F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-95-5(42)	1	31

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAYS

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY

MAINE FEDERAL AID INTERSTATE
PROJECT NO. I-95-5(42)81
LENGTH OF PROJECT 0.018 MILES

CONVENTIONAL SIGNS

COUNTY LINES
TOWN LINES
PROPERTY LINES
R/W LINES - EXISTING
R/W LINES - NEW - ACCESS CONTROL
R/W LINES - NEW - NO ACCESS CONTROL
CULVERT - EXISTING
CULVERT - PROPOSED
CURBING - EXISTING
CURBING - PROPOSED
TRAVELLED WAY - EXISTING
TRAVELLED WAY - PROPOSED
UNDERGROUND UTILITIES - EXISTING
UNDERGROUND UTILITIES - PROPOSED
RAILROAD - SINGLE TRACK
RAILROAD - DOUBLE TRACK
UTILITY POLE - EXISTING
UTILITY POLE - JOINT OCCUPANCY
PROPOSED UTILITY POLE - TEMPORARY
PROPOSED UTILITY POLE - PERMANENT
TREES (hardwood, softwood)
WOODS

SPECIFICATIONS

DESIGN — AASHO Standard Specifications for Highway Bridges 1973, and Interim Specifications 1974

CONTRACT — State of Maine, State Highway Commission, Standard Specifications, Highways and Bridges, Revision of June 1968

DESIGN LOADING

LIVE LOAD = HS 20-44 (as modified for Interstate Highways)

MATERIALS

CONCRETE ..... Class A Except as noted

REINFORCING STEEL ..... ASTM A615, Grade 60

STRUCTURAL STEEL ..... ASTM A588

HIGH STRENGTH BOLTS ASTM A325 Type 3

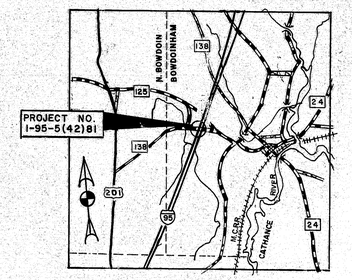
BASIC ALLOWABLE STRESSES

CONCRETE f_c = 1200 psi n = 10

REINFORCING STEEL f_s = 24,000 psi

STRUCTURAL STEEL ASTM A588 f_s = 27,000 psi

ASTM A325, Type 3 f_v = 13,500 psi



LOCATION MAP

0 1 2

SCALE OF MILES

TRAFFIC DATA

INTERSTATE 95			ROUTE 138
12,240	A.D.T.	1976	1570
21,678	A.D.T.	1996	2266
2,818	D.H.V.		295
11	T. (%)		11
60	D. (%)		60
70	V.		50
	P.S.D. (%)		
	18 KIPS		

INDEX OF SHEETS

1 — — — TITLE SHEET
2 — — — ESTIMATE OF QUANTITIES
3 — — — GENERAL PLAN
4 — — — EMBANKMENT PROFILE SOUTHBOUND
5 — — — EMBANKMENT PROFILE NORTHBOUND
6 — — — FOUNDATION SURVEY SOUTHBOUND
7 — — — FOUNDATION SURVEY NORTHBOUND
8 — — — ABUTMENT NO. 1 SOUTHBOUND
9 — — — ABUTMENT NO. 2 SOUTHBOUND
10 — — — FOOTING DETAILS NORTHBOUND
11 — — — DOWEL LAYOUT FOOTINGS NORTHBOUND
12 — — — ABUTMENT NO. 1 NORTHBOUND
13 — — — ABUTMENT NO. 2 NORTHBOUND
14 — — — ARCHITECTURAL TREATMENT SOUTHBOUND
15 — — — ARCHITECTURAL TREATMENT NORTHBOUND
16 — — — STRUCTURAL STEEL SOUTHBOUND
17 — — — STRUCTURAL STEEL NORTHBOUND
18 — — — SUPERSTRUCTURE SOUTHBOUND
19 — — — SUPERSTRUCTURE NORTHBOUND
20 — — — SLOPE PROTECTION SOUTHBOUND
21 — — — SLOPE PROTECTION NORTHBOUND
22 — — — REINFORCING STEEL SCHEDULE SOUTHBOUND
23 — — — REINFORCING STEEL SCHEDULE NORTHBOUND
24 — — — RIGHT OF WAY MAP

STANDARD DETAILS

25 — — — BD 101-74 BEARING PEDESTALS
26 — — — BD 104-73 ARMORED JOINT, DRAIN, SHEAR CONNECTORS, MISC. DETAILS
27 — — — BD 113-72 DIAPHRAGMS AND CROSSFRAMES
28 — — — BD 114-73 ALUMINUM RAILING
29 — — — AUG. 1969 (4)
30 — — — AUG. 1969 (11)
31 — — — AUG. 1969 (12)

STATE OF MAINE RICHARD A. LUETTICH, SR. 1728 REGISTERED PROFESSIONAL ENGINEER

As built 1975 H.E.

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

COMMISSIONER — DATE MARCH 24, 1975

BUREAU DIRECTOR AND CHIEF ENGINEER — DATE MARCH 24, 1975

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ENGINEER — DATE

JANUARY 1968

203-1 2080

172-73

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	2	31

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.25	Granular Borrow	7700	C.Y.
203.29	Selected Granular Material	1500	C.Y.
206.06	Str. Earth Excav-Drainage & Minor Strs.	10	C.Y.
206.07	Str. Rock Excav-Drainage & Minor Strs.	20	C.Y.
206.08	Str. Earth Excav.-Abuts. & Ret. Walls	300	C.Y.
206.09	Str. Rock Excav.-Abuts. & Ret. Walls	320	C.Y.
304.10	Aggregate Subbase Course-Gravel	875	C.Y.
501.216	Steel H-beam Piles 73 lbs./Ft.	345	L.F.
502.21	Structural Concrete, Abuts. & Retaining Walls	1155	C.Y.
502.26	Structural Concrete, Roadway & Sidewalk Slabs on Steel Bridges	1	L.S.
502.29	Structural Concrete, Wearing Surface on Bridges	1	L.S.
503.12	Reinforcing Steel, Fab. & Delivered	75,800	Lb.
503.13	Reinforcing Steel, Placing	75,800	Lb.
504.70	Structural Steel, Fab. & Delivered	1	L.S.
504.71	Structural Steel, Erection	1	L.S.
505.08	Shear Connectors	1	L.S.
507.141	Aluminum Bridge Railing, Type "A"	371	L.F.
512.07	French Drains (Stones Only)	46	C.Y.
513.09	Slope Protection-Port. Cem. Concrete	470	S.Y.
514.06	Curing Box for Concrete Cylinders	1	Each
515.20	Protective Coating for Concrete Surfaces	980	S.Y.
603.178	18 Inch Culvert Pipe, Option II	432	L.F.
609.13	Vertical Bridge Curb-Type 1	369	L.F.

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
613.07	Loam	165	C.Y.
616.08	Sodding	61	S.Y.
618.14	Seeding, Method Number 2	26	Unit
618.15	Temporary Seeding	10	Lb.
619.12	Mulch	54	Unit
629.05	Labor, Straight Time	10	M. Hr.
630.06	Traffic Officers	10	M. Hr.
631.13	Bulldozer (Inc. op.)	10	Hour
631.171	Truck-Small (Inc. op.)	10	Hour
631.22	Front End Loader (Inc. op.)	10	Hour
632.08	Warning Lights	2	Grp.
633.09	Portable Barricade	2	Each
639.09	Field Office, Type B	1	Each
657.201	Seed and Application, Method A	28	Unit
659.10	Mobilization	1	L.S.

ESTIMATED QUANTITIES OF LUMP SUM ITEMS

502.26	Structural Concrete, Roadway & Sidewalk Slabs on Steel Bridges	245	C.Y.
502.29	Structural Concrete, Wearing Surface on Bridges	68	C.Y.
504.70	Structural Steel, Fab. & Delivered	248,500	Lb.
504.71	Structural Steel, Erection	248,500	Lb.
505.08	Shear Connectors	2544	Lb.

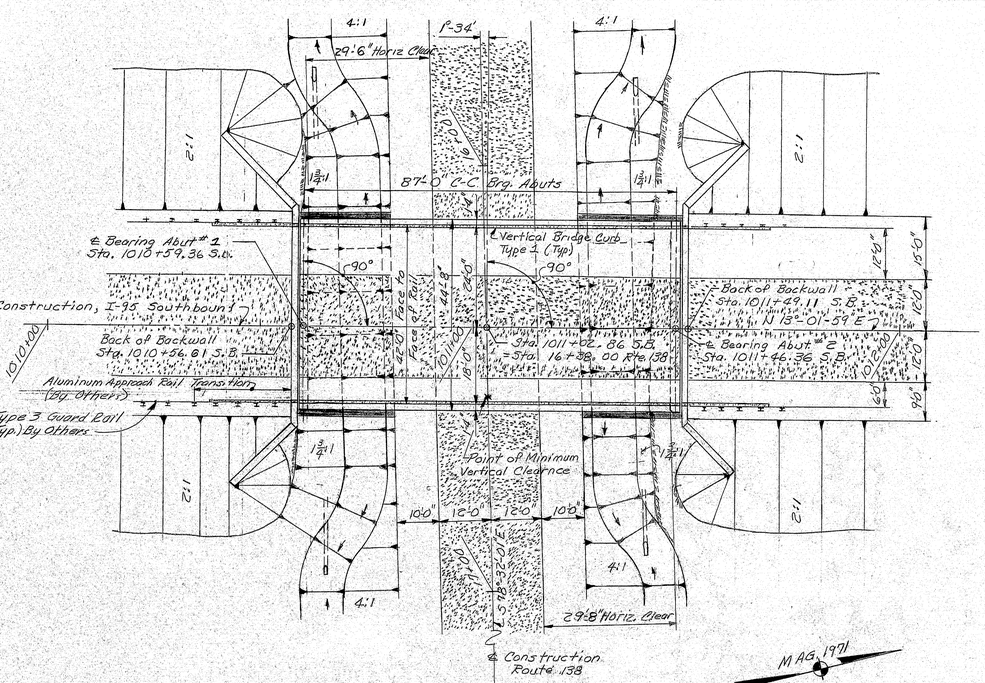
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

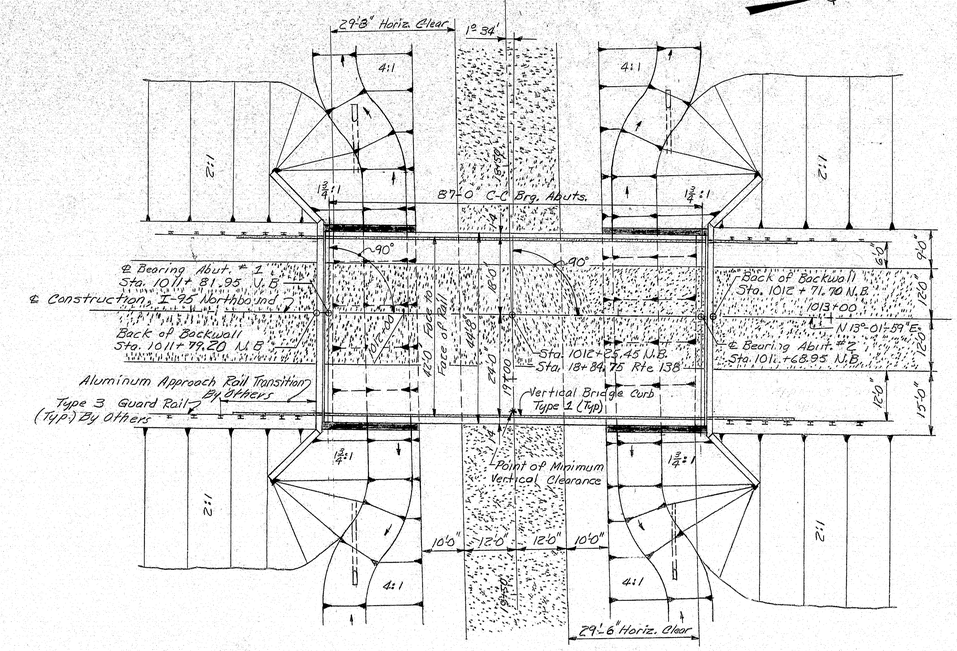
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
ESTIMATE OF QUANTITIES

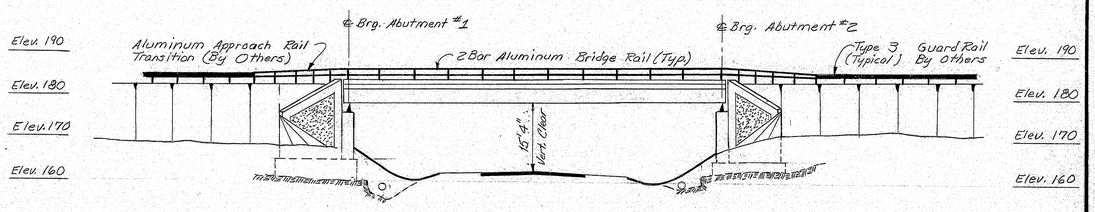
SHEET 2 OF 31 AUGUSTA, MAINE March 1975

172-74

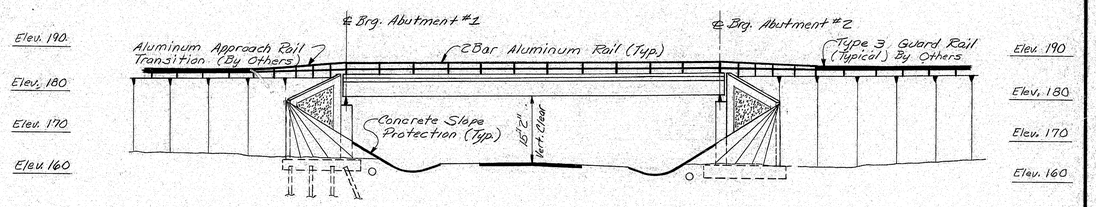
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	3	31.



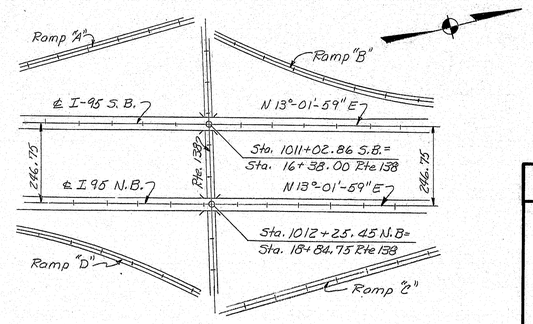




ELEVATION SOUTHBOUND



ELEVATION NORTHBOUND



LAYOUT

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN - DETAILED	RJL	3-75
CHECKED		
REVISIONS		
FIELD CHANGES		

As built 1975 Mod.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

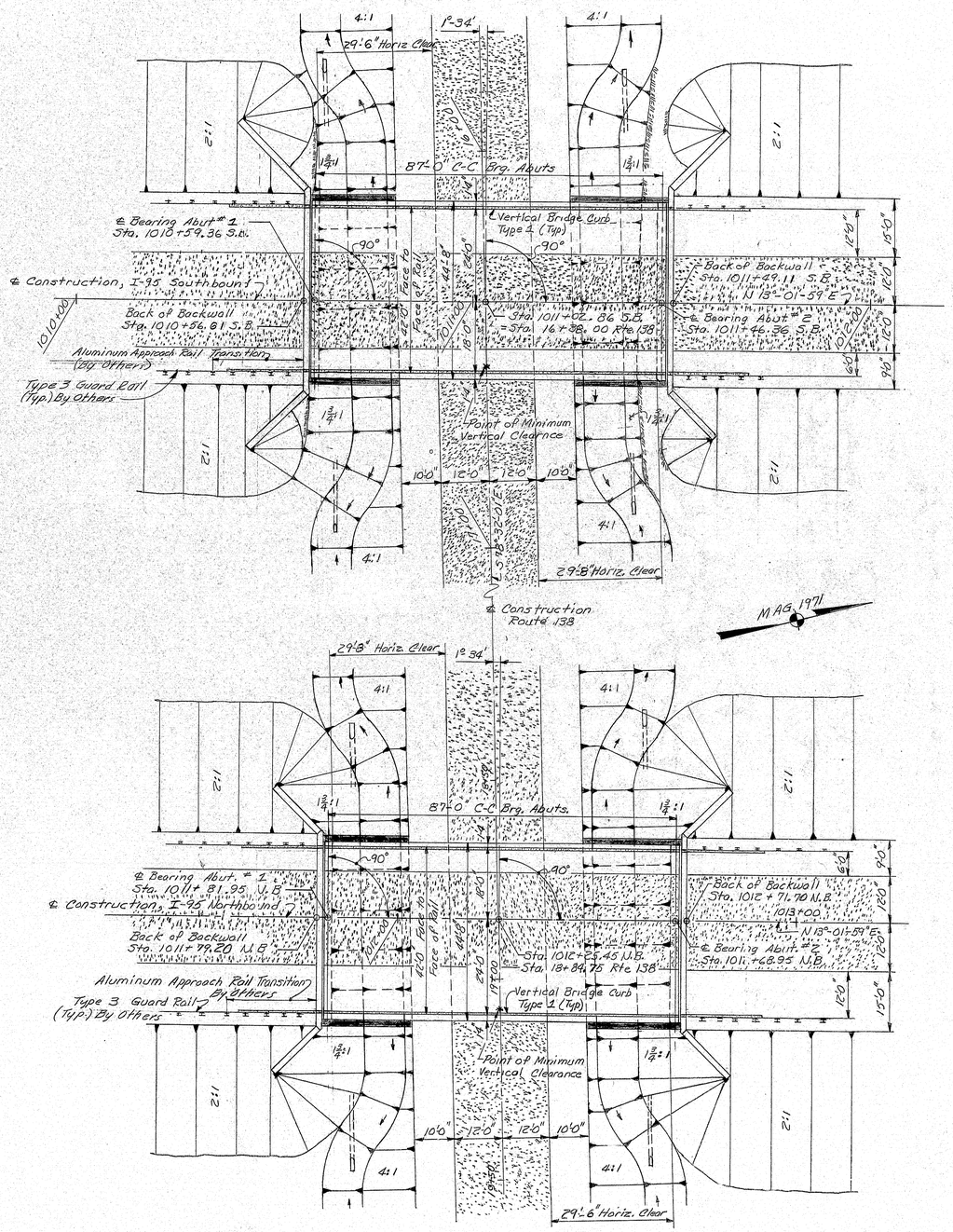
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
GENERAL PLAN

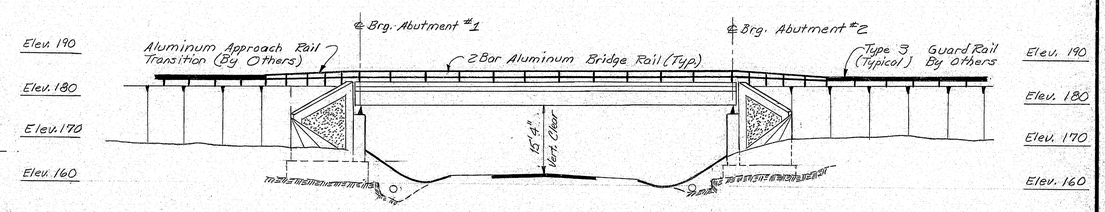
SHEET 3 OF 31 AUGUSTA, MAINE March

172-75

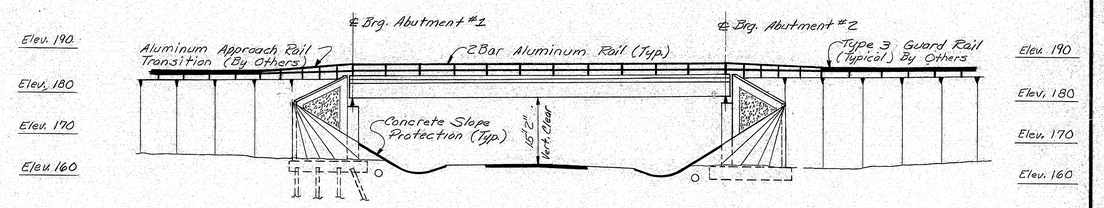
JANUARY 1968

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	3	31

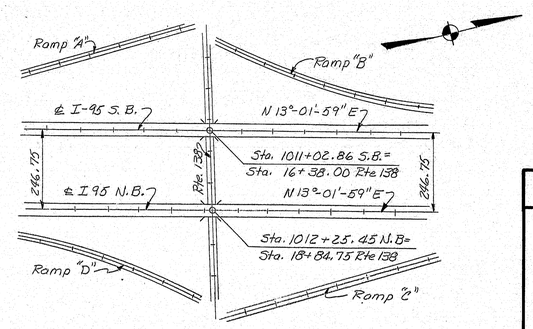




ELEVATION SOUTHBOUND



ELEVATION NORTHBOUND



LAYOUT

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN - DETAILED		
CHECKED	RJL	3-75
REVISIONS		
FIELD CHANGES		

As built 1975 H&H.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

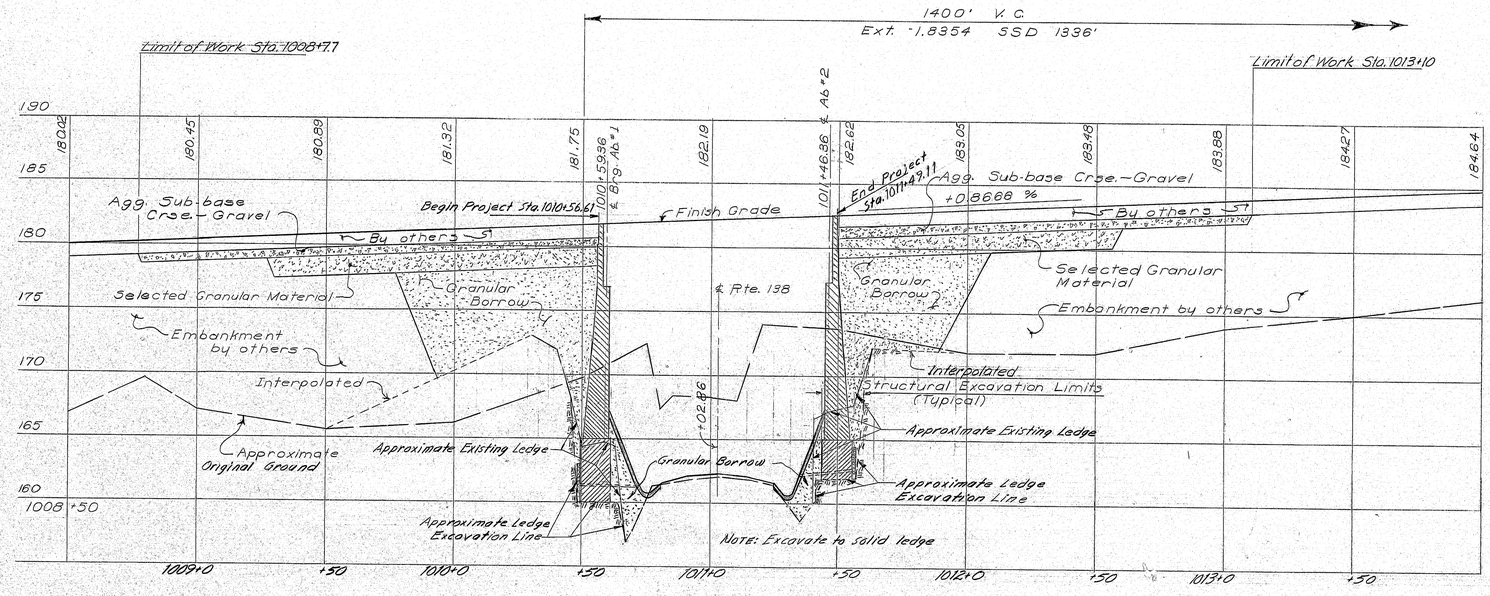
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
GENERAL PLAN

SHEET 3 OF 31 AUGUSTA, MAINE March

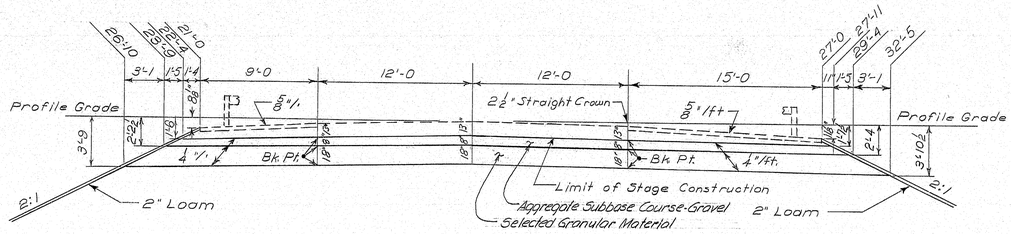
172-75

JANUARY 1968

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	4	32



EMBANKMENT PROFILE
I-95 S.B.



TYPICAL APPROACH SECTION I-95

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN-DETAILED	Trapham	3-75
CHECKED	PJL	3-75
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

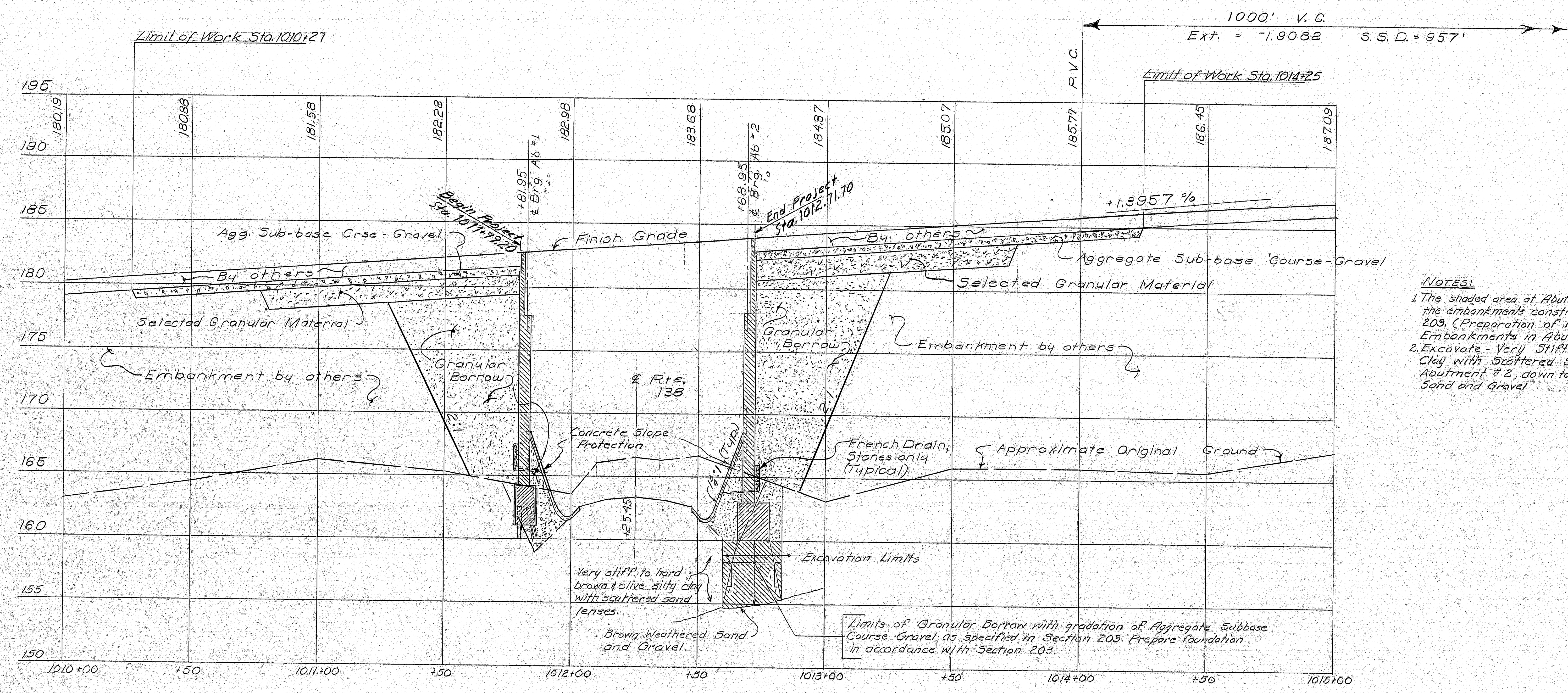
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
EMBANKMENT PROFILE SOUTHBOUND

SHEET 4 OF 31 AUGUSTA, MAINE March 1975

172-76

JANUARY 1968

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	5	31



EMBANKMENT PROFILE
I-95 NB.
For Typical Section I-95 see sheet #4

NOTES:

1. The shaded area at Abutment #2 shall be prepared and the embankments constructed in accordance with Section 203. (Preparation of Foundation and Construction of Embankments in Abutment and Pier Areas)
2. Excavate - Very Stiff to Hard Brown and Olive Silty Clay with Scattered Sand Lenses (cross hatched area) Abutment #2, down to Limits of the Brown Weathered Sand and Gravel

PLANS		BY	DATE
	PROJECT DESIGN ENGINEER		
	DESIGN - DETAILED	Pinkham	2-75
	CHECKED	RJL	3-75
	REVISIONS		
	FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

