

# MIT SOLAR 7 2007 SOLAR DECATHLON



MISSION STATEMENT

THE MIT SOLAR 7 HOUSE IS DESIGNED FOR COMMUNITY INTEGRATION. INCORPORATING A THERMAL-EXCHANGE WALL, INTERACTIVE-INFORMATION WALL AND PV SKIN PROVIDES A RESPONSIVE DWELLING AIMED AT REDUCING THE COMMUNAL ENERGY COST BY METERED BUDGETING OF ITS ENERGY CONSUMPTION AND GENERATION. THE SOUTH FACING THERMAL EXCHANGE WALL SUPPORTS THE OVERHEAD PV PANELS SPANNING A LIVING AREA WHICH OPENS INTO SEVERAL OUTDOOR DECK SPACES, BLURRING THE BOUNDARY BETWEEN THE ENCLOSURE AND COMMUNITY TO MAKE A SMOOTHER TRANSITION FROM THE EXTERNAL ENVIRONMENT TO THE MIT SOLAR 7 HOME.

RELIANCE UPON PASSIVE SOLAR ENERGY STORAGE AND PASSIVE HEATING STRATEGIES DICTATES MUCH OF THE DESIGN. THIS HOUSE HAS BEEN ENGINEERED TO BENEFIT FROM AMBIENT LIGHT MAKING A COMFORTABLE ATMOSPHERE DURING THE DAY. THE SOUTHERN WALL CONTAINS A SECTION OF "WARM LIGHT" BLOCKS, DAMPENING THE THERMAL FLUCTUATIONS AND PROVIDING HEAT THROUGHOUT THE NIGHT. ADDITIONALLY, SOLAR THERMAL EVACUATED CYLINDERS PROVIDE A PASSIVE SOLUTION TO HOT WATER AND RADIANT FLOOR HEATING. THE CONVERSION OF SUNLIGHT TO ELECTRICAL ENERGY RESULTS FROM THE PV PANELS EXTENDING FROM THE SOUTHERN "WARM-LIGHT" WALL, UPWARDS OVER THE WET-MECHANICAL AREA, LIVING ROOM AND KITCHEN AND TERMINATING IN CLERESTORY WINDOWS. SEPARATING THE ENTRANCE, STUDY AND BEDROOM ARE COVERED BY A PARAPET SURROUNDED QUIET HVAC SYSTEM.

THE PHILOSOPHICAL MOTIVATION FOR A PASSIVE STRATEGY IS DRIVEN BY THE POOR EXCHANGE TO ELECTRICAL ENERGY. ONE CRITICAL COMPONENT TO THE SUCCESSFUL PERFORMANCE OF OUR HOUSE IS IN ITS ABILITY TO MITIGATE WASTE IN EVERY WAY. WE ARE EXAMINING MATERIAL WASTE STREAMS AS INSPIRATION TO FIND MATERIALS THAT ARE RE-USABLE. ADDITIONALLY, THE RE-LINK INFORMATION PROVIDED BY THE CENTRAL BACKBONE DIRECTS THE DWELLING'S INHABITANTS ABOUT THE GRID-NORMALIZED ENERGY COSTS OF THE HOME AND SURROUNDING COMMUNITY.

FLOOR PLAN

LOCUS PLAN

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NOTE:  
  
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SOLAR  
DECATHLON

TITLE SHEET

Dwg. Number

Date  
08.06.07

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TABLE OF CONTENTS	
<u>GENERAL</u>	
T1	- TITLE SHEET
T2	- TABLE OF CONTENTS
<u>STRUCTURAL</u>	
S1	- FOUNDATION
S2	- FIRST FLOOR FRAMING
S3	- LOFT/CLERESTORY FRAMING
S4	- ROOF FRAMING
S5	- DECK FRAMING
S6	- MODULE DESCRIPTION
S7	- ASSEMBLY PROCESS
<u>ARCHITECTURAL</u>	
A1	- FLOOR PLAN
A1.1	- REFLECTED CEILING PLAN
A1.2	- CONDITIONED SPACE PLAN
A1.3	- FOOTPRINT ESTIMATE
A2	- LOFT CLERESTORY PLAN
A3	- REFLECTED CEILING PLAN
A4	- EAST ELEVATION
A5	- NORTH ELEVATION
A6	- WEST ELEVATION
A7	- SITE PLAN AND TOUR ROUTE
A8	- SITE ELEVATIONS
A9	- SITE ELEVATIONS
A10	- SECTION A-A
A11	- LOFT/CLERESTORY SECTION B-B
A12	- SECTION C-C
A13	- ROOF PLAN
A14	- ACCESSIBILITY PLAN

<u>ARCHITECTURAL INTERIORS</u>	
A11	- INTERIOR ELEVATIONS
A12	- INTERIOR ELEVATIONS
A13	- INTERIOR ELEVATIONS
A14	- INTERIOR ELEVATIONS
<u>MECHANICAL</u>	
M1	- PLUMBING PLAN
M2	- HEATING SCHEMATIC
M3-	- RADIANT FLOOR LAYOUT
<u>ELECTRICAL</u>	
E1	- ELECTRICAL PLAN
E2	- SOLAR ELECTRICAL SCHEMATIC
E3	- CIRCUIT DIAGRAM
E4	- ELECTRICAL NOTES
<u>DETAILS</u>	
D1	- SIPS DETAILS
D2	- TRANSPORT DETAILS
D3	- SIPS CONNECTION DETAILS
D4	- WINDOW SCHEDULE
D5	- LIGHTING SCHEDULE
<u>GENERAL</u>	
G1	- GENERAL NOTES



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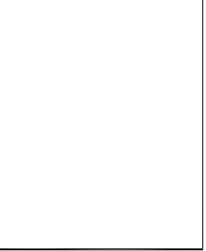
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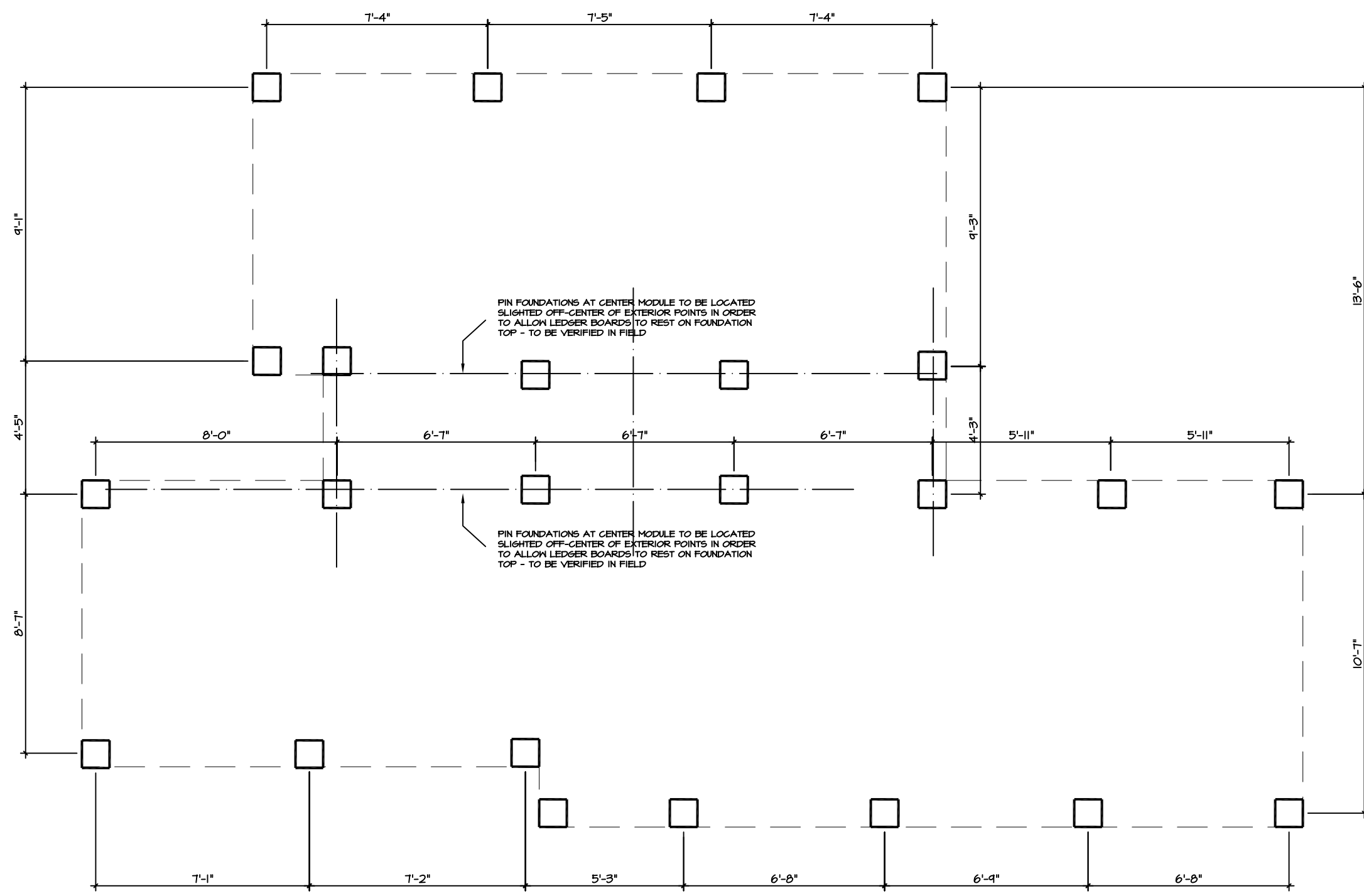
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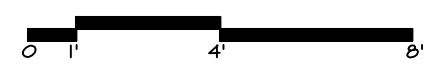


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# PIN FOUNDATION PLACEMENT PLAN

SCALE: 1/4" = 1'-0"



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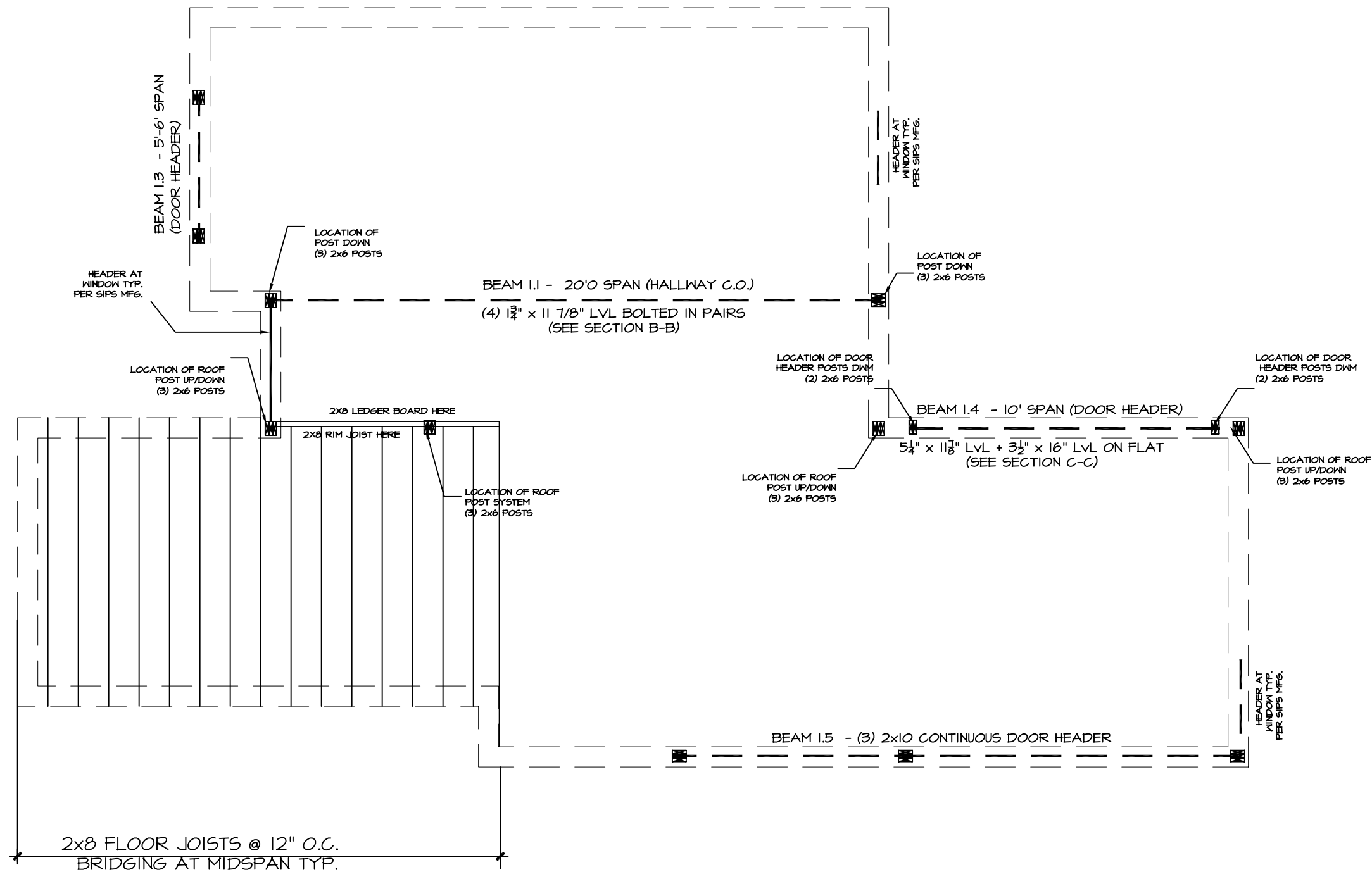
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# LOFT FLOOR FRAMING PLAN

SCALE: 1/4" = 1'-0"



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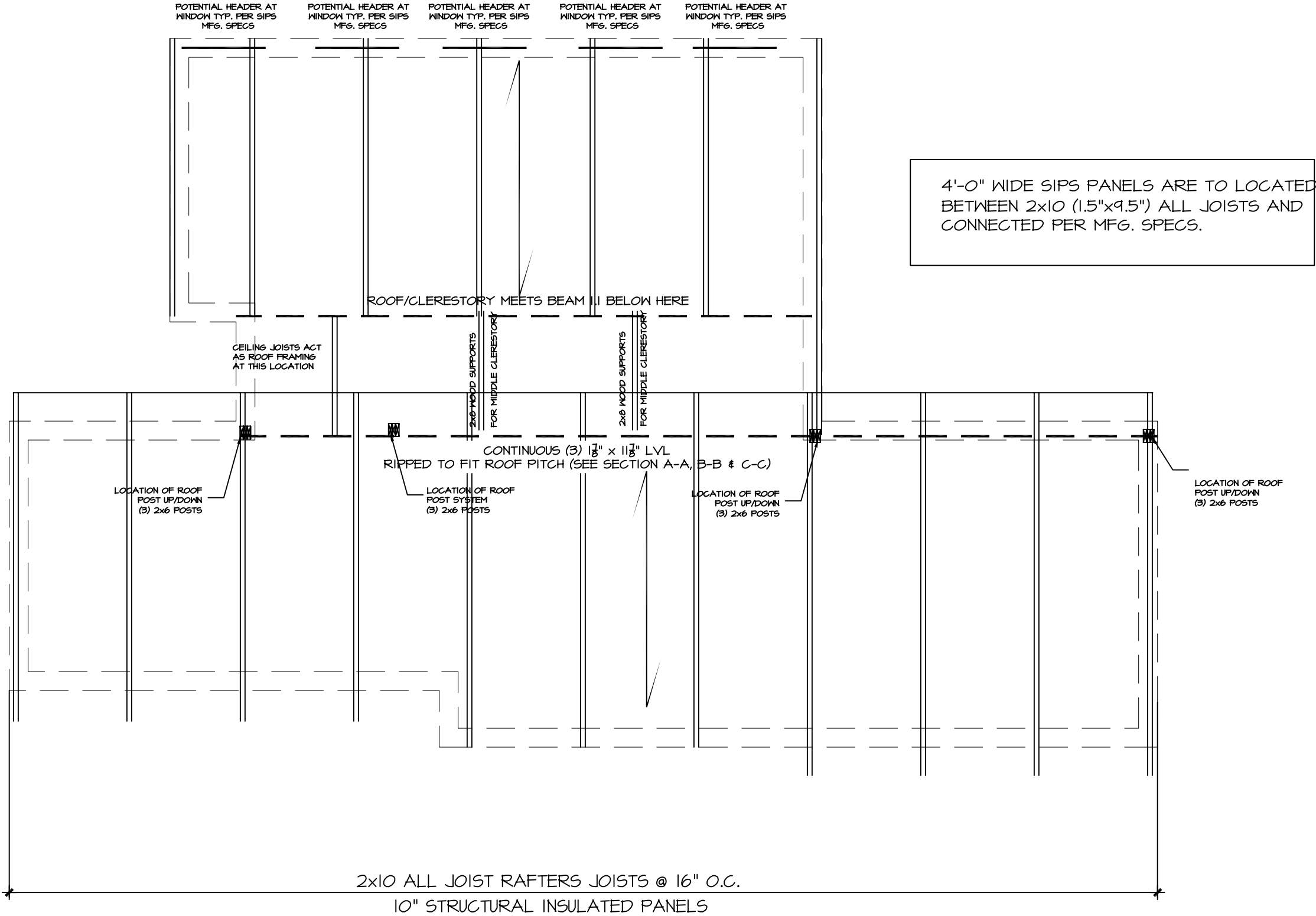
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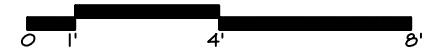
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ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"



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SOLAR DECATHLON

ROOF FRAMING

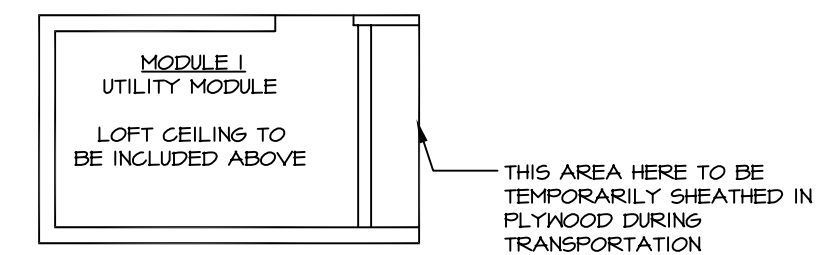
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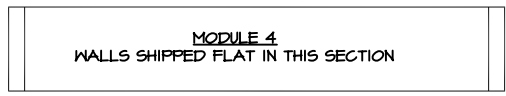
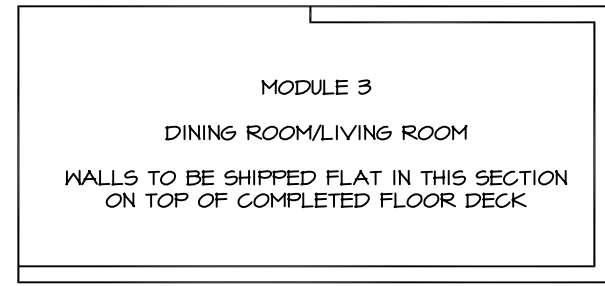
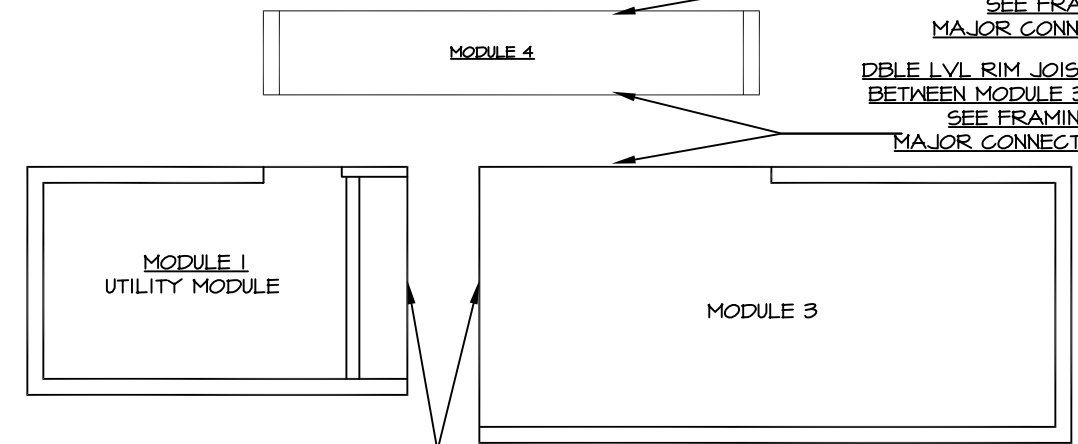
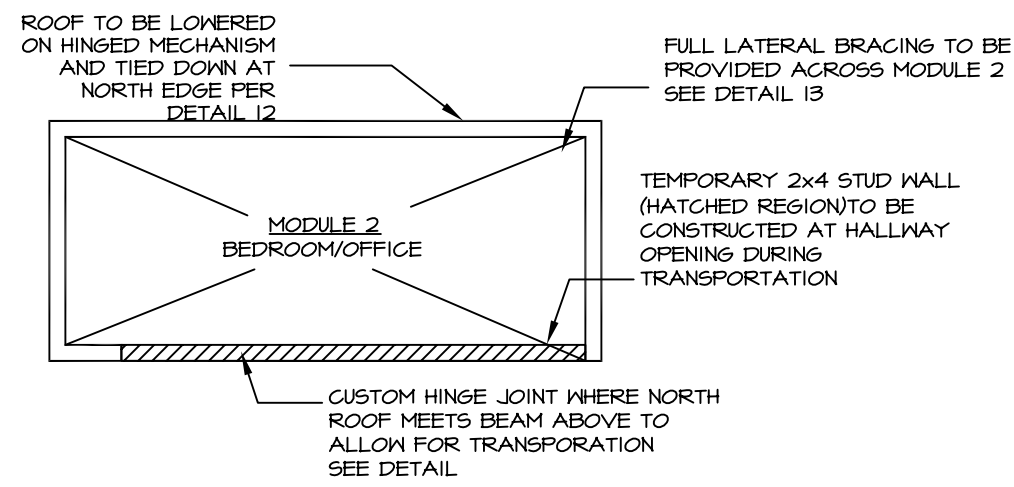
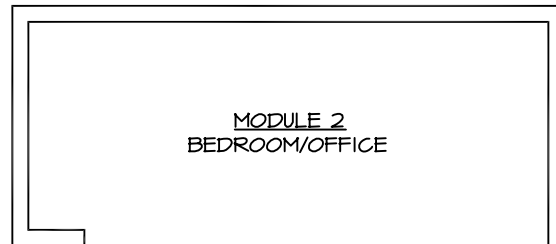
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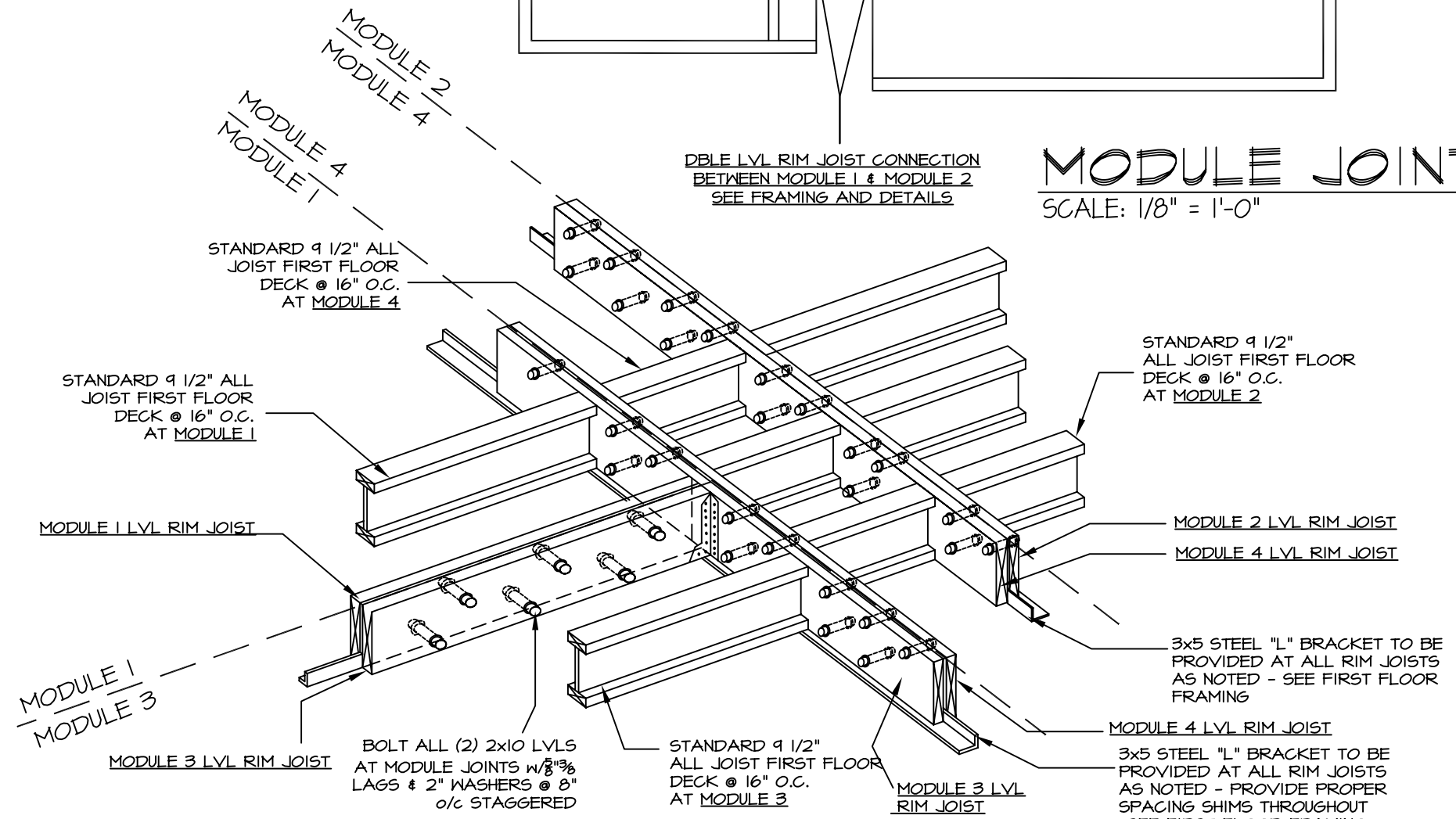


