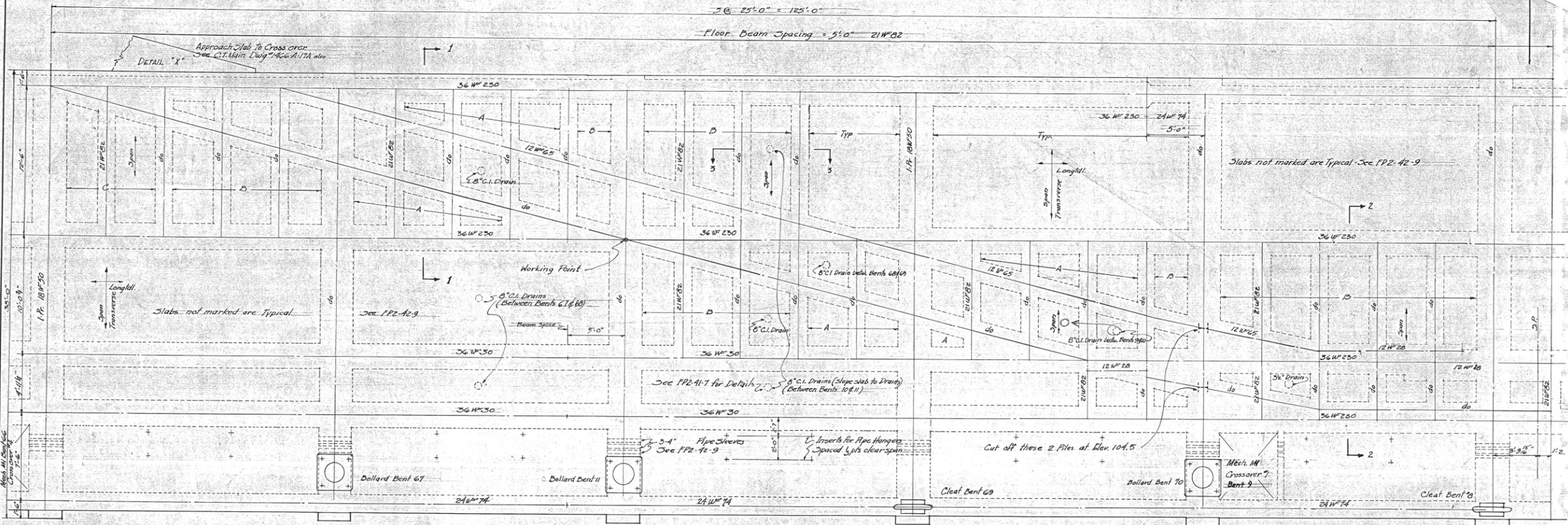


PORTSMOUTH NAVAL SHIPYARD

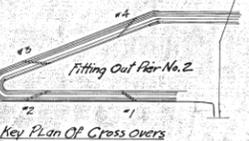
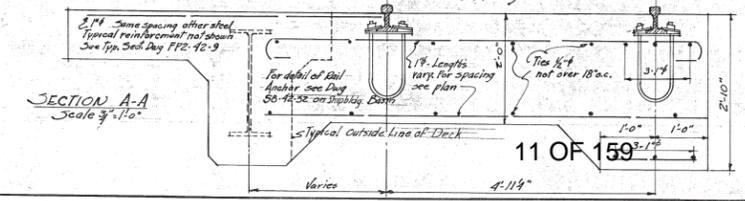
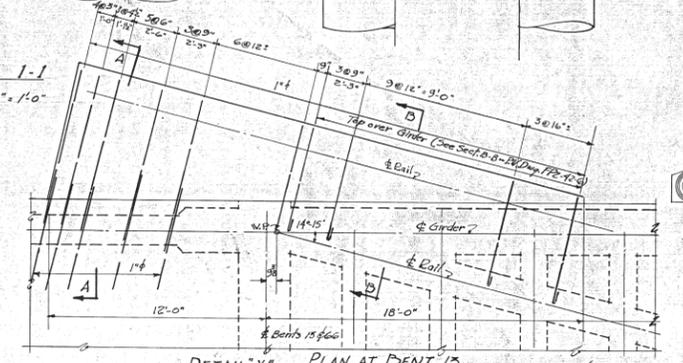
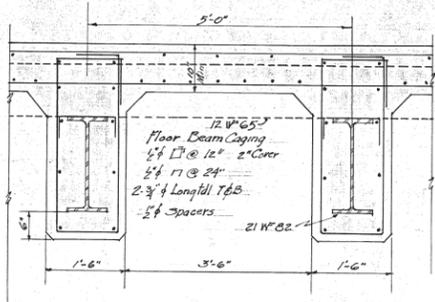
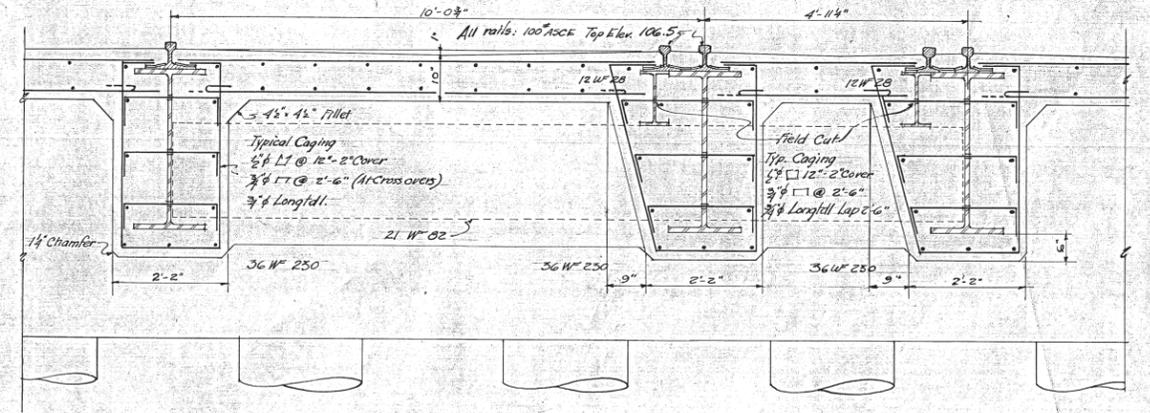
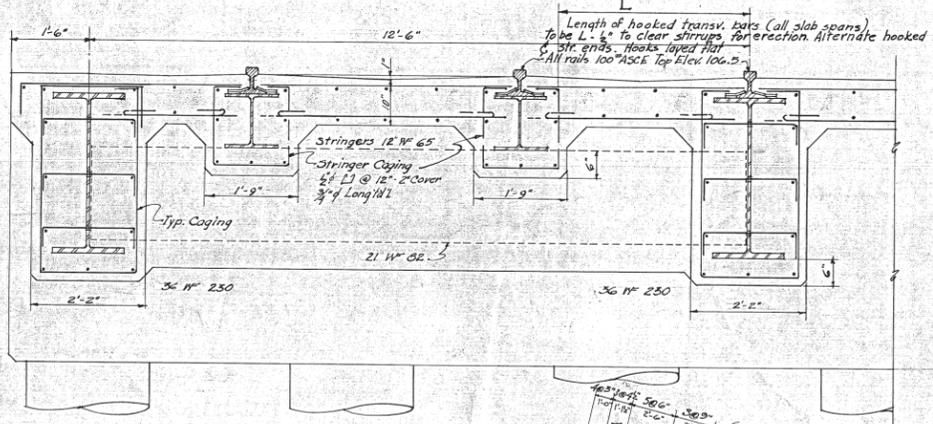
1941 – FITTING OUT PIER NO 2