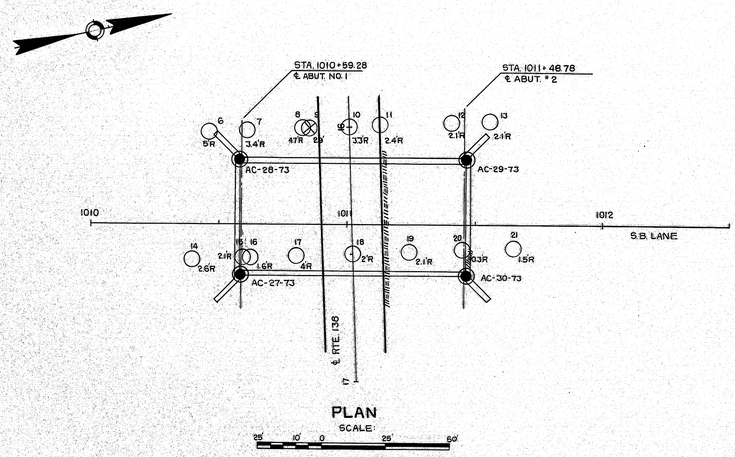
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
EMBANKMENT PROFILE NORTHBOUND

SHEET 5 OF 31 AUGUSTA, MAINE March 1975

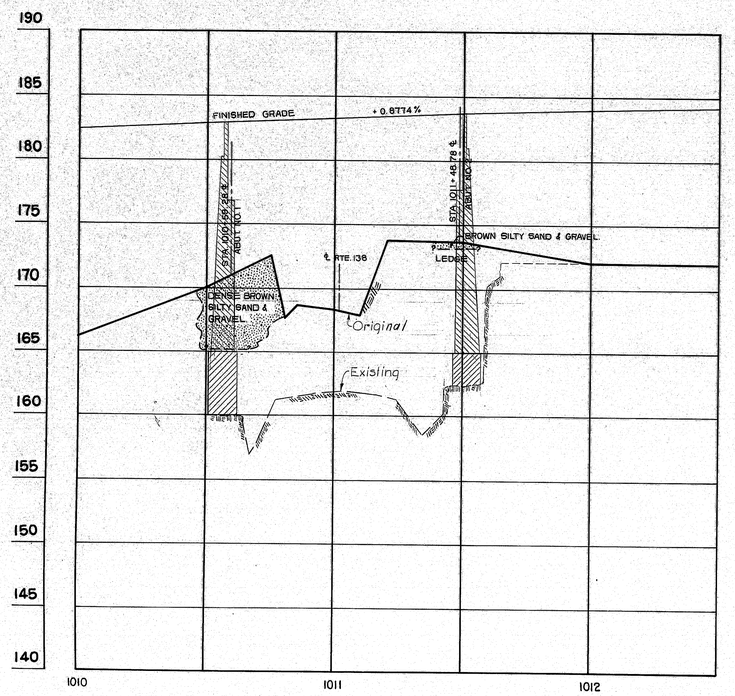
JANUARY 1969

172-77

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	6	31



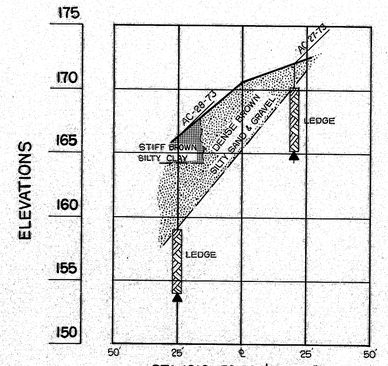
PLAN
SCALE: 25' 10' 0 25' 50'



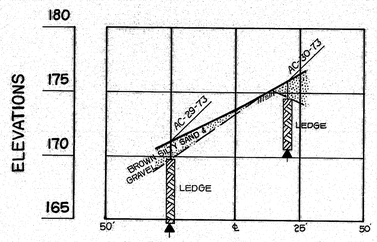
PROFILE
SCALE: 25' 10' 0 25' 50'

ROD SOUNDING RESULTS

SOUNDING NUMBER	GROUND ELEVATION	REFUSAL ELEVATION
6	165.3	160.3
7	166.1	162.7
8	166.0	161.3
9	167.0	164.1
10	167.2	163.9
11	167.6	165.2
12	168.8	166.7
13	168.6	166.5
14	170.6	168.0
15	172.4	170.3
16	172.6	171.0
17	170.0	166.0
18	168.7	166.7
19	174.1	172.0
20	174.5	174.2
21	174.0	172.5



STA. 1010+59.28 ℄ ABUT. #1



STA. 1011+48.78 ℄ ABUT. #2

TRANSVERSE SECTIONS
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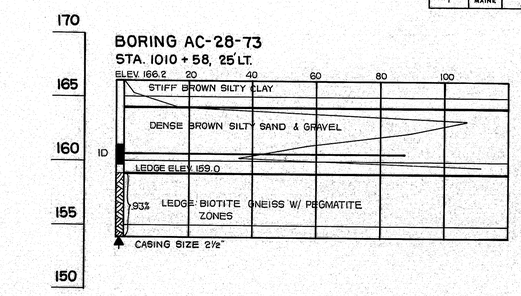
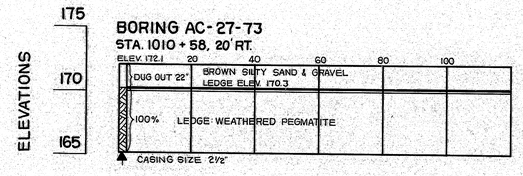
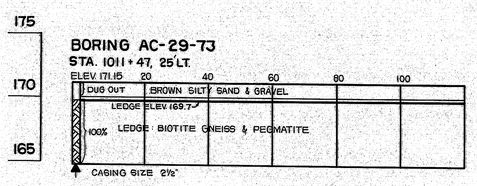
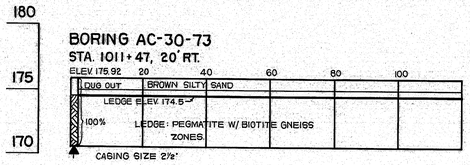








PLANS		BY	DATE
	DESIGN - DETAILED	RVL	3-75
	CHECKED		
	REVISIONS		
	FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

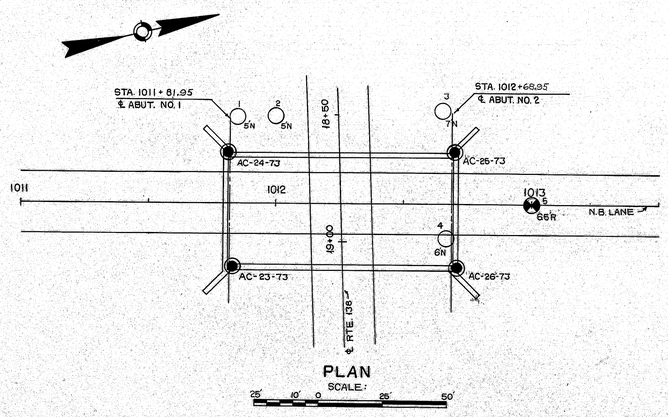
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
FOUNDATION SURVEY S.B.

SHEET 6 OF 31, AUGUSTA, MAINE March 1975

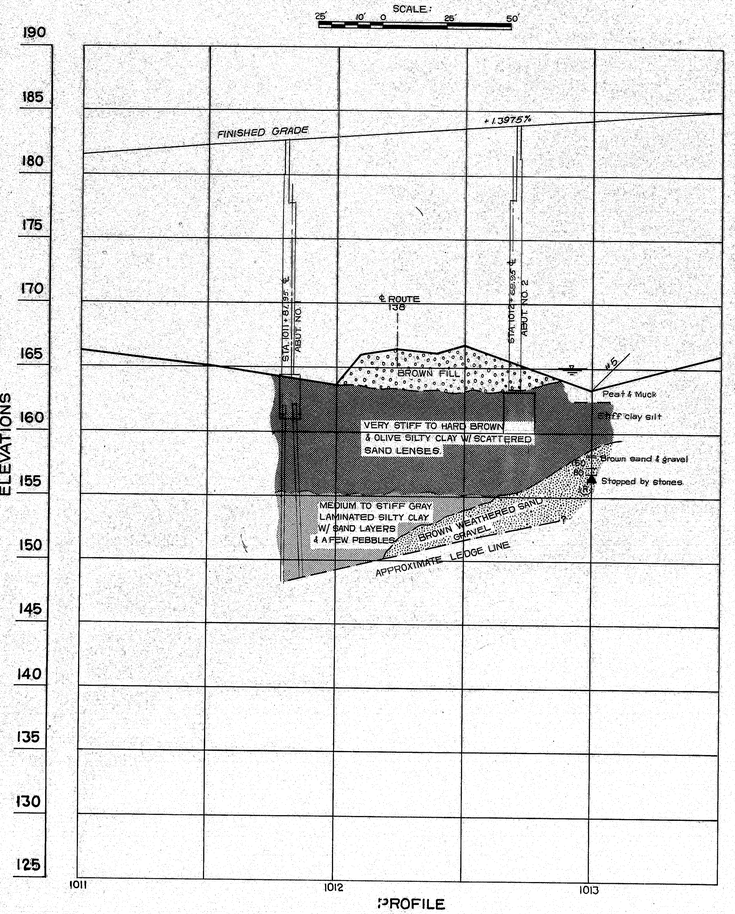
JANUARY 1968

172-78

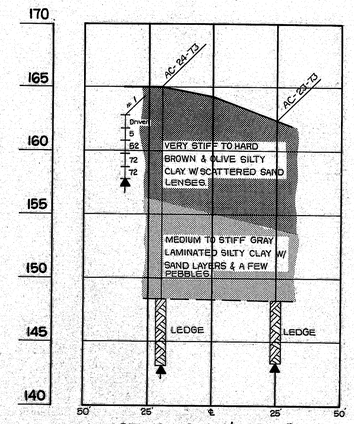
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	7	31



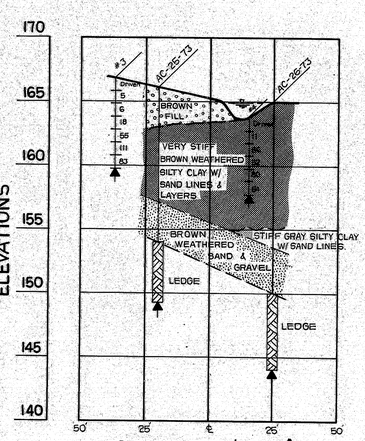
PLAN
SCALE: 25' 10' 0 25' 50'



PROFILE
SCALE: 25' 10' 0 25' 50'



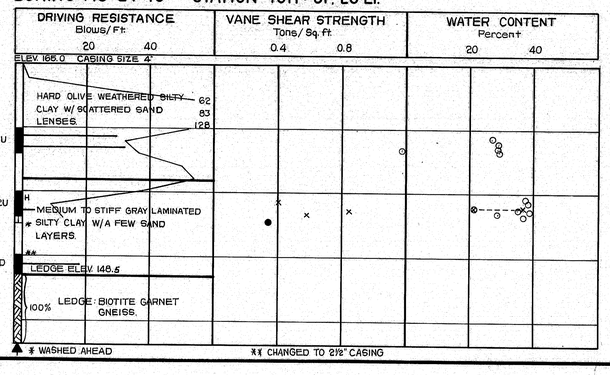
STA. 1011+82.03 ℄ ABUT. #1



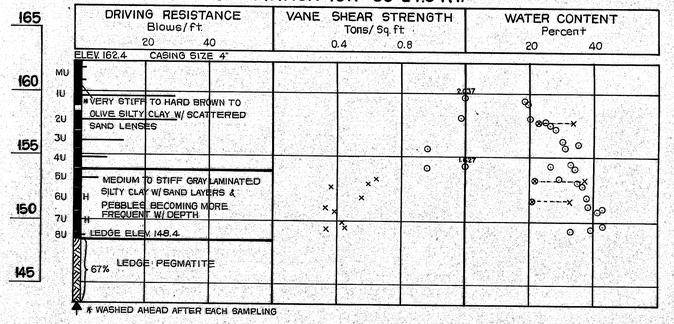
STA. 1012+70.53 ℄ ABUT. #2

TRANSVERSE SECTIONS SCALE: 25' 10' 0 25' 50'

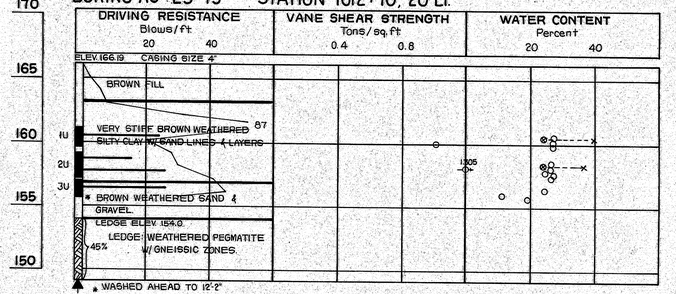
BORING AC-24-73 STATION 1011+81, 20' LT.



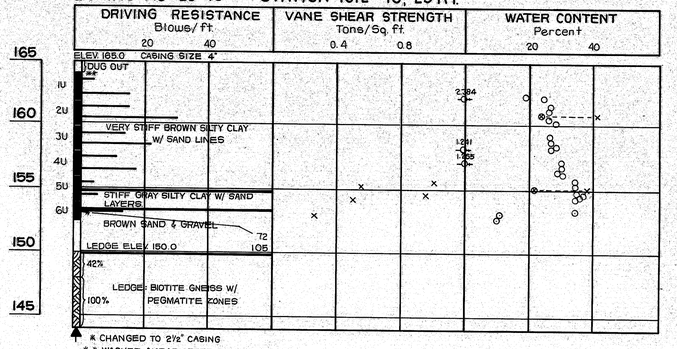
BORING AC-23-73 STATION 1011+83 24.5 RT.



BORING AC-25-73 STATION 1012+70, 20' LT.



BORING AC-26-73 STATION 1012+70, 25' RT.



BORING NOTES

- ALL SAMPLES AND VANES ARE MADE AHEAD OF CASING
- WATER ELEVATION
- 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
- NUMBER AND TYPE OF DRY SAMPLE
  - SD SAMPLER #1290's
  - 3 1/2" O.D. 16 GUAGE SEAMLESS TUBING
- NUMBER OF BLOWS REQUIRED TO DRIVE SPOON OR TUBING ONE FOOT WITH 350 FOOT POUNDS OF ENERGY PER BLOW
- SAMPLING SPOON OR SEAMLESS TUBING DRIVEN BY STATIC WEIGHT OF DRILL RODS AND HAMMER
- FIELD VANE TEST
- BOTTOM OF BORING (MAY NOT BE BOTTOM OF SOIL STRATA)
- REFUSAL OF DRILL RODS OR CASING (MAY NOT BE LEDGE)
- LOCATIONS CORED BY DIAMOND BIT AND PER CENT RECOVERY OF ROCK

SHEAR NOTES

- FIELD VANE SHEAR STRENGTHS
- LABORATORY VANE SHEAR STRENGTHS
- SHEAR STRENGTHS IN EXCESS OF CAPACITY OF EQUIPMENT
- ONE HALF UNCONFINED COMPRESSIVE STRENGTHS

WATER CONTENT NOTE

- NATURAL WATER CONTENTS, GIVEN AS PER CENT OF DRY WEIGHT
- PLASTIC AND LIQUID LIMITS

PLANS	BY	DATE
DESIGN - DETAILED		
CHECKED		
REVISIONS	RJL	3-75
FIELD CHANGES		

JANUARY 1969

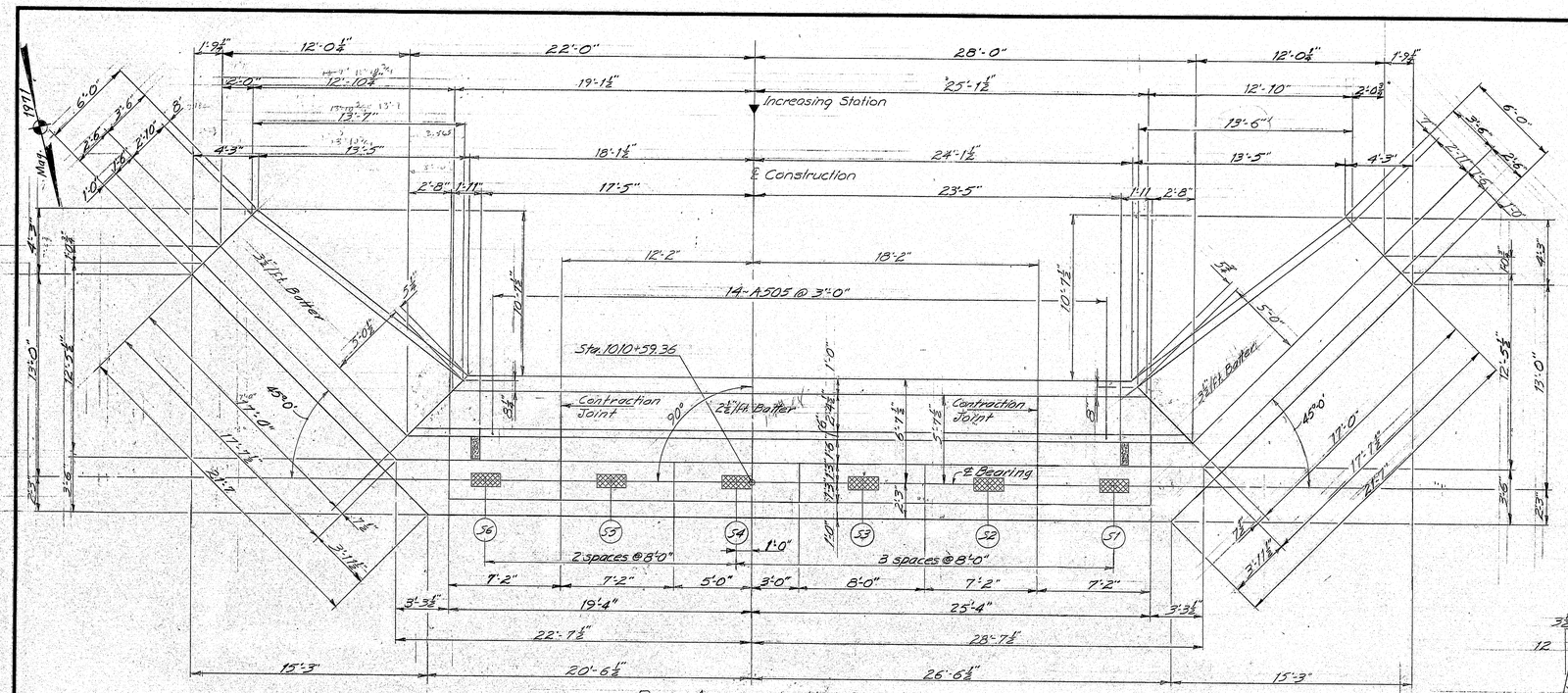
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
FOUNDATION SURVEY N.B.

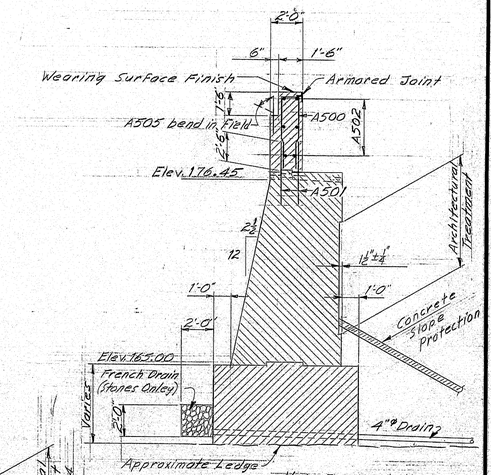
SHEET 7 OF 31 AUGUSTA, MAINE March 1975

172-79

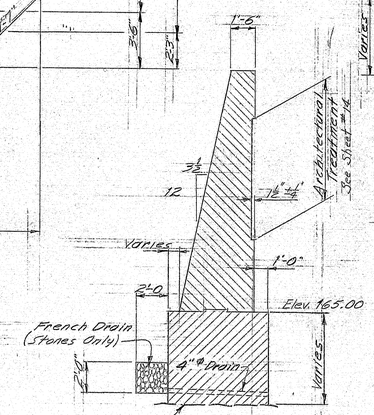
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	8	31



PLAN ABUTMENT No. 1 SOUTHBOUND



SECTION A-A

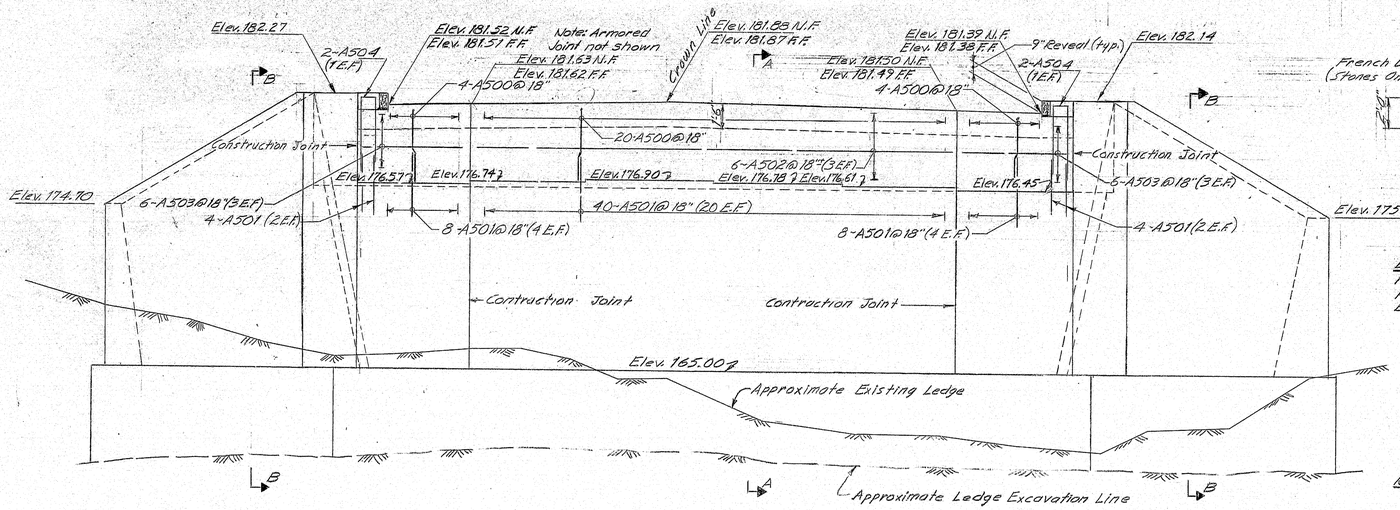


SECTION B-B

ABUTMENT PROTECTION NOTE

The abutment bridge seats and breastwalls shall be protected from rust staining by leaving forms in place temporarily or by covering the concrete after removal of forms. Polyethylene sheets, or other approved material, shall be placed on and around the abutment bearing areas prior to setting the bearing pedestals and shall extend underneath the masonry plates such that water will run off the pedestals onto the sheets. Protective covering of either forms or polyethylene sheeting shall remain in place at least until concrete placement for the Structural Concrete Slab has been completed, and as long after that time as convenient for the contractor. In any case the contractor shall obtain approval of the Engineer prior to removing the protective covering.

Removal of stains will not be required unless, in the opinion of the Engineer, the contractor has not made satisfactory effort to prevent staining.



ELEVATION - ABUTMENT #1 SOUTHBOUND

LEGEND
N.F. : Near Face
F.F. : Far Face
E.F. : Each Face

REFERENCES
For Armored Joint Details see BD-104(73) Sheet #26
For Slope Protection see sheet #20
For Abutment Notes see sheet #12

PROJECT DESIGN ENGINEER	BY	DATE
PLANS DESIGN - DETAILED	G.O.T.	3-73
CHECKED	P.J.L.	3-73
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

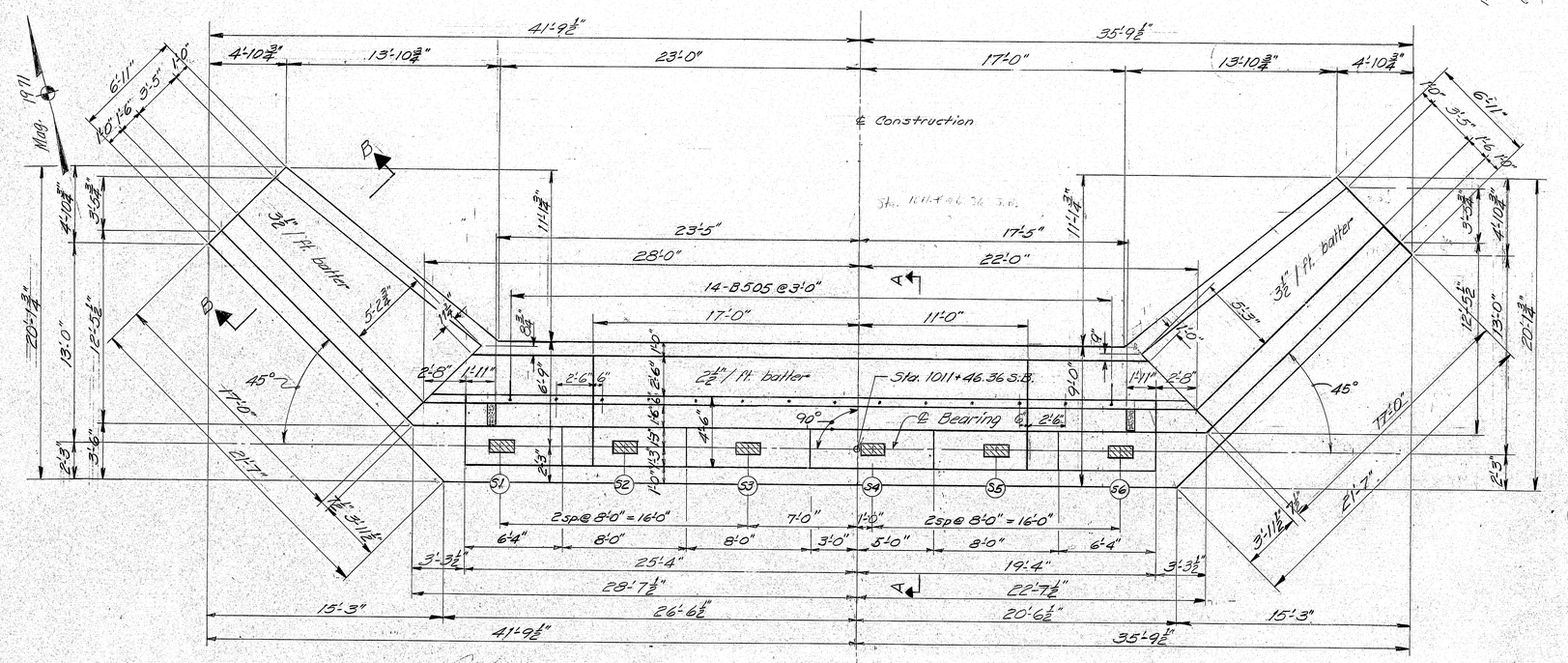
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
ABUTMENT NO. 1 SOUTHBOUND

SHEET 8 OF 31 AUGUSTA, MAINE March 1975

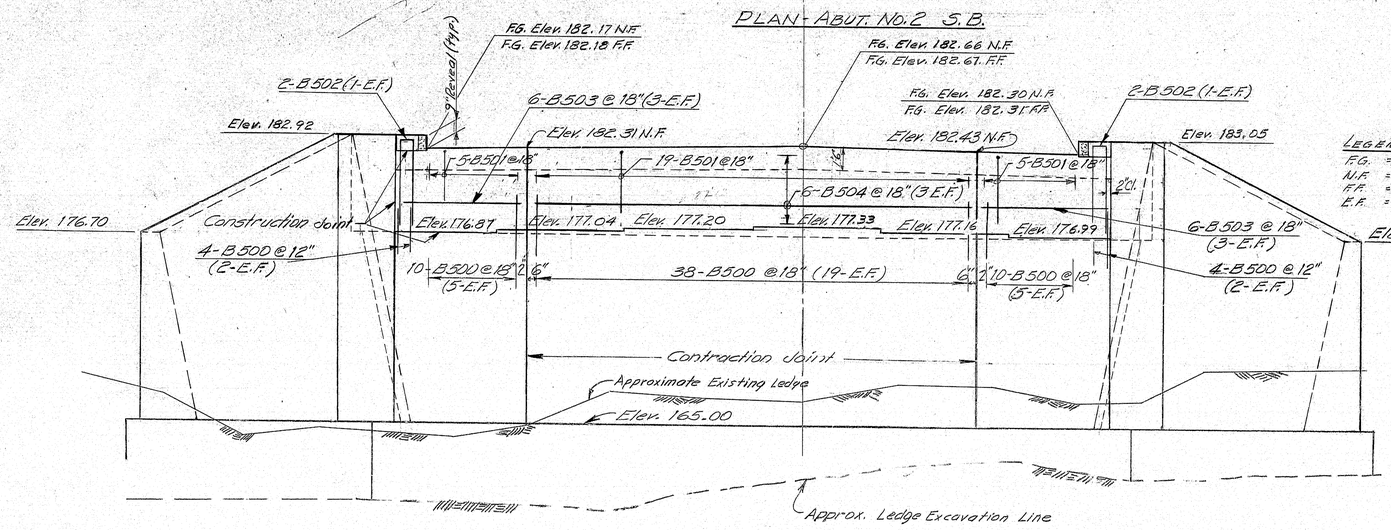
JANUARY 1969

172-80

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	9	31



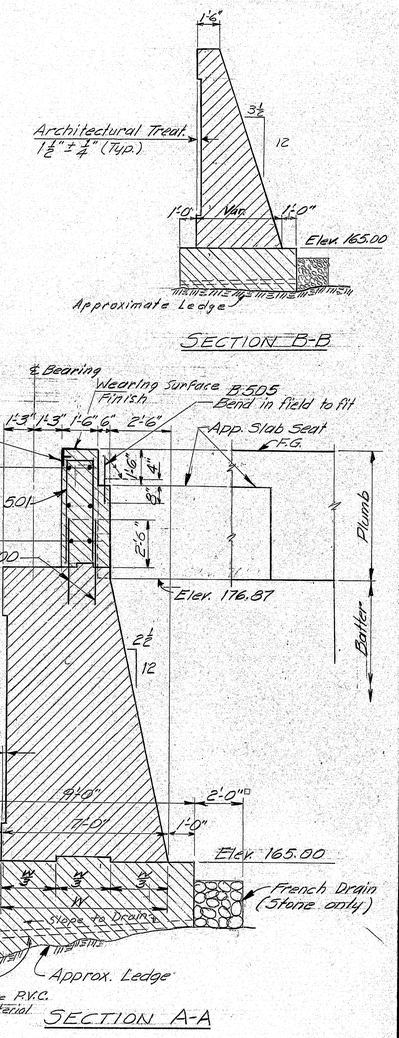
PLAN - ABUT. No. 2 S.B.



