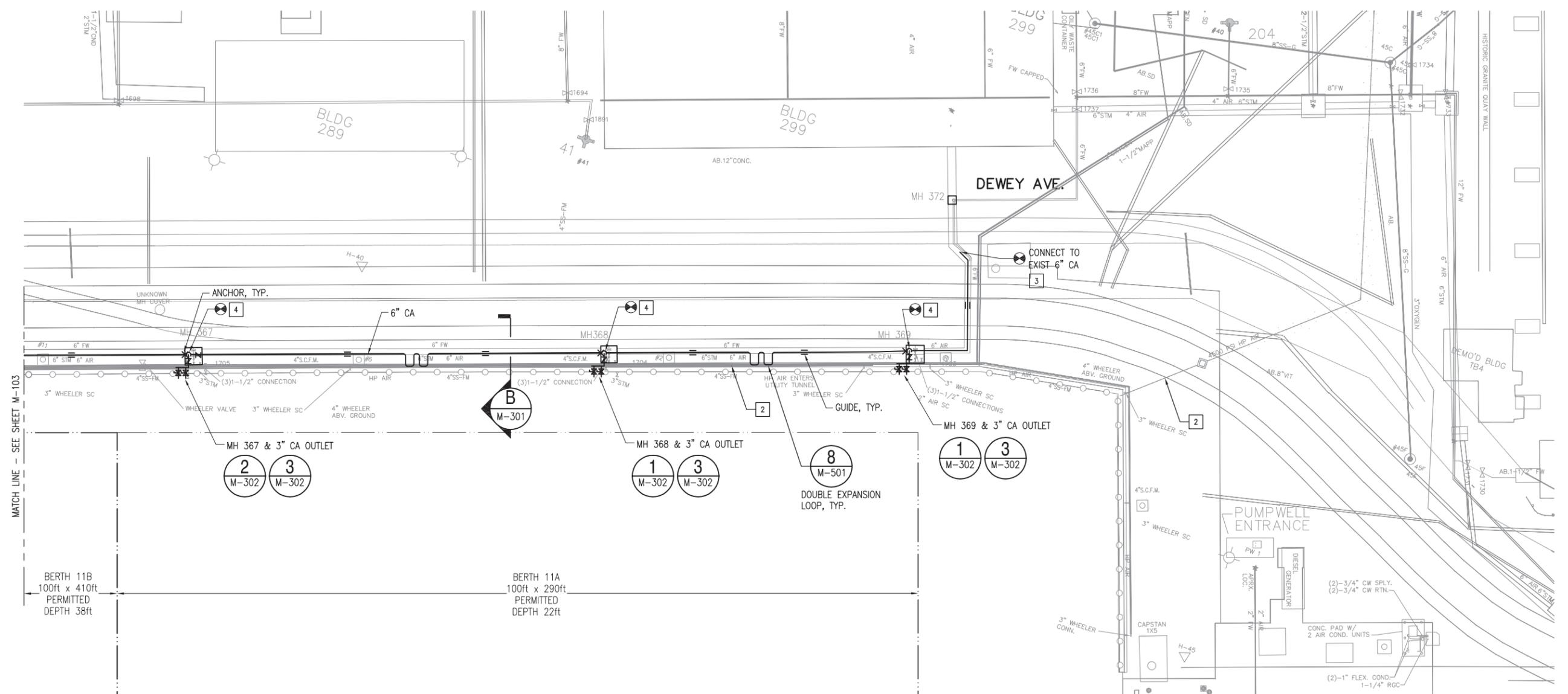


FILE NAME: U:\BA-2166A\CADD\Mechanical\BP-2166-M-101-03.dwg LAYOUT NAME: M-103 PLOTTED: Tuesday, June 25, 2013 - 10:46am USER: Fiber_H



NEW WORK NOTES:

- 1 THE MANHOLES ARE ADJACENT TO ACTIVE CRANE RAILS. CONTRACTOR SHALL EXERCISE CAUTION WHEN PERFORMING WORK. NO MATERIAL SHALL BE PLACED OR STORED AT THE CRANE CLEARANCE ZONES.
- 2 THERE IS A 4500 PSI HIGH PRESSURE AIR PIPE IN AREA. CONTRACTOR SHALL EXERCISE EXTREME CAUTION.
- 3 CONNECT TO EXISTING COMPRESSED AIR AT THE RIP-RAP.
- 4 PROVIDE NEW COMPRESSED AIR OUTLET ABOVE GROUND. SEE DETAILS ON DRAWING M-302.

COMPRESSED AIR PLAN - BERTH 11 EAST
SCALE: 1" = 20'



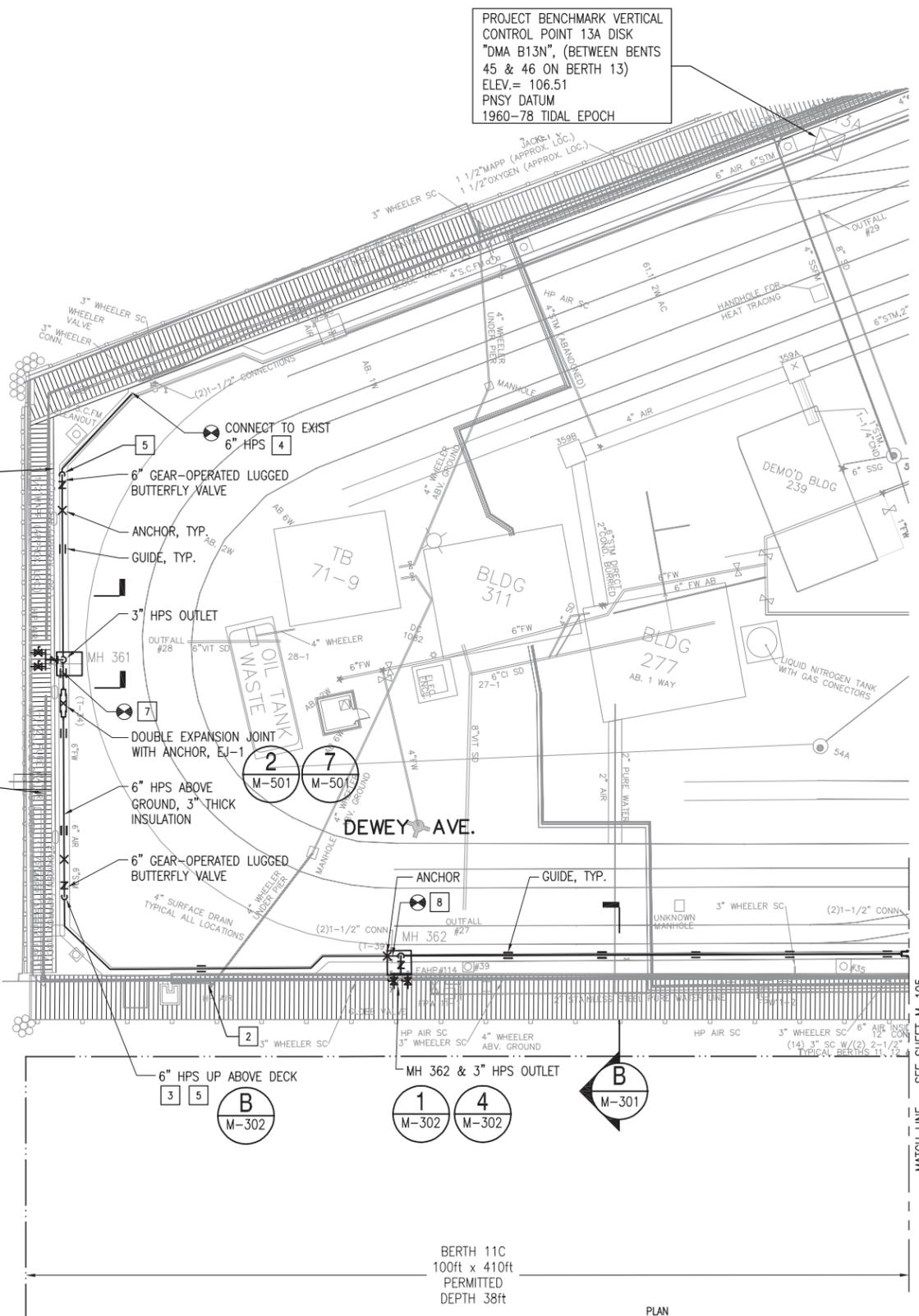
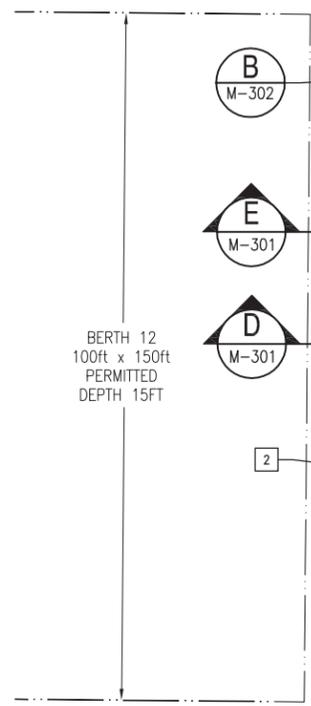
KEY PLAN

GRAPHIC SCALE

SCALE: 1"=20'

	DATE APPR
	SYN DESCRIPTION
<p>ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803</p>	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES YK	DRW YK
PWO-ME CM/POC	CHK MWT
BRANCH MANAGER MIKE McCANN	
CHIEF ENGR/ARCH	
FIRE PROTECTION	
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE NAVAL SHIPYARD - PORTSMOUTH, MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 COMPRESSED AIR PLAN - BERTH 11 EAST	
MAXIMO No.: 5918670	
EPROJCT NO.: 1171704	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12650037	
SHEET 37 OF 57	
M-103	FP2-13-623
DRAWING REVISION: 10 MARCH 2009	

PROJECT BENCHMARK VERTICAL CONTROL POINT 13A DISK
 "DMA B13N", (BETWEEN BENTS 45 & 46 ON BERTH 13)
 ELEV.= 106.51
 PNSY DATUM
 1960-78 TIDAL EPOCH



NEW WORK NOTES:

- 1 THE MANHOLES ARE ADJACENT TO ACTIVE CRANE RAILS. CONTRACTOR SHALL EXERCISE CAUTION WHEN PERFORMING WORK. NO MATERIAL SHALL BE PLACED OR STORED AT THE CRANE CLEARANCE ZONES.
- 2 THERE IS A 4500 PSI HIGH PRESSURE AIR PIPE IN AREA. CONTRACTOR SHALL EXERCISE EXTREME CAUTION.
- 3 PROVIDE 4 FEET MINIMUM CLEARANCE BETWEEN STEAM PIPE AND EXISTING ELECTRIC SHIP CONNECTION BOX.
- 4 CONNECT TO EXISTING HIGH PRESSURE STEAM AT THE BERTH 13.
- 5 PROVIDE PIPE PENETRATION THROUGH DECK. PIPE INSULATION AND JACKETING SHALL BE CONTINUOUS THROUGH THE PENETRATION. SEE DETAIL B ON DRAWING M-302.
- 7 PROVIDE NEW HIGH PRESSURE STEAM OUTLET ABOVE GROUND. SEE DETAIL D ON DRAWING M-301.
- 8 PROVIDE NEW HIGH PRESSURE STEAM OUTLET ABOVE GROUND. SEE DETAILS ON DRAWING M-302.

HIGH PRESSURE STEAM PLAN - BERTH 12
 SCALE: 1" = 20'



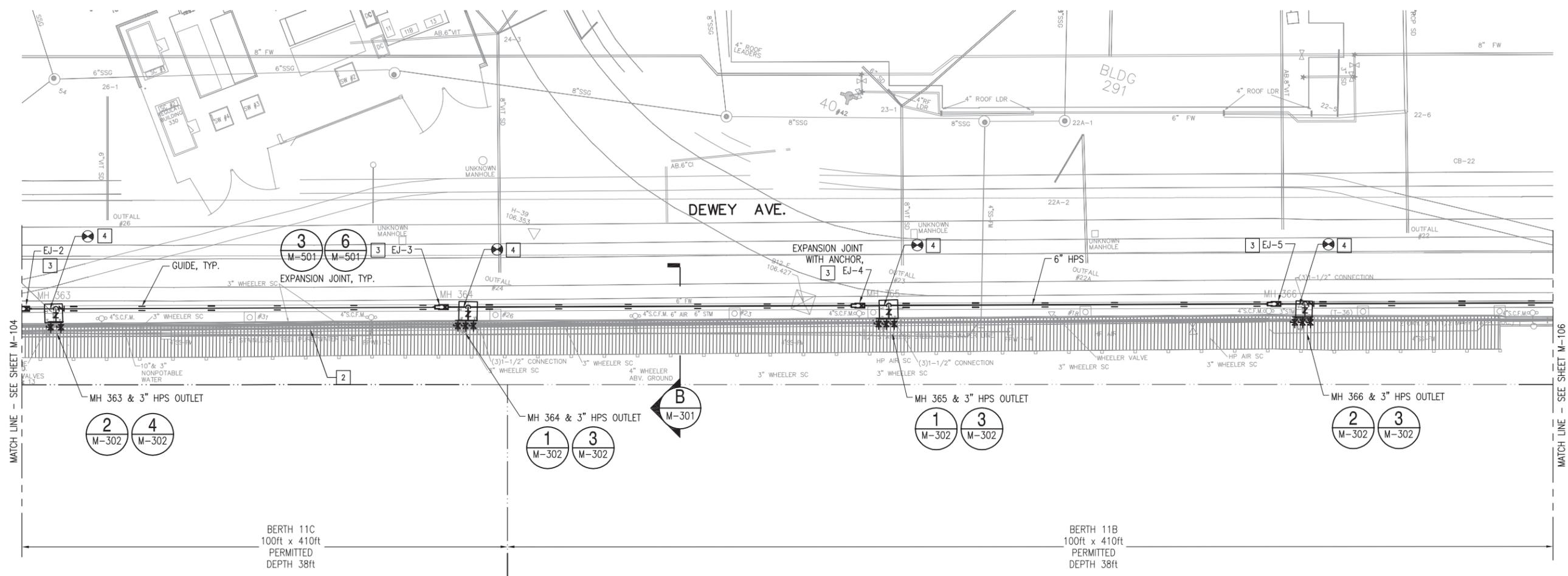
KEY PLAN

GRAPHIC SCALE

SCALE: 1"=20'

APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES YK	DRW YK	CHK MWT
PRD-ME CM/POC	MIKE McCANN	
BRANCH MANAGER		
CHIEF ENG/ARCH		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	NAVAL SHIPYARD - PORTSMOUTH, MAINE
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC	NAVAL SHIPYARD - PORTSMOUTH, MAINE	KITTERY, MAINE
REPLACE UTILITIES BERTHS 11 AND 12		
HIGH PRESSURE STEAM PLAN - BERTH 12		
MAXIMO No.:	5918670	
EPROJCT NO.:	1171704	
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12650038	
SHEET	38	OF 57
M-104	FP2-13-624	
DRAWFORM REVISION: 10 MARCH 2009		

FILE NAME: U:\BD-2168\A\CADD\Mechanical\BD-2168-M-105.dwg LAYOUT NAME: M-105 PLOTTED: Tuesday, June 25, 2013 - 10:46am USER: Fiber_H



HIGH PRESSURE STEAM PLAN - BERTH 11 WEST
SCALE: 1" = 20'



NEW WORK NOTES:

- 1 THE MANHOLES ARE ADJACENT TO ACTIVE CRANE RAILS. CONTRACTOR SHALL EXERCISE CAUTION WHEN PERFORMING WORK. NO MATERIAL SHALL BE PLACED OR STORED AT THE CRANE CLEARANCE ZONES.
- 2 THERE IS A 4500 PSI HIGH PRESSURE AIR PIPE IN AREA. CONTRACTOR SHALL EXERCISE EXTREME CAUTION.
- 3 EXPANSION JOINTS SHALL BE ACCESSIBLE AND LOCATED AT EXISTING LATERAL WALKWAYS.
- 4 PROVIDE NEW HIGH PRESSURE STEAM OUTLET ABOVE GROUND. SEE DETAILS ON DRAWING M-302.

