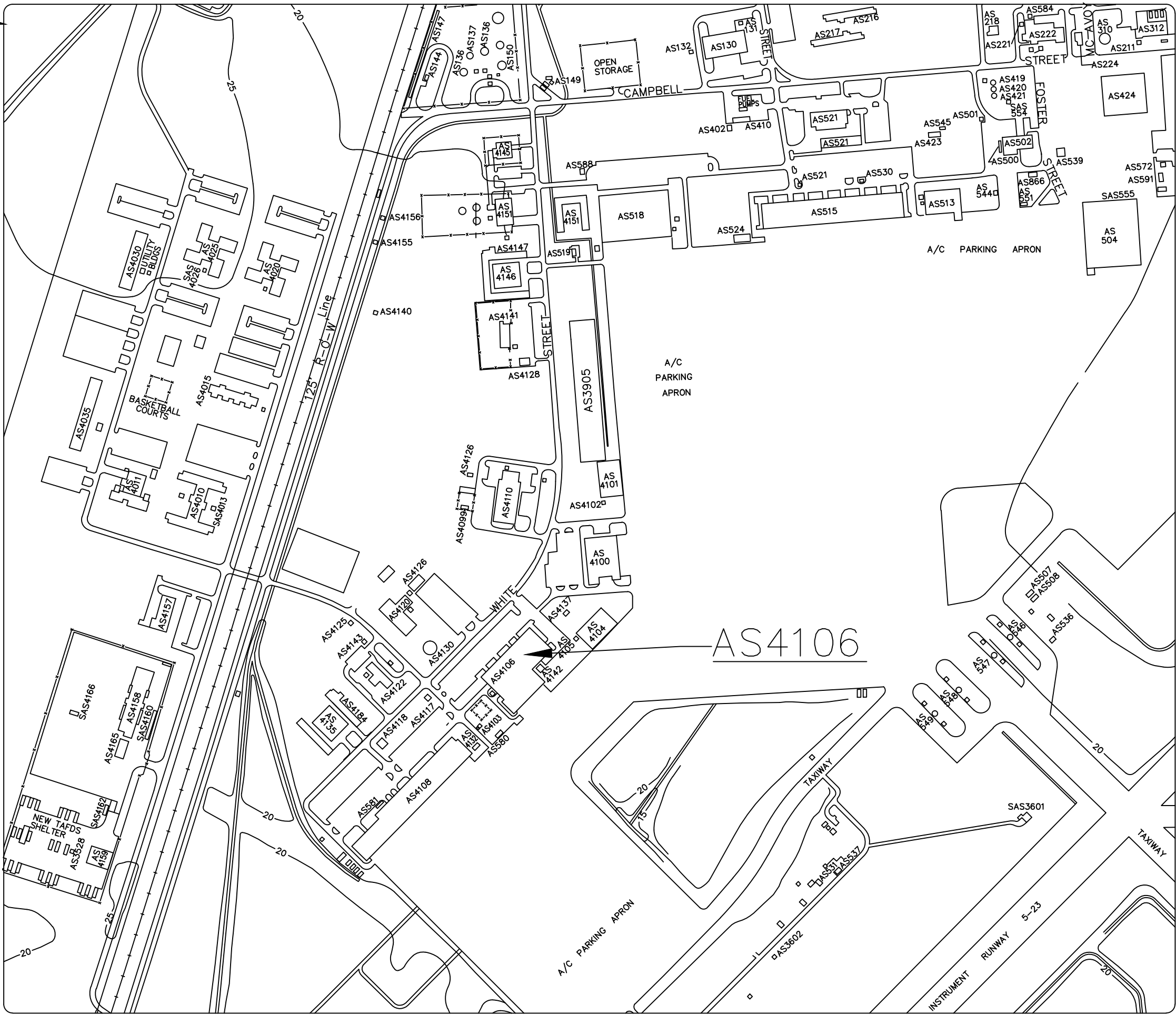


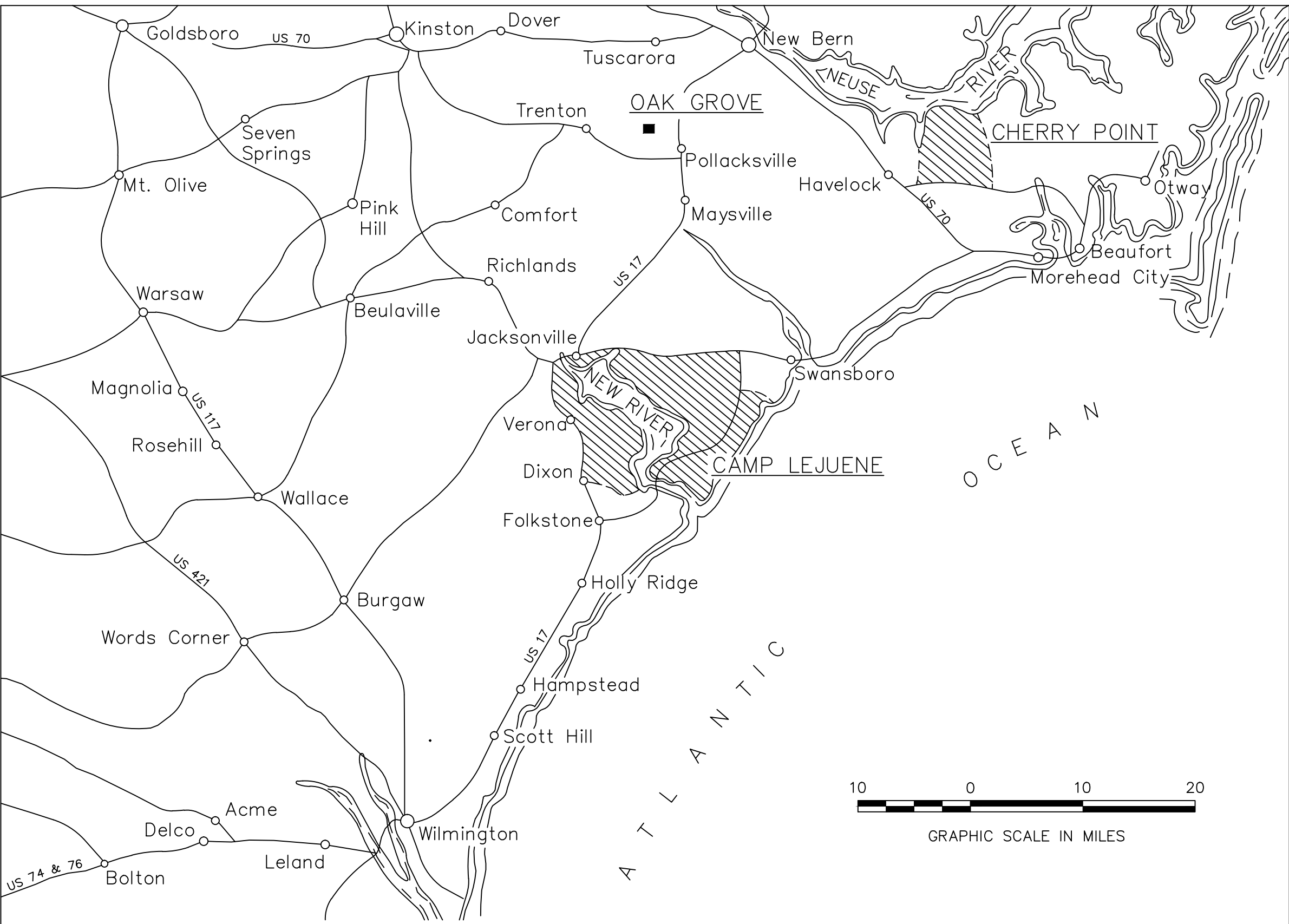
MARINE CORPS AIR STATION,
CAMP LEJEUNE, NC

REVISIONS		
SYM	DATE	APPROVED

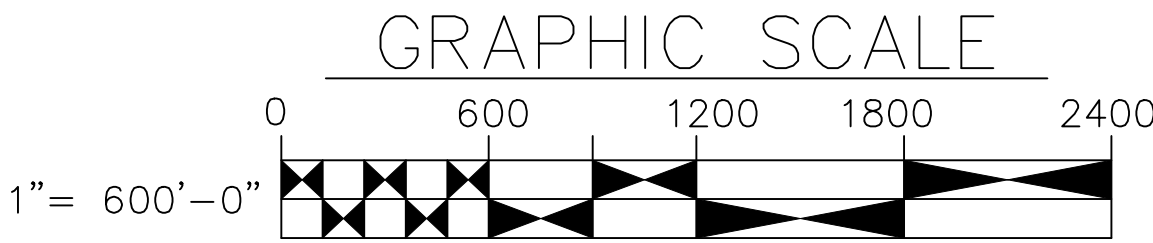
DRAWING INDEX		
NAVFAC DRAWING #	SHEET	TITLE
60016457	T1	DWG. INDEX, LOCATION, SITE, & VICINITY MAPS
60016458	E1	SCHEDULES, NOTES AND LEGEND
60016459	E2	PLANS, NOTES AND DETAILS
60016460	E3	PLANS AND NOTES
60016461	E4	400 HZ & 28 VDC PLANS AND NOTES
60016462	E5	NOTES AND ELECTRICAL RISER DIAGRAMS
60016463	E6	PLANS, RISERS AND DETAILS.



SITE MAP — MCAS, N.C.
SCALE: 1" = 600'



VICINITY MAP — CAMP LEJEUNE, N.C.



LOCATION MAP — U. S. MARINE CORPS BASE — CAMP LEJEUNE, N.C.

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				T1	
		DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
		MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA			
		ELECTRICAL UPGRADES AS4106			
		DWG. INDEX, LOCATION, SITE, & VICINITY MAPS			
DES. D. L. GUY DR. D. L. GUY CHK. W. T. JONES SUBMITTED BY: D. L. GUY DESIGN DIR. T. H. BURTON, PE		SIZE		NAVFAC DRAWING NO.	
APPROVED: PWO OR OICC T. H. BURTON, PE 29 JULY 2015		F 80091		60016457	
SATISFACTORY TO:		DATE		CONST. CONTR. NO. N40085-15-B-0005	
SCALE: NOTED		SPEC. 05-15-0005		SHEET 1 OF 7	

REVISIONS			
SYM		DATE	APPROVED

ELECTRICAL NOTES

1. ALL WORK & MATERIALS, UNLESS NOTED OTHERWISE AS EXISTING, ARE NEW & SHALL BE PROVIDED BY THE CONTRACTOR. ELECTRICAL INSTALLATION SHALL CONFORM TO REQUIREMENTS OF NFPA 70 & REQUIREMENTS SPECIFIED HEREIN. WORK PLACE SHALL MEET REQUIREMENTS OF NFPA 70E.
2. EXISTING EQUIPMENT IS TO REMAIN UNLESS NOTED OTHERWISE. ALL EXISTING MATERIAL & EXISTING EQUIPMENT THAT IS INDICATED TO BE REMOVED, & NOT REUSED, SHALL BECOME THE PROPERTY OF THE CONTRACTOR & SHALL BE REMOVED FROM GOVERNMENT PROPERTY.
3. ELECTRICAL PLANS ARE PARTIALLY DIAGRAMMATIC. REFER TO MECHANICAL DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT & BUILDING ORIENTATION. INSTALL ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH EXISTING DUCTS, PIPES, STRUCTURES, OTHER SYSTEMS. LOCATE LIGHTING FIXTURES SYMMETRICALLY IN PROPER RELATIONS TO FINISHED AREAS EXCEPT WHERE DIMENSIONED ON THE DRAWINGS OR LOCATED IN REFLECTED CEILING PLANS.
4. PROVIDE ADDITIONAL SUPPORTS FOR SWITCHES, RACEWAYS, & LUMINAIRES WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING. PROVIDE MINIMUM 1/4 INCH AIR SPACE BETWEEN CONCRETE/MASONRY SURFACE & ELECTRICAL DEVICES & OUTLETS. VERIFY ALL EQUIPMENT CHARACTERISTIC & MOUNTING REQUIREMENTS PRIOR TO ROUGH-IN. PROVIDE PROPER MOUNTING ACCESSORIES, TRIMS, ETC., TO SUIT THE FLOOR, WALL & CEILING SYSTEMS.
5. PANELBOARD SHALL BE EQUIPPED WITH THERMAL MAGNETIC TYPE BOLT-IN BRANCH BREAKERS. PROVIDE UPDATED PANELBOARD DIRECTORY IN EACH AFFECTED EXISTING PANELBOARD; INDICATE LOADS SERVED BY EACH CIRCUIT OF PANELBOARD.
6. ALL CONDUCTORS SHALL BE COPPER. PROVIDE INSULATED CONDUCTORS WITH EQUIPMENT GROUNDING (E.G.C.) CONDUCTOR IN INTERMEDIATE METAL CONDUITS, UNLESS OTHERWISE INDICATED; WIRE & CONDUIT SIZES AS INDICATED. COLOR CODING OF 208/120 VOLT SYSTEM UNGROUNDED CONDUCTORS: PHASE A – BLACK; PHASE B – RED; PHASE C – BLUE; GROUNDED CONDUCTOR: NEUTRAL – WHITE; GROUNDING CONDUCTOR: (EGC) – GREEN/BARE. 480/277 VOLT SYSTEM UNGROUNDED CONDUCTORS: PHASE A – BROWN; PHASE B – ORANGE; PHASE C – YELLOW; GROUNDED CONDUCTOR: NEUTRAL – WHITE; GROUNDING CONDUCTOR: (EGC) – GREEN/BARE. INSULATION SHALL BE 600- VOLT, TYPE THWN/THHN.
7. PROVIDE INSULATED CONDUCTORS INSTALLED IN INTERMEDIATE METAL CONDUIT – (IMC), FOR ALL NEW CIRCUITS, UNLESS OTHERWISE NOTED. INSTALL NEW CONDUITS IN CEILING AREA WHERE POSSIBLE. ANY DAMAGE CAUSED BY THE CONTRACTOR TO EXISTING PROPERTY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO MATCH EXISTING AT THEIR EXPENSE. IF FLEX CONDUIT IS REQUIRED, PROVIDE LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC), IN LENGTHS NO LONGER THAN 6'. PROVIDE SEPARATE EQUIPMENT GROUNDING CONDUCTOR ACROSS FLEXIBLE CONNECTIONS.
8. PROVIDE UNGROUNDED & NEUTRAL (GROUNDED) CONDUCTORS FOR EACH BRANCH CIRCUIT; IDENTIFY OTHER NEUTRAL WITH COLORED STRIPE WHENEVER MORE THAN ONE NEUTRAL IS IN SAME RACEWAY.
9. PROVIDE GROUNDING BUSHINGS, WEDGES, & JUMPERS AS REQUIRED TO BOND ELECTRICAL SYSTEM.
10. WHERE CONDUIT & WIRING HAS NOT BEEN SHOWN ON THE DRAWINGS, THE ARRANGEMENT & ROUTING OF THE BRANCH CIRCUITS WILL BE AT THE CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED GOOD PRACTICE FOR ELECTRICAL WORK & N.E.C. CODE REQUIREMENTS.
11. SEAL ALL CONDUIT & RACEWAY PENETRATIONS. PROVIDE CONDUIT BODIES WITH NON-HARDENING CAULKING COMPOUND & SEAL CONDUITS THAT CONNECT TO ALL PANELBOARDS.
12. VERIFY & DE-ENERGIZE CIRCUITS PRIOR TO BEGINNING WORK; WIRING & CONDUIT/RACEWAYS MAY VARY FROM THAT SHOWN.
13. CONNECT BRANCH CIRCUIT NEUTRAL TO RECEPTACLE TERMINAL BY MEANS OF A SHORT "PIGTAIL" PERMANENTLY SPLICED TO THE NEUTRAL.
14. FOR CLARITY, WIRING & CONDUITS ARE NOT SHOWN ON VARIOUS CIRCUITS.
15. ONLY EXISTING ELECTRICAL SYSTEM AFFECTING THIS CONTRACT IS SHOWN.
16. CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS FOR SHORT TERM POWER INTERRUPTION IF NECESSARY.
17. NECESSARY POWER OUTAGES SHALL BE MINIMAL AND BE PREARRANGED WITH THE CONTRACTING OFFICER BY CONTRACTOR.
18. BEFORE ENERGIZING CIRCUITS OR EQUIPMENT, VERIFY VOLTAGE BY CALIBRATED METER TO ENSURE VOLTAGE MEASUREMENT COINCIDES WITH DRAWINGS AND MATCHES EQUIPMENT REQUIREMENTS. CONTRACTOR SHALL ADHERE TO NFPA 70E.
19. BEFORE ANY EXCAVATION OR DIRECTIONAL BORING, CONTRACTOR SHALL PROVIDE THE SERVICES OF A PROFESSIONAL UNDERGROUND UTILITY LOCATOR, IN ORDER TO AVOID DAMAGING EXISTING UTILITIES DURING EXCAVATIONS/BORING. PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY UTILITIES DAMAGED BY THE CONTRACTOR OR ANY OF THEIR SUB CONTRACTORS. REPAIR OR REPLACEMENT UTILITY WORK SHALL BE INSPECTED BY THE OWNER OF EXISTING UTILITY BEFORE COVERING UP WORK WITH DIRT OR ANY OTHER MATERIALS.
20. PRESERVE AND PROTECT ALL COMMUNICATIONS CABLING AND EQUIPMENT. DO NOT REMOVE OR DISCONNECT ANY WORK AREA OUTLETS, COVER WITH PAINTERS TAPE AND PAINT AROUND IF CEILING WORK IS BEING DONE, ALL NEW & EXISTING CABLING IN THE CEILING SHALL BE SUPPORTED BY APPROVED COMMUNICATIONS PATHWAY DURING WORK AND BEFORE NEW CEILING IS INSTALLED. ANY AND ALL OLD CABLING THAT IS NOT TERMINATED AT BOTH ENDS IS CONSIDERED ABANDONED AND SHALL BE REMOVED.
21. INSTALL ELECTRICAL ENCLOSURES SUCH AS DISCONNECTS, SWITCHES AND RECEPTACLES, THE SAME HEIGHT AS EXISTING, UNLESS OTHERWISE NOTED.
22. DAILY CLEAN UP OF WORKSITE IS REQUIRED. REFUGE CONTAINMENT SHALL BE IN APPROVED CONTAINERS AND LEGALLY DISPOSED OF WHEN CONTAINMENT NEARS FULL OR IS A RISK TO PERSONNEL.
23. PROVIDE 2 HOUR U.L. LISTED THROUGH PENETRATION FIRE STOP AT INTERIOR PARTITIONS FOR ALL NEW CONDUITS.