ELEVATION - ABUT. No. 2 S.B.

LEGEND

F.G. = Finish Grade
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face



REFERENCES

For concrete slope protection see sh. # 20

For Architectural Treatment see sh. # 14

For Armored Joint details see sh. # 26 (BD 104-73)

For General Notes see sh. # 12

For Abut. Protection Note See sh. # 8

PROJECT DESIGN ENGINEER	BY	DATE
PLANS DESIGN - DETAILED	G.D.T.	2-74
CHECKED	R.W.K.	3-74
REVISIONS	R.H.L.	3-75
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

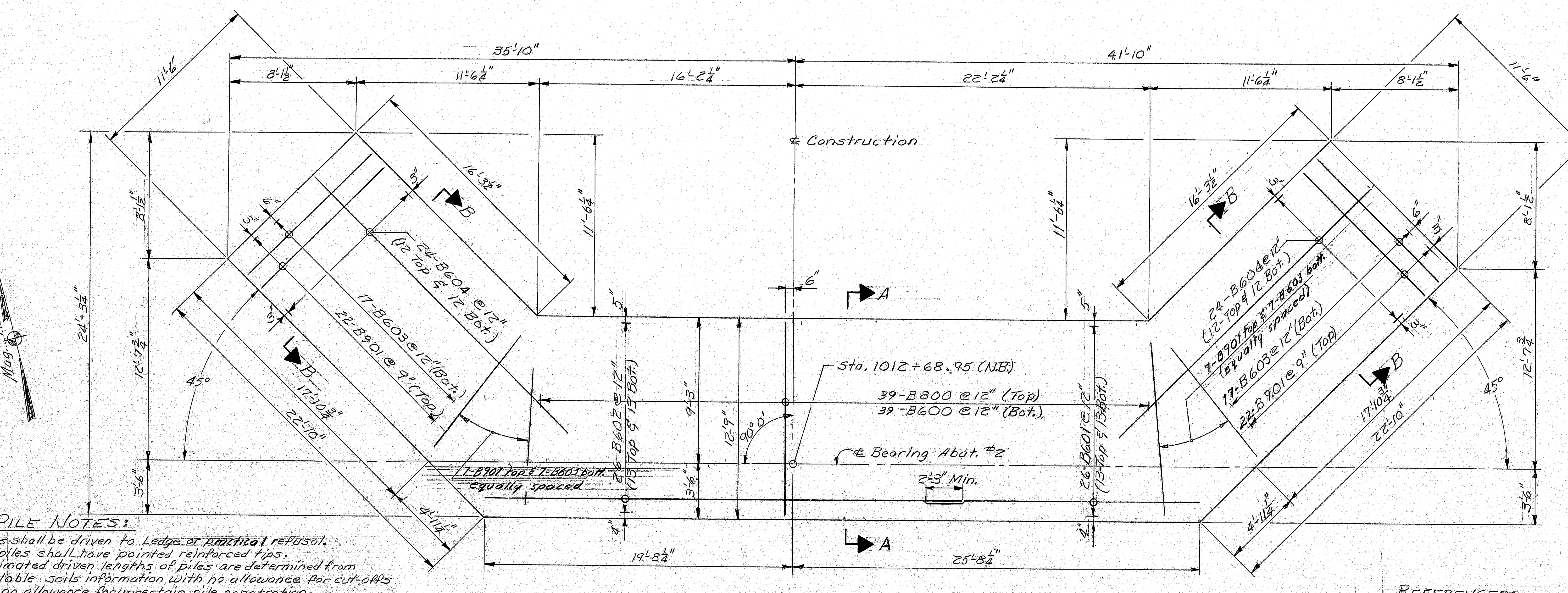
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
ABUTMENT NO. 2 SOUTHBOUND

SHEET 9 OF 31 AUGUSTA, MAINE March 1975

JANUARY 1968

172-81

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	10	31



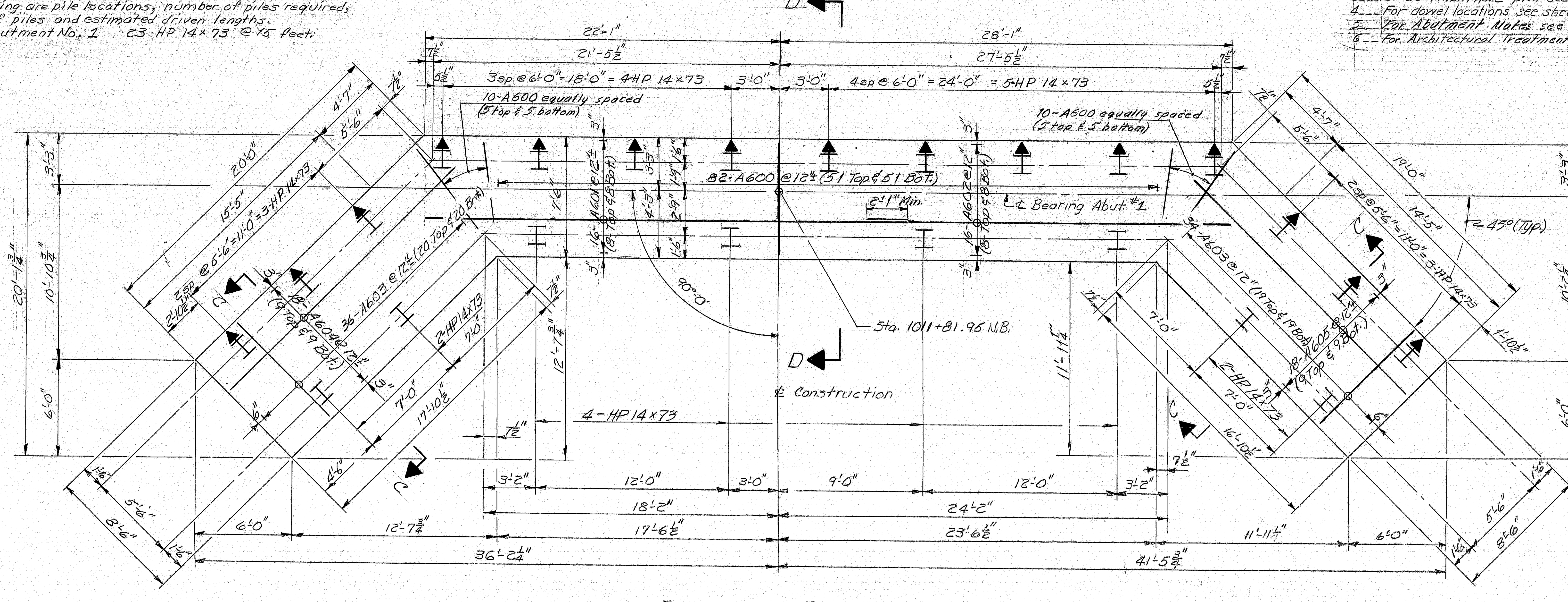
Pile Notes:

1. Piles shall be driven to Ledge or practical refusal.
2. All piles shall have pointed reinforced tips.
3. Estimated driven lengths of piles are determined from available soils information with no allowance for cut-offs and no allowance for uncertain pile penetration.
4. Piles marked thus, H→, shall be battered 3 inches per foot in the direction of the arrow
5. Maximum pile load equals: 96 tons.
6. Following are pile locations, number of piles required, size of piles and estimated driven lengths.
   Abutment No. 1   23-HP 14×73 @ 15 feet.

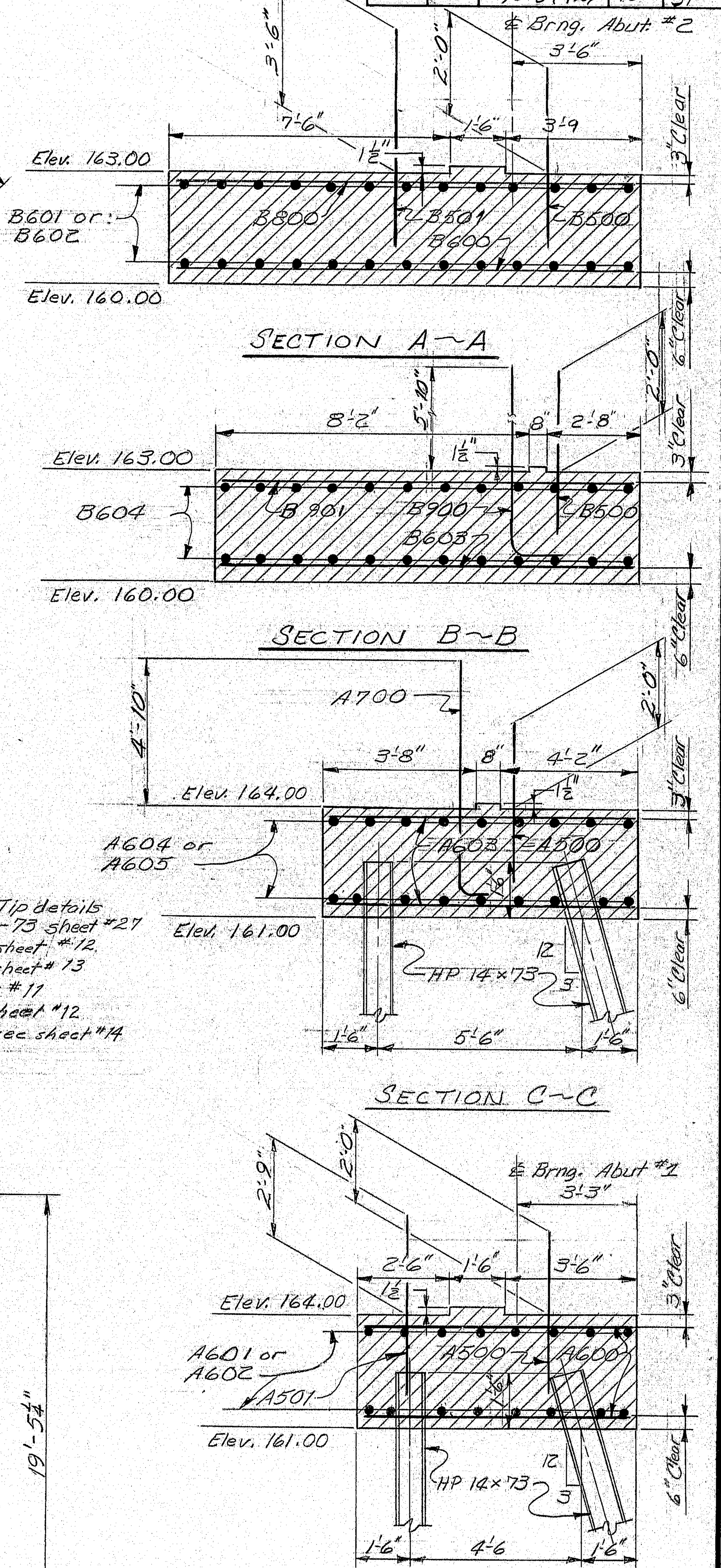
Footing Abutment No. 2

References:

1. For Pointed Reinforced Pile Tip details see Standard Details BD 104-73 sheet #27
2. For abutment no. 1 plan see sheet #12.
3. For abutment no. 2 plan see sheet #13
4. For dowel locations see sheet #11
5. For Abutment Notes see sheet #12
6. For Architectural Treatment see sheet #14



Footing and Pile Plan
Abutment No. 1



PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	GOT	
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

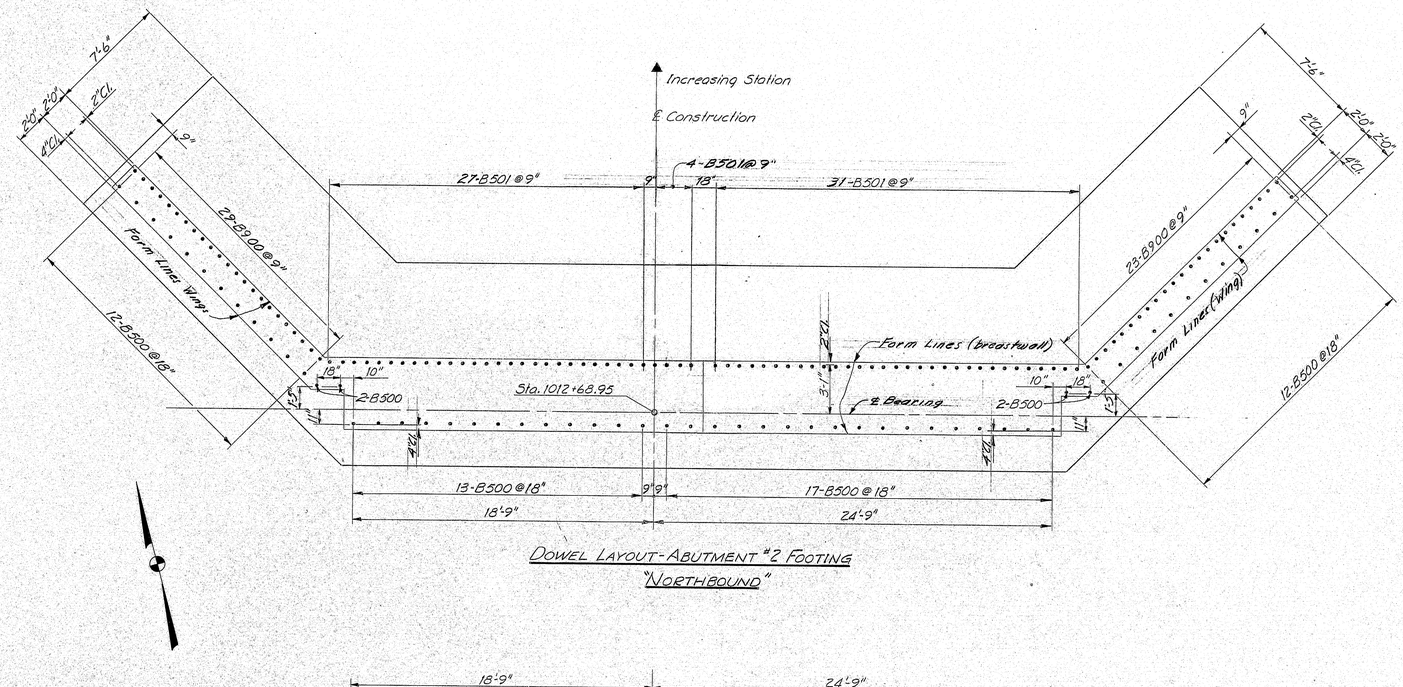
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
FOOTING DETAILS NB

SHEET 10 OF 31 AUGUSTA, MAINE March

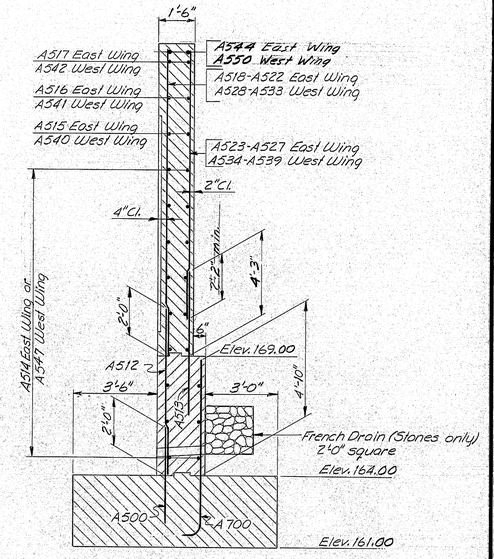
JANUARY 1969

172-82

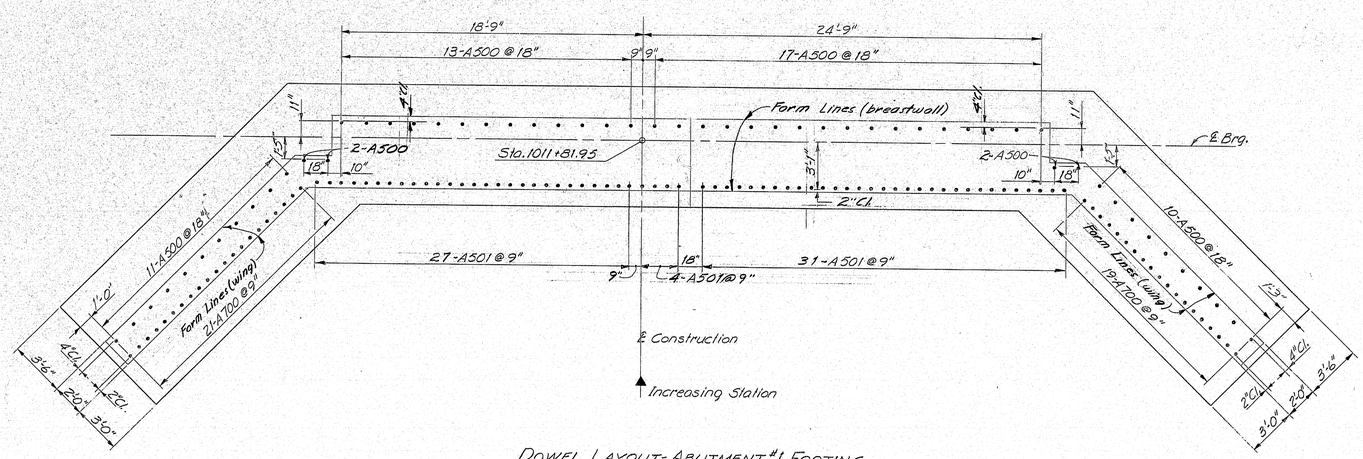
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	11	31



DOWEL LAYOUT - ABUTMENT #2 FOOTING
"NORTHBOUND"



SECTION B-B
ABUTMENT #1
Sheet 12



DOWEL LAYOUT - ABUTMENT #1 FOOTING
"NORTHBOUND"

REFERENCES
For Abutment Notes see Sheet #12

LEGEND
Cl. = Clear

PROJECT	DESIGN ENGINEER	BY	DATE
PLANS	DESIGN - DETAILED	G.O.T.	2-2075
	CHECKED	R.C.B.	2-25
	REVISIONS	A.L.	
	FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

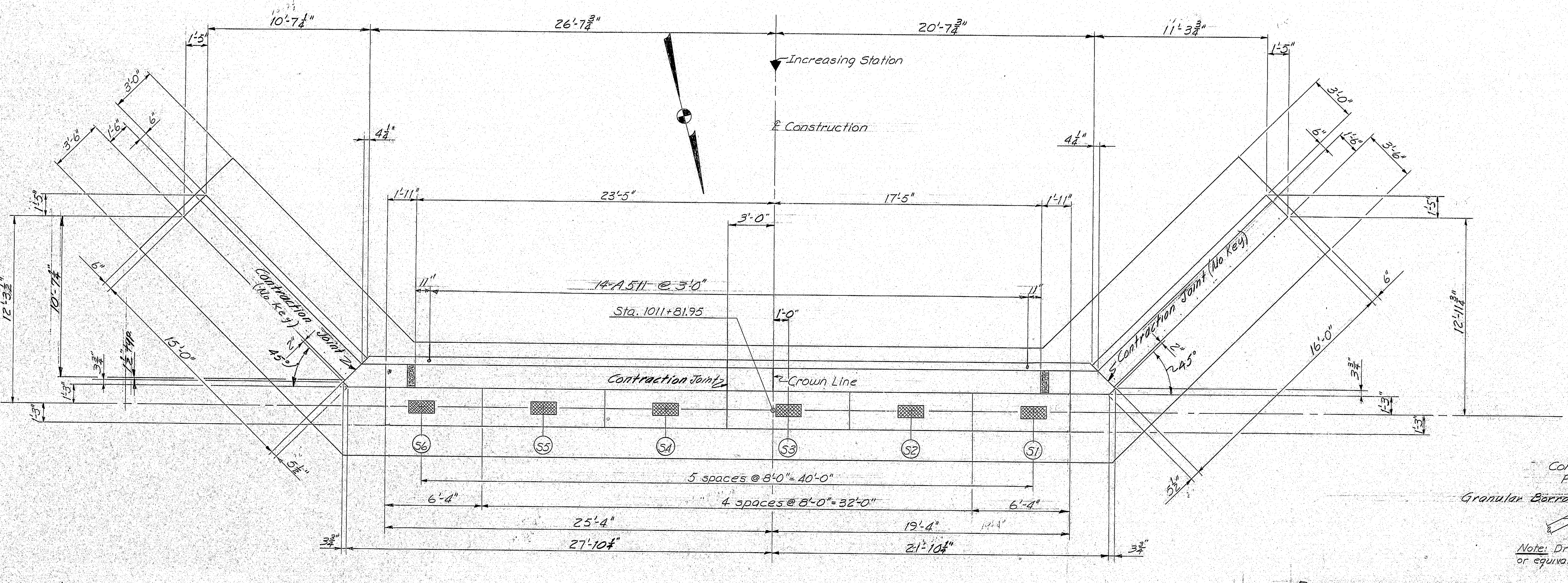
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
DOWEL LAYOUT FOOTINGS NB

SHEET 11 OF 31 AUGUSTA, MAINE March 19

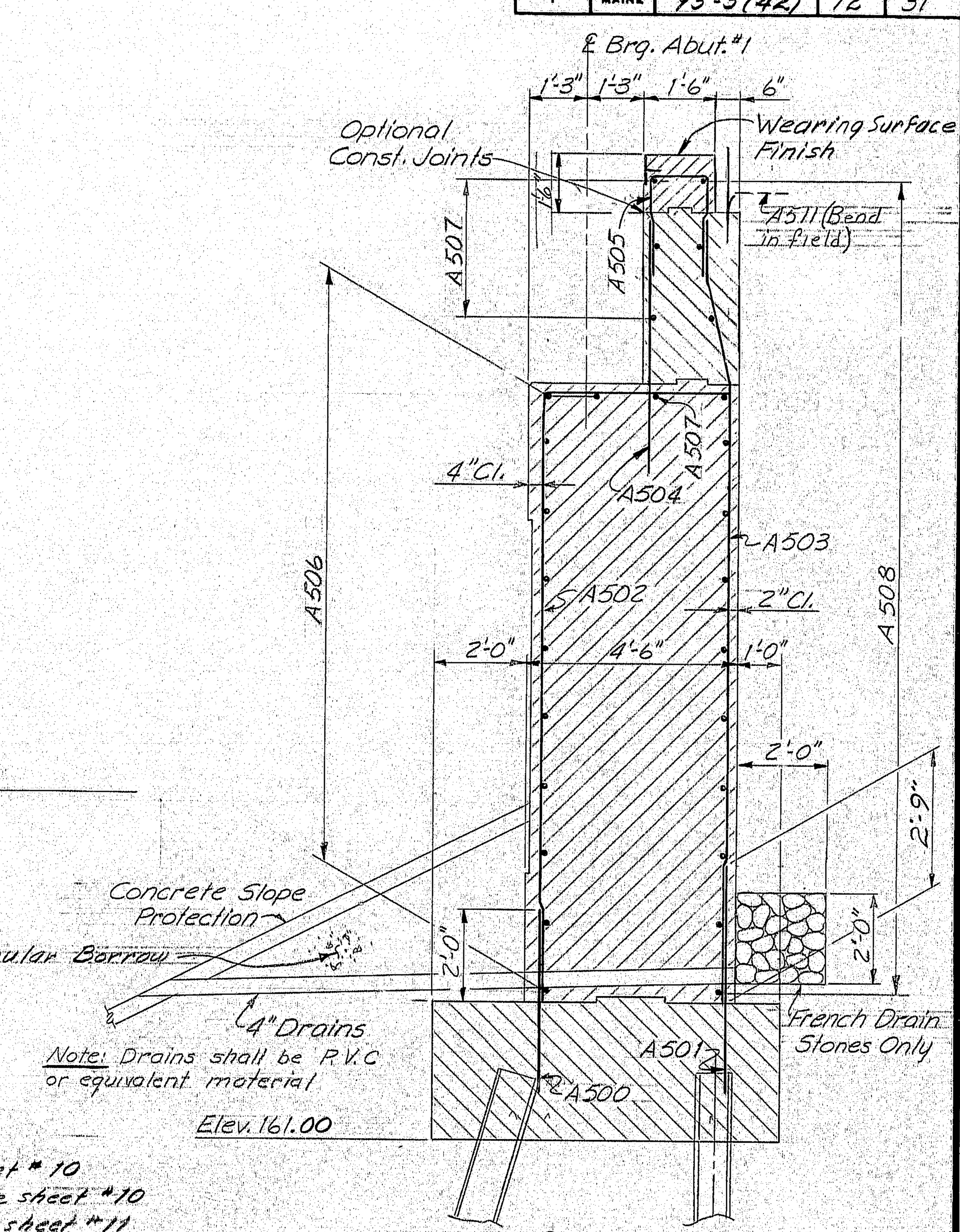
JANUARY 1968

172-83

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	12	31



PLAN - ABUTMENT #1 NORTHBOUND



SECTION A-A

REFERENCES

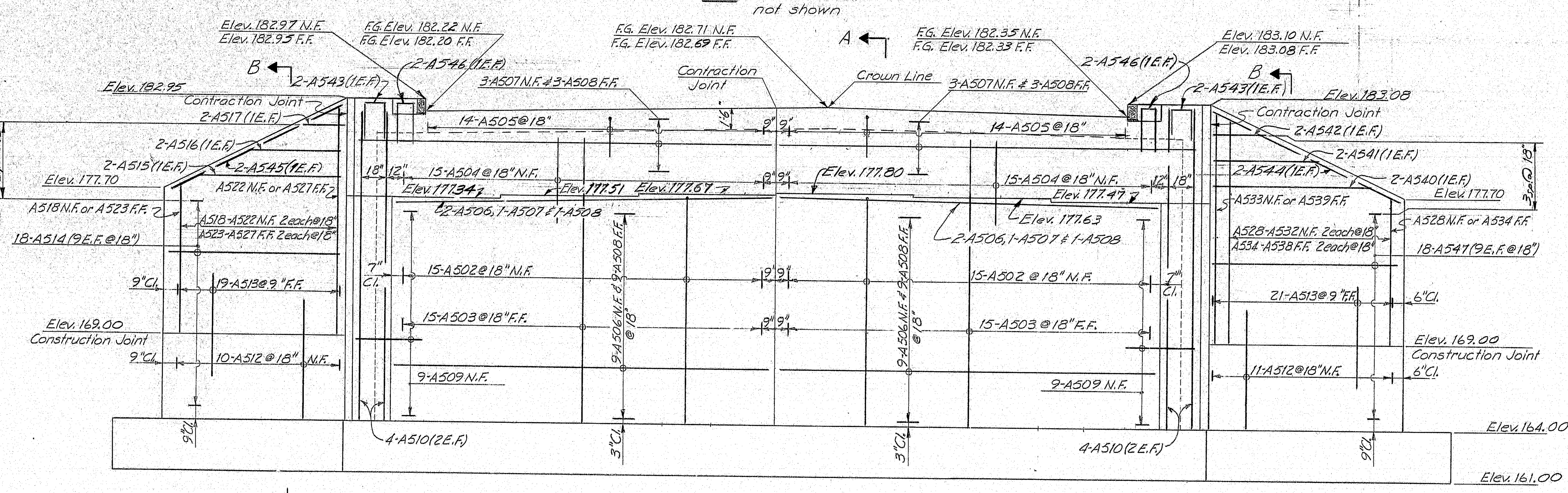
For Pile Plan & Notes see sheet # 10
For Footing Plan & Sections see sheet # 10
For Footing Dowel Layout see sheet # 11
For Architectural Treatment see sheet # 15
For Armored Joint see BD 104-73 sheet # 26
For Slope Protection see sheet # 21

For Section B-B see sheet # 11
For Abutment Protection Note see sheet # 8

ABUTMENT NOTES

1. Chamfer all exposed edges of concrete ½ inch unless otherwise indicated.
2. Reinforcing steel shall have 2 inches cover unless otherwise indicated.
3. Place reinforcing steel in bridge seats to clear anchor bolts.
4. Break bond at vertical contraction joints by a method approved by the Engineer.
5. Polyvinylchloride waterstops shall be placed in all vertical contraction and expansion joints.
6. Waterstops are not required in horizontal construction joints.
7. Protective Coating for Concrete Surfaces shall be applied to top of backwall and Top of parapets.
8. Maximum footing toe pressure is 3.6 tons per square foot Abutment No. 2.
9. Place 4 inch diameter drains in breastwall and wings at 20 foot maximum spacing and at all low points in ledge. Exact location to be determined by the Engineer in the field. Extend drains through Slope Protection
10. For details of Construction & Contraction Joints see Standard Sheet BD 104-73.