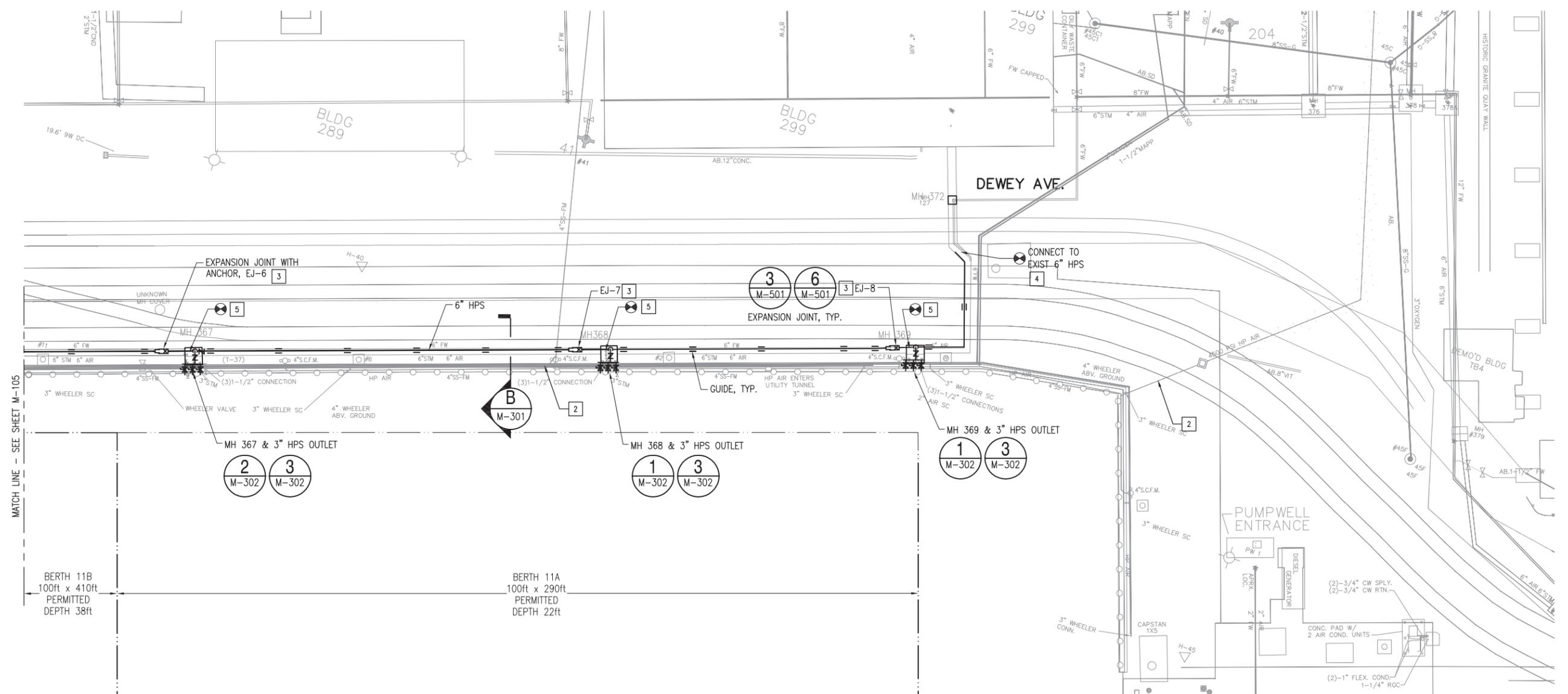
KEY PLAN

GRAPHIC SCALE

SCALE: 1"=20'

	APPR
	DATE
	DESCRIPTION
	SYN
ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803 A/E INPE	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES	YK
DRW	YK
CHK	MTW
PWD-ME	EM/POC
BRANCH MANAGER MIKE McCANN	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE NAVAL SHIPYARD - PORTSMOUTH, MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 HIGH PRESSURE STEAM PLAN - BERTH 11 WEST	
MAXIMO No.:	5918670
EPROJCT NO.:	1171704
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12650039
SHEET	39 OF 57
M-105	FP2-13-625
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: U:\BA-2166A\CADD\Mechanical\BP-2166-M-104-06.dwg LAYOUT NAME: M-106 PLOTTED: Tuesday, June 25, 2013 - 10:46am USER: Fiber_H

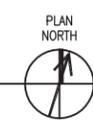


NEW WORK NOTES:

- 1 THE MANHOLES ARE ADJACENT TO ACTIVE CRANE RAILS. CONTRACTOR SHALL EXERCISE CAUTION WHEN PERFORMING WORK. NO MATERIAL SHALL BE PLACED OR STORED AT THE CRANE CLEARANCE ZONES.
- 2 THERE IS A 4500 PSI HIGH PRESSURE AIR PIPE IN AREA. CONTRACTOR SHALL EXERCISE EXTREME CAUTION.
- 3 EXPANSION JOINTS SHALL BE ACCESSIBLE AND LOCATED AT EXISTING LATERAL WALKWAYS.
- 4 CONNECT TO EXISTING HIGH PRESSURE STEAM AT THE RIP-RAP.
- 5 PROVIDE NEW HIGH PRESSURE STEAM OUTLET ABOVE GROUND. SEE DETAILS ON DRAWING M-302.

HIGH PRESSURE STEAM PLAN - BERTH 11 EAST

SCALE: 1" = 20'

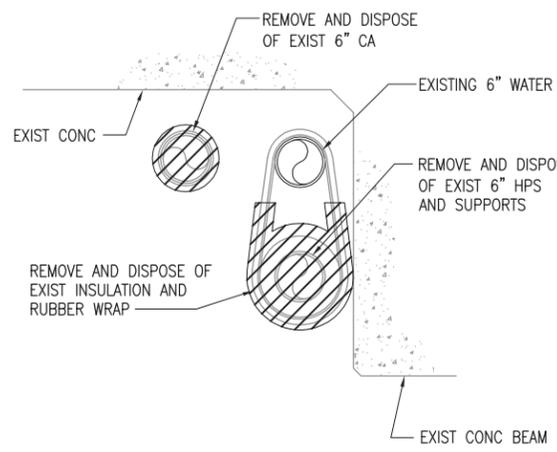


KEY PLAN

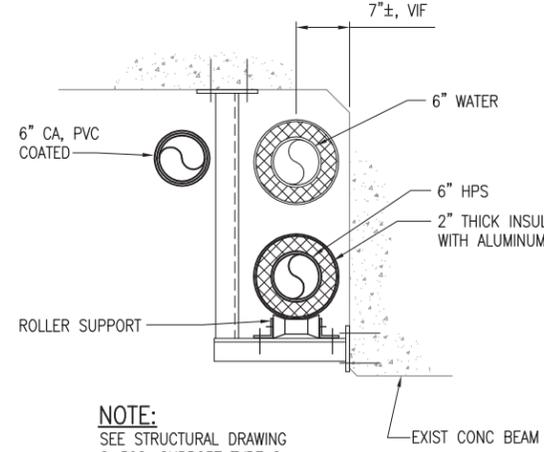
GRAPHIC SCALE

SCALE: 1"=20'

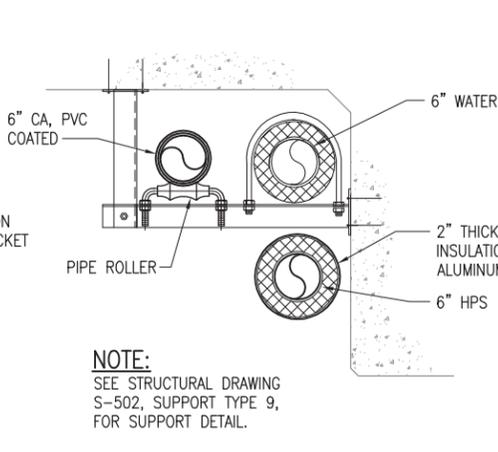
	DATE
	DESCRIPTION
	SYN
	APPR
<p>ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803</p>	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES YK	CHK MWT
PWD-ME EM/POC	MIKE McCANN
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE NAVAL SHIPYARD - PORTSMOUTH, MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 HIGH PRESSURE STEAM PLAN - BERTH 11 EAST	
MAXIMO No.: 5918670 EPROJECT NO.: 1171704 CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12650040 SHEET 40 OF 57 M-106 FP2-13-626	
<small>DRAWFORM REVISION: 10 MARCH 2009</small>	



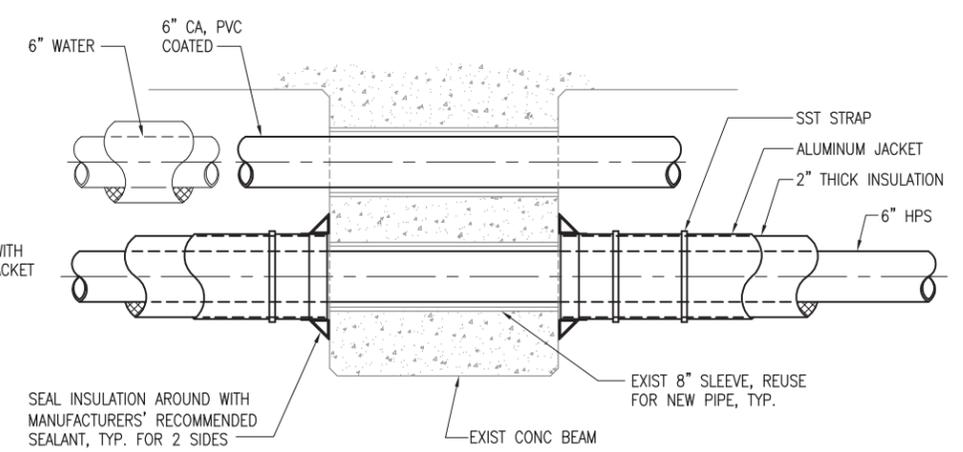
SECTION - PIPING UNDER DECK - DEMOLITION
SCALE: 1" = 1'-0"
TYPICAL (A)



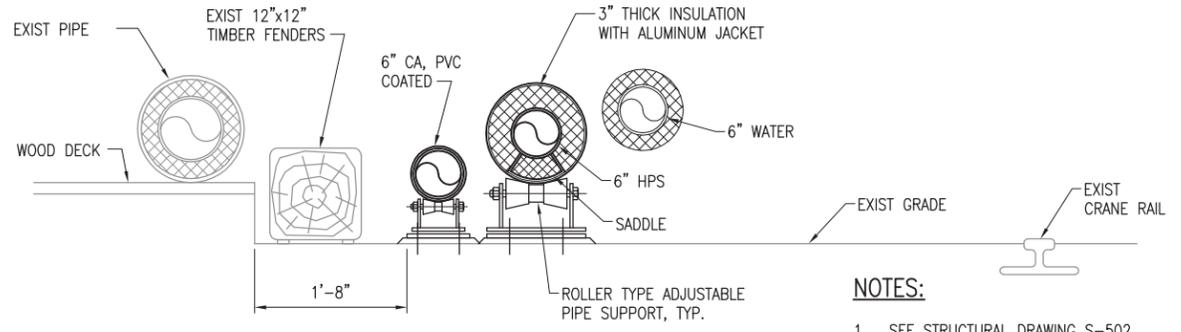
SECTION - PIPING UNDER DECK
SCALE: 1" = 1'-0"
TYPICAL (B)



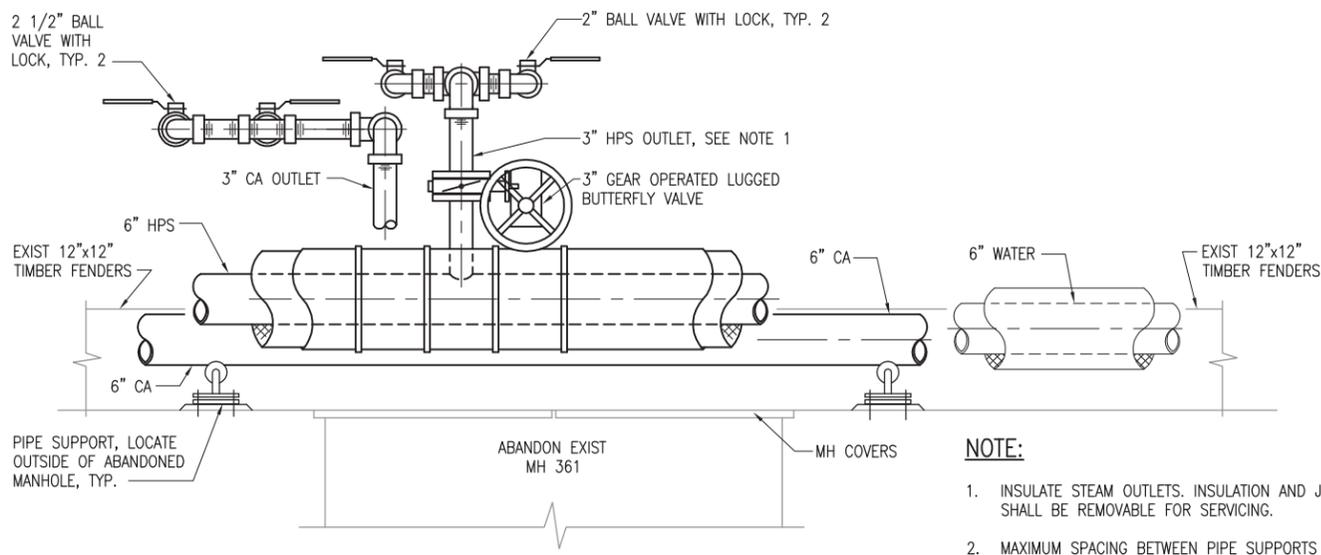
SECTION - PIPING UNDER DECK
SCALE: 1" = 1'-0"
TYPICAL (G)



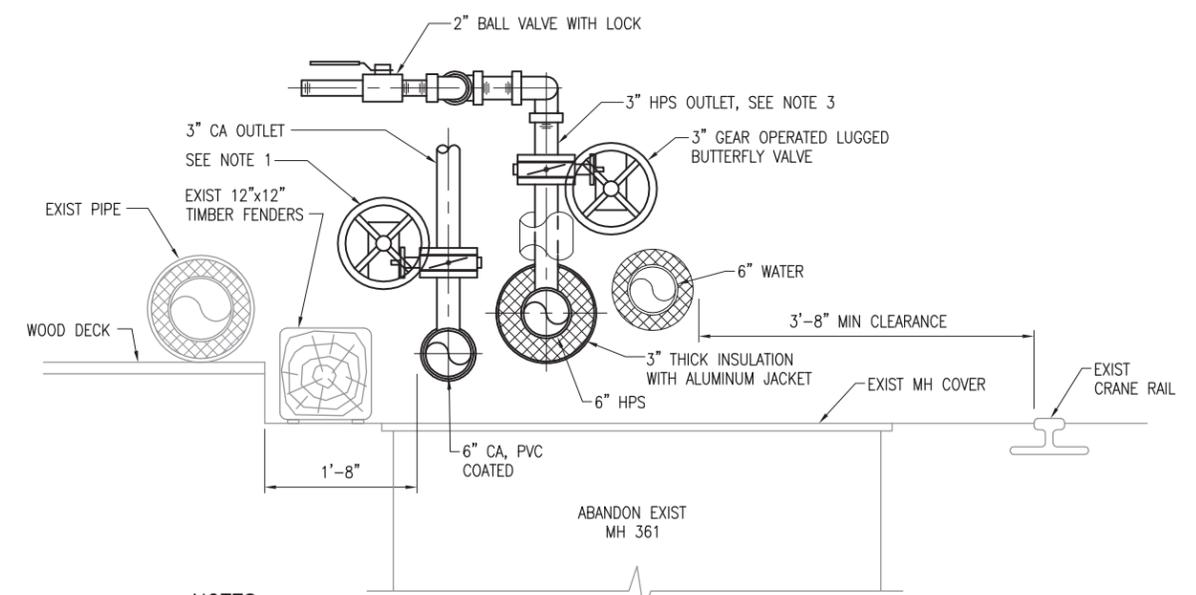
SECTION - PIPING THROUGH BEAM
SCALE: 1" = 1'-0"
TYPICAL (C)



SECTION - UTILITIES ON BERTH 12
SCALE: 1" = 1'-0"
M-101, M-104 (E)



SECTION - UTILITIES AT EXISTING MANHOLE MN 361
SCALE: 1" = 1'-0"
M-101, M-104 (F)



SECTION - UTILITIES AT EXISTING MANHOLE MN 361
SCALE: 1" = 1'-0"
M-101, M-104 (D)

NOTE:
SEE STRUCTURAL DRAWING S-502, SUPPORT TYPE 9, FOR SUPPORT DETAIL.

NOTES:
1. SEE STRUCTURAL DRAWING S-502, SUPPORT TYPE 13, FOR SUPPORT DETAIL.

NOTES:
1. PROVIDE 3" GEAR OPERATED LUGGED BUTTERFLY VALVE WITH FREEZE PROTECTION.
2. REUSE EXISTING OUTLETS SUPPORT. MODIFY SUPPORT AS REQUIRED FOR NEW INSTALLATION (SUPPORT NOT SHOWN FOR PORPOISES OF CLARITY).
3. INSULATE STEAM OUTLETS. INSULATION AND JACKET SHALL BE REMOVABLE FOR SERVICING.

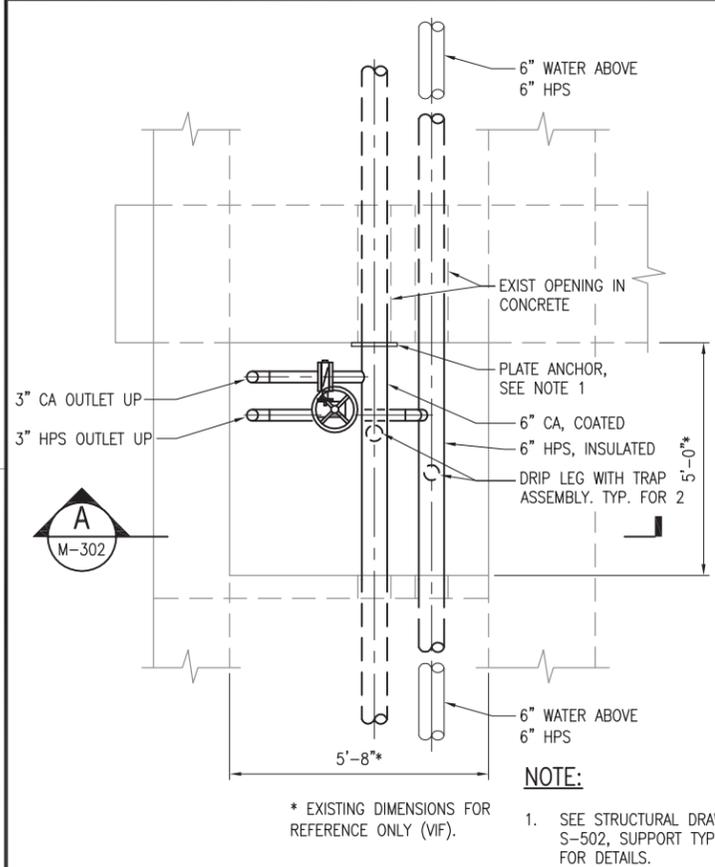
NOTE:
1. INSULATE STEAM OUTLETS. INSULATION AND JACKET SHALL BE REMOVABLE FOR SERVICING.
2. MAXIMUM SPACING BETWEEN PIPE SUPPORTS SHALL BE 12 FEET.

