1. The maximum slope of all ramps on the site shall be 1:12. Slope may be less depending on site conditions.

2. House tour plan provided for competition purposes only and has no impact on construction requirements or sequencing.

3. A 49.33 by 30.9 foot single-story detached single-family house with 889 above ground finished square feet, plus 47.4 above ground unfinished square feet in a mechanical room. There is no below grade construction.

4. Per ANSI Z65-2003, finished square footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.
1. The house and all associated components have been designed to fit within the defined solar envelope.

SHEET TITLE
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ADDRESS:
CONTACT:
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REVISIONS
DATE OF ISSUE: 03/22/11
1. At the access road provided for us at the National Mall, we will coordinate with the vehicle traffic operations there in order to keep the road clear and accessible. It is our intention to have radio communications with our truck drivers and have spotters located at site to ensure quick efficient unloading.

2. Placing the house elements will be governed by delivery access from the National Mall conditions and availability and capacity of required crane.

3. The first delivery will be a shipping container with our tools and materials needed to start construction. The second delivery will be our main module with its foundations. The way it will be laid out is under development but will be provided in this packet.

A. Vehicle #1 (utility trailer) will consist of tools, foundation, and detachable components. This phase begins on the first day, first hour and ends with the foundation assembled which is estimated to be on day 1/hour 10. The utility trailer with all tools, generators, and site lighting will remain on site until completion of construction. The trailer will be staged on the south site boundary and will need to be backed in with a light vehicle.

B. Vehicle #2 (semi-trailer with flatbed) will deliver the main house module and it will park parallel to our lot according to the organization rules.

C. Vehicle #3 (boom truck crane) will unload the house module according to method #4 as described on the house assembly methods. See figure 2.1: house assembly #4.
THIS PHASE WILL CONSIST OF THREE PRIMARY ACTIVITIES. THE FIRST ACTIVITY WILL FOCUS ON ESTABLISHING SITE BOUNDARIES AND STAGING IN COORDINATION WITH THE TEAM'S CONSTRUCTION MANAGER (C-101 SITE LOCATION; C-102 SITE PLACED). 2. PLACING THE HOUSE ELEMENTS WILL BE GOVERNED BY DELIVERY ACCESS FROM THE NATIONAL MALL CONDITIONS AND AVAILABILITY AND CAPACITY OF REQUIRED CRANE. THE FIRST DELIVERY WILL BE A SHIPPING CONTAINER WITH OUR TOOLS AND MATERIALS NEEDED TO START CONSTRUCTION. THE SECOND DELIVERY WILL BE OUR MAIN MODULE WITH ITS FOUNDATIONS. THE WAY IT WILL BE LAID OUT IS UNDER DEVELOPMENT BUT WILL BE PROVIDED IN THIS PACKET.

V. HOUSE LIFTING

a. VEHICLE #3 (BOOM TRUCK CRANE) WILL UNLOAD THE HOUSE MODULE ACCORDING TO METHOD #4 AS DESCRIBED ON THE HOUSE ASSEMBLY METHODS. SEE FIGURE 2.1: HOUSE ASSEMBLY #4.
1. PHASE 2 CONSISTS OF A 3RD TRUCK CONTAINING DETACHABLE ITEMS AND LANDSCAPE MATERIALS. THIS PHASE WILL BEGIN AFTER THE MAIN MODULE HAS BEEN SET IN PLACE BUT BEFORE THE SLIDE-OUT MODULES ARE DEPLOYED. IT INCLUDES THE LIFT BY CRANE OF STEEL MEMBERS INTO POSITION ON THE ROOF. THE BEAMS WILL SERVE AS THE SUPPORTING SYSTEM FOR THE LOUVERS AND PV ARRAY. THE BEAMS WILL BE DESIGNED AS TO PROVIDE EXISTING POINTS TO FACILITATE CRANE LIFTING.
1. The umbrella louver panel sections are unloaded from the truck and lifted by forklift to the roof for installation. The louver sections are to be constructed as modular panels with existing mounting points to facilitate the fastening sequence to the umbrella beams.
6" fill insert for height offset

adjustable jack stands

south section view

plan view of c-channel

c-channel track

c-channel track

GRADE LEVEL

GRADE LEVEL

pulled out and lowered

pulled out

ENTRY DEPLOYMENT DIAGRAM

ENTRY
Delivery:
6 team members will help move the water delivery hose to the delivery point on the potable water tank #1. Water flows into potable water tank #2 through a connector pipe with a shut off valve. Each tank holds 550 gal. The total delivery will be 1100 gal.

Removal:
6 team members will help move the water removal hose to the 2 removal points. The first removal point is for potable water from tank #1. The second removal point is for waste water from tank #3.
1. All foundation pads secured with soil screws no deeper than 18 inches below ground surface.
SUB-IRRIGATED PLANTER PLANTED WITH SEASONAL HERBS AND VEGETABLES. COORDINATE WITH LOCAL EXTENSION OFFICE OR COMMUNITY GARDEN FOR AVAILABLE SEEDLINGS. PLANT SEEDLINGS AS 6"-12" O.C. SOME PLANTERS CAN BE USED FOR SMALL TREES/ESPALIERS AS NEEDED.

10 "ALPHONSE KARR" BAMBOO, 8"x5, #5

MUHLY GRASS, 18"x18"x7, #5 OR SIMILAR LOCAL FLOWERING GRASS

ARECA PALM, 6"x6, #15

AVOCADO, 6"x4, #25

ORANGE BIRD, 36"x36", #15

SUB-IRRIGATED PLANTER PLANTED WITH SEASONAL HERBS AND VEGETABLES. COORDINATE WITH LOCAL EXTENSION OFFICE OR COMMUNITY GARDEN FOR AVAILABLE SEEDLINGS. PLANT SEEDLINGS AS 6"-12" O.C. SOME PLANTERS CAN BE USED FOR SMALL TREES/ESPALIERS AS NEEDED.
SOLAR RACK FRAMING PLAN

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

HOUSE RACK FRAMING PLAN NOTES:
1. VERIFY DIMENSIONS & LOCATIONS OF ALL VARIOUS DRAWINGS BEFORE COMMENCING CONSTRUCTION. CONSTRUCTION DRAWINGS SHALL BE BROUGHT TO FIELD BY CONTRACTOR FOR FIELD MEETING. MEETING WILL BE AT A DATED LOCATION.
2. COORDINATIONS NOT SHOWN. THIS CONTRACTOR DRAWINGS & FIELD WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. DIMENSIONS SHALL BE CONFORM TO THAT OF ARCHITECTURAL AND MECHANICAL DRAWINGS.
3. ALL EXTERIOR DOORS, SEATING & ENERGY BASEMENT. ENCLOSURES DETERMINED TO MEET REQUIREMENTS.
4. ALL VARIOUS DOORS, SEATING & ENCLOSURES DETERMINED TO MEET REQUIREMENTS.
5. ANY LAPSE OF SOLAR PANEL SYSTEM STRUCTURE IS 5 Yr.
DECATHLETE'S WAY

1. PLANTER WITH WATER TANKS BELOW

REFERENCE KEYNOTES

SHEET KEYNOTES

GENERAL SHEET NOTES

3/16" = 1'-0"
GENERAL SHEET NOTES

1. SEE INTERIOR DESIGN SHEET I-103 FOR REFLECTED CEILING PLAN

REFERENCE KEYNOTES

A1. GALVANIZED TUBE STEEL FRAMING. SEE STRUCTURAL DRAWINGS FOR SIZES. SEE DETAILS FOR WELDED AND BOLTED CONNECTION SPECIFICATIONS.

