BAKERSFIELD CITY SCHOOL DISTRICT

CANOPY MOUNTED PV SYSTEM MT. VERNON ELEMENTARY SCHOOL

PTN 63321-327





Client

Collins Electric Electrical Engineer: R.J. Hardin 1902 Channel Drive West Sacramento CA. 95691

Electrical Engineer

Collins Electric Electrical Engineer: R.J. Hardin 1902 Channel Drive West Sacramento CA. 95697 (916) 567-1100 Fax: (916) 567-1292 (916) 567-1100 Fax: (916) 567-1292

Architect & Engineers of Record

ATI Architects and Engineers 4750 Willow Road Pleasanton, California 94588 (925) 648-8800 Fax: (925) 648-8811 Project Manager: Mark Bello Architect of Record: Mark Bello

Timothy Jacquess, S.E. TKJ Structural Engineering 9820 Willow Creek Road, Suite 455 San Diego, CA 92131 619-869-6234

100 Montgomery Street #1400 San Francisco, CA 94104 (855)-204-5083

GENERAL NOTES

. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE CURRENT EDITION OF THE CALIFORNIA BUILDING

. THE CONTRACTOR SHALL CHECK ALL DRAWINGS IMMEDIATELY UPON THEIR RECEIPT AND SHALL VERIFY ALL

3. NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED, OR APPROVED BY ATI. NOTCH DETAILS, IF PROVIDED ARE FOR GENERAL GUIDANCE ONLY. ATI SHALL BE CONTACTED TO

4. CONNECTIONS AND IMPLIED CONSTRUCTION ASSEMBLIES THAT ARE NOT SPECIFICALLY DESCRIBED OR DETAILED CODES AND ORDINANCES.

5. WHEN DETAILS LABELED "TYPICAL" OR "SIMILAR" ARE GIVEN ON DRAWINGS, THE CONTRACTOR SHALL APPLY THE INTENT OF THE DETAIL TO THAT SPECIFIC CONDITION.

6. WRITTEN INFORMATION AND DIMENSIONS SHALL TAKE PRECEDENCE OVER GRAPHIC INFORMATION. DO NOT SCALE DRAWINGS.

7. DRAWINGS AND SPECIFICATIONS FOR THIS WORK HAVE BEEN PREPARED IN ACCORDANCE WITH GENERALLY ACCEPTED STANDARDS OF PRACTICE TO MEET THE MINIMUM REQUIREMENTS OF THE CURRENT EDITION OF THE CBC. ANY OMISSIONS OR DISCREPANCIES ON THE PLANS OR ANY DEVIATIONS FROM THE PLANS WHICH ARE NECESSITATED BY FIELD CONDITIONS OR ANY CONDITION DIFFERENT FROM THOSE INDICATED ON THE PLANS SHOULD BE BROUGHT TO THE ATTENTION OF ATI PRIOR TO CONTINUING CONSTRUCTION, ALL WORK IS TO BE COORDINATED SO THAT COOPERATION BETWEEN THE TRADES WHERE REQUIRED IS ACCOMPLISHED.

8. CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE FOR THE ORDER AND MEANS OF CONSTRUCTION AND ALL TEMPORARY BRACING AND ERECTION DURING CONSTRUCTION.

9. APPROVALS BY BUILDING INSPECTORS SHALL NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THE PLANS AND SPECIFICATIONS.

ELEVATION

EMBEDMENT

FOUNDATION

FLUORESCENT

GALVANIZED

HORIZONTAL

INFORMATION

LIGHTWEIGHT

MAXIMUM

POUND OR NUMBER

JOIST

LEVEL

LIGHT

GROUND FAULT

CIRCUIT INTERRUPTER

GALVANIZED SHEET METAL SIM.

EXTERIOR

FOOTING

GAUGE

EXPANSION JOINT

P.T.

RECOM.

SCHED.

S.F./SQ.FT.

S.S.D.

SQ. IN.

T.O.S.

TYP.

VFRT.

V.I.F.

UTL./UTIL.

10. ALL WORK TO CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)

EMBED.

FLUOR.

G.F.C.I.

G.S.M.

HORIZ.

INFO.

LTWT.

LEV./LVL.

FTG.

ABBREVIATIONS

ANCHOR BOLT

ADDITIONAL

AGGREGATE

ALTERNATE

ALUMINUM

AMPERAGE

BLOCKING

BOTTOM

BETWEEN

CEILING

UNITS

COLUMN

CONCRETE

CONTINUOUS

CONTRACTOR

CONTROL POIN

CALCULATIONS

CONTROL JOINT

CONCRETE MASONRY

CAST IRON

APPROXIMATI

ADD'L

AGG.

APPROX

CALCS.

C.M.U.

CONC.

CONT.

C.P.

CONTR.

BLK'G/BLKNG

BTM./BOTT.

PROJECT CODE SUMMARY & REGULATIONS

AS A FACILITY WHICH COMES UNDER THE APPROVAL AND AUTHORITY OF THE DIVISION OF THE STATE ARCHITECT (DSA), THIS PROJECT IS SUBJECT TO DRAWING AND JOB SITE REVIEW BY A REPRESENTATIVE OF DSA.

ADMINISTRATIVE REQUIREMENTS (PARTIAL LISTING ONLY FROM CHAPTER 4, PART 1, TITLE 24, C.C.R.):

THE ARCHITECT OF RECORD AND THE STRUCTURAL ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTION 4-333(a) AND 4-341, PART 1,

. 8. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTION 4-343, PART 1, TITLE 24.

THE INTENT OF THESE DRAWINGS AND PROJECT MANUAL IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. UPON DISCOVERY OF NON-COMPLYING EXISTING CONDITIONS NOT ADDRESSED BY THE CONTRACT DOCUMENTS AND AFFECTING COMPLIANCE OF FINISHED WORK, A C.C.D. OR SEPARATE SET OF CONSTRUCTION DOCUMENTS ADDRESSING THE NECESSARY REMEDIAL SCOPE OF WORK SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER, CLIENT, ARCHITECT, AND DSA BEFORE PROCEEDING WITH

). ALL TESTS TO CONFORM TO THE REQUIREMENTS OF SECTION 4-335, PART 1, TITLE 24 AND APPROVED T & I.

TEST OF MATERIALS AND TEST LABORATORY SHALL BE IN ACCORDANCE WITH SECTION 4-335, PART 1, TITLE 24. THE SCHOOL DISTRICT SHALL EMPLOY AND COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC CHAPTER 33, SAFETY DURING CONSTRUCTION WILL BE

APPLICABLE CODES

CALIFORNIA BUILDING CODE, TITLE 24, PART 2, VOLUME 2, 2016 EDITION W/CA AMENDMENTS TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS CSFM SOLAR PHOTOVOLTAIC INSTALLATION GUIDE

2016 ADA STANDARDS FOR ACCESSIBLE DESIGN

APPLICABLE STANDARDS/REGULATIONS REF. CODE SECTION: NFPA STANDARDS-2016 CBC (SFM) CHAPTER 35, 3504.1 CONSTRUCTION SAFETY (CAL-OSHA): CCR TITLE 8 RULES AND REGULATIONS OF THE LOCAL TELEPHONE COMPANY RULES AND REGULATIONS OF THE LOCAL UTILITY COMPANIES: SOUTHERN CALIFORNIA EDISON

THE DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET 🔷

☐ THIS DRAWING, PAGE OF SPECIFICATIONS/ CALCULATIONS

HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/ OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND PROJECT SPECIFICATIONS PRPEARED BY ME,

2. COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF

INSTALLATION OF CANOPY MOUNTED PV PANELS

ESTIMATED CONSTRUCTION COST: \$733,491.76

(5) CANOPY STRUCTURES AND ASSOCIATED GROUND MOUNTED

SCOPE

DEFERRED ITEMS: NONE

EQUIPMENT

LICENSE NUMBER

EXPIRATION DATE

07/27/018

03 119219

AC MF FLS (FFS E)
Date JUL 3 1 2018, 34 SHEETS TOTAL + DJA 103, NO JPECS.

MARK DATE

ATI PROJ. #CA4905

KEY MAP

SHEET TITLE

SHEET NUMBER

SYMBOLS

POUNDS PER SQUARE INCH

SEE ARCHITECTURAL DRAWINGS

PRESSURE TREATED

SEE CIVIL DRAWINGS

SEE ELECTRICAL DRAWINGS

SEE STRUCTURAL DRAWINGS

UNLESS NOTED OTHERWISE

SMOKE DETECTOR

RECOMMENDATIONS

RFINFORCING

SOLID CORE

SQUARE FOOT

SQUARE INCH

TOP of CURB

TOP of SLAB

TYPICAL

UTILITY

VERTICAL

VERIFY IN FIELD

WEATHER PROOF

WELDED WIRE MESH

---- DETAIL NUMBER XX NOTE — NOTES --- DETAIL SHEET —ELEV LETTER -ELEV SHEET

(1) GRID LINE INDICATION 1 REVISION NUMBER

X —— REFERENCE ITEM XX——SHEET NUMBER

EQUIPMENT ANCHORAGE NOTES

APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE

DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3, AS DEFINED IN ASCE 7-10 SECTION

COMPONENTS WEIGHING LESS THAN 20 LBS. OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8, 13.6.7, 13.6.5.6, AND 2016 CBC, SECTIONS 1616A.1.23, 1616A.1.24,

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSHPD PRE-APPROVALS (OPM#).

JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

REQUIREMENTS.

COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE

SUPPORT THE HANGER AND BRACE LOADS.

——BUILDING SECTION SHEET

-BUILDING SECTION LETTER

1 PLAN REFERENCE NOTE KEY

ALL ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA 2016 CBC SECTIONS 1616A.1.18 THROUGH 1616A.1.26, AND ASCE 7-10 CHAPTER 13 AND 26-31.

ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND 13.6.5.6, 13.6.7 AND 13.6.8, AND 2016 CBC SECTION 1616A.1.23,24,25,26.

THE ATTACHMENT OF THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED PIPING OR CONDUIT. A. COMPONENTS WEIGHING LESS THAN 400 LBS. AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE

1616A.1.25 AND 1616A.1.26.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO

SHEET INDEX

ARCHITECTURAL DSA PRECHECKED CANOPY ♦ GO.O COVER SHEET **STRUCTURE PC* 04-113425** COVER SHEET 1 FIRE ACCESS PLAN OVERALL SITE PLAN COVER SHEET 2 A1.0 ENLARGED PLANS S-3 GENERAL NOTES & SPECIFICATIONS

ENLARGED PLANS SECTION PROPERTIES & REBAR DETAILS FRAMING PLAN BEAM / COLUMN SCHEDULE NON-CONSTRAINED PIER FOUNDATION SCHEDULE SPREAD FOOTING SCHEDULE S-10 ELECTRICAL ♦ S-12 BEAM TO COLUMN SCHEDULE

S-4

DSA 103 FORMS

E1.0 | ELECTRICAL SITE PLAN S-32 PURLIN SCHEDULE E2.0 ELECTRICAL SINGLE LINE DIAGRAM STANDARD PURLIN DETAILS S - 33ELECTRICAL SINGLE LINE DIAGRAM STANDARD SOLAR PANEL SUPPORT DETAILS S - 34TYPICAL ELECTRICAL THREE LINE DIAGRAM S-36 OPTIONAL GROUNDING DETAILS ELECTRICAL DETAILS STANDARD ELECTRICAL DETAILS TYPICAL ELECTRICAL SOLAR WARNING LABELS S-37.1 ALTERNATE CONNECTION DETAILS

ELECTRICAL SOLAR EQUIPMENT CUT SHEETS S-38 E7.0 LIGHTING TITLE 24 COMPLIANCE FORMS BRACED UNISTRUT EQUIPMENT RACK 1 S-39 ES1.0 SOLAR ARRAY ELECTRICAL STRING CABLING PLAN S-42 EQUIPMENT PAD ENCLOSURE PERIMETER FENCE/ SCHEDULE

\C\CA4900_Collins_Electrical_Inc\CA4906_Bakersfield_SD_Solar\CA4906_010_Mt_Vernon_ES\3_Dwgs\G00\+G00-Cover.dwg 7-26-18 09:45:30 AM mloree

DOUBLE MANUFACTURER MFR. DET DETAIL W.P. DEG. DEGREE MINIMUM W.W.F. DIAMETER NEW W.W.M. DIAPH. DIAPHRAGM NATIONAL DOWN NOT IN CONTRACT **EXISTING** NOM. NOMINAL EACH N.T.S. NOT TO SCALE ELECTRICAL ON CENTER ELECT. PLATE

Project Location

Structural Engineer

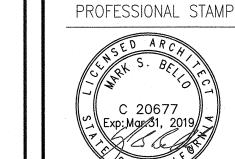
Forefront Power

STATEMENT OF GENERAL CONFORMANCE

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE

EDUCATION CODE AND SECTIONS 4-336, 4-341 AND 4-344"

OF TITLE 24, PART 1. (TITLE 24, PART 1, SECTION 4-1317)



AGENCY APPROVAL

IDENTIFICATION STAMP

Bakersfield City School District

1300 BAKER STREET. BAKERSFIELD. CA 9330

MT. VERNON

ELEMENTARY

2161 POTOMAC AVE.

BAKERSFIELD, CA. 93307

PROJECT LOCATION

DESIGNER

ARCHITECT

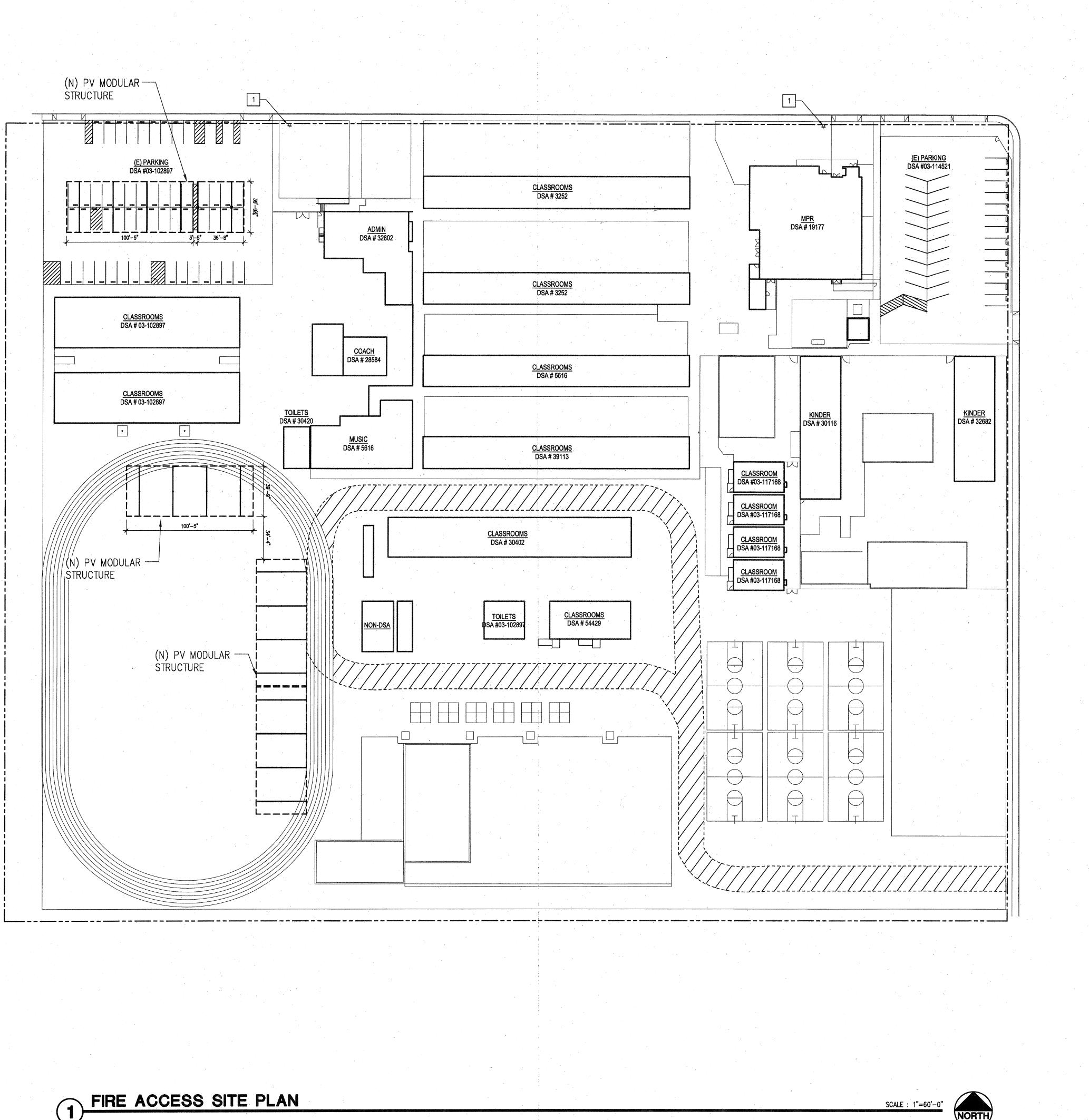
DIV. OF THE STATE ARCHITECT

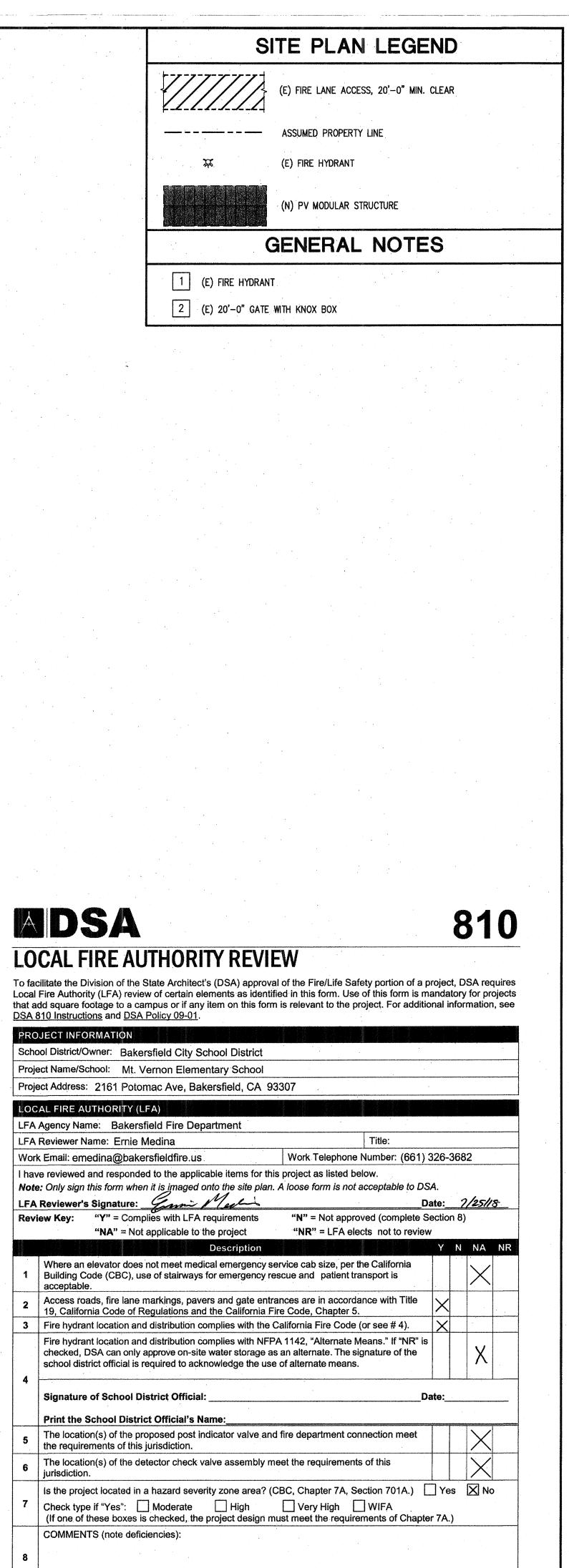
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COVER SHEET



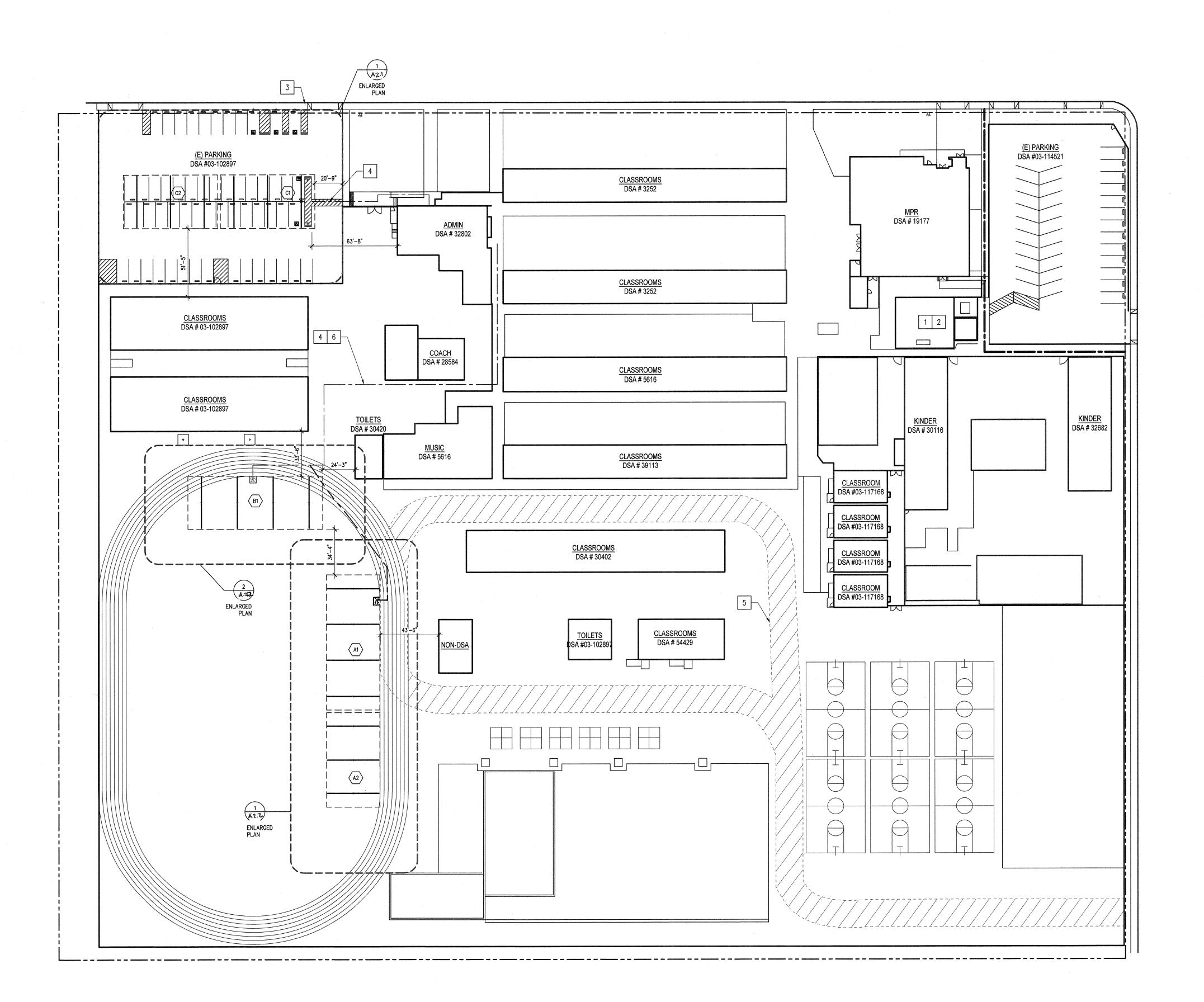


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	Bakersfield City
	School District 1300 BAKER STREET, BAKERSFIELD, CA 93305
	PROJECT LOCATION MT. VERNON
	ELEMENTARY
	2161 POTOMAC AVE. BAKERSFIELD, CA. 93307
	DESIGNER
	ARCHITECT
	A
	4750 Willow Road Suite 250 Pleasanton, CA 94588 T 925.648.8800
	A R C H I T E C T S 2510 Douglas Boulevard Roseville, CA 95661 T 916.772.1800 3050 Pullman Street
	ENGINEERS Costa Mesa, CA 92626 T 714.338.1600 www.atiae.com
	PROFESSIONAL STAMP
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DSA 810 (rev 01-24-18) DIVISION OF THE STATE ARCHITECT

DEPARTMENT OF GENERAL SERVICES

Page 1 of 1 STATE OF CALIFORNIA



GENERAL NOTES

SOLAR CANOPY DIMENSIONS ARE MEASURED FROM EDGE OF SOLAR PANELS, AND ARE SHOWN ONLY FOR GENERAL SITE REFERENCE. FOR ACTUAL CANOPY DIMENSIONS REFER TO STRUCTURAL

KEYNOTES

- 1 (N) ELECTRICAL DISCONNECT, S.E.D.
- 2 (E) ELECTRICAL METER / EQUIPMENT TIE IN, S.E.D.
- 3 (E) TOW AWAY SIGN. VERIFY COMPLIANCE WITH 5/A2.1 OR REPLACE
- 4 (N) PATH OF TRAVEL (P.O.T.)
- 5 (E) FIRE LANE ACCESS, MAINTAIN 20'-0" MIN. CLEAR
- 6 DEMO (E) SECTION OF V DITCH AT P.O.T. INTERSECTION AND REPLACE PER DETAIL 5/A2.2

SITE PLAN LEGEND

ACCESSIBLE PATH OF TRAVEL (P.O.T) AS INDICATED ON PLANS IS A
BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES
EXCEEDING 1/2" 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". ARCHITECT
SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.
ACCESSIBLE PATH OF TRAVEL AS SHOWN ON THE PLANS CAN BE NEGOTIATED
BY A PERSON WITH DISABILITY USING A WHEELCHAIR, AND THAT IS ALSO SAFE
FOR AND USABLE BY PERSONS WITH OTHER DISABILITIES.

(E) FIRE LANE ACCESS, 20'-0" MIN. CLEAR

(N) PV MODULAR STRUCTURE

IF THE PV STRUCTURE CROSSES THE FIRE LANE, THE

STRUCTURE MUST BE 13'-0" HIGH MIN.

ARRAY NUMBER

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT

THE PATH OF TRAVEL (P.O.T.) IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE P.O.T. WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT (1) HAVE BEEN IDENTIFIED AND (2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

COVERED PARKING COUNT

	TOTAL STALLS	ACCESSI	BLE STD.	ACCESSI	BLE VAN	TOTAL ACCESSIBLE		
		REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	
PARKING LOT	50	1	3	1	2	2	5	
COVERED	27 (52%)	0	1	1	1	1	2 (100%)**	

ARRAY CODE ANALYSIS/SELECTION TABLE

ARRAY #	OCC. TYPE	CONSTR. TYPE	ACTUAL AREA (FT ²)	SPRINKLERED	BASIC ALLOWABLE AREA—CBC TABLE 506.5.5	ARRAY DESIGN:	PIER DEPTH PER TABLE SHEET S-8
(A1)	А3	IIB	3993	N		300 MAX 064.	
AZ	A3	IIB	3993	N		300 MAX OCL.	
	-	TOTAL:	7986		9500 SF		
B1	А3	IIB	3993	N	9500 SF	300 MAX OCC.	SEE STRUCTURAL SHEET S-8
							·
C1 C1	S2	IIB	2796	N			
C2	S2	IIB	2796	N	·		
		TOTAL:	5592		26000 SF		



Bakersfield City
School District

1300 BAKER STREET, BAKERSFIELD, CA 93305

PROJECT LOCATION

MT. VERNON
ELEMENTARY
2161 POTOMAC AVE.
BAKERSFIELD, CA. 93307

DESIGNER

ARCHITECT



PROFESSIONAL STAMP

C 20677

AGENCY APPROVAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

03 119219

ISSUE

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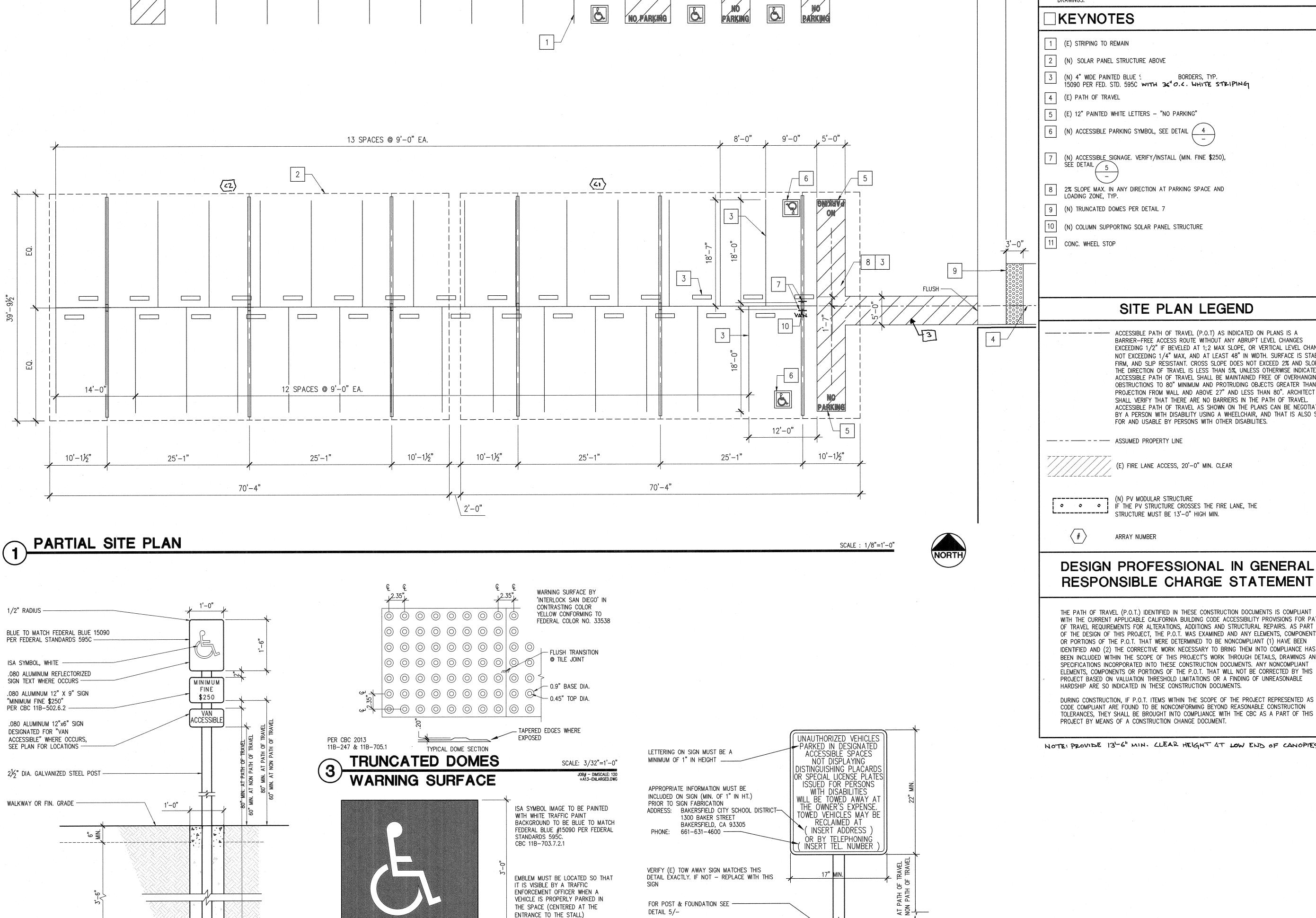
KEY MAP

SHEET TITLE

SITE PLAN

SHEET NUMBER

A1.0



FINISHED GRADE ---

SIGN - TOW AWAY

SCALE: 3/32"=1'-0"

JOB# - DIMSCALE: 120 +A13-ENLARGED.DWG

THERE IS NO WHITE BORDER

ISA PARKING STALL SYMBOLALE: 3/32"=1'-0"

CONCRETE FOOTING-

TYP. ACCESSIBLE PARKING SIGNAGE SCALE: 3/32"=1'-0"

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GENERAL NOTES

SOLAR CANOPY DIMENSIONS ARE MEASURED FROM EDGE OF SOLAR PANELS, AND ARE SHOWN ONLY FOR GENERAL SITE REFERENCE. FOR ACTUAL CANOPY DIMENSIONS REFER TO STRUCTURAL

> EXCEEDING 1/2" 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 ACCESSIBLE PATH OF TRAVEL AS SHOWN ON THE PLANS CAN BE NEGOTIATED BY A PERSON WITH DISABILITY USING A WHEELCHAIR, AND THAT IS ALSO SAFE

