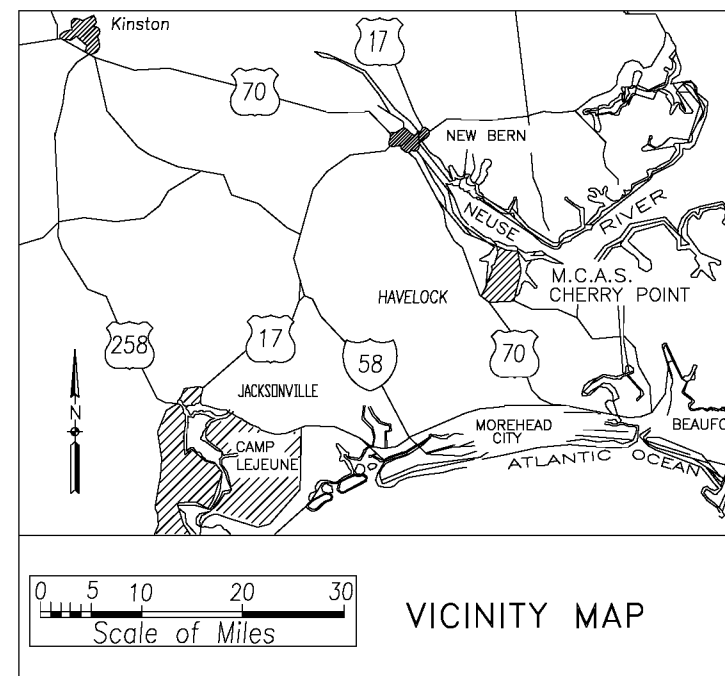


REPAIR STEAM CATHODIC PROTECTION SYSTEM

MARINE CORPS AIR STATION CHERRY POINT, NORTH CAROLINA

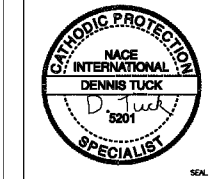
INDEX OF DRAWINGS

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OC

CHIEF ARCH/ ENGR.

PROJECT MANAGER

DET

FIRE PROTECTION

BRANCH MANAGER

DESIGN DIRECTOR

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
REPAIR STEAM CATHODIC PROTECTION SYSTEM
TITLE SHEET

CODE ID. NO. 80091 SIZE D

SCALE: AS SHOWN

FED. NO. 4381979

STA. PROJ. NO. WR4381979

SPEC. NO.

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.

12531858

SHEET 1 OF 28

G-001

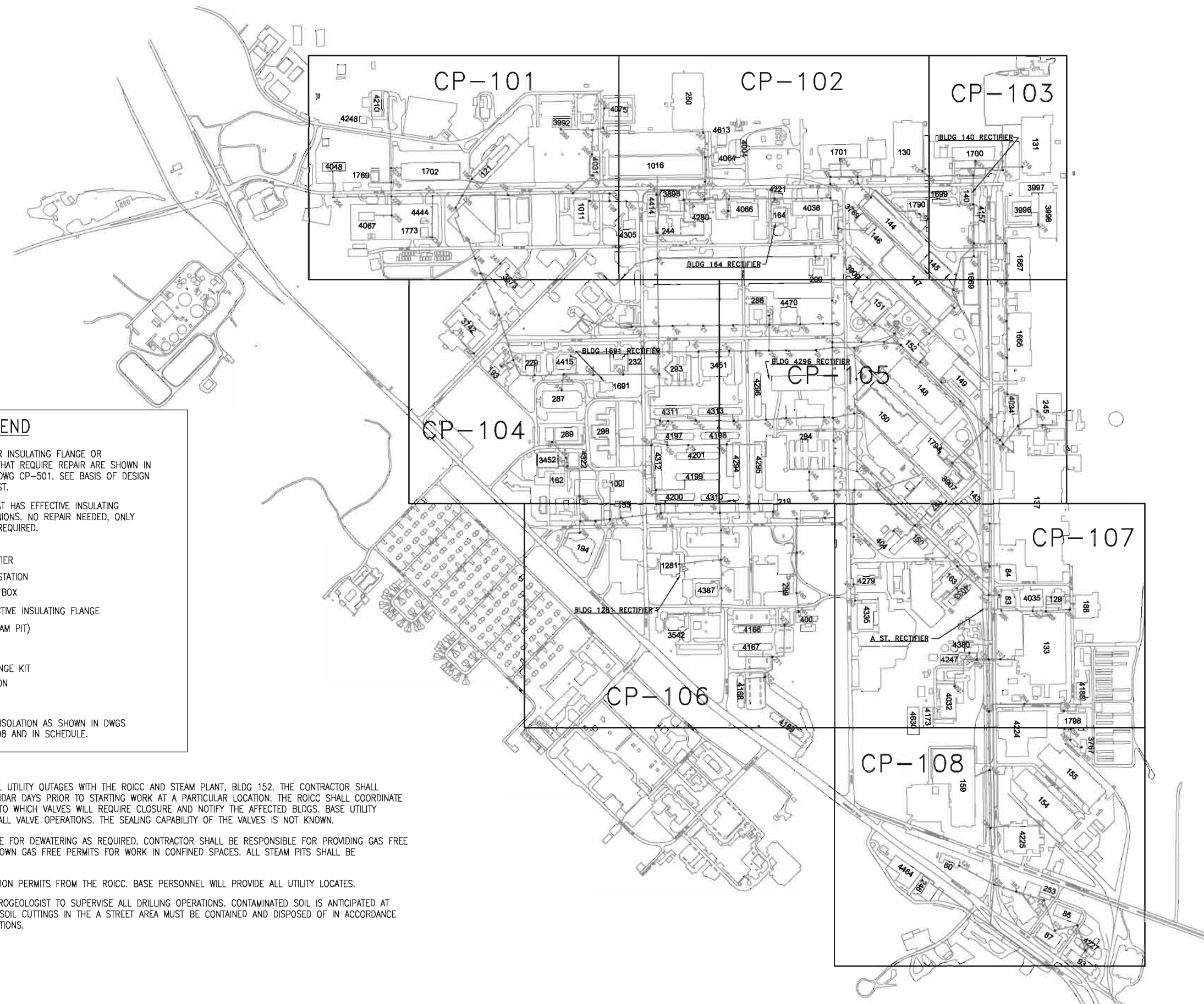
DRAWFORM REVISION MAY 2000

LEGEND

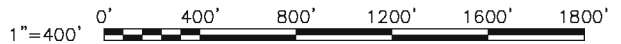
- ① TEST POINT FOR INSULATING FLANGE OR UNION—BLDGs THAT REQUIRE REPAIR ARE SHOWN IN SCHEDULE ON DWG CP-501. SEE BASIS OF DESIGN FOR MASTER LIST.
- 1 TEST POINT THAT HAS EFFECTIVE INSULATING FLANGES OR UNIONS. NO REPAIR NEEDED, ONLY FINAL TESTING REQUIRED.
- R EXISTING RECTIFIER
- T EXISTING TEST STATION
- B EXISTING BOND BOX
- |— EXISTING EFFECTIVE INSULATING FLANGE
- MH MAN HOLE (STEAM PIT)
- BG BELOW GRADE
- AG ABOVE GRADE
- I.F. INSULATING FLANGE KIT
- I.U. INSULATING UNION

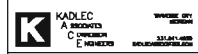

NOTES:
 PROVIDE ALL DIELECTRIC ISOLATION AS SHOWN IN DWGS CP-101 THROUGH CP-108 AND IN SCHEDULE.

