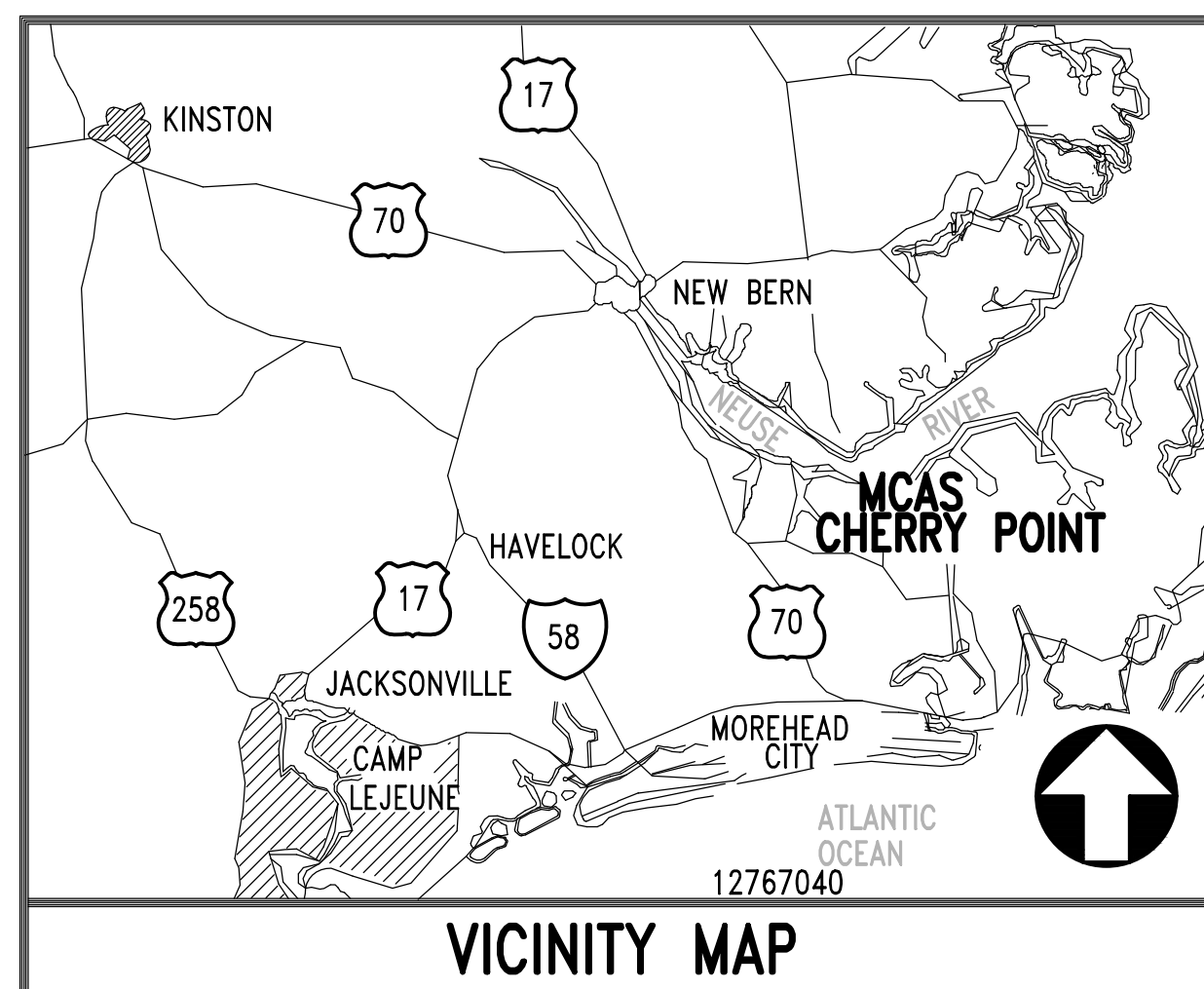


REPLACE "B" SECTIONALIZING STATION

MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA



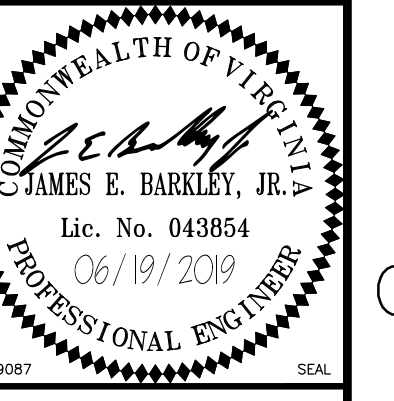
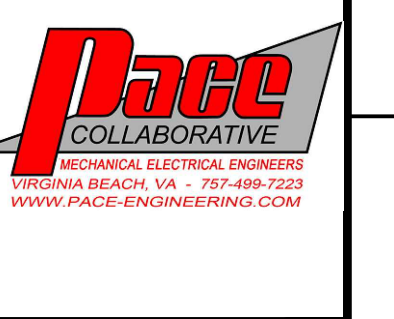
LOCATION MAP



VICINITY MAP

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12782938	14	E-607	CONNECTION DIAGRAMS AND STRUCTURAL DETAILS
12782939	15	E-608	PHOTOS
12782940	16	E-609	PHOTOS

DATE	DESCRIPTION



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO

DES: KPM | DRW: CML | CHK: JEB

U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

REPLACE "B" SECTIONALIZING STATION

TITLE SHEET

SCALE: AS NOTED

PROJECT NO.: 6884855

MAXIMO WORK ORDER NO. 6884855

NAVFAC DRAWING NO. 12782925

SHEET 01 OF 16

G-001

DRAWN/REVISED: 10 MAY 2014

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LEGEND

NOTE: LIGHT LINEWEIGHT SYMBOLS INDICATE EXISTING DEVICES, EQUIPMENT, CONDUIT, ETC. TO REMAIN. HEAVY LINEWEIGHT SYMBOLS INDICATES NEW DEVICES, EQUIPMENT, TO BE SUPPLIED AND OR INSTALLED. HEAVY & DASHED LINEWEIGHT SYMBOLS INDICATE DEVICES, EQUIPMENT, CONDUIT, ETC. TO BE REMOVE.

- 30 SWITCHGEAR POWER OR CONTROL CIRCUIT FUSE SIZE INDICATED.
LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER. SIZE INDICATED.
SWITCHGEAR CONTROL POWER OR POTENTIAL TRANSFORMER. VOLTAGE INDICATED.
SWITCHGEAR CURRENT TRANSFORMER. FULL AND TAPPED CURRENT RATIO INDICATED.
VS SWITCHGEAR VOLT METER SWITCH.
V SWITCHGEAR VOLT METER.
86 SWITCHGEAR BUS CIRCUIT BREAKER LOCK-OUT (BREAKER FAILURE) RELAY
87 SWITCHGEAR BUS DIFFERENTIAL PROTECTIVE RELAY
50P SWITCHGEAR INSTANTANEOUS OVERCURRENT PROTECTIVE PHASE RELAY
50G SWITCHGEAR INSTANTANEOUS OVERCURRENT PROTECTIVE GROUND RELAY
51P SWITCHGEAR TIME OVERCURRENT PROTECTIVE PHASE RELAY
51G SWITCHGEAR TIME OVERCURRENT PROTECTIVE GROUND RELAY
67P SWITCHGEAR DIRECTIONAL OVERCURRENT PROTECTIVE PHASE RELAY
67G SWITCHGEAR DIRECTIONAL OVERCURRENT PROTECTIVE GROUND RELAY
52 1200AF 600AT SWITCHGEAR MEDIUM VOLTAGE 15KV VACUUM CIRCUIT BREAKER. SIZE INDICATED.
FRAME SIZE OF CIRCUIT BREAKER
TRIP SETTING OF CIRCUIT BREAKER
EARTH GROUND CONNECTION
52 CC SWITCHGEAR CIRCUIT BREAKER CLOSING COIL
52 TC SWITCHGEAR CIRCUIT BREAKER TRIP COIL
52 X 52 Y SWITCHGEAR CIRCUIT BREAKER ANTI-PUMP RELAYS
NORMALLY OPEN CONTACT
NORMALLY CLOSE CONTACT

- CT OPEN ANN TRIP ANN FAIL ANN REMOTE RELAY COIL. TYPE INDICATED.
IN 1 IN 2 RELAY ANNUNCIATOR LIGHT. TYPE INDICATED.
PS RELAY POWER SUPPLY
106 HI -Z 105 DIFFERENTIAL RELAY INTERNAL RESISTER
108 107 DIFFERENTIAL RELAY INTERNAL CURRENT COIL
SB SHORTING BLOCK
LIGHT FIXTURE

GENERAL ELECTRICAL NOTES

GENERAL: UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL WORK SHOWN ON ELECTRICAL DRAWINGS IS NEW WORK TO BE PROVIDED UNDER THIS CONTRACT.
AS-BUILT DRAWINGS: SECURE AN EXTRA SET OF ELECTRICAL DRAWINGS TO BE KEPT ON SITE AND MARK, DAILY, THE DRAWINGS IN RED AS THE PROJECT PROGRESSES IN ORDER TO KEEP AN ACCURATE RECORD OF ALL DEVIATIONS BETWEEN THE WORK SHOWN ON THE DRAWINGS AND THE WORK WHICH IS ACTUALLY INSTALLED. THESE MARKED DRAWINGS SHALL REFLECT ANY AND ALL CHANGES AND REVISIONS TO THE ORIGINAL DESIGN WHICH EXISTS IN THE COMPLETED WORK. DELIVER THE MARKED DRAWINGS TO THE ENGINEER AT PROJECT CLOSE-OUT.
TESTS: TEST ALL WIRING FOR CONTINUITY AND GROUNDS BEFORE CONNECTING ANY FIXTURES OR DEVICES. PERFORM INSULATION RESISTANCE TESTS ON ALL WIRING #6 OR LARGER AND ALL CABLES RATED FOR 15KV TO ENSURE THAT ALL PORTIONS ARE FREE FROM SHORT-CIRCUITS AND GROUNDS. ALL 15 KV CABLES SHALL BE TESTED. COORDINATE WITH SPECIFICATIONS.
INSPECTIONS: ARRANGE ALL NECESSARY INSPECTIONS. DELIVER ALL REQUIRED INSPECTION CERTIFICATES TO THE CONTRACTING OFFICER.

GROUNDING: PROVIDE GROUNDING IN ACCORDANCE WITH THE NEC FOR THE ENTIRE ELECTRICAL SYSTEM INCLUDING EQUIPMENT FRAMES, CONDUITS, SWITCHES, CONTROLLERS, WIRE-WAYS, NEUTRAL CONDUCTORS, AND OTHER EQUIPMENT.
LABELS: PROVIDE LABELS FOR ALL SUBSTATIONS AND SUBSTATION SECTIONS. LABELS SHALL BE MACHINE ENGRAVED, LAMINATED PLASTIC, PERMANENTLY ATTACHED WITH SELF-TAPPING SCREWS OR RIVETS. DO NOT USE SELF-ADHESIVE LABELS. LABEL SHALL INDICATE EQUIPMENT DESIGNATION AND ASSOCIATED PANEL AND CIRCUIT THAT SERVES IT.
CLEAN UP: ON PROJECT CLOSE-OUT CLEAN ALL ELECTRICAL DEVICES, LIGHTING FIXTURES. REPAIR ALL INOPERATIVE LIGHTING FIXTURES.

LICENSE NOTE: CONTRACTOR/SUBCONTRACTOR IS REQUIRED TO HAVE A VALID NORTH CAROLINA UTILITY LICENSE IN ORDER TO PERFORM THIS WORK.

SECTIONALIZING STATION B SEQUENCE OF CONSTRUCTION

- 1. SUBMIT MEANS AND METHODS AND SCHEDULE FOR REPLACING SWITCHGEAR IN STATION B TO THE CONTRACTING OFFICER FOR APPROVAL AND NOTICE TO PROCEED BEFORE STARTING WORK.
2. THE TOTAL ELECTRICAL OUTAGE AT STATION B SHALL NOT EXCEED 72 CONTINUOUS HOURS AND MUST BE SCHEDULED DURING A THREE DAY HOLIDAY WEEKEND BY THE GOVERNMENT IN CONSULTATION WITH CONTRACTOR. ANY WORK WHICH MAY DISRUPT TRANSPORTATION OR PRODUCTION OPERATIONS MUST BE SCHEDULED THROUGH THE FEAD IN ADVANCE AND SHALL OCCUR ONLY DURING SECOND OR THIRD SHIFTS.
3. REMOVE FENCING AND POSTS AROUND STATION B TO ALLOW THE REMOVAL OF EXISTING SWITCHGEAR AND THE PLACEMENT OF THE NEW SWITCHGEAR ON THE EXISTING STATION B CONCRETE EQUIPMENT PAD.
4. THE GOVERNMENT AND THE CONTRACTOR WILL LOCKOUT AND RED TAG CIRCUIT BREAKERS C-B TIE IN SECTIONALIZING STATION C. THE GOVERNMENT AND THE CONTRACTOR WILL LOCKOUT AND RED TAG CIRCUIT BREAKERS A-B WHITE BUS AND A-B BLACK BUS LOCATED IN SECTIONALIZING STATION A. THE CONTRACTOR MUST DISCONNECT ALL 15KV CABLES FROM THE STATION B CIRCUIT BREAKERS AND GROUND THEM TO THE STATION GROUND RING FOR THE CHANGEOVER PERIOD.
5. DISCONNECT AND REMOVE NINE OR TEN CIRCUIT BREAKER CONTROL PANEL DOORS WITH ATTACHED EQUIPMENT AND INTERNAL WIRING FROM SWITCHGEAR. TURN PANEL DOORS AND RELAYS OVER TO GOVERNMENT.
6. DISCONNECT AND REMOVE THE FIBER OPTIC CABLE SWITCHING CABINET FROM THE EXISTING SWITCHGEAR ENCLOSURE END. PROTECT AND STORE FOR FUTURE USE IN THE NEW SWITCHGEAR.
7. DISCONNECT EXISTING SWITCHGEAR FROM EXISTING FEEDERS, CONCRETE PAD, AND GROUND RING. REMOVE SWITCHGEAR FROM SITE. CLEAN PAD AND PREPARE TO RECEIVE NEW SWITCHGEAR.
8. INSTALL NEW SWITCHGEAR ON EXISTING CONCRETE PAD. CONNECT SWITCHGEAR GROUND BUS TO GROUND RING. INSTALL FIBER OPTIC TERMINAL CABINET FROM EXISTING SWITCHGEAR. TEST NEW EQUIPMENT AS DETAILED IN THE SPECIFICATIONS.
9. REMOVE SAFETY GROUNDING FROM CABLE, EXTEND AS REQUIRED, AND RECONNECT EACH EXISTING FEEDER CABLE TO NEW SWITCHGEAR CIRCUIT BREAKERS INDICATED. EXTEND CABLES IN KIND AS REQUIRED.
10. ARRANGE FOR THE GOVERNMENT TO ENERGIZE THE NEW SWITCHGEAR FROM STATION A. VERIFY THAT ALL SWITCHGEAR EQUIPMENT IS FUNCTIONING PROPERLY, AND BREAKER B-C IS OPEN.
11. ENERGIZE STATION C FROM THE NEW SWITCHGEAR WHEN AUTHORIZED BY THE GOVERNMENT. VERIFY THAT ALL SWITCHGEAR EQUIPMENT IS FUNCTIONING PROPERLY.
12. ENERGIZE EACH OF THE FIVE EXISTING DISTRIBUTION CIRCUITS WHEN AUTHORIZED BY THE GOVERNMENT. VERIFY THAT ALL SWITCHGEAR EQUIPMENT IS FUNCTIONING PROPERLY.

