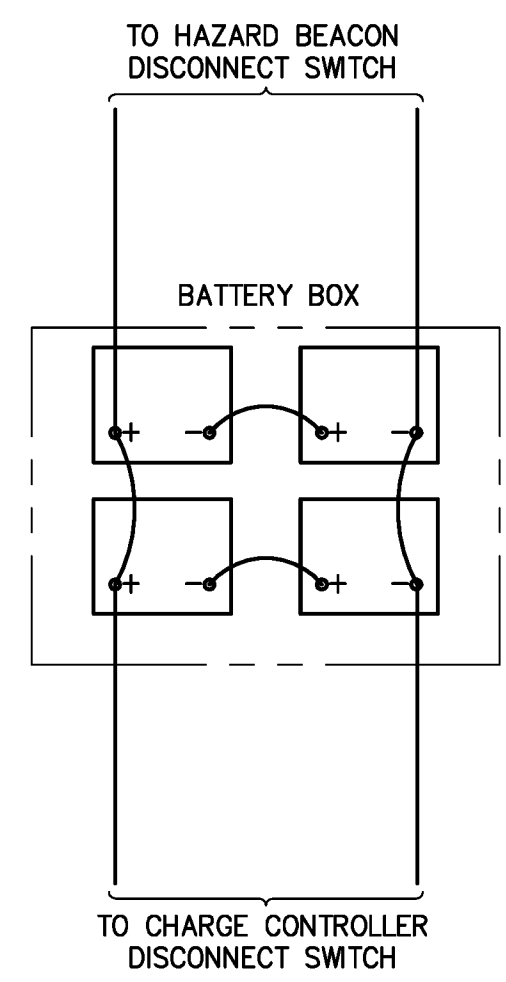
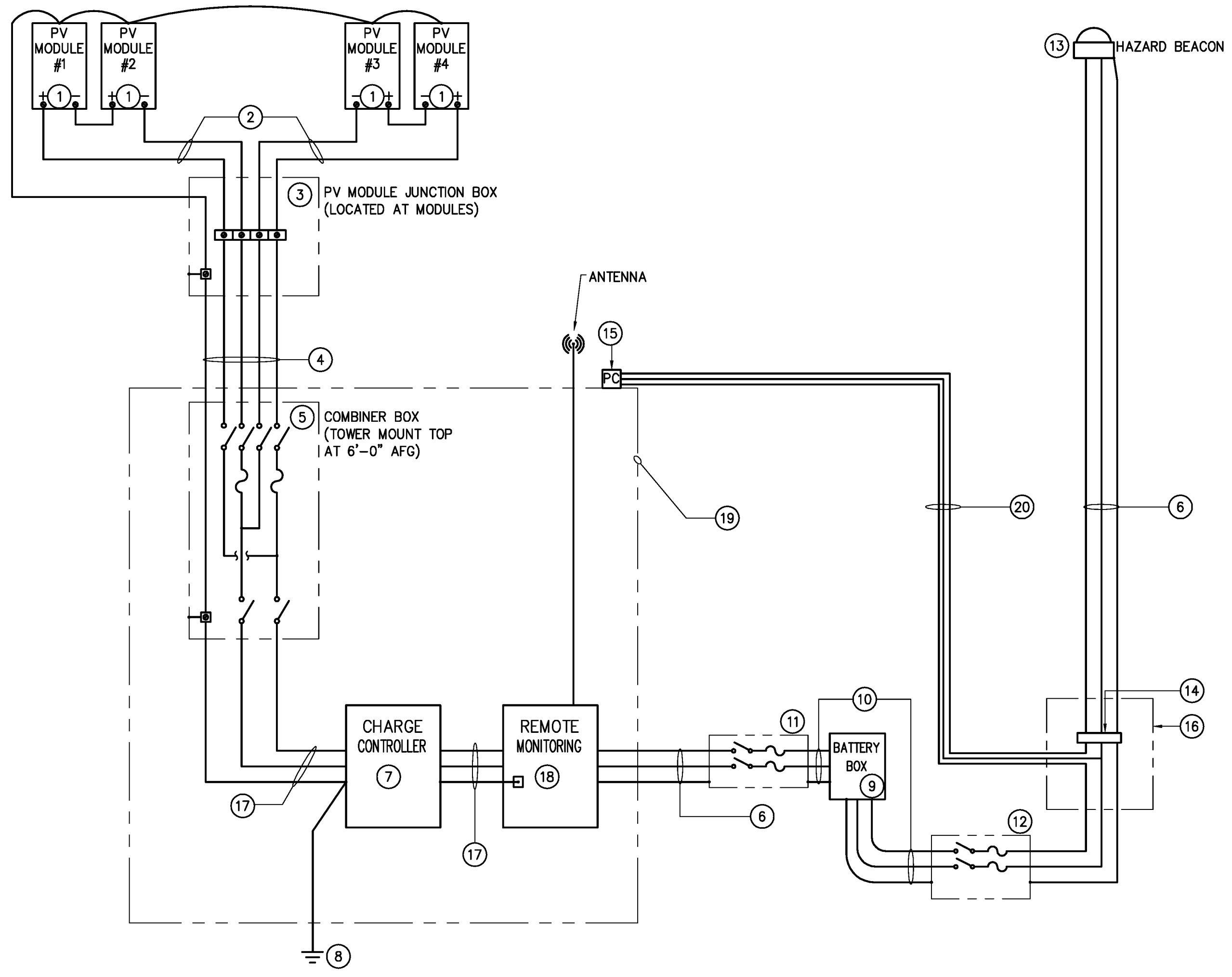


