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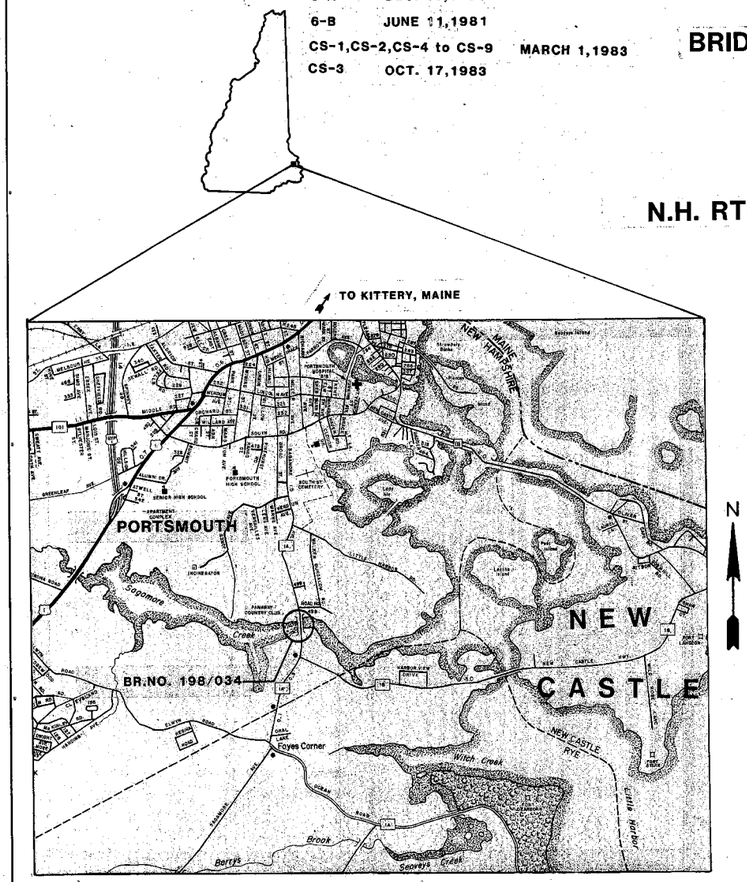
	STANDARD SHEETS	
	6	JUNE 11,1981
	6-A	DEC. 10,1981
	6-B	JUNE 11,1981
	CS-1,CS-2,CS-4 to CS-9	MARCH 1,1983
	CS-3	OCT. 17,1983



LOCATION MAP

1 1/2 0 1

SCALE IN MILES

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PLANS OF PROPOSED
BRIDGE REHABILITATION -URBAN SYSTEM PROJECT

BHM-5379(012)
N.H. PROJECT NO. C-4059

N.H. RTE. 1A (SAGAMORE AVE.) OVER SAGAMORE CREEK

THIS PROJECT TO BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS DATED 1983

CITY OF PORTSMOUTH

COUNTY OF ROCKINGHAM

DESIGN DATA

AVERAGE DAILY TRAFFIC 19__	_____	
AVERAGE DAILY TRAFFIC 19__	_____	
PERCENT OF TRUCKS	_____	%
DESIGN SPEED	_____	M.P.H.
LENGTH OF PROJECT	_____	MILES

DRAWN BY	S.C. LIAKOS	DATE MARCH,1984
CHECKED BY	J.F. MARSHALL	DATE JULY,1984

N.H. DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

RECOMMENDED FOR APPROVAL:

Reed W Webb 9-12-84
DEPUTY COMMISSIONER AND CHIEF ENGINEER DATE

APPROVED: John A. Clements
COMMISSIONER

Robert G. Drew
MUNICIPAL HIGHWAYS ENGINEER

PLANS PREPARED UNDER THE SECONDARY AND OFF SYSTEM ROAD PLAN

FILE NO. 2-6-3-1

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
BHM-5379(012)	C-4059	1	5

BRUNING 44-141 58157

FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.				

RESET APPROACH CURB AND SHIM PAVEMENT

REPLACE APPROACH RAIL

REPAIR CONCRETE BACKWALLS AND WINGS

PLACE STONE FILL IN FRONT OF ABUTMENTS

REHABILITATE BRIDGE RAIL

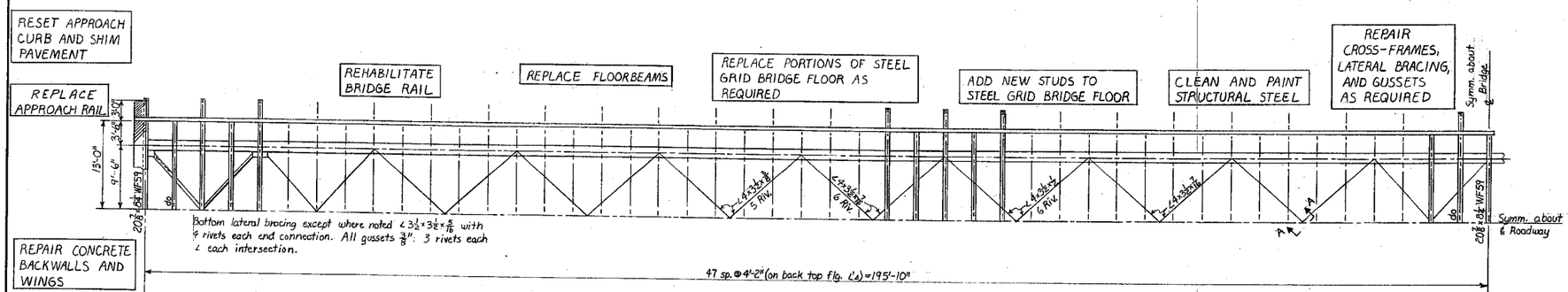
REPLACE FLOORBEAMS

REPLACE PORTIONS OF STEEL GRID BRIDGE FLOOR AS REQUIRED

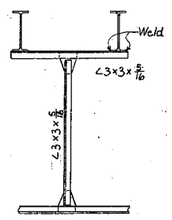
ADD NEW STUDS TO STEEL GRID BRIDGE FLOOR

CLEAN AND PAINT STRUCTURAL STEEL

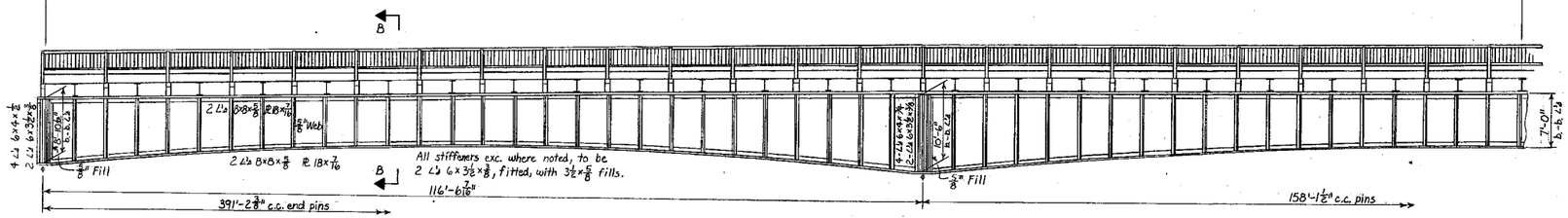
REPAIR CROSS-FRAMES, LATERAL BRACING, AND GUSSETS AS REQUIRED



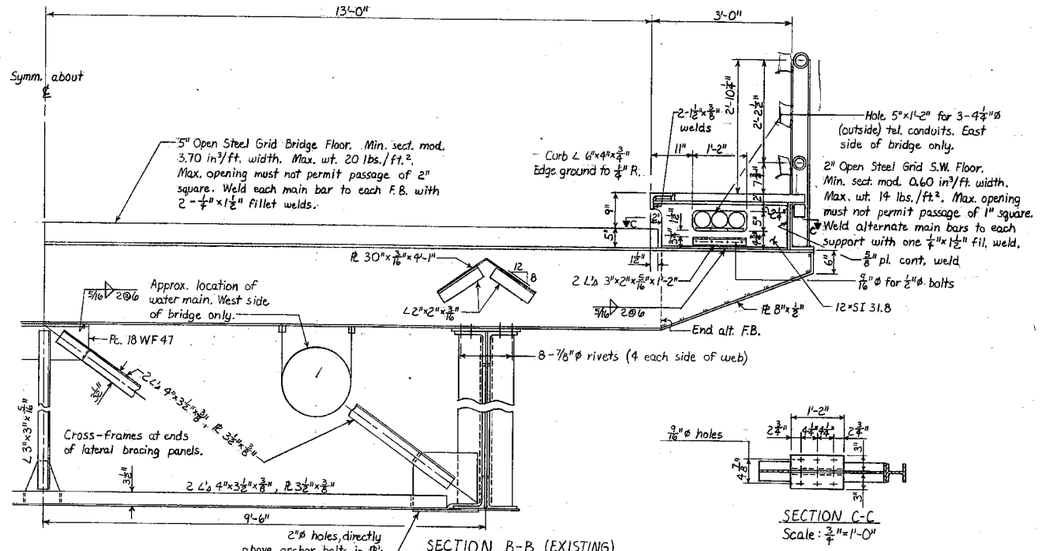
EXISTING PLAN - FLOOR SYSTEM AND BOTTOM LATERAL BRACING
Scale: ⅛"=1'-0"



SECTION A-A
Scale: ⅜"=1'-0"



EXISTING ELEVATION
Scale: ⅛"=1'-0"



SECTION B-B (EXISTING)
Scale: ¾"=1'-0"

SECTION C-C
Scale: ¾"=1'-0"

SUMMARY OF BRIDGE QUANTITIES

Item No.	Description	Quantity	Unit
403.11	Hot Bituminous Pavement, Machine Method	32.8	Ton
417	Cold Planing of Bituminous Surfaces	580	S.Y.
502	Removal of Existing Bridge Structure	1	Unit
512.01	Preparation for Concrete Repairs	1.0	S.Y.
520.01	Concrete Class AA	5.7	C.Y.
520.02	Concrete Class P for Patching	0.2	C.Y.
534.3	Water Repellent (Silane)	2	Gal.
544.2	Reinforcing Steel - Epoxy Coated	730	Lb.
550.1	Structural Steel [Est. 185,200#]	1	Unit
550.48	Structural Steel (Steel Grid Skid Studs)	70,000	Each
555.1	Steel Grid Floor (Open)	5140	S.F.
556	Painting Existing Structural Steel [Est. 932,000#]	1	Unit
563.6	Bridge Railing E	801.8	L.F.
606.143	Beam Guard Rail Incl. Term. Sects. GR-143	525.0	L.F.
609.5	Reset Granite Curb	128.0	L.F.
618.2	Uniformed Officers and Flagmen	320	Hr.
619.1	Maintenance of Traffic, Incl. Dust Laying	1	Unit
619.2	Construction Signs and Warning Devices	1	Unit
692	Mobilization	1	Unit
698.11	Field Offices (Modified)	1	Each
1002	Repairs or Replacements as Needed		$
606.148	Beam Guard Rail (Br. Approach Unit) GR-148	4	Units
555.11	Reinstall Steel Grid Floor (Open)	5140	S.F.
585.1	Stone Fill, Class A	400	C.Y.

NOTE: The item bridge quantities are estimated and the above summary of bridge quantities is information for bidding purposes only.

GENERAL NOTES

1. All welds shall conform to N.H. Standard Specifications and AASHTO Specifications.
2. Structural Steel shall be AASHTO M-183 (ASTM A-36).
3. Existing bridge plans may be obtained from the N.H. D.P.W. & H. Bridge Design Office.
4. See Prosecution of the Work for detour and traffic control details.
5. Reset Granite Curb, Item 609.5, shall include resetting settled approach curb to the proper grade. Item 609.5 shall also include all necessary adjustment of the approach curb to properly fit against the bridge corbs.
6. Cold Planing of Bituminous Surfaces, Item 417, shall include: Scarifying the existing approach pavement for approximately 100 feet, or as directed, adjacent to each end of the bridge to allow placing a 1" min. thickness bituminous overlay shim to obtain a smooth ride on and off the bridge; overlay paid under Item 403.11.
7. The Contractor shall protect and support as required the existing water main and telephone ducts during the floorbeam replacement work. Cost included in Item 550.1. Temporary pipe hangers shall be installed to give full and proper support to the water main to prevent crushing of the insulation and outer metal jacket.