GENERAL

- DETAIL OR SECTION NOTATION
ENUMERATION: A = DETAIL, 1 = SECTION
SHEET WHERE SECTION IS SHOWN/CUT
PHOTO CALLOUT
NEW WORK NOTE SYMBOL
DEMOLITION NOTE SYMBOL

ABBREVIATIONS



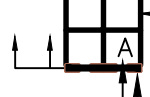



- A AMPERE
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AIC AMPERE INTERRUPTING CAPACITY
C CONDUIT
CKT CIRCUIT
CB CIRCUIT BREAKER
CT CURRENT TRANSFORMER
COTR CONTRACTING OFFICER TECHNICAL REPRESENTATIVE
CPT CONTROL POWER TRANSFORMER
DIFF DIFFERENTIAL
EC EMPTY CONDUIT
EQUIP EQUIPMENT
ETR EXISTING TO REMAIN
EXIST EXISTING
FLA FULL LOAD AMPS
GFGI GOVERNMENT FURNISHED AND GOVERNMENT INSTALLED
GND GROUND
HP HORSE POWER
IL INDICATOR LIGHT
KAIC THOUSAND AMPERE INTERRUPTING CAPACITY
KVA KILO-VOLT-AMPERES
KW KILO-WATTS
MFR MANUFACTURER
MH MANHOLE
MTD MOUNTED
NEC NATIONAL ELECTRICAL CODE
NF NON-FUSED
NIC NOT IN CONTRACT
NTS NOT TO SCALE
P POLE
PT POTENTIAL TRANSFORMER
Ø PHASE
PRI PRIMARY
REC RECEPTACLE
REQ'D REQUIRED
SEC SECONDARY
TB TEST BLOCK
TBB TELEPHONE BACKBOARD
TS TEST SWITCH
TSR TEST SWITCH RELAY
TSC TEST SWITCH CURRENT
TSV TEST SWITCH VOLTAGE
TYP TYPICAL
UON UNLESS OTHERWISE NOTED
V VOLT
W WATTS/WIRE
WP WEATHERPROOF

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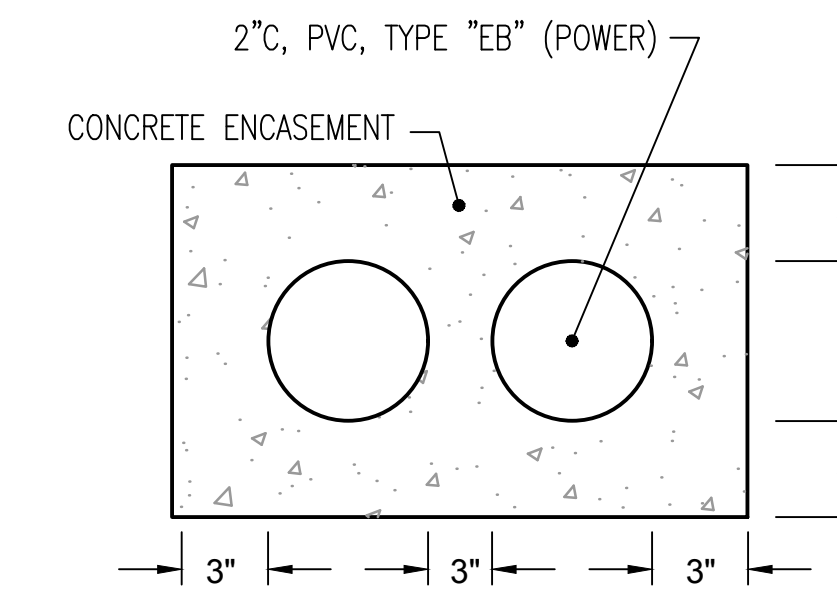
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LEGEND (THIS SHEET ONLY)

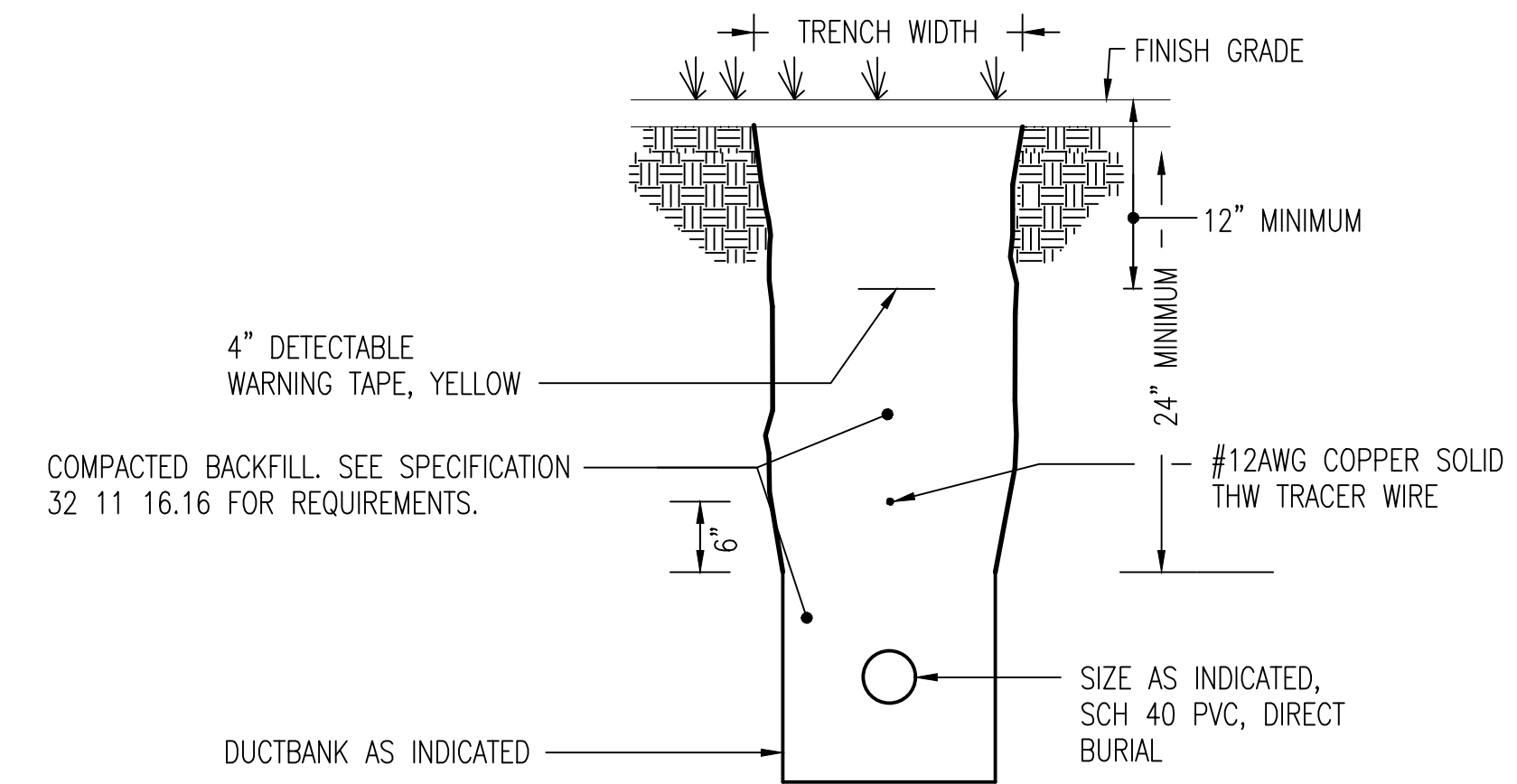
-  EXISTING MANHOLE OR HANDHOLE, AS NOTED.
-  EXISTING UNDERGROUND DUCTBANK, CONCRETE ENCASED UON. CHARACTERISTICS AS NOTED.
-  DUCTBANK SECTION LOOKING IN THE DIRECTION OF ARROWS; HEAVY LINE INDICATES BOTTOM OF DUCT.
-  SPARE DUCT (TYPICAL).
-  HEAVY LINE INDICATES BOTTOM OF DUCTBANK.
-  EXISTING CABLE DESIGNATION (TYPICAL). CHARACTERISTICS PER CABLE SCHEDULE THIS SHEET.

CONSTRUCTION NOTES (THIS SHEET ONLY)

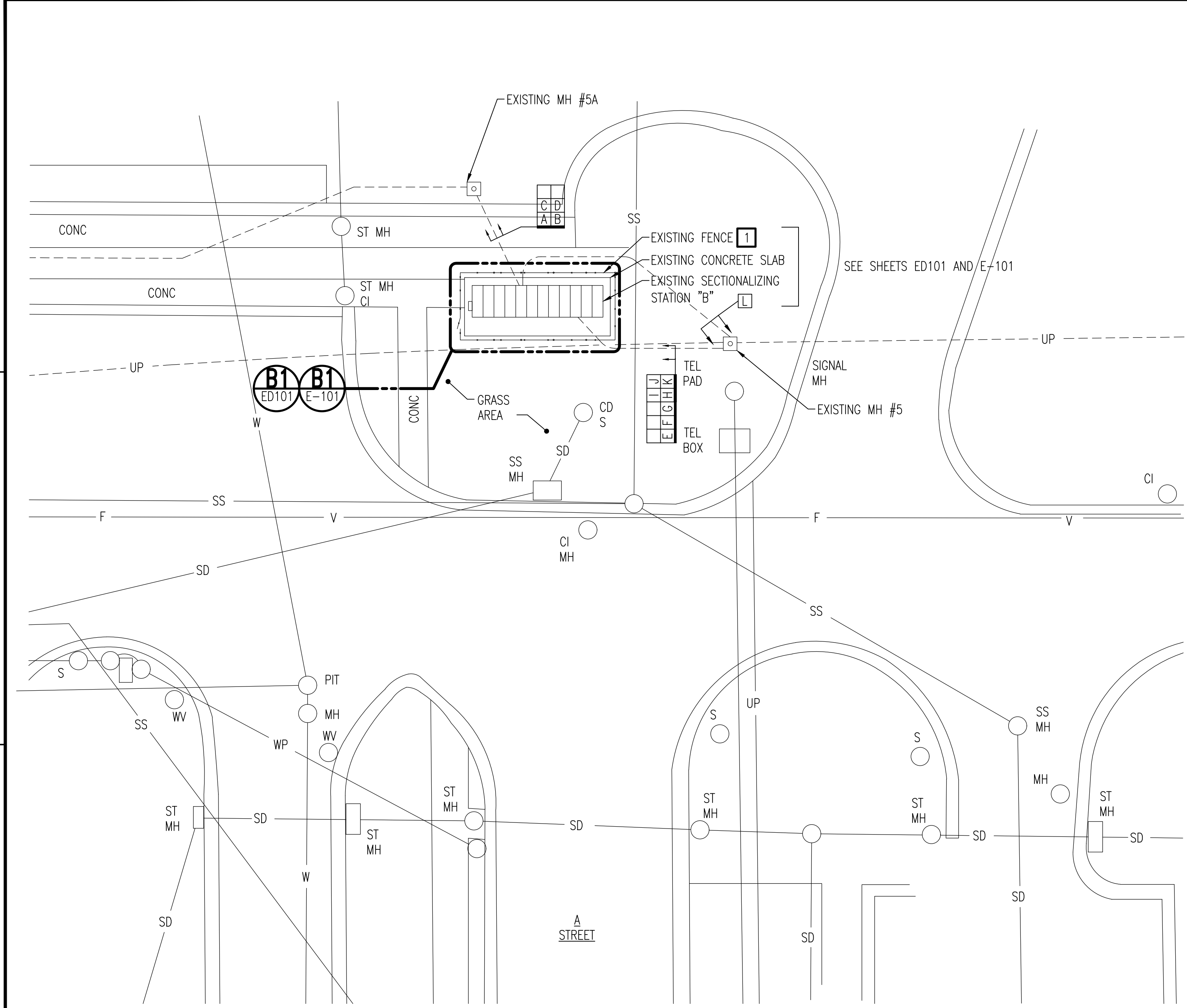
1 EXISTING FENCE AND POST SHALL BE REMOVED AS REQUIRED TO FACILITATE REMOVAL OF EXISTING SECTIONALIZING STATION 'B' AND INSTALLATION OF NEW SECTIONALIZING STATION AS INDICATED ON THE DRAWINGS. REPLACE REMOVED FENCE AND POST IN KIND TO MATCH EXISTING MATERIALS AND LAYOUT. IF GROUND CONNECTION TO THE FENCE AND POST IS PRESENT AT THE LOCATION OF REMOVAL, THE CONTRACTOR SHALL RETAIN GROUND AND RECONNECT TO FENCE AND POST AFTER REPLACEMENT.



DUCTBANK
NO SCALE



TRENCH DETAIL (GRASS AREA)
NO SCALE



SITE PLAN

SCALE: 1" = 20'-0"


CABLE SCHEDULE					
CABLE MARK	ORIGIN	DESTINATION	WIRE SIZE & QUANTITY	CONDUIT SIZE	REMARKS
A	SEC. STATION "B"	SEC. STATION "A"	3 #350KCMIL, 15KV (WHITE A-B2)	5"	EXISTING TO REMAIN
B	SEC. STATION "B"	SEC. STATION "A"	3 #350KCMIL, 15KV (BLACK A-B1)	5"	EXISTING TO REMAIN
C	SEC. STATION "B"	SEC. STATION "A"	3 #350KCMIL, 15KV (WHITE A-B1)	5"	EXISTING TO REMAIN
D	SEC. STATION "B"	SEC. STATION "A"	3 #350KCMIL, 15KV (BLACK A-B2)	5"	EXISTING TO REMAIN
E	SEC. STATION "B"	CIRCUIT B-6	3 #2/0, 15KV	4"	EXISTING TO REMAIN
F	SEC. STATION "B"	CIRCUIT B-5	3 #2/0, 15KV	4"	EXISTING TO REMAIN
G	SEC. STATION "B"	CIRCUIT B-11	3 #2/0, 15KV	4"	EXISTING TO REMAIN
H	SEC. STATION "B"	CIRCUIT B-12	3 #2/0, 15KV	4"	EXISTING TO REMAIN
I	SEC. STATION "B"	SEC. STATION "C"	3 #350KCMIL, 15KV (B-C1)	5"	NOTE 1
J	SEC. STATION "B"	SEC. STATION "C"	3 #350KCMIL, 15KV (B-C2)	4"	EXISTING TO REMAIN
K	SEC. STATION "B"	CIRCUIT B-7	3 #2/0, 15KV	4"	EXISTING TO REMAIN
L	SEC. STATION "B"	SEC. STATION "C"	3 #350KCMIL, 15KV (B-C1)	5"	NOTE 2

- NOTES:
- PULL EXISTING CABLES BACK TO MANHOLE #5 AND REMOVE.
 - SPLICE CABLE IN MANHOLE #5 AND TERMINATE IN SECTION 5 OF SECTIONALIZING STATION "B"

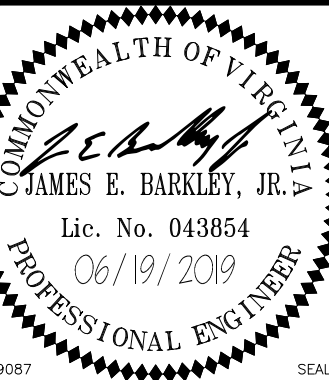
GRAPHIC SCALE:



	DATE
	DESCRIPTION
	DATE
	DESCRIPTION
	DATE
	DESCRIPTION



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COMMONWEALTH OF VIRGINIA
 JAMES E. BARKLEY, JR.
 Lic. No. 043854
 06/19/2019
 PROFESSIONAL ENGINEER

APPROVED	A/E INFO
FOR COMMANDER NAVFAC	ACTIVITY
SATISFACTORY TO	CHK
DES: KPM	DRW: CML
CHK: JAK	

U.S. MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

REPLACE "B" SECTIONALIZING STATION

SITE PLAN

SCALE: AS NOTED	PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855	NAVFAC DRAWING NO. 12782927
SHEET 03 OF 16	