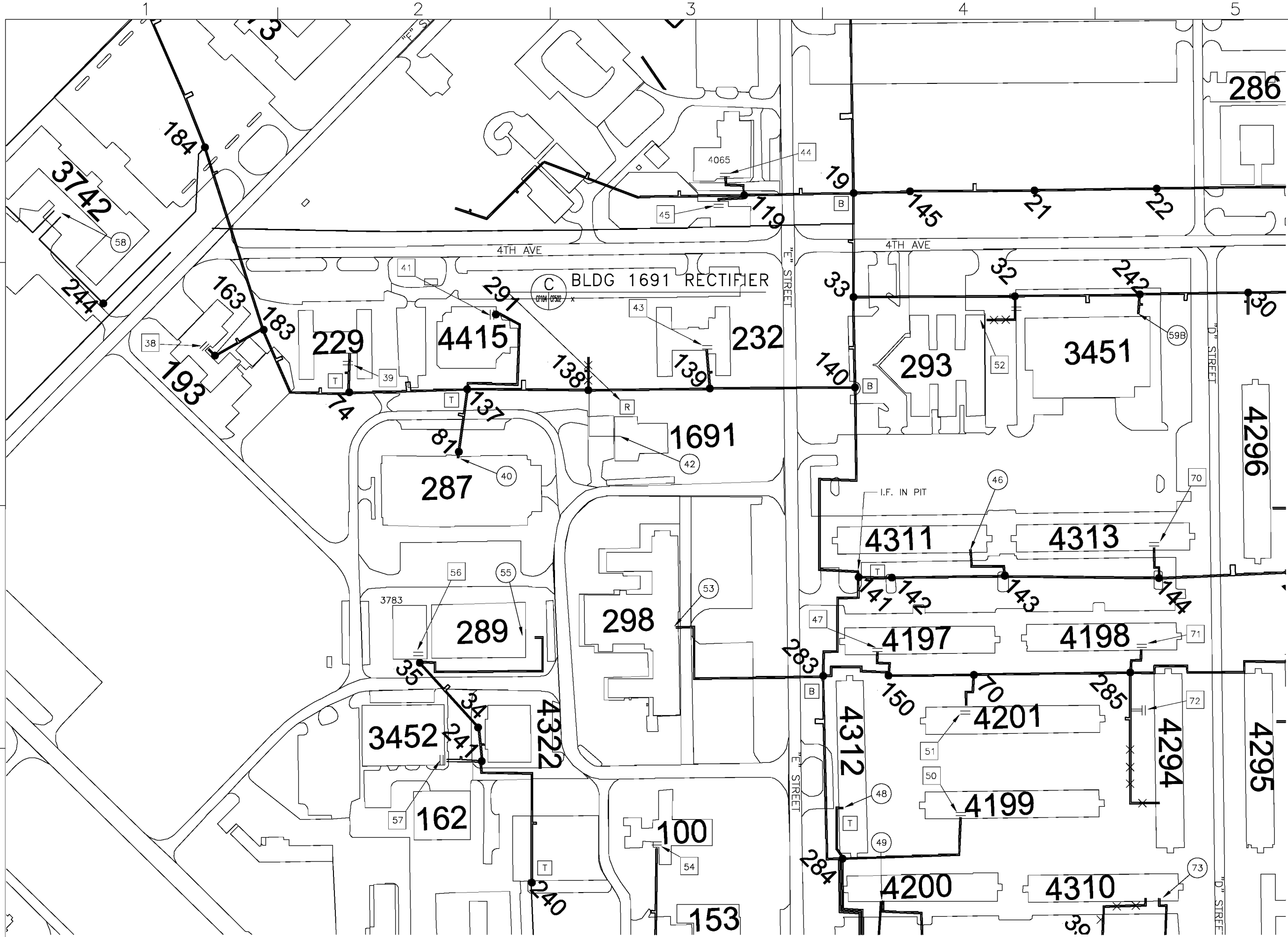
- NOTES:**
1. THE CONTRACTOR SHALL COORDINATE ALL UTILITY OUTAGES WITH THE ROICC AND STEAM PLANT, BLDG 152. THE CONTRACTOR SHALL NOTIFY THE ROICC IN WRITING, 10 CALENDAR DAYS PRIOR TO STARTING WORK AT A PARTICULAR LOCATION. THE ROICC SHALL COORDINATE WITH THE STEAM PLANT PERSONNEL AS TO WHICH VALVES WILL REQUIRE CLOSURE AND NOTIFY THE AFFECTED BLDGS. BASE UTILITY PERSONNEL WILL BE RESPONSIBLE FOR ALL VALVE OPERATIONS. THE SEALING CAPABILITY OF THE VALVES IS NOT KNOWN.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING GAS FREE TESTING EQUIPMENT AND PROVIDING ITS OWN GAS FREE PERMITS FOR WORK IN CONFINED SPACES. ALL STEAM PITS SHALL BE CONSIDERED CONFINED SPACES.
 3. THE CONTRACTOR SHALL OBTAIN EXCAVATION PERMITS FROM THE ROICC. BASE PERSONNEL WILL PROVIDE ALL UTILITY LOCATES.
 4. THE CONTRACTOR SHALL PROVIDE A HYDROGEOLOGIST TO SUPERVISE ALL DRILLING OPERATIONS. CONTAMINATED SOIL IS ANTICIPATED AT THE A STREET RECTIFIER LOCATION. ALL SOIL CUTTINGS IN THE A STREET AREA MUST BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH STATE REGULATIONS. SEE SPECIFICATIONS.



GRAPHIC SCALE:

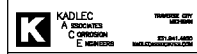


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	CHIEF ARCH/ ENGR.
	DET
	PROJECT MANAGER
	FIRE PROTECTION
	BRANCH MANAGER
	DESIGN DIRECTOR
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C.	
REPAIR STEAM CATHODIC PROTECTION SYSTEM SITE KEY PLAN	
CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. 4381979	
STA. PROJ. NO. WR4381979	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12531859	
SHEET 2 OF 28	
CP-001	
DRAWING REVISION MAY 2000	



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PROJECT MANAGER	DET
FIRE PROTECTION	
BRANCH MANAGER	
DESIGN DIRECTOR	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

REPAIR STEAM CATHODIC PROTECTION SYSTEM

DIELECTRIC ISOLATION POINTS - SHEET 4

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. 4381979	
STA. PROJ. NO. WR4381979	
SPEC. NO.	
CONSTR. CONTR. NO.	

