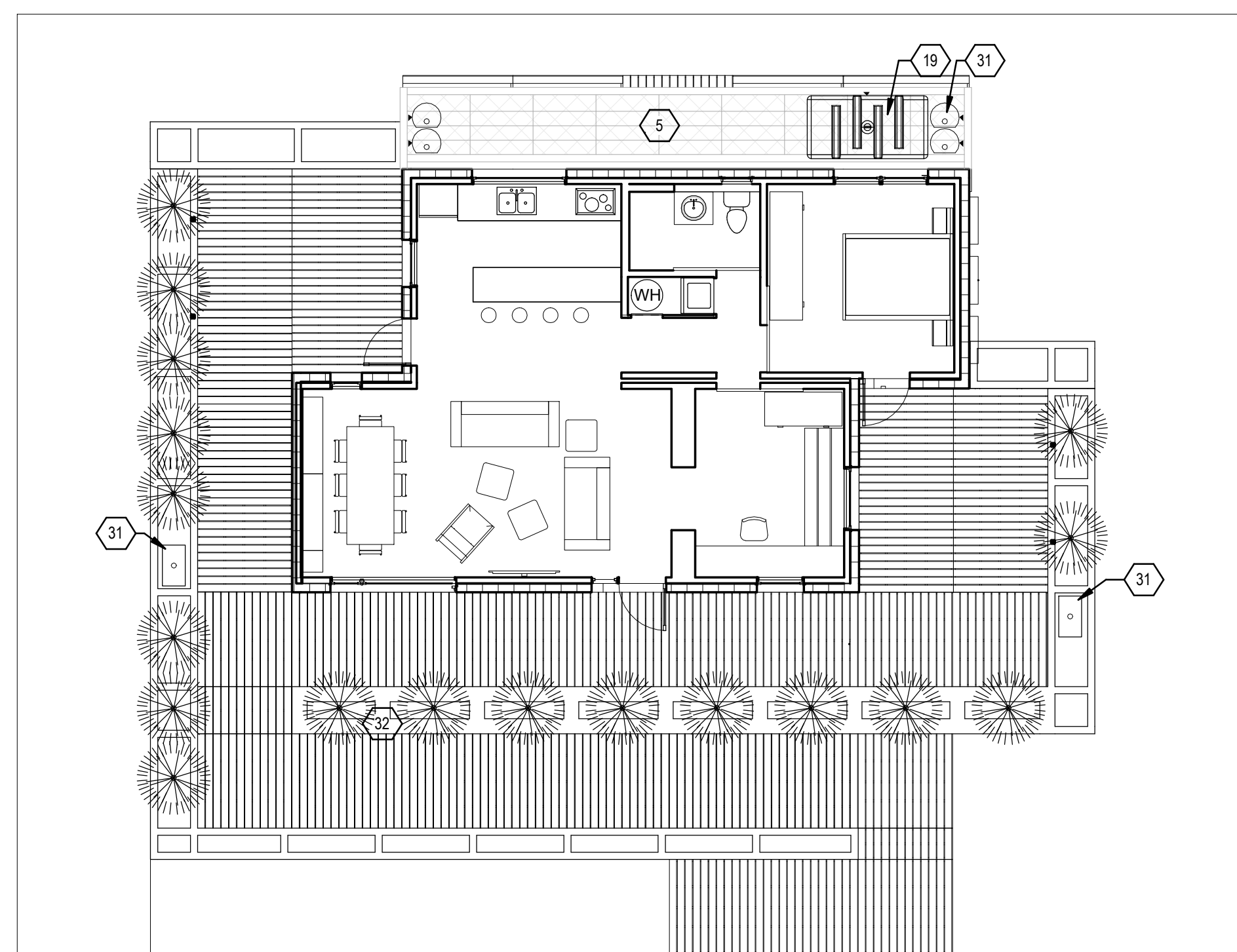
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A1 GREY WATER RETRIEVAL DRAWING
1" = 1'-0"



C1 GREY WATER IRRIGATION STORAGE LOCATION PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1. GREY WATER ACCESS AND DISTRIBUTION FOR IRRIGATION PURPOSES SHALL BE DONE MANUALLY ON SITE BY ILLINOIS SOLAR DECATHLON TEAM MEMBERS. NO PIPING OR AUTOMATIC DISTRIBUTION IS EMPLOYED IN THE IRRIGATION PROCESS.
2. ONLY GREY WATER AND RAIN WATER TANKS SHOULD BE ACCESSED DURING THE HOURS OF 9AM-5PM. AT NO POINT IN THE REMOVAL OF GREY WATER SHOULD THE MAIN SUPPLY TANK BE EXPOSED TO DIRECT SUNLIGHT.
3. ALL TANKS USED TO TRANSMIT GREY WATER FOR IRRIGATION SHALL BE CLEARLY LABELED FOR THEIR INTENDED PURPOSE. THESE CONTAINERS WILL AT NO TIME CONTAIN WATER MEANT FOR POTABLE USE.
4. PLEASE REFER TO THE PROJECT MANUAL FOR FULL DETAILS ON WATER CONTAINMENT DEVICES.

SHEET KEYNOTES

5	WATER TANK ENCLOSURE
19	GREY WATER STORAGE
31	RAIN BARREL
32	PLANTER WITH SEATING
83	GUZZLER 400H HAND PUMP FOR IRRIGATION



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 CHAMPAIGN, IL 61820
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MH	5/2/2011	Greywater irrigation schematic added.

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

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 CHECKED BY: CHECKER
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SHEET TITLE

LANDSCAPE
 IRRIGATION AND
 GREY WATER

L-102

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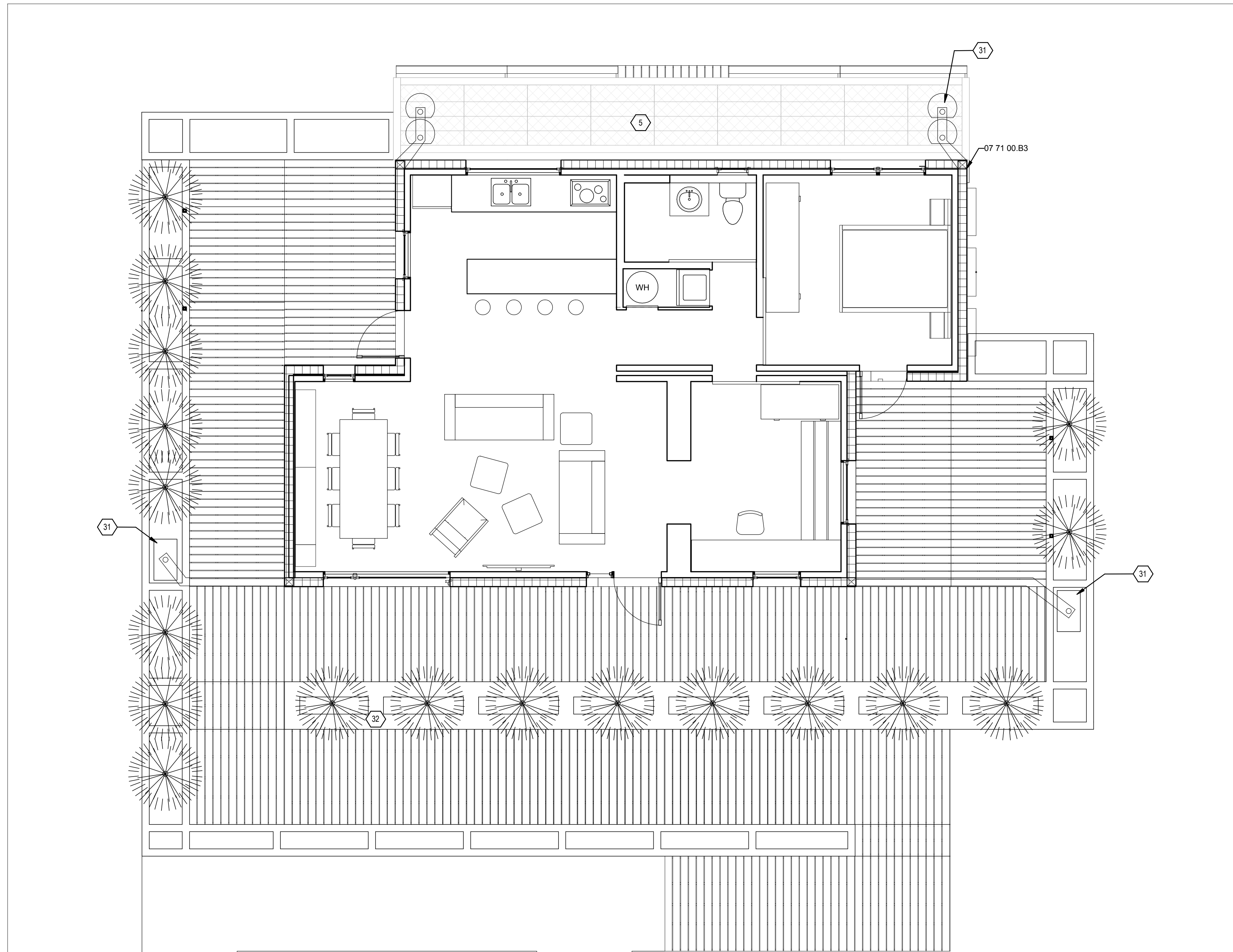
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GENERAL SHEET NOTES

- PLEASE REFER TO THE PROJECT MANUAL FOR FULL DETAILS ON WATER CONTAINMENT DEVICES.
- RAINWATER COLLECTED ON SITE IS TO BE USED FOR EXTERIOR IRRIGATION ONLY. AT NO TIME SHALL THIS WATER BE USED FOR POTABLE PURPOSES.

REFERENCE KEYNOTES

5	WATER TANK ENCLOSURE
07 71 00.B3	DOWNSPOUT
31	RAIN BARREL
32	PLANTER WITH SEATING



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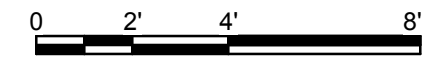
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SHEET TITLE

RAINWATER COLLECTION

L-103

(A1) RAINWATER COLLECTION PLAN
 1/4" = 1'-0"



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GENERAL SHEET NOTES

1. PLANTING ON TOP OF THE WATER TANK ENCLOSURE IS TO BE INSTALLED ON AFTER THE NECESSARY WATER HAS BEEN DISTRIBUTED TO THE ENCLOSED TANKS.
2. DURING THE COMPETITION PERIOD THE PLANTINGS ABOVE THE TANKS ARE TO REMAIN IN PLACE BETWEEN 9 AM AND 5PM TO ENSURE WATER TANKS REMAIN FULLY SHADED PER SD RULE 9-1.



REFERENCE KEYNOTES

06 11 00.B5	1X4
06 11 00.D1	2X4
06 11 00.L1	4X4
28	SUPPLY WATER TANK
32 93 23	PLANTS AND BULBS

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MH	5/2/2011	Water tank enclosure detailed.

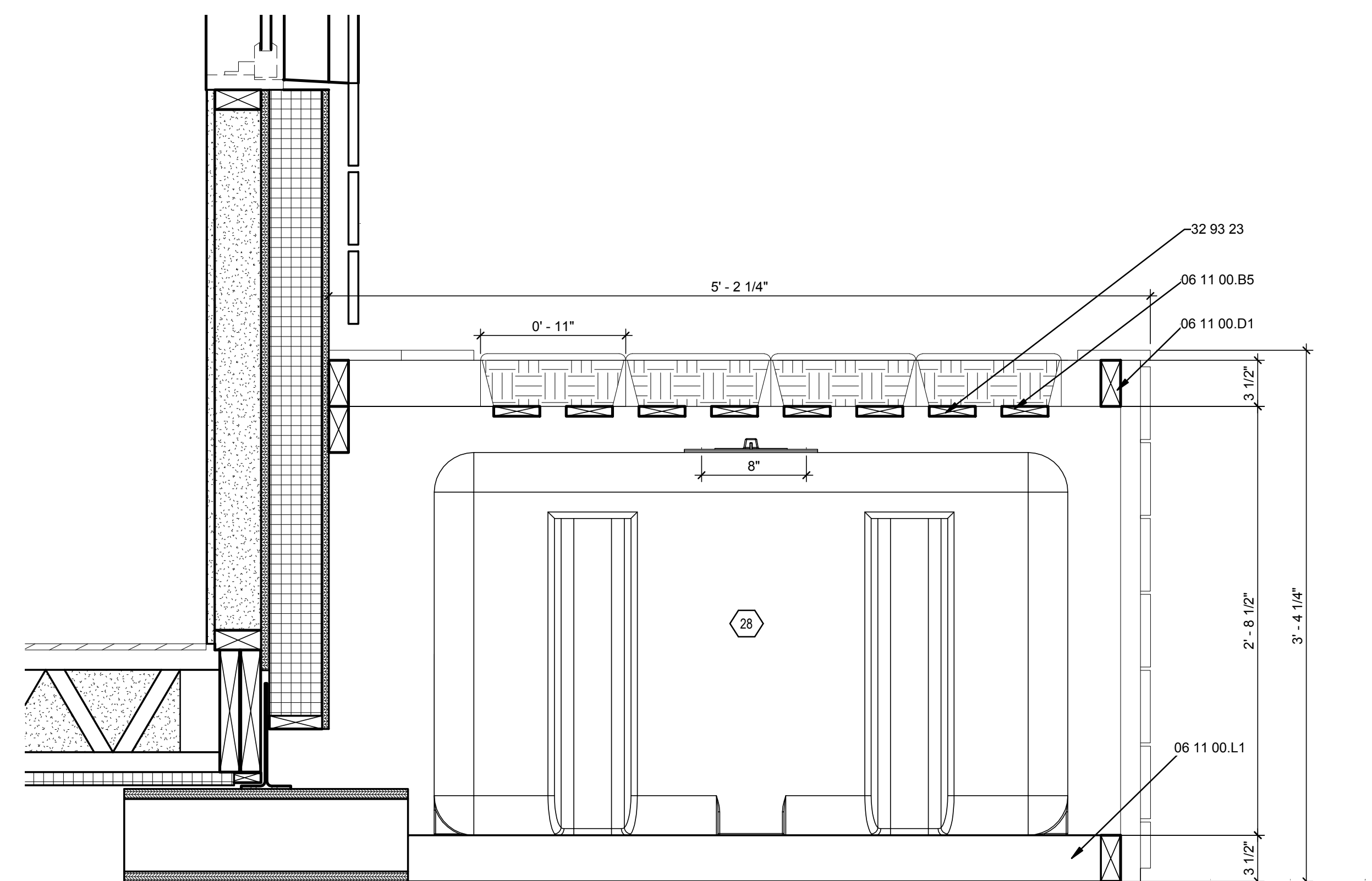
MARK	DATE	DESCRIPTION
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SHEET TITLE

LANDSCAPE
 ELEVATIONS AND
 DETAILS

L-201



(A1) WATER TANK ENCLOSURE SECTION

1 1/2" = 1'-0"



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GENERAL NOTES

CD CODES AND DOCUMENTS

CD-1 ALL CONSTRUCTION SHALL BE PERFORMED IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS...

BUILDING CODE: INTERNATIONAL BUILDING CODE 2009 ASCE 7-2005 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.

STRUCTURAL STEEL: INTERNATIONAL BUILDING CODE 2009, CHAPTER 22 AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS -- AISC 360-05 AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION -- AISC 325-05

STRUCTURAL WOOD: INTERNATIONAL BUILDING CODE 2009, CHAPTER 23 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION ASD/LRFD -- ANSI/APA NDS-05

DC DESIGN CRITERIA

DC-1 LIVE LOADS: ROOF 20 PSF, RESIDENTIAL FLOOR 50 PSF, DECKS, RAMPS 100 PSF, RAILINGS 200 LB CONCENTRATED LOAD APPLIED IN ANY DIRECTION AT ANY POINT AT TOP OF RAIL

DC-2 SUPERIMPOSED DEAD LOADS: FLOOR: 9.3 PSF, ROOF: 10.0 PSF, SOLAR PANELS: 1.5 PSF, SOLAR PANEL SUPPORT FRAME / TIE-OFF: 3063 LB

DC-3 SNOW LOADS: 1. GROUND SNOW LOAD Pg 20 PSF, 2. FLAT-ROOF SNOW LOAD Pf 14 PSF, 3. SNOW EXPOSURE FACTOR Ce 1.0, 4. SNOW LOAD IMPORTANCE FACTOR Is 1.0, 5. THERMAL FACTOR Ct 1.0

DC-4 WIND LOADS: 1. BASIC WIND SPEED 60 MPH (GIVEN), 2. WIND IMPORTANCE FACTOR Iw 1.0, 3. WIND EXPOSURE C (GIVEN), 4. INTERNAL PRESSURE COEFFICIENT +/- 0.18, 5. PRIMARY WIND RESISTING FRAME PRESSURES +/- 10 PSF, 6. ROOF FRAME WIND PRESSURES -2.1 PSF, 7. ROOF OVERHANG WIND PRESSURES -4.5 PSF, 8. COMPONENTS & CLADDING WIND PRESSURES -14 PSF, 9. COMPONENTS & CLADDING OVERHANG WIND PRESSURES -14 PSF (MINUS SIGN SIGNIFIES WIND PRESSURE AWAY FROM SURFACE)

DC-5 SERVICEABILITY CRITERIA: FLOOR FRAMING LIVE LOAD DEFLECTION TYPICAL <L/360, FLOOR FRAMING SUPERIMPOSED DEAD + LIVE LOAD DEFLECTION <L/240, LATERAL DRIFT DUE TO WIND LOAD IS LIMITED TO H/400, ROOF FRAMING SUPERIMPOSED DEAD + LIVE LOAD DEFLECTION <L/240

DC-6 STRUCTURAL STABILITY IS ACHIEVED IN THE FINISHED CONSTRUCTION USING THE FOLLOWING STRUCTURAL COMPONENTS AND CONNECTIONS, AS INDICATED IN THE STRUCTURAL DOCUMENTS, INSTALLED IN ENTIRETY: WOOD FLOOR FRAMING DIAPHRAGM, WOOD SHEAR WALLS, PRE-ENGINEERED WOOD TRUSSES AND FRAMING, WOOD ROOF FRAMING DIAPHRAGM

DC-7 THE STRUCTURE HAS BEEN DESIGNED AS AN UNRESTRAINED CONDITION FOR FIRE RATING AND FIREPROOFING ASSEMBLY EVALUATIONS.

DC-8 EXTERIOR CLADDING IS ASSUMED TO IMPOSE VERTICAL GRAVITY LOADS AND HORIZONTAL LATERAL LOADS ON THE STRUCTURAL MEMBERS WITHOUT GENERATING MOMENTS OR TORSION IN THE STRUCTURAL MEMBERS, UNLESS OTHERWISE NOTED.

FO FOUNDATIONS

FO-1 THE FOUNDATION DESIGN IS BASED ON THE ALLOWABLE SPREAD AND CONTINUOUS FOOTING PRESSURE EQUAL TO 1500 PSF ACCORDING TO THE SOLAR DECATHLON BUILDING CODE REQUIREMENT.

RE REINFORCEMENT

RE-1 REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES: DEFORMED BARS ASTM A615 GRADE 60

RE-2 DETAIL REINFORCEMENT BASED ON THE PROJECT REQUIREMENTS, ACI-318, ACI-315, ACI-117, AND CRSI MANUAL OF STANDARD PRACTICE.

CM CONCRETE MATERIAL PROPERTIES

CM-1 CONCRETE SHALL BE PRE-MIXED FROM BAGS REQUIRING WATER ONLY TO COMPLETE THE MIX TO ACHIEVE NORMAL WEIGHT (145 PCF) CONCRETE.

CM-2 CONCRETE STRENGTH SHALL MEET THE FOLLOWING 28-DAY COMPRESSIVE STRENGTHS (F'c) UNLESS OTHERWISE NOTED: TYPICAL: 3000 PSI, NORMAL WEIGHT CONCRETE (NWC)

SS STRUCTURAL STEEL

SS-1 STRUCTURAL STEEL AS CLASSIFIED BY AISC'S "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", INCLUDING BUT NOT LIMITED TO STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, ANCHOR BOLTS, CONNECTIONS, AND GROUTING UNDER BASE PLATES.

SS-2 FABRICATE AND ERECT STRUCTURAL STEEL FOLLOWING REFERENCED BUILDING AND STRUCTURAL STEEL CODES, AND AISC'S CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

SS-3 STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES, UNLESS OTHERWISE NOTED: ROLLED SHAPES: ASTM A992, GRADE 50, CHANNELS, PLATES, ANGLES: ASTM A36, MINIMUM, BASE PLATES: ASTM A36, MINIMUM, PIPE: ASTM A500 OR A53, TYPE E OR S, HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE B

SS-4 FIELD MODIFICATION OF STRUCTURAL STEEL IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER.

SS-5 SHOP PAINT: POWER TOOL CLEANING (SSPC-SP3) PRIOR TO PAINTING. FOR INTERIOR EXPOSURE: APPLY TWO COATS OF MODIFIED ALKYD, CHEMICALLY ACTIVE, RUST-INHIBITIVE METAL PRIMER TO A MINIMUM THICKNESS OF 3.5 MILS PER COAT. ACCEPTABLE MANUFACTURER-TNEMEC SERIES 10-1009 GRAY METAL PRIMER OR SHERWIN WILLIAMS KEM KROMIK UNIVERSAL METAL PRIMER.

SS-6 FOR STEEL MEMBERS AND EMBEDMENTS EXPOSED TO WEATHER OR WITHIN SEMI-CONDITIONED SPACE, PROVIDE HOT-DIPPED GALVANIZED STEEL TYPICAL, UNLESS OTHERWISE NOTED.

SC STRUCTURAL STEEL CONNECTIONS

SC-1 STRUCTURAL STEEL CONNECTION MATERIAL SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES: ANGLES: ASTM A36, WTS: ASTM A992, GRADE 50, PLATES: ASTM A36 MIN, BOLTS, NUTS, WASHERS: ASTM A325 OR A490, WELD ELECTRODES: E70XX

SC-2 ALL CONNECTIONS ARE FULLY DESIGNED ON THE STRUCTURAL DRAWINGS, BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF ILLINOIS. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.

SC-3 ALL SHOP AND FIELD CONNECTIONS SHALL BE BOLTED OR WELDED.

SC-4 FOR BOLTED CONNECTIONS, DESIGN USING TYPE 'N' BOLTS, IN ROUND OR SHORT-SLOTTED BOLT HOLES UNLESS OTHERWISE NOTED.

SC-5 ALL BOLTS SHALL BE SNUG TIGHT UNLESS SPECIFICALLY NOTED OTHERWISE. BOLTING FOR STRUCTURAL STEEL SHALL CONFORM TO THE PROVISIONS OF THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS."

SC-6 THE MINIMUM SIZE OF BOLTS SHALL BE 3/8" Ø UNLESS OTHERWISE NOTED, AND EACH CONNECTION SHALL HAVE A MINIMUM OF TWO BOLTS.

SC-7 ALL WELDING SHALL BE PERFORMED BY PRE QUALIFIED WELDERS, AND SHALL CONFORM TO THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE, ANSIAWS D1.1, LATEST EDITION UNLESS OTHERWISE NOTED.

SC-8 ALL WELDING ELECTRODES SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 4.1 OF THE STRUCTURAL WELDING CODE, ANSIAWS D1.1, LATEST EDITION.

SC-9 FOR EXPOSED WELDS, PROVIDE WELDING IN CONFORMANCE WITH AWS D1.5.

SC-10 WELDS NOT OTHERWISE NOTED ON DRAWINGS SHALL BE CONTINUOUS FILLET WELDS. THE MINIMUM SIZE SHALL BE 3/16" OR AS REQUIRED BY THE AISC SPECIFICATIONS, WHICHEVER IS LARGER.

WT PRE-ENGINEERED STRUCTURAL WOOD TRUSSES, FRAMING, AND CONNECTIONS

WT-1 TYPICAL FRAMING PLANS AND DETAILS INDICATE GENERAL CRITERIA FOR DESIGN AND DETAILING OF PRE-ENGINEERED WOOD TRUSSES, FRAMING, CONNECTIONS, TEMPORARY AND PERMANENT TRUSS BRACING, AND UPLIFT CONNECTION TO WALL. PRE-ENGINEERED WOOD TRUSSES, FRAMING, CONNECTIONS, TEMPORARY AND PERMANENT TRUSS BRACING, AND UPLIFT CONNECTIONS TO WALL SHALL BE DESIGNED AND DETAILED BY A LICENSED ARCHITECT OR STRUCTURAL ENGINEER IN THE STATE OF ILLINOIS AND SUBMITTED TO THE PROJECT ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. THE DESIGN AND DETAILING SHALL COMPLY WITH DESIGN INTENT AND WITH ALL APPLICABLE CODES.

WT-2 TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION AND ITS SUPPLEMENT", TPI 1, "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION" AND TPI DSB "RECOMMENDED DESIGN SPECIFICATION FOR TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."

A. DESIGN CRITERIA: TOP CHORD DEAD LOAD = 10 PSF (SEE SUPERIMPOSED DEAD LOADS), BOTTOM CHORD DEAD LOAD = 3 PSF, TOP CHORD LIVE LOAD = SNOW OR MINIMUM ROOF LIVE LOAD, WHICHEVER IS GREATER, B. DESIGN TRUSSES FOR LOADS APPLIED BY ROOFTOP SOLAR PANELS & SUPPORT FRAME AT LOCATIONS SHOWN ON ARCHITECTURAL DRAWINGS.

WT-3 HANDLING AND ERECTION OF TRUSSES SHALL BE IN ACCORDANCE WITH TPI HB, "COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING, & BRACING METAL PLATE CONNECTED WOOD TRUSSES."

WT-4 MOISTURE CONTENT OF LUMBER SHALL BE NO LESS THAN 7% NOR GREATER THAN 19% AT TIME OF ERECTION.

WT-5 COORDINATE TRUSS FRAMING AND DETAILS WITH ARCHITECTURAL DRAWINGS.

WD STRUCTURAL WOOD FRAMING AND CONNECTIONS

WD-1 TYPICAL FRAMING PLANS AND DETAILS INDICATE GENERAL CRITERIA FOR DESIGN AND DETAILING OF WOOD FRAMING AND CONNECTIONS. PRE-FABRICATED WOOD COMPONENTS AND CONNECTIONS SHALL BE SIZED BY THE SUPPLIER BASED ON DESIGN LOADS SPECIFIED IN THE STRUCTURAL NOTES.

WD-2 COORDINATE FRAMING AND DETAILS WITH ARCHITECTURAL DRAWINGS.

WD-3 DIMENSION LUMBER: A. JOISTS, BEAMS, & RAFTERS: SOUTHERN PINE #2 OR BETTER: Fb = 1200 PSI, Fcp = 565 PSI, Fv = 90 PSI, E = 1,600,000 PSI, B. STUDS: SPRUCE-PINE-FIR CONSTRUCTION GRADE: Fb = 975 PSI, Fc = 1350 PSI, Fcp = 425 PSI, E = 1,300,000 PSI, OR BETTER, C. WOOD PLATES: SOUTHERN PINE CONSTRUCTION GRADE: Fb = 1100 PSI, Fcp = 565 PSI, Fv = 100 PSI, E = 1,500,000 PSI.

WD-4 ALL LOAD-BEARING EXTERIOR AND CORRIDOR WOOD-FRAMED WALLS TO BE 2x4 @ 24" O.C. UNLESS OTHERWISE NOTED.

WD-6 ALL DIMENSION LUMBER PERMANENTLY EXPOSED TO WEATHER, IN CONTACT WITH GROUND, OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE TREATED TO THE AWBP STANDARD AND CONFORM WITH LOCAL EPA REQUIREMENTS. FASTENERS AND SHEET METAL CONNECTORS USED WITH PRESSURE-TREATED WOOD MEMBERS MUST HAVE SPECIAL COATINGS. FOR SBX TREATMENT USE A MINIMUM #60 GALVANIZED COATING. FOR ACO, CBA-A, AND CA-B TREATMENTS USE EITHER G185 OR HOT-DIPPED GALVANIZED COATING OR STAINLESS STEEL. FOR ACZA TREATMENT USE ONLY STAINLESS STEEL CONNECTORS AND FASTENERS.

WD-7 PLYWOOD SHALL BE EXTERIOR GRADE, EXPOSURE 1, OF SIZE SHOWN ON DRAWINGS OR ORIENTED STRAND BOARD WITH A STRUCTURAL RATING EQUIVALENT TO THE SPECIFIED PLYWOOD. SHEETS SHALL BE EITHER TONGUE-AND-GROOVE, JOINTED, OR PLY-CLIPPED. A. ROOF & FLOOR SHEATHING: 7/16" APA-RATED STRUCTURAL I SHEATHING AND AN EXPOSURE DURABILITY RATING OF EXPOSURE 1, OR OTHER APPROVED MATERIAL, NAIL SHEATHING TO ROOF TRUSSES USING 16GA. STAPLES - 1 3/4 LG - 7/16 CROWN WIDTH AT 3" O.C. AT PANEL EDGES AND AT 6" O.C. AT INTERMEDIATE SUPPORTS. B. WALL SHEATHING: 7/16" APA-RATED OSB, NAIL SHEATHING TO STUDS USING 16GA. STAPLES - 1 3/4 LG - 7/16 CROWN WIDTH AT 3" O.C. AT PANEL EDGES AND AT 6" O.C. AT INTERMEDIATE STUDS.

WD-8 CONNECTORS (SEE ITEM WD-4 FOR COATING REQUIREMENTS WITH PRESSURE-TREATED WOOD MEMBERS): A. ANCHOR BOLTS SHALL CONFORM TO ASTM-A307 OR ASTM-A36 ROD STOCK, B. STEEL-TO-WOOD OR MASONRY, WOOD-TO-WOOD, AND WOOD-TO-MASONRY CONNECTIONS - ASTM A307 BOLTS, C. EXPANSION ANCHORS: CARBON STEEL PARTS AND ZINC PLATED PER ASTM B633 - HILTI KWIK BOLT 3, D. LAG SCREWS (PRE-DRILL FOR THREAD & SHANK) - ASTM A307, E. NAILS - ASTM D1761, THE NAIL OR STAPLE SIZE, TYPE, NUMBER, AND LOCATION SHALL COMPLY WITH TABLE 2305.2 - FASTENING SCHEDULE IN 2006 IBC. USE RING SHANKED NAILS FOR FASTENING SHEATHING TO ROOF, FLOOR, OR WALL FRAMING MEMBERS, F. SHEET METAL CONNECTORS SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE COMPANY OR APPROVED EQUAL. STORM CONNECTORS SHALL BE USED AT TRUSS BEARING POINTS, TOP AND BOTTOM PLATES OF STUD WALLS, ETC. FOR THE FORCES INDICATED AND WHERE SHOWN ON THE DETAILS. CAPACITIES TO BE VERIFIED BY MANUFACTURER'S CATALOG TABLES. CONTRACTOR SHALL PROVIDE ALL CONNECTOR NAILS, SCREWS, AND BOLTS AS REQUIRED BY MANUFACTURER, G. POWDER-ACTUATED FASTENERS BY HILTI OR RAMSET FOR WOOD-TO-STEEL OR WOOD-TO-CONCRETE CONNECTIONS - MINIMUM DIA 0.145", MINIMUM PENETRATION FOR CONCRETE 1-1/4", H. ELASTOMERIC ADHESIVE SUCH AS 3M SCOTCH GRIP WOOD ADHESIVE 5220 TO BE USED IN COMBINATION WITH NAILS FOR COMPOSITE ACTION OF BUILT-UP WOOD COLUMNS, BEAMS, AND WOOD DECKING, I. SHIMMING MATERIAL SHALL BE APPROVED HARDBOARD OR STEEL SHIMS. NO CEDAR, PLYWOOD, OR DIMENSION LUMBER SHIMS SHALL BE USED. SHIMS SHALL BE PLACED TO PROVIDE FULL LENGTH OF BEARING ON SUPPORTING WOOD PLATE OR MASONRY PIER/WALL, J. LATERAL STABILITY SHALL BE PROVIDED BY PLYWOOD SHEAR WALLS AS DETAILED.

WD-11 OPENINGS FOR MECHANICAL DUCTS/EQUIPMENT IN WOOD LVL BEAMS MUST BE VERIFIED BY MFR REPRESENTATIVE.

WD-12 ALL LVL ENGINEERED LUMBER SHALL PROVIDE: GRADE: E1.9, WIDTH: 134", MANUFACTURER: WEYERHAEUSER, TRUS JOIST MAC MILLAN OR APPROVED EQUAL

WD-13 INSTALL BRIDGING AS RECOMMENDED BY MFR BETWEEN JOISTS IN ALL WOOD FLOOR FRAMING.

WD-14 BORE LEAD HOLES FOR ALL LAG SCREWS. LEAD HOLE FOR THREADED PORTION SHALL BE 50% OF THE SHANK DIAMETER. CLEARANCE HOLE FOR THE SHANK SHALL BE THE SAME DIAMETER.

WD-15 REFER TO IBC-2006 TABLE 2304.9.1 FOR MINIMUM REQUIREMENTS FOR WOOD FASTENERS.

WD-16 HOLES AND NOTCHES IN DIMENSION WOOD MEMBERS SHALL COMPLY WITH IBC 2006 SECTIONS 2308.9.10 AND 2308.9.11 FOR WALL FRAMING AND IBC 2006 SECTION 2308.10.4.2 FOR FLOOR AND ROOF FRAMING.

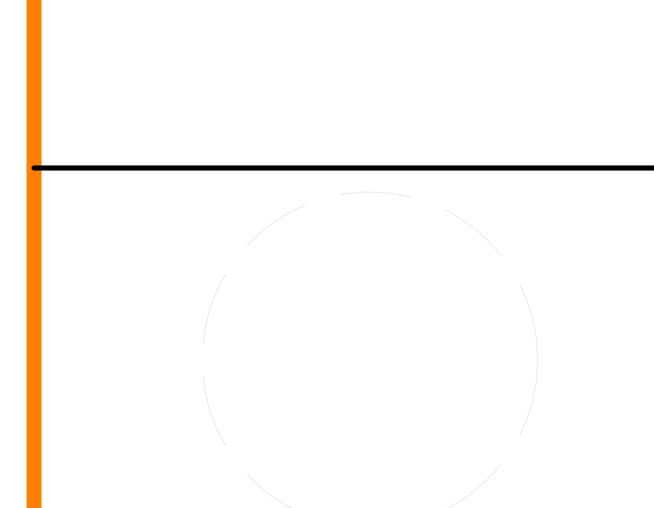
SYMBOLS

Table of symbols and their meanings: 0 COLUMN LINE W/ COLUMN NUMBER / LETTER, 1 SIM DETAIL TAG, A101 DETAIL IDENTIFICATION SHEET WHERE DETAIL IS DRAWN, AREA DETAIL REFERENCES, A1 TITLE SCALE, 1 Ref ELEVATION (S) TAG, A101 ELEVATION IDENTIFICATION SHEET WHERE ELEVATION IS DRAWN, NORTH ARROW, 11 13 00.A1 REFERENCE NOTE TAG, REFERENCE NOTE NUMBER, 01 REVISION TAG, 01 REVISION NUMBER, CLOUD AROUND REVISION, 1L WALL TYPE TAG, 1T WINDOW TAG, WINDOW NUMBER, CONCRETE, EARTH, GYPSUM BOARD, INSULATION - RIGID, INSULATION - SPRAY FOAM, LAMINATED VENEER LUMBER, STEEL, WOOD (FINISH), WOOD ROUGH, WALL SECTION TAG, A4 SECTION IDENTIFICATION, A101 SHEET WHERE SECTION IS DRAWN, BUILDING SECTION TAG, A4 SECTION IDENTIFICATION, A101 SHEET WHERE SECTION IS DRAWN, SECTION TAG, A4 SECTION IDENTIFICATION, A101 SHEET WHERE SECTION IS DRAWN, DETAIL SECTION TAG, A4 DETAIL IDENTIFICATION, A101 SHEET WHERE SECTION IS DRAWN, ELEVATION TAG, A4 ELEVATION IDENTIFICATION, A101 SHEET WHERE ELEVATION IS DRAWN, WELD ALL AROUND, 3/16 UPPER WELD LABELING, LOWER WELD SIZE, LOWER WELD TYPE



TEAM NAME: UNIVERSITY OF ILLINOIS
ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

CONSULTANTS: MSA PROFESSIONAL SERVICES, HOMEWAY HOMES, UNIVERSITY OF ILLINOIS FACILITIES AND SERVICES



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Table with 3 columns: MARK, DATE, DESCRIPTION. Row 1: MR, 3/18/2011, DOE CD Submission. Row 2: MH, 8/11/2011, As Built Drawing Submission.

LOT NUMBER: LOT #305
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SHEET TITLE

STRUCTURAL NOTES AND SYMBOLS

S-001

8/13/2011 11:36:25 AM

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GENERAL SHEET NOTES

- 1.) DIMENSIONS ARE TO CENTER LINE OF THE FOOTING PADS.
- 2.) MAX 1500PSF LOADING CONDITION ON ENTIRE SITE.
- 3.) REFER TO SHEET C-101 FOR FOUNDATION LOADING IN PSF.
- 4.) DRAWING STAMPED BY STRUCTURAL ENGINEER.

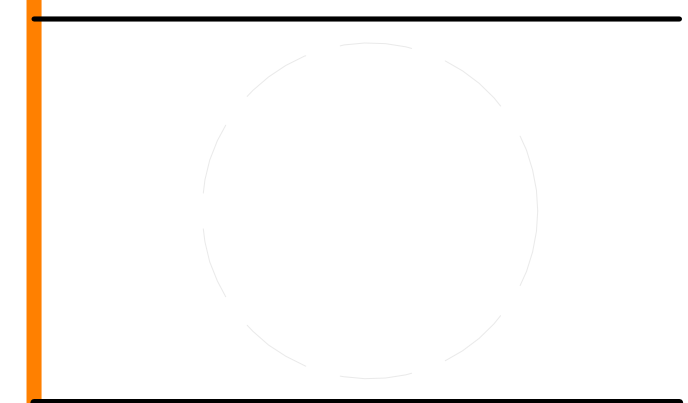
REFERENCE KEYNOTES

05 12 77.N99 WT8X18
 06 16 00.D12 3/4" EXTERIOR GRADE PLYWOOD



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
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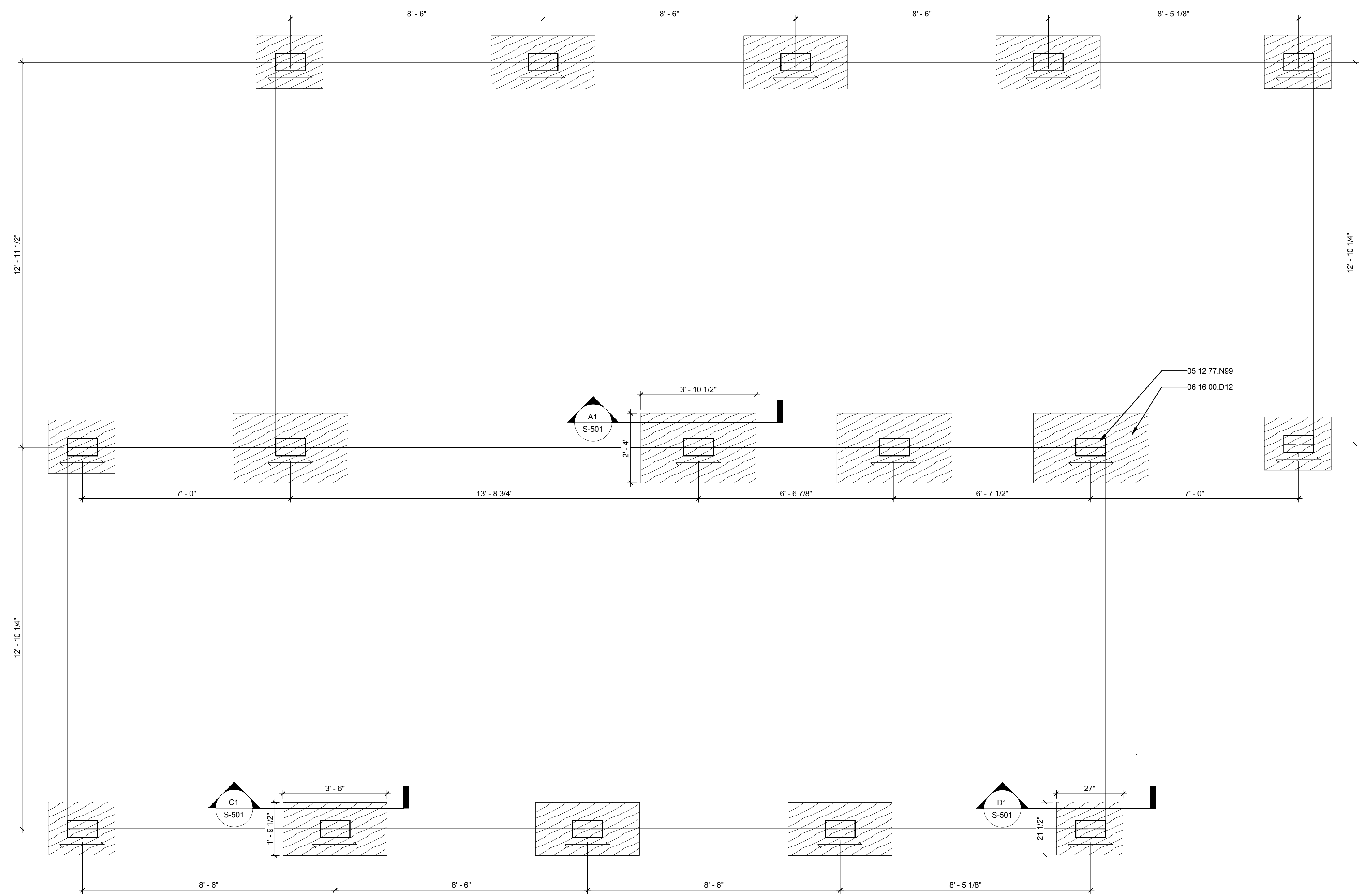
MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
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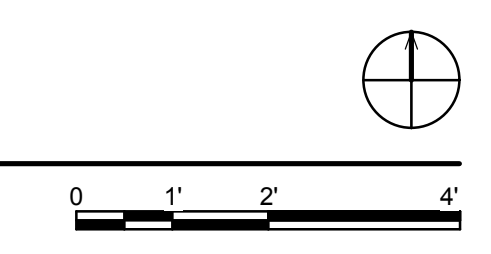
SHEET TITLE

FOUNDATION PLAN

S-101



(A1) FOUNDATION PLAN
 1/2" = 1'-0"



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8/13/2011 11:36:28 AM

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GENERAL SHEET NOTES

1. US DEPARTMENT OF ENERGY TO LOCATED EDGES OF SOLAR ENVELOPE. IF NECESSARY, OWNER TO TRIM VEGETATION TO REMAIN WITHIN ENVELOPE AT ALL TIMES.
2. SHEATHING (STUDS 11-18) TO BE INSTALLED BY UIUC SOLAR DEC. TEAM. CONFIRM DIMENSION PLAN.
3. MAX 16" O.C. FOR NOMINAL 10" FLOOR JOIST
4. 7" MINIMUM SPACING O.C. FOR TOILET AND CLOSET ADJACENT BEAM.
5. PANEL GRADE
- APA STRUCTURAL 1
- 16 GA. STAPLES - 2 LG
- UNBLOCKED
- STAPLES SPACED 3" O.C. @ PERIPHERU EDGES, 6" O.C. @ EVERYWHERE ELSE
- Iv all = 165 PLF CASE
= 125 PLF OTHER CASE
6. MODULAR HOME MANUFACTURER TO ADJUST BATHROOM FLOOR FRAMING AS REQUIRED TO ACCOMMODATE BATHROOM FIXTURES
7. DRAWING STAMPED BY STRUCTURAL ENGINEER

REFERENCE KEYNOTES

05 12 36.A57 L5X3.5X0.375X9"LG
06 05 23.R2 SIMPSON HRS8 10-10D
22 13 16.A2 FLOOR DRAIN



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ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

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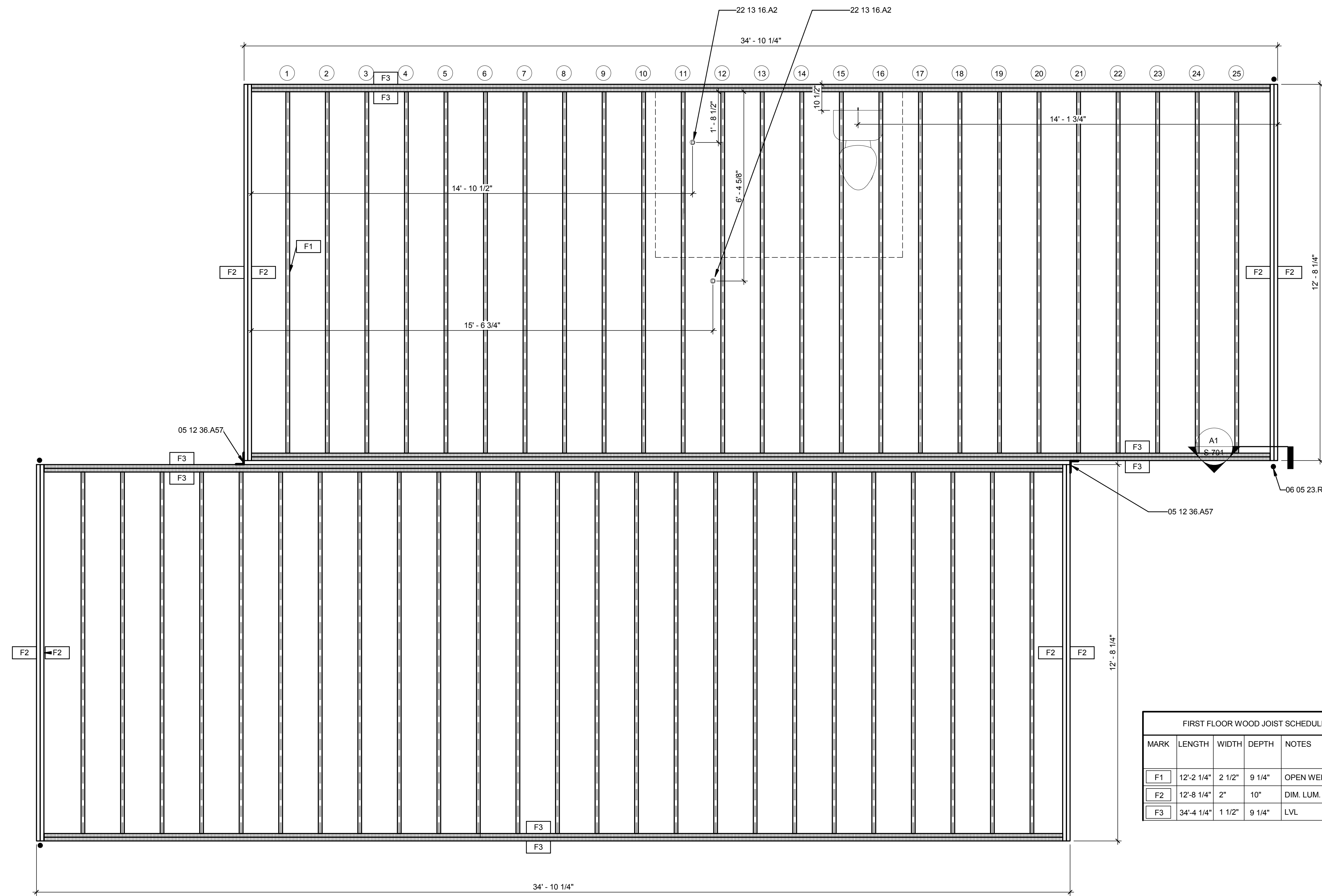
MR	3/18/2011	DOE CD Submission
MH	3/31/2011	Exterior and framing member dimensions corrected.

