

SOLAR DECATHLON COMPETITION 2007 U.S. DEPARTMENT OF ENERGY

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

CONSTRUCTION DRAWINGS AUGUST 7TH, 2007

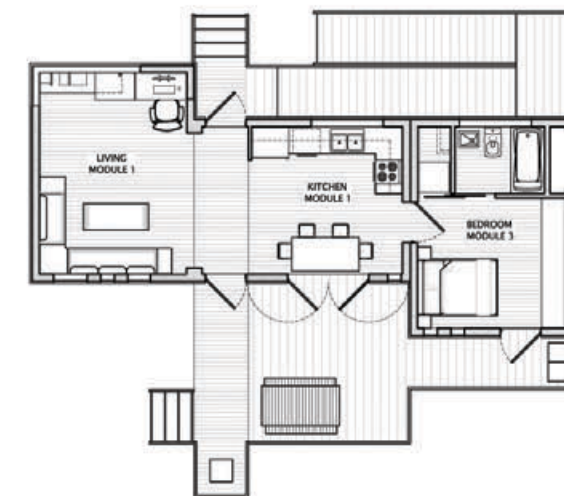
MISSION

The mission of the University of Illinois at Urbana-Champaign in the Solar Decathlon 2007 is to achieve education through demonstration by building a cost-effective, accessible and energy-neutral home.

GOALS

Illinois will work to ...

- * Develop a prototype of the next generation of houses demonstrating to the general public that feasible alternatives to more traditional energy sources are available
- * Construct a home that shows the citizens of Illinois how neutral energy and high performance can be components of an attractive, feasible housing option
- * Develop a prototype that can be used as a portable, stand-alone dwelling in both regional, national and global emergency situations
- * Evaluate the energy performance of the house and its components as an integrated system, with attention to operating at a low cost and with minimal maintenance
- * Engage UI students, faculty and staff in a project that is on time and budget and wins the competition
- * Provide students with a learning opportunity that allows them to apply their academic knowledge to a practical/real-world situation
- * Provide an opportunity for cross-disciplinary interactions for faculty and students
- * Provide educational value by documenting the design and construction process and participant interactions
- * Develop educational material about solar energy for a variety of audiences
- * Create a marketing campaign for our entry that increases general awareness of the environmental impact of harnessing solar energy
- * Produce an informational, educational Web site with international appeal and long-term usefulness
- * Highlight the strengths of the U of I



ARCHITECTURAL

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S2.03	8&4 PV PANEL STRUC.
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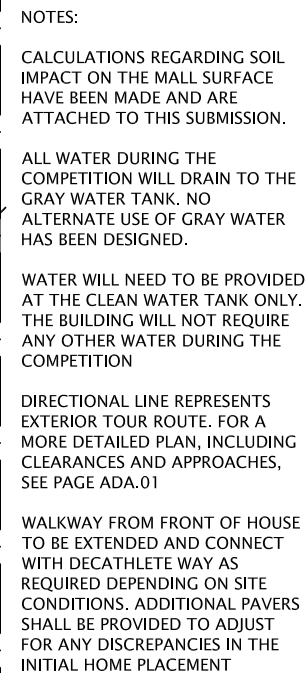
E1.01	ELECT. SCHEMATIC
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E1.03	POWER SUPPLY
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E1.05	BRANCH CIRCUITS
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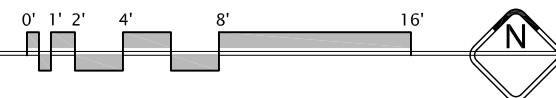
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DRAWN BY:	JJS
CHECKED BY:	JW NW
MODIFIED:	NW

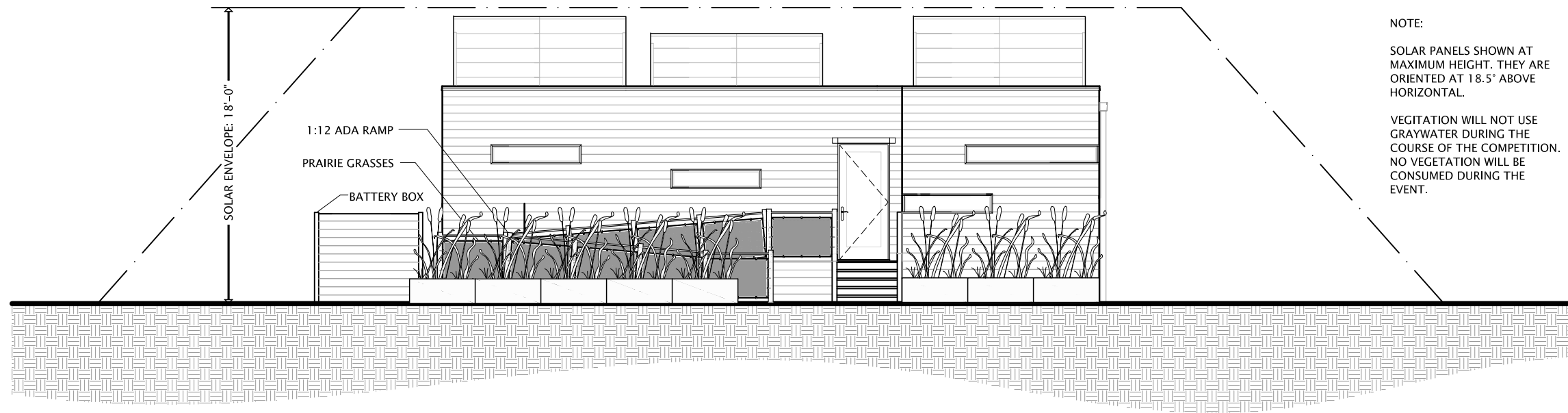


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DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	FX NW

SITE PLAN

01 SITE PLAN
SCALE: $\frac{1}{8}" = 1'-0"$



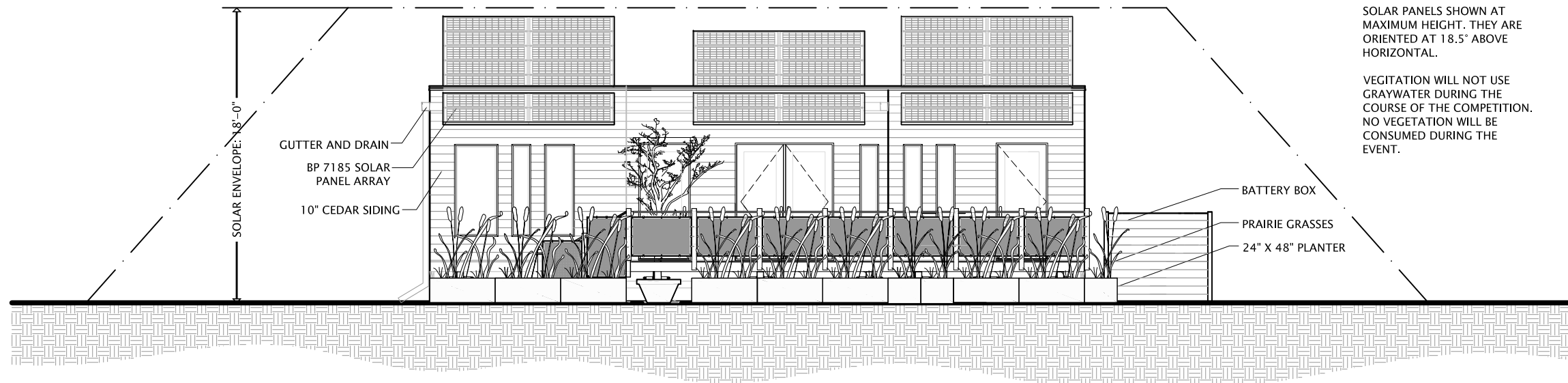


NOTE:

SOLAR PANELS SHOWN AT
MAXIMUM HEIGHT. THEY ARE
ORIENTED AT 18.5° ABOVE
HORIZONTAL.

VEGETATION WILL NOT USE
GRAYWATER DURING THE
COURSE OF THE COMPETITION.
NO VEGETATION WILL BE
CONSUMED DURING THE
EVENT.

01 NORTH SITE ELEVATION
SCALE: $\frac{1}{8}" = 1'-0"$



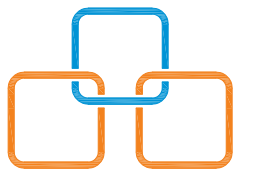
NOTE:

SOLAR PANELS SHOWN AT
MAXIMUM HEIGHT. THEY ARE
ORIENTED AT 18.5° ABOVE
HORIZONTAL.

VEGETATION WILL NOT USE
GRAYWATER DURING THE
COURSE OF THE COMPETITION.
NO VEGETATION WILL BE
CONSUMED DURING THE
EVENT.

02 SOUTH SITE ELEVATION
SCALE: $\frac{1}{8}" = 1'-0"$

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SCALE: $\frac{1}{8}" = 1'-0"$

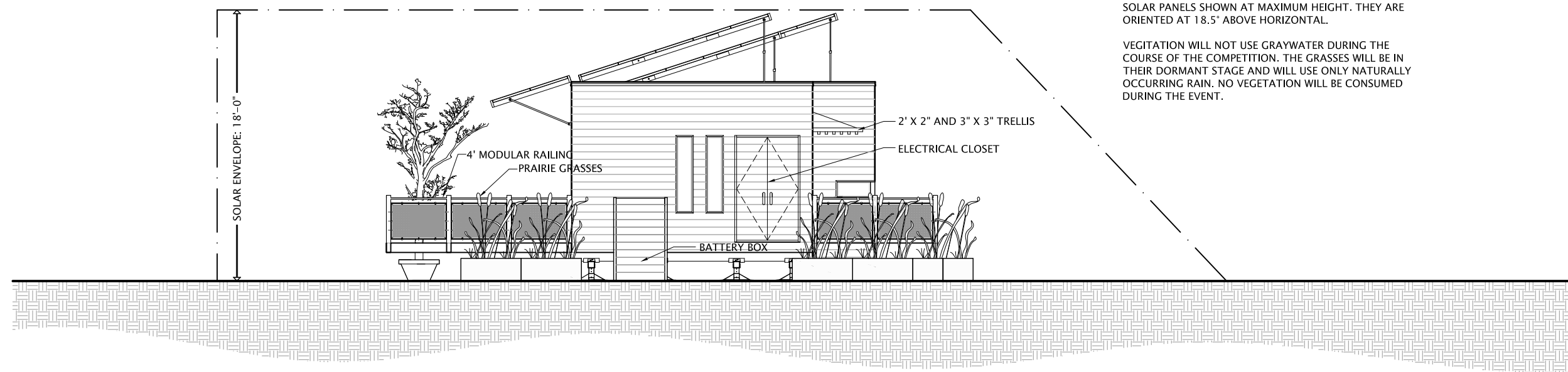
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CHECKED BY: JW

MODIFIED: NW FX

A1.02

N-S SITE ELEVATION



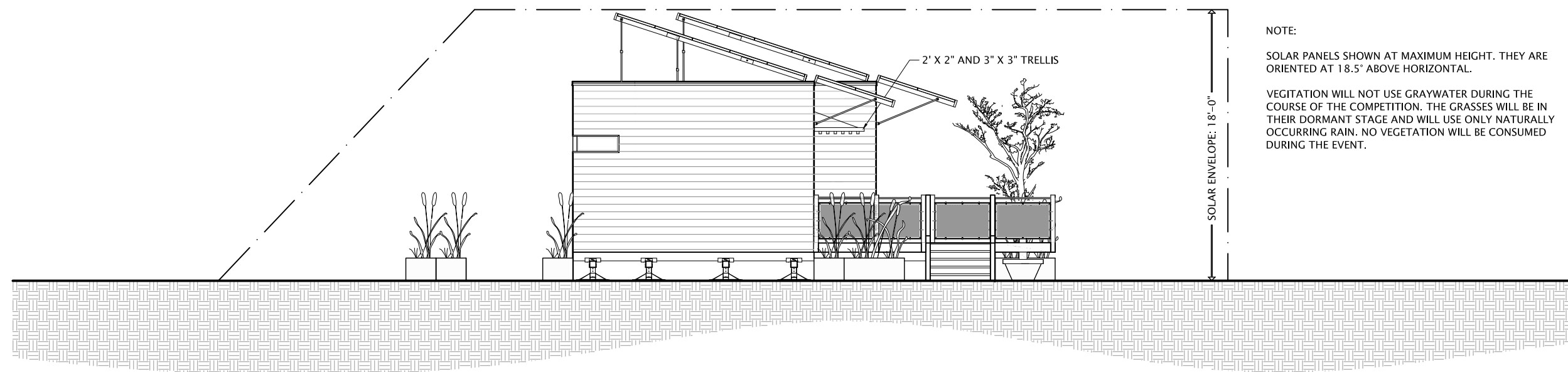
NOTE:

SOLAR PANELS SHOWN AT MAXIMUM HEIGHT. THEY ARE ORIENTED AT 18.5° ABOVE HORIZONTAL.

VEGETATION WILL NOT USE GRAYWATER DURING THE COURSE OF THE COMPETITION. THE GRASSES WILL BE IN THEIR DORMANT STAGE AND WILL USE ONLY NATURALLY OCCURRING RAIN. NO VEGETATION WILL BE CONSUMED DURING THE EVENT.



01 EAST SITE ELEVATION
SCALE: $\frac{1}{8}" = 1'-0"$



NOTE:

SOLAR PANELS SHOWN AT MAXIMUM HEIGHT. THEY ARE ORIENTED AT 18.5° ABOVE HORIZONTAL.

VEGETATION WILL NOT USE GRAYWATER DURING THE COURSE OF THE COMPETITION. THE GRASSES WILL BE IN THEIR DORMANT STAGE AND WILL USE ONLY NATURALLY OCCURRING RAIN. NO VEGETATION WILL BE CONSUMED DURING THE EVENT.



02 WEST SITE ELEVATION
SCALE: $\frac{1}{8}" = 1'-0"$

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SCALE: $\frac{1}{8}" = 1'-0"$

DRAWN BY: JJS

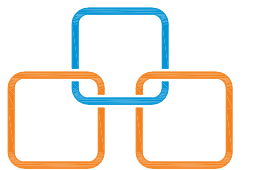
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MODIFIED: NW

A1.03

E-W SITE ELEVATION

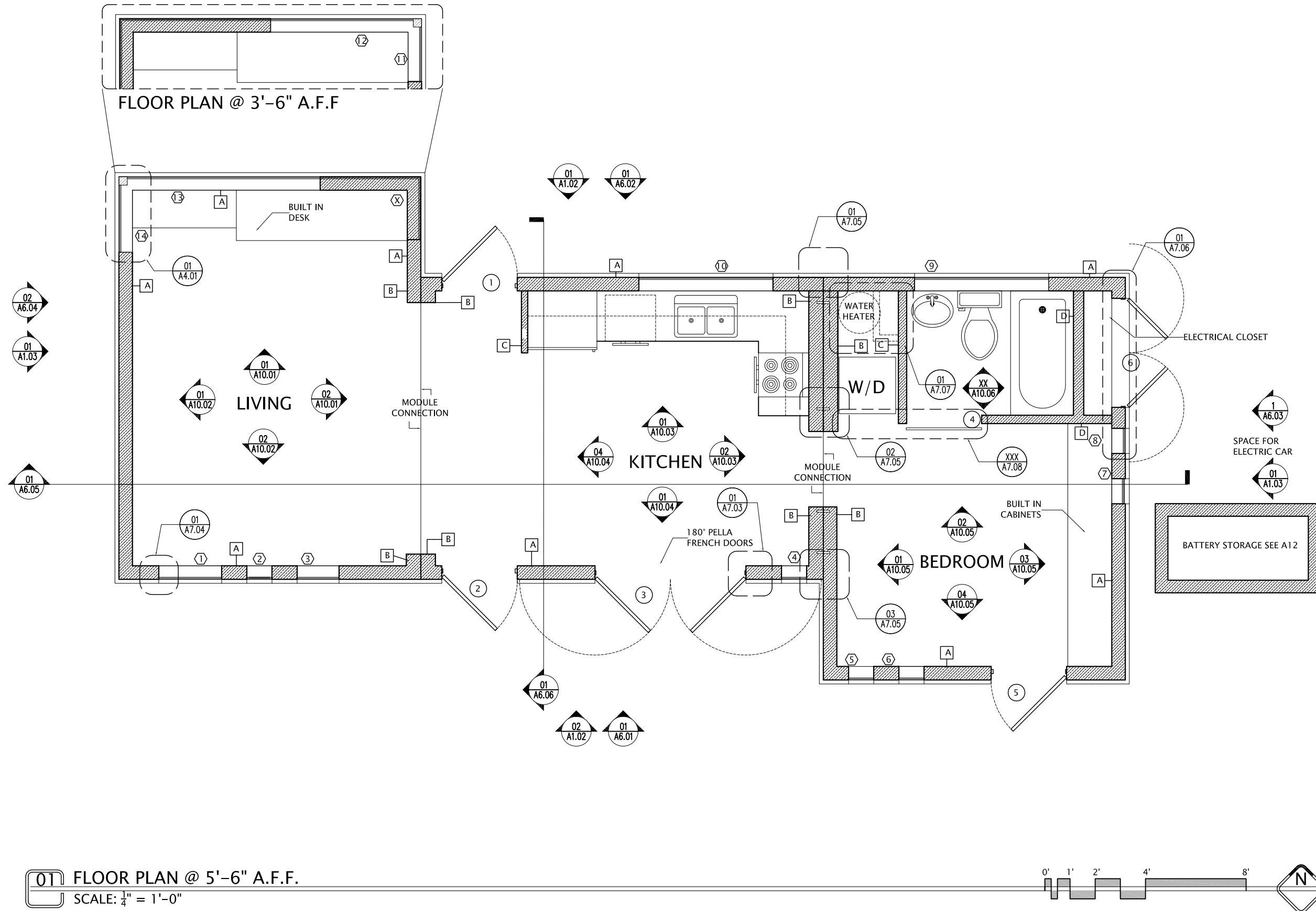
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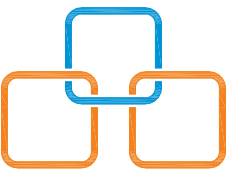
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 DRAWN BY: JJS
 CHECKED BY: JW
 MODIFIED: NW FX

A2.01

FLOOR PLAN



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DATE: 08-13-2007

SCALE: $\frac{1}{4}" = 1'-0"$

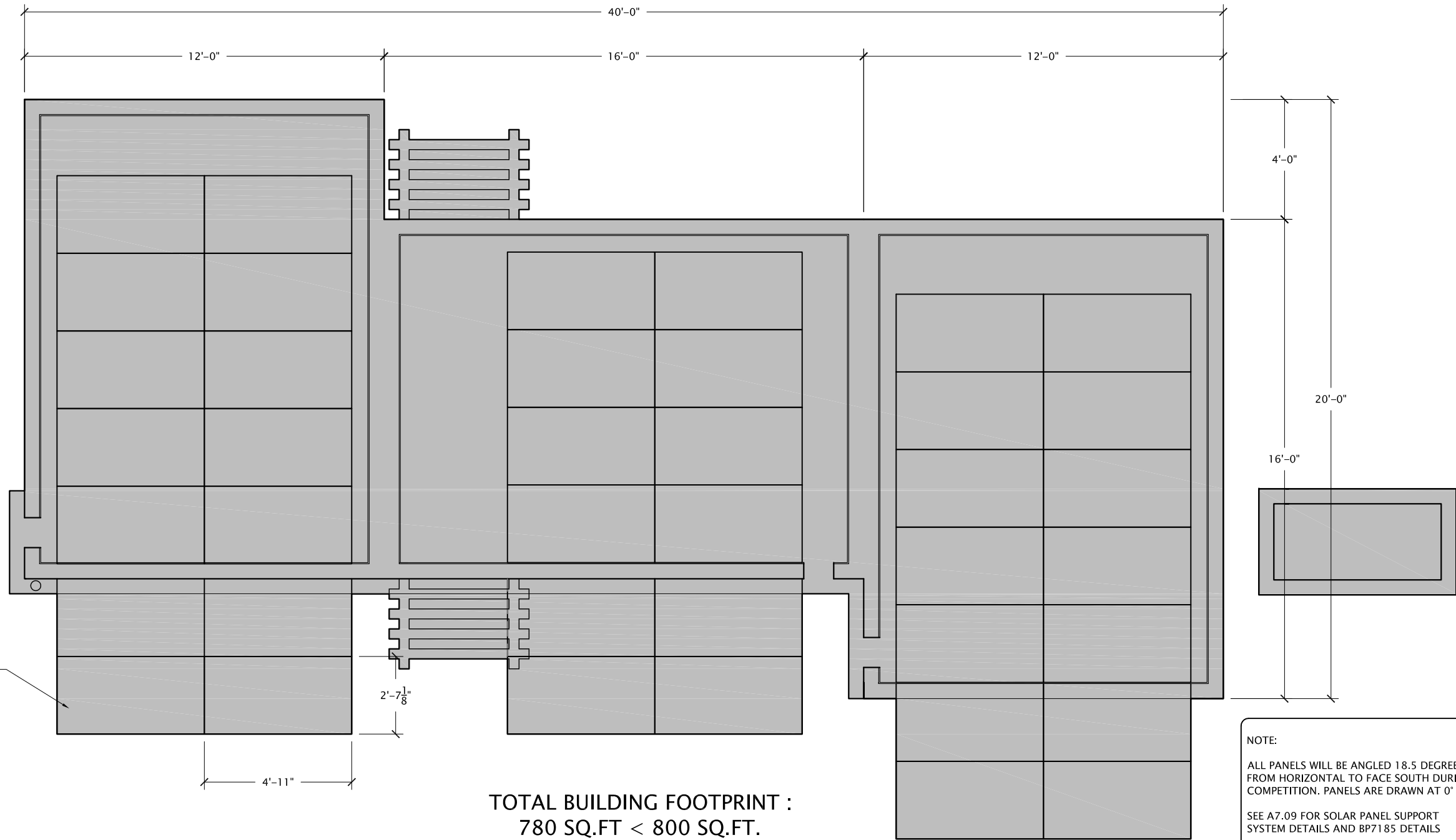
DRAWN BY: JJS

CHECKED BY: JW

MODIFIED: FX

A2.02

BUILDING FOOTPRINT



TOTAL BUILDING FOOTPRINT :
780 SQ.FT < 800 SQ.FT.
MAXIMUM PER REG. 11.3

NOTE:

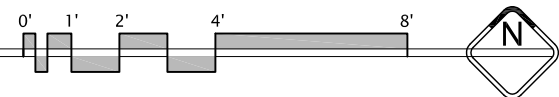
ALL PANELS WILL BE ANGLED 18.5 DEGREES
FROM HORIZONTAL TO FACE SOUTH DURING
COMPETITION. PANELS ARE DRAWN AT 0°

SEE A7.09 FOR SOLAR PANEL SUPPORT
SYSTEM DETAILS AND BP7185 DETAILS

DRAWING SHOWN WITH ABSOLUTE MAXIMUM
SOLAR FOOTPRINT (ALLPANELS AT 0°)

BP 7185 SOLAR PANEL
EXTENDING OVER DECK AREA

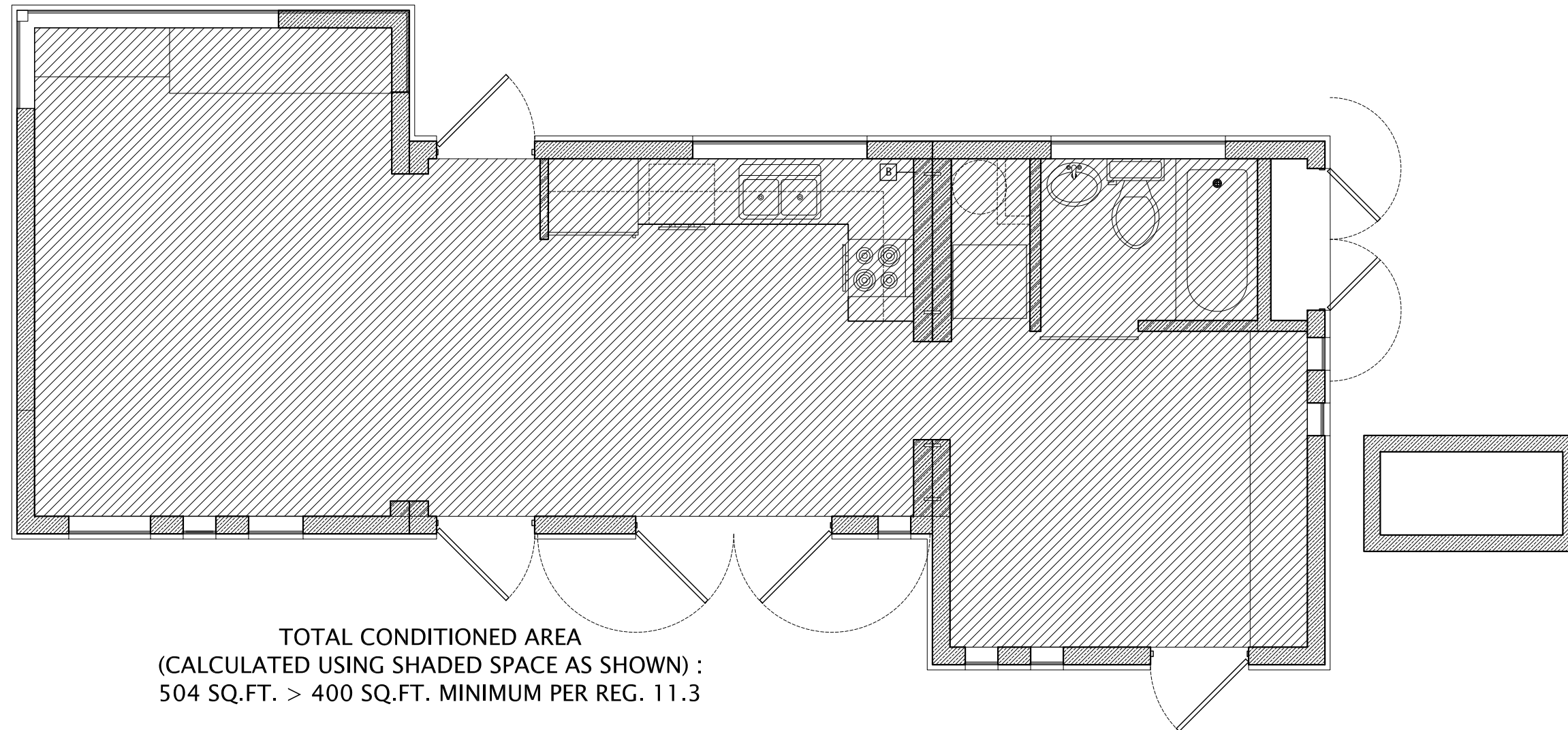
1 BUILDING FOOTPRINT AREA
SCALE: $\frac{1}{4}" = 1'-0"$





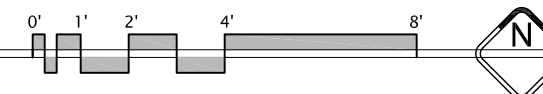
DATE: 08-03-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW

A2.03
CONDITIONED AREA

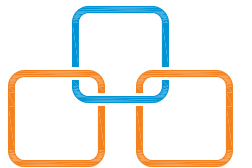


TOTAL CONDITIONED AREA
(CALCULATED USING SHADED SPACE AS SHOWN) :
504 SQ.FT. > 400 SQ.FT. MINIMUM PER REG. 11.3

01 CONDITIONED AREA
SCALE: $\frac{1}{4}" = 1'-0"$



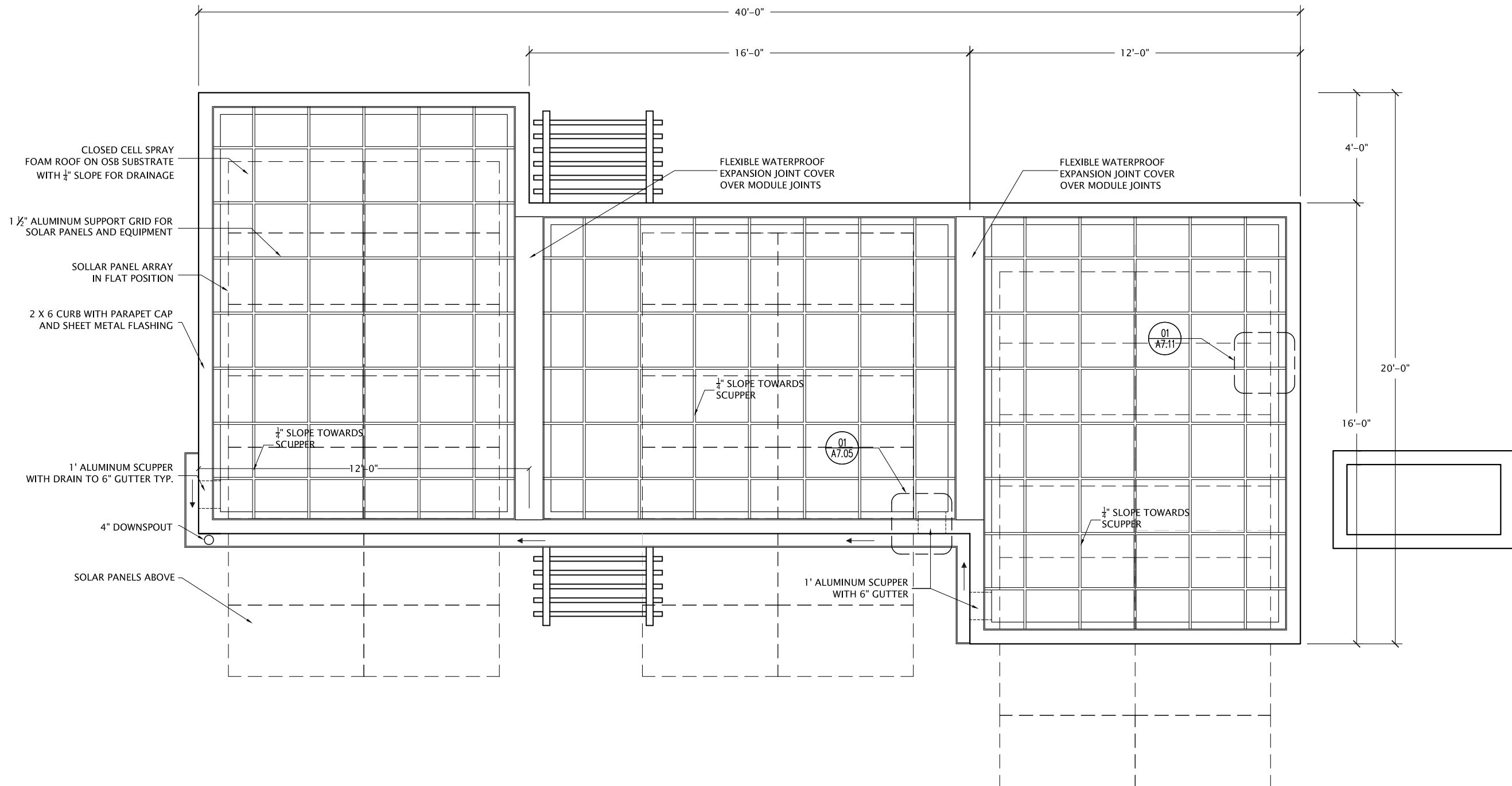
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U.S. DEPARTMENT OF ENERGY



DATE: 08-03-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX

A3.01

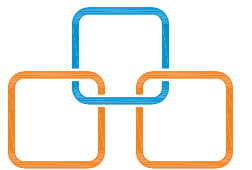
ROOF PLAN



1 ROOF PLAN
SCALE: $\frac{1}{4}" = 1'-0"$



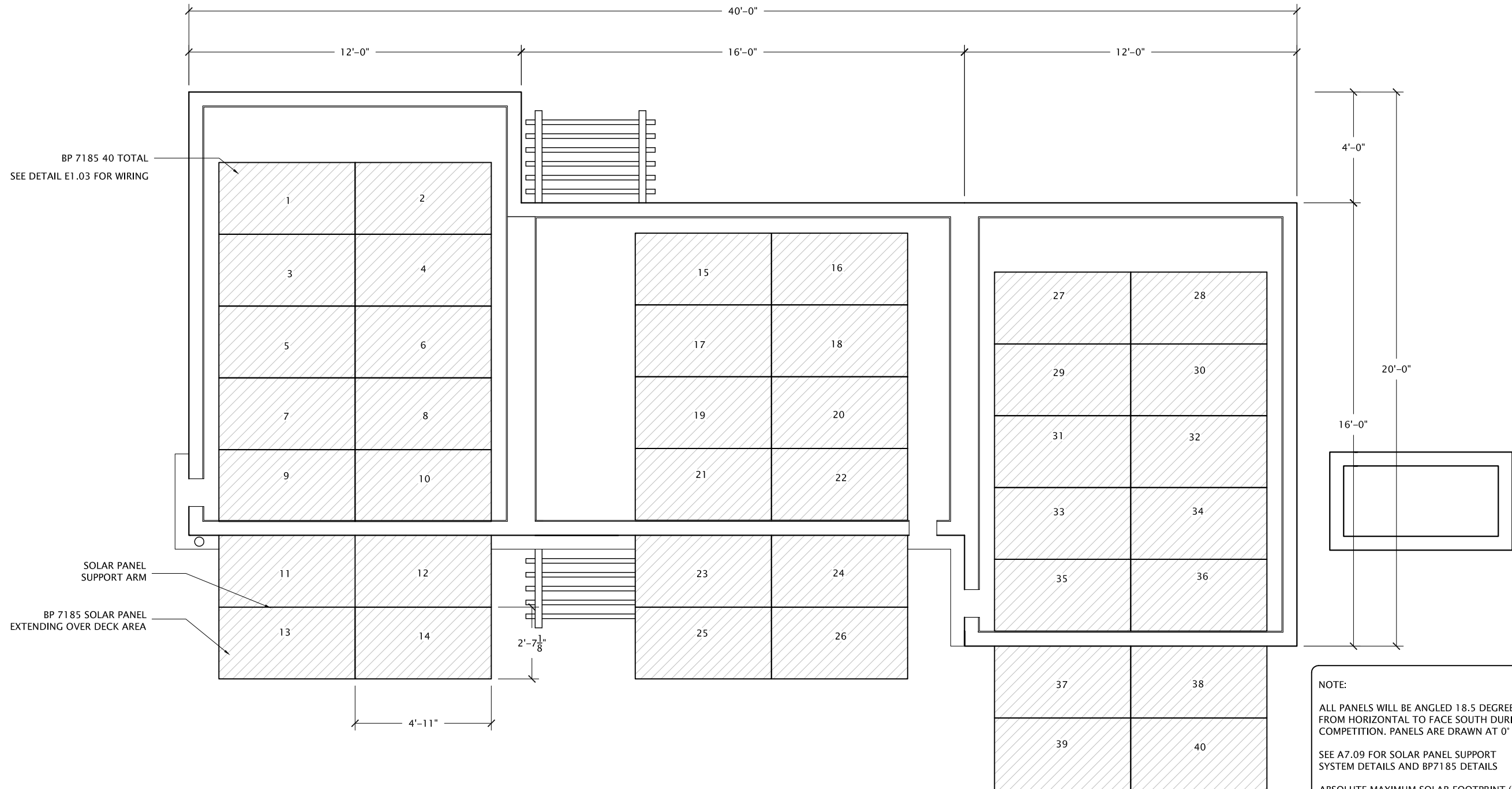
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U.S. DEPARTMENT OF ENERGY



DATE: 08-03-2007
SCALE: $\frac{1}{4}" = 1' - 0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW

A3.02

PANEL LAYOUT



1 SOLAR PANEL LAYOUT
SCALE: $\frac{1}{4}" = 1' - 0"$

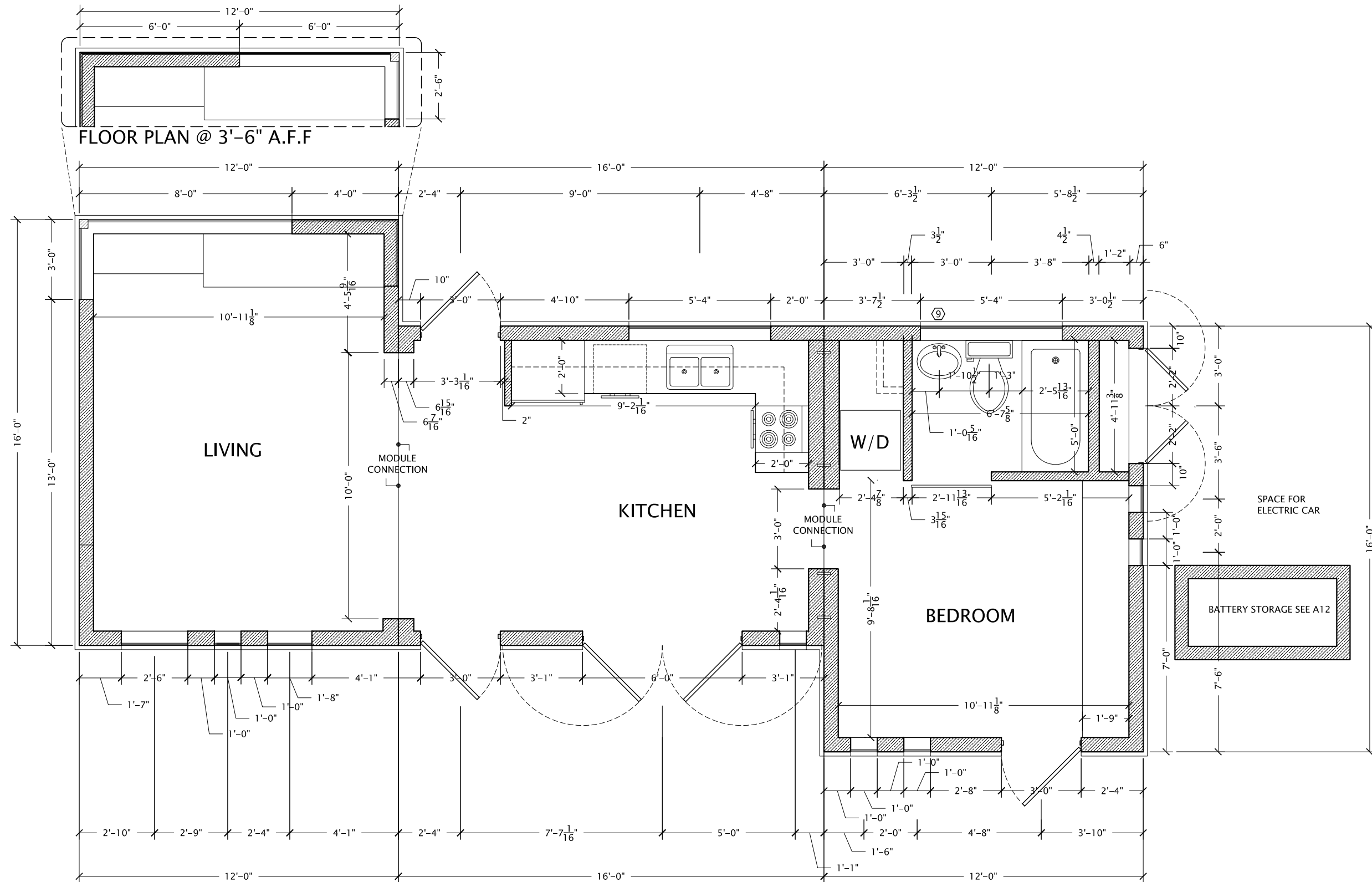
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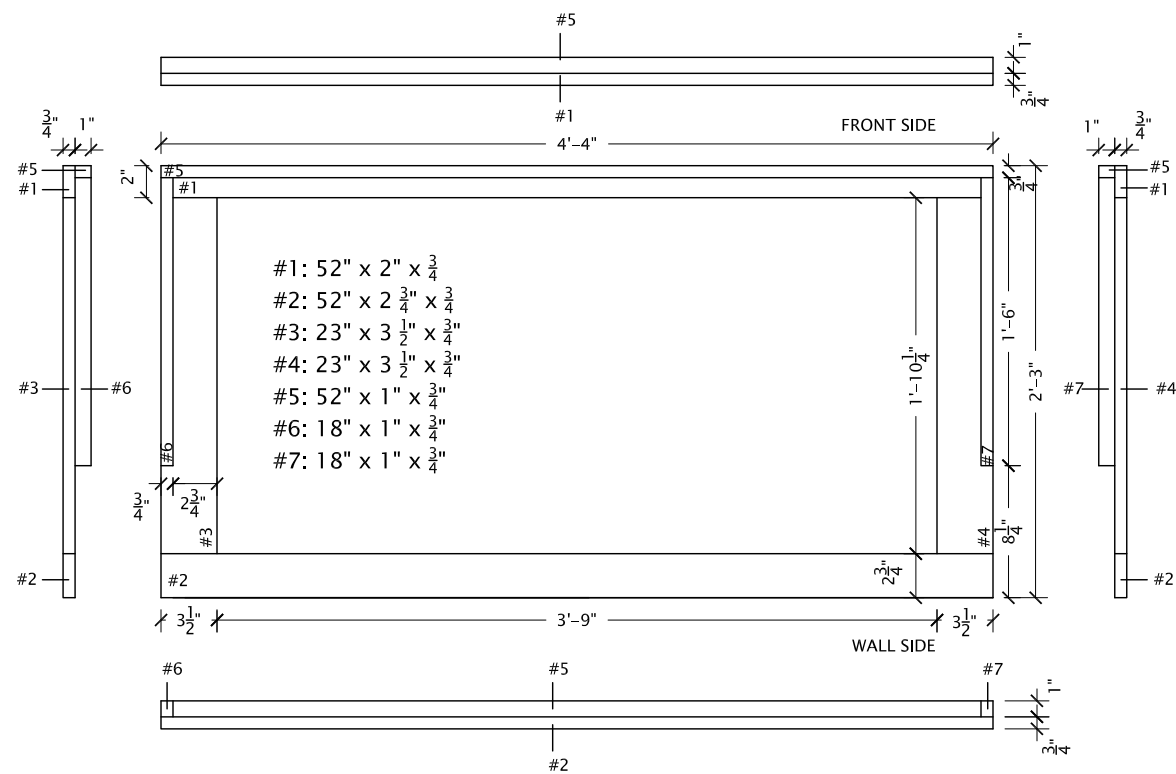
DATE: 08-03-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW

A4.01

DIM. PLAN

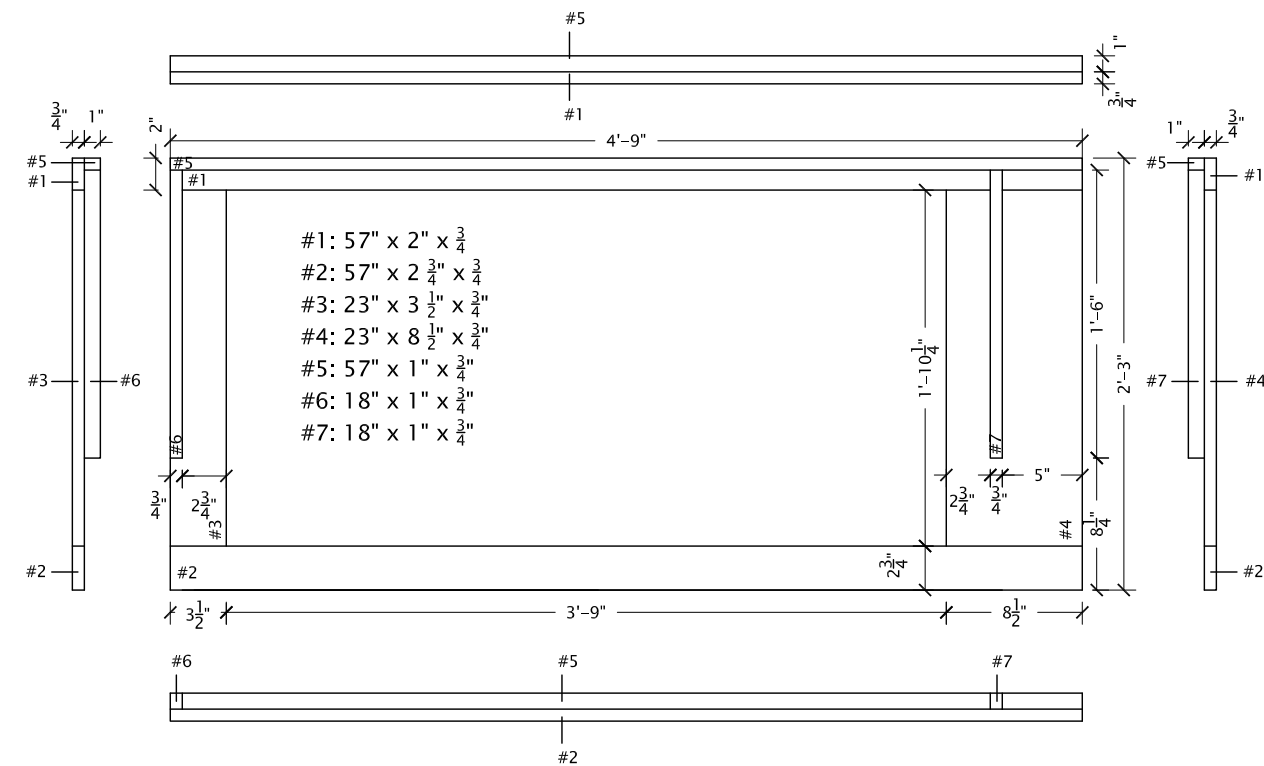


01 DIMENSIONED FLOORPLAN
SCALE: $\frac{1}{4}" = 1'-0"$



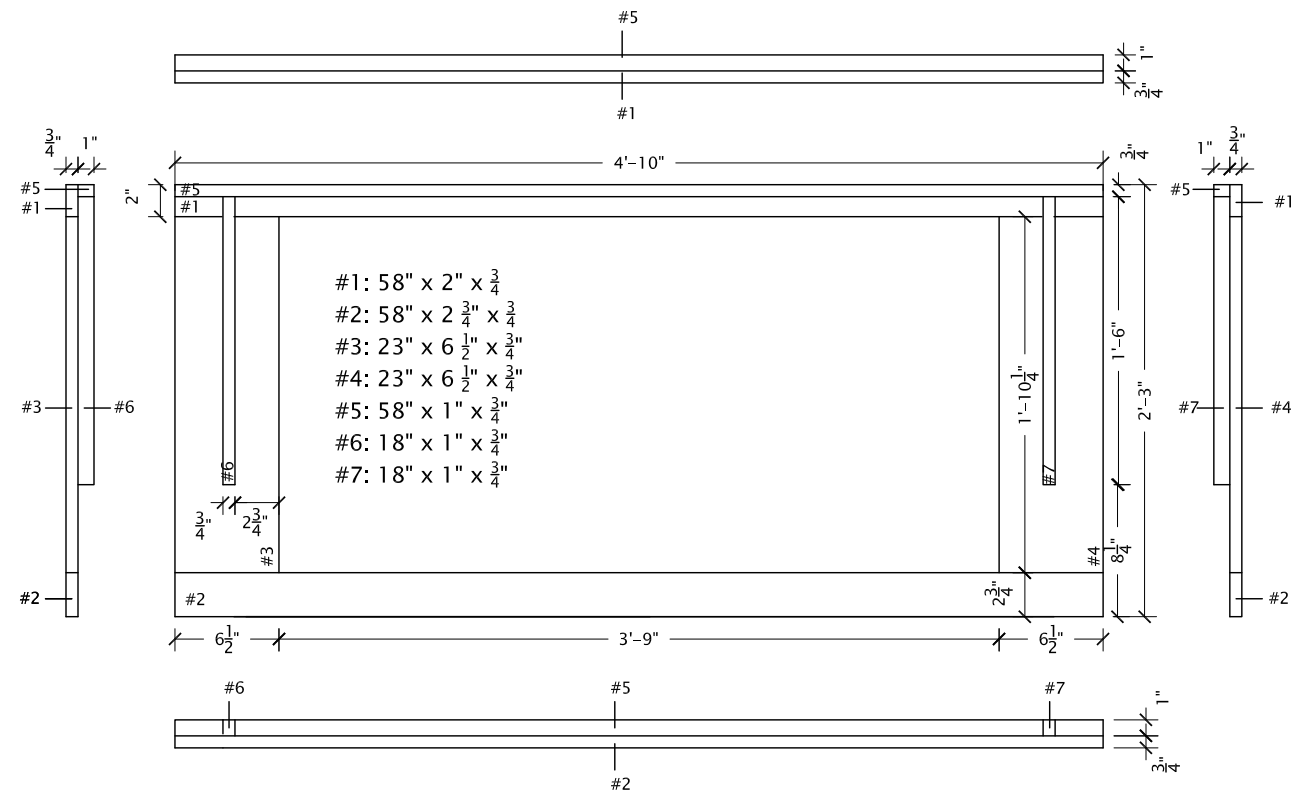
01 PANEL A

SCALE: 1" = 1'-0"



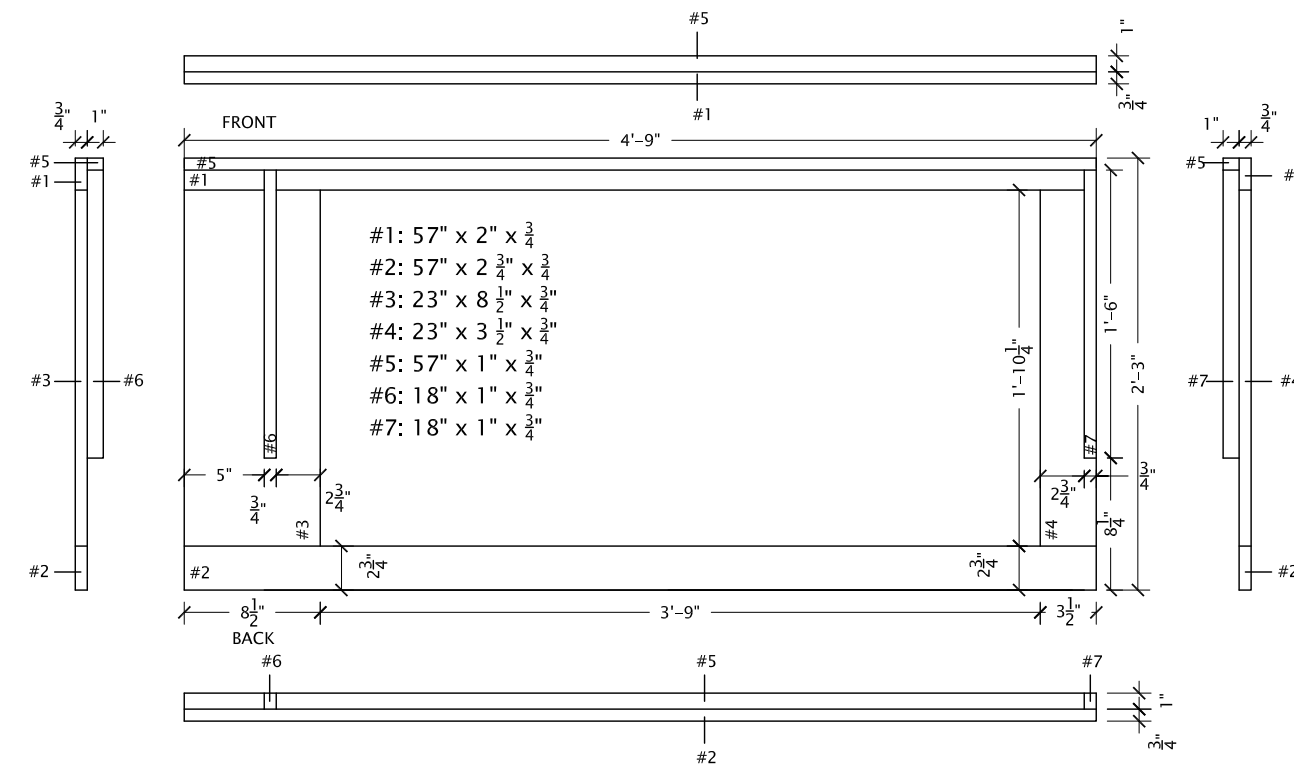
03 PANEL C

SCALE: 1" = 1'-0"



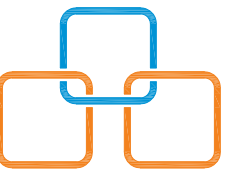
02 PANEL B

SCALE: 1" = 1'-0"



04 PANEL D

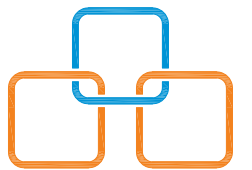
SCALE: 1" = 1'-0"



DATE:	08-03-2007
SCALE:	VARIES
DRAWN BY:	NW
CHECKED BY:	NW
MODIFIED:	NW

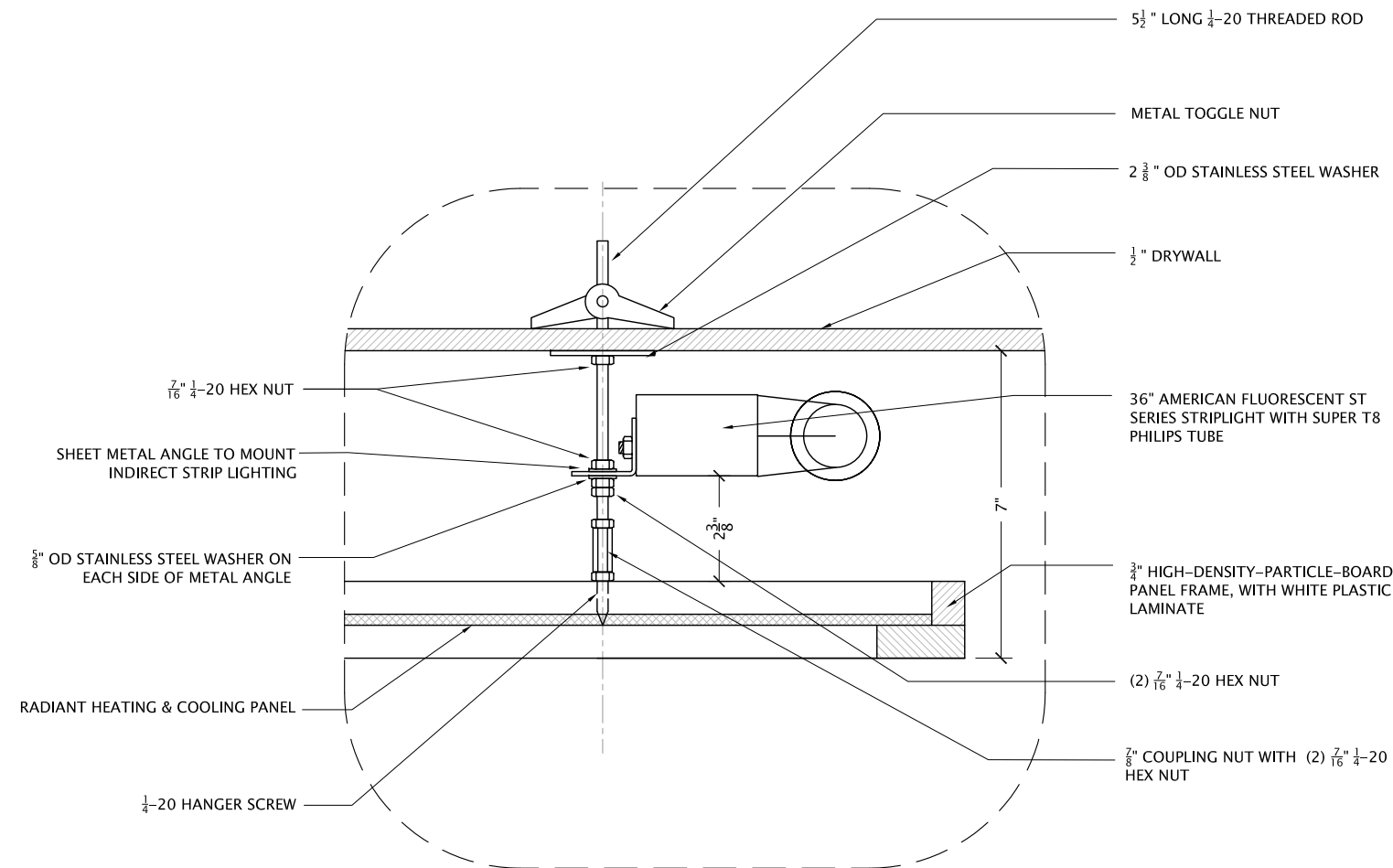
A5.02

CEILING PANEL DET.