Scale as noted

△	DESCRIPTION	BY	DATE
	REVISIONS		

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION

TOWN PORTSMOUTH — BRIDGE NO. 198/034
FEDERAL PROJECT BHM-5379(012) — STATE PROJECT C-4059
LOCATION N.H. Rte. 1A (Sagamore Ave.) over Sagamore Creek

BRIDGE REHABILITATION - PLAN & ELEVATION

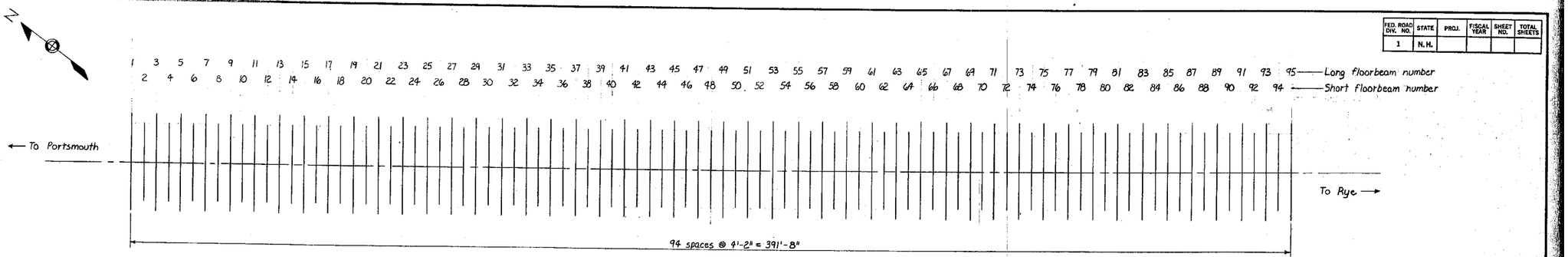
	BY	DATE		BY	DATE	BRIDGE SHEET NO.
DESIGNED	SCL	1-84	CHECKED	JFM	7-84	1 OF 4
DRAWN	SCL	1-84	CHECKED	——	——	
TRACED	SCL	1-84	CHECKED	JFM	7-84	FILE NUMBER
QUANTITIES	SCL	8-84	CHECKED	JFM	8-84	2-6-3-1

REVIEWED BY

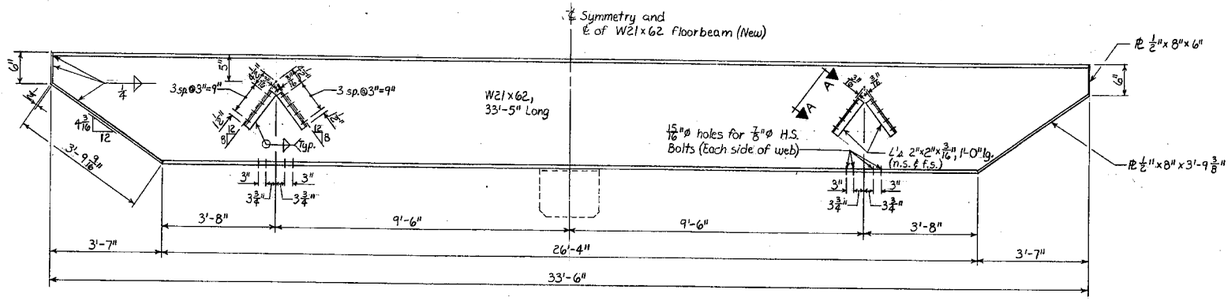
PROJ. NO.	SHEET NO.	TOTAL SHEETS
BHM-5379(012)	2	5

BRUNING 40-107 53232

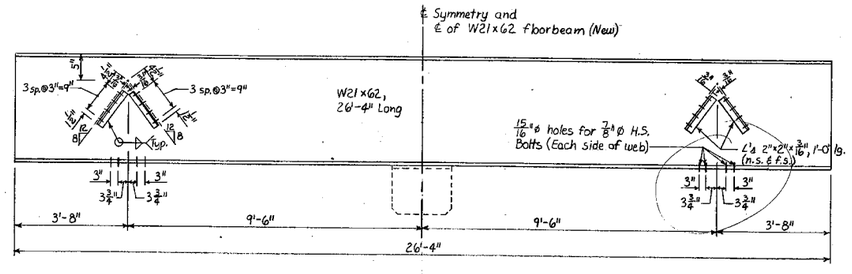
FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.				



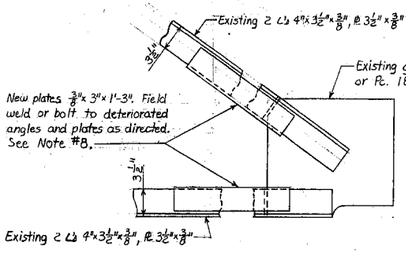
FLOORBEAM LAYOUT
Scale: 1/16" = 1'-0"



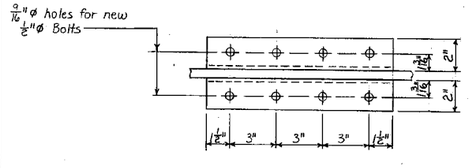
DETAILS OF LONG FLOORBEAM (NEW)
Horiz. Scale: 1/2" = 1'-0"
Vert. Scale: 1" = 1'-0"



DETAILS OF SHORT FLOORBEAM (NEW)
Horiz. Scale: 1/2" = 1'-0"
Vert. Scale: 1" = 1'-0"



BRACING REPAIR DETAIL
N.T.S.



SECTION A-A
Scale: 3" = 1'-0"

CONSTRUCTION SIGNING REQUIREMENTS

SIGN NO.	DESIGNATION	SIZE	NO. REQ'D	POSTS	EASELS
G20-2	End Construction	24x60	2	4	
R11-2	Road Closed	30x48	2	—	
R200-5	Unauthorized Travel Prohibited	24x48	2	—	
W20-1a	Bridge Construction (Ahead)	48x48	3	6	
W20-1c	Bridge Construction (1000 Ft.)	48x48	3	6	
W20-7a	Flagman (Ahead)	48x48	2	—	2
W20-9	Be Prepared to Stop	48x48	2	—	2
	Barricades Type III	—	8	—	
	Delineators VP-1 (8x24)	—	20	—	
	Traffic Cones, 28" Orange	—	25	—	
	Sign Paddles	—	2	—	
	Barrels Plastic/Metal	—	50	—	

W21x62
D = 21"
t_w = 3/8
t_f = 5/8
b_f = 8 1/4

GRID AND FLOORBEAM NOTES

1. Removal of Existing Bridge Structure, Item 502, part of which shall include: floorbeams and all hardware connecting these floorbeams to the main girders; 5" open steel grid bridge floor. All existing floor deemed reusable by the Engineer shall be saved for reinstallation under Item 555.11. It is estimated that a minimum of 50% may be reused.
2. All new floorbeams, angles, plates, and grid bridge floor shall be AASHTO M183 (ASTM A36). Bolts, nuts and washers shall be ASTM A325. All new floorbeam welded connections shall be identical to the existing connections.
3. All steel listed in note #2 above and all welding shall be paid under Structural Steel, Item 550.1, except grid bridge floor.
4. All new steel shall be painted with two shop coats and two field coats. All painting shall be done in conformance with Sections 550.3.2.9 and 550.3.5. Field coats shall be paid under Item 556.
5. Care shall be taken not to damage existing PL's 30" x 3/16" x 4'-1" (Shown in Section B-B on Br. Sh. No. 1 of 4). Unbolt PL's on adjacent floorbeams as required to install new floorbeams. Any of these plates damaged during removal shall be replaced at the Contractors' expense.
6. New flooring to be paid for under Item 555.1, Steel Grid Floor (Open). The bridge flooring shall be 5-Inch RB/6.0M open steel grid as manufactured by Greulich, Inc., or equal. The flooring shall consist of panels fabricated of ASTM A36 steel with main beams spaced at 6 inches. The minimum section modulus shall be 3.70 in^3 per ft. width. The maximum weight shall be 20 pounds / Ft.± The maximum opening must not permit passage of a 2 inch square. Weld each main bar to each floorbeam with two 1/4" x 3" fillet welds.
7. After all bridge flooring has been installed, apply roadway studs on all bridge flooring. Final rate including existing shall be 9 square foot. Omit new studs where existing studs exist. New studs to be paid for under Item 550.48, Structural Steel (Steel Grid Skid Studs).
8. Repair cross-frames, lateral bracing, and gussets that are detached or severely rusted at the ends of the angles as determined by the Engineer. All new plates, bolts, nuts, washers, and welding shall be paid under Item 1002, Repairs or Replacements as Needed. Estimate 25% of existing cross-bracing end connections shall need repair. Use Bracing Repair Detail or other approved repair scheme using 3/8" plates.
9. Replace rivets in main girders that are severely rusted as determined by the Engineer with 7/8" ø high strength bolts, nuts, and washers. All work shall be paid under Item 1002, Repairs or Replacements as Needed.
10. Item 555.11, Reinstall Steel Grid Floor (Open), shall include reinstalling existing grid determined to be saved (See Note #1) and welding each main bar to each floorbeam with two 1/4" x 3" fillet welds.
11. As practical, reinstalled grid floor shall be placed in center of bridge span and new grid floor shall be placed near abutments.

GRID AND FLOORBEAM NOTES (CONTINUED)

Scale as noted

△	DESCRIPTION	BY	DATE
	REVISIONS		

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION

TOWN PORTSMOUTH — BRIDGE NO. 198/034
FEDERAL PROJECT BHM-5379(012) — STATE PROJECT C-4059
LOCATION N.H. Rte. 1A (Sagamore Ave.) over Sagamore Creek

RECONSTRUCTION DETAILS

	BY	DATE		BY	DATE
DESIGNED	SGL	2-84	CHECKED	JFM	7-84
DRAWN	SGL	2-84	CHECKED	—	—
TRACED	SGL	2-84	CHECKED	JFM	7-84
QUANTITIES	SGL	6-84	CHECKED	JFM	10-84
REVIEWED BY					

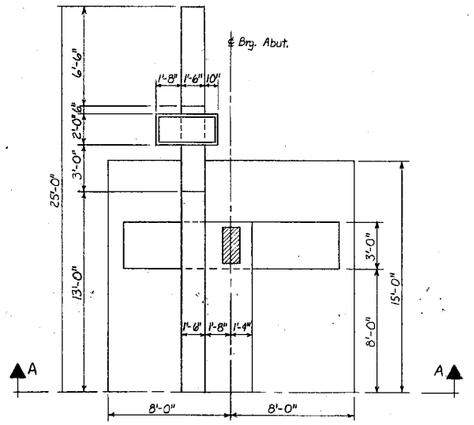
BRIDGE SHEET NO. 2 OF 4
FILE NUMBER 2-6-3-1

PROJ. NO.	SHEET NO.	TOTAL SHEETS
BHM-5379(012)	3	5

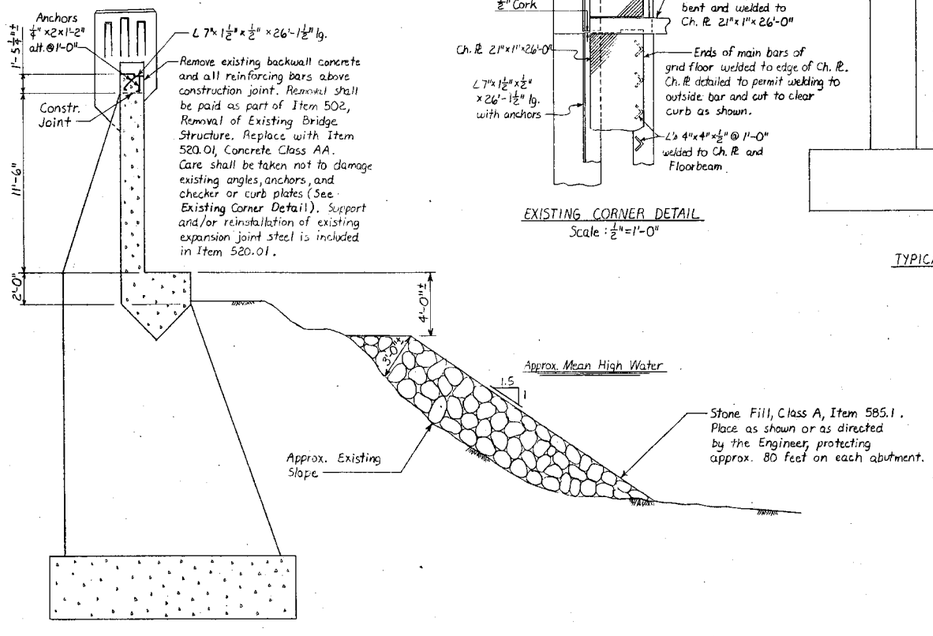
RE: DD 0003

ERKUNTING 40-107 53232

FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.				



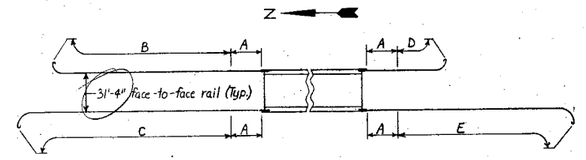
EXISTING HALF PLAN
(North & South Abutments Similar)



SECTION A-A

EXISTING CORNER DETAIL
Scale: ½" = 1'-0"

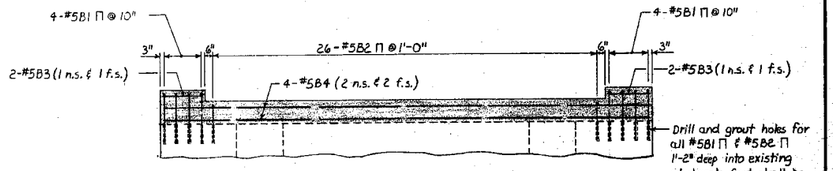
TYPICAL ABUTMENT FRONT ELEVATION



A. Beam Guard Rail (Bridge Approach Unit) GR-14B, Item 606.198 1 Unit [See Stand. No. 6]
24 spaces @ 6'-3" = 150'-0" [90° bend at end with 8'-0" R]
B. B.G.R. Incl. Terminal Sections GR-143, Item 606.143
29 spaces @ 6'-3" = 181'-3" [90° bend at end with 12'-0" R]
C. " " " " " " " "
7 spaces @ 6'-3" = 43'-9" [90° bend at end with 8'-0" R]
D. " " " " " " " "
24 spaces @ 6'-3" = 150'-0" [90° bend at end with 12'-0" R]
E. " " " " " " " "

GUARD RAIL LAYOUT
Scale: 1" = 50'-0"

Note: Adjust reinforcement as directed on East side of abutments only to provide for Telephone Co. conduits cutout (not shown here).



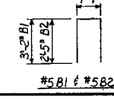
Gas line added during rehab. project by Northern Utility Gas Co., Portsmouth

TYPICAL BACKWALL REINFORCEMENT

Mark	Size	Total No.	Unbent Length	Type
B1	#5	16	7'-5"	Π
B2	#5	52	5'-11"	Π
B3	#5	8	2'-7"	—
B4	#5	8	31'-7"	—

SUMMARY
#5 699.67' × 1.043 plf = 730#

NOTES AND REINFORCING SCHEDULE
1. All reinforcement shall be Reinforcing Steel - Epoxy Coated, Item 544.2, and shall be Grade 60.
2. All reinforcement shall be 2½" clear from concrete surfaces except as noted.



