

GLENDALE UNIFIED SCHOOL DISTRICT

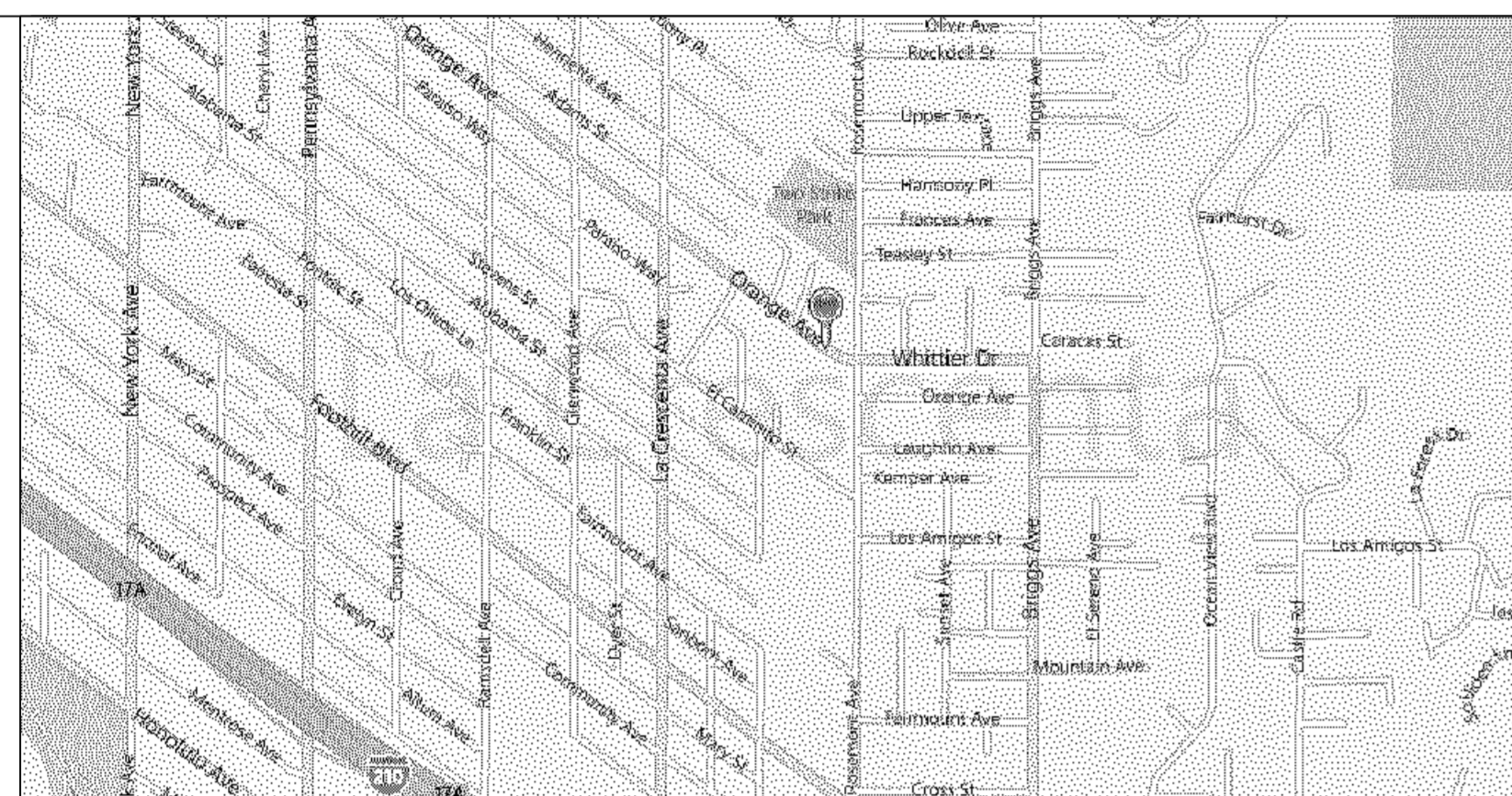
87.36KW DC STC SOLAR PHOTOVOLTAIC SYSTEM

MONTE VISTA ELEMENTARY SCHOOL - LA CRESCENTA, CA



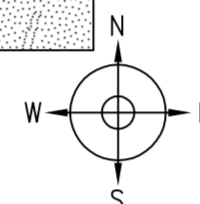
3055 Clearview Way, San Mateo, CA 94402
 T: (650) 638-1028 | F: (650) 638-1029
 (888)-SOL-CITY (765-2499) | www.solarcity.com

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MAP NOT TO SCALE

2620 ORANGE AVE
 LA CRESCENTA, CA 91214



SCOPE OF WORK

WORK CONSISTS OF INSTALLING PHOTOVOLTAIC (PV) CANOPIES OVER EXISTING PLAYGROUND. SOLAR POWER SYSTEM CONSISTS OF PV CANOPIES, ELECTRICAL EQUIPMENT CONCRETE PAD, LIGHTING, PV MONITORING AND METERING COMMUNICATIONS AND POWER INTERCONNECT TO THE UTILITY GRID. THE PV CONTRACTOR SHALL COORDINATE WITH THE OTHER TRADES FOR UNDERGROUND UTILITIES ASSOCIATED WITH THE PV SOLAR SYSTEM.

SPECIAL NOTES

PROJECT TEAM

DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE:

DAVID STOKES
 QUATRO DESIGN GROUP
 923 E 3RD ST, SUITE 115
 LOS ANGELES, CA 90013
 TEL: (213) 625-1995
 FAX: (213) 625-1997
 EMAIL: dstokes@qdg-architects.com

OWNER:

GLENDALE UNIFIED SCHOOL DISTRICT
 2223 N. JACKSON ST.
 GLENDALE, CA 91206
 TEL: (818) 241-3111

CIVIL/STRUCTURAL:

PAUL SCOTT, S.E.
 CARUSO, TURLEY, SCOTT, INC.
 1215 W. RIO SALADO PKWY
 TEMPE, AZ 85281
 TEL: (480) 774-1700

ELECTRICAL ENGINEER:

CARL BURATTI, P.E.
 BURATTI & ASSOCIATES, INC.
 6345 BALBOA BLVD, Ste 259
 ENCINO, CA 91316
 TEL: (818) 345-7130

ABBREVIATIONS

A	AMPERE	PL	PROPERTY LINES
AC	ALTERNATING CURRENT	PV	PHOTOVOLTAIC
BLDG	BUILDING	PVC	POLYVINYL CHLORIDE
CONC	CONCRETE	S	SUBPANEL
C	COMBIBER BOX	SCH	SCHEDULE
D	DISTRIBUTION PANEL	SS	STAINLESS STEEL
DC	DIRECT CURRENT	SSD	SEE STRUCTURAL DRAWINGS
EGC	EQUIPMENT GROUNDING CONDUCTOR	STC	STANDARD TESTING CONDITIONS
(E)	EXISTING	SWH	SOLAR WATER HEATER
EMT	ELECTRICAL METALLIC TUBING	TYP	TYPICAL
G	SOLAR GUARD METER	UON	UNLESS OTHERWISE NOTED
GALV	GALVANIZED	UPS	UNINTERRUPTIBLE POWER SUPPLY
GEC	GROUNDING ELECTRODE CONDUCTOR	V	VOLT
GND	GROUND	Vmp	VOLTAGE AT MAX POWER
HDG	HOT DIPPED GALVANIZED	Voc	VOLTAGE AT OPEN CIRCUIT
I	CURRENT	W	WATT
Imp	CURRENT AT MAX POWER	3R	NEMA 3R, RAIN/TIGHT
INVS	INVERTERS		
Isc	SHORT CIRCUIT CURRENT		
kVA	KILOVOLT AMPERE		
kW	KILOWATT		
LEW	LOAD BEARING WALL		
MIN	MINIMUM		
(N)	NEW		
NEC	NATIONAL ELECTRIC CODE		
NIC	NOT IN CONTRACT		
NTS	NOT TO SCALE		
OC	ON CENTER		
OCF	OVERCURRENT PROTECTION		
P	PANEL BOARD		

SHEET INDEX

T 0.0	TITLE SHEET
A 1	SITE PLAN
A 2	FIRE ACCESS PLAN
A 3	STRUCTURAL DETAILS
A 4	STRUCTURAL DETAILS

THE BELOW LISTED DRAWINGS HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS WHO ARE LICENSED TO PREPARE SUCH DRAWINGS IN THIS STATE. THESE DRAWINGS HAVE BEEN REVIEWED FOR DESIGN INTENT AND APPEAR TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS. THESE DRAWINGS ALSO COORDINATE WITH MY PLANS AND ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT. THE DRAWINGS THAT HAVE BEEN PREPARED BY OTHERS ARE AS FOLLOWS:

E 1	ELECTRICAL NOTES
E 2	ELECTRICAL SITE PLAN
E 3	ELECTRICAL SECTION VIEWS
E 4	LINE DRAWING
E 5	STRING DIAGRAMS
E 6	MONITORING
E 7	ELECTRICAL DETAILS
E 8	SIGNAGE
E 9	LIGHTING DESIGNS
E 10	TITLE 24 CONFORMANCE DOCUMENTS

PRECHECK A# 02-112000
 FP 1 FULL PORTRAIT GENERAL STRUCTURAL NOTES
 FP 2 FULL PORTRAIT BOX BEAM
 FP 3 FULL PORTRAIT BOX BEAM DETAILS
 FP 4 FULL PORTRAIT BACK TO BACK

CODES

GOVERNING CODES:
 CALIFORNIA CODE OF REGULATIONS:
 2010 CALIFORNIA ADMINISTRATIVE CODE (CAC).....(PART 1, TITLE 24, CCR)
 2010 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1, AND 2 (PART 2, TITLE 24, CCR)
 (2009 EDITION INTERNATIONAL BUILDING CODE WITH 2010 CALIFORNIA AMENDMENTS)
 2010 CALIFORNIA ELECTRICAL CODE.....(PART 3, TITLE 24, CCR)
 (2008 EDITION NATIONAL ELECTRICAL CODE WITH 2010 CALIFORNIA AMENDMENTS)
 2010 CALIFORNIA MECHANICAL CODE (CMC).....(PART 4, TITLE 24, CCR)
 (2009 EDITION IAPMO UNIFORM PLUMBING CODE WITH 2010 CALIFORNIA AMENDMENTS)
 2010 CALIFORNIA PLUMBING CODE (CPC).....(PART 5, TITLE 24, CCR)
 (2009 EDITION IAPMO UNIFORM PLUMBING CODE WITH 2010 CALIFORNIA AMENDMENTS)
 2010 CALIFORNIA PLUMBING CODE (CPC).....(PART 6, TITLE 24, CCR)
 (2009 EDITION IAPMO UNIFORM PLUMBING CODE WITH 2010 CALIFORNIA AMENDMENTS)
 2010 CALIFORNIA ENERGY CODE.....(PART 6, TITLE 24, CCR)
 (2008 EDITION CALIFORNIA ENERGY COMMISSION BUILDING ENERGY EFFICIENCY STANDARDS)
 2010 CALIFORNIA FIRE CODE (CFC).....(PART 9, TITLE 24, CCR)
 (2009 EDITION OF INTERNATIONAL FIRE CODE WITH 2010 CALIFORNIA AMENDMENTS)
 2010 CALIFORNIA GREEN CODE.....(PART 11, TITLE 24, CCR)
 2010 CALIFORNIA REFERENCED STANDARDS CODE.....(PART 12, TITLE 24, CCR)
 NFPA 13 - 2010
 NFPA 72 - 2010
REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS:
 2010 CBC, CHAPTER 35
 2010 CFC, CHAPTER 45
INSPECTIONS:
 ALL INDEPENDENT TESTING AND INSPECTIONS SHALL BE PAID FOR AND SCHEDULED BY THE OWNER (DISTRICT).
 A PROJECT INSPECTOR EMPLOYED BY THE OWNER (DISTRICT) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTIONS OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, 2010 CALIFORNIA BUILDING CODE. A MINIMUM OF A CLASS II (TWO) INSPECTOR SHALL BE USED.

1. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CHANGE ORDERS APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR).
4. A DSA CERTIFIED INSPECTOR WITH CLASS 2 CERTIFICATION IS REQUIRED FOR THIS PROJECT.
5. A DSA CERTIFIED INSPECTOR WHO IS SPECIFICALLY QUALIFIED IN MECHANICAL AND ELECTRICAL WORK WILL BE REQUIRED FOR THIS PROJECT.
6. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE SCHOOL BOARD SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THIS PROJECT.

REVISIONS

REV	BY	DATE	COMMENTS
1	A	1/6/2012	

REVISIONS

REV	BY	DATE	COMMENTS
1	A	1/6/2012	

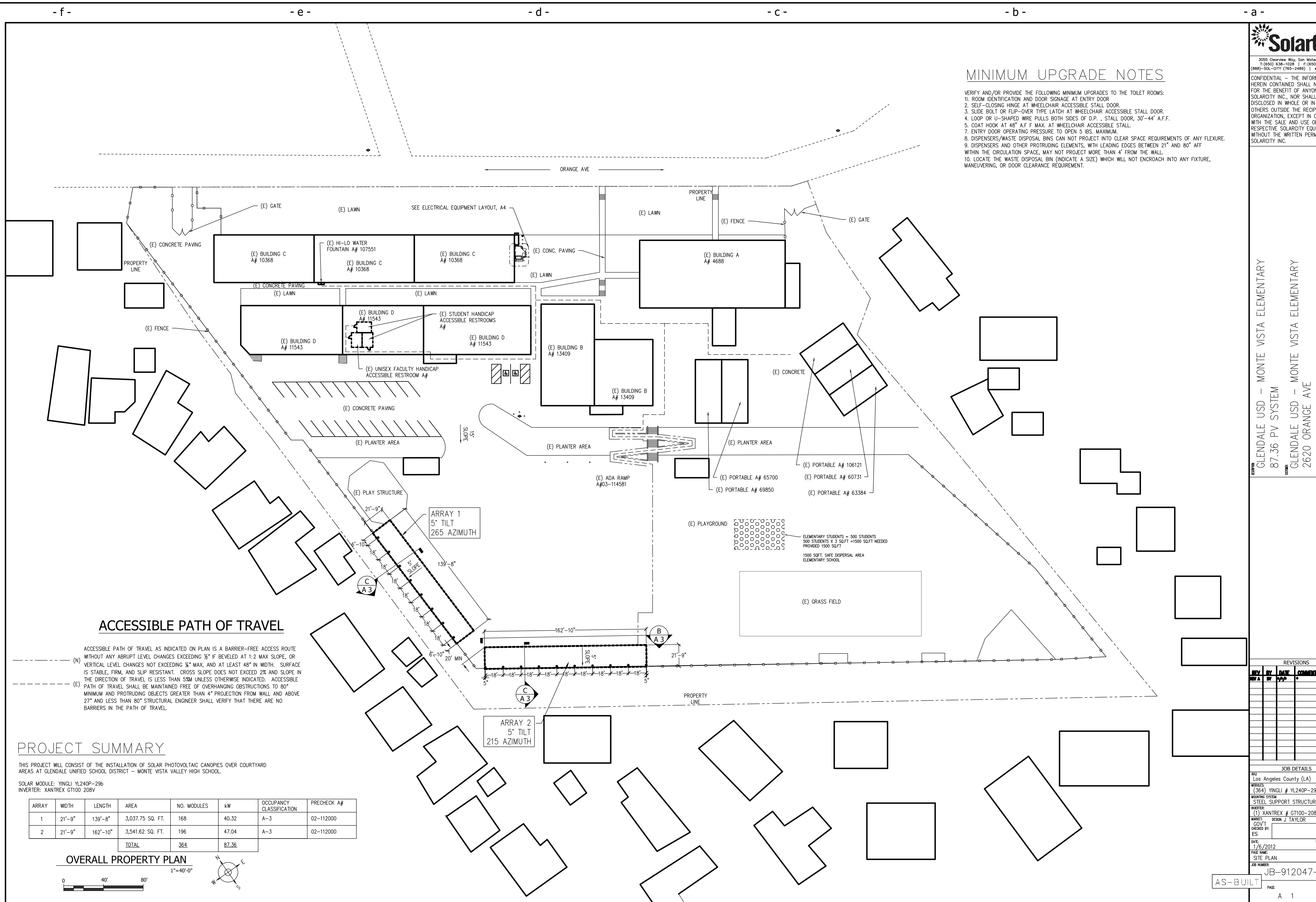
JOB DETAILS

City: Los Angeles County (LA)
 MOODS: (364) YINGLI # YL240P-29b
 MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
 MARKER: (3) XANTREX # CT100-208
 MARKER: DESK: J TAYLOR
 ORDERED BY: ES
 DATE: 1/6/2012
 PAYEE: 1/6/2012
 TITLE: PAGE
 JOB NUMBER: JB-912047-00
 AS-BUILT
 T 0.0

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MINIMUM UPGRADE NOTES

- VERIFY AND/OR PROVIDE THE FOLLOWING MINIMUM UPGRADES TO THE TOILET ROOMS:
1. ROOM IDENTIFICATION AND DOOR SIGNAGE AT ENTRY DOOR.
 2. SELF-CLOSING HINGE AT WHEELCHAIR ACCESSIBLE STALL DOOR.
 3. SLIDE BOLT OR FLIP-OVER TYPE LATCH AT WHEELCHAIR ACCESSIBLE STALL DOOR.
 4. LOOP OR U-SHAPED WIRE PULLS BOTH SIDES OF D.P., STALL DOOR, 30"-44" A.F.F.
 5. COAT HOOK AT 48" A.F.F. MAX. AT WHEELCHAIR ACCESSIBLE STALL.
 7. ENTRY DOOR OPERATING PRESSURE TO OPEN 5 LBS. MAXIMUM.
 8. DISPENSERS/WASTE DISPOSAL BINS CAN NOT PROJECT INTO CLEAR SPACE REQUIREMENTS OF ANY FLEXURE.
 9. DISPENSERS AND OTHER PROTRUDING ELEMENTS, WITH LEADING EDGES BETWEEN 21" AND 80" AFF WITHIN THE CIRCULATION SPACE, MAY NOT PROJECT MORE THAN 4" FROM THE WALL.
 10. LOCATE THE WASTE DISPOSAL BIN (INDICATE A SIZE) WHICH WILL NOT ENCRoACH INTO ANY FIXTURE, MANEUVERING, OR DOOR CLEARANCE REQUIREMENT.



ACCESSIBLE PATH OF TRAVEL

ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/4" IF BEVELED AT 1:2 MAX SLOPE, OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX, AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80" STRUCTURAL ENGINEER SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

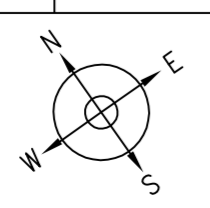
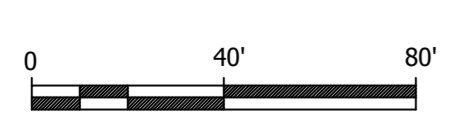
PROJECT SUMMARY

THIS PROJECT WILL CONSIST OF THE INSTALLATION OF SOLAR PHOTOVOLTAIC CANOPIES OVER COURTYARD AREAS AT GLENDALE UNIFIED SCHOOL DISTRICT - MONTE VISTA VALLEY HIGH SCHOOL.

SOLAR MODULE: YINQLI YL240P-29b
 INVERTER: XANTREX GT100 208V

ARRAY	WIDTH	LENGTH	AREA	NO. MODULES	KW	OCCUPANCY CLASSIFICATION	PRECHECK A#
1	21'-9"	139'-8"	3,037.75 SQ. FT.	168	40.32	A-3	02-112000
2	21'-9"	162'-10"	3,541.62 SQ. FT.	196	47.04	A-3	02-112000
TOTAL				364	87.36		

OVERALL PROPERTY PLAN
 1"=40'-0"



REVISIONS

REV	BY	DATE	COMMENTS
1	ES	1/7/12	

JOB DETAILS

CLIENT: Los Angeles County (LA)
 MOBILE: (364) YINQLI # YL240P-29b
 MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
 PERMIT: (1) XANTREX # GT100-208
 MARKED BY: DESK J TAYLOR
 GOV'T ORDERED BY: ES
 DATE: 1/6/2012
 PAYEE: CASH
 SITE PLAN: PROJECT MANAGER
 JOB NUMBER: D NAVARRO
 JB-912047-00

AS-BUILT

1
A 1

SCOPE OF WORK

VERIFY EXISTING FIRE LANE MARKING AND/OR PROVIDE NEW FIRE LANE MARKING AS DIRECTED BY LOCAL FIRE AUTHORITY AND AS DESCRIBED BELOW.

FIRE LANE MARKING

SCOPE

The Fire Department is authorized to direct installation of approved signs or other approved notices for the identification of fire lanes. Identification may include one or more of the following:

REQUIREMENTS

Red Curb Marking:

Curb top and side shall be painted red, and the words, "FIRE LANE" shall be stenciled on the top and side of all red curbs at a maximum interval of 50 feet. Letters shall be three inches (3") in height with a minimum 3/4-inch in stroke.

Alternatively, if the roadway has no curbing, a 12-inch wide red stripe with the words "FIRE LANE" in white may be painted along and parallel with the edge of the roadway. The lettering shall be 8-inches high with a 3/4-inch stroke.

Signage:

Signs shall be of metal construction, measuring 12-inches wide and 18-inches high, and of a reflective type. Plastic or wooden signs are not acceptable. See detail A.

Signs shall read: "NO STOPPING - FIRE LANE 22500.1 CVC." Lettering shall be not less than one-inch in height and clearly visible from a vehicle.

Signs shall be in visible locations and mounted on galvanized metal poles at a height of 80 inches. Signs shall be maintained unobstructed by foliage, etc.

The distance between signs posted along the fire lane shall not exceed 125 feet. Not less than two signs shall be posted for each fire lane. If traffic flows in two directions, signs must be posted so as to be readable from either direction.

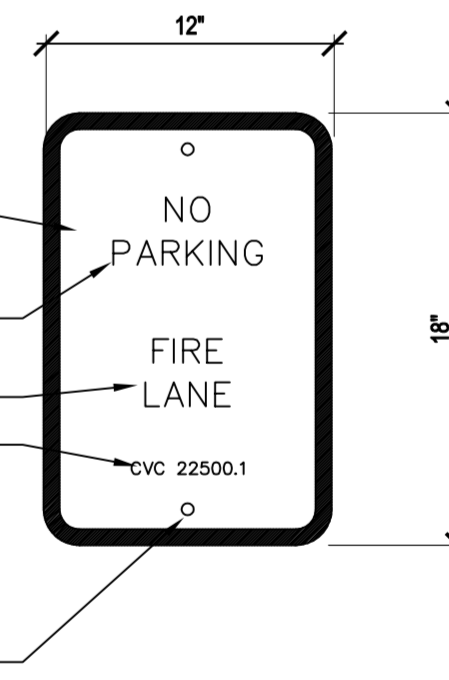
Roadway Surface Marking:

Outlining or painting the fire lane area in red with the words "FIRE LANE" in white, at intervals of not more than 50 feet or as otherwise directed by the Fire Department. Size of lettering shall be not less than 24 inches in height and three inches (3") in stroke.

SIGN GRAPHICS SHALL BE PRINTED ON REFLECTIVE PVC FILM AND LAMINATED TO ALUMINUM SUBSTRATE - SIMILAR TO SIGN AS MANUFACTURED BY COMPLIANCE SIGNS.COM, CHADWICK, IL. w/WHITE BACKGROUND AND 1" RED BORDER

3" MIN. RED LETTERS LOCATED IN TOP HALF OF SIGN
3" MIN. RED LETTERS LOCATED IN LOWER HALF OF SIGN
1" HIGH RED LETTERS

ATTACH SIGN TO PIPE OR WALL WITH NON-FERROUS BOLTS



A FIRE LANE SIGN
Scale: NTS



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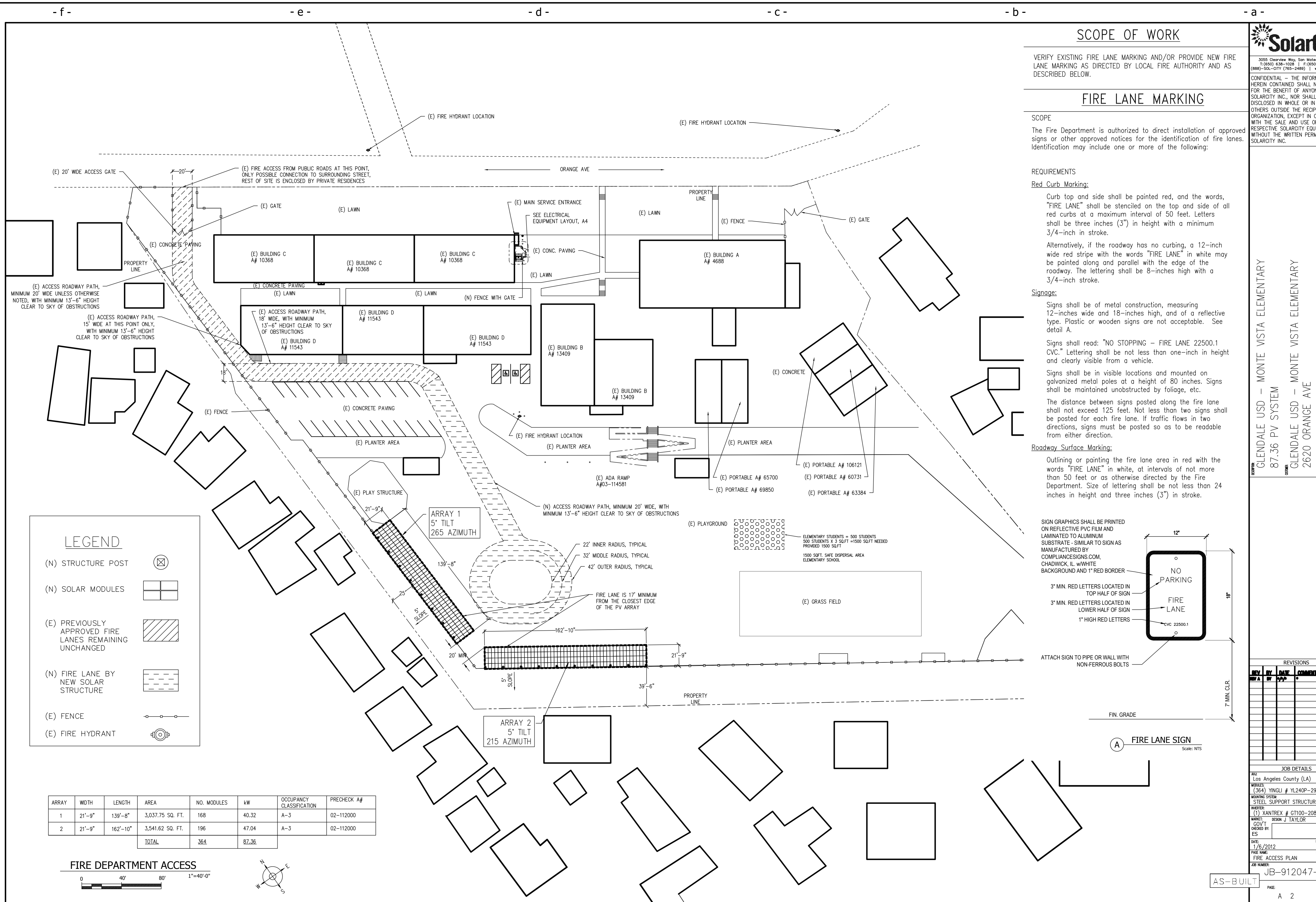
REVISIONS

REV	BY	DATE	COMMENTS
1	BY	1/6/12	

JOB DETAILS

City: Los Angeles County (LA)
MOBILES: (364) YINGLI # YL240P-29b
MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
PARTNER: (1) XANTREX # CT100-208
MARKET: DESIGN: J TAYLOR
GOV'T ORDERED BY: ES
DATE: 1/6/2012
FIRE ACCESS PLAN
JOB NUMBER: JB-912047-00

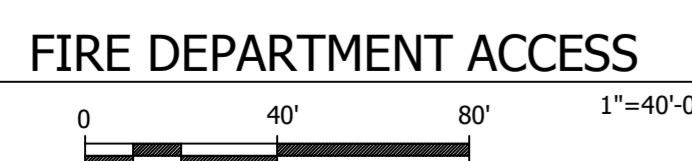
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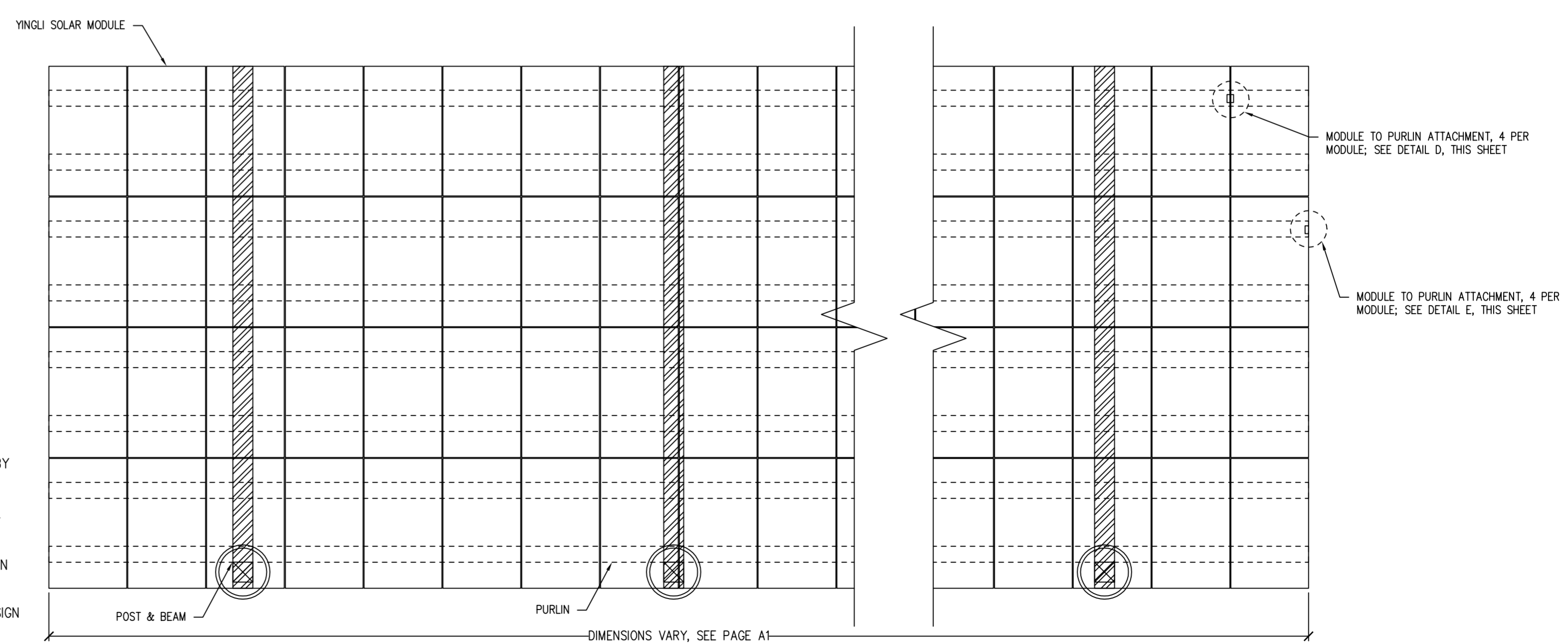
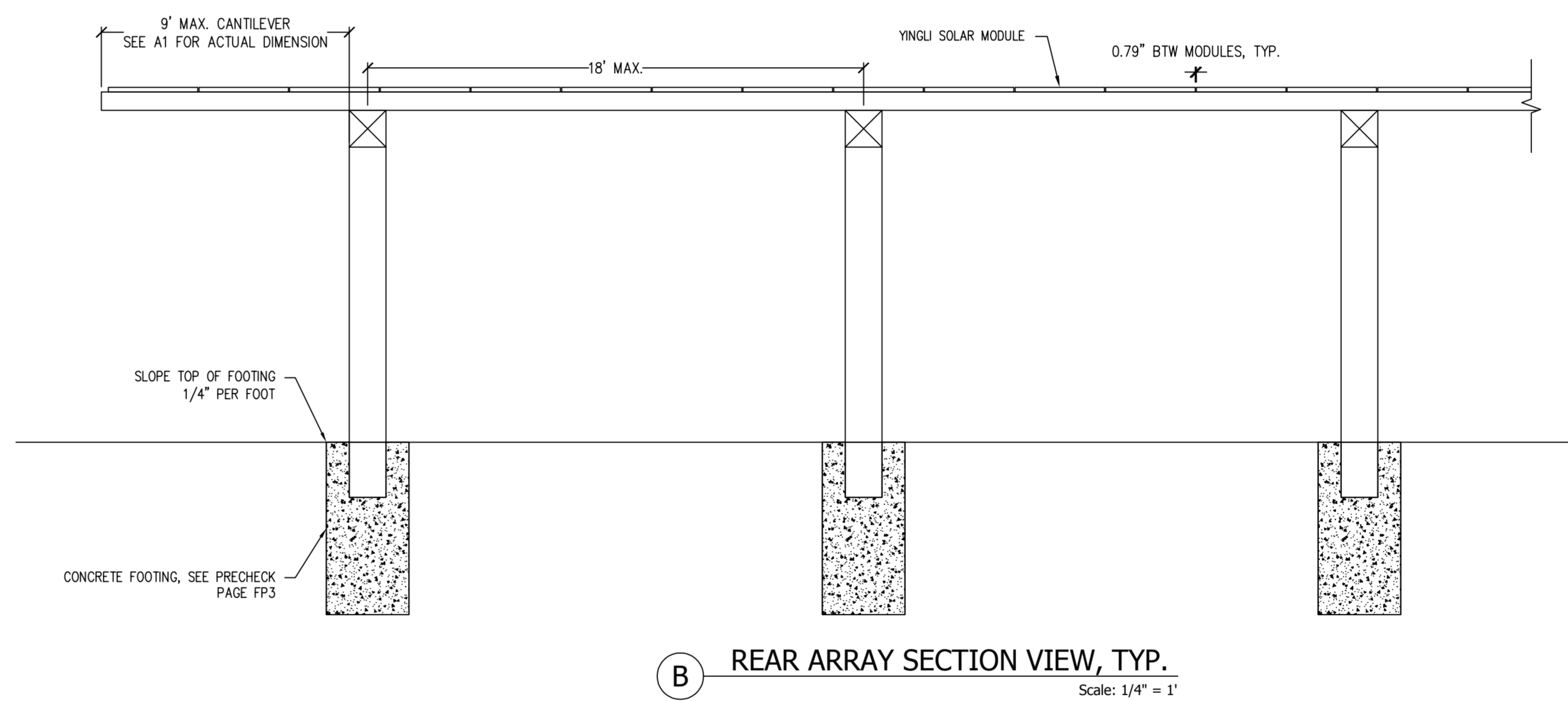
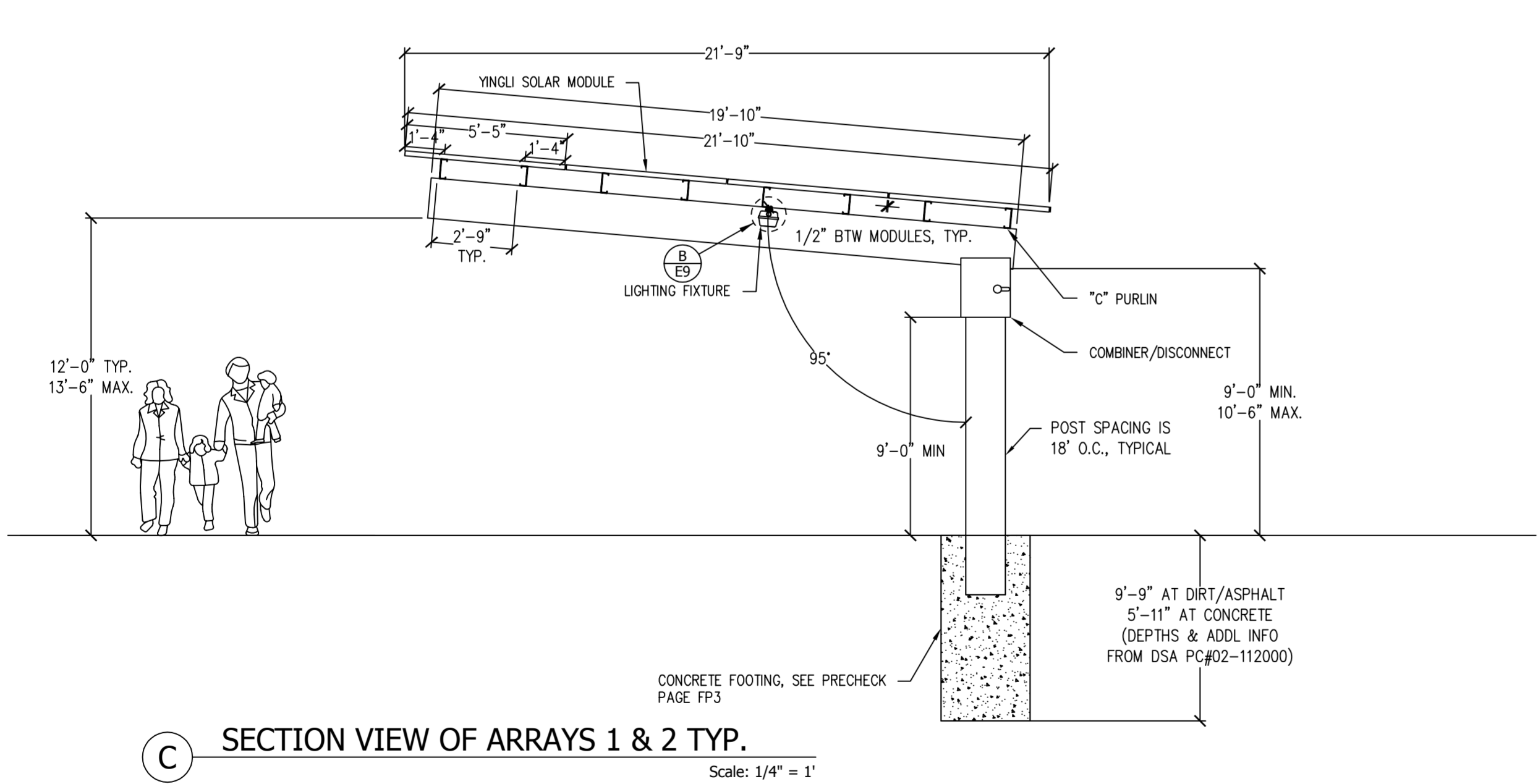
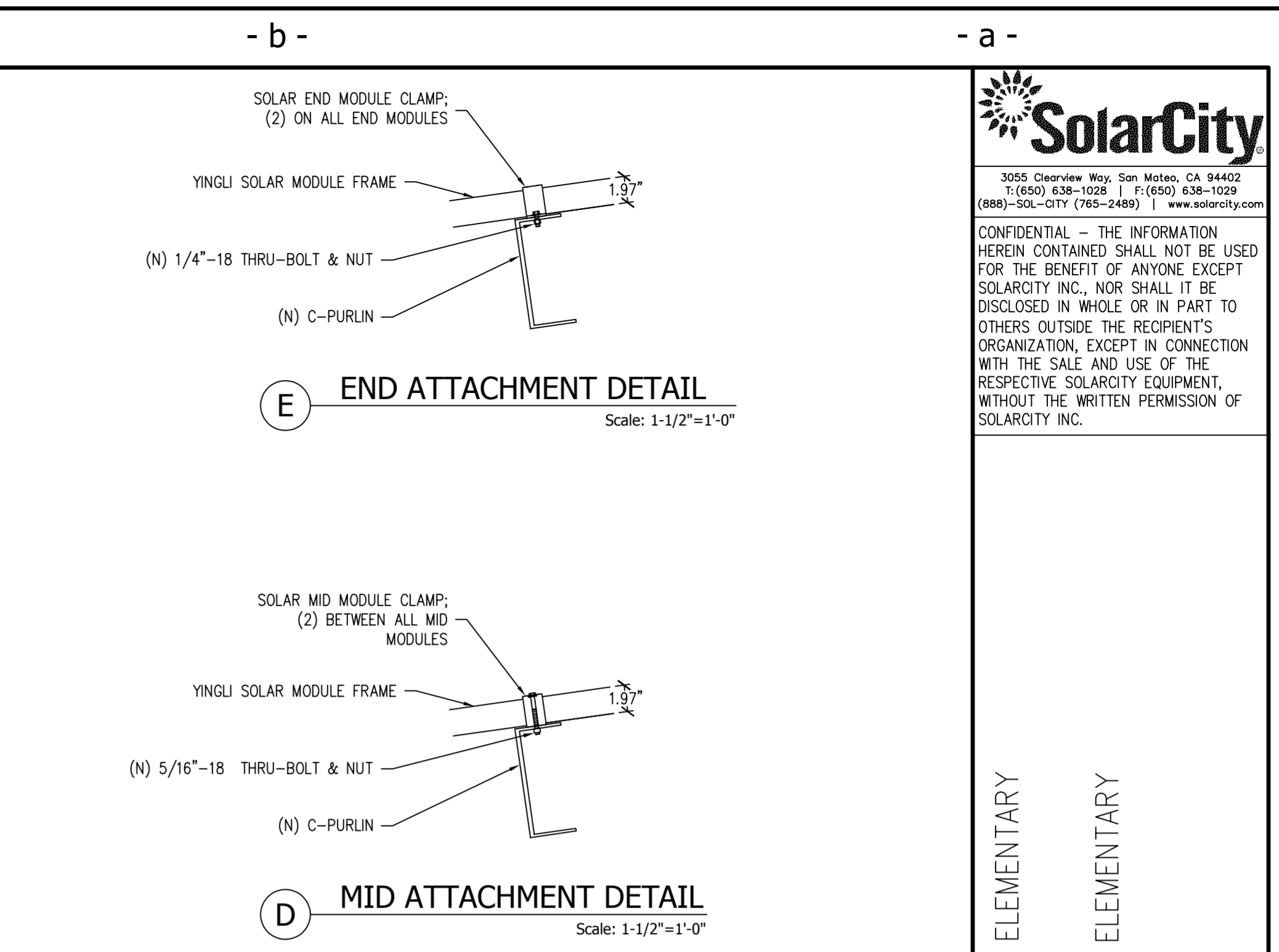
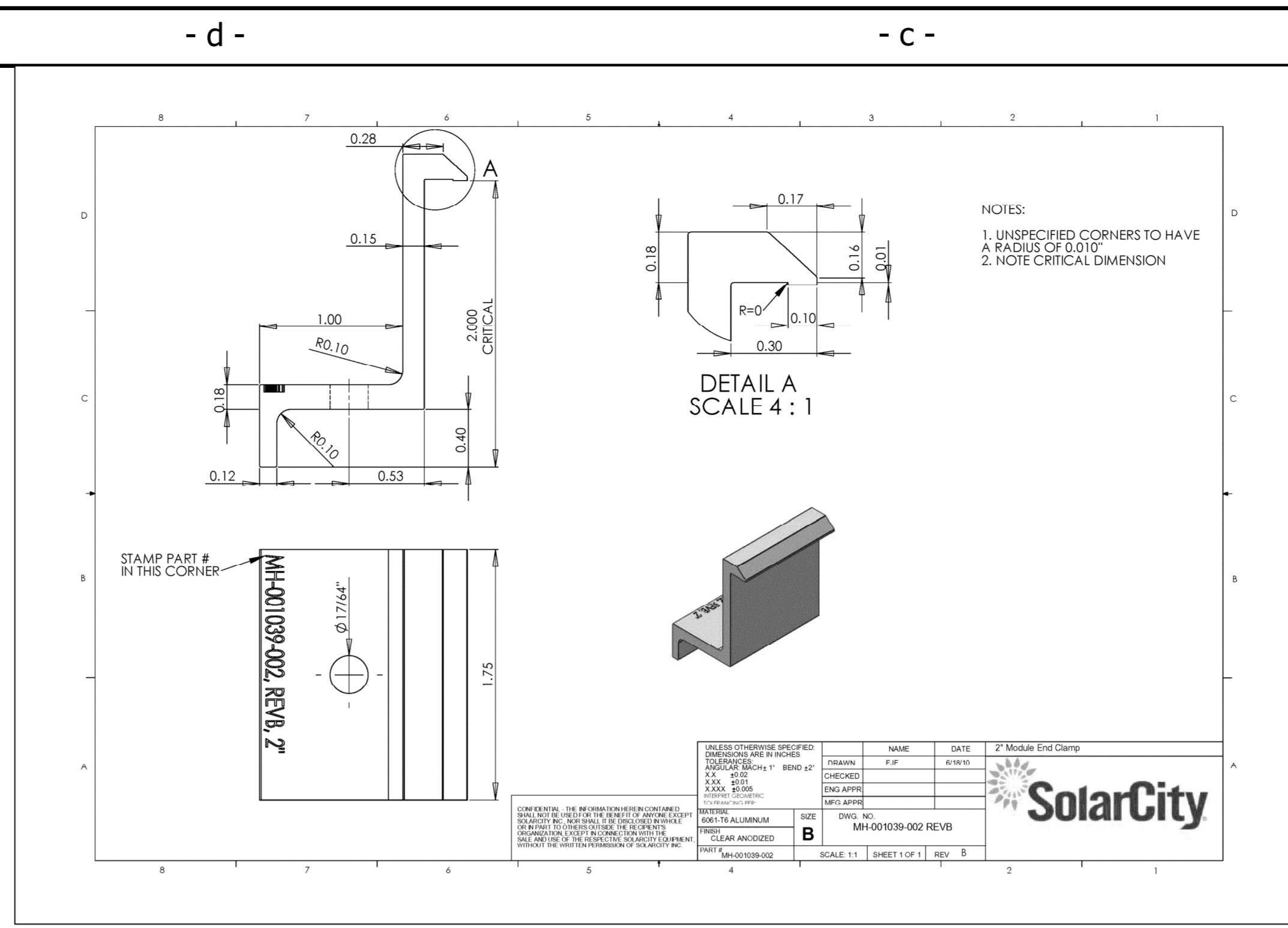
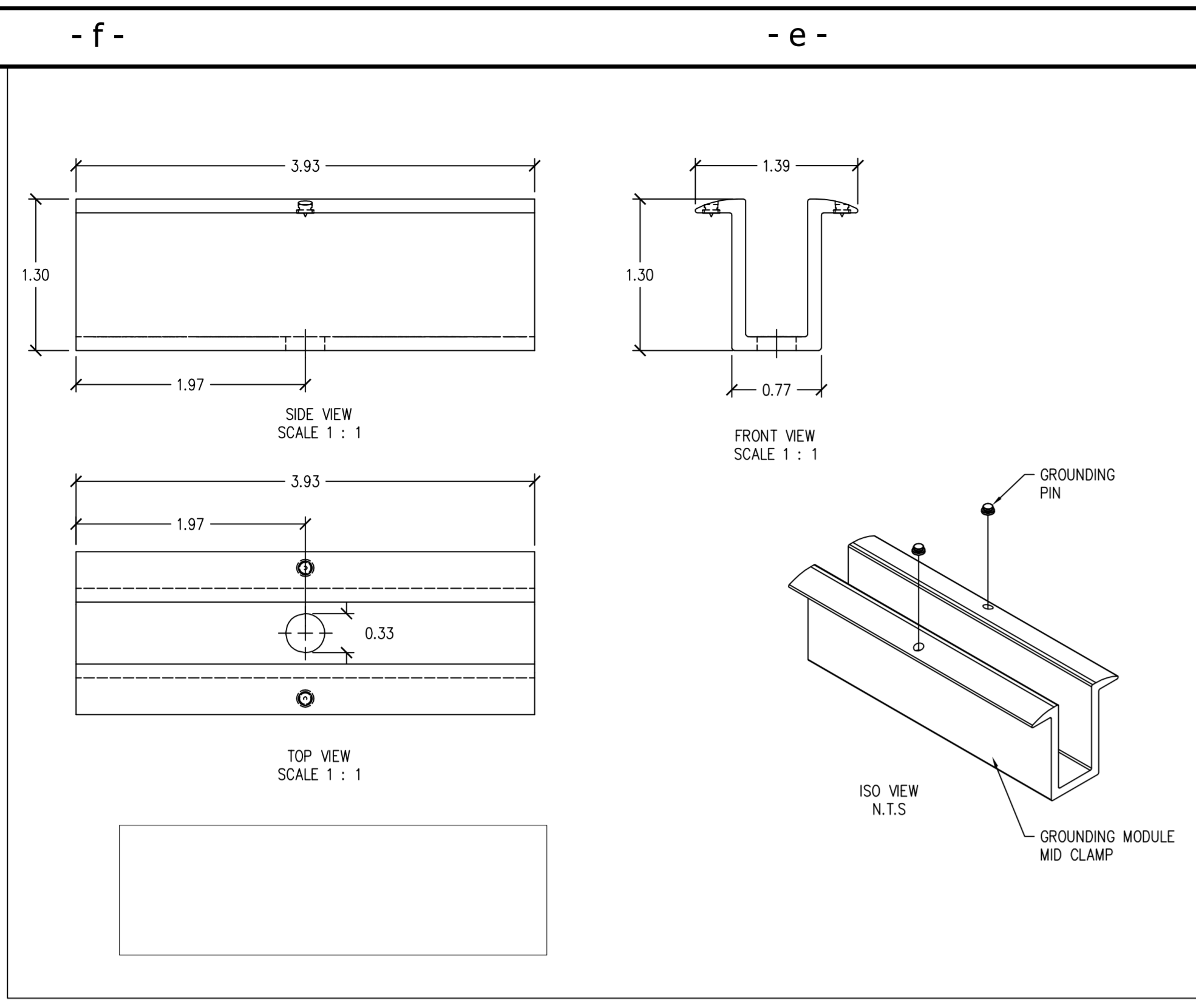