A2. WALL SYSTEM -½ " CORRUGATED METAL SIDING ON ¾" FURRING STRIPS ON BUILDING PAPER ON ½" PLYWOOD SHEATHING ON 2X4 [OR 2X6] FRAMING @ 16" OC. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDED PROCEDURES.

A3. WALL SYSTEM @ FLEX MODULES - 1" X 6" [NOMINAL] CYPRESS SHIP LAP PROFILE HORIZONTAL SIDING ATTACHED W/STAINLESS STEEL NAILS ON ¾" FURRING STRIPS ON BUILDING PAPER ON ½" OSB ON 2X4 (NOMINAL) WOOD STUD FRAMING AT 16" O.C.. PROVIDE CONTINUOUS TOP AND BOTTOM PLATES. DOUBLE TOP PLATE AT PARAPET. PROVIDE PROFILES AS SHOWN.

A4. WALL SYSTEM @ INTERIOR WALLS ½" INTERIOR GRADE GYPSUM BOARD SHEATHING ON 2X4 (NOMINAL) WOOD STUD FRAMING AT 16" O.C.. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.

A5. FLOOR SYSTEM- ¾" X 6" T&G CYPRESS FLOORING [BLIND NAILED] ON ¾" T&G SHEATHING ON CONSTRUCTION ADHESIVE ON 2X6 FLOOR JOISTS @ 16" O.C.. PROVIDE ANCHORS, BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION. SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.

A6. FLOOR SYSTEM - ¾" X 6" T&G CYPRESS FLOORING [BLIND NAILED] ON ¾" T&G SHEATHING ON CONSTRUCTION ADHESIVE ON 2X6 FLOOR JOISTS @ 16" O.C.. PROVIDE ANCHORS, BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION. SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.

A7. WOOD DECK - 5/4X 6" [NOMINAL] CYPRESS DECK BOARDS WITH CLEAR PRESERVATIVE APPLIED TO ALL SIDES AND END GRAIN, ON 2X6 PRESSURE TREATED WOOD FRAMING @ 12" OC. ATTACH DECK WITH STAINLESS STEEL FASTENERS. SEE DETAILS FOR SUPPORT AND ATTACHMENT METHODS.

A8. BATHROOM FLOOR SYSTEM - 8" TILE THIN SET ON ½ DURROCK CEMENTITIOUS BACKER BOARD ON ¾" T&G SHEATHING ON CONSTRUCTION ADHESIVE ON 2X6 FLOOR JOISTS @ 16" O.C.. PROVIDE ANCHORS, BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION. SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.

A9. 5/4 X 6" CYPRESS LOUVERS W/ 3"X3" GALVANIZED TUBE STEEL FRAME. COAT WOOD ON ALL SIDES AND END GRAIN WITH THOMPSON'S WATERSEAL OR SIMILAR PRODUCT. SEE DETAILS FOR INSTALLATION METHOD.
GENERAL SHEET NOTES

1. This sheet is for visual reference purposes only. See structural floor framing plan for actual member sizes.

DIM OF E/W PARALLELS

50'-8 1/2" (A)

DIM OF N/S PARALLELS

11'-6 1/2" (B)

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

FLOOR FRAMING PLAN (DEPLOYED DIAGRAM)

A1

A-112
BUILDING ENVELOPE ROOF PLAN

REFERENCE KEYNOTES

1. ROOF SYSTEM - .60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] ROOFING MEMBRANE ON 5/8" OSB PROVIDE ALUMINUM SPACER CLIPS AS REQUIRED. FASTEN ROOF MEMBRANE, FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.

2. ROOF SYSTEM - .60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] ROOFING MEMBRANE ON 4 ½" OSB (S.I.P.) POLYURETHANE STRUCTURAL INSULATED PANELS. MECHANICALLY FASTEN ROOF MEMBRANE, FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATION FOR A COMPLETE INSTALLATION.

3. 5/4 X 6" [NOMINAL] CYPRESS LOUVERS W/ 3"X3" GALVANIZED TUBE STEEL FRAME. COAT WOOD ON ALL SIDES AND END GRAIN WITH THOMPSON'S WATERSEAL OR SIMILAR PRODUCT. SEE DETAILS FOR INSTALLATION METHOD.

SCALE: 1/4" = 1'-0"
GENERAL SHEET NOTES

1. This sheet is for visual reference purposes only. See structural floor framing plan for actual dimension sizes.

SHIPPING PLAN

1

4

7

8

FLOOR FRAMING

SHIPPING - DIAGRAM

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PRODUCED BY AN AUTODESK STUDENT PRODUCT
1

REFERENCE KEYNOTES

1. 5/4 X 6" [NOMINAL] CYPRESS LOUVERS W/ 3.5"X3.5" GALVANIZED TUBE STEEL FRAME. COAT WOOD ON ALL SIDES AND END GRAIN WITH THOMPSON'S WATERSEAL OR SIMILAR PRODUCT. SEE DETAILS FOR INSTALLATION METHOD.

PHOTOVOLTAIC PANELS

SOLAR WATER HEATERS
GENERAL SHEET NOTES

REFERENCE KEYNOTES

WALL SYSTEM - ½" CORRUGATED METAL SIDING ON ¾" FURRING STRIPS ON BUILDING PAPER ON ½" PLYWOOD SHEATHING ON 2X4 (NOMINAL) FRAMING @ 16" OC. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDED PROCEDURES.

WALL SYSTEM @ FLEX MODULES - 1" X 6" [NOMINAL] CYPRESS SHIP LAP PROFILE HORIZONTAL SIDING ATTACHED W/ STAINLESS STEEL NAILS ON ¾" FURRING STRIPS ON BUILDING PAPER ON ½" OSB ON 2X4 (NOMINAL) WOOD STUD FRAMING AT 16" O.C. PROVIDE CONTINUOUS TOP AND BOTTOM PLATES. DOUBLE TOP PLATE AT PARAPET. PROVIDE PROFILES AS SHOWN.

5/4 X 6" [NOMINAL] CYPRESS LOUVERS W/ 3"X3" GALVANIZED TUBE STEEL FRAME. COAT WOOD ON ALL SIDES AND END GRAIN WITH THOMPSON'S WATERSEAL OR SIMILAR PRODUCT. SEE DETAILS FOR INSTALLATION METHOD.

PHOTOVOLTAIC AND SOLAR THERMAL PANELS PITCHED @ 39 DEGREES. PHOTOVOLTAIC ARRAY WITH ADJUSTABLE TILT HARDWARE. INSTALL ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

GALVANIZED TUBE STEEL "UMBRELLA" STRUCTURE. SEE STRUCTURAL DRAWINGS. NOT USED

FOUNDATION PADS 2" TUBE STEEL STRUT

WOOD DECK - 5/4X6" [NOMINAL] CYPRESS DECK BOARDS WITH CLEAR PRESERVATIVE APPLIED TO ALL SIDES AND END GRAIN, ON 2X6 PRESSURE TREATED WOOD FRAMING @ 12" OC. ATTACH DECK WITH STAINLESS STEEL FASTENERS. SEE DETAILS FOR SUPPORT AND ATTACHMENT METHODS.

PLANTER AND WATER STORAGE ROOF SYSTEM - .60 MIL (1.1 MM) FIRESTONE ULTRAPLSTM TPO, [THERMOPLASTIC POLYOLEFIN] ROOFING MEMBRANE ON 4 ½" OSB (S.I.P) POLYURETHANE STRUCTURAL INSULATED PANELS. MECHANICALLY FASTEN ROOF MEMBRANE. FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.