MH	8/11/2011	As Built Drawing Submission
MARK	DATE	DESCRIPTION

LOT NUMBER: LOT #305
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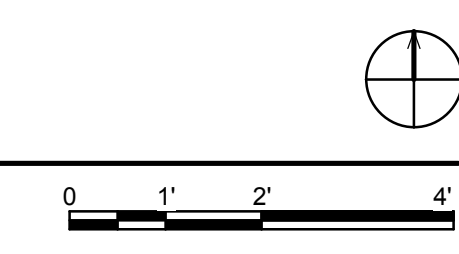
SHEET TITLE
FIRST FLOOR FRAMING PLAN

S-102



MARK	LENGTH	WIDTH	DEPTH	NOTES
F1	12'-2 1/4"	2 1/2"	9 1/4"	OPEN WEB JOIST
F2	12'-8 1/4"	2"	10"	DIM. LUM.
F3	34'-4 1/4"	1 1/2"	9 1/4"	LVL

A1 FIRST FLOOR FRAMING PLAN
1/2" = 1'-0"



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GENERAL SHEET NOTES

1. US DEPARTMENT OF ENERGY TO LOCATED EDGES OF SOLAR ENVELOPE. IF NECESSARY, OWNER TO TRIM VEGETATION TO REMAIN WITHIN ENVELOPE AT ALL TIMES.
2. SHEATHING (STUDS 11-18) TO BE INSTALLED BY UIUC SOLAR DEC. TEAM. CONFIRM DIMENSION PLAN.
3. MAX 24" O.C SPACING FOR ALL FABRICATED WOOD ROOF TRUSS.
4. 7" MINIMUM SPACING O.C. FOR TOILET AND CLOSET ADJACENT BEAM.
5. PANEL GRADE
- APA STRUCTURAL 1
- 16 GA. STAPLES - 1 3/4 LG
- UNBLOCKED
- STAPLES SPACED 3" O.C. @ PANEL PERIPHERY EDGES, 6" O.C. @ EVERYWHERE ELSE
- fv all = 165 PLF CASE
= 125 ALL PLF OTHER CASE
6. DRAWING STAMPED BY STRUCTURAL ENGINEER

REFERENCE KEYNOTES

06 11 00.G1	2X8
06 11 00.H1	2X10
22 13 16.A5	PLUMBING VENT EXHAUST
23 34 34	HVAC EXHAUST VENT



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

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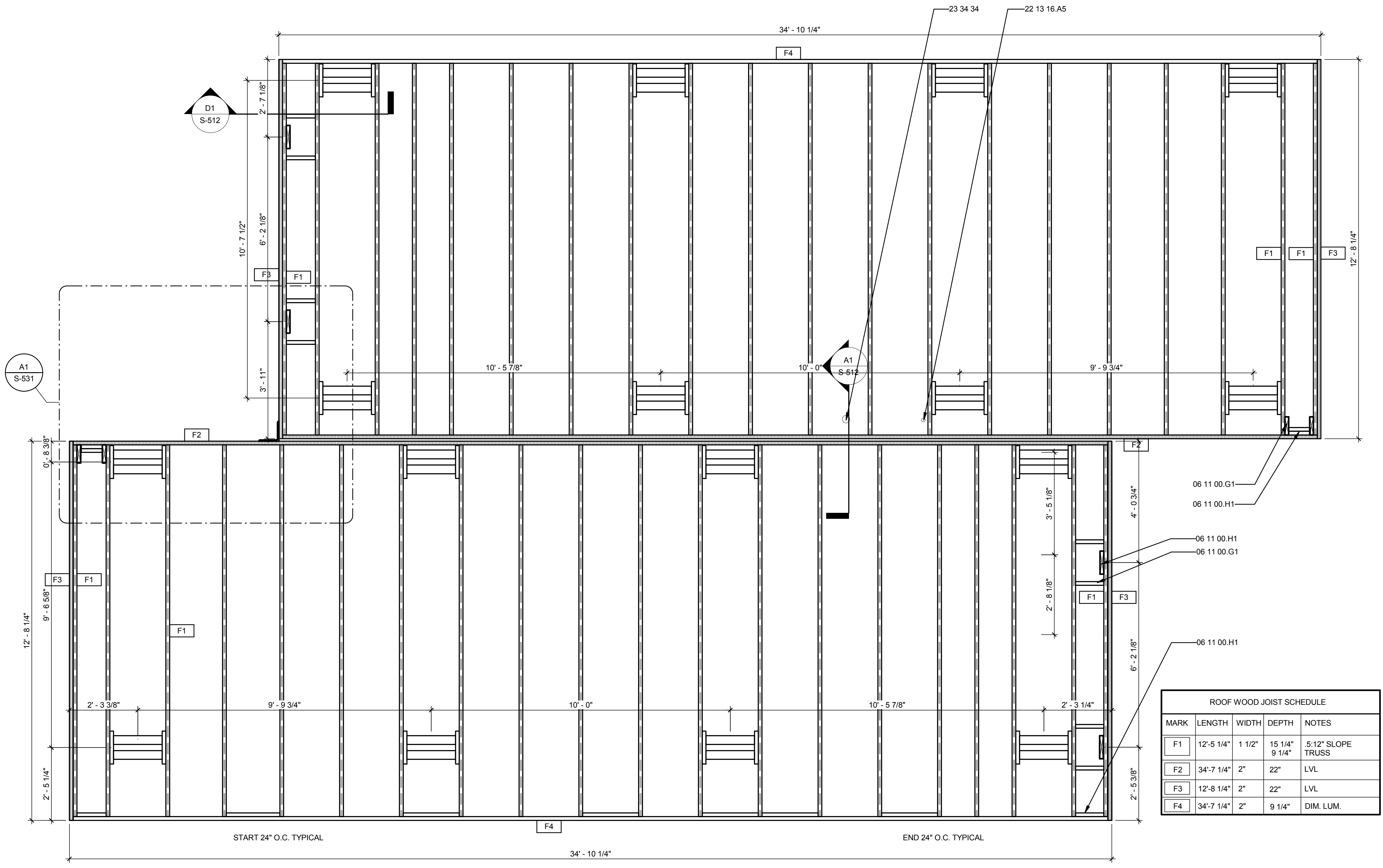
MR	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	3/31/2011	Exterior and framing member dimensions corrected. Plumbing exhaust location changed.
MH	8/11/2011	As Built Drawing Submission

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 DRAWN BY: MEGAN ROBERTSON
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SHEET TITLE

ROOF FRAMING PLAN

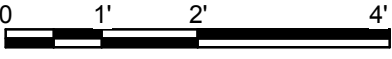
S-103



MARK	LENGTH	WIDTH	DEPTH	NOTES
F1	12'-5 1/4"	1 1/2"	15 1/4" x 9 1/4"	.5:12" SLOPE TRUSS
F2	34'-7 1/4"	2"	22"	LVL
F3	12'-8 1/4"	2"	22"	LVL
F4	34'-7 1/4"	2"	9 1/4"	DIM. LUM.

A1 ROOF FRAMING PLAN

1/2" = 1'-0"



1 2 3 4 5 6 7

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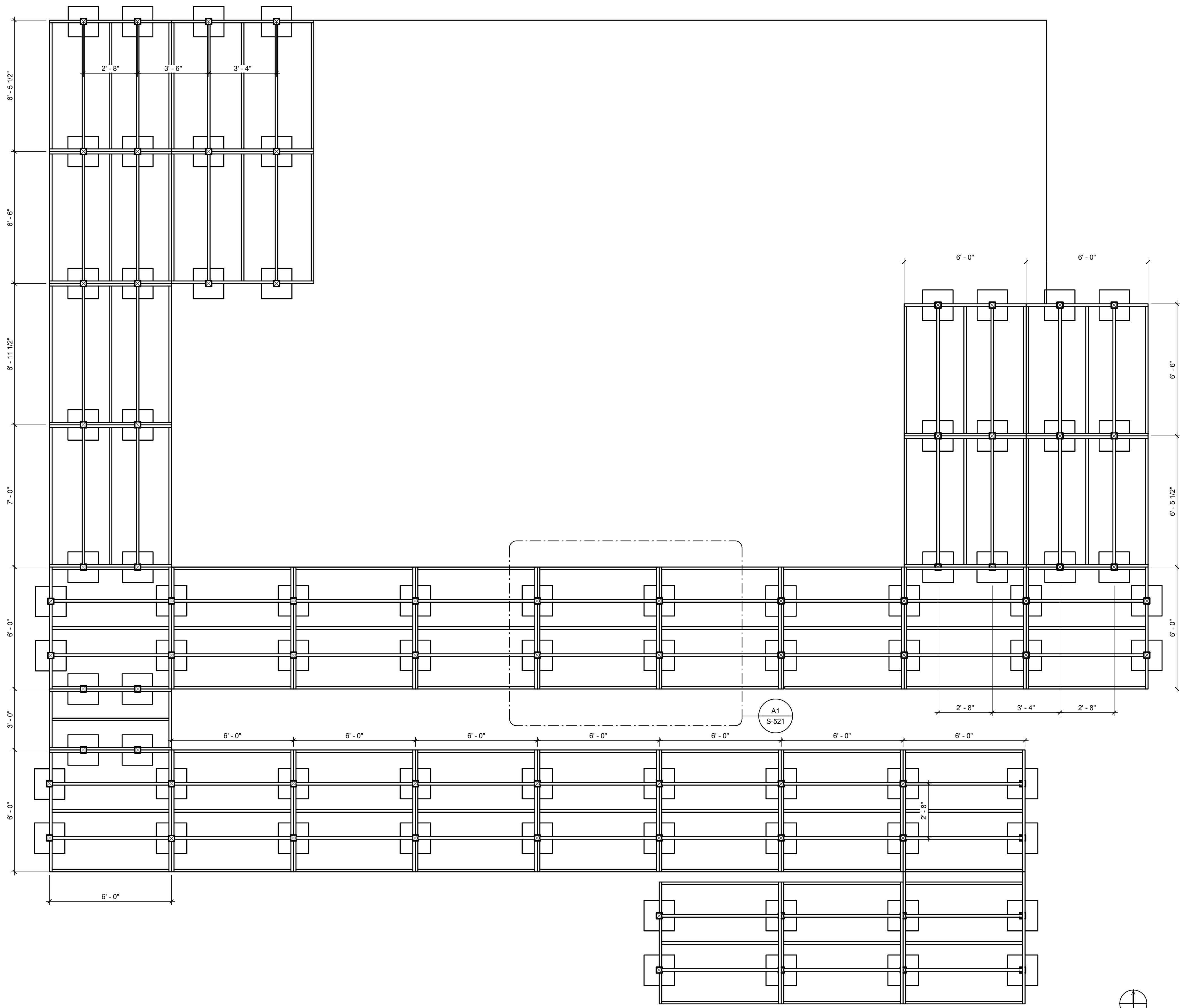
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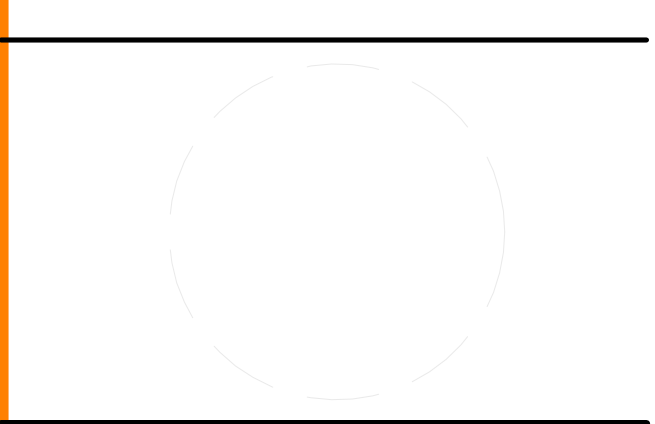
GENERAL SHEET NOTES

1. DECK SLOPED WALKING SURFACE TO BE EXTENDED TO MAINTAIN 1:20 SLOPE WHILE ACCOMODATING 18" POSSIBLE SITE DIFFERENTIATION.
2. DRAWING STAMPED BY STRUCTURAL ENGINEER



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 CONTACT: SOLARDECATHLON@UIUC.EDU
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MARK	DATE	DESCRIPTION
MIR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: AUTHOR
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SHEET TITLE
DECK FRAMING PLAN

S-104

A1 DECK FRAMING PLAN
 3/8" = 1'-0"

1 2 3 4 5 6 7

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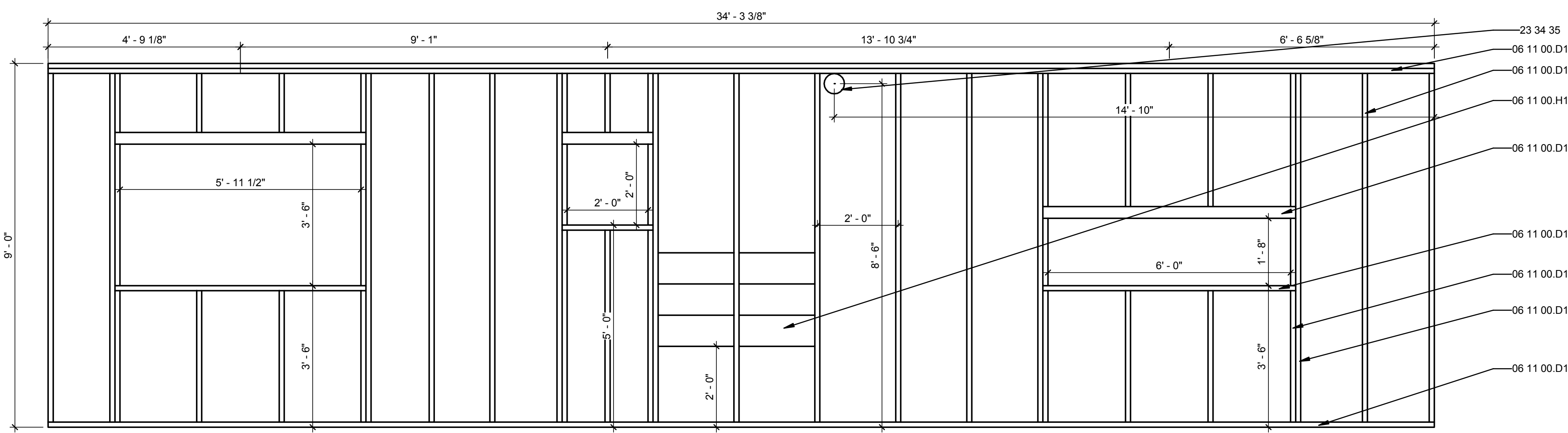
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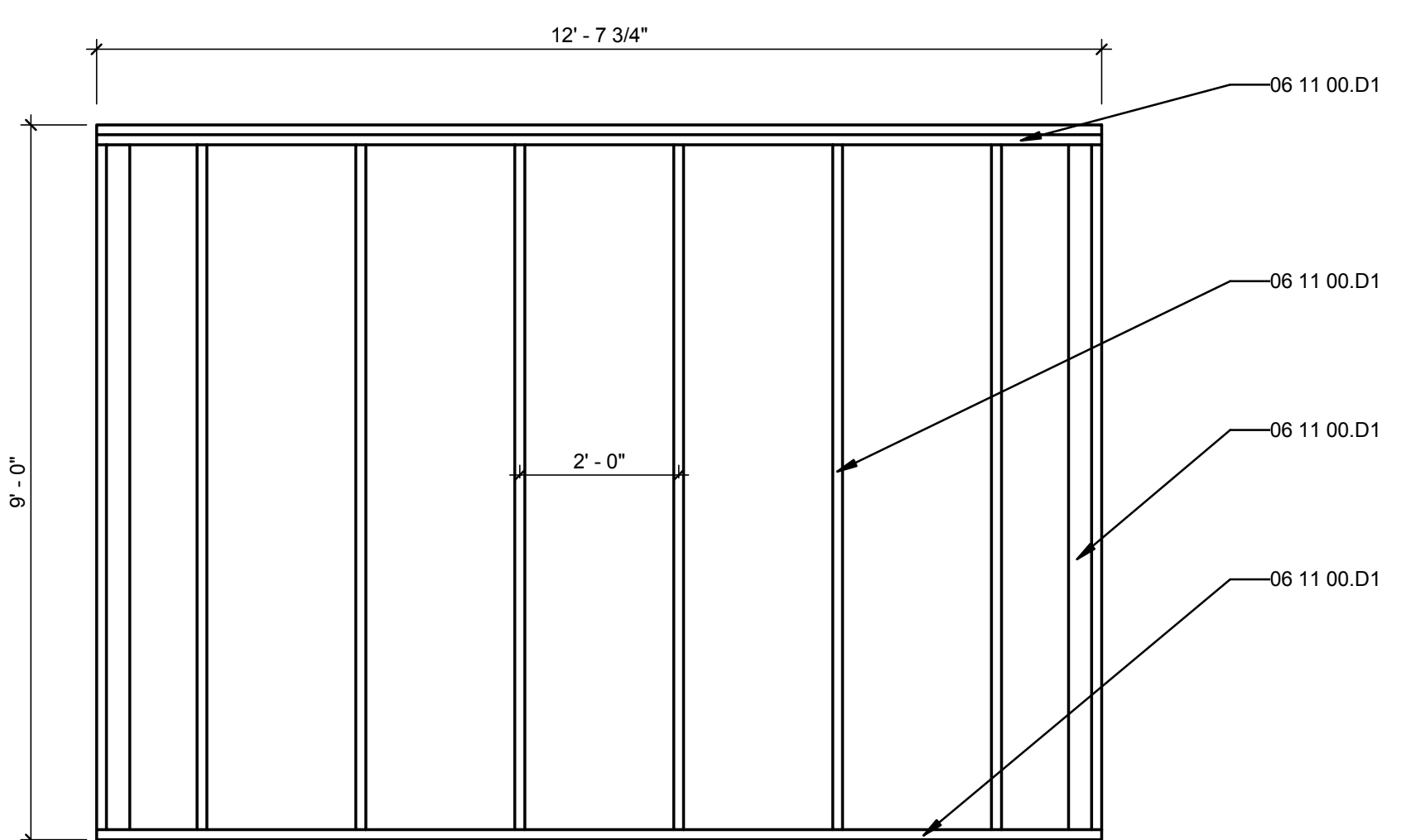
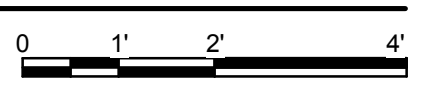
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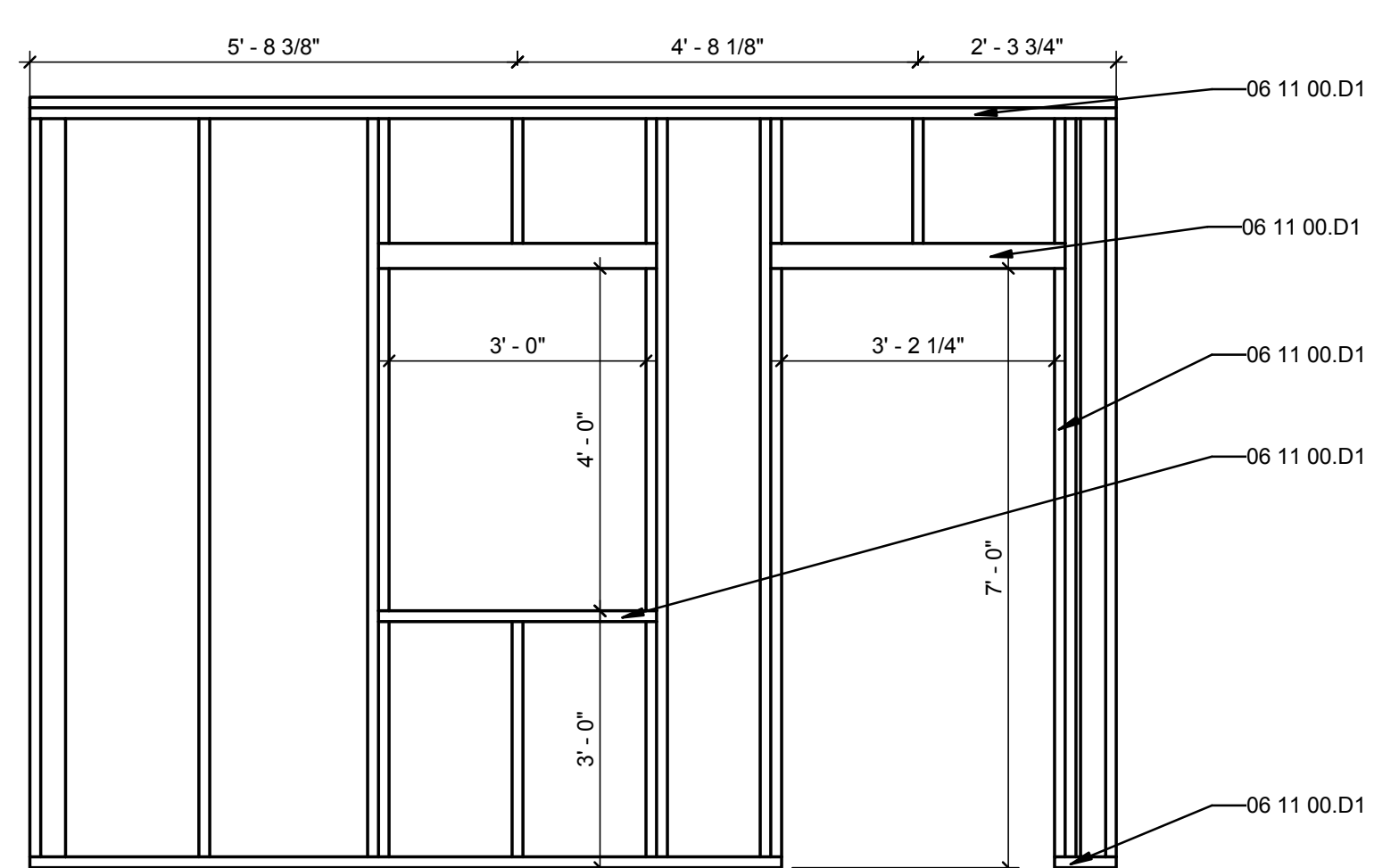
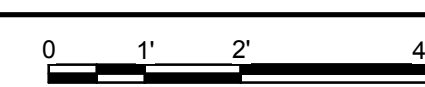
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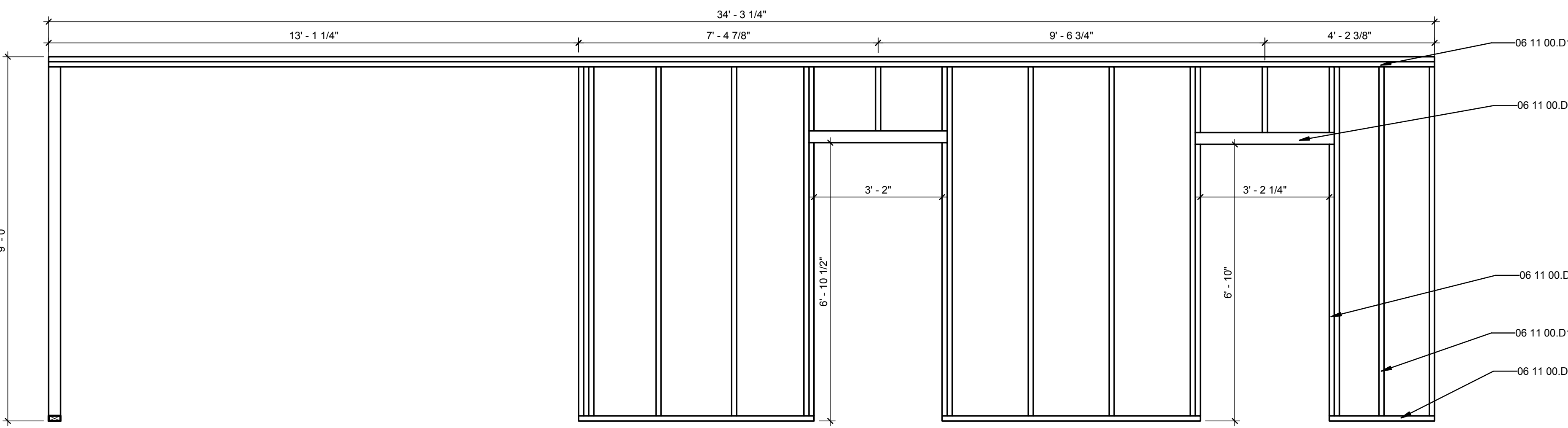
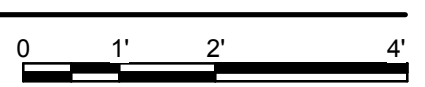
D1 FRAMING ELEVATION B
1/2" = 1'-0"



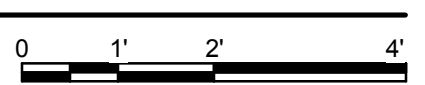
B1 FRAMING ELEVATION C
1/2" = 1'-0"



B4 FRAMING ELEVATION A
1/2" = 1'-0"



A1 FRAMING ELEVATION H
1/2" = 1'-0"



GENERAL SHEET NOTES

1. DRAWING STAMPED BY STRUCTURAL ENGINEER

REFERENCE KEYNOTES

06 11 00.D1	2X4
06 11 00.H1	2X10
23 34 35	HVAC FRESH AIR INTAKE VENT



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
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MR	3/18/2011	DOE CD Submission
MH	3/31/2011	(D1) Moved center blocking location. Added Intake.
MH	8/11/2011	As Built Drawing Submission

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SHEET TITLE
**FRAMING ELEVATIONS
 NORTH UNIT**

S-202

1 2 3 4 5 6 7

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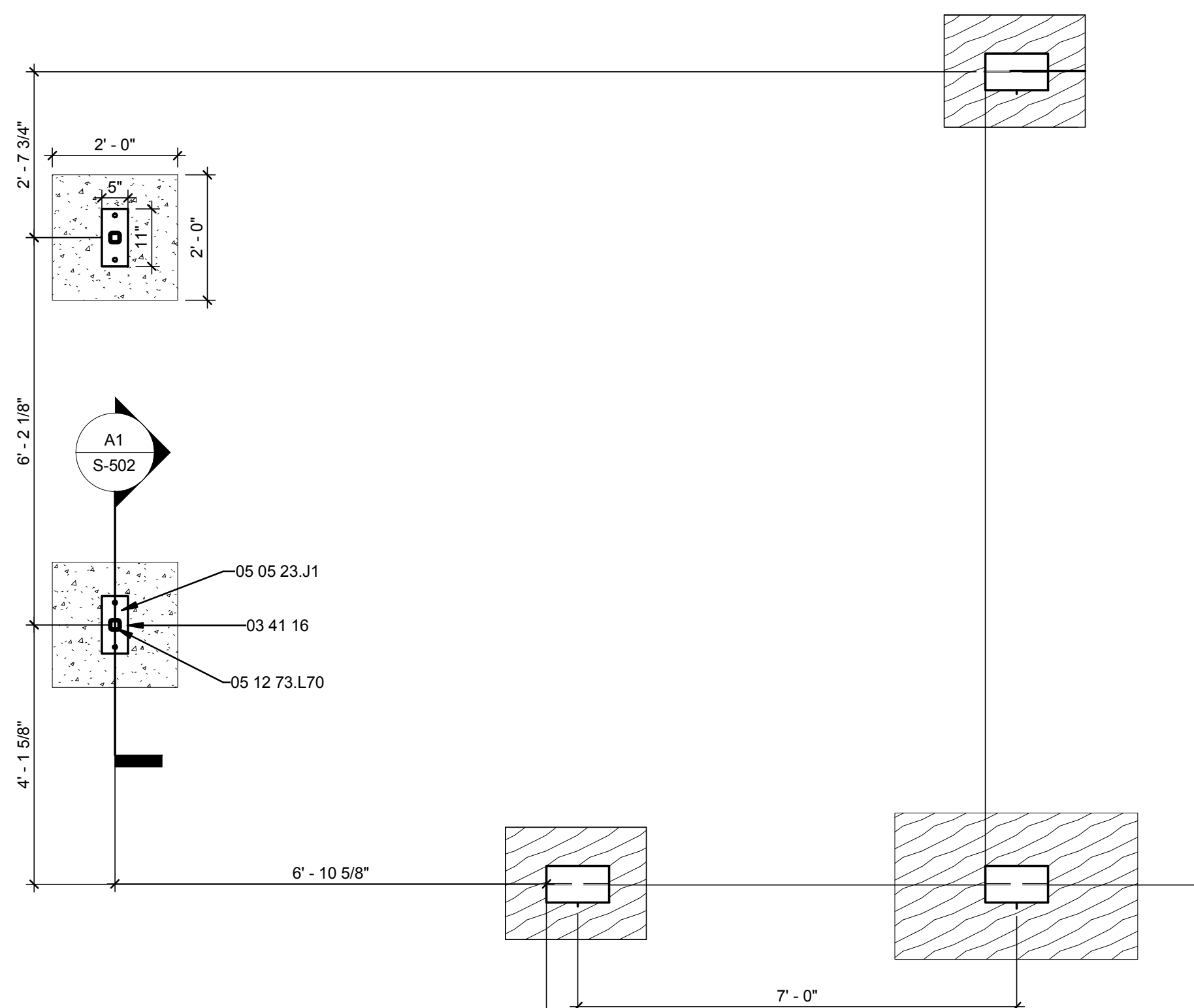
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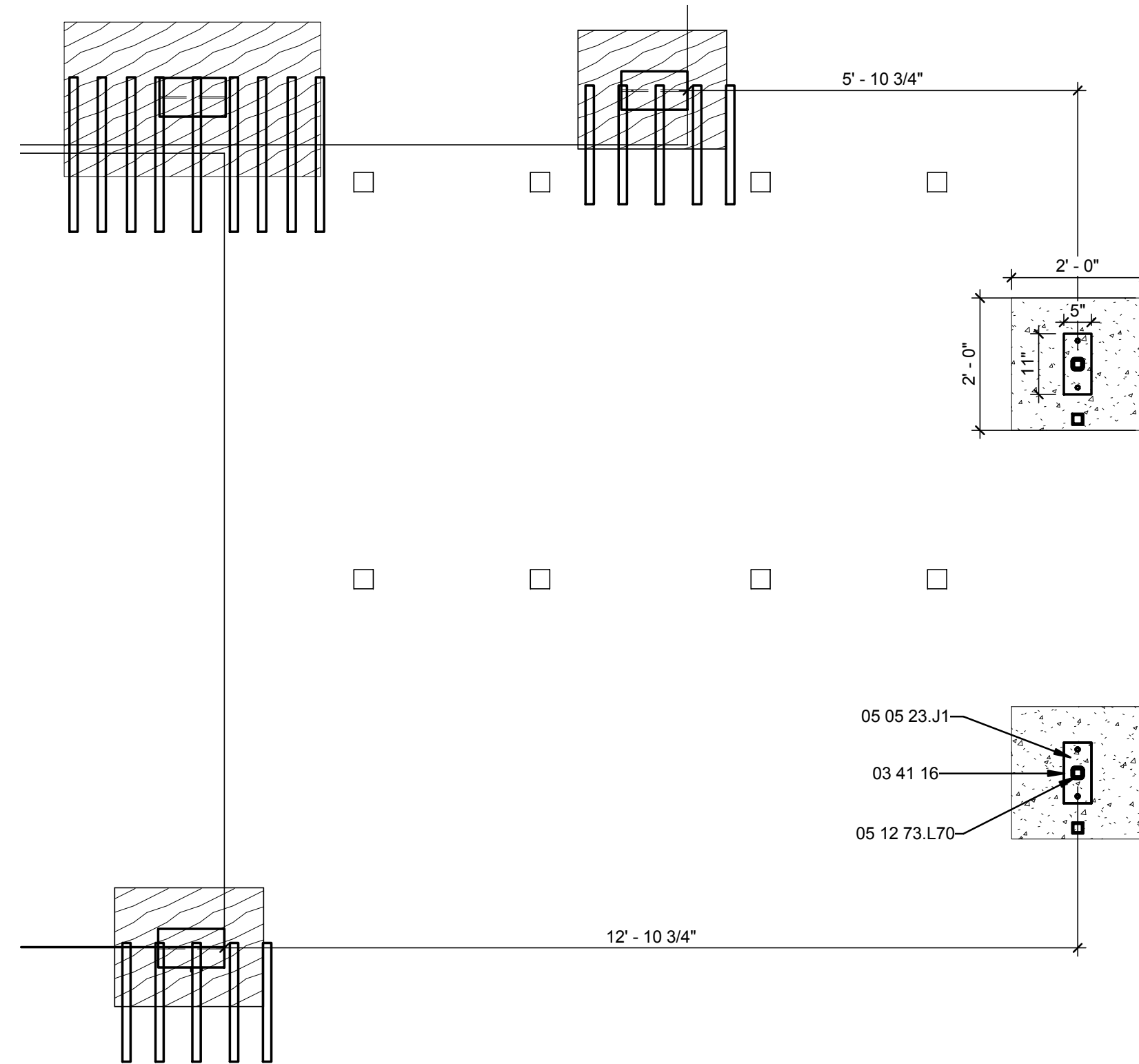
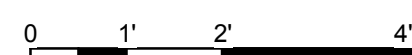
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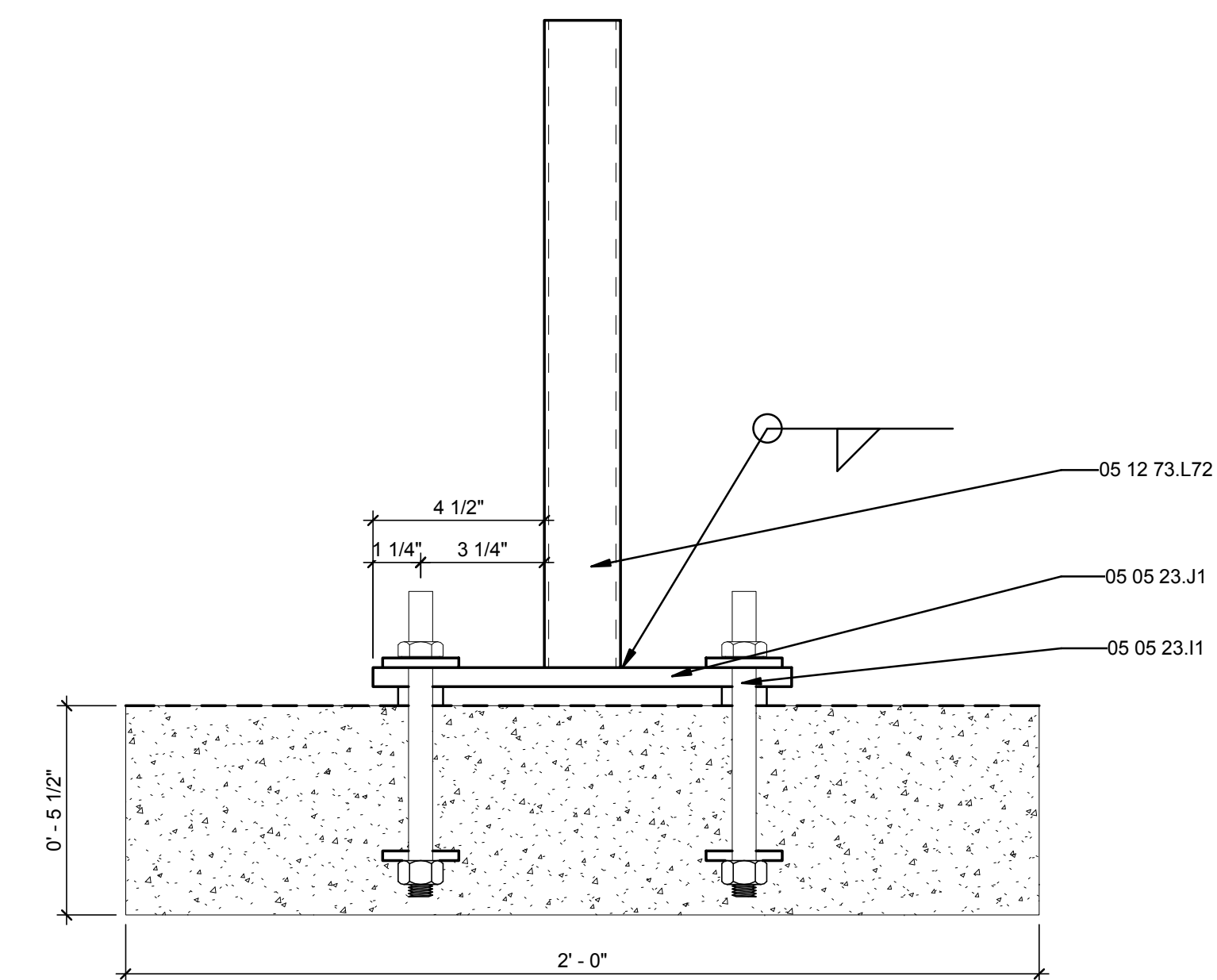
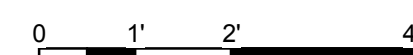
C1 NW CANOPY CONCRETE FOUNDATION PLAN

1/2" = 1'-0"



C4 SW CANOPY CONCRETE FOUNDATION PLAN

1/2" = 1'-0"



A1 CONCRETE FOUNDATION DETAIL

3" = 1'-0"



GENERAL SHEET NOTES

- 1.) PLACE SHIM PLATE UNDER COLUMN PLATE WHERE NEEDED.
- 2.) FOUNDATION SHIM PLATE DESIGN IS TO ACCOMMODATE POSSIBLE 18° VERTICAL SLOPE ON SITE.
- 3.) ALL EXTERIOR STEEL MEMBERS ARE TO BE GALVANIZED.
- 4.) DRAWING STAMPED BY STRUCTURAL ENGINEER

REFERENCE KEYNOTES

03 41 16	PRECAST CONCRETE SLABS
05 05 23.J1	1/2" STEEL PLATE
05 05 23.J1	11x5x1/2" STEEL PLATE*
05 12 73.L70	HSS2X2X3/16
05 12 73.L72	HSS4x2x1/8



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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
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MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
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SHEET TITLE
CANOPY FOUNDATION DETAILS

S-502

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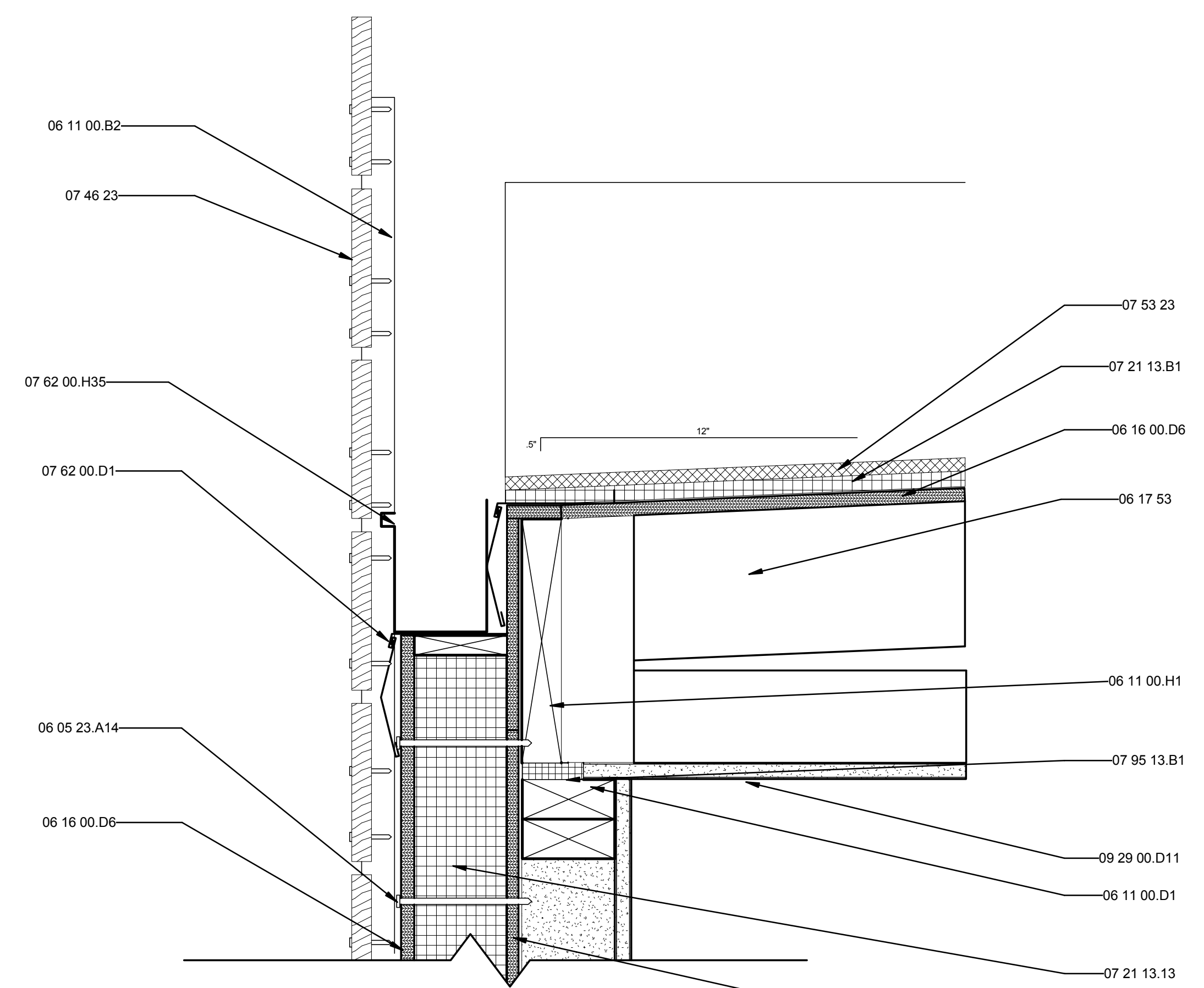
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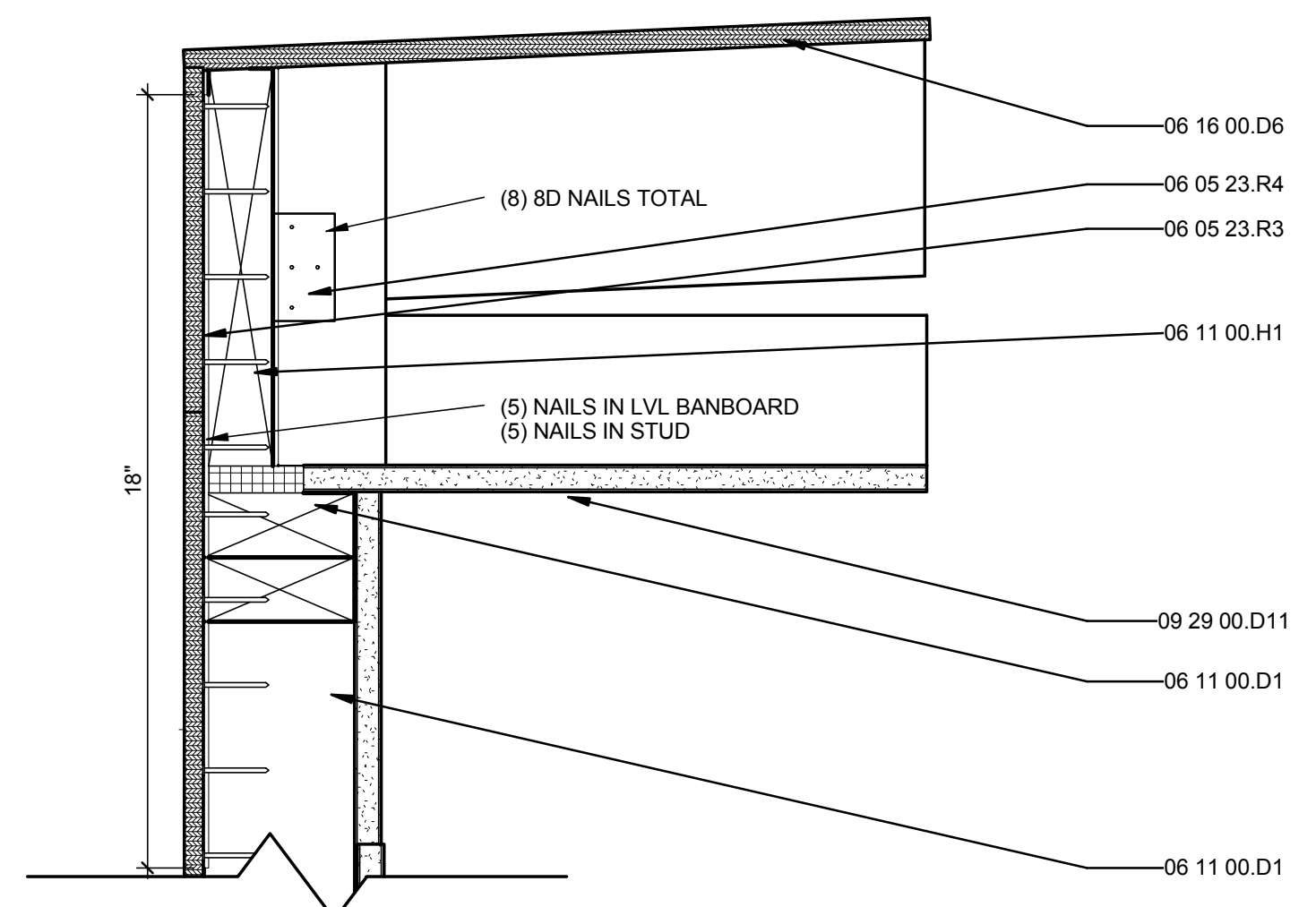
TOP OF PARAPET
12'-6"

BOTTOM OF CEILING
10'-6"

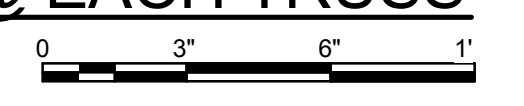
TOP OF FLOOR
1'-6"



C1 WALL SECTION
3" = 1'-0"



A5 SHEAR FASTENING DETAIL @ EACH TRUSS
3" = 1'-0"



GENERAL SHEET NOTES

- 1.) PROVIDE PROTECTO TAPE AT ALL JOINT OF EXTERIOR 7/16" OSB, AT THE INTERSECTION OF WALL/FLOOR AND WALL/ROOF JOINTS, AND AT ALL CORNERS.
- 2.) 18" SIMPSON STRAP TIE TO CONNECT ROOF WITH 2X4 STUD WALL OVER OSB JOINTING. STRAP TIE MUST CONNECT WITH 2X10 LVL AND WITH 2X4 VERTICAL STRUCTURAL MEMBER.
- 3.) STRAP CONNECTION TO LVL MUST OCCUR WITHIN 12" OF ROOF JOIST CENTER.
- 4.) DRAWING STAMPED BY STRUCTURAL ENGINEER

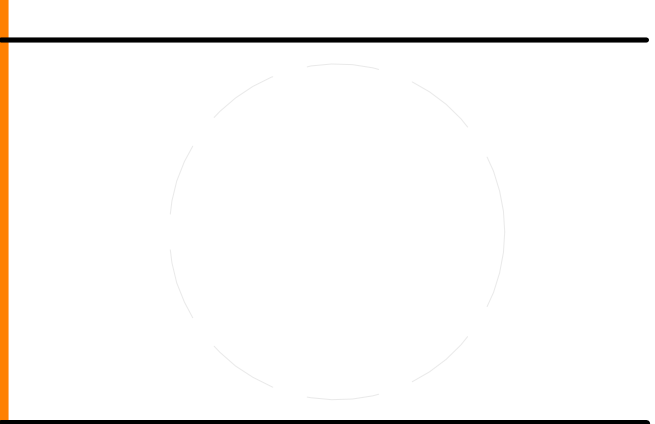
REFERENCE KEYNOTES

05 12 77.N99	WT8X18
06 05 23.A9	10 PENNY NAIL
06 05 23.A14	40 PENNY NAIL
06 05 23.B2	1/2" LAG SCREW
06 05 23.R3	SIMPSON LSTA18
06 05 23.R4	SIMPSON A34
06 11 00.B2	1 X FURRING STRIPS @ 16" O.C.
06 11 00.D1	2X4
06 11 00.F1	2X6
06 11 00.H1	2X10
06 16 00.D6	1/2" PLYWOOD
06 16 00.D11	3/4" PLYWOOD
06 16 00.D17	7/16" PLYWOOD
06 16 00.D18	7/16" PLYWOOD
06 17 00.B1	9 1/2" WOOD CHORD JOIST
06 17 13.L1	2x10" LVL
06 17 53	SHOP-FABRICATED WOOD TRUSSES
07 21 13.13	FOAM BOARD INSULATION
07 21 13.B1	1/2" RIGID INSULATION
07 21 19	FOAMED-IN PLACE INSULATION
07 26 13	ABOVE-GRADE VAPOR RETARDERS
07 46 23	1X6 KILN DRIED CEDAR SIDING
07 53 23	ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING
07 62 00.D1	2 PIECE CAP & RECEIVER FLASHING
07 62 00.H35	4" X 5" RECTANGULAR GUTTER
07 95 13.B1	1/4" EXPANSION JOINT
09 29 00.D11	5/8" TYPE "X" GYPSUM WALLBOARD
09 65 19	MARMOLEUM CLICK PANEL FLOORING



TEAM NAME: UNIVERSITY OF ILLINOIS
 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
 WWW.SOLARDECATHLON.ILLINOIS.EDU

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MR	3/18/2011	DOE CD Submission
MH	7/29/2011	Furring strips changed from metal to wood 1x1 @ 16o.c. Angle under insul. panel removed.
MH	8/11/2011	As Built Drawing Submission
MARK	DATE	DESCRIPTION

