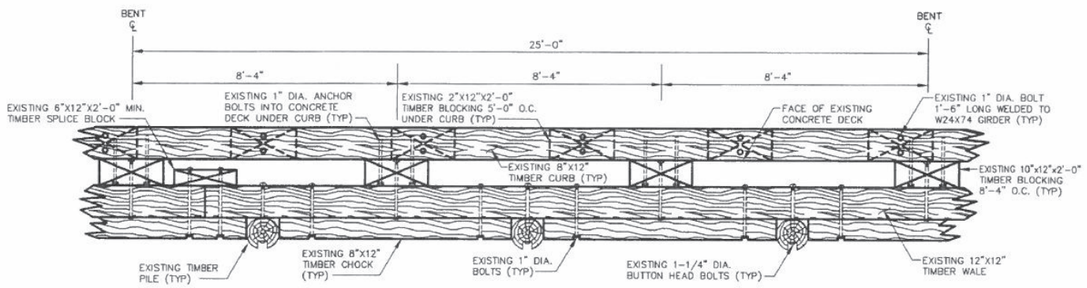
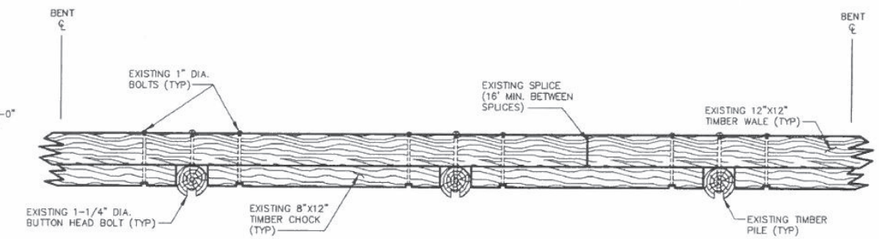
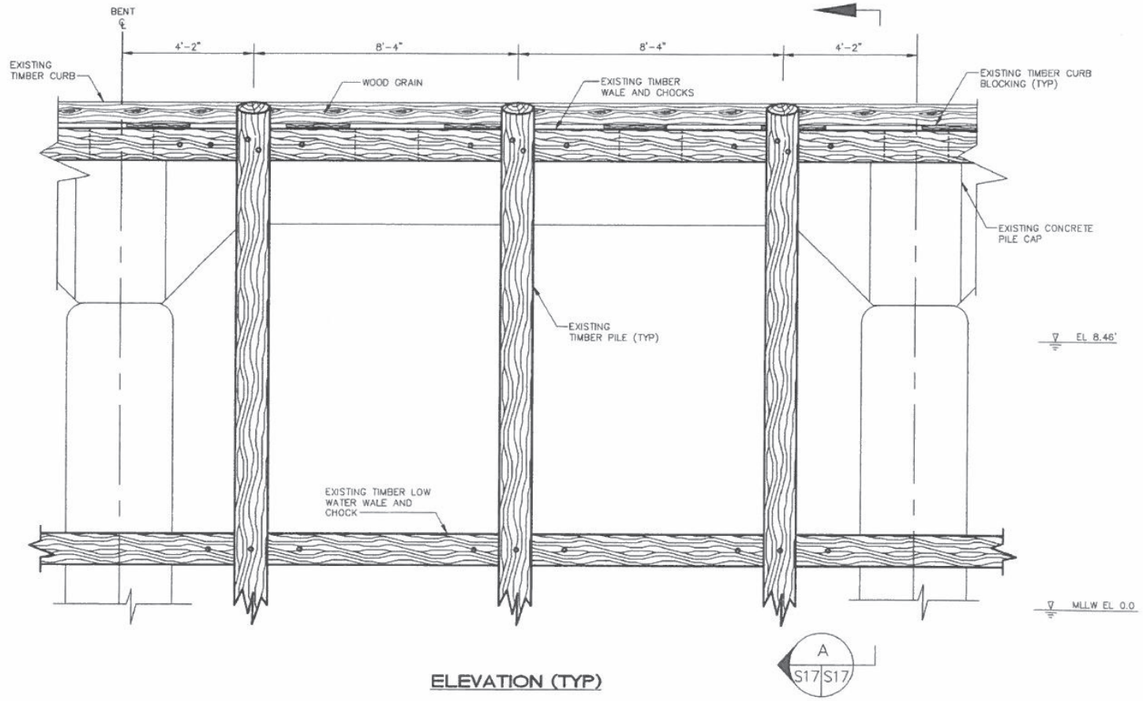


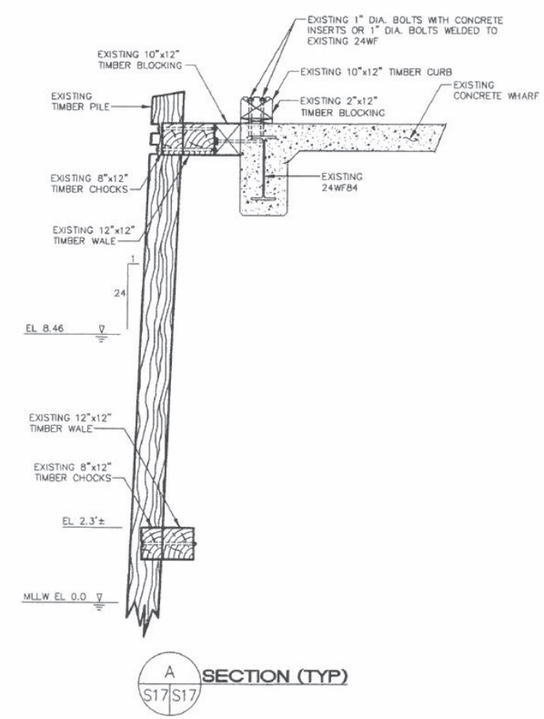
PARTIAL PLAN AT DECK LEVEL (TYP)



PARTIAL PLAN AT LOW WATER WALE (TYP)



ELEVATION (TYP)



SECTION (TYP)

NOTE:

1. ALL EXISTING TIMBER IS CREOSOTE COAL TAR PRESERVATIVE TREATED.
2. UTILITIES NOT SHOWN FOR DRAWING CLARITY.
3. FENDER SYSTEM DETAILS SHOWN APPLICABLE FROM PILE BENTS 12 TO LYK.

2 1 0 2 4 6
(FEET)

REVISIONS			
REVISION	DATE	DESCRIPTION	BY

Appledore Engineering Inc.
800 Slaws Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8818 • info@appledore.com

DESIGN: KM DRAWN: TJC CHK: RHB SURV: BHC
DESIGNED BY: KM
DATE: 10/30/98
Vice President
DRAWING
APPROVED

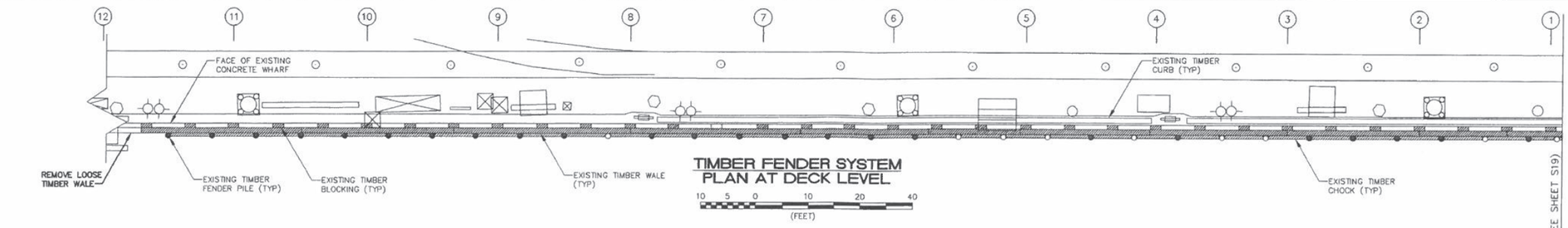
NAVAL FACILITIES ENGINEERING COMMAND
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD PORTSMOUTH, N.H.
STRUCTURALLY REPAIR TO BERTH 11
TIMBER FENDER SYSTEM
EXISTING CONSTRUCTION

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196024
SHT S18
SHEET 25 OF 36
PW NO. FP2-98-396

UNCLASSIFIED

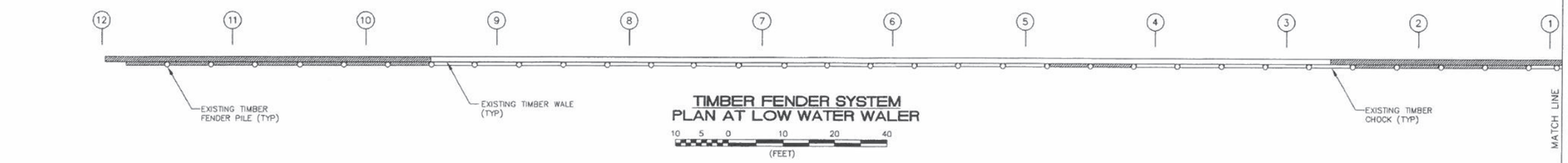
D-18

BERTH 11



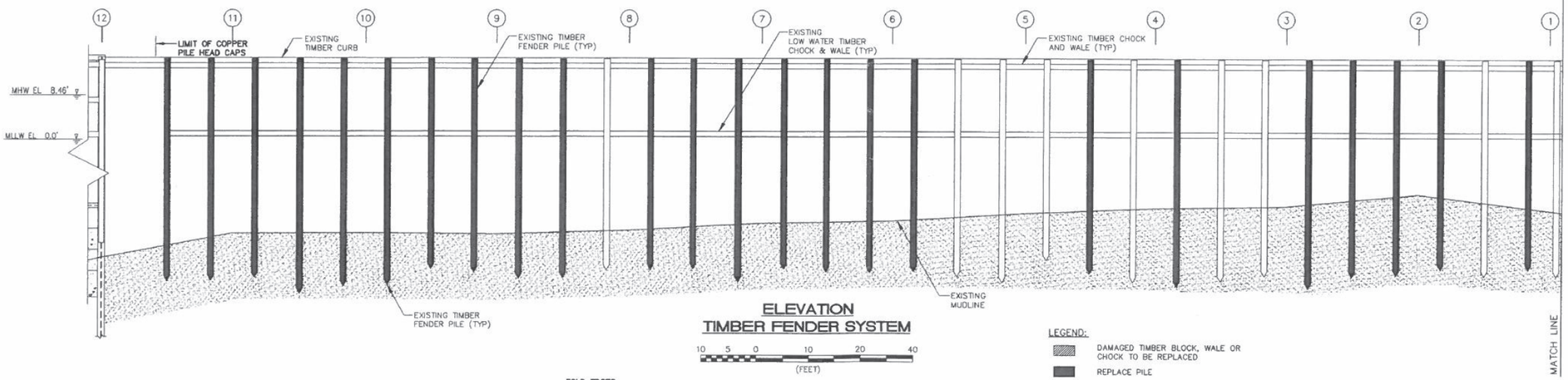
TIMBER FENDER SYSTEM
PLAN AT DECK LEVEL

10 5 0 10 20 40
(FEET)



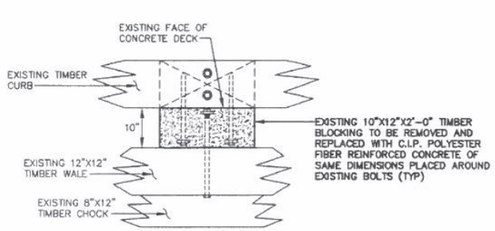
TIMBER FENDER SYSTEM
PLAN AT LOW WATER WALER

10 5 0 10 20 40
(FEET)



ELEVATION
TIMBER FENDER SYSTEM

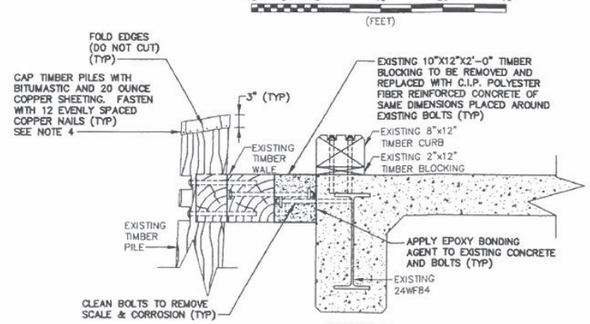
10 5 0 10 20 40
(FEET)



PLAN

BLOCKING REPLACEMENT DETAIL

1 1/2 0 1 2 3
(FEET)



SECTION

BLOCKING REPLACEMENT DETAIL

1 1/2 0 1 2 3

LEGEND:

- DAMAGED TIMBER BLOCK, WALE OR CHOCK TO BE REPLACED
- REPLACE PILE
- (6) WHARF PILE BENT LOCATIONS

NOTES:

1. COUNTERSINK OUTSIDE FACE OF TIMBERS AT ALL FASTENER LOCATIONS (MATCH EXISTING DEPTH).
2. FASTENERS INSTALLED ABOVE MHW (EL 8.46') SHALL BE GALVANIZED. ALL OTHER FASTENERS TO BE NON-GALVANIZED (NUTS NOT OVERTAPPED).
3. FIELD TREAT ALL CUT AND DRILLED TIMBER SURFACES WITH SEVERAL COATS OF THE SAME PRESERVATIVE USED TO TREAT THE TIMBER OR COPPER NAPHTHENATE SOLUTION.
4. PROVIDE BITUMASTIC AND 20 OUNCE COPPER CAPS FOR ALL TIMBER PILES BETWEEN BENTS 12 AND LYK.
5. ALL TIMBER FENDER SYSTEM BOLTS SHALL BE COATED WITH PETROLATUM PRIMER WAX PRIOR TO INSTALLATION.
6. BOLTS IN TIMBER:

BOLT SIZE	TORQUE
1" DIA.	85 FT-LBS
1-1/4" DIA.	125 FT-LBS

7. ALL TIMBER AND PILE REPLACEMENT BOLTED CONNECTIONS SHALL USE OGEE WASHERS BOTH ENDS (TYP).
8. ADD 6x12x4'-6" TIMBER SPLICE BLOCK WITH 4-1" DIAMETER BOLTS AT LOW WATER WALE SPLICES.

REVISIONS

REVISION	DATE	DESCRIPTION	BY

DES. STR.
PMGR.
DATE
SATISFACTORY TO
DATE
SATISFACTORY TO
DATE
SATISFACTORY TO
DATE
APPROVED
DATE

Applebore Engineering Inc.
800 Silver Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-6818
DESIGN: TCW DRWN: TLK CHK: BBB SUPV: BWS
CODE IDENT NO. 80091
Vice President 10/30/98
PRINCIPAL TITLE DATE

NAVAL FACILITIES ENGINEERING COMMAND
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD PORTSMOUTH, N.H.
STRUCTURALLY REPAIR BERTH 11

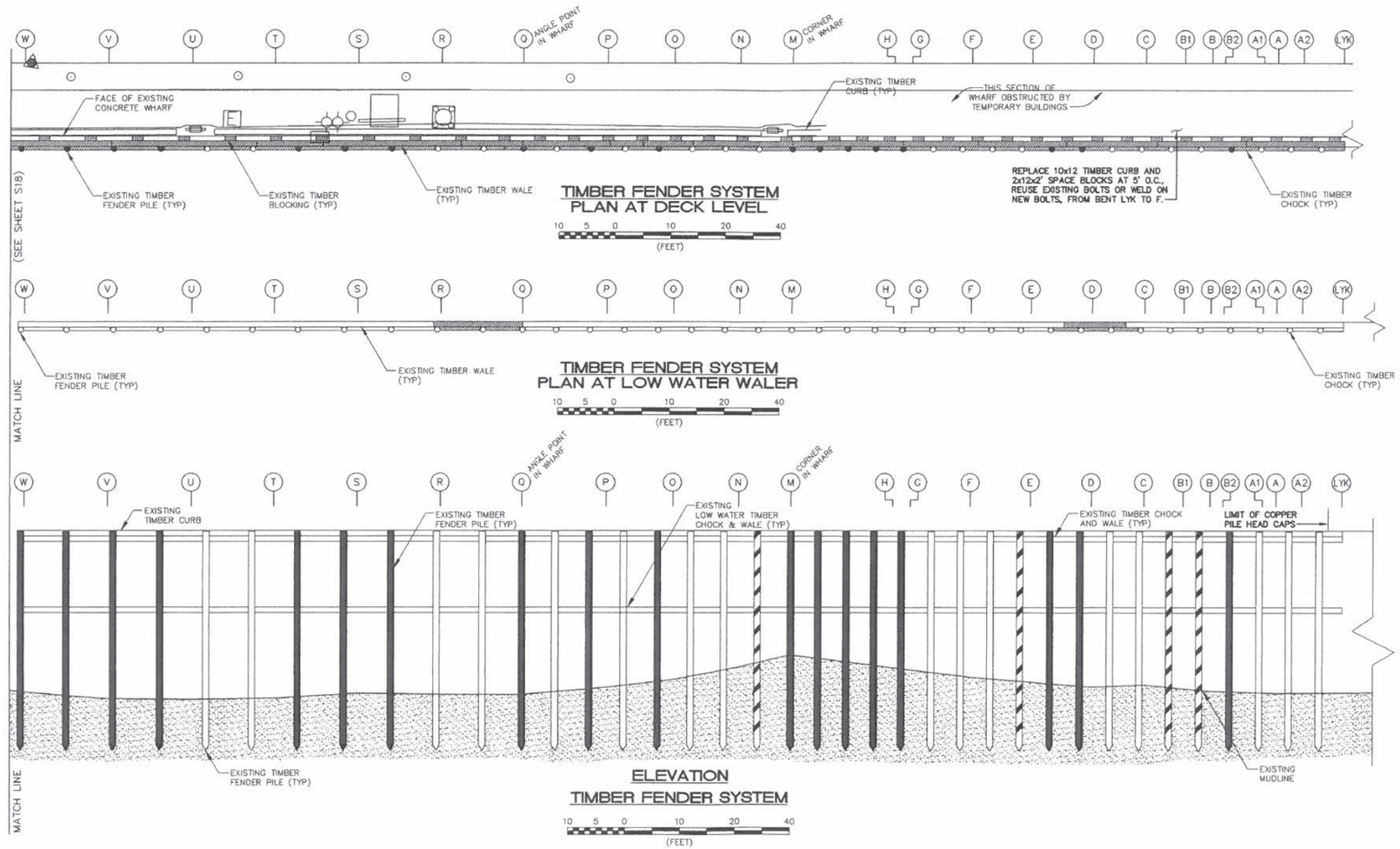
TIMBER FENDER SYSTEM REPAIR PLAN & ELEVATION - 1