BUILDING & SITE ELEVATIONS

A-201
1. South Building Envelope Elevation

2. West Building Envelope Elevation

General Sheet Notes

Reference Keynotes

Wall System - 1/2" Corrugated Metal Siding on 3/4" Furring Strips on Building Paper on ½" Plywood Sheathing on 2x4 (Nominal) Framing @ 16" O.C. Install according to manufacturer's recommended procedures.

Wall System @ Flex Modules - 1" x 6" (NOMINAL) Cypress Ship Lap Profile Horizontal Siding Attached with Stainless Steel Nails on ¾" Furring Strips on Building Paper on ½" OSB on 2X4 (NOMINAL) Wood Stud Framing at 16" O.C. Provide Continuous Top and Bottom Plates. Double Top Plate at Parapet. Provide Profiles as Shown.

5/4 x 6" (Nominal) Cypress Louvers with 3" x 3" Galvanized Tube Steel Frame. Coat Wood on All Sides and End Grain with Thompson's Waterseal or Similar Product. See Details for Installation Method.

Photovoltaic and Solar Thermal Panels Pitched @ 20%. Photovoltaic Array with Adjustable Tilt Hardware. Install according to manufacturer's specifications.

Galvanized Tube Steel "Umbrella" Structure. See Structural Drawings.

Cable Rail

Foundation Pads

2" Tube Steel Strut

Wood Deck - 5/4 x 6" (Nominal) Cypress Deck Boards with Clear Preservative Applied to All Sides and End Grain, on 2X6 Pressure Treated Wood Framing @ 12" OC. Attach Deck with Stainless Steel Fasteners. See Details for Support and Attachment Methods.

Plants and Water Storage


Sheet Keynotes

Building Envelope Elevation

Reference Keynotes

WALL SYSTEM - 1/2" CORRUGATED METAL SIDING ON 3/4" FURRING STRIPS ON BUILDING PAPER ON 1/2" PLYWOOD SHEATHING ON 2X4 (NOMINAL) WOOD STUD FRAMING @ 16" O.C. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDED PROCEDURES.

WALL SYSTEM @ FLEX MODULES - 1" X 6" (NOMINAL) CYPRESS SHIP LAP PROFILE HORIZONTAL SIDING ATTACHED W/ STAINLESS STEEL NAILS ON 3/4" FURRING STRIPS ON BUILDING PAPER ON 1/2" OSB ON 2X4 (NOMINAL) WOOD STUD FRAMING AT 16" O.C. PROVIDE CONTINUOUS TOP AND BOTTOM PLATES. DOUBLE TOP PLATE AT PARAPET. PROVIDE PROFILES AS SHOWN.

5/4 X 6" (NOMINAL) CYPRESS LOUVERS W/ 3" X 3" GALVANIZED TUBE STEEL FRAME. COAT WOOD ON ALL SIDES AND END GRAIN WITH THOMPSON'S WATERSEAL OR SIMILAR PRODUCT. SEE DETAILS FOR INSTALLATION METHOD.

PHOTOVOLTAIC AND SOLAR THERMAL PANELS PITCHED @ 20%. PHOTOVOLTAIC ARRAY WITH ADJUSTABLE TILT HARDWARE. INSTALL ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

GALVANIZED TUBE STEEL "UMBRELLA" STRUCTURE. SEE STRUCTURAL DRAWINGS.

CABLE RAIL

FOUNDATION PADS

2" TUBE STEEL STRUT

WOOD DECK - 5/4 X 6" (NOMINAL) CYPRESS DECK BOARDS WITH CLEAR PRESERVATIVE APPLIED TO ALL SIDES AND END GRAIN, ON 2X6 PRESSURE TREATED WOOD FRAMING @ 12" OC. ATTACH DECK WITH STAINLESS STEEL FASTENERS. SEE DETAILS FOR SUPPORT AND ATTACHMENT METHODS.

PLANTER AND WATER STORAGE

ROOF SYSTEM - .60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] ROOFING MEMBRANE ON 4 ½" OSB (S.I.P.) POLYURETHANE STRUCTURAL INSULATED PANELS. MECHANICALLY FASTEN ROOF MEMBRANE. FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.
REFERENCE KEYNOTES

C1 3/8" = 1'-0"

1. DRAWN BY: (2) 2" X 12" SOUTHERN PINE DECK GIRDER
2. HEADS OF NAILS MUST BE 1/2" UNDER NUT.
3. CEILING - ½" INTERIOR GRADE TYPE ‘X’ FIRECODE
4. GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.
5. WALL FRAMING - 2X4 FRAMING AT 16" O.C. W/ R-11 THERMAL BATT INSULATION W/
6. VAPOR RETARDER.. PROVIDE ANCHORS, BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION.  SEE STRUCTURAL
7. DRAWINGS FOR FASTENING INSTRUCTIONS.
8. FLOOR SYSTEM-3/4"X 6" T&G CYPRESS FLOORING [BLIND NAILED] ON ¾" T&G SHEATHING ON
9. CONSTRUCTION ADHESIVE ON 4-1/2" OSB (S.I.P.) POLYURETHANE STRUCTURAL INSULATED PANELS.
10. ROOF SYSTEM.60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] 11. ROOFING MEMBRANE ON 5/8" OSB PROVIDE ALUMINUM SPACER CLIPS AS REQUIRED.  FASTEN FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.
12. CEILING- ½" INTERIOR GRADE TYPE ‘X’ FIRECODE GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.
13. HARDWARE. INSTALL ACCORDING TO MANUFACTURER’S SPECIFICATIONS.
14. HARDWOOD TIMBER FOOTER W/ 4- ¾" GALVANIZED STEEL GRADE STAKES DRIVEN TO A MAXIMUM DEPTH GALVANIZED TUBE STEEL FRAMING.  SEE STRUCTURAL DRAWINGS FOR SIZES. SEE DETAILS FOR WELDED AND BOLTED CONNECTION SPECIFICATIONS.
15. WALL FRAMING - 2X4 FRAMING AT 16" O.C. W/ R-11 THERMAL BATT INSULATION W/VAPOR RETARDER.. PROVIDE ANCHORS, BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION.  SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.
16. ROOF SYSTEM.60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] 11. ROOFING MEMBRANE ON 5/8" OSB PROVIDE ALUMINUM SPACER CLIPS AS REQUIRED.  FASTEN FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.
17. ROOF SYSTEM.60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] 11. ROOFING MEMBRANE ON 5/8" OSB PROVIDE ALUMINUM SPACER CLIPS AS REQUIRED.  FASTEN FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.
18. CEILING- ½" INTERIOR GRADE TYPE ‘X’ FIRECODE GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.
19. HARDWARE. INSTALL ACCORDING TO MANUFACTURER’S SPECIFICATIONS.
20. HARDWOOD TIMBER FOOTER W/ 4- ¾" GALVANIZED STEEL GRADE STAKES DRIVEN TO A MAXIMUM DEPTH GALVANIZED TUBE STEEL FRAMING.  SEE STRUCTURAL DRAWINGS FOR SIZES. SEE DETAILS FOR WELDED AND BOLTED CONNECTION SPECIFICATIONS.
21. WALL FRAMING - 2X4 FRAMING AT 16" O.C. W/ R-11 THERMAL BATT INSULATION W/VAPOR RETARDER.. PROVIDE ANCHORS, BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION.  SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.
22. ROOF SYSTEM.60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] 11. ROOFING MEMBRANE ON 5/8" OSB PROVIDE ALUMINUM SPACER CLIPS AS REQUIRED.  FASTEN FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.
23. ROOF SYSTEM.60 MIL (1.1 MM) FIRESTONE ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] 11. ROOFING MEMBRANE ON 5/8" OSB PROVIDE ALUMINUM SPACER CLIPS AS REQUIRED.  FASTEN FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.
24. CEILING- ½" INTERIOR GRADE TYPE ‘X’ FIRECODE GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.
25. HARDWARE. INSTALL ACCORDING TO MANUFACTURER’S SPECIFICATIONS.
26. HARDWOOD TIMBER FOOTER W/ 4- ¾" GALVANIZED STEEL GRADE STAKES DRIVEN TO A MAXIMUM DEPTH GALVANIZED TUBE STEEL FRAMING.  SEE STRUCTURAL DRAWINGS FOR SIZES. SEE DETAILS FOR WELDED AND BOLTED CONNECTION SPECIFICATIONS.
TRANSVERSE SECTION @ KITCHEN DOORS

