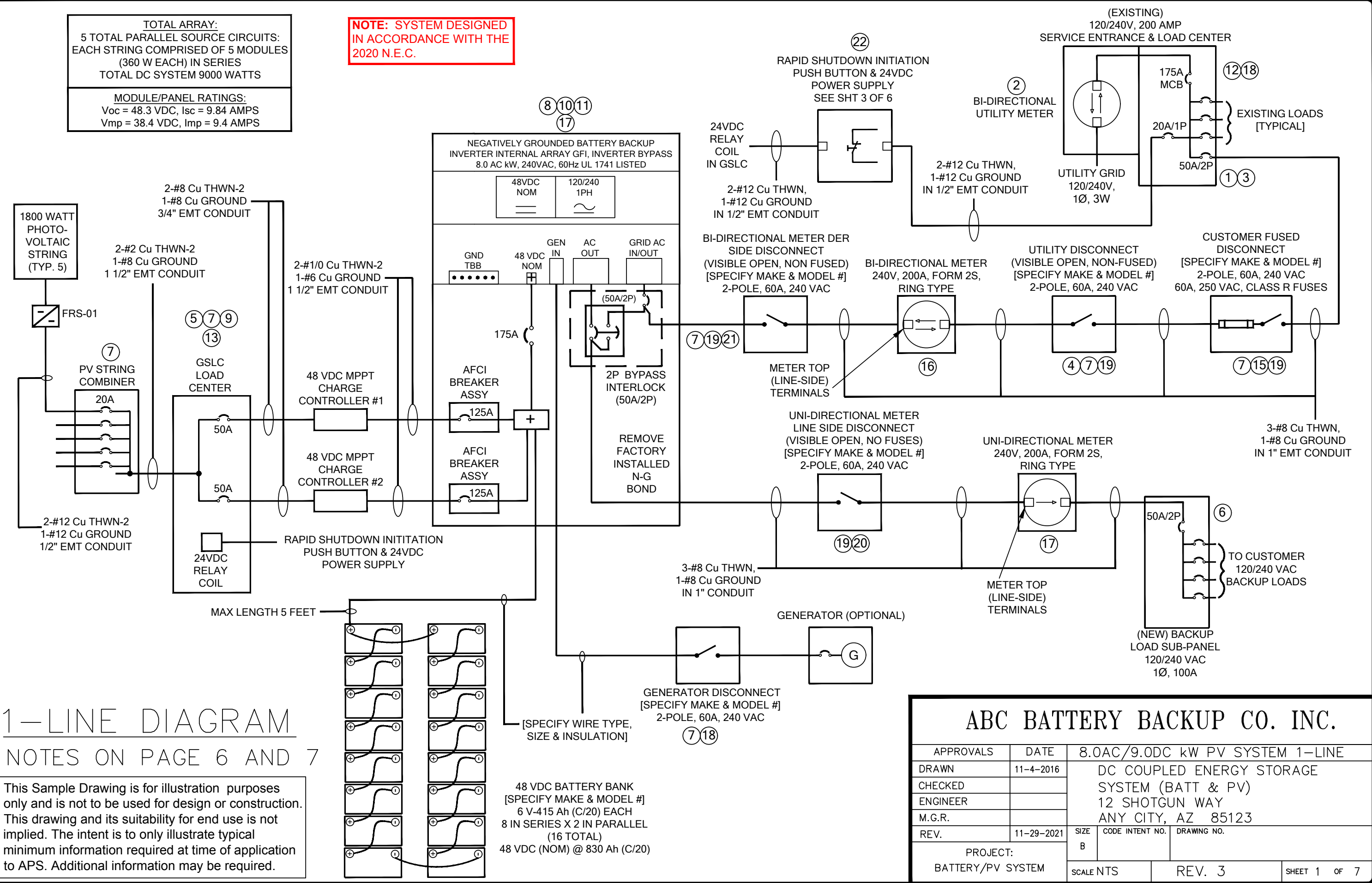


TOTAL ARRAY:
 5 TOTAL PARALLEL SOURCE CIRCUITS:
 EACH STRING COMPRISED OF 5 MODULES
 (360 W EACH) IN SERIES
 TOTAL DC SYSTEM 9000 WATTS

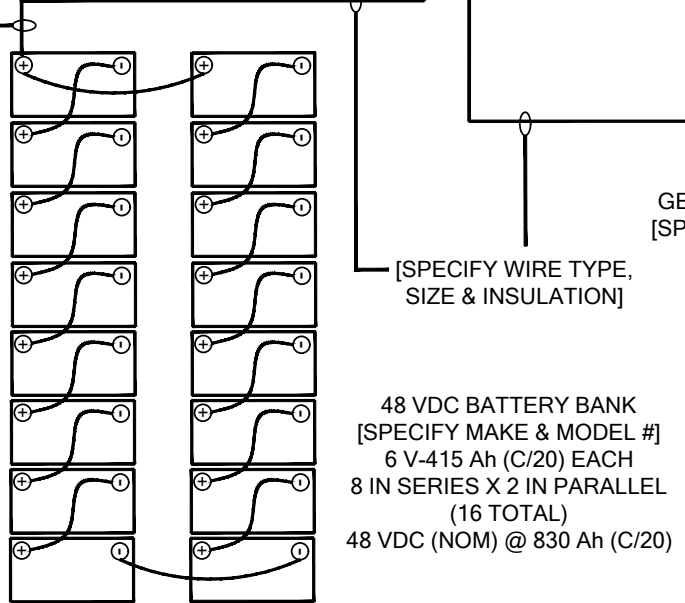
MODULE/PANEL RATINGS:
 Voc = 48.3 VDC, Isc = 9.84 AMPS
 Vmp = 38.4 VDC, Imp = 9.4 AMPS

