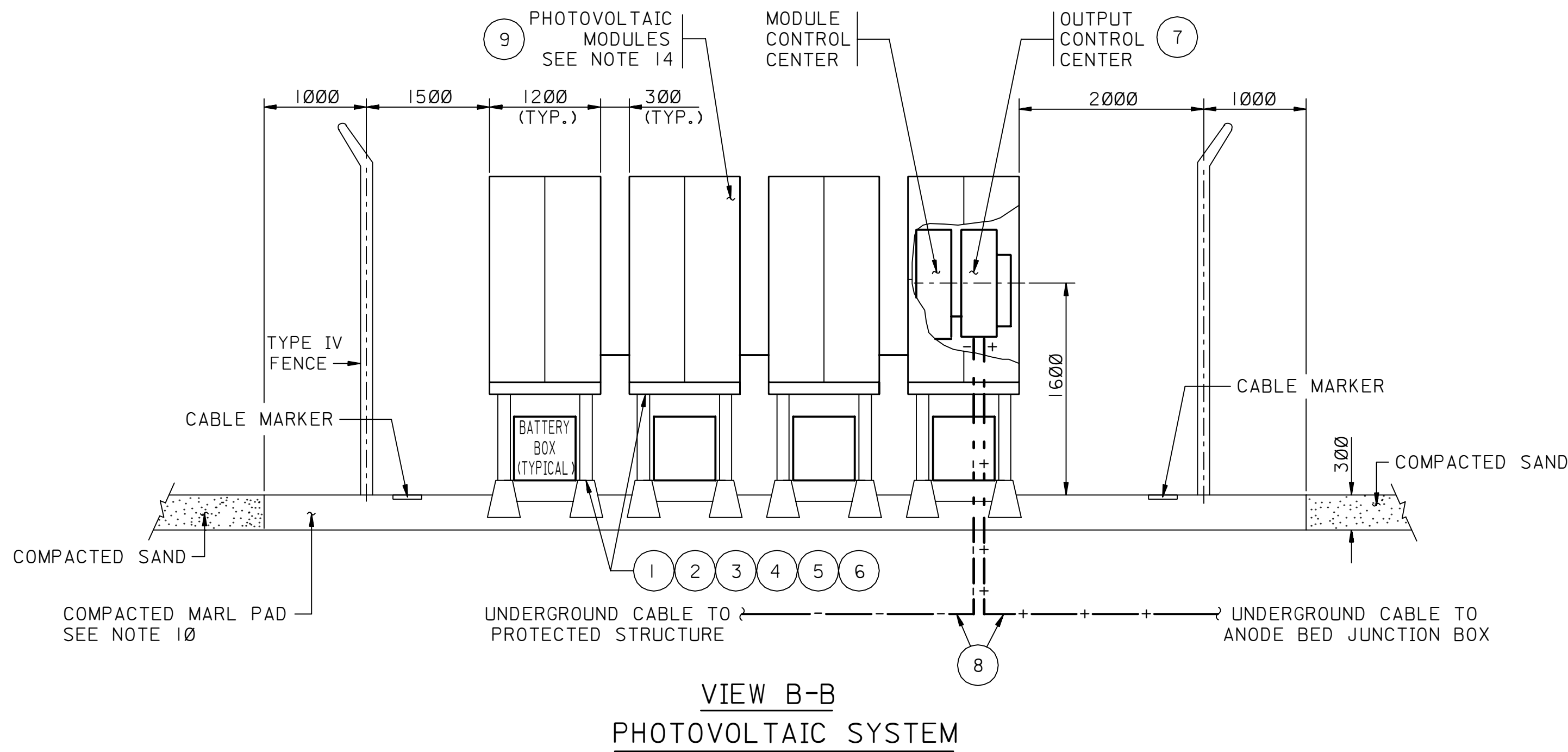
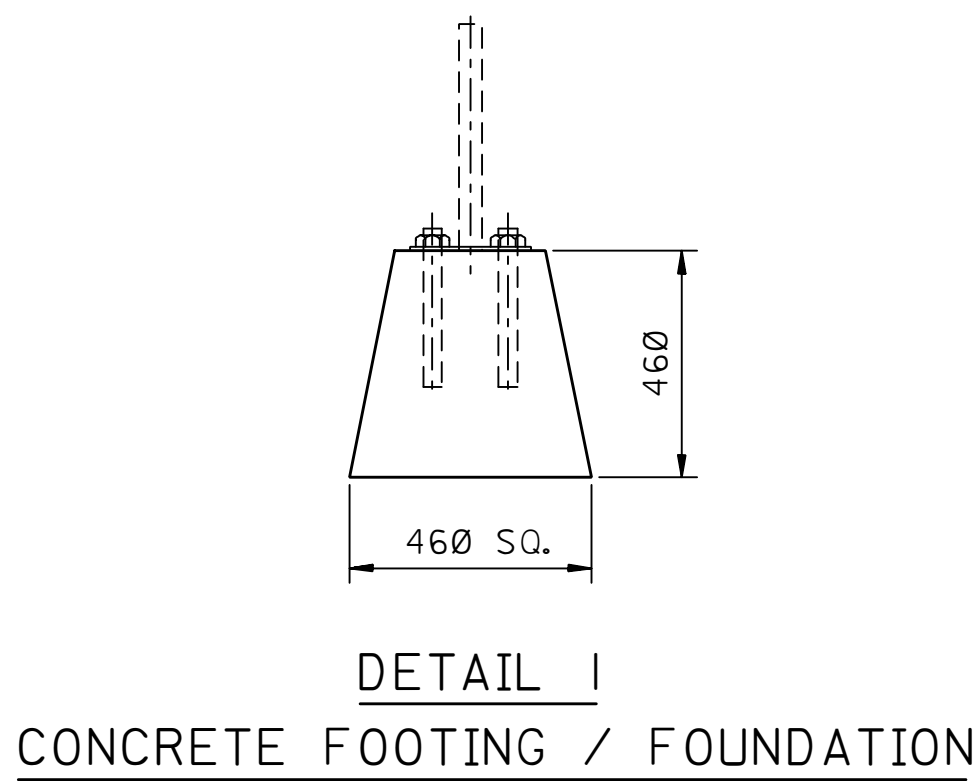
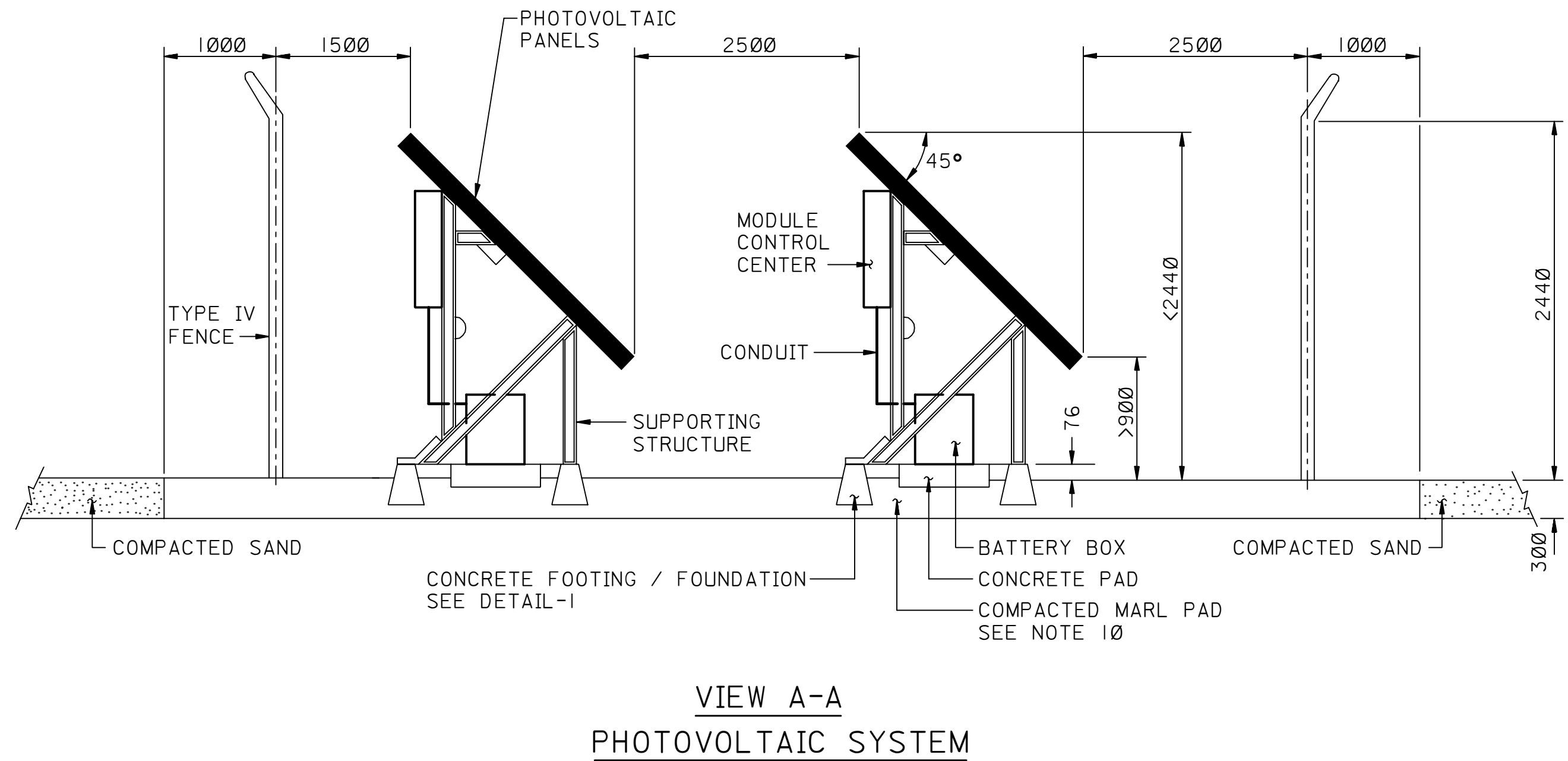
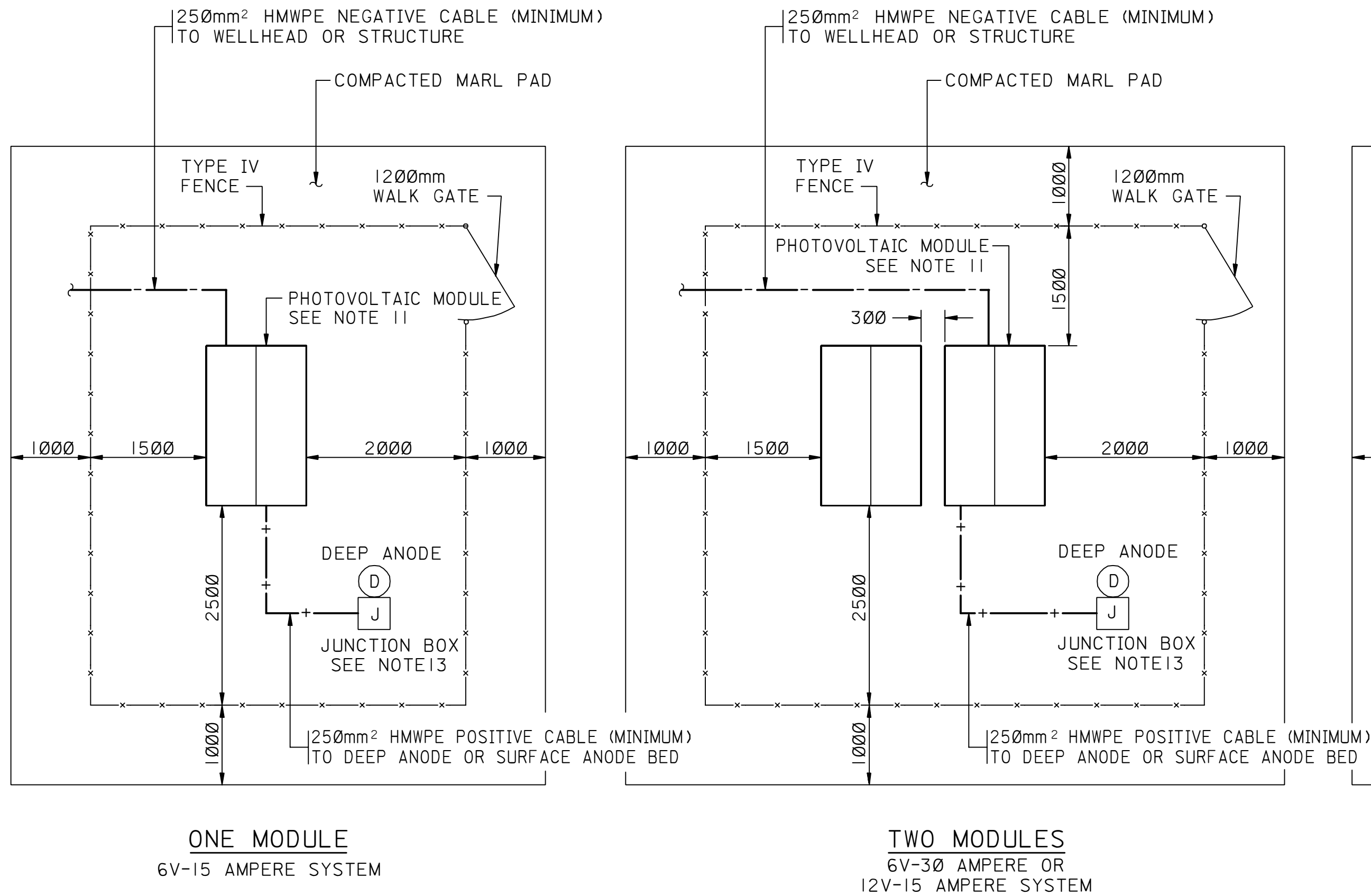




MATERIAL LIST			
CODE	STOCK NUMBER	ISSUE UNIT	DESCRIPTION
1	01-515-631	JT	PIPE: PVC; 1 1/4 " NOMINAL DIAMETER
2	10-206-113	EA	BOLT: MACHINE; C.S. HEX. HEAD 1/4 " DIA. x 1 1/2 " LG.