SYMBOL LEGEND

SYMBOL

EXISTING

NEW

DESCRIPTION

—————

CONDUIT AND CONDUCTORS, AS SHOWN ON NEW AND EXISTING ELECTRICAL RISER DIAGRAMS OR PLANS. SEE THIS SHEET, SHEET E5 AND E6 FOR DETAILS.

—EOH—

EXISTING OVERHEAD PRIMARY 12470/7200V, 3-PHASE PRIMARY DISTRIBUTION CIRCUIT. SEE THIS SHEET AND SHEET E6 FOR DETAILS.

|||||

EXISTING PANELBOARD. SEE THIS SHEET, SHEET E2 AND E3 FOR DETAILS.

■

NEW PANELBOARD OR SWITCHBOARD – SEE THIS SHEET AND SHEET E2 FOR DETAILS.

□

480/277V, 2000A, EXTERIOR SWITCHBOARD TO BE REMOVED – SEE THIS SHEET, SHEET E2, E5 AND E6 FOR DETAILS.

△

PAD MOUNTED TRANSFORMER, 12470/7200 V ~ 480/277 V, SEE THIS SHEET, SHEET E2, E5 AND E6 FOR DETAILS.

●

RECEPTACLE OUTLET: 200 AMP, 480 VOLT, 3 ϕ, 60 HZ., SURFACE MOUNT – SEE THIS SHEET AND SHEET E3 FOR DETAILS.

⊙

SERVICE POINT, 480V, 100A, 3-PHASE SURFACE MOUNT – SEE THIS SHEET AND SHEET E3 FOR DETAILS.

⊕

480/277V, 100A, 3-PHASE DISCONNECT AND PIN AND SLEEVE RECEPTACLE. SEE THIS SHEET AND SHEET E3 FOR DETAILS.

EGC

ABBREVIATION FOR EQUIPMENT GROUNDING CONDUCTOR – TYPICAL – SEE THIS SHEET AND SHEET E5 FOR DETAILS.

⌋

⌋

GROUNDING ELECTRODE AND CONNECTION PER NFPA-70 – TYPICAL – SEE THIS SHEET AND SEE SHEET E5 FOR DETAILS.

⌋

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KEY NOTE OR NOTES AS SHOWN ON DEMOLITION AND NEW WORK PLANS. KEY NOTE REFERENCES NOTE THAT SPELL OUT WORK TO BE ACCOMPLISHED IN AREA POINTED TO ON PLANS. SEE THIS SHEET, SEE SHEET E2, E3, E4 AND E6 FOR DETAILS.

⬮

28 VOLT RECTIFIER, DIRECT CURRENT, SOLID STATE POWER SUPPLY. SEE THIS SHEET AND SHEET E4 FOR DETAILS.

⬮

400 HERTZ SOLID STATE FREQUENCY CONVERTER. SEE THIS SHEET AND SHEET E4 FOR DETAILS.

⬮

WOOD UTILITY POLE. SEE SHEET E6 AND THIS SHEET FOR DETAILS.

⬮

ELECTRIC MANHOLE. SEE SHEET E6 AND THIS SHEET FOR DETAILS.

⬮

ELECTRIC EQUIPMENT, PARTS WASHER. SEE SHEET E3 AND THIS SHEET FOR DETAILS.

⬮

15KV TERMINAL ENCLOSURE. SEE SHEET E6 AND THIS SHEET FOR DETAILS.

⬮

12470/7200V POLE MOUNTED TRANSFORMER. SEE SHEET E6 AND THIS SHEET FOR DETAILS.

⬮

HOMERUN FOR 120V CIRCUIT. '3A IS PANEL NAME AND –1' STANDS FOR CIRCUIT NUMBER. SEE SHEET E2 AND THIS SHEET FOR DETAILS.

⬮

120V DUPLEX RECEPTACLE AND COVER. '3A IS PANEL NAME AND –1' STANDS FOR CIRCUIT NUMBER. SEE SHEET E2 AND THIS SHEET FOR DETAILS.

⬮

7'X3'X2' JUNCTION BOX 30' ABOVE GRADE. SEE SHEET E2, E5 AND THIS SHEET FOR DETAILS.

⬮

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SWITCHBOARD 'MDS' SCHEDULE

LOAD SERVED	WIRE SIZE	TRIP POLE	CKT NO.	A	VOLT – AMP/PHASE B	C	CKT NO.	TRIP POLE	WIRE SIZE	LOAD SERVED
EXISTING NORTH PLUG IN BUS, RM. 119	2-500k 2-500k 2-500k	600A 3	1				2	600A 3	2-500k 2-500k 2-500k	EXISTING SOUTH PLUG IN BUS, RM. 119
EXISTING PANEL 'M1D'	2-500k 2-500k 2-500k	600A 3	3				4	600A 3	2-500k 2-500k 2-500k	EXISTING PANEL 'M2D'
EXISTING PANEL 'M3D'	2-500k 2-500k 2-500k	600A 3	5				6	400A 3	2-4/0 2-4/0 2-4/0	PANEL 'MA2'
PANEL 'MA1'	2-4/0 2-4/0 2-4/0	400A 3	7				8	150A 3	350k 350k 350k	EXISTING XFMRs. PLUG IN BUS, RM. 151
SPARE		400A 3	9				10			SPACE
SPACE			11				12			
			13				14			

2000 AMP, 480Y/277 VOLT, NEMA-1, 3-PHASE, 4-WIRE, 35-KAIC, WITH 2000 AMP G.F. MAIN BREAKER.

NOTES: 'k' FOR WIRE SIZE REPRESENT 'KCMIL'.

NEW SWITCHBOARD 'MDS'

PANELBOARD 'MA1' SCHEDULE

LOAD SERVED	WIRE SIZE	TRIP POLE	CKT NO.	A	VOLT – AMP/PHASE B	C	CKT NO.	TRIP POLE	WIRE SIZE	LOAD SERVED
SERVICE POINT	#2	100A 3	1				2	100A 3	#2	SERVICE POINT
	#2		3				4		#2	
	#2		5				6		#2	
EXISTING DRY TRANSFORMER	#4	60A 3	7				8	60A 3	#4	EXISTING PARTS WASHER
	#4		9				10		#4	
	#4		11				12		#4	
400 HERTZ CONVERTER	#3	60A 3	13				14	20A 3	#10	28 VDC RECTIFIER
	#3		15				16		#10	
	#3		17				18		#10	
SPACE			19				20			SPACE
			21				22			
			23				24			

800 AMP, 480Y/277 VOLT, MLO, 3-PHASE, 4-WIRE, 35-KAIC, SURFACE MOUNTED, WITH LOCKABLE DOOR.

NEW PANEL 'MA1'

PANELBOARD 'MA2' SCHEDULE

LOAD SERVED	WIRE SIZE	TRIP POLE	CKT NO.	A	VOLT – AMP/PHASE B	C	CKT NO.	TRIP POLE	WIRE SIZE	LOAD SERVED
SERVICE POINT	#2	100A 3	1				2	100A 3	#2	SERVICE POINT
	#2		3				4		#2	
	#2		5				6		#2	
400 HERTZ CONVERTER	#3	60A 3	7				8	20A 3	#10	28 VDC RECTIFIER
	#3		9				10		#10	
	#3		11				12		#10	
SPACE			13				14			SPACE
			15				16			
			17				18			
			19				20			
			21				22			
			23				24			

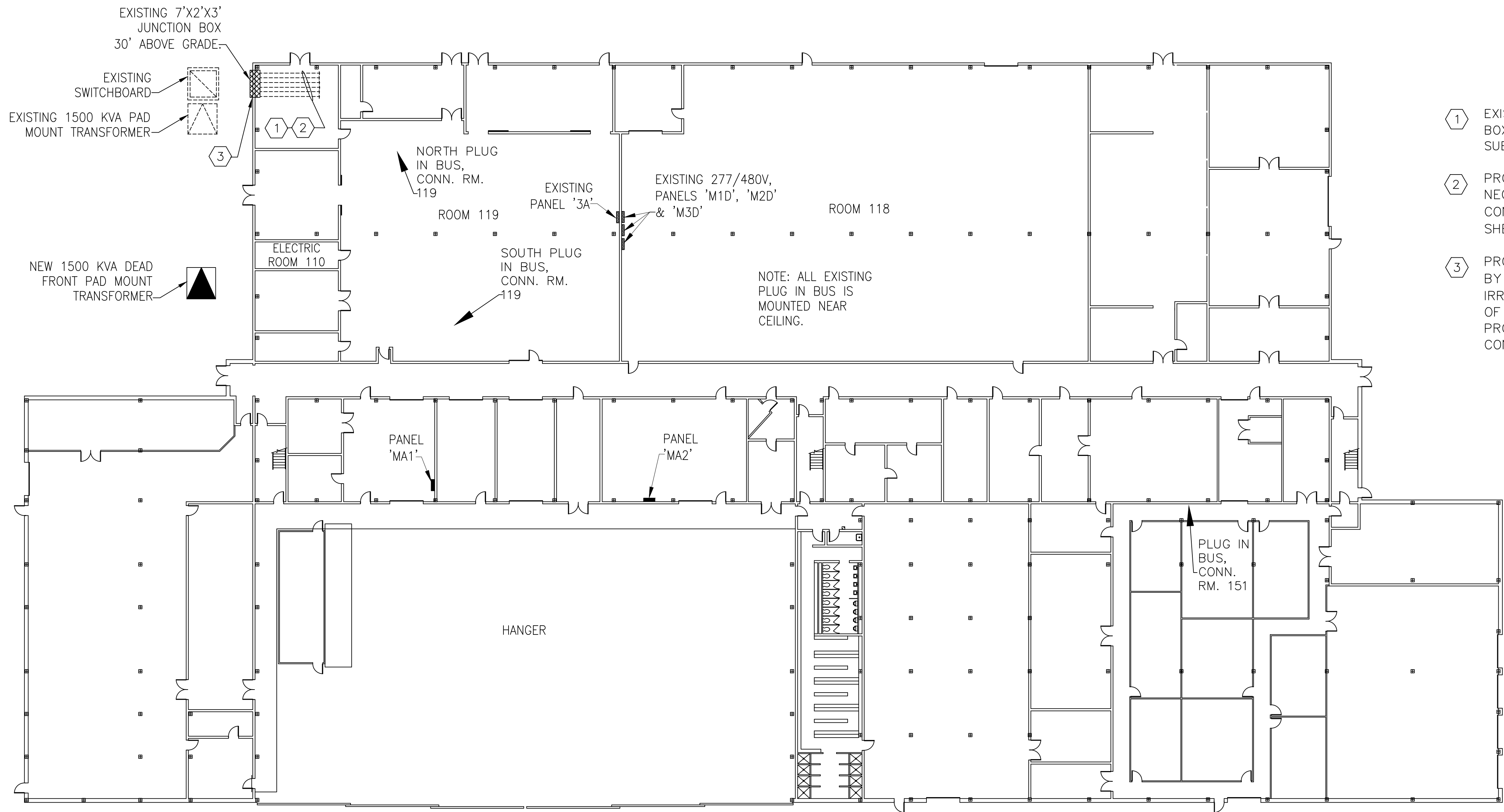
400 AMP, 480Y/277 VOLT, MLO, 3-PHASE, 4-WIRE, 35-KAIC, SURFACE MOUNTED, WITH LOCKABLE DOOR.

NEW PANEL 'MA2'

PANELBOARD SCHEDULES NOTE

PROVIDE ACCURATE PANELBOARD DIRECTORIES AS INDICATED. ADDITIONALLY, ANY CHANGES TO ABOVE SCHEDULES SHALL BE REFLECTED ON DIRECTORIES. DIRECTORIES SHALL BE TYPED, NOT HAND WRITTEN AND PLACED IN FACTORY SUPPLIED DIRECTORY HOLDER THAT COMES WITH EACH PANELBOARD. TYPED INFORMATION ON DIRECTORIES SHALL BE A MINIMUM OF 12 FONT, SIMPLEX. DIRECTORY HOLDERS SHALL BE MOISTURE RESISTANT.