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NOTE: PROVIDE 13'-6" MIN. CLEAR HEIGHT AT LOW END OF CANOPIES



Bakersfield City School District 1300 BAKER STREET, BAKERSFIELD, CA 93305

PROJECT LOCATION

MT. VERNON ELEMENTARY 2161 POTOMAC AVE. BAKERSFIELD, CA. 93307

DESIGNER

ARCHITECT



PROFESSIONAL STAMP



AGENCY APPROVAL

ISSUE

IDENTIFICATION STAMP DIV. OF THE STATE AHCHITECT

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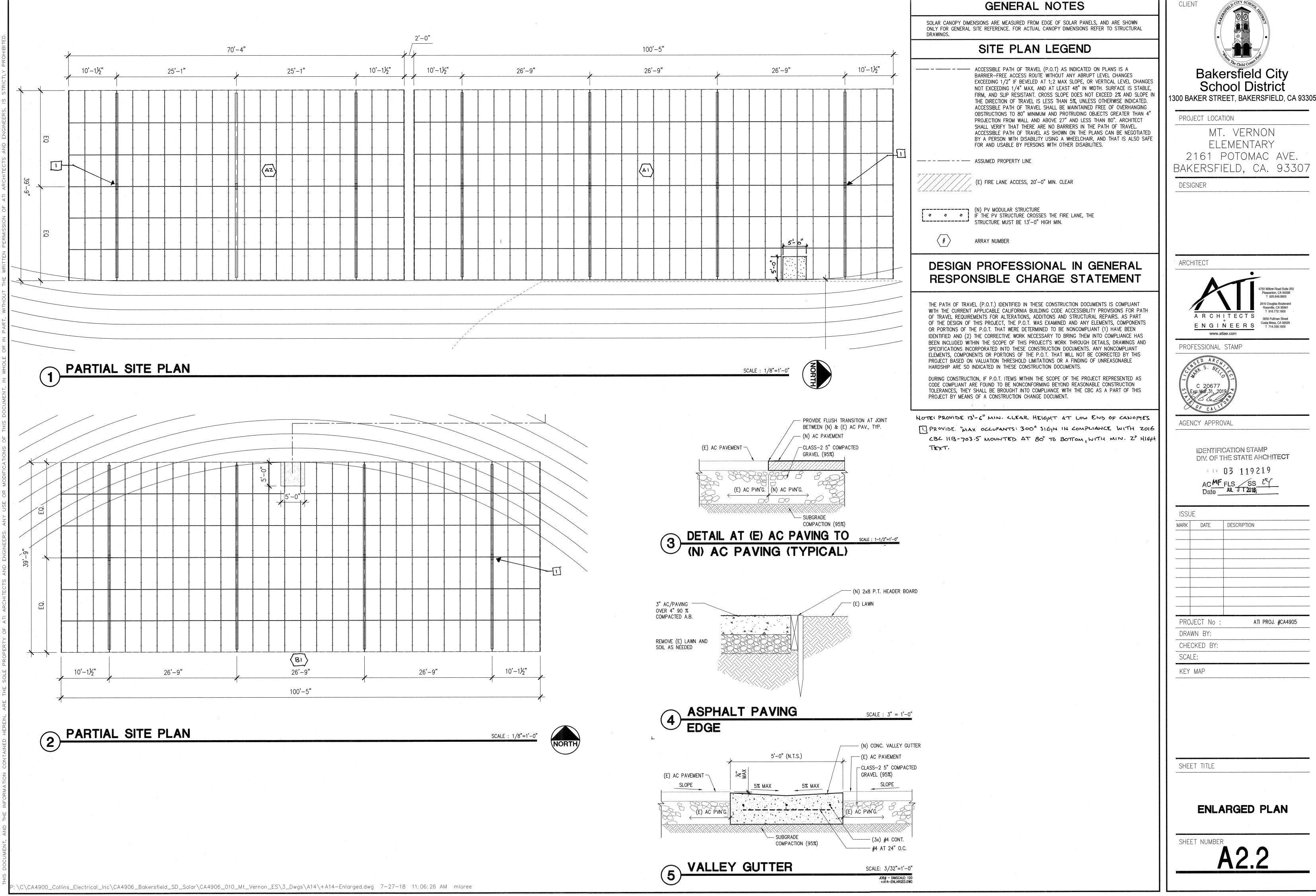
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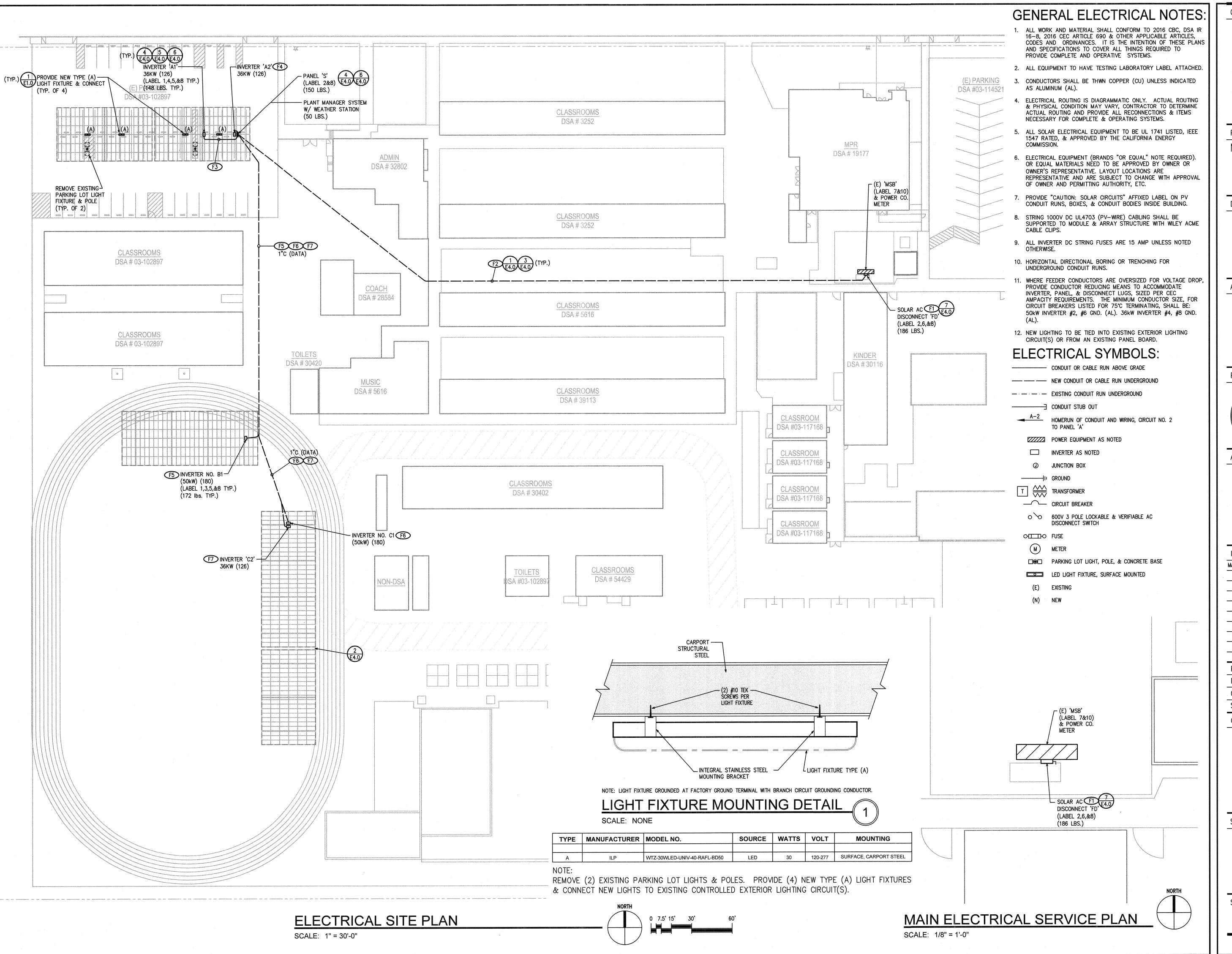
KEY MAP

ENLARGED PLAN



2161 POTOMAC AVE.

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CLIENT

Bakersfield City School

District 1300 Baker St., Bakersfield, CA 93305

PROJECT LOCATION

MT. VERNON ELEMENTARY SCHOOL

2161 POTOMAC AVE. BAKERSFIELD, CA 93307

DESIGNER



POWER 100 Montgomery Street #1400 San Francisco, CA 94104 (855) 204-5083 www.ForeFrontPower.com

ARCHITECT

3050 Pullman Street ENGINEERS www.atiae.com

Pleasanton, CA 94588 T 925.648.8800

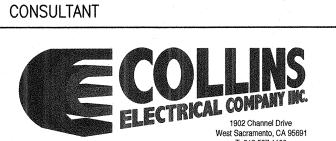
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CHE	CKED BY:	RJH
SCA	LE:	AS NOTED



SHEET TITLE

ELECTRICAL SITE PLAN

FEEDER SCHEDULE

lo.	Feeder Origin	Feeder Destination	Potential at Origin (Pi) (Volts)	Phase	Design Current (Amps)	Raceway Type	Sets of Cond.	Conductor Trade Size	Conductor Cross-Sectional Area (CM)	Conductor Material	DC Conductor Material Constant (K)	Q	Distance (ft)	Voltage Drop (Vd) (Volts)	Potential at Load (PI) (Volts)	Percent Voltage Drop (%Vd)	Total Voltage Drop (%Vd AC)	Conduit & Conductors
	MCDI	AC Discounset IED	480	Three	250.3	Stool	1	500 kCMIL	500000	CU	12.9	1.1240	10	0.13	479.87	0.03	0.03	4"C-3#500 KCMIL, 1#1/0 NEUT., 1#1/0 GND. (CU)
	MSB' AC Disconnect 'FD'	AC Disconnect 'FD' Panel 'S'	480	Three	250.3	Steel PVC	1	750 kCMIL	750000	AL	21.2	1.0284	525	6.62	473.38	1.38	1.40	4"C-3#750 KCMIL, 1#3/0 NEUT., 1#1 GND. (AL)
	Panel 'S'	Inverter No. A1	480	Three	43.3	Steel	1	4	41740	AL	21.2	1.0039	35	1.34	478.66	0.28	1.68	1-1/2"C-3#4, 1#8 GND. (AL)
	Panel 'S'	Inverter No. A2	480	Three	43.3	Steel	1	4	41740	AL	21.2	1.0039	10	0.38	479.62	0.08	1.76	1-1/2"C-3#4, 1#8 GND. (AL)
	Panel 'S'	Inverter No. B1	480	Three	60.2	PVC	1	2/0	133100	AL	21.2	1.0063	255	4.26	475.74	0.89	2.57	2"C-3#2/0, 1#4 GND. (AL)
	Panel 'S'	Inverter No. C1	480	Three	60.2	PVC	1	2/0	133100	AL	21.2	1.0063	315	5.26	474.74	1.10	2.50	2"C-3#2/0, 1#4 GND. (AL)
	Panel 'S'	Inverter No. C2	480	Three	43.3	PVC	1	3/0	167800	AL	21.2	1.0317	315	3.08	476.92	0.64	2.32	2"C-3#3/0, 1#4 GND. (AL)

STRING DC WIRE SIZE CALCULATION

Isc: $9.49 \times 1.56 = 14.80A$ #10 AWG = 40A (90°C)(PER TABLE CEC 310.16)

21-30 CURRENT CARRYING CONDUCTORS IN A RACEWAY (SHARED CONDUIT) (PER TABLE CEC 310.15(B)(2)(a) = 0.45

 $40A \times 0.45 = 18.0A > 14.80 A ALLOWABLE$ #10 AWG CONDUCTOR IS ALLOWABLE

STRING VOLTAGE DROP CALCULATION INVERTER NO. A1 Vmp: 682.2 VDC, Imp: 8.97 A @ 85 FT (WORST CASE FROM ARRAY TO INVERTER) #10 AWG cir. mils. = 10380

 $2 \times 12.9 \times 85 \times 8.97 / 10380 = VDC lost$ 2.57 V / 682.2 VDC = 0.28% VOLTAGE DROP INVERTER NO. A2 = 0.51% VOLTAGE DROP (155') INVERTER NO. B1 = 0.38% VOLTAGE DROP (115')

INVERTER NO. C1 = 0.38% VOLTAGE DROP (115') INVERTER NO. C2 = 0.61% VOLTAGE DROP (185')

50 KW INVERTER AC Wire & OCPD CALCULATION:

AC Output Power: 60.2A AC Output Current Max $60.2A \times 1.25 = 75.3A$ 80 AMP OCPD PER 50kW INVERTER OUTPUT

#2 AWG THWN-2 = 90A (75°C)(PER TABLE CEC 310.16) (AL)

TEMP. CONDITIONS: OUTDOOR WIRE RUN - AMBIENT TEMP. = 38°C (3) CURRENT CARRYING CONDUCTORS IN A RACEWAY (SHARED CONDUIT) (PÉR TABLE CEC 310.15(B)(3)(α) = 1.0

 $90A \times 1.0 = 90A = 90A$ TEMP. ADJUSTED #2 CURRENT = 90A @ 75°C PER CEC 110.14(C) #2 AWG CONDUCTOR IS MINIMUM ALLOWABLE (AL)

36 KW INVERTER AC WIRE & OCPD CALCULATION: AC OUTPUT POWER: 43.3A AC OUTPUT CURRENT MAX $43.3A \times 1.25 = 54.125A$ 60 AMP OCPD PER 50KW INVERTER OUTPUT

#4 AWG THWN-2 = 65A (75°C)(PER TABLE CEC 310.16) (AL)

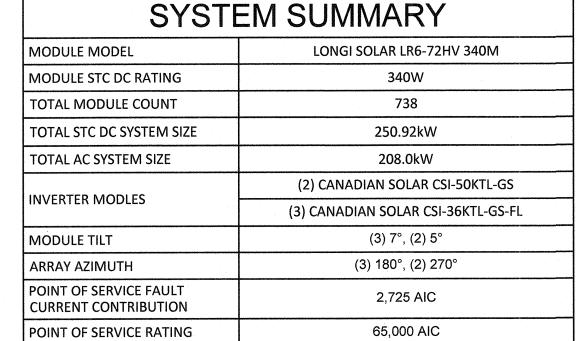
TEMP. CONDITIONS: OUTDOOR WIRE RUN - AMBIENT TEMP. = 38°C (3) CURRENT CARRYING CONDUCTORS IN A RACEWAY (SHARED CONDUIT) (PER TABLE CEC 310.15(B)(3)(A) = 1.0

 $60A \times 1.0 = 60A = 60A TEMP. ADJUSTED$ #4 CURRENT = 95A @ 75°C PER CEC 110.14(C) #4 AWG CONDUCTOR IS MINIMUM ALLOWABLE (AL)

MAX/COLD TEMP PV VOLTAGE CALCULATION: LONGI SOLAR LR6-72HV 340M Voc: 46.5V Temp. Coefficient: −0.33%V/C Low Temp*: -2.0°C (27.0°Δ) # Modules in Series: 18

 $(46.5 \text{ V}) \times (0.0033 \text{ V/°C}) \times (27.0^{\circ}) = 4.14 \text{ V}\Delta$ $46.5 \text{ Voc} + 4.14 \text{ V}\Delta = 50.64 \text{ Voc(corr)}$ $(50.64 \text{ V}) \times (18) = 911.6 \text{ VDC max (this is } < 1000 \text{ VDC})$

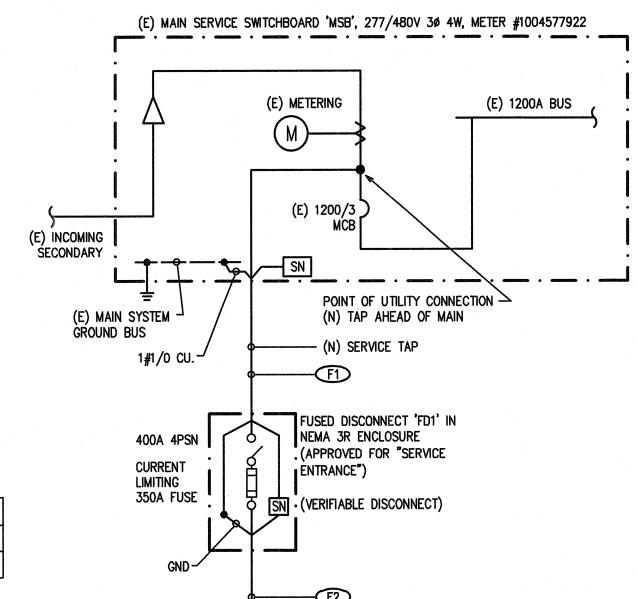
* = Per ASHRAE table

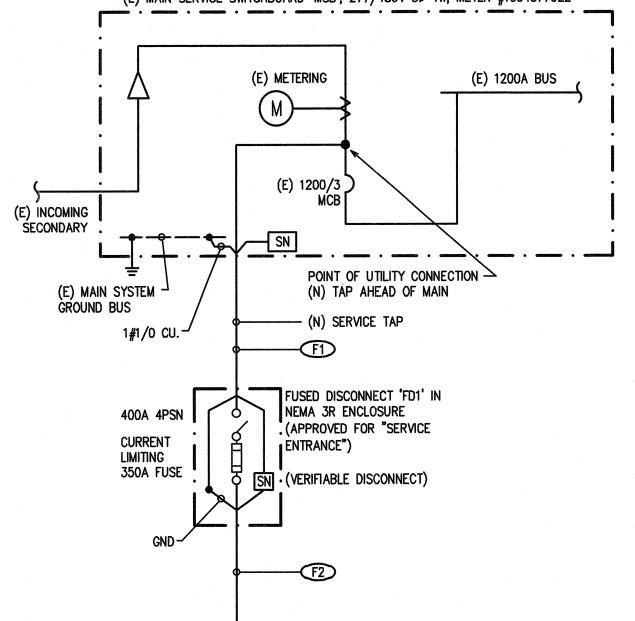


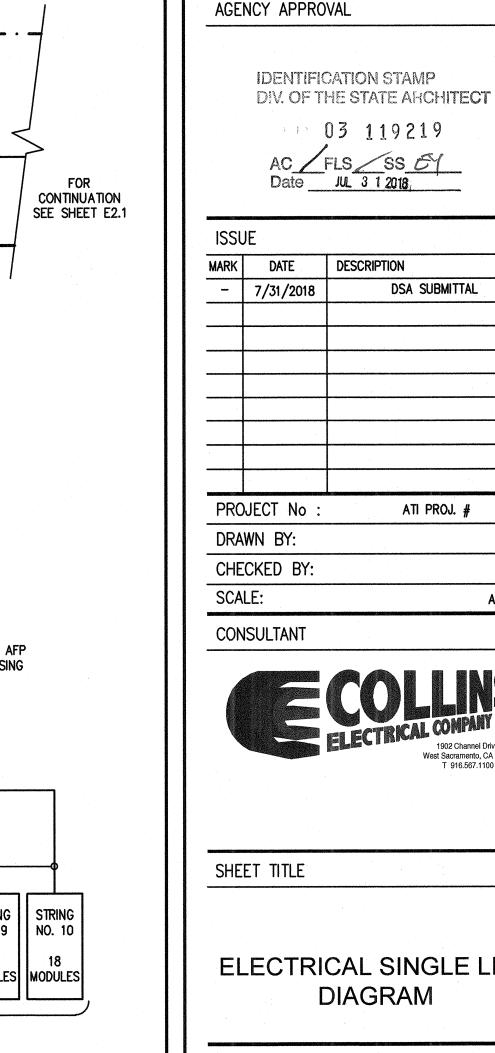
600V HEAVY DUTY AC VERIFIABLE DISCONNECT SCHEDULE

(WITH CLASS 'RK1 OR RK5' CURRENT LIMITING

Fold Size (VERIFIABLE)	MANUFACTURER'S CAT NO.	AIC RATING
4004 4PSN 600VAC	SOUARE D #H365 NR	200,000 AIC







ISSUE MARK DESCRIPTION DATE DSA SUBMITTAL - 7/31/2018 PROJECT No ATI PROJ. #

IDENTIFICATION STAMP

03 119219

AC | FLS | SS | EY | Date | JUL 3 1 2018;

DRAWN BY: CHECKED BY: SCALE: AS NOTED

CONSULTANT

CLIENT

PROJECT LOCATION

DESIGNER

ARCHITECT

Bakersfield City School

District 1300 Baker St., Bakersfield, CA 93305

MT. VERNON ELEMENTARY

SCHOOL

2161 POTOMAC AVE.

BAKERSFIELD, CA 93307

FOREFRONT

POWER

100 Montgomery Street #1400 San Francisco, CA 94104 (855) 204-5083 www.ForeFrontPower.com

ENGINEERS

www.atiae.com

PROFESSIONAL STAMP

4750 Willow Road Suite 250

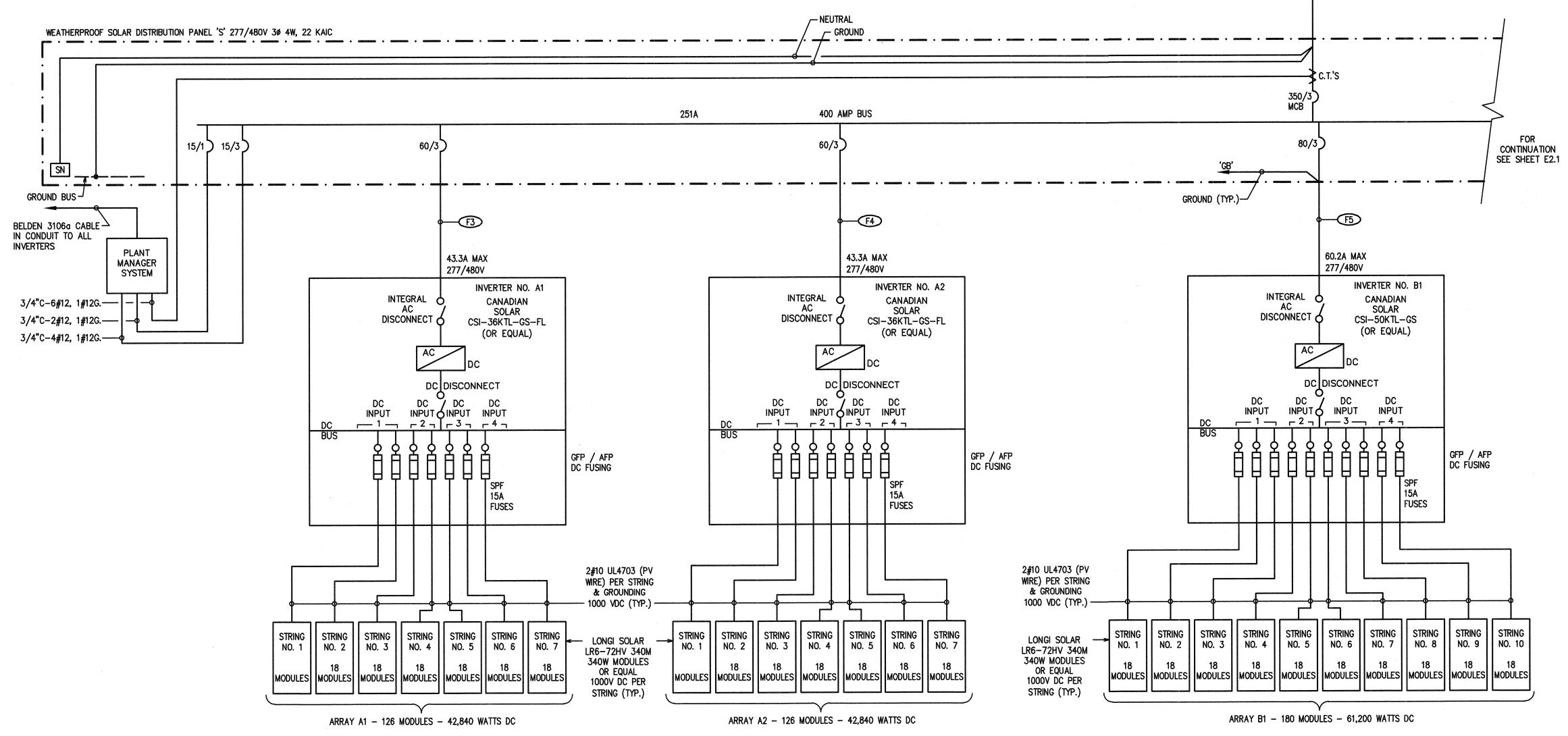
Pleasanton, CA 94588 T 925.648.8800



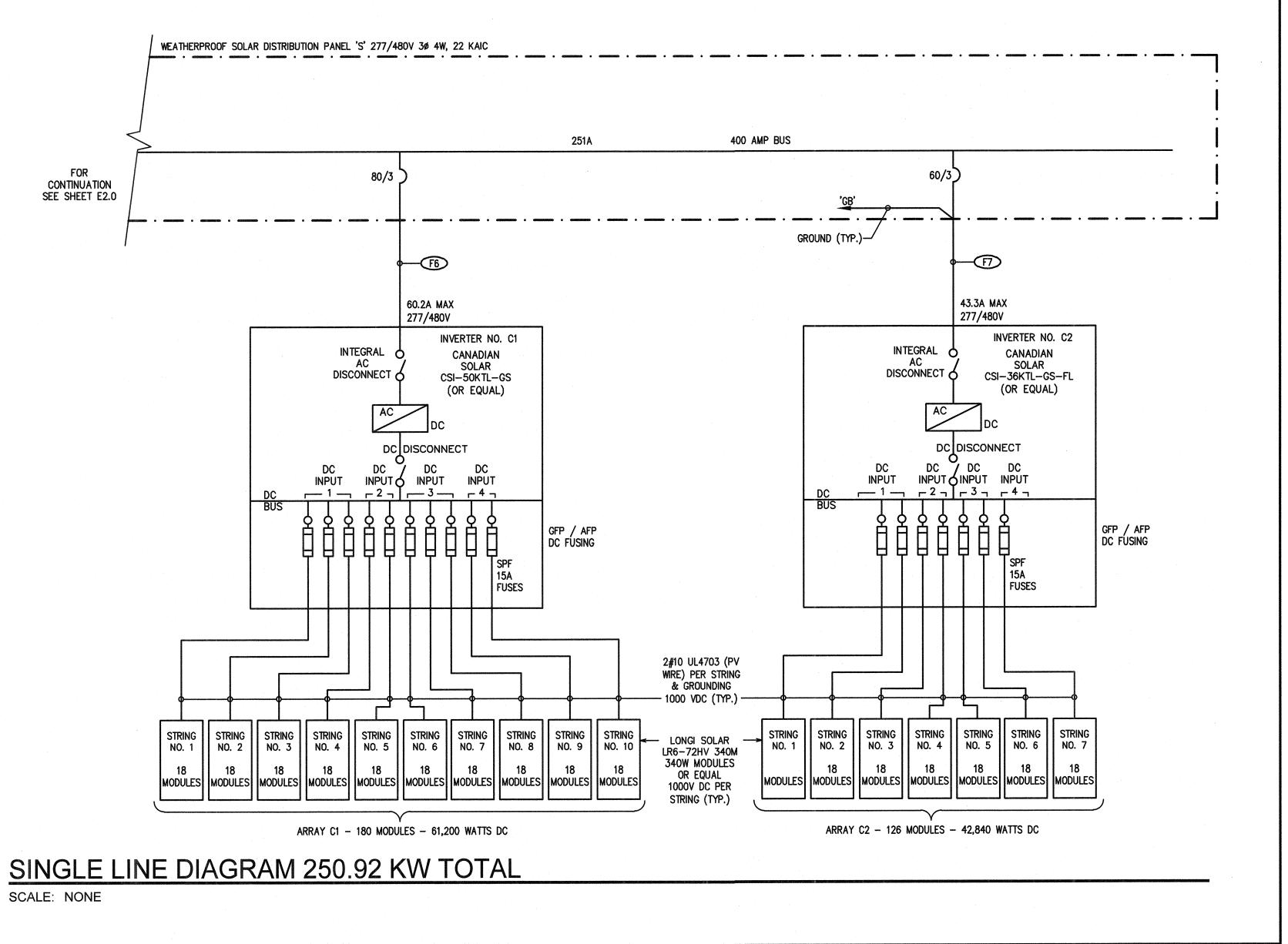
SHEET TITLE

ELECTRICAL SINGLE LINE DIAGRAM

SHEET NUMBER



SINGLE LINE DIAGRAM 250.92 KW TOTAL



CLIENT



Bakersfield City School District

1300 Baker St., Bakersfield, CA 93305

PROJECT LOCATION

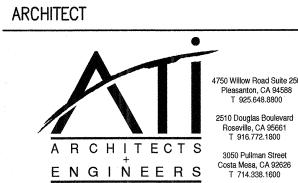
MT. VERNON ELEMENTARY SCHOOL 2161 POTOMAC AVE. BAKERSFIELD, CA 93307

DESIGNER

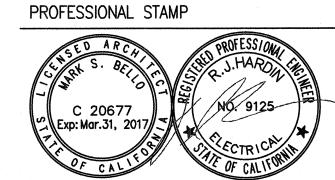


100 Montgomery Street #1400 San Francisco, CA 94104 (855) 204-5083 www.ForeFrontPower.com

Pleasanton, CA 94588 T 925.648.8800



www.atiae.com



AGENCY APPROVAL

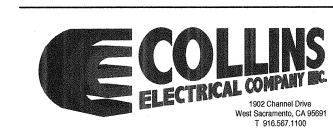
IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

03 119219 AC FLS SS Saturday SS State JUL 3 1 2018

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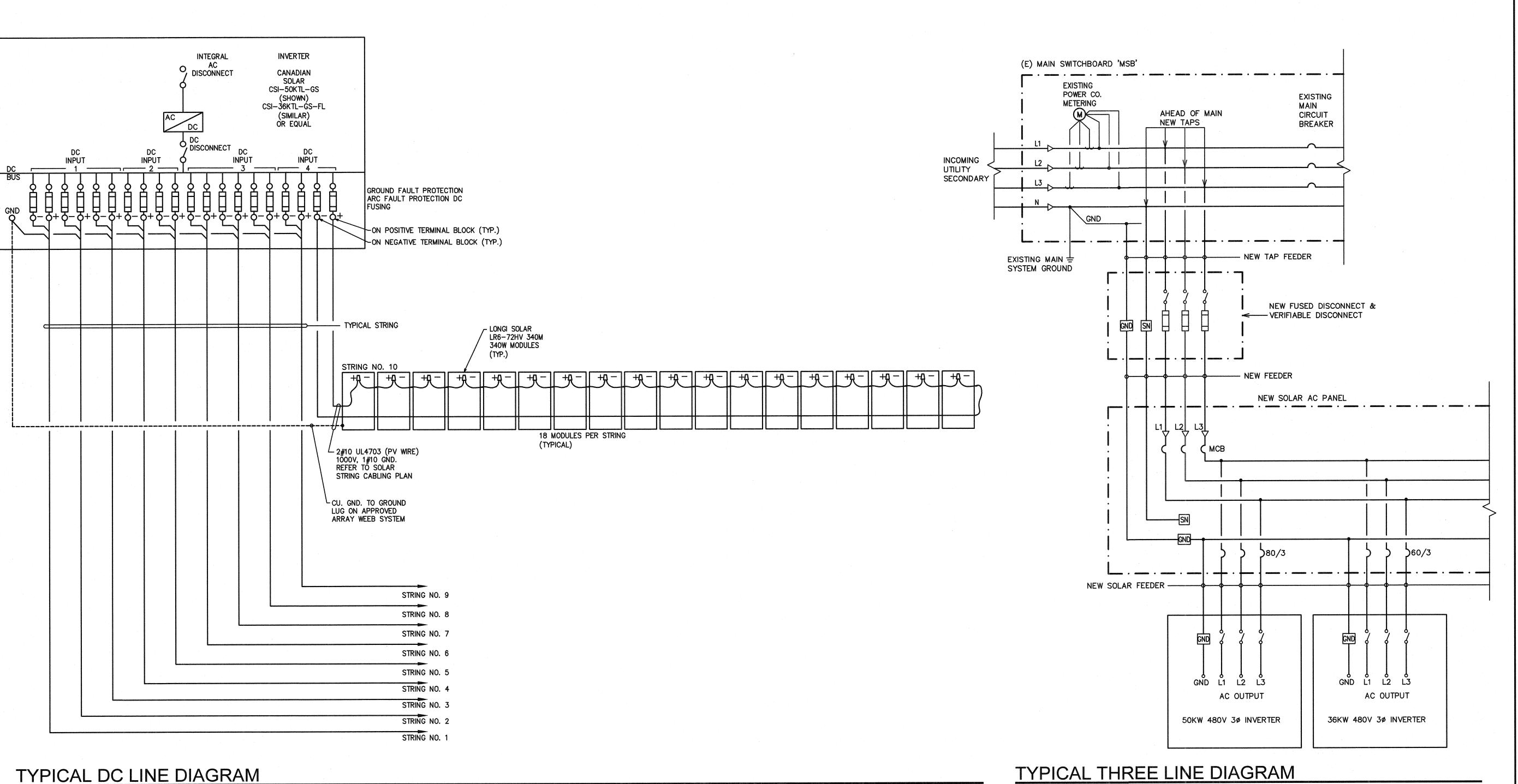
CHECKED BY: RJH SCALE: AS NOTED

CONSULTANT



SHEET TITLE

ELECTRICAL SINGLE LINE DIAGRAM



SCALE: NONE

TYPICAL THREE LINE DIAGRAM

SCALE: NONE

CLIENT

Bakersfield City School

District 1300 Baker St., Bakersfield, CA 93305

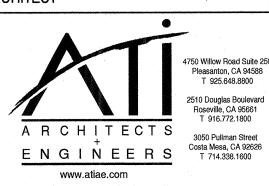
PROJECT LOCATION

MT. VERNON ELEMENTARY SCHOOL 2161 POTOMAC AVE. BAKERSFIELD, CA 93307

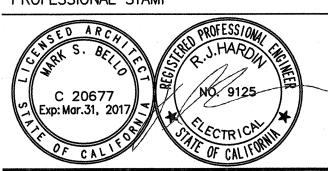
DESIGNER



ARCHITECT



PROFESSIONAL STAMP



AGENCY APPROVAL

IDENTIFICATION STAMP DIV. OF THE STATE AHCHITECT AC FLS SS 5 Date NL 3 1 2018

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CONSULTANT

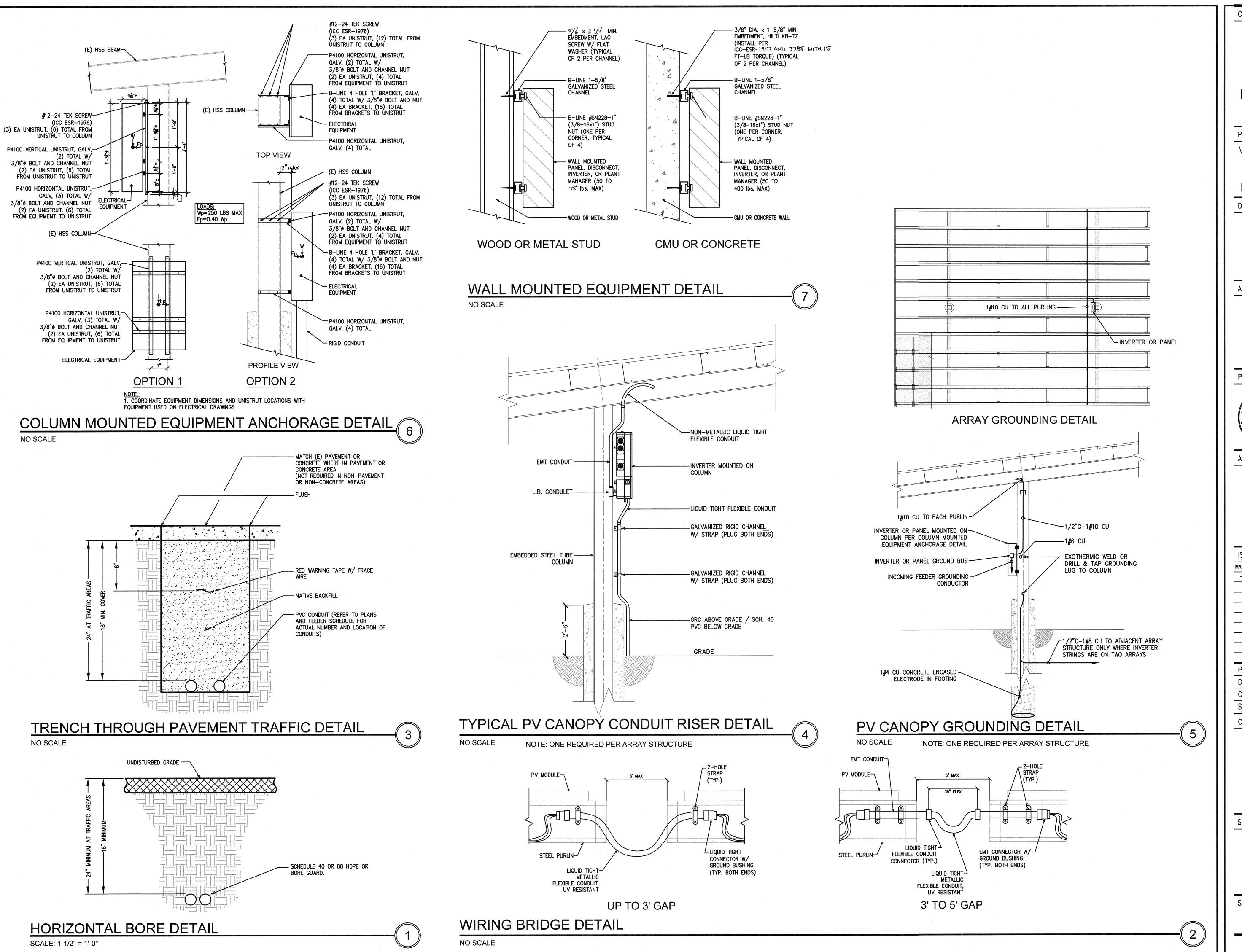


SHEET TITLE

TYPICAL ELECTRICAL THREE LINE DIAGRAM

SHEET NUMBER

E3.0



CLIENT

Bakersfield City School District

1300 Baker St., Bakersfield, CA 93305

PROJECT LOCATION

MT. VERNON ELEMENTARY SCHOOL 2161 POTOMAC AVE. BAKERSFIELD, CA 93307

DESIGNER

FOREFRONT

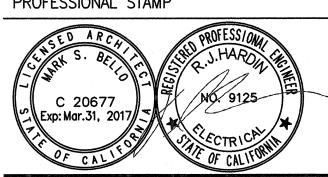
POWER 100 Montgomery Street #1400 San Francisco, CA 94104 (855) 204-5083 www.ForeFrontPower.com