LONGITUDINAL SECTION

STEEL GRADE STAKES DRIVEN TO A MAXIMUM DEPTH OF 8". SHIM STRUCTURE LEVEL WITH LVL SLABS AND GALVANIZED TUBE STEEL FRAMING. SEE STRUCTURAL DRAWINGS FOR SIZES. SEE DETAILS FOR WELDED AND BOLTED CONNECTION SPECIFICATIONS.

¾" FURRING STRIPS ON BUILDING PAPER ON ½" OSB ON 2X4 (NOMINAL) WOOD STUD FRAMING AT 16" O.C. W/ R-11 THERMAL BATT INSULATION W/ VAPOR RETARDER. PROVIDE CONTINUOUS TOP AND BOTTOM PLATES. DOUBLE TOP PLATE AT PARAPET. PROVIDE PROFILES AS SHOWN.

FLOOR SYSTEM-3/4" X 6" T&G CYPRESS FLOORING [BLIND NAILED] ON ¾" T&G SHEATHING ON CONSTRUCTION ADHESIVE ON 4-1/2" OSB (S.I.P.) FOR A COMPLETE INSTALLATION. SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.

POLYURETHANE STRUCTURAL INSULATED PANELS. PROVIDE BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION. SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.

5/4 X 6" [NOMINAL] CYPRESS LOUVERS W/ 3"X3" SPACER CLIPS AS REQUIRED. FASTEN ROOF MEMBRANE. FLASHINGS, DRIP EDGES AND ACCESSORIES AS DETAILED AND SPECIFICATIONS FOR A COMPLETE INSTALLATION.

IMPACT RESISTANT SLIDING GLASS DOORS - HOLLOW METAL SWINGING DOUBLE DOORS

U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011

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REFERENCE KEYNOTES

A. STEEL GRADE STAKES DRIVEN TO A MAXIMUM DEPTH

B. GALVANIZED TUBE STEEL FRAMING. SEE STRUCTURAL DRAWINGS FOR SIZES. SEE DETAILS FOR WELDED AND BOLTED CONNECTION SPECIFICATIONS.

C. ¾" FURRING STRIPS ON BUILDING PAPER ON ½" 16" OC W/ R-11 THERMAL BATT INSULATION W/ VAPOR RETARDER. INSTALL ACCORDING TO WALL SYSTEM @ FLEX MODULES - HORIZONTAL SIDING ATTACHED W/ STAINLESS STEEL NAILS ON ¾" FURRING STRIPS ON BUILDING PAPER ON ½" OSB ON 2X4 (NOMINAL) WOOD STUD FRAMING AT 16" O.C.. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.

D. STRUCTURAL DRAWINGS FOR FASTENING 1 1/2" X 1/4" FLAT PLATE STEEL WELDED TO HSS 2" LOUVER FRAME TO BOLT LOUVER FRAME TO ROOF LOUVER FRAME AND SUPPORTS FOR A COMPLETE INSTALLATION. SEE STRUCTURAL DRAWINGS FOR FASTENING TO MANUFACTURER'S SHOP DRAWINGS AND MANUFACTURER'S SPECIFICATIONS. PROVIDE "SIMPSON" S TYPE WIND STEEL PLATE STEEL PLATE.

E. WINDOW LINTEL SIZING

F. FLOOR SYSTEM-3/4"X 6" T&G CYPRESS FLOORING

G. CEILING- ½" INTERIOR GRADE TYPE 'X' FIRECODE GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.

H. INTUMESCENT PAINT TO BE APPLIED TO SURFACES OF THE BUILDING ONLY

I. WINDOW

J. DOORS - HOLLOW METAL SWINGING DOUBLE DOORS

K. 2 W8x10 STEEL SUPPORT TO BE ATTACHED TO PARALAM WHEN MODULES ARE TO BE DEPLOYED

L. 6" INFILL WALL SEGMENT OVER DOOR TO BE INSTALLED INTO ENDS OF 4"X4" TUBE STEEL AND BOLTED. 2X4 FRAME @ 12" O.C. TO SUPPORT DECKING. SEE DETAILS FOR SUPPORT AND ATTACHMENT METHODS.

M. ROOF TERMINALS - 1 1/2 MAJOR ROOF LIP WITH INSULATION BATT INSULATION STAFFED ON ROOF DECKING. 1 1/2" X 1" STEEL PLATE AT ROOF DECKING TO BE INSTALLED ON THE ROOF OF STEEL PLATE. PARTS OF THE BUILDING ONLY.

N. 3 1/2" x 3 1/2" TUBE STEEL DECK FRAME TO BE INSERTED INTO ENDS OF 4"X4" TUBE STEEL AND BOLTED. 2X4 FRAME @ 12" O.C. TO SUPPORT DECKING. SEE DETAILS FOR SUPPORT AND ATTACHMENT METHODS.

O. 2" X 2" TUBE STEEL STRUT

P. 2X4 GIRDER, NOT TO BE USED IN WALLS OR FLOOR FRAMING OR SHOWN ABOVE THE SILL OF THE BUILDING.

Q. DOOR - HOLLOW METAL SWINGING SINGLE DOOR

R. TAPERED ROOF INSUL.

S. WINDOW LINTEL SIZING

T. DOOR - HOLLOW METAL SWINGING SINGLE DOOR

U. 3/4"X 6" T&G CYPRESS FLOORING

V. PHOTOVOLTAIC ARRAY WITH ADJUSTABLE TILT 3/4"X 6" T&G CYPRESS FLOORING

W. 3/4" = 1'-0" SCALE

X. 5/4 X 6" [NOMINAL] CYPRESS LOUVERS W/ 3"X3" HORIZONTAL SIDING ATTACHED W/ STAINLESS STEEL NAILS. COAT WOOD ON ALL SIDES AND END GRAIN WITH THOMPSON'S WATERSEAL OR SIMILAR PRODUCT. SEE DETAILS FOR SUPPORT AND ATTACHMENT METHODS.

Y. ULTRAPLYTM TPO, [THERMOPLASTIC POLYOLEFIN] MEMBRANE ON 5/8" OSB PROVIDE ALUMINUM SPACER CLIPS AS REQUIRED. MECHANICALLY FASTEN ROOF MEMBRANE. PRE-ENGINEERED, PRE-FABRICATED, WOOD ROOF FRAMING AT THE ENDS OF TJI 230 SERIES JOISTS W/ R-13 THERMAL BATT INSULATION W/ VAPOR RETARDER. INSTALL ACCORDING TO WINDOW LINTEL SIZING.

