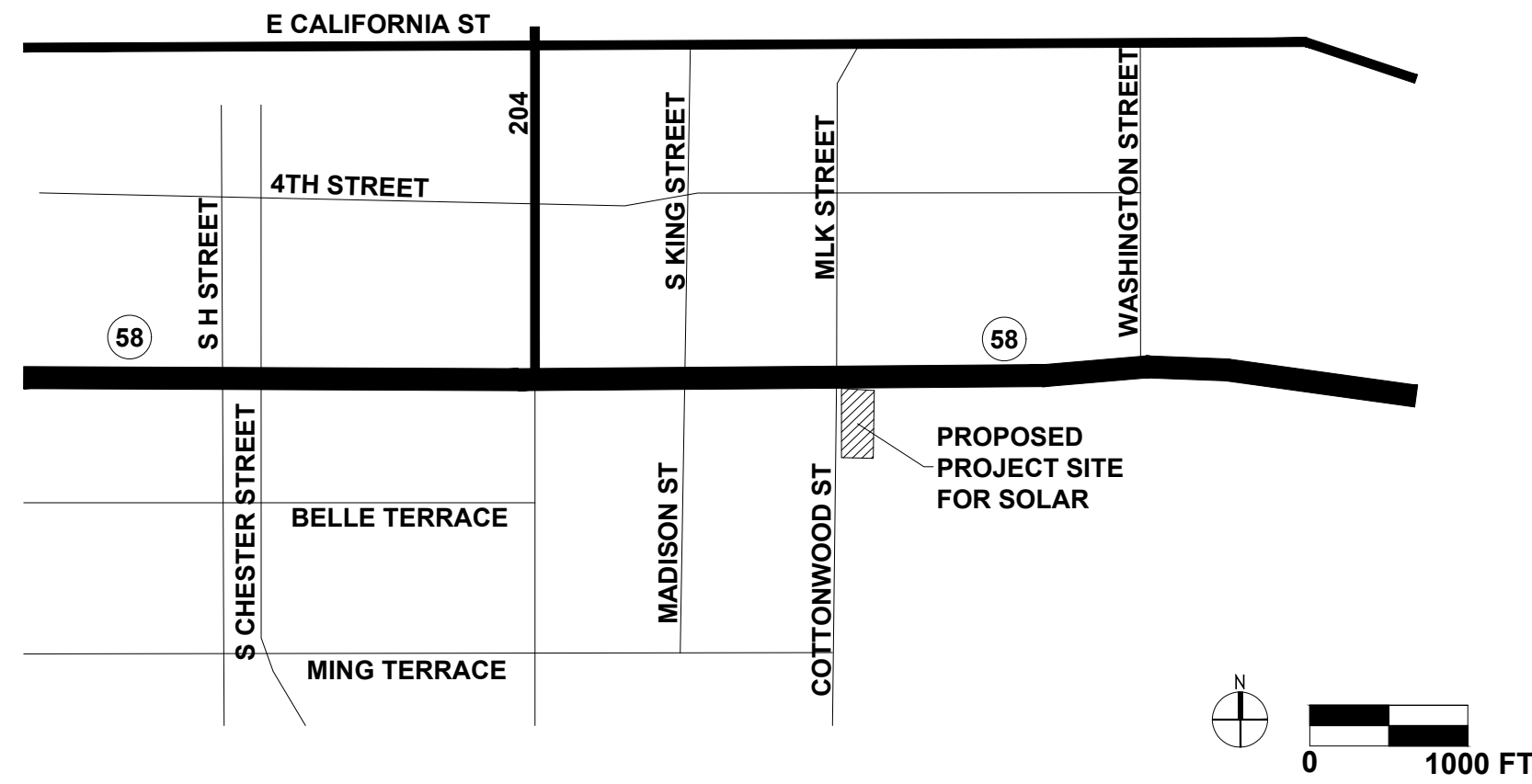


# BAKERSFIELD CITY SCHOOL DISTRICT SOLAR: BUS YARD

1504 FELIZ DRIVE  
BAKERSFIELD, CA 93307

## VICINITY MAP



## GOVERNING CODES:

CALIFORNIA CODE OF REGULATIONS:  
 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC) ..... (PART 1, TITLE 24, CCR)  
 2022 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1, AND 2 (PART 2, TITLE 24, CCR)  
 (2021 EDITION INTERNATIONAL BUILDING CODE WITH 2022 CALIFORNIA AMENDMENTS)  
 2022 CALIFORNIA ELECTRICAL CODE ..... (PART 3, TITLE 24, CCR)  
 (2020 NFPA 70)  
 2022 CALIFORNIA MECHANICAL CODE (CMC) ..... (PART 4, TITLE 24, CCR)  
 (2021 EDITION IAPMO UNIFORM MECHANICAL CODE WITH 2022 CALIFORNIA AMENDMENTS)  
 2022 CALIFORNIA PLUMBING CODE (CPC) ..... (PART 5, TITLE 24, CCR)  
 (2021 EDITION IAPMO UNIFORM PLUMBING CODE WITH 2022 CALIFORNIA AMENDMENTS)  
 2022 CALIFORNIA ENERGY CODE ..... (PART 6, TITLE 24, CCR)  
 2022 CALIFORNIA FIRE CODE (CFC) ..... (PART 9, TITLE 24, CCR)  
 (2021 EDITION OF INTERNATIONAL FIRE CODE WITH 2022 CALIFORNIA AMENDMENTS)  
 2022 CALIFORNIA GREEN CODE ..... (PART 11, TITLE 24, CCR)  
 2022 CALIFORNIA REFERENCED STANDARDS CODE ..... (PART 12, TITLE 24, CCR)  
 NFPA 13 - 2022  
 NFPA 72 - 2022

## REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS:

2022 CBC, CHAPTER 35  
 2022 CFC, CHAPTER 80

## INSPECTIONS:

SAFETY DURING CONSTRUCTION TO COMPLY WITH 2022 CFC CHAPTER 33

## PROJECT DIRECTORY

<b>SYSTEM HOST:</b> BAKERSFIELD CITY SD 1300 BAKER STREET BAKERSFIELD, CA 93305 661-631-4600	<b>DEVELOPER</b> FOREFRONT POWER 100 MONTGOMERY ST #1300 SAN FRANCISCO, CA 94101 855-204-5083 EMILY VIOHL	<b>ELECTRICAL ENGINEER:</b> HARDIN 5 MARINE VIEW PLAZA SUITE 301 HOBOKEN, NJ 07030 201.687.9975 EE: LOREN HARDIN	<b>GENERAL CONTRACTOR</b> COLLINS ELECTRICAL COMPANY, INC 1902 CHANNEL DR WEST SACRAMENTO, CA 95691 916-567-1100 MALY HER
--	--	--	---

<b>ARCHITECT &amp; DESIGN</b> PROFESSIONAL IN CHARGE: MMPV DESIGN, INC. 718 W ARBOR DR SAN DIEGO, CA 92103 619.632.2883 AOR: MARIANA MONCADA	<b>STRUCTURAL ENGINEER:</b> TKJ STRUCTURAL ENGINEERING 9820 WILLOW CREEK RD #490 BAKERSFIELD, CA 93301 SAN DIEGO, CA 92131 858.346.7119 YESENIA GRAMAJO	<b>GEOTECHNICAL ENGINEER:</b> BSK ASSOCIATES 700 22ND STREET BAKERSFIELD, CA 93301 661-327-0671 ADAM TERRONEZ
--	--	--

## SCOPE OF WORK

WORK CONSISTS OF INSTALLING 2 PHOTOVOLTAIC (PV) SOLAR POWER ARRAYS OVER AN EXISTING PARKING LOT. SOLAR POWER SYSTEM CONSISTS OF EQUIPMENT, LIGHTING, PV MONITORING AND METERING COMMUNICATIONS AND POWER INTERCONNECT TO THE UTILITY GRID.

TOTAL MODULE COUNT: 450 MODULES  
 KILOWATTS DC: 168.75 kW  
 TOTAL ARRAYS: 2

## PROJECT DATA

WIND LOAD : 100 Vmph  
 SNOW LOAD: 0 LBS/ SF  
 FLOOD ZONE DESIGNATION: ZONE X

## NEW PHOTOVOLTAIC ARRAY CODE ANALYSIS

**SYSTEM DESCRIPTION:** Module Type Longi LR6-72HPH (2004MM X 996MM X 35MM) 23 kg

Array Name	Array	Total Modules	kW DC	No. of Cols	Minimum Clear Height	Azimuth	Tilt	Occupancy	Const. Type	Area	Allowable Area			
A	6 x 45	270	101.25	5	15'-0"	271 °	7 °	S-2 NS	II-B	5,801 SF	-			
<b>TOTAL AREA ARRAY 'A':</b>										<b>5,801 SF</b>	<b>UNLIMITED</b>			
B	6 x 30	180	67.50	3	15'-0"	271 °	7 °	S-2 NS	II-B	3,867 SF	-			
<b>TOTAL AREA ARRAY 'B':</b>										<b>3,867 SF</b>	<b>UNLIMITED</b>			
<b>TOTALS:</b>										<b>450</b>	<b>168.75</b>	<b>8</b>	<b>9,668 SF</b>	<b>UNLIMITED</b>

PER CBC 406.5.5 AREA AND HEIGHT INCREASES: OPEN PARKING GARAGES OF TYPE II CONSTRUCTION WITH ALL SIDES OPEN, SHALL BE UNLIMITED IN ALLOWABLE AREA WHERE THE BUILDING HEIGHT DOES NOT EXCEED 75'.

## DRAWING INDEX

SHEET #	SHEET TITLE
<b>ARCHITECTURAL DRAWINGS</b>	
BY-A0.0	TITLE SHEET
BY-A1.1	SITE PLAN & FIRE ACCESS PLAN
BY-A1.1	ENLARGED SITE PLAN
BY-A1.2	ENLARGED SITE PLANS
BY-A1.3	ACCESSIBLE PARKING STANDARDS
<b>5 SHEETS</b>	

## ELECTRICAL DRAWINGS

E1.0	ELECTRICAL SITE PLAN
E2.0	ELECTRICAL SINGLE LINE DIAGRAM
E3.0	TYPICAL ELECTRICAL THREE LINE DIAGRAM
E4.0	ELECTRICAL DETAILS
E5.0	TYPICAL ELECTRICAL SOLAR WARNING LABELS
E5.1	TYPICAL ELECTRICAL SOLAR WARNING LABELS
E6.0	ELECTRICAL SOLAR EQUIPMENT CUT SHEETS
E7.0	OUTDOOR LIGHTING TITLE 24 COMPLIANCE REPORT
E8.0	PV ARRAY ELECTRICAL STRING CABLING PLAN
<b>9 SHEETS</b>	

## STRUCTURAL DRAWINGS

S100	GENERAL STRUCTURAL NOTES
S200	FRAMING PLAN & SCHEDULE
S210	FRAMING PLAN & SCHEDULE
S300	SECTION - 6X
S400	FOUNDATION & ANCHORAGE DETAILS
S500	STEEL DETAILS
<b>6 SHEETS</b>	

**TOTAL 20 SHEETS**

SYSTEM HOST



1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER



**FOREFRONT  
POWER**

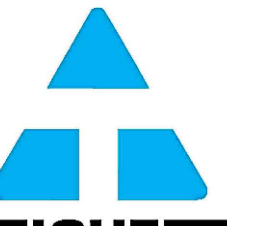
100 Montgomery Street, #1400  
San Francisco, CA 94104  
855-204-5083

ELECTRICAL CONSTRUCTORS AND ENGINEERS



1902 Channel Drive  
West Sacramento, CA 95691  
916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT



**TEICHERT  
SOLAR**

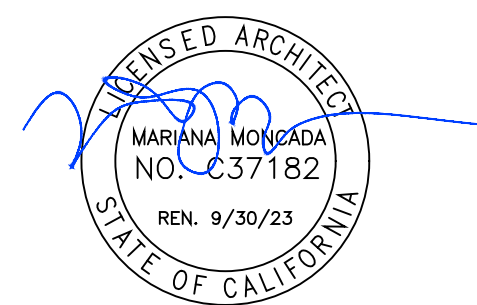
10620 Treena Street, Ste. 140  
San Diego, CA 92131  
562-283-2970

ARCHITECT OF RECORD

M M P V d e s i g n

Mariana Moncada, Architect  
718 West Arbor Drive  
San Diego, CA 92103  
619.632.2883

ARCHITECT / ENGINEER OF RECORD



PROJECT

**BAKERSFIELD CITY  
SCHOOL DISTRICT**

BUS YARD  
1504 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE
	PLAN REVISIONS	06.28.23

DATE:

06.28.23

SHEET TITLE

**TITLE SHEET**

SHEET NO.:

**BY-A0.0**



**NEW PHOTOVOLTAIC ARRAY CODE ANALYSIS**

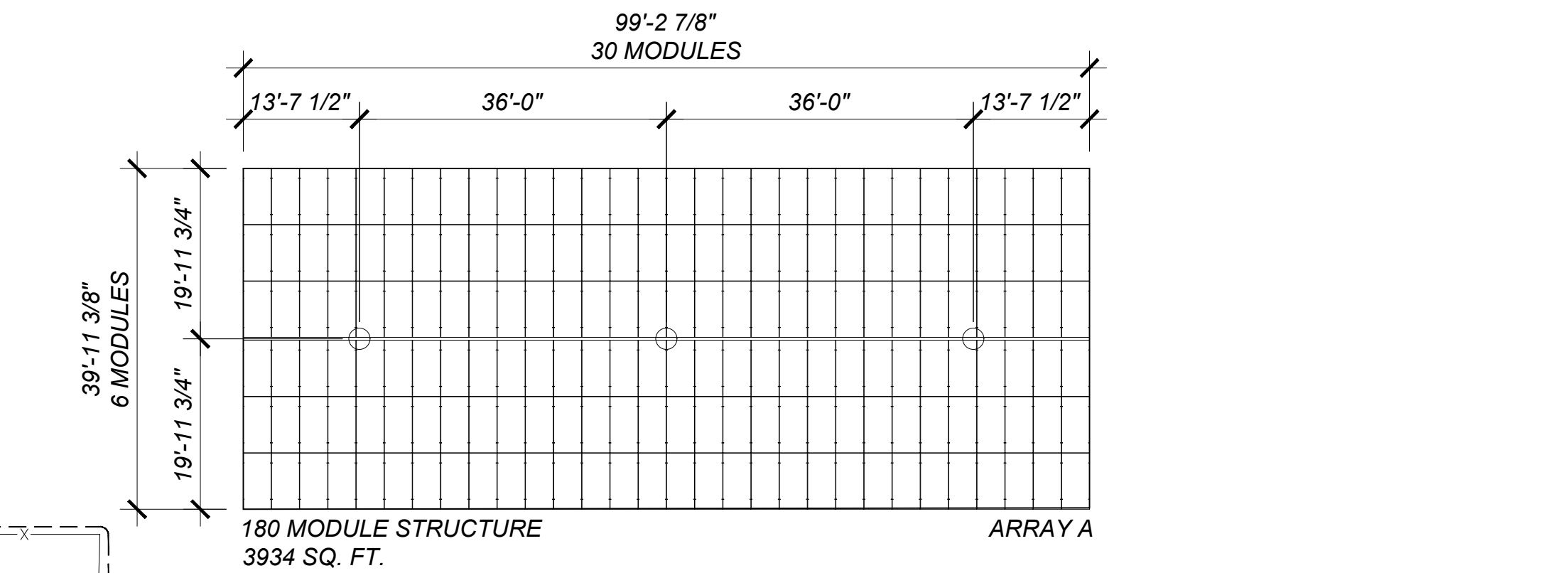
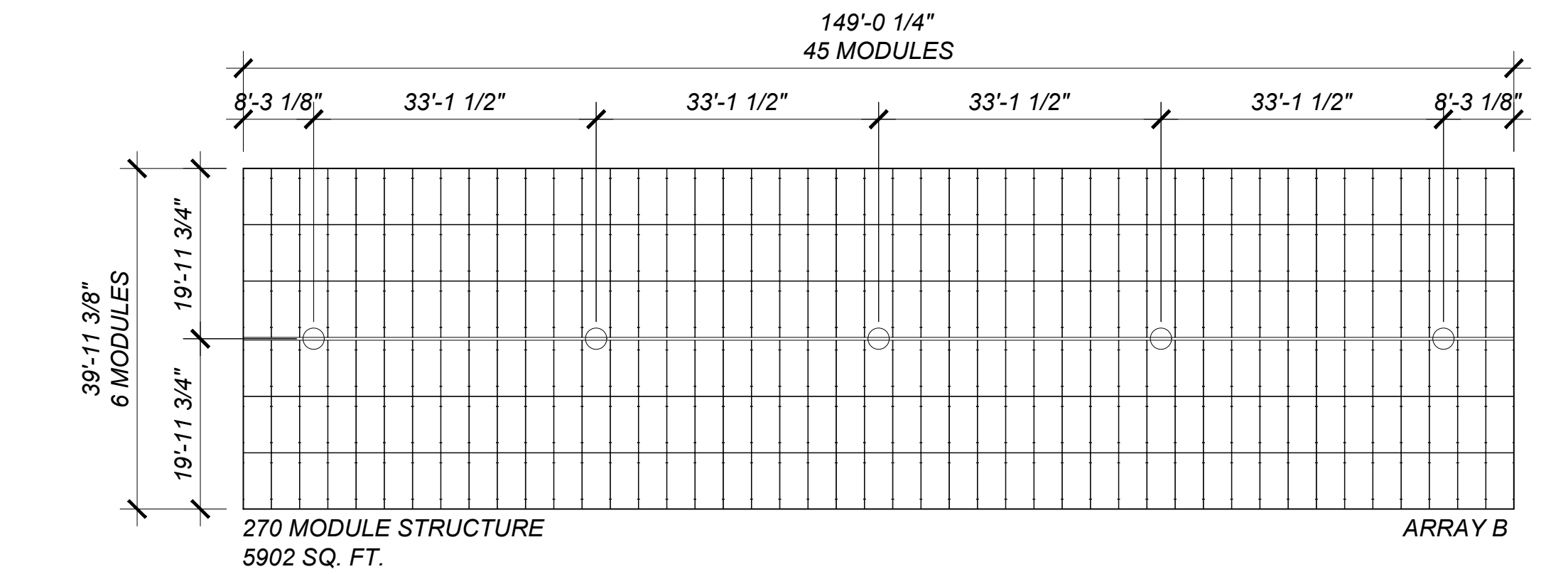
SYSTEM DESCRIPTION: Module Type Longi LR6-72HPH (2004MM X 996MM X 35MM) 23 kg

Array Name	Array	Total Modules	kW DC	No. of Cols	Minimum Clear Height	Azimuth	Tilt	Occupancy	Const. Type	Area	Allowable Area			
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TOTAL AREA ARRAY 'A':										5,801 SF	UNLIMITED			
B	6 x 30	180	67.50	3	15'-0"	271°	7°	S-2 NS	II-B	3,867 SF	-			
TOTAL AREA ARRAY 'B':										3,867 SF	UNLIMITED			
TOTALS:										450	168.75	8	TOTAL PROJECT AREA: 9,668 SF UNLIMITED	

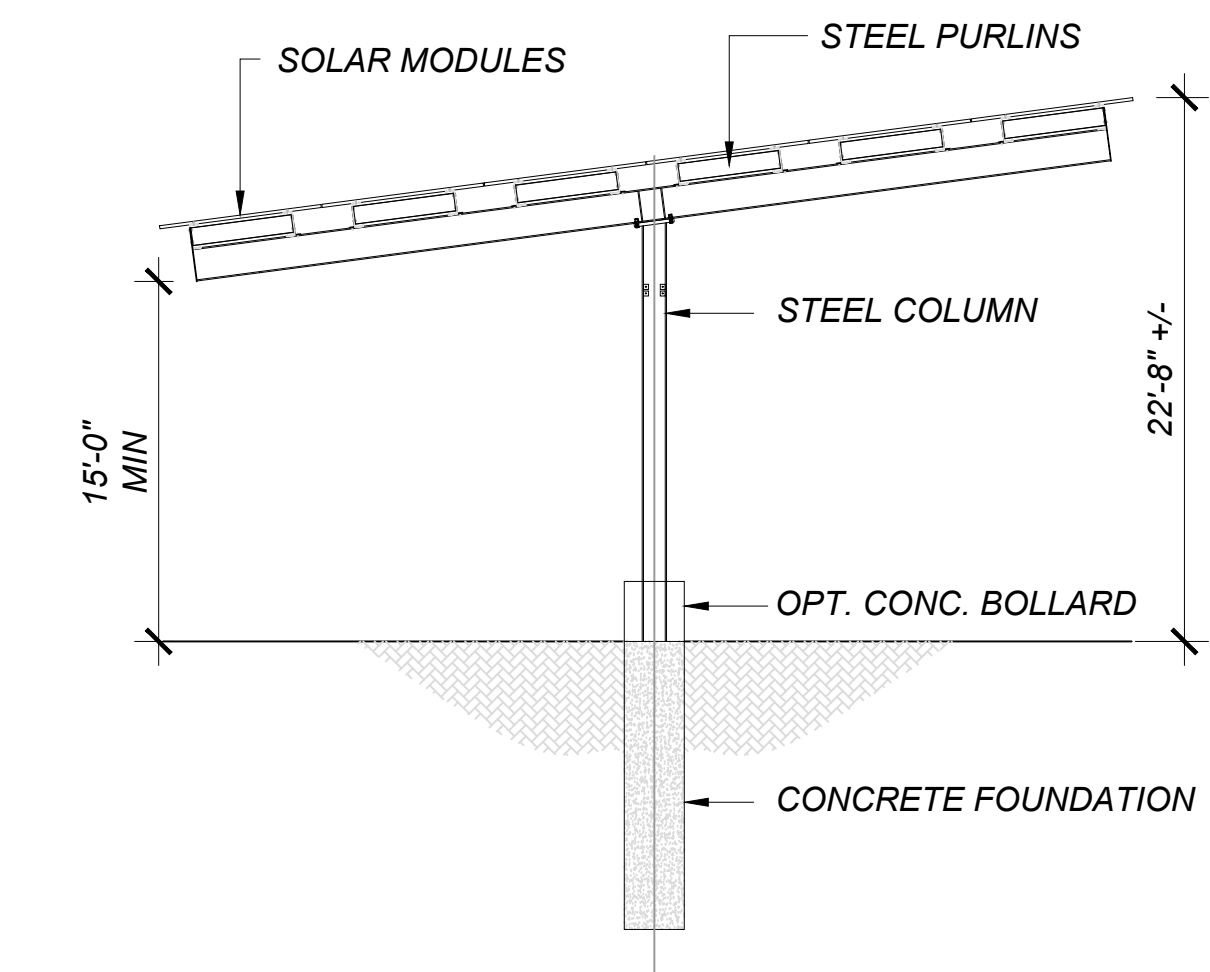
PER CBC 405.5.5 AREA AND HEIGHT INCREASES: OPEN PARKING GARAGES OF TYPE II CONSTRUCTION WITH ALL SIDES OPEN, SHALL BE UNLIMITED IN ALLOWABLE AREA WHERE THE BUILDING HEIGHT DOES NOT EXCEED 75'.

**SHEET NOTES**

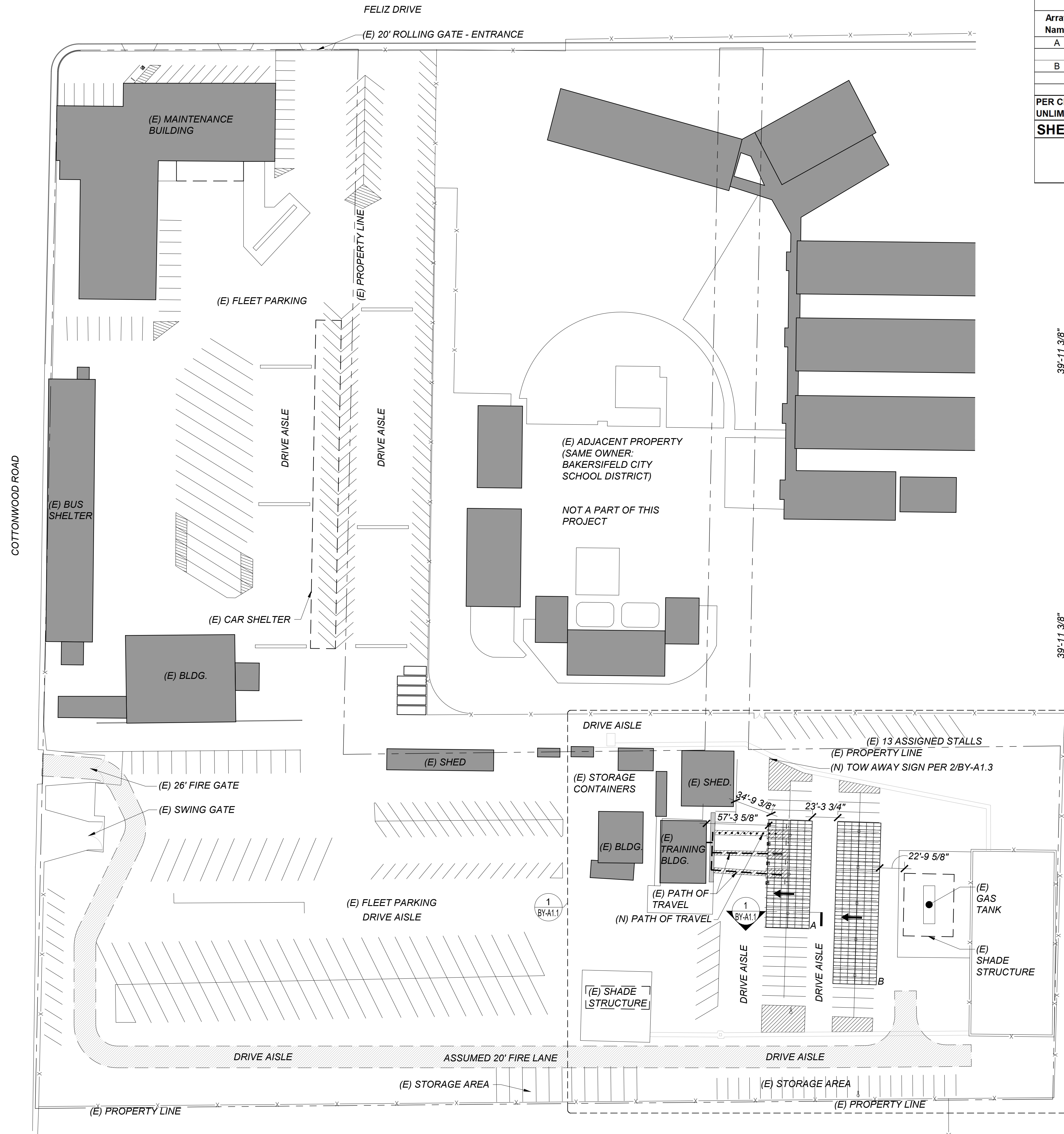
- SEE SHEET A1.0 FOR ARRAY DIMENSIONS
- SEE SHEET A1.2 FOR ACCESSIBILITY PLAN
- SEE ELECTRICAL SITE PLAN FOR POC INFORMATION AND LOCATION
- ARROWS ON PLAN POINT TO LOW SIDE OF CANOPY



**2 ARRAY DIMENSIONS**  
Scale: 1/8"=1'-0"



**3 ARRAY SECTION**  
Scale: 1/16"=1'-0"



**1 SITE PLAN & FIRE ACCESS PLAN**  
Scale: 1" = 50' (FOR 24X36 SHEETS)

SYSTEM HOST



1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER



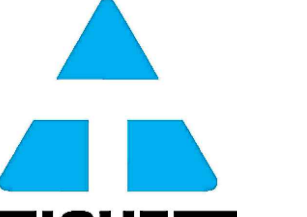
100 Montgomery Street, #1400  
San Francisco, CA 94104  
855-204-5083

ELECTRICAL CONSTRUCTORS AND ENGINEERS



1902 Channel Drive  
West Sacramento, CA 95691  
916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT



10620 Treena Street, Ste. 140  
San Diego, CA 92131  
562-283-2970

ARCHITECT OF RECORD

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619.632.2883

ARCHITECT / ENGINEER OF RECORD



PROJECT

**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
1504 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE
	PLAN REVISIONS	06.28.23

DATE: 06.28.23

SHEET TITLE

**SITE PLAN & FIRE ACCESS PLAN**

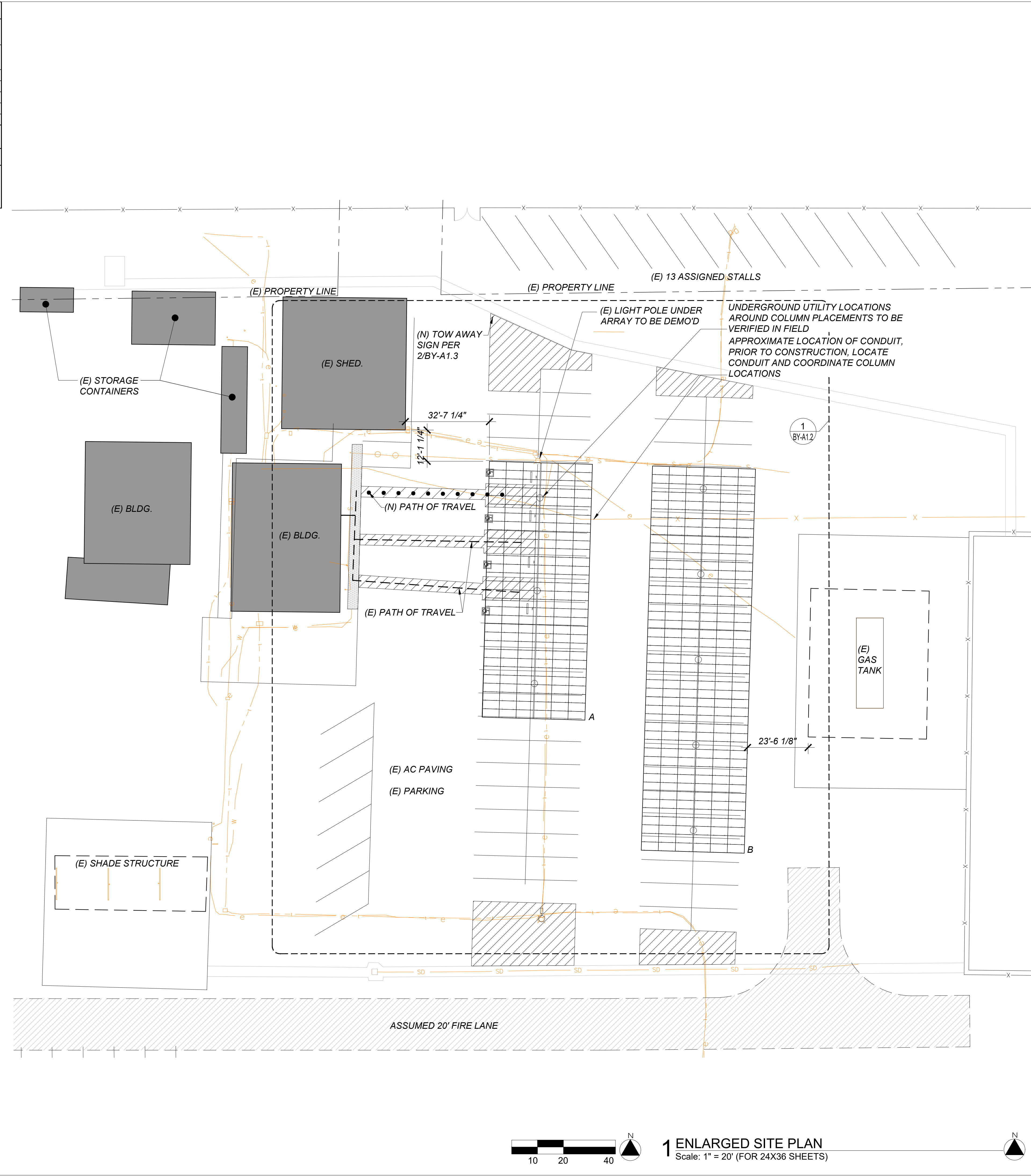
SHEET NO.:

**BY-A1.0**



NEW PHOTOVOLTAIC ARRAY CODE ANALYSIS														
SYSTEM DESCRIPTION: Module Type Longi LR6-72HPH (2004MM X 996MM X 35MM) 23 kg														
Array Name	Array	Total Modules	kW DC	No. of Cols	Minimum Clear Height	Azimuth	Tilt	Occupancy	Const. Type	Area	Allowable Area			
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TOTAL AREA ARRAY 'A':										5,801 SF	UNLIMITED			
B	6 x 30	180	67.50	3	15'-0"	271 °	7 °	S-2 NS	II-B	3,867 SF	-			
TOTAL AREA ARRAY 'B':										3,867 SF	UNLIMITED			
TOTALS:										450	168.75	8	9,668 SF	UNLIMITED
PER CBC 405.5.5 AREA AND HEIGHT INCREASES: OPEN PARKING GARAGES OF TYPE II CONSTRUCTION WITH ALL SIDES OPEN, SHALL BE UNLIMITED IN ALLOWABLE AREA WHERE THE BUILDING HEIGHT DOES NOT EXCEED 75'.														
SHEET NOTES														
1. SEE SHEET A1.0 FOR ARRAY DIMENSIONS														
2. SEE SHEET A1.2 FOR ACCESSIBILITY PLAN														
3. SEE ELECTRICAL SITE PLAN FOR POC INFORMATION AND LOCATION														
4. ARROWS ON PLAN POINT TO LOW SIDE OF CANOPY														

PARKING ANALYSIS							
LOT	TOTAL STALLS	REQ'D ACCESSIBLE STALLS	PROVIDED ACCESSIBLE STALLS	COVERED STANDARD STALLS	RATIO: COVERED TO UNCOVERED	REQ'D COVERED ACCESSIBLE STALLS	PROVIDED COVERED ACCESSIBLE STALLS
1	90	4	4	49	54%	3	4



**1 ENLARGED SITE PLAN**  
 Scale: 1" = 20' (FOR 24X36 SHEETS)

SYSTEM HOST

1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER

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

ELECTRICAL CONSTRUCTORS AND ENGINEERS

1902 Channel Drive  
West Sacramento, CA 95691  
916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT

10820 Treana Street, Ste. 140  
San Diego, CA 92131  
562-283-2970

ARCHITECT OF RECORD

M M P V d e s i g n

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718 West Arbor Drive  
San Diego, CA 92103  
619.632.2883

ARCHITECT / ENGINEER OF RECORD

PROJECT

**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
1504 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE
	PLAN REVISIONS	06.28.23

DATE: **06.28.23**

SHEET TITLE

**ENLARGED SITE PLAN**

SHEET NO.:

**BY-A1.1**



**ACCESSIBILITY NOTES:**

1. ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL OF 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 OF RECORD SHALL VERIFY THAT THERE ARE NO BARRIERS IN THE PATH OF TRAVEL.

2. SEE SITE PLAN FOR MORE INFORMATION ON PATH OF TRAVEL.

**ACCESSIBLE PARKING AND PATH OF TRAVEL REQUIREMENTS:**

1. (N) PATH OF TRAVEL INDICATED BY DOTS:



2. (E) PATH OF TRAVEL INDICATED BY DASHED LINE:



3. \*BOTH (E) AND (N) POT REQUIRE:

5% DIRECTIONAL SLOPE MAX.

2% CROSS SLOPE MAXIMUM

\*SEE #1 ACCESSIBILITY NOTES FOR ADDITIONAL REQUIREMENTS.

