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 TEXAS ENGINEERING FIRM REGISTRATION NO. F-317

Consultant

BCB - BLDG 570  
 3120, 3124 & 3128 SIDNEY BROOKS DRIVE  
 SAN ANTONIO, TEXAS 78235  
 ELECTRICAL

PROJECT NO. 8700-02  
 DRAWN RRL  
 DESIGNED JTR  
 CHECKED JTR  
 DATE 04/29/2015  
 REVISIONS

SHEET TITLE  
 ELECTRICAL,  
 SCHEDULE,  
 SYMBOLS AND  
 DETAILS

SHEET  
 E - 2  
 OF 2

PANEL SCHEDULE	
PANEL:	PL
LOCATION:	METER RACK SOUTH END OF PARKING LOT
VOLTAGE:	120/240 VOLTS, 1 PHASE, 3 WIRE
TYPE:	NEMA 3-R, SURFACE MOUNTED 60 AMP / 2 POLE MAIN CIRCUIT BREAKER
FEEDER:	3 #6 THHN & 1 #6 THHN GROUND IN 1-1/2" CONDUIT
BRANCH CIRCUIT BREAKERS:	3 - 20A/2P (1, 3/2, 4/6, 8 - POLE LIGHTS) 1 - 20A/1P (5 - LIGHTING CONTROL) 1 - 20A/1P (7 - RECEPTACLE) 2 - 20A/1P (SPARES)

LIGHTING FIXTURE SCHEDULE					
MARK	MANUFACTURER	CATALOG NO.	MOUNTING	LAMPS	REMARKS
A	LITHONIA	MR2-LED-60C-700 40K-TFTM-MVOLT RTA-DNAXD-RTA15 305F-N-PNA-D1	POLE	1 132W/LED 4000K	ROUND LED AREA LUMINAIRE, FORWARD THROW DISTRIB. MOUNTED ON 15 FT ROUND TAPERED ALUMINUM POLE, NATURAL ALUMINUM FINISH
B	LITHONIA	2MR2-LED-60C-1000 40K-T3M-MVOLT RTA-DNAXD-RTA20 305F-N-PNA-D2	POLE	2 206W/LED 4000K	DUAL ROUND LED AREA LUMINAIRE, TYPE III DISTRIB. MOUNTED ON 20 FT ROUND TAPERED ALUMINUM POLE, NATURAL ALUMINUM FINISH
D	LITHONIA	MR2-LED-60C-1000 40K-T3M-MVOLT RTA-DNAXD-RTA20 305F-N-PNA-D1	POLE	1 206W/LED 4000K	ROUND LED AREA LUMINAIRE, TYPE III DISTRIB. MOUNTED ON 20 FT ROUND TAPERED ALUMINUM POLE, NATURAL ALUMINUM FINISH

ELECTRICAL SYMBOLS			
MARK	ITEM	MARK	ITEM
⊕	CONNECT TO EXISTING	—/—/—	CONDUCTORS (4)
WP	WEATHERPROOF	—	BRANCH WIRING
XMFR	TRANSFORMER	P/4	CIRCUIT NUMBER (3)
PP	POWER POLE	—/—/—	CIRCUIT HOMERUN (2)
⊕	ELECTRICAL RECEPTACLE	⊕	NOTE
⊕	POLE LIGHT	⊕	OH ELECTRIC SECONDARY/TELEPH.
⊕	PANEL 277/480V SURFACE	—OES—	OVERHEAD ELECTRIC SECONDARY
⊕	PANEL 120/208V OR 120/240V	—OEP—	OH ELECTRIC PRIMARY
⊕	JUNCTION BOX	—UES—	UNDERGROUND ELEC. SECONDARY
⊕	MOTOR CONNECTION	—UEP—	UNDERGROUND ELEC. PRIMARY
PP	POWER POLE	—UT—	UNDERGROUND TELEPHONE
GF1	GROUND FAULT INTERRUPTING	—OEP—	OVERHEAD ELECTRIC PRIMARY

NOTES: LIGHTING FIXTURE SCHEDULE

A. POLES SHALL BE RATED FOR 100 MPH STEADY WIND WITH 30 MPH GUST. PROVIDE EACH POLE WITH ANCHOR BOLTS (4 MIN.), REINFORCED OVAL FLUSH HANDHOLE, AND NUT COVER AT BASE.

