



# nexushaus



PROJECT NAME: NexusHaus  
 LOCATION: Irvine, California  
 OCCUPANCY: Residential  
 CONSTRUCTION: Type V  
 BUILDING TYPE: New Single Story Modular Home  
 DESIGN TEAM: University of Texas at Austin + Technische Universität München

STUDENTS: Anthony Abousleiman, Leigh Ann, Moulay Anwar Sounny-Slitine, Yisvi Aroche, Holly Ashford, Zach Bakker, Bjorn Baudach, Jack Beadle, Charles Beckendorf, Kostas Belnanis, Sara Bensalem, Yvonne Berreiter, Alex Best, Gitanjali Bhattacharjee, Trond Bjarne Pettersen, Anna-Lea Boé, Chiara Bonsignori, Kestie Box, Zach Brown, Lori Broxton, Paloma Caballo, Ann Cai, Darren Cattle, Kristen Cetin, Aksornchan Chaianong, Yang Chen, Chi-Chih Chen, Kendall Claus, Charys Clay, Alessandro Corso, Cibe de Avila, Bruna De Ranieri Cavani Ferramenta, Cibe de Avila, Julian Debo, Sarah Dielenschneider, Christina Dotzler, Kathleen E Hetrick, Jeff Elliott, Irene Escudé Moreno, Astrid Eyskens, Trey Farmer, Bruna Ferramenta, Laura Fiala, Steven Flolid, Coleen Gentles, Luis Gerardo Camfos Alanis, Mira Gloser, Yenny Goss, Simon Gourley, Crystal Govea, Kelley Grabner, Kristina Grondahl, Alex Gross, Kaitlyn Gruener, Tess Haegele, Ariana Hallenbeck, Reese Hartridge, Claire Haupt, Whitney Head, Amanda Heineman, Emily Heitzwebel, Aaron Hobbins, Andrew Horne, Rongbo Hu, Caleb Hulsey, Jean-Baptiste Hurstel, Marta Ines Cot, Jessica Janzen, Cheng Jia, Kody Jones, Lauren Jones, Andreas Kacinari, Kelsey Kaiser, Caitlyn Kallus, Samantha Kambo, Ana Kauchi, Lukas Kaufmann, Daniel Kierdorf, Sara Kingman, Heidi Kleveland, Alexandra Krippner, Junji Kubo, Rachael Laughter, Ben Leiffheidt, Eneida Lila, Gabriela Lotuffo Olivera, Laura Louise Fiala, Rebecca Lynn Garner, Jessica M Janzen, David Mahon, Isadora Mansano Francisco, José María Arribas López, Jessica Martinez, Caitlin May, Ryan McKeeman, Molly McNamara, Thanos Metaxas, Sean Moore, Loren A Muirhead, Kerri Murphy, Vanessa O'Kelly, Frank Ordia, Ariel Padilla, Erica Pallo, Julia Park, Rocio Pelaez, Miguel Pérez, Andrew Philpott, Reece Poter, Abhishek Pratapa, Daniel Pyrek, Michael Rahmatoullin, David Rausch, Federico Rebecchini, Megan Recher, Elijah Reese, Joshue Rhodes, Bonnie Roberts, Rocio Romero Reolid, Haley Ross, Simone Salfner, Miriam Santambrogio, Travis Schneider, Max Seidl, Luca Sgubbi, Nishanth Shanmugham, Vivek Shastry, Josh Shen, Nari Shen, Alejandro Silveryra, Hayley Smith, Preethi Sreedhara, Kathleen Stanford, Alison Steele, Tyler Stewart, Marcus Strang, Anna Tapias, Nicolò Tempereri, Maria Terzano, Coleman Tharpe, Andrea Tosi, Clemente Tudela Perdales, Kara Turner, Charles Upshaw, Miren Urena, Wolfgang Vidal, Mathew Watson, Henry Wen, Jordan Wennermark, Evyn Williams, Joann Xiao, Jingchen Yin, Mattia Zucco.

FACULTY ADVISORS: Michael Garrison, Petra Liedl, Adam Pyrek, Werner Lang, Atila Novoselc



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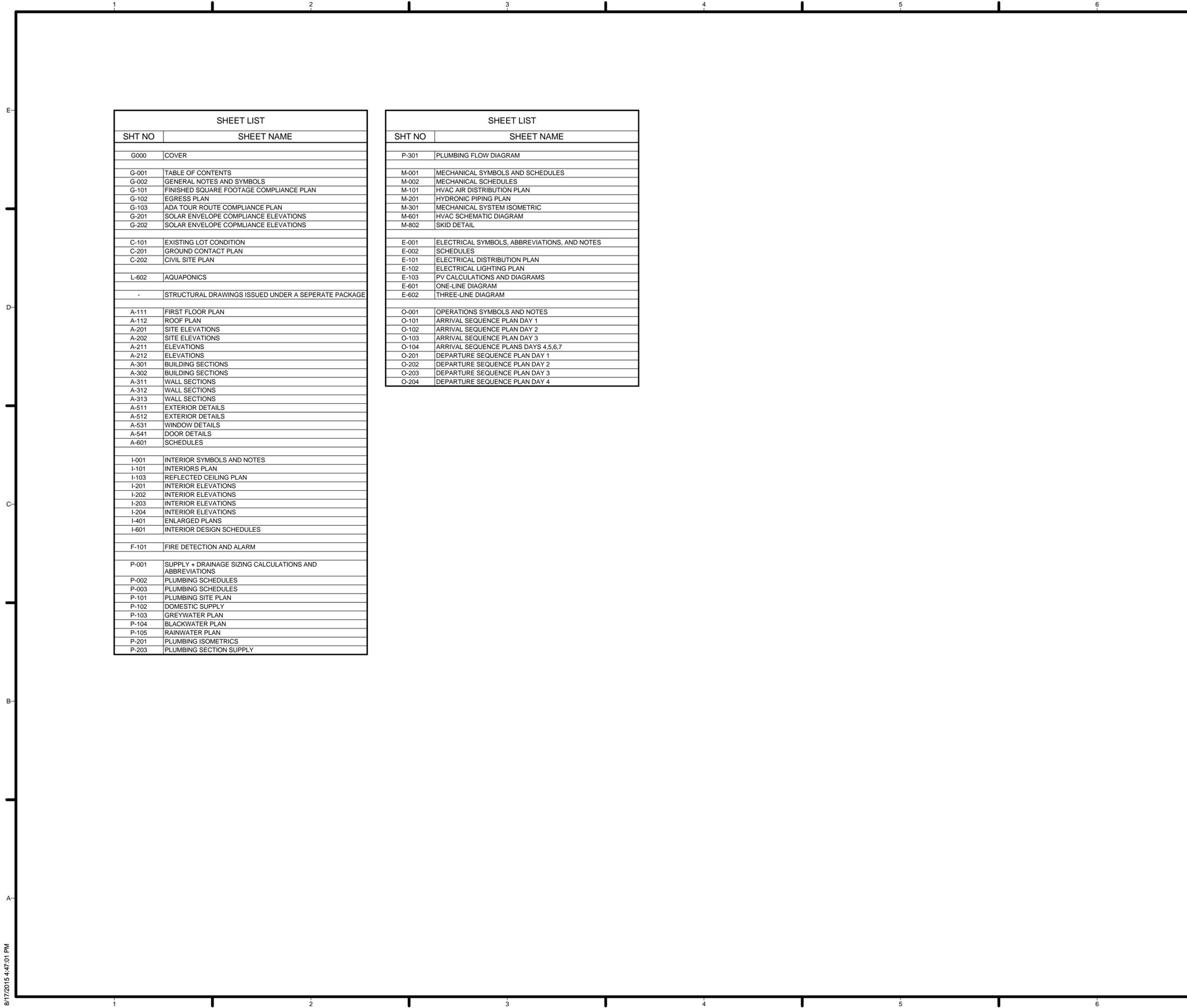


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SHEET TITLE  
 COVER

G000



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G000	COVER
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GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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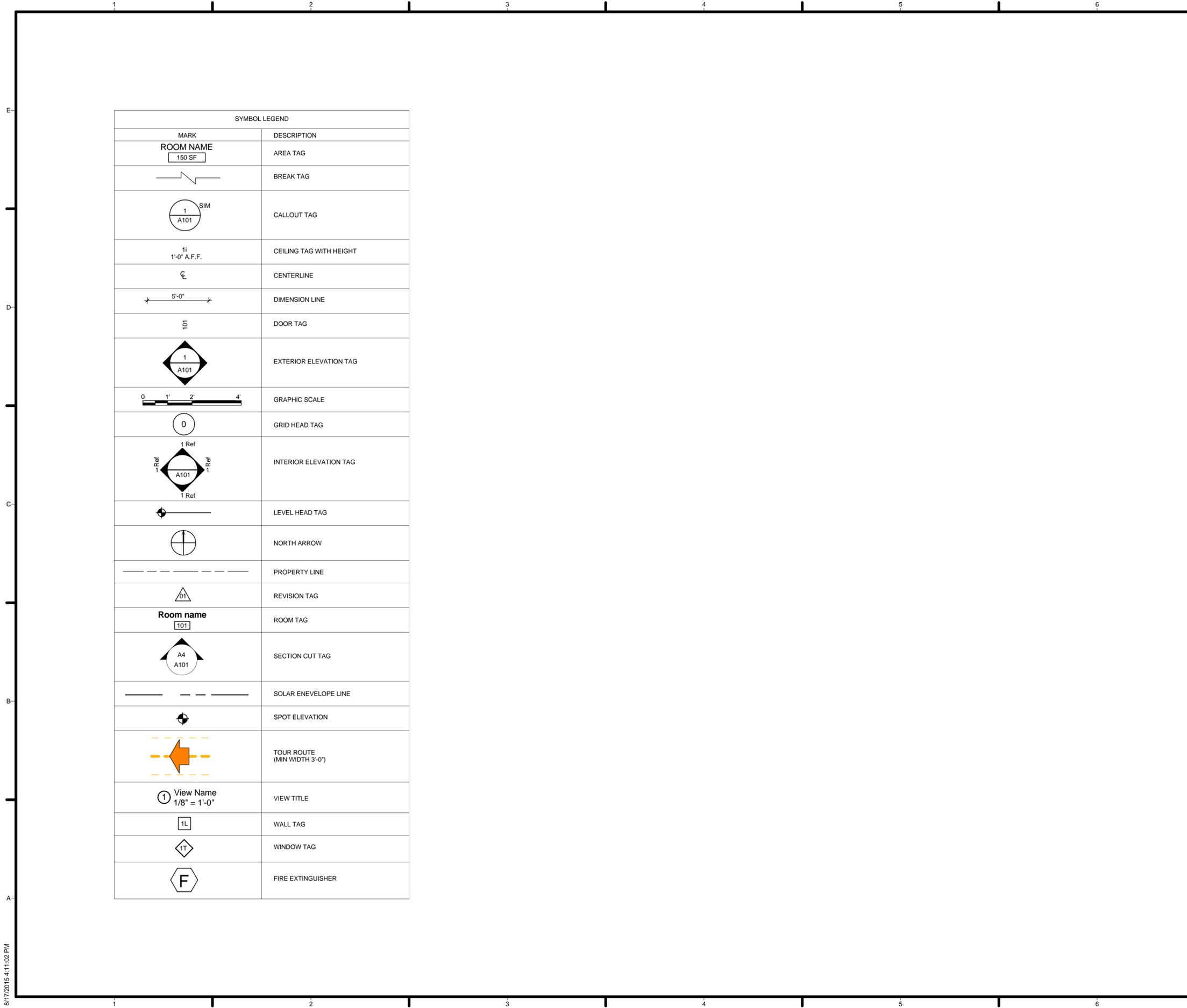
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SHEET TITLE

TABLE OF CONTENTS

G-001



SYMBOL LEGEND	
MARK	DESCRIPTION
ROOM NAME 150 SF	AREA TAG
	BREAK TAG
	CALLOUT TAG
	CEILING TAG WITH HEIGHT
	CENTERLINE
	DIMENSION LINE
	DOOR TAG
	EXTERIOR ELEVATION TAG
	GRAPHIC SCALE
	GRID HEAD TAG
	INTERIOR ELEVATION TAG
	LEVEL HEAD TAG
	NORTH ARROW
	PROPERTY LINE
	REVISION TAG
Room name 101	ROOM TAG
	SECTION CUT TAG
	SOLAR ENEVELOPE LINE
	SPOT ELEVATION
	TOUR ROUTE (MIN WIDTH 3'-0")
	VIEW TITLE
	WALL TAG
	WINDOW TAG
	FIRE EXTINGUISHER

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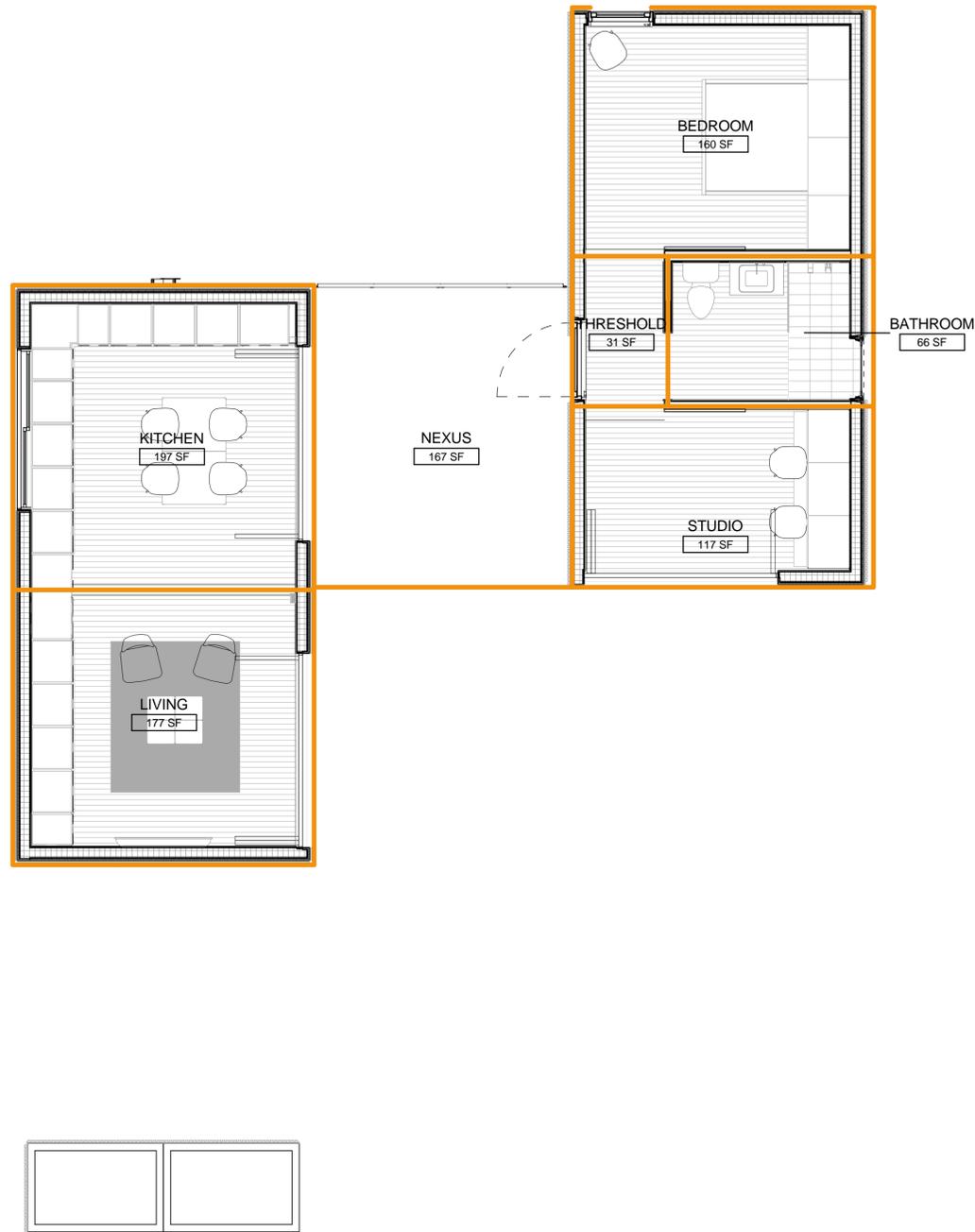
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SHEET TITLE  
 GENERAL NOTES AND SYMBOLS

G-002

AREA SCHEDULE			
Name	Number	Area	Percentage
KITCHEN	1	197 SF	21%
BEDROOM	2	160 SF	18%
THRESHOLD	3	31 SF	3%
BATHROOM	4	66 SF	7%
STUDIO	5	117 SF	13%
LIVING	6	177 SF	19%
Area	7	Not Placed	0%
NEXUS	10	167 SF	18%
TOTAL SQ FOOTAGE		915 SF	



**GENERAL SHEET NOTES**

1. THE FINISHED AREA OF THE HOUSE HAS BEEN CALCULATED IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARD FOR DETACHED SINGLEFAMILY RESIDENTIAL BUILDING Z765 - 2003.
2. FINISHED SQUARE FOOTAGE CALCULATIONS FOR THIS HOUSE WERE MADE BASED ON PLAN DIMENSIONS ONLY AND MAY VARY FROM THE FINISHED SQUARE FOOTAGE OF THE HOUSE AS BUILT.
3. FOR FINISHED AREAS ADJACENT TO UNFINISHED AREAS, THE FINISHED SQUARE FOOTAGE IS CALCULATED TO EXTERIOR EDGE OR UNFINISHED SURFACE OF ANY INTERIOR PARTITION BETWEEN SPACES IN COMPLIANCE WITH ANSI Z765 - 2003.
4. ALL MEASUREMENTS ARE ROUNDED TO THE NEAREST WHOLE SQUARE FOOT IN ACCORDANCE WITH ANSI Z765 - 2003.



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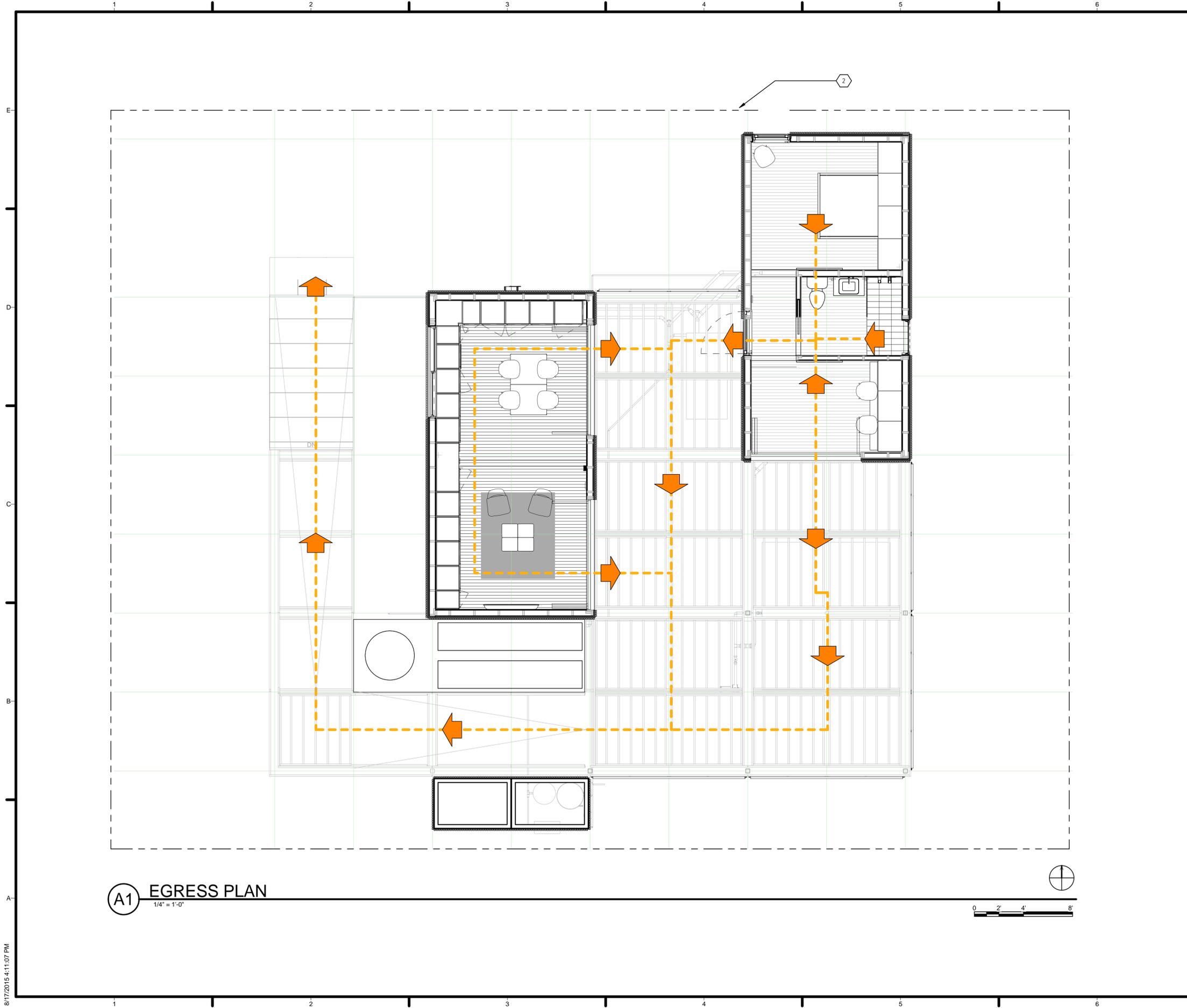
**SHEET KEYNOTES**

SHEET TITLE  
 FINISHED SQUARE FOOTAGE COMPLIANCE PLAN

**G-101**

**A1 FINISHED SQUARE FOOTAGE COMPLIANCE PLAN**  
 1/4" = 1'-0"





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

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

2 PROPERTY LINE



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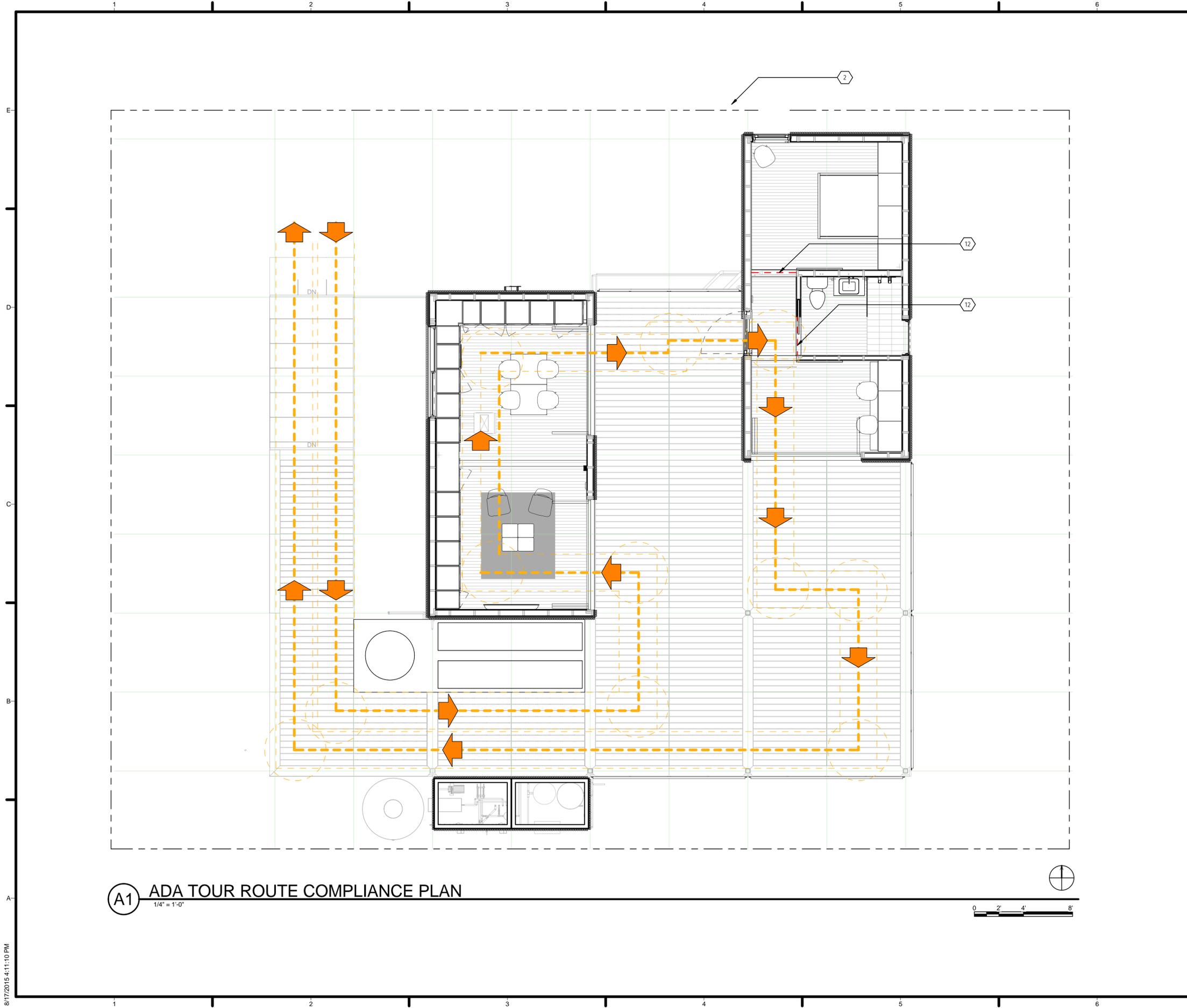
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SHEET TITLE  
 EGRESS PLAN

**G-102**

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**(A1) ADA TOUR ROUTE COMPLIANCE PLAN**  
 1/4" = 1'-0"

**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**

2 PROPERTY LINE  
 12 NO ACCESS DUE TO ENTRANCE ROPED OFF



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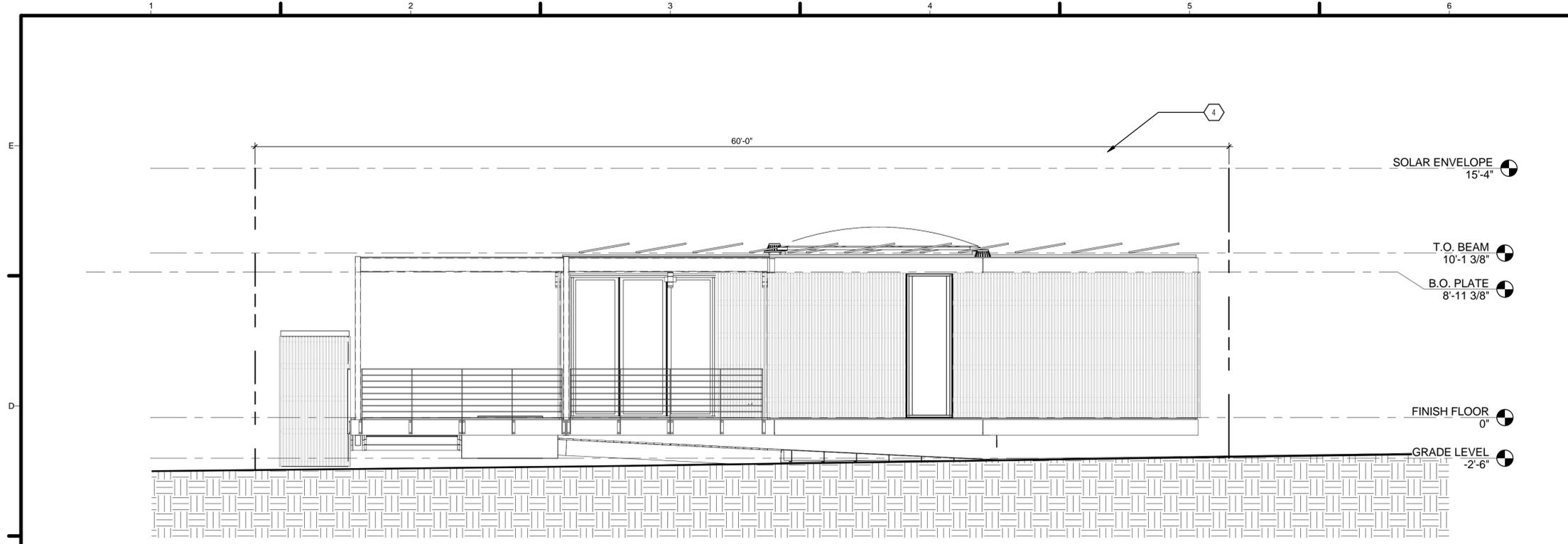
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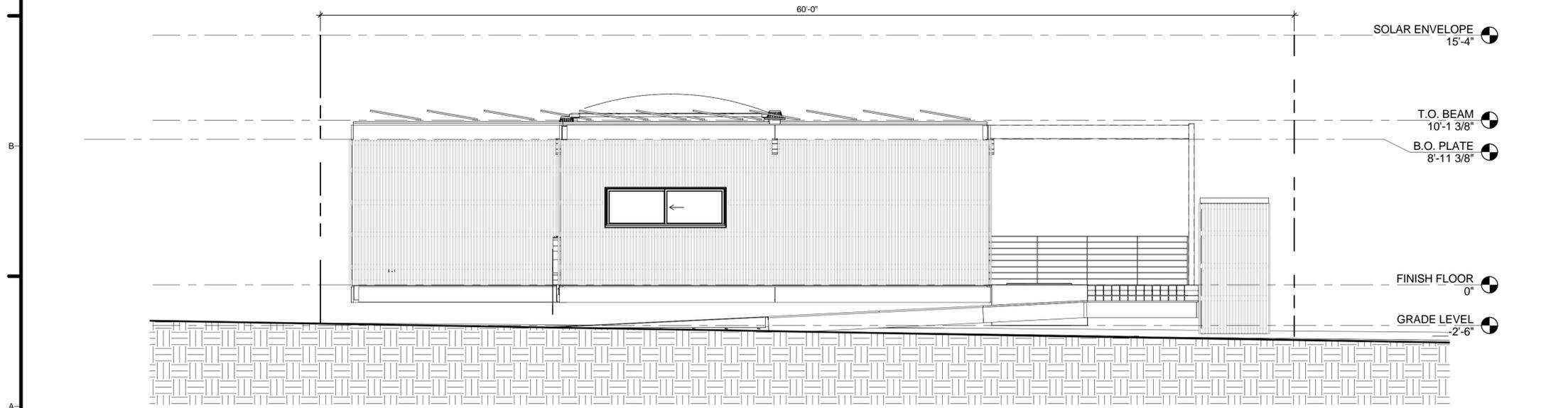
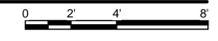
SHEET TITLE  
**ADA TOUR ROUTE COMPLIANCE PLAN**

**G-103**

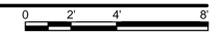
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**C1 EAST-SITE COMPLIANCE**  
1/4" = 1'-0"



**A1 WEST-SITE COMPLIANCE**  
1/4" = 1'-0"



**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**

4 SOLAR ENVELOPE



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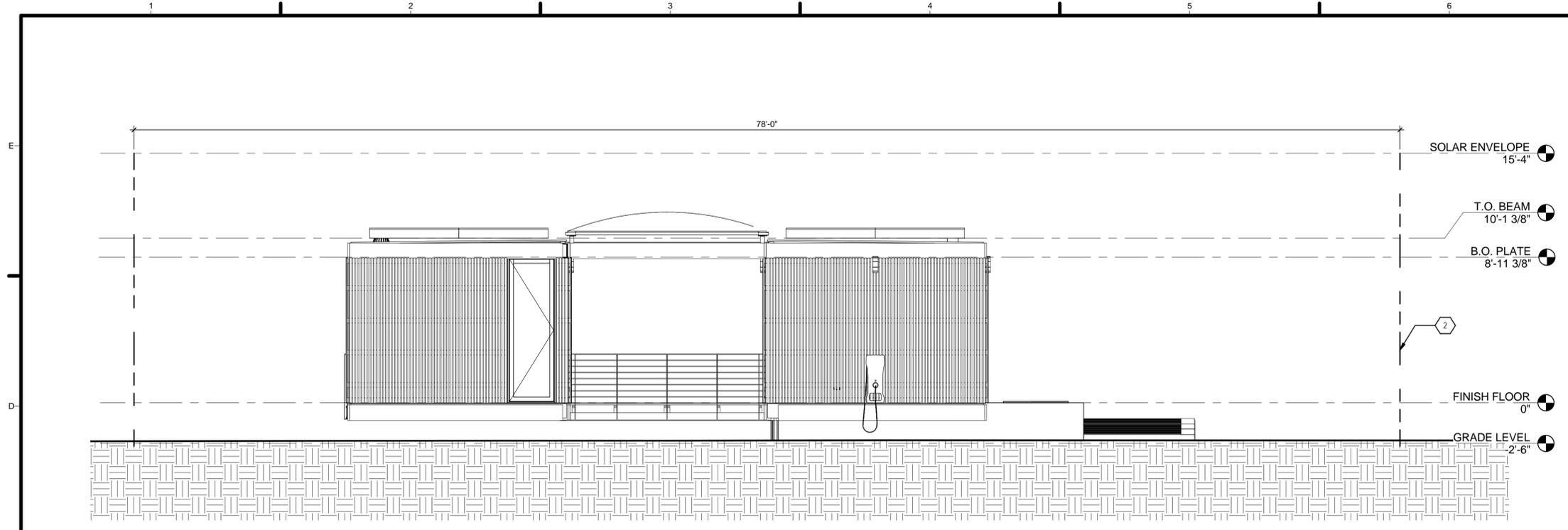


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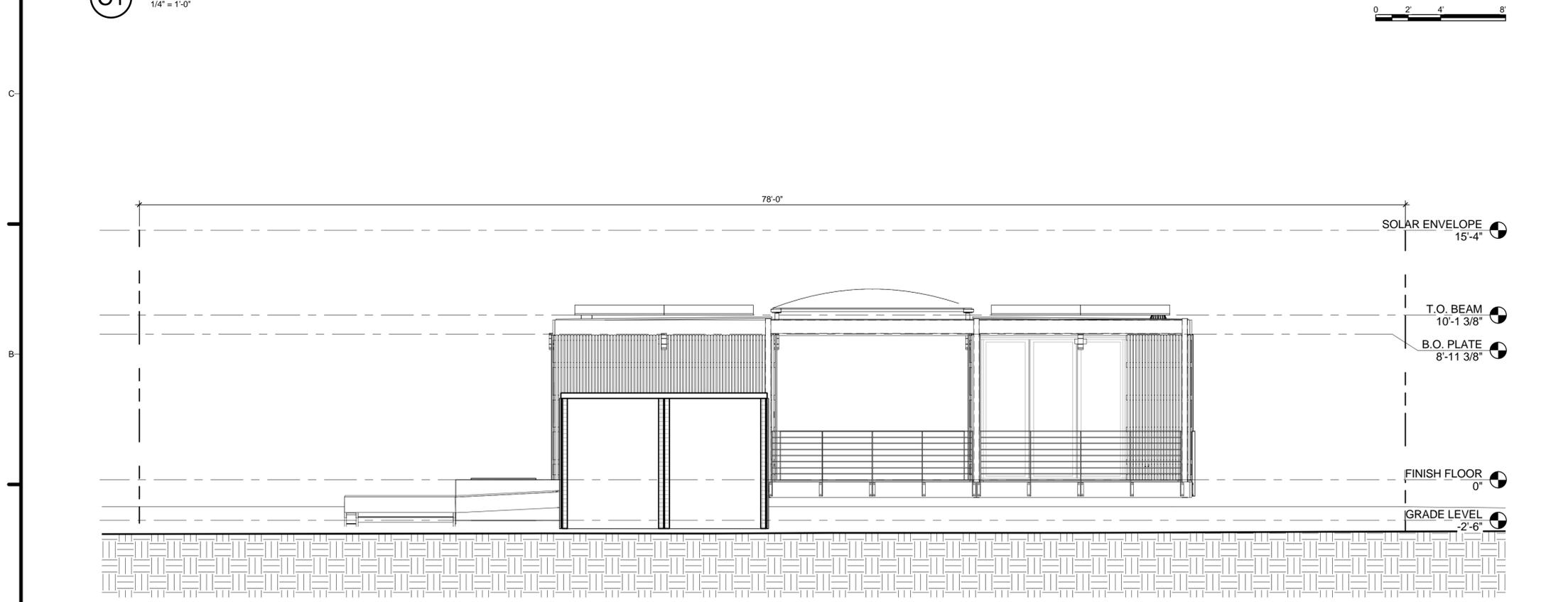
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SHEET TITLE  
**SOLAR ENVELOPE COMPLIANCE ELEVATIONS**

**G-201**



**C1 NORTH-SITE COMPLIANCE**  
1/4" = 1'-0"



**A1 SOUTH-SITE COMPLIANCE**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

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**SHEET KEYNOTES**

2	PROPERTY LINE
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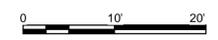
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SHEET TITLE  
**SOLAR ENVELOPE  
 COPMLIANCE  
 ELEVATIONS**

**G-202**



**(A1) LOT CONDITION**  
1" = 40'-0"



**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**



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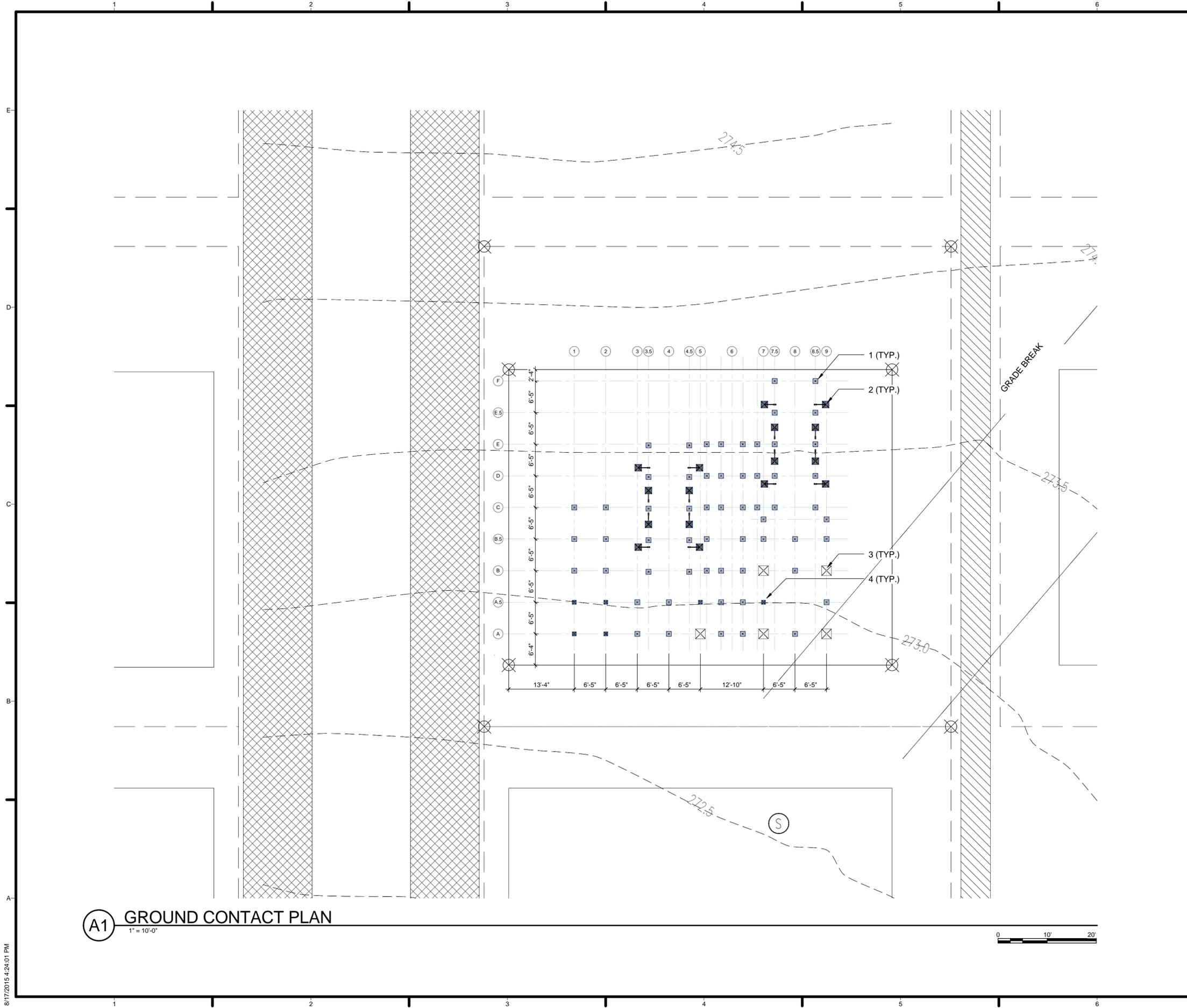
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SHEET TITLE  
 EXISTING LOT  
 CONDITION