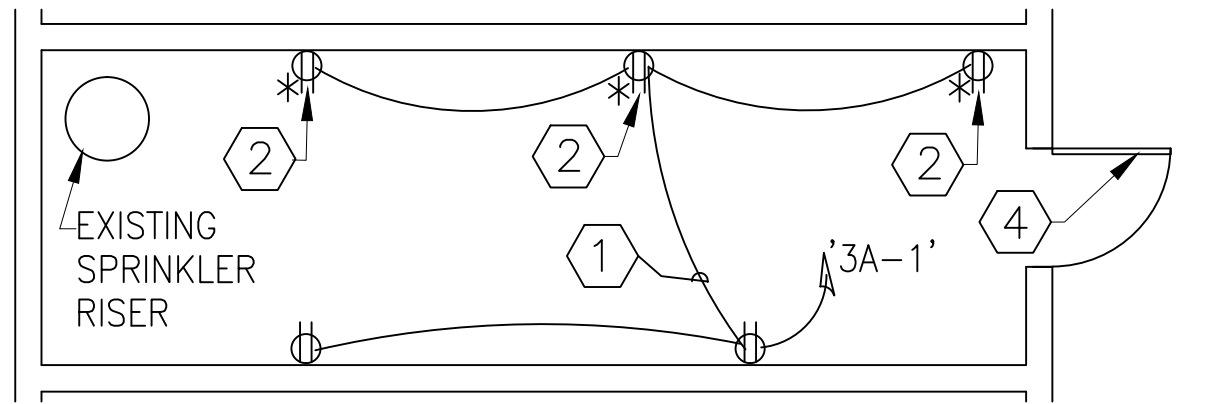
		E1	
DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
MARINE CORPS BASE		CAMP LEJEUNE, NORTH CAROLINA	
DES. D. L. GUY		ELECTRICAL UPGRADES AS4106 SCHEDULES, NOTES AND LEGEND	
DR. D. L. GUY			
CHK. W. T. JONES			
SUBMITTED BY: D. L. GUY			
DESIGN DIR. THOMAS BURTON, PE		NAVFAC DRAWING NO.	
APPROVED: PWO OR OICC		DATE	SIZE CODE IDENT. NO.
T. H. BURTON, PE		29 JULY 2015	F 80091
SATISFACTORY TO:		DATE	CONST. CONTR. NO. N40085-15-B-0005
		SCALE: NOTED	SPEC. 05-15-0005
		SHEET 2 OF 7	



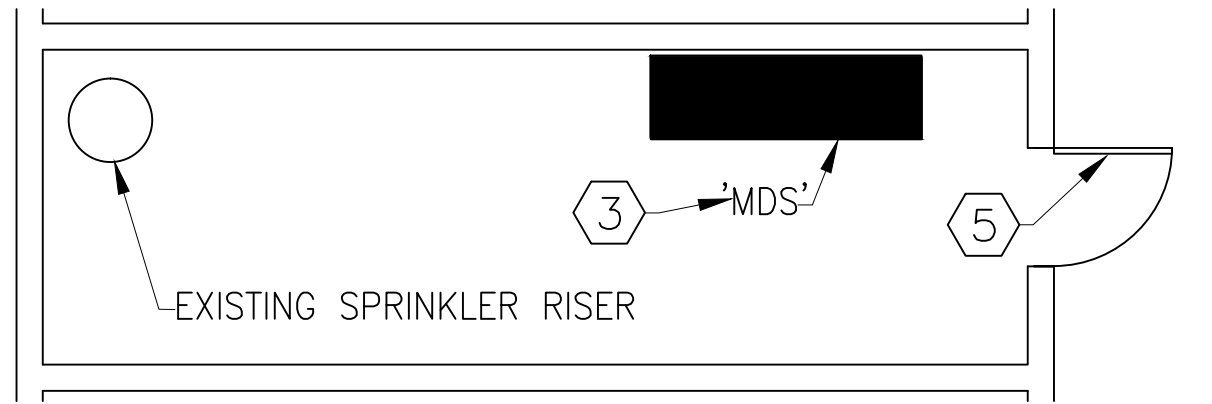
AS4106 FLOOR PLAN
1"= 20'-0"

KEY NOTES FOR AS4106 FLOOR
PLAN

- EXISTING SUB FEEDERS ARE CURRENTLY LEAVING 7'X3'X2' JUNCTION BOX AND ROUTE CLOSE TO CEILING THROUGHOUT BUILDING TO FEED SUB FED LOADS. SEE SHEET E5 FOR SUB FEEDER DETAILS.
- PROVIDE ENCLOSURES, CONDUCTORS, CONDUITS AND ALL OTHER NECESSARY MATERIAL AND TOOLS TO SUCCESSFULLY EXTEND AND CONNECT ALL SUB FEEDERS TO 'MDS'. SEE THIS SHEET AND SHEET E5 FOR DETAILS.
- PROVIDE METAL WALL PANELS TO COVER AND SEAL OPENING LEFT BY REMOVAL OF 7'X3'X2' JUNCTION BOX. REMOVE CUT OR IRREGULAR PIECES OF SIDING AND INSTALL FULL SIZED SECTIONS OF NEW SIDING. PANEL TO MATCH EXISTING IN COLOR AND PROFILE. WORK SHALL BE PERFORMED BY A LICENSED SIDING CONTRACTOR. SEE THIS SHEET AND SHEET E5 FOR DETAILS.



ELECTRIC ROOM 110 DEMOLITION PLAN
1"= 5'-0"



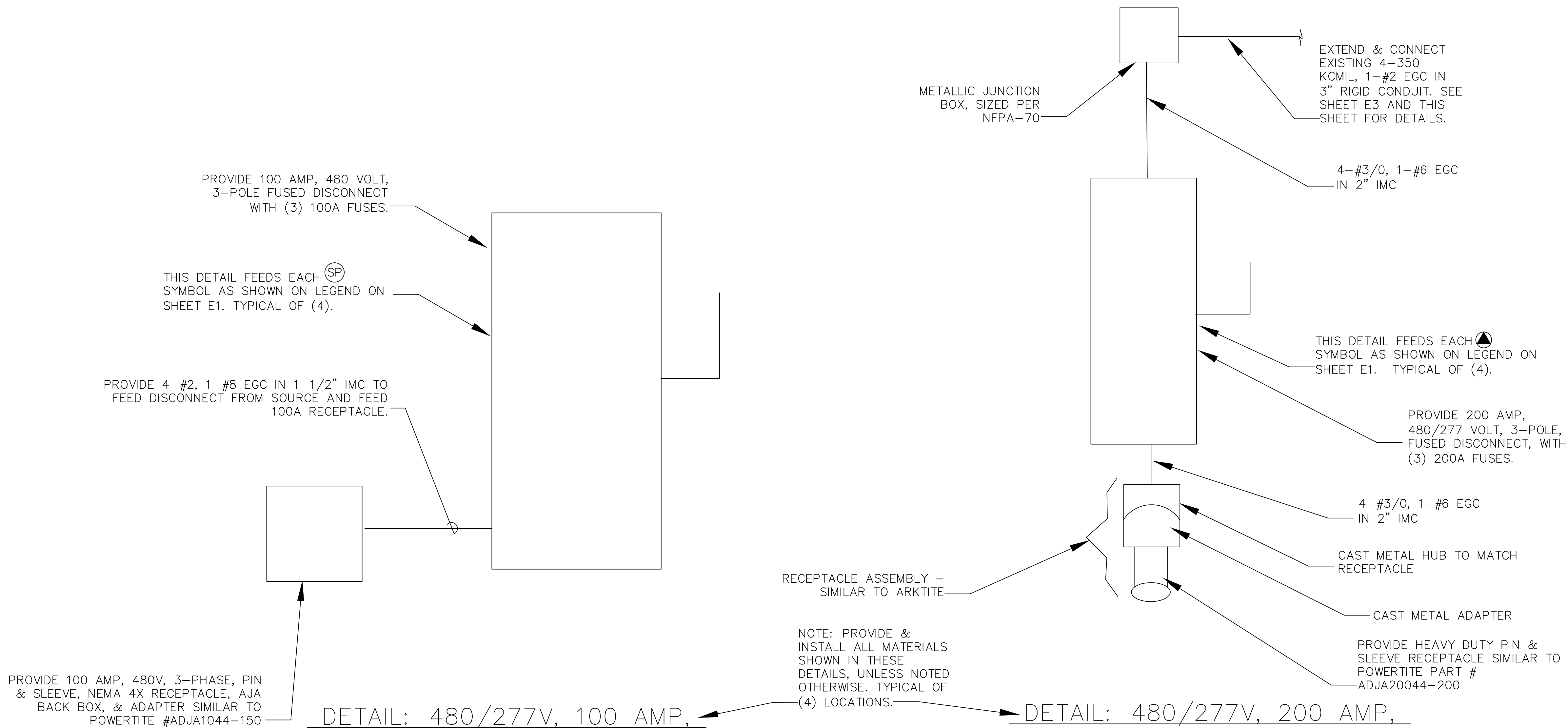
ELECTRIC ROOM 110 NEW WORK PLAN
1"= 5'-0"

KEY NOTES FOR ELECTRIC ROOM
110 DEMOLITION & NEW WORK
PLAN

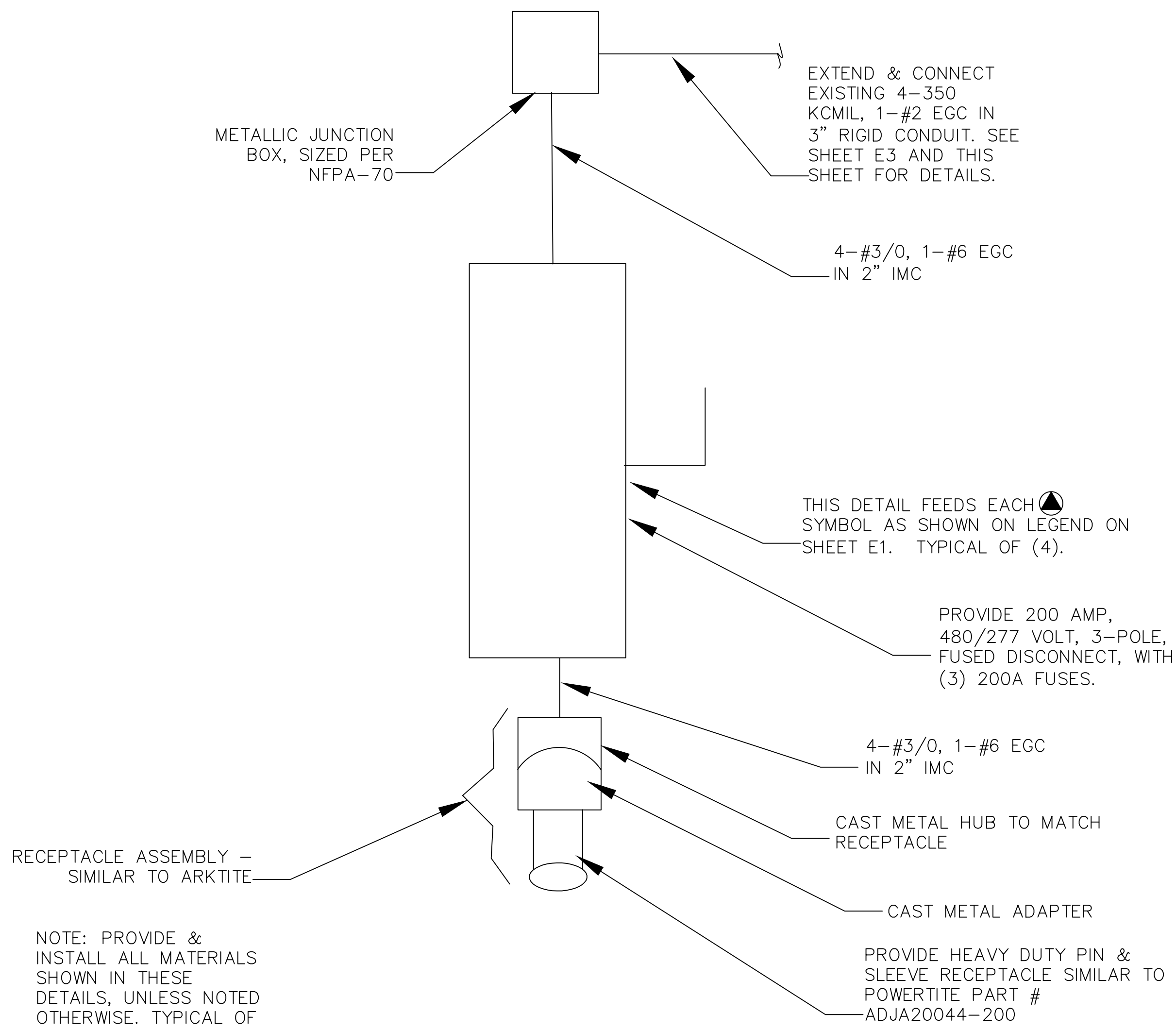
- REMOVE GENERAL PURPOSE 120V DUPLEX RECEPTACLES AND COVERS THAT ARE MARKED WITH AN ASTERISK ON DEMOLITION PLAN. ALSO PERMANENTLY DISCONNECT PORTION OF CIRCUIT MARKED WITH AN ASTERISK FROM SOURCE.
- PROVIDE CHROME FINISH 2"X4" FLUSH MOUNTED BLANK COVER PLATE.
- PROVIDE 'MDS'. SEE SHEET E1, E5 AND THIS SHEET FOR DETAILS.
- REMOVE EXISTING 3' 0" STEEL DOOR, FRAME AND HARDWARE.
- PROVIDE: (1) EACH STEELCRAFT F14 SERIES GALVANIZED FRAME, EXISTING MASONRY ANCHORS, WELDED, RIM REIN, CLOSER REIN.M, 4 1/2" PREP U.L. RATED FOR 90 MINUTES. (1) EACH STEELCRAFT L SERIES 90 MINUTE, 16 GAUGE GALVANIZED, POLYSTYRENE DOOR, TOP CAP. (3) EACH HAGER BB1191 NRP US32D STAINLESS 4 1/2" X 4 1/2". (1) EACH PRECISION RIM EXIT DEVICE FL2103 EXIT x 4908 TRIM (LESS SFIC P4 TO BE SUPPLIED BY BASE MAINTENANCE). IN THIS NOTE, MANUFACTURER'S LISTED ARE THE BASIS OF DESIGN FOR THIS WORK. OTHER MANUFACTURERS CAN BE SUBSTITUTED IF THEY ARE EQUAL TO THE SPECIFICATIONS OF THE ABOVE AND ARE APPROVED BY DESIGNER OF RECORD.

