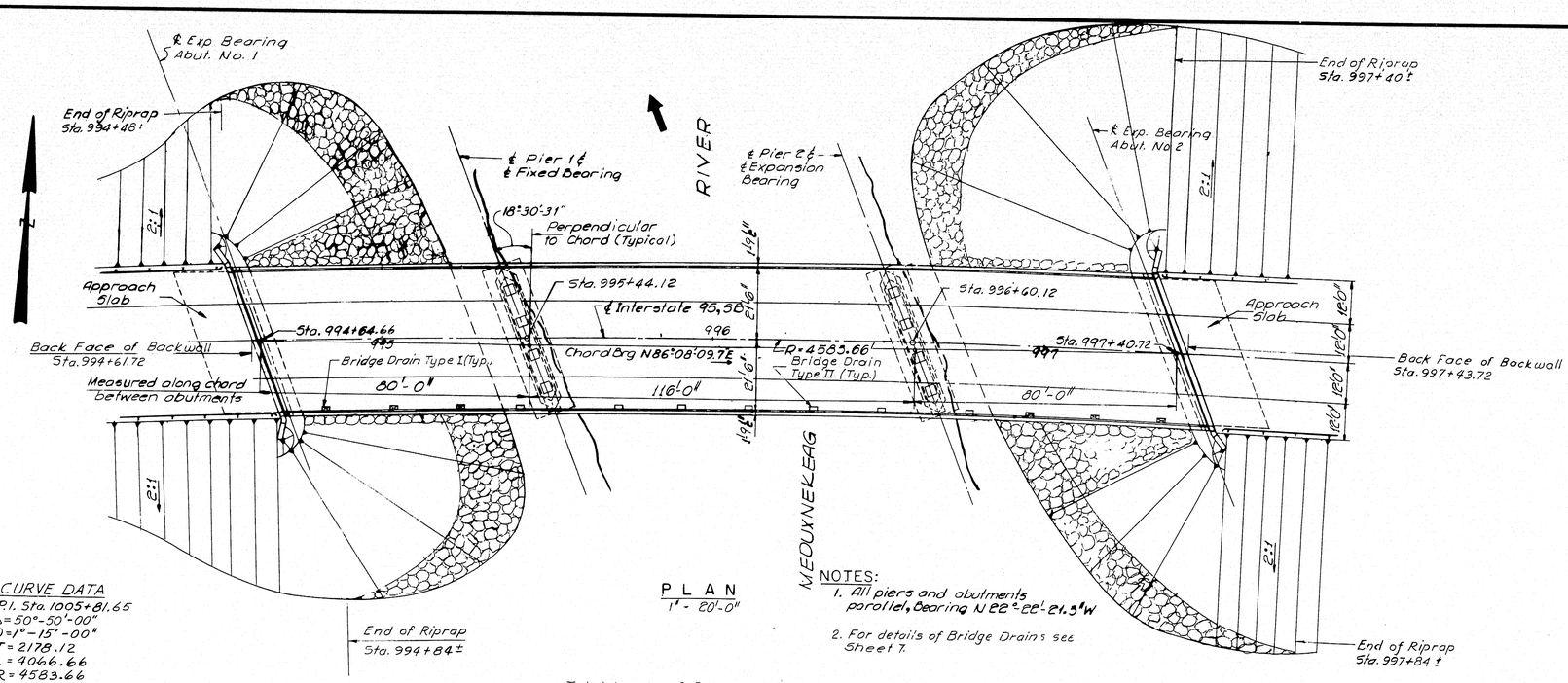
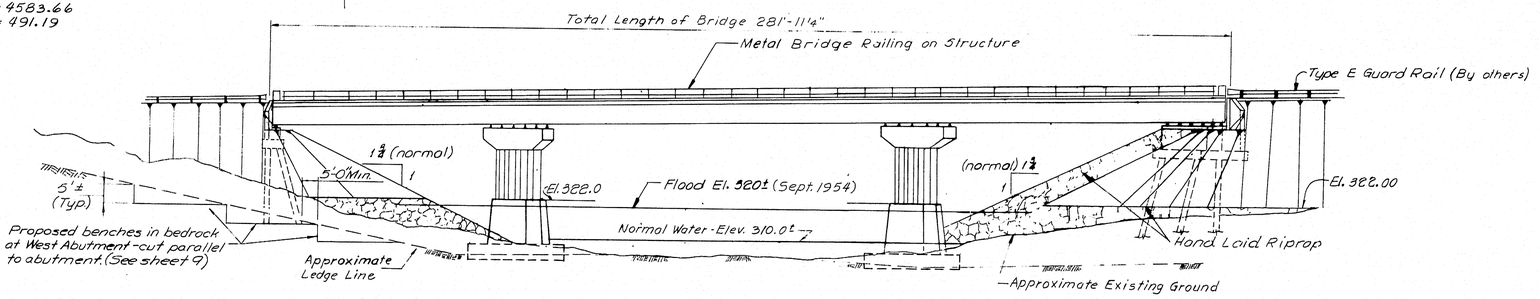
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	111	121



PLAN
1" = 80'-0"

CURVE DATA
P.I. Sta. 1005+81.65
Δ = 50°-50'-00"
D = 1°-15'-00"
T = 2178.12
L = 4066.66
R = 4583.66
E = 491.19

NOTES:
1. All piers and abutments parallel, Bearing N82°-22'-21.5"W
2. For details of Bridge Drains see Sheet 7.



ELEVATION
1" = 20'-0"

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
204-14	Structural Earth Excavation Piers	259	Cu. Yds.
204-15	Structural Rock Excavation Piers	25	Cu. Yds.
205-12	Gravel Borrow (I.F.M.)	7550	Cu. Yds.
701-33	Portland Cement Concrete Abutment & Retaining Wall	241	Cu. Yds.
701-35	Portland Cement Concrete Piers	523	Cu. Yds.
701-40	Portland Cement Concrete Roadway & Sidewalk Slab On Steel Bridges	377	Cu. Yds.
701-54	Portland Cement For Rip-Rap Grout	22	Bbls.
702-103	Structural Steel Fabricated & Delivered	L.S.	L.S.
702-104	Structural Steel Erection	L.S.	L.S.
702-105	Structural Steel Field Painting	L.S.	L.S.
705-13	Reinforcing Steel Delivered	151,200	Lbs.
705-14	Reinforcing Steel Placing	151,200	Lbs.
708-16	Steel H-Beams Piles 42 Lbs./Ft.	1,306	Lin. Ft.
803-7	Cofferdam Pier No. 1, Meduxnekeag River	L.S.	L.S.
803-8	Cofferdam Pier No. 2, Meduxnekeag River	L.S.	L.S.
805-8	Bridge Rail	546	Lin. Ft.
807-11	Epoxy Resin Surface Sealant	140	Sq. Yds.
901-24	Vertical Bridge Curb Type I	556	Lin Ft.
901-25	Vertical Bridge Curb Type I Circular	12	Lin. Ft.
907-10	Hand Laid Rip-Rap	512	Cu. Yds.
701-55	Curing Box For Concrete Cylinders	1	Each

Estimated Weight of Structural Steel Including Drains is 401,500 Lbs.

INDEX OF SHEETS

STANDARD DETAIL SHEETS

BD 101-64 BEARING DETAILS
BD 104-64 DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN
BD 105-64 EXPANSION DAMS
BD 107-64 STEEL RAIL
BD 108-64 ALUMINUM RAIL

SPECIFICATIONS

DESIGN:
A.A.S.H.O. Standard Specifications for Highway Bridges 1961 with Interim Specifications, 1961, 1962, 1963, & 1964.

CONTRACT:
State of Maine, State Highway Commission, Standard Specifications for Highways and Bridges, Revision of January 1956 and Supplemental Specifications of February 1960.

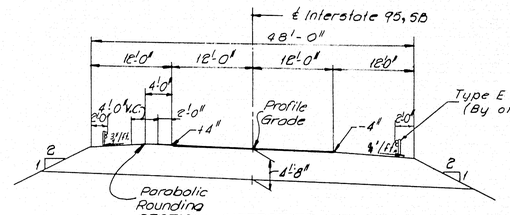
LIVE LOADING
HS20-44 as modified for Interstate Highways

FOUNDATIONS
Abutments: 10BP42 End Bearing piles (37 ton capacity)
Piers: Spread Footings on ledge. 5.1 tons/sq. ft.

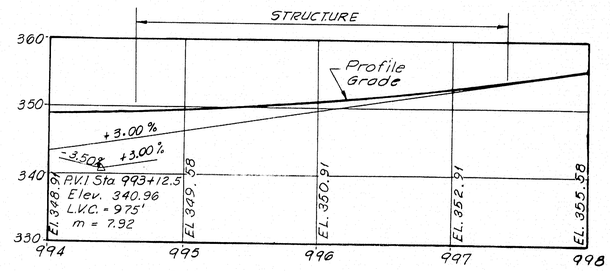
ALLOWABLE STRESSES
Concrete (n=10) ~ fc = 1200 p.s.i.
Reinforcing Steel, Int. Grade ~ fs = 20,000 p.s.i.
Structural Steel, ~fs = 20,000 p.s.i. (A.S.T.M. A36)

CONCRETE CLASSIFICATION
All Concrete shall be Class "A"

HYDRAULIC DATA
A = 175 sq. mi.
S = 7.02 ft./mi.
Q50 = 7,000 c.f.s.



SECTION - INTERSTATE 95 S.B.
1" = 10'-0"



PROFILE - INTERSTATE 95 S.B.
Horiz: 1" = 50'
Vert: 1" = 10'

NOTES:
1. All fill within the limits as shown on profile, Sheet 19 shall be placed by the controlled density method.
2. Size of stone in gravel borrow through which abutment piles are driven shall not exceed 6 inches, and concentrations of stones in the area shall be avoided.
3. Place gravel borrow to elevation of abutment footings before driving piles.