CONTRACT NO NOY 5094





13 Bollard here 66  
 12 For Tender Detail See P.W. Dwg. FP2-42-9  
 11 Bollard CROSSOVER #1  
 10 CROSSOVER #4 (Opposite Hand)  
 9 Mech. M1  
 8 BENT No. 5  
 7 Cleat here  
 6 Cleat here  
 5 Cleat here  
 4 Cleat here  
 3 Cleat here  
 2 Cleat here  
 1 Cleat here



SLAB SCHEDULE

Slab	Transverse	Longitud.	Span Max.
A	3/4 @ 8"	3/4 @ 12"	4'-0"
B	3/4 @ 6"	3/4 @ 12"	5'-0"
C	3/4 @ 5"	3/4 @ 10"	10'-0"

Top Reinf. (All Slabs) 1/2 @ 12" E.W.  
 Hook All Transverse Bars. See the min. 1:1  
 Lap 40D. 2" Cover all slab reinf.  
 Concrete to be Class E (Ult. strength 3000 psi.)  
 Details not shown are same as typical Sect.  
 See P.W. Dwg. FP2-42-9.  
 Details are typical for all similar conditions.

Reference Drawings  
 Location Plan & Layout: FP2-41-4  
 Cleat & Bollard Anchorage: -7  
 M1 Framing in Deck Slab: -9  
 Mechanical: M5-42-19 & M5-42-20  
 Electrical: E5-42-185 to 198 incl. 191  
 STEEL FRAMING: See Chart Main Dwg. Hdg. A-17  
 General Notes:  
 Same as P.W. Dwg. FP2-42-9

B	10-24-44	BUY E.O. No. added	O.R.C.
A	1-16-43	Plan as built	Rev'd
Revision	Date	Contract No. 5094	Brief
Drawn by Underland			NAVY YARD PORTSMOUTH, N.H.
Traced by Rundlett			
Checked by Lt. Chief D.M. P.J.E.			
In Charge			
Y&D Drawing			
343,458			
P.W. Drawing No.			CONTRACT NO. NOY 5094 SANDERS ENG'G
Approved Jan. 16, 1942			W. T. Eckberg, Acting
Signed Jan. 16, 1942			Public Works Officer

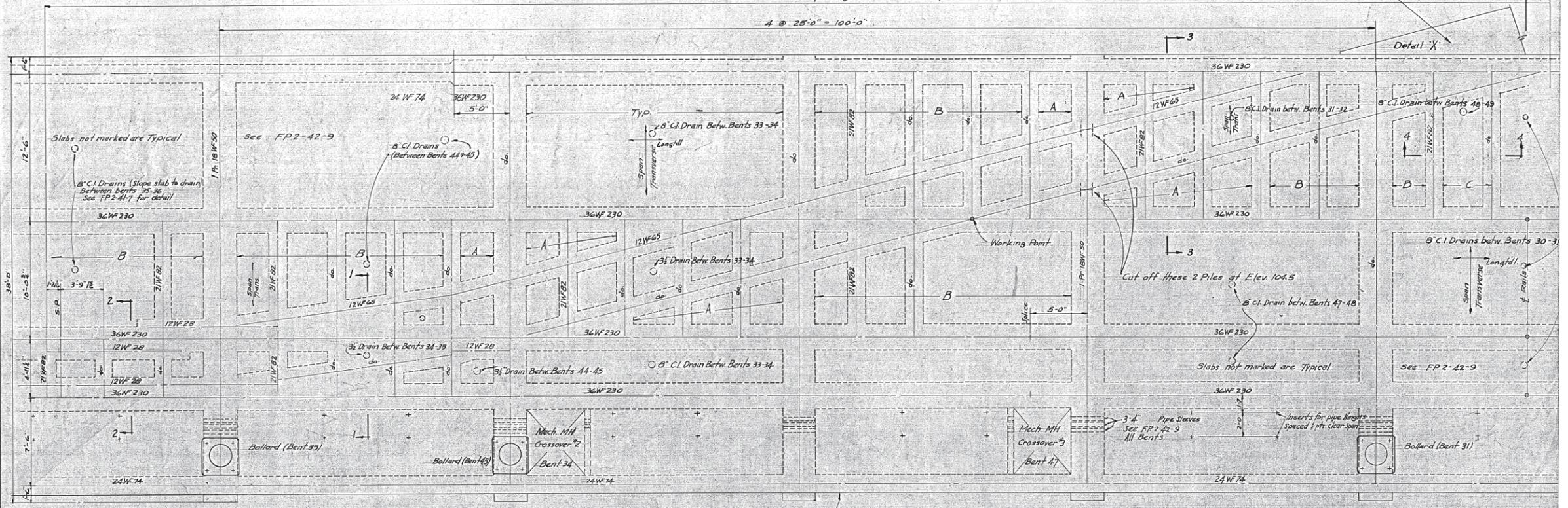
Scale: As Shown

FP2-42-5

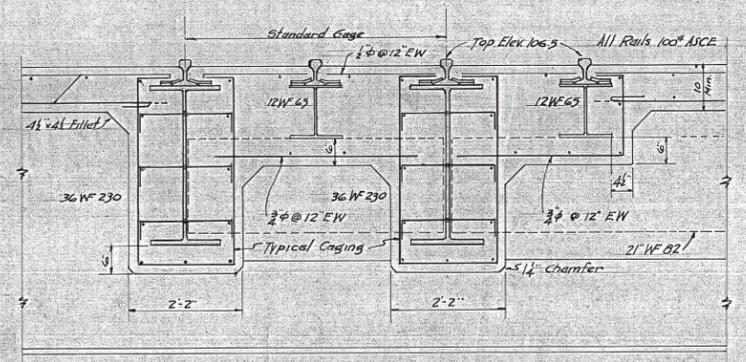
Floor Beam Spacing = 5'-0" (21W82)

A @ 25'-0" = 100'-0"