LOT NUMBER: LOT #305
 DRAWN BY: AUTHOR
 CHECKED BY: CHECKER
 COPYRIGHT: NONE; PROJECT IS PUBLIC DOMAIN

SHEET TITLE

SECTION DETAILS

S-511

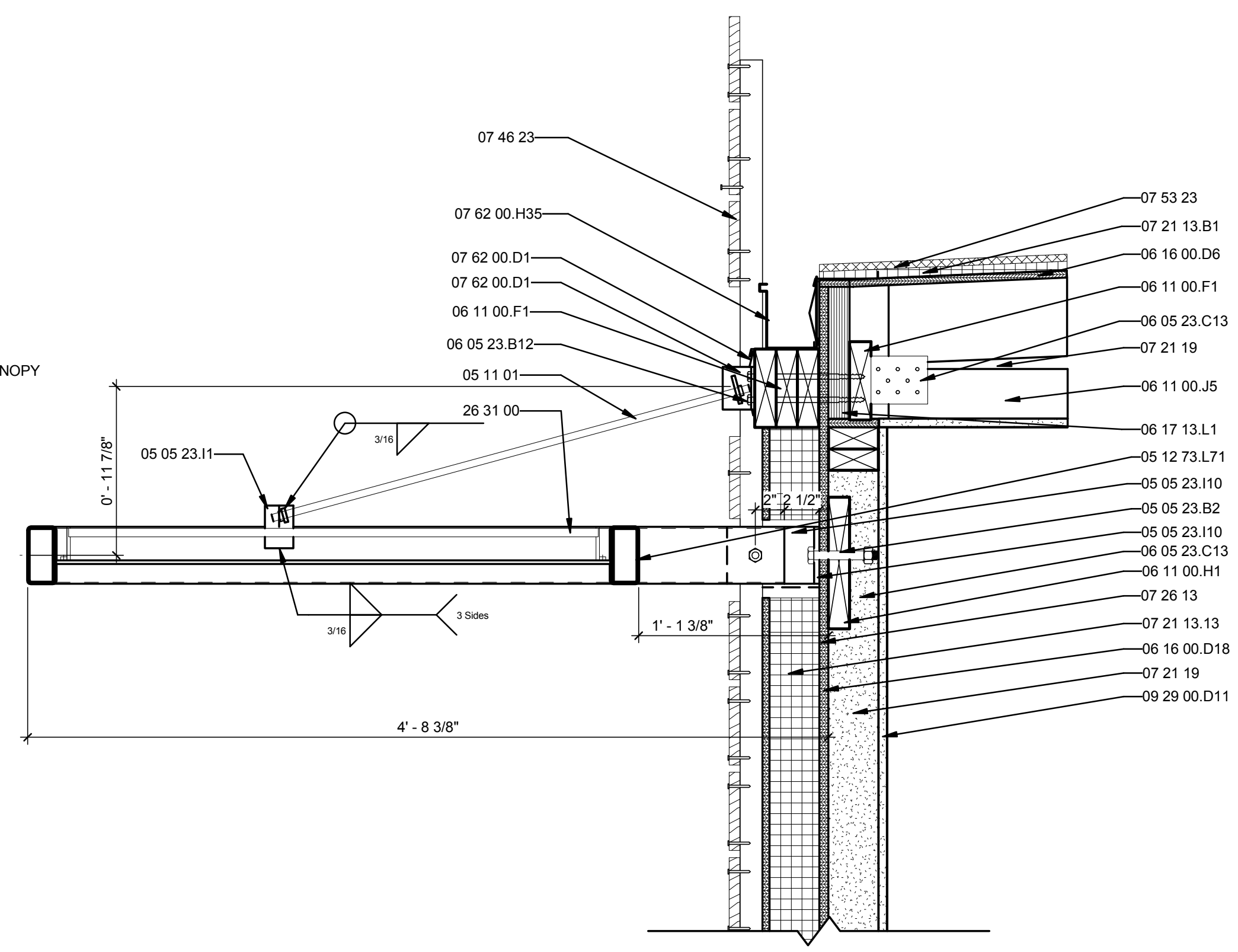
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D

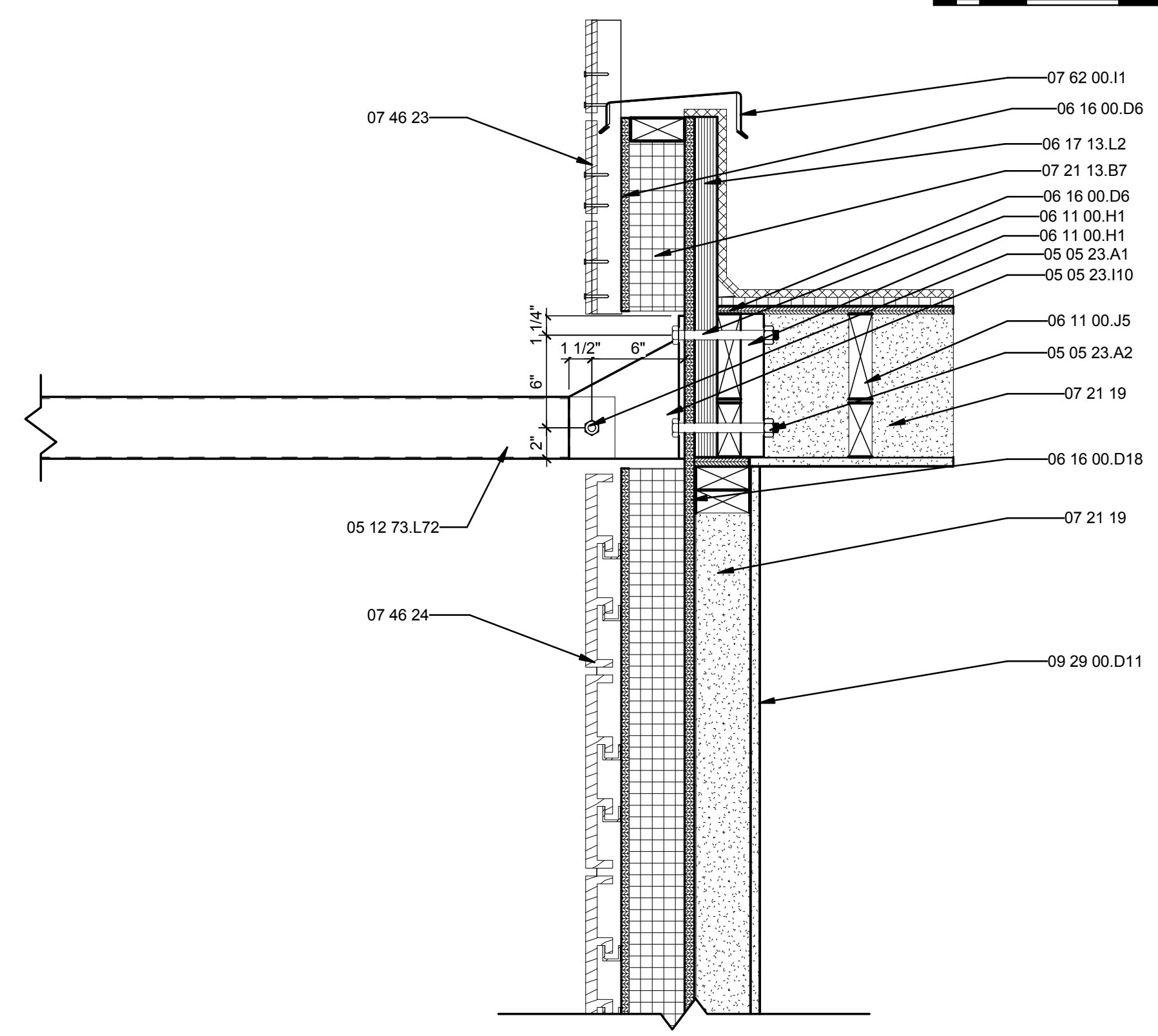
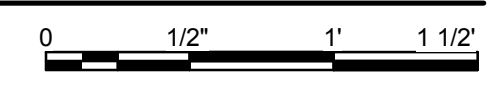
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B

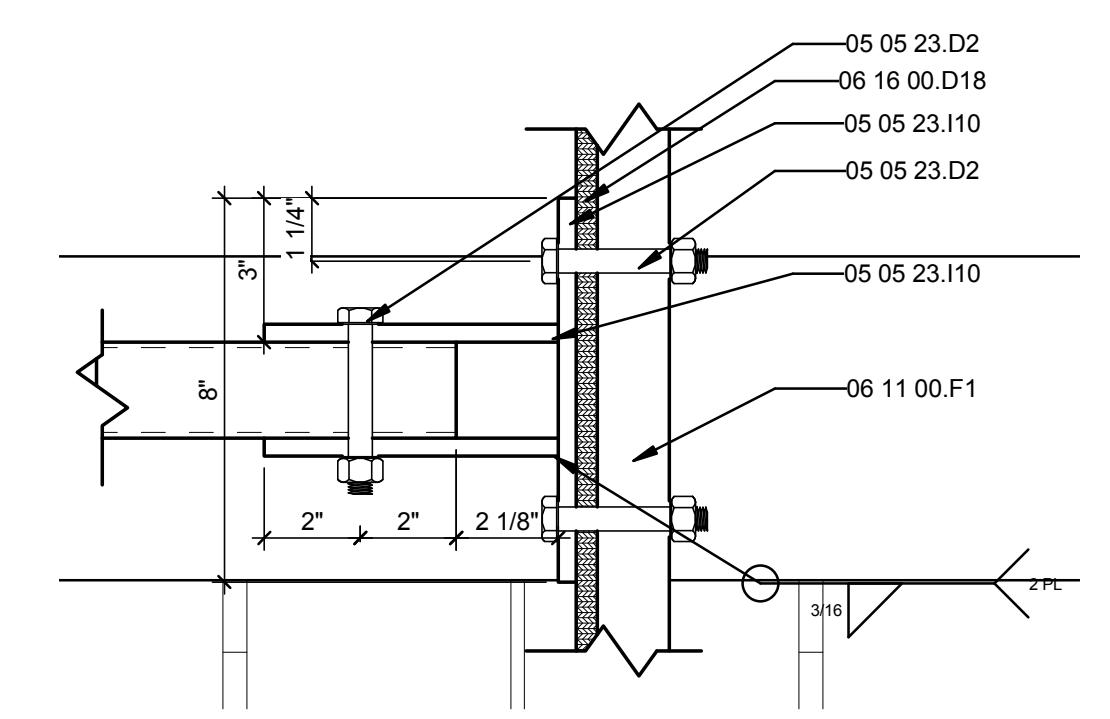
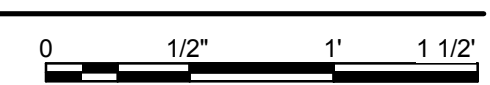
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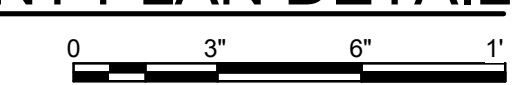
C1 CANOPY MOUNT 1 - PV PANEL
1 1/2" = 1'-0"



A1 CANOPY MOUNT 2
1 1/2" = 1'-0"



A4 CANOPY WALL MOUNT PLAN DETAIL
3" = 1'-0"



GENERAL SHEET NOTES

- 1.) ALL EXTERIOR STRUCTURAL STEEL AND CONNECTORS ARE TO BE GALVANIZED
- 2.) SIMPSON A34 MEMBERS NEED TO BE INSTALLED AT EACH END OF BLOCKING AT CANOPY CONNECTION.
- 3.) ALL HEIGHTS ARE TAKEN FROM GRADE.
- 4.) FINISHED FLOOR HEIGHT IS 16" ABOVE GRADE.
- 5.) DRAWING STAMPED BY STRUCTURAL ENGINEER

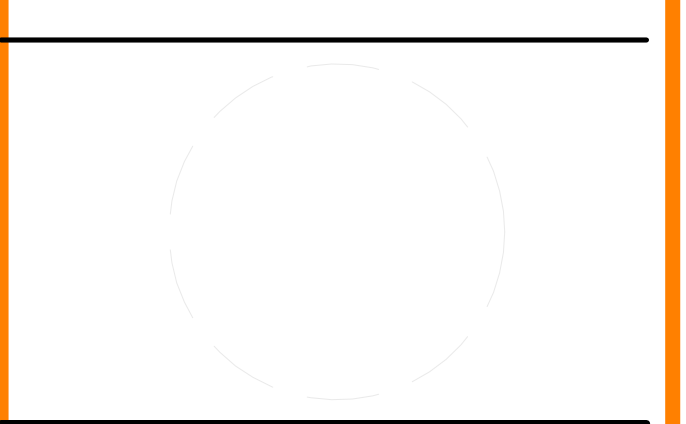
REFERENCE KEYNOTES

05 05 23.A1	1/2" A307 BOLT
05 05 23.A2	5/8" A307 BOLT
05 05 23.B2	5/8" A325 BOLT
05 05 23.D2	1/2" ANCHOR BOLT
05 05 23.I1	1/2" STEEL PLATE
05 05 23.I10	3/8" STEEL PLATE
05 11 01	1/2" THREADED STEEL ROD
05 12 73.L71	HSS4X2X3/16
05 12 73.L72	HSS4x2x1/8
06 05 23.B12	(4) 3/8" X 8" LG TIMBERLOK WOOD SCREW
06 05 23.C13	SIMPSON A34
06 11 00.F1	2X6
06 11 00.H1	2X10
06 11 00.J5	ROOF JOISTS @ 24" O.C.
06 16 00.D6	1/2" PLYWOOD
06 16 00.D18	7/16" PLYWOOD
06 17 13.L1	2x10" LVL
06 17 13.L2	2X22" LVL
07 21 13.13	FOAM BOARD INSULATION
07 21 13.B1	1/2" RIGID INSULATION
07 21 13.B7	3 1/2" RIGID INSULATION
07 21 19	FOAMED-IN PLACE INSULATION
07 26 13	ABOVE-GRADE VAPOR RETARDERS
07 46 23	1X6 KILN DRIED CEDAR SIDING
07 46 24	RESYSTA ALL NATURAL SIDING
07 53 23	ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING
07 62 00.D1	2 PIECE CAP & RECEIVER FLASHING
07 62 00.H35	4" X 5" RECTANGULAR GUTTER
07 62 00.I1	6" COPING
09 29 00.D11	5/8" TYPE "X" GYPSUM WALLBOARD
26 31 00	PHOTOVOLTAIC COLLECTORS



TEAM NAME: UNIVERSITY OF ILLINOIS
 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
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MR	3/18/2011	DOE CD Submission
MH	7/29/2011	Canopy HSS members downsized. Reference drawings for new dimensions

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
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SHEET TITLE
 CANOPY SECTION DETAILS

S-513

GENERAL SHEET NOTES

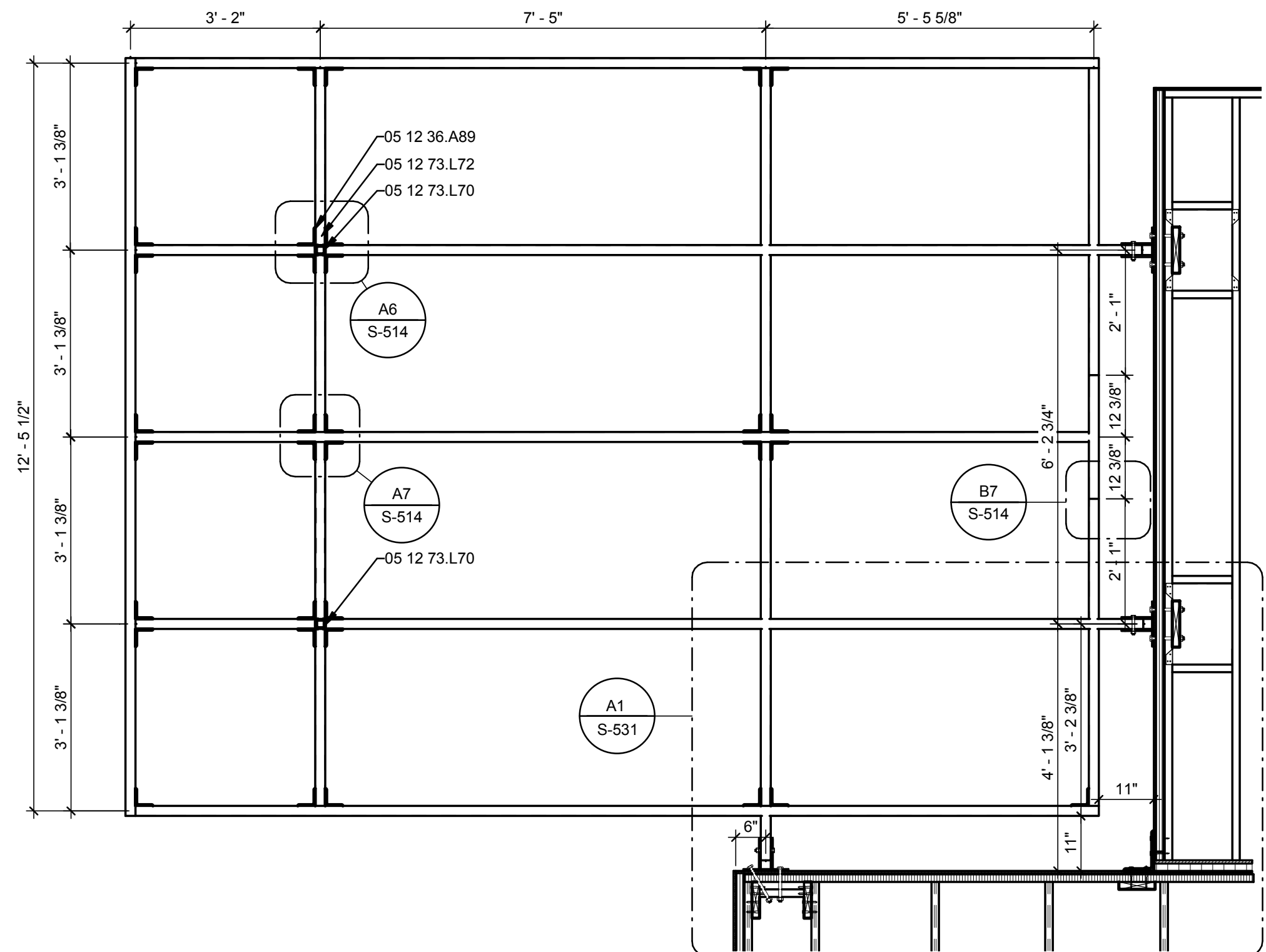
- 1.) ALL EXTERIOR STEEL MEMBERS ARE TO BE GALVANIZED.
- 2.) DRAWING A4 SOUTHEAST CANOPY WILL USE SIMILAR DETAILS TO THOSE DESCRIBED IN DRAWING A1 AND RELATED DRAWINGS.
- 3.) DRAWING STAMPED BY STRUCTURAL ENGINEER



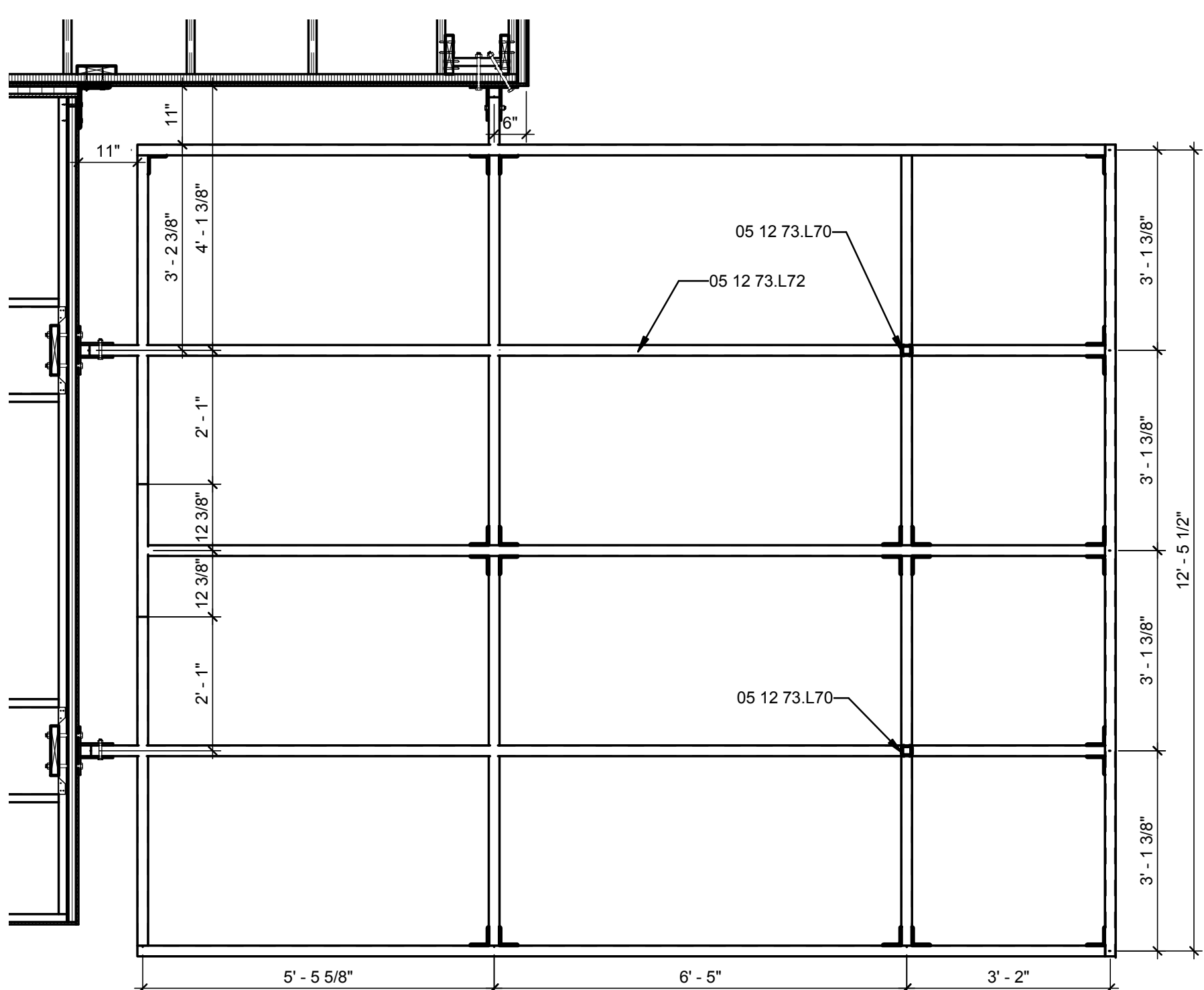
REFERENCE KEYNOTES

05 05 23.B1	1/2" A325 BOLT
05 05 23.B2	5/8" A325 BOLT
05 05 23.I1	1/2" STEEL PLATE
05 05 23.I10	3/8" STEEL PLATE
05 11 01	1/2" THREADED STEEL ROD
05 12 36.A89	L3.5X3.5X0.25
05 12 36.A136	L1.25X1.25X0.25
05 12 73.L70	HSS2X2X3/16
05 12 73.L72	HSS4X2X3/16
05 12 73.L71	HSS4x2x1/8
06 05 23.C13	SIMPSON A34
06 11 00.H1	2X10

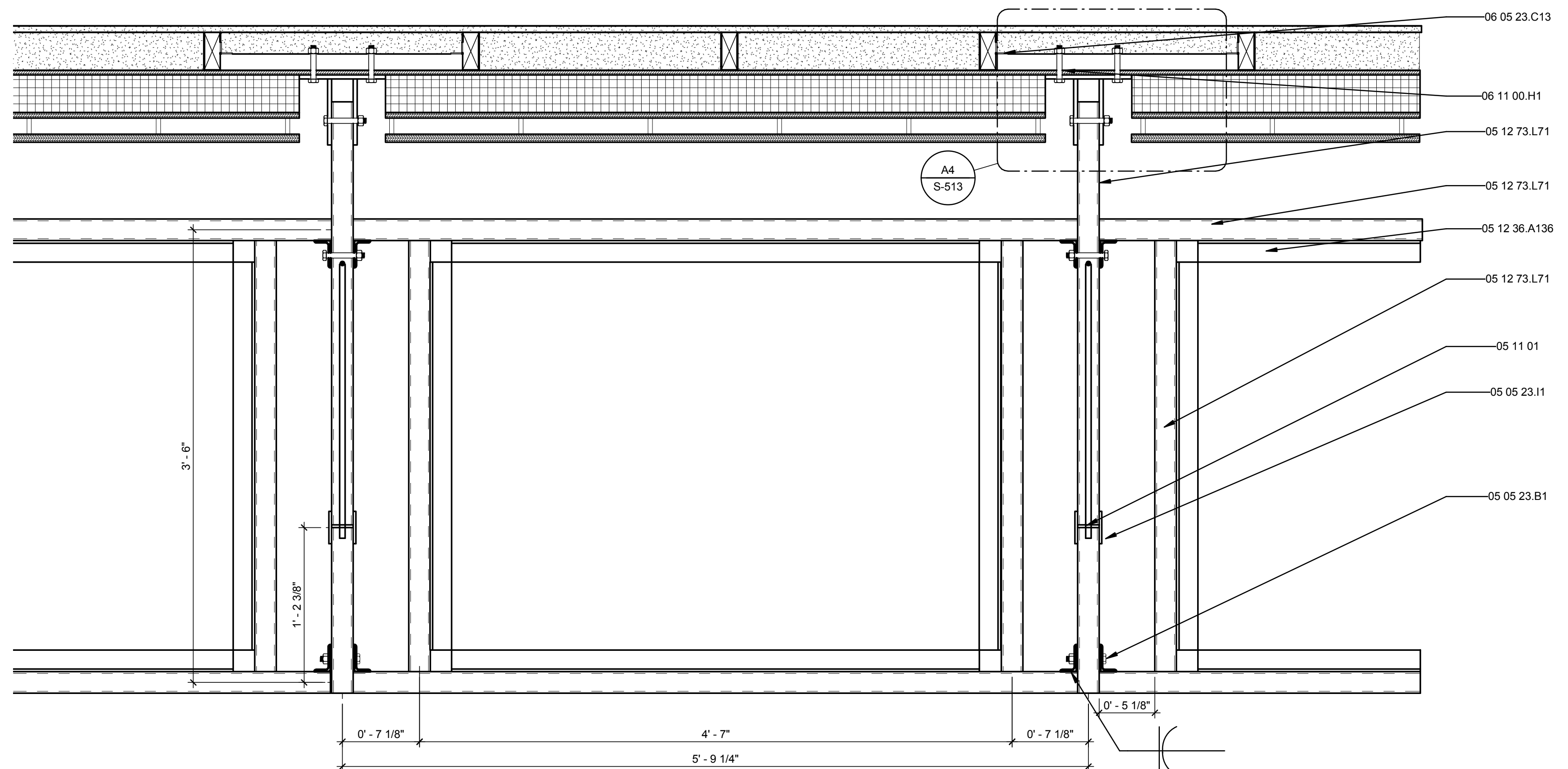
TEAM NAME:	UNIVERSITY OF ILLINOIS
ADDRESS:	611 LORADO TAFT DR. CHAMPAIGN, IL 61820
CONTACT:	SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU
CONSULTANTS:	MSA PROFESSIONAL SERVICES HOMEWAY HOMES UNIVERSITY OF ILLINOIS FACILITIES AND SERVICES



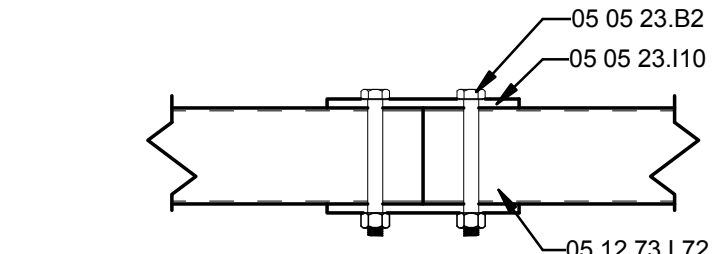
(C1) NORTHWEST SHADING CANOPY PLAN
1/2" = 1'-0"
0 1' 2' 4'



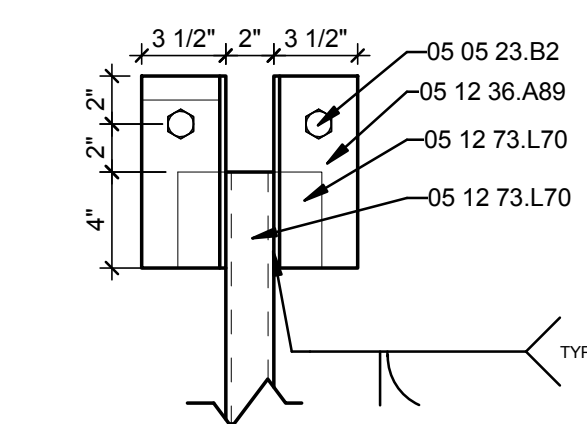
(C4) SOUTHEAST SHADING CANOPY PLAN
1/2" = 1'-0"
0 1' 2' 4'



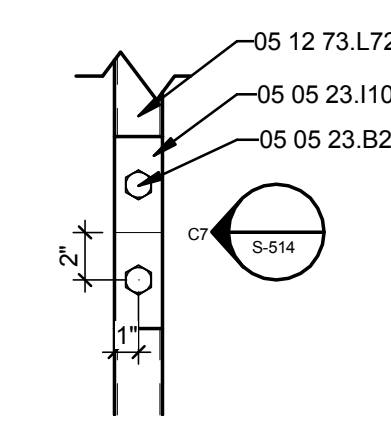
(A1) SOUTH SHADING CANOPY PLAN
1 1/2" = 1'-0"
0 1/2" 1' 1 1/2"



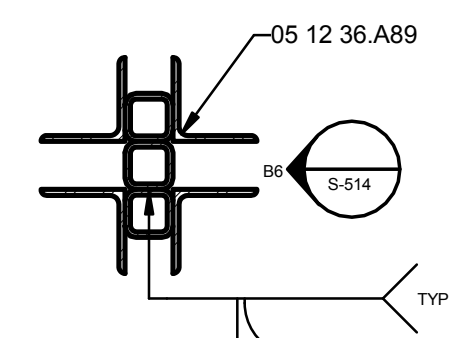
(C7) JOINT ELEV
1 1/2" = 1'-0"



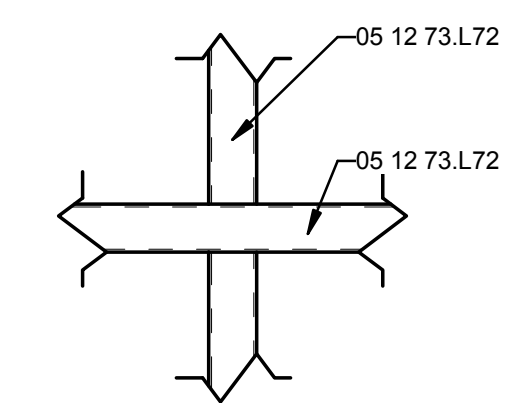
(B6) COL ELEV
1 1/2" = 1'-0"



(B7) SPLICE DETAIL
1 1/2" = 1'-0"



(A6) COL DETAIL
1 1/2" = 1'-0"



(A7) DETAIL
1 1/2" = 1'-0"

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---------	---



MR	3/18/2011	DOE CD Submission
MH	7/29/2011	Canopy HSS members downsized. Reference drawings for new dimensions
MH	8/11/2011	As Built Drawing Submission
MARK	DATE	DESCRIPTION

LOT NUMBER:	LOT #305
DRAWN BY:	Author
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SHEET TITLE

CANOPY PLANS

S-514

8/13/2011 11:37:15 AM

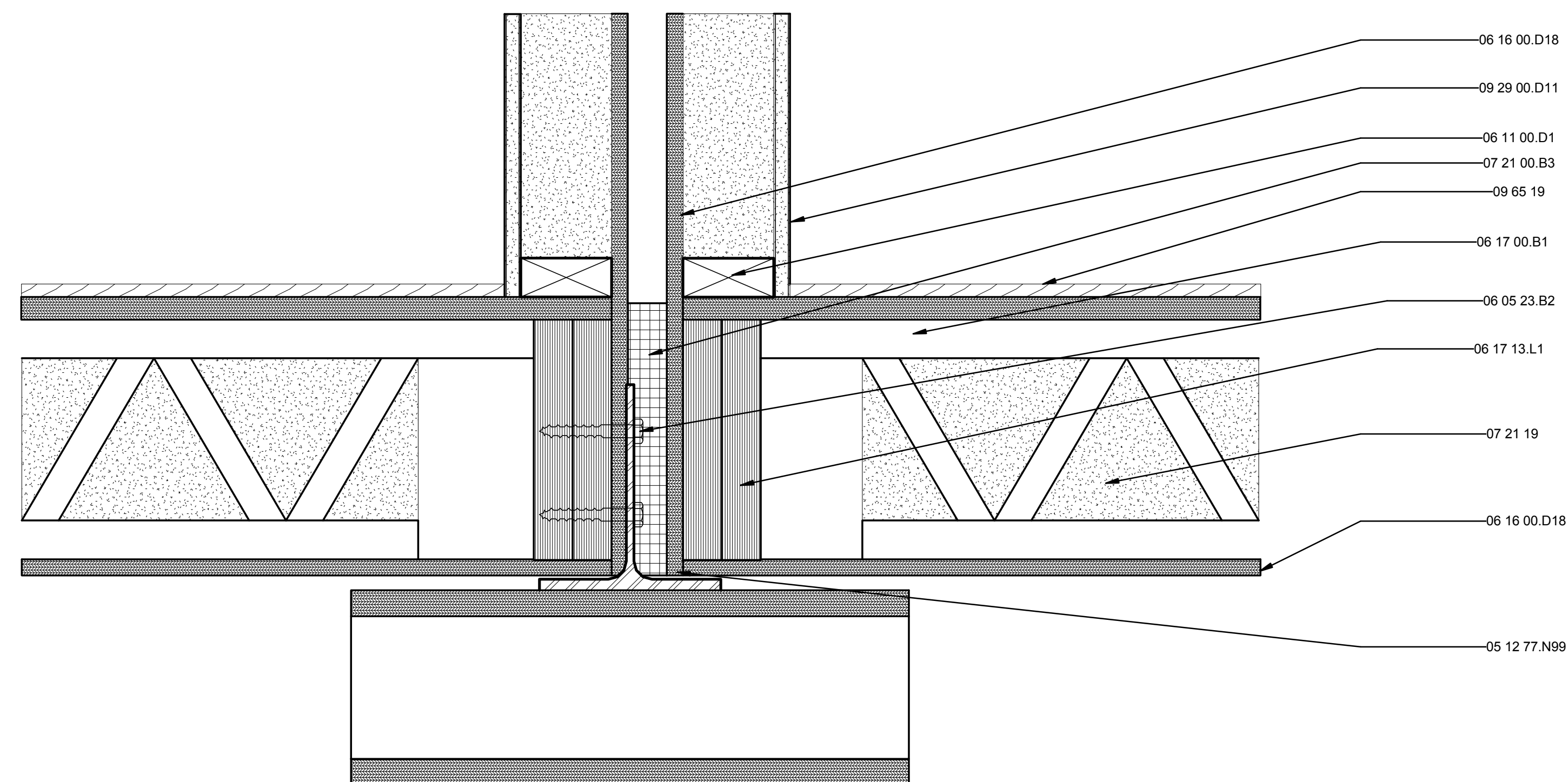
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D

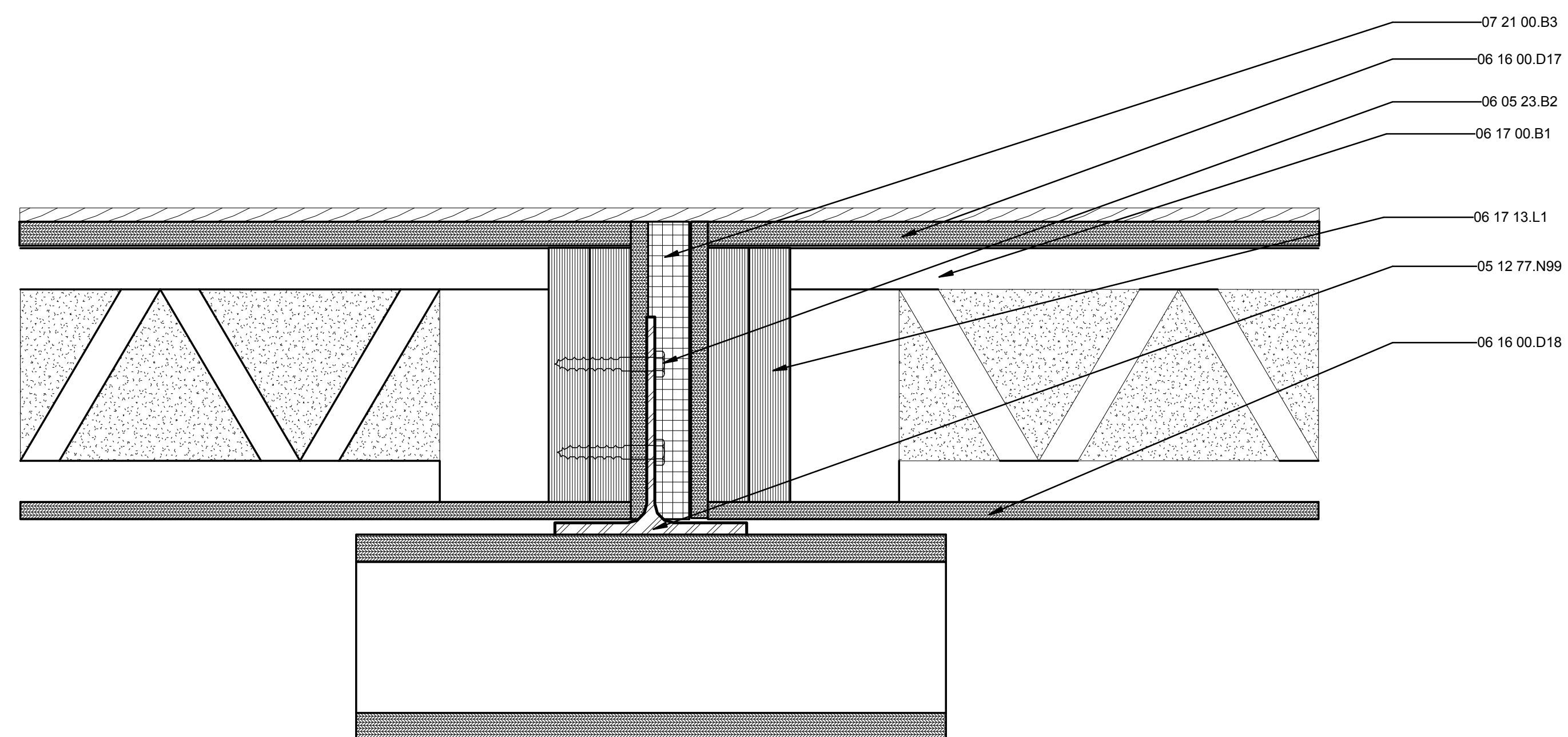
C

B

A



C1 FLOOR TO FLOOR AT WALL CONNECTION
3" = 1'-0"



A1 FLOOR TO FLOOR CONNECTION
3" = 1'-0"



GENERAL SHEET NOTES

- 1. DRAWING STAMPED BY STRUCTURAL ENGINEER

REFERENCE KEYNOTES

- 05 12 77.N99 WT8X18
- 06 05 23.B2 1/2" LAG SCREW
- 06 11 00.D1 2X4
- 06 16 00.D17 7/16" PLYWOOD
- 06 16 00.D18 7/16" PLYWOOD
- 06 17 00.B1 9 1/2" WOOD CHORD JOIST
- 06 17 13.L1 2x10" LVL
- 07 21 00.B3 3" COMPRESSIBLE ROCK WOOL
- 07 21 19 FOAMED-IN PLACE INSULATION
- 09 29 00.D11 5/8" TYPE "X" GYPSUM WALLBOARD
- 09 65 19 MARMOLEUM CLICK PANEL FLOORING



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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: Author
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SHEET TITLE
FLOOR CONNECTION DETAILS

S-515

1

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7

8/13/2011 11:37:20 AM

GENERAL SHEET NOTES

1. DRAWING STAMPED BY STRUCTURAL ENGINEER



REFERENCE KEYNOTES

05 05 23.A2	5/8" A307 BOLT
05 05 23.J1	1/2" STEEL PLATE
06 05 23.J0	SIMPSON HANGERS
06 11 00.B8	RECLAIMED 1X6
06 11 00.F1	2X6
06 11 00.H1	2X10
06 11 00.L1	4X4

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 CONTACT: SOLARDECATHLON@UIUC.EDU
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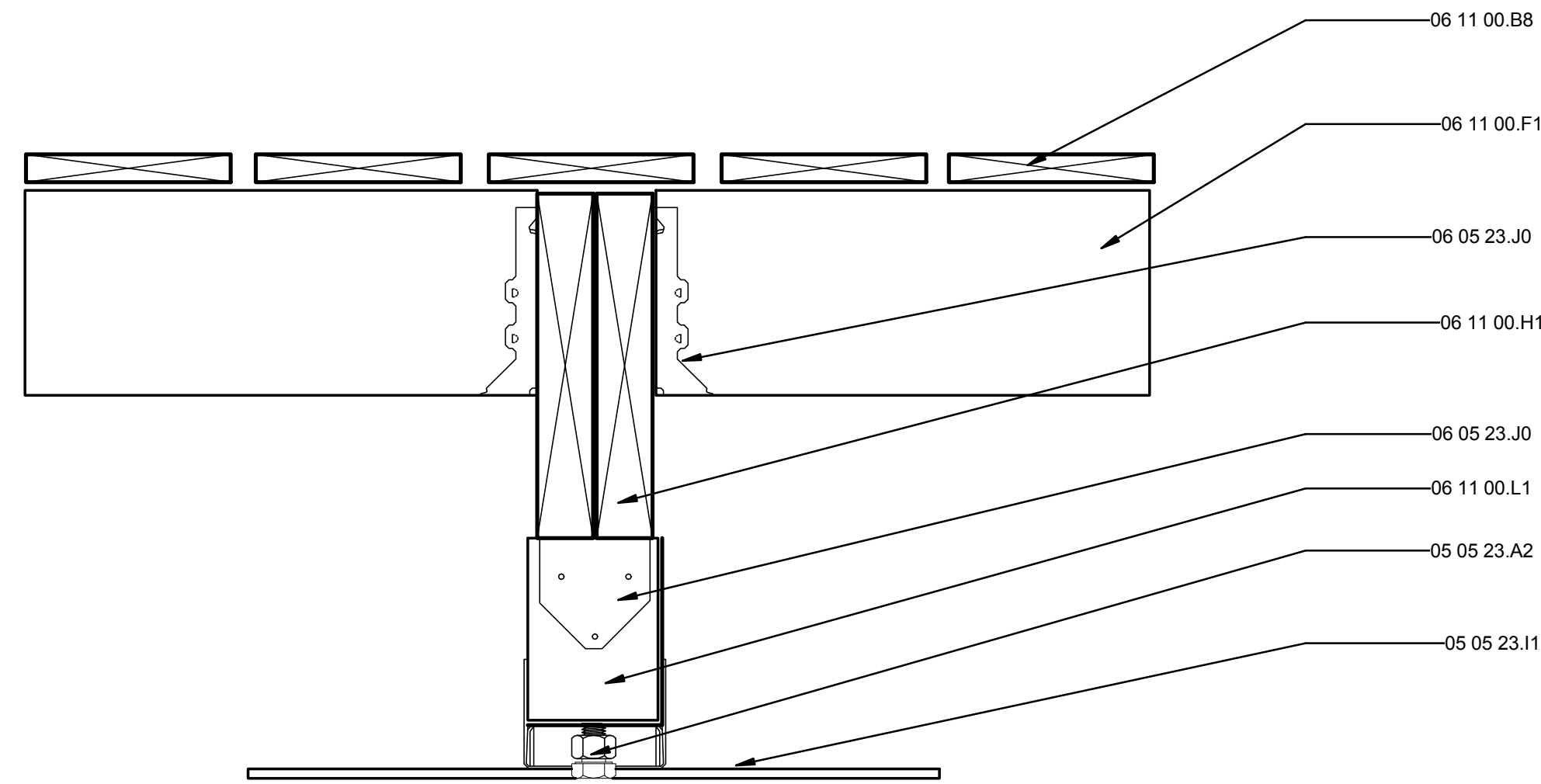
MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: AUTHOR
 CHECKED BY: CHECKER
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SHEET TITLE

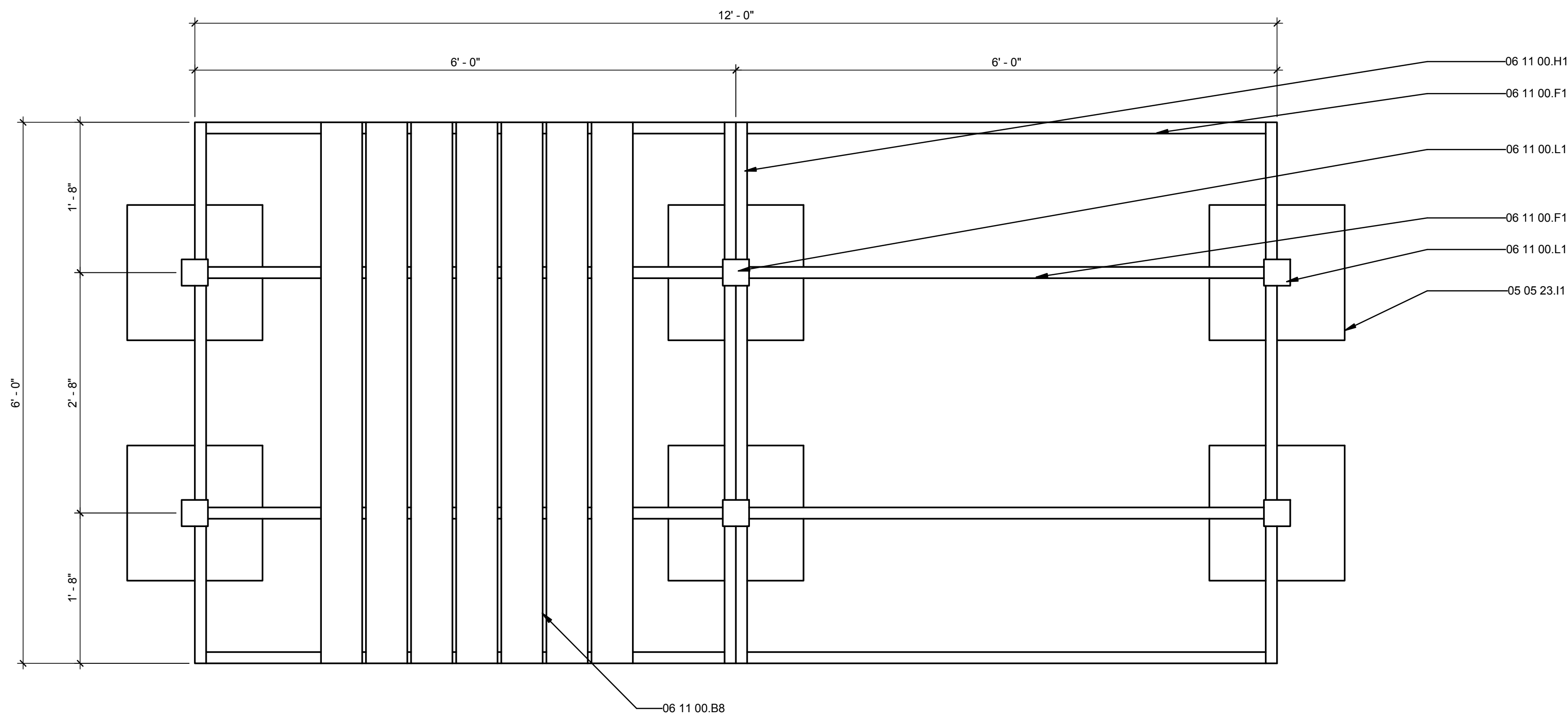
DECK DETAILS

S-521



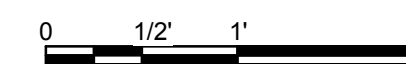
D1 DECK DETAIL

3" = 1'-0"



A1 DECK MODULE PLAN

1" = 1'-0"



E

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C

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8/13/2011 11:37:25 AM

E

D

C

B

A

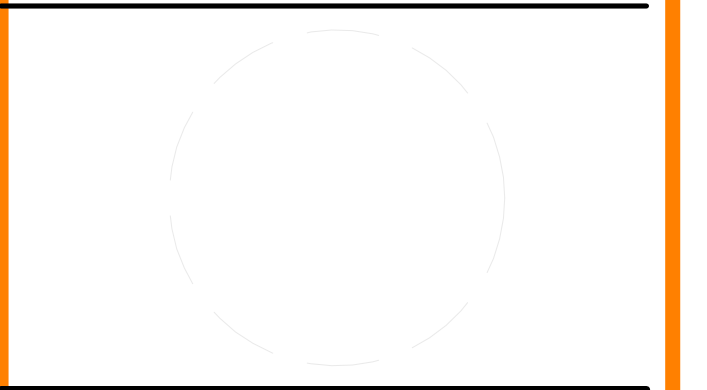
GENERAL SHEET NOTES

1. REFERENCE STRUCTURAL CALCULATIONS FOR DETAILS ON STRUCTURAL DESIGN OF SOLAR PANEL SUBMOUNT REGARDING FALL PREVENTION CAPABILITY AND COMPENSATION FOR UPLIFT FROM SOLAR PANELS.
2. INNER LINE OF ROOF PLAN IS REFERENCED AS THE INTERIOR OF THE ROOF PARAPET. PLEASE CONFIRM LOCATIONS OF SUBROOF MOUNTING ON SITE TO ENSURE CORRECT MOUNTING LOCATIONS.
3. DRAWING STAMPED BY STRUCTURAL ENGINEER



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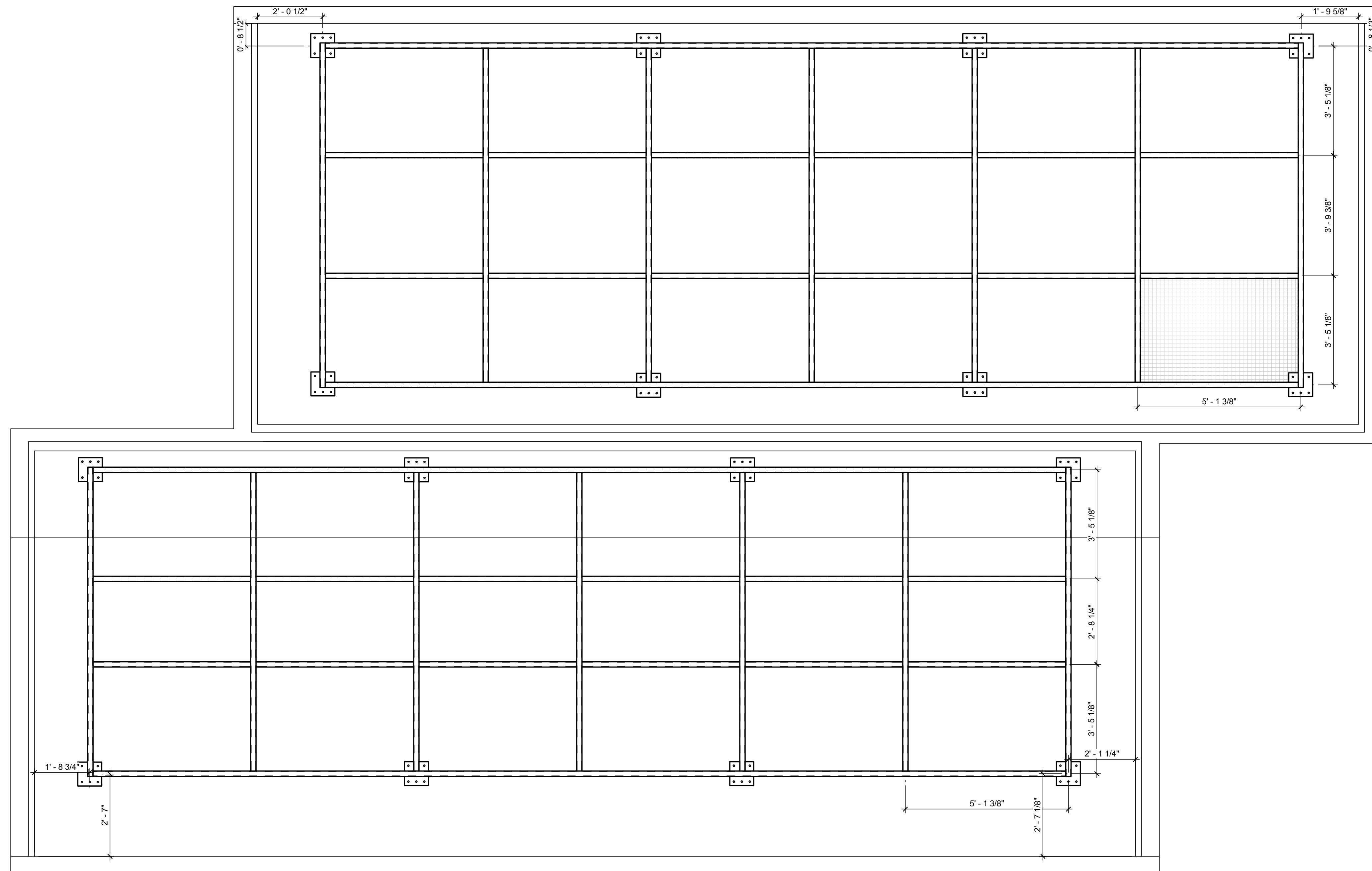
MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
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SHEET TITLE

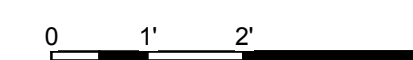
SOLAR PANEL SUBMOUNT DETAILS

S-532



A1 SOLAR PANEL SUBMOUNT PLAN

1/2" = 1'-0"



1

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8/13/2011 11:37:28 AM

GENERAL SHEET NOTES

1. 10' TALL, VERTICAL ORIENTED PLYWOOD TO BE INSTALLED AT ALL WALLS FOR FULL HEIGHT OF WALL.
2. DRAWING STAMPED BY STRUCTURAL ENGINEER



REFERENCE KEYNOTES

06 05 23.R2	SIMPSON HRS8 10-10D
06 11 00.D1	2X4
06 11 00.H1	2X10
06 16 00.D17	7/16" PLYWOOD
06 16 00.D18	7/16" PLYWOOD
09 29 00.D11	5/8" TYPE "X" GYPSUM WALLBOARD

TEAM NAME: UNIVERSITY OF ILLINOIS
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MR	3/18/2011	DOE CD Submission
MH	3/31/2011	(A1) Joist added to clarify.