Z. 3/4" = 1'-0" SCALE

AA. 1" X 1" SQUARE STEEL ATTACHED TO ROOF DECKING. PARAPET CAP FLASHING & DRIP EDGE

BB. 1/2" THICKNESS GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.

CC. 1" X 1" SQUARE STEEL ATTACHED TO ROOF DECKING. PARAPET CAP FLASHING & DRIP EDGE

DD. 1/2" THICKNESS GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.

EE. 1/2" THICKNESS GYPSUM BOARD SHEATHING. TAPE, SPACKLE, AND PRIME SURFACE FOR FINISH.
**Wall Section @ South Kitchen SGD**

- **HARDWOOD TIMBER FOOTER W/ 4- ¾" GALVANIZED STEEL GRADE STAKES DRIVEN TO A MAXIMUM DEPTH OF 8". SHIM STRUCTURE LEVEL WITH LVL SLABS AND GALVANIZED TUBE STEEL FRAMING. SEE STRUCTURAL DRAWINGS FOR SIZES. SEE DETAILS FOR WELDED AND BOLTED CONNECTION SPECIFICATIONS.**

**Wall Section @ North Kitchen SGD**

- **CYPRESS SHIP LAP PROFILE HORIZONTAL SIDING ATTACHED W/ STAINLESS STEEL NAILS ON ¾" FURRING STRIPS ON BUILDING PAPER ON ½" OSB ON 2X4 (NOMINAL) WOOD STUD FRAMING AT 16" O.C. W/ R-11 THERMAL BATT INSULATION W/ VAPOR RETARDER. PROVIDE CONTINUOUS TOP AND BOTTOM PLATES. DOUBLE TOP PLATE AT PARAPET. PROVIDE PROFILES AS SHOWN.**

---

**Floor System - 3/4" X 6" T&G CYPRESS FLOORING [BLIND NAILED] ON ¾" T&G SHEATHING ON CONSTRUCTION ADHESIVE ON 2X4 FLOOR JOISTS @ 16" O.C. W/ R-13 THERMAL BATT INSULATION W/ VAPOR RETARDER. PROVIDE ANCHORS, BLOCKING, AND SUPPORTS FOR A COMPLETE INSTALLATION. SEE STRUCTURAL DRAWINGS FOR FASTENING INSTRUCTIONS.**

**Wood Deck - 5/4X 6" [NOMINAL] CYPRESS DECK BOARDS WITH CLEAR PRESERVATIVE APPLIED TO ALL SIDES AND END GRAIN, ON 2X6 PRESSURE TREATED WOOD FRAMING @ 12" OC. ATTACH DECK WITH STAINLESS STEEL FASTENERS.**

---

**REFERENCE KEYNOTES**

1. WALL SECTIONS @ SOUTH KITCHEN SGD
2. WALL SECTIONS @ NORTH KITCHEN SGD
3. 4'-0"
4. 3'-0"
5. 2'-0"
6. 1'-0"
7. 4'-0"
8. 3'-0"
9. 5'-0"
10. 6'-0"
11. 2'-0"
12. WALL SECTION @ SOUTH KITCHEN SGD
13. WALL SECTION @ NORTH KITCHEN SGD
14. 4'-0"
15. 3'-0"
16. 2'-0"
17. 1'-0"
18. 4'-0"
19. 2'-0"
20. WALL SECTIONS @ SOUTH KITCHEN SGD
21. WALL SECTIONS @ NORTH KITCHEN SGD
22. 5'-0"
23. 4'-0"
24. 2'-0"

**MARK DATE DESCRIPTION**

- **8/12/2011 8:30:30 PM**

**TEAM NAME:** TEAM FLORIDA

**ADDRESS:**

**CONTACT:**

**REF. DATE:**

**COPYRIGHT:**

- NONE: PROJECT IS PUBLIC DOMAIN
LOUVER FRAME STEEL KEY

1. HSS 3/4" x 1 1/2" x 1/8"
2. HSS 2" x 2" x 1/4"
3. HSS 2" x 3" x 1/4"
4. 1 1/2" x 1/4" FLAT STEEL

* See Louver Frame Schedule & Louver Frame Elevations on Sheet A-602 for frame dimensions & locations.
DOOR SCHEDULE

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<td>C</td>
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<td>26'-9 1/2&quot;</td>
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DOOR STYLES

- CUSTOM SINGLE PANEL PIVOT DOOR
- SINGLE PANEL BATHROOM DOOR
- SIX (6) PANEL SGD CENTER OPEN

WINDOW SCHEDULE

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</table>
1. UNDERCABINET LIGHT AT 6'-0" AFF (UL-1)
2. UNDERCABINET LIGHT RECESSED INTO UPPER CASEWORK (UL-1)
3. MAESTRO LUTRON DAYLIGHT SENSOR
4. SMOKE ALARM (E-7)
5. MAESTRO LUTRON OCCUPANCY SENSOR
6. UNDERCABINET LIGHT AT 6'-5" AFF (UL-1)
7. SMOKE ALARM (E-10)

PENDANT (EL-1)

LIGHTING NOTES:
- Fixture must be located in partitioned water closet. Actual location is dependent on overhead mechanical systems.
- LED RECESSED UNDERCABINET DISC (UL-1)
- LUTRON SENSOR
- SMOKE ALARM

REFERENCE KEYNOTES:
- UNDERCABINET LIGHT AT 6'-0" AFF (UL-1)
- UNDERCABINET LIGHT RECESSED INTO UPPER CASEWORK (UL-1)
- MAESTRO LUTRON DAYLIGHT SENSOR
- SMOKE ALARM (E-7)
- MAESTRO LUTRON OCCUPANCY SENSOR
- UNDERCABINET LIGHT AT 6'-5" AFF (UL-1)
- SMOKE ALARM (E-10)

LEGEND:
- 6'' RECESSED DIMMABLE FIXTURE (UL-1)
- WALL SCONCE (BL-1)
- LINEAR FLUORESCENT PENDANT (DL-1)
- LED RECESSED UNDERCABINET DISC (UL-1)
- PENDANT (EL-1)
- LUTRON SENSOR
- SMOKE ALARM

REFERENCE KEYNOTES:
- GENERAL SHEET NOTES
- LEGEND
- REFLECTED CEILING PLAN

SCALE: 3/8" = 1'-0"
1. WATER CLOSET (1004.11.3.1.2)-THE LATERAL DISTANCE FROM THE CENTERLINE OF THE WATER CLOSET TO A LAVATORY SHALL BE 18" MINIMUM. WATER CLOSET SHALL BE POSITIONED TO ALLOW THE FUTURE INSTALLATION OF A GRAB BAR ON THE SIDE DESIGNATED FOR FUTURE INSTALLATION WITH 18" CLEARANCE.

2. PARALLEL APPROACH (1004.11.3.1.2.1)- A CLEARANCE OF 56" MINIMUM MEASURED FROM THE WALL BEHIND THE WATER CLOSET, AND 48" MINIMUM MEASURED FROM A POINT 18" FROM THE CENTER LINE OF THE WATER CLOSET ON THE SIDE DESIGNATED FOR FUTURE INSTALLATION OF GRAB BARS SHALL BE PROVIDED. VANITIES OR LAVATORIES ON THE WALL BEHIND THE WATER CLOSET MAY OVERLAP THE CLEARANCE.