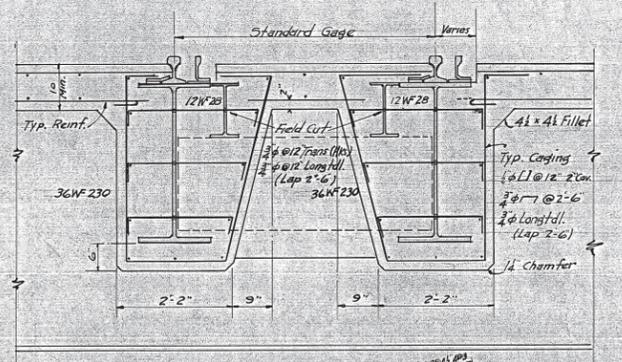
Approach Slabs to Crossover  
see C.T. Main Dwg. 1466-A-17A



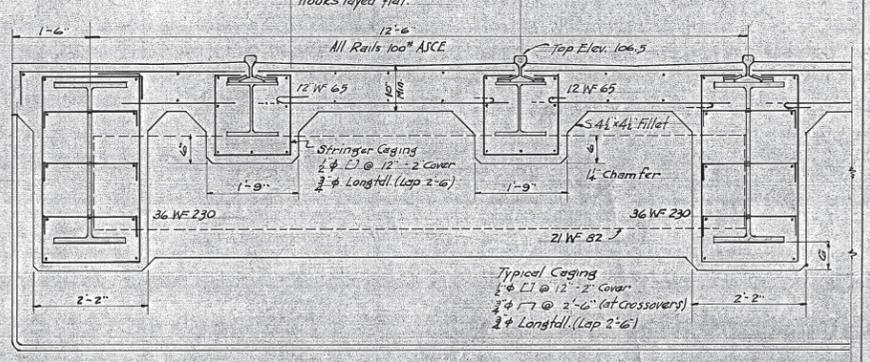
BENT No. 35 (Ballard here) 34 CROSSOVER # 2 33 For Fender Detail - See P.W. Dwg. FP2-42-9 32 BENT No. 31 (Ballard here)  
44 (Ballard here) 43 (Ballard here) CROSSOVER # 3 (OPPOSITE HAND) 46 47 48



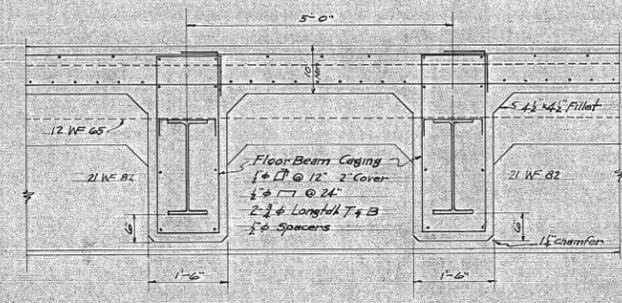
SECTION 1-1  
Scale 1/2" = 1'-0"



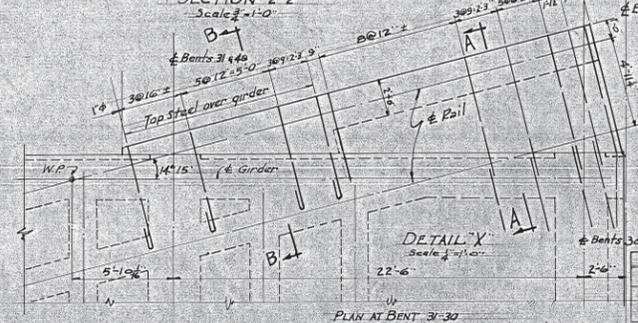
SECTION 2-2  
Scale 1/2" = 1'-0"



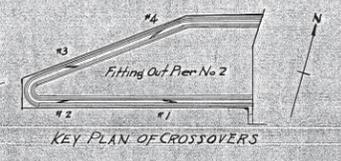
SECTION 3-3  
Scale 1/2" = 1'-0"



SECTION 4-4  
Scale 1/2" = 1'-0"



SECTION B-B  
Scale 1/2" = 1'-0"



Slab	Transverse	Longitudinal	Span Max
A	3/4" @ 8"	3/4" @ 12"	4'-0"
B	3/4" @ 6"	3/4" @ 12"	8'-0"
C	3/4" @ 5"	3/4" @ 10"	10'-0"

Top Reinf. (All Slabs) 1/2" @ 12" EW  
Hook All Transverse Bars Inside R-410  
Concrete to be Class E. (Ult strength 3000 p.p.s.)  
Lap A-D 2 cover for all slab reinf.  
Details not shown are same as typical section.  
(See P.W. Dwg. FP2-42-9)  
Details are typical for all similar conditions.

Reference Drawings:  
Location Plan & Layout: FP2-41-4  
Clear & Ballard Anchorage: 7  
Manufacturing in Deck Slabs: 9  
Mechanical: MS-42-19 & MS-42-20  
Electrical: ES-42-103 to 108 incl. & 191  
Steel Framing: see Chas. T. Main Dwg. 1466-A-17, A-3

General Notes: Same as P.W. Dwg. FP2-42-9

B. 10-74-44	BUY & NO. added	D.R.C.
A. 116-43	Plans as built	Contract No. 5094
Revision Date	Brief	by

Drawn by Onderdonk  
Traced by Caulfield  
Checked by L.C.  
Chief Dfmr. P.J.E.  
In Charge

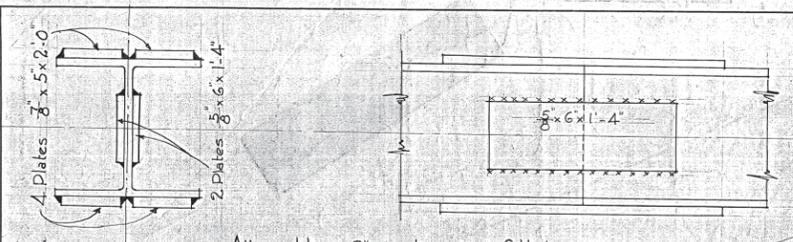
NAVY YARD PORTSMOUTH, N.H.

**FITTING OUT PIER NO 2**

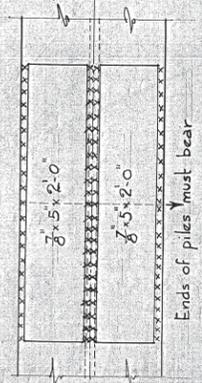
PLAN OF CONCRETE SLABS  
AT CROSSOVERS # 2 & # 3

343,459 CONTRACT NO. NOY 5094 - SANDERS ENG. CO.