Pleasanton, CA 94588

ARCHITECT



PROFESSIONAL STAMP



AGENCY APPROVAL

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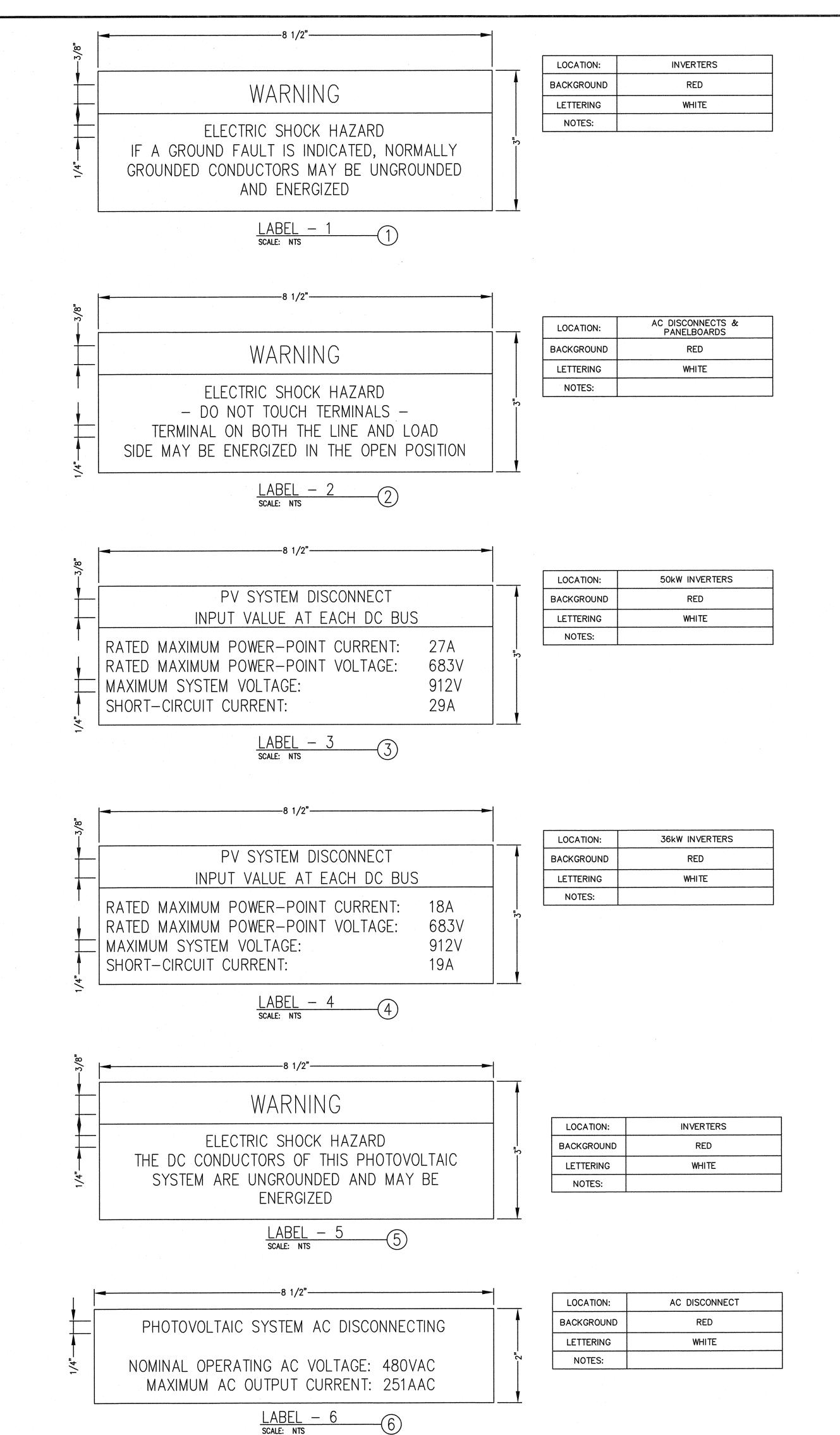
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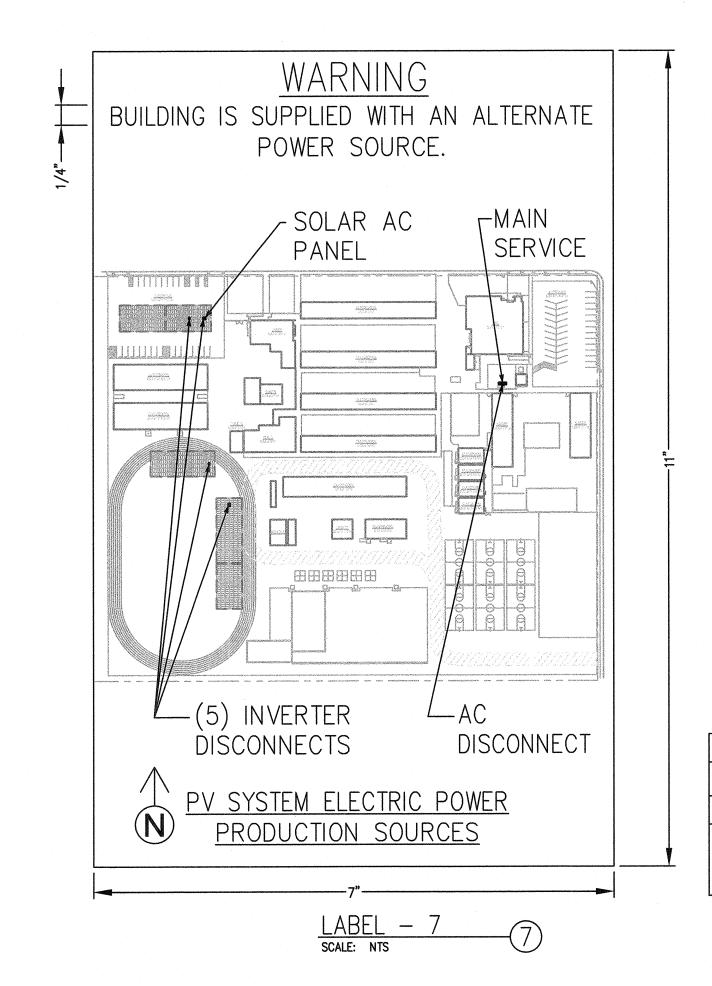
CONSULTANT



SHEET TITLE

ELECTRICAL DETAILS





WARNING LABELS & MARKING NOTES: 1. MARKING IS REQUIRED ON INTERIOR AND EXTERIOR DIRECT-CURRENT (DC) CONDUIT, ENCLOSURES, RACEWAYS, CABLE ASSEMBLIES, JUNCTION BOXES, COMBINER BOXES AND

2. THE MATERIALS USED FOR MARKING SHALL BE REFLECTIVE, WEATHER RESISTANT AND SUITABLE FOR THE ENVIRONMENT. MARKING AS REQUIRED IN SECTIONS 605.11.1.2 THROUGH 605.11.1.4 SHALL HAVE ALL LETTERS CAPITAL SIZED WITH A MINIMUM HEIGHT

OF 3/8 INCH (9.5 MM) WHITE ON RED BACKGROUND. 3. THE MARKING SHALL CONTAIN THE WORDS "WARNING: PHOTOVOLTAIC POWER SOURCE."

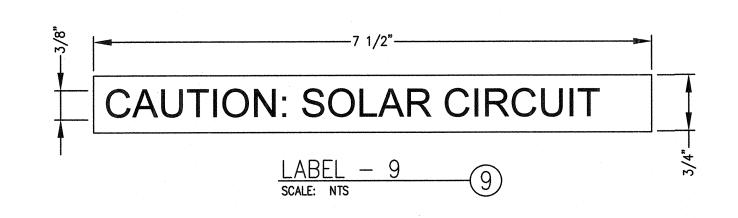
4. THE MARKING SHALL BE PLACED ADJACENT TO THE MAIN SERVICE DISCONNECT IN A LOCATION CLEARLY VISIBLE FROM THE LOCATION WHERE THE DISCONNECT IS OPERATED.

5. MARKING SHALL BE PLACED ON INTERIOR AND EXTERIOR DC CONDUIT. RACEWAYS, ENCLOSURES AND CABLE ASSEMBLIES EVERY 10 FEET (3048 MM), WITHIN 1 FOOT (305 MM) OF TURNS OR BENDS AND WITHIN 1 FOOT (305 MM) ABOVE AND BELOW PENETRATIONS OF ROOF/CEILING ASSEMBLIES, WALLS OR BARRIERS.

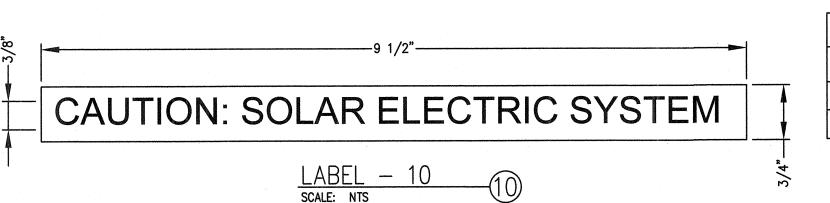
LOCATION:	MAIN SERVICE DSCONNECT
BACKGROUND	RED
LETTERING	WHITE
NOTES:	1 SIGN AT (E) SERVICE METER. PLACE ADDITIONAL SIGN AT SOLAR AC SYSTEM DISCONNECT WHERE NOT LOCATED WITHIN 25' & IN VIEW OF (E) SERVICE METER.



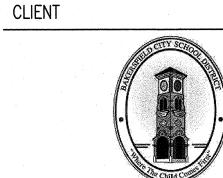
LOCATION:	INVERTER DISCONNECTS, AC DISCONNECT, PANEL
BACKGROUND	WHITE, RED OR YELLOW
LETTERING	BLACK AND/OR RED
NOTES:	



LOCATION:	DC ENCLOSURES, RACEWAYS AND CONDUITS
BACKGROUND	RED
LETTERING	WHITE
NOTES:	EXPOSED CONDUIT EVERY 10 FT.



LOCATION:	MAIN SERVICE DISCONNECT
BACKGROUND	RED
LETTERING	WHITE
NOTES:	



Bakersfield City School District

1300 Baker St., Bakersfield, CA 93305

PROJECT LOCATION

MT. VERNON ELEMENTARY SCHOOL 2161 POTOMAC AVE. BAKERSFIELD, CA 93307

DESIGNER

FOREFRONT POWER 100 Montgomery Street #1400 San Francisco, CA 94104 (855) 204-5083 www.ForeFrontPower.com

ARCHITECT





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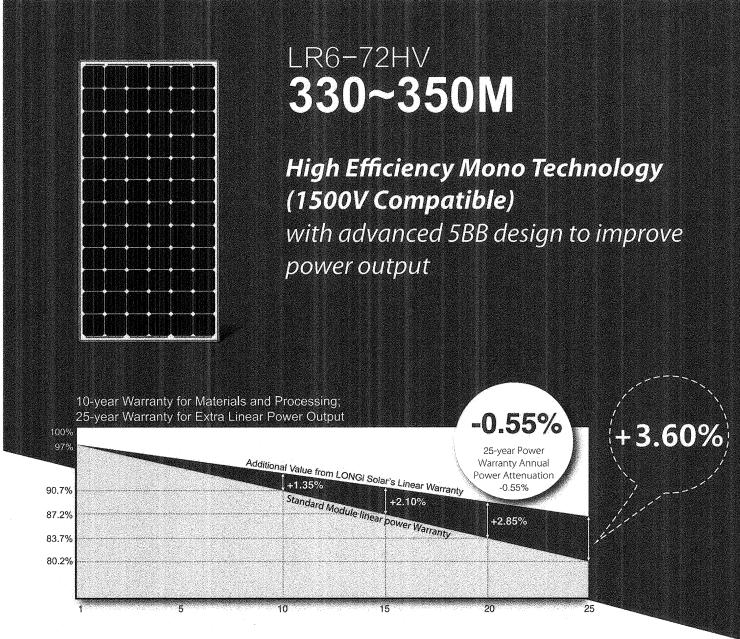
SHEET TITLE

CHECKED BY:

TYPICAL ELECTRICAL SOLAR WARNING LABELS

SHEET NUMBER

E5.0



Complete System and Product Certifications

IEC 61215, IEC61730, UL1703 ISO 9001:2008: ISO Quality Management System ISO 14001: 2004: ISO Environment Management System

TS62941: Guideline for module design qualification and type approval OHSAS 18001: 2007 Occupational Health and Safety

reserves the right of interpretation.

* Specifications subject to technical changes and tests. LONGi Solar

Positive power tolerance (0 ~ +5W) guaranteed High module conversion efficiency (up to 18.1%)

Better energy yield with excellent low irradiance performance and temperature coefficient

Solid PID resistance ensured by solar cell process optimization and careful module BOM

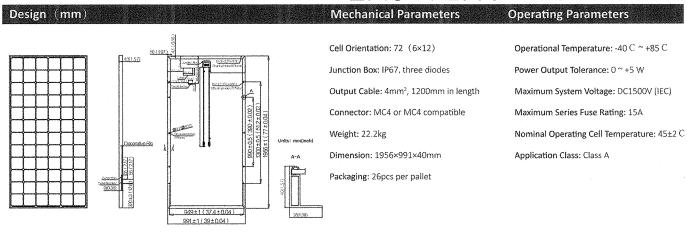
Adaptable to harsh environment: passed rigorous salt mist and ammonia tests

Robust frame (40mm) withstands mechanical loading of 5400Pa for snow load on front and 2400Pa for wind load on rear side

Room 201, Building 8, Sandhill Plaza, Lane 2290, Zuchnongzhi Road, Pudong District, Shanghai, 201203 Tel: +86-21-61047332 Fax: +86 21-61047377 E-mail: module@longi-silicon.com Facebook: www.facebook.com/LONGi Solar

Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGi Solar have the sole right to make such modification at anytime without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

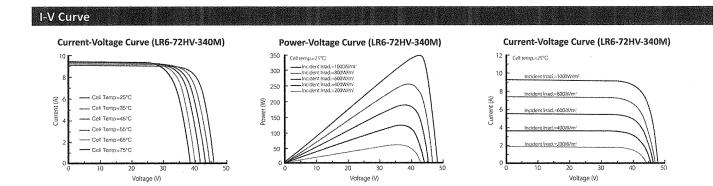
LR6-72HV 330~350M



Model Number	LR6-721	HV-330M	LR6-72	HV-335M	LR6-721	HV-340M	LR6-72	HV-345M	LR6-72	HV-350N
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	330	238.6	335	242.2	340	245.8	345	249.4	350	253.0
Open Circuit Voltage (Voc/V)	46,1	42,4	46.3	42.6	46.5	42.8	46.7	43	46.9	43.1
Short Circuit Current (Isc/A)	9.30	7.50	9,40	7.58	9.49	7.65	9.58	7.72	9.68	7.80
Voltage at Maximum Power (Vmp/V)	37.6	34.0	37.7	34.1	37.9	34.2	38.1	34.5	38.2	34.6
Current at Maximum Power (Imp/A)	8.78	7.02	8.89	7.11	8.97	7.18	9.05	7.24	9.16	7,32
Module Efficiency(%)	17	.0	17	7.3	1	7.5	1	7.8	1	8.1

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 C, Spectra at AM1.5	
NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20 °C, Spectra at AM1.5, Wind at 1m/S	
	_

		· ·	
Temperature Ratings (STC)		Mechanical Loading	
Temperature Coefficient of Isc	+0.059%/ C	Front Side Maximum Static Loading	5400Pa
Temperature Coefficient of Voc	-0.330%/˚C	Rear Side Maximum Static Loading	2400Pa
Temperature Coefficient of Pmax	-0.410%/°C	Hailstone Test	25mm Hailstone at the speed of 23m/s



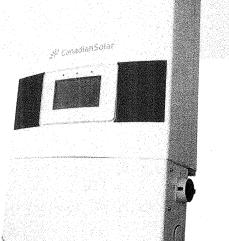
Room 201, Building 8, Sandhill Plaza, Lane 2290, Zuchnongzhi Road, Pudong District, Shanghai, 201203 Tel: + 86-21-61047332 Fax: +86 21- 61047377 E-mail: module@longi-silicon.com Facebook: www.facebook.com/LONGi Solar

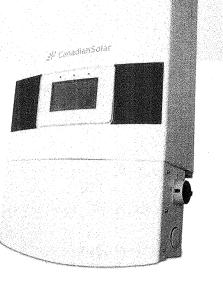
Note; Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGi Solar have the sole right to make such modification at anytime without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

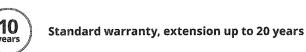
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Ground-fault detection and interruption circuit

Utility interactive controls: active power derating,

• AC terminals compatible with copper and aluminum

• Integrated DC and AC load rated disconnects

conductors (Al with bimetallic terminal)

• Supports up to 8 DC string inputs (2 per MPPT)

Wide MPPT range for flexible string sizing

reactive power control and over frequency derating

NEMA 4X (IP65), outdoor application

Integrated wiring box design

90 degree installation angle

AFCI Integrated (per UL1699B, factory enabled option)

HIGH RELIABILITY

- Maximum efficiency of 98.6%, CEC efficiency of 98.3%
- 4 MPPTs to achieve higher system efficiency

THREE PHASE STRING

INVERTER 25-40 KW

CSI-25KTL-GS-FL | CSI-30KTL-GS-FL |

CSI-36KTL-GS-FL | CSI-40KTL-GS-FL

Canadian Solar's grid-tied, transformer-less string inverters

help accelerate the use of three-phase string architecture for

commercial rooftop and small ground-mount applications. An

these inverters are modular design building blocks that provide

high yield and enable significant BoS cost savings. They provide

up to 98.6% conversion efficiency, a wide operating range of 200-800 V_{pc}, and four MPPTs for maximum energy harvest.

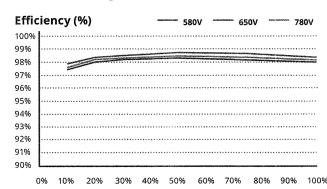
NRTL approved, cost-effective alternative to central inverters,

- Transformerless design
- High switching frequency and ultra fast MPPT (<5 sec.) for maximum efficiency over a wide load range

EFFICIENCY CURVE

KEY FEATURES

CSI-40KTL-GS-FL@480 V



CANADIAN SOLAR (USA), INC.

*For detailed information, please refer to the Installation Manual.

% of Rated Output Power

3000 Oak Road, Suite 400, Walnut Creek, CA 94597, USA | www.canadiansolar.com/na | sales.us@canadiansolar.com

Advanced thermal design

BROAD ADAPTIBILITY

customers around the world. As a leading PV project developer and manufacturer of solar modules with over 25 GW deployed around the world since 2001, Canadian Solar Inc. (NASDAQ: CSIQ) is one of the most bankable solar companies worldwide.

CANADIAN SOLAR (USA), INC. is committed to providing high

quality solar products, solar system solutions and services to

SYSTEM/TECHNICAL DATA MODEL NAME CSI-25KTL-GS-FL CSI-30KTL-GS-FL DC INPUT Max. PV Power 37.5 kW (13.5 kW/MPPT) 45 kW (13.5 kW/MPPT) 54 kW (13.5 kW/MPPT) Max. DC Input Voltage 200-800 V_s Operating DC Input Voltage Range Start-up DC Input Voltage/Power Number of MPP Trackers MPPT Voltage Range 417-800 V_{DC} 72 A (18 A per MPPT) Operating Current (Imp) 112.4 A (28.1 A per MPPT Max. Input Current (Isc) Number of DC Imputs 8 (2 per MPPT) Load rated DC switch DC Disconnection Type AC OUTPUT Rated AC Output Power 30 kW Max. AC Output Power Rated Output Voltage Output Voltage Range* 422.4 - 528 V_{AC} Grid Connection Type Nominal AC Output Current @480 Vac 60 Hz Rated Output Frequency 59.5 - 60.5 Hz Output Frequency Range* Power Factor 1 default (±0.8 adjustable) Current THD < 3 % Load rated AC switch AC Disconnection Type SYSTEM Transformerless Topology 98.6 % Max. Efficiency CEC Efficiency 98.3 % < 1 W Night Consumption ENVIRONMENT Protection Degree NEMA 4X Natural Convection Cooling -13 ° F to + 140 ° F / -25 ° C to +60 ° C Operating Temperature Range -40 ° F to + 158 ° F / -40 ° C to +70 ° C Storage Temperature Range Operating Humidity 0 - 100 % condensing 13,123.4 ft / 4000 m Operating Altitude <30 dBA @ 1 m Audible Noise DISPLAY AND COMMUNICATION LCD + LED Standard: RS485 (Modbus) Communication MECHANICAL DATA Dimensions (W / H / D) 23.4 x 37.2 x 14.4 in / 595 x 945 x 356.5 mm 147,7 lb / 67 kg Weight Installation Angle 90 degrees from horizontal DC Inputs SAFETY UL1741-SA, UL1699B, CSA-C22.2 No. 107.1-01, IEEE1547; FCC PART 15 Safety and EMC Standard Grid Standard IEEE1547, Rule 21 Voltage-Ride Thru, Frequency-Ride Thru, Soft-Start, Volt-Var, Frequency-Watt, Volt-Watt

The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to on-going innovation, research and product enhancement, Canadian Solar Inc. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

Smart-Grid Features

Caution: For professional use only. The installation and handling of PV equipment requires professional skills and should only be performed by qualified professionals. Please read the safety and installation instructions before using the product.

*The "Output Voltage Range" and "Output Frequency Range" may differ according to

CANADIAN SOLAR (USA), INC. February 2018 | All rights reserved | Inverter Product Datasheet V2.0_E2_NA

THREE PHASE STRING **INVERTER 50-66 KW**

CSI-50KTL-GS-FL | CSI-50KTL-GS | CSI-60KTL-GS | CSI-66KTL-GS

Canadian Solar's grid-tied, transformer-less string inverters help accelerate the use of three-phase string architecture for commercial rooftop and small ground-mount applications. An NRTL approved, cost-effective alternative to central inverters, up to 98.8% conversion efficiency, a wide operating range of 200-850 V_{pc}, and four MPPTs for maximum energy harvest.

KEY FEATURES

- Maximum efficiency of 98.8%, CEC efficiency of 98.4% 4 MPPTs to achieve higher system efficiency
- Transformerless design
- High switching frequency and ultra fast MPPT (<5 sec.)

for maximum efficiency over a wide load range

EFFICIENCY CURVE

CSI-66KTL-GS@480 V Efficiency (%)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% % of Rated Output Power

these inverters are modular design building blocks that provide high yield and enable significant BoS cost savings. They provide

HIGH RELIABILITY

- Advanced thermal design with fan assisted cooling
- Ground-fault detection and interruption circuit • AFCI Integrated (per UL1699B, factory enabled option)

- **BROAD ADAPTIBILITY** NEMA 4X (IP65), outdoor application
- Utility interactive controls: active power derating, reactive power control and over frequency derating
- Integrated wiring box design
- Integrated DC and AC load rated disconnects
- Wide MPPT range for flexible string sizing
- 15-90 degree installation angle
- AC terminals compatible with copper and aluminum
- conductors (Al with bimetallic terminal)
- Supports up to 12 or 16 DC string inputs (3 or 4 per MPPT)

CANADIAN SOLAR (USA), INC. is committed to providing high

quality solar products, solar system solutions and services to customers around the world. As a leading PV project developer and manufacturer of solar modules with over 25 GW deployed around the world since 2001, Canadian Solar Inc. (NASDAQ: CSIQ) is one of the most bankable solar companies worldwide.

*For detailed information, please refer to the Installation Manual.

CANADIAN SOLAR (USA), INC.

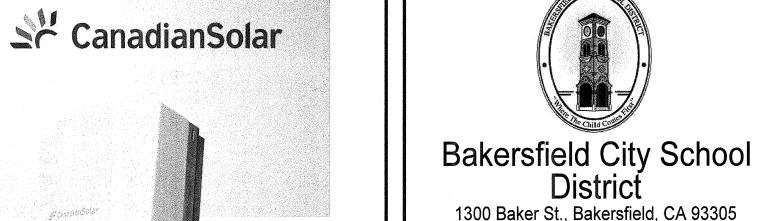
3000 Oak Road, Suite 400, Walnut Creek, CA 94597, USA | www.canadiansolar.com/na | sales.us@canadiansolar.com

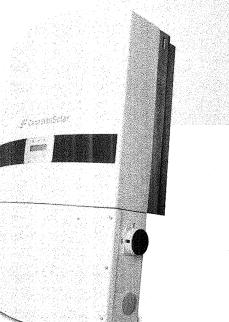
SYSTEM/TECHNICAL DATA	and the physical and the control of	atannoanaminta opaansa opaintinnoenti antai vojatansa misteri visentuutota		
MODEL NAME	CSI-50KTL-GS-FL	CSI-50KTL-GS	CSI-60KTL-GS	CSI-66KTL-GS
DCINPUT	sunanengininistraturetersetaturunearetetersetarun anternestetetenterun arteitetes per	n an ann an a	i maganisan international anni magani material penderi material de la companya de la companya de la companya de l	
Max. PV Power	64 kW (16 kW/MPPT)	75 kW (22.5 kW/MPPT)	90 kW (22.5 kW/MPPT)	90 kW (22.5 kW/MPPT)
Max. DC Input Voltage	Michinikan makaka inggera sa sa kali yangan sa sa sa kali yangan sa	100	DO V _{DC}	riter trainmente aparte artir arminentites arte aminente interior est.
Operating DC Input Voltage Range	and the state of t	200-8	850 V _{oc}	
Start-up DC Input Voltage/Power		20	00 V	
Number of MPP Trackers			4	
MPPT Voltage Range	568-85	0 V _{oc}	526-850 V _{DC}	579-850 V _{pc}
Operating Current (Imp)	88 A (22 A per MPPT)		114 A (28.5 A per MPPT)	
Max. Input Current (Isc)	137.2 A (34.3 A per MPPT)		178 A (44.5 A per MPPT)	
Number of DC Imputs	12 (3 per MPPT)		16 (4 per MPPT)	te war is in a contract to the following temperature of the contract to the co
DC Disconnection Type		Load rate	d DC switch	
AC OUTPUT				rogeriya yaray e garaya garaya garaya yaraya yaraya yaraya bayaraya saray
Rated AC Output Power	50 kW	50 kW	60 kW	66 kW
Max. AC Output Power	50 kW	50 kW	60 kW	66 kW
Rated Output Voltage	The state of the s	48	O V _{AC}	
Output Voltage Range*		422.4	- 528 V _{ac}	
Grid Connection Type		30	D/PE	
Nominal AC Output Current @480 Vac	60.2	2 A	72.2 A	79.4 A
Rated Output Frequency		60) Hz	
Output Frequency Range*	anthrough, and and to are to retire with one of the state	59.5 -	60.5 Hz	ragoris spirovadio in granodini instinte de arribute in
Power Factor		1 default (±0).8 adjustable)	
Current THD	a, anno saltano en anticono en contrato en contrato en el contrato en el contrato en el contrato en el contrato		3 %	and the second s
AC Disconnection Type		Load rate	d AC switch	radika taman jirakan alimin tatuni matan inin matan matan taman i
SYSTEM	arasisani emma kiinta, emikansiinamananin mitaniin madelleen muutuu ilmin minta		addining a contrational transplantation or phylographic design and	
Topology		Transfo	rmerless	rethermed out where extent of restrainment and transfer manner manifestion
Max. Efficiency	98.8 %	98.8 %	98.7 %	98.8 %
CEC Efficiency	especial and the second superior section of the second section of the second section s	98	.4 %	a kan managana
Night Consumption		<	1 W	
ENVIRONMENT	e agrand an interpretagnet ignicity entropy and interpretagnet in the rest in the second	antenating and attenues of tenassetical comparator (figure attenues afficient and attenues (4.4) (1999).	endinkrete erder er sørester fører til er mendeskriftent til stillstiller første sikkeline er møner er selse	erannorgenangengan, parkerakerakerakan anakanakarka kirakika kenta 1995 metalbukat kirakita 1964 bi 1984 bi 19
Protection Degree		NEN	MA 4X	
Cooling	Natural Convection Cooling	ного из у мынизмень полич ьни лимилициалич эго	Intelligent Redundant Cooling	erige, e a cappo de esta e la capo de paronne, qui e ano, qui iliga, ta capo qui entre a tre
Operating Temperature Range		-13 ° F to + 140 ° F	-7 -25 ° C to +60 ° C	
Storage Temperature Range			F/-40°C to +70°C	hitar energy along the promoted transform the MERTON HISTORY.
Operating Humidity			100 %	
Operating Altitude	ti nekililinga ya nashirenda a ilanda sa	apopte, incluind the company of the contract o	ft / 4000 m	andanon to section manufacture described the section of the sectio
Audible Noise			3A @ 1 m	
DISPLAY AND COMMUNICATION	\$200001\$\frac{1}{4}material material mater	транования поченова п	униц, аран (стайшт, яктападатыны баша, запучну, этобологун	oldis stratisa hanna an signifisa principalisti (reme ti sharti (ripanti (ripante) lissa a
renegamingtonespecialisation of the manufacture of the second of the sec		· ICD	+ LED	
Display Communication			5485 (Modbus)	таруундаг түүлдүү айтар аймандага байларуу тачаган түргүүчү
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Dimensions (W / H / D)	manual magazina manana man	24.8 x 40.7 x 13.9 in .	/ 630 x 1034 x 354 mm	
Weight	165 lb / 74.8 kg		172 lb / 78 kg	hanan menangunya nakarahan menangunya kalangan sangunya
Installation Angle	90 degrees from horizontal	ing ang ang ang ang ang ang ang ang ang a	15-90 degrees from horizontal	para and and and an analysis of the second s
DC Inputs	55 CCS TOTT HOTZOIGH	15 Å c	tandard	ntajana alamaanintajan tanahanian annuaraminin
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Safety and EMC Standard	ngaran kanangan mangangan mangangan mangangan mangangan mangangan mangangan mangangan mangangan mangangan mangan I	JL1741-SA, UL1699B, CSA-C22 21	No. 107.1-01, IEEE1547; FCC PART 1	5
Grid Standard			7, Rule 21	- , , , , , , , , , , , , , , , , , , ,
Smart-Grid Features	Voltage-Pic	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	oft-Start, Volt-Var, Frequency-Wat	t Volt-Watt

*The "Output Voltage Range" and "Output Frequency Range" may differ according to specific grid standard. The specification and key features described in this datasheet may deviate slightly and are Solar Inc. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datashee transactions related to the purchase and sale of the products described herein.

Caution: For professional use only. The installation and handling of PV equipment Please read the safety and installation instructions before using the product.