LEGEND

- (N) STRUCTURE POST
- (N) SOLAR MODULES
- (E) PREVIOUSLY APPROVED FIRE LANES REMAINING UNCHANGED
- (N) FIRE LANE BY NEW SOLAR STRUCTURE
- (E) FENCE
- (E) FIRE HYDRANT

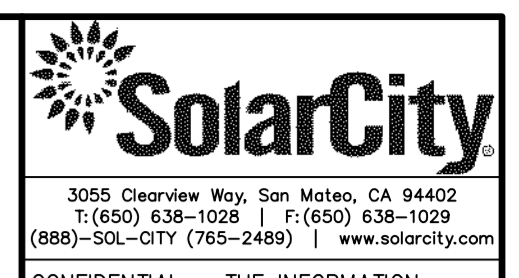
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2	21'-9"	162'-10"	3,541.62 SQ. FT.	196	47.04	A-3	02-112000
TOTAL				364	87.36		





FOR STRUCTURAL DETAILS, SEE PC PLANS PAGES FP1-FP4 & STRUCTURAL PAGES
 SUPPORT STRUCTURES: PC# 02-112000

FOUNDATIONS FOR MONTE VISTA ELEMENTARY SCHOOL:
 SOIL REPORT BY GLOBAL GEO-ENGINEERING, INC.; JOB NO.4639-04; DATED FEBRUARY 22, 2012. ADDITIONAL GEOTECHNICAL RECOMMENDATIONS BY GLOBAL GEO-ENGINEERING, INC.; JOB NO. 4639.04; DATED MARCH 22, 2012.
 DRILLED PIER FOOTING DESIGNS: ALLOWABLE LATERAL BEARING PRESSURE = 400 PSF/FT FOR DRILLED PIER FOOTINGS. THE ALLOWABLE LATERAL BEARING PRESSURE MAY BE MULTIPLIED BY TWO PER SECTION 1806A.3.4 AND THE SOILS REPORT SINCE THESE STRUCTURES ARE NOT ADVERSELY AFFECTED BY 1/4 INCH DEFLECTION. THE DRILLED PIER FOOTINGS ARE DESIGNED AS CONSTRAINED (SECTION 1807A.3.2.2, EQUATION 18A-2) WHERE PLACED IN CONCRETE PAVEMENT AREA AND AS UNCONSTRAINED (SECTION 1807A.3.2.2, EQUATION 18A-1 OR CZERNAK, WHICHEVER GOVERNS) WHEN PLACED IN DIRT OR ASPHALT AREAS.
 SPREAD FOOTING DESIGNS: SPREAD FOOTINGS SHALL BEAR ON COMPETENT NATIVE SOIL 2 FEET MINIMUM BELOW ADJACENT EXISTING GRADE. DESIGN SOIL BEARING VALUE = 2000 PSF. (DESIGN OF PRE-CHECK BASED ON 1500 PSF.)
 REFER TO SOILS REPORT FOR ADDITIONAL INFORMATION PRIOR TO COMMENCEMENT OF EARTHWORK. SOILS ENGINEER SHALL INSPECT FOUNDATION EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE.



3055 Cheyenne Way, San Mateo, CA 94402
 T: (650) 638-1028 | F: (650) 638-1029
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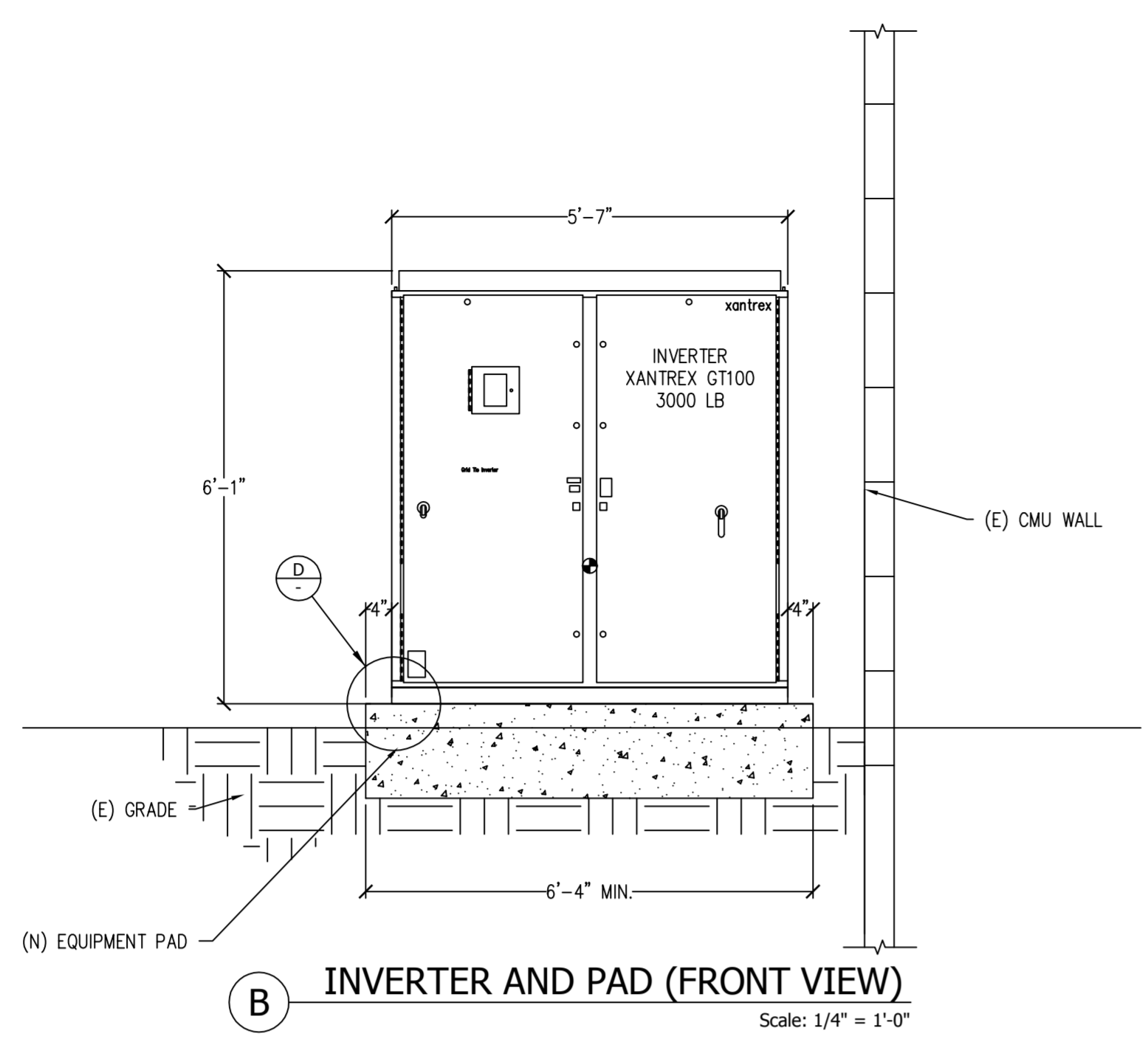
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CLIENT: GLENDALE USD - MONTE VISTA ELEMENTARY
 SYSTEM: 87.36 PV SYSTEM
 PROJECT: GLENDALE USD - MONTE VISTA ELEMENTARY
 ADDRESS: 2620 ORANGE AVE
 CITY: LA CRESCENTA, CA 91214
 PHONE: 8182413111

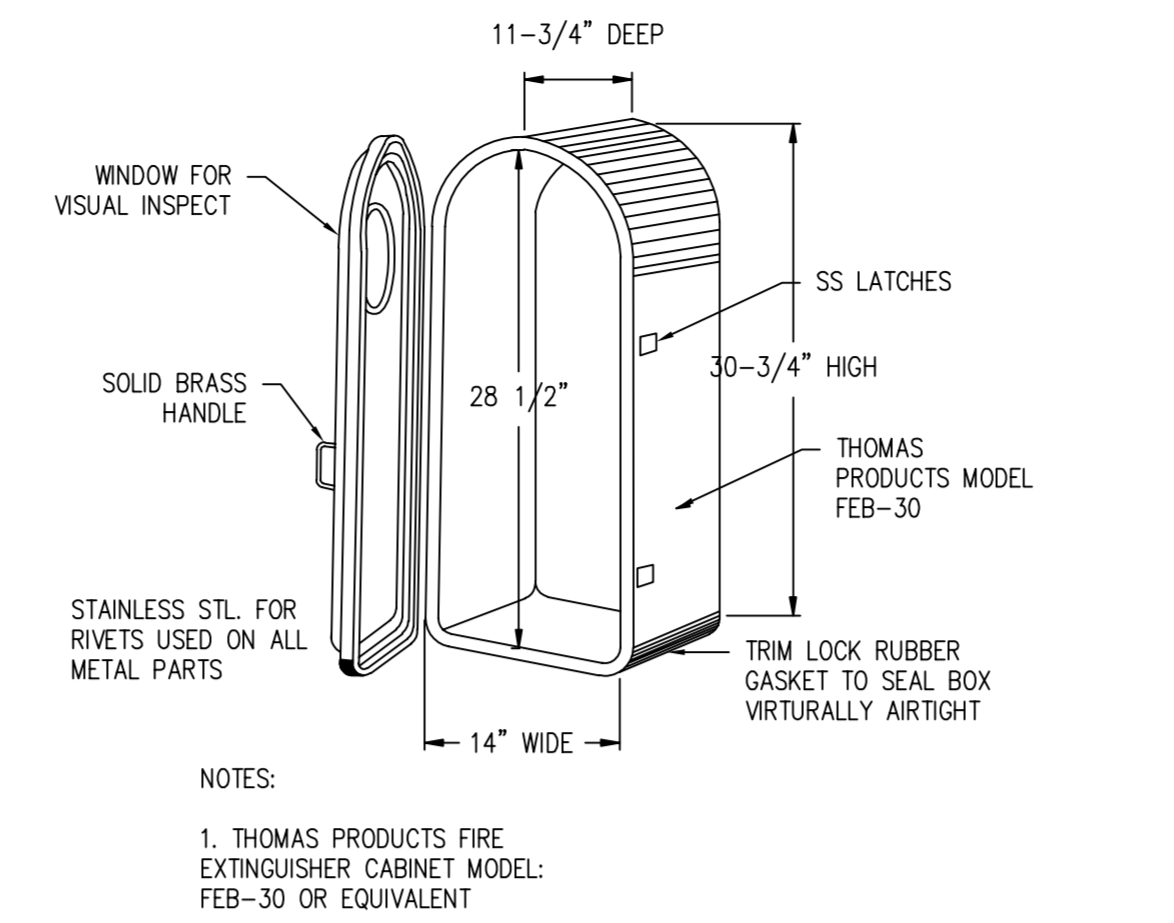
REVISIONS			
REV	BY	DATE	COMMENTS
1	ES	1/6/12	ISSUE FOR PERMIT

JOB DETAILS
 CITY: Los Angeles County (LA)
 MODEL: (364) YINGLI # YL240P-29b
 MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
 PERMIT: (1) XANTREX # CT100-208
 MARKER: GOV'T DESIGN: J TAYLOR
 ORDERED BY: ES
 DATE: 1/6/2012
 PAYMENT TYPE: CASH
 PROJECT NUMBER: D NAVARRO
 JOB NUMBER: JB-912047-00

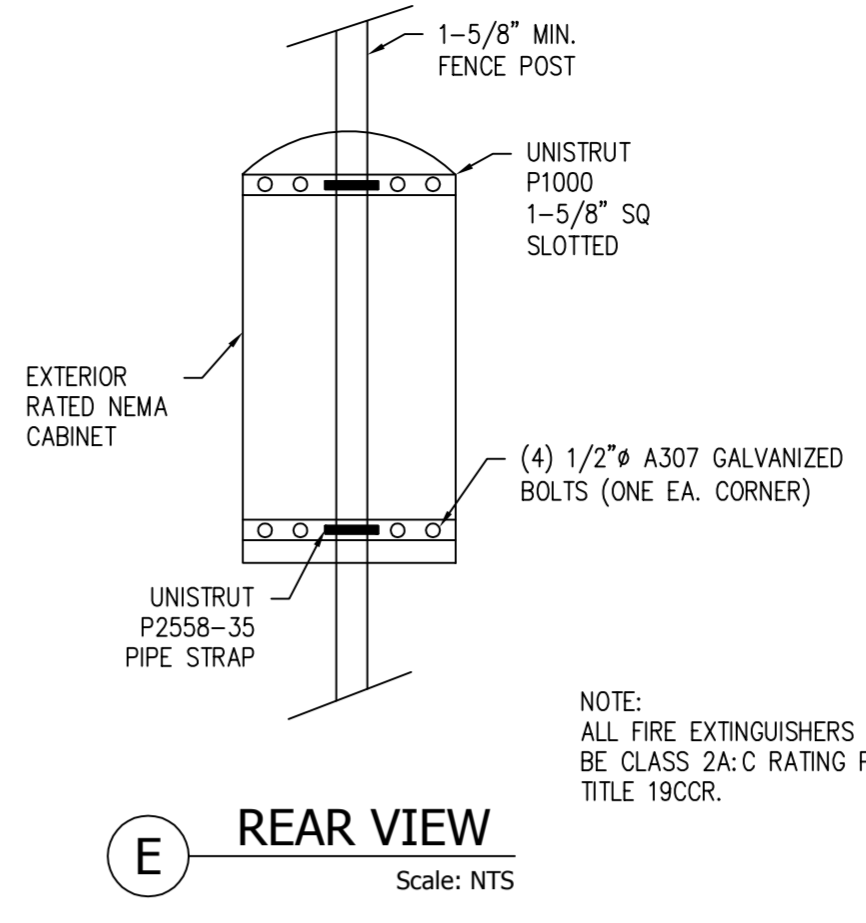
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 PAGE 3



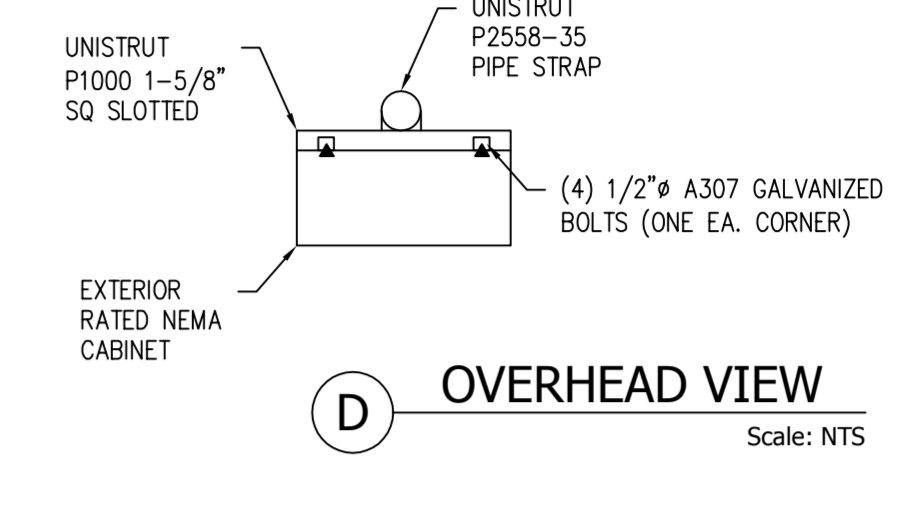
B INVERTER AND PAD (FRONT VIEW)
Scale: 1/4" = 1'-0"



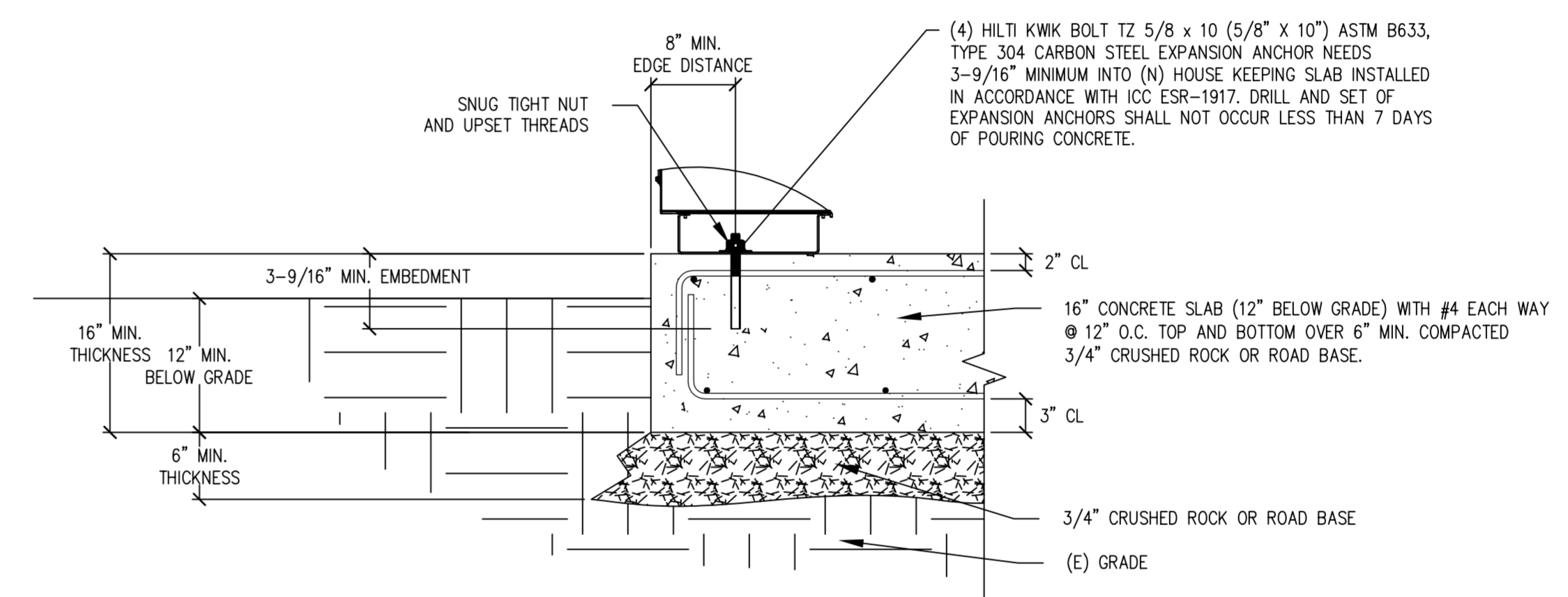
F NEMA EXTERIOR FIRE EXTINGUISHER CABINET
Scale: NTS



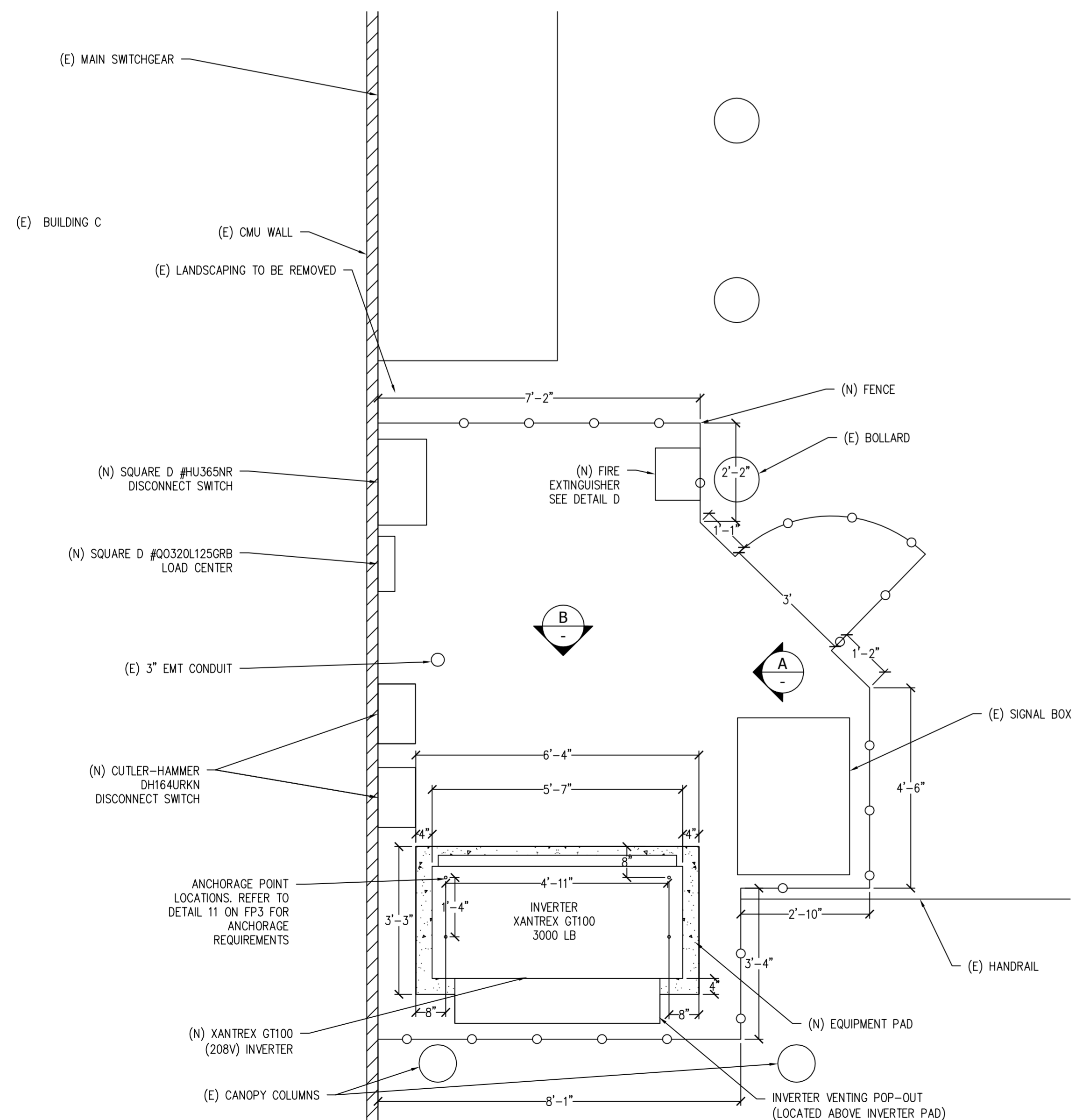
E REAR VIEW
Scale: NTS



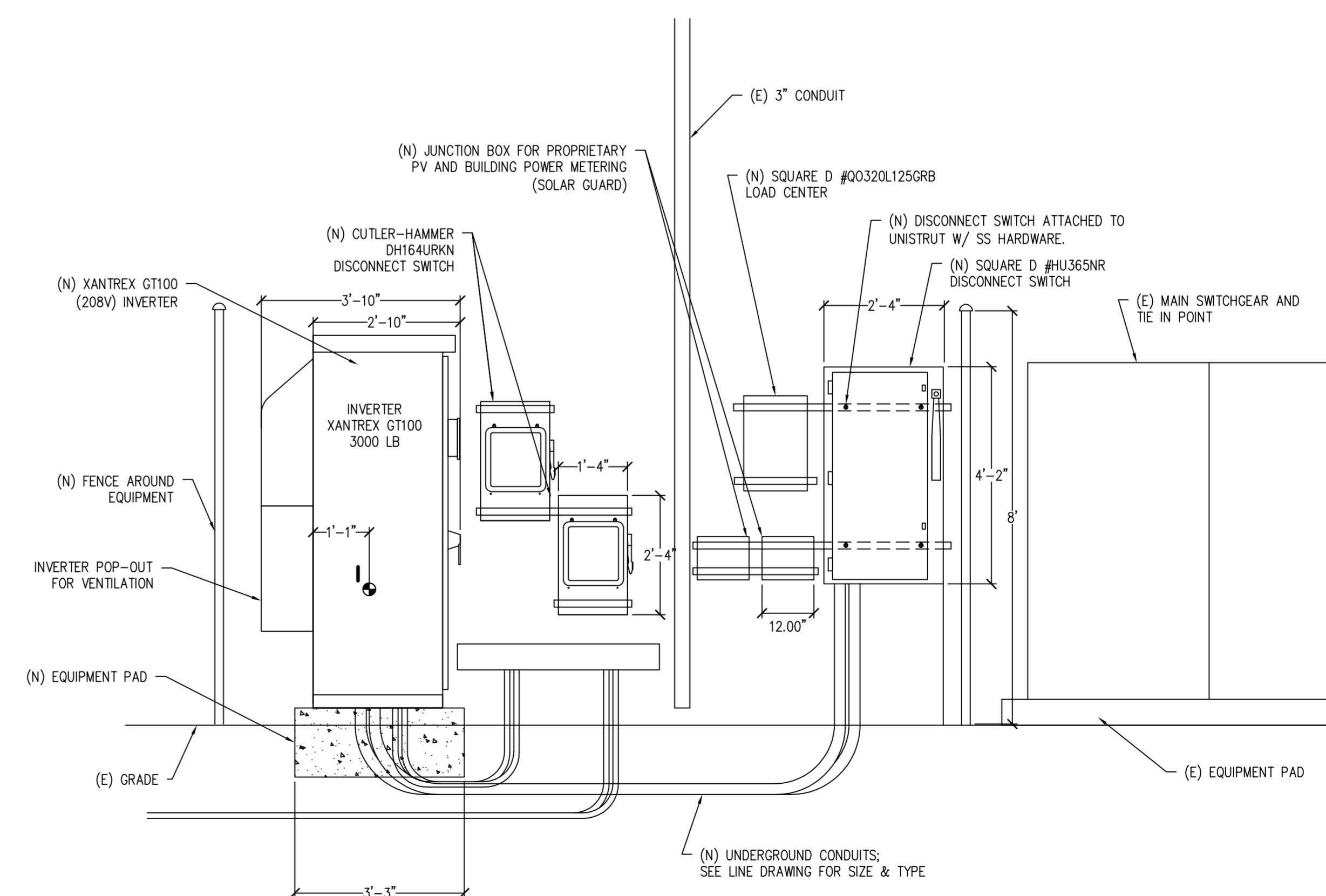
D OVERHEAD VIEW
Scale: NTS



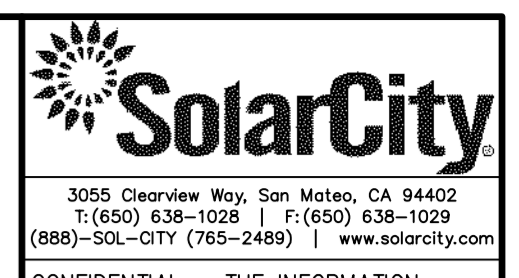
D ANCHOR DETAIL
Scale: 1/2" = 1'-0"



C ELECTRICAL EQUIPMENT PLAN VIEW
Scale: 1/4" = 1'-0"



A ELECTRICAL EQUIPMENT FRONT VIEW
Scale: 1/4" = 1'-0"



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GLENDALE USD - MONTE VISTA ELEMENTARY
87.36 PV SYSTEM

GLENDALE USD - MONTE VISTA ELEMENTARY
2620 ORANGE AVE
LA CRESCENTA, CA 91214
8182413111

REVISIONS			
REV	BY	DATE	COMMENTS
1	ES	1/6/12	

JOB DETAILS
 City: Los Angeles County (LA)
 MOJOS: (364) YINGLI # YL240P-29b
 MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
 PARTS: (1) XANTREX # GT100-208
 MARKED: DESIGN: J TAYLOR
 ORDERED BY: ES
 DATE: 1/6/2012
 PAYMENT TYPE: CASH
 PROJECT NUMBER: D NAVARRO
 JOB NUMBER: JB-912047-00



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REVISIONS: GLENDALE USD - MONTE VISTA ELEMENTARY
87.36 PV SYSTEM
CORNER: GLENDALE USD - MONTE VISTA ELEMENTARY
2620 ORANGE AVE
LA CRESCENTA, CA 91214
8182413111

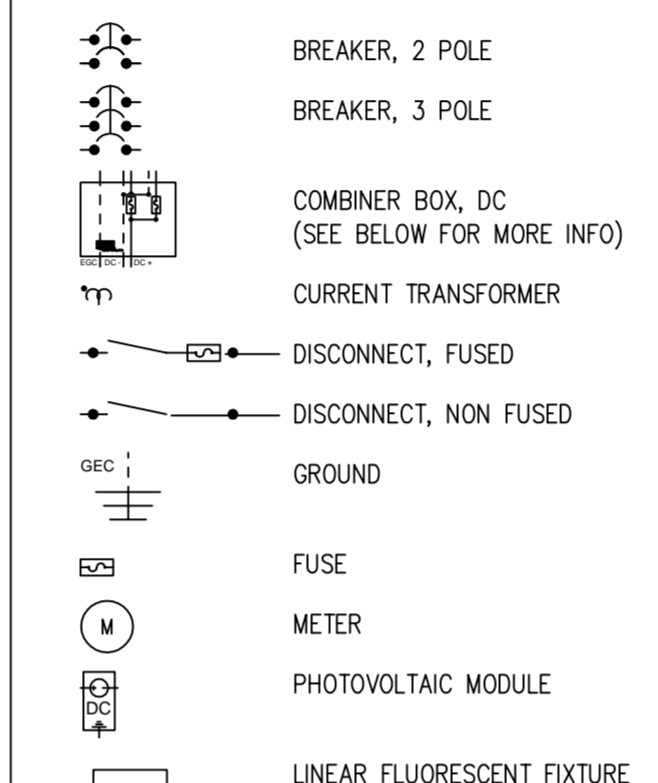
ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL COMPLY WITH THE 2008 NATIONAL ELECTRIC CODE AS AMENDED BY THE 2010 CALIFORNIA ELECTRIC CODE.
 - EACH UNGROUNDED CONDUCTOR OF THE MULTIWIRE BRANCH CIRCUIT WILL BE IDENTIFIED BY PHASE AND SYSTEM PER ART 210.5.
 - A NATIONALLY-RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH ART 110.3.
 - CIRCUITS OVER 250V TO GROUND SHALL COMPLY WITH ART. 250.97, 250.92(B).
 - DC CONDUCTORS INSIDE BUILDING SHALL BE IN METALLIC RACEWAY PER ART 690.31(E).
 - ALL ABOVE GROUND CONDUIT SHALL BE EMT WITH RAINTIGHT FITTINGS, ALL CONDUIT EXPOSED TO VEHICULAR DAMAGE SHALL BE RMC. ALL BELOW GROUND CONDUIT SHALL BE SCHEDULE 40 PVC.
 - ALL WIRES SHALL BE PROVIDED WITH STRAIN RELIEF AT ALL ENTRY INTO BOXES AS REQUIRED BY UL LISTING.
 - INSTALLATION SHALL COMPLY WITH ART. 250.52, 250.53.
 - INSTALL PARALLEL CONDUCTORS PER ART 310.4.
 - ALL VALUES FOR IMP AND ISC AND VMP ARE MANUFACTURER'S LISTED DATA UNCORRECTED BY NEC.
 - REFER TO CURRENT MANUFACTURER'S PLANNING AND INSTALLATION MANUAL FOR TORQUE SPECS FOR ALL BOLTS AND TERMINAL CONNECTIONS.
 - DC STRING CIRCUITS SHALL BE RUN IN OUTDOOR AMBIENT CONDITIONS.
 - PV INVERTER CONTAINS INTEGRATED AC AND DC DISCONNECTS AND GFDI.
 - BURIED CONDUCTORS SHALL BE BURIED TO THE MINIMUM DEPTH SPECIFIED IN ART. 300.50.
 - ALL CONDUCTORS ARE COPPER UNLESS NOTED OTHERWISE.
- GROUNDING NOTES**
- SINGLE-CONDUCTOR CABLE USED AS A GROUNDED CONDUCTOR IN PHOTOVOLTAIC POWER SYSTEMS SHALL BE IDENTIFIED AT THE TIME OF INSTALLATION BY DISTINCTIVE WHITE MARKING AT ALL TERMINATIONS.
 - THE DC GEC SHALL BE CONTINUOUS FROM THE INVERTER GROUND BUSBAR TO THE MAIN ELECTRICAL SERVICE GROUNDING ELECTRODE SYSTEM. THE DC GEC SHALL BE ATTACHED TO THE GROUND ELECTRODE USING AN IRREVERSIBLE MEANS AS CALLED OUT IN ART. 250.64 AND 690.47.
 - PV INVERTER CONTAINS AN INTEGRATED GFDI CIRCUIT. DO NOT BOND THE GROUNDED DC CONDUCTOR TO GROUND EXCEPT THROUGH THE INVERTER GFDI.
 - ALL EXPOSED METAL PARTS (RAIL, PIPE, BOXES, ETC) SHALL BE GROUNDED USING PROPER GROUNDED METHODS APPROVED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.
 - #10 BARE COPPER EGC AT SOURCE CIRCUITS SHALL BE ROUTED SECURELY TO MOUNTING HARDWARE IN A MANNER THAT PROTECTS FROM PHYSICAL HARM.
 - FERROUS METAL RACEWAYS ENCLDING GEC CONDUCTORS SHALL BE ELECTRICALLY CONTINUOUS OR BONDED IN ACCORDANCE WITH ART. 250.64(E).
 - MODULE FRAMES, RAIL, AND POSTS SHALL BE BONDED WITH EQUIPMENT GROUND CONDUCTORS AND GROUNDED AT THE MAIN ELECTRIC PANEL.
 - BOTH ENDS OF ALL METALLIC CONDUIT CONTAINING GROUNDING ELECTRODE CONDUCTORS SHALL BE BONDED PER ART 250.64(E).
 - GROUNDING ELECTRODE CONDUCTOR TO BE BONDED TO (E) UFER PER ART 250.30(A)(4)(A).
 - DC GROUNDING ELECTRODE CONDUCTOR SIZED PER ART 250.166(D).

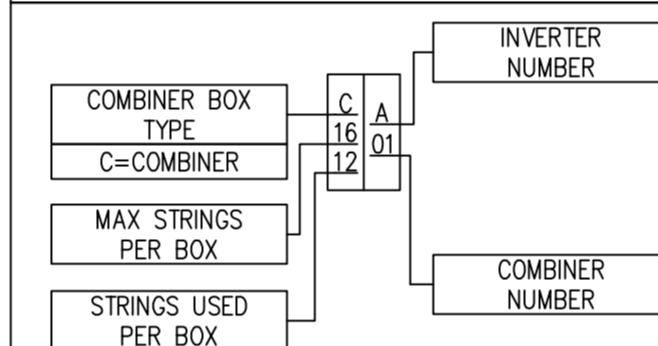
ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
BLDG	BUILDING
CONC	CONCRETE
C	COMBINER BOX
D	DISTRIBUTION PANEL
DC	DIRECT CURRENT
EGC	EQUIPMENT GROUNDING CONDUCTOR
(E)	EXISTING
EMT	ELECTRICAL METALLIC TUBING
G	SOLAR GUARD METER
GALV	GALVANIZED
GEC	GROUNDING ELECTRODE CONDUCTOR
GFDI	GROUND FAULT DETECTOR INTERRUPTOR
GND	GROUND
HDG	HOT DIPPED GALVANIZED
I	CURRENT
Imp	CURRENT AT MAX POWER
INVS	INVERTERS
Isc	SHORT CIRCUIT CURRENT
kVA	KILOVOLT AMPERE
kW	KILOWATT
LBW	LOAD BEARING WALL
MIN	MINIMUM
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
P	PANEL BOARD
PL	PROPERTY LINES
PV	PHOTOVOLTAIC
PVC	POLYVINYL CHLORIDE
S	SUBPANEL
SCH	SCHEDULE
SS	STAINLESS STEEL
SSD	SEE STRUCTURAL DRAWINGS
STC	STANDARD TESTING CONDITIONS
SWH	SOLAR WATER HEATER
TYP	TYPICAL
UN	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
Vmp	VOLTAGE AT MAX POWER
Voc	VOLTAGE AT OPEN CIRCUIT
W	WATT
3R	NEMA 3R, RAIN/TIGHT

LEGEND



COMBINER BOX NUMBERING SYSTEM



MODULE CHARACTERISTICS

YINGLI YL240P-29b
 Voc = 37.5 V
 Vmp = 29.5 V
 Isc = 8.65 A
 Imp = 8.14 A
 Trvoc = -0.14%/C
 Tlow = 1 °C (FROM ASHRAE TABLE)

INDEX

- E1 ELECTRICAL NOTES
- E2 ELECTRICAL SITE PLAN
- E3 ELECTRICAL SECTION VIEWS
- E4 LINE DRAWING
- E5 STRING DIAGRAMS
- E6 MONITORING DETAILS
- E7 ELECTRICAL DETAILS
- E8 SIGNAGE
- E9 LIGHTING DIAGRAM
- E10 TITLE 24 COMPLIANCE

SYSTEM COMPONENTS:

- (364) YINGLI YL240P-29b PHOTOVOLTAIC MODULES CONFIGURED INTO (26) SERIES STRINGS OF (14) MODULES PER STRING
- (1) XANTREX GT100-208V 34 GRD TIE INVERTER

TEMP DATA

ASHRAE EXTREME ANNUAL DRY BULB MEAN MINIMUM TEMPERATURE = 1° C
 ASHRAE 2% DRY BULB = 35° C
 (BURBANK-GLENDALE-PASADENA AP, CA)

MAX SYSTEM VOC CALCULATIONS

LOWEST EXPECTED AMBIENT TEMPERATURE FOR LA CRESCENTA, CA = 1° C
 MAX VOLTAGE = # OF MODULES/STRING X (MODULE Voc - (Tsite-Tstandard_low) X Trvoc)
 MAX VOC = 37.5 VDC - (25° C - 1° C) * -0.14 = 37.5 - -3.38 = 40.88 VDC
 MAX SYSTEM VOC = 40.88 VDC * 14 MODULES IN SERIES = 572.04 VDC

ENGINEER OF RECORD

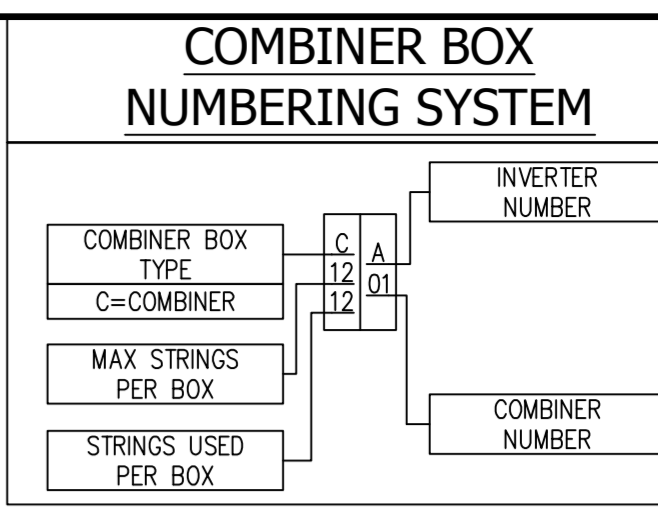
CARL BURATTI
 BURATTI & ASSOCIATES, INC.
 6345 BALBOA BLVD, STE 259
 ENCINO, CA 91316
 TEL: (818) 345-7130
 FAX: (818) 345-7129
 EMAIL: carl@buratti-pe.com