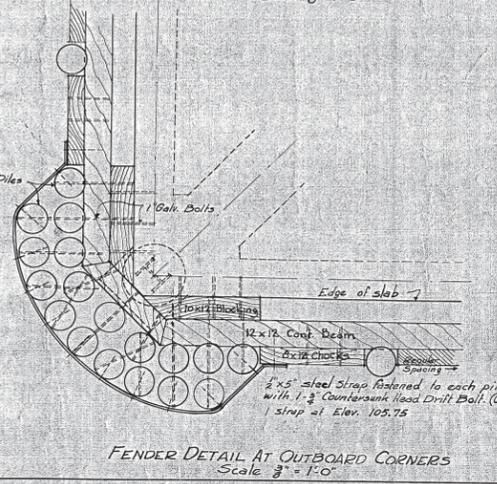
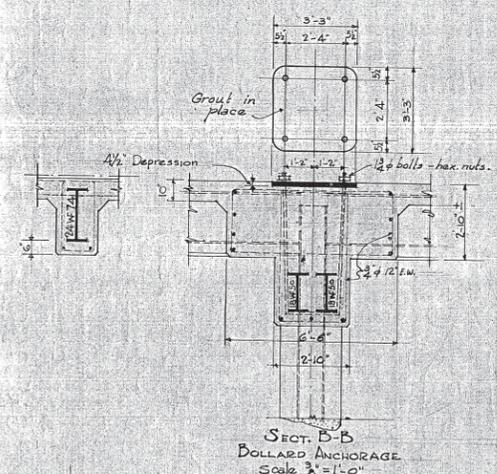
P.W. Drawing No. Approved Jan. 19, 1942 W. J. ECKBERG, King  
Signed Jan. 16, 1943 [Signature] Public Works Officer



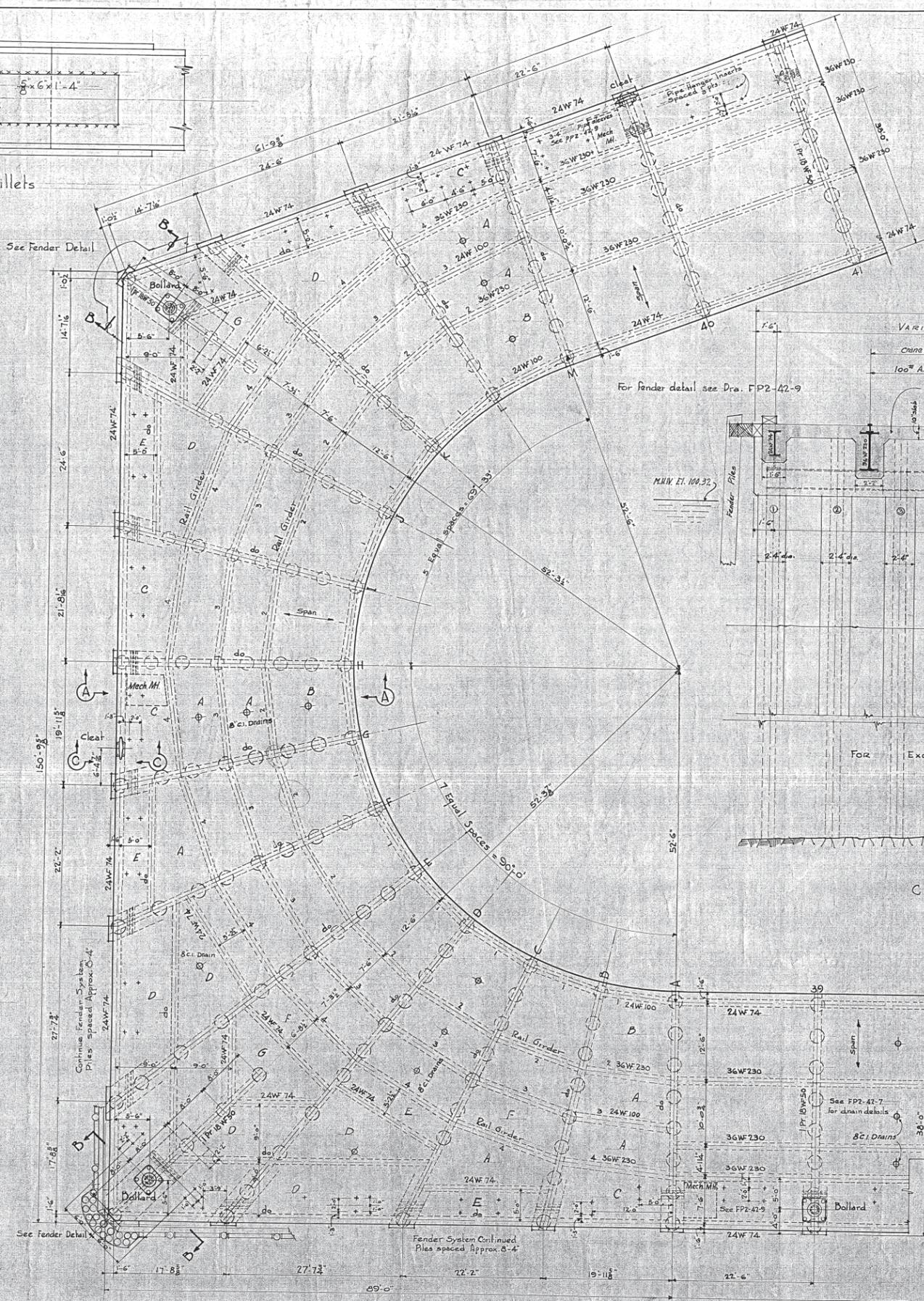
All welding  $\frac{3}{8}$ " continuous fillets



100% SPLICE for 12-74# H PILES  
Scale 1" = 6"



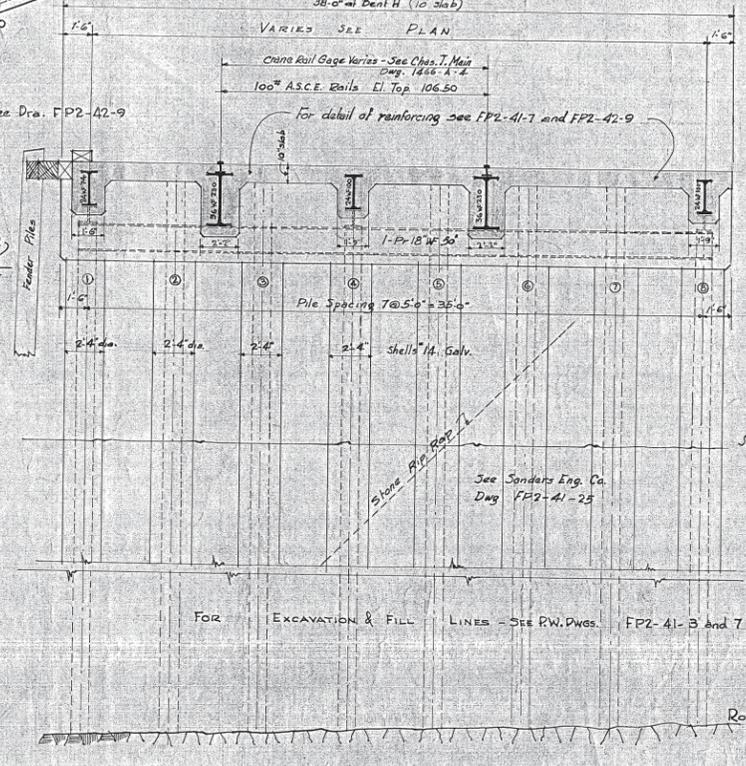
FENDER DETAIL AT OUTBOARD CORNERS  
Scale  $\frac{3}{8}$ " = 1'-0"