NAVFAC DRAWING NO. 12531863
SHEET 6 OF 28
CP-104
DRAWFORM REVISION MAY 2000



SCHEDULE OF NEW DIELECTRIC ISOLATION - AS OF DEC 2008

TEST PT.	BLDG. NO.	DWG. NO.	STEAM SUPPLY- I.F. STATUS	CONDENSATE- I.F. STATUS	OTHER- ISOLATION STATUS	REMARKS
3	1702	CP-101	PROVIDE 2.5" I.F.	GOOD		
4	1769	CP-101	UNKNOWN	UNKNOWN		ACCESS TO LINES VERY DIFFICULT. REPAIR AS NEEDED.
5	4048	CP-101	GOOD	PROVIDE 1" I.F.		3' AG. EXIST I.F. KIT IN CONDENSATE SHORTED.
8	121	CP-101	GOOD	GOOD	R&R 3/4" I.U. IN SUMP LINE	3' AG.
9	3673	CP-101	PROVIDE 3" I.F.	R&R 1" I.F. BEFORE POT	C&T 3/4" I.U. IN SUMP LINE	STEAM IS 3' BG. IN 4'X4'X6'D PIT. OTHERS ARE AG. ISOLATE GRATE.
10	1011	CP-101	GOOD	GOOD	R&R 3/4" I.U. IN SUMP LINE	4' BG IN MH OUTSIDE BLDG.
11	3992	CP-101	GOOD	R&R 1" I.F.	C&T 3/4" I.U. IN BYPASS LINE	3' AG.
13	4305	CP-102	GOOD	R&R 1" I.F. BEFORE POT		6" AG.
14	1016	CP-102	PROVIDE 2.5" I.F.	PROVIDE 2" I.F.	CUT METAL SUPPORTS	6' BG. IN 6'X6'X8'D PIT.
16	3898	CP-102	PROVIDE 1.5" I.F.	GOOD		1' AG. EXIST I.F. KIT IN STEAM IS SHORTED.
17	4280	CP-102	GOOD	R&R 3/4" I.F. BEFORE PUMP	ISOLATE SUPPORTS	1' AG. ISOLATE CONDENSATE FROM ROOF SUPPORTS, 3 LOCATIONS.
20	164	CP-102	GOOD	GOOD	R&R 3/4" I.U. IN DRIP LEG	1' BG.
25	144	CP-102	GOOD	GOOD	R&R 1" I.U. BEFORE POT	3' AG. INSTALL PAD BETWEEN 3/4" & 1" LINES AT FLOOR DRAIN.
27	1701	CP-102	PROVIDE 2.5" I.F.	GOOD		2' AG
28	130	CP-102	PROVIDE 8" I.F.	PROVIDE 3" I.F.		STEAM IS 3' AG. CONDENSATE IS 3' BG IN 10'X10'X6'D PIT.
30	131	CP-103	GOOD	C&W 2.5" I.F.		4' BG. IN 15'X15'X8'D PIT. REPLACE CORRODED LINES AS NEEDED.
31	3996	CP-103	PROVIDE 2" 300# I.F.	GOOD		3' AG. OPTION-R&R 2" IU IN STEAM.
34	140	CP-103	GOOD	R&R 3/4" I.F. AFTER VALVE	ISOLATE SUPPORTS	ISOLATE STEAM AND CONDENSATE FROM SUPPORTS.
34A	1699	CP-103	GOOD	C&W 1.5" I.F.	R&R 2-3/4" I.U. IN DRIP LEGS	3' BG. IN 4'X4'X6'D PIT
35	4157	CP-103	PROVIDE 1.5" I.F.	GOOD	R&R 3/4" I.U. IN DRIP LEG	3' BG. IN 4'X4'X6'D PIT
36	1670	CP-103	R&R 1.5" I.F.	R&R 1" I.F.	R&R 3/4" I.U. IN DRIP LEG	3' BG. IN 4'X4'X6'D PIT
37	1669	CP-103	PROVIDE 3" I.F.	R&R 3/4" I.F. BEFORE PUMP	ISOLATE SUPPORTS	4' AG. ISOLATE CONDENSATE FROM ROOF SUPPORTS, 7 LOCATIONS.
37A	145	CP-103	UNKNOWN	UNKNOWN		BLDG LOCKED DURING SURVEY. REPAIR AS NEEDED.
40	287	CP-104	PROVIDE 4" 300# I.F.	GOOD		3' AG
42	1691	CP-104	C&W 2.5" I.F.	PROVIDE 1.5" I.F.		3' AG.
46	4311	CP-104	PROVIDE 2" 300# I.F.	R&R 2-1" I.F. BEFORE PUMP	R&R 3/4" I.U. IN DRIP LEG	STEAM & CONDENSATE 3' AG. DRIP LEG IS 3' BG IN PIT.
48	4312	CP-104	PROVIDE 2" I.F.	GOOD		3' BG. IN 4'X4'X6'D PIT.
49	4200	CP-104	PROVIDE 2" 300# I.F.	R&R 2-1" I.F. BEFORE PUMP	R&R 3/4" I.U. IN DRIP LEG	
53	298	CP-104	PROVIDE 3" I.F.	GOOD		4' AG.
55	289	CP-104	PROVIDE 4" I.F.	GOOD		3' BG. IN 4'X4'X6'D PIT. OPTION, 2-4" 300# I.F. KITS, 10' AG.
58	3742	CP-104	UNKNOWN	UNKNOWN		ACCESS TO LINES VERY DIFFICULT. REPAIR AS NEEDED.
59	286	CP-105	R&R 1/2", 3/4", 1" I.F.	R&R 1.25" I.F.		3' AG.
59B	3451	CP-105	PROVIDE 3" I.F.	PROVIDE 2" I.F.		3' BG. IN MANHOLE OUTSIDE BLDG, 4'X8'X6'D PIT.
62	151	CP-105	PROVIDE 4" 300# I.F.	PROVIDE 3" 300# I.F.	R&R 2-3/4" I.U.	STEAM & CONDENSATE 3' AG. DRIP LEG IS 3' BG IN PIT.
63	152	CP-105	PROVIDE 12" 300# I.F.	PROVIDE 8" 300# I.F.		6' AG. STEAM PLANT. PROVIDE PERMANENT SUPPORT FOR PIPES.
64	152	CP-105	GOOD	PROVIDE 4" 300# I.F.		10' AG. STEAM PLANT. PROVIDE PERMANENT SUPPORT FOR PIPES.
65	152	CP-105	PROVIDE 16" 300# I.F.	NA		10' AG. STEAM PLANT. PROVIDE PERMANENT SUPPORT FOR PIPES.
67	147	CP-105	PROVIDE 4" 300# I.F.	GOOD		2' AG. OUTSIDE BLDG.
73	4310	CP-105	PROVIDE 2.5" I.F.	GOOD		5' BG. IN 4'X6'X8'D PIT.
74	4295	CP-105	GOOD	PROVIDE 2" I.F.	R&R 3/4" I.U. IN DRIP LEG	5' BG. IN 4'X6'X8'D PIT.
76	294	CP-105	PROVIDE 4" 300# I.F.	GOOD	R&R 1/2", 3/4", 1" I.U.	ISOLATE STEAM FROM ROOF SUPPORT, 1 LOCATION.
77	150	CP-105	C&W 2.5" I.F.	C&W 1.5" I.F.		3' AG. NOTE: LINE MARKED ASBESTOS.
79	1794	CP-105	PROVIDE 2.5" I.F.	R&R 2-3/4" I.F. BEFORE PUMP		
80	1665	CP-105	PROVIDE 8" I.F.	PROVIDE 4" I.F.		OUTSIDE BLDG. INSTALL IN VALVES.
82	245	CP-105	PROVIDE 8" I.F.	GOOD		6' BG. IN MANHOLE OUTSIDE BLDG, 6'X6'X8'D PIT.
83	245	CP-105	PROVIDE 8" I.F.	NA		6' BG. IN MANHOLE OUTSIDE BLDG, 6'X6'X8'D PIT.
83B	245	CP-105	UNKNOWN	UNKNOWN	R&R 2-3/4" I.U. IN DRIP LEG	ACCESS TO LINES VERY DIFFICULT. REPAIR AS NEEDED.
86	137 N	CP-105	PROVIDE 12" I.F.	PROVIDE 4" I.F.		OUTSIDE BLDG. NOTE: PROVIDE PERMANENT PIPE SUPPORTS FOR 12".
87	194	CP-106	PROVIDE 3" I.F.	GOOD	R&R 2-3/4" I.U., C&T 1" IU	3' BG. IN 4'X4'X6'D PIT.
89	219	CP-106	GOOD	R&R 3/4" NIPPLE WITH I.F.		3' AG.
93	4169	CP-106	PROVIDE 2" 300# I.F.	GOOD		5' AG.
99	4166	CP-106	PROVIDE 2" 300# I.F.	GOOD		5' AG.
100	4166	CP-106	PROVIDE 2" 300# I.F.	GOOD		5' AG.
101	400	CP-106	PROVIDE 2" 300# I.F.	GOOD		
103	157	CP-107	C&W 3" I.F.	R&R 1.25" I.F.	R&R 1" I.U. IN DRIP LEG	ACCESS TO LINES DIFFICULT.
104	160	CP-107	PROVIDE 2" I.F.	GOOD		5' AG.
108	163	CP-107	PROVIDE 1.5" I.F.	GOOD		8" AG.
109	4380	CP-107	PROVIDE 1.25" I.F.	R&R 1" I.F.		3' AG.
110	4247	CP-107	PROVIDE 2" I.F.	GOOD		2' AG.
111	4032	CP-107	PROVIDE 2.5" I.F.	GOOD		3' AG. INS WASHERS MISSING ON ONE BOLT. REPAIR AS NECESSARY.
112	4335	CP-107	PROVIDE 4" I.F.	R&R 2" I.F.	R&R 1.25" I.F.	2' AG.
114	137 S	CP-107	PROVIDE 8" I.F.	PROVIDE 4" I.F.		4' AG. NOTE: INTERIOR WALL WILL HAVE TO BE REMOVED/REPLACED.
115	84	CP-107	PROVIDE 2" I.F.	R&R 1.5" I.F.		3' & 12' AG.
117	4035	CP-107	PROVIDE 6" I.F.	R&R 2" I.F.		5' AG.
119	188	CP-107	PROVIDE 8" I.F.	R&R 2" I.F.	R&R 2-1" I.U. IN DRIP LEG	6' BG. IN 6'X10'X10'D PIT.
120	133	CP-107	PROVIDE 8" I.F.	GOOD		6' BG. IN 6'X10'X10'D PIT. PROVIDE TEMPORARY PIPE SUPPORTS.
122	1798	CP-107	GOOD	R&R 2-1" I.F. BEFORE PUMP		1' AG.
123	4188	CP-107	GOOD	R&R 2-1" I.F.		6' BG. IN 6'X6'X10'D PIT
124	159	CP-108	GOOD	R&R 1.5" I.F. BEFORE POT		1' AG.
125	4225	CP-108	PROVIDE 3" I.F.	R&R 2" I.F. BEFORE POT	R&R 3/4" I.U. IN DRIP LEG	3' AG. DRIP LEG IN PIT. ISOLATE COND FROM ROOF SUPPORTS.
126	80	CP-108	GOOD	R&R 2" I.F. BEFORE POT		3' AG. OPTION, PROVIDE 2" I.F. KIT IN CONDENSATE.
127	4464	CP-108	PROVIDE 2" I.F.	PROVIDE 1.5" I.F.		2' AG.
129	253	CP-108	GOOD	R&R 1" I.F. BEFORE PUMP	ISOLATE 1" LINE FROM GRATE	2' AG.
130	85	CP-108	GOOD	R&R 2" I.F. BEFORE POT		2' AG.
132	93	CP-108	GOOD	GOOD	R&R 3/4" I.U. IN DRIP LEG	6' BG. IN 4'X4'X8'D PIT.