DESIGN- T.S. DETAIL- D.A.T.
TRACE-
CHECK- P.A.N.
BRIDGE NO.
SURVEY-
PLOT-

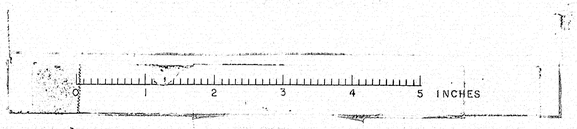
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

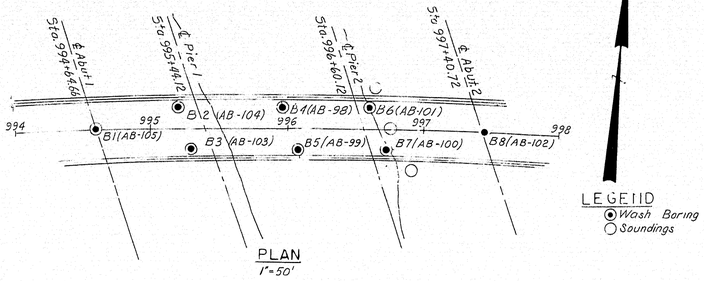
SHEET 1 OF 11 AUGUSTA, MAINE FEBRUARY 1965

M-2167 HOULTON (18)

C. B. CO., NO. 44-303 26786

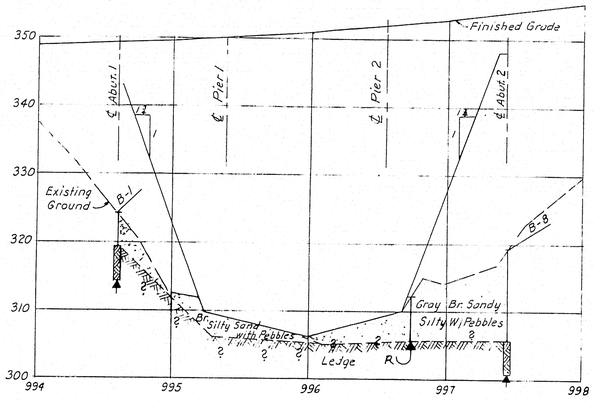


B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	112	121

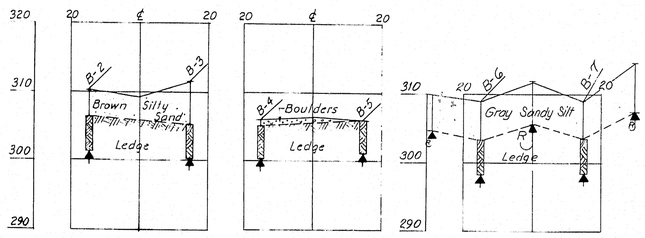


PLAN
1"=50'

LEGEND
◉ Wash Boring
○ Soundings



PROFILE
Vert. 1"=10'
Horiz. 1"=50'



STA. 995+25±

STA. 996+02±

STA. 996+68±

SKEWED SECTIONS

BORING B-1 (AB-105) STATION 994+60 ℄

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft. 20 40 60 80 100
ELEV. 323.7	
318.7	Loose Density Brown Silty Sand and Pebbles
	22% Ledge: Limey Phyllite with High Angle Foliation
313.7	

BORING B-2 (AB-104) STATION 995+20 15' LT.

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft 20 40 60 80 100
ELEV. 310.2	
306.2	Loose Density Brown Silty Sand and Pebbles
	43% Ledge: Limey Phyllite with High Angle Foliation
301.2	

BORING B-3 (AB-103) STATION 995+30 15' RT.

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft. 20 40 60 80 100
ELEV. 311.6	
305.1	Loose Density Brown Silty Sand with Pebbles and Stones
1D	
	90% Ledge: Limey Phyllite with High Angle Foliation
300.1	

BORING B-4 (AB-98) STATION 995+96 15' LT.

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft. 20 40 60 80 100
ELEV. 306.1	
305.1	63%
	Ledge: Limey Phyllite with High Angle Foliation
	47%
300.1	

BORING B-5 (AB-99) STATION 996+08 15' RT.

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft. 20 40 60 80 100
ELEV. 306.1	
	60%
	100% Ledge: Limey Phyllite with High Angle Foliation
301.1	

BORING B-6 (AB-101) STATION 996+60 15' LT.

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft. 20 40 60 80 100
ELEV 308.9	
	Medium Density Gray Sandy Silt with Rotten Ledge
303.1 1D	10"
	40% Ledge: Limey Phyllite with High Angle Foliation
298.1	

BORING B-7 (AB-100) STATION 996+73 15' RT.

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft. 20 40 60 80 100
Elev. 308.9	
	Medium Density Gray Sandy Silt with Rotten Ledge
303.4 1D	6"
	90%
	53% Ledge: Limey Phyllite with High Angle Foliation
298.4	

BORING B-8 (AB-102) STATION 997+45 ℄

CASING SIZE 2½"	DRIVING RESISTANCE Blows/Ft. 20 40 60 80 100
ELEV. 317.9	
1D	Medium Density Brown Wheathered Sandy Silt with Scattered Pebbles.
2D	6" 186 323 169
304.57	
	60% Ledge: Limey Phyllite with High Angle Foliation
299.57	

BORING NOTES:
- Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow
- Location of sample or sample attempt
- 1D S & H. Sampler # 1290's
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs of energy per blow.
- Bottom of boring (May not be bottom of soil strata)
- Refusal of drill rods or casing (May not be ledge)
- 70% Locations cored by diamond bit and per cent recovery of rock

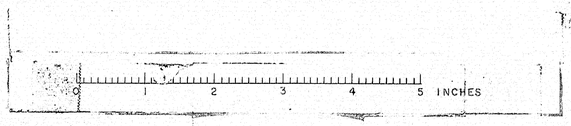
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

DESIGN— DETAIL J.O.N.
TRACE—
CHECK— P.R.N.
BRIDGE NO.
SURVEY—
PLOT—

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
FOUNDATION SURVEY
SHEET 2 OF 11 AUGUSTA, MAINE FEBRUARY 1965

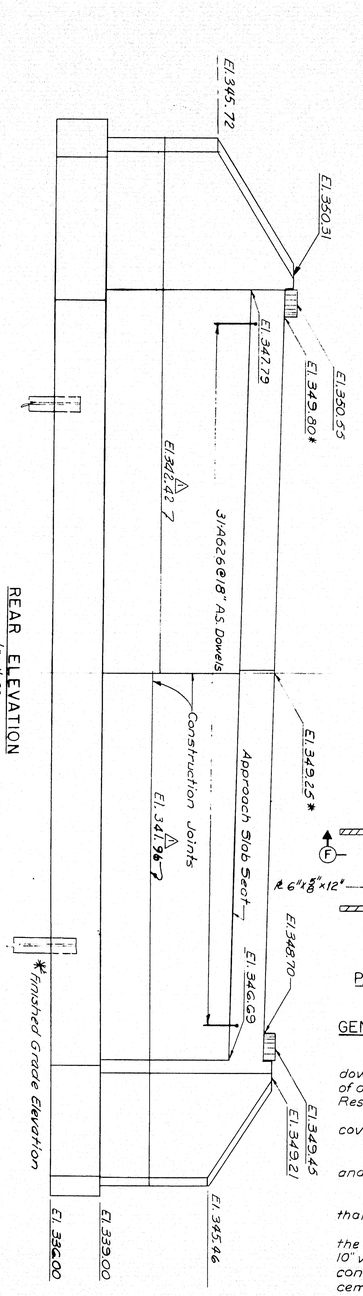
M-2168 HOULTON (18)

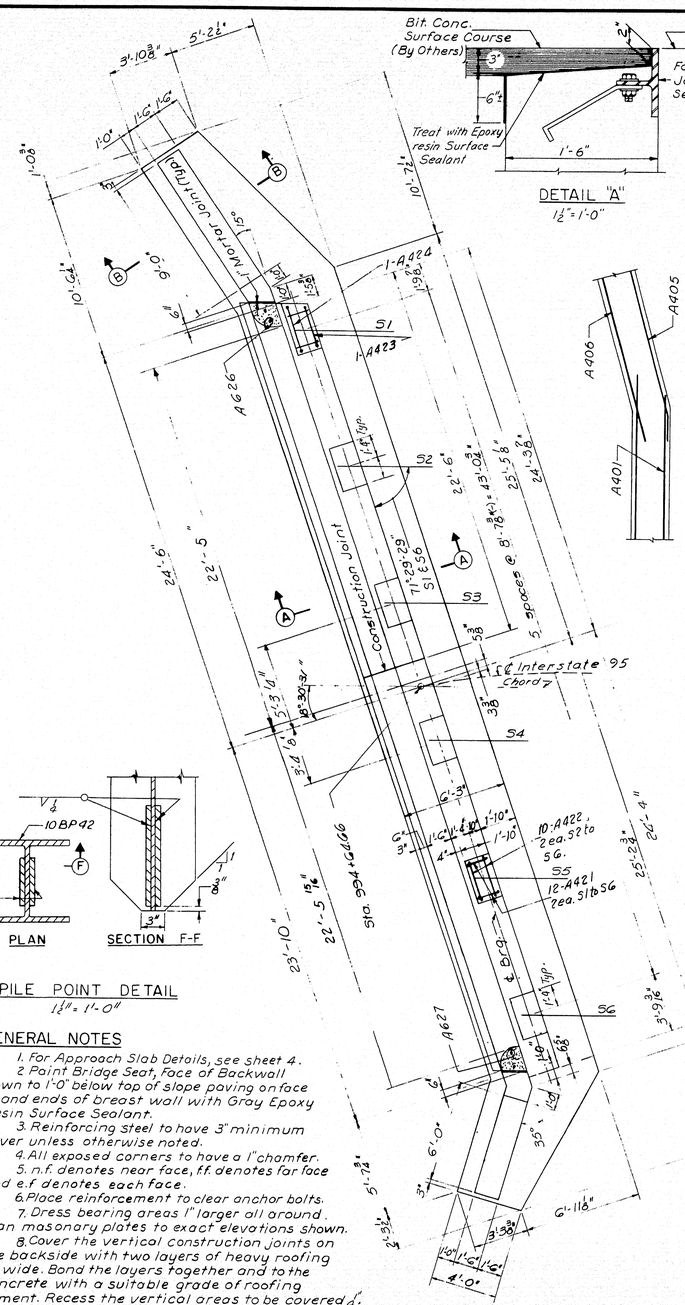
C. B. CO., NO. 44-302 20796



B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	113	121

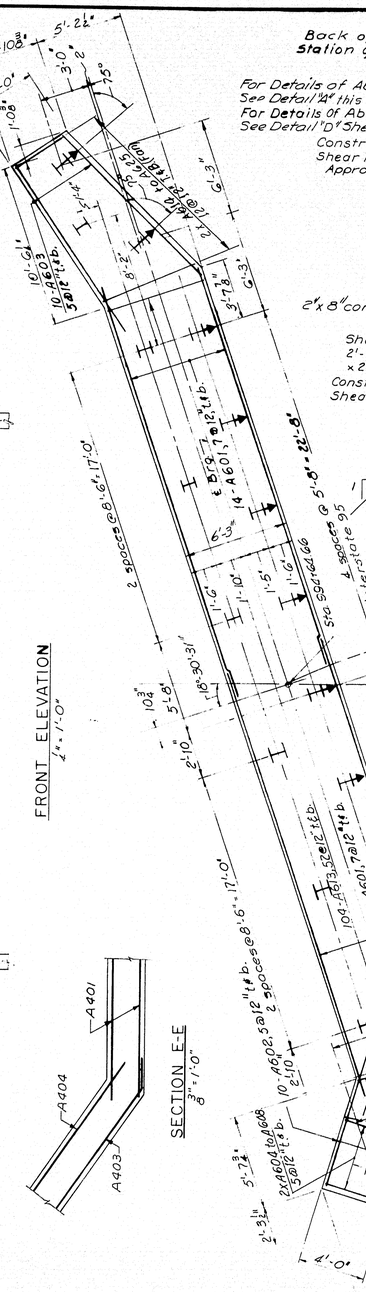
REAR ELEVATION
1"=1'-0"





GENERAL NOTES

1. For Approach Slab Details, see sheet 4.
2. Point Bridge Seat, face of Backwall down to 1'-0" below top of slope paving on face of and ends of breast wall with Gray Epoxy Resin Surface Sealant.
3. Reinforcing steel to have 3" minimum cover unless otherwise noted.
4. All exposed corners to have a 1" chamfer.
5. n.f. denotes near face, f.f. denotes far face and e.f. denotes each face.
6. Place reinforcement to clear anchor bolts.
7. Dress bearing areas 1" larger all around than masonry plates to exact elevations shown.
8. Cover the vertical construction joints on the backside with two layers of heavy roofing 10" wide. Bond the layers together and to the concrete with a suitable grade of roofing cement. Recess the vertical areas to be covered ¼".
9. Point vertical construction joints with a suitable grade of asphalt paint to break bond.