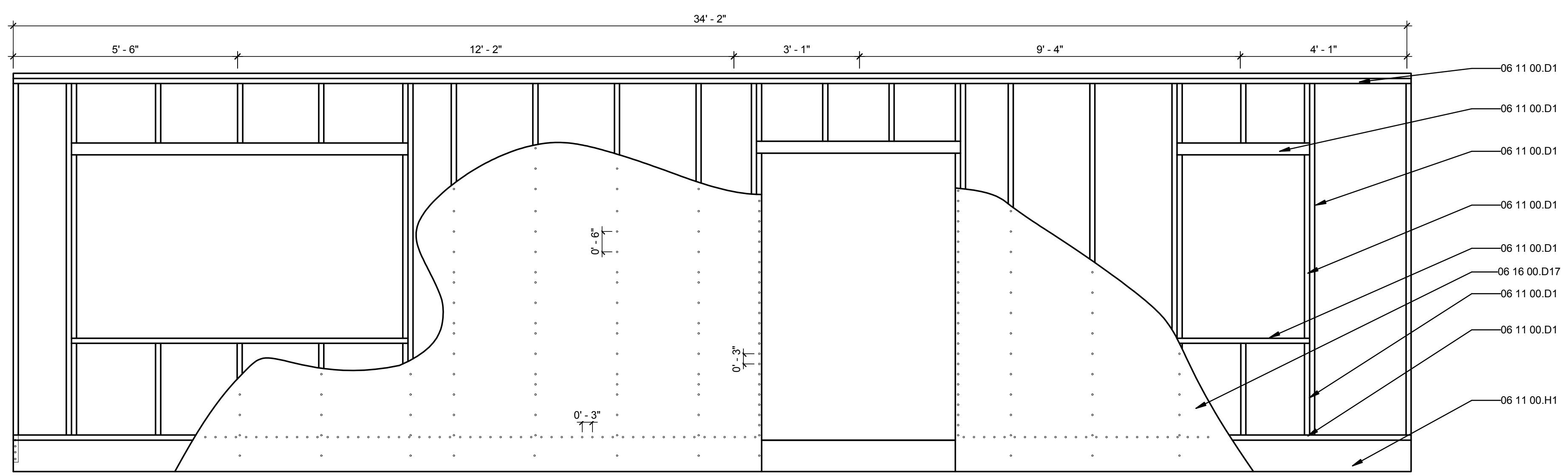
MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: AUTHOR
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SHEET TITLE

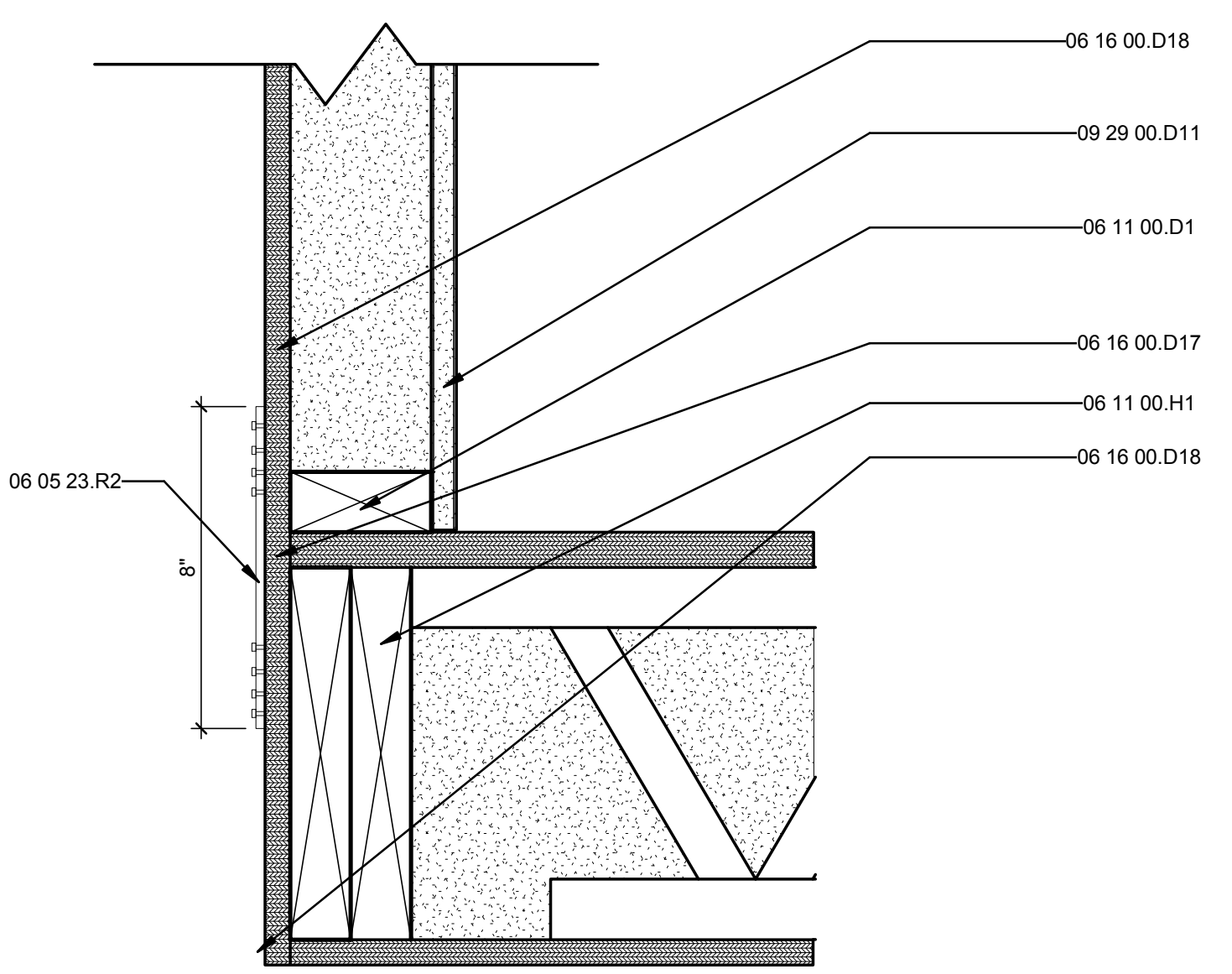
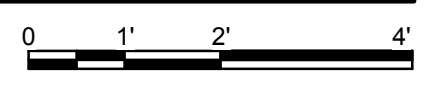
TYPICAL DETAILS

S-701



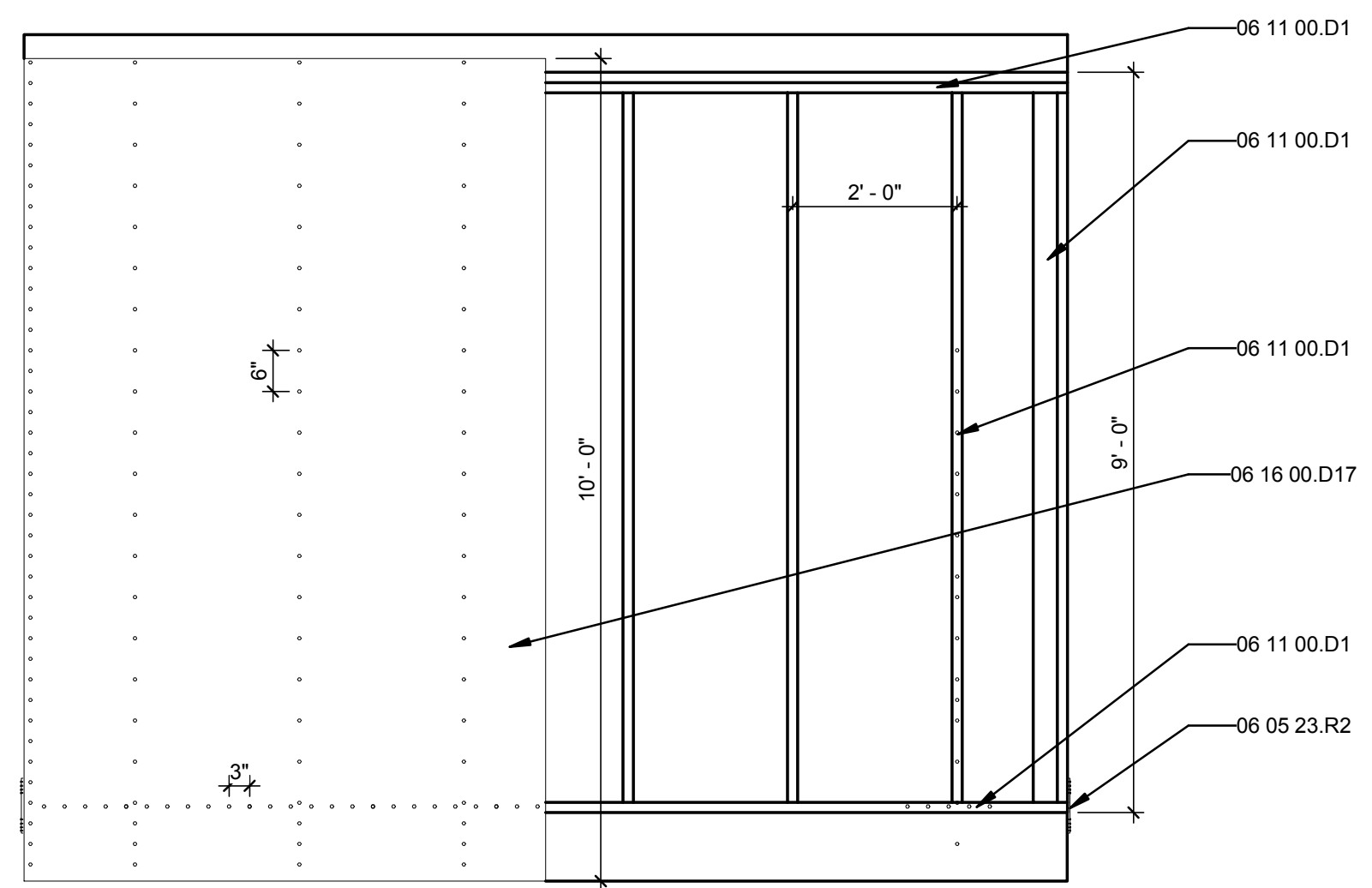
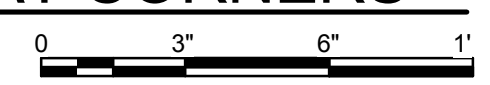
D1 TYPICAL EXTERIOR FRAMING ELEVATION

1/2" = 1'-0"



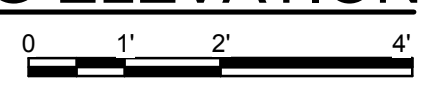
A1 SHEAR WALL TO FLOOR DETAIL AT CORNERS

3" = 1'-0"

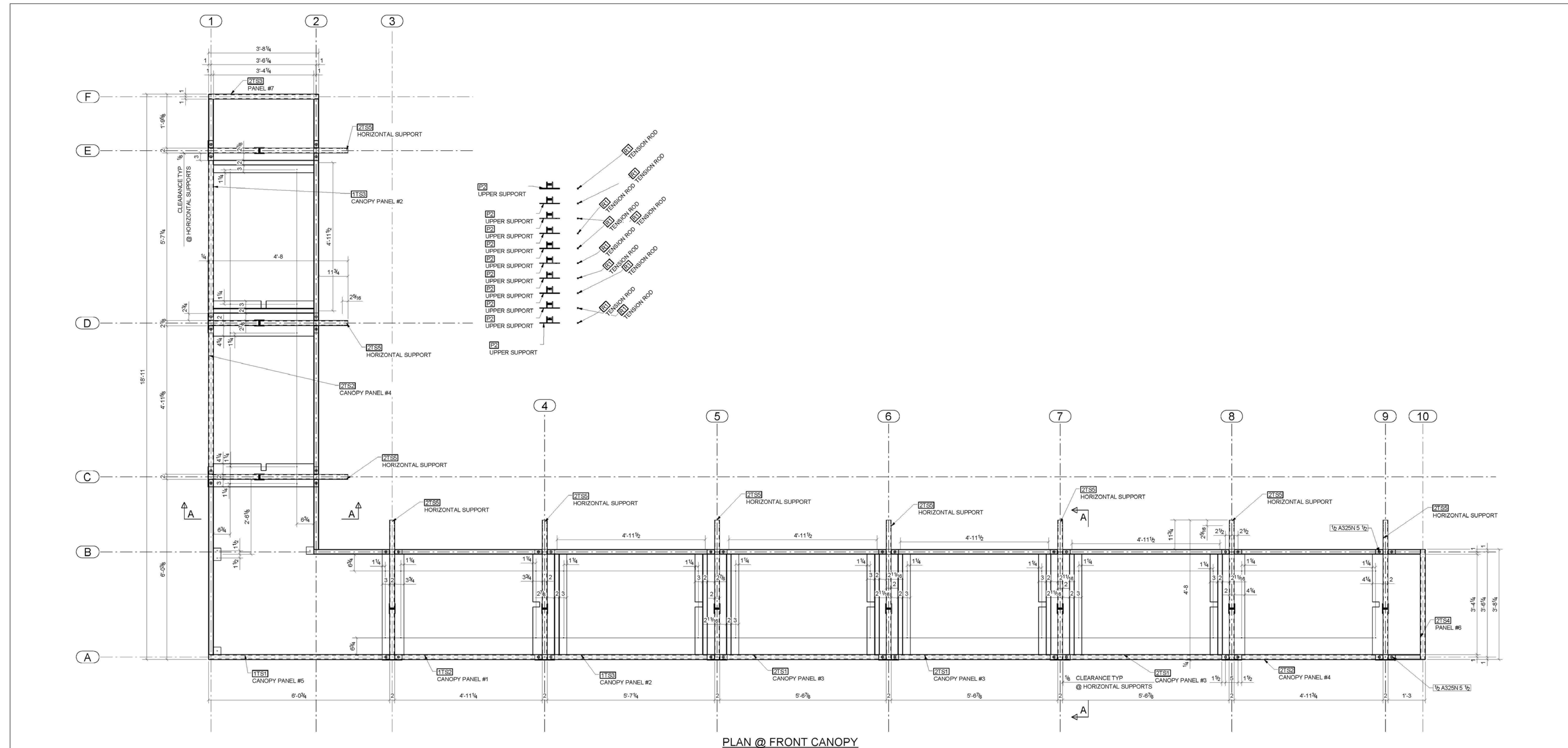


A4 TYPICAL SHEAR WALL EXTERIOR FRAMING ELEVATION

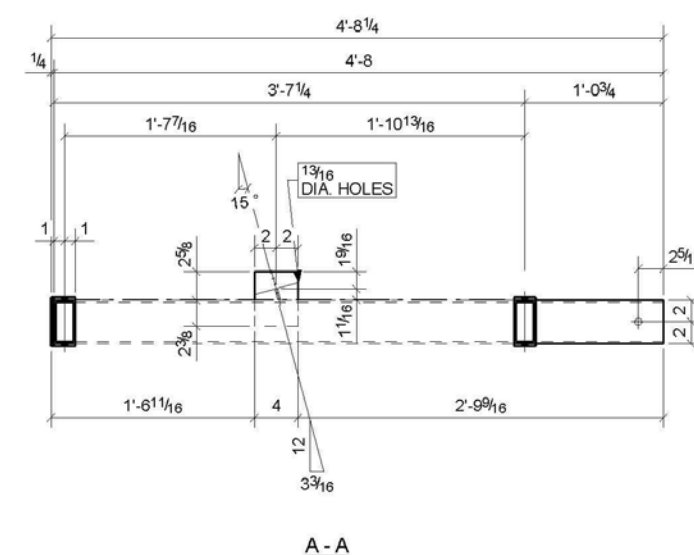
1/2" = 1'-0"



1 2 3 4 5 6 7



PLAN @ FRONT CANOPY



KURLAND STEEL CO.
510 EAST MAIN ST.
URBANA, ILLINOIS 61801
PH: 217-382-2203 FX: 217-328-8758

Project: SOLAR DECATHLON 2011
Location: CHAMPAIGN, IL
Customer: UIUC
Architect: UIUC
Job No: 11-25 Date: 08/04/2011
Drawn By: ZB Checked:

NOTES

- 1) All holes 13/16 dia. u.n.o.
- 2) [Redacted] POWDER COAT
- 3) WF Material A992 u.n.o.
- 4) All Other Material A36 u.n.o.
- 5) Welds E70XX

APPROVAL/REVIEW AUTHORITY:
PLEASE REVIEW THE DRAWINGS CAREFULLY.
THIS DRAWING REPRESENTS OUR BEST INTERPRETATION
OF THE INTENT OF THE CONTRACT DOCUMENTS. KURL AND
STEEL COMPANY ASSUMES NO RESPONSIBILITY FOR THE
ACCURACY OF THE CONTRACT DOCUMENTS.
UNLESS NOTED TO THE CONTRARY ON THIS DRAWING,
WHEN IT IS RETURNED FROM APPROVAL,
IT WILL BE ASSUMED THAT ALL INFORMATION,
INCLUDING CONNECTIONS SHOWN HEREIN HAS THE
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SUBSEQUENT CHANGES TO INFORMATION SHOWN ON
THIS DRAWING AFTER APPROVAL HAS BEEN RECEIVED
WILL BE CONSIDERED AS CONTRACT CHANGES.

Issue	Date	For	By
A	8-5-11	APPROVAL	JP
B	8-5-11	FABRICATION	JP

TEAM NAME: UNIVERSITY OF ILLINOIS
ADDRESS: 611 LORADO TAFT DR.
CHAMPAIGN, IL 61820
CONTACT: SOLARDECATHLON@UIUC.EDU
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MR	DATE	DESCRIPTION
	3/18/2011	DOE CD Submission

LOT NUMBER: LOT #305
DRAWN BY: Author
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SHEET TITLE
SOUTH CANOPY SHOP DRAWINGS

S-901

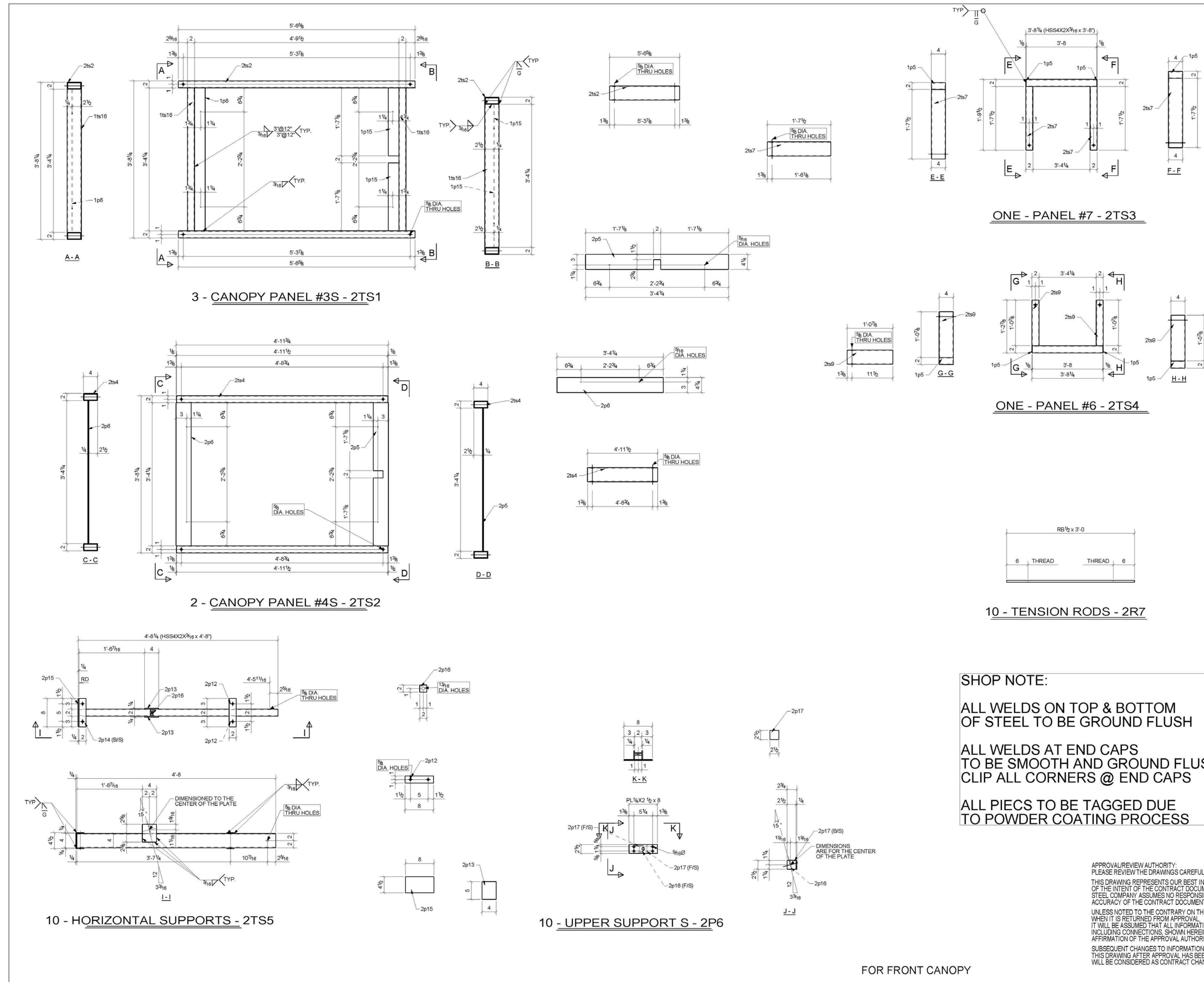
E

D

C

B

A



SHOP NOTE:

ALL WELDS ON TOP & BOTTOM OF STEEL TO BE GROUND FLUSH

ALL WELDS AT END CAPS TO BE SMOOTH AND GROUND FLUSH CLIP ALL CORNERS @ END CAPS

ALL PIECS TO BE TAGGED DUE TO POWDER COATING PROCESS

BILL OF MATERIAL					
QTY	MARK	DESCRIPTION	LENGTH	Note	WT
10	2P6	UPPER SUPPORT		SQ-2	
10	2P9	PL1/4"x2 1/2"	0'-8"	A36	14
10	2P16	PL1/4"x2"	0'-2"	A36	3
20	2P17	PL1/4"x2 1/2"	0'-2 1/2"	A36	6
10	2R7	TENSION ROD		SQ-2	
10	2R7	RB1/2"	3'-0"	A36	15
3	2TS1	CANOPY PANEL #3		SQ-2	
3	2TS1	HSS4X2X3/16	5'-6 5/8"	A500-GR.B	107
3	1P8	PL1/4"x3"	3'-4 1/4"	A36	28
6	1P15	PL1/4"x3"	1'-7 1/8"	A36	24
6	1P16	HSS4X2X3/16	3'-4 1/4"	A500-GR.B	129
3	2B2	HSS4X2X3/16	5'-6 5/8"	A500-GR.B	107
2	2TS2	CANOPY PANEL #4		SQ-2	
2	2TS2	HSS4X2X3/16	4'-11 1/2"	A500-GR.B	64
2	2P5	PL1/4"x4 1/4"	3'-4 1/4"	A36	23
2	2P6	PL1/4"x4 1/4"	3'-4 1/4"	A36	24
2	2B4	HSS4X2X3/16	4'-11 1/2"	A500-GR.B	64
1	2TS3	PANEL #7		SQ-2	
1	2TS3	HSS4X2X3/16	3'-8"	A500-GR.B	24
2	1P5	PL1/8"x2"	0'-4"	A36	1
2	2B7	HSS4X2X3/16	1'-7 1/2"	A500-GR.B	21
1	2TS4	PANEL #6		SQ-2	
1	2TS4	HSS4X2X3/16	3'-8"	A500-GR.B	24
2	1P5	PL1/8"x2"	0'-4"	A36	1
2	2B9	HSS4X2X3/16	1'-0 7/8"	A500-GR.B	14
10	2TS5	HORIZONTAL SUPPORT		SQ-2	
10	2TS5	HSS4X2X3/16	4'-8"	A500-GR.B	300
20	2P12	PL1/4"x2"	0'-8"	A36	23
20	2P13	PL1/4"x4"	0'-5"	A36	28
20	2P14	PL1/4"x2"	0'-8"	A36	23
10	2P15	PL1/4"x4 1/2"	0'-8"	A36	26
10	2P16	PL1/4"x2"	0'-2"	A36	3

KURLAND STEEL CO.
 310 EAST MAIN ST.
 URBANA, ILLINOIS 61801
 PH: 217-367-2323 FX: 217-328-6758

Project: SOLAR DECATHLON 2011
 Location: CHAMPAIGN, IL
 Customer: UIUC
 Architect: UIUC
 Job No. 11-25 Date: 08/04/2011
 Drawn By: ZB Checked:

NOTES			
1) All holes 13/16 dia. u.n.o.			
2) _____ POWDER COAT			2
3) WF Material A592 u.n.o.			
4) All Other Material A36 u.n.o.			
5) Welds E70XX			
Issue	Date	For	By
A	8-5-11	FABRICATION	JP

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 PLEASE REVIEW THE DRAWINGS CAREFULLY.
 THIS DRAWING REPRESENTS OUR BEST INTERPRETATION OF THE INTENT OF THE CONTRACT DOCUMENTS. KURLAND STEEL COMPANY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE CONTRACT DOCUMENTS.
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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU
 WWW.SOLARDECATHLON.ILLINOIS.EDU

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CLIENT
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 SOLAR DECATHLON 2011
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MR	DATE	DESCRIPTION
	3/18/2011	DOE CD Submission

LOT NUMBER: LOT #305
 DRAWN BY: Author
 CHECKED BY: Checker
 COPYRIGHT: NONE; PROJECT IS PUBLIC DOMAIN

SHEET TITLE
 SOUTH CANOPY SHOP DRAWINGS

S-903

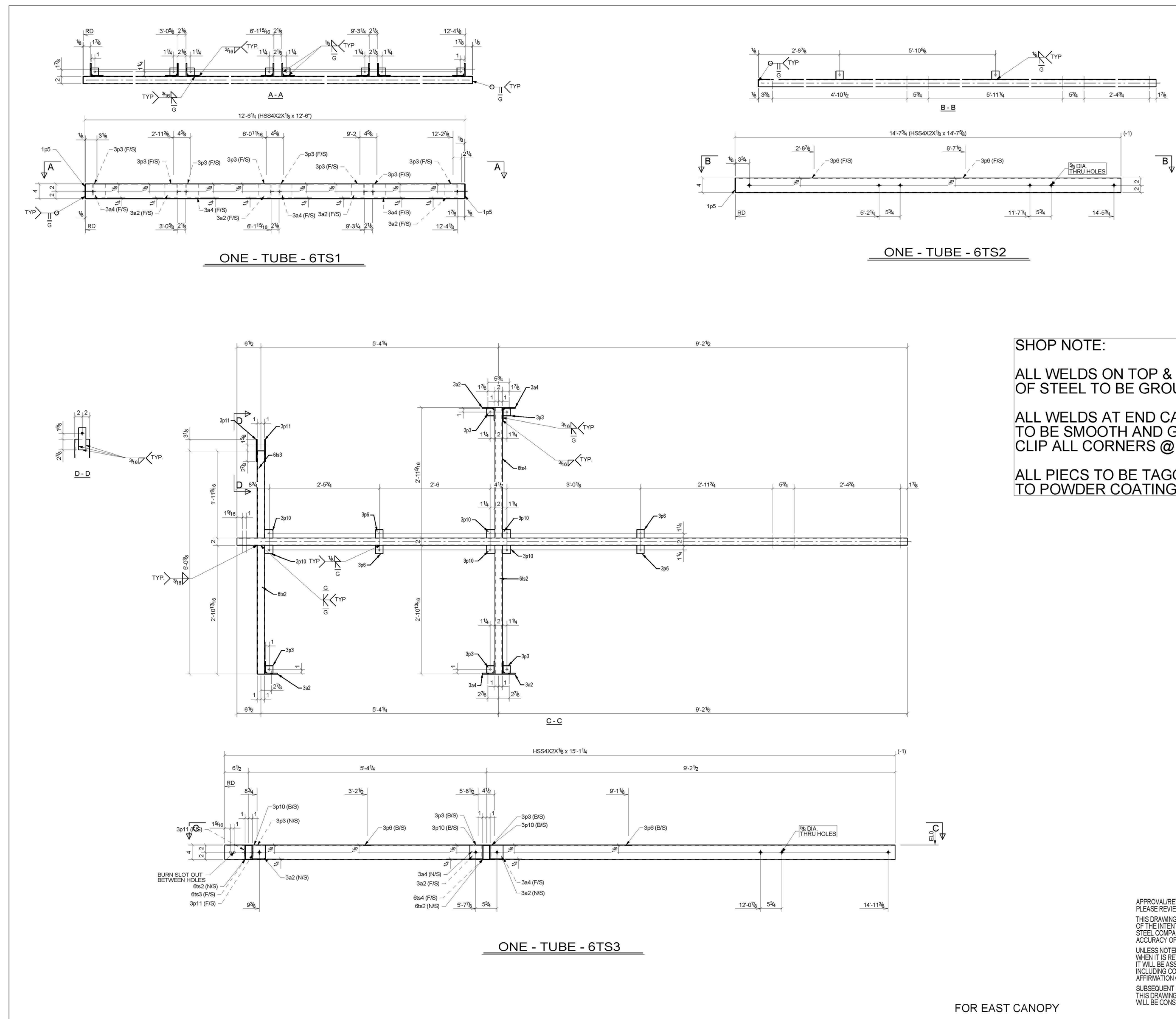
E

D

C

B

A



SHOP NOTE:

ALL WELDS ON TOP & BOTTOM OF STEEL TO BE GROUND FLUSH

ALL WELDS AT END CAPS TO BE SMOOTH AND GROUND FLUSH
CLIP ALL CORNERS @ END CAPS

ALL PIECS TO BE TAGGED DUE TO POWDER COATING PROCESS

BILL OF MATERIAL					
QTY	MARK	DESCRIPTION	LENGTH	Note	WT
1	6TS1	TUBE		SQ-2	
1	6TS1	HSS4X2X1/8	12'-0"	A500-GR-B	55
2	1p5	PL1/8"X2"	0'-4"	A36	1
4	3a2	L3-1/2X3-1/2X1/4	0'-3 3/4"	A36	7
4	3a4	L3-1/2X3-1/2X1/4	0'-3 3/4"	A36	7
8	3p3	PL1/8"X2"	0'-2"	A36	1
1	6TS2	TUBE		SQ-2	
1	6TS2	HSS4X2X1/8	14'-7 5/8"	A500-GR-B	65
1	1p5	PL1/8"X2"	0'-4"	A36	0
2	3p8	PL1/8"X2"	0'-2 1/4"	A36	0
1	6TS3	TUBE		SQ-2	
1	6TS3	HSS4X2X1/8	15'-1 1/4"	A500-GR-B	67
3	3a2	L3-1/2X3-1/2X1/4	0'-3 3/4"	A36	5
2	3a4	L3-1/2X3-1/2X1/4	0'-3 3/4"	A36	4
5	3p3	PL1/8"X2"	0'-2"	A36	1
4	3p8	PL1/8"X2"	0'-2 1/4"	A36	1
6	3p10	PL1/8"X2 1/4"	0'-2 1/4"	A36	1
2	3p11	PL1/8"X2"	0'-8"	A36	2
2	8a2	HSS4X2X1/8	2'-10 13/16"	A500-GR-B	26
1	8a3	HSS4X2X1/8	1'-11 9/16"	A500-GR-B	9
1	8a4	HSS4X2X1/8	2'-11 5/16"	A500-GR-B	13

KURLAND STEEL CO.
 510 EAST MAIN ST
 URBANA, ILLINOIS 61801
 PH: 217-367-2323 FX: 217-328-6758

Project: SOLAR DECATHLON 2011
 Location: CHAMPAIGN, IL
 Customer: UIUC
 Architect: UIUC
 Job No: 11-25 Date: 08/04/2011
 Drawn By: ZB Checked:

NOTES

- 1) All holes 13/16 dia. u.n.o.
- 2) [REDACTED] POWDER COAT
- 3) WF Material A992 u.n.o.
- 4) All Other Material A36 u.n.o.
- 5) Welds E70XX

Issue	Date	For	By
A	8-7-11	FABRICATION	JP

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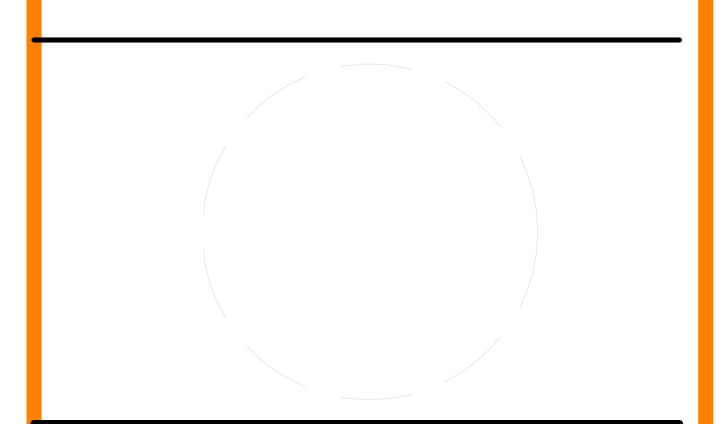
FOR EAST CANOPY



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 ADDRESS: 611 LORADO TAFT DR.
 CHAMPAIGN, IL 61820

CONTACT: SOLARDECATHLON@UIUC.EDU
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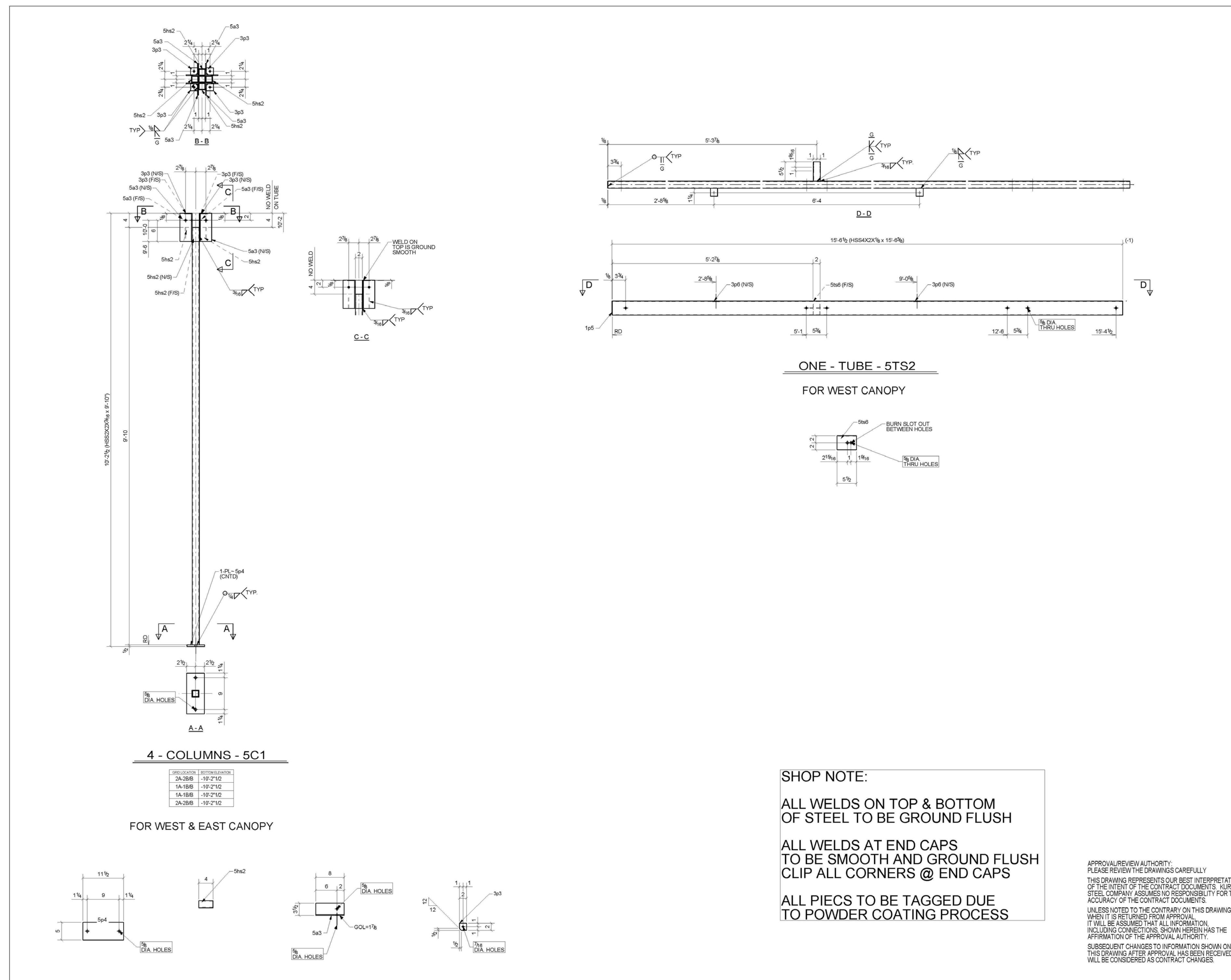
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MR	DATE	DESCRIPTION
	3/18/2011	DOE CD Submission

LOT NUMBER: LOT #305
 DRAWN BY: Author
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SHEET TITLE
EAST CANOPY SHOP DRAWINGS
S-905



BILL OF MATERIAL

QTY	MARK	DESCRIPTION	LENGTH	Note	WT
4	5C1	COLUMN		SQ-2	
4	5C1	HSS2X2X3/16	9'-10"	A500-GR.B	159
16	3p3	PL1/8"X2"	0'-2"	A36	2
16	5a3	L3-1/2X3-1/2X1/4	0'-8"	A36	61
16	5he2	HSS2X2X3/16	0'-4"	A500-GR.B	22
4	5p4	PL1/2"X8"	0'-11 1/2"	A36	33
1	5TS2	TUBE		SQ-2	
1	5TS2	HSS4X2X1/8	15'-6 3/8"	A500-GR.B	69
1	1p5	PL1/8"X2"	0'-4"	A36	0
2	3p6	PL1/8"X2"	0'-2 1/4"	A36	0
1	5e6	HSS4X2X1/8	0'-5 1/2"	A500-GR.B	2

NOTES

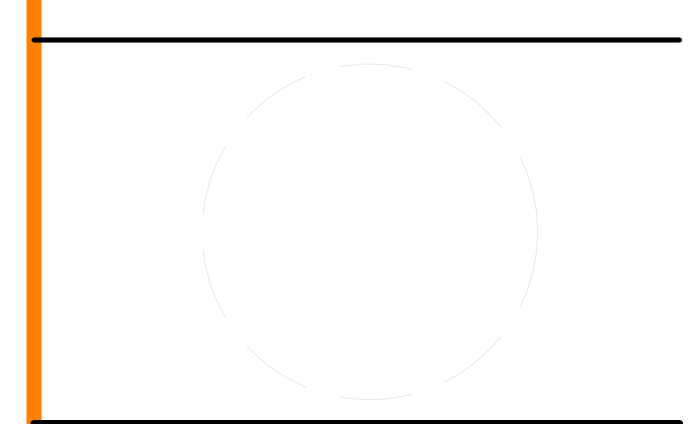
- 1) All holes 13/16 dia. u.n.o.
- 2) [Redacted] POWDER COAT
- 3) W/ Material A592 u.n.o.
- 4) All Other Material A36 u.n.o.
- 5) Welds E70XX

Issue	Date	For	By
A	8-7-11	FABRICATION	JP



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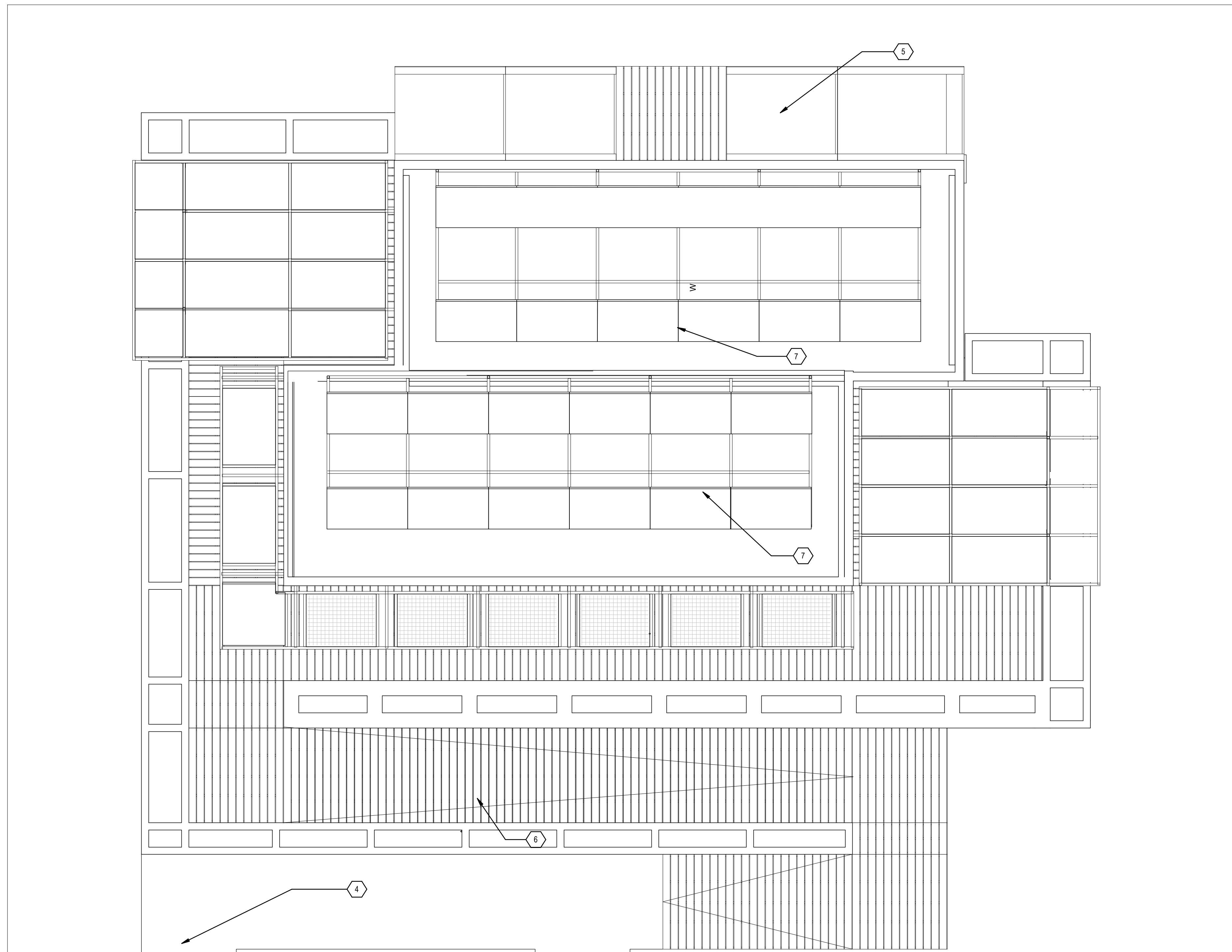


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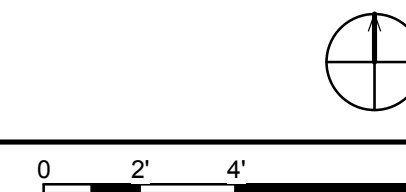
LOT NUMBER: LOT #305
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SHEET TITLE
 WEST CANOPY SHOP DRAWINGS

S-911



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



GENERAL SHEET NOTES

- 1.) MAXIMUM PRESSURE ON SOIL TO BE <1500 PSF
- 2.) OWNER SHALL REPAIR AND/OR REPLACE GRASS AFTER REMOVAL OF HOUSE. WORK TO BE COORDINATED WITH FACILITIES AND SERVICES AND APPROVED BY THE COLLEGE OF ACES.
- 3.) SITE TO BE MARKED AND SHALL REMAIN ADA COMPLAINT AT ALL TIMES ONCE COMPLETE
- 4.) ALL EXISTING UTILITIES, FIXTURES, & PROPERTY TO REMAIN WITHOUT MODIFICATION

SHEET KEYNOTES

- | | |
|---|---|
| 4 | ENTRY FROM DECATHLETE WAY |
| 5 | WATER TANK ENCLOSURE |
| 6 | 1:20 ADA ACCESSIBILITY SLOPED WALKING SURFACE |
| 7 | PHOTOVOLTAIC ARRAY |



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 CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
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SHEET TITLE

SITE PLAN

A-101

8/13/2011 11:22:48 AM

GENERAL SHEET NOTES

1.) REFERENCE STRUCTURAL DRAWINGS FOR ALL INFORMATION REGARDING STRUCTURAL MEMBERS, CONNECTIONS AND DETAILS.