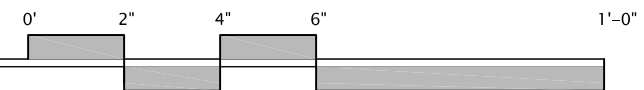


DATE:	08-03-2007
SCALE:	VARIES
DRAWN BY:	BB
CHECKED BY:	NW
MODIFIED:	NW

A5.03
CEILING PANEL SEC.



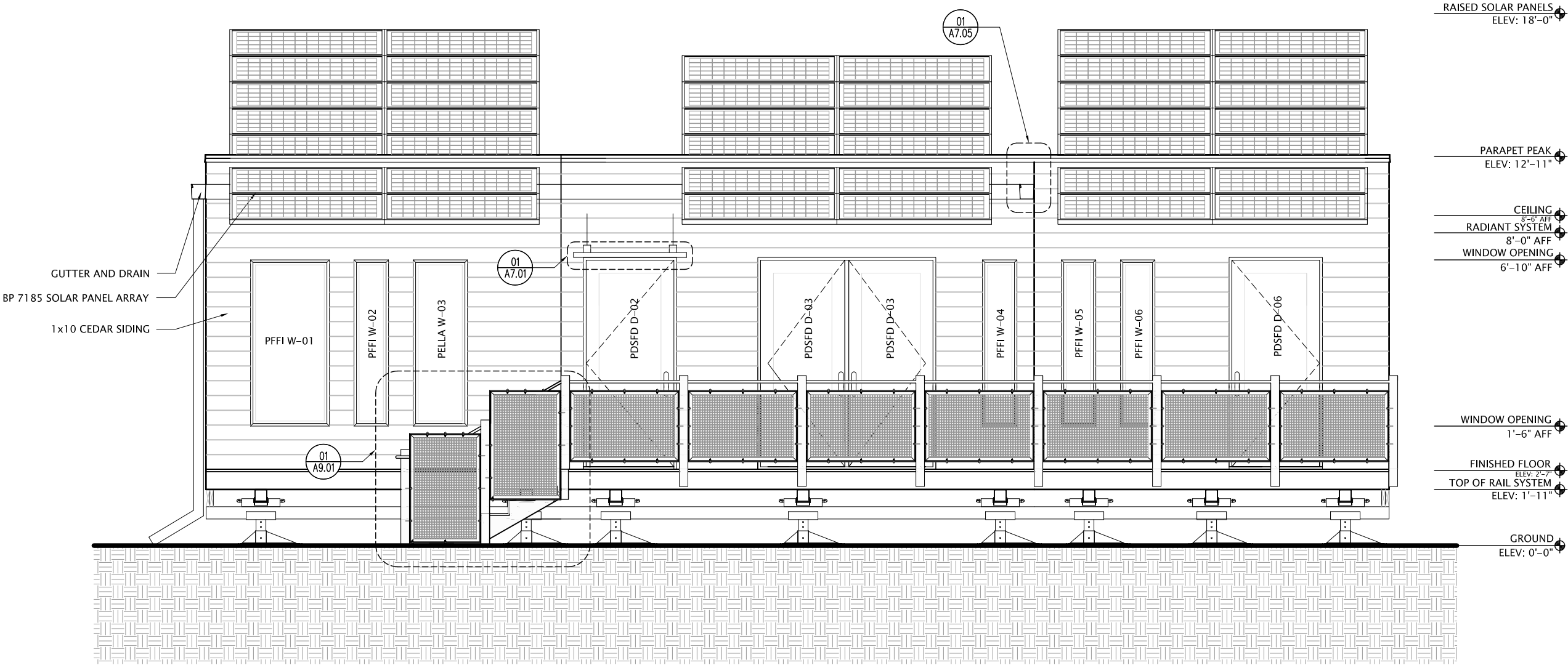
02 CEILING PANEL SECTION A
SCALE: 3" = 1'-0"



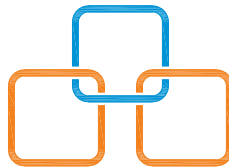
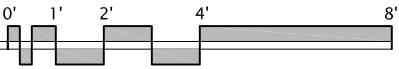
NOTE:

FOR DETAILED DRAWINGS OF
THE STAIR AND RAILING SEE
PAGE A9.01.

SOLAR PANELS ARE SHOWN AT
MAXIMUM ELEVATION



01 SOUTH ELEVATION
SCALE: $\frac{1}{4}" = 1'-0"$



DATE: 08-03-2007

SCALE: $\frac{1}{4}" = 1'-0"$

DRAWN BY: JJS

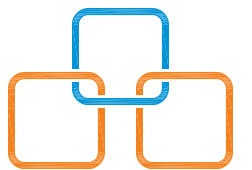
CHECKED BY: JW

MODIFIED: FX NW

A6.01

SOUTH ELEVATION

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U.S. DEPARTMENT OF ENERGY



DATE: 03-03-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: 04-15-2007

A6.02
NORTH ELEVATION

NOTE:

FOR DETAILED INFORMATION REGARDING THE STAIRS AND RAILINGS, SEE PAGE A9.01. THE RAILS ON THIS PAGE ARE REPRESENTATIONS ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION.

BOTH THE STAIR AND RAMP SHALL HAVE HANDRAILS AND GUARDS ON BOTH SIDES. THERE SHALL BE A 12" EXTENSION ON BOTH ENDS.

PELLA WINDOW #10 SHALL BE TEMPERED GLASS AS SPECIFIED

RAISED SOLAR PANELS
ELEV: 18'-0"

PARAPET PEAK
ELEV: 12'-11"

CEILING
8'-6" AFF

WINDOW HEAD
7'-0" AFF

WINDOW SILL
6'-0" AFF

WINDOW HEAD
5'-6" AFF

WINDOW SILL
4'-6" AFF

FINISHED FLOOR
ELEV: 2'-7"

RAMP LANDING
ELEV: 1'-2"

GROUND
ELEV: 0'-0"

RAISED SOLAR PANELS
ELEV: 18'-0"

PARAPET PEAK
ELEV: 12'-11"

CEILING
8'-6" AFF

WINDOW HEAD
7'-0" AFF

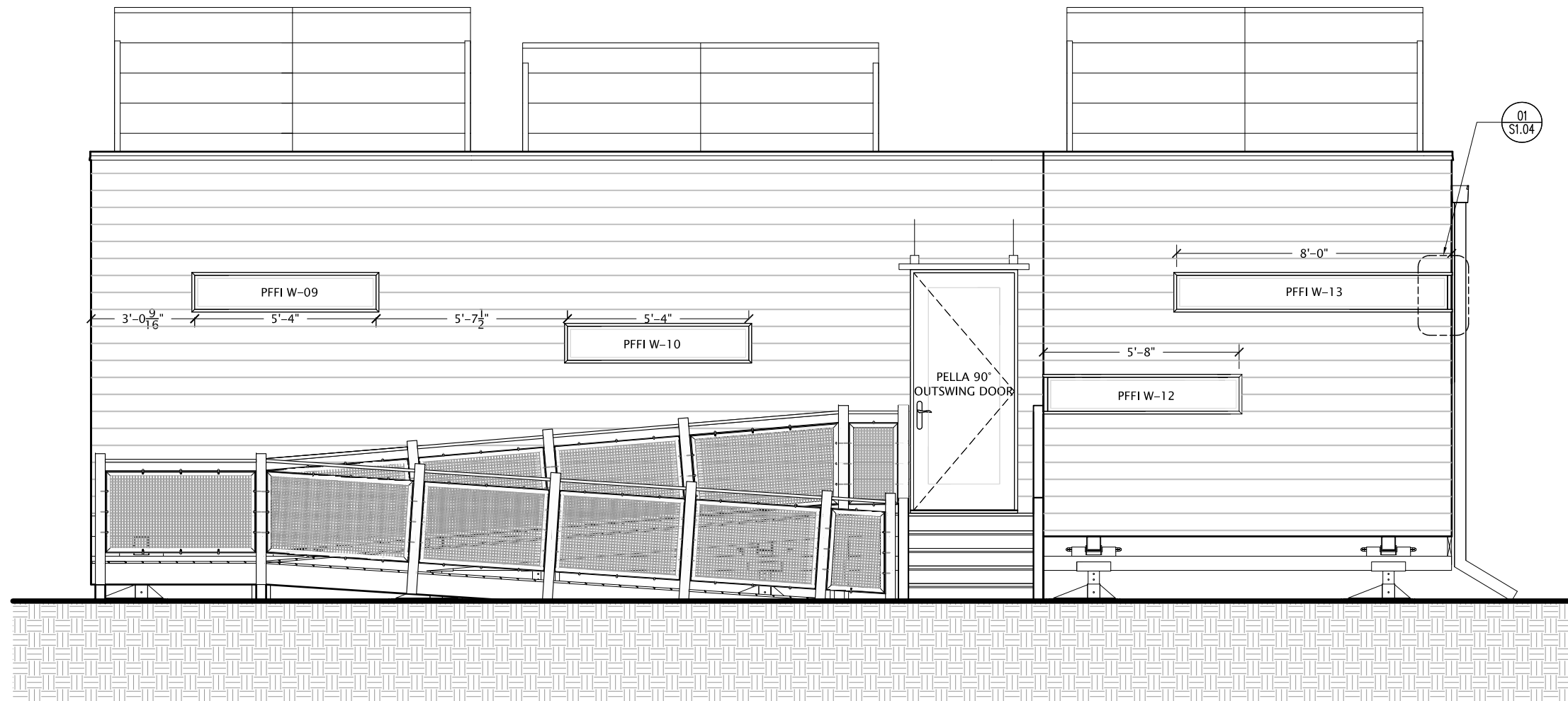
WINDOW SILL
6'-0" AFF

WINDOW HEAD
4'-0" AFF

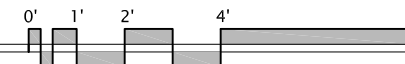
WINDOW SILL
3'-0" AFF

FINISHED FLOOR
ELEV: 2'-7"

GROUND
ELEV: 0'-0"



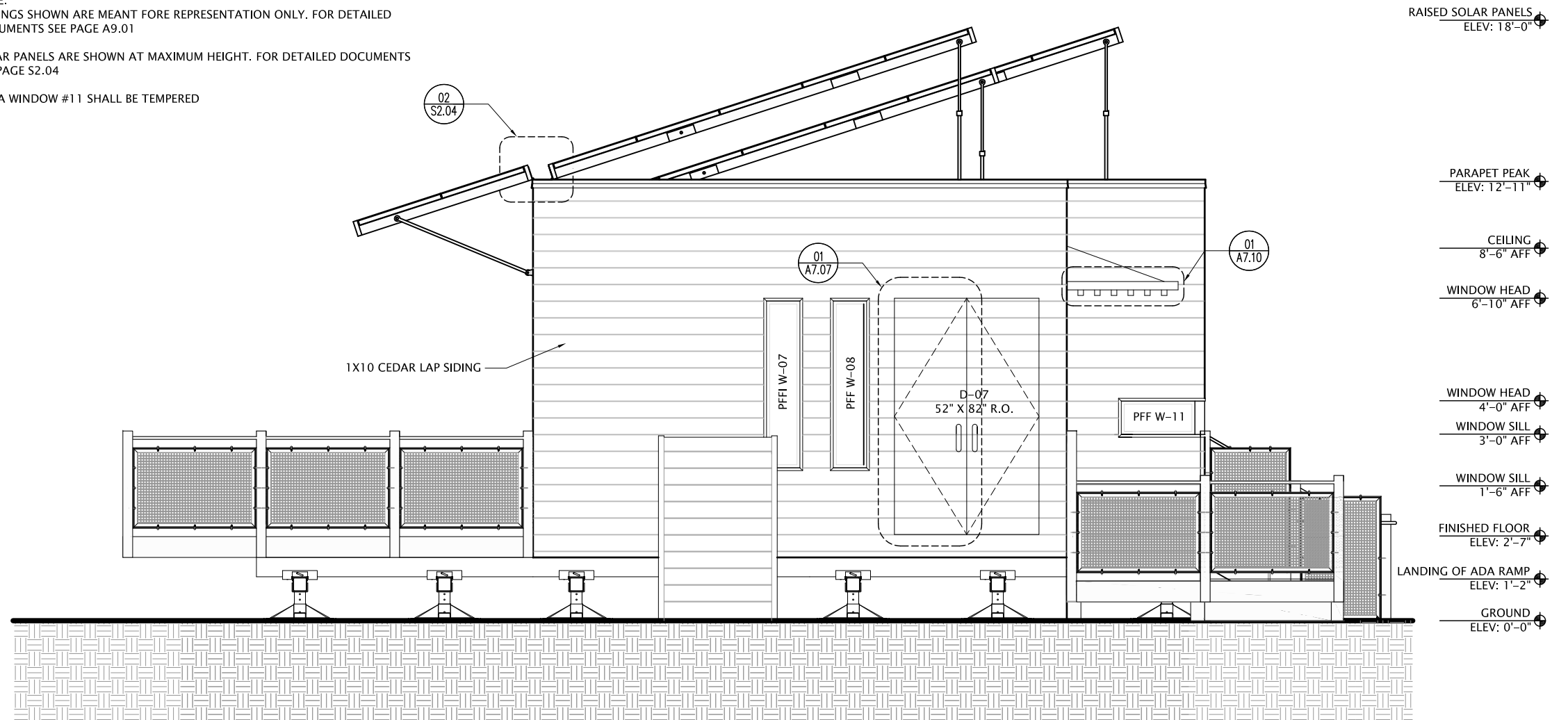
01 NORTH ELEVATION
SCALE: $\frac{1}{4}" = 1'-0"$



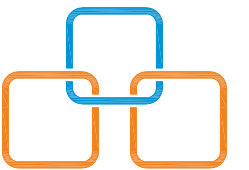
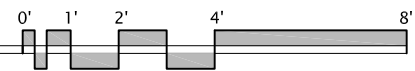
NOTE:
RAILINGS SHOWN ARE MEANT FOR REPRESENTATION ONLY. FOR DETAILED DOCUMENTS SEE PAGE A9.01

SOLAR PANELS ARE SHOWN AT MAXIMUM HEIGHT. FOR DETAILED DOCUMENTS SEE PAGE S2.04

PELLA WINDOW #11 SHALL BE TEMPERED



01 EAST ELEVATION
SCALE: $\frac{1}{4}" = 1'-0"$



DATE: 08-03-2007

SCALE: $\frac{1}{4}" = 1'-0"$

DRAWN BY: JJS

CHECKED BY: JW

MODIFIED: NW FX

A6.03

EAST ELEVATION

RAISED SOLAR PANELS
ELEV: 18'-0"

PARAPET PEAK
ELEV: 12'-11"

CEILING
8'-6" AFF

WINDOW HEAD
7'-0" AFF

WINDOW SILL
6'-0" AFF

FINISHED FLOOR
ELEV: 2'-7"

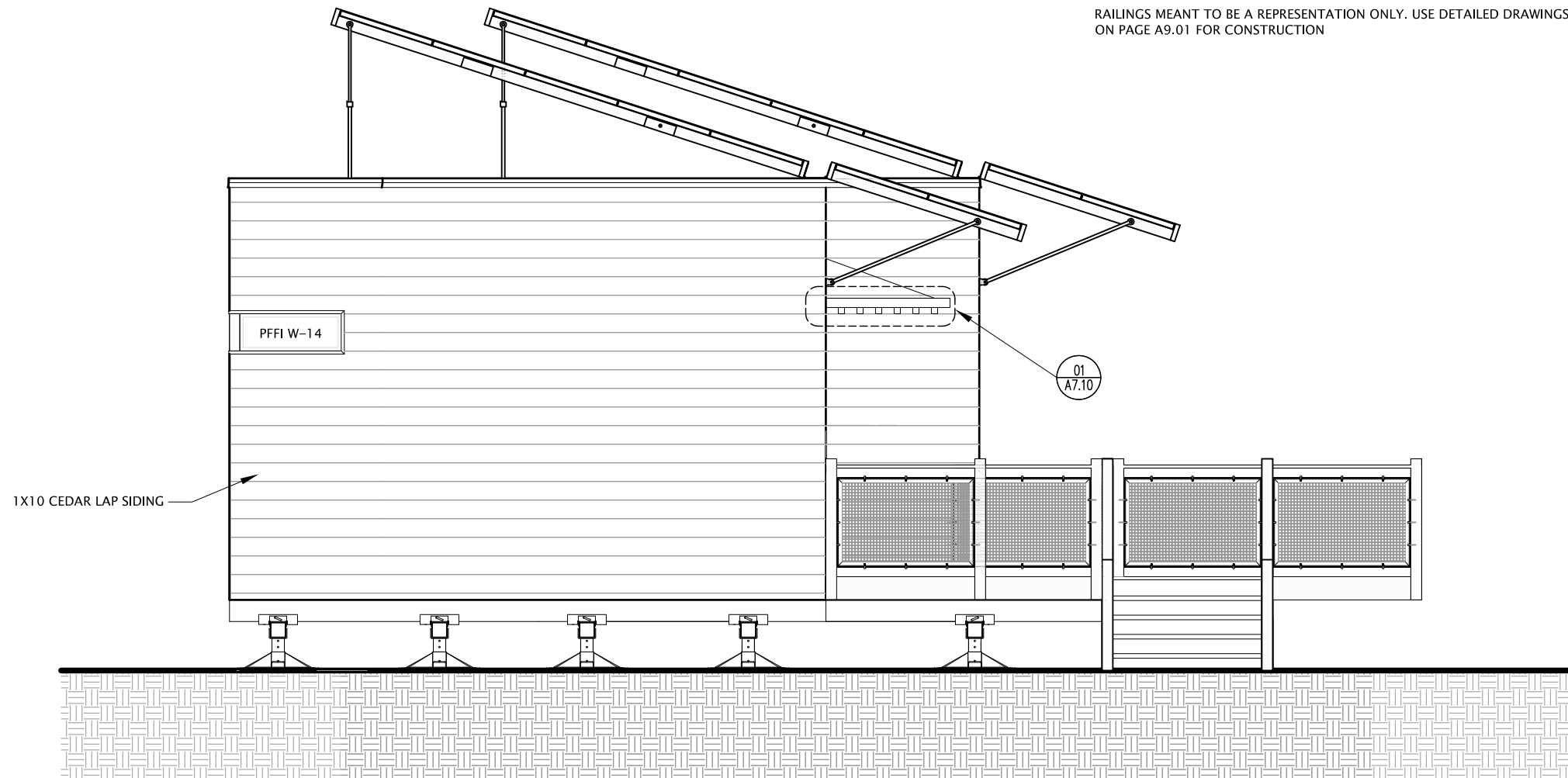
LANDING OF ADA RAMP
ELEV: 1'-2"

GROUND
ELEV: 0'-0"

NOTE:

SOLAR PANELS SHOWN AT MAXIMUM HEIGHT.

RAILINGS MEANT TO BE A REPRESENTATION ONLY. USE DETAILED DRAWINGS
ON PAGE A9.01 FOR CONSTRUCTION



01 WEST ELEVATION

SCALE: $\frac{1}{4}" = 1'-0"$

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DATE: 08-03-2007

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DRAWN BY: JJS

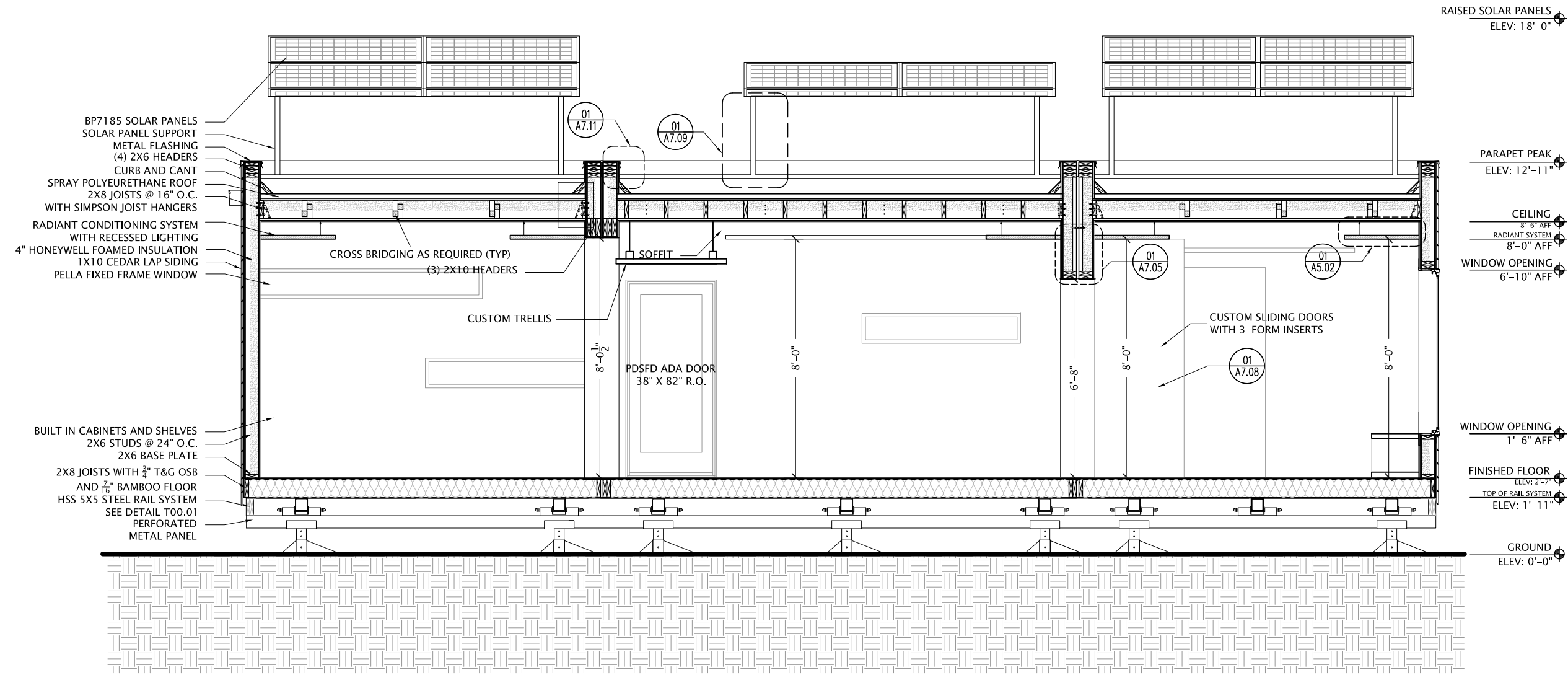
CHECKED BY: JW

MODIFIED: FX NW

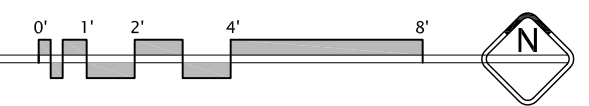
A6.04

WEST ELEVATION

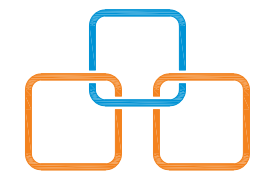
NOTE:
HONEYWELL POLYURETHANE FOAMED INSULATION
SHALL BE INSTALLED TO A MAXIMUM THICKNESS OF 4"
TO MEET IRC R314.3 SURFACE BURNING CHARACTERISTICS.
THE ASSEMBLY HAS BEEN TESTED TO HAVE A
FLAME SPREAD INDEX OF NOT MORE THAN 75 AND
HAS A SMOKE-DEVELOPED INDEX OF LESS THAN 450



1 EAST-WEST SECTION
SCALE: $\frac{1}{4}'' = 1'-0''$



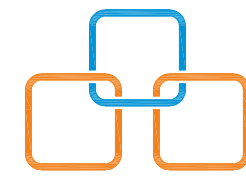
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UNIVERSITY OF ILLINOIS
U.S. DEPARTMENT OF ENERGY



DATE:	08-03-2007
SCALE:	$\frac{1}{4}'' = 1'-0''$
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	FX NW

A6.05
EAST-WEST SECTION

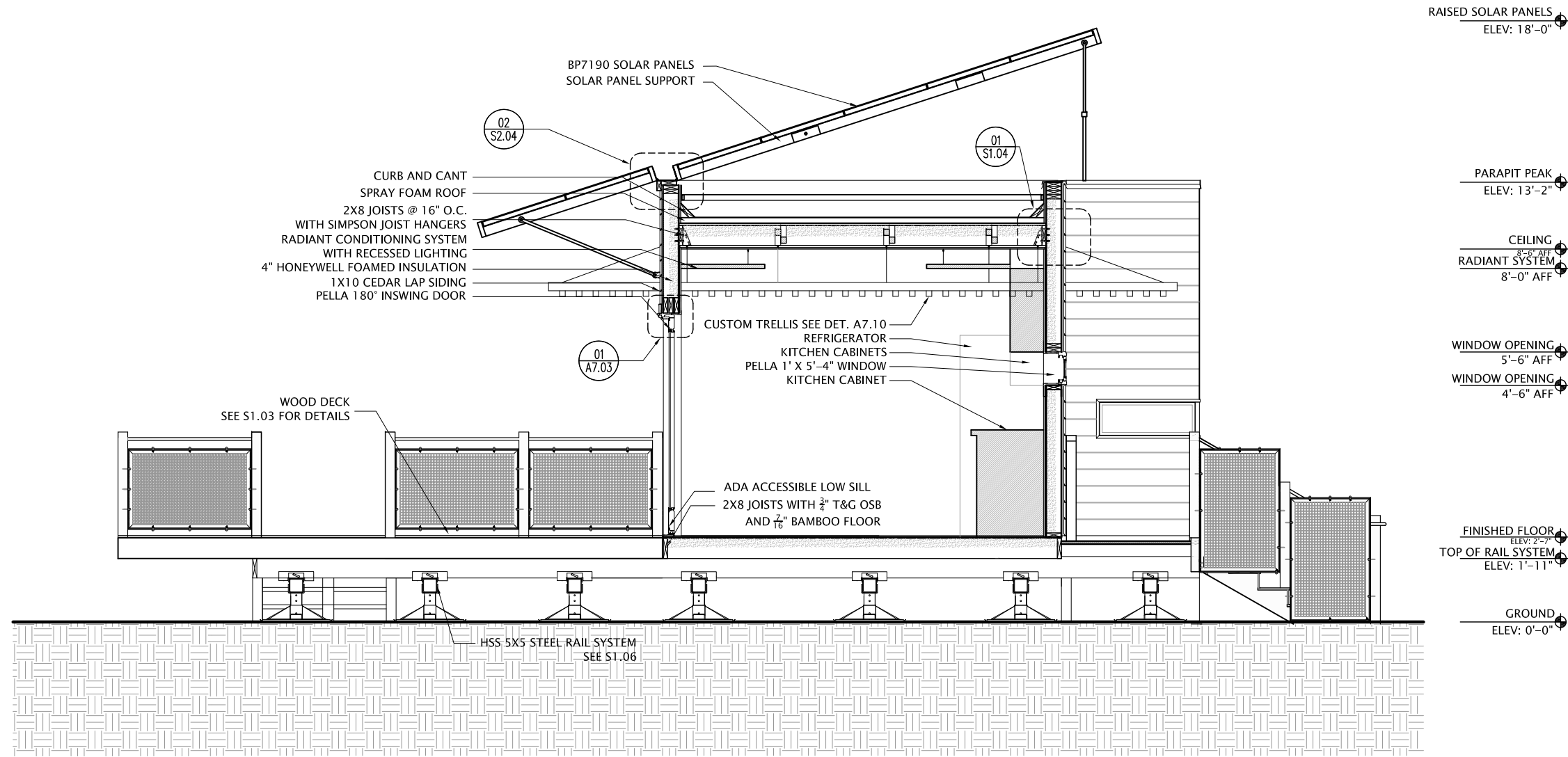
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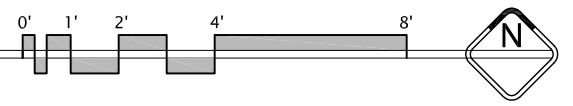
DATE: 08-03-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW

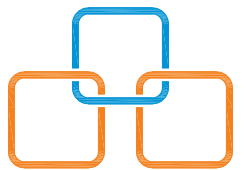
A6.06
NORTH-SOUTH SECT.

NOTE:
HONEYWELL POLYURETHANE FOAMED INSULATION
SHALL BE INSTALLED TO A MAXIMUM THICKNESS OF 4"
TO MEET IRC R314.3 SURFACE BURNING CHARACTERISTICS.
THE ASSEMBLY HAS BEEN TESTED TO HAVE A
FLAME SPREAD INDEX OF NOT MORE THAN 75 AND
HAS A SMOKE-DEVELOPED INDEX OF LESS THAN 450



1 NORTH-SOUTH SECTION
SCALE: $\frac{1}{4}" = 1'-0"$

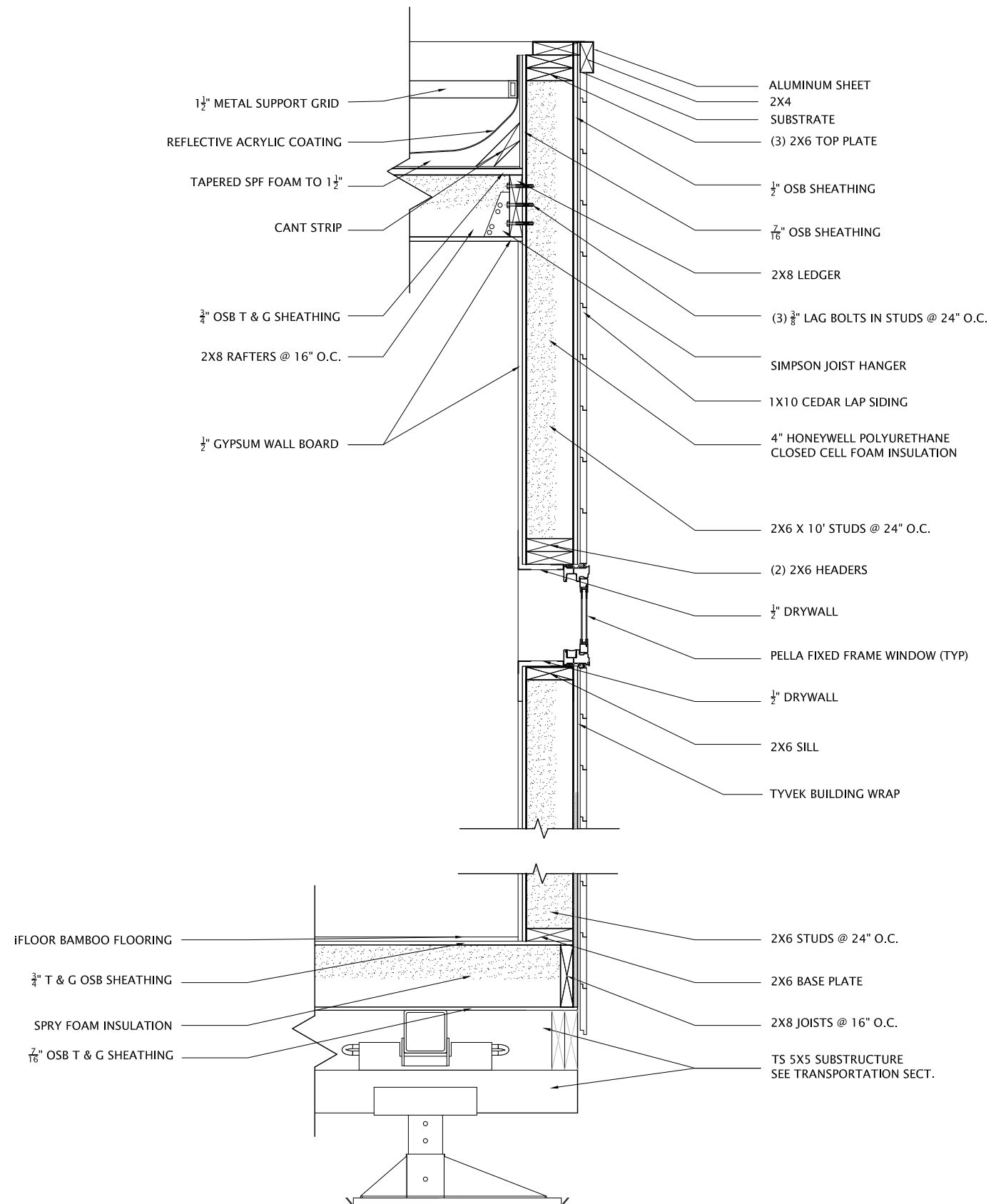




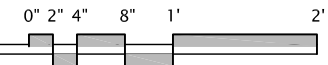
DATE: 08-03-2007
SCALE: $\frac{3}{4}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW

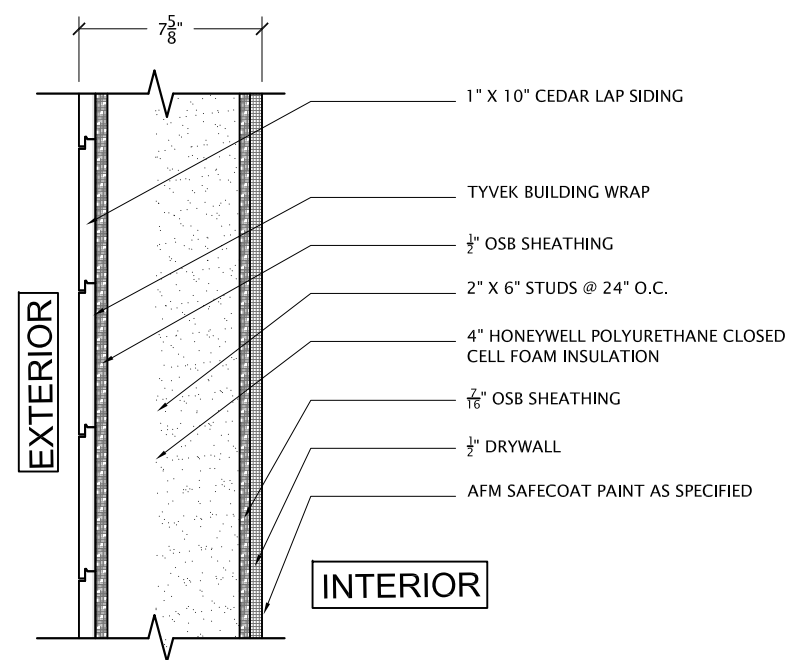
A7.01

TYP. WALL SECTION

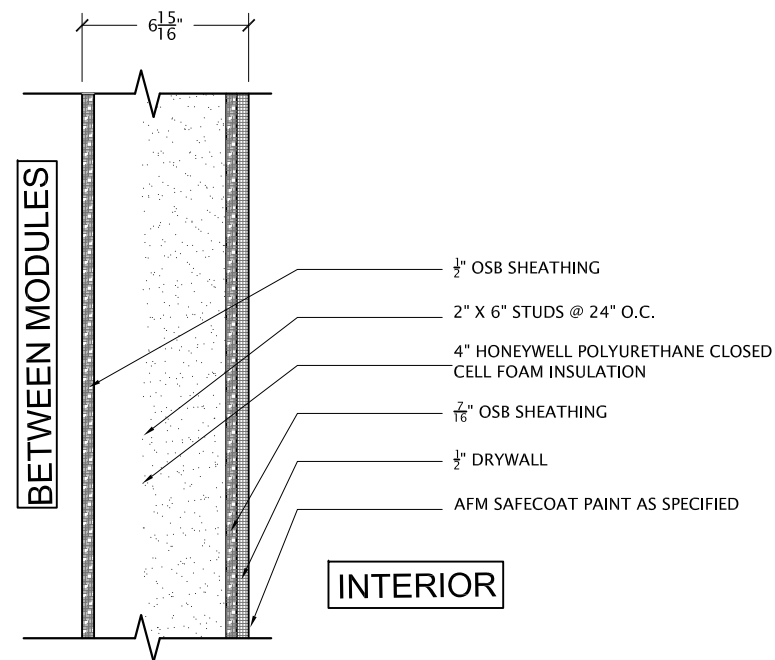


1 TYP. WALL SECTION
SCALE: $\frac{3}{4}" = 1'-0"$

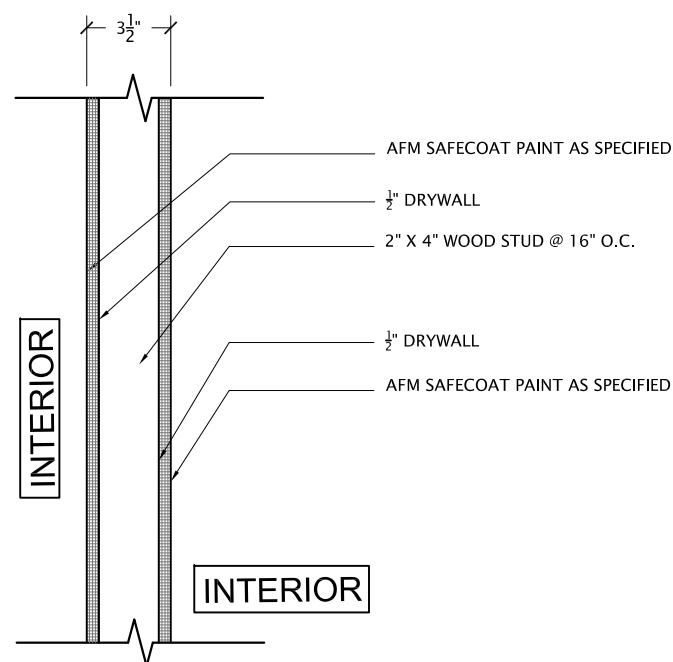




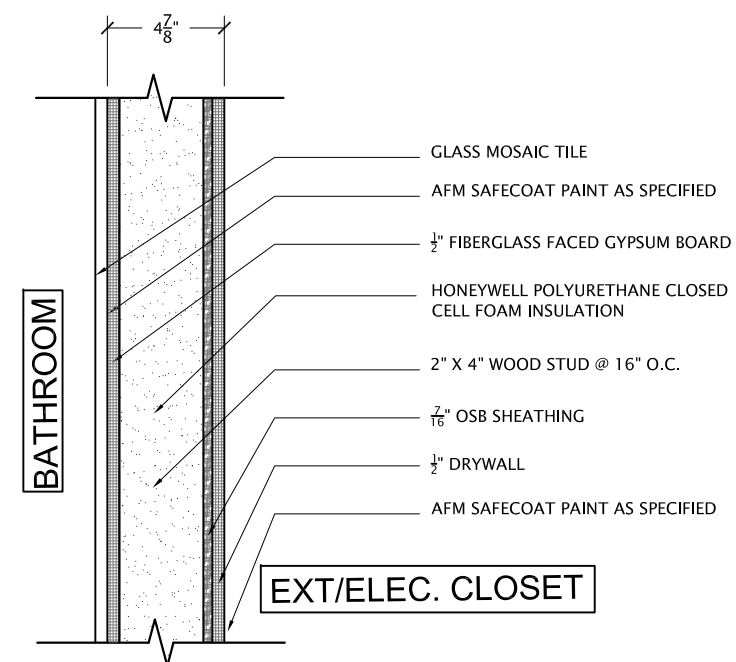
1 WALL TYPE "A"
SCALE: 1 1/2" = 1'-0"



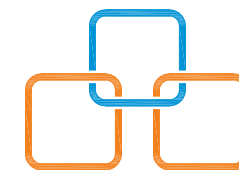
2 WALL TYPE "B"
SCALE: 1 1/2" = 1'-0"



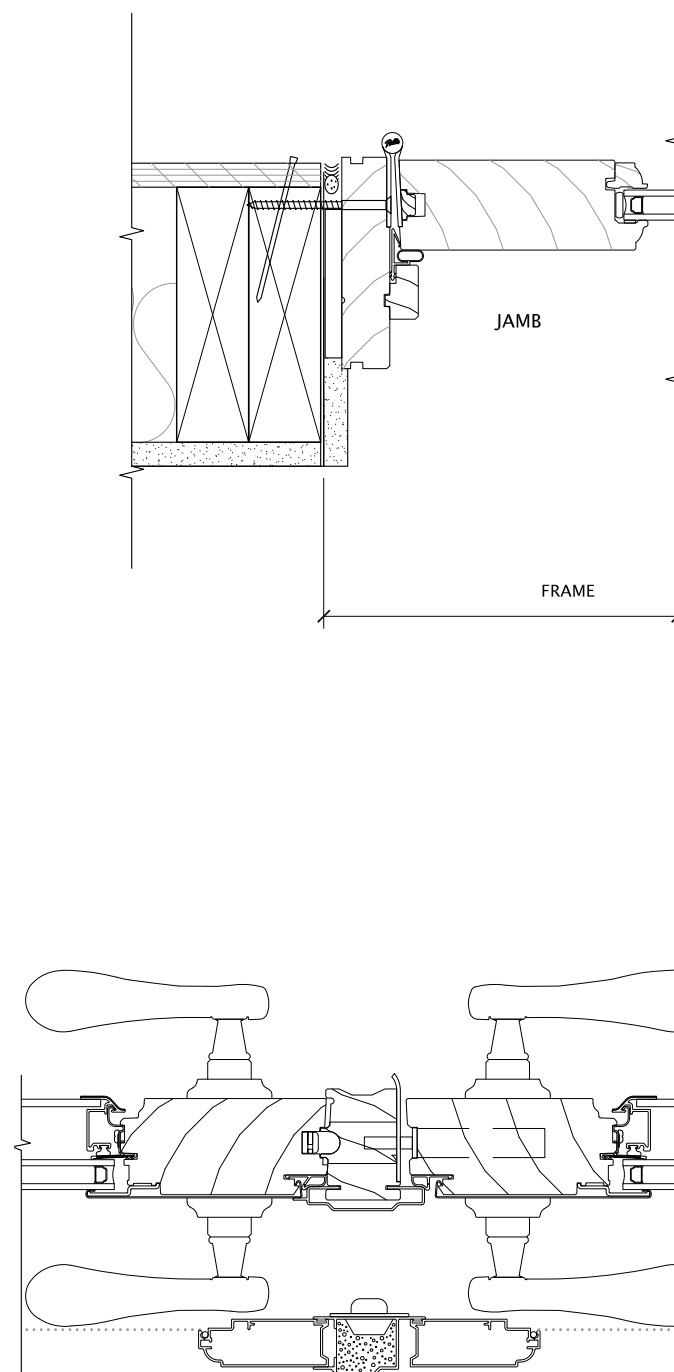
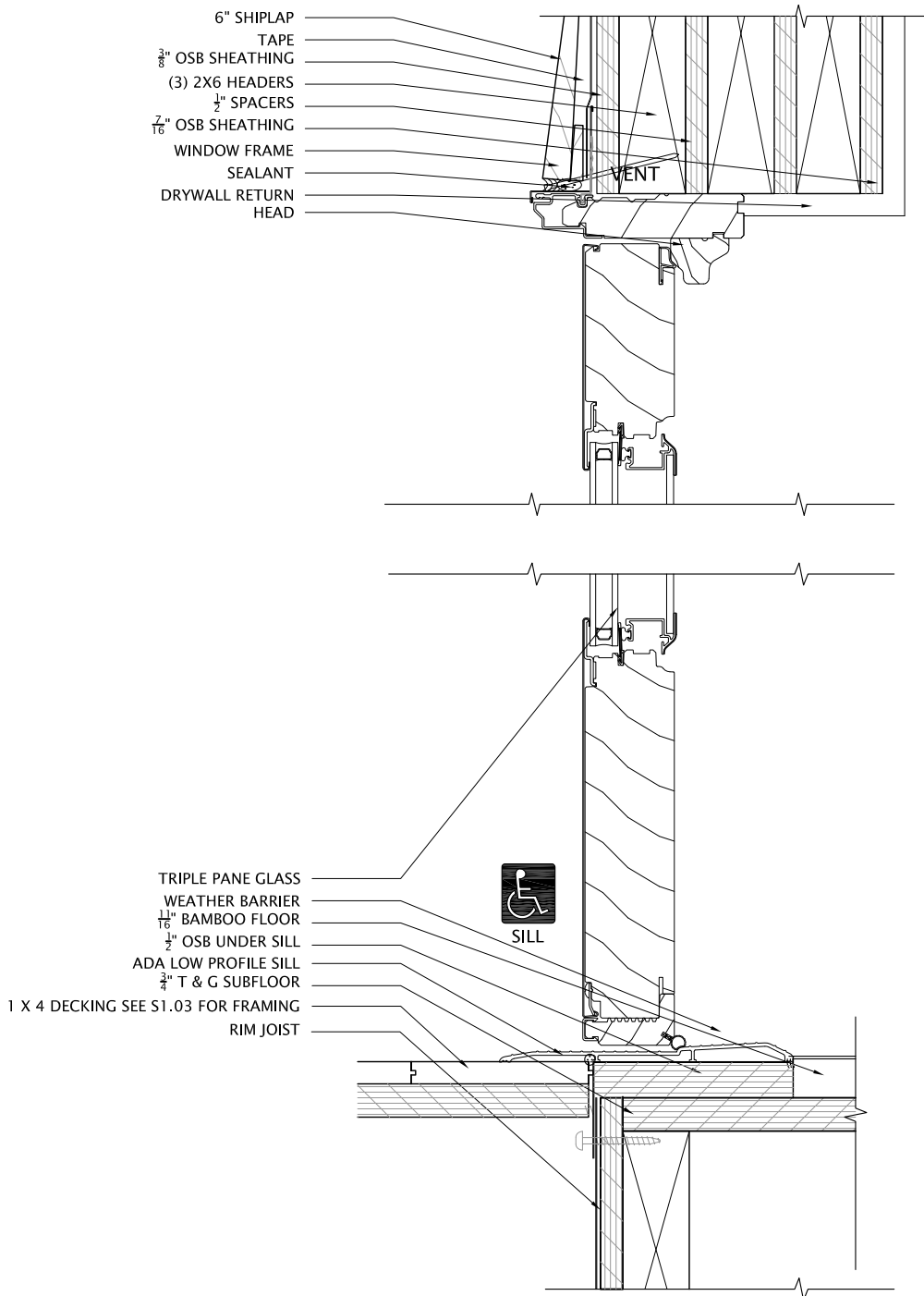
3 WALL TYPE "C"
SCALE: 1 1/2" = 1'-0"