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196025
SHT S19
SHEET 26 OF 36
FM NO. FP-98-397

UNCLASSIFIED

D-19

BERTH 11



LEGEND:

- DAMAGED TIMBER BLOCK, WALE OR CHOCK TO BE REPLACED
- REPLACE PILE
- (6) WHARF PILE BENT LOCATIONS
- ADDITIONAL PILES TO BE REPLACED (JANUARY 2000)

REVISIONS			
REVISION	DATE	DESCRIPTION	BY

Applecore Engineering Inc.
500 State Street, Suite D
Portsmouth, New Hampshire 03801
www.applecore.com

DEPARTMENT OF THE NAVY
NAVAL SHIPYARD PORTSMOUTH, N.H.
NAVAL FACILITIES ENGINEERING COMMAND

STRUCTURALLY REPAIR BERTH 11

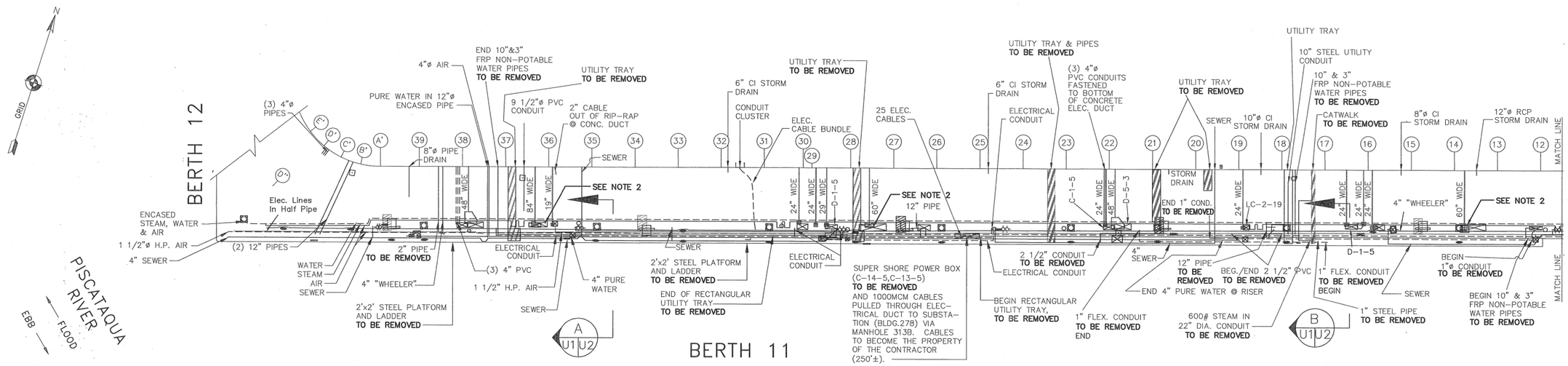
TIMBER FENDER SYSTEM REPAIR
PLAN & ELEVATION – 2

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196026
SHT S20
SHEET 27 OF 36
FP NO. FP2-98-398

D-20

BERTH 11

UNCLASSIFIED



UTILITIES TABLE

BENT	EXISTING 4" "WHEELER"	EXISTING 8" AIR	EXISTING 6" WATER	EXISTING 6" STEAM	EXISTING HIGH PRESSURE AIR	EXISTING 4" SANITARY SEWER	EXISTING 10" FRP SALT WATER	EXISTING 3" FRP SALT WATER	EXISTING 600# STEAM	EXISTING 1" ELECTRIC CONDUIT	EXISTING 1" TRACE ELECTRIC CONDUIT	EXISTING 1" ABANDONED	EXISTING PURE WATER	EXISTING 1" PVC SEWER HEAT TRACE	EXISTING 1 1/2" PVC SEWER HEAT TRACE
LYK – A					■	●									
A – B					■	●									
B – C					■	●									
C – D					■	●									
D – E					■	●									
E – F					■	●									
F – G	◎				■	●			X	●					
G – H	◎				■	●			X	●					
H – I	◎				■	●			X	●					
I – J	◎				■	●			X	●					
J – K	◎				■	●			X	●					
K – L	◎				■	●			X	●					
L – M	◎				■	●			X	●					
M – N	◎				■	●			X	●					
N – O	◎				■	●			X	●					
O – P	◎				■	●			X	●					
P – Q	◎				■	●			X	●					
Q – R	◎	◎	●	●	■	●			X	●					
R – S	◎	◎	●	●	■	●				●					
S – T	◎	◎	●	●	■	●				●					
T – U	◎	◎	●	●	■	●				●					
U – V	◎	◎	●	●	■	●				●					
V – W	◎	◎	●	●	■	●				●					
W – 1	◎	◎	●	●	■	●				●					
1 – 2	◎	◎	●	●	■	●				●					
2 – 3	◎	◎	●	●	■	●				●					
3 – 4	◎	◎	●	●	■	●				●				●	●
4 – 5	◎	◎	●	●	■	●				●				●	●
5 – 6	◎	◎	●	●	■	●				●				●	●
6 – 7	◎	◎	●	●	■	●				●				●	●
7 – 8	◎	◎	●	●	■	●				●				●	●
8 – 9	◎	◎	●	●	■	●				●				●	●
9 – 10	◎	◎	●	●	■	●				●				●	●
10 – 11	◎	◎	●	●	■	●				●				●	●
11 – 12	◎	◎	●	●	■	●	X	X		●				●	●
12 – 13	◎	◎	●	●	●	●	X	X		●				●	●
13 – 14	◎	◎	●	●	●	●	X	X		●				●	●
14 – 15	◎	◎	●	●	●	●	X	X		●				●	●
15 – 16	◎	◎	●	●	●	●	X	X		●				●	●
16 – 17	◎	◎	●	●	●	●	X	X		●				●	●
17 – 18	◎	◎	●	●	●	●	X	X		●				●	●
18 – 19	◎	◎	●	●	●	●	X	X		●				●	●
20 – 21	◎	◎	●	●	●	●	X	X		●			●	●	●
21 – 22	◎	◎	●	●	●	●	X	X		●			●	●	●
22 – 23	◎	◎	●	●	●	●	X	X		●			●	●	●
23 – 24	◎	◎	●	●	●	●	X	X		●			●	●	●

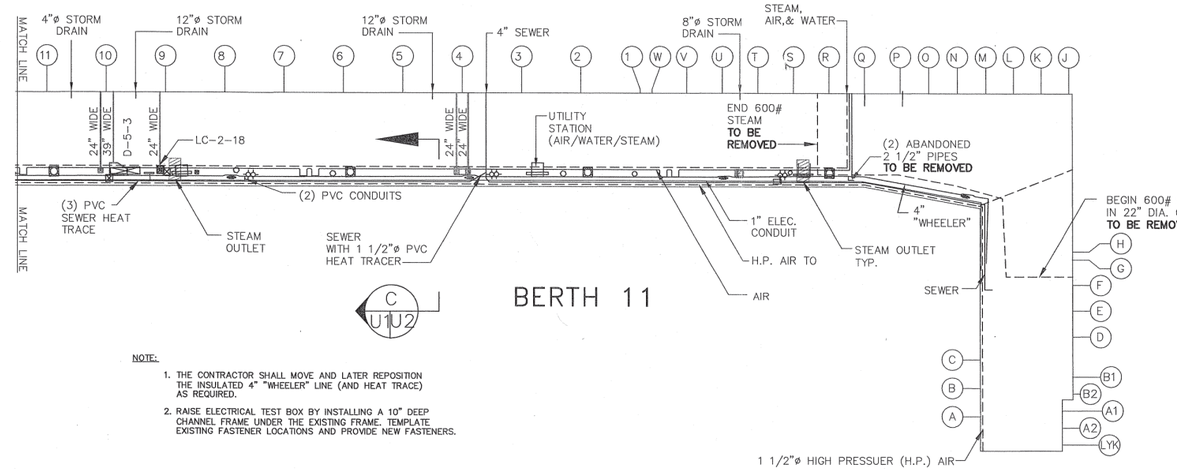
NOTES:

1. ALL UTILITIES ARE SHOWN SCHEMATICALLY REFER TO SHEET U2 "UTILITY REMOVAL SECTIONS" FOR SPECIFIC LOCATIONS.

LEGEND:

- ● UTILITIES TO REMAIN
- X UTILITIES TO BE REMOVED
- ■ UTILITIES TO BE REMOVED BY THE GOVERNMENT

BENT	EXISTING 4" "WHEELER"	EXISTING 8" AIR	EXISTING 6" WATER	EXISTING 6" STEAM	EXISTING HIGH PRESSURE AIR	EXISTING 4" SANITARY SEWER	EXISTING 10" FRP SALT WATER	EXISTING 3" FRP SALT WATER	EXISTING 600# STEAM	EXISTING 1" ELECTRIC CONDUIT	EXISTING 1" TRACE ELECTRIC CONDUIT	EXISTING 1" ABANDONED	EXISTING PURE WATER	EXISTING 1" PVC SEWER HEAT TRACE	EXISTING 1 1/2" PVC SEWER HEAT TRACE
24 – 25	●	●	●	●	●	●	X	X		●			●	●	●
25 – 26	●	●	●	●	●	●	X	X		●			●	●	●
26 – 27	●	●	●	●	●	●	X	X		●			●	●	●
27 – 28	●	●	●	●	●	●	X	X		●			●	●	●
28 – 29	●	●	●	●	●	●	X	X		●			●	●	●
29 – 30	●	●	●	●	●	●	X	X		●			●	●	●
30 – 31	●	●	●	●	●	●	X	X		●			●	●	●
31 – 32	●	●	●	●	●	●	X	X		●			●	●	●
32 – 33	●	●	●	●	●	●	X	X		●			●	●	●
33 – 34	●	●	●	●	●	●	X	X		●			●	●	●
34 – 35	●	●	●	●	●	●	X	X		●			●	●	●
35 – 36	●	●	●	●	●	●	X	X		●			●	●	●
36 – 37	●	●	●	●	●	●	X	X		●			●	●	●
37 – 38	●	●	●	●	●	●	X	X		●			●	●	●
38 – 39	●	●	●	●	●	●				●				●	●
39 – A'		●	●	●	●	●				●				●	●
A' – B'		●	●	●	●	●				●				●	●
B" – C'		●	●	●	●	●				●				●	●
C" – D"		●	●	●	●	●				●				●	●



NOTE:

1. THE CONTRACTOR SHALL MOVE AND LATER REPOSITION THE INSULATED 4" "WHEELER" LINE (AND HEAT TRACE) AS REQUIRED.
2. RAISE ELECTRICAL TEST BOX BY INSTALLING A 10" DEEP CHANNEL FRAME UNDER THE EXISTING FRAME. TEMPLATE EXISTING FASTENER LOCATIONS AND PROVIDE NEW FASTENERS.

LEGEND:

Ⓜ	MANHOLE	39"X17" 10WAY	39"X17" 10 WAY ELECTRICAL DUCT
	SEWER CONNECTION	VIT	VITRIFIED CLAY PIPE
	HYDRANT	CONC	CONCRETE PIPE
	CONCRETE PAD	C-18-5	UTILITY BOX
	METAL COVER	FRP	FIBER REINFORCED PLASTIC
	CONCRETE PAD WITH METALCOVER	24" WIDE	24" WIDE CONCRETE ELECTRICAL DUCT
COND.	CONDENSATE		

30 15 0 30 60 90
(FEET)

REVISIONS				
REVISION	DATE	DESCRIPTION	BY	

ARCH. | CIV. STR. | MECH. | PRNGR. | ELEC.

Applecore Engineering Inc.
900 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8818 email@m.ultranet.com
DESIGN: RGB DRWN: NJE CHK: DCM SUPV: RMS
SATISFACTORY TO BUDGET: DATE
SATISFACTORY TO PROGRAM: DATE
HEAD, ENGINEERING DIVISION: DATE
APPROVED: DATE
ACTING HEAD, ENGINEERING DIVISION: DATE
DESIGNED: Robert M. Sullivan
Vice President 10/30/98
TITLE: DATE:

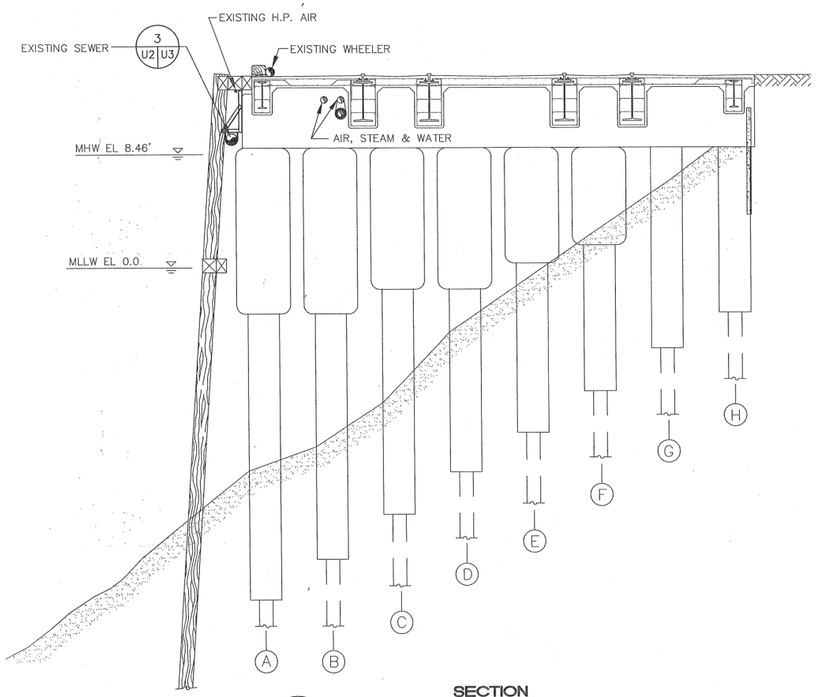
STATE OF NEW HAMPSHIRE — REGISTERED PROFESSIONAL ENGINEER — No. 5000 — THE SULLIVAN ENGINEERING GROUP — (SEAL)

DEPARTMENT OF THE NAVY
NAVAL SHIPYARD PORTSMOUTH, N.H.
NAVAL FACILITIES ENGINEERING COMMAND
STRUCTURALLY REPAIR BERTH 11

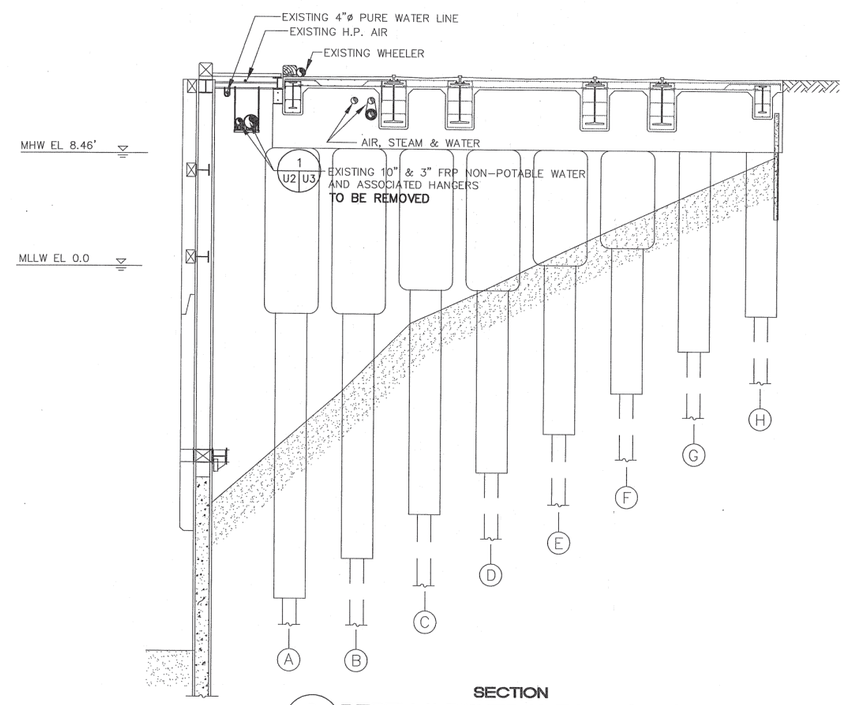
EXISTING UTILITIES AND UTILITIES REMOVAL PLAN

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196029
SHT U1
SHEET 30 OF 36
PW NO. FP2-98-401

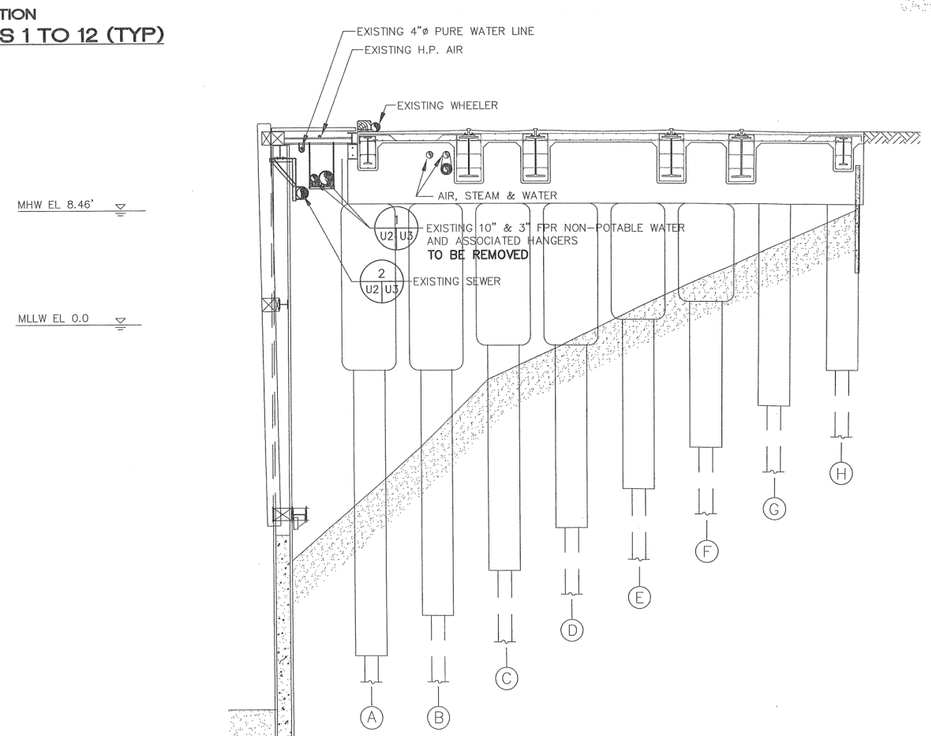
UNCLASSIFIED



SECTION
C U1 U2 BERTH 11 BENTS 1 TO 12 (TYP)



SECTION
B U1 U2 BERTH 11 BENTS 12 TO 17 (TYP)



SECTION
A U1 U2 BERTH 11 BENTS 17 TO D' (TYP)

NOTES:

1. SECTION BASED ON PNSY PUBLIC WORKS ARCHIVE DRAWINGS AND DIVING INSPECTION.
2. SEE SHEETS U1 & U3 FOR ADDITIONAL LOCATION OF UTILITIES.
3. UNDERWHARF SLOPE CONTAINS DEBRIS NOT SHOWN INCLUDING, BUT NOT LIMITED TO, STEEL PIPE, REBAR, STRUCTURAL STEEL, CONCRETE RUBBLE, ELECTRICAL WIRING AND CONDUIT, ALUMINUM SCAFFOLDING, ROPE AND CORD NETTING.
4. FENDER/SHUTTER PANEL SYSTEM, MIDSPAN PILES, BATTER PILES, ETC. NOT SHOWN FOR DRAWING CLARITY.