ES101

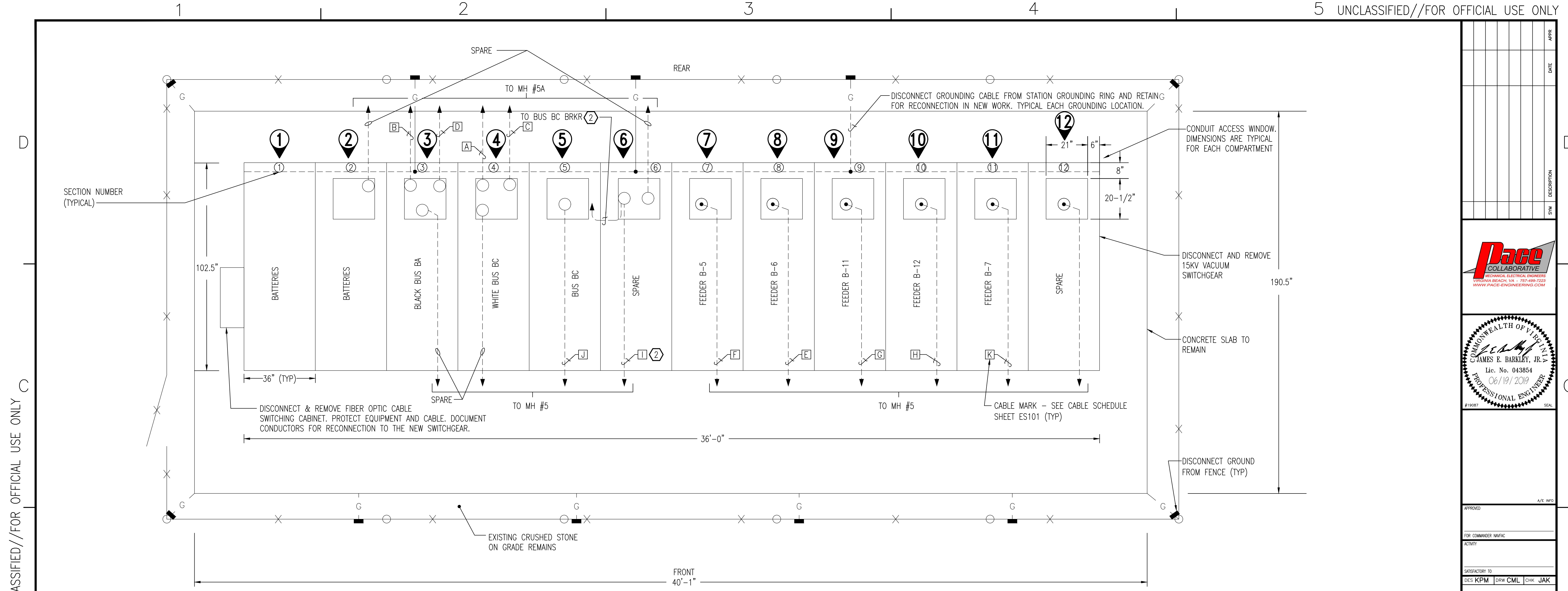
DRAWING REVISION: 10 MAY 2014

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A



B1 SECTIONALIZING STATION B - DEMOLITION PLAN
 ES101 SCALE: 1/2" = 1'-0"

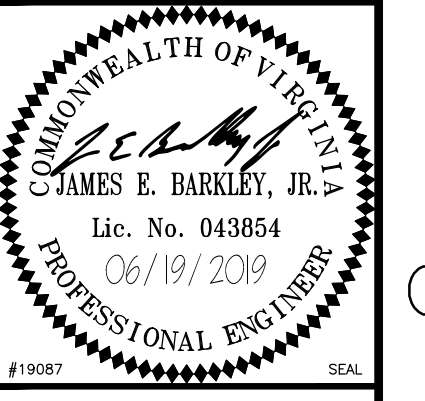
NOTES THIS SHEET

- ① DISCONNECT 15KV CABLE FROM CIRCUIT BREAKER. EXISTING CABLE TERMINATIONS SHALL BE REUSED FOR RECONNECTION. PROTECT CABLE AND TERMINATIONS DURING CONSTRUCTION. IDENTIFY THE PHASE OF EACH CABLE FOR PROPER RECONNECTION. TYPICAL EACH CABLE.
- ② PULL EXISTING CABLES BACK TO MANHOLE #5 AND REMOVE.

GRAPHIC SCALE:



SYMBOL	DESCRIPTION	DATE	APPROVED



APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO
DES: KPM DRW: CML CHK: JAK

U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
 SECTIONALIZING STATION B - DEMOLITION PLAN

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782928
SHEET 04 OF 16
ED101

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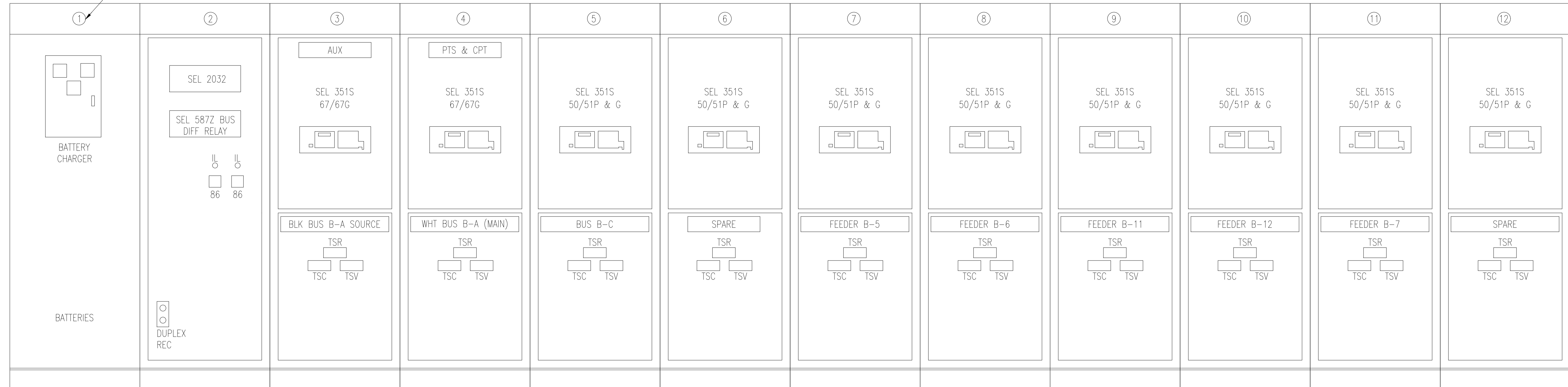
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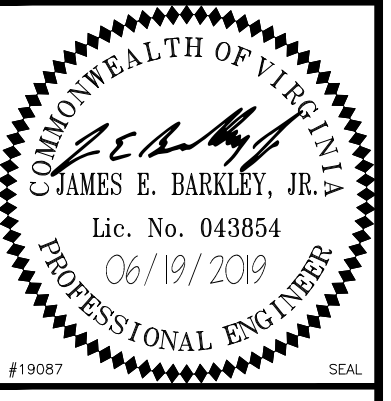
SECTION NUMBER (TYPICAL)



SECTIONALIZING STATION B DEMOLITION - FRONT ELEVATION

NO SCALE

APPR	DATE	DESCRIPTION	SN



APPROVED

FIR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO

DES: **KPM** | DRW: **CML** | CHK: **JAK**

U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
 SECTIONALIZING STATION B DEMOLITION - FRONT ELEVATION

SCALE: AS NOTED

PROJECT NO.: **6884855**

MAXIMO WORK ORDER NO. **6884855**

NAVFAC DRAWING NO. **12782929**

SHEET **05** OF **16**

ED201

DRAWING REVISION: 10 MAY 2014

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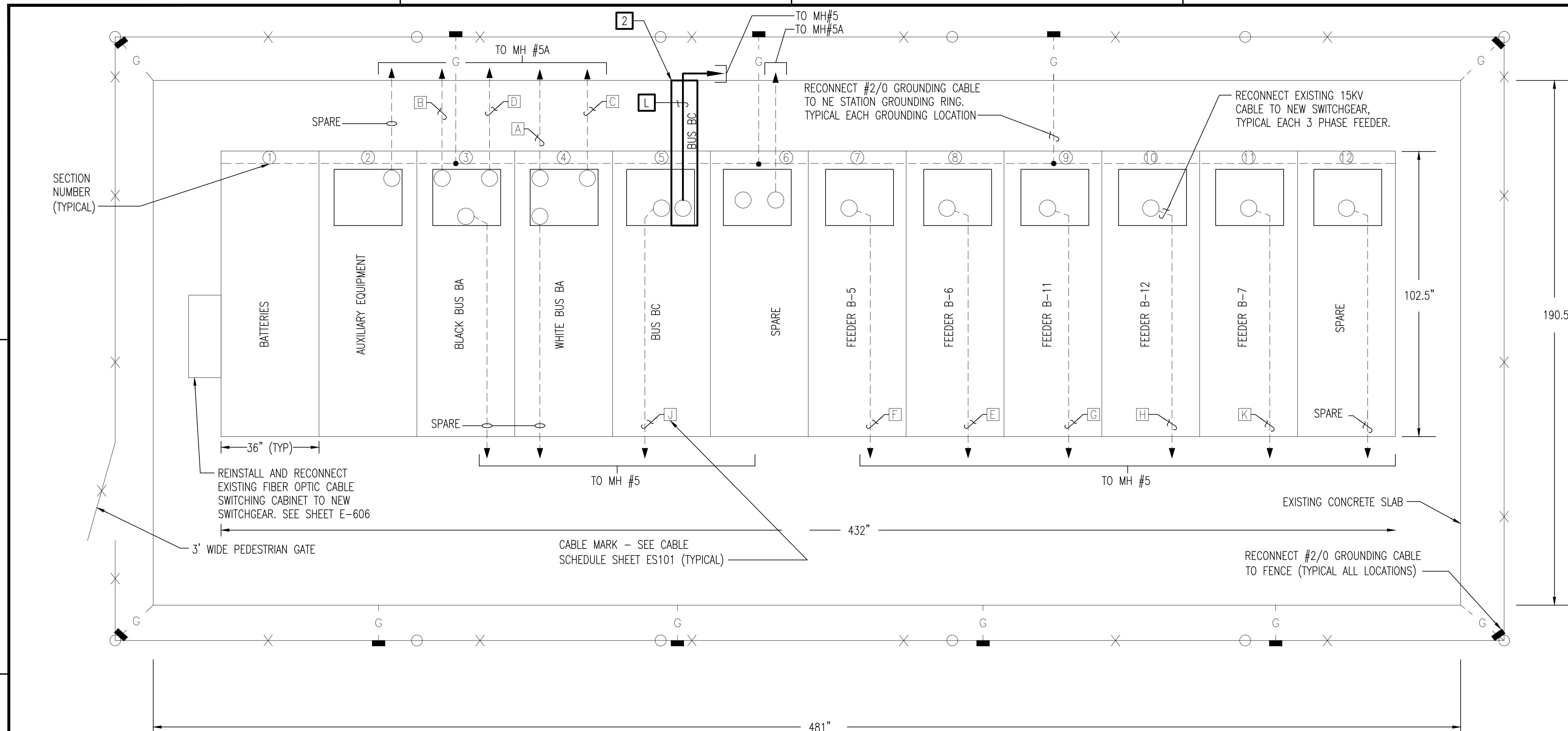
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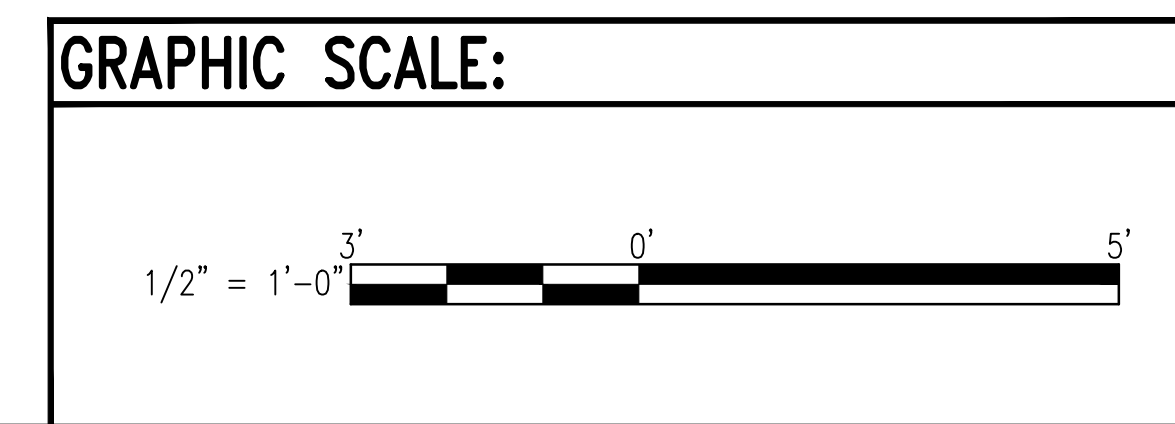


B1 SECTIONALIZING STATION B - NEW WORK
 ES101 SCALE: 1/2" = 1'-0"

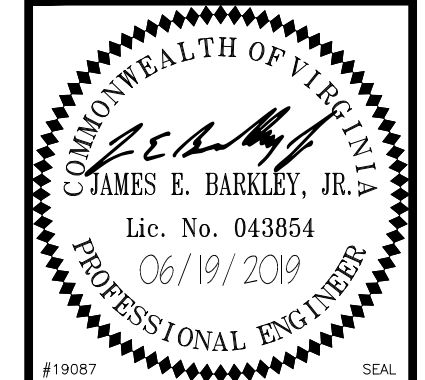
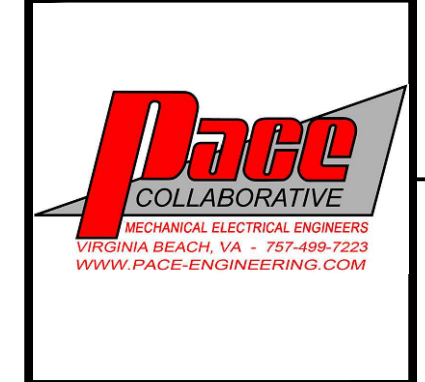
NOTES THIS SHEET

- 1 PROVIDE 15KV VACUUM SWITCHGEAR ON EXISTING SWITCHGEAR FOOTPRINT. PROVIDE HINGED ACCESS DOORS, FRONT AND REAR.
- 2 PRIOR TO REMOVING SECTIONALIZING STATION, CUT AND PATCH CONCRETE IN ORDER TO PROVIDE 5" CONDUIT FROM MANHOLE #5 INTO SECTION 5. COORDINATE SHUT OFF OF BREAKER WITH COITR. PATCH CONCRETE IN KIND AFTER THE CONDUIT HAS BEEN INSTALLED.

SPLICE AND EXTEND NOTE:
 EXISTING CONDUCTORS SHALL BE SPLICED AND EXTENDED IN KIND AS REQUIRED.



