ARCHITECTURE DESIGN NARRATIVE


ENGINEERING DESIGN NARRATIVE

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**Architectural Symbols**

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**Electrical Symbols**

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**Plumbing Symbols**

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**Safety Symbols**

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**Lighting Symbols**

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**General Sheet Notes**

**Dynamic Augmented Living Environment**

**U.S. Department of Energy Solar Decathlon 2013**

**SOUTHERN CALIFORNIA INSTITUTE OF ARCHITECTURE**

**SCI-ARC / CALTECH**

**960 EAST 3RD STREET**

**LOS ANGELES, CA 90013**

**1200 EAST CALIFORNIA BOULEVARD**

**PASADENA, CA 91125**

**Structural Engineers**

**Buro Happold Consulting Engineers, Inc.**

**9601 JEFFERSON BLVD. STE B**

**CULVER CITY, CA  90232.**

**Tel: 310.945.4800**

**Building Construction**

**RJC Builders, Inc.**

**3509 W 6TH ST.**

**LOS ANGELES, CA 90020**

**Tel: 213.388.9327**

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**Reference Keynotes**

**General Sheet Notes**

**Drawing Block Title**

**View Title**

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**Symbols Legend**

**G-002**
COLLAPSIBLE FOLDING SIDES
REAR VIEW
SIDE VIEW
TOP VIEW
2'-0" MOVABLE OSHA APPROVED HAZARDOUS COLLAPSIBLE VINYL LIQUID SPILL CONTAINMENT
(FOR TEMP. CONST. GENERATOR ONLY SEE O-101
FIRE RATED STEEL CONSTRUCTION
MOVABLE SHELVES
2" VAN SPILL RESERVOIR
LOCKABLE LATCH
HAZARDOUS LIQUID SCHEDULE
LIQUID USE LOCATION/STORAGE
DIESEL
CONST. ADHESIVES
CLEANING SOLVENTS
TBD
TEMP POWER FUEL
CONSTRUCTION
CLEANING
TBD
GENERATOR/HAZARDOUS LIQUID CABINET #1
VARIOUS/HAZARDOUS LIQUID CABINET #2
VARIOUS/HAZARDOUS LIQUID CABINET #3
TBD/HAZARDOUS LIQUID CABINET #4 (IF NEEDED)
Dynamic Augmented Living Environment
U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON 2013
WWW.SOLARDECATHLON.GOV
SOUTHERN CALIFORNIA INSTITUTE OF ARCHITECTURE
TEAM SCI-ARC / CALTECH
960 EAST 3RD STREET
LOS ANGELES, CA 90013
1200 EAST CALIFORNIA BOULEVARD
PASADENA, CA 91125
CONSULTANTS
SCI-ARC / CALTECH
#101
DATE: 08.22.2013
SUBMISSIONS:
CALIFORNIA INSTITUTE OF TECHNOLOGY
TEAM SCI-ARC / CALTECH
960 EAST 3RD STREET
LOS ANGELES, CA 90013
1200 EAST CALIFORNIA BOULEVARD
PASADENA, CA 91125
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BUILDING CONSTRUCTION
RJC BUILDERS, INC.
3509 W 6TH ST.
LOS ANGELES, CA 90020
TEL: 213.388.9327
REVISIONS:
DESIGN DOCUMENTATION SET
10/11/2012
CONSTRUCTION DOCUMENTATION SET
02/14/2013
AS-BUILT SET
08/22/2013
H-101
LIQUID LOCATION
AND SPILL CONTAINMENT, & SCHEDULE
HAZARDOUS LIQUID CONTAINMENT
1/2" = 1'-0"C4
GENERATOR SPILL CONTAINMENT
1/2" = 1'-0"C1
LIQUID LOCATION
AND SPILL CONTAINMENT, & SCHEDULE
HAZARDOUS LIQUID CONTAINMENT
1/2" = 1'-0"C4
GENERATOR SPILL CONTAINMENT
1/2" = 1'-0"C1
REFERENCE KEYNOTES
H1 TEMP CONSTRUCTION GENERATOR AT FULL LOAD NOT TO EXCEED 60 DB @ 50’ OPERATIONS & REFUELING OF GENERATOR LIMITED TO HOURS ESTABLISHED BY ORGANIZERS
H2 MOVABLE OSHA APPROVED HAZARDOUS COLLAPSIBLE VINYL LIQUID SPILL CONTAINMENT (FOR TEMP. CONST. GENERATOR DWG O-101)
H3 TEMP. 8’X10’ METAL SHIPPING CONTAINERS (FOR CONST. DURATION ONLY DWG-101)
H4 CHECK IN, BREAK, & MEETING AREA
H5 MOVABLE OSHA APPROVED CONTAINERS TO STORE PPE, FIRST AID, INFO, TOOL STORAGE, & POWER STATION
GENERAL SHEET NOTES
1/8" = 1'-0"A4
HAZARDOUS LIQUID & SPILL CONTAINMENT PLAN
REFERENCE KEYNOTES
H1 TEMP CONSTRUCTION GENERATOR AT FULL LOAD NOT TO EXCEED 60 DB @ 50’ OPERATIONS & REFUELING OF GENERATOR LIMITED TO HOURS ESTABLISHED BY ORGANIZERS
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1/8" = 1'-0"A4
HAZARDOUS LIQUID & SPILL CONTAINMENT PLAN
ADD.
AWS
STL
INFO.
DENOTES PARTIAL PENETRATION WELD. PROPORTIONED TO ACl AND SEE ARCHITECTURAL SYMBOLS
TRUSS ELEVATIONS
PT
MFR.
C
SYMM.
MB
SEE ARCHITECTURAL SYMBOLS
PT.
STRUCT.
INCL.
SPACING CENTER TO CENTER
PLF
(00)
THRU
ID
ENGRG.
TOT.
FTG.
LLH
LT.
(N)
T.O.S.
CLG.
ROOF FRAMING PLAN
4
08.22.2013
CL
ARCH.
T.O.F.
LLBB
00
DENOTES NEW OPENING
DET.
BOT.
BRG.
REVISIONS PER STRUCTURAL - 03/29/2013
SPECS.
NTS
SEE ARCHITECTURAL SYMBOLS
EJ
CONN.
CY
JT.
OPP.
FF
BM.
STD.
TYPICAL DETAILS
COL.
CONC.
2
CJ
GRND.
FIN.
DENOTES NEW OPEN WEB JOIST
BP
DENOTES CAMBER OF FLOOR MEMBERS.
ORIG.
EXIST.
NF
AWS
SHEAR WALL PLAN
5
PSI
FLR.
EQ.
FS
PP
HORIZ.
MATL.
LOOR DETAILS
WWF
OF
LB
GEN.
c=0
FRMG.
CONT.
PL
ASTM
WP
S
4
DWL.
T.O.SL.
MED.
7
PROJ.
(E)
CMU
N
R
EL.
PCF
LLV
DWLS.
CF
MECH.
TYP.
HGT.
VERT.
AIA.
CP
VOL.
SCHED.
SHT.
DENOTES COMPRESSION.
DENOTES AXIAL FORCE (KIPS).
B.O.D.
FDN.
SC
TO INDICATE SIZE OF DEFORMED BAR
GR.
GA.
ANC.
IF
d
S
ROOF DETAILS
MAX.
MIN.
YD.
S
ACI
STAGG.
ENGR.
CLR.
S
DENOTES SPAN DIRECTION OF METAL DECK
REQD.
T.O.
TANDB
DENOTES 'NEW'
CJP
AISC AND SEE ARCHITECTURAL SYMBOLS
CONST.
U.O.N.
STIFF.
AISC
RF.
EW
T.O.W.
QTR.
FT.
W/O
C
A
B
E
GENERAL NOTES