REV	BY	DATE	COMMENTS
REV A	BY	1/6/12	

JOB DETAILS

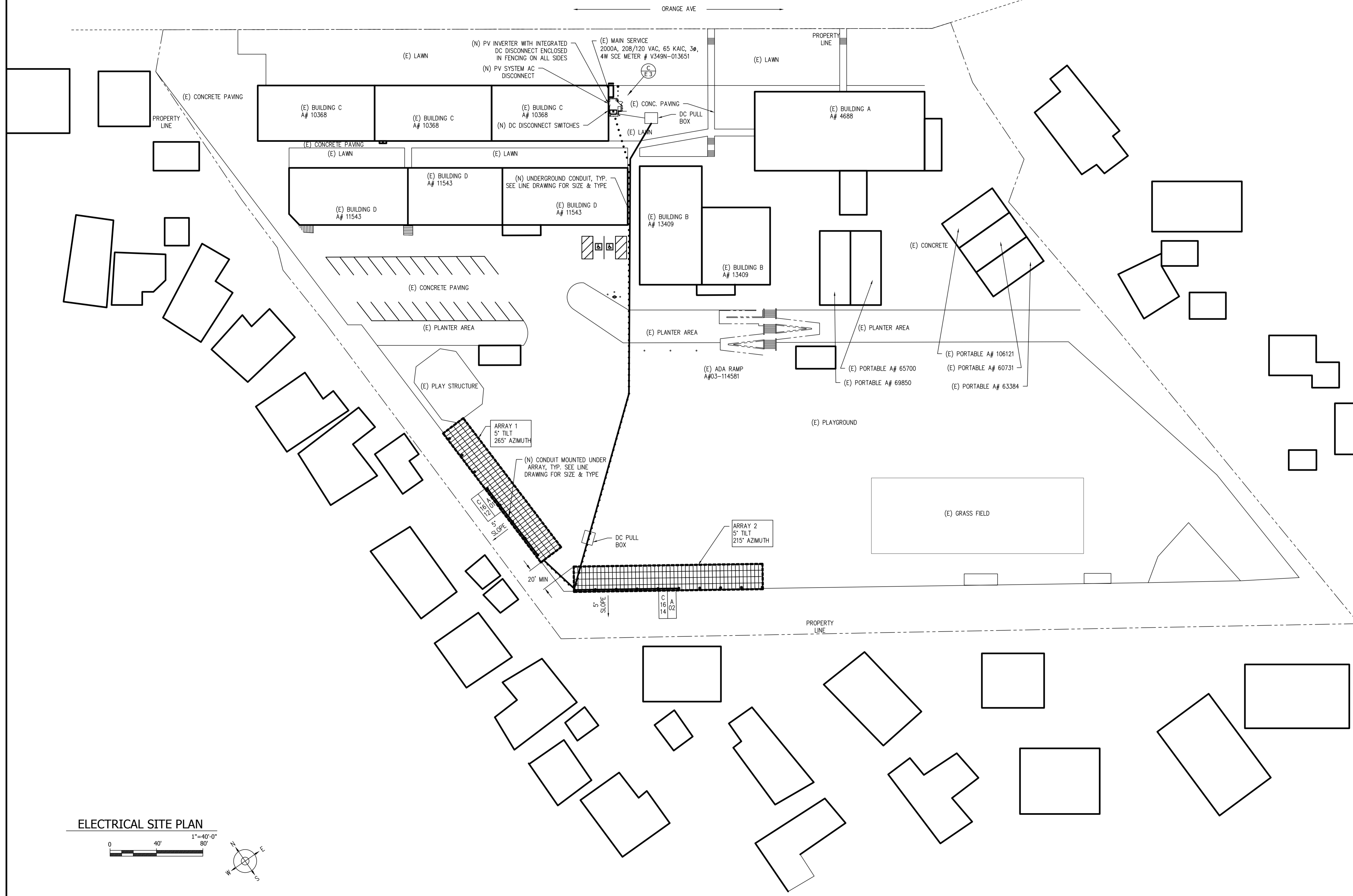
City: Los Angeles County (LA)
 PROJECT: (364) YINGLI # YL240P-29b
 MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
 INVERTER: (1) XANTREX # GT100-208
 MARKS: DESIGN: J TAYLOR
 DIVIDED BY: ES
 DATE: 1/6/2012
 PAYMENT TYPE: CASH
 PAGE NAME: ELECTRICAL NOTES
 PROJECT MANAGER: D NAVARRO
 JOB NUMBER: JB-912047-00

- f - - e - - d - - c - - b - - a -



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CLIENT: GLENDALE USD - MONTE VISTA ELEMENTARY
 87.36 PV SYSTEM

OWNER: GLENDALE USD - MONTE VISTA ELEMENTARY
 2620 ORANGE AVE
 LA CRESCENTA, CA 91214
 8182413111

REVISIONS

REV	BY	DATE	COMMENTS
1	ES	1/6/2012	ISSUED FOR PERMITS

JOB DETAILS

APL: Los Angeles County (LA)

MOBILES: (364) YINGLI # YL240P-29b

MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES

PERMITS: (1) XANTREX # CT100-208

MARKET: DESIGN: J TAYLOR

GOV'T ORDERED BY: ES

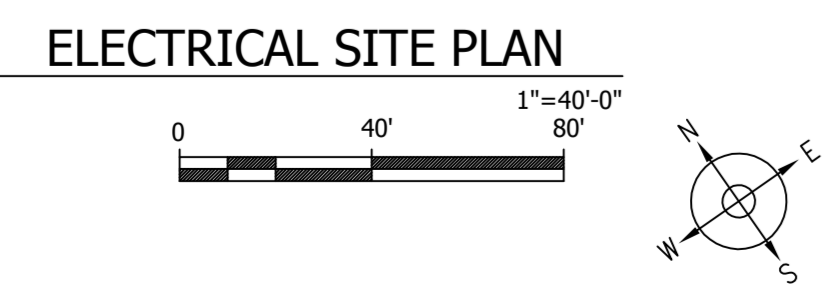
DATE: 1/6/2012 PAYMENT TYPE: CASH

PROJECT NAME: ELECTRICAL SITE PLAN PROJECT MANAGER: D NAVARRO

JOB NUMBER: JB-912047-00

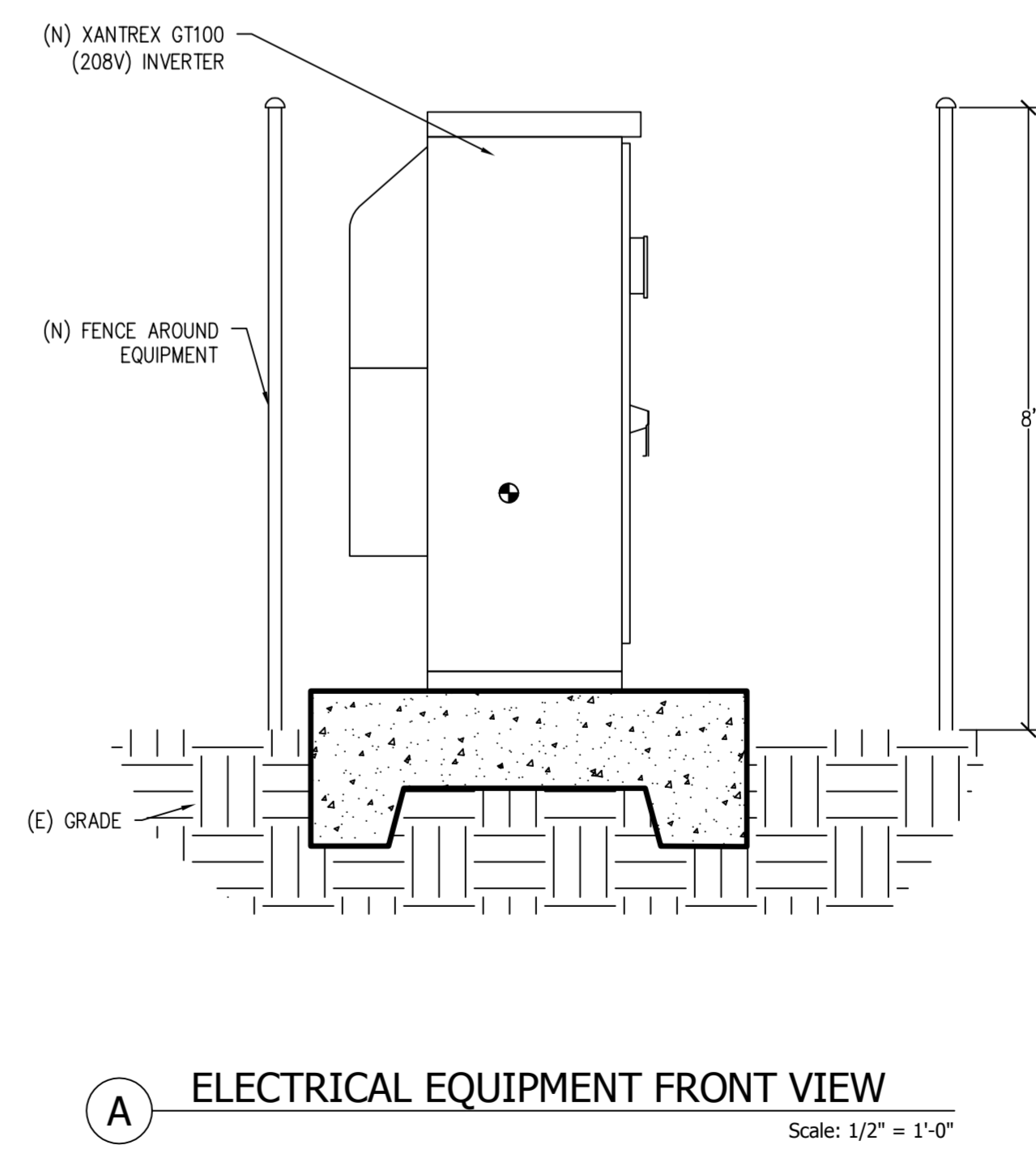
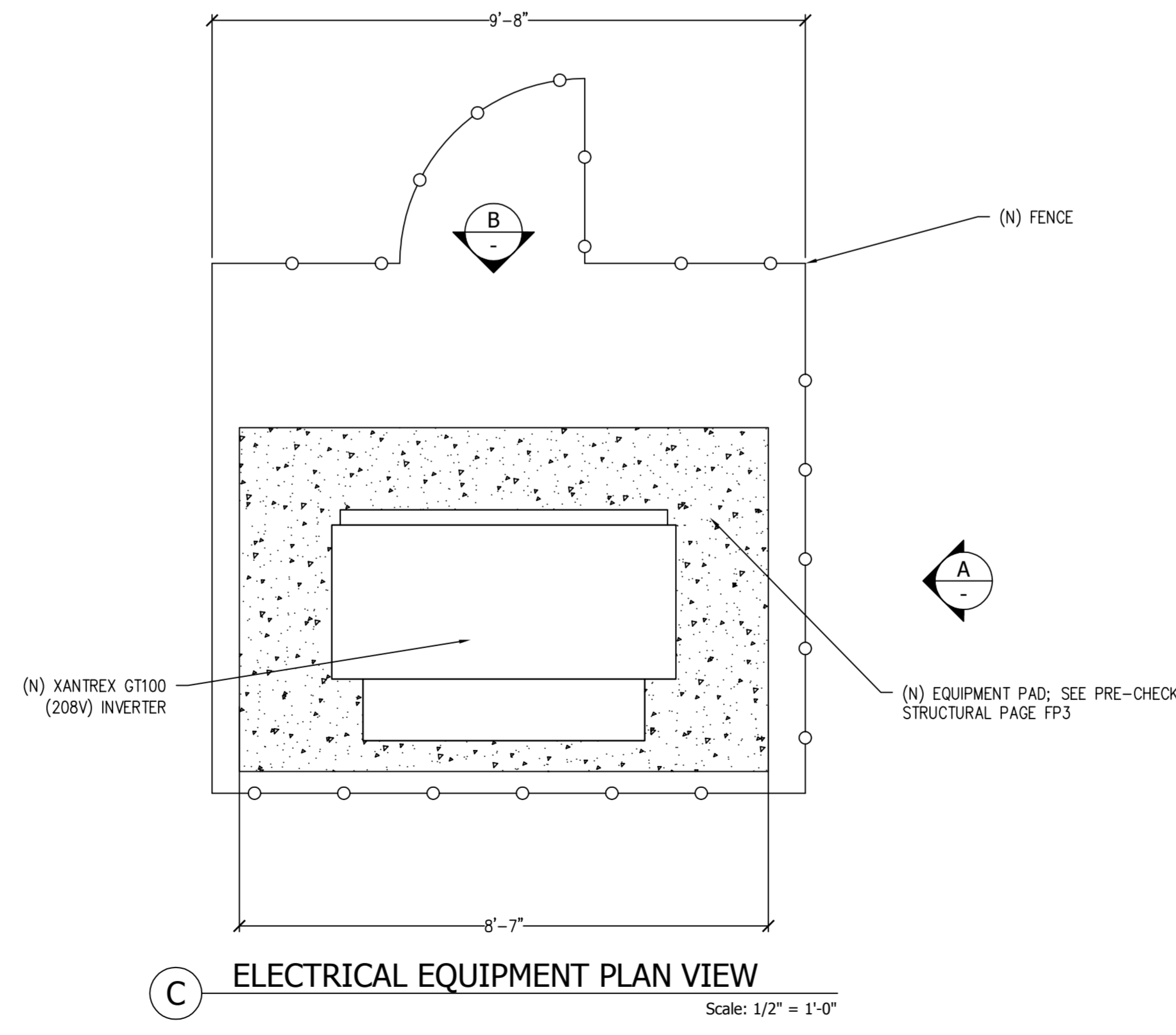
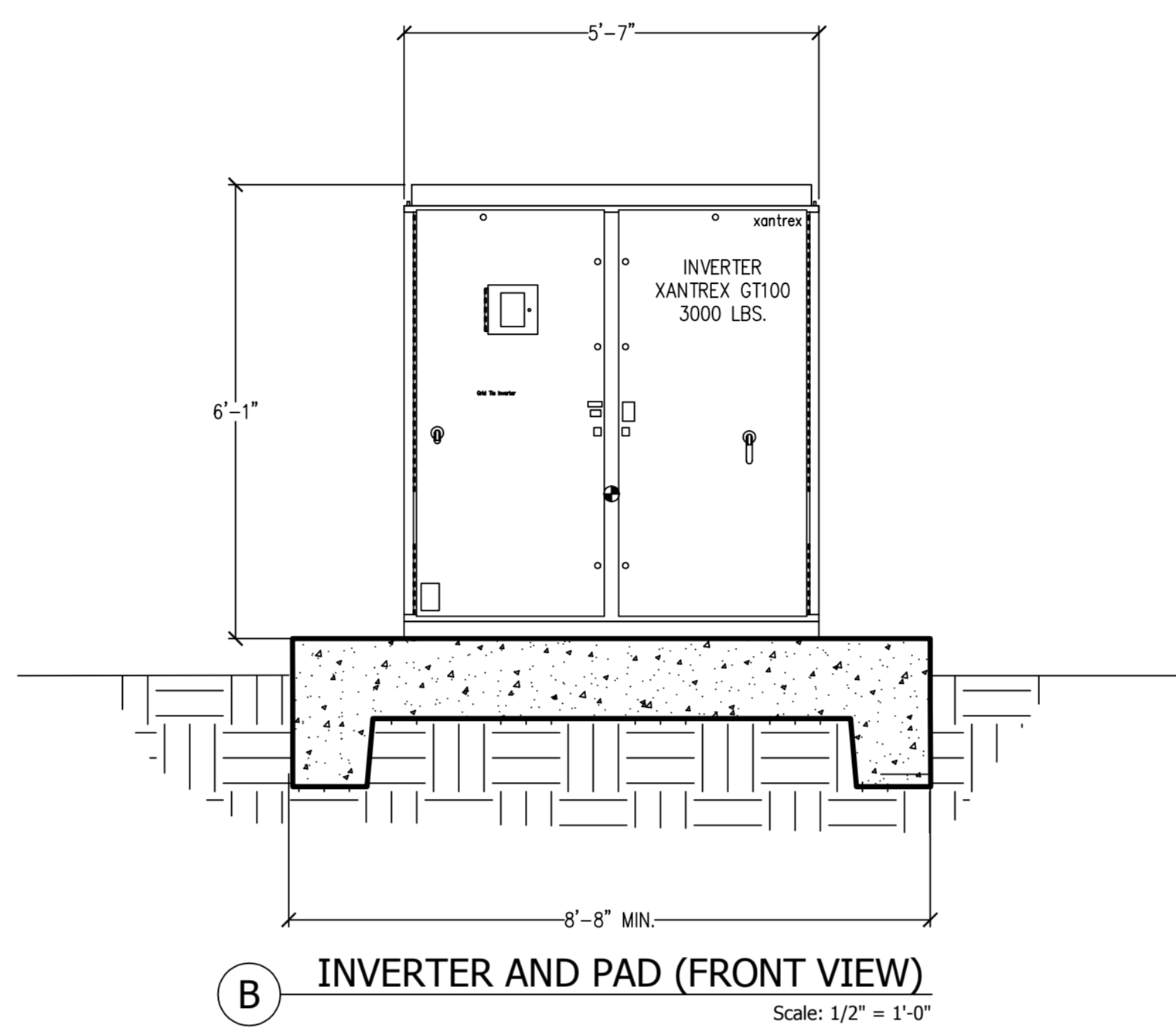
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PAGE: E 2 REV:



- f - - e - - d - - c - - b - - a -

FOR STRUCTURAL DETAILS, SEE PC PLANS PAGE FP3 FOR EQUIPMENT PAD DETAILS



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OWNER: GLENDALE USD - MONTE VISTA ELEMENTARY
87.36 PV SYSTEM
CONTRACTOR: GLENDALE USD - MONTE VISTA ELEMENTARY
2620 ORANGE AVE
LA CRESCENTA, CA 91214
8182413111

REVISIONS		
REV	BY	DATE
1	ES	1/6/2012

JOB DETAILS
 CITY: Los Angeles County (LA)
 MOUDES: (364) YINGLI # YL240P-29b
 MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
 INVERTER: (1) XANTREX # GT100-208
 MARKET: DESIGN: J TAYLOR
 ORDERED BY: ES
 DATE: 1/6/2012
 PAYMENT TYPE: CASH
 PAGE NAME: PROJECT MANAGER
 ELECTRICAL SECTION VIEWS D NAVARRIO
 JOB NUMBER: JB-912047-00

AS-BUILT
 PHASE: E 3
 REV:

LEGEND

- BREAKER, 2 POLE
- BREAKER, 3 POLE
- COMBINER BOX, DC (SEE BELOW FOR MORE INFO)
- CURRENT TRANSFORMER
- DISCONNECT, FUSED
- DISCONNECT, NON FUSED
- GROUND
- FUSE
- METER
- PHOTOVOLTAIC MODULE

MODULE CHARACTERISTICS

YINGLI YL-240P-296

Voc = 37.5 V
Vmp = 29.5 V
Isc = 8.65 A
Imp = 8.14 A
Tkvoc = -139V/C
Tlow = 1 °C (ASHRAE DATA)

MONTE VISTA ELEMENTARY SCHOOL - GLENDALE SCHOOL DISTRICT
87.36 KW

SYSTEM COMPONENTS:

- (364) YINGLI YL-240P-296 PHOTOVOLTAIC MODULES CONFIGURED INTO (20) SERIES STRINGS OF (14) MODULES PER STRING
- (1) XANTREX GT100-208V GRID TIED INVERTER

COMBINER BOX NUMBERING SYSTEM

COMBINER BOX TYPE
C=COMBINER

MAX STRINGS PER BOX

STRINGS USED PER BOX

INVERTER NUMBER

COMBINER NUMBER

SHEET NOTES

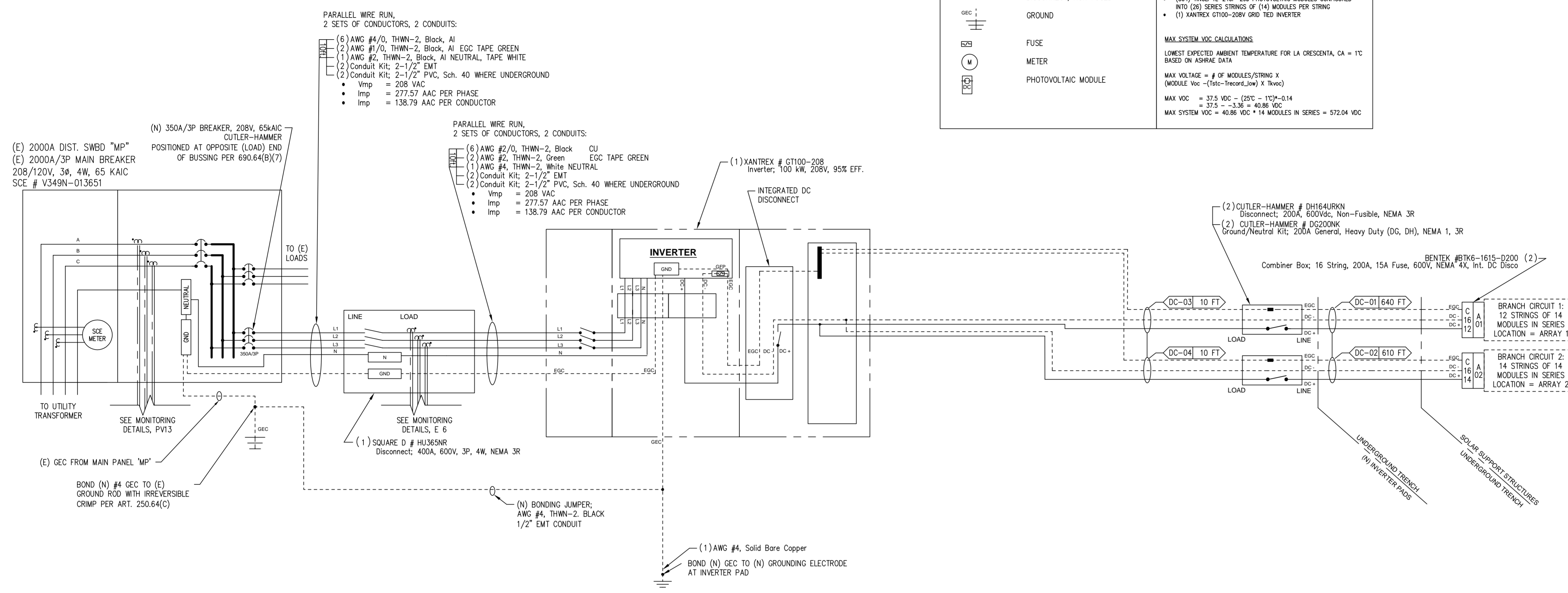
INTERCONNECTION NOTES

- LOAD SIDE CONNECTION SHALL BE MADE VIA A DEDICATED CIRCUIT BREAKER IN CONFORMANCE WITH ARTICLE 690.64(B)
- PROVIDE A PLACARD ON THE AC DISCONNECT SWITCH WITH THE FOLLOWING INFORMATION IN 1/4" HIGH LETTERING PER NEC 690-54 (SEE LABEL #2, PV1); **CAUTION - POSSIBLE BACKFEED FROM PHOTOVOLTAIC POWER SYSTEM: VNOM = 208 VAC Inom = 2077.6 AAC**
- PROVIDE A PLACARD ON THE DC DISCONNECT SWITCHES WITH THE FOLLOWING INFORMATION IN 1/4" HIGH LETTERING PER NEC 690-53 (SEE LABEL #3, L-PV1):
FOR BRANCHES 1-2:
**PHOTOVOLTAIC POWER SOURCE DISCONNECT
OPERATING CURRENT: 105.82 ADC
OPERATING VOLTAGE: 413 VDC
MAXIMUM SYSTEM VOLTAGE: 525 VDC
SHORT-CIRCUIT CURRENT: 112.45 ADC**
- PROVIDE A SIGN ON DC DISCONNECTS PER ART 690.17 THAT SHALL READ:
WARNING ELECTRIC SHOCK HAZARD. DO NOT TOUCH TERMINALS. TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.



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87.36 PV SYSTEM
GLENDALE USD - MONTE VISTA ELEMENTARY
2620 ORANGE AVE
LA CRESCENTA, CA 91214
8182413111



- ### NOTES:
- ALL CIRCUITS ARE ADEQUATELY SIZED FOR TEMPERATURE & CONDUIT FILL DERATE SO THAT ANY (2) OR (3) CIRCUITS CAN BE ROUTED TOGETHER IN (1) CONDUIT, PROVIDED THE CONDUIT IS UPSIZED TO ACCOMMODATE.
 - (1) AWG #4 THWN-2 CU EGC MUST BE ROUTED IN EACH CONDUIT
 - FOR CIRCUITS WHERE THE CONDUCTORS HAVE BEEN UPSIZED DUE TO VOLTAGE DROP LARGER THAN THE TERMINALS OF THE DEVICES WILL ALLOW, A JUNCTION BOX MUST BE INSTALLED NEAR EACH DEVICE WITH LISTED SPLICES AND/OR CONNECTORS. THE CONDUCTORS MUST TRANSITION TO THE LARGEST CONDUCTOR THE TERMINALS WILL ALLOW PRIOR TO ENTERING THE DEVICE.
 - USE PVC SCH-40 WHERE CONDUIT IS TO BE BURIED
 - USE RMC WHERE CONDUIT IS SUBJECT TO PHYSICAL DAMAGE FROM VEHICLES
 - USE RMC BETWEEN SUPPLY SIDE CONNECTION AND PV UTILITY DISCONNECT.
 - ALL WIRING TO/FROM ARRAY PANELS SHALL BE IN WATER TIGHT CONDUIT, TYPICAL

DC FEEDER SCHEDULE

TAG	C SIZE	C TYPE	#	W SIZE	WIRE TYPE	Voc	Vmp	Isc	Imp	TEMP	FILL	Vdrop
DC-01	2-1/2"	EMT	2	500 KCMIL	THWN-2 AL	525	413	103.80	97.68	96%	100%	1.24%
		PVC-S40 RMC	1	#4	THWN-2 AL							
DC-02	2-1/2"	EMT	2	500 KCMIL	THWN-2 AL	525	413	121.10	113.96	96%	100%	1.38%
		PVC-S40 RMC	1	#4	THWN-2 AL							
DC-03	2"	EMT	2	#3/0	THWN-2 CU	525	413	103.80	97.68	96%	100%	0.04%
		PVC-S40	1	#6	THWN-2 CU							
DC-04	2"	EMT	2	#3/0	THWN-2 CU	525	413	121.10	113.96	96%	100%	0.04%
		PVC-S40	1	#6	THWN-2 CU							

(A) LINE DRAWING 1 OF 4

REVISIONS

REV	BY	DATE	COMMENTS

JOB DETAILS

City: Los Angeles County (LA)

PROJECT: (364) YINGLI # YL240P-296

INSTALLATION: STEEL SUPPORT STRUCTURES

INVERTER: (1) XANTREX # GT100-208

MARKET: GOVT DESIG: J TAYLOR

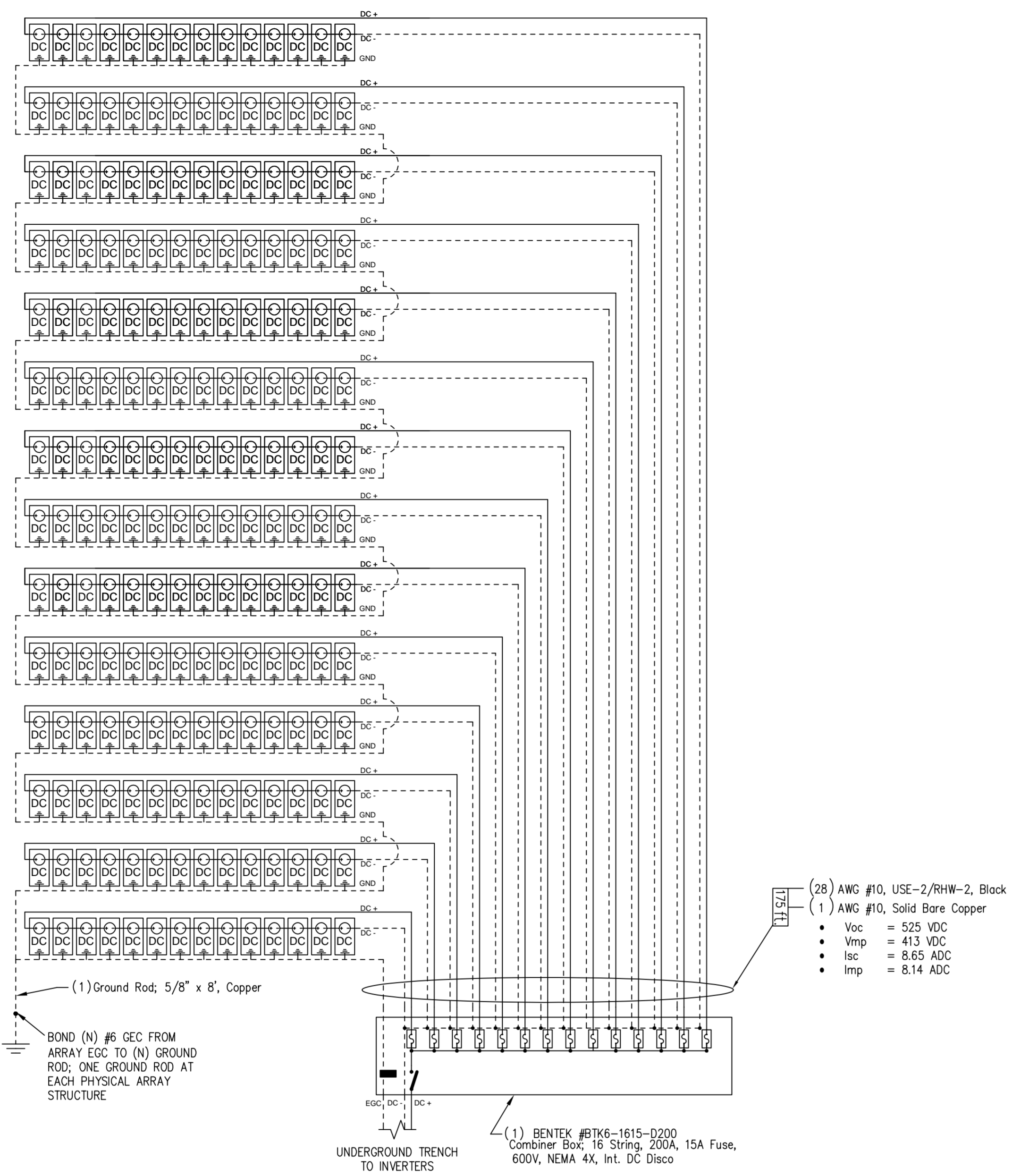
ORDERED BY: ES

DATE: 1/6/2012 PAYMENT TYPE: CASH

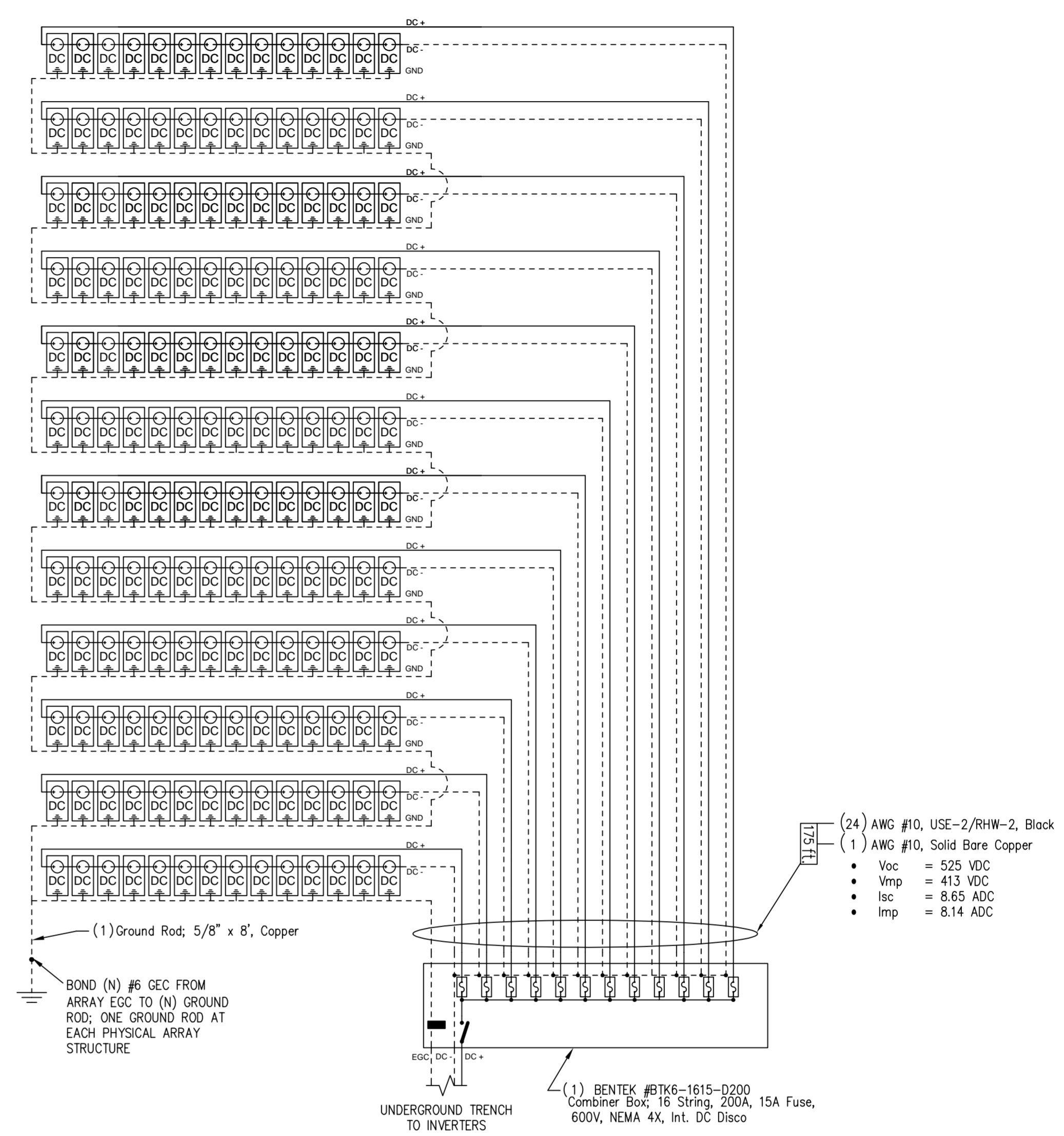
PAGE NAME: LINE DRAWING PROJECT MANAGER: D NAVARRO

JOB NUMBER: JB-912047-00

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C LINE DRAWING 3 OF 4: 14 STRING BRANCH CIRCUIT, BRANCH 2



B LINE DRAWING 2 OF 4: 12 STRING BRANCH CIRCUIT, BRANCH 1



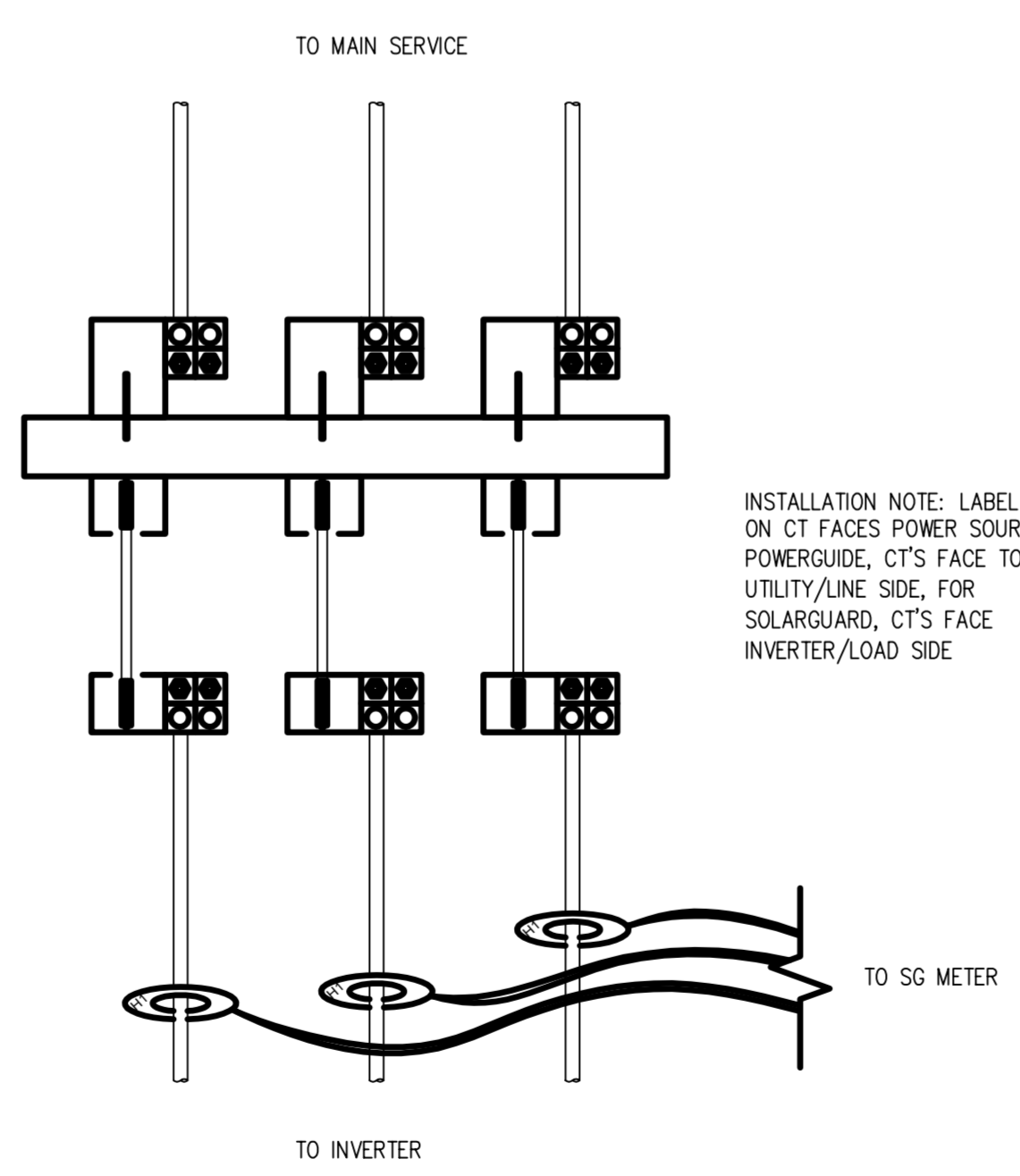
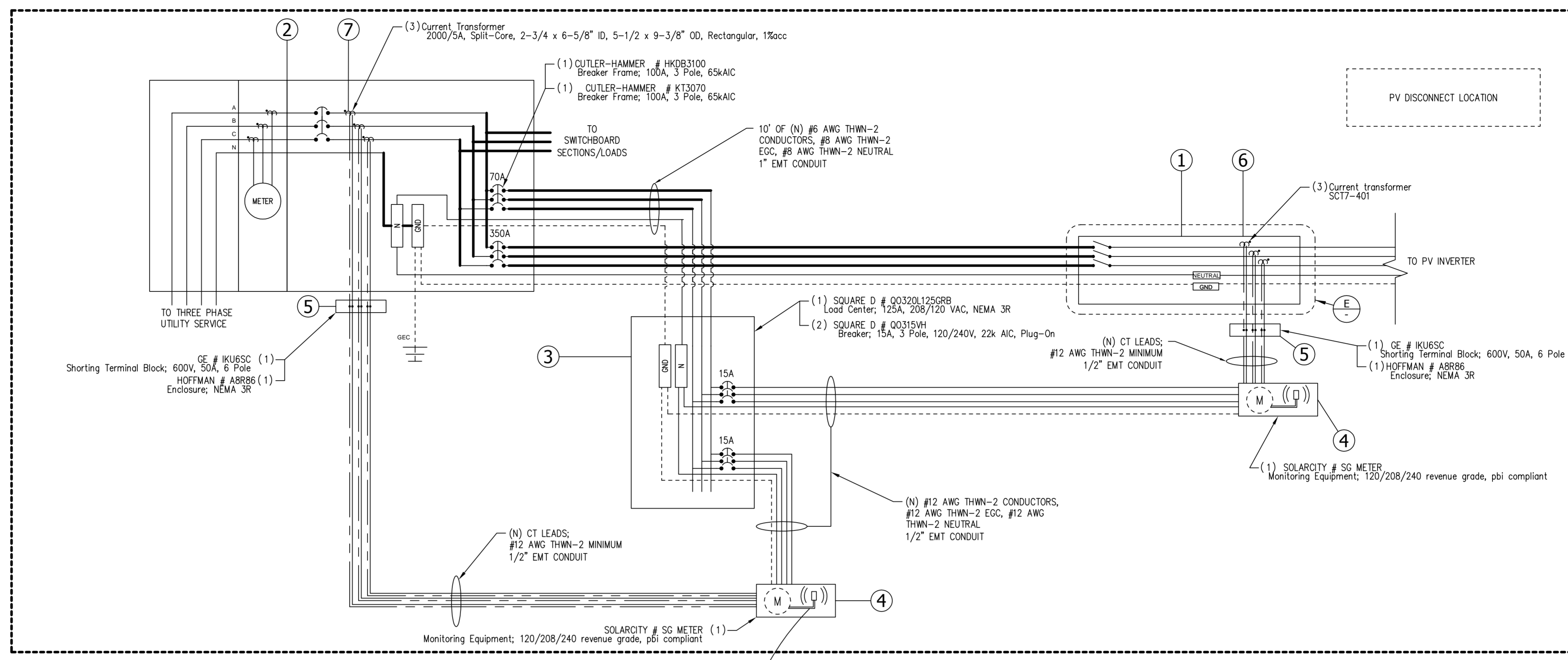
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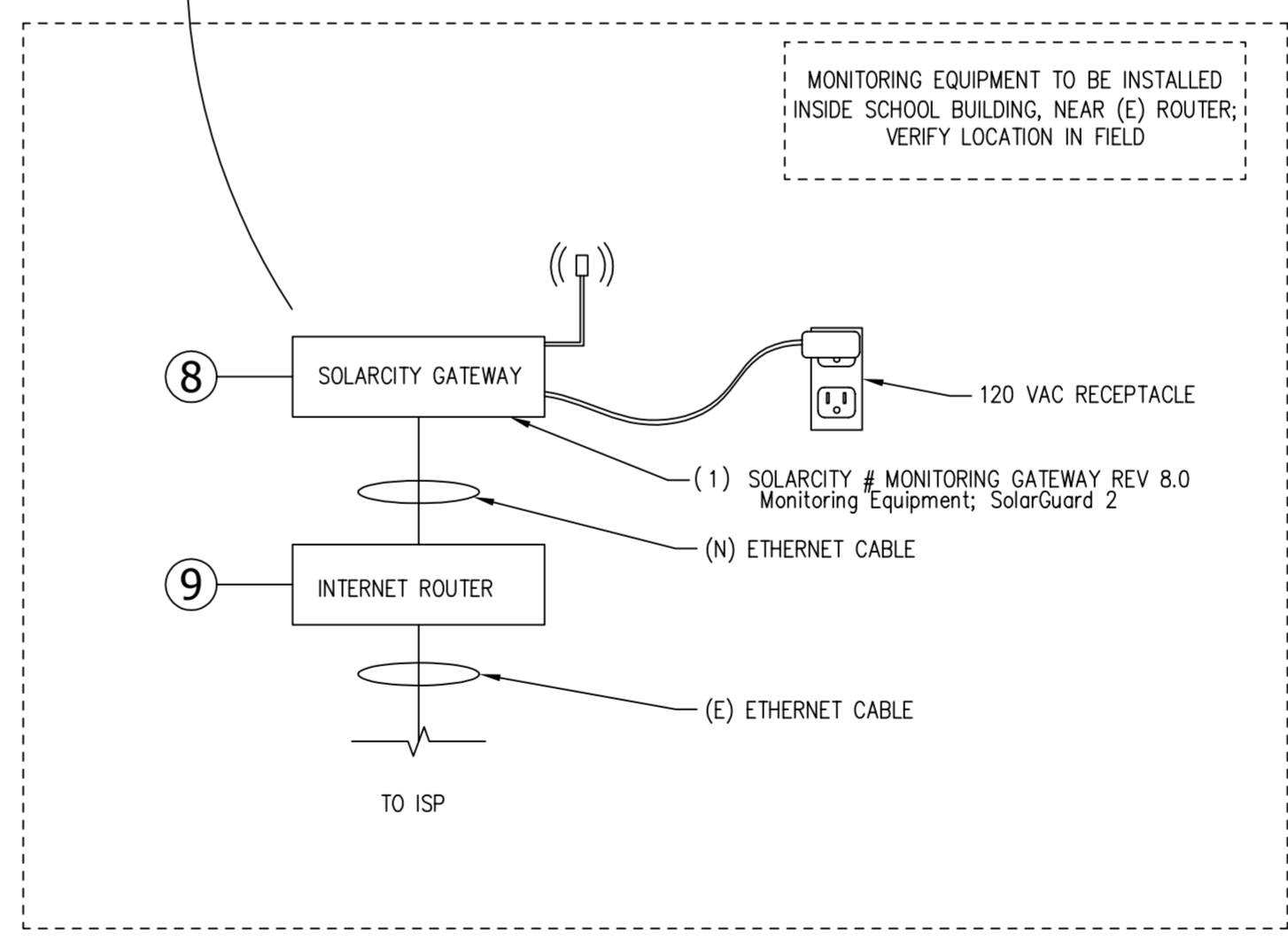
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REV	BY	DATE
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JOB DETAILS	
FILE	Los Angeles County (LA)
MOODS	(364) YINGLI # YL240P-29b
MOUNTING SYSTEM	STEEL SUPPORT STRUCTURES
PERMIT	(1) XANTREX # CT100-208
MARKET	DESIGN: J TAYLOR
ORDERED BY	GOV'T
ES	
DATE	1/6/2012
PAYMENT TYPE	CASH
STRING DIAGRAMS	PROJECT MANAGER: D NAVARRO
JOB NUMBER	JB-912047-00

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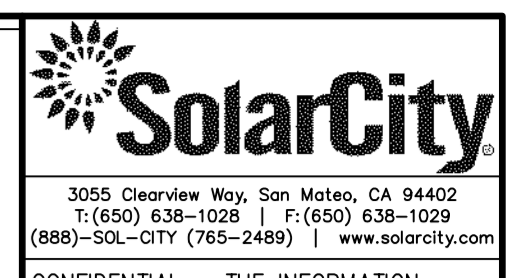