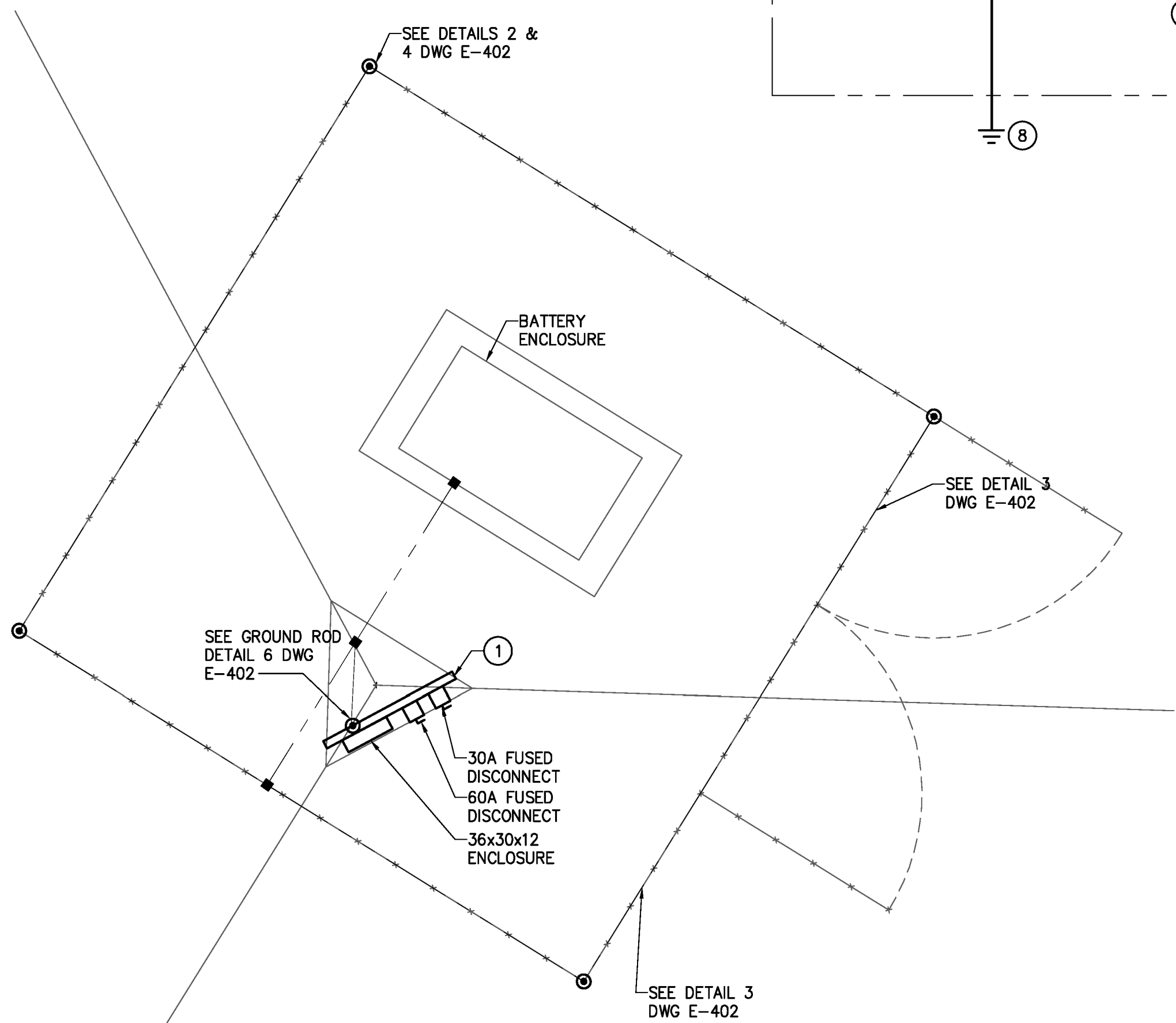
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 Saved: 1/4/2013 4:22:12 PM Plotted: 1/4/2013 4:30:44 PM User: Wjyd, Heather.LostSweedBy: 2789