Note: Armored Joint not shown



LEGEND

F.G. = Finished Grade
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

ELEVATION - ABUTMENT #1 NORTHBOUND

PROJECT DESIGN ENGINEER	BY	DATE
PLANS DESIGN-DETAILED	G.O.T.	8-20-73
CHECKED	R.C.B.	
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY

ABUTMENT NO. 1 NORTHBOUND
SHEET 12 OF 31 AUGUSTA, MAINE March 1975

172-84

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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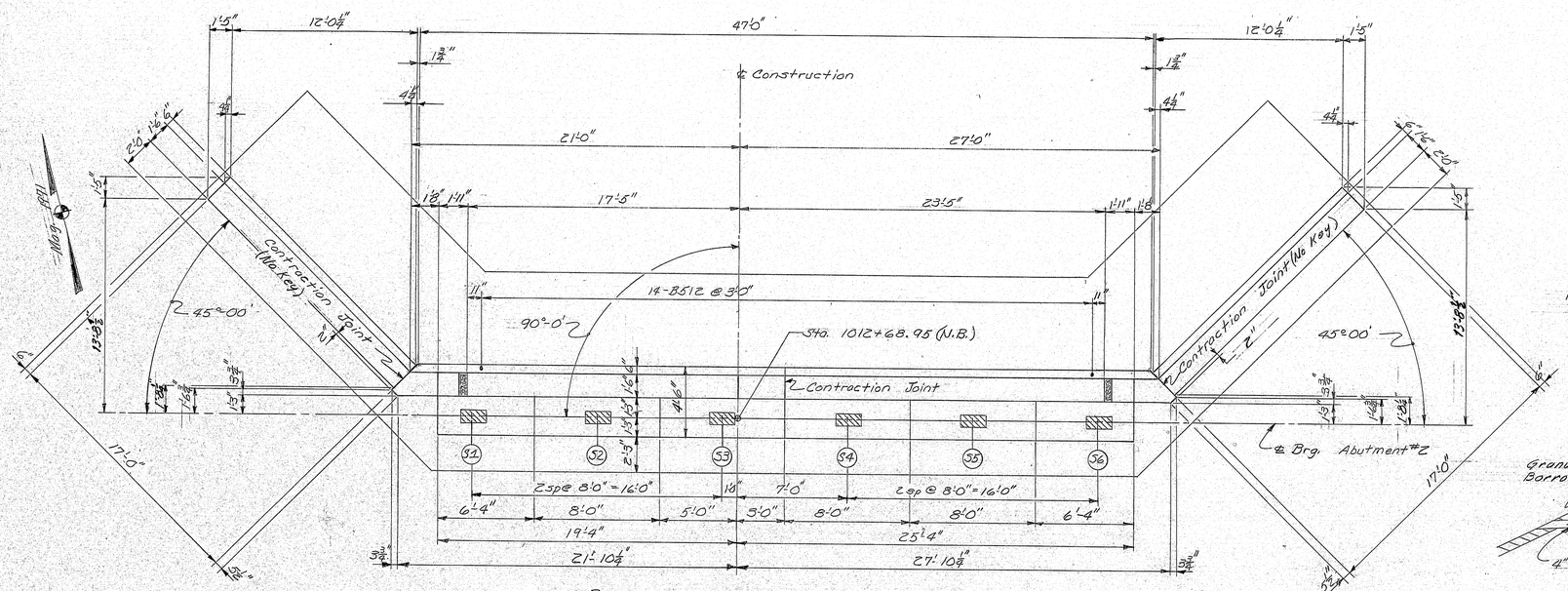
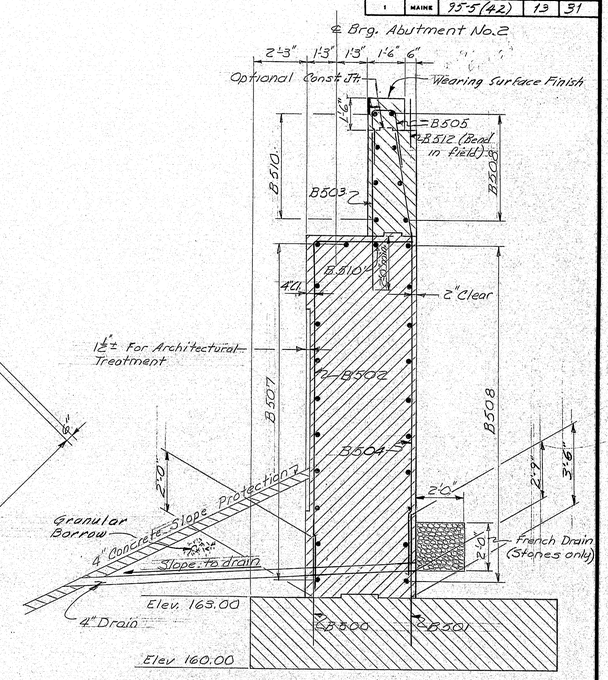
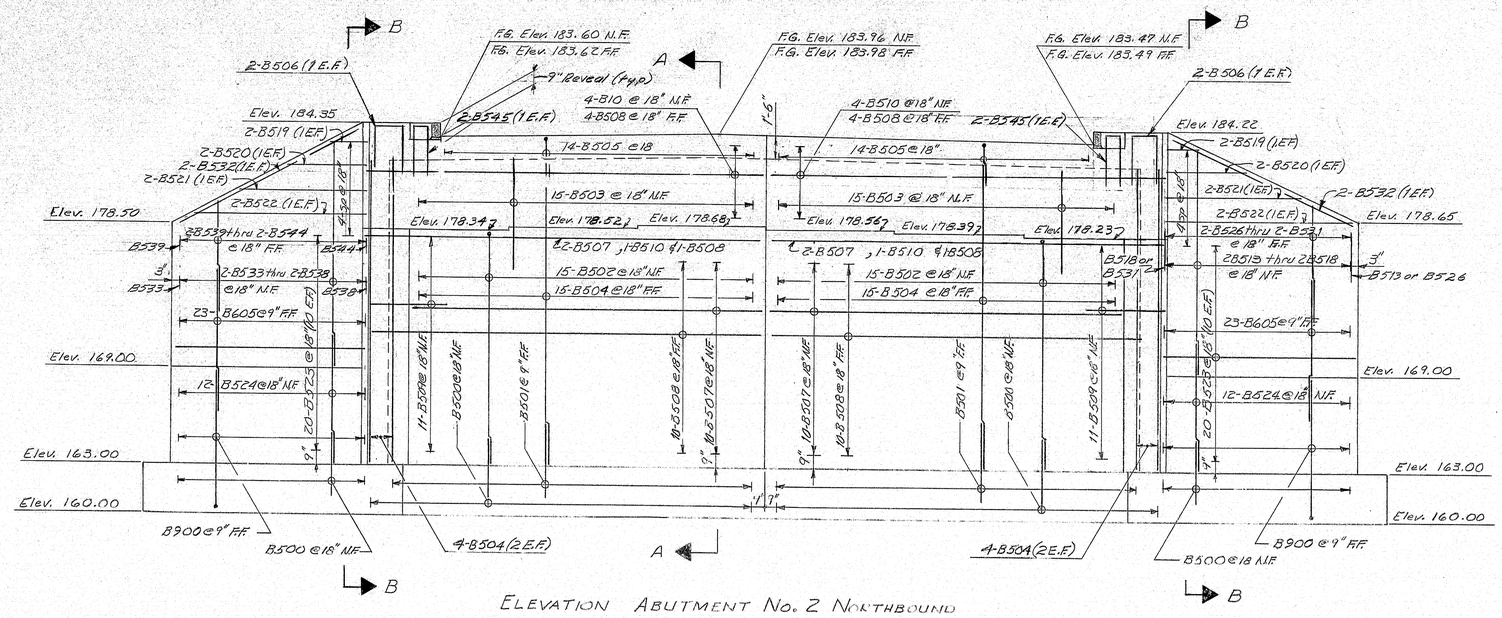


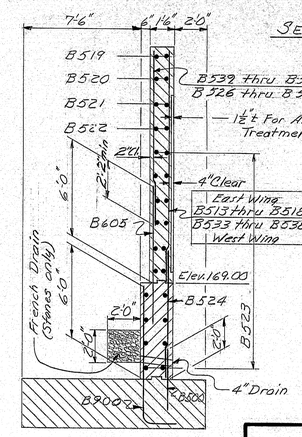
PLAN ABUTMENT NO. 2 NORTHBOUND



SECTION A-A



ELEVATION ABUTMENT NO. 2 NORTHBOUND



SECTION B-B

REFERENCES:

For Footing Details See Sheet #10
For Dowel Layout See Sheet #11
For Armored Joint Details See BD-104-73 Sheet #26
For Slope Protection See Sheet #21

For Abutment Notes see sheet #12
For Abutment Protection Note see sheet #8

LEGEND

Cl. = Clear
Sp. = Spaces
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN-DETAILED	G.O.T.	2-20-95
CHECKED	P.L.L.	3-7-95
REVISIONS	P.L.L.	
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY

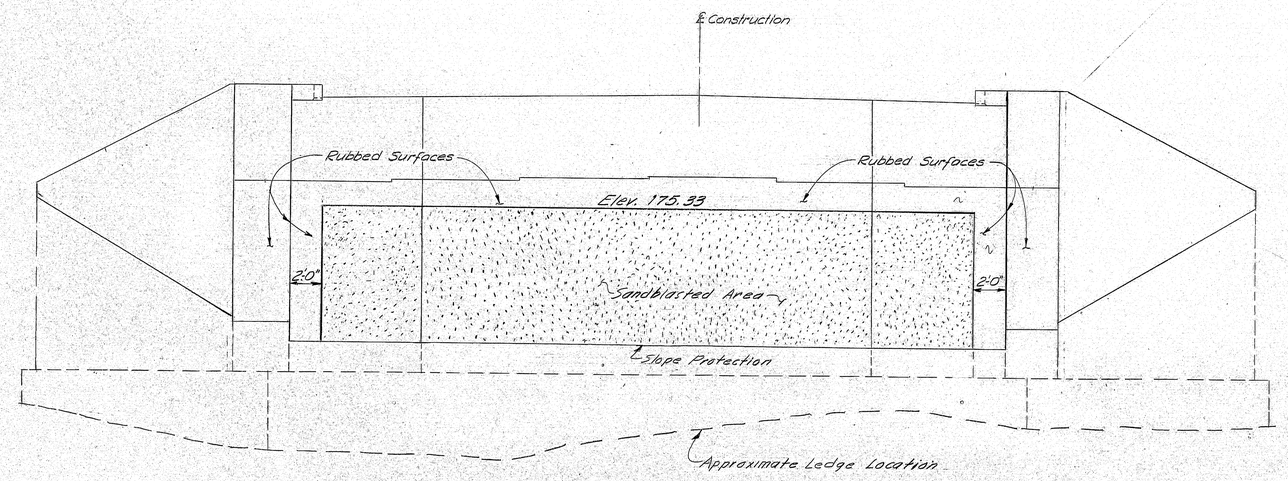
ABUTMENT NO. 2 NORTHBOUND

SHEET 13 OF 31 AUGUSTA, MAINE

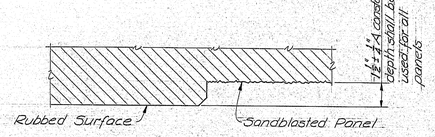
JANUARY 1989

172-85

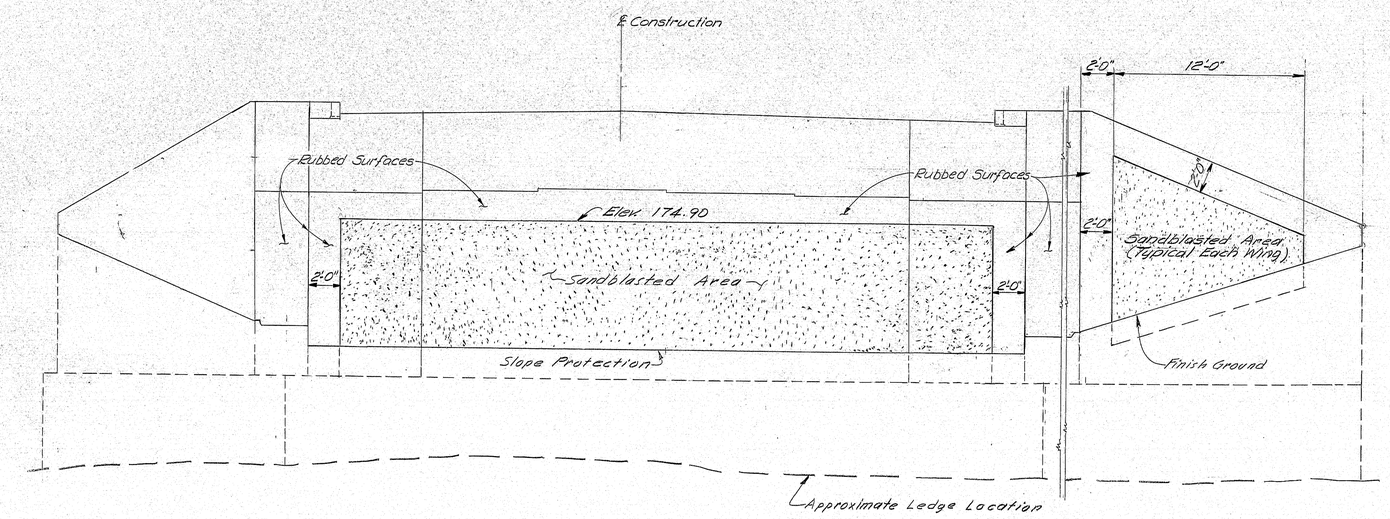
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	14	31



ABUTMENT # 2 SOUTHBOUND



TYPICAL PLAN SECTION



ABUTMENT #1 SOUTHBOUND

GENERAL NOTES

All surfaces so designated on the plans shall be sandblasted. These surfaces shall be carried to a minimum depth of 18 inches below finished ground unless otherwise specified.

Special care shall be excercised so that form joints at the exposed face of concrete shall be tight.

Before sandblasting, all fins and projections in the concrete shall be removed and all holes patched to create a surface of uniform texture.

In order to insure a consistent surface texture for the areas to be architecturally treated, concrete aggregate shall be from the same source and portland cement shall be from the same manufacturer throughout the entire placement of the abutment wings and breastwalls.

At the time the concrete is placed, the contractor shall cast 3 sample slabs (2'×2'×4").

Prior to sandblasting, the samples shall be sandblasted, each to a different degree of penetration with a maximum depth of ⅞ inch approximately, and under the direction of the Engineer. The most desirable sample will be chosen by the Engineer, and the designated areas shall be sandblasted to match this sample.

Concrete shall not be sandblasted for at least 28 days after placement.

The contractor shall take the necessary steps to protect nearby materials and equipment from damage by the sandblasting operation. Personnel shall be properly equiped: sandblast hood for the operator, and respirator and goggles for all other personnel exposed to dust.

The contractor shall conform to any applicable safety specifications, such as O.S.H.A. in the sandblasting operation.

Payment for sandblasting will be included in the contract unit price for Item 502.21, "Structural Concrete-Abutments and Retaining Walls.

No deduction in the concrete pay volume will be made for the recess in the architectural treatment.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	G.D.Z.	9-5-75
	CHECKED	P.J.L.	3-76
	REVISIONS		
	FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY

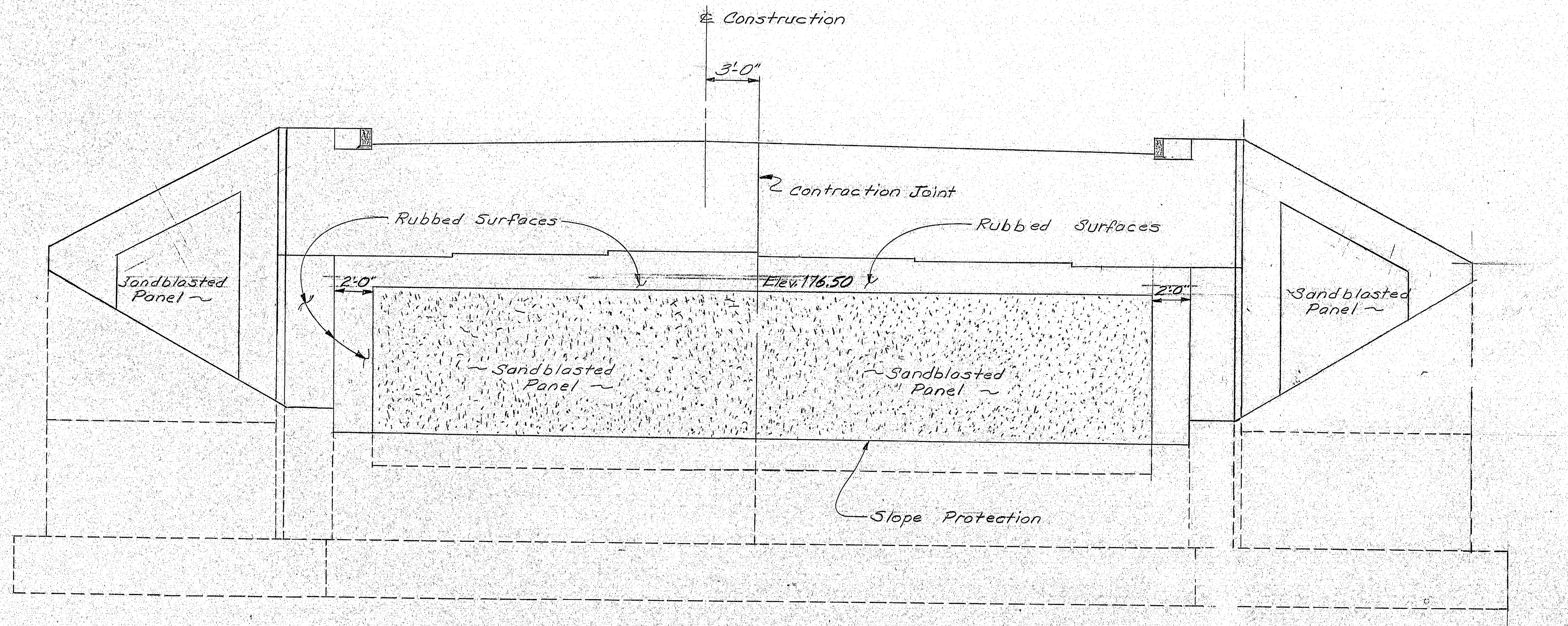
ARCHITECTURAL TREATMENT SB

SHEET 14 OF 31 AUGUSTA, MAINE March 1975

JANUARY 1969

172-86

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	15	31



ELEVATION ABUTMENT NO. 2 N. B.

GENERAL NOTES

All surfaces so designated on the plans shall be sandblasted. These surfaces shall be carried to a minimum depth of 18 inches below finished ground.

Special care shall be exercised so that form joints at the exposed face of concrete shall be tight.

Before sandblasting, all fins and projections in the concrete shall be removed and all holes patched to create a surface of uniform texture.

In order to insure a consistant surface texture for the areas to be architecturally treated, concrete aggregate shall be from the same source and portland cement shall be from the same manufacturer throughout the entire placement of the abutment wings and breastwalls.

At the time the the concrete is placed, the contractor shall cast 3 sample slabs (2'x 2'x 4").

Prior to sandblasting, the samples shall be sandblasted, each to a different degree of penetration with a maximum depth of 3/16" inch approximately, and under the direction of the Engineer. The most desirable sample will be chosen by the Engineer, and the designated areas shall be sandblasted to match this sample.

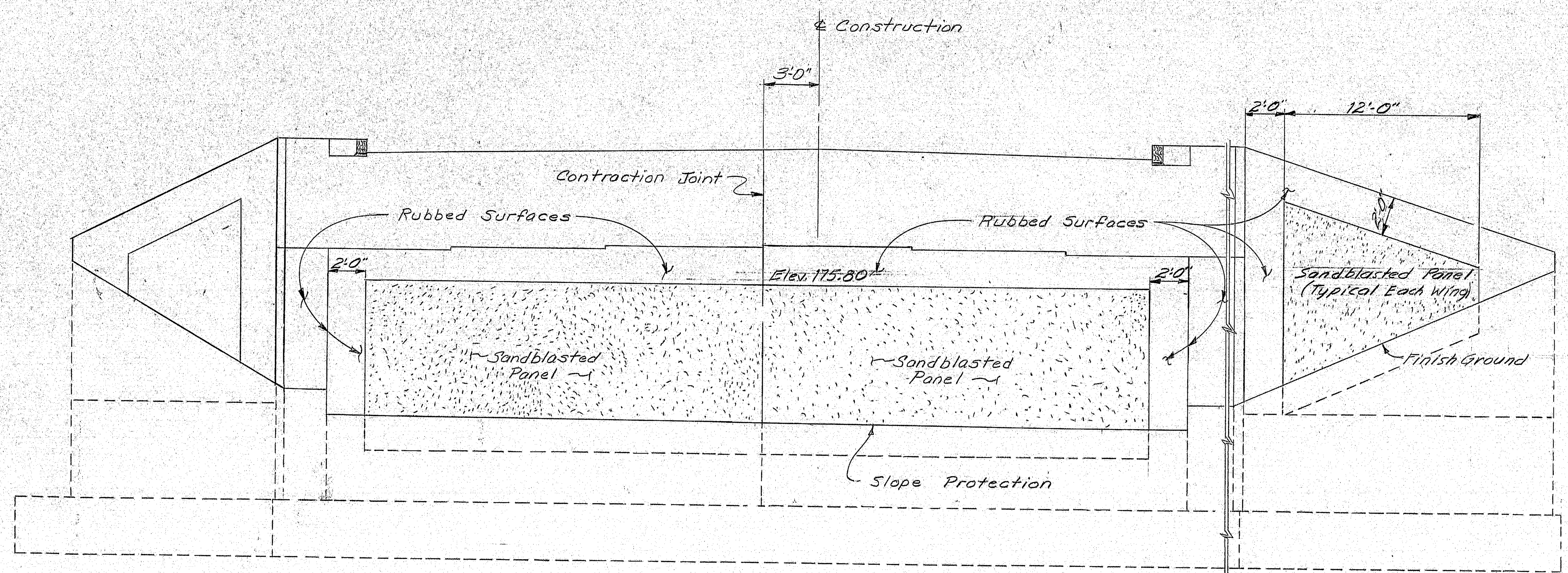
Concrete shall not be sandblasted for at least 28 days after placement.

The contractor shall take the necessary steps to protect nearby materials and equipment from damage by the sandblasting operation. Personnel shall be properly equipped; sandblast hood for the operator, and respirators and goggles for all other personnel exposed to dust.

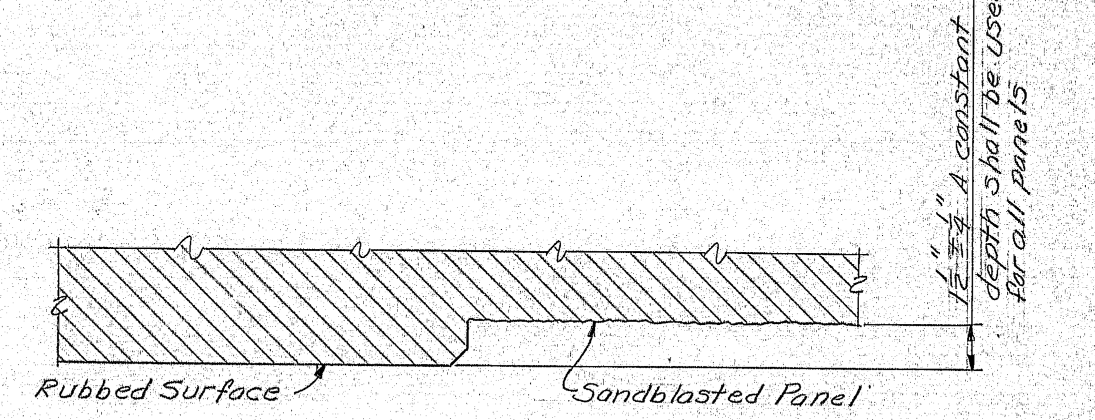
The contractor shall conform to any applicable safety specifications, such as O.S.H.A. in the sandblasting operation.

Payment for sandblasting will be included in the contract unit price for Item 502.21, "Structural Concrete-Abutments and Retaining Walls.

No deduction in the concrete pay volume will be made for the recess in the architectural treatment.



ELEVATION ABUTMENT NO. 1 N. B.



TYPICAL PLAN SECTION

PLANS	BY	DATE
PROJECT DESIGN ENGINEER		
DESIGN-DETAILED	G.O.T./R.K.N.	2-75
CHECKED		3-75
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

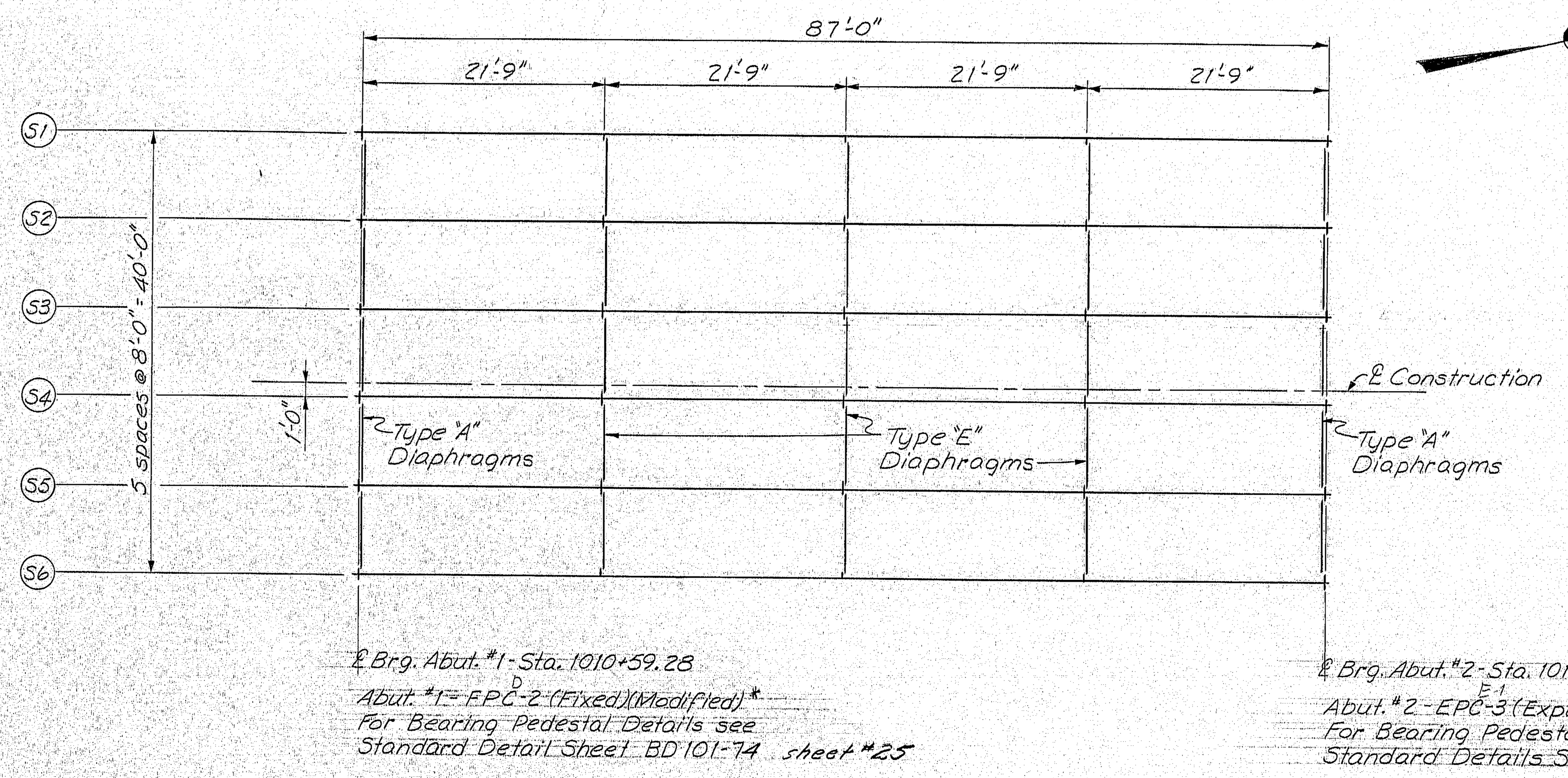
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
ARCHITECTURAL TREATMENT NB