PILE NOTES

I Indicates Vertical Pile
2 Indicates Battered Pile battered 3:12 in direction of arrow.
3. All piles 10 BP42- Capacity = 37 tons.
4. Estimated Pile Length = 25 Feet.
5. Piles to be driven to ledge or practical refusal to develop end bearing.

△ REVISED 5-6-65

DESIGN— E.F.K. DETAIL A.A.L.	BRIDGE NO.
TRACE—	SURVEY—
CHECK— P.R.N.	PLOT—

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
ABUTMENT NO. 1

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

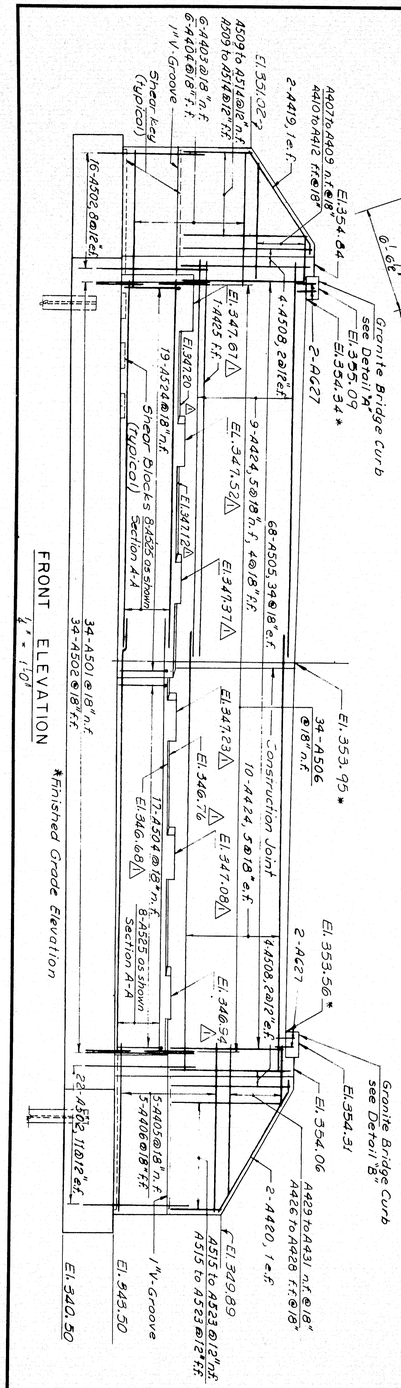
SHEET 3 OF 11 AUGUSTA, MAINE FEBRUARY 1965

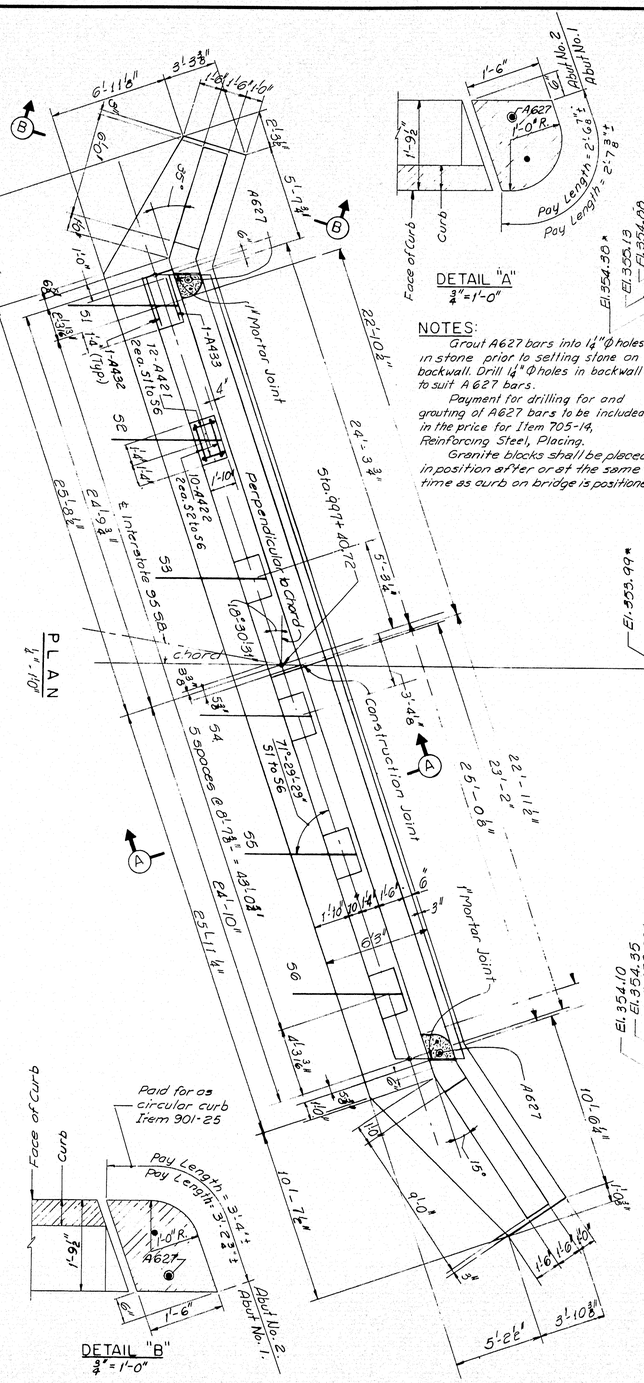
M-2169 HOULTON (18)

C. B. CO., NO. 44-305 20766

0 1 2 3 4 5 INCHES

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	114	121





PILE NOTES:
1. I Indicates Vertical Piles.
2. I Indicates Battered Piles, battered 3:12 in direction of arrow
3. All piles 10 BP 42. Capacity = 37 Tons.
4. Estimated pile length = 42 Feet.
5. All piles to be driven to ledge or practical refusal to develop end bearing.

⚠ REVISED 5-6-65

DESIGN – E.F.K.	DETAIL – D.A.T.	BRIDGE NO.
TRACE –		SURVEY –
CHECK – P.R.N.		PLOT –

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
ABUTMENT NO. 2

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

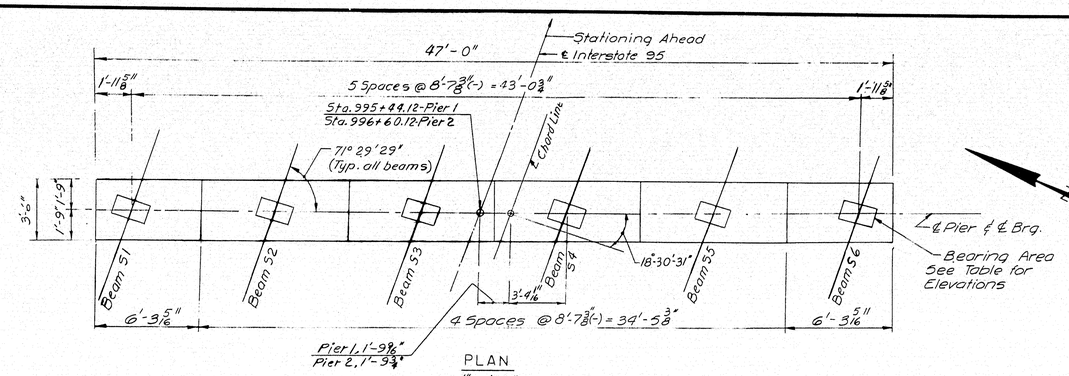
SHEET 4 OF 11, AUGUSTA, MAINE FEBRUARY 1965

C. B. CO., NO. 44-302 28756

M-2170 HOULTON (18)