E TERMINALS INSIDE AC DISCONNECT



D LINE DRAWING 4 OF 4: MONITORING DETAILS

- NOTES:
- (N) PV AC DISCONNECT; SEE LINE DRAWING FOR PRODUCT TYPE AND SPECIFICATIONS
 - (E) MAIN SERVICE ENTRANCE
 - (N) MONITORING & LIGHTING SUB PANEL
 - (N) SOLAR CITY SG AND PG METERS - REVENUE GRADE, CSI PBI COMPLIANT
 - (N) SHORTING TERMINAL BLOCK - 600V, 50A, 6 POLE; GE #IKU6SC
 - (N) SOLID CORE CURRENT TRANSFORMERS:
 - H1 LABEL FACES TOWARD SOURCE
 - WHITE WIRES TO Ix1 TERMINALS IN SG METER
 - BLACK WIRES TO Ix2 TERMINALS IN SG METER
 - (N) SPLIT CORE CURRENT TRANSFORMERS:
 - H1 LABEL FACES TOWARD SOURCE
 - BLACK WIRES TO Ix1 TERMINALS IN PG METER
 - WHITE WIRES TO Ix2 TERMINALS IN PG METER
 - (N) SOLAR CITY GATEWAY; LOCATED WITHIN 80' OF SG AND PG METERS, INDOORS, OR IN SHADED WEATHERPROOF, NON-METALLIC ENCLOSURE
 - (E) INTERNET ROUTER; ALWAYS ON INTERNET CONNECTION, AVAILABLE ETHERNET PORT (10BASE-T/100BASE-TX)



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CLIENT: GLENDALE USD - MONTE VISTA ELEMENTARY
 87.36 PV SYSTEM

OWNER: GLENDALE USD - MONTE VISTA ELEMENTARY
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 LA CRESCENTA, CA 91214
 8182413111

REVISIONS		
REV	BY	DATE
1	PP	0

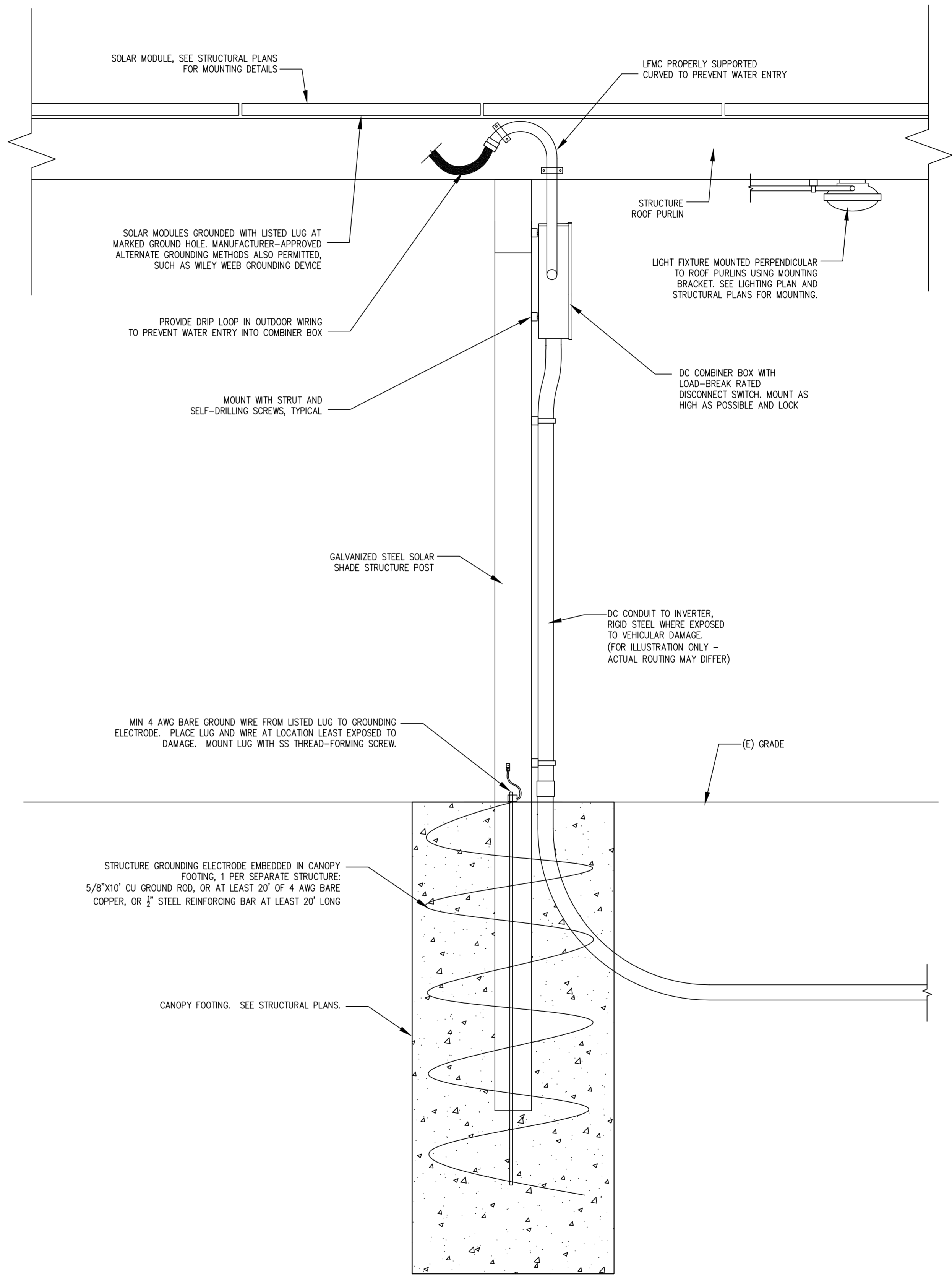
JOB DETAILS	
ALL:	Los Angeles County (LA)
MOODS:	(364) YINGLI # YL240P-29b
MOUNTING SYSTEM:	STEEL SUPPORT STRUCTURES
PROJECT:	(1) XANTREX # CT100-208
MARKET:	DESIGN: J TAYLOR
ORDERED BY:	ES
DATE:	1/6/2012
PAGE NAME:	MONITORING DETAILS
JOB NUMBER:	JB-912047-00
AS-BUILT	PHASE

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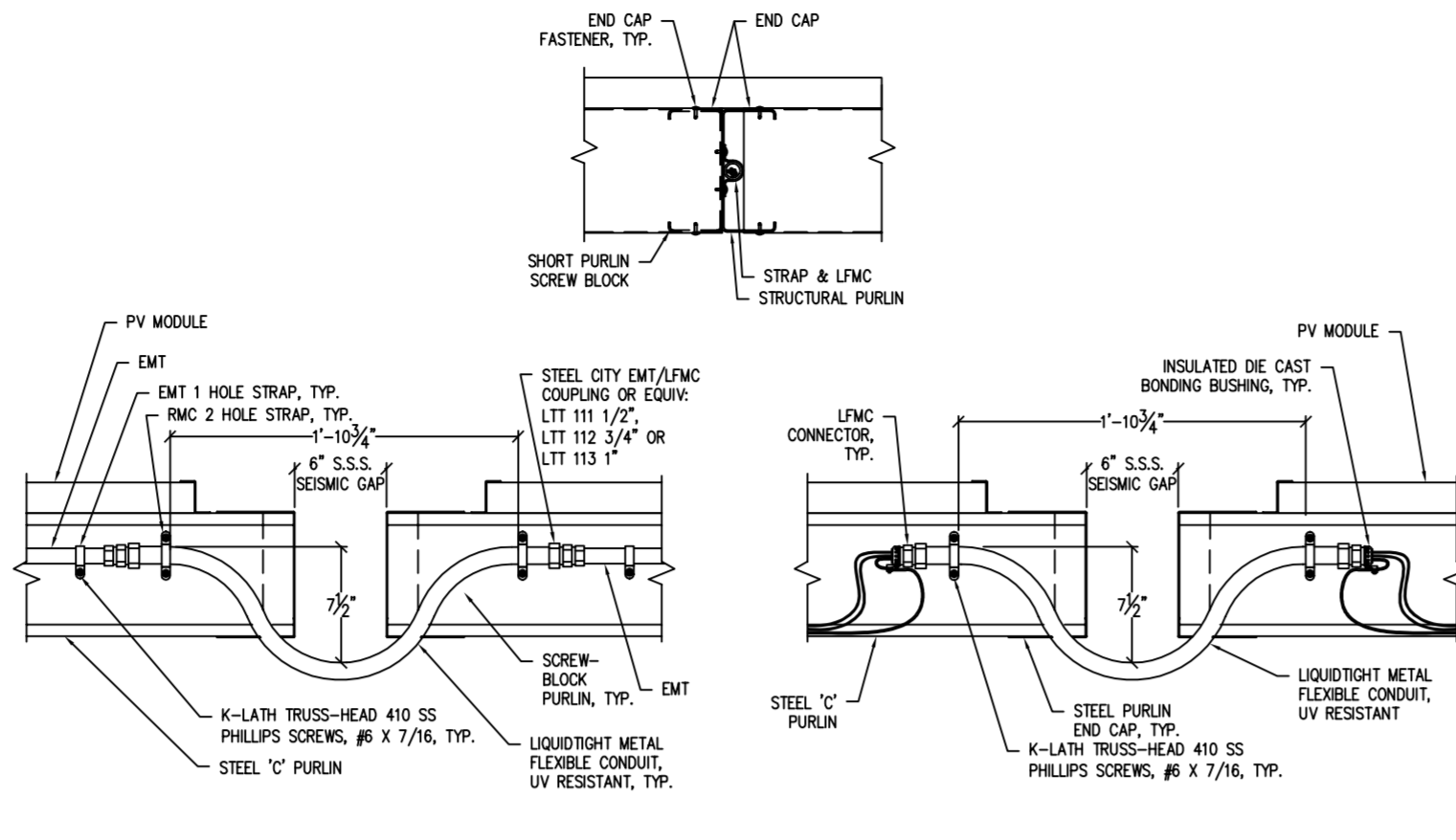
CLIENT: GLENDALE USD - MONTE VISTA ELEMENTARY
 87.36 PV SYSTEM
 PROJECT: GLENDALE USD - MONTE VISTA ELEMENTARY
 2620 ORANGE AVE
 LA CRESCENTA, CA 91214
 8182413111

REVISIONS			
REV	BY	DATE	COMMENTS

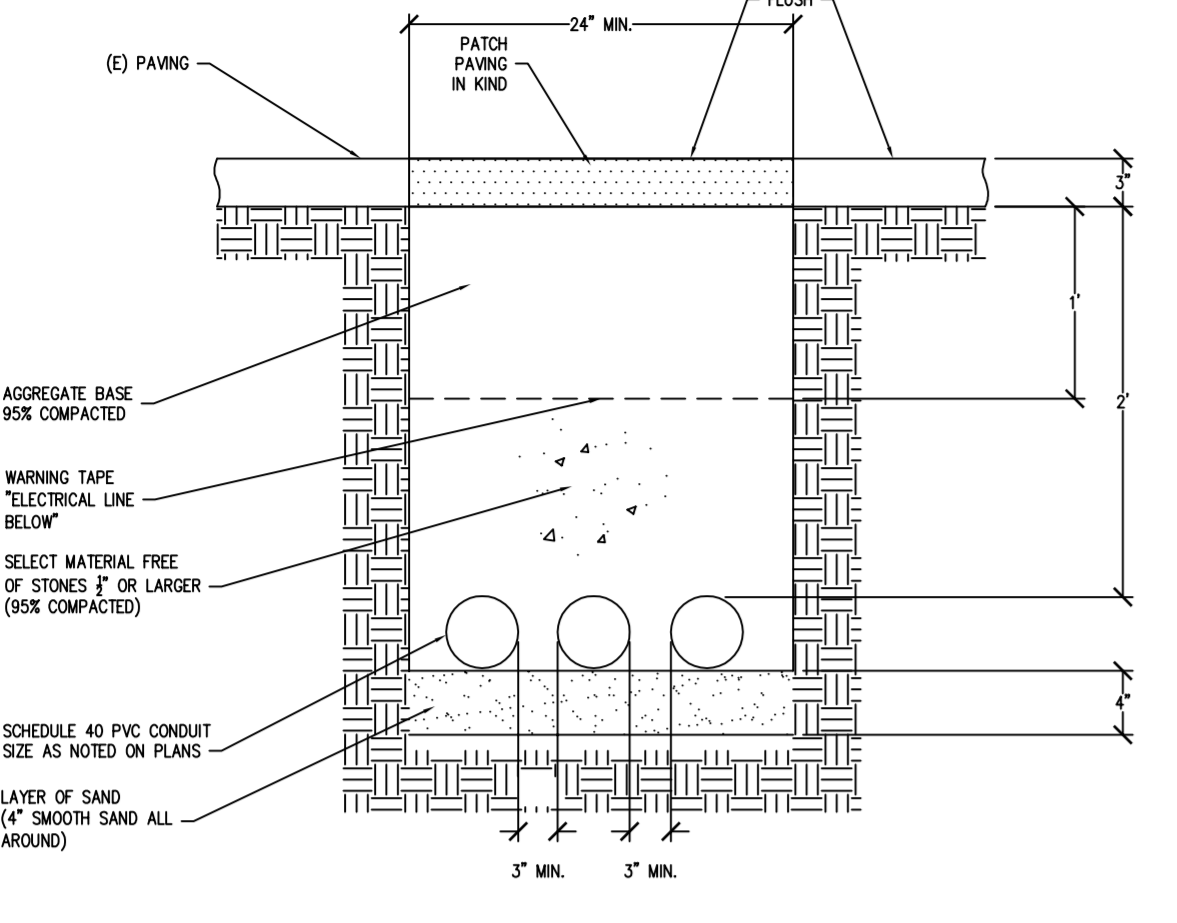
JOB DETAILS	
FILE:	Los Angeles County (LA)
MOODS:	(364) YINGLI # YL240P-29b
MOUNTING SYSTEM:	STEEL SUPPORT STRUCTURES
PROJECT:	(1) XANTREX # CT100-208
MARKET:	DESIGN: J TAYLOR
ORDERED BY:	ES
DATE:	1/6/2012
PAYMENT TYPE:	CASH
PROJECT MANAGER:	D NAVARRO
JOB NUMBER:	JB-912047-00
PHASE:	
REV:	



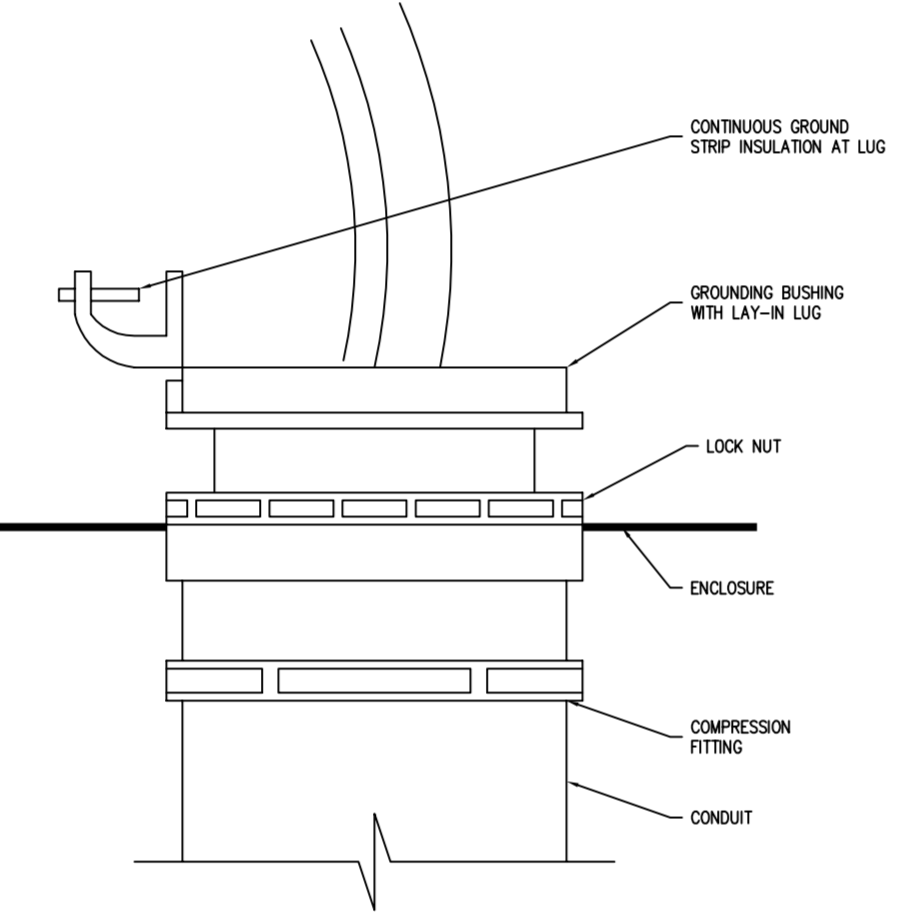
A CANOPY GROUNDING / EQUIPMENT MOUNTING
 Scale: NTS



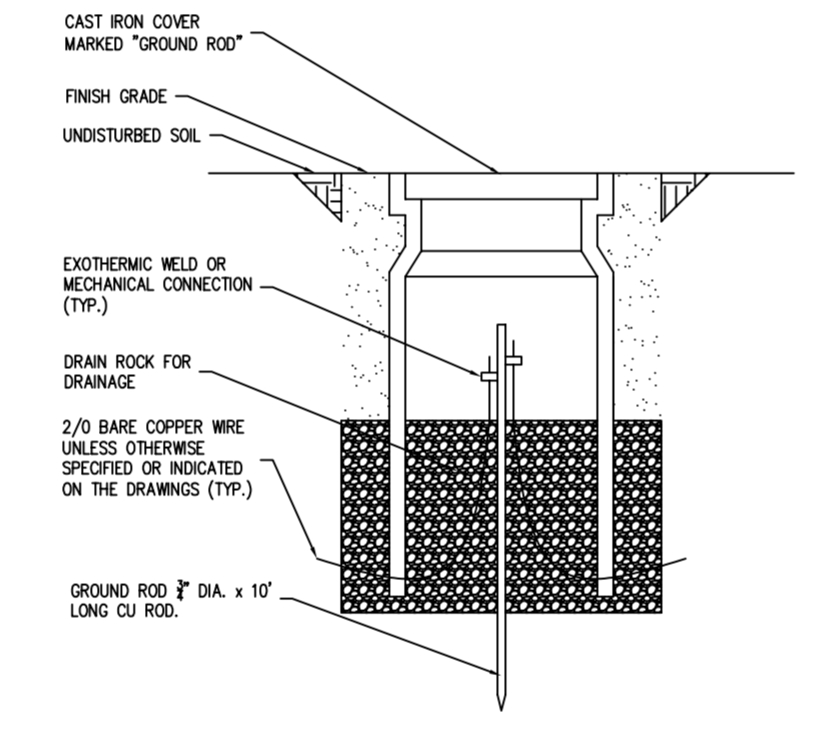
D WIRING BRIDGE
 Scale: NTS



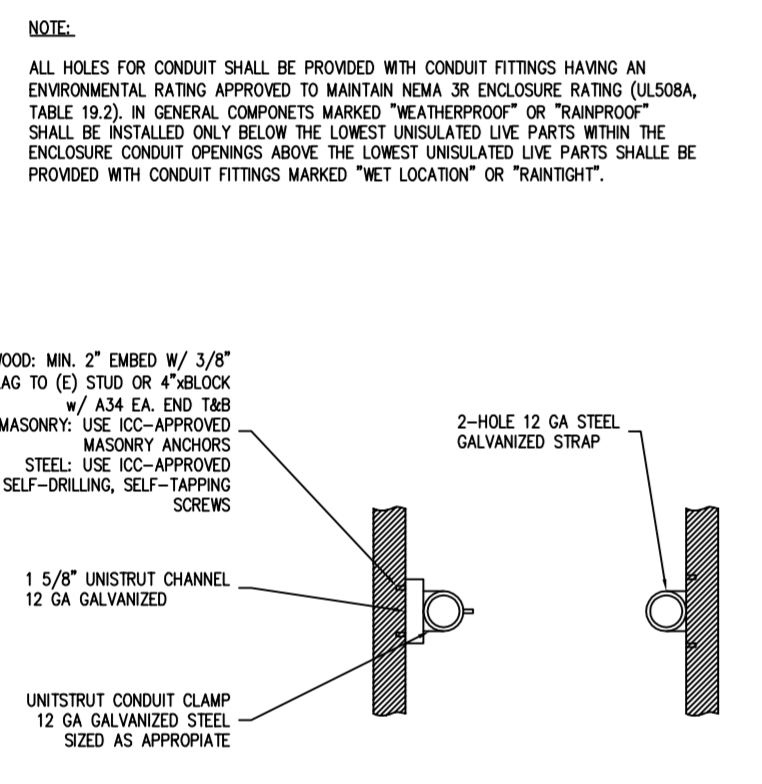
H TRENCHING DETAIL
 Scale: NTS



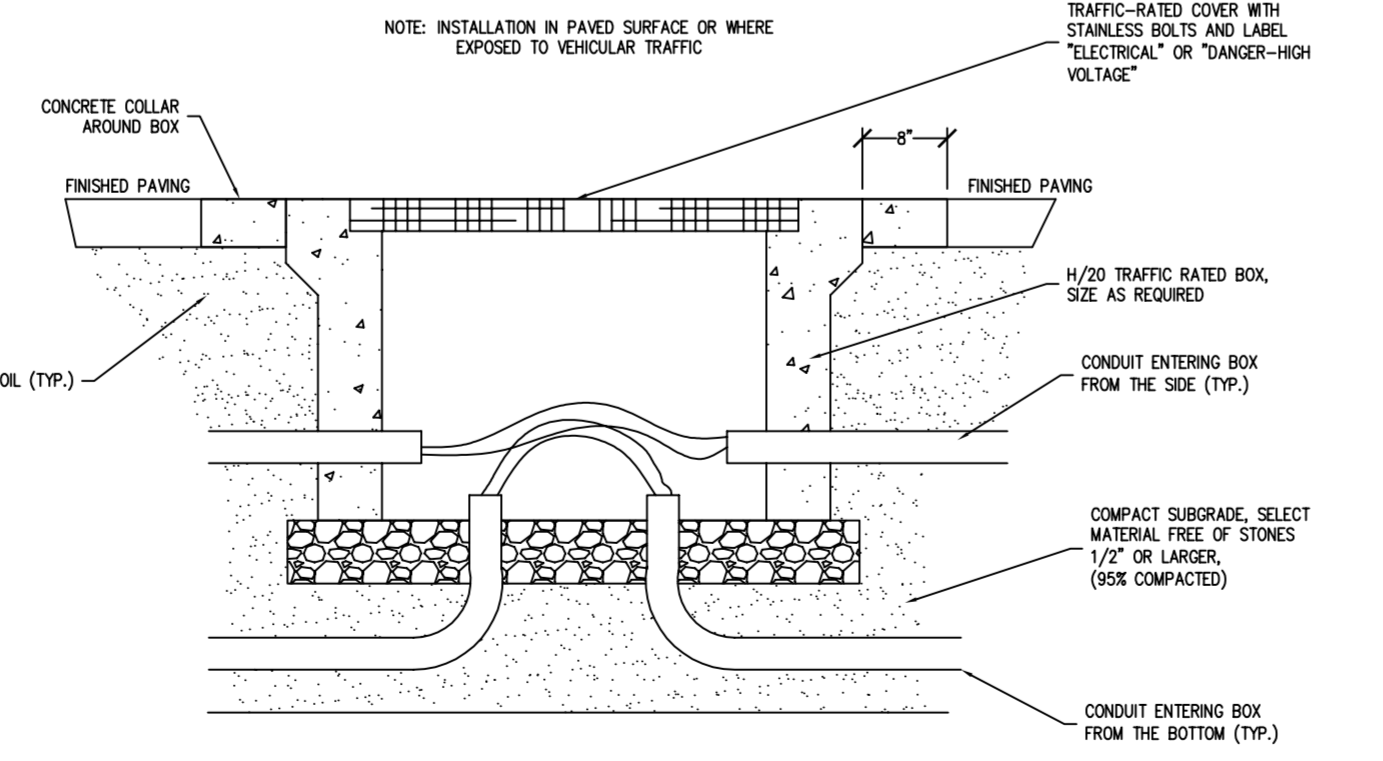
E CONDUIT GROUNDING
 Scale: NTS



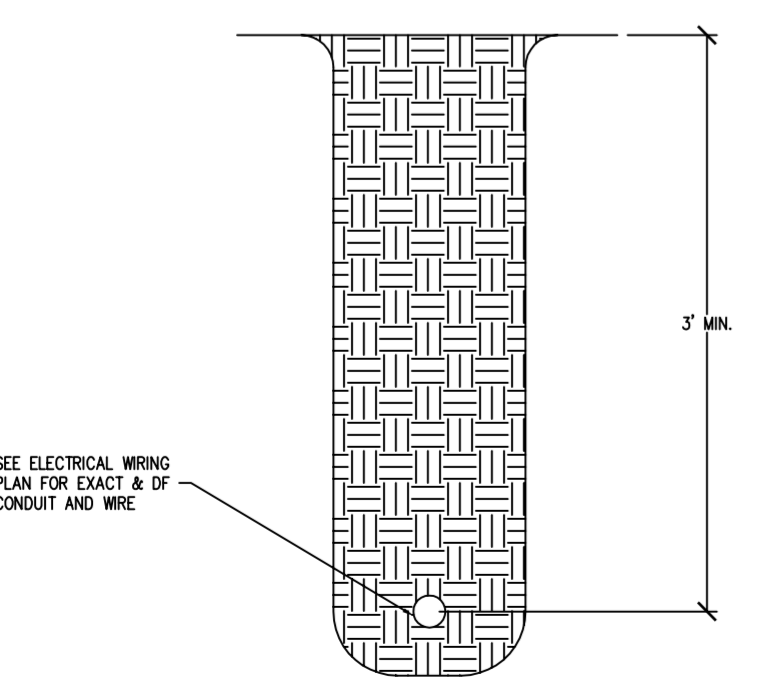
C GROUND ROD DETAIL
 Scale: NTS



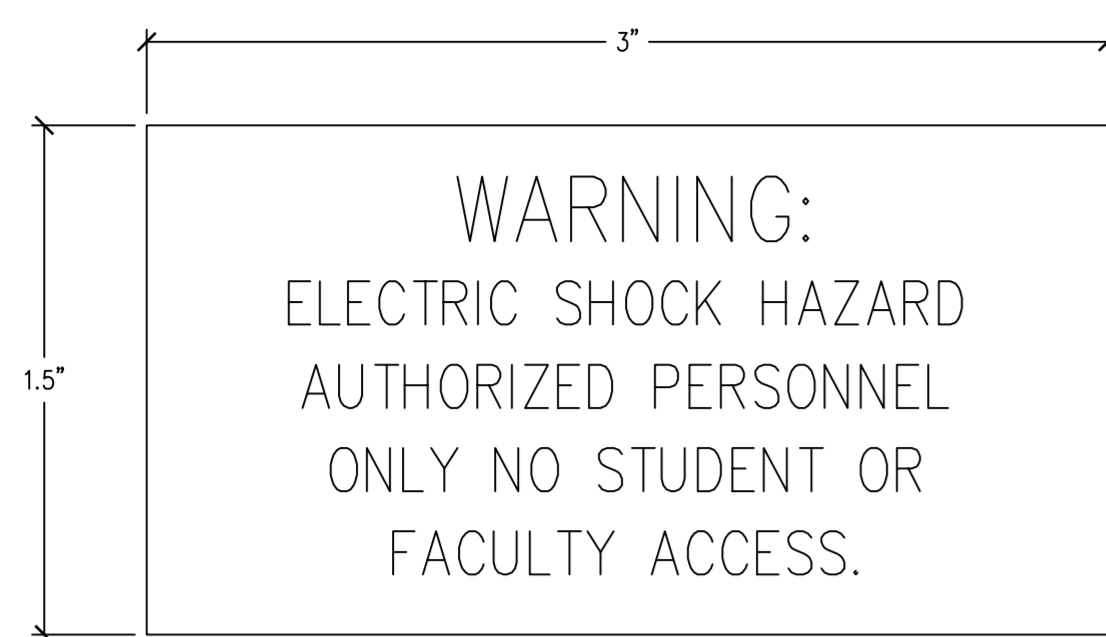
G CONDUIT ATTACHMENT
 Scale: NTS



B TRAFFIC RATED PULL BOX
 Scale: NTS

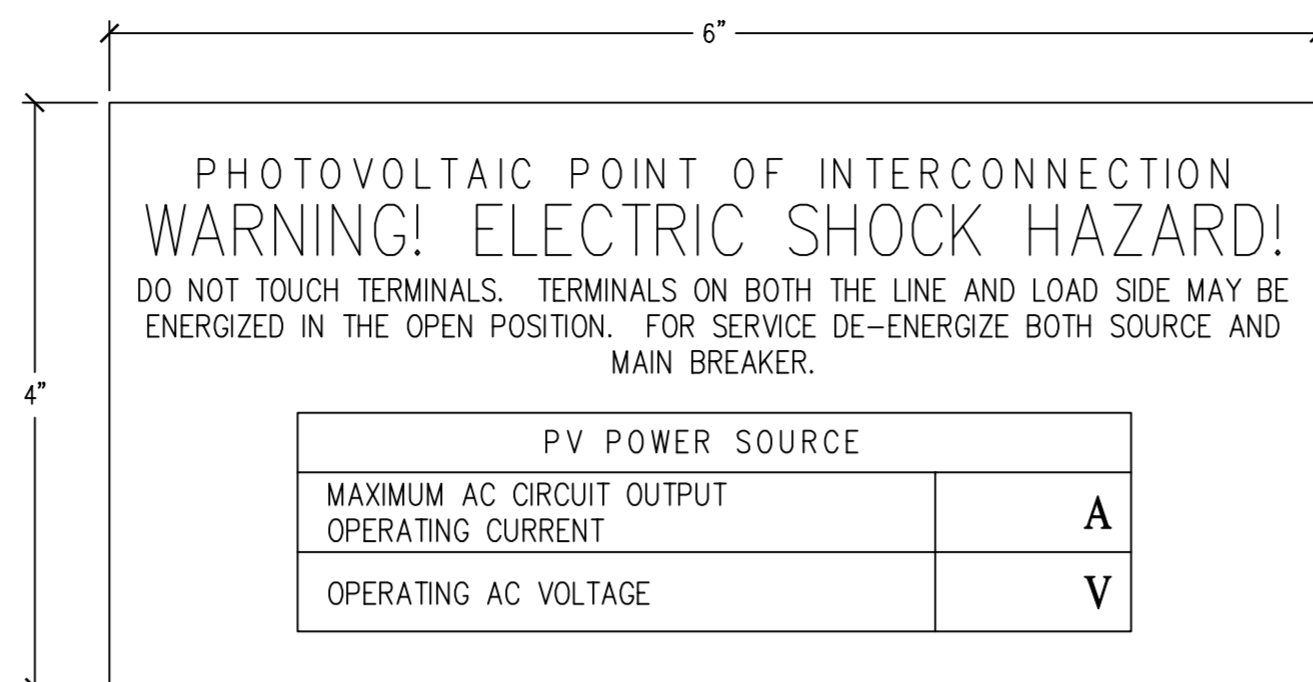


F BORING DETAIL
 Scale: NTS



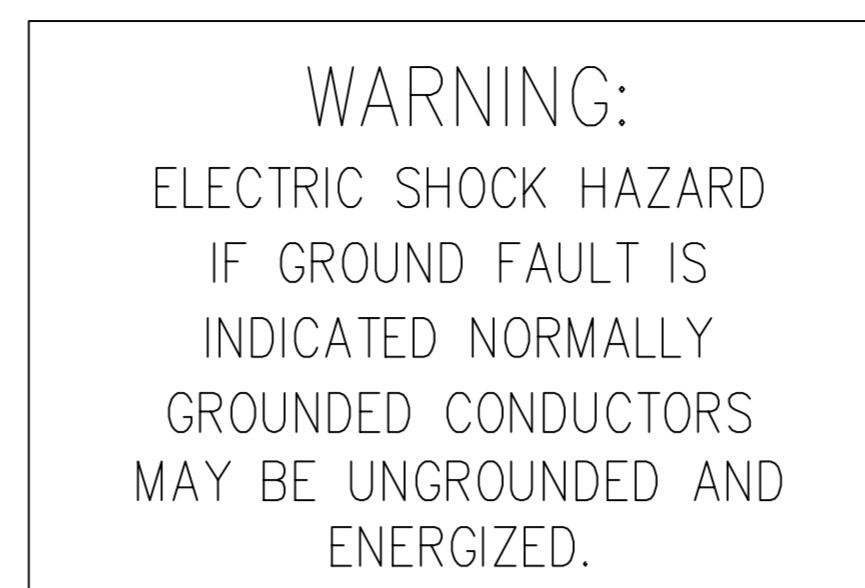
- NOTE:
1. TOP OF SIGN TEXT 5" MIN. CLEAR SPACE FROM GATE OR DOOR JAMB (STRIKE SIDE)
 2. PROVIDE A BLANK PANEL FOR BACK SIDE
 3. CONTRAST BETWEEN CHARACTER, SYMBOLS AND THEIR BACKGROUND SHALL BE 70% MINIMUM AND HAVE A NON-GLARE FINISH.
 4. CHARACTERS SHALL HAVE A WIDTH-TO-HEIGHT RATIO OF BETWEEN 3.5 AND 1:1
 5. SIGN SHALL BE 0.04" THK (MIN.) ALUMINUM SHEET
 6. RAISED UPPERCASE LETTER 1/8" TALL, MIN.

12 AUTHORIZED PERSONNEL SIGNAGE Scale: NTS



- NOTE:
1. IDENTIFICATION PLACARD PER NEC. 230.2(E)
 2. TO BE PLACED ON EXISTING MAIN SWITCHGEAR
 3. ALUMINUM BACKGROUND
 4. BLACK LETTERING
 5. TEXT HEIGHT: 1/2", 3/8", AND 1/8"
 6. MATERIAL NOTE: TEXT PRINTED ON ALUMINUM BACKING WITH UV-RATED PLASTIC LAMINATE COATING AND OUTDOOR RATED ADHESIVE.

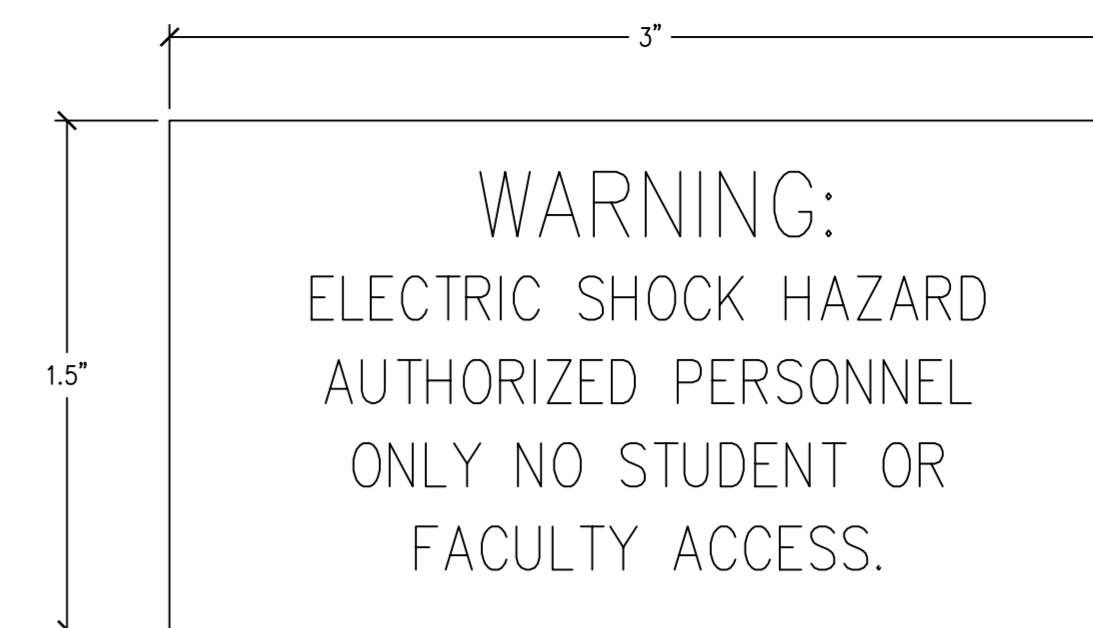
9 POINT OF INTERCONNECTION Scale: NTS



#CS - 000200-009

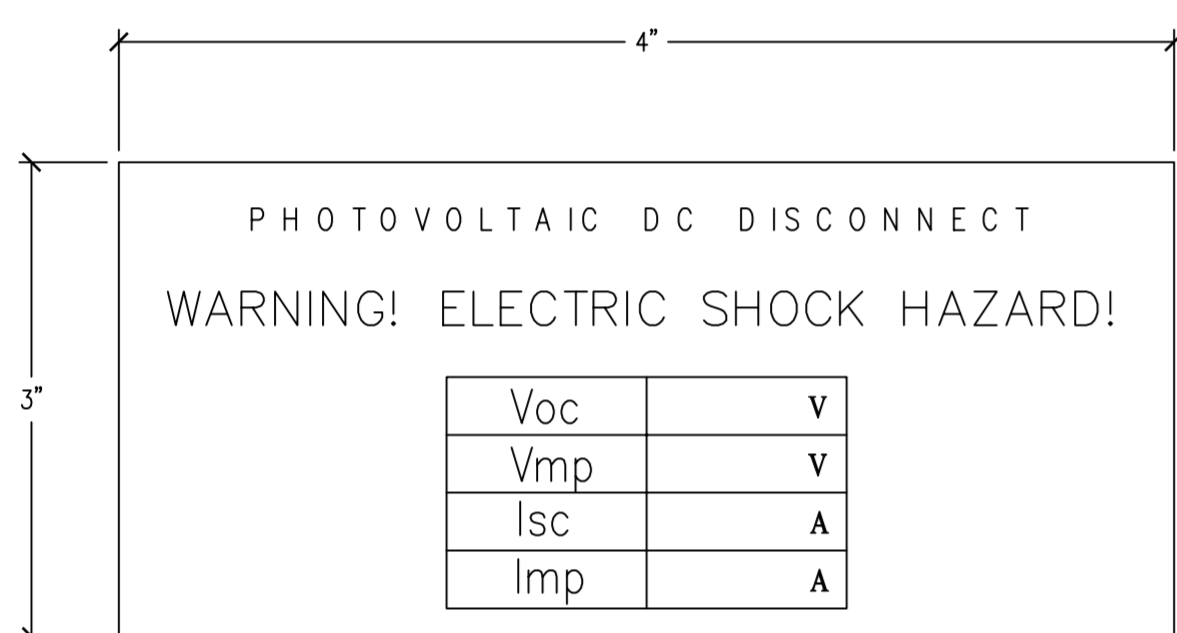
- NOTE:
1. RED BACKGROUND
 2. WHITE LETTERING
 3. MINIMUM 1/8" LETTER HEIGHT
 4. ALL CAPITAL LETTERS
 5. ARIAL OR SIMILAR FONT, NON-BOLD
 6. REFLECTIVE WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.
 7. WARNING LABEL SHALL APPEAR ON THE UTILITY-INTERACTIVE INVERTER OR BE APPLIED BY THE INSTALLER NEAR THE GROUND-FAULT INDICATOR AT A VISIBLE LOCATION.

6 INVERTER GROUND-FAULT WARNING Scale: NTS



- NOTE:
1. TOP OF SIGN TEXT 5" MIN. CLEAR SPACE FROM GATE OR DOOR JAMB (STRIKE SIDE)
 2. PROVIDE A BLANK PANEL FOR BACK SIDE
 3. CONTRAST BETWEEN CHARACTER, SYMBOLS AND THEIR BACKGROUND SHALL BE 70% MINIMUM AND HAVE A NON-GLARE FINISH.
 4. CHARACTERS SHALL HAVE A WIDTH-TO-HEIGHT RATIO OF BETWEEN 3.5 AND 1:1
 5. SIGN SHALL BE 0.04" THK (MIN.) ALUMINUM SHEET
 6. RAISED UPPERCASE LETTER 1/8" TALL, MIN.

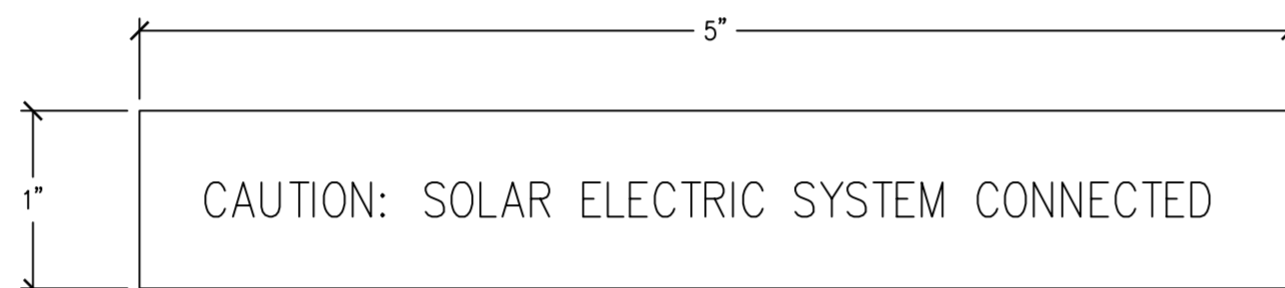
3 AUTHORIZED PERSONNEL SIGNAGE Scale: NTS



#CS - 00200-002

- NOTE:
1. PV SYSTEM DC DISCONNECT
 2. WHITE BACKGROUND
 3. BLACK LETTERING
 4. TEXT HEIGHT: 5/16", AND 1/8"
 5. MATERIAL NOTE: TEXT PRINTED ON ALUMINUM BACKING WITH UV-RATED PLASTIC LAMINATE COATING AND OUTDOOR RATED ADHESIVE.