I. REVIEW OF SPECIALTY TIME AND PRE-ENGINEERING ELEMENTS

1. SPECIFY TYPE, PRE-ENGINEERING COMPONENTS, AND DESIGN ELEMENTS FOR REINFORCING STEEL BARS AND PLATES AS Shown ON THE CONTRACT DOCUMENTS. ALL REINFORCING STEEL SHALL BE SUPPLIED IN ACCORDANCE WITH THE MINIMUM STANDARDS OF THE FOLLOWING CODES:

   - CONCRETE: CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE', ACI 318, AND THE 'SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS', Section 1705.
   - STEEL: CONFORM TO 'A615 REINFORCEMENT FOR BUILDINGS' AND 'A992 FABRICATED STRUCTURAL STEEL', Section 1705.
   - CAST IN PLACE CONCRETE AND CEMENT COMPOUNDS: CONFORM TO 'ACI 301, CODE REQUIREMENTS FOR CONCRETE BUILDING CONSTRUCTION', Section 1705.
   - STEEL CONSTRUCTION: CONFORM TO THE 'STEEL CONSTRUCTION MANUAL', Section 1705.

2. SUBMIT ONE (1) COPY OF EACH SHOP DRAWING AND BID TO THE CONTRACTOR PRIOR TO GENERATING THE SHOP DRAWING. SHOP DRAWINGS SHALL BE APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL.

3. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.

II. QUALITY CONTROL AND SPECIAL INSTRUCTIONS

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL PREPARE THE SHOP DRAWINGS AND SHOP DRAWING SHEET METALWHERE IS NOT ATTACHED DESIGN ENSURES.

2. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES:

   - CONSTRUCTION: CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE', ACI 318, AND THE 'SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS', Section 1705.
   - STEEL CONSTRUCTION: CONFORM TO THE 'STEEL CONSTRUCTION MANUAL', Section 1705.
   - CAST IN PLACE CONCRETE AND CEMENT COMPOUNDS: CONFORM TO 'ACI 301, CODE REQUIREMENTS FOR CONCRETE BUILDING CONSTRUCTION', Section 1705.
   - STEEL CONSTRUCTION: CONFORM TO THE 'STEEL CONSTRUCTION MANUAL', Section 1705.

3. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.

III. CONCRETE

1. ALL MACHINES AND EQUIPMENT REFERRED TO IN THE CONCRETE CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS FOR CONCRETE MACHINES AND EQUIPMENT AS SHOWN ON THE CONTRACT DOCUMENTS. ALL MACHINES AND EQUIPMENT SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES:

   - CONSTRUCTION: CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE', ACI 318, AND THE 'SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS', Section 1705.
   - STEEL CONSTRUCTION: CONFORM TO THE 'STEEL CONSTRUCTION MANUAL', Section 1705.
   - CAST IN PLACE CONCRETE AND CEMENT COMPOUNDS: CONFORM TO 'ACI 301, CODE REQUIREMENTS FOR CONCRETE BUILDING CONSTRUCTION', Section 1705.
   - STEEL CONSTRUCTION: CONFORM TO THE 'STEEL CONSTRUCTION MANUAL', Section 1705.

2. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.

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4. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.

5. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.

6. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.

7. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.

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9. ALL REINFORCING STEEL SHALL BE SUPPLIED BY A steel供货商 WHO IS AUTHORIZED TO SUPPLY THE CONTRACTOR WITH ALL REINFORCING STEEL AS SHOWN ON THE CONTRACT DOCUMENTS. STEEL SPECIFICATIONS SHOWN ON THE SHOP DRAWINGS SHALL BE PREPARED AND ISSUED BY THE CONTRACTOR.
GENERAL NOTES

1. GLUED LAMINATED BEAMS (GLB) - LAMINATED WOOD BEAMS SHALL BE GLUED TOGETHER IN A MANUFACTURING SHOP OR ON SITE. CONNECTIONS BETWEEN BEAMS AND ELEMENTS ATTACHED TO THE BEAMS SHALL BE STURDY AND MADE THROUGH THE THICKNESS OF THE BEAM WHERE PRACTICAL TO DO SO.

2. LAMINATED STRAND WOOD BEAMS (LSL) - LAMINATED WOOD BEAMS SHALL CONSIST OF A MINIMUM OF (3) PLYS FOR 3/8" SHEATHING AND LARGER, AS REQUIRED TO RESIST THE APPLIED LOADS. ALL COMPLETE JOINT PENETRATION (CJP) GROOVE WELDS SHALL BE MADE IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATIONS. ALL WELDS SHALL BE IN ACCORDANCE TO THE WELDING PROCEDURE SPECIFICATIONS EXCEPT AS SUBSEQUENTLY NOTED. HIGH STRENGTH BOLTS NEED NOT BE TIGHTENED BEYOND THE SNUG-TIGHT CONDITION, AS DEFINED IN SECTION 8.2.5.5.6 INCLUSIVE, OF THE AWS D1.1-98.

3. MULTIPLE-PLY LVL BEAMS SHALL BE NAILED TOGETHER AS FOLLOWS: LVL BEAMS SHALL BE MICROLLAM LVL BY WEYERHAEUSER OR ICBO MFG. SPECIFICATION REQUIRED BY AWS D1.1-98. ELECTRODES SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI. USING A FILLER METAL IF REQUIRED.

4. PARALLELING STUDS (PSL) - PARALLAM PSL BY WEYERHAEUSER OR ICBO APPROVED EQUAL AND HAVE THE FOLLOWING MINIMUM PROPERTIES:

- CANTILEVERS IN ACCORDANCE WITH SECTION 2303 OF THE CBC AND WITH HANDLING PER LATEST AITC AND WCCA STANDARDS. BEAMS TO BEAR GRADE DESIGNATION A36, UNLESS NOTED OTHERWISE. ALL WELDS SHALL BE STAGGERED AND SHALL NOT BE LESS THAN 3/8" FROM PLYWOOD EDGES. WEATHER SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

5. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH.