SHEET 15 OF 31 AUGUSTA, MAINE March 1975

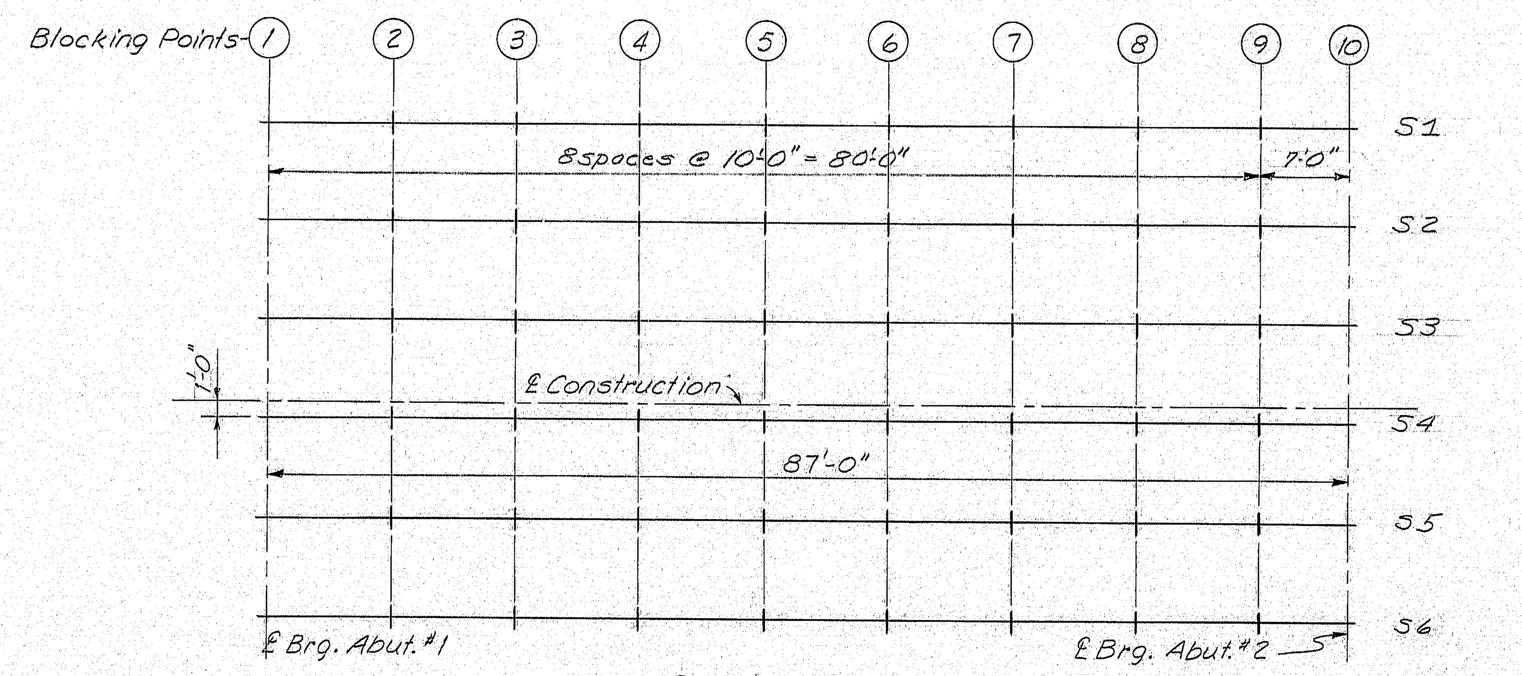
JANUARY 1969

172-87

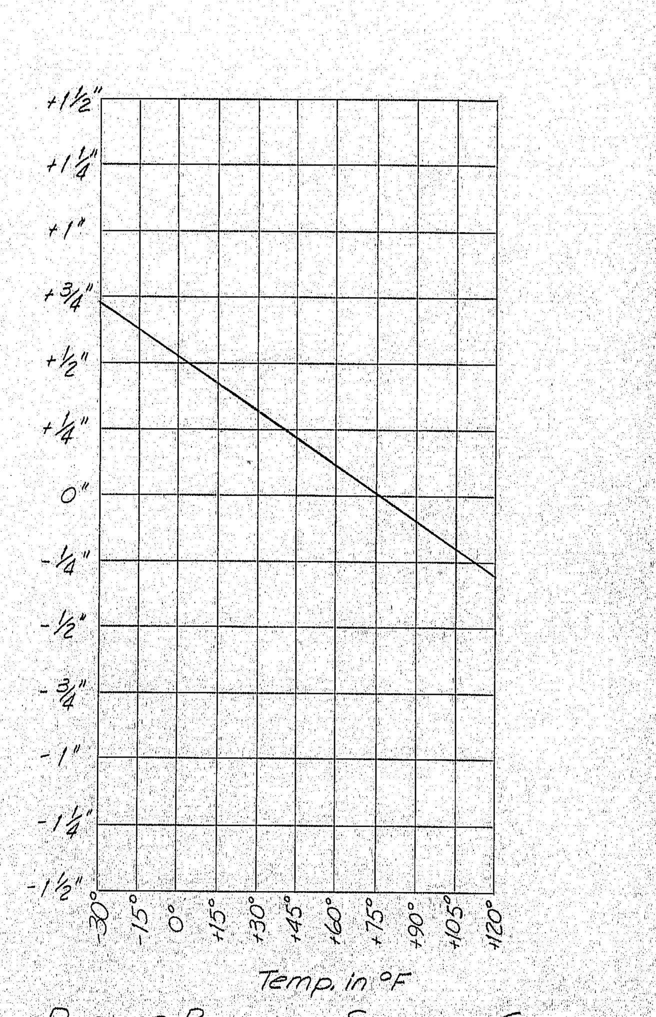
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	16	31



FRAMING PLAN
(all dimensions are horizontal)

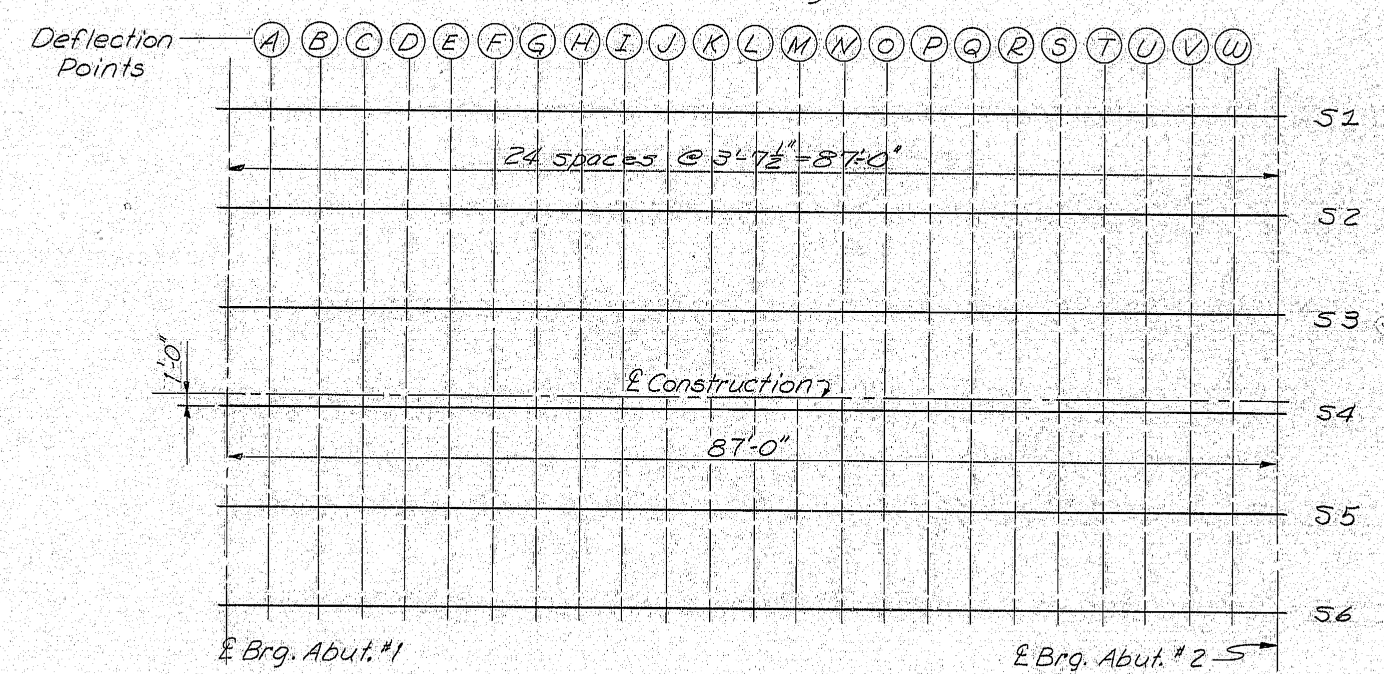


BLOCKING LAYOUT
(all dimensions are horizontal)

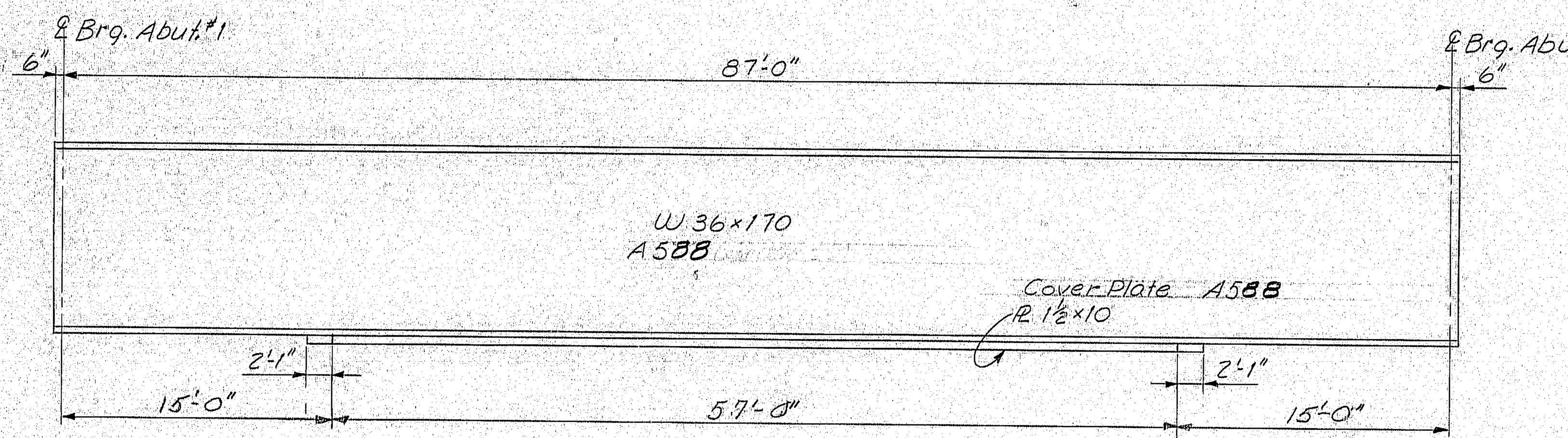


ROCKER BEARING SETTING GRAPH

This table of bearing settings compensates for longitudinal movement due to temperature change and dead load deflection, due to slab and wearing surface.



DEAD LOAD DEFLECTION LAYOUT
(all dimensions are horizontal)

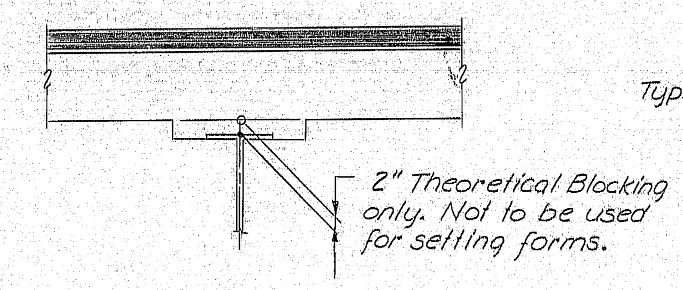


TYPICAL BEAM DETAIL
Note: Camber all beams

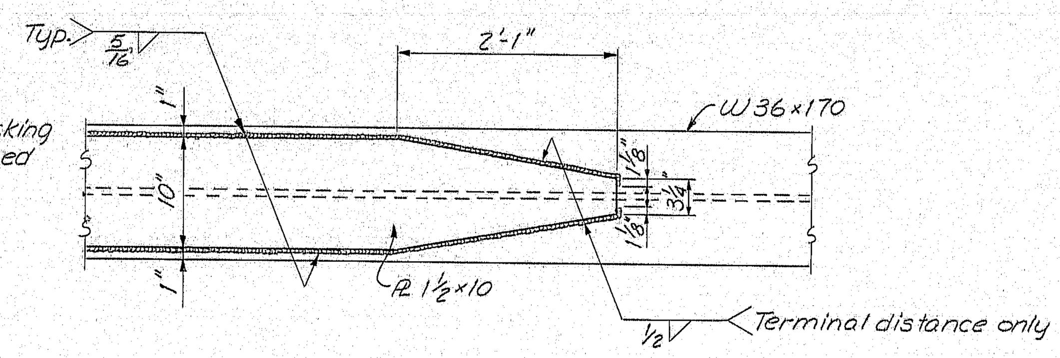
DEAD LOAD DEFLECTIONS IN FEET

Points	℄ Abt. #1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	℄ Abt. #2
Superimp.	0.000	0.007	0.014	0.020	0.026	0.031	0.036	0.040	0.044	0.046	0.048	0.050	0.050	0.050	0.048	0.046	0.044	0.040	0.036	0.031	0.026	0.020	0.014	0.007	0.000
Steel	0.000	0.008	0.016	0.024	0.031	0.037	0.043	0.047	0.052	0.055	0.057	0.059	0.059	0.059	0.057	0.055	0.052	0.047	0.043	0.037	0.031	0.024	0.016	0.008	0.000
Fluid	0.000	0.033	0.065	0.096	0.124	0.150	0.172	0.192	0.209	0.222	0.231	0.237	0.239	0.237	0.231	0.222	0.209	0.192	0.172	0.150	0.124	0.097	0.065	0.033	0.000

PROJECT DESIGN ENGINEER	BY	DATE
PLANS DESIGN - DETAILED	G.O.T.	12-31-74
CHECKED	R.C.B.	2-75
REVISIONS	TDL	2-75
FIELD CHANGES		



BLOCKING DIAGRAM



COVER PLATE DETAIL

NOTE:
Before taking elevations on the tops of the beams for purposes of setting bottom of slab elevations, the welding of shear connectors to the beams and the diaphragm and cross frame connections to the beams shall have been completed.

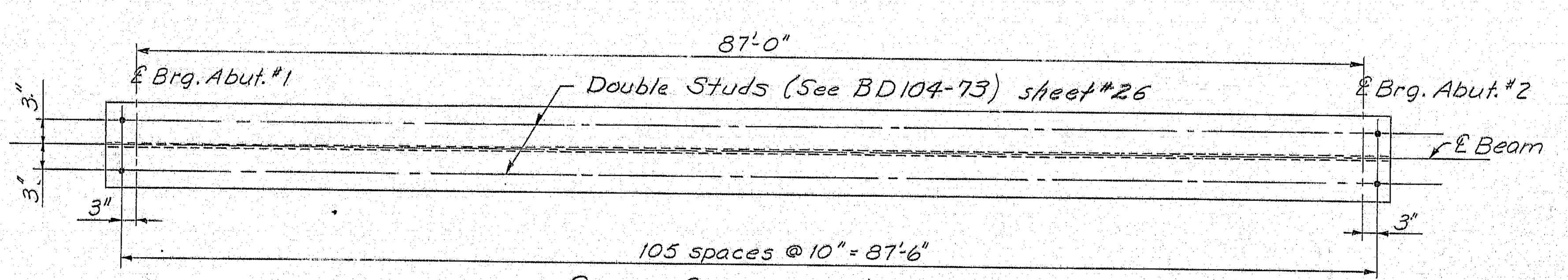
BOTTOM OF SLAB ELEVATIONS

	Span Points	℄ Abt. #1	+10	+20	+30	+40	+50	+60	+70	+80	℄ Abt. #2
		1	2	3	4	5	6	7	8	9	10
Stringers	S1	180.46	180.65	180.83	180.97	181.09	181.17	181.22	181.23	181.23	181.21
	S2	180.62	180.82	180.99	181.14	181.26	181.34	181.38	181.40	181.39	181.38
	S3	180.79	180.98	181.16	181.31	181.42	181.50	181.55	181.57	181.56	181.54
	S4	180.91	181.11	181.28	181.43	181.55	181.63	181.68	181.69	181.68	181.67
	S5	180.75	180.94	181.12	181.27	181.38	181.46	181.51	181.53	181.52	181.50
	S6	180.58	180.78	180.95	181.10	181.21	181.30	181.34	181.36	181.35	181.33

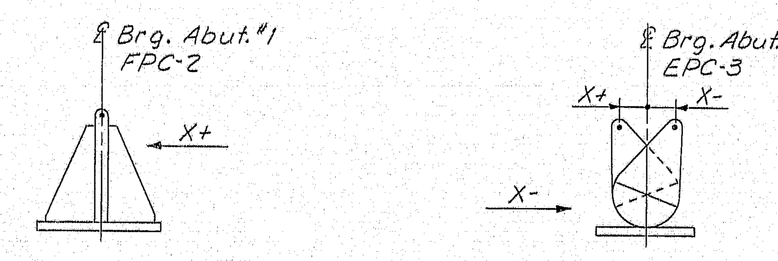
NOTE:
Rocker setting data as shown shall be used as a guide only. No extra payment will be made for resetting of the rocker bearings, subsequent to the original setting, made by the contractor as required by the Engineer to make the rocker settings conform with paragraph four (4) of Subsection 504.58.

NOTES
Bottom of slab elevations are adjusted to compensate for the dead load deflections.

Diaphragm connection plates may be either plumb or normal to the top flange.



SHEAR CONNECTOR LAYOUT
212 studs per beam - 1272 studs total



ROCKER BEARING SETTING DIAGRAM

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

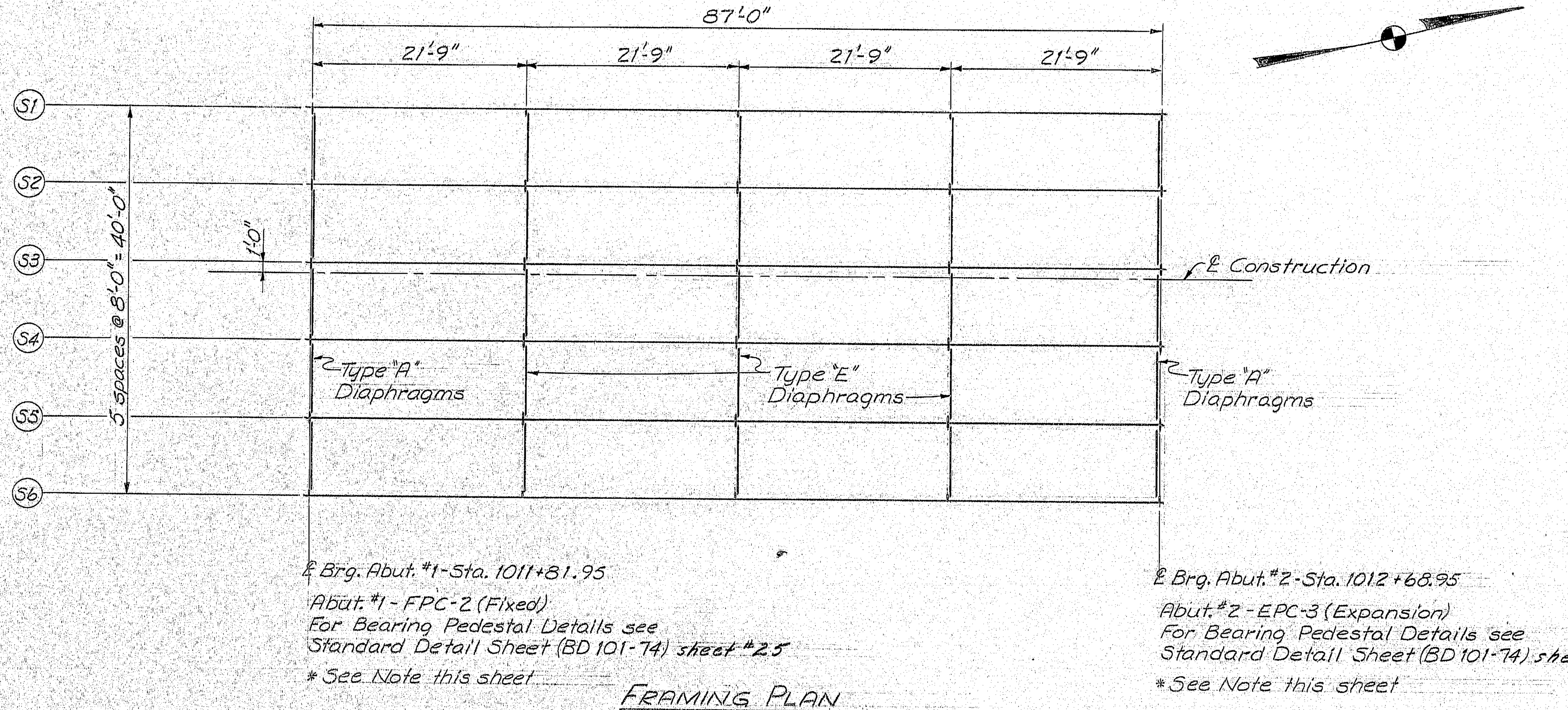
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
STRUCTURAL STEEL SOUTHBOUND

SHEET 16 OF 31 AUGUSTA, MAINE March 1975

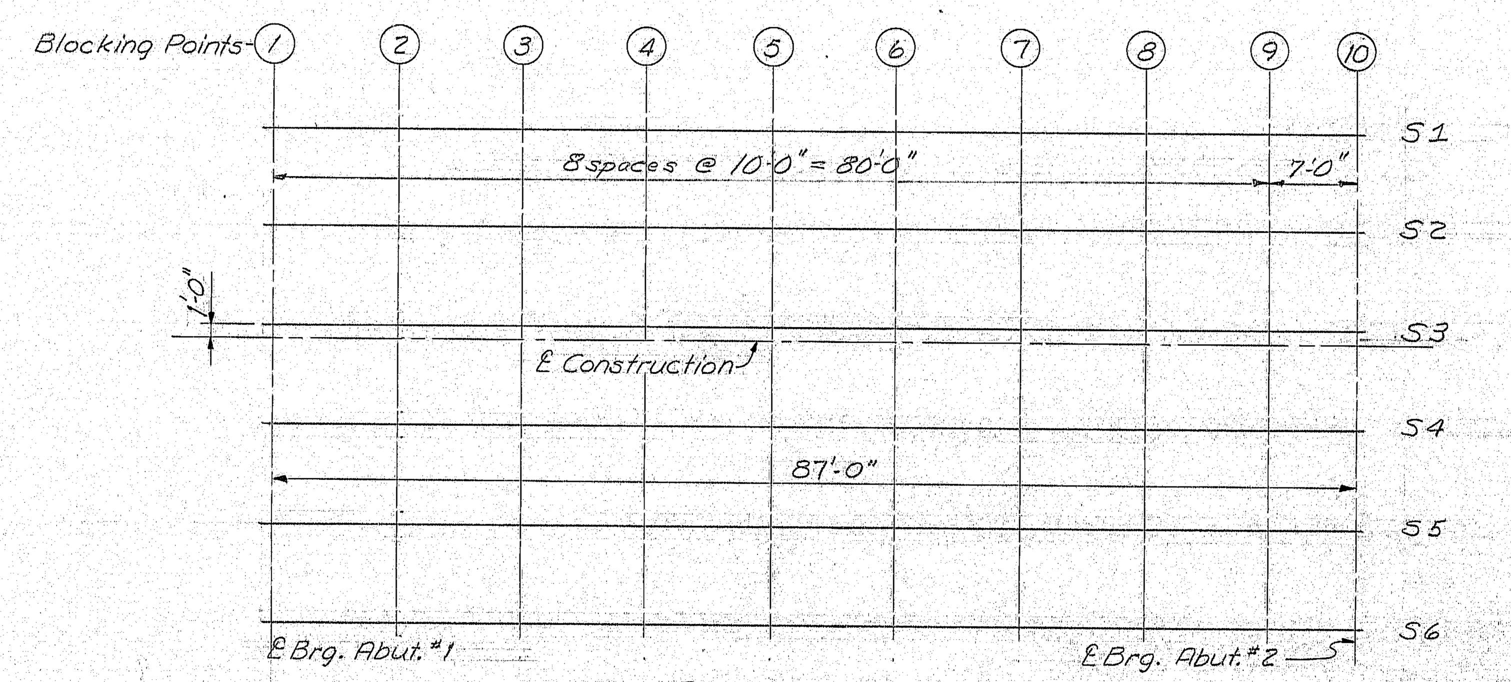
JANUARY 1969

172-88

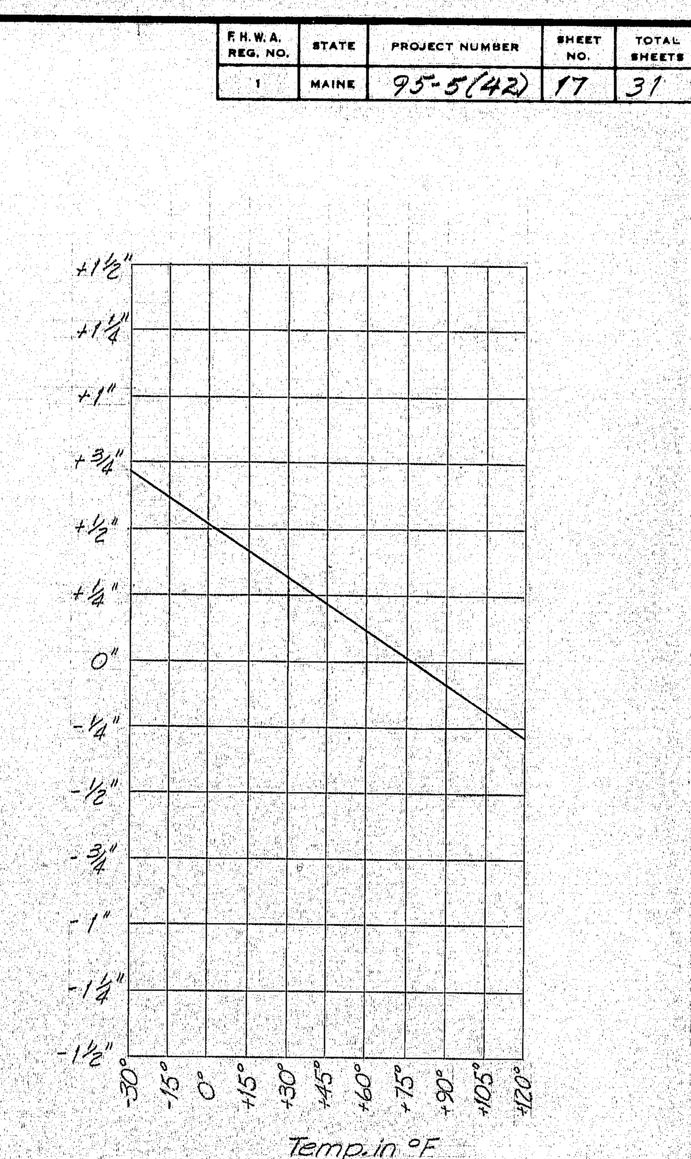
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	17	31



FRAMING PLAN
(all dimensions are horizontal)

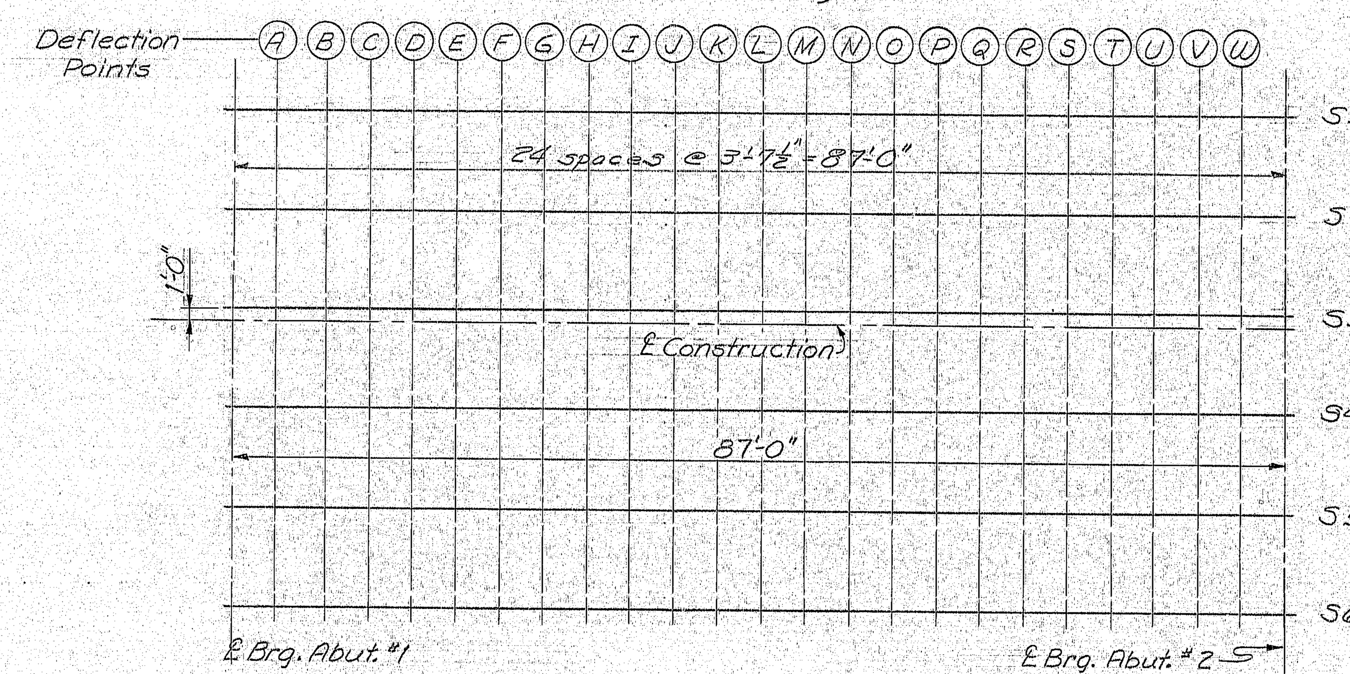


BLOCKING LAYOUT
(all dimensions are horizontal)

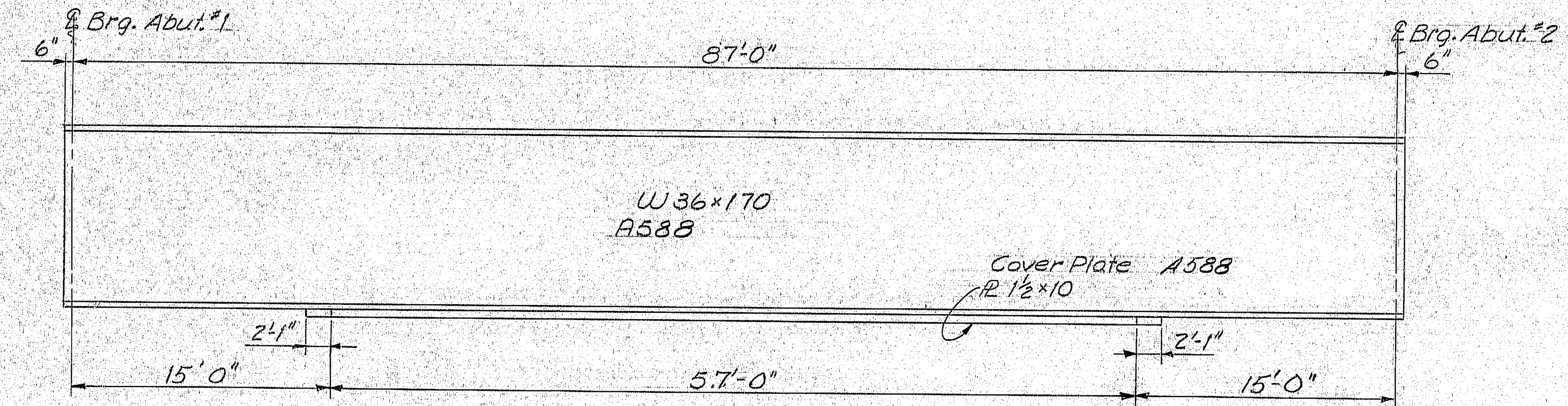


ROCKER BEARING SETTING GRAPH

This table of bearing settings compensates for longitudinal movement due to temperature change and dead load deflection, due to slab and wearing surface.