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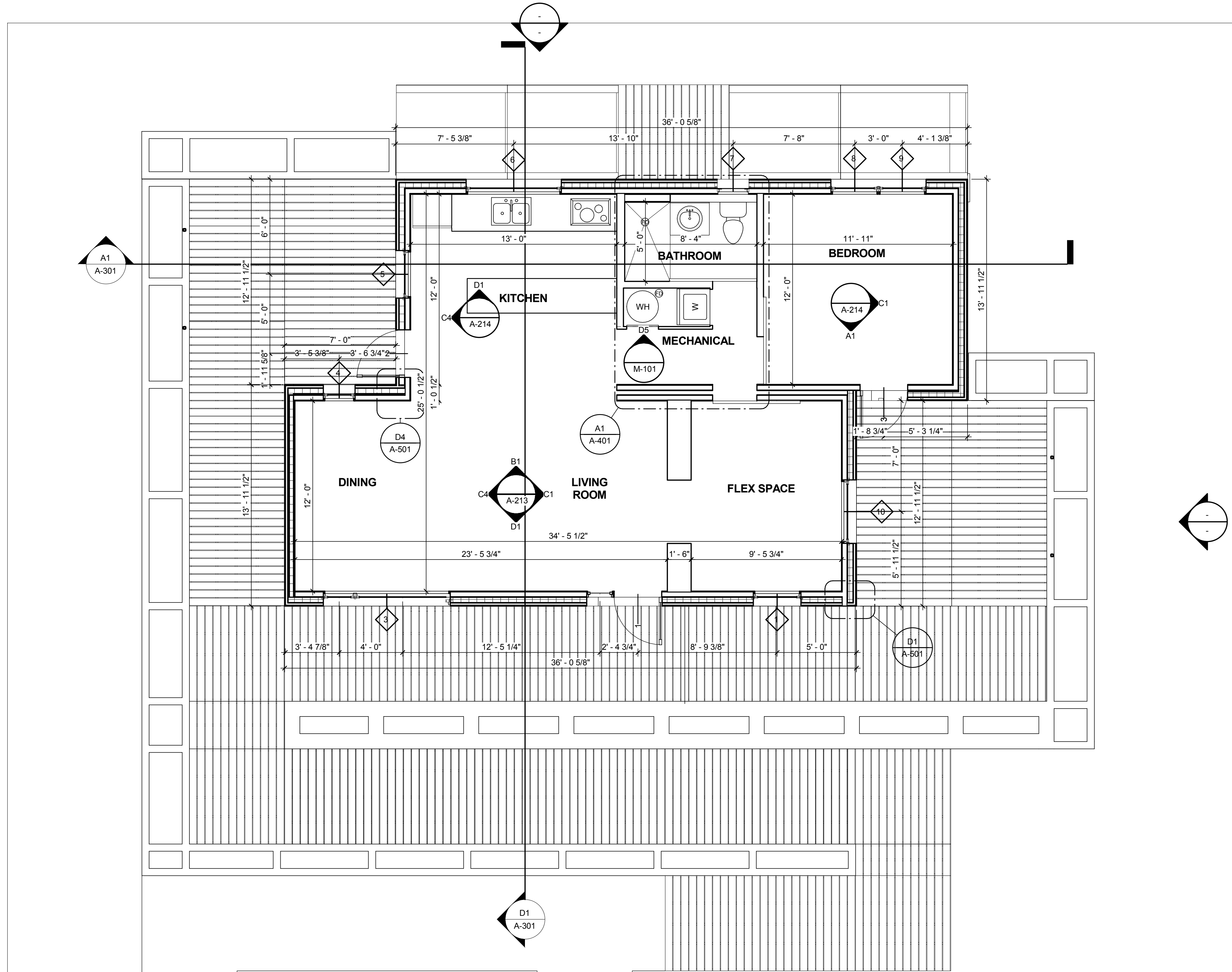
MR	3/18/2011	DOE CD Submission
MH	3/31/2011	4' tall closet in bathroom has continuous floor with bathroom
MH	7/29/2011	Closet Construction Changed

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

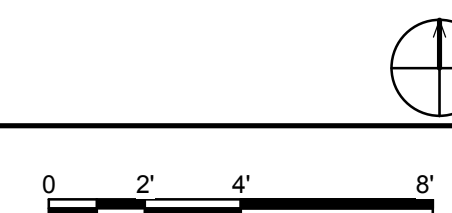
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SHEET TITLE
FIRST FLOOR PLAN

A-111



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



1 2 3 4 5 6 7

8/13/2011 11:25:51 AM

GENERAL SHEET NOTES

- 1.) REFERENCE STRUCTURAL DRAWINGS FOR ALL INFORMATION REGARDING STRUCTURAL MEMBERS, CONNECTIONS AND DETAILS.



SHEET KEYNOTES

7 PHOTOVOLTAIC ARRAY

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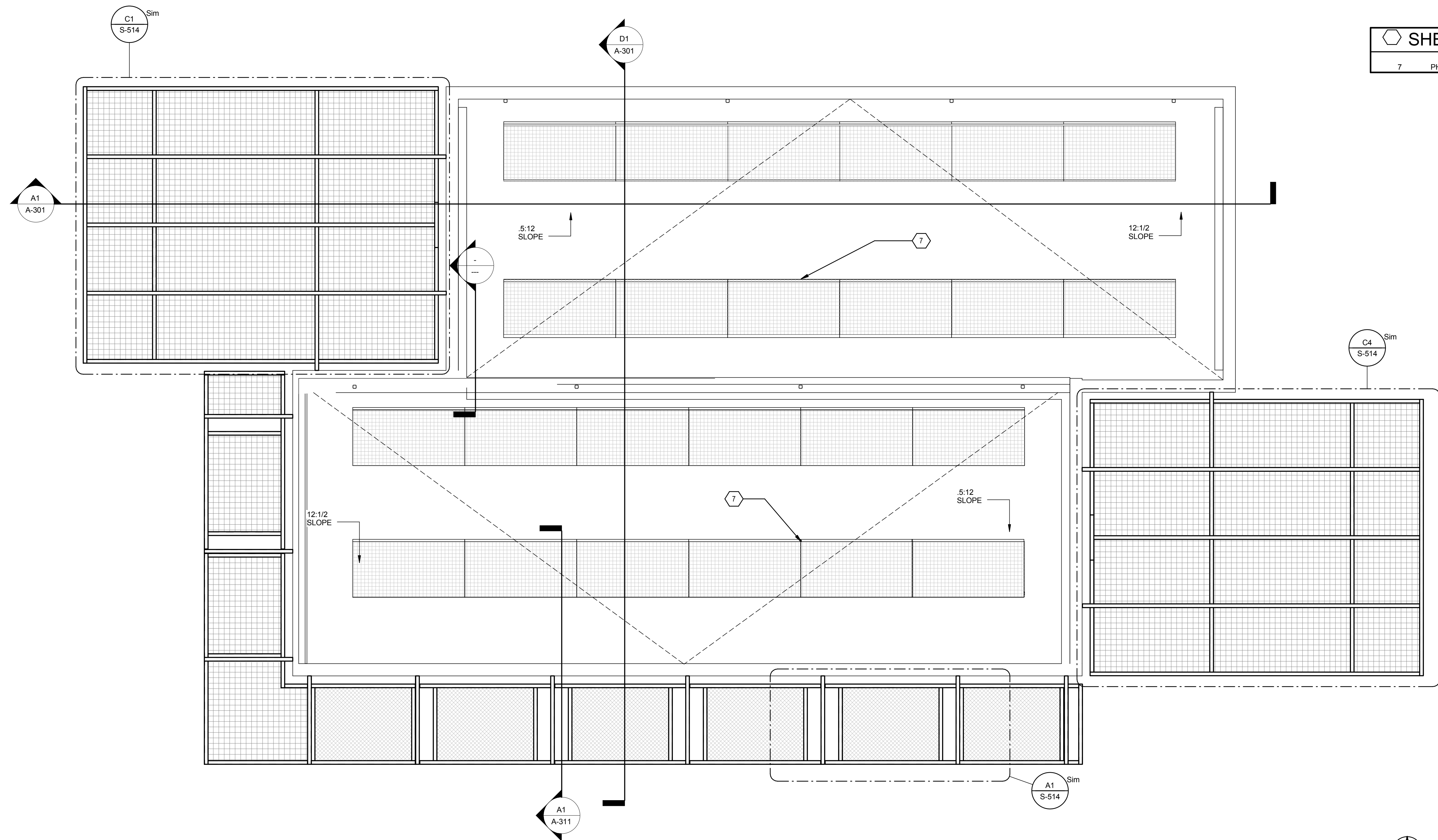
MR	DATE	DESCRIPTION
	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

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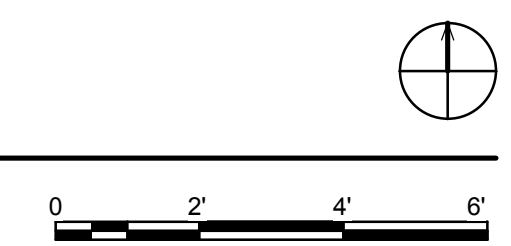
SHEET TITLE

ROOF PLAN

A-112



(A1) ROOF PLAN
 3/8" = 1'-0"



1 2 3 4 5 6 7

A

B

C

D

E

8/13/2011 11:25:53 AM

E

D

C

B

A

GENERAL SHEET NOTES

- PLEASE COORDINATE ROOF OPENINGS WITH MECHANICAL ENGINEERING AND PLUMBING TEAMS IN ORDER TO ENSURE ACCURACY WITH FIXTURES TO BE INSTALLED.
- THE ENTIRE WALL THICKNESS IS SHOWN IN THESE DRAWINGS. INTERIOR DIMENSION OF EXTERIOR WALL IS TO BE TAKEN AS THE INSIDE OF STRUCTURAL WOOD STUDS



REFERENCE KEYNOTES

22 13 16.A5 PLUMBING VENT EXHAUST
23 34 34 HVAC EXHAUST VENT

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ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
CONTACT: SOLARDECATHLON@UIUC.EDU
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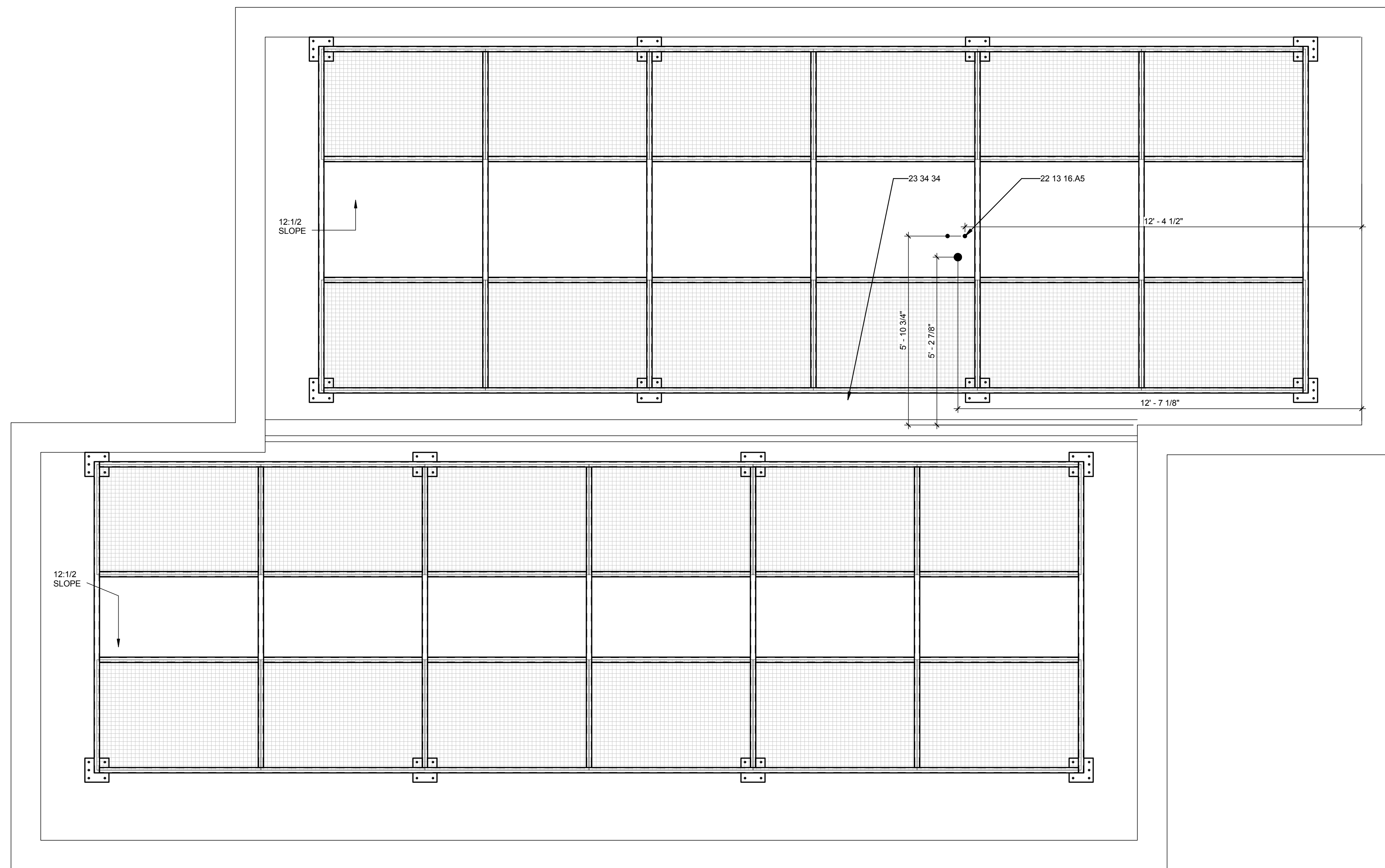


MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

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SHEET TITLE
ROOF OPENING PLAN

A-113



A1 ROOF OPENING PLAN
1/2" = 1'-0"

1 2 3 4 5 6 7

8/13/2011 11:25:55 AM

E

D

C

B

A

GENERAL SHEET NOTES

1.) REFERENCE STRUCTURAL DRAWINGS FOR ALL INFORMATION REGARDING STRUCTURAL MEMBERS, CONNECTIONS AND DETAILS.



SHEET KEYNOTES

55	DROP CEILING IN BATHROOM
63	PLENUM SPACE

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 CONTACT: SOLARDECATHLON@UIUC.EDU
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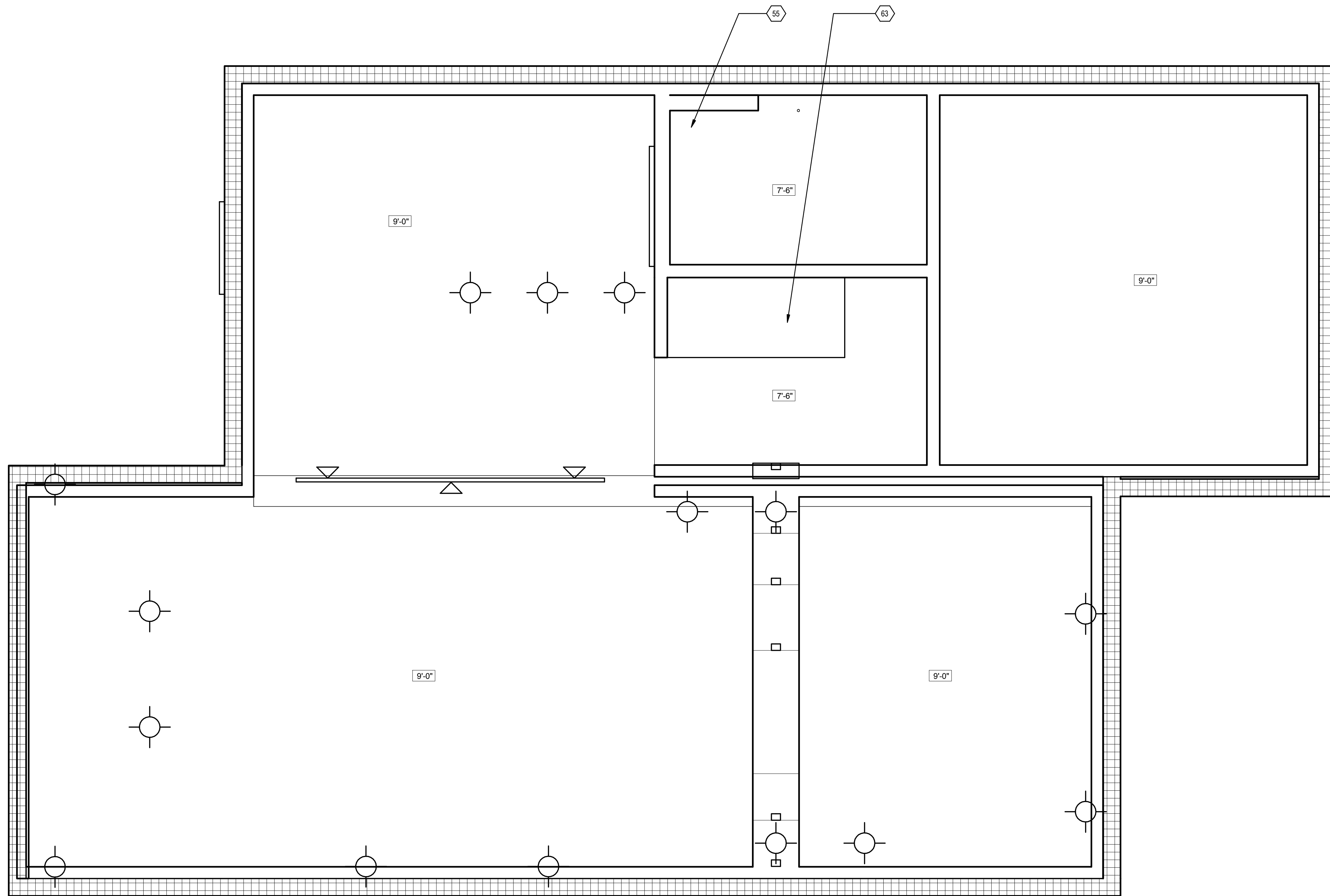
MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
 COPYRIGHT: NONE; PROJECT IS PUBLIC DOMAIN

SHEET TITLE

FIRST FLOOR REFLECTED CEILING PLAN

A-121



A1 REFLECTED CEILING PLAN

1/2" = 1'-0"



1

2

3

4

5

6

7

8/13/2011 11:23:21 AM

E

D

C

B

A

GENERAL SHEET NOTES

- 1.) REFERENCE STRUCTURAL DRAWINGS FOR ALL INFORMATION REGARDING STRUCTURAL MEMBERS, CONNECTIONS AND DETAILS.



REFERENCE KEYNOTES

05 12 59.H9	MT6.25X6.2
06 05 23.B2	1/2" LAG SCREW
06 11 00.B2	1 X FURRING STRIPS @ 16" O.C.
06 11 00.B8	RECLAIMED 1X6
06 11 00.D1	2X4
06 11 00.F1	2X6
06 11 00.H1	2X10
06 16 00.D6	1/2" PLYWOOD
06 16 00.D14	1" PLYWOOD
06 16 00.D17	7/16" PLYWOOD
06 16 00.D18	7/16" PLYWOOD
06 17 00.B1	9 1/2" WOOD CHORD JOIST
06 17 13.L1	2x10" LVL
07 21 13.13	FOAM BOARD INSULATION
07 21 13.B1	1/2" RIGID INSULATION
07 21 19	FOAMED-IN PLACE INSULATION
07 46 23	1X6 KILN DRIED CEDAR SIDING
07 53 23	ETHYLENE-PROPYLENE-DIENE-MONOMER ROOFING
07 62 00.D1	2 PIECE CAP & RECEIVER FLASHING
07 62 00.H35	4" X 5" RECTANGULAR GUTTER
09 29 00.D11	5/8" TYPE "X" GYPSUM WALLBOARD
09 65 19	MARMOLEUM CLICK PANEL FLOORING

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CONTACT: SOLARDECATHLON@UIUC.EDU
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MR	3/18/2011	DOE CD Submission
MH	7/29/2011	Furring strips changed from metal to wood 1x1 @ 16o.c.

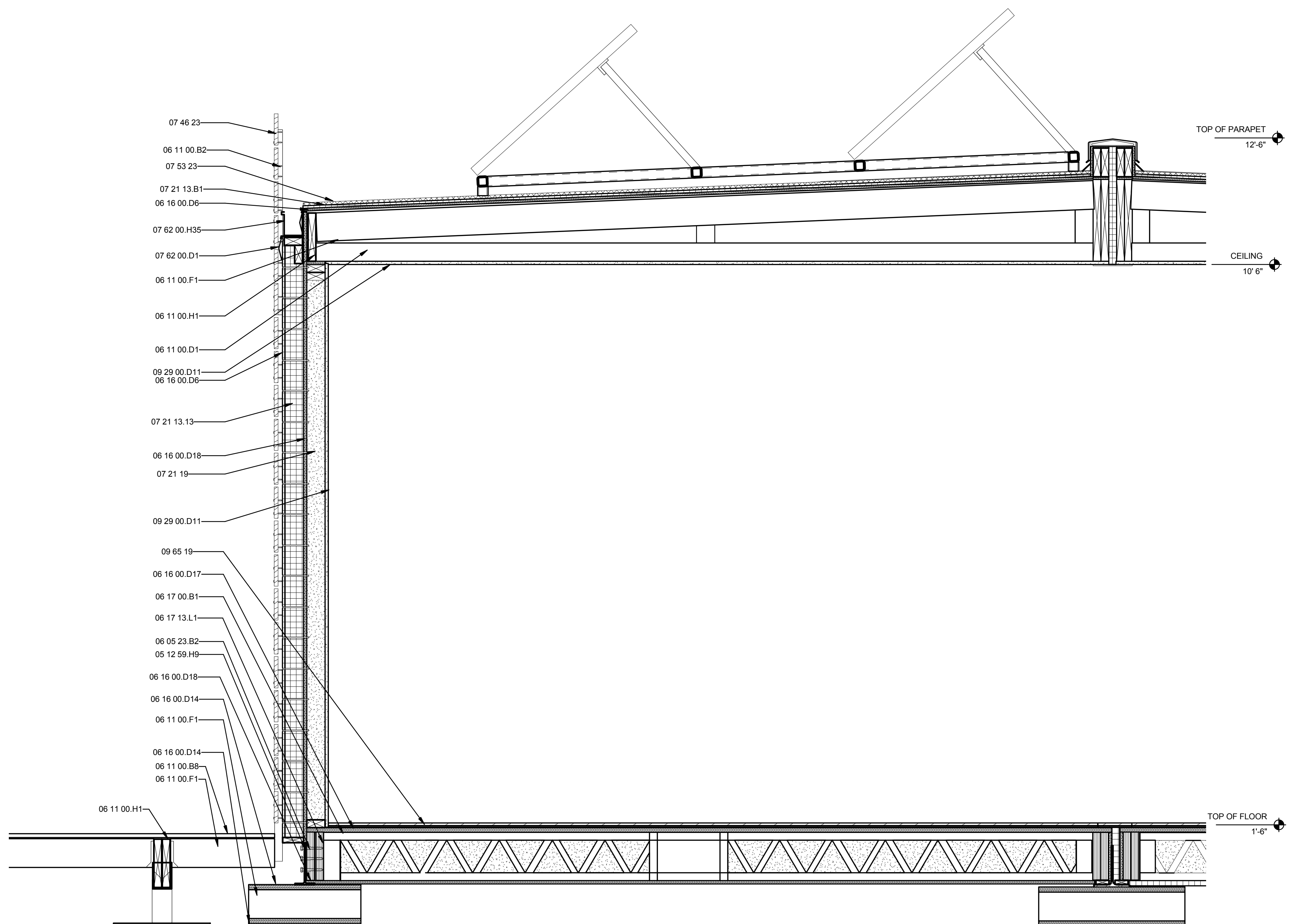
MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

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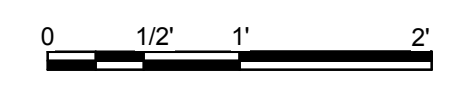
SHEET TITLE

WALL SECTIONS

A-311

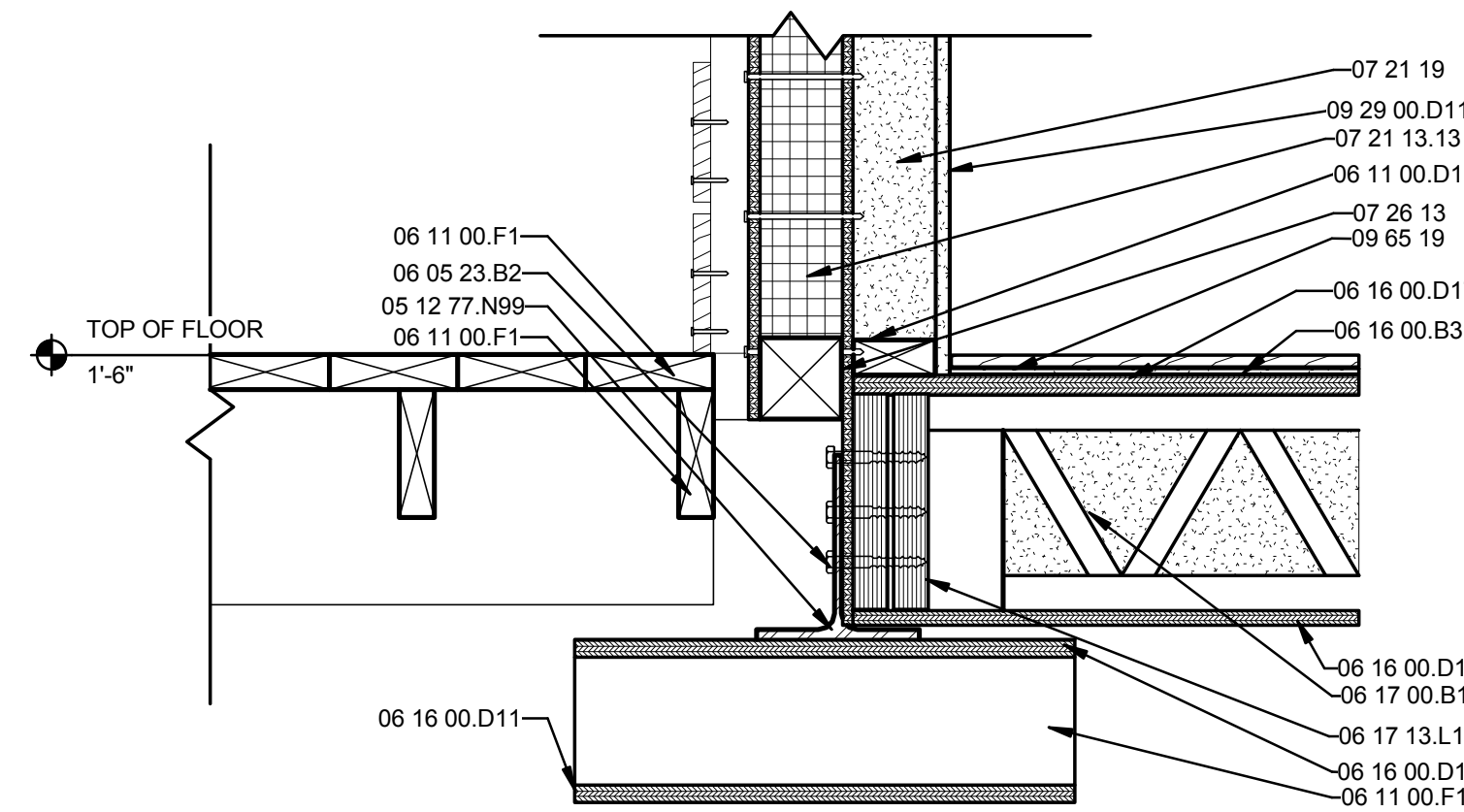


(A1) WALL SECTION
 1" = 1'-0"



1 2 3 4 5 6 7

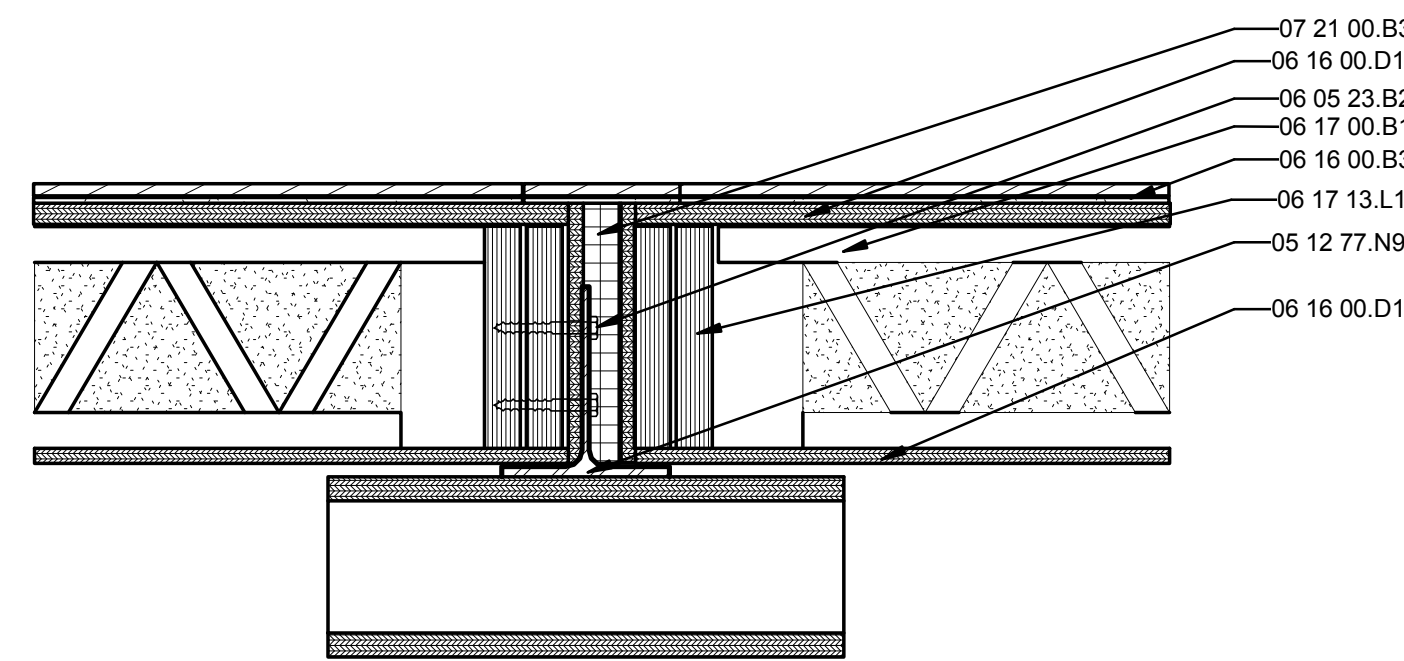
E



D1 WALL TO FLOOR CONNECTION
1 1/2" = 1'-0"



D

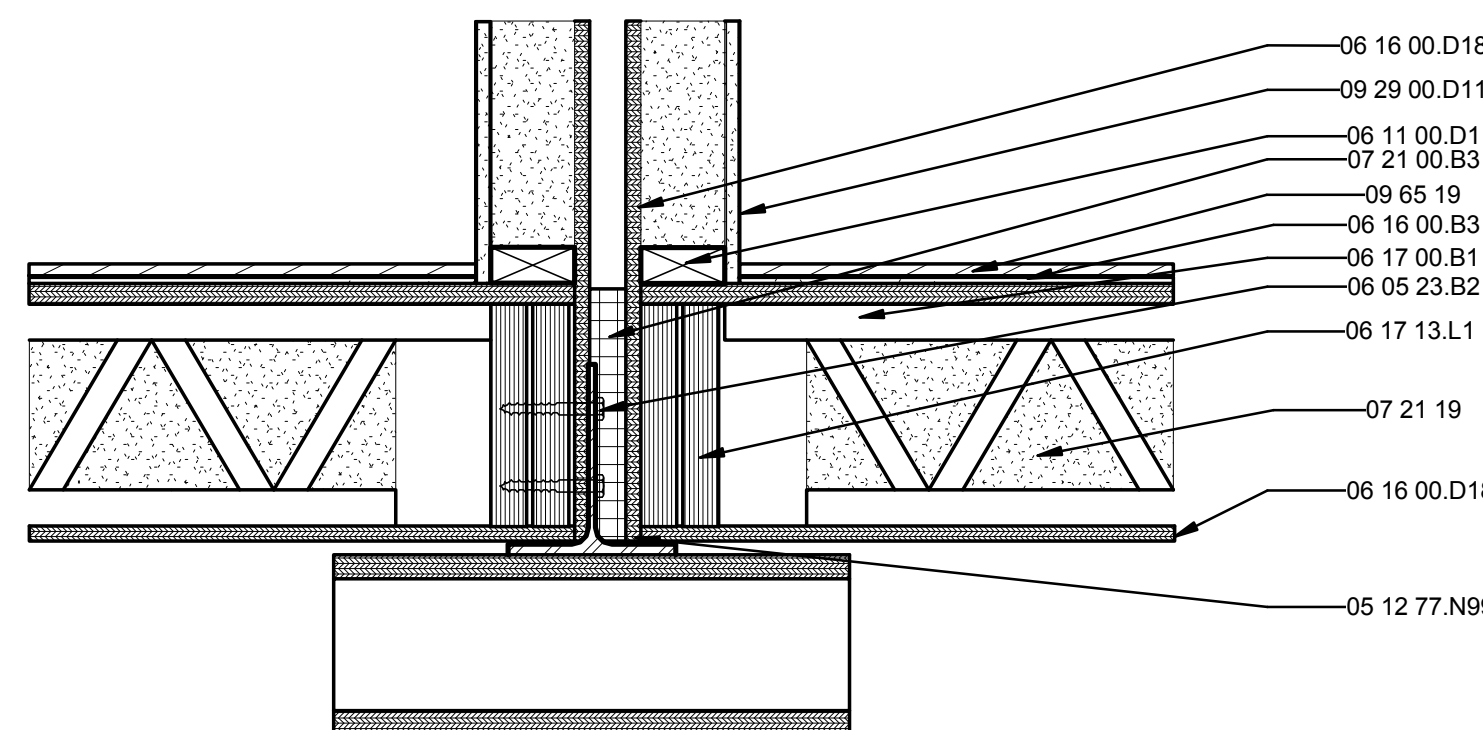


B1 FLOOR TO FLOOR CONNECTION
1 1/2" = 1'-0"



C

B



A1 FLOOR TO FLOOR WALL CONNECTION
1 1/2" = 1'-0"



A

1

2

3

4

5

6

7

GENERAL SHEET NOTES

- 1.) REFERENCE STRUCTURAL DRAWINGS FOR ALL INFORMATION REGARDING STRUCTURAL CONNECTIONS AND NAILING SCHEDULES.
- 2.) VAPOR BARRIER TO BE INSTALLED BEFORE INSTALLATION OF MARMOLEUM CLICK TILE FLOORING OR CORK TILE FLOORING.
- 3.) ALL FLOOR PENETRATIONS ARE TO BE SEALED WITH EXPANDING SPRAY FOAM INSULATION BEFORE INSTALLATION OF FINISH FLOOR.

REFERENCE KEYNOTES

05 12 77.N99	WT8X18
06 05 23.B2	1/2" LAG SCREW
06 11 00.D1	2X4
06 16 00.B3	1/4" HARDBOARD
06 16 00.D18	7/16" PLYWOOD
06 17 00.B1	9 1/2" WOOD CHORD JOIST
06 17 13.L1	2x10" LVL
07 21 00.B3	3" COMPRESSIBLE ROCK WOOL
07 21 13.13	FOAM BOARD INSULATION
09 29 00.D11	5/8" TYPE "X" GYPSUM WALLBOARD
09 65 19	MARMOLEUM CLICK PANEL FLOORING



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MH	8/11/2011	As Built Drawing Submission

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SHEET TITLE
FLOOR SECTIONS

A-321

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GENERAL SHEET NOTES

- 1.) CONFIRM ALL EXISTING DIMENSIONS BEFORE INSTALLING PLUMBING AND MECHANICAL FIXTURES.

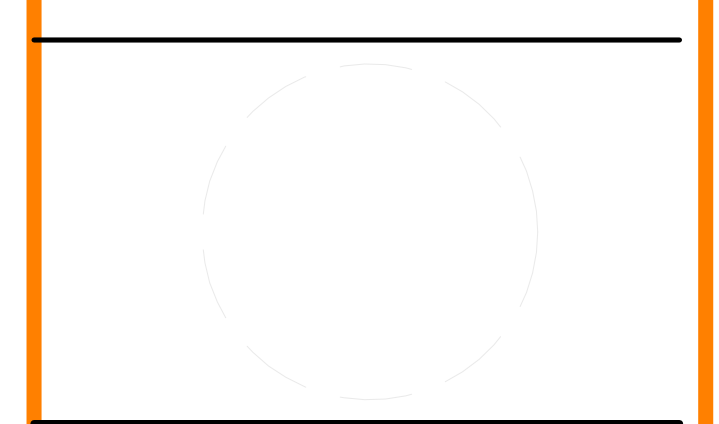


REFERENCE KEYNOTES

11 31 23.B1	COMBINATION WASHER DRYER
22 33 30.26	RESIDENTIAL, COLLECTOR-TO-TANK, HEAT-EXCHANGER-COIL, SOLAR-ELECTRIC DOMESTIC WATER HEATERS
22 41 13.A1	WATER CLOSET
22 41 16.A7	WALL MOUNT SINK

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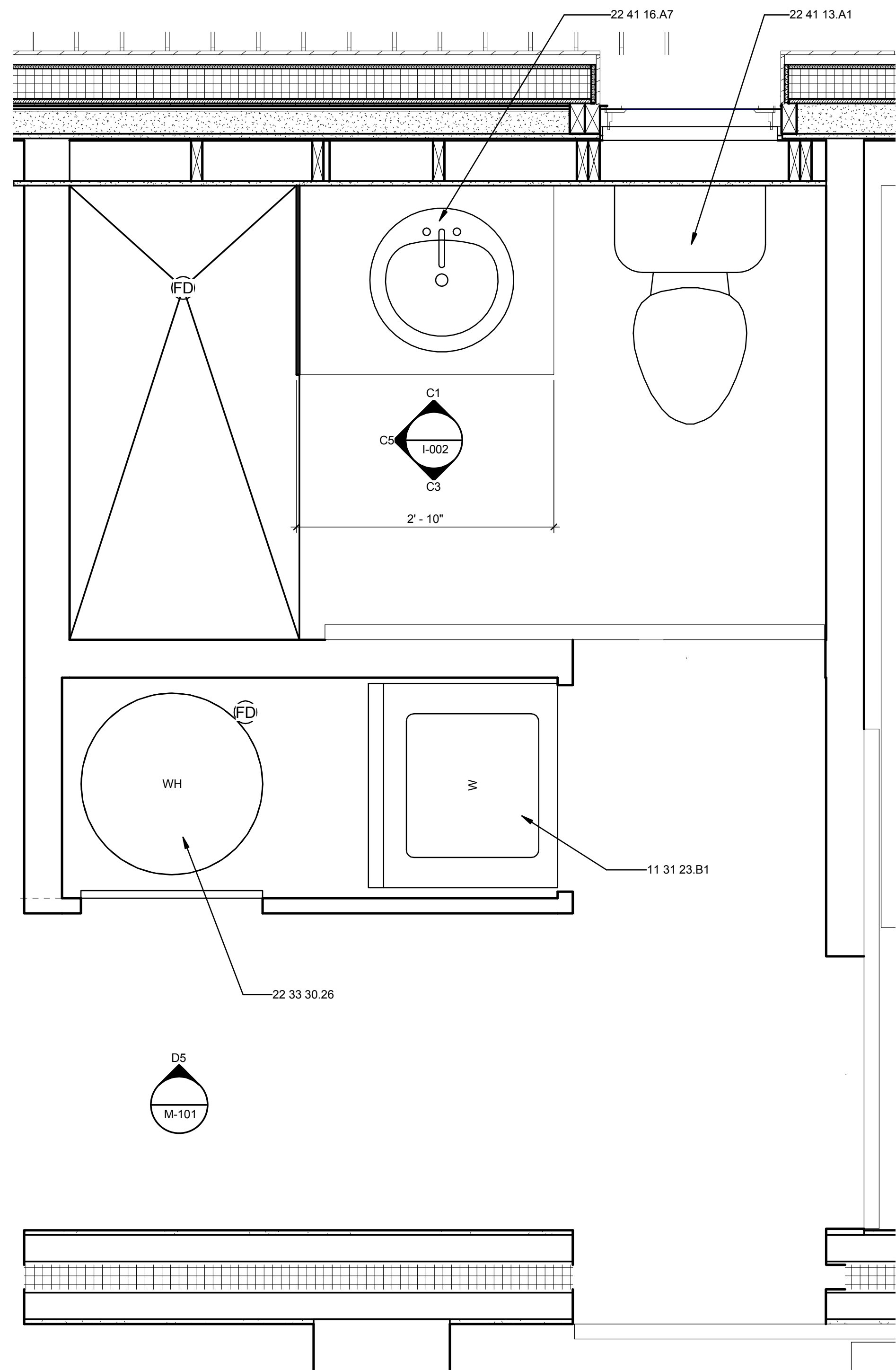


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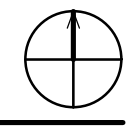
SHEET TITLE
LARGE SCALE PLANS

A-401



(A1) BATHROOM AND MECHANICAL SPACE DETAIL

1" = 1'-0"



1 2 3 4 5 6 7

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GENERAL SHEET NOTES

- 1.) ALL WINDOW AND DOOR DIMENSIONS ARE TO BE CONFIRMED ON SITE BEFORE INSTALLATION.
- 2.) INSTALLATION IS TO FOLLOW PROVIDED INSTRUCTIONS FROM MANUFACTURER IN ORDER TO AVOID A BREACH OF PRODUCT WARRANTY.
- 3.) APPLY EXPANDING SPRAY FOAM INSULATION ALL OPENINGS AROUND WINDOW FRAMES BEFORE INSTALLING WINDOW TRIM



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 CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

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M/R	3/18/2011	DOE CD Submission
J/S	3/30/2011	Window and door swing directions added.