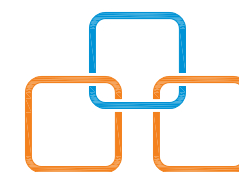
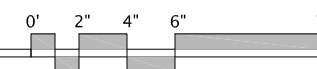
4 WALL TYPE "D"
SCALE: 1 1/2" = 1'-0"



DATE:	08-03-2007
SCALE:	1 1/2" = 1'-0"
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	NW FX



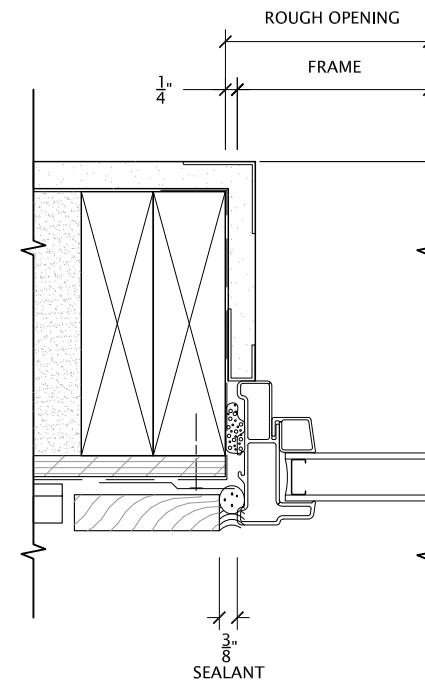
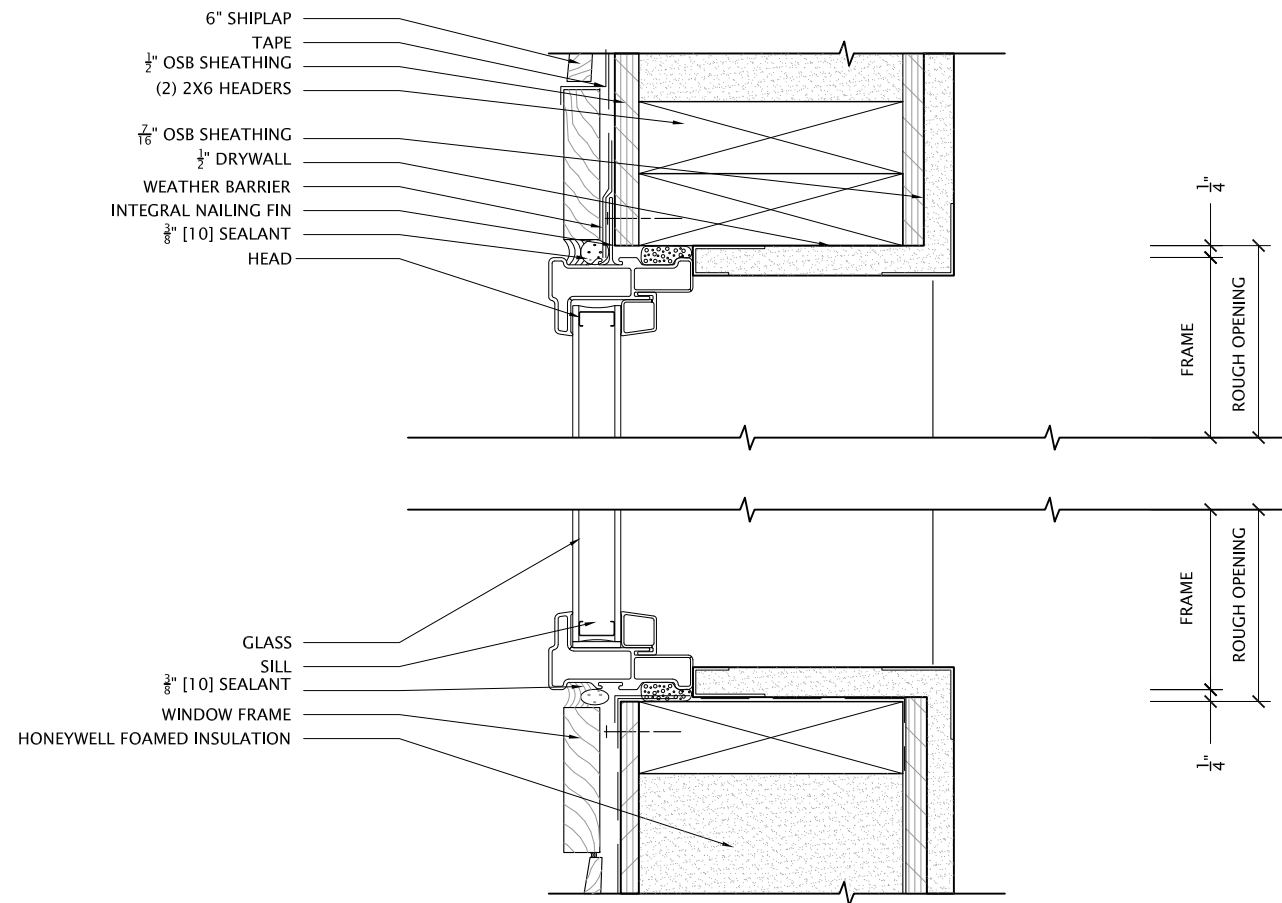
TYPICAL DOOR DETAIL
SCALE: 3" = 1'-0"



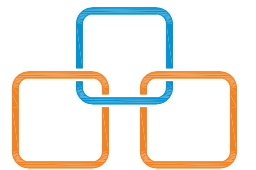
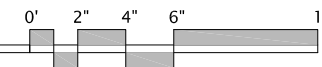
DATE:	08-03-2007
SCALE:	1 1/2" = 1'-0"
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	FX NW

A7.03

TYP. DOOR DETAIL



TYPICAL WINDOW DETAIL
SCALE: 4" = 1'-0"

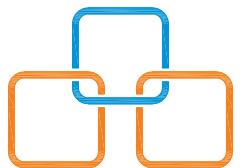


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DATE: 08-03-2007
SCALE: 1 1/2" = 1'-0"
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW

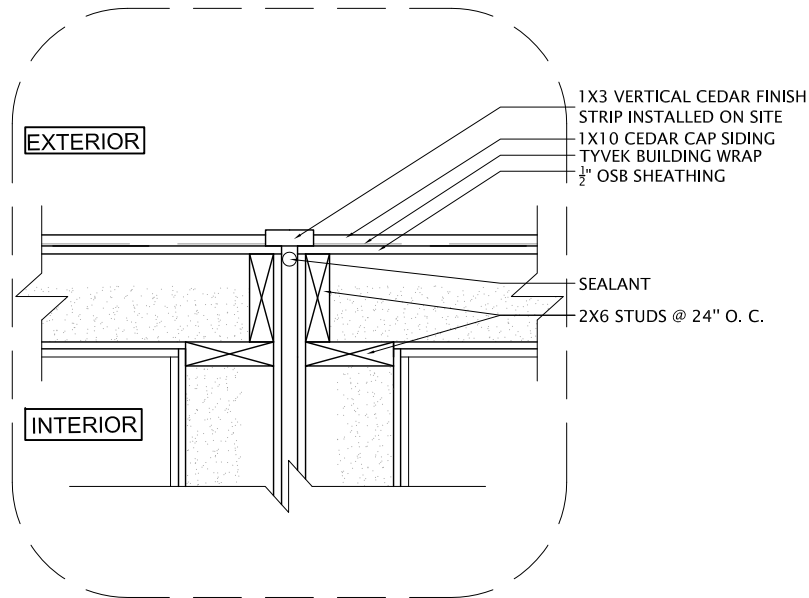
A7.04

TYP. WINDOW DET.

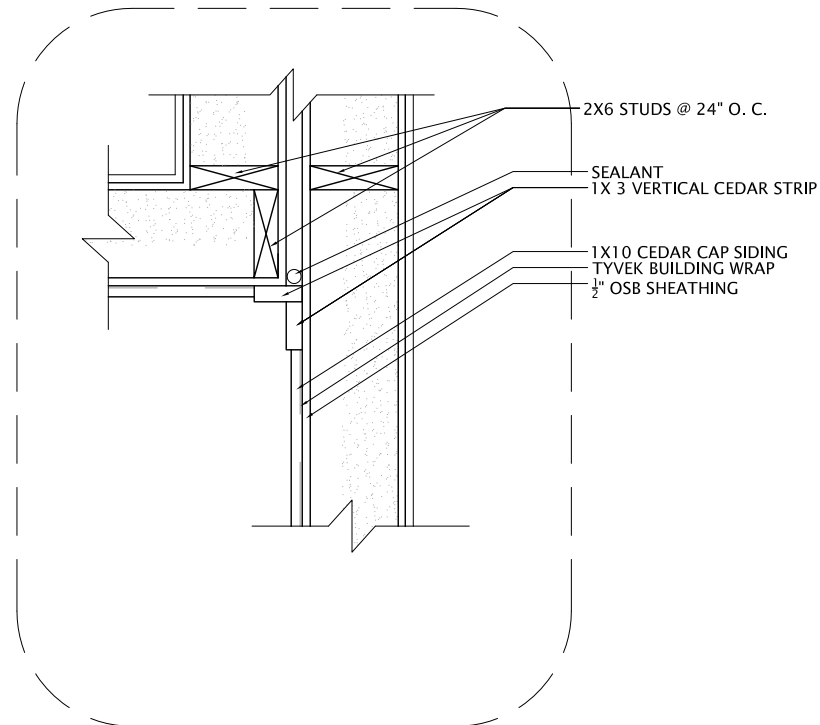


DATE: 08-03-2007
SCALE: 1"=1'-0"
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED BY: FX

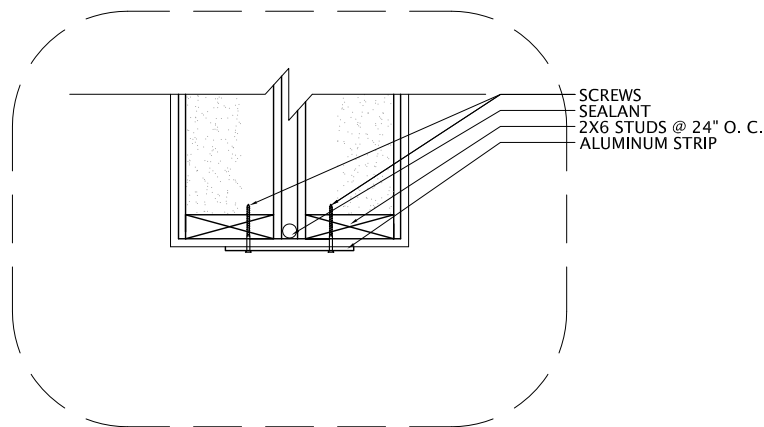
A7.05
SCPR & CONN. DET.



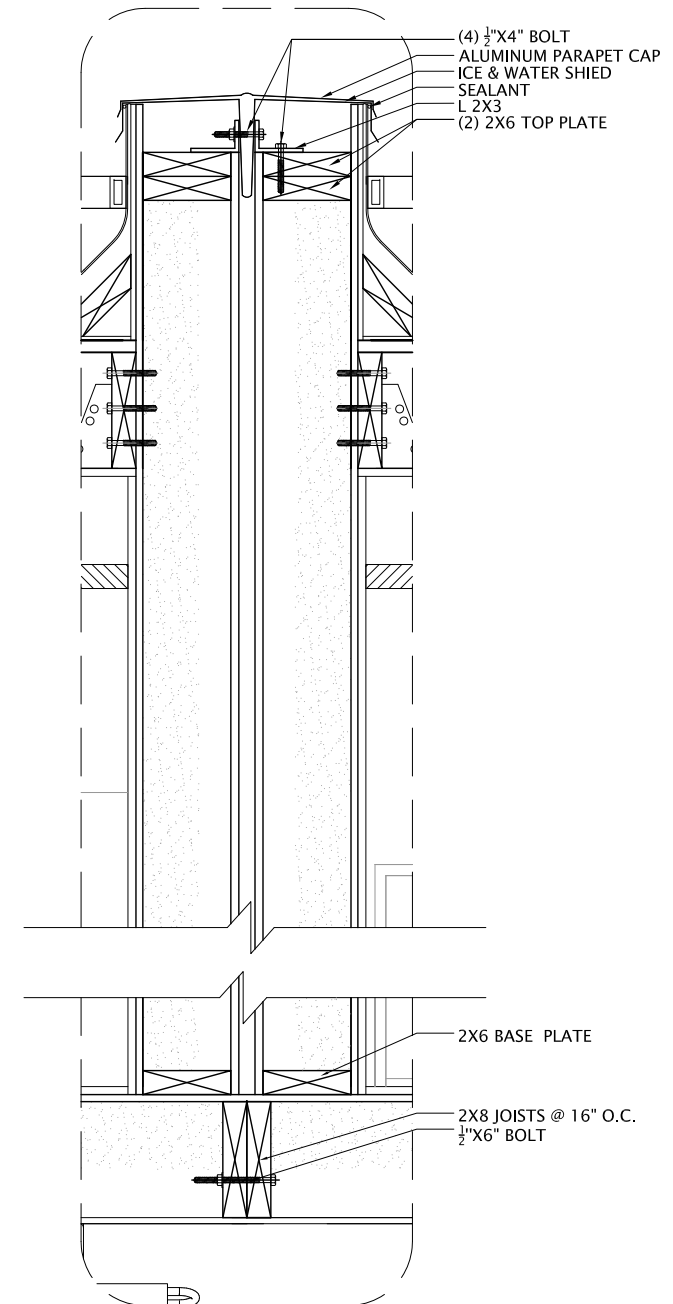
1 MODULE CONNECTION
SCALE: 1" = 1'-0"



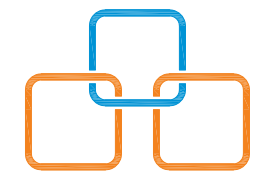
3 MODULE CONNECTION
SCALE: 1" = 1'-0"



2 MODULE CONNECTION
SCALE: 1" = 1'-0"

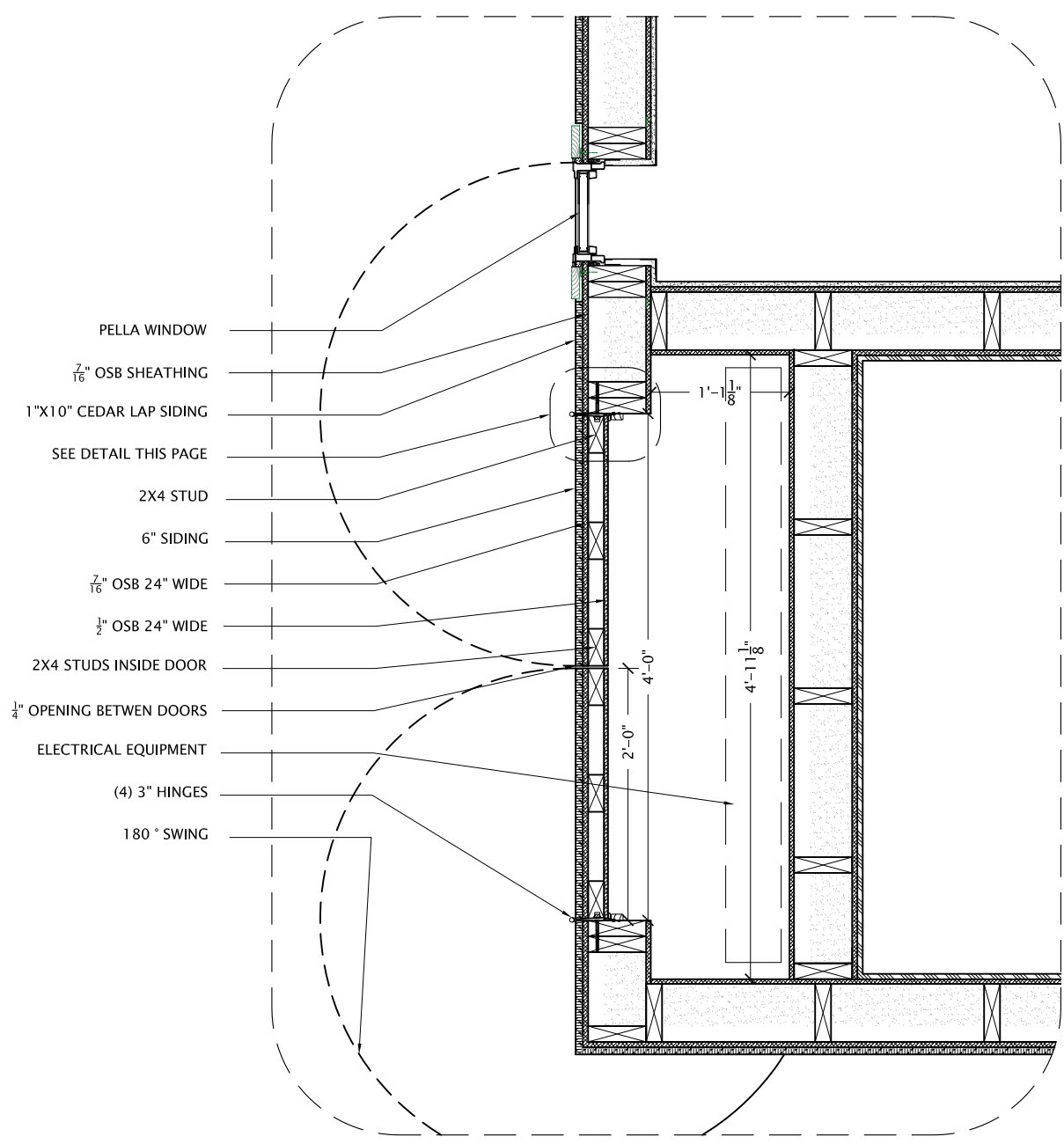


4 MODULE CONNECTION
SCALE: 1" = 1'-0"

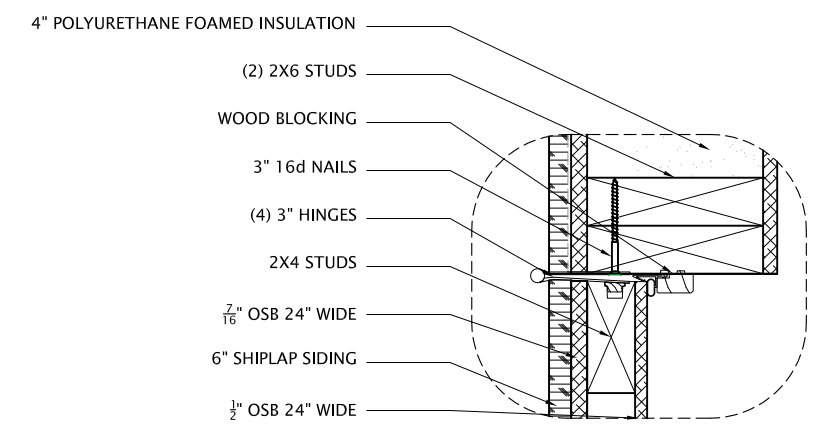


DATE: 08-03-2007
SCALE: VARIES
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW

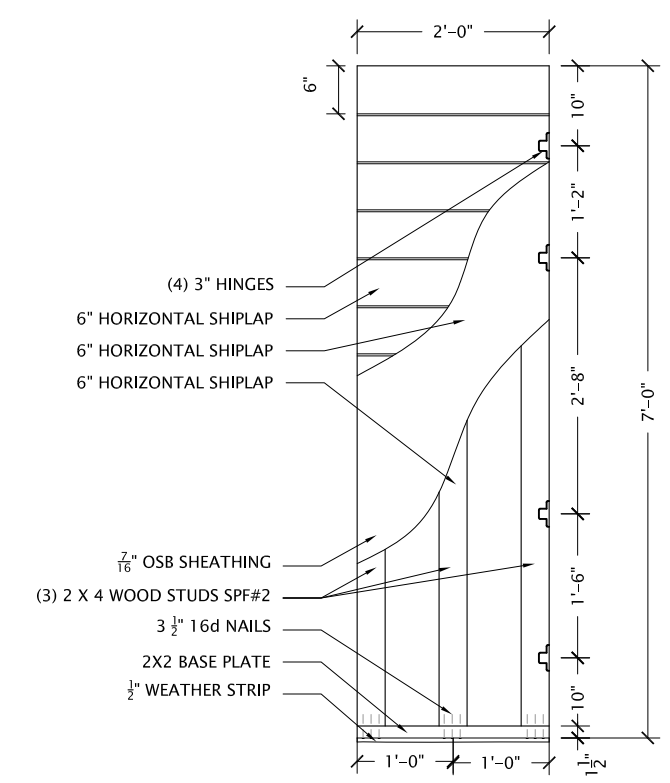
A7.06
ELECTRICAL DOOR



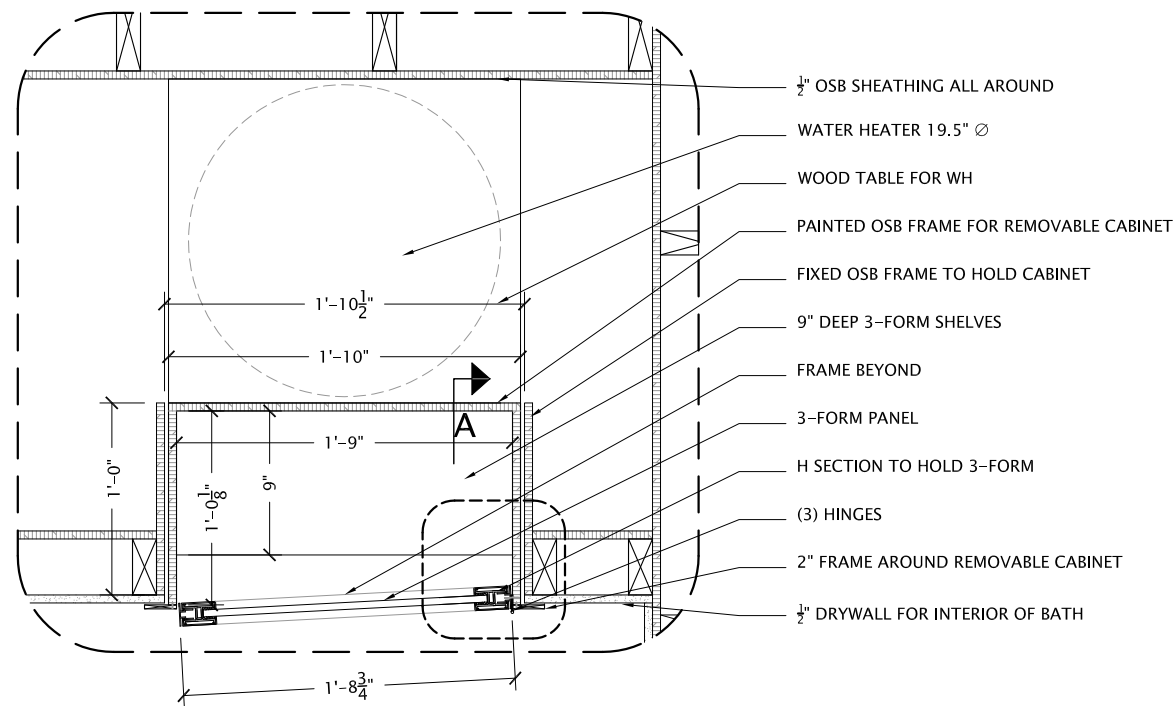
1 ELECTRICAL DOOR JAMB
SCALE: 3/4" = 1'-0"



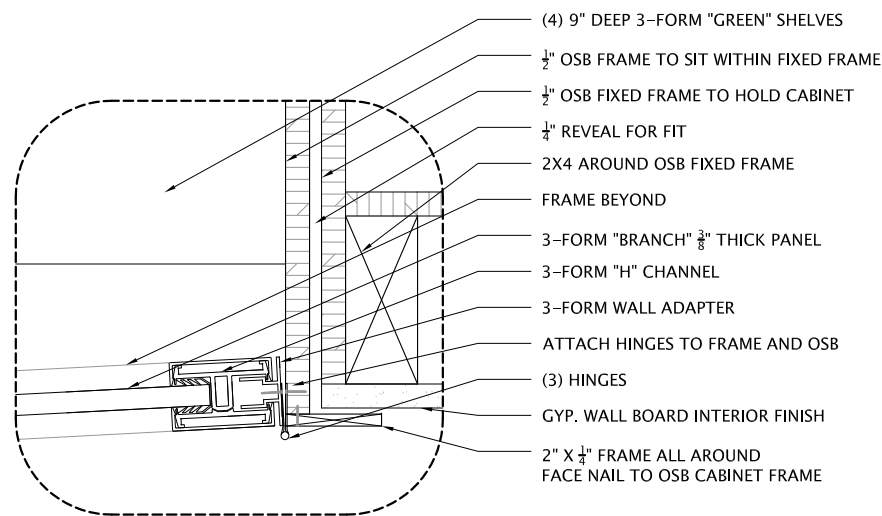
2 DOOR JAMB DETAIL.
SCALE: 2" = 1'-0"



3 ELECTRICAL DOOR ELEV.
SCALE: 1/2" = 1'-0"



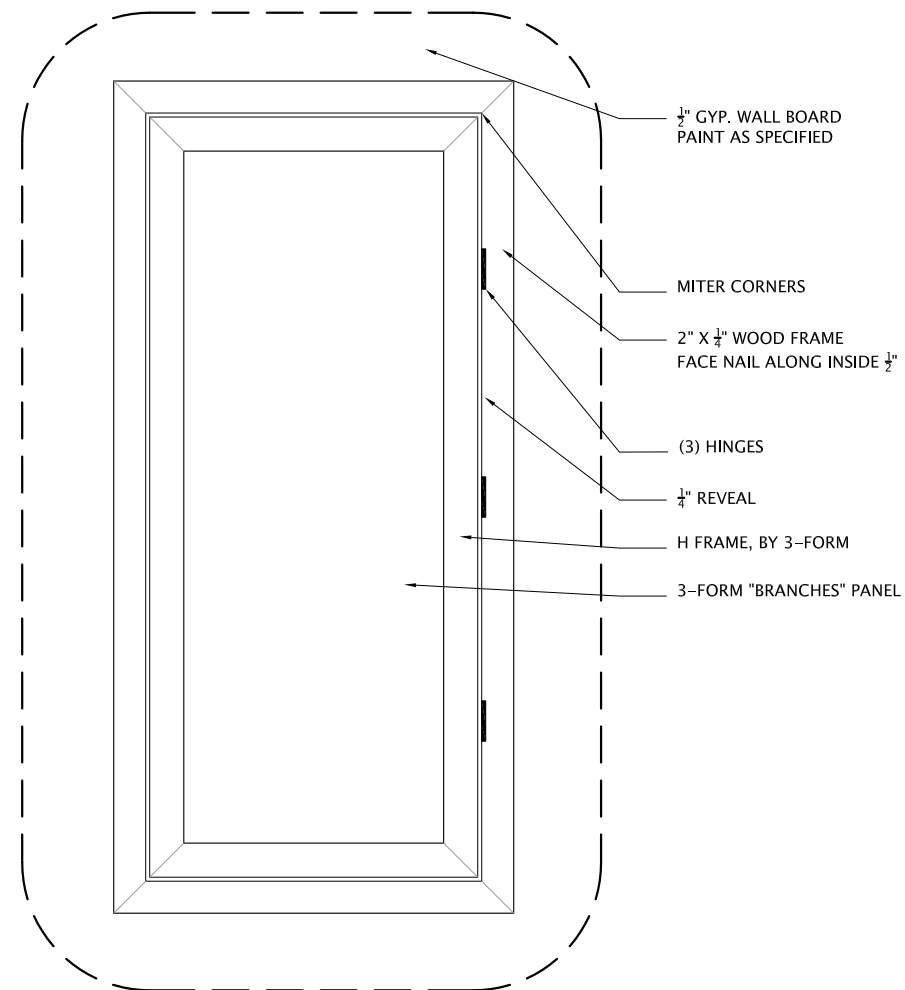
1 DOOR JAMB DETAIL.
SCALE: 1" = 1'-0"



2 MEDICINE DOOR JAMB
SCALE: 3" = 1'-0"

NOTE:

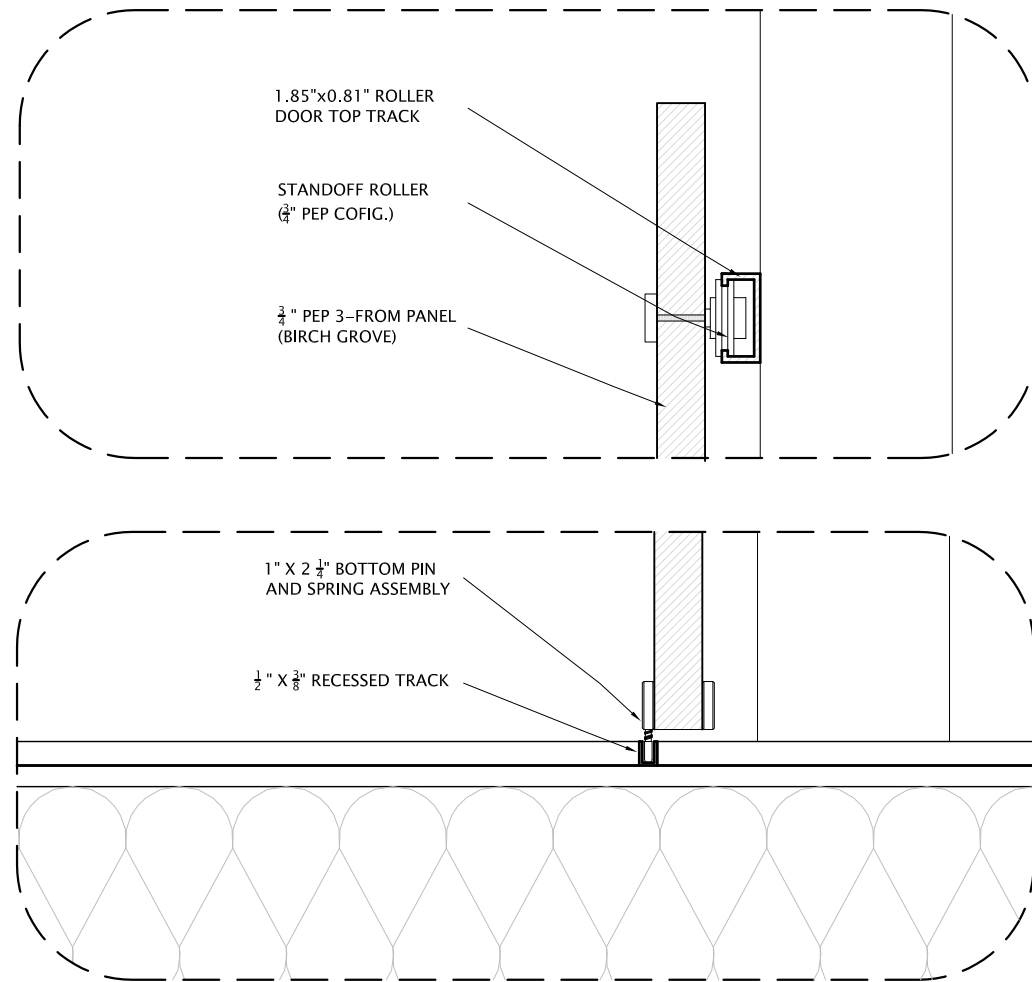
THE MEDICINE CABINET HAS BEEN DESIGNED AND SIZED SO AS TO PROVIDE ACCESS TO THE WATER HEATER BEYOND. THE WATER HEATER WILL BE PLACED ON A ELEVATED TABLE SO AS TO MAKE ITS BASE LEVEL WITH THE BASE OF THE OPENING. THE CABINET SHALL BE REMOVABLE. WHILE IN PLACE, A SECONDARY DOOR, MADE WITH 3-FORM PANELS WILL PROVIDE ACCESS TO STORAGE AND SHELVING



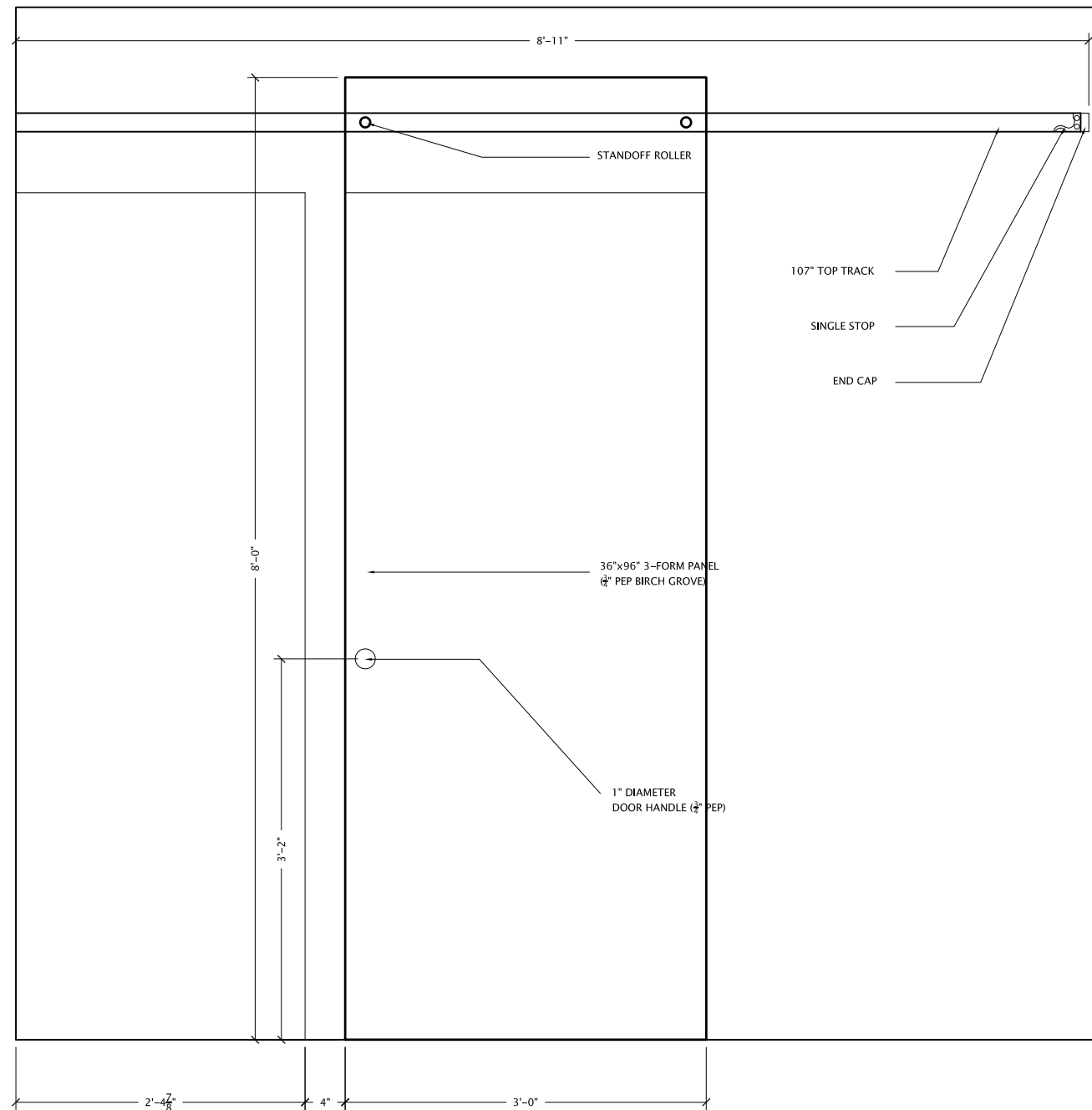
3 MEDICINE CABINET ELEV.
SCALE: 1" = 1'-0"



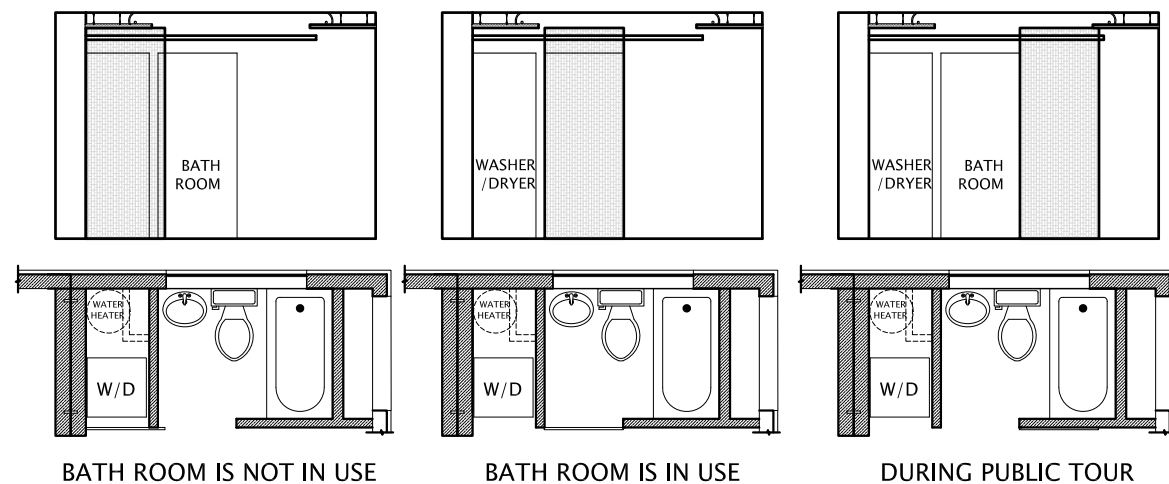
DATE: 08-03-2007
SCALE: VARIES
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: FX NW



1 SLIDING DOOR TRACK DETAIL. SCALE: 3" = 1'-0"



2 SLIDING DOOR ELEVATION
SCALE: 3/4" = 1'-0"

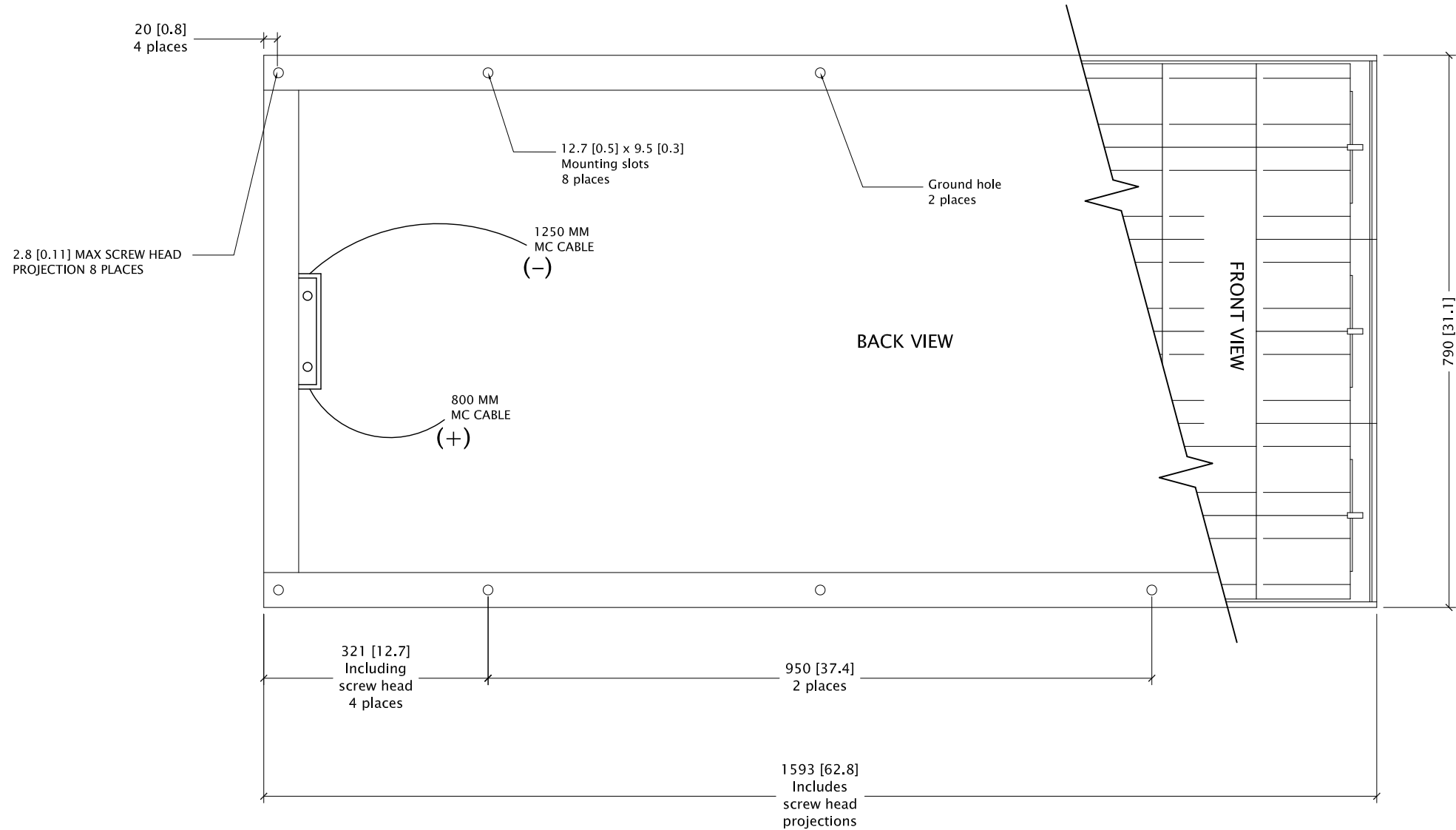


3 DOOR OPERATION
NTS



DATE: 08-03-2007
SCALE: VARIES
DRAWN BY: NW
CHECKED BY: JW
MODIFIED: FX NW

A7.08
SLIDING DOOR DET.