**NOTE: SYSTEM DESIGNED
 IN ACCORDANCE WITH THE
 2020 N.E.C.**



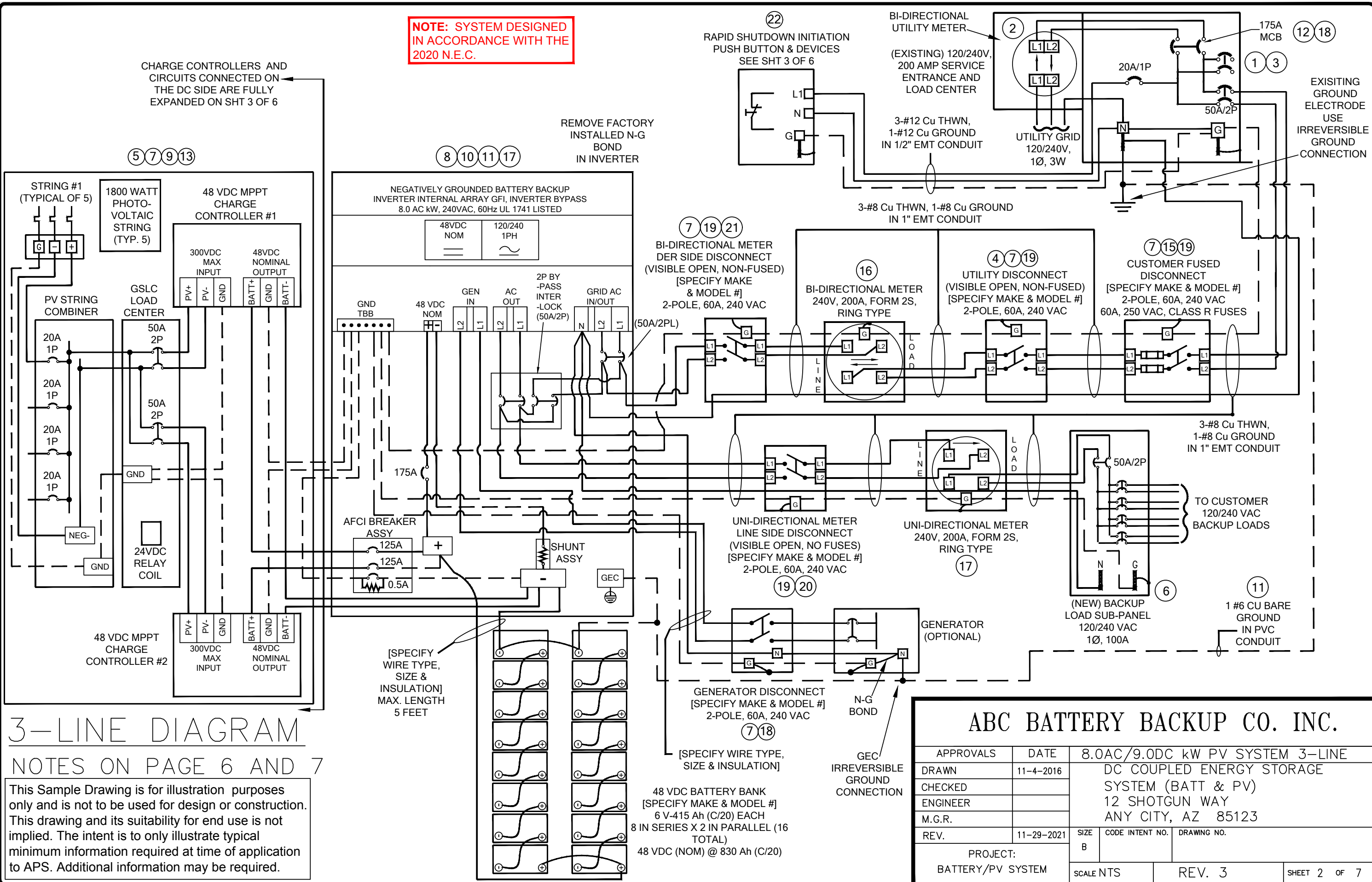
1-LINE DIAGRAM
 NOTES ON PAGE 6 AND 7

This Sample Drawing is for illustration purposes only and is not to be used for design or construction. This drawing and its suitability for end use is not implied. The intent is to only illustrate typical minimum information required at time of application to APS. Additional information may be required.



| | | | |
|------------------------------------|------------|--|-----------------------------|
| ABC BATTERY BACKUP CO. INC. | | | |
| APPROVALS | DATE | 8.0AC/9.0DC kW PV SYSTEM 1-LINE | |
| DRAWN | 11-4-2016 | DC COUPLED ENERGY STORAGE SYSTEM (BATT & PV) | |
| CHECKED | | 12 SHOTGUN WAY | |
| ENGINEER | | ANY CITY, AZ 85123 | |
| M.G.R. | | SIZE | CODE INTENT NO. DRAWING NO. |
| REV. | 11-29-2021 | B | |
| PROJECT: BATTERY/PV SYSTEM | | SCALE NTS | REV. 3 SHEET 1 OF 7 |

NOTE: SYSTEM DESIGNED IN ACCORDANCE WITH THE 2020 N.E.C.