M/H	8/11/2011	As Built Drawing Submission
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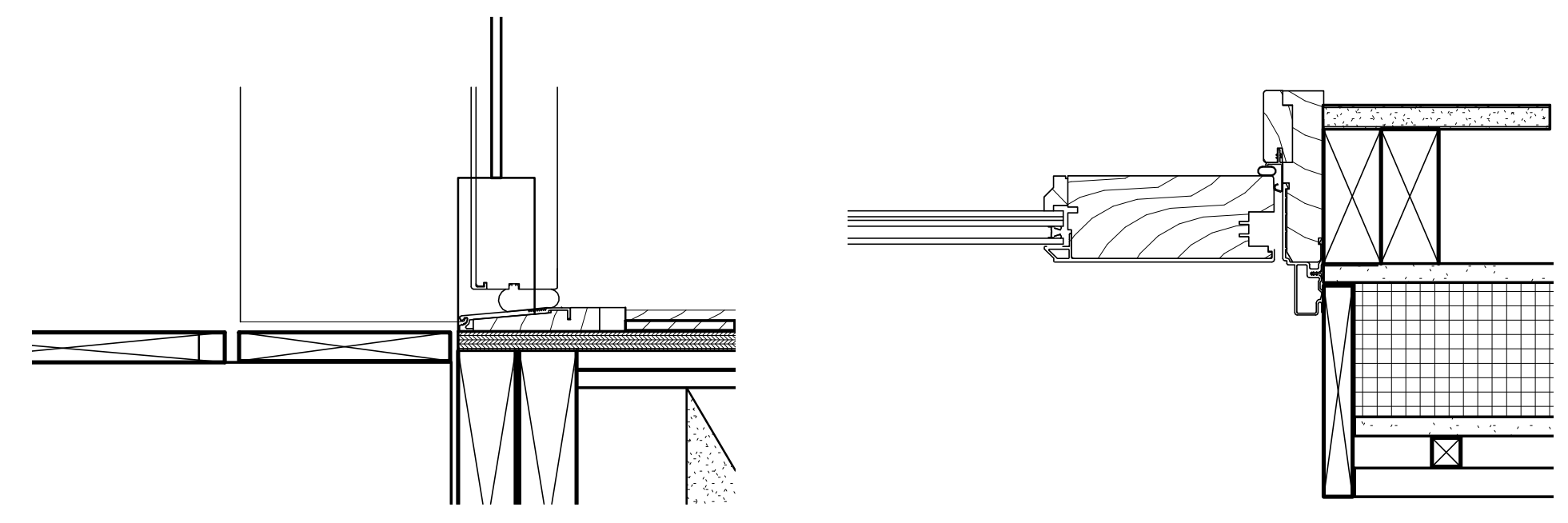
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LOT NUMBER:	LOT #305	
DRAWN BY:	MEGAN ROBERTSON	
CHECKED BY:	MICHAEL HINES	
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SHEET TITLE

OPENING SCHEDULE AND DETAILS

A-601

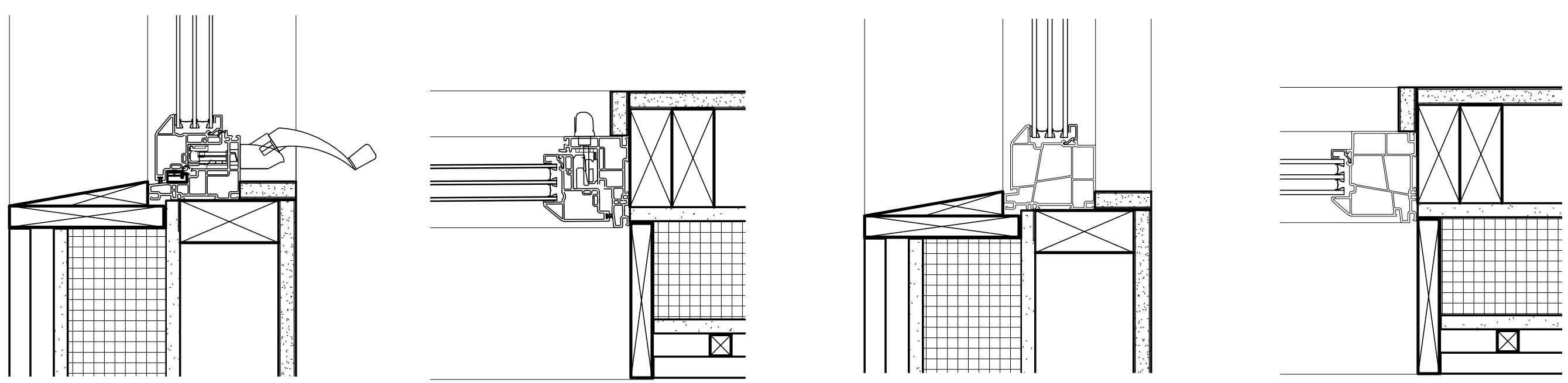
WINDOW SCHEDULE							
MARK	ROUGH OPENING WIDTH	ROUGH OPENING HEIGHT	TYPE	MANUFACTURER	MODEL	HEAD HEIGHT	COMMENTS
1	3' - 0"	4' - 6"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKC3046	7' - 8"	
3	8' - 0"	4' - 6"	Window_Push-Out_Casement-Picture-Combination-Flanker-Left_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKS6046+VKC2046	7' - 8"	TEMPERED GLASS
4	2' - 0"	4' - 0"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKS2040	7' - 8"	
5	3' - 0"	4' - 0"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKC3040	7' - 8"	
6	6' - 0"	1' - 8"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKS2018	5' - 10"	
7	2' - 0"	2' - 0"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKC2020	7' - 8"	
8	3' - 0"	3' - 6"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKC3036	7' - 8"	
9	3' - 0"	3' - 6"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKC3036	7' - 8"	
10	4' - 0"	4' - 0"	Window_Push-Out_Casement-1-Wide_Kolbe	Kolbe & Kolbe Millwork Co., Inc.	VKS4040	7' - 8"	
39	1' - 8"	7' - 0"	Fixed			7' - 8"	



D3 ADA DOOR SILL DETAIL
3" = 1'-0"

D5 DOOR JAMB
3" = 1'-0"

DOOR SCHEDULE								
LOCATION	FRAME SIZE	R.O.	DOOR TYPE	HINGE	FINISH	GLASS TYPE	HARDWARE	NOTES
1	3'x7'	53.75"x84"	A	LH	PAINTABLE	DOUBLE PANE LOW E	A	INTREGAL BLINDS
2	3'x7'	38.25"x84"	B	LH	PAINTABLE	DOUBLE PANE LOW E	A	INTREGAL BLINDS
3	3'x6'8"	38.25"x82"	C	RH	PAINTABLE	DOUBLE PANE LOW E	A	INTREGAL BLINDS
4	3'x6'8"	38.25"x82"	D	SLIDING	BIRCH PLY VENEER		B	
5	3'x6'8"	38.25"x82"	E	BARN	BIRCH PLY VENEER		C	
6	3'x6'8"	38.25"x82"	F	BARN	BIRCH PLY VENEER		C	
7	3'x6'8"	38.25"x82"	G	BARN	BIRCH PLY VENEER		D	

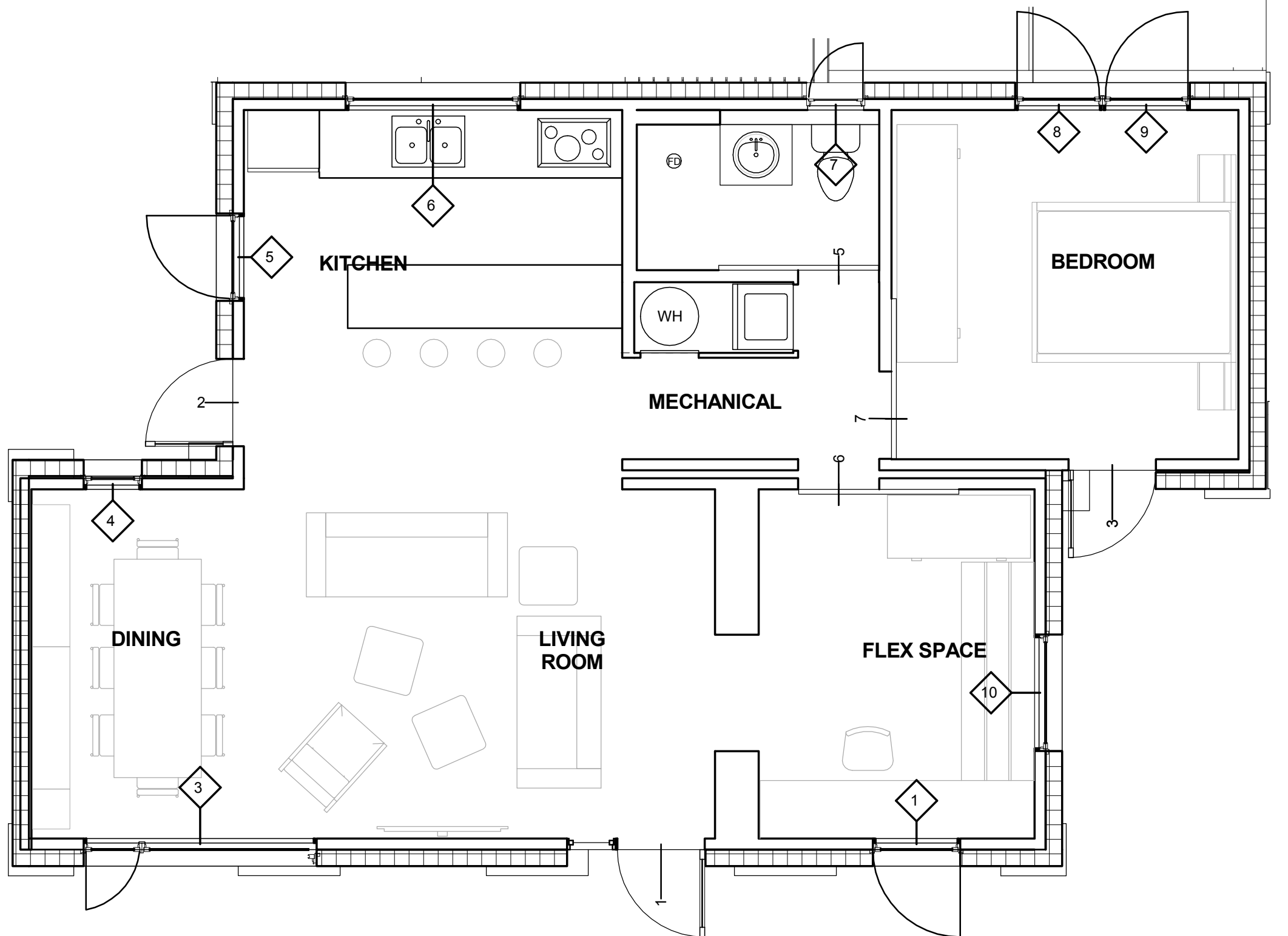


C3 CASEMENT SILL
3" = 1'-0"

C4 CASEMENT JAMB
3" = 1'-0"

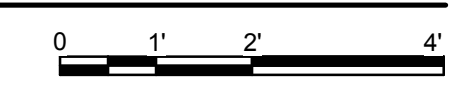
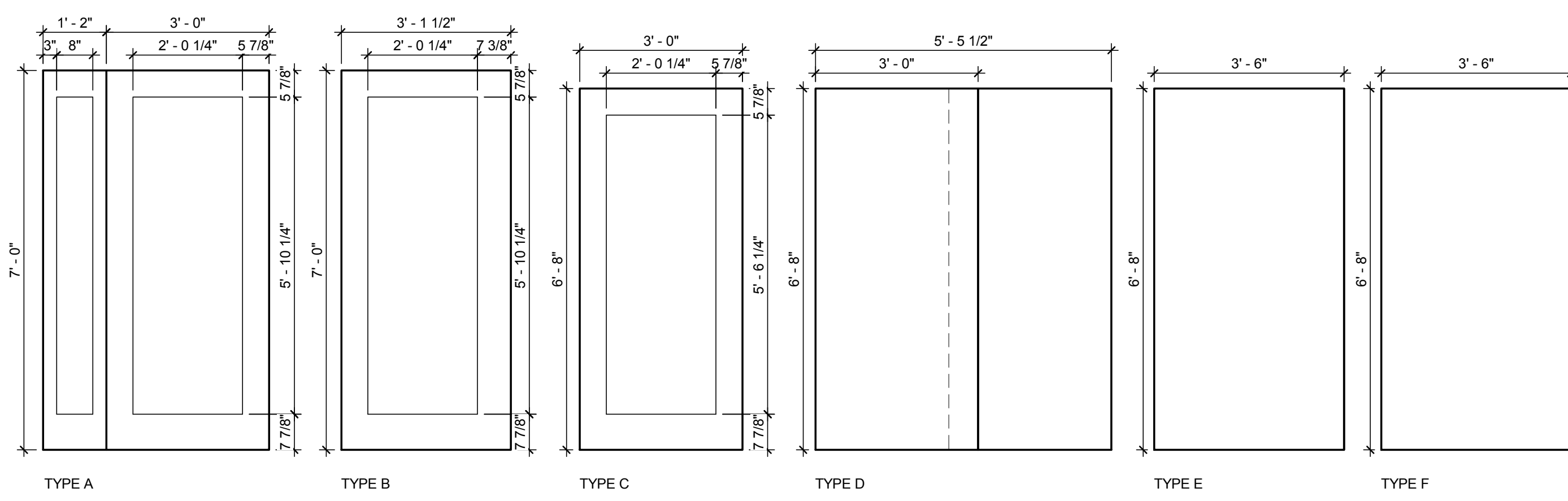
C5 FIXED SILL
3" = 1'-0"

C6 FIXED JAMB
3" = 1'-0"



A1 WINDOW SWINGS
1/4" = 1'-0"

2 DOOR TYPES
1/2" = 1'-0"



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ROOM FINISH SCHEDULE

ROOM NAME	FLOOR	WALLS				CEILING		NOTES
		N	S	E	W	MATL	HEIGHT	
DINING	F1	PT	PT	PT	PT	GYP	9' 0"	
LIVING	F1	PT	PT	PT	PT	GYP	9' 0"	
FLEX SPACE	F1	PT	PT	PT	PT	GYP	9' 0"	
BEDROOM	F2	PT	PT	PT	PT	GYP	9' 0"	
MECH/CORR	F1	PT	PT	PT	PT	SUSP	7' 8"	
BATH	F3	TILE	T/PT	PT	TILE	SUSP	7' 8"	SEE INTERIOR ELEVATIONS FOR TILE LOCATIONS
KITCHEN	F1	PT	PT	PT	PT	GYP	9' 0"	

GENERAL SHEET NOTES

- REFER TO PROJECT MANUAL FOR FURTHER INFORMATION ON FLOORING TYPES AND INSTALLATION TECHNIQUES.
- FLOORING IS TO BE INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS.
- FLOORING BETWEEN UNITS IS TO BE INSTALLED ON SITE AND IS TO BE INSTALLED FLUSH BETWEEN BOTH UNITS.

REFERENCE KEYNOTES

09 30 13.A3	FLOOR TILE
09 62 29	CORK FLOORING PANELS
09 65 19	MARMOLEUM CLICK PANEL FLOORING



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 CONTACT: SOLARDECATHLON@UIUC.EDU
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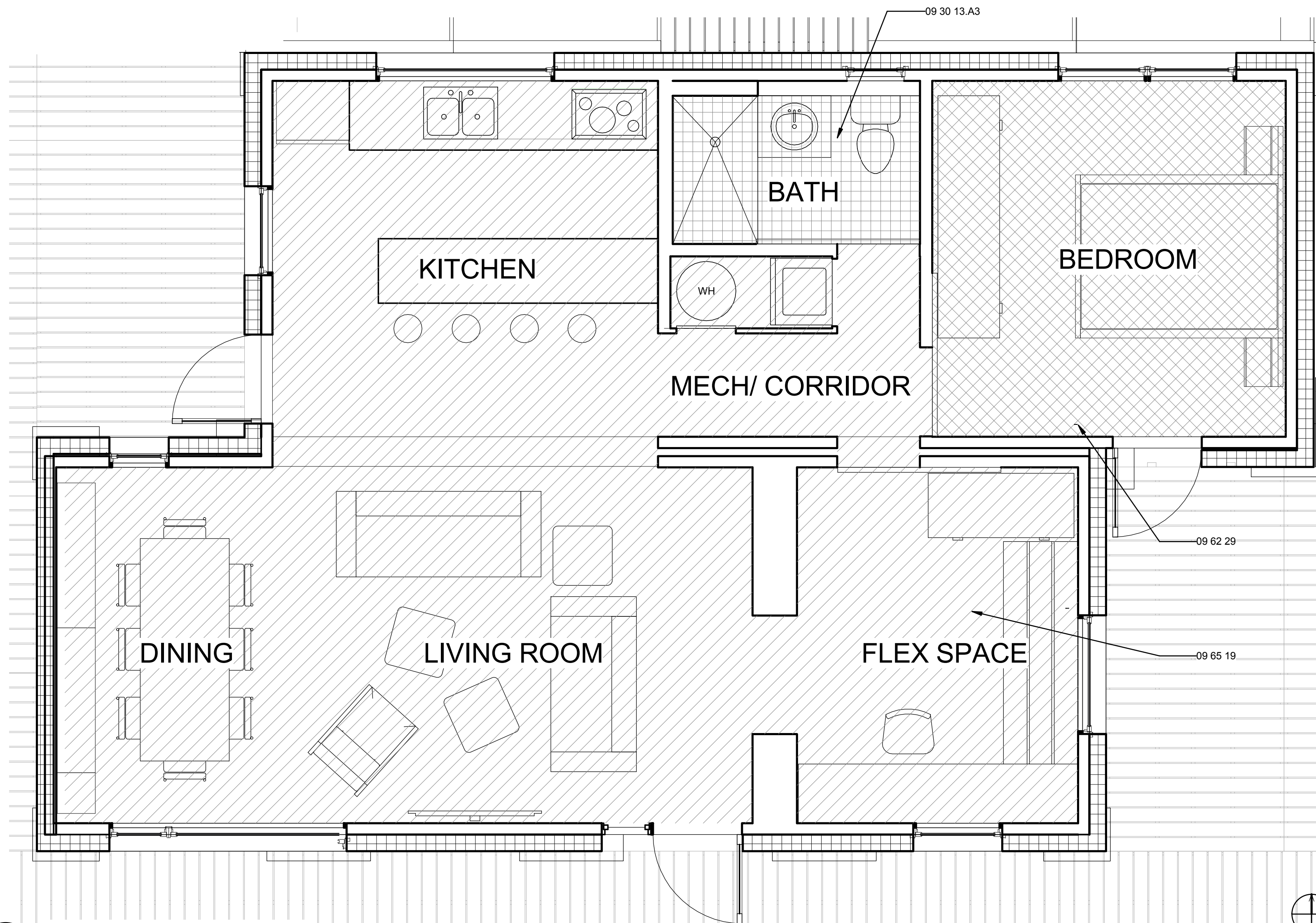
MARK	DATE	DESCRIPTION

LOT NUMBER: LOT #305
 DRAWN BY: Author
 CHECKED BY: Checker
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SHEET TITLE

FINISH PLAN

I-001



(A1) FLOOR FINISH PLAN

3/8" = 1'-0"



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SPRINKLER SCHEDULE

SYMBOL	MAKE	MODEL	S.I.N.	THREAD SIZE	DESCRIPTION	ESCUTCHEON	TEMP	K-FACTOR	QUANT
○	TYCO	LFII	TY1334	1/2"	RESIDENTIAL HORIZONTAL SIDEWALL	SEMI-REC	155	4.2	6

GENERAL SHEET NOTES

- 1.) ALL WALL SPRINKLER FIXTURES IN THE LIVING SPACE ARE TO BE MOUNTED 4" BELOW THE FINISHED CEILING.
- 2.) WALL SPRINKLER FIXTURE LOCATED IN THE BEDROOM ARE TO BE MOUNTED 14" BELOW THE FINISHED CEILING.
- 3.) ALL INTERIOR PIPING SHALL BE CPVC WITH APPROVED CPVC FIXTURES
- 4.) CPVC PIPING SHALL BE LISTED FOR FIRE PROTECTION AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 5.) PLEASE REFER TO FIRE PROTECTION ENGINEER CALCULATIONS AND DRAWINGS IN SECTION 21 OF THE PROJECT MANUAL FOR FURTHER INFORMATION.

SHEET KEYNOTES

- 3 ELECTRIC METER SOCKET
- 13 MAGNETIC SENSOR
- 73 ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
- 79 PV AC COMBINER PANEL
- 81 ORGANIZER SUPPLIED DATALOGGER
- 82 DATA ROUTER



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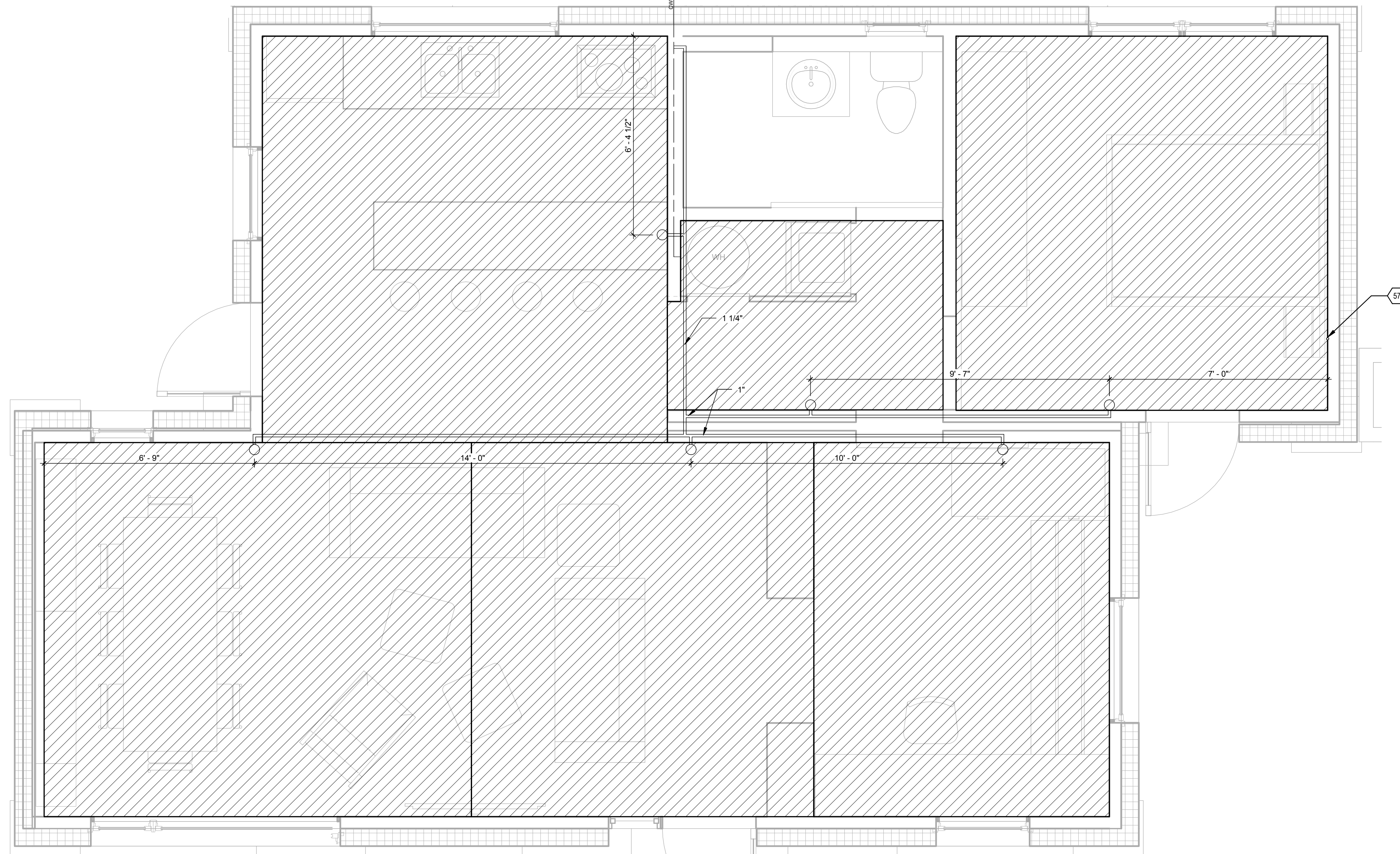
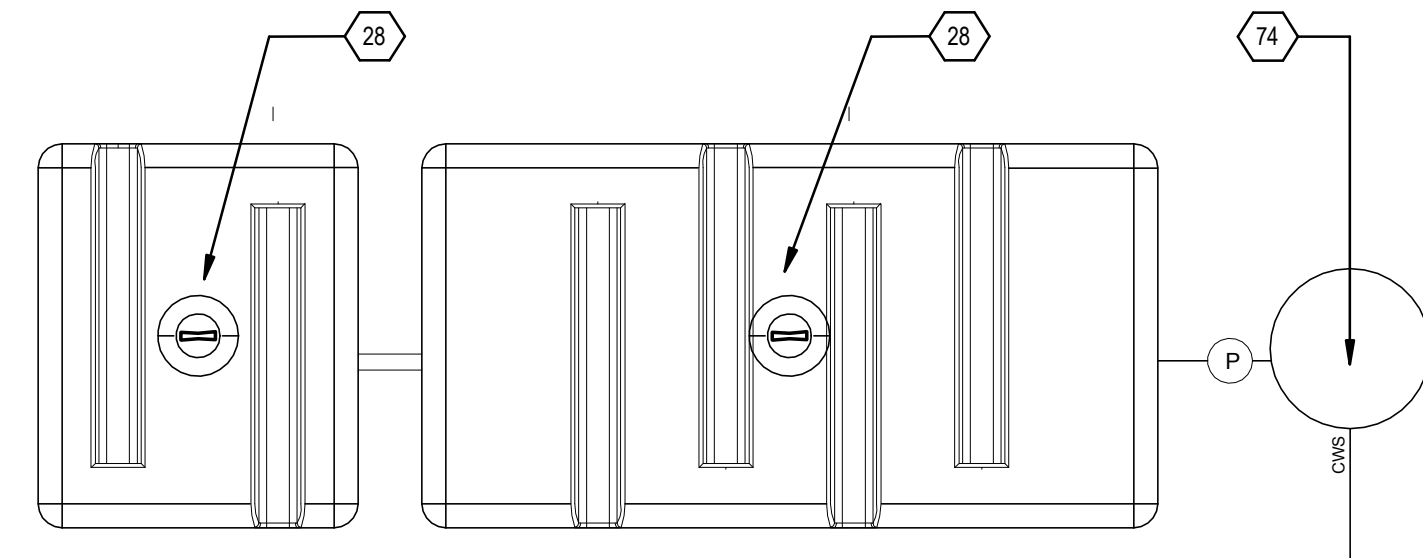
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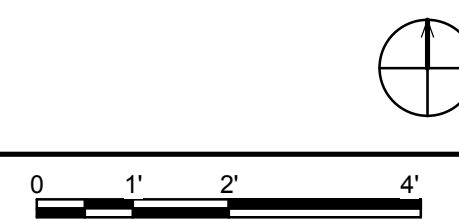
SHEET TITLE

FIRE SUPPRESSION

F-102



A1 FIRE SUPPRESSION PLAN
 1/2" = 1'-0"



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GENERAL SHEET NOTES

- PLEASE REFER TO THE PROJECT MANUAL FOR FULL DETAILS ON WATER CONTAINMENT DEVICES.
- PLEASE REFER TO DRAWING L-103 FOR DETAILS ON WATER ENCLOSURE AND FOUNDATION SUPPORT.



SHEET KEYNOTES

3	ELECTRIC METER SOCKET
13	MAGNETIC SENSOR
73	ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
79	PV AC COMBINER PANEL
81	ORGANIZER SUPPLIED DATALOGGER
82	DATA ROUTER

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 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
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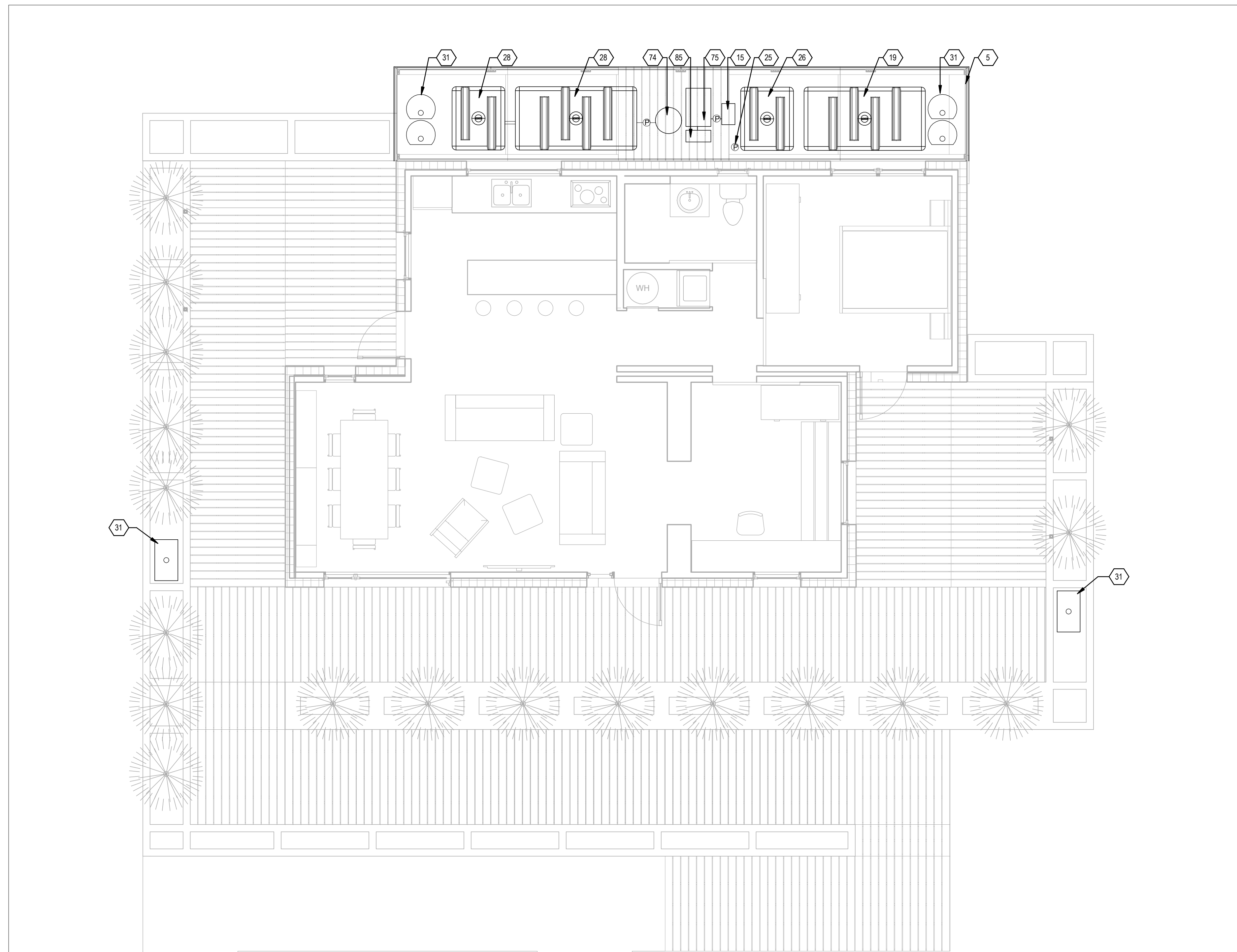
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SHEET TITLE
PLUMBING SITE PLAN

P-101



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

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GENERAL SHEET NOTES

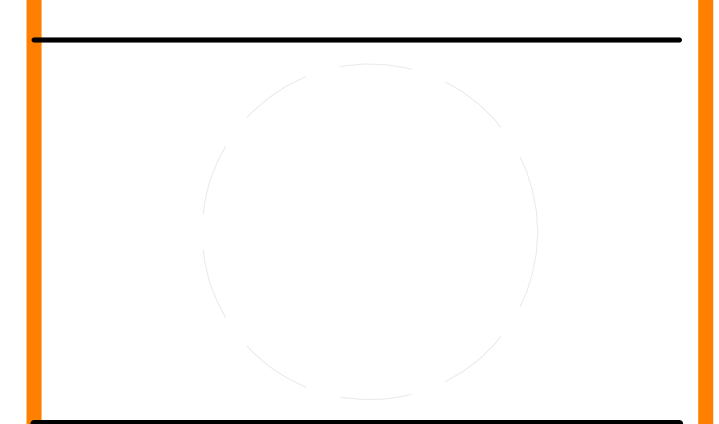


SHEET KEYNOTES

3	ELECTRIC METER SOCKET
13	MAGNETIC SENSOR
73	ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
79	PV AC COMBINER PANEL
81	ORGANIZER SUPPLIED DATALOGGER
82	DATA ROUTER

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 CONTACT: SOLARDECATHLON@UIUC.EDU
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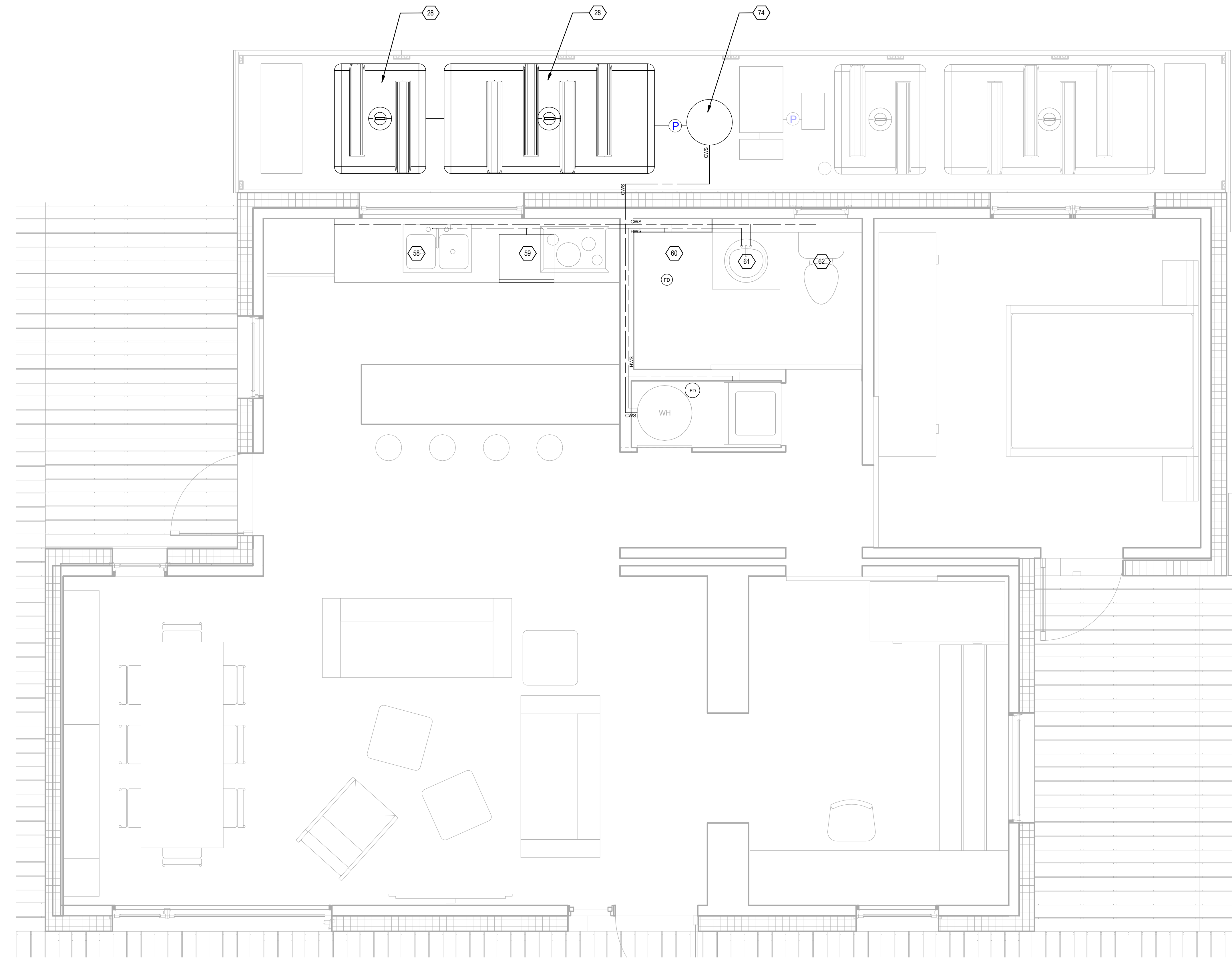
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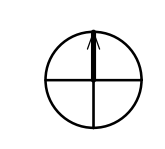
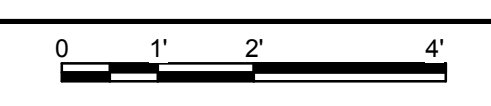
SHEET TITLE

DOMESTIC SUPPLY

P-102



A1 SUPPLY PLUMBING PLAN
1/2" = 1'-0"



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GENERAL SHEET NOTES

- BLACK WATER STORAGE TANK (76) IS TO BE USED AS AN OVERFLOW CONTAINER FOR THE GREYWATER STORAGE TANK (19) AND THE HOLD TANK (75).

SHEET KEYNOTES

- 3 ELECTRIC METER SOCKET
- 13 MAGNETIC SENSOR
- 73 ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
- 79 PV AC COMBINER PANEL
- 81 ORGANIZER SUPPLIED DATALOGGER
- 82 DATA ROUTER



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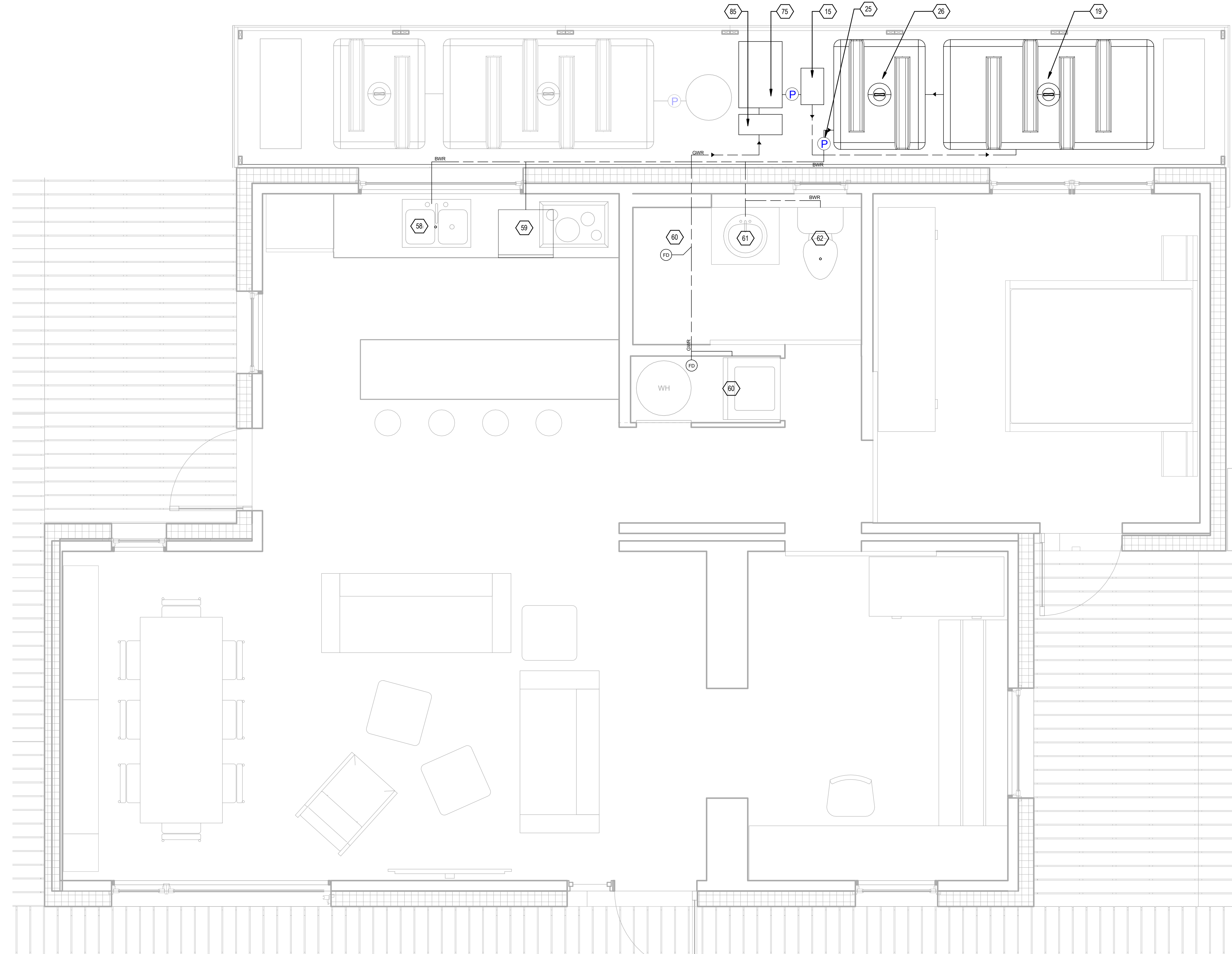
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MH	5/2/2011	Water tank enclosure detailed, location of water storage tanks updated.

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MH	8/11/2011	As Built Drawing Submission

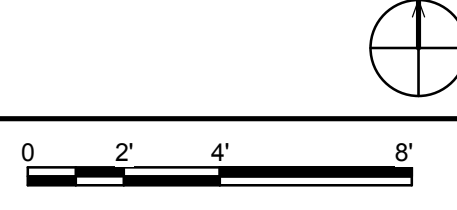
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SHEET TITLE
DOMESTIC RETURN

P-103



A1 RETURN PLUMBING PLAN
 1/2" = 1'-0"



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GENERAL SHEET NOTES

1. TOTAL WATER REQUESTED EQUALS 700 GALLONS SPLIT BETWEEN TWO TANKS.
2. INFORMATION ON THE WATER TANK ENCLOSURE CAN BE FOUND ON SHEET L-201.

REFERENCE KEYNOTES

06 11 00.D1	2X4
06 11 00.L1	4X4
27	WATER TANK FILL/REMOVAL LOCATION
28	SUPPLY WATER TANK
31	RAIN BARREL

SHEET KEYNOTES

3	ELECTRIC METER SOCKET
13	MAGNETIC SENSOR
73	ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
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82	DATA ROUTER



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MH	5/2/2011	Delivery system outlined.

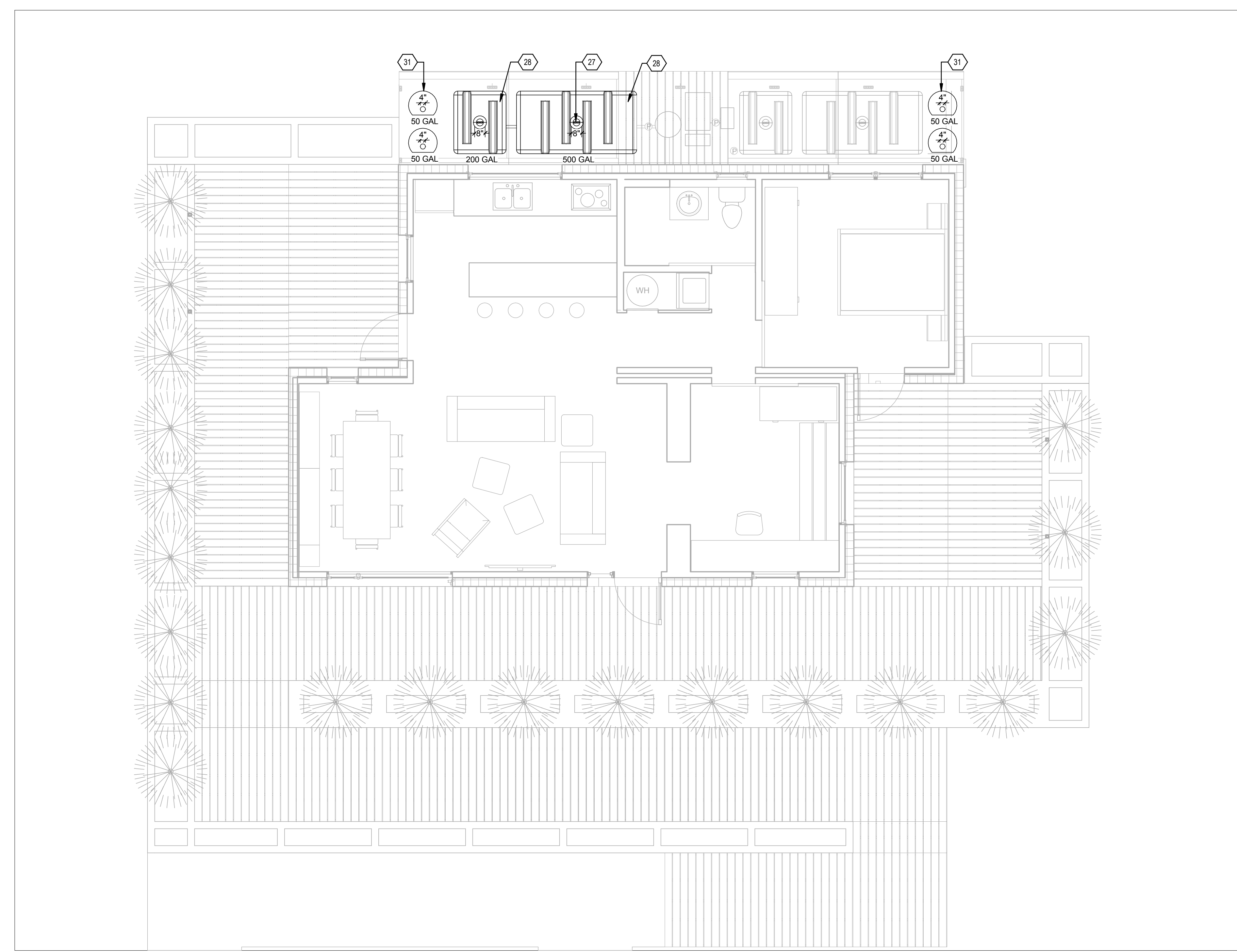
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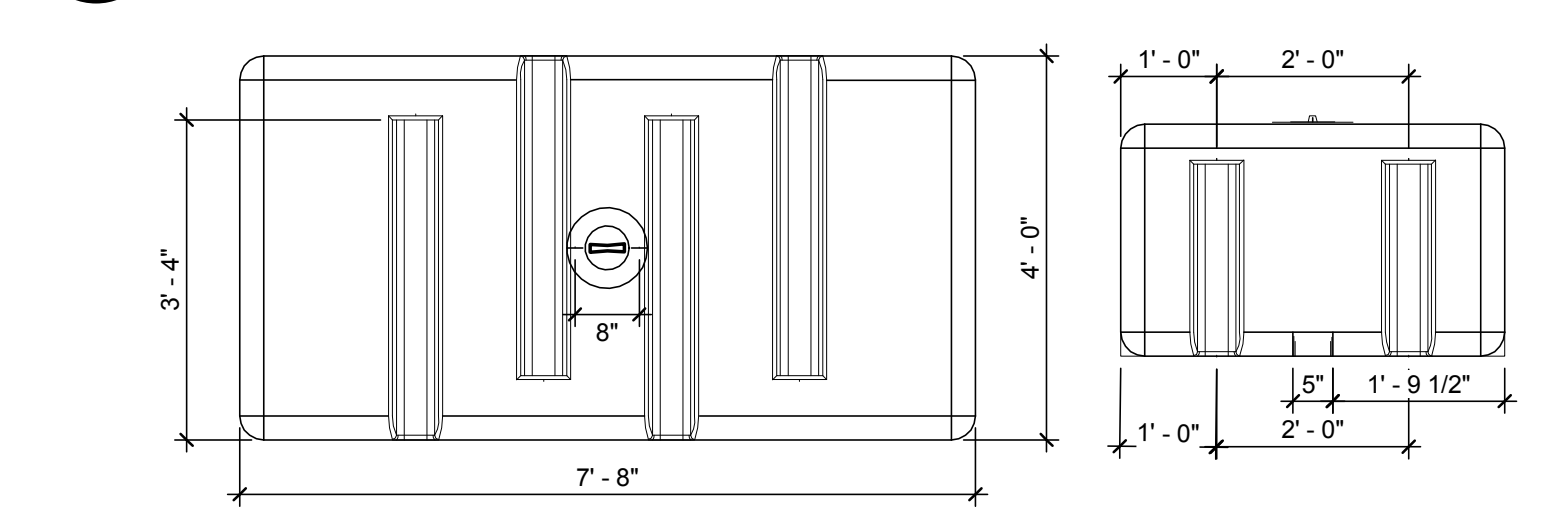
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WATER DELIVERY SEQUENCE

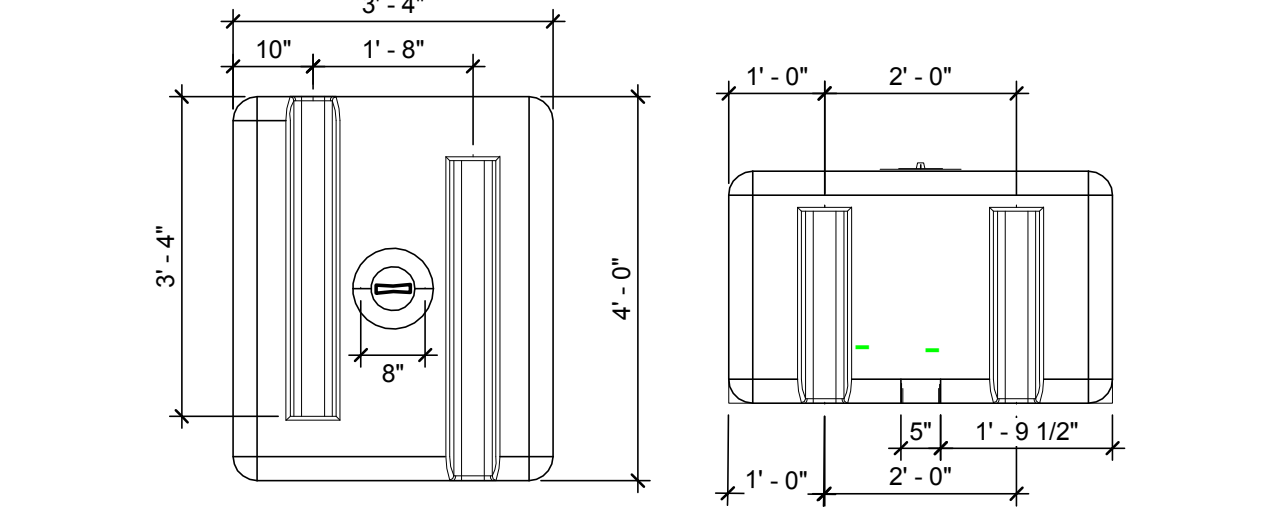
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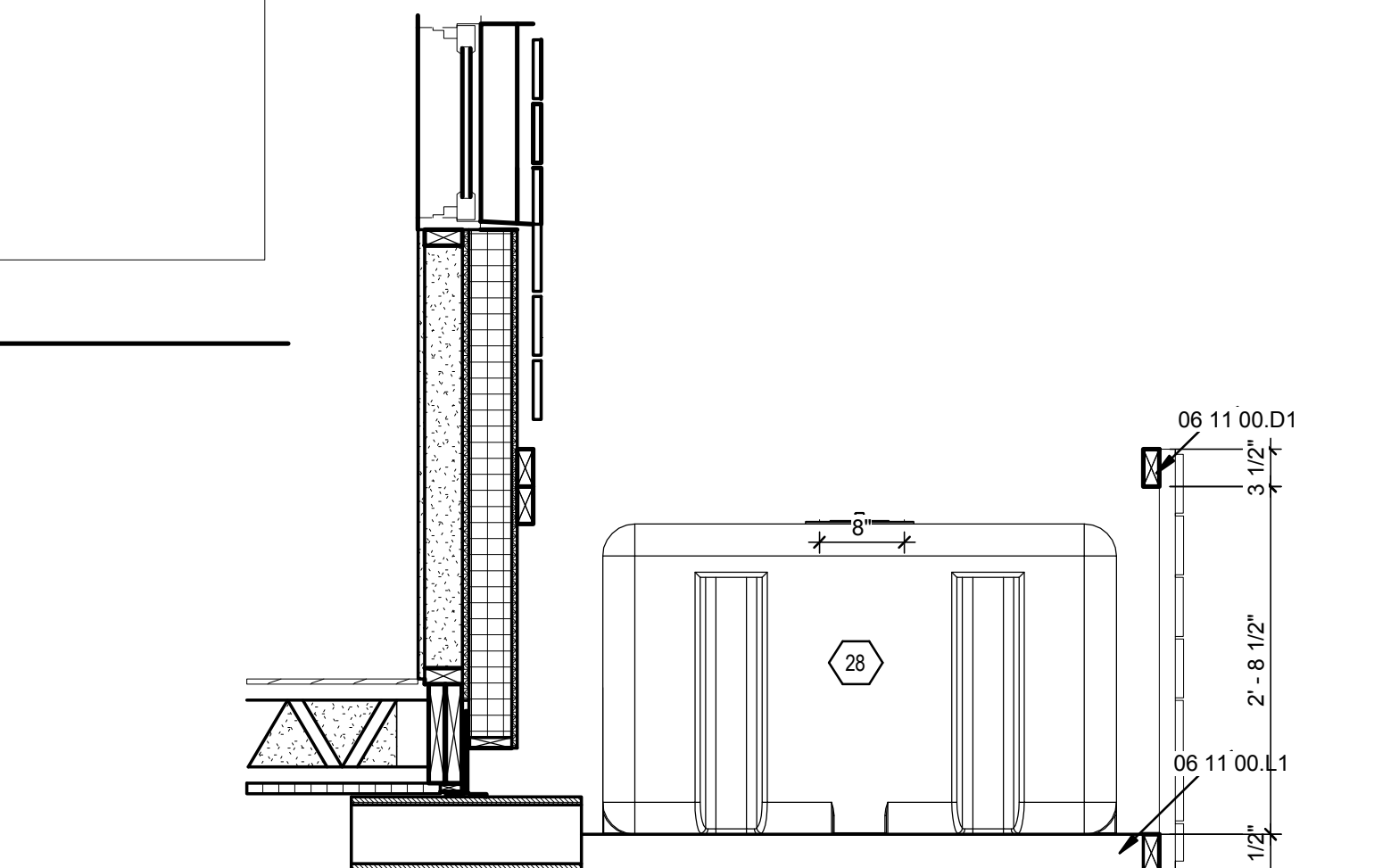
B1 WATER DELIVERY PLAN
 1/4" = 1'-0"



A1 500 GALLON WATER TANKS DIMENSIONS
 1/2" = 1'-0"



A3 200 GALLON WATER TANK DIMENSIONS
 1/2" = 1'-0"



A6 FILL LOCATION ELEVATION
 3/4" = 1'-0"