4 2 0 4 8 12
(FEET)

REVISION	DATE	DESCRIPTION	BY
		REVISIONS	

ARCH.
MECH.
ELEC.
DIV. STR.
PRINCIP.
SATISFACTORY TO: DATE 11/13/97
SATISFACTORY TO: DATE
HEAD, ENGINEERING DIV. DATE 10/20/98
APPROVED: HEAD, FACILITIES ENGINEERING DIV. DATE 10/20/98

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8818
aei@nh.ultranet.com

DESIGN: RRB DRAWN: NJE CHK: DCM SUPV: RMS
SIGNATURE: (SIGNED) TITLE: Vice President DATE: 10/20/98

STATE OF NEW HAMPSHIRE LICENSED PROFESSIONAL ENGINEER ROBERT M. SHOVER No. 9409 (SEAL) 10/20/98

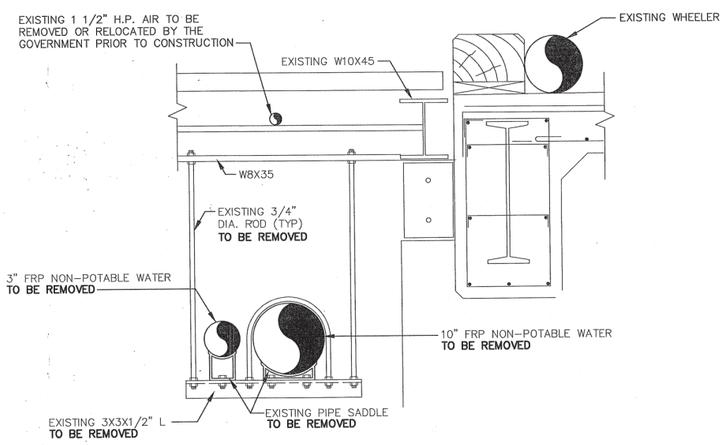
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL SHIPYARD PORTSMOUTH, N.H.
STRUCTURALLY REPAIR BERTH 11

UTILITY REMOVAL SECTIONS

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196030
SHT U2
SHEET 31 OF 36
PW NO. FP2-98-402

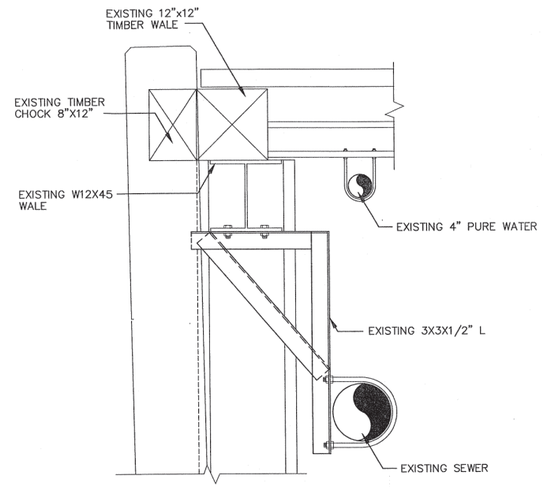
UNCLASSIFIED

RE(1243A)/FP2-402.DWG



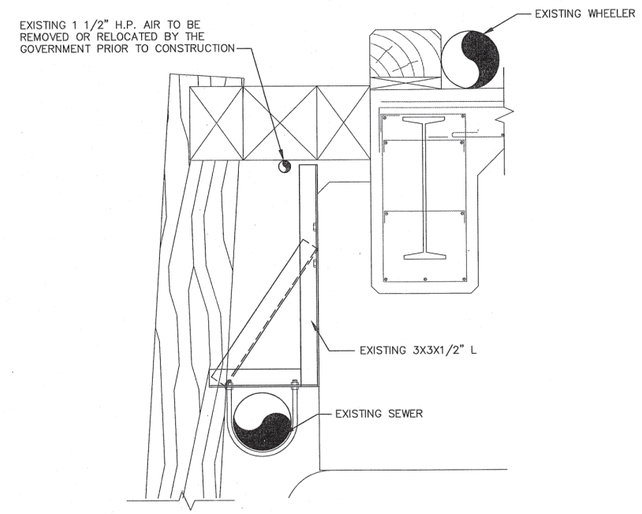
BENTS 12 TO 37
1 U2 U3 UTILITY HANGER DETAIL

1 1/2 0 1 2 3
(FEET)



BENTS 4 TO E'
2 U2 U3 UTILITY HANGER DETAIL

1 1/2 0 1 2 3
(FEET)



BENTS F TO 3
3 U2 U3 UTILITY HANGER DETAIL

1 1/2 0 1 2 3
(FEET)

NOTES:

1. UTILITY LOCATIONS VARY AND ARE APPROXIMATE.
2. EXISTING UTILITIES BEHIND WHARF ARE NOT SHOWN ON SECTIONS.
3. ALL CONDUITS TO BE REMOVED ARE STEEL EXCEPT FOR THE 10" AND 3" SALTWATER WHICH ARE FIBER REINFORCED PLASTIC (FRP).
4. UTILITIES TO BE REMOVED INCLUDE CONDUITS, ANY ASSOCIATED COVERING, JACKETING, JUNCTION BOXES AND HANGERS.
5. ALL UTILITIES TO BE REMOVED WILL BE DE-ENERGIZED OR SHUT OFF BY THE GOVERNMENT, PRIOR TO REMOVAL. CONTRACTOR SHALL CONFIRM WITH THE CONTRACTING OFFICER THAT UTILITIES TO BE REMOVED HAVE BEEN DE-ENERGIZED, SHUT OFF AND TAGGED OUT.
6. FENDER/SHUTTER PANEL SYSTEM, MIDSPAN PILES, BATTER PILES, ETC. NOT SHOWN FOR DRAWING CLARITY.

REVISION	DATE	DESCRIPTION	BY
		REVISIONS	

ARCH. | CIV. STR.
MECH. | PRMGR.
ELEC.
SATISFACTORY TO: DATE 11/1/98
SATISFACTORY TO: DATE 11/22/99
HEAD, ENGINEERING BRANCH: DATE 11/24/99
APPROVED: HEAD, FACILITIES DIVISION

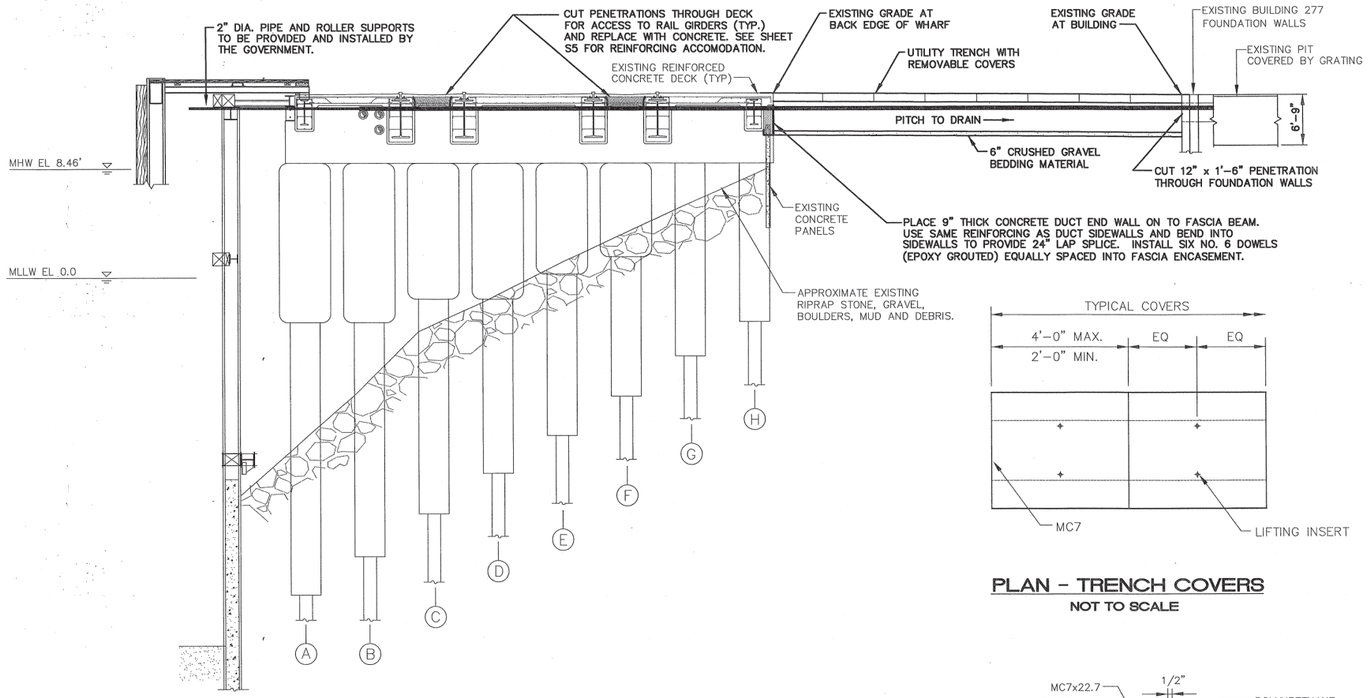
Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8818 ext@nh.ultranet.com
DSGN: RRB DRWN: NJE CHK: DCM SUPV: RMS
SUBMITTED BY: Vice President 10/30/98
TITLE DATE
(SIGNED)

THE STATE OF NEW HAMPSHIRE
ROBERT M. GNOVER
No. 6880
LICENSED
PROFESSIONAL ENGINEER
(SEAL)

DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.
STRUCTURALLY REPAIR BERTH 11
UTILITY REMOVAL DETAILS

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-97-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196031
SHT U3
SHEET 32 OF 36
PW NO. FP2-98-403

UNCLASSIFIED

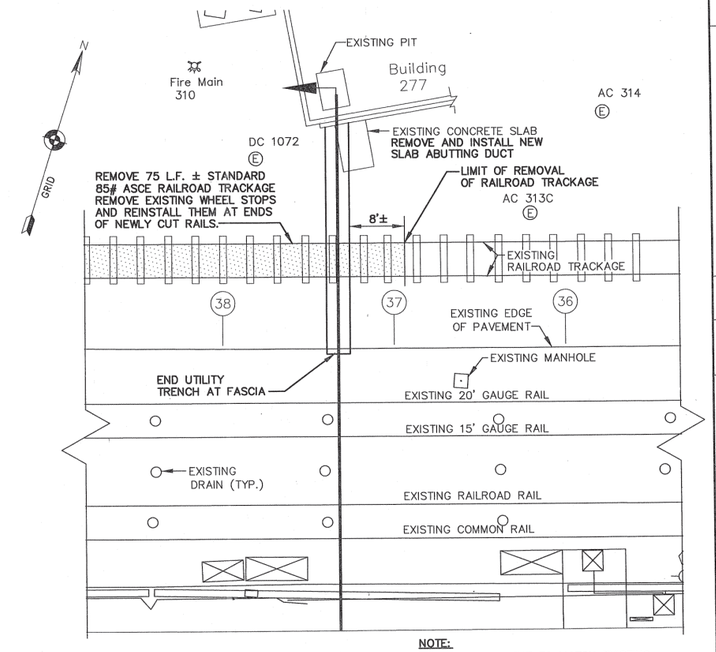


1 U4 U4 PURE WATER DUCT SECTION

4 2 0 4 8 12
(FEET)

PLAN - TRENCH COVERS

NOT TO SCALE

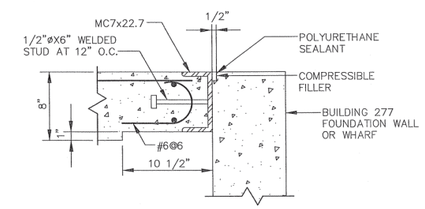


NOTE:
NEW PAVEMENT TO MATCH EXISTING GRADE 8'± ON EITHER SIDE OF NEW UTILITY TRENCH AND AT RAILROAD TRACKAGE PAVEMENT REMOVAL.

1 U4 U4

PURE WATER DUCT PLAN

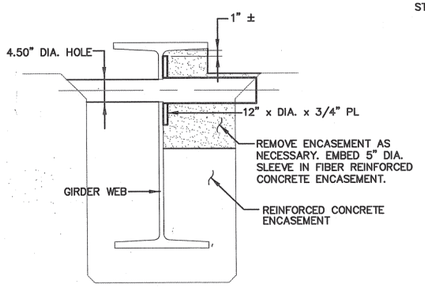
10 5 0 10 20 30
(FEET)



TRENCH COVER END SECTION (TYP)

1 1/2 0 1 2 3
(FEET)

NOTE: COAT ALL EXPOSED STEEL SURFACES WITH COAL TAR EPOXY.



SECTION

PENETRATION THROUGH GIRDER (TYP)

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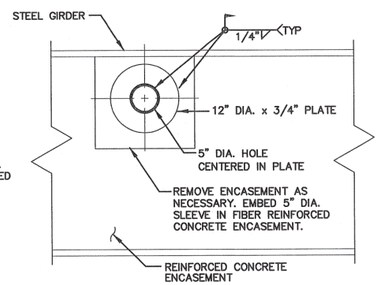
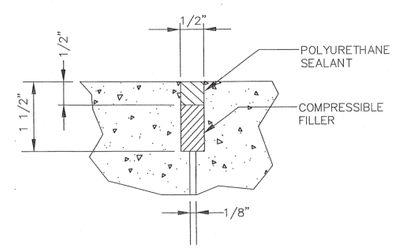
(FEET)



ELEVATION

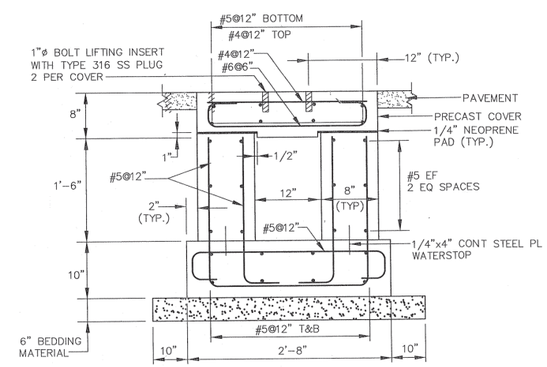
PENETRATION THROUGH GIRDER (TYP)

1 1/2 0 1 2 3
(FEET)



TRENCH COVER JOINT DETAIL (TYP)

NOT TO SCALE



NOTE: INSTALL NO. 5 DOWELS (EPOXY GROUT) INTO BUILDING 277 FOUNDATION AND WHARF TO MATCH CONCRETE DUCT LONGITUDINAL REINFORCING. EMBED DOWELS 4" MIN.. PROVIDE FOR 24" LAP SPLICES.