GRAPHIC SCALE

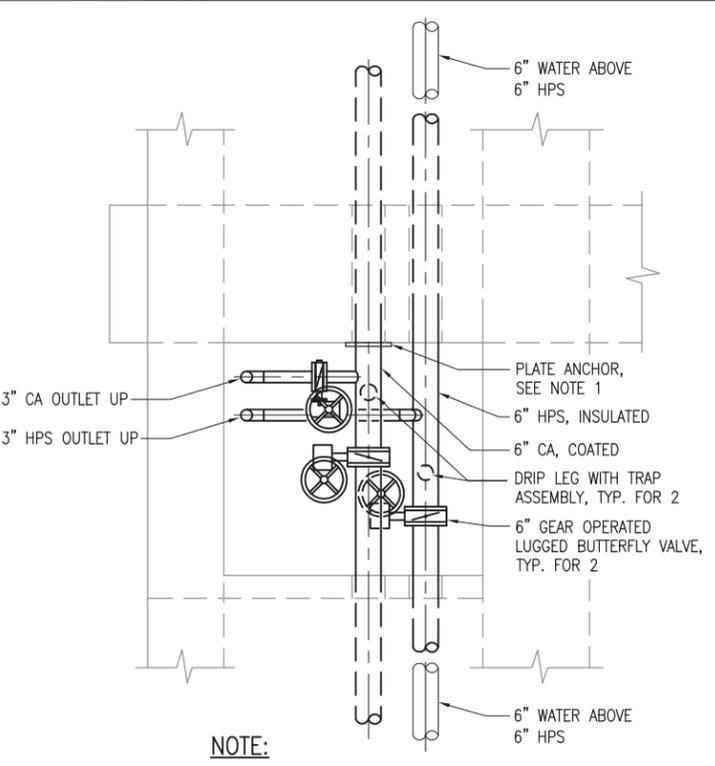


APPR	DATE
SYN	DESCRIPTION
ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803 A/E: INFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES YK	DRW YK
CHK MWT	
PWD-ME CM/POC	MIKE McCANN
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 SECTIONS - SHEET 1 OF 2	
MAXIMO No.:	5918670
EPROJCT NO.:	1171704
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12650041
SHEET 41	OF 57
M-301	FP2-13-627
DRAWFORM REVISION: 10 MARCH 2009	

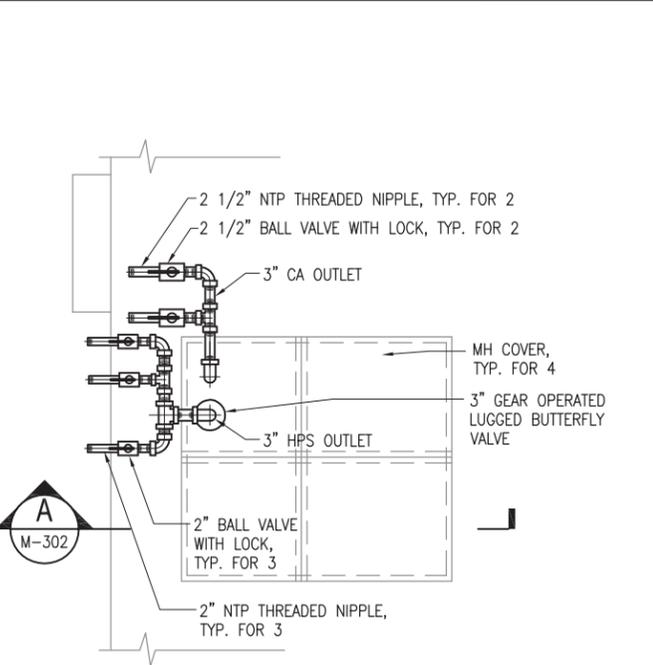
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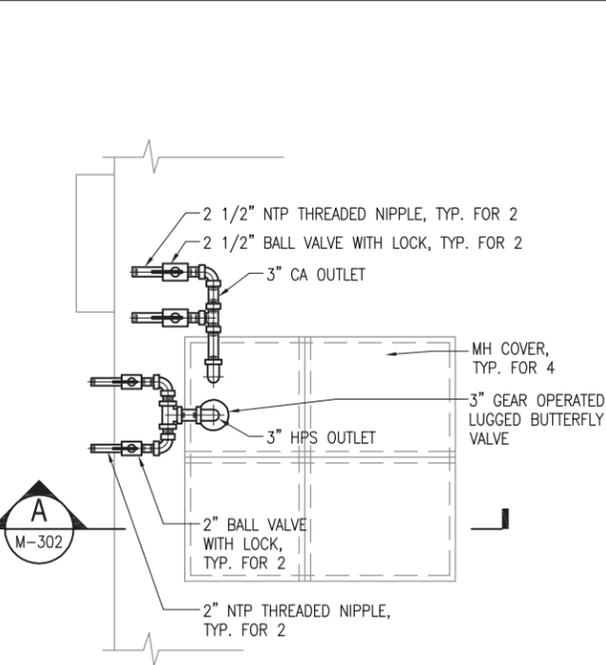
MANHOLES MH 362, 364, 365, 368 & 369 - PLAN VIEW
 SCALE: 1/2" = 1'-0" TYPICAL **1**



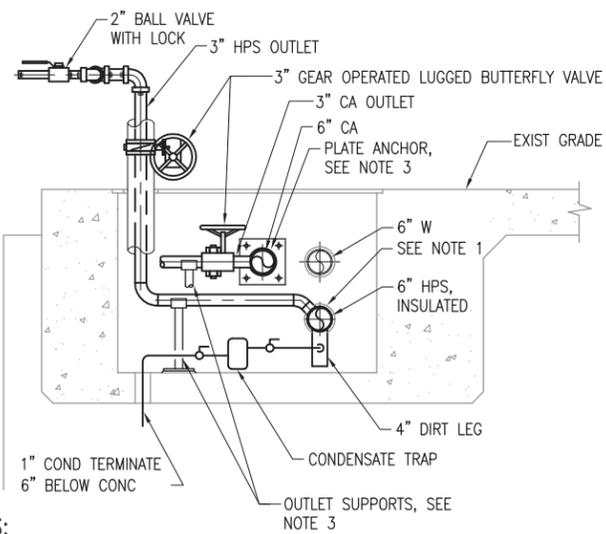
MANHOLES MH 363, 366 & 367 - PLAN VIEW
 SCALE: 1/2" = 1'-0" TYPICAL **2**



MANHOLES MH 364 THROUGH 369 - PLAN VIEW
 SCALE: 1/2" = 1'-0" TYPICAL **3**

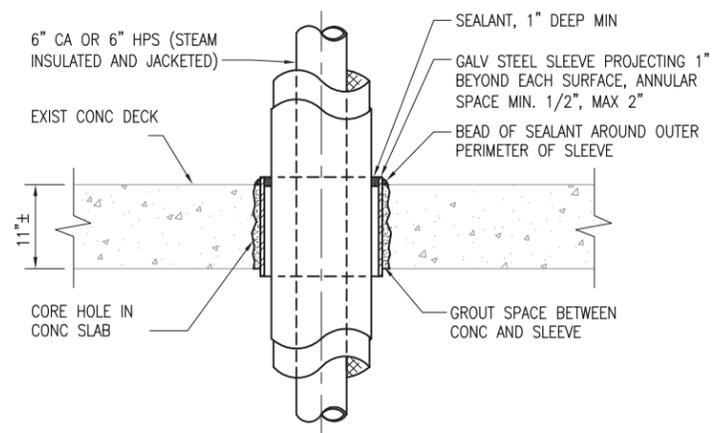


MANHOLES MH 362 & 363 - PLAN VIEW
 SCALE: 1/2" = 1'-0" TYPICAL **4**

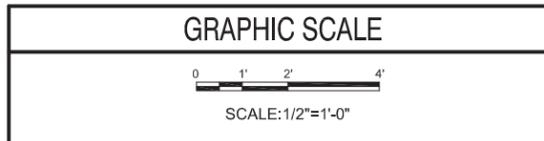


- NOTES:**
1. REUSE EXISTING OPENINGS THROUGH MANHOLE WALLS.
 2. PROVIDE NEW STEAM AND COMPRESSED AIR OUTLETS, REUSE EXISTING OUTLETS SUPPORT (SUPPORT IS NOT SHOWN).
 3. SEE STRUCTURAL DRAWING S-502, SUPPORT TYPES 14 & 15 FOR DETAILS.
 4. INSULATE STEAM OUTLETS. INSULATION AND JACKET SHALL BE REMOVABLE FOR SERVICING.

SECTION - TYPICAL MANHOLE
 SCALE: 1/2" = 1'-0" M-302 **A**

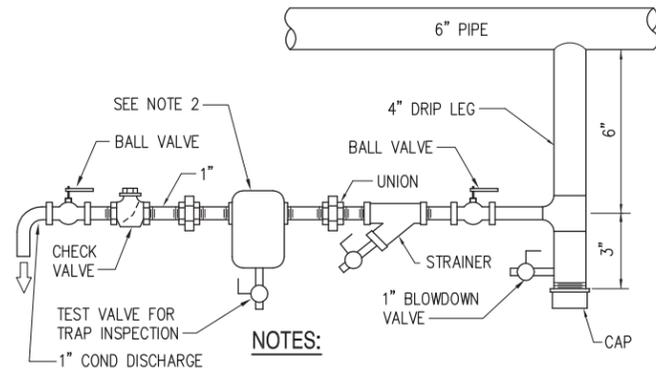


DETAIL - PIPE PENETRATION THROUGH DECK
 SCALE: NOT TO SCALE M-101, M-104 **B**



APPROVED	DATE
DESCRIPTION	DATE
SYN	DATE
ENGINEERS FST <small>Since 1914</small> FAY, SPOFFORD & THORNDIKE <small>3 BURLINGTON WOODS BURLINGTON, MA 01803</small>	
APPROVED	A/E: INFO
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES	YK
DRW	YK
CHK	MWT
PWD-ME	CM/POC
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 SECTIONS - SHEET 2 OF 2	
MAXIMO No.:	5918670
EPROJCT NO.:	1171704
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12650042
SHEET	42 OF 57
M-302	FP2-13-628
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: U:\BID-2166A\CADD\Mechanical\BID-2166A-M-302.dwg LAYOUT NAME: M-302 PLOTTED: Tuesday, June 25, 2013 - 10:47am USER: Fiber_H



NOTES:

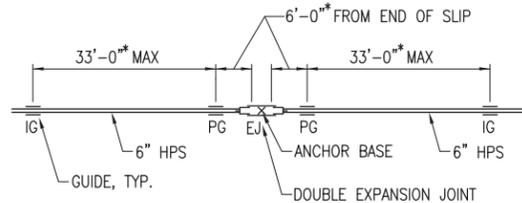
1. ALL PIPING AND FITTINGS SHALL BE SCHEDULE 80.
2. PROVIDE 3/4" INVERTED BUCKET TRAP FOR STEAM, AND 1/2" AUTOMATIC BALL FLOAT TRAP FOR COMPRESSED AIR.

DETAIL - TRAP ASSEMBLY IN MANHOLE

SCALE: NOT TO SCALE

TYPICAL

1



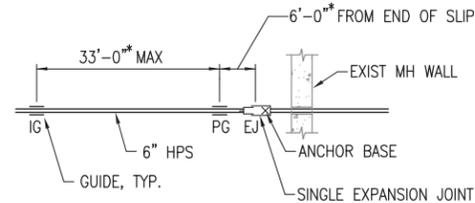
* DIMENSION VARIES, PROVIDE SPACING AS PER EXPANSION JOINT MANUFACTURERS' RECOMMENDATIONS.

DETAIL - GUIDES FOR DOUBLE EXPANSION JOINT

SCALE: NOT TO SCALE

M-104

2



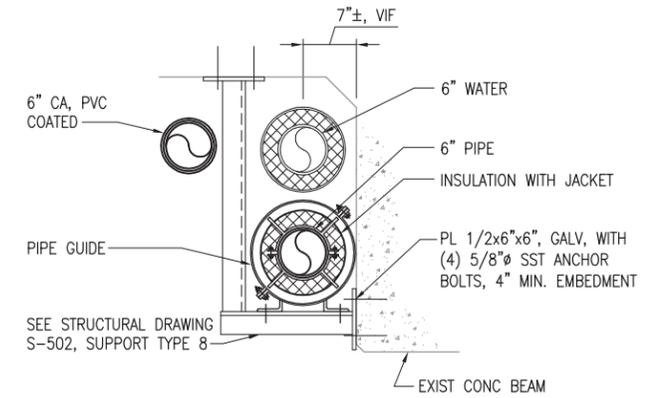
* DIMENSION VARIES, PROVIDE SPACING AS PER EXPANSION JOINT MANUFACTURERS' RECOMMENDATIONS.

DETAIL - GUIDES FOR SINGLE EXPANSION JOINT

SCALE: NOT TO SCALE

M-105, M-106

3



NOTE:

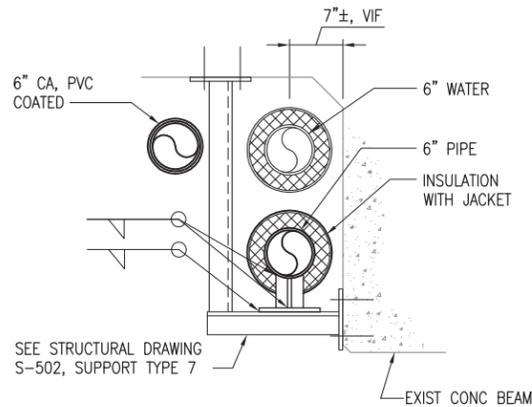
1. ALL SUPPORTS AND HARDWARE SHALL BE HOT DIP GALVANIZED, UNLESS OTHERWISE NOTED.

DETAIL - STEAM GUIDE UNDER DECK

SCALE: 1" = 1'-0"

TYPICAL

4



NOTE:

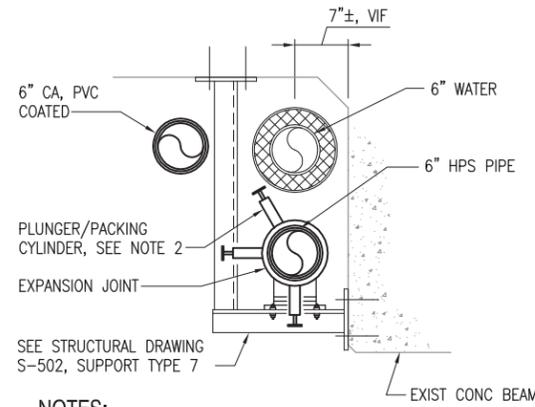
1. ALL SUPPORTS AND HARDWARE SHALL BE HOT DIP GALVANIZED, UNLESS OTHERWISE NOTED.

DETAIL - STEAM ANCHOR UNDER DECK

SCALE: 1" = 1'-0"

TYPICAL

5



NOTES:

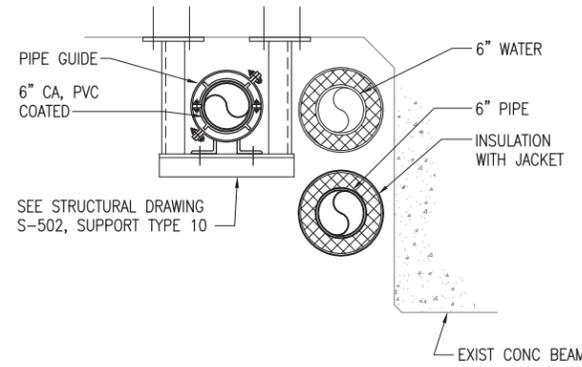
1. ALL SUPPORTS AND HARDWARE SHALL BE HOT DIP GALVANIZED, UNLESS OTHERWISE NOTED.
2. PROVIDE SPECIAL CYLINDER ORIENTATION AS SHOWN.
3. PROVIDE EXPANSION JOINT INSULATION AND JACKET REMOVABLE FOR SERVICING.