1 2 3 4 5 6 7

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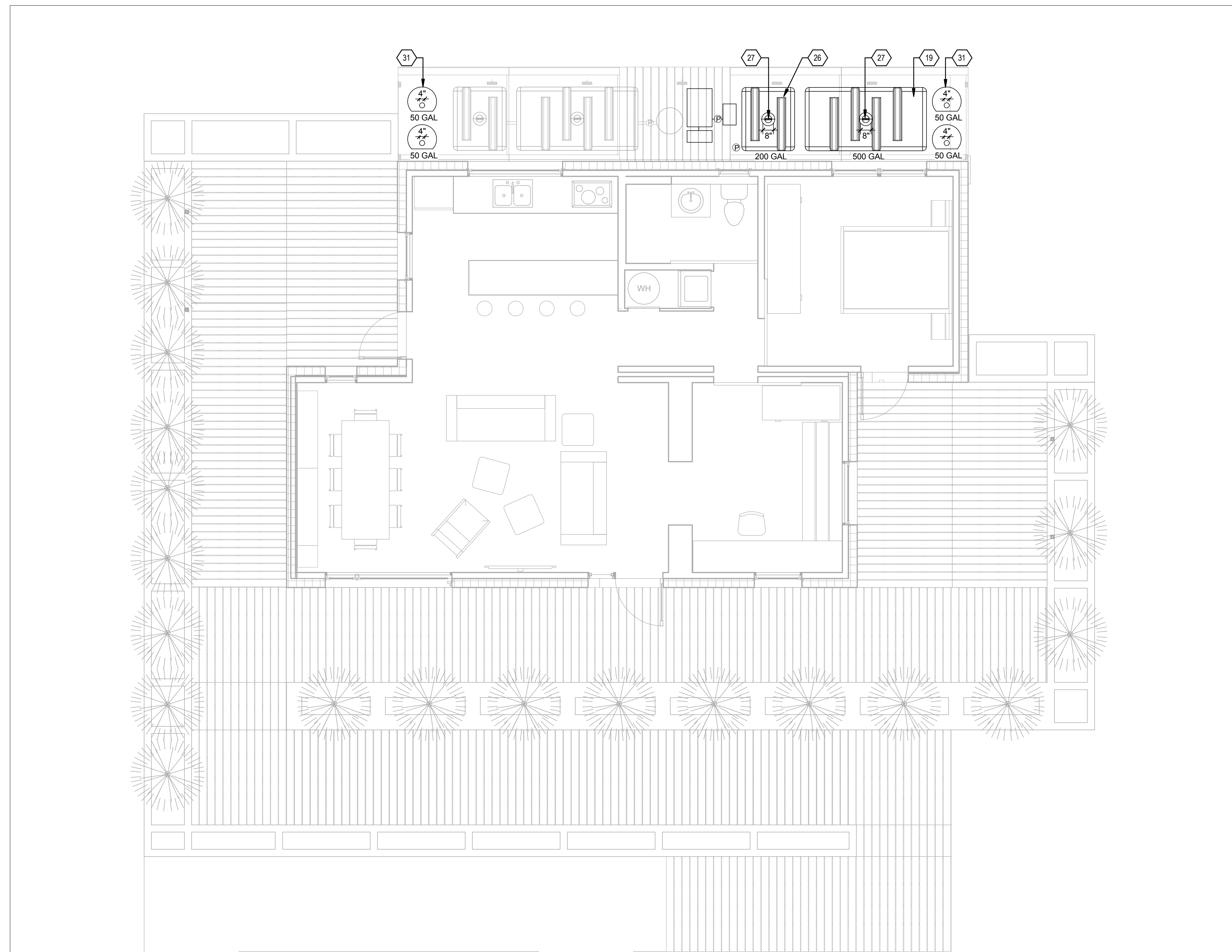
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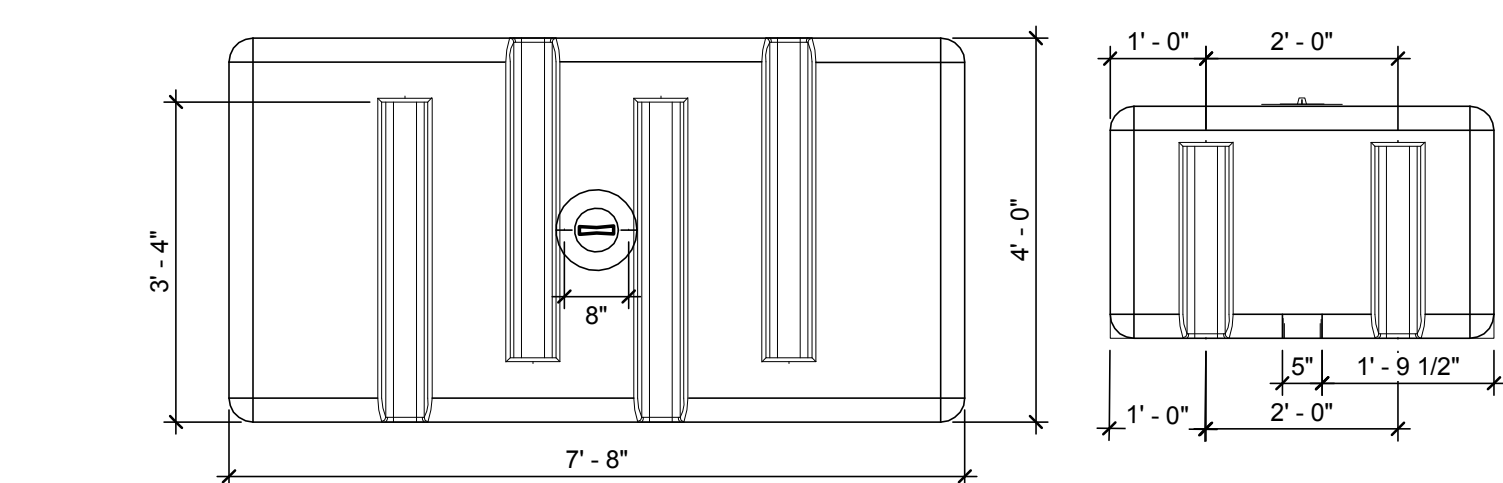
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B

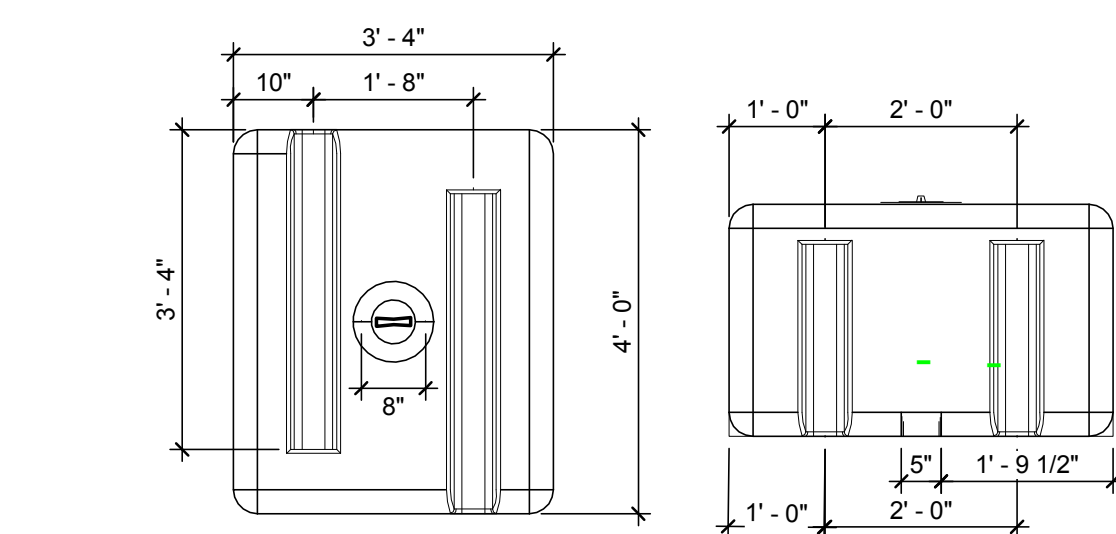
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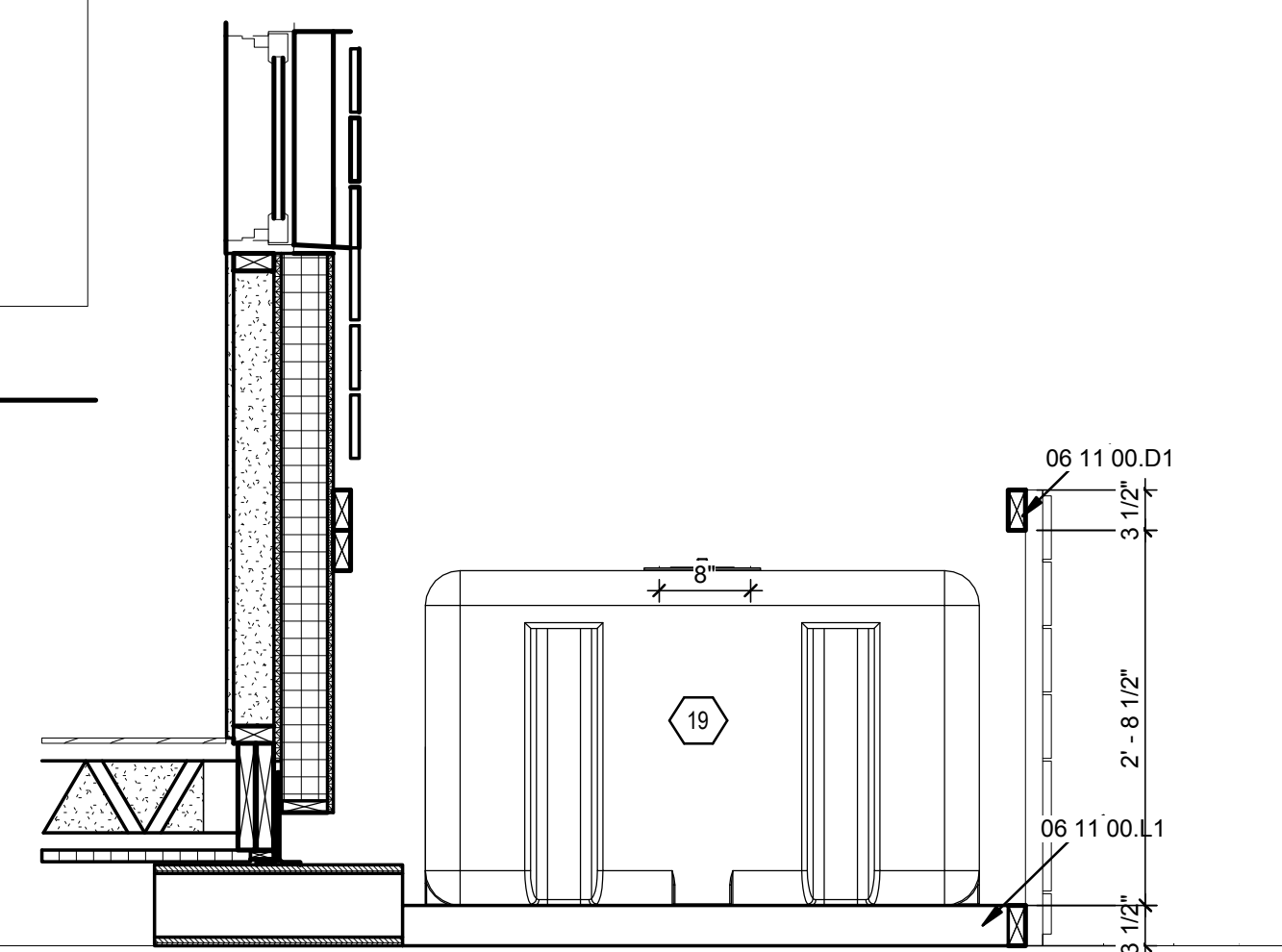
B1 WATER REMOVAL PLAN
1/4" = 1'-0"



A1 500 GALLON WATER TANKS DIMENSIONS.
1/2" = 1'-0"



A3 200 GALLON WATER TANK DIMENSIONS.
1/2" = 1'-0"



A6 REMOVAL LOCATION ELEVATION
3/4" = 1'-0"

GENERAL SHEET NOTES

- TOTAL WATER REMOVAL WILL EQUAL 700 GALLONS SPLIT BETWEEN TWO TANKS.
- INFORMATION ON THE WATER TANK ENCLOSURE CAN BE FOUND ON SHEET L-201.

REFERENCE KEYNOTES

06 11 00.D1	2X4
06 11 00.L1	4X4
19	GREYWATER STORAGE
26	BLACK WATER TANK
27	WATER TANK FILL/REMOVAL LOCATION
31	RAIN BARREL

SHEET KEYNOTES

3	ELECTRIC METER SOCKET
13	MAGNETIC SENSOR
73	ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
79	PV AC COMBINER PANEL
81	ORGANIZER SUPPLIED DATALOGGER
82	DATA ROUTER



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 CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

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MR	3/18/2011	DOE CD Submission
MH	5/2/2011	Removal system outlined.

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: Author
 CHECKED BY: Checker
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SHEET TITLE

WATER REMOVAL SEQUENCE

P-105

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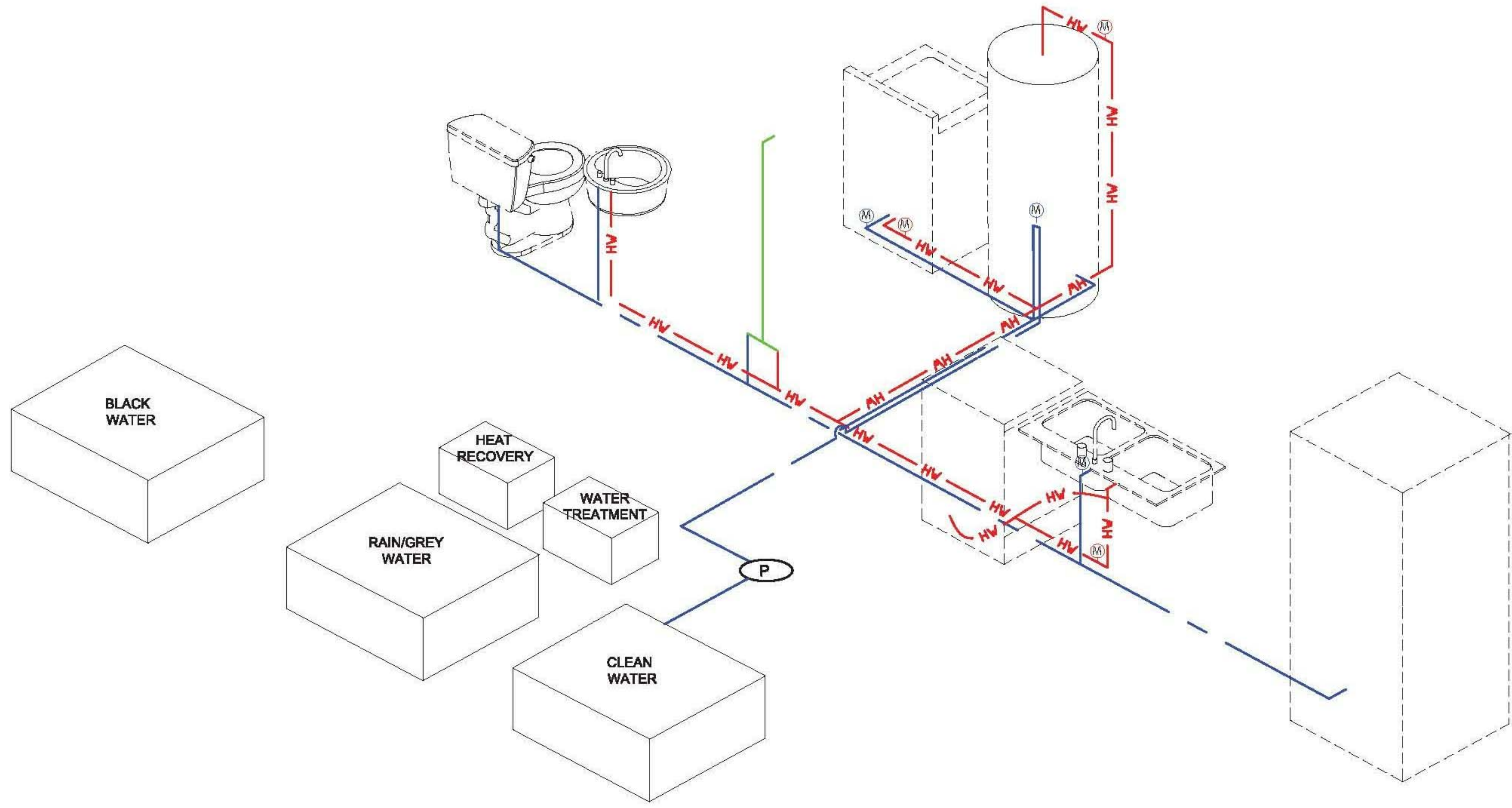
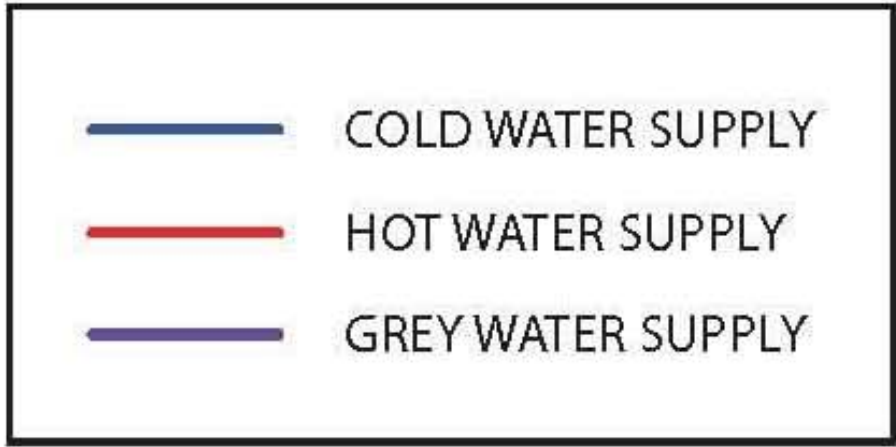
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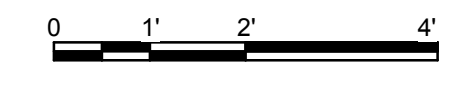
GENERAL SHEET NOTES

1. THE WATER CLOSET WILL NOT BE CONNECTED DURING THE COMPETITION PERIOD. PIPE CONNECTIONS BETWEEN THE WC AND THE PLUMBING SYSTEM WILL BE DISCONNECTED FOR THE ENTIRETY OF THE COMPETITION PERIOD.



A1 SUPPLY ISOMETRICS

1/2" = 1'-0"



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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
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SHEET TITLE

SUPPLY ISOMETRICS

P-901

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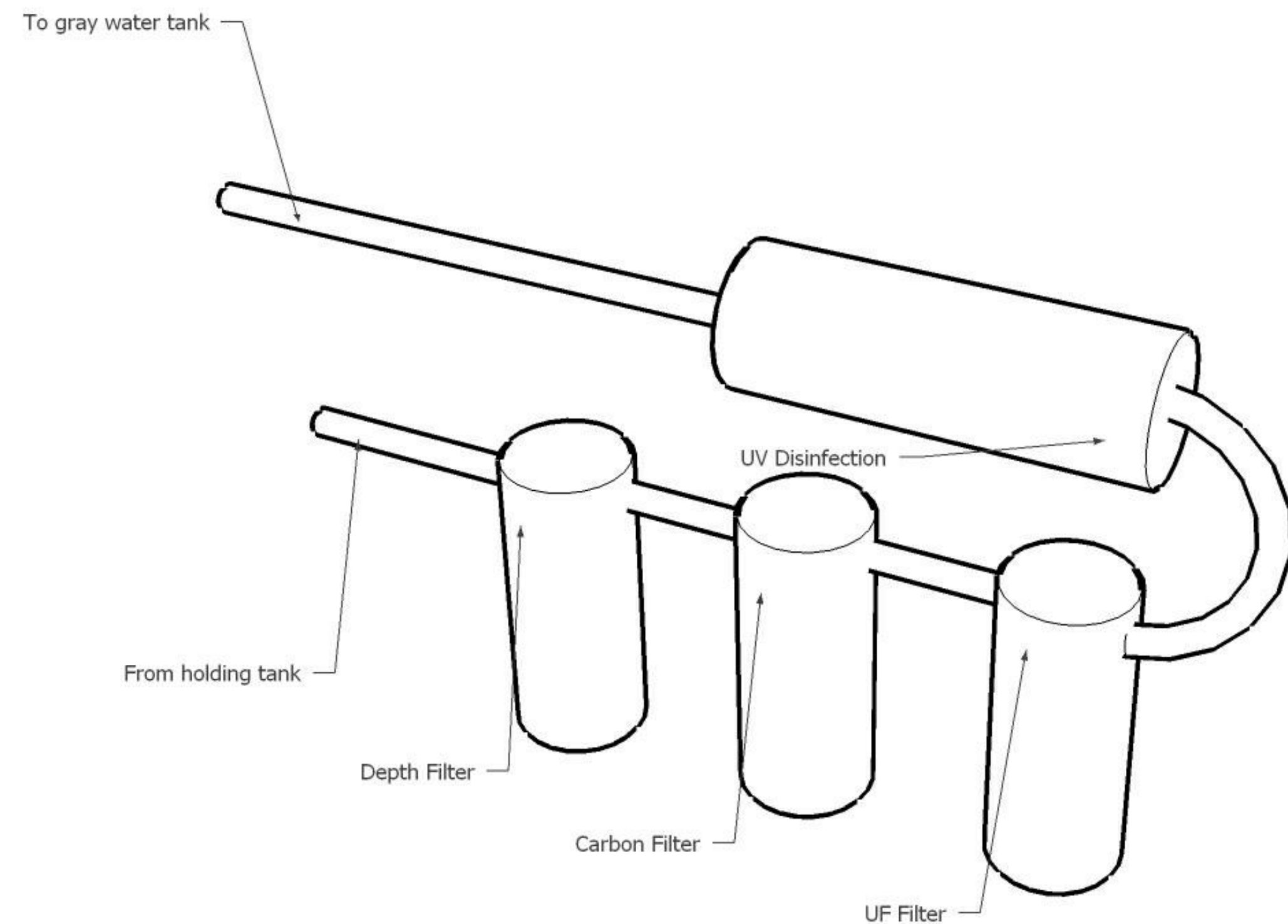
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GENERAL SHEET NOTES

1. THE WATER CLOSET WILL NOT BE CONNECTED DURING THE COMPETITION PERIOD. PIPE CONNECTIONS BETWEEN THE WC AND THE PLUMBING SYSTEM WILL BE DISCONNECTED FOR THE ENTIRETY OF THE COMPETITION PERIOD.
2. ISOMETRIC DRAWINGS ARE NTS.



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 CONTACT: SOLARDECATHLON@UIUC.EDU
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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
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 DRAWN BY: Author
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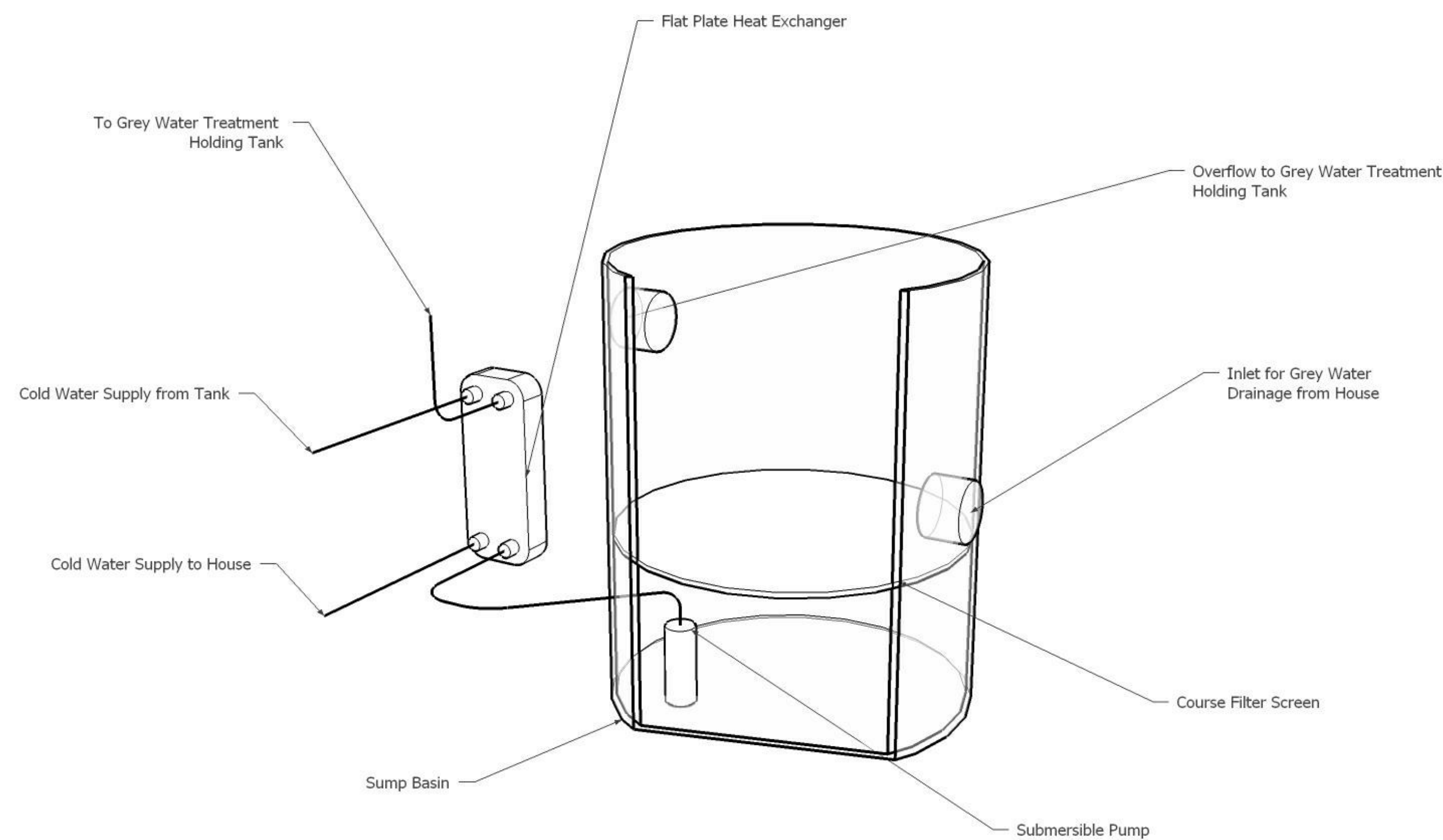
SHEET TITLE

PLUMBING SYSTEM ISOMETRICS

P-903

C1 GREY WATER TREATMENT ISOMETRIC

12" = 1'-0"



A1 GREY WATER HEAT RECOVERY ISOMETRIC

12" = 1'-0"

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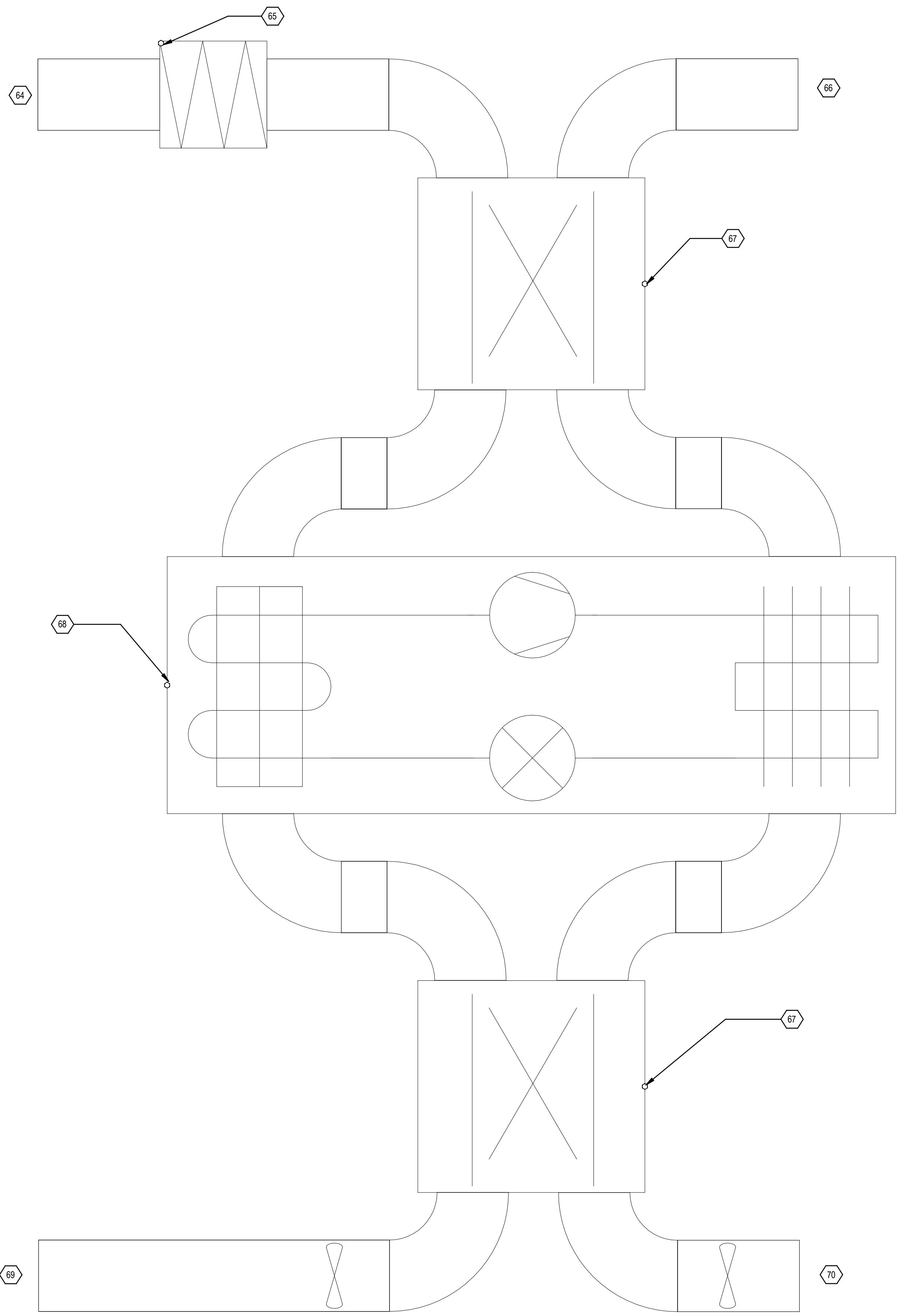
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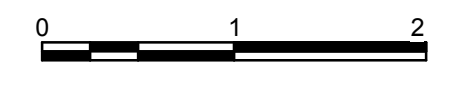
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(A1) HVAC ISOMETRIC
1" = 1'-0"



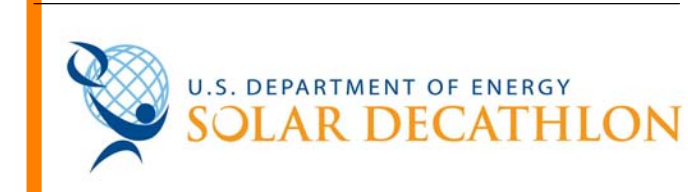
SHEET KEYNOTES	
3	ELECTRIC METER SOCKET
13	MAGNETIC SENSOR
73	ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
79	PV AC COMBINER PANEL
81	ORGANIZER SUPPLIED DATALOGGER
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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

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 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
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SHEET TITLE

HVAC ISOMETRICS

M-901

1 2 3 4 5 6 7

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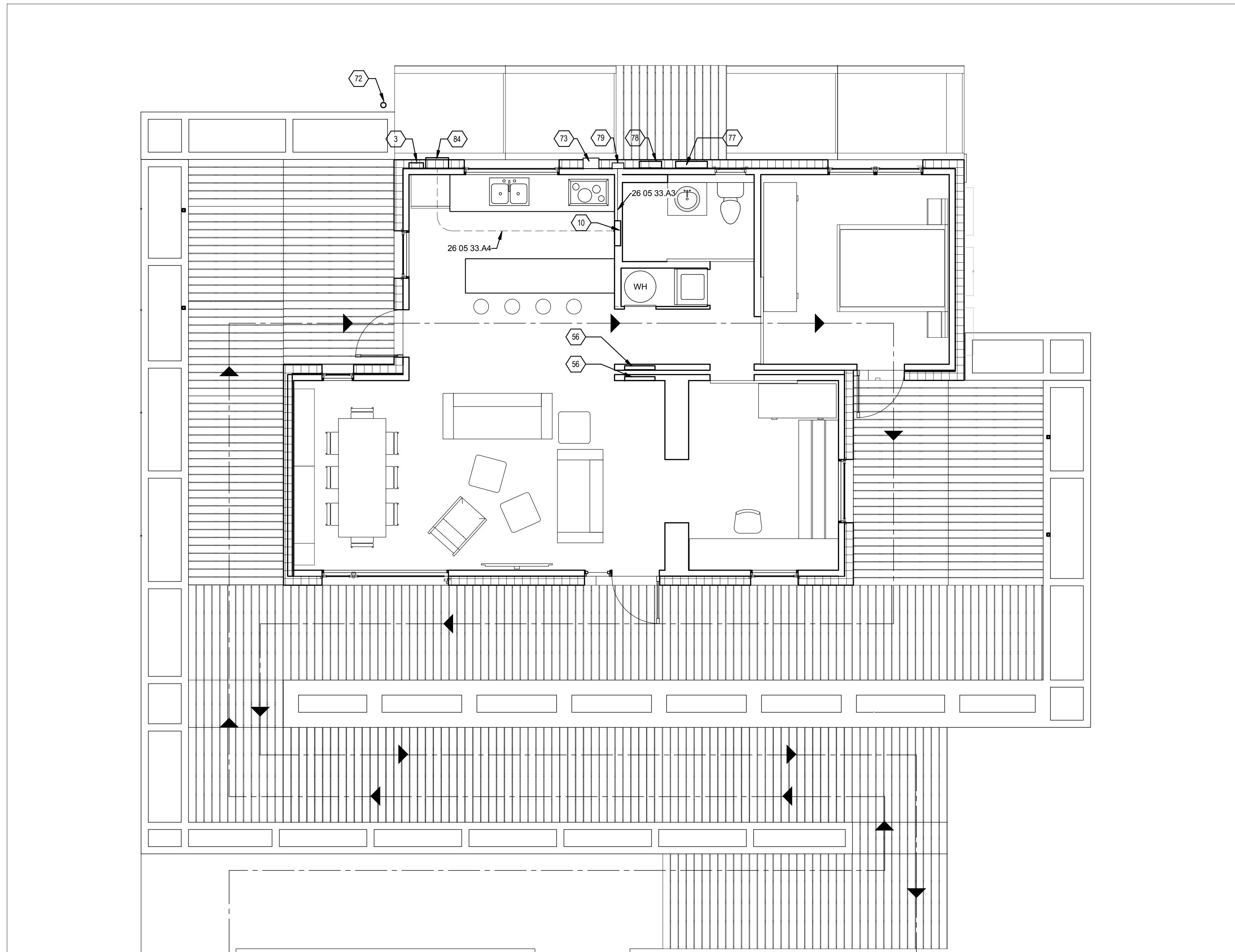
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GENERAL SHEET NOTES

- 1.) ELECTRIC METER HOUSING AT 50-65" ABOVE GRADE (48" A.F.F.) TO ACCEPT A STANDARD, 4-JAW, RINGLESS ROUND, UTILITY GRADE SOCKET METER FOR USE WITH 240/120 V SERVICE.
- 2.) AC DISCONNECT AT 65" ABOVE GRADE (48" A.F.F.)
- 3.) EACH DWELLING SHALL BE PROVIDED WITH GROUNDING ELECTRODES IN ACCORDANCE WITH IRC E3608.1.4 ROD AND PIP ELECTRODES. THE LENGTH OF THE GROUND ROD SHALL BE EXACTLY 8 FEET IN LENGTH.

REFERENCE KEYNOTES

- 3 ELECTRIC METER SOCKET
- 10 DISTRIBUTION PANEL
- 26 05 33.A3 1 1/4" SCH 40 PVC
- 26 05 33.A4 2 1/4" SCH 40 PVC
- 56 MODULE ELECTRICAL CONNECTION
- 72 8" GROUNDING ROD
- 73 ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
- 77 SUNPOWER 5000M INVERTER
- 78 KACO 1502xi INVERTER
- 79 PV AC COMBINER PANEL
- 84 UTILITY AC DISCONNECT

SHEET KEYNOTES

- 3 ELECTRIC METER SOCKET
- 10 DISTRIBUTION PANEL
- 56 MODULE ELECTRICAL CONNECTION
- 72 8" GROUNDING ROD
- 73 ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
- 77 SUNPOWER 5000M INVERTER
- 78 KACO 1502xi INVERTER
- 79 PV AC COMBINER PANEL
- 84 UTILITY AC DISCONNECT



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MR	3/18/2011	DOE CD Submission
MH	3/31/2011	Inverters (11,12) moved east
MH	5/2/2011	Ground rod added, terminal box moved to N wall, inverter location adjusted to match electrical elevations E-201

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
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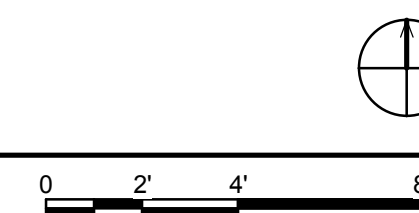
SHEET TITLE

ELECTRICAL DISTRIBUTION PLAN

E-101

A1 ELECTRICAL DISTRIBUTION PLAN

1/4" = 1'-0"



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NEC 220 LOAD CALCULATIONS:

General Lighting : 858 Sq. Feet x 3 VA = 2574 VA
 Small Appliance : 2 Circuits x 1500 VA = 3000 VA
 Laundry : 1 Circuits x 1500 VA = 1500 VA
 Total General Light & Small Appliance : 7074 VA
 The First 3000 VA @ 100% = 3000 VA
 Remaining 4074 VA @ 35% = 1426 VA
 GENERAL LIGHTING, SMALL APPLIANCE & LAUNDRY DEMAND LOAD (NEC 220.42) : 4426 VA

Heating Demand : 700 VA @ 100% = 700 VA
 Cooling Demand : 700 VA @ 100% = 700 VA
 LARGER OF HEATING OR COOLING DEMAND LOADS (Equal) (NEC 220.60) ... : 700 VA

Cooktop : 9600 VA
 Wall Oven : 1500 VA
 COOKING EQUIPMENT DEMAND LOAD (NEC 220.55) : 9500 VA

Dryer : 5000 VA
 DRYER DEMAND LOAD (NEC 220.54) : 5000 VA

Water Heater : 4500 VA
 Dishwasher : 1200 VA
 Sump Pump : 500 VA
 Well Pump : 1000 VA
 Fixed Appliance Total : 7200 VA
 7200 VA @ 75% Demand : 5400 VA
 FIXED APPLIANCE DEMAND LOAD (NEC 220.53) : 5400 VA

Other Appliance #1 1800 VA [Spin Extractor]
 Other Appliance #2 500 VA [Refrigerator]
 OTHER NON FIXED APPLIANCE DEMAND LOAD (220.14) : 2300 VA

Largest Motor: Spin Extractor @ 1800 VA
 25% OF LARGEST MOTOR LOAD (220.14) : 450 VA

NET COMPUTED LOAD : 27776 VA

120/240 VOLT SERVICE/FEEDER LOAD : 116 AMP

NEUTRAL LOAD (NEC 220.61):
 General Lighting : 4426 VA
 Appliances : 3750 VA
 Cooking : 6650 VA
 Dryer : 3500 VA
 Largest Motor : 450 VA
 Heating/Cooling : 700 VA

Total Neutral Demand Load : 19476 VA
 81 AMP

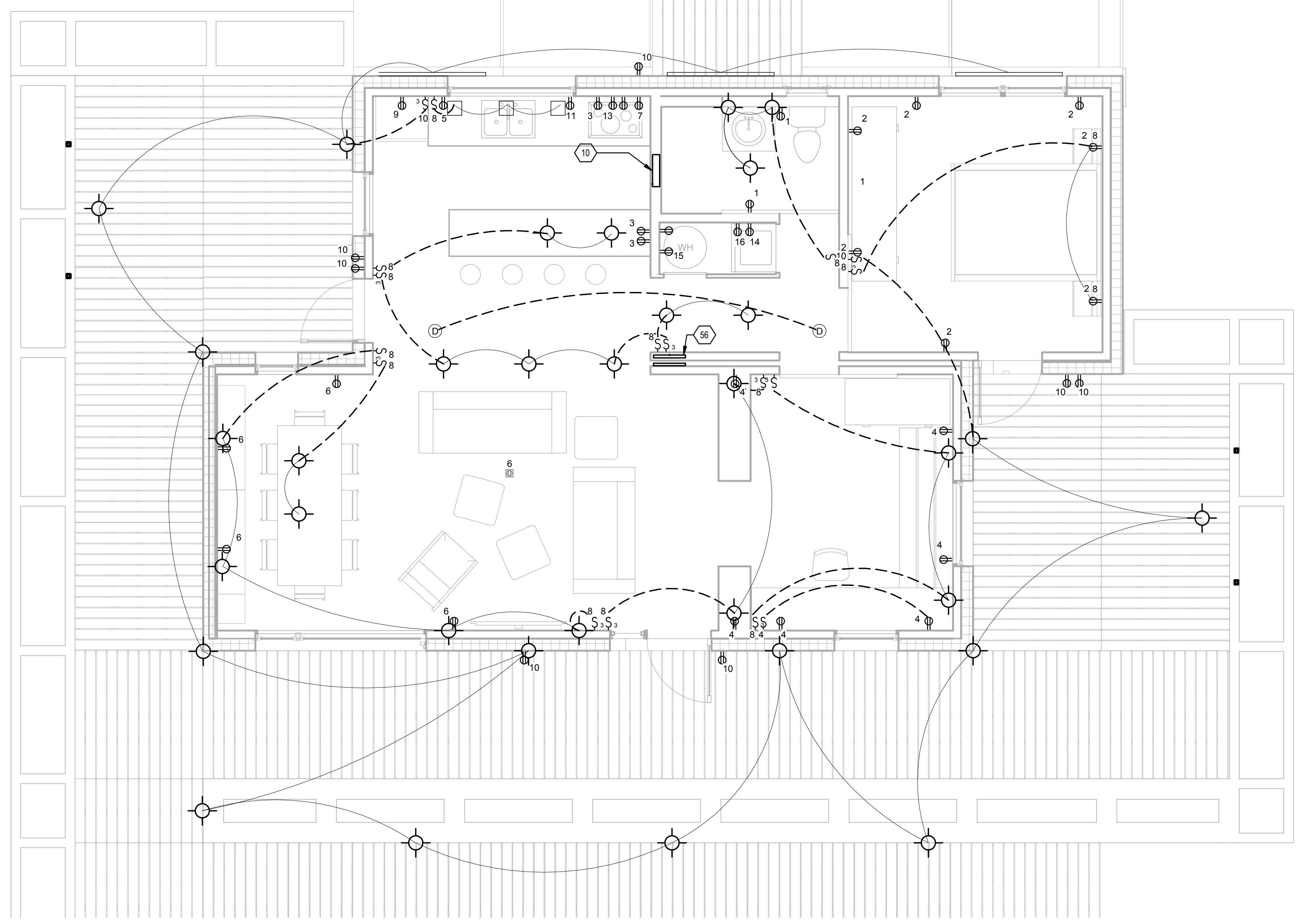
CIRCUIT	DESCRIPTION	BREAKER SIZE	PANEL LOCATION	NOTES
1	BATHROOM	20 A	13	SINGLE POLE, TANDEM BREAKER
2	BEDROOM	20 A	2	SINGLE POLE, AFCI BREAKER
3	KITCHEN OUTLETS 1	20 A	13	SINGLE POLE, TANDEM BREAKER
4	FLEX SPACE	20 A	4	SINGLE POLE, AFCI BREAKER
5	KITCHEN OUTLETS 2	20 A	15	SINGLE POLE, TANDEM BREAKER
6	LIVING ROOM	20 A	6	SINGLE POLE, AFCI BREAKER
7	MICROWAVE/OVEN	20 A	15	SINGLE POLE, TANDEM BREAKER
8	GENERAL INTERIOR LIGHTS	20 A	8	SINGLE POLE, AFCI BREAKER
9	REFRIGERATOR & FREEZER	20 A	17	SINGLE POLE, TANDEM BREAKER
10	EXTERIOR OUTLETS	20 A	10	SINGLE POLE, GFCI BREAKER
11	DISHWASHER	20 A	17	SINGLE POLE, TANDEM BREAKER
12	CERV	20 A	12	SINGLE POLE
13	STOVE	40 A	1,3	DOUBLE POLE
14	WASHING MACHINE	20 A	14	SINGLE POLE
15	WATER HEATER	40 A	5,7	DOUBLE POLE
16	DRYER	30 A	9,11	DOUBLE POLE
17	INVERTER	50 A	18,20	DOUBLE POLE
18	EXTERIOR LIGHTS	20 A	16	SINGLE POLE

GENERAL SHEET NOTES

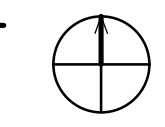
- ELECTRIC METER HOUSING AT 65 DEGREES ABOVE GRADE (48 DEGREES A.F.F) TO ACCEPT A STANDARD 4-JAW, RINGLESS, ROUND, UTILITY GRADE SOCKET METER FOR USE WITH 240/120V SERVICE
- AC DISCONNECT AT 65" ABOVE GRADE (48" A.F.F)
- ALL RECEPTACLES SHALL BE TAMPER-RESISTANT, NEC 406.11
- ALL RECEPTABLES INSTALLED OUTDOORS SHALL BE WEATHER-RESISTANT, NEC 406.8(B)

SHEET KEYNOTES

10	DISTRIBUTION PANEL
56	MODULE ELECTRICAL CONNECTION



A1 AC CIRCUIT PLAN 1:40



1 2 3 4 5 6 7

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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
JP	3/30/2011	Added outlet to bathroom. Located on S. wall of compartment space
JP	4/01/2011	Revising Schedule. Combining lighting circuits and outlets
JP	4/04/2011	Schedule finished. Deleted one switch in bedroom. Made flex wall lighting 3-way. Re-annotated drawing
JP	4/06/2011	Ext. Lights. Moved lighting over the 2 tables
JP	4/13/2011	Ext. Lights
JP	5/1/2011	Update to match as built
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
 COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN

SHEET TITLE
AC CIRCUIT PLAN

E-103

8/13/2011 11:24:04 AM

GENERAL SHEET NOTES

- 1.) ALWAYS FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS.
- 2.) ARCHITECT TO CONFIRM LIGHT TEMPERATURES ON SITE FOR FINAL APPROVAL.