3	10-888-806	LB	WASHER: FLAT; FOR 1/4 " DIAMETER BOLT
4	11-268-095	EA	SCREW: LAG; 1/4 " DIAMETER, 1 1/2 " LONG
5	11-805-514	EA	ANCHOR: MASONRY; FOR 1/4 " DIA. LAG SCREW TYPE
6	15-510-825	EA	CLAMP: CONDUIT; I-HOLE FOR 1 1/2 " CONDUIT SIZE
7	17-861-200	EA	OUTPUT CONTROL CENTER: 12/24VDC, 50 AMPERE RATING
8	17-858-799	MT	CABLE: C.P., 250mm SQ. SIZE, HMWPE, BLACK INSULATION
9	17-881-500	EA	PHOTOVOLTAIC POWER SUPPLY: 6VDC, 15AMP

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS AND SHOWN FOR GENERAL ESTIMATING. DIMENSIONS MAY VARY SLIGHTLY DEPENDING ON THE EQUIPMENT MANUFACTURER.
 - CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH VENDOR INSTRUCTIONS AND SAUDI ARAMCO ENGINEERING STANDARDS.
 - THE PHOTOVOLTAIC MODULES SHALL BE INSTALLED SIDE-TO-SIDE. EACH ROW OF MODULES SHALL NOT EXCEED FOUR. IF MORE THAN FOUR MODULES ARE REQUIRED, THE DESIGNER SHALL DIVIDE THEM EVENLY WITH THE ROWS ARRANGED BACK-TO-FRONT.