4. STALLS AND ACCESS AISLES REQUIRE:

2% DIRECTIONAL SLOPE

2% CROSS SLOPE MAX

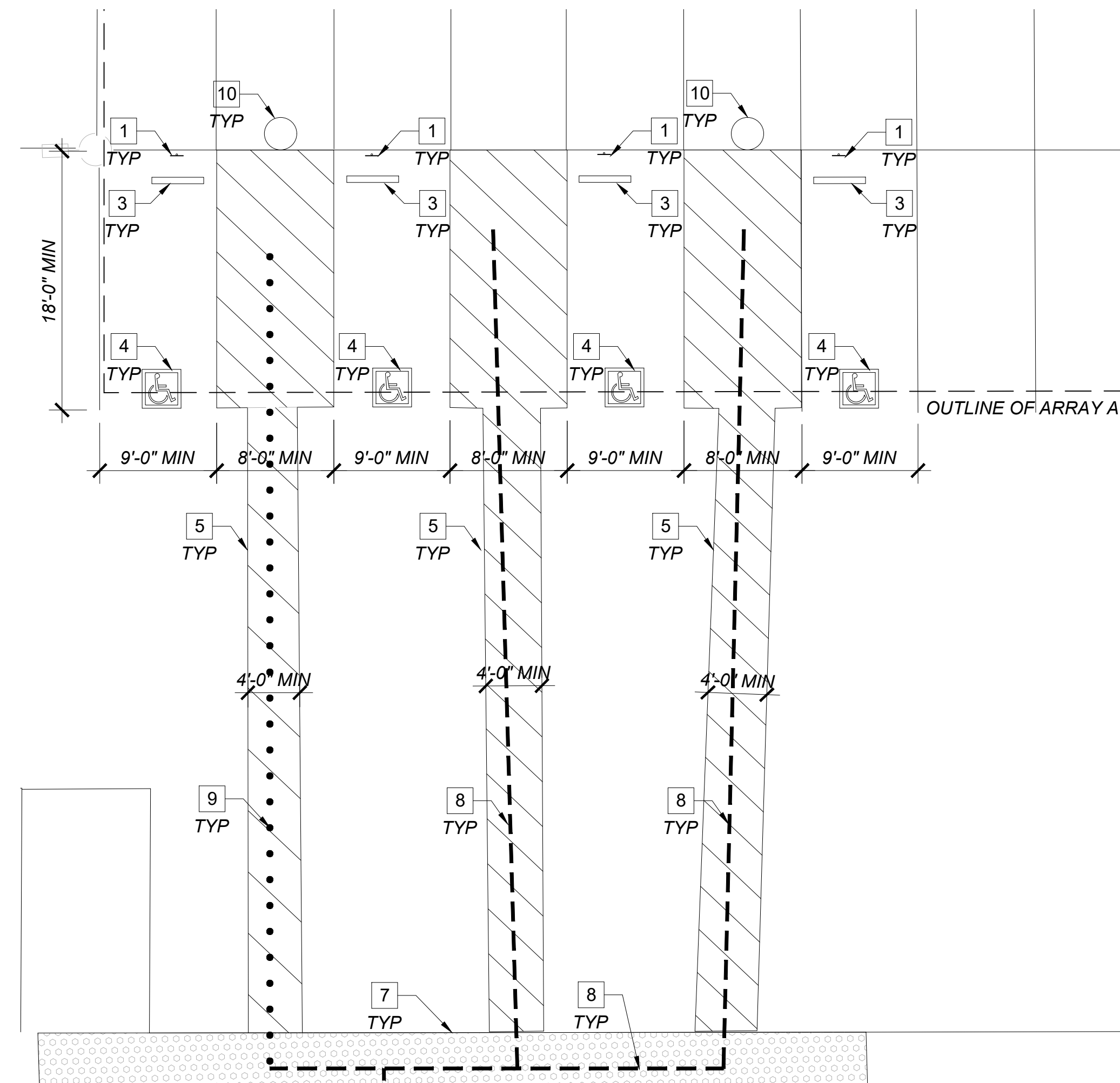
5. FOR STRIPING, COLOR, WHEEL STOP, AND ALL OTHER DIMENSIONS, REFER TO SHEET TH-A1.4

**KEYNOTES**

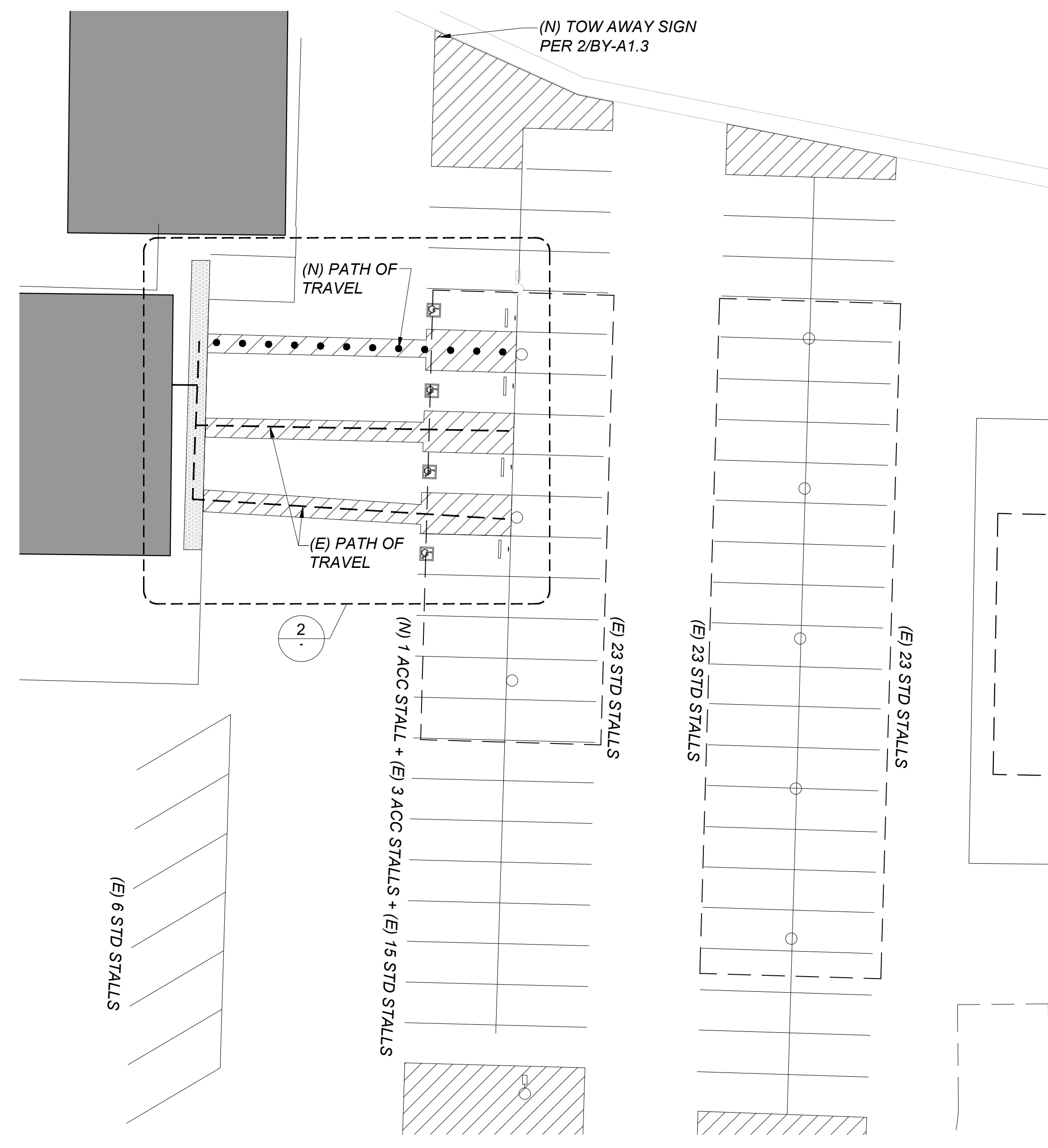
1	(E) OR (N) ACCESSIBLE PARKING SIGN PER 1/BY-A1.3
2	(E) OR (N) SITE ACCESS SIGN PER 2/BY-A1.3
3	(E) OR (N) WHEELSTOP PER 3/BY-A1.3
4	(E) OR (N) TYPICAL ACCESSIBLE PARKING STRIPING AND ISA SPECIFICATIONS PER 4/BY-A1.3
5	(E) OR (N) TYPICAL ACCESS AISLE STRIPING SPECIFICATIONS PER 5/BY-A1.3
6	(E) OR (N) ACCESSIBLE CURB RAMP PER 6/BY-A1.3
7	(E) OR (N) TRUNCATED DOMES PER 7/BY-A1.3
8	(E) PATH OF TRAVEL
9	(N) PATH OF TRAVEL
10	(N) STEEL COLUMN FOR SOLAR

**PARKING ANALYSIS**

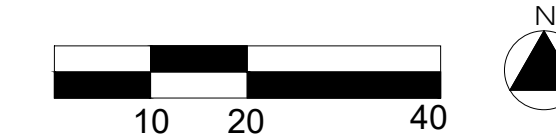
LOT	TOTAL STALLS	REQ'D ACCESSIBLE STALLS	PROVIDED ACCESSIBLE STALLS	COVERED STANDARD STALLS	RATIO: COVERED TO UNCOVERED	REQ'D COVERED ACCESSIBLE STALLS	PROVIDED COVERED ACCESSIBLE STALLS
1	90	4	4	49	54%	3	4



**2 ACCESSIBLE PARKING PLAN**  
Scale: 1/8" = 1' (FOR 24X36 SHEETS)



**1 PARKING PLAN**  
Scale: 1" = 20' (FOR 24X36 SHEETS)



SYSTEM HOST



1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER



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

ELECTRICAL CONSTRUCTORS AND ENGINEERS



1902 Channel Drive  
West Sacramento, CA 95691  
916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT



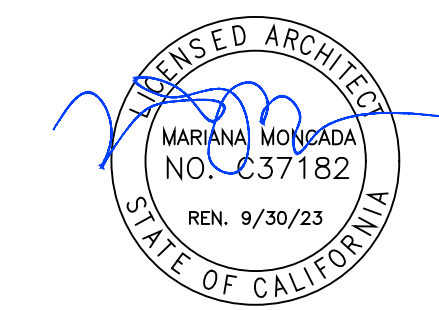
10820 Trezna Street, Ste. 140  
San Diego, CA 92131  
562-283-2970

ARCHITECT OF RECORD

M M P V d e s i g n

Mariana Moncada, Architect  
718 West Arbor Drive  
San Diego, CA 92103  
619.632.2883

ARCHITECT / ENGINEER OF RECORD



PROJECT  
**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
1504 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE
	PLAN REVISIONS	06.28.23

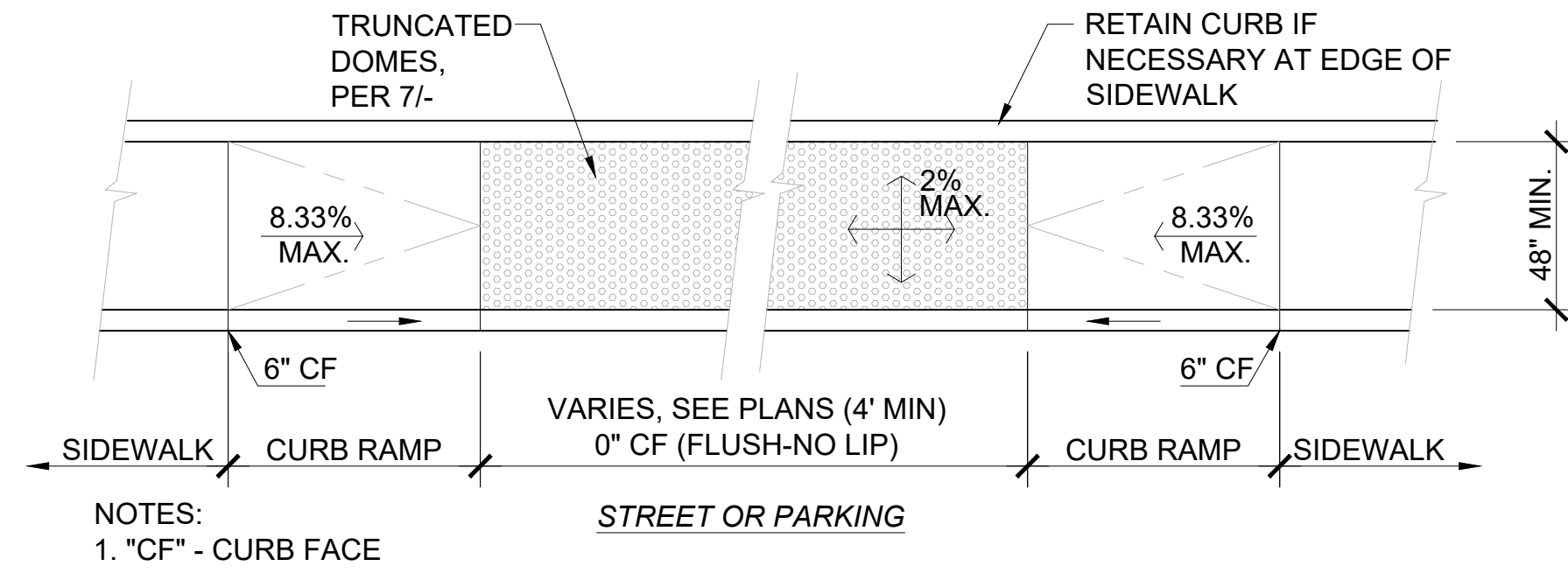
DATE: 06.28.23

SHEET TITLE  
**ENLARGED SITE PLANS**

SHEET NO.:

**BY-A1.2**

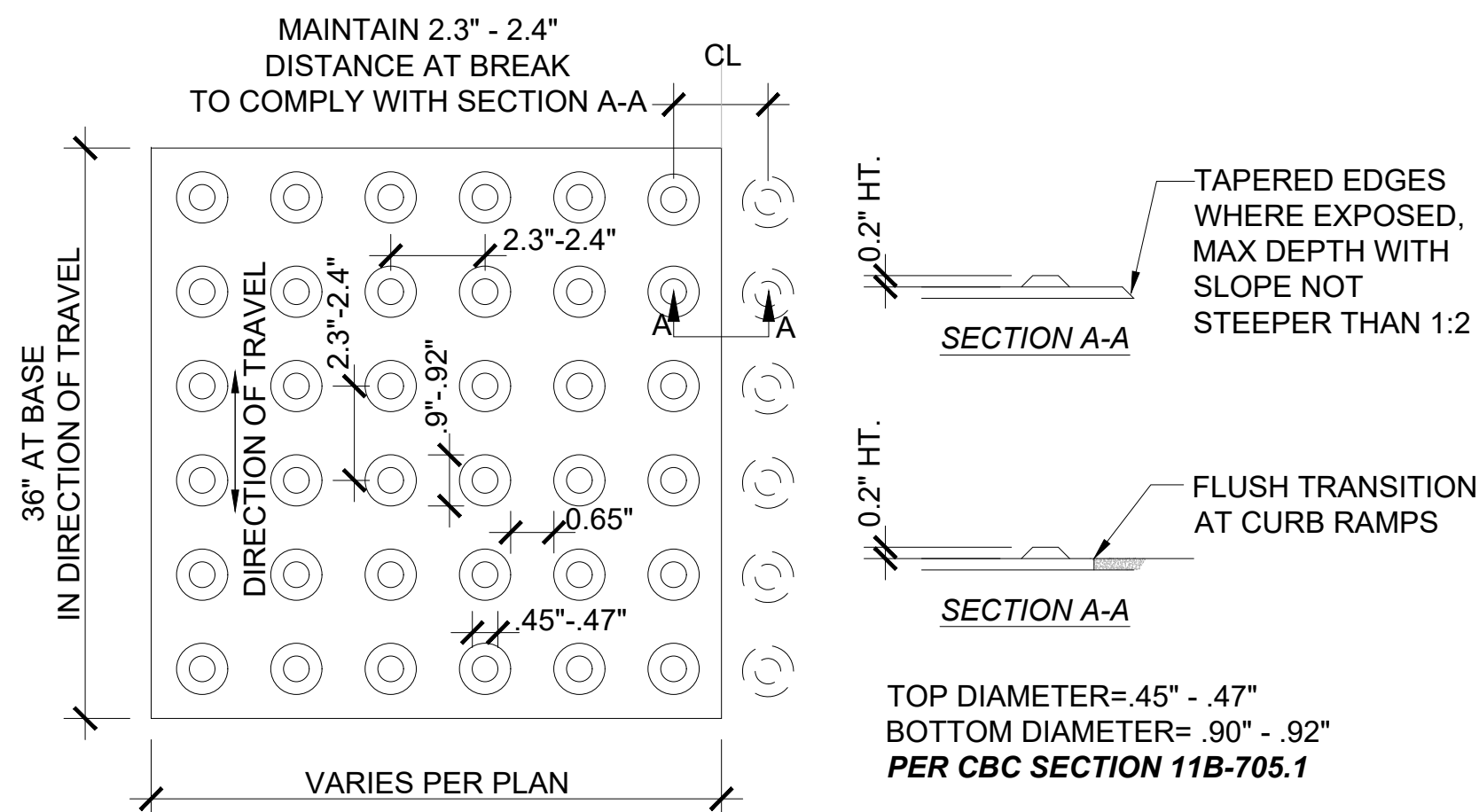




NOTES:  
1. "CF" - CURB FACE

### 6 ACCESSIBLE CURB RAMP

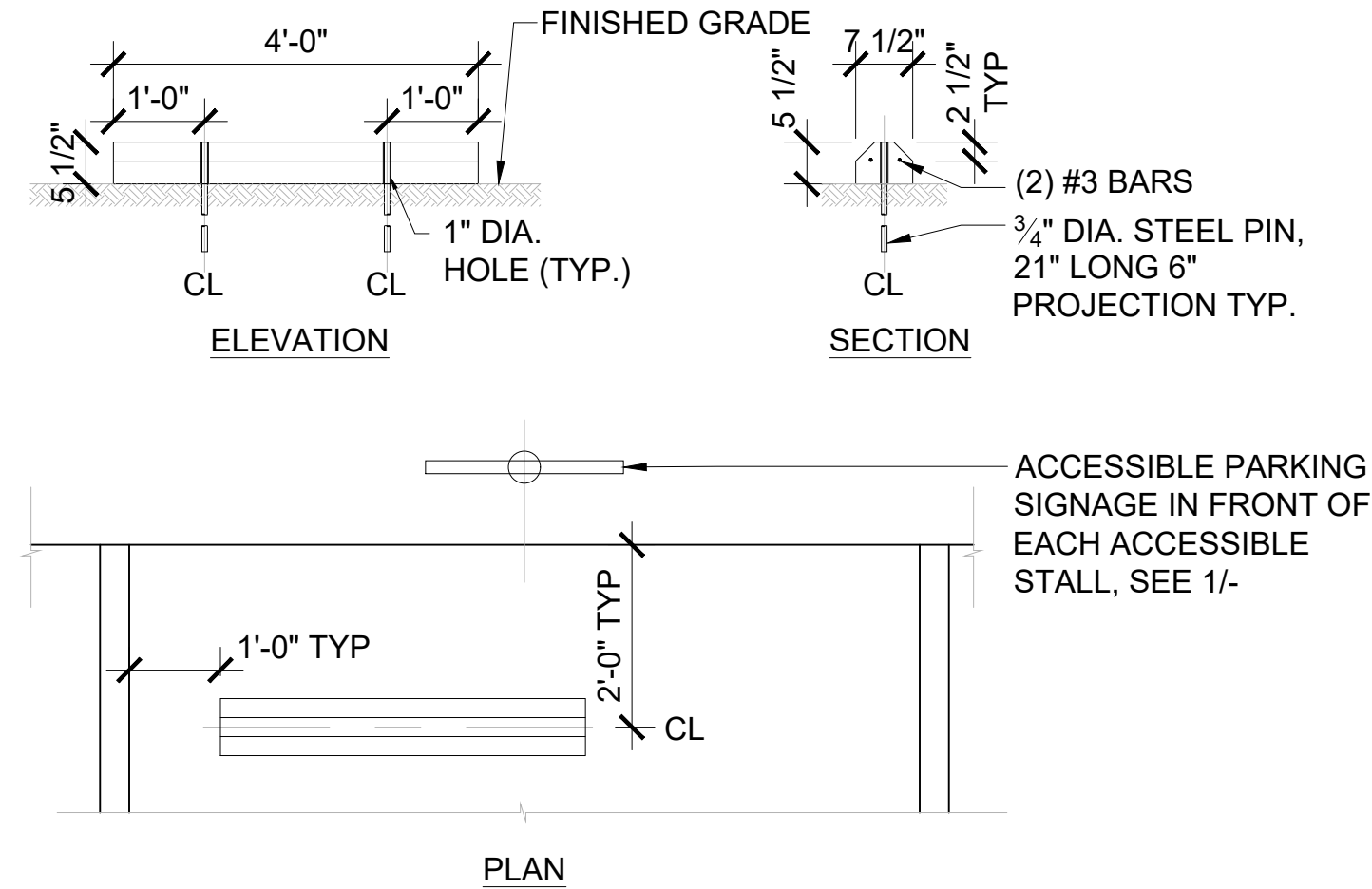
Scale: 1/4" = 1'



NOTES:  
1. YELLOW COLOR IS REQUIRED FOR NEW INSTALLATIONS YELLOW COLOR #33938 PER FED. STD. 595C

### 7 TRUNCATED DOMES

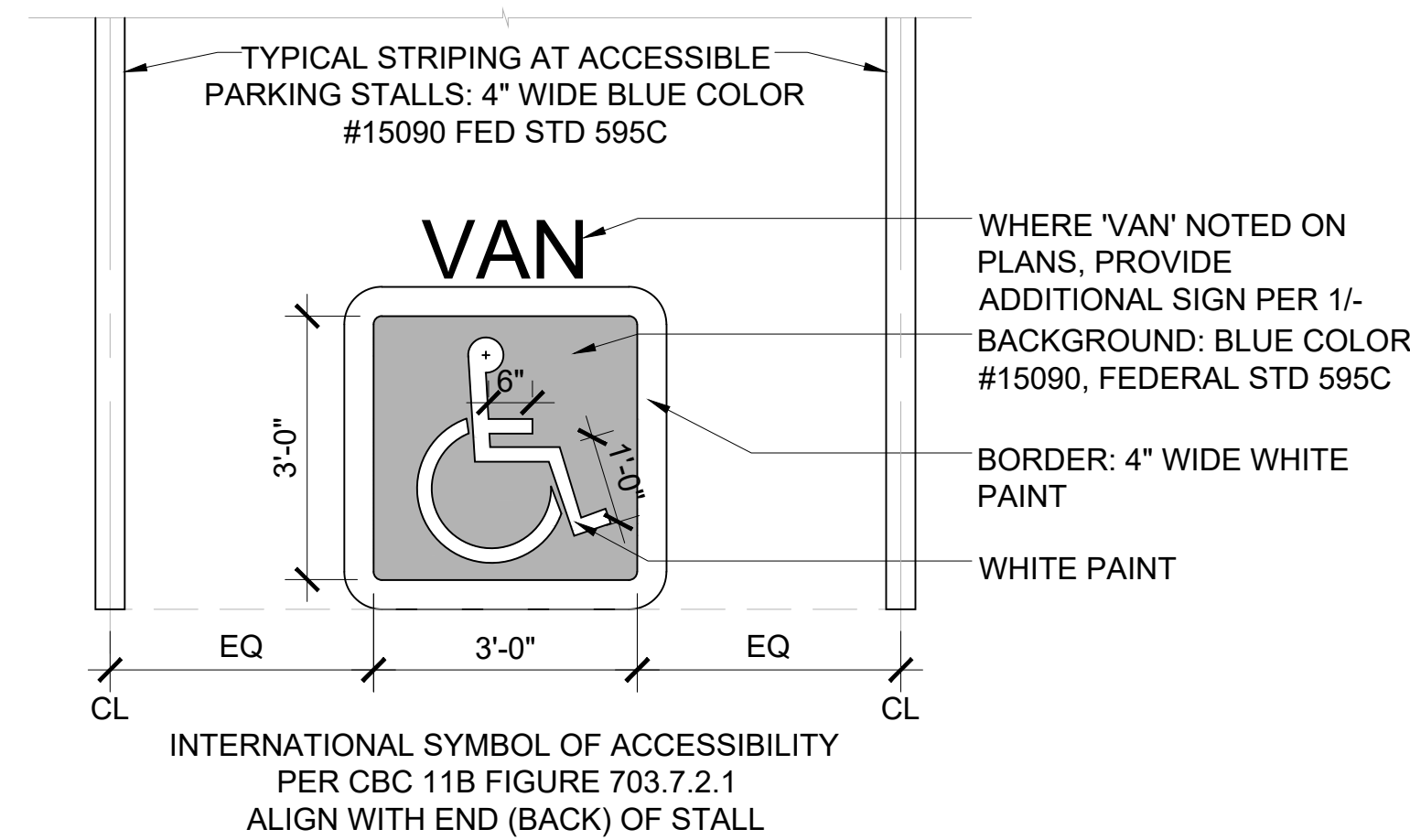
Scale: 1" = 1'



NOTES:  
1. PREFABRICATED P.C. CONCRETE - Fc = 3,500 PSI

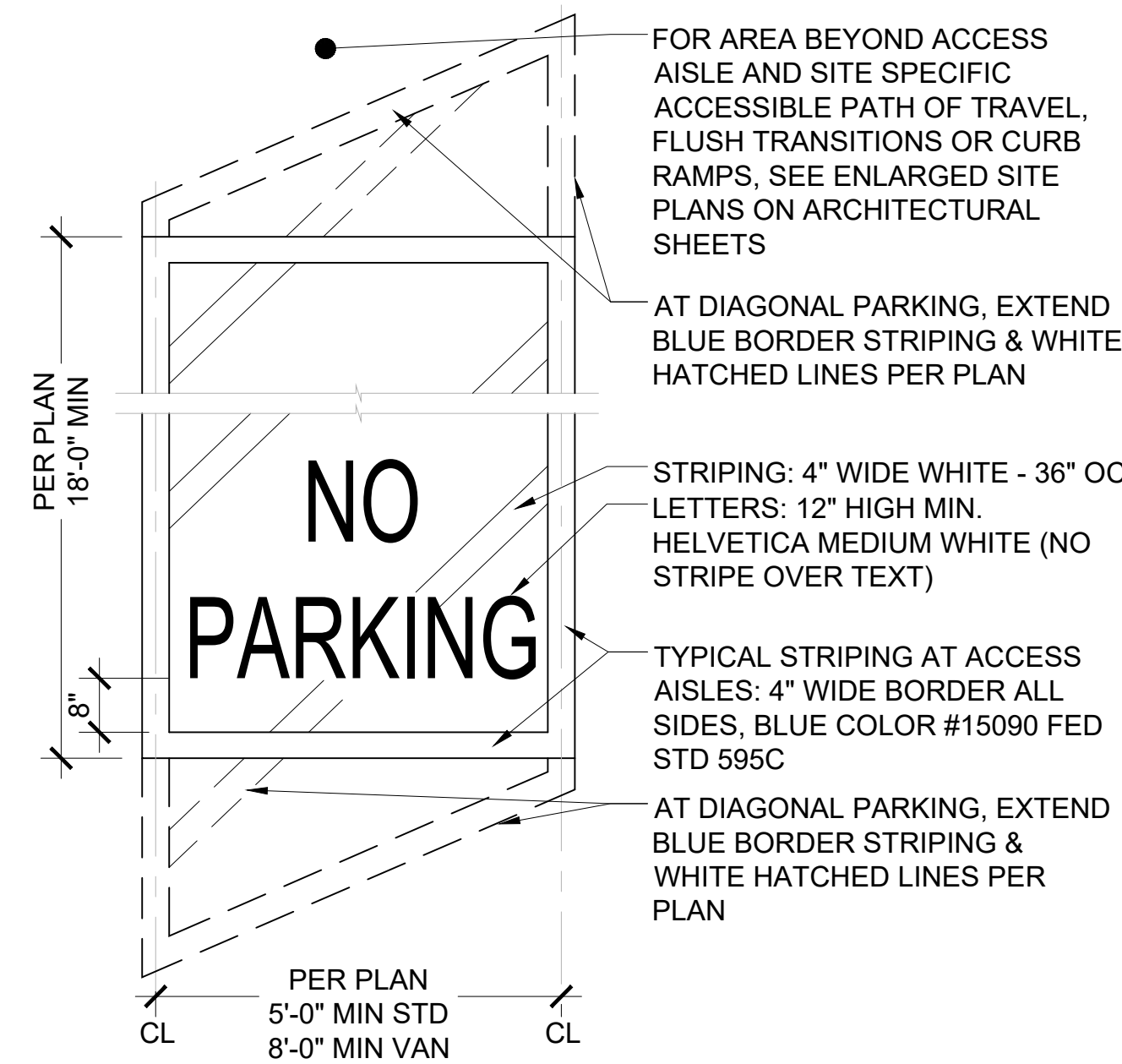
### 3 CONCRETE WHEEL STOP

Scale: 1/2" = 1'



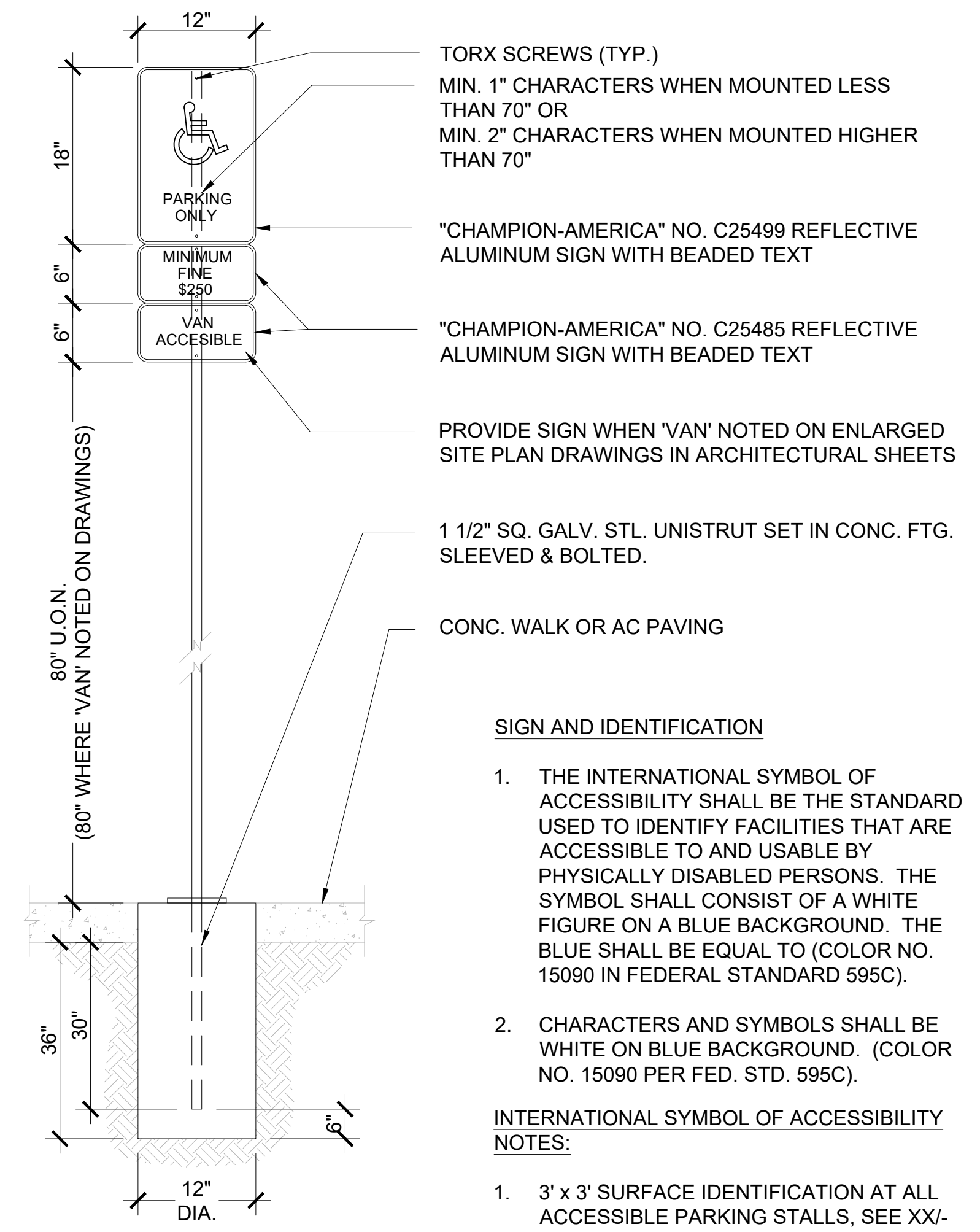
### 4 ACCESSIBLE PARKING STRIPING

Scale: 1/2" = 1'



### 5 ACCESSIBLE ACCESS AISLE STRIPING

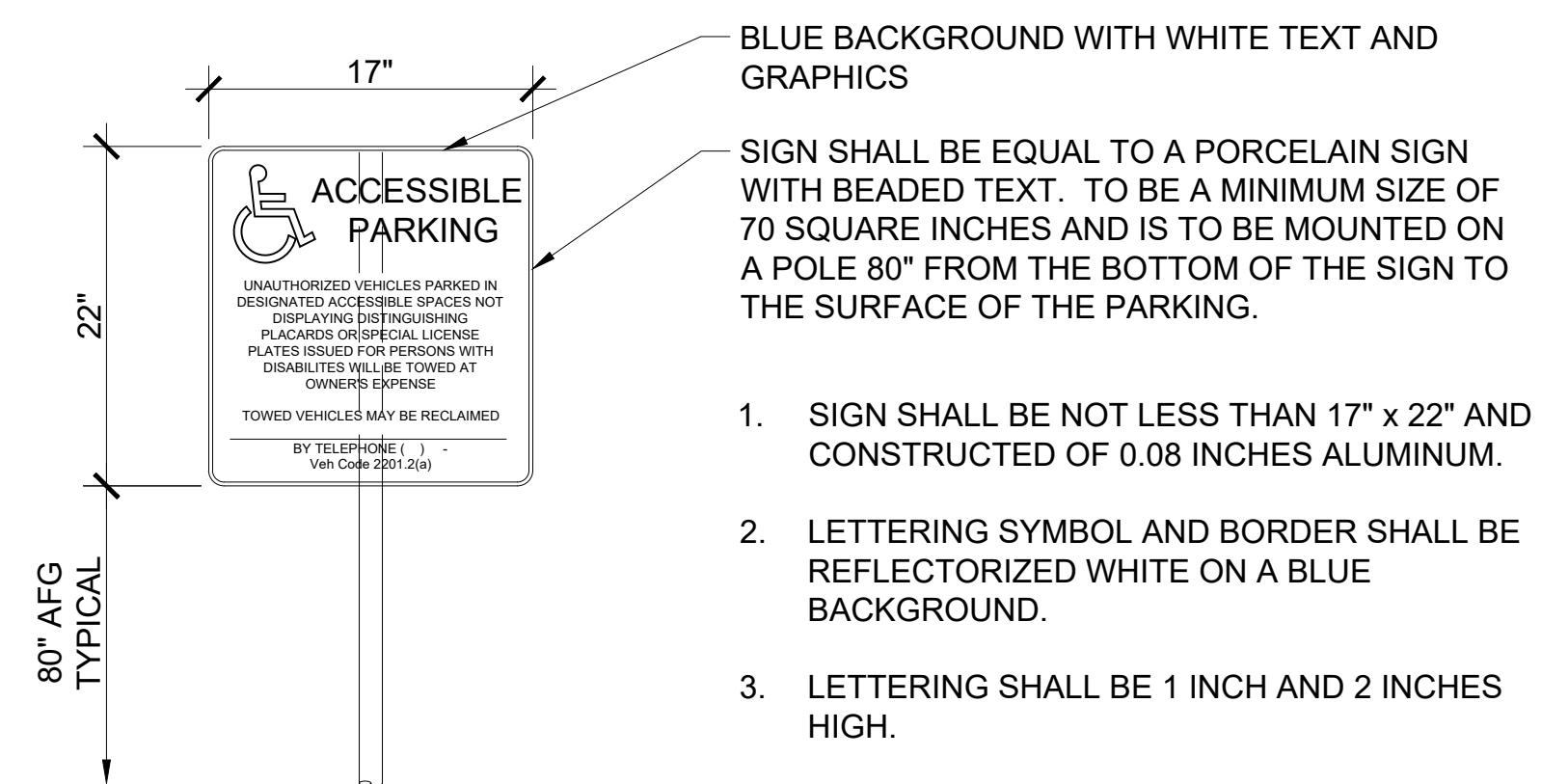
Scale: 1/2" = 1'



NOTES:  
1. FTG. CONCRETE - Fc = 2,500 PSI

### 1 ACCESSIBLE PARKING SIGN

Scale: 1" = 1'



- SIGN SHALL BE NOT LESS THAN 17" x 22" AND CONSTRUCTED OF 0.08 INCHES ALUMINUM.
- LETTERING SYMBOL AND BORDER SHALL BE REFLECTORIZED WHITE ON A BLUE BACKGROUND.
- LETTERING SHALL BE 1 INCH AND 2 INCHES HIGH.
- ATTACH SIGN WITH TWO PIECES OF 8C-7 DIE CAST ALUMINUM SIGN CLAMPS.
- CONTRACTOR SHALL PROVIDE TELEPHONE NUMBER AND LOCATION PRIOR TO PRINTING OF SIGN. THE RECLAIM INFORMATION SHALL BE A PERMANENT PART OF THE SIGN.

### 2 SITE ACCESSIBILITY TOW AWAY SIGN

Scale: 1" = 1'

SYSTEM HOST  
  
 1300 Baker Street  
 Bakersfield, CA 93305  
 661-631-4600

SYSTEM DEVELOPER  
  
 100 Montgomery Street, #1400  
 San Francisco, CA 94104  
 855-204-5083

ELECTRICAL CONSTRUCTORS AND ENGINEERS  
  
 1902 Channel Drive  
 West Sacramento, CA 95691  
 916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT  
  
 10620 Treena Street, Ste. 140  
 San Diego, CA 92131  
 562-283-2970

ARCHITECT OF RECORD  
 M M P V d e s i g n

Mariana Moncada, Architect  
 718 West Arbor Drive  
 San Diego, CA 92103  
 619.632.2883

ARCHITECT / ENGINEER OF RECORD

PROJECT  
**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
 1504 FELIZ DRIVE  
 BAKERSFIELD, CA 93307

NO.	REVISION	DATE
	PLAN REVISIONS	06.28.23

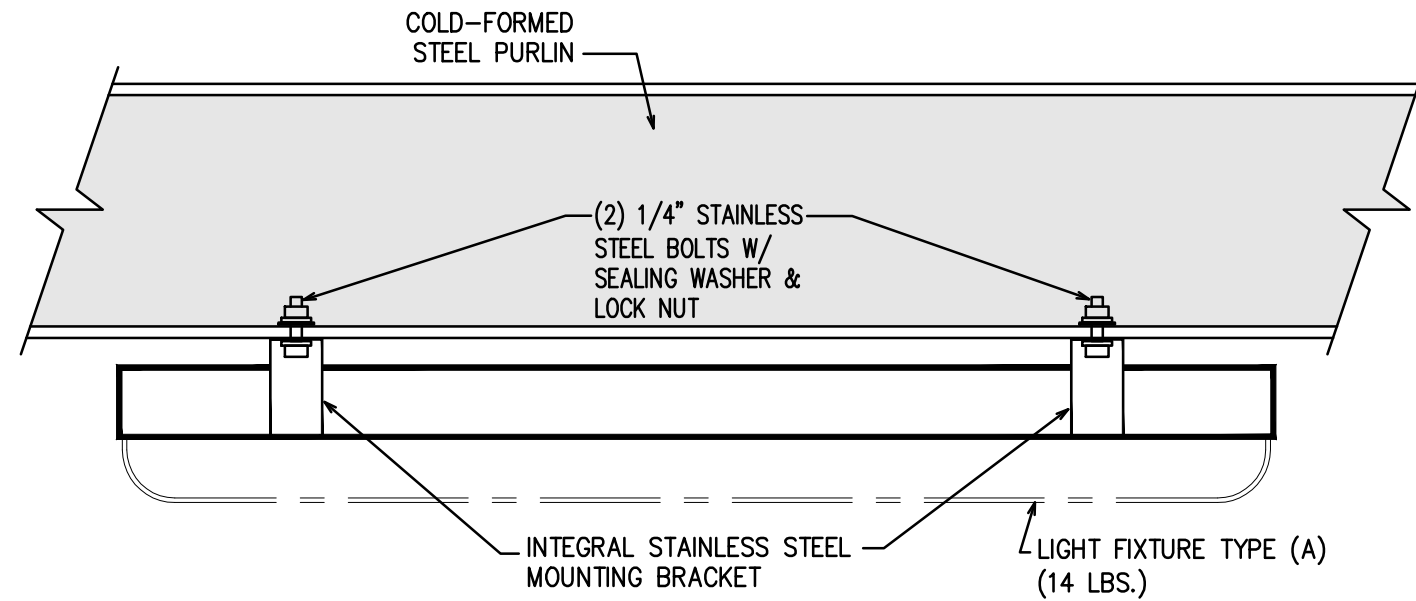
DATE:  
 06.28.23

SHEET TITLE  
**ACCESSIBLE PARKING STANDARDS**

SHEET NO.:

# BY-A1.3





NOTE: LIGHT FIXTURE GROUNDED AT FACTORY GROUND TERMINAL WITH BRANCH CIRCUIT GROUNDING CONDUCTOR.