6. ALL WELDS SHALL BE IN ACCORDANCE WITH THE WELDING PROCEDURE SPECIFICATIONS EXCEPT As SUBSEQUENTLY NOTED. HIGH STRENGTH BOLTS NEED NOT BE TIGHTENED BEYOND THE SNUG-TIGHT CONDITION, AS DEFINED IN SECTION 8.2.5.5.6 INCLUSIVE, OF THE AWS D1.1-98.

7. STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS OF THE STRUCTURAL STEEL FABRICATOR. ALL STEEL SECTIONS SHALL BE CONFORM TO ASTM A992. ALL STEEL TUBES SHALL CONFORM TO ASTM A500 B CPC FORMING TUBE NUT X = 1/4. BS.

8. BOLT TYPES, CONFORMITY TO ASTM A325N, EXCEPT ANCHOR BOLTS WHICH SHALL CONFORM TO ASTM A325, UNLESS NOTED OTHERWISE.

9. BOLTS SHALL BE TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SECTION 8.2 - ACCEPTED SHOP DRAWINGS.

10. CONTRACTOR: WILL BE DEFINED AT A PRE-DETAILING CONFERENCE WITH THE STEEL FABRICATOR TO IDENTIFY ANY ELEMENTS AFFECTED BY STEEL ERECTION PROCEDURE, SUCH AS MEMBER LENGTH ADJUSTMENT FOR STEEL COLUMN LENGTH ADJUSTMENT FOR ELASTIC SHORTENING EFFECTS. WELD LINES CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH. BOLTS SHALL BE TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SECTION 8.2 - ACCEPTED SHOP DRAWINGS.

11. THE STRUCTURAL STEEL FABRICATOR SHALL PROVIDE A496.

12. SHEAR STUDS AND ANCHORS SHALL BE MADE OF MATERIAL CONFORMING TO ASTM A496.

13. PROVIDE (3) ROWS OF 16d SINKERS AT 12" O.C. FOR BEAMS AND/OR DEFORMED ANCHORS IS NOT ALLOWED: PARAGRAPHS 7.5.5 TO 7.5.7 ARE DELETED.

14. FOR E = 1,300,000 psi, Fb = 1700 psi, Fv = 400 psi

- Fc (Perpendicular) = 680 psi, Fc (Parallel) = 1400 psi

15. FOR E = 1,550,000 psi, Fb = 2325 psi, Fv = 310 psi

- Fc (Perpendicular) = 800 psi, Fc (Parallel) = 2050 psi

16. FOR E = 2,000,000 psi, Fb = 2900 psi, Fv = 290 psi

- Fc (Perpendicular) = 750 psi, Fc (Parallel) = 2510 psi

17. SIZES, CONNECTIONS, SPLICES, BASE PLATES, ANCHOR BOLTS, ROCK AND OTHER HARDWARE ARE TO BE SELECTED BY THE CONTRACTOR AND SPECIFIED ON THE AS-BUILT SET.

18. THE CONTRACTOR SHALL PROVIDE ALL SUPERVISORY, INSPECTION, WELDING TESTS AND INSPECTIONS, SEE SPECIFICATIONS.

19. MATERIALS USED FOR THE BUILDING CONSTRUCTION SHALL BE INSPECTED AND ANALYZED BY THE CONTRACTOR TO DETERMINE THEIR CONTENTS AND EFFECTS, AS WELL AS TO THE MINIMUM TENSION SPECIFIED IN TABLE 8.1.

20. MATERIALS USED FOR THE BUILDING CONSTRUCTION SHALL BE INSPECTED AND ANALYZED BY THE CONTRACTOR TO DETERMINE THEIR CONTENTS AND EFFECTS, AS WELL AS TO THE MINIMUM TENSION SPECIFIED IN TABLE 8.1.

21. BOARD OF TRUSTEES, WHOSE JURISDICTIONS INCLUDE STRONG EARTHQUAKE AREA, WANTS TO BE INFORMED OF ALL TECHNIQUES CONTAINED IN JOINTS AND SPACES.

22. CONTRACTOR: WILL BE DEFINED AT A PRE-DETAILING CONFERENCE WITH THE STEEL FABRICATOR TO IDENTIFY ANY ELEMENTS AFFECTED BY STEEL ERECTION PROCEDURE, SUCH AS MEMBER LENGTH ADJUSTMENT FOR ELASTIC SHORTENING EFFECTS. WELD LINES CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH.
1. Floor dimensions shall be 17' 6" x 10' 0".
2. Floor joists shall be 1-3/4" x 7-1/4" LVL placed at 24" O.C. Wood glue all contact surfaces and nail with 10d screw nails at 4" O.C. at all boundaries and supported edges and 4" O.C. field nailing. All unsupported edges shall be blocked (See Detail S01/S405 for additional information).
3. Stitch nail LVL together with (3) rows of 10d sinkers staggered at 6" O/C.

DECK SHEATHING:
1" (SEE DETAIL D1/S405 FOR ADDITIONAL INFORMATION) TONGUE AND GROOVE STRUCTURAL PLYWOOD WITH A SPAN RATING OF 48/24. WOOD GLUE ALL CONTACT SURFACES AND NAIL WITH 10d SCREW NAILS AT 4" O.C. AT ALL BOUNDARIES AND SUPPORTED EDGES AND 4" O.C. FIELD NAILING. ALL UNSUPPORTED EDGES SHALL BE BLOCKED (SEE DETAIL D1/S-405 FOR ADDITIONAL INFORMATION).

1' 0" MIN (VARIES) STEEL KICKER TOGETHER WITH (2) ROWS OF 1' 0" MIN (VARIES) STEEL STUDS AT 2' 0" O.C. TO PROVIDE LOCK UP FOR FRAMING LUMBERS.
ROOF FRAMING PLAN NOTES:

1. TOP OF STEEL BEAMS SHALL BE 10'-11 1/2" UNLESS OTHERWISE NOTED IN PARENTHESIS (XX'-XX")

2. ALL EXTERIOR AND INTERIOR WALLS TO BE 2" (50MM) MIN. TAPERED WALLS AS SHOWN AT XX'-XX" SPACES TO BE 1'-6"

3. ROOF SHEATHING SHALL BE "ROBUST" STRUCTURAL 1 15/32" PLYWOOD WITH A SPAN RATING OF 32/16. NAILS SHALL BE 10D WOOD NAILS AT 6" O.C. AT ALL BOUNDARIES AND SUPPORTED EDGES AND 12" O.C. FIELD NAILING. ALL UNSUPPORTED EDGES SHALL BE BLOCKED (SEE DETAIL D1/S405 FOR ADDITIONAL INFORMATION)

4. TRIMMER AND KING STUD SCHEDULE

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<th>KING STUDS</th>
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<td>5'-0&quot; &lt; L &lt; 10'-0&quot;</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10'-0&quot; &lt; L &lt; 15'-0&quot;</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>L &gt; 15'-0&quot;</td>
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5. HANGER SCHEDULE