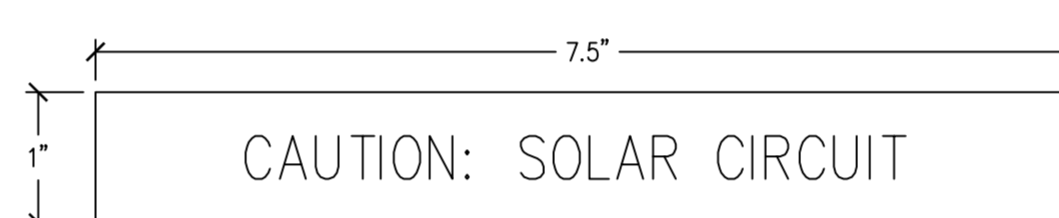
11 PV SYSTEM UTILITY DISCONNECT Scale: NTS



#CS - 000200-032

- NOTE:
1. RED BACKGROUND
 2. WHITE LETTERING
 3. MINIMUM 3/8" LETTER HEIGHT
 4. ALL CAPITAL LETTERS
 5. ARIAL OR SIMILAR FONT, NON-BOLD
 6. REFLECTIVE WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.
 - (DURABLE ADHESIVE MATERIALS MAY MEET THIS REQUIREMENT)

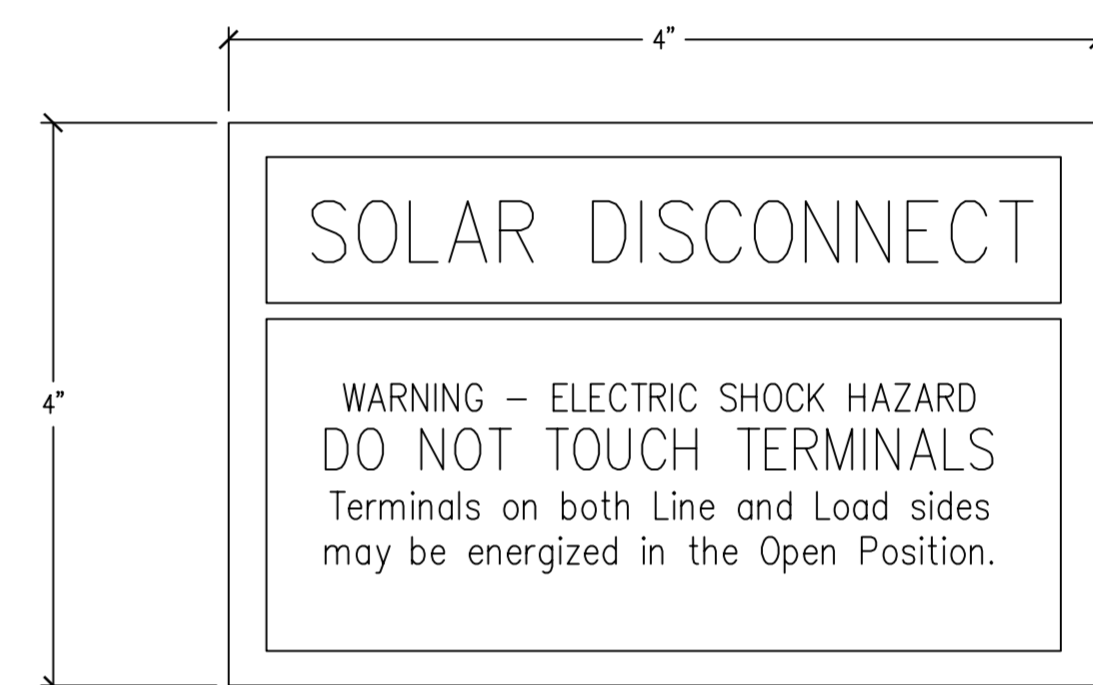
8 MARKING FOR MAIN SERVICE DISCONNECT Scale: NTS



#CS - 000200-030

- NOTE:
1. RED BACKGROUND
 2. WHITE LETTERING
 3. MINIMUM 3/8" LETTER HEIGHT
 4. ALL CAPITAL LETTERS
 5. ARIAL OR SIMILAR FONT, NON-BOLD
 6. REFLECTIVE WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.
 - (DURABLE ADHESIVE MATERIALS MAY MEET THIS REQUIREMENT)
- MARKING FOR DC CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, AND JUNCTION BOXES

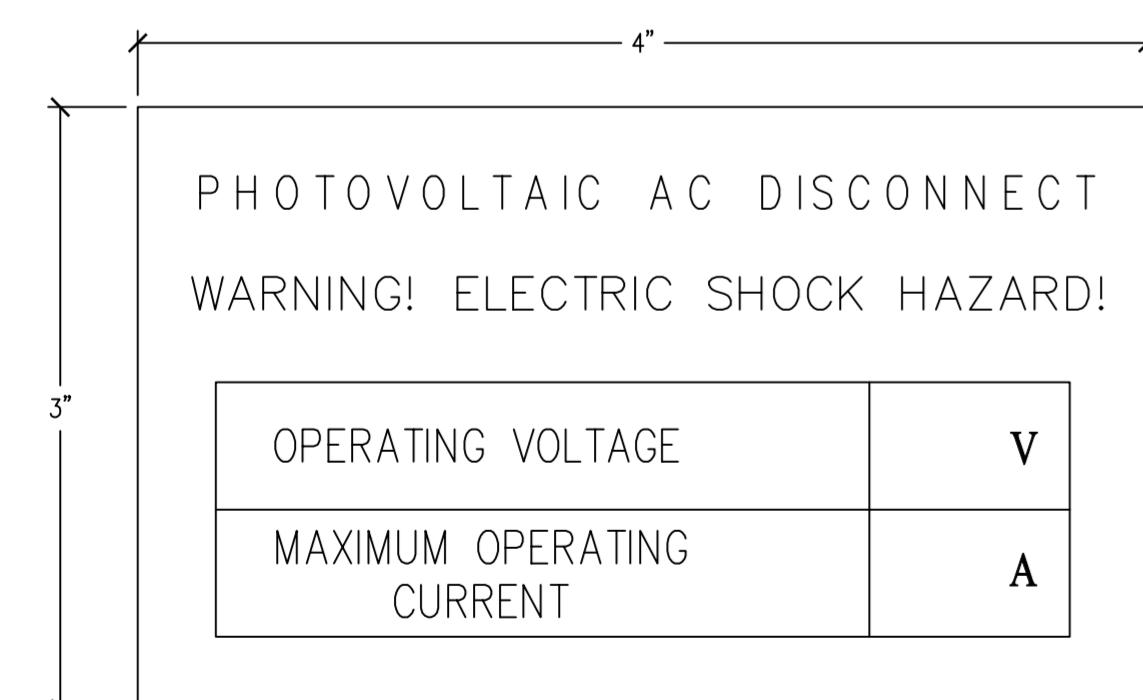
5 SOLAR CIRCUIT Scale: NTS



#CS - 000200-003

- NOTE:
1. RED BACKGROUND
 2. WHITE LETTERING
 3. MINIMUM 3/8" LETTER HEIGHT
 4. ALL CAPITAL LETTERS
 5. ARIAL OR SIMILAR FONT, NON-BOLD
 6. REFLECTIVE WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.
 - (DURABLE ADHESIVE MATERIALS MAY MEET THIS REQUIREMENT)

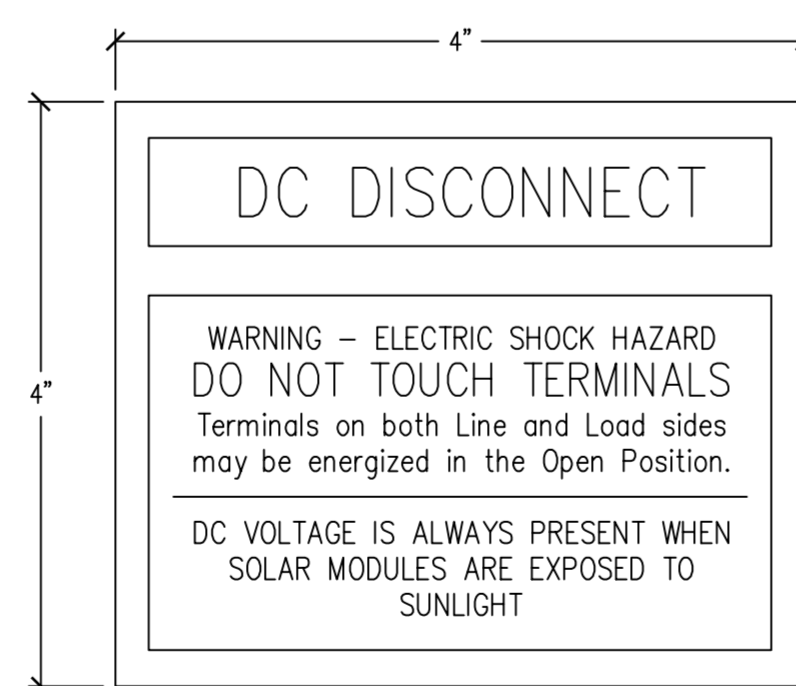
2 PV SYSTEM MAINTENANCE DISCONNECT Scale: NTS



#CS - 000200-000

- NOTE:
1. PV SYSTEM UTILITY AC DISCONNECT WARNING LABEL
 2. WHITE BACKGROUND
 3. BLACK LETTERING
 4. TEXT HEIGHT: 5/16", AND 1/8"
 5. MATERIAL NOTE: TEXT PRINTED ON ALUMINUM BACKING WITH UV-RATED PLASTIC LAMINATE COATING AND OUTDOOR RATED ADHESIVE.

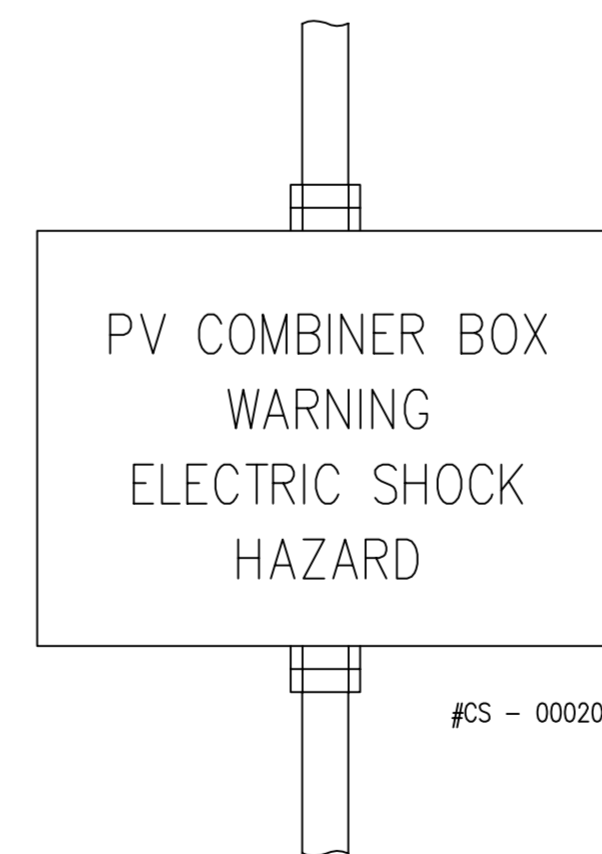
10 PV SYSTEM UTILITY AC DISCONNECT Scale: NTS



#CS - 000200-006

- NOTE:
1. RED BACKGROUND
 2. WHITE LETTERING
 3. MINIMUM 1/8" LETTER HEIGHT
 4. ALL CAPITAL LETTERS
 5. ARIAL OR SIMILAR FONT, NON-BOLD
 6. REFLECTIVE WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.
 - (DURABLE ADHESIVE MATERIALS MAY MEET THIS REQUIREMENT)

7 DC DISCONNECT Scale: NTS



#CS - 000200-010

- NOTE:
1. RED BACKGROUND
 2. WHITE LETTERING
 3. MINIMUM 1/8" LETTER HEIGHT
 4. ALL CAPITAL LETTERS
 5. ARIAL OR SIMILAR FONT, NON-BOLD
 6. REFLECTIVE WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT.
 - (DURABLE ADHESIVE MATERIALS MAY MEET THIS REQUIREMENT)

4 COMBINER BOX SIGNAGE Scale: NTS



- NOTE:
1. INVERTER IDENTIFICATION LABEL
 2. BLACK BACKGROUND
 3. WHITE LETTERING
 4. TEXT HEIGHT: 1/2"
 5. MATERIAL NOTE: ENGRAVED ON OUTDOOR-RATED PLASTIC LAMINATE WITH ADHESIVE BACKING SUITABLE ENVIRONMENT.

1 INVERTER LABEL Scale: NTS

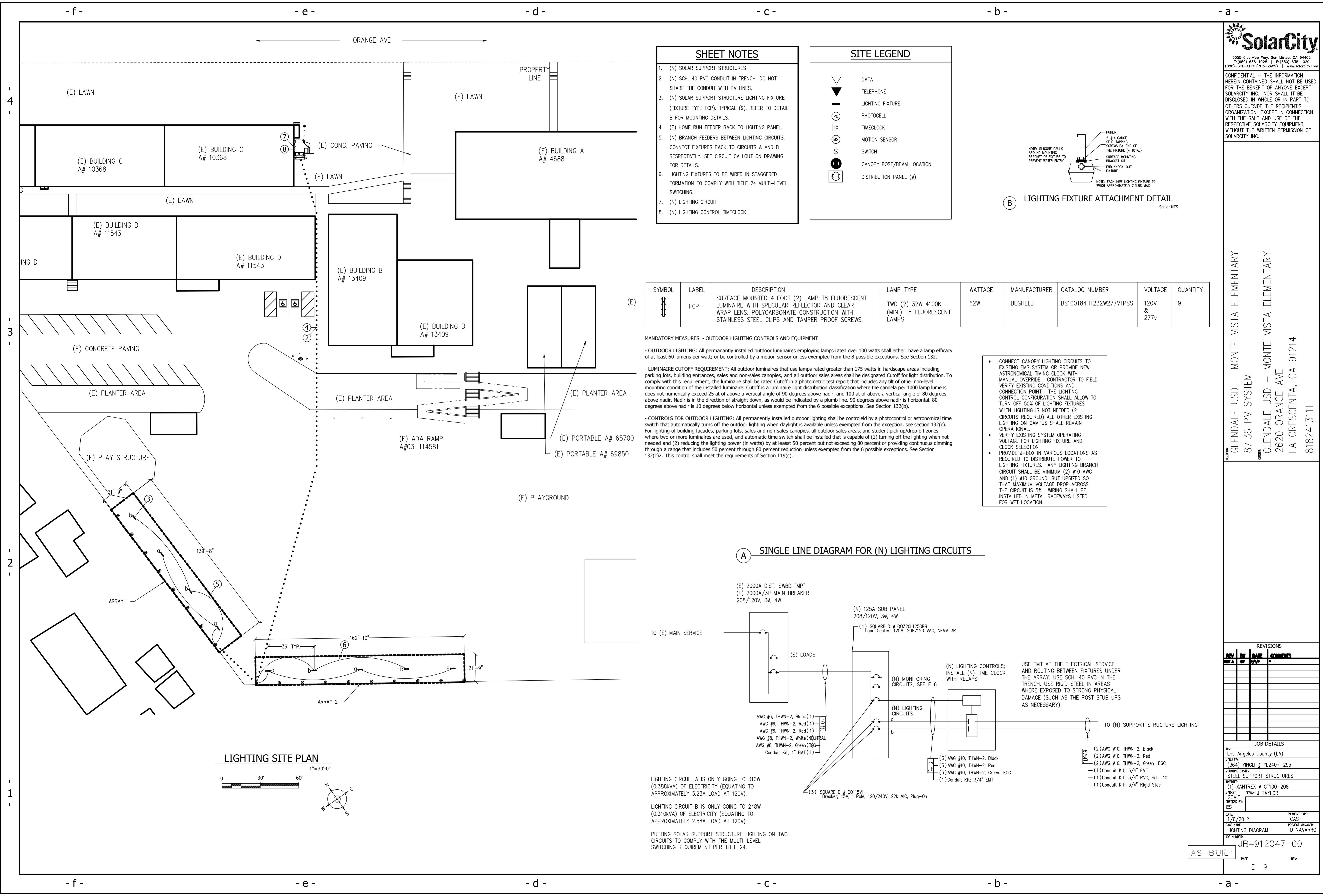
3055 Clearview Way, San Mateo, CA 94402
 T: (650) 638-1028 | F: (650) 638-1029
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GLENDALE USD - MONTE VISTA ELEMENTARY
 87.36 PV SYSTEM
 GLENDALE USD - MONTE VISTA ELEMENTARY
 2620 ORANGE AVE
 LA CRESCENTA, CA 91214
 8182413111

REVISIONS			
REV	BY	DATE	COMMENTS
1	AS	1/6/2012	AS-BUILT

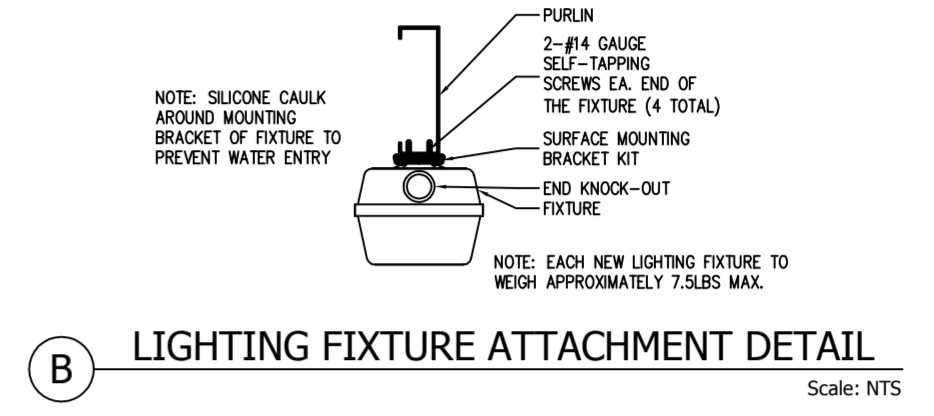
JOB DETAILS			
City:	Los Angeles County (LA)		
MOODS:	(364) YINGLI # YL240P-29b		
Mounting System:	STEEL SUPPORT STRUCTURES		
PERMIT:	(1) XANTREX # CT100-208		
ORDERED BY:	GOV'T DESK: J TAYLOR		
DATE:	1/6/2012	PAYMENT TYPE:	CASH
PAGE NAME:	SIGNAGE	PROJECT NUMBER:	JB-912047-00
JOB NUMBER:	AS-BUILT	PHASE:	REV:



- ### SHEET NOTES
- (N) SOLAR SUPPORT STRUCTURES
 - (N) SCH. 40 PVC CONDUIT IN TRENCH. DO NOT SHARE THE CONDUIT WITH PV LINES.
 - (N) SOLAR SUPPORT STRUCTURE LIGHTING FIXTURE (FIXTURE TYPE FCP). TYPICAL (9), REFER TO DETAIL B FOR MOUNTING DETAILS.
 - (E) HOME RUN FEEDER BACK TO LIGHTING PANEL.
 - (N) BRANCH FEEDERS BETWEEN LIGHTING CIRCUITS. CONNECT FIXTURES BACK TO CIRCUITS A AND B RESPECTIVELY. SEE CIRCUIT CALLOUT ON DRAWING FOR DETAILS.
 - LIGHTING FIXTURES TO BE WIRED IN STAGGERED FORMATION TO COMPLY WITH TITLE 24 MULTI-LEVEL SWITCHING.
 - (N) LIGHTING CIRCUIT
 - (N) LIGHTING CONTROL TIMECLOCK

SITE LEGEND

▽	DATA
▼	TELEPHONE
—	LIGHTING FIXTURE
PC	PHOTOCELL
TC	TIMECLOCK
MS	MOTION SENSOR
Ⓢ	SWITCH
Ⓜ	CANOPY POST/BEAM LOCATION
Ⓜ	DISTRIBUTION PANEL (#)



SYMBOL	LABEL	DESCRIPTION	LAMP TYPE	WATTAGE	MANUFACTURER	CATALOG NUMBER	VOLTAGE	QUANTITY
Ⓜ	FCP	SURFACE MOUNTED 4 FOOT (2) LAMP T8 FLUORESCENT LUMINAIRE WITH SPECULAR REFLECTOR AND CLEAR WRAP LENS. POLYCARBONATE CONSTRUCTION WITH STAINLESS STEEL CLIPS AND TAMPER PROOF SCREWS.	TWO (2) 32W 4100K (MIN.) T8 FLUORESCENT LAMPS.	62W	BEGHELLI	BS100T84HT232W277VPSS	120V & 277v	9

MANDATORY MEASURES - OUTDOOR LIGHTING CONTROLS AND EQUIPMENT

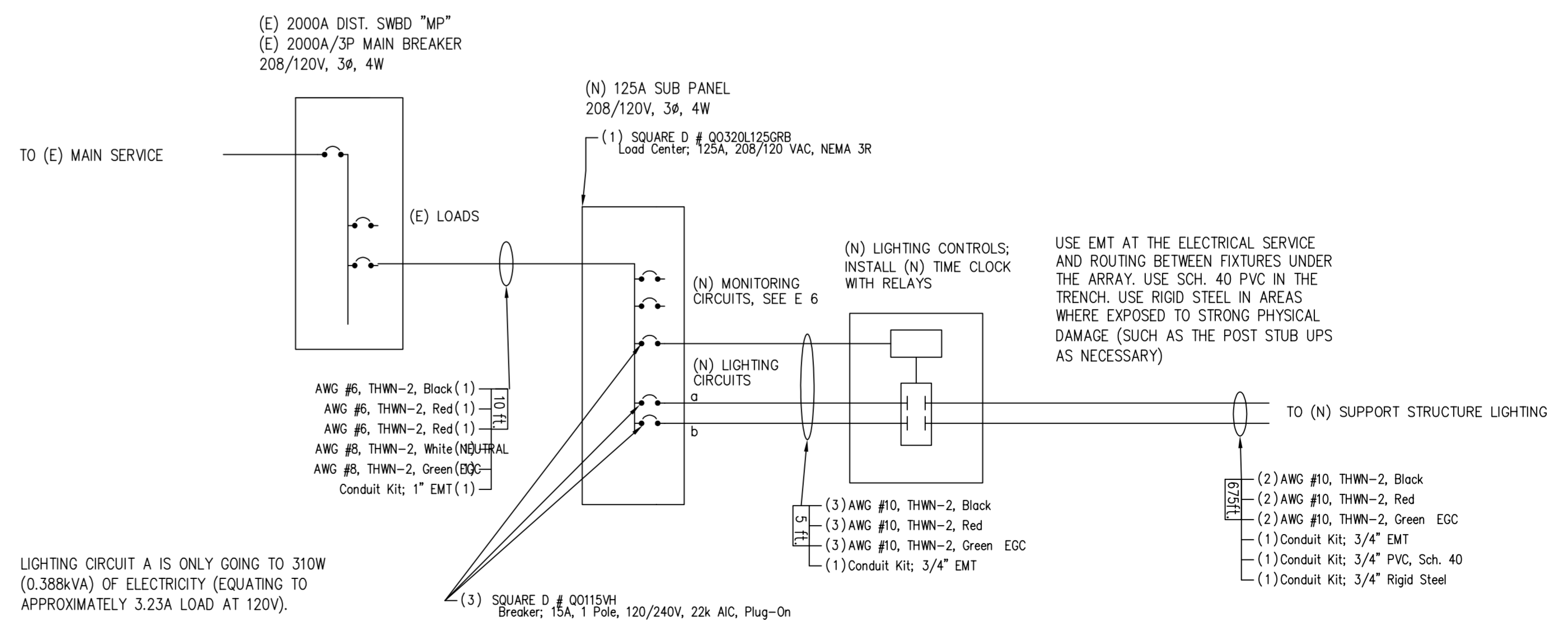
- **OUTDOOR LIGHTING:** All permanently installed outdoor luminaires employing lamps rated over 100 watts shall either: have a lamp efficacy of at least 60 lumens per watt; or be controlled by a motion sensor unless exempted from the 8 possible exceptions. See Section 132.

- **LUMINAIRE CUTOFF REQUIREMENT:** All outdoor luminaires that use lamps rated greater than 175 watts in hardscape areas including parking lots, building entrances, sales and non-sales canopies, and all outdoor sales areas shall be designated Cutoff for light distribution. To comply with this requirement, the luminaire shall be rated Cutoff in a photometric test report that includes any tilt of other non-level mounting condition of the installed luminaire. Cutoff is a luminaire light distribution classification where the candela per 1000 lamp lumens does not numerically exceed 25 at or above a vertical angle of 90 degrees above nadir, and 100 at or above a vertical angle of 80 degrees above nadir. Nadir is in the direction of straight down, as would be indicated by a plumb line. 90 degrees above nadir is horizontal. 80 degrees above nadir is 10 degrees below horizontal unless exempted from the 6 possible exceptions. See Section 132(b).

- **CONTROLS FOR OUTDOOR LIGHTING:** All permanently installed outdoor lighting shall be controlled by a photocontrol or astronomical time switch that automatically turns off the outdoor lighting when daylight is available unless exempted from the exception. see section 132(c). For lighting of building facades, parking lots, sales and non-sales canopies, all outdoor sales areas, and student pick-up/drop-off zones where two or more luminaires are used, and automatic time switch shall be installed that is capable of (1) turning off the lighting when not needed and (2) reducing the lighting power (in watts) by at least 50 percent but not exceeding 80 percent or providing continuous dimming through a range that includes 50 percent through 80 percent reduction unless exempted from the 6 possible exceptions. See Section 132(c)(2). This control shall meet the requirements of Section 119(c).

- CONNECT CANOPY LIGHTING CIRCUITS TO EXISTING EMS SYSTEM OR PROVIDE NEW ASTRONOMICAL TIMING CLOCK WITH MANUAL OVERRIDE. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND CONNECTION POINT. THE LIGHTING CONTROL CONFIGURATION SHALL ALLOW TO TURN OFF 50% OF LIGHTING FIXTURES WHEN LIGHTING IS NOT NEEDED (2 CIRCUITS REQUIRED) ALL OTHER EXISTING LIGHTING ON CAMPUS SHALL REMAIN OPERATIONAL.
- VERIFY EXISTING SYSTEM OPERATING VOLTAGE FOR LIGHTING FIXTURE AND CLOCK SELECTION
- PROVIDE J-BOX IN VARIOUS LOCATIONS AS REQUIRED TO DISTRIBUTE POWER TO LIGHTING FIXTURES. ANY LIGHTING BRANCH CIRCUIT SHALL BE MINIMUM (2) #10 AWG AND (1) #10 GROUND, BUT UPSIZED 50 THAT MAXIMUM VOLTAGE DROP ACROSS THE CIRCUIT IS 5%. WIRING SHALL BE INSTALLED IN METAL RACEWAYS LISTED FOR WET LOCATION.

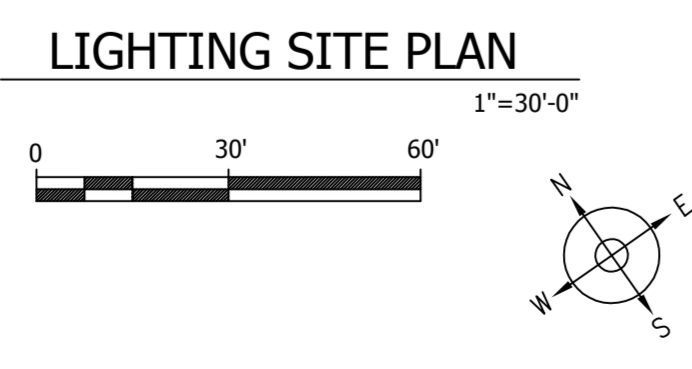
A SINGLE LINE DIAGRAM FOR (N) LIGHTING CIRCUITS



LIGHTING CIRCUIT A IS ONLY GOING TO 310W (0.388kVA) OF ELECTRICITY (EQUATING TO APPROXIMATELY 3.23A LOAD AT 120V).

LIGHTING CIRCUIT B IS ONLY GOING TO 248W (0.310kVA) OF ELECTRICITY (EQUATING TO APPROXIMATELY 2.58A LOAD AT 120V).

PUTTING SOLAR SUPPORT STRUCTURE LIGHTING ON TWO CIRCUITS TO COMPLY WITH THE MULTI-LEVEL SWITCHING REQUIREMENT PER TITLE 24.



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GLENDALE USD - MONTE VISTA ELEMENTARY
87.36 PV SYSTEM

GLENDALE USD - MONTE VISTA ELEMENTARY
2620 ORANGE AVE
LA CRESCENTA, CA 91214
8182413111

REVISIONS		
REV	BY	DATE

JOB DETAILS	
ALL: Los Angeles County (LA)	PROJECT: 1/6/2012
MOODES: (364) YINGLI # YL240P-29b	PAYMENT TYPE: CASH
MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES	PROJECT MANAGER: D NAVARRO
MARKET: (1) XANTREX # CT100-208	DESIGN: J TAYLOR
GOVT ORDERED BY: ES	DATE: 1/6/2012
DATE: 1/6/2012	PAYMENT TYPE: CASH
PROJECT NAME: LIGHTING DIAGRAM	PROJECT MANAGER: D NAVARRO
JOB NUMBER: JB-912047-00	DATE: 1/6/2012
AS-BUILT	DATE: 1/6/2012

PAGE 9

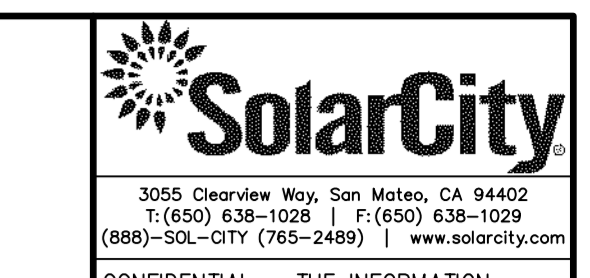
Certificate of Compliance (Page 1 of 4) OLTG-1C
 Project Name: GUSD - MONTE VISTA VALLEY ELEMENTARY Date: 4/17/2012
 Project Address: 2900 COMMUNITY AVE. Total Hardcape Illuminated Area: 6,579 sq ft
 General Information: Phase of Construction: New Construction Addition Alteration
 Documentation Authority's Declaration Statement: I certify that this Certificate of Compliance documentation is accurate and complete.
 Name: James Taylor Signature: [Signature] Date: 5-29-2012
 Company: SolarCity
 Address: 3055 Clearview Way
 City/State/Zip: San Mateo, CA, 94402 Phone: 650-963-5830
 Principal Lighting Designer's Declaration Statement: I am eligible under Division 3 of the California Business and Professions Code to accept responsibility for the lighting design.
 Name: Carl Buratti Signature: [Signature] Phone: 818-345-7130
 Company: Buratti & Associates, Inc.
 Address: 6345 Balboa Blvd, Ste. 259 License: E-14272
 City/State/Zip: Encino, CA 91316 Date: 5-29-2012
 Principal Lighting Designer's Declaration: I certify that this Certificate of Compliance documentation is accurate and complete, and accounts for all outdoor lighting power, including building mounted, pole mounted, as well as all other outdoor lighting designed for the site, and that Additional Lighting Power Allowances for Specific Applications or Additional Lighting Power Allowances for Ordinance Requirements have not been counted more than one time for the same area, in accordance with Section 147 of the Standards.
 Outdoor Lighting Mandatory Measures: Indicate location on building plans of Mandatory Measures Note Block:
 LIGHTING COMPLIANCE FORMS & WORKSHEETS (check box if worksheet is included):
 OLTG-1C Certificate of Compliance. All 4 pages required on plans for all submittals.
 OLTG-2C (Page 1 of 3) Lighting Wattage Allowances for General Hardscape, Sales Frontage, or Ornamental Lighting. Optional on plans.
 OLTG-2C (Page 2 of 3) Lighting Wattage Allowances for Per Application or Per Area. Optional on plans.
 OLTG-2C (Page 3 of 3) Additional Lighting Power Allowance for Ordinance Requirements. Optional on plans.

Certificate of Compliance (Page 2 of 4) OLTG-1C
 COMPLIANCE FIXTURE / LIGHTING CONTROL SCHEDULE AND FIELD INSPECTION CHECKLIST
 Project Name: GUSD - MONTE VISTA VALLEY ELEMENTARY Date: 4/17/2012
 INSTALLATION CERTIFICATE, OLTG-1-INST (Retain a copy and verify form is completed and signed.) Field Inspection
 CERTIFICATE OF ACCEPTANCE, OLTG-2A (Retain a copy and verify form is completed and signed.) Field Inspection
 Luminaires Schedule: Table with columns A-F and rows for Name, Description, Wattage, etc.
 Installed Watts: 558
 Field Inspector: [Signature]
 EXEMPT LUMINAIRES: Table with columns Name or Symbol, Description, Field Inspection
 MANDATORY CONTROLS: Table with columns #, Description, Location, #, Description, Location
 SPECIAL FEATURES INSPECTION CHECKLIST (See Page 2 of 4 of OLTG-1C):
 Field Inspector Notes or Discrepancies:

Certificate of Compliance (Page 3 of 4) OLTG-1C
 Project Name: GUSD - MONTE VISTA VALLEY ELEMENTARY Date: 4/17/2012
 A. OUTDOOR LIGHTING ZONE
 OUTDOOR LIGHTING ZONE: OLZ 1 OLZ 2 OLZ 3 OLZ 4
 Is the Outdoor Lighting Zone: Default in accordance with §10-114, or Amended by JHA
 Complete the information below if the default Outdoor Lighting Zone has been amended by the local jurisdiction having authority (JHA):
 The site is a government designated park, recreation area, wildlife preserve, or portion thereof, and has been designated as L22 or L23, in accordance with Table 10-114-A, because the site is contained within such a zone.
 The local jurisdiction having authority has officially adopted a change to the State Default Lighting Zone and has notified the Energy Commission by providing the materials required in §10-114(d) to the Executive Director.
 The adopted change is posted on the Energy Commission website.
 B. ADDITIONAL LIGHTING POWER ALLOWANCE FOR ORDINANCE REQUIREMENTS
 Are additional lighting power allowances for ordinance in Table 147-A used? Yes No
 Complete the information below if additional lighting power allowances for ordinance requirements are used:
 The local jurisdiction having authority has officially adopted specific outdoor light levels, which are expressed as average or minimum footcandle levels, by following a public process that allowed for formal public notification, review, and comment about the proposed change.
 The local jurisdiction having authority which adopted specific outdoor light levels and has notified the Commission by providing the following materials required §10-114(f) to the Executive Director.
 C. ACCEPTANCE FORMS
 Required Acceptance Tests
 Designer: [Signature]
 This form is to be used by the designer and attached to the plans. Listed below is the acceptance test for the Lighting system, OLTG-2A. The designer is required to check the acceptance tests and list all control devices serving the building or space shall be verified as meeting the Acceptance Requirements for Code Compliance. If all the lighting system or control of a certain type requires a test, list the different lighting and the number of systems. The 3A7 Section in the Appendix of the Nonresidential Reference Appendix Manual describes the test. Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately. Forms can be grouped by type of Luminaires controlled.
 Enforcement Agency: [Signature]
 Systems Acceptance: Before Occupancy Permit is granted for a newly constructed building or space or when ever new lighting system with controls is installed in the building or space shall be certified as meeting the Acceptance Requirements.
 The OLTG-2A form is not considered a complete form and is not to be accepted by the enforcement agency unless the boxes are checked and/or filled and signed. In addition, a Certificate of Acceptance forms shall be submitted to the enforcement agency that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of §10-110(b) of Title 24 Part 6. The field inspector must receive the properly filled out and signed forms before the building can receive final occupancy. A copy of the OLTG-2A for each different lighting luminaire control(s) must be provided to the owner of the building for their records.
 Certificate of Acceptance
 Luminaires Controlled: [Table]
 Equipment Requiring Testing: [Table]
 Time Clock: [Table]

CERTIFICATE OF COMPLIANCE (Page 4 of 4) OLTG-1C
 Project Name: GUSD - MONTE VISTA VALLEY ELEMENTARY Date: 4/17/2012
 ALLOWED AND INSTALLED OUTDOOR LIGHTING POWER
 Table with columns A-H and rows for Lighting power allowance for general hardscape, Specific application lighting wattage allowance per unit length, etc.
 Total Installed Wattage = Sum of rows A through F: 558
 Total Allowed Wattage = Sum of rows A through F: 558
 Provided that the lighting wattage power allowances listed in rows A through F are identical to the lighting wattage power allowances taken from OLTG-2C Pages 1 through 3, implies if installed Yes No
 NOTES:

CA # 888104
C-46, C-10



3055 Clearview Way, San Mateo, CA 94402
T: (650) 638-1028 | F: (650) 638-1029
(888)-SOL-CITY (765-2489) | www.solarcity.com

CONFIDENTIAL - THE INFORMATION HEREIN CONTAINED SHALL NOT BE USED FOR THE BENEFIT OF ANYONE EXCEPT SOLARCITY INC., NOR SHALL IT BE DISCLOSED IN WHOLE OR IN PART TO OTHERS OUTSIDE THE RECIPIENT'S ORGANIZATION, EXCEPT IN CONNECTION WITH THE SALE AND USE OF THE RESPECTIVE SOLARCITY EQUIPMENT, WITHOUT THE WRITTEN PERMISSION OF SOLARCITY INC.

GLENDALE USD - MONTE VISTA ELEMENTARY
87.36 PV SYSTEM
GLENDALE USD - MONTE VISTA ELEMENTARY
2620 ORANGE AVE
LA CRESCENTA, CA 91214
8182413111

MANDATORY MEASURES:
 Outdoor Lighting Mandatory Measures
 A) Certification: All electronic lighting control devices must be certified by the manufacturer before they can be installed. Certified lighting control devices must be listed in the Directory of Automatic Lighting Control Devices, call the Energy Institute at 800-775-2000 to obtain more information. All control devices must have instructions for installation and start-up instructions, must be installed in accordance with such directions, and must have a status signal (visual or audio) that warns of failure or malfunction. Physical sensors and other devices may be considered exempt from this requirement if the status signal is infeasible because of infeasible power.
 B) Minimum Lamp Efficacy: All outdoor luminaires with lamps rated over 100 watts must either have a lamp efficacy of at least 80 lumens per watt or be controlled by a motion sensor. Lamp efficacy, for the purposes of complying with Section 152 (a), is the rated initial lamp lumens divided by the rated lamp power (watts), without including ballast or ballast losses. The requirement will apply to all outdoor luminaires that are designed for mercury vapor lamps and larger wattage incandescent lamps. Most general fluorescent, metal halide, and high-pressure sodium lamps have a lamp efficacy greater than 80 lumens per watt and will comply. A motion sensor as a device that automatically turns lights off soon after an area is vacated. The minimum lamp efficacy does not apply, however, to the following applications:
 1. Lighting required by a health or life safety statute, ordinance, or regulation, including but not limited to, emergency lighting.
 2. Lighting used in or around swimming pools, water features, or other locations subject to Article 690 of the California Electrical Code.
 3. Security lights.
 4. Theme lighting for use in theme parks.
 5. Lighting for film or live performances.
 6. Temporary outdoor lighting.
 7. Light emitting diode, neon and cold cathode lighting.
 C) Cut-Off Luminaires: Outdoor luminaires that emit lamps rated greater than 175 watts in the following areas are required to be of the cutoff type:
 1. Building entrances
 2. Building egress
 3. All sales and non-sales canopies
 4. Outdoor dining
 5. All outdoor sales areas
 To comply with this requirement the luminaire must be rated as "cutoff" in a photometric test report that includes any all or other non-vented mounting condition of the installed luminaire. Cutoff is not required for outdoor luminaires when they are used to illuminate the following:
 1. Internally illuminated, externally illuminated, and unlit signs.
 2. Lighting for building facades, public monuments, statues, and vertical surfaces of buildings.
 3. Lighting required by a health or life safety statute, ordinance, or regulation, including but not limited to, emergency lighting.
 4. Temporary outdoor lighting.
 5. Lighting used in or around swimming pools, water features, or other locations subject to Article 690 of the California Electrical Code.
 D) Automatic Shutoff Controls: All permanently installed outdoor lighting must be controlled by a photocell or astronomical time switch that automatically turns off the outdoor lighting when daylight is available. Automatic time switch control devices used to control outdoor lighting shall:
 1. Be capable of programming different schedules for weekdays and weekends and
 2. Have program backup capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted. Outdoor automatic shutoff controls used to control outdoor lighting shall:
 3. Contain at least 2 separately programmable channels per function area, and
 4. Have the ability to independently adjust the on and off times for each channel by 15 to 99 minutes before or after sunrise or sunset, and
 5. Have sunrise and sunset prediction accuracy within +/- 15 minutes and timekeeping accuracy within 5 minutes per year, and
 6. Have time zone, longitude and latitude in non-volatile memory, and
 7. Display date/time, sunrise and sunset and
 8. Have an automatic daylight saving time adjustment, and
 9. Have automatic time switch capabilities specified in Section 119 (c).
 This requirement does not apply for lighting in parking garages, tunnels, and large covered areas that require illumination during daylight hours.
 E) Multiple-Use Lighting: For building facades, parking lots, garages, sales and non-sales canopies, and all outdoor sales areas, where two or more luminaires are used, automatic controls are required to provide the owner with the ability to turn off the lighting to reduce the lighting power by at least 20% (but not exceeding 80% when the light is not needed). The switching controls is sometimes referred to as multi-use lighting. Continuous dimming control strategies also satisfy this requirement as long as their dimming range encompasses the 20% to 80% power reduction range.
 Exemptions apply to:
 1. Lighting required by a health or life safety statute, ordinance, or regulation, including but not limited to, emergency lighting.
 2. Lighting for sales areas that require illumination during daylight hours.
 3. Lighting that is controlled by a motion sensor and photocell.
 4. Lighting for facilities that have equal lighting requirements at all hours and are designed to operate continuously.
 5. Temporary outdoor lighting.
 6. Internally illuminated, externally illuminated, and unlit signs.

REVISIONS

REV	BY	DATE	COMMENTS
1	YNG	4/17/2012	

JOB DETAILS
 City: Los Angeles County (LA)
 PROJECT: (354) YINGLI # YL240P-29b
 MOUNTING SYSTEM: STEEL SUPPORT STRUCTURES
 PERMIT: (1) XANTREX # CT100-208
 ORDERED BY: GUYT
 DESIGNED BY: ES
 DATE: 1/6/2012
 PAYEE NAME: TITLE 24 COMPLIANCE
 JOB NUMBER: JB-912047-00
 DATE: 1/6/2012
 PAYEE NAME: TITLE 24 COMPLIANCE
 JOB NUMBER: JB-912047-00

OUTDOOR LIGHTING WORKSHEET (Page 3 of 3) OLTG-2C
 Project Name: GUSD - MONTE VISTA VALLEY ELEMENTARY Date: 4/17/2012
 F. ADDITIONAL LIGHTING POWER ALLOWANCE FOR ORDINANCE REQUIREMENTS
 Note: The additional lighting power allowance for ordinance requirements may be used only if the jurisdiction having authority has officially adopted specific outdoor light levels, which are expressed as average or minimum footcandle (fc) levels, by following a public process that allowed for formal public notification, review, and comment about the proposed change.
 Information in OLTG-1C, Page 3 of 4, Section B has been completed.
 Table with columns A-F and rows for Hardcape Application Having Official Lighting Ordinance, Illuminated Hardscape Area (ft²), Avg. or Min. Ordinance, Number Horizontal Foot Candle required by Ordinance, Allowance (W/ft²), Wattage Allowance (B x F)
 1. Total additional lighting power allowance for ordinance requirements (sum of column F)
 2. Enter actual additional incremental wattage used to meet local ordinance requirements
 3. Enter smaller of row 1 or row 2
 Enter wattage from row 3 above into OLTG-1C, Page 4 of 4, Row F, Item: Additional lighting power allowance for ordinance requirements

ABBREVIATIONS table listing various construction materials and terms with their corresponding abbreviations.

BUILDING CODE: 2010 EDITION OF THE CALIFORNIA BUILDING CODE. OCCUPANCY GROUP PER SITE-SPECIFIC DOCUMENTS. ALLOWABLE AREA AND MINIMUM SEPARATION BETWEEN STRUCTURES TO BE DETERMINED AT EACH SPECIFIC LOCATION PER CBC WHICH IS TO BE CHECKED AT BACKCHECK.

WELDING: UNLESS NOTED OTHERWISE, ALL WELDS PER LATEST EDITION OF THE AWS STANDARDS. ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES.

THE SOLAR PANELS AND THEIR ANCHORAGE SYSTEMS ARE DEFERRED ITEMS. PER TITLE 24, PART 1, SECTION 4-317 (g), THEIR DESIGNS SHALL BE REVIEWED AND APPROVED BY DSA PRIOR TO INSTALLATION. THE DEFERRED SUBMITTAL DOCUMENTS SHALL BE STAMPED AND SIGNED BY EITHER AN ARCHITECT OR REGISTERED ENGINEER WITH A VALID CALIFORNIA LICENSE.

GOVERNING LOAD COMBOS table with columns for PURLIN, BEAM 3P, BEAM 4P, 10.5' CLR., 12' CLR., M MAX(K'), and V MAX(K').

3P = 3 PANELS, 4P = 4 PANELS

COLD FORMED STRUCTURAL STEEL FRAMING: GENERAL table with columns for MILS, GAGE NO., MIN DELIVERED THICKNESS, and DESIGN THICKNESS.

CONCRETE: SPECIFIED 28 DAY COMPRESSIVE STRENGTH F'c table with columns for MILS, GAGE NO., MIN DELIVERED THICKNESS, and DESIGN THICKNESS.

GENERAL NOTES: THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.

REINFORCING: ALL REINFORCING PER CRSI SPECIFICATIONS AND HANDBOOK. ASTM A615 (Fy = 60 KSI / GRADE 60) DEFORMED BARS FOR ALL BARS.

SPECIAL INSPECTION - STRUCTURAL ONLY: SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17A OF THE CBC FOR THE FOLLOWING: CONCRETE CONSTRUCTION.

STRUCTURAL STEEL: GENERAL: ALL CONSTRUCTION PER LATEST AISC STEEL CONSTRUCTION. ALL CONSTRUCTION PER LATEST AISC STEEL CONSTRUCTION MANUAL.

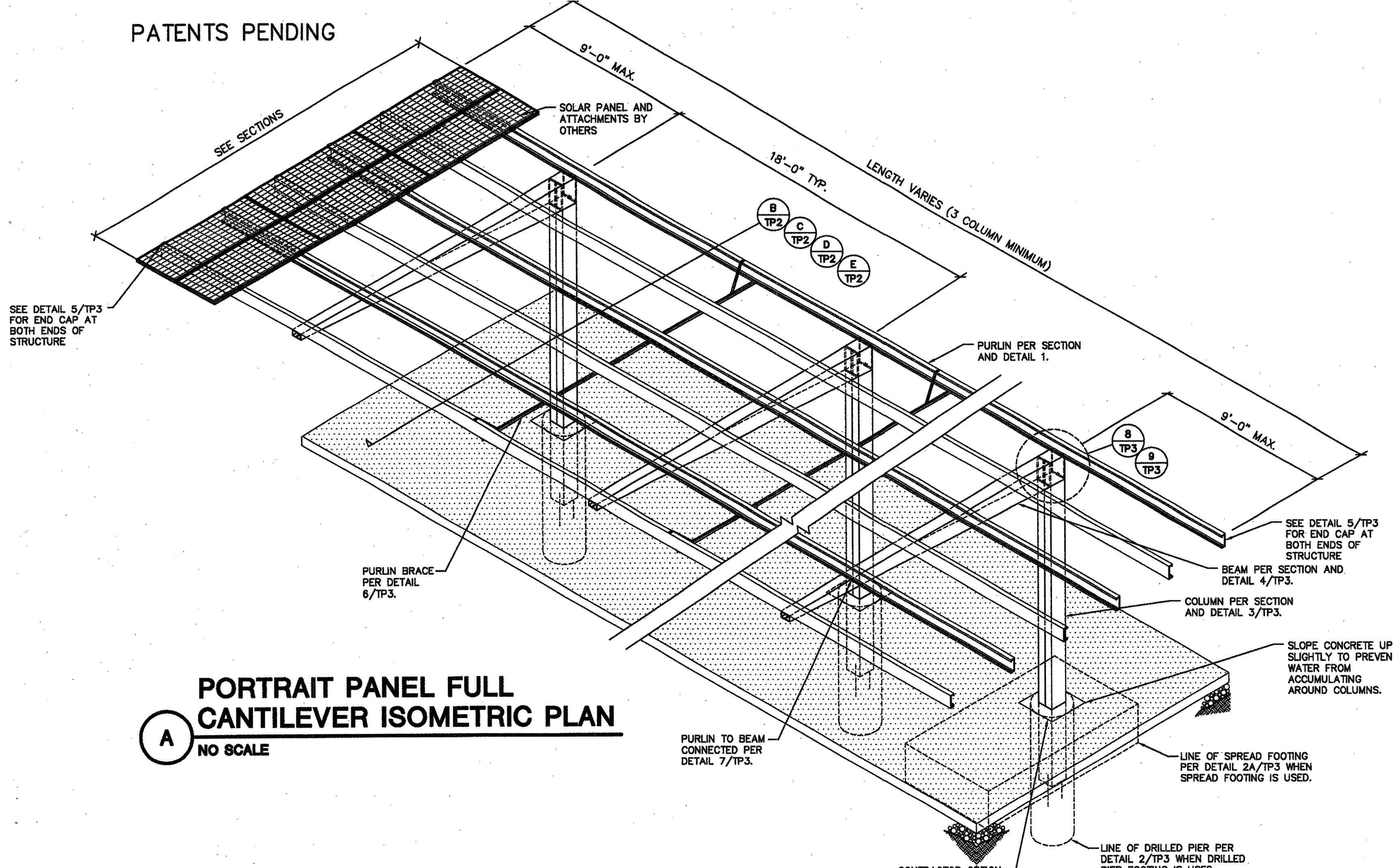
DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR: A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATION.