**C-101**

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**(A1) GROUND CONTACT PLAN**  
1" = 10'-0"

**GENERAL SHEET NOTES**

273.5' AMSL = FINISH FLOOR HEIGHT

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**

- 1. 01 53 00.A CP Standard Pier
- 2. 01 53 00.B CP Anchor Brace
- 3. 01 53 00.C CP Anchor Pier
- 4. 01 53 00.D CP Seismic Pier



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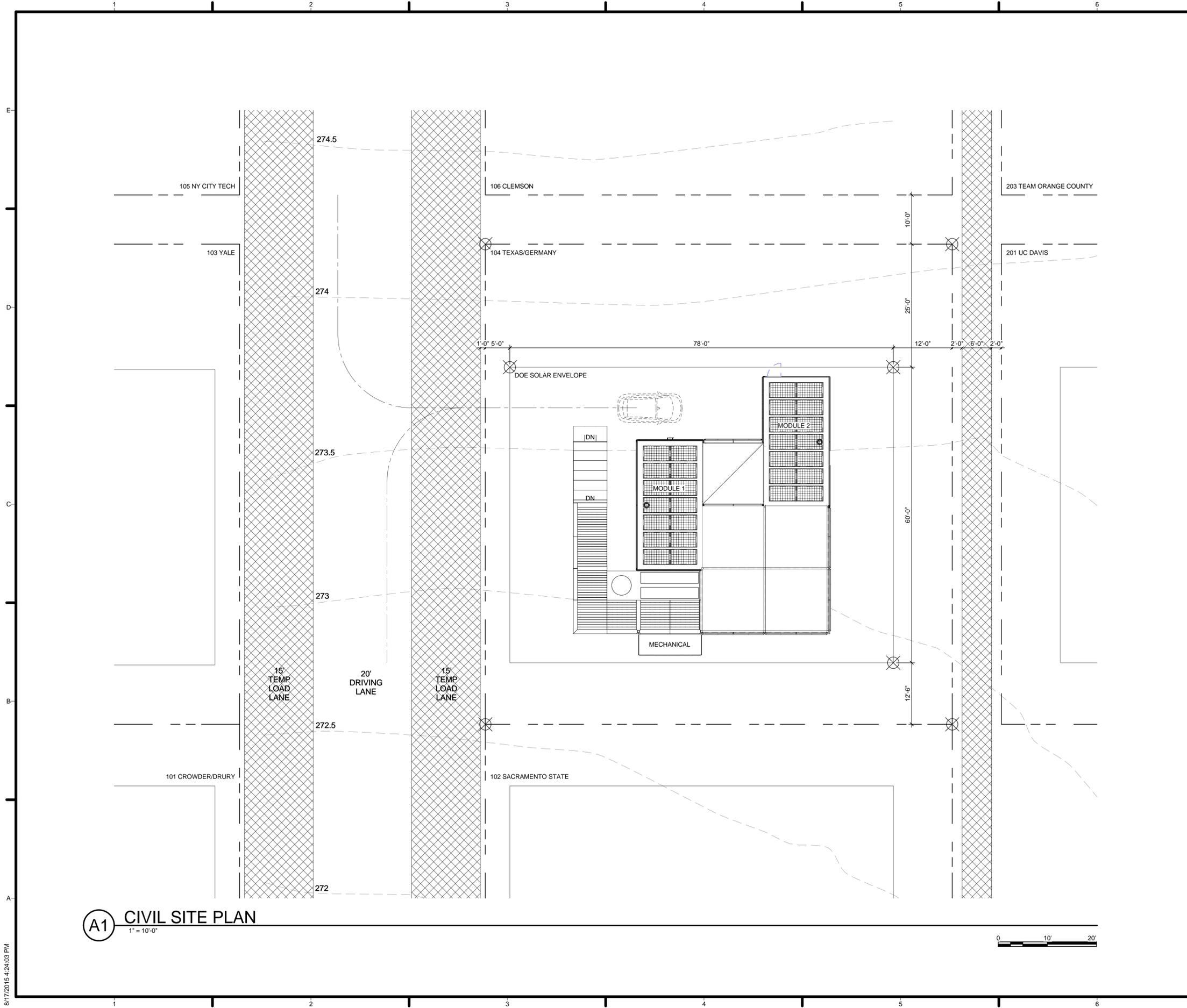
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SHEET TITLE

**GROUND CONTACT PLAN**

**C-201**

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**(A1) CIVIL SITE PLAN**  
1" = 10'-0"

**GENERAL SHEET NOTES**

273.5' AMSL = FINISH FLOOR HEIGHT

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**



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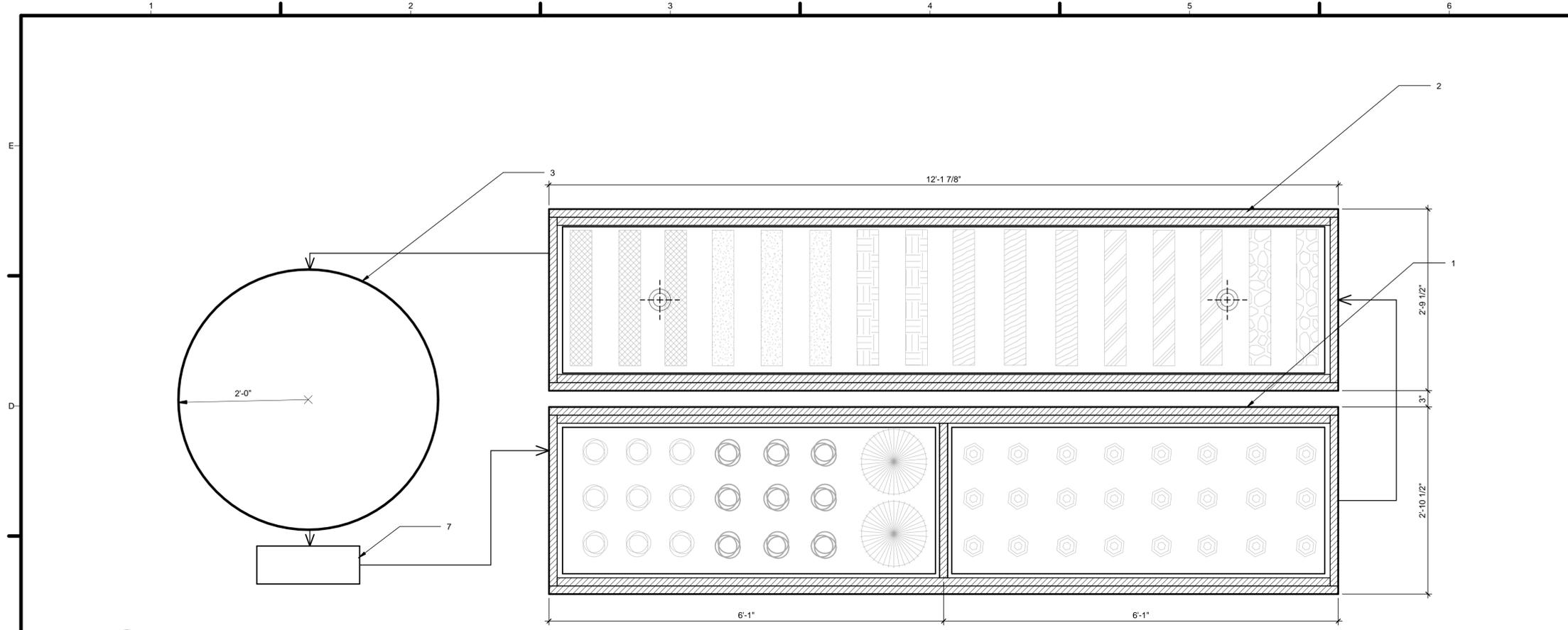
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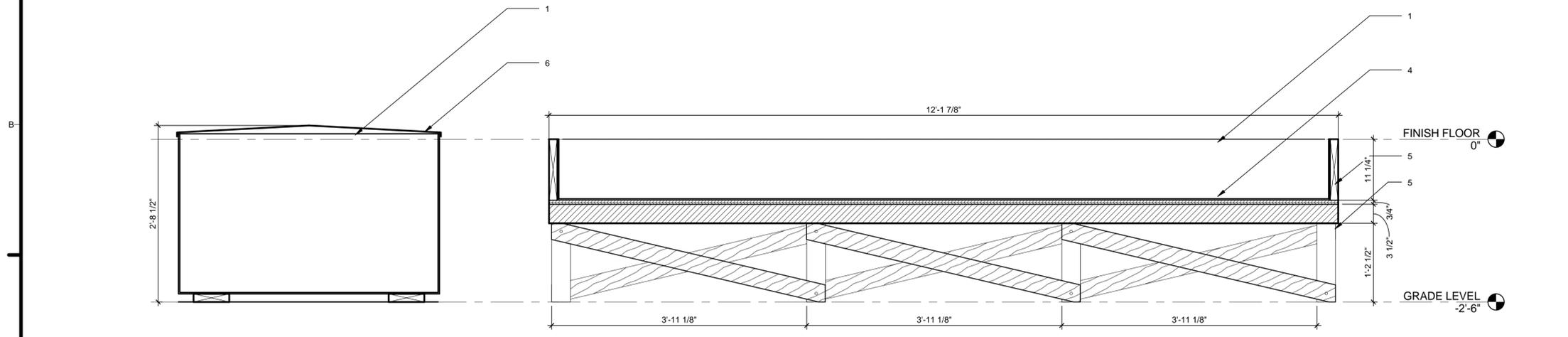
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**CIVIL SITE PLAN**

**C-202**

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**(C1) AQUAPONICS PLAN**  
1" = 1'-0"



**(A1) AQUAPONICS SECTION**  
1" = 1'-0"

**GENERAL SHEET NOTES**

GENERAL SHEET NOTES

**REFERENCE KEYNOTES**

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**SHEET KEYNOTES**

- 1. MEDIA BED
- 2. FLOATING BED
- 3. FISH TANK
- 4. EPDM POND LINER
- 5. TREATED LUMBER
- 6. LID
- 7. CIRCULATING PUMP



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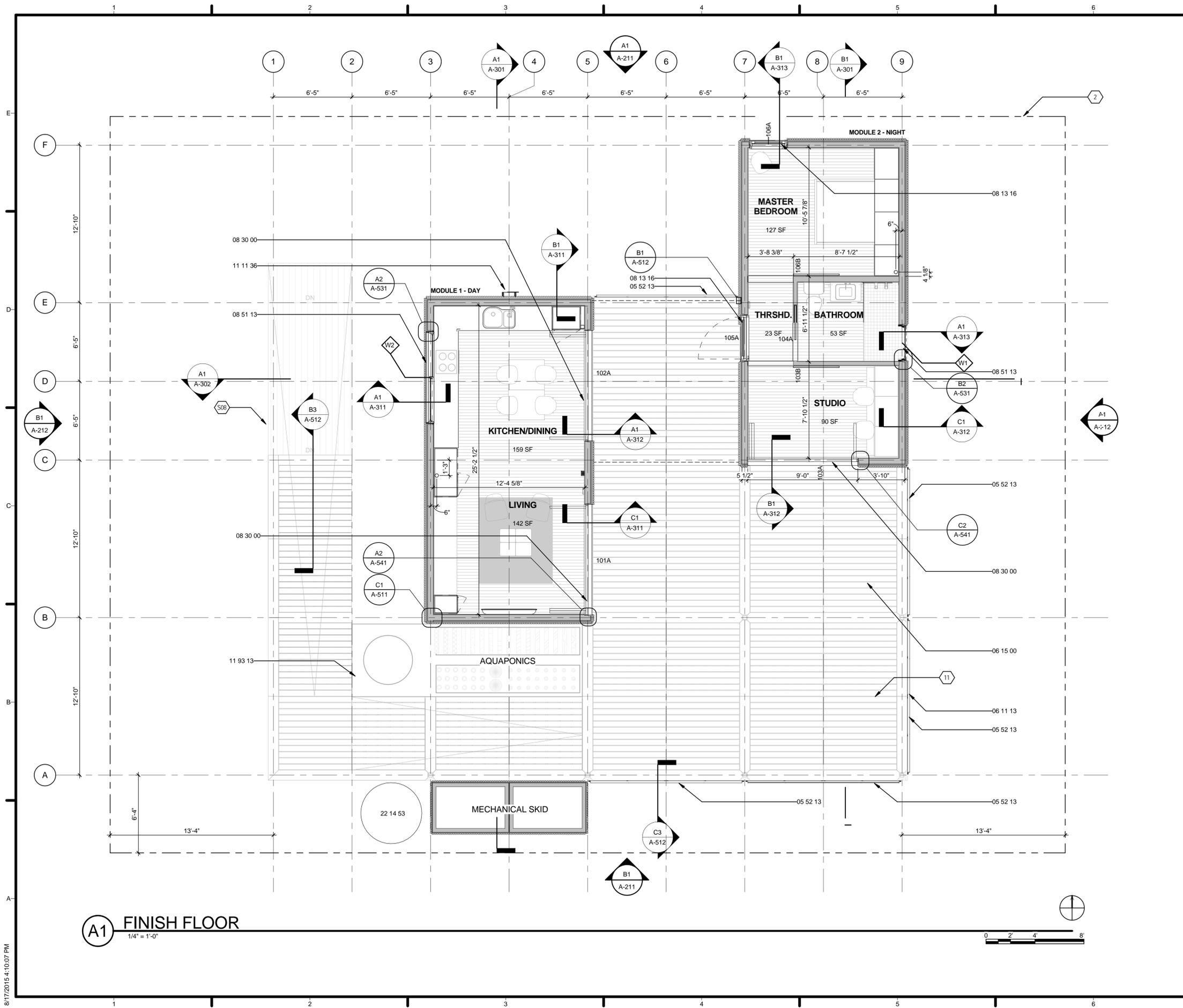
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SHEET TITLE  
**AQUAPONICS**

**L-602**



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

- 05 52 13 PIPE AND TUBE RAILINGS
- 06 11 13 ENGINEERED WOOD PRODUCTS
- 06 15 00 WOOD DECKING
- 08 13 16 ALUMINUM DOORS
- 08 30 00 SPECIALTY DOORS AND FRAMES
- 08 51 13 ALUMINUM WINDOWS
- 11 11 36 VEHICLE CHARGING EQUIPMENT
- 11 93 13 HYDROPONIC GROWING SYSTEMS
- 22 14 53 RAINWATER STORAGE TANKS

**SHEET KEYNOTES**

- 2 PROPERTY LINE
- 11 (1) 4x12 11'-11 1/2" PSL BEAM ABOVE RAINWATER BLADDER
- S08 1/4" ALUMINUM PLATE (NON-SLIP FINISH)



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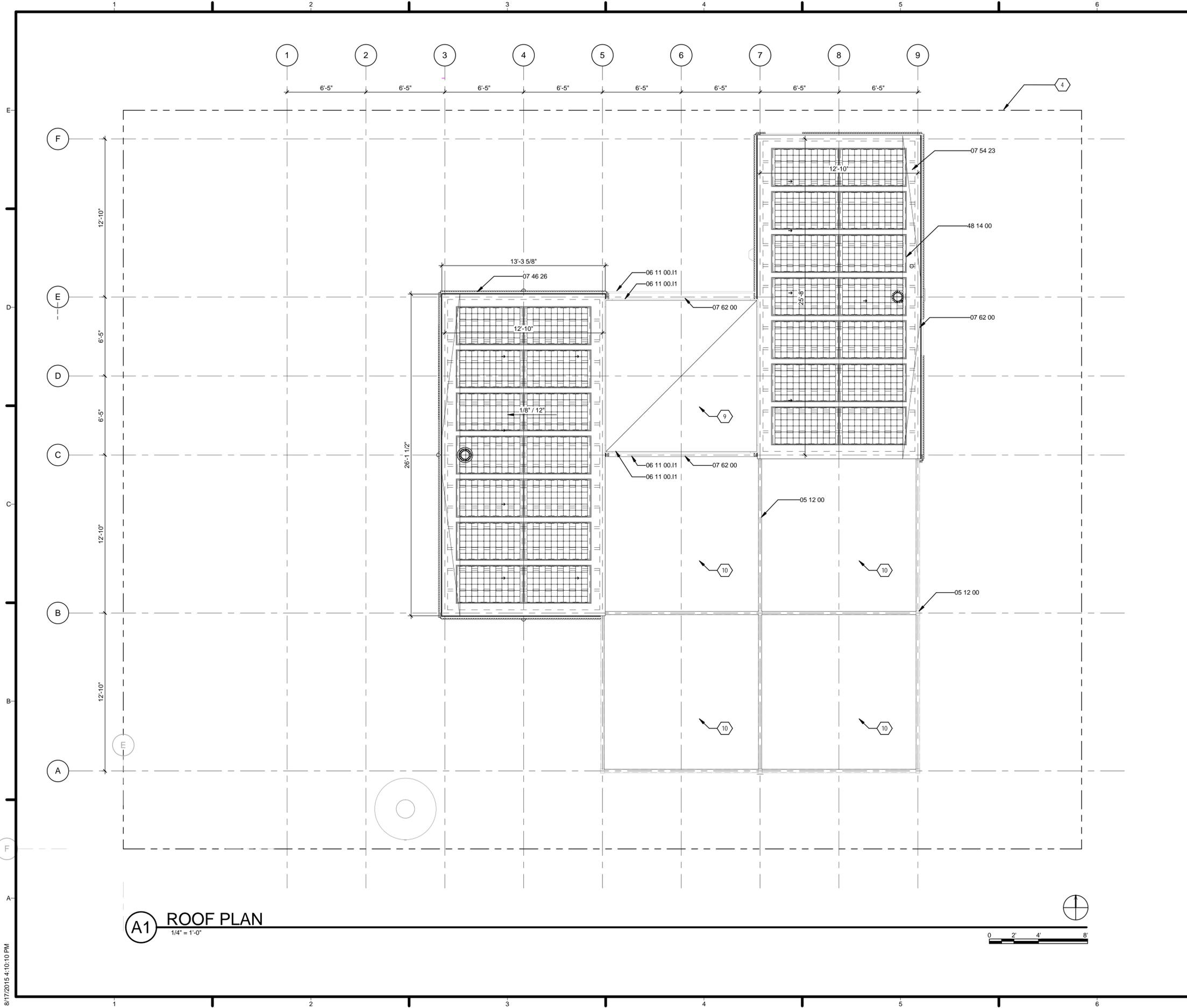
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SHEET TITLE  
**FIRST FLOOR PLAN**

**A-111**

8/17/2015 4:10:07 PM



**A1 ROOF PLAN**  
1/4" = 1'-0"



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITCTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

05 12 00	STRUCTURAL STEEL FRAMING
06 11 00.11	2X12
07 46 26	HARDBOARD SIDING
07 54 23	THERMOPLASTIC-POLYOLEFIN ROOFING
07 62 00	SHEET METAL FLASHING AND TRIM
48 14 00	SOLAR ENERGY ELECTRICAL POWER GENERATION EQUIPMENT

**SHEET KEYNOTES**

- 4 SOLAR ENVELOPE
- 9 CANOPY TYPE A - FABRIC AND FRAME BY AWNING COMPANY (INCL. STRUCTURAL DESIGN) REF: A514
- 10 CANOPY TYPE B - FABRIC SAILS AND SUPPORT STRUCTURE BY AWNING COMPANY (INCL. STRUCTURAL DESIGN) COLUMNS: HSS4x4x1/8; BEAMS: HSS10x3-1/2x3/16



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CONSULTANTS:  
 JQ (STRUCTURAL ENGINEERING)

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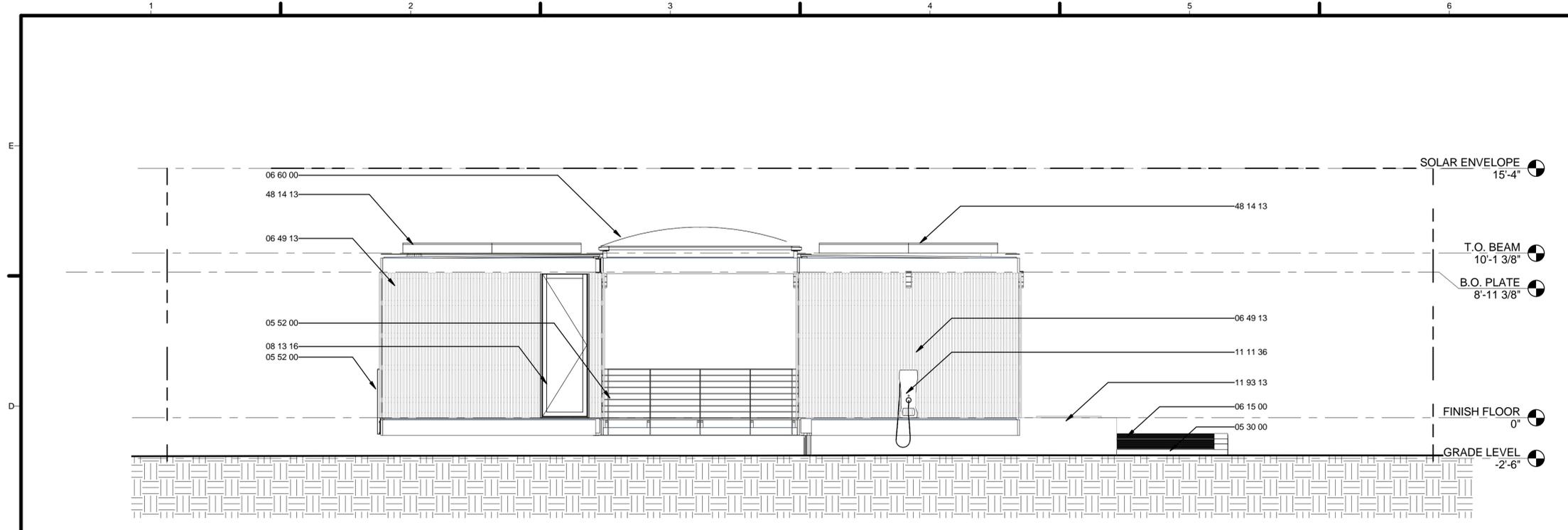
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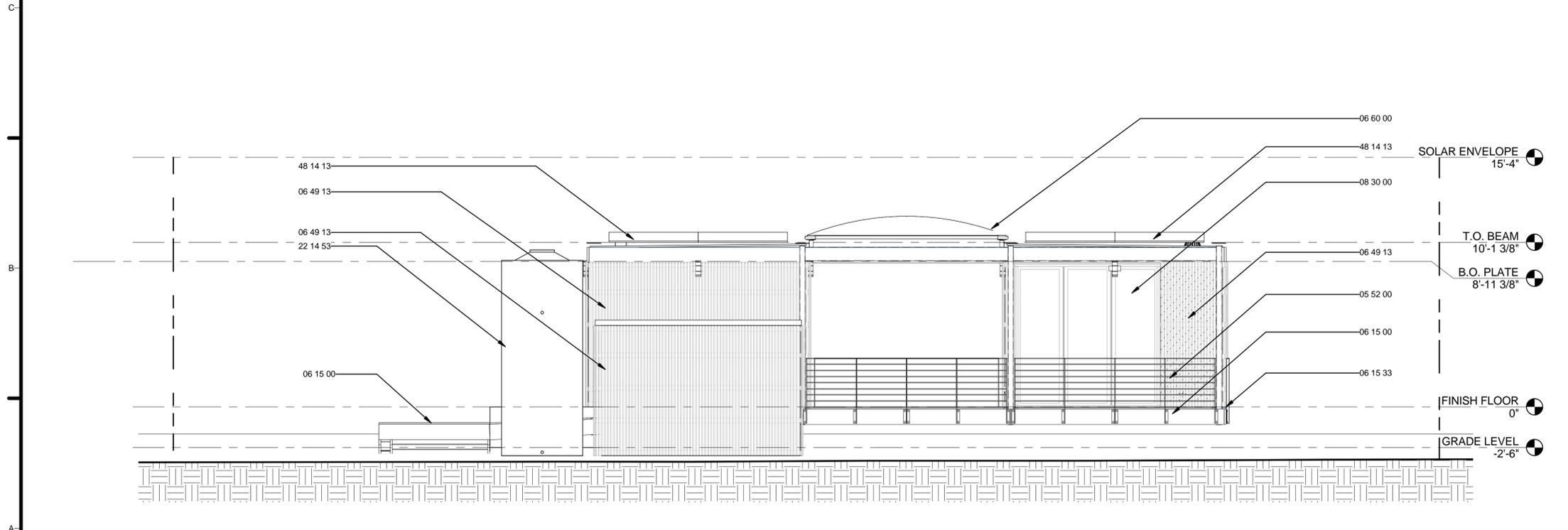
SHEET TITLE  
**ROOF PLAN**

**A-112**

8/17/2015 4:10:10 PM



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



**B1 SITE ELEVATION SOUTH**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITCTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

05 30 00	METAL DECKING
05 52 00	METAL RAILINGS
06 15 00	WOOD DECKING
06 15 33	WOOD PATIO DECKING
06 49 13	WOOD SCREENS
06 60 00	PLASTIC FABRICATIONS
08 13 16	ALUMINUM DOORS
08 30 00	SPECIALTY DOORS AND FRAMES
11 11 36	VEHICLE CHARGING EQUIPMENT
11 93 13	HYDROPONIC GROWING SYSTEMS
22 14 53	RAINWATER STORAGE TANKS
48 14 13	SOLAR ENERGY COLLECTORS

**SHEET KEYNOTES**



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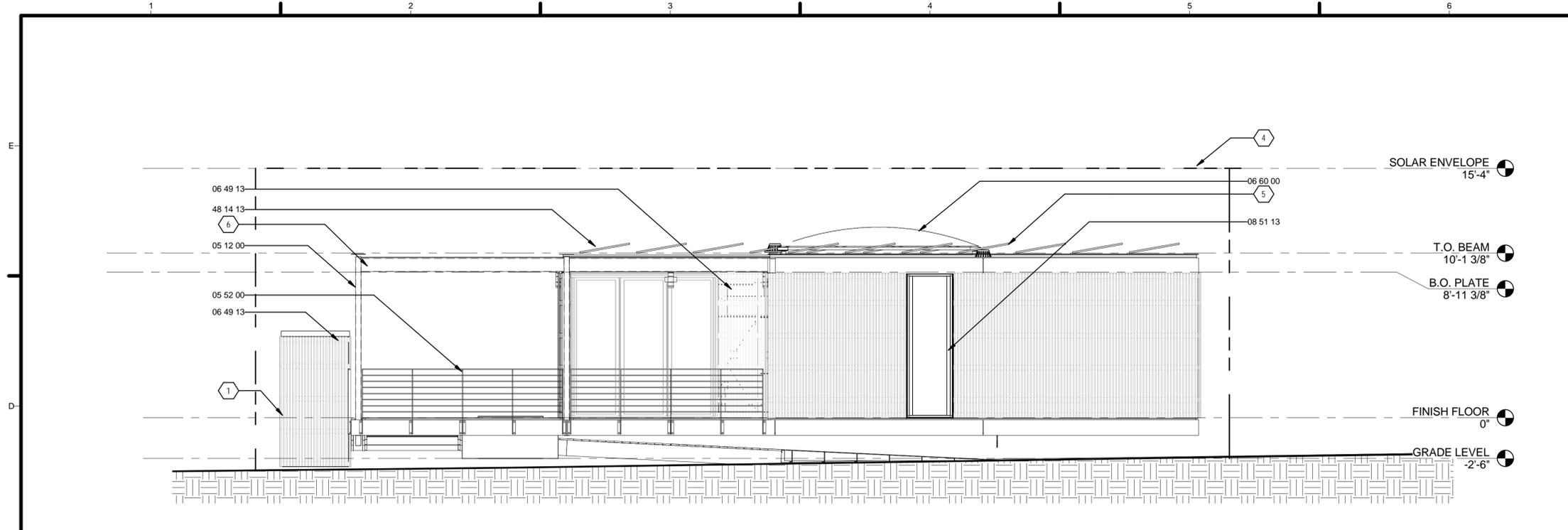


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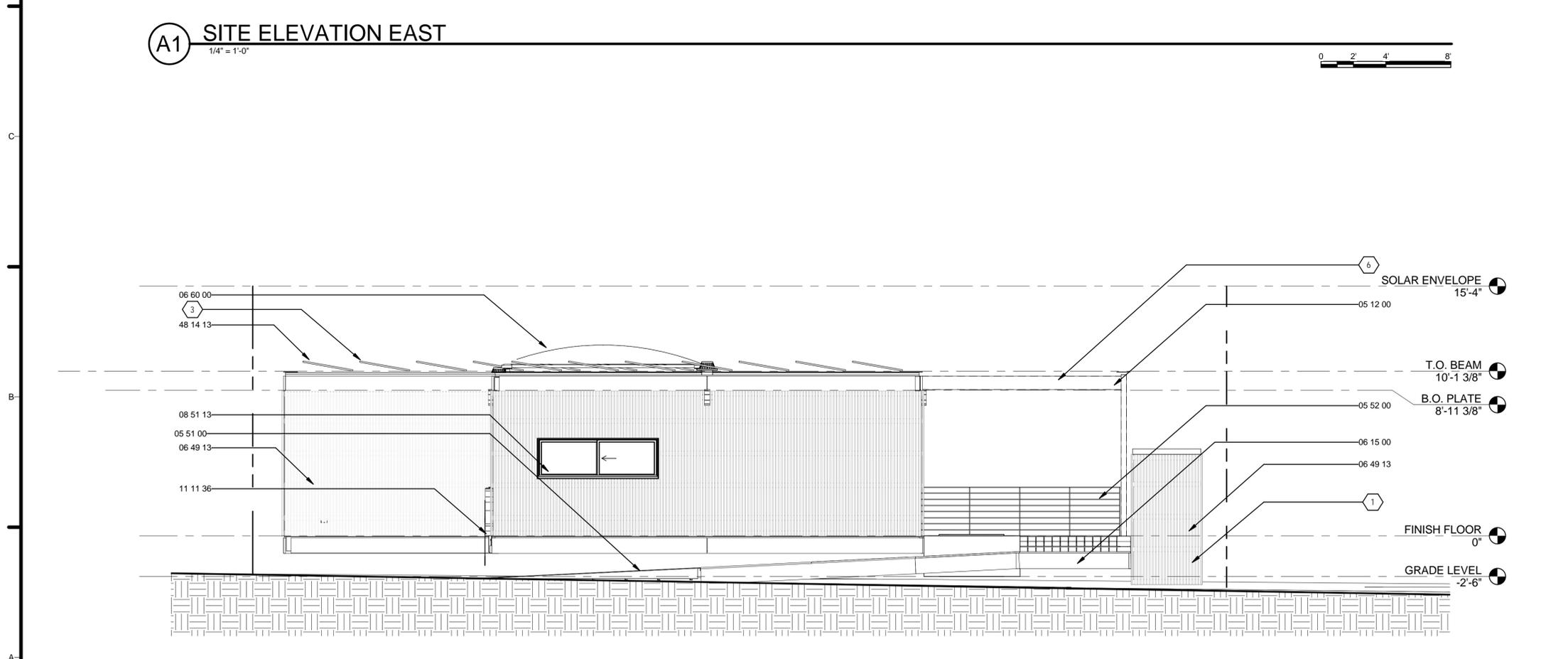
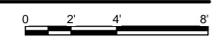
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SHEET TITLE  
 SITE ELEVATIONS

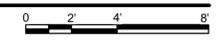
**A-201**



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



**B1 SITE ELEVATION WEST**  
1/4" = 1'-0"



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

05 12 00	STRUCTURAL STEEL FRAMING
05 51 00	METAL STAIRS
05 52 00	METAL RAILINGS
06 15 00	WOOD DECKING
06 49 13	WOOD SCREENS
06 60 00	PLASTIC FABRICATIONS
08 51 13	ALUMINUM WINDOWS
11 11 36	VEHICLE CHARGING EQUIPMENT
48 14 13	SOLAR ENERGY COLLECTORS

**SHEET KEYNOTES**

- 1 REF: PLUMBING/MECH. DRAWINGS
- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 4 SOLAR ENVELOPE
- 5 REF: ELECTRICAL DRAWING FOR LIGHT FIXTURES
- 6 REF: STRUCTURAL DRAWINGS



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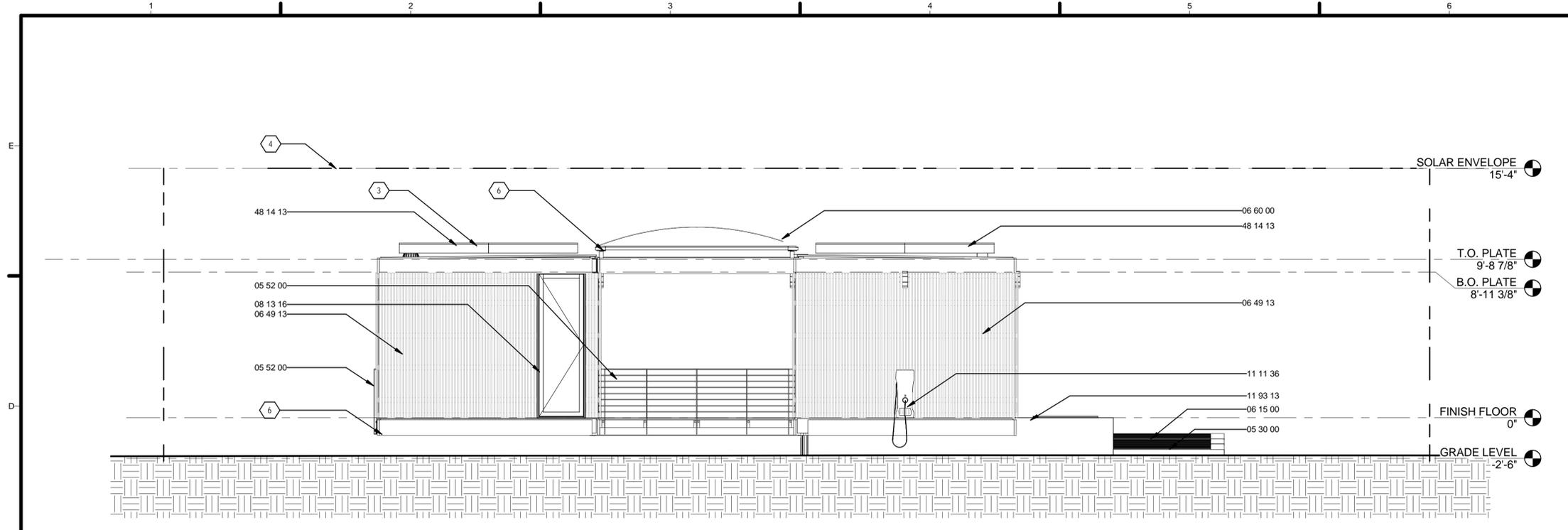


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SHEET TITLE  
**SITE ELEVATIONS**

**A-202**



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



**B1 SOUTH ELEVATION**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

05 30 00	METAL DECKING
05 52 00	METAL RAILINGS
06 15 00	WOOD DECKING
06 49 13	WOOD SCREENS
06 60 00	PLASTIC FABRICATIONS
08 13 16	ALUMINUM DOORS
08 30 00	SPECIALTY DOORS AND FRAMES
11 11 36	VEHICLE CHARGING EQUIPMENT
11 93 13	HYDROPONIC GROWING SYSTEMS
48 14 13	SOLAR ENERGY COLLECTORS

**SHEET KEYNOTES**

- 1 REF: PLUMBING/MECH. DRAWINGS
- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 4 SOLAR ENVELOPE
- 6 REF: STRUCTURAL DRAWINGS



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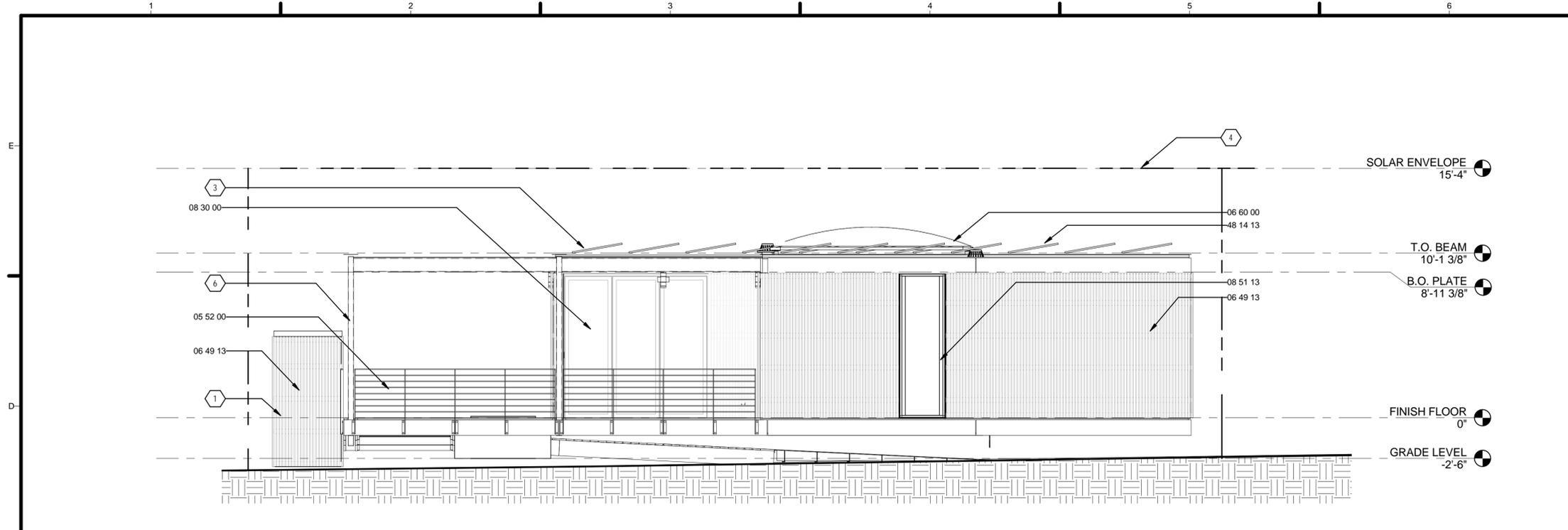