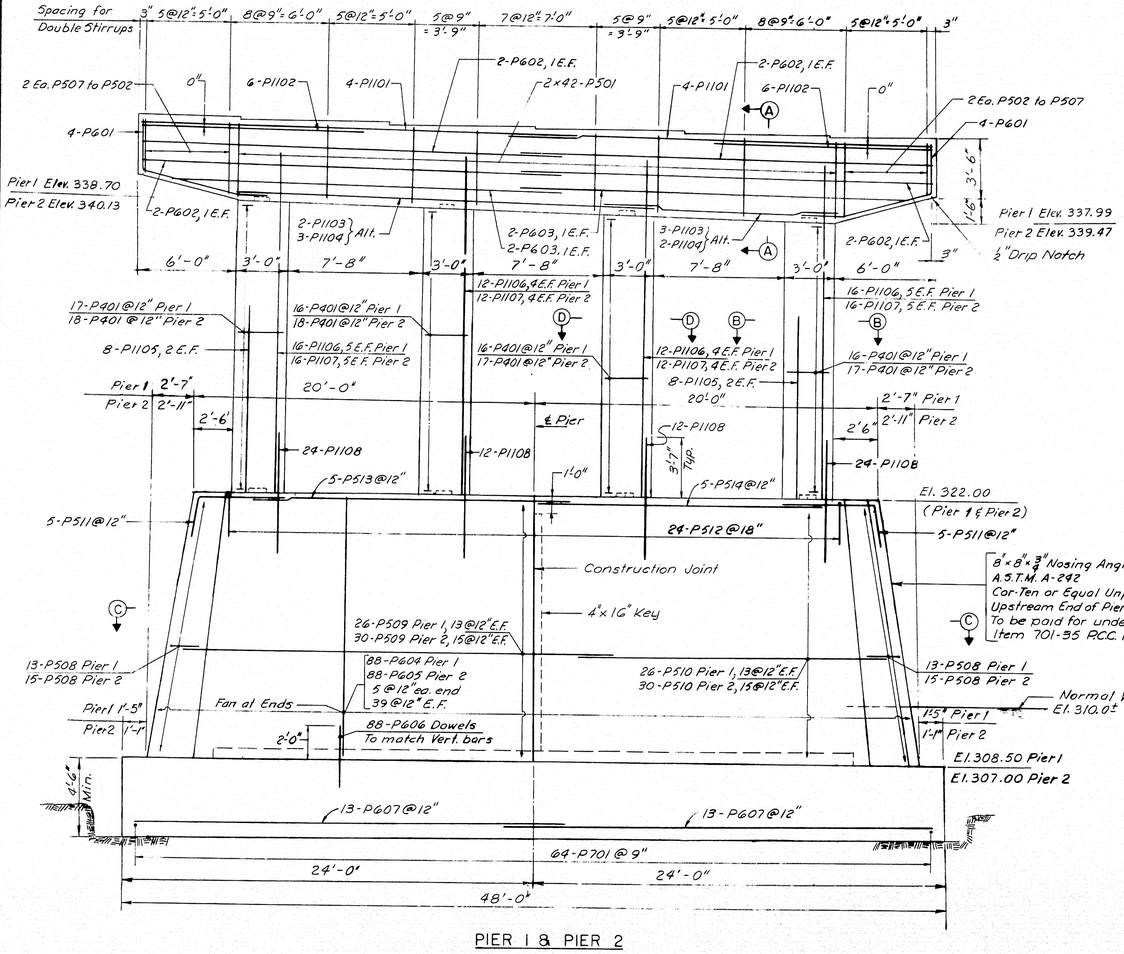
0 1 2 3 4 5 INCHES

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	115	121



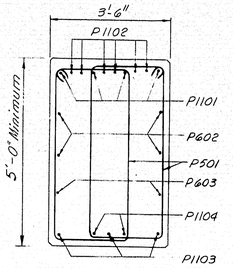
PLAN
¼" = 1'-0"

BEARING ELEVATIONS		
BEAM	PIER 1	PIER 2
S1	343.96	345.30
S2	343.76	345.13
S3	343.57	344.97
S4	343.38	344.80
S5	343.18	344.63
S6	342.99	344.47

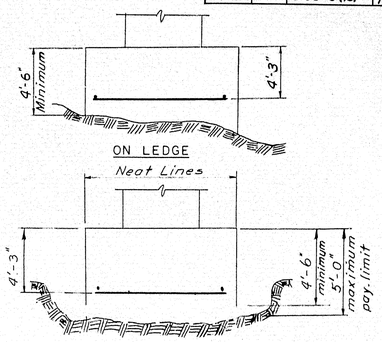


PIER 1 & PIER 2
FRONT ELEVATION
¼" = 1'-0"

Reinf. shown is typical for each pier except as noted.



SECTION A-A
½" = 1'-0"

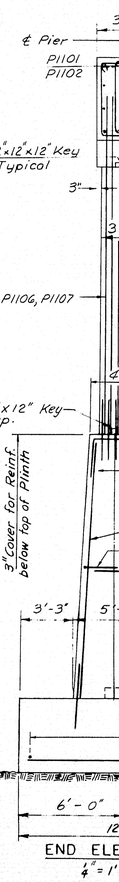


IN LEDGE EXCAVATION

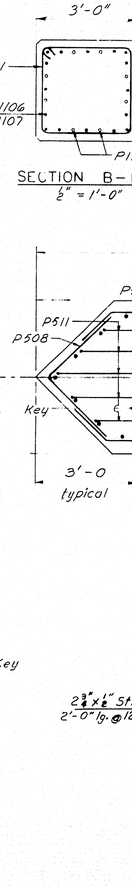
FOOTING DETAILS
No Scale

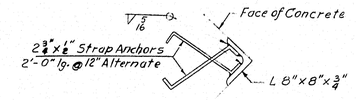
NOTES

1. Footing side forms may be omitted if approved by the Engineer. No payment will be made for concrete outside the neat lines shown.
2. In case of overbreakage of ledge downward, no payment will be made for Structural Rock Excavation Piers, or for concrete more than 5'-0" below top of footing elevation shown.
3. All weathered or broken ledge shall be removed before any footing concrete is placed.
4. Top of footing elevation may be altered to suit field conditions. No change in top of footing elevations greater than 2 feet shall be made without approval of the Consulting Engineer. Top of footing shall be at or below bottom of existing channel.

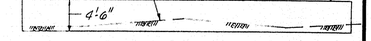


END ELEVATION
¼" = 1'-0"

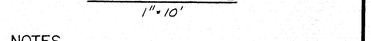




DETAIL 'A'
½" = 1'-0"



PIER NO. 1



PIER NO. 2

LEDGE PROFILE
1" = 10'

NOTES

1. Reinforcing steel to have 2" minimum cover unless otherwise shown.
2. Maximum Footing Pressure:
   Group I Loading 2.4 Tons/S.F.
   Group IX Loading 5.1 Tons/S.F.
3. All exposed corners to have 1" chamfer.
4. Dress bearing areas 1" larger all around than masonry plates to exact elevations shown.
5. Place reinforcing to clear anchor bolts.

DESIGN- E.F.K. DETAIL R.F.
TRACE-
CHECK- P.R.N.

BRIDGE NO.
SURVEY-
PLOT-

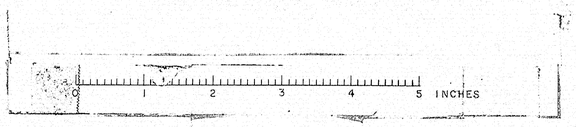
STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
PIERS

SHEET 5 OF 11 AUGUSTA, MAINE FEBRUARY 1965

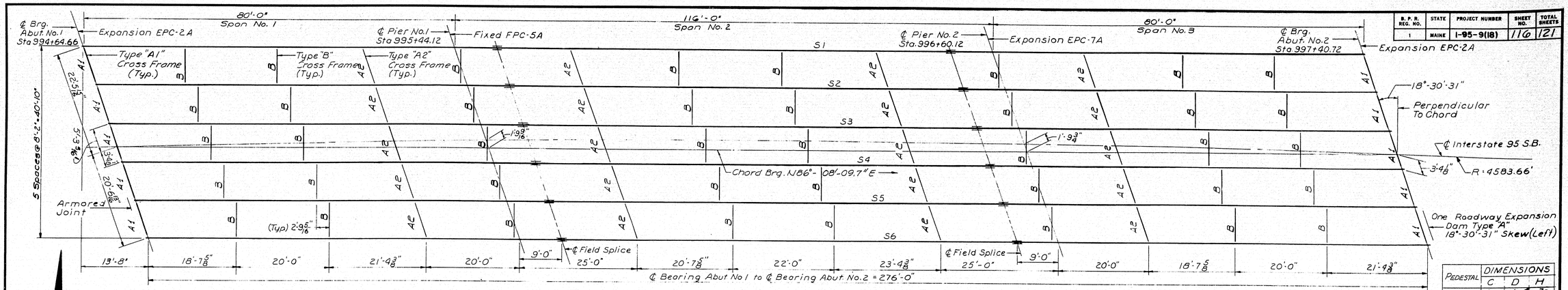
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

M-2171 HOULTON (18)

C. B. CO., NO. 44-302



B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	116	121



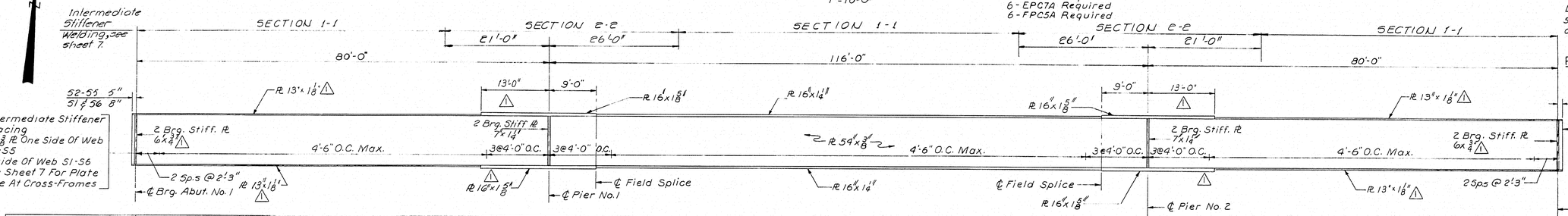
PEDESTAL	DIMENSIONS C	D	H
EPC-2A	1'-1"	1'-9 3/8"	3 7/8"
EPC-7A	1'-9"	—	—
FPC-5A	1'-9"	—	—

⚠ Dimensions not shown, same as for EPC-2, EPC-7 or FPC-5, Sheet BP101-64.

PEDESTAL DIMENSIONS

ERECTION DIAGRAM

1"=10'-0"



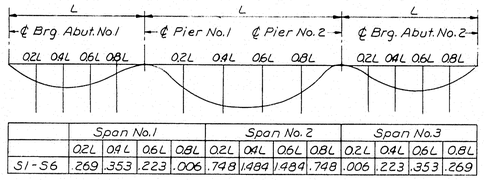
PEDESTALS

12-EPC2A Required
6-EPC7A Required
6-FPC5A Required

	SPAN NO.1					SPAN NO. 2										SPAN NO.3					
	℄ Brg.	0.2L	0.4L	0.6L	0.8L	℄ Brg.	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	℄ Brg.	0.2L	0.4L	0.6L	0.8L	℄ Brg.
DIMENSION "A"	1'-9 1/16"	2'-2 3/8"	2'-7 1/8"	3'-0 7/8"	3'-3 3/8"	3'-6 1/16"	3'-8 3/8"	3'-10 3/8"	3'-11 1/4"	4'-0"	4'-0 3/8"	4'-0 7/16"	4'-0 6"	3'-11 5/8"	3'-10 9/16"	3'-9 1/16"	3'-6 5/8"	3'-3 5/8"	2'-11 3/8"	2'-7 4"	2'-2 5/8"
DIMENSION "B"	3'-7 5/8"	3'-2 1/16"	2'-9 3/8"	2'-5 1/16"	2'-2 9/16"	2'-0 1/16"	1'-10 5/8"	1'-9 3/8"	1'-8 1/16"	1'-8 1/16"	1'-8 3/8"	1'-8 5/8"	1'-9"	1'-9 1/16"	1'-10 1/8"	2'-0 1/4"	2'-2 1/16"	2'-5 5/8"	2'-8 3/16"	3'-1 1/4"	3'-6 7/16"	4'-0 1/16"

TYPICAL STRINGER ELEVATION

All Dimensions Are Horizontal
1"=10'-0"



	Span No.1				Span No. 2				Span No.3			
	02L	04L	06L	08L	02L	04L	06L	08L	02L	04L	06L	08L
51-56	.269	.353	.223	.006	.748	1.484	1.484	.748	.006	.223	.353	.269