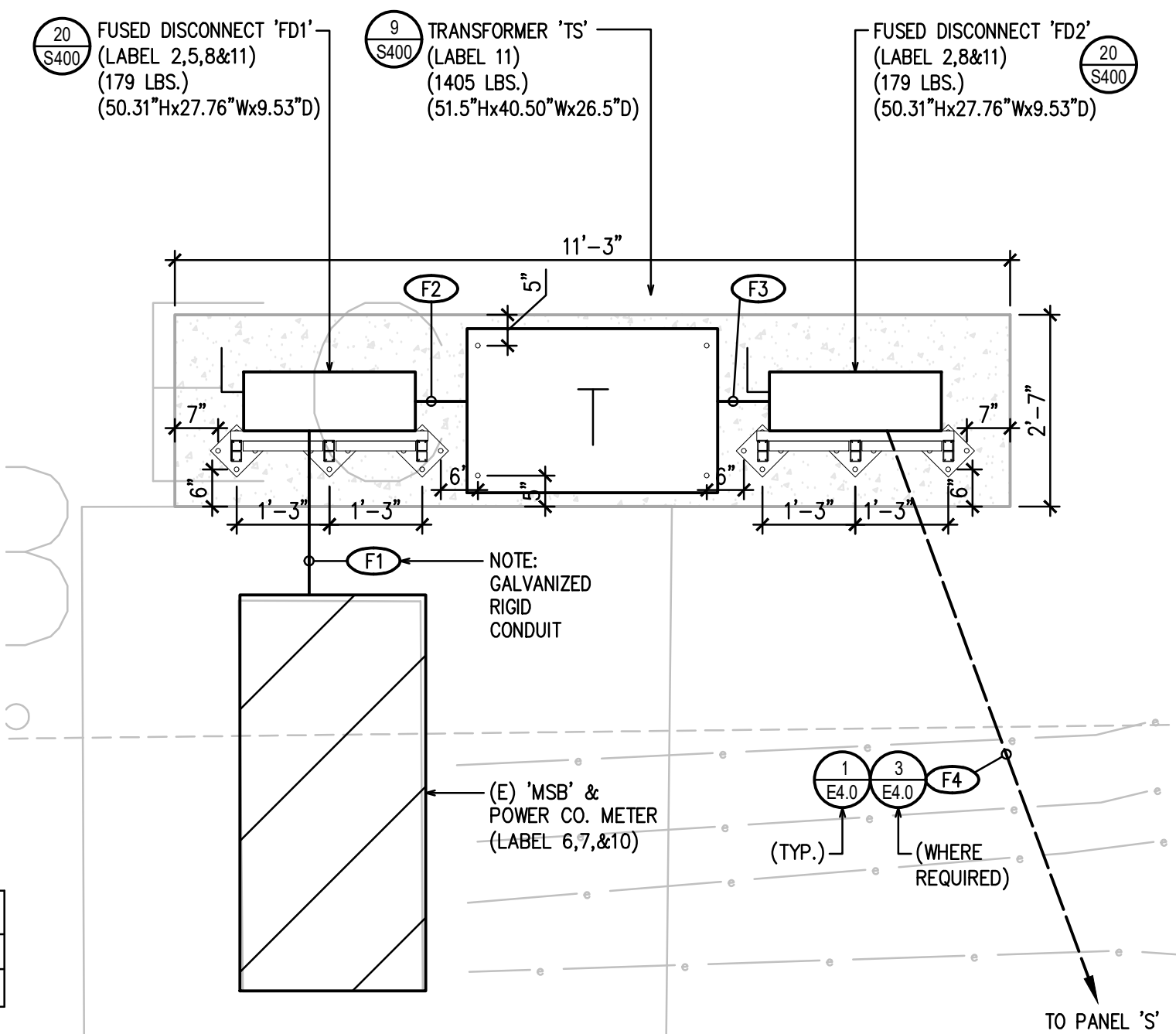
### LIGHT FIXTURE MOUNTING DETAIL 3

SCALE: NONE

### LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL NO.	SOURCE	WATTS	VOLT	MOUNTING
A	ILP	WTZ4-4L-U-50-RAFL-CORDW/6FT-BD50 (OR EQUAL)	LED	29	120-277	SURFACE, CARPORT STEEL

NOTE: PROVIDE (6) NEW TYPE (A) LIGHT FIXTURES & CONNECT TO EXISTING CONTROLLED EXTERIOR LIGHTING CIRCUIT(S).



### MAIN ELECTRICAL SERVICE PLAN

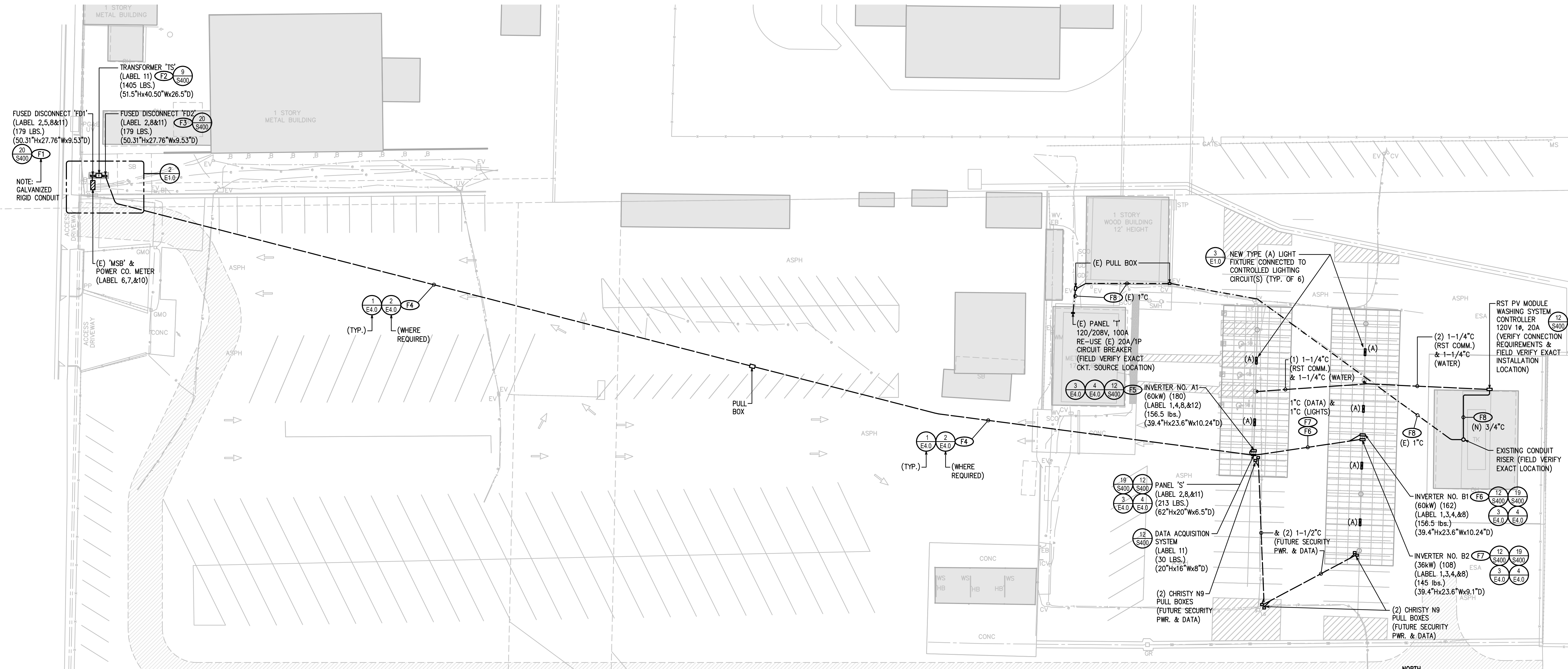
SCALE: 1/2" = 1'-0"

### ELECTRICAL SYMBOLS:

- CONDUIT OR CABLE RUN ABOVE GRADE
- - - NEW CONDUIT OR CABLE RUN UNDERGROUND
- · - · - EXISTING CONDUIT RUN UNDERGROUND TO REMAIN
- EXISTING TO BE REMOVED
- CONDUIT STUB OUT
- ← A-2 HOMERUN OF CONDUIT AND WIRING, CIRCUIT NO. 2 TO PANEL 'A'
- ▨ POWER EQUIPMENT AS NOTED
- INVERTER AS NOTED
- JUNCTION BOX
- ⊕ GROUND
- T TRANSFORMER
- ⊗ CIRCUIT BREAKER
- ⊘ DISCONNECT SWITCH AS NOTED
- ⊞ FUSE
- M METER
- ⊞ PARKING LOT LIGHT, POLE, & CONCRETE BASE
- ▭ LED LIGHT FIXTURE, SURFACE MOUNTED
- (E) EXISTING
- (N) NEW
- F ELECTRICAL FEEDER NO. CALLOUT, REFER TO FEEDER SCHEDULE ON SHEET E2.0

### GENERAL ELECTRICAL NOTES:

- ALL WORK AND MATERIAL SHALL CONFORM TO 2022 CBC, 2022 CEC ARTICLE 690 & OTHER APPLICABLE ARTICLES, CODES AND ORDINANCES. IT IS THE INTENTION OF THESE PLANS AND SPECIFICATIONS TO COVER ALL THINGS REQUIRED TO PROVIDE COMPLETE AND OPERATIVE SYSTEMS.
- ALL EQUIPMENT TO HAVE TESTING LABORATORY LABEL ATTACHED.
- CONDUCTORS SHALL BE THWN COPPER (CU) UNLESS INDICATED AS ALUMINUM (AL).
- ELECTRICAL ROUTING IS DIAGRAMMATIC ONLY. ACTUAL ROUTING & PHYSICAL CONDITION MAY VARY, CONTRACTOR TO DETERMINE ACTUAL ROUTING AND PROVIDE ALL RECONNECTIONS & ITEMS NECESSARY FOR COMPLETE & OPERATING SYSTEMS.
- ALL SOLAR ELECTRICAL EQUIPMENT TO BE UL 1741 LISTED, IEEE 1547 RATED, & APPROVED BY THE CALIFORNIA ENERGY COMMISSION.
- ELECTRICAL EQUIPMENT (BRANDS "OR EQUAL" NOTE REQUIRED). OR EQUAL MATERIALS NEED TO BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE. LAYOUT LOCATIONS ARE REPRESENTATIVE AND ARE SUBJECT TO CHANGE WITH APPROVAL OF OWNER AND PERMITTING AUTHORITY, ETC.
- PROVIDE "WARNING: PHOTOVOLTAIC POWER SOURCE" AFFIXED LABEL ON PV CONDUIT RUNS, BOXES, & CONDUIT BODIES INSIDE BUILDING.
- STRING 1000V DC UL4703 (PV-WIRE) CABLING SHALL BE SUPPORTED TO MODULE & ARRAY STRUCTURE WITH WILEY ACME CABLE CLIPS.
- ALL INVERTER DC STRING FUSES ARE 20 AMP UNLESS NOTED OTHERWISE.
- HORIZONTAL DIRECTIONAL BORING OR TRENCHING FOR UNDERGROUND CONDUIT RUNS.
- WHERE FEEDER CONDUCTORS ARE OVERSIZED FOR VOLTAGE DROP, PROVIDE CONDUCTOR REDUCING MEANS TO ACCOMMODATE INVERTER, PANEL, & DISCONNECT LUGS, SIZED PER CEC AMPACITY REQUIREMENTS. THE MINIMUM CONDUCTOR SIZE, FOR CIRCUIT BREAKERS LISTED FOR 75°C TERMINATING, SHALL BE: 60kW INVERTER #1, #6 GND. (AL) 36kW INVERTER #4, #6 GND. (AL)
- REFER TO SHEETS E5.0 & E5.1 FOR REQUIRED SOLAR EQUIPMENT WARNING LABELING. REFER TO SHEET E1.0 FOR SOLAR EQUIPMENT LABELING LOCATIONS.
- WHERE EXPOSED OUTDOORS, GALVANIZED RIGID STEEL CONDUIT TO BE INSTALLED BETWEEN LINE SIDE TAP & VERIFIABLE FUSED AC DISCONNECT.



### ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

SYSTEM HOST

1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER

100 Montgomery Street #725  
San Francisco, CA 94104  
855-204-5083

ELECTRICAL CONSTRUCTORS AND ENGINEERS

1902 Channel Drive  
West Sacramento, CA 95691  
916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT

10620 Treena Street, Ste. 140  
San Diego, CA 92131  
602-285-2970

ARCHITECT

M M P V design n

718 West Arbor Drive  
San Diego, CA 92103  
619.632.2883

ARCHITECT / ENGINEER OF RECORD

PROJECT

**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
1501 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE
1	PLAN REVIEW	06.28.23

DATE: 03.21.23

### PV SYSTEM ELECTRICAL SITE PLAN

SHEET NO.:

# E1.0



**STRING DC WIRE SIZE CALCULATION**  
 $I_{sc} = 9.87 \times 1.56 = 15.40A$   
 #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)(c)) = 0.45  
 $40A \times 0.45 = 18.0A > 15.40A$  ALLOWABLE  
 #10 AWG CONDUCTOR IS ALLOWABLE

**36 KW INVERTER AC Wire & OCPD CALCULATION:**  
 INVERTER:  
 AC Output Power: 43.5A AC Output Current Max  
 $43.5A \times 1.25 = 54.38A$   
 60 AMP OCPD PER 36KW 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

$65A \times 1.0 = 65A = 65A$  TEMP. ADJUSTED  
 #4 CURRENT = 65A @ 75°C PER CEC 110.14(C)  
 #4 AWG CONDUCTOR IS MINIMUM ALLOWABLE (AL)

**60 KW INVERTER AC Wire & OCPD CALCULATION:**  
 INVERTER:  
 AC Output Power: 72.2A AC Output Current Max  
 $72.2A \times 1.25 = 90.25A$   
 100 AMP OCPD PER 60KW INVERTER OUTPUT

#1 AWG THWN-2 = 100A (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

$100A \times 1.0 = 100A = 100A$  TEMP. ADJUSTED  
 #1 CURRENT = 100A @ 75°C PER CEC 110.14(C)  
 #1 AWG CONDUCTOR IS MINIMUM ALLOWABLE (AL)

**MAX/COLD TEMP PV VOLTAGE CALCULATION:**  
 LONGI SOLAR LR6-72HPH-375M  
 $V_{oc} = 48.8V$   
 Temp. Coefficient:  $-0.286\%/^{\circ}C$   
 Low Temp:  $-2.0^{\circ}C (27.0^{\circ}F)$   
 # Modules in Series: 18

$(48.8V) \times (0.00286 V/^{\circ}C) \times (27.0^{\circ}) = 3.77V$   
 $48.8V_{oc} + 3.77V = 52.57V_{oc(corr)}$   
 $(52.57V) \times (18) = 946.2VDC$  max (this is < 1000 VDC)

\* = Per ASHRAE table

CEC AC kW CALCULATION					
Inverter Model Number	PV Module Model Number	PV Module Count	PV Module PTC (Watts)	Inverter Efficiency (%)	CEC AC kW Rating
CPS SCA60KTL-DO/US [480V] [S11-JUN20]	LR6-72HPH-375M	342	352.9	98.5	118.881
CPS SCA36KTL-DO/US [480V] [S11-JUN20]	LR6-72HPH-375M	108	352.9	98.0	37.351
Total		450		Total	156.232

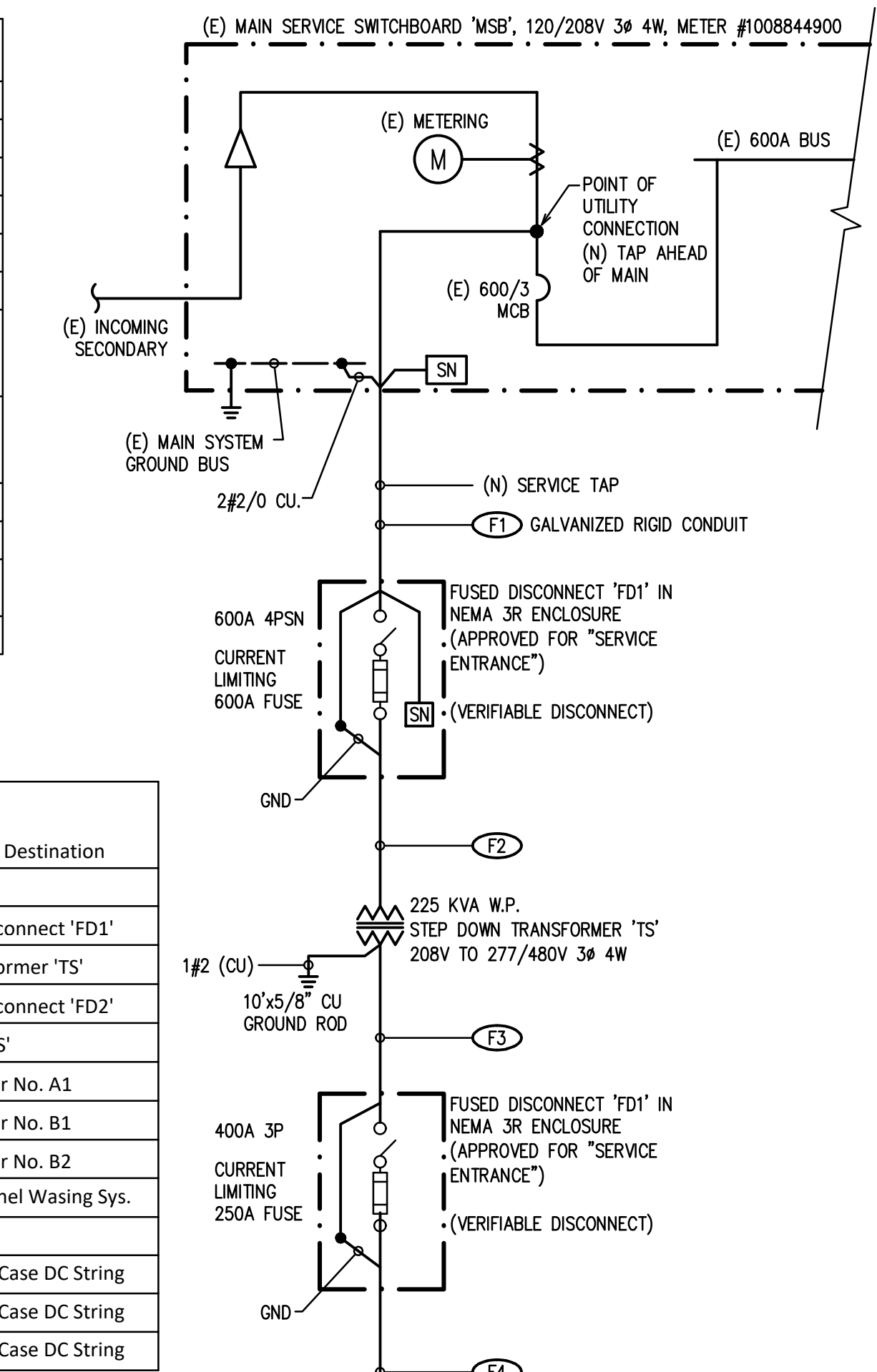
### 240V HEAVY DUTY AC VERIFIABLE DISCONNECT SCHEDULE

(WITH CLASS 'RK1 OR RK5' CURRENT LIMITING FUSING)

DESIGNATION	DISCONNECT SIZE	MANUFACTURER'S CAT NO.	AIC RATING
'FD1'	600A 3P+SN 240VAC	SQUARE D #H326NR	200,000 AIC

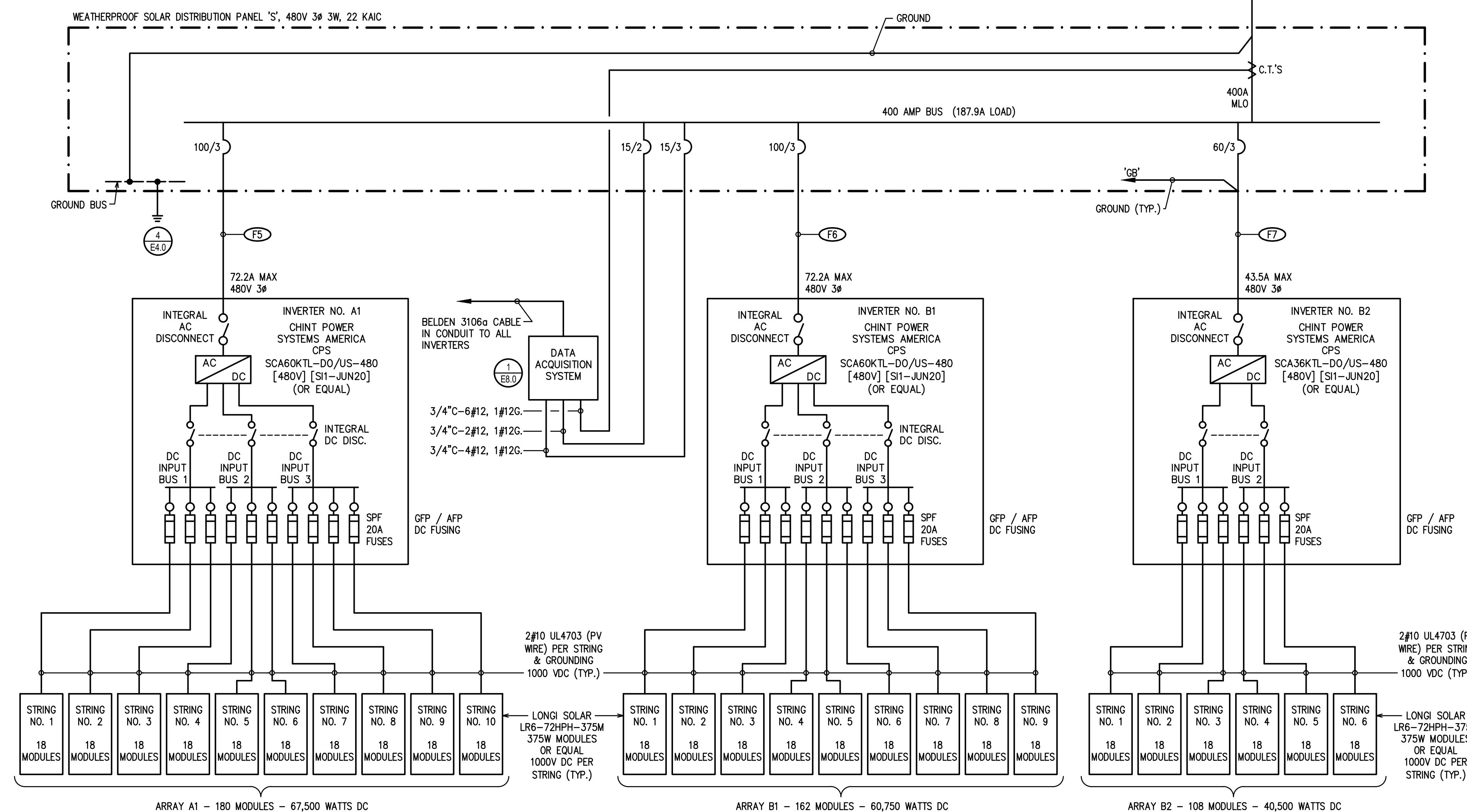
SYSTEM SUMMARY	
MODULE MODEL	LONGI SOLAR LR6-72HPH-375M
MODULE STC DC RATING	375W
TOTAL MODULE COUNT	450
TOTAL STC DC SYSTEM SIZE	168.75kW
TOTAL NOMINAL AC SYSTEM SIZE	156.00kW
TOTAL CEC-AC SYSTEM SIZE	156.232kW
INVERTER MODELS	(2) CHINT POWER SYSTEMS AMERICA CPS SCA60KTL-DO/US [480V] [S11-JUN20] (1) CHINT POWER SYSTEMS AMERICA CPS SCA36KTL-DO/US [480V] [S11-JUN20]
MODULE TILT	7°
ARRAY AZIMUTH	272°
POINT OF SERVICE FAULT CURRENT CONTRIBUTION	465 AMPS
POINT OF SERVICE RATING	65,000 AIC

NOTE: MODIFICATIONS TO LISTED EQUIPMENT SHALL BE EVALUATED, APPROVED, & LABELED TO UL 891 IN THE FIELD BY AN APPROVED FIELD EVALUATION BODY PRIOR TO REQUESTING FINAL INSPECTION FROM THE BUILDING DIVISION.

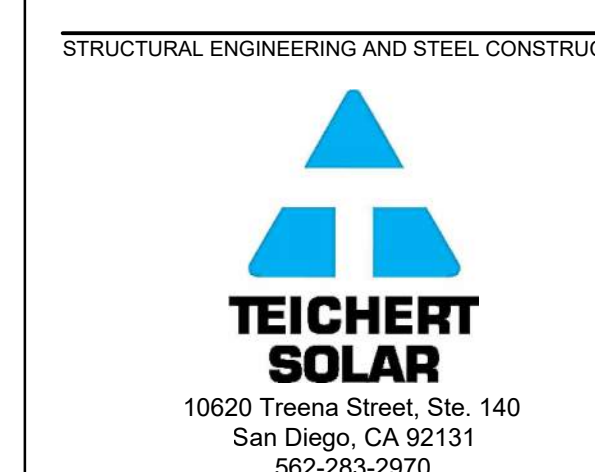
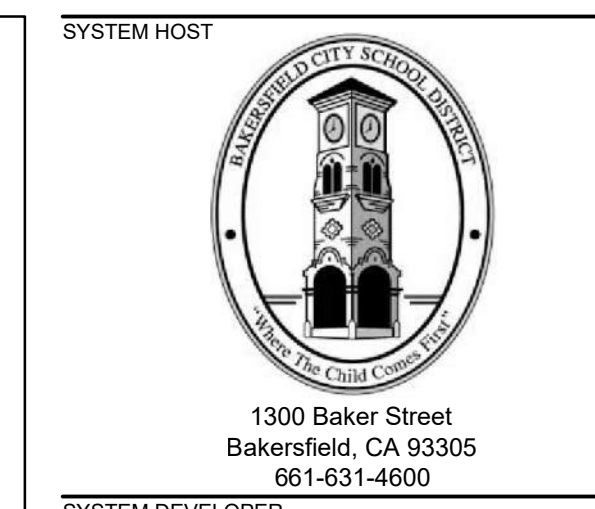


### FEEDER SCHEDULE (F)

No.	Potential at Origin (Pi) (Volts)	System	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 (PL) (Volts)	Percent Voltage Drop (%VD)	Total Voltage Drop (%Vd AC)	Total Voltage Drop (%Vd AC + DC)	Conduit & Conductors	No.	Feeder Origin	Feeder Destination
F1	208	AC 3-Phase	433.62	Steel	2	350 kCMIL	700000	CU	12.9	1.0627	10	0.15	207.85	0.07	0.07	N/A	TWO: 3"C-3#350 KCMIL, 1#2/0 NEUT., 1#2/0 GND. (CU)	F1	'MSB'	AC Disconnect 'FD1'
F2	208	AC 3-Phase	433.62	Steel	2	500 kCMIL	1000000	AL	21.2	1.0613	5	0.08	207.92	0.04	0.11	N/A	TWO: 3"C-3#500 KCMIL, 1#3/0 GND. (AL)	F2	AC Disconnect 'FD1'	Transformer 'TS'
F3	480	AC 3-Phase	187.9	Steel	1	350 kCMIL	350000	AL	21.2	1.0413	5	0.10	479.90	0.02	0.13	N/A	3"C-3#350 KCMIL, 1#1/0 GND. (AL)	F3	Transformer 'TS'	AC Disconnect 'FD2'
F4	480	AC 3-Phase	187.9	Steel	2	300 kCMIL	600000	AL	21.2	1.0184	715	8.37	471.63	1.74	1.88	N/A	TWO: 3"C-3#300 KCMIL, 1#1/0 GND. (AL)	F4	AC Disconnect 'FD2'	Panel 'S'
F5	480	AC 3-Phase	72.2	Steel	1	1	83690	AL	21.2	1.0000	10	0.32	479.68	0.07	1.94	2.29	1-1/2"C-3#1, 1#6 GND. (AL)	F5	Panel 'S'	Inverter No. A1
F6	480	AC 3-Phase	72.2	Steel	1	1	83690	AL	21.2	1.0000	85	2.69	477.31	0.56	2.44	2.76	1-1/2"C-3#1, 1#6 GND. (AL)	F6	Panel 'S'	Inverter No. B1
F7	480	AC 3-Phase	43.5	Steel	1	4	41740	AL	21.2	1.0000	85	3.25	476.75	0.68	0.81	1.13	1"C-3#4, 1#6 GND. (AL)	F7	Panel 'S'	Inverter No. B2
F8	120	AC 1-Phase	15	PVC	1	6	26240	CU	12.9	1.0000	340	5.01	114.99	4.18	N/A	N/A	3/4"C-2#6, 1#10 GND. (CU)	F8	Panel 'T'	RST Panel Wasing Sys.
A1-10	727.2	DC	9.28	n/a-DC	1	10	10380	CU	12.9	n/a	110	2.54	724.66	0.35	N/A	N/A	2#10 (CU)	A1-10	Inverter No. A1	Worst Case DC String
B1-9	727.2	DC	9.28	n/a-DC	1	10	10380	CU	12.9	n/a	100	2.31	724.89	0.32	N/A	N/A	2#10 (CU)	B1-9	Inverter No. B1	Worst Case DC String
B2-6	727.2	DC	9.28	n/a-DC	1	10	10380	CU	12.9	n/a	100	2.31	724.89	0.32	N/A	N/A	2#10 (CU)	B2-6	Inverter No. B2	Worst Case DC String



**SINGLE LINE DIAGRAM 168.75 KW TOTAL**  
 SCALE: NONE



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 M M P V design

718 West Arbor Drive  
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 619.632.2683

ARCHITECT / ENGINEER OF RECORD



PROJECT  
**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
 1501 FELIZ DRIVE  
 BAKERSFIELD, CA 93307

NO.	REVISION	DATE
1	PLAN REVIEW	06.28.23

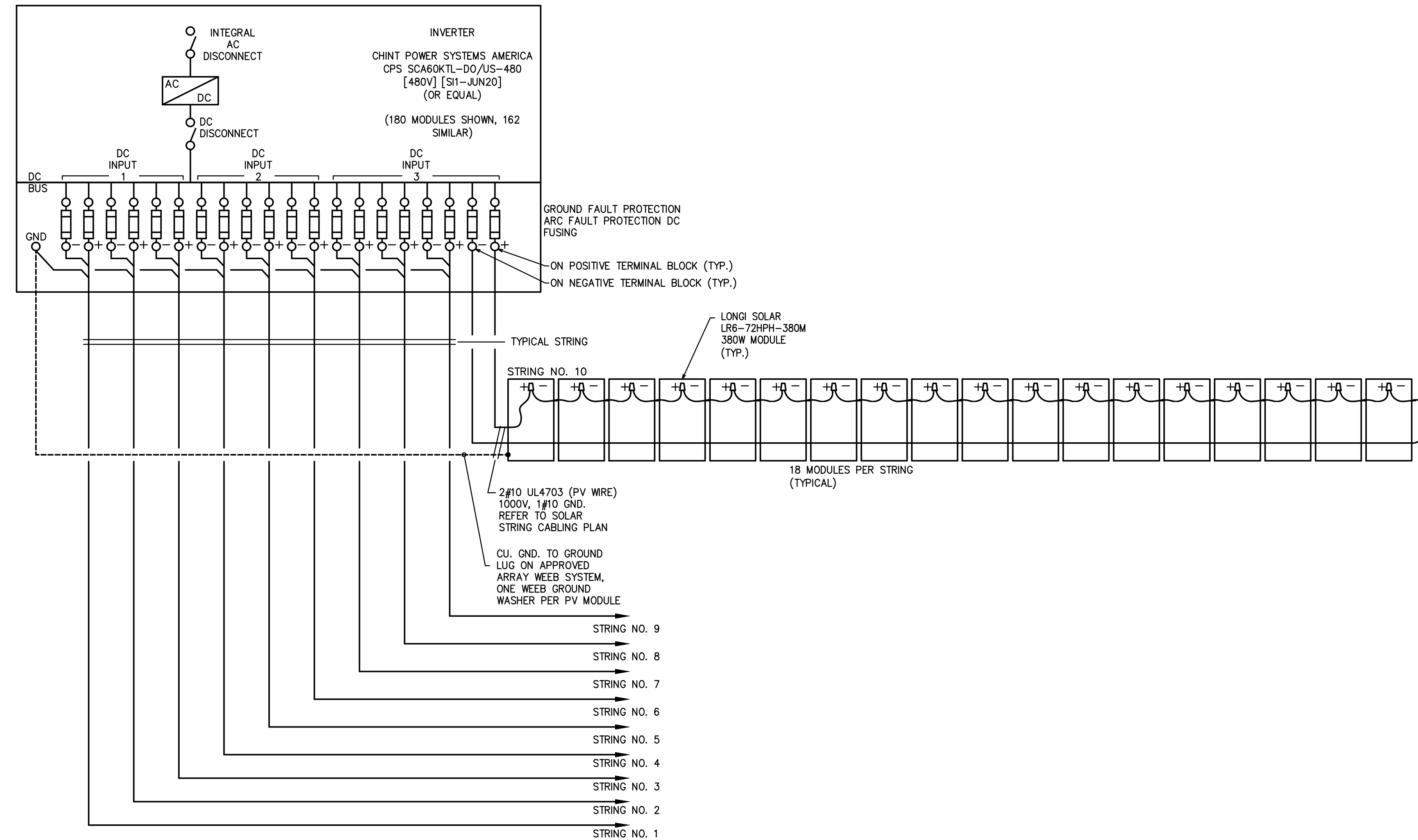
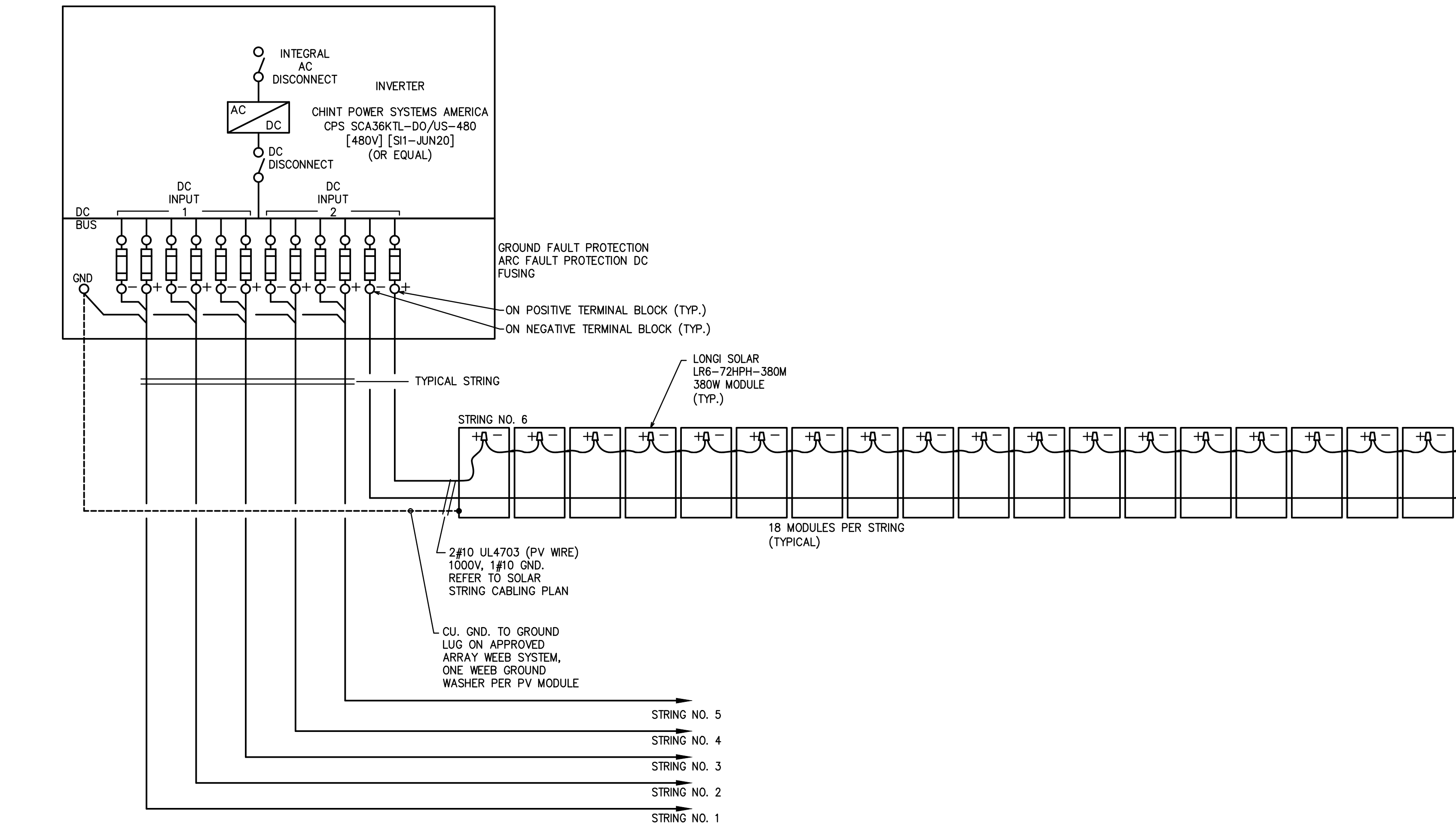
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SHEET TITLE  
**PV SYSTEM ELECTRICAL SINGLE LINE DIAGRAM**

SHEET NO.:

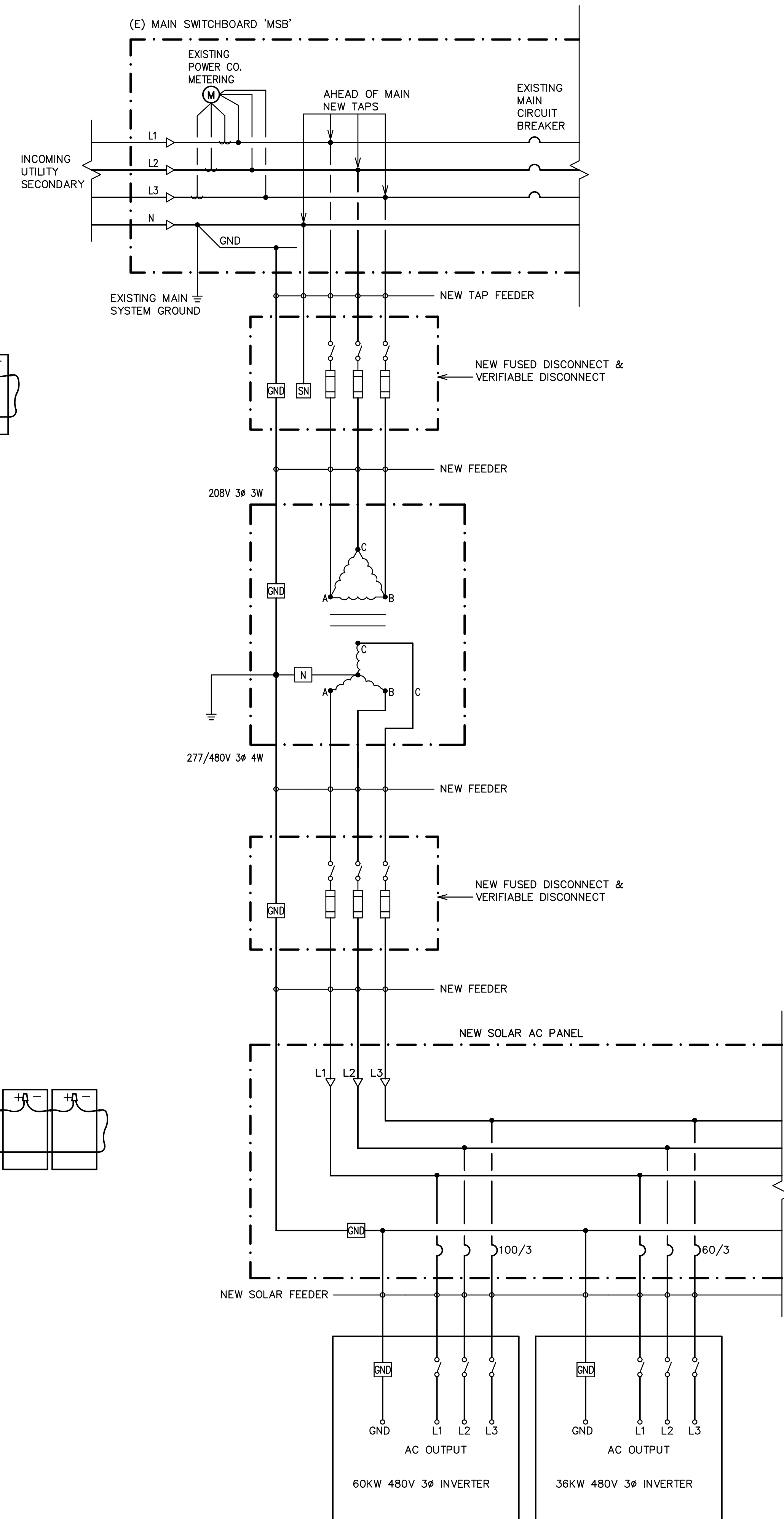
**E2.0**






TYPICAL DC LINE DIAGRAM

SCALE: NONE



TYPICAL THREE LINE DIAGRAM

SCALE: NONE

SYSTEM HOST  
  
 1300 Baker Street  
 Bakersfield, CA 93305  
 661-631-4600

SYSTEM DEVELOPER  
  
 100 Montgomery Street #725  
 San Francisco, CA 94104  
 855-204-5083

ELECTRICAL CONSTRUCTORS AND ENGINEERS  
  
 1902 Channel Drive  
 West Sacramento, CA 95691  
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STRUCTURAL ENGINEERING AND STEEL CONSTRUCT  
  
 10620 Trenea Street, Ste. 140  
 San Diego, CA 92131  
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 San Diego, CA 92103  
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**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
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 BAKERSFIELD, CA 93307

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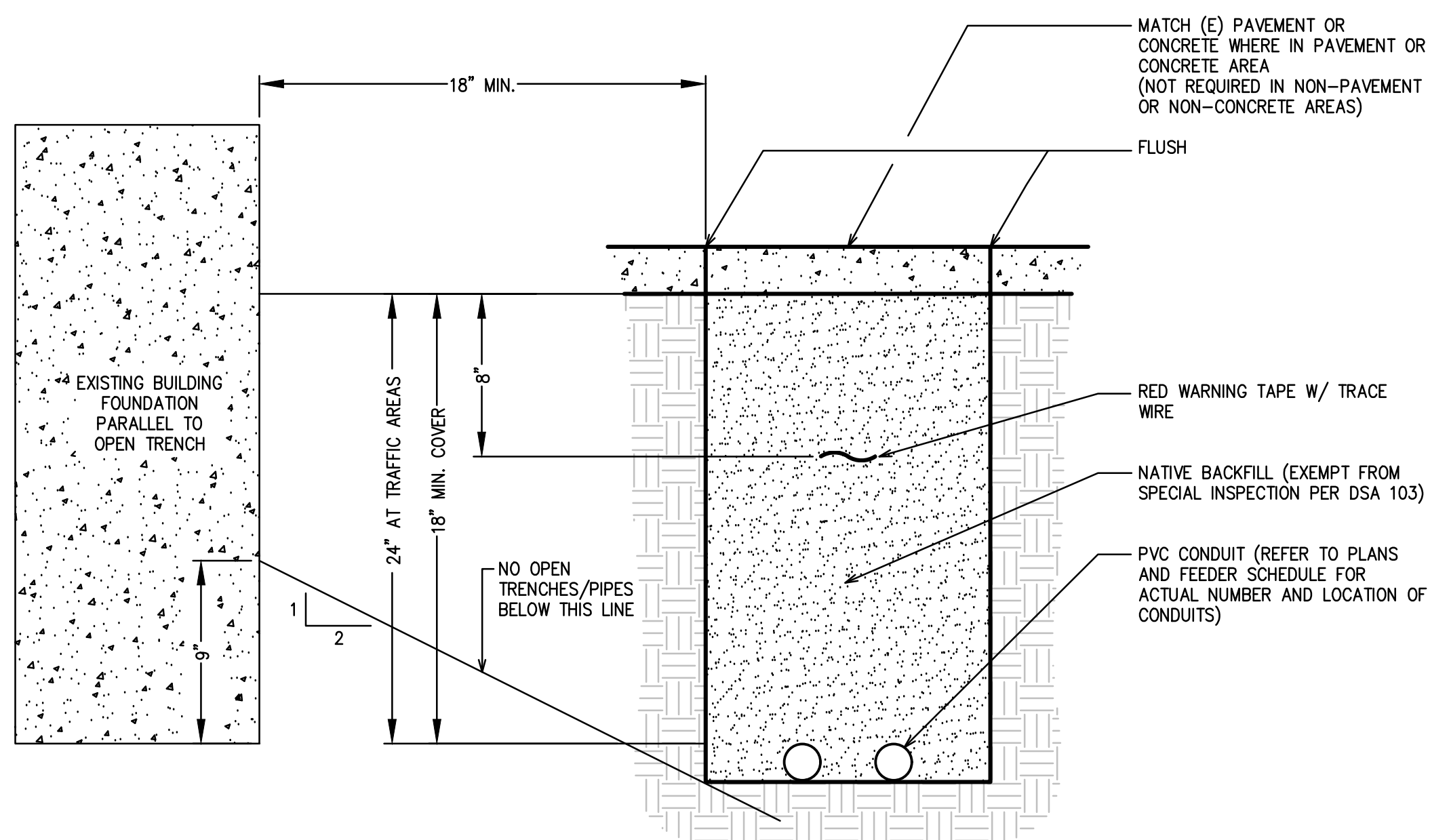
DATE: 03.21.23

SHEET TITLE

**PV SYSTEM TYPICAL ELECTRICAL THREE LINE DIAGRAM**

SHEET NO.:





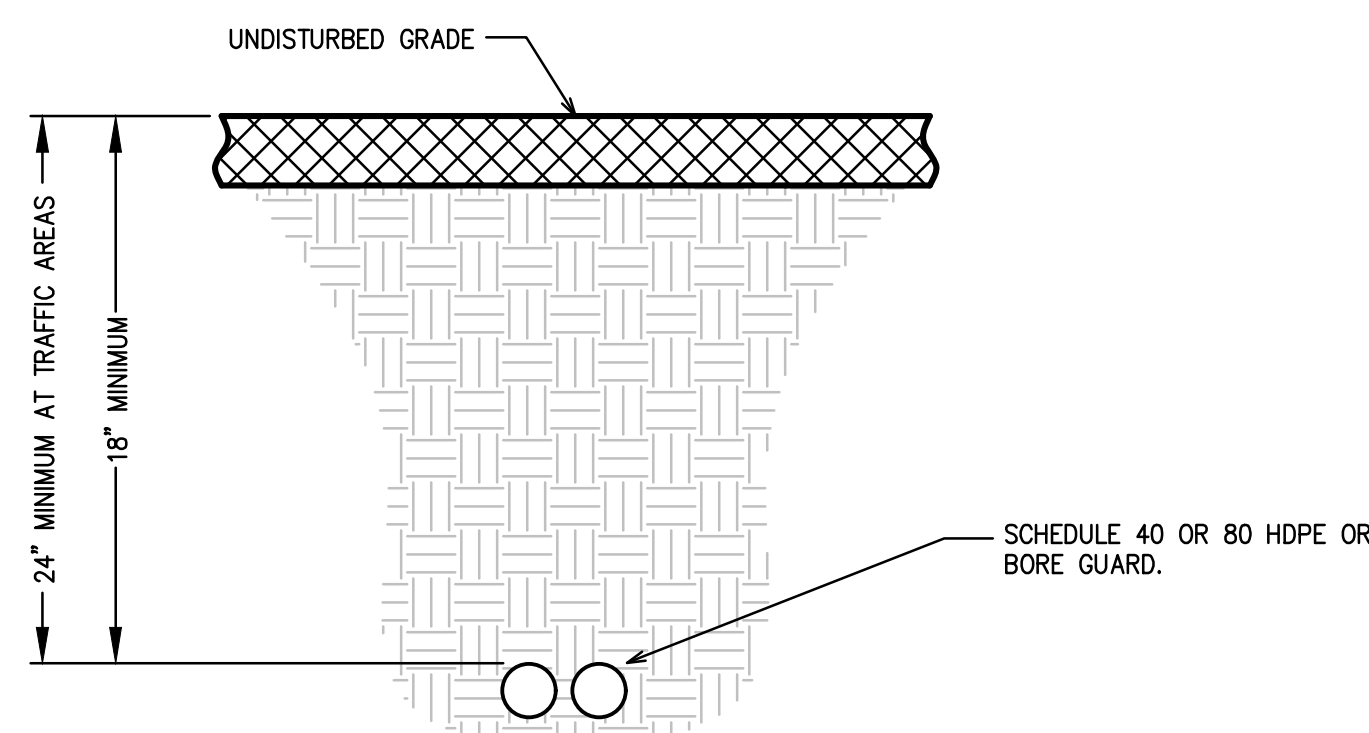
**TRENCH THROUGH PAVEMENT TRAFFIC DETAIL**

NO SCALE

NOTES:

1. TRENCHING ONLY WHERE REQUIRED
2. SOIL BACKFILL EXEMPT FROM SPECIAL INSPECTION PER DSA 103

2

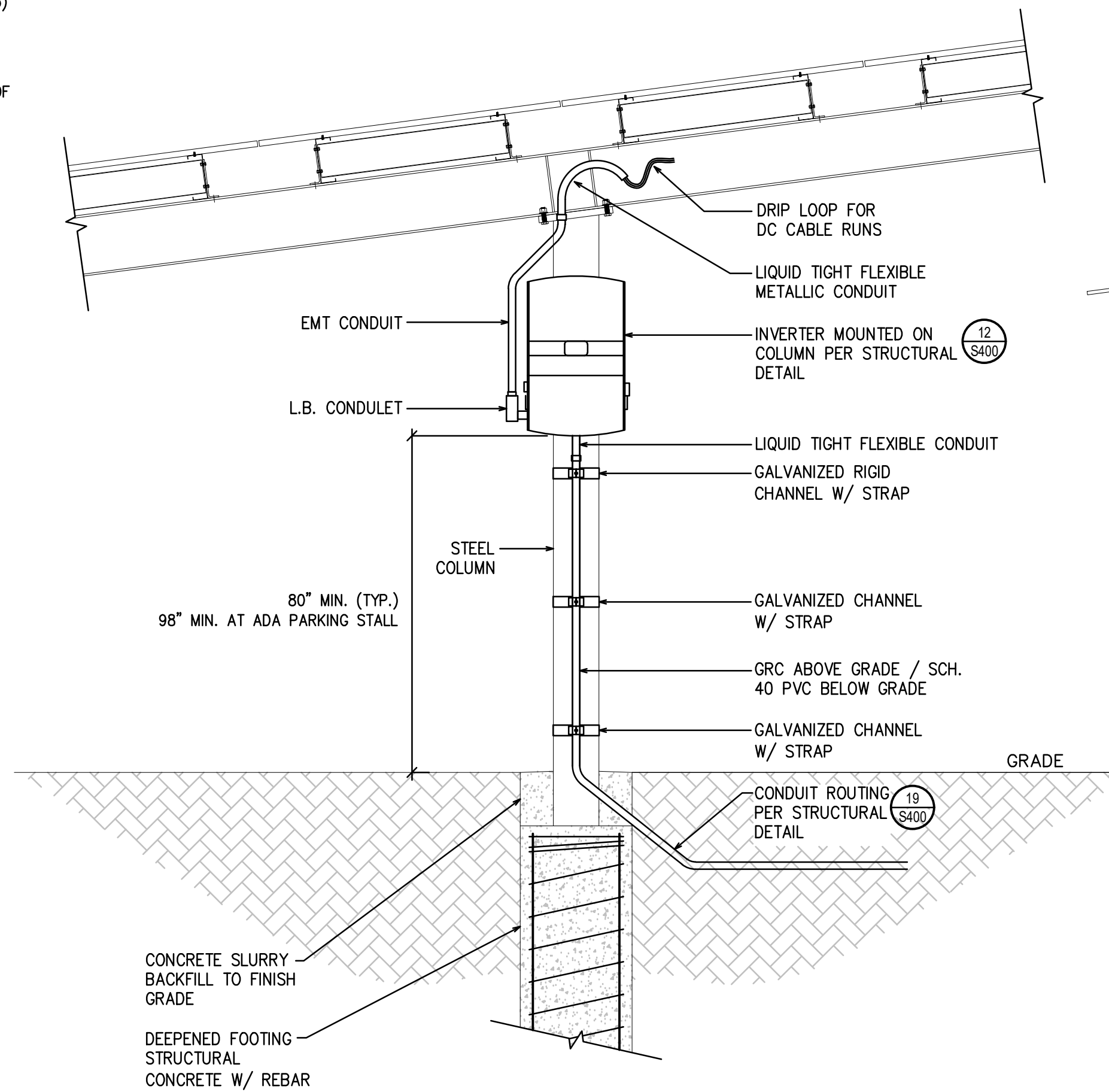


**HORIZONTAL BORE DETAIL**

NO SCALE

NOTE: BORING TYPICAL INSTALLATION METHOD

1

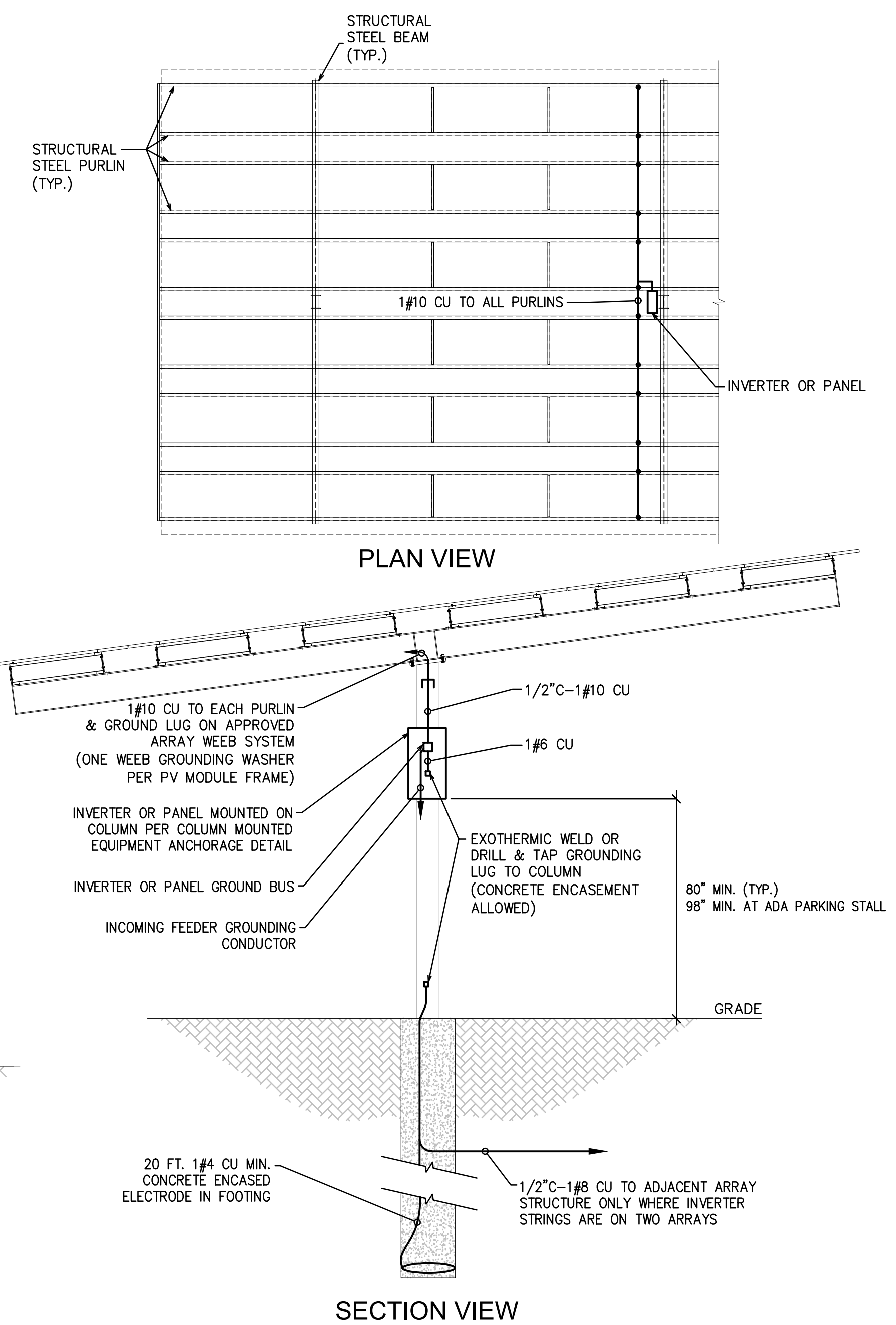


**TYPICAL PV CANOPY CONDUIT RISER DETAIL**

NO SCALE

NOTE: ONE REQUIRED PER ARRAY STRUCTURE

3

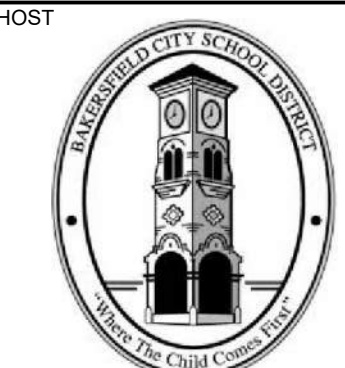


**PV CANOPY GROUNDING DETAIL**

NO SCALE

NOTE: ONE REQUIRED PER ARRAY STRUCTURE

4



1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600



100 Montgomery Street #725  
San Francisco, CA 94104  
855-204-5083



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West Sacramento, CA 95691  
916-567-1100

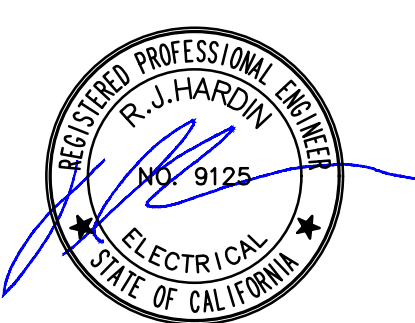


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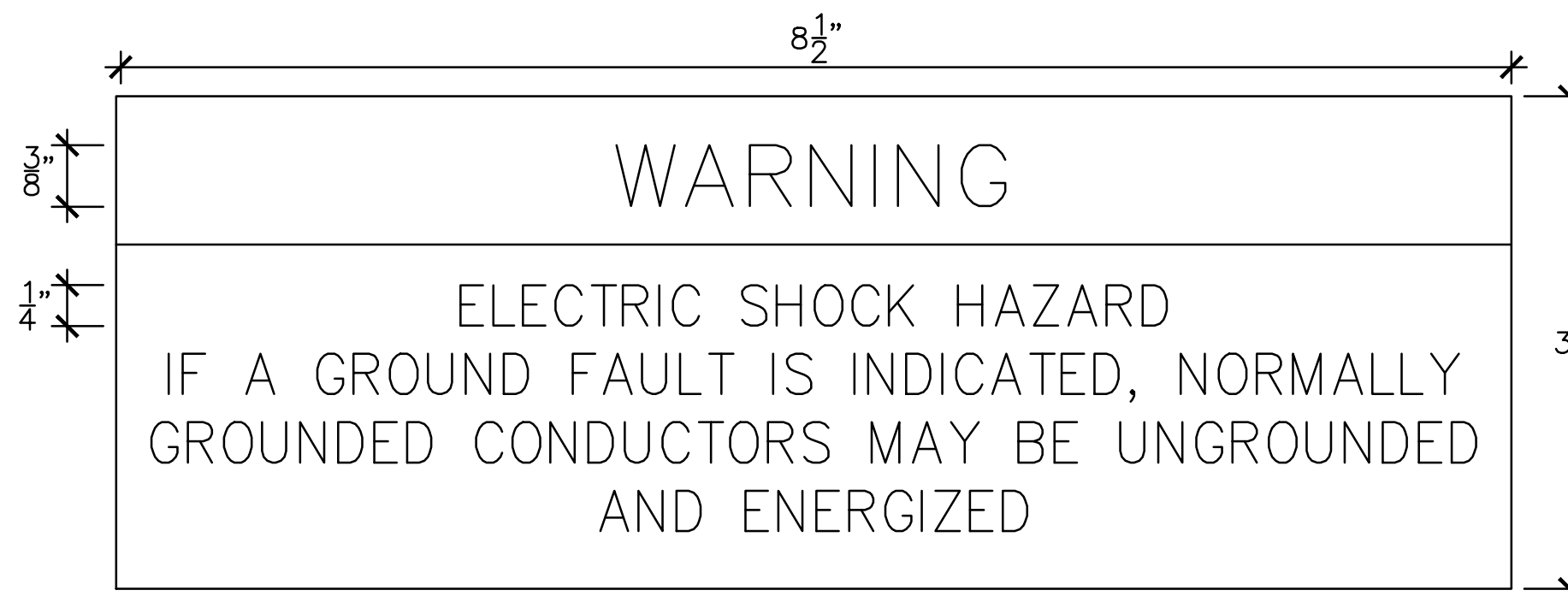
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SHEET TITLE  
**ELECTRICAL DETAILS**

SHEET NO.:

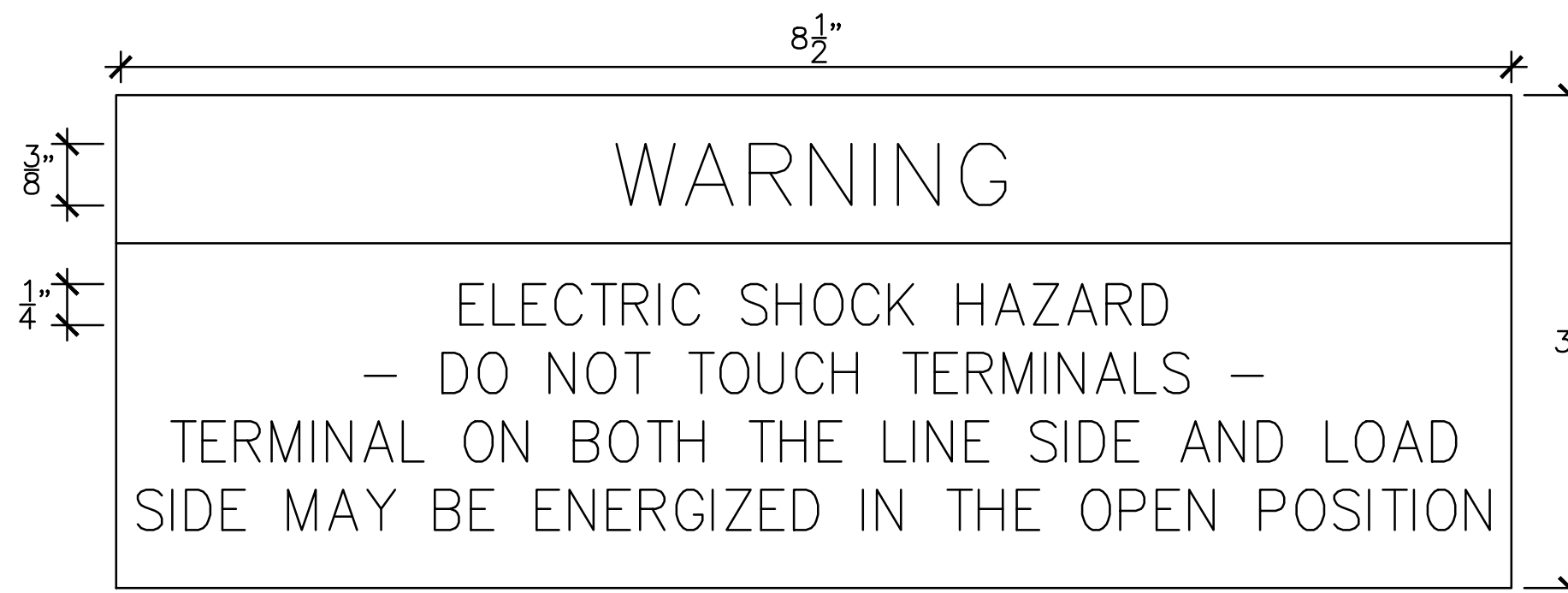
**E4.0**





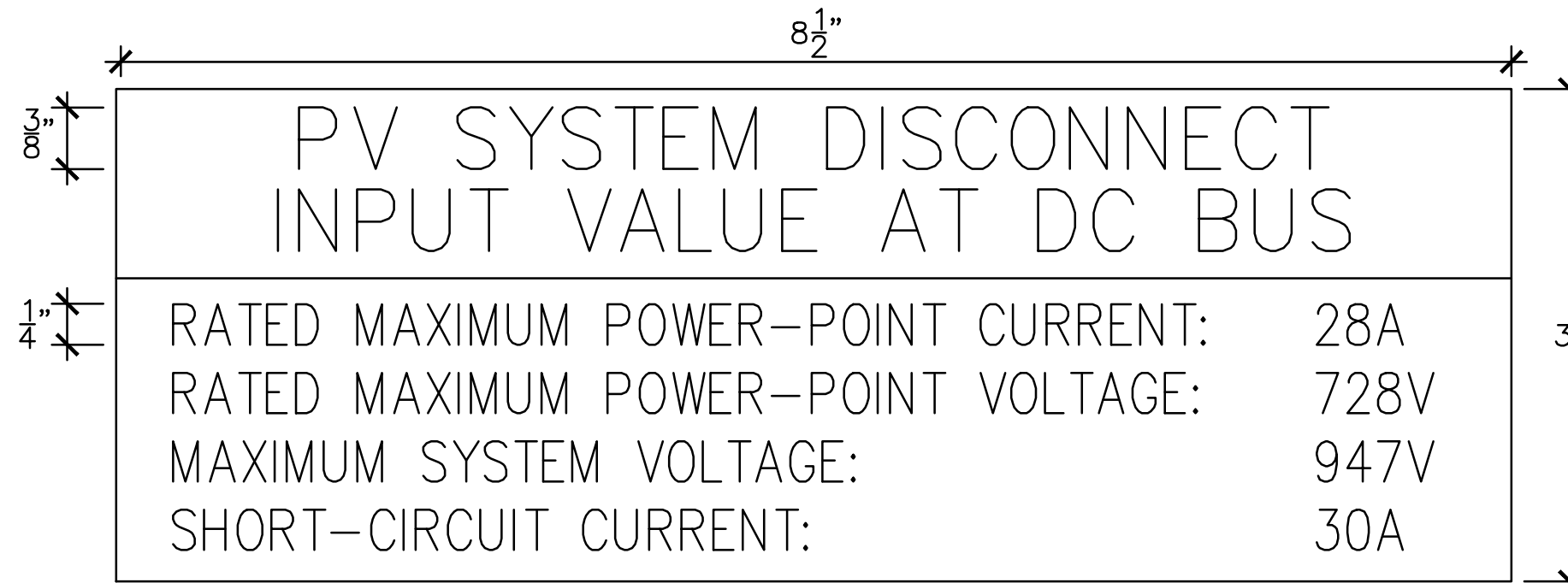
**LABEL - 1**  
SCALE: NONE

LOCATION:	INVERTERS
BACKGROUND:	RED
LETTERING:	WHITE
NOTES:	



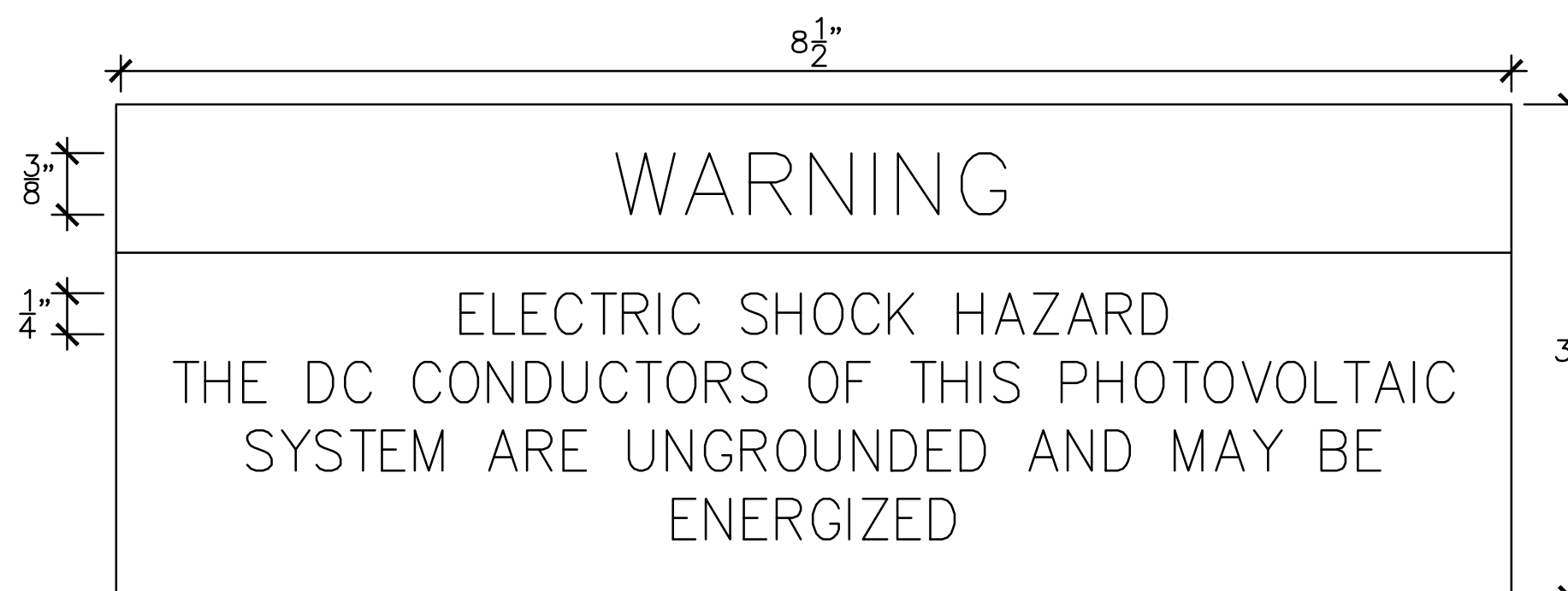
**LABEL - 2**  
SCALE: NONE

LOCATION:	AC DISCONNECTS & PANELBOARDS
BACKGROUND:	RED
LETTERING:	WHITE
NOTES:	



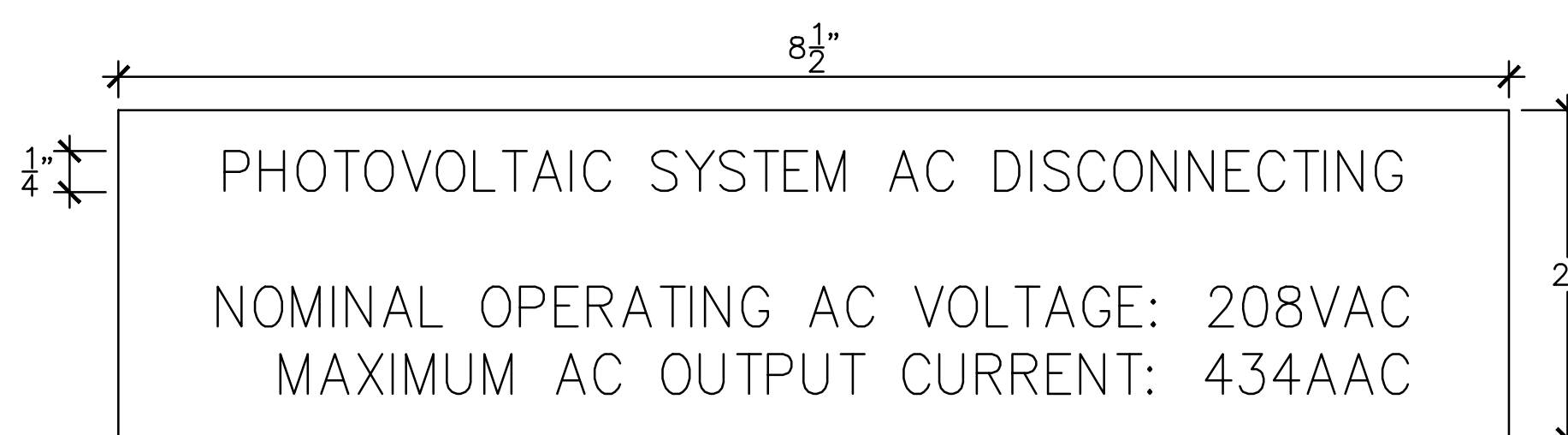
**LABEL - 3**  
SCALE: NONE

LOCATION:	36kW INVERTER & 80kW INVERTER W/ 162 MODULES
BACKGROUND:	RED
LETTERING:	WHITE
NOTES:	



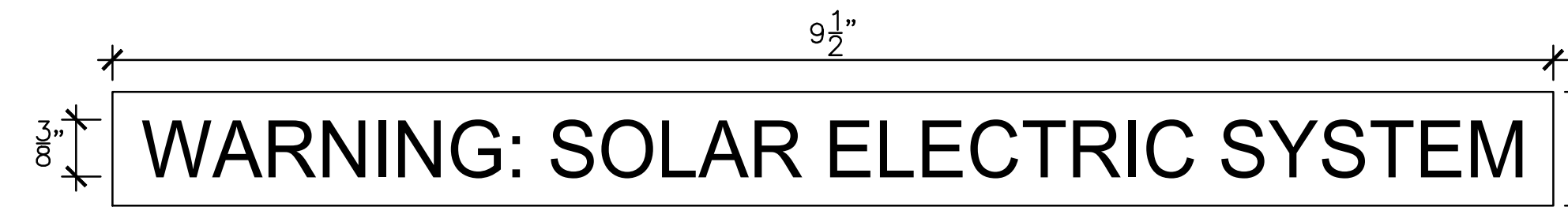
**LABEL - 4**  
SCALE: NONE

LOCATION:	INVERTERS
BACKGROUND:	RED
LETTERING:	WHITE
NOTES:	



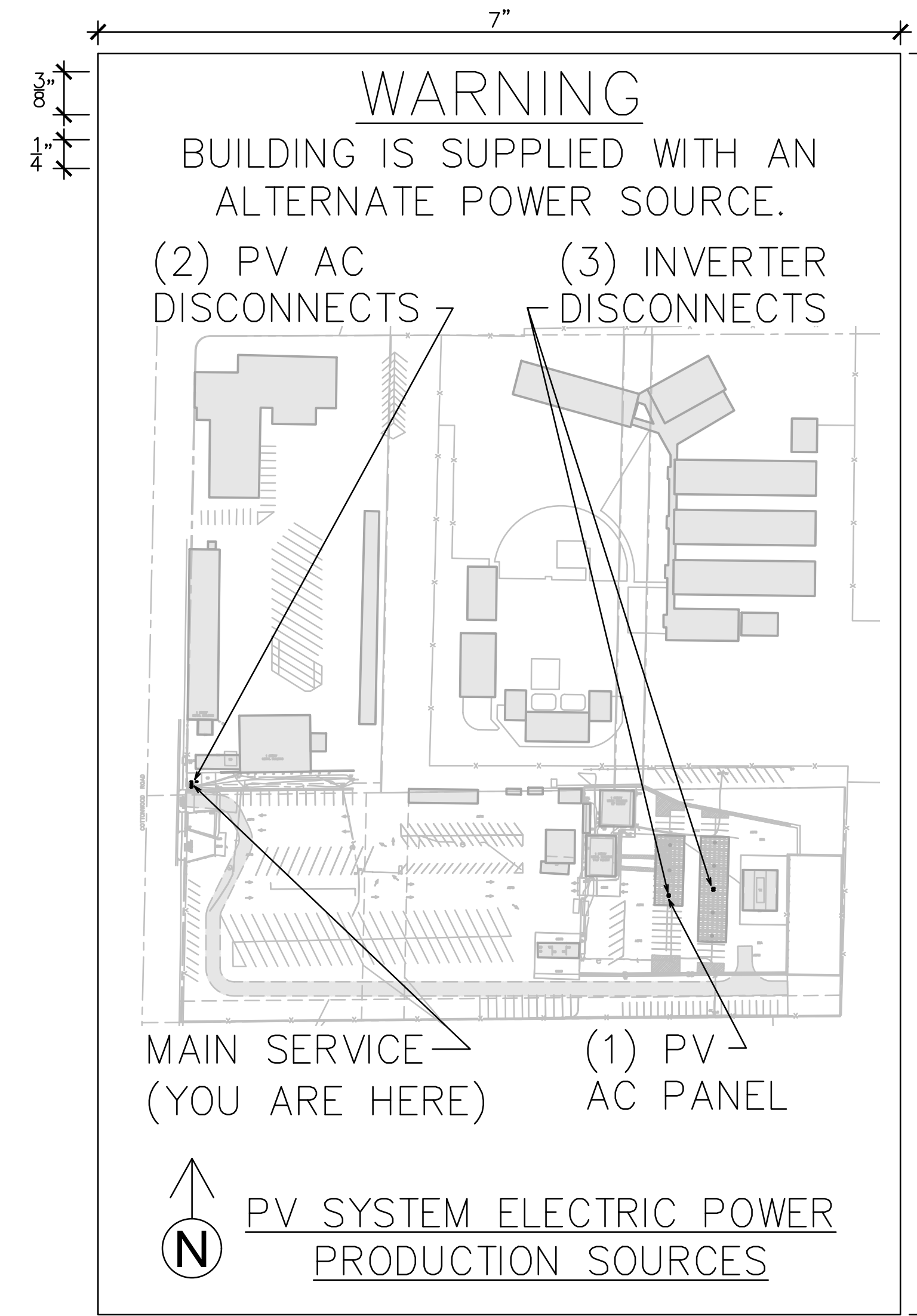
**LABEL - 5**  
SCALE: NONE

LOCATION:	AC DISCONNECT
BACKGROUND:	RED
LETTERING:	WHITE
NOTES:	



**LABEL - 6**  
SCALE: NONE

LOCATION:	MAIN SERVICE DISCONNECT
BACKGROUND:	RED
LETTERING:	WHITE
NOTES:	

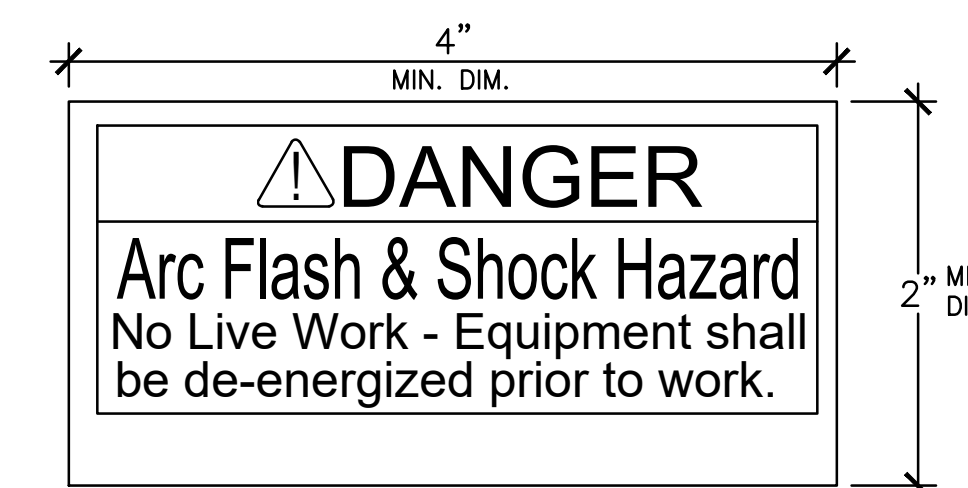


**LABEL - 7**  
SCALE: NONE

**WARNING LABELS & MARKING NOTES:**

- MARKING IS REQUIRED ON INTERIOR AND EXTERIOR DIRECT-CURRENT (DC) CONDUIT, ENCLOSURES, RACEWAYS, CABLE ASSEMBLIES, JUNCTION BOXES, COMBINER BOXES AND DISCONNECTS.
- 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.
- THE MARKING SHALL CONTAIN THE WORDS "WARNING: PHOTOVOLTAIC POWER SOURCE."
- THE MARKING SHALL BE PLACED ADJACENT TO THE MAIN SERVICE DISCONNECT IN A LOCATION CLEARLY VISIBLE FROM THE LOCATION WHERE THE DISCONNECT IS OPERATED.
- 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 DISCONNECT
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.