 - THE ACTUAL QUANTITIES OF THE PHOTOVOLTAIC MODULES MAY VARY DEPENDING ON THE ANODE BED/CIRCUIT RESISTANCE.
 - THE PHOTOVOLTAIC MODULE STRUCTURE SHALL BE PREFABRICATED OF GALVANIZED STEEL MEMBERS. IT SHALL BE OF RIGID CONSTRUCTION INDEPENDENT OF FOUNDATION.
 - FOUNDATIONS (CONCRETE PADS) SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH SAES-0-001. FOUNDATION AND FRAMEWORK SHALL BE DESIGNED TO WITHSTAND A WIND SPEED OF 112 Km/Hr.
 - ALL INTERCONNECTING CABLES SHALL BE ROUTED INSIDE RIGID GALVANIZED STEEL CONDUITS. WHEREVER NECESSARY FLEXIBLE GALVANIZED STEEL CONDUITS SHALL BE UTILIZED. PHOTOVOLTAIC SYSTEM WITHIN 1.0 KM OF THE SHORE LINE SHALL BE FITTED WITH PVC COATED GALVANIZED STEEL CONDUITS.
 - ALL UNDERGROUND CABLES INTERCONNECTING SOLAR MODULES SHALL BE ENCASED IN RIGID PVC CONDUITS.
 - INSTALLATIONS SHALL BE IN ACCORDANCE WITH:
 - CATHODIC PROTECTION FOR BURIED PIPELINES-SAES-X-400.
 - CATHODIC PROTECTION OF ONSHORE WELLCASINGS-SAES-X-700.
 - MODULAR PHOTOVOLTAIC POWER SUPPLY FOR CATHODIC PROTECTION-17-AMSS-012.
 - 300mm COMPACTED MARL PAD TO BE CONSTRUCTED ON GRADED AND COMPACTED SAND. CONCRETE FOOTINGS / FOUNDATIONS TO EXTEND 76mm ABOVE MARL PAD.
 - THE PHOTOVOLTAIC MODULE LAYOUT IS BASED ON USING STANDARD 6 VOLT 15 AMPERE MODULES INTERCONNECTED TO PRODUCE THE PROPER DC OUTPUT, EACH SOLAR MODULE SHALL BE FURNISHED AND INSTALLED AS A COMPLETE UNIT IN ACCORDANCE WITH SAUDI ARAMCO STANDARD 17-SAMSS-12.
 - ALL UNDERGROUND INTERCONNECTING CABLES SHALL BE ENCASED IN SCHEDULE 80 EXTRA HEAVY WALL PVC CONDUIT.
 - DEEP ANODE AND JUNCTION BOX SHOWN AS EXAMPLE. WHEN INSTALLING SURFACE ANODE BEDS WITH PHOTOVOLTAIC POWER SYSTEMS JUNCTION BOX TO BE INSTALLED OUTSIDE OF FENCED AREA AT ANODE BED.
 - THE NUMBER OF SOLAR PANELS FOR EACH 6 VOLT, 15 AMPERE WILL VARY WITH THE MODULE MANUFACTURER.

REFERENCE DRAWINGS

FENCE GENERAL	AA-036677
MARKER PLATE DETAILS	AB-036351
INSTALLATION DETAILS, DIRECT BURIED CABLES	AA-036675
CABLE INSTALLATION & MARKERS	AB-036273
FENCING	AA-036755

MANDATORY DRAWING

SAUDI ARABIAN OIL COMPANY									
DRAWN BY <u>EPE/ESSD</u> CHECKED BY _____ SCALE: _____ NONE									
DATE STARTED <u>04-21-92</u> DATE COMPLETED <u>04-22-92</u>									
OPR'G. DEPT. _____ ENG. DEPT. _____									
APP'D. FOR CONST. _____									

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED	CERTIFIED BY _____ DATE _____
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CATHODIC PROTECTION PHOTOVOLTAIC POWER SYSTEM

STD. DWG.		METRIC	
PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO. REV. NO.
990	X	AA-036280	001 00