DATE	DESCRIPTION	BY



APPROVED
 FOR COMMANDER NAVFAC
 ACTIVITY
 SATISFACTORY TO
 DES: KPM | DRW: CML | CHK: JAK

U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
 SECTIONALIZING STATION B - NEW WORK

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782930
SHEET 06 OF 16
E-101

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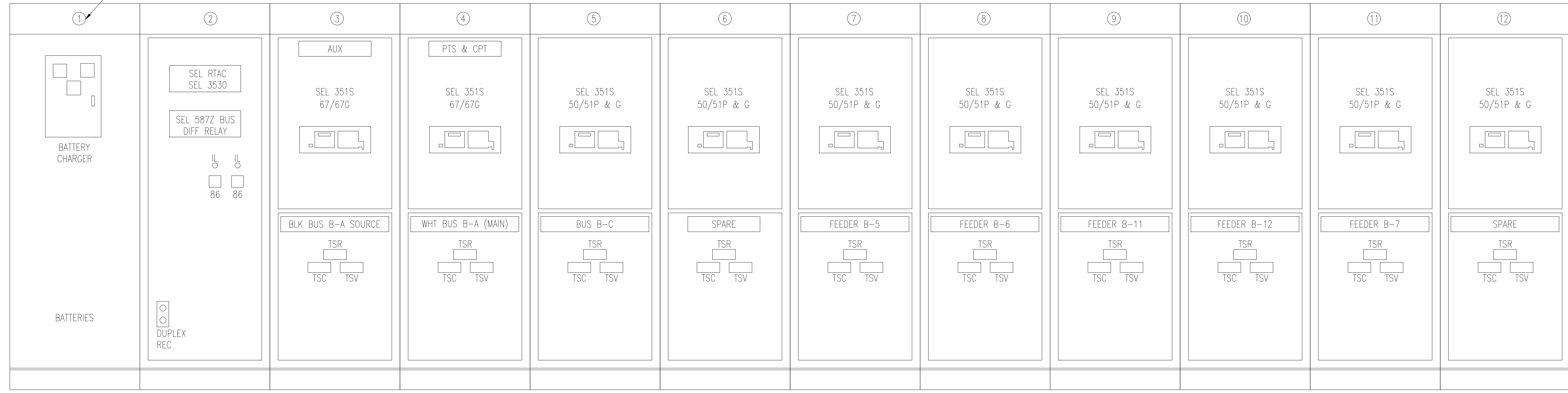
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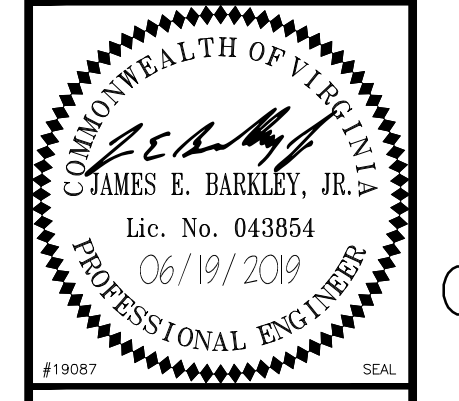
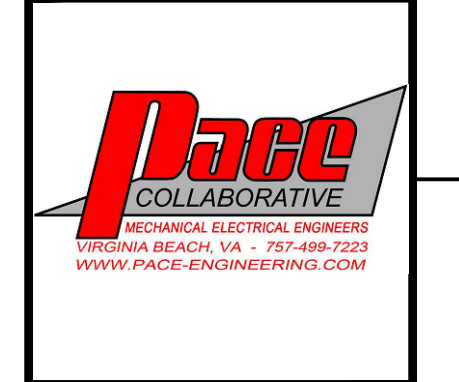
SECTION NUMBER (TYPICAL)



SECTIONALIZING STATION B NEW WORK – FRONT ELEVATION

NO SCALE

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A/E INFO	
APPROVED	
FIR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	
DES: KPM DRW: CML CHK: JAK	

U.S. MARINE CORPS AIR STATION	
CHERRY POINT, NORTH CAROLINA	
REPLACE "B" SECTIONALIZING STATION	
SECTIONALIZING STATION B NEW WORK – FRONT ELEVATION	

SCALE:	AS NOTED
PROJECT NO.:	6884855
MAXIMO WORK ORDER NO.:	6884855
NAVFAC DRAWING NO.:	12782931
SHEET	07 OF 16
E-201	

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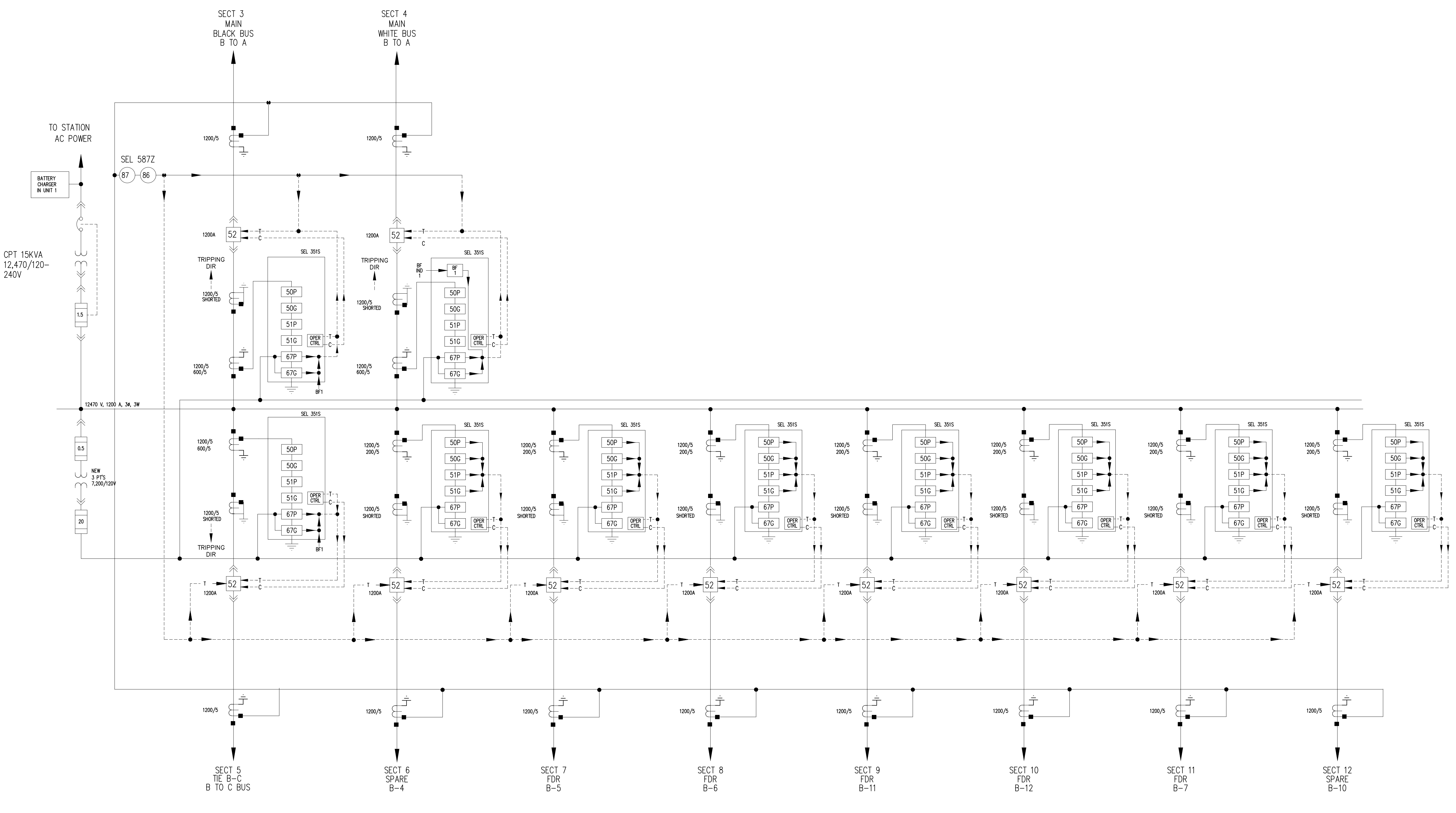
UNCLASSIFIED//FOR OFFICIAL USE ONLY

D

D

A

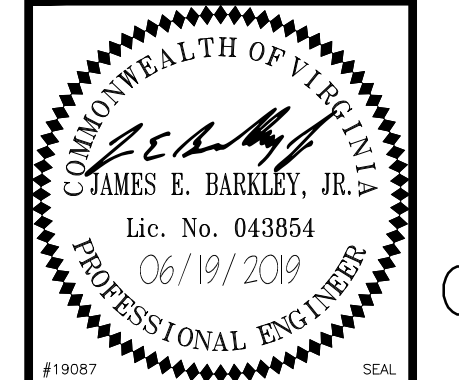
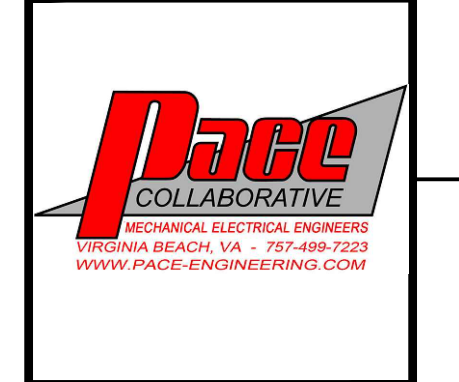
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SECTIONALIZING STATION B - DEMOLITION SINGLE LINE DIAGRAM

NO SCALE

	DATE	APPR
	DESCRIPTION	SWR



APPROVED

FOR COMMANDER NAVFAC

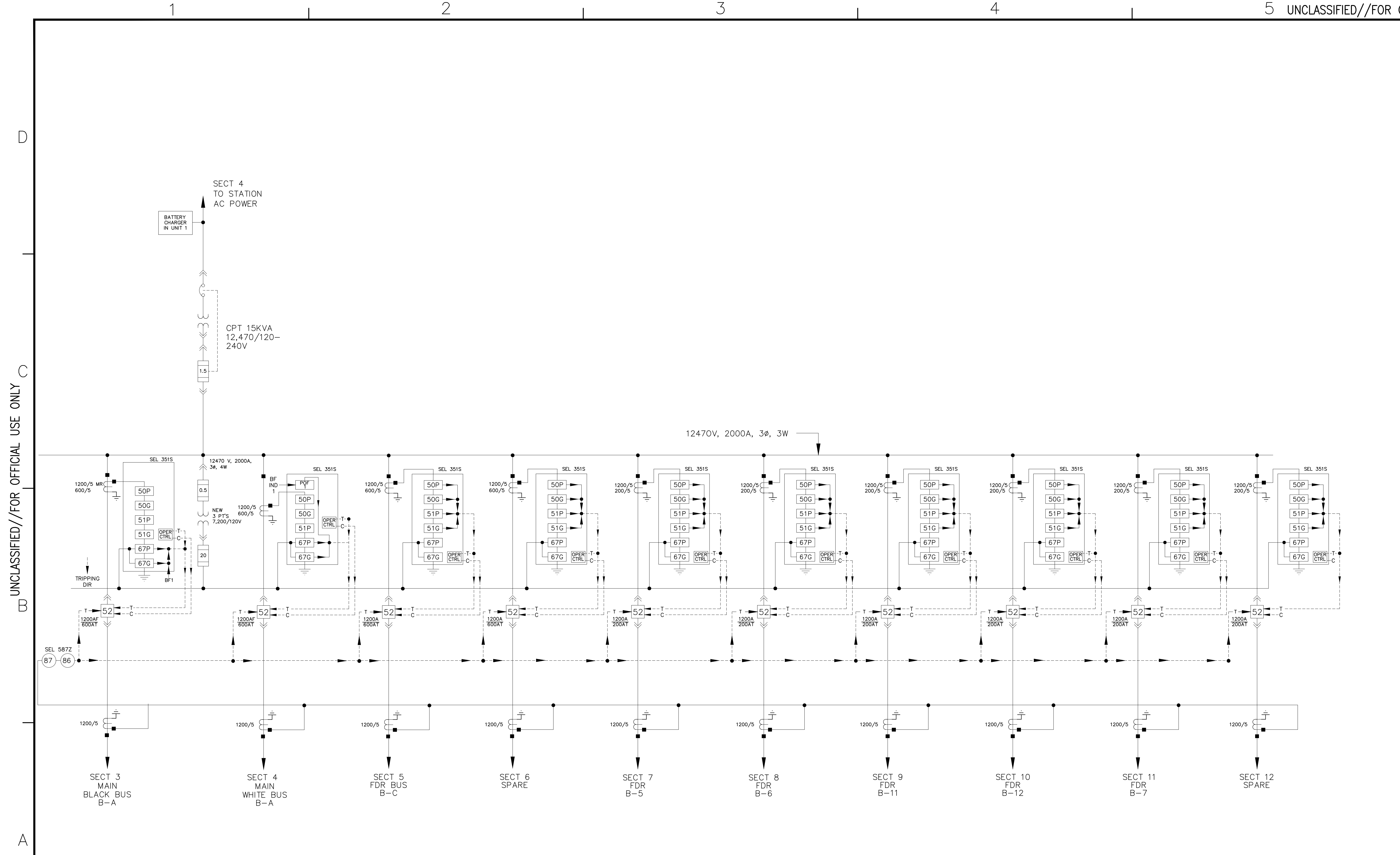
ACTIVITY

SATISFACTORY TO

DES: KPM CML CHK: JAK

U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
 REPLACE "B" SECTIONALIZING STATION
 SECTIONALIZING STATION B - DEMOLITION SINGLE LINE DIAGRAM

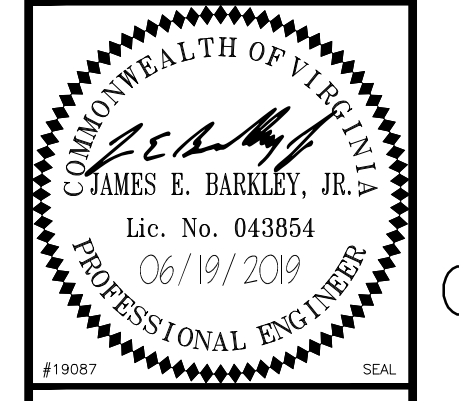
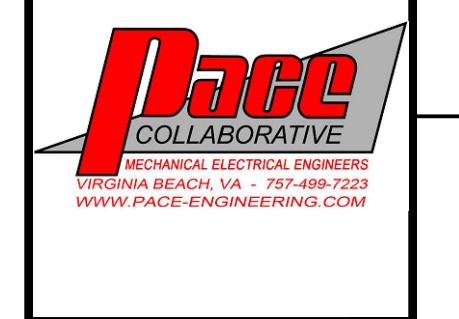
SCALE: AS NOTED	
PROJECT NO.:	6884855
MAXIMO WORK ORDER NO.	6884855
NAVFAC DRAWING NO.	12782932
SHEET	08 OF 16
E-601	



SECTIONALIZING STATION B - NEW WORK SINGLE LINE DIAGRAM

NO SCALE

APPR	
DATE	
DESCRIPTION	
SW	



APPROVED: _____
 FOR COMMANDER NAVFAC
 ACTIVITY _____
 SATISFACTORY TO _____
 DES: KPM [DRW] CML [CHK] JAK

U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
 SECTIONALIZING STATION B - NEW WORK SINGLE LINE DIAGRAM

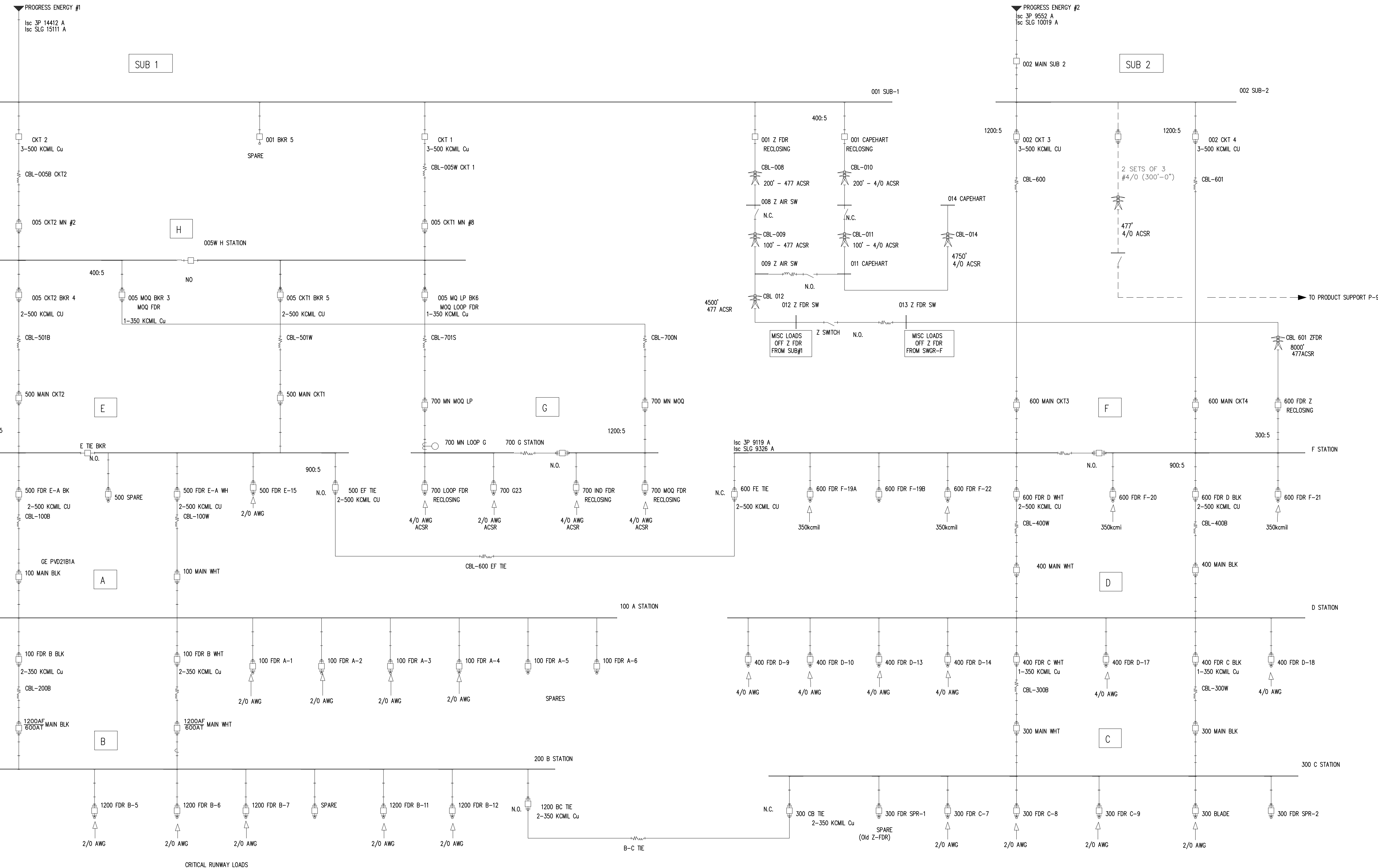
SCALE: AS NOTED
 PROJECT NO.: 6884855
 MAXIMO WORK ORDER NO. 6884855
 NAVFAC DRAWING NO. 12782933
 SHEET 09 OF 16
E-602

LEGEND:

- / - DISCONNECT SWITCH
- ⊕ ○ RELAY
- ⊕ ⊕ ○ CIRCUIT BREAKER

UTILITY CONTRIBUTION @ 12.470V =
 14,412A 3PH; X/R=81 (EST.)
 15,166A L-G; X/R=116 (EST.)