**LABEL - 8**  
SCALE: NONE

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

SYSTEM HOST

1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER

**FOREFRONT POWER**  
100 Montgomery Street #725  
San Francisco, CA 94104  
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1902 Channel Drive  
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**TEICHERT SOLAR**  
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PROJECT

**BAKERSFIELD CITY SCHOOL DISTRICT**

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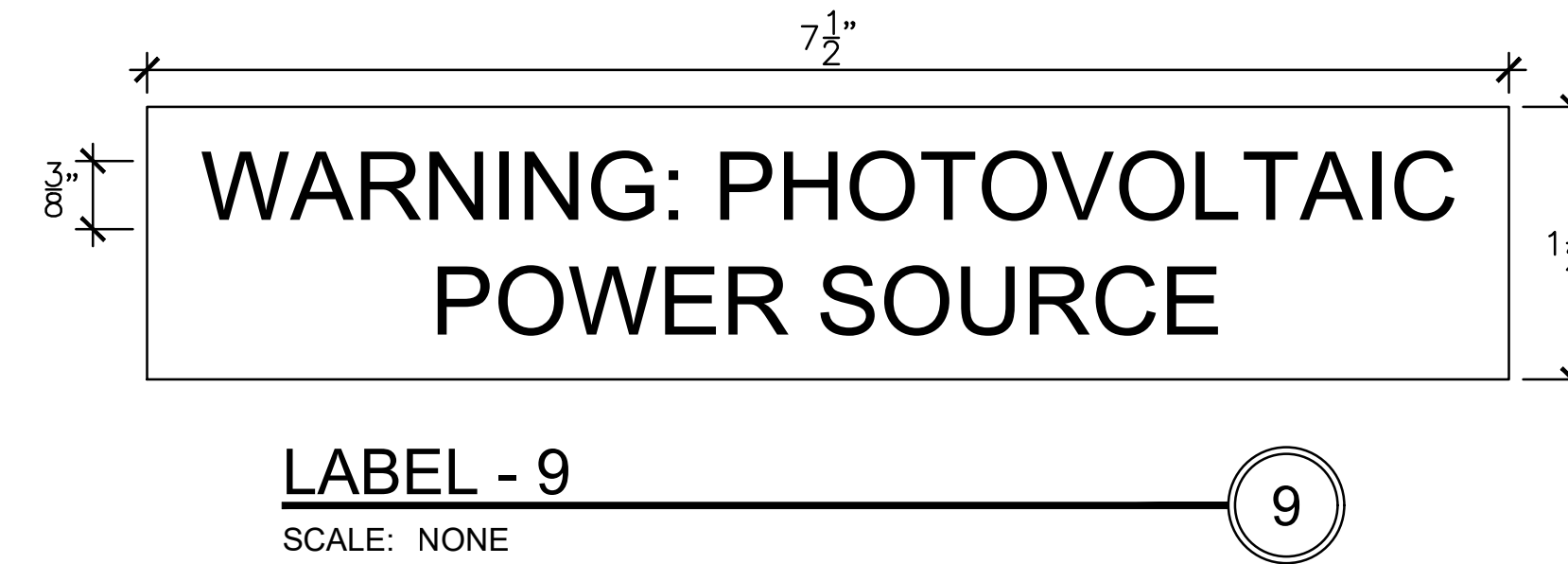
SHEET TITLE

**PV SYSTEM TYPICAL ELECTRICAL WARNING LABELS**

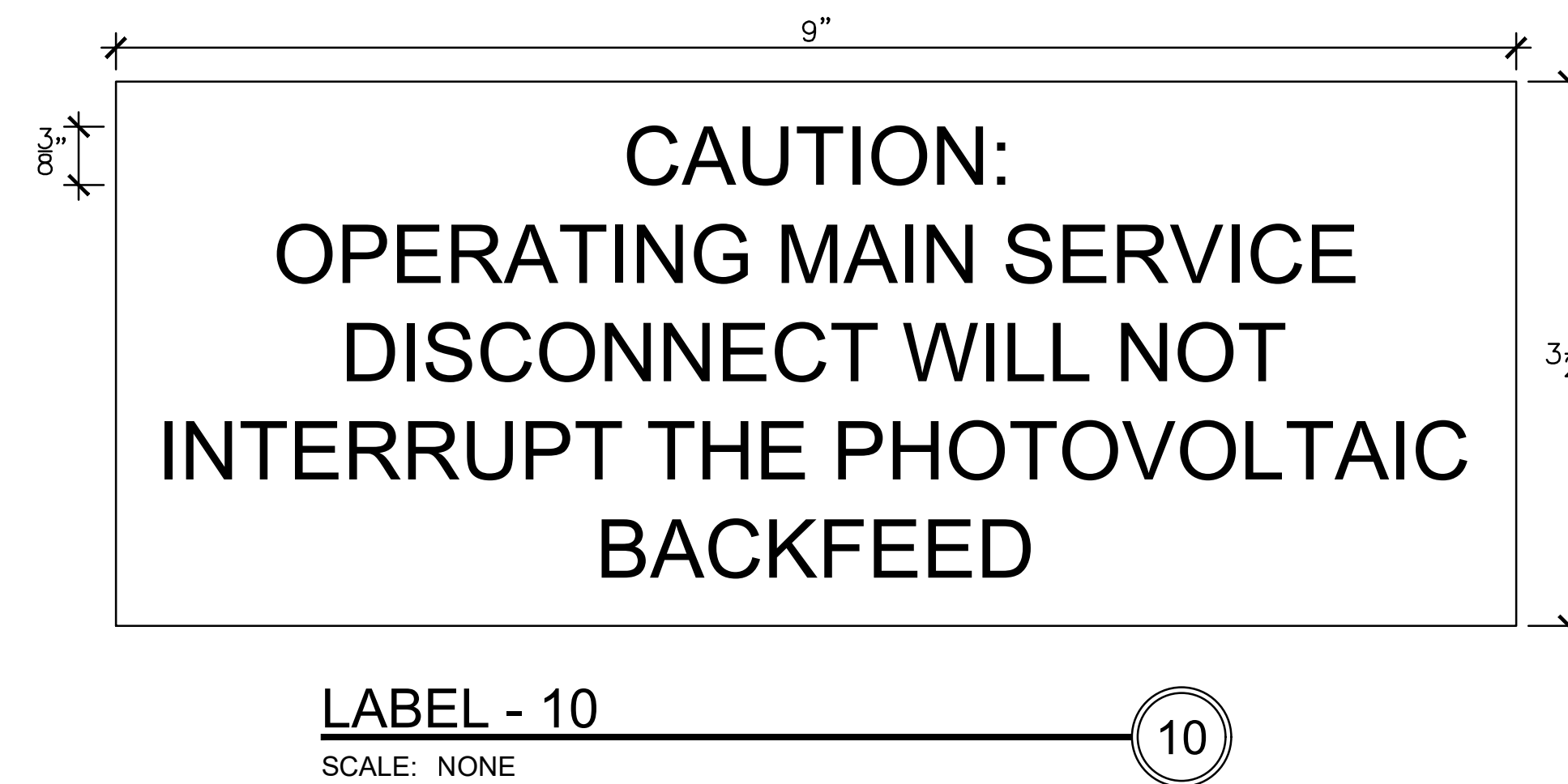
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**E5.0**

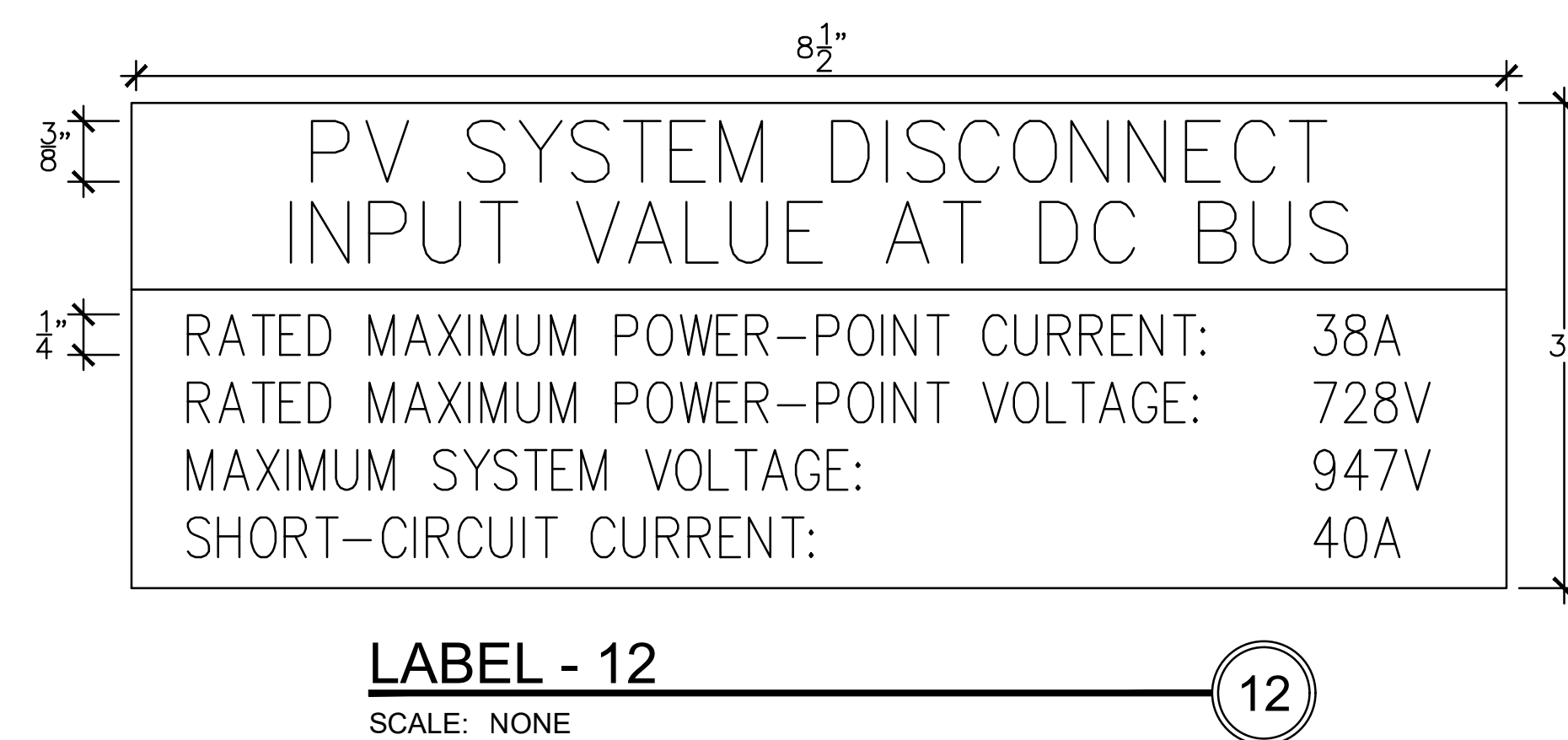




LOCATION:	DC ENCLOSURES, RACEWAYS AND CONDUITS
BACKGROUND	RED
LETTERING	WHITE
NOTES:	EXPOSED CONDUIT EVERY 10 FT.



LOCATION:	MAIN SERVICE DISCONNECT
BACKGROUND	RED
LETTERING	WHITE
NOTES:	




LOCATION:	60KW INVERTER W/ 180 MODULES
BACKGROUND	RED
LETTERING	WHITE
NOTES:	



LOCATION:	AC DISCONNECT, PANELS, TRANSFORMERS, DAS
BACKGROUND	BLUE
LETTERING	WHITE
NOTES:	

SYSTEM HOST



1300 Baker Street  
 Bakersfield, CA 93305  
 661-631-4600

SYSTEM DEVELOPER



**FOREFRONT  
POWER**

100 Montgomery Street #725  
 San Francisco, CA 94104  
 855-204-5083


ELECTRICAL CONSTRUCTORS AND ENGINEERS



**COLLINS  
ELECTRICAL COMPANY INC.**

1902 Channel Drive  
 West Sacramento, CA 95691  
 916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT



**TEICHERT  
SOLAR**


10620 Treena Street, Ste. 140  
 San Diego, CA 92131  
 662-283-2970

ARCHITECT

**M M P V design**

718 West Arbor Drive  
 San Diego, CA 92103  
 619.632.2683

ARCHITECT / ENGINEER OF RECORD



PROJECT

**BAKERSFIELD CITY  
SCHOOL DISTRICT**

BUS YARD  
 1501 FELIZ DRIVE  
 BAKERSFIELD, CA 93307

NO.	REVISION	DATE
1	PLAN REVIEW	06.28.23

DATE: 03.21.23

SHEET TITLE

**PV SYSTEM TYPICAL  
ELECTRICAL  
WARNING LABELS**



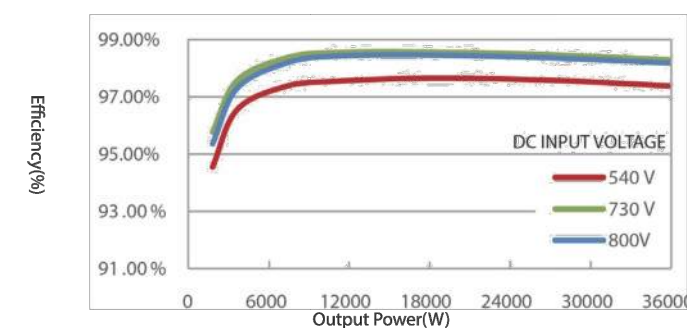


### 36kW, 1000Vdc String Inverters for North America

The 36kW medium power CPS three phase inverter has been designed for small commercial rooftop, ground mount, and carport applications. Featuring dual MPPTs, 98.5% peak efficiency, and a wide operating window, the CPS 36kW performs well across a variety of applications. This inverter includes; a separable wiring box with generous wiring space to reduce installation time, the ability to mount the inverter 15-90 degrees from horizontal allowing greater design options, and integrated AC and DC disconnects as standard features. The CPS FlexOM Gateway enables monitoring and controls necessary in today's PV systems.

#### Efficiency Curve

CPS SCA36KTL-DO/US-480



#### High Efficiency

- Maximum efficiency of 98.5%, CEC efficiency of 98%
- 3-level technology and enhanced control mechanism to achieve high efficiency over wide load range
- 2 MPPTs to achieve higher system efficiency
- Transformerless design

#### High Reliability

- Standard warranty: 10 years, extension up to 20 years
- Advanced thermal design, with variable speed fans
- Ground-fault detection and interruption circuit
- AFCI Integrated (per UL1699B)
- UL1741 SA Certified to CA Rule 21



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### 50/60kW, 1000Vdc String Inverters for North America

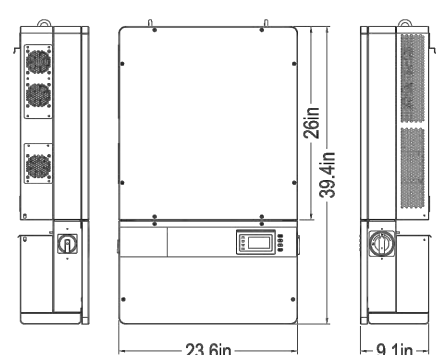
The 50 & 60kW (55 & 66kVA) medium power CPS three phase string inverters are designed for ground mount, large rooftop and carport applications. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiency at 98.8% peak and 98.5% CEC, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 50/60KTL products ship with either the Standard wire-box or the Rapid Shutdown wire-box, each fully integrated and separable with touch safe fusing, monitoring, and AC and DC disconnect switches. The integrated PLC transmitter in the Rapid Shutdown wire-box enables PVRSS certified module-level rapid shutdown when used with the Tigo TS4-F/TS4-A-F/TS4-A-2F products and APS RSD-5-PLC/RSD-D products. The CPS FlexOM Gateway enables monitoring, controls and remote product upgrades.

#### Key Features

- NEC 2017/2020 PVRSS Certified Rapid Shutdown
- 55 & 66kVA rating allows max rated Active Power @±0.91PF
- Selectable Max AC Apparent Power of 50/55kVA and 60/66kVA
- NEC 2014/17 compliant & UL listed Arc-Fault circuit protection
- 15-90° Mounting orientation for low profile roof installs
- Optional FlexOM Gateway enables remote FW upgrades
- Integrated AC & DC disconnect switches
- 3 MPPT's with 5 inputs each for maximum flexibility
- NEMA Type 4X outdoor rated, tough tested enclosure
- UL1741 SA Certified to CA Rule 21, including SA8 through SA18
- Separable wire-box design for fast service
- Standard 10 year warranty with extensions to 20 years

CPS SCA36KTL-DO/US-480

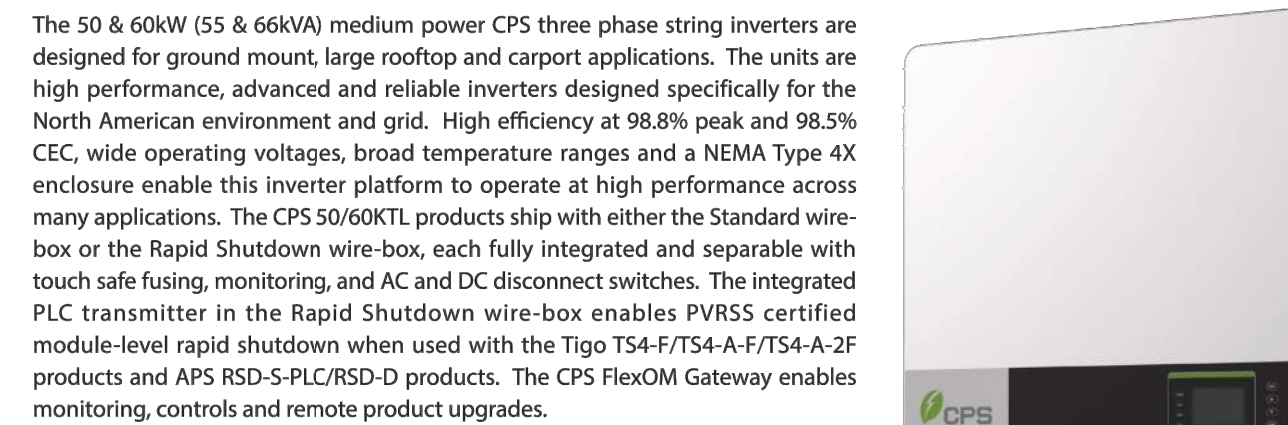
#### Dimensions



#### Broad Adaptability

- NEMA 4X (IP65) rated for outdoor applications
- Utility interactive controls: Active power derating, reactive power control
- Separable wiring box design for fast service
- Integrated DC & AC disconnect switches
- Wide MPPT range for flexible string sizing
- 1000V Max. DC input voltage for flexible configuration
- 15 - 90 degree from horizontal installation angle
- AC output terminal compatible with ALCU wire

6800 Koll Center Parkway, Suite 233 Pleasanton, CA 94566  
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com



CPS SCA50KTL-DO/US-480  
CPS SCA60KTL-DO/US-480



50/60KTL Standard Wire-box



50/60KTL Rapid Shutdown Wire-box



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Technical Data table for CPS SCA36KTL-DO/US-480. Includes sections for DC Input, AC Output, System and Performance, Environment, Display and Communication, Mechanical, and Certifications and Standards.

1) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.  
2) See user manual for further requirements regarding non-operating conditions.  
3) Shade Cover accessory required for installation angles of 75 degrees or less.  
4) Fuse values above 20A have additional spacing requirements. See user manual for further details.



Technical Data table for CPS SCA50KTL-DO/US-480 and CPS SCA60KTL-DO/US-480. Includes sections for DC Input, AC Output, System and Performance, Environment, Display and Communication, Mechanical, and Certifications and Standards.

1) Active Power Derating begins at PF±0.91 to ±0.9 when Max. AC Apparent Power is set to 55 or 66kVA.  
2) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.  
3) Active Power Derating begins at 42°C when PF±0.9 and MPPT V<sub>MPP</sub> at 45°C when PF±1 and MPPT V<sub>MPP</sub> at 50°C when PF±1 and MPPT V<sub>MPP</sub> at 55°C when PF±1 and MPPT V<sub>MPP</sub> at 60°C when PF±1 and MPPT V<sub>MPP</sub> at 65°C when PF±1 and MPPT V<sub>MPP</sub> at 70°C when PF±1 and MPPT V<sub>MPP</sub> at 75°C when PF±1 and MPPT V<sub>MPP</sub> at 80°C when PF±1 and MPPT V<sub>MPP</sub> at 85°C when PF±1 and MPPT V<sub>MPP</sub> at 90°C when PF±1 and MPPT V<sub>MPP</sub> at 95°C when PF±1 and MPPT V<sub>MPP</sub> at 100°C when PF±1 and MPPT V<sub>MPP</sub> at 105°C when PF±1 and MPPT V<sub>MPP</sub> at 110°C when PF±1 and MPPT V<sub>MPP</sub> at 115°C when PF±1 and MPPT V<sub>MPP</sub> at 120°C when PF±1 and MPPT V<sub>MPP</sub> at 125°C when PF±1 and MPPT V<sub>MPP</sub> at 130°C when PF±1 and MPPT V<sub>MPP</sub> at 135°C when PF±1 and MPPT V<sub>MPP</sub> at 140°C when PF±1 and MPPT V<sub>MPP</sub> at 145°C when PF±1 and MPPT V<sub>MPP</sub> at 150°C 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Outdoor Lighting CERTIFICATE OF COMPLIANCE NRCC-LTO-E
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Table with 4 columns: Item, Location, Value, and Description. Includes climate zone (13), total illuminated area (9844), and occupancy types (LZ-2: Moderate - Urban Clusters).

B. PROJECT SCOPE
This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)(2) / 180.2(b)(4) for alterations.

Table with 4 columns: Item, Description, Value, and Yes/No. Includes 'New Lighting System' and 'Altered Lighting System'.

Phase proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.
FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

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H. OUTDOOR LIGHTING CONTROLS

Table with 5 columns: Area Description, Control Type, Value, and Pass/Fail. Includes 'Exterior Lights' with 'Photocontrol' and 'Motion Sensor'.

FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.
Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.
Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Table with 2 columns: Documentation Author Name/Signature and Documentation Author Signature. Includes Richard J. Hardin and signature.

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.

Table with 2 columns: Responsible Designer Name/Signature and Responsible Designer Signature. Includes Rich Hardin and signature.

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C. COMPLIANCE RESULTS

Table with 9 columns: Item, Description, Value, and Compliance Results. Includes calculations for Total Allowed Lighting Power (Watts) and Total Actual (Watts).

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

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I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

Table with 9 columns: Item, Description, Value, and Compliance Results. Includes calculations for General Hardscape Lighting Power Allowance and Total General Hardscape Allowance.

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

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F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)(2) only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (i.e. existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H, and are not included here. All other multifamily outdoor lighting is included here.

Table with 10 columns: Item Tag, Complete Luminaire Description, Watts per luminaire, How is Wattage determined, Total Number Luminaires, Luminaire Status, Excluded per 140.7(a) / 170.2(e)6A, Design Watts, Cutoff Req. > 6,200 initial lumen output / 130.2(b) / 160.5(c)1, Field Inspector. Includes '29W LED' and '174' design watts.

\* NOTES: Selections with a \* require a note in the space below explaining how compliance is achieved.
FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)
For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b) / 160.5(c)

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

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M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

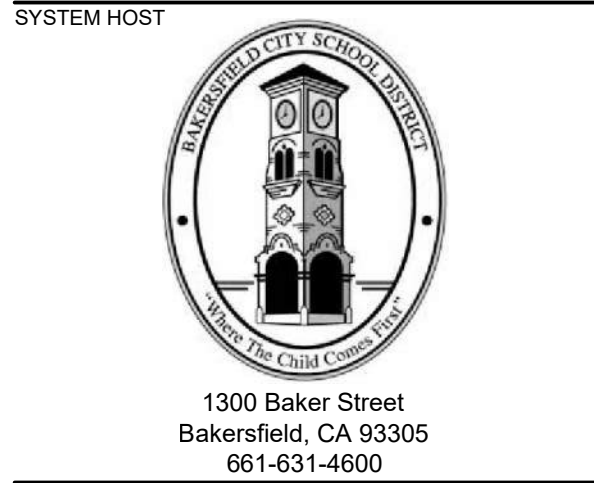
O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table with 2 columns: Form/Title and Systems/Spaces To Be Field Verified. Includes 'NRCC-LTO-E - Must be submitted for all buildings'.

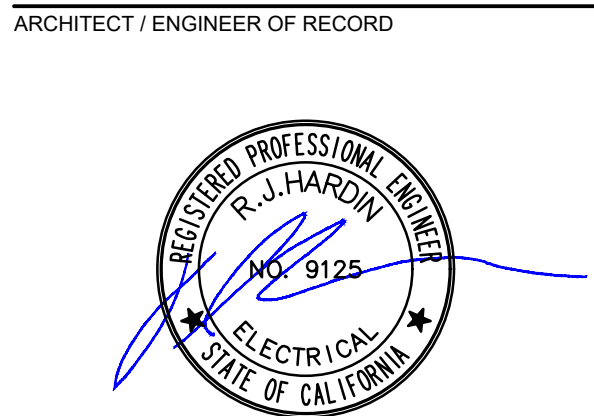
P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table with 2 columns: Form/Title and Systems/Spaces To Be Field Verified. Includes 'NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.'

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ARCHITECT
M M P V d e s i g n
718 West Arbor Drive
San Diego, CA 92103
619.632.2883



PROJECT
BAKERSFIELD CITY SCHOOL DISTRICT

BUS YARD
1501 FELIZ DRIVE
BAKERSFIELD, CA 93307

Table with 3 columns: NO., REVISION, DATE. Includes revision 1: PLAN REVIEW, 06.28.23

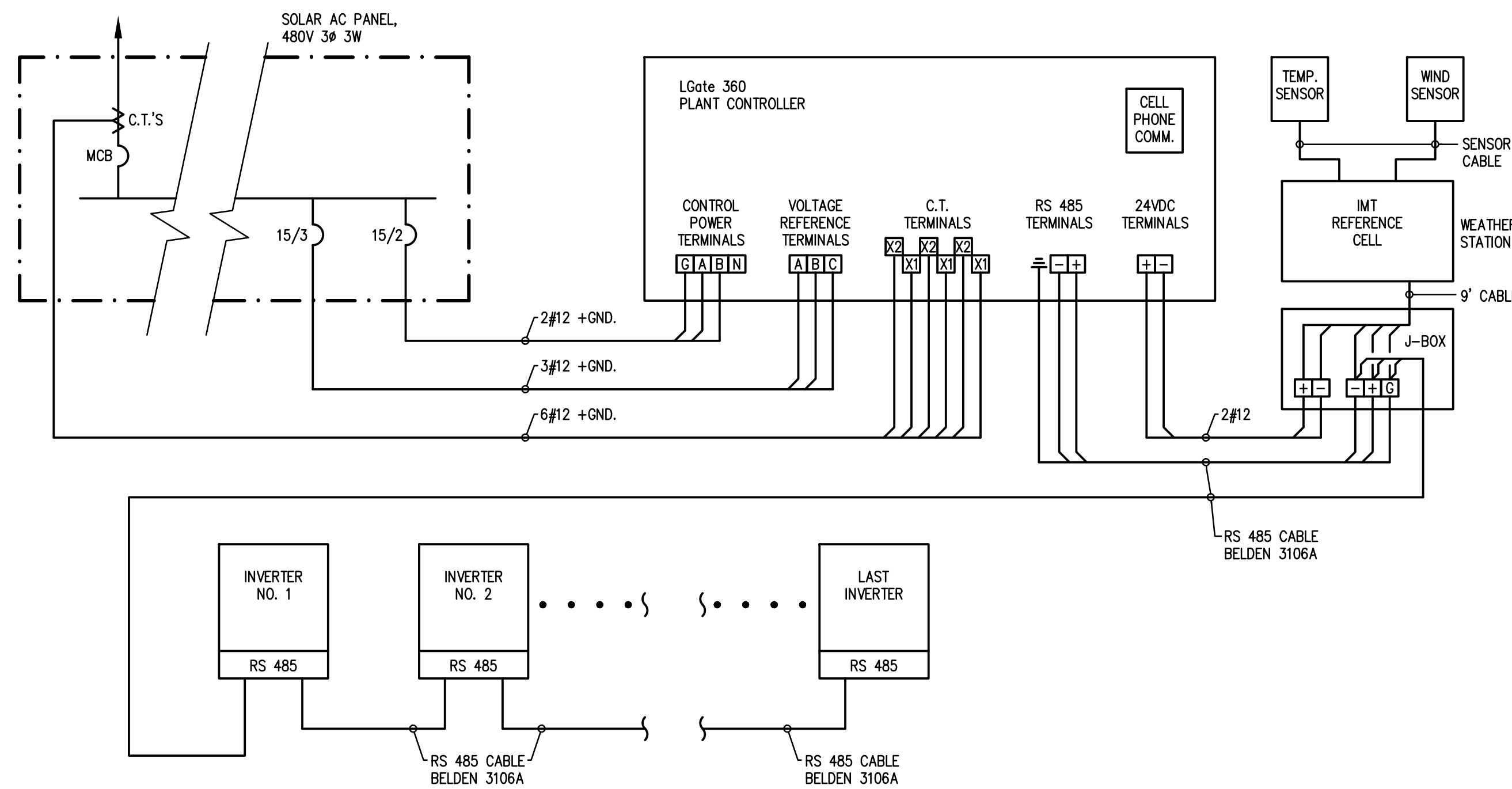
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SHEET TITLE
OUTDOOR LIGHTING TITLE 24 COMPLIANCE REPORT

SHEET NO.:

E7.0

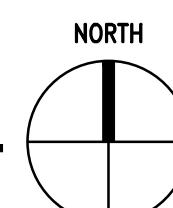
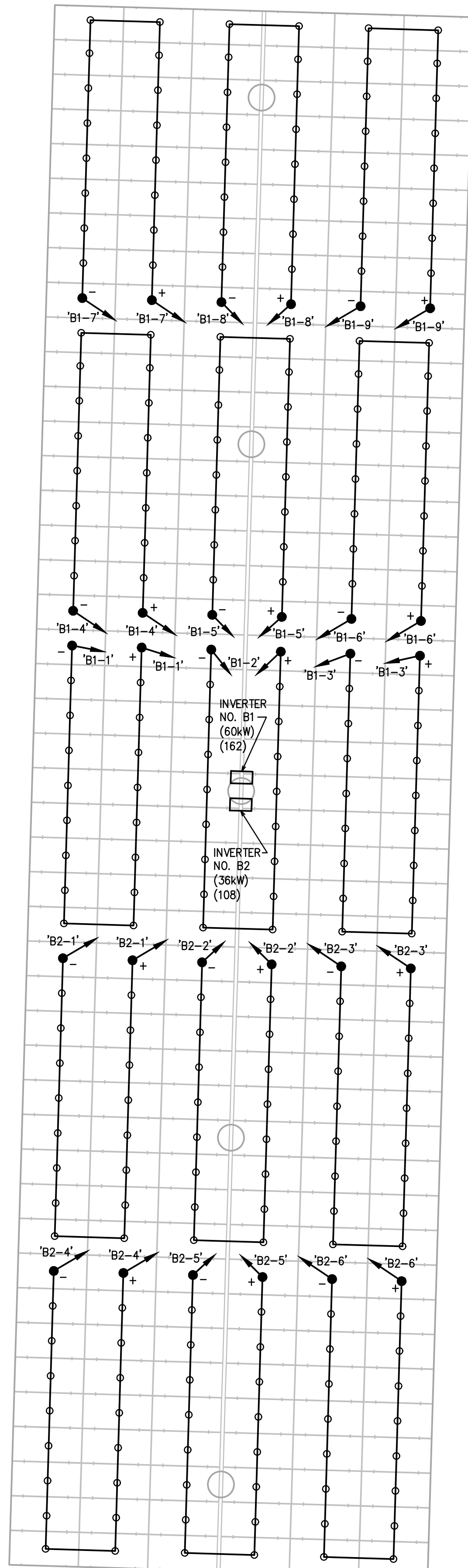
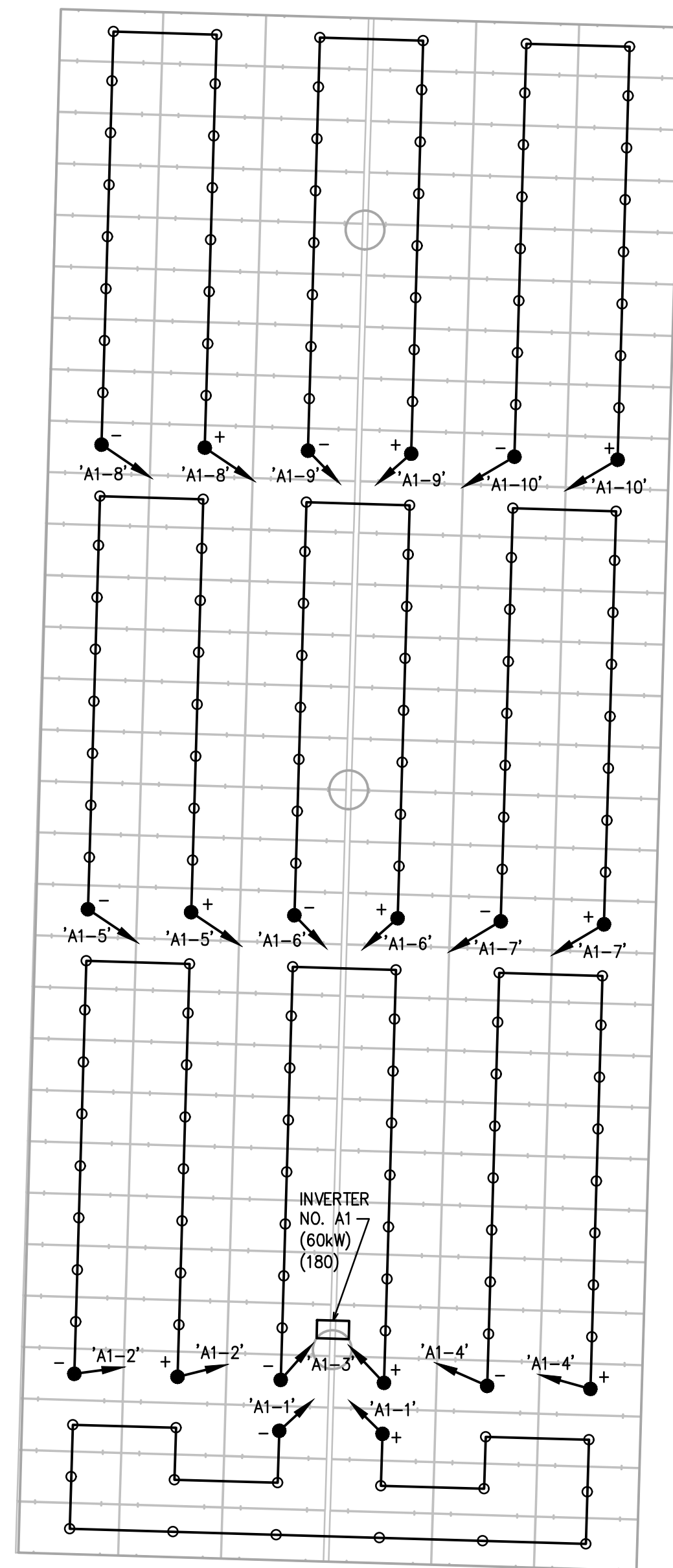




**TYPICAL DATA ACQUISITION SYSTEM WIRING DIAGRAM**

SCALE: NONE


1



**PV ARRAY STRING CABLING PLAN**

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

SYSTEM HOST



1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER



**FOREFRONT  
POWER**

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ELECTRICAL CONSTRUCTORS AND ENGINEERS



**COLLINS  
ELECTRICAL COMPANY INC.**

1902 Channel Drive  
West Sacramento, CA 95691  
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STRUCTURAL ENGINEERING AND STEEL CONSTRUCT



**TEICHERT  
SOLAR**

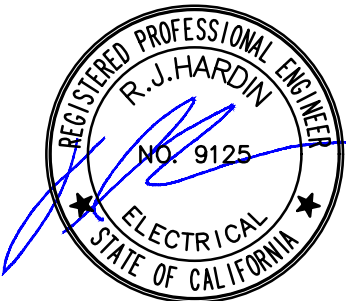
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ARCHITECT / ENGINEER OF RECORD



PROJECT

**BAKERSFIELD CITY  
SCHOOL DISTRICT**

BUS YARD  
1501 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE
1	PLAN REVIEW	06.28.23
DATE: 03.21.23		

SHEET TITLE

**PV SYSTEM ARRAY  
ELECTRICAL STRING  
CABLING PLAN**

SHEET NO.:

**E8.0**



# GENERAL STRUCTURAL NOTES

## DESIGN CRITERIA

**BUILDING CODE:** 2022 CALIFORNIA BUILDING CODE, REFERRED TO AS "THE CODE"  
**GOVERNING JURISDICTION:** CITY OF BAKERSFIELD, CA  
**OCCUPANCY TYPE:** S-2

**ROOF LIVE LOADS:**  
DISTRIBUTED = 12 PSF \*  
POINT LOAD = 300 LBS \*\*

\* NON-CONCURRENT W/ PV PANEL DEAD LOAD & WIND LOAD  
\*\* CONCURRENT W/ PV PANEL DEAD

**SNOW LOADS:**  
ZERO

**WIND ANALYSIS:** DIRECTIONAL PROCEDURE PER ASCE 7, CHAPTER 27  
BASIC WIND SPEED, V = 94 MPH  
WIND EXPOSURE = CATEGORY C  
RISK CATEGORY = II  
GUST EFFECT FACTOR, G = 0.85  
INTERNAL PRESSURE COEFFICIENT, GCp1 = ±0

**SEISMIC CRITERIA:**  
SITE CLASSIFICATION = D  
RISK CATEGORY = II  
SEISMIC DESIGN CATEGORY = D  
SEISMIC ANALYSIS: ASCE 7-16, CHAPTER 15  
SEISMIC FORCE-RESISTING SYSTEM = INVERTED PENDULUM  
RESPONSE MODIFICATION COEFFICIENT, R = 2.0  
SYSTEM OVERSTRENGTH FACTOR, Qo = 2.0  
DEFLECTION AMPLIFICATION FACTOR, Cd = 2.0  
SEISMIC IMPORTANCE FACTOR, Ie = 1.0  
REDUNDANCY FACTOR, ρ = 1.0 (longitudinal)  
REDUNDANCY FACTOR, ρ = 1.3 (transverse)  
Ss = 0.950g, Sds = 0.710g  
S1 = 0.343g, Sd1 = 0.448g  
SEISMIC BASE SHEAR.....Cs = 0.355

## GENERAL

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. DO NOT SCALE THE DRAWINGS. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES. SUBMIT CLARIFICATION REQUEST PRIOR TO PROCEEDING WITH WORK.
- ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY DEVIATION FROM THE APPROVED SET OF CONTRACT DOCUMENTS SHALL ONLY BE MADE AFTER WRITTEN APPROVAL BY THE ENGINEER OF RECORD. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK. UNLESS NOTED OTHERWISE, DETAILS IN STRUCTURAL DRAWINGS ARE TYPICAL AS INDICATED BY CUTS, REFERENCES OR TITLES.
- ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING LOCAL BUILDING CODE, AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK AND THOSE CODES AND STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- ALL REFERENCED STANDARDS (i.e. ACI, AISC, ASTM, ETC.) SHOWN IN THESE DOCUMENTS SHALL BE PER THE LATEST ADOPTED EDITION AS LISTED IN CHAPTER 35 OF THE CODE.
- CONTRACTOR TO PROVIDE A LIST OF ALL PROPOSED SUBSTITUTIONS, WITH APPLICABLE MANUFACTURER'S ICC/IAPMO REPORTS, TO ARCHITECT, ENGINEER OF RECORD AND GOVERNING JURISDICTION FOR REVIEW AND APPROVAL BEFORE FABRICATION.