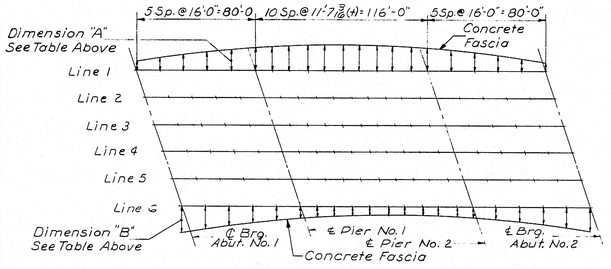
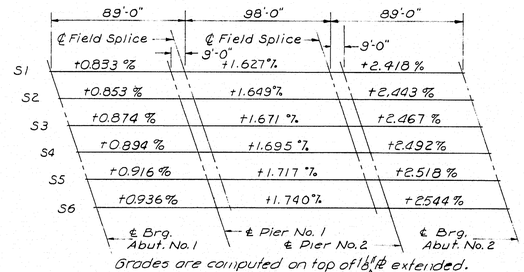


DIAGRAM OF BLOCKING POINTS



Grades are computed on top of 1 1/8" Pl extended. ⚠

BEAM GRADES

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS

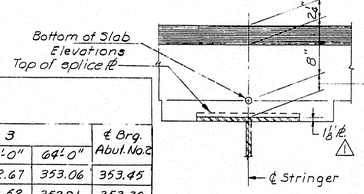
	℄ Brg. Abut. No.1	SPAN NO. 1 16'-0"	32'-0"	48'-0"	64'-0"	℄ Brg Pier No.1	SPAN NO. 2 11'-7 3/16"	23'-2 3/8"	34'-9 5/8"	46'-4 13/16"	58'-0"	69'-7 9/16"	81'-2 7/16"	92'-9 5/8"	104'-4 13/16"	℄ Brg. Pier No.2	SPAN NO. 3 16'-0"	32'-0"	48'-0"	64'-0"	℄ Brg. Abut. No.2
Line 1	348.96	349.09	349.23	349.37	349.52	349.70	349.86	350.05	350.24	350.44	350.63	350.82	351.00	351.18	351.37	351.59	351.92	352.29	352.67	353.06	353.45
Line 2	348.75	348.88	349.02	349.16	349.32	349.50	349.67	349.86	350.06	350.25	350.45	350.64	350.82	351.01	351.20	351.42	351.76	352.13	352.52	352.91	353.30
Line 3	348.54	348.68	348.82	348.96	349.12	349.31	349.48	349.67	349.87	350.07	350.27	350.46	350.65	350.83	351.03	351.25	351.59	351.97	352.36	352.75	353.15
Line 4	348.33	348.47	348.61	348.76	348.92	349.12	349.29	349.48	349.68	349.89	350.08	350.28	350.47	350.66	350.86	351.08	351.43	351.81	352.21	352.60	353.01
Line 5	348.12	348.26	348.41	348.56	348.73	348.92	349.10	349.29	349.50	349.70	349.90	350.10	350.30	350.49	350.69	350.92	351.27	351.65	352.05	352.45	352.86
Line 6	347.91	348.06	348.21	348.36	348.53	348.73	348.91	349.11	349.31	349.52	349.73	349.92	350.12	350.32	350.52	350.75	351.11	351.49	351.90	352.30	352.72
Point A	349.01	349.15	349.30	349.45	349.61	349.80	349.97	350.16	350.35	350.55	350.74	350.93	351.11	351.29	351.48	351.69	352.02	352.38	352.76	353.13	353.51
Point B	347.81	347.97	348.13	348.29	348.47	348.67	348.85	349.06	349.27	349.47	349.68	349.88	350.07	350.27	350.47	350.69	351.04	351.42	351.81	352.20	352.61

For location of points A & B see cross-section on Sheet 8.

DEAD LOAD DEFLECTION DIAGRAM

ALL DEFLECTIONS IN INCHES

All stringers are to be cambered for D.L. deflections shown above but not for the effect of vertical curvature.



BLOCKING DETAIL

No Scale

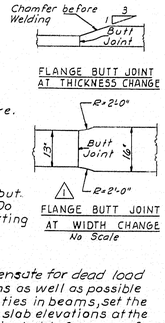
NOTE: To compensate for dead load deflections as well as possible irregularities in beams, set the bottom of slab elevations at the points indicated before any of the slab formwork is started.

REFERENCE

Splice - See Sheet 7.
Armored Joint - See Standard Details BD104-64
Pedestals - See Standard Details BD101-64
Expansion Dams - See Standard Details BD105-64
Cross Frames - See Sheet 7

SPECIFICATIONS

Fabrication and Erection: State of Maine Standard Specifications, Highways and Bridges, Revision of Jan. 1956 and Supplement of Feb. 1960.
Design and Detail: A.A.S.H.O. Standard Specifications of 1961 and Interim Specifications 1961, 1962, 1963 & 1964
Materials: Except as otherwise noted on the standard details, all materials shall conform to A.S.T.M. designation A-36
Welding: Standard Specifications for Welded Highway and Railway Bridges, American Welding Society, D2.0-63 as modified by contract Specifications. Transition of Plate size will be in accordance with Paragraph 211 of D2.0-63. ⚠



⚠ REVISED 5-6-65

DESIGN— E.F.K DETAIL R.D.F.	BRIDGE NO.
TRACE—	SURVEY—
CHECK— P.R.N.	PLOT—

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY

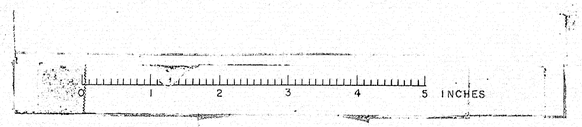
STRUCTURAL STEEL & BLOCKING

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

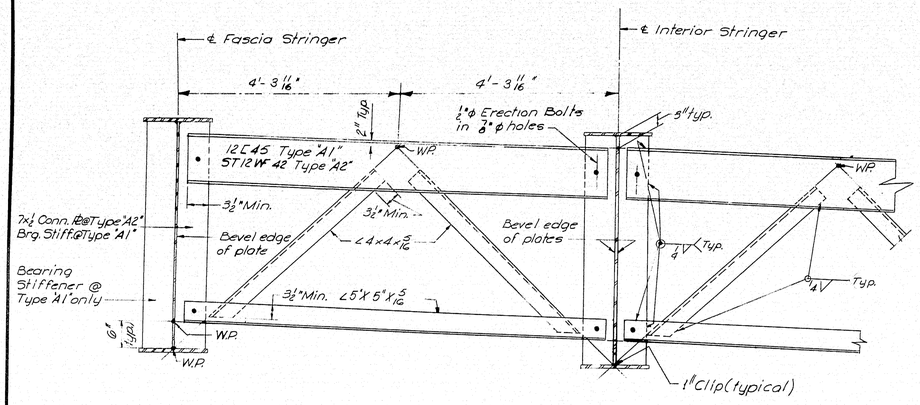
SHEET 6 OF 11 AUGUSTA, MAINE FEBRUARY 1965

M-2172 HOULTON (18)

C. R. CO., NO. 44-303 24766



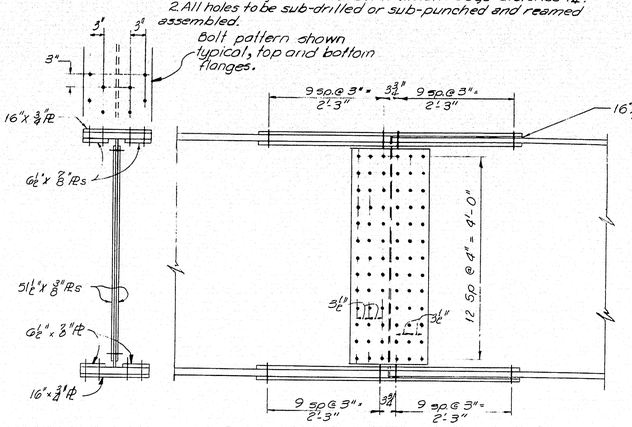
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	117	121



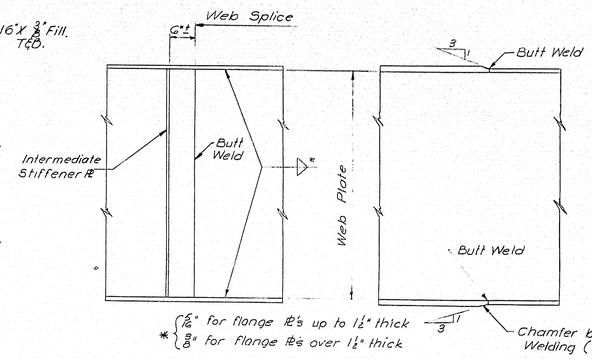
CROSS FRAME TYPE "A1" (AS SHOWN)
CROSS FRAME TYPE "A2" (AS NOTED)
3/4" = 1'-0"

NOTE:
For welding of connection plates & bearing stiffeners to web and flanges, see Stiffener Details this sheet.

NOTES:
1. All bolts to be 1"ϕ High Strength bolts, conforming to A.S.T.M. designation A325. Minimum edge distance 1 1/4"
2. All holes to be sub-drilled or sub-punched and reamed assembled.

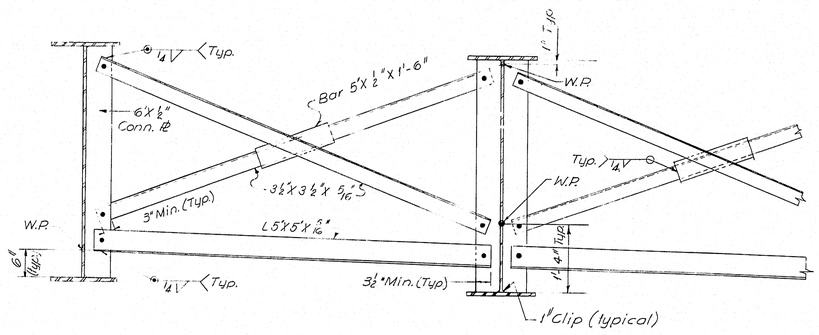


FIELD SPLICE DETAIL
3/4" = 1'-0"

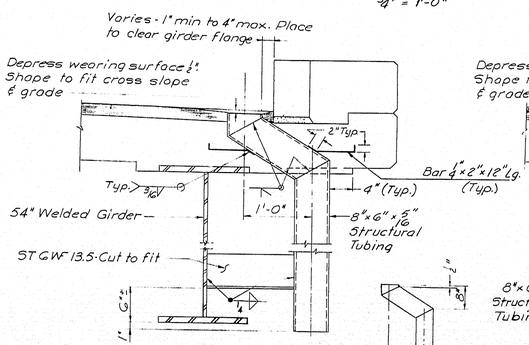


TYPICAL SHOP WEB SPLICE

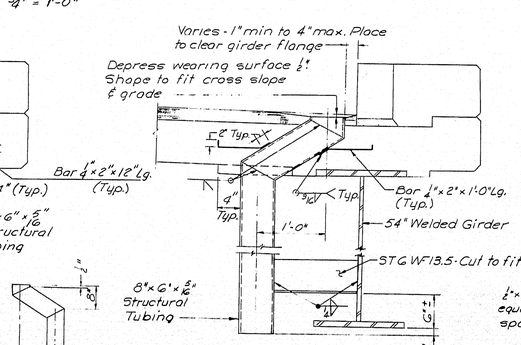
TYPICAL SHOP FLANGE SPLICE



CROSS FRAME TYPE "B"
3/4" = 1'-0"



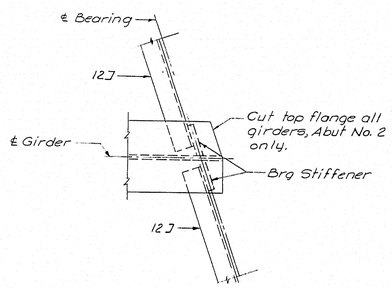
TYPE I



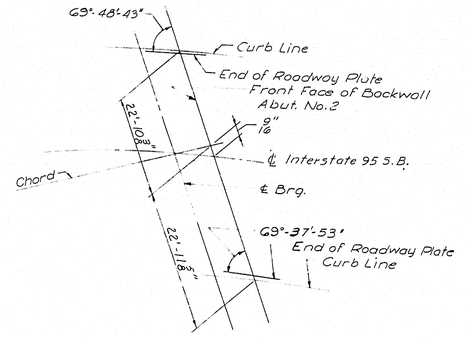
TYPE II

DETAIL "A"
No Scale.