SOLAR PANEL DETAIL

SCALE: 1" = 1'-0"

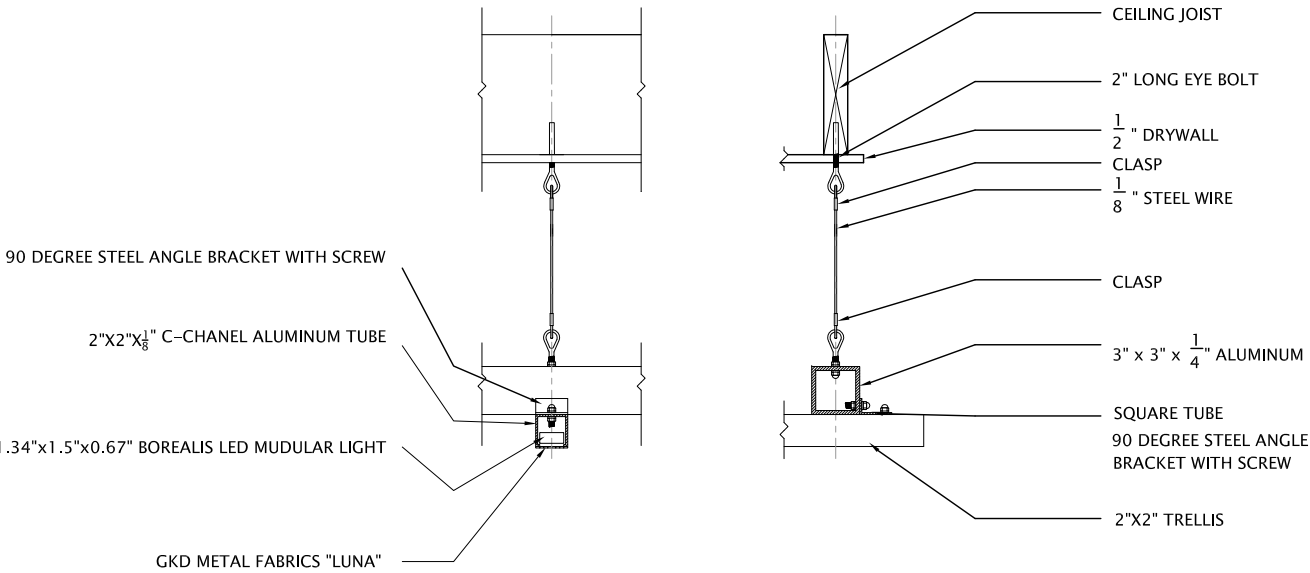


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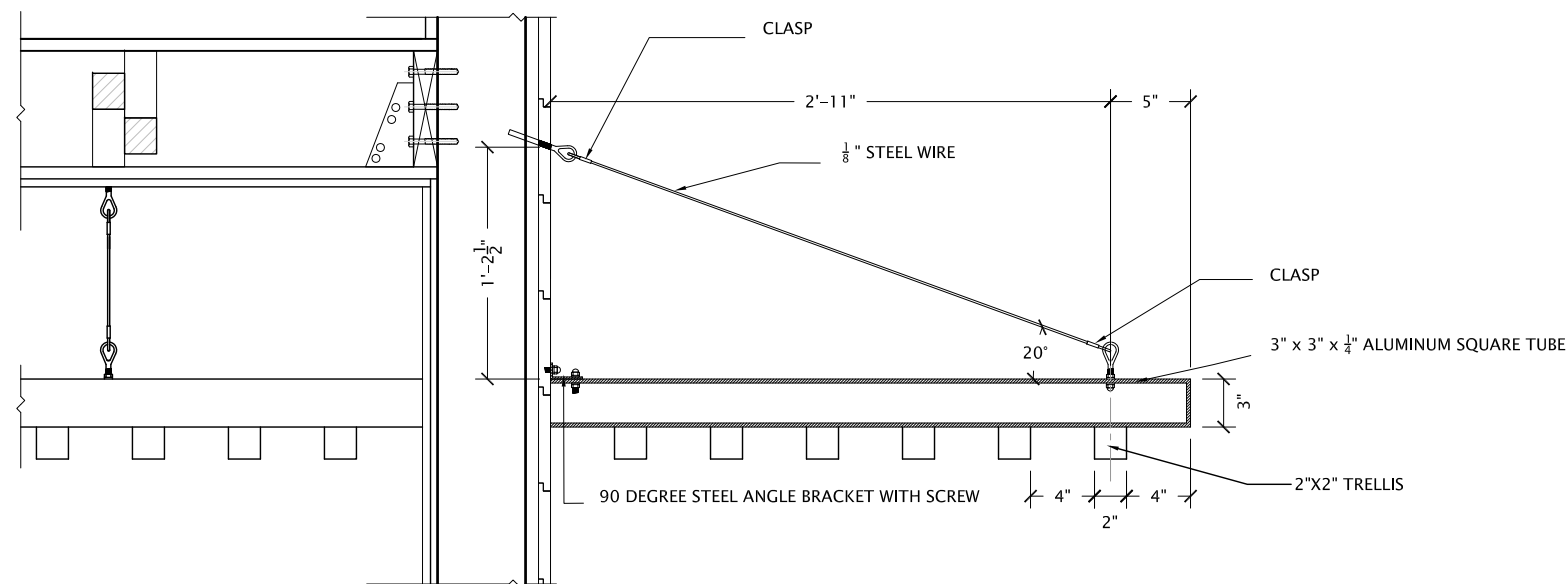
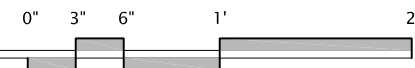
DATE:	08-03-2007
SCALE:	VARIES
DRAWN BY:	JJS
CHECKED BY:	JW NW
MODIFIED:	FX NW

A7.09

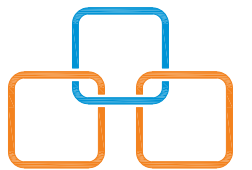
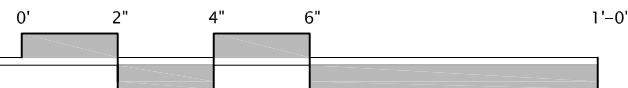
SOLAR PANEL DETAIL



1 TRELLIS SECTION AND CONSTRUCTION
SCALE: 1" = 1'-0"



2 TRELLIS CONNECTION TO WALL
SCALE: 1" = 1'-0"

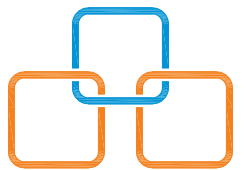


DATE:	08-03-2007
SCALE:	VARIES
DRAWN BY:	NW
CHECKED BY:	JW
MODIFIED:	NW FX

A7.10

TRELLIS DETAIL

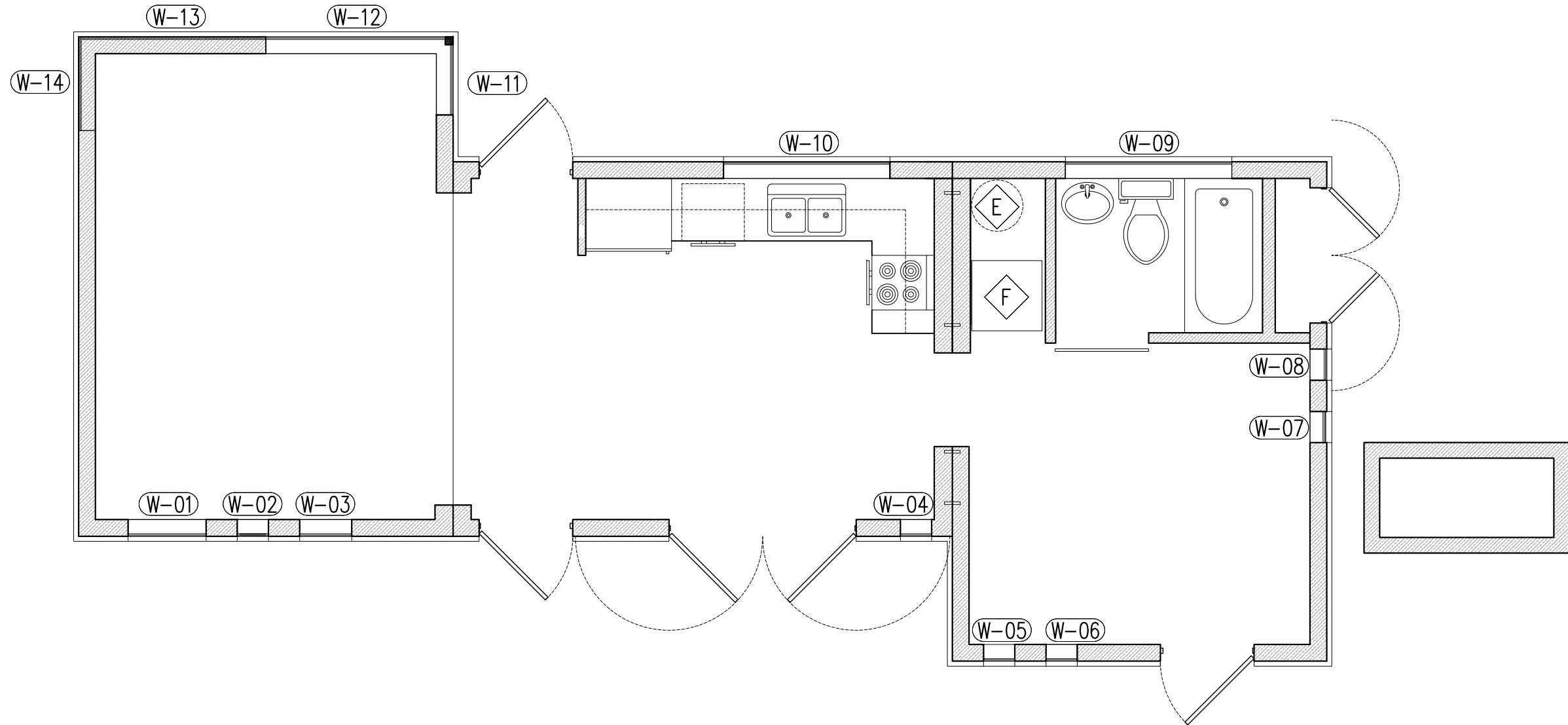
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DATE: 08-03-2007
SCALE: N.T.S.
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: NW FX

A8.01

WINDOW SCHEDULES



W-01

SIZE (W X H X T)	30" X 64" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	31 1/2" X 64 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-02

SIZE (W X H X T)	12" X 64" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	11 1/2" X 63 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-03

SIZE (W X H X T)	20" X 64" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	19 1/2" X 63 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-04

SIZE (W X H X T)	12" X 64" X 1"
WINDOW MAT./FINISH	1" IG GLAZING W/ SFTY GLAS
FRAME SIZE	11 1/2" X 63 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-05

SIZE (W X H X T)	12" X 64" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	11 1/2" X 63 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-06

SIZE (W X H X T)	12" X 64" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	11 1/2" X 63 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-07

SIZE (W X H X T)	12" X 64" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	11 1/2" X 63 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-08

SIZE (W X H X T)	12" X 64" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	11 1/2" X 63 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-09

SIZE (W X H X T)	64" X 12" X 1"
WINDOW MAT./FINISH	1" IG GLAZING w/ SFTY GLAS
FRAME SIZE	63 1/2" X 11 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-10

SIZE (W X H X T)	64" X 12" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	31 1/2" X 11 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-11

SIZE (W X H X T)	26" X 12" X 1"
WINDOW MAT./FINISH	1" IG GLAZING w/ SFTY GLSS
FRAME SIZE	25 1/2" X 11 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-12

SIZE (W X H X T)	64" X 12" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	64 1/2" X 11 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

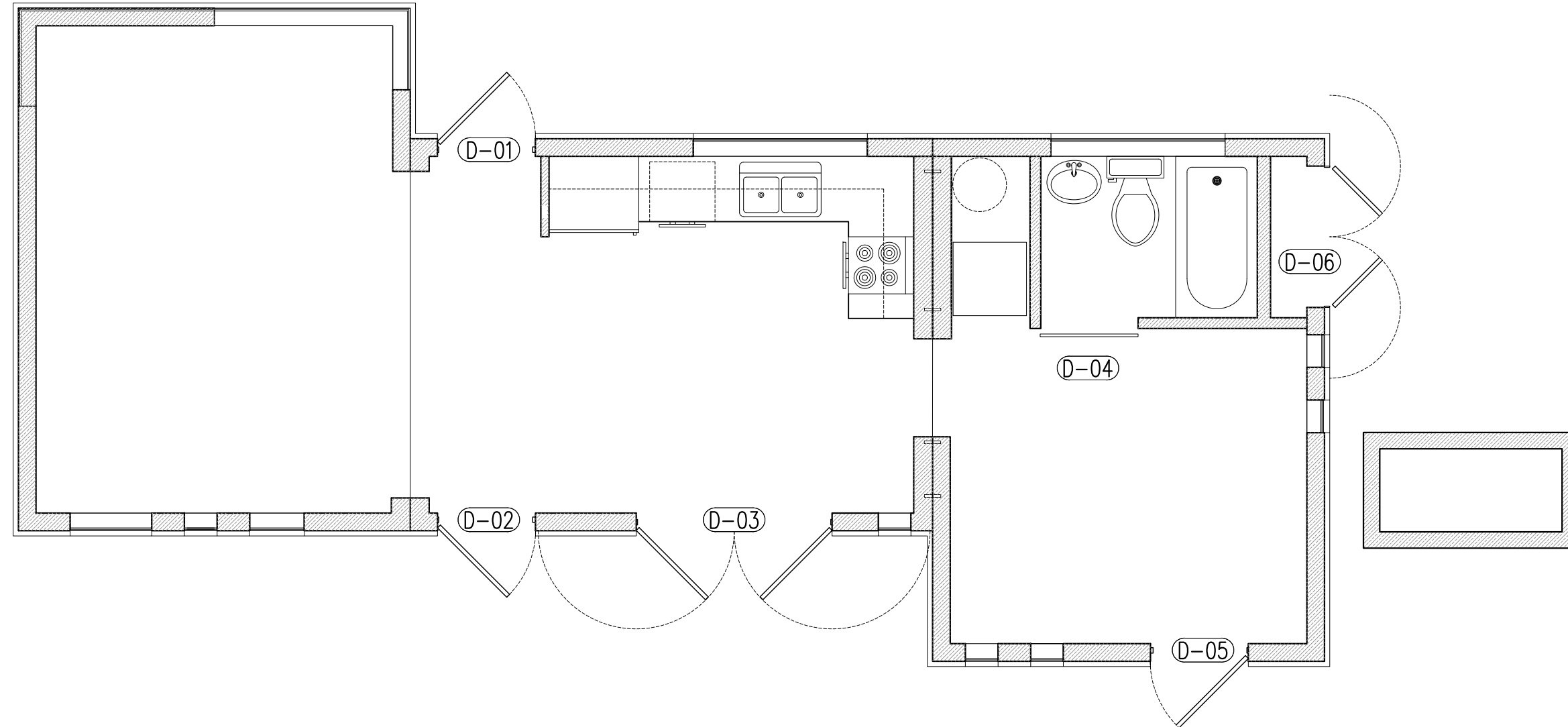
W-13

SIZE (W X H X T)	92" X 12" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	91 1/2" X 11 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

W-14

SIZE (W X H X T)	32" X 12" X 1"
WINDOW MAT./FINISH	1" INSULSHLD IG GLAZING
FRAME SIZE	31 1/2" X 11 1/2"
FRAME MATERIAL/FINISH	IMPERVIA, DURACAST, BRN
MANUFACTURER	PELLA

ALL WINDOWS SPECIFIED WITH SAFETY
GLASS SHALL BE TEMPERED TO WITHSTAND
IMPACT. SEE SPECIFICATIONS FOR DETAILS



D-01

SIZE (W X H X T)	3882 RIGHT HINGE OUT-SWING FRENCH DOOR
DOOR MATERIAL/FINISH	ALUMINUM CLAD WOOD, BROWN FINISH
FRAME SIZE	37 1/8" x 81 1/2"
FRAME MATERIAL/FINISH	Aluminum Clad Wood, Brown
RATING (MINUTES)	-

D-02

SIZE (W X H X T)	3882 LEFT HINGE OUT-SWING FRENCH DOOR
DOOR MATERIAL/FINISH	ALUMINUM CLAD WOOD, BROWN FINISH
FRAME SIZE	37 1/8" x 81 1/2"
FRAME MATERIAL/FINISH	Aluminum Clad Wood, Brown
RATING (MINUTES)	-

D-03

SIZE (W X H X T)	7282 ACTIVE/INACTIVE OUT-SWING FRENCH DOOR
DOOR MATERIAL/FINISH	ALUMINUM CLAD WOOD, BROWN FINISH
FRAME SIZE	71 1/4" X 81 1/2"
FRAME MATERIAL/FINISH	Aluminum Clad Wood, Brown
RATING (MINUTES)	-

D-04 - SEE DETAIL A7.09

SIZE (W X H X T)	68" X 74" CUSTOM SLIDING WITH 3-FORM PANEL
DOOR MATERIAL/FINISH	3-FORM BIRCH ECORESIN PANEL
FRAME SIZE	70" X 76" R.O.
FRAME MATERIAL/FINISH	DARK STAINED WOOD
RATING (MINUTES)	-

D-05

SIZE (W X H X T)	3882 RIGHT HINGE OUT-SWING FRENCH DOOR
DOOR MATERIAL/FINISH	ALUMINUM CLAD WOOD, BROWN FINISH
FRAME SIZE	37 1/8" x 81 1/2"
FRAME MATERIAL/FINISH	Aluminum Clad Wood, Brown
RATING (MINUTES)	-

D-06 - SEE DETAIL A7.06

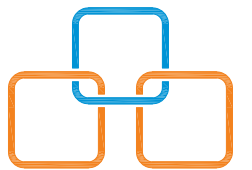
SIZE (W X H X T)	52" X 84"
DOOR MATERIAL/FINISH	2X4 STRUCTURE WITH 6" SIDING ON EXTERIOR
FRAME SIZE	54" x 86"
FRAME MATERIAL/FINISH	WOOD, BROWN
RATING (MINUTES)	-



DATE:	08-03-2007
SCALE:	N.T.S.
DRAWN BY:	JJS
CHECKED BY:	TPM
MODIFIED:	NW FX

A8.02

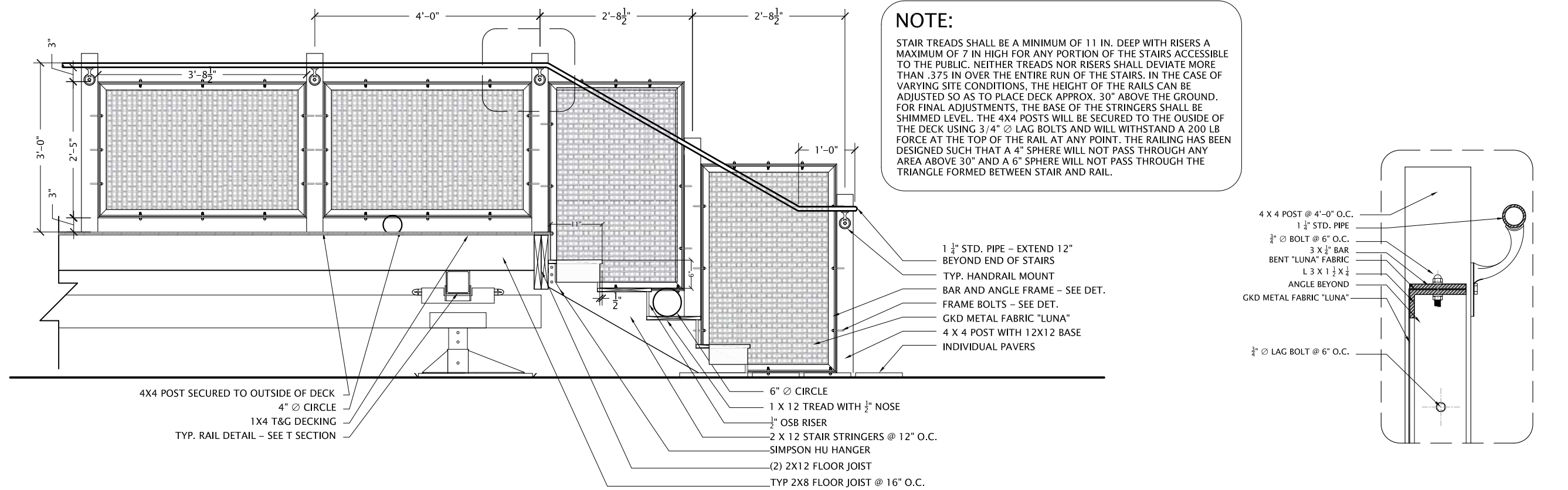
DOOR SCHEDULES



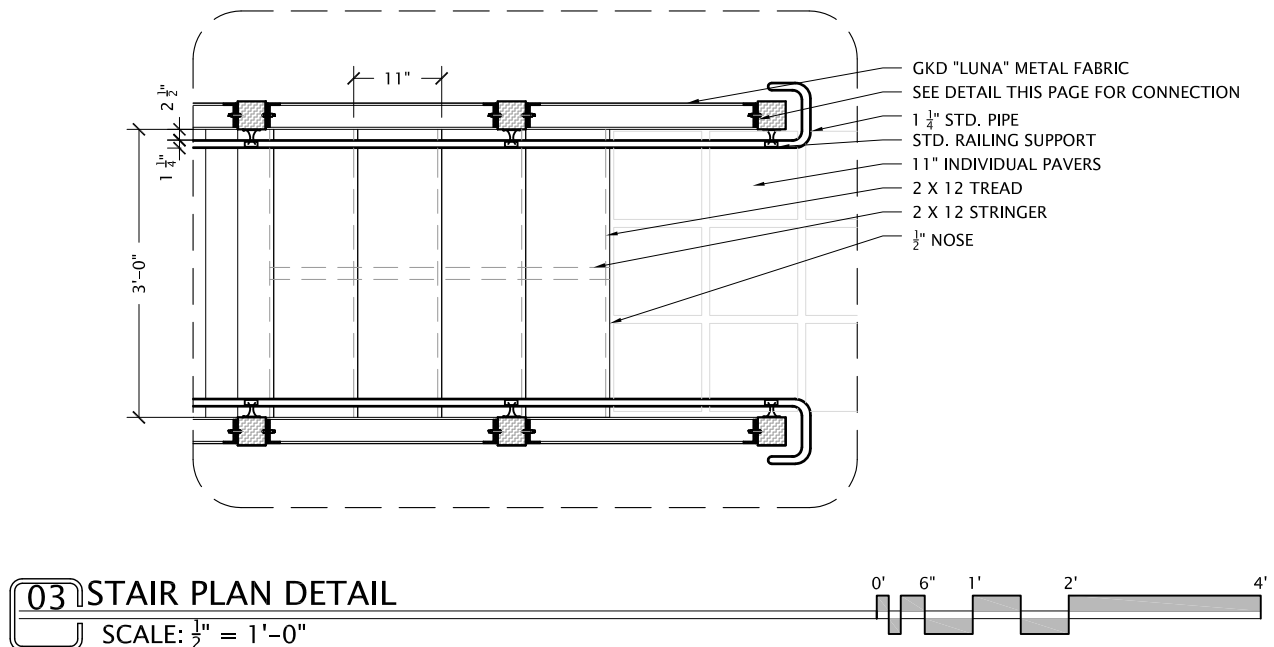
DATE: 08-02-2007
SCALE: VARIES
DRAWN BY: JJS
CHECKED BY: JW NW
MODIFIED: NW

A9.01

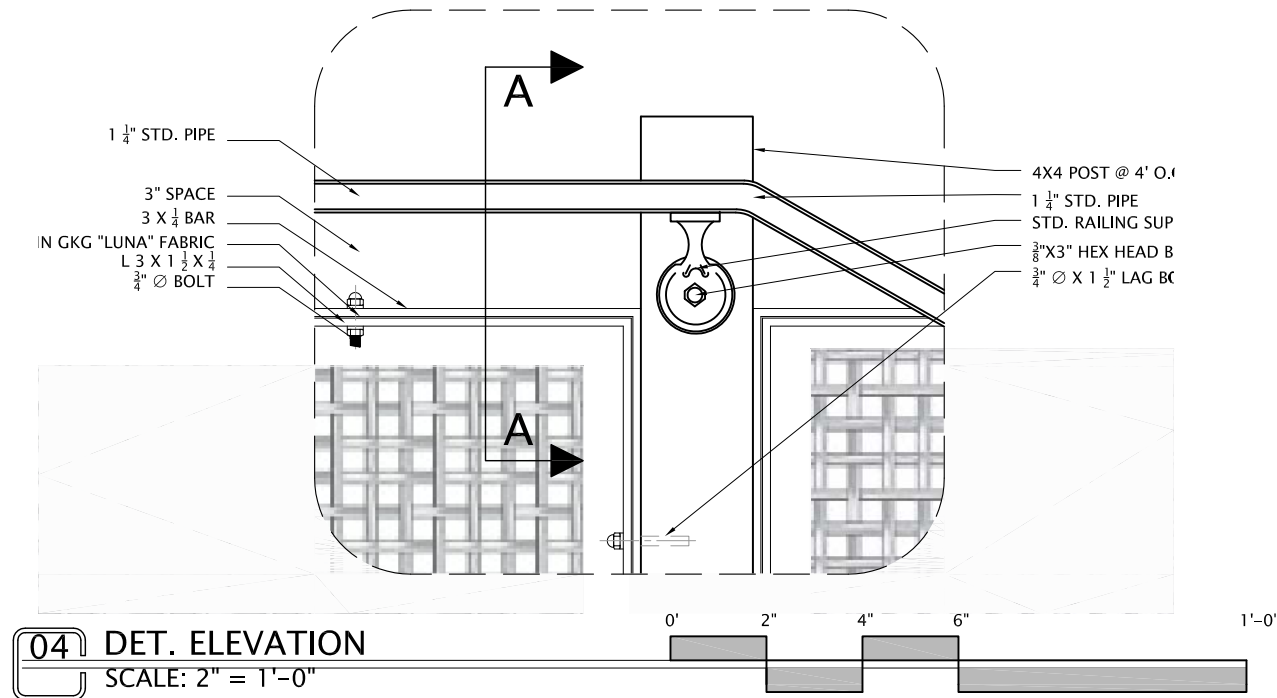
STAIR & RAIL DETL.



01 RAILING & STAIR DET.
SCALE: $\frac{1}{2}$ " = 1'-0"

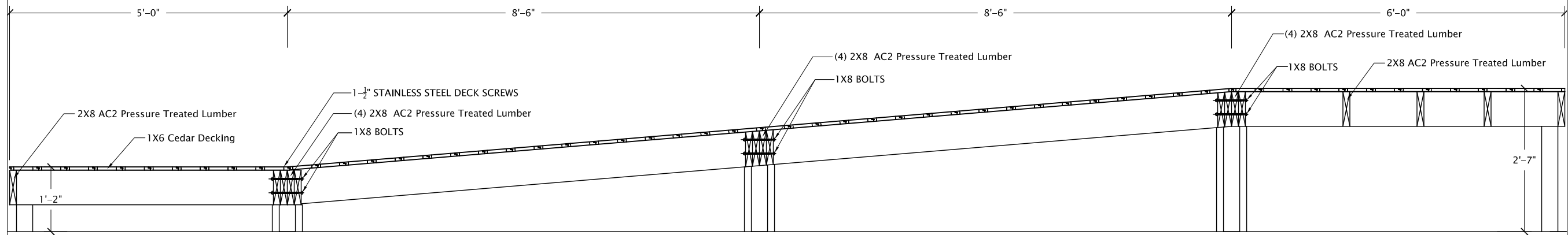


03 STAIR PLAN DETAIL
SCALE: $\frac{1}{2}$ " = 1'-0"

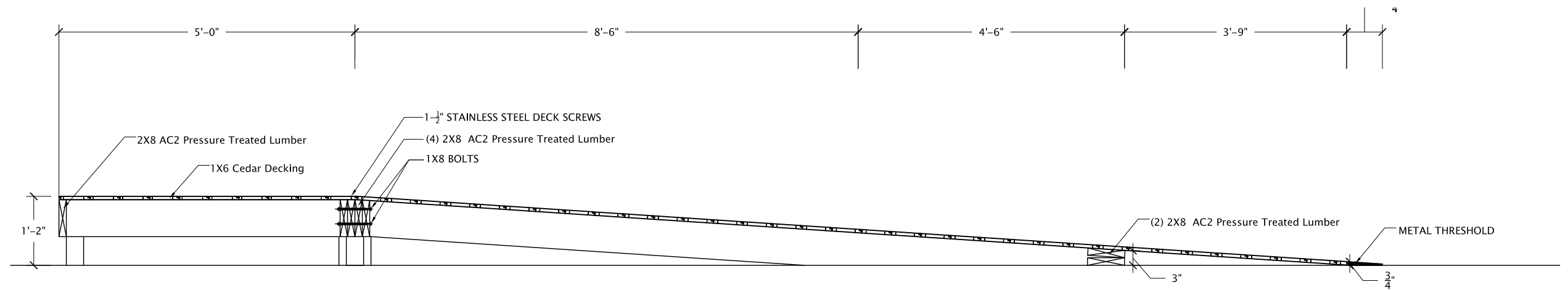
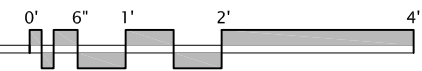


04 DET. ELEVATION
SCALE: 2" = 1'-0"

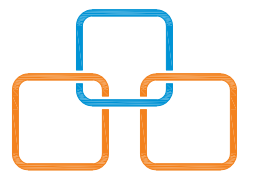
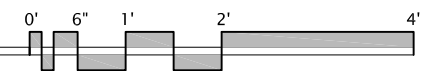
NOTE:
Stair treads shall be a minimum of 11 in. deep with risers a maximum of 7 in high for any portion of the stairs accessible to the public. Neither treads nor risers shall deviate more than .375 in over the entire run of the stairs. In the case of varying site conditions, the height of the rails can be adjusted so as to place deck approx. 30" above the ground. For final adjustments, the base of the stringers shall be shimmed level. The 4x4 posts will be secured to the outside of the deck using $\frac{3}{4}$ " \varnothing lag bolts and will withstand a 200 lb force at the top of the rail at any point. The railing has been designed such that a 4" sphere will not pass through any area above 30" and a 6" sphere will not pass through the triangle formed between stair and rail.



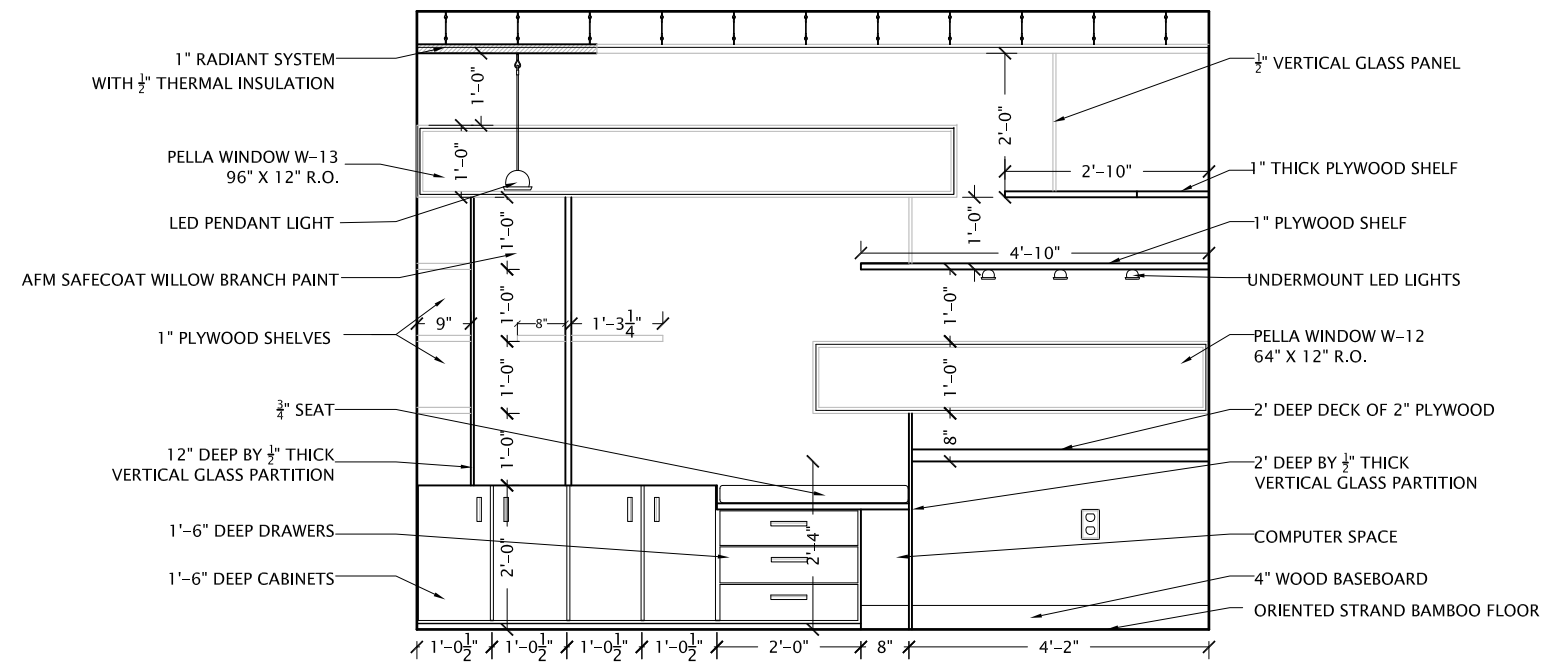
01 RAMP
SCALE: $\frac{1}{2}$ " = 1'-0"



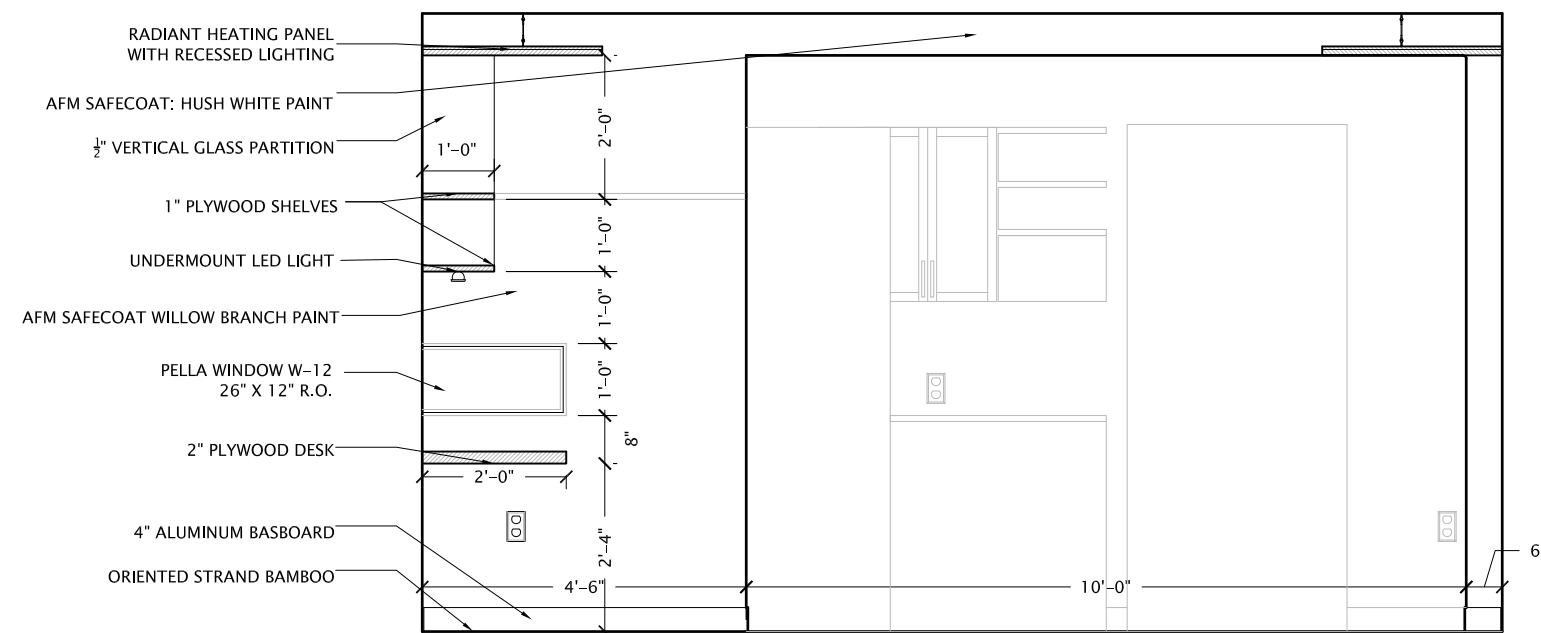
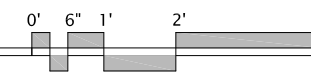
02 RAMP
SCALE: $\frac{1}{2}$ " = 1'-0"



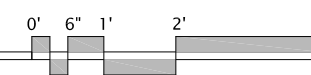
DATE:	08-03-2007
SCALE:	$\frac{1}{2}$ " = 1'-0"
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED BY:	FX



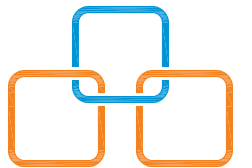
01 NORTH LIVING ROOM ELEVATION
SCALE: $\frac{3}{8}" = 1'-0"$



02 EAST LIVING ROOM ELEVATION
SCALE: $\frac{3}{8}" = 1'-0"$

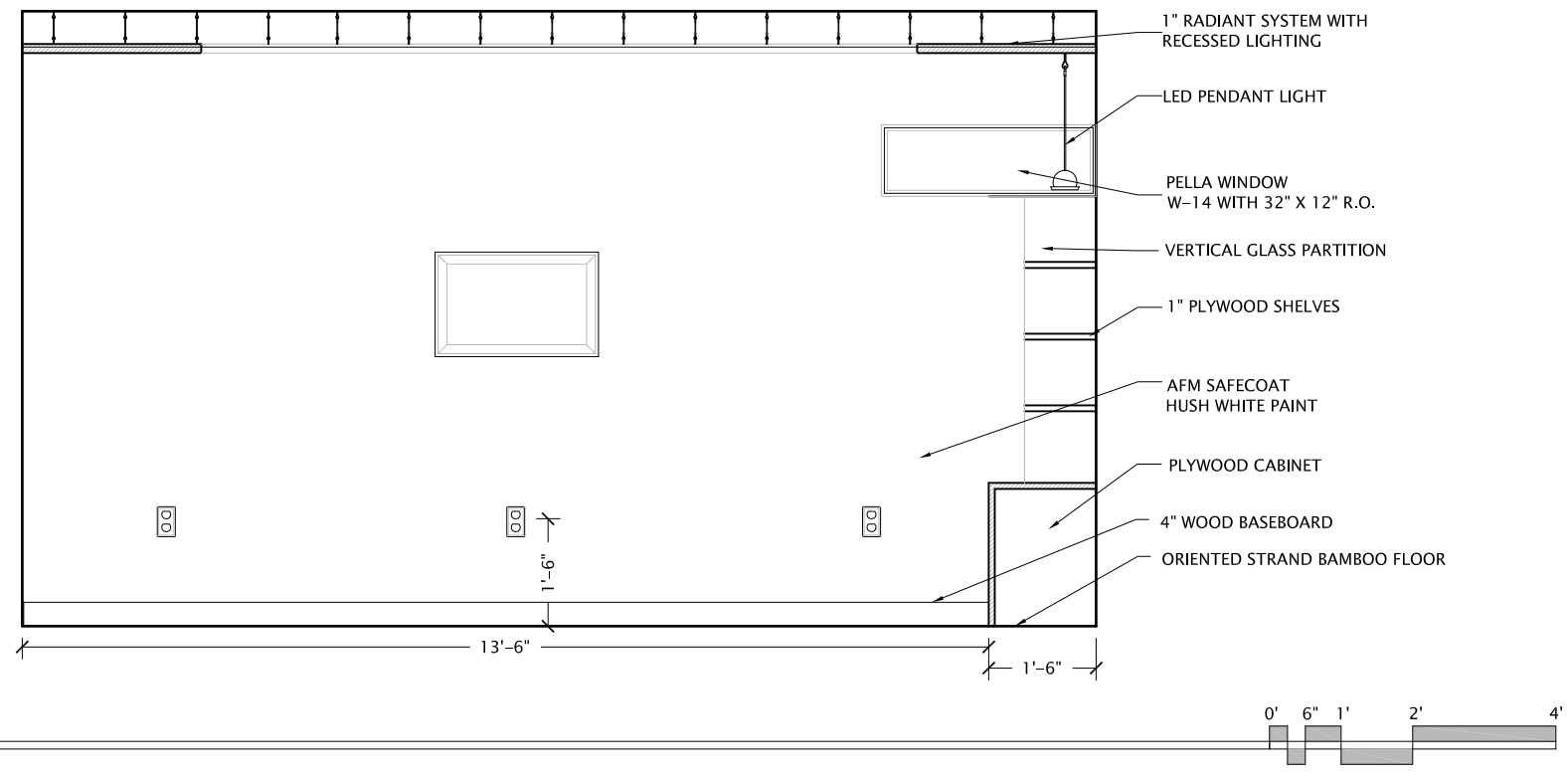


DATE:	08-03-2007
SCALE:	$\frac{3}{8}" = 1'-0"$
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	NW

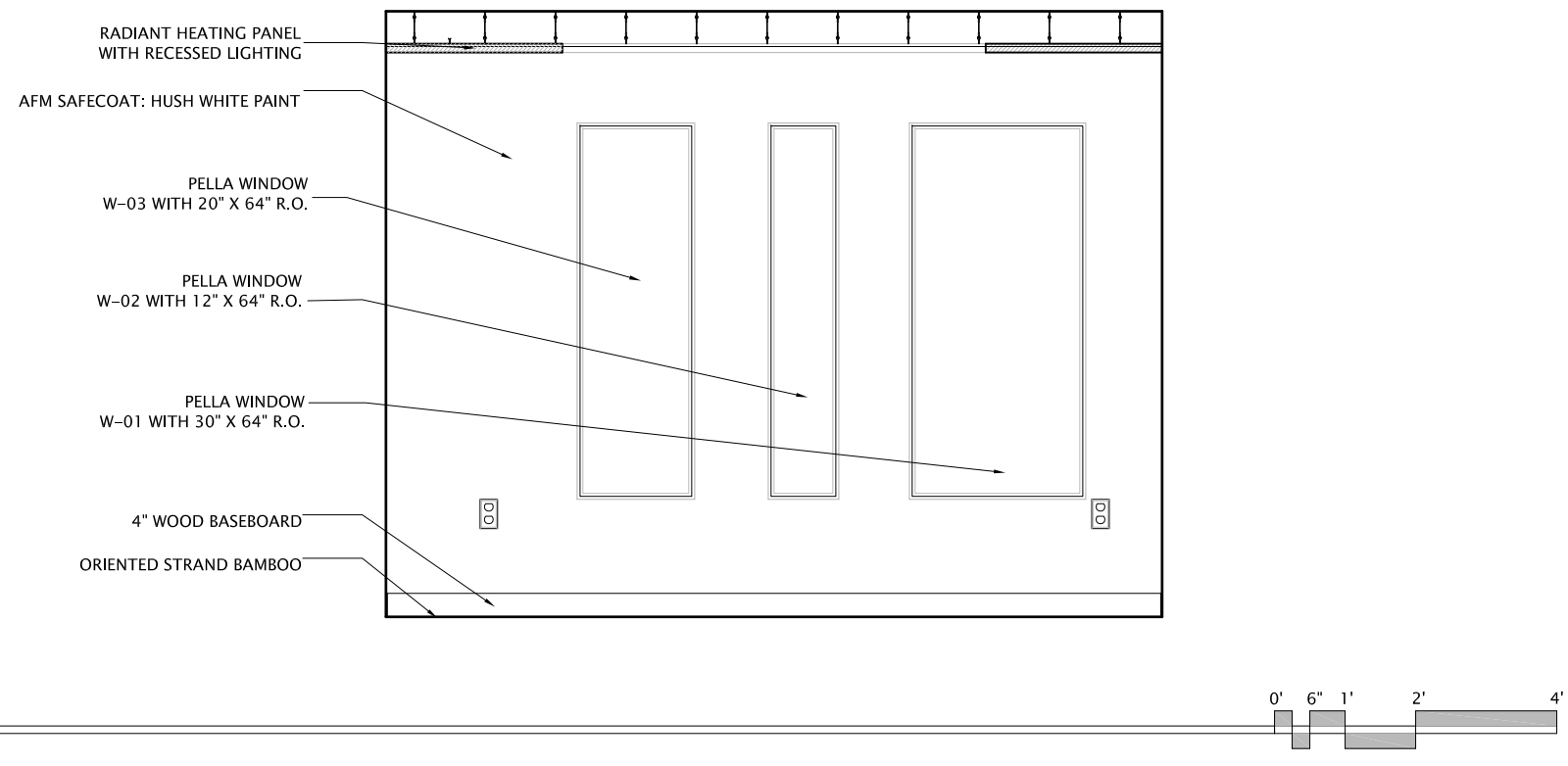


DATE:	08-03-2007
SCALE:	$\frac{3}{8}" = 1'-0"$
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	

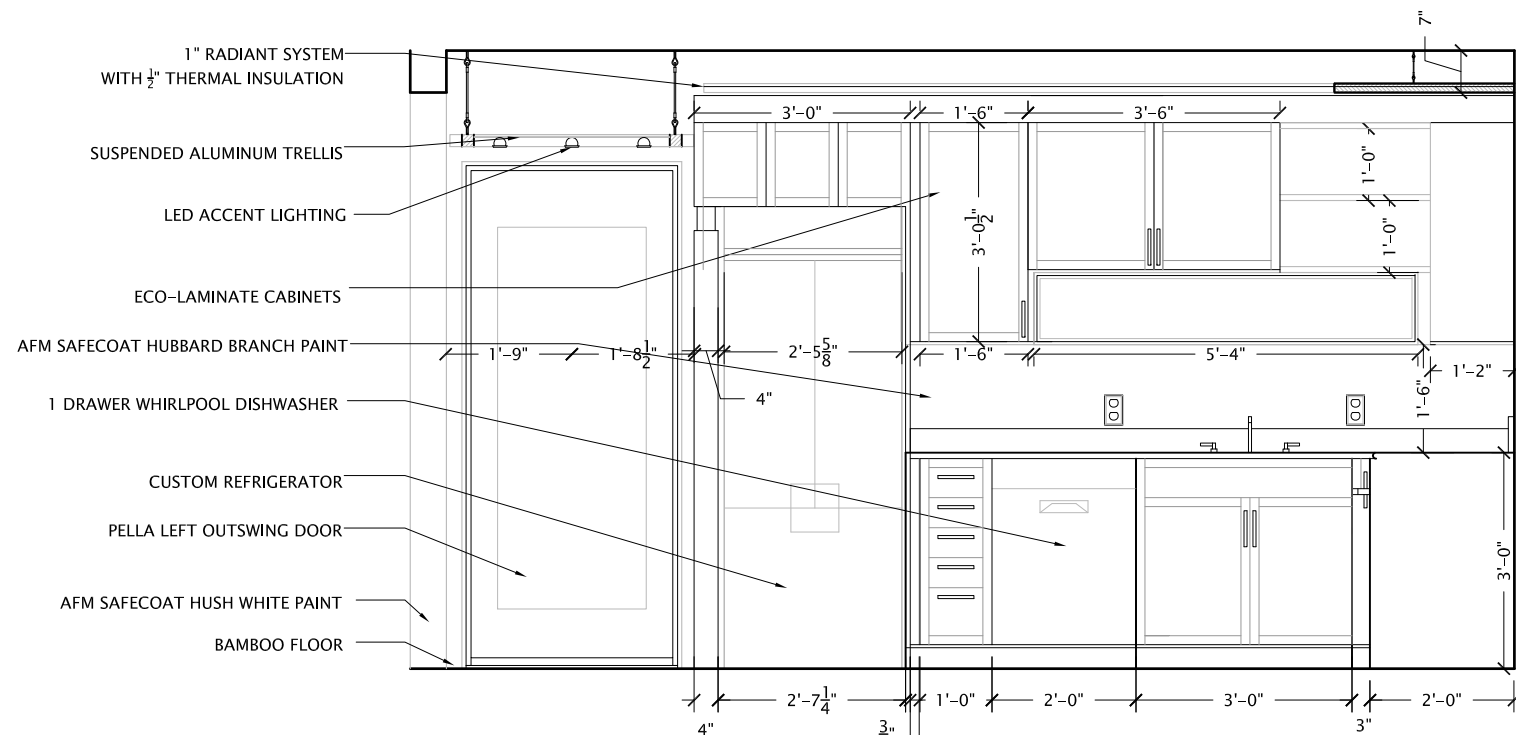
A10.02
W & S LIVING ELEV.



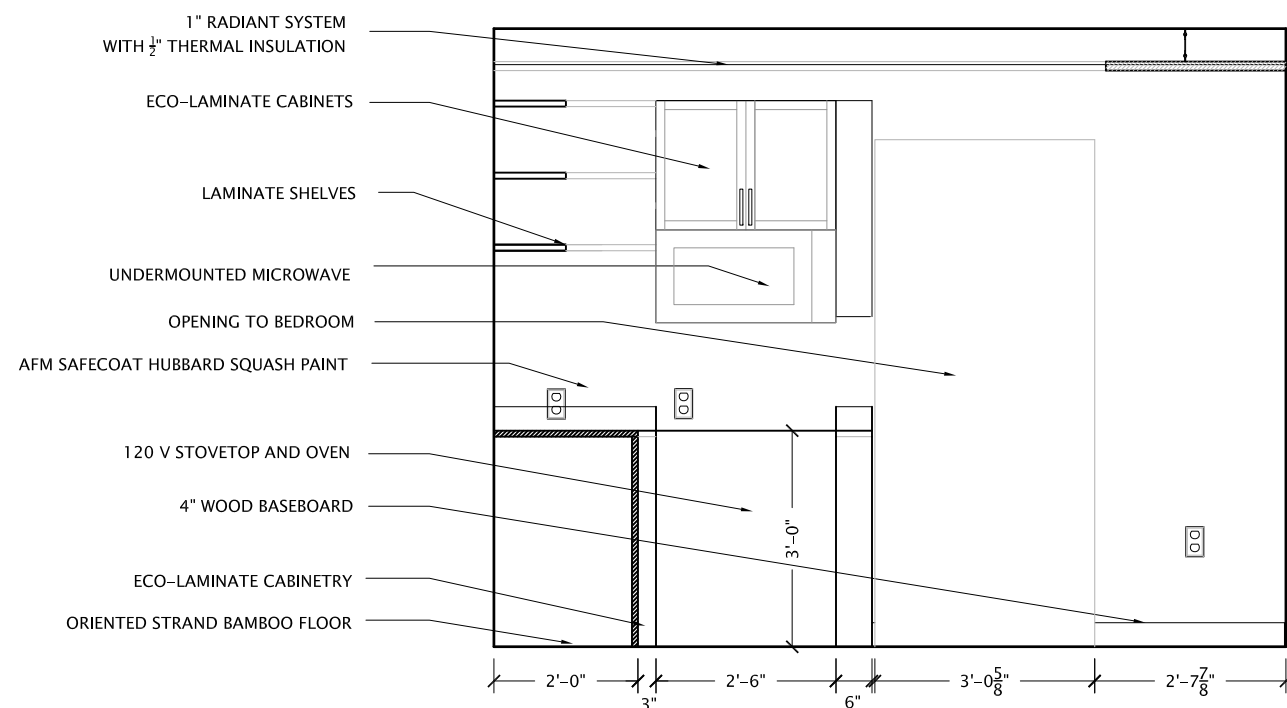
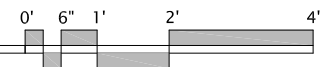
01 WEST LIVING ROOM ELEVATION
SCALE: $\frac{3}{8}" = 1'-0"$



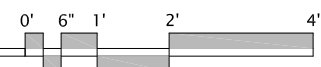
02 SOUTH LIVING ROOM ELEVATION
SCALE: $\frac{3}{8}" = 1'-0"$



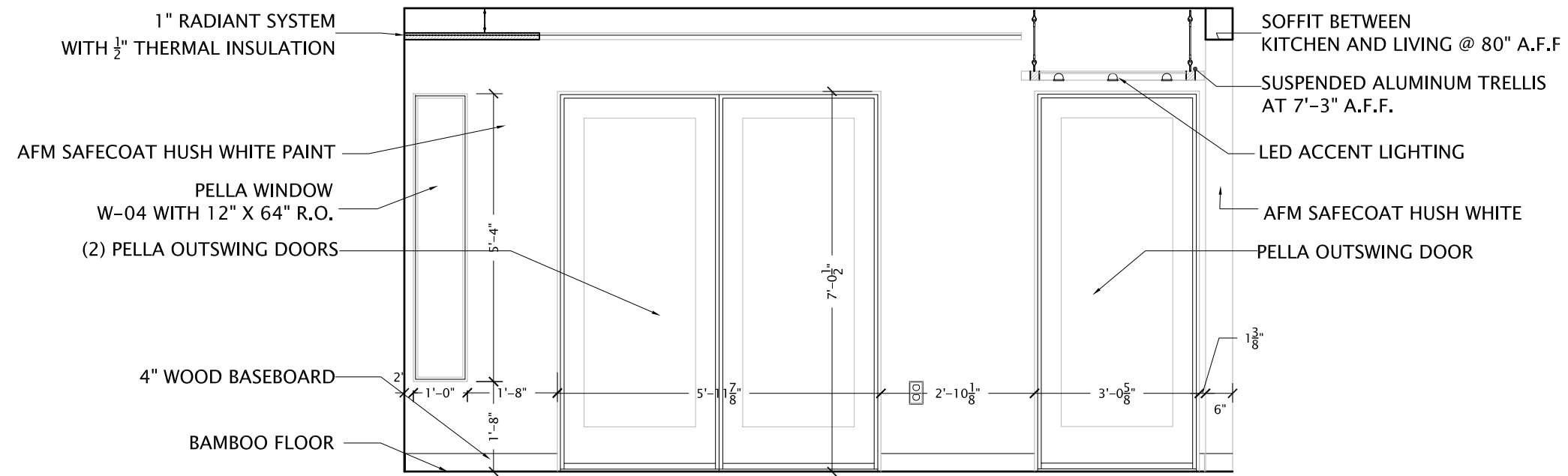
01 NORTH KITCHEN ELEVATION
SCALE: $\frac{3}{8}" = 1'-0"$



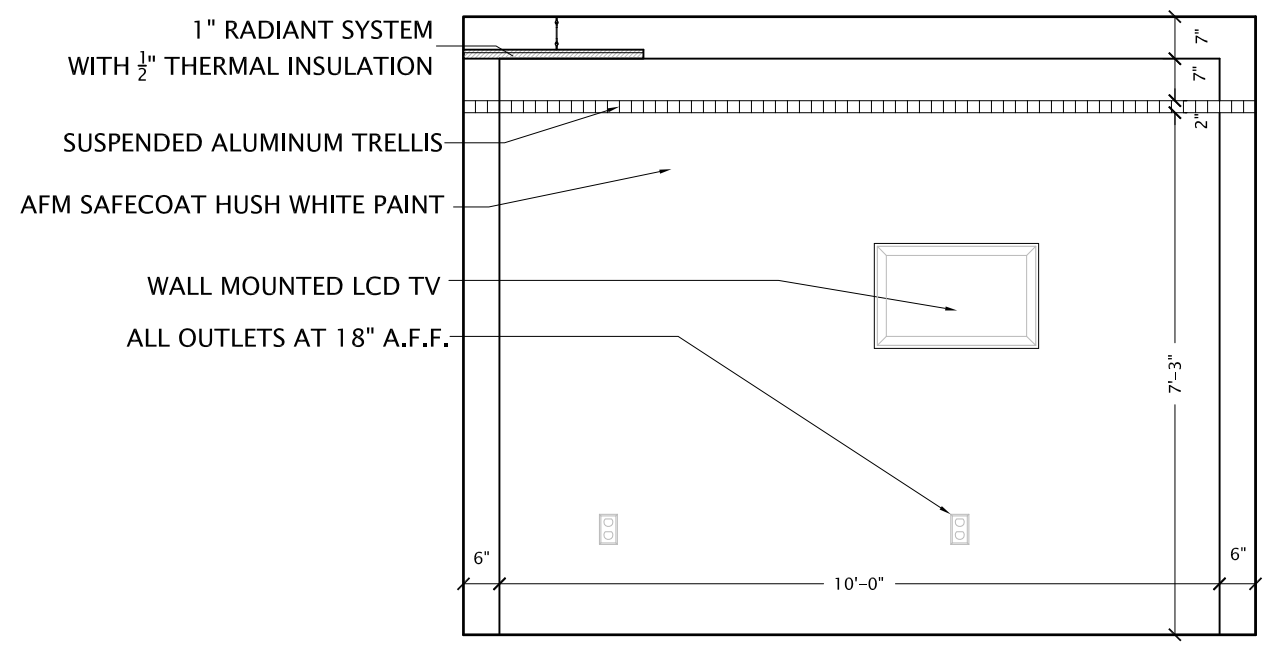
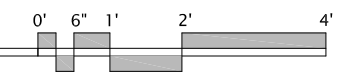
02 EAST KITCHEN ELEVATION
SCALE: $\frac{3}{8}" = 1'-0"$



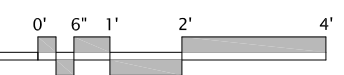
DATE:	08-03-2007
SCALE:	$\frac{3}{8}" = 1'-0"$
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	