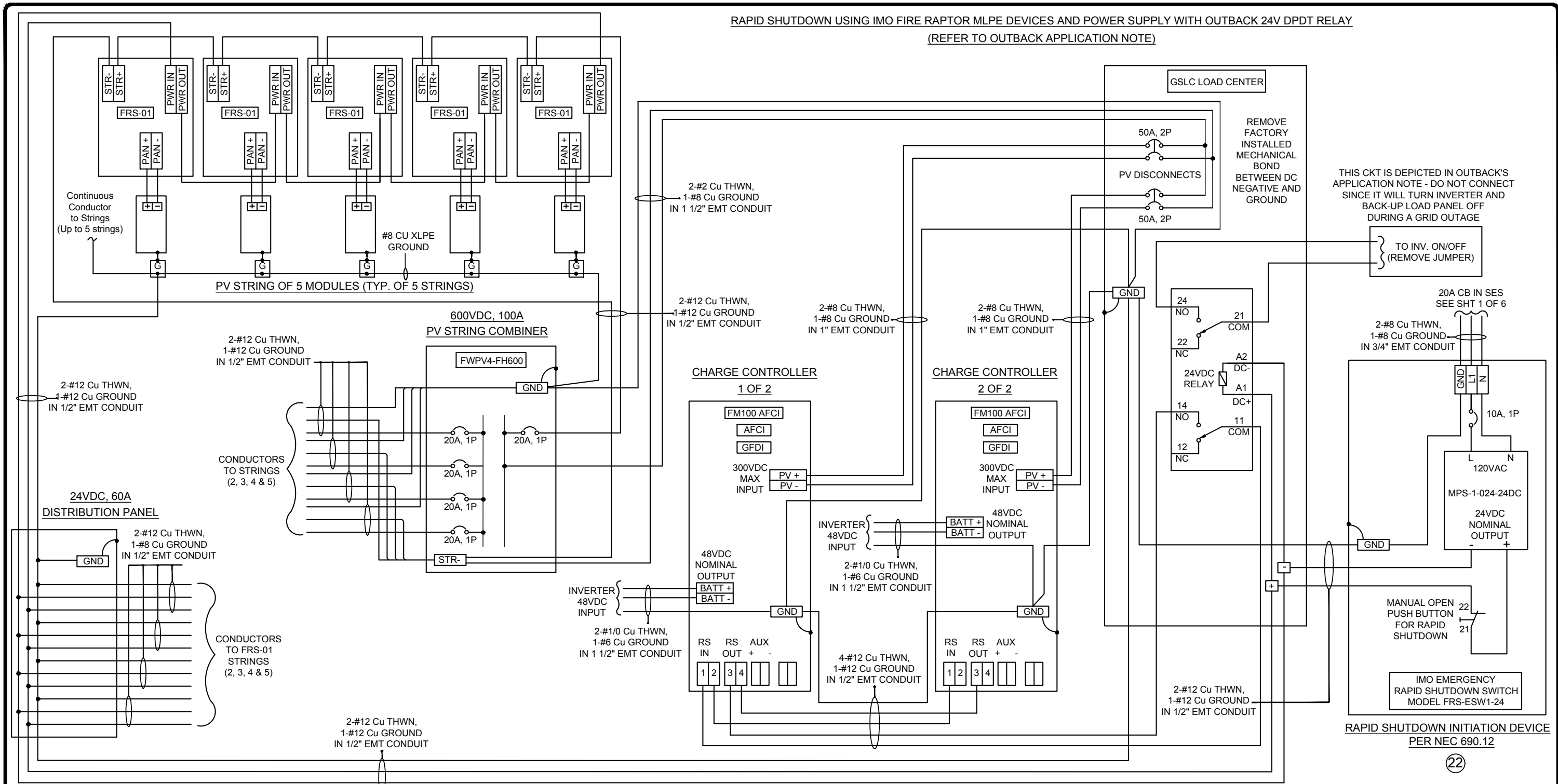


3-LINE DIAGRAM NOTES ON PAGE 6 AND 7

This Sample Drawing is for illustration purposes only and is not to be used for design or construction. This drawing and its suitability for end use is not implied. The intent is to only illustrate typical minimum information required at time of application to APS. Additional information may be required.

| ABC BATTERY BACKUP CO. INC. | | | | |
|-------------------------------|------------|--|-----------------|-------------|
| APPROVALS | DATE | 8.0AC/9.0DC kW PV SYSTEM 3-LINE | | |
| DRAWN | 11-4-2016 | DC COUPLED ENERGY STORAGE SYSTEM (BATT & PV) | | |
| CHECKED | | 12 SHOTGUN WAY | | |
| ENGINEER | | ANY CITY, AZ 85123 | | |
| M.G.R. | | SIZE | CODE INTENT NO. | DRAWING NO. |
| REV. | 11-29-2021 | B | | |
| PROJECT: BATTERY/PV SYSTEM | | SCALE | NTS | REV. 3 |
| | | | SHEET 2 | OF 7 |

RAPID SHUTDOWN USING IMO FIRE RAPTOR MLPE DEVICES AND POWER SUPPLY WITH OUTBACK 24V DPDT RELAY
(REFER TO OUTBACK APPLICATION NOTE)



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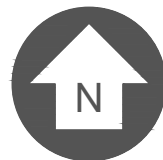
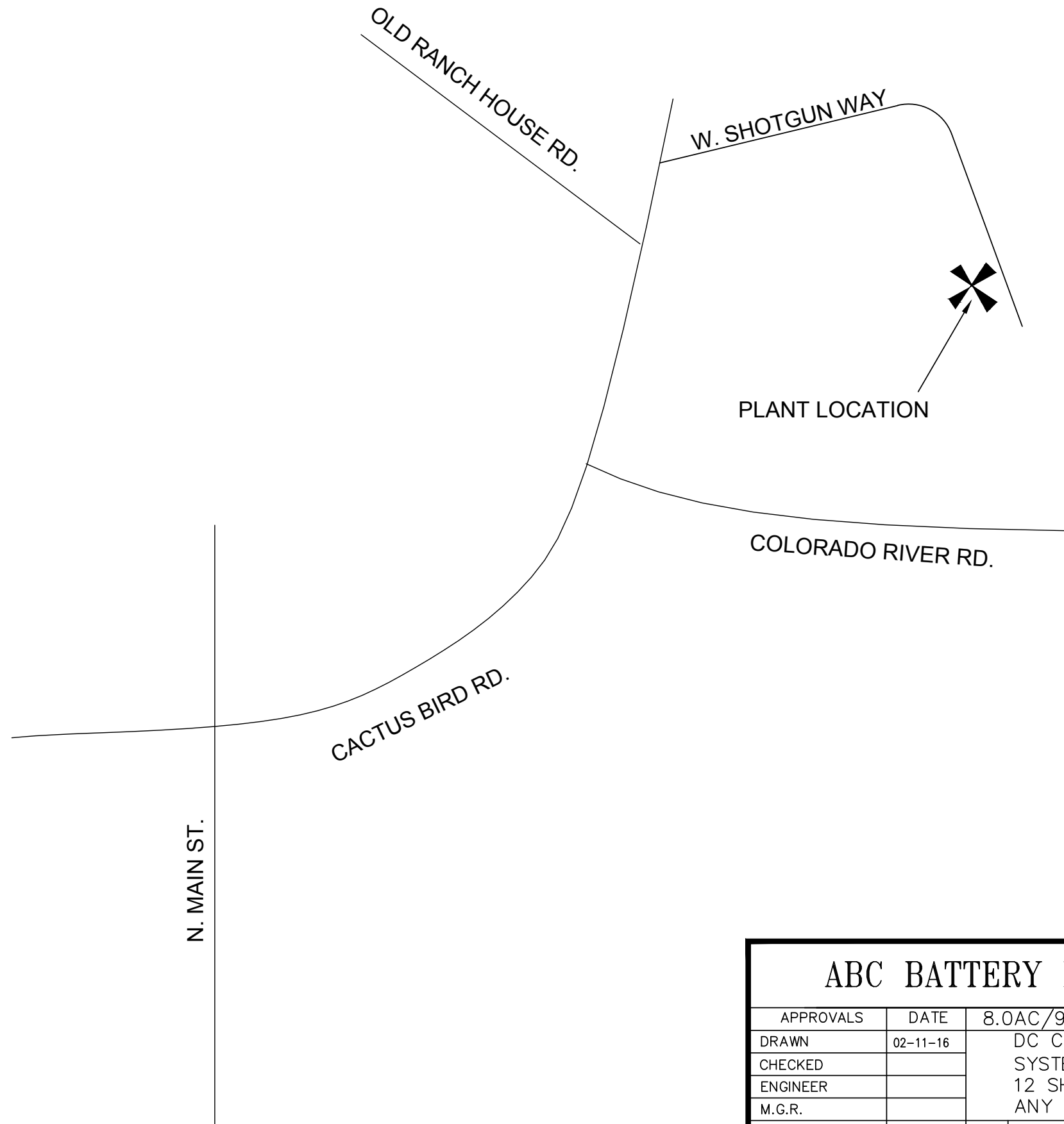
- NOTES:
- EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND ALL APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
 - FOLLOW MANUFACTURERS SUGGESTED INSTALLATION PRACTICES AND WIRING SPECIFICATIONS.
 - WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS.