1 BATTERY WIRING DIAGRAM
 - NOT TO SCALE



2 PHOTOVOLTAIC SYSTEM - 4 PANEL SCHEMATIC TOWERS 17, 18, 19
 - NOT TO SCALE



3 TYPICAL ELECTRICAL PLAN VIEW
 - SCALE 1/2" = 1'-0"

GENERAL NOTES
 A. SEE DETAIL 5 ON DWG E-402 FOR GUYED ANCHOR AND TOWER GROUNDING.
 B. WHERE ROCK IS ENCOUNTERED PROVIDE GROUNDING PLATE IN LIEU OF GROUNDING ROD.

CODED NOTES
 ① PROVIDE STEEL CHANNEL AND METAL FABRICATION BACKBOARD MOUNTING AT TOWER 6'-0" AFG TO TOP. CUTTING DRILLING AND WELDING TOWER IS PROHIBITED.

GENERAL NOTES
 A. ALL EQUIPMENT SUCH AS BUT NOT LIMITED TO DISCONNECT, ALL ENCLOSURE SHALL HAVE A LOCK-OUT/TAG-OUT OPTION.
 B. USE RGS CONDUIT UNLESS OTHERWISE NOTED.
 C. CUTTING, DRILLING AND WELDING TOWER IS PROHIBITED.
 D. REMOTE MONITORING SHALL INCLUDE BUT NOT LIMITED TO CELLULAR MODEM, DATA ACQUISITION, DIN RAIL MOUNT AND WIRELESS ANTENNA.