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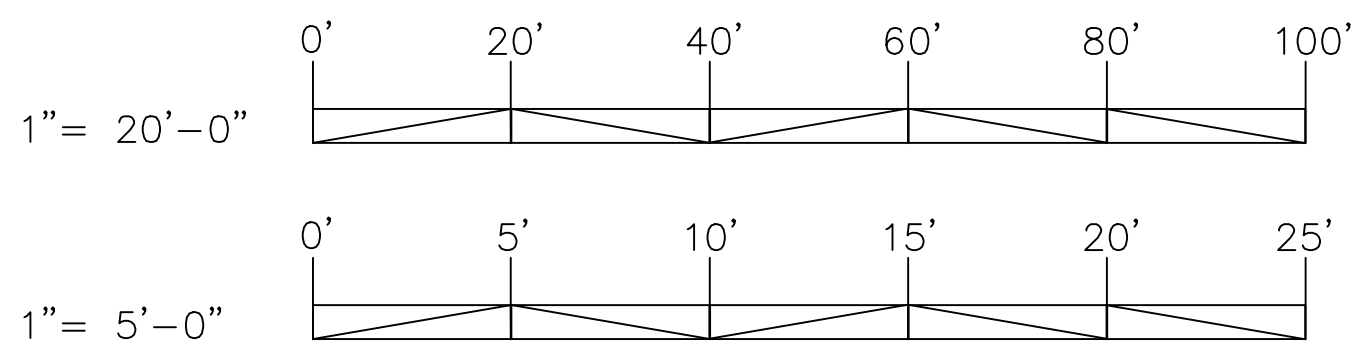


DETAIL: 480/277V, 100 AMP,
3-PHASE DISCONNECT AND
SERVICE POINT RECEPTACLE
NO SCALE



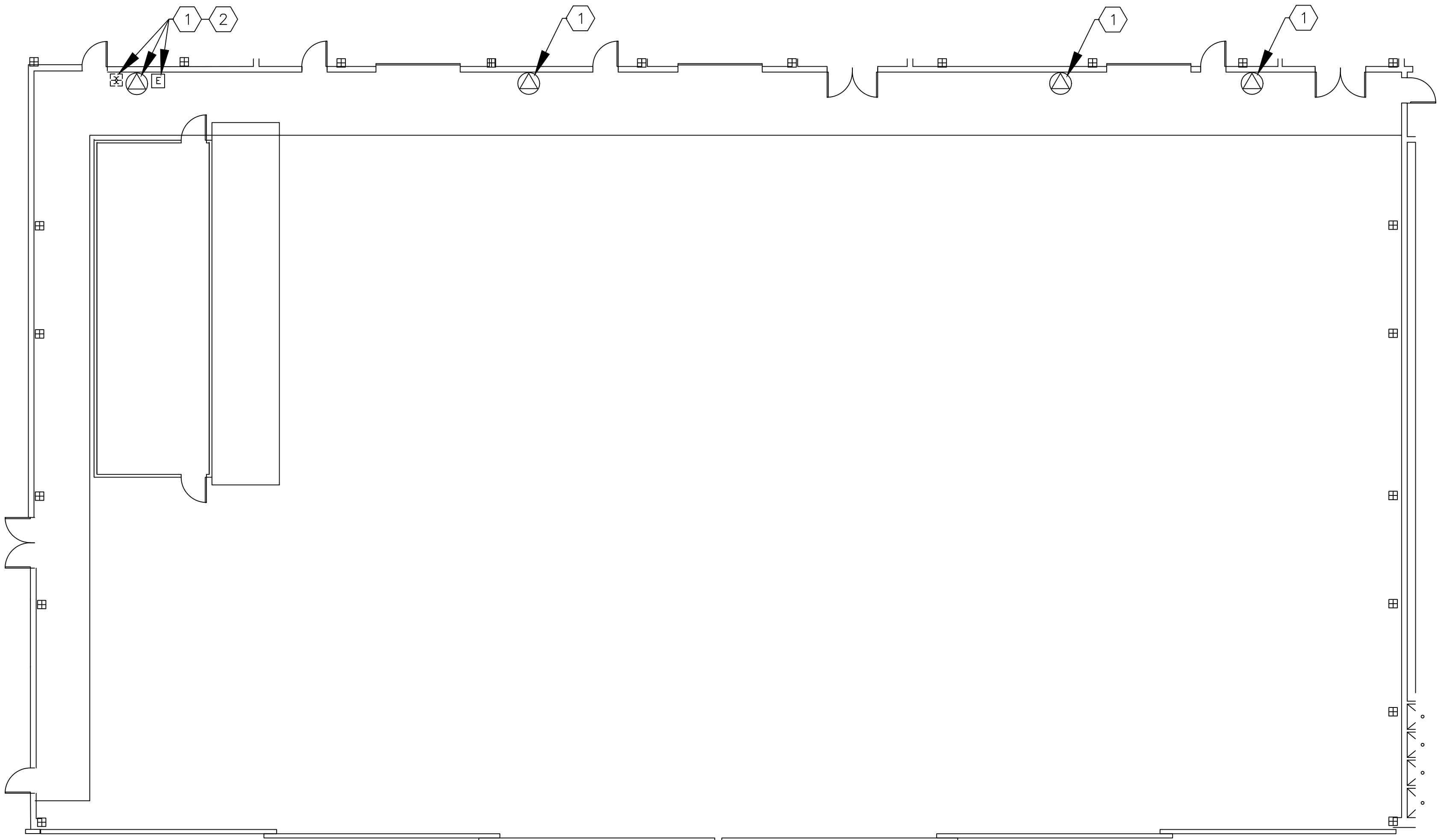
DETAIL: 480/277V, 200 AMP,
3-PHASE DISCONNECT AND
200A RECEPTACLE
NO SCALE

GRAPHIC SCALE



E2	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
MARINE CORPS BASE	
CAMP LEJEUNE, NORTH CAROLINA	
ELECTRICAL UPGRADES	
AS4106	
PLANS, NOTES AND DETAILS	
DESIGN: D. L. GUY, R. H. BEST	NAVFAC DRAWING NO.
DRAWN: D. L. GUY	60016459
CHECK: W. T. JONES	CONST. CONTR. NO. N40085-15-B-0005
SUBMITTED BY: D. L. GUY	
DESIGN DIR.: T. H. BURTON, PE	
APPROVED: PWO OR OIC	DATE
T. H. BURTON, PE	29 JULY 2015
SATISFACTORY TO:	DATE
SCALE: NOTED	SPEC. 05-15-0005
SHEET 3 OF 7	

REVISIONS			
SYM		DATE	APPROVED
(A)			



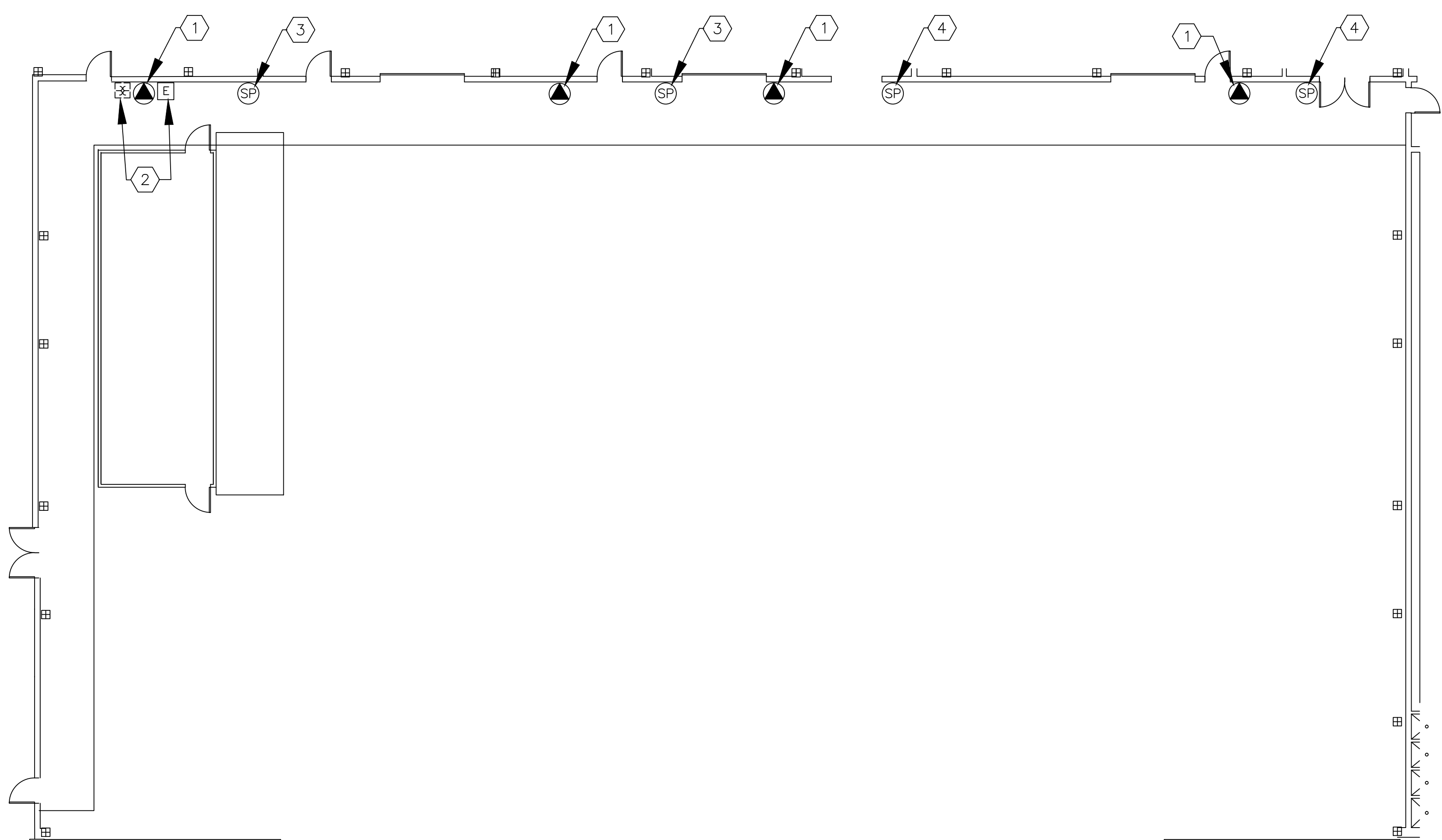
HANGAR DEMOLITION PLAN
SCALE: 1"= 10'-0"

WORK NOTE FOR ELECTRICAL
DEMOLITION PLAN

SEAL AND PAINT ALL HOLES IN EXISTING MASONRY WALLS, DUE TO ELECTRICAL DEMOLITION. PAINT SHALL BE (2) COATS AND MATCH EXISTING COLOR. SUBMIT METHOD OF SEALING AND PAINT FOR THE CONTRACTING OFFICERS APPROVAL.

KEY NOTES FOR ELECTRICAL
DEMOLITION PLAN

- 1) REMOVE 480/277V, 100A, 3-PHASE BREAKER DISCONNECTS, PIN/SLEEVE RECEPTACLES AND ENCLOSURES COMPLETE. 3" FEED CONDUIT, 4-350 KCMIL AND 1-#2 COPPER CONDUCTORS SHALL REMAIN FOR RE-USE. TRACE CIRCUIT TO FIND BREAKER IN PANELS 'M1D,' 'M2D' AND 'M3D', IN ORDER TO TURN OFF AND LOCK OUT/TAG OUT, UNTIL NEW WORK CONNECTIONS ARE COMPLETE.
- 2) AT THIS LOCATION WHEN PERFORMING KEY NOTE 1-DEMOLITION, ONE DRY TRANSFORMER AND ONE PARTS WASHER CONDUCTORS AND CONDUITS SHALL REMAIN FOR RECONNECTION. ONLY DISCONNECT THEM FROM THE EXISTING ENCLOSURE WITH 4-350 KCMIL AND 1-#2 EQUIPMENT GROUND.



HANGAR ELECTRICAL PLAN
1"= 10'-0"

KEY NOTES FOR HANGAR
ELECTRICAL PLAN

- 1) PROVIDE 480/277V, 3-PHASE, 4W, 4P, 200A PIN & SLEEVE RECEPTACLE AND DISCONNECT WITH 4-3/0 & 1-#6 EQUIPMENT GROUND IN 2" CONDUIT. EXTEND AND CONNECT BY PROVIDING ENCLOSURES, CONDUCTORS AND RACEWAY AS REQUIRED. FEED FROM EXISTING 4-350 KCMIL AND 1-#2 EQUIPMENT GROUND IN 3" CONDUIT. SEE KEY NOTE 1 OF ELECTRICAL DEMOLITION PLAN THIS SHEET, SHEET E1 AND E2 FOR DETAILS.
- 2) AT THIS LOCATION, EXTEND AND CONNECT EXISTING CIRCUITS AND CONDUITS TO PANEL 'MA1' WITH 4-#4 & 1-#10 E.G.C. IN 1" CONDUIT FOR DRY TRANSFORMER AND PARTS WASHER EACH. SEE KEY NOTE 2-DEMOLITION PLAN ON THIS SHEET, SHEET E1 AND E2 FOR DETAILS.
- 3) PROVIDE 480/277V, 3-PHASE, 4W, 4P, 100A PIN & SLEEVE RECEPTACLE WITH 4-#2 & 1-#8 EQUIPMENT GROUND IN 1 1/2" CONDUIT. FEED FROM PANEL 'MA1'. SEE SHEET E1, E2 AND THIS SHEET FOR DETAILS.
- 4) PROVIDE 480/277V, 3-PHASE, 4W, 4P, 100A PIN & SLEEVE RECEPTACLE WITH 4-#2 & 1-#8 EQUIPMENT GROUND IN 1 1/2" CONDUIT. FEED FROM PANEL 'MA2'. SEE SHEET E1, E2 AND THIS SHEET FOR DETAILS.

WORK NOTE FOR HANGAR
ELECTRICAL PLAN

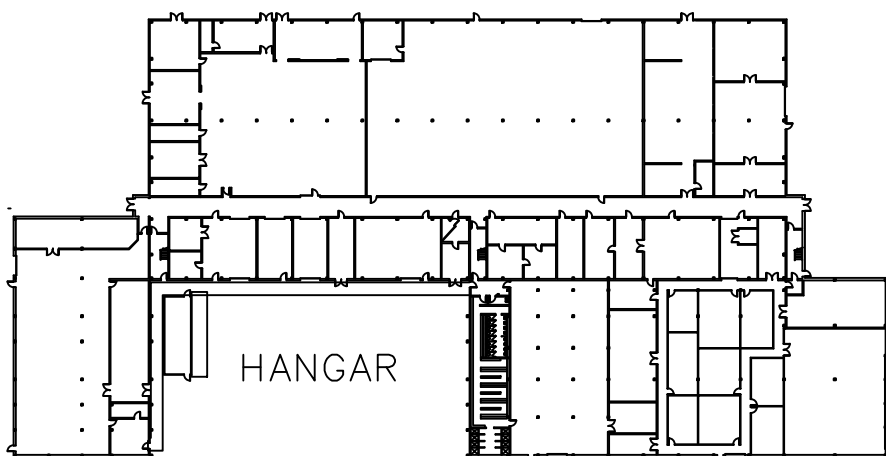
INSTALL RECEPTACLES THE SAME HEIGHT AS EXISTING RECEPTACLES THAT ARE DEMOLISHED.

GENERAL NOTES FOR HANGAR
ELECTRIC PLAN

- 1) HANGAR AREA ELECTRICAL INSTALLATION SHALL MEET HAZARDOUS LOCATION AND ALL OTHER REQUIREMENTS OF ARTICLE 513 IN NFPA-70.
- 2) IF ANY RECEPTACLES HAVE TO BE INSTALLED/MOVED MORE THAN 10' IN ANY DIRECTION ALONG BACK HANGAR WALL, AS SHOWN ON THE DRAWINGS, PROVIDE AN RFI TO THE CONTRACTING OFFICER FOR DIRECTION.
- 3) PROVIDE PERMANENT CIRCUIT IDENTIFICATION IN ALL ENCLOSURES BY IDENTIFYING PANEL AND CIRCUIT NUMBERS.
- 4) FIELD VERIFY WALL AND FLOOR SPACING REQUIREMENTS, BEFORE SELECTING AND ORDERING EQUIPMENT, ENSURING ADEQUATE SPACING AND FITTING.
- 5) WHEN EXTENDING AND CONNECTING ALL EXISTING CIRCUITS, PROVIDE ALL NECESSARY CONNECTIONS, CONDUCTORS, CONDUITS, DEVICES AND ENCLOSURES TO SUCCESSFULLY COMPLETE NEW ELECTRICAL CONNECTIONS/WORK, IN ACCORDANCE WITH NFPA-70 & 70E AND CONTRACT DOCUMENTS.
- 6) PROVIDE MATCHING MALE PLUG FOR ALL 480/277V, 100A, 200A, 3-PHASE RECEPTACLES. TURN OVER PLUGS TO AIR STATION S4 OFFICE, PHONE 910-449-5403.