| PHOTOVOLTAIC MODULE SPECIFICATIONS |
|---|
| MODULE/PANEL RATINGS Voc=48.3 VDC, Isc=9.84 AMPS Vmp=38.4 VDC, Imp=9.4 AMPS T COEFF OF V= -0.28% / C |

| COMPLETE PHOTOVOLTAIC ARRAY |
|--|
| 5 TOTAL PARALLEL SOURCE CIRCUITS: EACH STRING COMPRISED OF 5 MODULES (360 WATTS EACH) IN SERIES TOTAL DC SYSTEM 9000 WATTS |

ABC BATTERY BACKUP CO. INC.

| | | | | |
|-------------------------------|------------|--------------------------------|-----------------|--------------|
| APPROVALS | DATE | 8.0AC/9.0DC kW PV SYSTEM ARRAY | | |
| DRAWN | 11-29-2021 | DC COUPLED ENERGY STORAGE | | |
| CHECKED | | SYSTEM (BATT & PV) | | |
| ENGINEER | | 12 SHOTGUN WAY | | |
| M.G.R. | | ANY CITY, AZ 85123 | | |
| REV. | | SIZE | CODE INTENT NO. | DRAWING NO. |
| PROJECT: BATTERY/PV SYSTEM | | B | | |
| | | SCALE | NTS | REV. 0 |
| | | | | SHEET 3 OF 7 |