<table>
<thead>
<tr>
<th>JOIST/BEAM</th>
<th>HANGER</th>
<th>NAILING</th>
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6. TRIMMER AND KING STUD SCHEDULE

<table>
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<th>TRIMMERS</th>
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</tr>
<tr>
<td>L &gt; 15'-0&quot;</td>
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</tbody>
</table>

7. REFERENCE DETAIL A1/S-405 FOR CEILING CONSTRUCTION

8. SEE SHEET S-303 FOR SLIDER FRAME PLAN

SLIDER CANOPY AND LOUVERS MUST BE CLOSED IN HIGH WINDS
SHEAR WALL PLAN NOTES:

1. WHERE WALL SHEATHING IS NOT SPECIFICALLY NOTED ON DRAWINGS, P6 WALL SHEATHING MAY BE USED.
2. SEE DETAIL A3/S-405 FOR SHEAR WALL CONSTRUCTION.
NOTE:
DO NOT DAMAGE INTERNAL MECHANICAL OF END TRUCK. VERIFY ALL PARTS BEFORE INSTALLING BOLTS.

FABRICATE SADDLE TO MATCH RADIUS OF END TRUCK + 1/8" (IN THIS AREA ONLY)

OUTLINE OF END TRUCK INSIDE SADDLE

3 3/4"

PL. 1/2" X 1" WIDTH (ASTM A36) AS SHOWN EACH SIDE OF SADDLE

PL. 1/2" X 1/2" WIDTH (ASTM A36) AS SHOWN EACH SIDE OF SADDLE

HSS 4X4 X 1/4

(4) 3/4" DIA. A325 BOLTS AT STANDARD BEAM GAUGE

3"

2X NAILER (WHERE OCCURS)

1'-3" MAX

ROOF SHEATHING SEE PLAN

TOP OF CONCRETE

1'-0"

(18" MAX IN ENVELOPE OF MODULE)

24" MAX

VARIES

40# ASCE RAIL CONTINUOUS BEARING UNDER RAIL

RAIL CLIPS AND 5/8" DIA J-BOLTS AT 24" O/C TIGHTENED BOLTS AFTER 24 HRS OF CONCRETE POUR

CONCRETE MIX SPECS:
- 5500 PSI CONCRETE STRENGTH
- 2 PCY OF MACROSYNTHETIC FIBER
- 3/8" MAXIMUM AGGREGATE SIZE, WITH 0% FLY ASH
- POZZOLITH 322N AND GLENIUM 3030NS PER MANUFACTURER SPECIFICATIONS

BOUNDARY NAIL

DECK SHEATHING OR FLAT 2X MEMBERS WHERE OCCURS SEE PLAN

EXISTING ASPHALT CONCRETE PAVEMENT

PL 3/8" X 5" SQ W/ HEX NUT TOP AND BOTTOM

36" MIN.

6" MIN.

1" DIA. ASTM A307 ALL-THREAD ROD DRIVEN INTO (E) ASPHALT. (5) RODS PLACED IN MIDDLE OF EACH CONCRETE CURB SECTION (10 RODS TOTAL)

ERECTION PLATE AS REQUIRED

GROUND PLANE

0' - 0"

15" MIN

2 -# 5 CONTINUOUS BARS TOP AND BOTTOM (LAP=24")

2 -# 5 CONTINUOUS BARS TOP AND BOTTOM (LAP=24")

(2) 1 3/4" X 11 7/8" LVL STITCH NAIL LVL TOGETHER WITH (3) ROWS OF 10D SINKERS STAGGERED AT 6" O/C NAILER EACH SIDE OF END TRUCK

NOTE:
SOCKET SADDLE IS DESIGNED FOR 11" X 11" X 11" INSTALLED RAIL TO BE CLEATED TO SADDLE & CONNECT TO HSS B-1 1/2" SADDLE AS SHOWN (SHIM AS REQUIRED FOR TIGHT FIT)

ACE END TRUCK (PART# 201005-00)

END TRUCK INTERNAL DIAPHRAGM HSS-VERTICAL SEE PLAN

HSS 4X4 X 1/4

PL 3/8 X 5½ X 10"

HSS 4X4 X 1/4

(4) 3/4" DIA. A325 BOLTS AT STANDARD BEAM GAUGE

3"
TRUSS CONNECTION DETAILS

TOP OF STEEL

11'-5" TOP OF STEEL

3-SIDES

1/4"

HSS-VERTICAL SEE PLAN

HSS-BEAM SEE PLAN

HSS BRACE

HSS VERTICAL SEE PLAN

NOTE: USE PARTIAL PENETRATION WELD AT END TRUCK (DETAIL A4/S-402)
**SHEAR WALL DETAIL**

**ALLOWABLE SHEAR**

- **20dN @ 3" O.C.**
- **10dN @ 3" O.C.**
- **5" O.C.**
- **3" O.C.**
- **8" O.C.**

**SHEAR WALL SCHEDULE**

- **PANELS MAY BE**
- **BLEEDSHEETING SEE PLAN**
- **3/8" X 6" LAG SCREW AT 18" O/C**
- **AT 8" O/C**
- **WIDTH) AS REQUIRED FOR**
- **2X LVL STRIPS (RIP TO MATCH**
- **UNISTRUT TRACK BY OTHERS**
- **HU1.81/5 HANGER AT EACH END.**
- **1 3/4" X 16" LVL BLOCKING W/**
- **ROOF SHEATHING SEE PLAN**
- **SPECIFICATION**
- **WEB STIFFENER PER MFR**
- **ROOF SHEATHING SEE PLAN**
- **SHEAR WALL INTERSECTION**

**NOT EXCEED 3000#**

**TYPICAL SHEATHING LAYOUT**

- **16dS @ 4" O.C.**
- **3/8" PLYWOOD**
- **10dN @ 2" O.C.**

**HARDWARE CONNECTION**

- **10dN = 10d COMMON NAIL (0.148" DIA.)**

**SILL PLATE CONNECTION**

- **2" O.C.**
- **PDP @ 6" 0/C**
- **476 PLF**
- **B 2**
- **16dS**
- **10dN @ 3" O.C.**
- **4**

**CEILING CALLOUT**

**A3**

- **SHEAR WALL AND WALL CONSTRUCTION**

- **510 PLF**
- **665 PLF**
- **931 PLF**

**SHEAR WALL AND WALL CONSTRUCTION**

- **10dN = 10d COMMON NAIL (0.148" DIA.)**

- **TOP OF SHEAR WALL**

- **08.22.2013**

**REVISIONS PER STRUCTURAL - 03/29/2013**

- **SHEAR WALL INTERSECTION**

- **SDP = HILTI X-U (0.157" DIA)***

- **WHERE STEEL BRACE**
- **DIRECTLY SUPPORTED BY STEEL MEMBERS**
- **FIELD NAILING**
- **EDGE NAILING**

- **Framing, Typ.**
- **Intermediate Framing Member Per Plan**
- **Wall Sheathing**
- **Where Steel Brace**
- **Field Nailing**
- **Edge Nailing**

- **HILTI X-U 0.157 DIAMETER PDP WHERE SHEATHING IS**
- **DIRECTLY SUPPORTED BY STEEL MEMBERS**

- **Roof Sheathing**
- **See Plan**
- **Roof Joist See Plan**

**TYPICAL DETAILS**

**S-405**
WOOD FRAMING NOT SHOWN FOR CLARITY

HSS 6X6 X 1/4 VERTICAL TYP.