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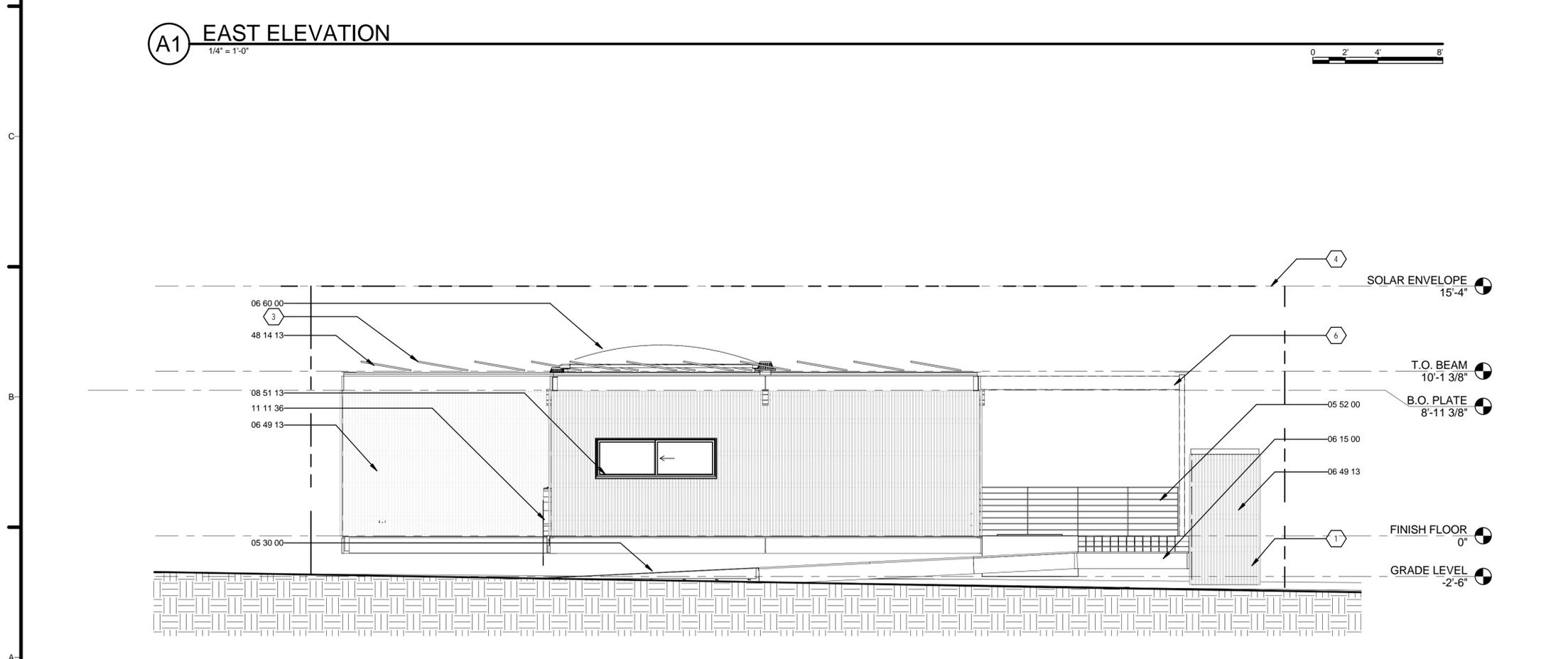
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SHEET TITLE  
**ELEVATIONS**

**A-211**



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



**B1 WEST ELEVATION**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

05 30 00	METAL DECKING
05 52 00	METAL RAILINGS
06 15 00	WOOD DECKING
06 49 13	WOOD SCREENS
06 60 00	PLASTIC FABRICATIONS
08 30 00	SPECIALTY DOORS AND FRAMES
08 51 13	ALUMINUM WINDOWS
11 11 36	VEHICLE CHARGING EQUIPMENT
48 14 13	SOLAR ENERGY COLLECTORS

**SHEET KEYNOTES**

- 1 REF: PLUMBING/MECH. DRAWINGS
- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 4 SOLAR ENVELOPE
- 6 REF: STRUCTURAL DRAWINGS



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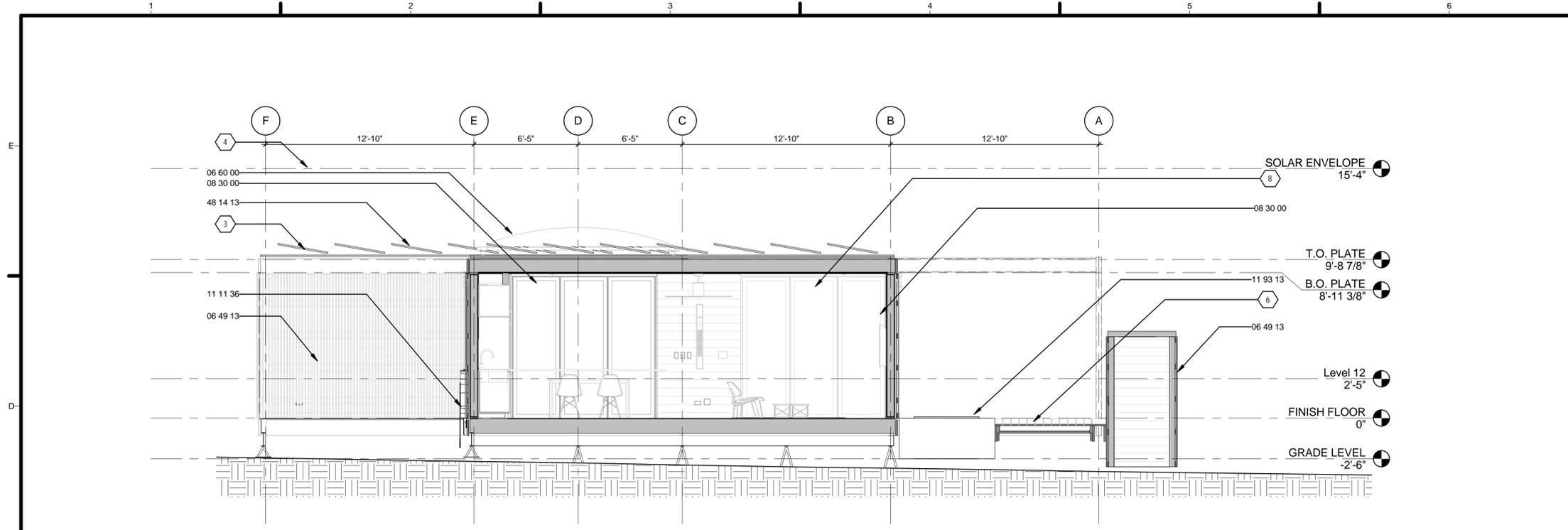


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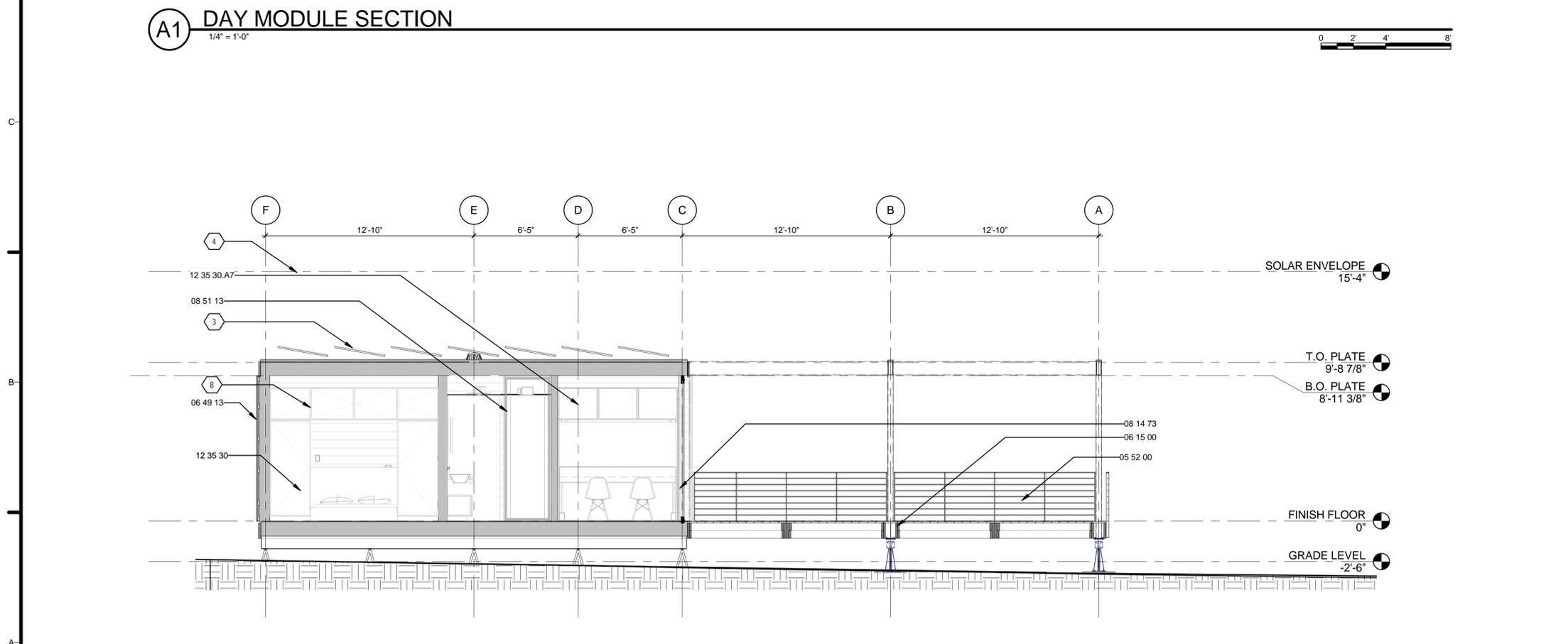
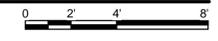
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SHEET TITLE  
**ELEVATIONS**

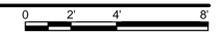
**A-212**



**A1 DAY MODULE SECTION**  
1/4" = 1'-0"



**B1 NIGHT MODULE SECTION**  
1/4" = 1'-0"



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

05 52 00	METAL RAILINGS
06 15 00	WOOD DECKING
06 49 13	WOOD SCREENS
06 60 00	PLASTIC FABRICATIONS
08 14 73	SLIDING WOOD DOORS
08 30 00	SPECIALTY DOORS AND FRAMES
08 51 13	ALUMINUM WINDOWS
11 11 36	VEHICLE CHARGING EQUIPMENT
11 93 13	HYDROPONIC GROWING SYSTEMS
12 35 30	RESIDENTIAL CASEWORK
12 35 30.A7	DORMITORY CASEWORK
48 14 13	SOLAR ENERGY COLLECTORS

**SHEET KEYNOTES**

- 1 REF: PLUMBING/MECH. DRAWINGS
- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 4 SOLAR ENVELOPE
- 6 REF: STRUCTURAL DRAWINGS
- 8 REF: INTERIOR DRAWINGS



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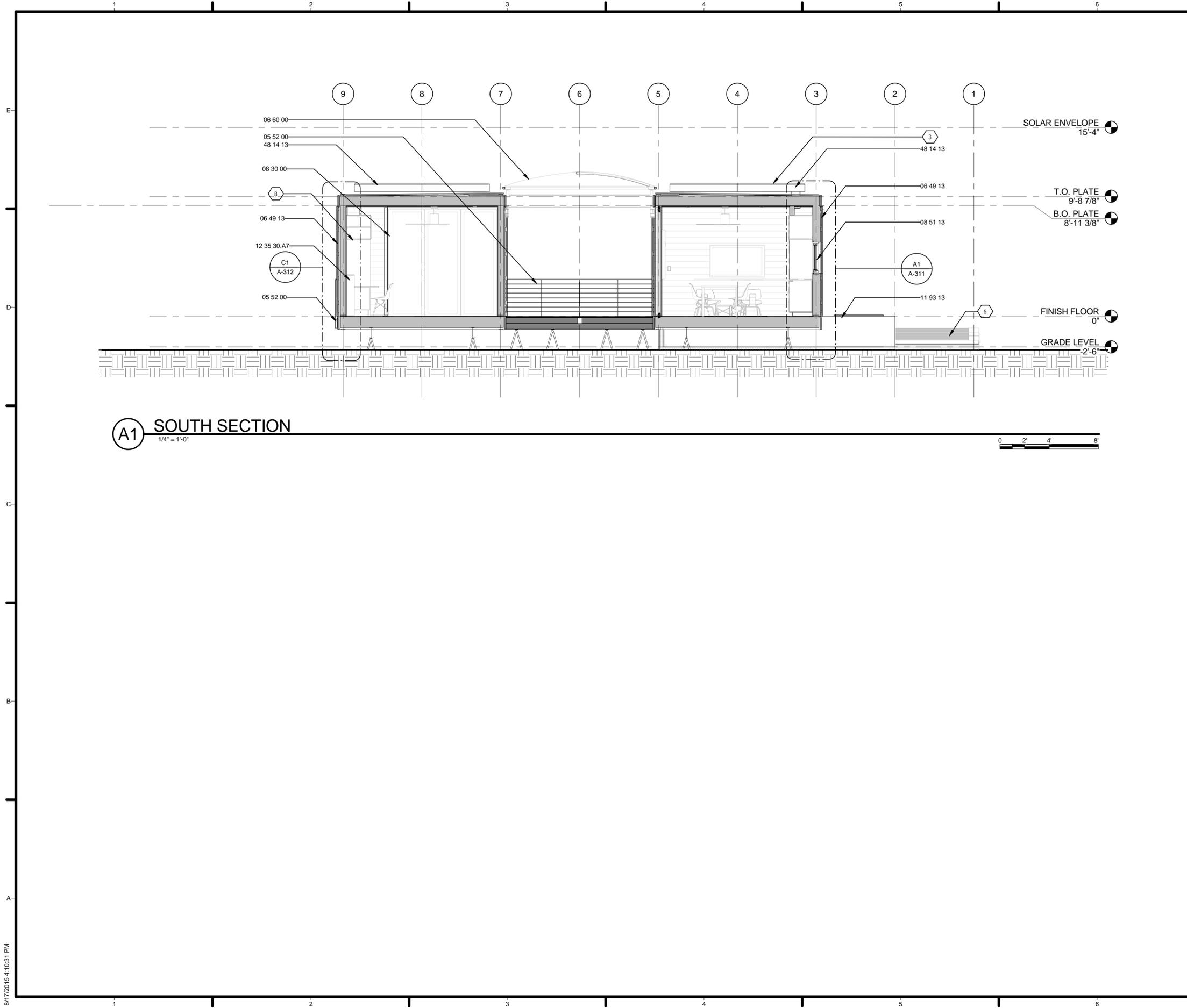


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SHEET TITLE  
**BUILDING SECTIONS**

**A-301**



**A1 SOUTH SECTION**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITCTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

05 52 00	METAL RAILINGS
06 49 13	WOOD SCREENS
06 60 00	PLASTIC FABRICATIONS
08 30 00	SPECIALTY DOORS AND FRAMES
08 51 13	ALUMINUM WINDOWS
11 93 13	HYDROPONIC GROWING SYSTEMS
12 35 30.A7	DORMITORY CASEWORK
22 14 53	RAINWATER STORAGE TANKS
48 14 13	SOLAR ENERGY COLLECTORS

**SHEET KEYNOTES**

- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 6 REF: STRUCTURAL DRAWINGS
- 8 REF: INTERIOR DRAWINGS



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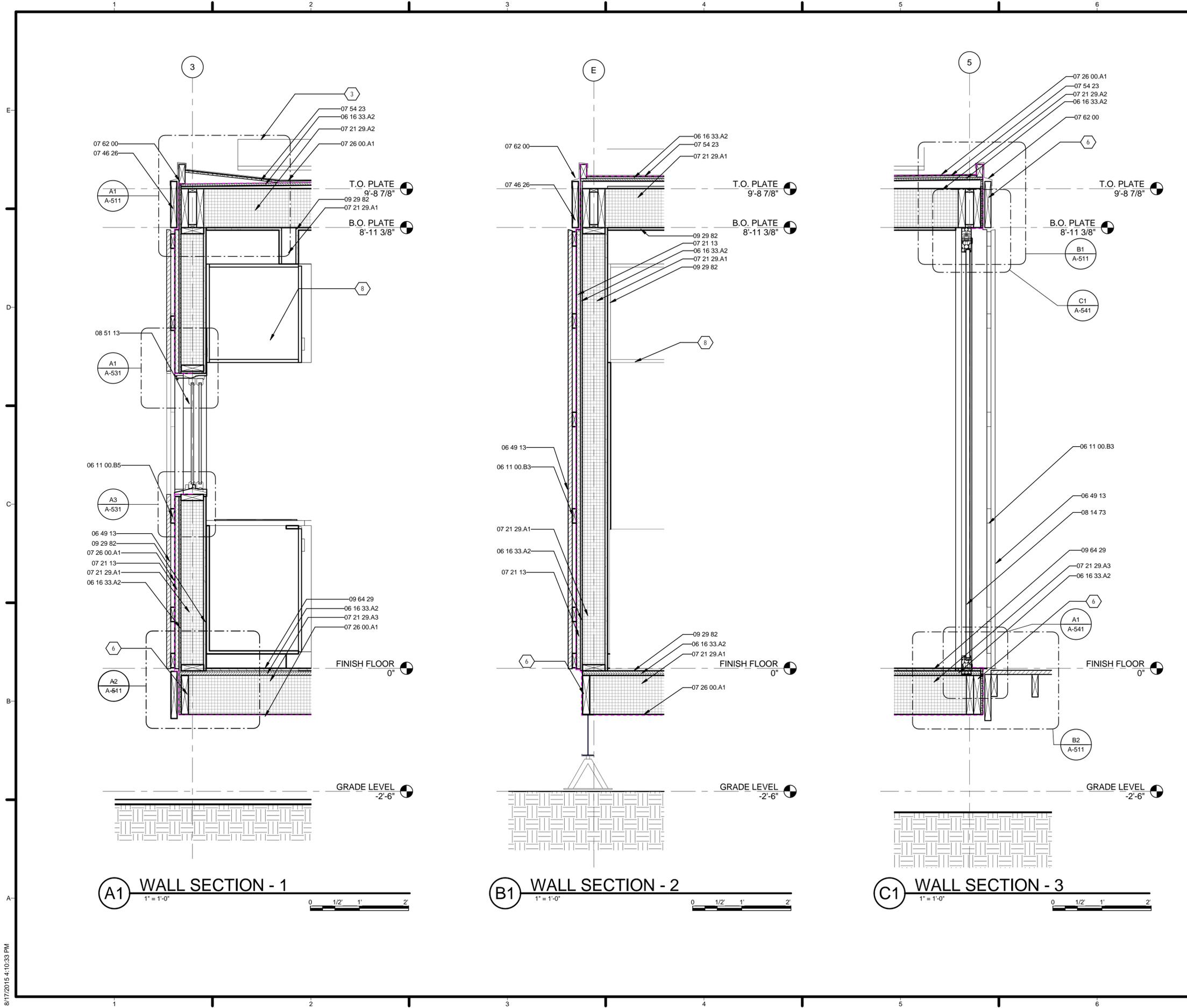


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SHEET TITLE  
**BUILDING SECTIONS**

**A-302**



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

06 11 00.B3	1X3
06 11 00.B5	1X4
06 16 33.A2	WOOD BOARD SHEATHING
06 49 13	BOARD SCREENS
07 21 13	BOARD INSULATION
07 21 29.A1	SPRAYED INSULATION-WALL
07 21 29.A2	SPRAYED INSULATION-ROOF
07 21 29.A3	SPRAYED INSULATION-FLOOR
07 26 00.A1	VAPOR RETARDERS
07 46 26	HARDBOARD SIDING
07 54 23	THERMOPLASTIC-POLYOLEFIN ROOFING
07 62 00	SHEET METAL FLASHING AND TRIM
08 14 73	SLIDING WOOD DOORS
08 51 13	ALUMINUM WINDOWS
09 29 82	FIREPROOF GYPSUM PLASTERING
09 64 29	WOOD STRIP AND PLANK FLOORING

**SHEET KEYNOTES**

- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 6 REF: STRUCTURAL DRAWINGS
- 8 REF: INTERIOR DRAWINGS



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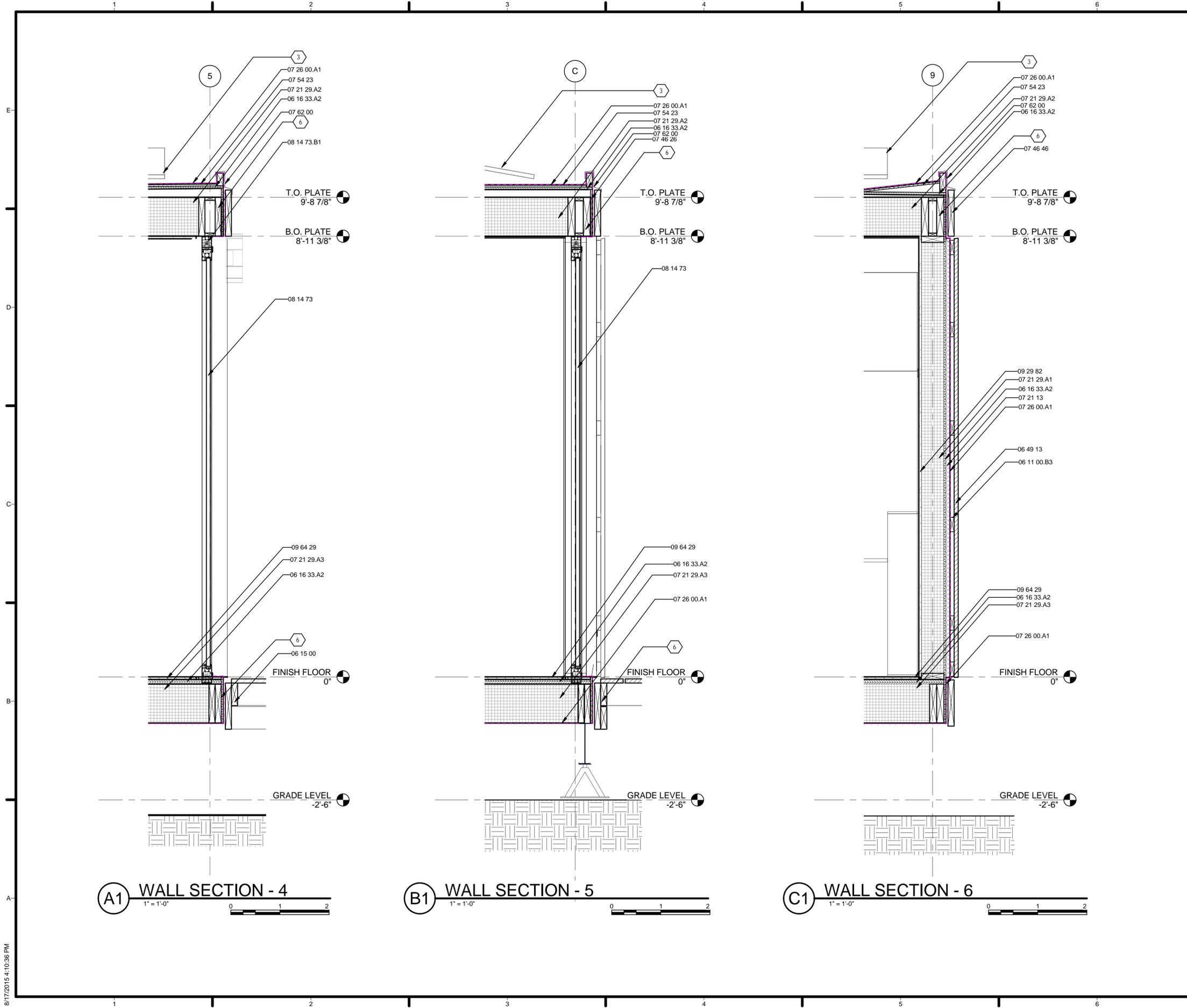


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SHEET TITLE  
**WALL SECTIONS**

**A-311**



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITCTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

- 06 11 00.B3 1X3
- 06 15 00 WOOD DECKING
- 06 16 33.A2 WOOD BOARD SHEATHING
- 06 49 13 WOOD SCREENS
- 07 21 13 BOARD INSULATION
- 07 21 29.A1 SPRAYED INSULATION-WALL
- 07 21 29.A2 SPRAYED INSULATION-ROOF
- 07 21 29.A3 SPRAYED INSULATION-FLOOR
- 07 26 00.A1 VAPOR RETARDERS
- 07 46 26 HARDBOARD SIDING
- 07 46 26 MINERAL-FIBER CEMENT SIDING
- 07 54 23 THERMOPLASTIC-POLYOLEFIN ROOFING
- 07 62 00 SHEET METAL FLASHING AND TRIM
- 08 14 73 SLIDING WOOD DOORS
- 08 14 73.B1 WOOD SLIDING DOOR HEAD
- 09 29 82 FIREPROOF GYPSUM PLASTERING
- 09 64 23 WOOD PARQUET FLOORING
- 09 64 29 WOOD STRIP AND PLANK FLOORING

**SHEET KEYNOTES**

- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 6 REF: STRUCTURAL DRAWINGS



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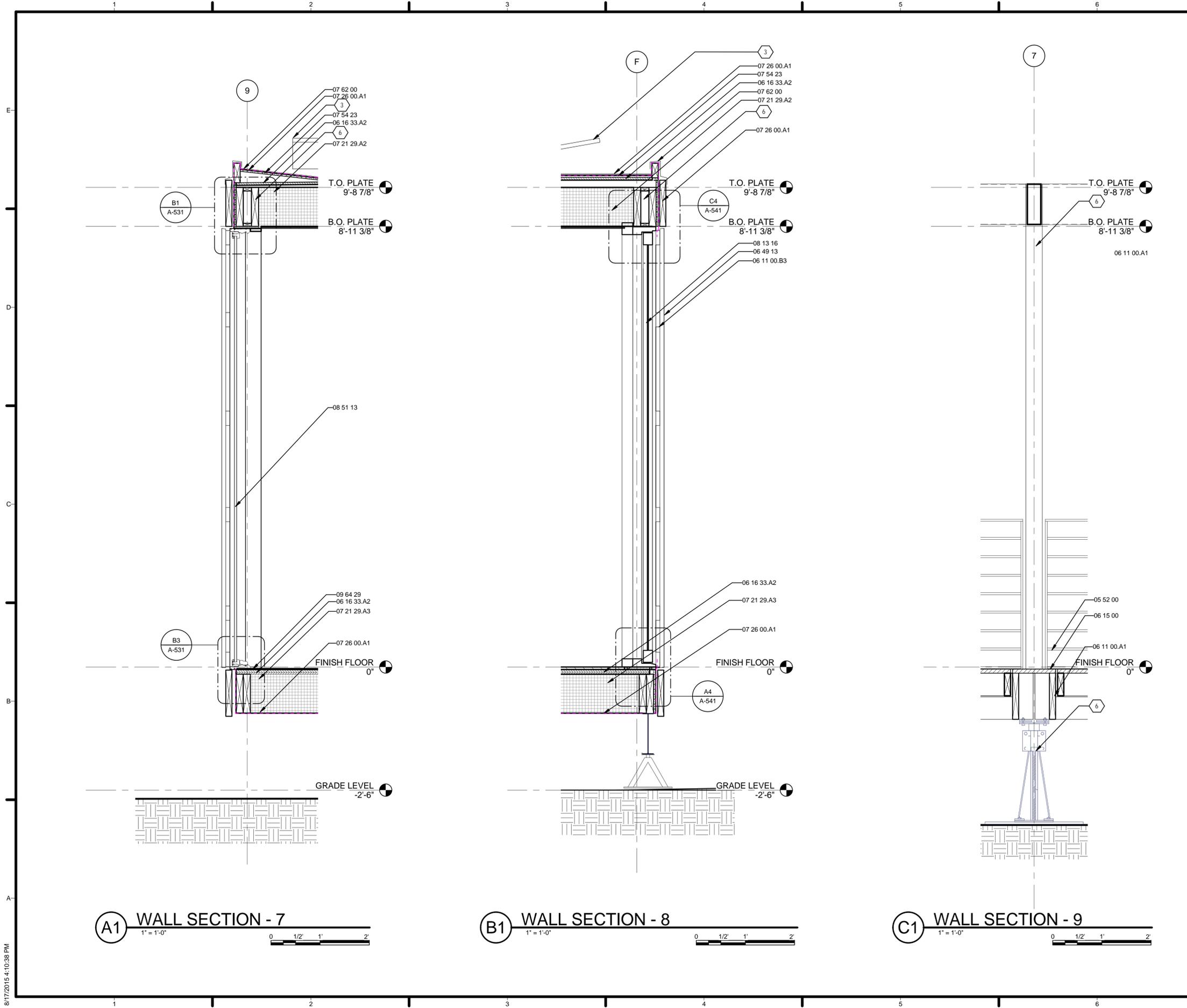


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SHEET TITLE  
**WALL SECTIONS**

**A-312**



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITCTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

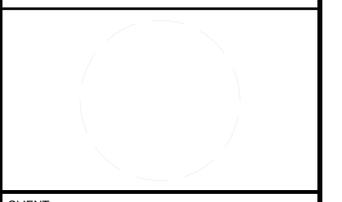
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06 11 00.A1	WOOD FRAMING
06 11 00.B3	1X3
06 15 00	WOOD DECKING
06 16 33.A2	WOOD BOARD SHEATHING
06 49 13	WOOD SCREENS
07 21 29.A2	SPRAYED INSULATION-ROOF
07 21 29.A3	SPRAYED INSULATION-FLOOR
07 26 00.A1	VAPOR RETARDERS
07 54 23	THERMOPLASTIC-POLYOLEFIN ROOFING
07 62 00	SHEET METAL FLASHING AND TRIM
08 13 16	ALUMINUM DOORS
08 51 13	ALUMINUM WINDOWS
09 64 29	WOOD STRIP AND PLANK FLOORING

**SHEET KEYNOTES**

- 3 PHOTOVOLTAIC ARRAY TO BE SECURED ON ROOF WITH RACK MOUNTING SYSTEM AS PROVIDED BY PV INSTALLER
- 6 REF: STRUCTURAL DRAWINGS



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CONSULTANTS:	JQ (STRUCTURAL ENGINEERING)



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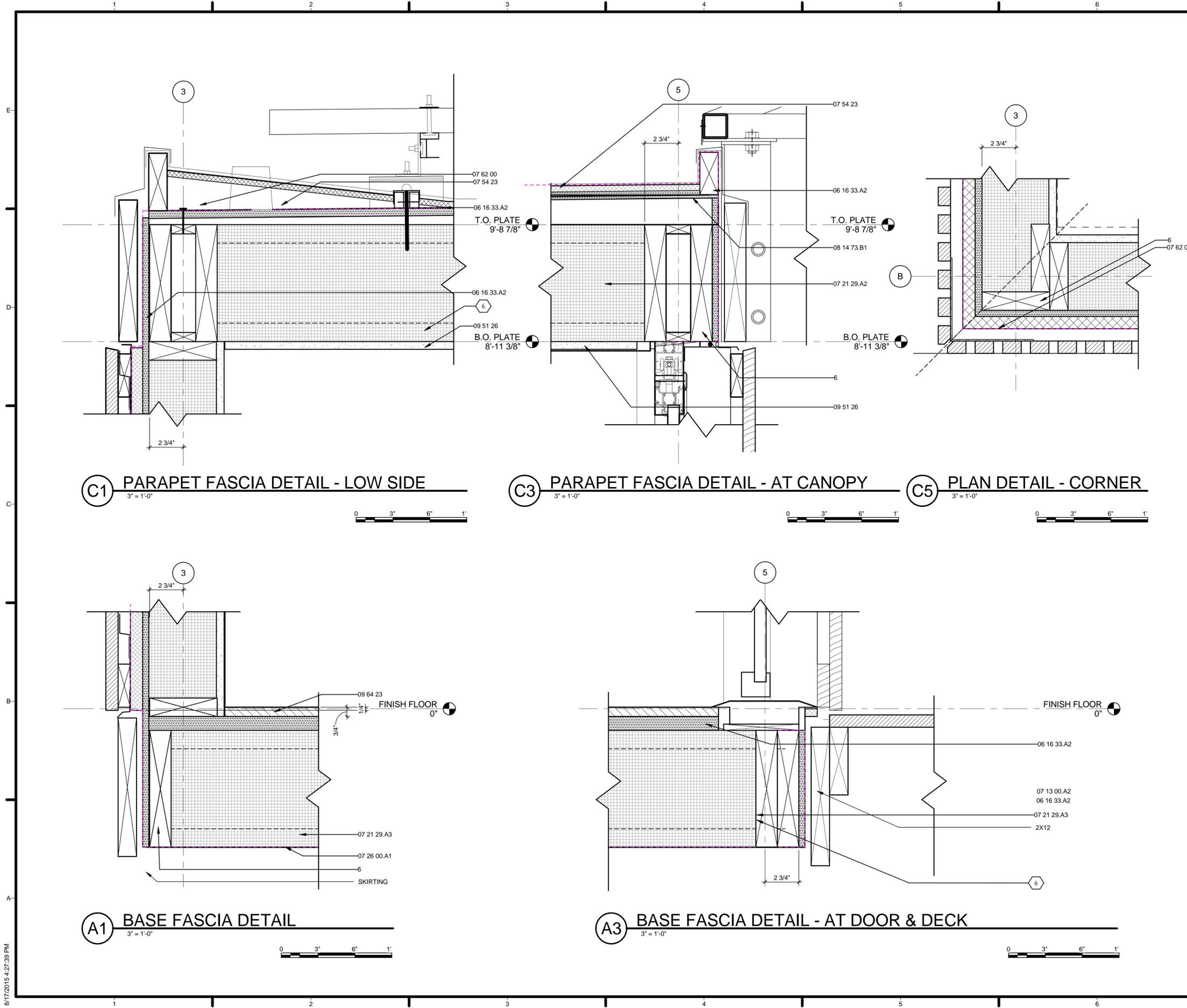


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DRAWN BY:	HW
CHECKED BY:	KC
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SHEET TITLE	WALL SECTIONS
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**A-313**



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

06 16 33.A2	WOOD BOARD SHEATHING
07 21 29.A2	SPRAYED INSULATION-ROOF
07 21 29.A3	SPRAYED INSULATION-FLOOR
07 26 00.A1	VAPOR RETARDERS
07 54 23	THERMOPLASTIC-POLYOLEFIN ROOFING
07 62 00	SHEET METAL FLASHING AND TRIM
08 14 73.B1	WOOD SLIDING DOOR HEAD
09 51 26	ACOUSTICAL WOOD CEILINGS
09 64 23	WOOD PARQUET FLOORING

**SHEET KEYNOTES**

6 REF: STRUCTURAL DRAWINGS



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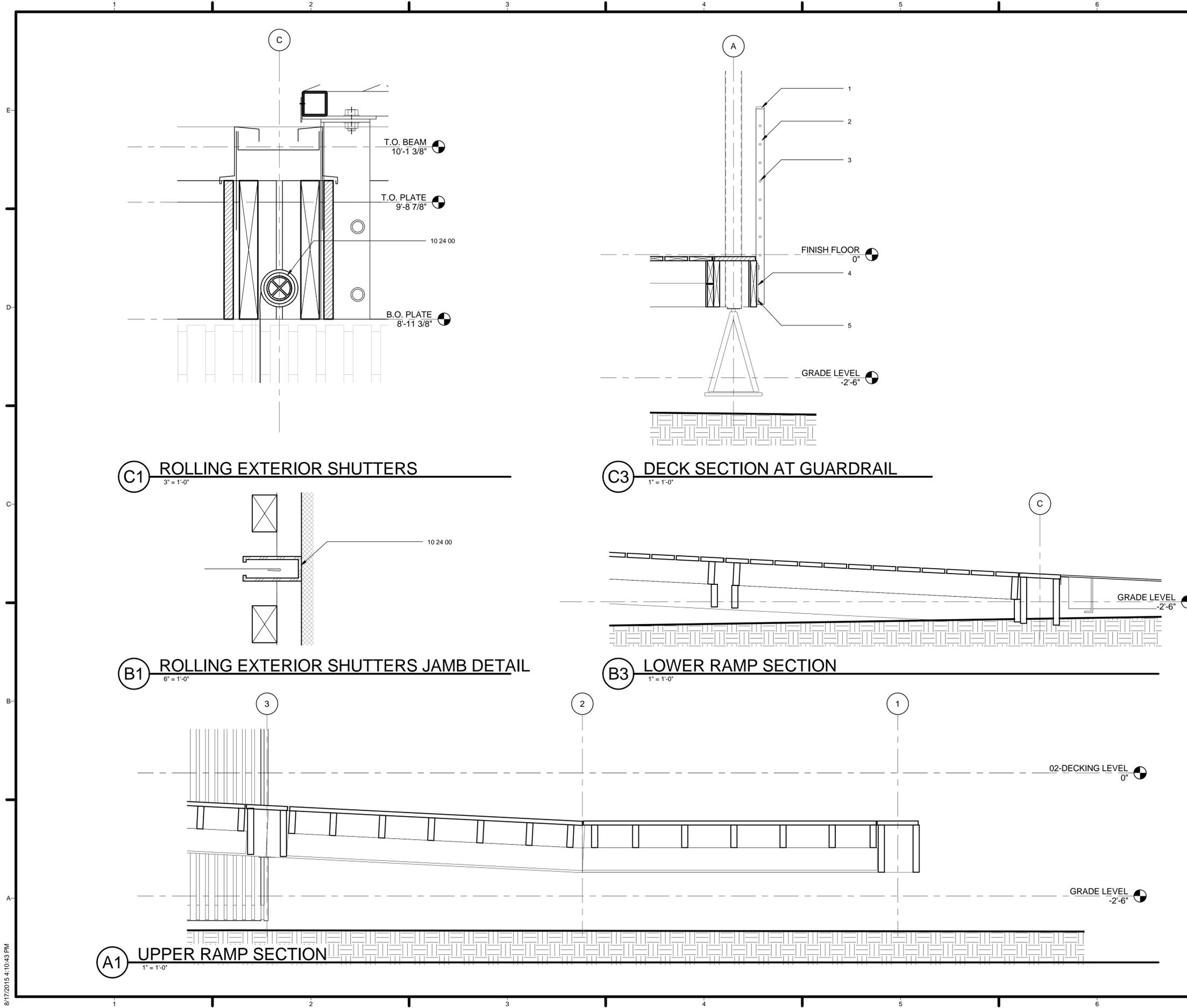