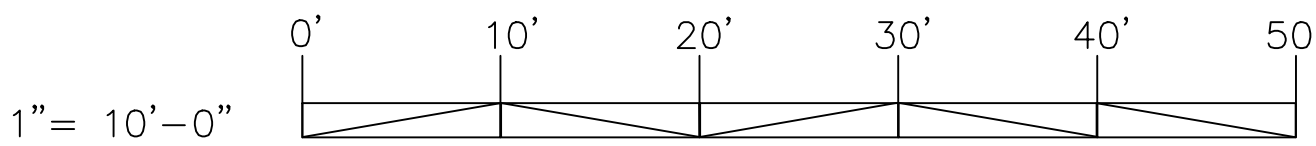
DISCLOSURE OF INFORMATION:

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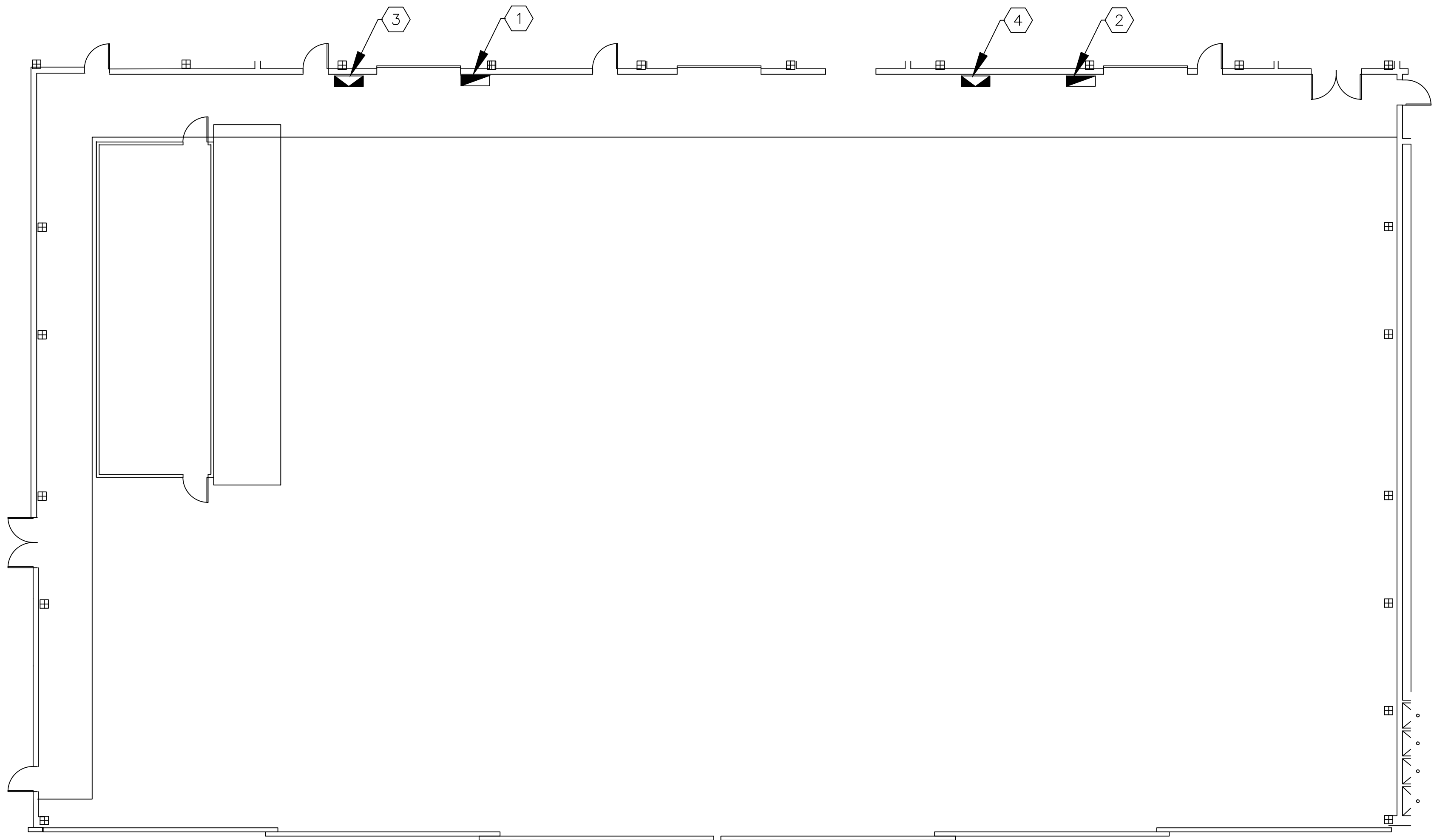
KEY PLAN
NO SCALE

GRAPHIC SCALE



		E3	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		MARINE CORPS BASE	
		CAMP LEJEUNE, NORTH CAROLINA	
DESIGN: D. L. GUY		ELECTRICAL UPGRADES	
DRAWN: D. L. GUY		AS4106	
CHECK: W. T. JONES		PLANS AND NOTES	
SUBMITTED BY: D. L. GUY		NAVFAC DRAWING NO.	
DESIGN DIR.: T. H. BURTON, PE		60016460	
APPROVED: PWO OR OICC	DATE	SIZE	CODE IDENT. NO.
T. H. BURTON, PE	29 JULY 2015	F	80091
SATISFACTORY TO:	DATE	SCALE: NOTED	CONST. CONTR. NO.N40085-15-B-0005
		SHEET 4 OF 7	

REVISIONS			
SYM		DATE	APPROVED
(A)			



HANGAR 400 HERTZ AND 28 VDC PLAN

1"= 10'-0"

KEY NOTES FOR 400 HERTZ AND 28 VDC PLAN

- 1) PROVIDE CONNECTION TO 400 HERTZ POWER SUPPLY WITH 4-#3 AND 1-#6 EQUIPMENT GROUND IN 1 1/4" CONDUIT. CONNECT TO PANEL 'MA1'.
- 2) PROVIDE CONNECTION TO 400 HERTZ POWER SUPPLY WITH 4-#3 AND 1-#6 EQUIPMENT GROUND IN 1 1/4" CONDUIT. CONNECT TO PANEL 'MA2'.
- 3) PROVIDE CONNECTION TO 28 VDC POWER SUPPLY WITH 4-#10 AND 1-#10 EQUIPMENT GROUND IN 3/4" CONDUIT. CONNECT TO PANEL 'MA1'.
- 4) PROVIDE CONNECTION TO 28 VDC POWER SUPPLY WITH 4-#10 AND 1-#10 EQUIPMENT GROUND IN 3/4" CONDUIT. CONNECT TO PANEL 'MA2'.

GENERAL NOTES FOR 400 HERTZ AND 28 VDC PLAN

- 1) HANGAR AREA ELECTRICAL INSTALLATION SHALL MEET ALL HAZARDOUS LOCATION AND OTHER REQUIREMENTS OF ARTICLE 513 IN NFPA-70.
- 2) PROVIDE #6 SOLID COPPER GROUNDING ELECTRODE CONDUCTOR FOR EACH 400 HERTZ POWER SUPPLY AND 28VDC POWER SUPPLY. BOND ELECTRODES TO EXISTING BUILDING STEEL WITH EXOTHERMIC WELD CONNECTION AND GROUND OTHER END TO METAL FRAME OF EACH POWER SUPPLY WITH APPROVED CONNECTIONS.
- 3) ALL 400 HERTZ AND 28 VDC POWER SUPPLY UNITS WHEN INSTALLED, SHALL NOT PROJECT ANYMORE THAN 25" FROM HANGAR WALL OUT INTO HANGAR SPACE AND ENCLOSURES NO CLOSER THAN 19" TO THE FINISHED FLOOR. ADDITIONALLY, DO NOT MOUNT 400 HERTZ UNITS ON WALLS.
- 4) PROVIDE UPDATED AND ACCURATE PANELBOARD DIRECTORIES IN EXISTING PANEL 'M1D' AND 'M3D'. DIRECTORIES SHALL BE TYPED, NOT HAND WRITTEN AND PLACED IN FACTORY SUPPLIED DIRECTORY HOLDER THAT COMES WITH EACH PANELBOARD. TYPED INFORMATION ON DIRECTORIES SHALL BE A MINIMUM OF 12 FONT, SIMPLEX.
- 5) IF ANY OF THE POWER SUPPLY UNITS HAVE TO BE INSTALLED/MOVED MORE THAN 10' IN ANY DIRECTION ALONG BACK HANGAR WALL, AS SHOWN ON THE DRAWINGS, PROVIDE AN RFI TO THE CONTRACTING OFFICER FOR DIRECTION.
- 6) PROVIDE PERMANENT CIRCUIT IDENTIFICATION IN ALL ENCLOSURES BY IDENTIFYING PANEL AND CIRCUIT NUMBERS.
- 7) PROVIDE PORTLAND CEMENT FLOOR LEVELING IN LOCATIONS FOR POWER SUPPLY UNITS AS REQUIRED.
- 8) FIELD VERIFY WALL AND FLOOR SPACING REQUIREMENTS, BEFORE SELECTING AND ORDERING ANY POWER SUPPLY UNITS AND EQUIPMENT, TO ENSURE ADEQUATE SPACING FOR POWER SUPPLY UNITS TO FIT PROPERLY AS INDICATED ON PLAN.

REQUIREMENTS FOR 400 HERTZ SOLID STATE FREQUENCY CONVERTERS

1) PROVIDE 400 HERTZ, 45 KVA, POWER SUPPLY UNITS, SOLID STATE FREQUENCY CONVERTER, MEETING THE REQUIREMENTS OF MIL-STD-704F, WITH THE FOLLOWING FEATURES:

A) INPUT OF 480/277V, 3-PHASE, 60 HERTZ AND INPUT CONNECTION VIA 3-POLE THERMAL MAGNETIC TRIP BREAKER.

B) OUTPUT OF 200/115V, 3-PHASE, 400 HERTZ, 130A, RMS/LINE CONTINUOUS (200% @ 20 SECONDS), OUTPUT CONNECTION VIA 3-POLE CONTACTOR WITH ENABLE/DISABLE CONTROL AND AIRCRAFT INTERLOCK CIRCUIT.

C) NEMA 250 TYPE 4 ENCLOSURE.

D) a. 4 LINE LCD DISPLAY CAPABLE OF VIEWING THREE PHASE INPUT AND OUTPUT VOLTAGE, CURRENT AND FREQUENCY. b. CONTROLS: START, STOP, RESET, OUTPUT 1 ON, OUTPUT 1 OFF, EMERGENCY STOP. c. INDICATORS: POWER ON, CONVERTOR ON, MODULE FAULT, INPUT VOLTAGE FAULT, OUTPUT VOLTAGE FAULT, OVERLOAD, ALARM SILENCED. d. DIGITAL DIAGNOSTIC SYSTEM WITH FAULT INDICATIONS PROVIDED ON LCD DISPLAY. e. LAMP TEST BY PUSH BUTTON, TESTING ALL MOUNTED LAMPS AND DIGITAL FAULT DISPLAYS. f. ELAPSED TIME INDICATOR WITH 0 TO 99,999 HOUR RANGE (NON RESETABLE), ET METER INCLUDES .1 HOUR DIGIT. g. AUDIBLE ALARM WITH SILENCE SWITCH AND INDICATOR. h. AIRCRAFT INTERLOCK (E/F) CIRCUITRY WITH BYPASS SWITCH. i. ELECTRICAL DOOR INTERLOCK SWITCHES WITH BYPASS SWITCH. j. START AND SHUTDOWN INSTRUCTIONS ON FRONT DOOR. k. INPUT POWER RECTIFICATION SYSTEM DESIGNED TO PRODUCE 12% OR LESS TOTAL HARMONIC INPUT CURRENT DISTORTION AT RATED LOAD. l. AUTOMATIC LINE DROP COMPENSATION - 0-7 % ADJUSTABLE VIA KEYPAD COMMAND.

E) 400 HERTZ CABLE ASSEMBLY, SUITABLE FOR SEVERE DUTY, 100' LONG, WITH AIRCRAFT PLUG. CABLE SHALL MEET THE REQUIREMENTS OF UFC 4-211-01N, PARAGRAPH 3-11.1.2.2. INTERFACE AND COORDINATE WITH AIRCRAFT MAINTENANCE IN THE FACILITY TO ENSURE AIRCRAFT PLUG WILL MATCH TO EXISTING CONNECTIONS. CABLE TO BE SIZED BY MANUFACTURER TO CARRY FULL LOAD RATING OF POWER SUPPLY.

F) WALL MOUNTED CABLE RACK.

G) 5 COMPLETE OPERATIONS AND MAINTENANCE MANUALS AND CD/ROM COPIES WITH SPARE PARTS LISTING.

H) COMPLETE STANDARD, ROUTINE AND SPECIAL FACTORY TESTING PER UFGS 26 35 43.

I) PROVIDE START UP AND TRAINING; ONE TRIP FOR SEVEN DAYS ON SITE, FIELD TESTING AND TRAINING SERVICES BY FACTORY TECHNICIAN SKILLED IN THE OPERATION AND THEORY OF THE FREQUENCY CONVERTER. TIME WILL BE DEVOTED TO INSPECTING THE INSTALLATION AND FIELD TESTING THE UNITS AND TRAINING OWNER'S PERSONNEL IN THE OPERATION, MAINTENANCE AND SERVICING OF THE CONVERTERS. SUPPLY FIELD TESTING PLANS, TESTING INSTRUMENTATION, TEST REPORTS, TRAINING MANUALS, COURSE OUTLINE AND NECESSARY MATERIALS FOR TRAINING. INSTALLATION MUST BE COMPLETE PRIOR TO START UP. LOAD BANK SHALL BE INCLUDED TO TEST CONVERTERS AT UNITY POWER FACTOR. SCHEDULE START UP AND TRAINING IN WRITING, A MINIMUM OF THREE WEEKS IN ADVANCE WITH CONTRACTING OFFICER.

J) FULL WARRANTY ON PARTS AND LABOR FOR 12 MONTHS FROM DATE OF GOVERNMENT ACCEPTANCE.

REQUIREMENTS FOR 28 VDC SOLID STATE POWER SUPPLY

1) PROVIDE 28 VOLTS DIRECT CURRENT SOLID STATE POWER SUPPLY UNITS, WITH THE FOLLOWING FEATURES:

A) INPUT VOLTAGE OF 480/277V, 3-PHASE, 60 HERTZ AND INPUT CONNECTION VIA 3-POLE BREAKER.

B) OUTPUT VOLTAGE 28VDC TWO WIRE CONFIGURATION, 400A CONTINUOUS, (1600A FOR 6 SECONDS). OUTPUT CONNECTION VIA (2) POLE TERMINAL BLOCK.

C) NEMA 3R ENCLOSURE.

D) a. FRONT PANEL CONTROLS; POWER OFF, POWER ON, SUPPLY ON (START), SUPPLY OFF (STOP/RESET). b. FRONT PANEL STATUS INDICATORS; POWER ON, SUPPLY ON, SUMMARY FAULT. c. FRONT DIGITAL PANEL METERS VOLTAGE AND CURRENT. d. START UP AND SHUTDOWN INSTRUCTIONS ON FRONT DOOR. e. 6 PULSE SCR RECTIFIER FOR PRECISE REGULATION FEATURING 60 HERTZ STEP DOWN TRANSFORMER, SCR SECTION, DC FILTER CHOKE AND CAPACITORS. f. CURRENT MONITOR/MEASUREMENT VIA 600A~50mV DC SHUNT

E) 28 VDC CABLE ASSEMBLY, SUITABLE FOR SEVERE DUTY, 100 ' LONG, WITH AIRCRAFT PLUG. INTERFACE AND COORDINATE WITH AIRCRAFT MAINTENANCE IN THE FACILITY TO ENSURE AIRCRAFT PLUG WILL MATCH TO EXISTING CONNECTIONS. CABLE TO BE SIZED BY MANUFACTURER TO CARRY FULL LOAD RATING.