NOTES:
1. Apply Water Repellent (Silane), Item 534.3, to all exposed surfaces of new concrete.
2. Removal of Existing Bridge Structure, Item 502, part of which shall include: removal of pavement and roadway base material necessary to accomplish backwall repair work.

Sheet Scale: ¼" = 1'-0", except as noted

△	DESCRIPTION	BY	DATE
	REVISIONS		

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION

TOWN PORTSMOUTH — BRIDGE NO. 198/034
FEDERAL PROJECT BHM-5379(012) — STATE PROJECT C-4059
LOCATION N.H. Rte. 1A (Sagamore Ave.) over Sagamore Creek

ABUTMENT REPAIR DETAILS

	BY	DATE		BY	DATE
DESIGNED	SCL	2-84	CHECKED JFM		7-84
DRAWN	SCL	2-84	CHECKED —		—
TRACED	SCL	3-84	CHECKED JFM		7-84
QUANTITIES	SCL	8-84	CHECKED JFM		8-84

REVIEWED BY

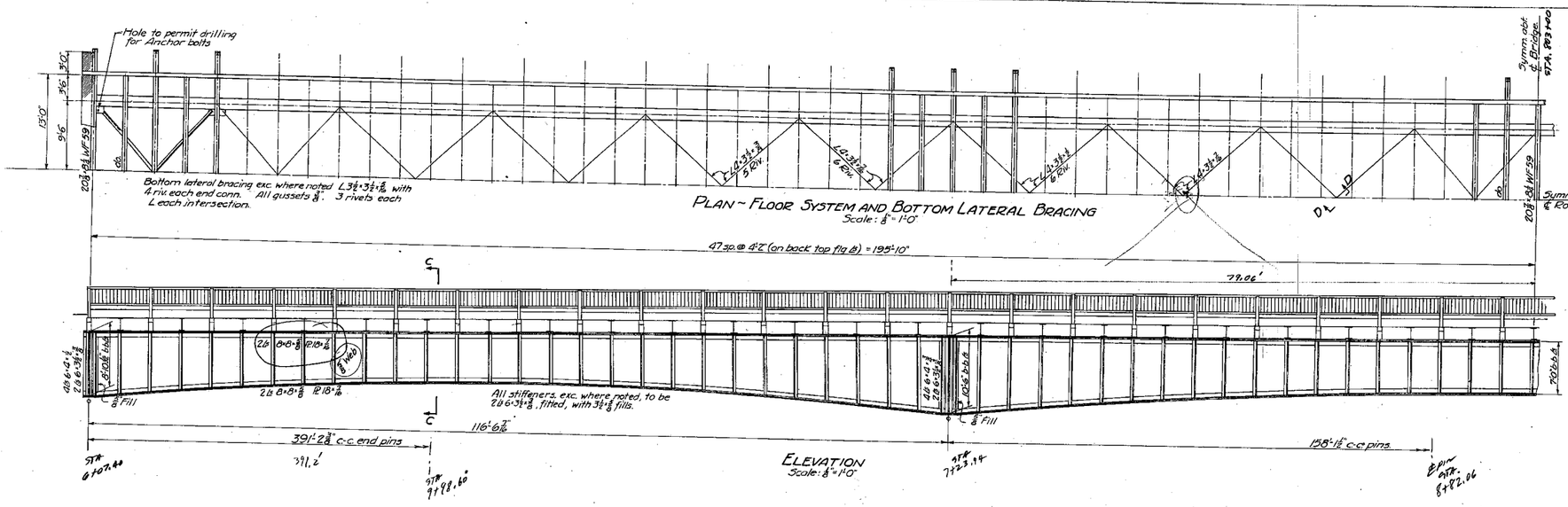
BRIDGE SHEET NO. 3 OF 4
FILE NUMBER 2-6-3-1

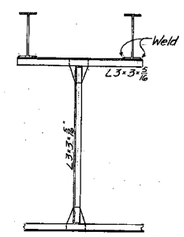
PROJ. NO.	SHEET NO.	TOTAL SHEETS
BHM-5379(012)	4	5

IRUNING 40 107 53232

10 of 21

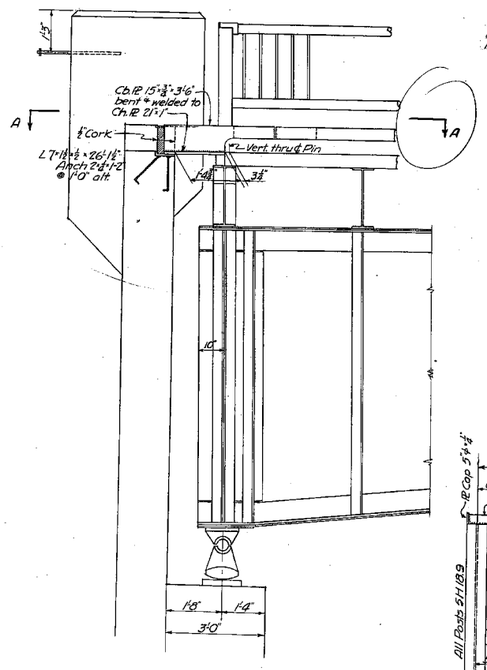
See also another copy with DIFF. IMP. lower left corner

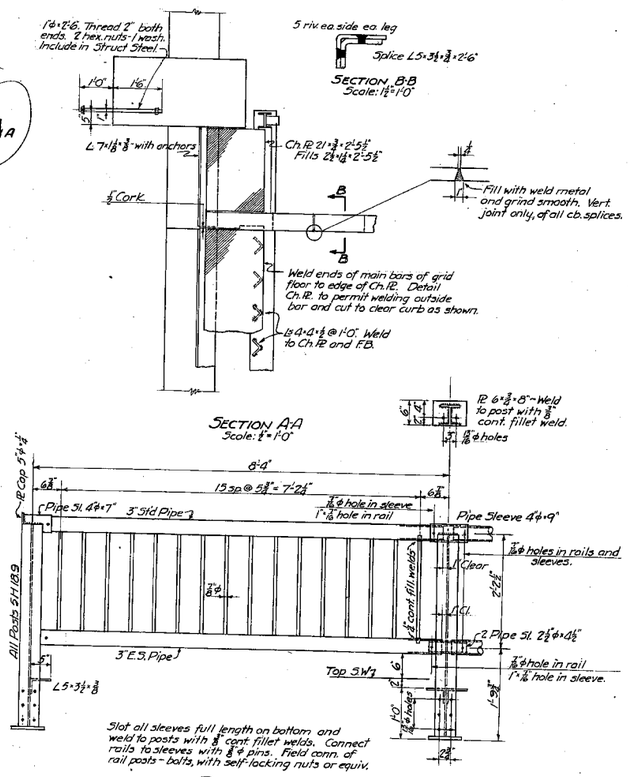


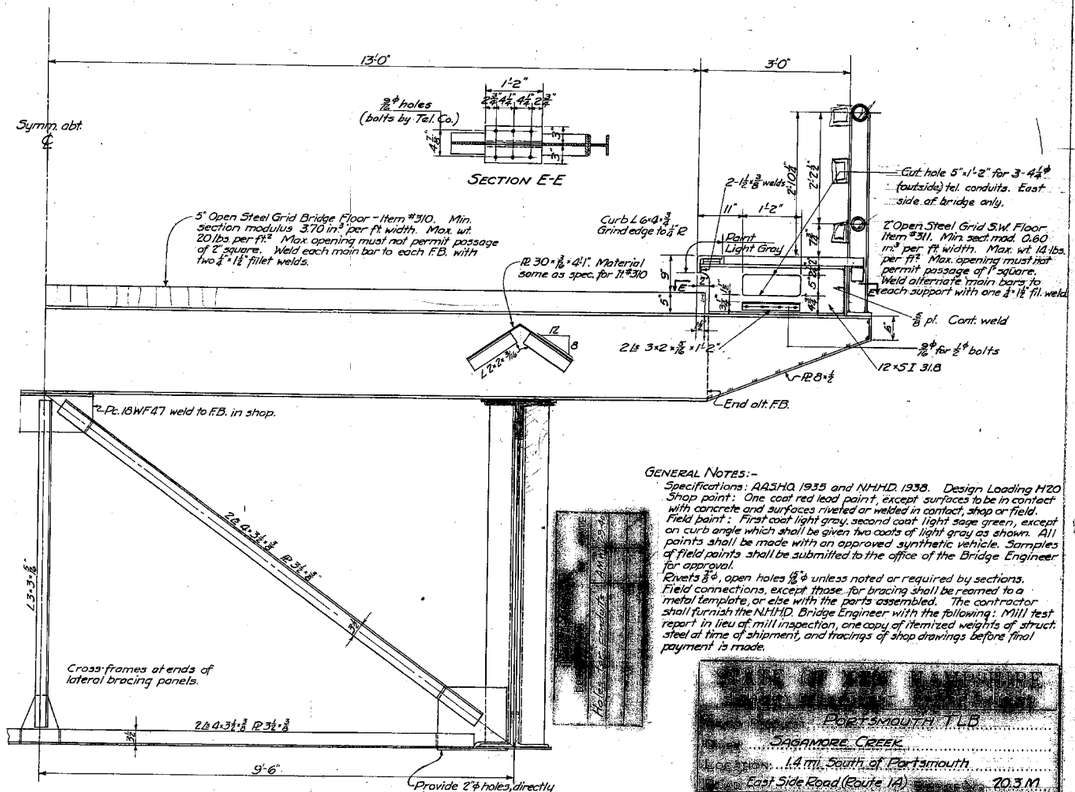


ESTIMATE OF SUPERSTRUCTURE QUANTITIES

ITEM No.	DESCRIPTION	QUANTITY
36	Structural Steel	661000 lbs.
44	Bridge Railing E	784 lin. ft.
310	Open Steel Grid Bridge Floor	10281 sq. ft.
311	Open Steel Grid Sidewalk Floor	2220 sq. ft.
316	Bridge Shoes	One unit







GENERAL NOTES:-

Specifications: AASHO 1935 and NHHD 1938. Design Loading H20

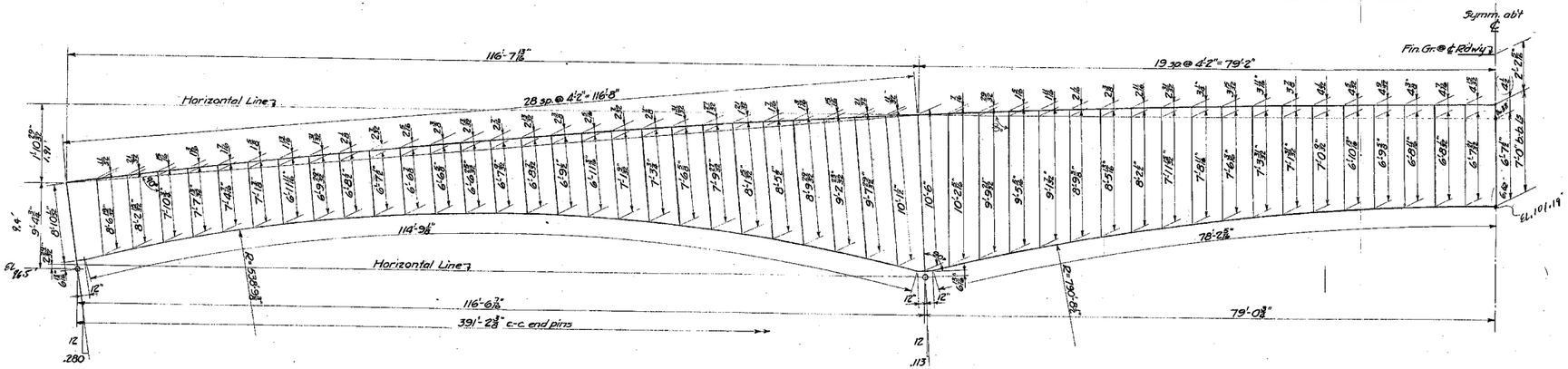
Shop paint: One coat red lead paint, except surfaces to be in contact with concrete and surfaces riveted or welded in contact, shop or field.

Field paint: First coat light grey, second coat light sage green, except on curb angle which shall be given two coats of light gray as shown. All paints shall be made with an approved synthetic vehicle. Samples of field paints shall be submitted to the office of the Bridge Engineer for approval.