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SHEET TITLE  
 EXTERIOR DETAILS

**A-511**



GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

- 1. 1/2"x2" STEEL BAR
- 2. 1/2"x2" STEEL BAR
- 3. 1/2" STEEL ROD
- 4. POST TO BE FLUSH WITH MOUNTING PLATE
- 5. 1/2" STEEL PLATE WITH 5/8" HOLES



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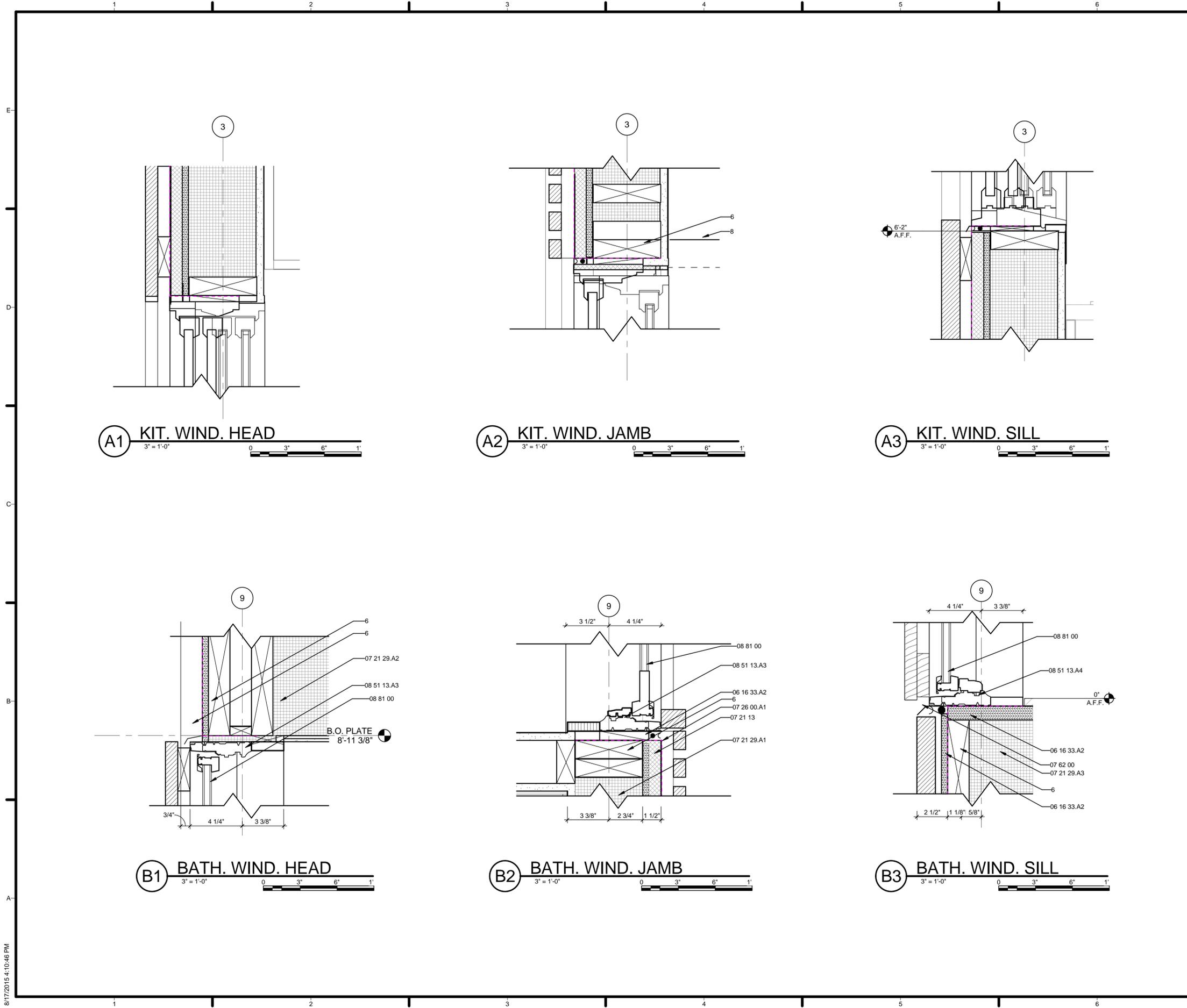


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 EXTERIOR DETAILS

A-512



**GENERAL SHEET NOTES**

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO FABRICATION AND INSTALLATION
2. REF: PROJECT MANUAL AND CIVIL, ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL & ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION

**REFERENCE KEYNOTES**

06 16 33.A2	WOOD BOARD SHEATHING
07 21 13	BOARD INSULATION
07 21 29.A1	SPRAYED INSULATION-WALL
07 21 29.A2	SPRAYED INSULATION-ROOF
07 21 29.A3	SPRAYED INSULATION-FLOOR
07 26 00.A1	VAPOR RETARDERS
07 62 00	SHEET METAL FLASHING AND TRIM
08 51 13.A3	ALUMINUM FIXED WINDOW HEAD/JAMB
08 51 13.A4	ALUMINUM FIXED WINDOW SILL
08 81 00	GLAZING
08 81 00.A1	GLAZING

**SHEET KEYNOTES**

6	REF: STRUCTURAL DRAWINGS
8	REF: INTERIOR DRAWINGS



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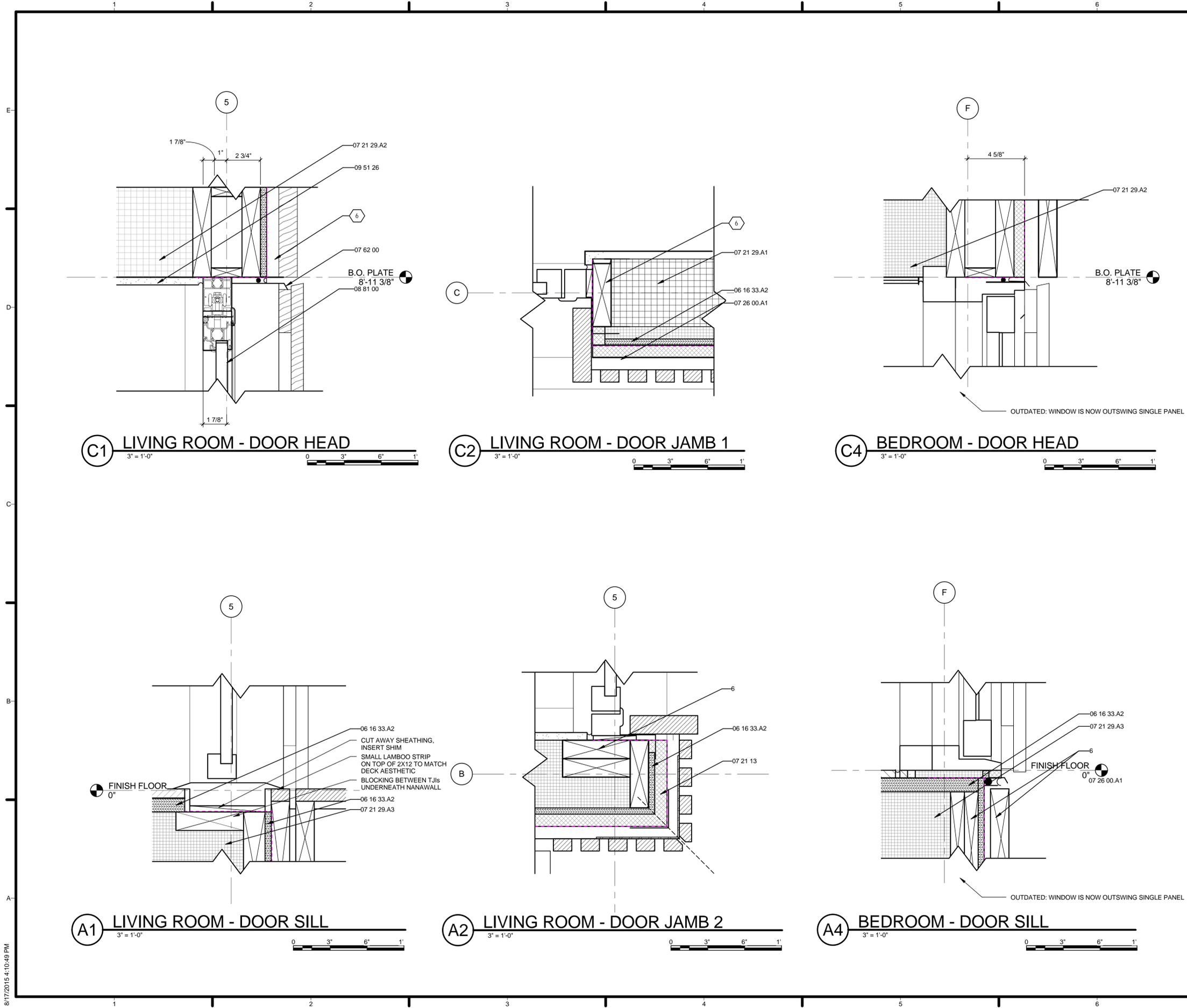


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SHEET TITLE  
**WINDOW DETAILS**

**A-531**



**GENERAL SHEET NOTES**

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**REFERENCE KEYNOTES**

06 16 33.A2	WOOD BOARD SHEATHING
07 21 13	BOARD INSULATION
07 21 29.A1	SPRAYED INSULATION-WALL
07 21 29.A2	SPRAYED INSULATION-ROOF
07 21 29.A3	SPRAYED INSULATION-FLOOR
07 26 00.A1	VAPOR RETARDERS
07 62 00	SHEET METAL FLASHING AND TRIM
08 81 00	GLAZING
09 51 26	ACOUSTICAL WOOD CEILINGS

**SHEET KEYNOTES**

6 REF: STRUCTURAL DRAWINGS



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SHEET TITLE  
**DOOR DETAILS**

**A-541**

ROOM FINISH SCHEDULE							
ROOM NAME	FLOOR	WALL	CEILING	CEILING HEIGHT	COUNTERTOP	CASEWORK	COMMENTS
STUDIO	FL01	PT01	PT02	8'-10 7/8"	N/A	WVNR01	
THRSHD.	FL01	PT01	PT02	8'-10 7/8"	N/A	N/A	
MASTER BEDROOM	FL01	PT01	PT02	8'-10 7/8"	N/A	WVNR01	
BATHROOM	FL01/FL02	PT01/TL01	PT02	7'-9"	SS01	WVNR01	FL02 AND TL01 IN SHOWER ONLY. CEILING HEIGHT IN SHOWER IS 8'-10 7/8".
KITCHEN/DINING	FL01	PT01	PT02	8'-10 7/8"	SS01	WVNR01	
LIVING	FL01	PT01	PT02	8'-10 7/8"	N/A	WVNR01	

FLOOR SCHEDULE			
MARK	MANUFACTURER	DESCRIPTION	COMMENTS
FL01	AUSTIN FINE LUMBERS	RECYCLED PINE	
FL02	ECO FRIENDLY FLOORING	DIRTY WHITE GLOSSY GLASS TILE	

WALL SCHEDULE								
MARK	TYPE	COUNT	Width	Length	STRUCTURAL USAGE	AREA	COMMENTS	DESCRIPTION
O1	SKID WALL	8	4"	38'-10"	Non-bearing	311 SF		
O2	EXTERIOR	8	7 5/8"	155'-1 11/16"	Bearing	1,175 SF	VAPOR, CORK, OSB, 6" STUD, GYP	
O3	INTERIOR-BATHWALL	1	6 3/4"	12'-10 7/8"	Non-bearing	78 SF	GYP, 6" STUD, GYP	
O3	INTERIOR	5	4 3/4"	59'-11 15/16"	Non-bearing	141 SF	GYP, 6" STUD	

WINDOW SCHEDULE																
MARK	ROUGH OPENING			TYPE	COUNT	MANUFACTURER	SERIES	MATERIAL	FINISH	DETAIL			GLAZING		COMMENTS	
	WIDTH	HEIGHT	SILL HEIGHT							HEAD	JAMB	SILL	THICKNE	TYPE		HEAD HEIGHT
W1	2'-11"	5'-11"	-5/8"	FIXED	1	WESTERN WINDOW SYSTEM	600	ALUMINIUM	DARK BRONZE ANODISED				7/8"	TEMPERED	5'-10 3/8"	THERMALLY BROKEN
W2	7'-5"	2'-5 1/2"	3'-6 3/8"	MULTI-SLIDE STACKING	1	WESTERN WINDOW SYSTEM	600	ALUMINIUM	DARK BRONZE ANODISED				7/8"	TEMPERED	5'-11 7/8"	NOT THERMALLY BROKEN

DOOR SCHEDULE																	
MARK	DR TYPE MARK	DR TYPE	Height	Width	MANUFACTURER	MODEL	FRAME TYPE	FIRE RATING	DETAILS			DESCRIPTION	FINISH			U-VALUE	SHGC
									HEAD	JAMB	SILL		DOOR	FRAME	HANDLE		
101A	109	FOLDING SYSTEM	8'-11 3/8"	9'-0"	NANAWALL SYSTEMS, INC.	SL-60	ALUMINIUM	AS SPECIFIED	A1	A2/A3	A4	STANDARD THERMALLY CONTROLLED	DARK ANODISED BRONZE	DARK ANODISED BRONZE	STAINLESS STEEL	0.27	0.23
102A	109	FOLDING SYSTEM	8'-11 3/8"	9'-0"	NANAWALL SYSTEMS, INC.	SL-60	ALUMINIUM	AS SPECIFIED	A1	A2/A3	A4	STANDARD THERMALLY CONTROLLED	DARK ANODISED BRONZE	DARK ANODISED BRONZE	STAINLESS STEEL	0.27	0.23
103A	109	FOLDING SYSTEM	8'-11 3/8"	9'-0"	NANAWALL SYSTEMS, INC.	SL-60	ALUMINIUM	AS SPECIFIED	A1	A2/A3	A4	STANDARD THERMALLY CONTROLLED	DARK ANODISED BRONZE	DARK ANODISED BRONZE	STAINLESS STEEL	0.27	0.23
103B	107	INTERIOR SLIDING	8'-11 1/2"	3'-8 1/4"	DOOR OUTLET	BARN TRACK	WOOD	AS SPECIFIED				ALUMINIUM TRACK	WOOD	WOOD			
104A	85	INTERIOR SLIDING	7'-0"	3'-1 5/16"	DOOR OUTLET	POCKET DOOR	WOOD	S SPECIFIED				POCKET GLASS DOOR	FROSTED GLASS	WOOD			
105A	105A	SINGLE OUTSWING RH (44" x 107 1/4")	8'-11 1/4"	3'-8"	LACANTINA DOORS, INC.	ALUMINIUM	ALUMINIUM	AS SPECIFIED	B1		B2	THERMALLY CONTROLLED	BRONZE ANODISED	BRONZE ANODISED	BRONZE	0.51	0.21
106A	106A	SINGLE OUTSWING RH (35.5" x 107 1/4")	8'-11 1/4"	2'-11 1/2"	LACANTINA DOORS, INC.	ALUMINIUM	ALUMINIUM	AS SPECIFIED	B1		B2	THERMALLY CONTROLLED	BRONZE ANODISED	BRONZE ANODISED	BRONZE	0.51	0.21
106B	107	INTERIOR SLIDING	8'-11 1/2"	3'-8 1/4"	DOOR OUTLET	BARN TRACK	WOOD	AS SPECIFIED				ALUMINIUM TRACK	WOOD	WOOD			

GENERAL SHEET NOTES

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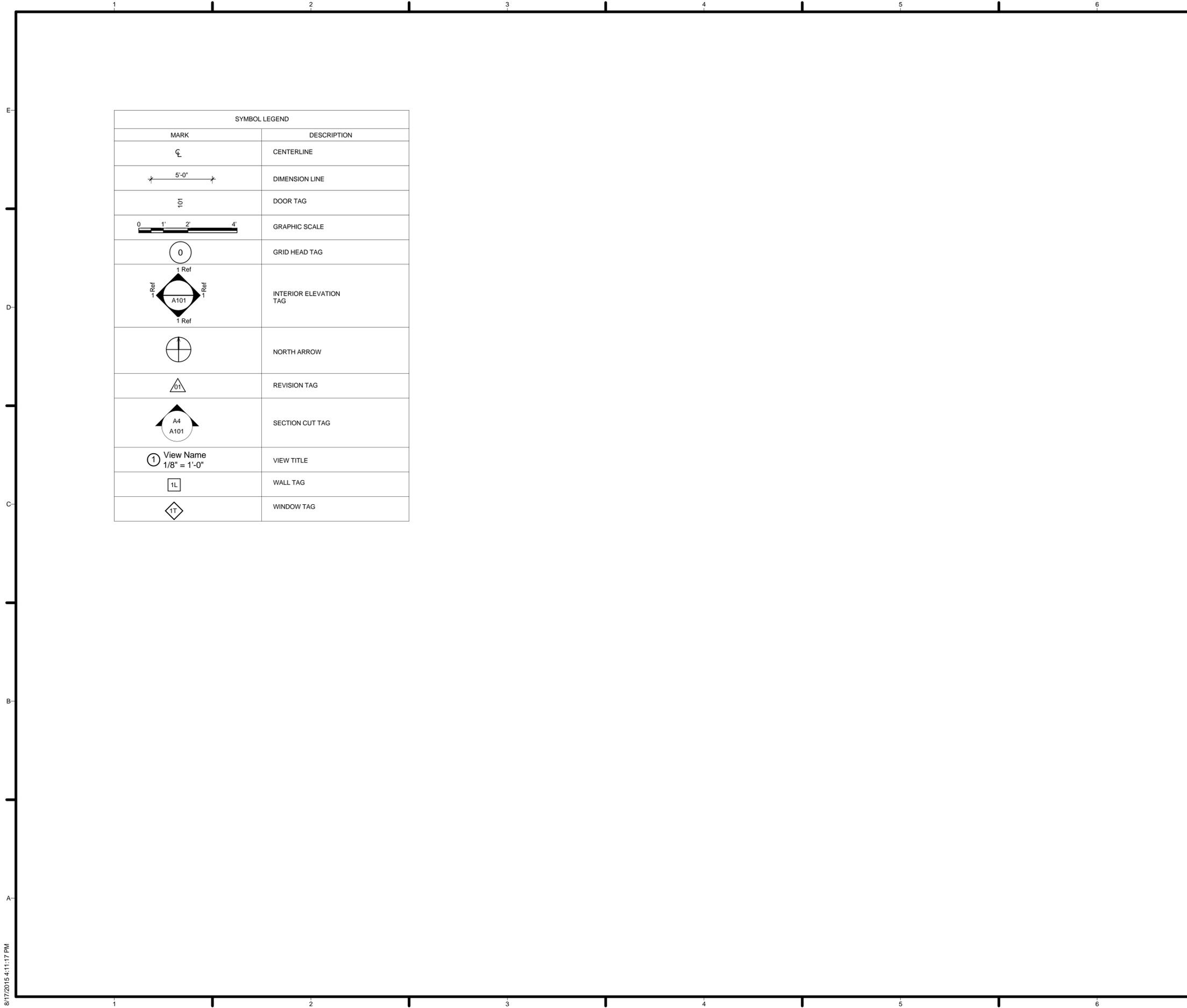
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SHEET KEYNOTES

SHEET TITLE  
 SCHEDULES

A-601



SYMBOL LEGEND	
MARK	DESCRIPTION
	CENTERLINE
	DIMENSION LINE
	DOOR TAG
	GRAPHIC SCALE
	GRID HEAD TAG
	INTERIOR ELEVATION TAG
	NORTH ARROW
	REVISION TAG
	SECTION CUT TAG
	VIEW TITLE
	WALL TAG
	WINDOW TAG

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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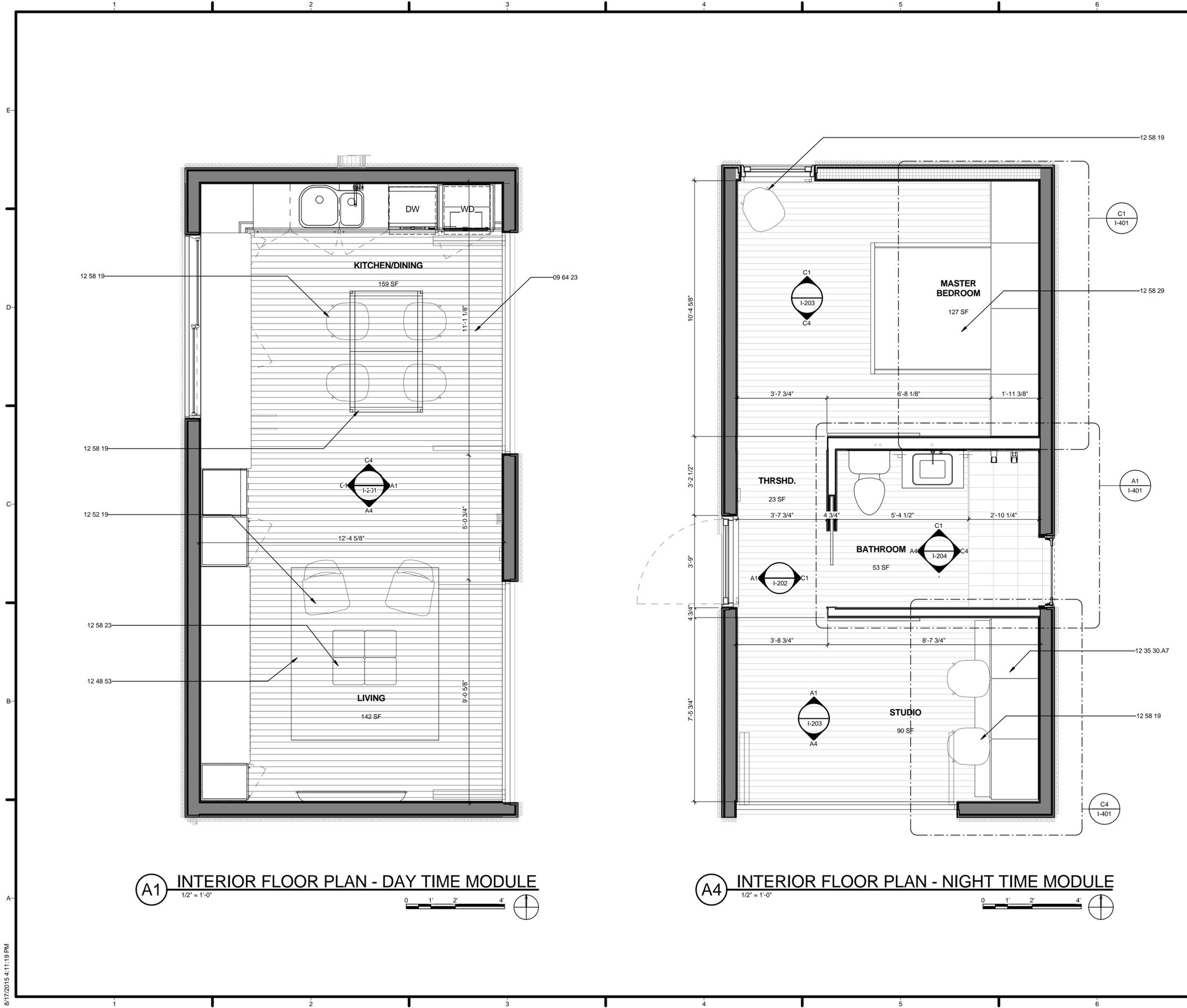


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SHEET TITLE  
 INTERIOR SYMBOLS AND NOTES

I-001



**GENERAL SHEET NOTES**

12 58 19  
 12 58 29  
 12 58 23  
 12 58 29

**REFERENCE KEYNOTES**

- 09 64 23 WOOD PARQUET FLOORING
- 12 35 30.A7 DORMITORY CASEWORK
- 12 48 53 RUGS AND MATS
- 12 52 19 UPHOLSTERED SEATING
- 12 58 19 DINING TABLES AND CHAIRS
- 12 58 23 COFFEE TABLES
- 12 58 29 BEDS

**SHEET KEYNOTES**

12 35 30.A7  
 12 58 19  
 12 58 19



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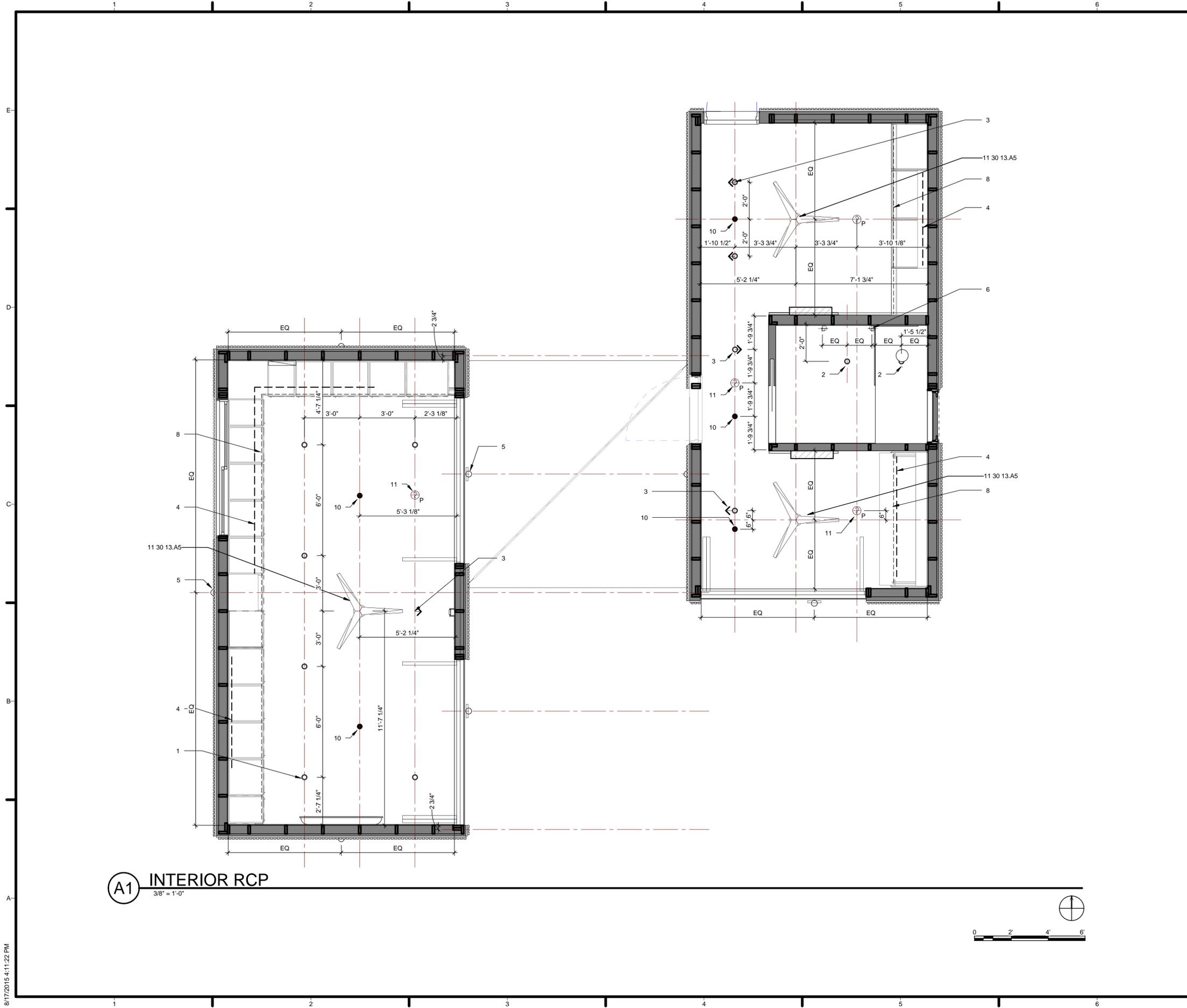


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SHEET TITLE  
 INTERIORS PLAN

**I-101**



**A1 INTERIOR RCP**  
3/8" = 1'-0"

**GENERAL SHEET NOTES**

11 30 13.A5 RESIDENTIAL CEILING FANS

**REFERENCE KEYNOTES**

11 30 13.A5 RESIDENTIAL CEILING FANS

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**SHEET KEYNOTES**

- 1 DOWN LIGHT
- 2 DOWN LIGHT WET LOCATION
- 3 ADJ WALL WASHER
- 4 LINEAR LED STRIP
- 5 EXT WALL WASHER
- ⊕ 6 BATHROOM SCNCES
- 7 READING LIGHTS
- 8 LLS COVE LIGHTING
- 9 EXTERIOR DOWN LIGHT
- 10 SPRINKLER HEAD (REF. F-101)
- ⊕ 11 SMOKE DETECTOR (REF. F-101)
- 12 EXT SPOTLIGHT



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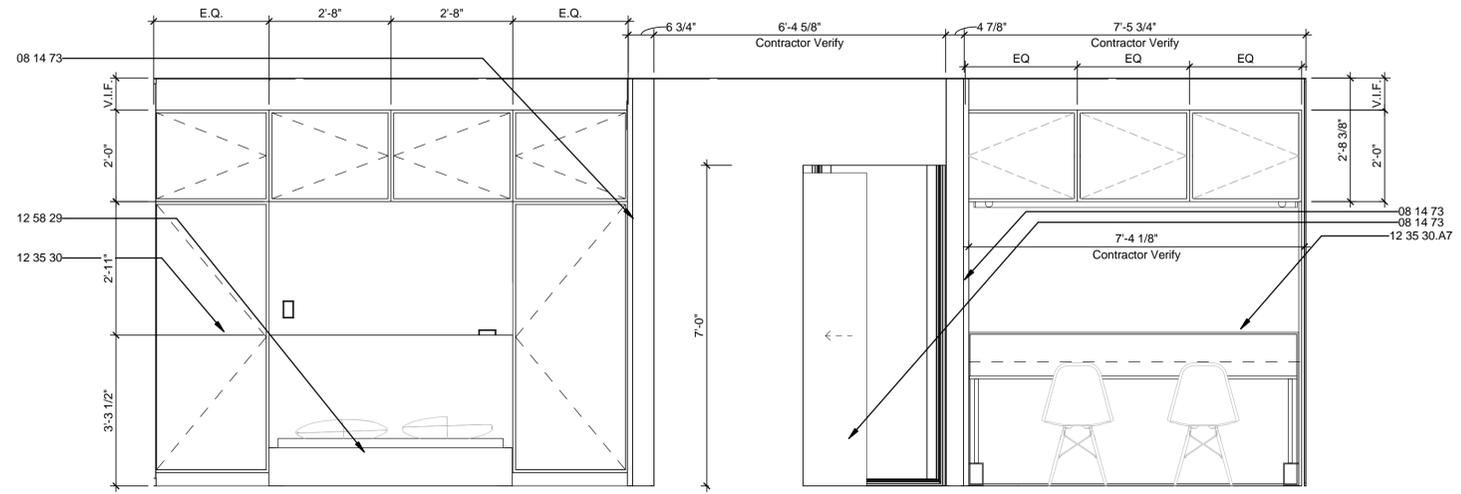
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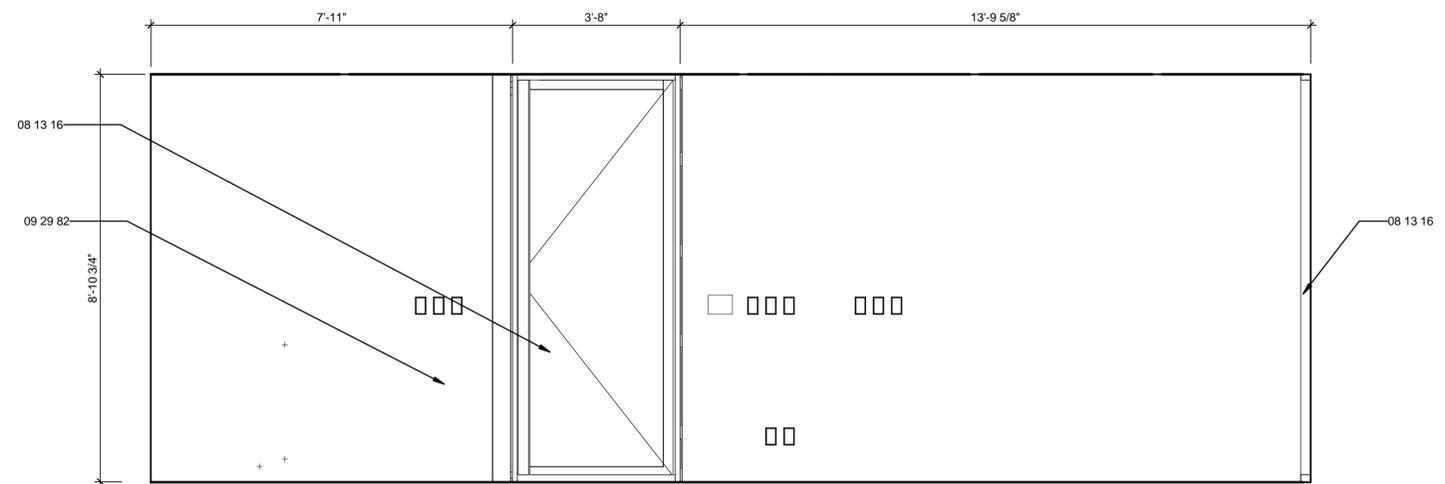
**SHEET TITLE**  
 REFLECTED CEILING PLAN

**I-103**





**C1 NIGHT MODULE - EAST**  
1/2" = 1'-0"



**A1 NIGHT MODULE - WEST**  
1/2" = 1'-0"



**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

- 08 13 16 ALUMINUM DOORS
- 08 14 73 SLIDING WOOD DOORS
- 09 29 82 FIREPROOF GYPSUM PLASTERING
- 12 35 30 RESIDENTIAL CASEWORK
- 12 35 30.A7 DORMITORY CASEWORK
- 12 58 29 BEDS

**SHEET KEYNOTES**



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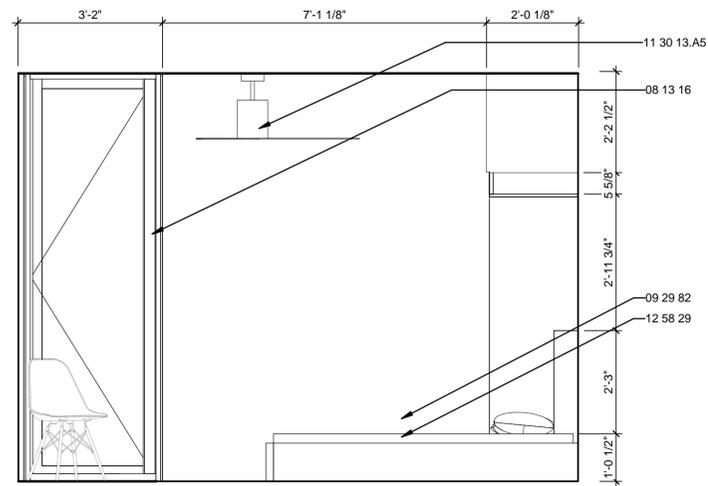


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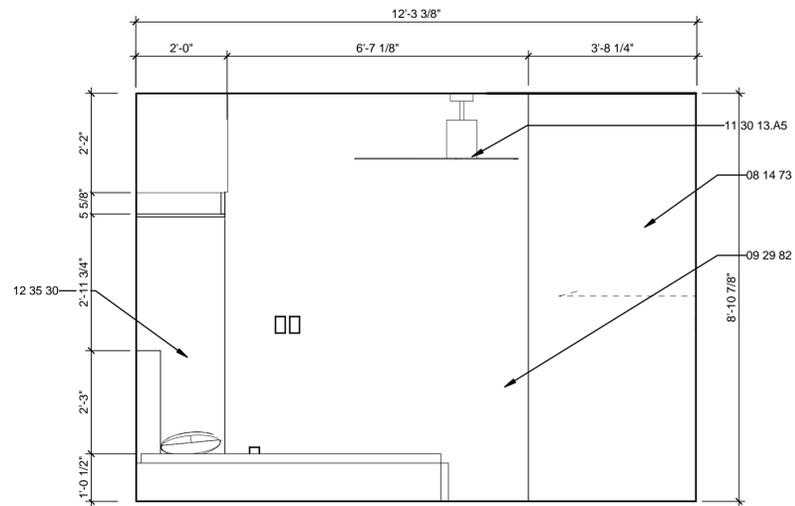
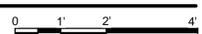
SHEET TITLE  
**INTERIOR ELEVATIONS**

**I-202**



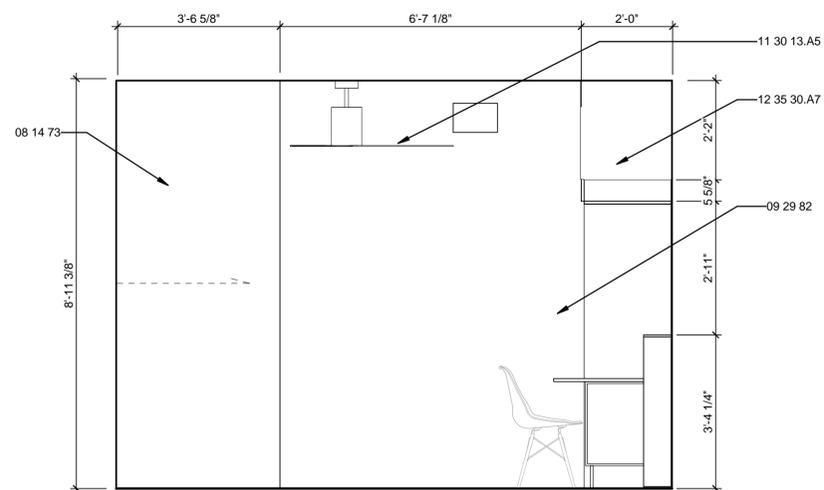
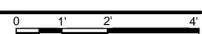
**C1** BEDROOM - NORTH

1/2" = 1'-0"



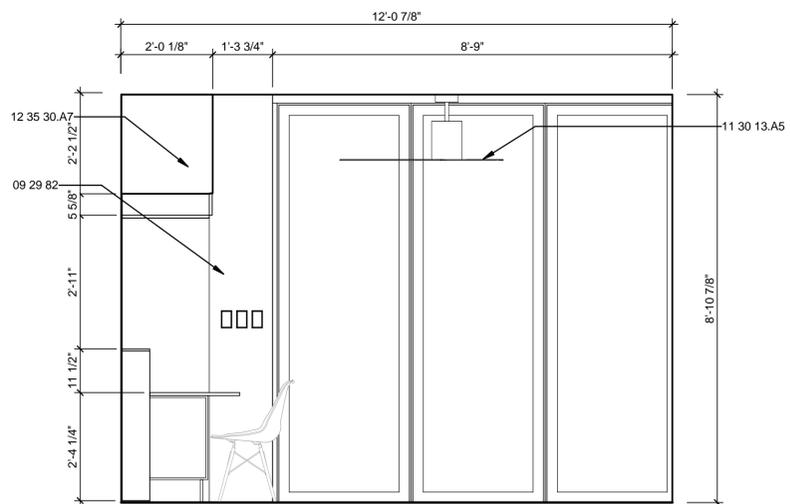
**C4** BEDROOM - SOUTH

1/2" = 1'-0"