B. PROVIDE ALL ACCESSORIES FOR LIGHTING FIXTURES, INCLUDING SUSPENSION DEVICES, BASES, BOXES, ETC. AS REQUIRED FOR A COMPLETE AND WORKING INSTALLATION.

C. PROVIDE 2 QUARTS OF PAINT TO MATCH FINISH OF POLES AND FIXTURES AND TURN OVER TO OWNER FOR USE IN FUTURE TOUCH-UPS OF SCRATCHES.

GENERAL NOTES:

A. COMPLY WITH THE CODES AND ORDINANCES OF THE CITY OF SAN ANTONIO AND THE NATIONAL ELECTRICAL CODE.

B. ALL CONDUIT SHALL HAVE SEPARATE GROUND CONDUCTORS, COPPER WIRE, WITH THHN INSULATION.

C. CONDUIT EXPOSED ABOVE GROUND, INCLUDING BELOW PANELS AND SWITCHES, SHALL BE RIGID GALVANIZED STEEL CONDUIT.

D. CONDUIT ROUTING: For exterior conduit routing comply with the requirements indicated on Details 3 & 4/E-2. For conduit routed in public easements and under city streets, comply with the requirements of the City and as indicated on the Civil Drawings, except that the requirements shall not be less than that indicated on the previously mentioned details.

E. NEW ELECTRICAL SERVICE IS TO BE UNDERGROUND SERVICE FROM OVERHEAD FACILITIES PER SECTION 600 OF THE CPS ENERGY ELECTRIC SERVICE STANDARDS. CONDUIT SIZE FOR SERVICE FEEDER SHALL NOT BE LESS THAN 2" RIGID NON-METALLIC CONDUIT.

NOTES: (SYMBOLS)

① LETTER INDICATES LIGHTING FIXTURE IN SCHEDULE.

② CIRCUIT CONVENTION. EACH ARROWHEAD REPRESENTS ONE CIRCUIT WITH WIRING BACK TO THE PANELBOARD SERVED.

③ CIRCUIT CONVENTION. FIRST CHARACTER INDICATES PANEL. SECOND CHARACTER INDICATES PANEL CIRCUIT NUMBER OR CIRCUIT RELATIONSHIP.

④ HASH MARKS INDICATE MINIMUM NUMBER OF CONDUCTORS WHEN OVER TWO PLUS ONE GROUND WIRE. LONGER HASHMARK REPRESENTS NEUTRAL AND SHORTER REPRESENTS "HOT". NO HASH MARKS INDICATE TWO CONDUCTORS AND ONE GROUND MINIMUM. IN ALL CASES THE NUMBERS OF CONDUCTORS ADEQUATE FOR THE PROPER OPERATION OF THE FACILITIES SHALL BE PROVIDED. IN ALL CASES CONDUCTORS SHALL HAVE AN AMPACITY NOT LESS THAN THE MAXIMUM LOAD SERVED AND NOT LESS THAN THE RATING OF THE BRANCH CIRCUIT.

⑤ POSITION INDICATES PHOTOMETRIC ORIENTATION FOR FORWARD THROW AND ROADWAY TYPE LIGHTING.

**ELECTRICAL LOADS**

PHASE II & III PARKING LOTS

EXISTING SERVICE: 800 AMPS, 277/480 VOLTS, 3 PHASE, 4 WIRE

EXISTING PEAK LOAD: (SEPT 11, 2014)	227 KW
MEASURED POWER FACTOR:	± 88%PF
EXISTING PEAK LOAD:	258.0 KVA
NEC FACTOR:	x 1.25
EXISTING CONNECTED LOAD:	322.4 KVA