NOTE: THIS MATERIAL IS A SCALED GRAPHIC TO SUPPLEMENT WRITTEN DOCUMENTATION OF THE ASSEMBLY PROCESS. WRITTEN DOCUMENTATION TO PROVIDE MORE DETAILED SPECIFICATIONS



## MODULE BREAKDOWN

SCALE: 1/8" = 1'-0"



## MODULE AXON OF MAJOR CONNECTION DETAIL

SCALE: NTS

## MODULE JOINTS

SCALE: 1/8" = 1'-0"

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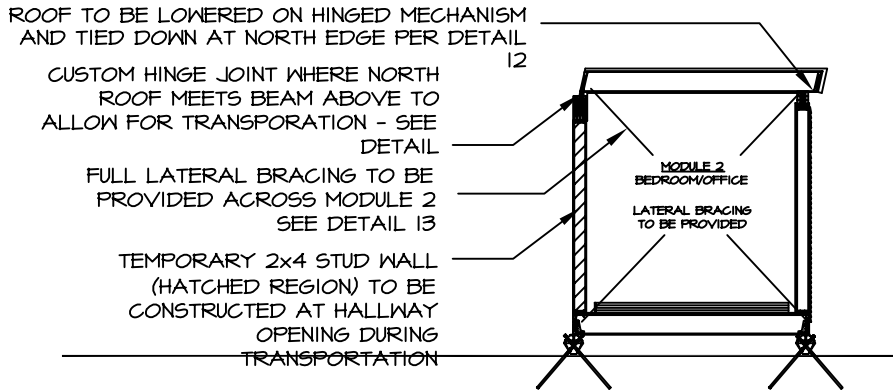
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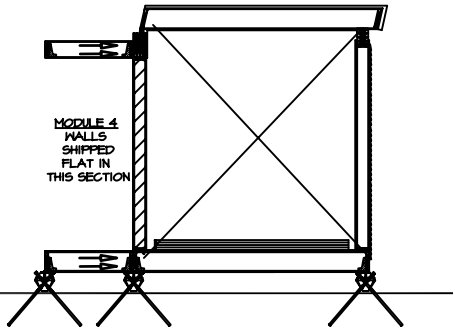
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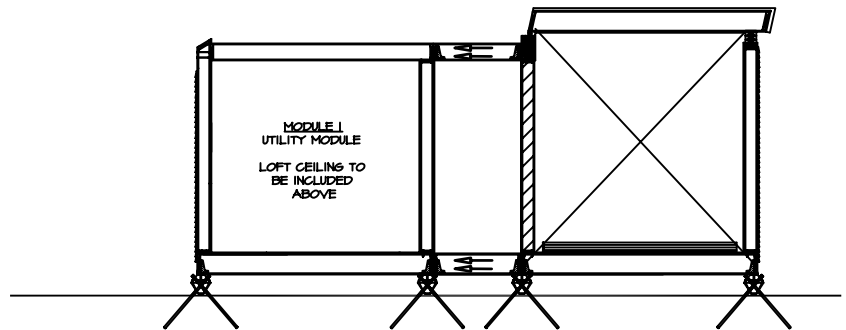
NOTE: THE FOLLOWING ASSEMBLY DESCRIPTION DETAILS THE STRUCTURAL CONSTRUCTION OF THE HOUSE UPON ARRIVAL IN D.C. NON-STRUCTURAL ITEMS (I.E. WINDOWS, DOORS, FINISH MATERIALS) ARE NOT INCORPORATED HERE. FOR A DETAILED STAGING OF ALL HOUSE COMPONENTS AS CHRONOLOGICALLY INSTALLED, PLEASE REFER TO WRITTEN ASSEMBLY DOCUMENTATION



**PROPOSED ASSEMBLY ON SITE - STAGE 1**  
SCALE: 1/4" = 1'-0"



**PROPOSED ASSEMBLY ON SITE - STAGE 2**  
SCALE: 1/4" = 1'-0"



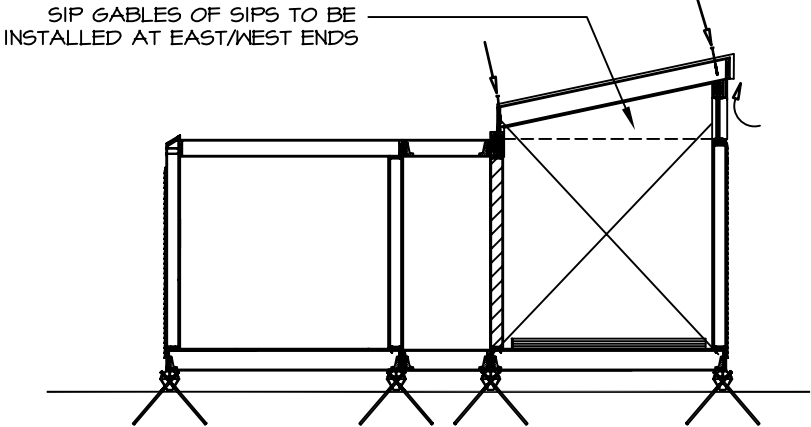
**PROPOSED ASSEMBLY ON SITE - STAGE 3/4**  
SCALE: 1/8" = 1'-0"

Module #2 Bedroom/office off loaded from trailer  
The module will be placed on planks and rollers for final adjustments in placement on site  
Once the module is correctly located on the site the footings will be located and installed  
Module will be lowered onto footings and adjusted for level from site survey

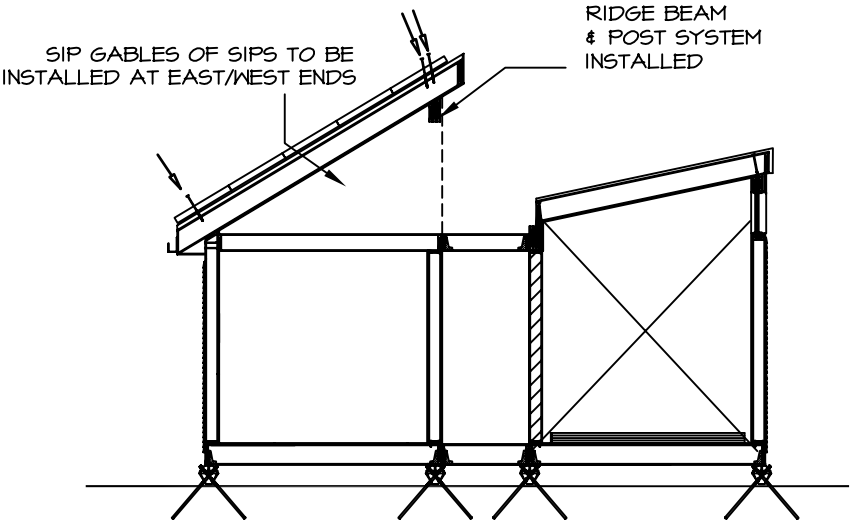
Module #4 Interconnecting hallway floor section will be attached to the first module with connecting bolts  
Footings located and installed  
Adjusted for leveled

Module #1 off loaded from trailer  
Placed on planks and rollers for final adjustments on site  
Adjust to align with interconnecting hallway  
Locate footings and install  
Lower onto footings and level module  
Install connecting bolts

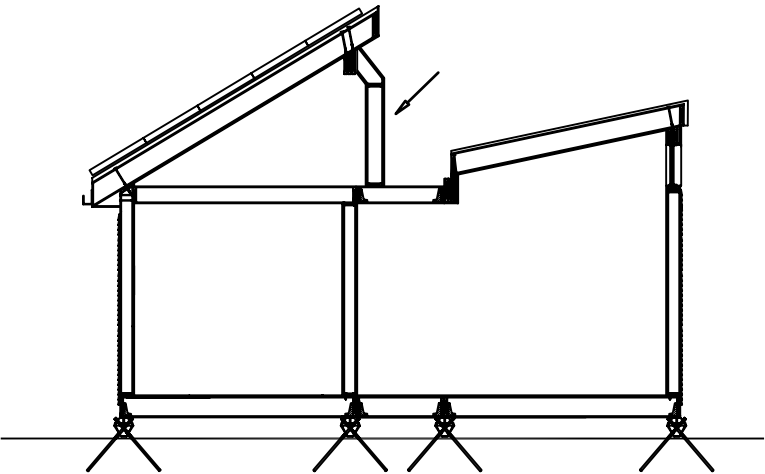
(NOT SHOWN IN GRAPHIC)  
Module #3 Living room floor section off loaded from trailer  
Placed on planks and rollers for final adjustments on site  
Aligned with Mod #1 & 4 footings located and installed  
Adjusted for level and install connecting bolts



**PROPOSED ASSEMBLY ON SITE - STAGE 5**  
SCALE: 1/4" = 1'-0"



**PROPOSED ASSEMBLY ON SITE - STAGE 6**  
SCALE: 1/4" = 1'-0"



**PROPOSED ASSEMBLY ON SITE - STAGE 6**  
SCALE: 1/4" = 1'-0"

**Module #2 Bedroom/office**

Steps to completion after module is set in place  
Roof is hinged flat for transportation and secured (pre-finished)  
Remove shipping bracing  
Detach roof brackets  
Roof jacked into position  
Gables slid into place and secured  
North wall clerestory wall panels and windows installed and secured  
Roof secured to gables and clerestories

**South Roof assembly**

After all exterior walls and beams are in place and securely braced  
Roof sections rigged and lifted into place with a lull  
Starting at the south west wall and continuing towards the east  
As each roof section is placed, it is secured and fastened as shown in plans  
Roofing membrane in already in place and left with overlapping joints  
Membrane at panel connections overlapped and secured  
Pre installed furring strips for PV array  
Exposed roof edges finished  
PV array installed  
Eave and rake trim installed  
Water recovery system installed

**South Roof assembly**

After all exterior walls and beams are in place and securely braced  
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Starting at the south west wall and continuing towards the east  
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Membrane at panel connections overlapped and secured  
Pre installed furring strips for PV array  
Exposed roof edges finished  
PV array installed  
Eave and rake trim installed  
Water recovery system installed

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ASSEMBLY  
PROCESS

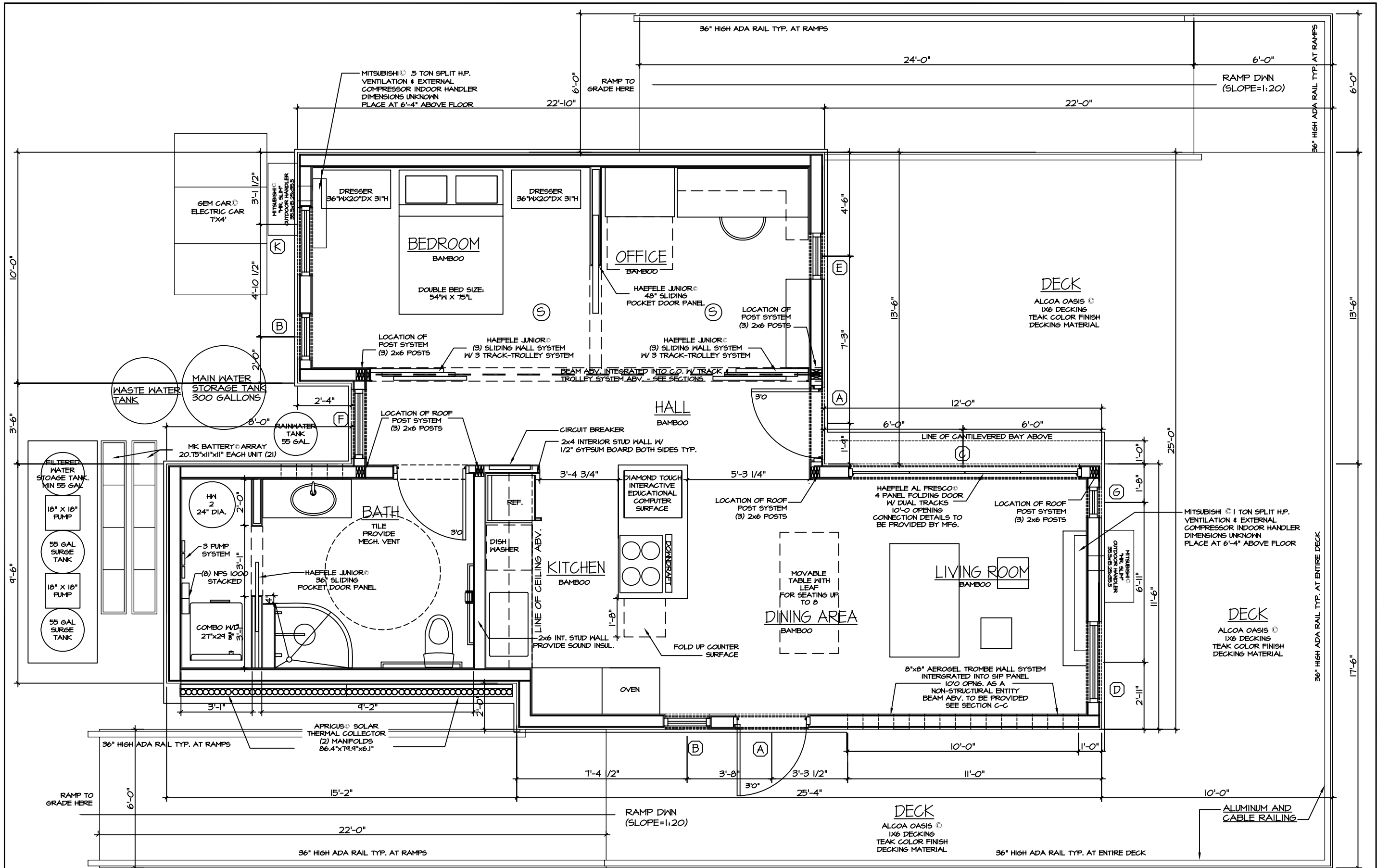
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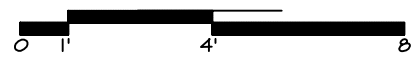
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# PROPOSED FLOOR PLAN

SCALE: 1/4" = 1'-0"



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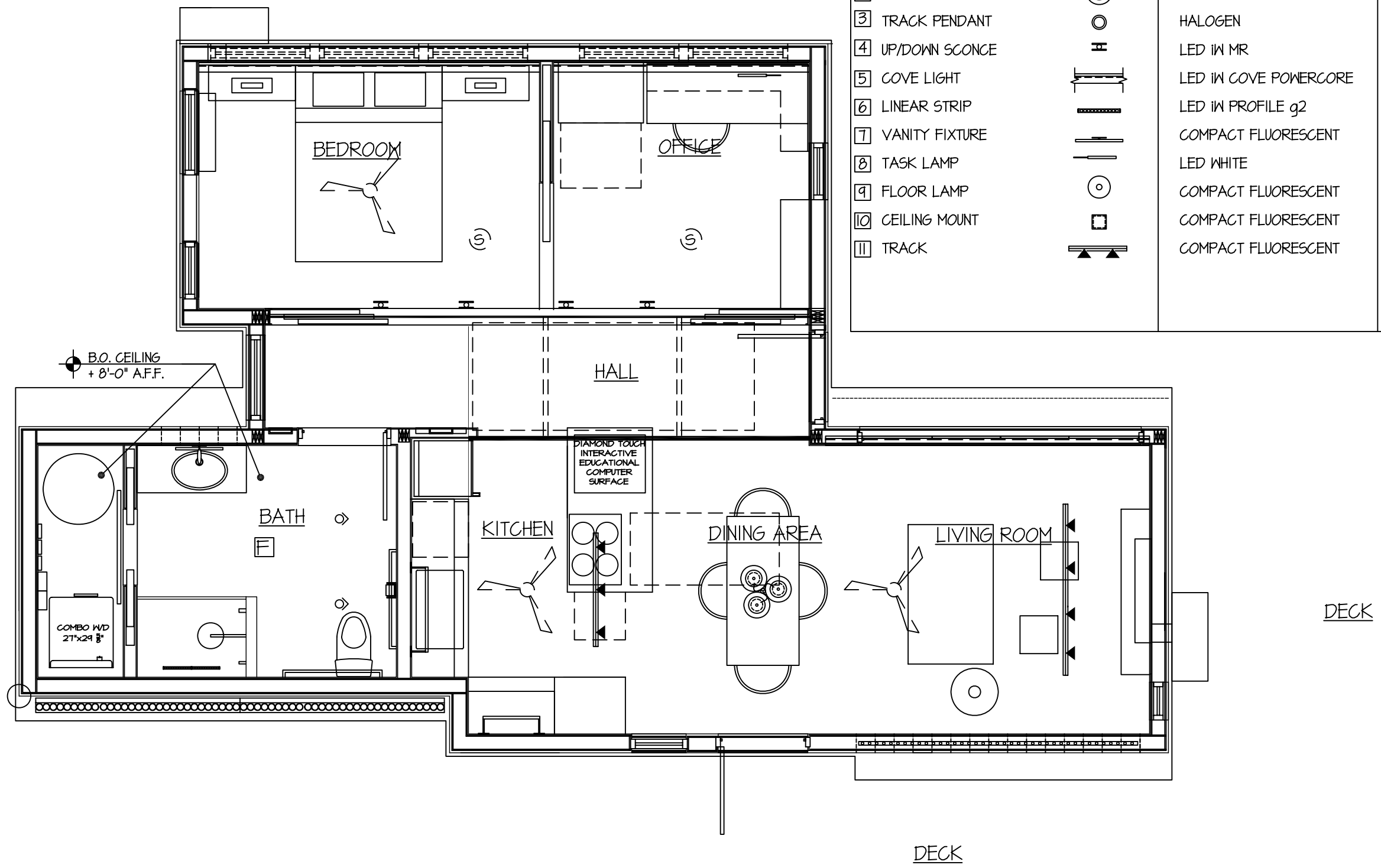
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DECATHLON

FLOOR PLAN

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CEILING LEGEND		
FIXTURE TYPE		LAMP TYPE
1 RECESSED	○	COMPACT FLUORESCENT
2 CHANDELIER PENDANT	⊙	COMPACT FLUORESCEN
3 TRACK PENDANT	○	HALOGEN
4 UP/DOWN SCONCE	⊥	LED IN MR
5 COVE LIGHT	⌢	LED IN COVE POWERCORE
6 LINEAR STRIP	—	LED IN PROFILE g2
7 VANITY FIXTURE	—	COMPACT FLUORESCENT
8 TASK LAMP	—	LED WHITE
9 FLOOR LAMP	⊙	COMPACT FLUORESCENT
10 CEILING MOUNT	□	COMPACT FLUORESCENT
11 TRACK	⌢	COMPACT FLUORESCENT
		FEATURES
		DIMMABLE
		DIMMABLE
		DIMMABLE
		LED IN COVE POWERCORE
		LED IN PROFILE g2
		COMPACT FLUORESCENT
		LED WHITE
		COMPACT FLUORESCENT
		COMPACT FLUORESCENT
		DIMMABLE
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REFLECTED  
CEILING PLAN

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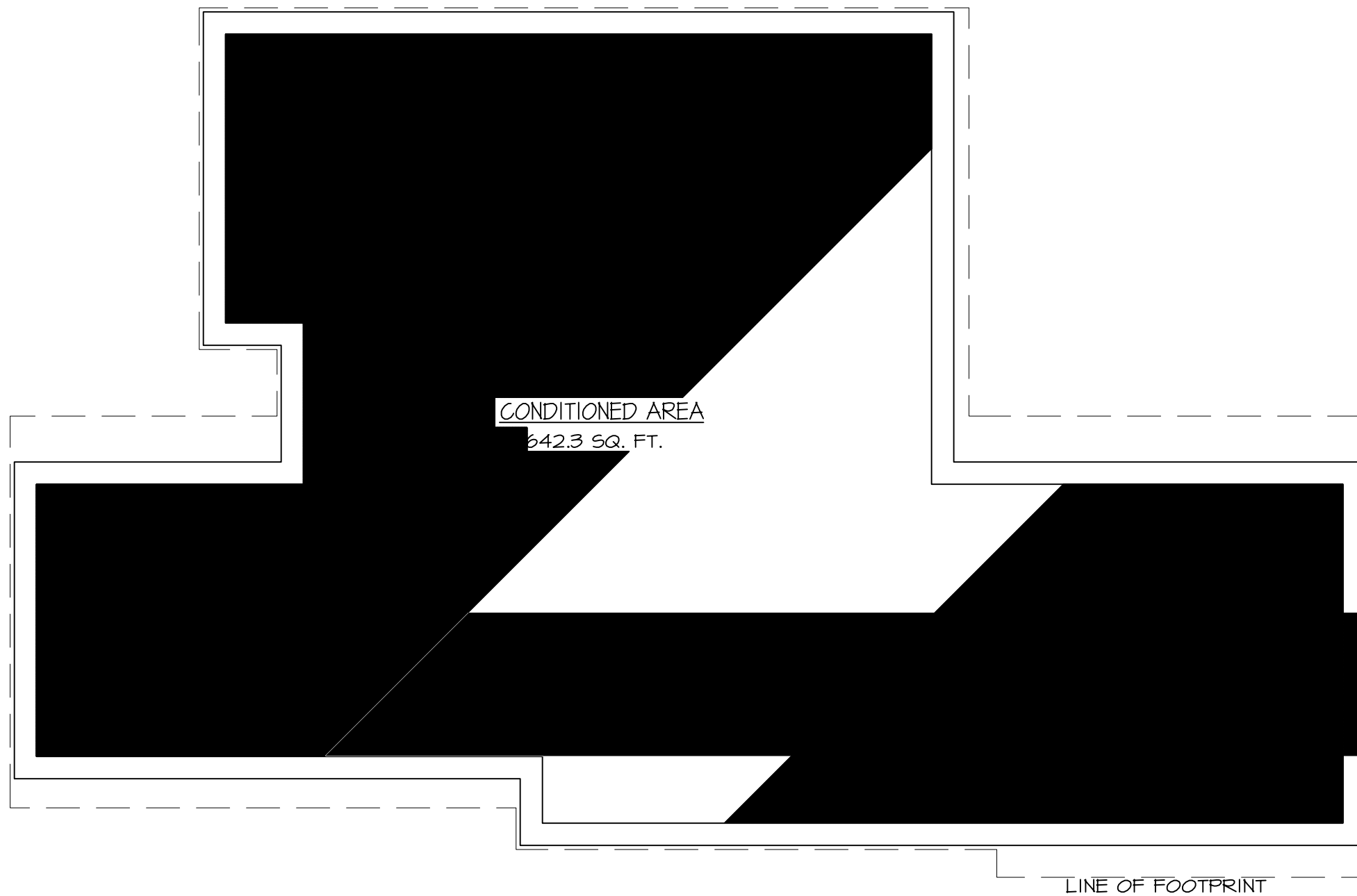
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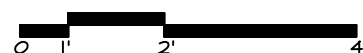


REFLECTED CEILING PLAN  
SCALE: 1/4" = 1'-0"



PROPOSED CONDITIONED AREA

SCALE: 1/4" = 1'-0"