LEGEND

PROVIDE PROVIDE I.F. KIT IN EXIST FLANGE OR VALVE
R&R REMOVE EXIST UNION, THREAD PIPE IF REQUIRED, REPLACE WITH THREADED FLANGE/INS FLG KIT, OR INSULATING UNION. SEE NOTES.
C & T CUT PIPE (2 CUTS REQUIRED), THREAD PIPE, PROVIDE THREADED FLANGE OR INSULATING UNION. SEE NOTES.
C & W CUT PIPE (2 CUTS REQUIRED), WELD IN TWO FLANGES, PROVIDE I.F. KIT
ISOLATE PROVIDE DIELECTRIC PAD OF RUBBER OR TEFLON BETWEEN PIPE AND ADJACENT METAL STRUCTURE.
MH MAN HOLE (STEAM PIT)
BG BELOW GRADE
AG ABOVE GRADE
I.F. INSULATING FLANGE KIT
I.U. INSULATING UNION



TYPICAL INSULATING UNION



TYPICAL THREADED UNION ASSEMBLY



TYPICAL WELD NECK FLANGE



INSULATING FLANGE KIT



TYPICAL ISOLATION PAD



TYPICAL THREADED FLANGE

NOTES:

- PROVIDE ALL DIELECTRIC ISOLATION AS SHOWN IN SCHEDULE AND LOCATED ON DRAWINGS CP-101 THROUGH CP-108.
- TYPICAL INSULATING FLANGE AND UNION INSTALLATIONS ARE SHOWN ON DWGS. CP-505.
- BYPASS LINE DIAMETERS VARY FROM 3/4" TO 1 1/4". CONTRACTOR TO FIELD VERIFY LINE DIAMETER AND INSTALL INSULATING FLANGES OR INSULATING UNIONS AS REQUIRED TO ACHIEVE ELECTRICAL ISOLATION. MAY REQUIRE PROVIDE, REPLACE, C & W OR C & T. MAY REQUIRE ONE OR MORE INSULATORS. SEE ABBREVIATIONS.
- THE SEALING AND OPERATIONAL CAPABILITY OF THE VALVES IS NOT KNOWN. BASE PERSONNEL SHALL OPERATE ALL VALVES AND PROVIDE COORDINATION FOR THE VARIOUS SECTORS DURING INSTALLATION.
- ELEVATIONS ARE FROM GRADE LEVEL. ELEVATIONS AND PIT SIZES ARE APPROXIMATE.
- CONTRACTOR SHALL HAVE ON HAND A MINIMUM OF 30% EXTRA INSULATING UNIONS AND FLANGE KITS OF EACH SIZE TO ACCOMMODATE UNFORSEEN FIELD CONDITIONS. EXTRA INSULATING DEVICES SHALL BE TURNED OVER TO THE ROICC AT THE COMPLETION OF THE CONSTRUCTION CONTRACT.
- FOR THREADED CONNECTIONS, INSULATING UNIONS SHALL ONLY BE USED IN LOW TEMPERATURE DRIP AND BYPASS LINES. THREADED FLANGES WITH INSULATING FLANGE KITS SHALL BE USED IN HIGH TEMPERATURE APPLICATIONS.
- TEST EACH FLANGE WITH CALIBRATED FLANGE INSULATION TESTER. SUBMIT REPORT TO CONTRACTING OFFICER. SEE SPECS.

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DESCRIPTION	
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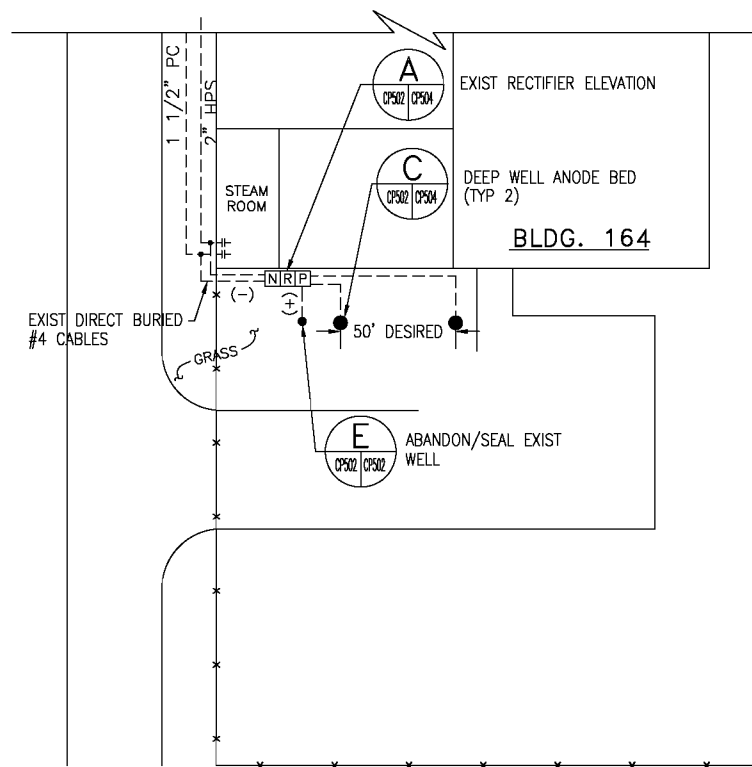
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C O'NEILL
E HENNESSY
CORPORATION



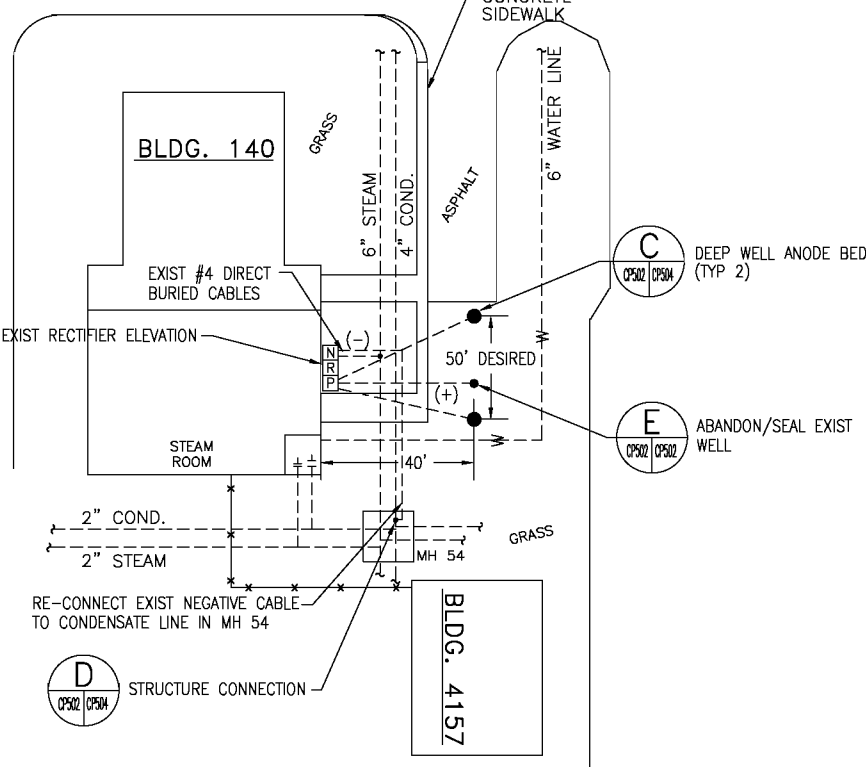
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DEPARTMENT OF THE NAVY
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
REPAIR STEAM CATHODIC PROTECTION SYSTEM
SCHEDULE OF DIELECTRIC ISOLATION