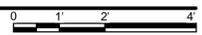
**A1** STUDIO - NORTH

1/2" = 1'-0"



**A4** STUDIO - SOUTH

1/2" = 1'-0"



GENERAL SHEET NOTES

REFERENCE KEYNOTES

- |             |                             |
|-------------|-----------------------------|
| 08 13 16    | ALUMINUM DOORS              |
| 08 14 73    | SLIDING WOOD DOORS          |
| 09 29 82    | FIREPROOF GYPSUM PLASTERING |
| 11 30 13.A5 | RESIDENTIAL CEILING FANS    |
| 12 35 30    | RESIDENTIAL CASEWORK        |
| 12 35 30.A7 | DORMITORY CASEWORK          |
| 12 58 29    | BEDS                        |

SHEET KEYNOTES



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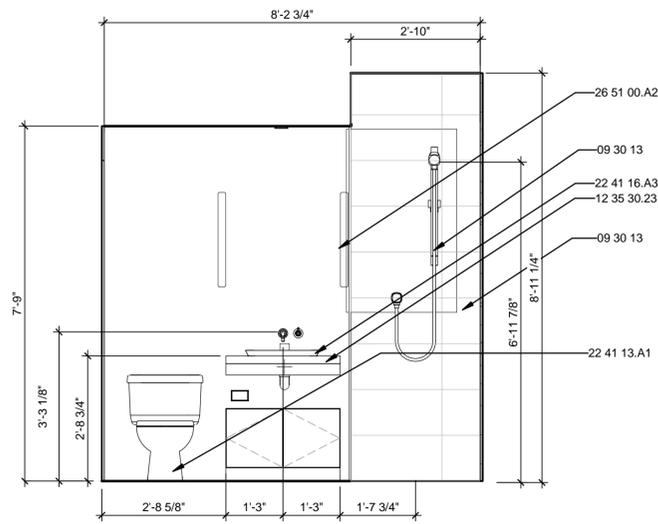


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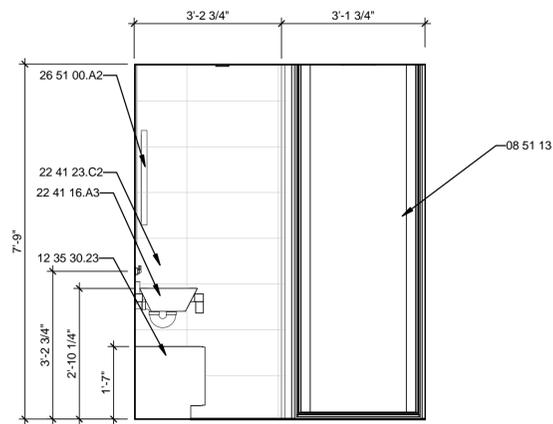
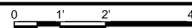
SHEET TITLE  
 INTERIOR ELEVATIONS

I-203



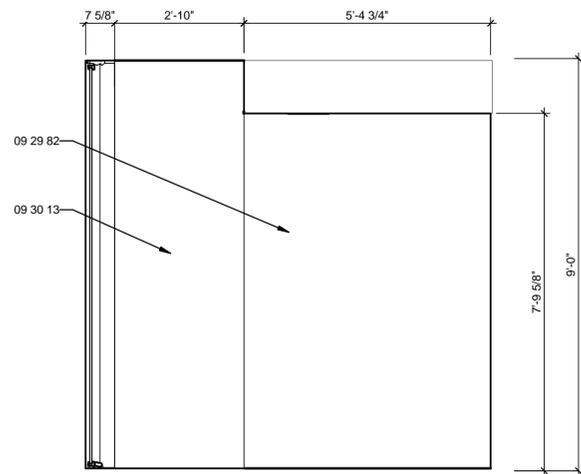
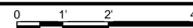
**C1 BATH - NORTH**

1/2" = 1'-0"



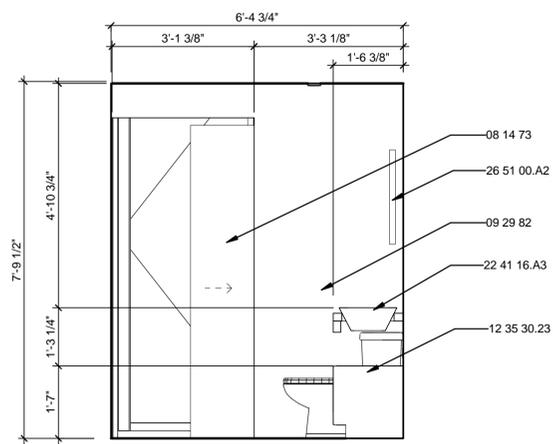
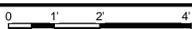
**C4 BATH - EAST**

1/2" = 1'-0"



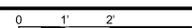
**A1 BATH - SOUTH**

1/2" = 1'-0"



**A4 BATH - WEST**

1/2" = 1'-0"



**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

- |             |                             |
|-------------|-----------------------------|
| 08 14 73    | SLIDING WOOD DOORS          |
| 08 51 13    | ALUMINUM WINDOWS            |
| 09 29 82    | FIREPROOF GYPSUM PLASTERING |
| 09 30 13    | CERAMIC TILING              |
| 12 35 30.23 | BATHROOM CASEWORK           |
| 22 41 13.A1 | WATER CLOSET                |
| 22 41 16.A3 | LAVATORY                    |
| 22 41 23.C2 | GLASS SHOWER DOOR           |
| 26 51 00.A2 | INTERIOR LIGHTING           |

**SHEET KEYNOTES**



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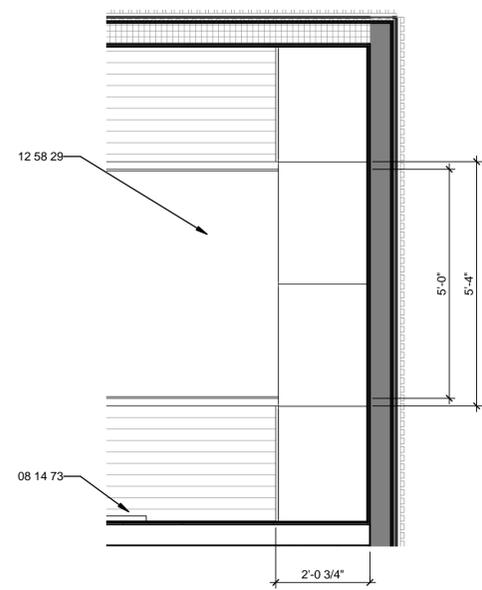


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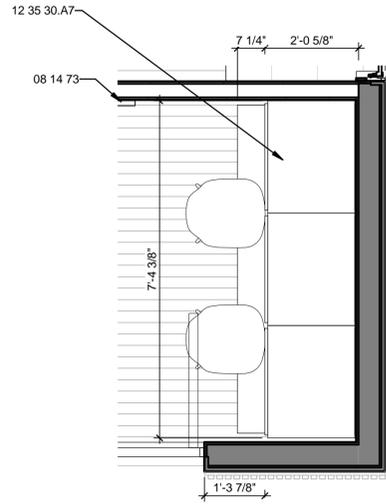
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SHEET TITLE  
**INTERIOR ELEVATIONS**

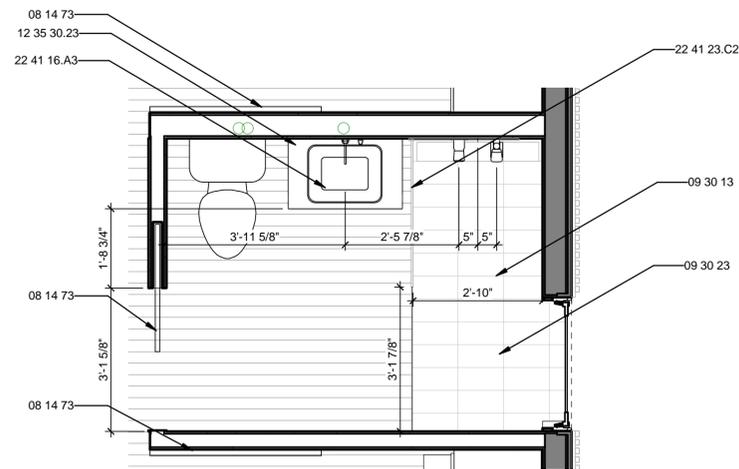
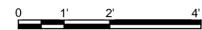
**I-204**



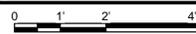
**C1** INTERIOR FLOOR PLAN - BEDROOM CASEWORK  
1/2" = 1'-0"



**C4** INTERIOR FLOOR PLAN - STUDIO CASEWORK  
1/2" = 1'-0"



**A1** INTERIOR FLOOR PLAN - BATHROOM  
1/2" = 1'-0"



GENERAL SHEET NOTES

REFERENCE KEYNOTES

08 14 73	SLIDING WOOD DOORS
09 30 13	CERAMIC TILING
09 30 23	GLASS MOSAIC TILING
12 35 30.23	BATHROOM CASEWORK
12 35 30.A7	DORMITORY CASEWORK
12 58 29	BEDS
22 41 16.A3	LAVATORY
22 41 23.C2	GLASS SHOWER DOOR

SHEET KEYNOTES



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SHEET TITLE  
 ENLARGED PLANS

I-401

PLUMBING FIXTURE SCHEDULE														
MARK	KEYNOTE	DESCRIPTION	COUNT	MANUFACTURER	MODEL	SUPPLY FITTING	SUPPLY PIPE	DRAIN	TRAP	CONNECTION				COMMENTS
										CW	HW	WASTE	VENT	
43	11 31 23.A1	COMBO WASHER DRYER	1	EQUATOR	EZ4000									
16	22 41 39	KITCHEN FAUCET	1	GROHE	32665DC1									
29	22 41 39	BATHROOM FAUCET	1	GROHE	19291001									
20	09 30 13	HANDSHOWER SET	1	GROHE	26125000									
8	22 41 39	SHOWER HEAD	1	GROHE	28373000									
47	22 41 13.13	DUAL-FLUSH PERSUADE CURV	1	KOHLER	K-3723									
14	22 41 16.A5	KITCHEN SINK	1	KOHLER	K-5540-NA									
42	22 41 16.A3	BATHROOM SINK	1	KRAUS	KCV-122-CH									

MECHANICAL EQUIPMENT SCHEDULE					
KEYNOTE	DESCRIPTION	COUNT	MANUFACTURER	MODEL	COMMENTS
11 30 13.A4	DISHWASHER	1	BLOMBERG	DW55100SS	
11 31 13.A5	OVEN	1	BLOMBERG	BWOS24100	BUILT-IN
11 30 13.A1	REFRIGERATOR	1	BLOMBERG	BRFB1050FFBIN	BUILT-IN
11 30 13.13	COOKTOP	1	SUMMIT	SINC424220	INDUCTION

FURNITURE SCHEDULE					
Keynote	Description	COUNT	MANUFACTURER	MODEL	COMMENTS
		11			
12 58 19	Side Chair Upholstered Molded Plastic 4-Leg Base	4	Herman Miller, Inc.	DSX.U	
12 58 19	TABLE	1	CUSTOM	N/A	
12 58 19	TABLE	2	CUSTOM	N/A	
12 58 29	QUEEN BED FRAME	1	CUSTOM	N/A	
12 58 29	QUEEN BED MATTRESS	1		N/A	

ROOM FINISH SCHEDULE							
ROOM NAME	FLOOR	WALL	CEILING	CEILING HEIGHT	COUNTERTOP	CASEWORK	COMMENTS
STUDIO	FL01	PT01	PT02	8'-10 7/8"	N/A	WVNR01	
THRSHD.	FL01	PT01	PT02	8'-10 7/8"	N/A	N/A	
MASTER BEDROOM	FL01	PT01	PT02	8'-10 7/8"	N/A	WVNR01	
BATHROOM	FL01/FL02	PT01/TL01	PT02	7'-9"	SS01	WVNR01	FL02 AND TL01 IN SHOWER ONLY. CEILING HEIGHT IN SHOWER IS 8'-10 7/8".
KITCHEN/DINING	FL01	PT01	PT02	8'-10 7/8"	SS01	WVNR01	
LIVING	FL01	PT01	PT02	8'-10 7/8"	N/A	WVNR01	

FINISH SCHEDULE								
FINISH CODE	PRODUCT	PRODUCT NUMBER	MANUFACTURER	COLOR	SURFACE FINISH	SIZE	DEPTH	NOTES
FL01	RECYCLED PINE		AUSTIN FINE LUMBERS		MATTE	VARIED	5/8"	
FL02	CERAMIC TILE FLOOR	PT2247 TERRA MAESTRICHT	MOSA	216V	HONED	VARIED	1/2"	
TL01	CERAMIC TILE	PT2247 TERRA MAESTRICHT	MOSA	216V	HONED	VARIED	1/2"	
SS01	CORIAN SOLID SURFACES		DUPONT	STARDUST			3/4"	
WVNR01					LACQUERED		1/16"	
PT01	PAINT	OC-117	BENJAMIN MOORE	SIMPLY WHITE	EGGSHELL			PT02 IS THE SAME AS PT01, BUT IN MATTE FINISH.

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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SHEET TITLE  
 INTERIOR DESIGN SCHEDULES

I-601

FIRE ALARM SYMBOLS	
SYMBOL	DESCRIPTION
② P	SMOKE DETECTOR P - PHOTOELECTRIC BR - BEAM RECEIVER BT - BEAM TRANSFER
①	I - IONIZATION ASD - AIR SAMPLING

**E2 FIRE ALARM SYMBOLS**  
1/4" = 1'-0"

SPRINKLERS									
ITEM	MANUFACTURER	MODEL	TYPE	DIAMETER DIMENSION (IN)	COVERAGE AREA (FT X FT)	REQUIRED FLOW RATE (GPM)	REQUIRED PRESSURE (PSI)	K FACTOR (GPM/PSI)	TEMPERATURE RAITING F(C)
S-1	SENJU	RC-RES	FLAT PLATE CONCEALED PENDANT	3 5/16	16 X 16	13	7	4.9	160 (71)

SMOKE DETECTORS							
ITEM	MANUFACTURER	MODEL	SENSOR TYPE	DIAMETER DIMENSION (IN)	PRIMARY POWER	BACKUP POWER	NOTES
P	KIDDE	I4618	IONSTATION	3 5/16	120V / 60Hz	3xAAA BATTERY	

FIRE SUPPRESSION WATER SUPPLY PUMP							
ITEM	MANUFACTURER	MODEL	PUMP HP	IMPELLER DIAMETER (IN)	RATED FLOW (GPM)	RATED PRESSURE (PSI)	NOTES
FSP	AC FIRE PUMP	3D HOME DEFENDER	5	5 1/16	30	37	PUMP PACKAGE CONTAINS CHECK VALVE, PRESSURE SWITCH, PRESSURE GAUGE, DISCHARGE CHECK VALVE, DOMAIN VALVE, AND EXPANSION TANK

FIRE SUPPRESSION WATER SUPPLY PUMP MINIMUM PRESSURE CALCULATION									
BRANCH	MAXIMUM PRESSURE	PIPE SIZE	FLOW RATE (GPM)	SPRINKLER PRESSURE	TOTAL PIPE LENGTH	PRESSURE DROP PER FOOT	FITTINGS PRESSURE DROP	STATIC PRESSURE HEAD (PSI)	NOTES
LIVING	37.5	1"	13	7	55	0.12	100	4.4	
NIGHT	43.5	1"	13	7	90	0.12	105	4.4	

PIPE SUPPLY							
ITEM	DESCRIPTION	MATERIAL TYPE	FITTING TYPES	DIAMETER (IN)	INSULATED	R-VALUE	NOTES
FSP-1	FIRE SPRINKLER MAIN SUPPLY LINE	PEX - A	PROPEX AND NPT	1	YES	6.8	

**GENERAL SHEET NOTES**

SPRINKLER HEADS MUST BE 3'-0" MINIMUM FROM ALL CEILING OBSTRUCTIONS (MEASURED CENTER TO CENTER)

ALL OUTDOOR PIPING MUST BE INSULATED

FIRE SUPPRESSION SUPPLY LINES RUN BENEATH DECKING (HUNG FROM BEAMS AND/OR ROUTED IN A COMMON TRAY WITH THE DOMESTIC WATER AND HYDRONIC PIPING) THEN RISE WITHIN MODULE MECHANICAL CHUTES.



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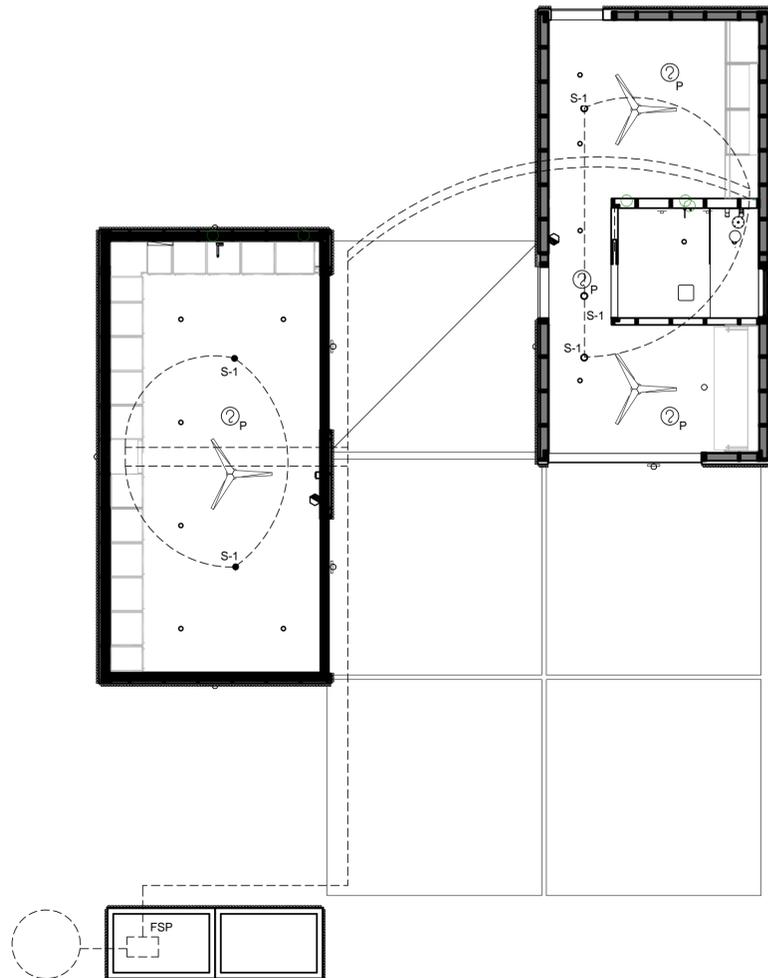
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**SHEET KEYNOTES**

SHEET TITLE  
**FIRE DETECTION AND ALARM**

**F-101**

**D3 FIRE PROTECTION EQUIPMENT SCHEDULE**  
1/4" = 1'-0"



**A1 Fire Protection Plan**  
3/16" = 1'-0"

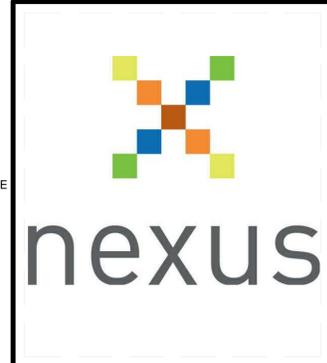
ABBREVIATIONS	
ITEM MARK	DESCRIPTION
DHW	DOMESTIC HOT WATER
SPL	SUPPLY TANK
GWT	GRAY WATER TANK
BWT	BLACK WATER TANK
RWT	RAINWATER TANK
WBP	WATER BOOSTER PUMP
STP	SOLAR THERMAL TANK
VTR	VENT THROUGH ROOF
CW	CLOTHES WASHER
DW	DISH WASHER
KS	KITCHEN SINK
WC	WATER CLOSET
BS	BATHROOM SINK
S	SHOWER
TST	THERMAL STORAGE TANK
GFS	GREYWATER FILTRATION SYSTEM
RP	RAINWATER PUMP
RWP	RAINWATER PIPING
DWP	DOMESTIC WATER PIPING
GWP	GREYWATER DRAIN PIPING
BWP	BLACKWATER DRAIN PIPING
PTS	POTABLE WATER TREATMENT SYSTEM
RP2	POTABLE WATER SYSTEM
DPT	DOMESTIC PRESSURE TANK
HET	HOT WATER EVAPORATION TANK
AAV-	AIR ADMITTANCE VALVE

DRAINAGE FIXTURE UNIT TABULATION			
	GREYWATER FIXTURE UNITS	BLACKWATER FIXTURE UNITS	MIN TRAP SIZE (IN)
<b>LIVING/KITCHEN MODULE</b>			
CLOTHES WASHER	3		2
DISHWASHER, DOMESTIC		2	1.5
KITCHEN SINK		2	1.5
MODULE SUBTOTAL	3	4	
<b>BEDROOM/BATHROOM MODULE</b>			
LAVATORY	1		1.25
SHOWER	2		2
WATER CLOSET (1.2 GPF)		3	3
MODULE SUBTOTAL	3	3	
HOUSE TOTAL	6	7	

GREY AND BLACK WATER PIPE SIZING (IN DIAMETER)			
	HORIZONTAL DRAIN	VERTICAL DRAIN	VENTILATION PIPE
<b>LIVING/KITCHEN MODULE</b>			
GREYWATER PIPING	2	2	2
BLACKWATER PIPING	2	2	2
<b>BEDROOM/BATHROOM MODULE</b>			
GREYWATER PIPING	2	2	2
BLACKWATER PIPING	2	2	2

WATER SUPPLY FIXTURE UNIT (WSFU) TABULATION			
	COLD WATER	HOT WATER	MINIMUM DIAMETER (IN)
<b>LIVING/KITCHEN MODULE</b>			
CLOTHES WASHER	4	4	1/2
DISHWASHER, DOMESTIC	1.5	0	1/2
KITCHEN SINK	1.5	1.5	1/2
MODULE SUBTOTAL	7	5.5	
<b>BEDROOM/BATHROOM MODULE</b>			
LAVATORY	1	1	1/2
SHOWER	2	2	1/2
WATER CLOSET (1.2 GPF)	2.5	0	1/2
MODULE SUBTOTAL	5.5	3	
OUTDOOR WATER FIXTURES			
HOSE BIB	2.5	0	1/2
1 ADDITIONAL HOSE BIB (TES)	1	0	1/2
TOTAL	16	8.5	

PIPE SIZING BASED ON WSFU (IN DIAMETER)				
	COLD WATER	HOT WATER	NOMINAL LENGTH (FT)	NOTES
<b>WATER SYSTEM EQUIPMENT SKID</b>				
UNTREATED RAINWATER SUPPLY	1"		60	INSULATED
TREATMENT TO HOT WATER SUPPLY TEE	1"		5	INSULATED
HOT WATER SUPPLY TEE TO WATER SKID MANIFOLD	3/4"	3/4"	10	INSULATED
HOS BIB AND TES REFILL	1/2"		15	INSULATED
<b>LIVING/KITCHEN MODULE</b>				
MULTI TEE SUPPLY DIAMETER	3/4"	3/4"	20	INSULATED
CLOTHES WASHER	1/2"	1/2"	5	
DISHWASHER, DOMESTIC	1/2"		10	
KITCHEN SINK	1/2"	1/2"	15	
<b>BEDROOM/BATHROOM MODULE</b>				
MULTI TEE SUPPLY DIAMETER	3/4"	3/4"	15	INSULATED
LAVATORY	1/2"	1/2"	10	
SHOWER	1/2"	1/2"	15	
WATER CLOSET (1.2 GPF)	1/2"		10	



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SHEET TITLE  
**SUPPLY + DRAINAGE  
 SIZING CALCULATIONS  
 AND ABBREVIATIONS**

**P-001**

NON-PRESSURIZED WATER TANKS SCHEDULE								
ITEM MARK	MANUFACTURER	SERVICE	QUANTITY	CAPACITY	DIMENSIONS	PLUMBING CONNECTION	FILL/EMPTY OPENING	NOTES
BWT	QUADEL	BLACKWATER HOLDING TANK	1	250	84"X40"X16"	3" THREADED CAP	4" TOP CAP	
RWT	HUSKY	RAINWATER COLLECTION TANKS	1	2000	125"X144"X24"	2" BALL VALVE	4" TOP CAP	
TST	CORGAL	THERMAL STORAGE/BACK-UP WATER/FIRE WATER	1	1000	48" DIA., 131" TALL	2" BALL VALVE	48" TOP LID	TST HAS 48" TOP LID FOR WATER DELIVERY AND PUMP OUT

POTABLE WATER TREATMENT SYSTEM FOR RAINWATER SCHEDULE										
ITEM MARK	SYSTEM USE	MANUFACTURER	MODEL	QUANTITY	TREATMENT TYPE	RATED OUTPUT FLOW (GPM)	POWER DEMAND (W)	ELECTRICITY SUPPLY (VOLTAGE/PHASE/HZ)	INLET PIPE SIZE	OUTLET PIPE SIZE
PTS	POTABLE WATER TREATMENT SYSTEM	UV MAX	IHS22-E4	1	5 MICRON CARTRIDGE, 5 MICRON CARBON, UV TREATMENT	16	84	120/1/60	1" NPT	1" NPT

GREYWATER FILTRATION SYSTEM SCHEDULE												
ITEM	SYSTEM USE	MANUFACTURER	MODEL	QUANTITY	TREATMENT TYPE	RATED OUTPUT FLOW (GPM)	MAX PRESSURE (PSI)	STORAGE CAPACITY (GALLONS)	ELECTRICITY SUPPLY (VOLTAGE/PHASE/HZ)	INLET PIPE SIZE	OUTLET PIPE SIZE	NOTES
GFS	GREYWATER FILTRATION SYSTEM	MATALA	AQUA2USE GWDD	1	4-STAGE MEDIA FILTER	14	10	21	115/1/60	2"	1"	SUMP PUMP HAS BOTH FLOAT SWITCH AND 24 HOUR TIMER CONTROL  BUILT-IN GREYWATER TO BLACKWATER DIVERSION VALVE

PLUMBING FIXTURE SCHEDULE						
ITEM	DESCRIPTION	MANUFACTURER	MODEL NAME	MODEL #	MAX FLOW RATE	NOTES
BS	LAVATORY FAUCET	GROHE	ATRIO	19291	2	
KS	KITCHEN FAUCET	GROHE	CONCETTO	32665	1.75	
S	SHOWER	GROHE	RAINSHOWER RUSTIC 130	27140	2.5	
WC	WATER CLOSET	KOHLER	ADAIR	K-6925	1.28 GPF	

WATER-USING APPLIANCES SCHEDULE									
ITEM	DESCRIPTION	MANUFACTURER	MODEL NAME	GALLONS/CYCLE	ELEC. SUPPLY (VOLT/PHASE/HZ)	INLET SUPPLY SIZE	DRAIN SIZE	MIN/MAX WATER PRESSURE	ENERGY STAR ANNUAL ENERGY USE (KWH/YR)
CW	CLOTHES WASHER	EQUATOR	EZ 4000 CV	9.6	120/1/60	3/4" THREADED HOSE	1" HOSE	7.25-145	
DW	DISHWASHER	BLOMBERG	DW 55100	3.8	120/1/60	3/8" HOSE	1" HOSE	4.5/145	273

RAINWATER SUPPLY PUMP SCHEDULE										
ITEM	DESCRIPTION	MANUFACTURER	MODEL	QUANTITY	MAXIMUM LIFT (FT)	DESIGN PRESSURE RANGE (PSI)	DESIGN FLOW RATE (GPM)	ELECTRICITY SUPPLY (VOLTS/PHASE/HZ)	INLET SIZE	OUTLET SIZE
RP	RAINWATER/DOMESTIC SUPPLY PUMP	GRONDFOS	MQ 3-45	1	25	60	12	240/1/60	1" NPT	1" NPT

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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SHEET TITLE  
 PLUMBING SCHEDULES

P-002

PIPING SCHEDULE							
ITEM	SERVICE	SIZE (DIAMETER)	MATERIAL TYPE	FITTING TYPE	JOINT TYPE	PIPE INSULATION TYPE	PIPE INSULATION R VALUE
DWP	PRESSURIZED DOMESTIC WATER PIPING	1/2 IN	PEX-A	PROPEX	PEX-A CONNECTIONS	SELF-SEAL POLYETHYLENE FOAM	7.9
DWP	PRESSURIZED DOMESTIC WATER PIPING	3/4 IN	PEX-A	PROPEX	PEX-A CONNECTIONS	SELF-SEAL POLYETHYLENE FOAM	7.2
DWP	PRESSURIZED DOMESTIC WATER PIPING	1 IN	PEX-A	PROPEX	PEX-A CONNECTIONS	SELF-SEAL POLYETHYLENE FOAM	6.8
GWP	GREYWATER DRAIN PIPING	2 IN	PVC	DWV 35 PVC	SOLVENT WELDED	NONE	
BWP	BLACKWATER DRAIN PIPING	3 IN	PVC	DWV 35 PVC	SOLVENT WELDED	NONE	
RWP	RAINWATER INLET PIPING	3 IN	PVC	DWV 35 PVC	SOLVENT WELDED	NONE	

BACKFLOW PREVENTION SCHEDULE							
ITEM	SYSTEM	DESCRIPTION	MANUFACTURER	MODEL	PIPE SIZE	CONNECTION TYPE	
RP2	POTABLE WATER SYSTEM	RPZ BACKFLOW PREVENTER	WATTS	LF009M2 QTS	1"	NPT	

PRESSURE/EXPANSION TANK SCHEDULE								
ITEM	DESCRIPTION	MANUFACTURER	MODEL	TANK SIZE (TOTAL GAL)	TANK OPERATING RANGE	RATED DRAWDOWN (GAL)	DIMENSIONS	CONNECTION SIZE/TYPE
DPT	PRESSURE TANK	GOULDS	V260	84.9	40/60 PSIG	22.8	22"D, 60.75 H	1 1/4" NPT
HET	THERMAL EXPANSION TANK	GOULDS	V6P	1.9	40/140 F THERMAL RANGE	.5	8.25"D, 10.25"H	3/4" NPT

AIR ADMITTENCE VALVE SCHEDULE								
ITEM	SYSTEM	DESCRIPTION	MANUFACTURER	MODEL NAME	MODEL NUMBER	PIPE CONNECTION SIZE	VENTED FIXTURE	
AAV-1	BLACKWATER	AIR ADMITTENCE VALVE	OATEY	SURE-VENT	39016	2"	KITCHEN SINK AND DISHWASHER	
AAV-2	GREYWATER	AIR ADMITTENCE VALVE	OATEY	SURE-VENT	39016	2"	LAUNDRY	
AAV-3	GREY AND BLACKWATER	AIR ADMITTENCE VALVE	OATEY	SURE-VENT	39016	2"	TOILET, LAVATORY, SHOWER	

GENERAL SHEET NOTES

REFERENCE KEYNOTES

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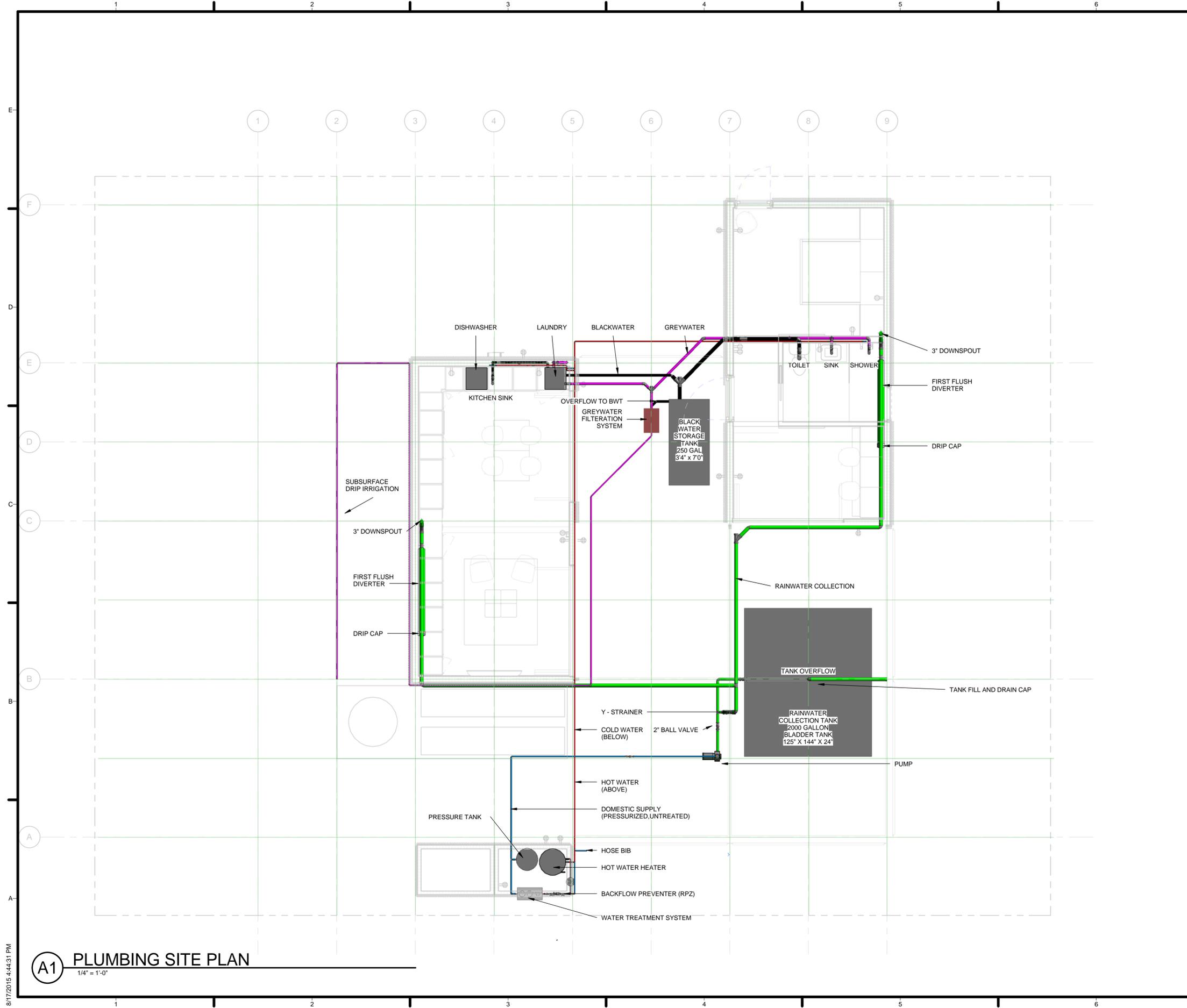


2	AUG 17, 2015	AS BUILT
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SHEET TITLE  
 PLUMBING SCHEDULES

P-003

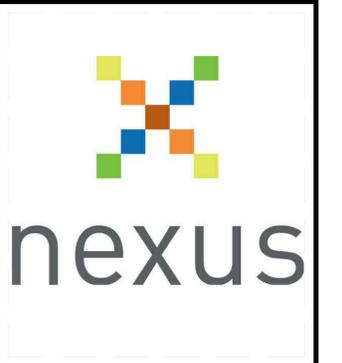


**GENERAL SHEET NOTES**

- 1) THE PLUMBING WILL BE DESIGNED AND BUILT IN ACCORDANCE WITH THE 2012 UNIFORM PLUMBING CODE, AND THE U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2015 BUILDING CODE. THE STRICTER OF THE TWO CODES WILL BE FOLLOWED IN AREAS OF CONFLICT.
- 2) ALL POTABLE WATER AND WASTEWATER KEPT BELOW THE DECK, WHICH SHADES THE WATER STORAGE TANKS DURING THE REQUIRED HOURS.
- 3) COMPETITION FILL WATER WILL BE PUMPED INTO THE RAINWATER COLLECTION TANK VIA TRAP DOOR IN THE DECK ABOVE. WATER WILL BE REMOVED IN A SIMILAR MANNER.

**REFERENCE KEYNOTES**

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SHEET TITLE  
**PLUMBING SITE PLAN**

**P-101**

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

8/17/2015 4:44:31 PM



**GENERAL SHEET NOTES**

ALL HOUSE WATER TREATED VIA WATER TREATMENT SYSTEM TO REQUIRED LEVEL TO MEET CODE.  
 COMPETITION DOMESTIC WATER KEPT IN RAINWATER BLADDER TANK.  
 TANK IS LOCATED UNDER DECK AND THEREFORE FULLY SHADED FROM 9AM-5PM.