CANADIAN SOLAR (USA), INC. February 2018 | All rights reserved | Inverter Product Datasheet V2.0_E3_NA





Standard warranty, extension up to 20 years

BAKERSFIELD, CA 93307 DESIGNER

PROJECT LOCATION

CLIENT



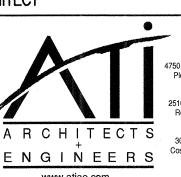
District

MT. VERNON ELEMENTARY

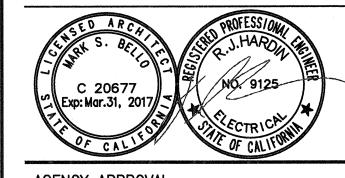
SCHOOL

2161 POTOMAC AVE.

ARCHITECT



PROFESSIONAL STAMP

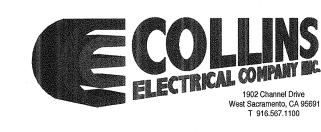


AGENCY APPROVAL

IDENTIFICATION STAMP DIV. OF THE STATE AIRCHITECT

ISSU	JE		
MARK	DATE	DESCRIPTION	
_	7/31/2018	DSA SUBMITTAL	
PR0	JECT No :	ATI PROJ. #	
DRA	WN BY:		HDE

CHECKED BY: AS NOTED CONSULTANT



SHEET TITLE

ELECTRICAL SOLAR EQUIPMENT CUT SHEETS

STATE OF CALIFORNIA														
Outdoor Lightir	_												CALIFORNI	A FNEDCY COMMISSION
NRCC-LTO-E (Created 9/17)													CALIFORNI	A ENERGY COMMISSION NRCC-L
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			ntary School	WII	in requirements	III	9110.9, 9130.	د رن.			t Page:	utuo	or lighting scopes us	Page 1
Project Name: Mt. Project Address: 216:											repared:		The state of the s	7/6/
Toject Address. 210.	I rotomac	700	Z+							atc i	repared.			.,,,,,
A. GENERAL INFORI	MATION													
01 Project Location	(city)				Bakersfi	elc	ł		04 Total II	lumi	nated Hardscape Ai	ea (f	t ²)	5,662
02 Climate Zone					13									
03 Outdoor Lighting	Zone per	Titl	e 24, Part 1 §1	0-1	14 or as designa	ite	d by Authorit	у На	aving Jurisdic	tion	(AHJ):			
LZ-0: Very Low - U	Indevelope	ed P	arkland L	Z-2:	Moderate - Rur	al	Areas		LZ-4: Hig	gh - N	Aust be reviewed b	y CA	Energy Commission	for Approval
LZ-1: Low - Develo					Moderately Hig			;		******				
		9 0018AC		86466		- - 		1923/98				2 22 22 23		
B. PROJECT SCOPE									 		· · ·		 	
Table Instructions: Incoutlined in §140.7 or				ste	ms that are with	ın	tne scope of t	ne į	permit applic	catio	n ana are aemonstr	ating	compliance using tr	ne prescriptive patri
My project consists o	f:													
	01							12.17.17			02			
New Lighting Sys	tem			منجستنم	Must Comply w	ith	Allowances f	fron	n <u>§140.7</u> .	***************************************				
Altered Lighting	System				Is your alteratio	n	increasing the	co	nnected light	ting l	oad (Watts)?		○ Yes	. ONo
¹ FOOTNOTES: % of Ex	isting Lum	ina	ires Being Alter	red	= (Sum Total of	Lu	minaires Bein	g A	dded or Altei	red /	Existing Luminaires	with	in the Scope of the F	Permit Application) x 10
C. COMPLIANCE RE	CHITS													
Table Instructions: If o		this	s table says "Di	OF	NOT COMPLY"	or	"COMPLIES W	,ith	Exceptional	Cond	itions" refer to Tab	le D. 1	for auidance.	
					Power (Watts)						1		Compliance Resul	lts
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General					7.72			1	2.00	1			Ners (2003) 2073 (800)	
Hardesana	Per		Sales		Ornamental		Per Specific		Existing					
Allowance + Ap	plication	+	Frontage	+	§140.7(d)2	٠	Area	OR		. =	Total Allowed (Watts)	≥	Total Actual (Watts)	07 Must be ≥ 08
§140.7(d)1 S1	40.7(d)2		§140.7(d)2				§140.7(d)2		§141.0(b)2	-	(waits)		(waits)	
(See Table I) (Se	e Table J)		(See Table K)		(See Table L)		(See Table M)		(See Table 1	٧)			(See Table F)	
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CA Building E	nergy Efficien	cy Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards	Sept	ember 20
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Outdoor	Lighting			160
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CERTIFICATE	OF COMPLI	ANCE		NRCC-LT
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CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards

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D. EXCEPT	IONAL CONDITIONS				contract of					(
This table is	s auto-filled with uneditable commer	nts because of	selections made o	r data entered in	tables througl	nout the form.				
No exception	onal conditions apply to this project.									
E. ADDITIO	ONAL REMARKS									Q
This table i	ncludes remarks made by the permit	applicant to t	he Authority Havin	g Jurisdiction.						
								•		
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	1 2003 (101), 150)									
F. OUTDO	OR LIGHTING FIXTURE SCHEDUL	E								G.
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Outdoor	· Lighting		NERGY COMMI	40
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Project Nam	ne: Mt. Ve	ernon Elementary School Report Page:		Page 5
Project Addr	ress: 2161 F	Potomac Ave. Date Prepared:		7/6/2
Table E. Add	ditional Rem	tions have been made based on information provided in previous tables of this document. If any selection needs to be changed, p arks. These documents must be provided to the building inspector during construction and must be completed through an Accept TTCP). For more information visit: <u>http://www.energy.ca.gov/title24/attcp/providers.html</u>		
VEC	N/O	Form/Title	Field In	nspector
YES	NO	FOIH) Title	Pass	Fail
		NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls area added to ≤ 20		

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards

This Section Does Not Apply

STATE OF CALIFORNIA

September 2017

	Œ									N
Project Name: Mt. Vernor	n Elementary School			Report	Page:					
Project Address: 2161 Potomac Ave.				Date Pr	epared:					~~~~
H. OUTDOOR LIGHTING C	CONTROLS									
Table Instructions: Complete alteration projects, luminain even if they are within the sp When an option having a * i show "DOES NOT COMPLY" dropdown list to indicate no	es which are existing to rer paces covered by the perma is selected, the notes sectio if the notes are left blank. I	nain (ie untouc it application. n of this table r For each require	hed) and luminaire must be completed	es which are remov	ed and reins rols section c	talled (wirin of the Compl	ng only) do liance Sun	o not need to nmary Table	o be incl on the	uded ir first pa
Mandatory Controls										
01	02	03	04	05		06		07		
Area Description	Motion Sensor: Incandescent>100W	Shut-Off §130.2(c)				Sales Fron §130.2(c	Frontage		nament, Dining	Field
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STATE OF CALIFORNIA

September 2017

September 2017

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards STATE OF CALIFORNIA **Outdoor Lighting** NRCC-LTO-E (Created 9/17) NRCC-LTO-E CERTIFICATE OF COMPLIANCE Report Page: Date Prepared: Project Name: Mt. Vernon Elementary School Project Address: 2161 Potomac Ave. **DOCUMENTATION AUTHOR'S DECLARATION STATEMENT** Richard J. Hardin Documentation Author Signature: Ggrode algorid by Mathied L. Handle.
SN -conflictured J. Handle, Golden Condition Engineering, a
Daily: 2013 12:04 16:12:03, 02:007 Documentation Author Name: 07/06/2018 Hardin-Davidson Engineering Signature Date: 356 Pollasky Ave. Suite 200 CEA/ HERS Certification Identification (if applicable): E9125 Clovis, CA 93612 (559) 323-4995 City/State/Zip: RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of California: 1. The information provided on this Certificate of Compliance is true and correct.

2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable

compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the

documentation the builder provides to the building owner at occupancy.						
Responsible Designer Name:	Rich Hardin	Responsible Designer Signature	J. Lawrence	Biglicks spired benktional Listeds. — On contrained Listeds, notices the besides Engineering, but moderal phonoise development in 2018. — Onto 2018 (2018 to 18 End. of 1867.		
Company :	Hardin Davidson Engineering	Date Signed:	07/06/2018			
Address:	356 Pollasky Ave, Suite 200	License:	E9125			
City/State/Zip:	Clovis, CA 93612	Phone:	559.323.4995			

September 2017 CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance: http://www.energy.ca.gov/title24/2016standards

Bakersfield City School 1300 Baker St., Bakersfield, CA 93305 PROJECT LOCATION MT. VERNON ELEMENTARY 2161 POTOMAC AVE. BAKERSFIELD, CA 93307 DESIGNER

100 Montgomery Street #1400 San Francisco, CA 94104 (855) 204-5083 www.ForeFrontPower.com ARCHITECT

CLIENT



District

SCHOOL

POWER

Pleasanton, CA 94588 T 925.648.8800

PROFESSIONAL STAMP



AGENCY APPROVAL

IDENTIFICATION STAMP DIV. OF THE STATE AHCHITECT

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Mark Mark College		
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MARK	DATE	DESCRIPTION
-	7/31/2018	DSA SUBMITTAL

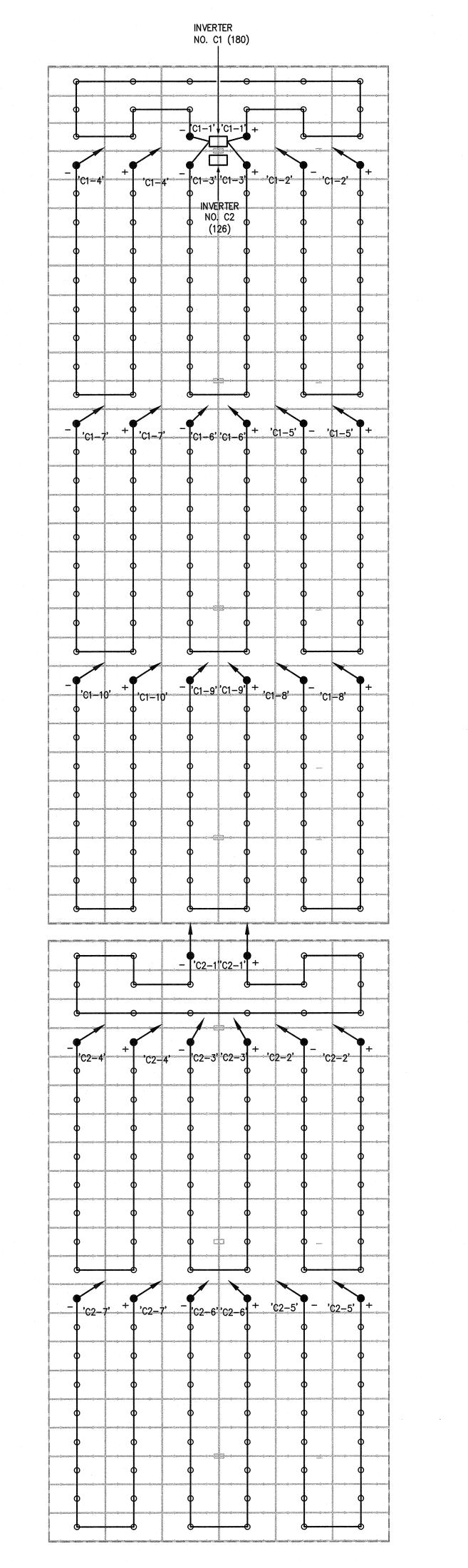
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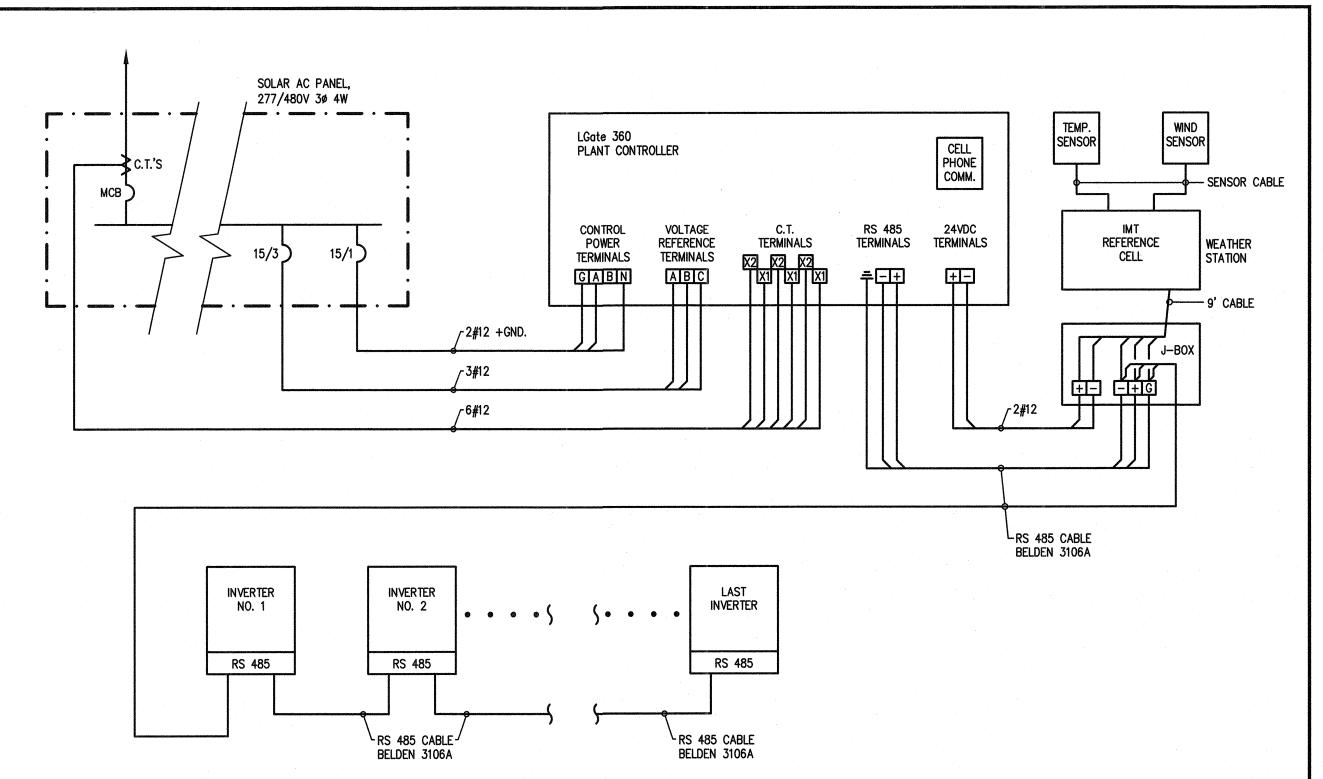
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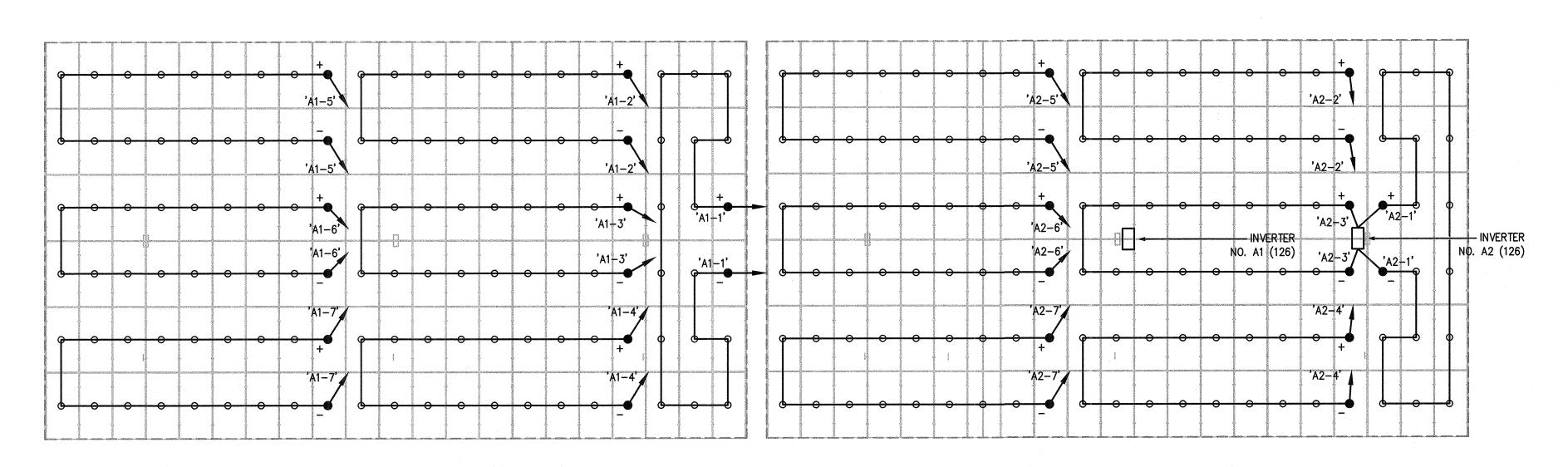
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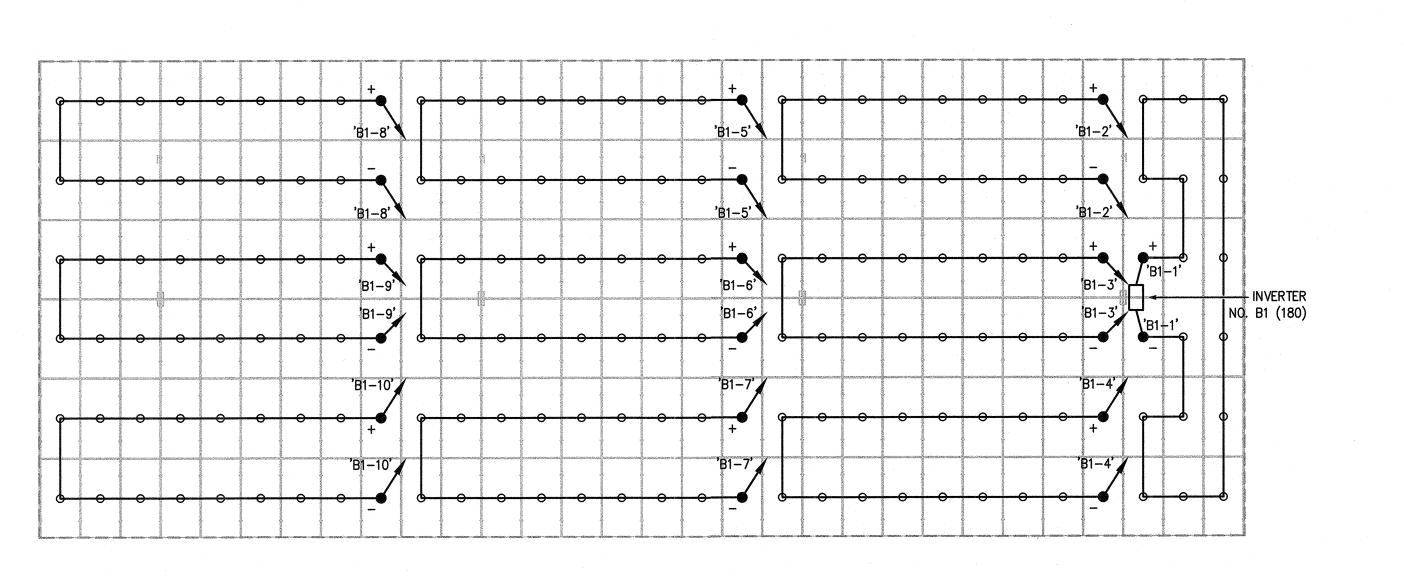
LIGHTING TITLE 24 COMPLIANCE FORMS





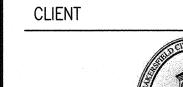
TYPICAL MONITORING DATA WIRING DIAGRAM SCALE: NONE





SOLAR STRING CABLING PLAN

SCALE: 1/8"=1'-0"



Bakersfield City School District

PROJECT LOCATION

MT. VERNON ELEMENTARY SCHOOL

1300 Baker St., Bakersfield, CA 93305

2161 POTOMAC AVE. BAKERSFIELD, CA 93307

DESIGNER



POWER

100 Montgomery Street #1400
San Francisco, CA 94104
(855) 204-5083
www.ForeFrontPower.com

ARCHITECT

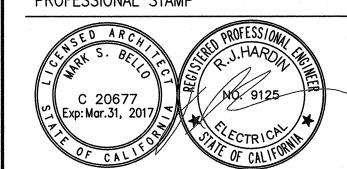


A R C H I T E C T S

B N G I N E E R S

3050 Pullman Street
Costa Mesa, CA 92626
T 714.338.1600

PROFESSIONAL STAMP



AGENCY APPROVAL

IDENTIFICATION STAMP

03 119219

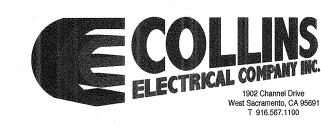
AC FLS SS EY

Date 10 3 1 2018

MARK	DATE	DESCRIPTION
-	7/31/2018	DSA SUBMITTAL
PRO	JECT No :	ATI PROJ. #
DRA	WN BY:	HD

CHECKED BY: SCALE: AS NOTED

CONSULTANT



SHEET TITLE

SOLAR ARRAY ELECTRICAL STRING CABLING PLAN

ULTIMATE GUARDIAN 3.3 PHOTOVOLTAIC SUPPORT STRUCTURES

PC OWNERSHIP

STRUCTURAL ENGINEERING FIRM



109 EAST ESCALONES SAN CLEMENTE. CA 92672

PHONE: (949) 388-9333 FAX: (949) 388-3773

STRUCTURAL ENGINEER OF RECORD:

DUSTIN K. ROSEPINK, SE 5885

POINT OF CONTACT:

BRADLEY STEVENS

STRUCTURAL STEEL CONTRACTOR



MBARC CONSTRUCTION INC.

674 RANCHEROS DR SAN MARCOS, CA. 92069 PHONE: (760) 744-4131 FAX: (760) 744-4449

LIC # 869960 B AND C51

POINT OF CONTACT:

ERIK KRIVOKOPICH

STANDARD NOTES FOR PC USE

- 4 S.T.E.L. ENGINEERING, INC. SHALL ALWAYS BE GIVEN THE OPPORTUNITY TO BID THE DSA SUBMITTAL PACKAGE (I.E. TO ACT AS THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE).
- FOR CONSTRUCTION COST INFORMATION, CONTACT M BAR C CONSTRUCTION, INC.
- CUSTOM SIZES AND LOADING REQUIRE SUPPLEMENTARY SHOP DRAWINGS AND CALCULATIONS.

NOTES TO OTC PLAN REVIEWER AND DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE

THIS PC CONTAINS MEMBERS DESIGNED TO THREE SEPARATE SETS OF SEISMIC CRITERIA

CRITERIA #1: Ss=1.7, S1=1.39, Cs=0.907, R=1.25

THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE IS RESPONSIBLE FOR SELECTING AND UTILIZING THE CORRECT MEMBER SHEETS FOR THE SITE-SPECIFIC CONDITION SUCH THAT THE SITE-SPECIFIC Ss AND S1 ARE LESS THAN THOSE CONTAINED WITHIN ONE OF THE SETS OF CRITERIA; OR MEETS THE REQUIREMENTS OF NOTE 2 OF DESIGN PARAMETERS ON S-2.

- THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE IS RESPONSIBLE FOR VERIFYING SITE—SPECIFIC WIND PARAMETERS AT ANY AND ALL SITES WHERE THIS PC IS USED. THIS PC IS DESIGNED BASED ON 110 mph EXPOSURE C. SEE NOTE 1 OF DESIGN CRITERIA ON S-2.
- 4. SITE SPECIFIC SOLAR PANEL LAYOUT SHALL HAVE MAXIMUM DIMENSION TO THE OUTSIDE EDGES OF SOLAR PANELS OR STRUCTURAL STEEL -
- WHICHEVER IS GREATER LESS THAN THE MAXIMUM DIMENSIONS OF THE STRUCTURES SHOWN ON THE PC PLANS (OR CHARTS).
- IF THE SNOW LOAD OPTION IS USED THEN Pg, Pf, Ps, Ce, I, Ct SHALL BE LISTED ON SITE SPECIFIC PLANS. IF THE SNOW LOAD OPTION IS USED THEN THE SITE SPECIFIC MAXIMUM SNOW LOADING INCLUDING DRIFT MUST BE EQUAL TO 0 PSF OR LESS THAN
- 20 PSF BASED ON OPTION SELECTED 7. A SITE SPECIFIC GEOTECHNICAL REPORT SHALL BE SUBMITTED JUSTIFYING THE SOILS VALUES SELECTED IF GREATER THAN 100 PCF FOR LATERAL
- BEARING AND 1.500 PSF FOR VERTICAL BEARING. SEE SOILS NOTES ON S-3.
- SITE SPECIFIC DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE TO SELECT SOILS CLASS FOR SITE SPECIFIC USE.
- 9. IF A SOLAR PANEL CONNECTION DETAIL IS SHOWN ON THE SITE SPECIFIC PLANS IT SHALL BE IN ACCORDANCE WITH DETAILS ON S-34, S-35 AND/OR S-36 IN THE PC PLANS. IF NO SOLAR PANEL CONNECTION DETAIL IS SHOWN ON THE SITE SPECIFIC PLANS, DETAILS ON S-34, S-35 AND/OR S-36
- 10. NO FUTURE STRUCTURAL ROOF DECK OR SHEATHING MAY BE APPLIED TO THE OPEN GRID.
- 11. THE MAXIMUM PSF ALLOWED FOR THE SOLAR PANEL, ELECTRICAL, AND OTHER NON STRUCTURAL ITEMS IS 3.15 PSF. 12. WET STAMPED & SIGNED COPIES OF PC PLANS ARE NOT REQUIRED FOR SITE SPECIFIC PC USE.
- 13. DUSTIN ROSEPINK IS NOT ACTING AS SITE SPECIFIC SEOR UNLESS HE IS THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR A SIGNED
- LETTER HAS BEEN SUBMITTED WITH DSA-1 FORM STATING HE ACCEPTS THE RESPONSIBILITY AS THE SEOR FOR THE SITE 14. DUSTIN ROSEPINK WILL NOT SIGN ANY DSA FORMS (IE DSA-5, DSA-6, ECT), REVIEW OR APPROVE ANY SUBMITTALS (IE CONCRETE MIX DESIGNS, SHOP DRAWINGS, ETC.) FOR THE SITE SPECIFIC PROJECT UNLESS HE IS ACTING AS THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR THE SITE SPECIFIC STRUCTURAL ENGINEER OF RECORD PER ABOVE NOTE 13.

LEGAL INFO

- USE OF PC WITHOUT WRITTEN CONSENT FROM 4 S.T.E.L. ENGINEERING, INC. AND/ OR M BAR C CONSTRUCTION, INC. IS STRICTLY PROHIBITED. ALL INFORMATION HEREIN IS PROPRIETARY INFORMATION AND UNDER THE OWNERSHIP OF 4 S.T.E.L. ENGINEERING, INC & M BAR C CONSTRUCTION. INC.
- ALL INFORMATION COPYRIGHT 2009, 2011 & 2014.



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ាច	18.5	R 1.25 T STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE NOT USED R 1.25 T STRUCTURE SPREAD FOOTING SCHEDULE NOT USED R 1.25 T STRUCTURE DEAM TO COLUMN SCHEDULE OT STRUCTURE DEAM/COLUMN SCHEDULE R 1.25 OT STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE NOT USED R 1.25 OT STRUCTURE SPREAD FOOTING SCHEDULE NOT USED R 1.25 OT STRUCTURE DEAM TO COLUMN SCHEDULE NOT USED R 1.25 OT STRUCTURE DEAM TO COLUMN SCHEDULE R 2.5 OT STRUCTURE DEAM/COLUMN SCHEDULE
ាច	18.5	R 1.25 T STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED .R 1.25 T STRUCTURE SPREAD FOOTING SCHEDULE .NOT USED .R 1.25 T STRUCTURE DEAM TO COLUMN SCHEDULE .OT STRUCTURE DEAM/COLUMN SCHEDULE .R 1.25 OT STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED .R 1.25 OT STRUCTURE DEAM TO COLUMN SCHEDULE .NOT USED .R 1.25 OT STRUCTURE DEAM TO COLUMN SCHEDULE .NOT USED .R 1.25 OT STRUCTURE DEAM TO COLUMN SCHEDULE .R 2.5 OT STRUCTURE DEAM/COLUMN SCHEDULE .R 2.5 OT STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED
ាច	18.5	R 1.25 T STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED R 1.26 T STRUCTURE SPREAD FOOTING SCHEDULE .NOT USED R 1.26 T STRUCTURE BEAM TO COLUMN SCHEDULE .OT STRUCTURE FRAMINO PLAN R 1.25 OT STRUCTURE DEAM/COLUMN SCHEDULE .R 1.25 OT STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED .R 1.25 OT STRUCTURE BEAM TO COLUMN SCHEDULE .NOT USED .R 1.25 OT STRUCTURE BEAM TO COLUMN SCHEDULE .NOT USED .R 1.25 OT STRUCTURE BEAM TO COLUMN SCHEDULE .R 2.5 OT STRUCTURE DEAM/COLUMN SCHEDULE .R 2.5 OT STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE
իա	-18.5	R 1.25 T STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED R 1.25 T STRUCTURE SPREAD FOOTING SCHEDULE .NOT USED R 1.25 T STRUCTURE DEAM TO COLUMN SCHEDULE .OT STRUCTURE DEAM/COLUMN SCHEDULE .OT STRUCTURE DEAM/COLUMN SCHEDULE .R 1.25 OT STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED R 1.25 OT STRUCTURE DEAM/COLUMN SCHEDULE .NOT USED .R 1.25 OT STRUCTURE DEAM TO COLUMN SCHEDULE .NOT USED .R 2.5 OT STRUCTURE DEAM TO COLUMN SCHEDULE .R 2.5 OT STRUCTURE DEAM/COLUMN SCHEDULE .R 2.5 OT STRUCTURE NON CONSTRAINED PIER FOUNDATION SCHEDULE .NOT USED .R 2.5 OT STRUCTURE SPREAD FOOTING SCHEDULE .NOT USED

S-31.3	NOT USED D. 1.25 OT STRUCTURE SPREAD FOOTING S
S-31.5 S-31.6	NOT USED
S-32 S-33	PURLIN SCHEDULE (ALL SLOPES)STANDARD PURLIN DETAILSSTANDARD SOLAR PANEL SUPPORT DETAILS
S-36 S-37 S-37.1	OPTIONAL GROUNDING DETAILSSTANDARD ELECTRICAL DETAILSALTERNATE CONNECTION DETAILSEQUIPMENT PAD
S-39	BRACED UNISTRUT EQUIPMENT RACK 1
S-41 S-42	EQUIPMENT PACK 3EQUIPMENT PAD ENCLOSUREEQUIPMENT PAD ENCLOSURE SCHEDULE
S-44	PERIMETER FENCE/SCHEDULE

BID INFORMATION

THE STEEL STRUCTURES IN THIS PC ARE PROPRIETARY TO M BAR C AND 4 S.T.E.L. ENGINEERING, INC. THE STEEL PORTION OF WORK SHALL NOT

GO OUT TO BID.

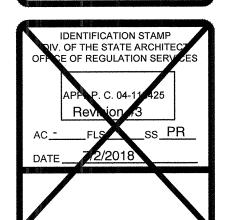
PRE-CHECK (PC) DOCUMENT

CODE: 2013 CBC

A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED

APPROVAL

03119219





CHECKED DKR ~~DATE~~ / 7/2/2018 4STEL JOB NO. 13-1010 SHEET

1 of 46 sheets

PHOTOVOLTAIC CANOPIES

RISK CATEGORY

MAX SNOW LOAD

ROOF LIVE LOAD (Lr):

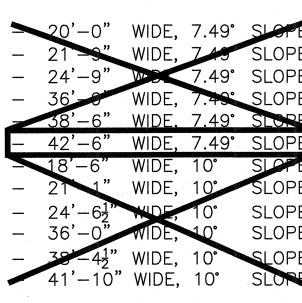
CONSTRUCTION **OPTIONS**

*ALL FRAMING OPTIONS AVAILABLE WITH 45" O.C. OR 80" O.C. MAXIMUM PURLIN SPACING.

*ALL OPTIONS AVAILABLE WITH MAXIMUM COLUMN SPACING OF 18'-0", 20'-0" & 27'-0".

*ALL 18'-0" AND 20'-0" COLUMN SPACING OPTIONS IN ALL WIDTHS ARE AVAILABLE IN A 20 psf SNOW LOAD OPTION.

*ALL OPTIONS INCLUDE OPTIONS FOR DRILLED PIERS AND SPREAD



STRUCTURAL DATA

LATERAL RESISTING SYSTEM	CANTILEVERED COLUMN
FOUNDATION	PIER AND SPREAD FOOTING
MINIMUM REQUIRED SEISMIC SEPARATION	8"
TESTING AND INSPECTION LIST	SEE SHEETS S-3 & S-4
DESIGNED TO SUPPORT FIRE SPRINKLERS?	CONDITIONAL
YESIF WEIGHT OF SPRINKLER SYSTEM	1 COMBINED WITH SOLAR
SYSTEM IS LESS THAN 3.15 psf	
NOIF WEIGHT OF SPRINKLER SYSTEM	M COMBINED WITH SOLAR
SYSTEM IS MORE THAN 3.15 psf	

CODES

TITLE 24 CODES:
2013 CALIFORNIA ADMINISTRATIVE CODE (CAC)(PART 1, TITLE 24, CCR)
2013 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1 AND 2(PART 2, TITLE 24, CCR)
(2012 INTERNATIONAL BUILDING CODE WITH 2013 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA ELECTRICAL CODE(PART 3, TITLE 24, CCR)
(2011 NATIONAL ELECTRICAL CODE WITH 2013 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA MECHANICAL CODE (CMC)(PART 4, TITLE 24, CCR)
(2012 UNIFORM MECHANICAL CODE WITH 2013 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA PLUMBING CODE (CPC)(PART 5, TITLE 24, CCR)
(2012 UNIFORM PLUMBING CODE WITH 2013 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA ENERGY CODE(PART 6, TITLE 24, CCR)
(2013 EDITION CALIFORNIA ENERGY COMMISSION BUILDING ENERGY EFFICIENCY STANDAR
2013 CALIFORNIA FIRE CODE (CFC)(PART 9, TITLE 24, CCR)
(2012 INTERNATIONAL FIRE CODE WITH 2013 CALIFORNIA AMENDMENTS)
2013 CALIFORNIA GREEN BUILDING STANDARDS CODE(PART 11, TITLE 24, CCR)
2013 CALIFORNIA REFERENCED STANDARDS CODE(PART 12, TITLE 24, CCR)
NEDA 47 0047
NFPA 13 — 2013
NFPA 72 - 2013

OPTIONS SHEET INDEX

THE FOLLOWING CHART LISTS THE DRAWING SHEETS REQUIRED FOR EACH MAJOR OPTION. WHEN ONE OR MORE OF THE OPTIONS ARE CHOSEN THE LISTED REFERENCE SHEETS MUST BE INCLUDED IN THE SITE SPECIFIC DRAWING SET.

OPTIONS	SHEET
ALWAYS REQUIRED	S-1 THROUGH S-5; S-32 THOUGH S-37
T-STRUCTURE, R=1.25 Ss ≤ 1.7	S-6 THROUGH S-12
T-SIRUCTURE, R=2.5 Ss \leq 3.2	S-6, S-13 THROUGH S-18
T-STRUCTURE, $R=1.25$ Ss ≤ 3.2	S-6, S-18.1 THROUGH S-18.6
OFFSET T-STRUCTURE, R=1.25 S9 1.7	S-19 THROUGH S-25
OFFSET T-STRUCTURE, R=2.5 Ss ≤ 3.2	S-19, S-26 THROUGH S-31
OFFSET 1-STRUCTURE, R=1.25 Ss ≤ 3.2	S-19, S-31.1 THROUGH S-31.5
EQUIPMENT PAD	S-38
BRACED UNISTRUT EQUIPMENT RACK	S-39
TUBE SIEEL EQUIPMENT RACK	5-40
UNISTRUT FOLIPMENT RACK	S-41
EQUIPMENT PAD ENCLOSURE	S-42 & S-43
PERIMETER FENCE	S-44
STANDARD ACCESSIBILITY DETAILS	S 45

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)

REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS:

2013 CBC, CHAPTER 35 2013 CFC, CHAPTER 47

2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS 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 THE PROJECT. 7. FOOD HANDLING FACILITIES SHALL COMPLY WITH ALL LOCAL HEALTH REQUIREMENTS AND CALIFORNIA UNIFORM RETAIL FOOD FACILITIES LAWS.

SWIMMING POOL SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS.

9. DRINKING WATER WELL SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS.

10. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

11. IF THE PROJECT IS DIVIDED INTO INCREMENTS: THE SCOPE OF WORK FOR EACH INCREMENT MUST BE CLEARLY SPECIFIED ON THE TITLE SHEET OF ALL INCREMENTS SUBMITTED.