DETAIL - STEAM EXPANSION JOINT

SCALE: 1" = 1'-0"

M-105, M-106

6



NOTE:

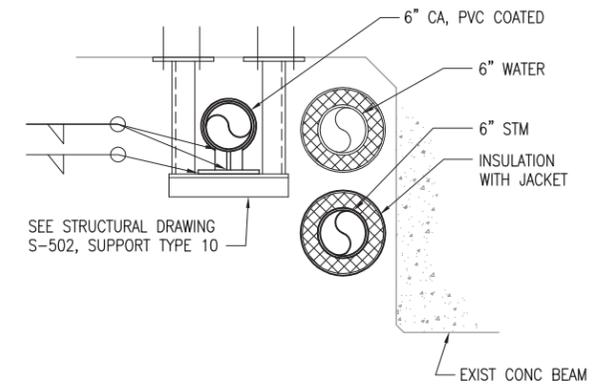
1. ALL SUPPORTS AND HARDWARE SHALL BE HOT DIP GALVANIZED, UNLESS OTHERWISE NOTED.

DETAIL - CA GUIDE UNDER DECK

SCALE: 1" = 1'-0"

TYPICAL

10



NOTE:

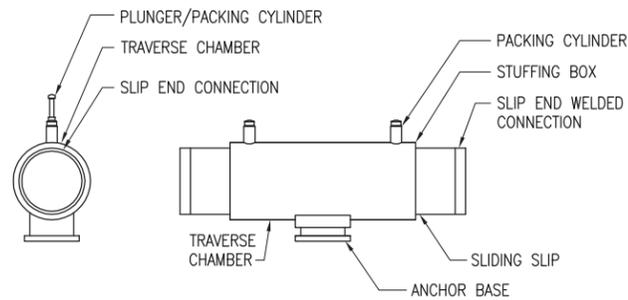
1. ALL SUPPORTS AND HARDWARE SHALL BE HOT DIP GALVANIZED, UNLESS OTHERWISE NOTED.

DETAIL - CA ANCHOR UNDER DECK

SCALE: 1" = 1'-0"

TYPICAL

11



END VIEW

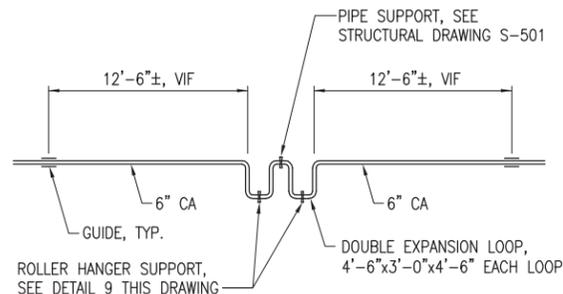
SIDE VIEW

DETAIL - DOUBLE EXPANSION JOINT

SCALE: NOT TO SCALE

M-104

7



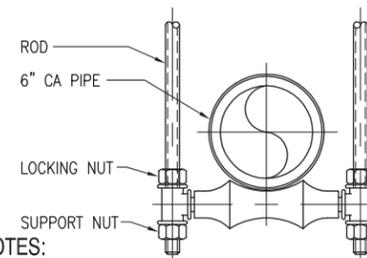
ROLLER HANGER SUPPORT, SEE DETAIL 9 THIS DRAWING

DETAIL - DOUBLE EXPANSION LOOP

SCALE: NOT TO SCALE

M-101, M-102, M-103

8



NOTES:

1. ALL SUPPORTS AND HARDWARE SHALL BE HOT DIP GALVANIZED, UNLESS OTHERWISE NOTED.
2. SEE STRUCTURAL DRAWING S-502, SUPPORT TYPE 11.

DETAIL - ROLLER HANGER SUPPORTS

SCALE: NOT TO SCALE

TYPICAL

9

NOTE:

1. FOR MECHANICAL LEGEND, ABBREVIATION AND NOTES. SEE DRAWING NO. M-001.

GRAPHIC SCALE

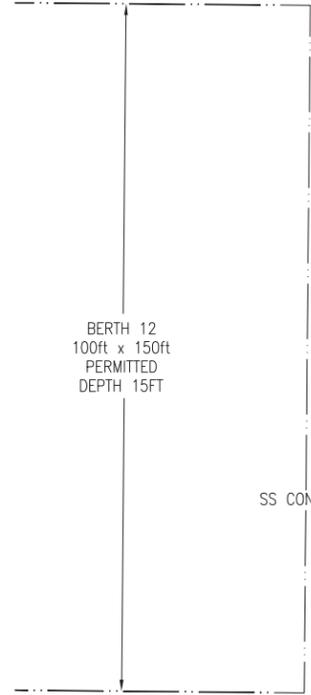
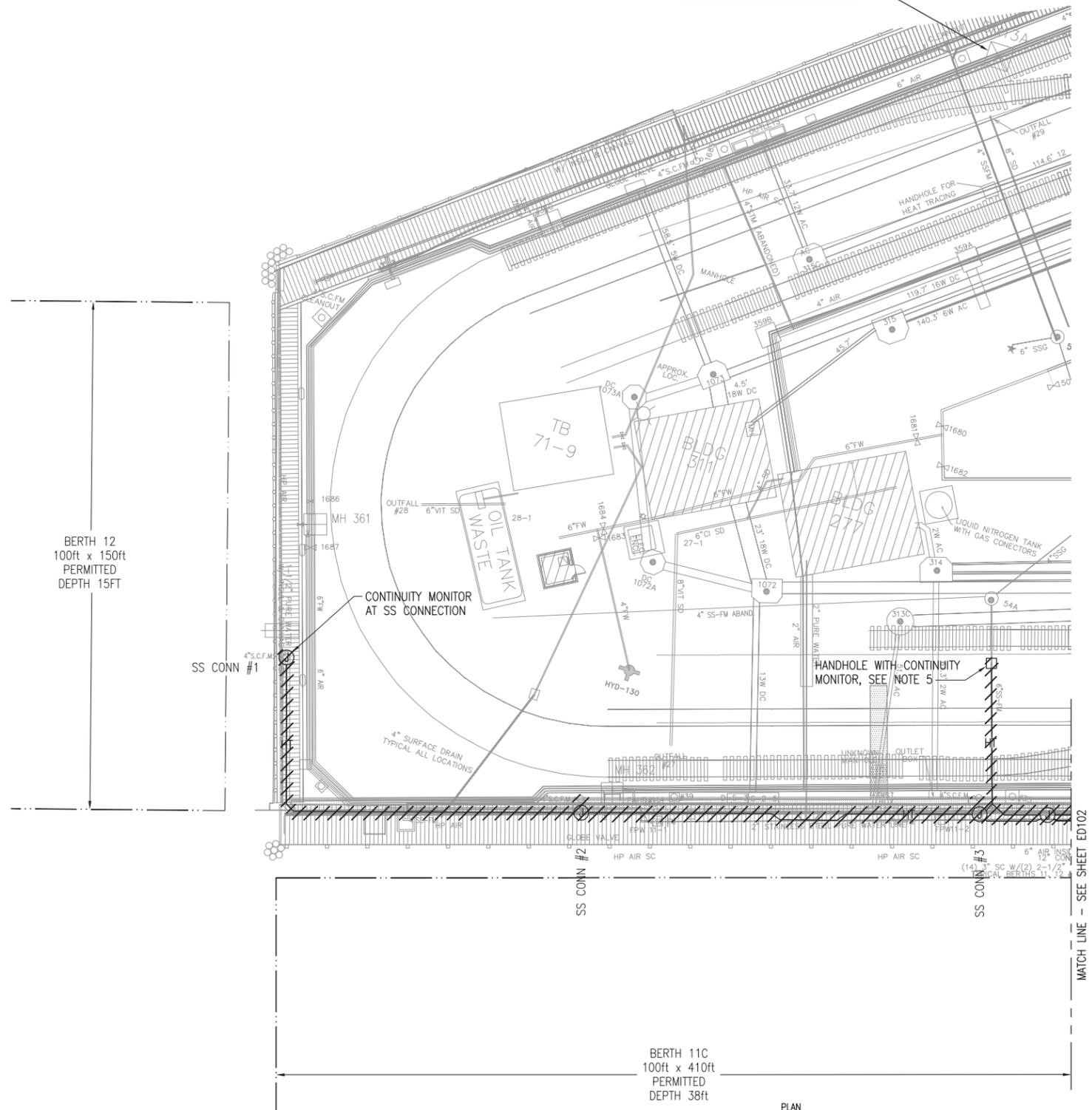


DATE	APPR
DESCRIPTION	SYN
ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803 A/E INFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES YK	DRW YK
CHK MWT	
PWD-ME EM/POC	MIKE McCANN
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE REPLACE UTILITIES BERTHS 11 AND 12 DETAILS	
MAXIMO No.:	5918670
EPROJECT NO.:	1171704
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12650043
SHEET	43 OF 57
M-501	FP2-13-629
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: U:\BID-2166A\CADD\Mechanical\BP-2166-M-501-02.dwg LAYOUT NAME: M-501 PLOTTED: Tuesday, June 25, 2013 - 10:48am USER: Ffifer_H

FILE NAME: U:\B0-2166A\CADD\Electrical\B0-2166-ED101-03.dwg LAYOUT NAME: ED101 PLOTTED: Tuesday, July 16, 2013 - 9:13am USER: Fiber.H

PROJECT BENCHMARK VERTICAL CONTROL POINT 13A DISK
 "DMA B13N", (BETWEEN BENTS 45 & 46 ON BERTH 13)
 ELEV.= 106.51
 PNSY DATUM
 1960-78 TIDAL EPOCH



ELECTRICAL DEMOLITION PLAN - BERTH 12
 SCALE: 1" = 20'



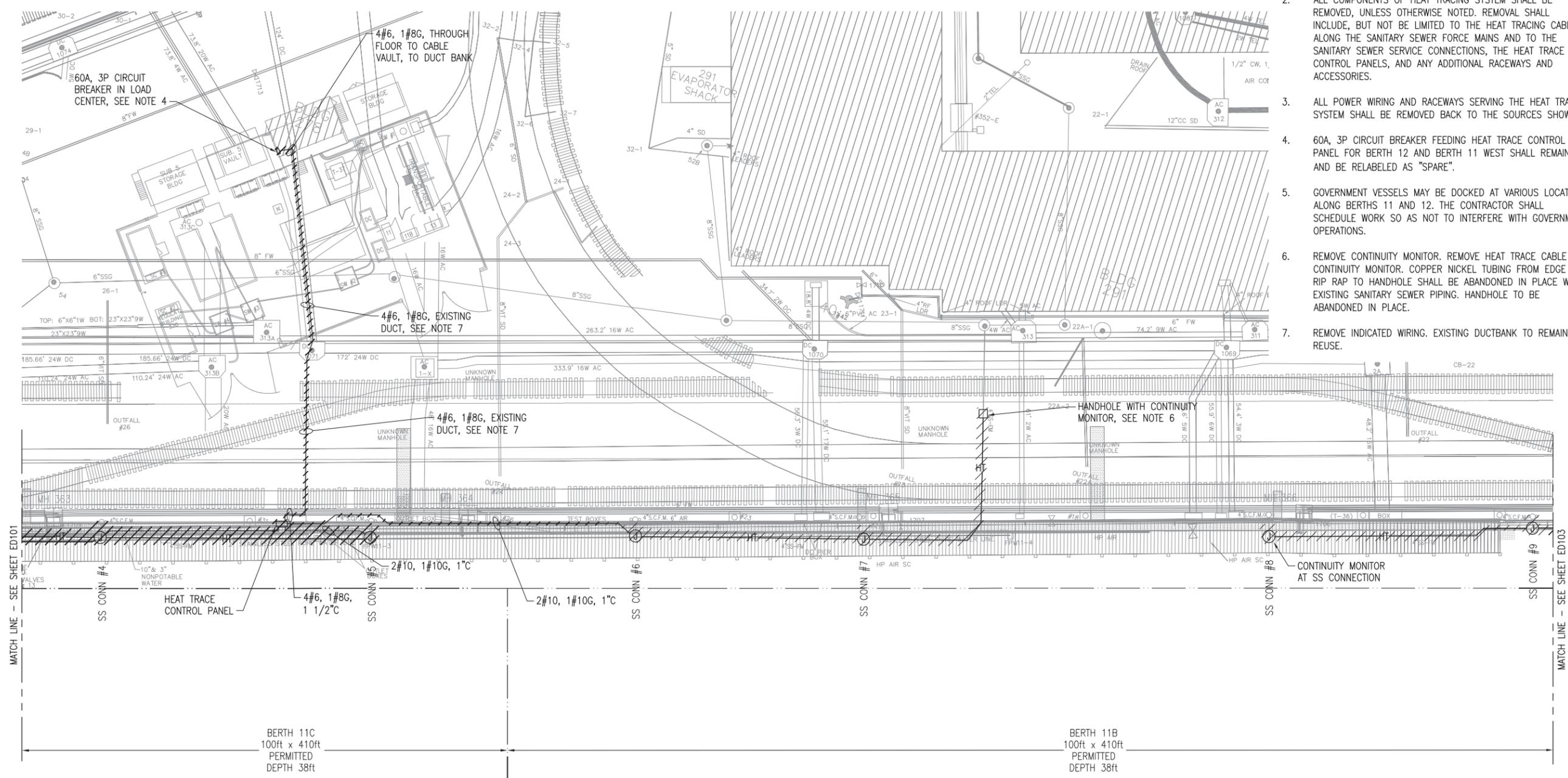
DEMOLITION NOTES:

- HEAT TRACING CABLE IN COPPER NICKEL TUBING SERVING SANITARY SEWER PIPING TO BE REMOVED WITH INSULATION, MEMBRANE AND JACKETING FROM EXISTING SANITARY SEWER PIPING. COORDINATE TO DISCONNECT HEAT TRACING CABLE FROM POWER PRIOR TO REMOVAL OF CABLE. FOR SANITARY SEWER DEMOLITION WORK, SEE SHEETS CD101, CD102 AND CD103.
- ALL COMPONENTS OF HEAT TRACING SYSTEM SHALL BE REMOVED, UNLESS OTHERWISE NOTED. REMOVAL SHALL INCLUDE, BUT NOT BE LIMITED TO THE HEAT TRACING CABLE ALONG THE SANITARY SEWER FORCE MAINS AND TO THE SANITARY SEWER SERVICE CONNECTIONS, THE HEAT TRACE CONTROL PANELS, AND ANY ADDITIONAL RACEWAYS AND ACCESSORIES.
- ALL POWER WIRING AND RACEWAYS SERVING THE HEAT TRACING SYSTEM SHALL BE REMOVED BACK TO THE SOURCES SHOWN.
- GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
- REMOVE CONTINUITY MONITOR. REMOVE HEAT TRACE CABLE TO CONTINUITY MONITOR. COPPER NICKEL TUBING FROM EDGE OF RIP RAP TO HANDHOLE SHALL BE ABANDONED IN PLACE WITH EXISTING SANITARY SEWER PIPING. HANDHOLE TO BE ABANDONED IN PLACE.

KEY PLAN	
12	11 WEST 11 EAST
GRAPHIC SCALE	
SCALE: 1"=20'	

<p>DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD REPLACE UTILITIES BERTHS 11 AND 12 ELECTRICAL DEMOLITION PLAN - BERTH 12</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;"> </td> <td style="width: 50%; text-align: center;"> </td> </tr> <tr> <td colspan="2" style="text-align: center;"> ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803 </td> </tr> <tr> <td colspan="2" style="text-align: center;"> APPROVED PER COMMANDER NAVFAC ACTIVITY SATISFACTORY TO DATE DES DPF DRW DPF CHK CWPC PWD-ME DM/POC MIKE McCANN BRANCH MANAGER CHIEF ENG/ARCH FIRE PROTECTION NAVAL FACILITIES ENGINEERING COMMAND NAVAL SHIPYARD - PORTSMOUTH, MAINE KITTERY, MAINE </td> </tr> <tr> <td colspan="2" style="text-align: center;"> MAXIMO No.: 5918670 EPROJCT NO.: 1171704 CONSTR. CONTR. NO. NAVFAC DRAWING NO. 12650045 SHEET 45 OF 57 ED101 FP2-13-631 DRAWFORM REVISION: 10 MARCH 2009 </td> </tr> </table>			ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803		APPROVED PER COMMANDER NAVFAC ACTIVITY SATISFACTORY TO DATE DES DPF DRW DPF CHK CWPC PWD-ME DM/POC MIKE McCANN BRANCH MANAGER CHIEF ENG/ARCH FIRE PROTECTION NAVAL FACILITIES ENGINEERING COMMAND NAVAL SHIPYARD - PORTSMOUTH, MAINE KITTERY, MAINE		MAXIMO No.: 5918670 EPROJCT NO.: 1171704 CONSTR. CONTR. NO. NAVFAC DRAWING NO. 12650045 SHEET 45 OF 57 ED101 FP2-13-631 DRAWFORM REVISION: 10 MARCH 2009	
ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803									
APPROVED PER COMMANDER NAVFAC ACTIVITY SATISFACTORY TO DATE DES DPF DRW DPF CHK CWPC PWD-ME DM/POC MIKE McCANN BRANCH MANAGER CHIEF ENG/ARCH FIRE PROTECTION NAVAL FACILITIES ENGINEERING COMMAND NAVAL SHIPYARD - PORTSMOUTH, MAINE KITTERY, MAINE									
MAXIMO No.: 5918670 EPROJCT NO.: 1171704 CONSTR. CONTR. NO. NAVFAC DRAWING NO. 12650045 SHEET 45 OF 57 ED101 FP2-13-631 DRAWFORM REVISION: 10 MARCH 2009									

FILE NAME: U:\B0-2166A\CADD\Electrical\B0-2166-ED101-03.dwg LAYOUT NAME: ED102 PLOTTED: Tuesday, July 16, 2013 - 9:13am USER: Ffiver_H



DEMOLITION NOTES:

1. HEAT TRACING CABLE IN COPPER NICKEL TUBING SERVING SANITARY SEWER PIPING TO BE REMOVED WITH INSULATION, MEMBRANE AND JACKETING FROM EXISTING SANITARY SEWER PIPING. COORDINATE TO DISCONNECT HEAT TRACING CABLE FROM POWER PRIOR TO REMOVAL OF CABLE. FOR SANITARY SEWER DEMOLITION WORK, SEE SHEETS CD101, CD102 AND CD103.
2. ALL COMPONENTS OF HEAT TRACING SYSTEM SHALL BE REMOVED, UNLESS OTHERWISE NOTED. REMOVAL SHALL INCLUDE, BUT NOT BE LIMITED TO THE HEAT TRACING CABLE ALONG THE SANITARY SEWER FORCE MAINS AND TO THE SANITARY SEWER SERVICE CONNECTIONS, THE HEAT TRACE CONTROL PANELS, AND ANY ADDITIONAL RACEWAYS AND ACCESSORIES.
3. ALL POWER WIRING AND RACEWAYS SERVING THE HEAT TRACING SYSTEM SHALL BE REMOVED BACK TO THE SOURCES SHOWN.
4. 60A, 3P CIRCUIT BREAKER FEEDING HEAT TRACE CONTROL PANEL FOR BERTH 12 AND BERTH 11 WEST SHALL REMAIN AND BE RELABELLED AS "SPARE".
5. GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
6. REMOVE CONTINUITY MONITOR. REMOVE HEAT TRACE CABLE TO CONTINUITY MONITOR. COPPER NICKEL TUBING FROM EDGE OF RIP RAP TO HANDHOLE SHALL BE ABANDONED IN PLACE WITH EXISTING SANITARY SEWER PIPING. HANDHOLE TO BE ABANDONED IN PLACE.
7. REMOVE INDICATED WIRING. EXISTING DUCTBANK TO REMAIN FOR REUSE.