LIGHTING SCHEDULE					
MARK	MANUFACTURER & CATALOG No.	MOUNTING	LAMP & WATTAGE	RECESSED DEPTH	MISCELLANEOUS
1	JUNO LIGHTING P175MFLASSTNFRT	PENDANT	12V 5W LED		MONOPOINT SYSTEM. FIXTURE @5'-6" AT DINING TABLE, FIXTURE @ 5'6" AT KITCHEN TABLE
2	RAB LIGHTING LPACK	WALL	12V 10W LED		MOUNTED AT 7'-0"
3	RAB LIGHTING LSTEP	WALL	12V 5W LED		MOUNTED TO PLANTERS AT 1'-0"
4	JUNO RECESSED LIGHTING IC20LEDG2-3K	RECESSED	120V, 14W LED		
5	JUNO LIGHTING TQJ114-3K-FL	PENDANT	12V 6W LED		
6	EUROFASE 14754	RECESSED			EXTERIOR WALL WASHING FIXTURES. 35 DEGREE BEAM SPREAD. RECESSED IN DECK BULB FOR EUROFASE FIXTURES
7	LIGHTING SCIENCE GROUP DFN 18 WW FL 12		5W LED		
8	LIGHTING SCIENCE GROUP DFN 19 WW 120		8W LED		BULBS FOR THE FLOOR FIXTURES IN THE BEDROOM AND MAIN LIVING SPACE
9	ENVIRONMENTAL LIGHTS RGBf-sheath-waterproof-free	WALL	12V 40W LED		LIGHTS TO BE MOUNTED ON NORTH WALL
10	JUNO LIGHTING T8WH 8" TRAC	TRACK	6 1W LED		TRACK TO RUN THE LENGTH OF ROOM OPENING
11	JUNO LIGHTING MONOPOINT	PENDANT	12V 5W LED		MONOPOINT SYSTEM. USED FOR PENDANT FIXTURES ABOVE DINING AND KITCHEN TABLES
12	FLOOR LAMPS	PENDANT	12V 5W LED		MONOPOINT SYSTEM. FIXTURE @5'-6" AT DINING TABLE, FIXTURE @ 5'6" AT KITCHEN TABLE
13	EDEN PARK ILLUMINATION PLASMA LIGHTING 8"X8"	UNDERCABINET	6 1W LED		ONE FIXTURE TO BE MOUNTED ON CENTER OF EACH CABINET IN THE KITCHEN

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MR	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
JP	4/06/2011	Ext. Lights Moved lighting over the 2 tables Schedule, changed lamp types
JP	4/13/2011	Changed Schedule

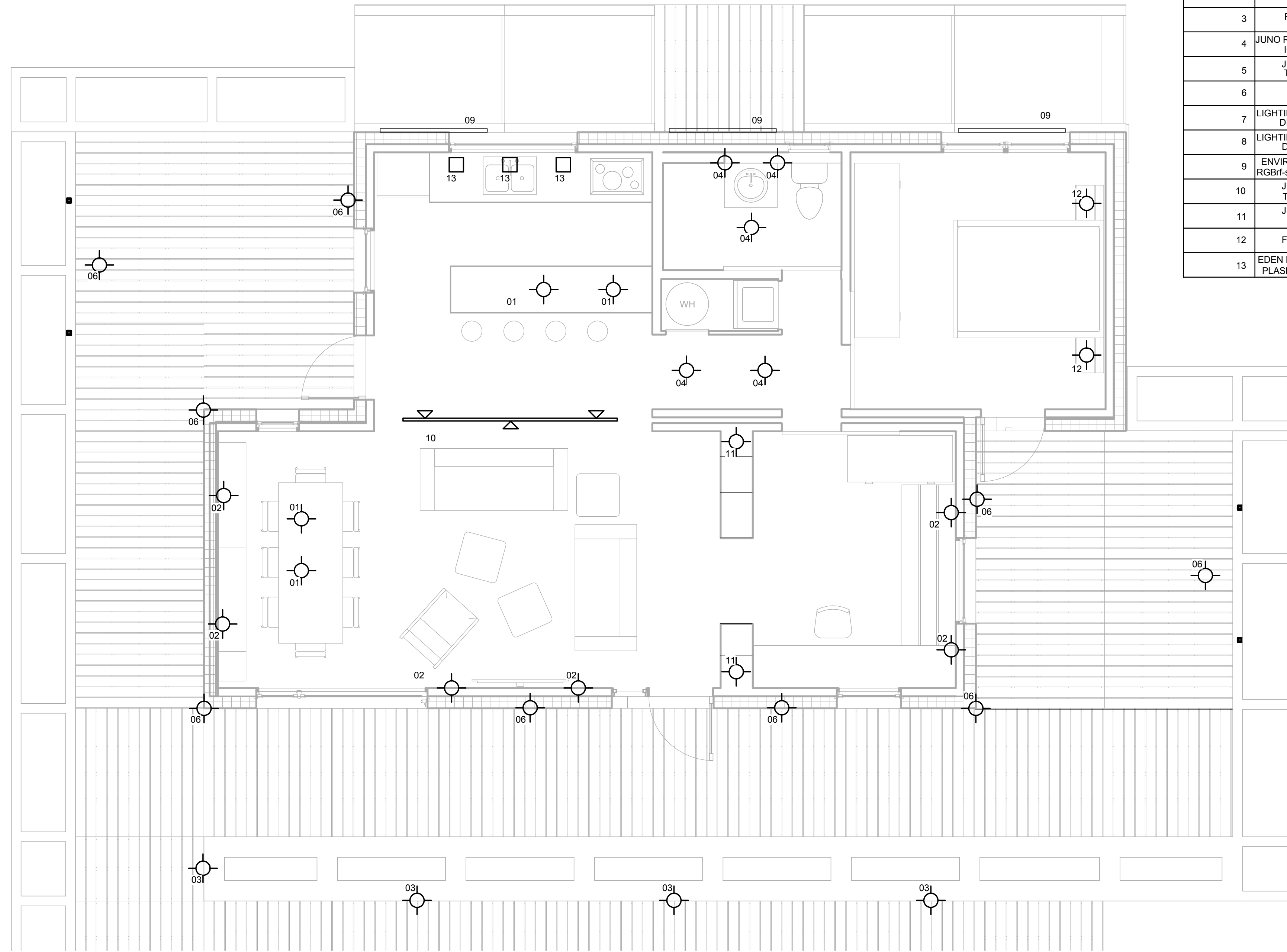
MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: Author
 CHECKED BY: Checker
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SHEET TITLE

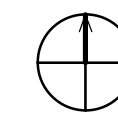
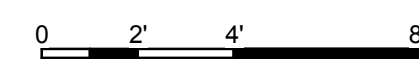
LIGHTING PLAN

E-104



A1 LIGHTING PLAN

1:40



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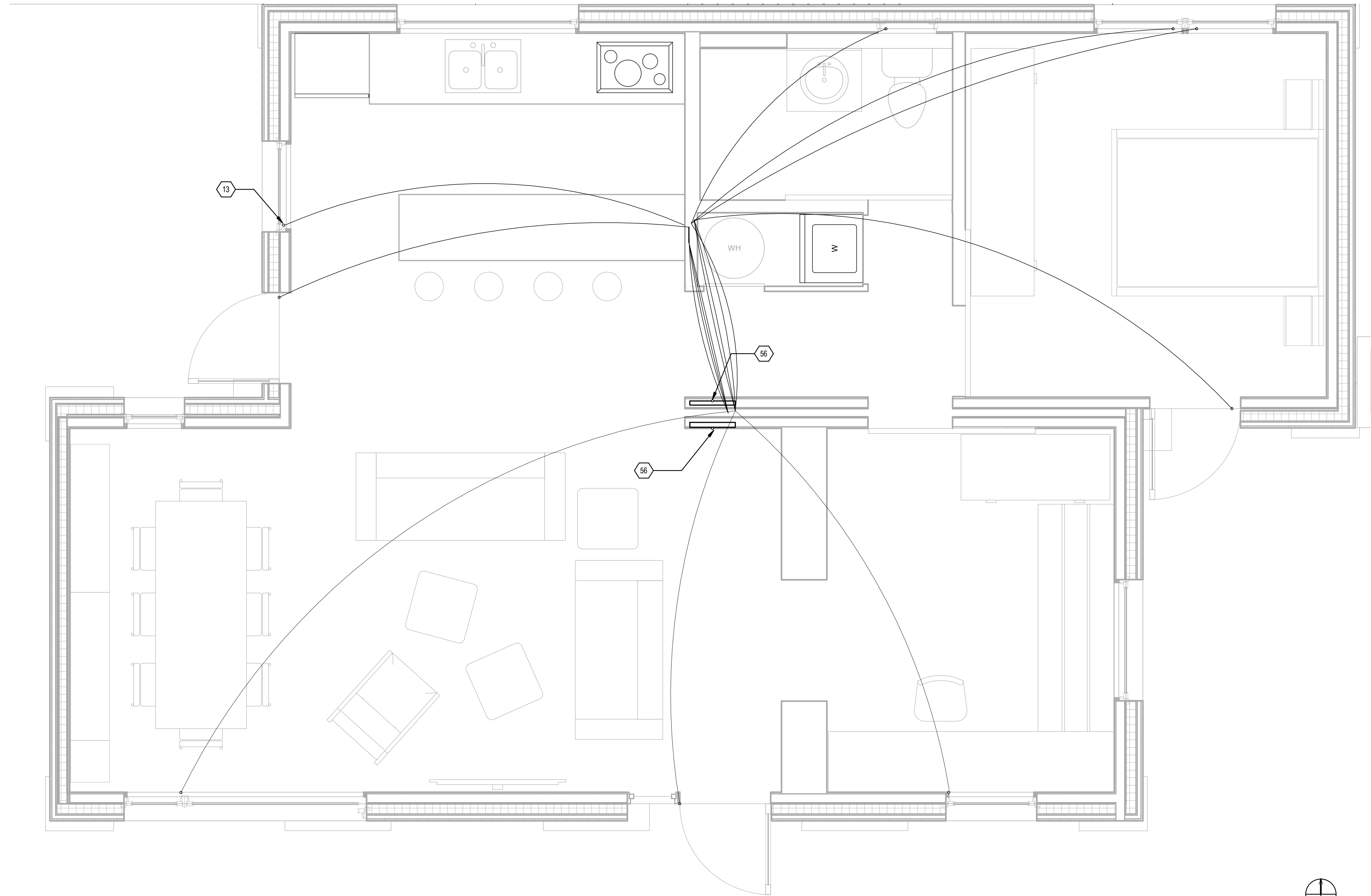
GENERAL SHEET NOTES

- 1.) INSTALL SENSORS ON UNDERSIDE OF OF STRIKESIDE TOP CORNER.
- 2.) LOW VOLTAGE WIRE 18/2 CONDUCTOR

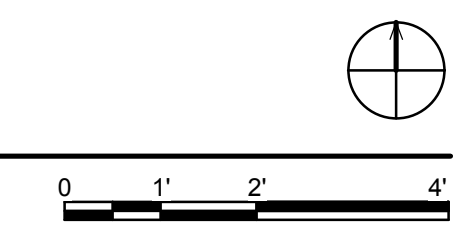


SHEET KEYNOTES

- 13 MAGNETIC SENSOR
- 56 MODULE ELECTRICAL CONNECTION



(A1) WINDOW AND DOOR SENSOR PLAN
1/2" = 1'-0"



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MARK	DATE	DESCRIPTION
MR	3/18/2011	DOE CD Submission
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: Author
 CHECKED BY: Checker
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SHEET TITLE
WINDOW AND DOOR SENSOR PLAN

E-105

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8/13/2011 11:24:13 AM

WIRE SCHEDULE

MARK	DESCRIPTION	REMARKS
1	12 AWG USE -2 / RHH / RHW - 2	
2	12 AWG USE -2 / RHH / RHW - 2	
3	12 AWG THWN	
4	6 AWG THWND CU. BARE	

GENERAL SHEET NOTES

- REFER TO SHEET E-103 FOR DIMENSIONED PLACEMENT OF FIXTURES AND CIRCUIT DESIGNATIONS.
- COORDINATE PLACEMENT WITH ARCHITECTURAL FEATURES AS REQUIRED.
- REFER TO SPECIFICATIONS FOR LAMP DETAILS AND INSTALLATION REQUIREMENTS.
- | | |
|--------------|-------------|
| MODULE: | MODULE: |
| VOC = 68.8 V | VOC = 48.2V |
| ISC = 4.81A | ISC = 6.05A |
| Vmp = 55.56V | Vmp = 40.5V |
| Imp = 4.37A | Imp = 5.68A |

SANYO STRING:
TLOW = -33 °C
VOC - MAX = 6[VOC + 0.189(25+38)] = 484.242V

SUNPOWER STRING:
TLOW = -38 °C
VOC - MAX = 6[VOC + 0.1325(25+38)] = 339.285V
- | |
|---|
| KACO INVERTER MAX VOLTAGE = 600V |
| THIGH = 47.2 °C |
| ISC - MAX = ISC(1+0.00168(47.2-25)) = 4.99A |
| INVERTER MAX CURRENT = 12A |

SUNPOWER INVERTER MAX VOLTAGE = 600V
THIGH = 47.2 °C
ISC - MAX = ISC(1+0.0035(47.2-25)) = 26.08A
INVERTER MAX CURRENT = 30.4A
- 100 AC DISCONNECT INSTALLED IN EXTERIOR.
- NEMA3R JUNCTION BOX (2 TOTAL)
- ALL CONDUIT SCHEDULE 40 PVC
- PLEASE REFER TO MANUAL FOR SPECIFICATIONS ON ALL ELECTRICAL EQUIPMENT.



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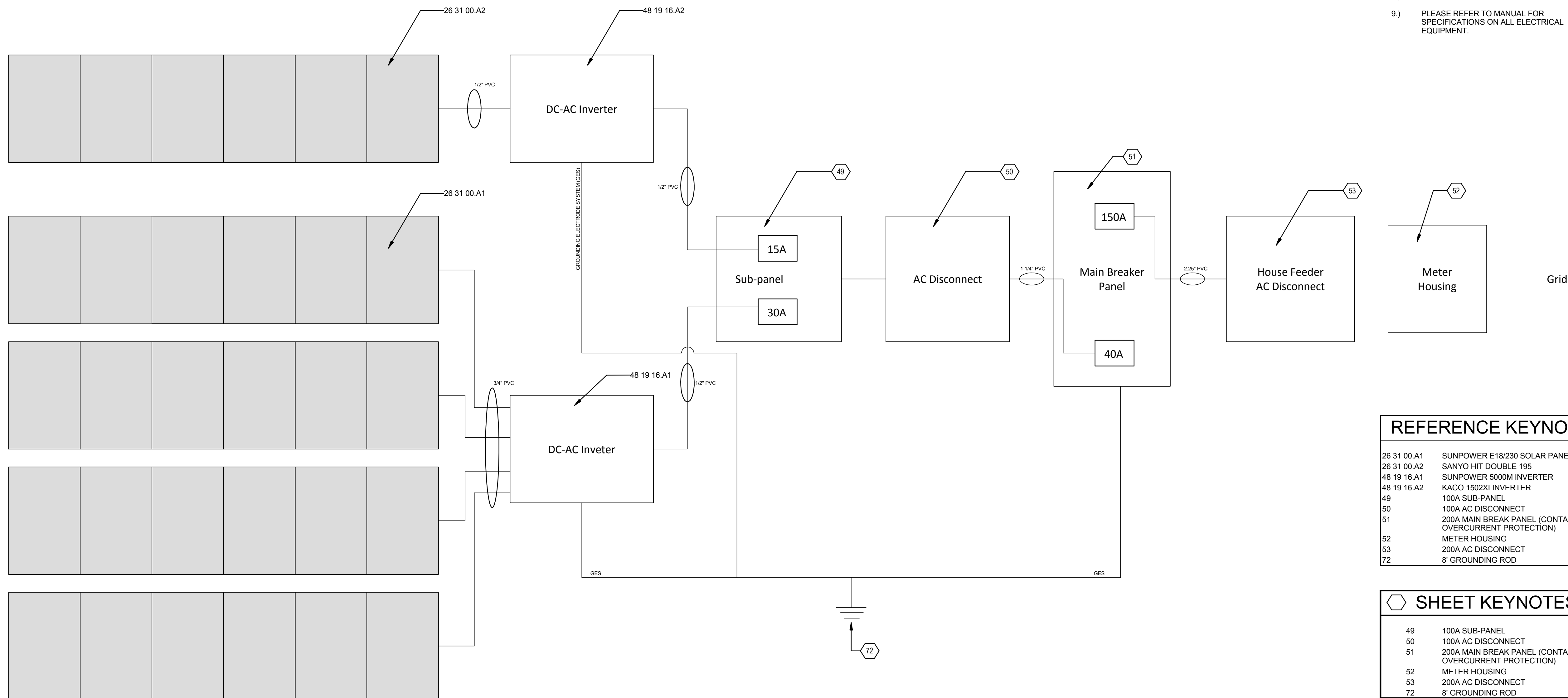
MR	3/18/2011	DOE CD Submission
MC	5/2/2011	Drawings updated per CD comments from John Wiles

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
 COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN

SHEET TITLE
ONE-LINE DIAGRAM

E-601



REFERENCE KEYNOTES

26 31 00.A1	SUNPOWER E18/230 SOLAR PANEL
26 31 00.A2	SANYO HIT DOUBLE 195
48 19 16.A1	SUNPOWER 5000M INVERTER
48 19 16.A2	KACO 1502XI INVERTER
49	100A SUB-PANEL
50	100A AC DISCONNECT
51	200A MAIN BREAK PANEL (CONTAINS OVERCURRENT PROTECTION)
52	METER HOUSING
53	200A AC DISCONNECT
72	8' GROUNDING ROD

SHEET KEYNOTES

49	100A SUB-PANEL
50	100A AC DISCONNECT
51	200A MAIN BREAK PANEL (CONTAINS OVERCURRENT PROTECTION)
52	METER HOUSING
53	200A AC DISCONNECT
72	8' GROUNDING ROD

(A1) ONE LINE DIAGRAM
 12" = 1'-0"

1 2 3 4 5 6 7

E

D

C

B

A

WIRE SCHEDULE	
MARK	DESCRIPTION
1	10 AWG USE-2
2	10 AWG THWN-2
3	10 AWG SOLID CU BARE
4	14 AWG THWN-2
5	12 AWG THWN-2
6	12 AWG SOLID CU BARE
7	4 AWG THWN-2
8	2/0 SE CABLE
9	14 AWG SOLID CU BARE
10	8 AWG SOLID CU BARE
11	6 AWG SOLID CU BARE
12	4 AWG SOLID CU BARE

DESIGN CHOICES SUMMARY										
CIRCUIT	CONTINUOUS CURRENT (A)	MULTIPLIER	REQUIRED AMPACITY (A)	CONDUCTOR	AMBIENT TEMPERATURE (CELCIUS)	CONDUCTOR RATED AMPACITY (A)	CIRCUIT BREAKER RATING (A)	GROUNDING CONDUCTOR (A)	CONDUIT	CONDUCTORS IN RACEWAY
SANYO OUTPUT CIRCUIT	4.92	x 1.56	7.7	#12 THWN-2	45	17.4 A	15 (IN INVERTER)	#12 BARE CU	1/2" PVC	2
SUNPOWER OUTPUT CIRCUIT	6.19	x 1.56	9.7	#10 THWN-2	45	18.6 A	15 (IN INVERTER)	#10 BARE CU	3/4" PVC	6
KACO INVERTER OUTPUT CIRCUIT	8	x 1.25	10	#14 THWN-2	40 C	16.2 A	15	#14 BARE CU	1/2" PVC	3
SUNPOWER INVERTER OUTPUT CIRCUIT	20.8	x 1.25	26	#10 THWN-2	40 C	31.8 A	30	#10 BARE CU	1/2" PVC	3
COMBINER BOX TO PV AC DISCONNECT	15+30+40=1.2R		70.8	#4 THWN-2	40 C	77.3 A	40	#8 BARE CU	1.25" PVC	3
PV AC DISCONNECT TO MAIN PANEL	15+30+40=1.2R		70.8	#4 THWN-2	40 C	77.3 A	40	#8 BARE CU	1.25" PVC	3

GENERAL SHEET NOTES

- REFER TO SHEET E-103 FOR DIMENSIONED PLACEMENT OF FIXTURES AND CIRCUIT DESIGNATIONS.
- COORDINATE PLACEMENT WITH ARCHITECTURAL FEATURES AS REQUIRED
- REFER TO SPECIFICATIONS FOR LAMP DETAILS AND INSTALLATION REQUIREMENTS.
- SANYO MODULE: VOC = 68.7 V, ISC = 3.73 A, Vmp = 55.8 V, Imp = 3.5 A
 SPR MODULE: VOC = 48.2 V, ISC = 6.05A, Vmp = 40.5V, Imp = 5.68A
 T_LOW = -18.3 °C; T_HIGH=33.6 °C
 SANYO STRING: V_OC-MAX = 6*[69.5 + 0.192(25+18.3)] = 466.9 V
 I_SC-MAX = 4.85+0.0017(33.6-25)] = 4.86 A
 SUNPOWER STRING: V_OC-MAX = 8*[48.2 + 0.1325(25+18.3)] = 431.5 V
 I_SC-MAX = 6.05+0.0035(33.6-25)] = 6.08 A
- KACO INVERTER MAX VOLTAGE = 600V
 INVERTER MAX CURRENT = 8A @ 240V
 SUNPOWER INVERTER MAX VOLTAGE = 600V
 INVERTER MAX CURRENT = 20.8A @ 240V
- ALL EXTERIOR MOUNTED ELECTRICAL ENCLOSURES MEET NEMA 3R OR EQUIVALENT.



TEAM NAME: UNIVERSITY OF ILLINOIS
 ADDRESS: 611 LORADO TAFT DR. CHAMPAIGN, IL 61820
 CONTACT: SOLARDECATHLON@UIUC.EDU WWW.SOLARDECATHLON.ILLINOIS.EDU

CONSULTANTS
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REFERENCE KEYNOTES

26 05 26.A1	GROUNDING ROD
26 05 33.A1	1/2" SCH 40 PVC
26 05 33.A2	3/4" SCH 40 PVC
26 05 33.A3	1 1/4" SCH 40 PVC
26 05 33.A4	2 1/4" SCH 40 PVC
26 24 16.A1	200A MAIN PANEL
26 24 16.A2	100A SUB PANEL
26 31 00.A1	SUNPOWER E18/230 SOLAR PANEL
26 31 00.A2	SANYO HIT DOUBLE 195
33 71 26.A1	200A UTILITY AC DISCONNECT
33 71 26.A2	100A PV AC DISCONNECT
33 71 73.33A1	200A ELECTRIC UTILITY METER
48 19 16.A1	SUNPOWER 5000M INVERTER
48 19 16.A2	KACO 1502XI INVERTER

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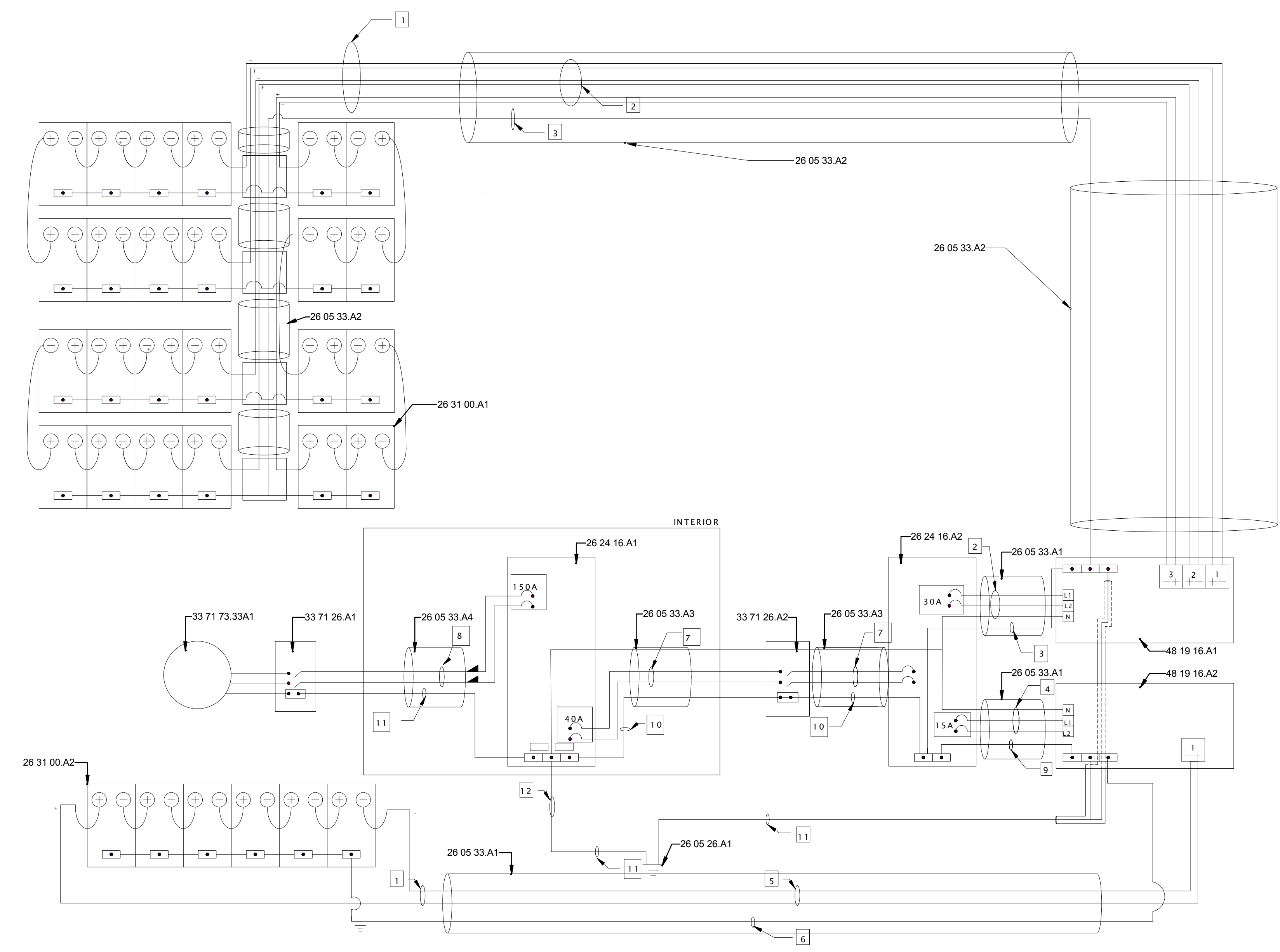
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MC	5/2/2011	Drawings updated per CD comments from John Wiles

MARK	DATE	DESCRIPTION
MH	8/11/2011	As Built Drawing Submission

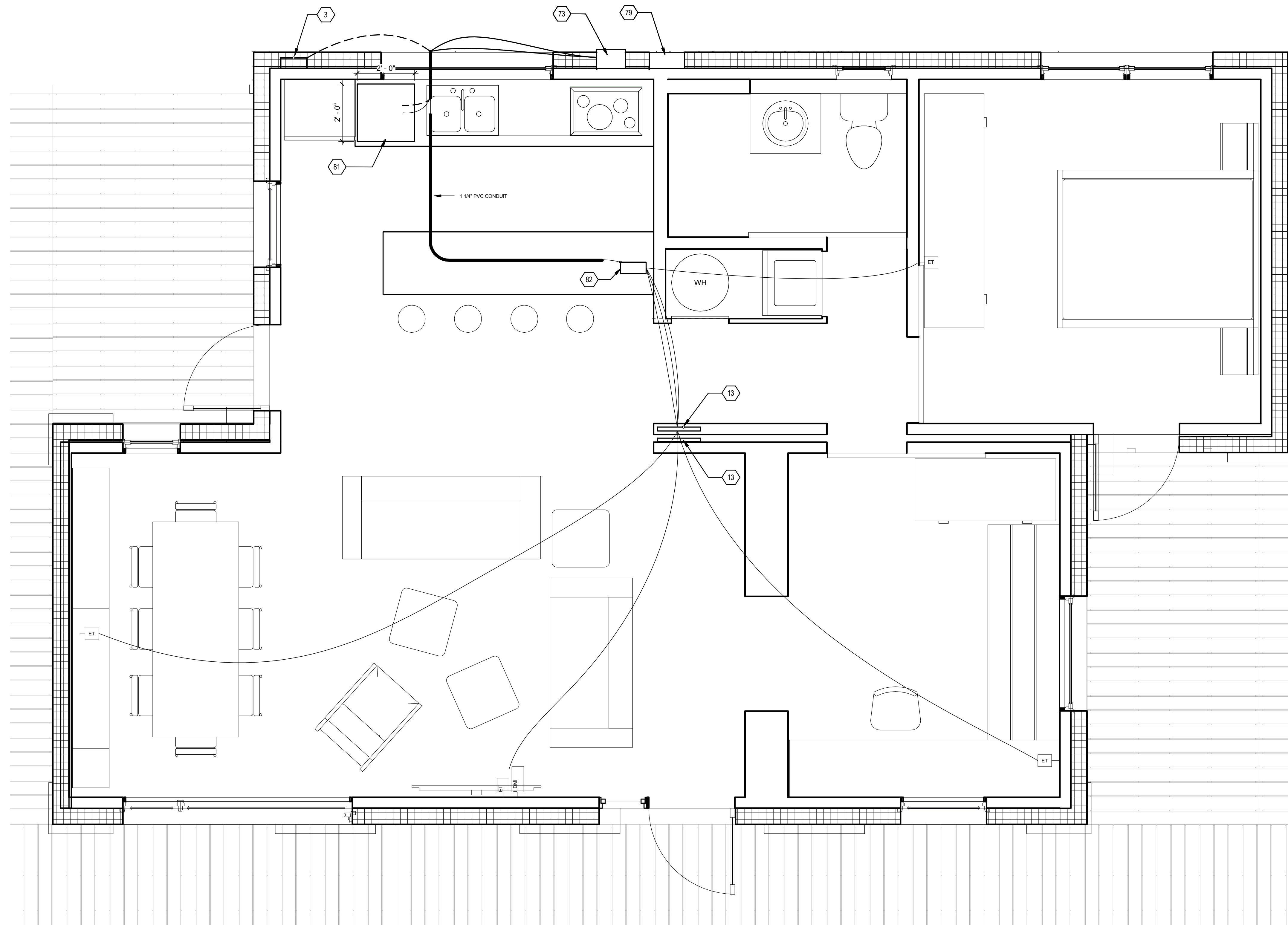
LOT NUMBER: LOT #305
 DRAWN BY: MEGAN ROBERTSON
 CHECKED BY: MICHAEL HINES
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SHEET TITLE
THREE-LINE DIAGRAM

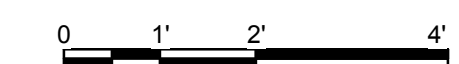
E-602



A1 THREE LINE DIAGRAM
 1/4" = 1'-0"



(A1) TELECOMMUNICATIONS DISTRIBUTION PLAN
 1/2" = 1'-0"



GENERAL SHEET NOTES

- 1.) ALL PERMANENT DATA WIRE RUNS ARE TO BE COMBINATION CATEGORY 5 E / RG-6 COAX WIRE.
- 2.) DATA WIRES RUN BETWEEN THE ELECTRIC METER HOUSING (3) AND THE ORGANIZER PROVIDED DATALOGGER (81) ARE TO BE CHOSEN BY THE SOLAR DECATHLON COMPETITION ORGANIZERS.
- 3.) CONDUIT THROUGHOUT THE KITCHEN IS TO BE INSTALLED IN THE FLOOR PRIOR TO THE INSTALLATION OF SPRAY FOAM INSULATION. THE CONDUIT WILL COME UP THROUGH THE FLOOR UNDER THE DESIGNATED CABINETS AND ALONG SIDE THE ORGANIZER PROVIDED DATALOGGER.

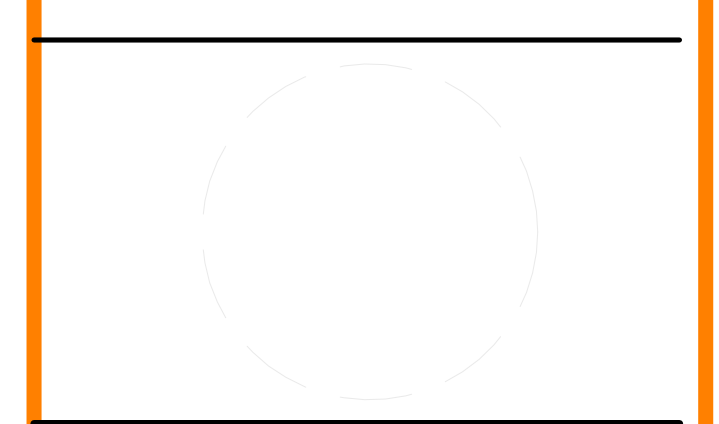
SHEET KEYNOTES

3	ELECTRIC METER SOCKET
13	MAGNETIC SENSOR
73	ORGANIZER PROVIDED ELECTRICAL METERING ENCLOSURE
79	PV AC COMBINER PANEL
81	ORGANIZER SUPPLIED DATALOGGER
82	DATA ROUTER



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 CONTACT: SOLARDECATHLON@UIUC.EDU
 WWW.SOLARDECATHLON.ILLINOIS.EDU

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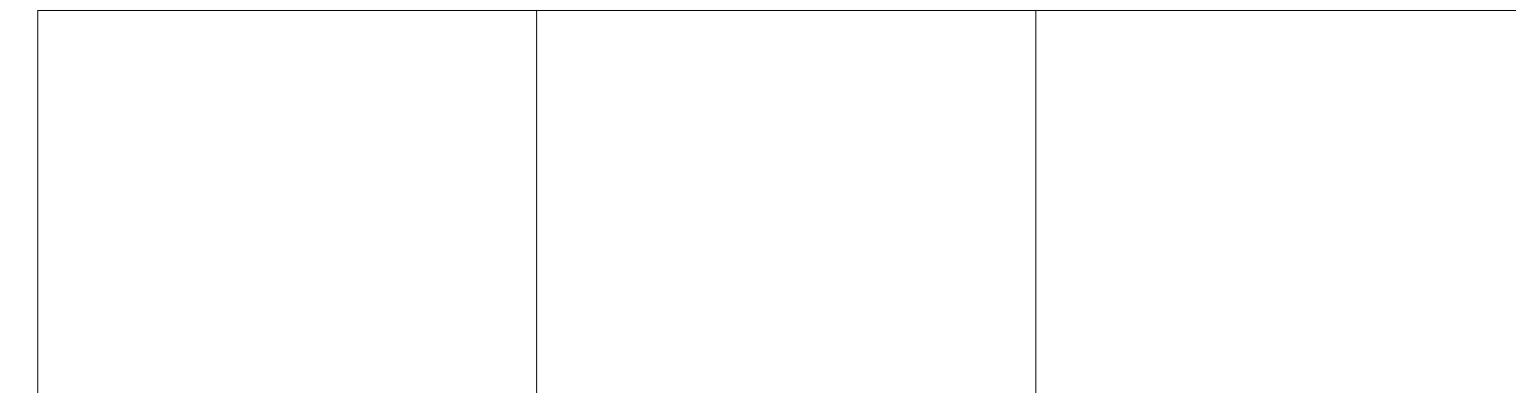
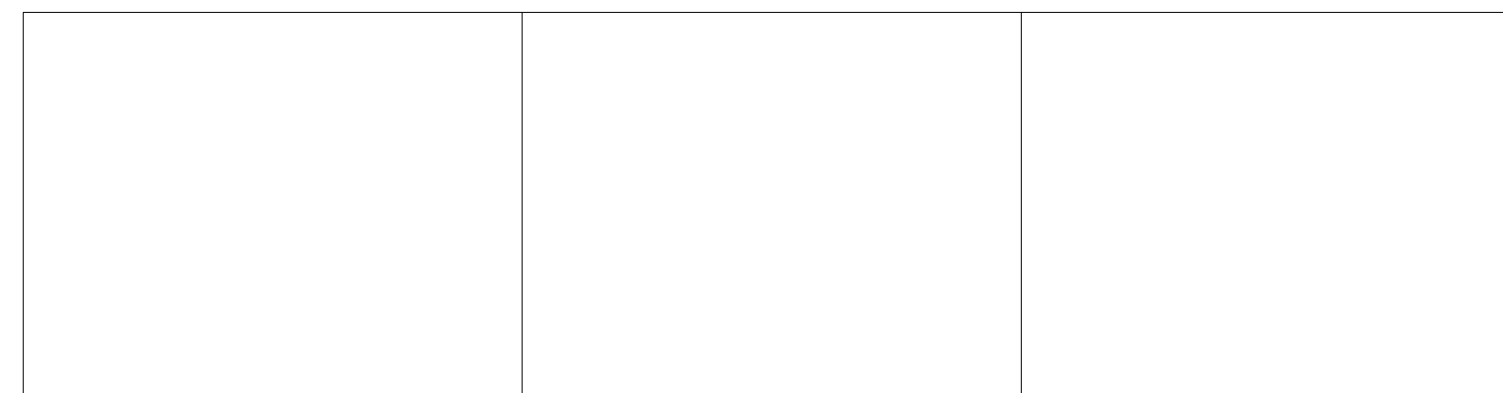
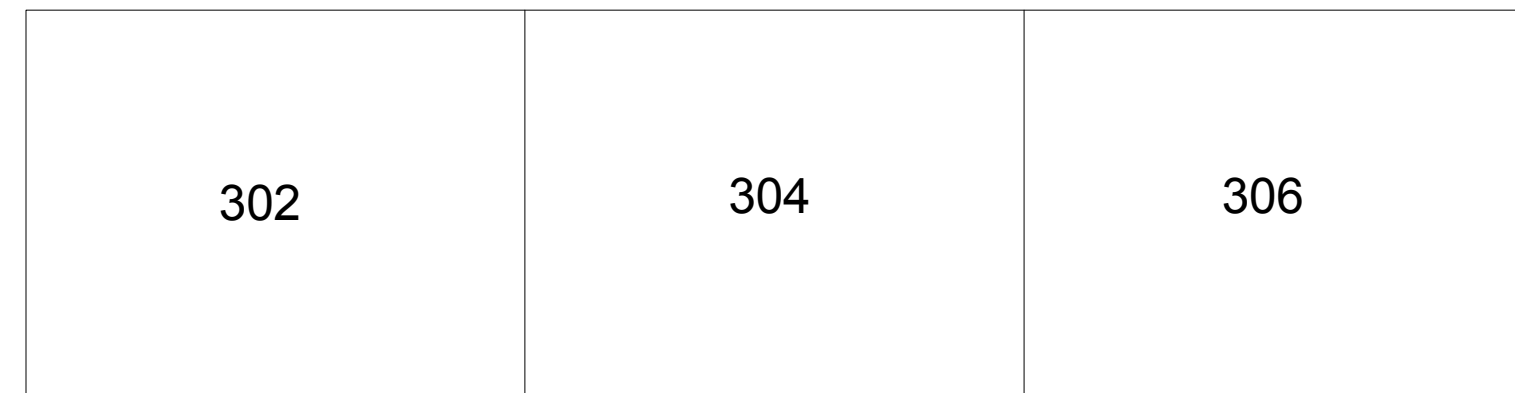
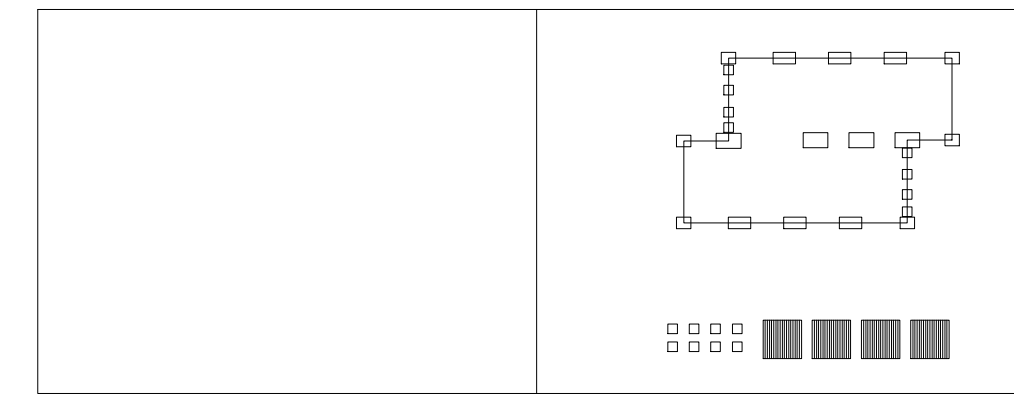
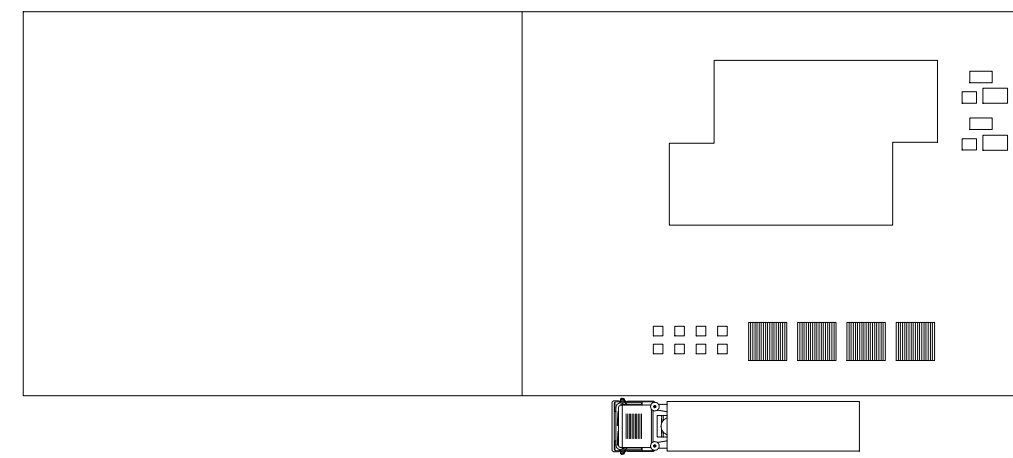
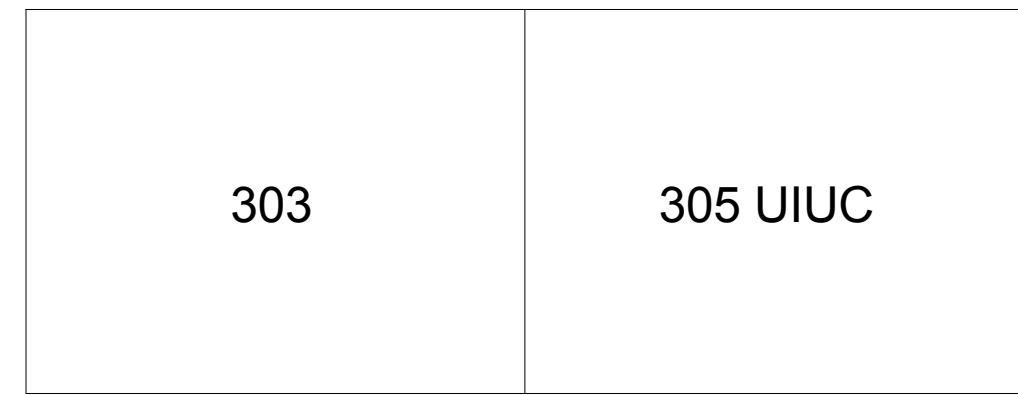
MARK	DATE	DESCRIPTION
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SHEET TITLE
TELECOMMUNICATIONS WIRING PLAN

T-101

E

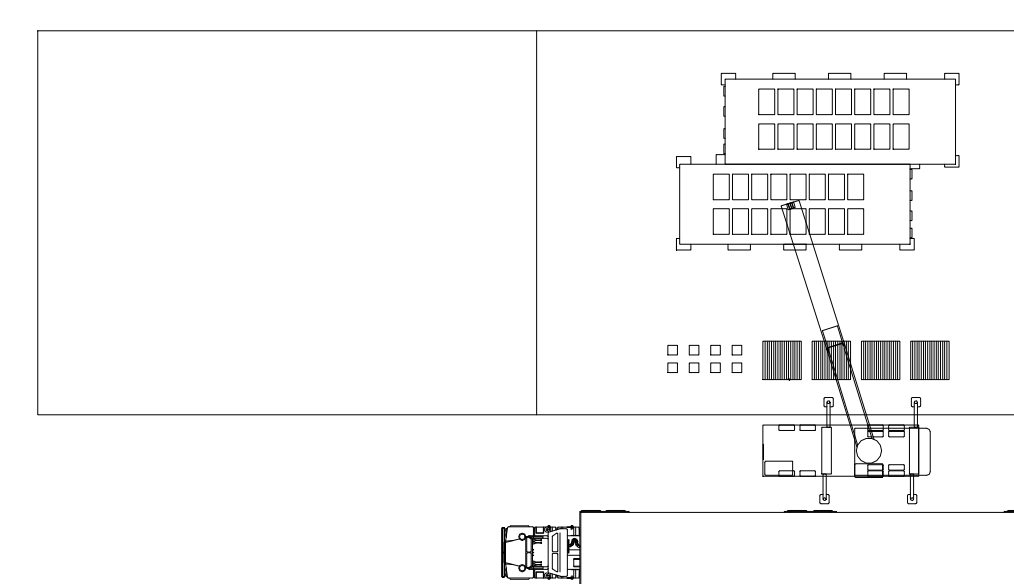
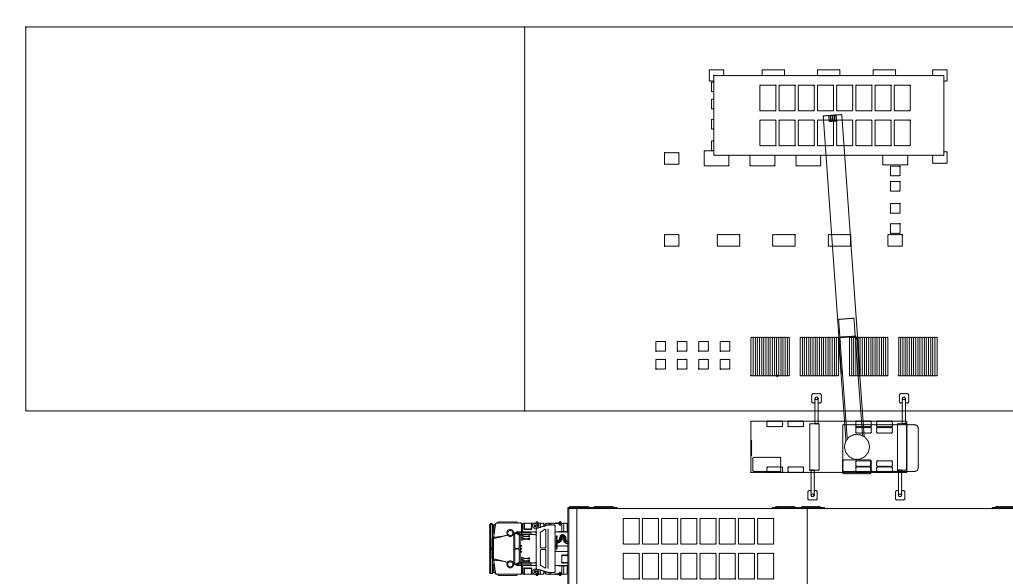
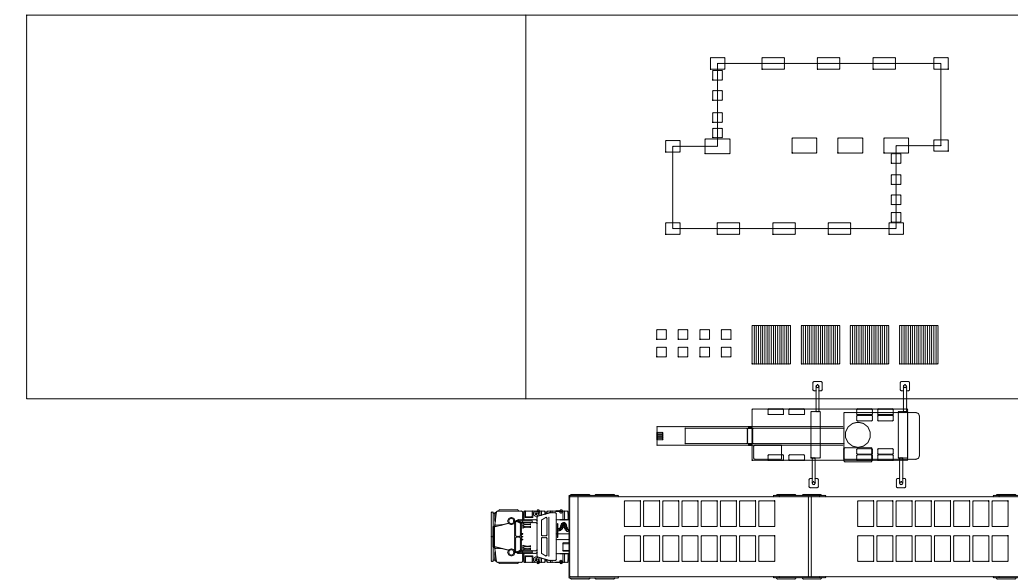


D1 ARRIVAL SEQUENCE 1
1" = 30'-0"

D3 ARRIVAL SEQUENCE 2
1" = 30'-0"

D5 ARRIVAL SEQUENCE 3
1" = 30'-0"

D

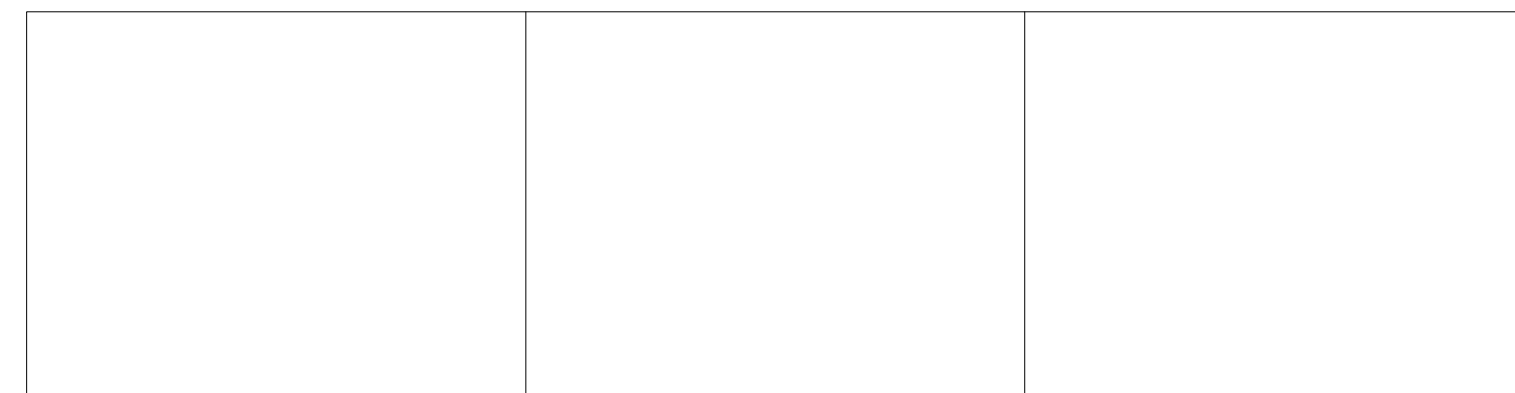


B1 ARRIVAL SEQUENCE 4
1" = 30'-0"

B3 ARRIVAL SEQUENCE 5
1" = 30'-0"

B5 ARRIVAL SEQUENCE 6
1" = 30'-0"

C



A1 ARRIVAL SEQUENCE 7
1" = 30'-0"

A3 ARRIVAL SEQUENCE 8
1" = 30'-0"

A5 ARRIVAL SEQUENCE 9
1" = 30'-0"

A

1

2

3

4

5

6

7



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SHEET TITLE
 ARRIVAL SEQUENCE PLANS

O-101