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CONSULTANTS:  
 JQ (STRUCTURAL ENGINEERING)

**REFERENCE KEYNOTES**



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**SHEET KEYNOTES**

SHEET TITLE  
 DOMESTIC SUPPLY

**P-102**

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

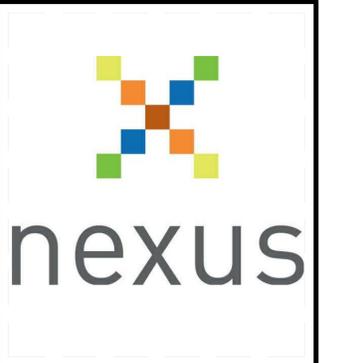
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GENERAL SHEET NOTES

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SHEET KEYNOTES



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SHEET TITLE  
 GREYWATER PLAN

P-103

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

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GENERAL SHEET NOTES

GENERAL SHEET NOTES

REFERENCE KEYNOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

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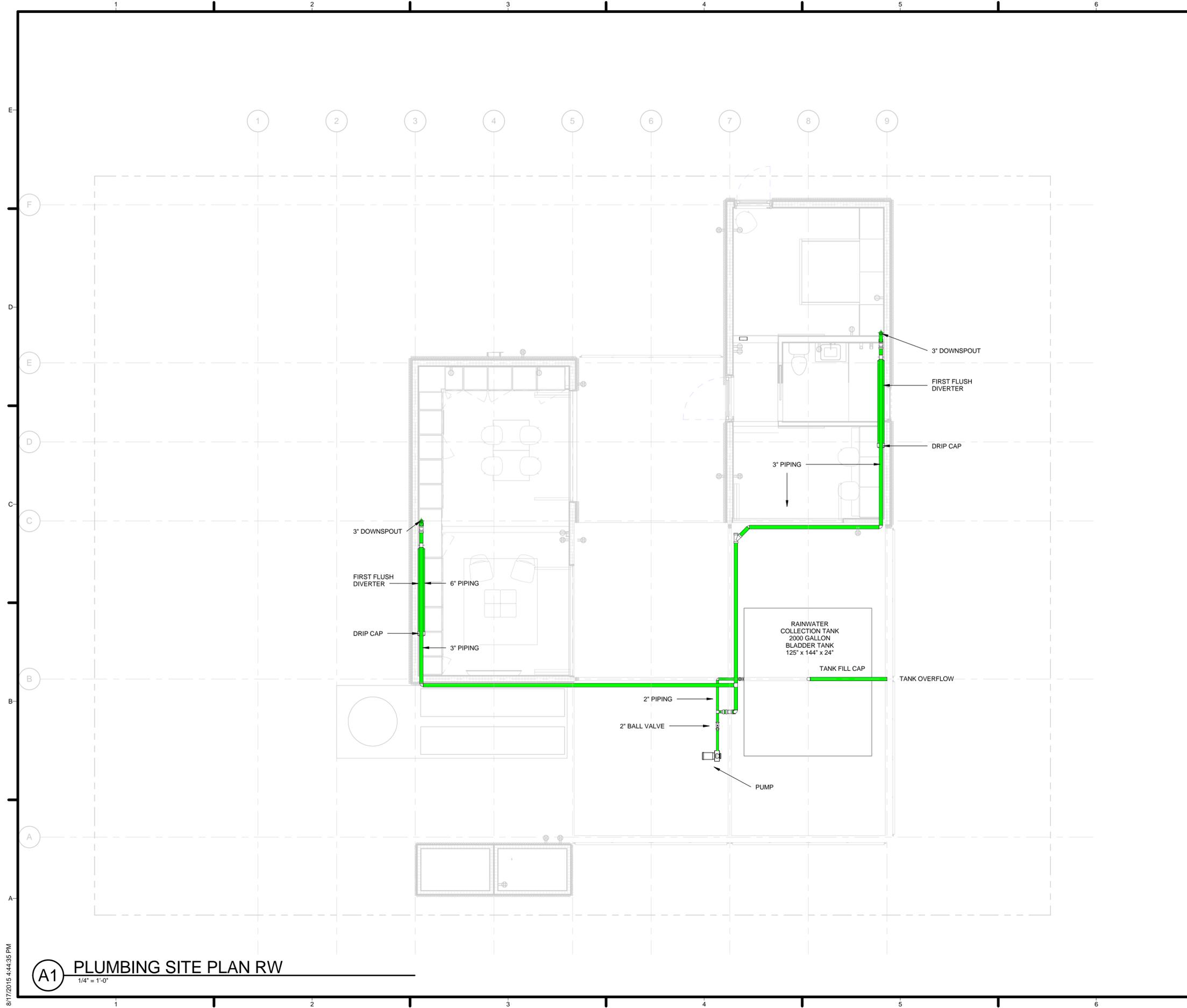
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SHEET TITLE  
 BLACKWATER PLAN

P-104

**(A1)** PLUMBING SITE PLAN BW  
 1/4" = 1'-0"

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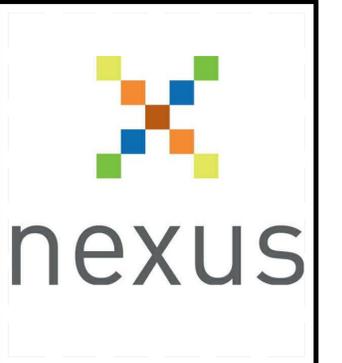


**GENERAL SHEET NOTES**

RAINWATER PLANS WERE DESIGNED IN ACCORDANCE TO SOLAR DECATHLON RULES AND BUILDING CODE

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**



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SHEET TITLE  
**RAINWATER PLAN**

**P-105**

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

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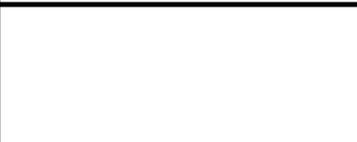
AAV: AIR ADMITTANCE VALVE  
7

GENERAL SHEET NOTES

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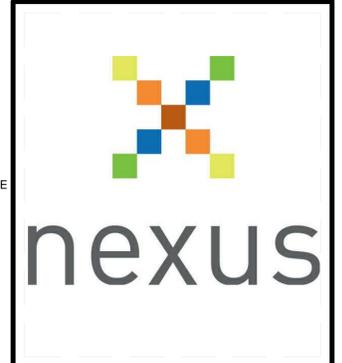
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SHEET TITLE

PLUMBING ISOMETRICS

P-201



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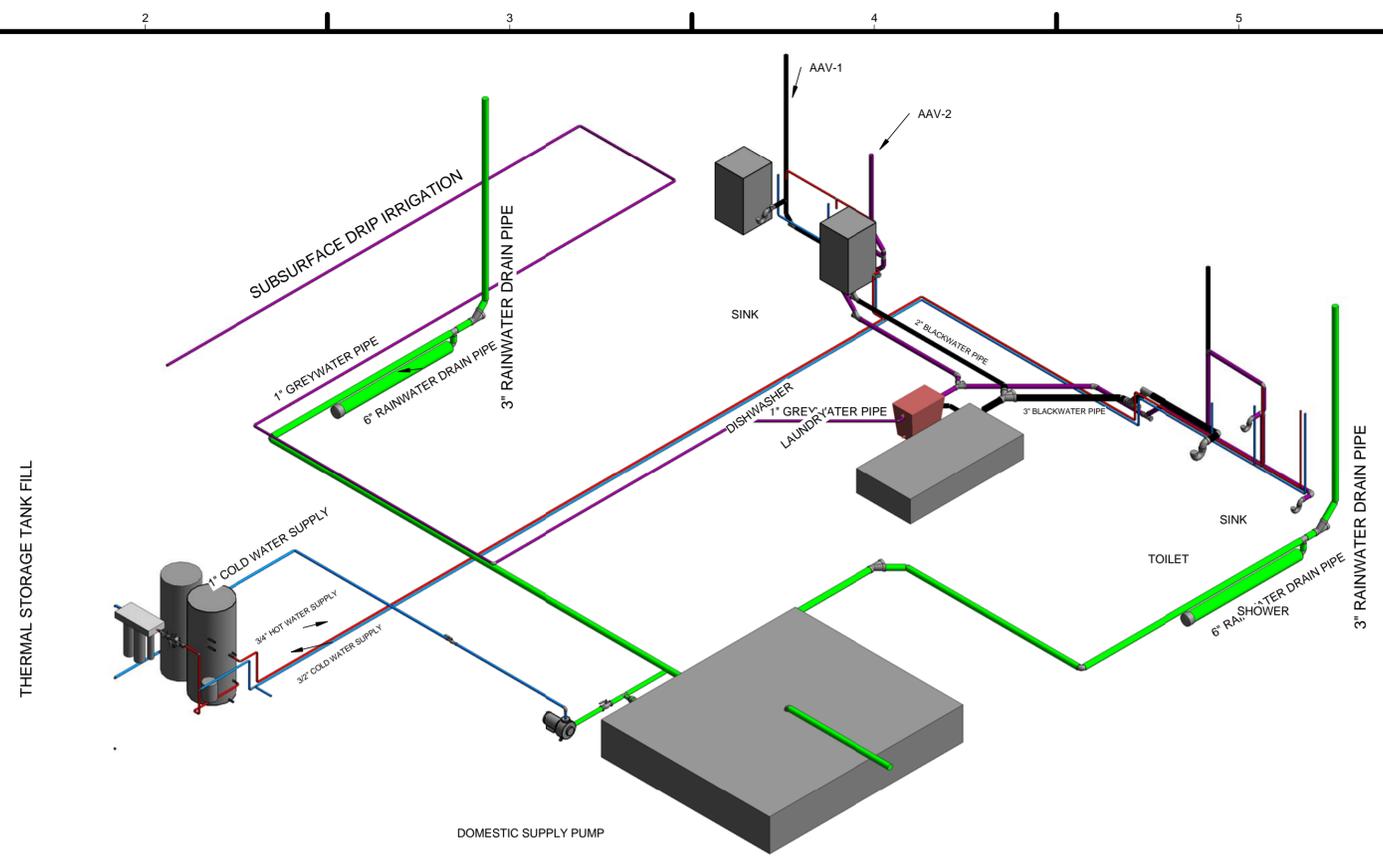
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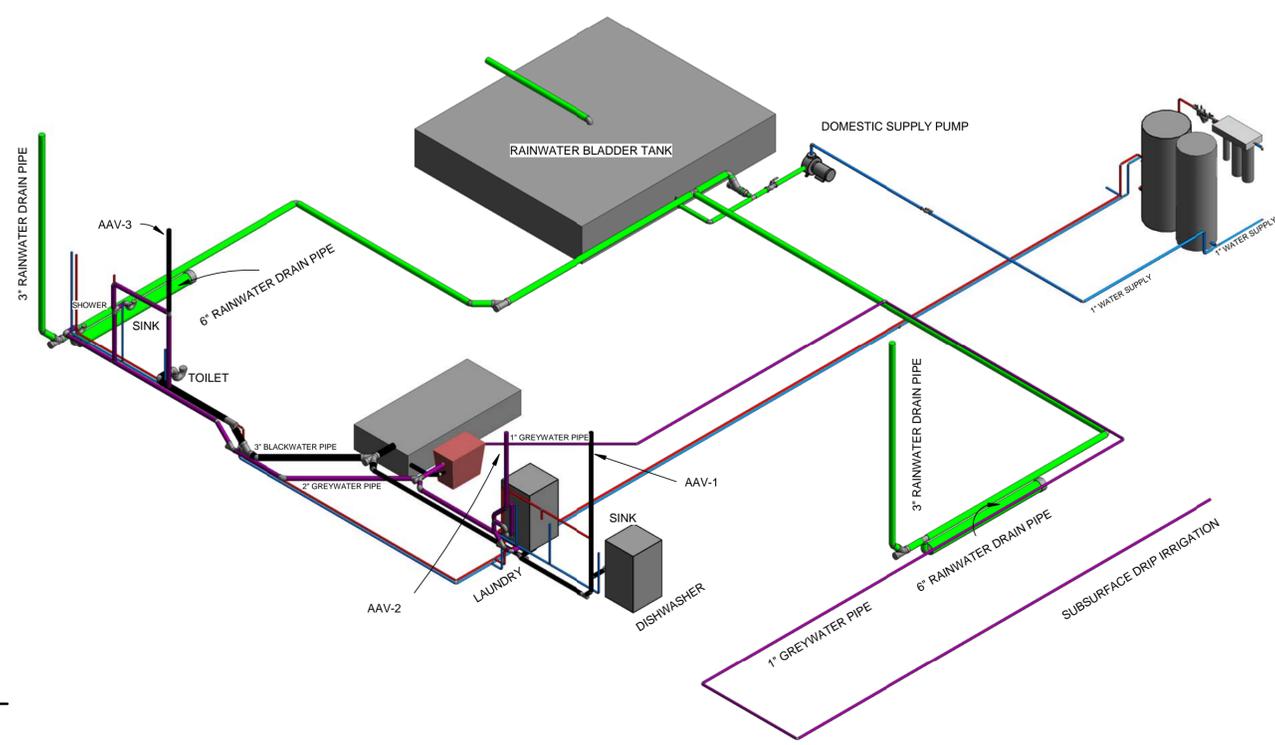
SHEET TITLE

PLUMBING ISOMETRICS

P-201



C1 3D Plumbing SE



A1 3D Plumbing NW

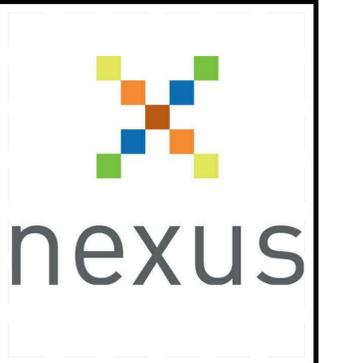
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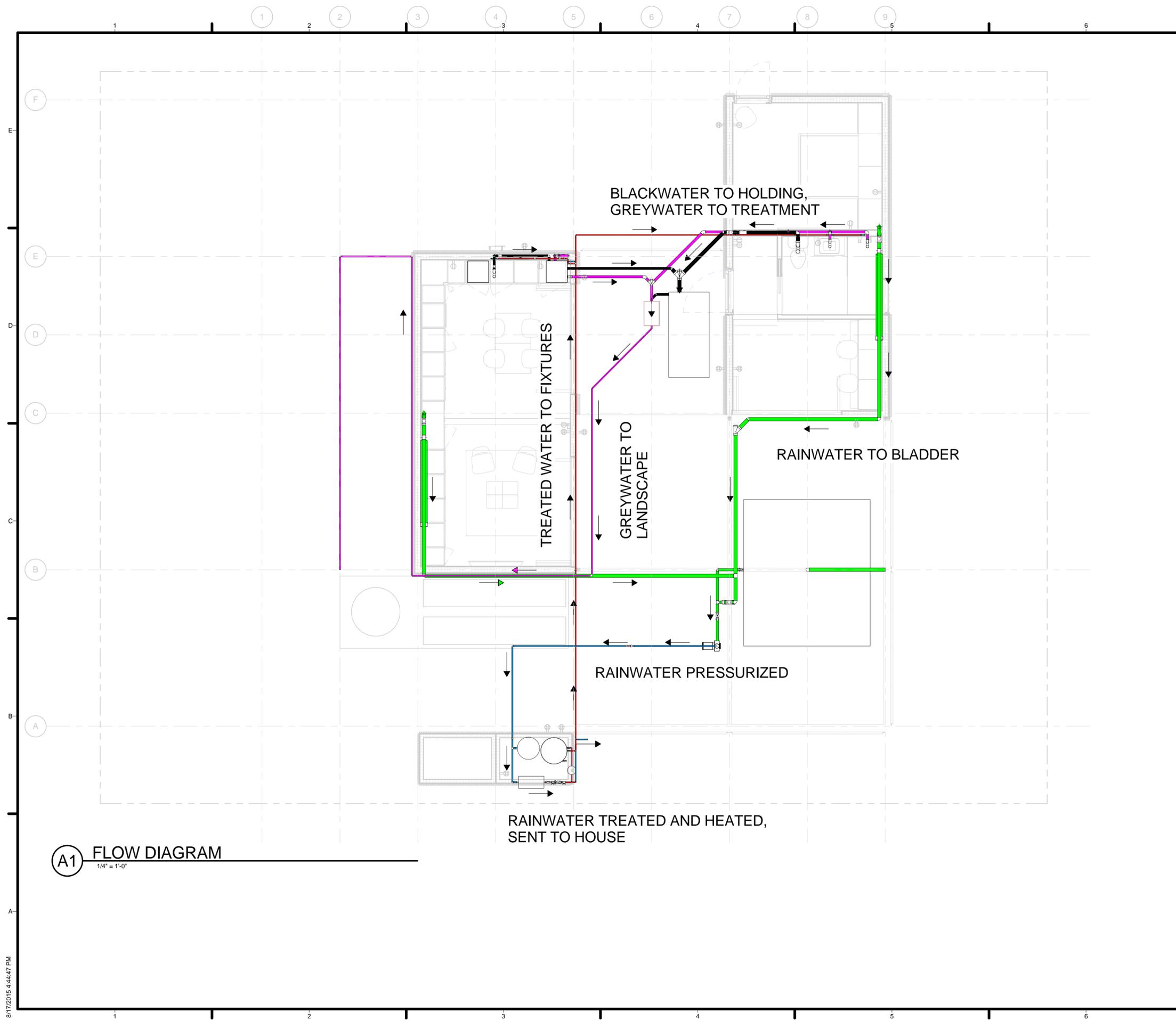
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SHEET TITLE  
 PLUMBING SECTION  
 SUPPLY

P-203

**A1** Section Kitchen-Bathroom  
 1/2" = 1'-0"

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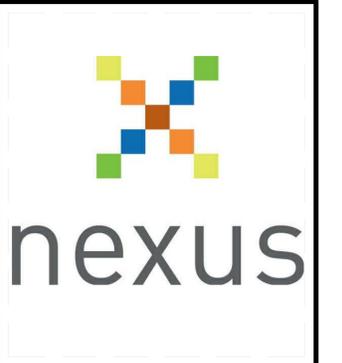


**A1 FLOW DIAGRAM**  
 1/4" = 1'-0"

GENERAL SHEET NOTES

REFERENCE KEYNOTES

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SHEET TITLE  
**PLUMBING FLOW DIAGRAM**

**P-301**



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SHEET TITLE  
**MECHANICAL SYMBOLS AND SCHEDULES**

**M-001**

EQUIPMENT REFERENCES	
SYMBOL	DESCRIPTION
	EQUIPMENT MARK

ABBREVIATIONS	
SYMBOL	DESCRIPTION
EF	EXHAUST FAN
EPT	EXPANSION PRESSURE TANK
ERV	ENERGY RECOVERY VENTILATOR
FCU	FAN COIL UNIT
HX	HEAT EXCHANGER
ID	INDOOR UNIT
OD	OUTDOOR UNIT
P-FS	FIRE SUPPRESSION PUMP
P-HL	HYDRONIC LOOP PUMP
P-TS	THERMAL STORAGE PUMP
T	THERMOSTAT
TES	THERMAL ENERGY STORAGE TANK

FAN COIL SCHEDULE													
MARK	MANUFACTURER	MODEL	LOCATION	INLET/OUTLET SIZE (Ø")	HEATING			COOLING				PRESSURE DROP - HEAD (PSI)	MAX POWER (W)
					WATER FLOW RATE (GPM)	LVG TEMP (°F)	HEATING CAPACITY (BTU/HR)	WATER FLOW RATE (GPM)	LVG TEMP (°F)	TOTAL LOAD (BTU/HR)	AIRFLOW RATE (CFM)		
FCU-1	CHILTRIX	CXI 84	DAY UNIT-ABOVE REFRIGERATOR	3/4	1.8	110	8090	1.8	44	8500	270	3.98	21
FCU-2	CHILTRIX	CXI 34	NIGHT-UNIT BATHROOM DROP CEILING	3/4	1.2	110	3550	1.2	44	3380	94	1.57	14
FCU-3	CHILTRIX	CXI 34	NIGHT-UNIT BATHROOM DROP CEILING	3/4	1.2	110	3550	1.2	44	3380	94	1.57	14

EXPANSION TANK SCHEDULE								
MARK	SERVICE	MANUFACTURER	SERIES	TANK SIZE (GALLONS)	MAX DRAWDOWN VOLUME (GALLONS)	HEIGHT (IN)	DIAMETER (IN)	NOTES
EPT	HYDRONIC LOOP	GOULDS	V69	1.9	1.3	8 1/4	10 3/16	

AIR DISTRIBUTION DEVICE SCHEDULE							
MARK	DESCRIPTION	SIZE	MOUNT	FINISH	MANUFACTURER	MODEL	NOTES
A	SIDEWALL SUPPLY REGISTER	10"x6"	SIDEWALL	WHITE	TITUS	300FS	
B	RETURN REGISTER	19"x7"	ON WALL FACE ABOVE DOOR	WHITE	TITUS	350RL	
R1	RETURN REGISTER	19"x7"	ON WALL FACE ABOVE DOOR	WHITE	TITUS	350RL	

PIPE SCHEDULE					
MANUFACTURER	MODEL	SIZE	MATERIAL TYPE	FITTING TYPE	JOINT TYPE
UPONOR	CROSSLINKED POLYETHYLENE (PEX)	1"	PEX-A	PROPEX, NPT	COLD EXPANSION FITTING
UPONOR	CROSSLINKED POLYETHYLENE (PEX)	3/4"	PEX-A	PROPEX, NPT	COLD EXPANSION FITTING
CERRO	COPPER, TYPE K HARD	1"	COPPER	SOLDER, NPT	SOLDER

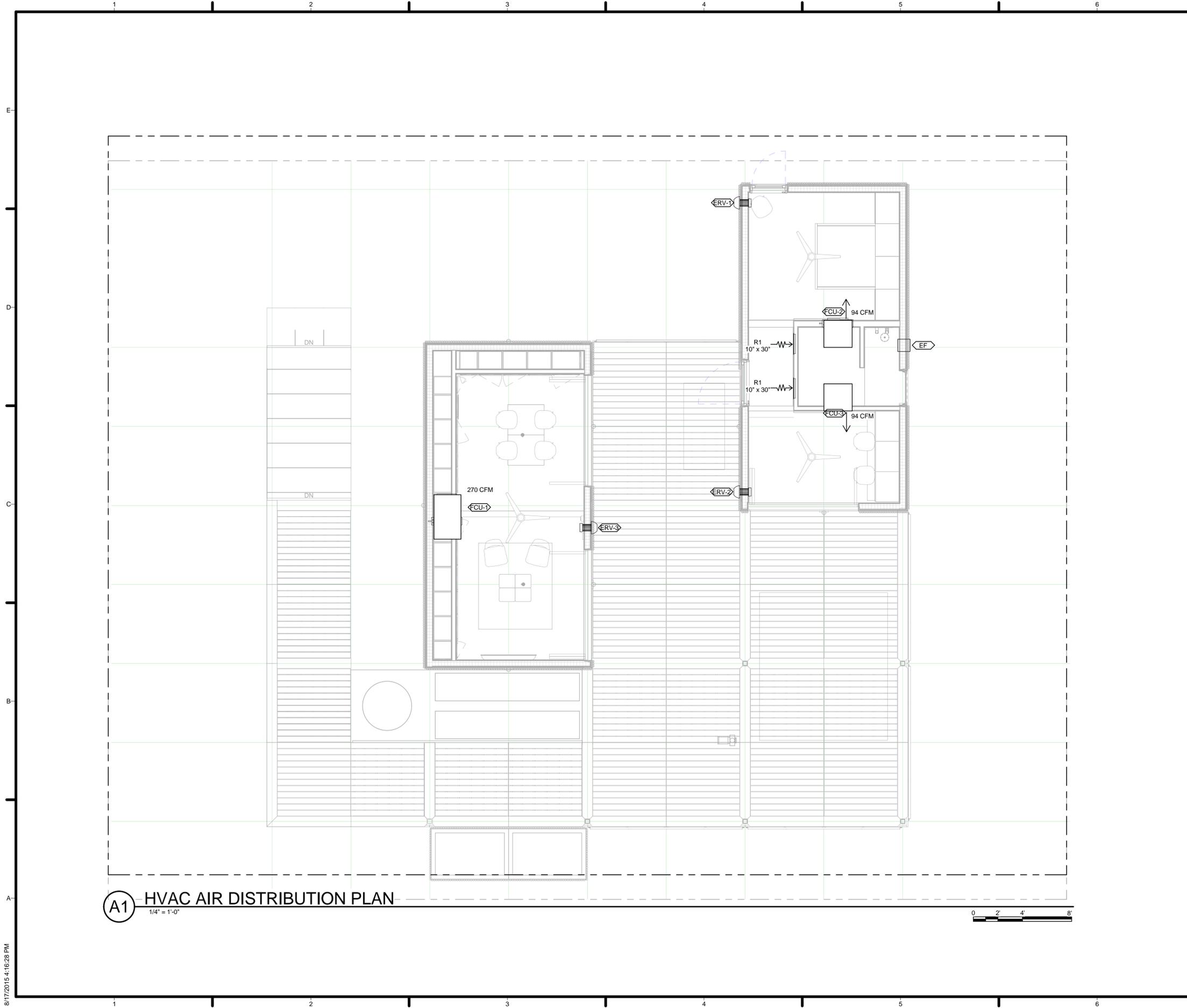
PIPE INSULATION SCHEDULE							
INSULATION TYPE	DESCRIPTION	MANUFACTURER	MODEL	INTERNAL DIAMETER (IN)	WALL THICKNESS (IN)	R	NOTES
SELF-SEAL POLYETHYLENE FOAM	HYDRONIC SYSTEM PIPE INSULATION	NOMALOCK	NRG5	7/8	1	7.2	
SELF-SEAL POLYETHYLENE FOAM	HYDRONIC SYSTEM PIPE INSULATION	NOMALOCK	NRG5	1 1/8	1	6.8	

REVERSIBLE AIR-SOURCE CHILLER/HEAT PUMP SCHEDULE																					
MARK	MANUFACTURER	MODEL	PLUMBING		OPERATING RANGE						REFRIGERANT TYPE	CHARGE (LBS)	CAPACITIES / PERFORMANCE				ELECTRICAL DATA				NOTES
			INLET/OUTLET CONNECTIONS	WATER FLOW RATE (GPM)	COOLING TEMP		HEATING TEMP		DOMESTIC HOT WATER TEMP				HEATING		COOLING		MCA	VOLTAGE	PH	HZ	
					MIN (°F)	MAX (°F)	MIN (°F)	MAX (°F)	MIN (°F)	MAX (°F)			CAPACITY (BTU/HR) (KBH)	INPUT POWER (KW) (KW)	CAPACITY (BTU/HR) (KBH)	INPUT POWER (KW) (KW)					
C/HP	CHILTRIX	CX30	1" NPT	0.2 - 6	-4	126	-13	100	-4	110	R-410A	4.4	25850	1.7	20160	1.47	12	208-240	1	60	

THERMAL ENERGY STORAGE TANK SCHEDULE												
MARK	MANUFACTURER	MODEL	SYSTEM TYPE	DIAMETER (IN)	HEIGHT (IN)	MIN VOLUME (GAL)	CAPACITY (GAL)	MIN CHARGE PRESSURE	SYSTEM OPERATING TEMP		OUTLET	NOTES
									MIN (°F)	MAX (°F)		
TES	COR-GAL	GARDENTANK 4-1000	CHILLED WATER	48	131	500	1000	UNPRESSURIZED	43	55	2" FEMALE NPT	R-10 INSULATION

PUMP SCHEDULE												
MARK	MANUF	MODEL	SYSTEM	IMPELLER DIAMETER (IN)	FLOW RATE (GPM)	HEAD (FT)	% EFFICIENCY	ELECTRICAL DATA			HZ	NOTES
								HP	VOLTAGE	PH		
P-TS	BELL & GOSSETT	ECOCIRC XL B 36-45	TES LOOP		4.2	25		1/6	230	29	50/60	
P-HL	BELL & GOSSETT	ECOCIRC XL B 55-45	HYDRONIC LOOP		4.2	30		1/2	230	38	50/60	





**A1** HVAC AIR DISTRIBUTION PLAN  
 1/4" = 1'-0"

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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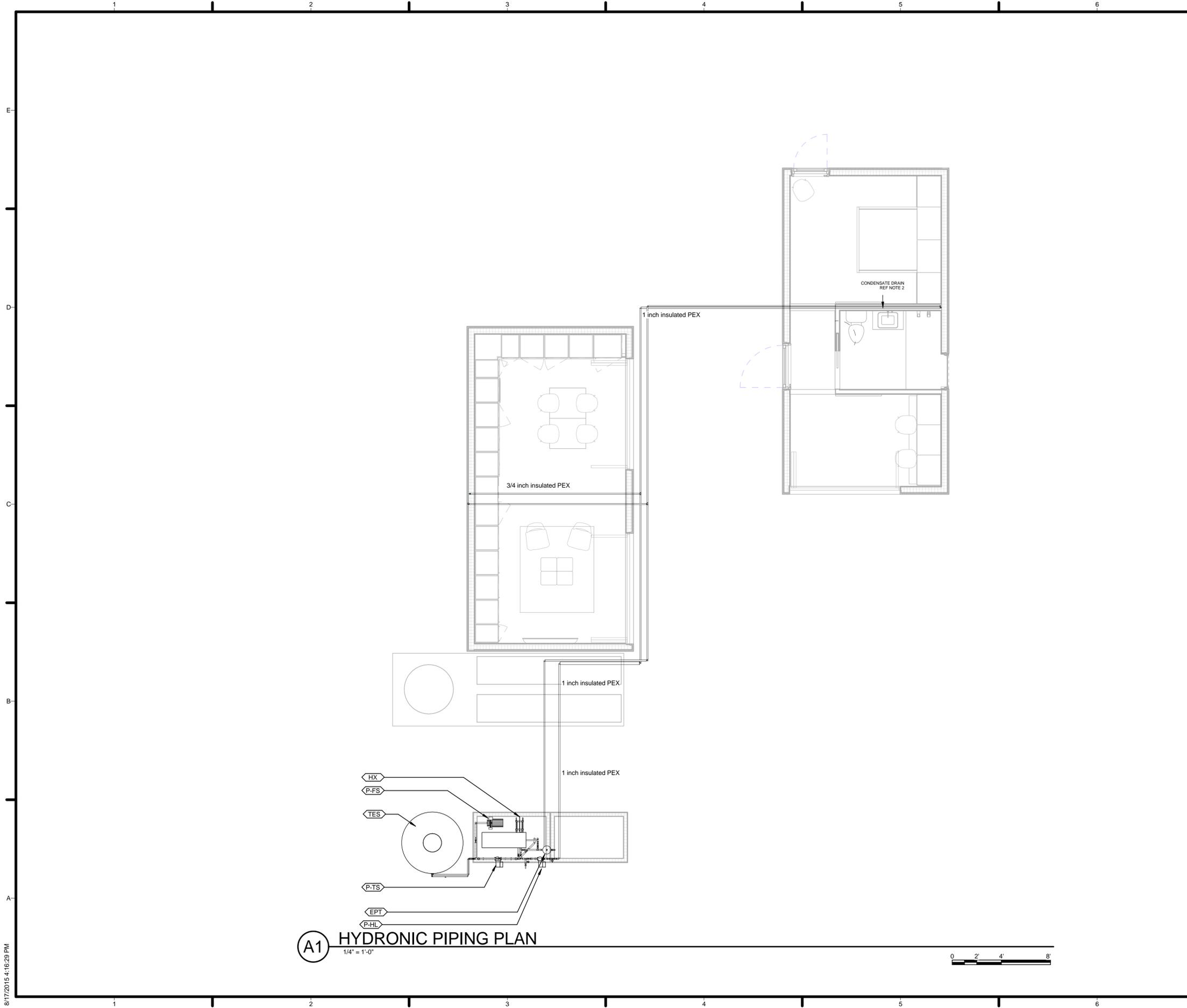


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 HVAC AIR DISTRIBUTION PLAN

**M-101**



**(A1) HYDRONIC PIPING PLAN**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

1. DRAIN CONDENSATE FROM FAN COIL (FCU-1) TO AQUAPONICS SYSTEM. INSTALL P-TRAP AND INSECT SCREEN TO PREVENT EXTERNAL INTRUSIONS.
2. DRAIN CONDENSATE FROM FAN COIL (FCU-2) TO LAVATORY DRAIN DOWNSTREAM OF P-TRAP.

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**



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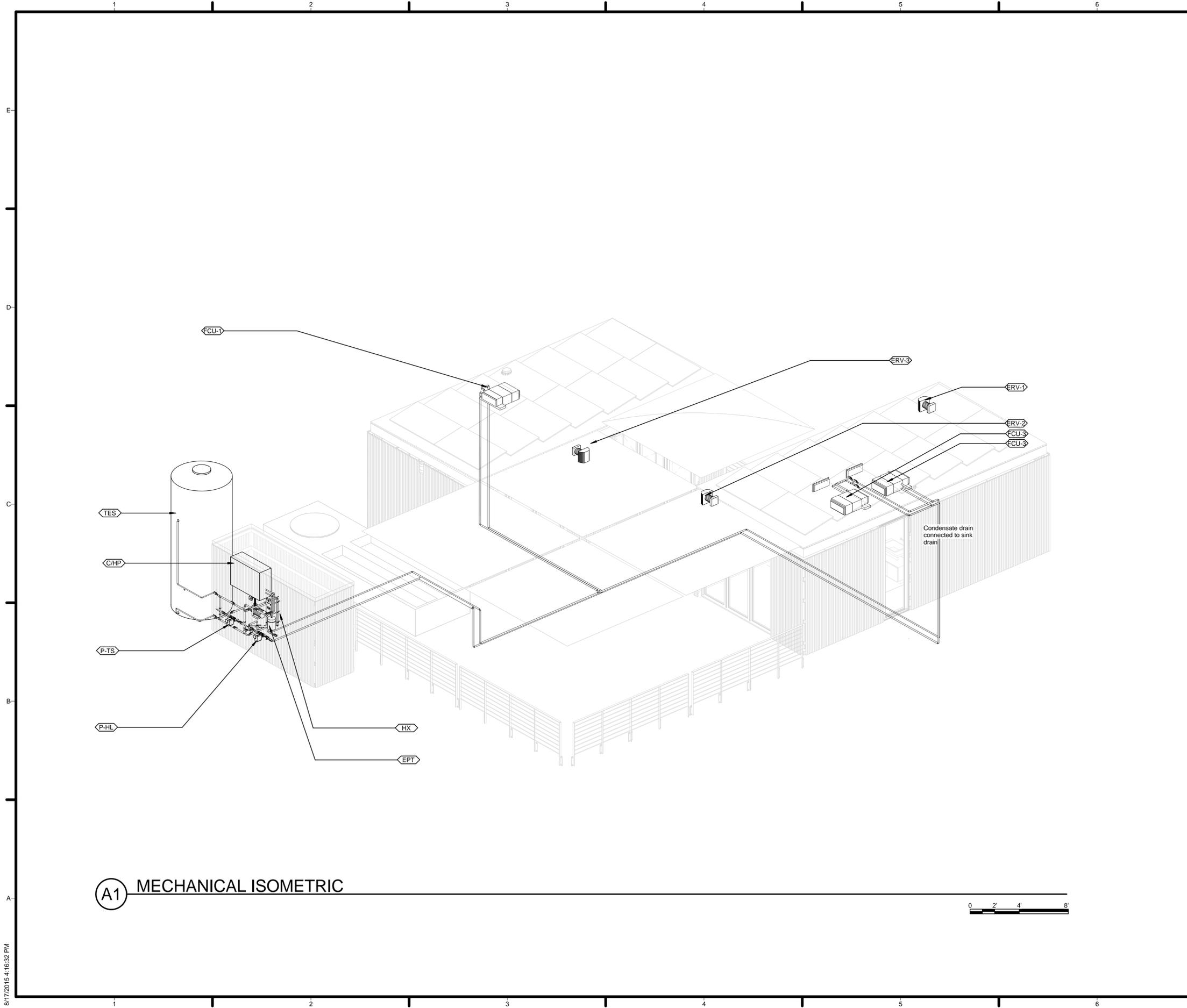
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SHEET TITLE  
**HYDRONIC PIPING PLAN**

**M-201**

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GENERAL SHEET NOTES

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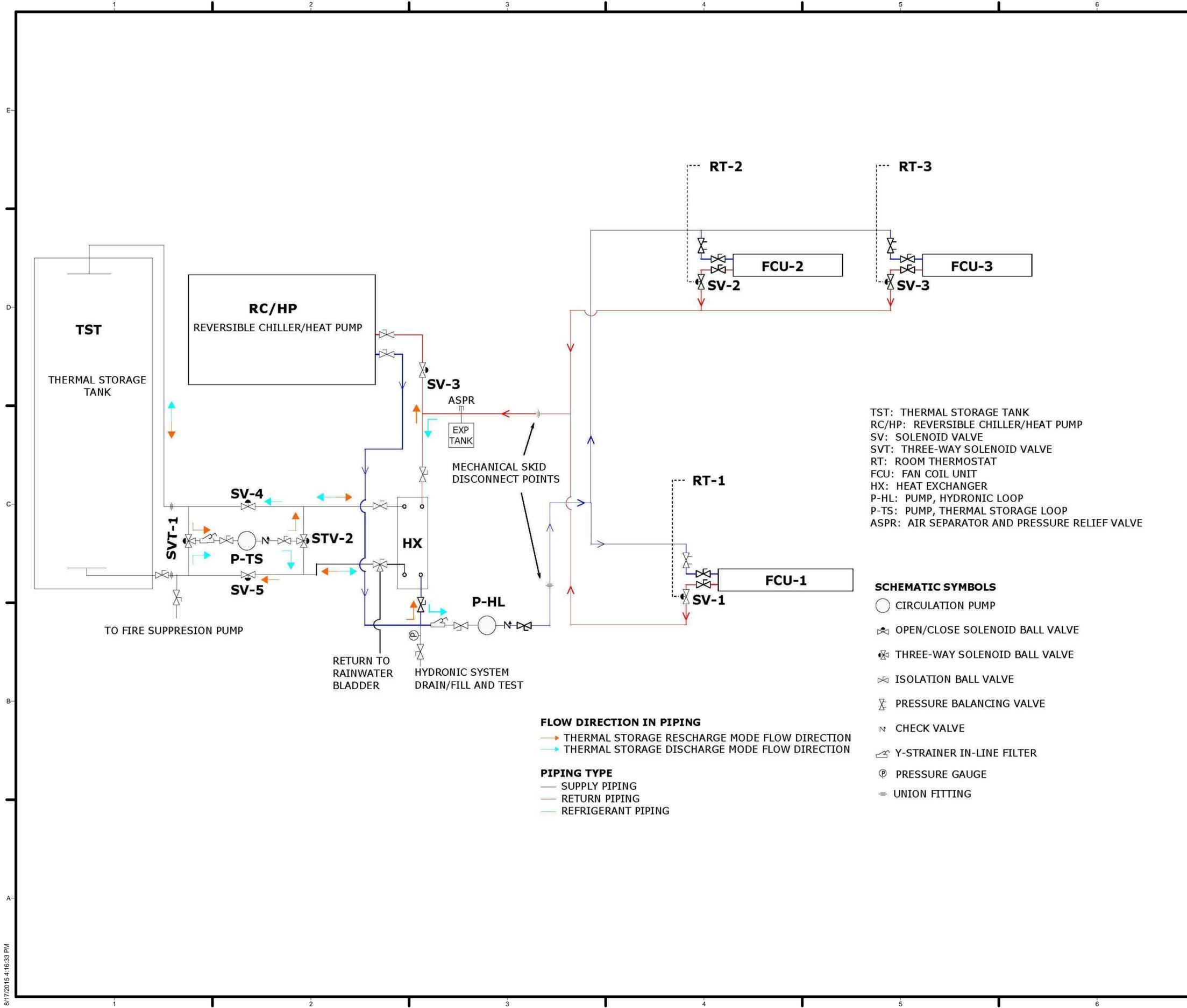
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SHEET TITLE  
 MECHANICAL SYSTEM ISOMETRIC

M-301



**GENERAL SHEET NOTES**

ALL VALVES BETWEEN TANK AND FIRE SUPPRESSION PUMP WILL BE LOCKABLE AND LOCKED OPEN. VALVES ONLY FOR TEMPORARY ISOLATION OF SYSTEM FOR INSTALLATION, TESTING, AND MAINTENANCE.