PLAN  
Scale  $\frac{3}{8}$ " = 1'-0"

SLAB SCHEDULE						
SLAB MARK	SLAB THICKNESS	MAIN REINFORCING STRAIGHT (S)	BENT (B)	CONTINUITY (C)	SPACES (D)	REMARKS
A	10"	3# @ 12"	3# @ 12"		3# @ 12"	ALTERNATE - S & B BARS
B	10"	3# @ 15"	3# @ 15"		do	3RD BAR BENT - D
C	10"	3# @ 15"	3# @ 15"		do	3RD BAR BENT - D
D	10"	3# @ 11"	3# @ 11"		do	ALT - S & B BARS
E	10"	3# @ 15"	3# @ 15"		do	ALT - S & B BARS
F	10"	3# @ 15"	3# @ 15"		do	ALT - S & B BARS
G	10"	3# @ 12"	3# @ 12"		do	

Slabs not marked are typical. See FP2-42-9  
 Top Reinforcing -  $\frac{1}{2}$ " @ 12" EW - Entire deck - lap 40 d.  
 'B' Bars - Bent up at 4 pts. - extend to 3 pts. adjacent span. L of bars.  
 'D' Bars - Entire deck - lap 40 d.  
 Cover - 2" - All slab reinforcing  
 Hook all transverse bottom bars  $\frac{1}{4}$ " @ 40 d.  
 See DWG FP2-42-6 pertaining to length of typical transverse bottom bars. This note applies to similar slab bars of this dwg.



CROSS SECTION A-A  
Scale 1" = 1'-0"

REFERENCE DRAWINGS	
Location & Layout: PW.Dwg. FP2-41-4	
Adjoining Work: FP2-41-7	
Sheet Framing: Chart Main Dwg.	
Mechanical Work: 175-41-19 & 20	
Electrical Work: E5-42-163 to 188 inc. & 191	

GENERAL NOTES  
 Concrete shall be Class E 3000 P.S.I. vibrated slump as approved per Federal Spec. incl. 1100-22. Cl. 5.1.1.1. All work shall be approved by Officer in charge. Loading shall be as per F.O. or Ship. Truck. Details are typical for all similar conditions.

Revision	Date	Description	By
B	10-24-44	59790 Re 14444	D.S.C.
A	1/6-43	Plan as built	Contract No. 5094

Drawn by C.L.S.  
 Traced by Geddfion  
 Checked by Lr. Chief Dfm.  
 In Charge P.J.E.  
 Y.P.D. Drawing  
 343.461  
 PW Drawing No.  
 Approved Jan. 22 1942  
 Signed Jan. 16, 1943

NAVY YARD  
 PORTSMOUTH, N.H.  
 FITTING OUT PIER NO. 2  
 PLAN AND DETAILS  
 OF CONCRETE SLABS-PIERHEAD  
 CONTRACT NO. NOV 5094 - SANDERS ENG. CO.  
 W. J. Etkberg, Acting  
 Public Works Officer

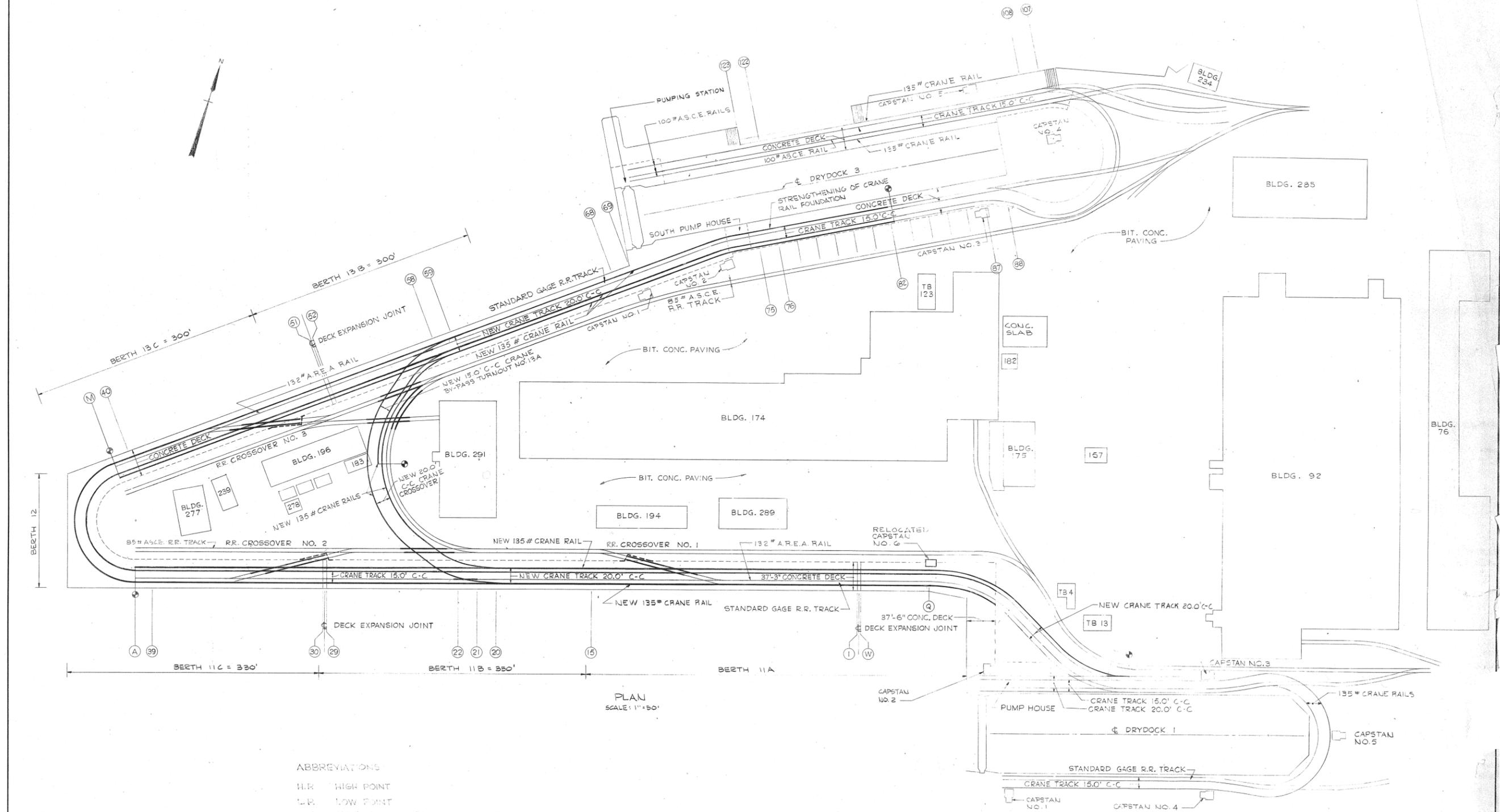
Scale: As Shown

FP2-42-B



PORTSMOUTH NAVAL SHIPYARD  
1977 – ADDITIONAL CRANE RAIL SYSTEM BERTHS 11 AND 13  
CONTRACT NO N62472-76-C-0746

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED



PLAN  
SCALE: 1" = 50'