NEW LOADS:	KVA
PARKING LOT LIGHTING:	1.91
RECEPTACLES:	0.18
NEW LOADS:	2.09 KVA
NEW CONNECTED LOAD:	2.1 KVA
	324.5 KVA

EQUIVALENT AMPS AT 480 VOLTS, 3 PHASE: 390.4 A, 480V, 3 PHASE

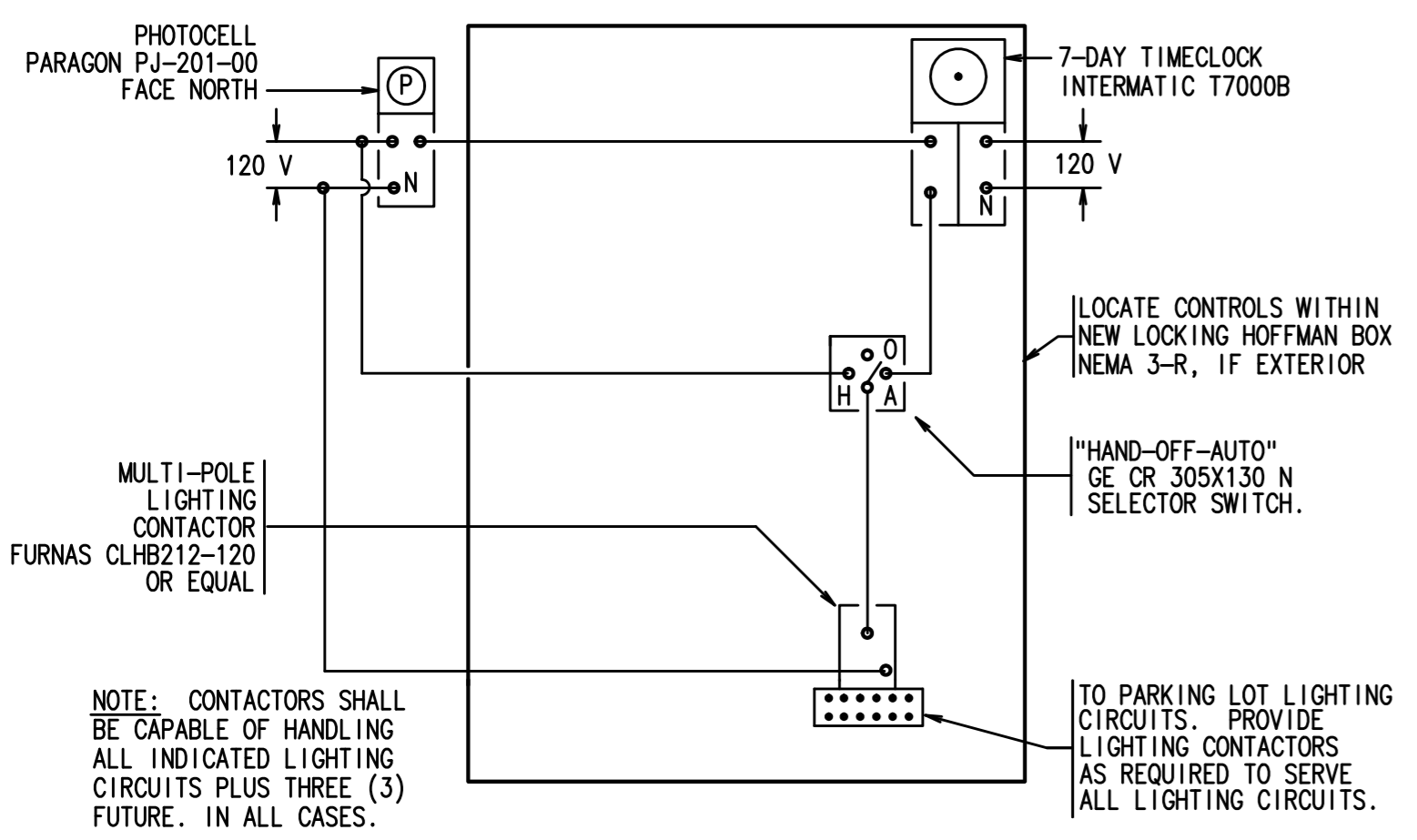
PHASE I PARKING LOT

ELECTRICAL LOAD SUMMARY  
NEW SERVICE

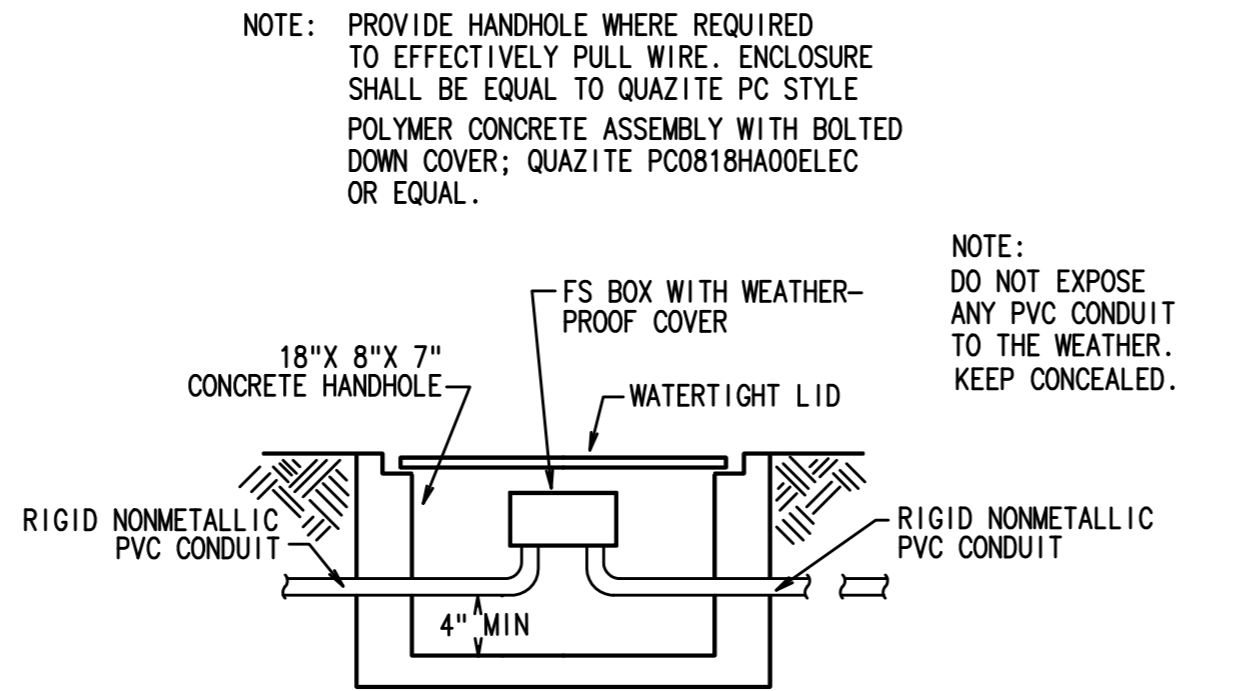