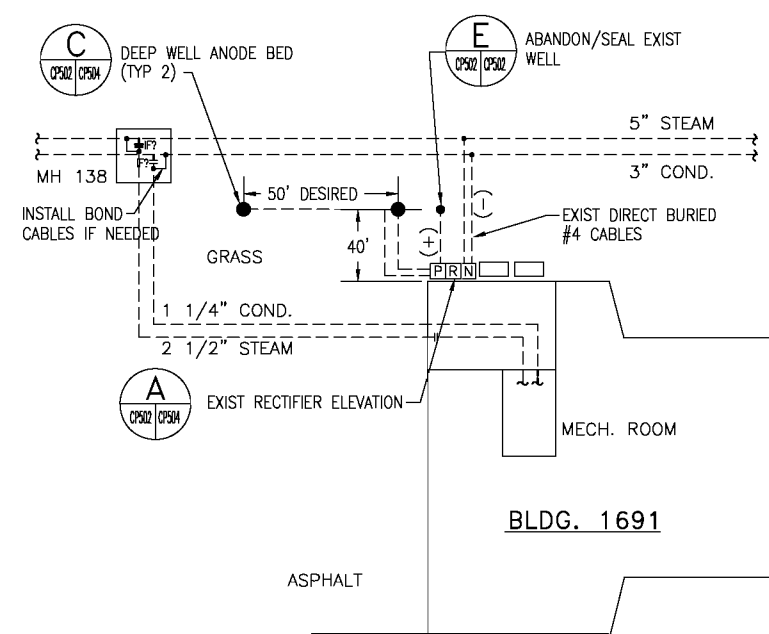
CODE ID. NO. 80091	SIZE D
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NAVFAC DRAWING NO. 12531868	
SHEET 11 OF 28	
CP-501	



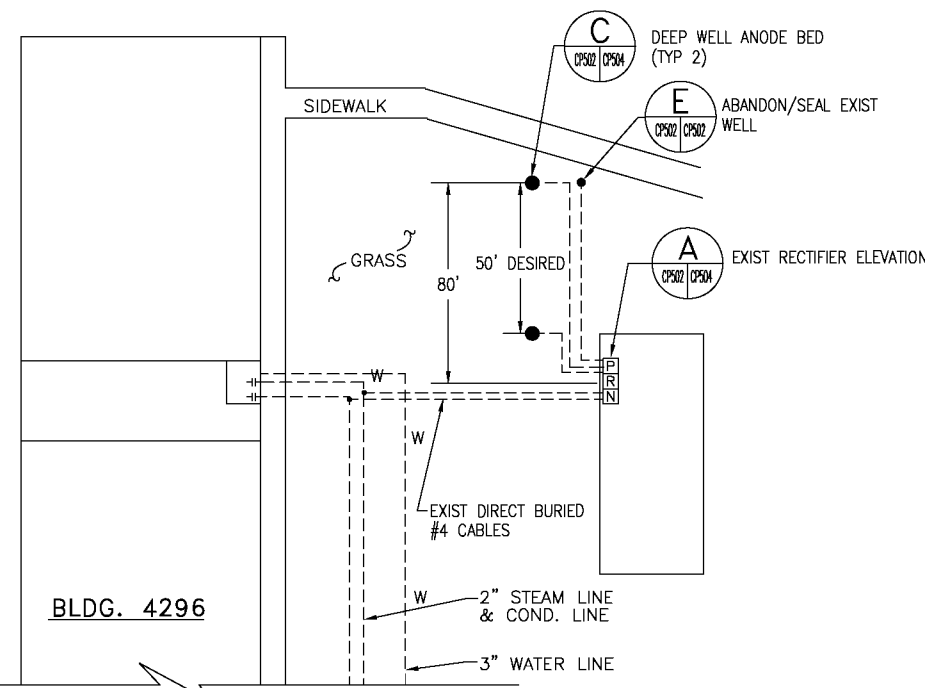
A BLDG. 164 RECTIFIER
 CP102 CP502 SCALE: 1" = 20'



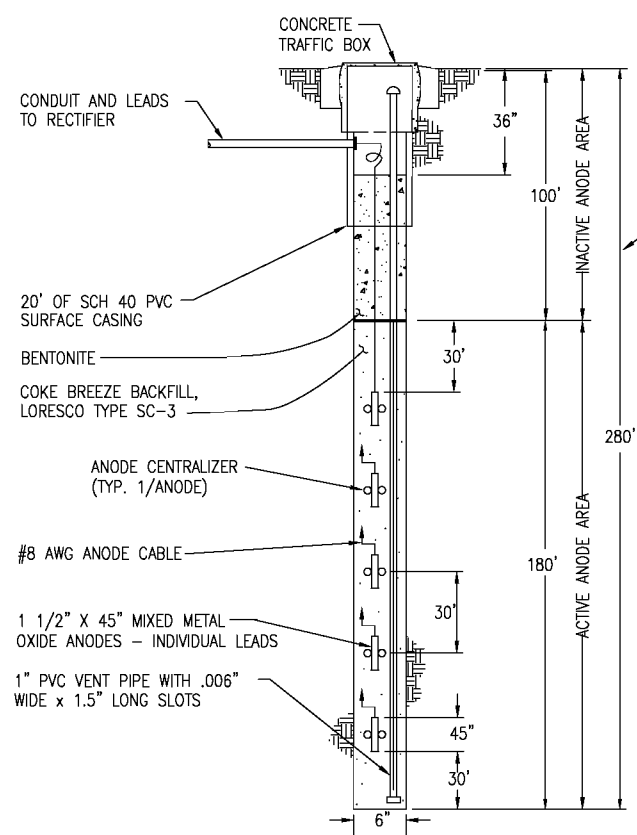
B BLDG. 140 RECTIFIER
 CP103 CP502 SCALE: 1" = 20'



C BLDG. 1691 RECTIFIER
 CP104 CP502 SCALE: 1" = 20'



D BLDG. 4296 RECTIFIER
 CP105 CP502 SCALE: 1" = 20'