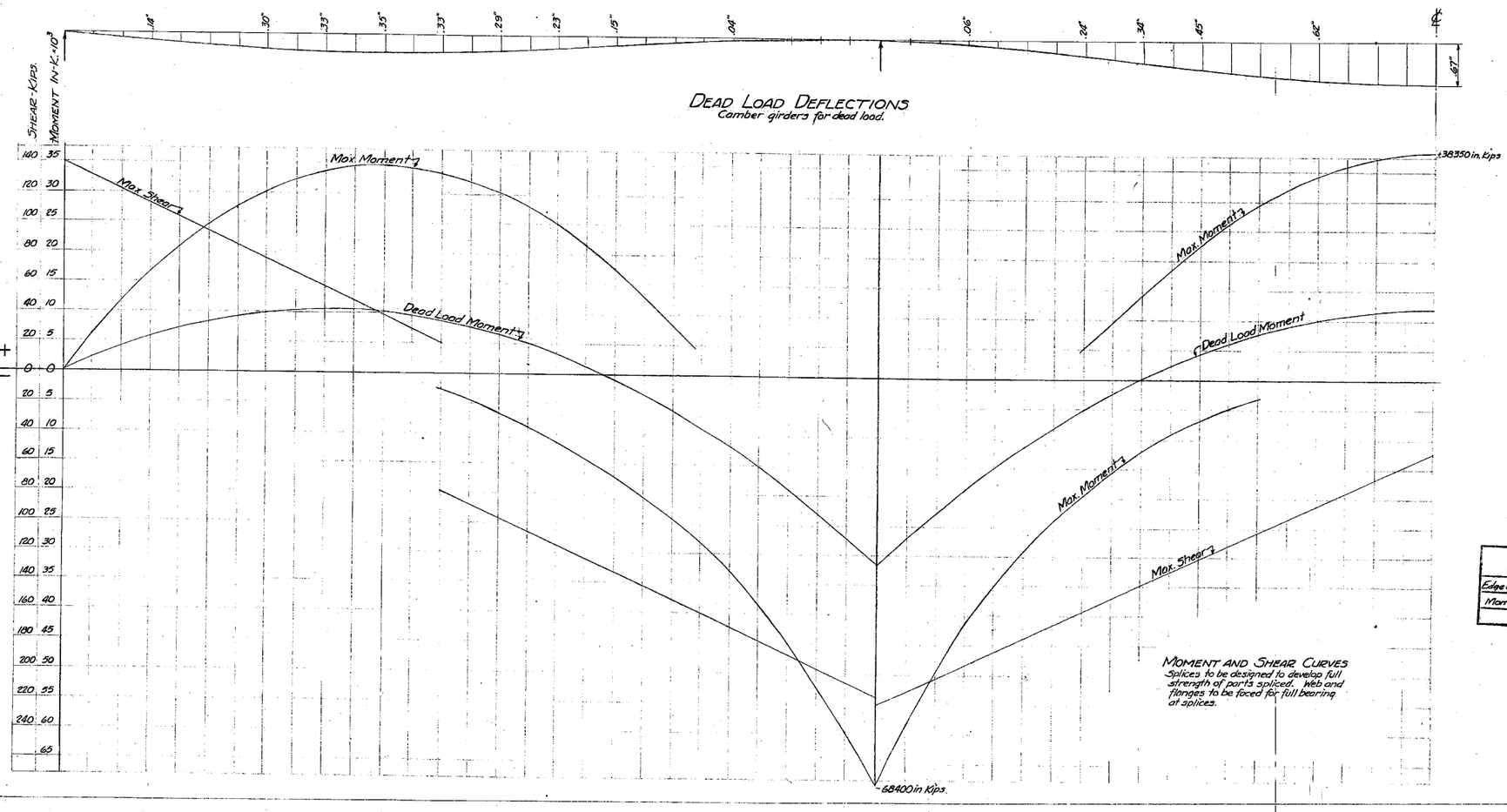
Rivets ⅞" ø, open holes ⅞" ø unless noted or required by sections. Field connections, except those for bracing shall be reamed to a metal template, or else with the parts assembled. The contractor shall furnish the N.H.H.D. Bridge Engineer with the following: Mill test report in lieu of mill inspection, one copy of itemized weights of struct. steel at time of shipment, and tracings of shop drawings before final payment is made.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Town PORTSMOUTH T.L.B.
Stream SAGAMORE CREEK
Location 1.4 mi. South of Portsmouth
Road East Side Road (Route 1A) Project No. 20.3 M
SUPERSTRUCTURE
Designed by J.H.W. Date Oct. 40 Drawn by J.H.W. Date Oct. 40
Checked by R.D.T. Date Nov. 40 Scale 2-6-3-1

DESIGN CHECKED BY R.D.T. DATE/Nov. 40.
TRACED BY R.C.H. DATE/Nov. 40.
TRACING CHECKED BY J.H.W. DATE/Nov. 40.
QUANTITIES COMPUTED BY J.H.W. DATE/Nov. 40.
QUANTITIES CHECKED BY R.D.T. DATE/Nov. 40.

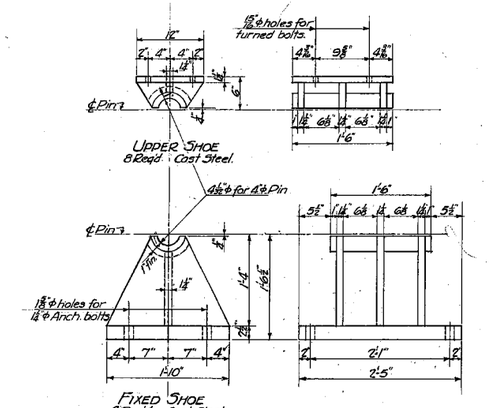


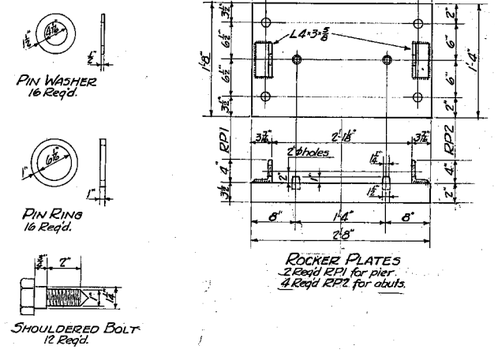
ELEVATION OF GIRDER
Not to Scale.



DEAD LOAD DEFLECTIONS
Camber girders for dead load.

MOMENT AND SHEAR CURVES
Splices to be designed to develop full strength of parts spliced. Web and flanges to be faced for full bearing at splices.





REVISIONS		
DESCRIPTION	BY	DATE
Edge dist, Anchor Bolt holes	A.M.W.	12-18-40
Moment Scale	J.H.W.	12-13-40

NOTE: All material shown above, together with pins, pin nuts, anchor bolts, etc. to be paid for as Bridge Shoes, Item 316.

DESIGN CHECKED BY: R.D.T. DATE Nov. 40.
TRACED BY: DATE
TRACING CHECKED BY: DATE
QUANTITIES COMPUTED BY: J.H.W. DATE Nov. 40.
QUANTITIES CHECKED BY: R.D.T. DATE Nov. 40.

STATE OF NEW HAMPSHIRE
HIGHWAY DEPARTMENT · BRIDGE DIVISION

TOWN PROJECT: PORTSMOUTH T.L.B.
OVER: SAGAMORE CREEK
LOCATION: 1.4 mi. South of Portsmouth
ROAD: East Side Road (Route 1A) BRIDGE NO. 29.3 M
Layout of Girder — Stresses — Shoes
DESIGNED BY: J.H.W. DATE Oct. 40. DRAWN BY: J.H.W. DATE Nov. 40.
CHECKED BY: R.D.T. DATE Nov. 40. FILE NO. 2-6-3-1

PROJ. NO.	SHEET NO.	TOTAL SHEETS
D399	11	21

INDEX OF SHEETS

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

PLANS OF PROPOSED
BRIDGE REHABILITATION -URBAN SYSTEM PROJECT

BHM-5379(012)
N.H. PROJECT NO. C-4059

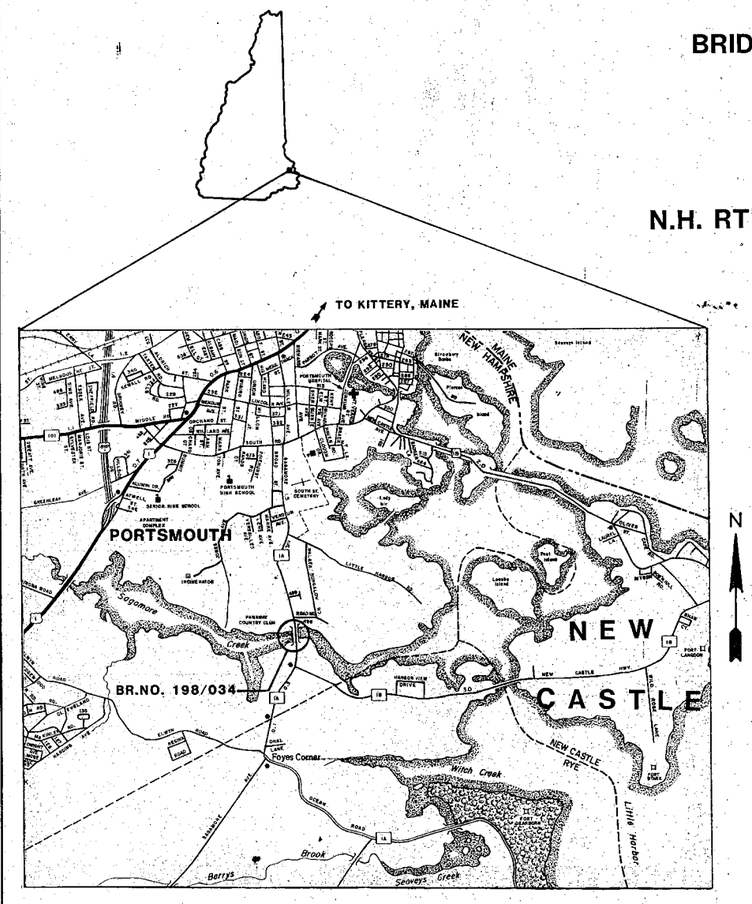
N.H. RTE. 1A (SAGAMORE AVE.) OVER SAGAMORE CREEK

THIS PROJECT TO BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS DATED 1983

CITY OF PORTSMOUTH

COUNTY OF ROCKINGHAM

DESIGN DATA	
AVERAGE DAILY TRAFFIC 19__	_____
AVERAGE DAILY TRAFFIC 19__	_____
PERCENT OF TRUCKS	_____ %
DESIGN SPEED	_____ M.P.H.
LENGTH OF PROJECT	_____ MILES



LOCATION MAP

1 1/2 0 1

SCALE IN MILES

S.C. LIAKOS DATE MARCH, 1984

DATE

N.H. DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

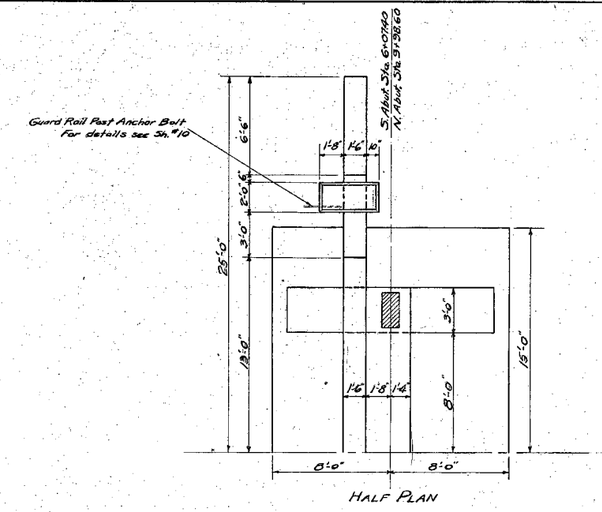
RECOMMENDED FOR APPROVAL:

DEPUTY COMMISSIONER AND CHIEF ENGINEER — DATE

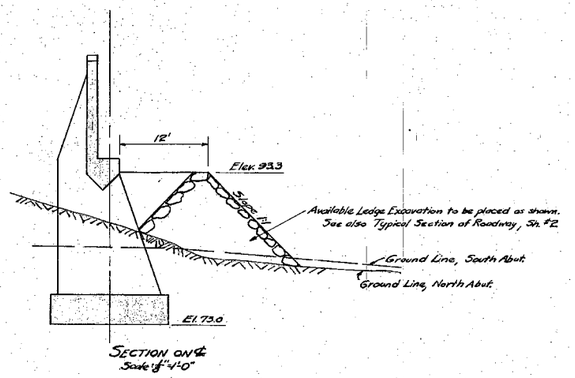
APPROVED: COMMISSIONER

MUNICIPAL HIGHWAYS ENGINEER

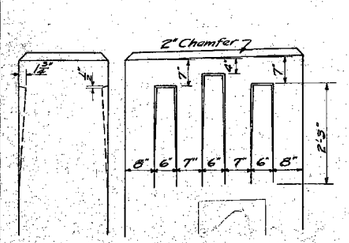
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



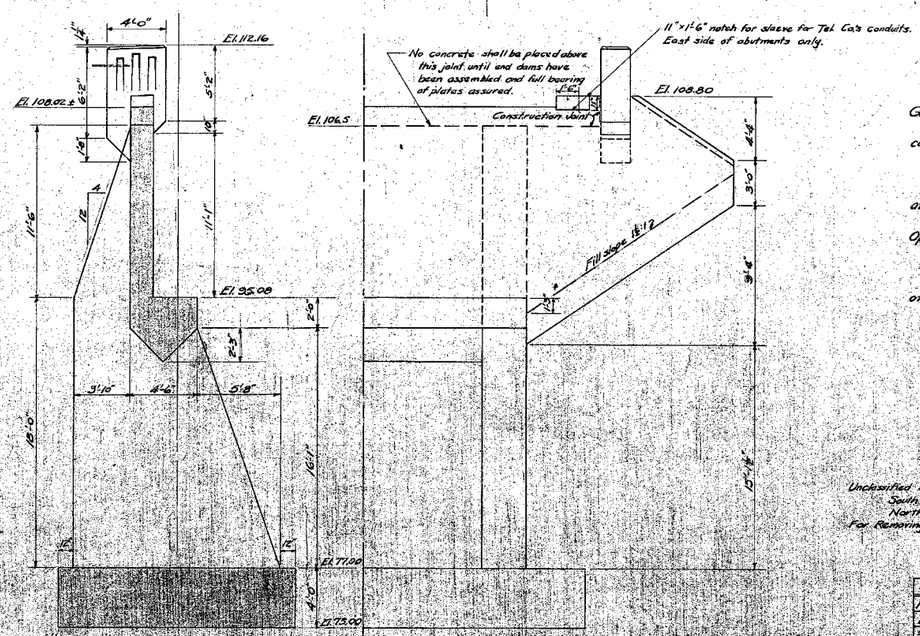
HALF PLAN



SECTION ON ℄
Scale ⅜"=1'-0"



RAIL POST DETAIL
Scale: ½"=1'-0"



SECTION ON ℄ HALF ELEVATION

GENERAL NOTES – SUBSTRUCTURE

Concrete is to be Class A and shall be vibrated. Minimum cement factor = 1.45. Maximum size of coarse aggregate 2½".