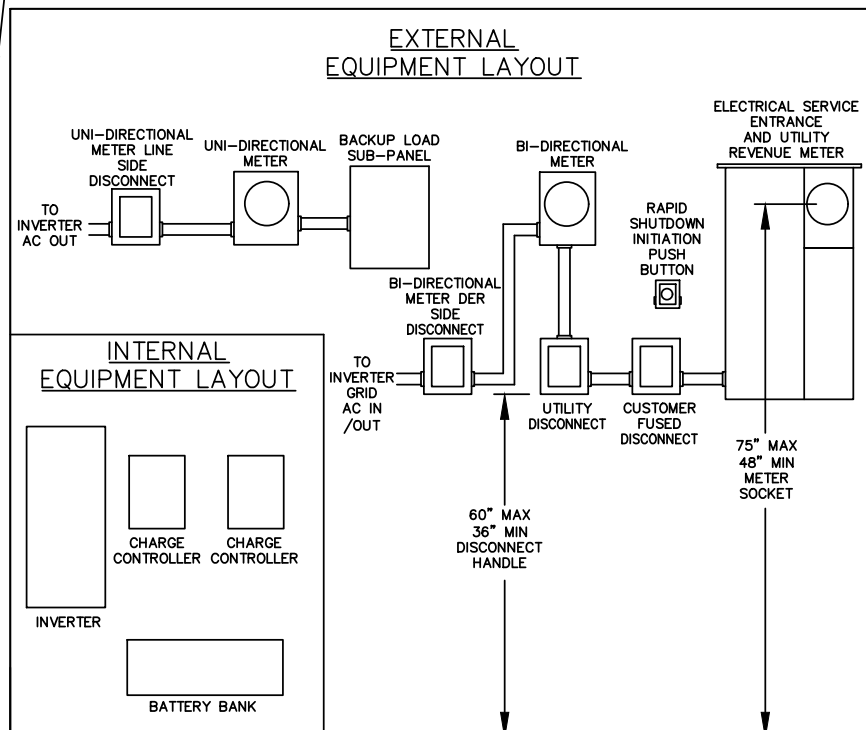
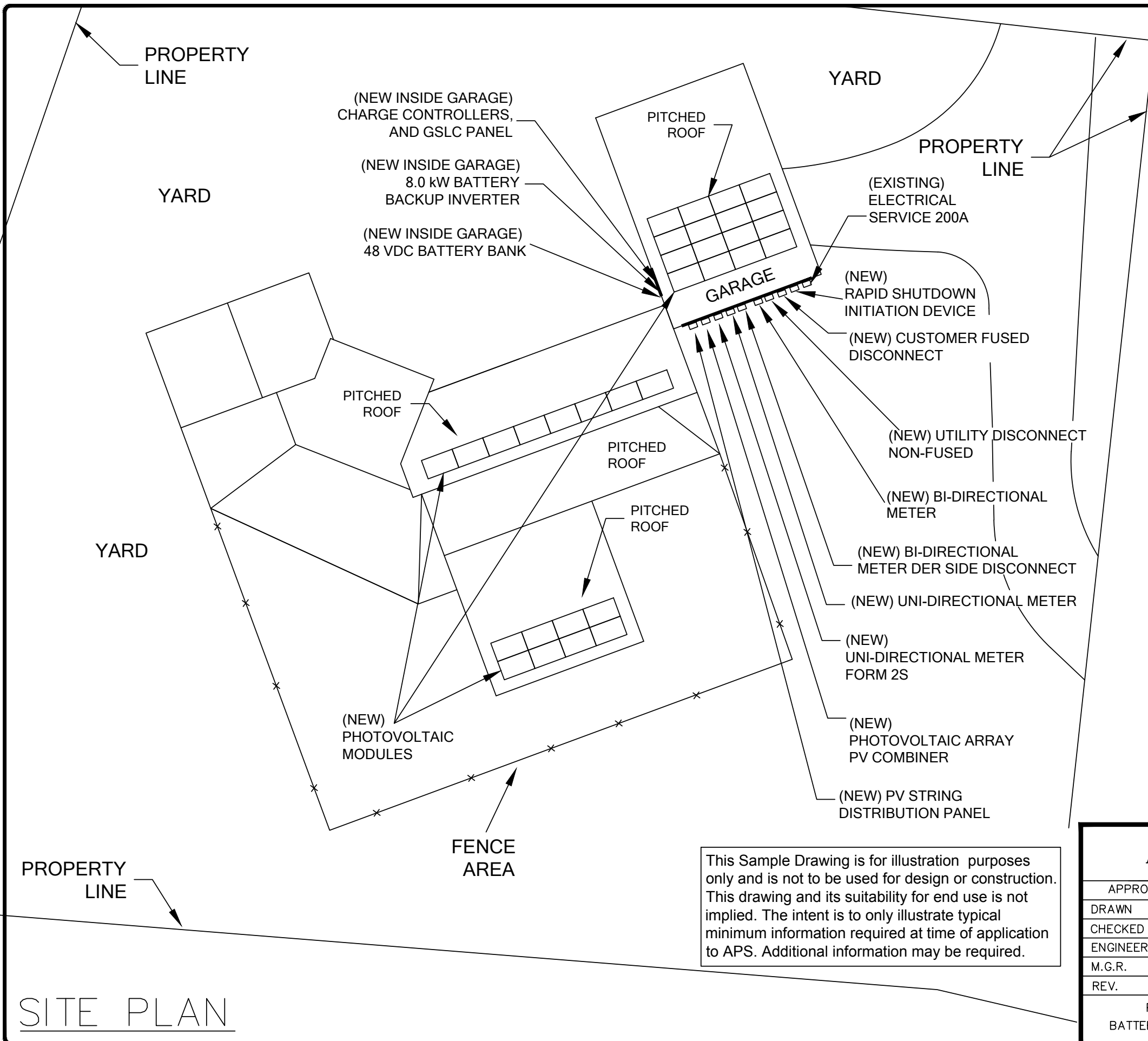
PLANT LOCATION

This Sample Drawing is for illustration purposes only and is not to be used for design or construction. This drawing and its suitability for end use is not implied. The intent is to only illustrate typical minimum information required at time of application to APS. Additional information may be required.

ABC BATTERY BACKUP CO. INC.

| APPROVALS | DATE | 8.0AC/9.0DC kW PV PLANT LOCATION | | |
|-------------------------------|------------|--|-----------------|--------------|
| DRAWN | 02-11-16 | DC COUPLED ENERGY STORAGE SYSTEM (BATT & PV) 12 SHOTGUN WAY ANY CITY, AZ 85123 | | |
| CHECKED | | | | |
| ENGINEER | | | | |
| M.G.R. | | | | |
| REV. | 11-29-2021 | SIZE B | CODE INTENT NO. | DRAWING NO. |
| PROJECT: BATTERY/PV SYSTEM | | SCALE NTS | REV. 3 | SHEET 4 OF 7 |

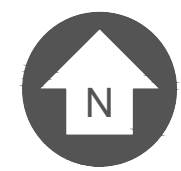
SCALE 1"=16'
 0 4 8 12 16



NOTE: UTILITY HAS 24-HR UNRESTRICTED ACCESS TO ALL PHOTOVOLTAIC SYSTEM COMPONENTS LOCATED AND SERVICE ENTRANCE.

NOTE: WORKSPACE IN FRONT OF AC ELECTRICAL SYSTEM COMPONENTS SHALL BE IN ACCORDANCE WITH APS AND NEC REQUIREMENTS. FOR WORKSPACE AND ELEVATION OF PV SYSTEM UTILITY DISCONNECT, APS PRODUCTION METERS WITH ASSOCIATED DISCONNECTS, REFER TO SECTION 300 OF THE APS ESRM.

NOTE: REFERENCE SECTION 301.15 OF THE APS ESRM FOR ELECTRIC METER SEPARATION BETWEEN WATER, GAS METER AND FUEL SOURCES.



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SITE PLAN

ABC BATTERY BACKUP CO. INC.

| | | | | |
|-------------------------------|------------|--|-----------------|--------------|
| APPROVALS | DATE | 8.0AC/9.0DC kW PV SITE PLAN | | |
| DRAWN | 11-4-2016 | DC COUPLED ENERGY STORAGE SYSTEM (BATT & PV) | | |
| CHECKED | | 12 SHOTGUN WAY | | |
| ENGINEER | | ANY CITY, AZ 85123 | | |
| M.G.R. | | SIZE | CODE INTENT NO. | DRAWING NO. |
| REV. | 11-29-2021 | B | | |
| PROJECT: BATTERY/PV SYSTEM | | SCALE | NTS | REV. 3 |
| | | | | SHEET 5 OF 7 |

KEYED NOTES:

- ① LABEL "WARNING: POWER SOURCE OUPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE." AND LOCATE BREAKER AT OPPOSITE END OF BUS FROM MAIN BREAKER LOCATION PER NEC 705.12(B)(3).
- ② BI-DIRECTIONAL UTILITY METER TO BE INSTALLED BY UTILITY COMPANY.
- ③ LABEL BREAKER "PHOTOVOLTAIC ELECTRIC POWER SOURCE" "BREAKERS ARE BACKFED". LABEL WITH THE RATED AC OUTPUT CURRENT AND THE NOMINAL OPERATING VOLTAGE PER NEC 690.54.
- ④ LABEL "UTILITY DISCONNECT". SWITCH COVER TO BE LOCKED PER NEC 690.13(B) AT ALL TIMES BY UTILITY. SWITCH TO BE VISIBLE OPEN AND ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.20.
- ⑤ LABEL "PHOTOVOLTAIC ARRAY DC DISCONNECT" PER NEC 690.13(B). LABEL WITH MAXIMUM DC VOLTAGE, CURRENT PER NEC 690.53. SWITCH COVER TO BE LOCKED PER NEC 690.13(A).
- ⑥ LABEL "WARNING: THIS SUB-PANEL FED FROM MULTI-POWER PRODUCTION SOURCES".
- ⑦ PROVIDE WARNING SIGN PER NEC 690.13(B) AND 706.15(C) READING "WARNING-ELECTRIC SHOCK HAZARD-TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.
- ⑧ INVERTER TO BE LISTED TO UL 1741SA AND SB.
- ⑨ METALLIC CONDUIT SHALL BE USED WITHIN BUILDING AND LABELED PER NEC 690.31 (D).
- ⑩ GROUND FAULT PROTECTION PER NEC 690.41(B) PROVIDED IN DC/AC INVERTER.
- ⑪ GEC TO BE INSTALLED AS REQUIRED PER MANUFACTURER INSTRUCTIONS AND NEC 690.47.
- ⑫ LABEL "MAIN BREAKER HAS BEEN DE-RATED TO MEET 2020 NEC 705.12(B)(3)" & "MAX 175 AMPS".
- ⑬ BUILDINGS WITH RAPID SHUTDOWN PER NEC 690.56(C): LABEL: "SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY".
- ⑭ LABEL: "RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM" PER NEC 690.56(C)(2).

- ⑮ LABEL "CUSTOMER FUSED DISCONNECT". SWITCH COVER TO BE LOCKED BY CUSTOMER AT ALL TIMES, AND COMPLY WITH NEC 705.20 PER NEC 690.13(A).
- ⑯ CUSTOMER WILL INSTALL RING-TYPE METER SOCKET WITH NON-DETENTED FORM 2S. APS WILL INSTALL THE PRODUCTION METERS. LABEL METER SOCKET "BI-DIRECTIONAL METER".
- ⑰ CUSTOMER WILL INSTALL RING-TYPE METER SOCKET WITH NON-DETENTED FORM 2S. APS WILL INSTALL THE PRODUCTION METERS. LABEL METER SOCKET "UNI-DIRECTIONAL METER".
- ⑱ LABEL: "GENERATOR DISCONNECT". SWITCH COVER TO BE LOCKED PER NEC 690.13(B) AT ALL TIMES BY UTILITY. SWITCH TO BE VISIBLE OPEN & ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.20.
- ⑲ LABEL: "CAUTION - MULTI SOURCES OF POWER" ON PLACARD/DIRECTORY PER NEC 705.10.
- ⑳ LABEL: "UNI-DIRECTIONAL METER LINE SIDE DISCONNECT". SWITCH COVER TO BE LOCKED PER NEC 690.13(B) AT ALL TIMES BY UTILITY. SWITCH TO BE VISIBLE OPEN & ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.20.
- ㉑ LABEL: "BI-DIRECTIONAL METER DER SIDE DISCONNECT". SWITCH COVER TO BE LOCKED PER NEC 690.13(B) AT ALL TIMES BY UTILITY. SWITCH TO BE VISIBLE OPEN & ACCESSIBLE PER UTILITY REQUIREMENTS AND CONFORM TO NEC 705.20.
- ㉒ LABEL: "SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY"AND SHALL CONFORM TO NEC 690.56.

GENERAL NOTES:

- A. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE 2020 NEC AND ALL APPLICABLE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
- B. DC ARRAY PANEL GROUND WIRES MUST BE CONTINUOUS AND INSTALLED TO ALLOW FOR PANEL REMOVAL WITHOUT DISRUPTING CONTINUITY. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC 690.43 & 690.47.
- C. FOLLOW MANUFACTURERS' SUGGESTED INSTALLATION PRACTICES AND WIRING SPECIFICATIONS FOR ALL EQUIPMENT.
- D. ARRAY DC WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS. NEC 300.6(B)(1).
- E. DC EQUIPMENT SHOWN FOR ILLUSTRATION PURPOSES ONLY. ACTUAL DESIGN SHALL BE IN ACCORDANCE WITH THE NEC AND MANUFACTURER'S SPECIFICATIONS AND INSTALLATION SHALL BE IN ACCORDANCE WITH AHJ REQUIREMENTS.
- F. A PERMANENT PLAQUE OR DIRECTORY DENOTING ALL ELECTRIC POWER SOURCE DISCONNECTING MEANS ON OR IN THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL ELECTRIC POWER PRODUCTION SOURCES CAPABLE OF BEING INTERCONNECTED PER NEC 705.10.
- G. EQUIPMENT SHALL BE LISTED, TESTED AND MARKED TO WITHSTAND THE AVAILABLE SHORT CIRCUIT CURRENT.
- H. DWELLING BATTERY STORAGE ENERGY TRESHOLDS PER NFPA 855 (2020) SECTION 15.7.1, THE 2021 VERSION OF THE "INTERNATIONAL FIRE CODE" AND THE 2021 VERSION OF THE "INTERNATIONAL RESIDENTIAL FIRE CODE FOR ONE AND TWO FAMILY DWELLINGS":
 INDIVIDUAL: 20KWH
 AGGREGATE: 40KWH WITHIN CLOSETS AND STORAGE OR UTILITY SPACES
 80KWH IN ATTACHED OR DETACHED GARAGES AND DETACHED ACCESSORY STRUCTURES
 80KWH ON EXTERIOR WALLS
 80KWH IN OUTDOOR INSTALLATIONS