TYPICAL UTILITY TRENCH SECTION

NOT TO SCALE

MARK	DESCRIPTION	DATE	REVISION	BY
	REVISIONS			

DSL STRL
MECH.
ELEC.
PNMCR.
SATISFACTORY TO
SATISFACTORY TO
SEAL DRAWINGS
SEAL SPECS
DATE 1/1/97
DATE 10/27/99
DATE 11/4/99

Appledore Engineering Inc.
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Portsmouth, New Hampshire 03801
www.appledore-inc.com
DESIGN REF: 1996N, NJE CHK: DCM SUPV: RMS
SUBMITTED BY: Robert M. Hunt
Vice President 10/30/98
TITLE SIGNATURE DATE

STATE OF NEW HAMPSHIRE
ROBERT M. HUNT
No. 3247
LICENSED
PROFESSIONAL ENGINEER

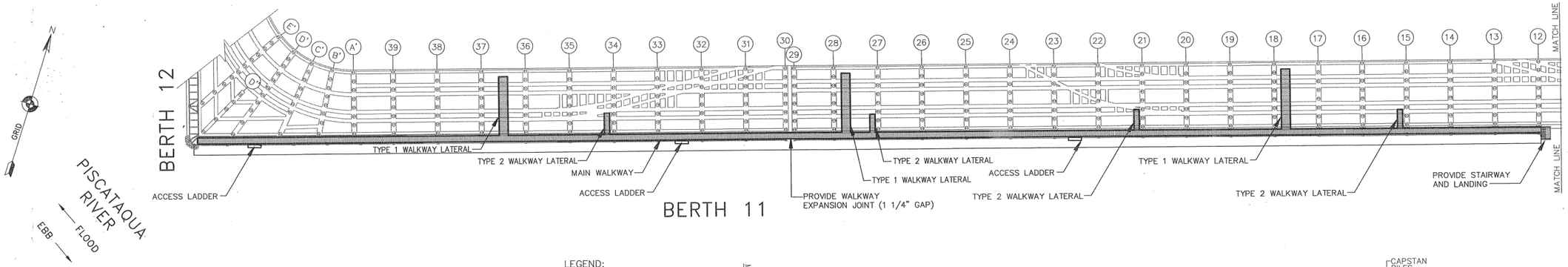
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
PORTSMOUTH, N.H.
NAVAL FACILITIES ENGINEERING COMMAND

STRUCTURALLY REPAIR BERTH 11

PURE WATER DUCT PLAN AND SECTIONS

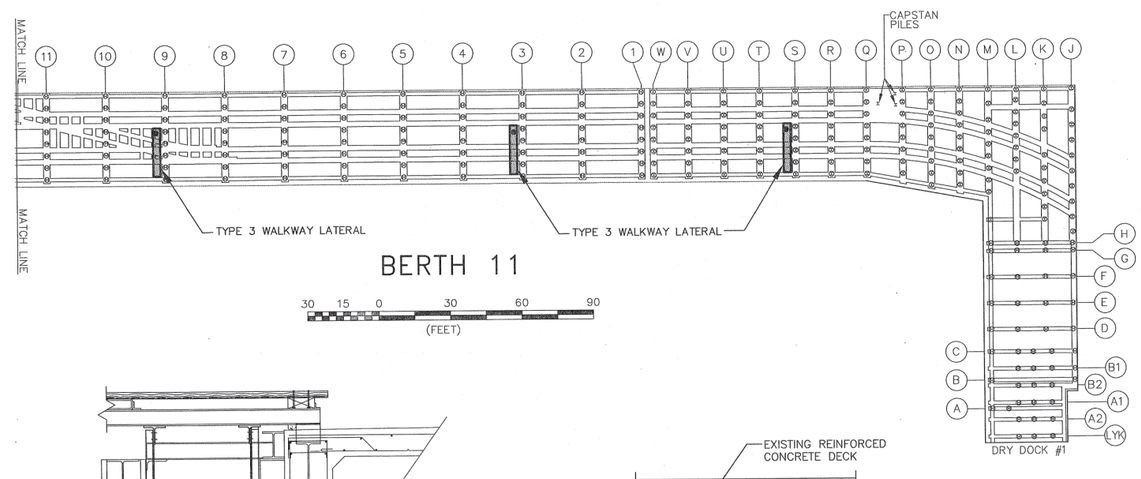
CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196032
SHT U4
SHEET 33 OF 36
FW NO. FP2-98-404

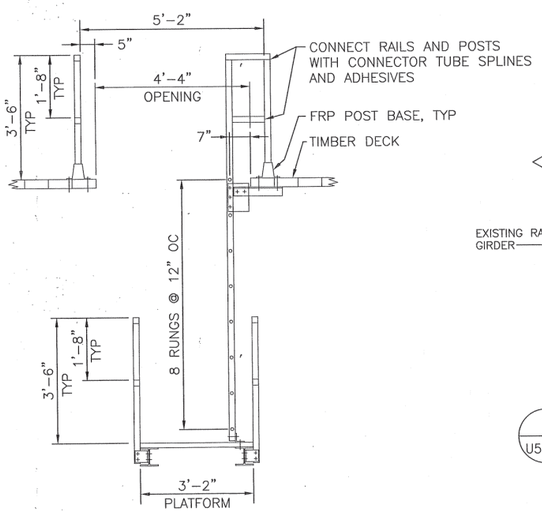
UNCLASSIFIED



LEGEND:

WALKWAY



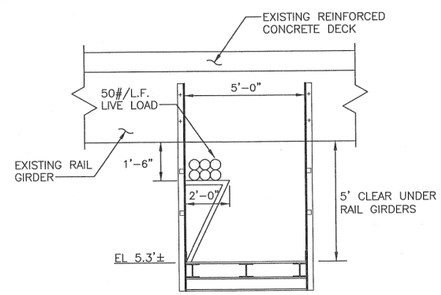


SECTION

MAIN WALKWAY ACCESS LADDER

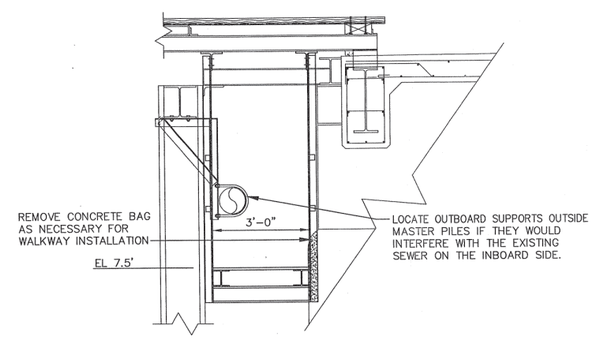
(THROUGH TIMBER DECK OUTBOARD OF EXISTING FENDER PILES)

N.T.S.



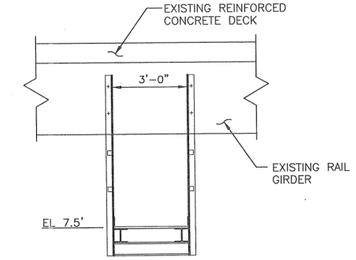
1 U5 U5 TYPE 1 WALKWAY SECTION SCHEMATIC

N.T.S.



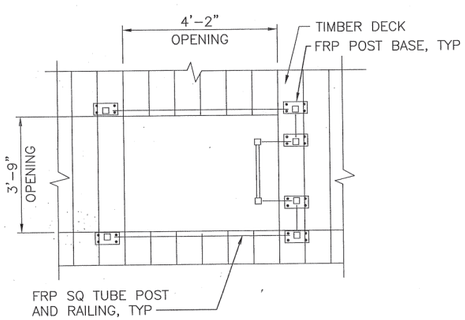
MAIN WALKWAY SECTION

N.T.S.



TYPE 2 AND 3 WALKWAY SECTION

N.T.S.

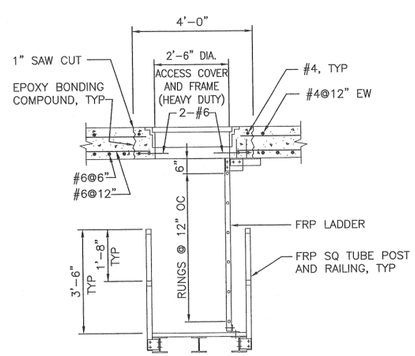


PLAN

NEW WALKWAY ACCESS LADDER

(THROUGH TIMBER DECK OUTBOARD OF EXISTING FENDER PILES)

N.T.S.



SECTION

TYPE 3 ACCESS LADDER

(THROUGH CONCRETE DECK)

N.T.S.

NOTES:

MAIN WALKWAY SHALL BE LOCATED AS SHOWN AND BE 3'-0" WIDE, SUSPENDED FROM THE REACTION FRAME.
GRATING ELEVATION SHALL BE +7.5'.
PROVIDE ACCESS STAIRWAY AND LANDING AT EAST END (BENT 12).
PROVIDE ACCESS LADDER THROUGH TIMBER DECK BETWEEN BENTS C'-D', 22-23 AND 32-33.

TYPE 1 WALKWAY LATERALS SHALL BE LOCATED AS DIRECTED AND BE 5'-0" WIDEx34' LONG WITH CABLE SUPPORT TRAY AS SHOWN SCHEMATICALLY IN DETAIL SUSPENDED FROM THE REINFORCED CONCRETE GIRDER ENCASEMENT FACE, AND ACCESSED (WITH STAIRS) FROM THE MAIN WALKWAY (1 / U5 U5)

TYPE 2 WALKWAY LATERALS SHALL BE LOCATED AS DIRECTED AND BE 3'-0" WIDEx12' LONG, SUSPENDED FROM THE REINFORCED CONCRETE GIRDER ENCASEMENT FACE.
GRATING ELEVATION SHALL BE +7.5'.

TYPE 3 WALKWAY LATERALS SHALL BE LOCATED AS DIRECTED AND SHALL BE 3'-0" WIDEx20' LONG, SUSPENDED FROM THE REINFORCED CONCRETE GIRDER ENCASEMENT FACE.
PROVIDE ACCESS LADDER AND COVER THROUGH REINFORCED CONCRETE DECK.
GRATING ELEVATION SHALL BE +7.5'.

ALL WALKWAYS SHALL BE CONSTRUCTED FROM FIBERGLASS REINFORCED PLASTIC.

PURPOSE OF THE LATERAL WALKWAYS IS TO ACCESS EXISTING VALVES AND EXPANSION JOINTS. EXACT LOCATION OF LATERAL WALKWAYS TO BE DETERMINED IN THE FIELD IN CONJUNCTION WITH A GOVERNMENT REPRESENTATIVE.

REVISIONS			
REVISION	DATE	DESCRIPTION	BY

ARCH. CIV. STR.
MECH. PRNVR.
ELEC.
SATISFACTORY TO DATE 11/13/02
SATISFACTORY TO DATE 10/29/02
HEAD, ENGINEERING BRANCH
HEAD, FACILITIES ENGINEERING DIV.

Appledore Engineering Inc.
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appledore@nh.ultranet.com
DESIGN: DRWN: NJE CHK: RRS SUPV: RMS
Submitted by: Robert M. Sawyer Vice President 10/29/02
(NAME) TITLE DATE

STATE OF NEW HAMPSHIRE ROBERT M. SAWYER No. 5300 PROFESSIONAL ENGINEER (SEAL)

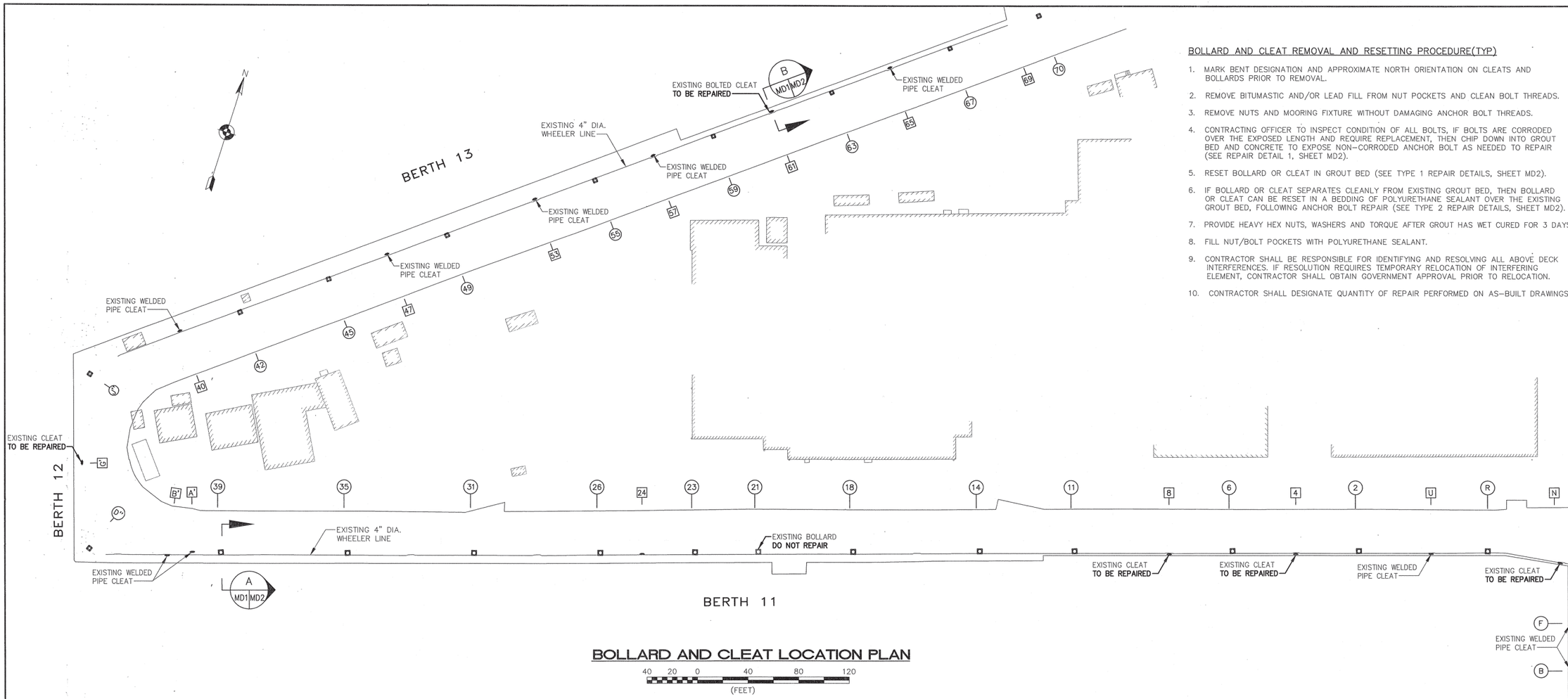
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.

STRUCTURALLY REPAIR BERTH 11

UTILITY ACCESS WALKWAY PLAN AND DETAILS

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196045
SHT U5
SHEET 34 OF 36
PW NO. FP2-98-405

UNCLASSIFIED



BOLLARD AND CLEAT LOCATION PLAN

40 20 0 40 80 120
(FEET)

BOLLARD AND CLEAT REMOVAL AND RESETTING PROCEDURE(TYP)

1. MARK BENT DESIGNATION AND APPROXIMATE NORTH ORIENTATION ON CLEATS AND BOLLARDS PRIOR TO REMOVAL.
2. REMOVE BITUMASTIC AND/OR LEAD FILL FROM NUT POCKETS AND CLEAN BOLT THREADS.
3. REMOVE NUTS AND MOORING FIXTURE WITHOUT DAMAGING ANCHOR BOLT THREADS.
4. CONTRACTING OFFICER TO INSPECT CONDITION OF ALL BOLTS, IF BOLTS ARE CORRODED OVER THE EXPOSED LENGTH AND REQUIRE REPLACEMENT, THEN CHIP DOWN INTO GROUT BED AND CONCRETE TO EXPOSE NON-CORRODED ANCHOR BOLT AS NEEDED TO REPAIR (SEE REPAIR DETAIL 1, SHEET MD2).
5. RESET BOLLARD OR CLEAT IN GROUT BED (SEE TYPE 1 REPAIR DETAILS, SHEET MD2).
6. IF BOLLARD OR CLEAT SEPARATES CLEANLY FROM EXISTING GROUT BED, THEN BOLLARD OR CLEAT CAN BE RESET IN A BEDDING OF POLYURETHANE SEALANT OVER THE EXISTING GROUT BED, FOLLOWING ANCHOR BOLT REPAIR (SEE TYPE 2 REPAIR DETAILS, SHEET MD2).
7. PROVIDE HEAVY HEX NUTS, WASHERS AND TORQUE AFTER GROUT HAS WET CURED FOR 3 DAYS.
8. FILL NUT/BOLT POCKETS WITH POLYURETHANE SEALANT.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND RESOLVING ALL ABOVE DECK INTERFERENCES. IF RESOLUTION REQUIRES TEMPORARY RELOCATION OF INTERFERING ELEMENT, CONTRACTOR SHALL OBTAIN GOVERNMENT APPROVAL PRIOR TO RELOCATION.
10. CONTRACTOR SHALL DESIGNATE QUANTITY OF REPAIR PERFORMED ON AS-BUILT DRAWINGS.

REPAIR MATERIAL NOTES:

1. REPLACEMENT ANCHOR BOLT ENDS SHALL BE PLAIN STEEL STUDS/THREAD ROD CONFORMING TO ASTM A307, GRADE B OR ASTM A36 INTENDED FOR WELDING.
2. REPLACEMENT NUTS SHALL BE HEAVY HEX CONFORMING TO ASTM A563.
3. REPLACEMENT WASHERS SHALL BE HOT-DIP GALVANIZED U.S. STD. FLAT WASHERS. CONTRACTOR SHALL CONFIRM STD. WASHERS WILL FIT IN CLEAT AND BOLLARD NUT POCKETS PRIOR TO ORDERING.
4. CLEAT AND BOLLARD NUT POCKETS SHALL BE FILLED WITH POLYURETHANE ELASTOMERIC SEALANT/ ADHESIVE CONFORMING TO ASTM C920, TYPE S OR M, GRADE NS, CLASS 25, COLOR GRAY, RESISTANT TO WEATHERING.
5. GROUT SHALL BE NON-SHRINK PER SECTION 03300.

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTOBER 1999.
2. EXISTING BOLLARDS ARE TO BE REMOVED AND REPAIRED UNLESS SPECIFIED OTHERWISE.
3. EXISTING CLEATS ARE TO REMAIN AND NOT BE REPAIRED UNLESS SPECIFIED OTHERWISE.