BRIDGE DRAINS
1" = 1'-0"

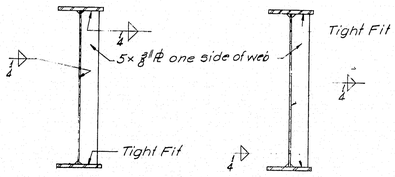


END OF GIRDER DETAIL
3/4" = 1'-0"

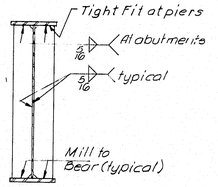


EXPANSION DAM LAYOUT
(At Abutment No. 2)
No Scale

NOTES:
1. Flanges and webs shall be butt welded and inspected in accordance with the specifications and details shown before they are fillet welded to each other.
2. Not more than four (4) web shop splices may be used. Location & type of all butt welds in webs and flanges shall be shown on shop detail drawings.
3. Location of shop splices shall be at least 13'-0" from ℄ bearings.

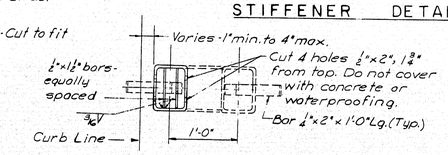


SECTION 1-1 SECTION 2-2



BEARING

INTERMEDIATE STIFFENER DETAILS



PLAN

STIFFENER NOTES
1. Intermediate stiffeners shall be normal to the flanges.
2. Bearing stiffeners shall be plumb after erection.
3. Bearing stiffeners shall be normal to web at piers and outside of fascia at abutments; all others parallel to cross frames.
4. See Sheet 6 for location of Sections 1-1 & 2-2

BRIDGE DRAIN NOTES
1. 4 required Spans 1 & 3, South side only.
2. 5 required Span 2, South side only.
3. Drains shall be placed so they are clear of piers by a min. of 10'-0". Exact positions to be determined in field. For approximate location, see Sheet 1.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

DESIGN- E.F.K. DETAIL - R.K. TRACE- CHECK- I.S.
BRIDGE NO. SURVEY- PLOT-

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
STRUCTURAL STEEL DETAILS

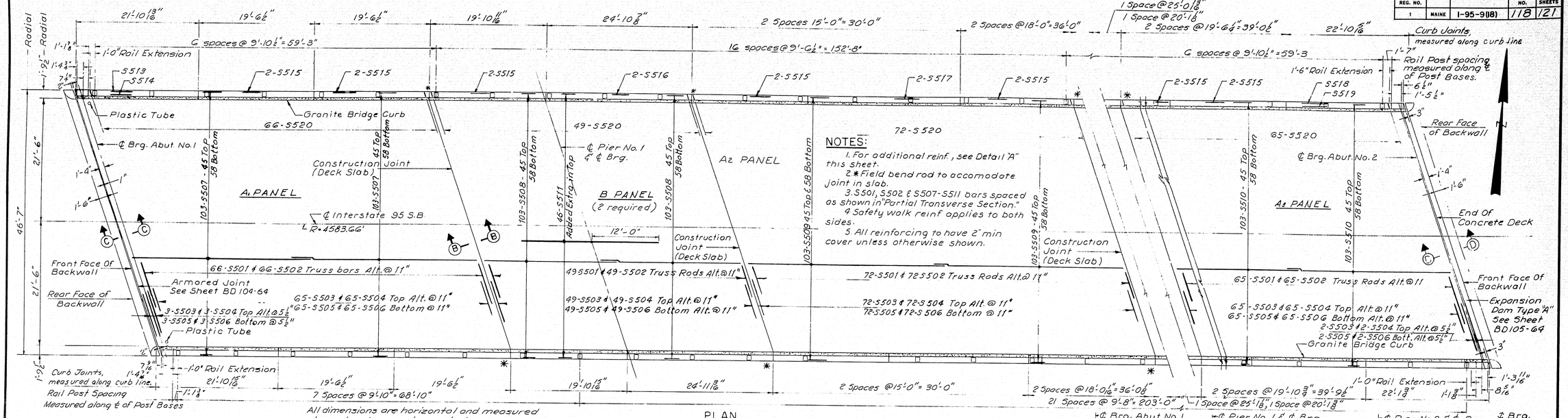
SHEET 7 OF 11 AUGUSTA, MAINE FEBRUARY 1965

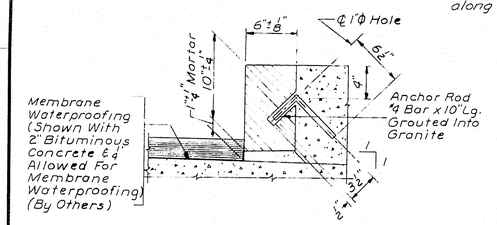
M-2193 HOULTON (18)

C. H. CO., NO. 44-302 24706

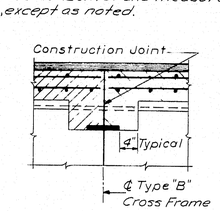
0 1 2 3 4 5 INCHES

B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	118	121

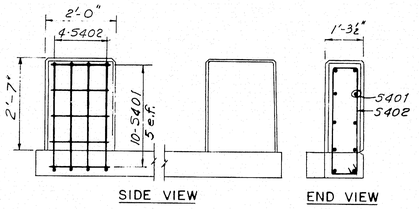




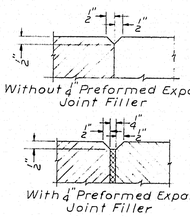
TYPICAL CURB SECTION
12" = 1'-0"

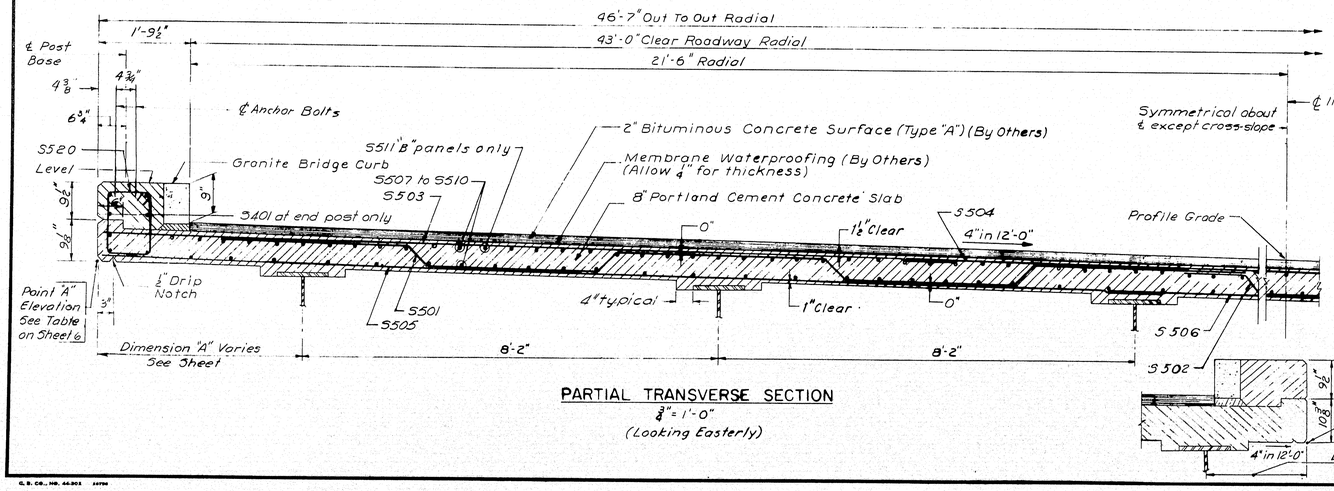


SECTION B-B
3/4" = 1'-0"



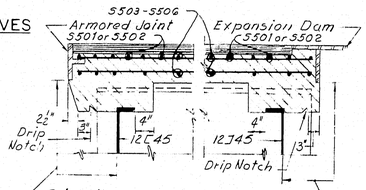
END POST DETAIL
No Scale





PARTIAL TRANSVERSE SECTION
3/4" = 1'-0"
(Looking Easterly)

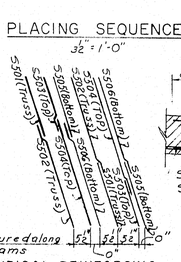
I" V GROOVES
3" = 1'-0"



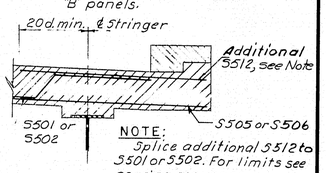
SECTION C-C
3/4" = 1'-0"

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

PLACING SEQUENCE
1/32" = 1'-0"



NOTE:
Place concrete in "A" panels before placing concrete in "B" panels.



NOTE:
Splice additional S512 to S501 or S502. For limits see pouring sequence.