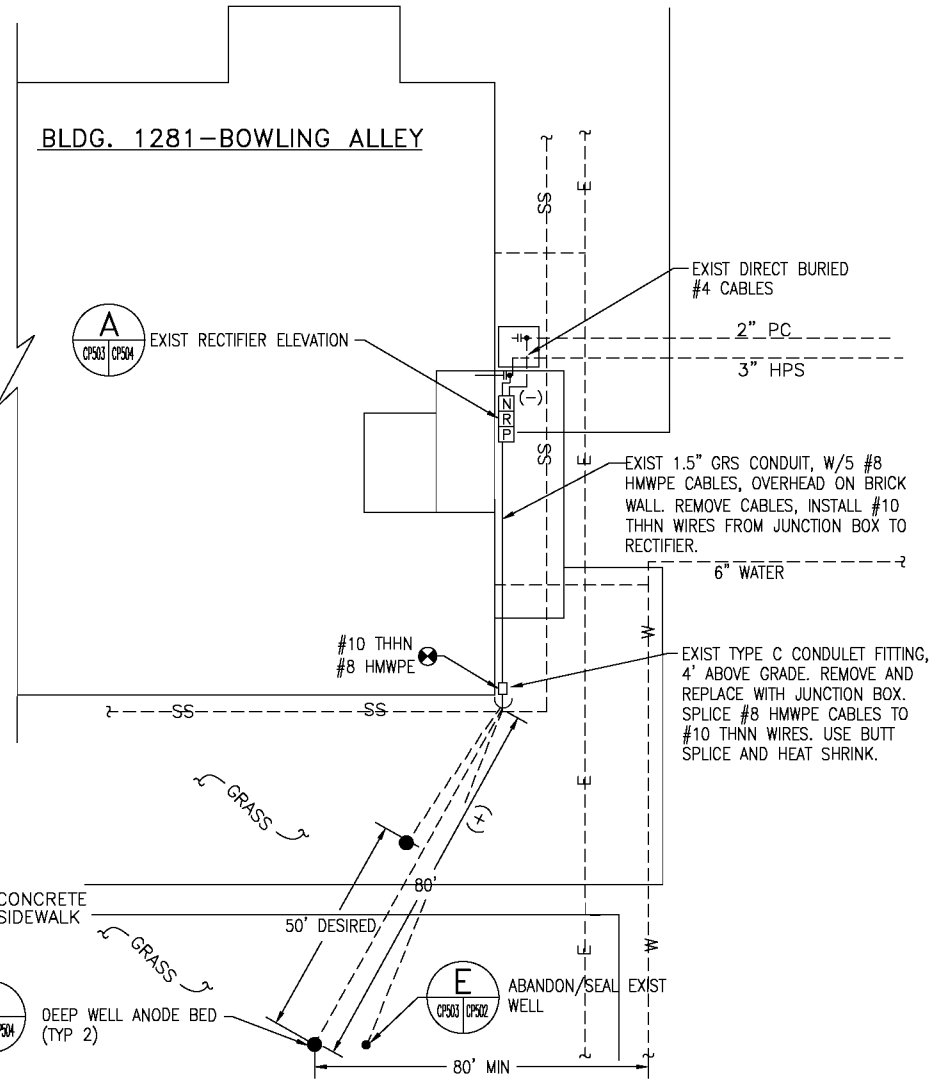
E ABANDON/SEAL EXIST WELL
 CP-503 CP502 CP504 SCALE: NONE

ABANDON AND SEAL EXIST DEEP WELL PER STATE REGULATIONS AND IN ACCORDANCE WITH ENVIRONMENTAL AFFAIRS DEPT, MCAS CHERRY POINT. FLUIDIZE AND REMOVE COKE, ANODES, AND VENT PIPE. SEAL WELL WITH GROUT. CONDUIT CAN REMAIN.

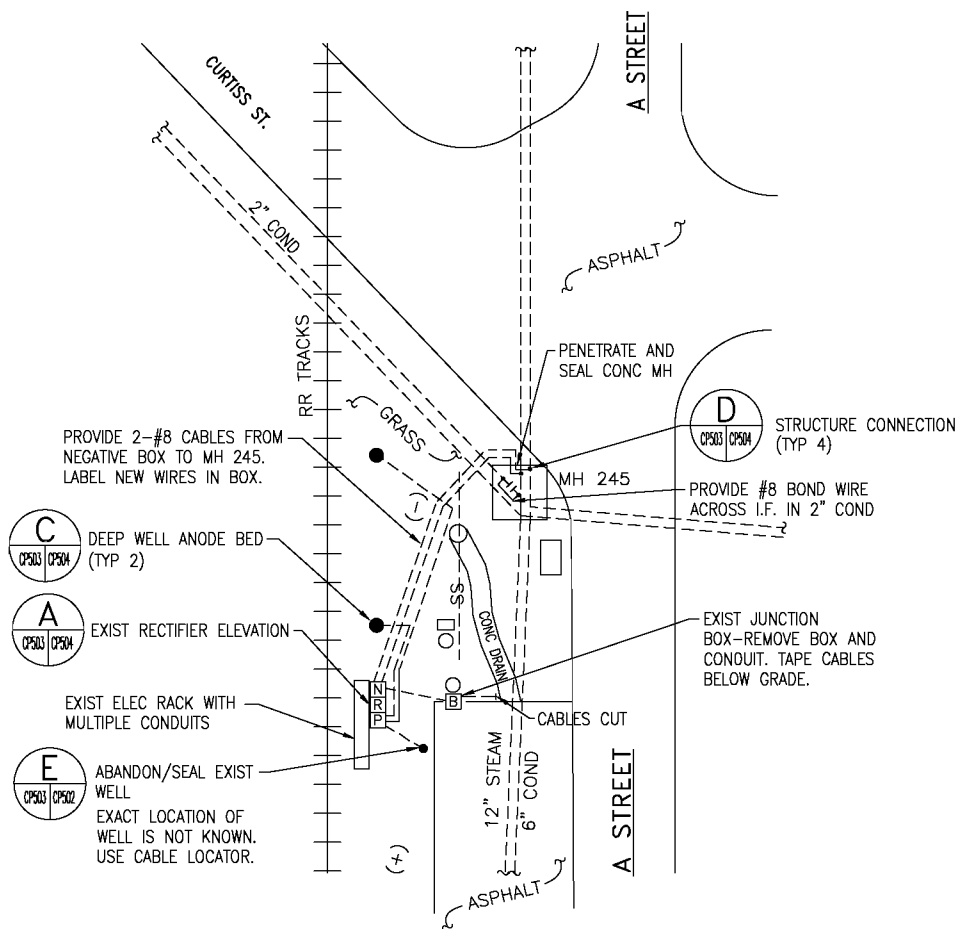
- NOTES:**
1. BASE PERSONNEL SHALL DETERMINE WHERE ANODE HOLES SHALL BE DRILLED. TO MINIMIZE ELECTRICAL RESISTANCE BETWEEN DEEP BEDS, INSTALL BEDS 50' MIN APART WHERE CONDITIONS ALLOW.
 2. ANODE LEADS MAY BE SPLICED BETWEEN DEEP BED AND POSITIVE BEX AS NEEDED TO SUIT FIELD CONDITIONS. ALL BURIED SPLICES SHALL USE EPOXY SPLICE KITS.
 3. POTABLE WATER TABLE IS AT APPROX 150' DEPTH. DO NOT DRILL INTO WATER TABLE.

DATE	APPR
DESCRIPTION	REV
Wiley & Wilson <i>Employee-Owned</i> 8508 West Broad Street, Suite 500 Richmond, VA 23290-1112 www.wileyandwilson.com	
APPROVED ACTIVITY - SATISFACTORY TO DATE APPROVED FOR EPD FOR COMMANDER NAVFAC DATE A/E DET DESIGN KSC DRAWN JMK REVIEW CC CHIEF ARCH/ ENGR PROJECT MANAGER FIRE PROTECTION BRANCH MANAGER DESIGN DIRECTOR	
DEPARTMENT OF THE NAVY MARINE CORPS AIR STATION, CHERRY POINT, N.C. REPAIR STEAM CATHODIC PROTECTION SYSTEM RECTIFIER SITE PLANS - SHEET 1	
CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. 4381979	
STA. PROJ. NO. WR4381979	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12531869	
SHEET 12 OF 28	
CP-502 <small>DRAWING REVISION MAY 2000</small>	

1 2 3 4 5



A BLDG. 1281 RECTIFIER
 SCALE: 1" = 20'



B A ST. RECTIFIER
 SCALE: 1" = 20'

- NOTES:**
1. THERE ARE MANY UTILITIES IN THIS AREA. FIELD LOCATE ANODE BEDS TO AVOID UTILITIES.
 2. THIS SITE SHALL BE CONSIDERED CONTAMINATED. ALL DRILL CUTTINGS AND MUD MUST BE CONTAINERIZED AND DISPOSED OF IN ACCORDANCE WITH STATE REGULATIONS.

- NOTES:**
1. BASE PERSONNEL SHALL DETERMINE WHERE ANODE HOLES SHALL BE DRILLED. TO MINIMIZE ELECTRICAL RESISTANCE BETWEEN DEEP BEDS, INSTALL BEDS 50' MIN APART WHERE CONDITIONS ALLOW.
 2. ANODE LEADS MAY BE SPliced BETWEEN DEEP BED AND POSITIVE BEX AS NEEDED TO SUIT FIELD CONDITIONS. ALL BURIED SPLICES SHALL USE EPOXY SPLICE KITS.
 3. POTABLE WATER TABLE IS AT APPROX 150' DEPTH. DO NOT DRILL INTO WATER TABLE.

DATE	DESCRIPTION	APPR

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 Richmond, VA 23230-1717
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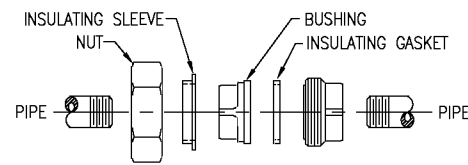


APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE	
APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
DET	DESIGN
KSC	DRAWN
JMK	REVIEW
	OC
	CHIEF ARCH/ DGR.
	DET
PROJECT MANAGER	
FIRE PROTECTION	
BRANCH MANAGER	
DESIGN DIRECTOR	

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.
REPAIR STEAM CATHODIC PROTECTION SYSTEM
 RECTIFIER SITE PLANS - SHEET 2

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. 4-381979	
STA. PROJ. NO. WR4381979	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	
12531870	
SHEET 13 OF 28	

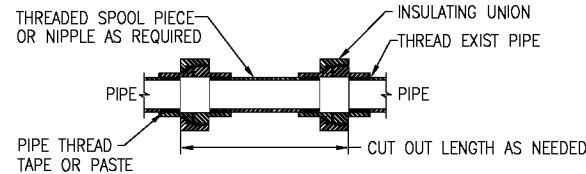
CP-503
 DRAWFORM REVISION MAY 2000



NOTES:

1. ALL PARTS SHOWN ARE PROVIDED WITH DIELECTRIC UNION.
2. UNION FOR CARBON STEEL PIPING SHOWN. UNION FOR STAINLESS STEEL TUBING SIMILAR.
3. INSULATING FLANGE MAY BE USED IN LIEU OF INSULATING UNION.