HSS 6X6 X 5/16 (CONTINUOUS), TYP.

HSS 6X6 X 5/16

HSS 5X5 X 1/4 VERTICAL TYP.

6'-0"

2"

EQ.

2"

3/4" DIA. A307 THROUGH BOLT TYP.

3/16

END TRUCK SEE PLAN

2'-0"

3/8" SHEAR TAB EACH SIDE

EQ.

EQ.

EQ.

HSS 5X3 X 5/16 SOLAR THERMAL EXTENSION

(6) SIDES

TOTAL

3/16

3 1/2 X3 1/2 X 1/4 ANGLE EXTENSION, TYP.

HSS 5X3 X 5/16 SOLAR THERMAL EXTENSION

15°

3/16

3/4" DIA. A307 THROUGH BOLT

3/8" SHEAR TAB EACH SIDE
1. Module locations vary
2. Measurement points for grade are approximate.
3. ALL RAMPS ARE TEMPORARY ADA RAMPS FOR EXHIBITION ONLY

Sheet Title: A-100

General Floor Plan

Lot Number: #101

Drawing by: SOCI-ARC / CALTECH

Check by: CHI HANG LO

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#101

DATE: 08.22.2013

LOT NUMBER: #101

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SHEET TITLE

KITCHEN & SANDROOM ELEVATIONS

A-401
### DOOR SCHEDULE

<table>
<thead>
<tr>
<th>MARK</th>
<th>DR TYPE</th>
<th>DR SIZE</th>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>FRAME TYPE</th>
<th>FIRE RATING</th>
<th>DETAILS</th>
<th>DESCRIPTION</th>
<th>SHEET</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>BATH ROOM</td>
<td>2' 8&quot;W x 7' 4&quot;H</td>
<td>N/A</td>
<td>N/A</td>
<td>WOOD NA NA NA 1/2&quot; PLY WOOD WOOD WOOD WOOD</td>
<td>-</td>
<td>-</td>
<td>DETAILS</td>
<td>A-504</td>
</tr>
<tr>
<td>4</td>
<td>MECHANICAL ROOM</td>
<td>2' 11-1/2&quot;W x 5' 2-1/4&quot;H</td>
<td>N/A</td>
<td>N/A</td>
<td>WOOD NA NA NA 1/2&quot; PLY WOOD WOOD WOOD WOOD</td>
<td>-</td>
<td>-</td>
<td>DETAILS</td>
<td>A-504</td>
</tr>
</tbody>
</table>
1. Fire sprinklers have been located so that in all possible configurations of movable cabinets, no areas shall be unprotected by sprinklers.

2. Smoke detectors are wired by a 3rd conductor within each module, but each module’s set of detectors is independent.

3. Smoke detectors and alarms shall be able to connect wirelessly.

4. For fire protection pressure calculations, refer to Sheet P-602.

5. Refer to Sheet XE-001 for cable/hose carrier details.

Symbols Legend:
- Engine detector
- Preheat head sprinkler

Sheet Keynotes:
- F01 1" dia flex sprinkler supply hose
- F02 1" dia cpvc sprinkler supply
- F03 groove couplings for system disassembly
- F04 1" riser DN.
- F05 1" riser 1/2" diameter header detector

Reference Keynotes:
- 06 11 00 A2 wood blocking as required
- 06 16 00 D7 1/2" exterior grade plywood
- 06 17 00 C4 16" wood I joist
- 07 21 16 A10 batt insulation
- 21 13 29 tyco lfii concealed sprinkler
- 22 11 23 booster pump
- 28 31 46 smoke detector
DOMESTIC WATER SUPPLY & WASTE PLAN

1/4" = 1'-0"

1. ALL WASTE PIPE SLOPES MINIMUM 1/4 IN/FT.
2. ALL VENT LINES TO BE PVC.
3. REFER TO SHEET XE-001 FOR CABLE/HOSE CARRIER DETAILS.

REFERENCE KEYNOTES

22 11 16 DOMESTIC WATER PIPING
22 11 23 BOOSTER PUMP
22 11 23.A2 SUMP PUMP
22 12 23.01 WATER SUPPLY BLADDER
22 12 23.02 WASTEWATER STORAGE BLADDER
22 13 00.2 MACERATOR
22 33 00 HTP SUPERSTOR SOLAR WATER TANK

SHEET KEYNOTES

P15 REMOVABLE HATCH FOR WATER BLADDER ACCESSIBILITY
P16 CABLE/HOSE CARRIER SHOWN DASHED FOR CLARITY

GENERAL SHEET NOTES

1. ALL WATER PIPE SLOPES GRADING 1 1/4 IN/FT.
2. ALL VENTS TO BE PVC.
3. REFER TO SHEET 01-00 FOR CABLE/HOSE CARRIER DETAILS.

DOMESTIC WATER SUPPLY & WASTE PLAN

P-102
WATER SUPPLY & WASTE SECTIONS

GENERAL SHEET NOTES
1. ALL WASTE PIPE SIZES 4" VERSUS 1-1/2" UPST. PER 2009 IRC
2. ALL WATER PIPE SIZES 1-1/2" VERSUS 1/2" PVC
3. REFER TO SHEET XE-001 FOR CABLE/HOSE CARRIER DETAILS

REFERENCE KEYNOTES
11 31 13.A7 DISHWASHER
11 31 23.A1 CLOTHES WASHER
22 11 16 DOMESTIC WATER PIPING
22 11 23 BOOSTER PUMP
22 11 23.A2 SUMP PUMP
22 13 00 FACILITY SANITARY SEWERAGE
22 33 00 HTP SUPERSTOR SOLAR WATER TANK
22 41 23.B3 PRE-FABRICATED SHOWER STALL
23 56 01 SOLAR PUMP STATION

WATER SUPPLY LONGITUDINAL SECTION

WASTE WATER LONGITUDINAL SECTION

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P-301
AS WITH ANY MECHANICAL SYSTEM, PROPER MAINTENANCE IS ESSENTIAL. THE CABLE AND HOSE CARRIERS THAT COMPOSE THE MOVING COMPONENTS OF THE ELECTRICAL AND PLUMBING SYSTEMS, WILL REQUIRE PROPER MAINTENANCE IN ORDER TO FUNCTION PROPERLY AND SAFELY SERVE THE OCCUPANTS OVER THE LIFESPAN OF THE BUILDING. THE FOLLOWING IS A SCHEDULE OF MAINTENANCE FOR EACH OF THE COMPONENTS THAT NEED PERIODIC INSPECTION AND POSSIBLE REPLACEMENT:

CABLE/HOSE CARRIER:

3 MONTHS:
1.) INSPECT ALL HOSES (FULL LENGTH) FOR SIGNS OF WEAR. INSPECT FOR SIGNS OF CRACKING, TEARS, PUNCTURES, EXCESSIVE ABRASION, DEFORMATION, OR OTHER SIGNS OF EXCESSIVE WEAR. REPLACE HOSES IF ANY OF THE SIGNS ABOVE ARE EVIDENT.
2.) INSPECT ALL CABLE CARRIERS FOR CRACKING OR EXCESSIVE WEAR. INSPECT FOR SIGNS OF CRACKING, CORROSION, PITTING, LOOSE FITTINGS, EXCESSIVE WEAR, OR DAMAGE. IF ANY OF THE ABOVE SIGNS ARE PRESENT, CONSULT CABLE/HOSE CARRIER INSTALLATION/Maintenance MANUAL AND EXPLODED DRAWINGS/PARTS REFERENCE FOR APPROPRIATE ACTION/REPLACEMENT PARTS.

12 MONTHS:
1.) INSPECT ALL HOSES (FULL LENGTH) FOR SIGNS OF WEAR. INSPECT FOR SIGNS OF CRACKING, TEARS, PUNCTURES, EXCESSIVE ABRASION, DEFORMATION, OR OTHER SIGNS OF EXCESSIVE WEAR. REPLACE HOSES IF ANY OF THE SIGNS ABOVE ARE EVIDENT. REPLACE ANY HOSES THAT HAVE NOT BEEN REPLACED WITHIN A 12 MONTH PERIOD.
2.) INSPECT ALL CABLE CARRIERS FOR CRACKING OR EXCESSIVE WEAR. INSPECT FOR SIGNS OF CRACKING, CORROSION, PITTING, LOOSE FITTINGS, EXCESSIVE WEAR, OR DAMAGE. IF ANY OF THE ABOVE SIGNS ARE PRESENT, CONSULT CABLE/HOSE CARRIER INSTALLATION/Maintenance MANUAL AND EXPLODED DRAWINGS/PARTS REFERENCE FOR APPROPRIATE ACTION/REPLACEMENT PARTS. REPLACE ALL LINKS THAT HAVE NOT BEEN REPLACED WITHIN A 36 MONTH PERIOD.

POTABLE WATER NOTES
PUMP PRESSURE 67 PSI
WASTEWATER PRESSURE CALCULATIONS:
SUMP PUMP SHALL BE RATED TO HANDLE MACERATED MATERIALS, 1" OUTLET BASED ON 15 GPM REQUIREMENT
PUMP RATING: 15 GAL/MIN 19 FT HEAD
STATIC HEAD 0 FT HEAD
GATE VALVE HEAD LOSS 1.1 FT HEAD
GATE VALVE HEAD LOSS 1.1 FT HEAD
ELBOW HEAD LOSS 4.0 FT HEAD
PIPE FRICTION HEAD LOSS 11.11 FT HEAD/75 FT PIPE
TOTAL HEAD 17.31 FT HEAD
LEFTOVER HEAD 1.7 FT HEAD
FIRE SPRINKLER PRESSURE CALCULATION:
NEED AT LEAST 7 PSI AT SPRINKLER HEADS AND A FLOW RATE OF 26 GPM
FIRE SPRINKLERS ARE THE FARTHEST FROM THE SOURCE
NO DATA AVAILABLE FROM HOSE COMPANY
ASSUME 180 DEGREE BEND IS MOST "BENT" AND HAS THE HIGHEST PRESSURE LOSS
LOSS PER 180 DEGREE ARC WITH A 6" RADIUS AND 1" PIPE IS DETERMINED BY:
26 GPM
REYNOLDS NUMBER = 721604, WHICH IS TURBULENT FLOW
ROUGHNESS 0.03 IN (CONSERVATIVE ESTIMATE FOR WORN PIPE)
PRESSURE DROP FOR BEND IS 0.49 PSI
PSUP 67 PSI
PLMETER -5 PSI
PLD -8 PSI FROM BACKFLOW PREVENTER
PLD -0.49 PSI FROM BEND
PLE -3.44 PSI FROM ELEVATION CHANGE
PL 43.07 RESIDUAL PRESSURE AT SPRINKLERS
MAX RUN 316 FT BASED ON TABLE P2904.6.2(7) OF THE 2012 IRC
RUN IS <100 FT, SO THERE IS SUFFICIENT PRESSURE
1. **All Waste Pipe slopes minimum 1/4 in/ft**
2. **All Supply and Waste Pipe to be PVC piping**
3. **Refer to Sheet XE-001 for Cable/Hose Carrier Details**
4. **Macerator shall be used to move wastewater to the Sump Tank**
5. **Macerator shall be on its own dedicated circuit**

**REFERENCE KEYNOTES**

**PLUMBING SYSTEMS ISOMETRIC**

**GENERAL SHEET NOTES**

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**REFERENCES**

PLUMBING SYSTEMS ISOMETRIC

**SHEET NOTES**

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**LOT NUMBER:** #101

**CONSTRUCTION DOCUMENTATION SET:** 02/14/2013

**AS-BUILT SET:** 08/22/2013

**DESIGN DOCUMENTATION SET:** 10/11/2012

**SUBMISSIONS:**

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www.caltech.edu

P-901
1. HVAC SYSTEM TO OPERATE ONLY WHEN MODULES ARE CLOSED AND HOUSE IS SEALED

REFERENCE KEYNOTES

1. 01 13 SQUARE DRAFT FAN
2. 01 03 FAN EXTRACTOR FAN
3. 01 03 FAN EXTRACTOR INLET FAN
4. 82 03 MITSUBISHI OUTDOOR UNIT
5. 82 19 MITSUBISHI INDOOR CASE TTE UNIT

SHEET KEYNOTES

GENERAL SHEET NOTES

1/4" = 1'-0"
Dynamic Augmented Living Environment
U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON 2013
WWW.SOLARDECATHLON.GOV
TOKI BIQ ARE / CALTECH

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REVISIONS:
DESIGN DOCUMENTATION SET
10/11/2012

CONSTRUCTION DOCUMENTATION SET
02/14/2013

AS-BUILT SET
08/22/2013

REFERENCE KEYNOTES

1. MODULE LOCATIONS VARY
2. HVAC SYSTEM TO OPERATE ONLY WHEN
   MODULES ARE CLOSED AND HOUSE IS SEALED

SHEET KEYNOTES

M-901
HVAC ISOMETRIC
1. All wiring shall follow NEC 2011 and applicable Solar Decathlon 2013 Building Code.
2. All receptacles, boxes, switches, and other equipment shall be installed following the NEC 2011 and applicable Solar Decathlon 2013 Building Code.
3. Refer to panel schedules on E-603 for more information.
4. Refer to sheet XE-001 for cable/hose carrier details.