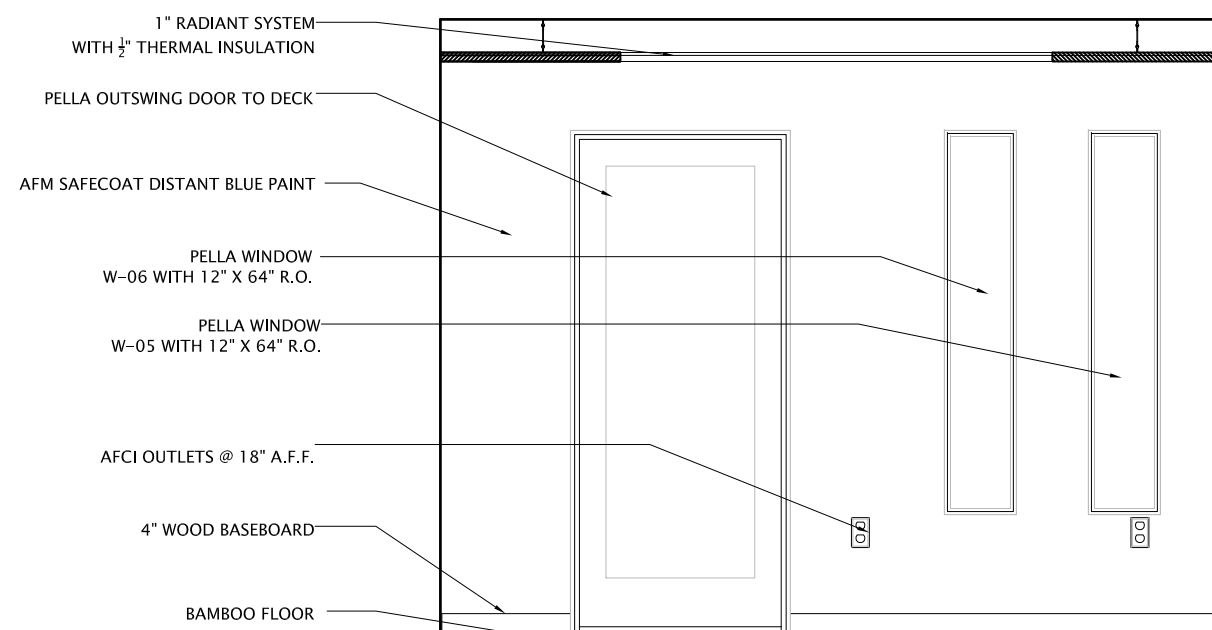
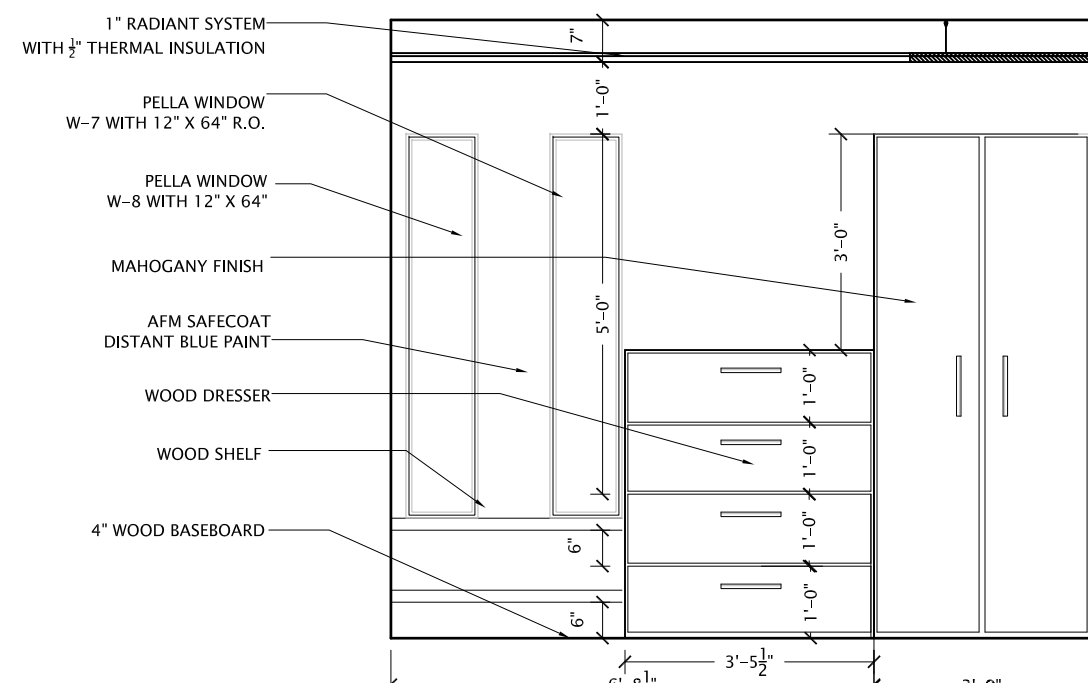
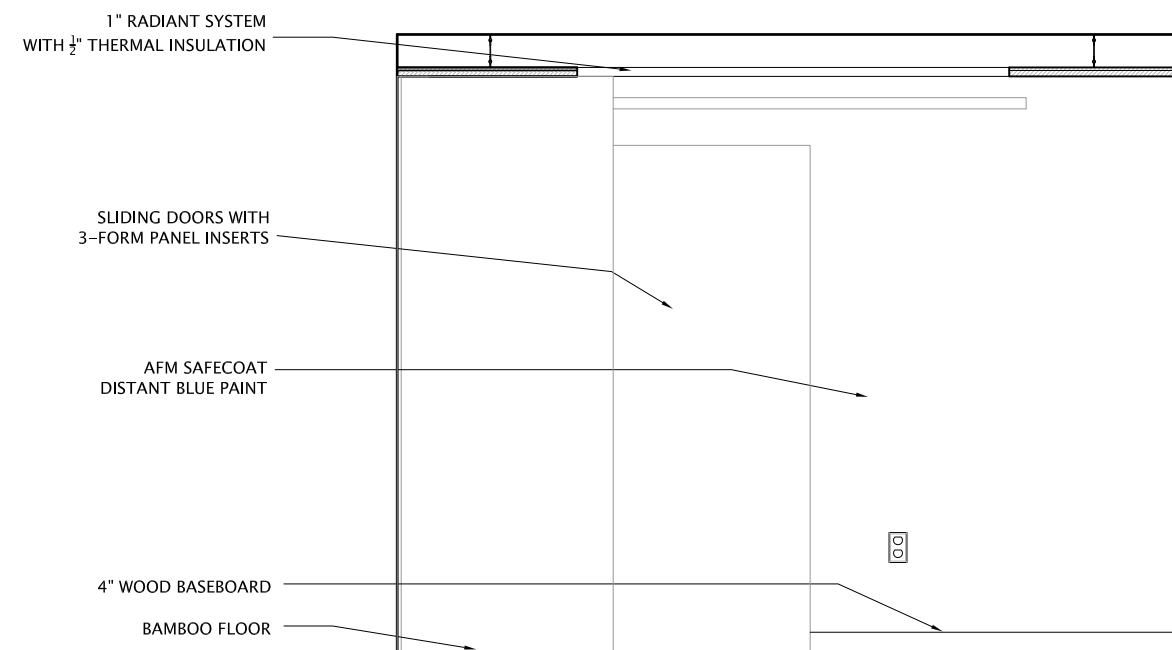
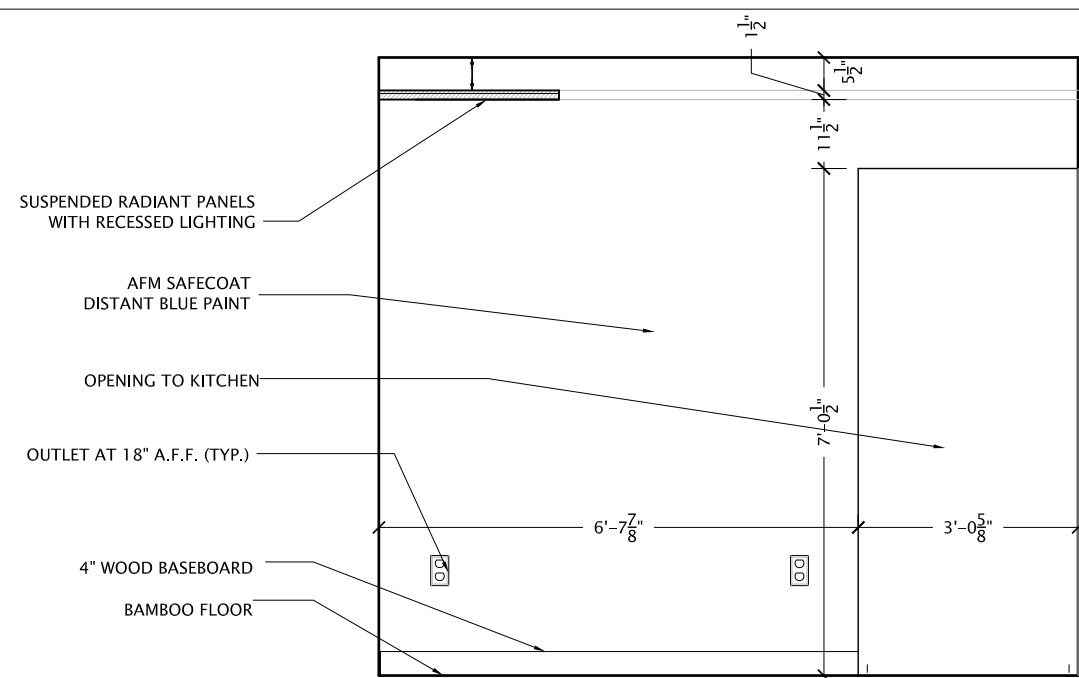
01 SOUTH KITCHEN ELEVATION
 SCALE: $\frac{3}{8}" = 1'-0"$



02 WEST KITCHEN ELEVATION
 SCALE: $\frac{3}{8}" = 1'-0"$



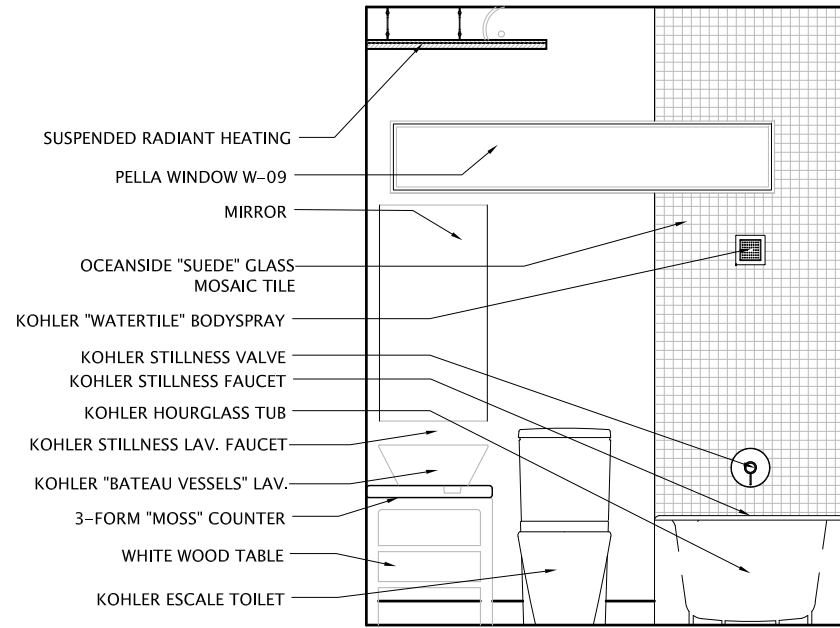
DATE:	08-03-2007
SCALE:	$\frac{3}{8}" = 1'-0"$
DRAWN BY:	JJS
CHECKED BY:	JW
MODIFIED:	





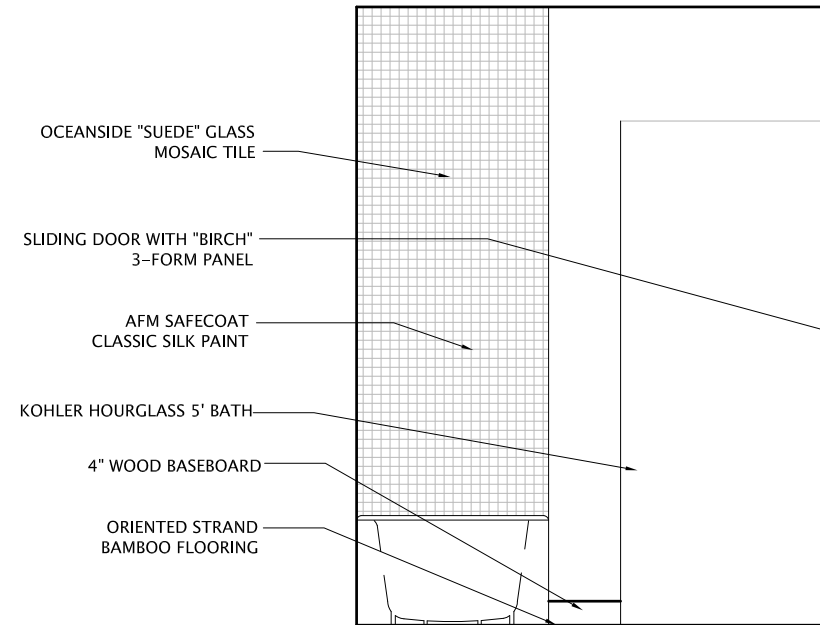
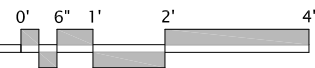
DATE: 08-03-2007
SCALE: $\frac{3}{8}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED:

A10.06
BATHROOM ELEV.

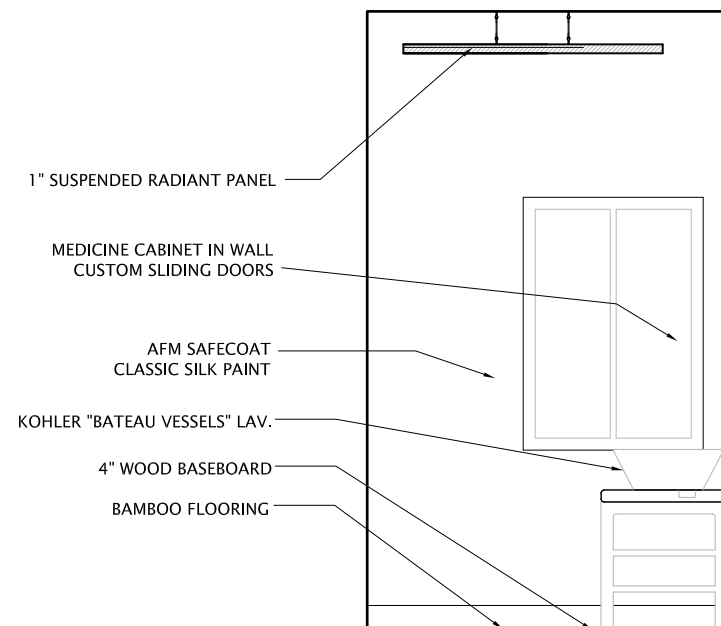
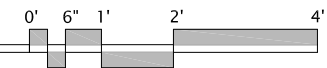


NOTE:
FIBERGLASS FACED
GYPSUM BOARD
SHALL BE USED
AS TILE BACKER IN
THE BATHROOM.

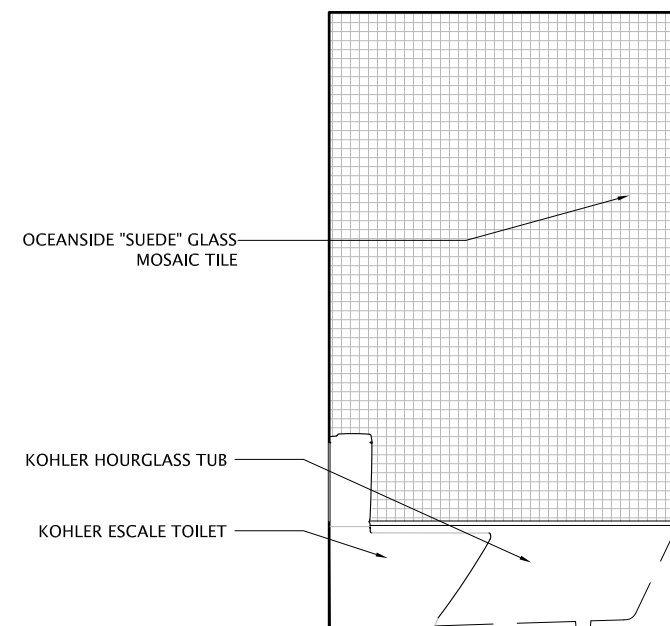
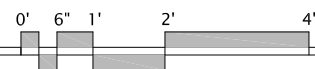
01 NORTH BATHROOM ELEV.
SCALE: $\frac{3}{8}" = 1'-0"$



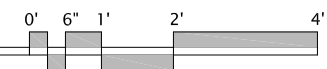
02 SOUTH BATH ELEV.
SCALE: $\frac{3}{8}" = 1'-0"$



03 WEST BATHROOM ELEV.
SCALE: $\frac{3}{8}" = 1'-0"$



04 EAST BATHROOM ELEV.
SCALE: $\frac{3}{8}" = 1'-0"$



FINISH SCHEDULE

LIVING ROOM:

NORTH AND EAST WALL:
AFM SAFE COAT: WILLOW BRANCH (3083D)
EAST AND SOUTH WALL:
AFM SAFE COAT: HUSH WHITE (OW22 IP)
TRIM:
1/2" GYPSUM WALL BOARD, TAPE SEAL AND PAINT
4" BRUSHED ALUMINUM BASEBOARD THROUGHOUT
FLOORING:
CARBONIZED STRAND 3" T & G BAMBOO BOARDS
OFFICE:
CUSTOM WOOD SHELVING AND DESK SEE A05.06
CHAIR: HERMAN MILLER AERON CHAIR
COUCH AND COFFEE TABLE:
CUSTOM 3-FORM CHROMA: ROSE

KITCHEN:

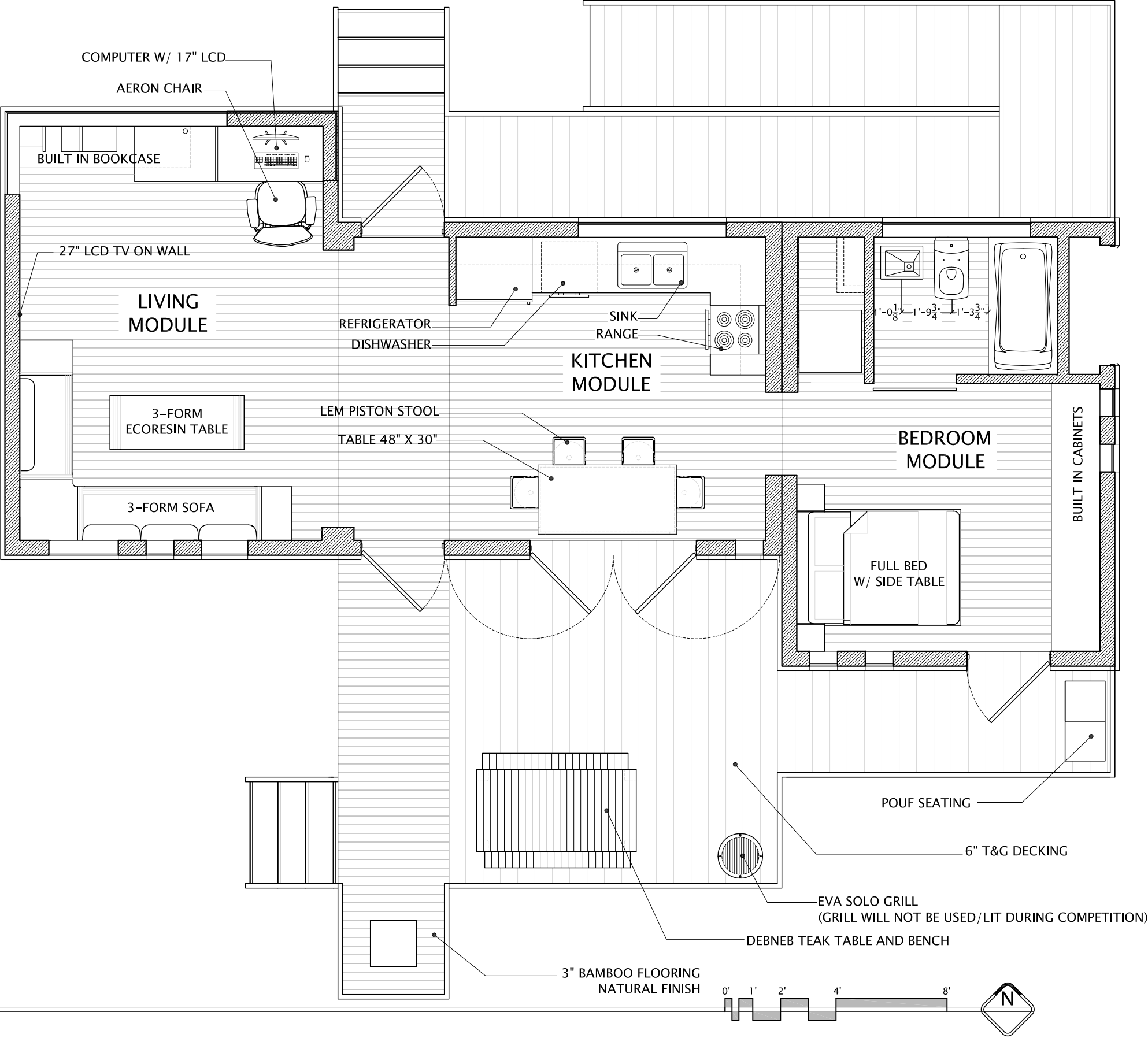
NORTH AND EAST WALL:
AFM SAFE COAT: WHUBBARD SQUASH (5053D)
SOUTH WALL AND SOFFIT ON EAST:
AFM SAFE COAT: HUSH WHITE (OW22 IP)
TRIM:
1/2" GYPSUM WALL BOARD, TAPE SEAL AND PAINT
4" BRUSHED ALUMINUM BASEBOARD THROUGHOUT
CABINETS:
SOLID BAMBOO WITH 3-FORM "TING TING" PANELS
COUNTERTOP:
3-FORM CHROMA: MOLE NEGRO
FLOORING:
NATURAL STRAND 3" T & G BAMBOO BOARDS ON
EAST CONNECTING FRONT AND REAR DOORS
CARBONIZED 3" STRAND BAMBOO BOARDS ON EAST
TABLE:
LEGS AND BASE: LIGHT FINISH RECLAIMED LUMBER
SURFACE: BLACK STONE
CHAIRS:
(4) LEM PISTON STOOLS

BEDROOM:

ALL WALLS:
AFM SAFE COAT: DISTANT BLUE (1161P)
BUILT IN CABINETS:
RENEWABLE WOOD WITH MAHOGANY FINISH
SEE A05.06 FOR DIMENSIONS AND DETAILS
TRIM:
1/2" GYPSUM WALL BOARD, TAPE SEAL AND PAINT
4" BRUSHED ALUMINUM BASEBOARD THROUGHOUT
FLOORING:
CARBONIZED 3" T & G STRAND BAMBOO BOARDS

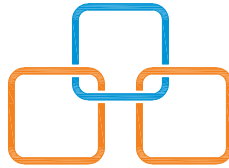
BATHROOM:

ALL WALLS:
AFM SAFE COAT: CLASSIC SILK (5011 P) ON FIBERGLASS
FACED GYPSUM BOARD
BUILT IN CABINETS ON EAST:
3-FORM CHROMA: MOSS SHELVES
3 LED RECESSED LIGHTS AT TOP
2 SLIDING DOORS WITH 3-FORM TING TING PANELS
SINK:
KOHLER BATEAU VESSELS COUNTERTOP LAVATORY
3-FORM CHROMA: MOSS COUNTERTOP
CUSTOM WOOD TABLE: WHITE PAINT, SEE A05.06
FAUCET: KOHLER STILLNESS LAMINAR WALL MOUNT
BATHTUB:
KOHLER TEA-FOR-TWO BATH. WHITE FINISH
SHOWERHEAD: KOHLER WATERTILE 54 NOZZLE BODYSpray
KOHLER WATERTILE RAIN OVERHEAD PANEL
FAUCET: STILLNESS RITE-TEMP VALVE TRIM WITH LEVER
TOILET:
KOHLER ESCALE DUAL FLUSH TOILET: WHITE FINISH
TRIM:
1/2" GYPSUM WALL BOARD, TAPE SEAL AND PAINT
4" BRUSHED ALUMINUM BASEBOARD THROUGHOUT
FLOORING:
CARBONIZED 3" T & G STRAND BAMBOO BOARDS



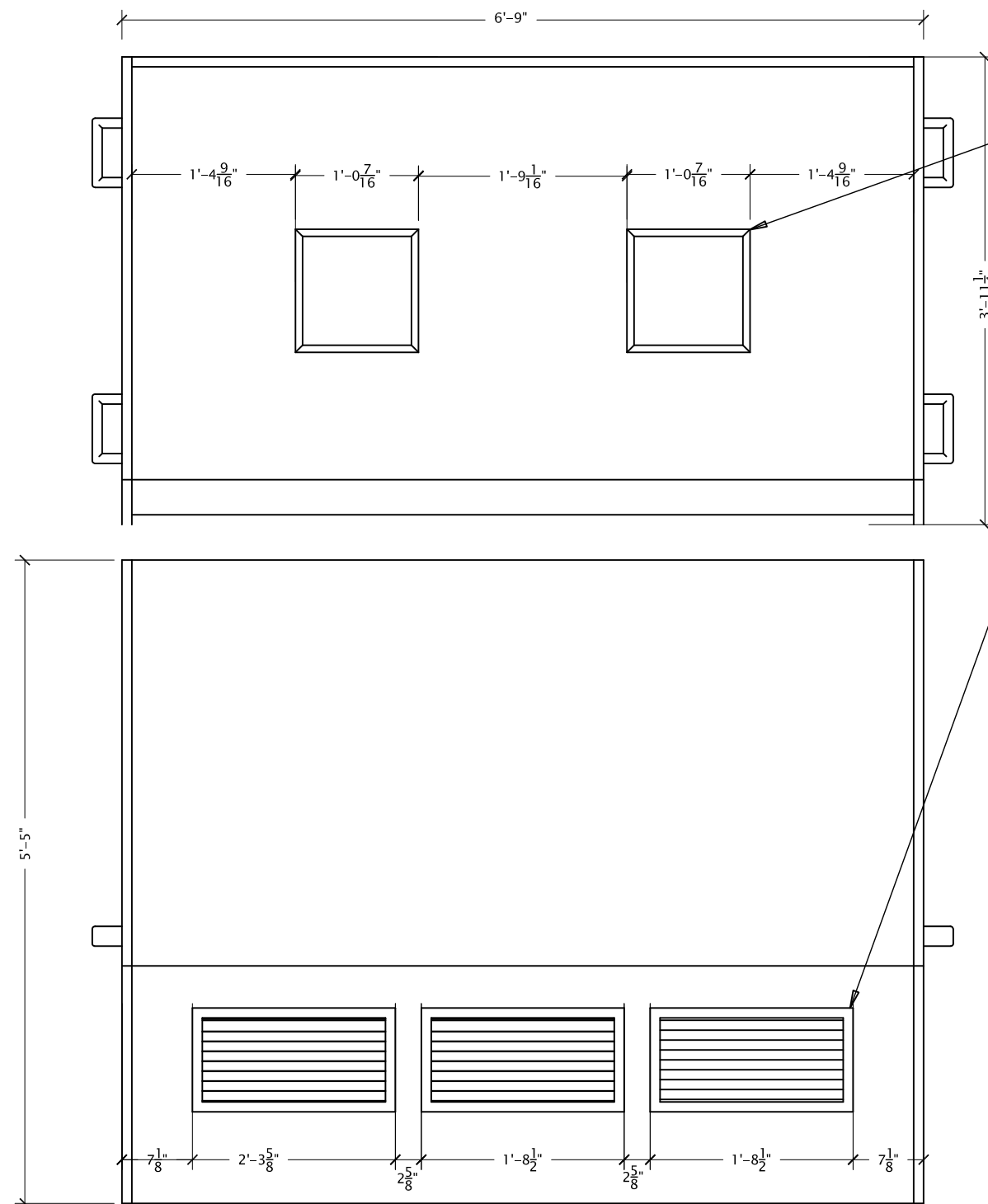
01 FINISHES AND FURNITURE
SCALE: 1/4" = 1'-0"

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UNIVERSITY OF ILLINOIS
U.S. DEPARTMENT OF ENERGY



DATE: 08-03-2007
SCALE: 1/4" = 1'-0"
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED:

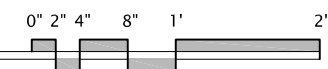
A11.01
FINISH AND FURN.



ROOF VENTILATION: 104 SQUARE INCHES TOTAL

SIDE VENTILATION: 382 SQUARE INCHES TOTAL

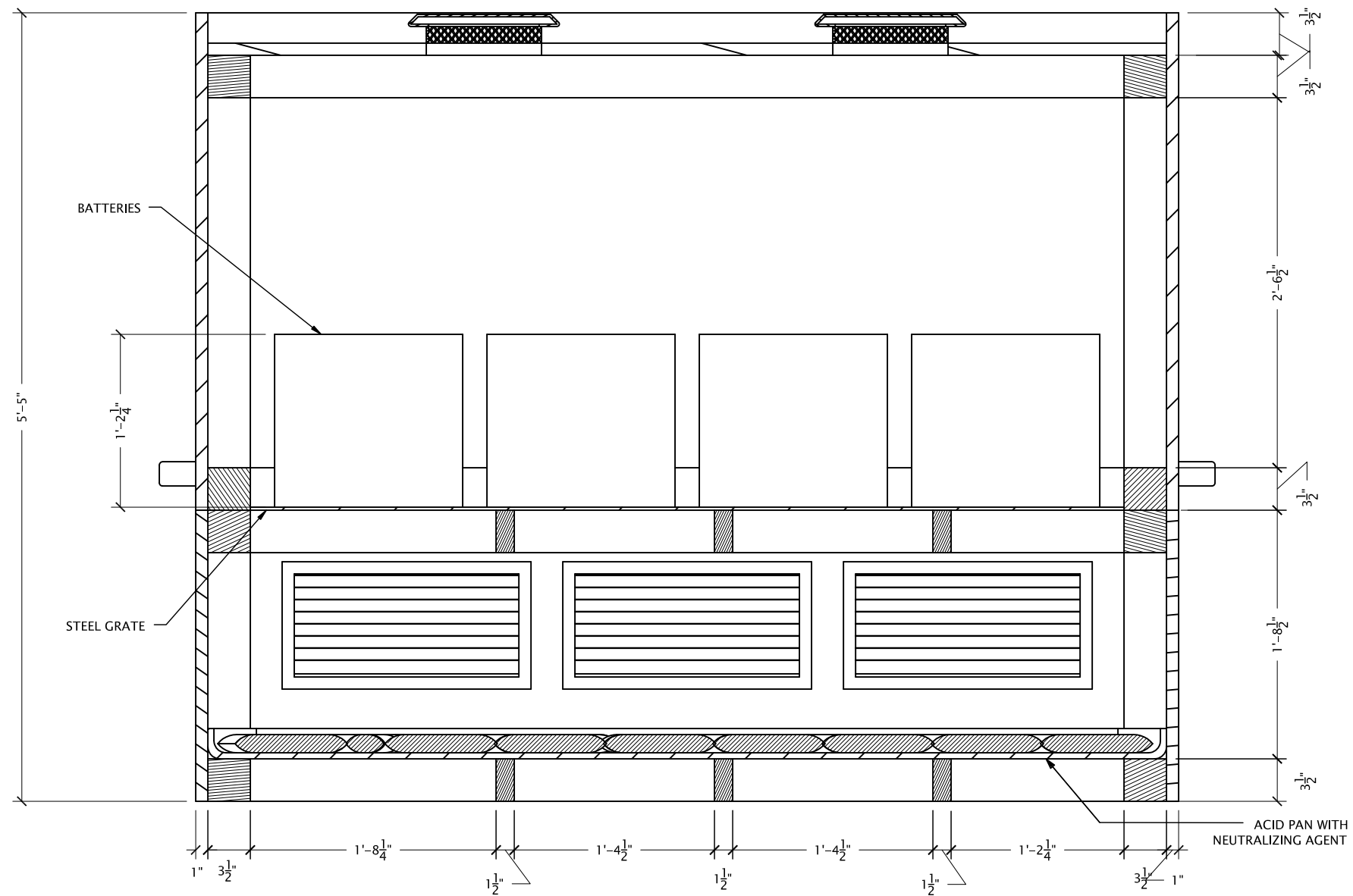
01 BATTERY BOX
SCALE: 3/4" = 1'-0"



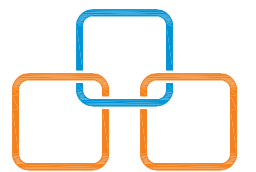
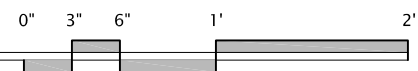
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UNIVERSITY OF ILLINOIS
U.S. DEPARTMENT OF ENERGY

DATE: 08-03-2007
SCALE: 1/4" = 1'-0"
DRAWN BY: JJS
CHECKED BY: BK DC ES
MODIFIED: NW

A12.01
BATTERY BOX



01 BATTERY BOX SECTION
SCALE: 1" = 1'-0"



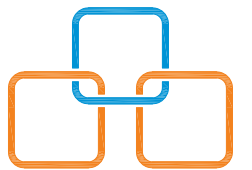
SOLAR DECATHLON COMPETITION 2007
UNIVERSITY OF ILLINOIS
U.S. DEPARTMENT OF ENERGY

DATE: 08-03-2007
SCALE: 1" = 1'-0"
DRAWN BY: BK DC ES
CHECKED BY: JW NW
MODIFIED: FX NW

A12.02

BATTERY BOX SECT.

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U.S. DEPARTMENT OF ENERGY



DATE: 08-03-2007

SCALE: $\frac{1}{8}" = 1'-0"$

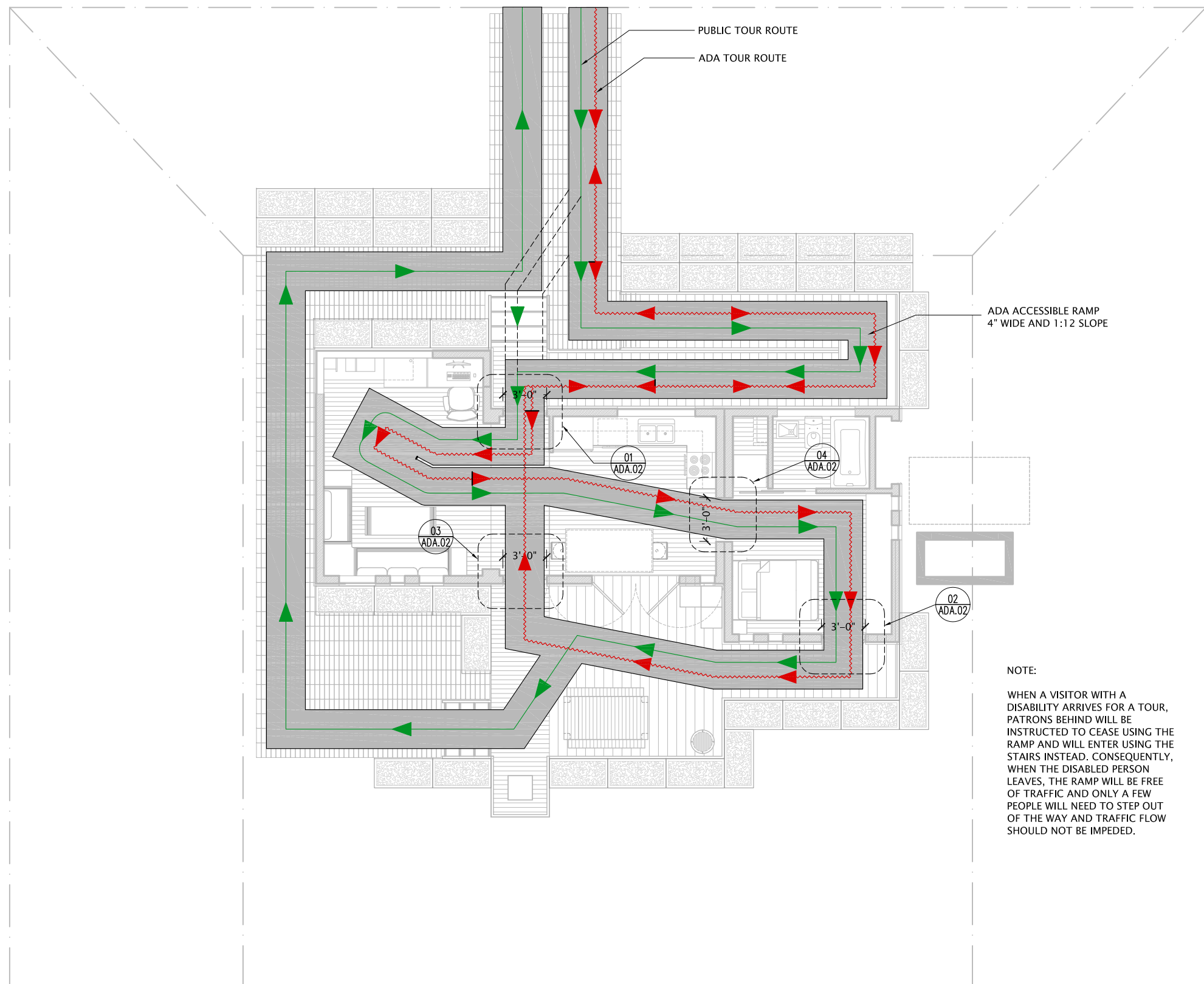
DRAWN BY: JJS NW

CHECKED BY: JW NW

MODIFIED: FX NW

ADA.01

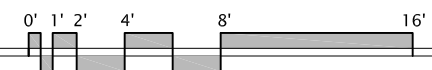
ADA TOUR ROUTE

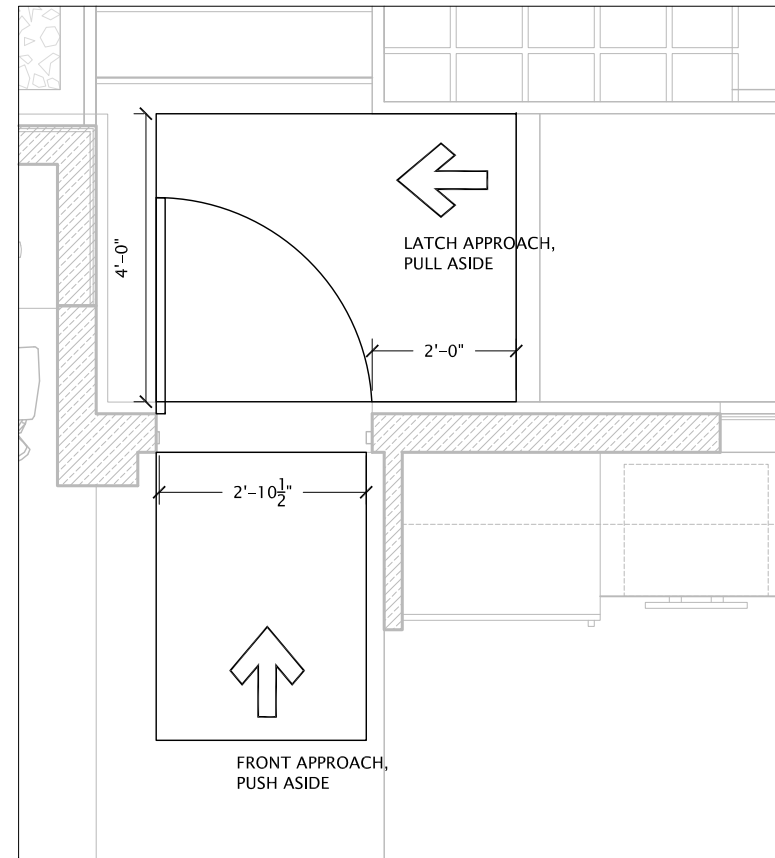


NOTE:

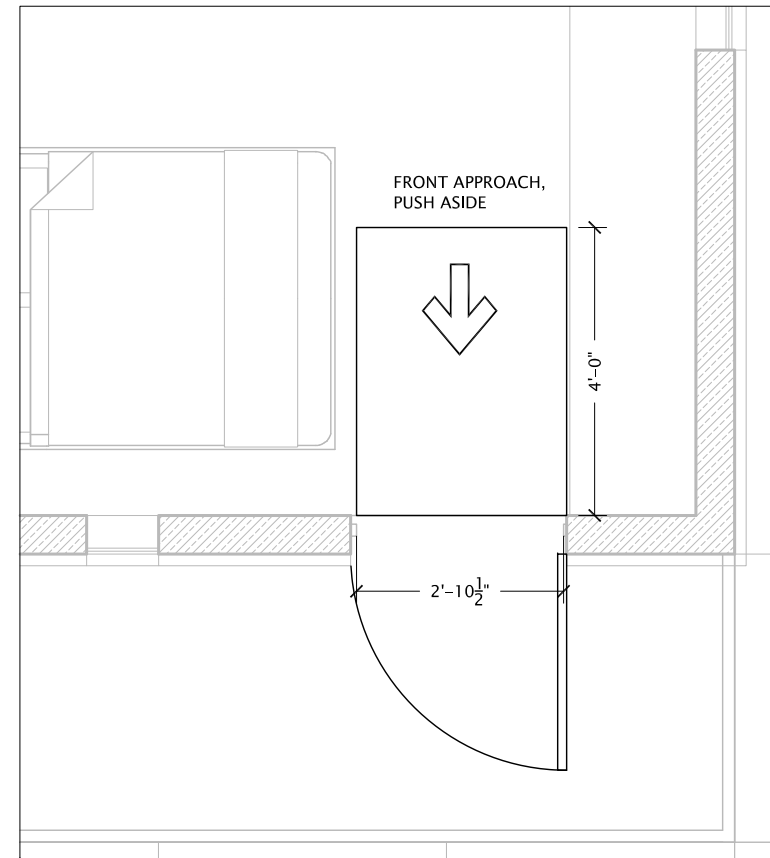
WHEN A VISITOR WITH A
DISABILITY ARRIVES FOR A TOUR,
PATRONS BEHIND WILL BE
INSTRUCTED TO CEASE USING THE
RAMP AND WILL ENTER USING THE
STAIRS INSTEAD. CONSEQUENTLY,
WHEN THE DISABLED PERSON
LEAVES, THE RAMP WILL BE FREE
OF TRAFFIC AND ONLY A FEW
PEOPLE WILL NEED TO STEP OUT
OF THE WAY AND TRAFFIC FLOW
SHOULD NOT BE IMPEDED.

01 TOUR ROUTE
SCALE: $\frac{1}{8}" = 1'-0"$

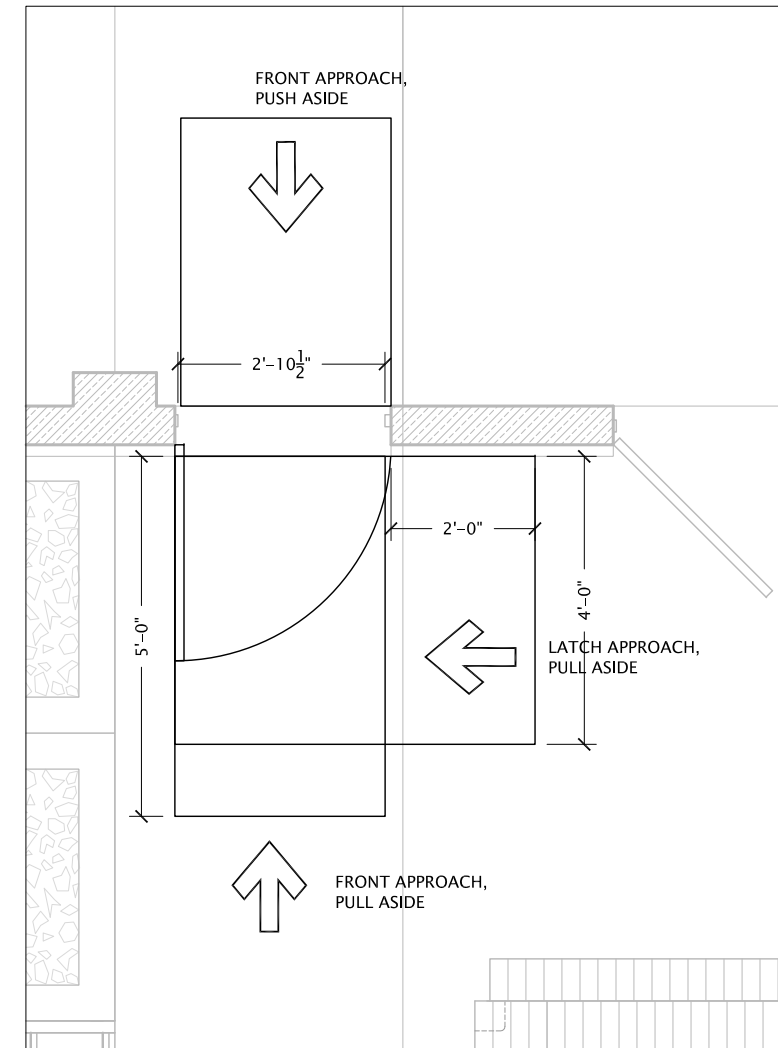




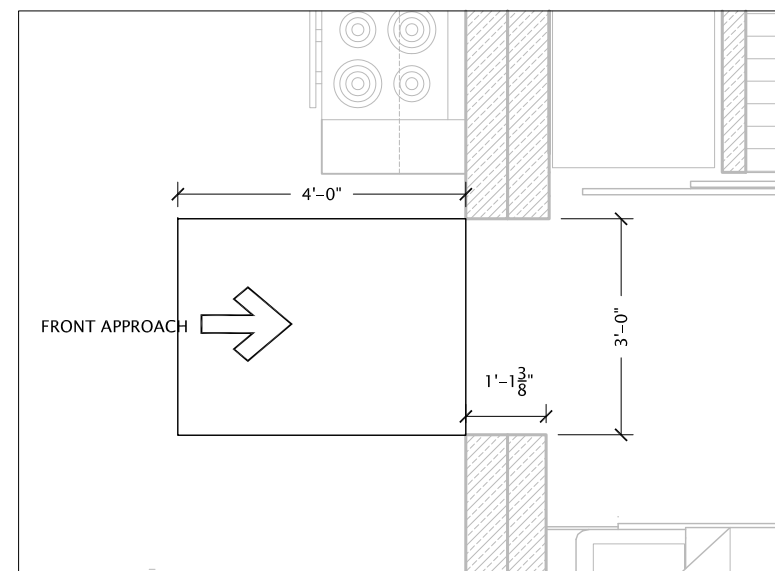
01 NORTH ENTRANCE DOOR
SCALE: $\frac{3}{8}$ " = 1'-0"



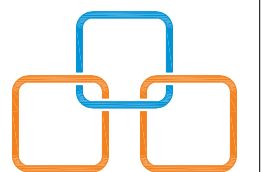
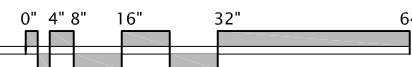
02 SOUTH BEDROOM DOOR
SCALE: $\frac{3}{8}$ " = 1'-0"



03 SOUTH ENTRANCE DOOR
SCALE: $\frac{3}{8}$ " = 1'-0"

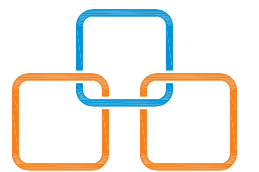


04 INTERIOR BEDROOM DOORWAY
SCALE: $\frac{3}{8}$ " = 1'-0"



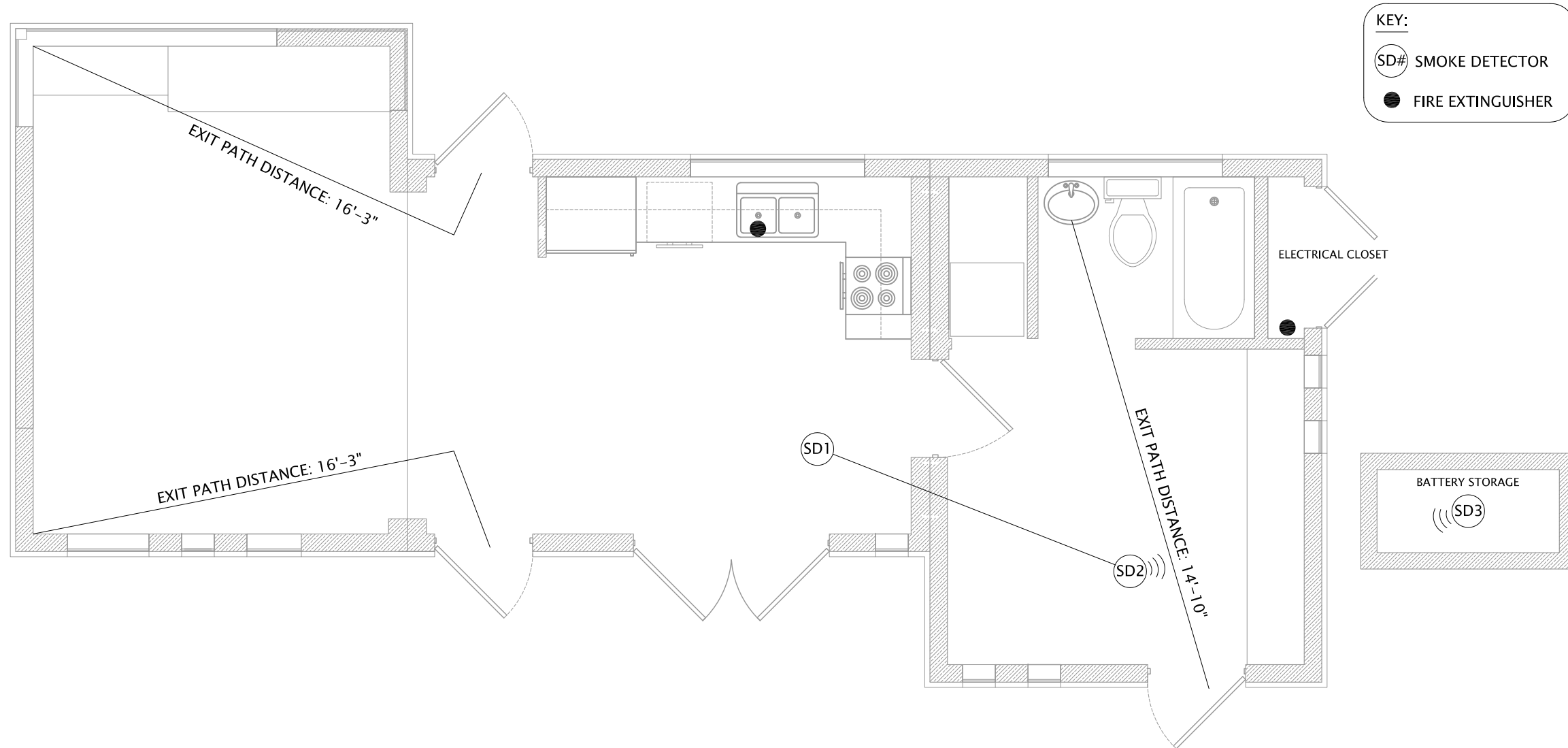
DATE:	08-03-2007
SCALE:	$\frac{3}{8}$ " = 1'-0"
DRAWN BY:	NW
CHECKED BY:	JW
MODIFIED:	NW

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U.S. DEPARTMENT OF ENERGY



DATE: 08-05-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: JJS & TE
CHECKED BY: __
MODIFIED BY: NW, FX

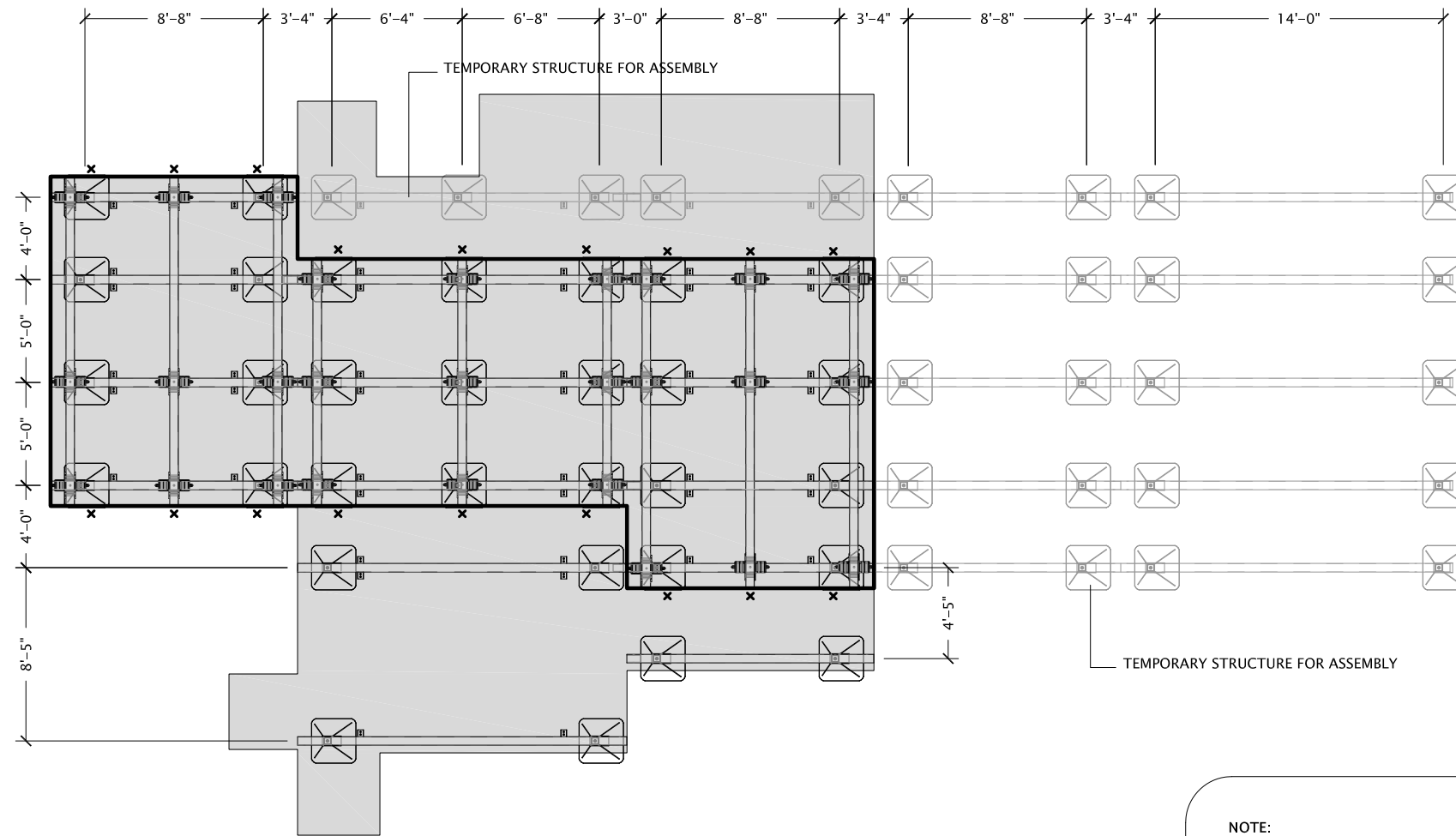
F01.01
FIRE PROTECT. PLAN



NOTE: PLEASE REFER TO SPECIFICATIONS DOCUMENT FOR MORE DATA ABOUT THE SMOKE DETECTORS AND FIRE EXTINGUISHER.