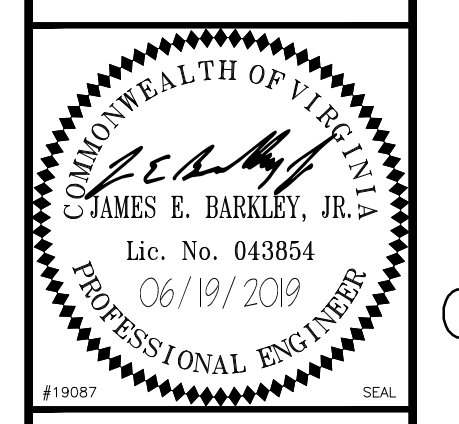
UTILITY CONTRIBUTION @ 12.470V =
 9,556A 3PH; X/R=16 (EST.)
 10,022A L-G; X/R=16 (EST.)



MCAS CHERRY POINT 12KV SYSTEM SINGLE LINE DIAGRAM

NO SCALE

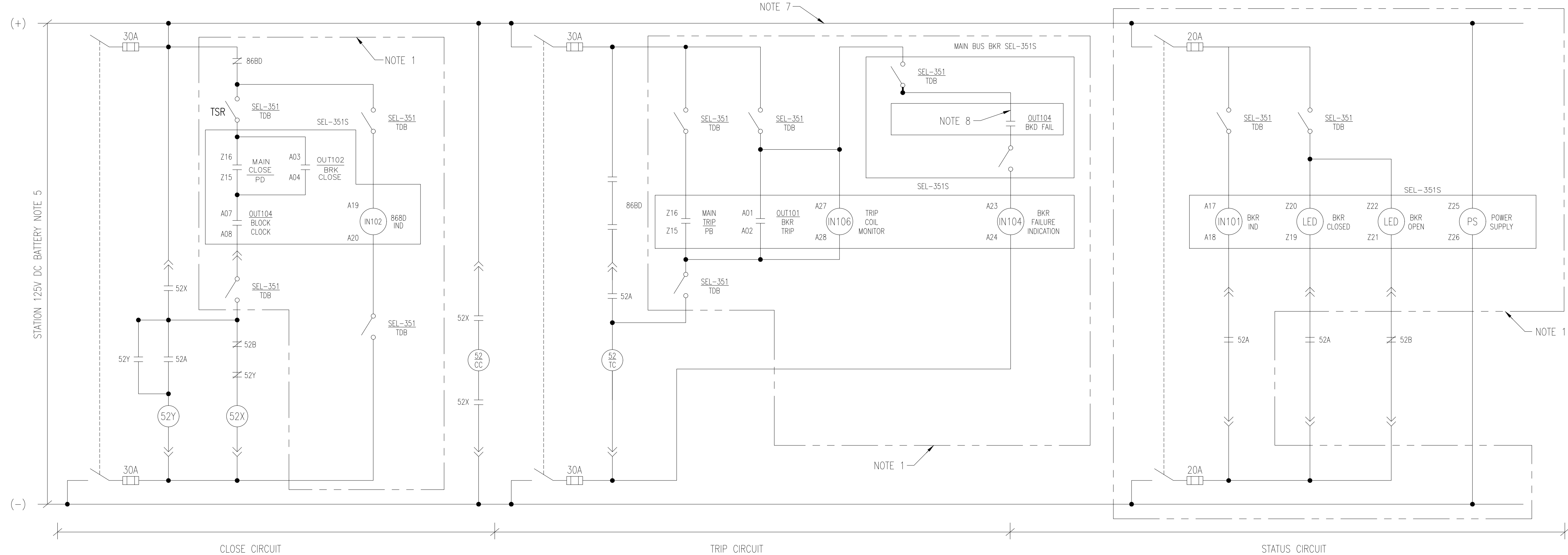
DATE	DESCRIPTION	APPR



APPROVED: _____
 FOR COMMANDER NAVFAC
 ACTIVITY: _____
 SATISFACTORY TO: _____
 DES: KPM | DRW: CML | CHK: JAK

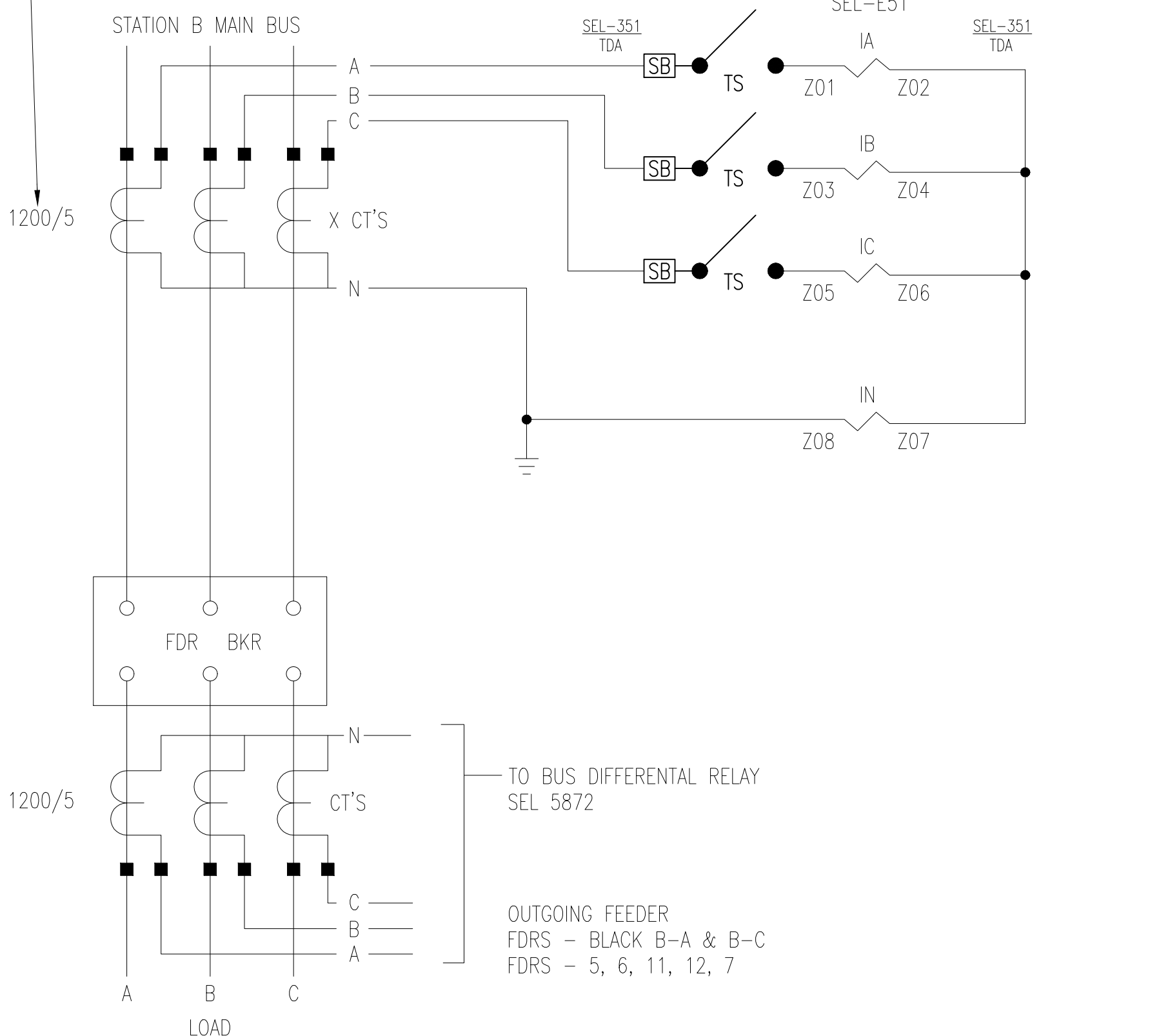
U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
 MCAS CHERRY POINT 12KV SYSTEM SINGLE LINE DIAGRAM

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782934
SHEET 10 OF 16
E-603
<small>DRAWN/REVISED: 10 MAY 2014</small>

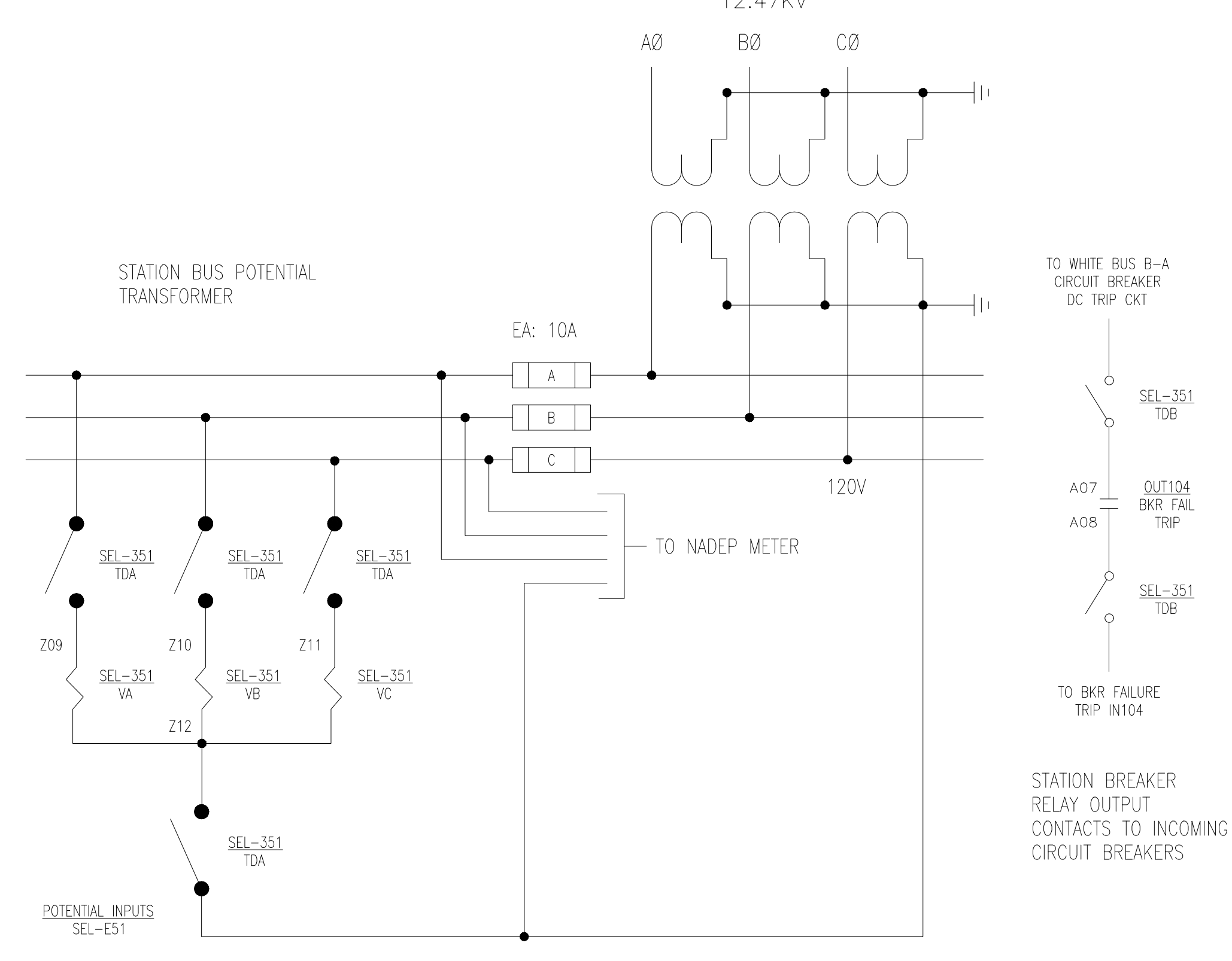


TYPICAL STATION CIRCUIT BREAKER CONTROL DIAGRAM EXCEPT THE BLACK BUS B - A RELAYS (SEE SHEET E-605)

NO SCALE
SEE SINGLE LINE DIAGRAM ON SHEET E-602 FOR C.T. SETTINGS. (TYPICAL)



AC CURRENT CONNECTION DIAGRAMS

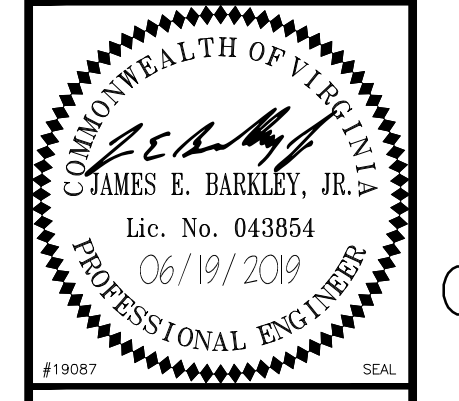
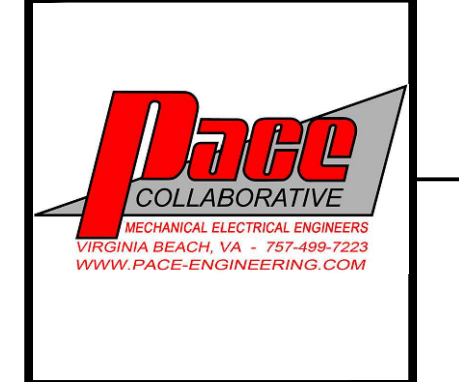


AC POTENTIAL CONNECTION DIAGRAMS

NOTES: (SHEETS E-604 & E-605)

1. WIRING FOR NEW SEL-S351S RELAYS.
2. BLOCK CLOSE OUTPUT SHALL BE PROGRAMMED FOR THE FOLLOWING CONDITIONS: TAGGED
A. A3LR REMOVE (351S PUSH-BUTTON)
B. OUT101 (BKR TRIP)
C. IN102
3. POLARITY AND RATIOS OF CURRENT TRANSFORMERS SHALL BE VERIFIED AND NOTED ON ONE-LINE DIAGRAMS.
4. ALL RELAY POTENTIAL TRANSFORMERS SHALL BE CONFIGURED WITH 3 TRANSFORMERS CONNECTED LINE TO GROUND ON THE STATION BUS WITH A SECONDARY VOLTAGE TO 120 VOLTS.
5. STATION BATTERY SHALL BE 125 VDC.
6. CONTRACTOR SHALL LABEL ALL CONNECTION POINTS ON SHOP DRAWINGS.
7. THE DESIGNATED MAIN CKT BREAKER SHALL BE THE BLACK BUS B-A CIRCUIT BREAKER.
8. SEL-351 OUTPUT 104 FOR EACH STATION BREAKER SHALL BE PROGRAMMED TO CLOSE FOR A BREAKER FAILURE TRIP SIGNAL TO THE MAIN INCOMING BUS CKT BREAKER WHITE BUS B-A AND SHALL BE WIRED IN PARALLEL TO THE MAIN BUS BREAKER SEL-351S INPUT 104. STATION SOURCE BREAKERS BLACK BUS B-A BUS B-C SHALL HAVE IN104 PROGRAMMED TO RECEIVE A BREAKER FAILURE TRIP FROM THE WHITE BUS B-A MAIN CKT BREAKER AND WILL BE PROGRAMMED TO TRIP UPON RECEIPT OF THAT SIGNAL.
9. THE FOLLOWING STATION B CIRCUIT BREAKERS SHALL BE WIRED USING THIS SCHEMATIC:
B-A BLK; B-C; B-5; B-6; 8-11; B-12 AND 8-7
SEE E-605 FOR WHITE BUS AB.
10. BREAKER PROGRAMS/SETTINGS TO BE PROVIDED TO THE CONTRACTOR BY THE GOVERNMENT. CONTRACTOR IS RESPONSIBLE FOR LOADING THE PROGRAM/SETTING FILES IN THE RELAYS AND SUBSEQUENT TESTING OF THE RELAYS.