FIRE LIFE SAFETY

AUTOMATIC FIRE SPRINKLERS REQUIRED? (Y/N)......N

DESIGN PARAMETERS

WITH SOLAR PANELS INSTALLED:. 0 psf (PER IR 16-8)

OPEN TRELLIS SYSTEM:..... 10 psf (PER IR 16-8)

POINT LOAD: 300 lb (PER IR 16-8)

	(GROUND) (S):	0 psf, 20 psf (SEE OPTIONS)
	MAX DEAD LOAD:	
	SOLAR PANEL/RACKING/ELEC PURLIN: ROOF DEAD LOAD TO	3.15 psf 1.59 psf
	BEAM (D):	4.74 psf MAX
	WIND: DIRECTIONAL PROCEDURE BASIC WIND SPEED	1101 mph (3 SECOND GUST)
	WIND EXPOSURE:	C¹ N/A (OPEN STRUCTURE)
		Kd= <u>0.85</u> Kz= <u>0.88</u>
	SEISMIC:	Kzt= <u>1.00</u>
	SEISMIC IMPORTANCE FACTOR: CRITERIA #1	1.0
	SHORT SPECTRAL RESPONSE:	$S_8 = \frac{1.700^2}{1.700^2}$
	LONG SPECTRAL RESPONSE: SITE CLASS:	$S_1 = 1.390^2$
	SHORT SPECTRAL RESPONSE:	_
	LONG SPECTRAL RESPONSE:	$S_{D1} = 1.390^2$
	RESPONSE MODIFICATION FACTOR: SEISMIC RESPONSE COEFFICIENT:	
	DESIGN BASE SHEAR:	
	T-STRUCTURES:	8,257.92 Ib MAX (VARIES DUE TO OPTIONS)
	OFFSET T-STRUCTURES:	4,761.0° Ib MAX (VARIES DUE TO OPTIONS)
1	CRITERIA #2	10 01 1101(3)
	SHORT SPECTRAL RESPONSE:	$S_s = \frac{3.20^2}{1.500^2}$
	LONG SPECTRAL RESPONSE:	
	SHORT SPECTRAL RESPONSE:	
	LONG SPECTRAL RESPONSE:	
	RESPONSE MODIFICATION FACTOR: SEISMIC RESPONSE COEFFICIENT:	
	DESIGN BASE SHEAR:	
	T-STRUCTURES:	7,663.2° Ib MAX (VARIES DUE TO OPTIONS)
	OFFSET T-STRUCTURES:	4,888.32 b MAX (VARIES DUE TO OPTIONS)
	CRITERIA #3	
	SHORT SPECTRAL RESPONSE: LONG SPECTRAL RESPONSE:	$S_s = 5.20^2$ $S_r = 1.390^2$
	SITE CLASS:	
	SHORT SPECTRAL RESPONSE: LONG SPECTRAL RESPONSE:	$S_{DS} = \frac{2.133^2}{S_{D1} = \frac{1.390^2}{1.390^2}}$
	RESPONSE MODIFICATION FACTOR:	
	SEISMIC RESPONSE COEFFICITION	_
	DESIGN BASE SHEAR: T-STRUCTURES:	15,544.32 Ib MAX (VARIES DUE
		TO OPTIONS)
	OFFSET T-STRUCTURES	9,994.52 Ib MAX (VARIES DUE TO OPTIONS)
1	SEISMIC DESIGN CATEGORY: SEISMIC FORCE RESISTING SYSTEM:	E CANTLEVERED
		COLUMN
	ANALYSIS PROCEDURE:	EQUIVALENT LATERAL TORCE
	CRITERIA #4	
(SHORT PECTRAL RESPONSE:	$S_8 = 1.0^2$
	LONG SPECTRAL RESPONSE:	$S_1 = 1.390^2$
	SITE CLASS:SHORT SPECTRAL RESPONSE:	$S_{DS} = 0.733^2$
	LONG SPECTRAL RESPONSE:	$S_{D1} = 1.390^2$
	RESPONSE MODIFICATION FACTOR: SEISMIC RESPONSE COEFFICIENT:	
	DESIGN BASE SHEAR:	
	T_STRUCTURES:	$6.150 6^2 \text{lb. MAX}$

6,159.6² lb MAX

ab = 23.24 psf, WHICH CORRESPONDS TO 110 mph EXPOSURE C WITH THE ABOVE USED KZ Kd AND KZt. THIS PC MAY BE USED IN ANY WIND ZONE WITH $q_h \leq 23.24$ psf. FOR EXAMPLE: THIS PC MAY BE USED AT A SITE WITH 133 mph WIND EXPOSURE B WITH Kd = 0.85, Kz = 0.60 AND Kzt = 1.00 RESULTS IN $q_h = 23.20$ psf.

Cs = 0.907, Cs = 0.853, Cs = 1.707, DEPENDING ON THE DESIGN CRITERIA AS GIVEN ABOVE (FOR EXAMPLE: R = 1.25, Ss = 1.7 OR R=2.5, Ss = 3.2). THIS PC MAY BE USED AT ANY SITE SUCH THAT THE SITE SPECIFIC VALUE OF Cs IS LESS THAN THE Cs VALUE OF THE DESIRED CRITERIA SET (E.G. CRITERIA #2) WHILE USING EITHER R = 1.25 OR R = 2.5 WITH SITE SPECIFIC SEISMIC PARAMETERS. FOR EXAMPLE: $S_8 = 3.3$, $S_1 = 1.4$, R = 2.5WITH SITE CLASS A WILL HAVE Cs = 0.704 < 0.853 THEREFORE CRITERIA #2 OF THE PC MAY BE USED AT THIS SITE.

THIS PC'S WIND FORCE RESISTING SYSTEM IS DESIGNED TO

² THIS PC'S SEISMIC FORCE RESISTING SYSTEM IS GOVERNED BY

BUILDING DATA

TYPE OF CONSTRUCTION..... OCCUPANCY..

NUMBER OF STORIES......

BUILDING AREAS ..

NOTE: OCCUPANCIES OTHER THAN S-2 (OPEN PARKING AREAS) MAY BE UTILIZED AS LONG AS THEY CONFORM TO THE FOLLOWING:

1) THE RISK CATEGORY OF THE STRUCTURE REMAINS RISK II PER THE 2013 CBC TABLE 1604A.5.

2) THE OCCUPANCY IS DETERMINED TO MEET WITH THE 2013 CBC CHAPTER 3 AND ITS REQUIREMENTS.

THE ALLOWABLE HEIGHT AND BUILDING AREA IS LIMITED TO THE REQUIREMENTS IN THE 2013 CBC TABLE 503, AND THE REQUIREMENTS OF THE 2013 CBC TABLE 1604A.5 TO REMAIN A CATEGORY II STRUCTURE.

..UNLIMITED

(PER 2013 CBC SECTIONS 406.5.4 AND 406.5.5) . VARY WITH OPTIONS MODULE SIZES.

BUILDING LENGTH: 18'-6" TO 42'-6" WIDTH......MAX 500'-0" LENGTH

NOTE: NO SEISMIC AND/OR THERMAL EXPANSION JOINTS REQUIRED ALONG THE LENGTH OF THE STRUCTURES. (ALL JOINTS ARE INTERNAL)

PRE-CHECK (PC) DOCUMENT

CODE: 2013 CBC

A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED

ENGINEER'S APPROVAL



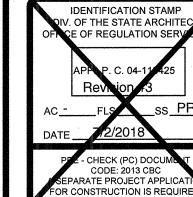
DATE SIGNED December 23, 2015

DIV. OF THE STATE ARCHITEC A03119219 AC __ FLS __ SS __

IDENTIFICATION STAMP

SITE SPECIFIC DSA APPROVAL

DATE _____ JUL 3 1 2018





CHECKED DKR ~~DATE~~ ! 6/18/2018³ 4STEL JOB NO. 13-1010

SHEET

2 OF 46 SHEETS

SOILS NOTES:

1. IF NO GEOTECHNICAL REPORT IS SUPPLIED AT THE TIME OF DSA REVIEW ADDRESSING SITE-SPECIFIC PARAMETERS, FOUNDATION SELECTIONS SHALL BE BASED ON CLASS W SOILS (SOIL CLASS 5 OF CBC TABLE 1806A.2 WITH DOUBLING OF LATERAL BEARING PRESSURE FOR STRUCTURES NOT ADVERSELY AFFECTED BY 1/2" MOTION AT GROUND SURFACE) IN THE SOIL CLASS TABLE BELOW

WHEN A GEOTECHNICAL REPORT IS SUPPLIED, THE GEOTECHNICAL ENGINEER SHALL REVIEW THE SITE CONDITIONS AND SUPPLY THE FINAL SOILS CLASS TO BE USED FROM THE BELOW TABLE. IN MAKING A SELECTION OF THE APPROPRIATE SOILS CLASS, THE GEOTECHNICAL ENGINEER SHOULD TAKE INTO CONSIDERATION: ANY AND ALL ALLOWED INCREASES, BASIS OF DEPTH CALCULATION, ACTUAL LOADING CONDITIONS, AND SITE CONDITIONS. THESE CONSIDERATIONS INCLUDE BUT ARE NOT LIMITED TO:

A. ALLOWABLE LATERAL BEARING PRESSURE MAY BE DOUBLED DUE TO THE STRUCTURES NOT BEING ADVERSELY AFFECTED BY 1/2" MOTION AT THE GROUND SURFACE DUE TO SHORT-TERM LATERAL LOADS PER 2013 CBC 1806A.3.4

B. ALLOWABLE LATERAL BEARING PRESSURE MAY BE CONSIDERED TO ACT OVER AN AREA EQUAL TO TWO TIMES THE PIER DIAMETER DUE TO LARGE PIER SPACING. IF THIS IS ALLOWED, THE ALLOWABLE LATERAL BEARING PRESSURE MAY BE DOUBLED, ACTING OVER THE ACTUAL PIER DIAMETER

C. THE GEOTECHNICAL REPORT SHALL SPECIFY WHETHER THE INCREASES TO ALLOWABLE LATERAL BEARING PRESSURE FOR 1/2" MOTION AT GROUND SURFACE AND FOR INCREASED PIER SPACING MAY BE APPLIED AT THE SAME TIME.

D. THE SOILS CLASSES IN THE CHART BELOW REFLECT THE BASE VALUES USED IN THE CALCULATIONS TO DETERMINE THE REQUIRED FOUNDATION DEPTHS.

THE FOUNDATION DEPTHS SHOWN ON SHEETS S-8, S-10, S-14, S-16, S-18.2, S-18.4, S-21, S-23, S-27, S-29, S-31.2 AND S-31.4, REFLECT THE GOVERNING DEPTH REQUIREMENT DUE TO EITHER LATERAL LOAD OR VERTICAL

F. FOR LATERAL LOADING, THE FOUNDATION DEPTHS SHOWN ON SHEETS S-8, S-10, S-14, S-16, S-18.2, S-18.4, S-21, S-23, S-27, S-29, S-31.2 AND S-31.4, UTILIZE THE LATERAL BEARING PRESSURES FROM THE BELOW SOIL CLASS CHART. WHICH HAVE BEEN INCREASED BY 33% FOR SHORT DURATION LOADS USING ALTERNATIVE ASD LOAD COMBINATIONS PER 2013 CBC 1806A.1

G. FOR VERTICAL LOADING, THE FOUNDATION DEPTHS SHOWN ON SHEETS S-8, S-14, S-18.2, S-18.4, S-21, S-27, S-31.2 AND S+31.4 ARE DESIGNED BASED ON EITHER END BEARING OR SKIN FRICTION, WHERE SKIN FRICTION HAS BEEN BASED ON 2013 CBC 1810A.3.3.1.4 (I.E. SKIN FRICTION BASED ON 1/6 THE VALUE OF END BEARING, AND END BEARING AND SKIN FRICTION NOT BEING COMBINED)

H. THE GOVERNING LOAD COMBINATIONS FOR FOUNDATION DESIGN ARE SHOWN ON SHEETS S-7, S-13, S- 18.1, S-20, S-26 AND S+31.1. IF THE GEOTECHNICAL REPORT USES LOADS FROM THE CHART, A CCD SHALL BE PROCESSED THROUGH DSA TO USE ALTERNATIVE FOUNDATION DEPTHS GIVEN IN THE GEOTECHNICAL REPORT.

FOR SITES WITH HIGH GROUND WATER AND/OR POTENTIAL CAVING ISSUES DURING EXCAVATION, THE GEOTECHNICAL REPORT SHALL INCLUDE ALTERNATIVE SKIN FRICTION OR VERTICAL BEARING VALUES FOR PIERS UTILIZING STEEL

3. THE GEOTECHNICAL ENGINEER MAY SPECIFY DIFFERENT SOILS CLASSES TO BE USED FOR THE DIFFERENT STRUCTURE TYPES (T OR OT), DIFFERENT AREAS OF THE SITE (I.E. NORTH LOT OR WEST LOT), OR THE ENGINEER MAY SPECIFY ONE SOILS CLASS TO BE USED FOR THE ENTIRE SITE.

4. THE GEOTECHNICAL ENGINEER SHALL ADDRESS IN THE REPORT ANY CONCRETE DURABILITY REQUIREMENTS IN ACCORDANCE WITH ACI 318-11 CHAPTER 4.

5. THE GEOTECHNICAL REPORT SHALL BE SPECIFIC TO THE LOCATION OF THE PHOTOVOLTAIC STRUCTURES. BORING(S) SHALL BE DONE AT THE SPECIFIC LOCATION(S) WHERE THE PHOTOVOLTAIC STRUCTURES ARE TO OCCUR. THE GEOTECHNICAL REPORT SHALL CONFORM TO 2013 CBC SECTION 1803A.

6. A COPY OF THE GEOTECHNICAL REPORT SHALL BE PROVIDED AT THE TIME OF PLAN REVIEW.

7. AT THE TIME OF PLAN REVIEW, THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE SHALL SELECT A SOILS CLASS ON THE SITE-SPECIFIC PLANS BASED ON THE GEOTECHNICAL REPORT (OR NOTE 1 ABOVE).

ALLOWABLE VERTICAL AND LATERAL BEARING

/\L_C_VV/\C		
SOILS CLASS	ALLOWABLE VERTICAL BEARING PERSSURE (psf)	ALLOWABLE LATERAL BEARING (psf/ft BELOW NATURAL GRADE)
CLASS V	1500	100
CLASS W	1500	200
CLASS X	2000	300
CLASS Y	2000	400
CLASS Z	3000	600

SPECIAL INSPECTION

- VERIFY THE SITE HAS BEEN PREPARED PROPERLY PRIOR TO PLACEMENT OF CONTROLLED FILL AND/OR EXCAVATIONS FOR FOUNDATIONS. - VERIFY THAT THE FOUNDATION EXCAVATIONS ARE EXTENDED TO

PROPER DEPTH AND HAVE REACHED PROPER MATERIAL - VERIFY THAT MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.

2. PIER FOUNDATIONS:

- INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH PIER. - VERIFY LOCATIONS OF PIERS.

3. CONCRETE: - VERIFY USE OF REQUIRED DESIGN MIX, DETERMINE THE TEMPERATURE OF THE CONCRETE, AND (WHERE REQUIRED) PERFORM AIR CONTENT TEST.

- TEST CONCRETE (COMPRESSION TEST)

- INSPECT PLACEMENT OF FORMWORK, REINFORCING STEEL EMBEDDED ITEMS, AND CONCRETE. INSPECT CURING AND FORM

- INSPECT INSTALLATION OF POST-INSTALLED ANCHORS.

- TEST POST-INSTALLED ANCHORS PER 2013 CBC 1913A. - ALL ½" Ø HILTI STAINLESS STEEL KB-TZ BOLTS TO BE INSTALLED TO 40 FT-LB OF TORQUE. ALL %" Ø HILTI STAINLESS STEEL KB-TZ BOLTS TO BE INSTALLED TO 60 FT-LB OF TORQUE. ALL 34" Ø HILTI STAINLESS STEEL KB-TZ BOLTS TO BE INSTALLED TO 110 FT-LB OF TORQUE. AT LEAST 50% OF THE INSTALLED ANCHORS SHALL BE TESTED.

- SLUMP TEST SHALL BE PERFORMED PER SITE SPECIFIC DSA-103

- VERIFY THAT ALL MATERIALS ARE APPROPRIATELY MARKED AND

- MILL CERTIFICATES INDICATE MATERIAL PROPERTIES THAT COMPLY WITH REQUIREMENTS. - MATERIAL SIZES, TYPES AND GRADES COMPLY WITH

REQUIREMENTS.

- TEST UNIDENTIFIED MATERIALS. - VERIFY MEMBER LOCATIONS, BRACING AND ALL DETAILS

CONSTRUCTED IN THE FIELD

- VERIFY STIFFENER LOCATIONS, CONNECTION TAB LOCATIONS, AND ALL CONSTRUCTION DETAILS FABRICATED IN THE SHOP

- VERIFY WELD FILLER MATERIAL IDENTIFICATION MARKINGS PER AWS DESIGNATION LISTED ON THE DSA APPROVED DOCUMENTS AND THE WPS

- VERIFY WELD FILLER MATERIAL MANUFACTURER'S CERTIFICATE OF

- VERIFY WPS, WELDER QUALIFICATIONS, AND EQUIPMENT

- INSPECT GROOVE, MULTI-PASS, AND FILLET WELDS $> \frac{5}{16}$ " (BOTH SHOP AND FIELD WELDS).

5. SHOP FABRICATION:

- VERIFY FABRICATOR'S FABRICATION AND QUALITY CONTROL PROCEDURES.

- VERIFY ALL ASPECTS OF SHOP FABRICATION INCLUDING MEMBER LOCATIONS, DIMENSIONAL LAYOUT OF ALL PARTS AND PIECES, ALL WELDING, BOLTING, ETC.

6. SEE DSA APPROVED 103 FOR ADDITIONAL REQUIREMENTS.

GENERAL NOTES

DESIGN PER 2013 C.B.C. AND ITS PRESCRIBED LOADING AND MATERIAL SPECIFICATIONS:

- ASCE 7-10 - 14TH EDITION AISC STEEL MANUAL - 2007 AISI COLD FORMED STEEL STANDARD - ACI 318-11

2. THESE STRUCTURES ARE NOT DESIGNED TO BE, NOR SHALL THEY BE, **ENCLOSED**

3. ALL DIMENSIONS, CONDITIONS, AND ELEVATIONS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK OR FABRICATION, IF ANY DISCREPANCIES ARE FOUND OR IF ANY CONDITION EXISTS NOT AS SHOWN ON THE DRAWINGS THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL BE NOTIFIED IMMEDIATELY

4. IF THE SNOW LOAD OPTION IS USED THEN THE SITE-SPECIFIC MAX GROUND SNOW LOADING INCLUDING DRIFT MUST BE LESS THAN OR

5. NO FUTURE STRUCTURAL ROOF DECK OR SHEATHING MAY BE APPLIED TO THE OPEN GRID.

THE ALLOWABLE MAXIMUM PSF ALLOWED FOR THE SOLAR PANEL,

ELECTRICAL, AND OTHER NON-STRUCTURAL ITEMS IS 3.15 PSF. ALL SCREWS OTHER THAN THE SOLAR PANEL CLIP SCREW TO BE ITW BUILDEX TEK SCREWS PER ICC ESR-1976 OR ELCO DRIL SCREW PER ICC-ESR# 3294

8. SOLAR PANEL ATTACHMENT CLIPS AND SOLAR FIT SYSTEM DO NOT HAVE SPECIAL INSPECTIONS REQUIREMENTS NOR DO THEY REQUIRE INSPECTION OR VERIFICATION BY THE TESTING INSPECTION LAB OR

VIFORCE CLIP AND SCREW NOTES:

INTES BELOW PERTAIN TO THE IFORCE SOLAR CLIP INSTALLATION. SOLAR PANN CLIPS, WHEN USED, THE PROJECT INSPECTOR SHALL INSPECT T INSTAL ATION OF THE CLIP (NOT THE PHYSICAL CLIP).

SCREWS USED TO ATTACH THE SOLAR PANELS (I.E. SOLAR PANEL CLIP SCREW) - THE ONLY APPROVED SCREWS THAT WILL BE ACCEPTED FOR SOLAR PANEL CLIP IS THE ITW BUILDEX TEKS SELECT #12 SCREW PER CITY OF LOS ANGÉLES RR 25915 AND PER ICC ESR 3223 OR ORIL-FLEX SCREW PER ICC-ESR# 3332. NO SUBSTITUTES WILL BE ACCEPTED

2. TO ENSURE AL REQUIREMENTS OF ICC-ESR-322 OR ICC-ESR# 332 AND SPECIFICATIONS ON THESE PLANS HAVE BEEN MET, FORMAL SUBMITTALS ARE REQUIRED TO BE APPROVED BY THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR: - THE SOLAR PANEL CLIP

CLYP SCREW - SOLAR PANEL

- THE SCREW GUN USED TO INSTALL THE SOLAR PANEL CLIP 3. SOLAR PANEL CLIP TO HAVE A SHOP ORAWING SUBMITTED FOR SIZE. THE MINIMUM GRIP HEIGHT IS 1" LESS THAN THE SOLAR PANEL HEIGHT; THE MAXIMUM GRIP NEIGHT IS 16" LESS THAN THE SOLAR PANEL HEIGHT.

4. SOLAR PANEL CLIP INSTALLATION LOCATION ON PANEL TO BE VERIFIED WITH MANUFACTURED FOR WARRANTY CONFORMANCE.

5. FORMAL SUBMITTALS ARE REQUIRED TO BE APPROVED BY THE DESIGN PROFESSIONAL IN RESPONSIBLE CHANGE FOR:

- A WRITTEN DESCRIPTION DETAILING THE PROPOSED SOLAR PANEL INSTALLATION PROPEDURE

- SOLAR PANEL C

- SCREW INSTALLATION PROCEDURE 6. THE IOR NEEDS TO BE PRESENT AT THE START OF INSTALLATION OF THE SOLAR PANEL CLIP SCREWS TO PROPERLY DETERMINE THE

PROPER CLUTCH SETTING ON THE SCREW GUNS IS BEING UTILIZED, AND CONFORMANCE TO ICC ESR-3223 OR ICC-ESR# 3332. IT IS RECOMMENDED, BUT NOT REQUIRED, THAT SOME SAMPLE PURLIN MATERIAL BE USED TO DO SOME TEST INSTALLS ON THE GROUND PRIOR TO THE IN AIR INSTALLATION. THIS WILL MAKE DETERMINING THE CORRECT CLUTCH SETTING EASIER.

7. THE OR IS REQUIRED TO PERIODICALLY INSPECT THE INSTALLATION OF THE SOLAR PANEL CLIPS TO ENSURE THE INSTALLATION MEETS WITH THE WRITTEN DESCRIPTION OF INSTALLATION AS APPROVED HROUGH THE SUBMITTAL PROCESS AND TO VERIFY THE PROPER

SCREW GUN SETTINGS ARE BEING UTILIZED. THE IOR NEEDS TO PERFORM AN END OF PROJECT INSPECTION EACH CANOPY FROM A LIFT TO VERIFY ALL CLIPS HAVE BEEN INSTALLED AND THAT THERE ARE NO MISSING CLIPS.

STEEL NOTES

COLD FORMED STEEL SIZES ARE BASED ON GAUGE THICKNESS.

2. PURLINS, BEAMS, POSTS (FRAMING MEMBERS) HAVE MIN. YIELD STRENGTHS AS INDICATED.

3. ZINC COATED CONFORMANCE WITH G60 STANDARD OR BETTER. COLD FORM MEMBERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM A653. TUBE STEEL MEMBERS AND PLATES IN ACCORDANCE WITH AST

4. FASTENERS SHALL BE GALVANIZED, CADMIUM PLATED, OR ZINC

5. ALL STEEL FABRICATION SHALL COMPLY WITH LATEST AISC SPECIFICATIONS.

ALL WELDING SHALL COMPLY WITH THE LATEST AWS D1.1. ALL WELD FILLER MATERIAL SHALL HAVE A MINIMUM CHARPY V-NOTCH (CVN) VALUE OF 20 FT-LBS AT A TEMPERATURE OF -20DEG

ALL BOLTS TO MEET OR EXCEED ASTM A307. NO BOLTING INSPECTIONS REQUIRED

8. ALL PLATES AND ANGLES TO BE ASTM A36 U.N.O.

9. ALL STRUCTURAL TUBING TO BE ASTM A1085 U.N.O. 10. ALL PURLINS TO BE ASTM A653 GR. 55

11. REPAIR ANY DAMAGED GALVANIZATION AFTER FIELD WELDS WITH AN

APPROVED REPAIR METHOD

12. ALL MEMBERS TO BE GALVANIZED OR PRIMED AND PAINTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ALL CONTRACT DOCUMENTS SHALL SPECIFY THE TYPE OF SSPC CORROSION RESISTING SYSTEM TO BE UTILIZED AND THE SSPC GRADE FOR CLEANING, MINIMUM SSPC GRADE SP2

13. ALL BEAM TO COLUMN CONNECTIONS TO MEET WITH DETAILS 3 OR 4/S-12, 3 OR 4/S-18, 3 OR 4/S-18.6, 3 OR 4/S-25, 3 OR 4/S-31, 3 OR 4/S-31.6 FOR CORROSION PROTECTION

14. ALL A307 BOLTS MAY BE SUBSTITUTED WITH THE SAME QUANTITY OF SAE J429 GRADE 2 BOLTS OF THE SAME DIAMETER.

15. A1085 STEEL HAS SAME OR BETTER PROPERTIES AND WELDABILITY THAN A500 GR. B

16. BOLT HOLES FOR 1/2" DIAMETER BOLTS SHALL BE AS FOLLOWS: 9/16" DIAMETER FOR STANDARD HOLES; 9/16" X 11/16" FOR SHORT SLOTTED HOLES.

CONCRETE NOTES:

1. CONCRETE MIN. 3000 psi AT 28 DAYS. (NOTE: DESIGN BASED ON 3000 psi) IF 3500 psi OR GREATER IS UTILIZED, CONTINUOUS BATCH PLANT INSPECTION MAY BE WAIVED PER 2013 CBC 1705A.3.3 AND PERIODIC INSPECTION SHALL COMPLY WITH NOTE 10.

CONCRETE TO REACH 1000 psi PRIOR TO REMOVAL OF SHORING AND/OR INSTALLATION OF BEAMS AND PURLINS. (NOTE: A HIGHER COMPRESSIVE CONCRETE MAY BE USED TO ACHIEVE 1000 psi SOONER. SUBMIT AN APPROVED CONCRETE MIX DESIGN TO JUSTIFY)

3. CONCRETE TO REACH 3000 psi PRIOR TO INSTALLATION OF SOLAR PANELS. (NOTE: A HIGHER COMPRESSIVE CONCRETE MAY BE USED TO ACHIEVE 3000 psi SOONER. SUBMIT AN APPROVED CONCRETE MIX DESIGN TO JUSTIFY) 4. REINFORCEMENT BARS SHALL BE ASTM A615, GR60. MINIMUM U.N.O.

MINIMUM CONCRETE COVER SHALL BE 27 TO EARTH (DRILLED PIER FOUNDATIONS ONLY), 3" TO EARTH ALL OTHER CONCRETE, 2" TO

SKY. PER CBC TABLE 1808A.8.2 6. ALL REINFORCING STEEL AND OTHER EMBEDDED ITEMS SHALL BE

SECURELY POSITIONED PRIOR TO THE POURING OF CONCRETE. ALL CONCRETE WORK SHALL COMPLY WITH ACI 301 & 318 LATEST

AGGREGATE GRADATION AND QUALITY SHALL BE IN ACCORDANCE WITH

ACI 302-IR. COLD JOINTS SHALL HAVE A ROUGHENED SURFACE. BONDING AGENT SHALL COMPLY WITH ASTM C1059. A SUBMITTAL FOR CONCRETE BONDING AGENT SHALL BE APPROVED BY DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO INSTALLATION. DSA INSPECTOR OF RECORD TO PERIODICALLY INSPECT INSTALLATION OF BONDING AGENT.

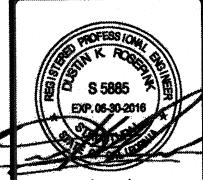
10. WHEN CONTINUOUS BATCH PLANT INSPECTION IS WAIVED, THE FOLLOWING PERIODIC INSPECTION REQUIREMENTS SHALL APPLY: - QUALIFIED TECHNICIAN OF THE TESTING LABORATORY SHALL

CHECK THE FIRST BATCH AT THE START OF THE DAY. - LICENSED WEIGHMASTER TO POSITIVELY IDENTIFY MATERIALS AS TO QUANTITY AND CERTIFY TO EACH LOAD BY A BATCH TICKET. - BATCH TICKETS. INCLUDING MATERIAL QUANTITIES AND WEIGHTS

SHALL ACCOMPANY THE LOAD, SHALL BE TRANSMITTED TO THE INSPECTOR OF RECORD BY A TRUCK DRIVER WITH LOAD IDENTIFIED THEREON. THE LOAD SHALL NOT BE PLACED WITHOUT A BATCH TICKET IDENTIFYING THE MIX. THE INSPECTOR WILL KEEP A DAILY RECORD OF PLACEMENTS, IDENTIFYING EACH TRUCK, ITS LOAD, AND TIME OF RECEIPT, AND APPROXIMATE LOCATION OF DEPOSIT IN THE STRUCTURE AND WILL TRANSMIT A COPY OF THE DAILY RECORD TO THE ENFORCEMENT AGENCY.

11. CONCRETE MAY BE PUMPED, POURED, TREMIED, TAILGATED, FUNNELED OR OTHER SUCH METHODS INTO PLACE. CONCRETE SHALL BE ALLOWED TO FREE FALL THE ENTIRE DEPTH OF THE FOUNDATION. PLACEMENT OF ANY FREE-FALL CONCRETE SHALL BE SUCH THAT THE CONCRETE DOES NOT ALTER THE EMBEDMENT DEPTH OR THE CLEARANCE OF THE REINFORCING BAR CAGE OR OTHER EMBEDDED MATERIALS.

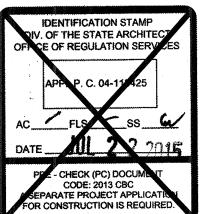
ENGINEER'S APPROVAL



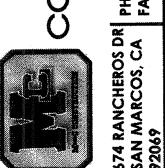
7/22/15 DATE SIGNED MMMM DD, 2015

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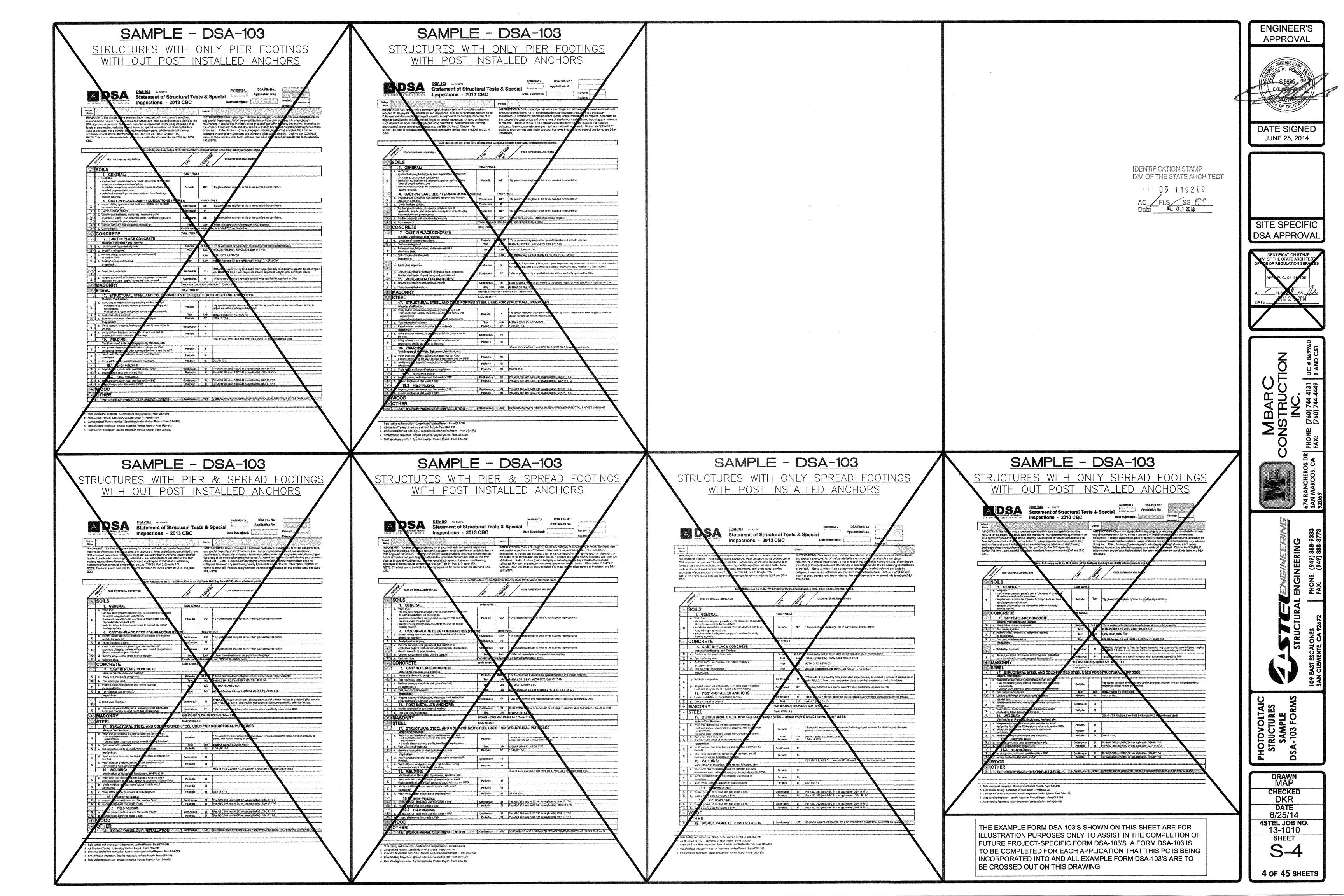


STRUCTURA

PHOTOVOLTAIC STRUCTURES GENERAL NOTE SPECIFICATIONS

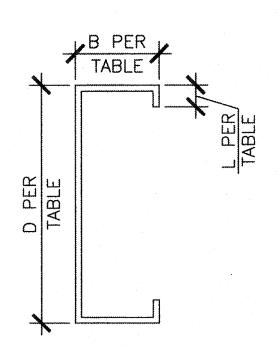
CHECKED DKR DATE 5/29/15 **4STEL JOB NO.** 13-1010 SHEET

3 OF 46 SHEETS



:	Ph (i.e.)	D (%)	1 (:)		MATE (IL (EL)	A (i=2)		AXIS X-X			AXIS Y-Y	
SECTION NAME	D (in)	B (in)	L (in)	GA	WT (lb/ft)	A (in2)	lx (in4)	Sxe (in3)	rx (in)	ly (in4)	Sy (in3)	ry (in)
C 8 x 4 14 GA	8	4.0	0.750	14	4.007	1.179	12.440	2.259	3.25	2.453	0.889	1.443
C8x412GA	8	4.0	0.750	12	5.950	1.750	18.270	3.687	3.23	3.554	1.289	1.425
C 10 x 4 14 GA	10	4.0	0.831	14	4.522	1.330	20.940	2.923	3.97	2.726	0.953	1.432
C 10 x 4 12 GA	10	4.0	0.916	12	6.783	1.995	31.138	5.242	3.95	4.093	1.444	1.433

ALL PURLINS ARE ASTM A653, GR 55, F_y=55 ksi ALL LIGHT GAGE STEEL DESIGNED USING 2007 AISI COLD-FORMED STEEL DESIGN MANUAL. PROPERTIES PER A.E.P. STANDARD SIZES. ACTUAL MANUFACTURER'S PROPERTIES MUST MEET OR EXCEED A.E.P. STANDARD PROPERTIES.