**Symbols Legend**

- 3/16" = 1'-0" B1
- Lighting Distribution Plan
- Outlet Distribution Plan
STRING A, B CONNECTION VIA CABLE CARRIER
WEST MODULE TO INVERTER
INVERTER LOCATED IN MECHANICAL ROOM

STRING A
STRING B
STRING C

TIGO MM-ES50

GENERAL SHEET NOTES
1. ENPHASE CABLE TO BE USED FOR ALL CONNECTIONS BETWEEN ENPHASE INVERTER AND RACK JUNCTION BOX
2. REFER TO SHEET A-101 FOR UTILITY CONNECTION POINT LOCATION
3. REFER TO SHEET XA-001 FOR CANOPY CABLE CARRIER DETAILS

REFERENCE KEYNOTES
SHEET TITLE
B1 Photovoltaic Collectors

PV Wiring Diagram

SYMBOLS LEGEND

PV WIRING PLAN
E-102
PHOTOVOLTAIC ARRAYS STRINGS 1, 2, 3
10 OR 11 HANWHA SOLAR SF160-24-M190 MODULES PER STRING
ATTACHED BY MC-4 CABLE TO TIGO MM-ES50 UNITS
ISC 5.7 A
VOC 545 V
NOMINAL POWER 1900-2090 W PER STRING

INTERIOR EXTERIOR
#8 AWG THHN
L1 = BLACK
L2 = RED
WHITE = NEUTRAL
BARE = GROUND

G DC
DC -
DC +
DC -
DC +
DC -
DC +

L1
L2
N
G AC

STRING VOC*1.14 = 357.5 V DC
STRING ISC*1.56 = 8.86 A AWG #10
STRING VMP = 250.6 V DC
STRING IMP = 5.33 A

TIGO OUTPUT
TIGO STRING VOC*1.14 = 357.5 V DC
TIGO STRING ISC*1.56 = 8.86 A
TIGO STRING IMP = 5.33 A

MAX CURRENT INPUT TO INVERTER
5.33 A *4 = 21.32 A
INVERTER OUTPUT CURRENT
IMP*1.25 = 31.25 A AWG #6

HANWHA SOLARONE SF-160-M190 MODULES
TIGO MM-ES50
MAXIMUM VOC 52 V
VMP RANGE: 16-48 V
MAXIMUM IMP: 9.5 A
MAXIMUM ISC: 10 A
MAXIMUM OUTPUT POWER 300W
MAXIMUM ISC 9.5A

STC NOCT*
PMP 190 W 137 W
VMP 35.8 V 32.2 V
IMP 5.33 A 4.26
VOC 44.8 V 41.2 V
ISC 5.78 A 4.68 A

TEMPERATURE COEFFICIENTS
PMPP -0.44%/K
V -0.33%/K
I -0.03%/K

MAXIMUM SYSTEM VOLTAGE 600 V
SERIES FUSE RATING 10 A

*NOCT: 45 °C, 800W/M^2, 1 M/S WIND SPEED

SMA AMERICA SB7000US INVERTER
6000 W
INTEGRATED DC DISCONNECT

48 14 00

#4 COPPER GROUND

WEST MODULE WIRES CONNECT FROM
SOLAR MODULES AND OFF ROOF THROUGH
CANOPY CABLE CARRIER
CANOPY CARRIER CONNECTS TO A
JUNCTION BOX TO CONNECT TO
INTER-MODULE CABLE CARRIER
SHARED AWG #6 GROUND FOR BOTH
STRINGS BUT SEPARATE FROM AC CIRCUITS
AT EAST END OF INTER-MODULE CARRIER,
JUNCTION BOX TO CONNECT DC CABLES
TO INVERTER
TOTAL RUN 150 FT FOR LONGEST RUN

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BOOKSHEET 602
SHEET KEYNOTES

E-602
THREE-LINE PV DIAGRAM
## SAFETY EQUIPMENT SCHEDULE

### SAFETY EQUIPMENT PER MODULE

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<th>DESCRIPTION</th>
<th>QTY.</th>
<th>MANUFACTURER</th>
<th>NOTES</th>
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<tbody>
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<td>SAFETY EDGE - CANOPY EDGES</td>
<td>4</td>
<td>ALLEN BRADLEY</td>
<td>TRIGGER EMERGENCY STOP ON CONTACT</td>
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<tr>
<td>SAFETY EDGE - MULTI-USE PLATFORMS</td>
<td>4</td>
<td>ALLEN BRADLEY</td>
<td></td>
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<tr>
<td>AREA ACCESS CONTROL SENSOR</td>
<td>3</td>
<td>ALLEN BRADLEY</td>
<td></td>
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<tr>
<td>CANOPY LIMIT SWITCH</td>
<td>2</td>
<td>ALLEN BRADLEY</td>
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<tr>
<td>SAFETY LIGHT CURTAIN</td>
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### POSITIONING EQUIPMENT PER MODULE

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<td>SEAL LIMIT SWITCH</td>
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<td>ALLEN BRADLEY</td>
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<tr>
<td>LASER DISTANCE SENSOR</td>
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<td>ALLEN BRADLEY</td>
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### OTHER MOVEMENT EQUIPMENT PER MODULE (NOT SHOWN)

<table>
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<td>SAFETY RELAY</td>
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<td>ALLEN BRADLEY</td>
<td>EFFECTS EMERGENCY STOP WHEN SAFETY SENSORS TRIGGERED</td>
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<tr>
<td>SENSING EDGE CONTROLLER</td>
<td>1</td>
<td>ALLEN BRADLEY</td>
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<tr>
<td>THREE PHASE DRIVE - END TRUCKS</td>
<td>1</td>
<td>MAGNETEK</td>
<td>CONTROLS END TRUCKS SPEED AND DIRECTION</td>
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<tr>
<td>SINGLE PHASE DRIVE - CANOPY MOTORS</td>
<td>1</td>
<td>ALLEN BRADLEY</td>
<td>CONTROLS CANOPY MOTOR SPEED AND DIRECTION</td>
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### OTHER MOVEMENT EQUIPMENT PER SYSTEM (NOT SHOWN)

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### Reference

B1 SAFETY EQUIPMENT SCHEDULE

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### Sheet Title

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**GENERAL SHEET NOTES**
1. TEMP. GENERATOR REFER TO H-101 FOR SPILL CONTAINMENT DETAILS
2. GENERATOR NOISE AT FULL LOAD NOT TO EXCEED 60dB @ 50'. VIF
3. OPERATIONS AND REFUELING OF GENERATOR LIMITED TO APPROVED TIME BY ORGANIZERS