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| ABC BATTERY BACKUP CO. INC. | | | | |
|-------------------------------|------------|--|-----------------|--------------|
| APPROVALS | DATE | 8.0AC/9.0DC kW PV NOTES | | |
| DRAWN | 11-4-2016 | DC COUPLED ENERGY STORAGE SYSTEM (BATT & PV) 12 SHOTGUN WAY ANY CITY, AZ 85123 | | |
| CHECKED | | | | |
| ENGINEER | | | | |
| M.G.R. | | | | |
| REV. | 11-29-2021 | SIZE B | CODE INTENT NO. | DRAWING NO. |
| PROJECT: BATTERY/PV SYSTEM | | SCALE NTS | REV. 3 | SHEET 6 OF 7 |

NEC 110.31(D) ENCLOSED EQUIPMENT ACCESSIBLE TO UNQUALIFIED PERSONS. VENTILATING OR SIMILAR OPENINGS IN EQUIPMENT SHALL BE DESIGNED SUCH THAT FOREIGN OBJECTS INSERTED THROUGH THESE OPENINGS ARE DEFLECTED FROM ENERGIZED PARTS. WHERE EXPOSED TO PHYSICAL DAMAGE FROM VEHICULAR TRAFFIC, SUITABLE GUARDS SHALL BE PROVIDED. EQUIPMENT LOCATED OUTDOORS AND ACCESSIBLE TO UNQUALIFIED PERSONS SHALL BE DESIGNED SUCH THAT EXPOSED NUTS OR BOLTS CANNOT BE READILY REMOVED, PERMITTING ACCESS TO LIVE PARTS. WHERE EQUIPMENT IS ACCESSIBLE TO UNQUALIFIED PERSONS AND THE BOTTOM OF THE ENCLOSURE IS LESS THAN 2.5 M (8FT.) ABOVE THE FLOOR OR GRADE LEVEL, THE ENCLOSURE DOOR OR HINGED COVER SHALL BE KEPT LOCKED. DOORS AND COVERS OF ENCLOSURES USED SOLELY AS PULL BOXES, SPLICE BOXES, OR JUNCTION BOXES SHALL BE LOCKED, BOLTED, OR SCREWED ON. UNDERGROUND BOX COVERS THAT WEIGH OVER 45.4 KG (100LB) SHALL BE CONSIDERED AS MEETING THIS REQUIREMENT.

NEC 240.4(B) DEVICES RATED 800 AMPERES OR LESS. THE NEXT HIGHER STANDARD OVERCURRENT DEVICE RATING (ABOVE THE AMPACITY OF THE CONDUCTORS BEING PROTECTED) SHALL BE PERMITTED TO BE USED IF: 1) THE CONDUCTORS BEING PROTECTED ARE NOT PART OF A MULTIOUTLET BRANCH CIRCUIT SUPPLYING RECEPTACLES FOR CORD-AND-PLUG-CONNECTED PORTABLE LOADS. 2) THE AMPACITY OF THE CONDUCTORS DOES NOT CORRESPOND WITH THE STANDARD AMPERE RATING OF A FUSE OR A CIRCUIT BREAKER WITHOUT OVERLOAD TRIP ADJUSTMENTS ABOVE ITS RATING. 3) THE NEXT HIGHER STANDARD RATING SELECTED DOES NOT EXCEED 800 AMPERES.

NEC 240.6(A) FUSES AND FIXED-TRIP CIRCUIT BREAKERS. THE STANDARD AMPERE RATINGS FOR FUSES AND INVERSE TIME CIRCUIT BREAKERS SHALL BE CONSIDERED: 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600, 700, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000 AMPERES.

NEC 250.64(C) GROUNDING ELECTRODE CONDUCTOR BE CONTINUOUS, GROUND CRIMPS TO BE IRREVERSIBLE.
NEC 250.160 AND PART VIII

NEC 250.97 FOR CIRCUITS OVER 250 VOLTS TO GROUND, THE ELECTRICAL CONTINUITY OF METAL RACEWAYS AND CABLES WITH METAL SHEATHS THAT CONTAIN ANY CONDUCTOR OTHER THAN SERVICE CONDUCTORS SHALL BE ENSURED BY ONE OR MORE OF THE METHODS SPECIFIED FOR SERVICES IN 250.90(B), EXCEPT OR (B)(1).

----- MODULE CONNECTION ARRANGEMENT SHALL BE ARRANGED SO THAT REMOVAL OF A MODULE OR PANEL FROM A PHOTOVOLTAIC SOURCE CIRCUIT DOES NOT INTERRUPT A GROUNDED CONDUCTOR TO ANOTHER PHOTOVOLTAIC SOURCE CURRENT.

NEC 690.41 GROUND-FAULT PROTECTION.

NEC 110.27 OUTPUT CIRCUITS OVER 150 VOLTS TO GROUND SHALL NOT BE ACCESSIBLE TO OTHER THAN QUALIFIED PERSONS WHILE ENERGIZED.

NEC 690.8(A)(1) PHOTOVOLTAIC SOURCE CIRCUIT CURRENTS. THE MAXIMUM CURRENT SHALL BE THE SUM OF THE PARALLEL MODULE RATED SHORT-CIRCUIT CURRENTS MULTIPLIED BY 125 PERCENT.

NEC 690.8(A)(3) INVERTER OUTPUT CIRCUIT CURRENT. THE MAXIMUM CURRENT SHALL BE THE INVERTER CONTINUOUS OUTPUT CURRENT RATING.

NEC 690.8(B)(1) SIZING OF CONDUCTORS AND OVERCURRENT DEVICES. THE CIRCUIT
NEC 690.8(B)(2) CONDUCTORS AND OVERCURRENT DEVICES SHALL BE SIZED TO CARRY
NEC 690.8(B)(3) NOT LESS THAN 125 PERCENT OF THE MAXIMUM CURRENTS AS CALCULATED IN 690.8(A). THE RATING OR SETTING OF OVERCURRENT DEVICES SHALL BE PERMITTED IN ACCORDANCE WITH 240.4(B) AND (C).