APPR
DATE
DESCRIPTION
SN

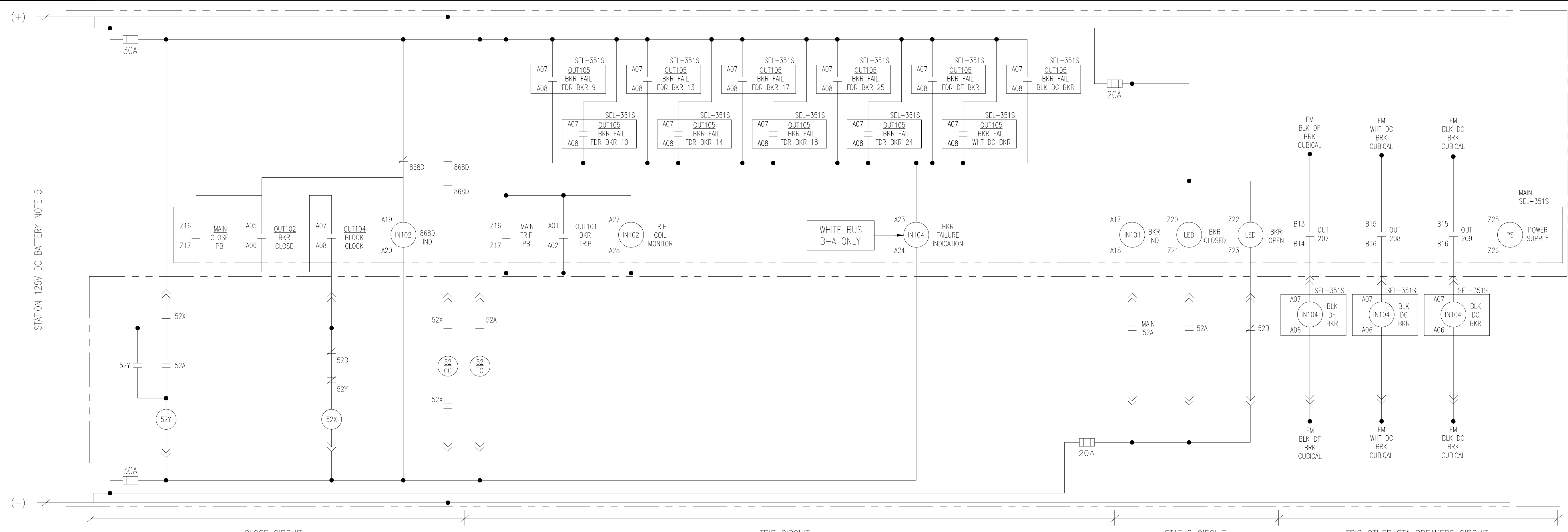


A/E INFO

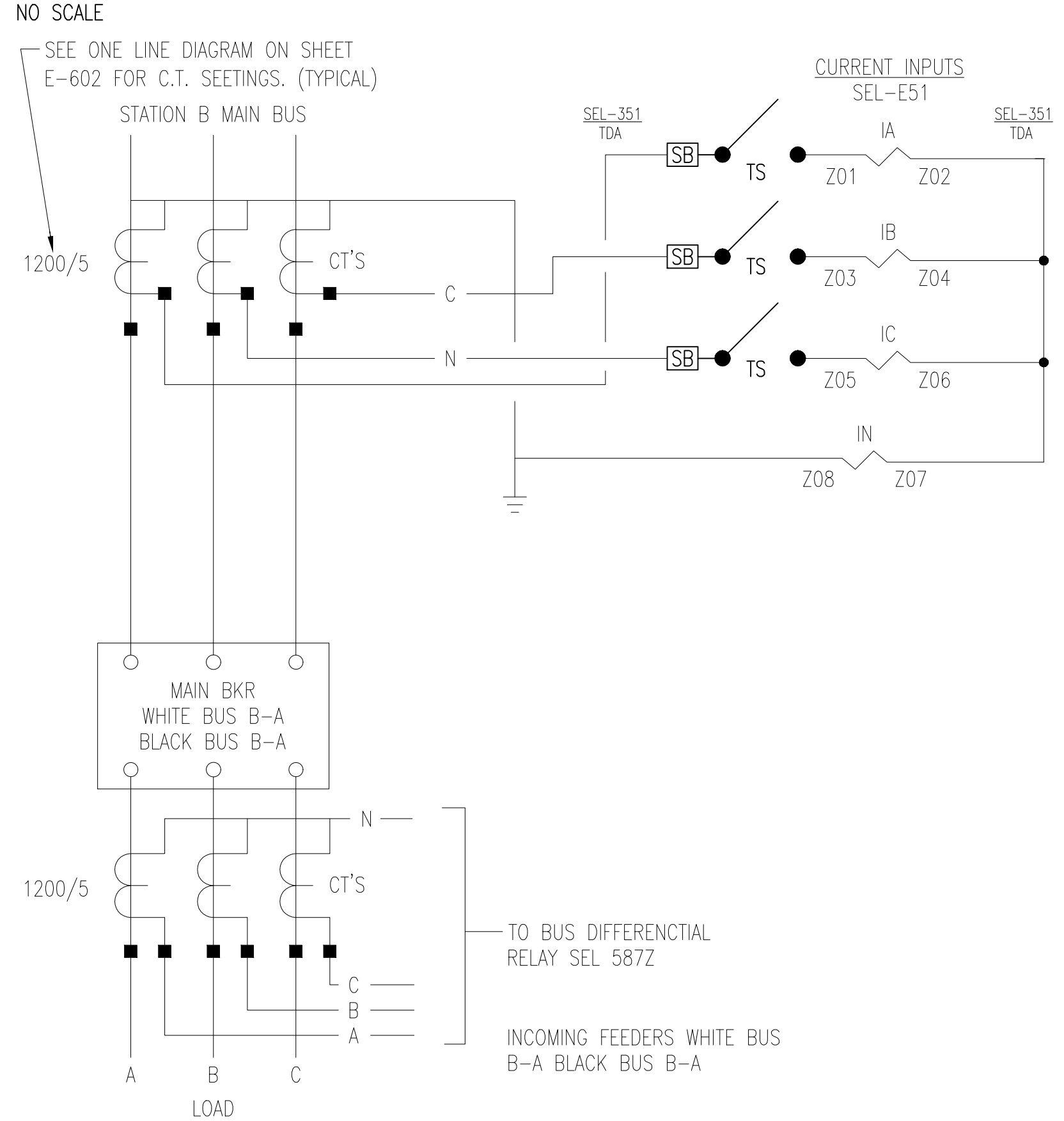
APPROVED
FIR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO
DES: KPM DW: CML CHK: JAK

U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
 CIRCUIT BREAKER CONNECTION AND CONTROL DIAGRAMS

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782935
SHEET 11 OF 16
E-604

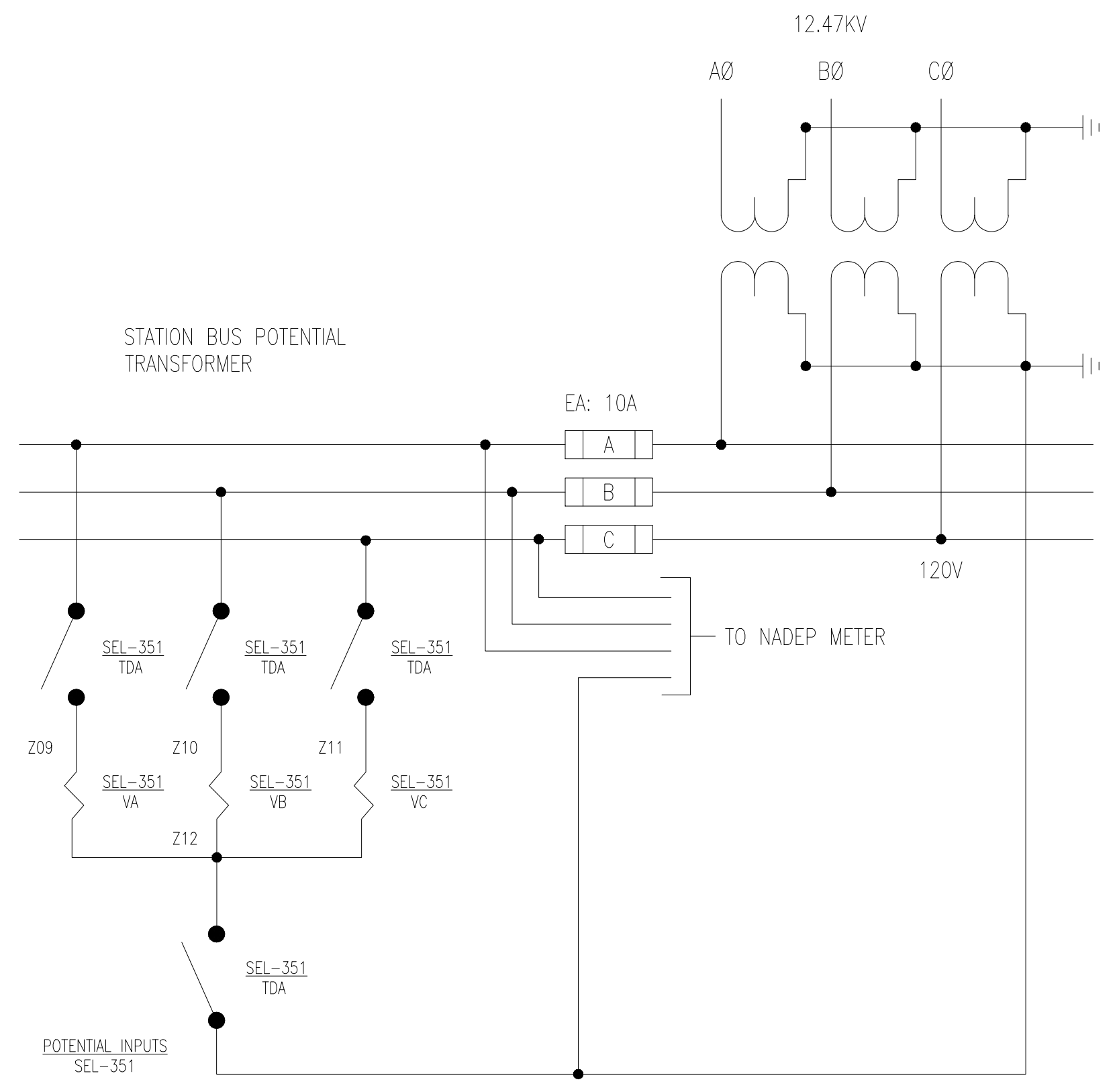


WHITE BUS B-A MAIN CIRCUIT BREAKER RELAY CONTROL DIAGRAM (SEE SHEET E-604 FOR FEEDER CIRCUIT BREAKER RELAYS)