CODED NOTES
 ① PROVIDE PV MODULES (KYOCERA#KD205GX-LPU OR APPROVED EQUAL) AND ALUMINUM SIDE OF POLE MOUNTING SYSTEM. MODULES SHALL BE ARRANGED IN A 2x2 PATTERN. TILT ANGLE SET TO 90° VERTICAL. MOUNTING SYSTEM SHALL BE PROVIDED WITH A 140 MPH WIND LOADING CAPACITY WITH MODULES INSTALLED.
 ② PROVIDE #8 USE-2 CONDUCTORS NOT EXCEEDING 10'-0" IN TOTAL LENGTH. SECURE CONDUCTORS TO AVOID WIND AND WEATHER DAMAGE.
 ③ PROVIDE 8"x8"x4" NEMA 4X JUNCTION BOX WITH INTERNAL MOUNTING PLATE, POWER DISTRIBUTION BLOCKS (SQ.D.#BC 162101 OR APPROVED EQUAL) WITH INSULATING COVER, AND GROUNDING LUG. MOUNT ADJACENT TO PV MODULES.
 ④ PROVIDE (4)#6 THWN-2, (1)#6G THWN-2 IN 1-1/2" RGS CONDUIT WITH HANGERS, SUPPORTS, CLAMPS, ETC. AS REQUIRED.
 ⑤ PROVIDE DISCONNECT COMBINER BOX (SOLARBOS #CS28-04-15-4XF OR APPROVED EQUAL) WITH 15 AMP DCV RATED FUSES AND GROUNDING LUG. MOUNT COMBINER BOX INSIDE ENCLOSURE.
 ⑥ PROVIDE (2)#6 THWN-2, (1)#6G THWN-2 IN 1-1/2" RGS CONDUIT WITH HANGERS, SUPPORTS, CLAMPS, ETC. AS REQUIRED.
 ⑦ PROVIDE CHARGE CONTROLLER (TRISTAR MPPT-60 CONTROLLER OR APPROVED EQUAL). MOUNT CONTROLLER INSIDE ENCLOSURE.
 ⑧ PROVIDE PV SYSTEM NEGATIVE GROUNDING WITH #8 THWN-2 AND (1) 3/4"x10' COPPER CLAD GROUND ROD. GROUND ROD SHALL BE DRIVEN TO A DEPTH OF 2'-0" BELOW FINISH GRADE AND CONNECTION SHALL BE MADE BY EXOTHERMIC METHODS. WHEN ENCOUNTERED WITH BEDROCK USE GROUND PLATE. SEE DETAIL 4 ON DWG E-402.
 ⑨ PROVIDE (1) 26"x46"x16" NON-INSULATED, VENTILATED CHEST STYLE BATTERY ENCLOSURES (POWER FAB# BB4-BG8D OR APPROVED EQUAL) SET ON APPROPRIATELY SIZED PRECAST CONCRETE PAVERS, AND (4) 12VDC, 258 AHR BATTERIES (SUN XTENDER # PVX-25BOL OR APPROVED EQUAL). INSTALL (4) BATTERIES IN BOX. CONNECT BATTERIES IN (2) SERIES/PARALLEL STRINGS. SEE BATTERY WIRING DIAGRAM ON THIS DRAWING.
 ⑩ PROVIDE (2)#6 THWN-2, (1)#6G THWN-2 IN 1-1/2" LFMC NOT EXCEEDING 6'-0".
 ⑪ PROVIDE 2 POLE, 60 AMP, 250 VOLT, HEAVY DUTY, FUSIBLE, NEMA 4X, DC RATED DISCONNECT SWITCH WITH 60 AMP DCV RATED FUSES AND PERMANENT LABEL WHICH READS: "WARNING ELECTRIC SHOCK HAZARD. DO NOT TOUCH TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION." MOUNT ON TOWER AT 6'-0" AFG.
 ⑫ PROVIDE 2 POLE, 30 AMP, 250 VOLT, HEAVY DUTY, FUSIBLE, NEMA 4X, DC RATED DISCONNECT SWITCH WITH 6 AMP DCV RATED FUSES. MOUNT ON TOWER AT 6'-0" AFG.
 ⑬ PROVIDE EXISTING HAZARD BEACON AND PROVIDE FAA APPROVED LED HAZARD BEACON (FARLIGHT NY-1864LED-DM-24D-GPS-AK OR APPROVED EQUAL). POWER CONSUMPTION EQUAL LESS THAN 10W (AVERAGE) SET HAZARD BEACON TO OPERATE IN THE FLASHING MODE.
 ⑭ PROVIDE SURGE PROTECTION DEVICE MANUFACTURED BY PHOENIX CONTACT [MODEL NO. PT2+1-S-48DC] FOR 24-48 VDC SYSTEM.
 ⑮ PROVIDE LOW VOLTAGE OUTDOOR [UL LISTED WET LOCATION] RATED FAA APPROVED [6390/6587C/6589C RATED FOR 24VDC NOMINAL] PHOTOCELL ON HOFFMAN ENCLOSURE FOR EASE OF REPAIR AND PER OWNERS DIRECTION. COORDINATE EXACT LOCATION AT FIELD. PROVIDE 3/4" RGS CONDUIT FOR WIRING. REFER TO WIRING DIAGRAM IN FARLIGHT'S LED BEACON MANUAL.
 ⑯ PROVIDE NEMA ENCLOSURE, 4"x4"x2" FOR "DIN" RAIL MOUNT OF SURGE PROTECTION DEVICE MANUFACTURED BY PHOENIX CONTACT.
 ⑰ PROVIDE (2)#6 THWN-2, (1)#6G THWN-2 WITH APPROPRIATE MOUNTING CLAMPS INSIDE THE NEMA 4X ENCLOSURE. MAINTAIN TURN RADIUS PER LATEST NEC AND WIRE MANUFACTURER'S REQUIREMENTS.
 ⑱ PROVIDE CAT6 (PLENUM RATED) WITH RJ-45 TERMINATIONS ON EACH END BETWEEN CHARGE CONTROLLER AND MODEM FOR ETHERNET CONNECTION. MOUNT INSIDE ENCLOSURE. CONTACT NORTHMARK COMMUNICATIONS, DAVE COLTER, TELEPHONE: (603)763-4982 OR (603)763-4976, EMAIL: NORTHMARK@MYFAIRPOINT.NET.
 ⑳ PROVIDE (2)#6 THWN-2, (1)#6G THWN-2 IN 1-1/2" RGS CONDUIT WITH HANGERS, SUPPORTS, CLAMPS, ETC AS REQUIRED.

RECORD DRAWING 01/07/13

Submitted / Revision	Date
App'd By	
HAW HAW	01/07/13
RECORD DRAWINGS	

STATE OF VERMONT
 AGENCY OF TRANSPORTATION

DESIGNED: NUB
 DRAWN: CJE
 CHECKED: NUB

III Winners Circle, PO Box 5089 - Albany, NY 12205-0289
 Main: (518) 453-4500 · www.chacompanies.com

HARTNESS STATE AIRPORT
 HAZARD BEACON REPLACEMENT

ELECTRICAL DETAILS

Issue Date: 03/18/11 Project No.: 21674 Scale: As Shown

E-401