NEW SERVICE: 60 AMPS, 120/240 VOLTS, 1 PHASE, 3 WIRE

NEW LOADS:	KVA
PARKING LOT LIGHTING:	4.78
LIGHTING CONTROLS:	0.10
RECEPTACLES:	0.18
NEW LOADS:	5.06 KVA
NEW CONNECTED LOAD:	5.06 KVA

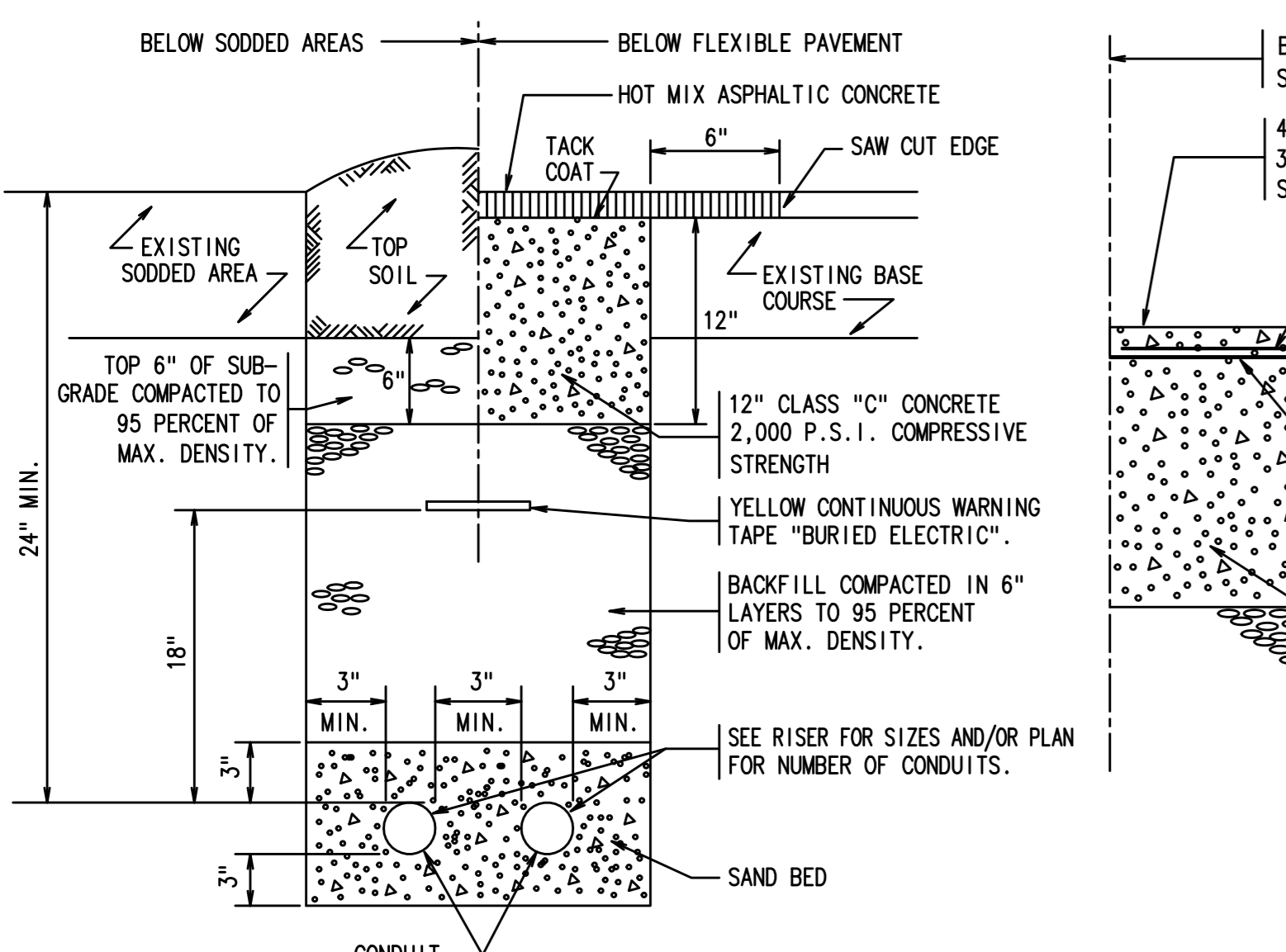
EQUIVALENT AMPS AT 240 VOLTS, 1Ø: 21.08 A, 240V, 1 PHASE