ELECTRICAL DEMOLITION PLAN - BERTH 11 WEST
SCALE: 1" = 20'



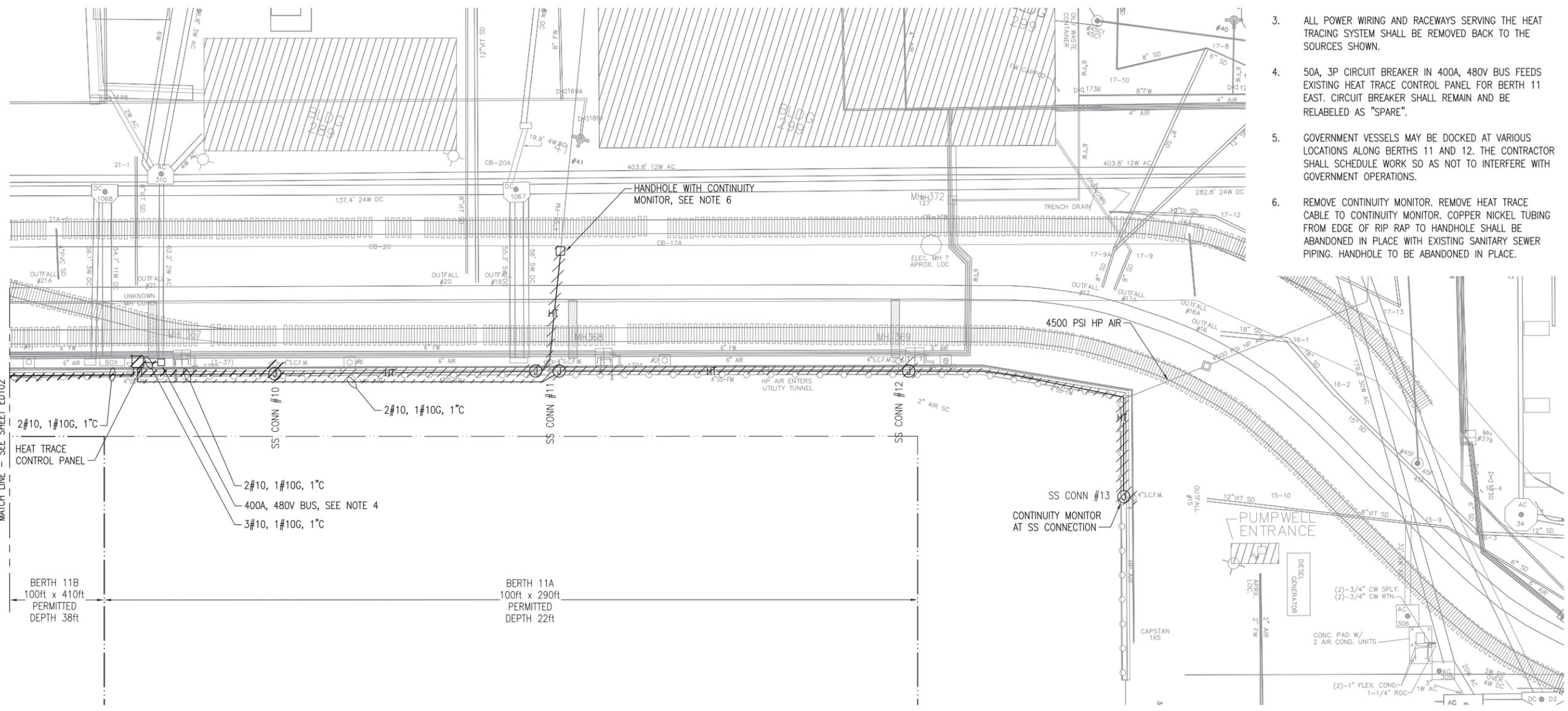
KEY PLAN

GRAPHIC SCALE

SCALE: 1"=20'

	DATE
	APPR
	DESCRIPTION
	SYN
<p>ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803</p>	
A/E INFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES DPF	DRW DPF
CHK CWPC	
PWD-ME/DA/POC MIKE McCANN	
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 ELECTRICAL DEMOLITION PLAN - BERTH 11 WEST	
MAXIMO No.: 5918670	
EPROJCT NO.: 1171704	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12650046	
SHEET 46 OF 57	
ED102	FP2-13-632
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: U:\B0-216A\CADD\Electrical\B0-216A-ED101-03.dwg LAYOUT NAME: ED103 PLOTTED: Tuesday, July 16, 2013 - 9:13am USER: Fiber_H



DEMOLITION NOTES:

1. HEAT TRACING CABLE IN COPPER NICKEL TUBING SERVING SANITARY SEWER PIPING TO BE REMOVED WITH INSULATION, MEMBRANE AND JACKETING FROM EXISTING SANITARY SEWER PIPING. COORDINATE TO DISCONNECT HEAT TRACING CABLE FROM POWER PRIOR TO REMOVAL OF CABLE. FOR SANITARY SEWER DEMOLITION WORK, SEE SHEETS CD101, CD102 AND CD103.
2. ALL COMPONENTS OF HEAT TRACING SYSTEM SHALL BE REMOVED, UNLESS OTHERWISE NOTED. REMOVAL SHALL INCLUDE, BUT NOT BE LIMITED TO THE HEAT TRACING CABLE ALONG THE SANITARY SEWER FORCE MAINS AND TO THE SANITARY SEWER SERVICE CONNECTIONS, THE HEAT TRACE CONTROL PANELS, AND ANY ADDITIONAL RACEWAYS AND ACCESSORIES.
3. ALL POWER WIRING AND RACEWAYS SERVING THE HEAT TRACING SYSTEM SHALL BE REMOVED BACK TO THE SOURCES SHOWN.
4. 50A, 3P CIRCUIT BREAKER IN 400A, 480V BUS FEEDS EXISTING HEAT TRACE CONTROL PANEL FOR BERTH 11 EAST. CIRCUIT BREAKER SHALL REMAIN AND BE RELABELED AS "SPARE".
5. GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
6. REMOVE CONTINUITY MONITOR. REMOVE HEAT TRACE CABLE TO CONTINUITY MONITOR. COPPER NICKEL TUBING FROM EDGE OF RIP RAP TO HANDHOLE SHALL BE ABANDONED IN PLACE WITH EXISTING SANITARY SEWER PIPING. HANDHOLE TO BE ABANDONED IN PLACE.

ELECTRICAL DEMOLITION PLAN - BERTH 11 EAST
SCALE: 1" = 20'



KEY PLAN

GRAPHIC SCALE

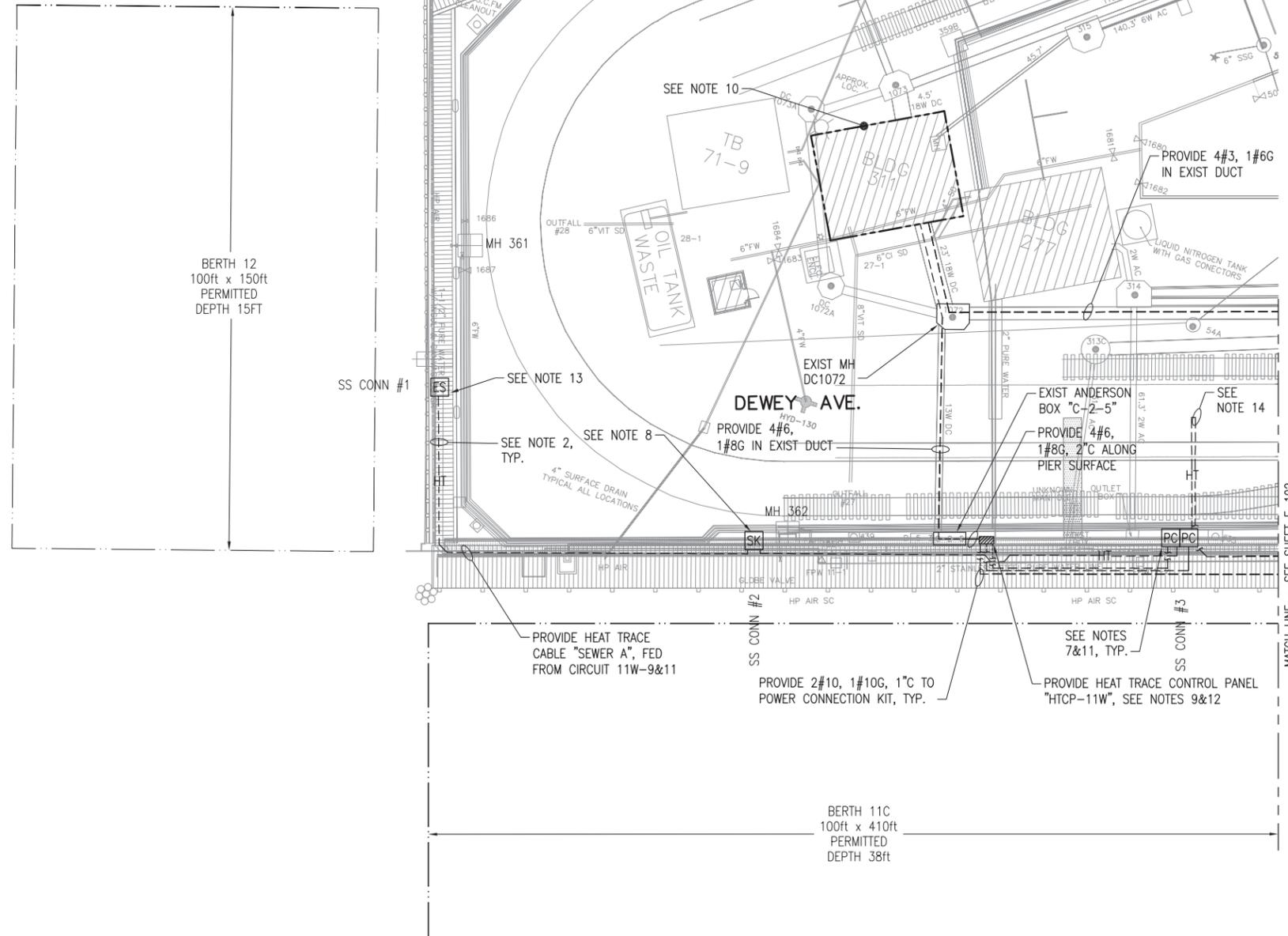
SCALE: 1"=20'

	DATE
	DESCRIPTION
	APPR
ENGINEERS FST <small>Since 1914</small> FAY, SPOFFORD & THORNDIKE <small>3 BURLINGTON WOODS BURLINGTON, MA 01803</small>	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES DPF	CHK CWPC
PWO-ME EM/POC	MIKE McCANN
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12	
ELECTRICAL DEMOLITION PLAN - BERTH 11 EAST	
MAXIMO No.: 5918670	
EPROJCT NO.: 1171704	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12650047	
SHEET 47 OF 57	
ED103 FP2-13-633	
DRAWFORM REVISION: 10 MARCH 2009	

DUCT INVESTIGATION NOTES:

1. PROVIDE FIELD INVESTIGATIONS FOR ALL EXISTING DUCTS AND MANHOLES INDICATED FOR USE. THE INVESTIGATIONS SHALL BE COMPLETED AND HAVE VERIFIED THE DUCTS AND MANHOLES ARE FIT FOR USE PRIOR TO PROVIDING THE PROPOSED WIRING THROUGH THE EXISTING DUCTS AND MANHOLES.
2. EACH MANHOLE SHALL BE INVESTIGATED TO VERIFY WHICH DUCTS ARE OPEN AND AVAILABLE FOR USE.
3. THE DUCTS THAT ARE VERIFIED TO BE OPEN AND AVAILABLE FOR USE SHALL BE TESTED TO VERIFY THAT THEY ARE CLEAR OVER THE ENTIRE LENGTH OF THE DUCT.

PROJECT BENCHMARK VERTICAL CONTROL POINT 13A DISK "DMA B13N", (BETWEEN BENTS 45 & 46 ON BERTH 13) ELEV.= 106.51 PNSY DATUM 1960-78 TIDAL EPOCH



NOTES:

1. GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
2. PROVIDE (1) RUN OF HEAT TRACE CABLE ON THE OUTER SURFACE OF THE SANITARY SEWER PIPING. CABLES SHALL BE FIELD APPLIED TO PIPING PRIOR TO INSTALLATION OF INSULATION ON PIPING. CABLES SHALL BE PROVIDED IN A STRAIGHT RUN ON THE 4 O'CLOCK OR 8 O'CLOCK POSITIONS ALONG THE SURFACE OF THE PIPING, UNLESS NOTED OTHERWISE. INSTALLATION OF INSULATION SHALL BE DONE BY OTHERS. FOR THE SEWER LAYOUT PLANS, SEE SHEETS CS101, CS102 AND CS103.
3. CIRCUIT "11W-#" SHALL INDICATE CIRCUIT "#" FROM PANEL "HTCP-11W".
4. FOR HEAT TRACE WIRING DIAGRAM AND ELECTRICAL DETAILS, SEE SHEET E-501.
5. FOR ONE LINE DIAGRAMS, SEE SHEET E-602.
6. FOR SEWER PIPING AND SHIP TO SHORE CONNECTION DETAILS, SEE SHEETS CS501 AND CS502. FOR SEWER SECTIONS, SEE SHEETS CS301 AND CS302.
7. AT EACH POWER CONNECTION KIT LOCATION, PROVIDE JUNCTION BOX AND PROVIDE INDICATED 2#10, 1#10G, 1°C TO BOX. PROVIDE 2#10, 1#10G, 3/4"LFMC TO POWER CONNECTION KIT FROM JUNCTION BOX.
8. PROVIDE SPLICE KIT AT BASE OF SEWER SHIP CONNECTION STATION ABOVE DECK.
9. PROVIDE STAINLESS STEEL SUPPORT AND BACKPLATE FOR PANEL AND MOUNT PANEL TO BACKPLATE. FOR PANEL SCHEDULE, SEE SHEET E-601. FOR PANEL NOTES, SEE SHEET E-501.
10. FOR WORK INSIDE BUILDING 311, SEE PART PLAN ON SHEET E-401.
11. PROVIDE THE (2) POWER CONNECTION KITS ON OPPOSITE SIDES OF SEWER SHIP CONNECTION STATION. PROVIDE KITS AT BASE OF CONNECTION STATION ABOVE DECK.
12. PROVIDE HEAT TRACE AMBIENT MECHANICAL THERMOSTAT AND MOUNT THERMOSTAT TIGHT TO THE UNDERSIDE OF THE DECK CLOSE TO THE HEAT TRACE PANEL. PROVIDE 2#12, 1#12G, 3/4°C FROM THERMOSTAT TO HEAT TRACE PANEL.
13. PROVIDE END SEAL AT BASE OF SEWER SHIP CONNECTION STATION ABOVE DECK.
14. PROVIDE CABLE TO EDGE OF RIP RAP AND CONTINUE CABLE RUN ON OPPOSITE SIDE OF PIPE TO SEWER SHIP CONNECTION STATION #4.
15. PROVIDE ADDITIONAL HEAT TRACE CABLE AT PIPE SUPPORTS AND CONNECTION KITS AS RECOMMENDED BY HEAT TRACE CABLE MANUFACTURER.