## POST-INSTALLED CONCRETE ANCHORS

- POST-INSTALLED ANCHORAGE SHALL BE AS DETAILED ON THE PLANS. SUBSTITUTION OF PRODUCTS SPECIFICALLY DETAILED IN THESE DRAWINGS SHALL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.
- SPECIAL INSPECTION IS REQUIRED FOR ALL POST-INSTALLED ANCHORS, U.N.O.
- WHERE ANCHOR TYPE IS NOT NOTED OR AN ALTERNATE BRAND IS PREFERRED, THE FOLLOWING PRODUCTS ARE ACCEPTABLE TO BE SUBMITTED FOR A SUBSTITUTION REQUEST:

**EXPANSION ANCHORS**  
a. HILTI KWIK BOLT TZ (ICC ESR-1917)  
b. SIMPSON STRONG-BOLT-2 (ICC ESR-3037)  
c. POWERS POWER-STUD +SD2 (ICC ESR-5502)  
d. ALTERNATE APPROVED BY THE SEOR

- ALL CONCRETE ANCHORS WHICH ARE EXPOSED TO THE WEATHER SHALL BE STAINLESS STEEL OR HOT DIP GALVANIZED.

## FOUNDATIONS

- FOUNDATION DESIGN BASED ON THE FOLLOWING GEOTECHNICAL REPORT:  
COMPANY: BSK ASSOCIATES  
DATE: 11-07-2019  
REPORT NUMBER: G19-218-11B, PH. 003
- DRILLED PIERS ARE DESIGNED BASED ON THE FOLLOWING INFORMATION:  
ALLOWABLE LATERAL BEARING PRESSURE = 260 PSF/FT\*  
ALLOWABLE SKIN FRICTION = 250 PSF\*
- \* A 1/3 INCREASE IS PERMITTED FOR LOAD COMBINATIONS THAT INCLUDE WIND OR EARTHQUAKE LOADS.
- DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER, OR SEEPAGE SHOULD BE PERFORMED, IF REQUIRED.
- FOUNDATIONS SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON DRAWINGS. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE INSPECTOR OR SOILS ENGINEER, FOUNDATION ELEVATIONS WILL BE ALTERED.
- FOOTING BACKFILL AND UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS IN ACCORDANCE WITH THE SOILS REPORT OR BACKFILLED WITH 2-SACK SAND CEMENT SLURRY AND APPROVED BY THE SPECIAL INSPECTOR. SOILS REPORT SHALL TAKE PRECEDENCE WHEN RECOMMENDATION GIVEN.
- CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- SOIL REMOVAL AND RECOMPACTION SHALL BE PER THE SOILS REPORT AND APPROVED CONTRACT DOCUMENTS.
- THE DRILLED PIERS MUST BE INSPECTED BY THE SOILS ENGINEER PRIOR TO PLACING CONCRETE AND REINFORCING STEEL. ADJUST SHAFT LENGTHS UNDER DIRECTION OF THE SOILS ENGINEER AND THE OWNER'S REPRESENTATIVE BASED ON SOIL CONDITIONS AT TIME OF DRILLING.
- PRECAUTIONS SHOULD BE TAKEN DURING THE INSTALLATION OF PIERS TO MINIMIZE THE POSSIBILITY OF CAVING. PIERS SPACED CLOSER 3 PIER DIAMETERS SHOULD BE DRILLED AND FILLED ALTERNATELY, ALLOWING THE CONCRETE TO SET AT LEAST EIGHT HOURS BEFORE DRILLING AN ADJACENT HOLE.
- PIER EXCAVATIONS SHOULD BE FILLED WITH CONCRETE WITHIN 72 HOURS OR AS NOTED IN THE SOILS REPORT AFTER DRILLING AND INSPECTION, WHICHEVER IS SOONER.
- KEEP EXCAVATIONS FREE OF WATER BEFORE PLACING CONCRETE UNLESS OTHERWISE APPROVED BY THE SOILS ENGINEER. IF UNABLE TO SEAL OFF WATER FLOW, PER THE APPROVAL OF THE SOILS ENGINEER, ALLOW WATER LEVEL TO ATTAIN ITS NORMAL LEVEL AND PLACE CONCRETE BY THE TREMIE METHOD OR OTHER APPROVED METHOD.
- PLACE REINFORCING STEEL IN ONE CONTINUOUS UNIT AND ACCURATELY HOLD SECURELY IN FINAL POSITION USING CHAIRS OR SPACERS DURING CONCRETE PLACEMENT.
- AN UNREINFORCED HEIGHT OF 18 INCHES AT THE BOTTOM OF THE SHAFT IS ACCEPTABLE.
- CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF ACI 336.3R, LATEST EDITION.

## CONCRETE

- ALL CONCRETE CONSTRUCTION SHALL CONFORM WITH THE CODE AND WITH THE PROVISIONS OF ACI 318 AND ACI 301.
- CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE STRUCTURAL ENGINEER.
  - MIX DESIGN METHODS (TEST HISTORY OR TRIAL BATCH METHOD) PER THE CODE SHALL BE USED TO PROPORTION CONCRETE. SUBMIT MIX DESIGN METHOD DATA.
  - MIX DESIGNS SHALL SATISFY EITHER THE SHRINKAGE CRITERIA OR THE W/C RATIO AND TOTAL WATER CRITERIA.
- SCHEDULE OF STRUCTURAL CONCRETE PERFORMANCE REQUIREMENTS:

MINIMUM CONCRETE PROPERTIES			
ELEMENT	f <sub>c</sub> @ 28 DAYS [PSI]	MAX W/C	MAX DENSITY [PCF]
PIER FOUNDATIONS	5,000	0.50	150
EQUIPMENT PADS & MISC.	3,000	0.50	150

- PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE II
- AGGREGATE FOR HARDROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C33 AND PROJECT SPECIFICATIONS. EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE STRUCTURAL ENGINEER.
- CONCRETE MIXING OPERATION, ETC. SHALL CONFORM TO ASTM C94.
- PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 301 AND PROJECT SPECIFICATIONS. CLEAN AND ROUGHEN TO MIN. 1/2" AMPLITUDE ALL CONCRETE SURFACES AGAINST WHICH NEW CONCRETE IS TO BE PLACED.
- ALL REINFORCING BARS, ANCHOR BOLTS, AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
- PIPES OR CONDUITS LARGER THAN 4" DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY PERMITTED OR APPROVED BY STRUCTURAL ENGINEER. PIPES OR CONDUITS SHALL NOT DISPLACE OR INTERRUPT REINFORCING BARS. SPACE THE PIPES OR CONDUITS SUCH THAT PROPER CONCRETE PLACEMENT AND CONSOLIDATION IS ACHIEVED.
- PROVIDE MIN. 1/2" CHAMFER ON ALL EXPOSED CORNERS.
- THE STEEL STRUCTURES MAY BE INSTALLED 48 HOURS AFTER THE FOUNDATIONS HAVE BEEN CAST OR AFTER CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 1,500-PSI, WHICHEVER COMES FIRST. BREAK TESTS NOT REQUIRED IF WAITING UNTIL 48 HOURS TO ERECT STEEL.

## REINFORCING STEEL

- REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19 OF THE CODE, ASTM A615 (A706 WHERE NOTED ON PLANS), GRADE 60 U.N.O.
- BARS SHALL BE CLEAN OF RUST, GREASE, OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.
- REINFORCING BAR SPLICES SHALL, IN CONCRETE, CONFORM TO THE PROVISIONS OF ACI 318. LAP ALL HORIZONTAL BARS AT CORNERS AND INTERSECTIONS.
- BARS IN SLABS SHALL BE SECURELY SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED METAL CHAIRS. PRIOR TO PLACING CONCRETE.
- REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH ACI 315.
- COMPLETE AND DETAILED REINFORCING PLACEMENT DRAWINGS SHALL BE PREPARED AND SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION IN ACCORDANCE WITH SPECIFICATIONS AND APPLICABLE CODES. THE APPROVED DRAWINGS SHALL BE AVAILABLE ON THE JOB SITE PRIOR TO PLACING OF CONCRETE.
- REBAR SPACINGS GIVEN ARE MAXIMUM ON CENTER WHETHER STATED AS "O.C." OR NOT. UNLESS A SPECIFIED LENGTH IS GIVEN, ALL REBAR IS CONTINUOUS WHETHER STATED AS "CONT." OR NOT.
- MECHANICAL BAR SPLICES (COUPLERS) SHALL BE USED WHERE SPECIFIED ON PLANS. THEY MAY ALSO BE USED AT THE CONTRACTOR'S OPTION IN LIEU OF LAP SPLICES AND WHERE REINFORCING IS SHOWN CONTINUOUS THROUGH CONSTRUCTION JOINTS. UNLESS NOTED OTHERWISE, ALL MECHANICAL BAR SPLICES SHALL BE "TYPE 2" AS DEFINED BY ACI 318.
- COUPLERS SHALL BE AND BE LENTON A2 SERIES MECHANICAL SPLICES (IAPMO ER-0129), OR EQUIVALENT, AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- CONTINUOUS INSPECTION OF CONCRETE SHALL INCLUDE INSPECTION DURING INSTALLATION OF REINFORCING STEEL. INSPECTION SHALL BE SCHEDULED SO THAT PLACEMENT OF REINFORCING STEEL, CONDUIT, SLEEVES, AND EMBEDDED ITEMS, MAY BE CORRECTED PRIOR TO THE SCHEDULED POUR.
- CONCRETE PROTECTION FOR REINFORCEMENT:
  - CAST-IN-PLACE CONCRETE. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT.

MINIMUM CONCRETE COVER		
ELEMENT	COVER	TOLERANCE (+/-)
PERMANENTLY CAST AGAINST OR PERMANENTLY EXPOSED TO EARTH	3"	3/8"
EXPOSED TO EARTH OR WEATHER		
a) #6 THROUGH #18 BAR	2"	3/8"
b) #5 BAR OR SMALLER	1 1/2"	3/8"
NOT EXPOSED TO WEATHER OR CAST AGAINST GROUND	3/4"	3/4"

## SUBMITTALS

- THE STRUCTURAL SHOP DRAWING REVIEW IS INTENDED TO HELP THE ENGINEER VERIFY THE DESIGN CONCEPT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK THEIR OWN SHOP DRAWINGS.
- THE STRUCTURAL SHOP DRAWINGS WILL BE RETURNED FOR RESUBMITTAL IF A CURSORY REVIEW SHOWS MAJOR ERRORS WHICH SHOULD HAVE BEEN FOUND BY THE CONTRACTOR'S CHECKING.
- THE FOLLOWING SHOP DRAWINGS ARE NOT REQUIRED FOR SUBMITTAL FOR STRUCTURAL REVIEW:
  - SHORING AND BRACING.
  - UNSPliced REBAR AT SLAB-ON-GRADE AND SPREAD FOOTINGS.
  - FORMWORK.
  - STRUCTURAL STEEL MILL REPORTS.
- THE FOLLOWING SHOP DRAWINGS (AND CALCULATIONS WHEN APPLICABLE) ARE REQUIRED FOR SUBMITTAL FOR STRUCTURAL REVIEW:
  - CONCRETE MIX DESIGNS, INCLUDING STRENGTH TEST RESULTS
  - REINFORCING STEEL (EXCEPT WHERE NOTED BY NOTE 3 ABOVE)
  - STRUCTURAL STEEL
  - ANCHOR ROD CUT SHEET WITH DIAMETER, LENGTH, AND MATERIAL STRENGTH
  - WELDING PROCEDURE SPECIFICATIONS
- ANY SUBMITTAL OF A DETAIL SHEET WITH ADDED INFORMATION NOT SHOWN ON PLANS SHALL BE ACCOMPANIED BY LOCATION PLAN IDENTIFYING THE MEMBERS INVOLVED AND CLOUDING AROUND ADDED INFORMATION.
- THE SHOP DRAWINGS SHALL REFERENCE THE DATA OF THE DESIGN USED TO PRODUCE THE SUBMITTAL.
- CONTRACTOR/SUBCONTRACTOR TO PROVIDE DIGITAL SET OF SHOP DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER. DIGITAL SET WILL BE RETURNED TO THE CONTRACTOR FOR DISTRIBUTION.

## COLD FORMED STEEL

- ALL COLD-FORMED METAL FRAMING CONSTRUCTION SHALL BE IN ACCORDANCE WITH AISI S100 "SPECIFICATIONS FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
- ALL COLD-FORMED STEEL SHALL CONFORM TO THE FOLLOWING (U.N.O.):

43 MIL / 18GA AND LIGHTER	ASTM A1003, GR 33 OR ASTM 653, GR 33
54 MIL / 16 GA AND HEVIER	ASTM A1003, GR 55 OR ASTM 653, GR 55

- ALL COLD-FORMED STEEL SHALL HAVE A MINIMUM COATING PROTECTION G90.
- WELDING IS NOT PERMITTED UNLESS SPECIFICALLY APPROVED BY THE SEOR.
- ALL APPROVED WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED FOR ALL APPROPRIATE DIRECTIONS COMPLYING WITH AWS D1.3. WELDING RODS SHALL CONFORM TO THE FOLLOWING:

43 MIL / 18GA AND LIGHTER	E60XX
54 MIL / 16 GA AND HEVIER	E70XX OR E8013
COLD FORMED TO STRUCTURAL STEEL	E70XX LOW HYDROGEN

- WIRE TYING OF FRAMING COMPONENTS SHALL NOT BE PERMITTED.
- TEMPORARY BRACING REQUIREMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL SCREWS SHALL BE FULLY DRIVEN AND PROTRUDE THE LARGER OF 3 THREADS OR 1/4" THROUGH THE LAST MATERIAL JOINED. THERE SHALL BE NO SPACE BETWEEN JOINING MEMBERS AT THE SCREW LOCATION.
- ALL FIELD CUTTING OF MEMBERS SHALL BE BY SAWING OR SHEARING. TORCH OR PLASMA CUTTING OF MEMBERS SHALL NOT BE PERMITTED.
- ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED ON AN ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED.
- SPLICING OF PURLINS OR OTHER LOAD CARRYING MEMBERS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE ENGINEER OF RECORD.
- WHEN CLIP ANGLES WITH SCREW CONNECTIONS ARE USED TO ATTACH A COMPONENT TO THE PRIMARY STRUCTURE, THE CLIP ANGLE SHALL BE FASTENED TO THE PRIMARY STRUCTURE FIRST; THEN THE COMPONENT SHALL BE BROUGHT TO BEAR ON THE STRUCTURE AND FASTENED TO THE CLIP ANGLE.
- MEMBERS SHALL BE IDENTIFIED PER SECTION 2202A.1 OF 2022 CBC PART 2, VOL. 2.
- ALL EXTERIOR SCREWS SHALL BE ELCO DRIL-FLEX (ICC ESR-3332) OR ITW BUILDEX TEKS SELECT (ICC ESR-3223) UNLESS APPROVED BY THE SEOR.

## STRUCTURAL INSPECTION AND TESTING

THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER CHAPTER 17A OF THE CODE, U.N.O.

SPECIAL INSPECTIONS AND TESTING SHALL BE PROVIDED BY AN INSPECTION AGENCY, EMPLOYED BY THE OWNER, AND QUALIFIED BY THE BUILDING OFFICIAL TO INSPECT THE PARTICULAR TYPE OF CONSTRUCTION. TESTS AND INSPECTIONS, AS REQUIRED BY SECTIONS 110.3 & 1705.4 OF THE 2022 CBC W/ CALIFORNIA AMENDMENTS, SHALL BE PERFORMED DURING CONSTRUCTION ON THE TYPES OF WORK LISTED BELOW:

TESTING AND INSPECTION	TESTING	
	INSPECTIONS	TESTING
STEEL CONSTRUCTION	1705A.2	1705A.13
CONCRETE CONSTRUCTION	1705A.3	1705A.3
SOILS	1705A.6	1705A.6
CAST-IN-PLACE DEEP FOUNDATIONS	1705A.8	1705A.8

- THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE, IN ADDITION TO, AND NOT A SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY THE GOVERNING JURISDICTION. SPECIALLY INSPECTED WORK WHICH IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF AN INSPECTOR FROM THE GOVERNING JURISDICTION IS SUBJECT TO REMOVAL OR EXPOSURE.
- FOR CONTINUOUS INSPECTION, WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE CONTINUOUSLY OBSERVED IN ACCORDANCE WITH THE PROVISIONS OF THE CODE, IT IS THE AGENT'S RESPONSIBILITY TO EMPLOY A SUFFICIENT NUMBER OF INSPECTORS TO ASSURE THAT ALL WORK IS INSPECTED IN ACCORDANCE WITH THOSE PROVISIONS.
- THE SPECIAL INSPECTORS MUST BE CERTIFIED BY THE GOVERNING JURISDICTION IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION. EXCEPTIONS:
  - SOILS INSPECTIONS BY THE SOILS ENGINEER OF RECORD OR PROJECT INSPECTOR
  - WHEN WAIVED BY THE GOVERNING JURISDICTION
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INFORM THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR OR INSPECTION AGENCY AT LEAST TWO WORKING DAYS PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ALL WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.
- PROVIDE SPECIAL INSPECTION FOR CONNECTIONS BOLTED WITH A325 AND A490 BOLTS. INSPECTIONS SHALL BE DONE PER APPROVED NATIONALLY RECOGNIZED STANDARDS AND THE REQUIREMENTS OF THE CODE AND THE GOVERNING JURISDICTION. WHILE THE WORK IS IN PROGRESS, THE SPECIAL INSPECTOR SHALL DETERMINE THE BOLTS, NUTS, WASHERS AND PAINT. BOLTED PARTS; AND INSTALLATION AND TIGHTENING MEET THE STANDARDS REQUIREMENTS.
- THE SPECIAL INSPECTOR FOR HIGH STRENGTH BOLTED CONNECTIONS SHALL:
  - OBSERVE THE CALIBRATION PROCEDURES WHEN SUCH PROCEDURES ARE REQUIRED BY THE PLANS OR SPECIFICATIONS.
  - MONITOR THE INSTALLATION OF BOLTS TO DETERMINE THAT ALL PLIES OF CONNECTED MATERIALS HAVE BEEN DRAWN TOGETHER.
  - MONITOR THAT THE SELECTED PROCEDURE IS PROPERLY USED TO TIGHTEN ALL BOLTS.
- IF DEEMED NECESSARY, THE SPECIAL INSPECTOR SHALL PROVIDE PROGRESS REPORTS AND A FINAL REPORT TO THE STRUCTURAL ENGINEER.
- THE SPECIAL INSPECTOR SHALL ENSURE THAT ALL DEFICIENCIES NOTED BY THE STRUCTURAL ENGINEER IN STRUCTURAL OBSERVATION REPORTS ARE CORRECTED. SUCH COMPLIANCE SHALL BE REFERENCED IN SPECIAL INSPECTOR REPORT.
- THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY THE GOVERNING JURISDICTION, FOR TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENTS.
- PERIODIC INSPECTION SHALL OCCUR FREQUENTLY ENOUGH TO INSPECT ALL OF THE INSTALLED ITEMS AND TO PERIODICALLY WITNESS THE INSTALLATION OF THE ITEMS.

## STRUCTURAL STEEL

- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISC 360 AND AISC 303.
- ALL STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION AS INDICATED BELOW (U.N.O.):

MINIMUM MATERIAL PROPERTIES	
ELEMENT	ASTM
BASE PLATES & CAP PLATES	A572, GR 50
ALL OTHER PLATES	A36, GR 36 OR DUAL GRADE
WF MATERIAL	A992, GR 50
HSS MATERIAL	A500, GR B
STRUCTURAL PIPES	A53, GR B
HIGH STRENGTH BOLTS	F3125 GR A325
MACHINE BOLTS	A307
ANCHOR BOLTS	F1554, GR 105

- THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STEEL FOR STRUCTURAL ENGINEER'S REVIEW BEFORE FABRICATION.
- HOLE IN STEEL SHALL BE 1/16" LARGER DIAMETER THAN NOMINAL SIZE OF BOLT USED, EXCEPT AS NOTED. COLUMN BASE PLATE HOLES MAY BE OVERSIZED PER AISC MANUAL OR AS NOTED.
- ALL STRUCTURAL STEEL SURFACES THAT ARE ENCASED IN CONCRETE, MASONRY, OR SPRAY ON FIREPROOFING, OR ARE ENCASED BY BUILDING FINISH, SHALL BE LEFT UNPAINTED.
- ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL EXPOSED TO THE WEATHER SHALL BE HOT DIP GALVANIZED OR PAINTED AFTER FABRICATION, U.N.O.
- GALVANIZING AT FIELD WELDS AND DAMAGE SHALL BE REPAIRED WITH A GALVANIZING REPAIR PAINT ACCORDING TO ASTM A780.
- TIGHTEN HIGH STRENGTH BOLTS TO "SNUG-TIGHT" CONDITION PER AISC SPECIFICATION FOR STRUCTURAL JOINTS, U.N.O.
- PROVIDE BEVELED WASHERS PER ANSI B18.23.1 AS REQUIRED ON SLOPED SURFACES.
- GROUT OTHER SHALL BE NON-SHRINK, NON-METALLIC GROUT, MEETING ASTM C-1107, MIXED AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
- TIGHTEN ANCHOR BOLTS TO "SNUG TIGHT" CONDITION PER AISC SPECIFICATIONS, U.N.O.
- ALL WELDS SHALL BE IN CONFORMITY WITH THE PROJECT SPECIFICATIONS AND AWS D1.1. SEE SPECIAL INSPECTION SECTION FOR WELDING INSPECTION REQUIREMENTS.
  - ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS USING E70XX ELECTRODES (U.N.O.)
  - WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC 360.
  - WELDS TERMINATING AT ENDS OR SIDES, WHERE PRACTICAL, SHALL BE RETURNED CONTINUOUSLY AROUND CORNERS A DISTANCE 2 TIMES THE NOMINAL SIZE OF THE WELD PER AISC 360 SECTION J2.2B, U.N.O.
  - ALL FULL-PENETRATION FIELD WELDS SHALL BE ULTRASONICALLY TESTED.
  - ALL TWO-SIDED FILLET WELDS SHOWN SHALL BE WELDED WITH THE SAME (GIVEN) WELD SIZE ON BOTH SIDES.
  - ALL UNSIZED GROOVE OR BUTT WELDS SHOWN SHALL BE COMPLETE PENETRATION.
  - ALL PROVISIONS OF AWS SHALL BE OBSERVED INCLUDING REQUIREMENTS FOR BACK-UP PLATES AND WELD TRANSITIONS WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN.
  - A WRITTEN WELDING PROCEDURE SPECIFICATION SHALL BE SUBMITTED TO THE TESTING LABORATORY. IT SHALL INCLUDE ALL WELDING PROCEDURES TO BE USED AS DESCRIBED IN AWS, CHAPTER 4.
  - WHERE FIELD WELDING IS INDICATED, THE FIELD DESIGNATION IS GIVEN AS A RECOMMENDATION ONLY.

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S500	STEEL DETAILS

## SYSTEM HOST



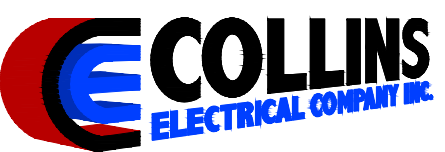
1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

## SYSTEM DEVELOPER



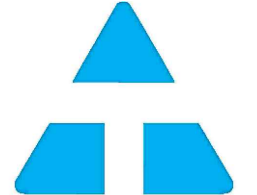
1100 Montgomery Street, #1400  
San Francisco, CA 94104  
855-204-5083

## ELECTRICAL CONSTRUCTORS AND ENGINEERS



1902 Channel Drive  
West Sacramento, CA 95691  
916-567-1100

## STRUCTURAL ENGINEERING AND STEEL CONSTRUCTION



10620 Treena Street, Ste. 140  
San Diego, CA 92131  
562-283-2970

## ARCHITECT OF RECORD

M M P V d e s i g n

Mariana Moncada, Architect  
718 West Arbor Drive  
San Diego, CA 92103  
619.632.2883

## ARCHITECT / ENGINEER OF RECORD



## PROJECT

**BAKERSFIELD CITY  
SCHOOL DISTRICT**

## BUS YARD

1501 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO. REVISION DATE

DATE:

06.28.22

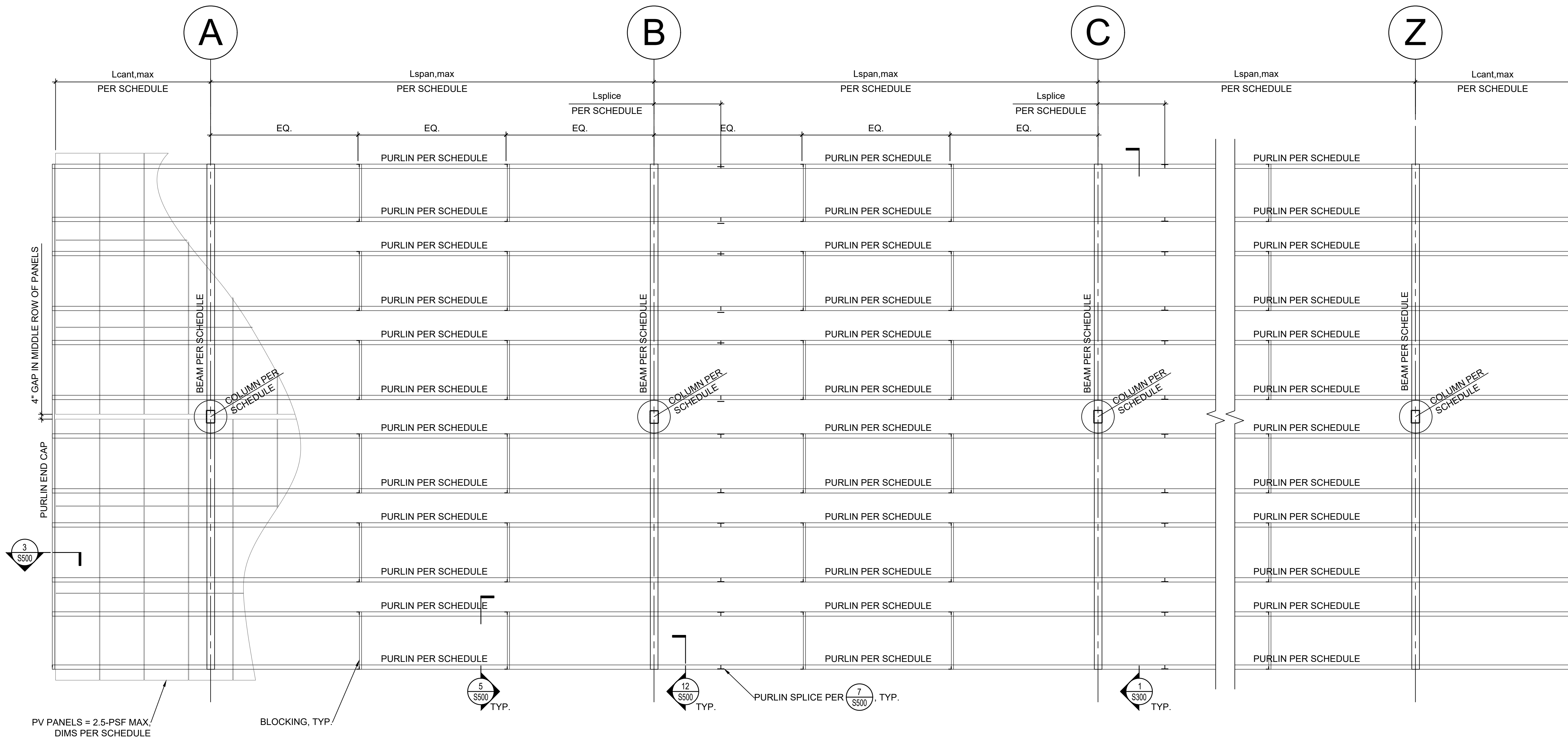
SHEET TITLE

**GENERAL  
STRUCTURAL  
NOTES**

SHEET NO.:

**S100**

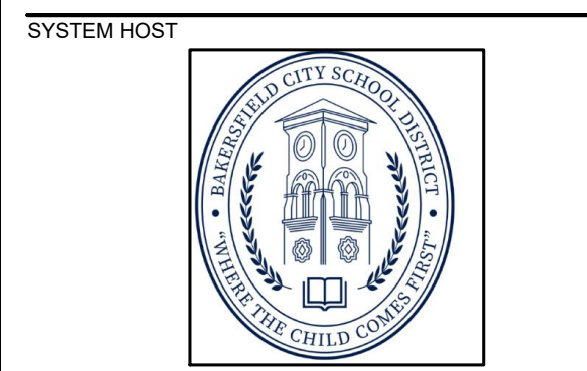




**1 FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

MEMBER & DIMENSIONAL SCHEDULE												
ARRAY	ARRAY SIZE	# OF COLUMNS	COLUMN	BEAM	PURLIN	PANEL LENGTH	PANEL WIDTH	MAX SPAN LENGTH, Lspan	MAX CANT. LENGTH, Lcant	SPLICE LENGTH, Lsplice	MAX. COLUMN LENGTH	MIN. CLEARANCE
A	6x45	5	HSS12x8x5/16	W14X30	12X4X14GA	78.9"	39.2"	33'-1 1/2"	8'-3 1/8"	4'-11 5/8"	18'-0"	15'-0"

**2 SCHEDULE**  
NO SCALE



1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600

SYSTEM DEVELOPER



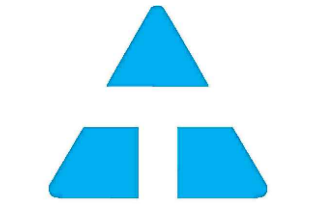
100 Montgomery Street, #1400  
San Francisco, CA 94104  
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STRUCTURAL ENGINEERING AND STEEL CONSTRUCT



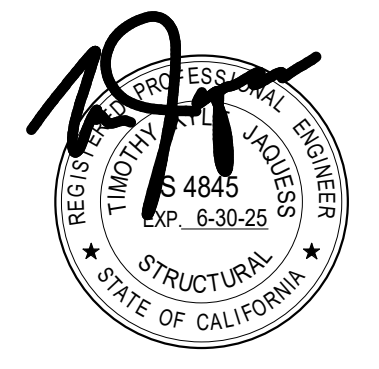
10620 Treena Street, Ste. 140  
San Diego, CA 92131  
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ARCHITECT / ENGINEER OF RECORD



PROJECT  
**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
1501 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE

DATE: 06.28.22

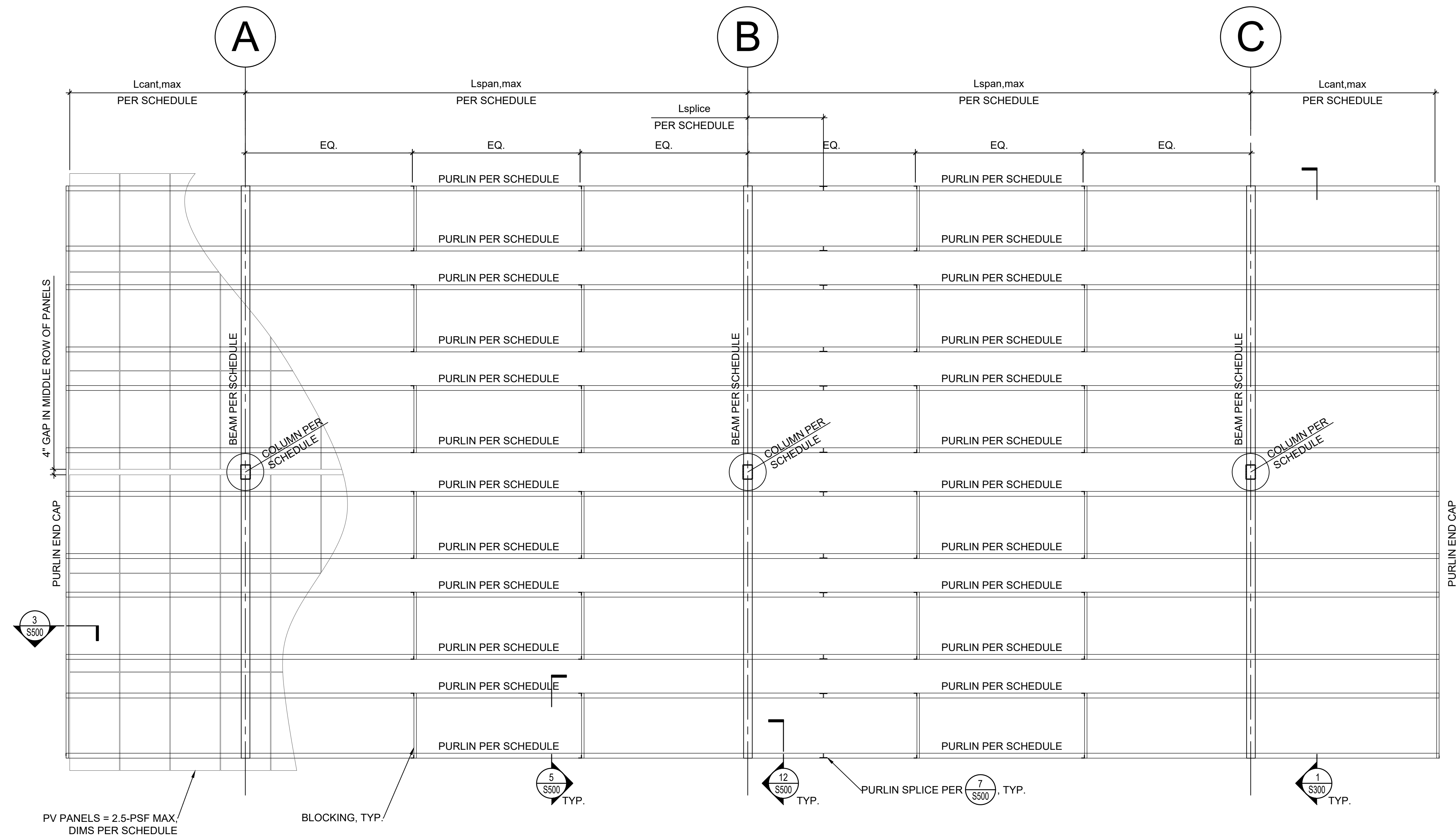
SHEET TITLE

**FRAMING PLAN & SCHEDULE**

SHEET NO.:

**S200**



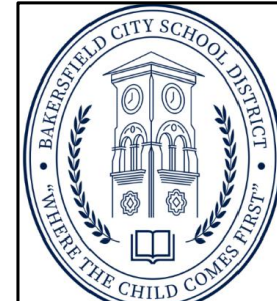


**1 FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

MEMBER & DIMENSIONAL SCHEDULE												
ARRAY	ARRAY SIZE	# OF COLUMNS	COLUMN	BEAM	PURLIN	PANEL LENGTH	PANEL WIDTH	MAX SPAN LENGTH, Lspan	MAX CANT. LENGTH, Lcant	SPLICE LENGTH, Lsplice	MAX. COLUMN LENGTH	MIN. CLEARANCE
B	6x30	3	HSS12x8x5/16	W14X30	12X4X14GA	78.9"	39.2"	36'-0"	13'-7 1/2"	6'-6 7/8"	18'-0"	15'-0"