LEGEND:

- EXISTING CLEAT
- EXISTING BOLLARD **TO BE REPAIRED**
- (6) BOLLARD BENT DESIGNATION
- [53] CLEAT BENT DESIGNATION

REVISIONS			
REVISION	DATE	DESCRIPTION	BY

CIV. STR. / PRIMGE. / ARCH. / MECH. / ELEC.

SATISFACTORY TO REAL ENGINEERING REPRESENTATIVE — DATE
SATISFACTORY TO SUPV. ENG. — DATE
APPROVED NAVAL FACILITIES DIVISION — DATE

Appledore Engineering Inc.
600 Globe Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8818 ae@ph.ultranet.com
DSGN: TCM DRWN: NJC CHK: RRB SUPV: RMS
Vice President 10/15/99
TITLE DATE (SIGNED)

THE STATE OF NEW HAMPSHIRE — ROBERT R. SILVIER — No. 5308 — PROFESSIONAL ENGINEER (SEAL)

DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.

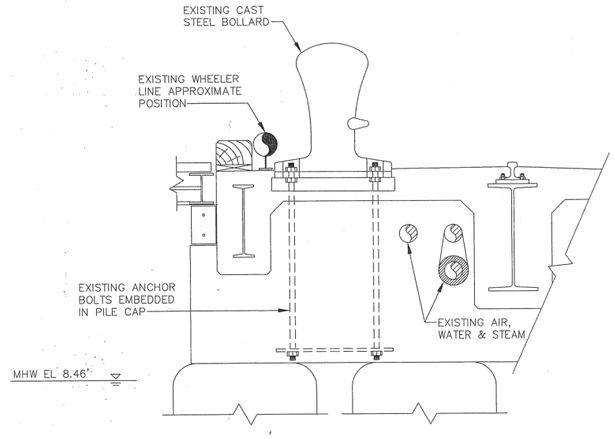
STRUCTURALLY REPAIR BERTH 11

BOLLARD AND CLEAT REPAIR PLAN

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196265
SHT MD1
SHEET 37 OF 46
FW NO. FP2-99-408

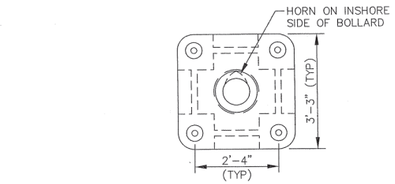
AE(1243A)FP2-408.DWG

UNCLASSIFIED

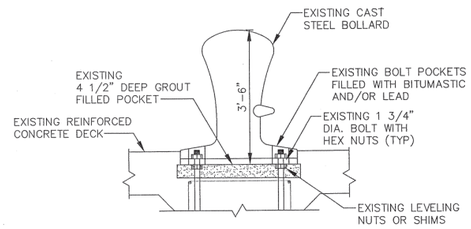


A MD1 MD2 **EXISTING CAST STEEL BOLLARD SECTION (TYP)**

2 1 0 2 4 6 (FEET)



PLAN



SECTION

A MD1 MD2 **EXISTING BOLLARD DETAIL**

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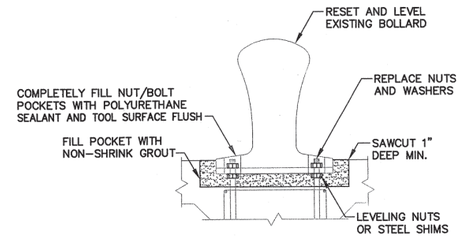

SECTION

BOLLARD RESETTING DETAIL - TYPE 1

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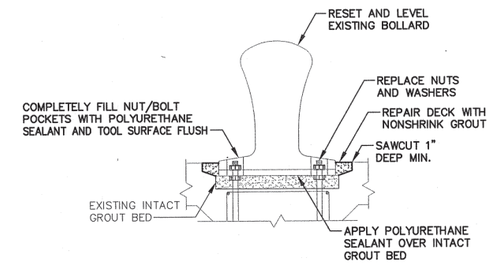
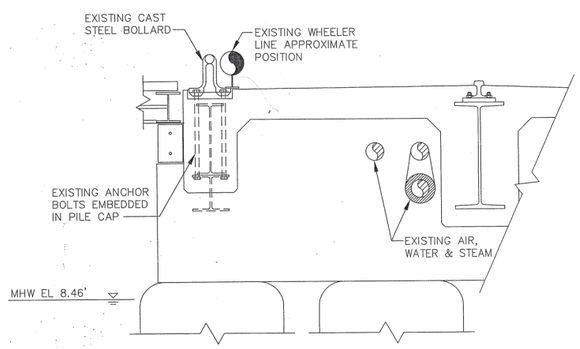


SECTION

BOLLARD RESETTING DETAIL - TYPE 2

2 1 0 2 4 6 (FEET)



B MD1 MD2 **EXISTING CAST STEEL CLEAT SECTION (TYP)**

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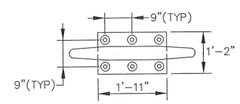
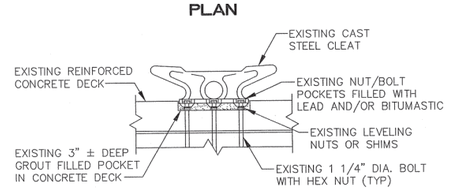


PLAN



SECTION

B MD1 MD2 **EXISTING CAST STEEL CLEAT DETAIL**

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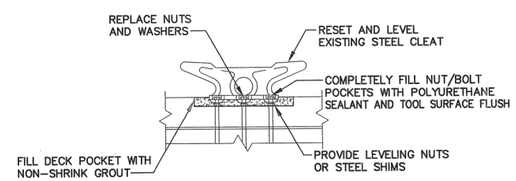
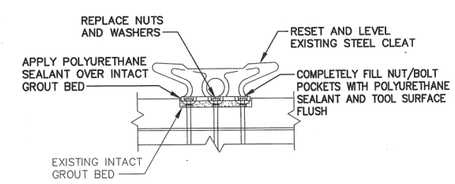


SECTION

CAST STEEL CLEAT RESETTING DETAIL - TYPE 1

2 1 0 2 4 6 (FEET)



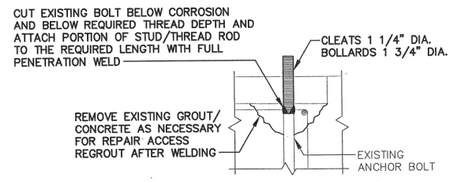
SECTION

CLEAT RESETTING DETAIL - TYPE 2

2 1 0 2 4 6 (FEET)

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTOBER 1999.
2. TEMPORARILY MOVE EXISTING WHEELER LINE AS NECESSARY TO PERFORM BOLLARD AND CLEAT WORK. WHEELER LINE INSULATION MAY ALSO BE TEMPORARILY REMOVED FOR CLEARANCE AS LONG AS NEW STAINLESS STEEL BAND CLAMPS ARE PROVIDED FOR REINSTALLATION (TYP).
3. SAWCUT CONCRETE DECK 1" DEEP IN STRAIGHT LINES AT LIMITS OF CONCRETE AND GROUT REMOVAL ON THREE (ACCESSIBLE) SIDES OF BOLLARD OR CLEAT PRIOR TO REPAIRING DECK (TYP).
4. BOLLARD AND NUT POCKETS SHALL BE BLAST CLEANED TO SSPC SP 6 AND COATED WITH INORGANIC ZINC RICH PRIMER WHILE CASTING IS REMOVED. ANCHOR BOLTS SHALL BE CLEANED TO SSPC SP 3.
5. ALL BOLT THREADS SHALL BE COATED WITH ANTI-SEIZE GREASE PRIOR TO INSTALLING NUTS. TORQUE CLEAT NUTS TO 300 FT-LB. TORQUE BOLLARD NUTS TO 500 FT-LB.



BOLT REPAIR DETAIL 1 (TYP)

2 1 0 2 4 6 (FEET)

REVISION	DATE	DESCRIPTION	BY

REVISIONS

AREA: | CN. STR.
MECH. | PRINCR.
ELEC.

SATISFACTORY TO ... DATE
SATISFACTORY TO ... DATE
SATISFACTORY TO NAVFAC STANDARDS BRANCH ... DATE
APPROVED HEAD, FACILITIES DIVISION ... DATE

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8818
ae@appledore.com
DESIGN: TCB DWN: MJ SPEC: N.E. CHK. REG. SUPV. RES
Vice President 10/15/99
TITLE DATE
(SEAL)

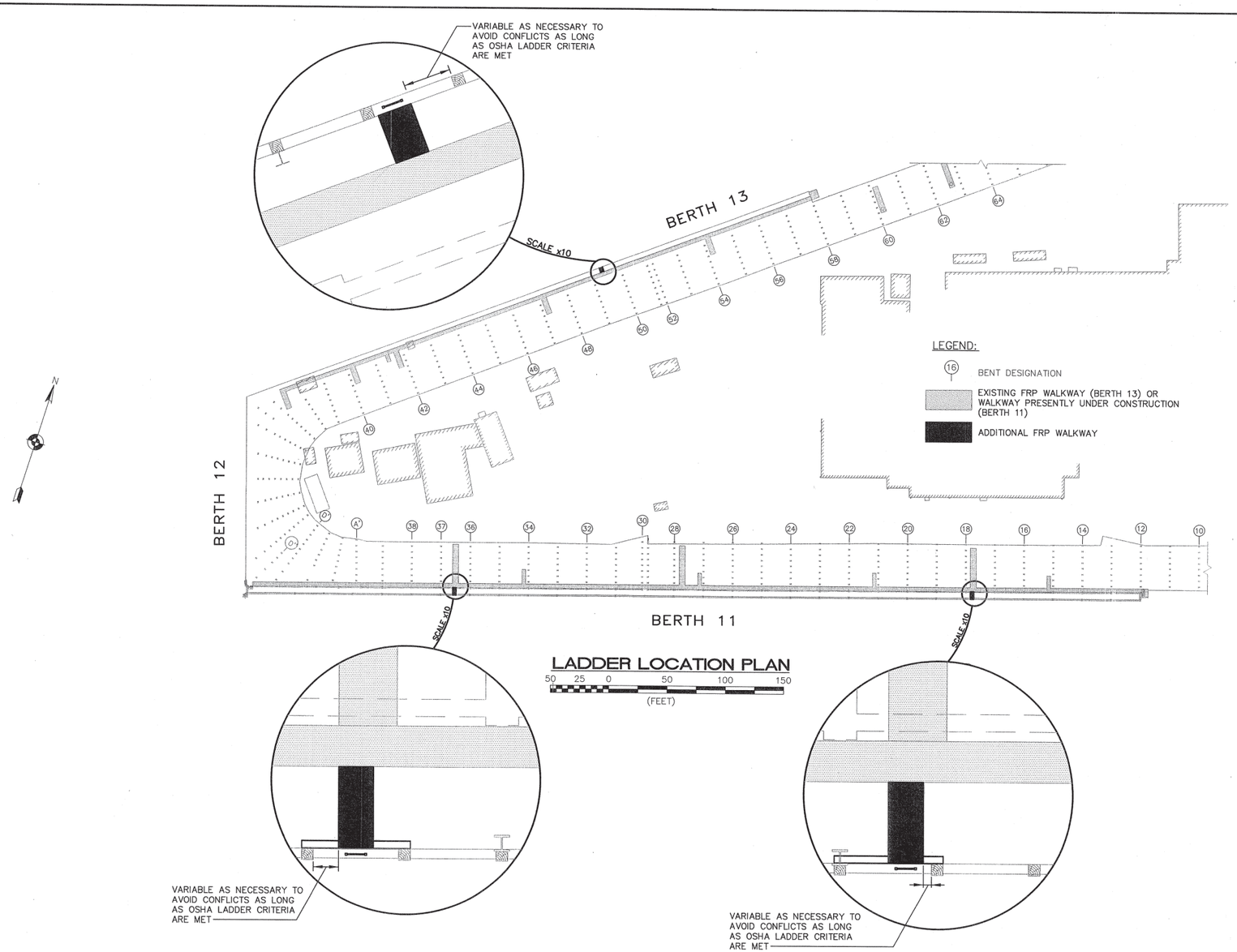
THE STATE OF NEW HAMPSHIRE ROBERT J. SINGER No. 5300 CERTIFIED STRUCTURAL PROFESSIONAL ENGINEER (SEAL)

DEPARTMENT OF THE NAVY
NAVAL SHIPYARD PORTSMOUTH, N.H.
NAVAL FACILITIES ENGINEERING COMMAND
STRUCTURALLY REPAIR BERTH 11

BOLLARD AND CLEAT REPAIR DETAILS

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196266
SHT MD2 | SHEET 38 OF 46
PW NO. FP2-99-409

UNCLASSIFIED



LADDER LOCATION PLAN

50 25 0 50 100 150

(FEET)

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTOBER 1999.
2. ADDITIONAL FRP LADDER AND WALKWAY CONSTRUCTION ON THIS SHEET AND SHEETS MD4 AND MD5 SHALL BE COORDINATED WITH EXISTING FRP WALKWAYS AND FRP WALKWAYS SHOWN ON SHEET U5.
3. LADDERS SHALL CONFORM TO OSHA STANDARDS (CFR 29, PART 1910.27) INCLUDING DESIGN, FABRICATION AND INSTALLATION.
4. LATERAL WALKWAYS TO ACCESS THE LADDERS SHALL HAVE AT LEAST A 3'-0" WIDE CLEAR WIDTH AND SHALL CONFORM TO OSHA STANDARDS.
5. LADDER AND LATERAL WALKWAY LOCATION MAY BE ADJUSTED BETWEEN THE SPECIFIED BENTS AS NEEDED TO AVOID INTERFERENCES AND FOR OPTIMUM LOCATION TO SUPPORT AND CONNECT LATERAL WALKWAY.
6. LADDERS AND MOUNTING HARDWARE SHALL CONFORM TO SPECIFICATION SECTION 06500 FOR THE FRP UTILITY WALKWAYS AND DRAWING U5.

AEI(1243A)/FP2-410.DWG

REVISION	DATE	DESCRIPTION	BY

REVISIONS

ARCH. | CIV. STR.
MECH. | PRMGR.
ELEC. | DATE
SATISFACTORY TO | DATE
SATISFACTORY TO | DATE
HEAD, ENGINEERING BRANCH | DATE
APPROVED | DATE
HEAD, FACILITIES DIVISION

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-6818
aei@nh.ultranet.com

DSGN: DCM DRWN: NJE CHK: RRB SUPV: RMS
SUBMITTED BY: Vice President 10/15/99
(SIGNED) TITLE DATE

THE STATE OF NEW HAMPSHIRE ROBERT M. SNOVER No. 6330 LICENSED PROFESSIONAL ENGINEER
(SEAL)

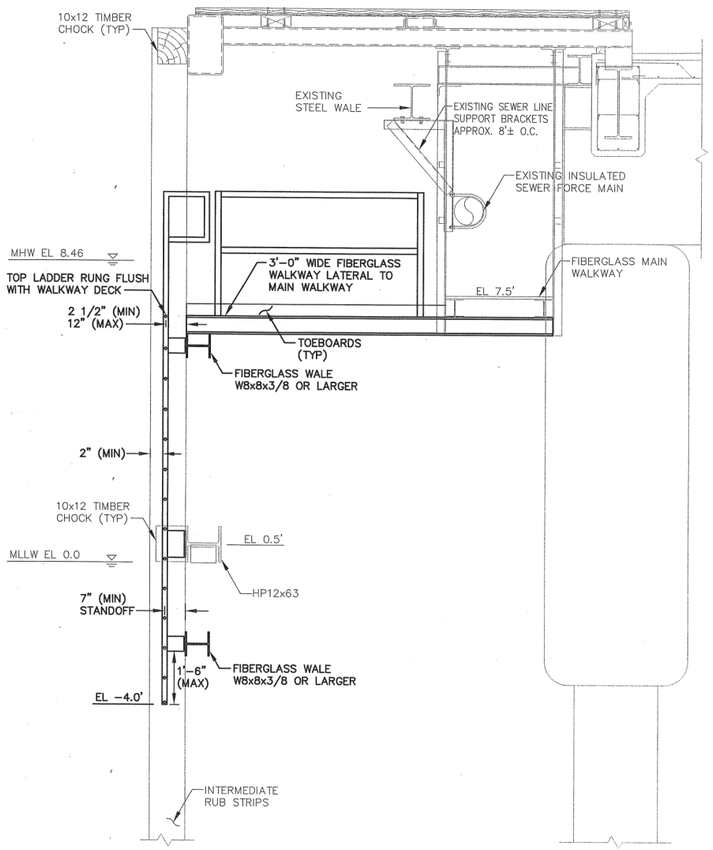
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.