01 FIRE PROTECTION PLAN
SCALE: $\frac{1}{4}" = 1'-0"$

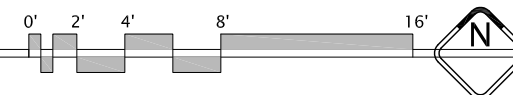




NOTE:

UPON ARRIVAL, BASE PLATES WILL BE LAID OUT AS SHOWN. ALL BUILDING MATERIALS, EXCLUDING THE BATTERY COMPARTMENT, PLANTER BOXES AND INDIVIDUAL PAVERS WILL REST ON THESE UNITS. CALCULATIONS HAVE BEEN MADE TO SHOW THAT THE ENTIRE SYSTEM WILL NOT EXCEED THE RULES SET FORTH IN SECTION 3.8 "IMPACT ON THE TURF" (ALLOWABLE SOIL LOAD=1000PSF). FOR SPECIFIC CALCULATIONS, SEE ATTACHED INFORMATION. THE BUILDING HAS SUFFICIENT WEIGHT SO AS TO RESIST OVERTURNING ON ITS OWN, HOWEVER 18" TIE DOWNS HAVE BEEN PROVIDED AT THE LOCATIONS MARKED WITH AN "X". SEE 1/S1.04.

01 FOUNDATION LAYOUT
 SCALE: $\frac{1}{8}" = 1'-0"$



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DATE: 08-05-2007

SCALE: $\frac{1}{8}" = 1'-0"$

DRAWN BY: BK, DC, ES, JS

CHECKED BY:

MODIFIED BY: BK, DC, NW

S1.01

FOUNDATION LAYOUT



DATE: 08-05-2007

SCALE: $\frac{1}{4}" = 1'-0"$

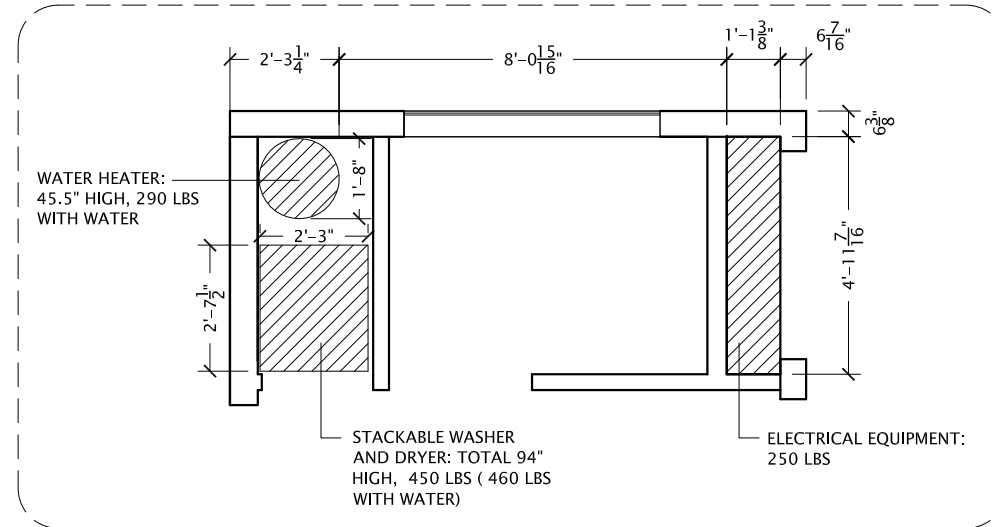
DRAWN BY: JJS

CHECKED BY: JW

MODIFIED: NW, FX

S1.02

FLOOR FRAMING

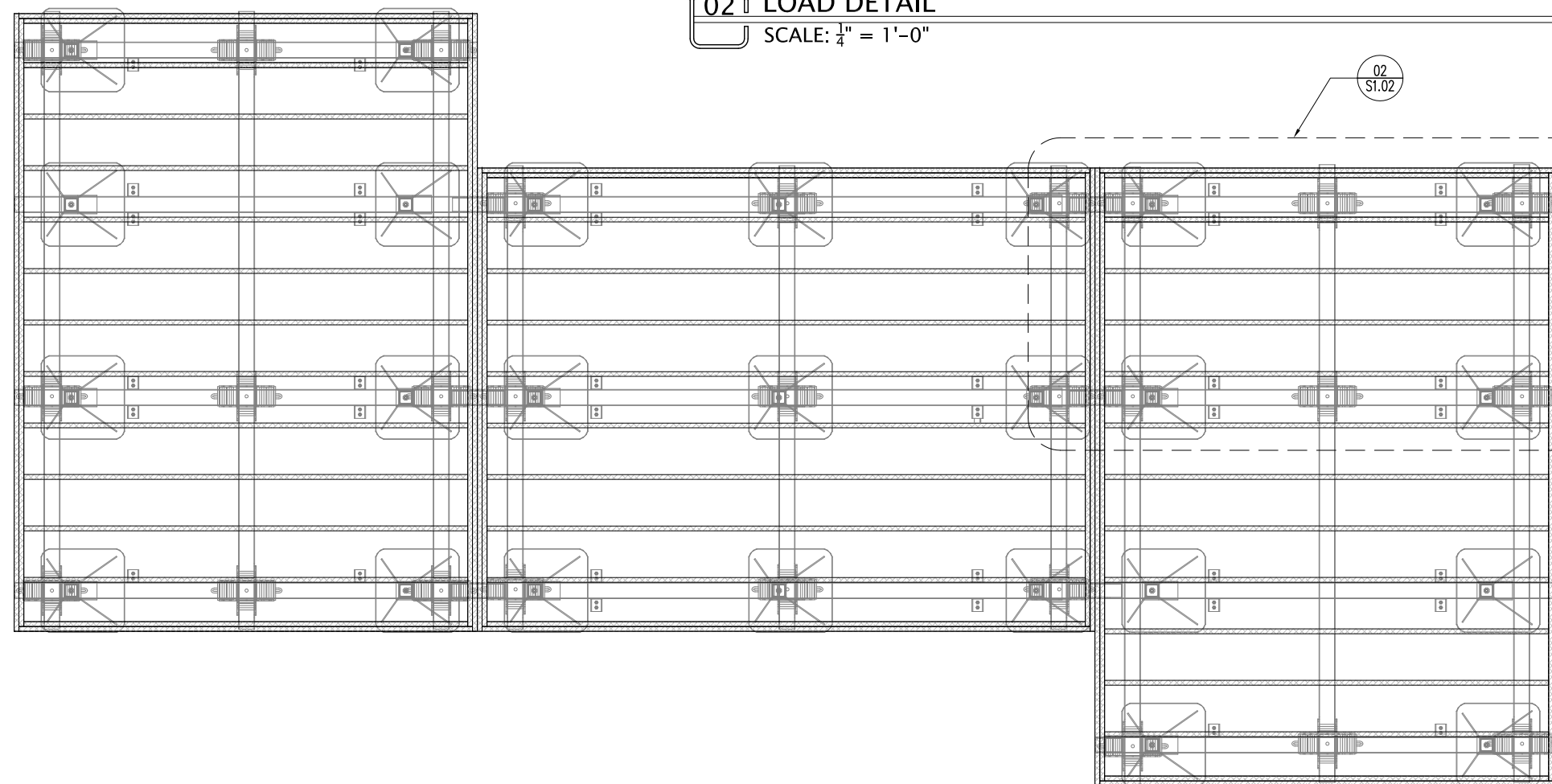


02 LOAD DETAIL
SCALE: $\frac{1}{4}" = 1'-0"$

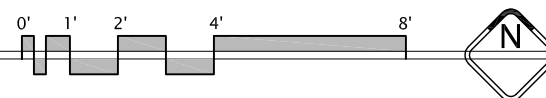


NOTE:
2X8 FLOOR JOISTS @ 16" O.C. THROUGHOUT.
EVERY THIRD JOIST IS BOLTED TO THE TS 5X5 BELOW
(6) $\frac{1}{2}"$ U-BOLTS PER MODULE TO ACT AS TIE-DOWNS
 $\frac{3}{4}"$ T & G ON TOP AND $\frac{1}{2}"$ OSB ON BOTTOM
CLOSED CELL POLYURETHANE FOAM
INSULATION BETWEEN ALL JOISTS
#2 SPF WOOD TO BE USED THROUGHOUT

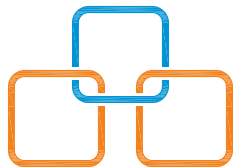
DESIGN LOADS:
WIND: 90 MPH (3-SECOND GUST), EXPOSURE
CATEGORY C.
FLOOR LIVE LOAD: 50 PSF



01 FLOOR FRAMING PLAN
SCALE: $\frac{1}{4}" = 1'-0"$



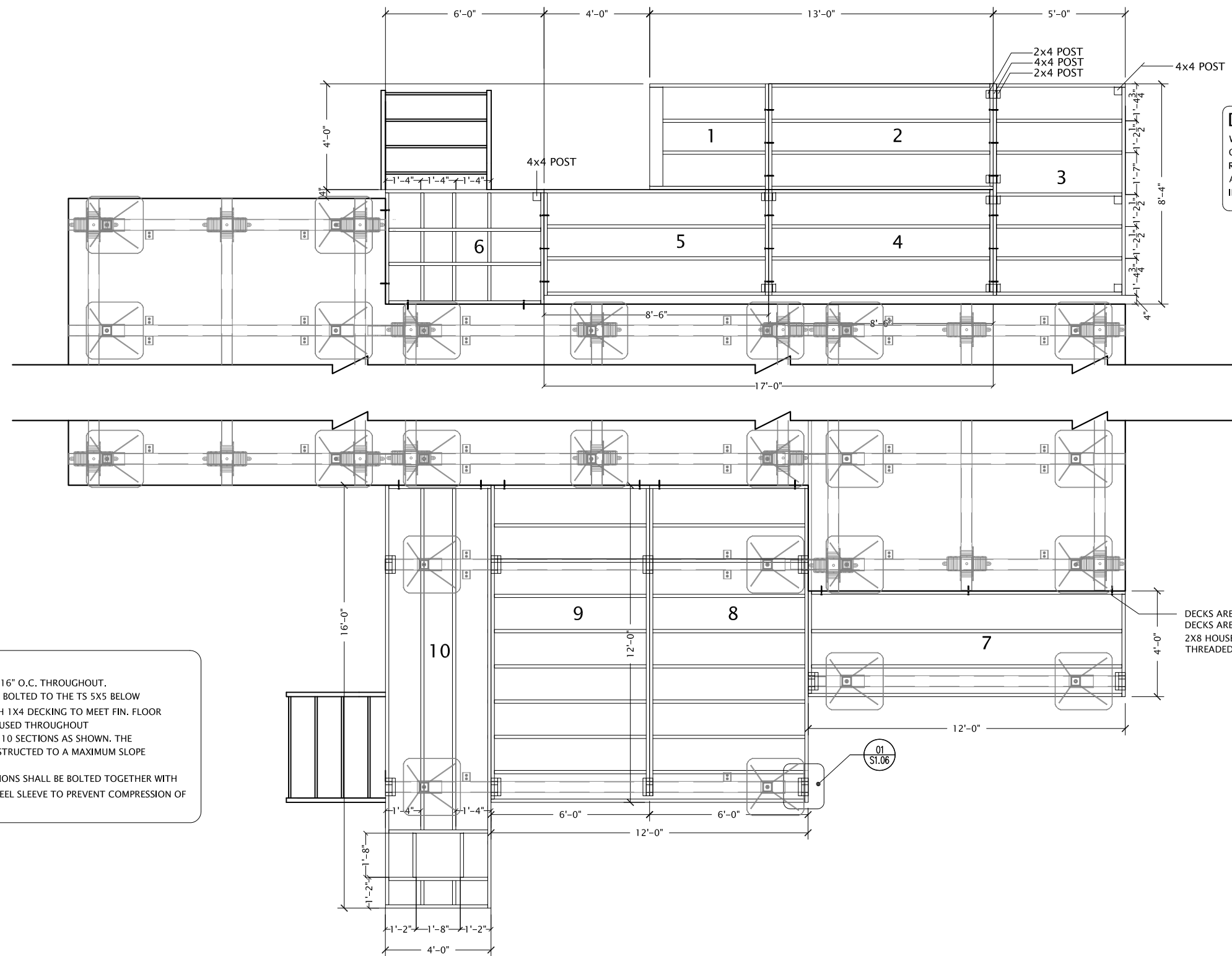
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DATE: 08-05-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED: NW, FX

S1.03

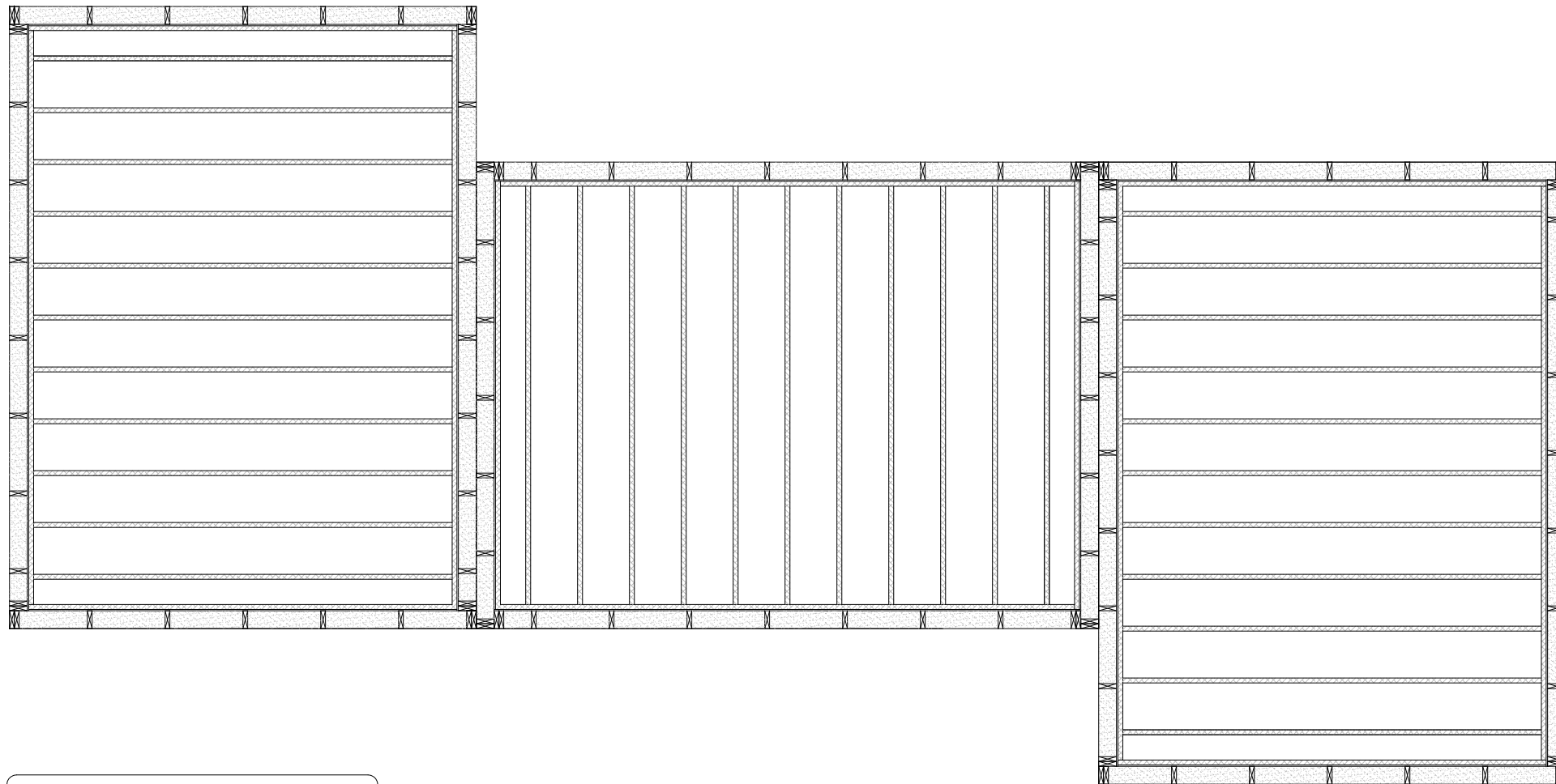
DECK FRAMING



DESIGN LOADS:
WIND: 90 MPH (3-SECOND GUST), EXPOSURE CATEGORY C.
RAILINGS: 200 LBS CONCENTRATED LOAD APPLIED IN ANY DIRECTION AT ANY POINT AT THE TOP RAIL.
INTERIOR FLOOR, DECK, RAMPS: 50 PSF LIVE LOAD

NOTE:
2X8 FLOOR JOISTS @ 16" O.C. THROUGHOUT.
EVERY THIRD JOIST IS BOLTED TO THE TS 5X5 BELOW
 $\frac{3}{4}"$ T & G ON TOP WITH 1X4 DECKING TO MEET FIN. FLOOR
#2 SPF WOOD TO BE USED THROUGHOUT
DECK TO BE BUILT IN 10 SECTIONS AS SHOWN. THE
RAMP SHALL BE CONSTRUCTED TO A MAXIMUM SLOPE
OF 1:12.
UPON ARRIVAL, SECTIONS SHALL BE BOLTED TOGETHER WITH
 $\frac{3}{4}"$ BOLTS AND A $\frac{7}{8}"$ STEEL SLEEVE TO PREVENT COMPRESSION OF
WOOD MEMBERS.

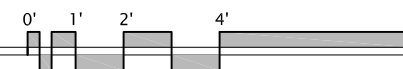
01 DECK FRAMING PLAN
SCALE: $\frac{1}{4}" = 1'-0"$



NOTE:
2X8 CEILING JOISTS @ 16" O.C. THROUGHOUT
JOISTS REST IN SIMPSON JOIST HANGERS
SEE DETAIL 2/S1.04
 $\frac{1}{8}$ " OSB ON WALLS
 $\frac{3}{4}$ " T & G OSB AS ROOF DECK MATERIAL
 $\frac{5}{8}$ " DRYWALL CEILING
#2 SPF WOOD TO BE USED THROUGHOUT

DESIGN LOADS:
WIND: 90 MPH (3-SECOND GUST), EXPOSURE
CATEGORY C.
ROOF: 25 PSF, SNOW LIVE LOAD

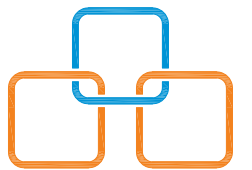
01 ROOF FRAMING PLAN
SCALE: $\frac{1}{4}$ " = 1'-0"



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U.S. DEPARTMENT OF ENERGY

DATE: 08-05-2007
SCALE: $\frac{1}{4}$ " = 1'-0"
DRAWN BY: JJS
CHECKED BY: JW
MODIFIED BY: NW, FX

S1.04
ROOF FRAMING



DATE: 08-05-2007
 SCALE: VARIES
 DRAWN BY: JJS
 CHECKED BY: JW, NW
 MODIFIED: NW, FX

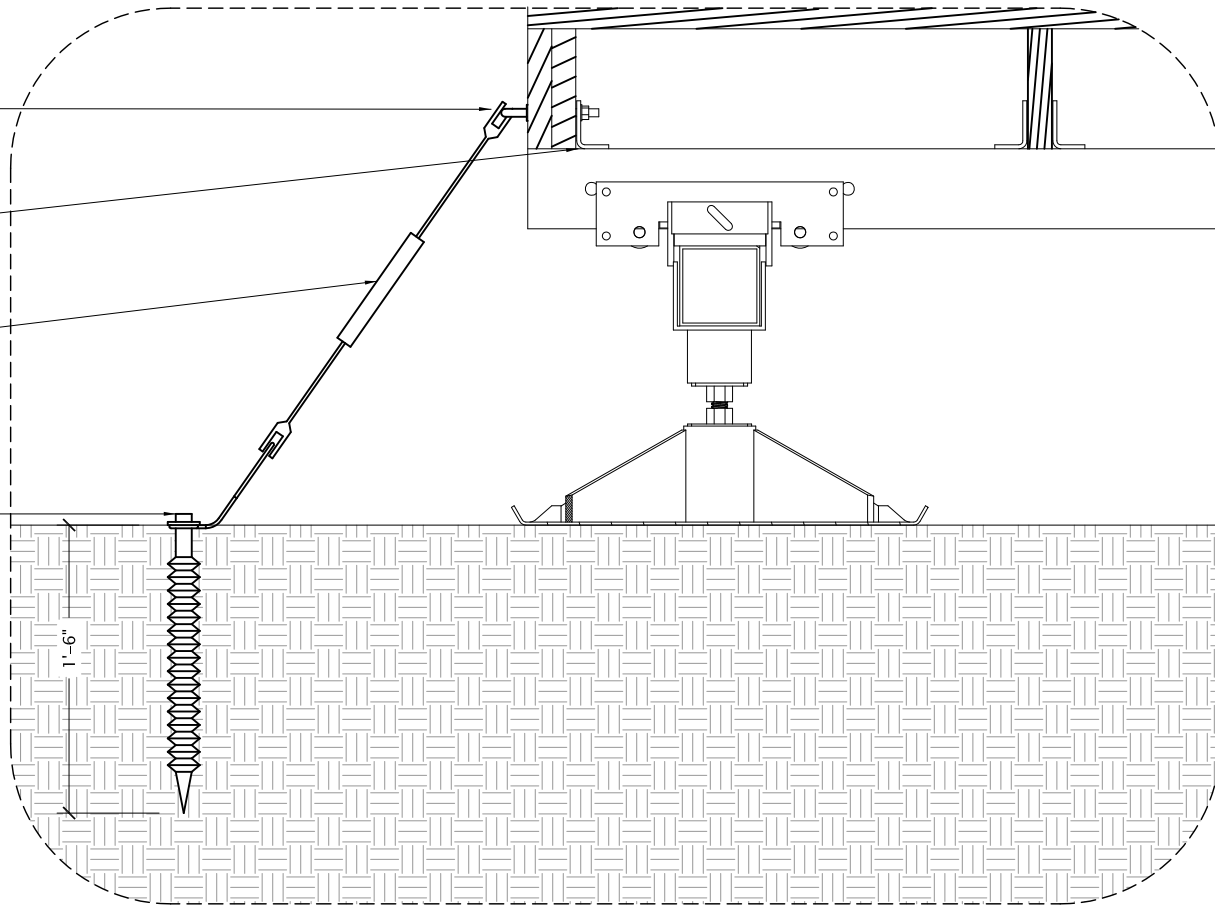
S1.05

STRUCTURAL DET.

NOTE:

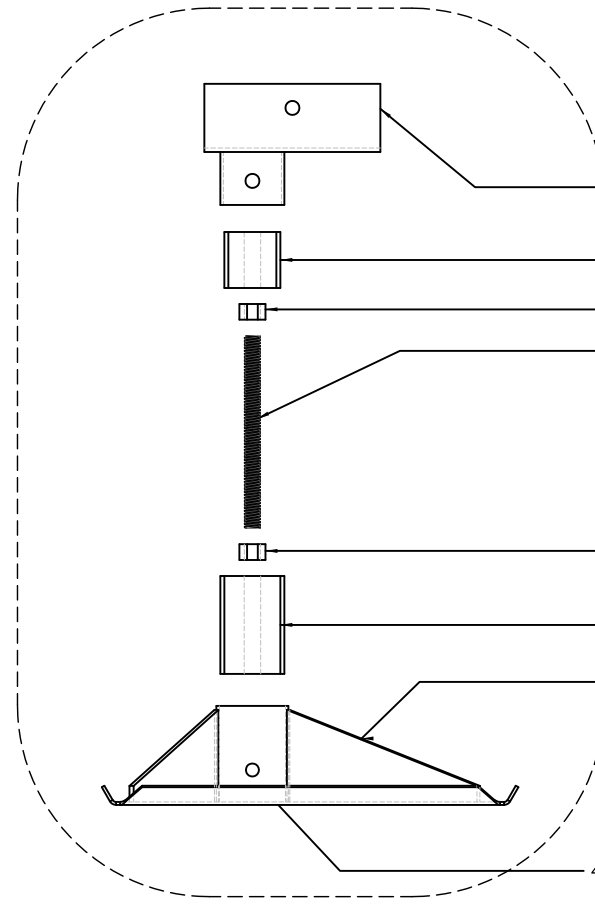
THIS BUILDING HAS BEEN SHOWN TO BE HEAVY ENOUGH TO WITHSTAND OVERTURNING UNDER WIND FORCES SPECIFIED IN THE SOLAR DECATHLON BUILDING CODE. TIE DOWNS PROVIDE ADDITIONAL UPLIFT RESISTANCE

U BOLT
 L BRACKET WELDED TO STEEL BEAM
 TURNBUCKLE
 AMERICAN EARTH ANCHOR



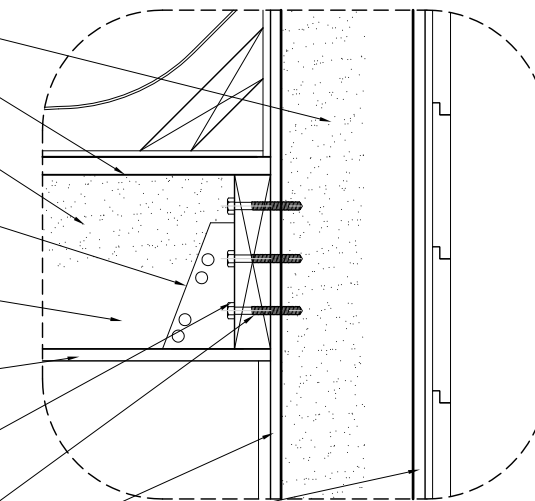
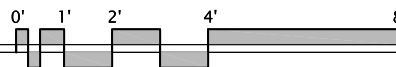
01 TIE-DOWN DETAIL
 SCALE: 1" = 1'-0"

HOLLAND CMPT. MM0044
 TOP GUIDE INSERT
 1" NUT
 1" ACME THREADED ROD
 1" NUT
 BOTTOM GUIDE INSERT
 HOLLAND CMPT. MM0088
 4 SQUARE FEET GROUND CONTACT

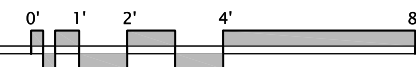


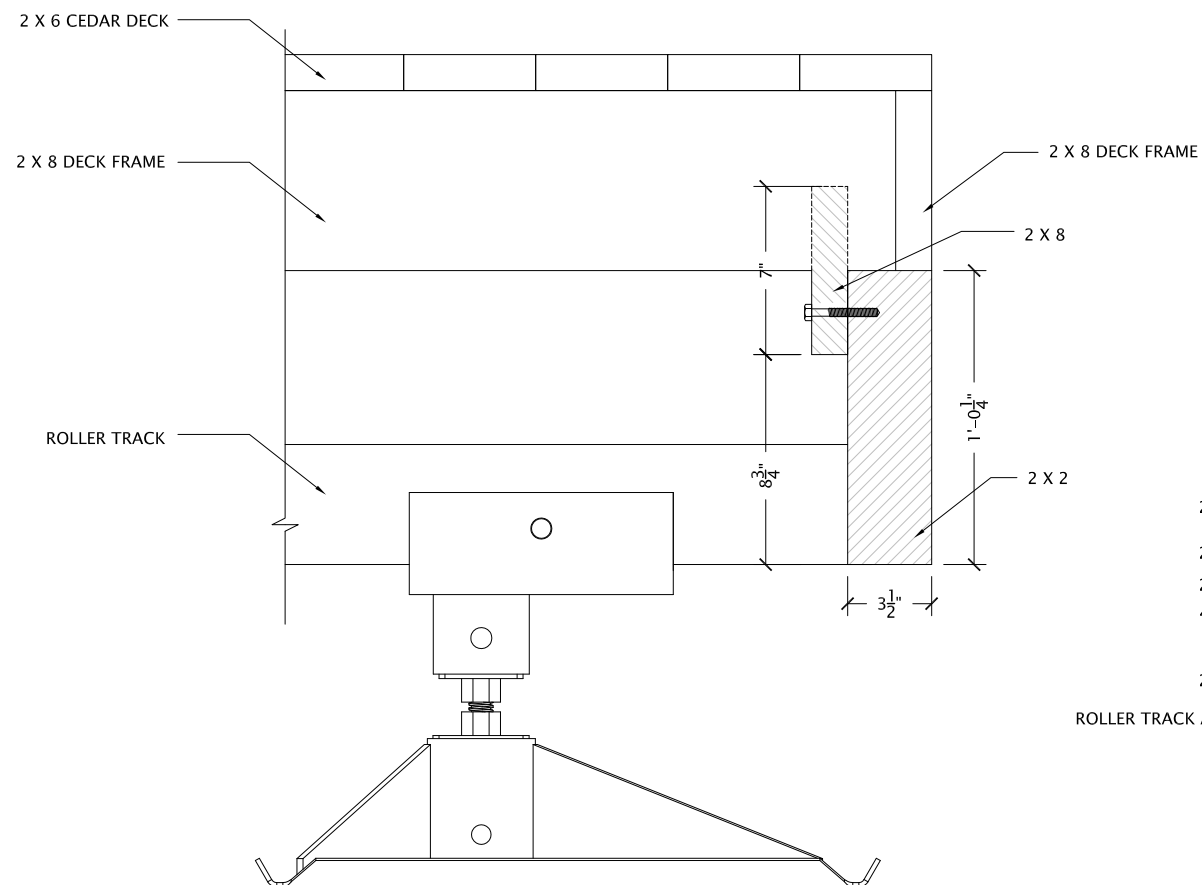
03 ADJUSTABLE JACK DETAIL
 SCALE: 1" = 1'-0"

2 X 6 STUDS @ 24" O.C.
 $\frac{3}{4}$ " T&G OSB DECKING
 4" HONEYWELL POLYURETHANE FOAMED INSULATION
 LUS 26 SIMPSON JOIST HANGERS
 2 X 8 JOISTS @ 16" O.C.
 $\frac{1}{2}$ " GYPSUM WALL BOARD
 2 X 8 LEDGER
 (3) $\frac{3}{8}$ " LAG BOLTS INTO EACH STUD
 OSB SHEATHING, BOTH SIDES

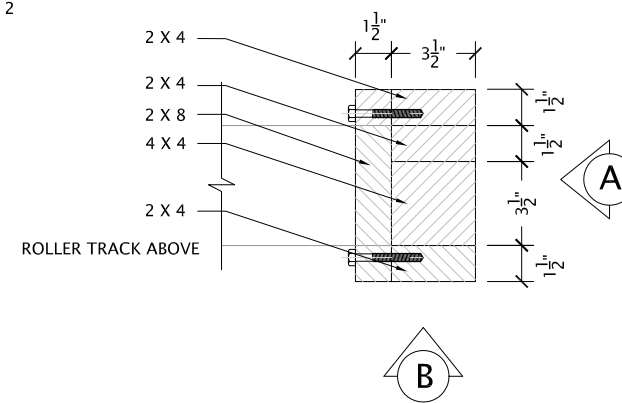


02 JOIST DETAIL
 SCALE: 1 $\frac{1}{2}$ " = 1'-0"

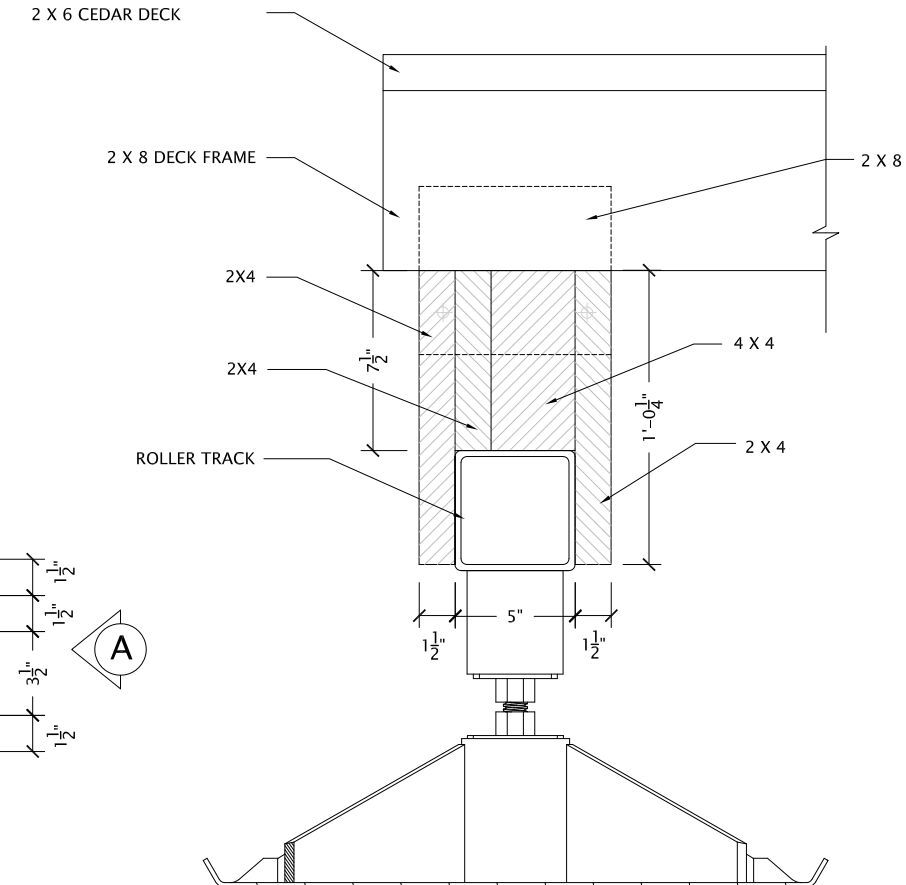




VIEW B

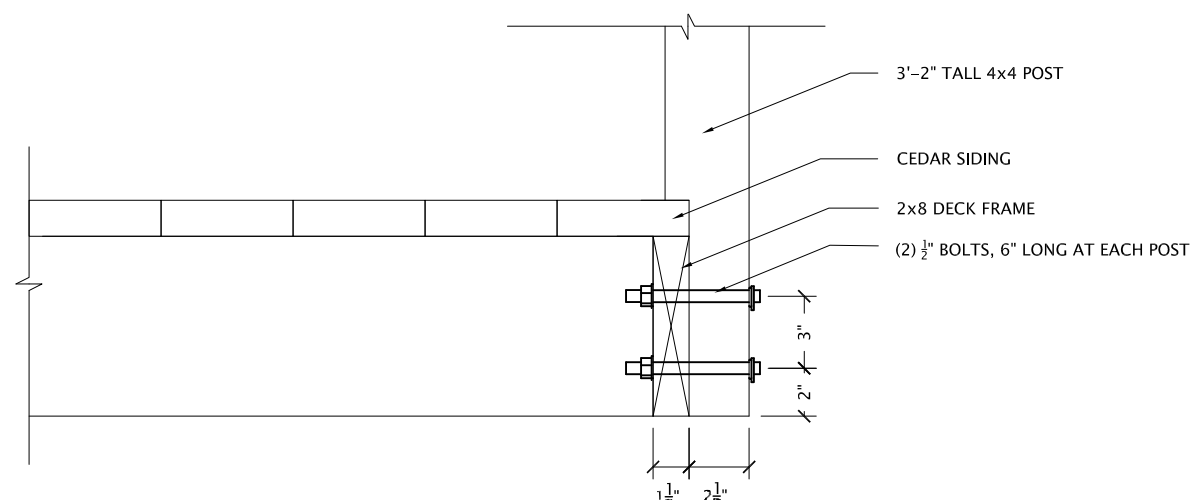


PLAN VIEW

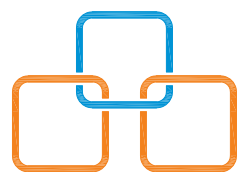
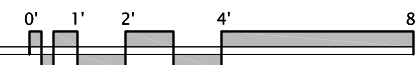
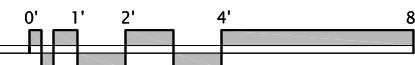


VIEW A

01 DECK POST DETAIL
SCALE: 1 1/2" = 1'-0"

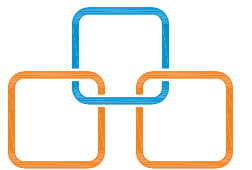


02 RAILING POST DETAIL
SCALE: 1 1/2" = 1'-0"



DATE:	08-05-2007
SCALE:	1 1/2" = 1'-0"
DRAWN BY:	JJS
CHECKED BY:	JW, NW
MODIFIED:	NW, FX

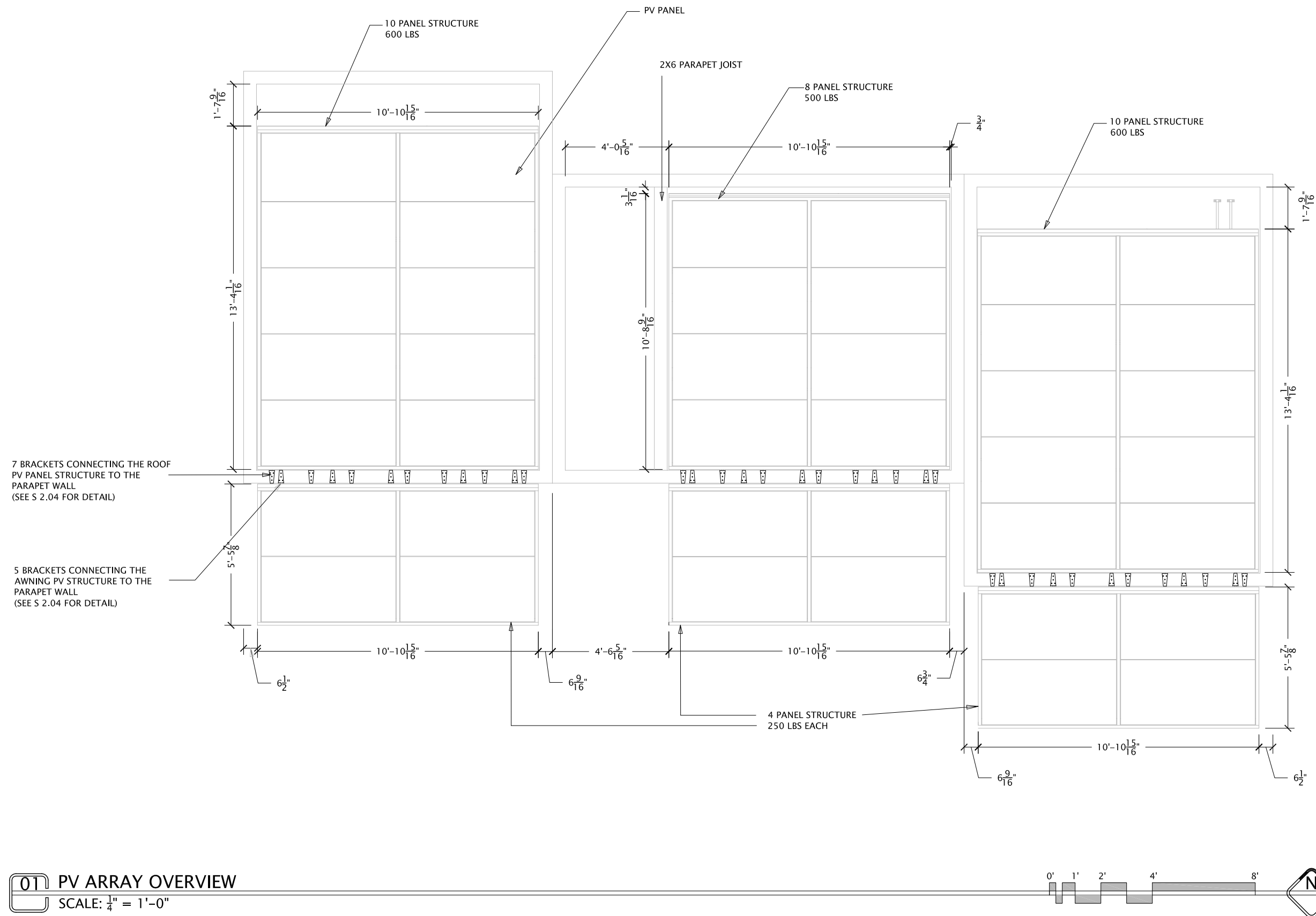
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DATE: 08-05-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: BK DC ES
CHECKED BY: JW, NW
MODIFIED: NW, FX

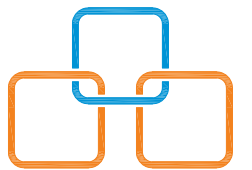
S2.01

PV ARRAY OVERVIEW



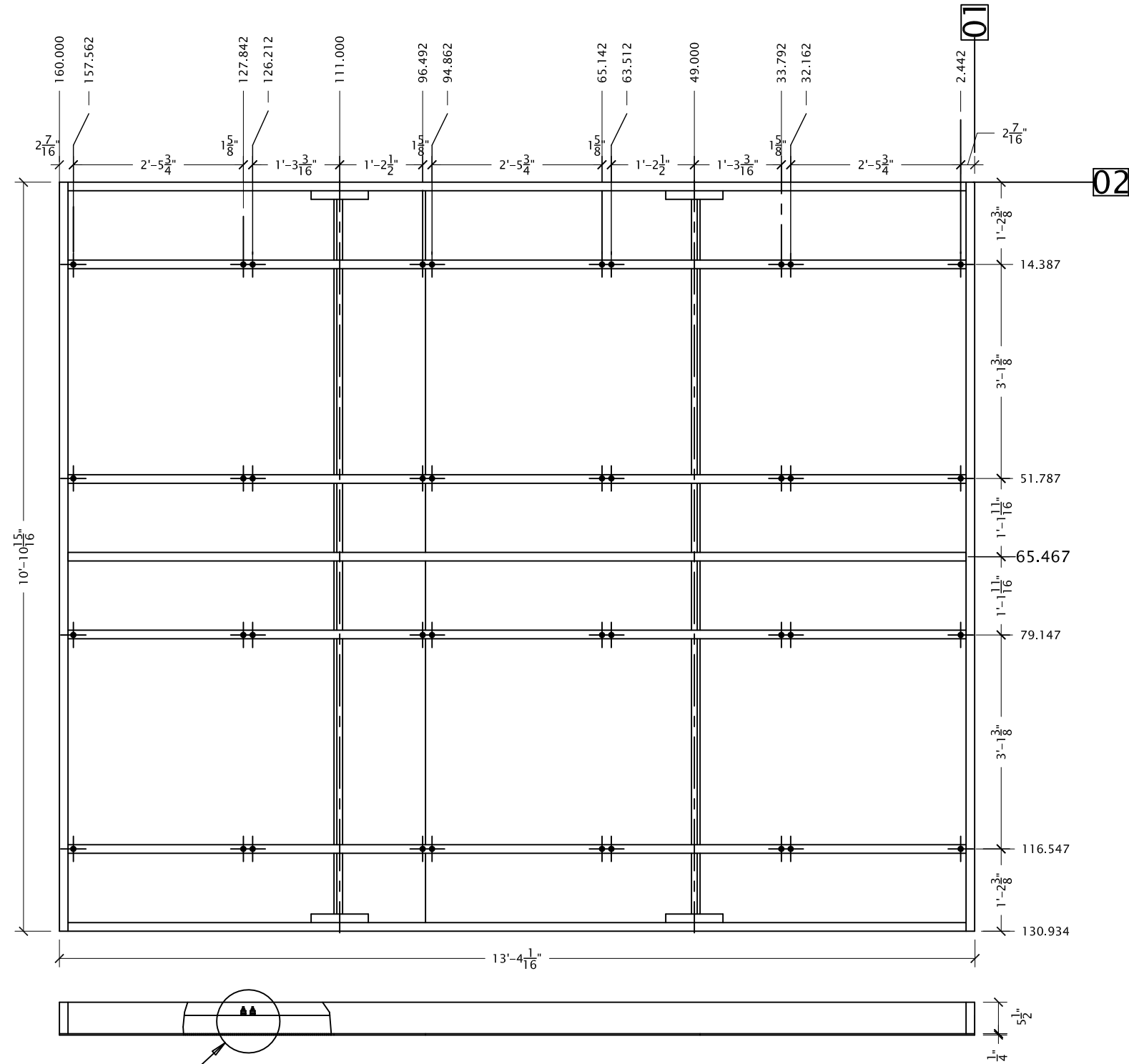
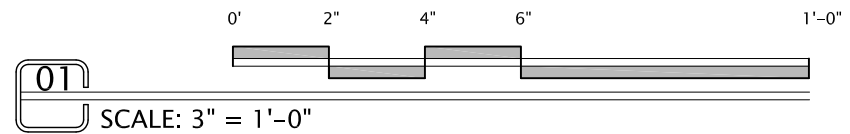
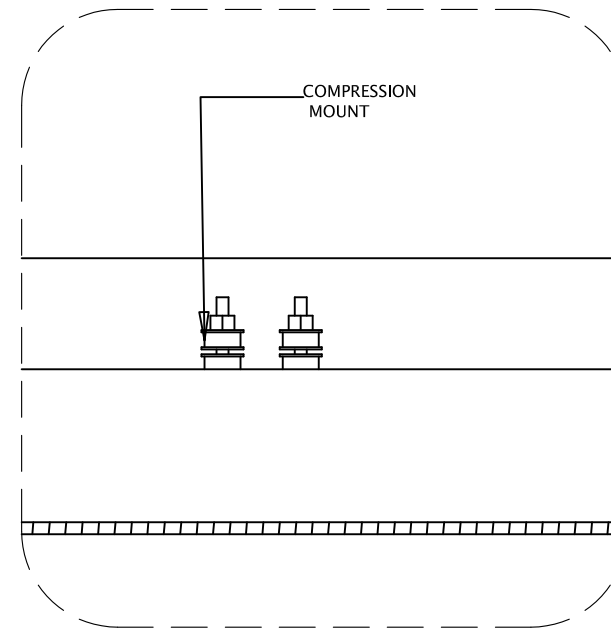
01 PV ARRAY OVERVIEW
SCALE: $\frac{1}{4}" = 1'-0"$

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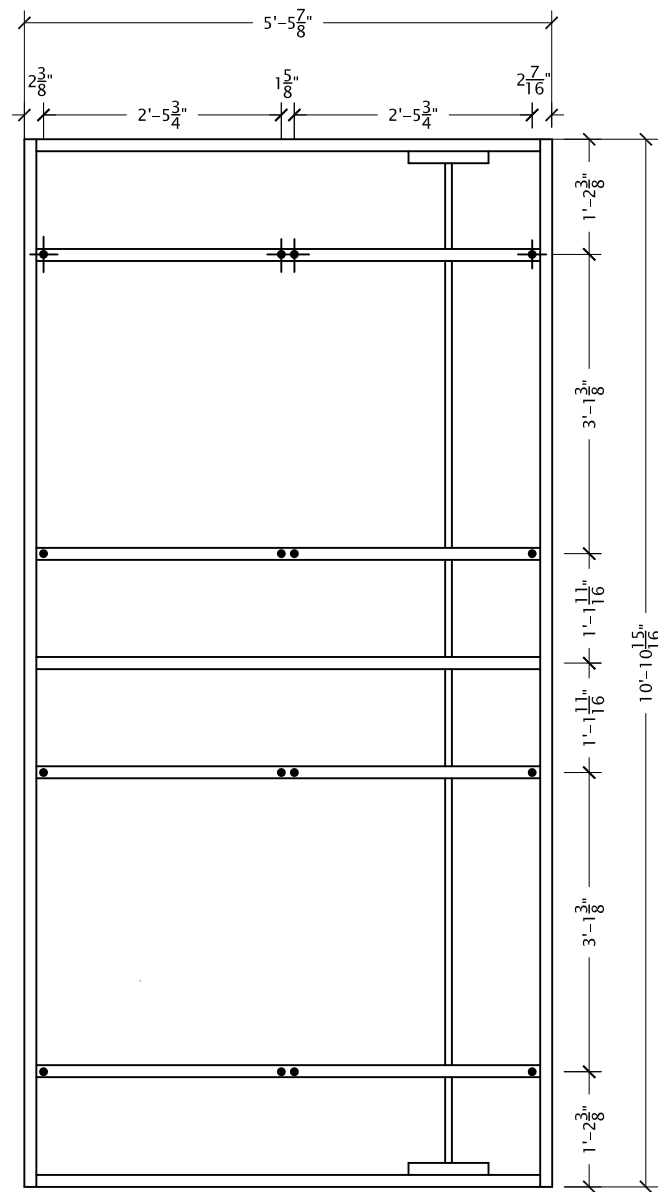
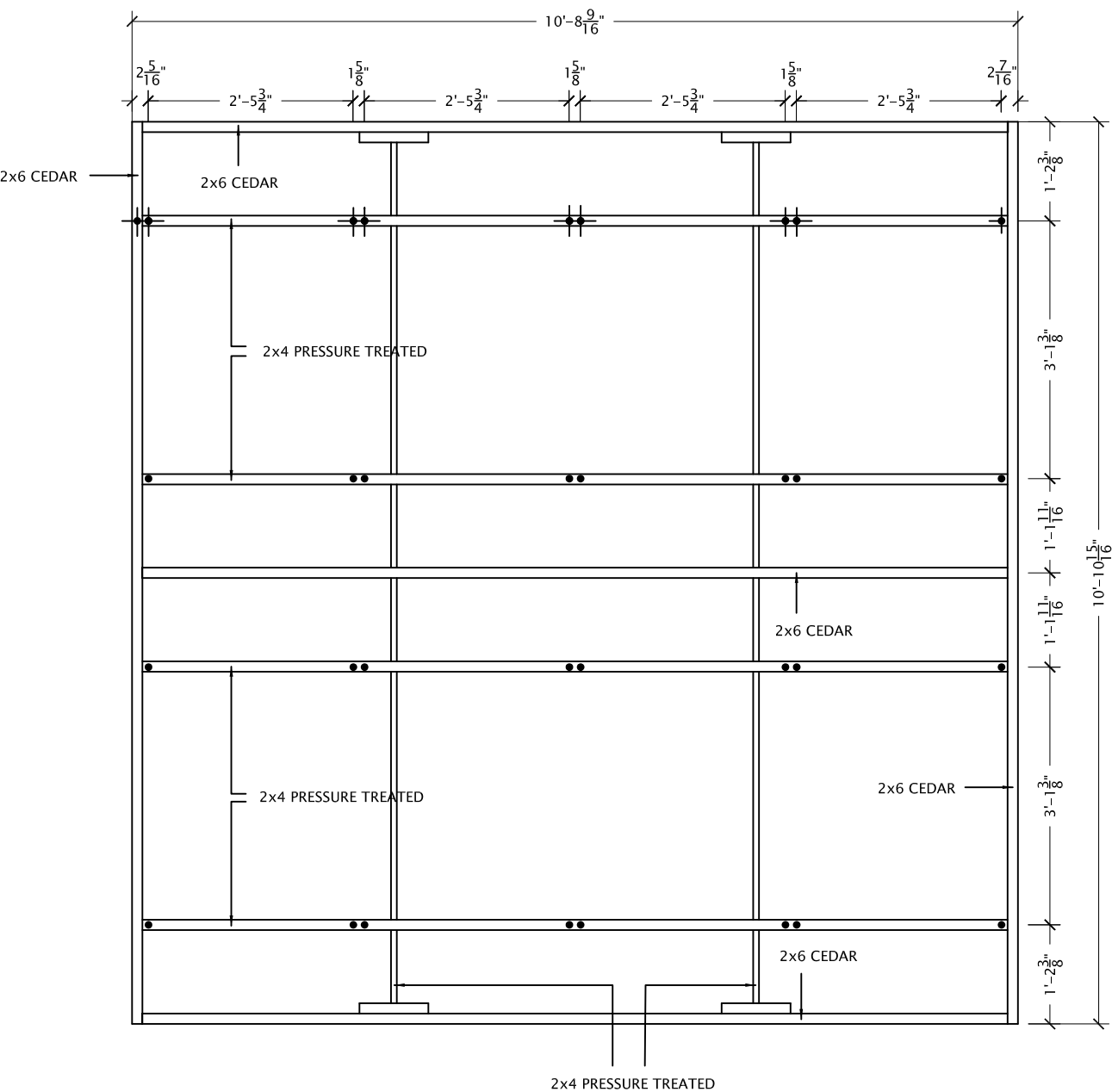


DATE: 08-05-2007
SCALE: $\frac{1}{2}$ " = 1'-0"
DRAWN BY: BK DC ES
CHECKED BY: JW
MODIFIED BY: NW, FX

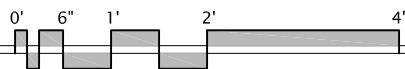
S2.02
10 PV PANEL STRUC.