SHEET INDEX FOR 02-112000 table listing sheet numbers (FL1-FL4, FP1-FP4) and descriptions.

PRE-CHECK (PC) DOCUMENT section containing identification stamps, codes, and project information.

Vertical sidebar containing CARUSO TURLEY SCOTT INC. logo, contact information, and a vertical signature line.

PATENTS PENDING



PORTRAIT PANEL FULL CANTILEVER ISOMETRIC PLAN

A
NO SCALE

MEMBER TYPE	3 PANELS 16'-7"	4 PANELS 22'-1 1/2"
BEAM SIZES	6 PURLINS 85 MPH/EXPOSURE C	8 PURLINS 85 MPH/EXPOSURE C
BEAM WITH WELDED CONNECTION PER DETAIL 8/TP3		
BEAM WITH BOLTED CONNECTION PER DETAIL 9/TP3		
CLEAR HEIGHT	10'-6"	10'-6"
COLUMN SIZES	12'-0"	12'-0"

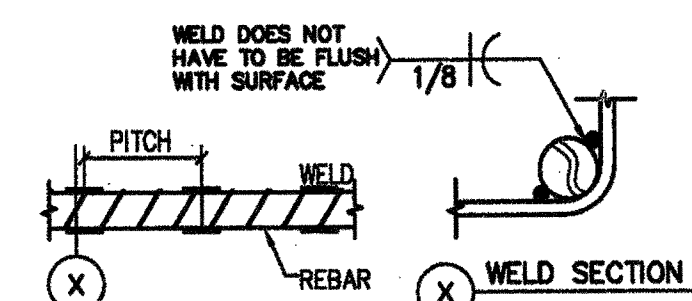
NOTES:
1. FOR BEAM REINFORCING INFORMATION NOT SHOWN, SEE DETAIL 4/TP3.
2. BEAM REINFORCEMENT WITH REBAR OPTION MAY ALSO BE USED WITH BOLTED CONNECTION.

TABLE OF BEAM AND COLUMN SIZES

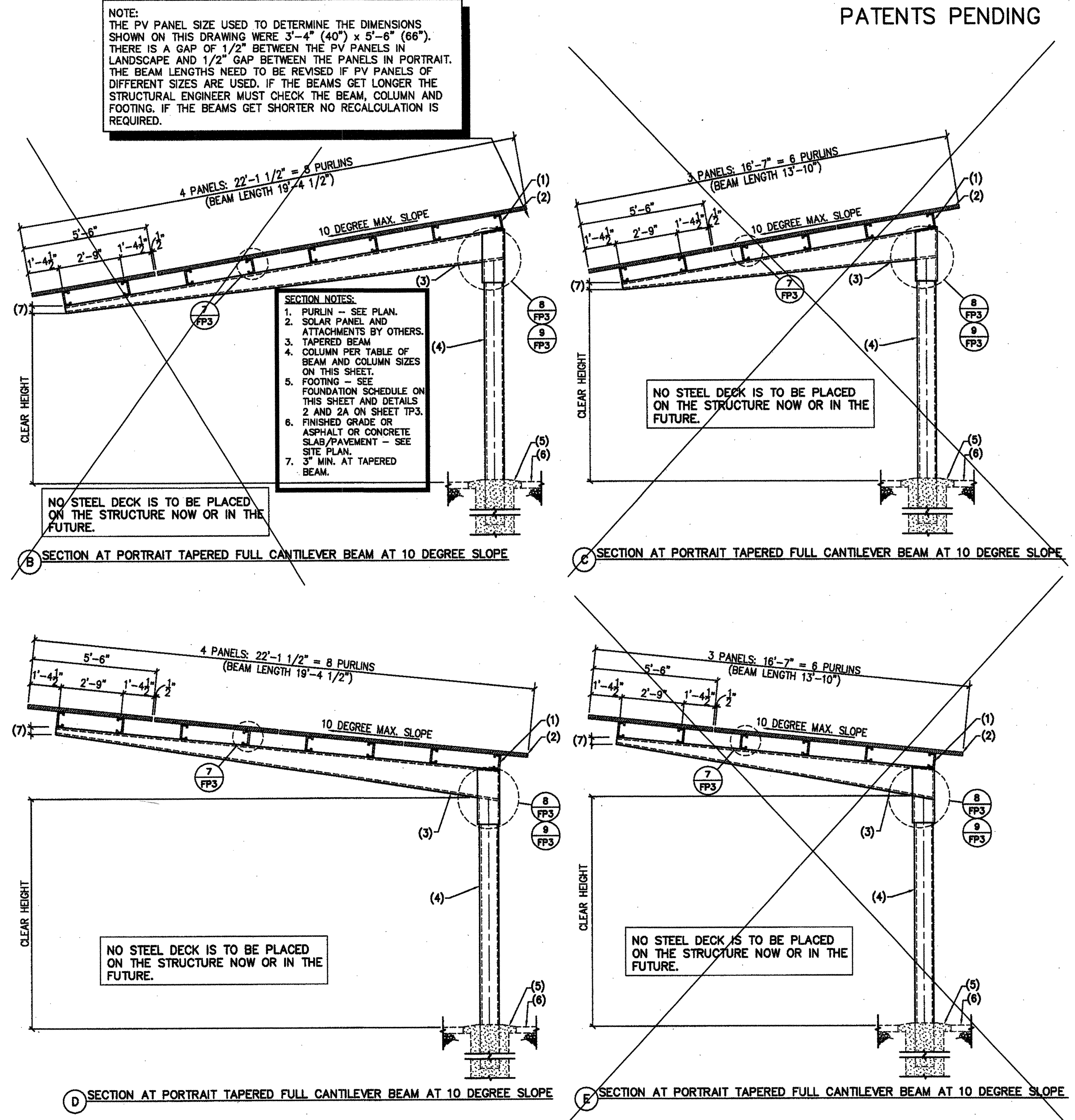
CONTRACTOR OPTION: 24" SQUARE TOP OF DRILLED PIER DUE TO SAW CUTTING ASPHALT TO ALLOW DRILLING OF FOOTING.

REBAR SIZE	WELD LENGTH (IN) - PITCH (C TO C SPACING) (IN)	MINIMUM NUMBER OF 2" LONG WELDS
#8	2 - 13	7

NOTE: IT IS ACCEPTABLE TO USE A CLOSER CENTER TO CENTER SPACING THAN WHAT IS SHOWN, BUT IT IS NOT ACCEPTABLE TO SPACE THE WELDS ANY FARTHER THAN WHAT IS SHOWN.



PATENTS PENDING



NOTE: THE PV PANEL SIZE USED TO DETERMINE THE DIMENSIONS SHOWN ON THIS DRAWING WERE 3'-4" (40") x 5'-6" (66"). THERE IS A GAP OF 1/2" BETWEEN THE PV PANELS IN LANDSCAPE AND 1/2" GAP BETWEEN THE PANELS IN PORTRAIT. THE BEAM LENGTHS NEED TO BE REVISED IF PV PANELS OF DIFFERENT SIZES ARE USED. IF THE BEAMS GET LONGER THE STRUCTURAL ENGINEER MUST CHECK THE BEAM, COLUMN AND FOOTING. IF THE BEAMS GET SHORTER NO RECALCULATION IS REQUIRED.

SECTION NOTES:
1. PURLIN - SEE PLAN.
2. SOLAR PANEL AND ATTACHMENTS BY OTHERS.
3. TAPERED BEAM.
4. COLUMN PER TABLE OF BEAM AND COLUMN SIZES ON THIS SHEET.
5. FOOTING - SEE FOUNDATION SCHEDULE ON THIS SHEET AND DETAILS 2 AND 2A ON SHEET TP3.
6. FINISHED GRADE OR ASPHALT OR CONCRETE SLAB/PAVEMENT - SEE SITE PLAN.
7. 3" MIN. AT TAPERED BEAM.

PATENTS PENDING

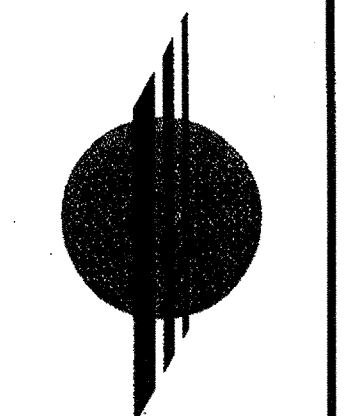
FULL-CANT FOUNDATION SCHEDULE													
PANEL ORIENTATION	# OF PANELS	CLEAR HEIGHT (MAX.)	DRILLED PIER EMBEDMENT DEPTH (32" DIAMETER)				SPREAD FOOTING SIZE						
			PASSIVE = 100PSF/FT	PASSIVE = 200PSF/FT	PASSIVE = 300PSF/FT	PASSIVE = 400PSF/FT	THICKNESS	WIDTH	LENGTH				
P	3	10'-6"	12'-7"	7'-11"	10'-0"	8'-4"	8'-9"	5'-0"	7'-11"	5'-0"	56"	9'-0"	9'-6"
P	3	12'-0"	12'-8"	10'-1"	8'-8"	8'-10"	5'-8"	8'-0"	8'-0"	8'-0"	56"	9'-0"	9'-6"
P	4	10'-6"	15'-5"	8'-5"	12'-3"	7'-6"	10'-8"	6'-6"	9'-9"	5'-11"	56"	9'-6"	11'-6"
P	4	12'-0"	15'-6"	9'-6"	12'-1"	7'-6"	10'-9"	6'-7"	9'-8"	6'-0"	56"	10'-0"	11'-6"

FOUNDATION SCHEDULE

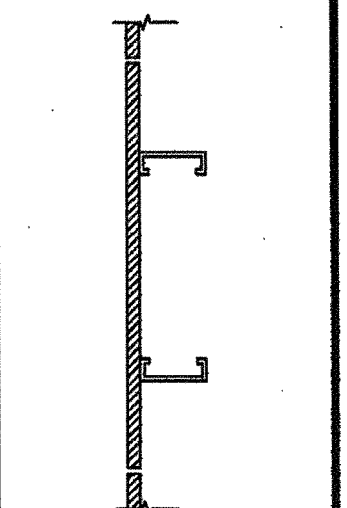
PRE-CHECK (PC) DOCUMENT
CODE: 2010 CBC
A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED

DSA APP. NO 02-112000

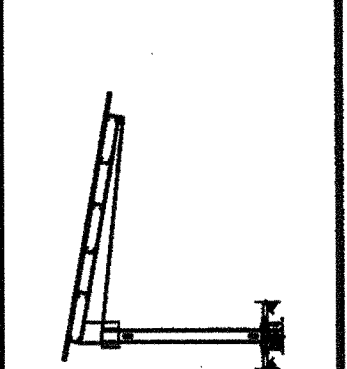
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-112000
DATE: 3.22.12



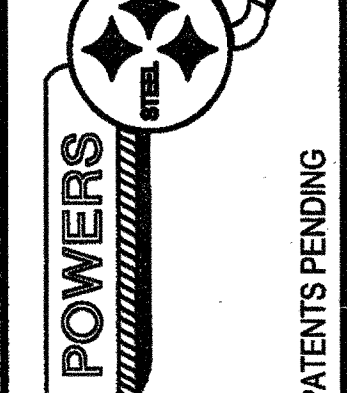
CARUSO TURLEY SCOTT INC.
consulting structural engineers
1215 W. Rio Salado Pkwy
Suite 200
Tempe, Arizona 85281
(480) 774-1700
(480) 774-1701 FAX
www.ctsaz.com



PORTRAIT SOLAR PANELS ON FULL CANTILEVER SOLAR SUPPORT STRUCTURE
DSA-PRE CHECK

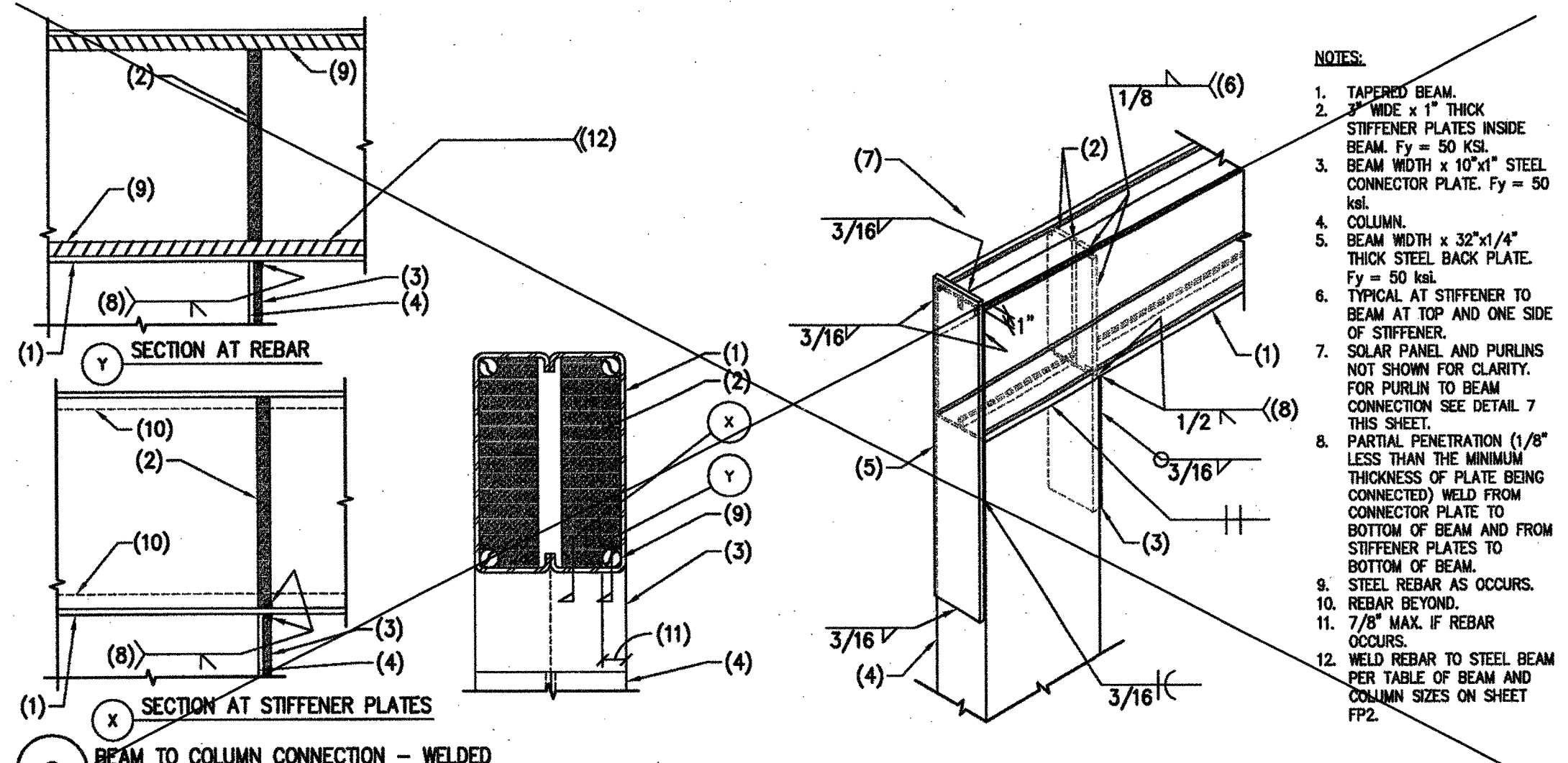


WWW.POWERSSTEEL.COM
STEEL & WIRE

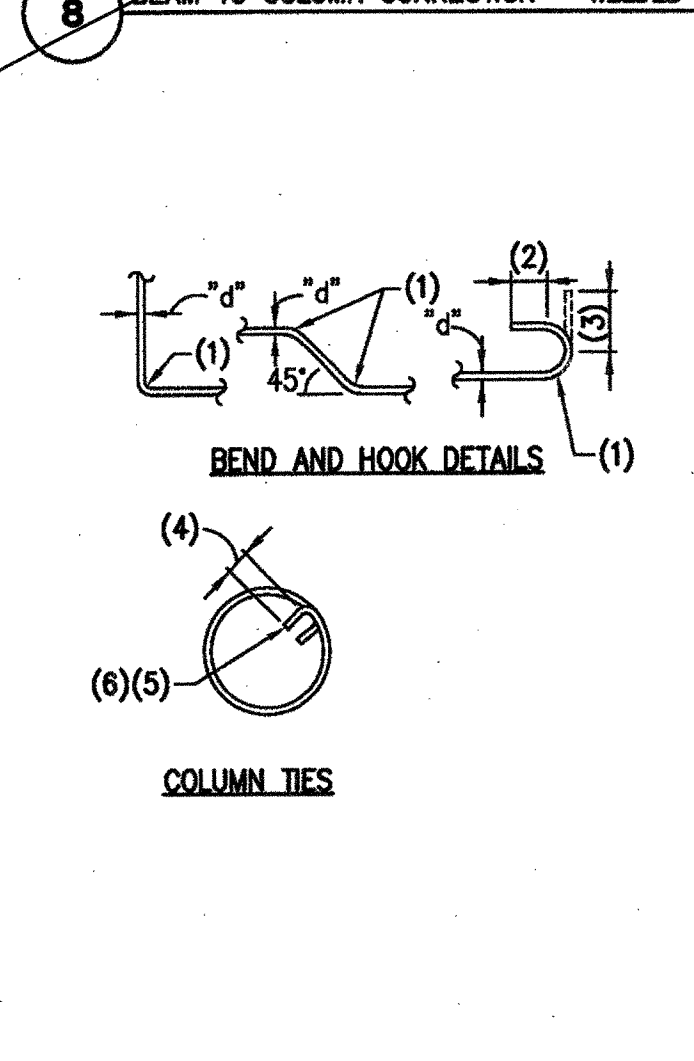


THESE DRAWINGS/CALCULATIONS ARE CONSIDERED PRELIMINARY - NOT FOR CONSTRUCTION OR RECORDING UNLESS THE STRUCTURAL ENGINEER OF RECORD'S SEAL IS AFFIXED WITH WRITTEN SIGNATURE.
DRAWING EDITION/REF JOB #
REVISIONS:
JOB NUMBER: 11-071
DRAWN: ENGINEER: CHECKED: BLP PGS DST
DATE: 3/15/12
SHEET: FP2

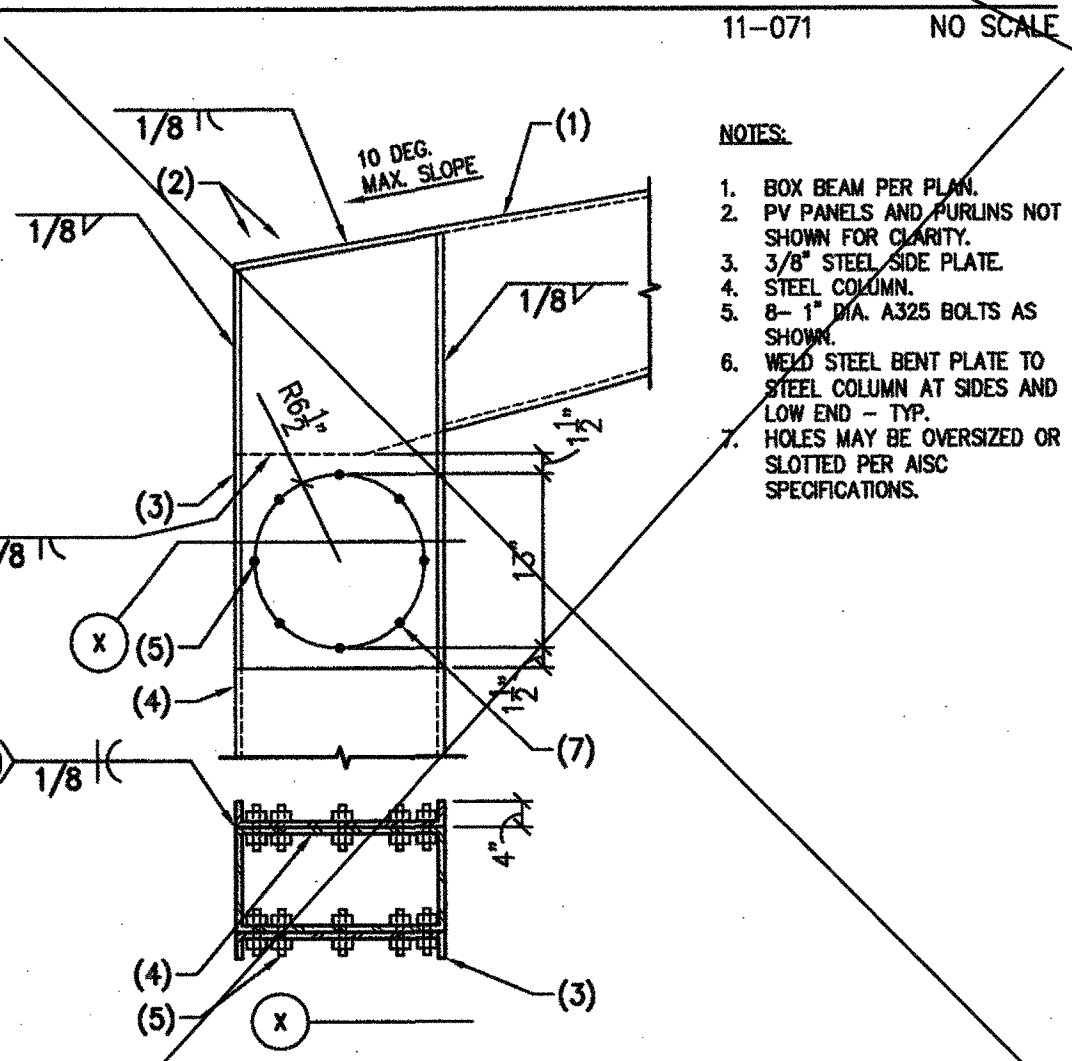
PATENTS PENDING



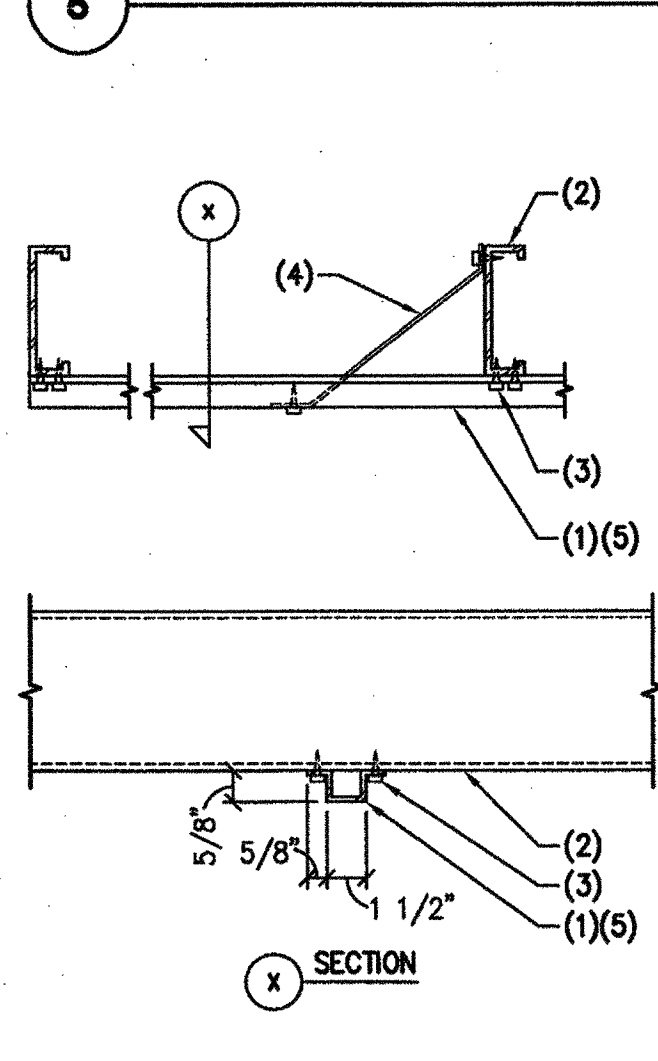
- NOTES:
1. TAPERED BEAM.
 2. 3" WIDE x 1" THICK STIFFENER PLATES INSIDE BEAM. $F_y = 50$ KSI.
 3. BEAM WIDTH x 10"x1" STEEL CONNECTOR PLATE. $F_y = 50$ KSI.
 4. COLUMN.
 5. BEAM WIDTH x 3/2"x1/4" THICK STEEL BACK PLATE. $F_y = 50$ KSI.
 6. TYPICAL AT STIFFENER TO BEAM AT TOP AND ONE SIDE OF STIFFENER.
 7. SOLAR PANEL AND PURLINS NOT SHOWN FOR CLARITY. FOR PURLIN TO BEAM CONNECTION SEE DETAIL 7 THIS SHEET.
 8. PARTIAL PENETRATION (1/8" LESS THAN THE MINIMUM THICKNESS OF PLATE BEING CONNECTED) WELD FROM CONNECTOR PLATE TO BOTTOM OF BEAM AND FROM STIFFENER PLATES TO BOTTOM OF BEAM.
 9. STEEL REBAR AS OCCURS.
 10. REBAR BEYOND.
 11. 7/8" MAX. IF REBAR OCCURS.
 12. WELD REBAR TO STEEL BEAM PER TABLE OF BEAM AND COLUMN SIZES ON SHEET FP2.



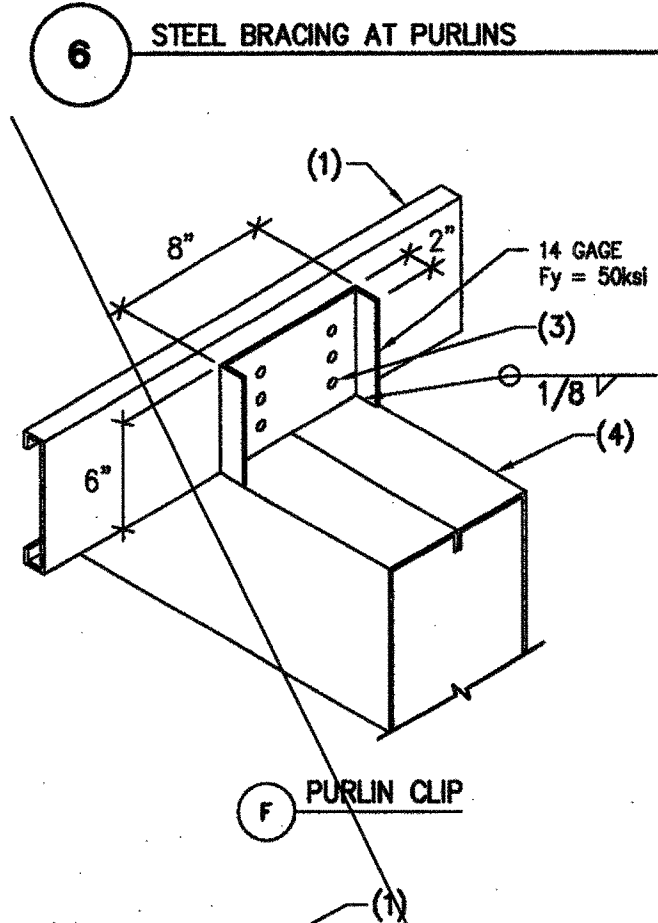
- NOTES:
1. RADIUS=3d FOR BARS NOT OVER #6; 4d FOR #6, #10 AND #11 BARS; 5d FOR #14 AND #18 BARS. 5d FOR ALL GRADE 40 BARS WITH 180 DEGREE HOOK.
 2. 4d (4" MINIMUM).
 3. 12d (90 DEGREE HOOK).
 4. 6d (4" MINIMUM).
 5. 135 DEGREE BEND.
 6. ROTATE THE LOCATION 90 DEGREES EACH TIE.



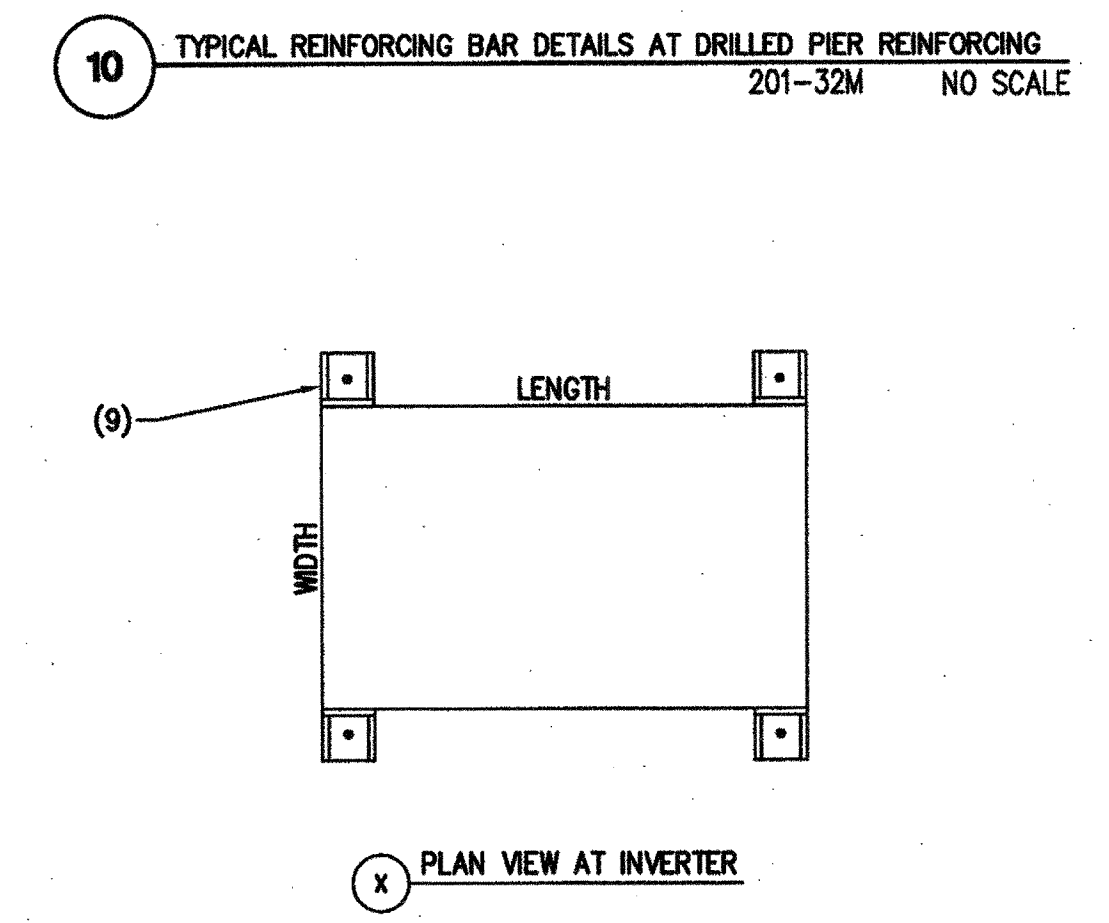
- NOTES:
1. BOX BEAM PER PLAN.
 2. PV PANELS AND PURLINS NOT SHOWN FOR CLARITY.
 3. 3/8" STEEL SIDE PLATE.
 4. STEEL COLUMN.
 5. 8-1" DIA. A325 BOLTS AS SHOWN.
 6. WELD STEEL BENT PLATE TO STEEL COLUMN AT SIDES AND LOW END - TYP. HOLES MAY BE OVERSIZED OR SLOTTED PER AISC SPECIFICATIONS.



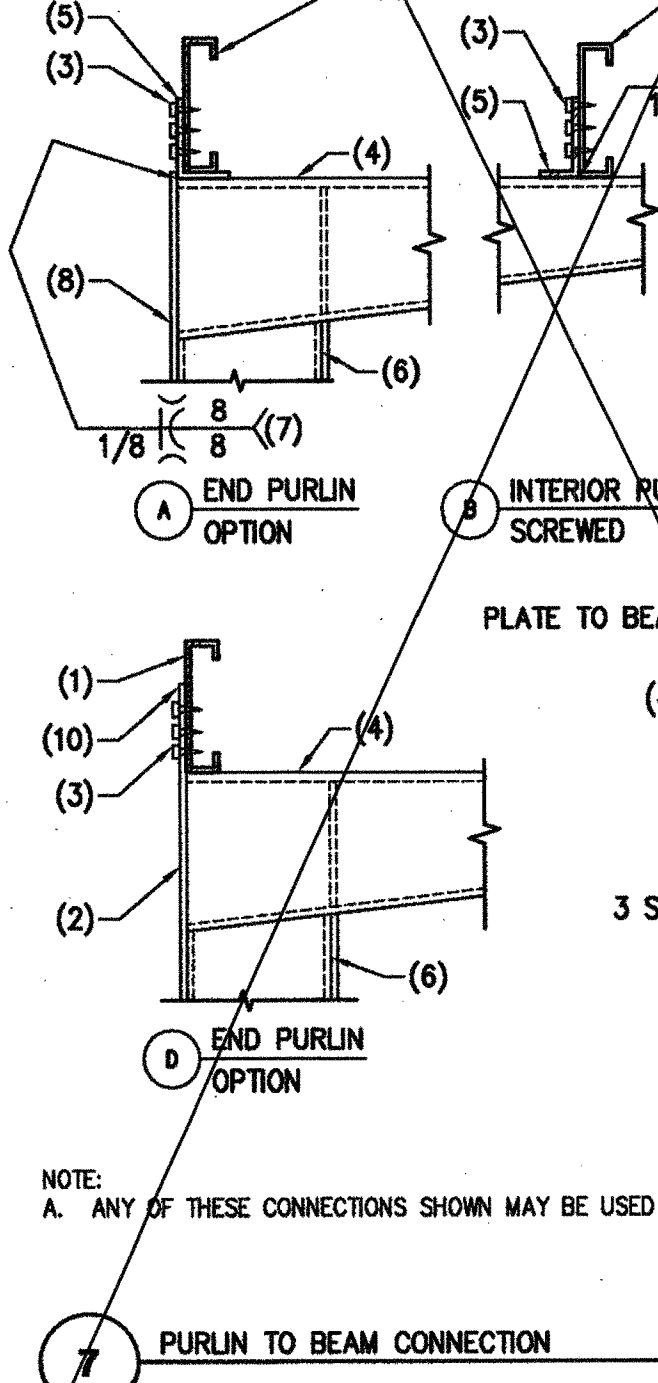
- NOTES:
1. 16 GAUGE STEEL HAT CHANNEL BRACE. LOCATE AT MIDSPAN BETWEEN COLUMNS.
 2. PURLIN.
 3. 2 #12 x 3/4" LONG SCREWS AT EACH PURLIN.
 4. 1" x 2" GA STRIP AT EACH END OF CANOPY. ATTACH WITH 1 #12 x 3/4" LONG SCREW AS SHOWN.
 5. OPTIONS TO NOTE 1 HAT CHANNEL:



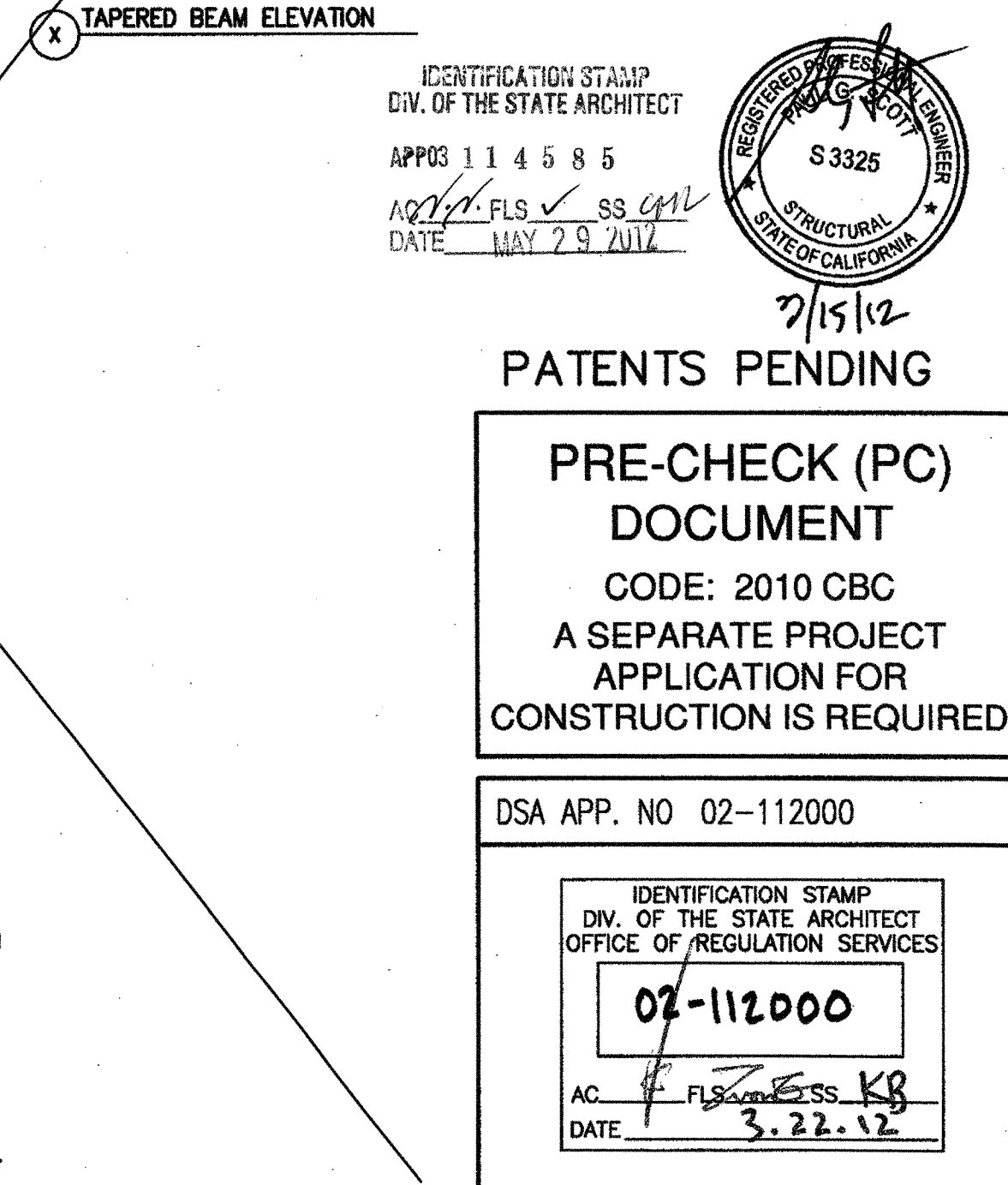
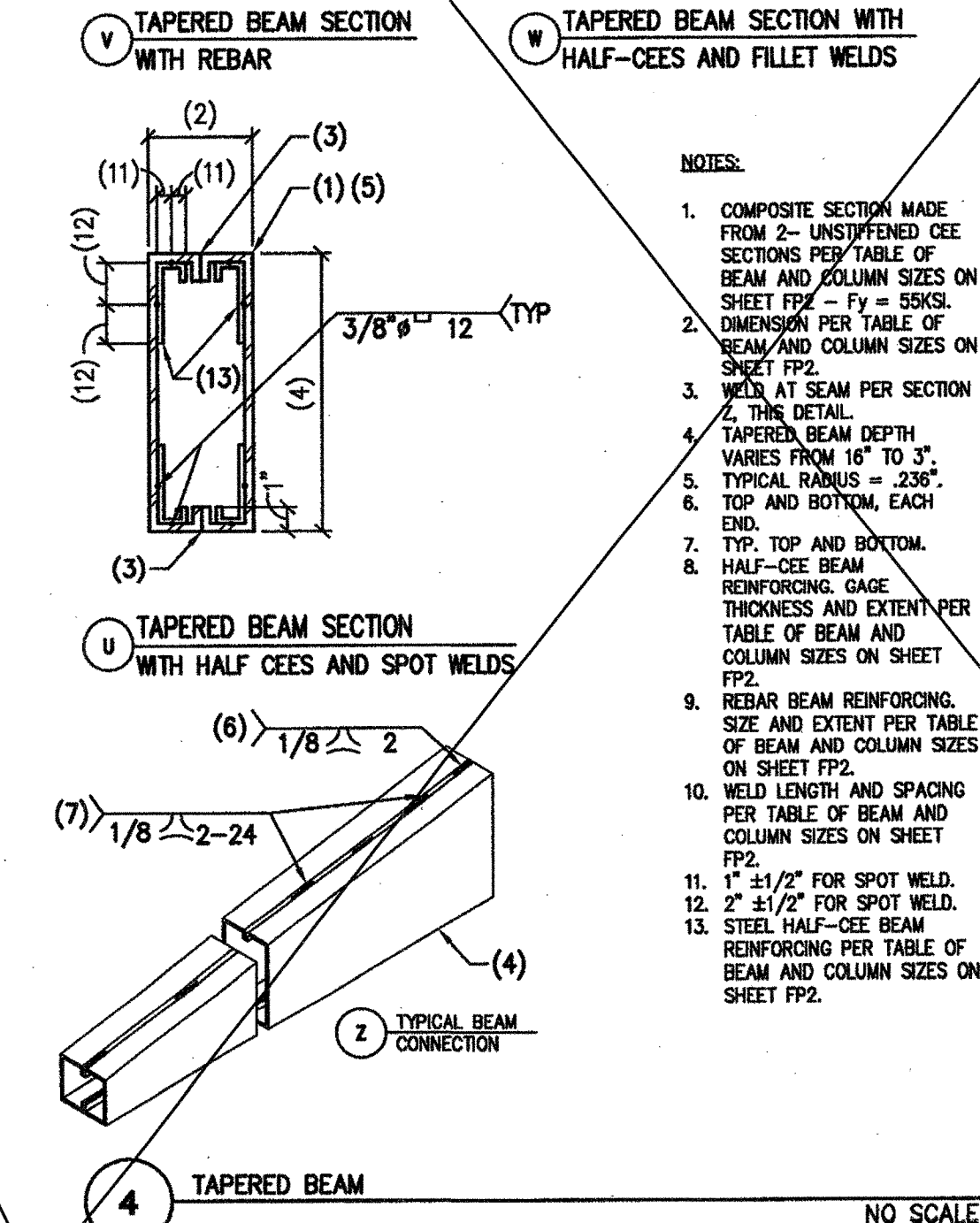
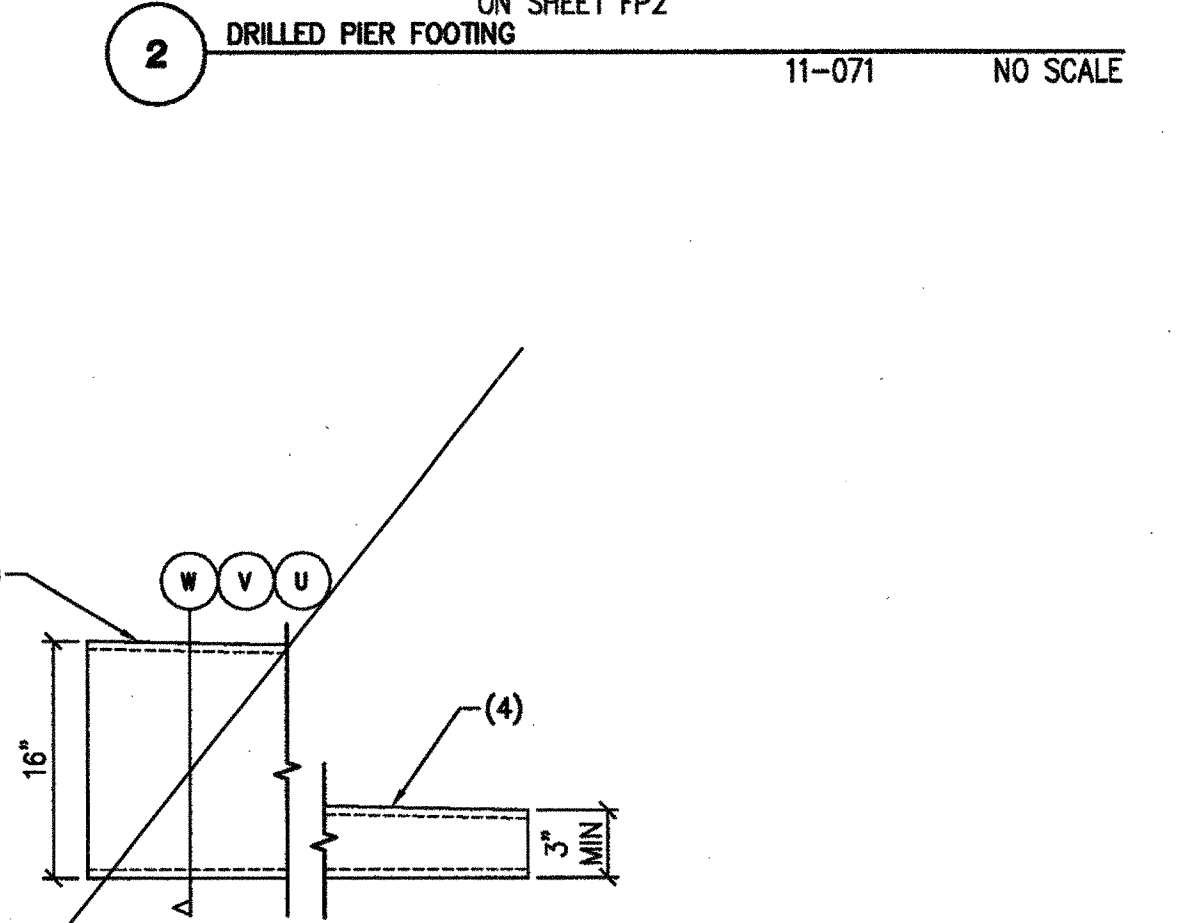
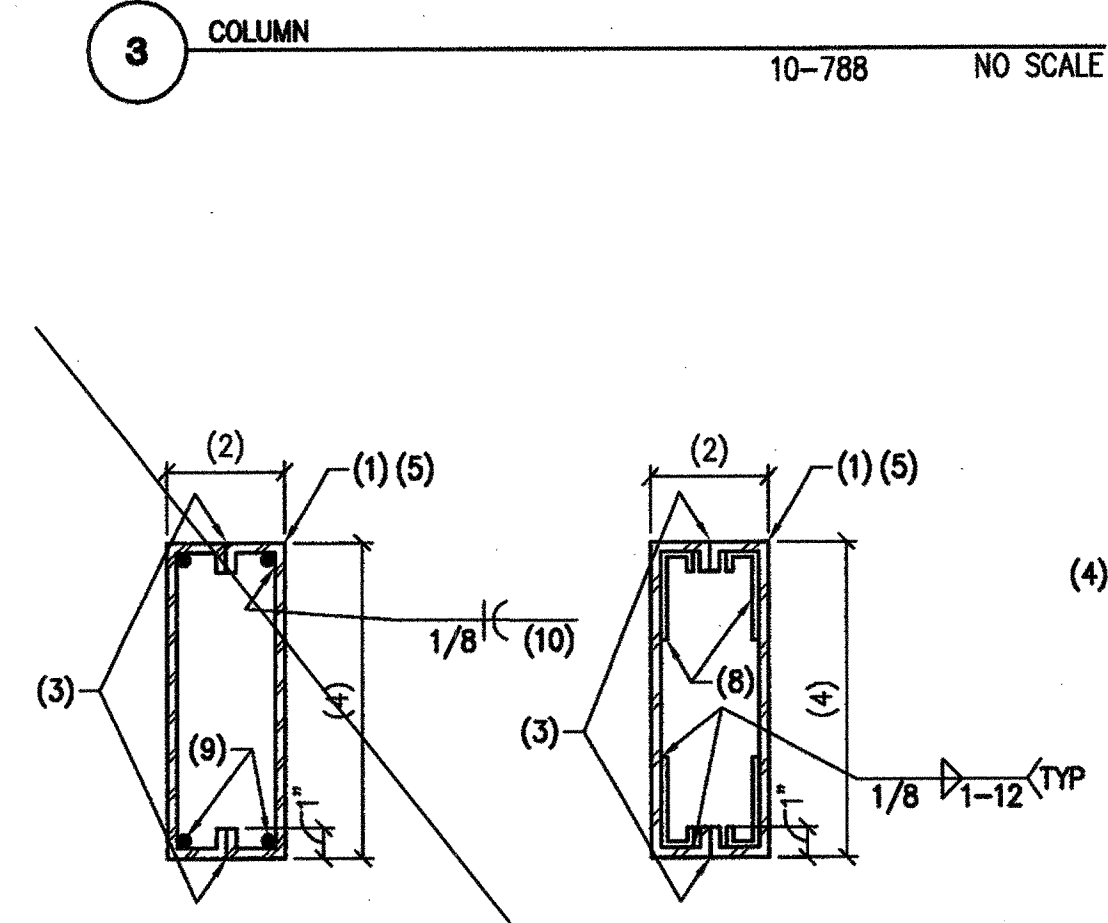
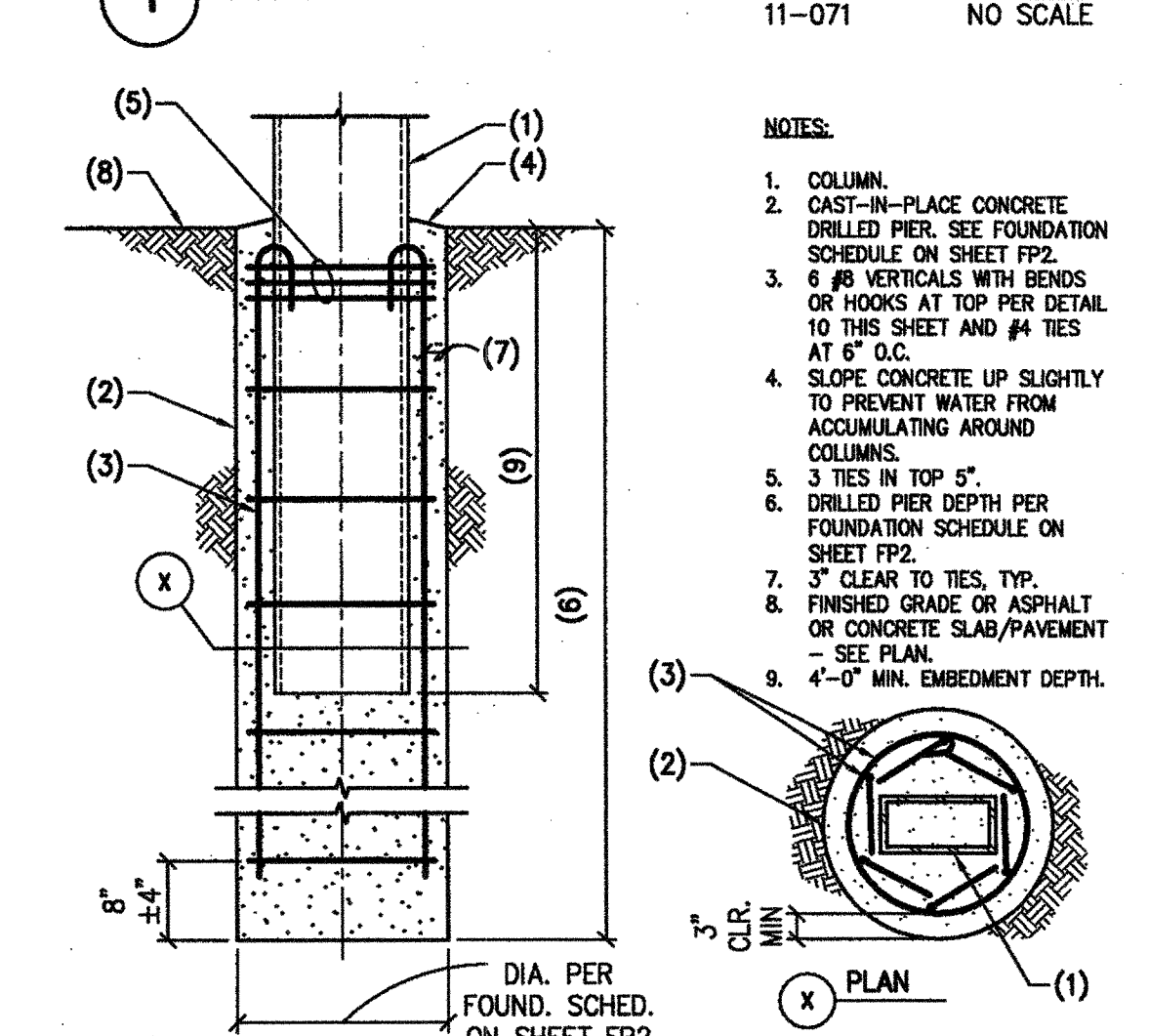
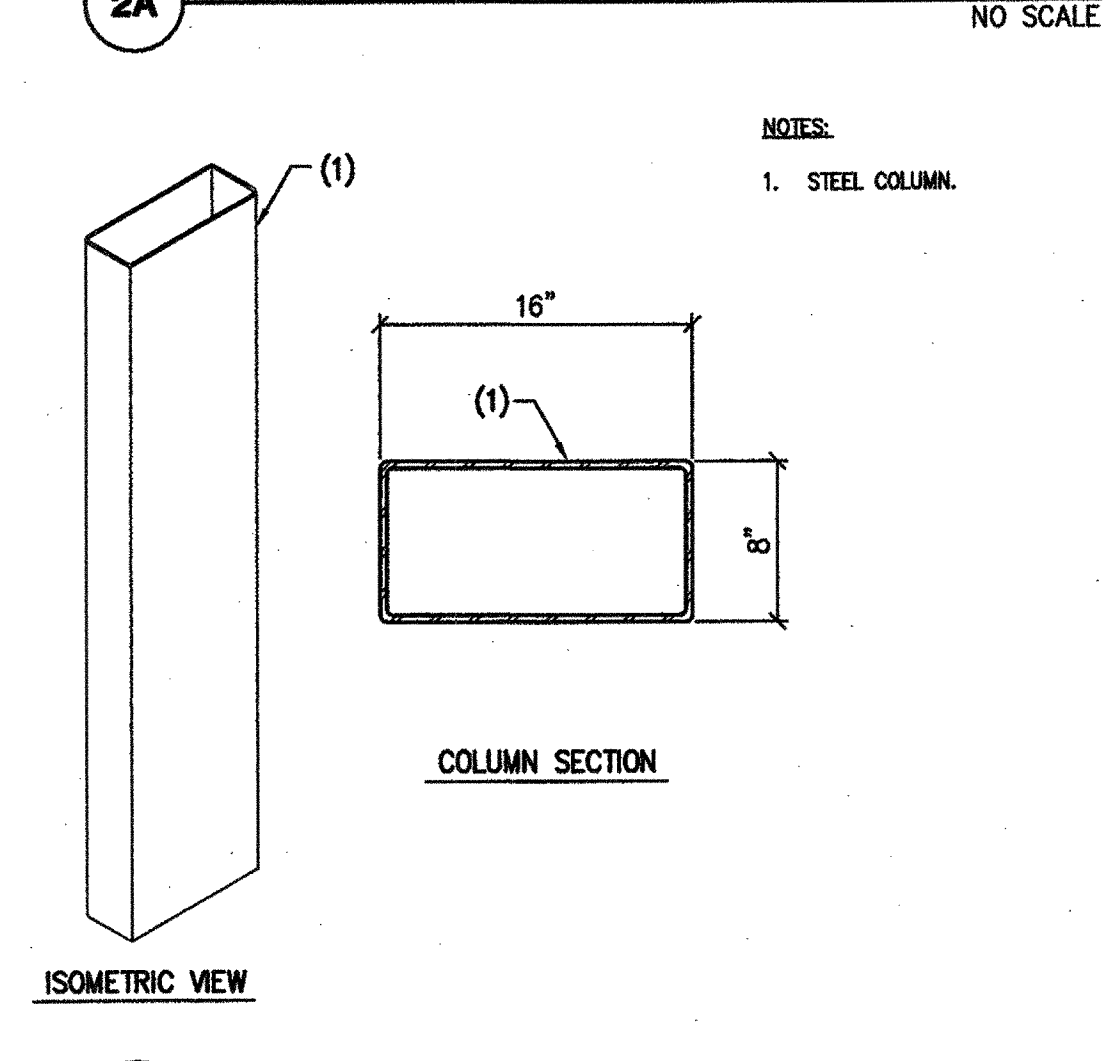
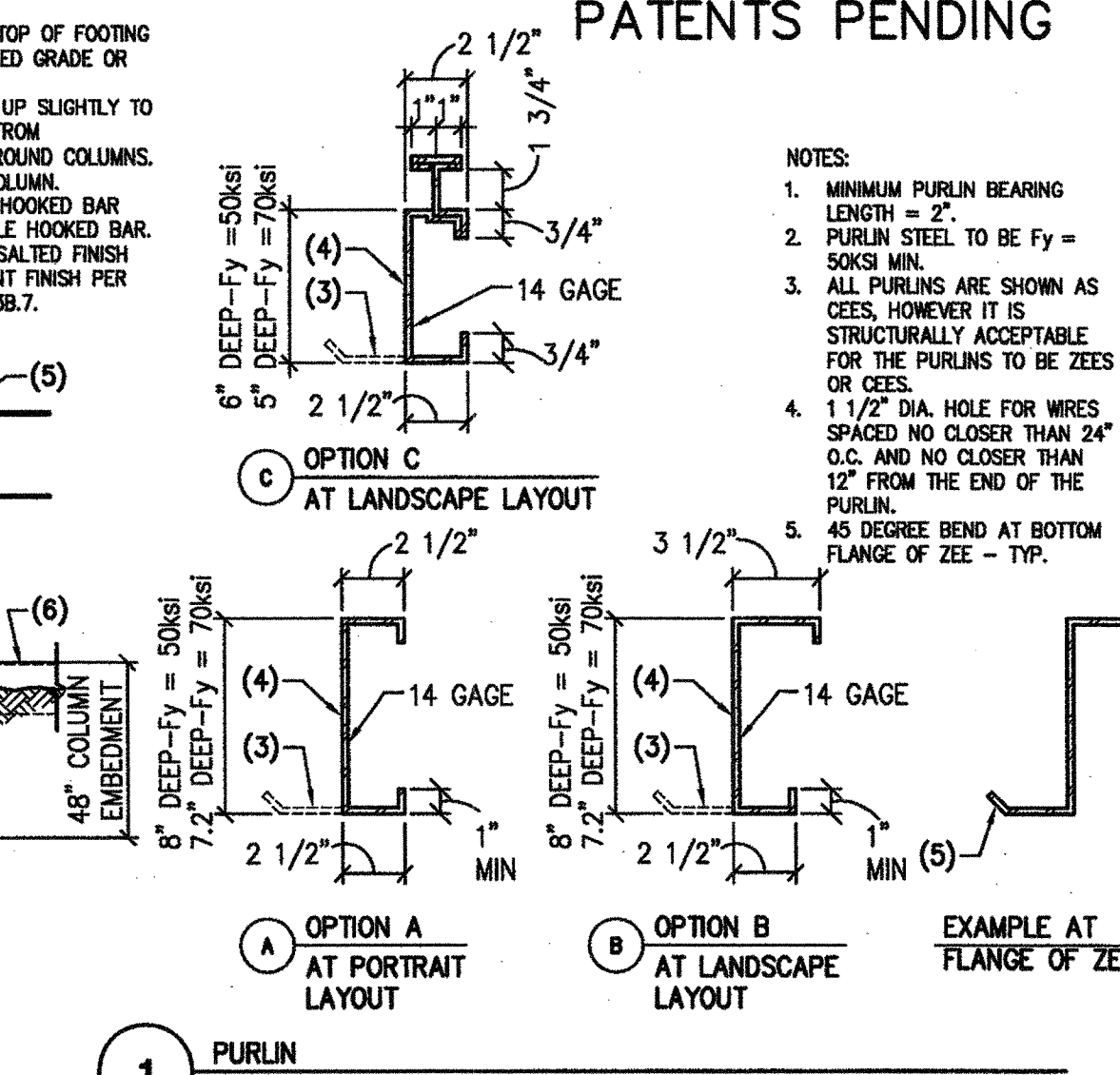
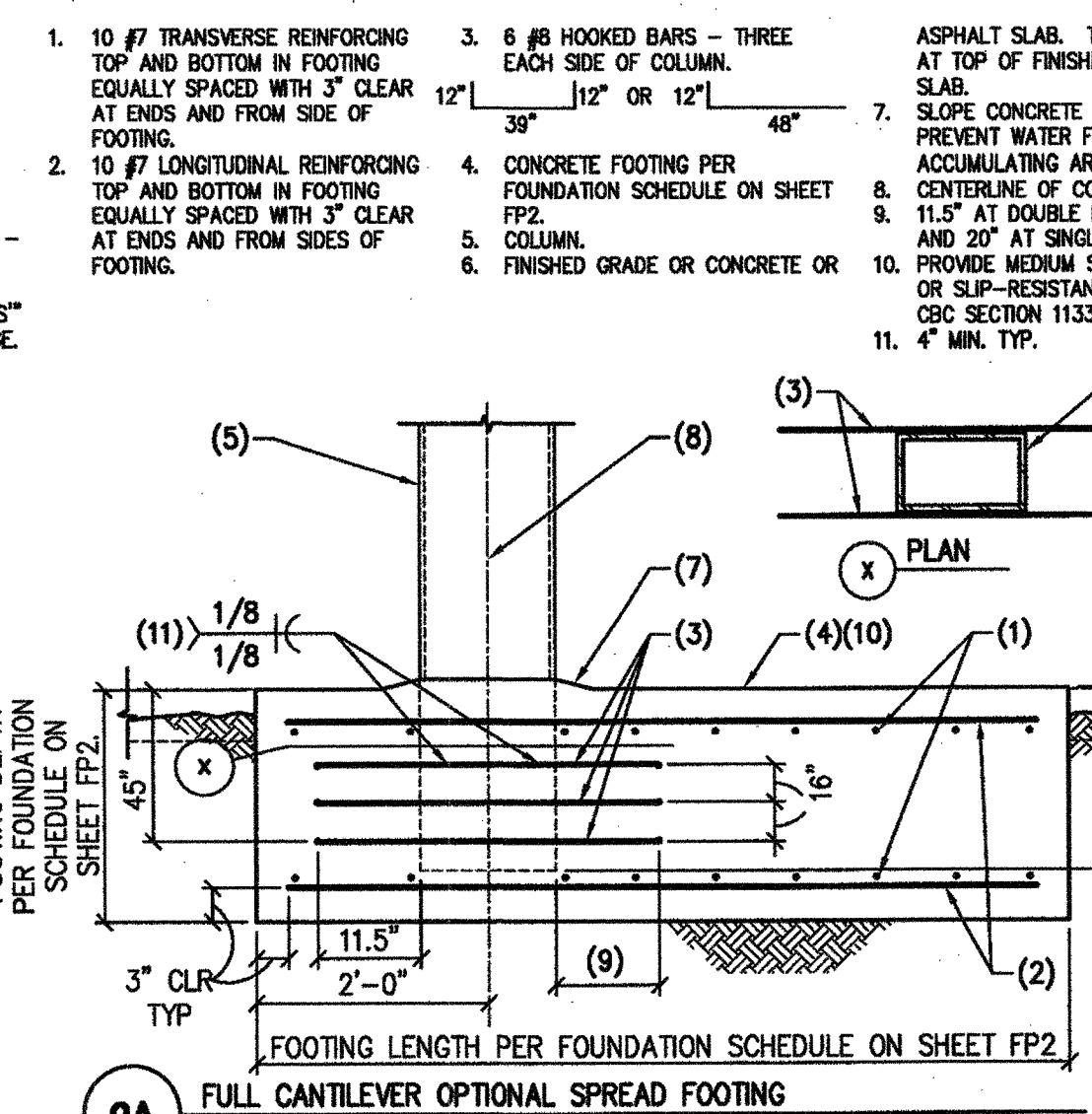
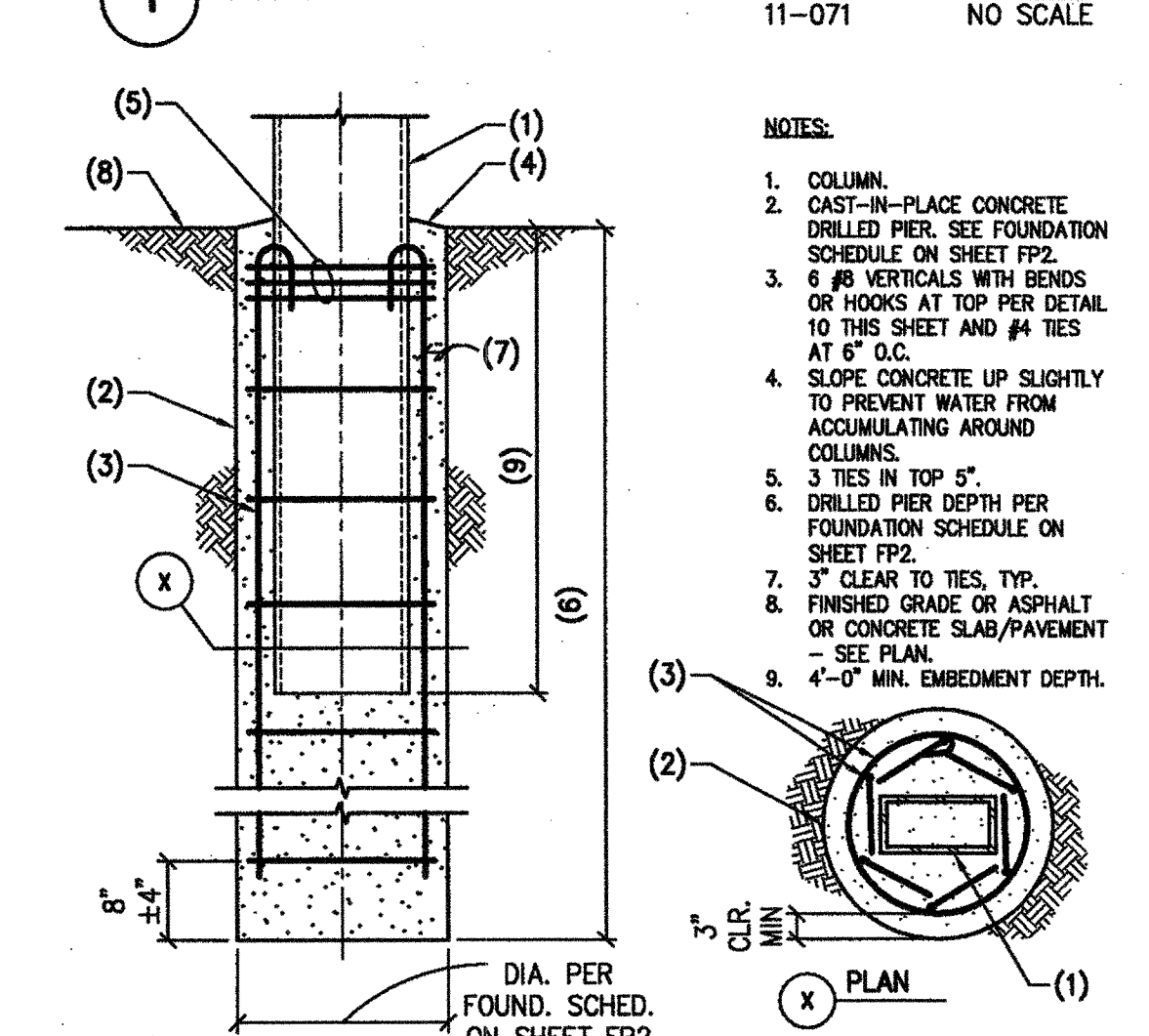
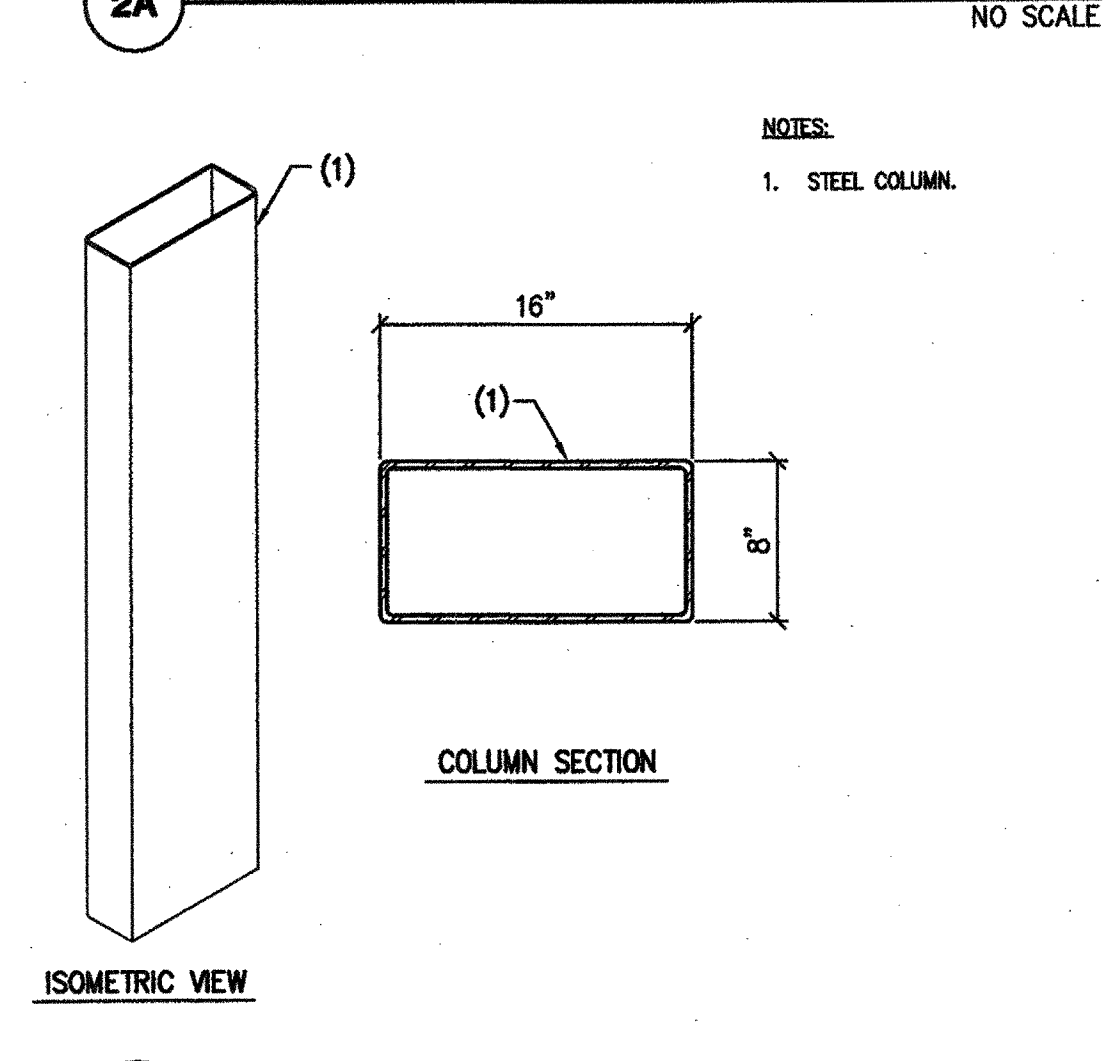
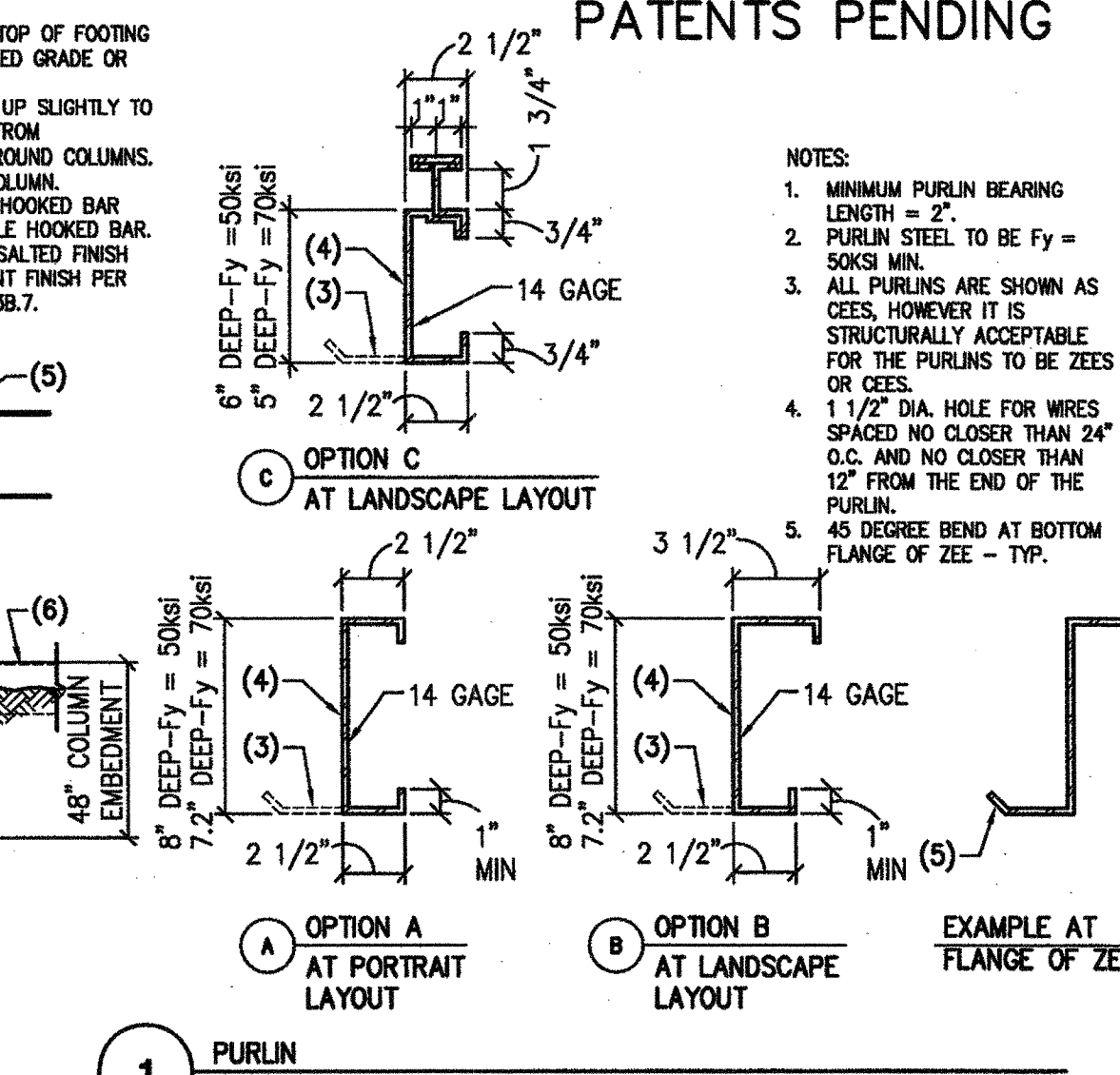
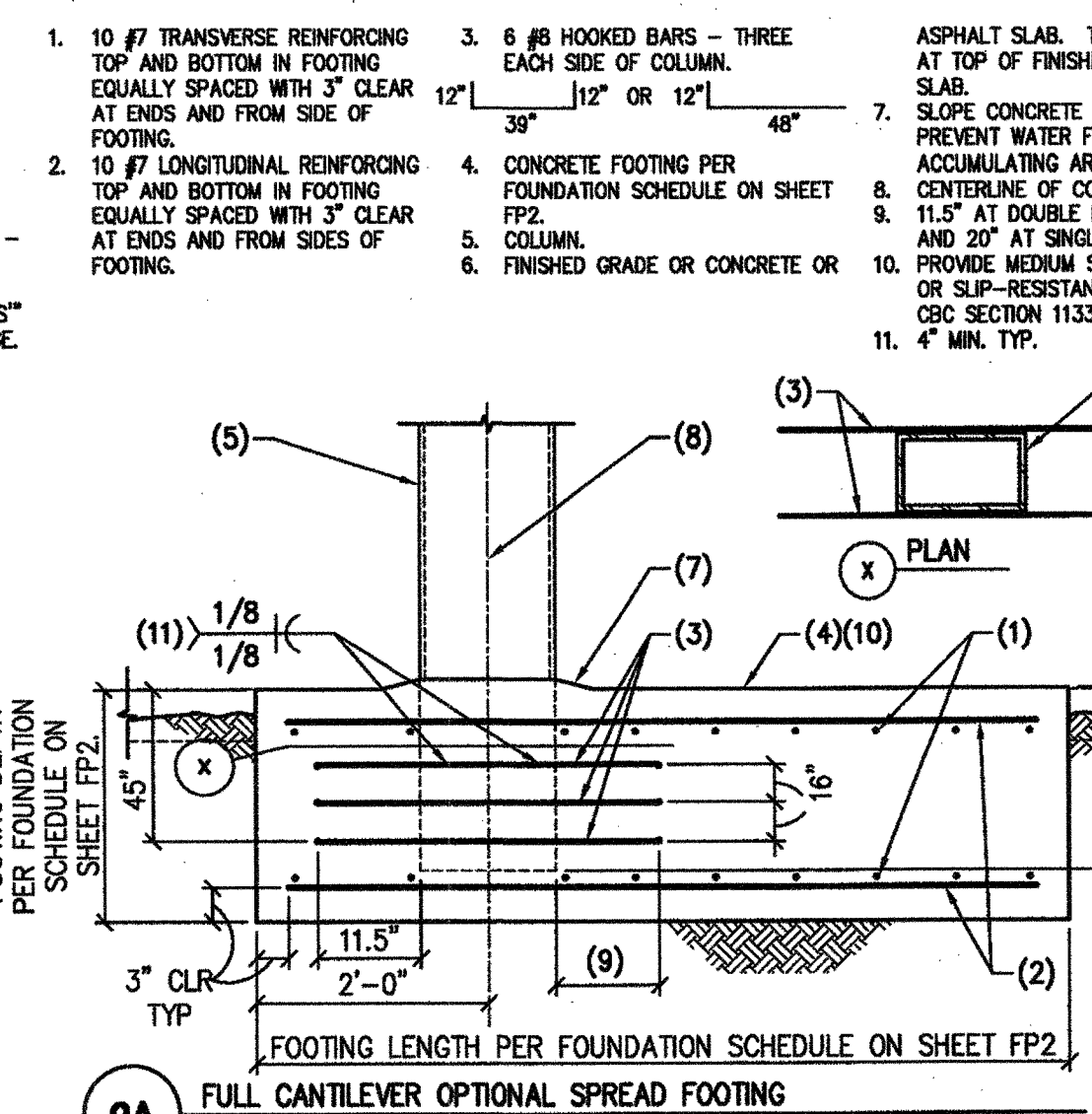
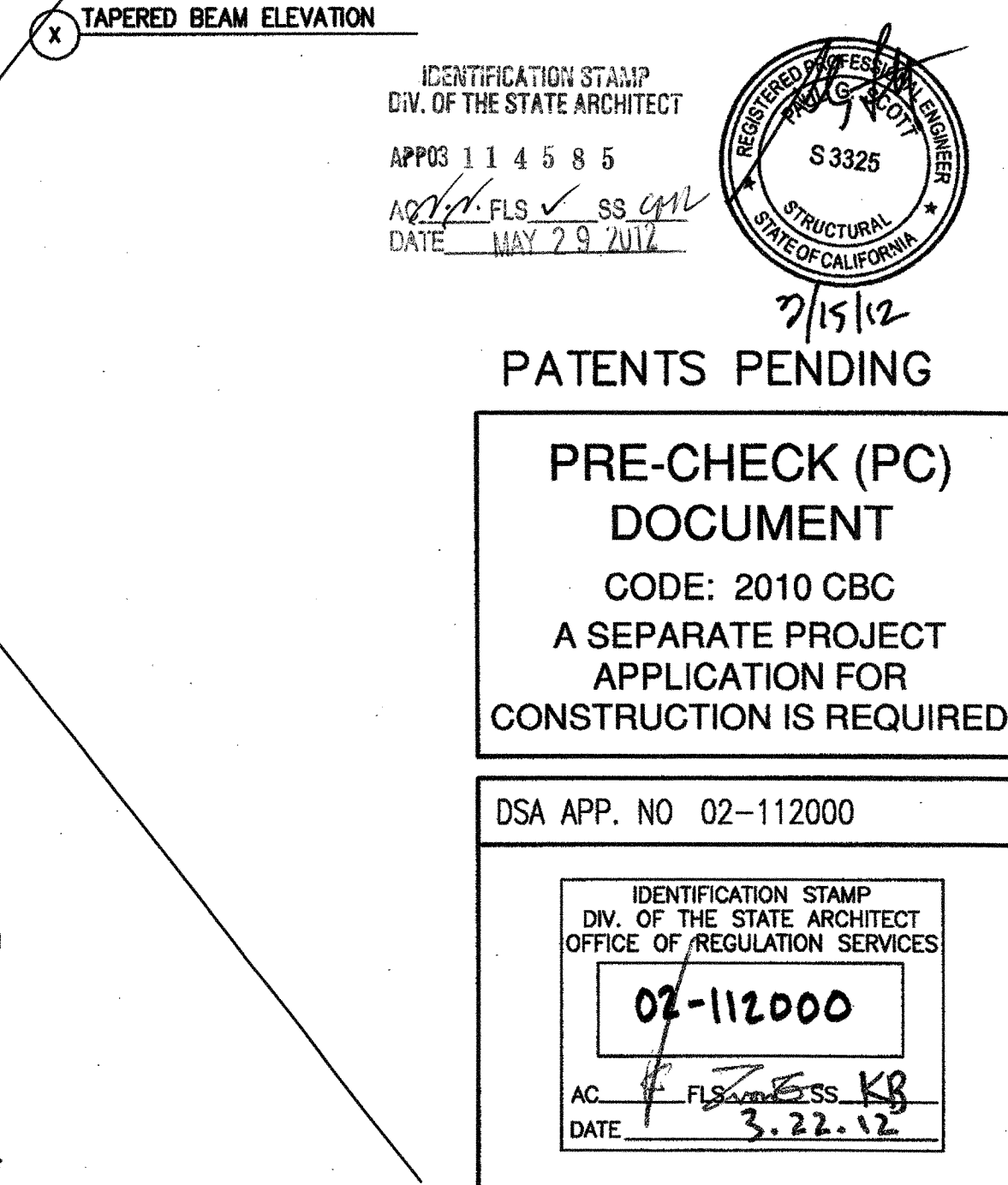
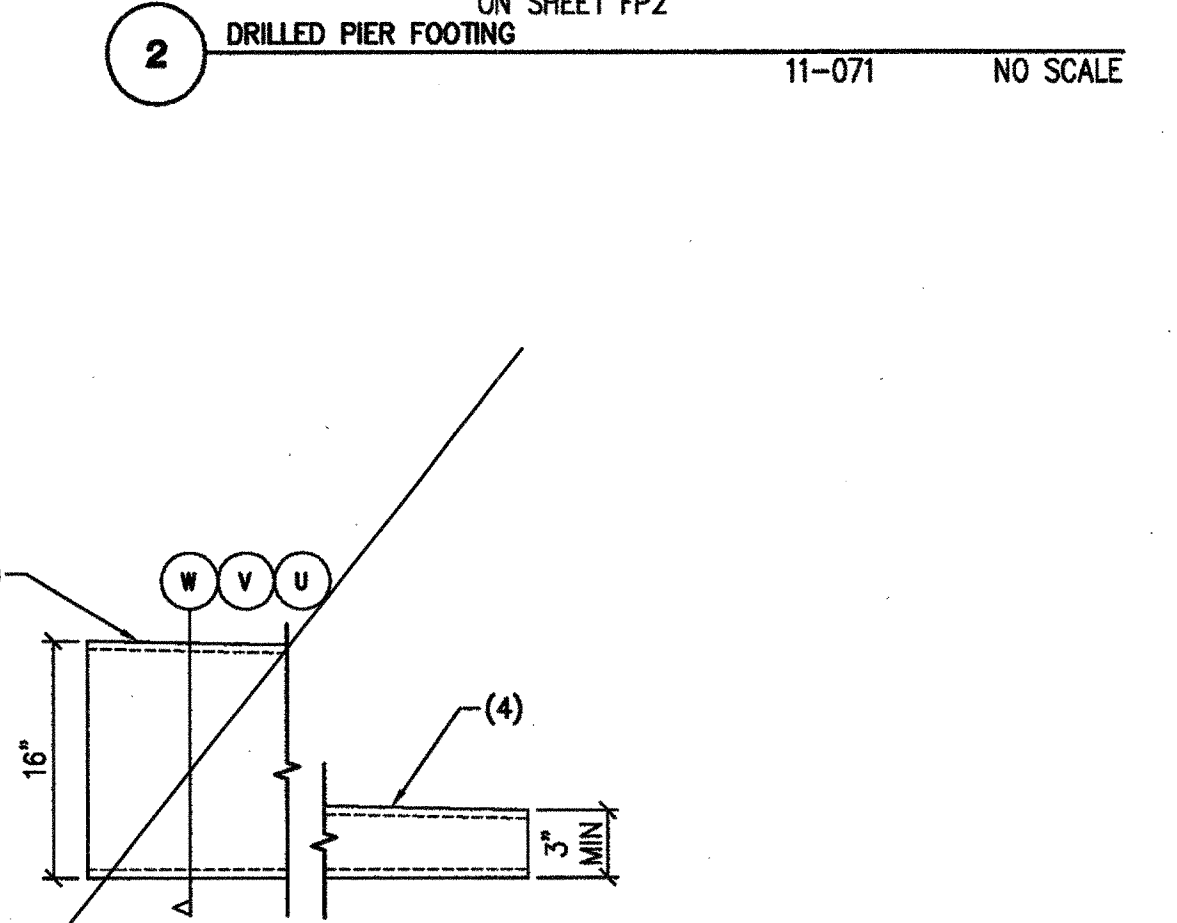
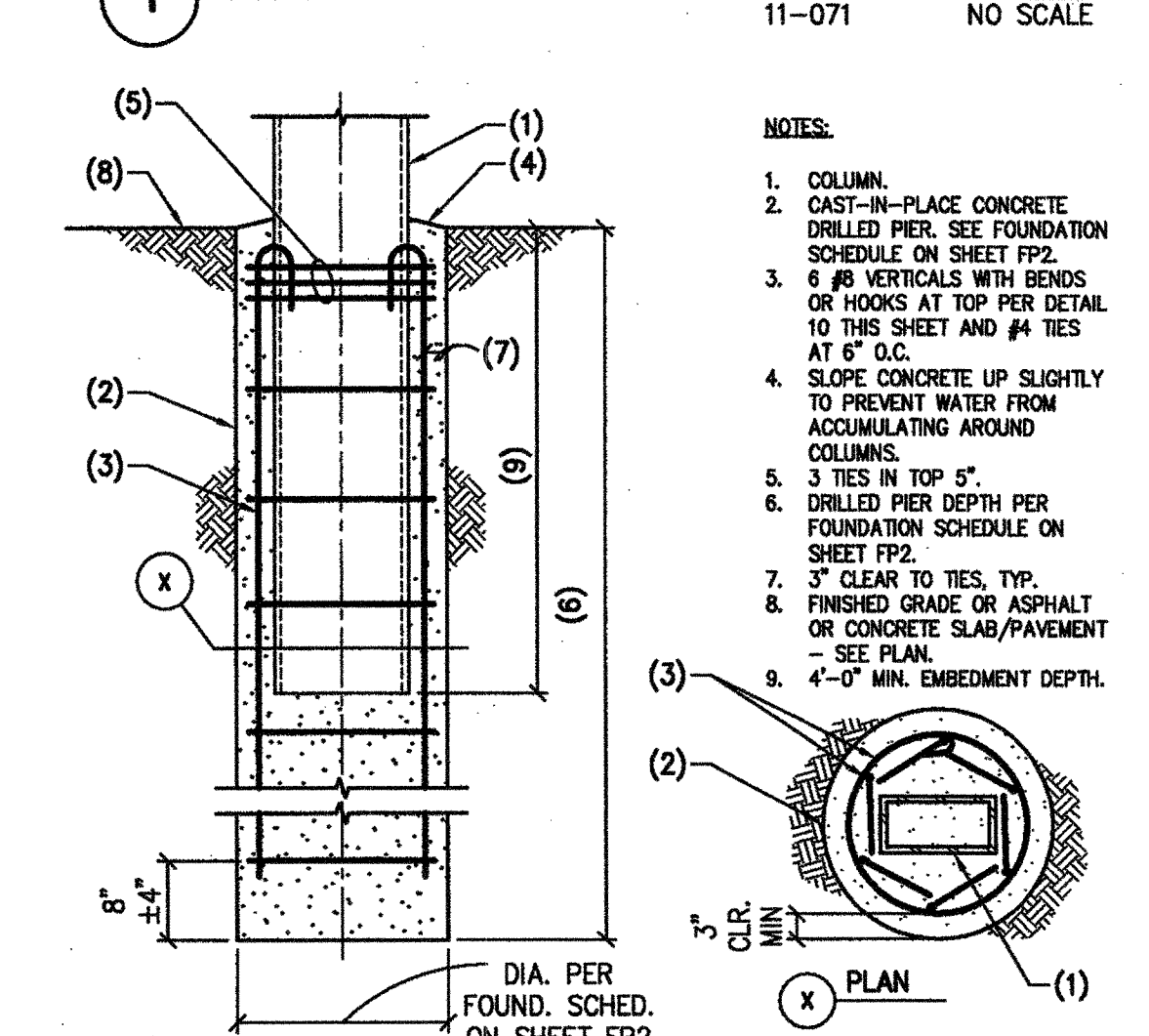
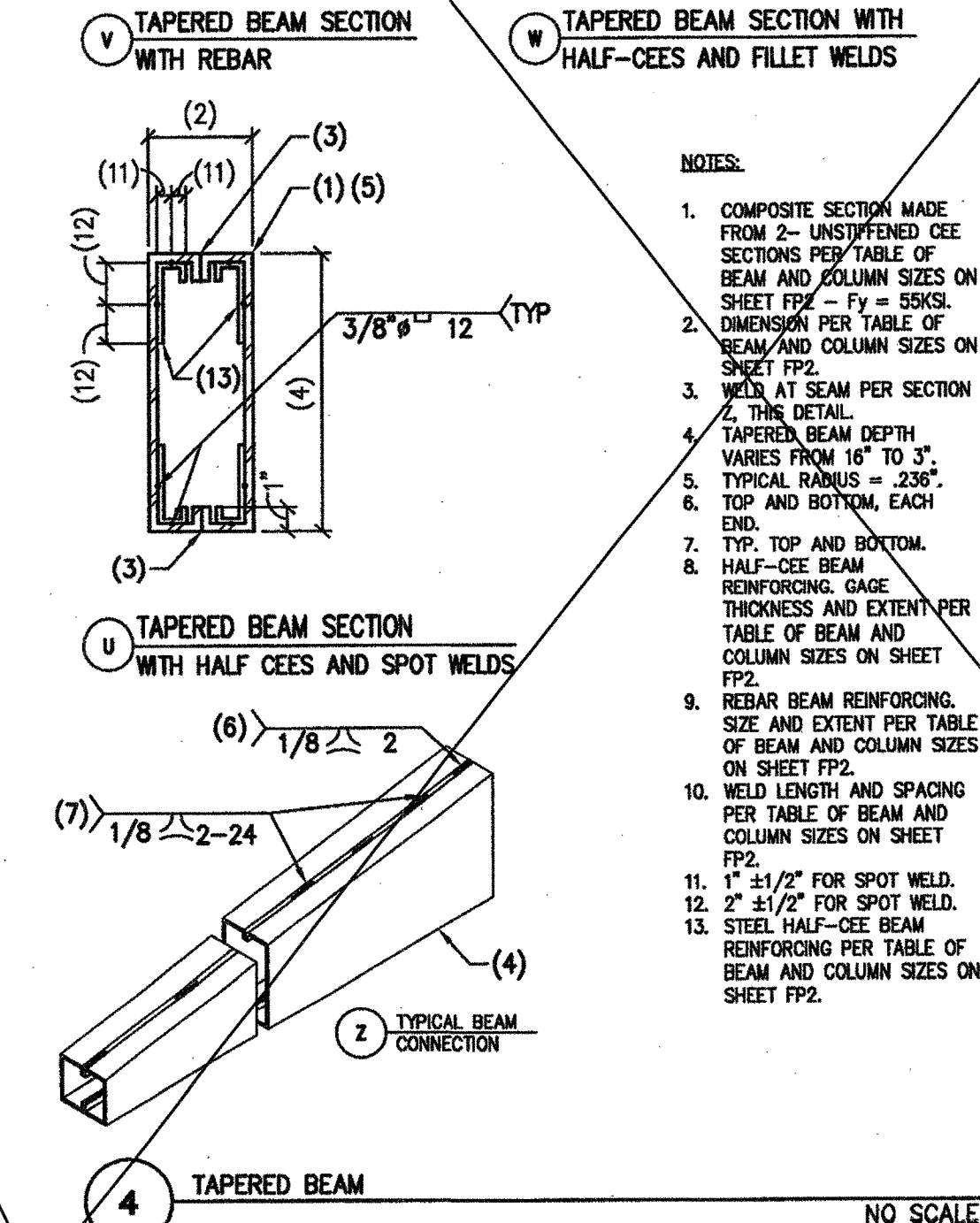
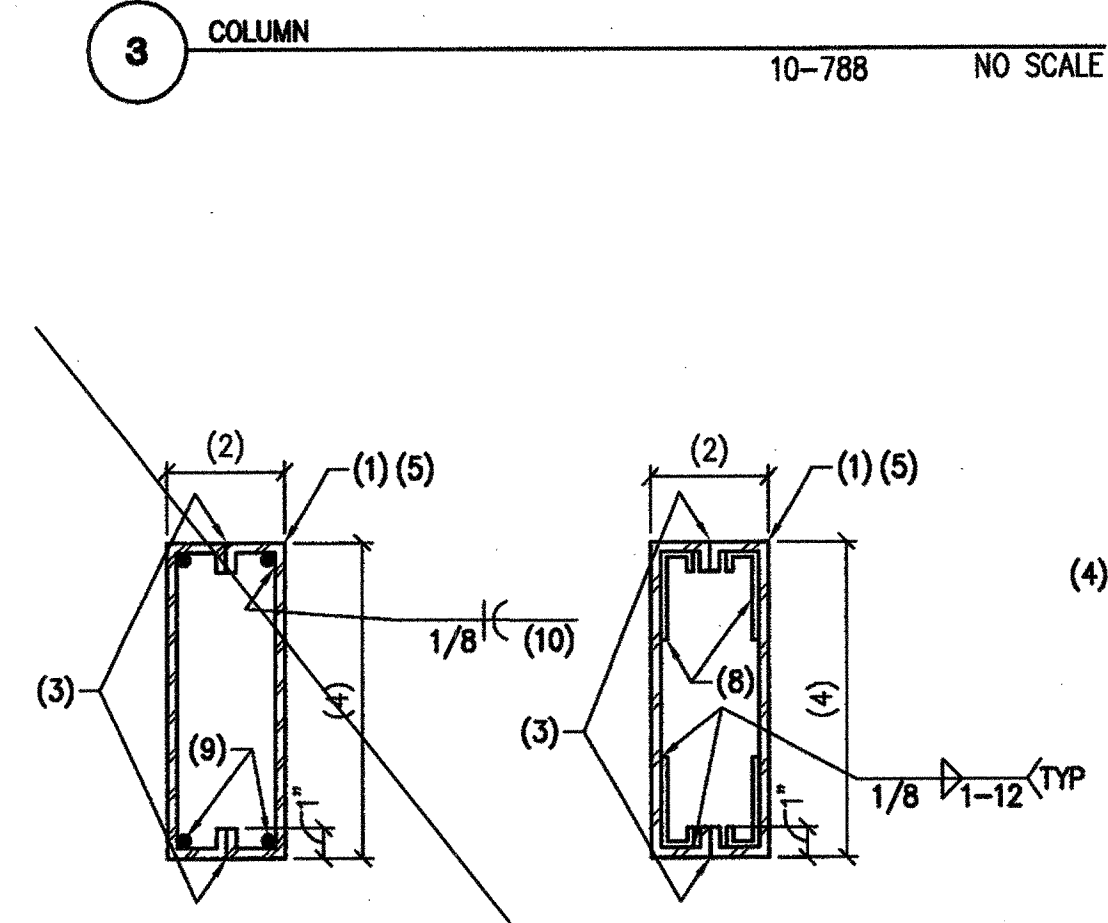
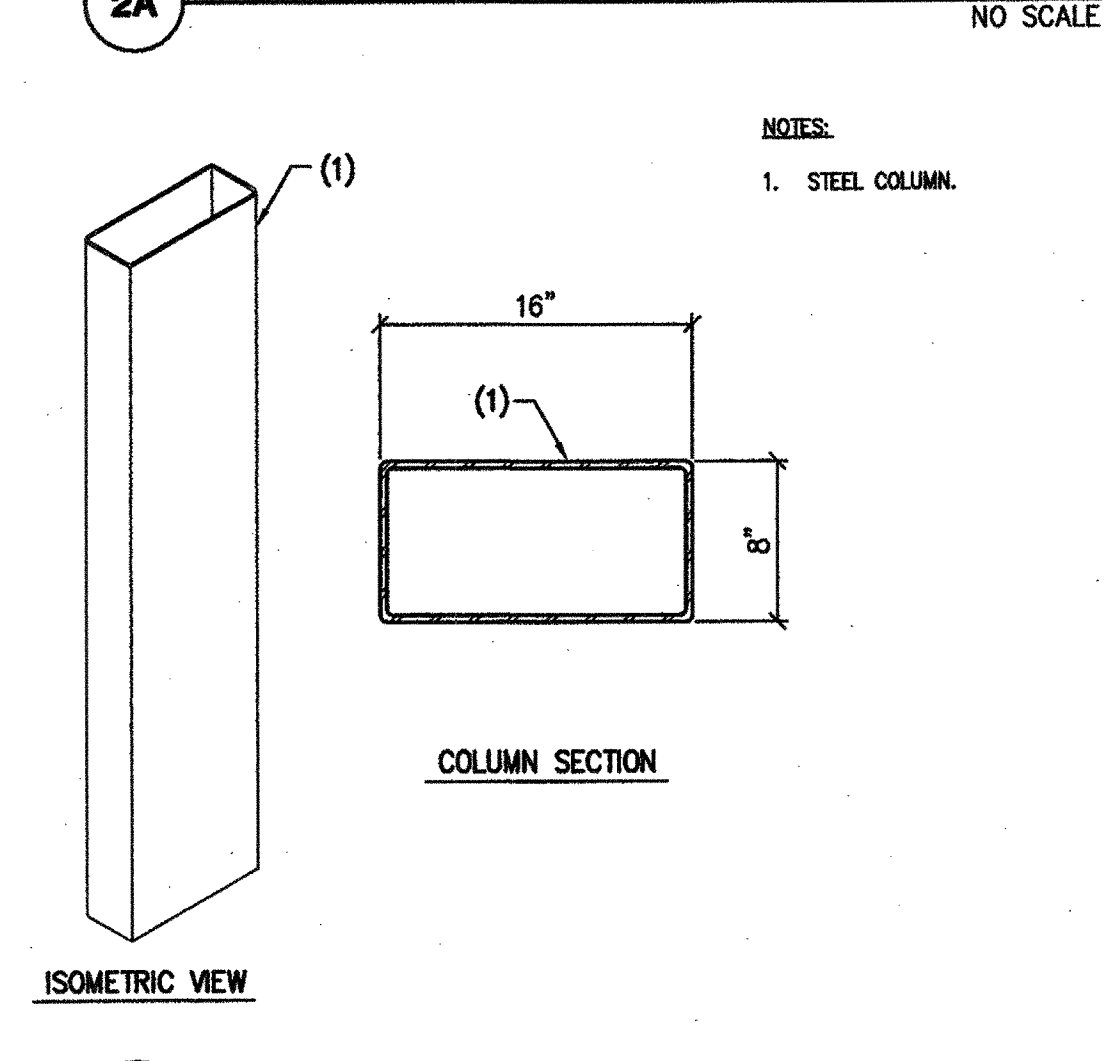
- NOTES:
1. PURLIN.
 2. STEEL END PLATE 1/4"x10" WIDE x 30" LONG AS OCCURS.
 3. 6-#12 x 3/4" LONG SCREWS TO PURLIN - TYP.
 4. BEAM.
 5. 8"x4"x0.25" STEEL CLIP ANGLE (LVL) x 8" LONG OR 1/4"x8"x4"x8" LONG. $F_y = 50$ KSI (MIN) OR 1/4 GAGE CLIP SHOWN IN DETAIL F THIS SHEET.
 6. COLUMN.
 7. WELD CLIP ANGLE TO BEAM.
 8. 18 GA NON-STRUCTURAL END PLATE.
 9. 1/4"x2" HIGH x10" LONG END PLATE.
 10. INCREASE LENGTH OF PLATE SO IT EXTENDS 6" ABOVE TOP OF STEEL BEAM AND ATTACH PURLIN TO STEEL END PLATE IN LIEU OF USING STEEL CLIP ANGLE.