AC CURRENT CONNECTION DIAGRAMS

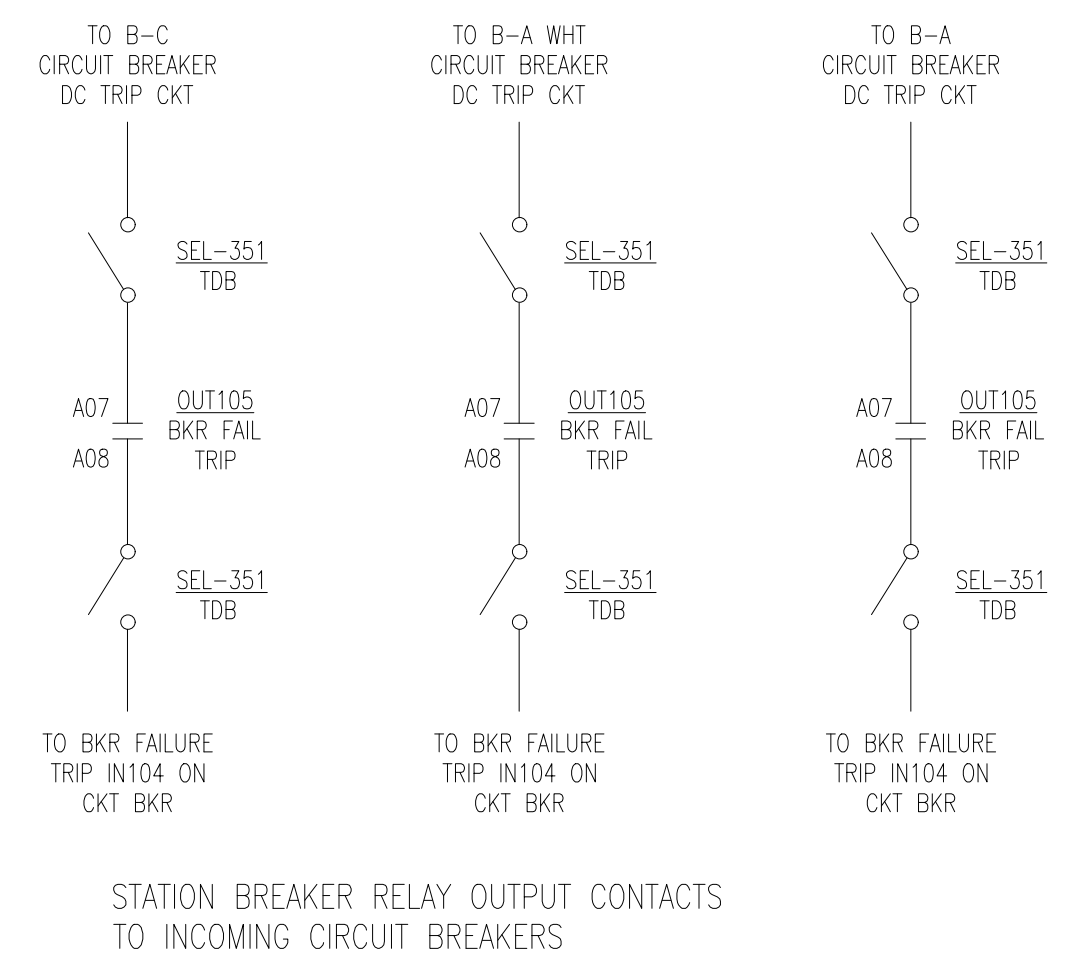
NO SCALE



AC POTENTIAL CONNECTION DIAGRAMS

NO SCALE

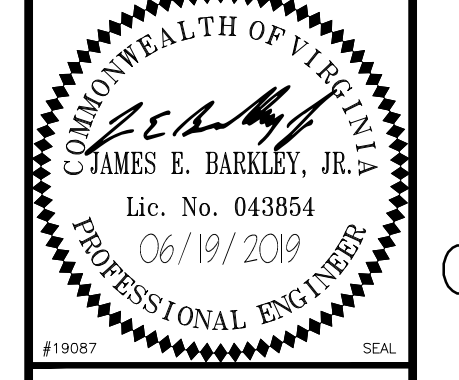
SEE SHEET E-604 FOR NOTES, THIS SHEET



EXTERNAL CKT BKR TRIP CIRCUIT CONNECTION DIAGRAMS

NO SCALE

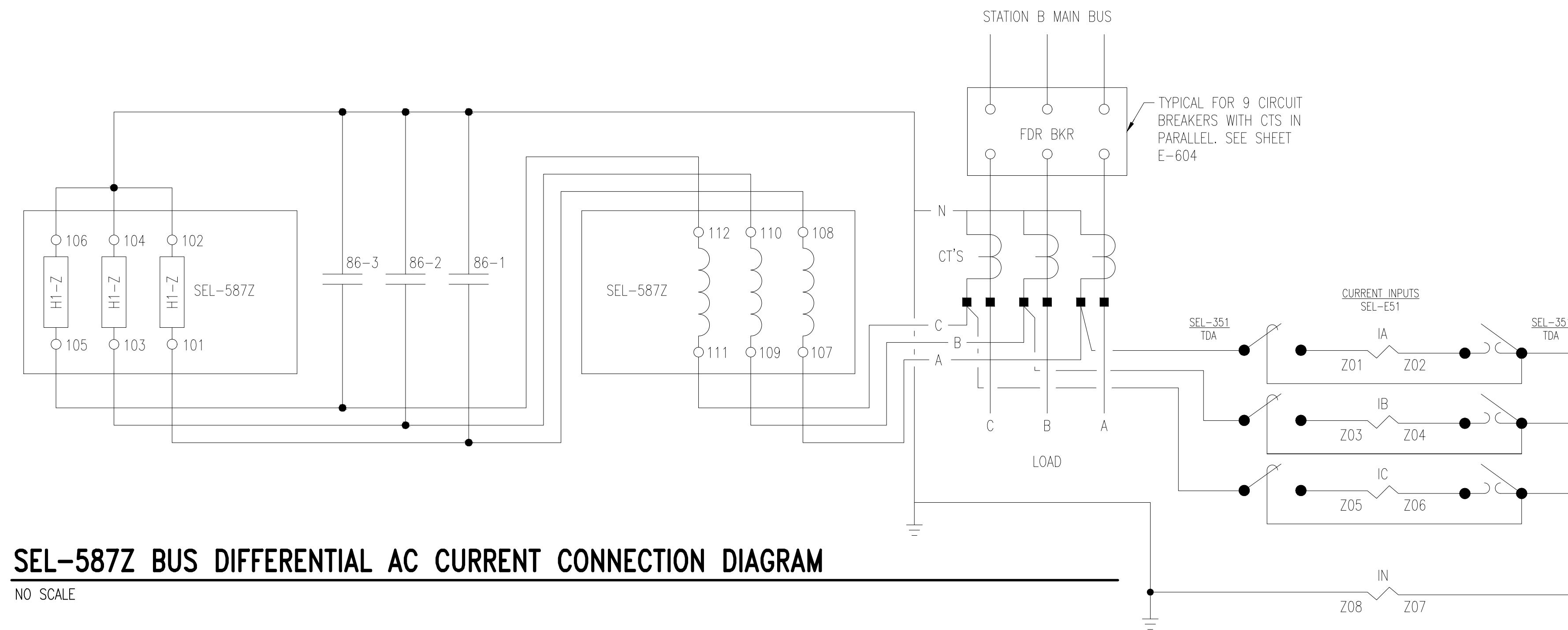
NO.	DATE	DESCRIPTION



APPROVED: _____
 FOR COMMANDER NAVFAC
 ACTIVITY: _____
 SATISFACTORY TO: _____
 DES: KPM | DRW: CML | CHK: JAK

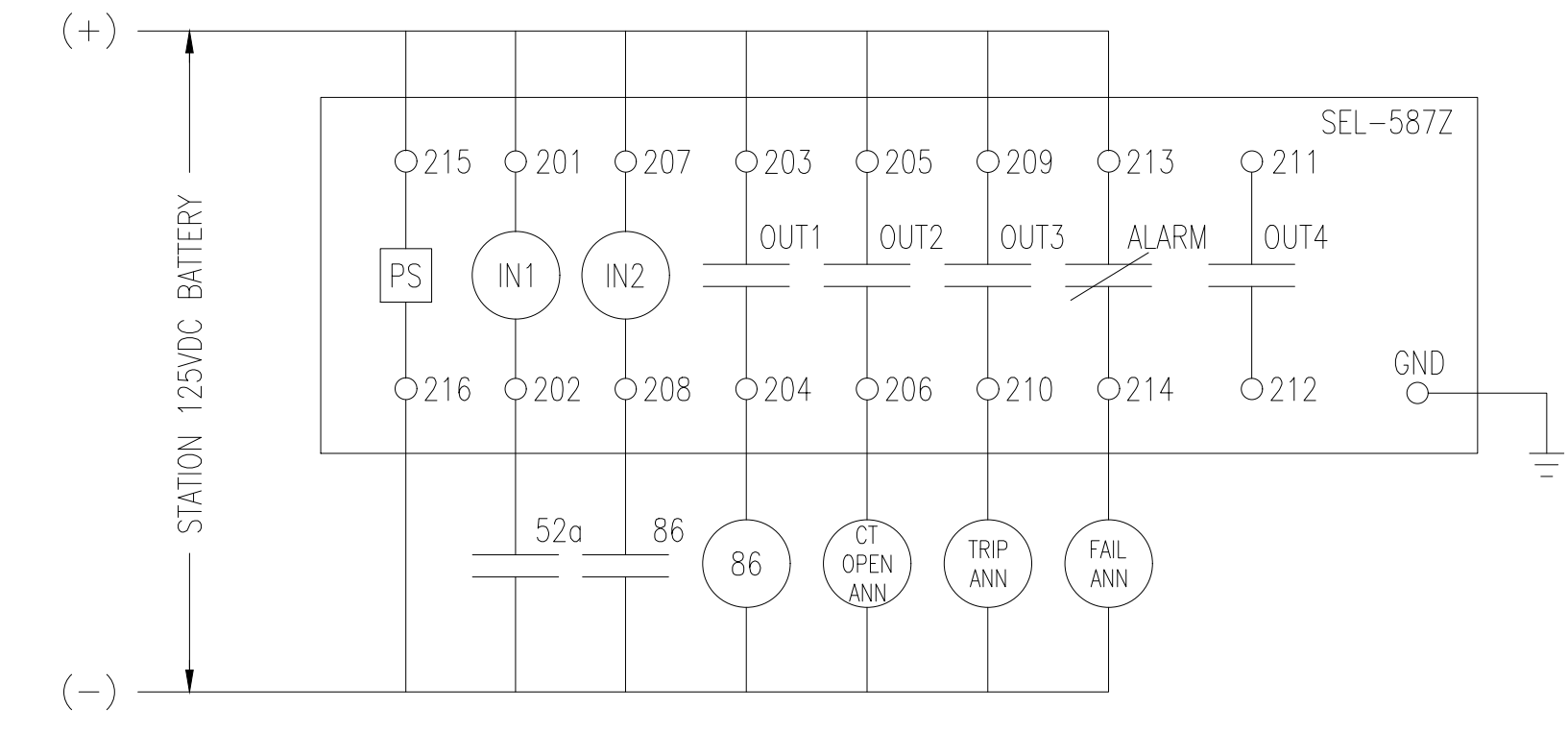
U.S. MARINE CORPS AIR STATION
 CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
 CIRCUIT BREAKER CONNECTION AND CONTROL DIAGRAMS

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782936
SHEET 12 OF 16
E-605



SEL-587Z BUS DIFFERENTIAL AC CURRENT CONNECTION DIAGRAM

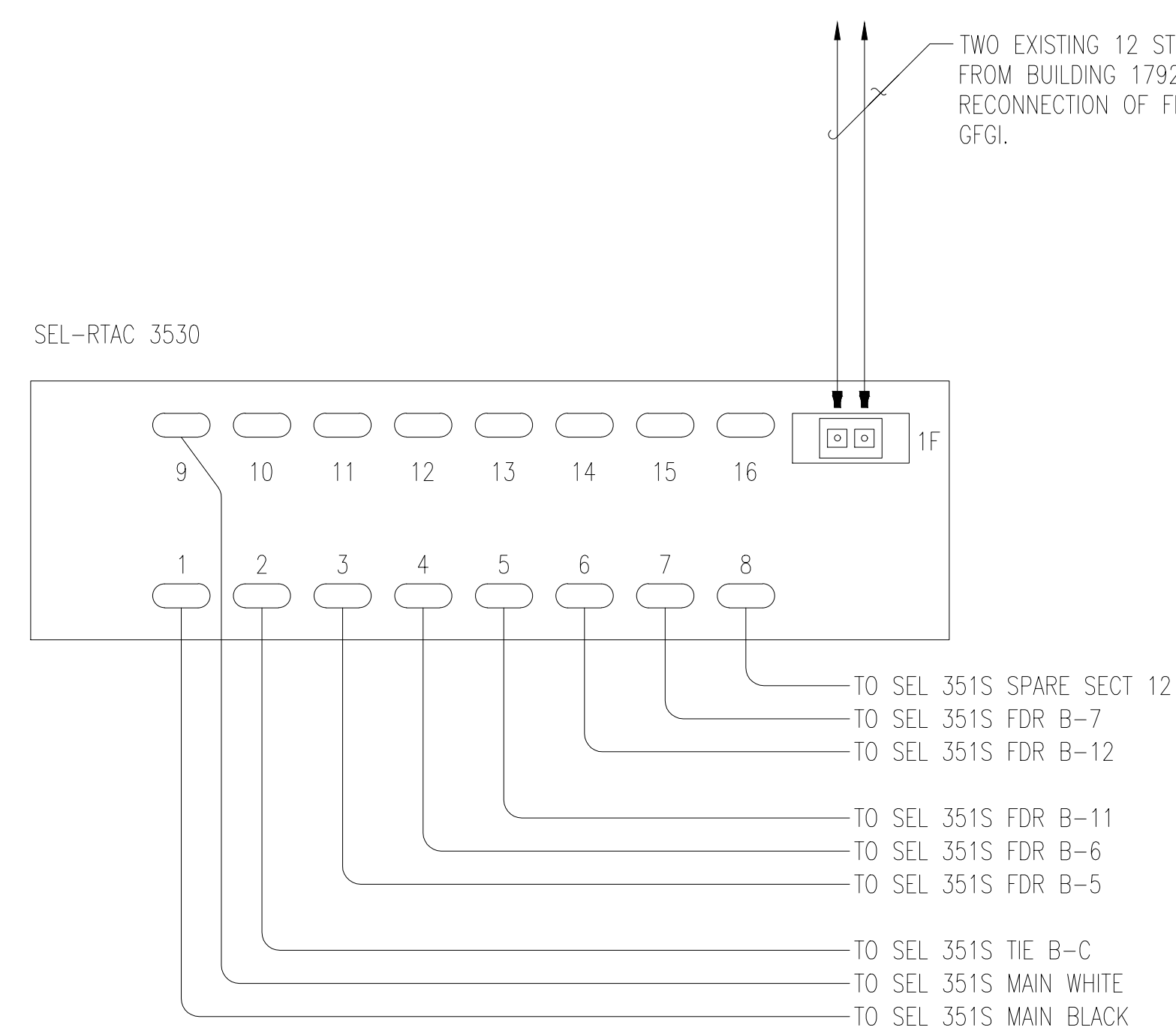
NO SCALE



SEL-587Z BUS DIFFERENTIAL TRIP CIRCUIT

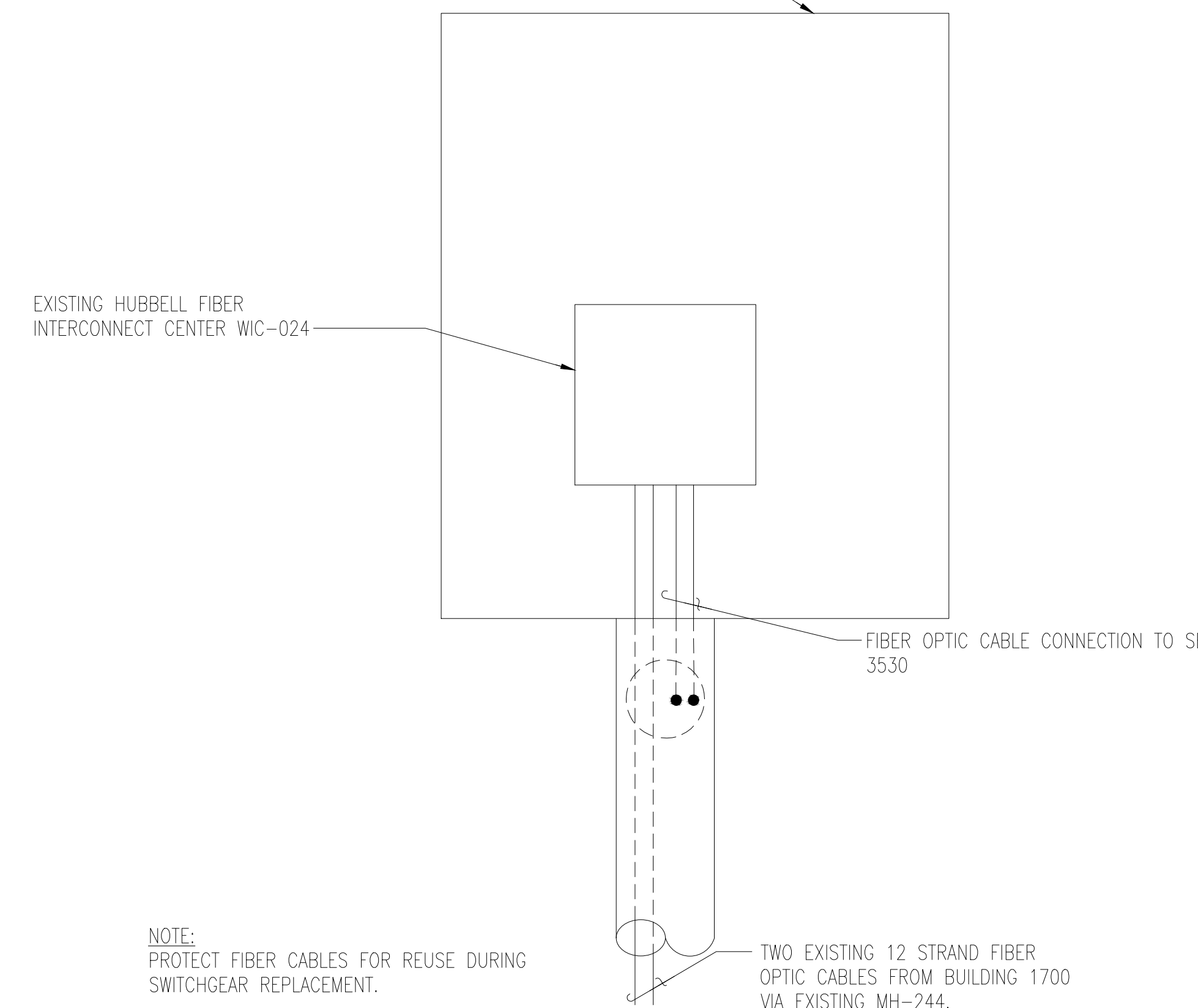
NO SCALE

REINSTALL AND RECONNECT EXISTING FIBER OPTIC CABLE SWITCHING CABINET ON NEW STATION B SWITCHGEAR. CONNECT TO 9 REPLACED CIRCUIT BREAKERS AND CONNECT TO ONE ADDITIONAL CIRCUIT BREAKERS SEL 351S PROTECTIVE AND CONTROL RELAYS VIA THE NEW SEL 2032 COMMUNICATIONS PROCESSOR. VERIFY EXACT CONNECTIONS REQUIRED WITH THE NEW EQUIPMENT MANUFACTURER



INTERNET SWITCH AND COMMUNICATIONS PROCESSOR CONNECTION DIAGRAM

NO SCALE



NOTE:
PROTECT FIBER CABLES FOR REUSE DURING SWITCHGEAR REPLACEMENT.