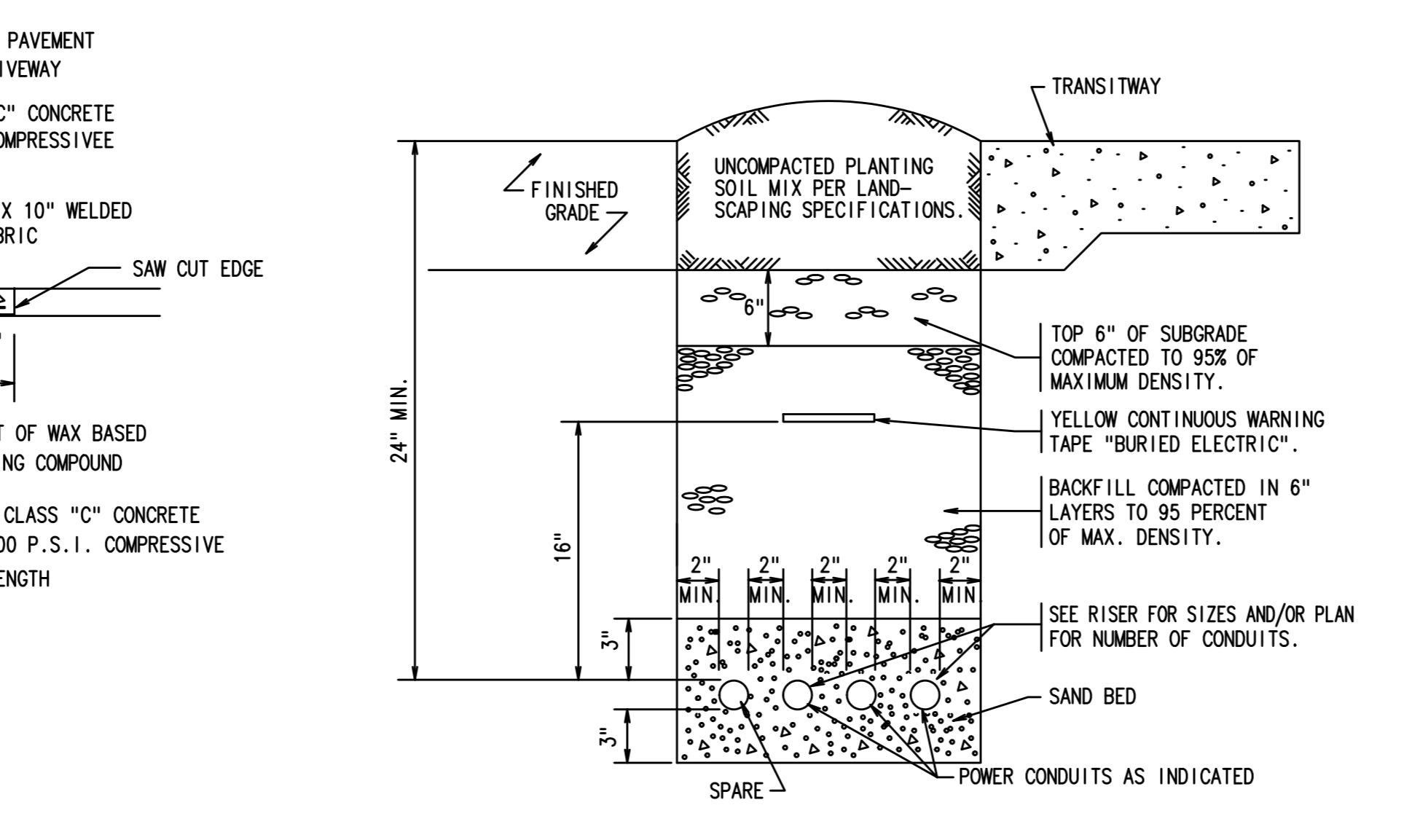
**5 DETAIL - EXT. LIGHTING CONTROL**  
 NO SCALE:



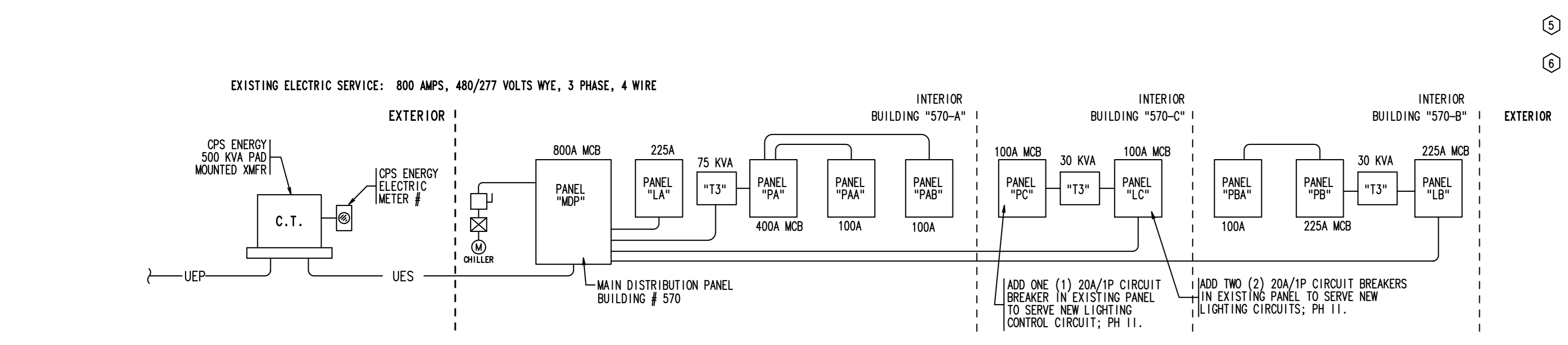
**6 DETAIL - HANDHOLE**  
 NO SCALE:



**3 DETAIL - UTILITY TRENCH**  
 NO SCALE: ASPHALT & CONCRETE



**4 DETAIL - UTILITY TRENCH**  
 NO SCALE: SOD



**1 DETAIL - ELECTRICAL SERVICE**  
 NO SCALE: 3120, 3124 & 3128 SIDNEY BROOKS

NOTES: ELECTRIC RACK DETAIL

① CONDUIT SIZE AND INSTALLATION SHALL BE PER CPS ENERGY INSTALLATION STANDARDS.