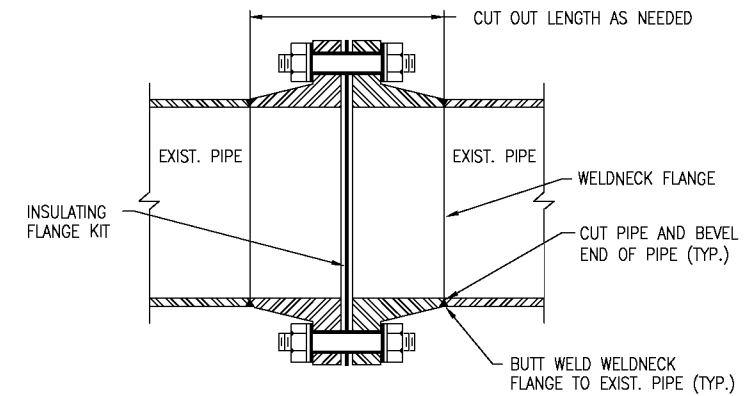
A TYPICAL INSULATING UNION
SCALE: NONE



NOTES:

1. METHOD OF INSTALLATION MAY VARY ACCORDING TO THE AMOUNT OF FLEXIBILITY IN THE PIPING SYSTEM. IF PIPING HAS FLEXIBILITY, THE SECOND UNION MAY BE OMITTED AND A THREADED COUPLING USED.
2. THREADED FLANGE MAY BE USED IN LIEU OF THREADED UNION ASSEMBLY.

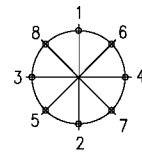
B TYPICAL THREADED UNION ASSEMBLY
SCALE: NONE



NOTES:

1. TYPICAL INSTALLATION OF A WELDNECK FLANGE. 100% RADIOGRAPH OF ALL NEW WELDS.
2. SLIP ON FLANGES MAY BE SUBSTITUTED FOR 3" AND SMALLER FLANGES.

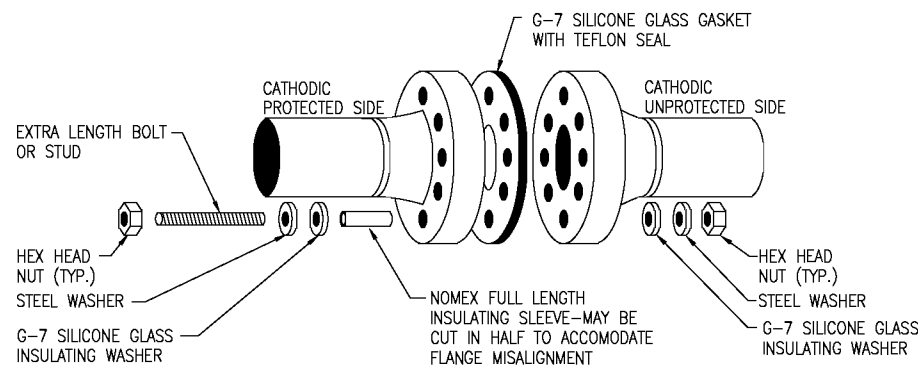
C TYPICAL WELD NECK FLANGE
SCALE: NONE



NOTES:

1. TIGHTEN BOLTS AT 30% INTERVALS OF THE FINAL TORQUE IN THE ABOVE SEQUENCE. EIGHT BOLT FLANGE SHOWN, OTHER BOLT PATTERNS SIMILAR. A CALIBRATED TORQUE WRENCH SHALL BE USED FOR FINAL TIGHTENING.

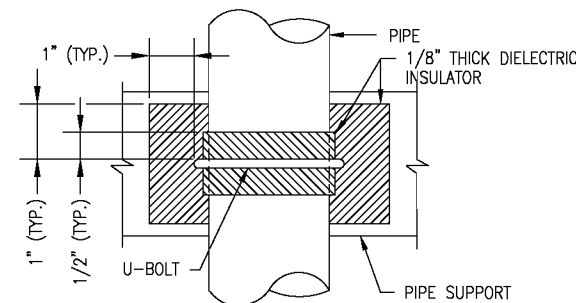
TORQUE SEQUENCE FOR INSULATING FLANGE



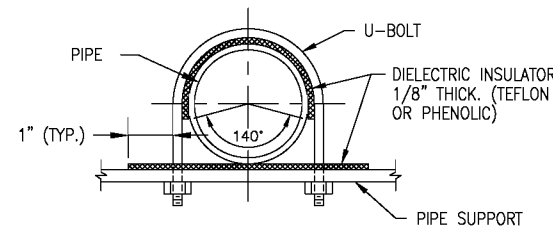
NOTES:

1. ALIGN FLANGES TO AVOID DAMAGE TO INSULATING SLEEVES. PROVIDE BOLTS OR STUDS LONGER THAN STANDARD TO ACCOMODATE EXTRA THICKNESS OF INSULATING GASKET AND WASHERS.
2. FINAL NUT TIGHTENING WILL BE DONE WITH A CALIBRATED TORQUE WRENCH. SPECIFICATIONS FOR TORQUE LOADS AND TIGHTENING SEQUENCE ARE GIVEN IN MANUFACTURER'S INSTALLATION SHEET.
3. TEST EACH FLANGE WITH CALIBRATED FLANGE INSULATION TESTER. SUBMIT REPORT TO CONTRACTING OFFICER. SEE SPECS.
4. INSULATING GASKET SETS SHALL BE MANUFACTURED BY PIPELINE SEAL AND INSULATOR (PSI) OR APPROVED EQUAL. CONSULT MANUFACTURER FOR ADDITIONAL INFORMATION.

D INSULATING FLANGE KIT
SCALE: NONE

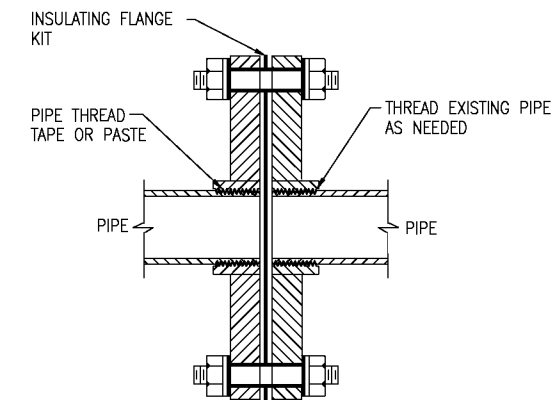


PLAN



ELEVATION

E TYPICAL ISOLATION PAD
SCALE: NONE



NOTES:

1. METHOD OF INSTALLATION MAY VARY ACCORDING TO THE AMOUNT OF FLEXIBILITY IN THE PIPING SYSTEM. INSTALL UNIONS, COUPLINGS OR NIPPLES AS NEEDED.

F TYPICAL THREADED FLANGE
SCALE: NONE

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FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
DET	DESIGN
KSC	DRAWN
JMK	REVIEW
	QC
	CHIEF ARCH/ ENGR.
PROJECT MANAGER	DET
FIRE PROTECTION	
BRANCH MANAGER	
DESIGN DIRECTOR	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
REPAIR STEAM CATHODIC PROTECTION SYSTEM
DETAILS - SHEET 2

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. 4381979	
STA. PROJ. NO. WR4381979	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12531872	
SHEET 15 OF 28	
CP-505	
DRAWFORM REVISION MAY 2000	

COND-R&R 1" UNION WITH
THREADED FLANGE AND I.F.
KIT.



ISOLATE LINE FROM GRATE.