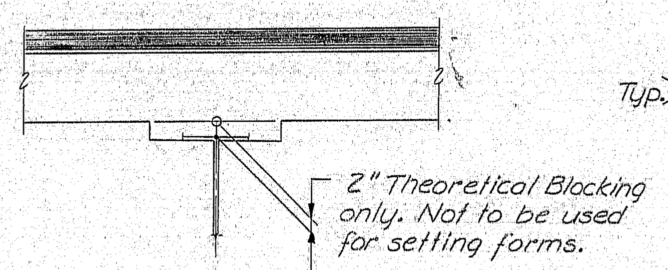
DEAD LOAD DEFLECTION LAYOUT
(all dimensions are horizontal)



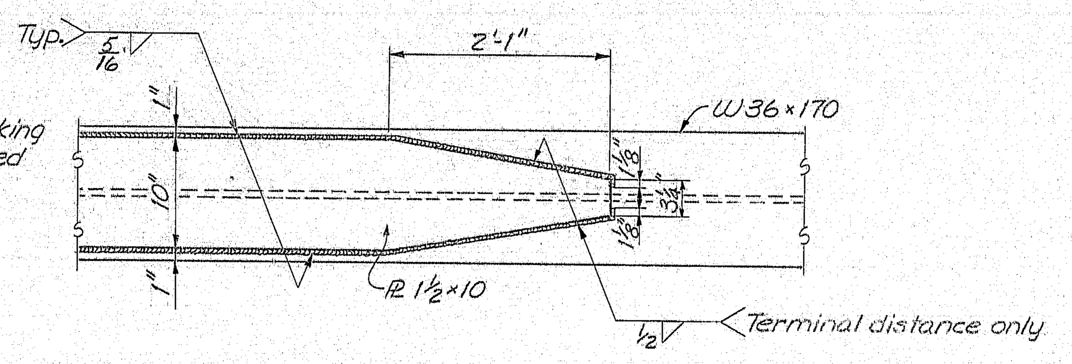
TYPICAL BEAM DETAIL
Note: Camber all beams

DEAD LOAD DEFLECTIONS IN FEET

Points	℄ Abt. #1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	℄ Abt. #2
Superimp.	0.000	0.007	0.014	0.020	0.026	0.031	0.036	0.040	0.044	0.046	0.048	0.050	0.050	0.050	0.048	0.046	0.044	0.040	0.036	0.031	0.026	0.020	0.014	0.007	0.000
Steel	0.000	0.008	0.016	0.024	0.031	0.037	0.043	0.047	0.052	0.055	0.057	0.059	0.059	0.059	0.057	0.055	0.052	0.047	0.043	0.037	0.031	0.024	0.016	0.008	0.000
Fluid	0.000	0.033	0.065	0.096	0.124	0.150	0.172	0.192	0.209	0.222	0.231	0.237	0.239	0.237	0.231	0.222	0.209	0.192	0.172	0.150	0.124	0.097	0.065	0.033	0.000



BLOCKING DIAGRAM



COVER PLATE DETAIL

NOTE:
Before taking elevations on the tops of the beams for purposes of setting bottom of slab elevations, the welding of shear connectors to the beams and the diaphragm connections to the beams shall have been completed.

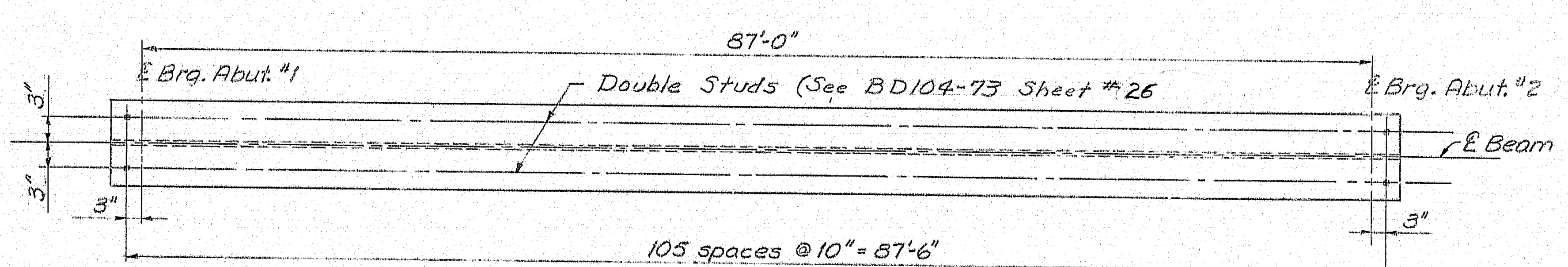
BOTTOM OF SLAB ELEVATIONS

	Span Points	℄ Abt. #1	+10'	+20'	+30'	+40'	+50'	+60'	+70'	+80'	℄ Abt. #2
		1	2	3	4	5	6	7	8	9	10
Stringers	S1	181.48	181.72	181.95	182.15	182.32	182.46	182.56	182.63	182.67	182.69
	S2	181.64	181.89	182.12	182.32	182.49	182.62	182.72	182.79	182.84	182.86
	S3	181.81	182.06	182.28	182.49	182.65	182.79	182.89	182.96	183.00	183.02
	S4	181.68	181.93	182.16	182.36	182.53	182.66	182.76	182.83	182.88	182.90
	S5	181.52	181.76	181.99	182.19	182.36	182.50	182.60	182.67	182.71	182.73
	S6	181.35	181.60	181.83	182.03	182.20	182.33	182.43	182.50	182.54	182.57

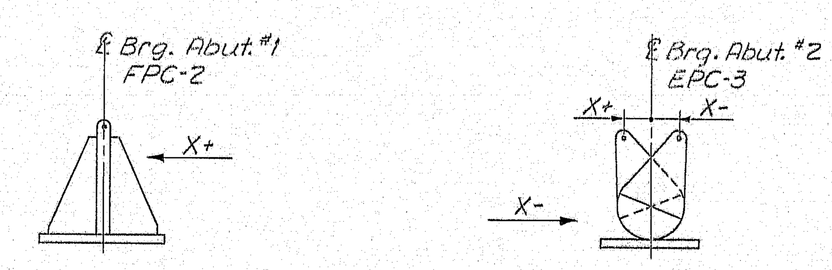
NOTE:
Rocker setting data as shown shall be used as a guide only. No extra payment will be made for resetting of the rocker bearings, subsequent to the original setting, made by the contractor as required by the Engineer to make the rocker settings conform with paragraph four (4) of Subsection 504.58.

NOTES
Bottom of slab elevations are adjusted to compensate for the dead load deflections.

Diaphragm connection plates may be either plumb or normal to the top flange.



SHEAR CONNECTOR LAYOUT
212 studs per beam - 1272 studs total



ROCKER BEARING SETTING DIAGRAM

PROJECT DESIGN ENGINEER	BY		DATE
PLANS — DESIGN - DETAILED	G.O.T.	R.C.B.	12-17-74
CHECKED	RJL		3-75
REVISIONS			
FIELD CHANGES			

JANUARY 1968

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

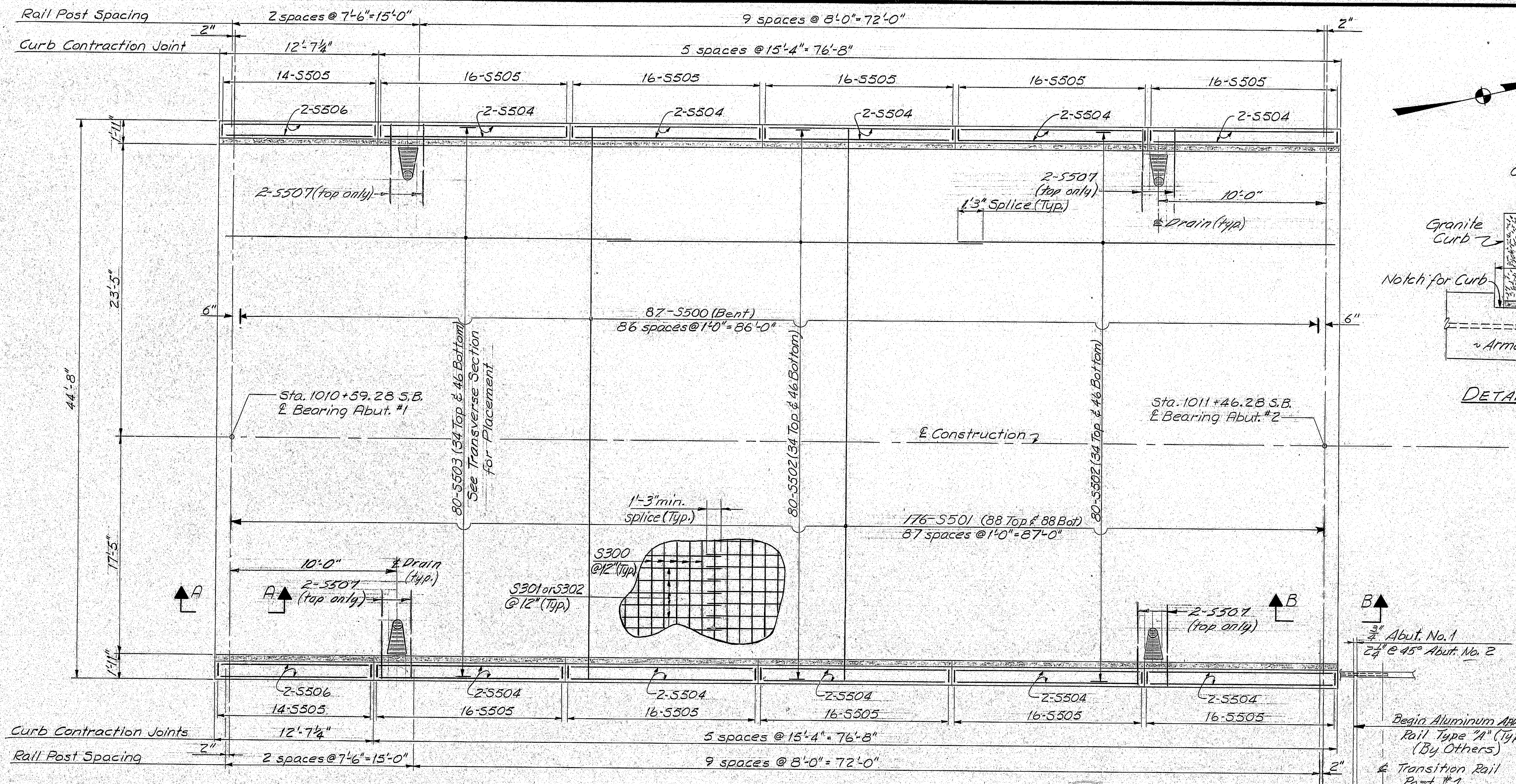
INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
STRUCTURAL STEEL NORTHBOUND

SHEET 17 OF 31 AUGUSTA, MAINE March 197-

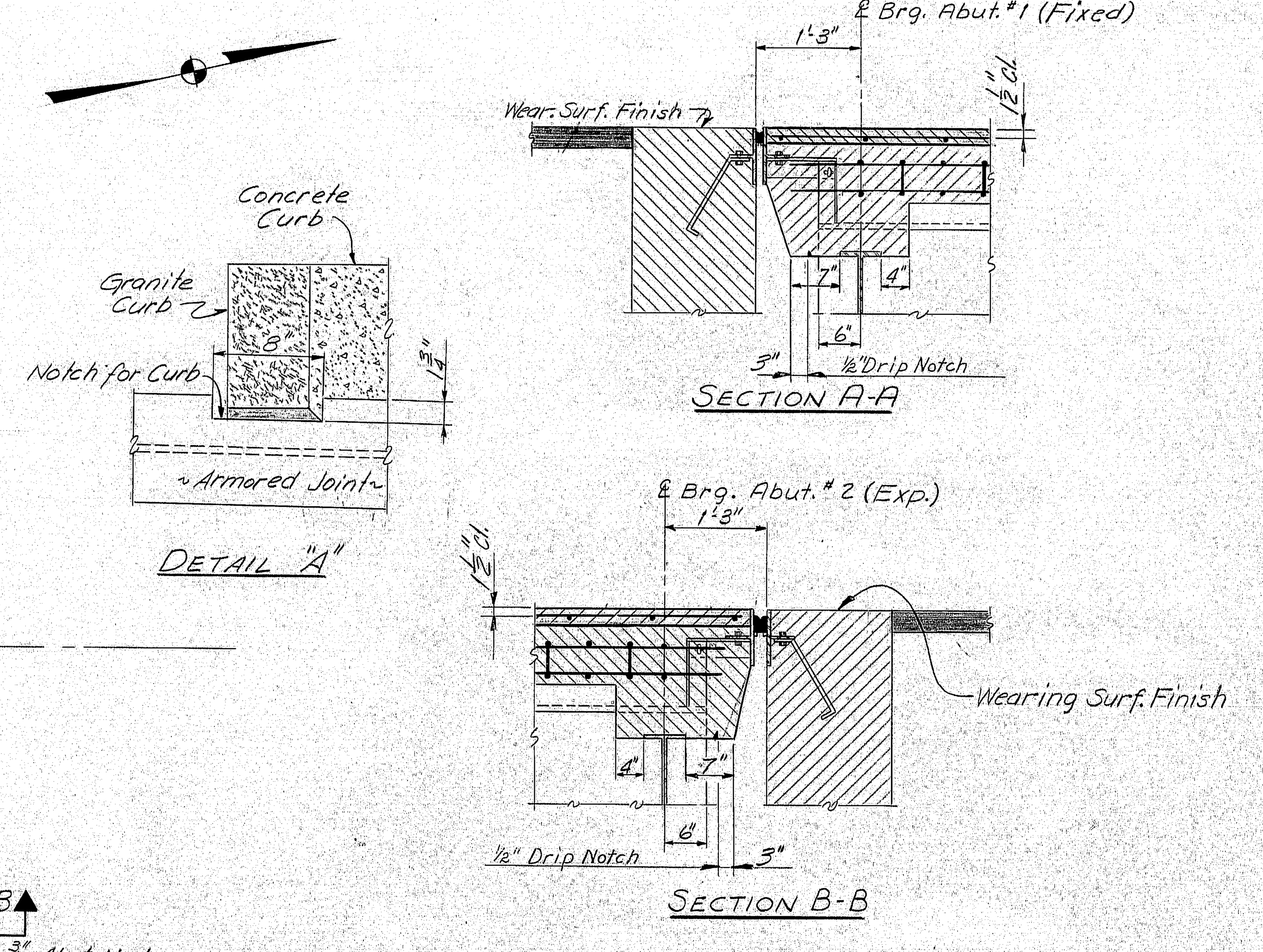
172-89

203-1 2080

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	18	31



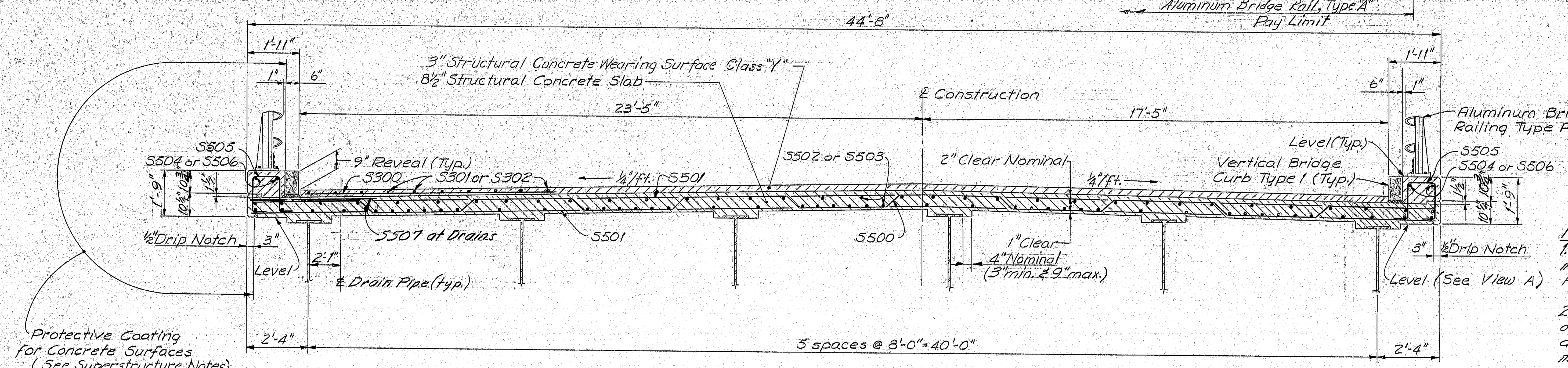
PLAN - SOUTHBOUND



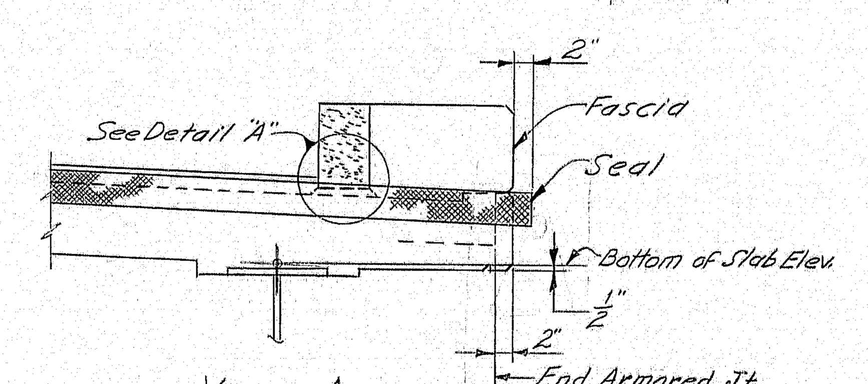
DETAIL "A"

SECTION A-A

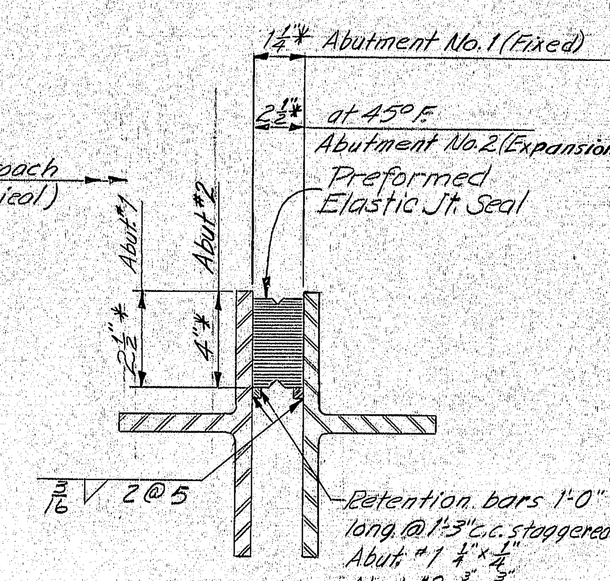
SECTION B-B



TRANSVERSE SECTION - SOUTHBOUND



VIEW A (Typical)



SEAL DETAIL

The seals furnished shall be as follows:

Location	Movement Rating
Abutment No. 1	0.50 inches
Abutment No. 2	1.00 inches

NOTES:

1.______The seals furnished shall have a movement rating of ½" for Abutment No. 1 and 1" for Abutment No. 2.

2.______The dimensions* shown are for design only and are subject to change due to differences in seals as supplied by various manufactures. Do not use for fabrication or setting of the joint opening during construction.

3.______The seal characteristics shall be submitted to the Engineer for approval, prior to the fabrication of the Armored Joint.

4.______A movement of ⅝ inch due to dead loads (slab, curb, and wearing surface) shall be taken into account when setting the Armored Joint at Abutment No. 1. The gap at Abutment No. 2 shall be field adjusted for temperature.

SUPERSTRUCTURE NOTES

Chamfer all exposed edges of concrete ½ inch unless otherwise indicated.

Form a 1 inch V-groove on the outside faces of each contraction joint in the curbs and at the joint between the curb and slab.

Break the bond in contraction joints in the concrete curbs by a method approved by the Engineer.

Provide joints in the Vertical Bridge Curb, Type 1 at each contraction joint in the concrete curb.

Reinforcing steel shall have a minimum cover of 2 inches unless otherwise indicated.

Protective Coating for Concrete Surfaces shall be applied to the following areas: Concrete curb and fascia down to the drip notch, and including Struct. Conc. Wearing Surface.

Mortar for bedding and for joints in the granite curb shall contain a non-shrink additive.

For Armored Joint detail see BD104-73 sheet #26.

For Aluminum Bridge Rail see BD 114-73 sheet #28.

PROJECT DESIGN ENGINEER		BY		DATE
PLANS	DESIGN - DETAILED	G.O.T.	R.C.B.	11-7-74
	CHECKED	P.J.L.		3-75
	REVISIONS			
	FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
SUPERSTRUCTURE SOUTHBOUND

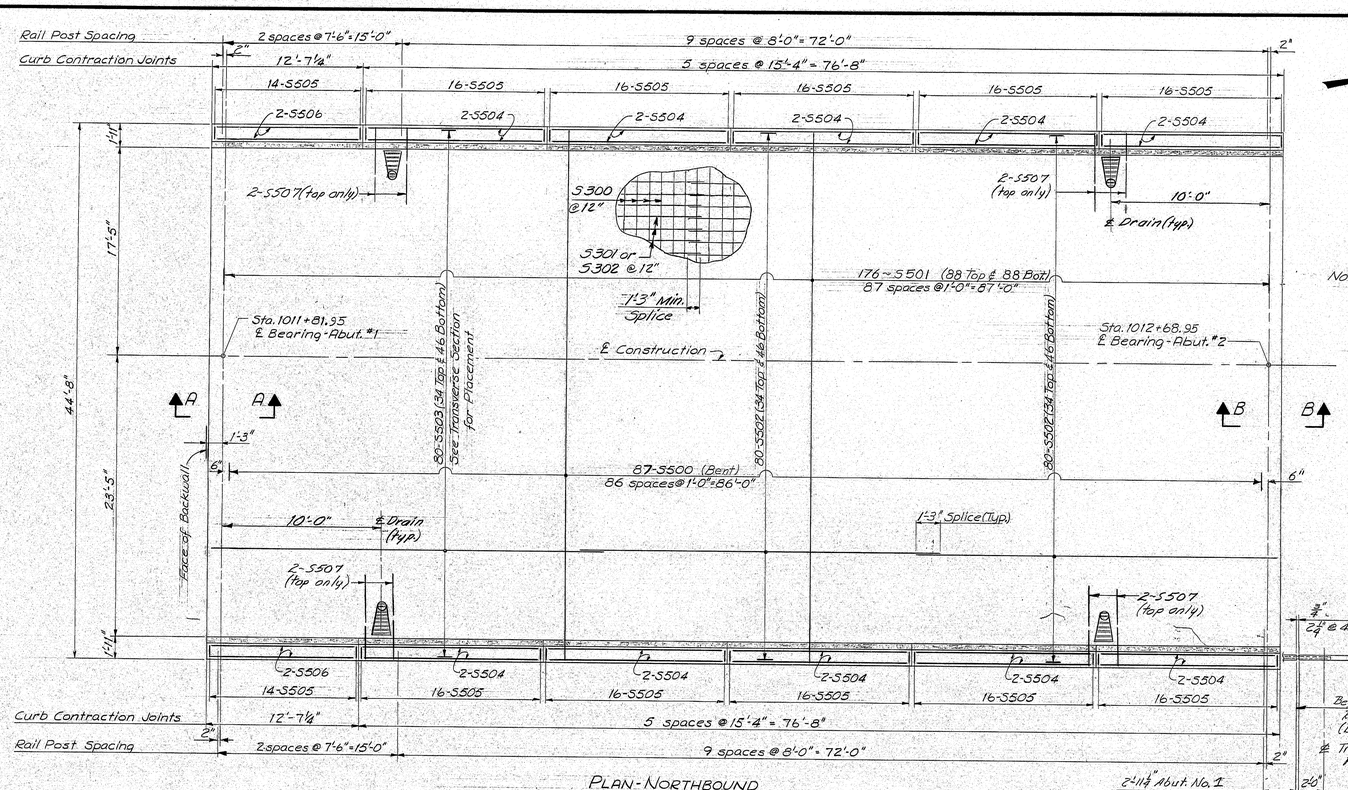
SHEET 18 OF 31 AUGUSTA, MAINE March 1975

JANUARY 1968

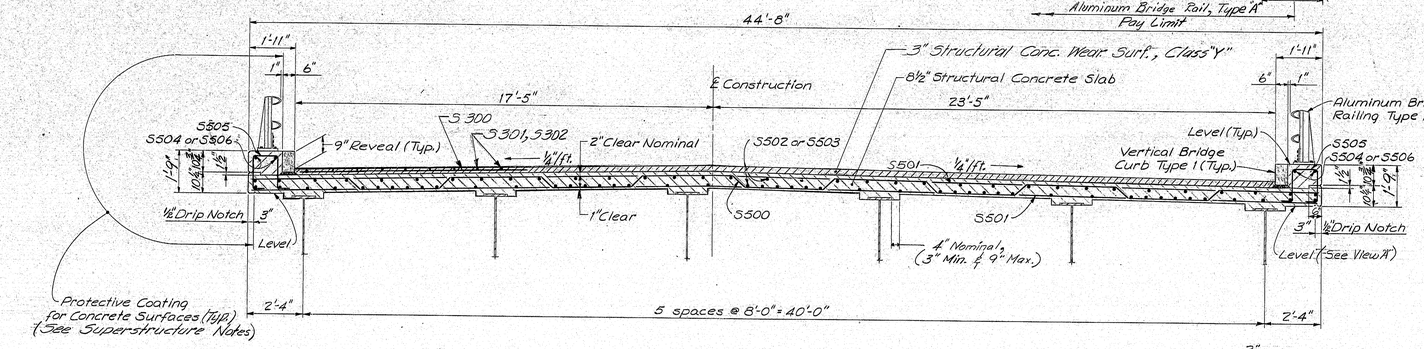
203-1 2060

172-90

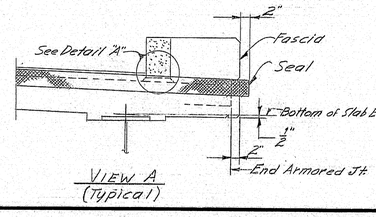
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	19	31



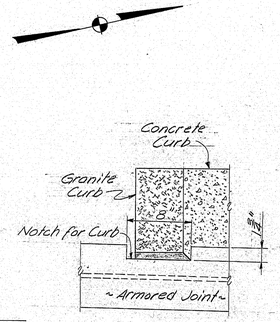
PLAN-NORTHBOUND



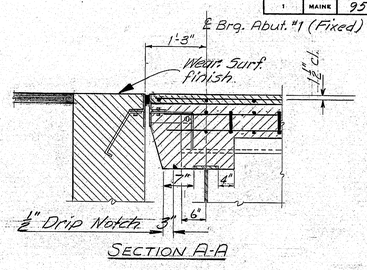
TRANSVERSE SECTION - NORTHBOUND



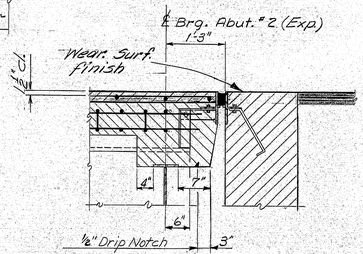
VIEW A (Typical)



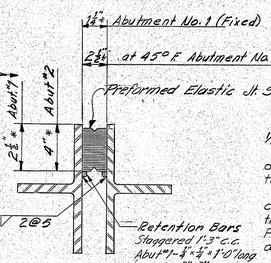
DETAIL "A"



SECTION A-A



SECTION B-B



SEAL DETAIL

The seal furnished shall be as follows:

Location	Movement Rating
Abutment No. 1	0.50 inches
Abutment No. 2	1.00 inches

NOTES:

1. The seals furnished shall have a movement rating of ½" for Abutment No. 1 and 1" for Abutment No. 2.
2. The dimensions* shown are for design only and are subject to change due to differences in seals as supplied by various manufactures. Do not use for fabrication or setting of the joint opening during construction.
3. The seal characteristics shall be submitted to the Engineer for approval, prior to the fabrication of the Armored Joint.
4. A movement of ⅝ inch due to dead loads (slab, curb, and wearing surface) shall be taken into account when setting the Armored Joint at Abutment No. 1. The gap at Abutment No. 2 shall be field adjusted for temperature.