All reinforcement shall have a minimum covering of 2", unless noted.

No concrete is to be placed until forms and reinforcement have been checked by the Engineer.

All exposed edges of concrete to be cast square, and slightly rounded with a carborundum stone after concrete has thoroughly set.

Openings for public utility conduits and pipes shall be left in backwalls as directed by the Engineer. Openings not to be used at once shall be bricked up at each end.

Bearing areas to be finished to exact elevations shown for bridge seats and pier caps.

Concrete rail posts to be paid for as Class A Concrete.

Wash Borings have been taken at the bridge site. Results of these borings may be seen at the office of the Bridge Engineer, Concord, N.H.

Unclassified Structure Excavation
South Abut. 212 Cu. Yds.
North Abut. 274
For Removing Substructure, see Sheets #3 & #5.

For Summary of Quantities see Sh. #2

QUANTITIES FOR TWO ABUTMENTS

Item	Description	Quantity
83	Unclassified Structure Excav.	486 Cu. Yds.
32.1	Concrete, Class A	928 Cu. Yds.
35	Reinforcing Steel	27,207 Lb.

REVISIONS		
DESCRIPTION	BY	DATE
Note for sleeves etc.	MM	4-60

Sheet Scale ½"=1'-0" except as noted.

STATE OF NEW HAMPSHIRE
Highway Department Bridge Design

Town PORTSMOUTH
Over SAGAMORE CREEK
Location 1.4 mi. SOUTH OF PORTSMOUTH
Road EAST SIDE ROAD (ROUTE 1A)
ABUTMENTS

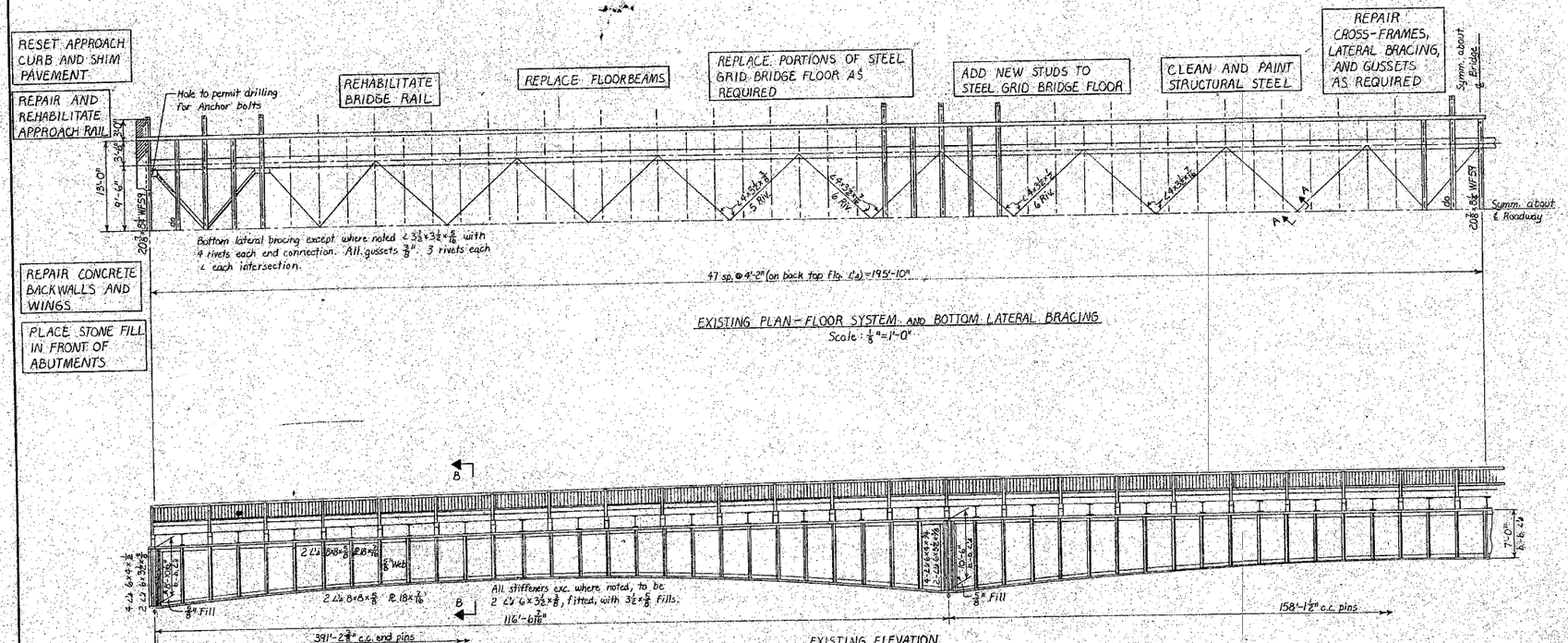
FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.				

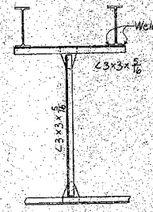
RESET APPROACH CURB AND SHIM PAVEMENT

REPAIR AND REHABILITATE APPROACH RAIL

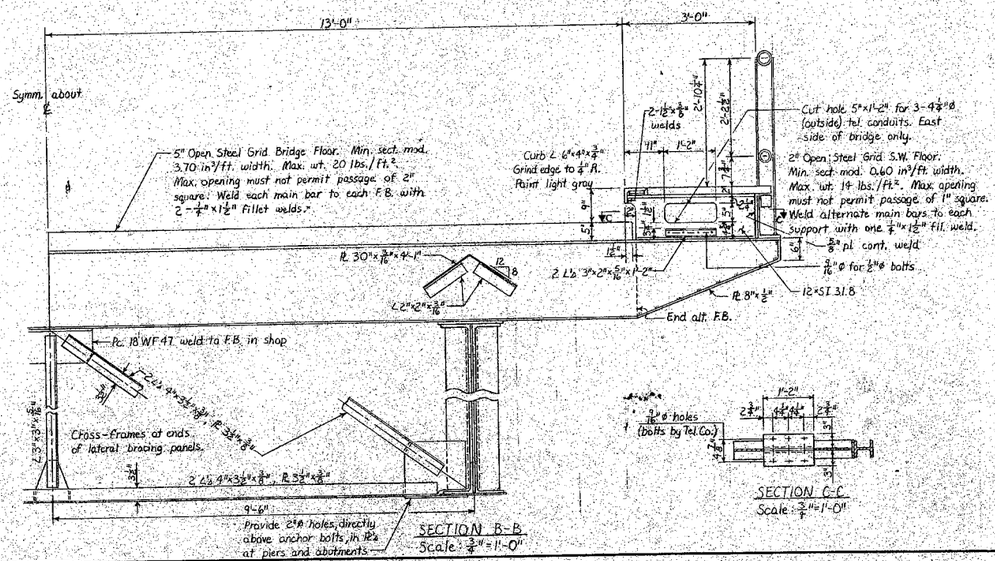
REPAIR CONCRETE BACKWALLS AND WINGS

PLACE STONE FILL IN FRONT OF ABUTMENTS





SECTION A-A
Scale: ⅜"=1'-0"



SUMMARY OF BRIDGE QUANTITIES

Item No.	Description	Quantity	Unit
103.11			
502			
511.9			
512.01			
520.01			
520.02			
534.3			
544.2			
550.1			
550.48			
555.1			
563.6			
606.91			L.F.
609.5		128	L.F.
618.109			
619.1			
619.2			
692			
698.3			
1002			
1002.01			

NOTE: The item bridge quantities are estimated and the above summary of bridge quantities is information for bidding purposes only.

GENERAL NOTES

1. All welds shall conform to N.H. Standard Specifications and AASHTO Specifications.
2. Structural Steel shall be AASHTO M-183 (ASTM A-36), AASHTO M222 (ASTM A588), and ASTM A500, Grade B.
3. Existing bridge plans may be obtained from the N.H.D.P.W.&H. Bridge Design Office.
4. See Prosecution of the Work for detour and traffic control details.
5. Reset Granite Curb, Item 609.5, shall include resetting settled approach curb to the proper grade. Item 609.5 shall also include all necessary adjustment of the approach curb to properly fit against the existing bridge curbs.
6. Bituminous Pavement Preparation, Item 511.9, shall include:
   A. Scarifying the existing approach pavement for approximately 100 feet, or as directed, adjacent to each end of the bridge.
   B. Placing a bituminous overlay shim to obtain a smooth ride on and off the bridge and paid under Item 403.11.
7. Estimated weight of existing structural steel = 661,000 pounds (Does not include bridge floor, sidewalk floor, railing, or shoes).

Scale as noted

Δ	DESCRIPTION	BY	DATE
	REVISIONS		

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION

TOWN PORTSMOUTH — BRIDGE NO. 198/034
FEDERAL PROJECT BHM-5379(012) — STATE PROJECT C-4059
LOCATION N.H. Rte. 1A (Sagamore Ave.) over Sagamore Creek

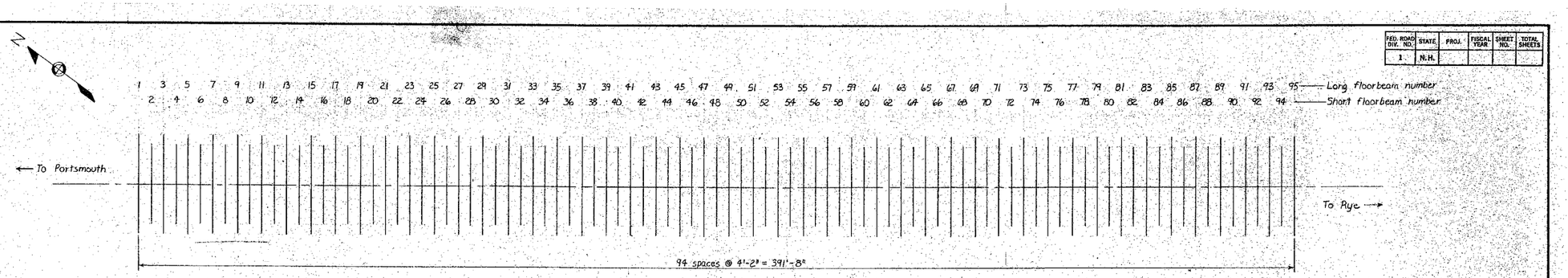
BRIDGE REHABILITATION

	BY	DATE		BY	DATE
DESIGNED	SCL	1-84	CHECKED		
DRAWN	SCL	1-84	CHECKED		
TRACED	SCL	1-84	CHECKED		
QUANTITIES			CHECKED		
REVIEWED BY			PROJ. NO. BHM-5379(012)		

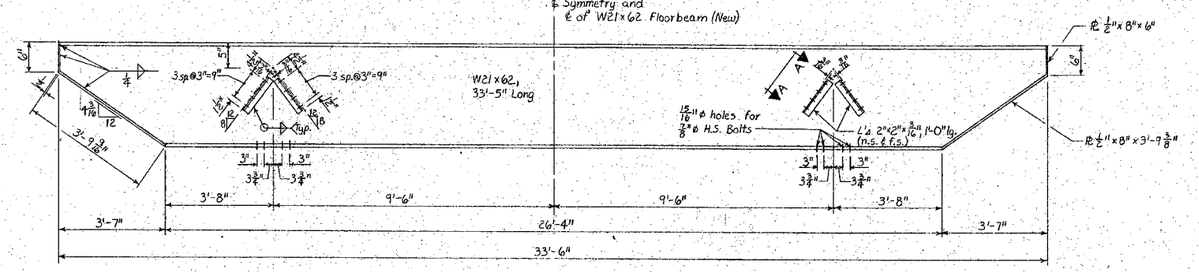
BRIDGE SHEET NO. 1 OF 4
FILE NUMBER 2-6-3-1
SHEET NO. | TOTAL SHEETS

BRUNING 40-107 53232

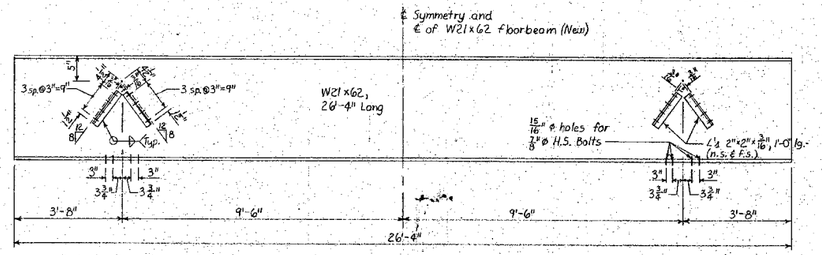
FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.				



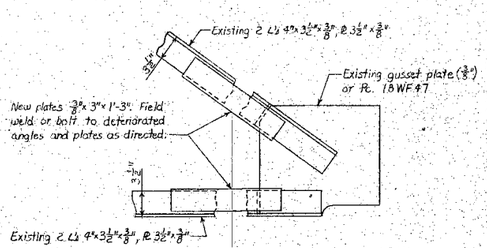
FLOORBEAM LAYOUT
Scale: $\frac{1}{16}$" = 1'-0"



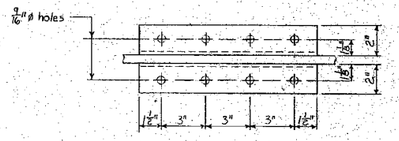
DETAILS OF LONG FLOORBEAM (NEW)
Horiz. Scale: ½"= 1'-0"
Vert. Scale: 1"=1'-0"



DETAILS OF SHORT FLOORBEAM (NEW)
Horiz. Scale: ½"= 1'-0"
Vert. Scale: 1"=1'-0"



BRACING DETAIL
N.T.S.