LINE OF FOOTPRINT

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CONDITIONED  
AREA

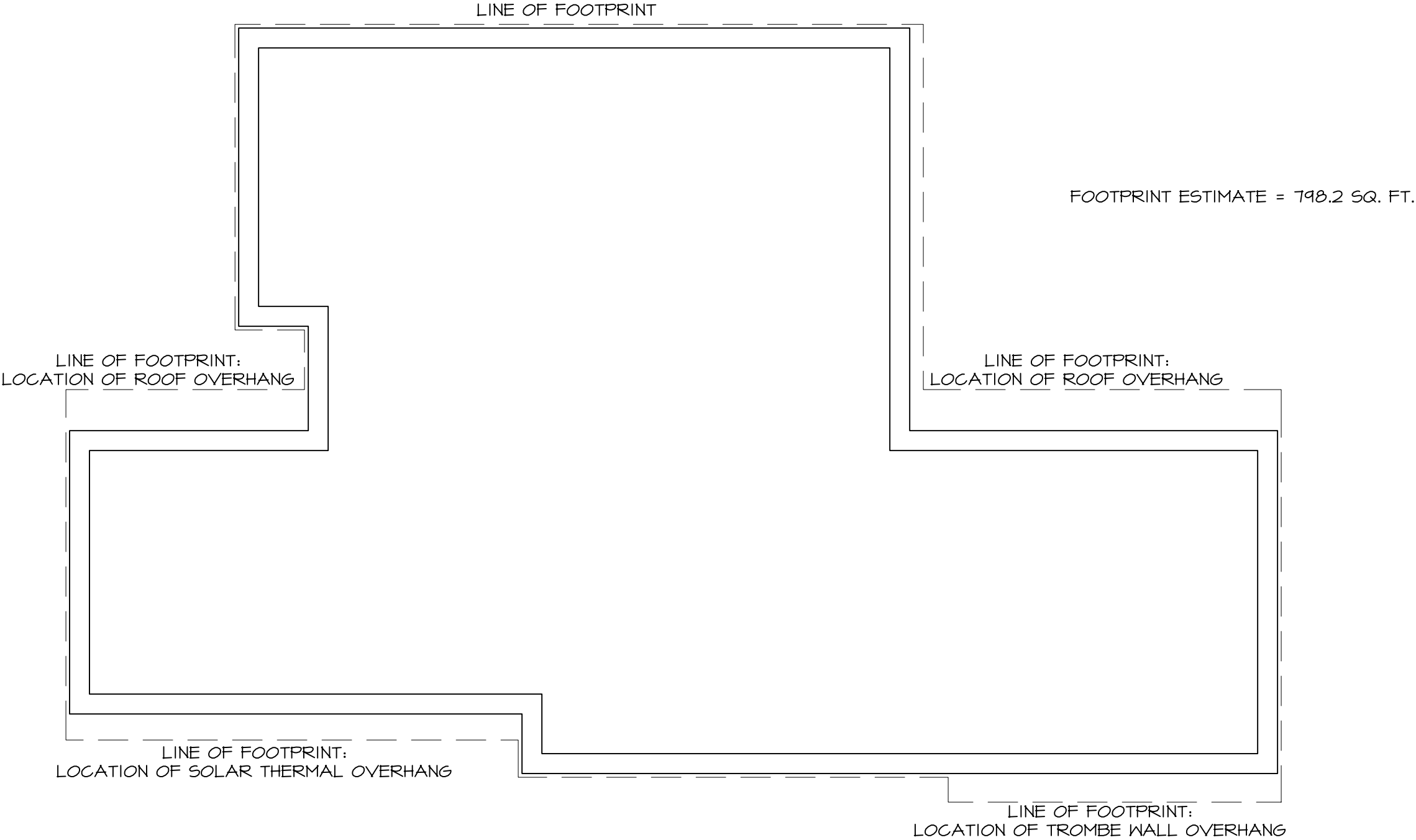
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PROPOSED FOOTPRINT ESTIMATE

SCALE: 1/4" = 1'-0"



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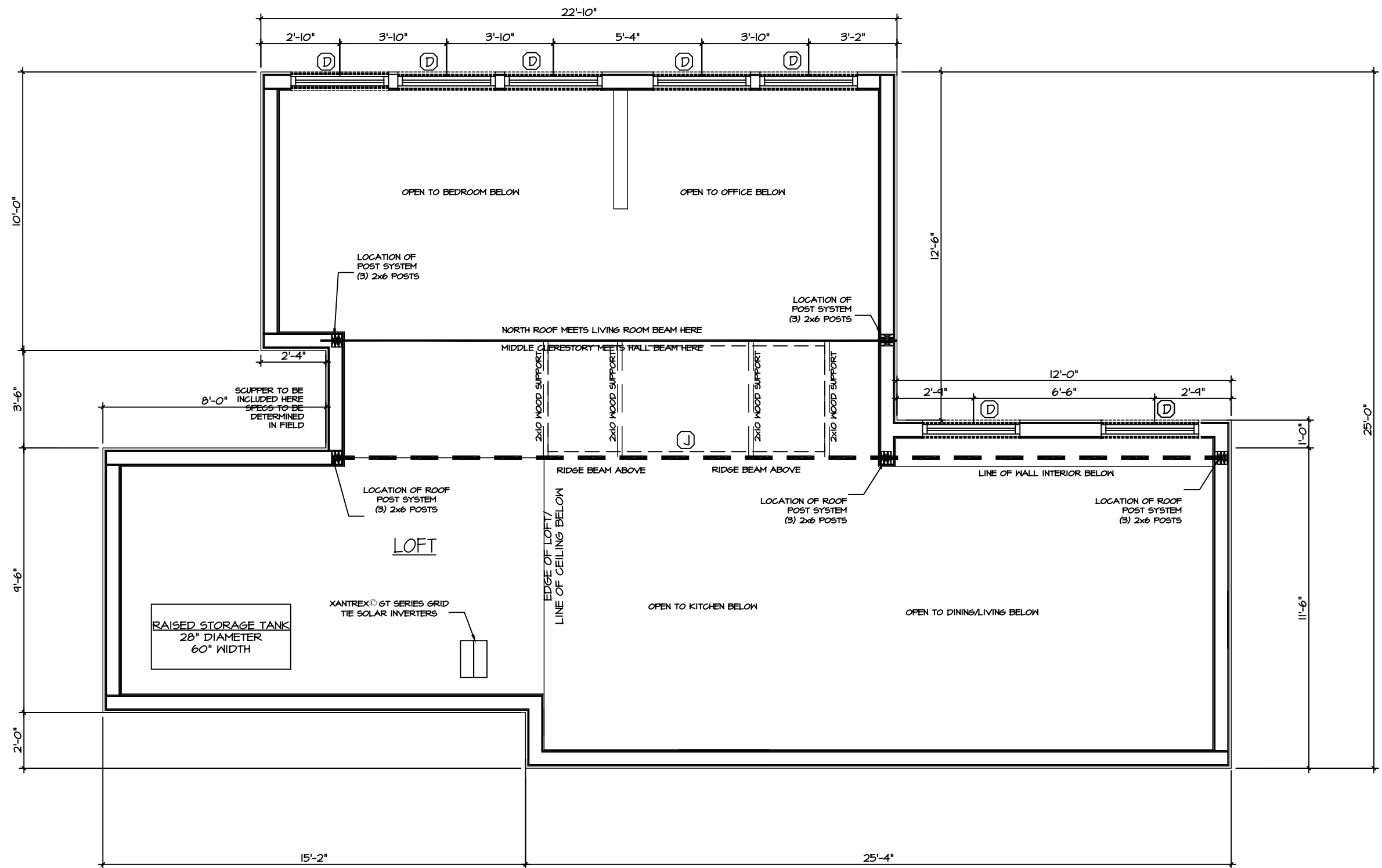
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FOOTPRINT  
ESTIMATE

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# PROPOSED LOFT/CLERESTORY PLAN

SCALE: 1/4" = 1'-0"



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LOFT/CLERES.  
PLAN

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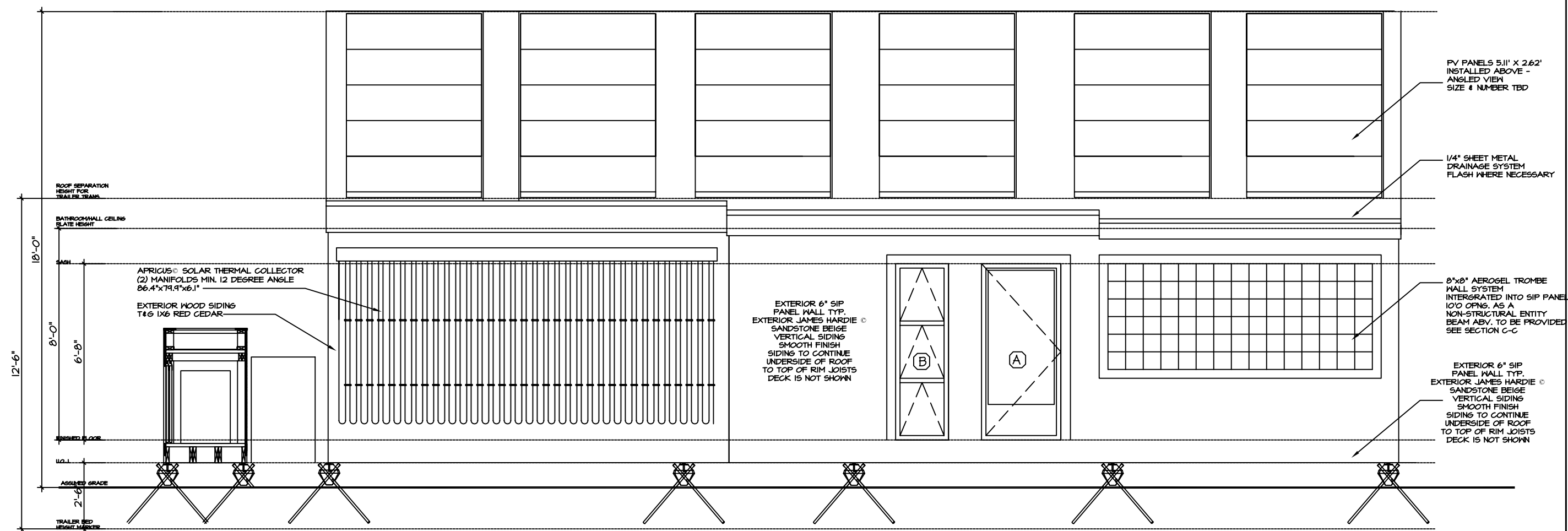
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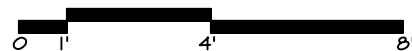
NOTE: TRIM MATERIAL TO BE 1x6 RED CEDAR - TO MATCH SIDING MATERIAL AT ALL EXTERIOR WINDOWS AND DOORS, FASCIA & SOFFIT BOARD

NOTE: DECK NOT SHOWN HERE TO ALLOW FOR CLEAR ELEVATION OF HOUSE EXTERIOR WITH PIN FOUNDATIONS. PLEASE SEE SITE ELEVATIONS, DECK FRAMING PLAN AND DECK PIN PLACEMENT PLAN FOR LOCATION/DETAILS.



# PROPOSED SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



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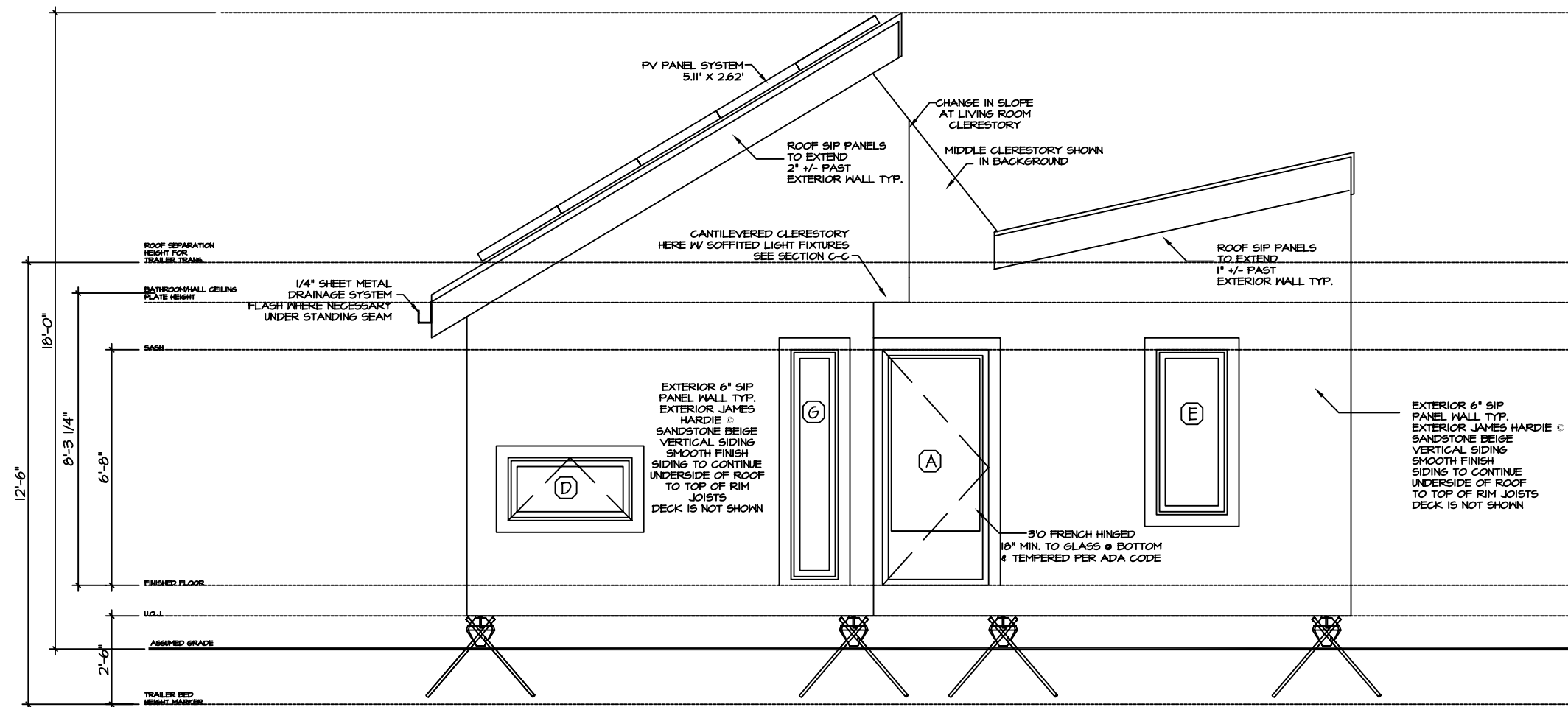
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## PROPOSED EAST ELEVATION

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EAST ELEVATION  
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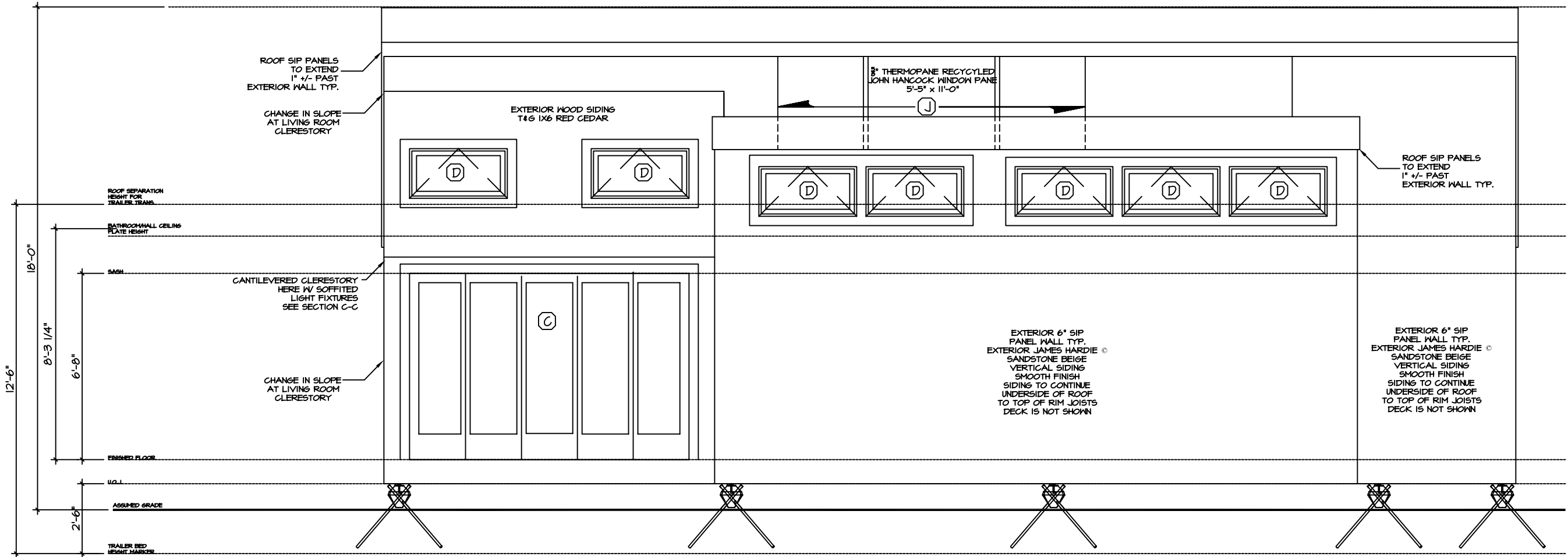
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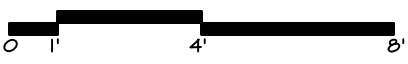
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# PROPOSED NORTH ELEVATION

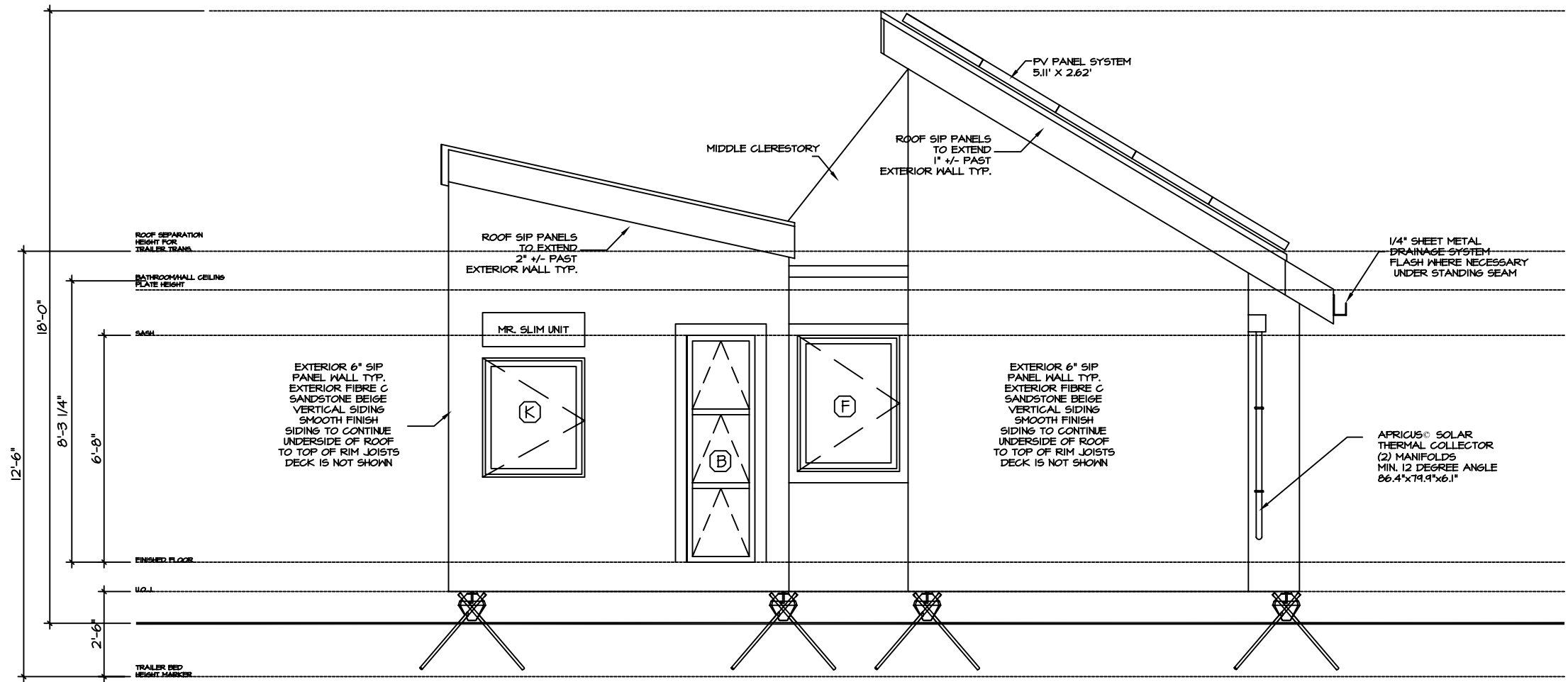
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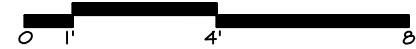
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PLEASE SEE SITE ELEVATIONS, DECK FRAMING PLAN  
AND DECK PIN PLACEMENT PLAN FOR  
LOCATION/DETAILS.



PROPOSED WEST ELEVATION

SCALE: 1/4" = 1'-0"



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TECHNOLOGY  
CAMBRIDGE MA

NOTE:  
  
ALL DIMENSION TO  
BE FIELD VERIFIED  
& CHECKED.  
CONTRACTOR TO  
REPORT CHANGES  
AND OMISSIONS TO  
ARCHITECT.

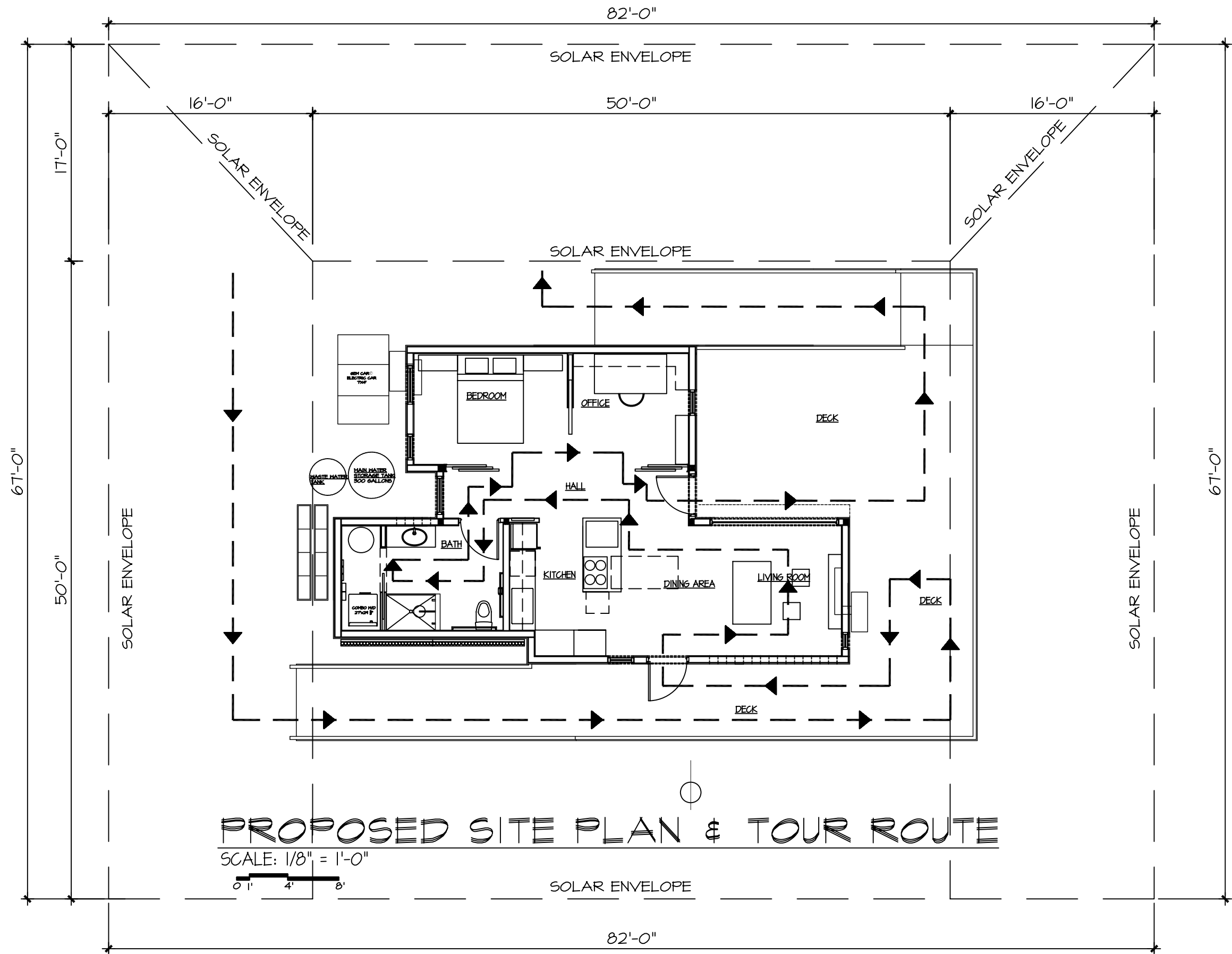
4	
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SOLAR  
DECATHLON

WEST ELEV.