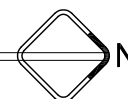
01 10 PV PANEL STRUCTURE
SCALE: $\frac{1}{2}$ " = 1'-0"



01 8 PV PANEL STRUCTURE
SCALE: $\frac{1}{2}$ " = 1'-0"



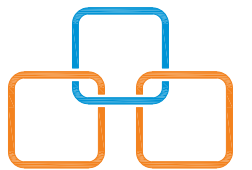
02 4 PV PANEL STRUCTURE
SCALE: $\frac{1}{2}$ " = 1'-0"



DATE: 08-05-2007
SCALE: $\frac{1}{2}$ " = 1'-0"
DRAWN BY: BK DC ES
CHECKED BY: JW
MODIFIED: NW, FX

S2.03

8&4 PV PANEL STRUC.



DATE: 08-05-2007

SCALE: VARIES

DRAWN BY: BK DC ES

CHECKED BY:

MODIFIED BY: NW, FX

S2.04

SOLAR PANEL LINK.

4 $\frac{1}{2}$ " BRACKET MOUNTED TO THE PV STRUCTURE
WITH $\frac{5}{16}$ " MACHINE SCREWS

POLY SURFACED ADHESIVE

REFLECTIVE ACRYLIC COATING

6" BRACKET MOUNTED TO 2X6 TOP PLATE WITH FOUR 2 $\frac{1}{2}$ " LONG
#14 ($\frac{1}{4}$ ") WOOD SCREWS
(SEE S2.01 FOR BRACKET LAYOUT)

4 $\frac{1}{2}$ " BRACKET MOUNTED TO THE PV STRUCTURE WITH $\frac{5}{16}$ " MACHINE
SCREWS

ALUMINUM SHEET

2X4

SUBSTRATE

(3) 2X6 TOP PLATE

CEDAR SIDING

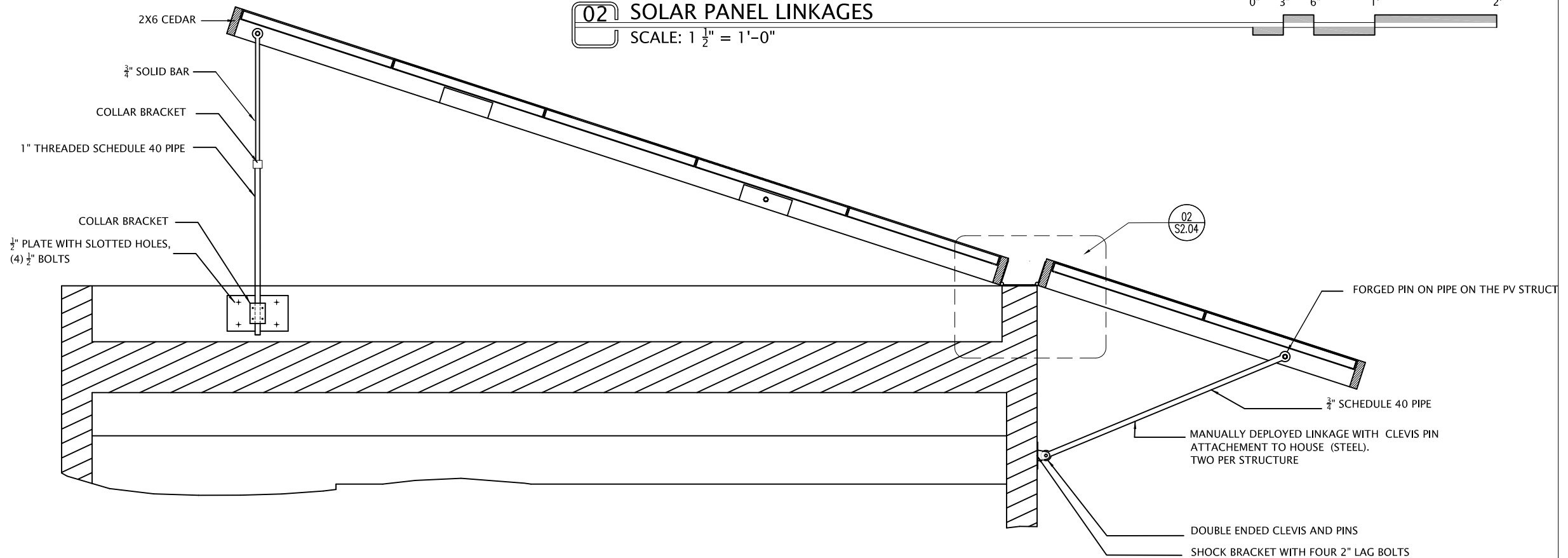
$\frac{1}{2}$ " OSB SHEATHING

$\frac{7}{16}$ " OSB SHEATHING

02 SOLAR PANEL LINKAGES

SCALE: 1 $\frac{1}{2}$ " = 1'-0"

0" 3" 6" 1' 2'



01 SOLAR PANEL LINKAGES

SCALE: $\frac{1}{2}$ " = 1'-0"

0' 6" 1' 2' 4'



DATE: 08-05-2007
SCALE: $\frac{3}{16}" = 1'-0"$
DRAWN BY: JW
CHECKED BY: NW
MODIFIED BY: NW, FX

P1.01

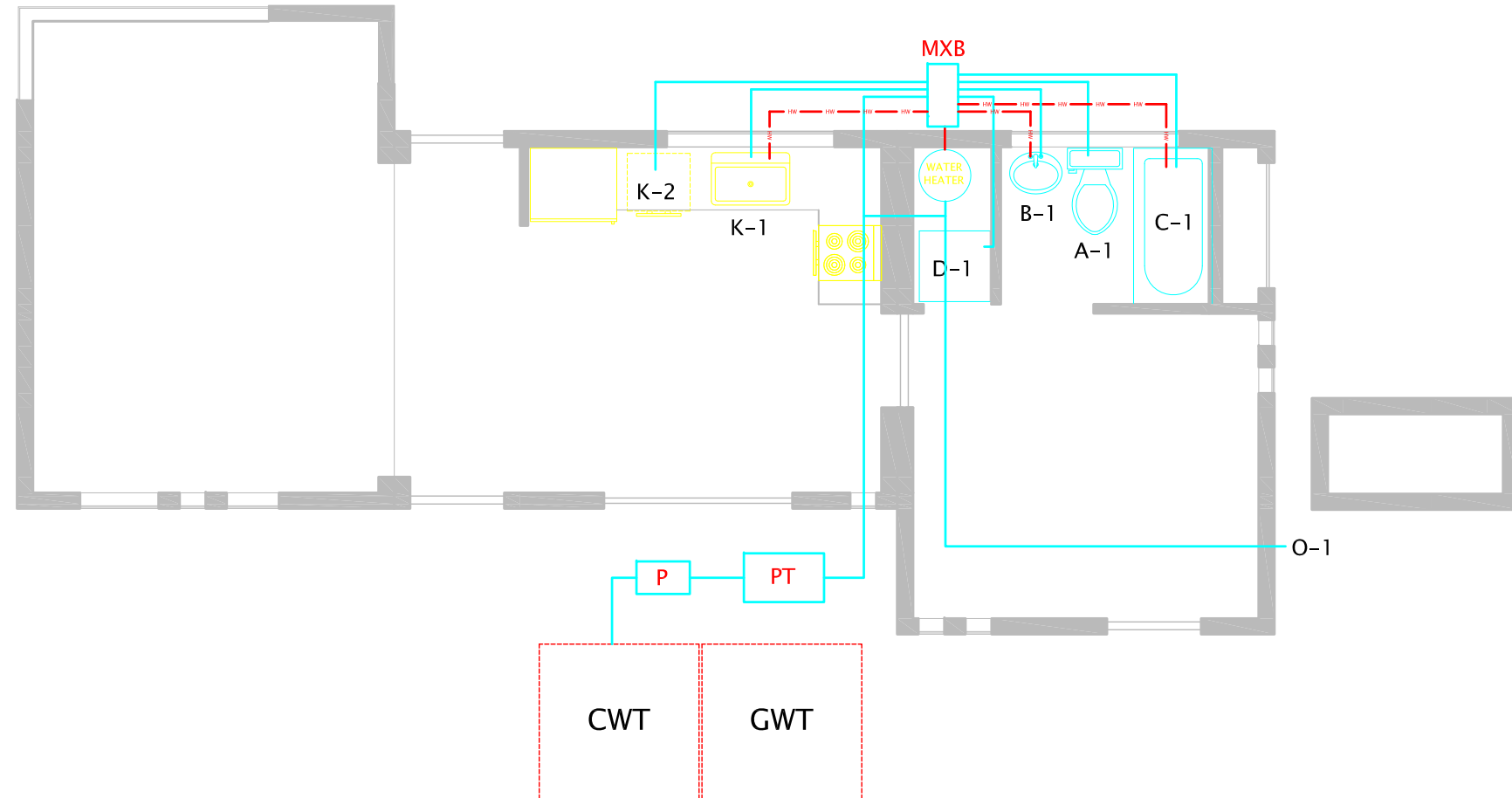
PLUMBING PLAN

Plumbing Fixture Schedule

Symbol	General Fixture Description	Supply				Waste				Mt'g Hgt Drain	Mt'g Hgt Supply	Remarks
		Cold Water	Hot Water			Outlet	Trap	Fixture Drain	Vent			
A-1	Kohl Escale 2 Piece Dual-Flush Toilet	1/2"	-			4"	Int	3"	2"	FL	5"	
B-1	Kohl Vessels Bateau Lav	1/2"	1/2"			1 1/4"	1 1/4"	1 1/4"	1 1/4"	16"	20"	
C-1	Kohler Villager Bathtub	1/2"	1/2"			1 1/2"	1 1/2"	1 1/2"	1 1/4"	FL	24"	
D-1	Clothes Washer	1/2"	-			-	2"	2"	1 1/2"	46"	42"	
K-1	Kitchen Sink	1/2"	1/2"			1 1/2"	1 1/2"	1 1/2"	1 1/2"	16"	26"	
K-2	Dishwasher	1/2"	-			1 1/2"	1 1/2"	1 1/2"	1 1/2"	-	26"	
O-1	Sillcock	1/2"	-			-	-	-	-	-	12"	
Notes:												

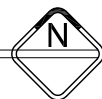
NOTES:

1. ALL PLUMBING LINES AND FIXTURES SHALL MEET APPLICABLE CODES
2. CLEANWATER, GRAYWATER, AND PRESSURE TANKS, AND CENTRIFUGAL PUMP SHALL BE REMOVED WHEN CONNECTED TO CITY WATER SUPPLY AND WASTE LINES.
3. PLUMBING TRIM AND FAUCETS TO BE INSTALLED AS PER SPECIFICATIONS



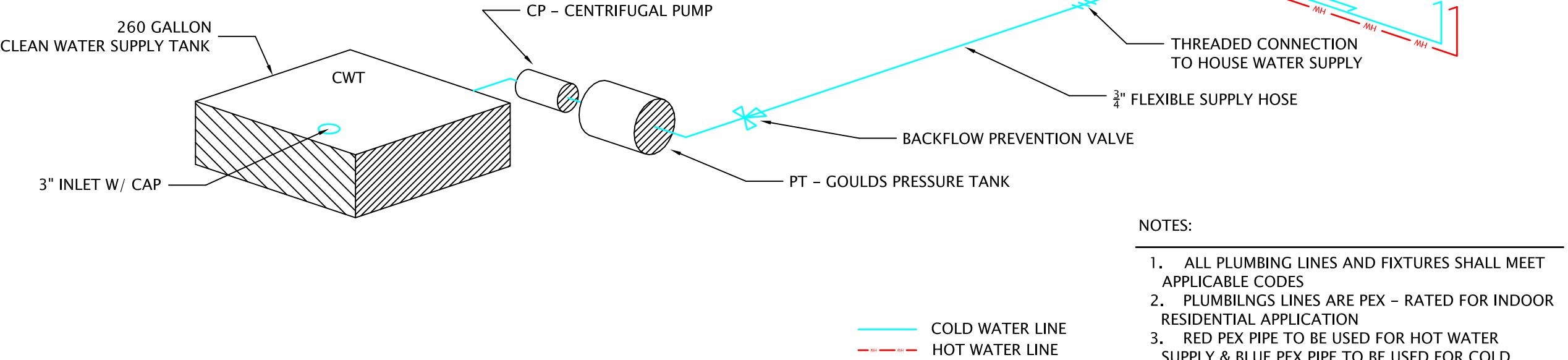
OT PLUMBING PLAN
SCALE: $\frac{3}{16}" = 1'-0"$

0' 1' 2' 4' 8'



Plumbing Equipment Schedule

Symbol	Equipment Description	Pipe Connections						Remarks
		Inlet	Outlet	CW Supply Pipe	HW Supply Pipe	CW Discharge Pipe	HW Discharge Pipe	
CWT	260 Gallon Cleanwater Rectangular Tank			-	-	1"	-	
GWT	350 Gallon Graywater Rectangular Tank	3"		-	-	-	-	
CP	Goulds HSC10 Centrifugal Pump	1 1/4"	1"	1 1/4"	-	1"	-	
PT	Goulds V45P 14-Gallon Pressure Tank	1"	1"	1"	-	3/4"	-	
WH	Richmond Water Heater 6EP20 - 1	3/4"	3/4"	3/4"	-	-	3/4"	
MXB	Vanguard Manablock 1/2" Manifold	3/4"	1/2"	3/4"	3/4"	1/2"	1/2"	
Notes:								

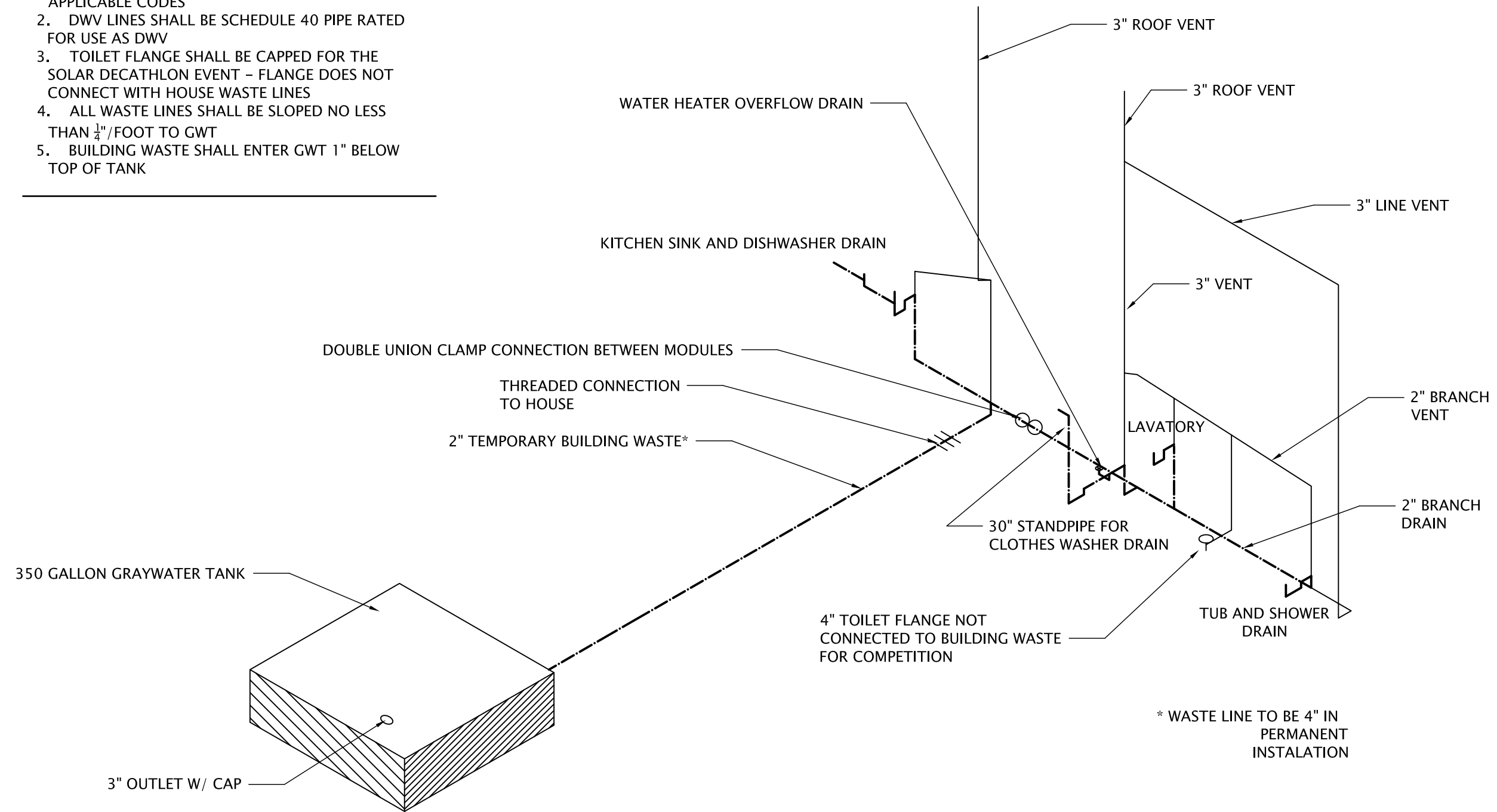


- NOTES:
1. ALL PLUMBING LINES AND FIXTURES SHALL MEET APPLICABLE CODES
 2. PLUMBILNGS LINES ARE PEX - RATED FOR INDOOR RESIDENTIAL APPLICATION
 3. RED PEX PIPE TO BE USED FOR HOT WATER SUPPLY & BLUE PEX PIPE TO BE USED FOR COLD WATER SUPPLY

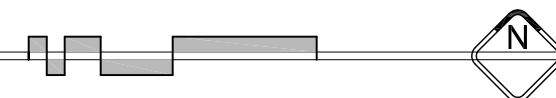


NOTES:

1. ALL PLUMBING WASTE LINES SHALL MEET APPLICABLE CODES
2. DWV LINES SHALL BE SCHEDULE 40 PIPE RATED FOR USE AS DWV
3. TOILET FLANGE SHALL BE CAPPED FOR THE SOLAR DECATHLON EVENT - FLANGE DOES NOT CONNECT WITH HOUSE WASTE LINES
4. ALL WASTE LINES SHALL BE SLOPED NO LESS THAN $\frac{1}{4}$ "/FOOT TO GWT
5. BUILDING WASTE SHALL ENTER GWT 1" BELOW TOP OF TANK








OT PLUMBING WASTE ISOMETRIC
SCALE: NTS

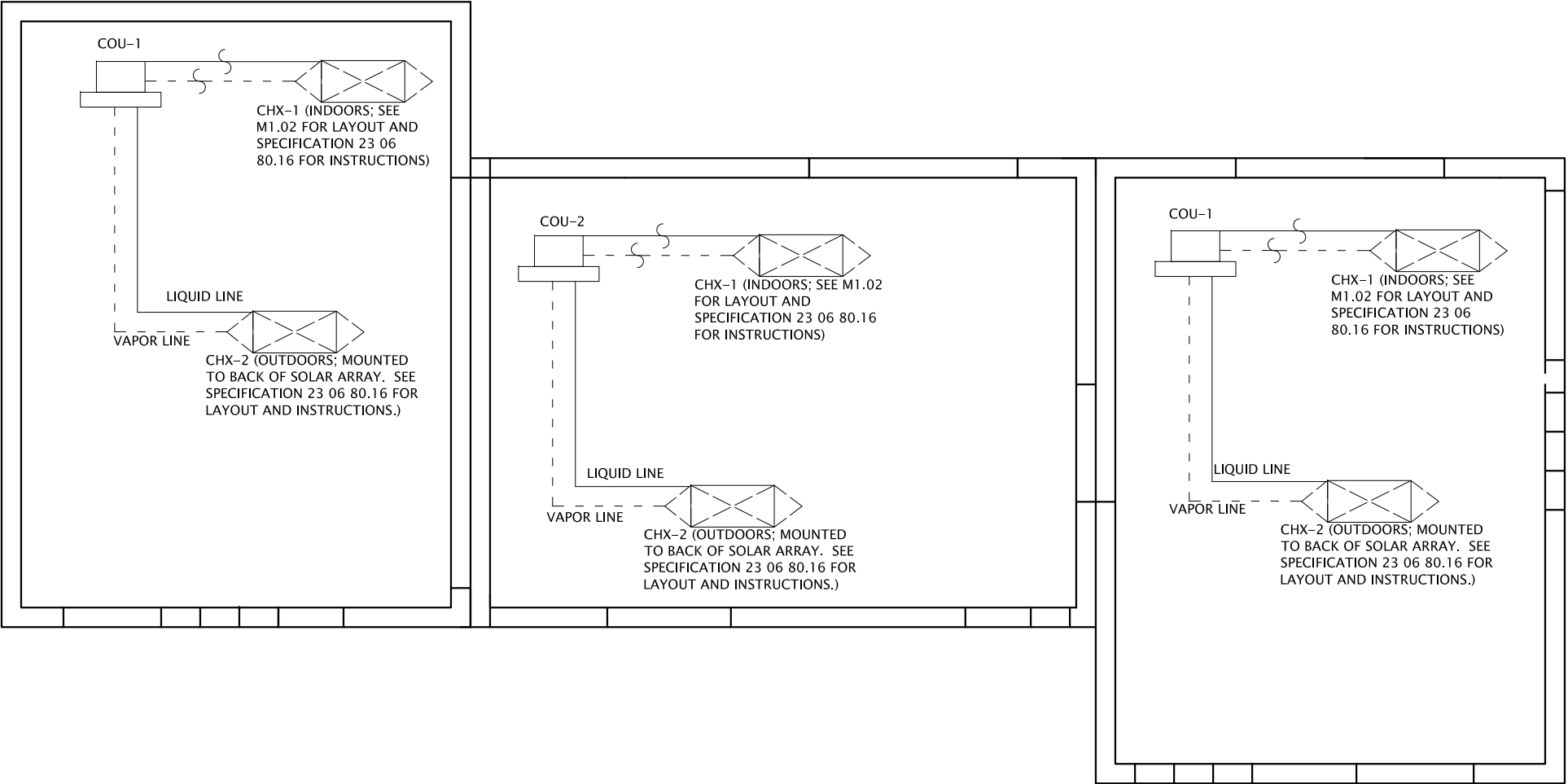


DATE:	08-05-2007
SCALE:	NTS
DRAWN BY:	JW
CHECKED BY:	NW
MODIFIED BY:	NW, FX

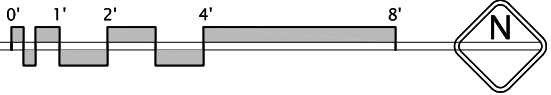
P1.03

WASTE ISOMETRIC

COMFORT CONDITIONING LEGEND	
	R-22 LIQUID LINE (COOLING MODE); SEE SPECIFICATION 23 06 20
	R-22 VAPOR LINE (COOLING MODE); SEE SPECIFICATION 23 06 20
	WIRE AND TUBE HEAT EXCHANGER (WTX) CLUSTER. SEE SPECIFICATION 23 06 80.16 FOR DETAILS.
	REFRIGERANT LINE PASSING THROUGH ROOF: SEE M1.02 FOR APPROPRIATE PUNCTURE LOCATION.
	CUSTOM OUTDOOR UNIT (COU); SEE SPECIFICATION 23 06 80.13.



01 HEAT PUMP/AC
SCALE: $\frac{1}{4}" = 1'-0"$

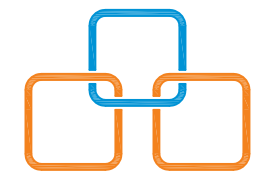


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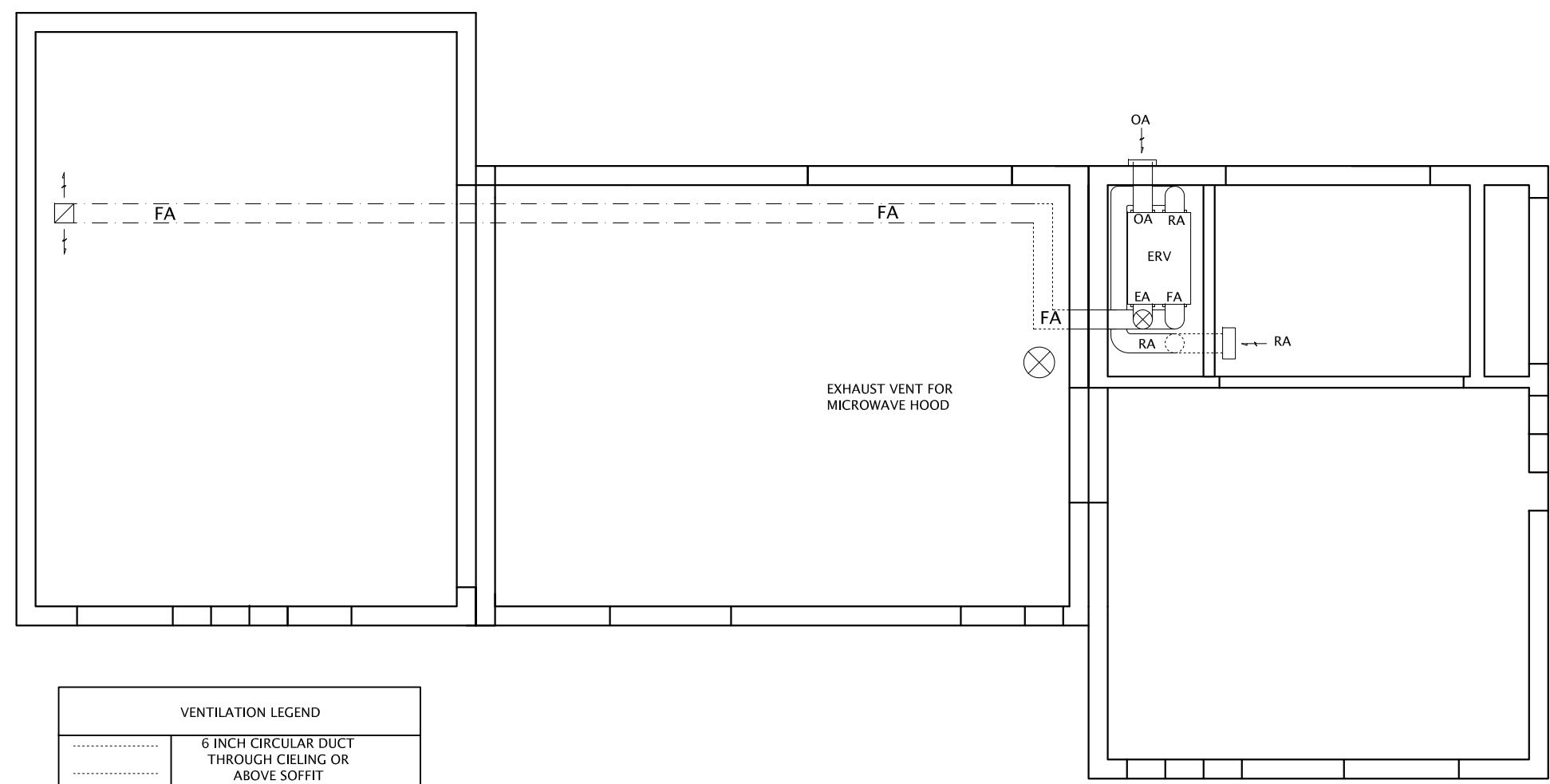
DATE: 08-05-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: BPB
CHECKED BY: JW NW
MODIFIED BY: NW, FX

M1.01
HEAT PUMP/AC



DATE: 08-05-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: BPB
CHECKED BY: JW
MODIFIED BY: NW, FX

M1.02
VENTILATION PLAN



VENTILATION LEGEND	
	6 INCH CIRCULAR DUCT THROUGH CIELING OR ABOVE SOFFIT
	3 x 10 INCH DUCT IN JOISTS; FOAMED OVER
	6 INCH CIRCULAR DUCT; EXPOSED
	EXHAUST THROUGH ROOF
ERV	TRANE MODEL ERVR100A9P00A

01 VENTILATION PLAN
SCALE: $\frac{1}{4}" = 1'-0"$



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DATE: 08-05-2007
SCALE: $\frac{1}{4}" = 1'-0"$
DRAWN BY: BPB
CHECKED BY: JW
MODIFIED BY: NW, FX

M1.03

HX LAYOUT

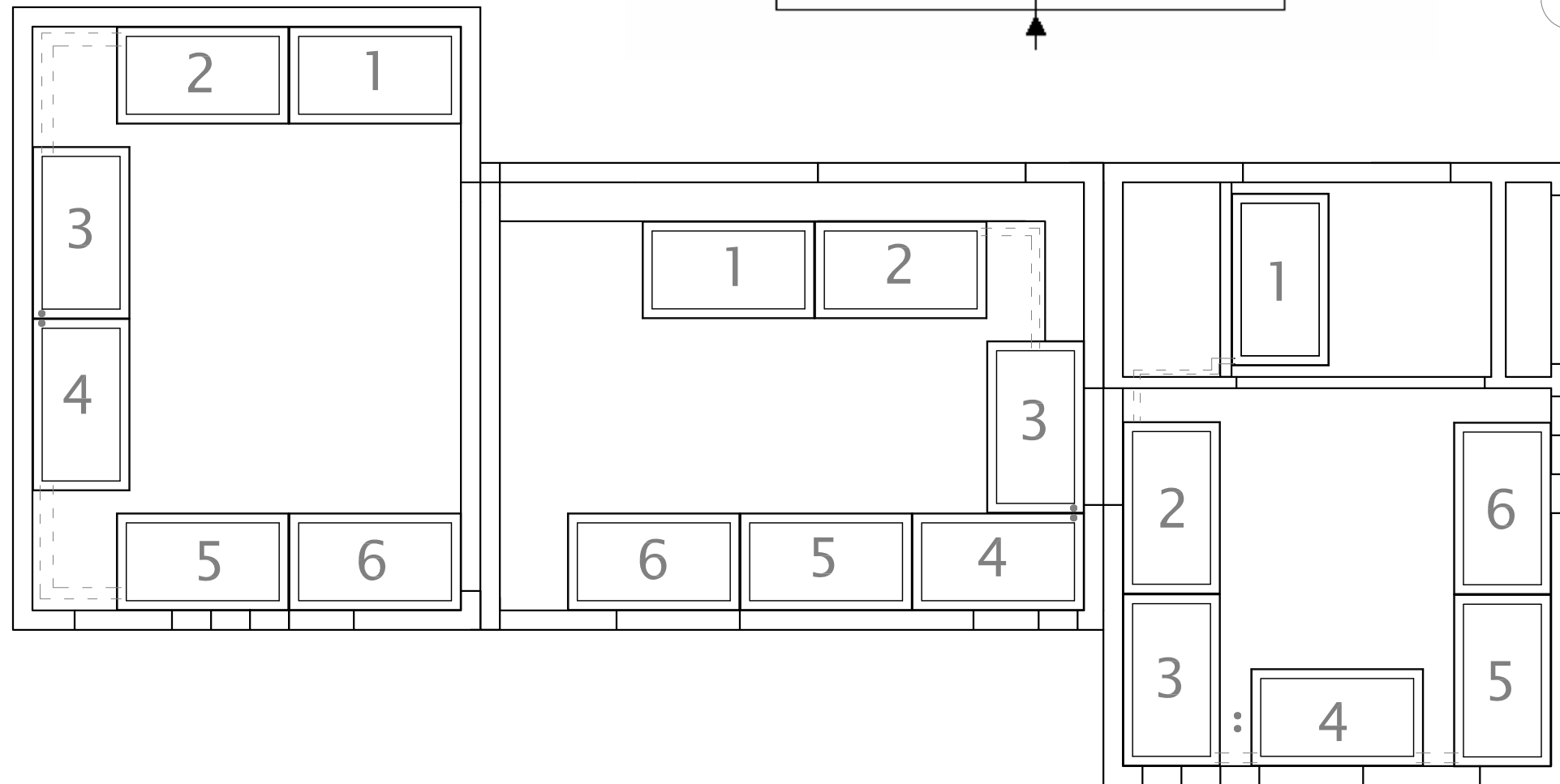
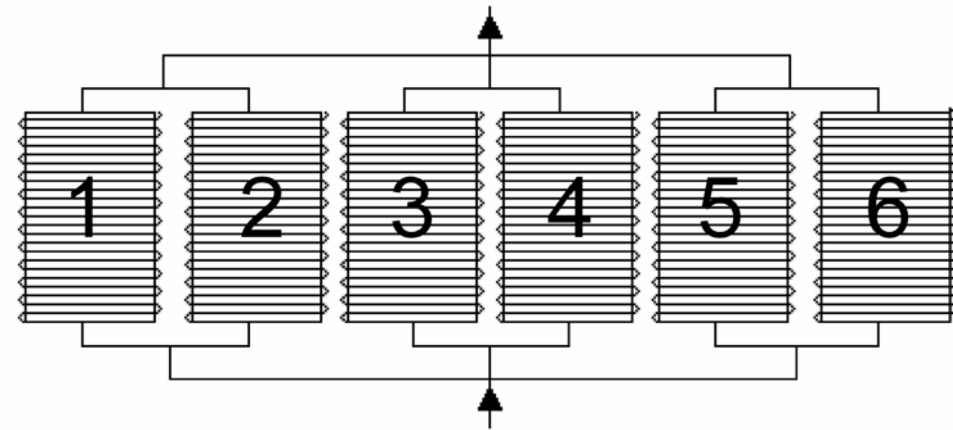
NOTE:

1. WIRE-AND-TUBE HEAT EXCHANGER PANELS INSTALLED ACCORDING TO THIS REFRIGERANT CIRCUIT DIAGRAM (SEE DETAILED INSTALLATION INSTRUCTION IN SPEC. 23 06 50.16).

2. ALL PIPING TO HEAT EXCHANGERS MOUNTED ALONG WALLS OF ROOM, CONCEALED BY HEAT EXCHANGER FRAMES (DETAILED ON A5-02 THROUGH A5-04). WHERE THERE IS NO HEAT EXCHANGER FRAME, ROUTES INDICATED BY DOTTED LINES WILL BE FOLLOWED.

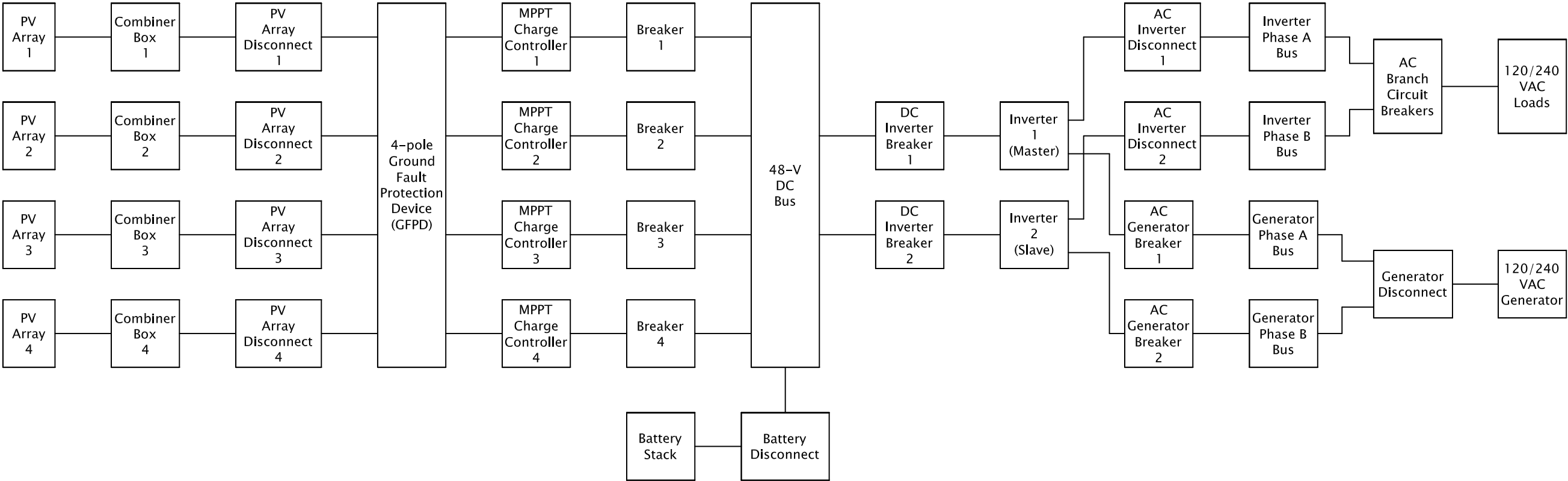
3. BOTH REFRIGERANT LINES ARE INSULATED.

4. REFRIGERANT LINES WILL PUNCTURE ROOF AT LOCATIONS INDICATED BY SOLID CIRCLES BETWEEN PANELS 3 AND 4.

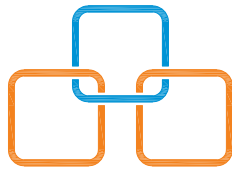


REFLECTED CEILING PLAN
SCALE: $\frac{1}{4}" = 1'-0"$





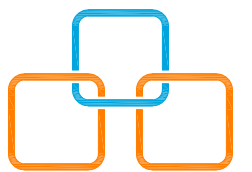
NOTE: PLEASE REFER TO E1.03 FOR MORE DETAILS.



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DATE: 08-05-2007

SCALE: $\frac{1}{4}" = 1'-0"$

DRAWN BY: TE

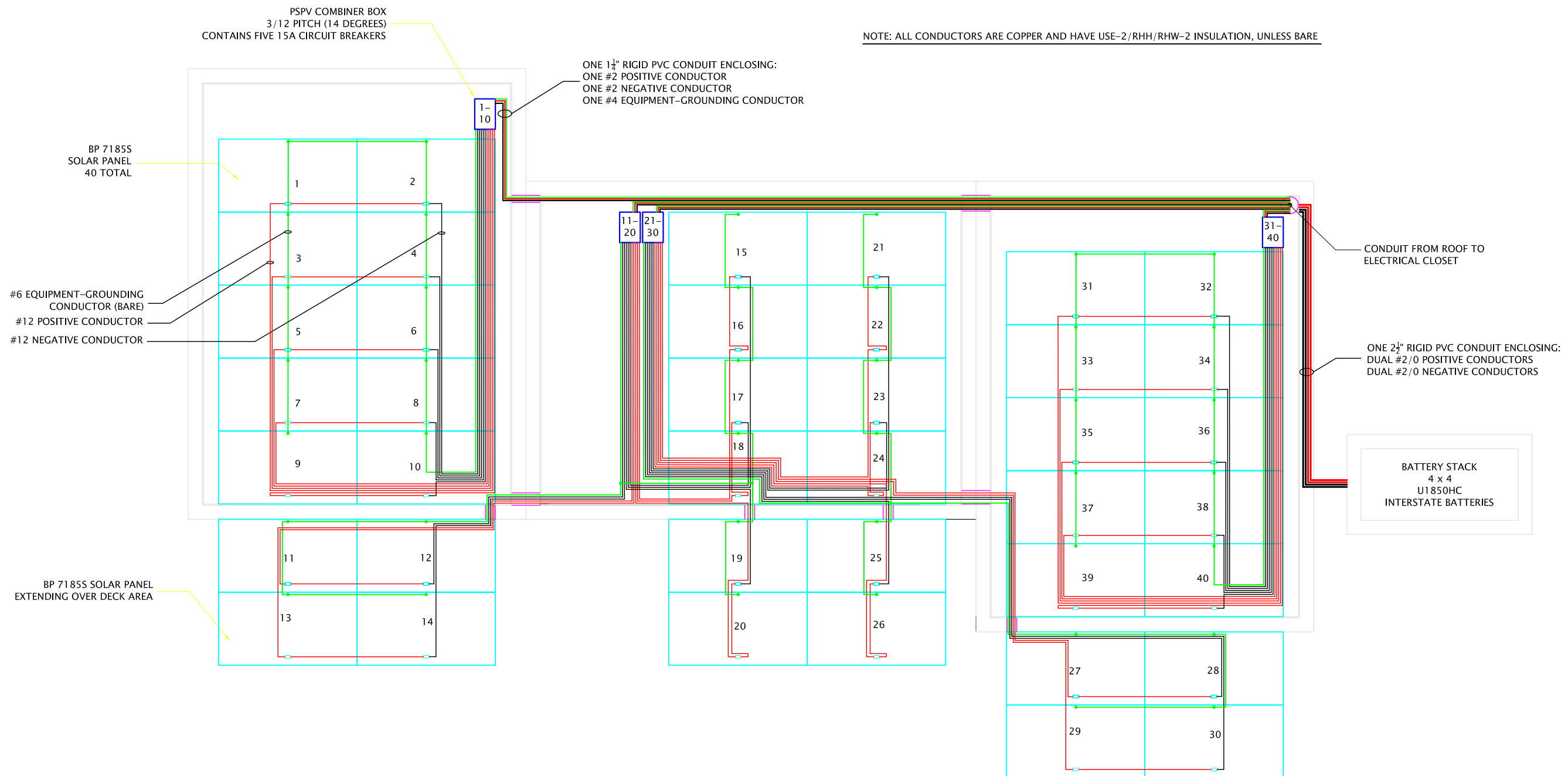
CHECKED BY:

MODIFIED BY: NW, FX

E1.02

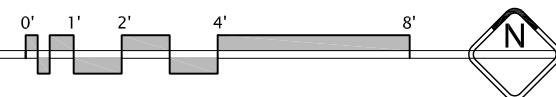
EXTERIOR WIRING

NOTE: ALL CONDUCTORS ARE COPPER AND HAVE USE-2/RHH/RHW-2 INSULATION, UNLESS BARE



NOTE: PLEASE SEE SPECIFICATIONS DOCUMENT FOR MORE DATA ABOUT ALL THE COMPONENTS.