SUPERSTRUCTURE NOTES

Chamfer all exposed edges of concrete ½ inch unless otherwise indicated.

Form a 1 inch V-groove on the outside faces of each contraction joint in the curbs and at the joint between the curb and slab.

Break the bond in contraction joints in the concrete curbs by a method approved by the Engineer.

Provide joints in the Vertical Bridge Curb, Type I at each contraction joint in the concrete curb.

Reinforcing steel shall have a minimum cover of 2 inches unless otherwise indicated.

Mortar for bedding and for joints in the granite curb shall contain a "non-shrink" additive.

Protective Coating for Concrete Surfaces shall be applied to the following areas: Concrete curb and fascia down to the drip notch, and concrete wearing surface.

For Armored Joint detail see BD104-73 sheet #26.

For Aluminum Bridge Rail see BD 114-73 sheet #28.

PLANS	BY	DATE
DESIGN - DETAILED	G.D.T.	11-14-74
CHECKED	R.C.B.	3-75
REVISIONS	R.J.L.	
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
SUPERSTRUCTURE NORTHBOUND

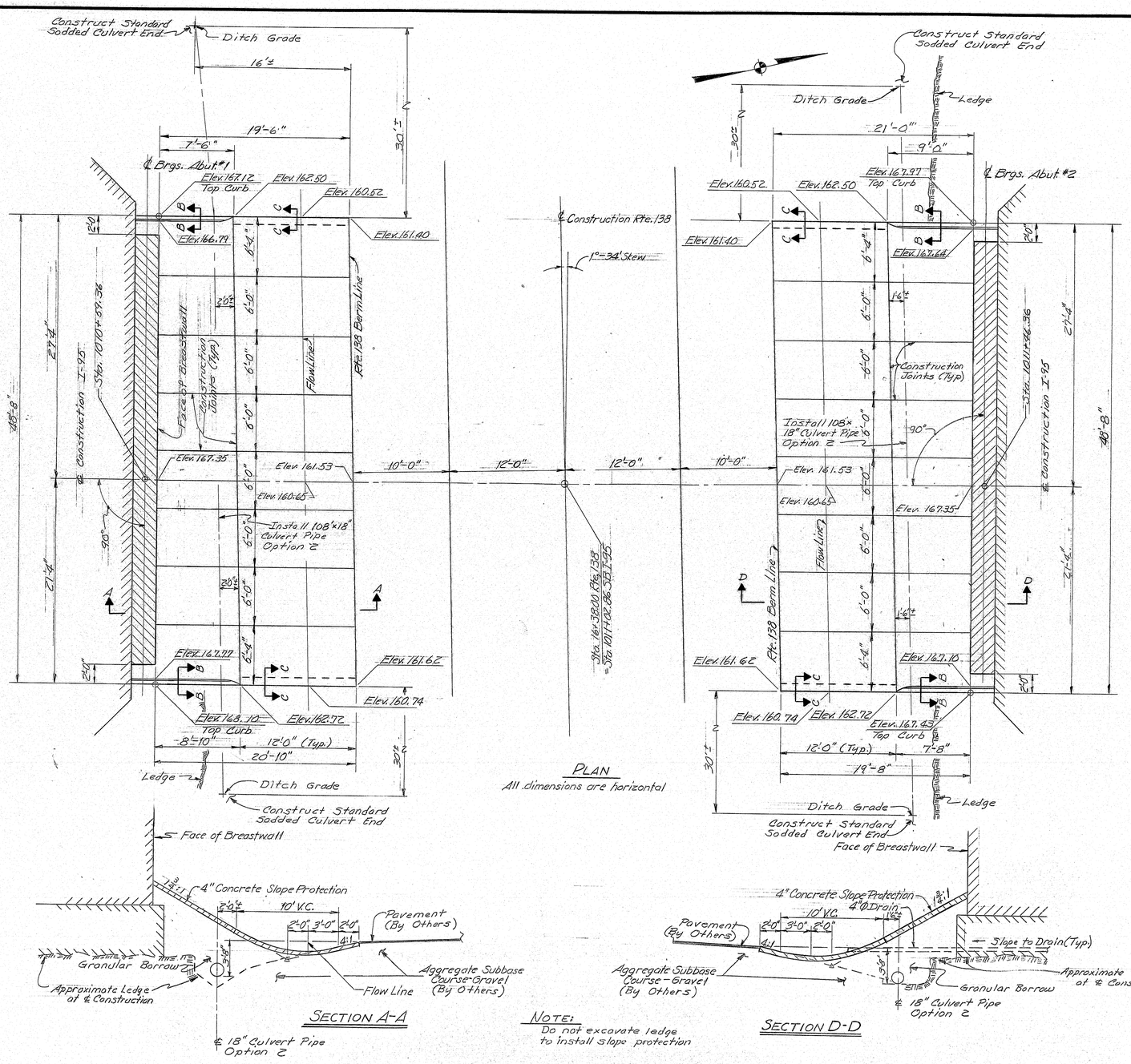
SHEET 19 OF 31 AUGUSTA, MAINE March 1975

JANUARY 1968

203-1 2080

172-91

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	20	31



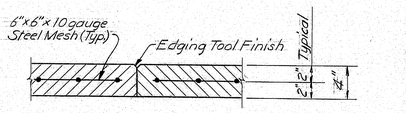
PLAN

All dimensions are horizontal

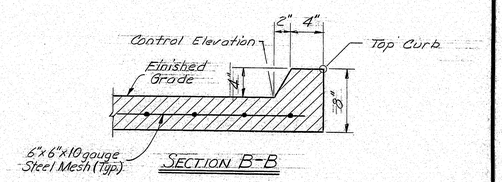
SECTION A-A

NOTE:
Do not excavate ledge to install slope protection

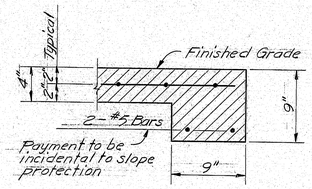
SECTION D-D



CONSTRUCTION JOINT



SECTION B-B



SECTION C-C

NOTE:

1. Steel Mesh shall not pass thru any Construction Joints.
2. Break the bond in Construction Joints by a method approved by the Engineer.
3. Portland Cement Concrete for Slope Protection to be Class "A"
4. Payment for Excavation of Shoulder and for Pipe will be paid for under Item 206.06 Structural Earth Excavation, Drainage and minor Structures.

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN - DETAILED	G.E.W.	3/72
CHECKED	P.J.L.	3-72
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY

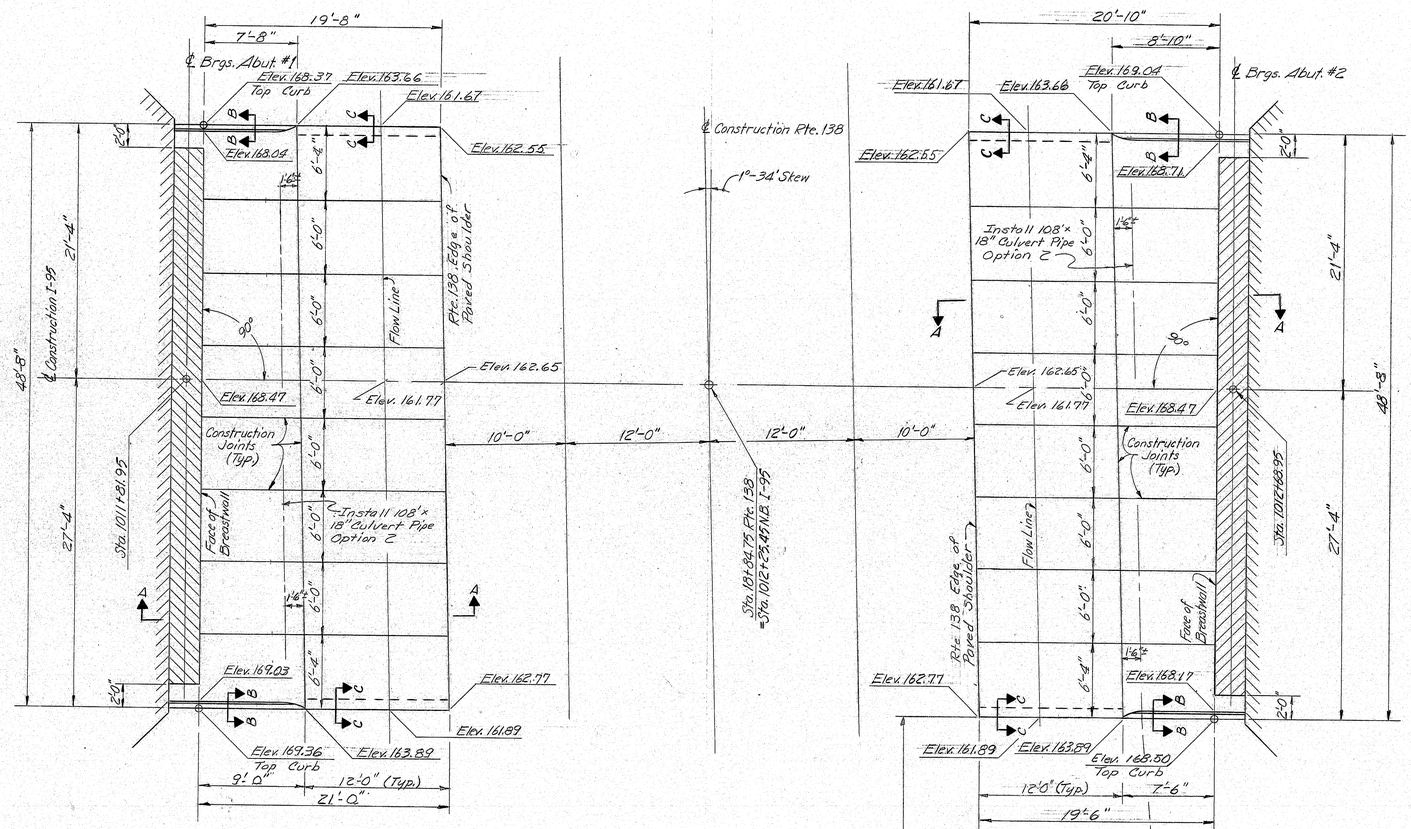
SLOPE PROTECTION SB

SHEET 20 OF 31 AUGUSTA, MAINE. May 4, 1975

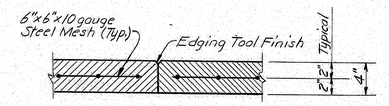
172-92

JANUARY 1968

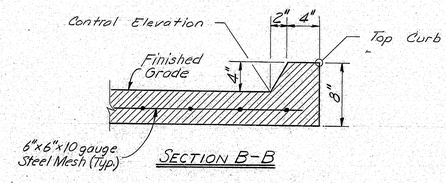
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	21	31



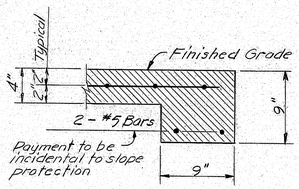
* These limits and details apply on each side of both abutments



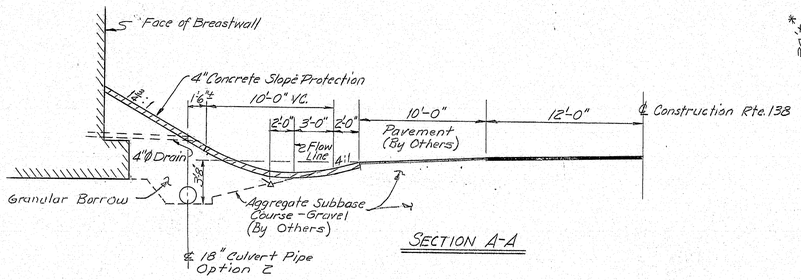
CONSTRUCTION JOINT



SECTION B-B



SECTION C-C



SECTION A-A

NOTE:

1 - - - - Steel Mesh shall not pass thru any Construction Joints.
2 - - - - Break the bond in Construction Joints by a method approved by the Engineer.
3 - - - - Portland Cement Concrete for Slope Protection to be class "A".
4 - - - - Payment for Excavation of shoulder and for Pipe will be paid for under Item 206.06 Structural Earth Excavation, Drainage and minor structures.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN - DETAILED	G.R.W.	2-77
	CHECKED	R.J.L.	3-75
	REVISIONS		
	FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY

SLOPE PROTECTION NB

SHEET 21 OF 31 AUGUSTA, MAINE March 1975

JANUARY 1968

172-93

REINFORCING STEEL SCHEDULE

FHWA REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	22	31

STRAIGHT BARS

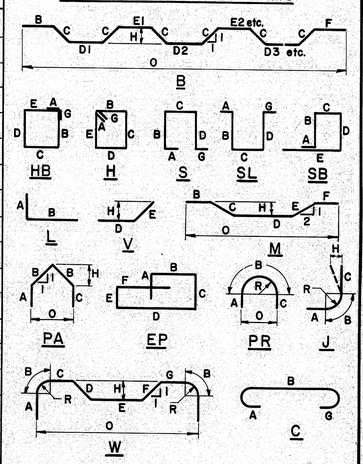
MARK	NO.	LENGTH	LOCATION
ABUTMENT #1			
A501	64	4'-6"	Backwall
A502	6	30'-0"	Backwall
A503	12	6'-10"	Backwall
A505	14	2'-0"	Backwall
ABUTMENT #2			
B500	66	4'-6"	Backwall
B503	12	8'-0"	Backwall
B504	6	27'-6"	Backwall
B505	14	2'-0"	Backwall
SUPERSTRUCTURE			
S300	90	40'-6"	Wearing Surface
S301	82	30'-0"	Wearing Surface
S302	41	31'-6"	Wearing Surface
S501	176	44'-4"	Slab
S502	160	30'-0"	Slab
S503	80	32'-0"	Slab
S504	20	15'-0"	Curb
S506	4	12'-3"	Curb
S507	8	5'-0"	Slab at Drains

BENT BARS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
ABUTMENT #1														
A500	20	9'-2"	S	0"	4'-0"	1'-2"	4'-0"	—	—	0"	—	—	—	Backwall
A504	4	12'-0"	S	0"	5'-6"	1'-0"	5'-6"	—	—	0"	—	—	—	Backwall
ABUTMENT #2														
B501	29	11'-2"	S	0"	5'-0"	1'-2"	5'-0"	—	—	0"	—	—	—	Backwall
B502	4	12'-6"	S	0"	5'-9"	1'-0"	5'-9"	—	—	0"	—	—	—	Backwall
SUPERSTRUCTURE														
S500	89	46'-2"	B	0"	4'-0 3/4"	7 3/8"	3'-3 5/8"	3'-9 1/2"	4'-0 3/4"	0"	5 1/2"	44'-4"	—	Slab
S505	188	5'-0"	S	6"	1'-6"	1'-0"	1'-6"	—	—	6"	—	—	—	Curb

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION

TYPE-BENDING DIAGRAMS



All dimensions are out to out of reinf. bar

Bending details and hooks shall conform to the recommendations of ACI Standard 315-65.

Reinforcing Bar: ASTM A615 Grade 60

GENERAL NOTES

1. First digit(s) following the letter of the Mark indicates size of reinf. bar.
   Mark (A502) bar size - #5
   Mark (P1001) bar size - #10
   Mark (S603) bar size - #6
2. Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.
3. Each truss bar (S500) may be replaced by two straight bars (one top and one bottom) of the same bar size as the truss bar. Payment, in either case, shall be based on truss bars as scheduled on the plans.

PLANS	BY	DATE
DESIGN - DETAIL		
CHECKED	PWL	3-25
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
REINFORCING STEEL SCHEDULE SOUTHBOUND

SHEET 22 OF 31 AUGUSTA, MAINE March 1973

172-94

REINFORCING STEEL SCHEDULE

FHWA REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	23	31

STRAIGHT BARS

MARK	NO.	LENGTH	LOCATION
ABUTMENT No. 1			
A500	55	4'-0"	Footing
A501	63	6'-3"	Footing
A503	30	16'-9"	Breastwall
A504	30	5'-8"	Breastwall
A506	22	22'-0"	Breastwall
A507	8	24'-6"	Backwall
A508	26	23'-4"	Breastwall & Backwall
A509	18	4'-6"	Breastwall
A510	8	18'-8"	Breastwall
~~A511~~	~~14~~	~~2'-0"~~	~~Approach Slab Seat~~
A512	21	7'-0"	Wings
A513	40	6'-6"	Wings
A514	18	14'-8"	East Wing
A515	2	12'-3"	↓
A516	↓	8'-0"	
A517		3'-8"	
A518		8'-9"	
A519		9'-10"	
A520		10'-11"	
A521		11'-11"	
A522		13'-0"	
A523		6'-9"	
A524		7'-10"	
A525		8'-11"	
A526		9'-11"	↓
A527		11'-0"	East Wing
A528		8'-6"	West Wing
A529		9'-7"	↑
A530		10'-7"	
A531		11'-7"	
A532		12'-7"	
A533		13'-8"	
A534		6'-6"	
A535		7'-7"	
A536		8'-7"	
A537		9'-7"	
A538		10'-7"	
A539		11'-8"	
A540		13'-0"	
A541	↓	8'-8"	↓
A542	2	4'-0"	West Wing
A544	2	16'-6"	West Wing
A545	2	15'-6"	East Wing
A547	18	15'-8"	West Wing

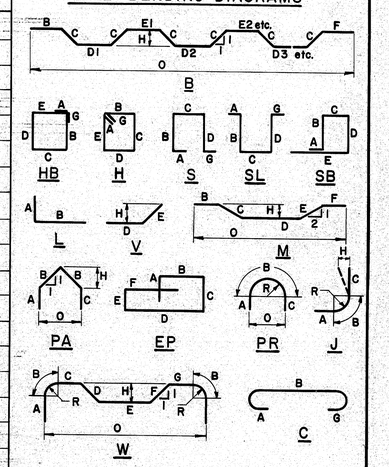
MARK	NO.	LENGTH	LOCATION
ABUTMENT No. 1			
A600	102	7'-0"	Footing
A601	16	30'-0"	↓
A602	16	22'-4"	
A603	70	8'-0"	
A604	18	19'-9"	↓
A605	18	18'-9"	Footing
ABUTMENT No. 2			
B500	58	4'-0"	Dowel Breastwall
B501	63	6'-3"	Dowel Breastwall
B503	30	6'-0"	Breastwall
B504	38	19'-0"	Backwall
B506	8	3'-3"	Backwall
B507	22	21'-9"	Breastwall
B508	22	23'-0"	Backwall
B509	22	4'-6"	Breastwall
B510	10	24'-3"	Backwall
~~B512~~	~~14~~	~~2'-0"~~	~~Approach Slab Seat~~
B513	2	9'-6"	East Wing
B514	↑	10'-6"	↑
B515		11'-6"	
B516		12'-6"	
B517	↓	13'-6"	↓
B518	2	14'-6"	East Wing
B519	4	2'-4"	Wings
B520	↑	7'-0"	↑
B521	↓	11'-8"	
B522	4	16'-4"	
B523	40	16'-8"	↓
B524	24	8'-0"	Wings
~~B526~~	~~2~~	~~5'-8"~~	~~East Wing~~
B527	↑	6'-8"	↑
B528		7'-8"	
B529		8'-8"	
B530	↓	9'-8"	↓
B531	2	10'-8"	East Wing
B532	4	17'-6"	Wings
B533	2	9'-4"	West Wing
B534	↑	10'-4"	↑
B535	↓	11'-4"	↓
B536	2	12'-5"	West Wing

MARK	NO.	LENGTH	LOCATION
ABUTMENT No 2			
B537	2	13'-5	West Wing
B538	↑	14'-6"	↑
B539		5'-6"	
B540		6'-6"	
B541		7'-6"	
B542		8'-7"	
B543	↓	9'-7"	
B544	2	10'-8"	West Wing
B600	46	12'-3"	Footing
B601	26	17'-8"	↑
B602	26	30'-0"	
B603	48	11'-0"	↓
B604	48	22'-8"	Footing
B605	46	8'-3"	Wings
B800	39	17'-3"	Footing
SUPERSTRUCTURE			
S501	176	44'-4	Slab Transverse
S502	160	30'-0"	Slab Longitudinal
S503	80	32'-0"	Slab Longitudinal
S504	20	15'-0"	Curb
S506	4	12'-3"	Curb
~~S507~~	~~8~~	~~5'-0"~~	~~Slab at Drains~~
S300	90	40'-6"	Wearing Surface
S301	82	30'-0"	Wearing Surface
S302	41	31'-6"	Wearing Surface

BENT BARS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
ABUTMENT No. 1														
A502	30	17'-0"	L	4'-0"	13'-0"	—	—	—	—	—	—	—	—	Breastwall
A505	28	5'-6"	S	0	2'-2"	1'-2"	2'-2"	—	—	0	—	—	—	Backwall
~~A543~~	~~4~~	~~6'-0"~~	~~S~~	~~0~~	~~2'-4"~~	~~1'-4"~~	~~2'-4"~~	—	—	~~0~~	—	—	—	~~Parapet~~
~~A546~~	~~4~~	~~5'-8"~~	~~S~~	~~0~~	~~2'-4"~~	~~1'-0"~~	~~2'-4"~~	—	—	~~0~~	—	—	—	~~Curb~~
A700	40	8'-8"	J	0'-9"	1'-7"	6'-4"	—	—	—	—	0	—	12"	Footing
ABUTMENT No. 2														
B502	30	19'-0"	L	15'-0"	4'-0"	—	—	—	—	—	—	—	—	Breastwall
B505	28	5'-8"	S	0	2'-3"	1'-2"	2'-3"	—	—	0	—	—	—	Backwall
~~B506~~	~~4~~	~~6'-0"~~	~~S~~	~~0~~	~~2'-4"~~	~~1'-4"~~	~~2'-4"~~	—	—	~~0~~	—	—	—	~~Parapet~~
~~B545~~	~~4~~	~~5'-8"~~	~~S~~	~~0~~	~~2'-4"~~	~~1'-0"~~	~~2'-4"~~	—	—	~~0~~	—	—	—	~~Curb~~
B900	52	12'-5"	J	3'-2"	1'-7"	7'-6"	—	—	—	—	—	—	12"	Footing
SUPERSTRUCTURE														
S500	89	46'-3"	B	—	4'-0 3/4"	7 3/4"	3'-3 5/8"	3'-3 5/8"	4'-0 3/4"	—	5 1/8"	4'-4"	—	Slab Transverse
~~S505~~	~~188~~	~~5'-0"~~	~~S~~	~~6"~~	~~1'-6"~~	~~1'-0"~~	~~1'-6"~~	—	—	~~6"~~	—	—	—	~~Curb~~
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION

TYPE-BENDING DIAGRAMS



All dimensions are out to out of reinf. bar

Bending details and hooks shall conform to the recommendations of ACI Standard 315-65.

Reinforcing Bar: ASTM A615 Grade 60

GENERAL NOTES

1. First digit(s) following the letter of the Mark indicates size of reinf. bar.
   Mark (A502) bar size - #5
   Mark (P1001) bar size - #10
   Mark (S603) bar size - #6
2. Each truss bar (S500) may be replaced by two straight bars (one top & one bottom) of the same bar size as the truss bar. Payment, in either case, shall be based on truss bars as scheduled on the plans.

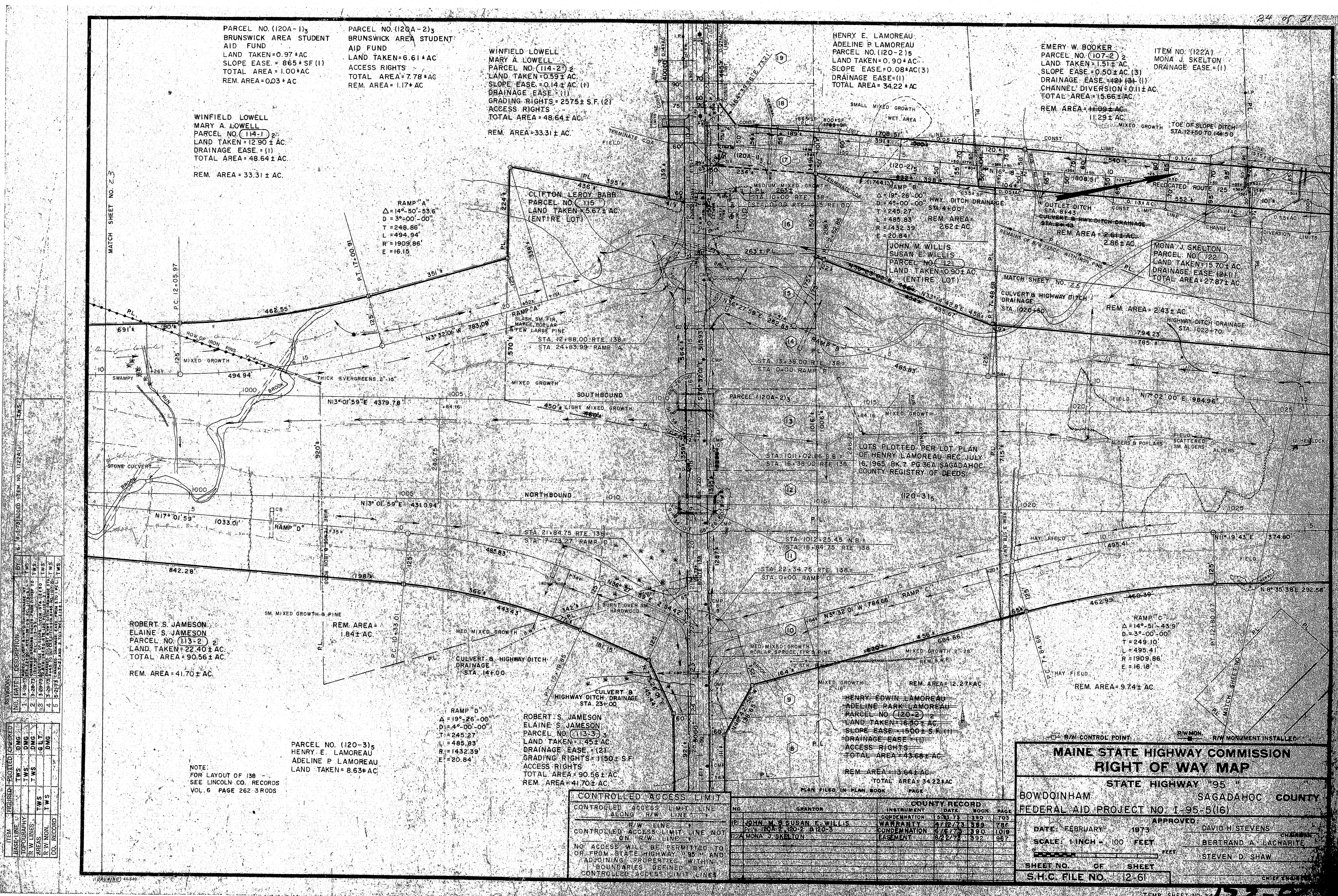
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