COND-R&R 2" UNION WITH
THREADED FLANGE AND I.F.
KIT.

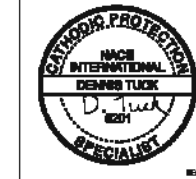


A TEST PT 129 BLDG 253
SCALE: NONE

B TEST PT 130 BLDG 85
SCALE: NONE

DATE	APPV	DESCRIPTION	REV

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APPROVED _____

ACTIVITY - SKEWFACTORY 10

DATE _____

APPROVED _____

FOR EPD FOR COMMANDER WORK

DATE _____

AVE	EPD
DET	DESIGN
KSC	DRAWN
JMK	REVIEW
	QC
	DIRT/ AREA/ CHAIR
	PROJECT MANAGER
	FIRE PROTECTION
	BRANCH MANAGER
	DESIGN DIRECTOR

DEPARTMENT OF THE NAVY
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

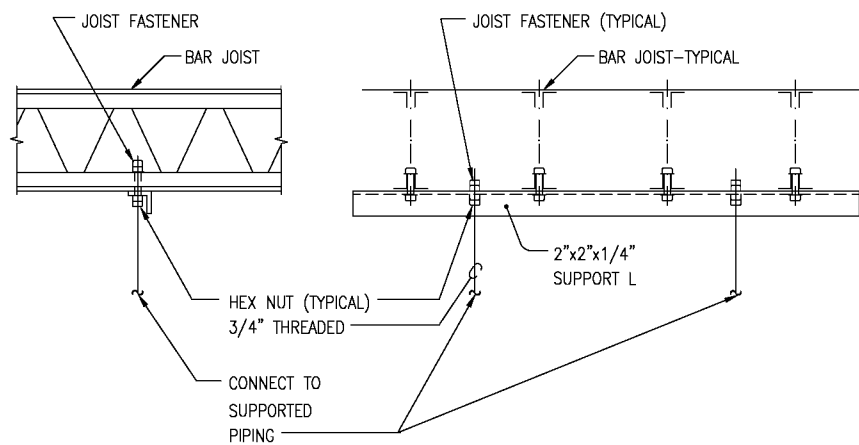
**REPAIR STEAM CATHODIC
PROTECTION SYSTEM**

DETAILS - SHEET 14

CODE E.I. NO.	80081	SIZE	D
SCALE	AS SHOWN		
PD. NO.	4-381979		
STD. PROJ. NO.	W04381979		
SPED. NO.			
COMENT. CONTR. NO.			
WORKING DRAWING NO.	12531884		
SHEET	27 OF 28		
CP-517			

THESE DETAIL SHEETS SHOW TYPICAL CONDITIONS AT BUILDINGS AND STEAM PITS. DUE TO SECURITY ISSUES, NOT EVERY LOCATION IS SHOWN IN THESE DETAIL SHEETS. FOLLOW ITEMS IN ISOLATION SCHEDULE.

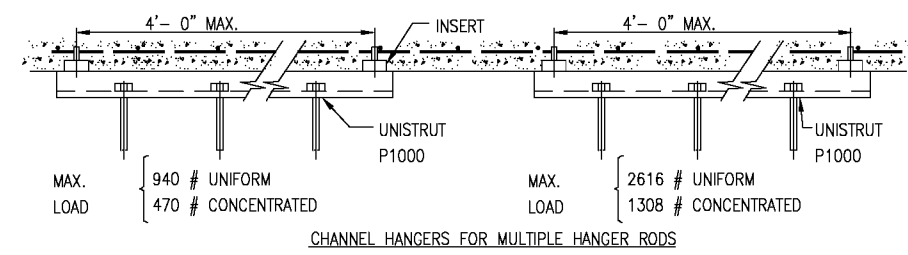
DATE/FORM REVISION MAY 2000



- NOTES:
1. DO NOT WELD TO OR DRILL JOIST.
 2. DOUBLE NUT EACH SIDE OF ROD ANGLE SUPPORT.
 3. SIZE JOIST FASTENERS TO FIT BETWEEN LEGS OF ANGLES.

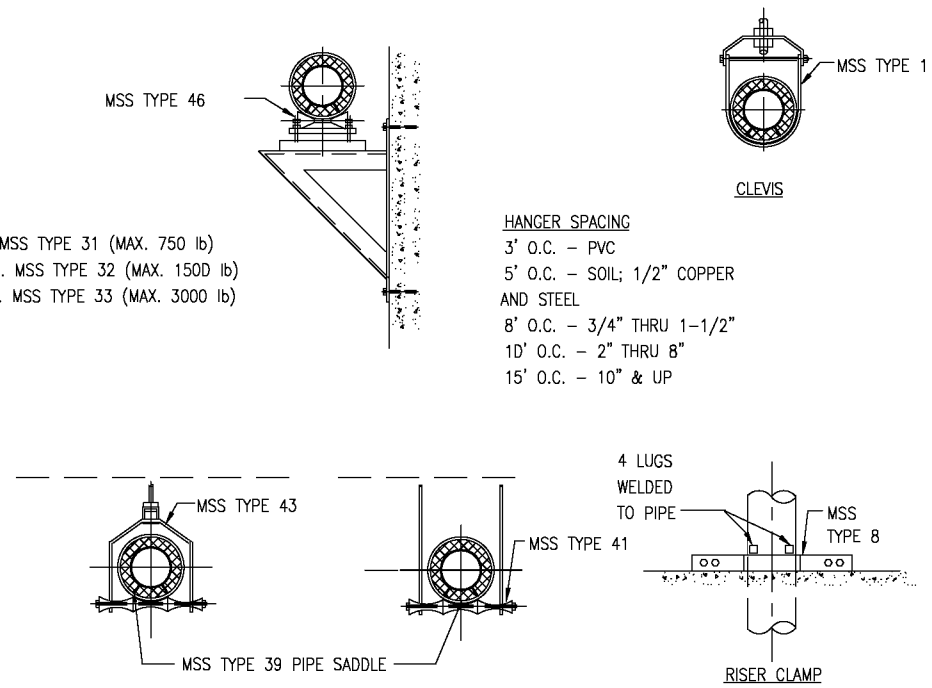
THREADED ROD TO JOIST MOUNTING DETAIL

SCALE: NONE



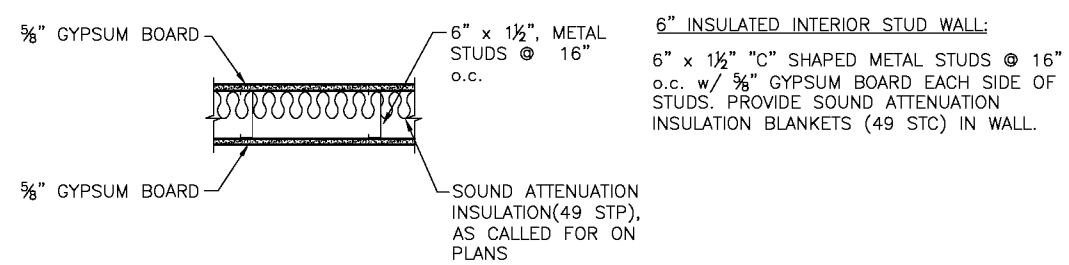
- LT. MSS TYPE 31 (MAX. 750 lb)
 MED. MSS TYPE 32 (MAX. 1500 lb)
 HYY. MSS TYPE 33 (MAX. 3000 lb)

- HANGER SPACING
 3' O.C. - PVC
 5' O.C. - SOIL; 1/2" COPPER
 AND STEEL
 8' O.C. - 3/4" THRU 1-1/2"
 10' O.C. - 2" THRU 8"
 15' O.C. - 10" & UP



PIPE HANGER DETAILS

SCALE: NONE



REPLACE INTERIOR WALL - BLDG 137

SCALE: NONE

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DESCRIPTION	
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JM	DESIGN
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JM	REVIEW
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	DET
	PROJECT MANAGER
	FIRE PROTECTION
	BRANCH MANAGER
	DESIGN DIRECTOR

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.
**REPAIR STEAM CATHODIC
 PROTECTION SYSTEM**
 DETAILS - SHEET 15

CODE ID. NO. 80091	SIZE O
SCALE: AS SHOWN	
FED. NO. 4381979	
STA. PROJ. NO. WR4381979	
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12531885	
SHEET 28 OF 28	
CP-518	

DRAWFORM REVISION MAY 2000