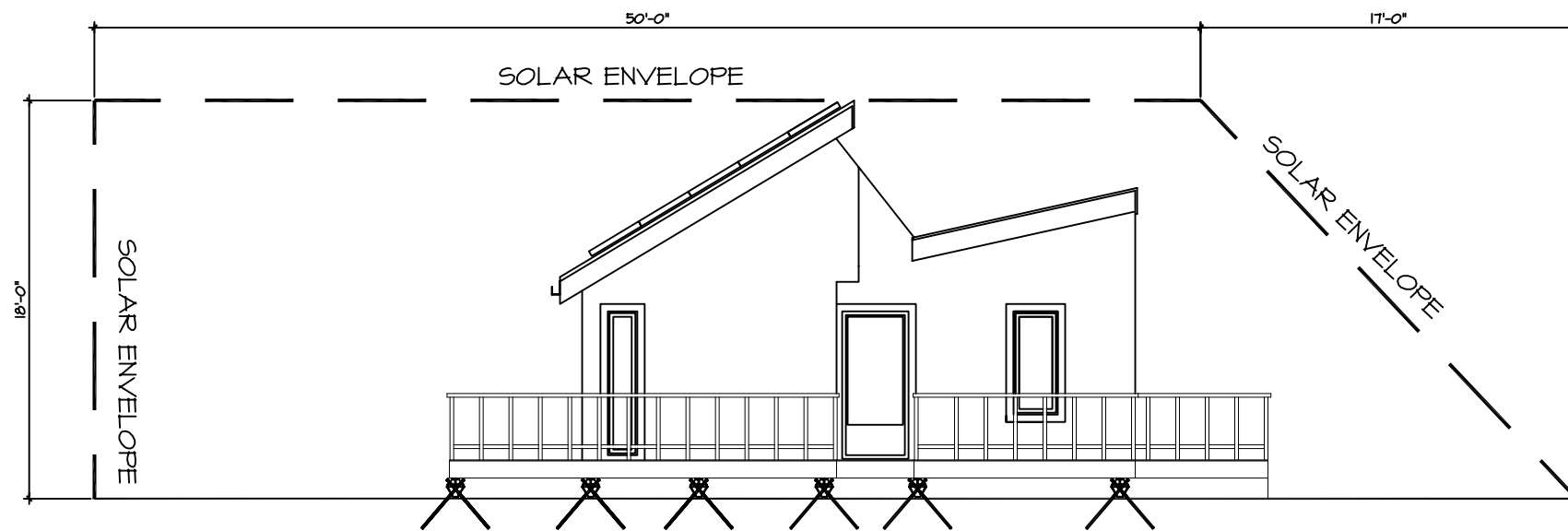
Draw. Number
Date 08.06.07
Scale 1/2"=1'-0"

Sheet  
  
A-6



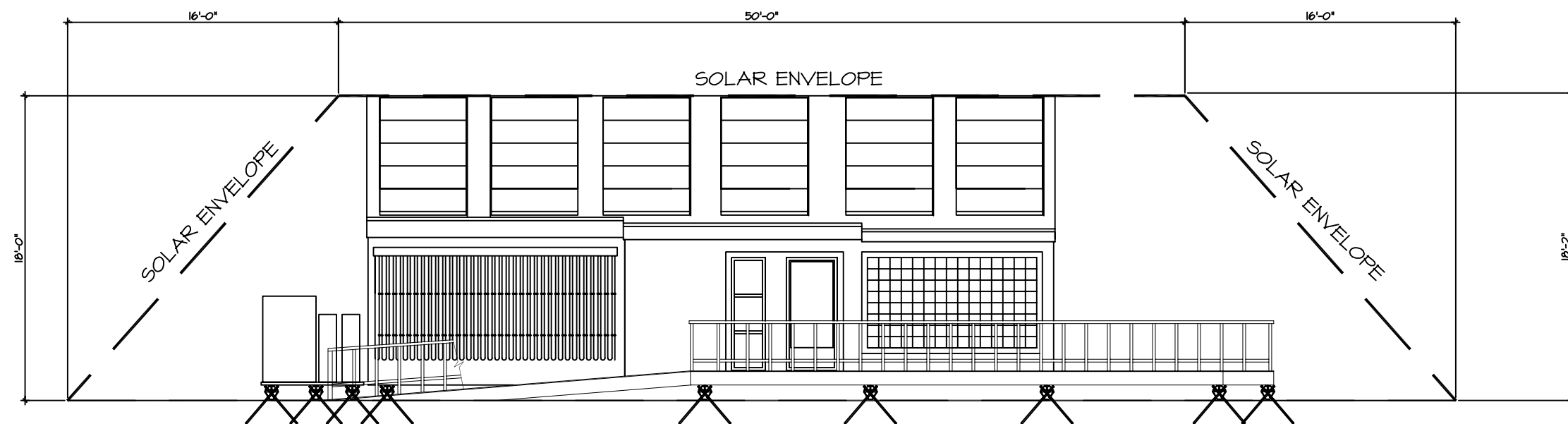
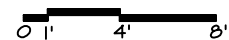
NOTE:  
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& CHECKED.  
CONTRACTOR TO  
REPORT CHANGES  
AND OMISSIONS TO  
ARCHITECT.

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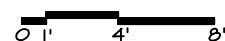
PROPOSED EAST SITE ELEVATION

SCALE: 1/8" = 1'-0"



PROPOSED SOUTH SITE ELEVATION

SCALE: 1/8" = 1'-0"



NOTE:

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& CHECKED.  
CONTRACTOR TO  
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AND OMISSIONS TO  
ARCHITECT.

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SOLAR  
DECATHLON

SITE  
ELEVATIONS

Draw. Number

Date  
08.06.07

Scale  
1/8"=1'-0"

Sheet

A=8



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ARCHITECT.

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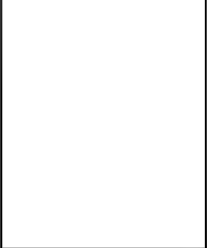
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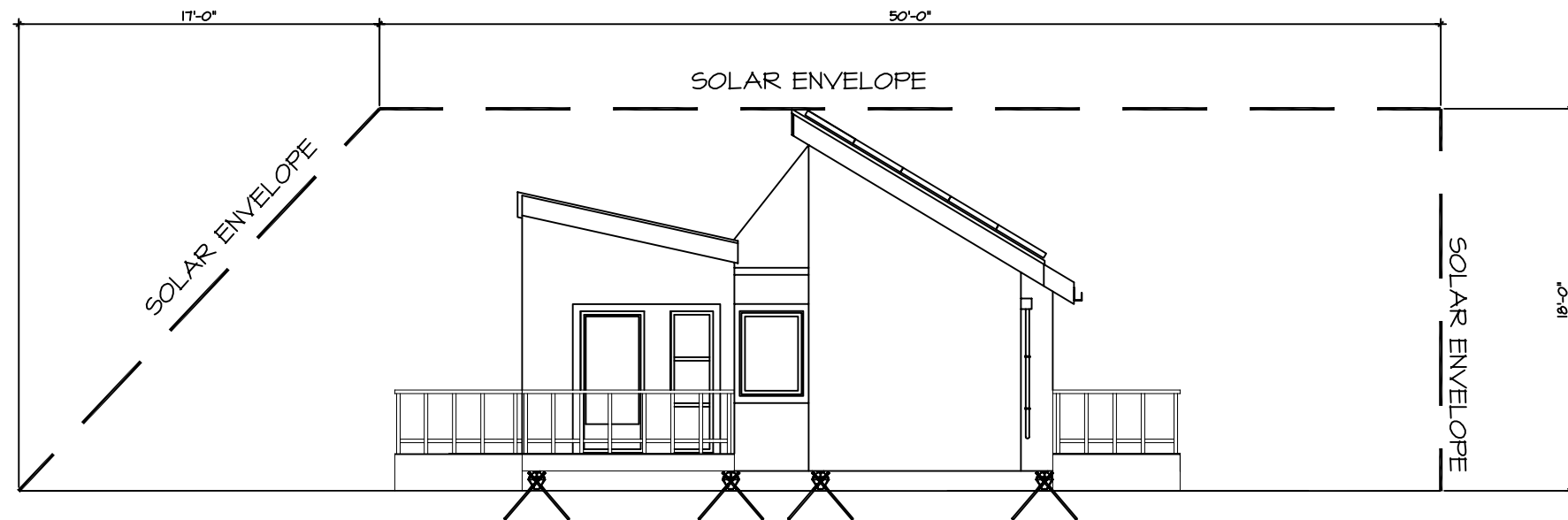


SOLAR  
DECATHLON

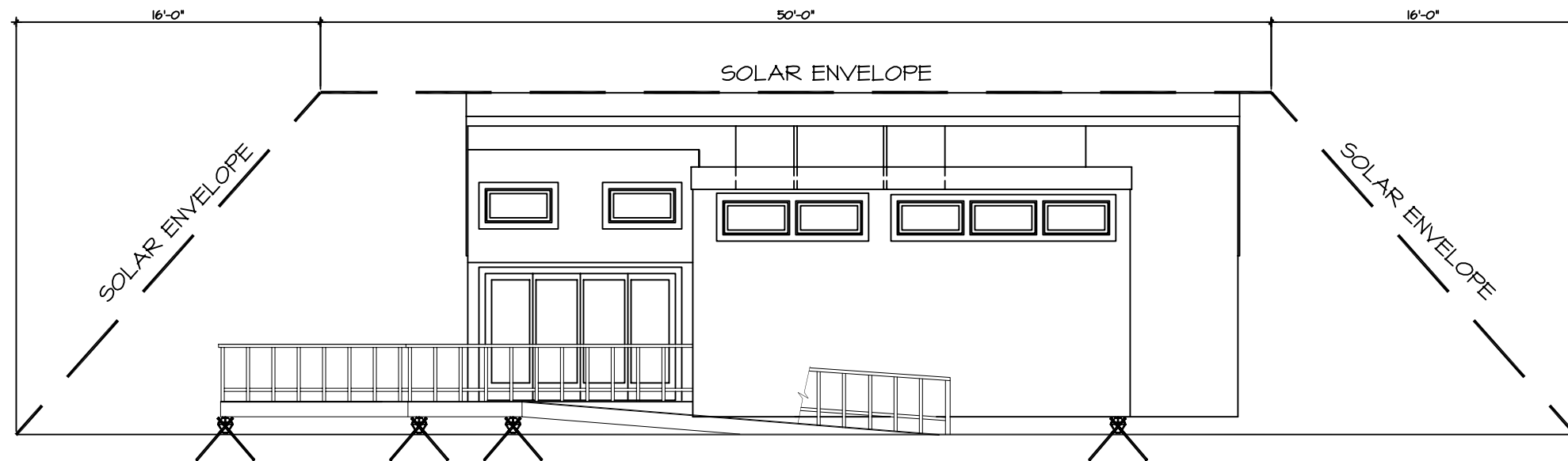
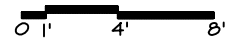
SITE  
ELEVATIONS

Dwg. Number  
Date  
08.06.07  
Scale  
1/4"=1'-0"

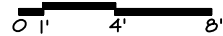
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A=9



PROPOSED WEST SITE ELEVATION  
SCALE: 1/8" = 1'-0"



PROPOSED NORTH SITE ELEVATION  
SCALE: 1/8" = 1'-0"





NOTE:

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SOLAR  
DECATHLON

LOFT/CLERES.  
SECTION B-B

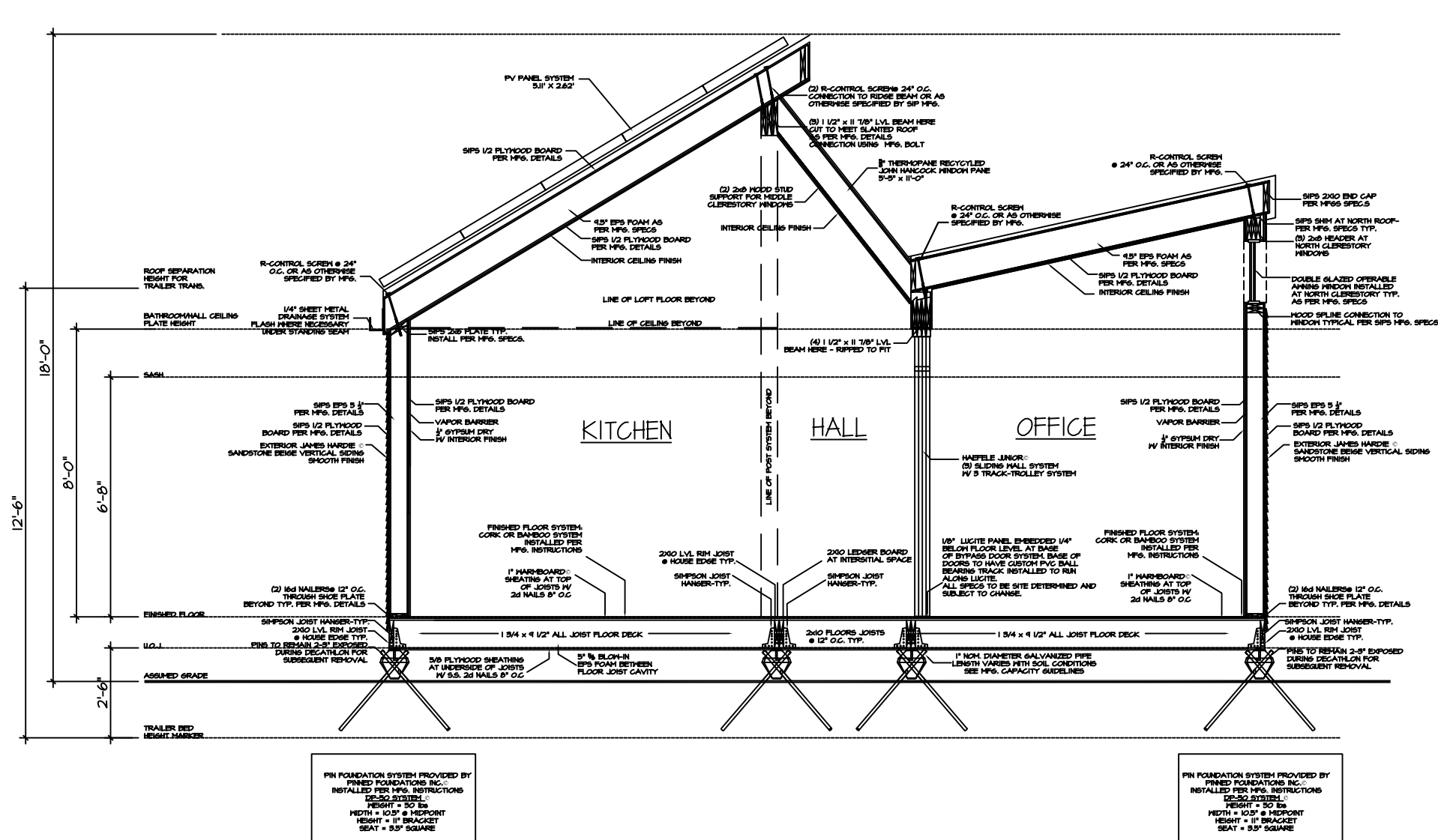
Dwg. Number

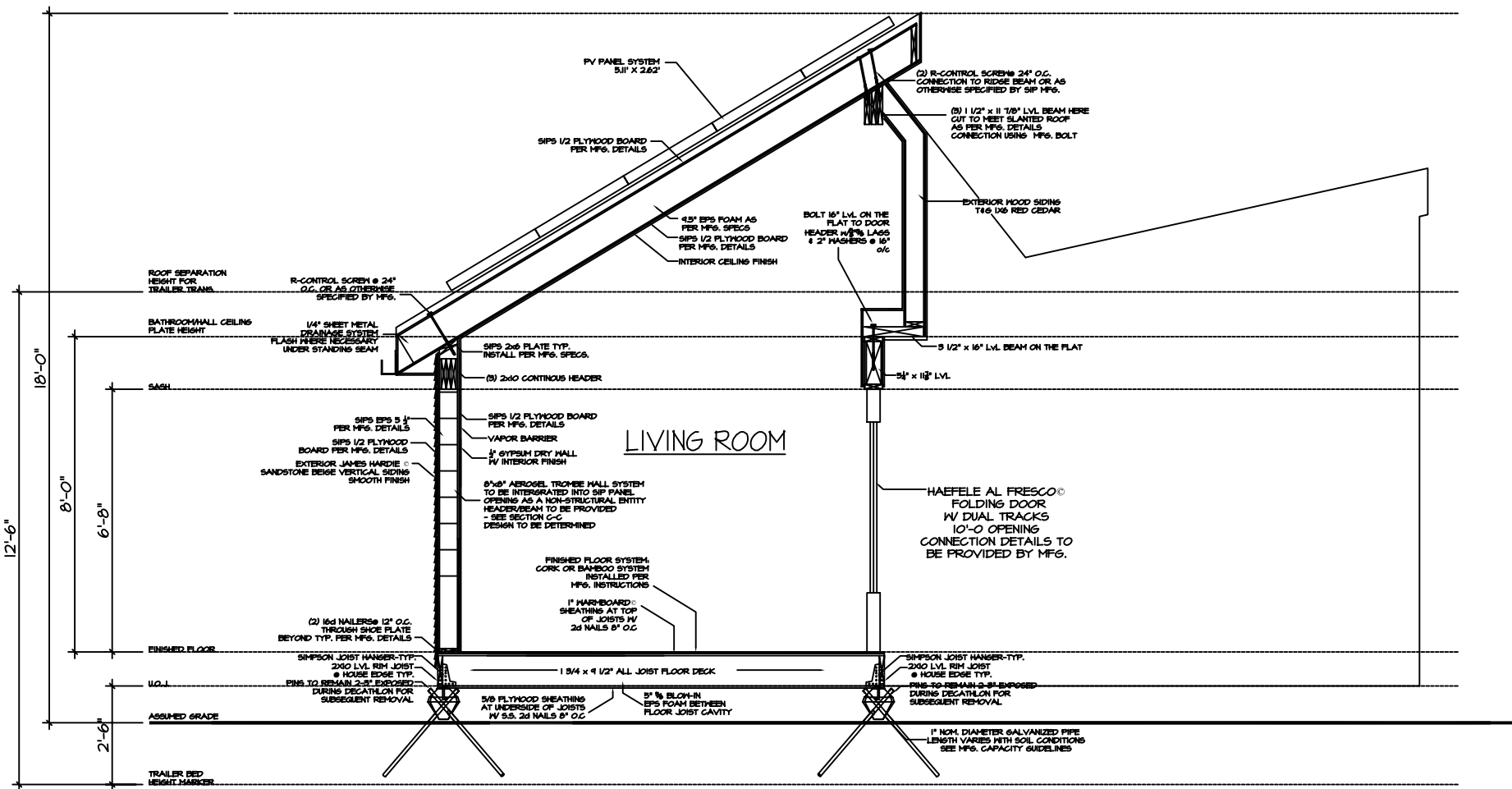
Date  
08.06.07

Scale  
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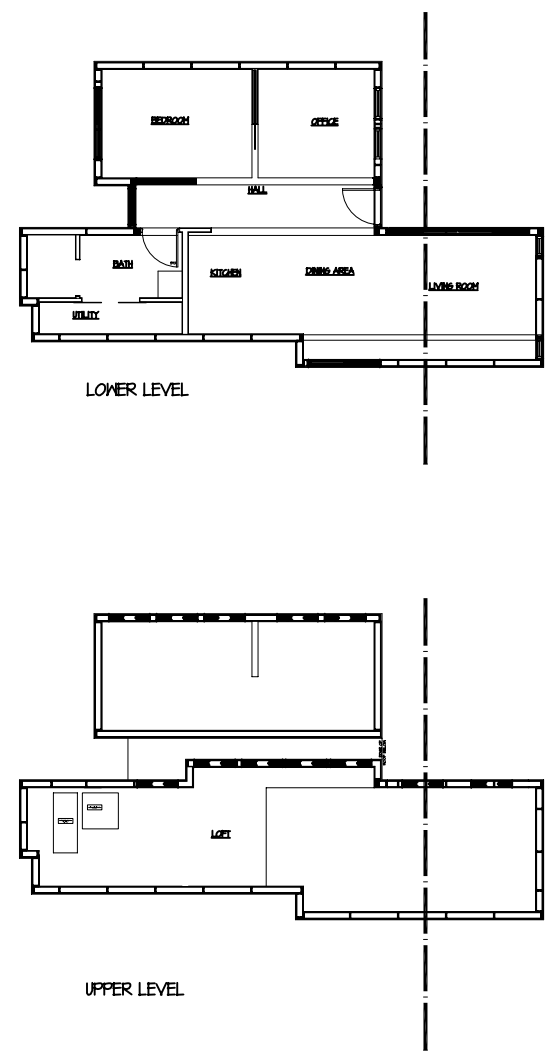
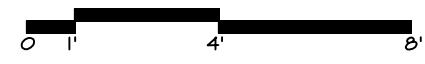
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A=||





SECTION C-C  
SCALE: 1/4" = 1'-0"



KEY PLANS  
SCALE: 1/4" = 1'-0"

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AND OMISSIONS TO  
ARCHITECT.

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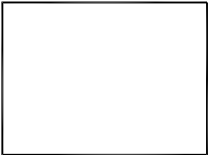
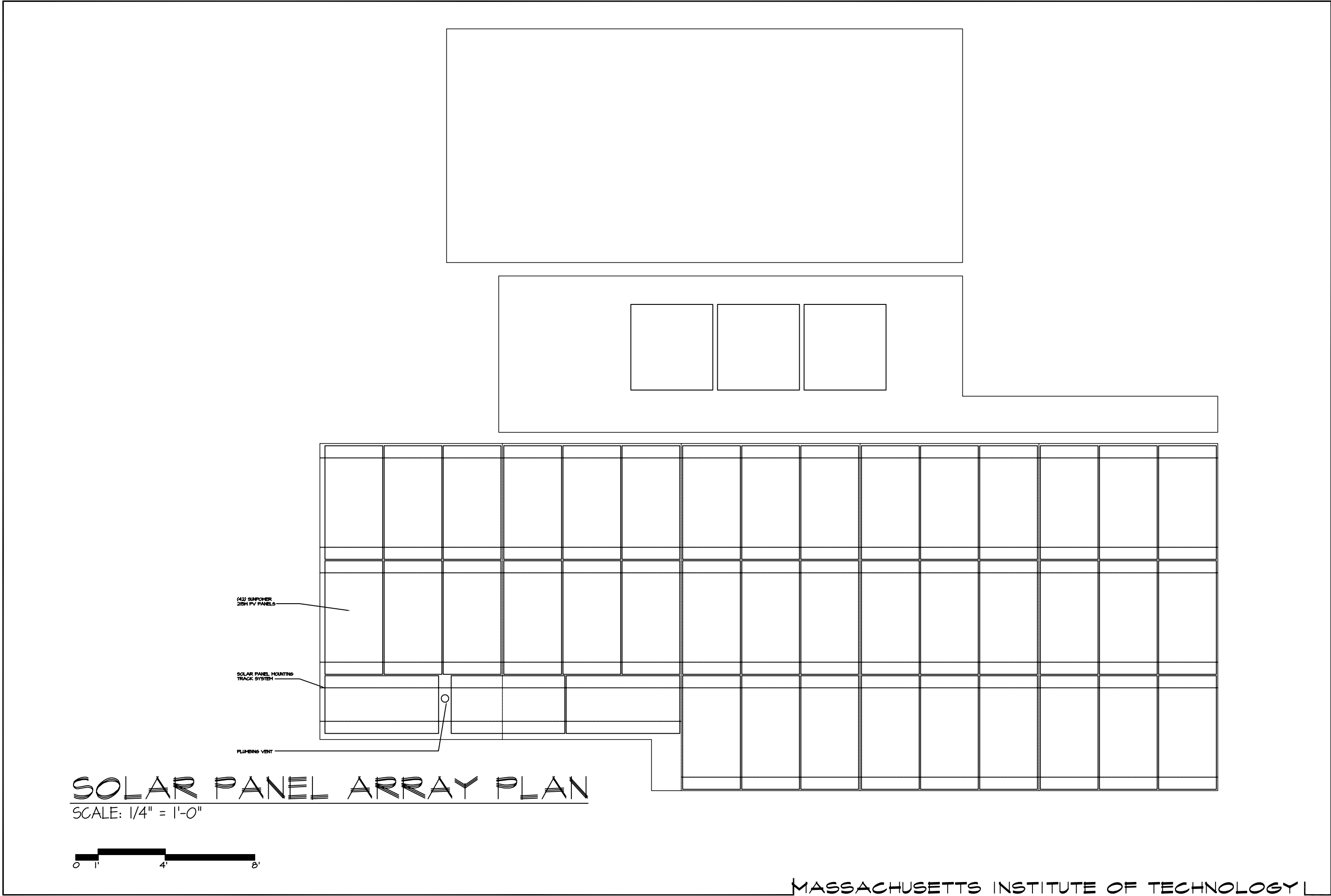
SOLAR  
DECATHLON

SECTION C-C

Dwg. Number
Date 08.06.07
Scale 1/2"=1'-0"

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A-12





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& CHECKED.  
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REPORT CHANGES  
AND OMISSIONS TO  
ARCHITECT.