F) WALL MOUNTED CABLE RACK.

G) 5 COMPLETE OPERATIONS AND MAINTENANCE MANUALS AND CD/ROM COPIES WITH SPARE PARTS LISTING.

H) PROVIDE START UP AND TRAINING; ONE TRIP FOR SEVEN DAY ON SITE, FIELD TESTING AND TRAINING SERVICES BY FACTORY TECHNICIAN SKILLED IN THE OPERATION AND THEORY OF THE FREQUENCY CONVERTER. TIME WILL BE DEVOTED TO INSPECTING THE INSTALLATION AND FIELD TESTING THE UNITS AND TRAINING OWNER'S PERSONNEL IN THE OPERATION, MAINTENANCE AND SERVICING OF THE CONVERTERS. SUPPLY FIELD TESTING PLANS, TESTING INSTRUMENTATION, TEST REPORTS, TRAINING MANUALS, COURSE OUTLINE AND NECESSARY MATERIALS FOR TRAINING. INSTALLATION MUST BE COMPLETE PRIOR TO START UP. LOAD BANK SHALL BE INCLUDED TO TEST CONVERTERS AT UNITY POWER FACTOR. SCHEDULE START UP AND TRAINING IN WRITING, A MINIMUM OF THREE WEEKS WITH CONTRACTING OFFICER.

I) FULL WARRANTY ON PARTS AND LABOR FOR 12 MONTHS FROM DATE OF GOVERNMENT ACCEPTANCE.

DISCLOSURE OF INFORMATION:

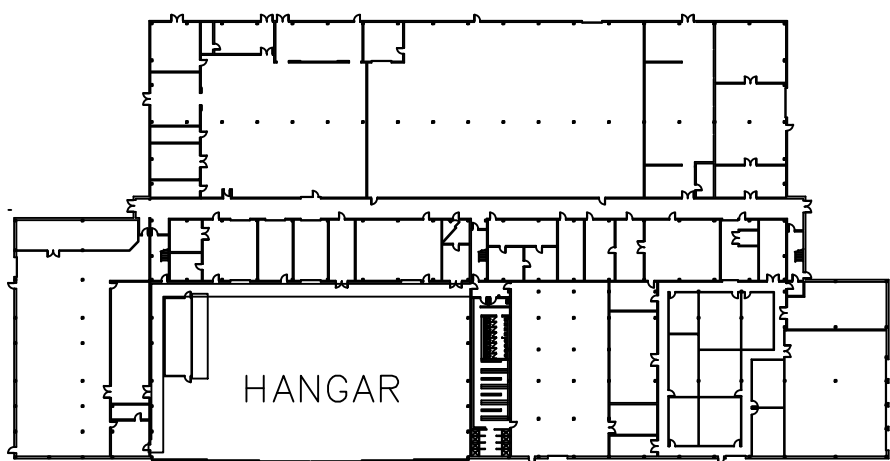
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KEY PLAN

NO SCALE

1"= 10'-0"

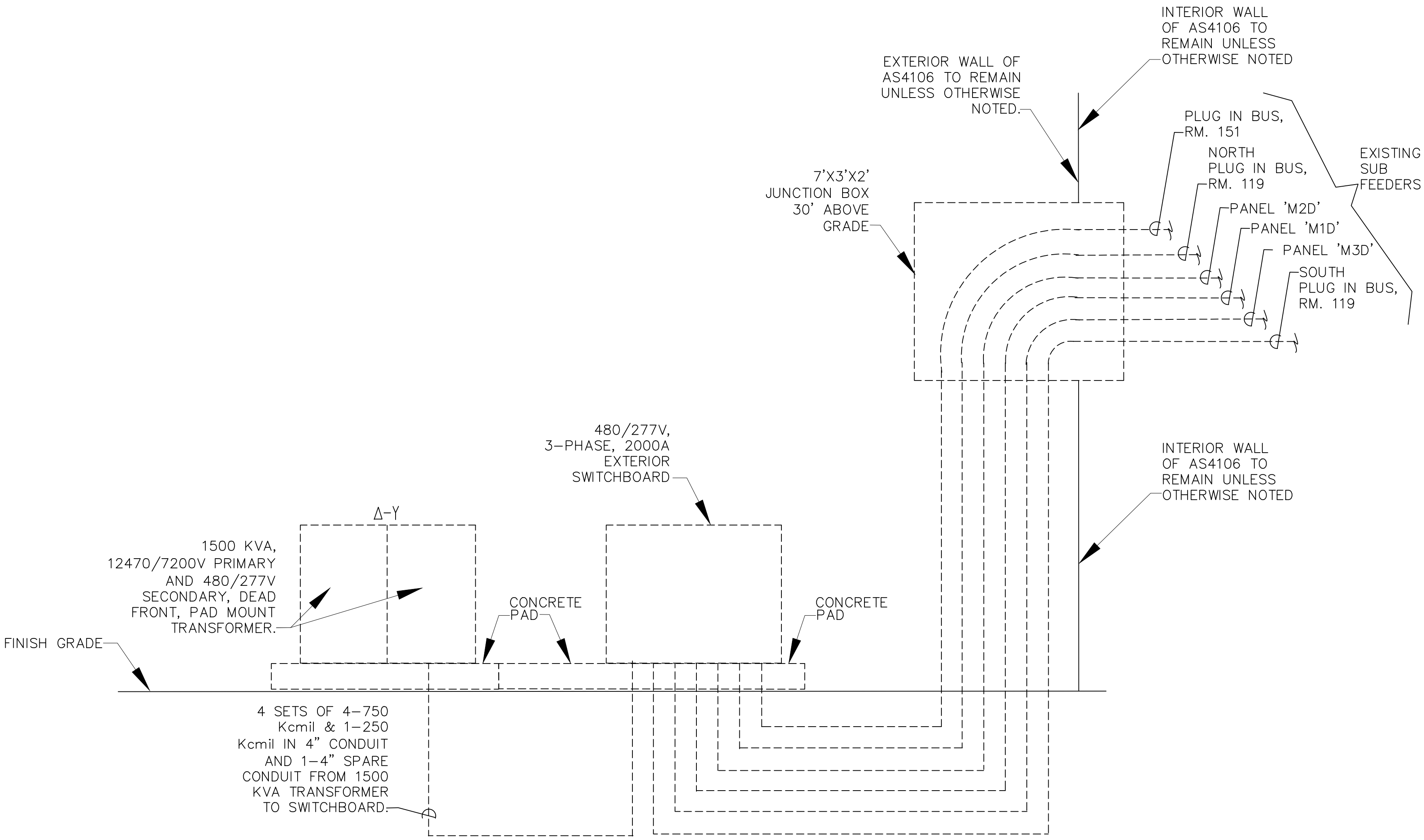


		E4	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		MARINE CORPS BASE	
		CAMP LEJEUNE, NORTH CAROLINA	
		ELECTRICAL UPGRADES	
		AS4106	
		400 HZ & 28 VDC PLANS AND NOTES	
DESIGN: D. L. GUY		NAVFAC DRAWING NO.	
DRAWN: D. L. GUY		60016461	
CHECK: W. T. JONES		CONST. CONTR. NO. N40085-15-B-0005	
SUBMITTED BY: D. L. GUY		SHEET 5 OF 7	
DESIGN DIR.: T. H. BURTON PE			
APPROVED: PWO OR OIC		DATE	
T. H. BURTON, PE		29 JULY 2015	
SATISFACTORY TO:		DATE	

REVISIONS			
SYM		DATE	APPROVED

NOTES TO EXISTING ELECTRICAL RISER DIAGRAM

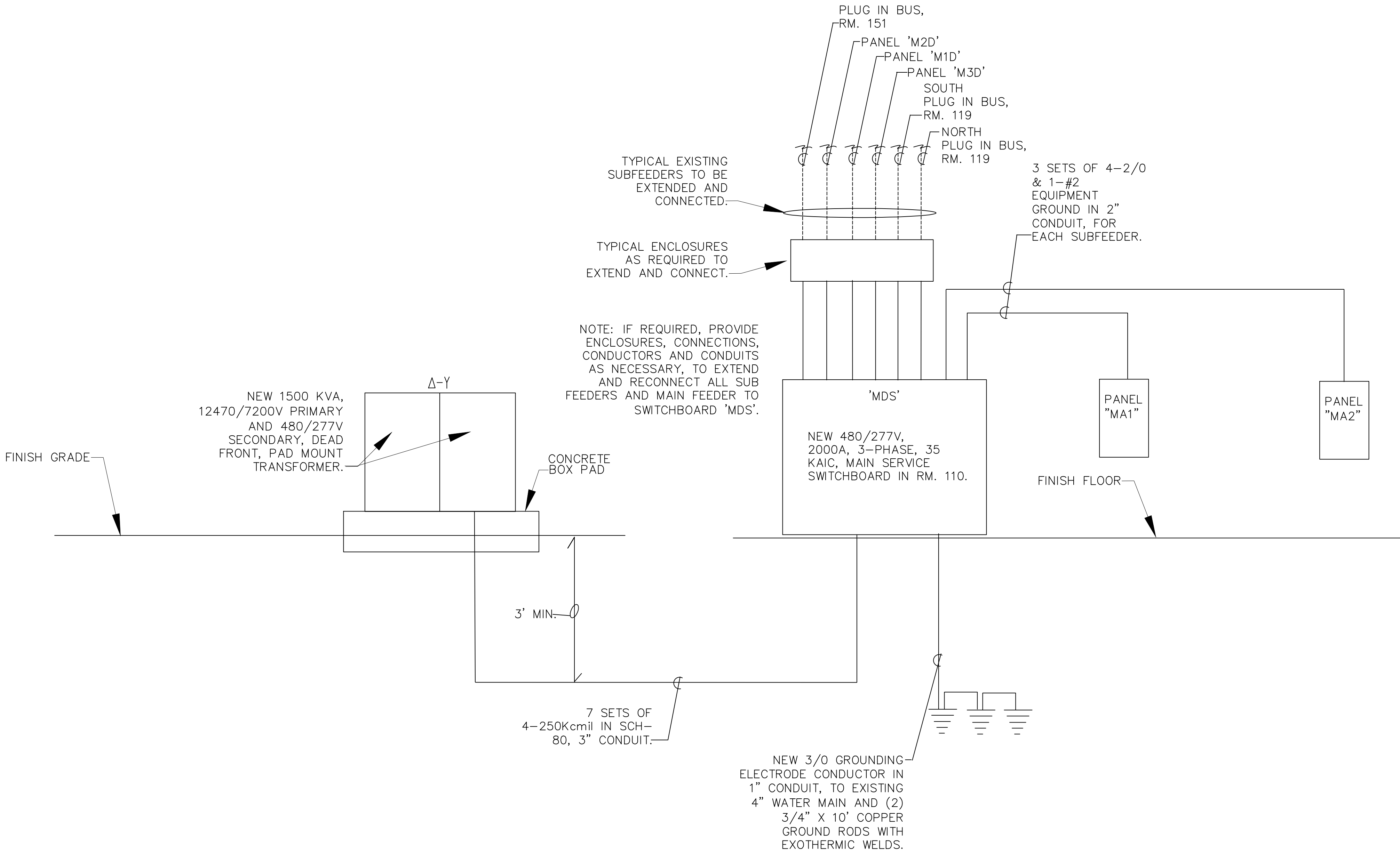
- 1) EXISTING RISER, SWITCHBOARD AND EXISTING SUB FEEDERS SHALL REMAIN CONNECTED AND ELECTRICALLY OPERATIONAL, UNTIL NEW 'MDS' IS FULLY COMPLETED AND ELECTRICALLY OPERATIONAL. SEE SHEET E2, E6 AND THIS SHEET FOR DETAILS.
- 2) ONCE 'MDS' IS COMPLETE AND ELECTRICALLY OPERATIONAL, SCHEDULE IN WRITING 2 WEEKS IN ADVANCE TO CONTRACTING OFFICER, FOR OUTAGE OF EACH EXISTING SUB FEEDER TO TRANSFER, EXTEND AND CONNECT TO 'MDS' WITHIN INTERIOR OF BUILDING, ONE SUB FEEDER FOR EACH OUTAGE. PROVIDE ALL NECESSARY MATERIALS, CONDUIT, SUPPORTS, CONDUCTORS AND ENCLOSURES AS REQUIRED TO EXTEND AND CONNECT ALL EXISTING SUB FEEDERS TO 'MDS'. INSTALL SUB FEEDER CONDUITS AND ENCLOSURES NEAR THE CEILING, THE SAME AS EXISTING SUB FEEDER CONDUITS. FIELD VERIFY FOR CEILING HEIGHTS AND REQUIREMENTS. AFTER ALL SUB FEEDERS ARE ELECTRICALLY CONNECTED TO 'MDS' THEN EXISTING ELECTRICAL RISER CAN BE DEMOLISHED. NOTES 3 ~ 7 INDICATE SIZES OF EXISTING SUB FEEDERS.
- 3) NORTH PLUG IN BUS, RM. 119: TWO SETS OF 4-500 KCMIL & 1-#1 EGC IN 4".
- 4) PANEL 'M2D': TWO SETS OF 4-500 KCMIL & 1-#1 EGC IN 4" CONDUIT.
- 5) PANEL 'M1D': TWO SETS OF 4-500 KCMIL & 1-#1 EGC IN 4" CONDUIT.
- 6) PANEL 'M3D': TWO SETS OF 4-500 KCMIL & 1-#1 EGC IN 4" CONDUIT.
- 7) SOUTH PLUG IN BUS, RM. 119: TWO SETS OF 4-500 KCMIL & 1-#1 EGC IN 4" CONDUIT.
- 8) PLUG IN BUS, RM. 151: 4-350 & 1-#6 EGC IN 3" CONDUIT..
- 9) EXISTING ELECTRICAL RISER DIAGRAM IS DIAGRAMMATIC. ACTUAL CONDUIT CONNECTIONS TO ENCLOSURES COULD BE FROM TOP, BOTTOM OR SIDES, FIELD VERIFY BEFORE PERFORMING CONTRACT OPERATIONS.
- 10) ALL MATERIAL SHOWN IN THIS DIAGRAM SHALL BE COMPLETELY REMOVED, UNLESS OTHERWISE NOTED AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR TO REMOVE FROM GOVERNMENT PROPERTY. INTERIOR PORTION OF ALL SUB FEEDERS SHALL REMAIN FOR RECONNECTION TO 'MDS'.
- 11) SEE SHEET E2 FOR LOCATIONS OF ELECTRICAL EQUIPMENT.
- 12) NOTE: EXISTING PLUG IN BUS MOUNTED NEAR CEILINGS.
- 13) PROVIDE STRUCTURAL CLOSURE TO SIDE OF BUILDING AFTER REMOVAL OF 7'X3'X2' JUNCTION BOX. SEE SHEET E1, E2 AND THIS SHEET FOR DETAILS.