**2 SCHEDULE**  
NO SCALE

SYSTEM HOST



1300 Baker Street  
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SYSTEM DEVELOPER



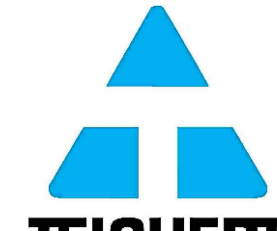
100 Montgomery Street, #1400  
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STRUCTURAL ENGINEERING AND STEEL CONSTRUCT



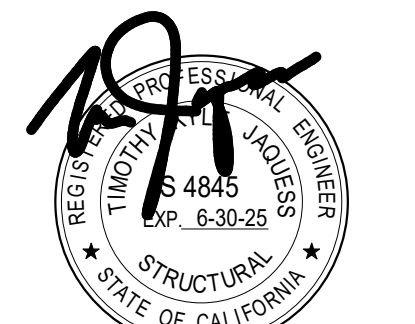
10620 Treena Street, Ste. 140  
San Diego, CA 92131  
562-283-2970

ARCHITECT OF RECORD

M M P V design

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ARCHITECT / ENGINEER OF RECORD



PROJECT  
**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
1501 FELIZ DRIVE  
BAKERSFIELD, CA 93307

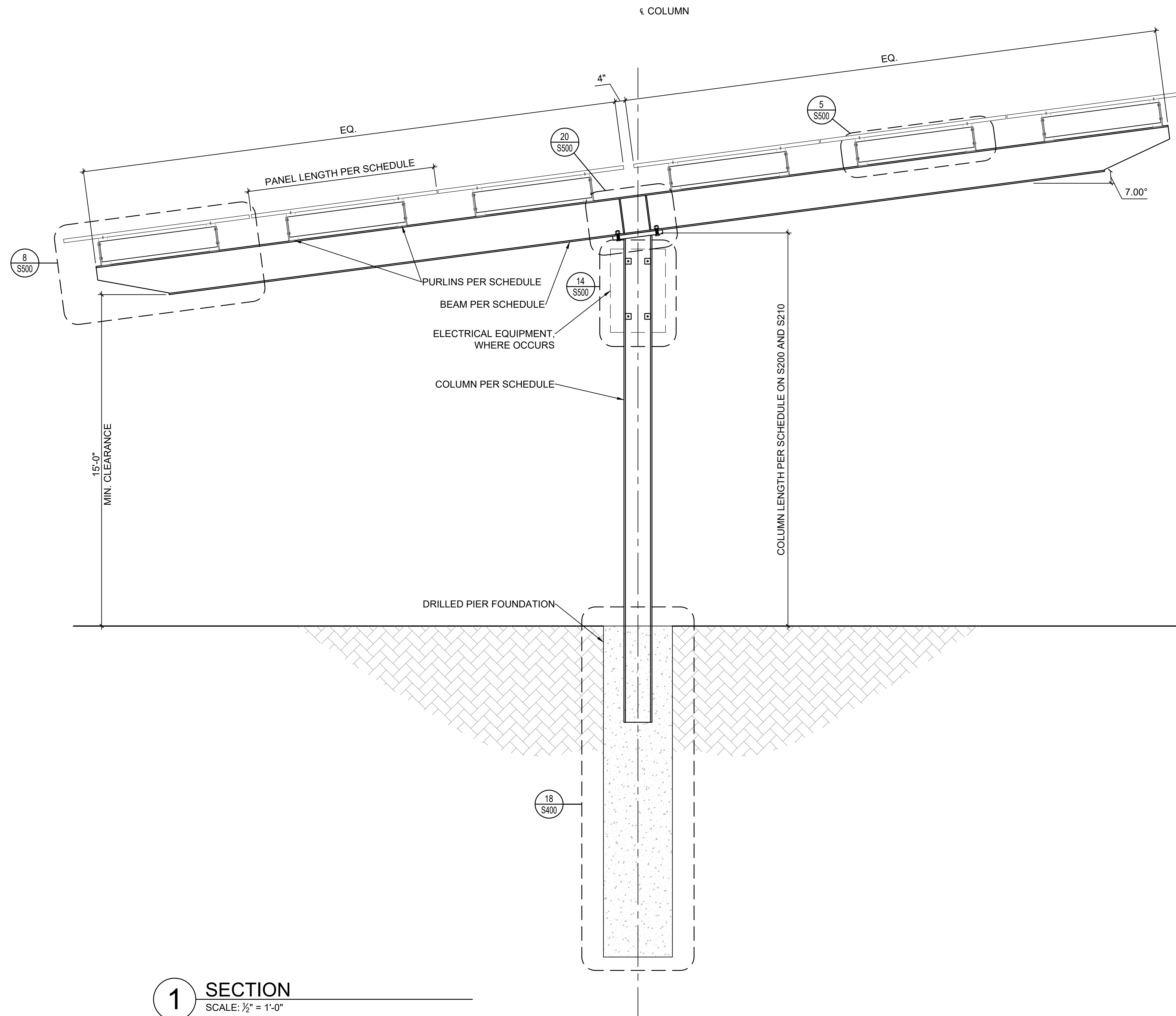
NO.	REVISION	DATE

DATE: 06.28.22

SHEET TITLE  
**FRAMING PLAN & SCHEDULE**

SHEET NO.:  
**S210**





**1 SECTION**  
SCALE: 1/2" = 1'-0"

SYSTEM HOST



1300 Baker Street  
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SYSTEM DEVELOPER



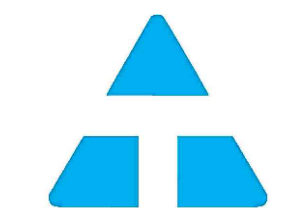
100 Montgomery Street, #1400  
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855-204-5083

ELECTRICAL CONSTRUCTORS AND ENGINEERS



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PROJECT  
**BAKERSFIELD CITY  
SCHOOL DISTRICT**

BUS YARD  
1501 FELIZ DRIVE  
BAKERSFIELD, CA 93307

NO.	REVISION	DATE

DATE: 06.28.22

SHEET TITLE

**SECTION - 6X**

SHEET NO.:

**S300**





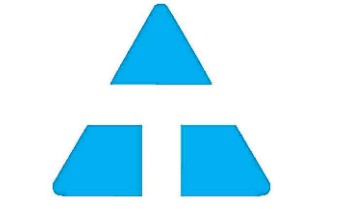
1300 Baker Street  
Bakersfield, CA 93305  
661-631-4600



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San Francisco, CA 94104  
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619.632.2883



PROJECT  
**BAKERSFIELD CITY SCHOOL DISTRICT**

BUS YARD  
1501 FELIZ DRIVE  
BAKERSFIELD, CA 93307

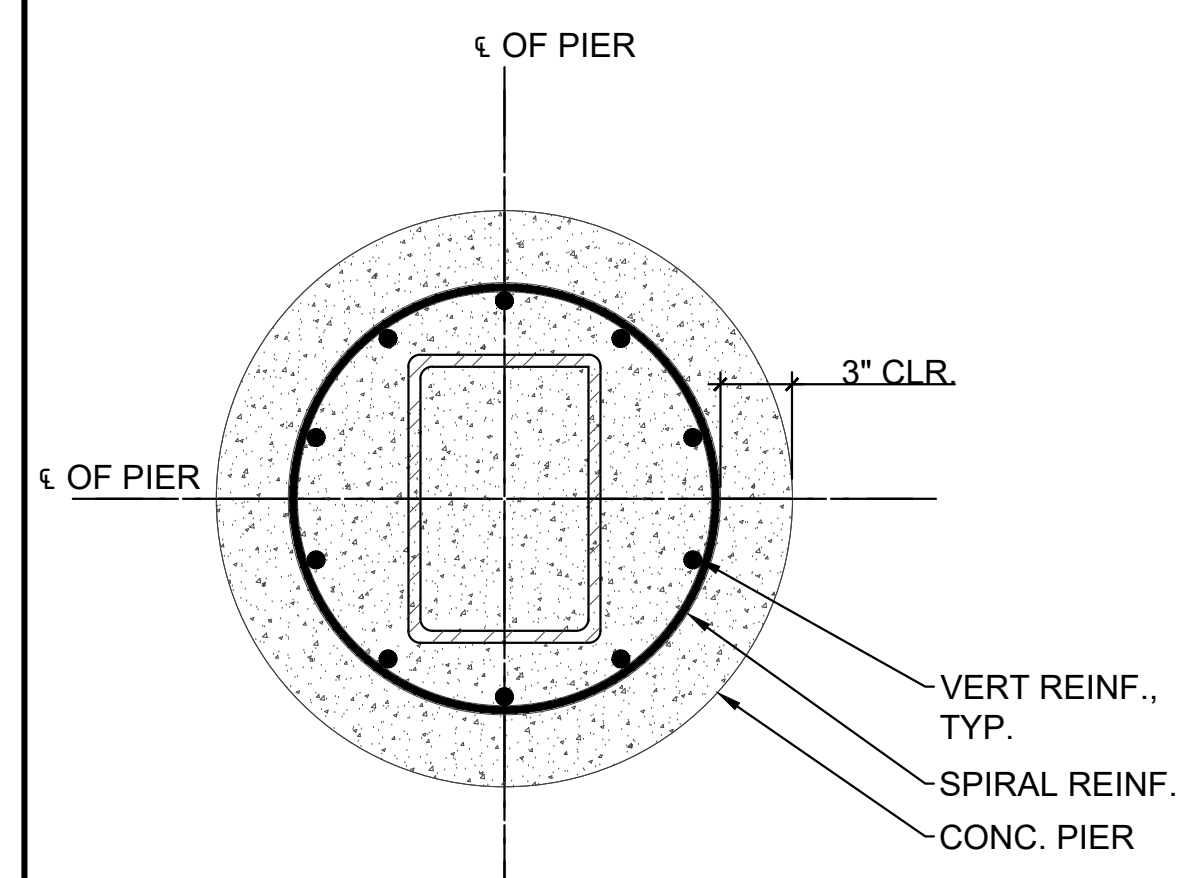
NO.	REVISION	DATE

DATE: 06.28.22

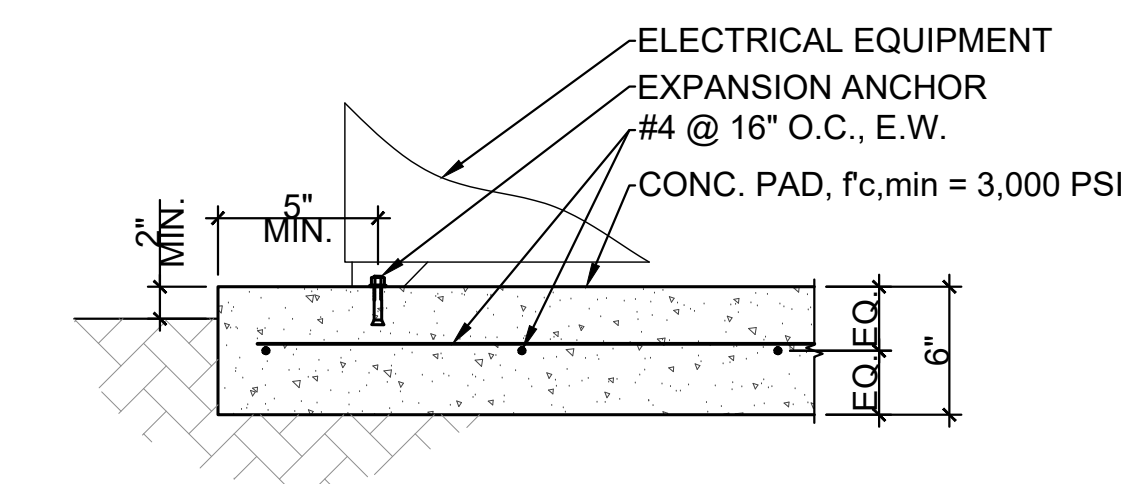
SHEET TITLE  
**FOUNDATION & ANCHORAGE DETAILS**

SHEET NO.:

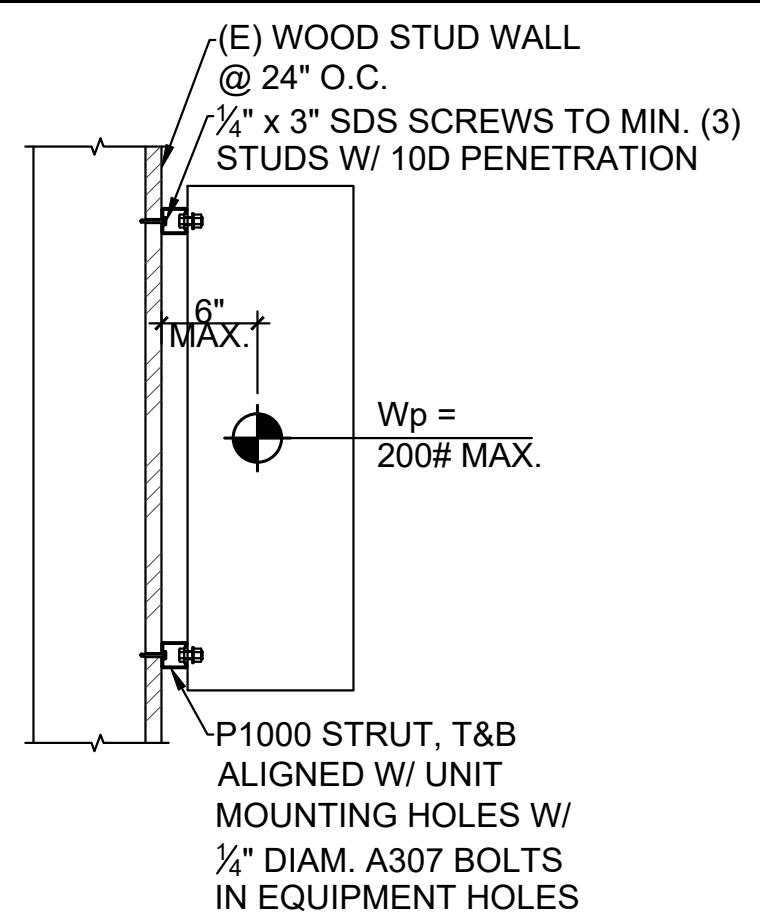
**S400**



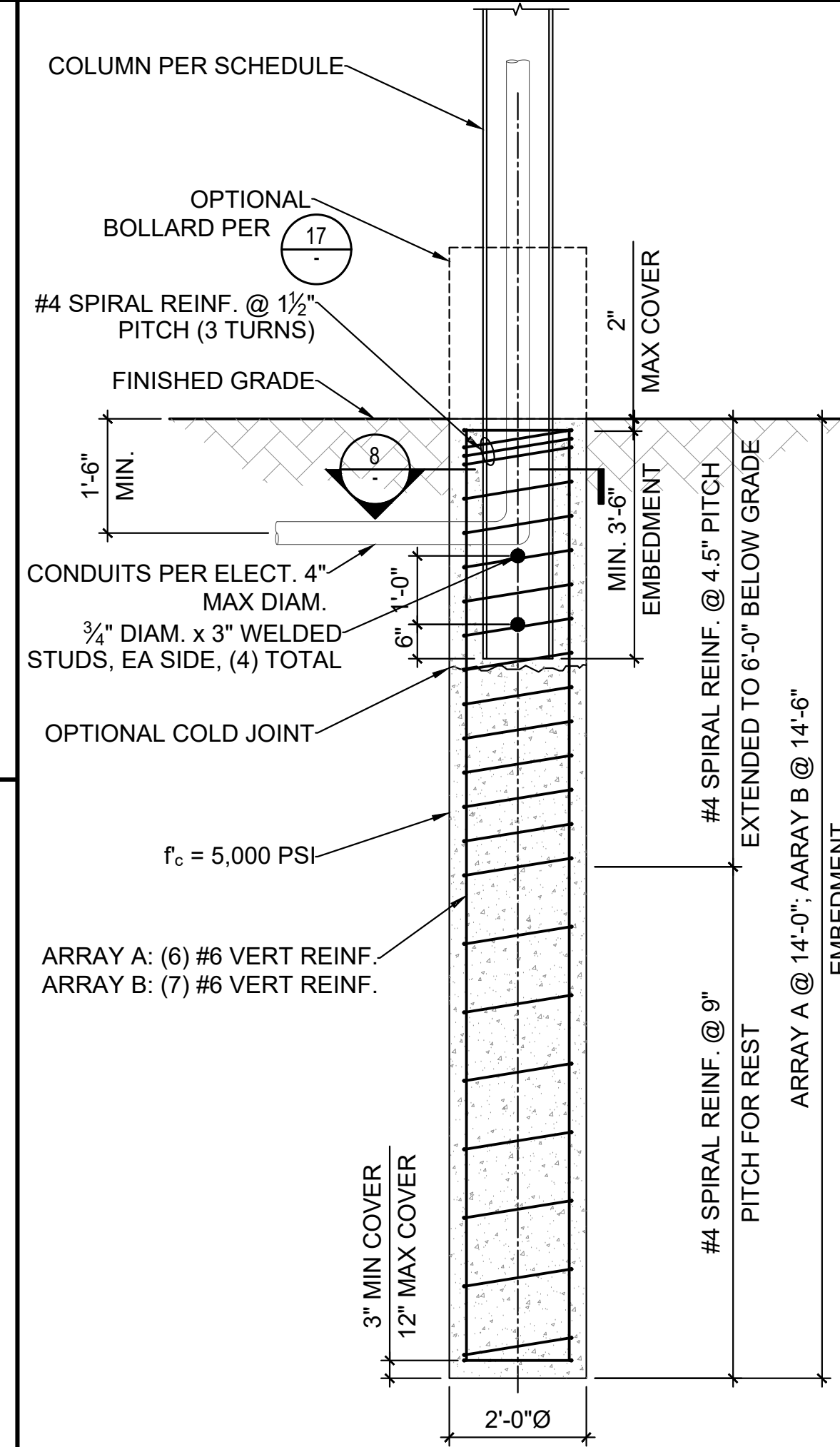
**8 REINF. PLACEMENT**  
SCALE: 3" = 1'-0"



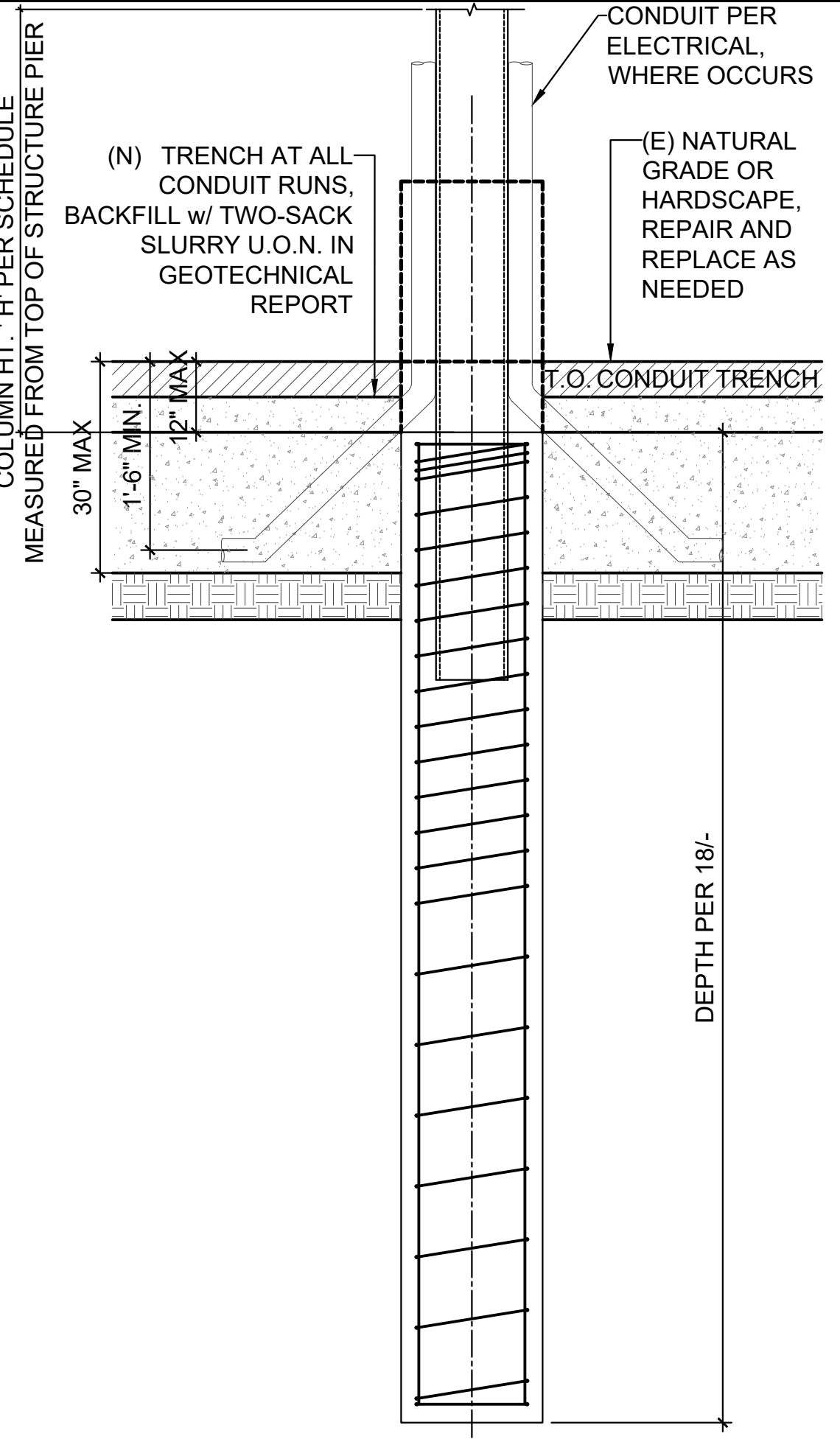
**9 EQUIPMENT PAD**  
SCALE: 1" = 1'-0"



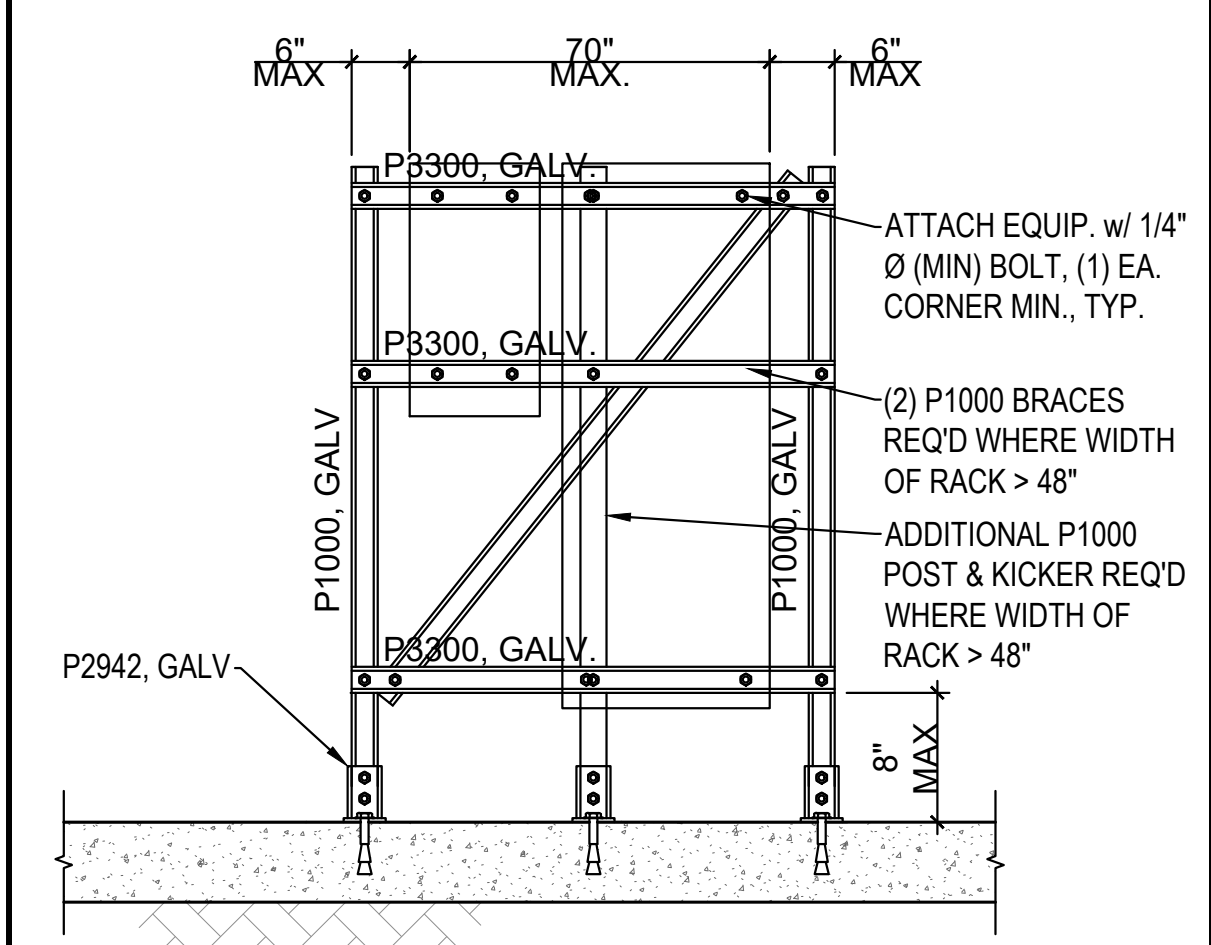
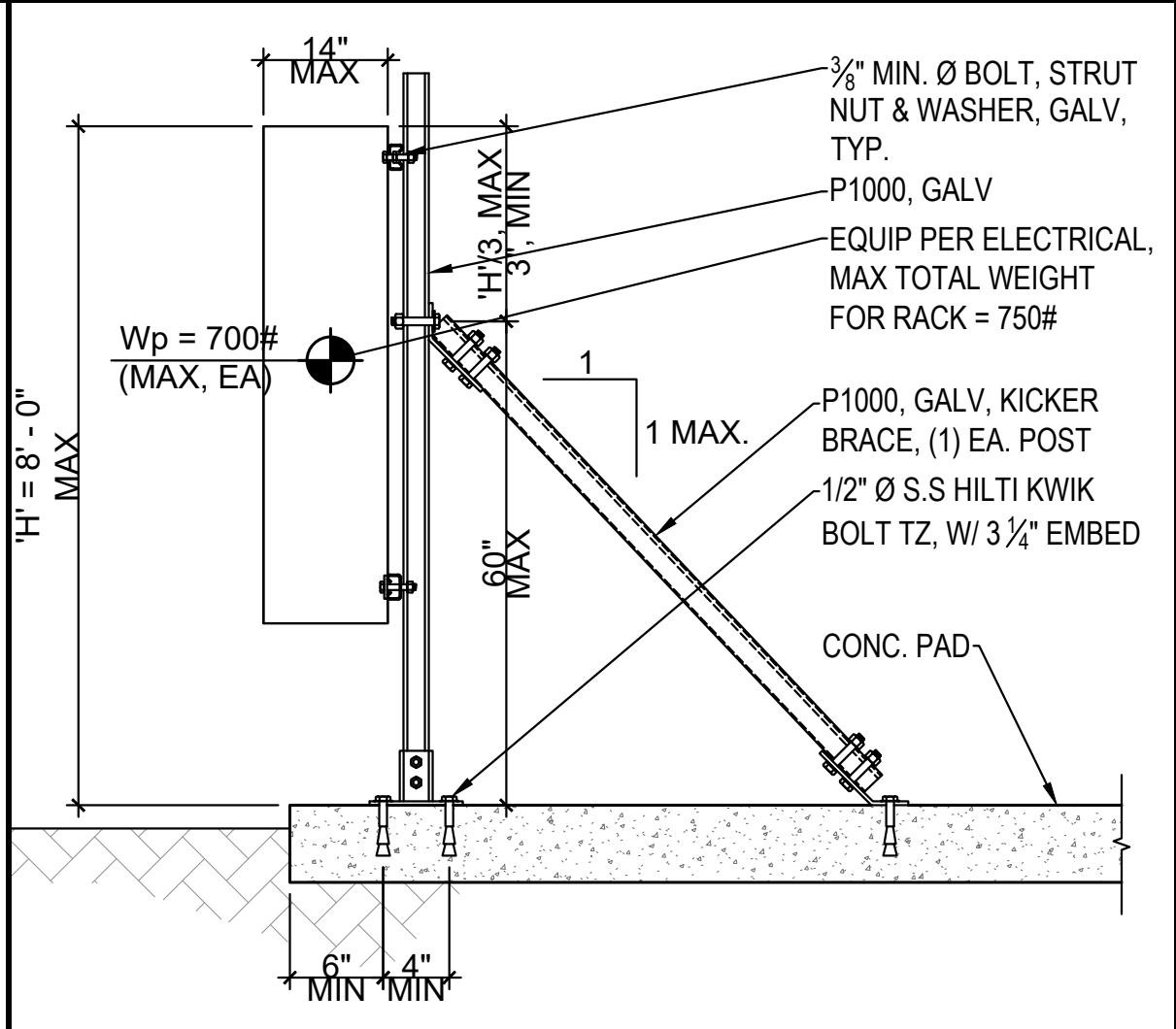
**12 WALL MOUNTED EQUIPMENT**  
SCALE: 1/2" = 1'-0"



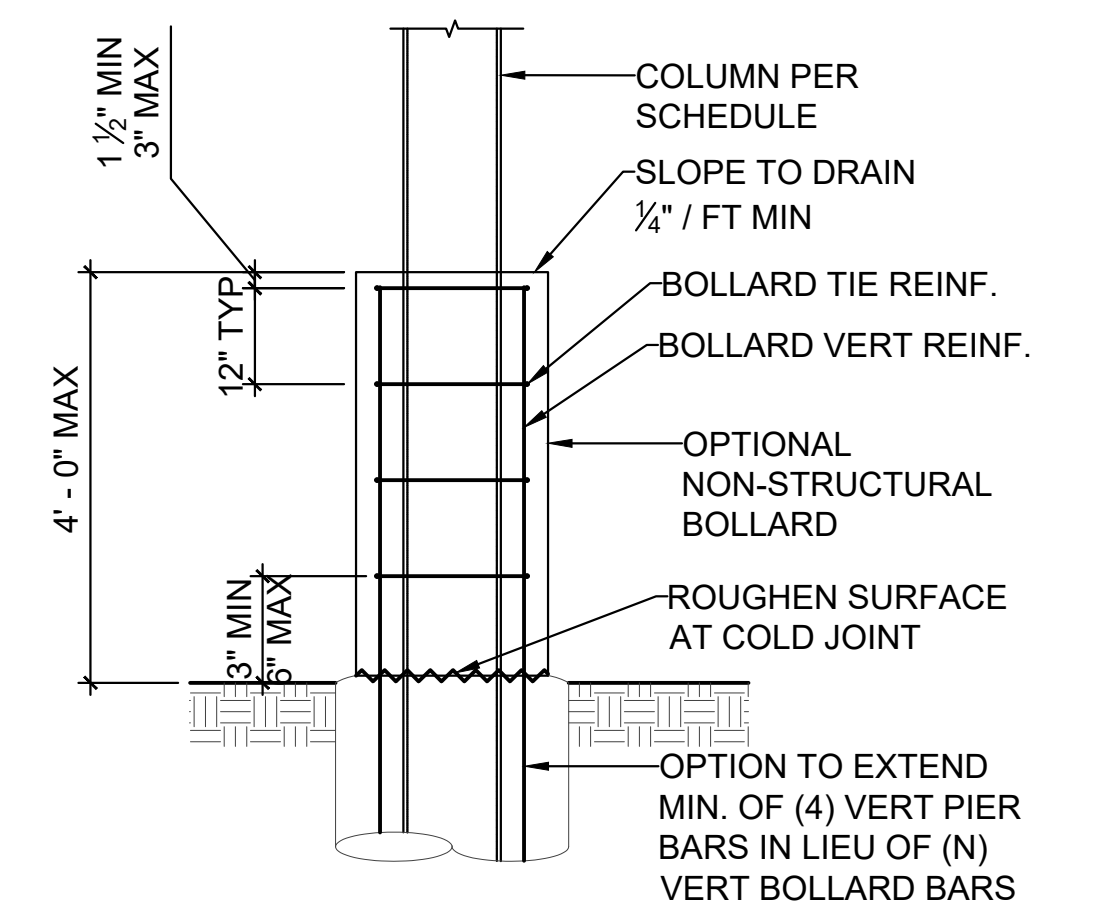
**18 PIER FOUNDATION**  
SCALE: 1/2" = 1'-0"