**REFERENCE KEYNOTES**

TST: THERMAL STORAGE TANK  
 RC/HP: REVERSIBLE CHILLER/HEAT PUMP  
 SV: SOLENOID VALVE  
 SVT: THREE-WAY SOLENOID VALVE  
 RT: ROOM THERMOSTAT  
 FCU: FAN COIL UNIT  
 HX: HEAT EXCHANGER  
 P-HL: PUMP, HYDRONIC LOOP  
 P-TS: PUMP, THERMAL STORAGE LOOP  
 ASPR: AIR SEPARATOR AND PRESSURE RELIEF VALVE

**SCHEMATIC SYMBOLS**

- CIRCULATION PUMP
- OPEN/CLOSE SOLENOID BALL VALVE
- THREE-WAY SOLENOID BALL VALVE
- ISOLATION BALL VALVE
- PRESSURE BALANCING VALVE
- CHECK VALVE
- Y-STRAINER IN-LINE FILTER
- PRESSURE GAUGE
- UNION FITTING

**FLOW DIRECTION IN PIPING**

- THERMAL STORAGE RECHARGE MODE FLOW DIRECTION
- THERMAL STORAGE DISCHARGE MODE FLOW DIRECTION

**PIPING TYPE**

- SUPPLY PIPING
- RETURN PIPING
- REFRIGERANT PIPING



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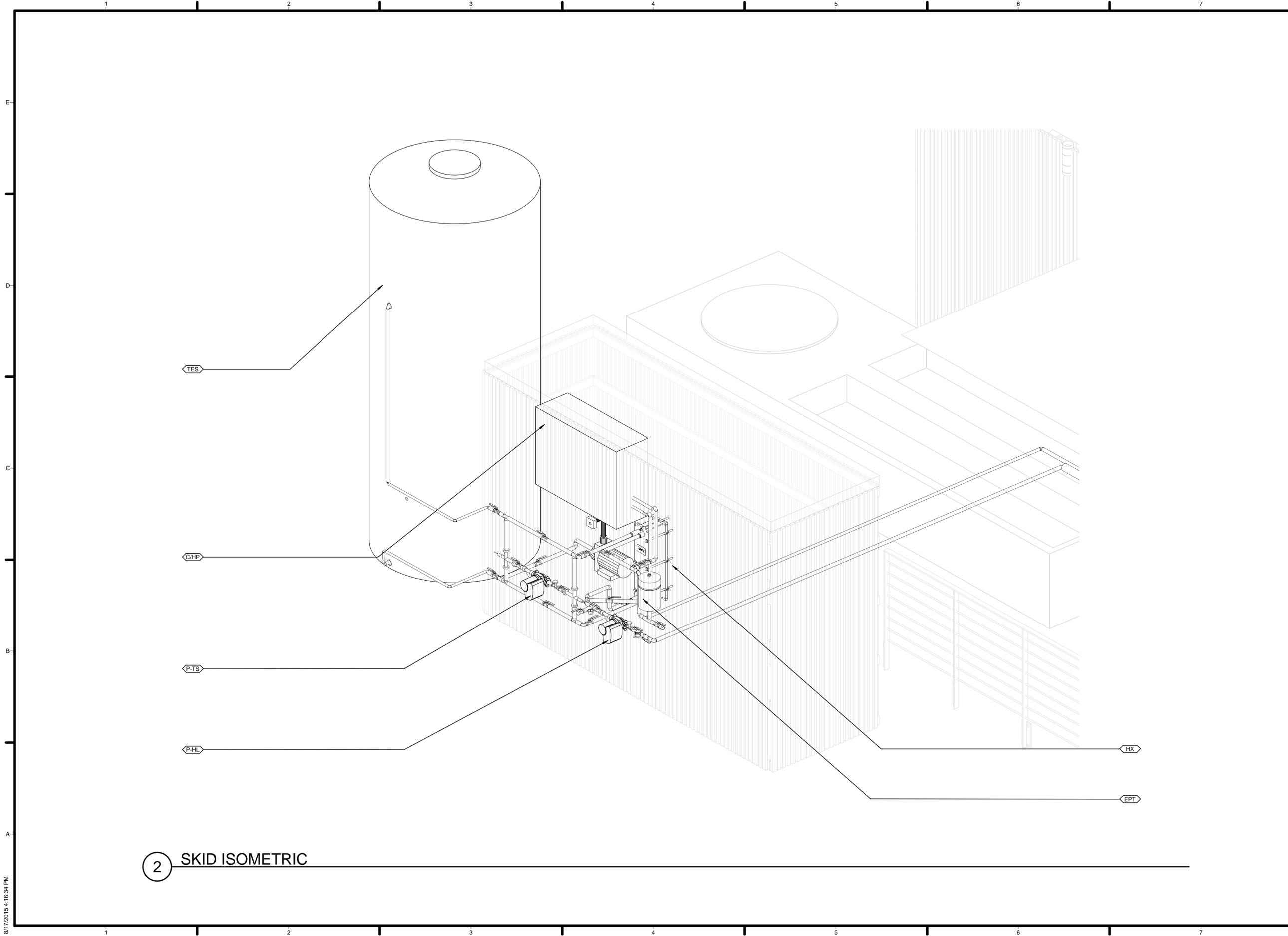


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SHEET TITLE  
 HVAC SCHEMATIC DIAGRAM

M-601



2 SKID ISOMETRIC

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SHEET TITLE  
 SKID DETAIL

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## M-802

ABBREVIATIONS	
HM	Home Monitoring
DM	Dimmer
TV	Television
GEC	Grounding Electrodes Conductor
EC	Electrical Connection
I	Inverter
PV	Photovoltaic Panel
GFI	Ground Fault Interrupter
SP	Sub Panel NOTE: reference Sub Panel schedule for detail
MP	Main Panel NOTE: reference Main Panel schedule for detail
WP	Weather Proof
EGC	Equipment Grounding Conductor
BMW	BMW Wallbox
MP	Electric Panel See panel schedule for specifications

ELECTRICAL LEGEND	
	SINGLE SWITCH
	THREE WAY SWITCH
	DUPLEX OUTLET
	QUADRUPLEX OUTLET
	GROUND FAULT INTERRUPTER DUPLEX OUTLET
	GROUND FAULT INTERRUPTER QUADRUPLEX OUTLET
	DISTRIBUTION PANEL
	DISTRIBUTION PANEL
	WALL-MOUNTED LIGHTING
	UNDER CABINET LIGHTING
	SCONCE
	FAN VENT
	CEILING FAN
	RAIL-MOUNTED LIGHTING

Residential Load Calculation Sheet			
Load Type	Load Value	Multiplier / Demand	Total [kVA]
<b>Lighting</b>	800 sq. ft x 3 VA =	8400 VA: 3 kVA @ 100% 8.4 kVA @ 35%	5.52
	2.4 kVA		
	3 x 1500 VA =		
	4.5 kVA		
<b>Small Appliance Circuit</b>	1.5 kVA		
<b>Bathroom Circuit</b>	1.5 kVA		
Washer (W3038)	1.8 kVA		
Dryer (T8019CI)	5.76 kVA		5.76
<b>Cooking</b>		Table 220.55	
Oven (24" H6560 B Countour Line)	7.2 kVA	80%	5.76
Cooktop (24" KM 5850)	9.6 kVA	8 kW max	8
<b>Fixed Appliances</b>			
Living room Fan Coil	0.18 kVA		0.18
Bathroom Fan Coil	0.228 kVA		0.228
Exhaust Hood (24" DA 3460)	1.8 kVA	3 appliances @ 75%	1.44
Refrigerator and Freezer (30" KF 1801SF)	1.8 kVA		1.44
Dishwasher (Futura Classic G 4225)	1.8 kVA		1.44
<b>Car (BMW i6)</b>			
	3.84 kVA		3.84
<b>Mechanical</b>			
Thermal Storage Pump	0.345 kVA		0.35
Hydronic Circ Pump	0.46 kVA		0.46
Chiller/Heat Pump Unit	2.88 kVA		2.88
Fire Pump (Largest Motor)	2.4 kVA	125%	3.00
HVAC Controller	0.18 kVA		0.18
Heat Pump Water Heater	5.29 kVA		5.29
<b>Water Equipment</b>			
Rainwater Treatment	0.12 kVA		0.12
Rainwater Pump	1.2 kVA		1.2
Greywater equipment (under Nexus):	0.46 kVA		0.46
		<b>Total</b>	<b>47.54</b> <b>kVA</b>
		<b>Amps</b>	<b>198.10</b> <b>kVA</b>

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES



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CONSULTANTS:  
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SHEET TITLE  
 ELECTRICAL SYMBOLS,  
 ABBREVIATIONS, AND  
 NOTES

E-001



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 SCHEDULES

E-002

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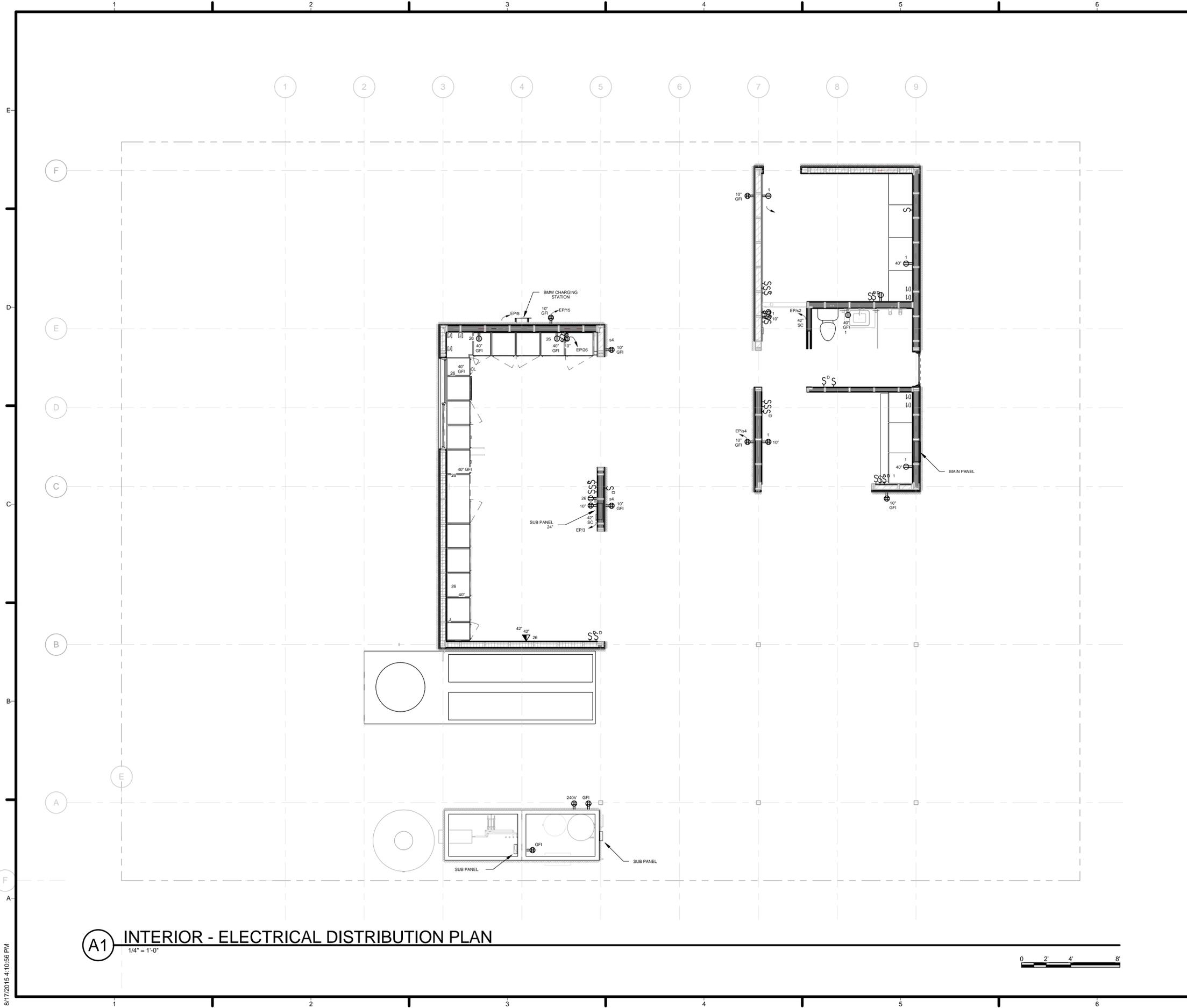
Electric Panel Schedule											
Panel: Square D by Schneider Electric											
Fed from: Main Service Panel (8 and 10 breakers)											
Location: Bedroom Hallway											
Bus Amps: 100A											
Voltage: 120/240											
1 Phase. 3 Wire + GND											
Pole	AWG Size	Trip [A]	Type	Material	Load Description	#					
1	12	25	THWN	Copper	Home Monitoring	s1					
1	12	25	AFCI	Copper	Lights in Module 2	s2					
1	12	25	AFCI	Copper	Sensors	s3					
2	12	25	THWN	Copper	Outdoor Receptacles	s4					

Electric Panel Schedule													
Panel: Square D by Schneider Electric													
Fed From: Organizers Micro-Grid													
Location: Garage													
Bus Amps: 200A (Rated for up to 400 A)													
Voltage: 120/240													
1 Phase. 3 Wire + GND													
Pole	AWG Size	Trip [A]	Type	Material	Load Description	#	#	Load Description	Material	Type	Trip [A]	AWG Size	Pole
1	12	25	THWN	Copper	Bedroom Receptacles	1	2	Junction Box (Indoor)	Copper	THWN	25	12	2
1	12	25	THWN	Copper	Lighting and Fans	3	4						
1	12	25	THWN	Copper	Smoke and Heat Detectors	5	6	Refrigerator	Copper	THWN	25	12	1
2	12	18.75	THWN	Copper	Washer	7	8	SUBPANEL	Copper				2
-	-	-	-	-	-	-	10						-
2	8	37.5	THWN	Copper	Dryer	11	12	Cooktop	Copper	THWN	50	8	2
-	-	-	-	-	-	-	-						-
2	8	40	THWN	Copper	Car	15	16	Oven	Copper	THWN	40	8	2
-	-	-	-	-	-	-	-						-
1	12	25	THWN	Copper	GFCI	19	20	Exhaust	Copper	THWN	18.75	12	1
2	12	25	THWN	Copper	Junction Box (Outdoor)	21	22	Water Heater	Copper	THWN	40	8	2
-	-	-	-	-	-	23	24	Bathroom Receptacles	Copper	THWN	25	12	1
1				SPARE		25	26	Kitchen Receptacles	Copper	THWN	25	12	1

Photovoltaic Calculations						
Details	City	October	Year	(DC)	inverter	kWpeak (AC)
Tilt: 7.13° (1.5 to 12); Azimuth: 188°. DC to AC Derate Factor: 0.87 (Calculated with NREL PVWatts)	Austin	744 W(AC)	9228 W(AC)	6.3	0.87	5.481
	Irvine	712 W(AC)	9643 W(AC)			

Specifications						
Photovoltaic Module		Micro-Inverter: DC to AC derate factor is 0.87				
Brand	1SolTech	Brand	Enphase			
Model	1STH-250	Model	M250			
V(oc)	37.3	INPUT	OUTPUT	208VAC	240VAc	
I(sc)	8.66	Max. P(input)	210-300W	Cont. Max P(output)	240W	240W
V(mpp)	30.7	Max. V(input)	48V	Nom. I(output)	1.15A	1A
I(mpp)	8.15	Max. I(input)	15A	Voltage Range	208- 183-229V	240/ 211-264V
P(max)	250	Vmpp	27V	Nom. Frequency	60Hz	60Hz
		Impp	10A	Frequency Range	57-61Hz	57-61Hz

Current and Vrise Calculations for Photovoltaics						
Branch	Current per Branch	Max. Current per Branch	Conductor sizing	Vrise	%Vrise	
1	12	15	10	1.1	0.458	
2	9	11.25	11	0.64	0.267	



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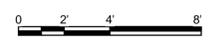
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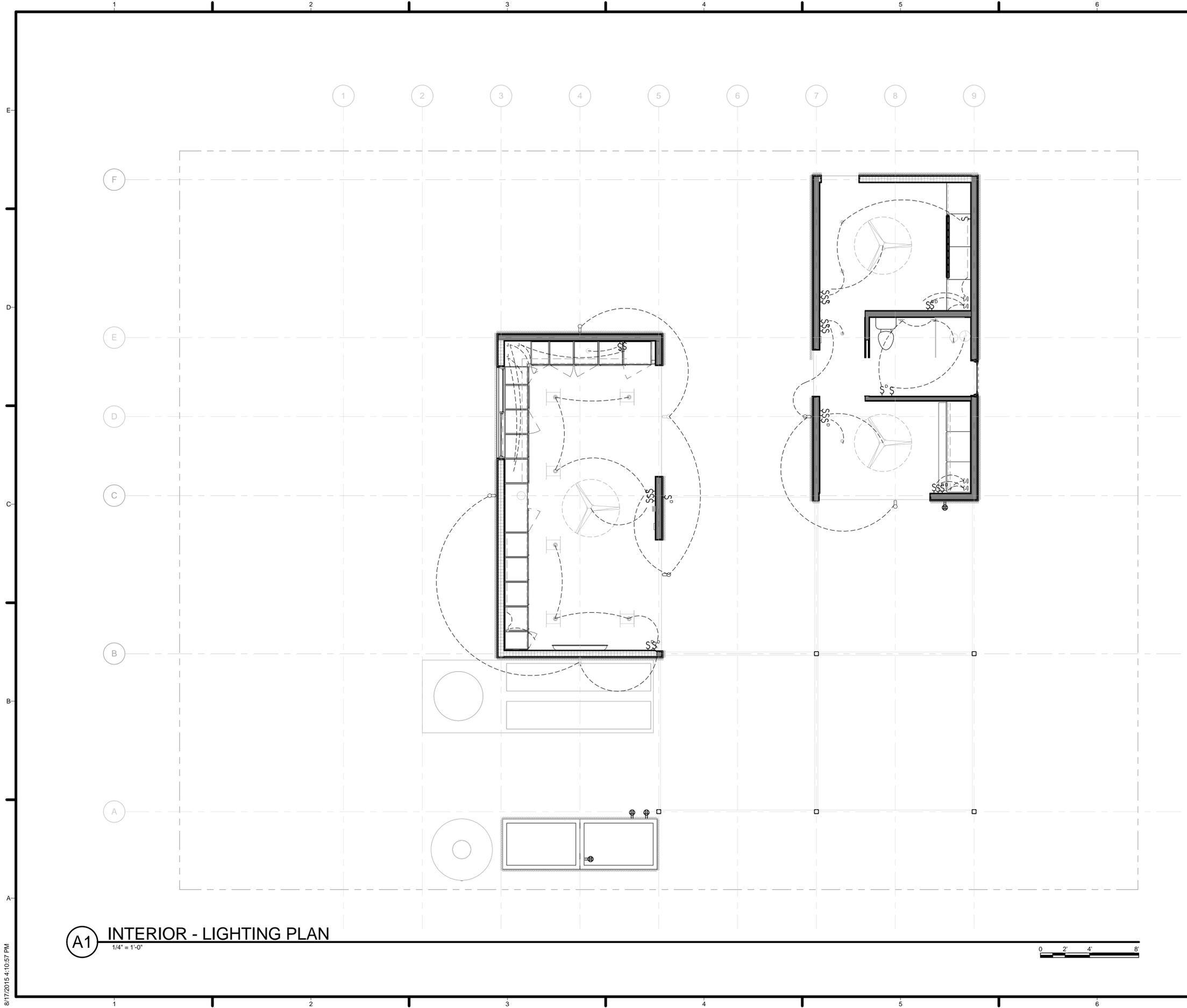
SHEET TITLE  
**ELECTRICAL DISTRIBUTION PLAN**

**E-101**

**A1** INTERIOR - ELECTRICAL DISTRIBUTION PLAN  
 1/4" = 1'-0"



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**GENERAL SHEET NOTES**

1. ALL SWITCHES TO BE PLACE AT 40" ABOVE FINISH FLOOR UNLESS SPECIFIED OTHERWISE



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**SHEET KEYNOTES**

SHEET TITLE  
 ELECTRICAL LIGHTING PLAN

**E-102**

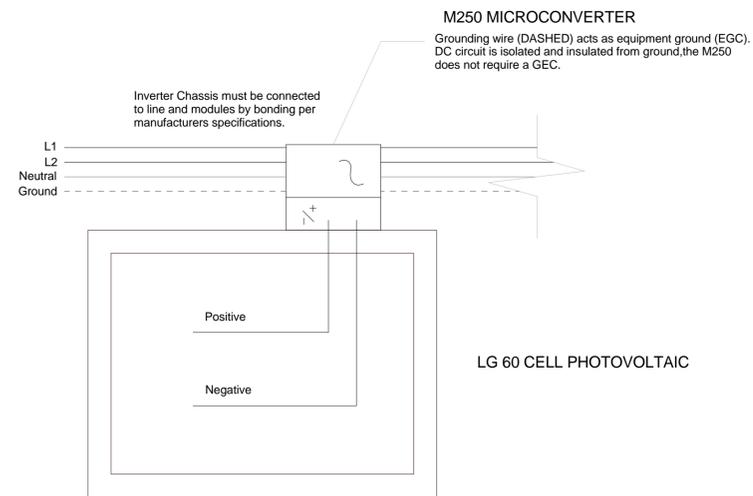
**(A1) INTERIOR - LIGHTING PLAN**  
 1/4" = 1'-0"



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PHOTOVOLTAIC CALCULATIONS				
E-	City	October	Year	
1 Tilt: 7.13° (1.5 to 12); Azimuth: 188°. DC to AC Derate Factor: 0.87	Austin	744 W(AC)	9228 W(AC)	
2	Irvine	712 W(AC)	9643 W(AC)	

SPECIFICATIONS						
Photovoltaic Module	Micro-Inverter: DC to AC derate factor is 0.87					
1. Brand	SolarWorld	Brand	Enphase			
2. Model	Sunmodule Plus - SW 290 MONO	Model	M250			
3. V(oc)	37.9	INPUT		OUTPUT	208VAC	240VAc
4. I(sc)	9.97	Max. P(input)	210-300W	Cont. Max P(output)	240W	240W
5. V(mpp)	31.4	Max. V(input)	48V	Nom. I(output)	1.15A	1A
6. I(mpp)	9.33	Max. I(input)	15A	Voltage Range	208-183-229V	240/ 211-264V
7. P(max)	290	Vmpp	27V	Nom. Frequency	60Hz	60Hz
8		Impp	10A	Frequency Range	57-61Hz	57-61Hz



**A3 SINGLE PANEL WIRING DIAGRAM**  
 1" = 20'-0"

GENERAL SHEET NOTES

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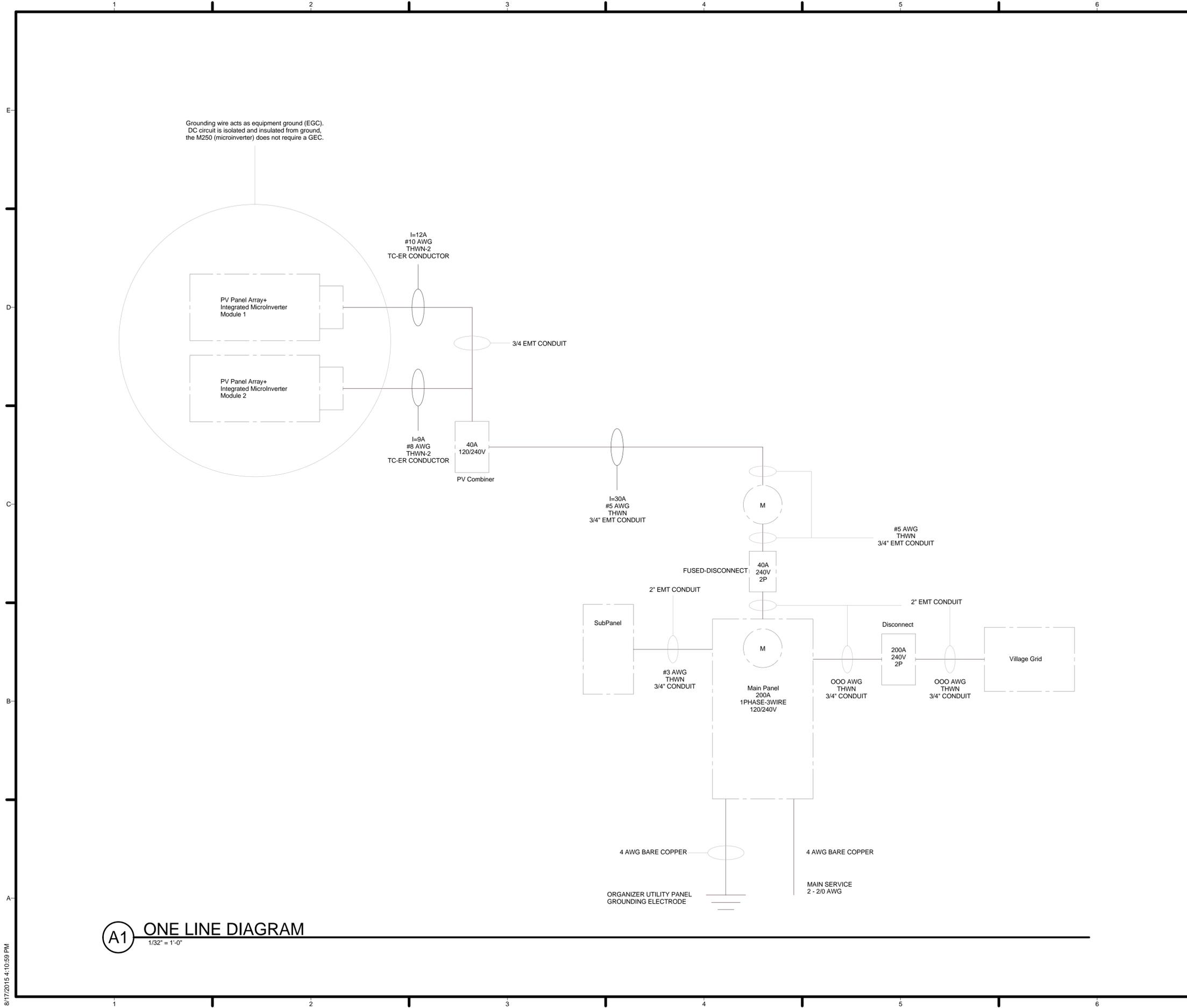


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**PV CALCULATIONS AND DIAGRAMS**

**E-103**



Grounding wire acts as equipment ground (EGC).  
DC circuit is isolated and insulated from ground,  
the M250 (microinverter) does not require a GEC.

**A1 ONE LINE DIAGRAM**  
1/32" = 1'-0"

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**GENERAL SHEET NOTES**

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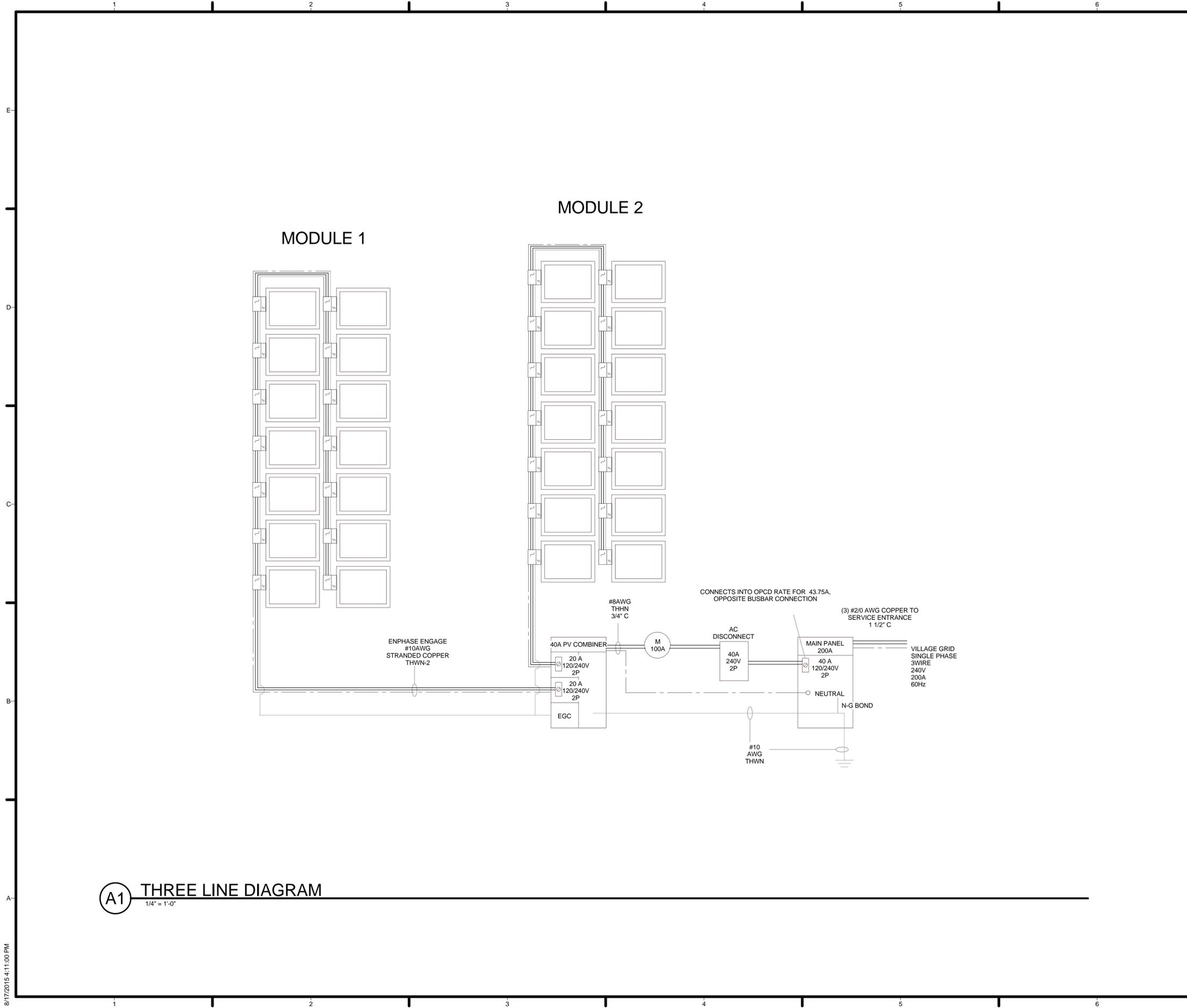


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SHEET TITLE  
**ONE-LINE DIAGRAM**

**E-601**



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

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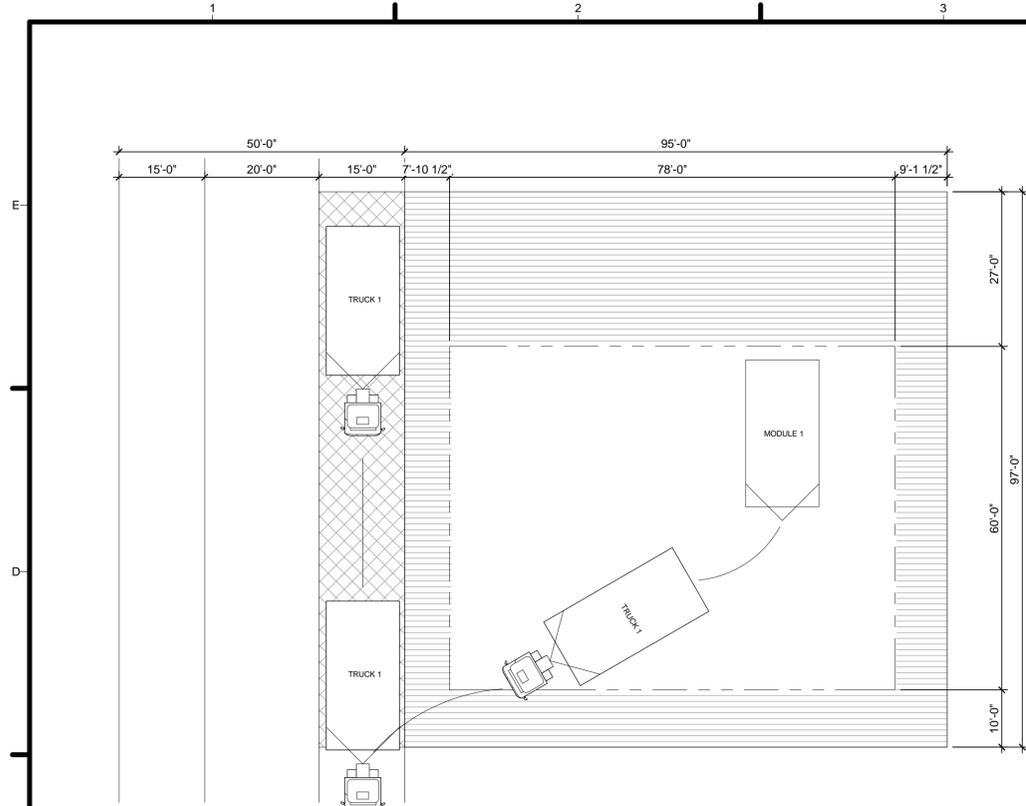
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SHEET TITLE  
 THREE-LINE DIAGRAM

**E-602**

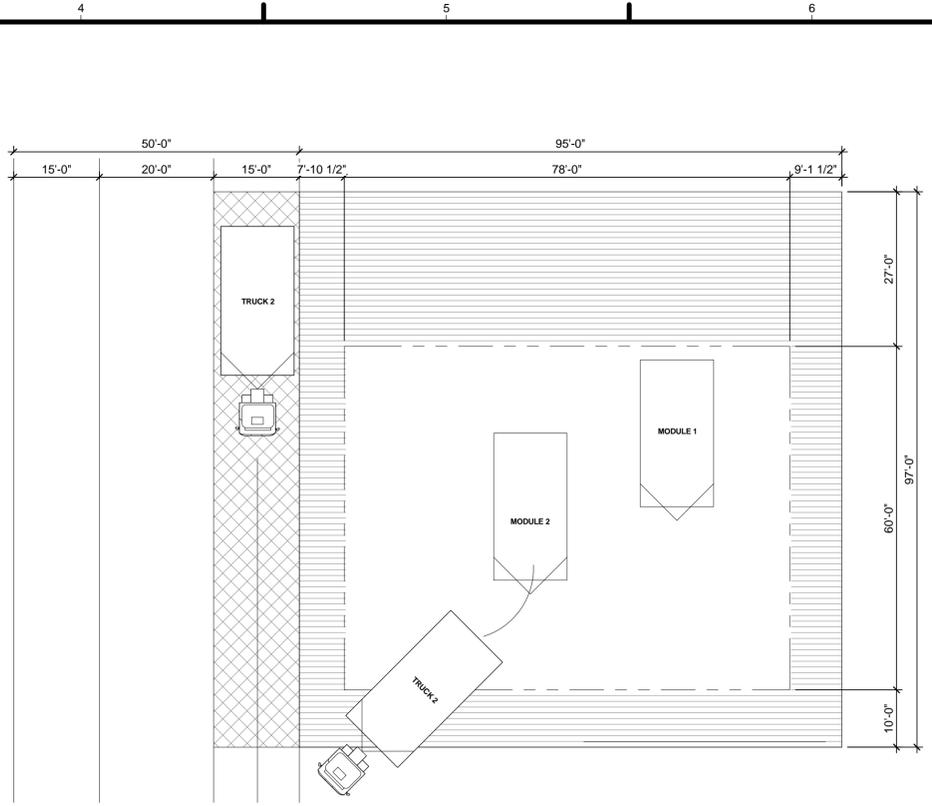
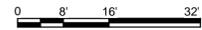




**STEP 1 - SITE PREPARATIONS + PLACEMENT OF MODULE 1**

**C1 ASSEMBLY DAY 1-0'1**  
1/16" = 1'-0"

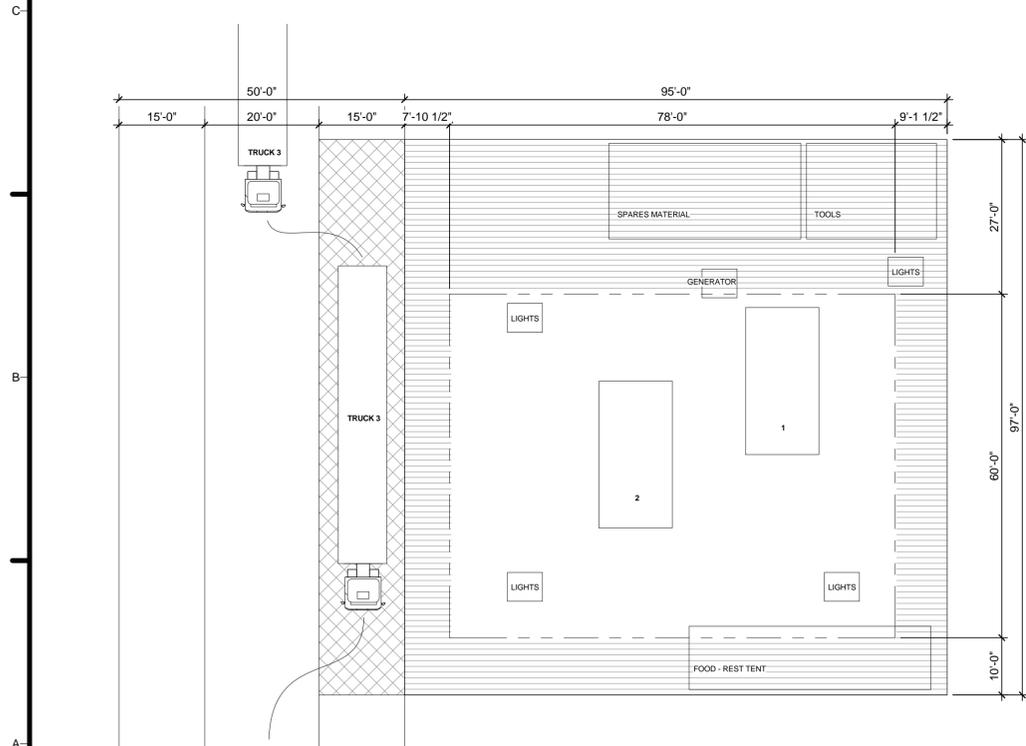
1. Truck 1 arrives on site with Module 1 (night)
2. Truck 1 drives Module 1 in place, unhitches and leaves site
3. Foundation systems are unloaded
4. Footing set in place for Module 1
5. Site Survey Conducted to establish site levels



**STEP 2 - PLACEMENT OF MODULE 2**

**C4 ASSEMBLY DAY 1-0'2**  
1/16" = 1'-0"

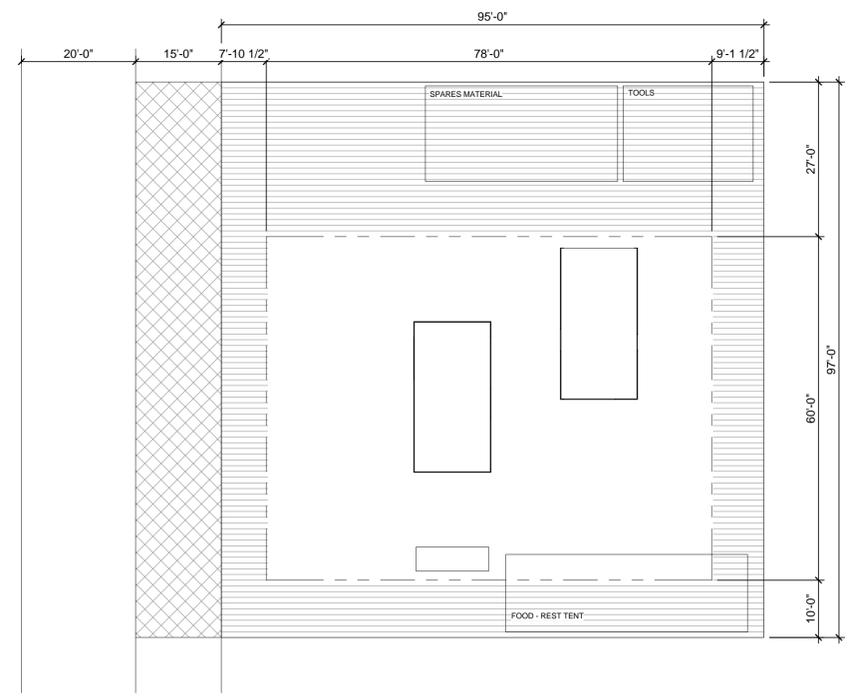
1. Truck 2 arrives on site with Module 2 (day)
2. Truck 2 drives Module 2 in place, unhitches and leaves site
3. Footing set in place for Module 2