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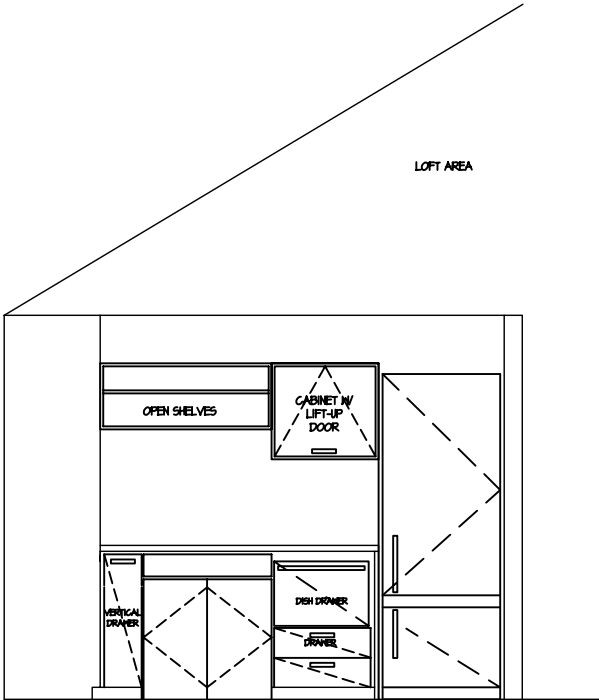
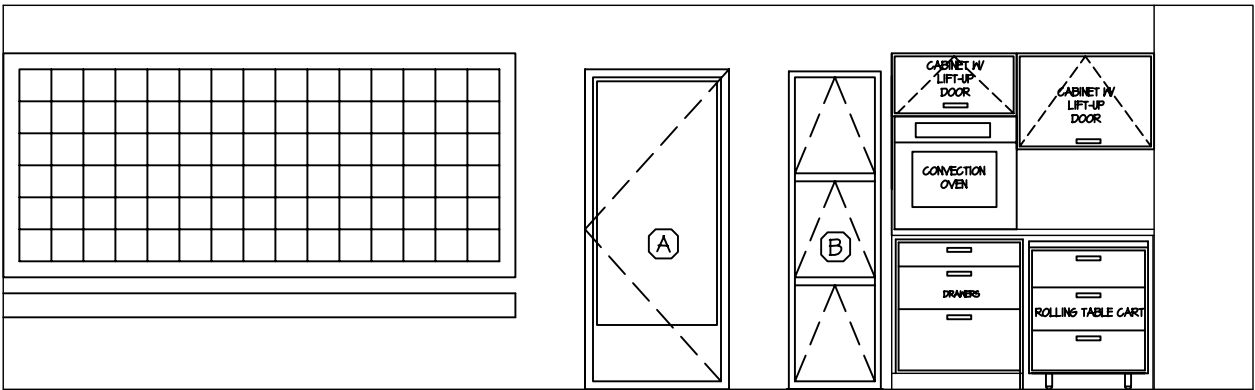
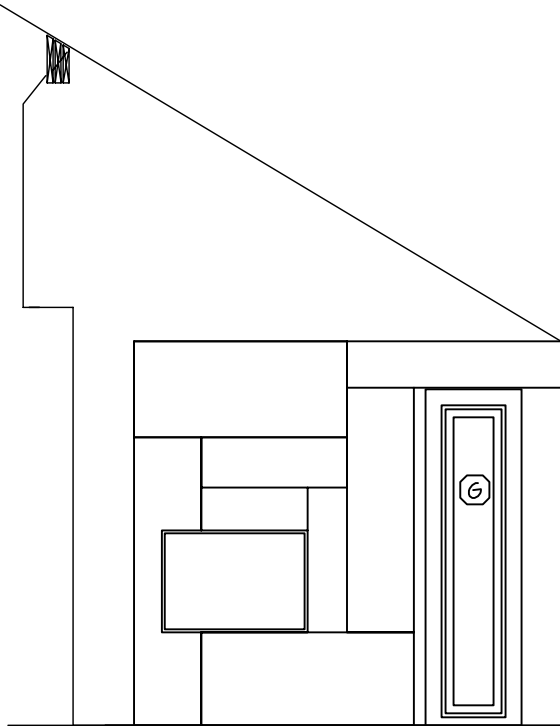
SOLAR  
DECATHLON

ROOF PLAN

Dwg. Number  
  
Date  
08.06.07  
  
Scale  
1/2"=1'-0"

Sheet  
  
A=13





KITCHEN AND LIVING SPACE ELEVATIONS

SCALE: 1/2" = 1'-0"

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AND OMISSIONS TO  
ARCHITECT.

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SOLAR  
DECATHLON

INTERIOR  
ELEVATIONS

Dwg. Number

Date

08.06.07

Scale

1/4"=1'-0"

Sheet

A | = |

NOTE:

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& CHECKED.  
CONTRACTOR TO  
REPORT CHANGES  
AND OMISSIONS TO  
ARCHITECT.

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SOLAR  
DECATHLON

INTERIOR  
ELEVATIONS

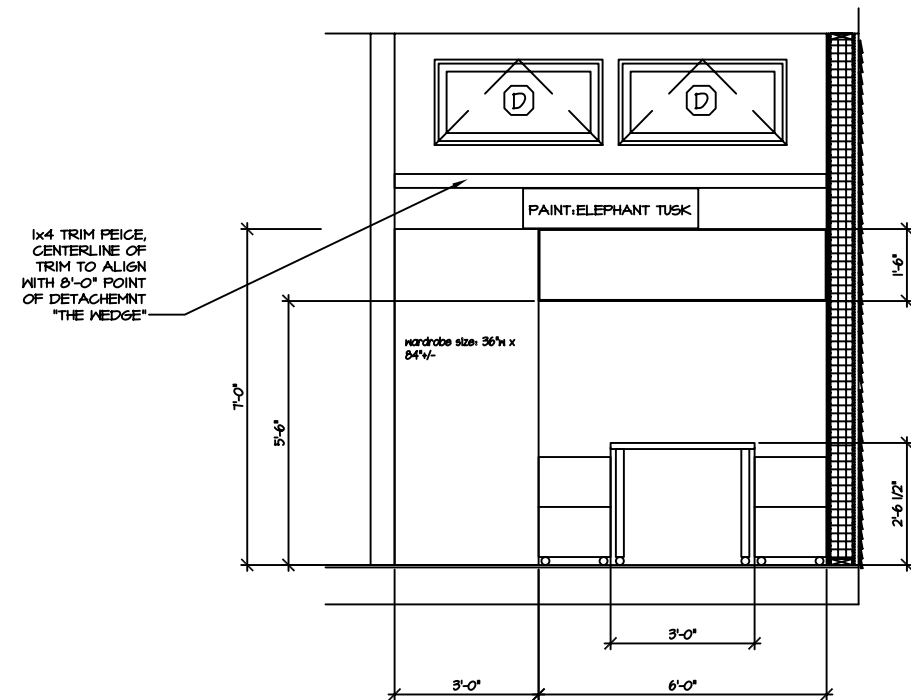
Dwg. Number

Date  
08.06.07

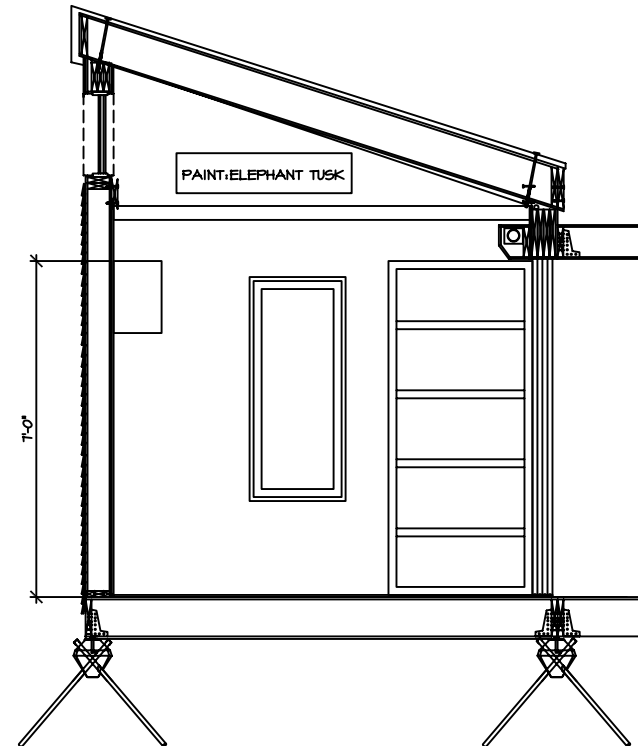
Scale  
1/4"=1'-0"

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A1-2



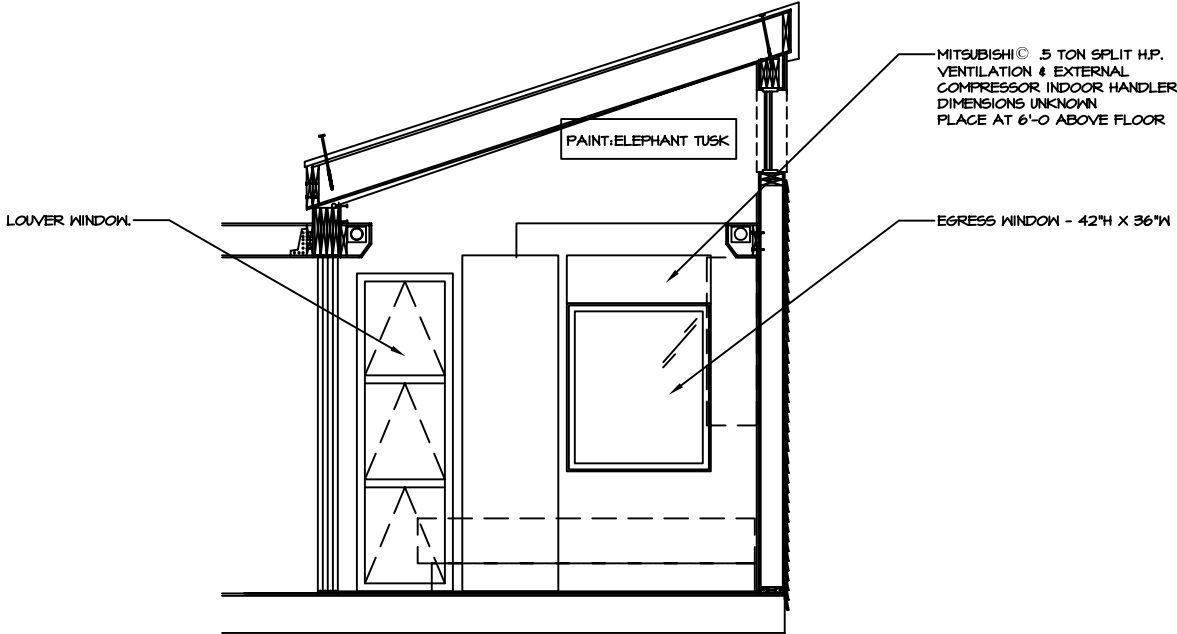
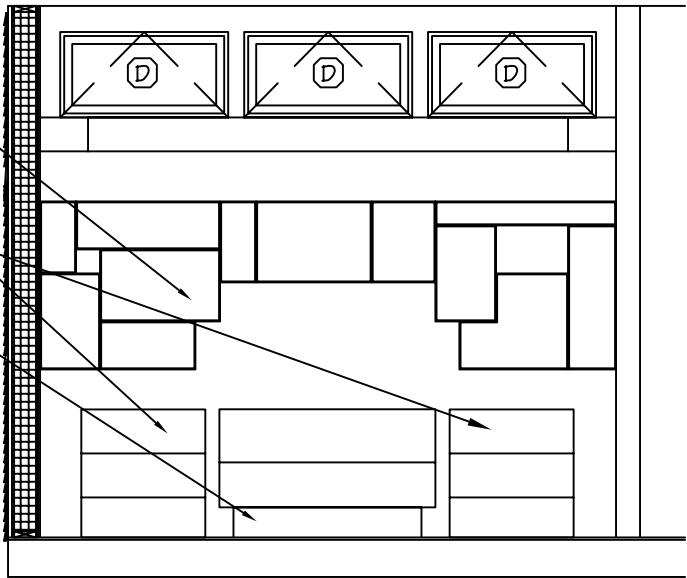
OFFICE ELEVATIONS  
SCALE: 1/2" = 1'-0"



PAINT: ELEPHANT TUSK

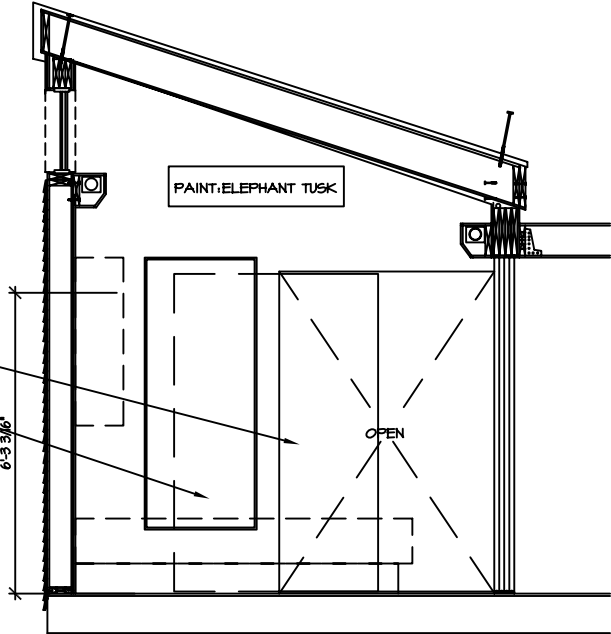
CUBIC SHAPED STORAGE BOXES  
IN VARIOUS SIZES, ALL TO BE 12"  
DEEP. BUILD OUT OF 1/2"  
PLYWOOD.

3 DRAWER DRESSER FROM IKEA  
STYLE: MALM  
COLOR: BLACK-BROWN  
SIZE: 31 1/2"W X 14"D X 30 3/8"H  
FULL SIZE BED FRAME FROM  
IKEA  
STYLE: MALM  
COLOR: BLACK-BROWN  
SIZE: ??"W X ??"D X ??"H



POCKET DOOR THAT CONNECTS  
OFFICE WITH BEDROOM

FULL LENGTH MIRROR



**BEDROOM ELEVATIONS**

SCALE: 1/2" = 1'-0"

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AND OMISSIONS TO  
ARCHITECT.

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SOLAR  
DECATHLON

INTERIOR  
ELEVATIONS

Dwg. Number

Date  
08.06.07

Scale  
1/4" = 1'-0"

Sheet

A1-3

NOTE:

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& CHECKED.  
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AND OMISSIONS TO  
ARCHITECT.

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SOLAR  
DECATHLON

## INTERIOR ELEVATIONS

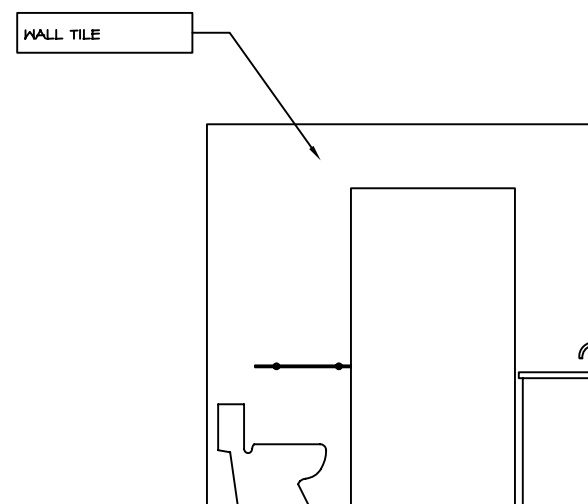
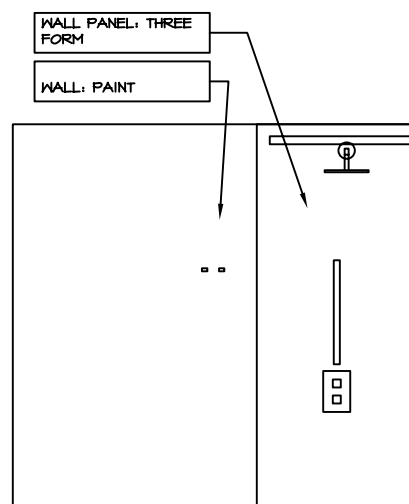
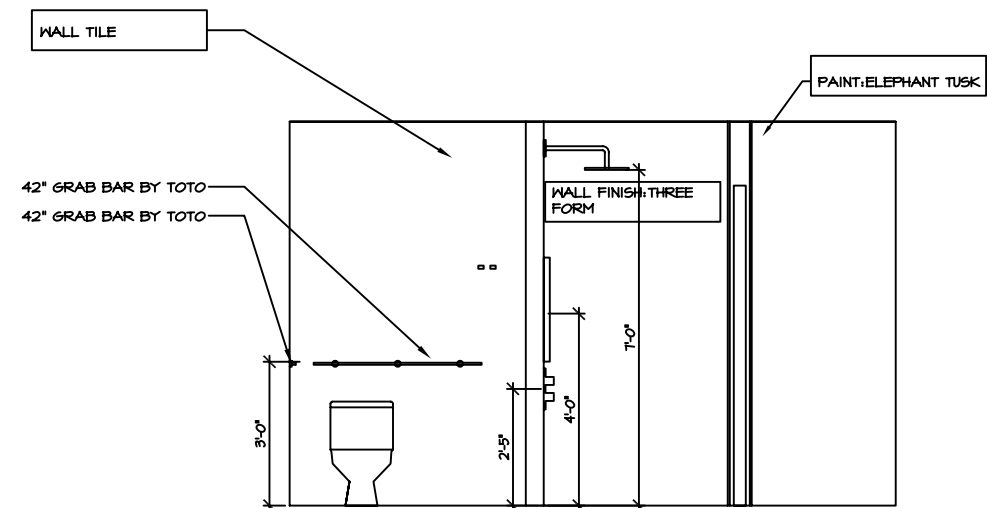
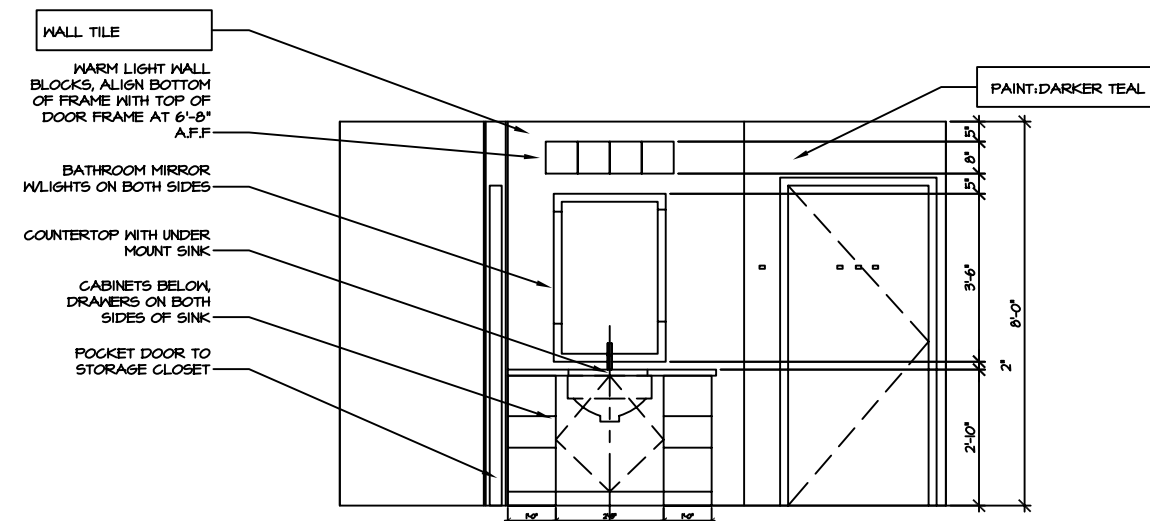
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Date  
08.06.07

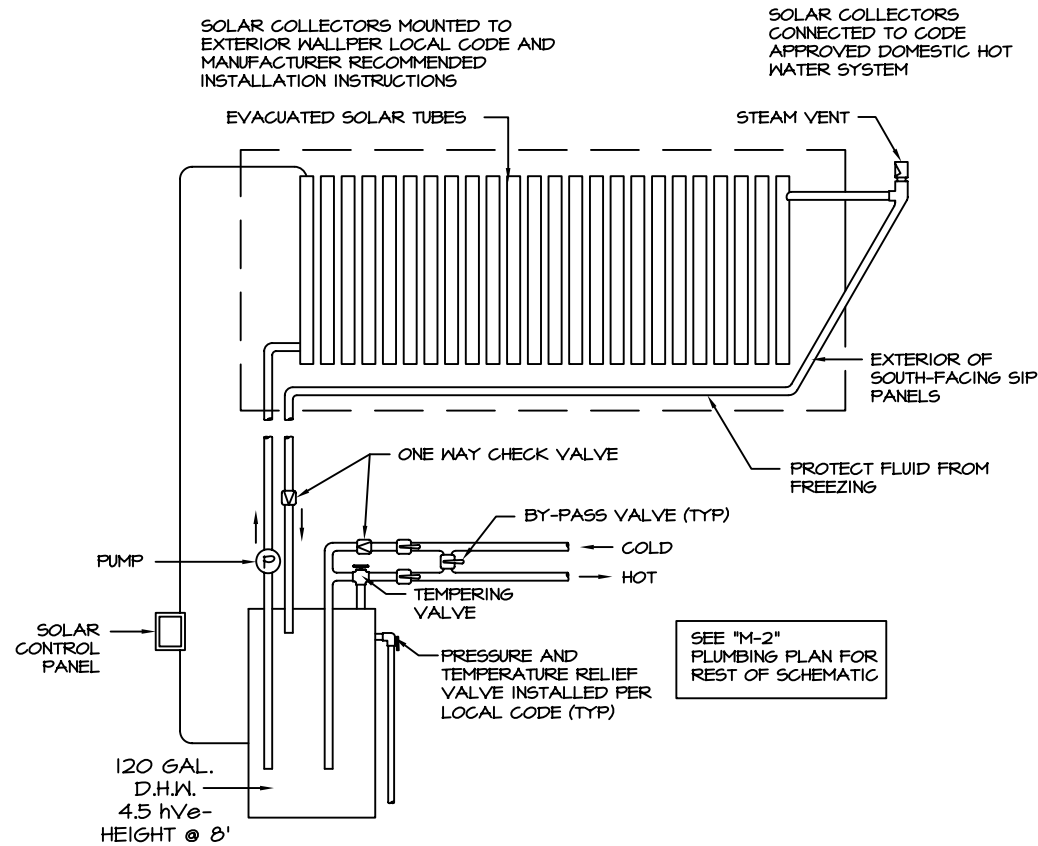
Scale  
1/4" = 1'-0"

Sheet

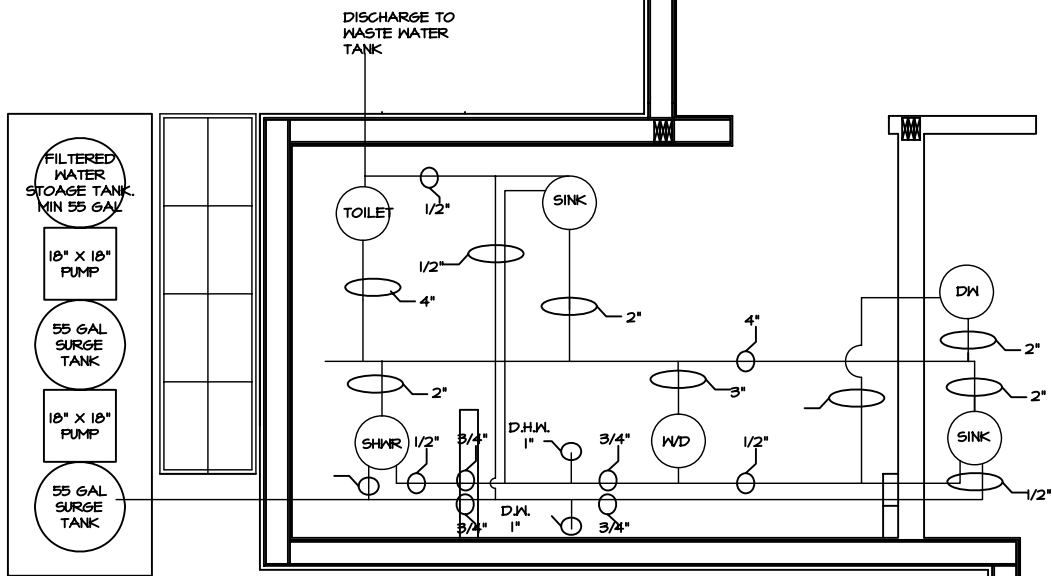
A diagram illustrating a geometric transformation. On the left, a triangle is shown with a vertical line segment drawn from its top vertex to its base. This line segment divides the triangle into two right-angled triangles. An equals sign follows, and on the right, a quadrilateral is shown, which is the rectangle formed by the two right-angled triangles joined at their common hypotenuse. The quadrilateral has a vertical line segment in the middle, representing the original triangle's height.