GENERAL SUPERSTRUCTURE NOTES

1. At joints in curbs & granite bridge curbs over piers, use 1/4" preformed expansion joint filler. At all other curb joints, break the bond between concrete surfaces with a suitable grade of asphalt paint. Form 1" V Groove on outside face of curb and slab at each vertical joint. Provide joints in granite bridge curb at curb C.J.'s.
2. At low points in slabs, place a plastic tube 1" Ø through the slab for drainage. Exact location to be determined in the field. Do not cover the tube with waterproofing. This work will be incidental to contract items. Tube shall extend 2" below bottom of slab. Place tubes to drip clear of bridge seat.
3. For bridge rail, see standard details BD107-64 & BD108-64.
4. Payment for concrete end posts shall be made under Item 701-40

TYPICAL REINFORCING PATTERN
No Scale

DETAIL A

DESIGN— G.H. DETAIL R.D.F.
TRACE—
CHECK— P.R.N.
BRIDGE NO.
SURVEY—
PLOT—

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
SUPERSTRUCTURE

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

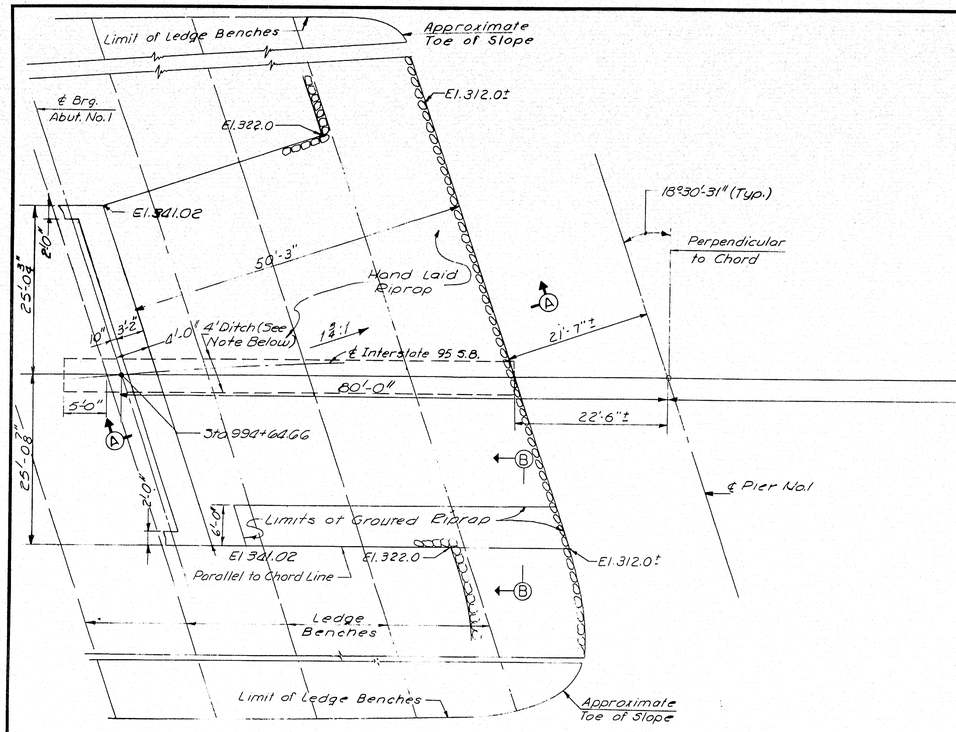
SHEET 8 OF 11 AUGUSTA, MAINE FEBRUARY 1965

M-2174 HOULTON (18)

G. B. CO., NO. 44-203 24798

0 1 2 3 4 5 INCHES

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	119	121

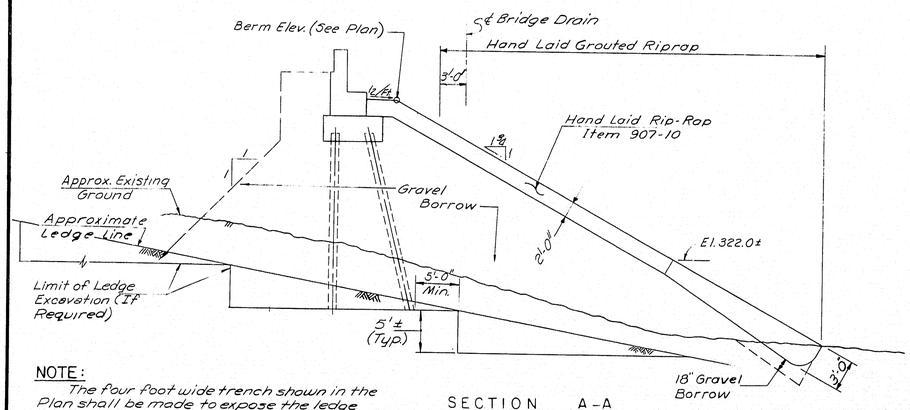


PLAN ABUTMENT NO. 1
1" = 10'-0"

NOTE:
All Dimensions are Horizontal.

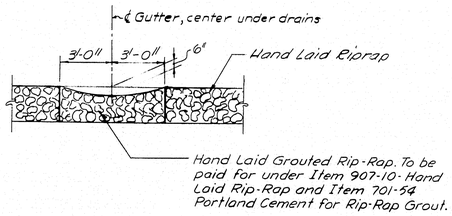
PLAN ABUTMENT NO. 2
1" = 10'-0"

NOTES:
1. Provide 18" of Gravel Borrow in excavation under Rip-Rap.
2. The 18" Gravel Borrow under the Rip-Rap may be reduced or omitted if in the opinion of the Engineer the existing material is suitable.
3. Payment for any excavation required for slope protection will be made under the appropriate Item for Structural Excavation, Piers Item 204-14 and 204-15.



SECTION A-A
1/8" = 1'-0"

NOTE:
The four foot wide trench shown in the Plan shall be made to expose the ledge surface. If in the opinion of the Engineer the exposed surface is found to be rough, sound and the foliation not parallel to the surface, the ledge benching may be omitted. Should the ledge benching be omitted, the original ground upon which the embankment is to be placed shall be cut into 10'± wide steps before the filling is commenced or as the filling progresses. The removal of material shall be paid for under Earth Excavation Item 203-9 and Rock Excavation Item 203-10.



SECTION B-B
1" = 1'-0"

C. B. CO., NO. 46-302 24788

DESIGN- V.A.V. DETAIL- P.B.D. TRACE- CHECK- S.M.	BRIDGE NO. SURVEY- PLOT-

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

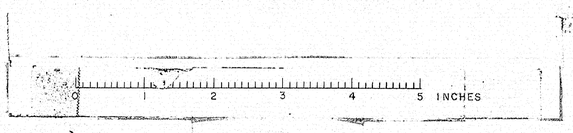
INTERSTATE 95 S.B.
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY

SLOPE PROTECTION

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

SHEET 9 OF 11 AUGUSTA, MAINE FEBRUARY 1965

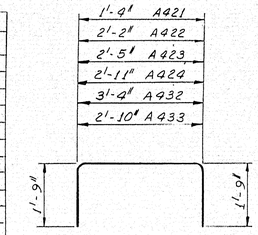
M-2175 HOULTON (18)



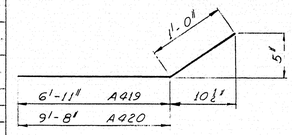
MARK	SIZE	NUMBER	LENGTH	LOCATION
ABUTMENT NO. 1				
	STRAIGHT BARS			
A401	4	19	26'-0"	Stem
A402	4	1	24'-3"	"
A404	4	5	7'-3"	"
A406	4	5	11'-0"	"
A410	4	1	2'-6"	"
A411	4	1	4'-6"	"
A412	4	1	6'-6"	"
A416	4	1	3'-11"	"
A417	4	1	6'-10"	"
A418	4	1	9'-9"	Stem
A501	5	33	2'-7"	Footing Dowels
A502	5	71	6'-8"	Stem
A505	5	66	6'-5"	"
A506	5	33	3'-0"	"
A507	5	16	29'-8"	"
A508	5	8	7'-1"	"
A509	5	2	3'-3"	"
A510	5	2	4'-0"	"
A511	5	2	4'-9"	"
A512	5	2	5'-6"	"
A513	5	2	6'-3"	"
A514	5	2	7'-0"	"
A515	5	2	3'-0"	"
A516	5	2	3'-5 1/2"	"
A517	5	2	3'-11"	"
A518	5	2	4'-4 1/2"	"
A519	5	2	4'-10"	"
A520	5	2	5'-3 1/2"	"
A521	5	2	5'-9"	"
A522	5	2	6'-2 1/2"	"
A523	5	2	6'-8"	Stem
A601	6	28	26'-6"	Footing
A602	6	10	9'-0"	"
A603	6	10	11'-9"	"
A604	6	2	3'-6"	"
A605	6	2	3'-9"	"
A606	6	2	4'-0"	"
A607	6	2	4'-3"	"
A608	6	2	4'-6"	"
A609	6	2	4'-6"	"
A610	6	2	5'-0"	"
A611	6	2	5'-6"	"
A612	6	2	6'-0"	"
A613	6	104	5'-9"	"
A614	6	2	3'-6"	"
A615	6	2	3'-8 1/2"	"
A616	6	2	3'-11"	"
A617	6	2	4'-1 1/2"	"
A618	6	2	4'-4"	"
A619	6	2	4'-6 1/2"	"
A620	6	2	4'-9"	"
A621	6	2	4'-11 1/2"	"
A622	6	2	5'-2"	"
A623	6	2	5'-4 1/2"	"
A624	6	2	5'-7"	"
A625	6	2	5'-9 1/2"	Footing
A627	6	4	1'-0"	Curb Dowels
	BENT BARS			
A403	4	5	8'-2"	Stem
A405	4	5	11'-3"	"
A407	4	1	2'-4"	"
A408	4	1	9'-4"	"
A409	4	1	6'-4"	"
A413	4	1	3'-5"	"
A414	4	1	6'-4"	"
A415	4	1	9'-3"	Stem
A419	4	2	7'-11"	Wing Wall
A420	4	2	10'-8"	Wing Wall
A421	4	12	9'-10"	Pads