**STEP 3 - UNLOADING OF TRUCK 3**

**A1 ASSEMBLY DAY 1-0'3**  
1/16" = 1'-0"

1. Truck 3 arrives onsite with building materials
2. Truck 3 drives trailer load in place for unloading
3. Truck 3 is unloaded
4. Tools, generator, and lighting equipment are unloaded up in designated areas as per site staging plan
5. Site Staging is set up concurrently
6. Truck 3 leaves site with empty container



**STEP 4 - FOUNDATION ASSEMBLY**

**A4 ASSEMBLY DAY 1-0'4**  
1/16" = 1'-0"

1. Foundation pads positioned according to site survey
2. Foundation spacers are inserted according to site survey
3. Foundation uprights are leveled and checked with laser level
4. Steel foundation members are lifted into place over foundation uprights
5. Steel foundation members fixed together
6. Foundation system levels are checked with laser level



**GENERAL SHEET NOTES**

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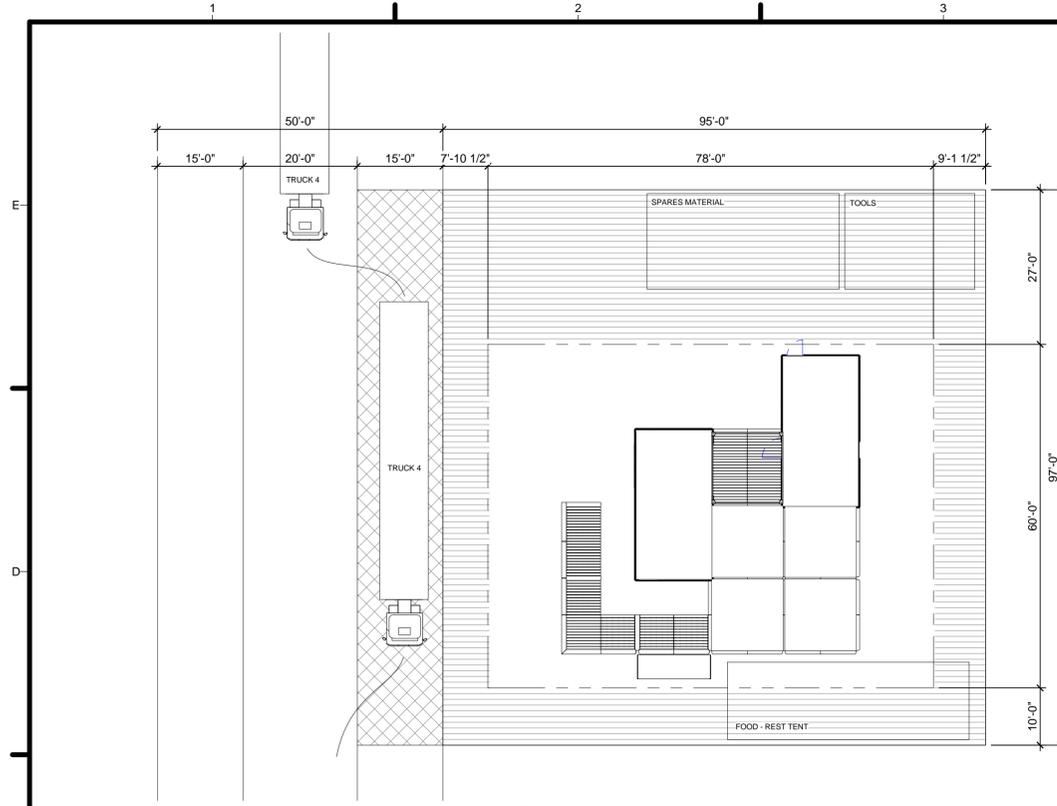


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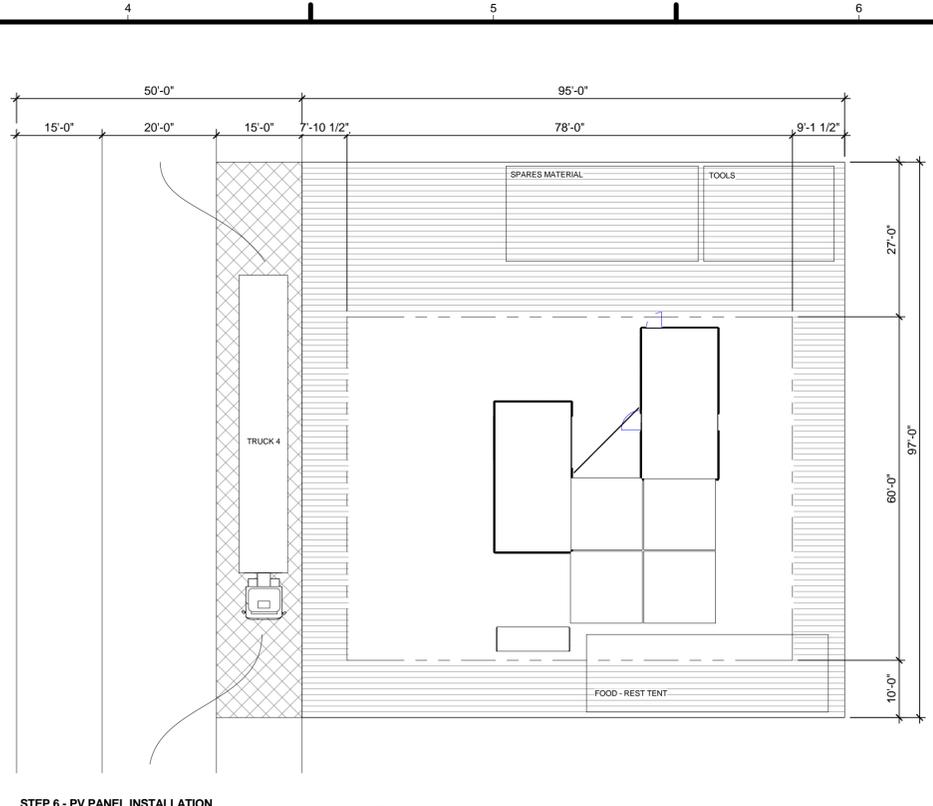
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**ARRIVAL SEQUENCE  
 PLAN DAY 1**

**O-101**



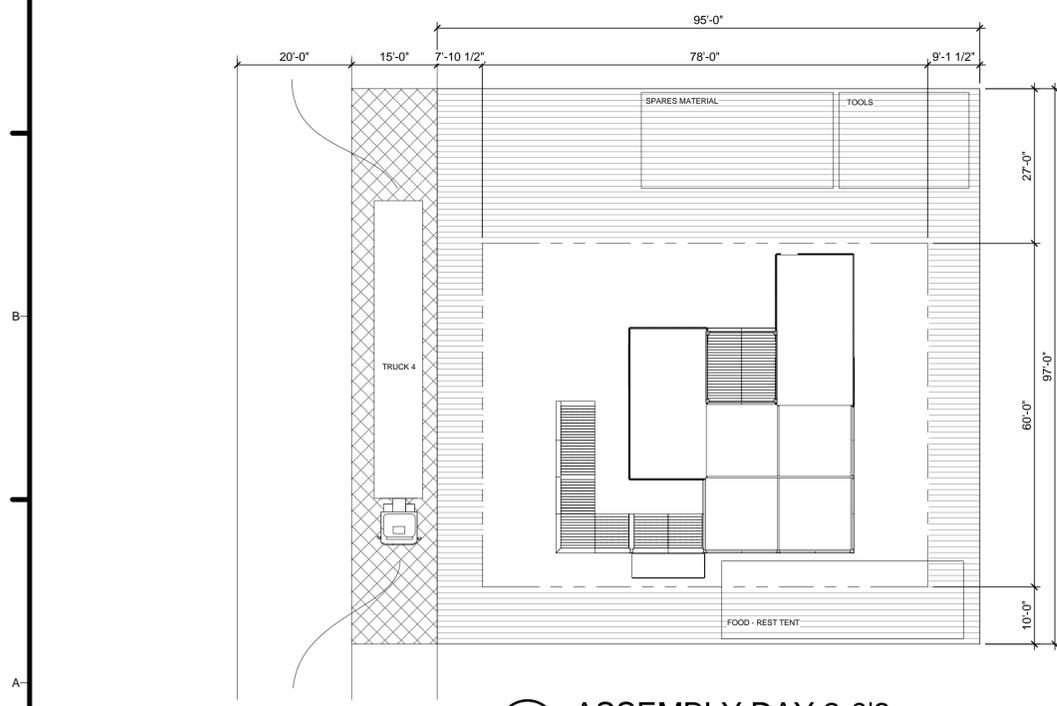
- STEP 5 - CANOPY STRUCTURE ASSEMBLY**
1. Forklift arrives on site
  2. Truck 4 arrives on site
  3. Truck 4 is unloaded
  4. Canopy structure set in place
  5. Canopy frames are assembled on ground in designated area
  6. Lift canopy frames into place and fixed to foundation system

**C1 ASSEMBLY DAY 2-0'1**  
 1/16" = 1'-0"  
 0 8' 16' 32'



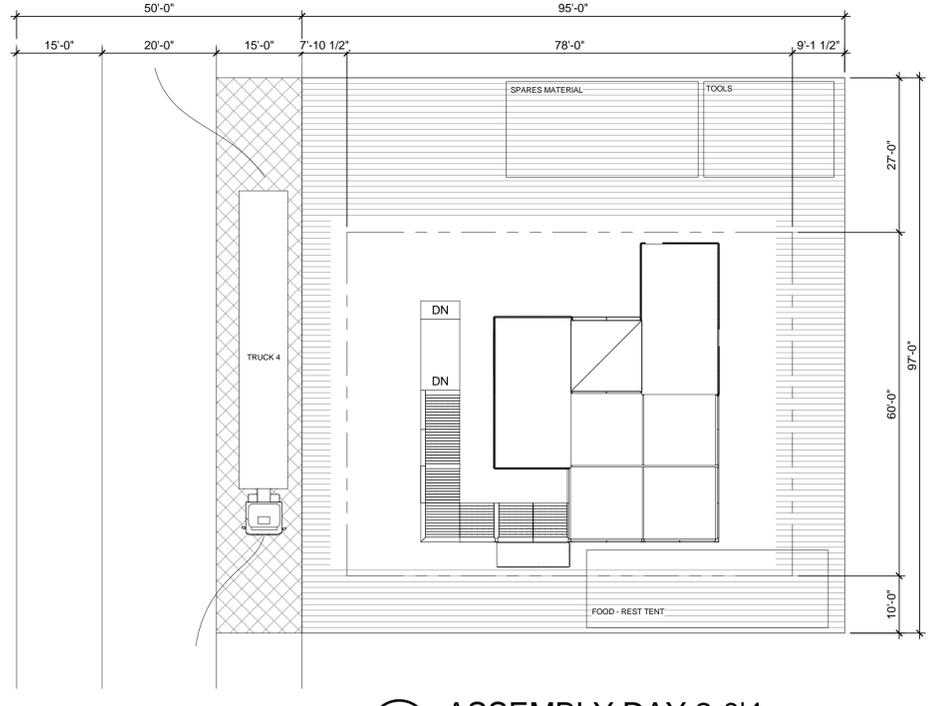
- STEP 6 - PV PANEL INSTALLATION**
1. Scaffolding set in place
  2. PV panels support fixed to individual PV panels
  3. Assembled PV panels fixed to roof

**C4 ASSEMBLY DAY 2-0'2**  
 1/16" = 1'-0"  
 0 8' 16' 32'



- STEP 7 - DECK INSTALLATION**
1. Decking structure is assembled
  2. Levels checked with laser level
  3. Forklift used to place and fix to sub structure
  4. Water storage tanks placed in place

**A1 ASSEMBLY DAY 2-0'3**  
 1/16" = 1'-0"  
 0 8' 16' 32'



- STEP 8 - CANOPY ASSEMBLY**
1. Canopy structure set in place
  2. Canopy frames are assembled on ground in designated area
  3. Lift canopy frames into place and fixed to foundation system
  4. Truck 4 leaves site

**A4 ASSEMBLY DAY 2-0'4**  
 1/16" = 1'-0"  
 0 8' 16' 32'

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SHEET TITLE  
**ARRIVAL SEQUENCE  
 PLAN DAY 2**

**O-102**



- STEP 9 - SYSTEMS ASSEMBLY**
1. Electrical systems set in place and hooked up to house.
  2. Test electrical systems
  3. Mechanical systems set in place and hooked up to house
  2. Test mechanical systems
  3. Plumbing systems hooked up to house
  4. Test plumbing systems

**A1 ASSEMBLY DAY 3**  
 1/8" = 1'-0"  
 0 4 8 16'

**GENERAL SHEET NOTES**

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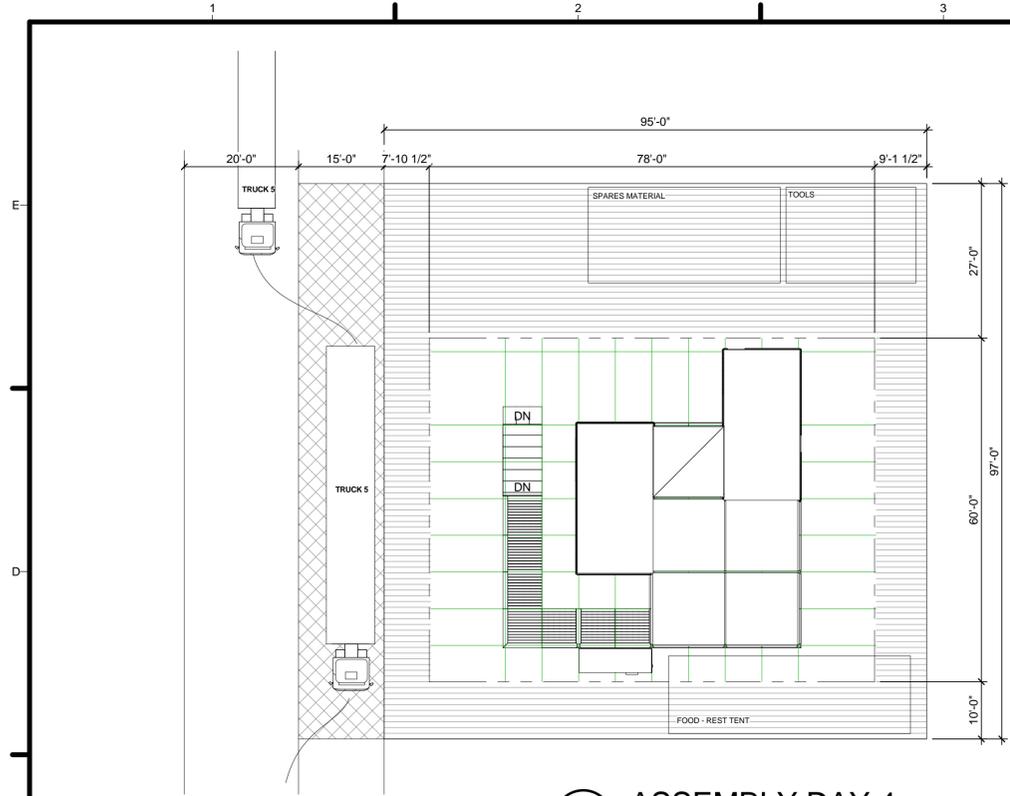


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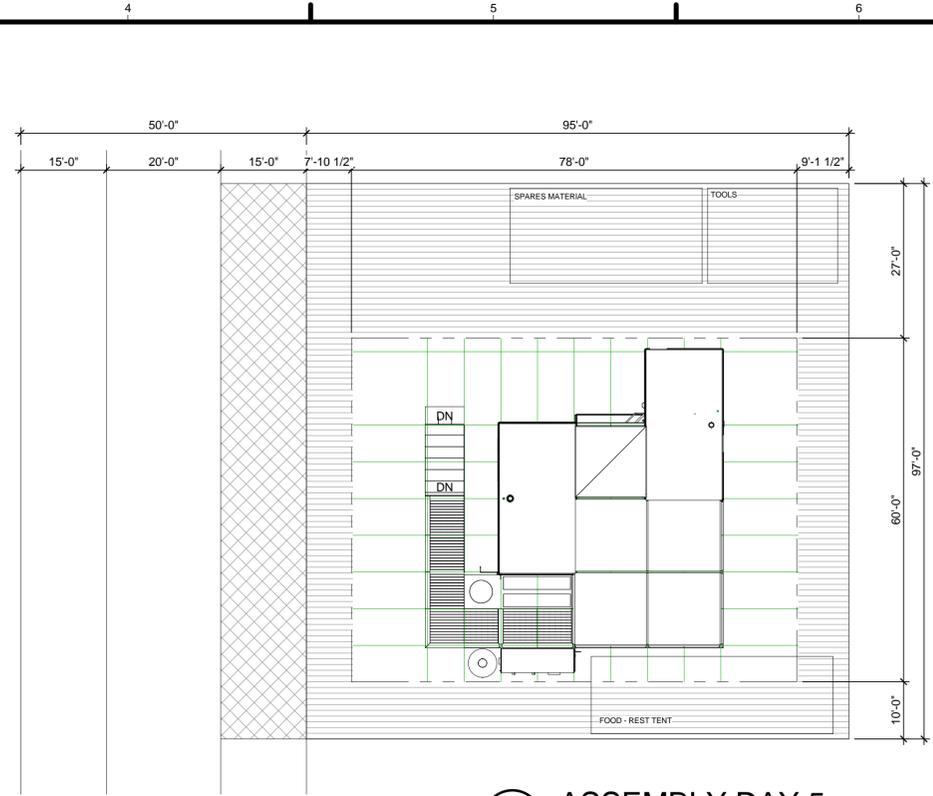
SHEET TITLE  
**ARRIVAL SEQUENCE  
 PLAN DAY 3**

**O-103**



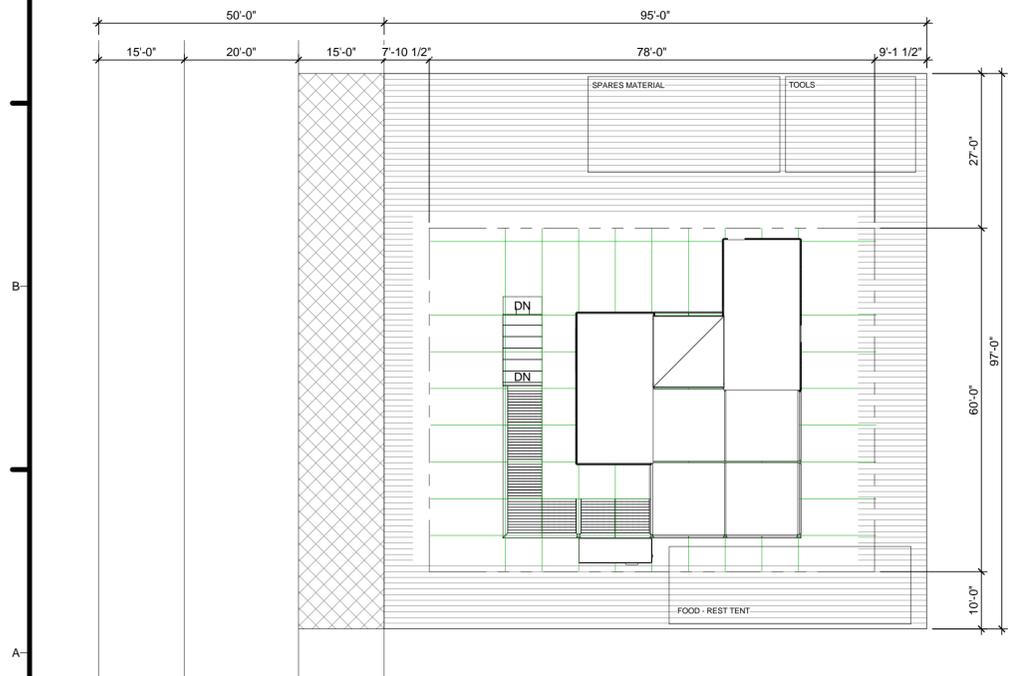
- STEP 10 - LANDSCAPE ASSEMBLY**
1. Truck 5 arrives on site
  2. Truck 5 is unloaded of landscaping materials
  3. Truck 5 leaves site
  4. Landscape subculture is assembled
  5. Levels checked with laser level
  6. Planting is placed in designated area
  7. Aquaponics completed
  8. Forklift leaves site

**C1 ASSEMBLY DAY 4**  
1/16" = 1'-0"



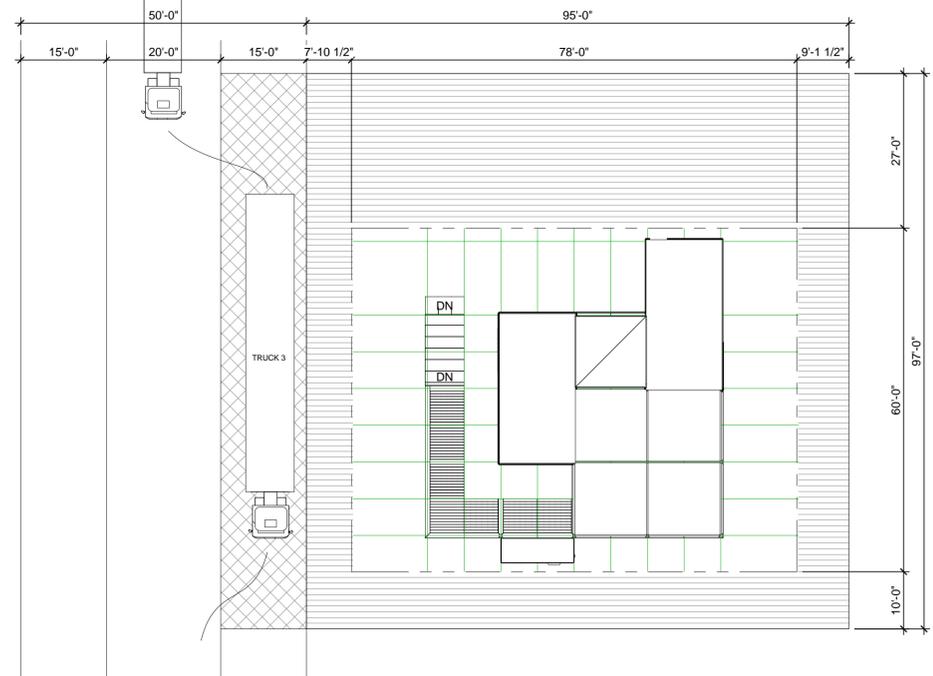
- STEP 11 - SYSTEMS CHECK**
1. Mechanical, electrical and plumbing systems checked
  2. Begin testing systems and operation performance
  3. Test aquaponics
  4. Finish site and landscaping work

**C4 ASSEMBLY DAY 5**  
1/16" = 1'-0"



- STEP 12 - INTERIORS SET UP**
1. Interior set up and staging
  2. Checking systems
  3. Testing appliances
  4. Complete site work

**A1 ASSEMBLY DAY 6**  
1/16" = 1'-0"



- STEP 13 - SITE CLEAN UP**
1. Truck 3 arrives on site
  2. Load tools, lighting, generator, and remaining equipment
  3. Truck 3 leaves site
  4. Clean house, site, and deck
  5. Site signage

**A4 ASSEMBLY DAY 7**  
1/16" = 1'-0"

**GENERAL SHEET NOTES**

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SHEET TITLE  
**ARRIVAL SEQUENCE  
 PLANS DAYS 4,5,6,7**

**O-104**



- STEP 1 - SYSTEMS DISCONNECTED**
1. Mechanical, electrical and plumbing systems disconnected
  2. Truck 3 arrives onsite
  3. Site staging equipment unloaded and set in place
  3. Tools, generator, and lighting equipment are unloaded and step up in designated areas
  4. Truck 3 leaves site

**A1 DISASSEMBLY DAY 1-0'1**  
 1/16" = 1'-0"  
 0 8' 16' 32'

- STEP 2 - LANDSCAPE AND PV PANEL DISMANTLING**
1. Forklift arrives on-site
  2. Landscape detached and stacked in designated area
  3. Aquaponics dismantled and stored in designated area
  4. Truck 5 arrives on site for landscaping
  5. Truck 5 is loaded and leaves site
  6. Scaffolding set in place and checked for removal of PV
  7. PV panels detached from PV substructure
  8. PV panels package for transport

**A4 DISASSEMBLY DAY 1-0'2**  
 1/16" = 1'-0"  
 0 8' 16' 32'

**GENERAL SHEET NOTES**

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CONSULTANTS:  
 JQ (STRUCTURAL ENGINEERING)



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MARK	DATE	DESCRIPTION
1	MAR 26, 2015	CD 100%
2	AUG 17, 2015	AS BUILT

LOT NUMBER: 104  
 DRAWN BY: MR.DC  
 CHECKED BY: KC  
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SHEET TITLE  
**DEPARTURE  
 SEQUENCE PLAN DAY 1**

**O-201**



- STEP 3 - CLADDING AND CANOPY DISASSEMBLY**
1. Cladding wall detached from frame brought to designated area
  2. Canopy panels detached from canopy frame and stacked in designated area
  3. Canopy panels disassembled on ground and stacked in designated area
  4. Canopy frames detached from foundation and taken to designated area
  5. Canopy frames disassembled on ground
  6. Foundation system of canopy is disassembled and stacked in designated area

- STEP 4 - DECK REMOVAL**
1. Handrails are removed and stached in designated area
  2. Deck panels detached from foundation and taken to designated area
  3. Deck foundation disassembled and stacked in designated area

**(A1) DISASSEMBLY DAY 2-0'1**  
 1/16" = 1'-0"  
 0 8' 16' 32'

**(A4) DISASSEMBLY DAY 2-0'2**  
 1/16" = 1'-0"  
 0 8' 16' 32'

**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**



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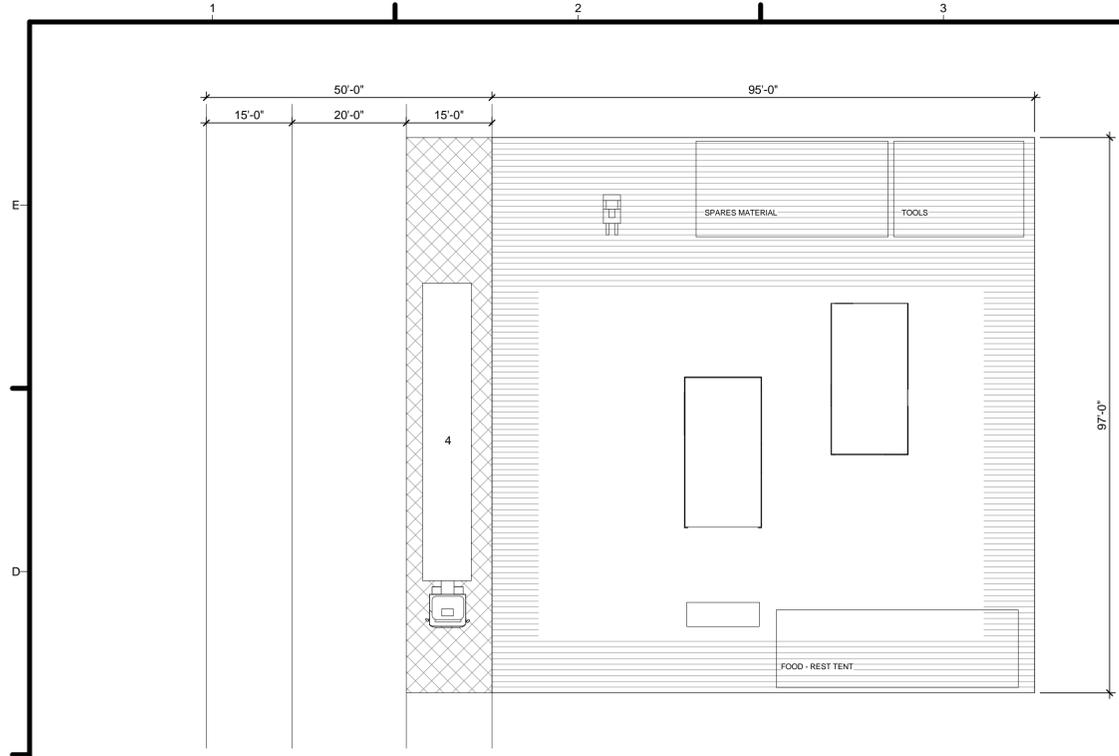


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 DEPARTURE  
 SEQUENCE PLAN DAY 2

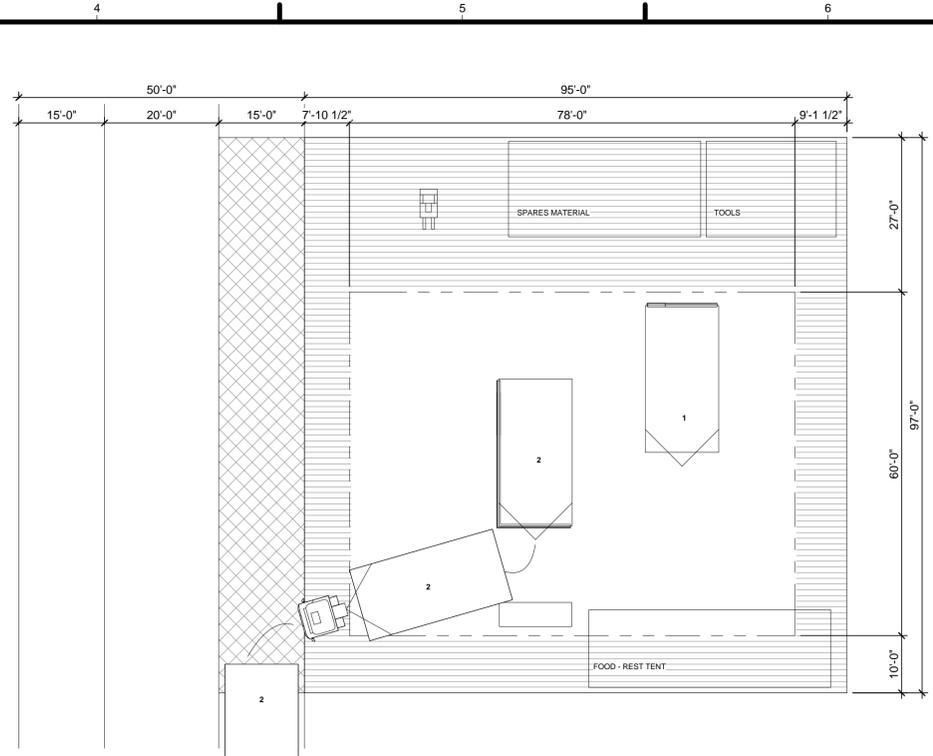
**O-202**



**STEP 5 - LOADING EQUIPMENT**

1. Truck 4 arrives on site
2. Equipment loaded onto truck 4 (electrical, mechanical, plumbing, PV, aquaponics, landscaping, deck, cladding, and canopy)
3. Truck 4 leaves site

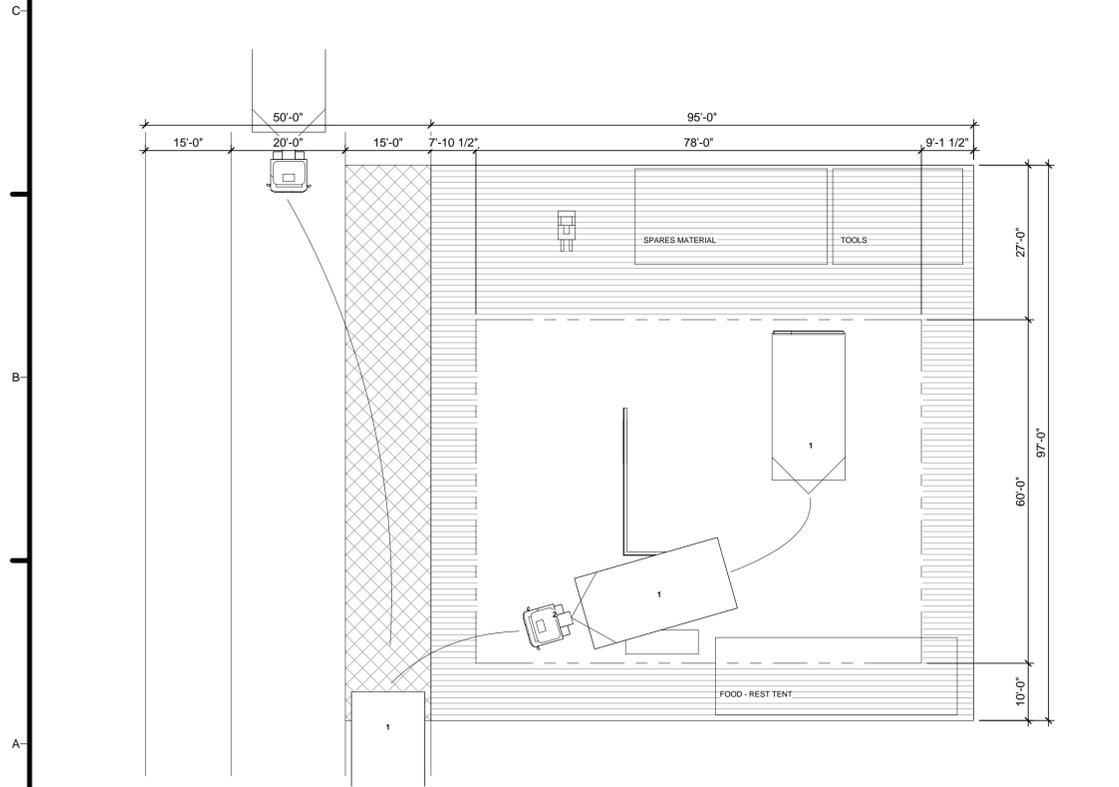
**C1 DISASSEMBLY DAY 3-0'1**  
1/16" = 1'-0"  
0 8' 16' 32'



**STEP 6 - MODULE 2 REMOVAL**

1. Footing detached from the module and taken to designated area
2. Truck 2 arrives on site
3. Truck 2 attaches to module 2 (day) chassis
4. Truck 2 leaves site

**C4 DISASSEMBLY DAY 3-0'2**  
1/16" = 1'-0"  
0 8' 16' 32'



**STEP 7 - MODULE 1 REMOVAL**

1. Module footings detached from the module and taken to designated area
2. Truck 1 arrives on-site
3. Truck 1 attaches to Module 1 chassis
4. Truck 1 leaves site

**1 DISASSEMBLY DAY 3-0'3**  
1/16" = 1'-0"  
0 8' 16' 32'

**GENERAL SHEET NOTES**

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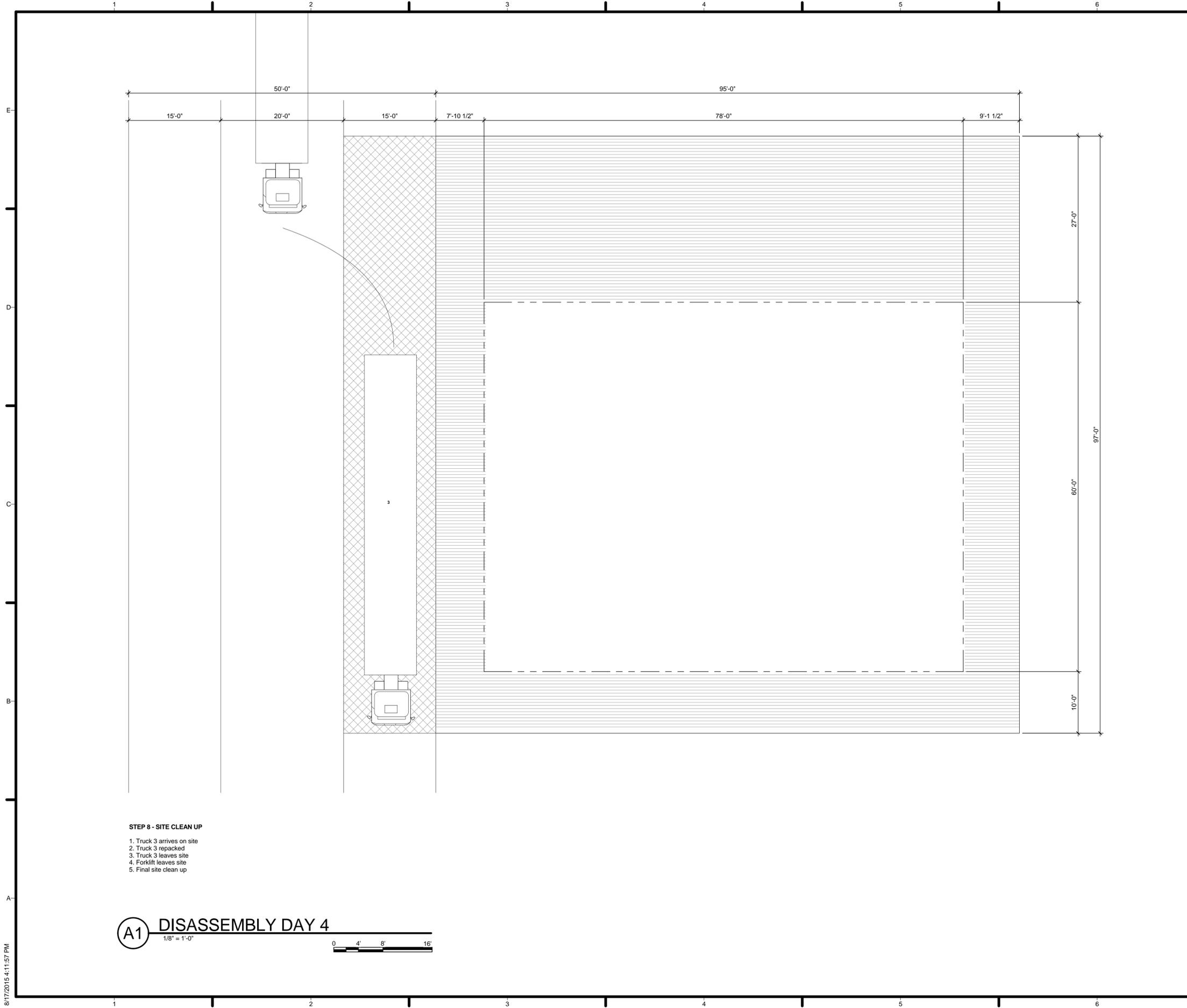


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**DEPARTURE SEQUENCE PLAN DAY 3**

**O-203**



**STEP 8 - SITE CLEAN UP**

1. Truck 3 arrives on site
2. Truck 3 repacked
3. Truck 3 leaves site
4. Forklift leaves site
5. Final site clean up

**(A1) DISASSEMBLY DAY 4**

1/8" = 1'-0"



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**GENERAL SHEET NOTES**

**REFERENCE KEYNOTES**

**SHEET KEYNOTES**



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**DEPARTURE  
 SEQUENCE PLAN DAY 4**

**O-204**