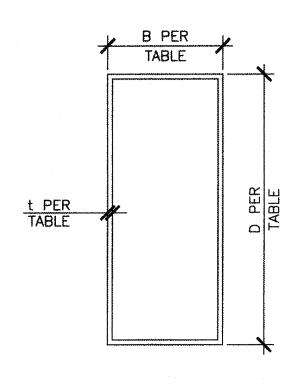


PURLIN DETAIL

SCALE: 3'' = 1'-0''

OF OTION MARKET	D (in)	B (in)	+/im)	WEIGHT	A (in2)		AXIS X-X			AXIS Y-Y	
SECTION NAME	<i>D</i> (III)	D (#1)	t (in)	(lb/ft)	/ (III2)	lx (in4)	Sx (in3)	rx (in)	ly (in4)	Sy (in3)	ry (in)
HSS8x8x1/2	8	8	1/2	48.85	14.40	131.0	32.8	3.02	131.0	32.8	3.02
HSS8x8x5/8	8	8	5/8	59.32	17.40	153.0	38.2	2.97	153.0	38.2	2.97
HSS10x8x5/8	10	8	5/8	67.82	19.90	266.0	53.2	3.66	187.0	46.8	3.07
HSS10x10x5/8	10	10	5/8	76.33	22.40	321.0	64.2	3.79	321.0	64.2	3.79
HSS10x10x3/4	10	10	3/4	89.50	26.30	364.0	72.8	3.72	364.0	72.8	3.72
HSS12x8x3/16	12	8	3/16	24.73	7.29	151.0	25.2	4.55	81.3	20.3	3.34
HSS12x8x1/4	12	8	1/4	32.63	9.59	196.0	32.7	4.52	105.0	26.2	3.31
HSS12x8x5/16	12	8	5/16	40.35	11.90	239.0	39.8	4.48	128.0	32.0	3.28
HSS12x8x3/8	12	-8	3/8	47.90	14.10	279.0	46.5	4.45	149.0	37.2	. 3.25
HSS12x8x1/2	12	8	1/2	62.46	18.40	353.0	58.8	4.38	188.0	47.0	3.20
HSS12x8x5/8	12	8	5/8	76.33	22.40	419.0	69.8	4.32	221.0	55.2	3.14
HSS14x6x3/16	14	6	3/16	24.73	7.29	182.0	26.0	5.00	49.2	16.4	2.60
HSS14x6x1/4	14	6	1/4	32.63	9.59	237.0	33.9	4.97	63.4	21.1	2.57
HSS14x6x5/16	14	6	5/16	40.35	11.90	289.0	41.3	4.93	76.9	25.6	2.54
HSS14x6x3/8	14	6	3/8	47.90	14.10	337.0	48.1	4.89	89.1	29.7	2.51
HSS14x6x1/2	14	6	1/2	62.46	18.40	426.0	60.9	4.81	111.0	37.0	2.46
HSS14x6x5/8	14	6	5/8	76.33	22.40	504.0	72.0	4.74	130.0	43.3	2.41
HSS14x10x1/4	14	10	1/4	39.43	11.60	331.0	47.3	5.34	198.0	39.6	4.13
HSS14x10x5/16	14	10	5/16	48.86	14.40	406.0	58.0	5.31	242.0	48.4	4.10
HSS14x10x3/8	14	10	3/8	58.10	17.10	476.0	68.0	5.28	284.0	56.8	4.08
HSS14x10x1/2	14	10	1/2	76.07	22.40	608.0	86.9	5.21	361.0	72.2	4.01
HSS14x10x5/8	14	10	5/8	93.34	27.40	728.0	104.0	5.15	431.0	86.2	3.97

ALL BEAMS AND COLUMNS ARE ASTM A1085, F_y=50 ksi



SECTION NAME ALL BLOCKING SECTIONS ARE ASTM A653, GR 55, F_y =55 ksi ALL LIGHT GAGE STEEL DESIGNED USING 2007 AISI COLD-FORMED STEEL DESIGN MANUAL. PROPERTIES PER A.E.P. STANDARD SIZES. ACTUAL MANUFACTURER'S PROPERTIES MUST MEET OR EXCEED A.E.P. STANDARD PROPERTIES. 4 BLOCKING DETAIL SCALE: 6" = 1'-0"

B (in)

2.5

BEND SCHEDULE

BAR SIZES

#3 THRU #8

#9 THRU # 11 8d #14 THRU #18 10d

<u>90° HOOK</u>

L (in)

LAP SCHEDULE BAR TOP OTHER ALL BARS BARS BARS 21" 15" 24" #4 29" 20" 26" #5 36" 26" 32" #6 46" 33" 28" 45" 44" 63" #8 82" 59" #9 104" 74" #10 132" 95" #11 168" 116"

lx (in4) Sxe (in3)

1.173

2.41 0.444 3.990

rx (in)

NOTES:

1. THESE LENGTHS SHALL
BE USED UNLESS
SPECIFICALLY DETAILED
OTHERWISE.

2. TOP BARS ARE BARS
LOCATED ≥12" FROM
BOTTOM. OTHER BARS
ARE BARS LOCATED ARE BARS LOCATED WITHIN 12" FROM BOTTOM. THE LAP FOR ALL BARS SHALL BE USED IF ALL THE BARS TERMINATE WITHIN THE SAME LAP LENGTH.

ly (in4) Sy (in3)

2.374 0.626 0.369

SEE LAP SCHEDULE 1" OR 1½d V OR 1⅓AGG. SIZE (MAX.) 1:6 MAX [/] SLOPE AT OFFSET

5 BAR BENDS AND LAPS SCALE: N.T.S.

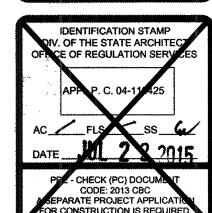
LAP AND OFFSET

APPROVAL

DATE SIGNED MMMM DD, 2015

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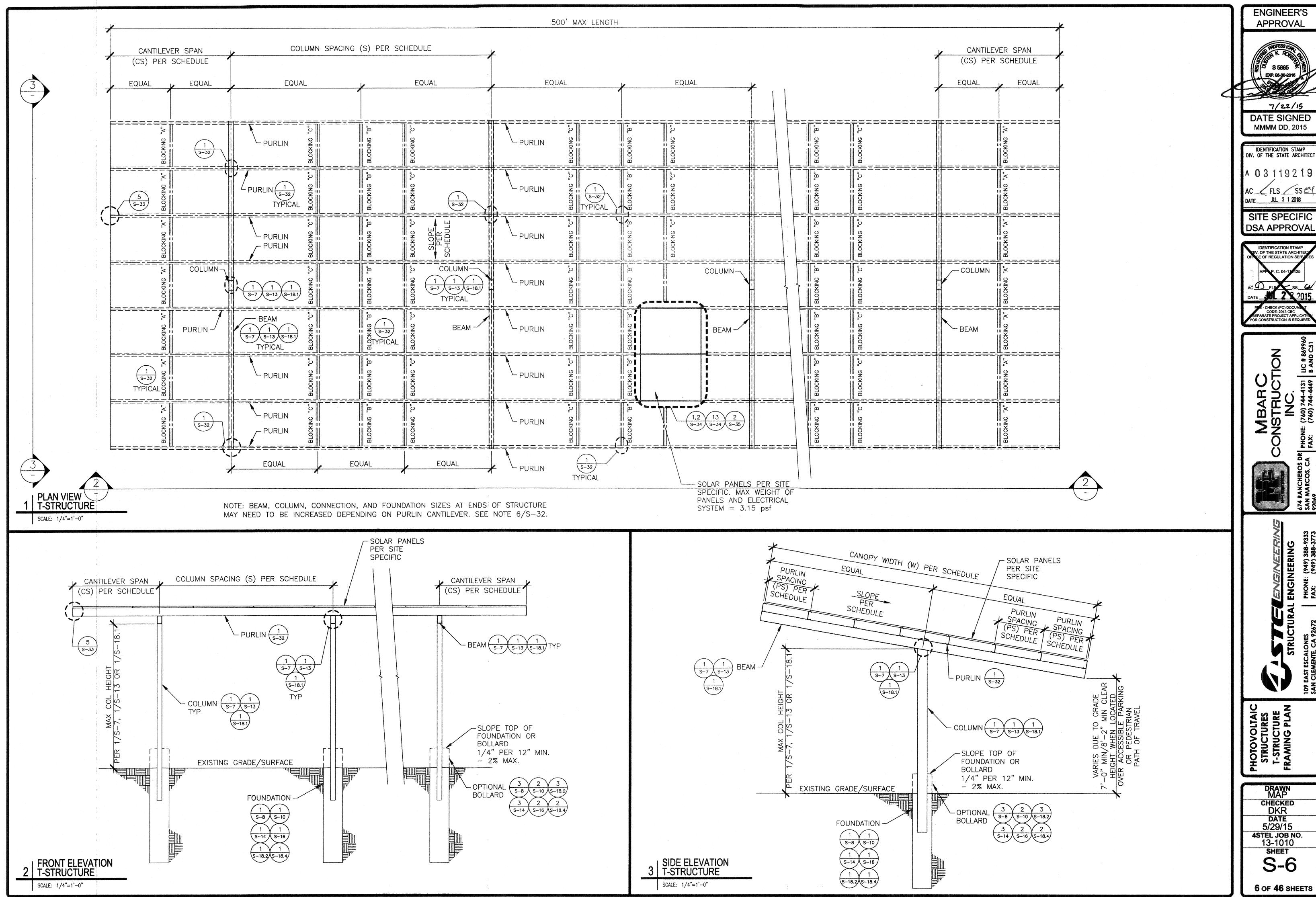
PPL - CHECK (PC) DOCUMENT CODE: 2013 CBC SEPARATE PROJECT APPLICATI FOR CONSTRUCTION IS REQUIRE

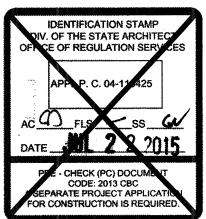
DRAWN MAP CHECKED DKR 5/29/15 4STEL JOB NO. 13-1010 SHEET

5 OF 46 SHEETS

2 HSS DETAIL

SCALE: 3" = 1'-0"





		MAX			DEANA			COLLINA	N I	BAAN			LOADS TO FOUND	ATIONS		
D. #	MAX WIDTH	COLUMN	ROOF	GROUND SNOW	BEAM		BEAM TO COLUMN	COLUM	.V	MAX COLUMN	AXIAL		SHEAR		MOMENT	
- • • • • • • • • • • • • • • • • • • •	(W)	SPACING (S)	SLOPE	LOAD	SECTION	DETAIL	DETAIL	SECTION	DETAIL	HEIGHT	GOVERNING LOAD COMBINATION	P (lb)	GOVERNING LOAD COMBINATION	V (lb)	GOVERNING LOAD COMBINATION	M (lb-ft)
Τ1	30'0"	18' - 0"	7.49° MAX	0 psf	HSS14x6x3/16	2 S-5	<u>2</u> S-12	HSS14x6x1/4	2 S-5	15' - 0"	D + 0.6ωWDOWN-3	10,627	0.9D + E/1.4	3,815	0.9D + E/1.4	60,857
Γ2	36' - 9''	20' - 0"	7.49° MAX	0.psf	HSS14x6x3/16	2 S-5	<u>2</u> S-12	HSS14x6x5/16	2 S-5	15' - 0"	D + 0.6ωWDOWN-3	11,769	0.9D + E/1.4	,,206	0.9D + E/1.4	66,506
Г3	36' - 9"	27' - 0"	7.49° MAX	0 psf	HSS14x6x1/4	2	<u>2</u> S-12	HSS14x6x1/2	2 S-5	15' - 0"	D + 0.6ωWDOWN-3	10,980	0.9D + E/1.4	5,755	0.9D + E/1.4	89,723
⁻ 4	38' - 6"	18' - 0"	7.49° MAX	0 psf	HSS14x6x1/4	2 S-5	<u>2</u> S-12	HSS14,,Cv5/16	<u>2</u> S-5	15' - 0"	D + 0.6ωWDOWN-3	11,527	0.9D + E/1.4	4,331	0.9D + E/1.4	68,275
T5	38' - 6"	20' - 0"	7.49° MAX	0 psf	HSS14x6x1/4	2 S-5	<u>2</u> S-12	HSS140x3/16	2 S-5	15' - 0	D + 0.6ωWDOWN-3	12,602	0.9D + E/1.4	4,638	0.9D + E/1.4	73,481
Г6	38' - 6"	27' - 0"	7.49° MAX	0 psf	HSS14x6x1/4	S-5	2 S-12	HSS14x6x1/2	2 S-5	15' - 0"	D + 0.6ωWDOWN-3	16,696	0.9D + E/1.4	5,992	0.9D + E/1.4	93,671
Т7	42' - 6"	18' - 0''	7.49° MAX	0 psi	HSS14x6x1/4	2 S-5	<u>2</u> S-12	HSS14x6x3/8	<u>2</u> S-5	15' - 0"	D + 0.6ωWDOWN-3	12,775	0.9D + E/1.4	4 823	0.9D + E/1.4	75,546
Т8	121	20' - 0''	7.49° MAX	0 psf	HSS14x6x1/4	<u>2</u> S-5	<u>2</u> S-12	HSS14x6x3/8	<u>2</u> S-5	15' - 0"	D + 0.6ωWDOWN-3	13,962	0.9D + E/1.4	5,162	0.9D + E/1.4	81,290
Т9	42' - 6"	27' - 0"	7.49° MAX	0 psf	HSS14x6x5/16	(2 S-5)	(2 S-12)	HSS14x6x1/2	(2 S-5)	15' - 0"	D + 0.6ωWDOWN-3	18,659	0.9D + E/1.4	6,809	0.9D + E/1.4	107,05
	36' - 9"	18' - 0"	7.49° MAX	20 psf	HSS14x6x1/4	2 S-5	<u>2</u> S-12	HSS14x6x5/16	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-3	17,882	0.9D + E/1.4	4,157	D + 0.2S + E/1.4	70,032
11	36' - 5"	20' - 0"	7.49° MAX	20 psf	HSS14x6x1/4	<u>2</u> S-5	<u>2</u> S-12	HSS14x6x5/16	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-3	19,670	0.9D + E/1.4	4,450	D + 0.2S + E/1	75,526
12	38' - 6"	18' - 0	7.49° MAX	20 psf	HSS14x6x1/4	2 S-5	<u>2</u> S-12	HSS14x6x5/16	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-3	18,705	0.9D + E/1.4	4,331	D + 0.2S + E/1.4	73,375
13	38' - 6"	20' - 0"	7.49° MAX	20 psf	HSS14x6x1/4	<u>2</u> S-5	S-12	HSS14x6x3/8	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-3	20,691	0.9D + E/1.4	4,732	D + 0.2S + E/1.4	79,815
14	42' - 6"	18' - 0"	7.49° MAX	20 psi	HSS14x6x5/16	<u>2</u> S-5	S-12	HSS14x6x3/8	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-3	21,024	0.9D + E/1	5,099	D + 0.2S + E/1.4	86,105
15	42' - 6"	20' - 0"	7.49° MAX	20 psf	HSS14x6x5/16	<u>2</u> S-5	S-12	HSS14x6x1/2	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-3	23,309	0.9D + E/1.4	5,622	D + 0.2S + E/1.4	93,834
51	36' - 0"	18' - 0"	10° MAX	0 psf	HSS14x6x3/16	2 C-5	S-12	HSS14x6x1/4	<u>2</u> S-5	15' - 0"	D + 0.6ωWDOWN-2	13,956	0.9D + E/1.4	3,746	D + 0.6ωWDOWN-1	67,35
52	36' - 0"	20' - 0"	10° MAX	0 psf	HSS14x6x1/4	<u>2</u> S-5	<u>2</u>	HSS14x6x5/16	2 S-5	15' - 0"	D + 0.6ωWDOWN-2	15,751	0.9D + E/1.4	4,370	D + 0.6ωWDOWN-1	74,984
53	36' - 0"	27' - 0"	10° MAX	0 psf	HSS14x6x5/16	<u>2</u> S-5	<u>2</u> S-12	HSS14x6x1/2	2 S-5	15' - 0"	+ 0.6ωWDOWN-2	21,253	0.9D + E/1.4	5,888	D + 0.6ωWDOWN-1	101,39
54	38' - 4.5"	18' - 0"	10° MAX	0 psf	HSS14x6x1/4	<u>2</u> S-5	S-12	HSS14x6x5/16	<u>2</u> S-5	15' 0"	D + 0.6ωWDOWN-2	15,259	0.9D + E/1.4	4,318	D + 0.6ωWDOWN-1	75,673
55	38' - 4.5"	20' - 0"	10° MAX	0 psf	HSS14x6x1/4	2 S-5	<u>2</u> S-12	HSS14x6x5/16	3-5	15' - 0"	D + 0.6ωWDOWN-2	16,751	0.9D + E/1.4	4,624	D + 0.6ωWDOWN-1	83,904
56	38' - 4.5"	27' - 0"	10° MAX	0 psf	HSS14x6x5/16	2 S-5	S-12	HSS14x6y4/2	(2 S-5)	15 0"	D + 0.6ωWDOWN-2	22,593	0.9D + E/1.4	6,224	D + 0.6ωWDOWN-1	113,47
57	41' - 10"	18' - 0"	10° MAX	0 psf	HSS14x6x1/4	2 S-5	S-12	HSS14x6x5/16	<u>2</u> S-5	15' - 0"	2 + 0.6ωWDOWN-2	16,580	0.9D + E/1.4	4,662	D + 0.6ωWDOWN-1	88,179
58	41' - 10"	20' - 0"	10° MAX	0 psf	HSS14x6x5/16	2 S-5	S-12	HSS14x6x3/8	<u>2</u> S-5	15' - 0"	D + 0.6ωWDOWN-2	18,637	0.9D + E/1.4	5,363	D + 0.6ωWDOWN-1	98,07
59	41' - 10"	27' - 0"	10° MAX	0 psf	HSS14x6x1/2	S-5	<u>2</u> S-12	HSS14x6x5/8	<u>2</u> S-5	15' - 0"	D + 0.6ωWDOWN-2	25,664	0.9D + E/1.4	7,668	D + 0.6ωWDOWN-1	132,65
60	36' - 0"	18' - 0"	10° MAX	20 psf	HSS1 46x1/4	<u>2</u> S-5	<u>2</u> S-12	HSS14x6x5/16	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-2	19,218	0.9D + E/1.4	4,083	D + 0.5S + 0.6ωWDOWN-1	78,670
61	36' - 0"	20' - 0"	10° MAX	20 psf	HSS14x6x1/4	<u>2</u> S-5	<u>2</u> S-12	HSS14x6x5/16	<u>2</u> S-5	15' - 0''	D + S + 0.5*0.6wWDOWN-2	21,157	0.9D + E/1.4	4,370	D + 0.5S + 0.6ωWDOWN-1	87,295
52	38' - 4.5"	18' - 0"	10° MAX	20 psf	HSS14x6x1/4	<u>2</u> S-5	S-12	HSS14x6x5/16	<u>2</u> S-5	15' - 0"	D + S + 0.5*0.6wWDOWN-2	20,445	0.9D + E/1.4	4,316	D + 0.5S + 0.6ωWDOWN-1	88,253
***************************************	•	•		1						\$	1	1	I ·			1

MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.

20 psf

20 psf

20 psf

HSS14x6x5/16

HSS14x6x5/16

HSS14x6x3/8

WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY.

10° MAX

10° MAX

10° MAX

38' - 4.5"

41' - 10"

T63

18' - 0"

20' - 0"

LOADS TO FOUNDATION BASED ON ALTERNATIVE ASD LOAD COMBINATIONS WITH ω = 1.3. FOR LATERAL LOADS AND ω = 1.0 FOR VERTICAL LOADS.

 $\binom{2}{S-5}$

 $\left(\begin{array}{c}2\\S-5\end{array}\right)$

 $\binom{2}{S-5}$

2 S-12

2 S-12

 $\binom{2}{S-12}$

HSS14x6x3/8

HSS14x6x3/8

HSS14x6x1/2

| R=1.25 T-STRUCTURE | BEAM/COLUMN SCHEDULE

SCALE: N/A

SCALE: N/A

T-STRUCTURE BEAM/COLUMN SCHEDULE BASED ON R=1.25, Ss ≤ 1.0

 $\left(\begin{array}{c}2\\S-5\end{array}\right)$

15' - 0"

0.9D + E/1.4

0.9D + E/1.4

0.9D + E/1.4

4,969

5,812

22,918

22,665

25,448

D + S + 0.5*0.6wWDOWN-2

D + S + 0.5*0.6wWDOWN-2

D + S + 0.5*0.6wWDOWN-2

 $D + 0.5S + 0.6\omega WDOWN-1$

5,029 D + 0.5S + 0.6ωWDCWN-1

+ 0.6ωWDOWN-1

98,121

103,371

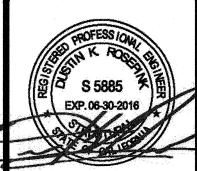
I.D. #	MAX WIDTH	MAX COLUMN	ROOF	GROUND	BEAM		BEAM TO	COLUMN		MAX COLUMN
	(W)	SPACING (S)	SLOPE	LOAD	SECTION	DETAIL	DETAIL	SECTION	DETAIL	HEIGHT
T66	42' - 6''	27-0	7.49° MAX	0 psf	HSS14x6x5/16	2 S-5	<u>2</u> S-12	HSS14x6x172	2	20' - 0"

2 | R=1.25 T-STRUCTURE 2 | BEAM/COLUMN SCHEDULE

WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY.

LOADS TO FOUNDATION BASED ON ALTERNATIVE ASD LOAD COMBINATIONS WITH ω = 1.3. FOR LATERAL LOADS AND ω = 1.0 FOR VERTICAL LOADS.

ENGINEER'S APPROVAL



December 23, 2015

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

JUL 3 1 2018

SITE SPECIFIC DSA APPROVAL



PZ - CHECK (PC) DOCUME (CODE: 2013 CBC PARATE PROJECT APPLICA OR CONSTRUCTION IS REQUIRE



CHECKED DKR

6/18/2018 3 4STEL JOB NO. 13-1010

SHEET

7 OF **46** SHEETS

MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.

												PIER FOUNDATION		
#	MAX WIDTH (W)	MAX COLUMN SPACING (S)	ROOF SLOPE	GROUND SNOW LOAD	FOUNDATION REINFORCEMENT	FOUNDATION DIAMETER	COLUMN EMBEDMENT (CE)	MAX TIE SPACING (TS) AT TOP	FOUNDATION DETAIL	FOUNDATION WITH SOIL MATERIAL CLASS V (SOILS NOTES S-3)	FOUNDATION WITH SOIL MATERIAL CLASS W (SOILS NOTES S-3) DEPTH	FOUNDATION WITH SOIL MATERIAL CLASS X (SOILS NOTES S-3)	FOUNDATION WITH SOIL MATERIAL CLASS Y (SOILS NOTES S-3) DEPTH	FOUNDATION WIT SOIL MATERIAL CLASS Z (SOILS NOTES S-3) DEPTH
	0"	18' - 0''	7.49° MAX	0 psf	(4) - #8 VERT REBAR	24"	36"	6"	2	15' - 0"	11' - 6"	9' - 9"	8' - 9"	DEI 111
	30								2					
	36' - 9''	20' - 0"	7.49° MAX	0.psf	(4) - #8 VERT REBAR	24"	36"	6"		15' - 6"	11' - 9"	10' - 3"	9' - 3"	7' - 9"
	36' - 9''	27' - 0''	7.49° MAX	0 psf	(4) - #8 VERT REBAN	24"	36"	6"	2	17' - 6"	19:3	11' - 6"	10' - 3"	8' - 9"
	38' - 6"	18' - 0"	7.49° MAX	0 psf	(4) - #8 VERT REBAR	24"	36"	6"	$\left(\begin{array}{c}2\\\overline{}\end{array}\right)$	15' - 9"	12' - 0"	10' - 3"	9' - 3"	8' - 0"
	38' - 6"	20' - 0"	7.49° MAX	0 psf	(4) - #8 VERT REBAR	24"	36"	6"	$\frac{2}{-}$	16' - 3"	12' - 3"	10' - 6"	9' - 6"	8' - 3"
	38' - 6"	27' - 0"	7.49° MAX	0 psf	(5) - #8 VERT REBAR	24"	36"	6"	2 -	17' - 9"	181 6"	11' - 6"	10' - 6"	9' - 0''
7	42' - 6"	18' - 0"	7.49° MAX	ê psi	(4) - #8 VERT REBAR	24"	36"	6"	2	16' - 3"	12' - 6"	10' - 9"	9' - 6"	8' - 3"
	101	20' - 0"	7.49° MAX	0 psf	(4) - #8 VERT REBAR	24"	36"	6"	2	17' - 0"	13' - 0"	11' - 0"	10' - 0''	8' - 6"
)	42' - 6"	27' - 0''	7.49° MAX	0 psf	(5) - #8 VERT REBAR	24"	36"	6"	(2)	401-311	14L CU	121-611	441 211	9' - 6''
	36' - 9"	18' - 0"	7.49° MAX	20 psf	(4) - #8 VERT REBAR	24"	36"	6"	2	15' - 9"	12' - 0"	10' - 3"	9' - 3"	8' - 0"
11	36' - 9"	20' - 0"	7.49° MAX	20 psf	(4) - #8 VERT REBAR	24"	36"	6"	2	16' - 6"	12' - 9"	10' - 9"	9' - 9''	8' - 3"
12	38' - 6"	18' - 0	7.49° MAX	20 psf	(4) - #8 VERT REBAR	24"	36"	6"	2	16' - 3"	12' - 6"	10' - 9"	9' - 6"	8' - 3"
13	38' - 6"	20' - 0"	7.49° MAX	20 psf	(4) - #8 VERT REBAR	24"	36"	6"	2	17' - 0"	13' - 3"	11' - 0"	10' - 0''	8' - 6"
14	42' - 6"	18' - 0"	7.49° MAX	20 psi	(4) - #8 VERT REBAR	24"	36"	6"	2	17' - 6"	13' - 6"	11'	10' - 3"	8' - 9"
15	42' - 6"	20' - 0"	7.49° MAX	20 psf	(5) - #8 VERT REBAR	24"	36"	6"	2	18' - 3"	15' - 0"	12' - 0"	11' - 3"	9' - 3"
51	36' - 0"	18' - 0"	10° MAX	0 psf	(4) - #8 VERT REBAR	24"	48"	6"	2	17' - 6"	12-3"	11' - 3"	10' - 3"	8' - 9"
52	36' - 0"	20' - 0''	10° MAX	0 psf	(5) - #8 VERT REBAR	24"	48"	6"	2	18' - 3"	13' - 9"	11' - 9"	10' - 6''	9' - 0"
3	36' - 0"	27' - 0"	10° MAX	0 psf	(6) - #8 VERT REBAR	24"	48	6"	2	20' - 6"	15' - 6"	13' - 3"	12' - 0"	10' - 3"
i4	38' - 4.5"	18' - 0"	10° MAX	0 psf	(5) - #8 VERT REBAR	24"	48"		2	18' - 3"	13' - 9"	11' - 9"	10' - 9''	9' - 3"
55	38' - 4.5"	20' - 0"	10° MAX	0 psf	(5) - #8 VERT REBAR	24"	48"	6"	2	19' - 0''	14' - 6"	12' - 3"	11' - 0"	9' - 6"
6	38' - 4.5"	27' - 0"	10° MAX	0 psf	(7) - #8 VERT REBAR	24"	48"		2	21' - 6"	16' - 3"	13' - 9"	12' - 6"	10' - 9"
				0 psf	(6) - #8 VERT REBAR	24"	404	6"	2	21 6"	14' - 9"	12' - 6"	11' - 3"	9' - 9"
57	41' - 10"	18' - 0"	10° MAX				4011		2				11' - 9"	10' - 0"
58	41' - 10"	20' - 0"	10° MAX	0 psf	(6) - #8 VERT REBAR	24"	48"	6"	2	20' - 3"	15' - 3"	13' - 0"		
59	41' - 10"	27' - 0"	10° MAX	0 psf	(9) - #8 VERT REBAR	24"	48"	6"	2	23' - 0"	17 3"	14' - 9"	13' - 3"	11' - 3"
60	36' - 0"	18' - 0"	10° MAX	20 psf	(5) - #8 VERT REBAR	24"	48"	6"		18' - 3"	14' - 0"	12' - 0"	10' - 9"	9' - 3"
§1	36' - 0"	20' - 0''	10° MAX	20 psf	(5) - #8 VERT REBAR	24"	48"	6"	2 -	19' - 0"	14' - 6"	12'-2"	11' - 0"	9' - 6"
52	38' - 4.5"	18' - 0"	10° MAX	20 psf	(5) - #8 VERT REBAR	24"	48"	6"	2	19' - 3"	14' - 6"	12' - 6"	11' - 3"	9' - 6"
33	38' - 4.5"	20' - 0"	10° MAX	20 psf	(6) - #8 VERT REBAR	24"	48"	6"	2	20' - 0"	15' - 3"	13' - 0"	11' - 6	10' - 0"
64	41' - 19	18' - 0"	10° MAX	20 psf	(6) - #8 VERT REBAR	24"	48"	6"	2	20' - 6''	15' - 6"	13' - 3"	11' - 9"	10' - 3"
10	41' - 10"	20' - 0"	10° MAX	20 psf	(7) - #8 VERT REBAR	24"	48"	6"	2	21' - 3"	16' - 3"	13' - 9"	12' - 3"	10' - 6"

PIER FOUNDATION SCHEDULE

SCALE: N/A

SCALE: N/A

SEE SOILS NOTES ON SHEET S-3 FOR INFORMATION ON SOILS CLASS SELECTION

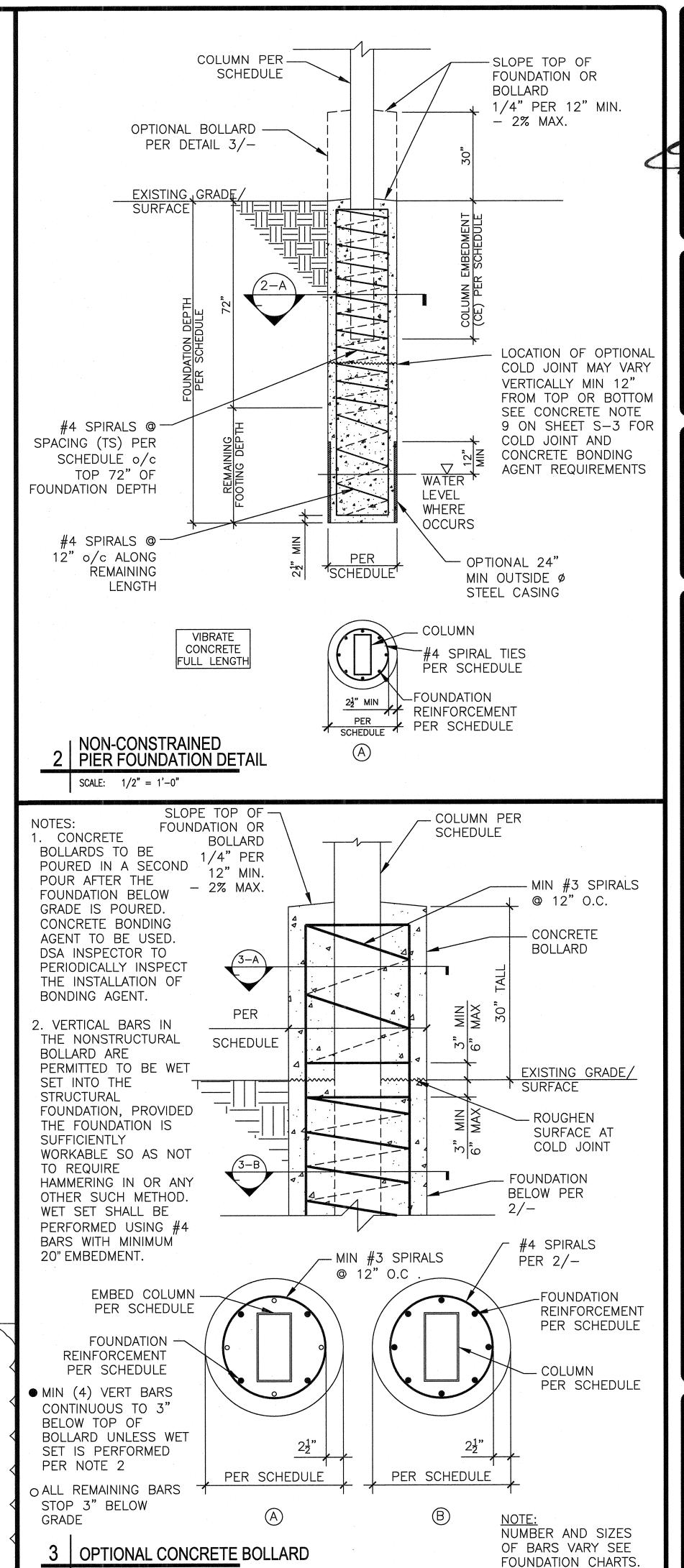
T-STRUCTURE NON-CONSTRAINED PIER FOUNDATION SCHEDULE BASED ON R=1.25, Ss ≤ 1.0

.77									-				PIER FOUNDATION		
	I.D. #	MAX WIDTH (W)	MAX COLUMN SPACING (S)	ROOF SLOPE	GROUND SNOW LOAD	FOUNDATION REINFORCEMENT	FOUNDATION DIAMETER	COLUMN EMBEDMENT (CE)	MAX TIE SPACING (TS) AT TOP	FOUNDATION DETAIL	FOUNDATION WITH SOIL MATERIAL CLASS V (SOILS NOTES S-3)	FOUNDATION WITH SOIL MATERIAL CLASS W (SOILS NOTES S-3)	SOIL MATERIAL CLASS X (SOILS NOTES S-3)	FOUNDATION WITH SOIL MATERIAL CLASS Y (SOILS NOTES S-3)	FOUNDATION WITH SOIL MATERIAL CLASS Z (SOILS NOTES S-3)
											DEPTH	DEPTH	DEPTH	DEPTH	DEPTH
	T66	42' - 6"	27' 0''	7.49 MAX	0 psf	(5) - #8 VERT REBAR	24"	36"	6"	2	19' - 3"	14' - 9"	12' - 6"	11 2"	9' - 9"

R=1.25 T-STRUCTURE NON-CONSTRAINED
PIER FOUNDATION SCHEDULE

- MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.
- WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY. SEE SOILS NOTES ON SHEET S-3 FOR INFORMATION ON SOILS CLASS SELECTION.

FOR SITUATIONS WHERE WATER MITIGATION IS NECESSARY, OR FOR OTHER CONDITIONS REQUIRING MITIGATION, REFER TO DETAIL 2/- FOR SLEEVED FOUNDATION OPTION.