STRUCTURALLY REPAIR BERTH 11

ADDITIONAL LADDER AND WALKWAY PLAN

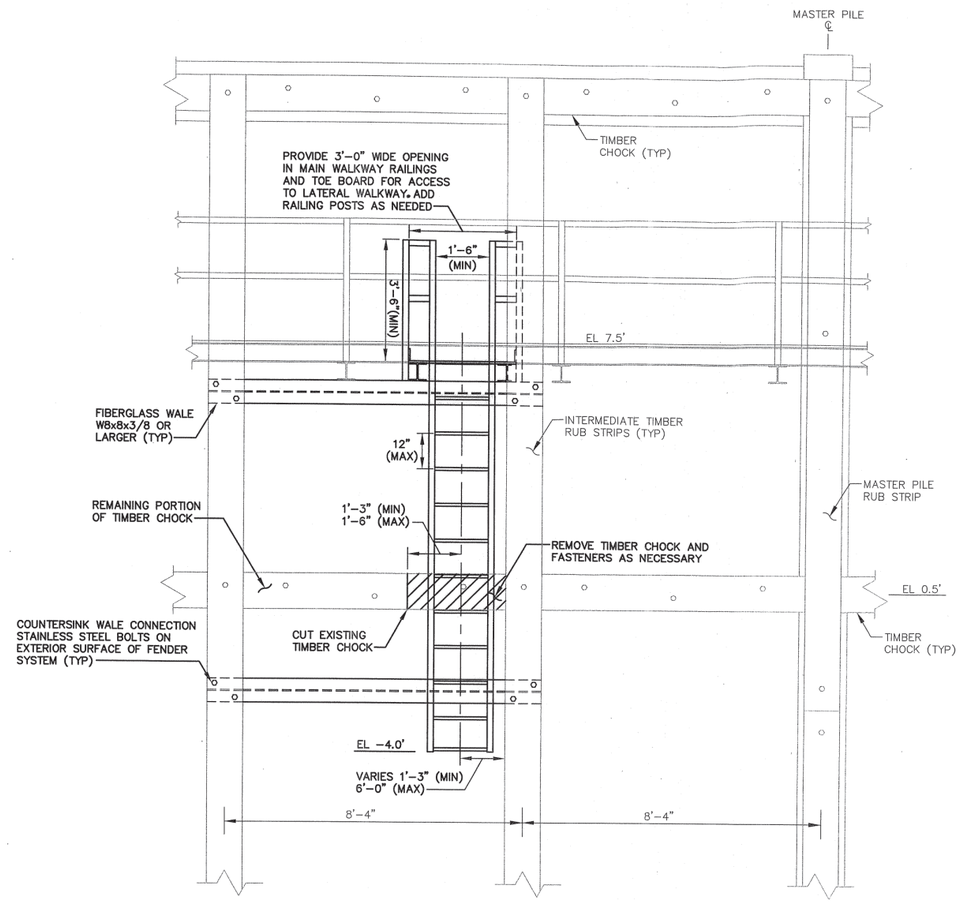
CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196267
SHT MD3
SHEET 39 OF 46
PW NO. FP2-99-410

UNCLASSIFIED



WHARF LADDER SECTION(TYP)

2 1 0 2 4 6
(FEET)



WHARF LADDER ELEVATION(TYP)

2 1 0 2 4 6
(FEET)

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTOBER 1999.
2. ADD BOLTS IN KIND AS NEEDED TO ENSURE THAT REMAINING PORTIONS OF TIMBER CHOCK ARE CONNECTED BY AT LEAST TWO BOLTS (MIN. BOLT END DISTANCE 7").

REVISION	DATE	DESCRIPTION	BY

REVISIONS

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8616
ae@shtuttrevet.com

DSGN: DCM DRWN: NJE CHK: RRB SUPV: RMS
SUBMITTED BY: Vice President 10/15/99
TITLE DATE
(SIGNED)

THE STATE OF NEW HAMPSHIRE ROBERT M. SNOVER No. 6580 LICENSED PROFESSIONAL ENGINEER
(SEAL)

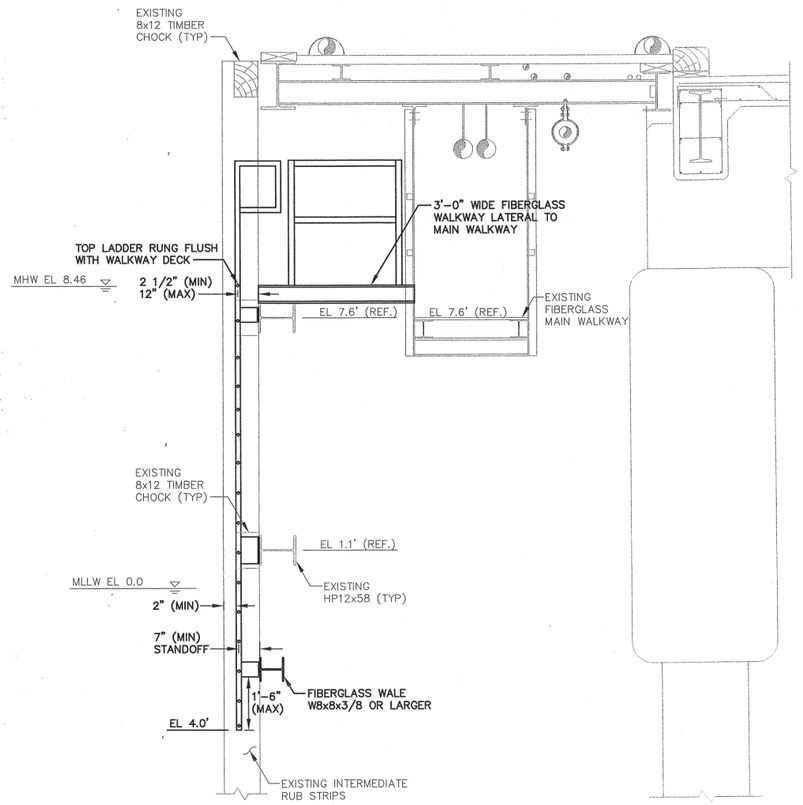
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.
STRUCTURALLY REPAIR BERTH 11

LADDER DETAILS BERTH 11

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196268
SHT MD4
SHEET 40 OF 46
PW NO. FP2-99-411

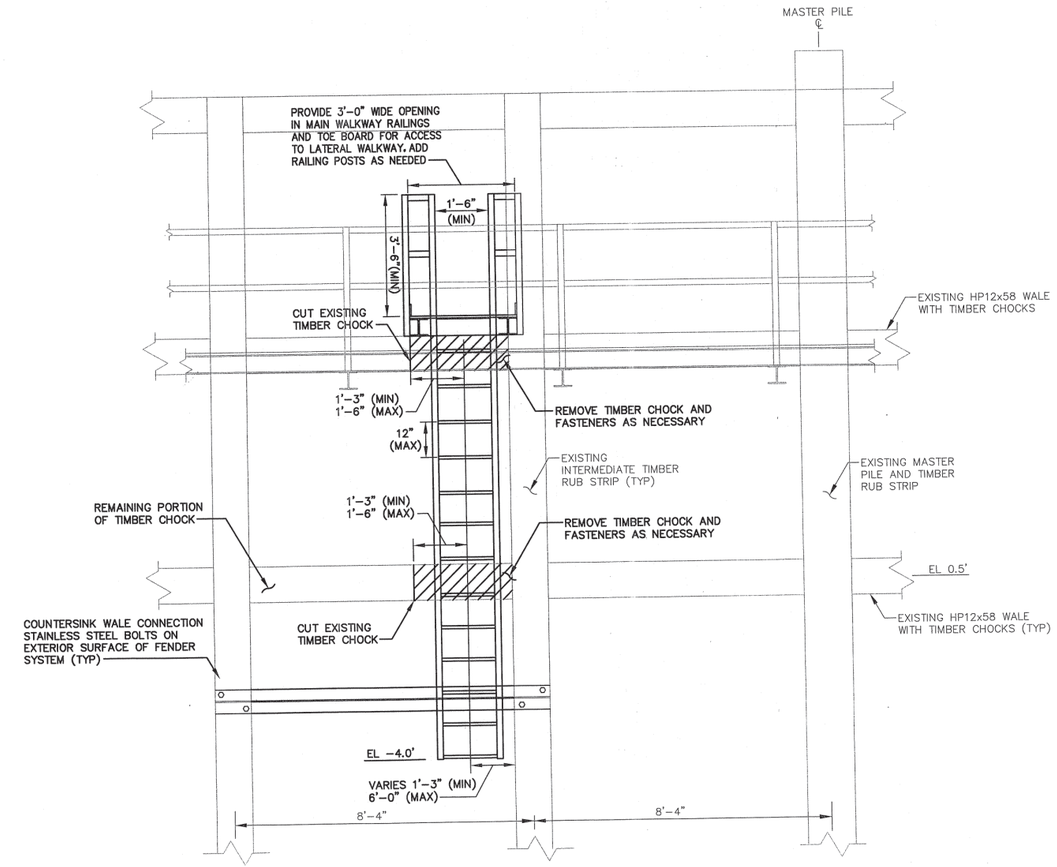
AEI(1243A)/FP2-411.DWG

UNCLASSIFIED



WHARF LADDER SECTION

2 1 0 2 4 6
(FEET)



WHARF LADDER ELEVATION

2 1 0 2 4 6
(FEET)

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTOBER 1999.
2. ADD BOLTS IN KIND AS NEEDED TO ENSURE THAT REMAINING PORTIONS OF TIMBER CHOCK ARE CONNECTED BY AT LEAST TWO BOLTS (MIN. BOLT END DISTANCE 7").
3. LATERAL WALKWAY SHALL BE LOCATED ON TOP OF THE EXISTING STEEL HIGH WATER WALE WITH A STEP DOWN AT THE MAIN WALKWAY.

REVISION	DATE	DESCRIPTION	BY

REVISIONS

ARCH. CIV./STR. MECH. PNWR. ELEC. DATE

SATISFACTORY TO CONSTRUCTION DATE

SATISFACTORY TO HEAD, ENGINEERING BRANCH DATE

APPROVED DATE

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 431-1234 www.appledore.com
DRWN: NJE CHK: RRB SUPV: RMS
SUBMITTED BY: Vice President 10/15/99
TITLE DATE

STATE OF NEW HAMPSHIRE ROBERT R. BROWER No. 9393 PROFESSIONAL ENGINEER (SEAL)

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL SHIPYARD PORTSMOUTH, N.H.
STRUCTURALLY REPAIR BERTH 11

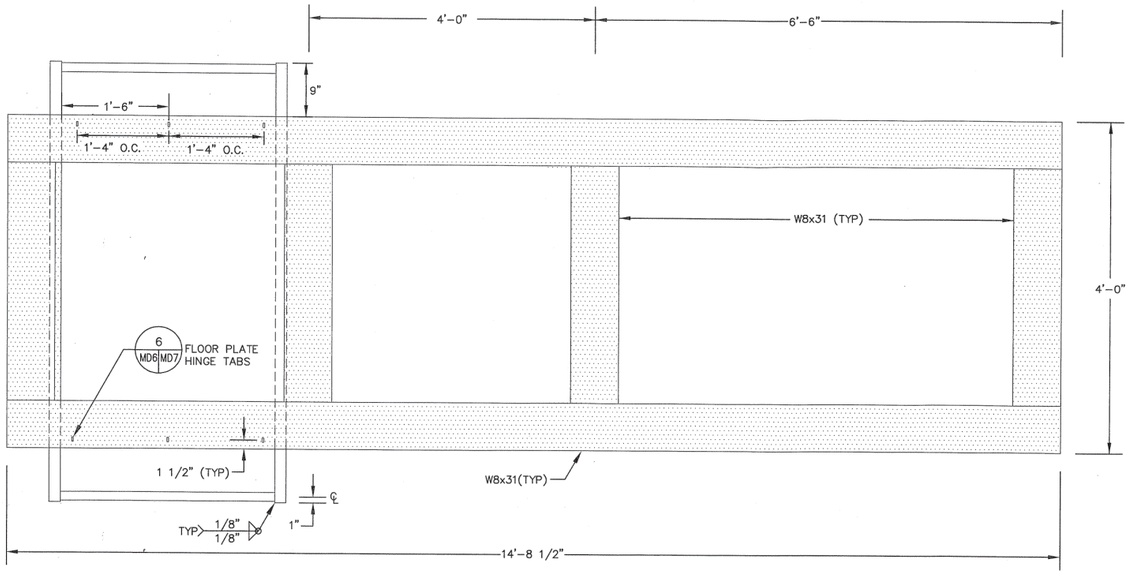
LADDER DETAILS BERTH 13

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196269.

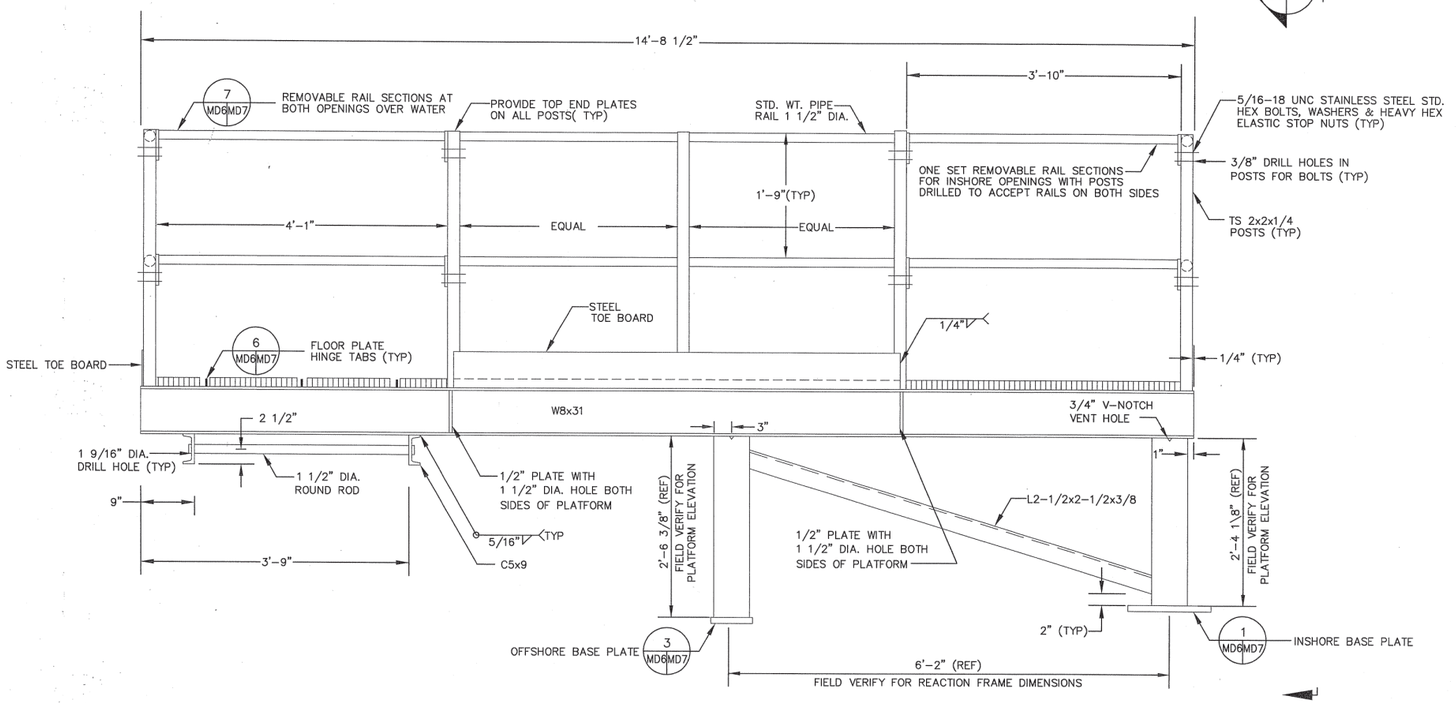
SHT MD5 | SHEET 41 OF 46 | PW NO. FP2-99-412

UNCLASSIFIED

AE(1243A)/FP2-412.DWG



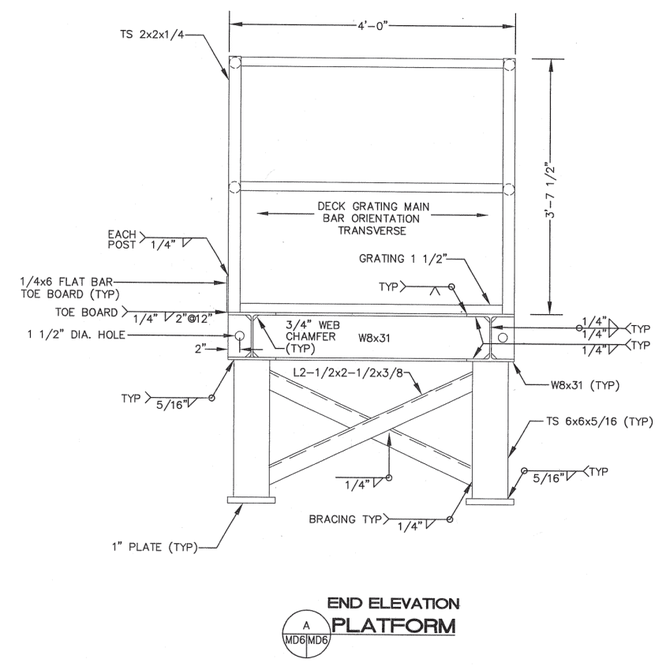
FRAMING PLAN
PLATFORM
STEEL GRATING, HANDRAILS, AND POSTS NOT SHOWN



SIDE ELEVATION
PLATFORM

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTOBER 15, 1999.
2. CONTRACTOR MUST FIELD VERIFY DIMENSIONS OF REACTION FRAME INCLUDING TUBE STEEL SUPPORT LEG SPACING PRIOR TO FABRICATING BROW PLATFORM ASSEMBLY.
3. STRUCTURAL STEEL SHALL BE ASTM A36 UNLESS SPECIFIED OTHERWISE.
4. TUBE STEEL SHALL BE ASTM A500, GRADE B.
5. PIPE STEEL SHALL BE ASTM A53, GRADE B.
6. PLATFORM DECK SHALL BE STEEL BAR GRATING WITH 1 1/2" x 3/16" SERRATED TOP MAIN BARS AT 1 3/16" O.C. AND WELDED CROSS BARS AT 4" O.C. BAR GRATING SHALL BE WELDED TO W8 MEMBERS AND TOE BOARDS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. ALLOW 1/4" CLEARANCES BETWEEN ADJACENT DECK PANELS.
7. EASE ALL EXTERIOR EDGES AND CORNERS PRIOR TO HOT-DIP GALVANIZING. ALL STEEL SHALL BE FREE OF COATINGS (SUCH AS LACQUER) AND WELD FLUX PRIOR TO HOT-DIP GALVANIZING.
8. PLATFORM ASSEMBLY AND ACCESSORY PARTS SHALL BE HOT-DIP GALVANIZED TO AN AVERAGE ZINC COATING WEIGHT OF AT LEAST 2.3 OZ/SF IN ACCORDANCE WITH ASTM A123.
9. ASSEMBLY AND ACCESSORY PARTS SHALL BE VENTED IN ACCORDANCE WITH GALVANIZING REQUIREMENTS. PIPE RAILS, POSTS, AND OTHER HOLLOW STRUCTURAL MEMBERS SHALL BE INTERNALLY VENTED DURING ASSEMBLY WHERE EVER POSSIBLE. INTERNAL VENT HOLES MAY BE TORCH CUT. EXTERNAL VENT HOLES SHALL BE DRILLED (NOTCHING IS NOT PERMITTED ON EXTERIOR SURFACES UNLESS OTHERWISE SPECIFIED).
10. ANY DAMAGE TO HOT-DIP GALVANIZED COATING SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A780 TO A REPAIR COATING THICKNESS, OF AT LEAST 6 MILS.
11. BROW PLATFORM DESIGN AND DETAILING ARE "IN-KIND" TO USN DRAWINGS 81316 PED-8688 SHEETS 1 TO 7.