3. REAR WALL GRAB BARS (604.5.2, #2)-REINFORCEMENT BLOCKING FOR A 24" GRAB BAR, CENTERED ON WATER CLOSET, TO BE PROVIDED. TO BE LOCATED 36" AFF AND MEASURED TO THE TOP OF THE HORIZONTAL GRIPPING SURFACE.

4. FIXED SIDE WALL GRAB BARS (604.5.1)-FIXED SIDEWALL GRAB BARS SHALL BE 42" MINIMUM IN LENGTH, LOCATED 12" MAXIMUM FROM THE REAR WALL AND EXTENDING 54" MINIMUM FROM THE REAR WALL. IN ADDITION, A VERTICAL GRAB BAR 18" MINIMUM IN LENGTH SHALL BE MOUNTED WITH THE BOTTOM OF THE BAR LOCATED BETWEEN 39"-41" ABOVE THE FLOOR, WITH A CENTER LINE OF THE BAR LOCATED BETWEEN 39" AND 41" FROM THE REAR WALL.

5. LAVATORY (1004.11.3.1.1)- A 30"X48" CLEAR FLOOR SPACE, POSITIONED FOR A PARALLEL APPROACH, SHALL BE CENTERED ON THE LAVATORY.

6. SHOWER COMPARTMENT (1004.11.3.1.3.3)-IF A SHOWER COMPARTMENT IS THE ONLY BATHING FACILITY, THEN SHOWER COMPARTMENT SHALL HAVE DIMENSIONS OF 36" MINIMUM WIDTH AND 36" MINIMUM IN DEPTH. A CLEARANCE OF 48" INCHES MINIMUM IN LENGTH, MEASURED PERPENDICULAR FROM THE SHOWER HEAD WALL, AND 30" MINIMUM IN DEPTH, MEASURED FROM THE FACE OF THE SHOWER COMPARTMENT, SHALL BE PROVIDED. REINFORCING FOR A SHOWER SEAT IS NOT REQUIRED IN SHOWER COMPARTMENTS LARGER THAN 36" IN WIDTH AND 36" IN DEPTH.

7. ROLL-IN TYPE SHOWERS WITHOUT PERMANENT SEAT/WALL-THERE ARE NO FUTURE INSTALLATION REQUIREMENTS FOR SHOWERS WITHOUT SEATS. WHERE A SEAT IS PROVIDED IN A STANDARD ROLL-IN SHOWER, GRAB BARS SHALL BE PROVIDED ON THE BACK WALL AND ON THE WALL OPPOSITE THE SEAT. GRAB BARS SHALL NOT BE PROVIDED ABOVE THE SEAT. GRAB BARS SHALL BE INSTALLED NO MORE THAN 27" MAXIMUM FROM THE END WALL BEHIND THE SEAT.

8. CONTROLS AND HAND SHOWERS- DEPENDING ON WHETHER (TRANSFER) OR NOT A SHOWER SEAT WILL BE INSTALLED FOR FUTURE USE:

   a. STANDARD ROLL-IN SHOWERS. IN STANDARD ROLL-IN SHOWERS, THE CONTROLS AND HAND SHOWER SHALL BE LOCATED 38" MINIMUM AND 48" MAXIMUM ABOVE THE SHOWER FLOOR. IN STANDARD ROLL-IN SHOWERS WITH SEATS, THE CONTROLS AND HAND SHOWER SHALL BE LOCATED ON THE BACK WALL, NO MORE THAN 27" MAXIMUM FROM THE END WALL BEHIND THE SEAT.

9. THRESHOLDS (608.7)- THRESHOLDS IN ROLL-IN TYPE SHOWER COMPARTMENTS SHALL BE 1/2" MAXIMUM IN HEIGHT IN ACCORDANCE WITH SECTION 303.
BED STOP
OPEN PISTON PLATE WITH BALL STUD
PIVOT ROD AND PLATE
1/4" PLYWOOD

PISTON
1" PLYWOOD WITH PLAM-1 ON ALL SIDES

PISTON
1 1/2" PLYWOOD WITH PLAM-2 ON ALL SIDES

RECESSED LED DISC FIXTURES
3/4" PLYWOOD WITH PLAM-1 ON ALL SIDES

3/4" PLYWOOD WITH PLAM-2 ON ALL SIDES

3/4" PLYWOOD WITH PLAM-2 ON ALL SIDES

7'-11 3/4"
3/8"
5 1/4"
7'-11 3/4"
1'-2 1/2"
3/4 PLYWOOD WITH PLAM-2 ON ALL SIDES
3/4 PLYWOOD WITH PLAM-2 ON ALL SIDES
3/4 PLYWOOD WITH PLAM-2 ON ALL SIDES
3/4 PLYWOOD WITH PLAM-2 ON ALL SIDES

Sheets: A1

A1 - MURPHY BED SECTION

A2 - Shelves & Study Desk Section
SEE ELEVATION

SEE SPECIFIED PARTITION WALL

1 1/2" SILICONE BEAD

WRAP ALL PIPES WITH PERFORATED RIGID INSULATION

PROVIDE BLOCKING AS NECESSARY FOR CANTILEVERED FAUCET

**PROVIDE BLOCKING WITHIN PARTITION AS NEEDED**

3/4" PLYWOOD WITH PLAM-2 ON ALL SIDES

3" CL

2" HARDWARE WITH INTEGRAL TOE KICK

GREY MELAMINE ON 1" PLYWOOD SHELF

GREY MELAMINE ON 3/4" PLYWOOD SHELF ON ADJUSTABLE PINS

PROVIDE SHELVES AS INDICATED

1" HARDWARE WITH INTEGRAL TOE KICK

1/2" PLYWOOD DOORS WITH PLAM-1 ON ALL SIDES

TOEKICK FINISHED ST-1 (WD-1)

2 7/8" 4" 3"

3/4" PLYWOOD WITH CM-1 LAMINATE FACE AND BRUSHED METAL EDGE

3/4" PLYWOOD WITH CM-2 LAMINATE FACE AND BRUSHED METAL EDGE

1" BRUSHED METAL FRAME

6 1/4" CUSTOM CUSHION INSERT (AC-1)

1" BRUSHED METAL FRAME

6 1/4" BRUSHED METAL FRAME
### Equipment

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### Relevant Notes

- All equipment and materials provided are subject to change based on availability and budget constraints.
- Final installation and layout will be determined during the construction phase.
- Please refer to the project management documents for detailed specifications and installation instructions.
COLD/HOT WATER PIPING DIAGRAM

1. 500 GALLONS DOMESTIC WATER STORAGE TANK.
2. WATER FILTRATION SYSTEM.
3. LIQUID DESICCANT UNIT. RECIRCULATION PUMP CONTROLLED BY LIQUID DESICCANT CONTROLLER.
4. 250 GALLONS HOT WATER STORAGE TANK WITH HEAT EXCHANGER FOR SOLAR HEATED WATER.
5. SUPPLY AND RETURN SOLAR THERMAL WATER SYSTEM. COLD AND HOT WATER SUPPLY WATER PIPES INTO THE BUILDING.
6. SOLAR THERMAL RECIRCULATION PUMP SET UP TO TURN ON WHEN HOT WATER DROP BELOW 140° F.
7. MIXING VALVE SET UP AT 110° F.
8. DOMESTIC WATER SUPPLY TAP FOR FIRE PROTECTION SYSTEM. COORDINATE PUMP SIZE AND REQUIREMENTS WITH FIRE PROTECTION ENGINEER.
9. HOT WATER SUPPLY TAP FOR DUCT HEATER. EACH HEAT EXCHANGER TO HAVE A SOLENOID VALVE TO CLOSE IF HOT WATER TANK WATER DROPS BELOW 120° F.
A. GENERAL

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH FBC-2007 AND ALL APPLICABLE LOCAL CODES, RULES AND ORDINANCES.