## BATHROOM ELEVATIONS



**SOLAR THERMAL PLAN**  
SCALE: NTS



**PLUMBING PLAN**  
SCALE: NTS

**PLUMBING SYSTEM DETAILS:**

SINK & TOILET TUBING = 3/8" O.D. COPPER

DISHWASHER: 3/8" ID COPPER TUBING

ALL ISOLATION VALVES STANDARD  
REDUCING STOP VALVES

PRIMARY DISCHARGE PIPE IS PITCHED AT  
MAXIMUM ANGLE ALLOWABLE, BASED ON  
PLACEMENT OF WASTE WATER TANK.

PRIMARY DISCHARGE IS SCH. 40 PVC

**NOTES:**

CONNECTION TO SERVICES ARE COMMON  
TYPE COMPRESSION - COPPER FITTING  
BETWEEN COPPER TUBING & PIPE

SHOWER VALVE W/ BODY TEMP.  
CONTROL PRESSURE, BALANCE &  
INTEGRAL STOPS.

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SOLAR  
DECATHLON

PLUMBING PLAN

Dwg. Number

Date

08.06.07

Scale

NTS

Sheet

M=1



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AND OMISSIONS TO  
ARCHITECT.

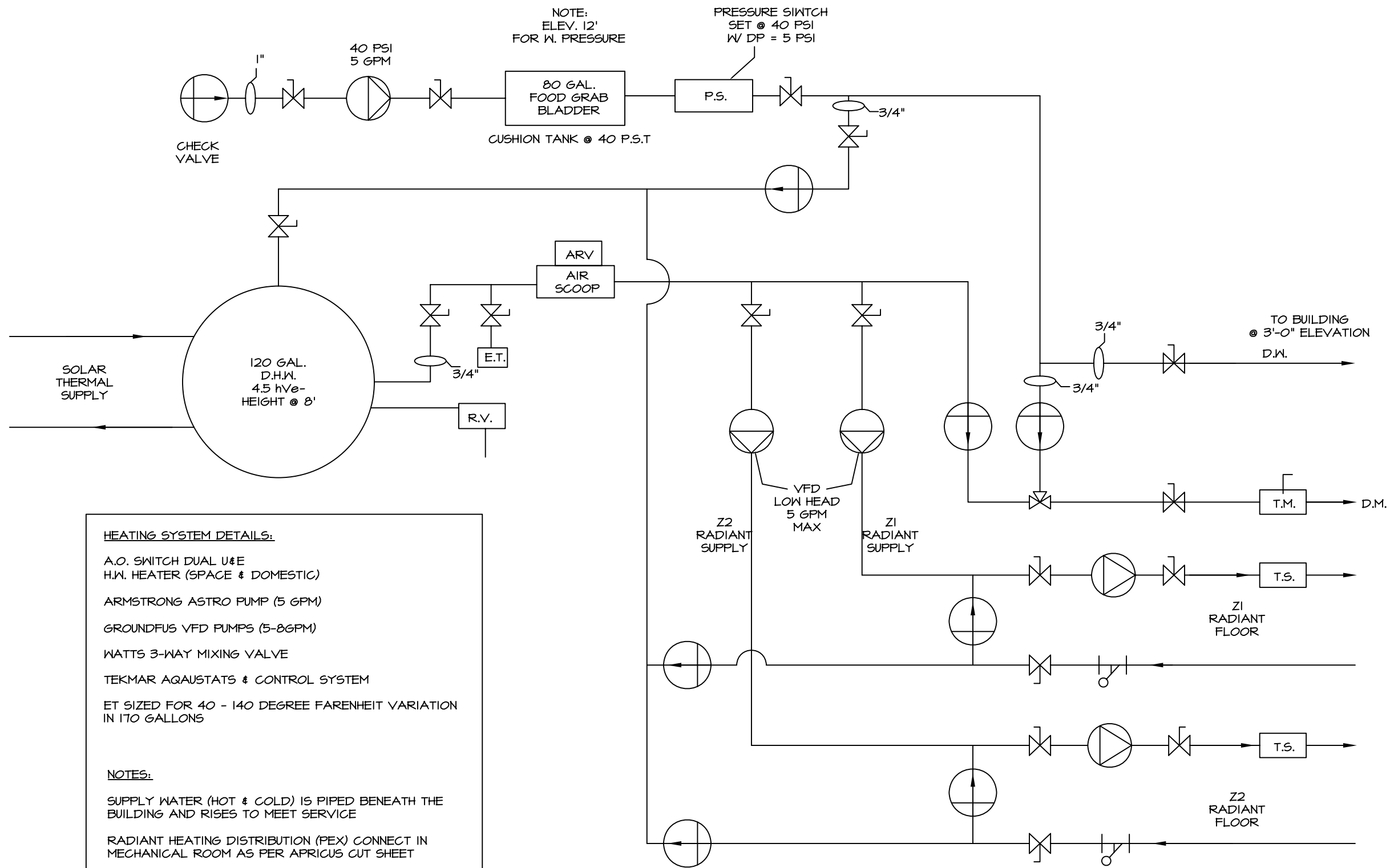
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SOLAR  
DECATHLON

HEATING  
SCHEMATIC

Dwg. Number  
Date  
07.04.07  
Scale  
NTS

Sheet  
M-2

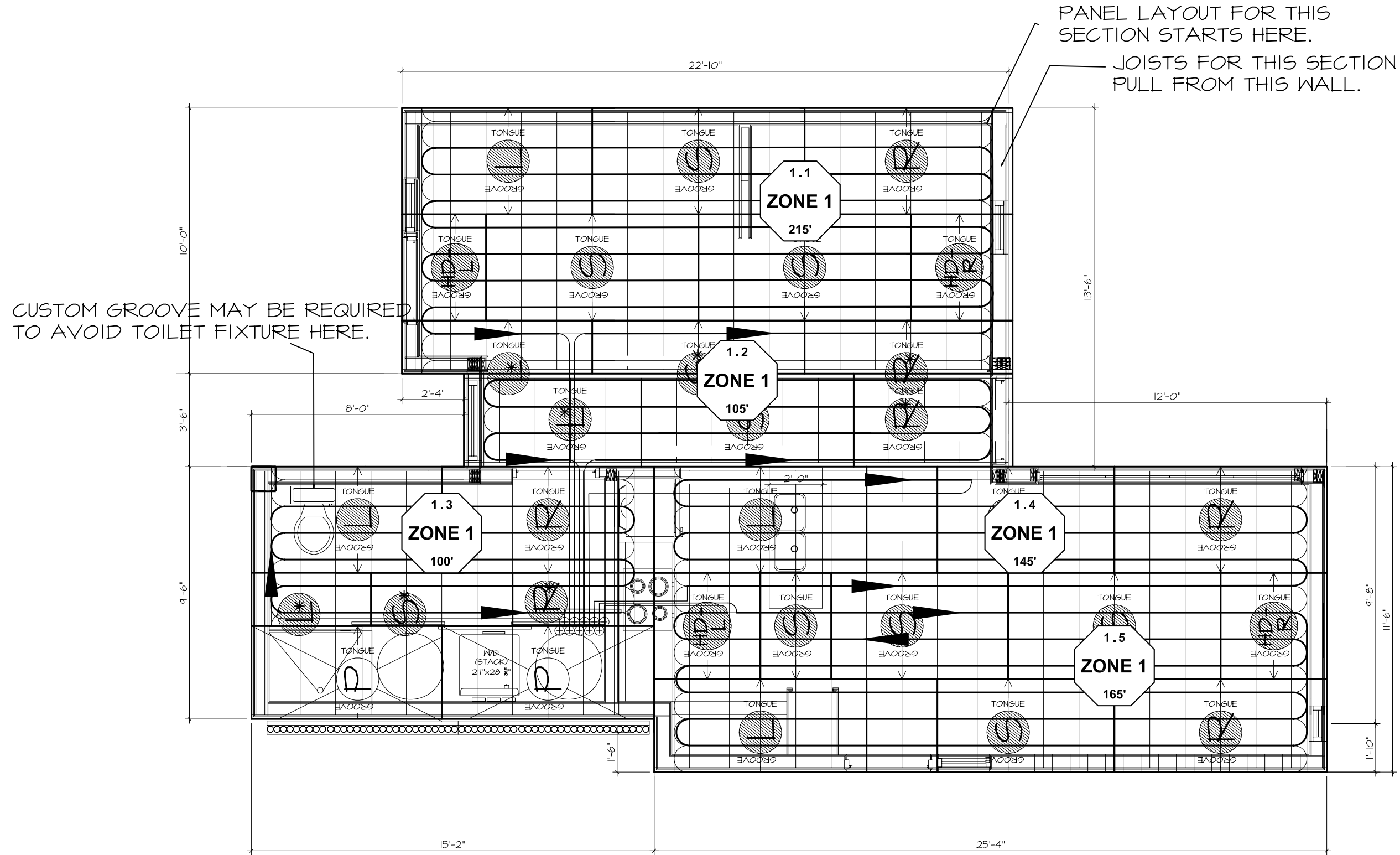


HEATING SYSTEM DETAILS:  
A.O. SWITCH DUAL U&E  
H.W. HEATER (SPACE & DOMESTIC)  
ARMSTRONG ASTRO PUMP (5 GPM)  
GROUNDUS VFD PUMPS (5-8GPM)  
WATTS 3-WAY MIXING VALVE  
TEKMAR AQUASTATS & CONTROL SYSTEM  
ET SIZED FOR 40 - 140 DEGREE FARENHEIT VARIATION  
IN 170 GALLONS

NOTES:  
SUPPLY WATER (HOT & COLD) IS PIPED BENEATH THE  
BUILDING AND RISES TO MEET SERVICE  
RADIANT HEATING DISTRIBUTION (PEX) CONNECT IN  
MECHANICAL ROOM AS PER APRICUS CUT SHEET

HEATING SCHEMATIC  
SCALE: NTS





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SOLAR  
DECATHLON

RADIANT FLOOR  
LAYOUT

Dwg. Number

Date  
08.06.07

Scale  
NTS

Sheet

M-3

# WARMBOARD PANEL SCHEMATIC

SCALE: 1/4"=1'-0



NOTE:

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& CHECKED.  
CONTRACTOR TO  
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AND OMISSIONS TO  
ARCHITECT.

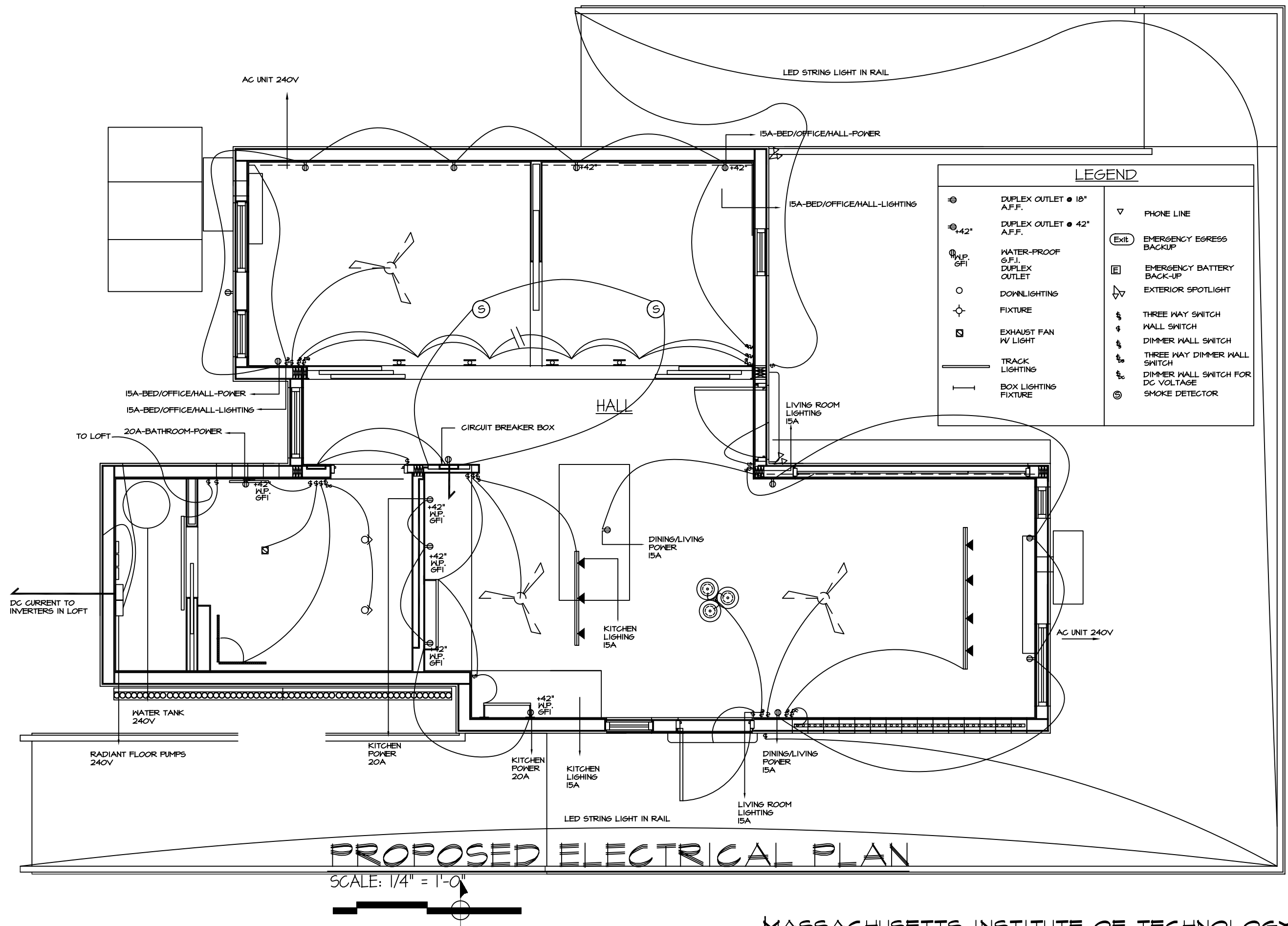
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SOLAR  
DECATHLON

ELECTRICAL  
PLAN

Dwg. Number  
Date  
08.06.07  
Scale  
1/2"=1'-0"

Sheet  
E-1



PROPOSED SOLAR-ELECTRIC SCHEMATIC

SCALE: NTS

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NOTE:  
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& CHECKED.  
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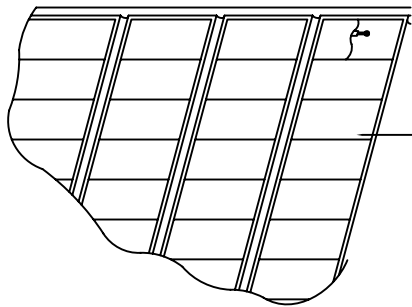
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SOLAR  
DECATHLON

SOLAR ELECTRIC  
SCHEMATIC

Dwg. Number
Date 08.06.07
Scale NTS

Sheet E-2
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ROOFING PRODUCTS AND  
UNDERLAYMENT INSTALLED  
ACCORDING TO LOCAL  
BUILDING CODE AND  
MANUFACTURER  
INSTRUCTIONS

ARRAY OF 42 SUNPOWER 215W PV PANELS

NOTE: ONLY ONE PV CONNECTION IS  
SHOWN FOR GRAPHICAL PURPOSES. A  
TOTAL OF 42 SEPARATE CONNECTIONS  
TO EACH NPS SYSTEM WILL COMPRISE  
THE ENTIRE PV NETWORK. INSTALLED  
PER MANUFACTURERS SPECS

SEE A-13 FOR PANEL LAYOUT.

ELECTRICAL CONNECTIONS AND WIRING  
PER MANUFACTURER AND NATIONAL OR  
LOCAL ELECTRICAL CODE

24 MK 8A8D © BATTERY SYSTEM

2 PARALLEL STRINGS OF 4  
SERIES (48V DC), TYP. OF 3

245 A-H/STRING  
1470 A-H TOTAL

EACH BATTERY BOX WILL HAVE A #4  
FEED TO THE INVERTORS AND MAIN BUSES

ALL GROUNDS WILL BE COMMON WITH #00  
CABLE

ARRAY 1

SUNPOWER-215  
22 MODULES:  
2 PANELS PER  
STRING  
11 STRINGS  
 $I_{sc} = 63.8$   
 $V_{oc} = 96.6$   
 $P_{STC} = 4750$

11x15 A BKR

+ -

+ -

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+ -

ARRAY 2

SUNPOWER-215  
20 MODULES:  
2 PANELS PER  
STRING  
10 STRINGS  
 $I_{sc} = 58$   
 $V_{oc} = 96.6$   
 $P_{STC} = 4300$

10x15 A BKR

+ -

+ -

+ -

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COMBINER  
BOXES

PV DC  
DISCONNECTS

T-80 APOLLO  
CHARGE  
CONTROLLER

PV BATT  
+ - + -

+ - + -

+ - + -

+ - + -

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+ - + -

+ - + -

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+ - + -

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T-80 APOLLO  
CHARGE  
CONTROLLER

PV BATT  
+ - + -

+ - + -

+ - + -

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xANTREX  
XW 6048  
INVERTER  
DC AC OUT AC IN  
+ - LI L2 LI L2

SOLAR D MAIN  
DP  
200 A AC  
CIRCUIT PANEL-  
SEE DRAWING  
E-3 FOR PANEL  
DETAILS

FUTURE MAIN  
DP

UTILITY  
METER BOX

GRID

TOTAL PV  
PRODUCED  
METER

INTERLOCK  
MECHANISM

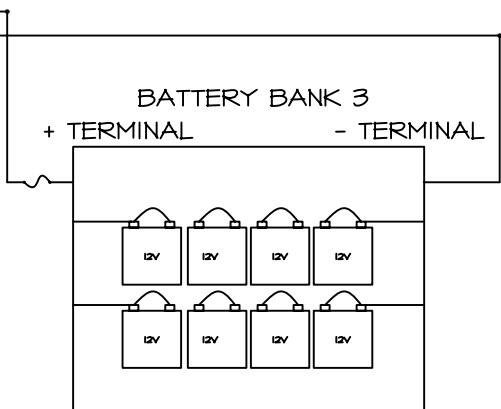
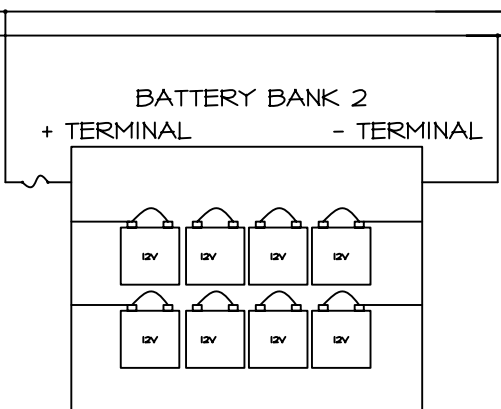
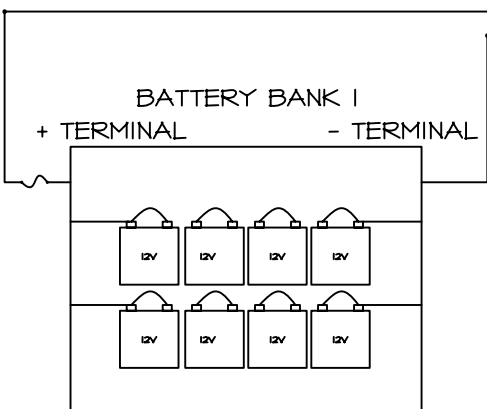
INTERLOCK  
MECHANISM

PART OF xANTREX  
POWER DISTRIBUTION  
PANEL

DC POWER  
DISTRIBUTION

WATER  
HEATER

DC  
LIGHTING



NOTE:

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AND OMISSIONS TO  
ARCHITECT.

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SOLAR  
DECATHLON

CIRCUIT  
DIAGRAM

Dwg. Number

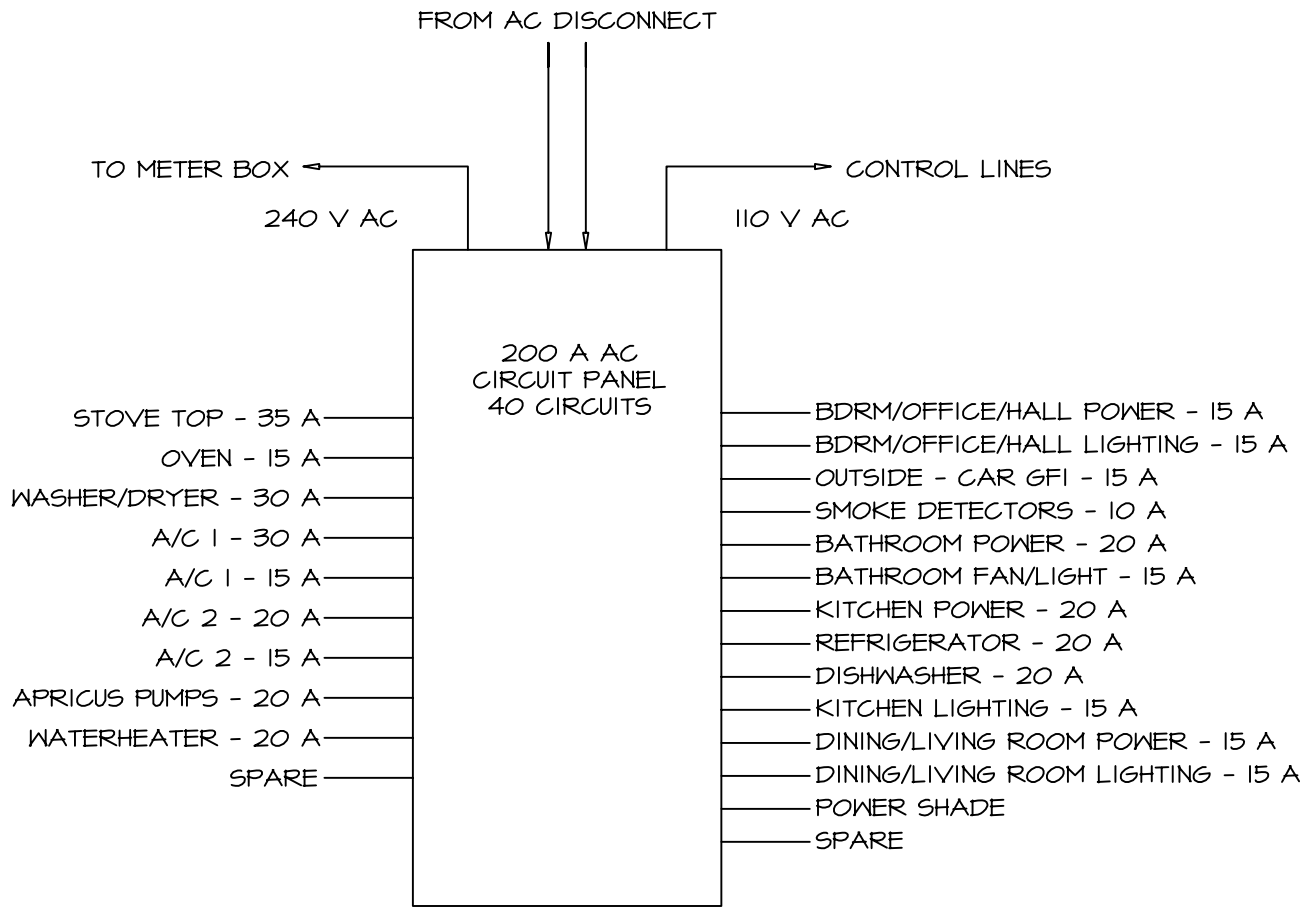
Date  
08.06.07

Scale

NTS

Sheet

E-3



PROPOSED CIRCUIT DIAGRAM

SCALE: NTS

ELECTRICAL SYSTEM DETAILS:

PROPOSED CIRCUIT BOARD LAYOUT FOR  
MIT SOLAR DECATHLON

1x200A 40 CIRCUIT FUSE BOARD - LOCATION AT HALL  
15A BEDROOM/OFFICE/HALL - POWER  
15A BEDROOM/OFFICE/HALL/OUTSIDE - LIGHTING  
15A EXTERIOR GFI - CAR  
15A SMOKE DETECTORS - HARDWIRED W/ BATTERY  
BACK- UP AND CONNECTED TO ALARM TOGETHER -  
WIRED ACCORDING TO NFPA72  
20A BATHROOM - POWER  
15A BATHROOM - FAN/LIGHT  
20A KITCHEN - COUNTER TOP POWER  
20A REFRIGERATOR  
20A DISHWASHER  
15A KITCHEN - LIGHTING  
15A DINING AREA / LIVING ROOM - POWER  
15A DINING AREA / LIVING ROOM - LIGHTING

ADDITIONALS TO BE INCORPORATED IN FIELD:

CEILING FANS IN LIVING ROOM/BEDROOM  
KITCHEN APPLIANCE EXTRAS

MECHANICAL SERVICES:


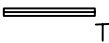



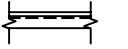
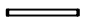
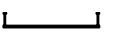




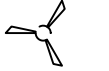
SOLAR THERMAL CONTROLLERS, PUMP,  
240V  
(RATING TO BE FINALIZED IN FIELD)

80 GALLON WATER TANK  
240V 3800W 20A  
RATING TO BE FINALIZED IN FIELD

AC UNITS  
AC 1 = 1 TON UNIT  
AC2 = 1/2 TON UNIT  
240V  
RATING TO BE FINALIZED IN FIELD

RADIANT FLOOR PUMPS  
240V  
RATING TO BE FINALIZED IN FIELD

NOTE: ALL FIRST FLOOR ELECTRICAL  
WIRING TO BE RUN THROUGH SIP PANEL  
CHASES PER MANUFACTURERS SPECS.  
CHASES HAVE BEEN LOCATED AT 18"  
STANDARD AND AT 40" WHERE RAISED  
HEIGHT APPLICABLE. VERTICAL  
CHASES HAVE BEEN PROVIDED AT  
CERTAIN PANELS FOR ACCESS TO  
LIGHTING AND FAN OUTLETS.