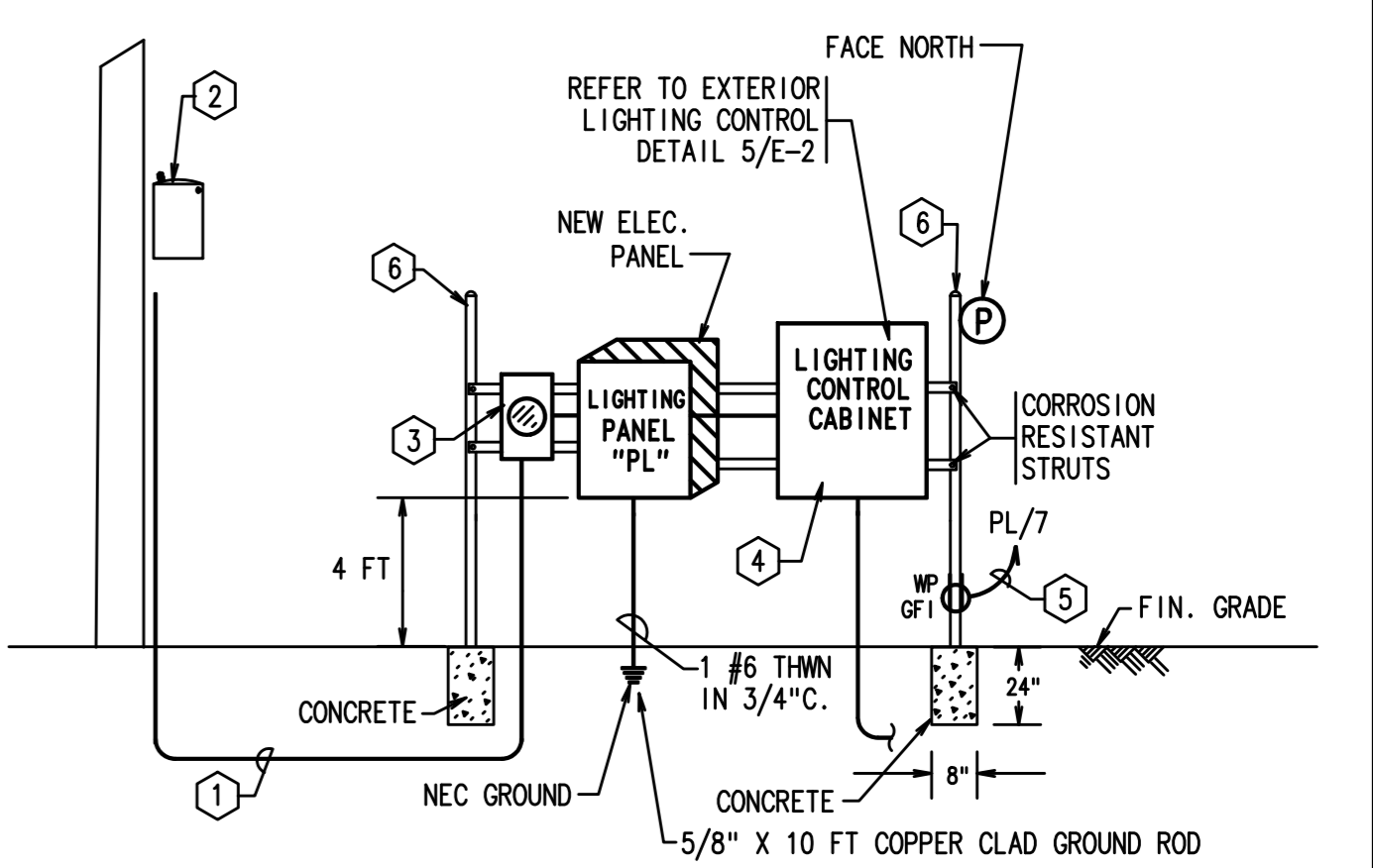
② CPS ENERGY POLE MOUNTED TRANSFORMER. COORDINATE INSTALLATION REQUIREMENTS AND SIZE OF TRANSFORMER WITH CPS REP. CONTACT CPS "NEW SERVICE DELIVERY".

③ NEW RACK MOUNTED ELECTRIC METER PER CPS ENERGY STANDARDS.

④ PROVIDE NEMA 3-R HOT GUTTER LOCKING HOFFMAN BOX WITH NO EXPOSED CONTROLS. PROVIDE WITH DOOR HANDLE.

⑤ PROVIDE WEATHERPROOF GF1 RECEPTACLE AND TIE TO NEW CIRCUIT BREAKER IN 120 VOLT POWER PANEL.

⑥ PROVIDE SIX FOOT 4" ROUND STEEL GALVANIZED PIPE WITH CAP.



**2 DETAIL - ELECTRICAL RACK**  
 NO SCALE: NEW ELECTRICAL SERVICE PHASE I