- NOTES:
1. 18" MIN ALL AROUND.
 2. 7" SLAB WITH #4 AT 12" O.C. EACH WAY IN SLAB CENTER. LAP = 24" AT #4 AS REQUIRED.
 3. INVERTER (3,000 LBS MAX.).
 4. 5/8" DIA. HILTI KWIK BOLT TZ (OCC ESR-1917) WITH 3 9/16" EMBEDMENT.
 5. 32" MIN ALL AROUND.
 6. 9" SLAB WITH #6 @ 12" O.C. EACH WAY IN SLAB CENTER. LAP = 47" AT #6 AS REQUIRED.
 7. INVERTER (7,000 LBS MAX.).
 8. 5/8" DIA HILTI KWIK BOLT TZ (OCC ESR-1917) WITH 4 7/16" EMBEDMENT.
 9. CONNECTION CLIP PER MFR. OR MFR. MAY PROVIDE ALTERNATE CONNECTION AND CALCULATIONS ON INVERTER ATTACHMENT TO SLAB/FOOTING.



- NOTES:
1. END PURLIN OPTION
 2. INTERIOR PURLIN SCREWED
 3. END PURLIN OPTION
 4. END PURLIN OPTION
 5. END PURLIN OPTION
 6. END PURLIN OPTION
 7. END PURLIN OPTION
 8. END PURLIN OPTION
 9. END PURLIN OPTION
 10. END PURLIN OPTION



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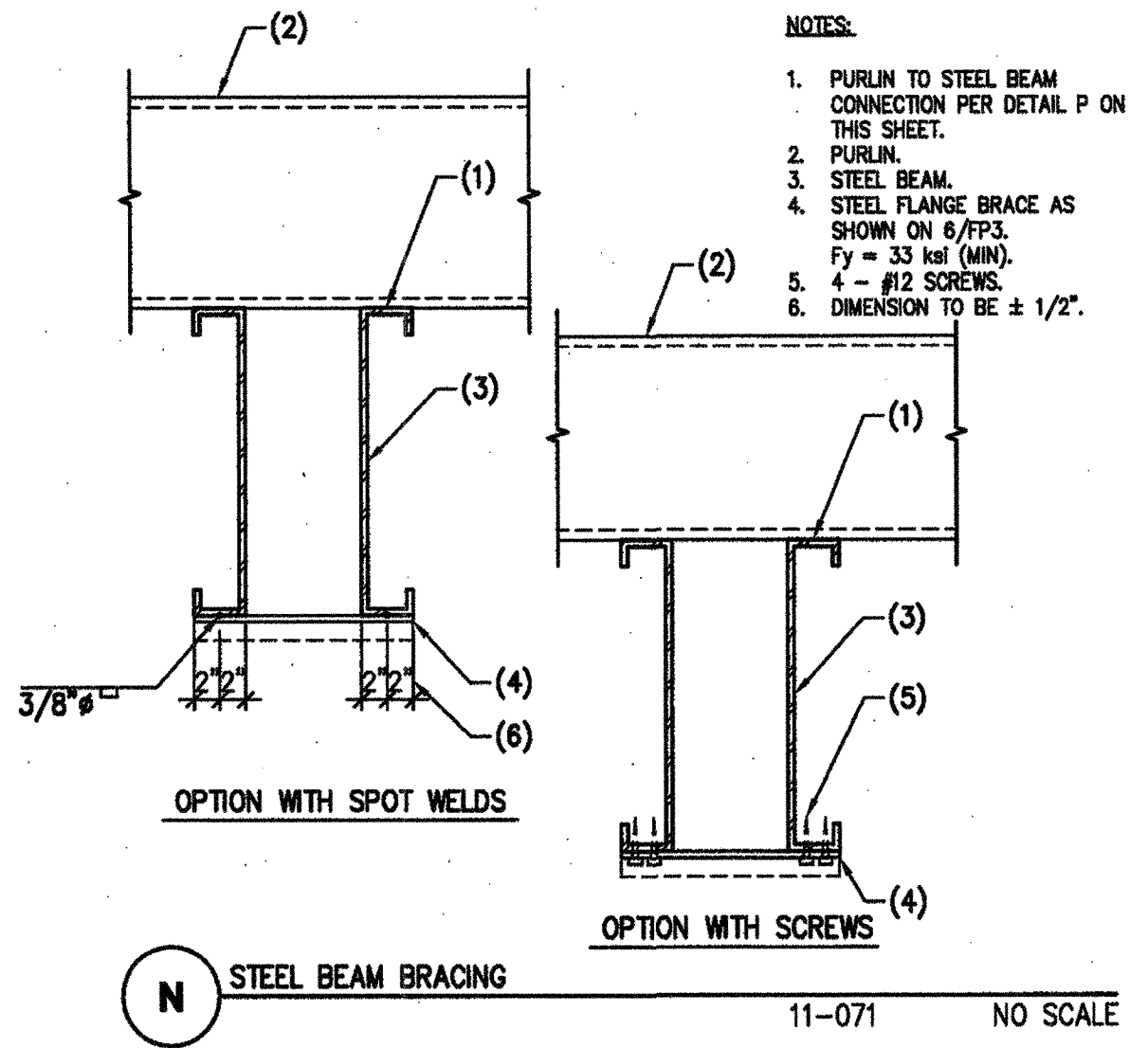
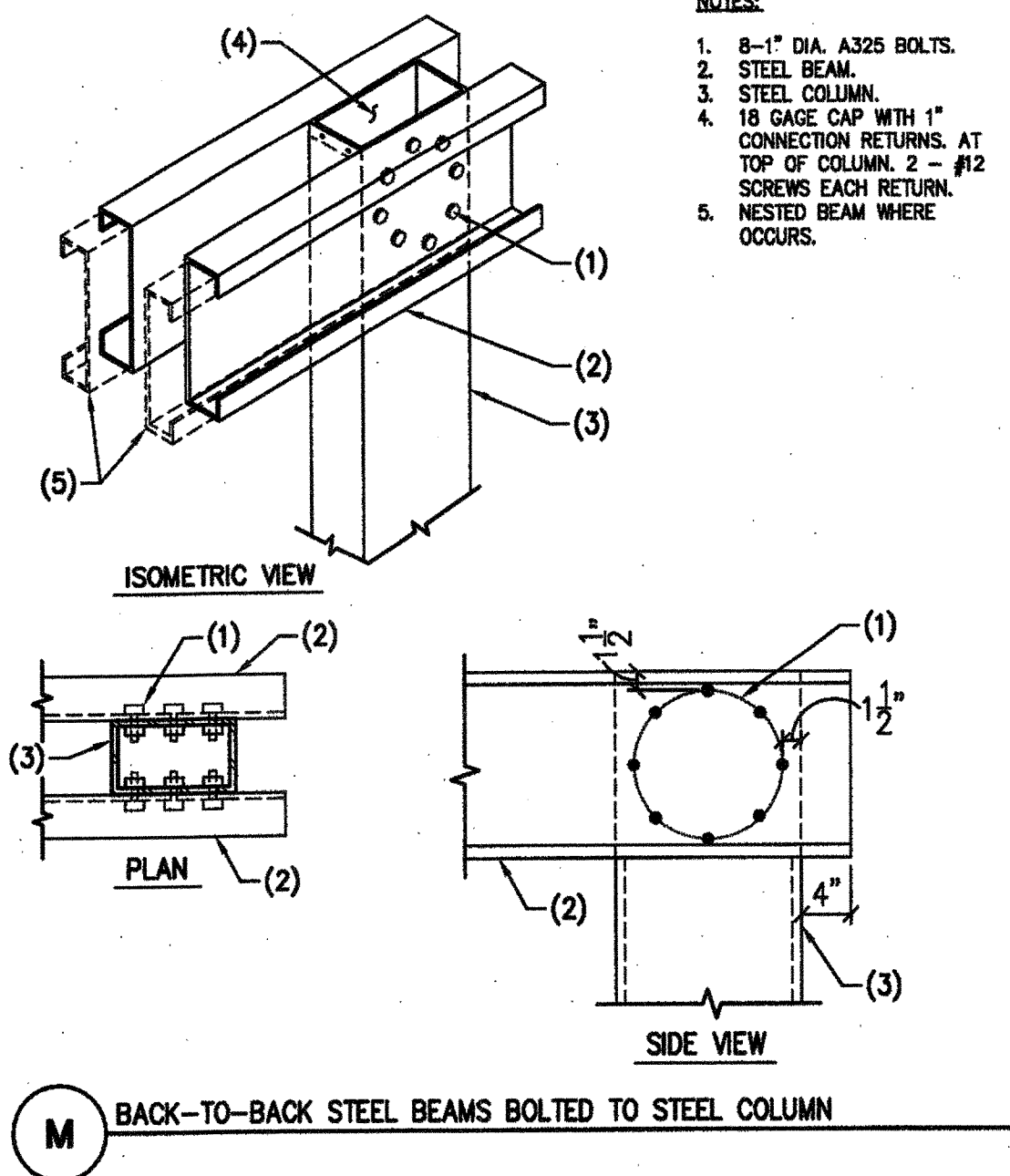
PORTRAIT SOLAR PANELS ON FULL CANTILEVER SOLAR SUPPORT STRUCTURE DSA PRE-CHECK

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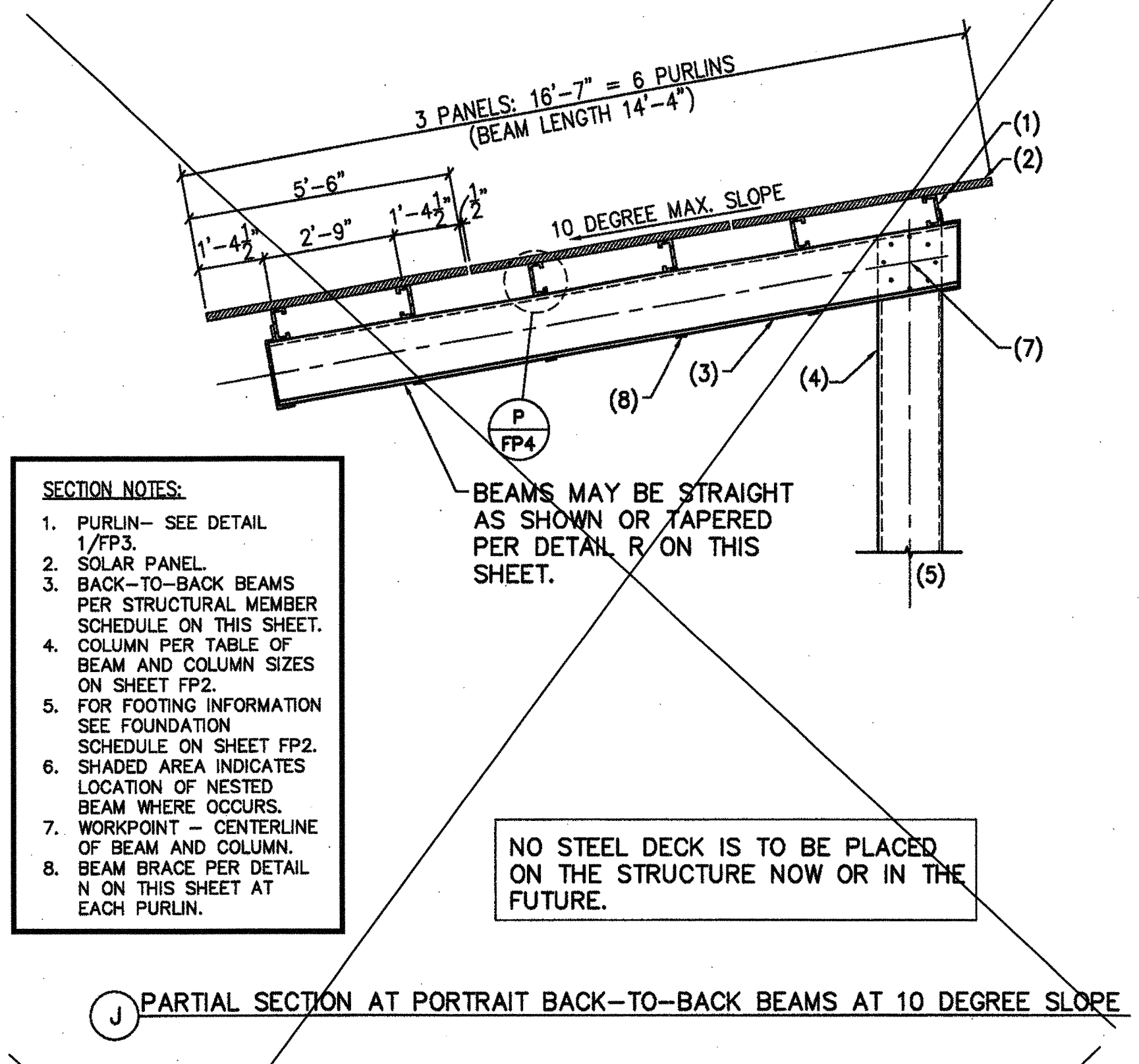
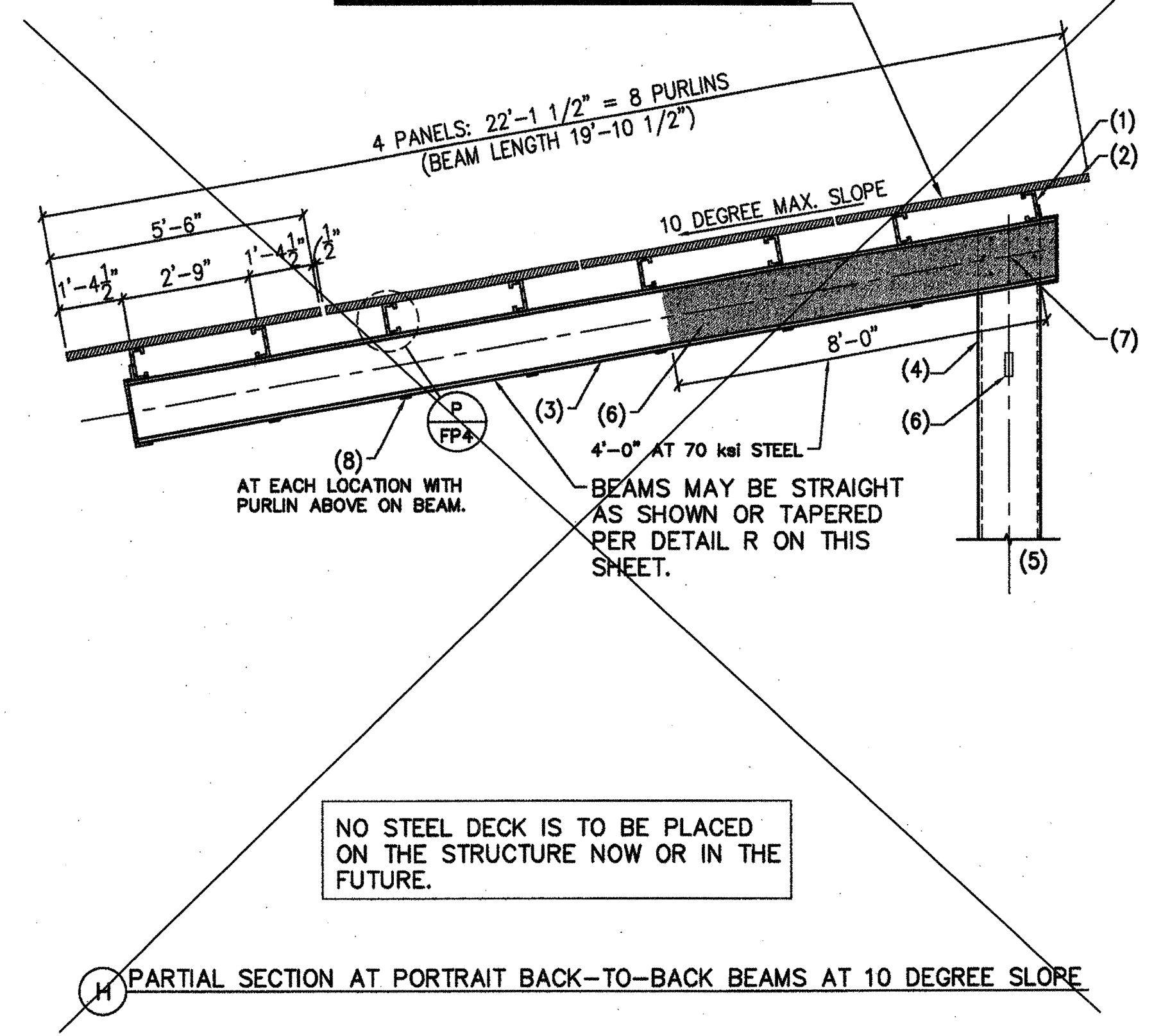
IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APPROX 114585
DATE MAY 29 2017
7/15/12

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DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
02-112000
AC. F. FLORIAN SS. KB
DATE 3.22.12

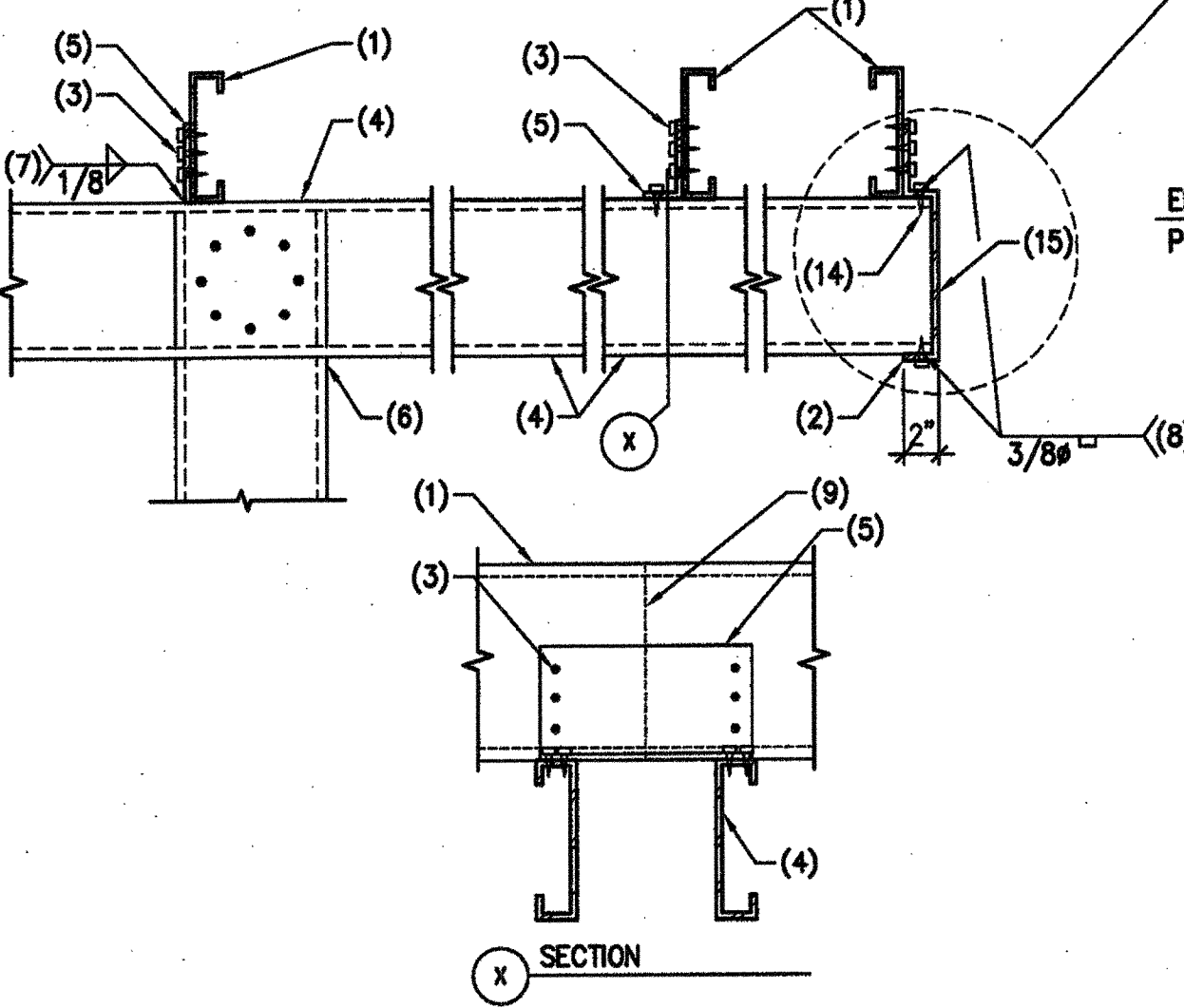
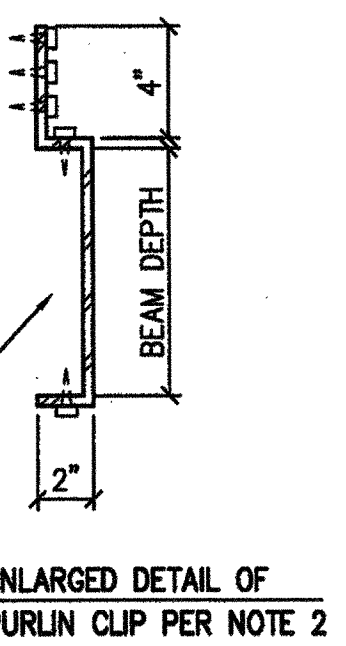
JOB NUMBER: 11-071
DRAWN: ENGINEER; CHECKED: BLP PGS DST
DATE: 3/15/12
SHEET: FP3



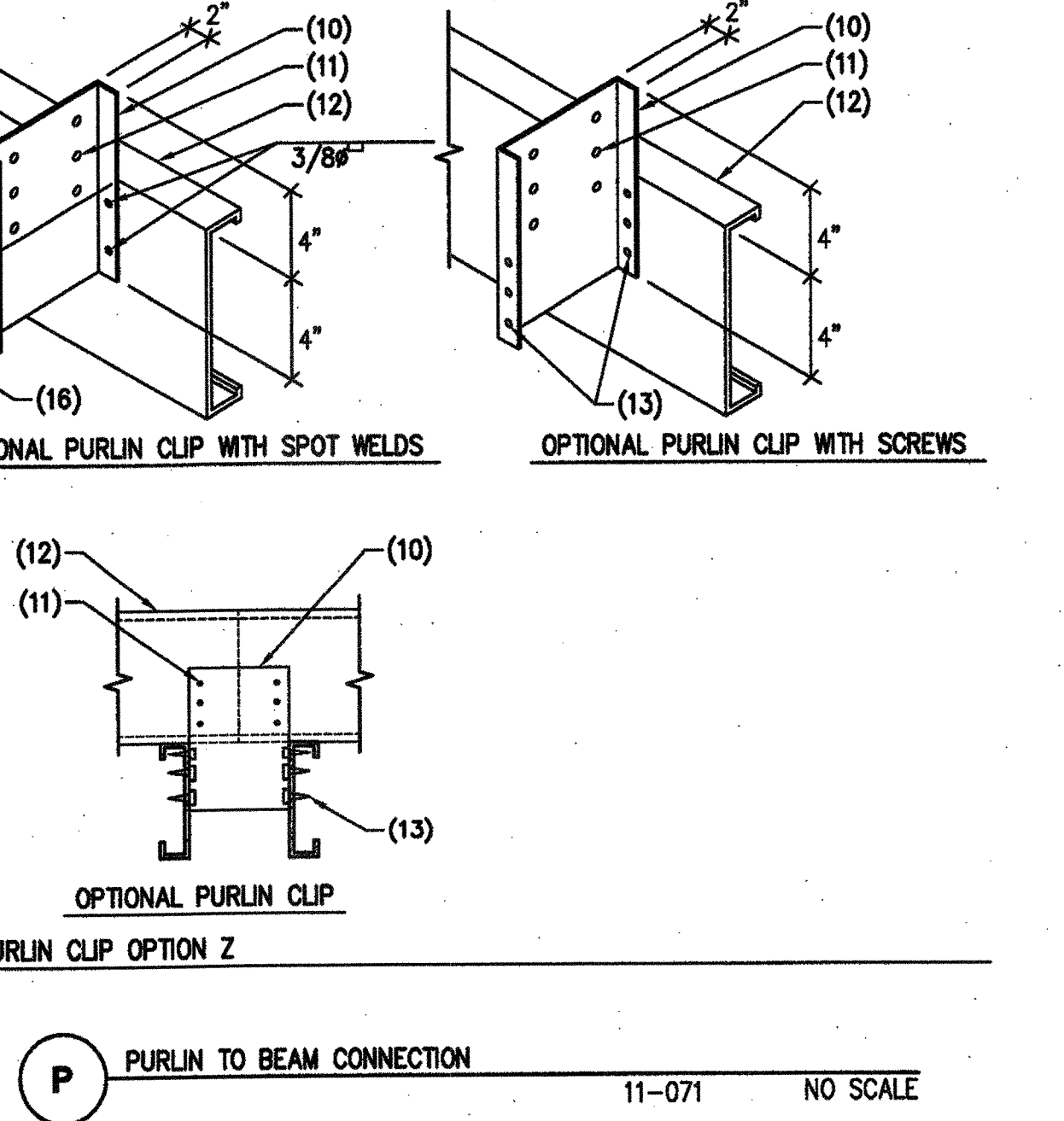
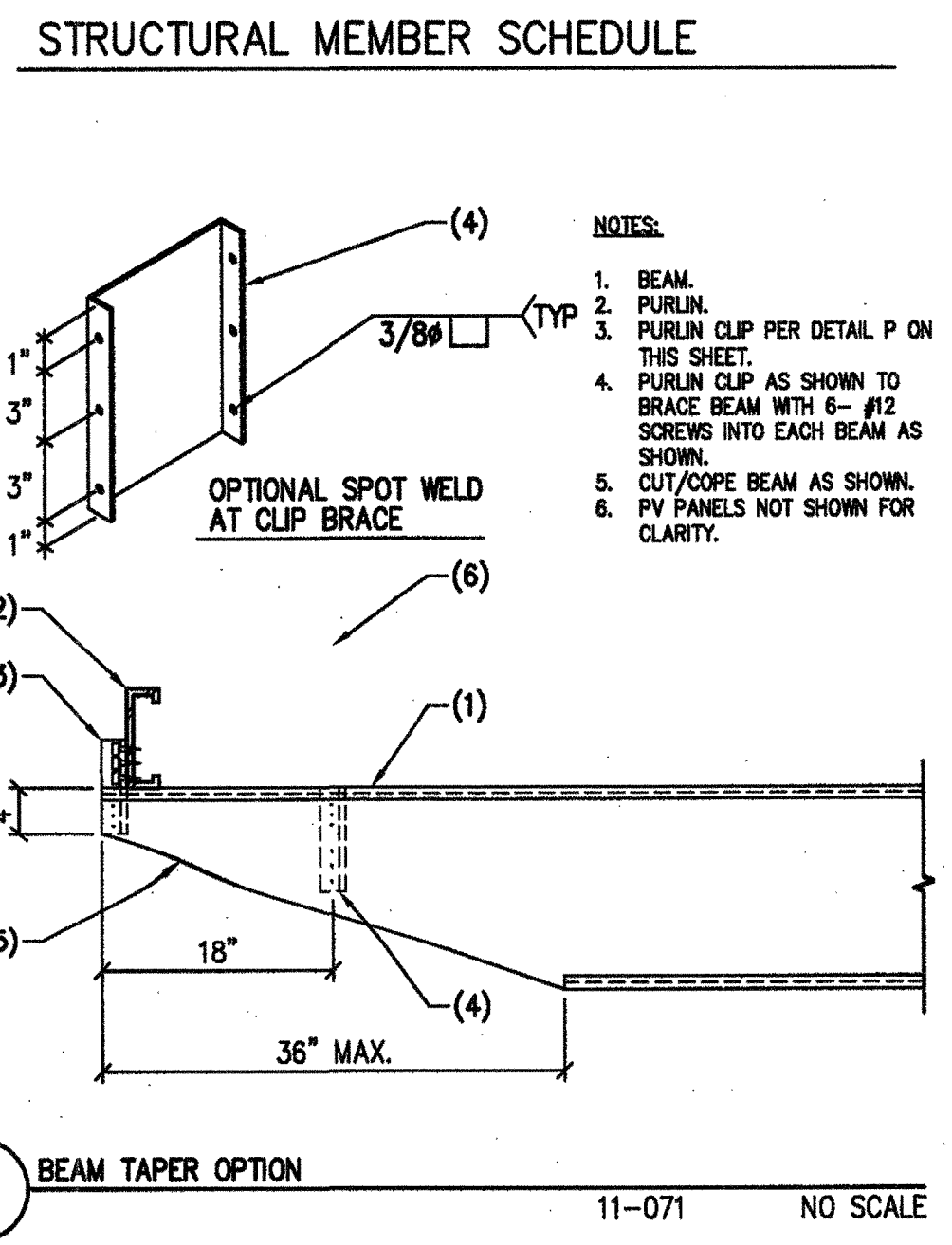
NOTE:
 THE PV PANEL SIZE USED TO DETERMINE THE DIMENSIONS SHOWN ON THIS DRAWING WERE 3'-4" (40") x 5'-6" (66"). THERE IS A GAP OF 1/2" BETWEEN THE PV PANELS IN LANDSCAPE AND 1/2" GAP BETWEEN THE PANELS IN PORTRAIT. THE BEAM LENGTHS NEED TO BE REVISED IF PV PANELS OF DIFFERENT SIZES ARE USED. IF THE BEAMS GET LONGER THE STRUCTURAL ENGINEER MUST CHECK THE BEAM, COLUMN AND FOOTING. IF THE BEAMS GET SHORTER NO RECALCULATION IS REQUIRED.



- NOTES:**
 1. PURLIN.
 2. 10 GA BEAM CAP PLATE W/ (4) #12 TO BOTTOM OF BEAM AND (6) #12 TO PURLIN.
 3. (3) #12 x 3/4" LONG SCREWS TO PURLIN.
 4. STEEL BEAM.
 5. 16" LONG x 4" x 10 GAUGE STEEL CLIP OR 16" LONG x 4"x6" (LLV) ANGLE WITH (2) #12 SCREWS AT EACH BEAM MEMBER. Fy = 50 ksi (MIN).
 6. STEEL COLUMN.
 7. WELD PLATE TO BEAM.
 8. OPTIONAL SPOT WELD.
 9. OPTIONAL PURLIN SPURCE LOCATION AT NON-CANTILEVERED PURLINS.
 10. 16 GA CLIP.
 11. (3) #12 SCREWS TO PURLIN.
 12. TOP OF PURLIN.
 13. (3) #12 SCREWS TO BEAM.
 14. 2 #12 SCREWS AT EACH BEAM MEMBER.
 15. IF CLIP OPTION Z IS USED, THE END CAP BECOMES NON-STRUCTURAL AND MAY BE 22 GAUGE.
 16. ALL DIMENSIONS TO BE ± 1/2".



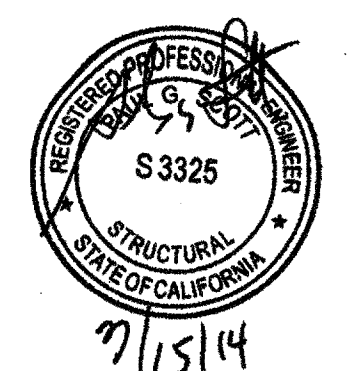
STRUCTURAL MEMBER SCHEDULE		
SOLAR CANOPY TYPE	STEEL BEAM SIZE (Fy=55 KSI)	NESTED BEAM SIZE (OPTION) (Fy=55 KSI)
3 PANEL FULL	(2) 18"x4"x10 GA	
4 PANEL FULL	(2) 18"x4"x10 GA	(2) 18"x4"x10 GA WITH 10 GA. NESTED BEAM (SEE DETAILS H AND K ON THIS SHEET FOR LENGTH AND LOCATION)



NO STEEL DECK IS TO BE PLACED ON THE STRUCTURE NOW OR IN THE FUTURE.

NO STEEL DECK IS TO BE PLACED ON THE STRUCTURE NOW OR IN THE FUTURE.

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PRE-CHECK (PC) DOCUMENT
 CODE: 2010 CBC
 A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED

DSA APP. NO 02-112000

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THESE DRAWINGS/CALCULATIONS ARE CONSIDERED PRELIMINARY - NOT FOR CONSTRUCTION OR RECORDING UNLESS THE STRUCTURAL ENGINEER OF RECORD'S SEAL IS AFFIXED WITH WRITTEN SIGNATURE.

DRAWING EDITION/REF JOB #

REVISIONS:

JOB NUMBER: 11-071
 DRAWN: [ENGINEER] CHECKED: BLP PGS DST
 DATE: 3/15/12
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