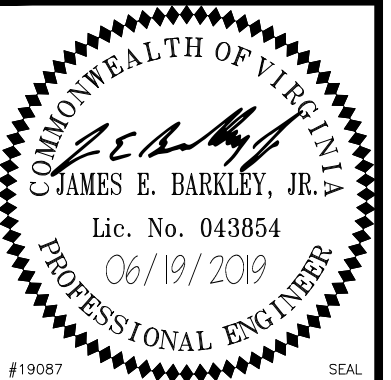
FROM ELEVATION OF RELOCATED FIBER OPTIC CABLE SWITCHING CABINET

NO SCALE

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DATE	APP'R
DESCRIPTION	SW



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FIR COMMANDER NAVFAC

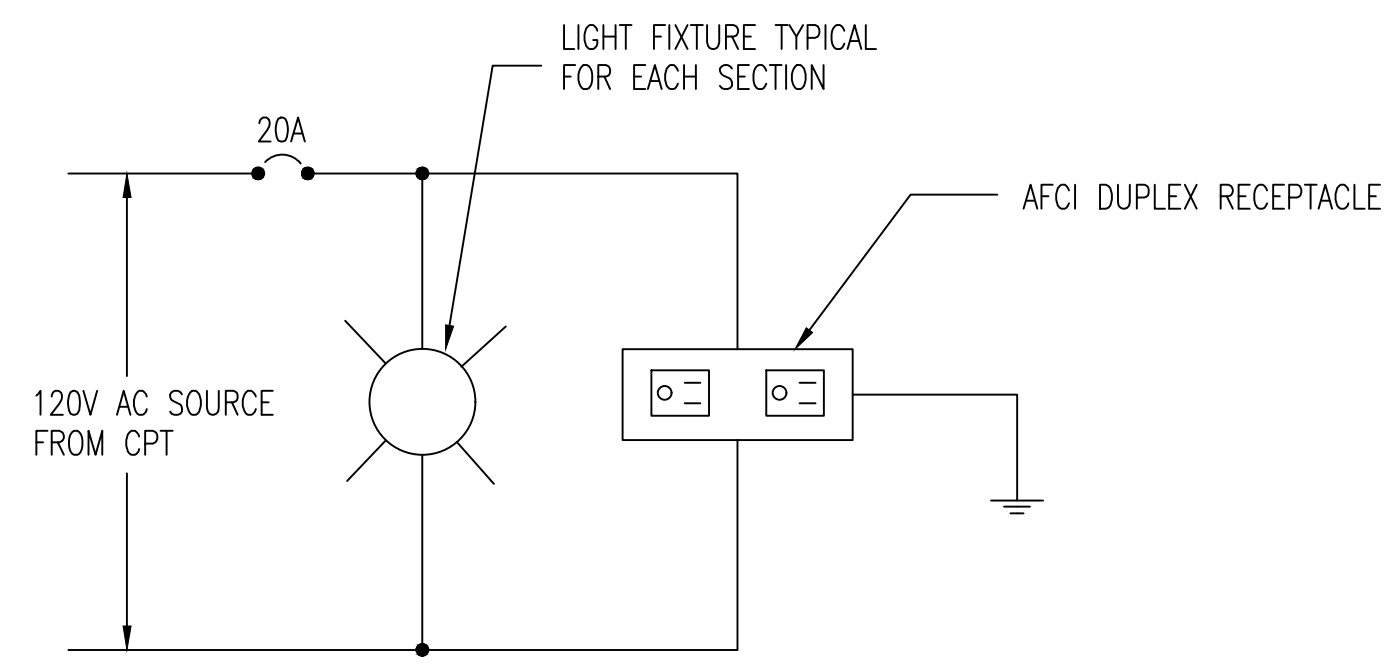
ACTIVITY

SATISFACTORY TO

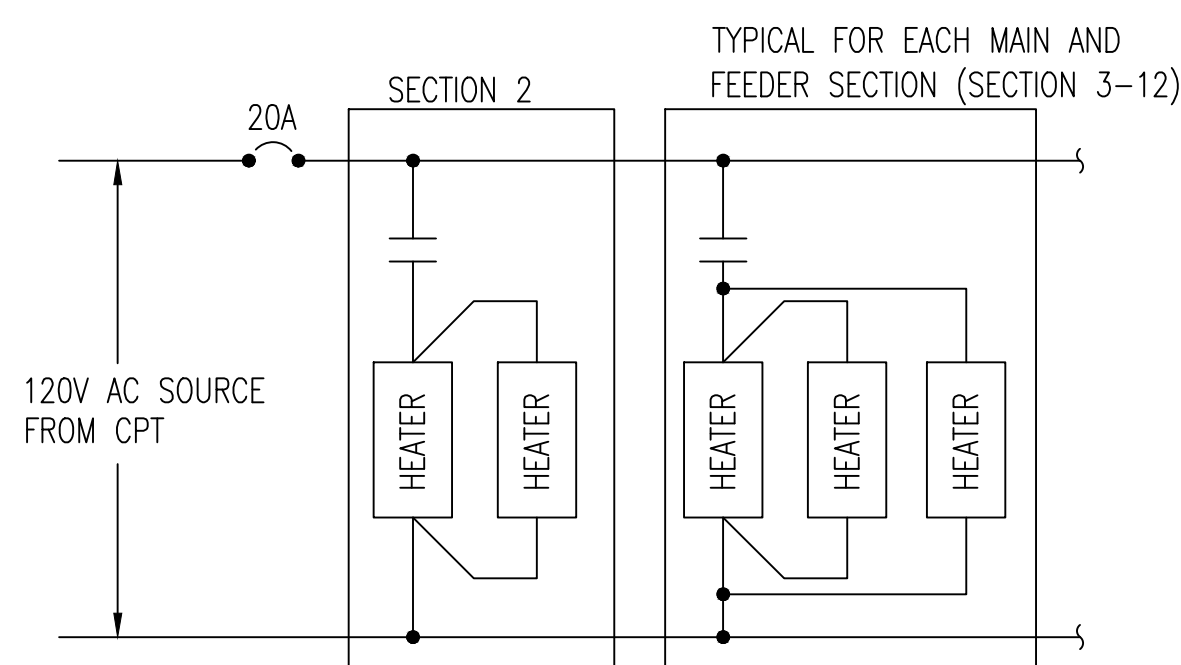
DES: KPM | DRW: CML | CHK: JAK

U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
NEW STATION BUSS DIFFERENTIAL & COMM PROCESSOR DIAGRAMS

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782937
SHEET 13 OF 16
E-606



LIGHTS AND RECEPTACLE CONNECTION DIAGRAM
NO SCALE



HEATER CONNECTION DIAGRAM
NO SCALE

DESIGN CRITERIA:

1. UFC 3-301-01, STRUCTURAL ENGINEERING.

DESIGN LOADS:

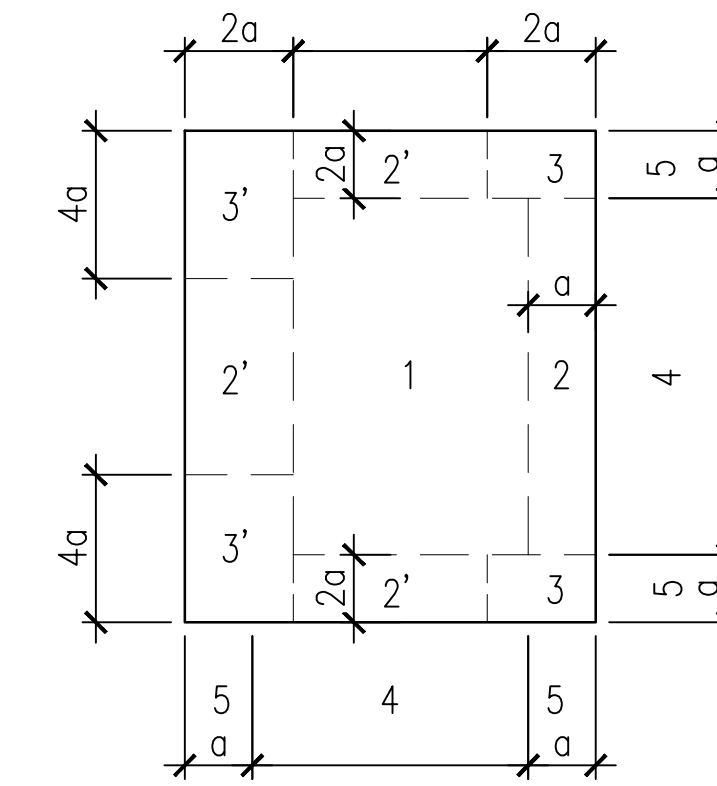
DESIGN LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE AS FOLLOWS:

1. OCCUPANCY RISK CATEGORY: III
2. UNIFORM LIVE LOADS:
ROOF: 20PSF
3. WIND LOADS:
WIND VELOCITY (ULTIMATE) = 147 MPH
NOMINAL WIND SPEED (ASD) = 114 MPH
EXPOSURE CATEGORY (MAIN WINDFORCE-RESISTING SYSTEM): C
EXPOSURE CATEGORY (COMPONENTS AND CLADDING): C
INTERNAL PRESSURE COEFFICIENT: +/- 0.18 (ENCLOSED)

COMPONENTS AND CLADDING: WIND PRESSURE TO BE USED FOR DESIGN OF EXTERIOR COMPONENTS AND CLADDING MATERIALS NOT SPECIFICALLY DESIGNED ON THESE DRAWINGS MUST BE PER TABLE BELOW:

COMPONENTS AND CLADDING ULTIMATE WIND PRESSURES												
AREA (SF)	ROOF ZONES						WALL ZONES					
	1	2	3	2'	3'	4	5	4	5			
A<10	19.2	-51.1	19.2	-59.1	19.2	-79.0	-71.0	-111.0	43.1	-46.7	43.1	-57.5
A≥100	16.0	-51.1	16.0	-55.1	16.0	-55.1	-67.1	-71.0	36.8	-40.4	36.8	-44.8

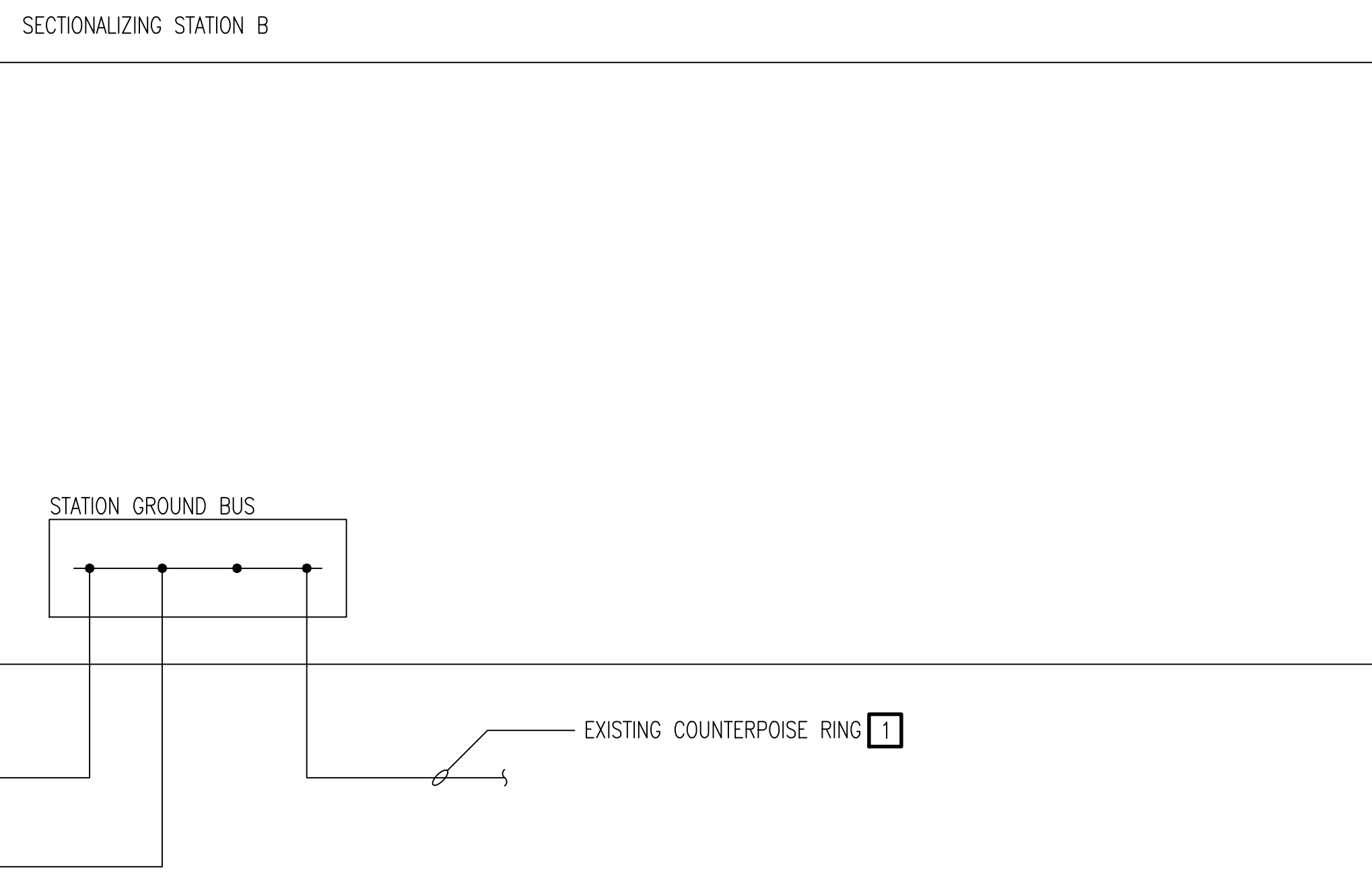
INTERPOLATE BETWEEN AREAS INDICATED.
CORNER ZONES (a) = 3 FEET.
TO CALCULATE NET UPLIFT SUBTRACT AN UNFACTORED DEAD LOAD OF 5 PSF FROM THE ROOF UPLIFTS LISTED ABOVE
REFER TO SKETCH BELOW FOR ZONE DEFINITIONS.



4. SEISMIC LOADS:
IMPORTANCE FACTOR: 1.25
0-2 SECOND SPECTRAL RESPONSE, SS = 12%g
1-0 SECOND SPECTRAL RESPONSE, S1 = 6%g
SOIL SITE CLASS = D (ASSUMED)
SEISMIC DESIGN CATEGORY: B

5. SNOW LOADS:
GROUND SNOW LOAD: 10 PSF
IMPORTANCE FACTOR: 1.1

STRUCTURAL DESIGN CRITERIA
NO SCALE

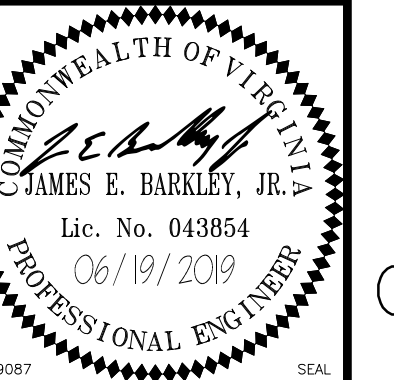


GROUNDING RISER DIAGRAM
NO SCALE

NOTES THIS SHEET

- 1 DISCONNECT EXISTING GROUND CONDUCTOR AND RETAIN. RECONNECT GROUND CONDUCTOR TO NEW SECTIONALIZING STATION.

DATE	DESCRIPTION	BY	APPR



APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO
DES: KPM | DRW: CML | CHK: JAK

U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
CONNECTION DIAGRAMS AND STRUCTURAL DETAILS

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782938
SHEET 14 OF 16
E-607



1 SECTION 1
NO SCALE



2 SECTION 2
NO SCALE



3 SECTION 3
NO SCALE



4 SECTION 4
NO SCALE



5 SECTION 5
NO SCALE



6 SECTION 6
NO SCALE

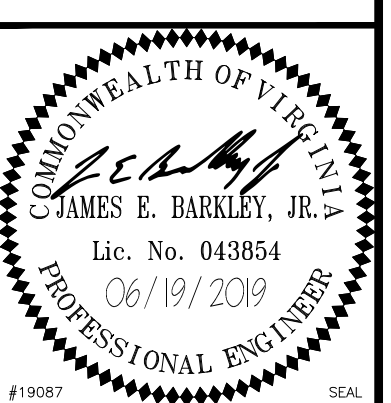


7 SECTION 7
NO SCALE



8 SECTION 8
NO SCALE

DATE	DESCRIPTION	BY	APPR.



APPROVED

FOR COMMANDER NAVFAC

SATISFACTORY TO:
DES: KPM DRW: CML CHK: JAK

U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
PHOTOS

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO.: 6884855
NAVFAC DRAWING NO.: 12782939
SHEET 15 OF 16
E-608



9 SECTION 9
NO SCALE



10 SECTION 10
NO SCALE



11 SECTION 11
NO SCALE

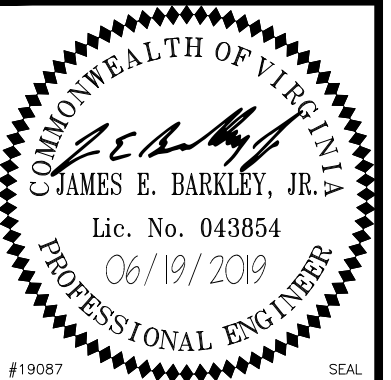


12 SECTION 12
NO SCALE

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APPR	DATE	DESCRIPTION	SW



APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
SATISFACTORY TO
DES: KPM | DRW: CML | CHK: JAK

U.S. MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
REPLACE "B" SECTIONALIZING STATION
PHOTOS

SCALE: AS NOTED
PROJECT NO.: 6884855
MAXIMO WORK ORDER NO. 6884855
NAVFAC DRAWING NO. 12782940
SHEET 16 OF 16
E-609