SECTION A-A
Scale: 3"=1'-0"

GRID AND FLOORBEAM NOTES

1. Removal of Existing Bridge Structure, Item 502, part of which shall include: floorbeams that shall be replaced and all hardware connecting these floorbeams to the main girders; approx. 50% of 5' open steel grid bridge floor (to be replaced or re-erected as determined by the Engineer).

2. All new floorbeams, angles, plates, and grid bridge floor shall be AASHTO M183 (ASTM A36). Bolts, nuts and washers shall be ASTM A325 Type 3.

3. All steel listed in note #2 above and all welding shall be paid under Structural Steel, Item 550.1

4. All new steel shall be painted with two shop coats and two field coats. All painting shall be done in conformance with Sections 550.3.2.9 and 550.3.5.

5. Care shall be taken not to damage existing PL 30"x⅜"x4'-1" (Shown in Section B-B on Br. Sh. No. 1 of 4). Unbolt PL's on adjacent floorbeams as required to install new floorbeams. PL's, angles, and bolts damaged during removal shall be replaced at the Contractors' expense.

6. New flooring to be paid for under Item 555.1, Steel Grid Floor (Open). The bridge flooring shall be 5-Inch RB/6.0M open steel grid as manufactured by Greulich, Inc., or equal. The flooring shall consist of panels fabricated of ASTM A36 steel in maximum widths of 7'-8" with main beams spaced at 6". The minimum section modulus shall be 3.70 in³ per ft. width. The maximum weight shall be 20 pounds/ft². The maximum opening must not permit passage of a 2 inch square. Weld each main bar to each floorbeam with two ¼"x3" fillet welds.

7. After all bridge flooring has been installed, apply roadway studs on all new and existing bridge flooring at the rate of 9 per square foot. Omit new studs where existing studs exist. New studs to be paid for under Item 550.48, Structural Steel (Steel Grid Skid Studs).

8. Repair cross-frames, lateral bracing, and gussets that are detached or severely rusted at the ends of the angles as determined by the Engineer. All new plates, bolts, nuts, washers, and welding shall be paid under Item 1002.01, Repairs or Replacements as Needed. Estimate 25% of existing cross-bracing end connections shall need repair. Use Bracing Detail or other repair schemes using ⅜" plates.

9. Replace rivets in main girders that are severely rusted as determined by the Engineer with ⅞" ø high strength bolts, nuts, and washers. All work shall be paid under Item 1002, Repairs or Replacements as Needed.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION

TOWN PORTSMOUTH — BRIDGE NO. 198/034
FEDERAL PROJECT BHM-5379(012) — STATE PROJECT C-4059
LOCATION N.H. Rte. 1A (Sagamore Ave.) over Sagamore Creek

Scale as noted

Δ	DESCRIPTION	BY	DATE
	REVISIONS		

RECONSTRUCTION DETAILS

	BY	DATE		BY	DATE
DESIGNED	SCL	2-84	CHECKED		
DRAWN	SCL	2-84	CHECKED		
TRACED	SCL	2-84	CHECKED		
QUANTITIES			CHECKED		

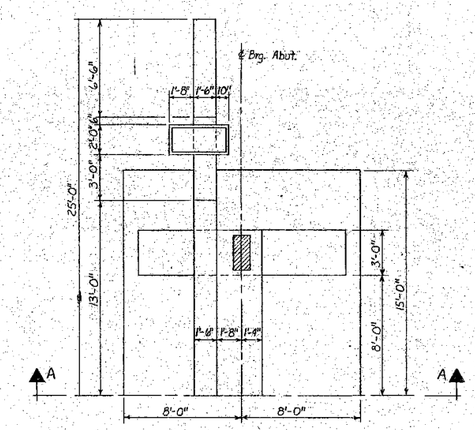
REVIEWED BY

PROJ. NO.	SHEET NO.	TOTAL SHEETS
BHM-5379(012)		

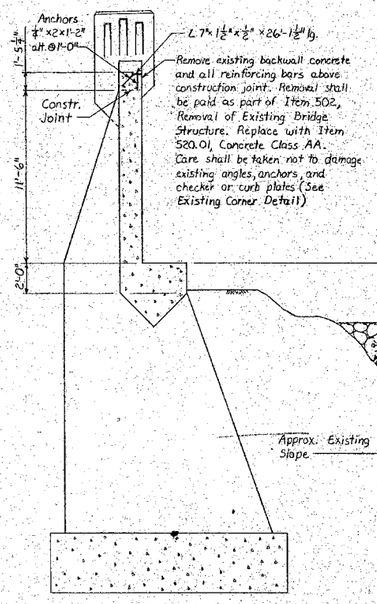
BRIDGE SHEET NO. 2 OF 4
FILE NUMBER 2-6-3-1

BRUNING 40-107 53232

FED. HIGHWAY DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.				

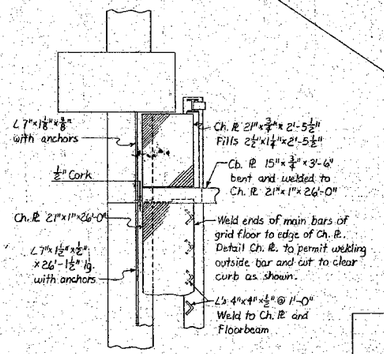


EXISTING HALF PLAN
(North & South Abutments Similar)



- ∠ 7"×1⅛"×⅜" with anchors
- Remove existing backwall concrete and all reinforcing bars above construction joint. Removal shall be paid as part of Item 502, Removal of Existing Bridge Structure. Replace with Item 520.01, Concrete Class AA. Care shall be taken not to damage existing angles, anchors, and checker or curb plates (See Existing Corner Detail)
- ∠ 7"×1½"×½" ×26'-1½" lg.
- Stone Fill, Class A, Item 585.1., Place as shown or as directed by the Engineer, protecting approx. 80 feet on each abutment.

SECTION A-A

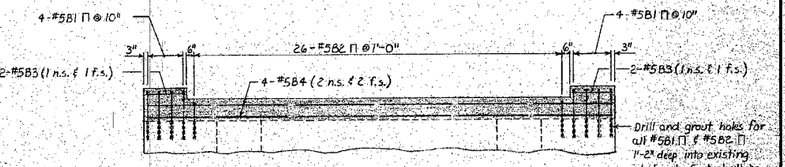


EXISTING CORNER DETAIL
Scale: ½"=1'-0"

Preparation for Concrete Repairs, Item 512.01, shall include the removal of deteriorated concrete and cleaning of sound concrete on SW wing end. Coat surfaces resulting from concrete removal with an approved epoxy bonding agent prior to patching (part of Item 520.02). Patch with Concrete Class P for Patching, Item 520.02.

TYPICAL ABUTMENT FRONT ELEVATION

NOTE:
1. Apply Water Repellent (Silane), Item 534.3, to all exposed surfaces of new concrete.



Drill and grout holes for all #5B1 Π & #5B2 Π 1'-2" deep into existing abutment. Cost shall be included in Item 544.2.

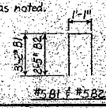
TYPICAL BACKWALL REINFORCEMENT

Mark	Size	Total No.	Unbent Length	Type
B1	#5	16	7'-5"	Π
B2	#5	52	5'-11"	Π
B3	#5	8	2'-7"	——
B4	#5	8	31'-7"	——

SUMMARY
#5 699.67' × 1.043 plf = 730#

NOTES AND REINFORCING SCHEDULE

1. All reinforcement shall be Reinforcing Steel - Epoxy Coated, Item 544.2, and shall be Grade 60.
2. All reinforcement shall be 2" clear from concrete surfaces except as noted.



Sheet Scale: ½"=1'-0" except as noted

Δ	DESCRIPTION	BY	DATE
	REVISIONS		

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION

TOWN PORTSMOUTH — BRIDGE NO. 198/034
FEDERAL PROJECT BHM-5379(012) — STATE PROJECT C-4059
LOCATION N.H. Rte. 1A (Sagamore Ave.) over Sagamore Creek

ABUTMENT REPAIR DETAILS

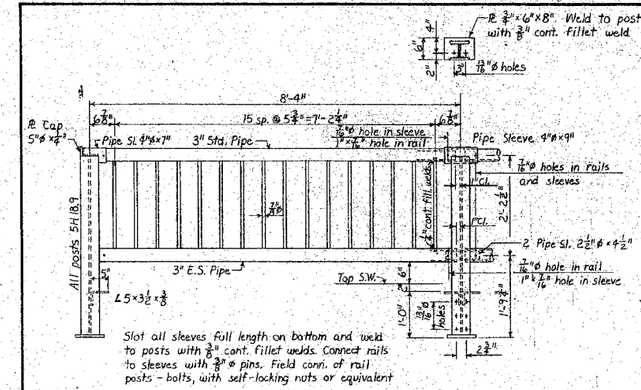
	BY	DATE		BY	DATE
DESIGNED	SCL	2-84	CHECKED		
DRAWN	SCL	2-84	CHECKED		
TRACED	SCL	2-84	CHECKED		
QUANTITIES			CHECKED		

BRIDGE SHEET NO. 3 OF 4
FILE NUMBER 2-6-3-1

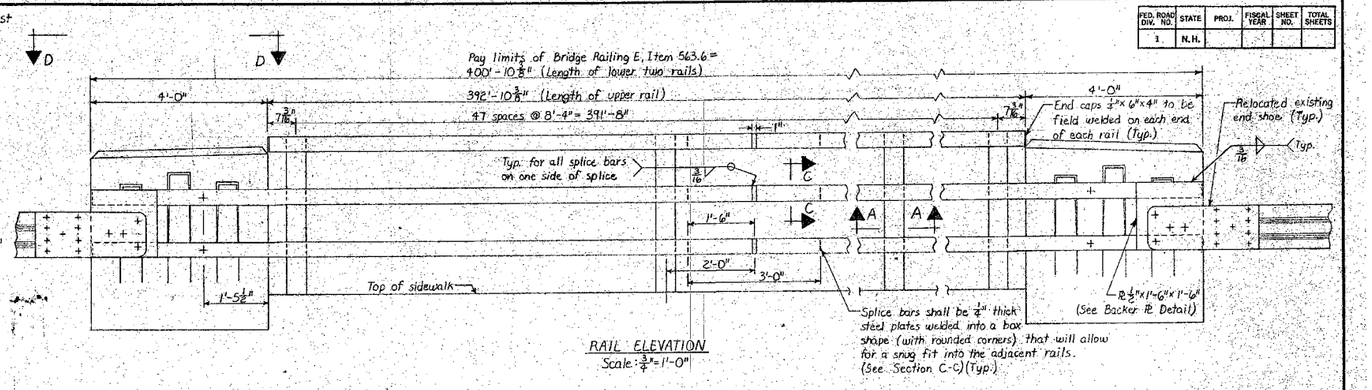
REVIEWED BY | PROJ. NO. BHM-5379(012) | SHEET NO. | TOTAL SHEETS

DRAWING NO. 107 52.23

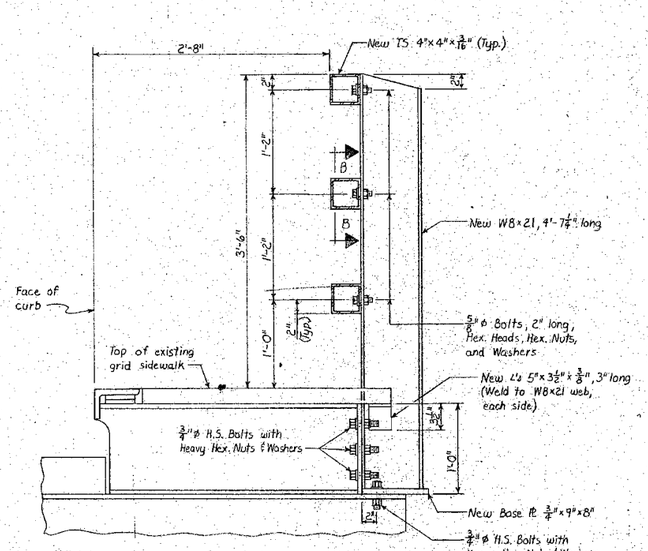
FED. ROAD DIV. NO.	STATE	PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	N.H.				



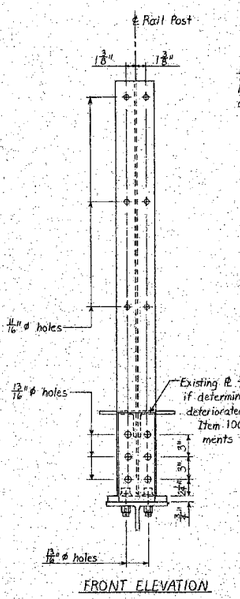
EXISTING RAILING
Scale: 3/4"=1'-0"



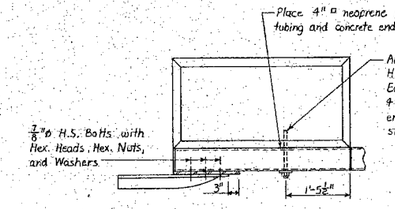
RAIL ELEVATION
Scale: 3/4"=1'-0"



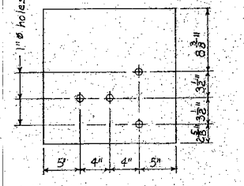
SIDE ELEVATION



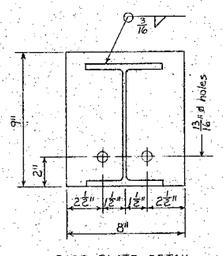
FRONT ELEVATION



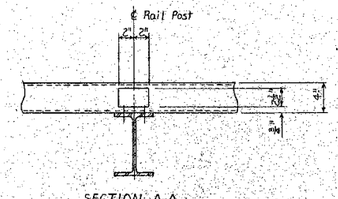
SECTION D-D
Scale: 3/4"=1'-0"



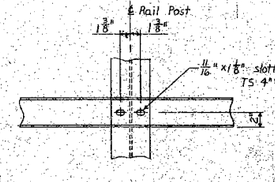
BACKER R DETAIL



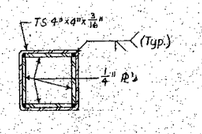
BASE PLATE DETAIL
Scale: 3"=1'-0"



SECTION A-A
(This detail is similar for all rail and post connections)



SECTION B-B
(This detail is similar for all rail and post connections)



SECTION C-C
Scale: 3"=1'-0"

HAND ACCESS OPENING DETAILS

RAIL NOTES

1. Removal of Existing Bridge Structure, Item 502, part of which shall include: pipe and paling railing; posts including angles and base plates, all hardware attaching the existing railing, and anchor bolts attaching existing end shoes to concrete end posts.