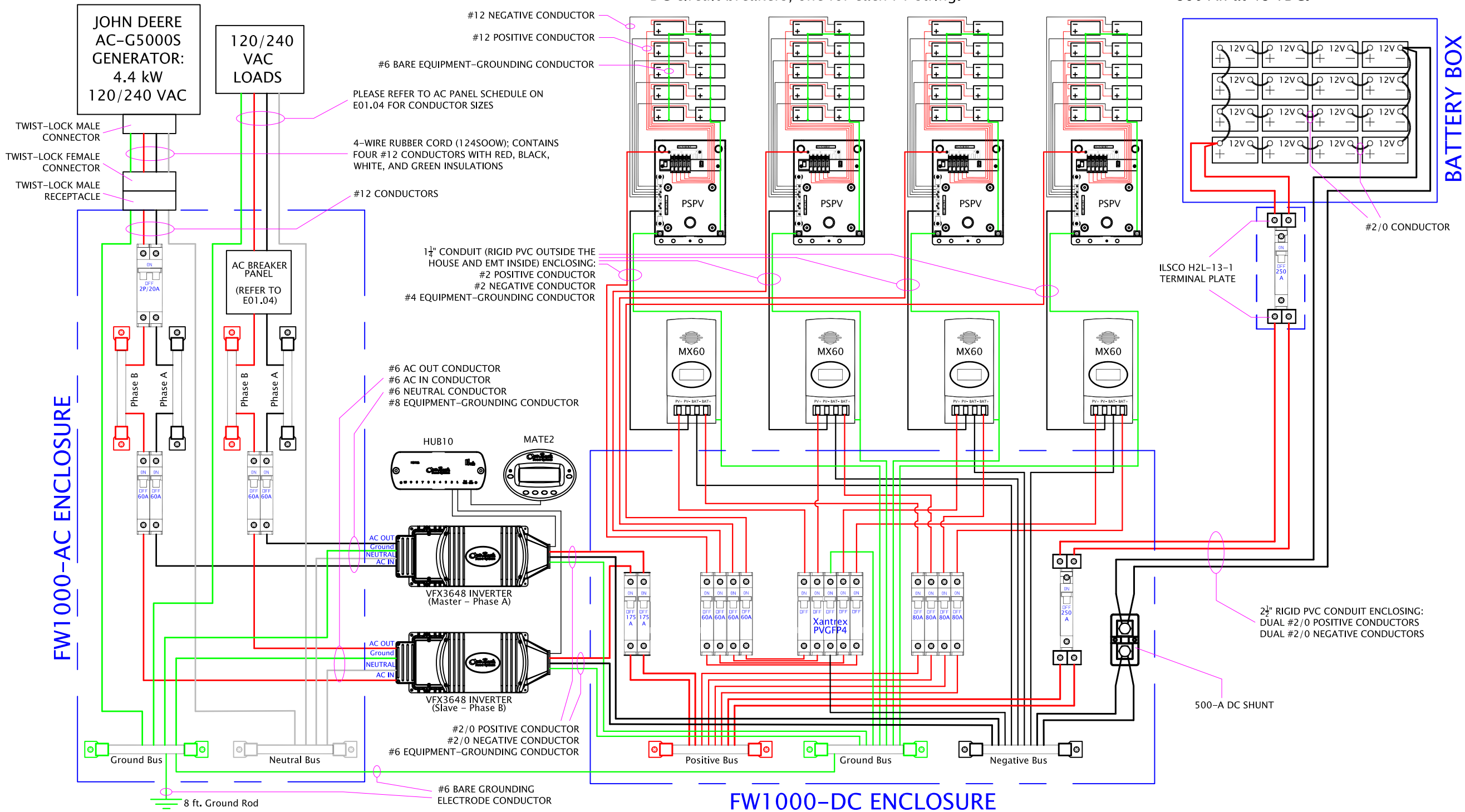
01 EXTERIOR WIRING
SCALE: $\frac{1}{4}" = 1'-0"$



NOTE: all conductors are copper and have USE-2/
RHH/RHW-2 insulation, unless otherwise stated.

4 PV arrays, each consisting of 5 parallel strings of 2 BP Solar BP
7185S modules in series. Each PSPV Combiner contains five 15-A
DC circuit breakers, one for each PV string.

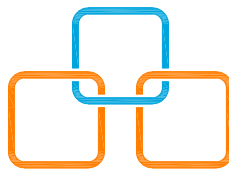
Sixteen Interstate Batteries U1850HC,
215 Ah at 12 VDC, interconnected for
860 Ah at 48 VDC.



NOTE: PLEASE REFER TO SPECIFICATIONS DOCUMENT FOR CODE CALCULATIONS AND MORE DATA ABOUT ALL THE COMPONENTS.

OT POWER SUPPLY
SCALE: NTS

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DATE: 08-05-2007

SCALE: NTS

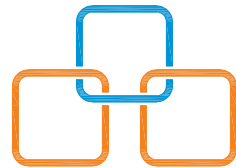
DRAWN BY: TE

CHECKED BY: --

MODIFIED BY: NW, FX

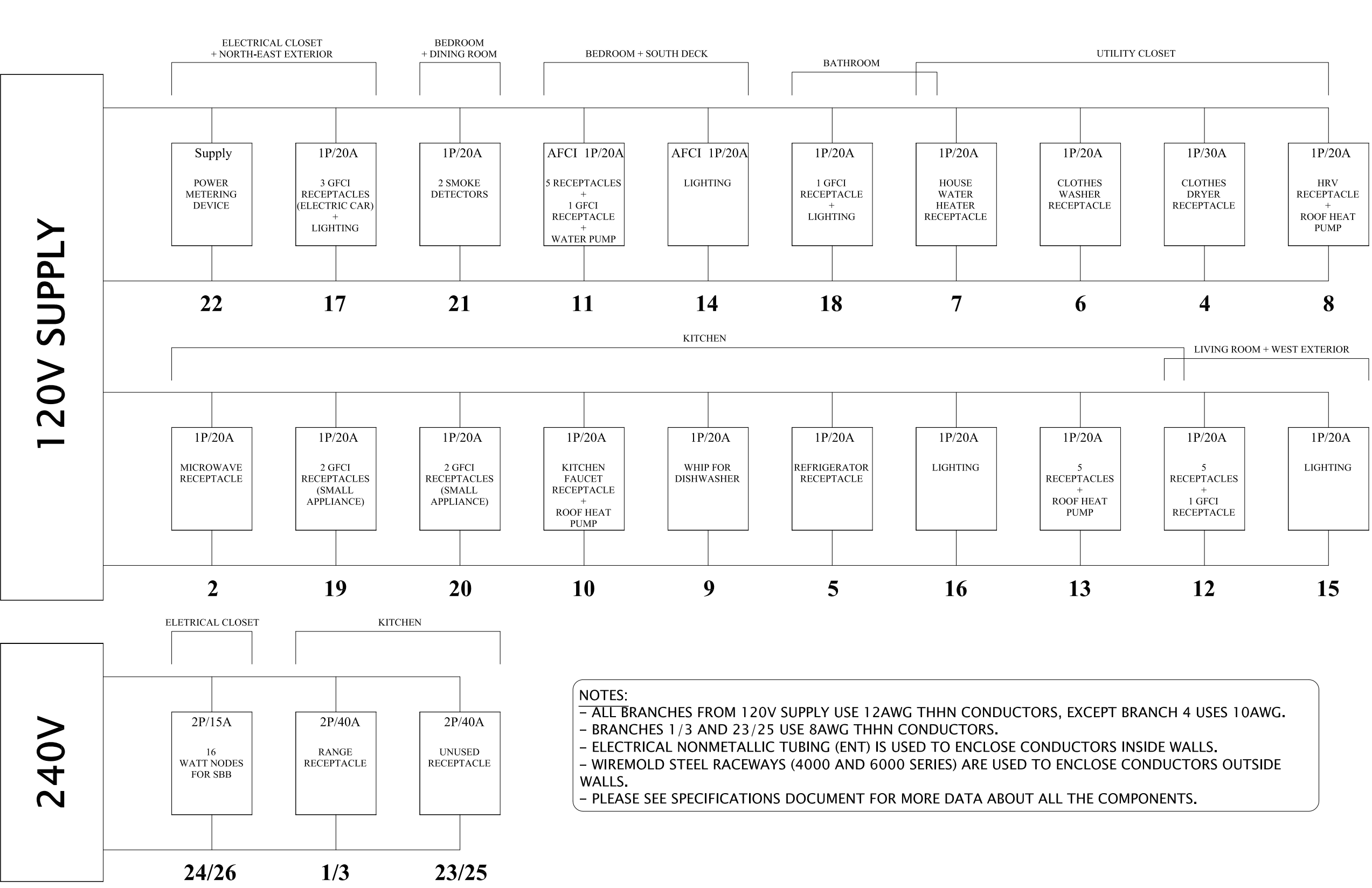
E1.03

POWER SUPPLY



DATE:	08-05-2007
SCALE:	NTS
DRAWN BY:	TE
CHECKED BY:	--
MODIFIED BY:	NW, FX

PANEL SCHEDULE											
LOCATION: ELECTRICAL CLOSET											
CHARACTERISTICS: 120/240V 1 PHASE, 3 WIRE											
MOUNTING: SURFACE											
AWG	VA	LOAD	C/B		A	B		C/B	LOAD	VA	AWG
8	1200	RANGE	2P/ 40A	1	●		2	1P/ 20A	MICROWAVE	1000	12
8	1200			3		●	4	1P/ 30A	CLOTHES DRYER	3000	10
12	117	REFRIGERATOR/FREEZER	1P/ 20A	5	●		6	1P/ 20A	CLOTHES WASHER	1093	12
12	923	HOUSE WATER HEATER	1P/ 20A	7		●	8	1P/ 20A	HRV + ROOF HEAT PUMP	1100	12
12	923	DISHWASHER	1P/ 20A	9	●		10	1P/ 20A	KITCHEN FAUCET + ROOF HEAT PUMP	1000	12
12	745	WATER PUMP	1P/ 20A	11		●	12	1P/ 20A	TV + COMPUTER + DEHUMIDIFIER	1000	12
12	1000	ROOF HEAT PUMP	1P/ 20A	13	●		14	1P/ 20A	BEDROOM LIGHTING	100	12
12	200	LIVING ROOM LIGHTING	1P/ 20A	15		●	16	1P/ 20A	KITCHEN LIGHTING	180	12
12	1800	ELECTRIC CAR	1P/ 20A	17	●		18	1P/ 20A	BATHROOM LIGHTING	35	12
12	0	SMALL APPLIANCES RECEPTACLES	1P/ 20A	19		●	20	1P/ 20A	SMALL APPLIANCES RECEPTACLES	0	12
12	20	SMOKE DETECTORS	1P/ 20A	21	●		22	--	CS POWER METERING DEVICE	18	12
8	0	UNUSED KITCHEN RECEPTACLE	2P/ 40A	23	●	●	24	2P/ 15A	SBB: SIXTEEN WATT NODES	8	12
8	0			25	●		26			8	12
				27	●		28				
				29		●	30				
				31	●		32				
PHASE BALANCE: A~ = 8314 VA B~ = 8356 VA											



NOTES:
- ALL BRANCHES FROM 120V SUPPLY USE 12AWG THHN CONDUCTORS, EXCEPT BRANCH 4 USES 10AWG.
- BRANCHES 1/3 AND 23/25 USE 8AWG THHN CONDUCTORS.
- ELECTRICAL NONMETALLIC TUBING (ENT) IS USED TO ENCLOSE CONDUCTORS INSIDE WALLS.
- WIREMOLD STEEL RACEWAYS (4000 AND 6000 SERIES) ARE USED TO ENCLOSE CONDUCTORS OUTSIDE WALLS.
- PLEASE SEE SPECIFICATIONS DOCUMENT FOR MORE DATA ABOUT ALL THE COMPONENTS.

SOLAR DECATHLON COMPETITION 2007

UNIVERSITY OF ILLINOIS

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DATE: 08-05-2007

SCALE: NTS

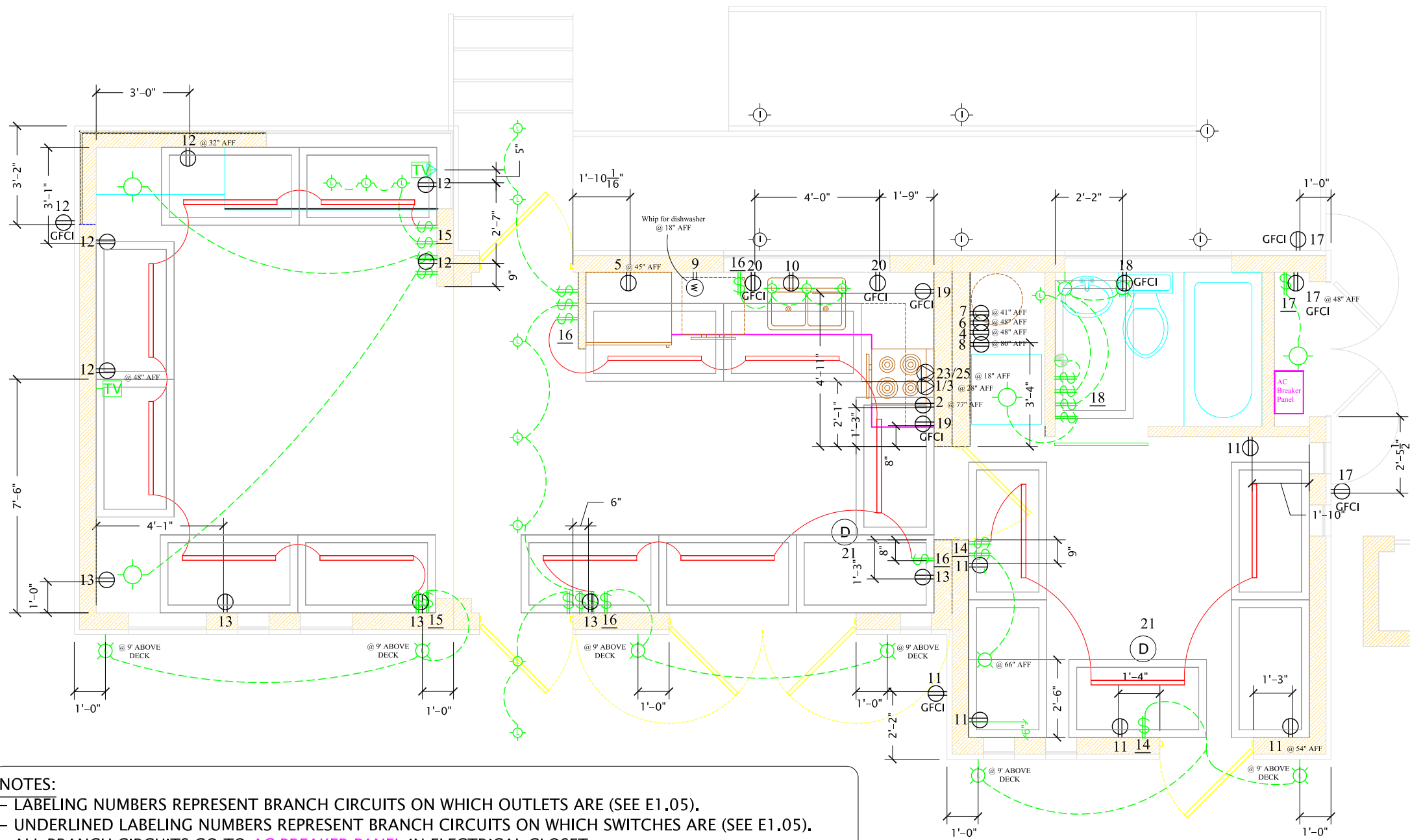
DRAWN BY: TE

CHECKED BY: --

MODIFIED BY: NW, FX

E1.05

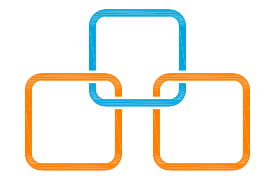
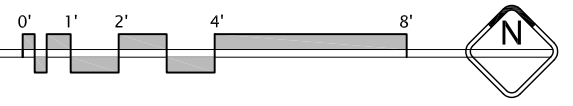
BRANCH CIRCUITS



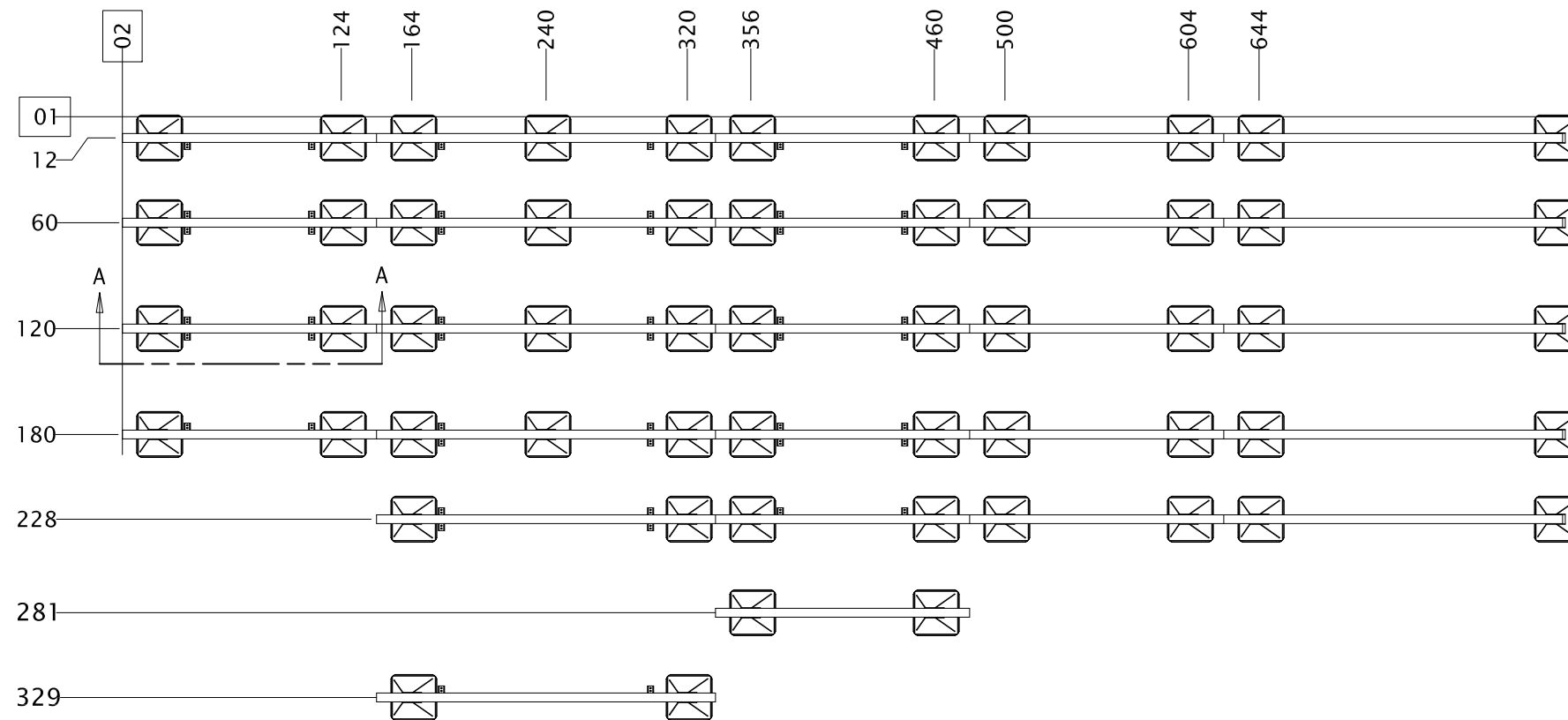
ELECTRICAL SYMBOLS	
	WALL-MOUNTED LIGHT
	CEILING / PENDANT LIGHT
	WALL-MOUNTED LED LIGHT
	CEILING LED LIGHT
	TUBE LIGHT
	SWITCH @ 48" A.F.F.
	120V DUPLEX RECEPTACLE
	120V GFCI DUPLEX RECEPT.
	240V RECEPTACLE
	TELEPHONE JACK
	CAT 5 CABLE JACK
	SMOKE DETECTOR
	CEILING FAN, VENT TO EXT.
	INDEPENDENT-SOURCE LIGHT
	WHIP FOR HD WIRED CONCT.

- NOTES:
- LABELING NUMBERS REPRESENT BRANCH CIRCUITS ON WHICH OUTLETS ARE (SEE E1.05).
 - UNDERLINED LABELING NUMBERS REPRESENT BRANCH CIRCUITS ON WHICH SWITCHES ARE (SEE E1.05).
 - ALL BRANCH CIRCUITS GO TO **AC BREAKER PANEL** IN ELECTRICAL CLOSET.
 - ALL BEDROOM OUTLETS AND LIGHTS ARE PROTECTED BY AFCI BREAKERS.
 - ALL OUTLET RECEPTACLES ARE AT 18" A.F.F., UNLESS MARKED OTHERWISE.
 - KITCHEN COUNTERTOP OUTLET RECEPTACLES ARE AT 45" A.F.F., I.E. 9" ABOVE A 36"-HIGH COUNTERTOP.
 - INDEPENDENT-SOURCE LIGHTS CAN BE BATTERY- OR SOLAR-POWERED (TOTAL ENERGY CAPACITY < 200 WH).
 - PLEASE SEE SPECIFICATIONS DOCUMENT FOR MORE DATA ABOUT ALL THE COMPONENTS.

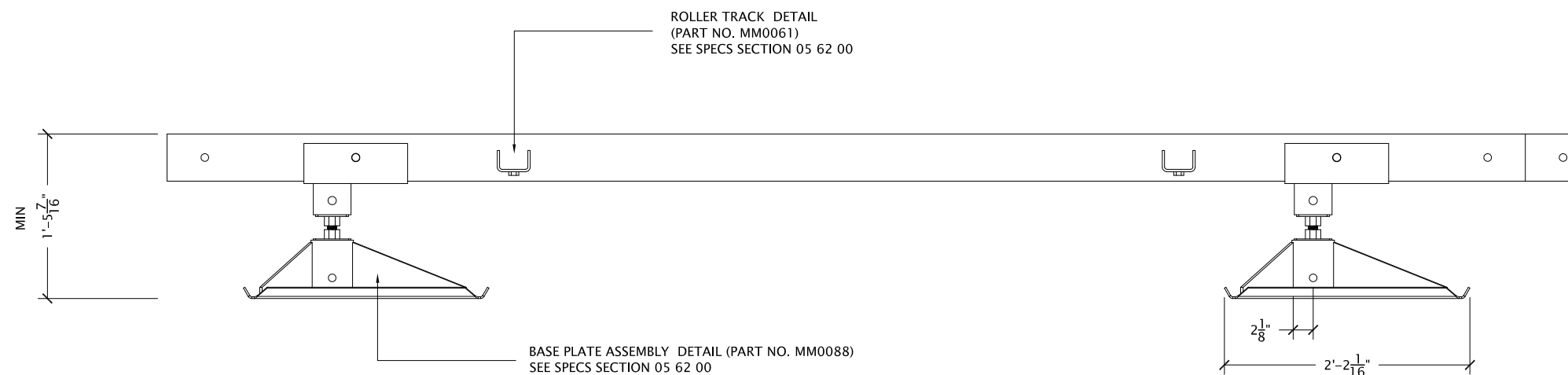
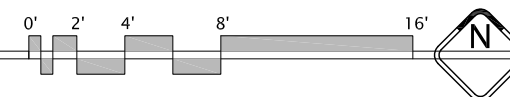
01 ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



DATE:	08-05-2007
SCALE:	1/4" = 1'-0"
DRAWN BY:	JJS,TE,NW,CM
CHECKED BY:	--
MODIFIED BY:	NW, FX



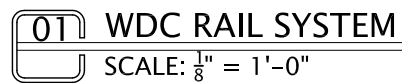
01 WDC RAIL SYSTEM
SCALE: $\frac{1}{8}" = 1'-0"$



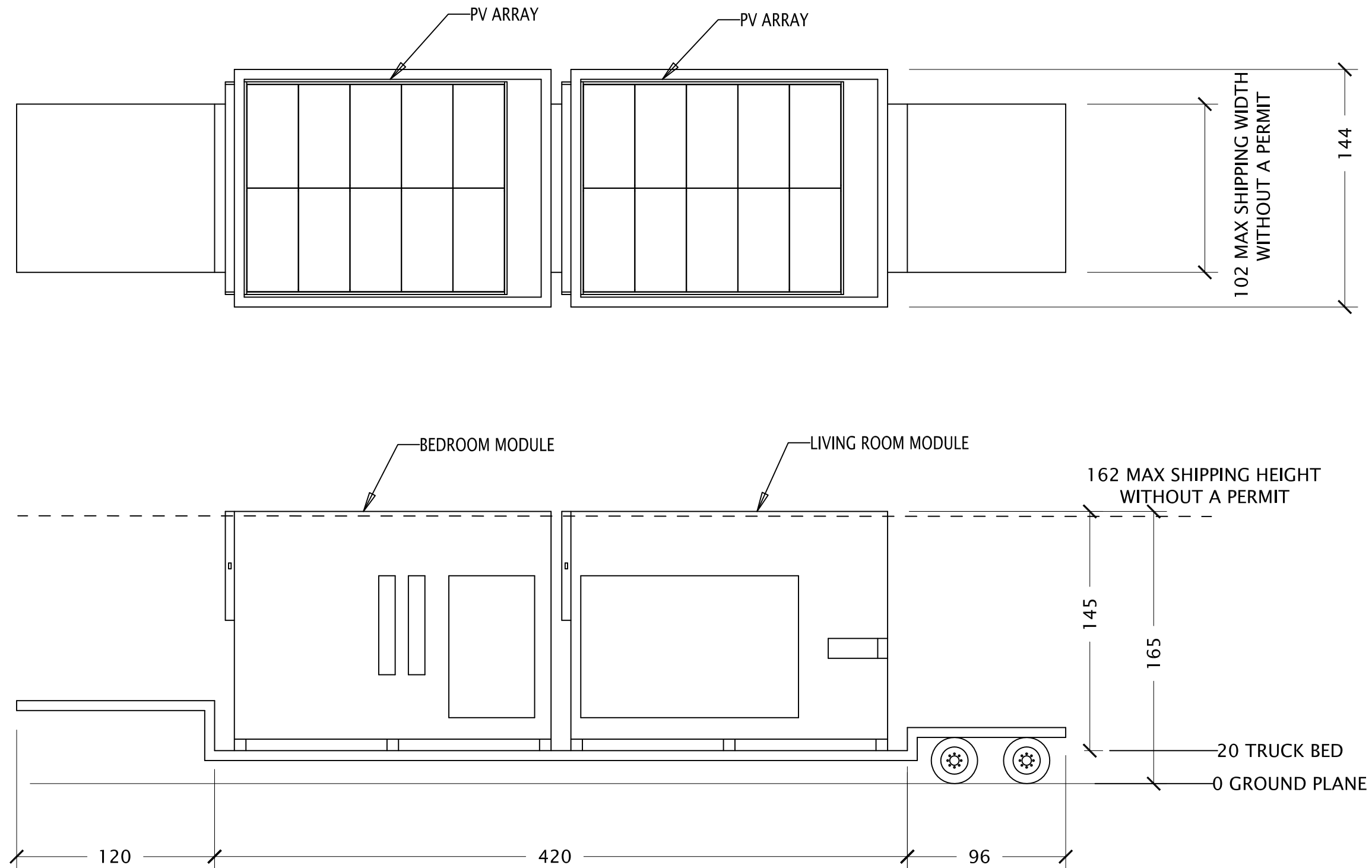
02 SECTION A-A
SCALE: $\frac{3}{4}" = 1'-0"$



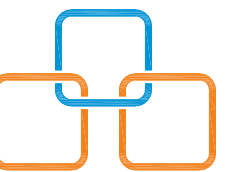
DATE:	08-05-2007
SCALE:	VARIES
DRAWN BY:	BK, DC, ES
CHECKED BY:	
MODIFIED BY:	NW, FX



T1.02
RAIL LAYOUT



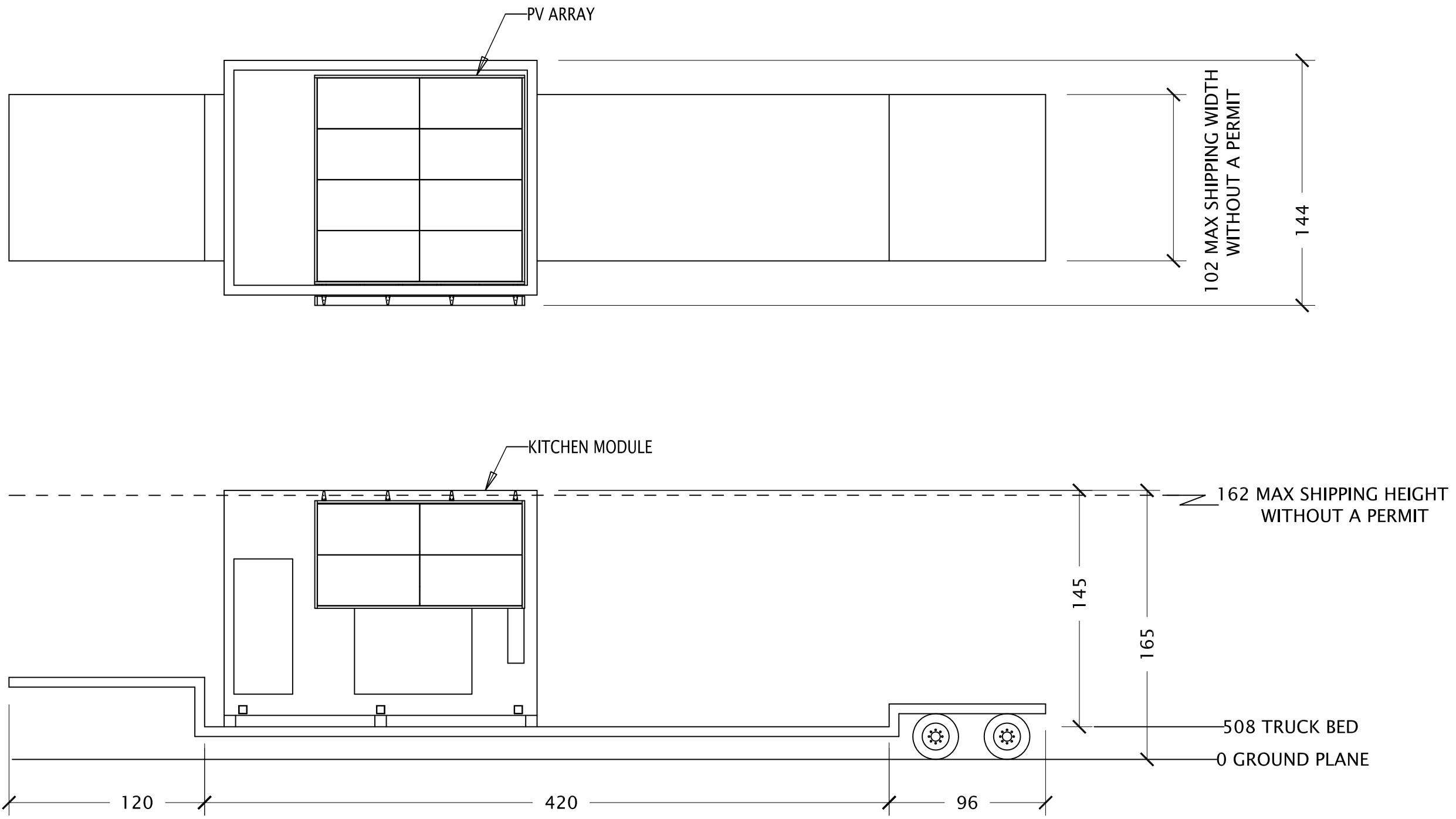
01 SHIPPING TRUCK 1
SCALE: NTS



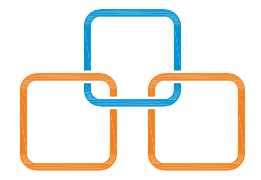
DATE:	08-05-2007
SCALE:	NTS
DRAWN BY:	BK, DC, ES
CHECKED BY:	
MODIFIED BY:	NW, FX

T2.01

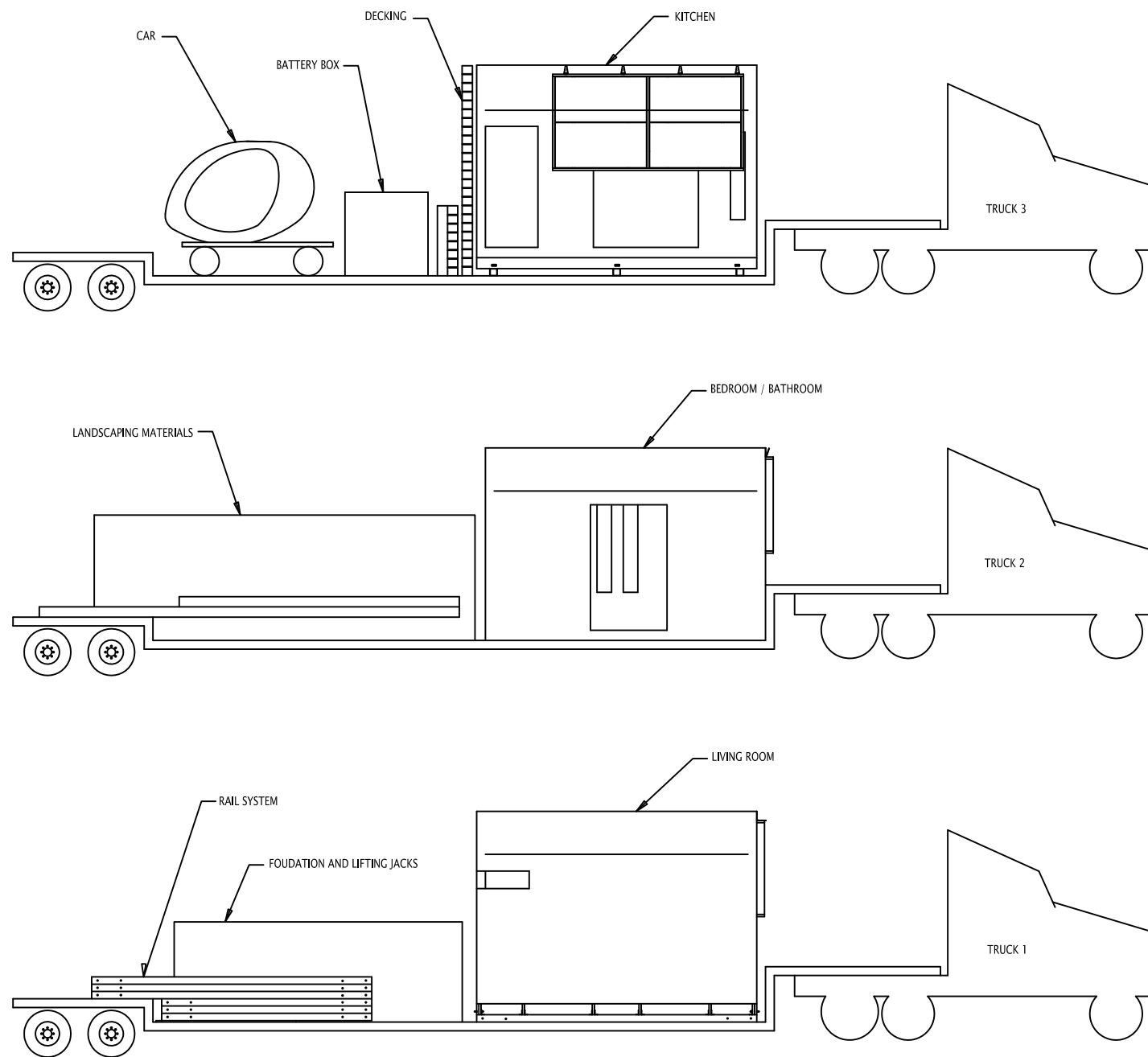
TRUCK 1



01 SHIPPING TRUCK 2
SCALE: NTS



DATE:	08-05-2007
SCALE:	NTS
DRAWN BY:	BK, DC, ES
CHECKED BY:	
MODIFIED BY:	NW, FX



01 TRUCK LAYOUT
SCALE: N.T.S.

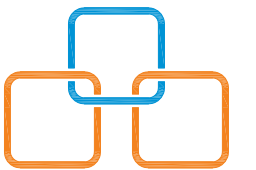
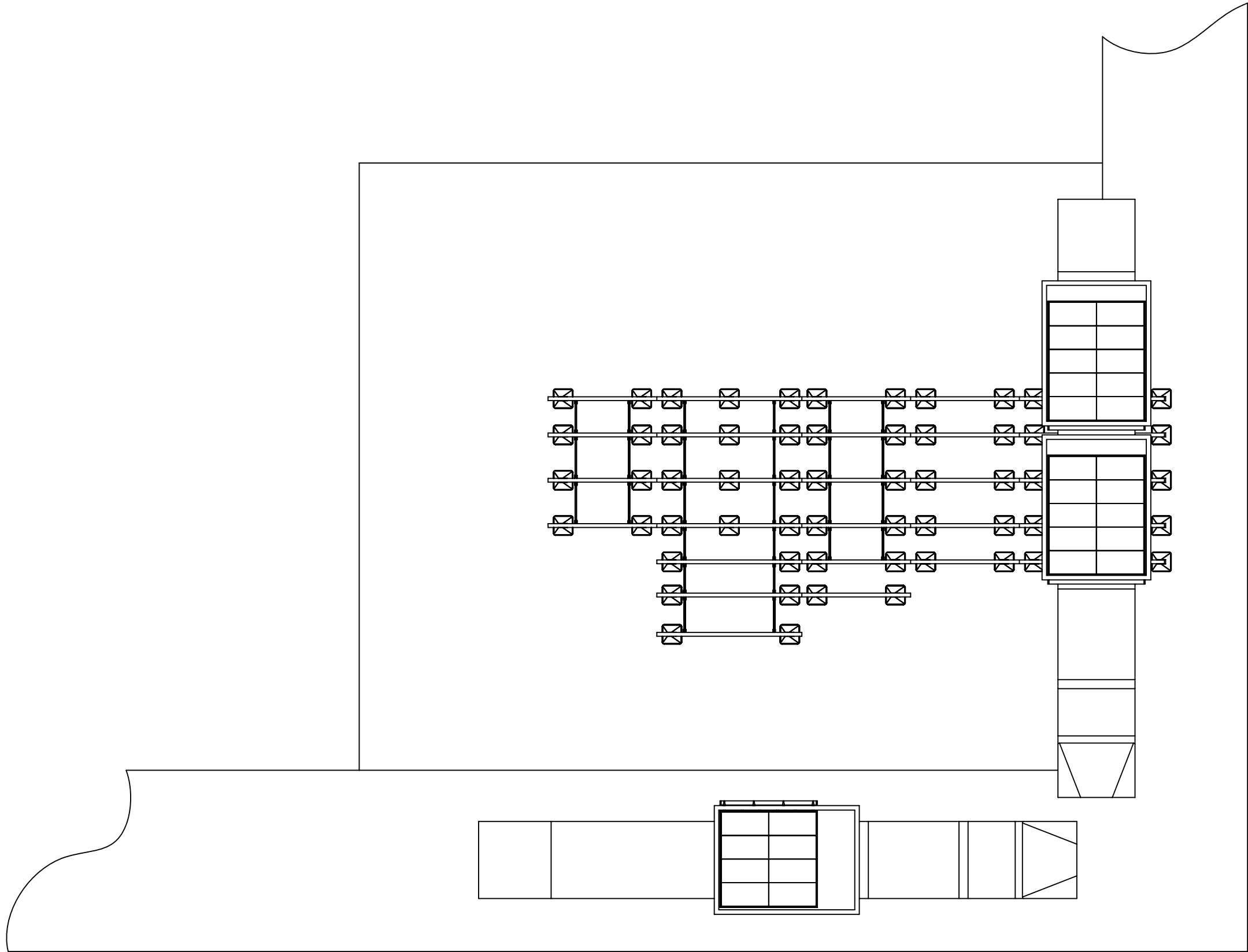


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DATE:	08-05-2007
SCALE:	NTS
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CHECKED BY:	NW
MODIFIED BY:	NW, FX

T2.03

TRUCK LAYOUT



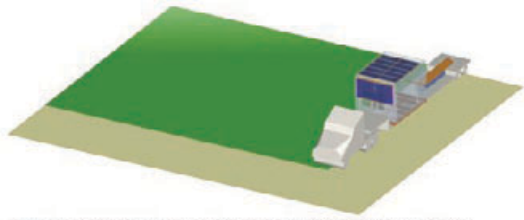
SOLAR DECATHLON COMPETITION 2007
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DATE:	08-05-2007
SCALE:	NTS
DRAWN BY:	BK, DC, ES
CHECKED BY:	
MODIFIED BY:	NW, FX

T2.04

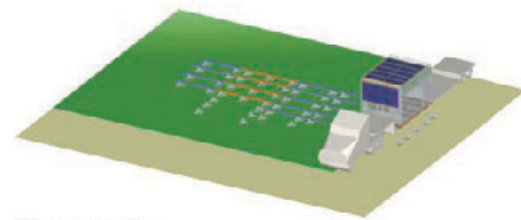
SITE OPS

0.0 Hour



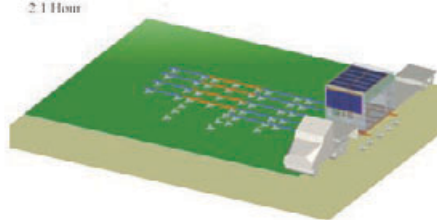
Truck 1 contents: living room module, foundation rail system

2.0 Hour

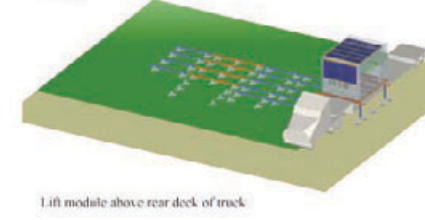


Deploy rail system

2.1 Hour

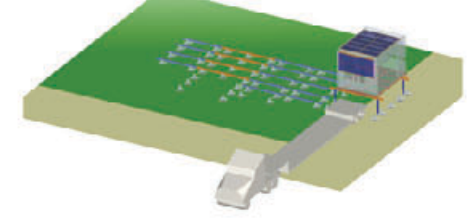


2.3 Hour

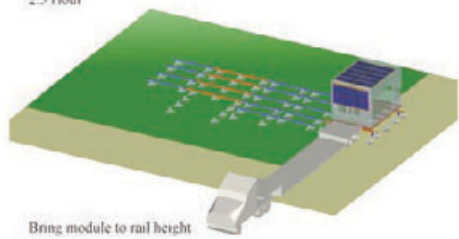


Lift module above rear deck of truck

2.4 Hour

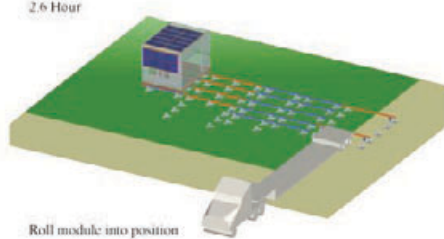


2.5 Hour



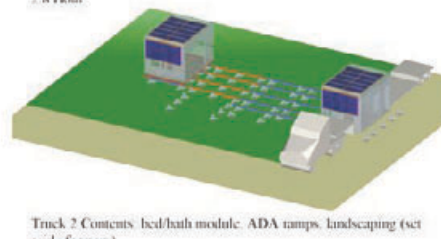
Bring module to rail height

2.6 Hour



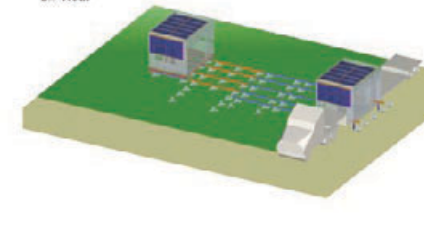
Roll module into position

2.8 Hour

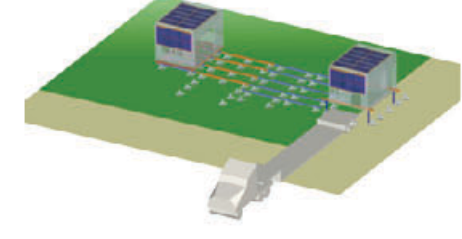


Truck 2 Contents: bed/bath module, ADA ramps, landscaping (set aside for now)

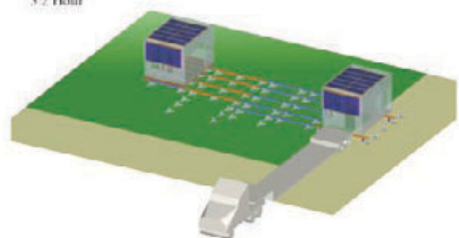
2.9 Hour



3.1 Hour

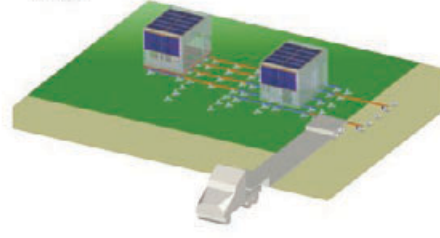


3.2 Hour



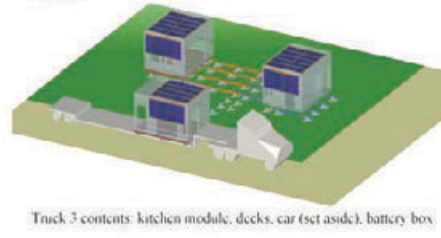
Lower onto E-W rail system

3.3 Hour



Redeploy rails to support deck

3.5 Hour



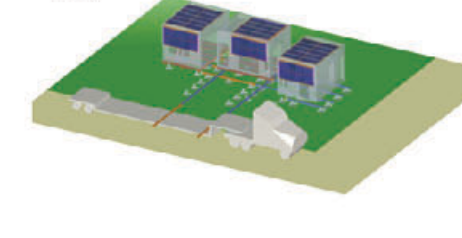
Truck 3 contents: kitchen module, decks, car (set aside), battery box

4.2 Hour

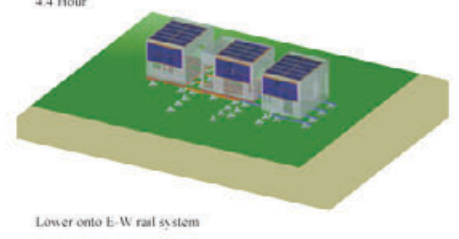


Redeploy rail system to bring kitchen in from south

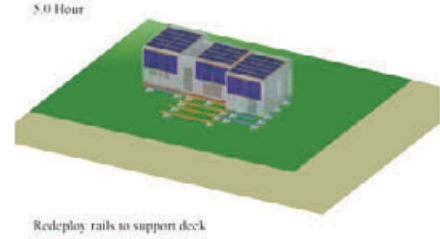
4.3 Hour



4.4 Hour

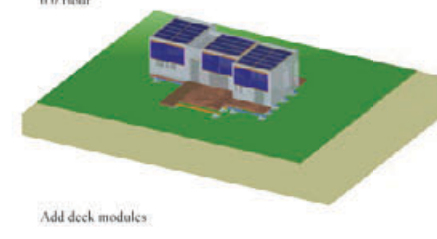


5.0 Hour



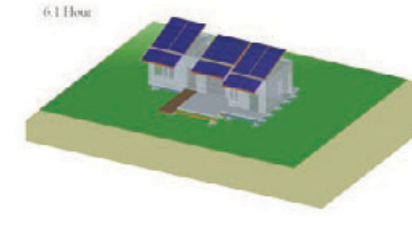
Redeploy rails to support deck

6.0 Hour

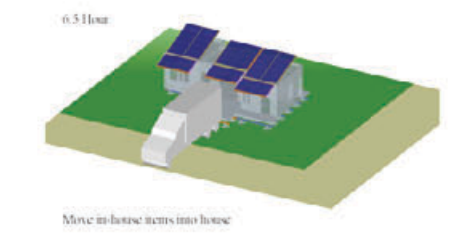


Add deck modules

6.1 Hour



6.5 Hour



Move in-house items into house



DATE: 08-05-2007

SCALE: NTS

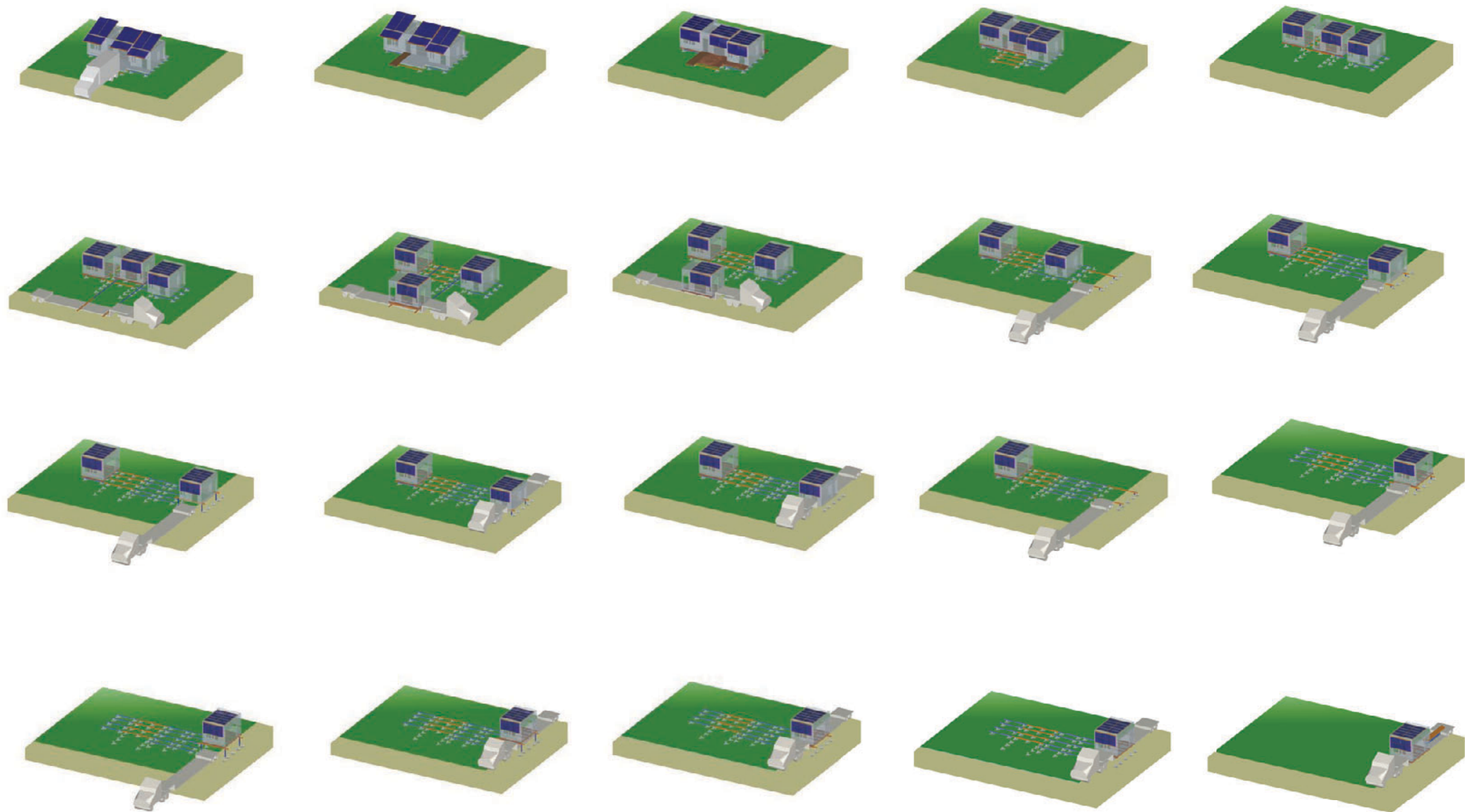
DRAWN BY: BK, DC, ES

CHECKED BY:

MODIFIED BY: NW, FX

T2.05

ASSEMBLY



NOTE: DISASSEMBLY IS A REVERSE PROCESS OF ASSEMBLY



DATE: 08-05-2007

SCALE: NTS

DRAWN BY: BK, DC, ES

CHECKED BY:

MODIFIED BY: NW, FX