SCALE: 1" = 1'-0"

ENGINEER'S APPROVAL

DATE SIGNED December 23, 2015

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT A 03119219 AC / FLS / SS EY DATE ______ JUL_ 3 1 2018

SITE SPECIFIC DSA APPROVAL

V. OF THE STATE ARCHITEC OF REGULATION SERV - CHECK (PC) DOCUM CODE: 2013 CBC ARATE PROJECT APPLICA

OR CONSTRUCTION IS REQUIR

ENGINEERING

PHOTOVOLTAIC STRUCTURES R=1.25 T-STRUCTURE NON-CONSTRAINED PIER FOUNDATION SCHEDULE

DRAWN MAP CHECKED DKR 6/18/2018 3 4STEL JOB NO. 13-1010 SHEET

S-8

8 of 46 sheets

T-STRUCTURE SPREAD FOOTING SCHEDULE BASED ON R=1.25, Ss ≤ 1.7

I.D. #	MAX WIDTH (W)	MAX COLUMN SPACING (S)	ROOF SLOPE	GROUND SNOW LOAD	FOOTING REINFORCEMENT	FOOTING DETAIL	SPREAD FOOTINGS FOR SOIL MATERIAL CLASS ((SOILS NOTES S-3)
71	36' - 9''	18' - 0"	7.49° MAX	0 psf	#6 BARS @ 15" O.C. MAX EACH WAY TOP & BOTTOM	2	8'-6" x 8'-6" x 30" DEEP
T2	36' - 9"	20' - 0"	7.49° MAX	0 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2	9-9" x 8'-9" x 30" DEEP
Т3	36' - 9''	27' - 0"	7.49 MAX	0 psf	#6 BARS @ 15" O.C. MAX EACH WAY TOP & BOTTOM	2 -	9'-9" x 9'-9" x 30" DEEP
T4	38' - 6"	18' - 0"	7.49° MAX	0 psi	#6 BARS @ 16" J.C. MAX FACH WAX TOP & BOTTOM	2 -	9'-0" x 9'-0" x 30" DEEP
T5	38' - 6"	20' - 0"	7.49° MAX	0 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOL & BOTTOM	2 -	9'-0" x 9'-0" x 30" DEEP
Т6	38' - 6"	27' - 0"	7.49° WAX	0 psf	#6 BARS @ 15" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-9" x 9'-9" x 30" DEEP
T7	42' - 6"	18' - 0"	7.49° MAX	0 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	0'-3" x 9'-3" x 30" DEEP
Т8	42' - 6"	20' - 0"	7.49° MAX	0 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-6" x 9'-6" x 30 DEEP
Т9	42' - 6''	27' - 0''	7.49° MAX	0 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	$\left(\begin{array}{c}2\\-\end{array}\right)$	10'-3" x 10'-3" x 30" DEEF
J 10	36' - 9''	18' - 0''	7.49° MAX	20 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2	8'-9" x 8'-9" x 30" DEEP
T11	36' - 9''	20' - 0"	7.49° MAX	20 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-0" x 9'-0" x 30" DEEP
T12	38 - 6"	18' - 0"	7.49° MAX	20 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2 -	9'-0" x 9'-0" x 30" DEEP
T13	38' - 6"	20' - 0"	7.49° MAX	20 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-3' x 9'-3" x 30" DEEP
T14	42' - 6"	18 0"	7.49° MAX	20 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2 -	9'-3" x 9'-3" x 30" DEEP
T15	42' - 6"	20' - 0"	7.49° MAX	20 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-6" x 9'-6" x 30" DEEP
T51	36' - 0''	18' - 0"	10° MAX	0 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-3" x 9'-3" x 30" DEEP
T52	36' - 0''	20' - 0''	10° MAX	0 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2 -	9'-6" x 9'-6" x 30" DEEP
T53	36' - 0''	27' - 0"	10° MAX	0 sf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	10'-6" x 10'-6" x 30" DEEF
T54	38' - 4.5"	18' - 0"	10° MAX	0 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2 -	9'-6" x 9'-6" x 30" DEEP
T55	38' - 4.5"	20' - 0"	10° MAX	0 psf	#6 BARS @ 16" O.C. MAX EACHWAY TOP & BOTTOM	2 -	10'-0" x 10'-0" x 30" DEEF
T56	38' - 4.5"	27' - 0"	10° MAX	0 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2 -	11'-0" x 11'-0" x 30" DEEF
T57	41' - 10"	18' - 0"	10° MAX	0 sf	#6 BARS @ 16' Q.C. MAX EACH WAY TOP & ROTTOM	2	10'-0" x 10'-0" x 30" DEEF
T58	41' - 10"	20' - 0"	10° MAX	0 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTON	2	10'-6" x 10'-6" x 30" DEEI
T59	41' - 10"	27' - 0"	10° MAX	0 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2	11'-6" x 11'-6" x 30" DEEI
T60	36' - 0''	18' - 0"	10° MAX	20 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	-	9'-3" x 9'-3" x 30" DEEP
T61	36' - 0"	20'- 0"	10° MAX	20 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-6" x 9'-6" x 30" DEÉP
T62	38' - 4.5"	18' - 0"	10° MAX	20 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2 -	9'-6" x 9'-6" x 30" DEEP
T63	38'- 4.5"	20' - 0"	10° MAX	20 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2	10'-0" x 10'-0" x 30" DEEI
T64	41' - 10"	18' - 0''	10° MAX	20 psf	#6 BARS @ 17" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-3" x 9'-3" x 30" DEEP
T65	41' - 10"	20' - 0"	10° MAX	20 psf	#6 BARS @ 15" O.C. MAX EACH WAY TOP & BOTTOM	2	9'-9" x 9'-9" x 30" DEEP

R=1.25 T-STRUCTURE
SPREAD FOOTING SCHEDULE

SCALE: N/A

- MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.
- WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY.

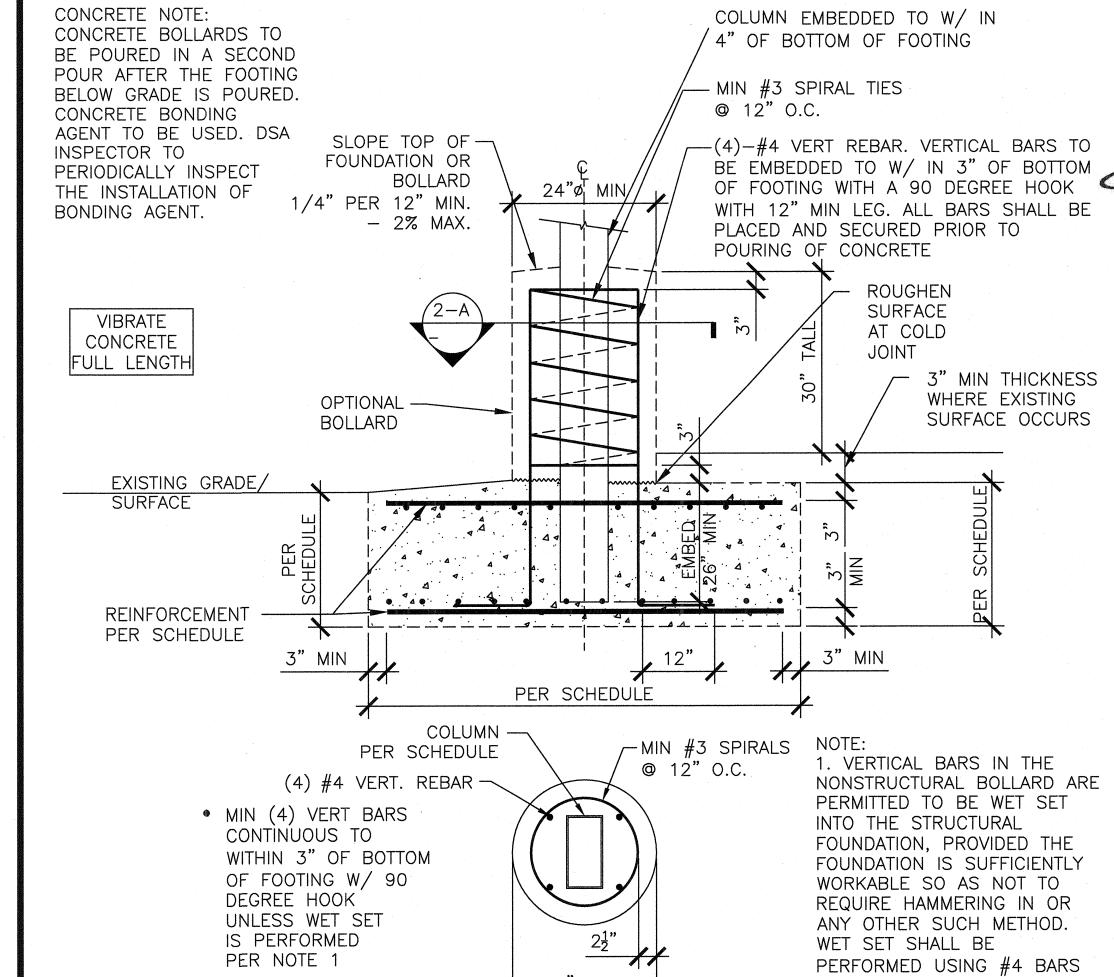
T-STRUCTURE SPREAD FOOTING SCHEDULE BASED ON R=1.25, Ss ≤ 1.0

I.D.#	MAX WIDTH (W)	MAX COLUMN SPACING (S)	ROOF SLOPE	GROUND SNOW LOAD	FOOTING REINFORCEMENT	FOOTING DETAIL	SPREAD FOOTINGS FOR SOIL MATERIAL CLASS V (SOILS NOTES S-3)
T66	42' - 6"	27 - 0"	7.49° MAX	0 psf	#6 BARS @ 16" O.C. MAX EACH WAY TOP & BOTTOM	2	10'-2" × 10'-3" x 30" DEEP

- MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.
- WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY.
- SEE SOILS NOTES ON SHEET S-3 FOR INFORMATION ON SOILS CLASS SELECTION.

R=1.25 T-STRUCTURE
2 | SPREAD FOOTING SCHEDULE

CONCRETE NOTE: COLUMN EMBEDDED TO W/ IN CONCRETE BOLLARDS TO 4" OF BOTTOM OF FOOTING BE POURED IN A SECOND POUR AFTER THE FOOTING - MIN #3 SPIRAL TIES BELOW GRADE IS POURED. @ 12" O.C. CONCRETE BONDING AGENT TO BE USED. DSA SLOPE TOP OF ----(4)-#4 VERT REBAR. VERTICAL BARS TO INSPECTOR TO FOUNDATION OR BE EMBEDDED TO W/ IN 3" OF BOTTOM PERIODICALLY INSPECT BOLLARD OF FOOTING WITH A 90 DEGREE HOOK THE INSTALLATION OF 1/4" PER 12" MIN. WITH 12" MIN LEG. ALL BARS SHALL BE BONDING AGENT. - 2% MAX. PLACED AND SECURED PRIOR TO POURING OF CONCRETE ROUGHEN SURFACE VIBRATE AT COLD CONCRETE FULL LENGTH 3" MIN THICKNESS WHERE EXISTING OPTIONAL BOLLARD SURFACE OCCURS EXISTING GRADE/ SURFACE REINFORCEMENT PER SCHEDULE PER SCHEDULE COLUMN -MIN #3 SPIRALS PER SCHEDULE 1. VERTICAL BARS IN THE @ 12" O.C. (4) #4 VERT. REBAR NONSTRUCTURAL BOLLARD ARE PERMITTED TO BE WET SET • MIN (4) VERT BARS INTO THE STRUCTURAL CONTINUOUS TO FOUNDATION, PROVIDED THE WITHIN 3" OF BOTTOM FOUNDATION IS SUFFICIENTLY OF FOOTING W/ 90 WORKABLE SO AS NOT TO DEGREE HOOK REQUIRE HAMMERING IN OR UNLESS WET SET ANY OTHER SUCH METHOD. IS PERFORMED WET SET SHALL BE PER NOTE 1 PERFORMED USING #4 BARS 24"ø MIN WITH MINIMUM 20" EMBEDMENT. SPREAD FOOTING WET SET BARS SHALL BE STRAIGHT, UNBENT BARS. SCALE: 3/4" = 1'-0"



APPROVAL EXP.06-30-2016

ENGINEER'S

DATE SIGNED December 23, 2015

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT A 03119219 AC _ FLS _ SS _ DATE JUL 3 1 2018

SITE SPECIFIC DSA APPROVAL

IDENTIFICATION STAMP QIV. OF THE STATE ARCHITEC E OF REGULATION SERV

PPZ - CHECK (PC) DOCUM: NT CODE: 2013 CBC SEPARATE PROJECT APPLICATI FOR CONSTRUCTION IS REQUIRE



CHECKED DKR 6/18/2018 4STEL JOB NO. 13-1010

SHEET S-10

10 of **46** sheets

T-STRUCTURE BEAM TO COLUMN CONNECTION SCHEDULE BASED ON R=1.25, Ss ≤ 1.7

I.D. #	MAX WIDTH (W)	MAX COLUMN SPACING (S)	ROOF SLOPE	GROUND SNOW LOAD	BEAM TO COLUMN DETAIL	BEAM TO COLUMN SIDE PLATE	MIN WELD THICKNESS (t)	MIN STRUCTURAL WELD LENGTH (Iv)	MIN STRUCTURAL WELD LENGTH (Ih)
T1	36' - 9"	18' - 0"	7.49° MAX	0 psf	2 -	11 7/8" x 25 3/4" x 5/16" THICK	3/16" THICK	11.5" VERTICAL	11.5" HOPLONTAL
T2	36' - 9"	20' - 0	7.49° MAX	0 psf	2	11 1/2" x 25 7/8" x 3/8" THICK	3/16" THICK	11.5" VEPTICAL	11.5" HORIZONTAL
Т3	36' - 9"	27' - 0"	7.49° MAX	opef	2 -	10 3/4" x 25 5/8" x 1/2" THICK	3/16" THICK	11.5" VERTICAL	10.5" HORIZONTAL
T4	38' - 6"	18' - 0''	7.49° MAX	0 psf	2	11 1/2" x 25 1/2" x 3/9" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONTAL
T5	38' - 6"	20' - 0"	7.49° MAX	0 psf	2	11 1/2" x 25 1/2" x 5/6" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONTAL
Т6	38' - 6"	27' - 0''	7.49° MAX	0,001	2	10 3/4" x 25 5/8" x 1/2" THICK	3/16" THICK	11.5" VERTICAL	10.5" HORIZONTAL
T7	42' - 6"	18' - 0"	7.49° MAX	0 psf	2	11 1/4" x 25 5/8" x 3/8" THICK	3/16" THICK	11.5" VERTICAL	11" HORIZONTAL
Т8	42' - 6"	20' - 0"	7.49° MAX	0 psf	2 -	11 1/4" x 25 5/8" x 3/8" THICK	3/16" THICK	11.5" VERTICAL	11" HORIZONTAL
Т9	42' - 6"	27' - 0"	7.49° MAX	0 psf	$\left(\begin{array}{c}2\\-\end{array}\right)$	10 3/4" x 25 3/8" x 1/2" THICK	1/4" THICK	11" VERTICAL	10.5" HORIZONTAL
T 10	36' - 9"	18' - 0''	7.49° MAX	20 psf	2	11 1/2" x 25 1/2" x 3/8" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONT L
T11	36' - 9''	20' - 0"	7.49° MAX	20 psf	2	11 1/2" x 25 1/2" x 3/8" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONTAL
T12	38' - 6'	18' - 0''	7.49° MAX	20 psf	2	11 1/2" x 25 1/2" x 3/8" THICK	3/16" THICK	11" VERTICAL	1.5" HORIZONTAL
T13	38' - 6"	20 0"	7.49° MAX	20 psf	2	11 1/4" x 25 5/8" x 3/8" THICK	3/16" THICK	11.5" VERTICAL	11" HORIZONTAL
T14	42' - 6"	18' - 0"	749° MAX	20 psf	2	11 1/4" x 25 1/4" x 3/8" THICK	3/16" THICK	11" VERTICAL	11" HORIZONTAL
T15	42' - 6"	20' - 0''	7.49° MAX	20 psf	2	10 3/4" x 25 3/8" x 1/2" THICK	1/4" THICK	11" VERTICAL	10.5" HORIZONTAL
T51	36' - 0"	18' - 0''	10° MAX	Opsf	2 -	11 7/8" x 25 1/2" x 5/16" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONTAL
T52	36' - 0"	20' - 0''	10° MAX	0 psf	2	11 1/2" x 25 1/4" x 3/8" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONTAL
T53	36' - 0"	27' - 0"	10° MAX	0 psf	2	10 3/4" x 25" x 5/8" THICK	5/16" THICK	10.5" VERTICAL	10.5" HORIZONTAL
T54	38' - 4.5"	18' - 0''	10° MAX	0 psf	2	11 1/2" x 25 1/4" x 5/8" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONTAL
T55	38' - 4.5"	20' - 0''	10° MAX	0 psf	2	11 1/2" x 1/4" x 1/2" THICK	1/4" THICK	11" VERTICAL	11.5" HORIZONTAL
T56	38' - 4.5"	27' - 0"	10° MAX	0 psf	2	10 3/4" x 25" x 3/4" THICK	5/16" THICK	10.5" VERTICAL	10.5" HORIZONTAL
T57	41' - 10"	18' - 0"	10° MAX	0 psf	2	11 1/2" x 25 1/4" x 1/2" THICK	1/4" THICK	11" VERTICAL	11.5" HORIZONTAL
T58	41' - 10"	20' - 0"	10° MAX	0 psf	2	11 1/4" x 24 7/8" x 5/8" THICK	T/16" THICK	10.5" VERTICAL	11" HORIZONTAL
T59	41' - 10"	27' - 0"	10° MAX	0 psf	2 -	10 1/8" x 24 1/4" x 7/8" THICK	7/16" THICK	10" VERTICAL	10" HORIZONTAL
T60	36' - 0"	18' - 0''	10° MAX	20 psf	2	11 1/2" x 25 1/4" x 3/8" THICK	3/16" THICK	11" VERTICAL	11.5" HORIZONTAL
T61	36' - 0"	20' - 0"	10° MAX	20 psf	2	11 1/2" x 25 1/4" x 1/2" THICK	1/4" THICK	11" VERTICAL	11.5" HORIZONTAL
T62	38' - 4.5"	18' 0"	10° MAX	20 psf	2 -	11 1/2" x 25 1/4" x 1/2" THICK	1/4" THICK	11" VERTICAL	11.5" HORIZONTAL
T63	38' - 4.5'	20' - 0''	10° MAX	20 psf	2	11 1/4" x 24 7/8" x 1/2" THICK	1/4" THICK	10.5" VERTICAL	11" HORIZONTAL
T64	41' - 10"	18' - 0"	10° MAX	20 psf	2	11 1/4" x 24 7/8" x 1/2" THICK	1/4" THICK	10.5" VERTICAL	11" HONZONTAL
65	41' - 10"	20' - 0"	10° MAX	20 psf	2	10 3/4" x 24 3/4" x 5/8" THICK	5/16" THICK	10.5" VERTICAL	10.5" HORIZONTAL

| R=1.25 T-STRUCTURE 1 | BEAM TO COLUMN SCHEDULE SCALE: N/A

MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.

2. WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY.

T-STRUCTURE BEAM TO COLUMN CONNECTION SCHEDULE BASED ON R=1.25, Ss ≤ 1.0

I.D. #	MAX WIDTH (W)	MAX COLUMN SPACING (S)	ROOF SLOPE	GROUND SNOW LOAD	BEAM TO COLUMN DETAIL	BEAM TO COLUMN SIDE PLATE	MIN WELD	MIN STRUCTURAL WELD LENGTH (IV)	MIN STRUCTURAL WELD LENGTH (lh)
T66	42' - 6''	271	7.49° MAX	0 psf	2	10 3/4" x 25 3/8" x 9/16" THICK	1/4" THICK	11" VERTION	10.5" HORIZONTAL

MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.

2. WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY.

R=1.25 T-STRUCTURE
2 BEAM TO COLUMN SCHEDULE

SCHEDULE 3 SIDES PER SCHEDULE (t) BEAM PER SCHEDULE 3 SIDES PER SCHEDULE (Ih) PER SCHEDULE ASTM A572
GR. 50 STEEL
SIDE PLATE PER COLUMN PER SCHEDULE SCHEDULE 1. WELD TO BE ALL AROUND PLATE. PORTIONS OF THE WELD ALL AROUND JOINT ARE STRUCTURAL AND OTHER PORTIONS ARE NON STRUCTURAL. MINIMUM STRUCTURAL WELD LENGTHS (IV) AND (Ih) PER SCHEDULE. WELDS BEYOND THESE MIN LENGTHS ARE NON STRUCTURAL SEAL WELDS. 2. PURLIN, SOLAR PANEL NOT SHOWN BEAM PER SCHEDULE 3 SIDES PER SCHEDULE
(t)
PER SCHEDULE ASTM A572 GR. 50 STEEL SIDE PLATE PER SCHEDULE 2 | BEAM TO COLUMN COLUMN PER SCHEDULE SCALE: 1-1/2" = 1'-0" 1" MIN 2" MAX ______ $\frac{1}{8}$ "x4" TALLx - 6" WIDE CAP BEAM TO COLUMN
CORROSION PROTECTION OPTION 1 SCALE: $1 \frac{1}{2} = 1'-0"$ POLYSEAMSEAL ALL AROUND COLUMN TO BEAM JOINT APPLIED PRIOR TO PAINTING BEAM TO COLUMN
CORROSION PROTECTION OPTION 2

SCALE: $1 \frac{1}{2} = 1'-0"$

ENGINEER'S APPROVAL

DATE SIGNED December 23, 2015

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT A 03 119219 AC ____FLS ___ SS EY DATE ______ 3 1 2018

SITE SPECIFIC DSA APPROVAL



OR CONSTRUCTION IS REQUIRE



CHECKED DKR 6/18/2018 3 4STEL JOB NO. 13-1010 SHEET S-12

12 OF **46** SHEETS

SCALE: N/A

	MAX PURLIN	MAX COLUMN	MAX CANTILEVER	MAX CANTILEVER	MAX GROUND	PURLII	N	BLOCKING "A" MI CANTILE\		BLOCKING "B" MI SIMPLE SI		BLOCKING "C" 1. SIMPLE S		BLOCKING TO	ТО		BEAM TO PU	RLIN DETAIL	
I.D. #	SPACING (PS)	SPACING (S)	SPAN, NO	SPAN, BLOCKING (CS)	SNOW	SECTION	DETAIL	SECTION	DETAIL	SECTION	DETAIL	SECTION	DETAIL	INTERIOR PURLIN DETAIL	EXTERIOR PURLIN DETAIL	INTERIOR SPLICE	INTERIOR @ CANTILEVER	EXTERIOR SPLICE	EXTERIOR @ CANTILEVER
Α	45"	18' - 0"	7' - 5"	10 - 0	0.pef	C8 x 4 14 GA	1 0.5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	(4 S-5)	N/A	N/A	7 S-33	8 S-33	S-33	1 <u>z</u> S-33	2 S-33	13 S-33
В	45"	20' - 0"	7' - 9"	101 611	0 ps i	C8 x 4 14 GA	S-5	C6 x 2.5 x 16 GA	(4 S-5)	C6 x 2.5 x 16 GA	4 S-5	N/A	N/A	7 S-33	8 S-33		12	2 S-33	13 S-33
С	45"	27' - 0"	8' - 9"	11' - 2"	0 psf	C8 x 4 12 GA	1 S-5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	4 S-5	N/A	N/A	7 S-33	8 S-33	1 S-33	12 S-33	2 S-33	13 S-33
D	984	18' - 0"	6' - 9"	8' - 3"	0 psf	C8 x 4 14 GA	1 S-5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	4 S-5	N/A	N/A	7 S-33	8 S-33	1 S-33	(12 S-33)	2 S-32	13 S-33
E	80"	18' - 0"	7'-3	9' - 0"	0 psf	C10 x 4 14 GA	1 S-5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	4 S-5	N/A	N/A	7 S-33	8 S-33	1 S 28	1Z S-33	2 S-33	13 S-33
F	80"	20' - 0"	7' - 9"	10' - 3"	0 psi	C8 x 4 12 GA	1 S-5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	4 S-5	N/A	N/A	7 5-38	8 S-33	1 S-33	12 S-33	2 S-33	13 S-33
G	80"	20' - 0"	7' - 3"	9' - 0"	0 psf	C10 x 4 14 GA	S-5	C6 x 2.5 x 16 GA	<u>4</u> S-5	C6 x 2.5 x 16 GA	4 S-5	NIA	N/A	7 S-33	8 S-33	1 S-33	12 S-33	2 S-33	13 S-33
Н	80"	27' - 0"	8' - 6"	11' - 2"	0 psf	C10 x 4 12 GA	1 S-5	C6 x 2.5 x 16 GA	3-5 S-5	NIA	N/A	C6 x 2.5 x 16 GA	4 S-5	7 S-33	8 S-33	(1 S-33)	12 S-33	(2 (S-33)	13 S-33
J	45"	18' - 0"	7' - 3"	9' - 3"	20 psf	C8 x 4 14 GA	25	60 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	4 S-5	AVA	N/A	7 S-33	8 S-33	1 S-33	12 S-33	2 S-33	13 S-33
K	45"	20' - 0"	7' - 3"	9' - 3"	20 nst	C8 x 4 14 GA	1 S-5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	4 S-5	N/A	N/A	Ş-33	8 S-33	1 S-33	12 S-33	<u>2</u> S-33	13 S-33
L	80"	18' - 0"	7' - 5"	10' - 6"	20 psf	C10 x 4 12 GA	1 S-5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	4 S-5	N/A	N/A	7 S-33	8 S-33	S-33	12 6 33	(2 (S-33)	13 S-33
М	80	20' - 0"	8' - 0"	10' - 6"	20 psf	C10 x 4 12 GA	1 S-5	C6 x 2.5 x 16 GA	4 S-5	C6 x 2.5 x 16 GA	(4 S-5)	N/A	N/A	(7) (S-33)	8 S-33	1 S-33	12 S-33	S-33	13

MULTIPLE STRUCTURE ID'S MAY BE SELECTED WITHIN THE SAME SITE AND/OR STRUCTURE.

WHEN UTILIZING A STRUCTURE ID READ FROM WITHIN THAT ID ROW ONLY.

BEAM TO PURLIN DETAIL AT SPLICE SHALL NOT OCCUR ON A PURLIN WITH A CANTILEVER SPAN.

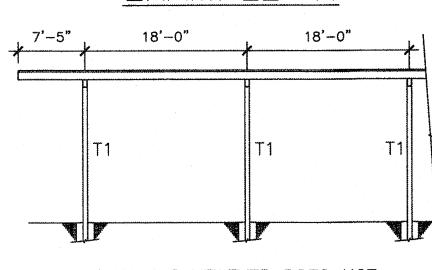
4. WHEN THE CANTILEVER SPAN SHOWN ON THE SITE SPECIFIC SHEETS DOES NOT EXCEED THE MAX CANTILEVER SPAN NO BLOCKING, MID SPAN BLOCKING OF THE CANTILEVER IS NOT REQUIRED.

PURLIN SPACING MAY BE INCREASED BEYOND THE MAXIMUMS GIVEN IN THE CHART ABOVE AS LONG AS THE TRIBUTARY WIDTH TO THE PURLIN

DOES NOT EXCEED PS. 6. LONG PURLIN CANTILEVERS INCREASE THE TRIBUTARY AREA TO THE END BEAM AND MAY REQUIRE THE SUPPORTING MEMBERS TO INCREASE IN SIZE PER THE SCHEDULE BELOW. THE LEFT COLUMN OF THE SCHEDULE REPRESENTS THE COLUMN SPACING CURRENTLY USED, AND THE CENTER COLUMN OF THE SCHEDULE REPRESENTS THE PURLIN CANTILEVER RANGE. USING THE COLUMN SPACING AND PURLIN CANTILEVER ADJACENT TO THE END BEAM, DETERMINE THE APPROPRIATE MEMBER SIZING PER THE RIGHTMOST COLUMN OF THE SCHEDULE. FOR EXAMPLE, SEE 2/-

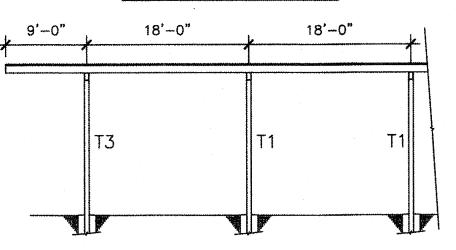
PURLIN CANTILEVER SCHEDULE								
COLUMN SPACING	MAX CANTILEVER	MEMBER SIZING						
18'-0"	CS ≤ 7'-5"	18'-0"						
18'-0"	$7'-5" < CS \le 8'-9"$	20'-0"						
18'-0"	8'-9" <>3 < 13'-2"	27'-0"						
20'-0"	CS ≤ 8'-3"	20'-0"						
20'-0"	8'-3" < CS ≤ 12'-10"	27'-0						
27'-0"	CS ≤ 11'-2"	27'-0"						

EXAMPLE 1:



PURLIN CANTILEVER DOES NOT REQUIRE MEMBER SIZE INCREASE AT END.



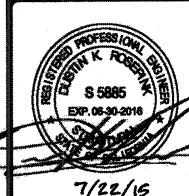


PURLIN CANTILEVER EXCEEDS LIMITS SHOWN IN CHART AND REQUIRES MEMBER SIZE INCREASE AT END.

| PURLIN | CONDITION EXAMPLES

SCALE: N.T.S.

ENGINEER'S APPROVAL

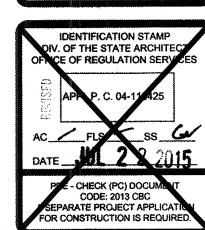


DATE SIGNED MMMM DD, 2015

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT A03119219

AC _ FLS _ SSEY DATE <u>JUL 3 1 2018</u>

SITE SPECIFIC DSA APPROVAL

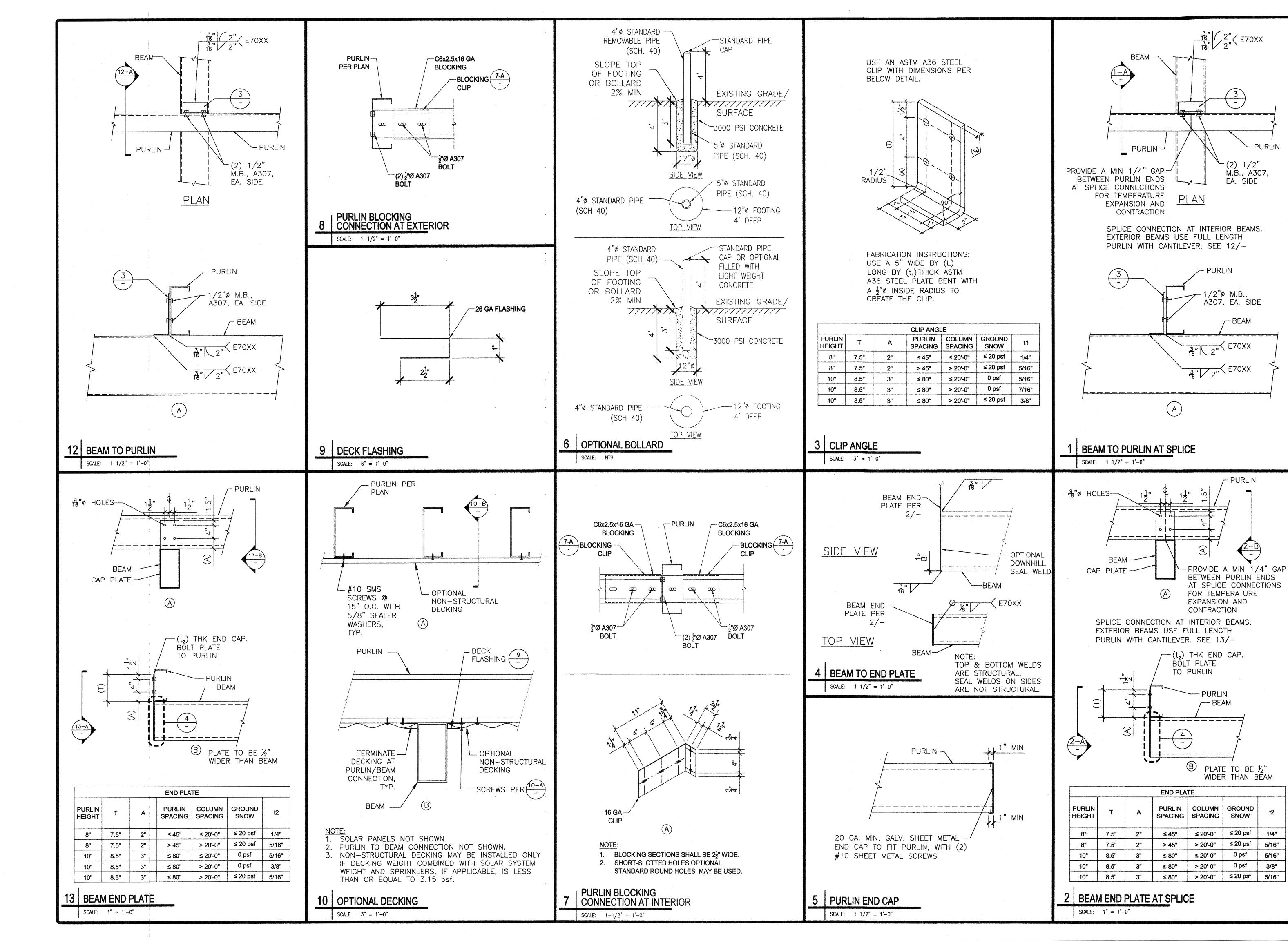




CHECKED DKR DATE 5/29/15 4STEL JOB NO. 13-1010 SHEET S-32

32 OF **46** SHEETS

1 PURLIN SCHEDULE (ALL SLOPES)



APPROVAL

ENGINEER'S

7/22/15 DATE SIGNED MMMM DD, 2015

IDENTIFICATION STAMP IV. OF THE STATE ARCHITEC 03119219

SITE SPECIFIC

AC / FLS / SSE

DATE JUL 3 1 2018

DSA APPROVAL IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC CE OF REGULATION SERVE

- CHECK (PC) DOCUM CODE: 2013 CBC SEPARATE PROJECT APPLICAT FOR CONSTRUCTION IS REQUIRE

STRUCTURES STANDARD PURLIN DETAILS

DRAWN MAP CHECKED DKR DATE 5/29/15 **4STEL JOB NO.** 13-1010 SHEET

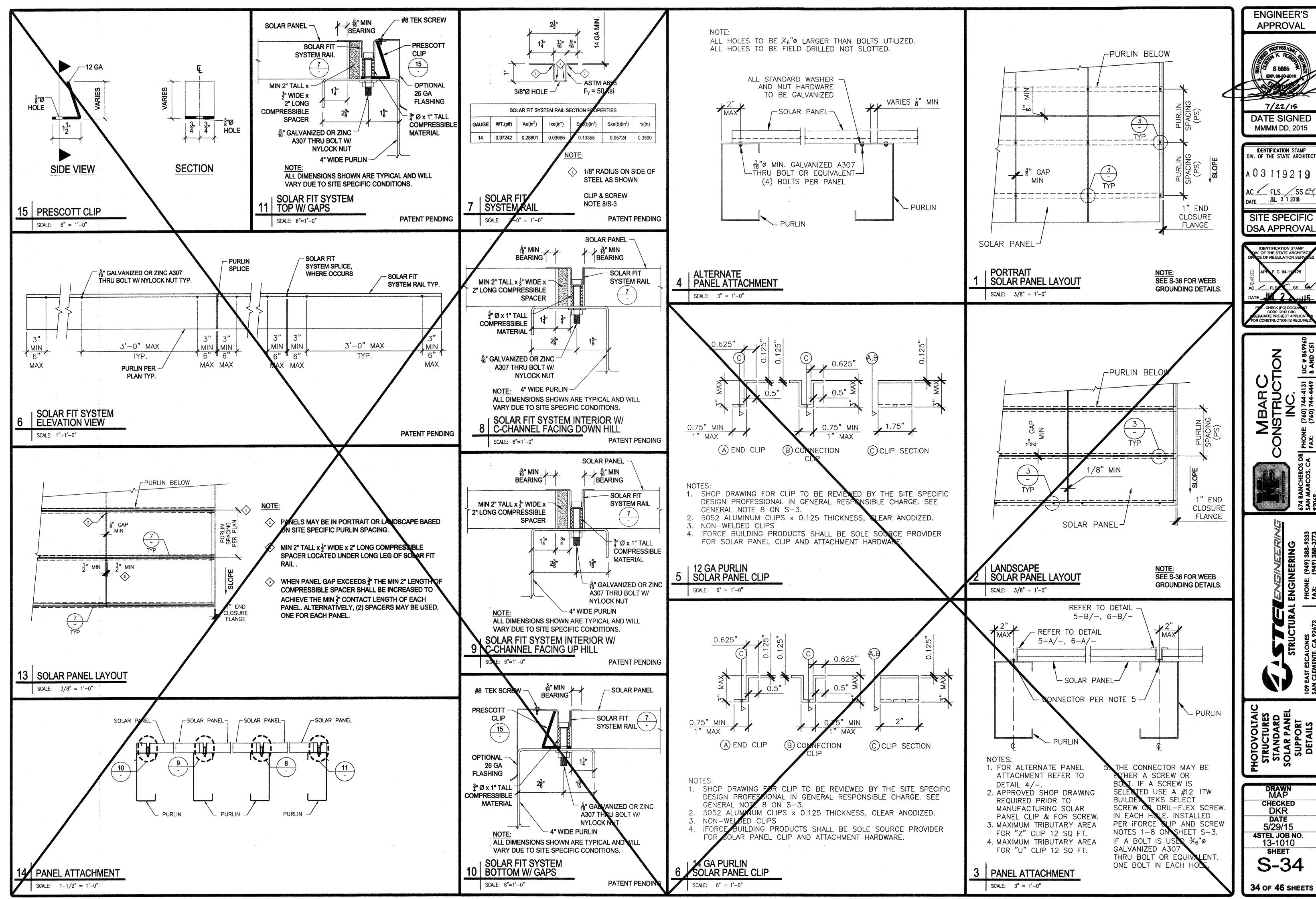
1/4"