SYMBOL	DESCRIPTION
	RETRO 16 LINE VOLTAGE TRACK HEAD
	BASIS CEILING STRAIGHT RAIL TRACK LENGTH
	RECESSED LENS WALL WASHER
	VANITY MIRROR EXTRUDED ANODIZED ALUMINUM FINISH
	CHANDELIER PENDANT
	CORELIGHT COVE LIGHT (WITH DIMMABLE T8 FLUORESCENT
	T8 LINEAR STRIP ABOVE BATHROOM CLOSET DOOR AND IN LOFT
	ULTRASLIM LITE LINEAR STRIP W/ 6" STEM UNDER CABINETS
	ULTRA SLIMLITE DOUBLE SIDED SCONCE
	RECTANGULAR DENEBS STEP LIGHT- COMES WITH HOUSING AND 12V/120/ TRANSFORMER
	12'-0" LED LINEAR STRIP
	IN TROMBE WALL
	CEILING FAN BRUSHED ALUMINUM FINISH

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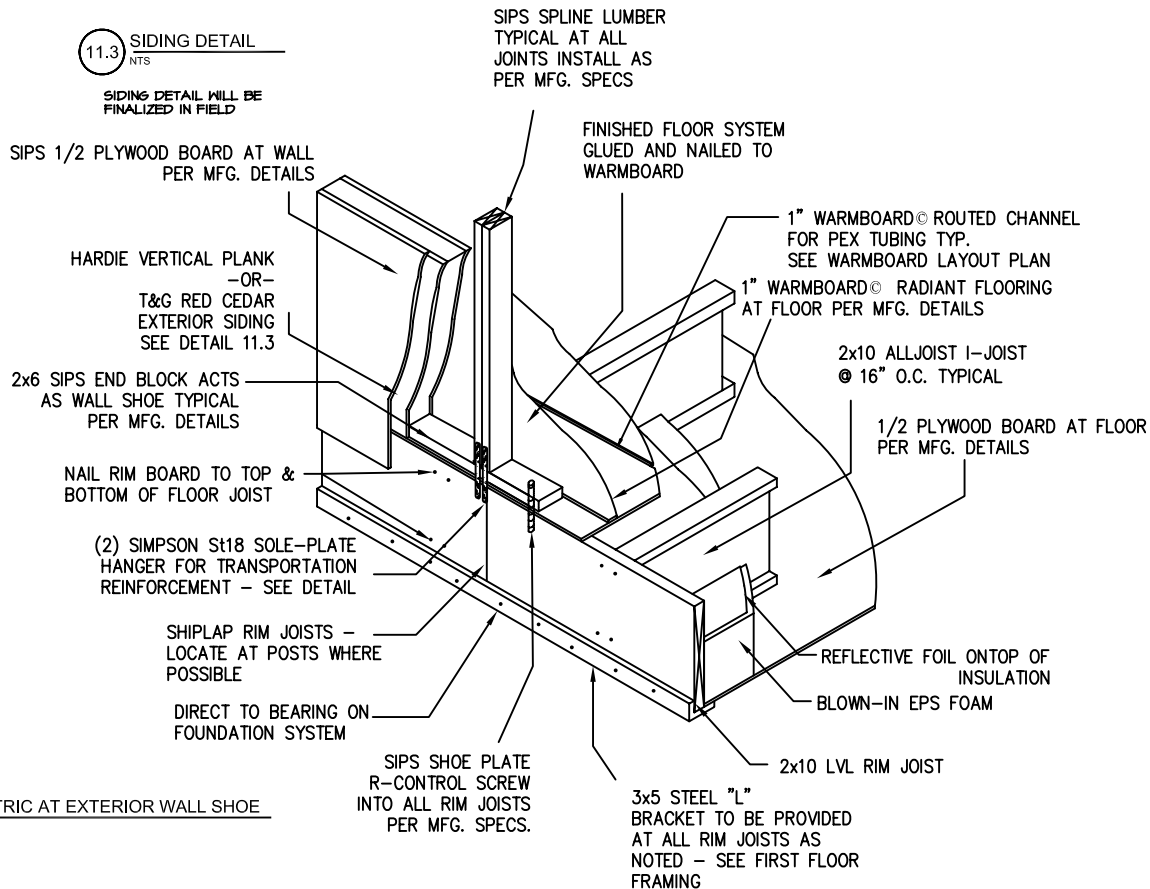
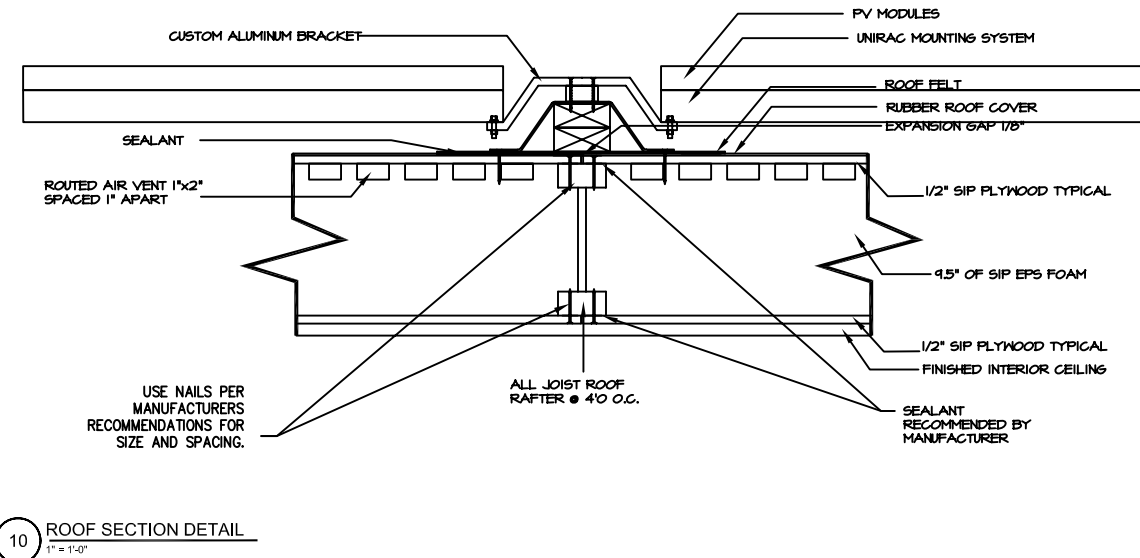
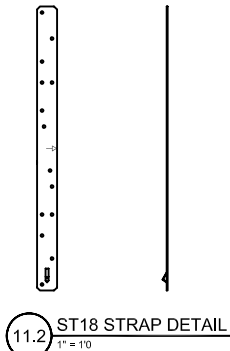
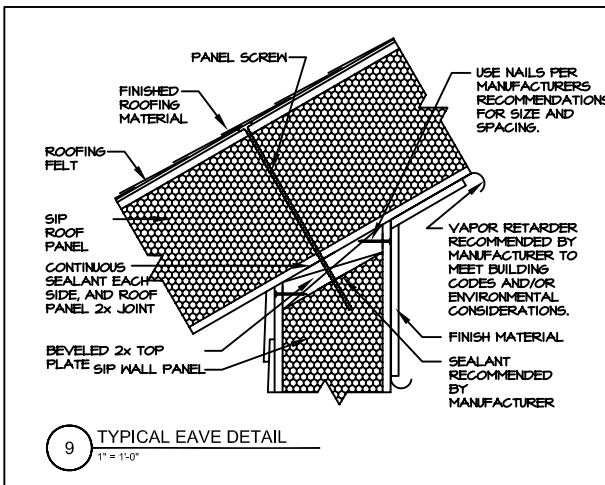
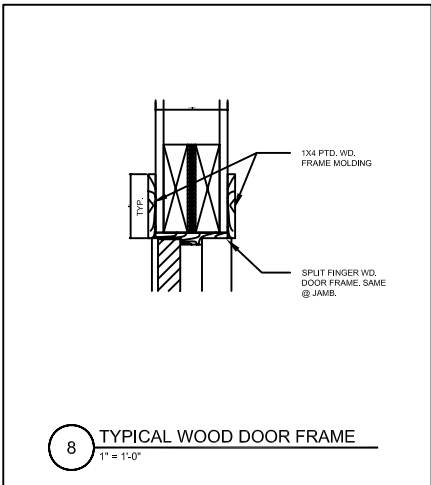
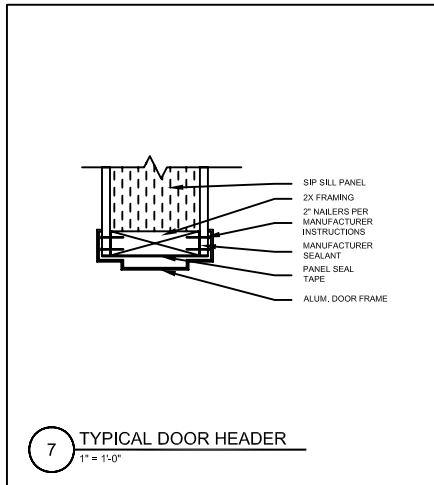
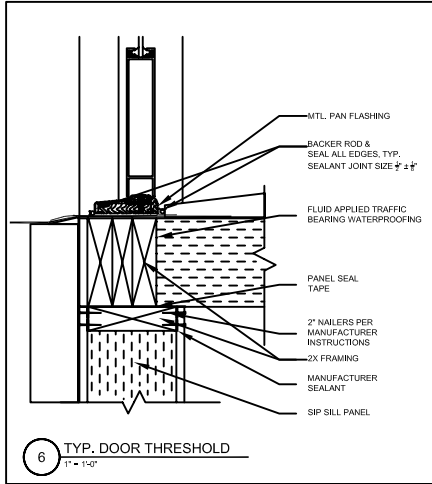
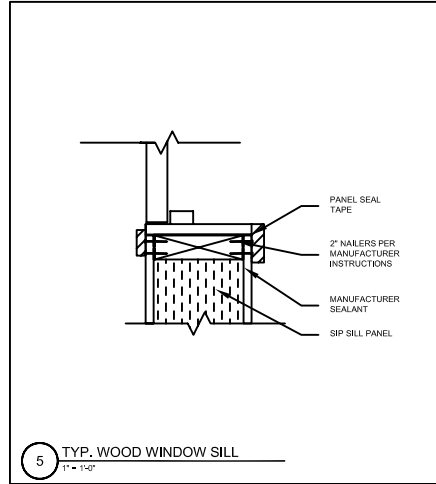
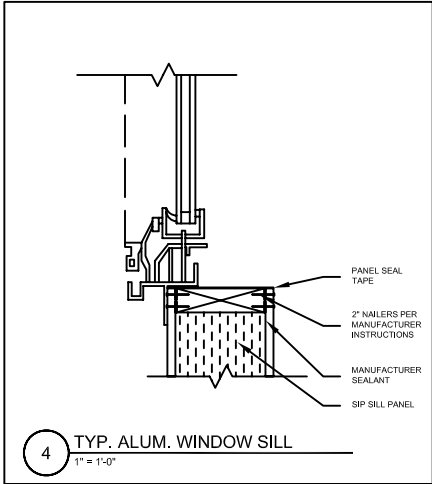
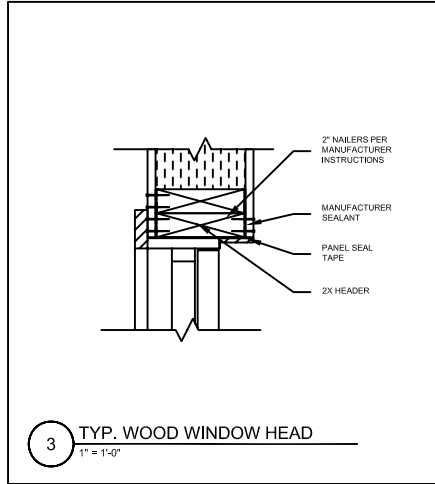
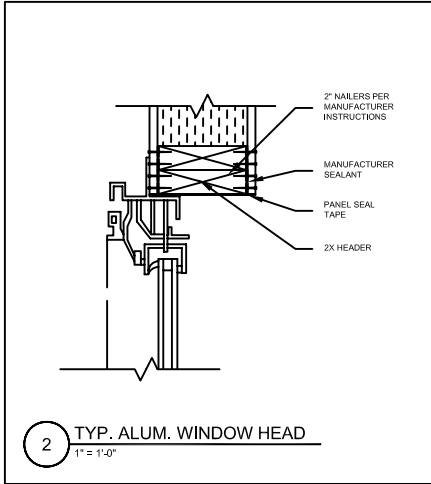
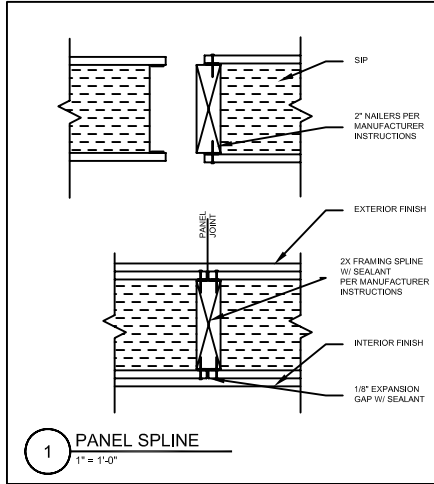
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1/2"=1'-0"

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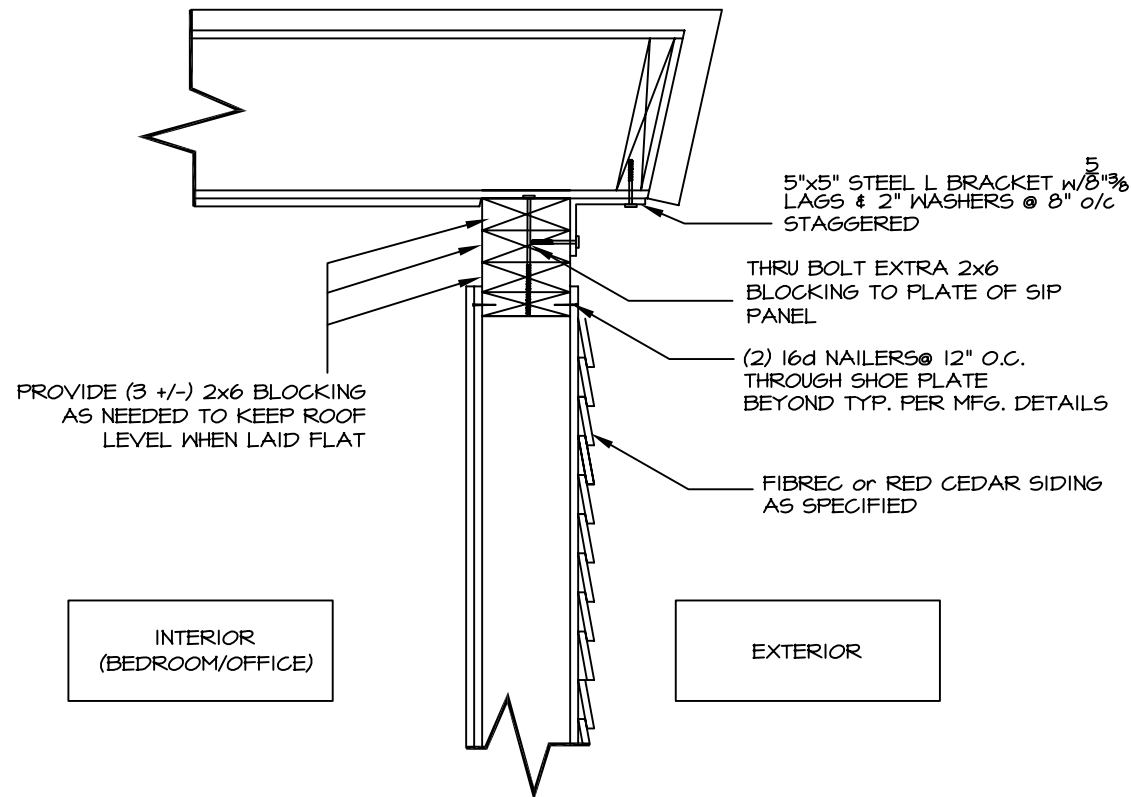
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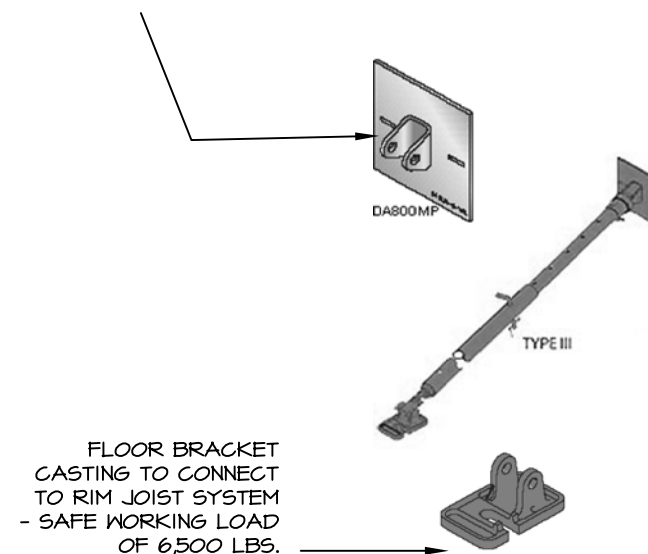
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12 NORTH ROOF TIE-DOWN DURING TRANSPORTATION  
1" = 1'-0"

MOUNTING PLATE CONNECTS TO WALL FACE AND BEARS ON THE BRACE SIDE OF THE WALL. IT IS MANUFACTURED FROM 3/8" THICK STEEL PLATE CONFORMING TO ASTM A36. THE PIPE BRACE IS ATTACHED WITH A 5/8" DIAMETER HEAD PIN.

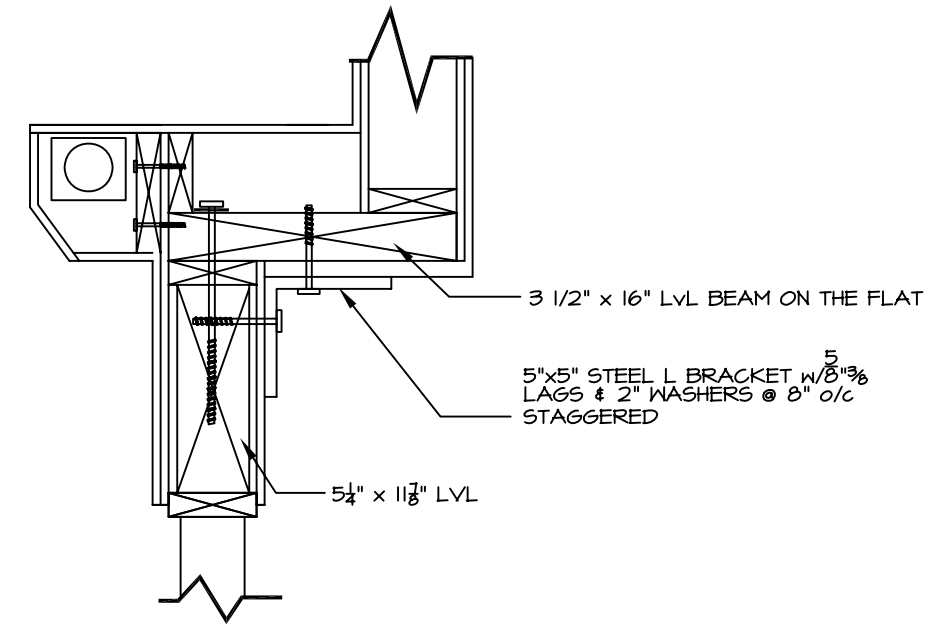


13 CROSS-BRACING SYSTEM FOR MOD. 2 DURING TRANSPORT  
1 1/2" = 1'-0"

Table 1 - Safe Working Loads for Braces\*

BRACE LENGTH	BRACE DESIGNATION		
	BR20	BR23	BR39
13'-0"	5800	NA	NA
14'-0"	5000	NA	NA
15'-0"	4200	6500	NA
16'-0"	3460	6500	NA
17'-0"	2975	6270	NA
18'-0"	2750	5250	NA
19'-0"	2275	4100	NA
20'-0"	1975	3575	NA
21'-0"	NA	2890	NA
22'-0"	NA	2410	NA
23'-0"	NA	2080	5585
24'-0"	NA	NA	4905
25'-0"	NA	NA	4250
26'-0"	NA	NA	3325
27'-0"	NA	NA	2715
28'-0"	NA	NA	2280
29'-0"	NA	NA	1850
30'-0"	NA	NA	1600
31'-0"	NA	NA	1250

\*Safe Working Load based on a safety factor of 1.5.