2. WATER PIPING SHALL BE TYPE 'L' COPPER FOR 2" AND UNDER, AND TYPE 'K' COPPER 2.5" AND ABOVE. ALL UNDERGROUND PIPING SHALL BE TYPE 'K' IN POLYETHYLENE SLEEVE. JOINTS WITH LEAD-FREE 95/5 SOLDER. CPVC FLOWGUARD GOLD PIPE WILL BE ALLOWED FOR WATER DISTRIBUTION INSIDE RESIDENTIAL UNITS AFTER UNIT SHUT-OFF VALVE AND PRV.

3. PROVIDE ISOLATOR PADS ON ALL WATER PIPING HANGERS.

4. SUBMIT MANUFACTURER'S DATA AND SHOP DRAWINGS ON ALL EQUIPMENT FOR REVIEW.

5. C.P. ESCUTCHEON PLATES REQUIRED ON ALL WALL PENETRATIONS.

6. EACH FIXTURE AND PIECE OF EQUIPMENT SHALL BE PROVIDED WITH SHUT OFF VALVES FOR BOTH HOT AND COLD WATER.

7. INCOMING WATER BACKFLOW PREVENTION DEVICES AS REQUIRED IN FBC PLUMBING.

8. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES. ACCESS PANELS IN RATED WALLS MUST MAINTAIN THE SAME RATING AND MUST MATCH THE FINISH OF THE WALL IN WHICH IT IS INSTALLED. COORDINATE LOCATION OF ACCESS PANELS WITH ARCHITECT PRIOR TO INSTALLATION.

9. INSTALL AN APPROVED WATER PRESSURE REGULATOR WITH STRAINER WHERE WATER SHALT VISIT THE SITE, FAMILIARIZE HIMSELF WITH ALL FIELD CONDITIONS AND SHALL CONSIDERATION GIVEN TO SUPPORTING AND PITCHING OF PIPING.

10. INSTALL ALL WATER HEATERS (TANK-TYPE AND TANKLESS) SHALL HAVE THERMOSTATIC HEATING ELEMENTS WHEN INSTALLING PIPES AND FIXTURES.

11. PROVIDE VENT AND VENT BRANCH PIPE SHALL BE SO GRADED AND CONNECTED AS TO DRAIN DRY.

12. BEND STRAP 1 1/2" TO 3" IN ACCORDANCE WITH MFG. INSTRUCTIONS. PROVIDE ISOLATOR PADS ON ALL WATER PIPING HANGERS.

13. PROVIDE ISOLATOR PADS ON ALL WATER PIPING HANGERS.

14. PROVIDE VENT AND VENT BRANCH PIPE SHALL BE SO GRADED AND CONNECTED AS TO DRAIN DRY.

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20. PROVIDE VENT AND VENT BRANCH PIPE SHALL BE SO GRADED AND CONNECTED AS TO DRAIN DRY.

OTHER TRADES AND FIELD CONDITIONS.

21. PROVIDE VENT AND VENT BRANCH PIPE SHALL BE SO GRADED AND CONNECTED AS TO DRAIN DRY.

CONTRACTOR SHALL KEEP A SET OF AS-BUILT DRAWINGS ON THE JOB SITE AT ALL TIMES. PROTECT ALL WORK AND EQUIPMENT FROM DAMAGE. DO NOT SCALE FOR EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC. CONSIDERATION GIVEN TO SUPPORTING AND PITCHING OF PIPING.
65 CFM ENERGY RECOVERY VENTILATOR INSTALLED UNDER HOUSE. ALL LIGHT DASHED DUCTWORK IS BENEATH THE BUILDING. COORDINATE WITH STRUCTURE AND WHEEL ASSEMBLY. INSTALL FLANGED DUCT FITTINGS TO ALLOW DUCTWORK TO BE REMOVED DURING TRANSIT.

8x3 DUCT DROPS THROUGH WALL CAVITY TO UNDERNEATH BUILDING TO ERV. WATER TANKS UNDER PLANTER, INCLUDING HOT WATER TANK FOR SPACE HEATING. SHOWN FOR REFERENCE ONLY. REFER TO PLUMBING PLANS FOR DETAILS.

RECIRCULATION TYPE RESIDENTIAL HOOD. METAL DRYER EXHAUST UP TO WALLCAP WITH REMOVABLE LINT CLEANOUT & BDD.

AIR COOLED CONDENSING UNIT.

OUTSIDE AIR INTAKE BENEATH BUILDING. EXHAUST AIR DISCHARGE BENEATH BUILDING. DUCT CONNECTS TO LIQUID DESSICANT SYSTEM AT FLOOR FLANGE. THEN CONTINUES AT CEILING FLANGE FOR DISTRIBUTION TO FCU TURNS.

TWO PARALLEL SETS OF ACR COPPER REFrigerant PIPING SIZED PER MANUFACTURER. INSULATE BOTH SUCTION AND LIQUID LINES; SEE SPECS FOR EXTERIOR INSULATION. CONDENSATE DRAIN SLOPED AT MINIMUM 1/4" PER LINEAR FOOT. COORDINATE INDIRECT TERRitorial POINT WITH STORM WATER SYSTEM. PROVIDE FLOAT SWITCH AT AUXILIARY DRAIN TO DE-ENERGIZE CU-1. WATER STORAGE TANKS. REFER TO PLUMBING PLANS FOR ADDITIONAL INFORMATION, INCLUDING HOT WATER PIPING FOR SPACE HEATING. SEE ALSO KEY NOTE 18.

COORDINATE SUPPLY DUCT INSTALLATION WITH SPRINKLER MAIN AND SPRINKLER HEAD.

COORDINATE DUCT INSTALLATION WITH ARCHITECTURAL SOFFIT.

SIDEWALL RETURN GRILLE LOCATED ABOVE BREAKFAST AREA.

EXHAUST AIR PASSES THROUGH SOLAR HOT WATER HEAT EXCHANGER TO REDUCE RELATIVE HUMIDITY. VERIFY EXACT LOCATION. SEE ALSO PIPING SCHEMATIC.

EXHAUST AIR PASSES THROUGH LIQUID DESSICANT REGENERATION COMPONENT. VERIFY EXACT LOCATION. SEE ALSO PIPING SCHEMATIC AND EQUIPMENT SPECIFICATIONS.

PRETREATED OUTSIDE AIR CONNECTS INTO TOP OF RETURN DUCT AT 45°.

PIPING RISES UP BUILDING TO RUN AT JOIST LEVEL. SEE CHILLED WATER PIPING DETAIL AT EXTERIOR WALL ON M-101.

PREFABRICATED PLENUM WITH HOT WATER HEAT EXCHANGER AT DISCHARGE OF FCU. REFER TO PLUMBING PLANS FOR PIPING. SEE ALSO MINISPLIT SCHEDULE NOTES.

COORDINATE DUCT INSTALLATION WITH ARCHITECTURAL SOFFIT.