5/16"

3/8"

S-33

33 OF 46 SHEETS



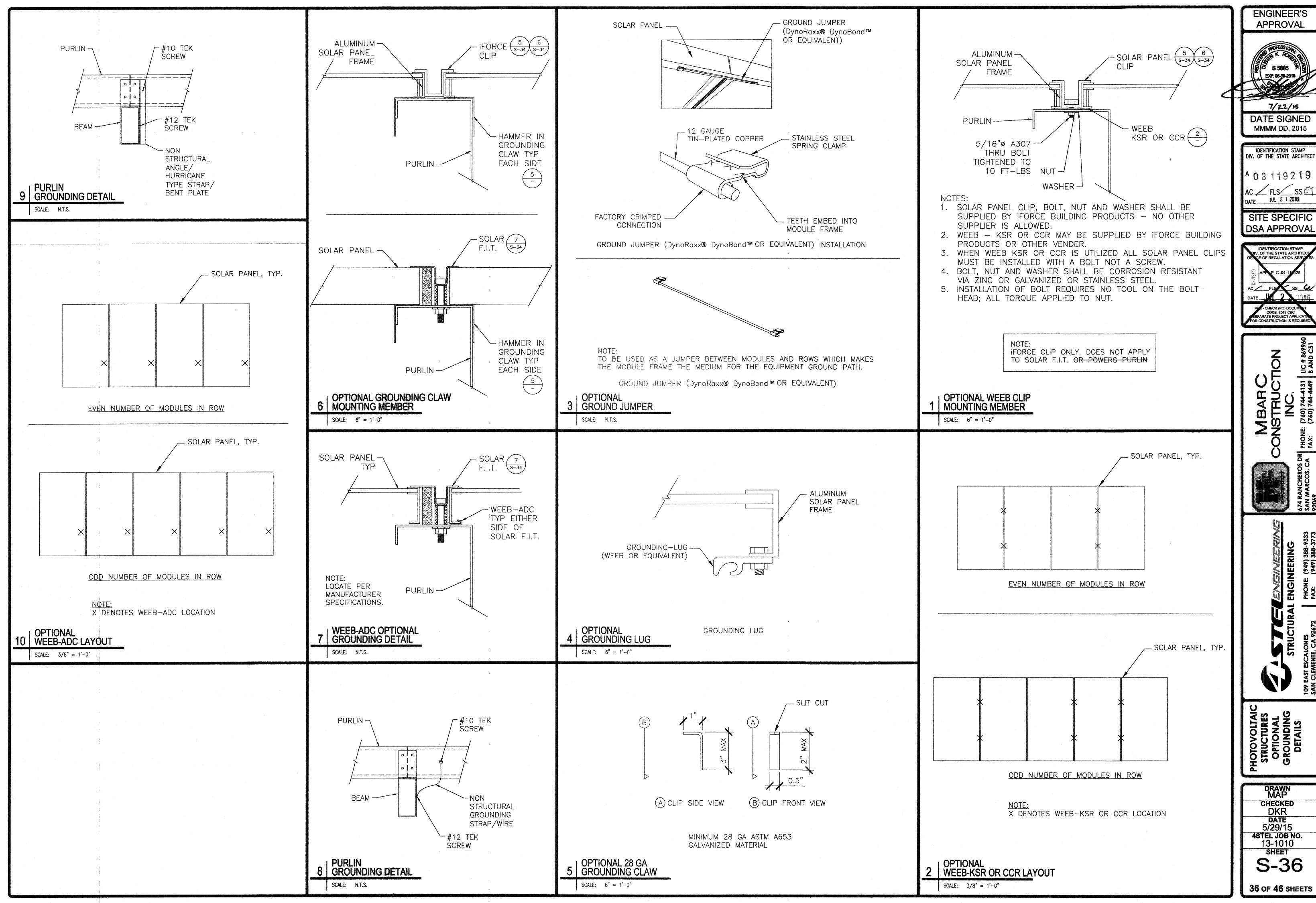
DATE SIGNED MMMM DD, 2015

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(760) 744-4131 | 1 (760) 744-4449 | E

34 OF 46 SHEETS



ENGINEER'S APPROVAL

7/22/15 DATE SIGNED MMMM DD, 2015

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

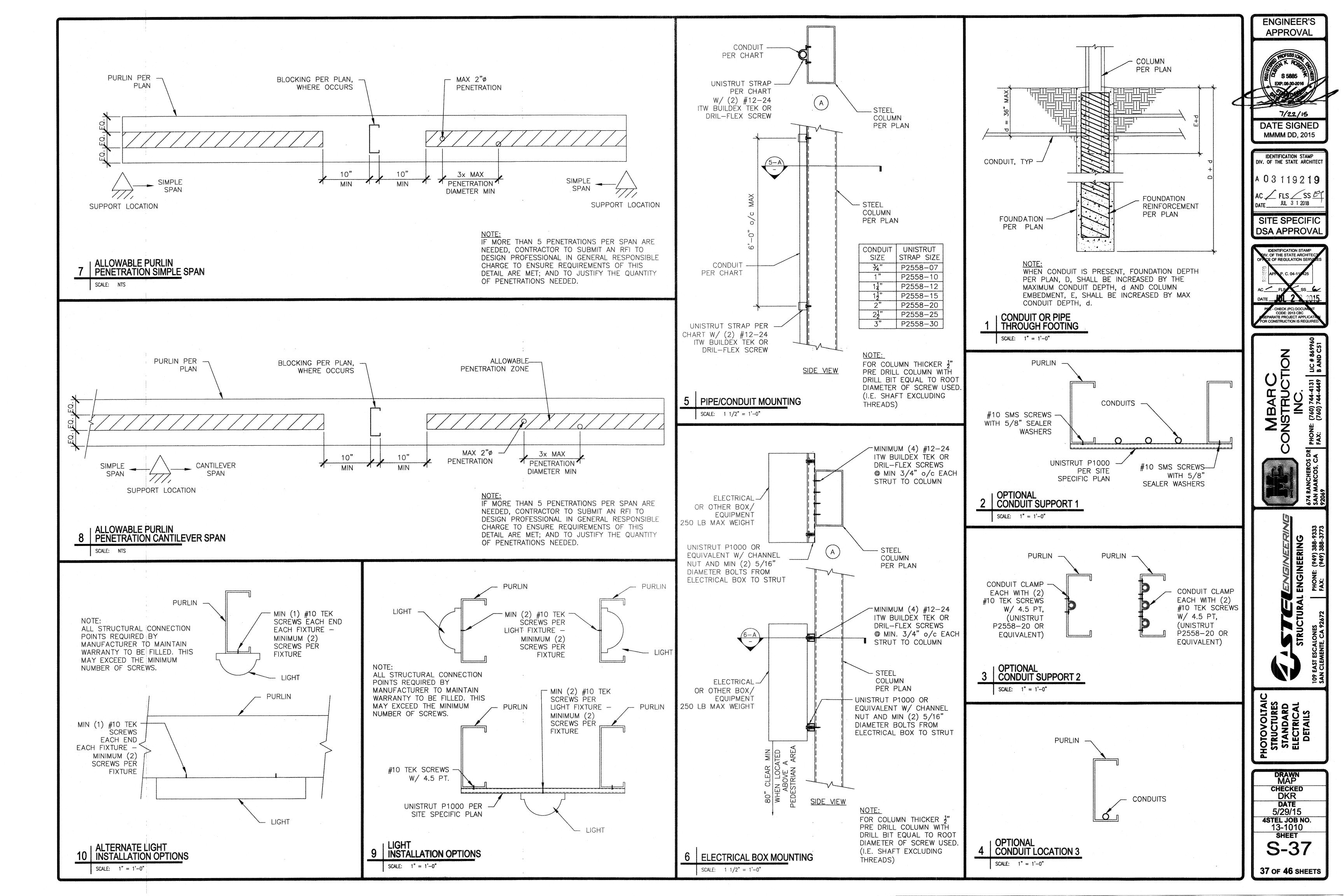
DATE____JUL_ 3 1 2018 SITE SPECIFIC

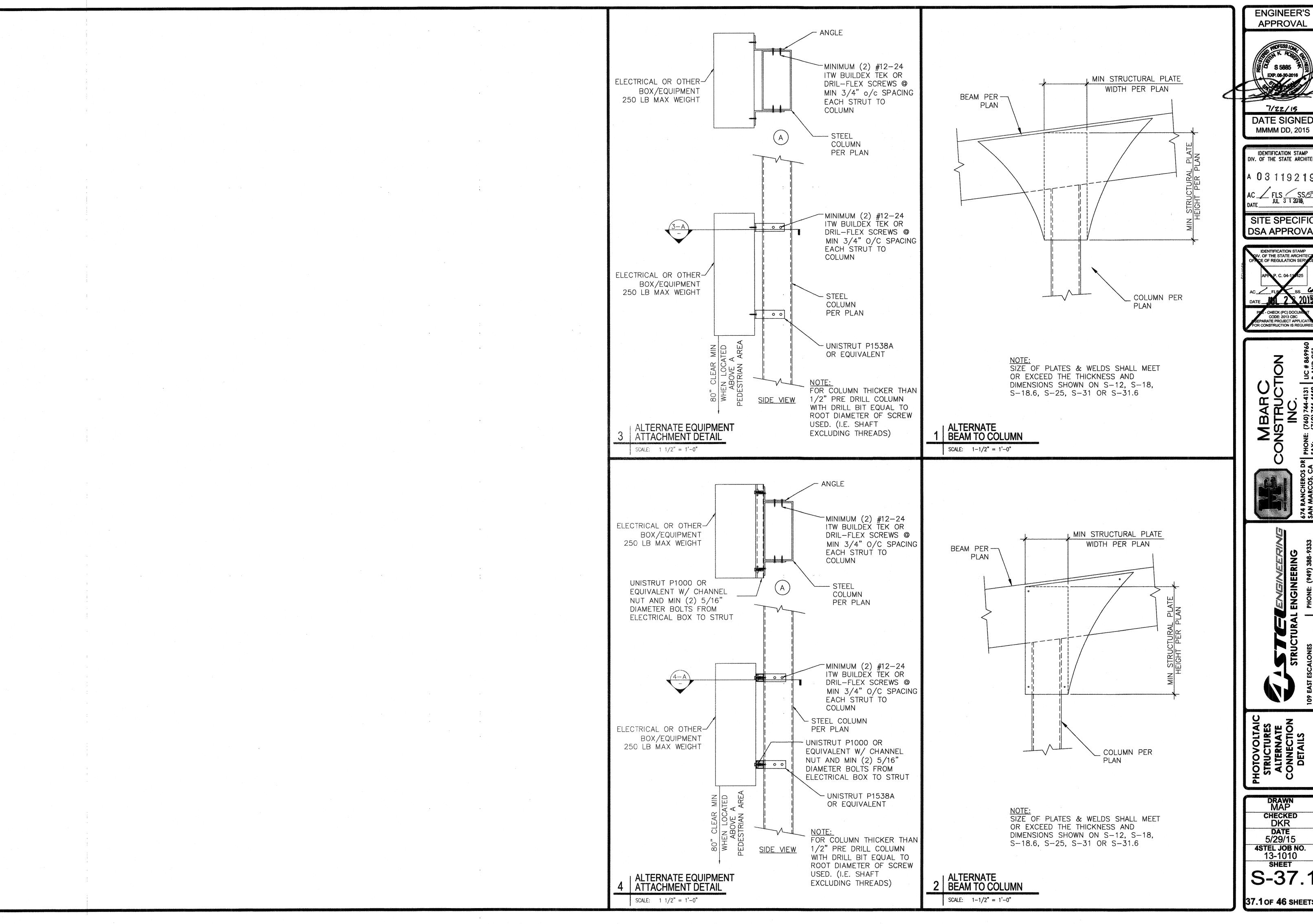
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PDE - CHECK (PC) DOCUMENT CODE: 2013 CBC SEPARATE PROJECT APPLICAT FOR CONSTRUCTION IS REQUIR

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CHECKED DKR DATE 5/29/15 4STEL JOB NO. 13-1010 SHEET



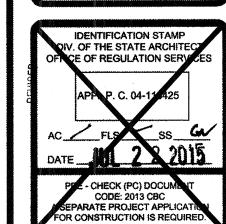


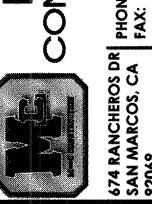
APPROVAL

7/22/15 DATE SIGNED MMMM DD, 2015

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT A 03119219

SITE SPECIFIC DSA APPROVAL





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DRAWN MAP CHECKED DKR **DATE** 5/29/15 4STEL JOB NO. 13-1010

SHEET S-37.

37.1 OF 46 SHEETS

				ELECTRICA	AL EQUIPMENT ANCHORAGE AND PAD SIZES		
					EQUIPMENT SCHEDULE		
DESIGNATION	DESCRIPTION	DIMENSIONS (LENGTH x WIDTH x HEIGHT)	WEIGHT (LBS.)	DESIGNATION	ANCHORAGE	DETAIL	MINIMUM PAD SIZE & REINFORCEMENT
1	INVERTER-1	75" x 31" x 80"	2977	150KW	(4) - 1/2"Ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 51"X19" MIN PATTERN	6/-	7'-3" LONG BY 5'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
2	INVERTER-2	117.7" x 43.3" x 92.6"	4500	250KW	(4) - 1/2" HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 93.7"X31.3" MIN PATTERN	6/-	11'-3" LONG BY 6'-6" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
3	INVERTER-3	106.33" × 39.59" × 89.18"	3300	375KW	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 82.33"X27.59" MIN PATTERN	6/-	10'-6" LONG BY 6'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
4	INVERTER-4	138.75" x 42.47" x 93.47"	5900	500KW	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 114.75"X30.47" MIN PATTERN	6/-	13'-0" LONG BY 7'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
5	INVERTER-5	148" x 84" x 107"	12000	1MW	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 124"X72" MIN PATTERN	6/-	14'-0" LONG BY 9'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 8" o/c AT MID DEPTH
6	TRANSFORMER-1	49" × 30.5" × 77"	2500	250TRANS	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 25"X18.5" MIN PATTERN	6/-	6'-6" LONG BY 5'-9" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
7	TRANSFORMER-2	49" × 30.5" × 77"	3200	500TRANS	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 25"X18.5" MIN PATTERN	6/-	6'-6" LONG BY 6'-6" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
8	TRANSFORMER-3	96" × 77" × 96"	17600	3750KVA	(6) - 1/2"Ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT. TWO ROWS OF 3 BOLTS. ROWS SPACED 71" MIN APART W/ BOLTS EQUALLY SPACED IN EA. ROW	6/-	10'-3" LONG BY 10'-3" WIDE BY 6" THICK SLAB W/ #4 BARS @ 6" o/c AT MID DEPTH
9	TRANSFORMER-4	94" x 74" x 72.5"	12500	1500KVA	(4) - 1/2"Ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-3/4" EMBEDMENT IN A 70"X62" MIN PATTERN	6/-	9'-3" LONG BY 8'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 9" o/c AT MID DEPTH
10	HVL SWITCH	60" x 38" x 97.7"	1300	HVL	(4) - 1/2"Ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 36"X24" MIN PATTERN	6/-	6'-6" LONG BY 5'-3" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
11)	54" WIDE SWITCHBOARD COMPONENT	96" x 54" x 91.5" (MAX) 54" x 54" x 91.5" (MIN)	2400	54SB	(4) - 1/2"Ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 30"X30" MIN PATTERN	6/-	6'-6" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH LENGTH IS EQUAL TO COMPONENT LENGTH (6'-6" MIN, 8'-0" MAX)
12	48" WIDE SWITCHBOARD COMPONENT	96" x 48" x 91.5" (MAX) 48" x 48" x 91.5" (MIN)	1700	48SB	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 24"X24" MIN PATTERN	6/-	6'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH LENGTH IS EQUAL TO COMPONENT LENGTH (6'-0" MIN, 8'-0" MAX)
13	42" WIDE SWITCHBOARD COMPONENT	96" x 42" x 91.5" (MAX) 42" x 42" x 91.5" (MIN)	2200	42SB	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 18"X18" MIN PATTERN	6/-	6'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH LENGTH IS EQUAL TO COMPONENT LENGTH (6'-0" MIN, 8'-0" MAX)
14	24" WIDE SWITCHBOARD COMPONENT	96" x 24" x 91.5" (MAX) 24" x 24" x 91.5" (MIN)	1000	24SB	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 18"X18" MIN PATTERN	6/-	5'-3" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH LENGTH IS EQUAL TO COMPONENT LENGTH (5'-3" MIN, 8'-0" MAX)
15	22" WIDE SWITCHBOARD COMPONENT	96" x 22" x 91.5" (MAX) 22" x 22" x 91.5" (MIN)	1970	22SB	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 16"X16" MIN PATTERN	6/-	6'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH LENGTH IS EQUAL TO COMPONENT LENGTH (6'-0" MIN, 8'-0" MAX)
16	30" WIDE SWITCHBOARD COMPONENT	96" x 30" x 91.5" (MAX) 30" x 30" x 91.5" (MIN)	2020	30SB	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 25"X25" MIN PATTERN	6/-	6'-3" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH LENGTH IS EQUAL TO COMPONENT LENGTH (6'-3" MIN, 8'-0" MAX)
17>	36" WIDE SWITCHBOARD COMPONENT	96" x 36" x 91.5" (MAX) 36" x 36" x 91.5" (MIN)	2070	36SB	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 31"X31" MIN PATTERN	6/-	6'-3" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH LENGTH IS EQUAL TO COMPONENT LENGTH (6'-3" MIN, 8'-0" MAX)
18	SWITCHBOARD	72" × 43" × 90"	1450	800ASB	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 48"X31" MIN PATTERN	6/-	7-6" LONG BY 5'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
19	FREE STANDING RACK-1	SEE S-39	1500/ BAY	UNISTRUT BRACED RACK	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 30"X46.5" MIN PATTERN	6/-	RACK LENGTH PLUS 12" BY 5'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
20>	FREE STANDING RACK-2	SEE S-40	2000/ BAY	RACK	(4) - 3/4" MILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 4" EMBEDMENT IN A 9"X9" MIN PATTERN. PER COLUMN. BASE PLATE PER PLAN	6/-	RACK LENGTH PLUS 18" BY 3'-6" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH
21>	FREE STANDING RACK-3	SEE S-41	495/ BAY	UNISTRUT RACK	(4) - 1/2"ø HILTI STAINLESS STEEL KB-TZ BOLTS PER ICC ESR-1917 W/ 3-1/4" EMBEDMENT IN A 9"X9" MIN PATTERN	6/-	RACK LENGTH PLUS 24" BY 4'-0" WIDE BY 6" THICK SLAB W/ #4 BARS @ 12" o/c AT MID DEPTH

1) EQUIPMENT MAY BE INSTALLED ON A SINGLE PAD AS LONG AS EACH PIECE OF EQUIPMENT HAS THE REQUIRED PAD SIZE WITHOUT OTHER EQUIPMENT'S PAD REQUIREMENTS OVERLAPPING.

2) POST WARNING SIGNS PER DETAIL 4/S-38 REQUIRED AT ALL ENTRY POINTS TO PAD LOCATION. ALSO SEE SITE SPECIFIC ELECTRICAL PLANS FOR ADDITIONAL SIGNAGE REQUIREMENTS. 3) WHEN SWITCHBOARD COMPONENTS ARE ATTACHED TOGETHER THE PAD SIZE MUST BE THE MAXIMUM PAD WIDTH FOR ANY OF THE INDIVIDUAL COMPONENTS AND THE LENGTH MUST BE EQUIVALENT TO THE SUM OF ALL USED COMPONENTS REQUIRED LENGTHS.

4) NOT ALL EQUIPMENT NEEDS TO BE USED. ELECTRICAL ENGINEER TO SPECIFY SITE SPECIFIC EQUIPMENT TO BE USED AND TO PROVIDE ELECTRICAL DOCUMENTS DEMONSTRATING GROUNDING OF EQUIPMENT AND OF THE SOLAR PANELS.

5) IF OTHER EQUIPMENT IS SUBSTITUTED THE PAD SIZE MAY BE ADJUSTED BY RATIONAL PROPORTIONS [EX:(ACTUAL PAD WIDTH)=(WIDTH OF ACTUAL EQUIPMENT)/(WIDTH OF EQUIPMENT IN THE CHART)*(PAD WIDTH IN CHART)]

6) SITE SPECIFIC DESIGN FOR THE DUCT BANK LOCATIONS SHALL TAKE INTO CONSIDERATION POSSIBLE FENCE POST FOUNDATIONS AND/OR THE IMPACTS OF THE SLAB PERIMETER FOUNDATION. 7) ALL STRUCTURAL CONNECTION POINTS REQUIRED BY MANUFACTURER TO MAINTAIN WARRANTY TO BE FILLED. THIS MAY EXCEED THE MINIMUM NUMBER OF BOLTS INDICATED IN THE ABOVE CHART.

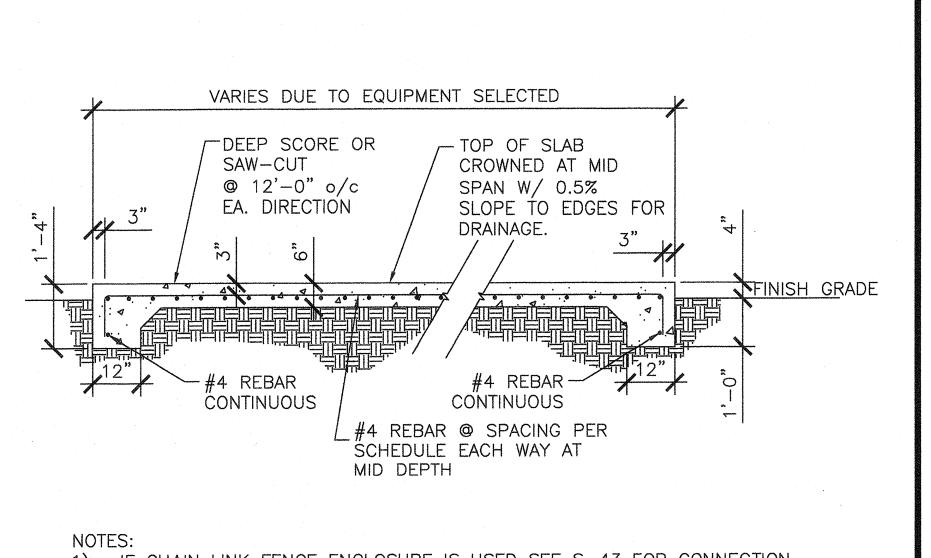
8) ALL 1/2" Ø HILTI STAINLESS STEEL KB-TZ BOLTS TO BE INSTALLED TO 40 FT-LB OF TORQUE. ALL 1/8" Ø HILTI STAINLESS STEEL KB-TZ BOLTS TO BE INSTALLED

TO 110 FT-LB OF TORQUE.

9) MINIMUM EDGE DISTANCE FOR ALL Ø HILTI STAINLESS STEEL KB-TZ BOLTS TO BE 6" U.N.O. THE MINIMUM PAD SIZE SHOWN IN CHART MAY NEED TO INCREASE TO ACCOMMODATE THIS MINIMUM REQUIREMENT. 10) IF CHAIN LINK FENCE ENCLOSURE IS USED SEE S-43 FOR CONNECTION OPTIONS WHICH MAY REQUIRE A WIDER PERIMETER FOOTING.

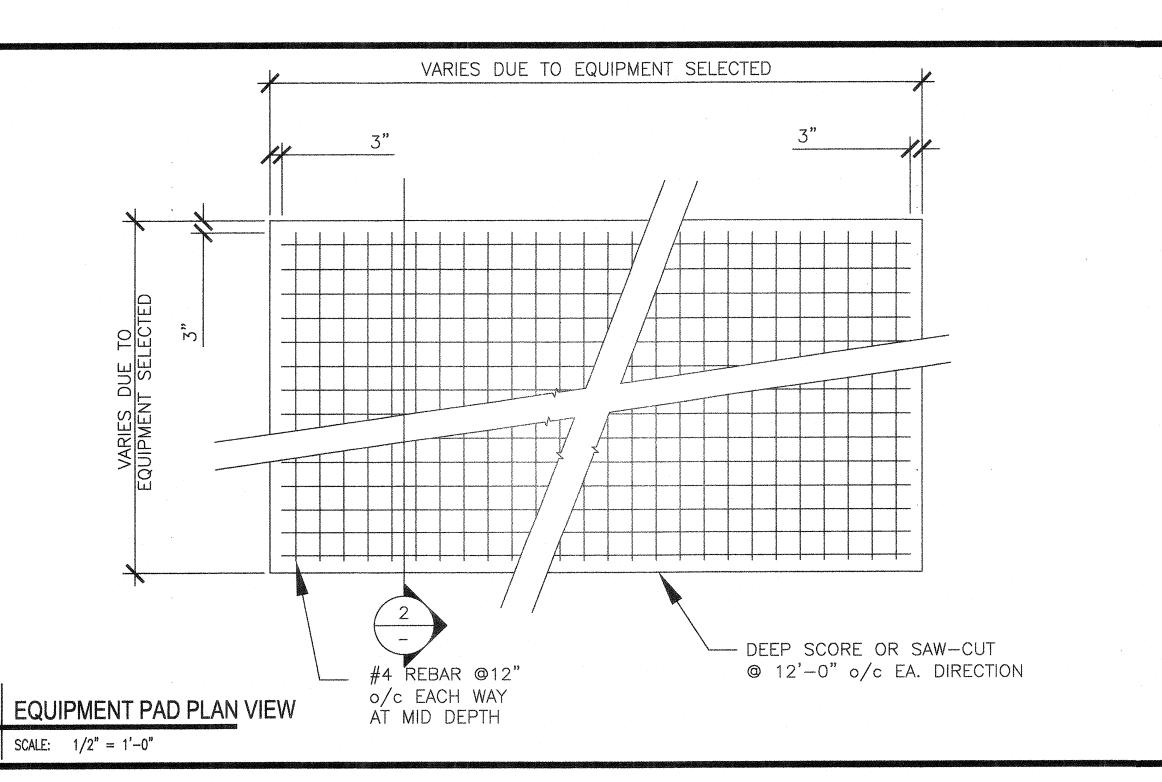
EQUIPMENT PAD SCHEDULE

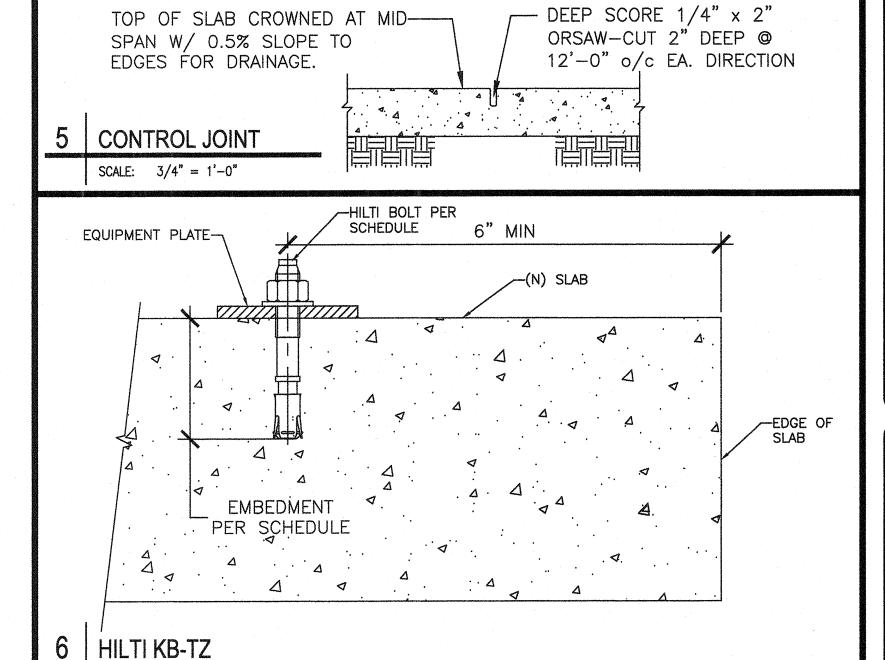
SCALE: N/A



1) IF CHAIN LINK FENCE ENCLOSURE IS USED SEE S-43 FOR CONNECTION OPTIONS WHICH MAY REQUIRE A WIDER PERIMETER FOOTING.

EQUIPMENT PAD SECTION SCALE: 1/2" = 1'-0"





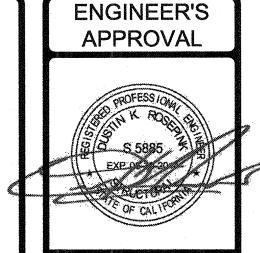
WARNING SIGN

SCALE: N/A

SCALE: 6'' = 1'-0''

UMAUTHORIZED PERSONNEL

KEEP OUT

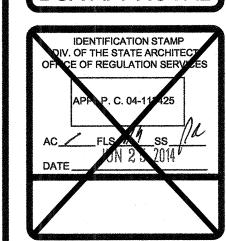


DATE SIGNED JUNE 25, 2014

IDENTIFICATION STAMP DIV. OF THE STATE AHCHITECT

03 119219 AC / FLS / SS ET Date JUL 3 1 2018

DSA APPROVAI



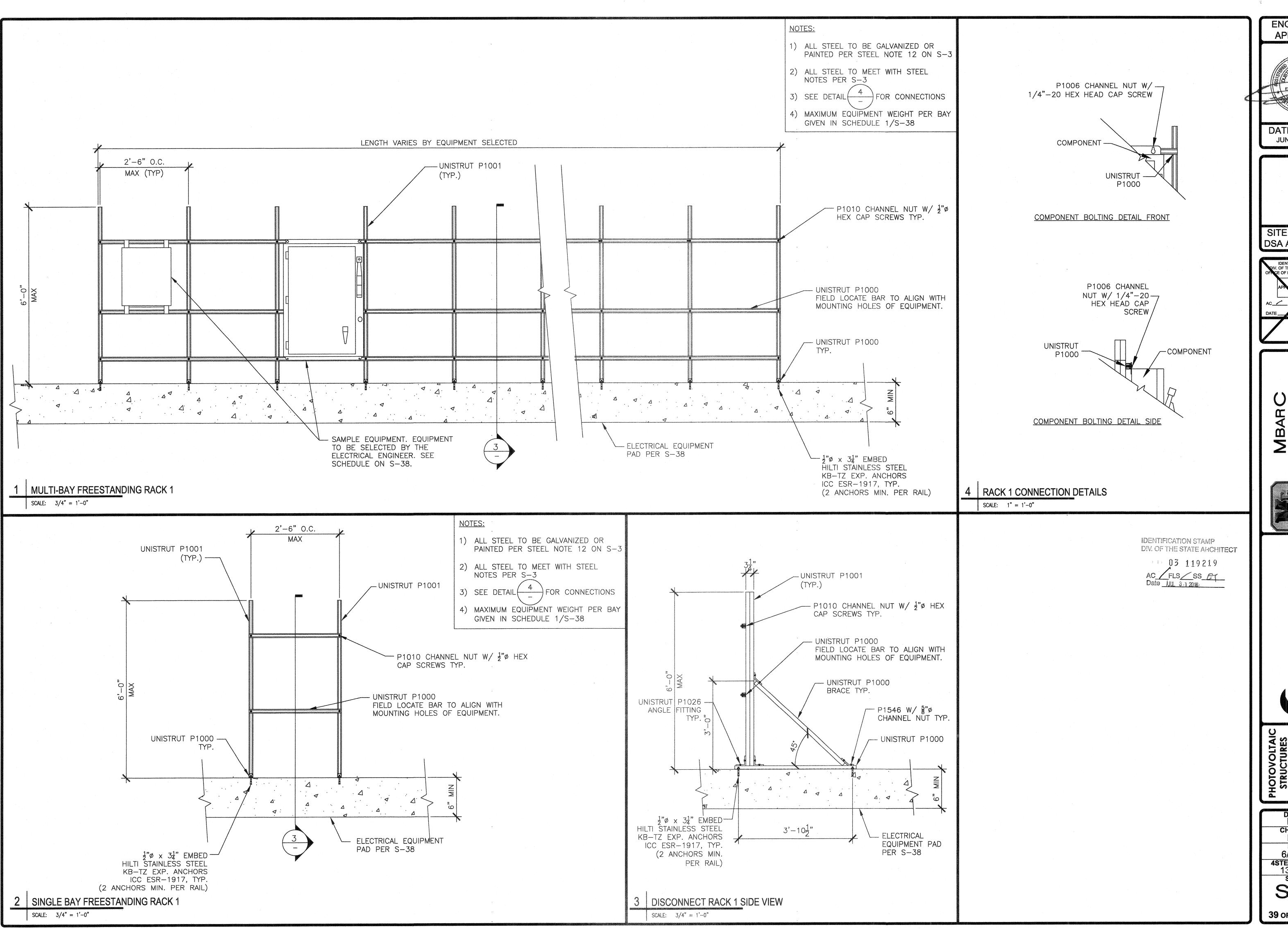


STRUCTURAL ENGINEERING

TAV. (949) 388-933

CHECKED DKR DATE 6/25/14 4STEL JOB NO. 13-1010 SHEET S-38

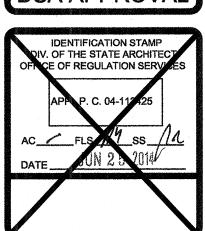
38 OF **45** SHEETS



ENGINEER'S APPROVAL

DATE SIGNED JUNE 25, 2014

SITE SPECIFIC DSA APPROVAL



STRUCTURAL ENGINEERING
SCALONES | PHONE: (949) 388-9333
FAX: (949) 388-3773

DRAWN MAP CHECKED DATE 6/25/14 4STEL JOB NO. 13-1010 SHEET S-39

39 OF **45** SHEETS