15 CONNECTION DETAIL AT LIVING ROOM CLERESTORY  
1" = 1'-0"

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TRANSPORT  
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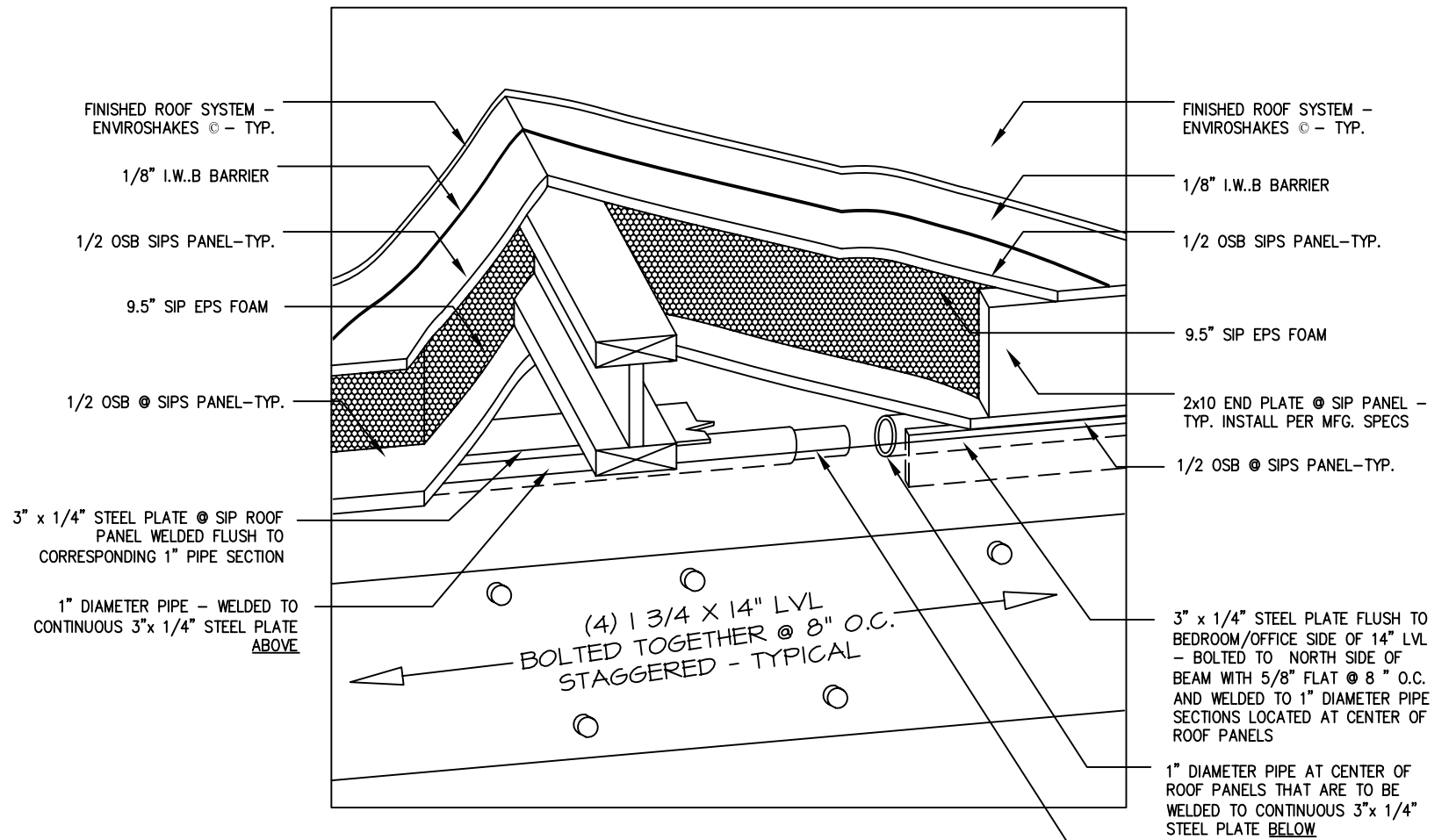
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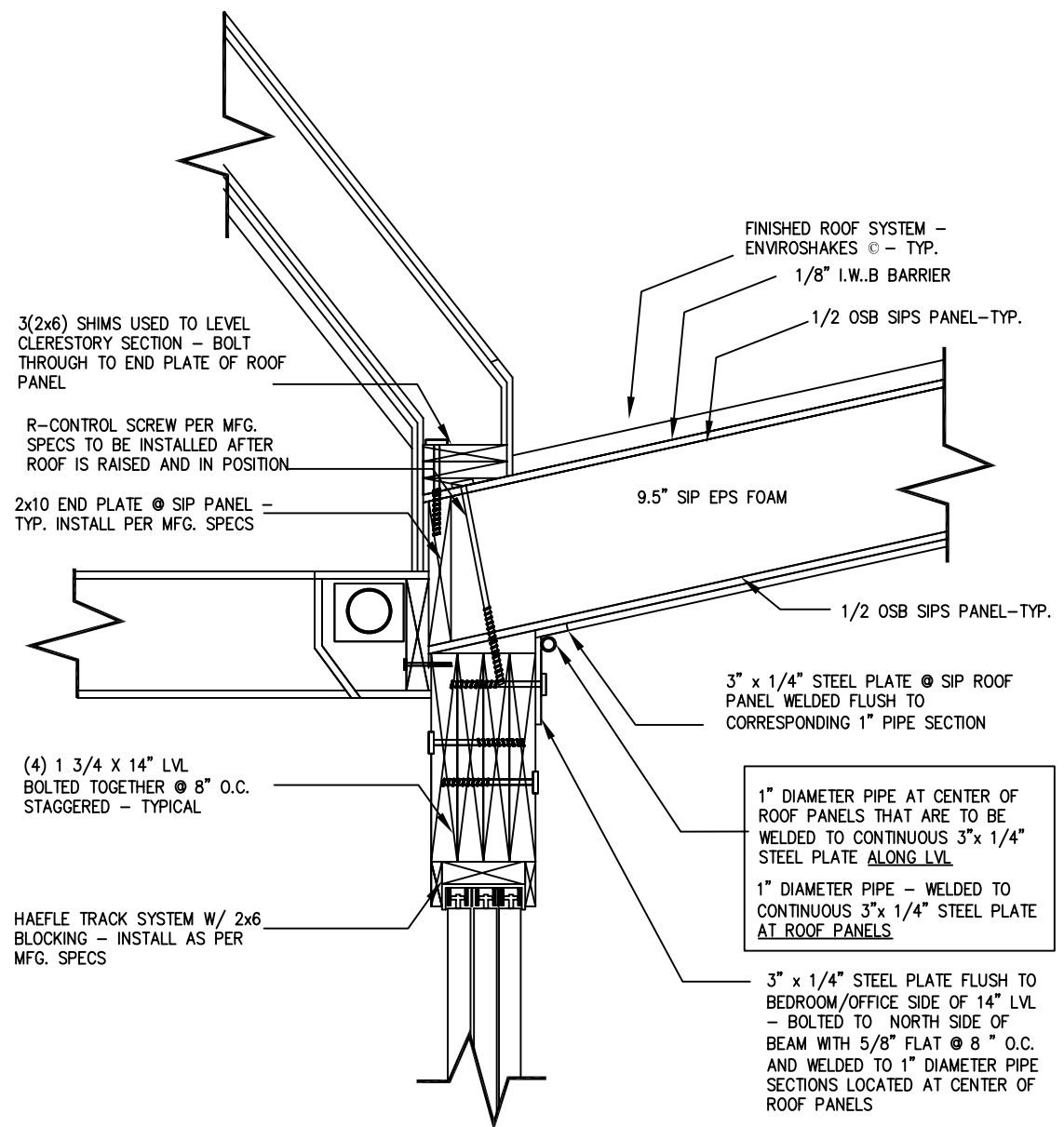
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15 CONNECTION DETAIL AT LIVING ROOM CLERESTORY  
1" = 1'-0"



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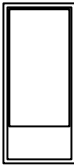

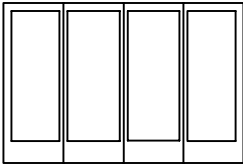
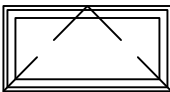

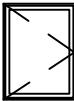

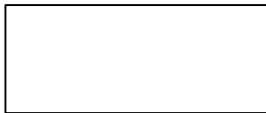
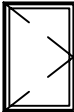
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**SIPS CONNECTION  
DETAILS**

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TAG	QUANTITY	GRAPHIC	R.O.	LOCATION	DESCRIPTION
(A)	2		<div>SIPS ARE CUT ON SITE</div>	EAST ELEVATION HALLWAY ENTRY  SOUTH ELEVATION DINING ROOM ENTRY	3'0 FRENCH HINGED 18" MIN. TO GLASS @ BOTTOM & TEMPERED PER ADA CODE
(B)	2			WEST ELEVATION BEDROOM ENTRY  SOUTH ELEVATION DINING ROOM ENTRY	2'0X 6'-8 STACKED AWNINGS
(C)	1			NORTH ELEVATION LIVING ROOM ENTRY	10'0 FRENCH SLIDER FAR LEFT/RIGHT PANELS TO BE FIXED & CUSTOM MATERIAL T.B.D
(D)	8			NORTH ELEVATION LIVING ROOM (2) OFFICE (2) BEDROOM (3) LOFT (1)	3'-6 x 1'-8 OPERABLE AWNING WINDOWS AT CLERESTORY
(E)	1			EAST ELEVATION OFFICE	2'-0 x 4'-8 FIXED
(F)	1			WEST ELEVATION HALL	3'-0 x 4'-0 OPERABLE CASEMENT WINDOWS
(G)	1			EAST ELEVATION LIVING ROOM	1'-4 x 6'-6 FIXED PICTURE WINDOW
(J)	1			NORTH ELEVATION MIDDLE CLERESTORY	RECYCLED JOHN HANCOCK THERMOPANE WINDOW ON 2x8 WOOD SUPPORTS SEE SECTION B-B
(K)	1			WEST ELEVATION BEDROOM	3'-0" x 3'-6" OPERABLE CASEMENT WINDOW

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LIGHT FIXTURE SCHEDULE								
SYMBOL	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTS	WATTS	MOUNTING	LAMP(S)	REMARKS
▼	WAC LIGHTING	MODEL 775	LINE VOLTAGE TRACK HEAD	120	11 WATT CFL	TRACK	16 LAMPS PAR38 CFL	AMBIENT, DIMMABLE LIVING ROOM, OFFICE & KITCHEN
≡ <sub>T</sub>	WAC LIGHTING	HTK-775	TRACK LENGTH - BLACK	120	N/A	SURFACE	2-2'-0" TRACKS 4-4'-0" TRACKS 1-6'-0" TRACKS	LIVING ROOM, OFFICE & KITCHEN
○	WAC LIGHTING	MODEL R5VT-21	5" TRIM RECESSED	120?	15-20 WATT CFL	RECESSED	3 LAMPS PAR30 CFL	AMBIENT, DIMMABLE BATHROOM & HALLWAY
□	WAC LIGHTING	MODEL R5V1	COMPATIBLE HOUSING	120?	0	RECESSED	N/A	BATHROOM & HALLWAY
—	REZEK MIRRORS	VANITY MIRROR 818	VANITY MIRROR WHITE EXTRUDED ALUMINUM FINISH	120	100	WALL MOUNT	3000 KELVIN HIGH COLOR RENDITION LAMPS INCLUDED	TASK, COLOR CORRECTIVE BATHROOM VANITY
—	COLOR KINETICS	LED 1W PROFILE g2	LINEAR STRIP	24 VDC	15	SURFACE	LED INCLUDED 9 FIXTURES	TASK UNDER CABINET IN KITCHEN
⊙	?	?	CHANDELIER PENDANT	120 VAC	11 WATT CFL	SUSPENDED	2 LAMPS CFL	TASK DINING ROOM TABLE
○	?	?	TRACK PENDANT	12 VDC	4	SUSPENDED	4 LAMPS GE HALOGENS	TASK KITCHEN ISLAND
—	COLOR KINETICS	LED 6W COVE POWERCORE	COVE LIGHT	100, 120, OR 230 VAC OR DC??	6	SURFACE	LED INCLUDED	ACCENT BEDROOM
⊥	COLOR KINETICS	LED 1W MR	UP/DOWN SCONCE	DC?	?	WALL	LED INCLUDED	ACCENT BEDROOM, OFFICE & LIVING ROOM
—	?	LED	TASK LAMP	?	?	N/A	LED INCLUDED	ACCENT BEDROOM & OFFICE
○	?	?	FLOOR LAMP	?	?	N/A	CFL	ACCENT LIVING ROOM
—	COLOR KINETICS	LED ROPE	TROMBE WALL	DC?	?	INSIDE TROMBE WALL	LED INCLUDED	ACCENT LIVING ROOM
✂	MODERN FAN	MOD-clrvssshort	CEILING FAN BRUSHED ALUMINUM FINISH	?	?	N/A	3 FIXTURES	LIVING ROOM, BEDROOM, AND KITCHEN
	MODERN FAN	MOD-DRD	DOWNRODS FOR CEILING FAN BRUSHED ALUMINUM FINISH	?	?	N/A	2-36" RODS	LIVING ROOM, BEDROOM, AND KITCHEN
	MODERN FAN	MOD-045	SLOPED CEILING ADAPTER FOR CEILING FAN BRUSHED ALUMINUM FINISH	?	?	N/A	2 FIXTURES	LIVING ROOM AND KITCHEN



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GENERAL

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE COMMONWEALTH OF MASSACHUSETTS BUILDING CODE (780CMR) AND THE CONTRACT DOCUMENTS. IN CASE OF A CONFLICT, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.

THE CONTRACTOR MUST HAVE THE EXPERTISE TO EXECUTE ALL WORK INDICATED ON THE DRAWINGS OR SHALL HIRE QUALIFIED HELP.

THE CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT.

THE CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR VERIFICATION OF LOCATION AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, WASHES, DRIPS, REVEALS, DEPRESSIONS, AND OTHER PROJECT REQUIREMENTS.

ALL REQUESTS FOR CHANGES FROM THE CLIENT, THE CONTRACTORS, ETC., OR ANY OTHER PARTY MUST BE MADE IN WRITING TO THE STRUCTURAL ENGINEER OR ANY OTHER CHANGES TO DRAWINGS MADE ON THE SITE MUST BE FOLLOWED UP IN WRITING TO THE STRUCTURAL ENGINEER.

THE USE OF EXPLOSIVES IS NOT PERMITTED WITHOUT THE WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE ARCHITECT WHEN, IN THE COURSE OF CONSTRUCTION OR DEMOLITION, CONDITIONS ARE UNCOVERED WHICH ARE UNANTICIPATED OR OTHERWISE APPEAR TO PRESENT A DANGEROUS CONDITION.

WHERE NEW WORK WILL BE ADJACENT TO OR FRAMING EXISTING CONSTRUCTION, VERIFY DIMENSIONS OF EXISTING CONSTRUCTION, PRIOR TO FABRICATION OF NEW MEMBERS.

PROVIDE ALL LABOR AND MATERIAL FOR ANY FRAMING REQUIRED TO CONNECT NEW FRAMING TO EXISTING CONSTRUCTION. WHEREVER IT IS NECESSARY TO REMOVE EXISTING CONSTRUCTION IN ORDER TO CONSTRUCT NEW WORK, THE AFFECTED AREA SHALL BE PATCHED AND REBUILT TO MATCH EXISTING ADJACENT WORK TO SATISFACTION OF THE ARCHITECT.

STRUCTURAL ALTERATION SHALL BE PRECEDED BY ADEQUATE SHORING AND BRACING.

SCREW-TYPE SHORING POSTS SHALL BE PROVIDED FOR EXISTING WORK DURING THE REMOVAL OF EXISTING BEARING WALLS AND STRUCTURAL MEMBERS AND THE INSTALLATION OF NEW STRUCTURAL WORK.

TEMPORARY SHORES SHALL BE PLACED AS CLOSE AS PRACTICABLE TO THE EXISTING STRUCTURAL WORK BEING REMOVED.

HEADERS SHALL BE PLACED ACROSS TOP OF SHORING POSTS AND SHALL BE SNUG TIGHT AGAINST UNDERSIDE OF STRUCTURE ABOVE.

SHORING SHALL BEAR ON SLEEPERS TO PREVENT DAMAGE TO THE STRUCTURE BELOW.

TEMPORARY SHORES SHALL BE INDIVIDUALLY DESIGNED, ERECTED, SUPPORTED, BRACED AND MAINTAINED BY THE CONTRACTOR TO SAFELY SUPPORT ALL DEAD LOADS PRESENTLY CARRIED BY THE EXISTING STRUCTURAL WORK BEING REMOVED AND ANY CONSTRUCTION LIVE LOADS.

NEW STRUCTURAL FRAMING SHALL BE COMPLETELY INSTALLED BEFORE REMOVING ANY SHORES.

SHORES SHALL BE RELEASED GRADUALLY AND LEFT LOOSELY IN PLACE FOR AT LEAST 2 DAYS TO ALLOW FOR STRUCTURAL SHAKE OUT.

FOUNDATIONS

FOOTINGS SHALL BE FOUNDED ON UNDISTURBED MATERIAL HAVING A MINIMUM BEARING CAPACITY OF 2 TONS PER SQUARE FOOT OR ON GRAVEL FILL, SELECTED AND COMPACTED TO 95% OF ITS MAXIMUM PROCTOR DRY DENSITY IN 6" LIFTS.

EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN BELOW FINISHED EXTERIOR GRADE TO A MINIMUM DEPTH OF 4 FEET UNLESS OTHERWISE NOTED.

FOOTING EXCAVATIONS ARE TO BE FINISHED WITH A SMOOTH BUCKET OR BY HAND.

NO EXCAVATION ADJACENT TO EXISTING FOUNDATION WILL ENCROACH A PYRAMID STARTING AT THE PERIMETER OF THE EXISTING FOOTING WITH SLOPES OF ONE VERTICAL TO TWO HORIZONTAL UNLESS OTHERWISE NOTED.

NO FOUNDATION CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN GROUND.

MAKE NO EXCAVATIONS TO THE FULL DEPTH INDICATED WHEN FREEZING TEMPERATURE MAY BE EXPECTED, UNLESS THE FOUNDATIONS OR SLABS CAN BE PLACED IMMEDIATELY AFTER THE EXCAVATION HAS BEEN COMPLETED. PROTECT THE BOTTOM SO EXCAVATED FROM FROST IF PLACING OF CONCRETE IS DELAYED. SHOULD PROTECTION FAIL, REMOVE FROZEN MATERIALS AND REPLACE WITH CONCRETE OR GRAVEL FILL, AS DIRECTED, AT NO COST TO THE OWNER.

FOOTINGS SHALL BE PROTECTED AGAINST FROST UNTIL PROJECT IS COMPLETED.

FOUNDATIONS (cont.)

BACKFILL UNDER ANY PORTION OF THE BUILDING SHALL BE COMPACTED IN 6" LIFTS.

UNLESS OTHERWISE NOTED, FOOTINGS SHALL BE CENTERED UNDER SUPPORTED MEMBERS.

BACKFILL NO EXTERIOR WALLS UNTIL PERMANENT LATERAL STRUCTURAL SUPPORT SYSTEM IS IN PLACE AND OF FULL STRENGTH.

BACKFILLING SHALL BE DONE SIMULTANEOUSLY ON BOTH SIDES OF THE BUILDING IN ORDER TO MINIMIZE UNBALANCED EARTH PRESSURES.

CONCRETE

CONCRETE WORK SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318) AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301).

CONCRETE SHALL HAVE A 3000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS.

CONCRETE TO BE EXPOSED TO THE WEATHER IN THE FINISHED PROJECT SHALL HAVE 6% ENTRAINED AIR.

EXERCISE CARE WHEN FIELD APPLYING FORM RELEASE AGENTS TO PREVENT COATING ADJACENT CONSTRUCTION JOINT SURFACES OR REINFORCING STEEL.

ALL KEYS SHALL BE 2"x 4" (NOMINAL) UNLESS OTHERWISE NOTED.

ALUMINUM CONDUIT SHALL NOT BE EMBEDDED IN OR PASS THROUGH CONCRETE.

REINFORCEMENT

DETAILING, FABRICATION, AND ERECTION OF REINFORCEMENT, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)" AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315)".

STEEL REINFORCEMENT UNLESS OTHERWISE SHOWN SHALL CONFORM TO ASTM 615 GRADE 60.

THE CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE LATEST ACI BUILDING CODE BUT SHALL NOT BE LESS THAN ONE INCH.

WHERE CONTINUOUS BARS ARE CALLED FOR, THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL BE NOT LESS THAN 36 BAR DIAMETERS UNLESS NOTED. GENERALLY, LAP TOP BARS AT MID-SPAN AND BOTTOM BARS AT SUPPORTS.

WHERE REINFORCEMENT IS CALLED FOR IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.

REINFORCEMENT COUPLER SPLICES SHALL BE MECHANICAL DEVICES CAPABLE OF TRANSMITTING THE ULTIMATE TENSILE AND COMPRESSIVE STRENGTH OF THE BAR.

INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT. NOTIFY THE ARCHITECT OR HIS DESIGNATE OF COMPLETION AT LEAST 24 HOURS PRIOR TO SCHEDULED COMPLETION OF PLACEMENT OF

STRUCTURAL TIMBER CONSTRUCTION

TIMBER CONSTRUCTION SHALL CONFORM TO PART II "DESIGN SPECIFICATIONS" AS PUBLISHED IN THE "TIMBER CONSTRUCTION MANUAL" (AITC) AND TO "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" (NDS), AMENDED TO DATE.

TIMBER CONSTRUCTION SHALL CONFORM TO ARTICLE 21, "BUILDING CODE PROVISIONS FOR ONE AND TWO FAMILY DWELLINGS" OF THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE.

NEW TIMBER SHALL HAVE A 1100 PSI ALLOWABLE BENDING STRESS. THE MODULUS OF ELASTICITY SHALL BE A MINIMUM OF 1,400,000 PSI.

LAMINATED VENEER LUMBER BEAMS SHALL HAVE A MINIMUM ALLOWABLE BENDING STRESS OF 2800 PSI AND A MINIMUM MODULUS OF ELASTICITY OF 2,000,000 PSI

NEW TIMBER FOR STRUCTURAL USE SHALL HAVE A MOISTURE CONTENT OF 15%.

TIMBER SHALL BE SO HANDLED AND COVERED AS TO PREVENT MARRING, AND MOISTURE ABSORPTION FROM SNOW OR RAIN.

JOIST CONSTRUCTION SPANNING OVER 8' MUST HAVE CROSS BRIDGING AT NO MORE THAN 8' O.C.

NO JOIST SHALL BE NOTCHED OR DRILLED WITH HOLES WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

NO JOIST SHALL BE REPAIRED OR REINFORCED IN ANY WAY WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

STRUCTURAL TIMBER CONSTRUCTION (cont.)

RAFTERS AND JOISTS OVER 8'-0" SHALL BE SUPPORTED ON METAL HANGERS.

SILLS SHALL BE 2x4 OR 2x6. THEY SHALL BE ANCHORED WITH 1/2" DIAMETER BY 12" LONG ANCHOR BOLTS SPACED NOT MORE THAN 4'-0" O.C. AND AT EACH CORNER. PROVIDE 2" DIA. WASHERS UNDER EACH NUT.

USE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS.

BEARING WALLS WILL BE 2x4 AT 16" O.C., UNLESS OTHERWISE NOTED.

BEARING PARTITIONS AND OUTSIDE STUD WALLS SHALL BE BRIDGED ONCE IN THEIR STORY HEIGHT OR AT LEAST EVERY 6'-0".

PLYWOOD SHALL BE NAILED WITH 8d COMMON OR 6d THREADED NAILS. NAILS SHALL BE 6" O.C. AT ALL BEARING.

STUDS SHALL BE NAILED TO THE SOLE PLATE WITH (3)10d OR (4) 8d TOE NAILS.

WHERE STRUCTURAL SHEATHING OVERLAPS SOLE PLATE NAIL SHEATHING TO SOLE PLATE AT 8" MAX. O.C.

DOUBLE JOIST AT EACH SIDE OF FLOOR OPENINGS UP TO 2'-0"

LARGER OPENINGS SHALL BE CALLED TO THE ATTENTION OF THE STRUCTURAL ENGINEER.

DOUBLE STUDS SHALL BE USED AT ALL WALL OPENING.

HEADER SHALL BE SUPPORTED ON JAMB STUD AND BE SIZED TO SUPPORT LOAD IMPOSED.

JAMB STUD SHALL EXTEND IN ONE PIECE FROM HEADER TO SOLE PLATE.

ALL STUDS TO BE CONTINUOUS FROM FLOOR TO FLOOR OR FLOOR TO ROOF.

SOLE PLATES SHALL BE NAILED TO SUB-FLOOR AND JOISTS WITH 16d NAILS AT EACH JOIST.

TOP PLATES FOR BEARING PARTITIONS SHALL BE TWO 2x4'S OR A CONTINUOUS HEADER. PLATE MEMBERS OF PRINCIPAL PARTITIONS SHALL BE LAPPED OR ANCHORED TO EXTERIOR WALL FRAMING. SPLICES IN LOWER MEMBER OF TOP PLATE SHALL OCCUR OVER STUDS. NAIL PLATES TO STUDS WITH TWO 16d NAILS 24" O.C.

TOP PLATES FOR NON-BEARING PARTITIONS MAY BE SINGLE AND WILL SPLICE AT STUD CENTERLINES ONLY. NAIL PLATE TO STUD WITH 16d NAILS. WHEN TOP PLATE IS PARALLEL TO CEILING OR FLOOR FRAMING, INSTALL 2x4 ACROSS BLOCKING NOT MORE THAT 4" O.C.

WHEN TOP PLATES ARE CUT FOR PIPING OR DUCTWORK, REINFORCE WITH STEEL STRAPS.

WHERE BEAMS AND GIRDERS OF NOMINAL 2" MEMBERS ARE SHOWN NAIL WITH TWO ROWS OF 16d NAILS SPACED NOT MORE THAT 24" O.C.

ALL BEAMS MUST SPLICE ONLY OVER SUPPORTS UNLESS SPECIFICALLY INSTRUCTED OTHERWISE BY STRUCTURAL ENGINEER.

FLOOR AND ROOF PLYWOOD WILL BE 5/8" THICK INSTALLED WITH GRAIN OF OUTER PLIES AT RIGHT ANGLES TO JOISTS AND BE STAGGERED SO THAT END JOINTS IN ADJACENT PANELS OCCUR OVER DIFFERENT JOISTS OR RAFTERS.

PANEL EDGES SHOULD BE TONGUE-AND-GROOVE OR SUPPORTED BY 2" LUMBER BLOCKING BETWEEN JOISTS. STAGGER PANEL ENDS DIRECTLY OVER FRAMING AND SPACE 1/16".

NOTES:

- ALL HEADERS SHALL BE 2-2X10'S WITH 1/2" PLYWOOD FLITCH PLATE UNLESS OTHERWISE NOTED.
- FRAMER TO INSTALL DOUBLE FLOOR JOISTS UNDER PARTITION WALLS PARALLEL TO JOIST DIRECTION.
- PROVIDE CROSS-BRIDGING AT MID POINT OF SPAN OR 8'-0" O.C. MAXIMUM IN ALL FLOORS.
- ROOF DECKING SHALL BE 5/8" CDX PLYWOOD.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, REGULATIONS AND FHVA/VA MPS. CONTRACTORS SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT SITE BEFORE BEGINNING CONSTRUCTION.
- ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT FOR JUSTIFICATION AND/OR CORRECTION BEFORE PROCEEDING WITH WORK. CONTRACTORS SHALL ASSUME RESPONSIBILITY FOR ERRORS NOT REPORTED.
- ALL DIMENSIONS SHOULD BE READ OR CALCULATED NEVER SCALED.
- ALL FOOTINGS TO BE BELOW FROST LINE AND MUST REST ON UNDISTURBED SOIL OR LEDGE CAPABLE OF HANDLING THE BUILDING. CONTRACTORS SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE REQUIREMENTS.
- IF BACKFILL EXCEEDS 4' AGAINST ANY FOUNDATION WALL, REINFORCE AS PER CODE.
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