NEC 690.13(B) PV SYSTEM DISCONNECT SHALL BE SIGNED LABELED:
 WARNING - ELECTRIC SHOCK HAZARD
 TERMINALS ON THE LINE AND LOAD SIDES
 MAY BE ENERGIZED IN THE OPEN POSITION
 PV SYSTEM DISCONNECT SHALL BE PERMANENTLY MARKED AS A
 "PHOTOVOLTAIC SYSTEM DISCONNECT."

NEC 690.33 (A) CONFIGURATION
 (B) GUARDING
 (C) TYPE
 (D) GROUNDING MEMBER
 (E) INTERRUPTION OF CIRCUIT
 LABELED "DO NOT DISCONNECT UNDER LOAD"

NEC 690.53 PERMANENT LABEL FOR DIRECT-CURRENT PHOTOVOLTAIC POWER SOURCE AT DISCONNECTING MEANS:
 (1) MAXIMUM VOLTAGE [REF: 690.7]
 (2) MAXIMUM CIRCUIT CURRENT [REF: 690.8(A)]
 (3) MAXIMUM RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)

NEC 690.56(B) PERMANENT LABEL/PLAQUE: [SOURCE/LABEL]
 PV SYSTEM DISCONNECT / REF: NEC690.13 (B)
 UTILITY SERVICE PANEL / "UTILITY SERVICE DISCONNECT."

NEC 690.56(C) BUILDINGS WITH RAPID SHUTDOWN
 (1) RAPID SHUTDOWN TYPE
 (a) FOR PV SYSTEMS THAT SHUT DOWN THE ARRAY AND CONDUCTORS LEAVING THE ARRAY SHALL BE LABELED:
 "SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY".
 (b) FOR PV SYSTEMS THAT ONLY SHUT DOWN CONDUCTORS LEAVING THE ARRAY:
 "SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUTDOWN CONDUCTORS OUTSIDE THE ARRAY. CONDUCTORS IN ARRAY REMAIN ENERGIZED IN SUNLIGHT".

THE TITLE "SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN" SHALL UTILIZE CAPITALIZED CHARACTERS WITH A MINIMUM HEIGHT OF 3/8 INCH IN WHITE ON RED BACKGROUND AND THE REMAINING CHARACTERS SHALL BE CAPITALIZED WITH A MINIMUM HEIGHT OF 3/16 INCH IN BLACK ON WHITE BACKGROUND.

NEC 705.12(B)(4) CIRCUIT BREAKERS, IF BACKFED, SHALL BE SUITABLE FOR SUCH OPERATION.

NEC 705.10 A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRIC POWER SOURCES ON OR IN THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL ELECTRIC POWER PRODUCTION SOURCES CAPABLE OF BEING INTERCONNECTED. EXCEPTION: INSTALLATIONS WITH LARGE NUMBERS OF POWER PRODUCTION SOURCES SHALL BE PERMITTED TO BE DESIGNATED BY GROUPS.

NEC TABLE 250.66 SIZE OF ALTERNATING-CURRENT GROUNDING ELECTRODE CONDUCTOR. THE SIZE OF THE GROUNDING ELECTRODE CONDUCTOR AT THE SERVICE, AT EACH BUILDING OR STRUCTURE WHERE SUPPLIED BY A FEEDER(S) OR BRANCH CIRCUIT(S), OR AT A SEPARATELY DERIVED SYSTEM OF A GROUNDED OR UNGROUNDED AC SYSTEM SHALL NOT BE LESS THAN GIVEN IN TABLE 250.66, EXCEPT AS PERMITTED IN 250.66(A) THROUGH (C).

NEC TABLE 310.15(B)(16) ALLOWABLE AMPACITIES OF INSULATED CONDUCTORS RATED 0 THROUGH 2000 VOLTS, 60°C THROUGH 90°C, NOT MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN RACEWAY, CABLE, OR EARTH, BASED ON AMBIENT TEMPERATURE OF 30°C. NOTE CORRECTION FACTORS FOR AMBIENT TEMPERATURE AT END OF TABLE.

NFPA70E - 120.5 PROCESS FOR ESTABLISHING AND VERIFYING AN ELECTRICALLY SAFE WORK CONDITION. (1) DETERMINE ALL POSSIBLE SOURCES OF ELECTRICAL SUPPLY TO THE SPECIFIC EQUIPMENT. (2) AFTER PROPERLY INTERRUPTING THE LOAD CURRENT, OPEN THE DISCONNECTING DEVICE(S) FOR EACH SOURCE. (3) WHEREVER POSSIBLE, VISUALLY VERIFY THAT ALL BLADES OF THE DISCONNECTING DEVICES ARE FULLY OPEN.

| |
|--|
| <p>ARRAY OUTPUT: (SUB-ARRAYS 1-5, 5 STRINGS OF 5) TOTAL ARRAY DC (STC) RATING: 9kW 5 ARRAYS, WITH 5 MODULES EACH WIRED IN SERIES FOR A TOTAL OF 25 X 360W,</p> <p>(SUB-ARRAYS 1-5, 5 STRINGS OF 5) 1800W PV OUTPUT, Voc=241.5VDC, Isc=9.84A, Vmp=192.0VDC, Imp=9.4A</p> <p>(TOTAL OUTPUT) 9000W Voc=241.5 Isc=49.2A, Vmp=192.0VDC, Imp=47.0A</p> <p>MODULE SPEC INFO: TOTAL Voc: 48.3VDC Vmp: 38.4VDC TOTAL Isc: 9.84A Imp: 9.4A</p> |
|--|

| | | | |
|------------------------------------|------------|--|-----------------------------|
| ABC BATTERY BACKUP CO. INC. | | | |
| APPROVALS | DATE | 8.0AC/9.0DC kW NEC & NFPA70E NOTES | |
| DRAWN | 4-15-2019 | DC COUPLED ENERGY STORAGE SYSTEM (BATT & PV) | |
| CHECKED | | 12 SHOTGUN WAY | |
| ENGINEER | | ANY CITY, AZ 85123 | |
| M.G.R. | | SIZE | CODE INTENT NO. DRAWING NO. |
| REV. | 11-29-2021 | B | |
| PROJECT: | | SCALE NTS | REV. 3 SHEET 7 OF 7 |