EXISTING ELECTRICAL RISER DIAGRAM
NO SCALE

NOTES TO NEW ELECTRICAL RISER DIAGRAM

- 1) ALL MATERIALS INDICATED ON "NEW ELECTRICAL RISER DIAGRAM" ARE NEW AND SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
- 2) SWITCHBOARD 'MDS' SHALL AS A MINIMUM MEET THE REQUIREMENTS OF NEMA PB 2 AND UL 891. SWITCHBOARD SHALL BE PROVIDED WITH COPPER BUSSING, FLOOR MOUNTED, NO MORE THAN 30" WIDE AND BE DEADFRONT. SEE NOTE 10 BELOW.
- 3) PROVIDE LABEL INDICATING 'MDS' ON MAIN SERVICE ENCLOSURE 'MDS'. LABEL SHALL BE PHENOLIC, 1/8" THICK AND 1" LETTERING. ALSO PROVIDE SAME LABELING FOR ALL SUB PANELS, TRANSFORMERS AND KVA RATING ON 1500 KVA TRANSFORMER. LETTERING/NUMBERS SHALL BE WHITE BACKGROUND AND BLACK LETTERING. LABEL SHALL BE MECHANICALLY FASTENED TO FRONT OF ENCLOSURES.
- 4) EXTEND AND CONNECT EXISTING CONDUCTORS AND CONDUITS AS REQUIRED TO RECONNECT ALL EXISTING SUB FEEDERS AND FEEDERS TO NEW SWITCHBOARD. SEE THIS SHEET FOR FEEDER AND SUB FEEDER SIZES FOR CONDUITS AND CONDUCTORS.
- 5) REPLACE EXISTING GROUNDING ELECTRODE CONDUCTOR CONNECTION ON EXISTING 4" METALLIC WATER MAIN SERVICE AND JUMPERS WITH NEW LISTED AND APPROVED CONNECTIONS. GROUND RODS SHALL BE INSTALLED OUTSIDE OF ELECTRIC ROOM BY EXOTHERMIC WELD. COORDINATE WITH CONTRACTING OFFICER FOR LOCATIONS OF WATER MAIN SERVICE.
- 6) PROVIDE DIRECTIONAL BORING OR DIG BY HAND TO INSTALL SECONDARY MAIN SERVICE FEEDER CONDUITS FROM PAD MOUNT TRANSFORMER TO 'MDS'. MAIN SERVICE CONDUIT SHALL ENTER THROUGH FLOOR OF RM. 110 INTO BOTTOM OF 'MDS' FOR CONNECTION.
- 7) NEW ELECTRICAL RISER DIAGRAM IS DIAGRAMMATIC. ACTUAL CONDUIT CONNECTIONS TO ENCLOSURES COULD BE FROM TOP, BOTTOM OR SIDES, FIELD VERIFY CONDITIONS, LOCATIONS AND DIMENSIONS BEFORE ORDERING MATERIALS AND PERFORMING CONTRACT OPERATIONS.
- 8) PROVIDE (1) 1500 KVA, 12.47/7.2KV, Δ - 480/277V, 3φ, DEAD FRONT, BIODEGRADABLE SEED OIL FILLED PAD MOUNTED TRANSFORMER WITH PRECAST CONCRETE 36" BOX PAD-(8" BEYOND TRANSFORMER, ALL SIDES), (4) GUARD POSTS. -SEE THIS SHEET AND SHEET E6 FOR DETAILS.
- 9) GUARD POST -PROVIDE POSTS AROUND NEW TRANSFORMER AT EACH CORNER. PLACE POSTS TO ALLOW 90 DEGREE OPENING OF ALL DOORS TO TRANSFORMER. SEE DETAIL ON SHEET E6.
- 10) PROVIDE 3000 PSI CONCRETE HOUSEKEEPING PADS WITH 6" X 6", #10 WELDED WIRE FABRIC FOR ALL FLOOR MOUNTED INTERIOR ELECTRICAL EQUIPMENT, WITH 1" CHAMFER ALONG ALL EDGES. PADS SHALL BE 4" ABOVE FINISH FLOOR AND EXTEND 4" BEYOND ELECTRICAL EQUIPMENT.
- 11) SEE SHEET E1, E3, E5 AND THIS SHEET FOR DETAILS.
- 12) SEE SHEET E6 FOR EXISTING AND NEW HIGH VOLTAGE RISER AND RELATED WORK FOR EXISTING AND NEW PAD MOUNTED TRANSFORMERS.
- 13) SEE SHEET E2 FOR LOCATIONS OF ELECTRICAL EQUIPMENT.



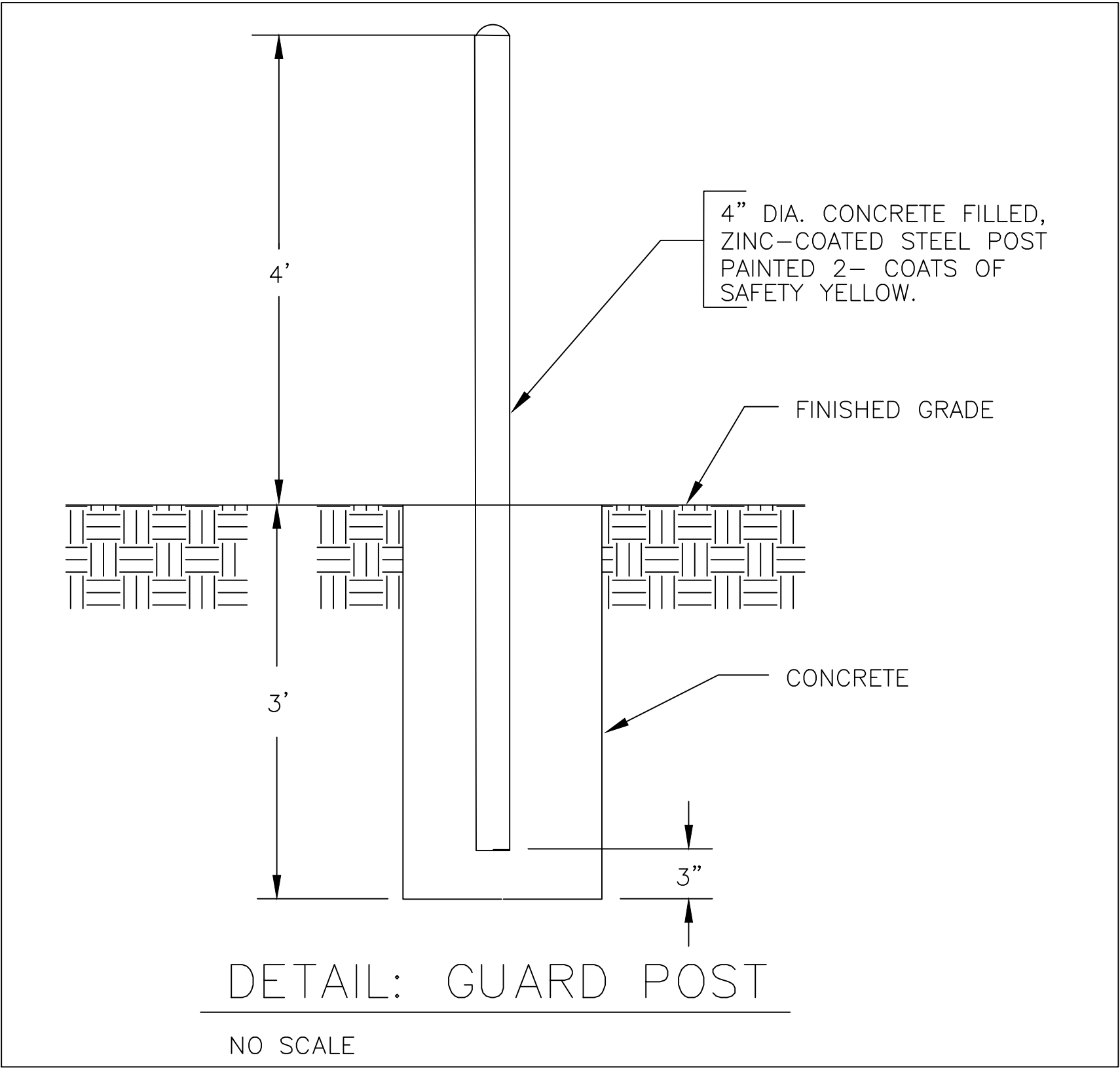
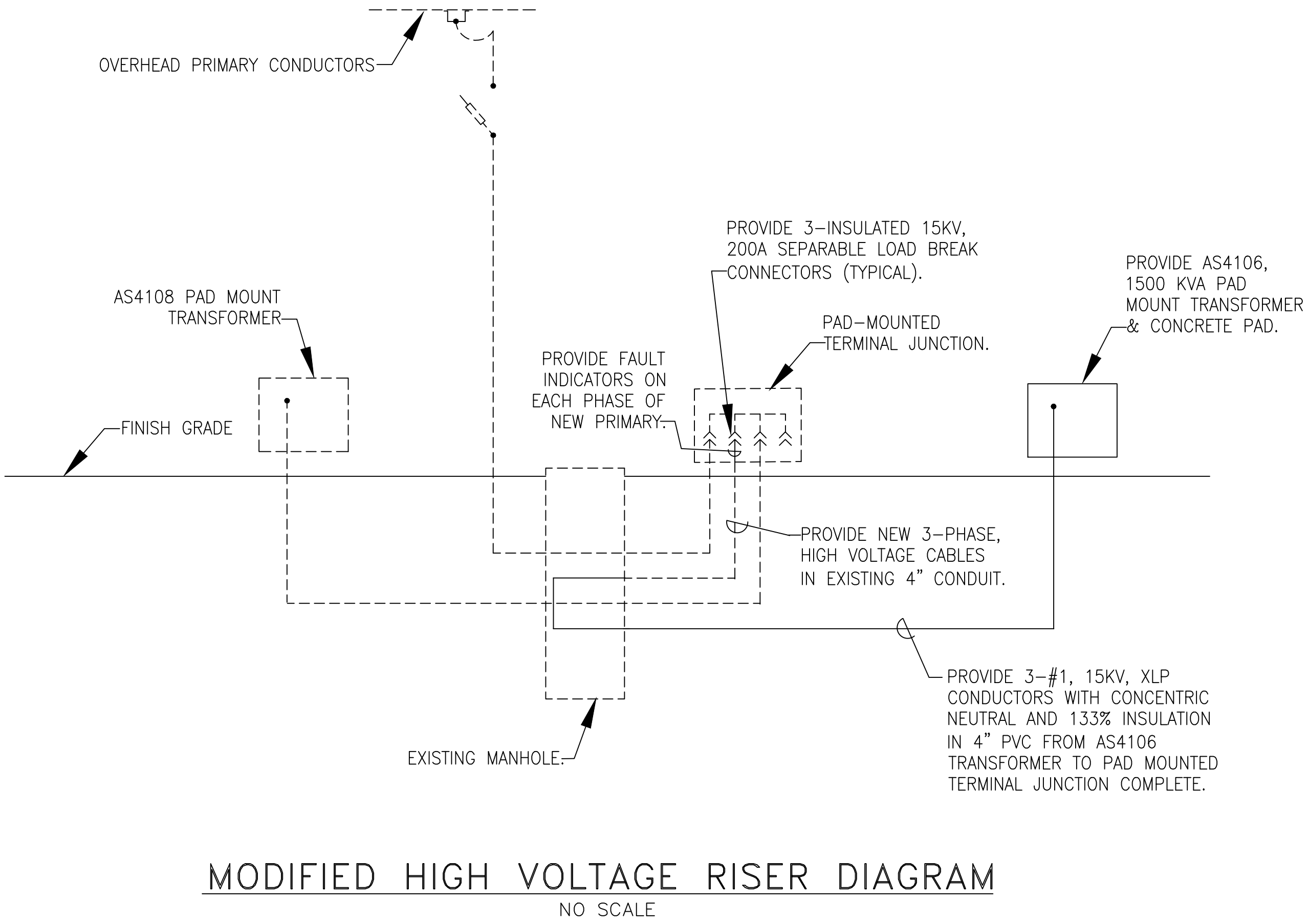
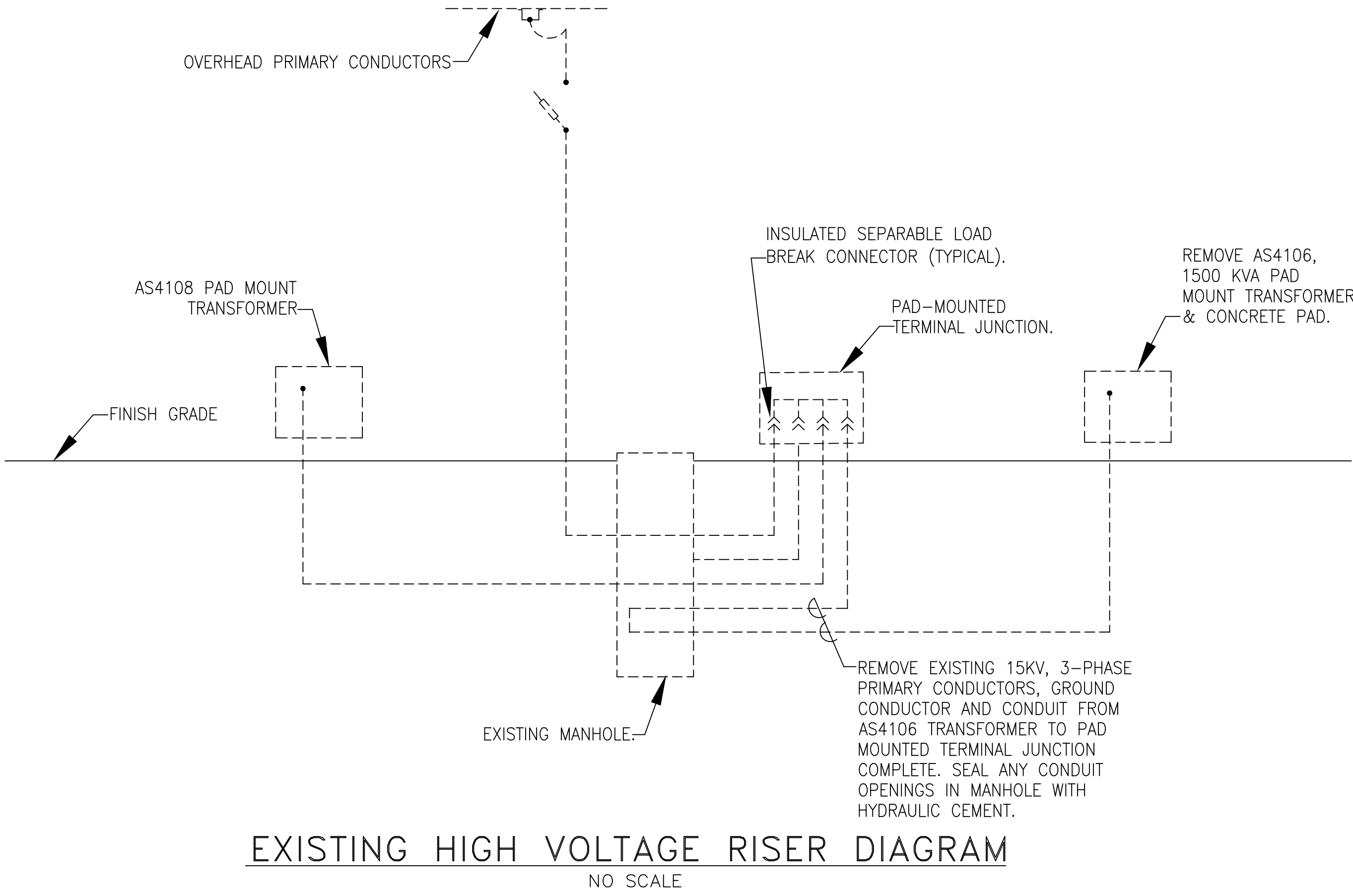
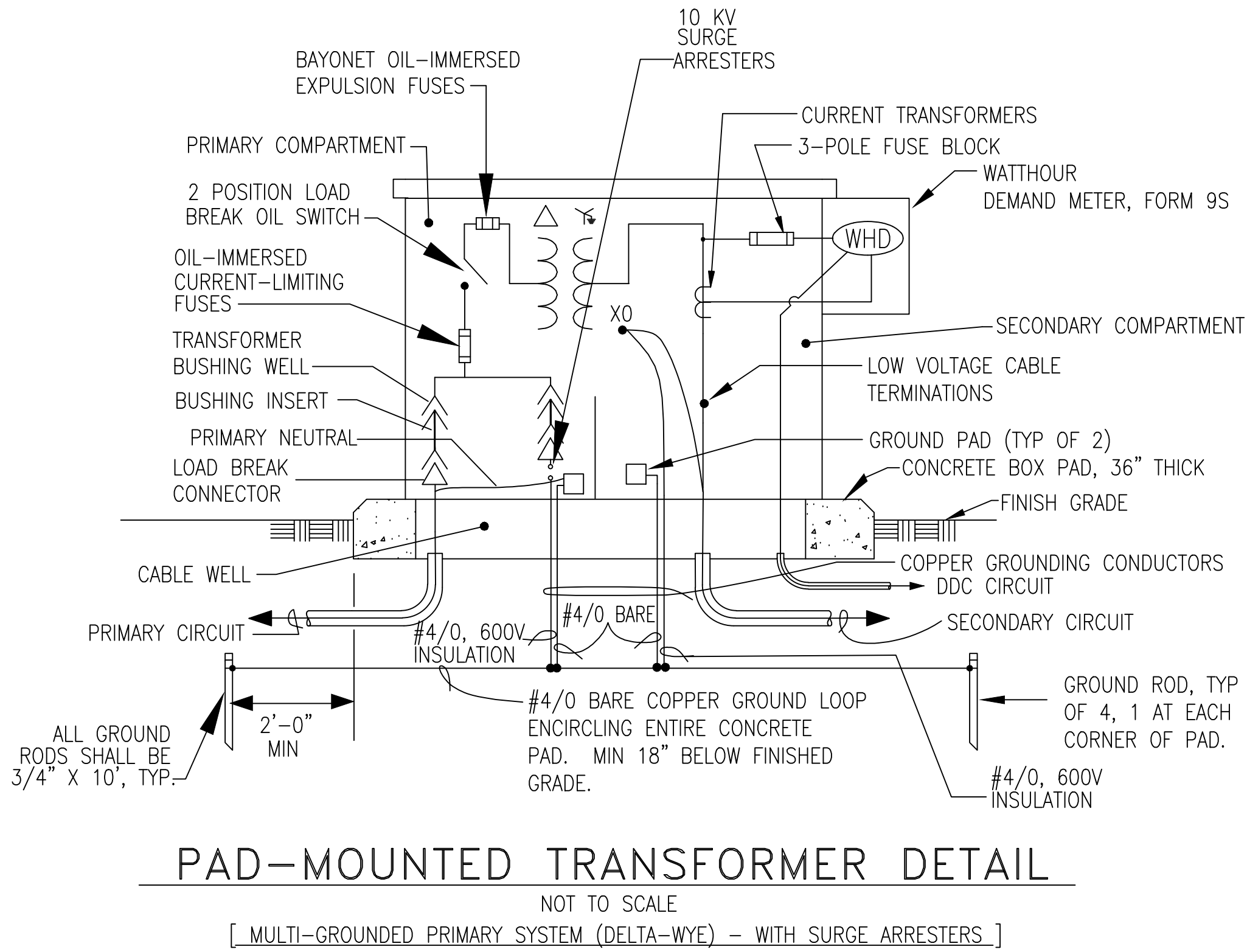
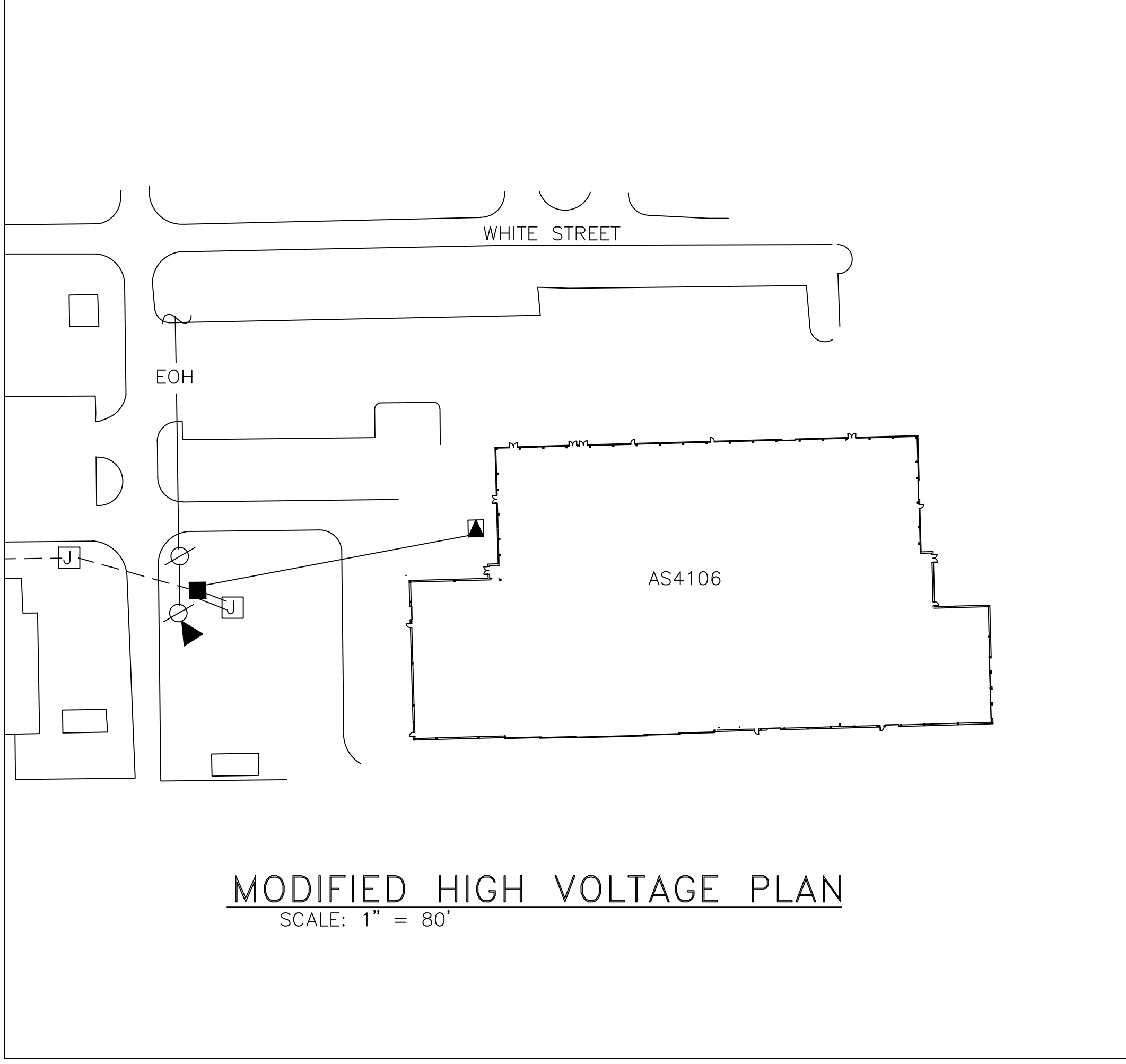
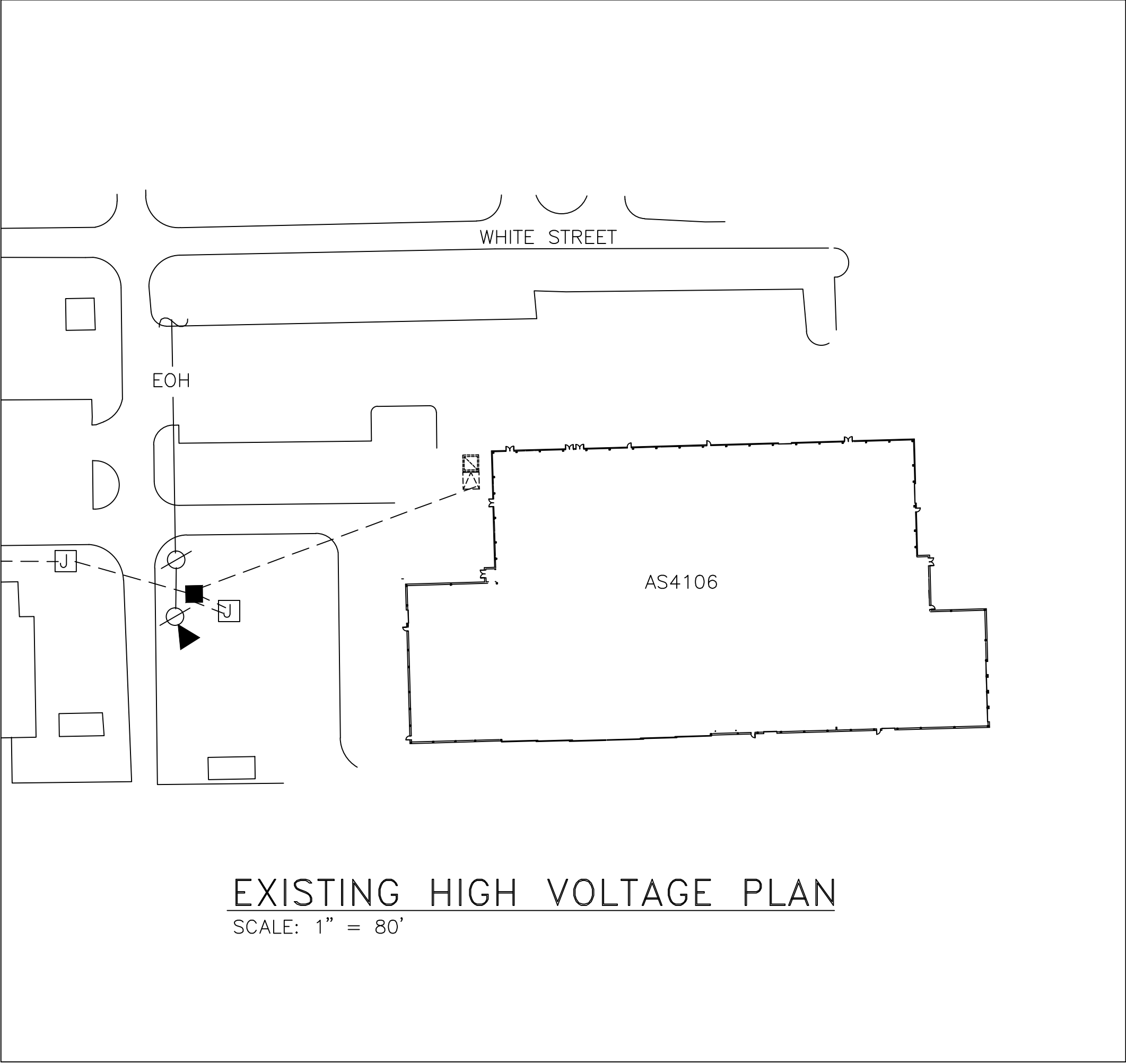
NEW ELECTRICAL RISER DIAGRAM
NO SCALE