END ELEVATION
A MD6 MD6 PLATFORM

12" 6" 0 1 2 3
(FEET)

REVISION	DATE	DESCRIPTION	BY

REVISIONS

ARCH. | CIV. STR. | MECH. | PRINCR. | ELEC. | DATE | SATISFACTORY TO | DATE | SATISFACTORY TO | DATE | DIRECTOR, ENGINEERING DIVISION | DATE | APPROVED | DATE | HEAD, FACILITIES DIVISION

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8819 aei@m.autonet.com
DESIGNED BY: JOHN WILKIE CHK: JOSH SUPV: PMS
TITLE: PROJECT ENGINEER Vice President 10/15/99
(SIGNED) TITLE DATE

STATE OF NEW HAMPSHIRE ROBERT SNOVER No. 6000 PROFESSIONAL ENGINEER (SEAL)

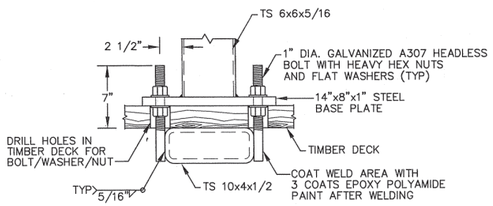
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.
STRUCTURALLY REPAIR BERTH 11

BROW PLATFORM ASSEMBLY

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196270
SHT MD6
SHEET 42 OF 46
PW NO. FP2-99-413

AE(1243A)/FP2-413.DWG

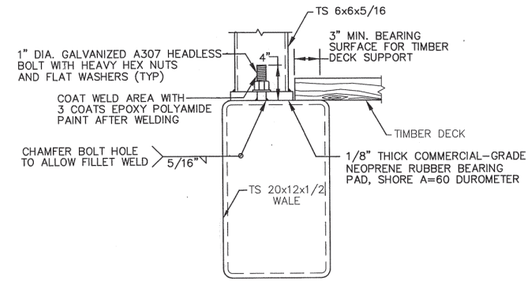
UNCLASSIFIED



1 INSHORE BASE PLATE SECTION (TYP)

MD6 MD7 / MD8

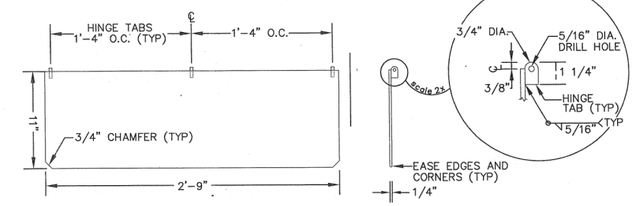
1/2 1/4 0 1 2 (FEET)



3 OFFSHORE BASE PLATE SECTION (TYP)

MD6 MD7 / MD8

1/2 1/4 0 1 2 (FEET)

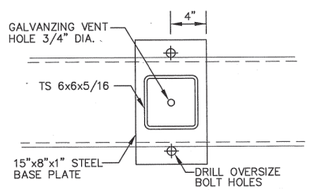


PLAN

5 HINGED FLOOR PLATE DETAIL (TYP)

MD7 MD7

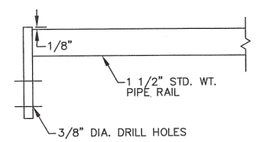
1/2 1/4 0 1 2 (FEET)



2 INSHORE BASE PLATE PLAN (TYP)

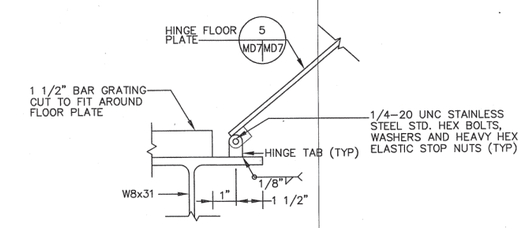
MD6 MD7 / MD8

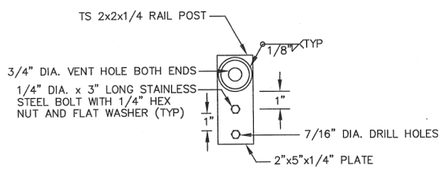
1/2 1/4 0 1 2 (FEET)



NOTE:

A. TWO FLOOR PLATES REQUIRED PER PLATFORM
B. FLOOR PLATES SHALL BE HOT-DIP GALVANIZED
C. REMOVABLE RAILS SHALL BE HOT DIP GALVANIZED

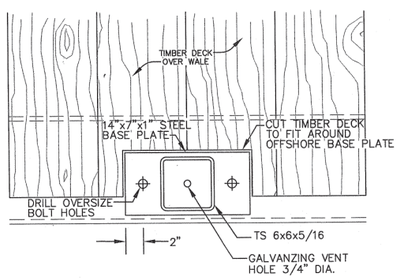




6 HINGE TABS ON PLATFORM DETAIL (TYP)

MD6 MD7

6" 3" 0 6" 1 (FEET)



7 REMOVABLE RAIL DETAIL (TYP)

MD6 MD7

6" 3" 0 6" 1 (FEET)

4 OFFSHORE BASE PLATE PLAN (TYP)

MD6 MD7 / MD8

1/2 1/4 0 1 2 (FEET)

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTORBER, 1999.
2. CONTRACTOR MUST VERIFY DIMENSIONS PRIOR TO FABRICATING AFFECTED PARTS.
3. ANCHOR BOLTS SHALL BE COATED WITH ANTI-SEIZE GREASE PRIOR TO INSTALLING NUTS.

REVISIONS

REVISION	DATE	DESCRIPTION	BY

CIV. STR. / MECH. / PRMGR. / ELEC. — DATE

SATISFACTORY TO HEAD, ENGINEERING — DATE

SATISFACTORY TO SUPV. DMS — DATE

APPROVED Vice President 10/15/99 — DATE

TITLE: NFOD FACILITIES DIVISION

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8415 e-mail@ae.u.net
DESIGN: M.B. DRWN: M.B. CHK: DCM SUPV: DMS

STATE OF NEW HAMPSHIRE — ROBERT M. SNOWDEN No. 5360 — CERTIFIED STRUCTURAL ENGINEER — THE PROFESSIONAL — SEAL

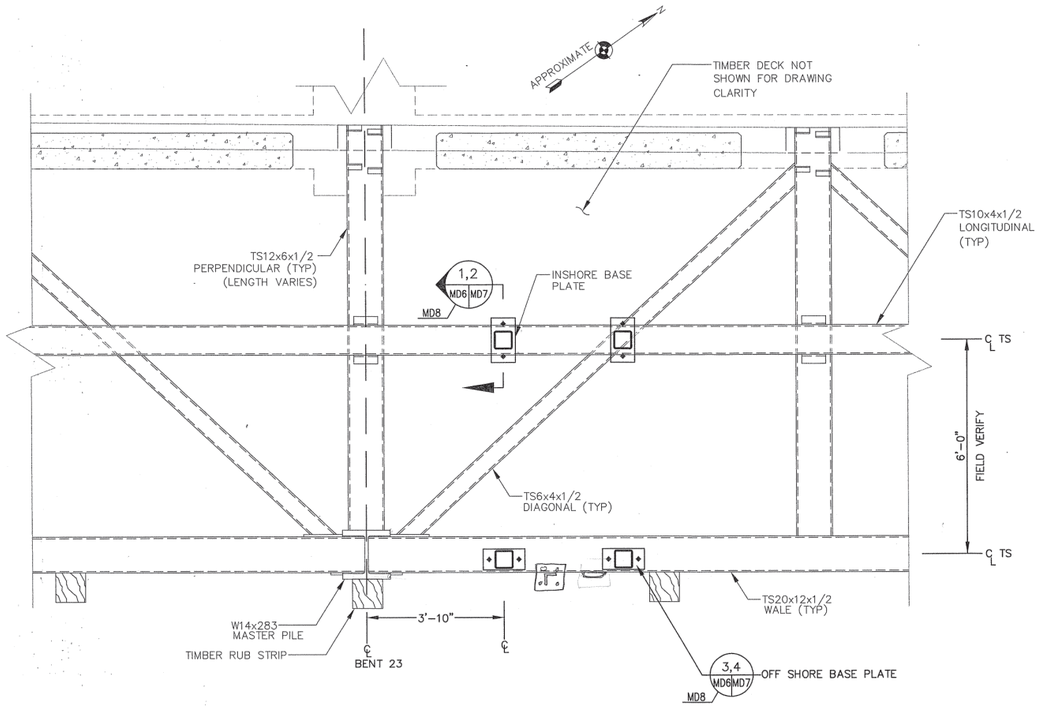
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL SHIPYARD PORTSMOUTH, N.H.

STRUCTURALLY REPAIR BERTH 11

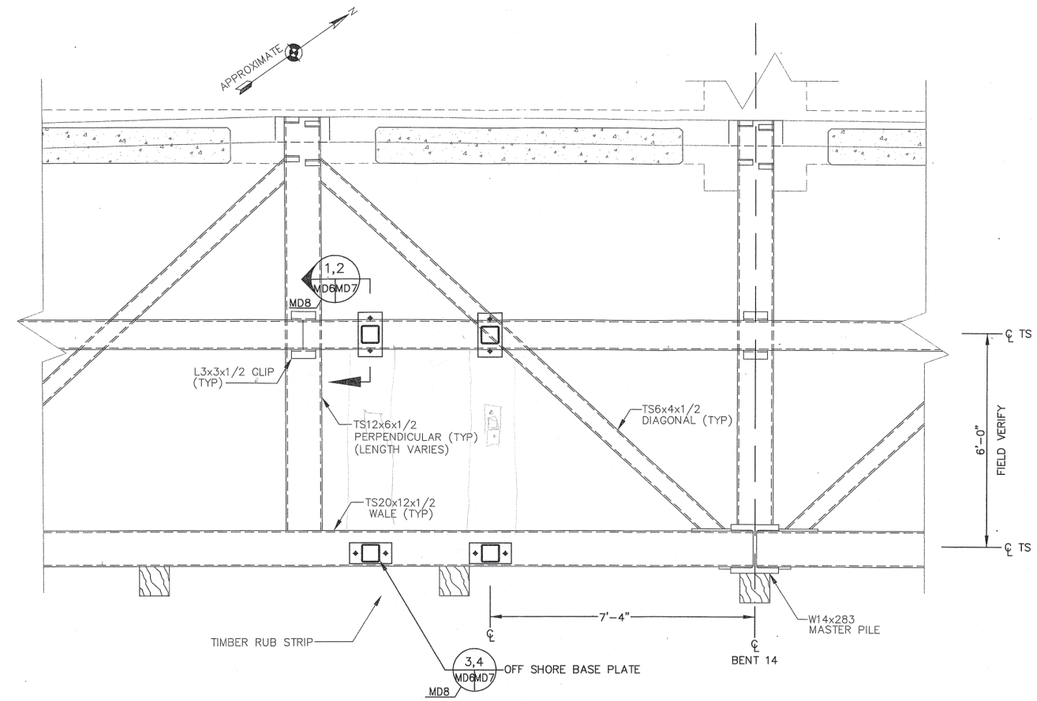
BROW PLATFORM DETAILS

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196271
SHT MD7 — SHEET 43 OF 46
PW NO. FP2-99-414

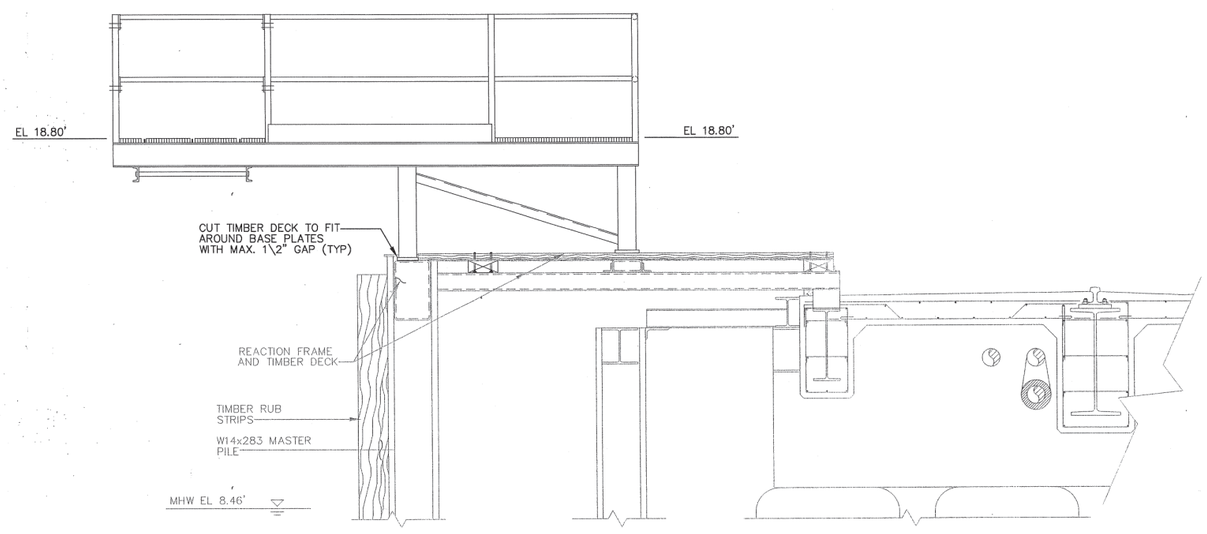
UNCLASSIFIED



PLATFORM MOUNTING PLAN BENTS 22/23



PLATFORM MOUNTING PLAN BENTS 14/15



INSTALLED PLATFORM ELEVATION (TYP)

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTORBER, 1999.
2. CONTRACTOR MUST VERIFY DIMENSIONS PRIOR TO FABRICATING AFFECTED PARTS.

2 1 0 2 4 6
(FEET)

REVISION	DATE	DESCRIPTION	BY

REVISIONS

CIV. STR.
PRMGR.
ARCH.
MECH.
ELEC.
SATISFACTORY TO DATE
SATISFACTORY TO DATE
HEAD, ENGINEERING DATE
APPROVED DATE
NFAC FACILITIES DIVISION

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-6818
sales@ae.uhawd.com
DESIGN: KDR DRWN: MJE CHK: RRB SUPV: RMS
CONTRACT No.
Vice President 10/15/99
TITLE DATE
SIGNED

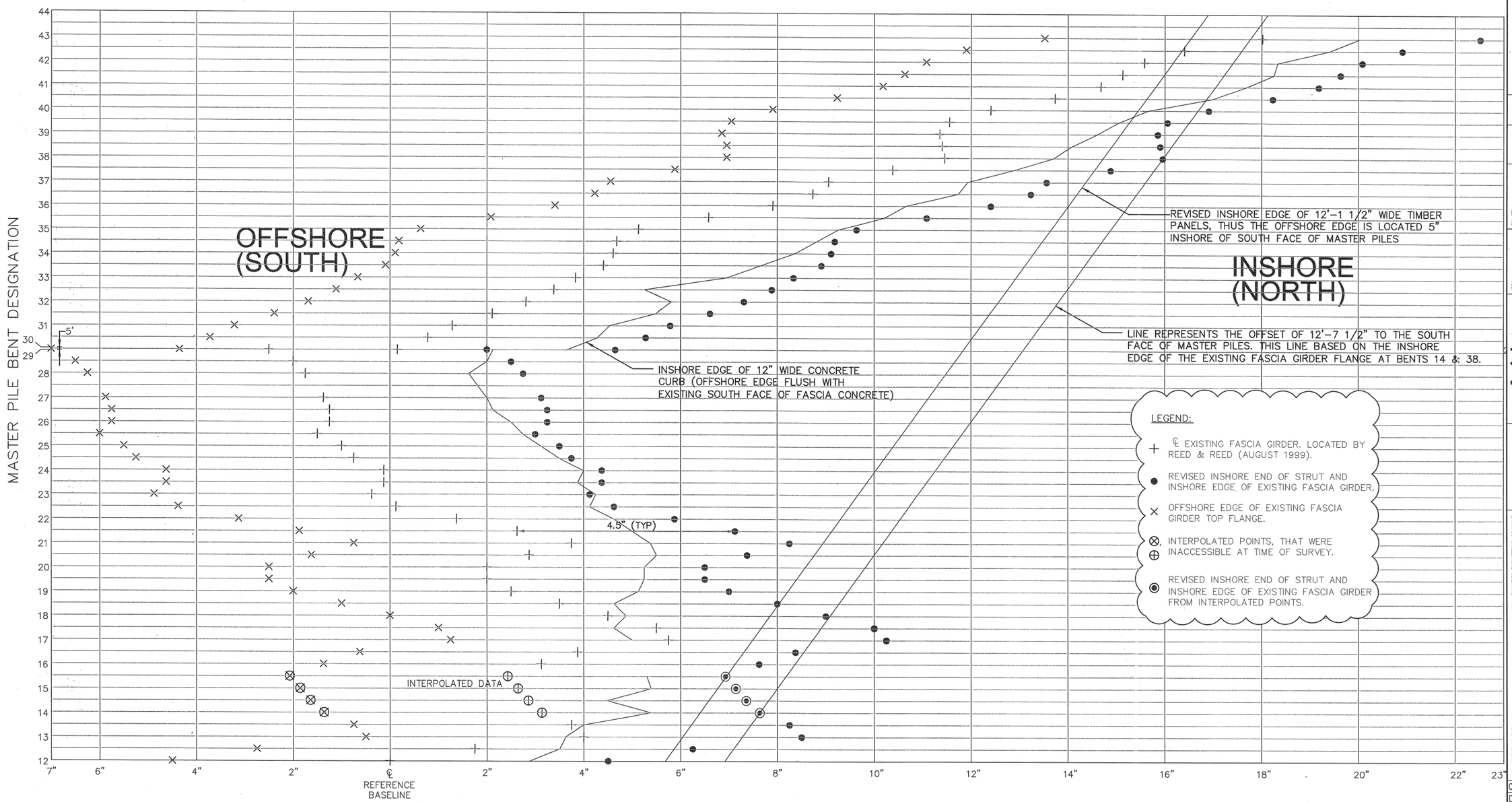
THE STATE OF NEW HAMPSHIRE ROBERT R. SNOVER No. 6350 PROFESSIONAL ENGINEER
(SEAL)

DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.
STRUCTURALLY REPAIR BERTH 11

BROW PLATFORM INSTALLATION

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196272
SHT MD8
SHEET 44 OF 46
PW NO. FP2-99-415

UNCLASSIFIED



ESTABLISHED BY
REED & REED
AUGUST 1999

REFERENCE WORKSHEET

DRAWING SCALES:

HORIZONTAL: 1" = 1"
VERTICAL: 1/2" = 25'

REFERENCE DRAWINGS: NAVFAC DRAWING 2196019,"FENDER/SHUTTERSYSTEM-SECTION AND DETAILS
NAVFAC DRAWING 2196021,"FENDER/SHUTTER SYSTEM-STEEL REACTION FRAME-DETAILS 1

NOTE:
12'-3" DIMENSION ON SECTION A OF DWG 2196019 OCCURS ONLY AT BENTS 14 AND 38.