KEY PLAN

GRAPHIC SCALE

0 10' 20' 40'

SCALE: 1"=20'

ELECTRICAL LAYOUT PLAN - BERTH 12 - SEWER
SCALE: 1" = 20' 150 OF 159



APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO DATE		
DES DPF	DRW DPF	CHK CWPC
PRD-ME DM/POC	MIKE McCANN	
BRANCH MANAGER		
CHIEF ENGR/ARCH		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC	
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC	NAVAL SHIPYARD - PORTSMOUTH, NH	
PUBLIC WORKS DEPARTMENT - MAINE	PORTSMOUTH NAVAL SHIPYARD	
	KITTERY, MAINE	
	REPLACE UTILITIES BERTHS 11 AND 12	
	ELECTRICAL LAYOUT PLAN - BERTH 12 - SEWER	
MAXIMO No.:	5918670	
EPROJCT NO.:	1171704	
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12650048	
SHEET 48	OF 57	
E-101	FP2-13-634	
DRAWFORM REVISION: 10 MARCH 2009		

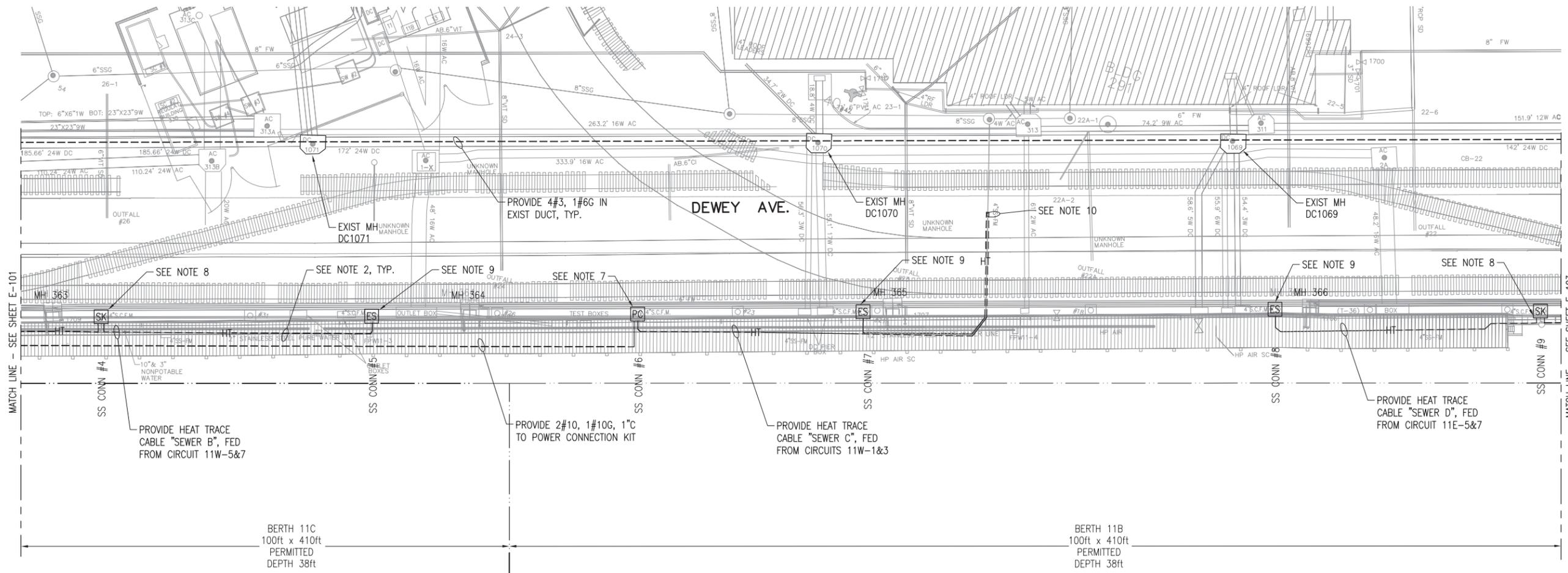
FILE NAME: U:\B0-2166A\CADD\Electrical\B0-2166-E-101-03.dwg LAYOUT NAME: E-101 PLOTTED: Tuesday, July 16, 2013 - 9:13am USER: Fiber_LH

DUCT INVESTIGATION NOTES:

1. PROVIDE FIELD INVESTIGATIONS FOR ALL EXISTING DUCTS AND MANHOLES INDICATED FOR USE. THE INVESTIGATIONS SHALL BE COMPLETED AND HAVE VERIFIED THE DUCTS AND MANHOLES ARE FIT FOR USE PRIOR TO PROVIDING THE PROPOSED WIRING THROUGH THE EXISTING DUCTS AND MANHOLES.
2. EACH MANHOLE SHALL BE INVESTIGATED TO VERIFY WHICH DUCTS ARE OPEN AND AVAILABLE FOR USE.
3. THE DUCTS THAT ARE VERIFIED TO BE OPEN AND AVAILABLE FOR USE SHALL BE TESTED TO VERIFY THAT THEY ARE CLEAR OVER THE ENTIRE LENGTH OF THE DUCT.

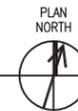
NOTES:

1. GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
2. PROVIDE (1) RUN OF HEAT TRACE CABLE ON THE OUTER SURFACE OF THE SANITARY SEWER PIPING. CABLES SHALL BE FIELD APPLIED TO PIPING PRIOR TO INSTALLATION OF INSULATION ON PIPING. CABLES SHALL BE PROVIDED IN A STRAIGHT RUN ON THE 4 O'CLOCK OR 8 O'CLOCK POSITIONS ALONG THE SURFACE OF THE PIPING, UNLESS NOTED OTHERWISE. INSTALLATION OF INSULATION SHALL BE DONE BY OTHERS. FOR THE SEWER LAYOUT PLANS, SEE SHEETS CS101, CS102 AND CS103.
3. CIRCUIT "11W-#" SHALL INDICATE CIRCUIT "#" FROM PANEL "HTCP-11W". CIRCUIT "11E-#" SHALL INDICATE CIRCUIT "#" FROM PANEL "HTCP-11E".
4. FOR HEAT TRACE WIRING DIAGRAM AND ELECTRICAL DETAILS, SEE SHEET E-501.
5. FOR ONE LINE DIAGRAMS, SEE SHEET E-602.
6. FOR SEWER PIPING AND SHIP TO SHORE CONNECTION DETAILS, SEE SHEETS CS501 AND CS502. FOR SEWER SECTIONS, SEE SHEETS CS301 AND CS302.
7. AT POWER CONNECTION KIT LOCATION, PROVIDE JUNCTION BOX AND PROVIDE INDICATED 2#10, 1#10G, 1"C TO BOX. PROVIDE 2#10, 1#10G, 3/4"LFMC TO POWER CONNECTION KIT FROM JUNCTION BOX.
8. PROVIDE SPLICE KIT AT BASE OF SEWER SHIP CONNECTION STATION ABOVE DECK.
9. PROVIDE END SEAL AT BASE OF SEWER SHIP CONNECTION STATION ABOVE DECK.
10. PROVIDE CABLE TO EDGE OF RIP RAP AND CONTINUE CABLE RUN ON OPPOSITE SIDE OF PIPE TO SEWER SHIP CONNECTION STATION #7 AND TERMINATE CABLE AT END SEAL.
11. PROVIDE ADDITIONAL HEAT TRACE CABLE AT PIPE SUPPORTS AND CONNECTION KITS AS RECOMMENDED BY HEAT TRACE CABLE MANUFACTURER.



ELECTRICAL LAYOUT PLAN - BERTH 11 WEST - SEWER

SCALE: 1" = 20'



KEY PLAN

GRAPHIC SCALE

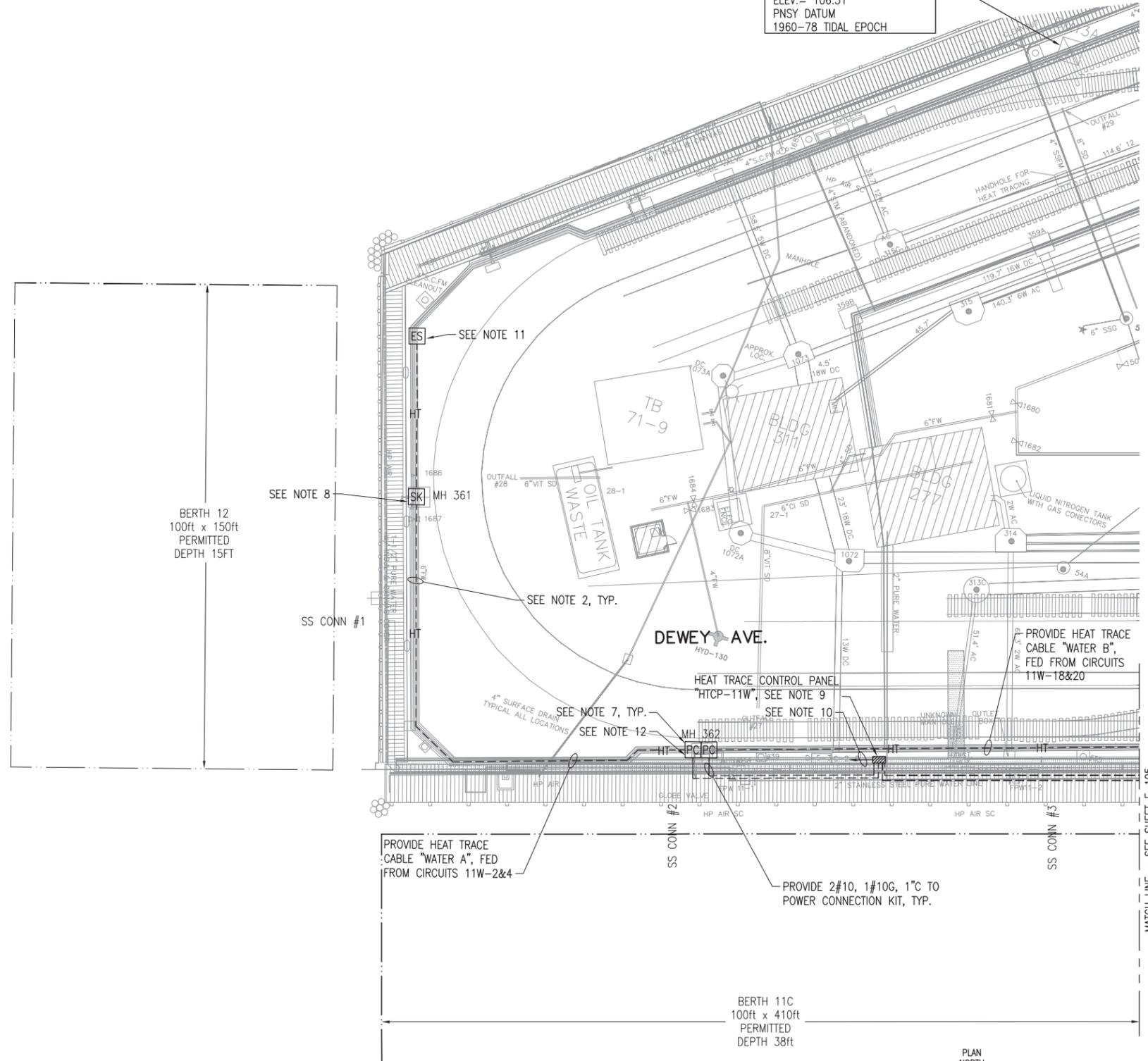
SCALE: 1"=20'

FILE NAME: U:\BID-2168\Electrical\BID-2168-E-101-03.dwg LAYOUT NAME: E-102 PLOTTED: Tuesday, July 16, 2013 - 9:14am USER: Fiber_LH

DATE	APPR
DESCRIPTION	SYN
ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803	
APPROVED	DATE
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO	DATE
DES DPF	CHK CWPC
PRO-HE IM/POC	MIKE McCANN
BRANCH MANAGER	
CHIEF ENGR/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 ELECTRICAL LAYOUT PLAN - BERTH 11 WEST - SEWER	
MAXIMO No.:	5918670
EPROJCT NO.:	1171704
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12650049
SHEET 49	OF 57
E-102	FP2-13-635
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: U:\BD-2166\CA00\Electrical\BO-2166-E-104-06.dwg LAYOUT NAME: E-104 PLOTTED: Tuesday, July 16, 2013 - 9:14am USER: Fiber_H

PROJECT BENCHMARK VERTICAL CONTROL POINT 13A DISK
 "DMA B13N", (BETWEEN BENTS 45 & 46 ON BERTH 13)
 ELEV.= 106.51
 PNSY DATUM
 1960-78 TIDAL EPOCH



ELECTRICAL LAYOUT PLAN - BERTH 12 - WATER

SCALE: 1" = 20'



NOTES:

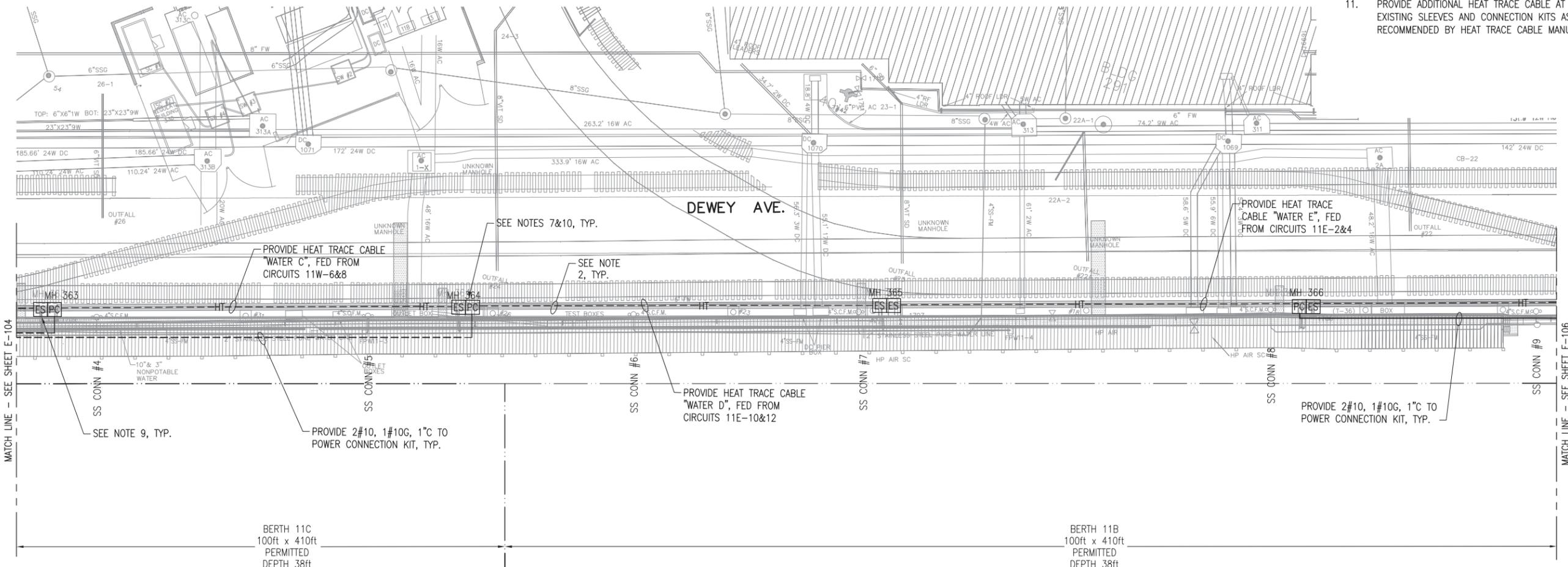
- GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
- PROVIDE (1) RUN OF HEAT TRACE CABLE ON THE OUTER SURFACE OF THE WATER PIPING. CABLES SHALL BE FIELD APPLIED TO PIPING PRIOR TO INSTALLATION OF INSULATION ON PIPING. CABLES SHALL BE PROVIDED IN A STRAIGHT RUN ON THE 4 O'CLOCK OR 8 O'CLOCK POSITIONS ALONG THE SURFACE OF THE PIPING, UNLESS NOTED OTHERWISE. INSTALLATION OF INSULATION SHALL BE DONE BY OTHERS. FOR THE FRESH WATER LAYOUT PLANS, SEE SHEETS CW101, CW102 AND CW103.
- CIRCUIT "11W-#" SHALL INDICATE CIRCUIT "#" FROM PANEL "HTCP-11W".
- FOR HEAT TRACE WIRING DIAGRAM AND ELECTRICAL DETAILS, SEE SHEET E-501.
- FOR ONE LINE DIAGRAMS, SEE SHEET E-602.
- FOR WATER DETAILS, SEE SHEETS CW501 AND CW502. FOR WATER SECTIONS, SEE SHEET CW301.
- AT POWER CONNECTION KIT LOCATION, PROVIDE JUNCTION BOX AND PROVIDE INDICATED 2#10, 1#10G, 1°C TO BOX. PROVIDE 2#10, 1#10G, 3/4"LFMC TO POWER CONNECTION KIT FROM JUNCTION BOX.
- PROVIDE SPLICE KIT ON MAIN WATER LINE INSIDE MANHOLE. PROVIDE HEAT TRACE CABLE TO TRACE CONNECTION STATION RISER AND VALVES.
- FOR PANEL SCHEDULE, SEE SHEET E-601. FOR PANEL NOTES, SEE SHEET E-501.
- FOR POWER FEED TO PANEL, SEE SHEET E-101.
- PROVIDE END SEAL ALONG WATER LINE ABOVE DECK AHEAD OF WATER LINE RISER CONTINUING BELOW DECK.
- PROVIDE THE (2) POWER CONNECTION KITS ON RISER ABOVE DECK AT WATER CONNECTION STATION AT MANHOLE. PROVIDE HEAT TRACE CABLE TO TRACE CONNECTION STATION RISER AND VALVES.
- PROVIDE ADDITIONAL HEAT TRACE CABLE AT VALVES, EXISTING SLEEVES AND CONNECTION KITS AS RECOMMENDED BY HEAT TRACE CABLE MANUFACTURER.