MARK	SIZE	NUMBER	LENGTH	LOCATION
ABUTMENT NO. 1 (CONTINUED)				
	BENT BARS			
A422	4	10	5'-8"	Pads
A423	4	1	5'-11"	"
A424	4	1	6'-5"	Pads
A503	5	18	6'-4"	Stem
A504	5	16	6'-8"	Stem
A626	6	31	3'-6"	Approach Slab Dowels
	APPROACH SLAB			
A5401	4	44	23'-3"	Approach Slab
A5601	6	172	14'-6"	Approach Slab
ABUTMENT NO. 2				
	STRAIGHT BARS			
A404	4	6	7'-3"	Stem
A406	4	5	11'-0"	"
A410	4	1	2'-6"	"
A411	4	1	4'-6"	"
A412	4	1	6'-6"	"
A424	4	19	26'-6"	"
A425	4	1	24'-8"	"
A426	4	1	3' 4"	"
A427	4	1	6'-6 1/2"	"
A428	4	1	9'-9"	Stem
A501	5	34	2'-7"	Footing Dowels
A502	5	72	6'-8"	Stem
A505	5	68	6'-5"	"
A506	5	34	3'-0"	"
A508	5	8	7'-1"	"
A509	5	2	3'-3"	"
A510	5	2	4'-0"	"
A511	5	2	4'-9"	"
A512	5	2	5'-6"	"
A513	5	2	6'-3"	"
A514	5	2	7'-0"	"
A515	5	2	3'-0"	"
A516	5	2	3'-5 1/2"	"
A517	5	2	3'-11"	"
A518	5	2	4'-4 1/2"	"
A519	5	2	4'-10"	"
A520	5	2	5'-3 1/2"	"
A521	5	2	5'-9"	"
A522	5	2	6'-2 1/2"	"
A523	5	2	6'-8"	"
A525	5	16	25'-2"	Stem
A601	6	28	26'-6"	Footing
A602	6	10	9'-0"	"
A603	6	10	11'-9"	"
A604	6	2	3'-6"	"
A605	6	2	3'-9"	"
A606	6	2	4'-0"	"
A607	6	2	4'-3"	"
A608	6	2	4'-6"	"
A609	6	2	4'-6"	"
A610	6	2	5'-0"	"
A611	6	2	5'-6"	"
A612	6	2	6'-0"	"
A613	6	104	5'-9"	"
A614	6	2	3'-6"	"
A615	6	2	3'-8 1/2"	"
A616	6	2	3'-11"	"
A617	6	2	4'-1 1/2"	"
A618	6	2	4'-4"	"
A619	6	2	4'-6 1/2"	"
A620	6	2	4'-9"	"
A621	6	2	4'-11 1/2"	"
A622	6	2	5'-2"	"
A623	6	2	5'-4 1/2"	"
A624	6	2	5'-7"	"
A625	6	2	5'-9 1/2"	Footing
A627	6	4	1'-0"	Curb Dowels

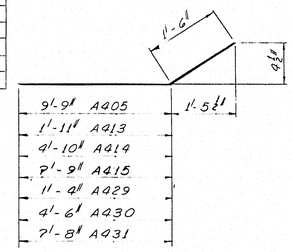
MARK	SIZE	NUMBER	LENGTH	LOCATION
ABUTMENT NO. 2 (CONTINUED)				
	BENT BARS			
A403	4	6	8'-2"	Stem
A405	4	5	11'-3"	"
A407	4	1	2'-4"	"
A408	4	1	9'-4"	"
A409	4	1	6'-4"	Stem
A419	4	2	7'-11"	Wing Wall
A420	4	2	10'-8"	Wing Wall
A421	4	12	9'-10"	Pads
A422	4	10	5'-8"	Pads
A429	4	1	2'-10"	Wing Wall
A430	4	1	6'-0"	"
A431	4	1	9'-2"	Wing Wall
A432	4	1	6'-10"	Pads
A433	4	1	6'-4"	Pads
A503	5	17	6'-8"	Stem
A524	5	19	7'-1"	Stem
A626	6	31	3'-6"	Approach Slab Dowels
APPROACH SLAB				
A5401	4	44	23'-3"	Approach Slab
A5601	6	172	14'-6"	Approach Slab



A421 THRU A424, A432, & A433



A419 & A420



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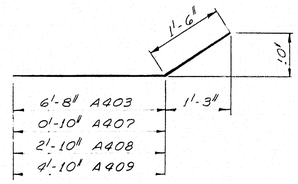

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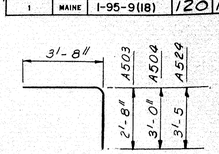
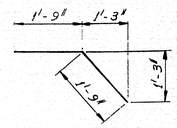


A503, A504, & A524



A626

NOTES

1. All dimensions are to the ℄ of bars.
2. All reinforcing bars shall be intermediate grade steel.
3. Reinforcing steel to have 1" minimum cover, unless otherwise shown.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9(18)	120	121

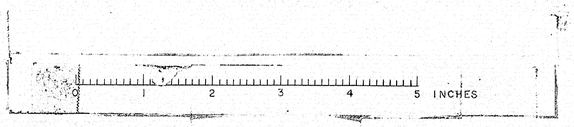
DESIGN- E.F.K. DETAIL- E.P.K. BRIDGE NO.
TRACE- SURVEY-
CHECK- HRN PLOT-

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
REINFORCING STEEL

SHEET 10 OF 11 AUGUSTA, MAINE FEBRUARY 1965

M-2176 HOULTON (18)

C. B. CO., NO. 44-302 44700



B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-9 (18)	121	121

PIER 1

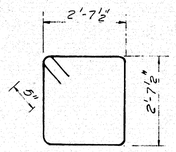
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
	STRAIGHT BARS				
P513	5	5	17'-0"		Plinth Top
P514	5	5	15'-6"		Plinth Top
P602	6	8	24'-0"		Cap Sides
P603	6	4	22'-6"		Cap Sides
P604	6	88	13'-3"		Plinth Sides
P606	6	88	4'-0"		Plinth Dowels
P607	6	26	24'-5"		Footing Longitudinal
P701	7	64	11'-6"		Footing Tranverse
P1101	11	8	26'-5"		Cap Top
P1102	11	12	12'-10"		Cap Top
P1103	11	5	13'-7"		Cap Bottom
P1104	11	5	24'-3"		Cap Bottom
P1105	11	16	12'-0"		Columns
P1106	11	56	20'-4"		Columns
P1108	11	72	7'-2"		Dowels
	BENT BARS				
P401	4	65	11'-4"		Column Ties
P501	5	84	14'-6"		Cap Stirrups
P502	5	4	11'-7"		"
P503	5	4	12'-1"		"
P504	5	4	12'-7"		"
P505	5	4	13'-1"		"
P506	5	4	13'-7"		"
P507	5	4	14'-1"		Cap Stirrups
P508	5	26	9'-8"		Plinth Nosing
P509	5	26	26'-4"		Plinth Sides
P510	5	26	20'-0"		Plinth Sides
P511	5	10	6'-10"		Plinth Ends
P512	5	24	6'-5⅝"		Plinth Top
P601	6	8	10'-5"		Cap

PIER 2

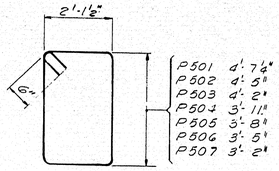
MARK	SIZE	NUMBER	LENGTH	INCR.	LOCATION
	STRAIGHT BARS				
P513	5	5	17'-0"		Plinth Top
P514	5	5	15'-6"		Plinth Top
P602	6	8	24'-0"		Cap Sides
P603	6	4	22'-6"		Cap Sides
P605	6	88	14'-9"		Plinth Sides
P606	6	88	4'-0"		Plinth Dowels
P607	6	26	24'-5"		Footing Longitudinal
P701	7	64	11'-6"		Footing Transverse
P1101	11	8	25'-5"		Cap Top
P1102	11	12	12'-10"		Cap Top
P1103	11	5	13'-7"		Cap Bottom
P1104	11	5	24'-3"		Cap Bottom
P1105	11	16	12'-0"		Columns
P1107	11	56	21'-9"		Columns
P1108	11	72	7'-2"		Dowels
	BENT BARS				
P401	4	70	11'-4"		Column Ties
P501	5	84	14'-6"		Cap Stirrups
P502	5	4	11'-7"		"
P503	5	4	12'-1"		"
P504	5	4	12'-7"		"

PIER 2

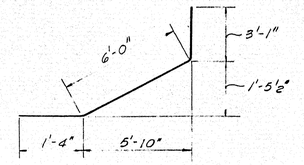
MARK	SIZE	NUMBER	LENGTH	INCR.	
	BENT BARS				
P505	5	4	13'-1"		Cap Stirrups
P506	5	4	13'-7"		"
P507	5	4	14'-1"		Cap Stirrups
P508	5	30	9'-8"		Plinth Nosing
P509	5	30	26'-9"		Plinth Sides
P510	5	30	20'-0"		Plinth Sides
P511	5	10	6'-10"		Plinth Ends
P512	5	24	6'-5⅝"		Plinth Top
P601	6	8	10'-5"		Cap
	SUPER STRUCTURE				
	STRAIGHT BARS				
S401	4	40	1'-8"		End Post
S503	5	305	16'-6"		Slab Transverse
S504	5	305	33'-3"		"
S505	5	305	20'-9"		"
S506	5	305	29'-0"		Slab Transverse
S507	5	206	31'-0"		Slab Longitudinal
S508	5	412	23'-0"		"
S509	5	206	33'-6"		"
S510	5	206	30'-6"		"
S511	5	92	24'-0"		Slab Longitudinal
S512	5	450	5'-3"		Slab Transverse
S513	5	2	20'-10"		Safety Walk Longitudinal
S514	5	2	21'-2"		"
S515	5	32	19'-8"		"
S516	5	8	24'-8"		"
S517	5	4	25'-8"		"
S518	5	2	20'-0"		"
S519	5	2	20'-3"		Safety Walk Longitudinal
	BENT BARS				
S402	4	16	8'-8"		End Post
S501	5	301	18'-7"		Slab Transverse (Truss)
S502	5	301	30'-8"		Slab Transverse (Truss)
S520	5	602	5'-4"		Safety Walk Stirrups



P 401



P 501 TO 507



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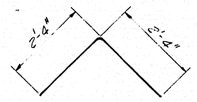
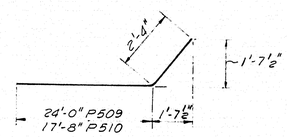
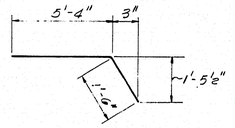


P 508



P 509 & P 510



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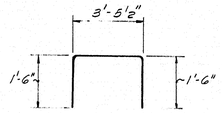
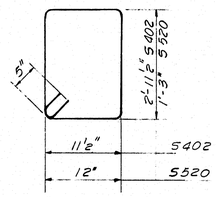
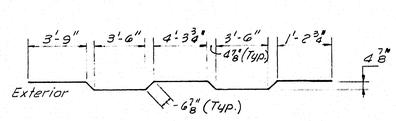


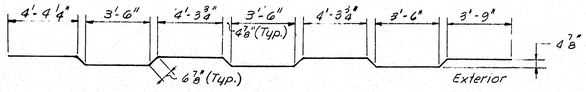
P 512



S 402 & S 520



S 501



S 502

NOTES:
1. All dimensions are to the ℄ of bars
2. All reinforcing bars shall be intermediate grade steel.
3. Reinforcing steel to have 1" minimum cover, unless otherwise shown.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK BOSTON KANSAS CITY

DESIGN— E.F.K. DETAIL— J.R.A. BRIDGE NO.
TRACE—
CHECK— P.R.N. SURVEY—
PLOT—

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
INTERSTATE 95
OVER
MEDUXNEKEAG RIVER
IN THE TOWN OF
HOULTON
AROOSTOOK COUNTY
REINFORCING STEEL

SHEET 11 OF 11 AUGUSTA, MAINE FEBRUARY 1965

M-2177 HOULTON (18)

C. E. CO., INC. 44-266 25755