2. New posts to be normal to finished grade.

3. Cut ends to be true and smooth. Each rail section shall be attached to a minimum of four posts.

4. Grind all edges smooth.

5. Rails, rail splices, and end caps shall be ASTM A500, Grade B (Minimum yield stress = 46 ksi). Rail posts, angles and backer plates shall be AASHTO M222 (ASTM A588). Bolts, nuts, and washers shall be ASTM A325 Type 3. Anchor bolts shall be AASHTO M183 (ASTM A36) galvanized in accordance with AASHTO M111 (ASTM A123).

6. All bridge railing steel listed in note #5 above and all welding shall be paid under Bridge Railing E, Item 563.6. Estimated weight for this steel is 34,918 #.

7. All new steel shall be painted with two shop coats and two field coats. All painting shall be done in conformance with Sections 550.3.2.9 and 550.3.5.

8. Remove existing end shoe from present location (not shown) and place on backer plate as shown in Rail Elevation.

9. Reset 25' of existing approach beam guard rail adjacent to each concrete end post with Item 606.91, Resetting or Setting Guard Rail. Existing posts and offset blocks are steel sections spaced at 4'-2" (not shown). Drilling of new holes and cutting of existing beam guard rail shall be part of Item 606.91.

Sheet Scale: 1/8"=1'-0" except as noted				
Δ	DESCRIPTION	BY	DATE	
	REVISIONS			

STATE OF NEW HAMPSHIRE
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BRIDGE DESIGN DIVISION

TOWN PORTSMOUTH — BRIDGE NO. 198/034
FEDERAL PROJECT BHM-5379(012) — STATE PROJECT C-40559
LOCATION N.H. Rte. 1A (Sagamore Ave.) over Sagamore Creek

BRIDGE RAILING DETAILS

	BY	DATE		BY	DATE
DESIGNED	SCL	2-84	CHECKED		
DRAWN	SCL	2-84	CHECKED		
TRACED	SCL	2-84	CHECKED		
QUANTITIES			CHECKED		
REVIEWED BY			PROJ. NO. BHM-5379(012)		

BRIDGE SHEET NO. 4 OF 4
FILE NUMBER 2-6-3-1
SHEET NO. | TOTAL SHEETS

RE-PD 0012

NOTE BOOKS

BOOK NO.	PAGE NO.

DESCRIPTION

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
0	N. H.			4	21

PT 316+35.68

N 18° 01' 38" W

L=107.40

Existing Bridge

Bot. Existing Rip Rap

9+98.50

Bot. Existing Rip Rap

Note — Removing Superstructure Item #30 shall consist of the removal of existing pile trestle bridge to the streams bed.

Ledge

Q Pine

High Point Ledge

Note: 6 Poles on Existing Bridge carrying Telephone and Power Lines

MEAN HIGH WATER LINE 88.5

MEAN HIGH WATER LINE 88.5

275' V.C.

420' V.C.

220' V.C.

PI EL. 113.0

+2.5%

-2.5%

M.O. = 2.625

GRADE LINE CENTER OF FINISHED ROADWAY

PI. EL. 105.0

℄ Max. high water 90.5

℄ Mean high water 88.5

℄ Mean low water 86.0

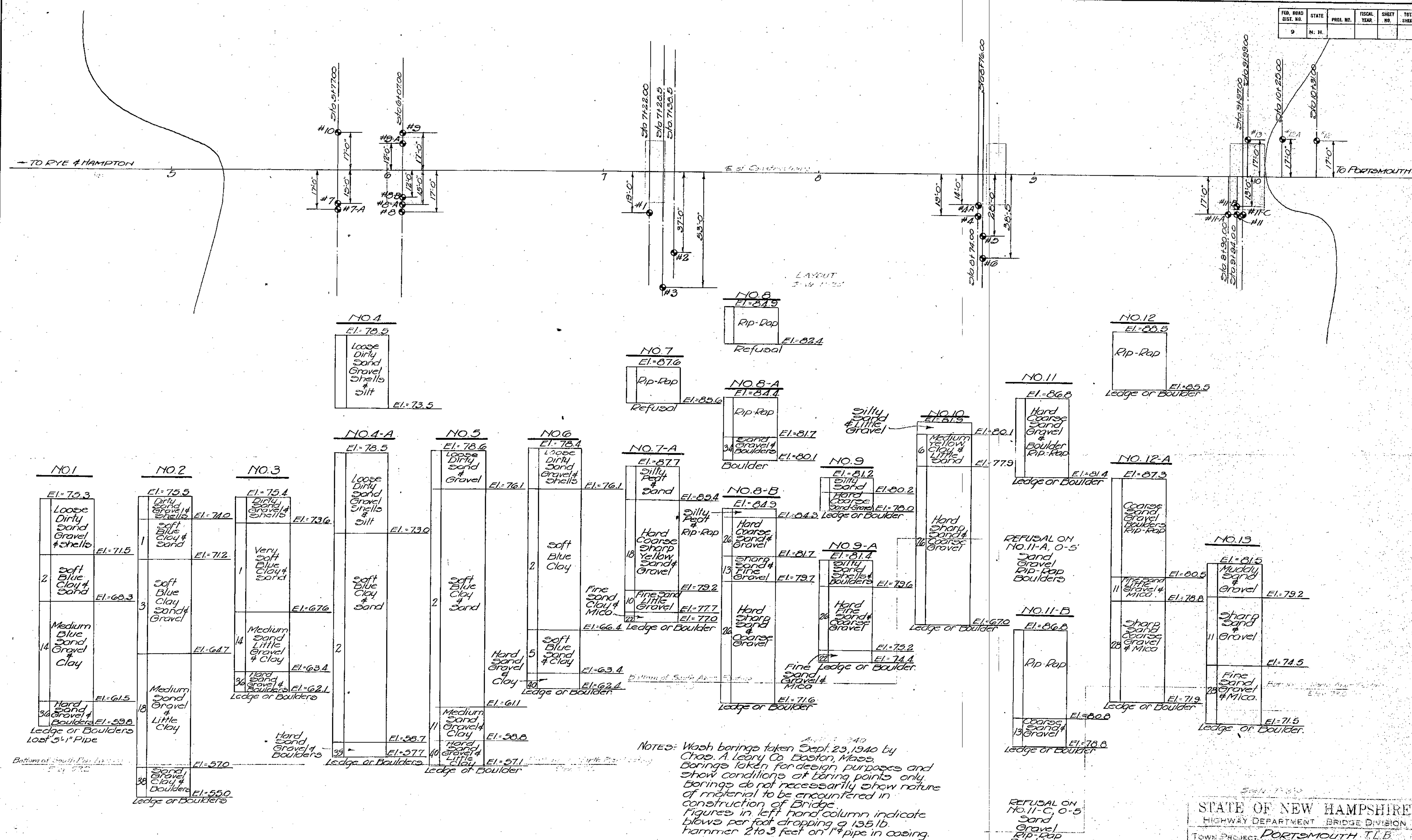
DATUM EL. 80

PORTSMOUTH 10H

FACSIMILE BRIDGE

PROJ. NO. | SHEET NO. | TOTAL SHEETS IN JOB

Re-DD 0013



TO RYE & HAMPTON
TO PORTSMOUTH
LAYOUT
NO.1
El=75.3
Loose Dirty Sand Gravel & Shells
Soft Blue Clay & Sand
Medium Blue Sand Gravel & Clay
Hard Sand Gravel & Boulders
Ledge or Boulders
Lost 5'-1" Pipe
NO.2
El=75.5
Dirty Sand Gravel & Shells
Soft Blue Clay & Sand
Soft Blue Clay Sand & Gravel
Medium Sand Gravel & Little Clay
Sand Gravel Clay & Boulders
Ledge or Boulders
NO.3
El=75.4
Very Soft Blue Clay & Sand
Medium Sand Little Gravel & Clay
Ledge or Boulders
NO.4
El=78.5
Loose Dirty Sand Gravel Shells & Silt
El=73.5
NO.4-A
El=78.5
Loose Dirty Sand Gravel Shells & Silt
Soft Blue Clay & Sand
Ledge or Boulders
NO.5
El=78.6
Loose Dirty Sand & Gravel
Soft Blue Clay & Sand
Medium Sand Gravel & Clay
Hard Sand Gravel & Little Clay
Ledge or Boulder
NO.6
El=78.4
Loose Dirty Sand Gravel & Shells
Soft Blue Clay
Soft Blue Sand & Clay
Ledge or Boulder
NO.7
El=87.6
Rip-Rap
Refusal
NO.7-A
El=87.7
Silty Peat & Sand
Hard Coarse Sharp Yellow Sand & Gravel
Fine Sand Little Gravel
Ledge or Boulder
NO.8
El=84.9
Rip-Rap
Refusal
NO.8-A
El=84.4
Rip-Rap
Sand Gravel & Boulders
Boulder
NO.8-B
El=84.9
Hard Coarse Sand & Gravel
Sharp Sand & Fine Gravel
Hard Sharp Sand & Coarse Gravel
Ledge or Boulder
NO.9
El=81.2
Silty Sand
Hard Coarse Sand Gravel
Ledge or Boulder
NO.9-A
El=81.4
Silty Sand Shells & Boulders
Hard Fine Sand & Coarse Gravel
Fine Sand Gravel & Mica
Ledge or Boulder
NO.10
El=81.9
Silty Sand & Little Gravel
Medium Yellow Clay & Little Sand
Hard Sharp Sand & Coarse Gravel
Ledge or Boulder
NO.11
El=86.8
Hard Coarse Sand Gravel & Boulder Rip-Rap
Ledge or Boulder
REFUSAL ON NO.11-A, 0-5' Sand Gravel Rip-Rap Boulders
NO.11-B
El=86.8
Rip-Rap
Coarse Sand & Gravel
Ledge or Boulder
REFUSAL ON NO.11-C, 0-5' Sand Gravel Rip-Rap Boulders
NO.12
El=88.5
Rip-Rap
Ledge or Boulder
NO.12-A
El=87.3
Coarse Sand Gravel Boulders Rip-Rap
Fine Sand Little Gravel & Mica
Sharp Sand Coarse Gravel & Mica
Ledge or Boulder
NO.13
El=81.5
Muddy Sand & Gravel
Sharp Sand & Gravel
Fine Sand Gravel & Mica
Ledge or Boulder

NOTES: Wash borings taken Sept. 23, 1940 by Chas. A. Leary Co. Boston, Mass.
Borings taken for design purposes and show conditions at boring points only.
Borings do not necessarily show nature of material to be encountered in construction of Bridge.
Figures in left hand column indicate blows per foot dropping a 135 lb. hammer 2 to 3 feet on 1" pipe in casing.

STATE OF NEW HAMPSHIRE
HIGHWAY DEPARTMENT BRIDGE DIVISION

TOWN PROJECT: PORTSMOUTH T.L.B.
OVER: SAGAMORE CREEK
LOCATION: 1.4 MI. SOUTH OF PORTSMOUTH
ROAD: EAST SIDE RD. (RTE 1A) BRIDGE No. 203/1

WASH BORINGS

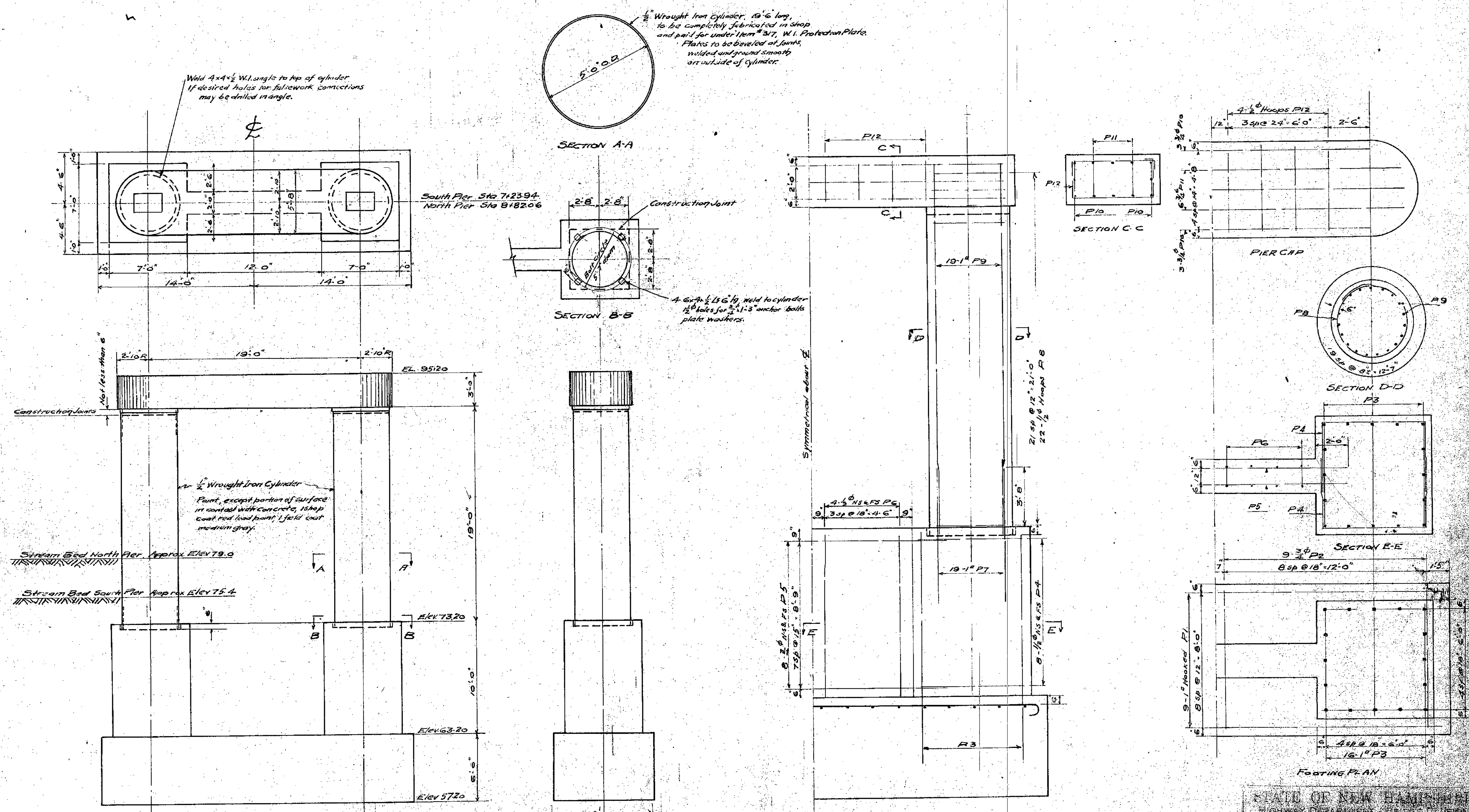
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	N.H.				