- ABBREVIATIONS
- H.P. HIGH POINT
  - L.P. LOW POINT
  - C-C CENTER TO CENTER
  - R.R. RAILROAD
  - AREA AMERICAN RAILWAY ENGINEERING ASSOCIATION
  - ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS

- LEGEND
- EXISTING FEATURES
  - NEW WORK
  - ⊙ LIMIT OF RAIL REPLACEMENT



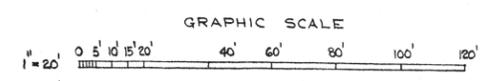
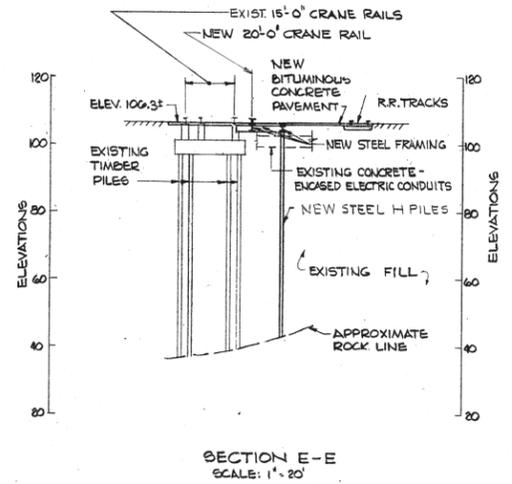
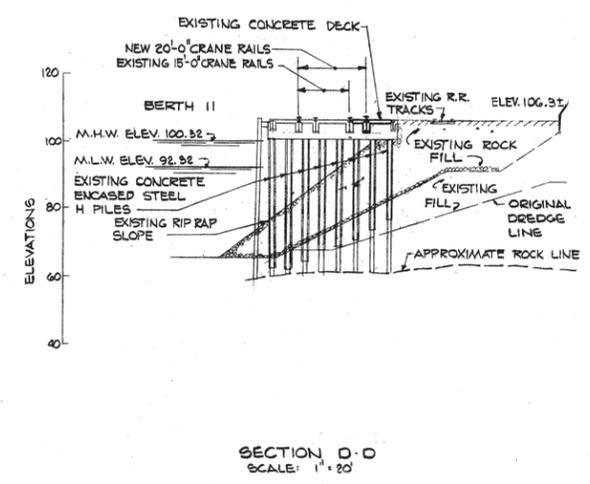
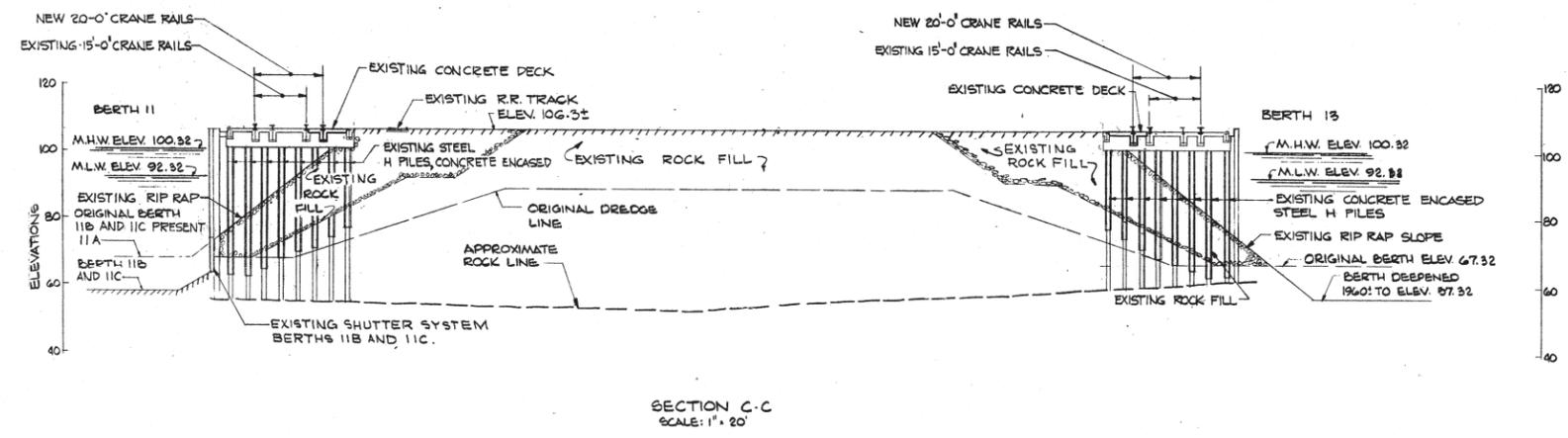
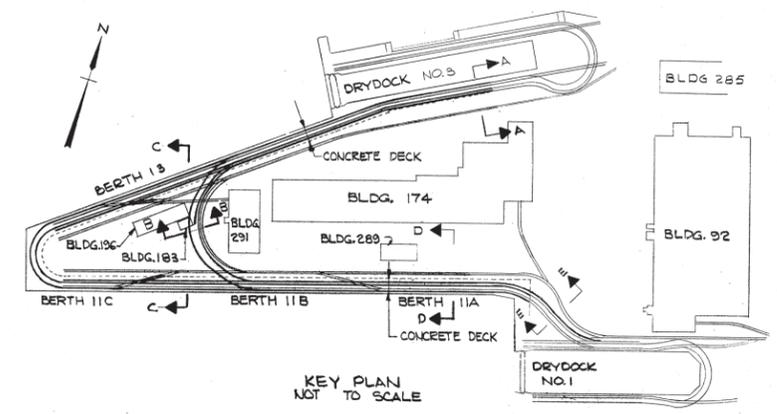
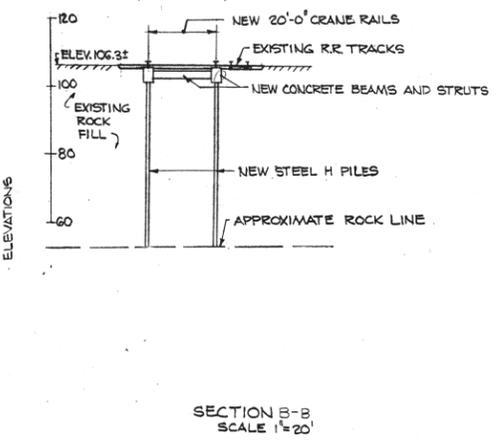
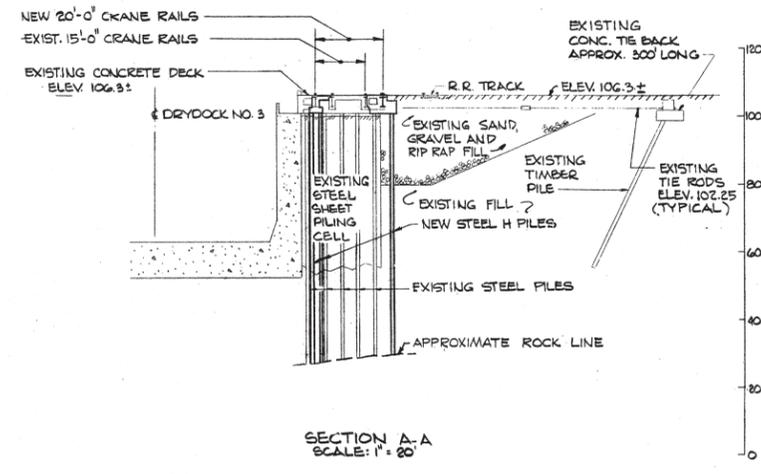
NOTE:  
FOR CRANE RAIL AND R.R. TRACKWORK PLAN AND DETAILS SEE NAVFAC DRAWING NO.'S 2025016 THRU 2025051.