**REFERENCE KEYNOTES**

**OPERATIONAL EQUIPMENT & ARRIVAL SEQUENCE**

---

**VERSALIFT ELEVATION**

**VERSALIFT PICKS**

---

**EQUIPMENT SCHEDULE**

---

**CONSTRUCTION DOCUMENTATION SET**

---

**AS-BUILT SET**

---
1. Water bladder tanks located under decking filled before installation of landscape - see Sheet P-103.
2. Water bladders are fully shaded from direct solar radiation between 9AM and 5PM PDT between 8AM and 4PM Solar Time on October.
3. Water bladders are 800 gallon potable cistern bladder tanks with ground liners. Polyester 3.0 oz/yd² with 300 psi minimum hydrostatic resistance.
4. Water delivery sequence:
   - Water truck will approach from the west to pump the requested 800 gallons into our fully enclosed, shaded water bladder.
   - Our team will provide six members to be on hand in aiding with this process.
5. Water removal sequence:
   - Waste truck will approach from the west to remove waste water and remaining water in supply bladder.
   - Our team will provide six members to be on hand in aiding with this process.
   - Any remaining water will be removed from the site by our team.
6. Amount of water requested for supply:
   - 800 gallons
    - Amount of water requested for water feature:
    - 185 gallons
    - Total amount of requested water: 985 gallons
No text to display.
MOVING CABINET ISOMETRIC

REFERENCE KEYNOTES

05 12 73.L264 TS00020 128
06 11 00.A2 WOOD BLOCKING AS REQUIRED
06 16 00.D6 1/2" PLYWOOD
06 17 00.C4 16" WOOD I JOIST
06 41 13 WOOD-VENEER-FACED ARCHITECTURAL CABINETS
10 57 00 WARDROBE AND CLOSET SPECIALTIES
12 52 19 UPHOLSTERED SEATING

SHEET KEYNOTES

A21 UNISTRUT CONSTRUCTION SEE SHEET S-405

GENERAL SHEET NOTES

1. FLEXIBLE CABINET BASED PROGRAM SYSTEM INSTALLATION WITH UNTIL STABLE PROGRAMS AND DATA STRUCTURE. ADDITIONAL MODULES CAN BE ADDED TO PROVIDE MULTIPLE DISCRETE PROGRAMS - UP TO A MAXIMUM OF 20 TOTAL.

2. CABS CAN BE DOCKED AT EITHER END OF MODULE.

3. MOVABLE CABINETS ARE STRUCTURALLY TIED TO ROOF JOISTS TO PROVIDE TRANSVERSE NOTIONAL SUPPORTS PERPENDICULAR TO WALLS. VERTICAL SPACINGS BETWEEN CABS ARE VARIABLE TO PROVIDE MULTI-DISCRETE PROGRAM SUPPORT.

4. SOUTH FACE:iards are 20" deep and 36" high, height adjustable, with black frame. Panel is 3/8" thick, soft white, and perforated. Panels are 16" deep and 6" high, height adjustable, with black frame. Panel is 3/8" thick, black, and perforated. Panels are 16" deep and 6" high, height adjustable, with black frame. Panel is 3/8" thick, black, and perforated.

5. MOVEABLE CABINETS ARE CONSTRUCTED IN COMBINATION OF CUSTOM-FRAMING (TO PROVIDE HANGING STRUCTURE AND TRACK SYSTEM) AND OFF-THE-SHELF CABINET COMPONENTS (IKEA OR EQ.)

MOVING MOVABLECABINET ISOMETRIC

MOVABLE

OVERVIEW
A1. **ALL MOVABLE CABINETS TO BE MADE OF HORIZONTAL GRAIN MAPLE VENEER WITH 3/4" PLYWOOD CORE**
GENERAL SHEET NOTES
1. ADAPTIVE POURED IN PLACE QUICKSETTING SHALLOW FLOOR SYSTEM FOR VARIABLE LEVELS AND MOISTURE, HEIGHT ADJUSTABLE SLIP- FORM BOTTOM FOR RAPID ASSEMBLY ON UNEVEN TERRAIN.
2. LOCAL MATERIALS SELECTED FOR ACQUIRABLE AND RECYCLABLE CONTENT.

REFERENCE KEYNOTES
- 06 11 00.F21 2X6 FASCIA
- 06 11 00.G7 2X8 JOISTS @ 24" O.C.
- 06 11 00.M2 6X6 POST
- 06 15 33 WOOD PATIO DECKING
- 06 16 00.D1 PLYWOOD SHEATHING

SHEET KEYNOTES
- SW44 1" DIA. ASTM A307 ALL-THREAD ROD DRIVEN INTO (E) ASPHALT. (5) RODS PLACED IN MIDDLE OF EACH CONCRETE CURB SECTION (10 RODS TOTAL)
- XC04 40 LB ASCM RAIL
- XC07 J HOOK ENCASED IN 6" MIN CONCRETE
- XC09 DECOMPOSED GRANITE
- XC18 ANGLED PLYWOOD PITCH FOR PLATFORM BED

GENERAL SHEET NOTES
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2. LOCAL MATERIALS SELECTED FOR ACQUIRABLE AND RECYCLABLE CONTENT.
**GENERAL SHEET NOTES**

1. PRE-CUT VINYL SKIN IS OLDER 28 OZ. SPORT BIG COVER VINYL COATED POLYESTER REINFORCED FABRIC PREFITTED.

2. PRE-CUT VINYL TO BE PRE-FITTED AND FOLDED ALONG CORNERS AT 6" OVERLAP SEAM AND FINISHED BEHIND ALL FRAMING ELEMENTS WITH HIGH TACK WATER SEALANT TAPE. FLAPS ARE TO BE BONDED WITH A VINYL ADHESIVE AND HEAT SEALED WITH A HOT AIR PLASTIC WELDER TO FINISH SEALING.

3. EXTERIOR ELEMENTS ARE TO BE ATTACHED BY PUNCTURING THROUGH THE VINYL AT TIME OF INSTALLATION. PUNCTURES ARE TO BE FILLED WITH SILICON SEALANT. WATERPROOF VINYL OR RUBBER FOOTINGS ARE TO BE USED IN CONJUNCTION WITH BONDING ADHESIVE BETWEEN PRESSURIZED PLATES.

4. ALL EDGES TO BE FASTENED WITH TEK SCREWS THROUGH ALUMINUM FLAT BAR.

**REFERENCE KEYNOTES**

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    - TEL: 310.945.4800

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    - 3509 W 6TH ST.
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    - TEL: 213.388.9327

- **REVISIONS:**
  - **DESIGN DOCUMENTATION SET** 10/11/2012
  - **CONSTRUCTION DOCUMENTATION SET** 02/14/2013
  - **AS-BUILT SET** 08/22/2013

**DATE:** 08.22.2013

**LOT NUMBER:** #101

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