COORDINATE DUCT INSTALLATION WITH ARCHITECTURAL SOFFIT.
**MECHANICAL DETAILS & NOTES**

**FLEXIBLE DUCT DETAIL**

1. FLEXIBLE DUCTS SHALL BE ONE-PIECE AND SHALL NOT BE SPLICED TOGETHER.
2. FLEXIBLE DUCTS SHALL ONLY TERMINATE AT GRILLES. IT IS UNACCEPTABLE TO TERMINATE FLEXIBLE DUCTWORK AT A PLENUM BOX FOR CONNECTION OF ADDITIONAL BRANCHES OR ANYTHING SIMILAR.

**REFRIGERANT PIPING DETAIL AT EXTERIOR WALL**

- REFRIGERANT LINES TO FCU WITH APPROVED ATTACHMENTS AS PER BC 13-410.1.ABC.3.0. TYPICAL OF

**REMARKS**

8,020 CF x 0.35 AC/HR x 1HR/60MIN = 47 CFM OA REQ'D.

**FAN COIL UNIT HANGING DETAIL**

1. DUCTS SHALL BE INSTALLED FULLY EXTENDED. THE TOTAL EXTENDED LENGTH OF DUCT MATERIAL SHALL NOT EXCEED 5 PERCENT OF THE MINIMUM REQUIRED LENGTH FOR THAT RUN.
2. BENDS SHALL MAINTAIN A CENTER LINE RADIUS OF NOT LESS THAN ONE DUCT DIAMETER.
3. TERMINAL DEVICES SHALL BE SUPPORTED ... THE FLEXIBLE DUCT.
4. HORIZONTAL DUCT SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN 5 FEET. DUCT SAG BETWEEN SUPPORTS SHALL NOT EXCEED ½ INCH PER FOOT OF LENGTH. SUPPORTS SHALL BE PROVIDED WITHIN ½ FEET OF INTERMEDIATE FITTINGS AND BETWEEN INTERMEDIATE FITTINGS AND BENDS. CEILING JOISTS AND RIGID DUCT OR EQUIPMENT MAY BE CONSIDERED TO BE SUPPORTS.
5. VERTICAL DUCT SHALL BE STABILIZED WITH SUPPORT STRAPS AT INTERVALS NOT GREATER THAN 6 FEET.
6. HANGERS, SADDLES AND OTHER SUPPORTS SHALL MEET THE DUCT MANUFACTURER'S RECOMMENDATIONS AND SHALL BE}

**CONDENSER MOUNTING DETAIL**

- PROVIDE MIN. 24" SERVICE CLEARANCE FOR ALL ACCESS PANELS.
- VENDOR TO INCLUDE HOT WATER HEAT EXCHANGER COIL IN PREFABRICATED PLENUM BOX AT DISCHARGE OF EACH FCU, FURNISHED WITH THREE-WAY VALVE. COORDINATE CONTROLS SO THAT HEAT IS TRANSFERRED TO THE FAN COIL UNIT AS REQUIRED.
- PROVIDE ADDITIONAL 3RD PARTY CONTROLS TO MONITOR AIRFLOW. COORDINATE ALL CONTROL AND SIGNAL REQUIREMENTS WITH CLIENT.

**ENERGY RECOVERY VENTILATION (ERV)**

- BASIS OF DESIGN IS RENEWABLE VENTILATION.
- CONTRACTOR TO COORDINATE ALL EQUIPMENT LEAD ITEMS TO ALLOW UNINTERRUPTED CONSTRUCTION SCHEDULE.
- PROVIDE 1" MERV 8 FILTERS WITHIN THE VENTILATION SYSTEM TO REMOVE FINE PARTICLES AND MICROORGANISMS. COORDINATE COIL PERFORMANCE AND LAMINAR FLOW TO PREVENT FROZEN CONDITIONS AND BLOCKAGE OF AIRFLOW.
- PROVIDE ADDITIONAL 3RD PARTY CONTROLS TO MONITOR AIRFLOW. COORDINATE ALL CONTROL AND SIGNAL REQUIREMENTS WITH CLIENT.

**MINISPLIT HEAT PUMP UNIT SCHEDULE (BASED ON LG)**

- MIN. 1/4"x2" EYEBOLT CONCRETE ANCHOR WITH STAINLESS STEEL FENDER WASHER AND NEOPRENE VIBRATION ISOLATORS AT ALL FOUR CORNERS.
- PROVIDE MIN. 24" SERVICE CLEARANCE FOR ALL ACCESS PANELS.
- VENDOR TO INCLUDE HOT WATER HEAT EXCHANGER COIL IN PREFABRICATED PLENUM BOX AT DISCHARGE OF EACH FCU, FURNISHED WITH THREE-WAY VALVE. COORDINATE CONTROLS SO THAT HEAT IS TRANSFERRED TO THE FAN COIL UNIT AS REQUIRED.
- PROVIDE ADDITIONAL 3RD PARTY CONTROLS TO MONITOR AIRFLOW. COORDINATE ALL CONTROL AND SIGNAL REQUIREMENTS WITH CLIENT.
1. PROVIDE 6 SETS OF SHOP DRAWINGS FOR APPROVAL. NO EQUIPMENT TO BE ORDERED BEFORE SHOP DRAWINGS ARE APPROVED.

2. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ALL LABOR, MATERIALS AND SUPERVISION.

3. WHERE CORE DRILLING OF FLOOR/WALLS IS REQUIRED, CONTRACTOR SHALL SEAL OPENINGS Watertight AFTER UTILITIES HAVE INSTALLED AFTER ADJOINING FINISH MATERIALS ARE INSTALLED.

4. FOR ELECTRICAL CONDUITS, PROVIDE PULL BOXES, SUCH THAT NO SINGLE CONDUIT RUN HAS BENDS IN EXCESS OF 360. PULL BOXES SHALL BE SUITABLE AND APPROVED FOR THE INTENDED USE. WARNING TAPE WHICH SAYS "WARNING BURIED ELECTRIC" SHALL BE INCHES FROM THE BEGINNING OF ANY PULL BOX RISER AND BRANCHED RUNS, AS WELL AS A PRINTER." (UON).

5. PROVIDE ACCESS PANEL WITH ACCESS HOLES IN EACH REMOTE AREA TO PROVIDE ACCESS TO ALL UTILITIES IN EACH SPACE. (UON)

6. PROVIDE 3 SF OF ELECTRICAL DISTRIBUTION PANEL SPACE, PER NEC TABLE 110.16, FOR EACH SPACE IN WHICH OVER 30' OF DISTRIBUTION CONDUIT (RGS) IS INSTALLED. COMBINE ALL ACCESS PANELS IN ONE LARGE PANEL IN THE CONFIGURATION SHOWN.

7. PROVIDE 6 SETS OF SHOP DRAWINGS FOR APPROVAL. NO EQUIPMENT TO BE ORDERED BEFORE SHOP DRAWINGS ARE APPROVED.

8. PROVIDE ACCESS PANEL WITH ACCESS HOLES IN EACH REMOTE AREA TO PROVIDE ACCESS TO ALL UTILITIES IN EACH SPACE. (UON)

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FIELD WIRING DIAGRAM
240 VAC SPLIT PHASE

2 ROWS OF 230 WATT SUNMODULES AND ENPHASE D-380 MICROINVERTERS
1 BRANCH CIRCUIT OF 12 MODULES
1 BRANCH CIRCUIT OF 10 MODULES
ELECTRIC DIAGRAM

SOLARWORLD SW230 POLY DIMENSIONS: 65.94" x 39.41" x 1.22"
22 MODULES X SW230 = 5.06 KW STC DC

ELECTRICAL DIAGRAM