CHECK GRAPHIC SCALES BEFORE USING

TP-65  
13

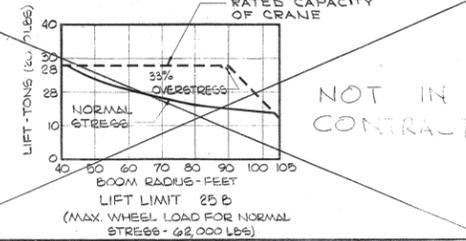
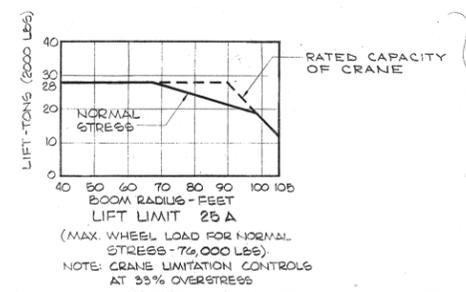
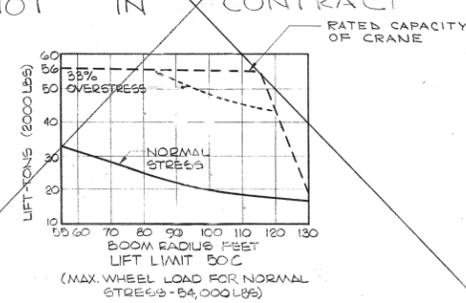
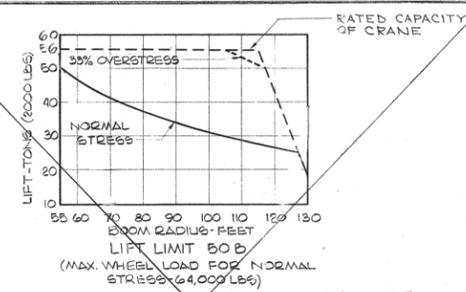
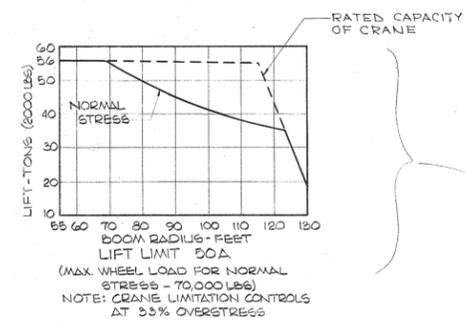
FAY, SPOFFORD & THORNDIKE, INC. BOSTON, MASS. ARCHITECTS - ENGINEERS		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL BASE PHILADELPHIA, PA. <b>NORTHERN DIVISION</b>	
DES. BY: R.W.K. OR T.S. SUBMITTED BY: <i>Rawant</i> DATE: 4/77 DIRECTOR:	CHK. BY: N.J.R. DATE:	PORTSMOUTH NAVAL SHIPYARD PORTSMOUTH, N.H. <b>ADDITIONAL CRANE RAIL SYSTEM</b> CONSTRUCTION, BERTHS 11 AND 13 <b>GENERAL PLAN</b>	
NORDIV NO. _____ HO. _____ E.I.C. _____ DIR. _____	APPROVED: _____ DATE: _____ OFFICER IN CHARGE	SIZE: F CODE IDENT. NO.: 80091 NAVFAC DRAWING NO.: 2025019	SONSTR. CONTR. NO. N62472-76-C-0746 SPEC. 04-76-0746 SHEET 2 OF 6
SATISFACTORY TO: _____ DATE: _____		NORDIV FOR COMMANDER NAVFAC	

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVE



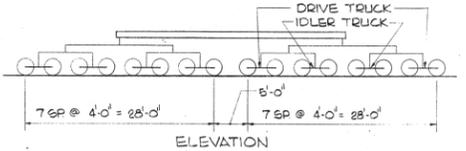
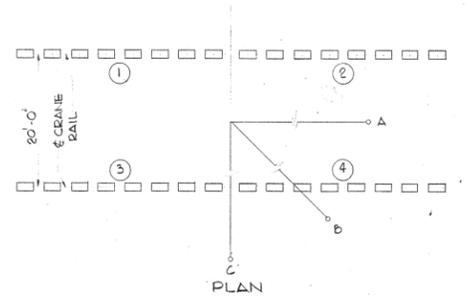
FAY, SPOFFORD & THORNDIKE, INC. BOSTON, MASS. ARCHITECTS - ENGINEERS	DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND NAVAL BASE PHILADELPHIA, PA.
DESIGNED BY: RICHARD W. ALBRECHT SUBMITTED BY: R. ALBRECHT DATE: 4/7/77 DIRECTOR	PORTSMOUTH NAVAL SHIPYARD PORTSMOUTH, N.H. ADDITIONAL CRANE RAIL SYSTEM CONSTRUCTION, BERTHS 11 AND 13 TYPICAL SITE SECTIONS
APPROVED: [Signature] DATE: [Blank] OFFICER IN CHARGE	SIZE: F CODE IDENT. NO.: 80091 NAVFAC DRAWING NO.: 2025020
SATISFACTORY TO: [Blank] DATE: [Blank]	CONSTR. CONTR. NO. N62472-76-C-074 SPEC. 04-76-0746 SHEET 3 OF 57