KEY PLAN	
12	11 WEST 11 EAST
GRAPHIC SCALE	
SCALE: 1"=20'	

ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803	
APPROVED: _____ FOR COMMANDER NAVFAC ACTIVITY: _____	
SATISFACTORY TO: _____ DATE: _____ DES: DPF DRW: DPF CHK: CWPC PWD-ME: DM/POC MIKE McCANN BRANCH MANAGER CHIEF ENG/ARCH FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE REPLACE UTILITIES BERTHS 11 AND 12 ELECTRICAL LAYOUT PLAN - WATER BERTH 12 - WATER	
MAXIMO No.: 5918670 EPROJCT NO.: 1171704 CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12650051 SHEET 51 OF 57 E-104 FP2-13-637	
DRAWFORM REVISION: 10 MARCH 2009	

NOTES:

- GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
- PROVIDE (1) RUN OF HEAT TRACE CABLE ON THE OUTER SURFACE OF THE WATER PIPING. CABLES SHALL BE FIELD APPLIED TO PIPING PRIOR TO INSTALLATION OF INSULATION ON PIPING. CABLES SHALL BE PROVIDED IN A STRAIGHT RUN ON THE 4 O'CLOCK OR 8 O'CLOCK POSITIONS ALONG THE SURFACE OF THE PIPING, UNLESS NOTED OTHERWISE. INSTALLATION OF INSULATION SHALL BE DONE BY OTHERS. FOR THE FRESH WATER LAYOUT PLANS, SEE SHEETS CW101, CW102 AND CW103.
- CIRCUIT "11W-#" SHALL INDICATE CIRCUIT "#" FROM PANEL "HTCP-11W". CIRCUIT "11E-#" SHALL INDICATE CIRCUIT "#" FROM PANEL "HTCP-11E".
- FOR HEAT TRACE WIRING DIAGRAM AND ELECTRICAL DETAILS, SEE SHEET E-501.
- FOR ONE LINE DIAGRAMS, SEE SHEET E-602.
- FOR WATER DETAILS, SEE SHEETS CW501 AND CW502. FOR WATER SECTIONS, SEE SHEET CW301.
- AT POWER CONNECTION KIT LOCATION, PROVIDE JUNCTION BOX AND PROVIDE INDICATED 2#10, 1#10G, 1"C TO BOX. PROVIDE 2#10, 1#10G, 3/4"LFCM TO POWER CONNECTION KIT FROM JUNCTION BOX.
- PROVIDE SPLICE KIT ON RISER ABOVE DECK AT WATER CONNECTION STATION AT MANHOLE. PROVIDE HEAT TRACE CABLE TO TRACE CONNECTION STATION RISER AND VALVES.
- PROVIDE END SEAL ON RISER ABOVE DECK AT WATER CONNECTION STATION AT MANHOLE. PROVIDE HEAT TRACE CABLE TO TRACE CONNECTION STATION RISER AND VALVES.
- PROVIDE POWER CONNECTION KIT ON RISER ABOVE DECK AT WATER CONNECTION STATION AT MANHOLE. PROVIDE HEAT TRACE CABLE TO TRACE CONNECTION STATION RISER AND VALVES.
- PROVIDE ADDITIONAL HEAT TRACE CABLE AT VALVES, EXISTING SLEEVES AND CONNECTION KITS AS RECOMMENDED BY HEAT TRACE CABLE MANUFACTURER.



ELECTRICAL LAYOUT PLAN - BERTH 11 WEST - WATER
SCALE: 1" = 20'



KEY PLAN

GRAPHIC SCALE

SCALE: 1"=20'

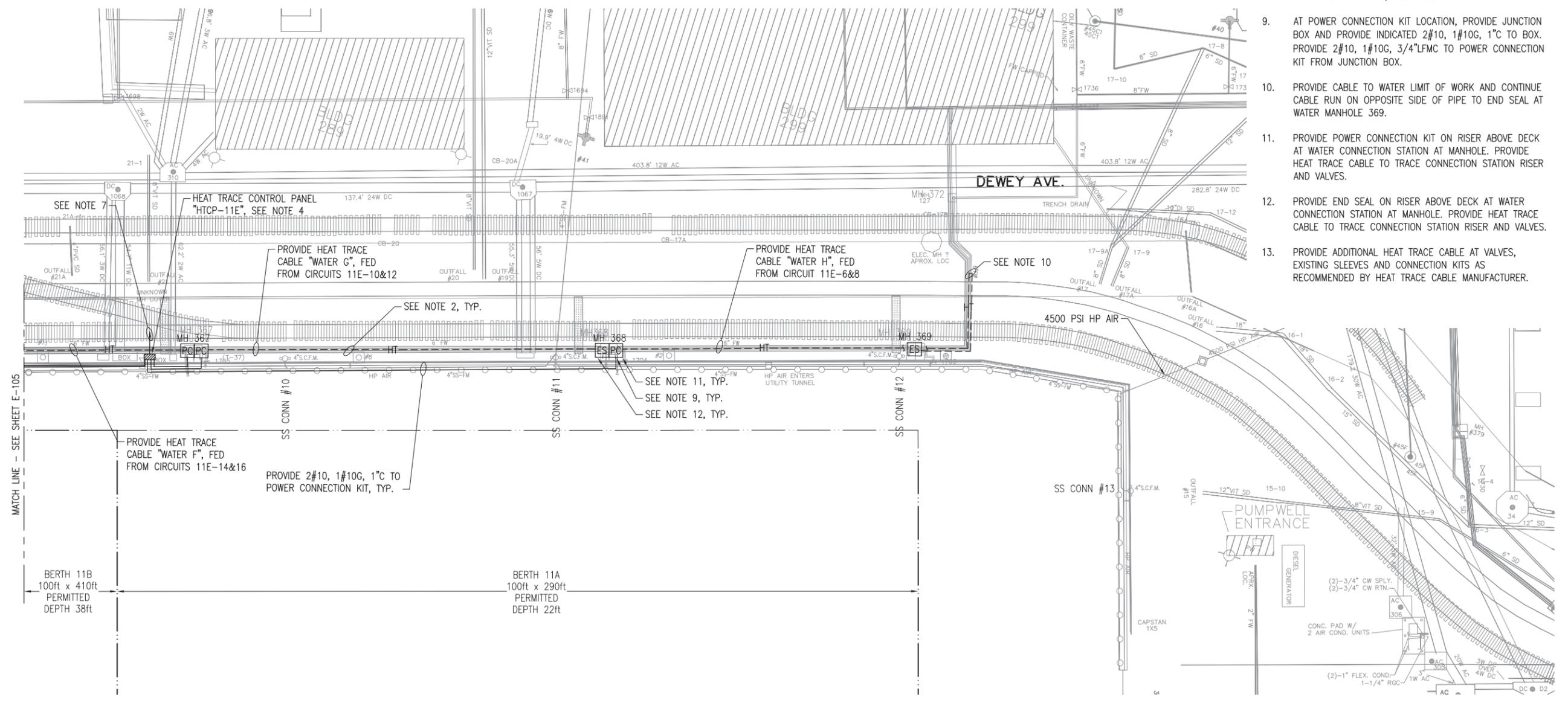
APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
SATISFACTORY TO DATE		
DES DPF	DRW DPF	CHK CWPC
PRD-ME DM/DC	MIKE McCANN	
BRANCH MANAGER		
CHIEF ENGR/ARCH		
FIRE PROTECTION		
NAVAL FACILITIES ENGINEERING COMMAND		
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC		
PUBLIC WORKS DEPARTMENT - MAINE		
NAVAL SHIPYARD - PORTSMOUTH, NH		
PORTSMOUTH NAVAL SHIPYARD		
KITTERY, MAINE		
REPLACE UTILITIES		
BERTHS 11 AND 12		
ELECTRICAL LAYOUT PLAN -		
BERTH 11 WEST - WATER		
MAXIMO No.:	5918670	
EPROJCT NO.:	1171704	
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO.	12650052	
SHEET 52	OF 57	
E-105	FP2-13-638	
DRAWING REVISION: 10 MARCH 2009		

FILE NAME: U:\BQ-216\A\CADD\Electrical\BQ-216-E-104-06.dwg LAYOUT NAME: E-105 PLOTTED: Tuesday, July 16, 2013 - 9:14am USER: Fiber_LH

FILE NAME: U:\BD-2166A\CADD\Electrical\BD-2166-E-104-06.dwg LAYOUT NAME: E-106 PLOTTED: Tuesday, July 16, 2013 - 9:14am USER: Fiber_H

NOTES:

1. GOVERNMENT VESSELS MAY BE DOCKED AT VARIOUS LOCATIONS ALONG BERTHS 11 AND 12. THE CONTRACTOR SHALL SCHEDULE WORK SO AS NOT TO INTERFERE WITH GOVERNMENT OPERATIONS.
2. PROVIDE (1) RUN OF HEAT TRACE CABLE ON THE OUTER SURFACE OF THE WATER PIPING. CABLES SHALL BE FIELD APPLIED TO PIPING PRIOR TO INSTALLATION OF INSULATION ON PIPING. CABLES SHALL BE PROVIDED IN A STRAIGHT RUN ON THE 4 O'CLOCK OR 8 O'CLOCK POSITIONS ALONG THE SURFACE OF THE PIPING, UNLESS NOTED OTHERWISE. INSTALLATION OF INSULATION SHALL BE DONE BY OTHERS. FOR THE FRESH WATER LAYOUT PLANS, SEE SHEETS CW101, CW102 AND CW103.
3. CIRCUIT "11E-#" SHALL INDICATE CIRCUIT "#" FROM PANEL "HTCP-11E".
4. FOR PANEL SCHEDULE, SEE SHEET E-601. FOR PANEL NOTES, SEE SHEET E-501.
5. FOR HEAT TRACE WIRING DIAGRAM AND ELECTRICAL DETAILS, SEE SHEET E-501.
6. FOR ONE LINE DIAGRAMS, SEE SHEET E-602.
7. FOR POWER FEED TO PANEL, SEE SHEET E-103.
8. FOR WATER DETAILS, SEE SHEETS CW501 AND CW502. FOR WATER SECTIONS, SEE SHEET CW301.
9. AT POWER CONNECTION KIT LOCATION, PROVIDE JUNCTION BOX AND PROVIDE INDICATED 2#10, 1#10G, 1"C TO BOX. PROVIDE 2#10, 1#10G, 3/4"LFMC TO POWER CONNECTION KIT FROM JUNCTION BOX.
10. PROVIDE CABLE TO WATER LIMIT OF WORK AND CONTINUE CABLE RUN ON OPPOSITE SIDE OF PIPE TO END SEAL AT WATER MANHOLE 369.
11. PROVIDE POWER CONNECTION KIT ON RISER ABOVE DECK AT WATER CONNECTION STATION AT MANHOLE. PROVIDE HEAT TRACE CABLE TO TRACE CONNECTION STATION RISER AND VALVES.
12. PROVIDE END SEAL ON RISER ABOVE DECK AT WATER CONNECTION STATION AT MANHOLE. PROVIDE HEAT TRACE CABLE TO TRACE CONNECTION STATION RISER AND VALVES.
13. PROVIDE ADDITIONAL HEAT TRACE CABLE AT VALVES, EXISTING SLEEVES AND CONNECTION KITS AS RECOMMENDED BY HEAT TRACE CABLE MANUFACTURER.



MATCH LINE - SEE SHEET E-105

BERTH 11B
100ft x 410ft
PERMITTED
DEPTH 38ft

BERTH 11A
100ft x 290ft
PERMITTED
DEPTH 22ft

ELECTRICAL LAYOUT PLAN - BERTH 11 EAST - WATER

SCALE: 1" = 20'



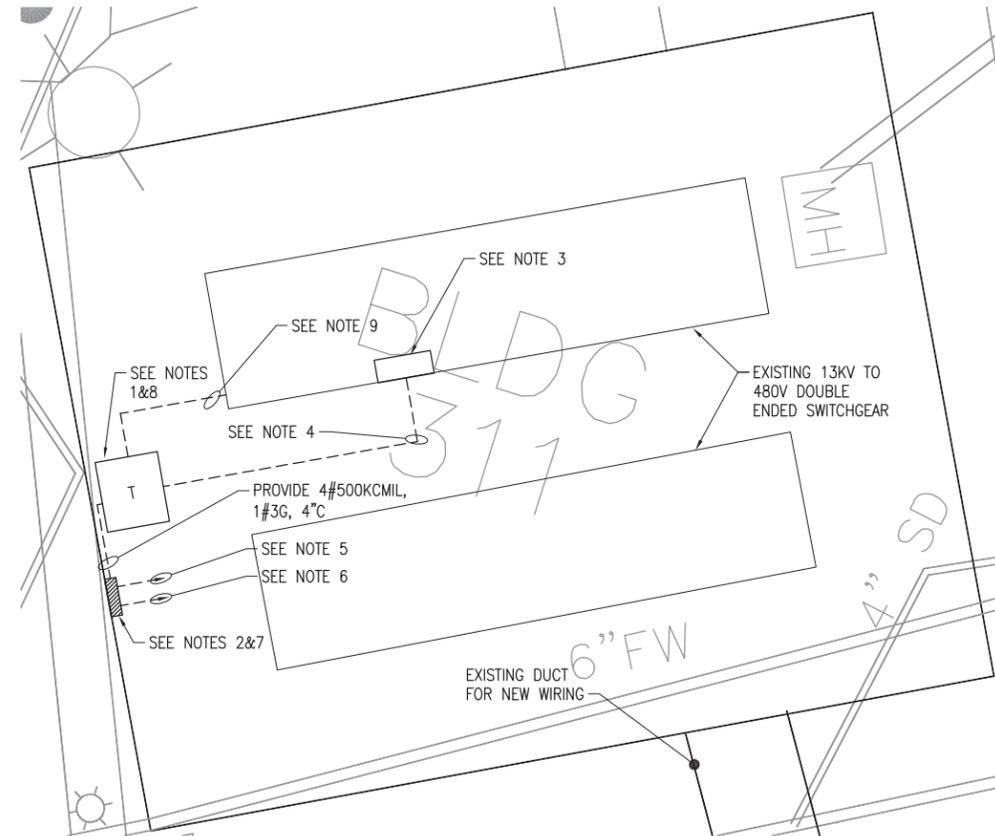
KEY PLAN

GRAPHIC SCALE

SCALE: 1"=20'

	DATE
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FILE NAME: U:\BD-2166\Electrical\BOV-2166-E-401.dwg LAYOUT NAME: E-401 PLOTTED: Tuesday, July 16, 2013 - 9:15am USER: Ffraser_H



ELECTRICAL PART PLAN - BUILDING 311
SCALE: 1/4" = 1'-0"

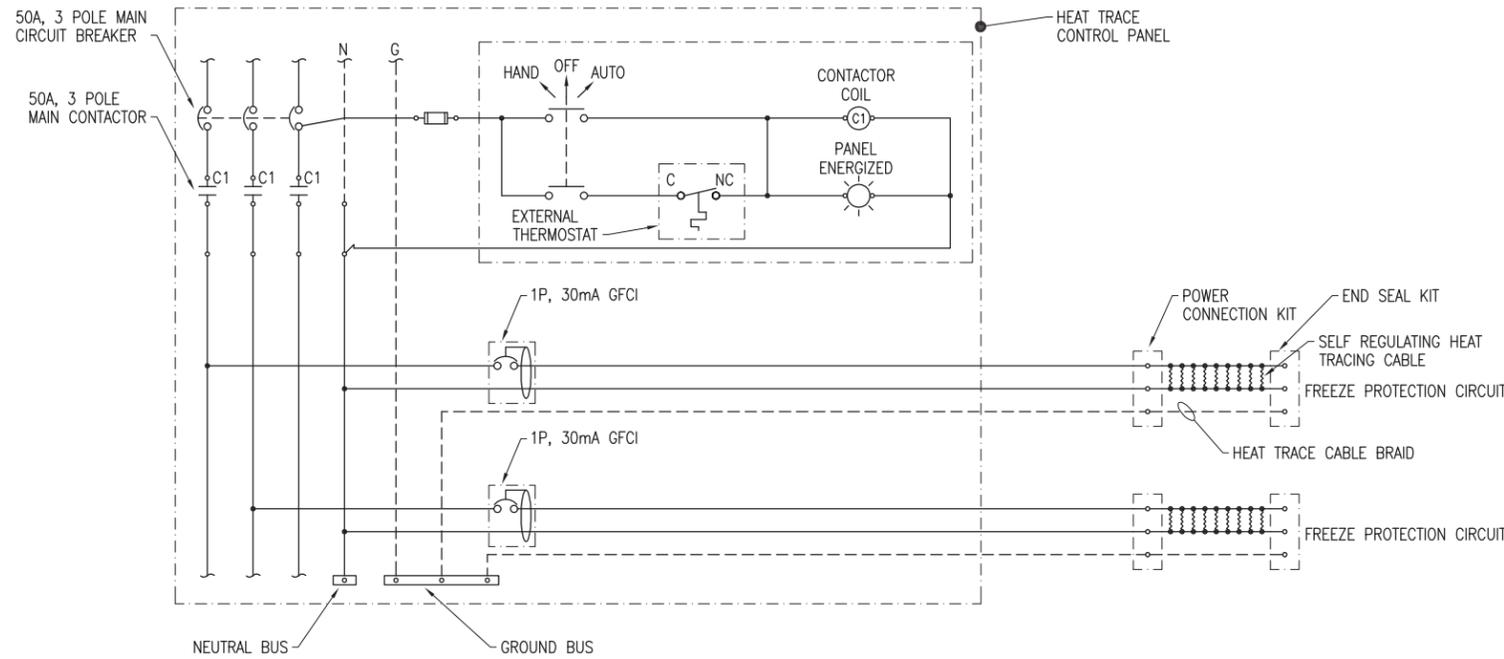


NOTES:

1. PROVIDE 480V DELTA TO 480/277V WYE TRANSFORMER, 3 PHASE, 300KVA IN NEMA 3R ENCLOSURE. PROVIDE GROUNDING OF TRANSFORMER AS SHOWN ON ONE LINE DIAGRAM ON SHEET E-602.
2. PROVIDE WALL MOUNTED 400A, 480/277V, 3 PHASE, 4W DISTRIBUTION PANEL "DP-1" IN NEMA 3R ENCLOSURE.
3. PROVIDE 400A, 480V CIRCUIT BREAKER IN EXISTING SPACE IN SWITCHGEAR. CIRCUIT BREAKER MANUFACTURER, TYPE AND KAIC RATING SHALL MATCH EXISTING 400A CIRCUIT BREAKERS IN SWITCHGEAR SECTION.
4. PROVIDE 3#500KCMIL, 1#3G FROM SWITCHGEAR THROUGH CABLE VAULT BELOW BUILDING TO BELOW NEW TRANSFORMER. PROVIDE PENETRATION THROUGH FLOOR AT TRANSFORMER AND PROVIDE 4°C TO CONNECT 3#500KCMIL, 1#3G TO TRANSFORMER.
5. PROVIDE 4#6, 1#8G, 2°C FROM PANEL "DP-1" TO CABLE VAULT BELOW BUILDING. PROVIDE PENETRATION THROUGH FLOOR FOR 2°C. PROVIDE 4#6, 1#8G THROUGH CABLE VAULT TO EXISTING DUCT. FOR CONTINUATION OF WIRING TO NEW HEAT TRACE CONTROL PANEL "HTCP-11W", SEE SHEET E-101.
6. PROVIDE 4#3, 1#6G, 2°C FROM PANEL "DP-1" TO CABLE VAULT BELOW BUILDING. PROVIDE PENETRATION THROUGH FLOOR FOR 2°C. PROVIDE 4#3, 1#6G THROUGH CABLE VAULT TO EXISTING DUCT. FOR CONTINUATION OF WIRING TO NEW HEAT TRACE CONTROL PANEL "HTCP-11E", SEE SHEET E-101.
7. FOR PANEL SCHEDULE, SEE SHEET E-601.
8. FOR ONE LINE DIAGRAM, SEE SHEET E-602.
9. PROVIDE #1/0 GROUNDING ELECTRODE CONDUCTOR THROUGH CABLE VAULT TO 480V SWITCHGEAR. PROVIDE EXOTHERMIC WELD OF CONDUCTOR TO SWITCHGEAR GROUND BUS.

KEY PLAN	
12	11 WEST 11 EAST
GRAPHIC SCALE	
<p>SCALE: 1/4"=1'</p>	

	DATE
	SYN DESCRIPTION
ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES DPF	CHK CWPC
PWD-ME EM/POC	MIKE McCANN
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC PUBLIC WORKS DEPARTMENT - MAINE PORTSMOUTH NAVAL SHIPYARD KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 ELECTRICAL PART PLAN - BUILDING 311	
MAXIMO No.:	5918670
PROJECT NO.:	1171704
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12653335
SHEET 54	OF 57
E-401	FP2-13-640
DRAWFORM REVISION: 10 MARCH 2009	



HEAT TRACING WIRING DIAGRAM
SCALE: NOT TO SCALE

HEAT TRACING CABLE NOTES:

1. CABLE SHALL BE RATED FOR 5W/FT, 208-277V FOR SEWER PIPING AND 8W/FT, 208-277V FOR WATER PIPING. CABLE SHALL BE SELF REGULATING AND DESIGNED FOR FREEZE PROTECTION APPLICATIONS.
2. CABLE SHALL CONSIST OF 2#16 OR LARGER NICKEL PLATED COPPER BUS WIRES EMBEDDED IN SELF-REGULATING POLYMERIC CORE. CABLE SHALL HAVE TINNED COPPER BRAID WITH A RESISTANCE LESS THAN THE HEATING CABLE BUS WIRE. BRAID SHALL BE PROTECTED BY FLUOROPOLYMER OUTER JACKET.
3. CABLES SHALL BE FIELD APPLIED TO PIPING PRIOR TO INSTALLATION OF INSULATION ON PIPING. CABLES SHALL BE PROVIDED IN A STRAIGHT RUN ON THE 4 O'CLOCK OR 8 O'CLOCK POSITIONS ALONG THE SURFACE OF THE UTILITY PIPING, UNLESS NOTED OTHERWISE. INSTALLATION OF INSULATION SHALL BE DONE BY OTHERS.

HEAT TRACING CONTROL PANEL NOTES:

1. PANEL SHALL BE 480/277V, 3PH, 4W, NEMA 4X STAINLESS STEEL. BRANCH CIRCUIT BREAKERS SHALL BE OF THE GROUND FAULT TYPE AND HAVE INDIVIDUAL TRIP INDICATION LIGHTS. PANEL SHALL BE PROVIDED WITH SEPARATE GROUND AND NEUTRAL BUSES. PANEL SHALL HAVE 30 SPACES FOR CIRCUIT BREAKERS.
2. PANEL SHALL COME WITH HEAT TRACE CONTACTOR FAILURE LIGHT, DOOR DISCONNECT, PANEL POWER ON LIGHT, HEAT TRACE ENERGIZED LIGHT, SPACE HEATER WITH THERMOSTAT AND PRE-WIRED TERMINAL BLOCKS.
3. EXTERNAL THERMOSTAT SHALL BE AN AMBIENT SENSING MECHANICAL TYPE THERMOSTAT. THERMOSTAT SHALL BE NEMA 4X RATED AND HAVE AN ADJUSTABLE SET POINT. THERMOSTAT SHALL BE MOUNTED REMOTELY NEAR PANEL AS INDICATED RESPECTIVELY ON SHEETS E-101 AND E-103.

HEAT TRACING POWER CONNECTION KIT NOTES:

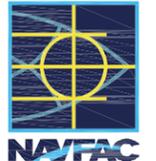
1. POWER CONNECTION KIT SHALL BE RATED 208-277V, NEMA 4X, IP67 AND SHALL COME WITH LED LIGHT. KIT SHALL CONNECT POWER WIRING TO SINGLE HEAT TRACE CABLE, UNLESS NOTED OTHERWISE ON DRAWINGS TO CONNECT TO MULTIPLE HEAT TRACE CABLES. KIT SHALL BE AN ABOVE INSULATION KIT. KIT STAND SHALL ALLOW UP TO (4) INCHES OF THERMAL INSULATION.
2. POWER CONNECTION KIT SHALL BE MOUNTED TO SURFACE OF PIPE PER MANUFACTURER'S SPECIFICATIONS.

HEAT TRACING SPLICE KIT NOTES:

1. SPLICE KIT SHALL BE RATED 208-277V, NEMA 4X, IP67. KIT SHALL SERVE AS A SPLICE FOR UP TO (3) HEAT TRACE CABLE. SPLICE KIT SHALL BE AN ABOVE INSULATION SPLICE KIT. SPLICE KIT STAND SHALL ALLOW UP TO (4) INCHES OF THERMAL INSULATION.
2. SPLICE KIT SHALL BE MOUNTED TO SURFACE OF PIPE PER MANUFACTURER'S SPECIFICATIONS.

HEAT TRACING END SEAL NOTES:

1. END SEAL SHALL BE RATED 208-277V, NEMA 4X AND COME WITH SIGNAL LED LIGHT. END SEAL SHALL BE AN ABOVE INSULATION END SEAL. END SEAL STAND SHALL ALLOW UP TO (4) INCHES OF THERMAL INSULATION.
2. END SEAL SHALL BE MOUNTED TO SURFACE OF PIPE PER MANUFACTURER'S SPECIFICATIONS.

DATE	APPR
DESCRIPTION	SYN
  ENGINEERS FST Since 1914 FAY, SPOFFORD & THORNDIKE 3 BURLINGTON WOODS BURLINGTON, MA 01803 A/E INFO	
APPROVED	
FOR COMMANDER NAVFAC	
ACTIVITY	
SATISFACTORY TO DATE	
DES DPF	CHK CWPC
DRW DPF	
PWD-ME DM/POC	MIKE McCANN
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY	
NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC	
PUBLIC WORKS DEPARTMENT - MAINE	
NAVAL SHIPYARD - PORTSMOUTH, NH	
PORTSMOUTH NAVAL SHIPYARD	
KITTERY, MAINE	
REPLACE UTILITIES BERTHS 11 AND 12 DETAILS	
MAXIMO No.:	5918670
EPROJCT NO.:	1171704
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12653336
SHEET 55	OF 57
E-501	FP2-13-641
DRAWFORM REVISION: 10 MARCH 2009	

"DP-1" PANELBOARD SCHEDULE																	
400A MAIN CIRCUIT BREAKER, 480/277V, 3 PHASE, 4 WIRE, 65 KAIC MINIMUM																	
LOAD SERVED	LOAD (VA)			BKR. TRIP	WIRE SIZE	CKT. NO.	PHASE			CKT. NO.	WIRE SIZE	BKR. TRIP	LOAD (VA)			LOAD SERVED	
	A	B	C				A	B	C				A	B	C		
PANEL HTCP-11W	4280					1	~	~	~	2			5230			PANEL HTCP-11E	
		4195		50	4	3	~	~	~	4	2	50		3780			
			5760			5	~	~	~	6					4220		
SPARE	-			50	-	7	~	~	~	8			-			SPARE	
		-				9	~	~	~	10	-	50		-			
			-			11	~	~	~	12				-			
SPARE	-			50	-	13	~	~	~	14			-			SPARE	
		-				15	~	~	~	16	-	50		-			
			-			17	~	~	~	18				-			
SPARE	-			-	-	19	~	~	~	20	-	-	-			SPARE	
SPARE	-			-	-	21	~	~	~	22	-	-	-			SPARE	
SPARE	-			-	-	23	~	~	~	24	-	-	-			SPARE	
SPARE	-			-	-	25	~	~	~	26	-	-	-			SPARE	
SPARE	-			-	-	27	~	~	~	28	-	-	-			SPARE	
SPARE	-			-	-	29	~	~	~	30	-	-	-			SPARE	
SPARE	-			-	-	31	~	~	~	32	-	-	-			SPARE	
SPARE	-			-	-	33	~	~	~	34	-	-	-			SPARE	
SPARE	-			-	-	35	~	~	~	36	-	-	-			SPARE	
SPARE	-			-	-	37	~	~	~	38	-	-	-			SPARE	
SPARE	-			-	-	39	~	~	~	40	-	-	-			SPARE	
SPARE	-			-	-	41	~	~	~	42	-	-	-			SPARE	
TOTAL 4280 4195 5760												5230 3780 4220 TOTAL					
TOTAL CONNECTED VA A: 9600 B: 7975 C: 9980																	

"HTCP-11W" PANELBOARD SCHEDULE																	
50A MAIN CIRCUIT BREAKER, 480/277V, 3 PHASE, 4 WIRE, 35 KAIC MINIMUM																	
LOAD SERVED	LOAD (VA)			BKR. TRIP	WIRE SIZE	CKT. NO.	PHASE			CKT. NO.	WIRE SIZE	BKR. TRIP	LOAD (VA)			LOAD SERVED	
	A	B	C				A	B	C				A	B	C		
SEWER C	1600					1	~	~	~	2			2680			WATER A	
GROUND FAULT BREAKER		0		30	10	3	~	~	~	4	10	30		0		GROUND FAULT BREAKER	
SEWER B			1600			5	~	~	~	6				2120		WATER C	
GROUND FAULT BREAKER		0		30	10	7	~	~	~	8	10	30	0			GROUND FAULT BREAKER	
SEWER A		2075				9	~	~	~	10				2120		WATER D	
GROUND FAULT BREAKER			0	30	10	11	~	~	~	12	10	30		0		GROUND FAULT BREAKER	
SPARE	-			30	-	13	~	~	~	14	-	30	-			SPARE	
GROUND FAULT BREAKER	-			30	-	15	~	~	~	16	-	30	-			GROUND FAULT BREAKER	
SPARE	-			30	-	17	~	~	~	18				2040		WATER B	
GROUND FAULT BREAKER	-			30	-	19	~	~	~	20	10	30	0			GROUND FAULT BREAKER	
SPARE	-			30	-	21	~	~	~	22	-	30	-			SPARE	
GROUND FAULT BREAKER	-			30	-	23	~	~	~	24	-	30	-			GROUND FAULT BREAKER	
SPARE	-			30	-	25	~	~	~	26	-	30	-			SPARE	
GROUND FAULT BREAKER	-			30	-	27	~	~	~	28	-	30	-			GROUND FAULT BREAKER	
SPACE				-	-	29	~	~	~	30	-	-	-			SPACE	
TOTAL 1600 2075 1600												2680 2120 4160 TOTAL					
TOTAL CONNECTED VA A: 4280 B: 4195 C: 5760																	

NOTE: DISTRIBUTION PANEL SHOWN IS INTEGRAL TO HEAT TRACE CONTROL PANEL.

"HTCP-11E" PANELBOARD SCHEDULE																	
50A MAIN CIRCUIT BREAKER, 480/277V, 3 PHASE, 4 WIRE, 35 KAIC MINIMUM																	
LOAD SERVED	LOAD (VA)			BKR. TRIP	WIRE SIZE	CKT. NO.	PHASE			CKT. NO.	WIRE SIZE	BKR. TRIP	LOAD (VA)			LOAD SERVED	
	A	B	C				A	B	C				A	B	C		
SEWER E	1150					1	~	~	~	2			2040			WATER E	
GROUND FAULT BREAKER		0		30	10	3	~	~	~	4	10	30		0		GROUND FAULT BREAKER	
SEWER D			1500			5	~	~	~	6				2720		WATER H	
GROUND FAULT BREAKER		0		30	10	7	~	~	~	8	10	30	0			GROUND FAULT BREAKER	
SEWER F		1700				9	~	~	~	10				2080		WATER G	
GROUND FAULT BREAKER			0	30	10	11	~	~	~	12	10	30		0		GROUND FAULT BREAKER	
SPARE	-			30	-	13	~	~	~	14				2040		WATER F	
GROUND FAULT BREAKER	-			30	-	15	~	~	~	16	10	30		0		GROUND FAULT BREAKER	
SPARE	-			30	-	17	~	~	~	18	-	30	-			SPARE	
GROUND FAULT BREAKER	-			30	-	19	~	~	~	20	-	30	-			GROUND FAULT BREAKER	
SPARE	-			30	-	21	~	~	~	22	-	30	-			SPARE	
GROUND FAULT BREAKER	-			30	-	23	~	~	~	24	-	30	-			GROUND FAULT BREAKER	
SPARE	-			30	-	25	~	~	~	26	-	30	-			SPARE	
GROUND FAULT BREAKER	-			30	-	27	~	~	~	28	-	30	-			GROUND FAULT BREAKER	
SPACE				-	-	29	~	~	~	30	-	-	-			SPACE	
TOTAL 1150 1700 1500												4080 2080 2720 TOTAL					
TOTAL CONNECTED VA A: 5230 B: 3780 C: 4220																	

NOTE: DISTRIBUTION PANEL SHOWN IS INTEGRAL TO HEAT TRACE CONTROL PANEL.

FILE NAME: U:\BQ-216A\CADD\Electrical\BQ-216A-E-601.dwg LAYOUT NAME: E-601 PLOTTED: Tuesday, July 16, 2013 - 9:15am USER: Ffraser_H

APPROVED	DATE	APP'R
FOR COMMANDER NAVFAC		
ACTIVITY		
SATISFACTORY TO	DATE	
DES: DPF	DRW: DPF	CHK: CWPC
PRD: ME/PM/POC	MIKE McCANN	
BRANCH MANAGER		
CHIEF ENG/ARCH		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	NAVAL SHIPYARD - PORTSMOUTH, MA
NAVAL FACILITIES ENGINEERING COMMAND - MID-ATLANTIC	NAVAL SHIPYARD - PORTSMOUTH, MA	KITTERY, MAINE
PUBLIC WORKS DEPARTMENT - MAINE	PORTSMOUTH NAVAL SHIPYARD	REPLACE UTILITIES BERTHS 11 AND 12
		PANEL SCHEDULES
MAXIMO NO.: 5918670		
PROJECT NO.: 1171704		
CONSTR. CONTR. NO.		
NAVFAC DRAWING NO. 12653337		
SHEET 56 OF 57		
E-601	FP2-13-642	
DRAWFORM REVISION: 10 MARCH 2009		