**19 CONDUIT ROUTING**  
SCALE: 1/2" = 1'-0"

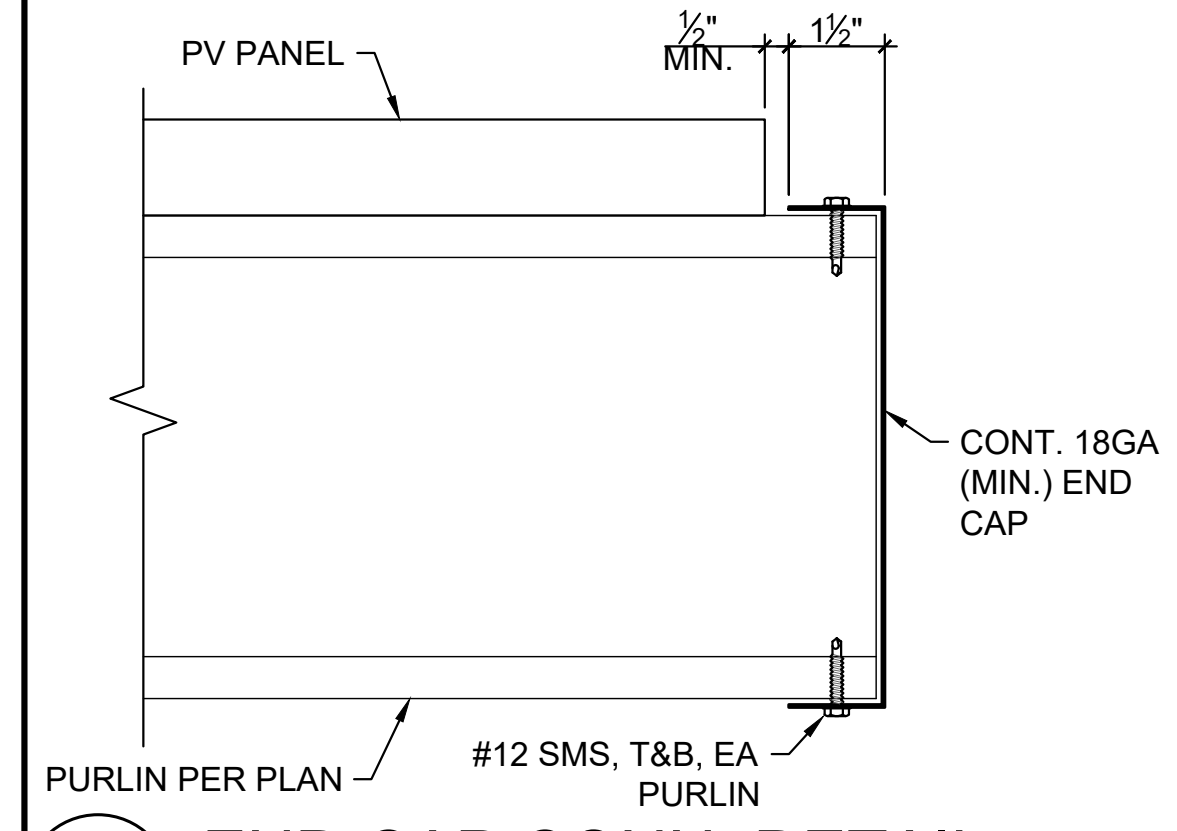


**20 EQUIPMENT RACK**  
SCALE: 1" = 1'-0"

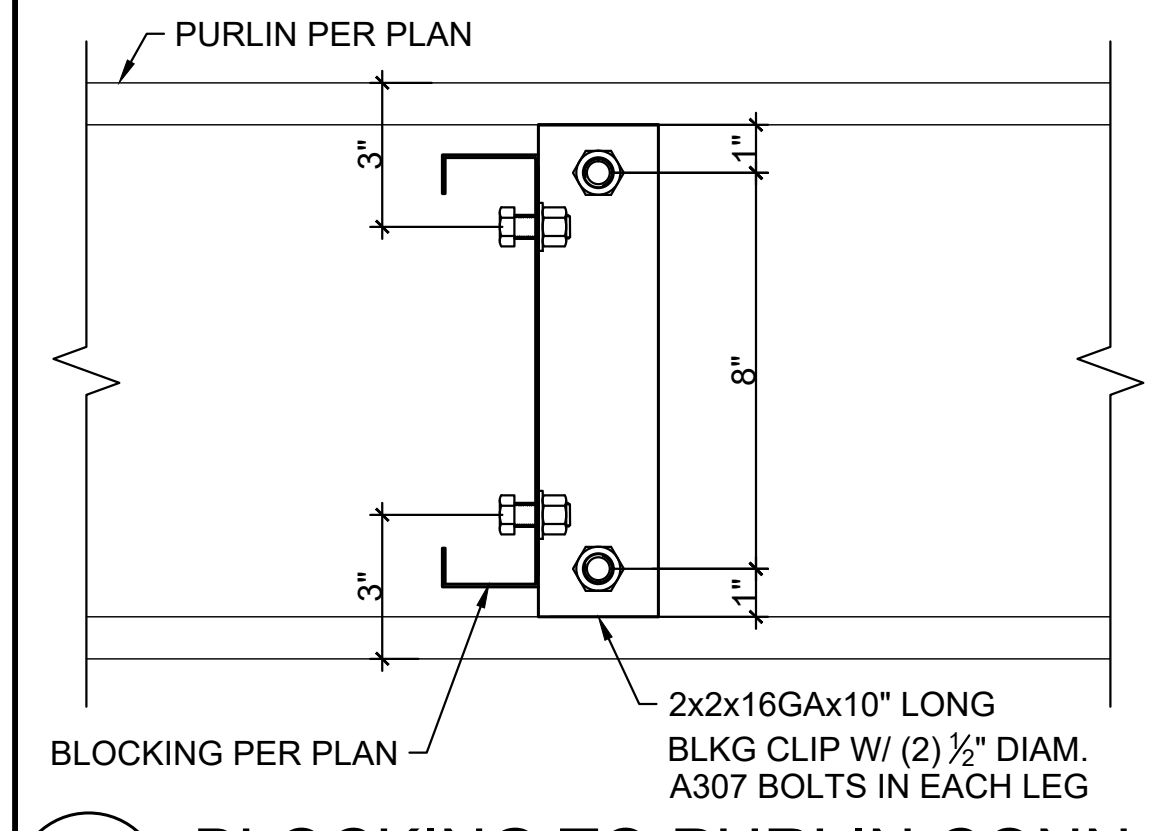


**17 BOLLARD - EMBEDDED CLMN.**  
SCALE: 1/2" = 1'-0"

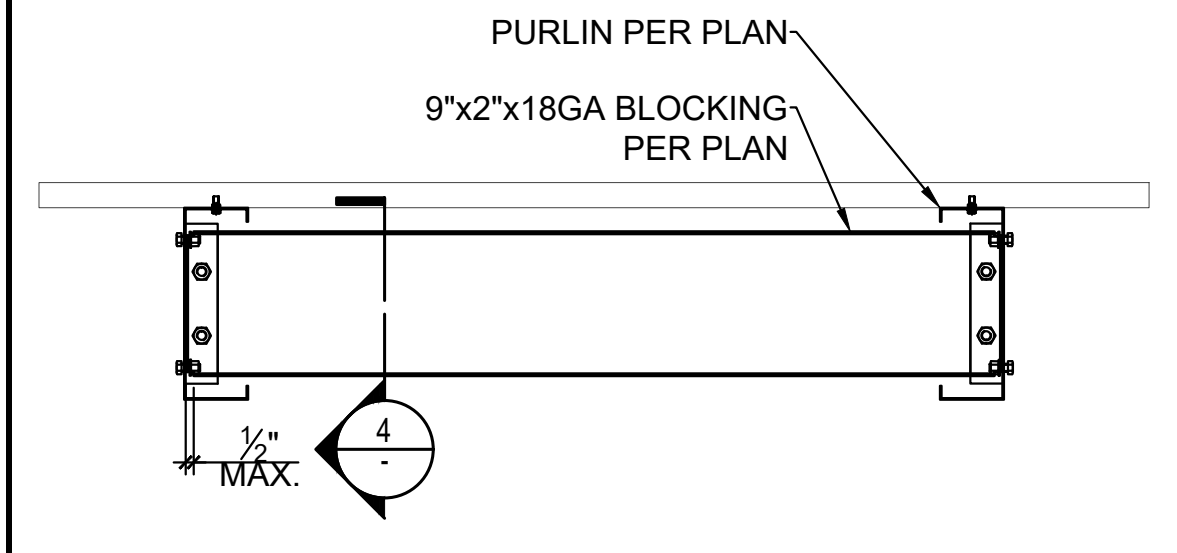




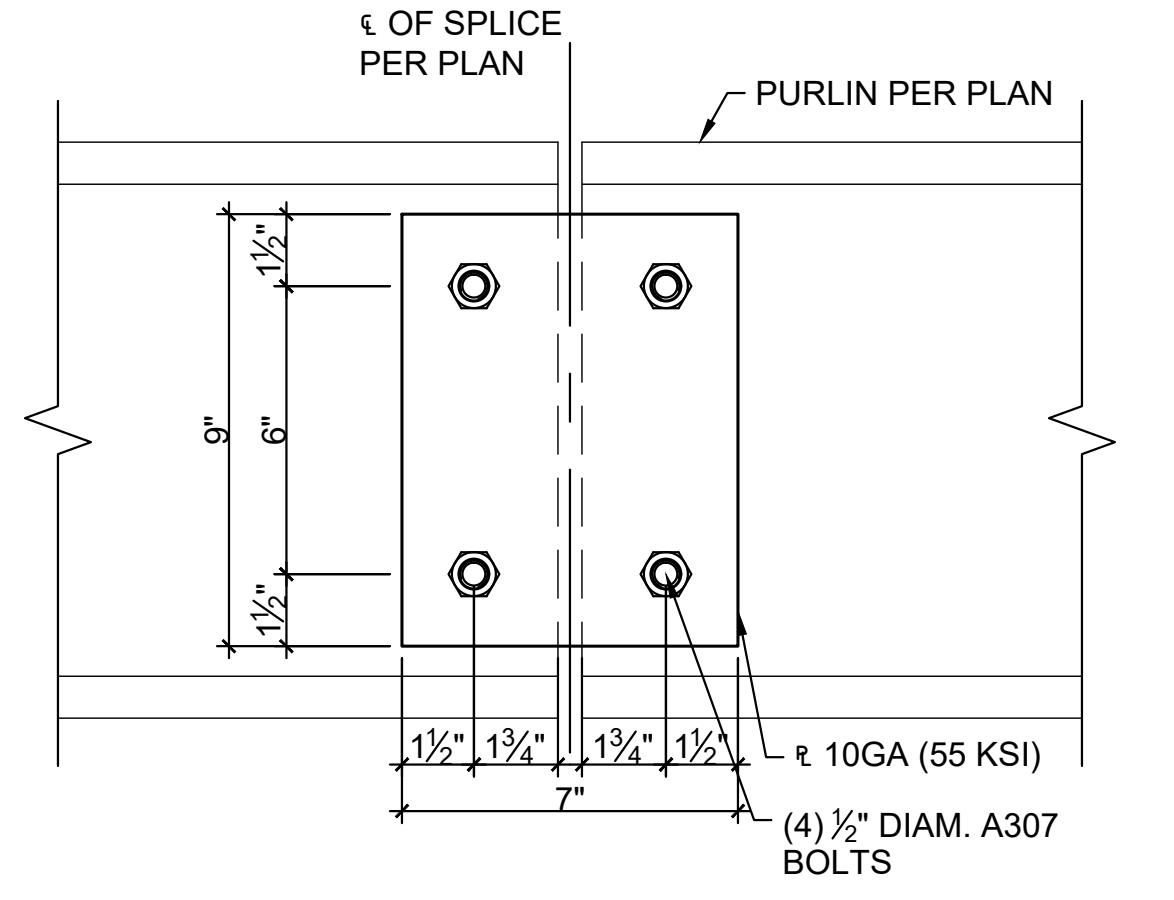
**3** END CAP CONN. DETAIL  
SCALE: 3" = 1'-0"



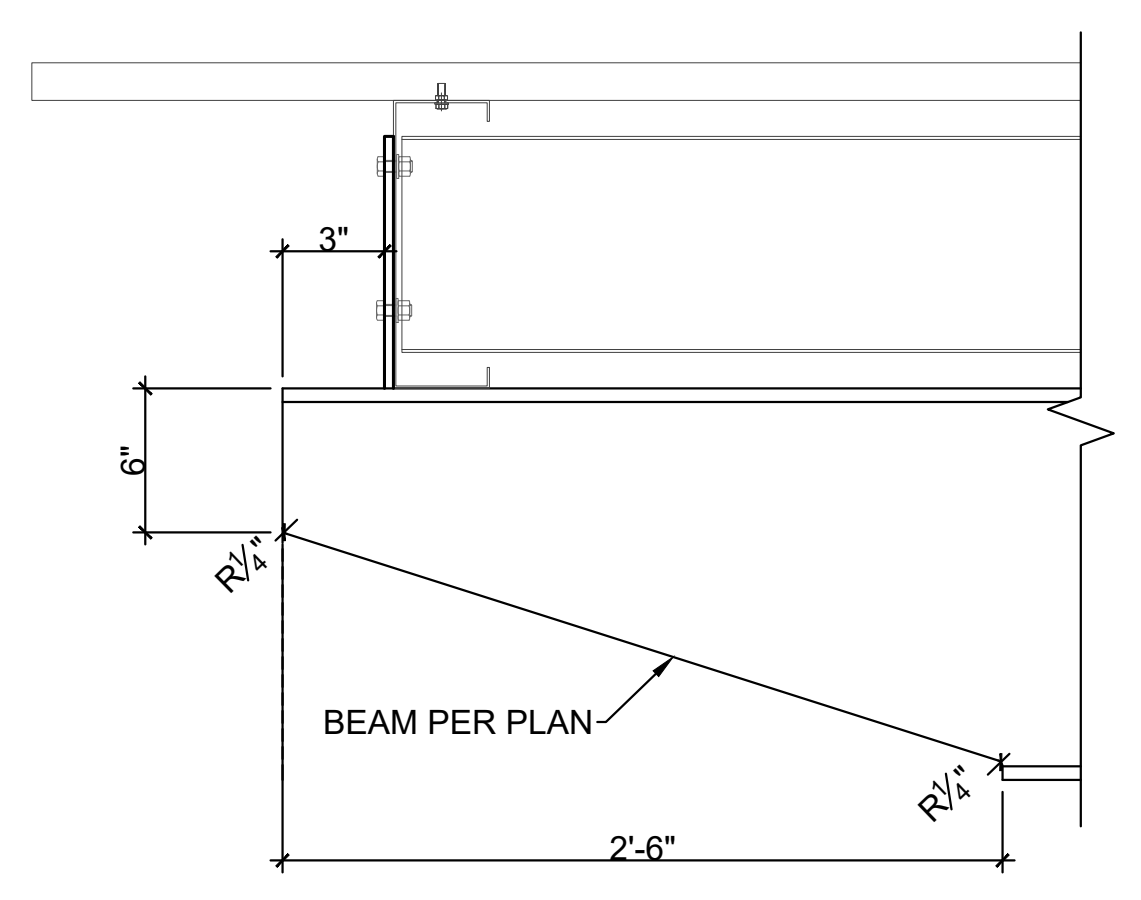
**4** BLOCKING TO PURLIN CONN.  
SCALE: 3" = 1'-0"



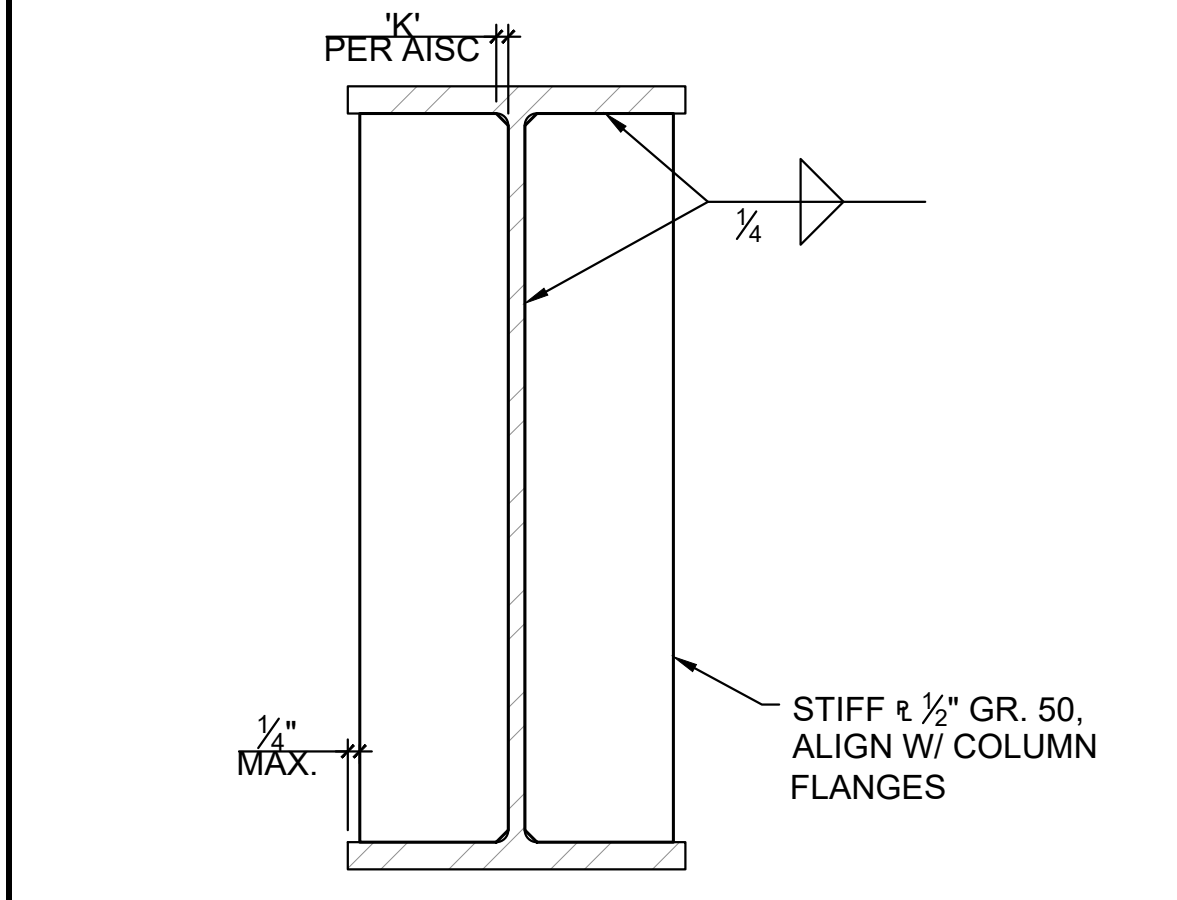
**5** PURLIN BLOCKING  
SCALE: 1/2" = 1'-0"



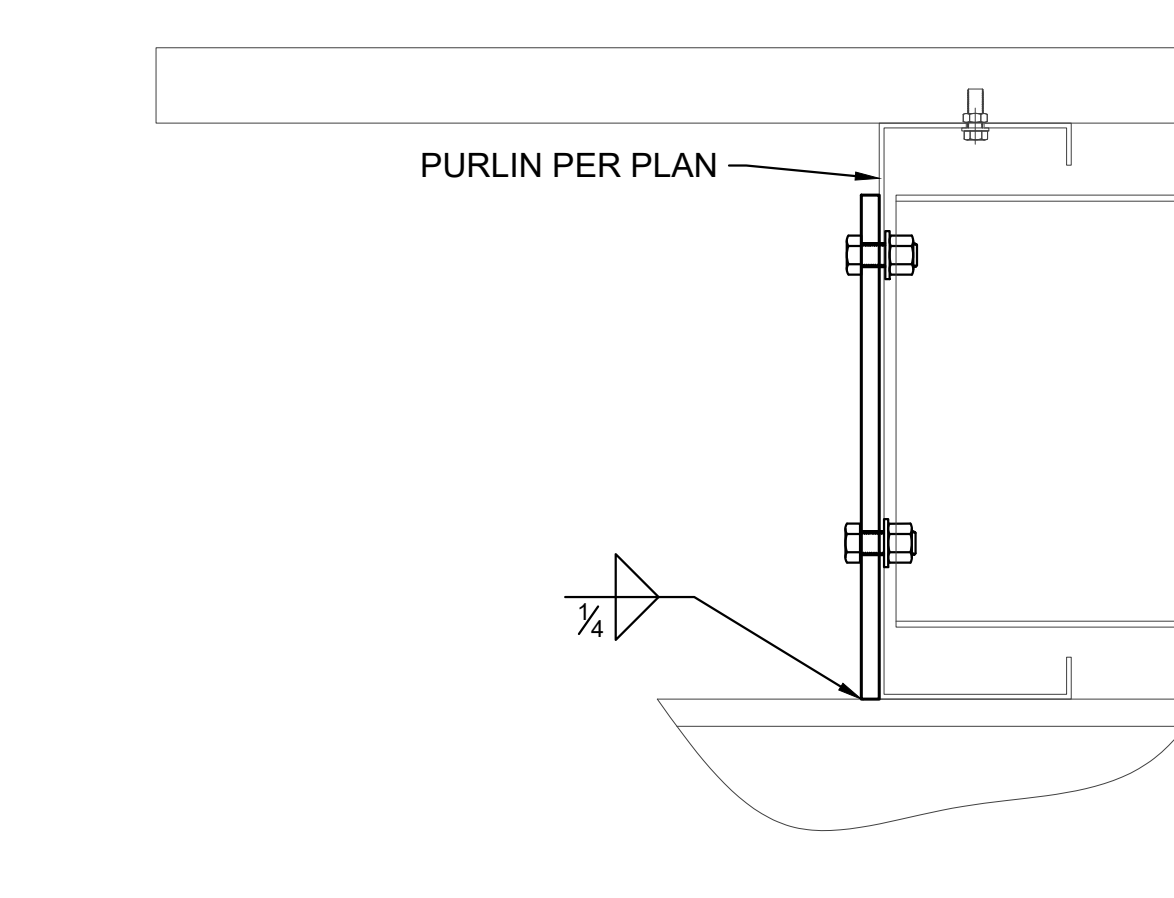
**7** PURLIN SPLICE  
SCALE: 3" = 1'-0"



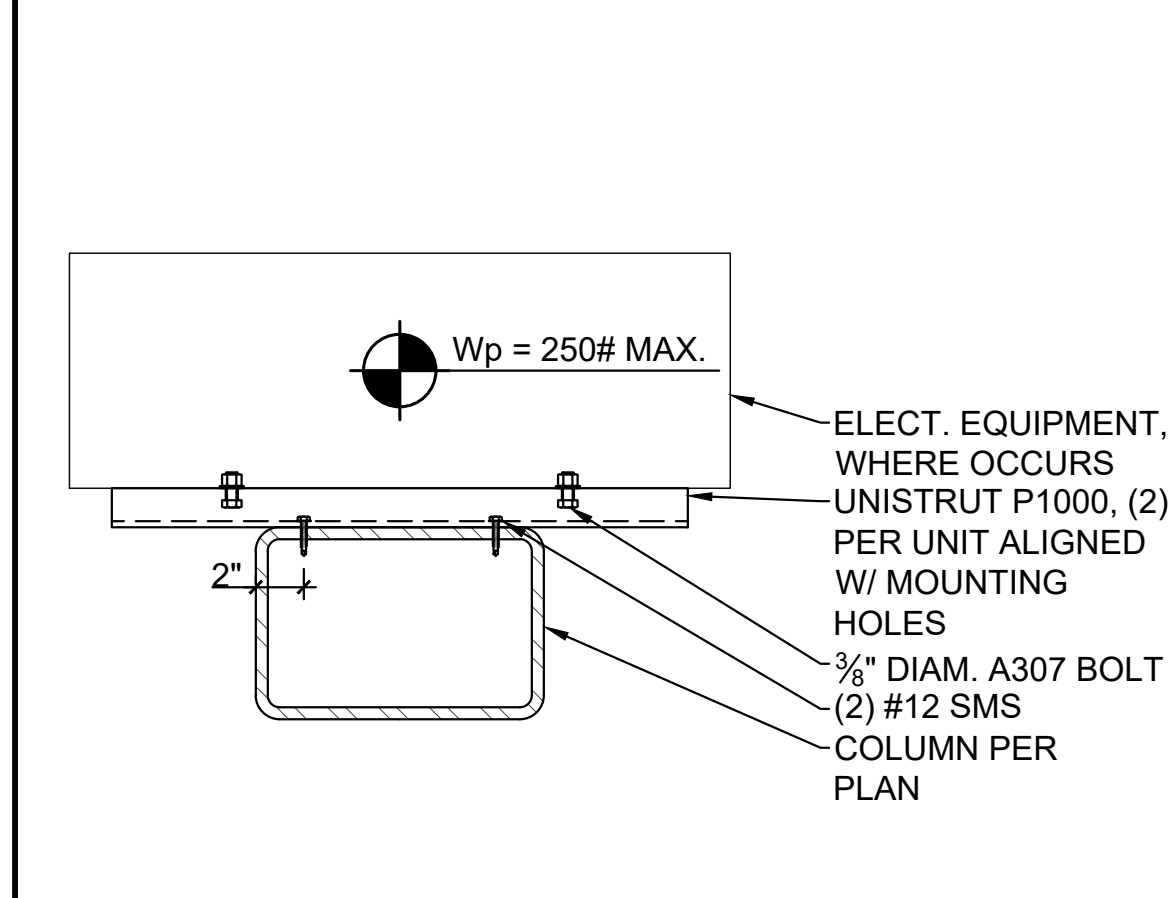
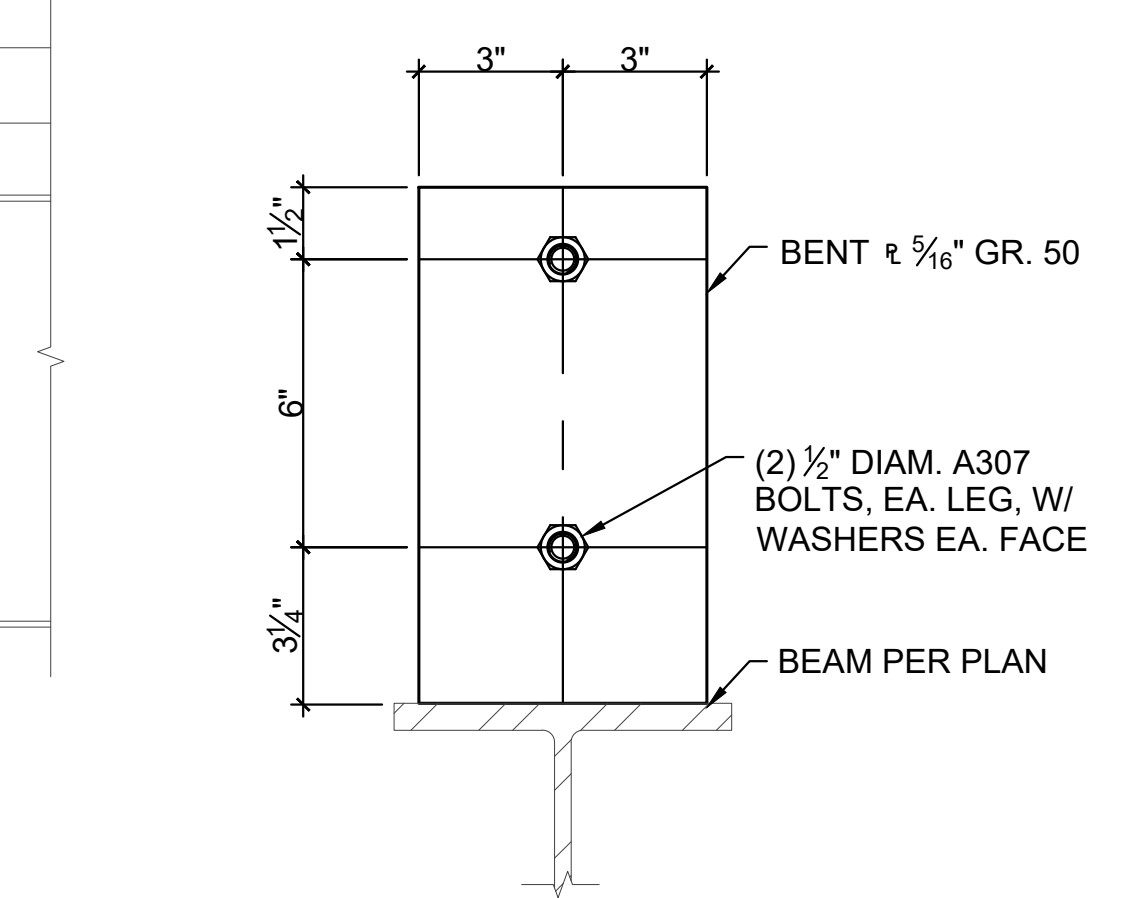
**8** BEAM END DETAIL  
SCALE: 1/2" = 1'-0"



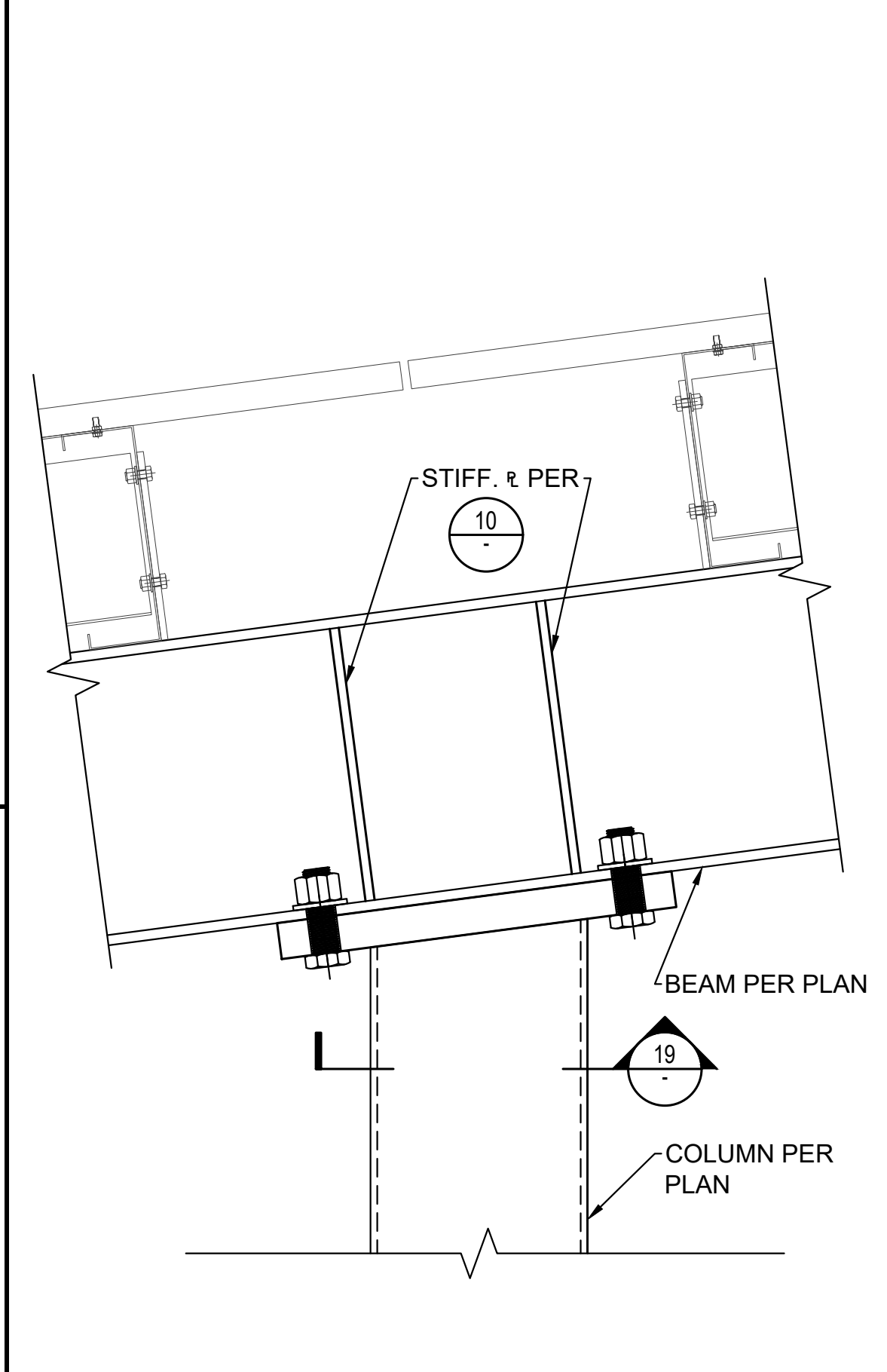
**10** STIFFENER PLATE  
SCALE: 3" = 1'-0"



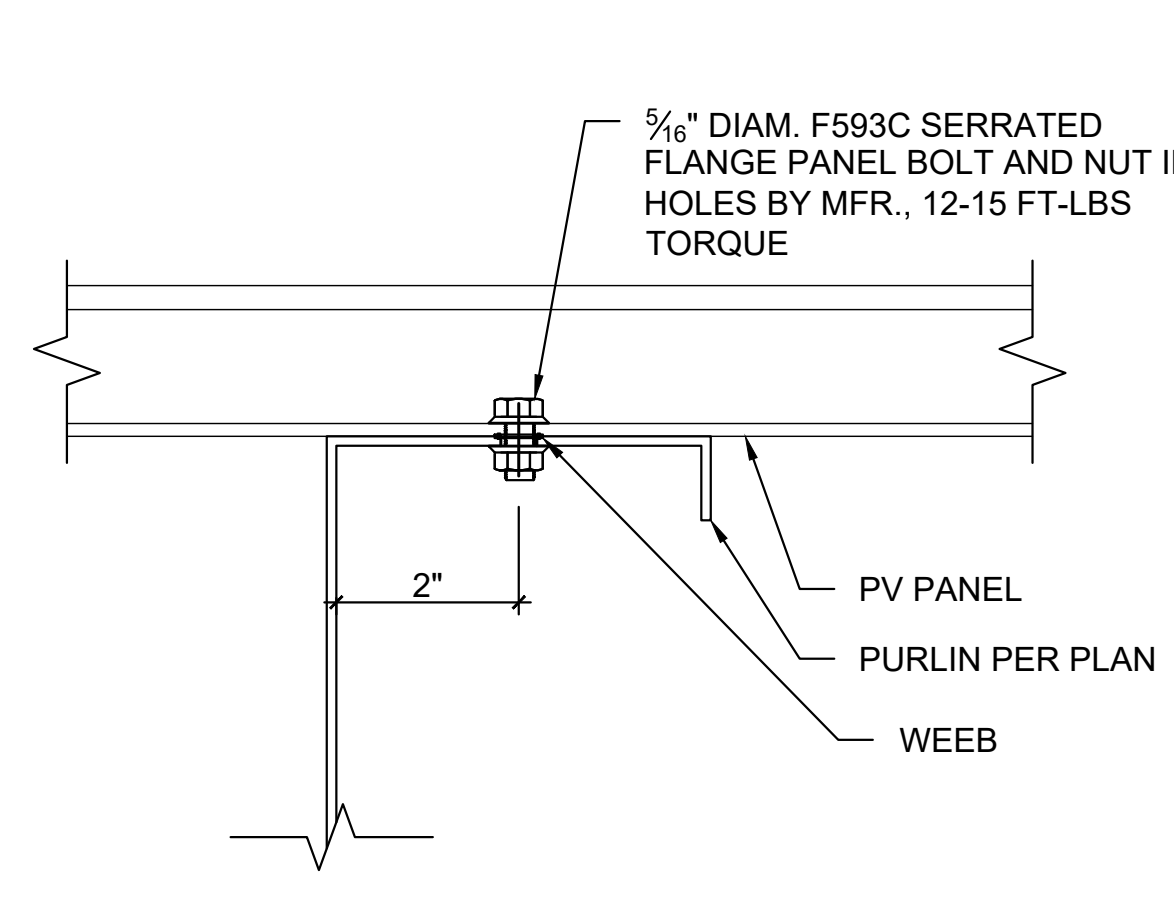
**12** BEAM TO PURLIN CONN.  
SCALE: 3" = 1'-0"



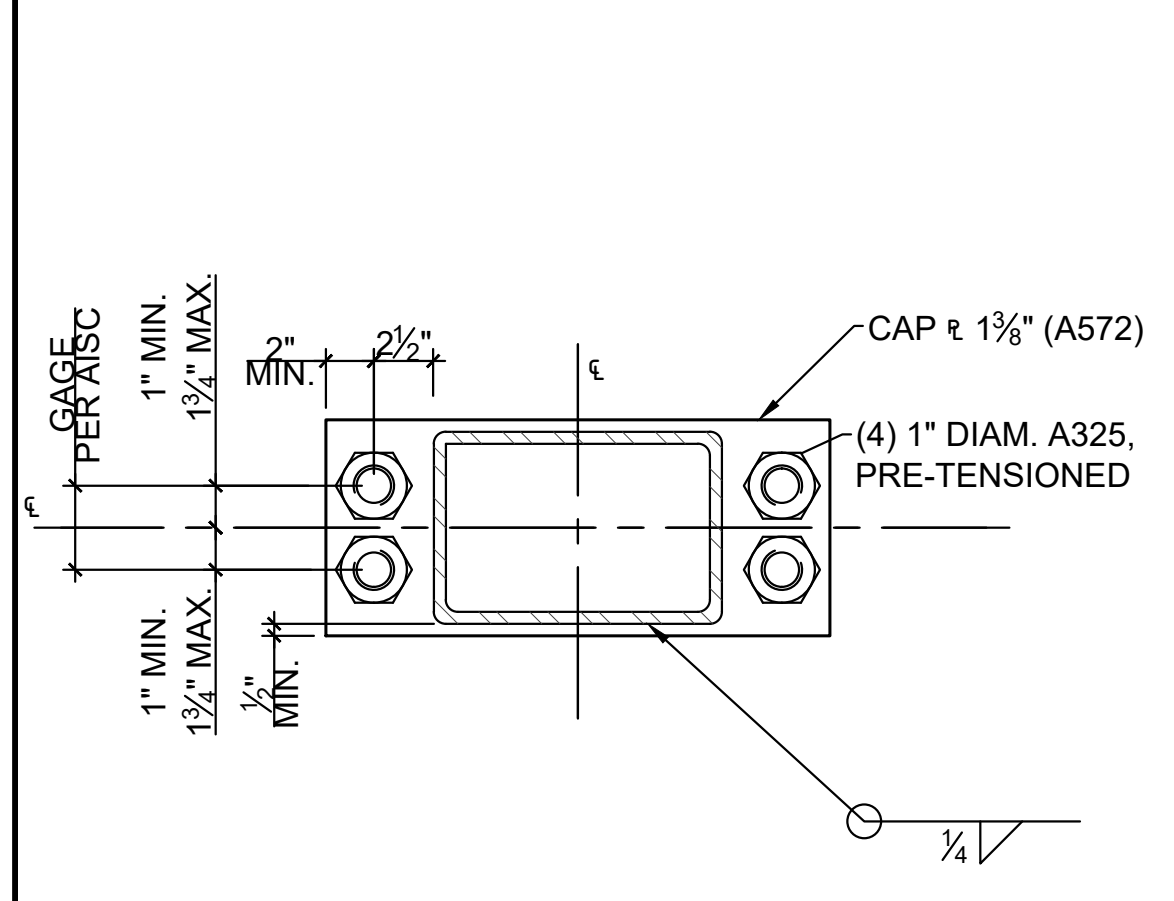
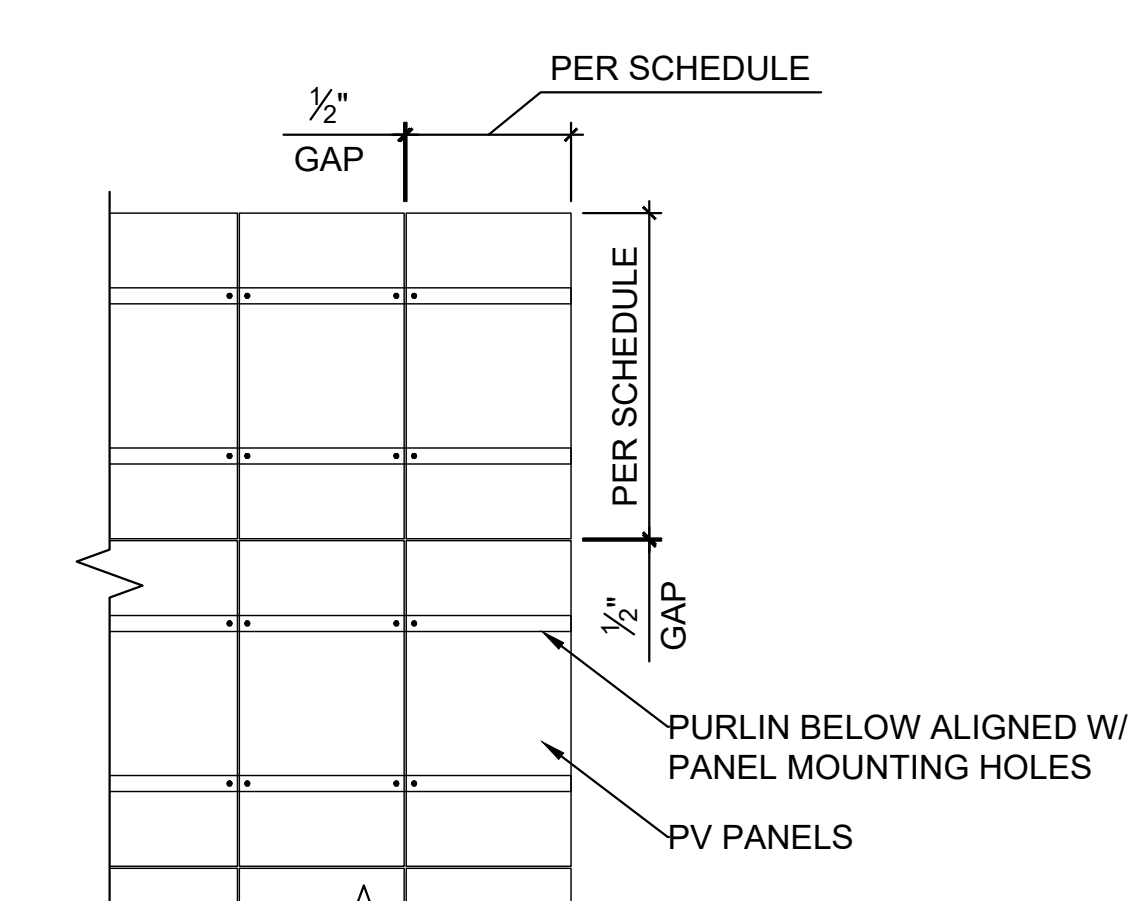
**14** EQUIPMENT MOUNTING  
SCALE: 1/2" = 1'-0"




**20** BEAM TO COLUMN CONN.  
SCALE: 1/2" = 1'-0"



**17** PV PANEL ATTACHMENT  
SCALE: 6" = 1'-0"

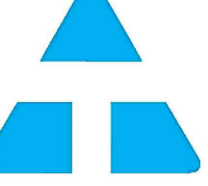


**19** CAP PLATE  
SCALE: 1/2" = 1'-0"

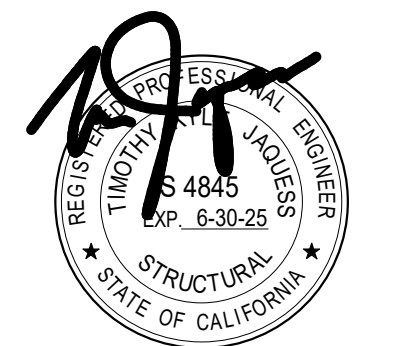
SYSTEM HOST  
  
 1300 Baker Street  
 Bakersfield, CA 93305  
 661-631-4600

SYSTEM DEVELOPER  
  
 100 Montgomery Street, #1400  
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 855-204-5083

ELECTRICAL CONSTRUCTORS AND ENGINEERS  
  
 1902 Channel Drive  
 West Sacramento, CA 95691  
 916-567-1100

STRUCTURAL ENGINEERING AND STEEL CONSTRUCT  
  
**TEICHERT SOLAR**  
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ARCHITECT / ENGINEER OF RECORD  


PROJECT  
**BAKERSFIELD CITY SCHOOL DISTRICT**  
 BUS YARD  
 1501 FELIZ DRIVE  
 BAKERSFIELD, CA 93307

NO.	REVISION	DATE

DATE: 06.28.22

SHEET TITLE  
**STEEL DETAILS**

SHEET NO.:  
**S500**