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		E5	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		MARINE CORPS BASE	
		CAMP LEJEUNE, NORTH CAROLINA	
		ELECTRICAL UPGRADES	
		AS4106	
		NOTES AND ELECTRICAL RISER DIAGRAMS	
DES. D. L. GUY		SIZE CODE IDENT. NO	
DR. D. L. GUY		NAVFAC DRAWING NO.	
CHK. W.T. JONES		60016462	
SUBMITTED BY: D. L. GUY		CONST. CONTR. NO. N40085-15-B-0005	
DESIGN DIR. THOMAS BURTON, PE		DATE	
APPROVED: PWO OR OICC		DATE	
T. H. BURTON, PE		29 JULY 2015	
SATISFACTORY TO:		DATE	
		SCALE: NOTED	
		SPEC. 05-15-0005	
		SHEET 6 OF 7	

REVISIONS			
SYM		DATE	APPROVED
(A)			



DISCLOSURE OF INFORMATION:

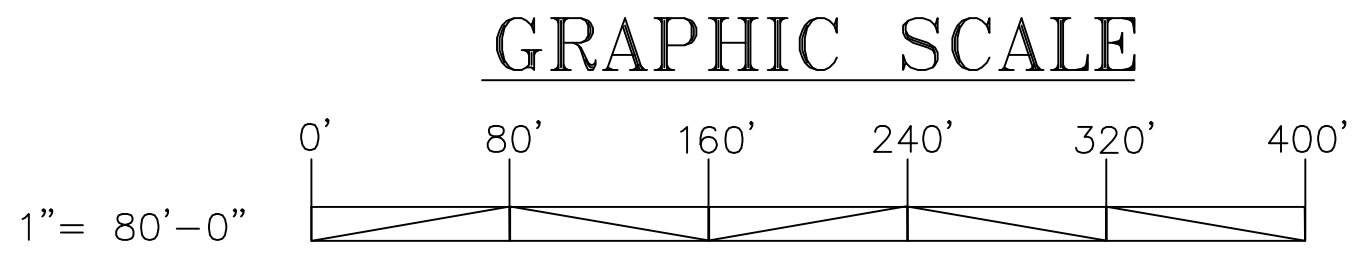
CONTRACTOR SHALL COMPLY AS FOLLOWS:

A. THE CONTRACTOR SHALL NOT RELEASE TO ANYONE OUTSIDE THE CONTRACTOR'S ORGANIZATION ANY UNCLASSIFIED INFORMATION, REGARDLESS OF MEDIUM (E.G. FILM, TAPE, DOCUMENT), PERTAINING TO ANY PART OF THIS CONTRACT OR ANY PROGRAM RELATED TO THIS CONTRACT, UNLESS-

1. THE CONTRACTING OFFICER HAS GIVEN PRIOR WRITTEN APPROVAL; OR
2. THE INFORMATION IS OTHERWISE IN THE PUBLIC DOMAIN BEFORE THE DATE OF RELEASE.

B. REQUESTS FOR APPROVAL SHALL IDENTIFY THE SPECIFIC INFORMATION TO BE RELEASES, THE MEDIUM TO BE USED, AND THE PURPOSE FOR THE RELEASE. THE CONTRACTOR SHALL SUBMIT ITS REQUEST TO THE CONTRACTING OFFICER AT LEAST 45 DAYS BEFORE THE PROPOSED DATE FOR RELEASE.

C. THE CONTRACTOR AGREES TO INCLUDE A SIMILAR REQUIREMENT IN EACH SUBCONTRACT UNDER THIS CONTRACT. SUBCONTRACTORS SHALL SUBMIT REQUESTS FOR AUTHORIZATION TO RELEASE THROUGH THE PRIME CONTRACTOR TO THE CONTRACTING OFFICER.



		E6	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		MARINE CORPS BASE	
		CAMP LEJEUNE, NORTH CAROLINA	
DESIGN: D. L. GUY		ELECTRICAL UPGRADES	
DRAWN: D. L. GUY		AS4106	
CHECK: W. T. JONES		PLANS, RISERS AND DETAILS.	
SUBMITTED BY: D. L. GUY		NAVFAC DRAWING NO.	
DESIGN DIR.:B.R. MARSHBURN PE		60016463	
APPROVED: PWO OR OICC		DATE	
T.H.BURTON, PE		29 JULY 2015	
SATISFACTORY TO:		E 80091	
		CONST. CONTR. NO.N40085-15-B-0005	
		SCALE: NOTED	
		SPEC. 05-15-0005	
		SHEET 7 OF 7	