PROJ. NO.	SHEET NO.	TOTAL SHEETS
[illegible]	[illegible]	[illegible]

NOTE BOOKS: BOOK NO. | PAGE NO.

REVISIONS AFTER PROPOSAL: DATE | STA. TO STA. | DESCRIPTION

PLAN TRACED BY / CHECKED / PROFILE TRACED BY / CHECKED / SECTIONS TRACED BY / CHECKED



Pier Details
Scale: ¼" = 1'-0"

Note: If ledge is encountered at approx. 57 footings shall be founded on same.

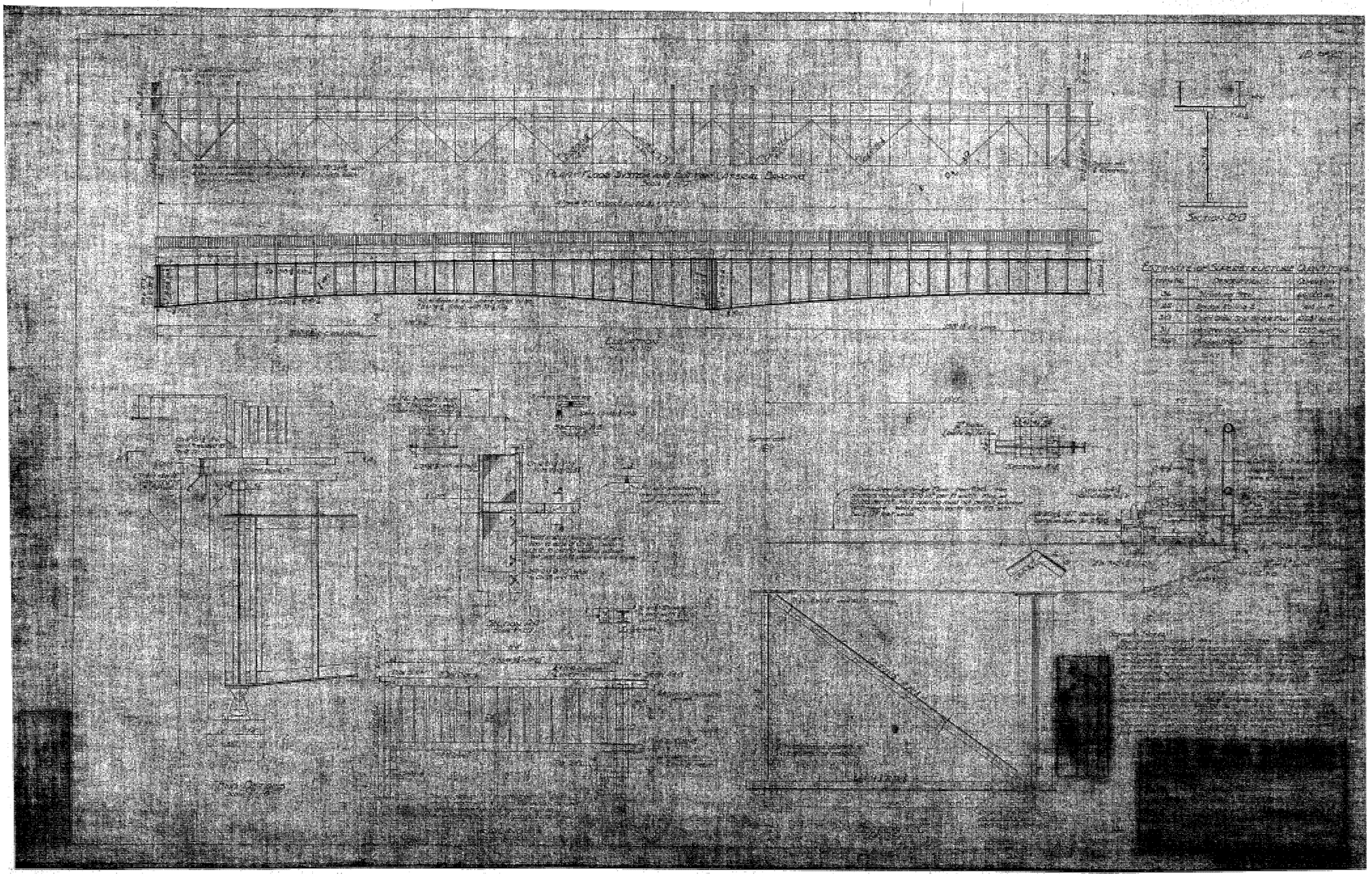
Pier Reinforcement
Scale: ⅜" = 1'-0"

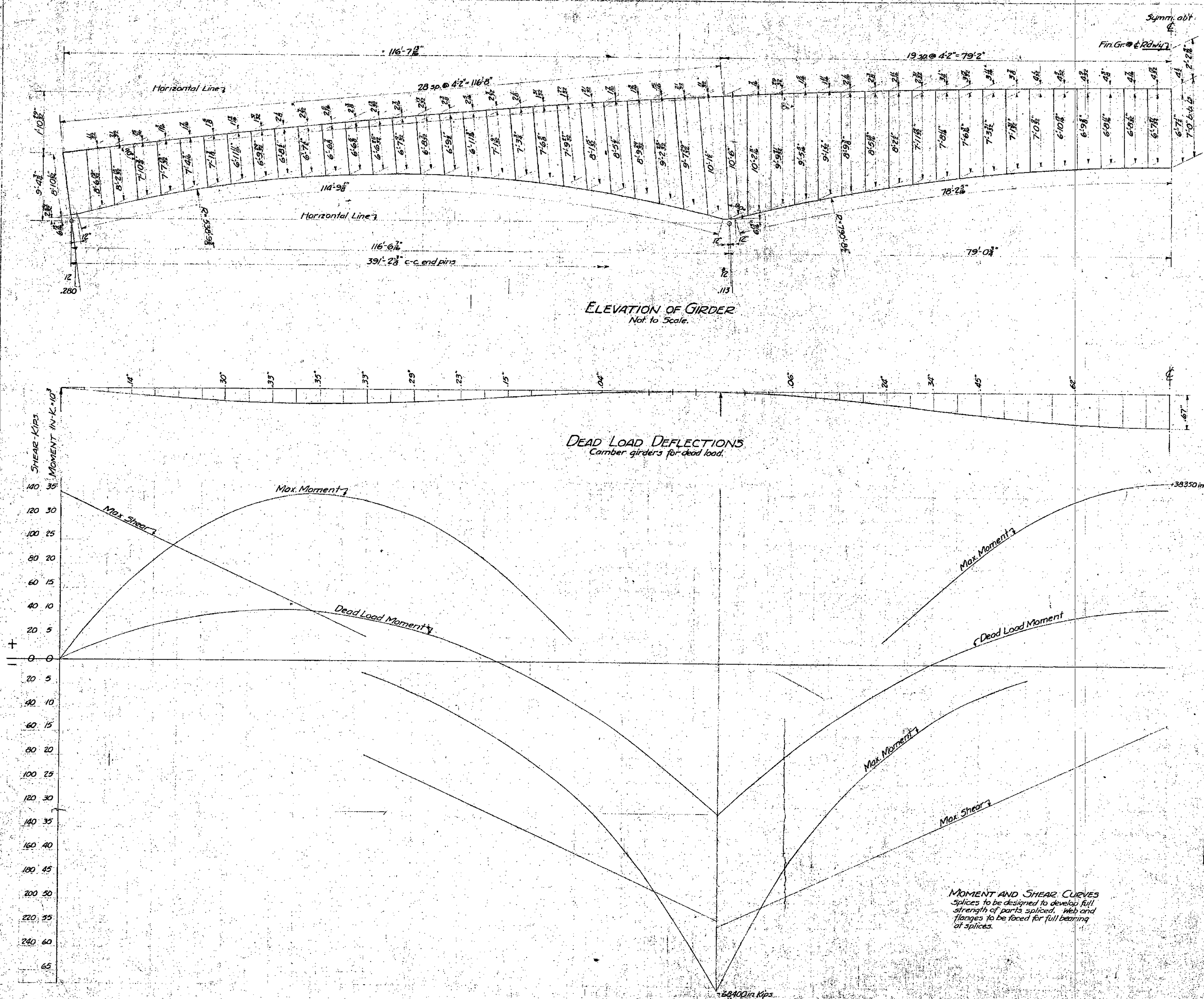
For General Notes See Sh. #8

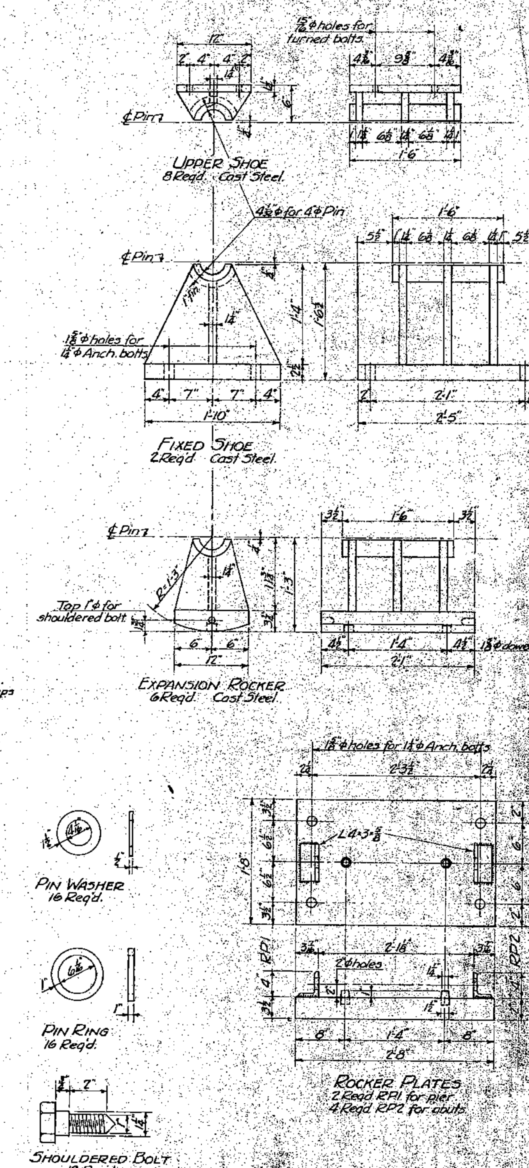
For Summary of Quantities see Sh. #2

Item	Quantities for Two Piers — Description	Quantity
8.3	Unclassified Structure Excavation	506 Cu Yds
32.1	Concrete Class A	286 Cu Yds
35	Reinforcing Steel	16,830 Lbs
317	Wrought Iron Protection Plate	26400 Lbs

State of New Hampshire
Highway Department Bridge Division
Town Project: Portsmouth T.L.B.
Over: Sagamore Creek
Location: 1.4 Mi. South of Portsmouth
Road: East Side Road (Route 1A)
Piers
P-399







REVISIONS

DESCRIPTION	BY	DATE
Edge dist., Anchor Bolt holes	A.M.W.	12-12-40
Moment Scale	J.H.W.	12-13-40

NOTE: All material shown above, together with pins, pin nuts, anchor bolts, etc. to be paid for as Bridge Shoes, Item 316.

STATE OF NEW HAMPSHIRE
HIGHWAY DEPARTMENT BRIDGE DIVISION

TOWN PROJECT: PORTSMOUTH T.L.B.
OVER: SAGAMORE CREEK
LOCATION: 1.4 mi. South of Portsmouth
ROAD: East Side Road (Route 1A) BRIDGE NO. 203/M

Layout of Girder – Stresses – Shoes

DESIGNED BY J.H.W. DATE Oct. 40 DRAWN BY J.H.W. DATE Nov. 40
CHECKED BY R.D.T. DATE Nov. 40 FILE NO. 2-6-3-1

P398 11 21