REVISIONS			
LTR	DESCRIPTION	PREP'D BY	DATE APPROVED



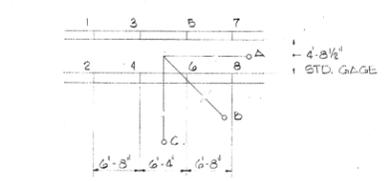
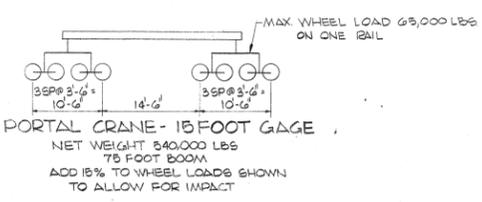
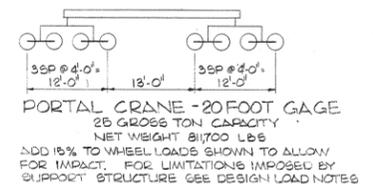
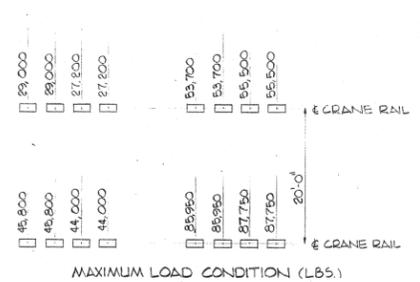
**LIFT LIMITATION CHARTS**

NOTES:  
LIFT LIMITATIONS ARE DETERMINED BY THE STRESSES IN THE EXISTING CRANE RAIL SUPPORT STRUCTURE.



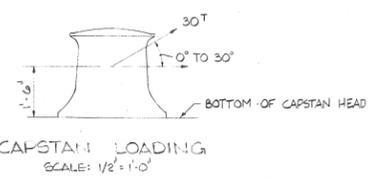
	BOOM AT A	BOOM AT B	BOOM AT C
1	39,200	28,600	29,300
2	69,700	39,300	29,300
3	39,200	62,800	79,500
4	69,700	81,000	79,500

**PORTAL CRANE 20 FOOT GAGE**  
50 GROSS TON CAPACITY  
NET WEIGHT 1629400 LBS  
ADD 15% TO WHEEL LOADS SHOWN TO ALLOW FOR IMPACT. FOR LIMITATIONS IMPOSED BY SUPPORT STRUCTURE, SEE DESIGN LOAD NOTES.



	BOOM AT A	BOOM AT B	BOOM AT C
1	33,000	17,500	17,200
2	33,000	60,500	47,500
3	33,000	17,500	17,200
4	33,000	60,500	47,500
5	51,700	23,500	17,200
6	51,700	71,000	47,500
7	51,700	23,500	17,200
8	51,700	71,000	47,500

**DIESEL-ELECTRIC LOCOMOTIVE CRANE**  
CAPACITY 40 TONS AT 12 FEET  
ADD 15% TO TABULATED VALUES SHOWN TO ALLOW FOR IMPACT



- GENERAL NOTES
- STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE DESIGN MANUAL OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
  - STRUCTURAL STEEL SHALL CONFORM TO ASTM A36. THE ALLOWABLE STRESS IN BENDING IS 24,000 PSI.
  - WELDING SHALL BE WITH E70 ELECTRODES.
  - CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-71. CONCRETE SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS. THE ALLOWABLE COMPRESSIVE STRESS IS 1575 PSI.
  - REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. THE ALLOWABLE TENSILE STRESS IS 24,000 PSI.
  - REINFORCING STEEL SHALL BE SPLICED IN ACCORDANCE WITH THE FOLLOWING TABLE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

BAR SIZE	TOP BARS* INCHES	ALL OTHERS INCHES
4	22	16
5	27	20
6	33	24
7	44	32
8	58	42
9	74	53
10	94	67
11	115	82

- \*BARS SHALL BE CONSIDERED TO BE TOP BARS WHEN MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THEM.
- REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR COVER, FACE OF CONCRETE TO FACE OF STEEL:  
CONCRETE DEPOSITED AGAINST THE GROUND - 3 INCHES  
ALL OTHER FACES - NO. 5 BARS AND SMALLER - 1-1/2 INCHES  
LARGER THAN NO. 5 BARS - 2 INCHES
  - REINFORCING BARS SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
  - EXPOSED CORNERS OF CONCRETE SHALL HAVE A 1-1/4 INCH CHAMFER, UNLESS OTHERWISE NOTED.
  - PILES ARE END-BEARING ON ROCK AND HAVE AN ALLOWABLE STRESS IN BEARING OF 12,000 PSI.
  - DIMENSIONS AND DETAILS OF THE EXISTING CONSTRUCTION ARE FROM CONSTRUCTION DRAWINGS FURNISHED BY PORTSMOUTH NAVAL SHIPYARD. ALL DIMENSIONS AND DETAILS OF THE EXISTING CONSTRUCTION SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
  - ALL CONNECTIONS USING A325 HIGH STRENGTH BOLTS SHALL BE FRICTION TYPE CONNECTIONS
  - EXPOSE EXISTING UTILITIES NEAR PILE LOCATIONS BEFORE COMMENCING DRIVING.

DESIGN LOAD NOTES:

- ALL NEW SUPPORTS FOR 20 FOOT GAGE TRACK ARE DESIGNED FOR BOTH THE 50 TON AND 25 TON PORTAL CRANES, FOR LIFT LIMITS 50A AND 25A.
- ALL NEW SUPPORTS FOR 15 FOOT GAGE TRACK ARE DESIGNED FOR THE 15 FOOT GAGE PORTAL CRANE.
- ALL NEW SUPPORTS FOR RAILROAD TRACK ARE DESIGNED FOR THE 40 TON DIESEL-ELECTRIC LOCOMOTIVE CRANE.
- ALL NEW DECK IS DESIGNED FOR H20 TRUCK LOADING OR 500 POUNDS PER SQUARE FOOT UNIFORM LOAD.

CHECK GRAPHIC SCALES BEFORE USING

FAY, SPOFFORD & THORNDIKE, INC. BOSTON, MASS. ARCHITECTS - ENGINEERS	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NORTHERN DIVISION PHILADELPHIA, PA.
DESIGNED BY: DR KPC	NAVAL BASE: PORTSMOUTH NAVAL SHIPYARD
DATE: 4/2/74	PORTSMOUTH, N.H.
ADDITIONAL CRANE RAIL SYSTEM CONSTRUCTION, BERTHS II AND 13	
DESIGN DATA	
NORDIV: _____	SIZE: 80091
DATE: _____	NAVFAAC IDENT. NO.: 2025021
APPROVED: _____	CONSTR. CONTR. NO. NS2472-76-C-0746
OFFICER IN CHARGE: _____	SCALE: AS SHOWN
DATE: _____	SPEC. O4-76-0746
NORDIV FOR COMMANDER NAVFAAC: _____	SHEET 4 OF 53