REVISIONS

REVISION	DATE	DESCRIPTION	BY

Appledore Engineering Inc.
600 State Street, Suite D
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(603) 433-8818
ae@nh.ultranet.com

DSGN: RRB DRWN: LFE CHK: RRB SUPV: RMS
SUBMITTED BY: Vice President 10/15/99
(SIGNED) TITLE DATE

THE STATE OF NEW HAMPSHIRE ROBERT M. SNOVER No. 6380 LICENSED PROFESSIONAL ENGINEER

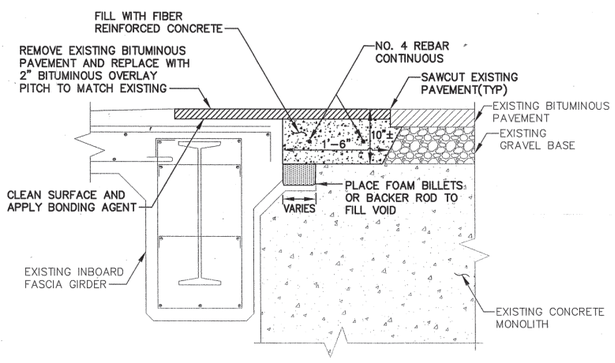
DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
NAVAL FACILITIES ENGINEERING COMMAND
PORTSMOUTH, N.H.

STRUCTURALLY REPAIR BERTH 11

BERTH 11 BERTHING FACE REALIGNMENT

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196273
SHT MD9
SHEET 45 OF 46
PW NO. FP2-99-416

UNCLASSIFIED



SECTION

GAP REPAIR DETAIL

1 1/2 0 1 2 3
(FEET)

NOTE: GAP REPAIR IS REQUIRED FROM MIDSPAN BENT R-S TO BENT 17.

SLOPE STABILIZATION LOCATIONS – BERTH 11

BENT#	UTILITY PENETRATION THROUGH BULKHEAD	PROPOSED SHEET PILE (lf)	PROPOSED SHOTCRETE (cf)	PROPOSED GAP REPAIR/CONC. FILL
R TO S				X
S TO T				X
T TO U	X			X
U TO V				X
V TO W				X
W TO 1				X
1 TO 2				X
2 TO 3				X
3 TO 4	X			X
4 TO 5	X(2)			X
5 TO 6				X
6 TO 7				X
7 TO 8				X
8 TO 9				X
9 TO 10	X			X
10 TO 11	X			X
11 TO 12				X
12 TO 13				X
13 TO 14	X			X
14 TO 15				X
15 TO 16	X			X
16 TO 17				X
17 TO 18				X
18 TO 19	X	25		
19 TO 20	X	25		
20 TO 21	X	25		
21 TO 22				
22 TO 23				
23 TO 24				
24 TO 25				
25 TO 26		13		
26 TO 27	X	25		
27 TO 28				
28 TO 29				
29 TO 30				
30 TO 31		23		
31 TO 32			50	
32 TO 33				
33 TO 34				
34 TO 35				
35 TO 36	X	25		
36 TO 37				
37 TO 38				
38 TO 39				
39 TO A'				
A' TO B'		12		
B' TO C'				
C' TO D'				
TOTAL		173 lf	50 cf	472 lf

SLOPE STABILIZATION LOCATIONS – BERTH 13

BENT#	UTILITY PENETRATION THROUGH BULKHEAD	EXISTING SHEET PILE (lf)	PROPOSED SHEET PILE (lf)	PROPOSED SHOTCRETE (cf)
J' TO J"		X		5
J" TO K'		X		
K' TO L'		X		
L' TO M'		X		
M' TO 40		X		
40 TO 41				
41 TO 42				
42 TO 43		X		
43 TO 44				
44 TO 45				
45 TO 46				
46 TO 47				
47 TO 48		1/2		6
48 TO 49				150
49 TO 50				
50 TO 51				
51 TO 52				
52 TO 53				
53 TO 54				
54 TO 55				
55 TO 56				105
56 TO 57				120
57 TO 58	X		25	
58 TO 59			25	
59 TO 60				10
60 TO 61				
61 TO 62				
62 TO 63		1/2		
63 TO 64		1/2		
64 TO 65		X		
65 TO 66	X	X		
66 TO 67		X		
67 TO 68				
68 TO 69				
TOTAL			50 lf	396 cf

NOTES:

1. THIS DRAWING ADDED TO THE CONSTRUCTION CONTRACT BY CONTRACT MODIFICATION, OCTOBER 1999.
2. FOR SHEETPILE DETAILS, SEE SHEET C4.

REVISIONS

REVISION	DATE	DESCRIPTION	BY

ARCH. | CIV. STR. | MECH. | PRINCIPAL | ELEC. | SATISFACTORY TO | DATE | SATISFACTORY TO | DATE | HEAD, ENGINEERING DIVISION | DATE | APPROVED | DATE | NAVAL FACILITIES DIVISION

Appledore Engineering Inc.
600 State Street, Suite D
Portsmouth, New Hampshire 03801
(603) 433-8818
ae@ne.uhsnet.com

DESIGNED: DRAWN: JLE CHK: DCM SUPV: RMS
ISSUE DATE: 10/15/99
TITLE DATE

DEPARTMENT OF THE NAVY
NAVAL SHIPYARD
PORTSMOUTH, N.H.
NAVAL FACILITIES ENGINEERING COMMAND

STRUCTURALLY REPAIR BERTH 11

ADDITIONAL SLOPE STABILIZATION BERTHS 11 & 13

CODE I.D. NO. 80091
DRAWING SIZE: D
CONST. CONT. NO. N62472-98-C-6547
SPEC. 04-98-6547
NAVFAC DRAWING NO. 2196274
SHT MD10
SHEET 46 OF 46
PW NO. FP2-99-417

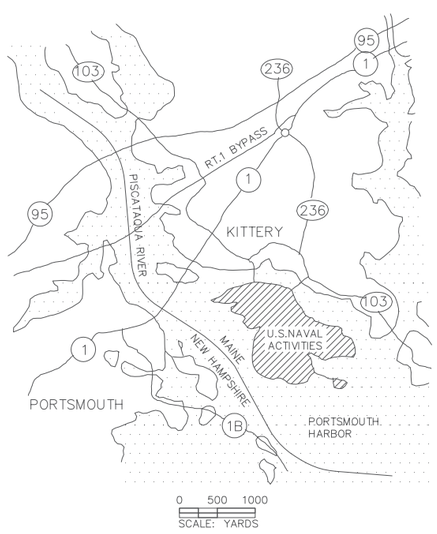
UNCLASSIFIED

AD(1243A)FP2-417.DWG

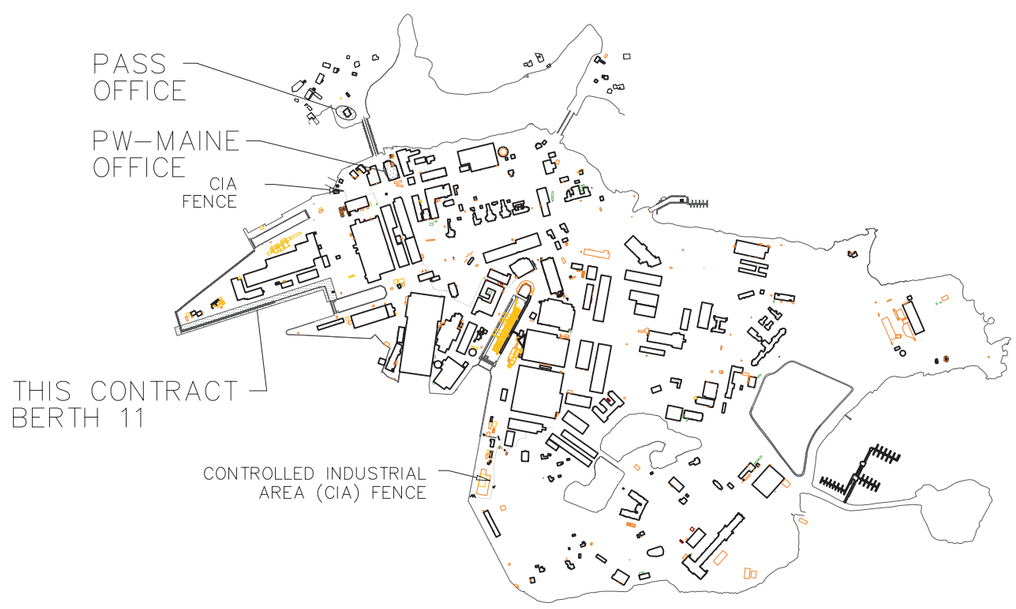
PORTSMOUTH NAVAL SHIPYARD
KITTERY, ME

MISCELLANEOUS REPAIRS
TO BERTH 11 – TASK 10
CONTRACT NO. N40085–08–C–2513

AREA MAP

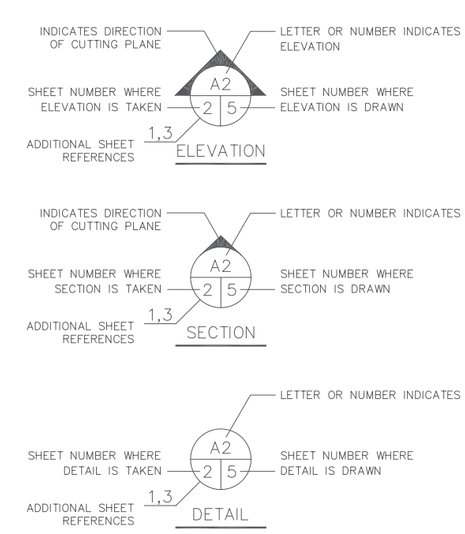


VICINITY MAP



SITE PLAN
SCALE: 1" = 600'

ELEVATION, SECTION OR DETAIL SYMBOLS



Appledore Marine Engineering Inc.
800 STATE STREET, SUITE E
PORTSMOUTH, NEW HAMPSHIRE 03801
(603) 766–1870 amel@appledoremarine.com

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

SUBMITTED BY:
A/E FIRM NAME AND ADDRESS: APPLEDORE MARINE ENGINEERING, INC. 800 STATE STREET, SUITE E PORTSMOUTH NH, 03801
DSGN: CBS DRWN: GBS CHK: RMS
SUPV: CBS
PRJMGR. NJE CIV. STR.
MECH. ARCH.
ELEC.
SUBMITTED BY: V.P. 01/15/08
(SIGNED) (TITLE) (DATE)
APPROVALS:
APPROVED:
(CUSTOMER) (CODE) (DATE)
PROJECT MANAGER:
FIRE PROTECTION:
SPV. ENG.–ARCH:
SPV. ENG.–CIVIL:
SPV. ENG.–ELEC:
SPV. ENG.–MECH:
CI – PM & E:
APPROVED:
FEAD PWD–ME DATE

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
~ NAVAL FACILITIES ENGINEERING COMMAND ~
NAVAL STATION – NORFOLK, VIRGINIA
IPT PORTSMOUTH NAVAL SHIPYARD KITTERY, ME.
MISCELLANEOUS REPAIRS TO BERTH 11 - TASK 10
TITLE SHEET

CODE ID. NO. 80091 SIZE D
SCALE:
MAXIMO No.: XR7CR
JOB ORDER No.: N/A
SPEC. NO. 04–08–2513
CONSTR. CONTR. NO. N40085–08–C–2513
NAVFAC DRAWING NO. 12513390
SHEET 1 OF 26
SHEET NO. G1 PW–ME DRAWING NO. FP2–08–535

DRAWFORM REVISION: 11 APRIL 2007

FILE NAME: R:\TP–104A PNSY Lifting Study\11 Reference Information\2009 Berth 11 Repair Drawings\N40085–08–C–2513 ASBUILT DWGS\FP2–535.dwg LAYOUT NAME: Layout1 PLOTTED: Friday, December 12, 2014 – 8:24am

UNCLASSIFIED

LIST OF DRAWINGS

SHEET	SHEET NO.	PWD-ME DWG. NO.	NAVFAC DWG. NO.	DRAWING TITLE
		GENERAL		
1 OF 26	G1	FP2-08-535	12513390	TITLE SHEET
2 OF 26	G2	FP2-08-536	12513391	LIST OF DRAWINGS
3 OF 26	G3	FP2-08-537	12513392	GENERAL NOTES
		CIVIL		
4 OF 26	C1	FP2-08-538	12513393	EXISTING PLAN
5 OF 26	C2	FP2-08-539	12513394	EXISTING PILE AND FRAMING PLAN
6 OF 26	C3	FP2-08-540	12513395	EXISTING SECTIONS
7 OF 26	C4	FP2-08-541	12513396	EXISTING FRAMING DETAILS
8 OF 26	C5	FP2-08-542	12513397	EXISTING UNDERDECK WALKWAY PLAN
9 OF 26	C6	FP2-08-543	12513398	EXISTING UNDERDECK WALKWAY DETAILS
10 OF 26	C7	FP2-08-544	12513399	EXISTING UTILITIES PLAN
11 OF 26	C8	FP2-08-545	12513400	SINKHOLE REPAIR PLAN AND DETAILS
		STRUCTURAL		
12 OF 26	S1	FP2-08-546	12513401	PILE REPAIR SCHEDULES AND DETAILS
13 OF 26	S2	FP2-08-547	12513402	FRAMING REPAIR DETAILS
14 OF 26	S3	FP2-08-548	12513403	FRAMING REPAIR SCHEDULES
15 OF 26	S4	FP2-08-549	12513404	FRAMING REPAIR SCHEDULES
16 OF 26	S5	FP2-08-550	12513405	FRAMING REPAIR SCHEDULES
17 OF 26	S6	FP2-08-551	12513406	FRAMING REPAIR SCHEDULES
18 OF 26	S7	FP2-08-552	12513407	DECK REPAIR PLAN
19 OF 26	S8	FP2-08-553	12513408	DECK REPAIR DETAILS
20 OF 26	S9	FP2-08-554	12513409	FENDER SYSTEM REPAIRS
21 OF 26	S10	FP2-08-555	12513410	FENDER SYSTEM REPAIR SECTIONS
22 OF 26	S11	FP2-08-556	12513411	FENDER SYSTEM REPAIR DETAILS
23 OF 26	S12	FP2-08-557	12513412	FENDER SYSTEM REPAIR DETAILS 2
		CATHODIC PROTECTION		
24 OF 26	CP1	FP2-08-558	12513413	CORROSION PROTECTION PLAN
25 OF 26	CP2	FP2-08-559	12513414	CORROSION PROTECTION DETAILS
26 OF 26	CP3	FP2-08-560	12513415	ANODE SCHEDULE

INDICATES REVISION–COLOR WOULD NOT SCAN TO PDF DUE TO AUTOCAD VERSION AVAILABLE

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(603) 766-1870 amei@appledoremarine.com

STM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

SUBMITTED BY:
A/E FIRM NAME AND ADDRESS: APPLEDORE MARINE ENGINEERING, INC. 800 STATE STREET, SUITE E PORTSMOUTH NH, 03801
DSGN: CBS DRWN: GBS CHK: RMS
SUPV: CBS
PRJMGR. NJE CIV. STR.
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(SIGNED) (TITLE) (DATE)

APPROVALS:
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SPV. ENG.-CIVIL:
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SPV. ENG.-MECH:
CI - FM & E:
APPROVED:
TEAD PWD-ME DATE

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
~ NAVAL FACILITIES ENGINEERING COMMAND ~
NAVAL STATION - NORFOLK, VIRGINIA
IPT PORTSMOUTH NAVAL SHIPYARD KITTERY, ME.
MISCELLANEOUS REPAIRS TO BERTH 11 - TASK 10
LIST OF DRAWINGS

CODE ID. NO. 80091 SIZE D
SCALE:
MAXIMO No.: XR7CR
JOB ORDER No.: N/A
SPEC. NO. 04-08-2513
CONSTR. CONTR. NO. N40085-08-C-2513
NAVFAC DRAWING NO. 12513391
SHEET 2 OF 26
SHEET NO. G2 PW-ME DRAWING NO. FP2-08-536

DRAWFORM REVISION: 11 APRIL 2007

FILE NAME: R:\TP-104A PNSY Lifting Study\11 Reference Information\2009 Berth 11 Repair Drawings\N40085-08-C-2513 ASBUILT DWGS\FP2-536.dwg LAYOUT NAME: Layout1 PLOTTED: Friday, December 12, 2014 - 8:26am

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