INTERSTATE 95
OVER
ROUTE 138
IN THE TOWN OF
BOWDOINHAM
SAGADAHOC COUNTY
REINFORCING STEEL SCHEDULE NORTHBOUND

SHEET 23 OF 31 AUGUSTA, MAINE March 1975

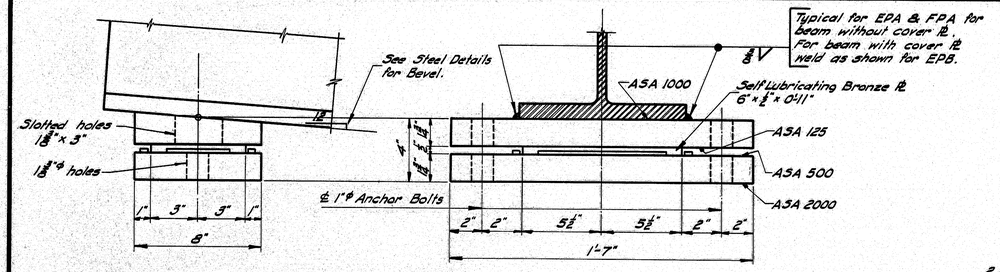
172-95

PLANS	BY	DATE
DESIGN - DETAIL	RJL	3-70
CHECKED		
REVISIONS		
FIELD CHANGES		

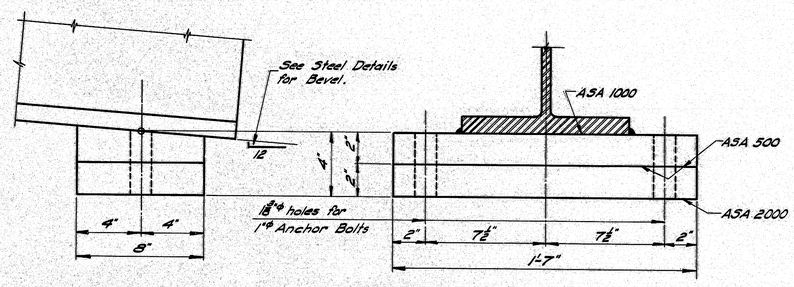


24 of 31
PARCEL NO. (120A-1)3
BRUNSWICK AREA STUDENT AID FUND
LAND TAKEN=0.97± AC
SLOPE EASE.=865± SF (1)
TOTAL AREA=1.00± AC
REM. AREA=0.03± AC
PARCEL NO. (120A-2)3
BRUNSWICK AREA STUDENT AID FUND
LAND TAKEN=6.61± AC
ACCESS RIGHTS
TOTAL AREA=7.78± AC
REM. AREA=1.17± AC
WINFIELD LOWELL
MARY A. LOWELL
PARCEL NO. (114-2) 2
LAND TAKEN=0.59± AC.
SLOPE EASE.=0.14± AC. (1)
DRAINAGE EASE.(1)
GRADING RIGHTS=2575± S.F. (2)
ACCESS RIGHTS
TOTAL AREA=48.64± AC.
REM. AREA=33.31± AC.
HENRY E. LAMOREAU
ADELINE P. LAMOREAU
PARCEL NO. (120-2) 5
LAND TAKEN=0.90± AC
SLOPE EASE.=0.08± AC (3)
DRAINAGE EASE (1)
TOTAL AREA=34.22± AC
EMERY W. BOOKER
PARCEL NO. (107-2) 2
LAND TAKEN=1.51± AC
SLOPE EASE.=0.50± AC (3)
DRAINAGE EASE.(1)
CHANNEL DIVERSION=0.11± AC
TOTAL AREA=15.66± AC.
REM. AREA=11.29± AC.
ITEM NO. (122A)
MONA J. SKELTON
DRAINAGE EASE.(1)
WINFIELD LOWELL
MARY A. LOWELL
PARCEL NO. (114-1) 2
LAND TAKEN=12.90± AC.
DRAINAGE EASE.(1)
TOTAL AREA=48.64± AC.
REM. AREA=33.31± AC.
MATCH SHEET NO. 23
CLIFTON LEROY BABB
PARCEL NO. 115
LAND TAKEN=5.67± AC.
(ENTIRE LOT)
RAMP "A"
Δ=14°-50'-53.6"
D=3°-00'-00"
T=248.86'
L=494.94'
R=1909.86'
E=16.15
JOHN M. WILLIS
SUSAN E. WILLIS
PARCEL NO. 121
LAND TAKEN=0.90± AC
(ENTIRE LOT)
RAMP "B"
Δ=19°-26'-00"
D=4°-00'-00"
T=245.27
L=485.83
R=1432.39
E=20.84
REM. AREA=2.62± AC
MONA J. SKELTON
PARCEL NO. 122
LAND TAKEN=15.70± AC.
DRAINAGE EASE.(1)
TOTAL AREA=27.87± AC.
REM. AREA=2.43± AC.
MATCH SHEET NO. 25
RELOCATED ROUTE 125
OUTLET DITCH STA. 8+43
TOE OF SLOPE DITCH STA. 12+50 TO 14+50
CULVERT & HIGHWAY DITCH DRAINAGE STA. 1020+50
HIGHWAY DITCH DRAINAGE STA. 1022+70
N3°32'01"W 783.08'
STA. 12+88.00 RTE. 138
STA. 24+83.99 RAMP "A"
STA. 13+38.00 RTE. 138
STA. 0+00 RAMP "B"
SOUTHBOUND
NORTHBOUND
N13°01'59"E 4379.78'
N13°01'59"E 4310.94'
N17°01'59" 1033.01'
N17°02'00"E 984.96'
PARCEL (120A-2)3
LOTS PLOTTED PER LOT PLAN OF HENRY LAMOREAU REC. JULY 16, 1965 BK. 7 PG. 36A SAGADAHOC COUNTY REGISTRY OF DEEDS
STA. 1011+02.86 S.B.
STA. 16+38.00 RTE. 138
(120-3)5
STA. 21+84.75 RTE. 138
STA. 1012+25.45 N.B.
STA. 18+84.75 RTE. 138
STA. 22+34.75 RTE. 138
STA. 0+00 RAMP "C"
N3°32'01"W 784.66
RAMP "C"
Δ=14°-51'-43.9"
D=3°-00'-00"
T=249.10'
L=495.41
R=1909.86'
E=16.18'
REM. AREA=9.74± AC.
ROBERT S. JAMESON
ELAINE S. JAMESON
PARCEL NO. (113-2) 2
LAND TAKEN=22.40± AC.
TOTAL AREA=90.56± AC.
REM. AREA=41.70± AC.
REM. AREA=1.84± AC.
CULVERT & HIGHWAY DITCH DRAINAGE STA. 14+00
CULVERT & HIGHWAY DITCH DRAINAGE STA. 23+00
RAMP "D"
Δ=19°-26'-00"
D=4°-00'-00"
T=245.27
L=485.83'
R=1432.39'
E=20.84
ROBERT S. JAMESON
ELAINE S. JAMESON
PARCEL NO. (113-3) 2
LAND TAKEN=1.45± AC.
DRAINAGE EASE.(2)
GRADING RIGHTS=1150± S.F.
ACCESS RIGHTS
TOTAL AREA=90.56± AC.
REM. AREA=41.70± AC.
HENRY EDWIN LAMOREAU
ADELINE PARK LAMOREAU
PARCEL NO. (120-2) 2
LAND TAKEN=1.60± AC.
SLOPE EASE.=1500± S.F. (1)
DRAINAGE EASE.(1)
ACCESS RIGHTS
TOTAL AREA=43.65± AC.
REM. AREA=13.64± AC.
TOTAL AREA=34.22± AC.
REM. AREA=12.27± AC.
PARCEL NO. (120-3)5
HENRY E. LAMOREAU
ADELINE P. LAMOREAU
LAND TAKEN=8.63± AC.
NOTE:
FOR LAYOUT OF 138 - SEE LINCOLN CO. RECORDS VOL. 6 PAGE 262 3 RODS
CONTROLLED ACCESS LIMIT
CONTROLLED ACCESS LIMIT LINE ALONG R/W LINE
R/W LINE
CONTROLLED ACCESS LIMIT LINE NOT ON R/W LINE
NO ACCESS WILL BE PERMITTED TO OR FROM STATE HIGHWAY "95" AND ADJOINING PROPERTIES WITHIN BOUNDARIES DEFINED BY CONTROLLED ACCESS LIMIT LINES
COUNTY RECORD
JOHN M. & SUSAN E. WILLIS
MONA J. SKELTON
R/W CONTROL POINT
R/W MON.
R/W MONUMENT INSTALLED
MAINE STATE HIGHWAY COMMISSION
RIGHT OF WAY MAP
STATE HIGHWAY "95"
BOWDOINHAM
SAGADAHOC COUNTY
FEDERAL AID PROJECT NO. I-95-5(16)
DATE: FEBRUARY 1973
SCALE: 1 INCH = 100 FEET
APPROVED
DAVID H. STEVENS
BERTRAND A. LACHARITE
STEVEN D. SHAW
SHEET NO. OF SHEET
S.H.C. FILE NO. 12-61
TEMP. SHEET NO. 24
172-96
REVISIONS
ITEM
BASE LINE
TOPOGRAPHY
R/W LINES
AREAS
R/W MON.
CO. RECORD

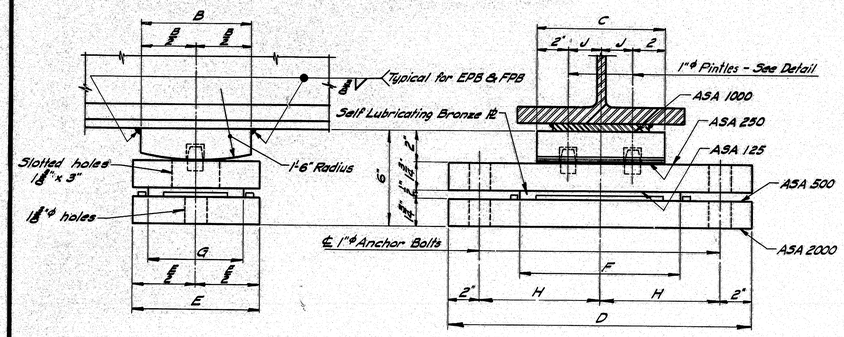
B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	25	31



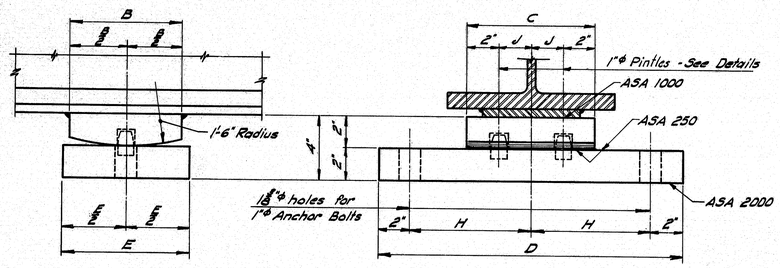
EXPANSION PEDESTAL - EPA



FIXED PEDESTAL - FPA



EXPANSION PEDESTAL - EPB



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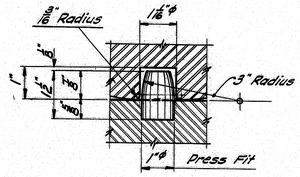
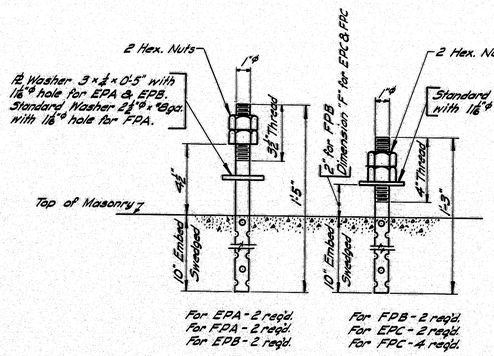
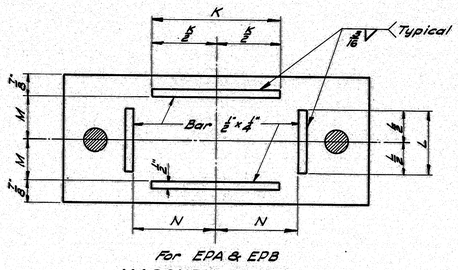


PINTLE DETAIL

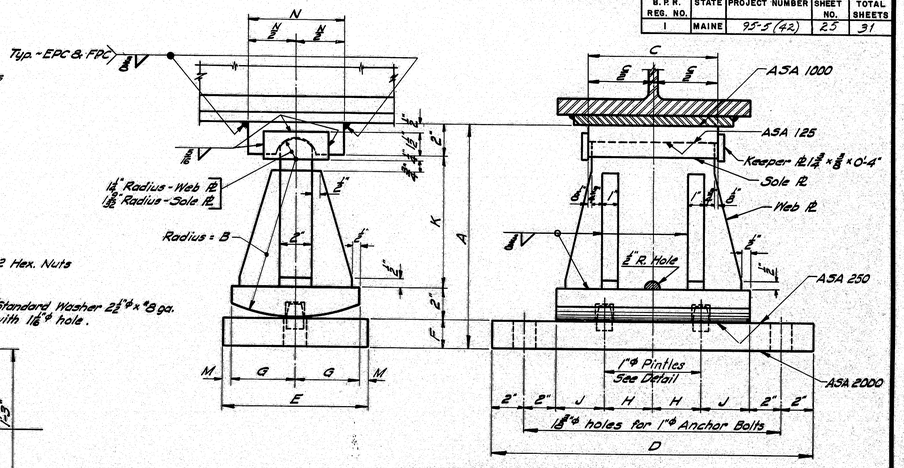


ANCHOR BOLT DETAIL

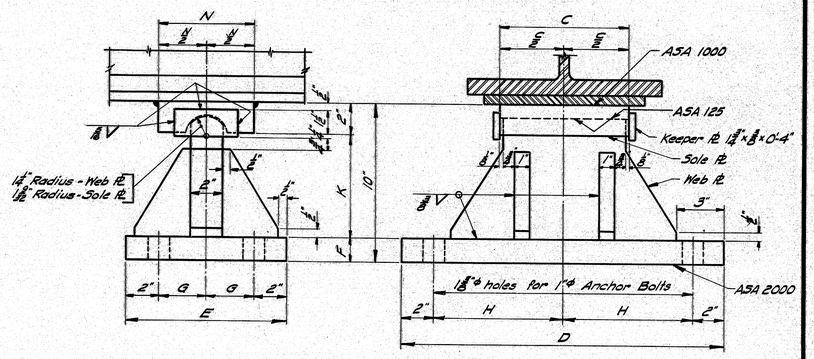


For EPA & EPB

MASONRY PLATE



EXPANSION PEDESTAL - EPC



FIXED PEDESTAL - FPC

NOTE: At the location of bearing pedestals the concrete bridge seats shall be dressed one inch larger all around than size of masonry plates and to exact elevations shown on the plans. If dressed areas are below the surface of the surrounding bridge seat a small channel shall be cut to the edge of the bridge seat for drainage where required by the Engineer. Channels shall have a min. width of 2", and min. slope of 1/2 inch per foot. No separate payment for this work will be made as it shall be considered incidental to contract items.

PEDESTALS — ALLOWABLE LOADS & DIMENSIONS

Pedestal	Load	A	B	C	D	E	F	G	H	J	K	L	M	N
EPA	132 K	—	—	—	—	—	—	—	—	—	8"	4"	3 5/8"	5 5/8"
FPA	150 K	—	—	—	—	—	—	—	—	—	—	—	—	—
EPB-1	120 K	—	6"	8"	1'-7"	8"	10"	6"	7 1/2"	2"	8"	4"	3 5/8"	5 5/8"
EPB-2	165 K	—	7"	10"	1'-8"	9"	1'-0"	7"	8"	3"	10"	5"	3 5/8"	6 5/8"
EPB-3	224 K	—	8"	1'-1"	2'-0"	10"	1'-4"	8"	10"	4 1/2"	1'-2"	5"	4 5/8"	8 5/8"
FPB-1	120 K	—	6"	8"	1'-7"	8"	—	—	7 1/2"	2"	—	—	—	—
FPB-2	165 K	—	7"	10"	1'-8"	9"	—	—	8"	3"	—	—	—	—
FPB-3	224 K	—	8"	1'-2"	2'-0"	10"	—	—	10"	5"	—	—	—	—
EPC-1	70 K	9 3/8"	6"	8"	1'-8"	8"	1 1/2"	3 1/2"	3"	3"	4 1/2"	—	1/2"	6"
EPC-2	100 K	11 3/8"	8"	8"	1'-8"	8"	1 1/2"	3 1/2"	3"	3"	6 1/2"	—	1/2"	6"
EPC-3	130 K	1'-2"	10"	8"	1'-8"	9"	1 1/2"	4"	3"	3"	8 1/2"	—	1/2"	7"
EPC-4	160 K	1'-2"	10"	8"	1'-10"	9"	1 1/2"	4"	4"	3"	8 1/2"	—	1/2"	7"
EPC-5	190 K	1'-2 1/2"	10"	9"	2'-0"	10"	2"	4 1/2"	5"	3"	8 1/2"	—	1/2"	8"
EPC-6	220 K	1'-4 1/2"	1'-0"	10"	2'-0"	1'-0"	2 1/2"	5"	5"	3"	10 1/2"	—	1"	8"
EPC-7	250 K	1'-4 1/2"	1'-0"	1'-0"	2'-2"	1'-0"	2 1/2"	5"	5"	4"	10 1/2"	—	1"	8"
FPC-1	100 K	—	—	8"	1'-8"	9"	1 1/2"	2 1/2"	8"	—	6 1/2"	—	—	6"
FPC-2	160 K	—	—	8"	1'-8"	10"	1 1/2"	3"	8"	—	6 1/2"	—	—	7"
FPC-3	190 K	—	—	9"	2'-0"	10"	1 1/2"	3"	10"	—	6 1/2"	—	—	8"
FPC-4	220 K	—	—	10"	2'-0"	1'-0"	1 1/2"	4"	10"	—	6 1/2"	—	—	8"
FPC-5	250 K	—	—	1'-0"	2'-0"	1'-0"	2"	4"	10"	—	6"	—	—	8"

DESIGN SPECIFICATIONS

A.A.S.H.O., Standard Specifications for Highway Bridges, 1973

A.S.T.M. STEEL CLASSIFICATION

Anchor Bolts - A36
All other - A36.

A	Charpy V Notch tests are not required	2-5-75
	REVISIONS	DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS

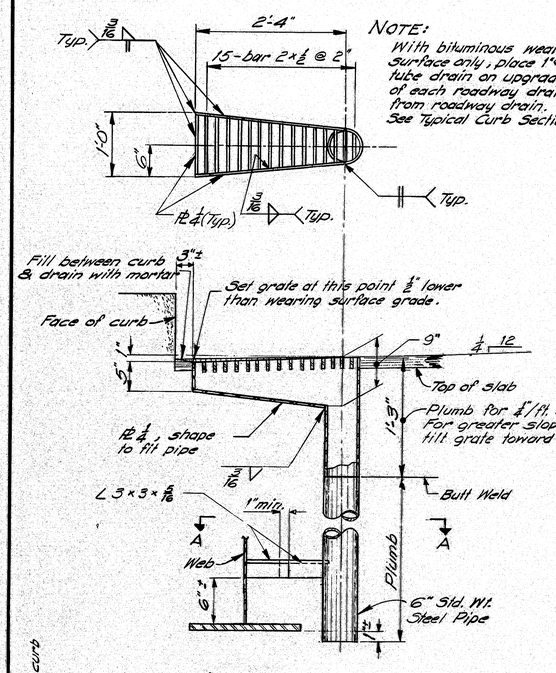
(BD 101 -74)

BEARING PEDESTALS

SHEET 25 OF 31 AUGUSTA, ME. APRIL, 1974

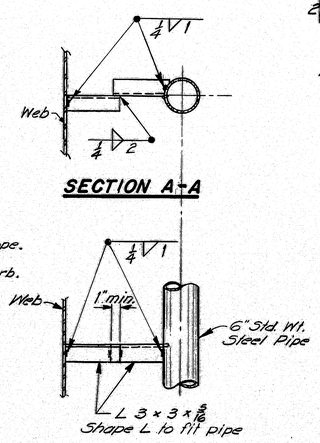
172-97

B.P.R. DIV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	26	31



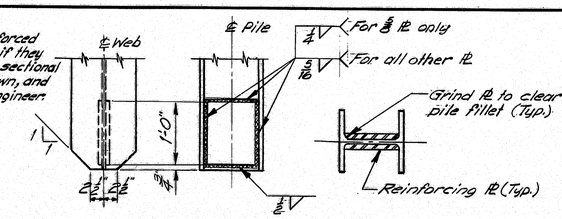
NOTE:
With bituminous wearing surface only, place 1"φ plastic tube drain on upgrade side of each roadway drain, 3"± from roadway drain. See Typical Curb Section.

DRAIN



SECTION A-A

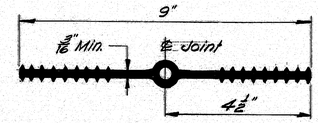
NOTE:
Alternate pointed reinforced pile tips may be used if they have at least the cross-sectional area of the pile tip shown, and are approved by the Engineer.



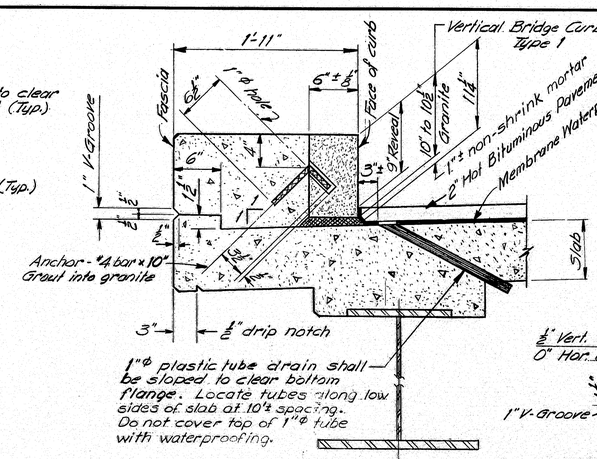
POINTED REINFORCED PILE TIP

NOTE: Plates may be shop or field welded

STEEL HP BEARING PILES	
PILE SIZE	REINF. PL SIZE
HP 10 × 42	8¾ × ⅜ × 1'-0"
HP 10 × 57	8¾ × ⅜ × 1'-0"
HP 12 × 53	10¾ × ⅜ × 1'-0"
HP 12 × 74	10¾ × ⅜ × 1'-0"
HP 14 × 73	12½ × ⅜ × 1'-0"
HP 14 × 89	12½ × 1 × 1'-0"

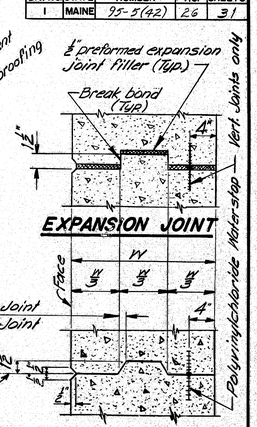


POLYVINYLCHLORIDE WATERSTOP



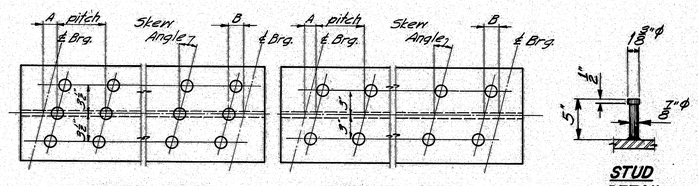
CURB SECTION

(Hot Bituminous Pavement only)



EXPANSION JOINT

CONSTRUCTION & CONTRACTION JOINTS



TRIPLE STUDS

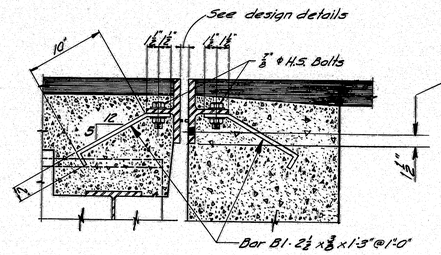
DOUBLE STUDS

STUD DETAIL

NOTE

1. Studs shall be granular or solid flux filled and automatically end welded to top flange in the shop or field.
2. See the design details for Dimensions "A" & "B", stud pitch and skew angle for studs.

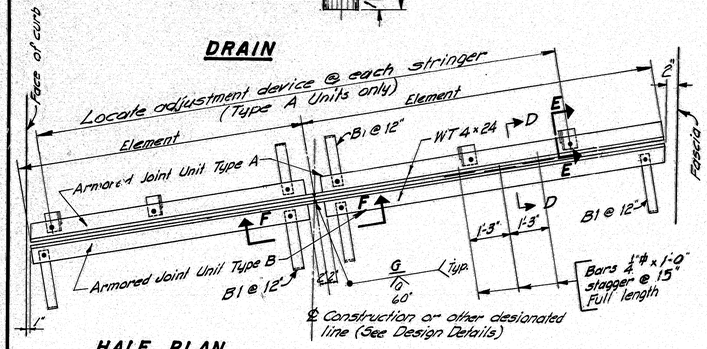
SHEAR CONNECTORS



ARMORED JOINT UNIT TYPE A

ARMORED JOINT UNIT TYPE B

SECTION D-D



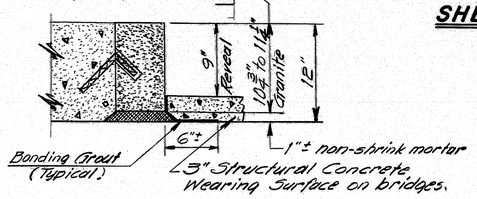
HALF PLAN

Curb to curb

HALF PLAN

Fascia to Fascia

See Curb Section (Hot Bit. Pav't.) for details of Vertical Bridge Curb Type 1, except as shown.

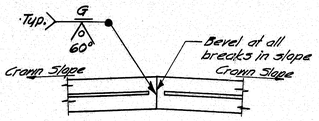


CURB SECTION

(Structural Concrete Wearing Surface)

NOTE

Use only those items called for on design details. In case of conflict between these Standard Details and design details, the requirements of the design details shall be followed.
Drains to be incidental, see sub-section 502.20



SECTION F-F

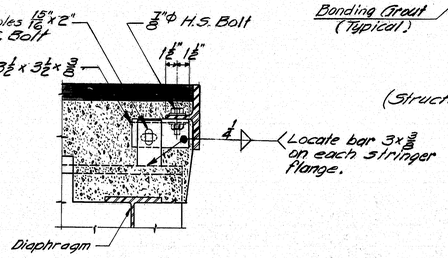
Note: See design details for constr. ℄ to curb dimensions, skew, crown slope, slab thickness, other dimensions necessary to complete the fabrication details, and location.

NOTE

1. Type A Armored Joint Units are intended to be used for attachment to superstructures. Type B Armored Joint Units are intended to be used for attachment to abutments. At armored joints over piers, two (2) Type A Armored Joint Units shall be used.
2. When more elements than two (2) are required by the design details, the elements of both units shall be field welded together in the same manner as shown in Section F-F.
3. Armored Joints to be paid for as Structural Steel.

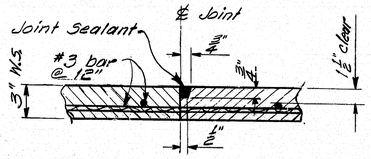
ARMORED JOINT

An armored joint consists of two armored joint units. See note 1.



SECTION E-E

Showing Adjustment Device Armored Joint Unit Type A only. After Unit is in final position weld ⅜ bar to angle with ½ fillet.



CONSTRUCTION JOINT

(Typical for concrete wear. surf.)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS

(BD 104-73)

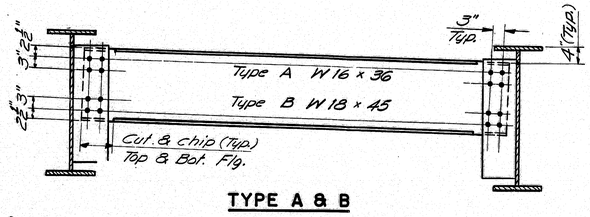
ARMORED JOINT, DRAIN
SHEAR CONNECTORS
MISC. STRUCTURAL DETAILS

SHEET 26 OF 31 AUGUSTA, ME. JULY 1973

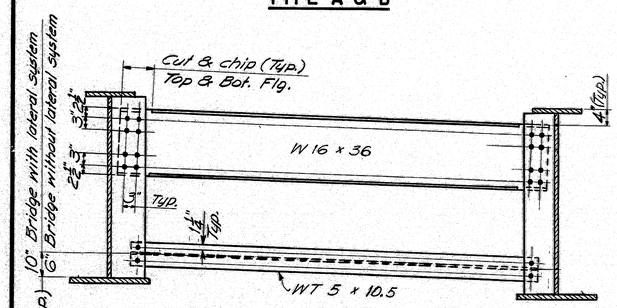
172-98

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	27	31

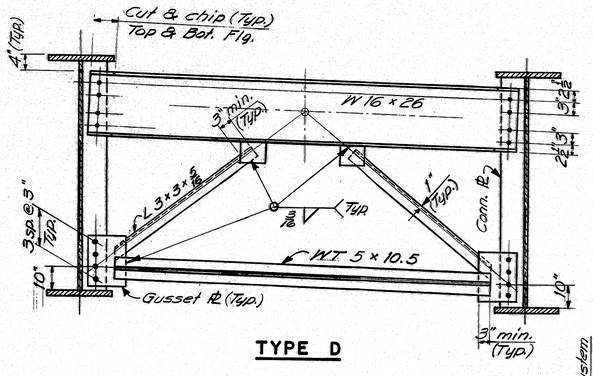
NOTE A This dimension may be varied (±1") to allow a series of diagonals to have the same slope.



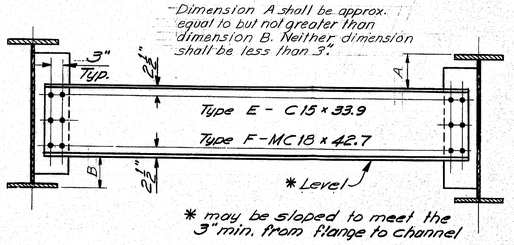
TYPE A & B



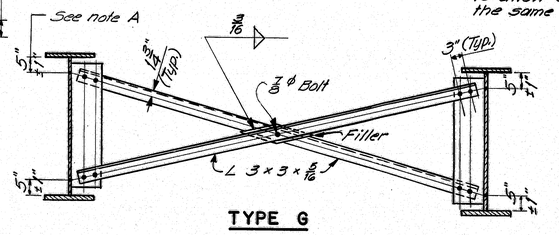
TYPE C



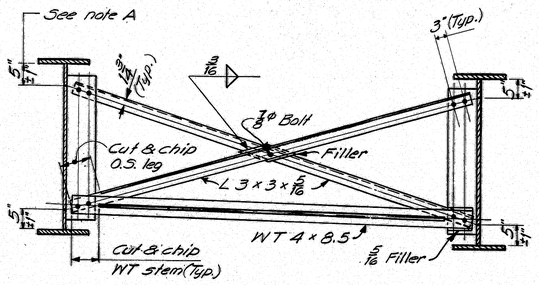
TYPE D



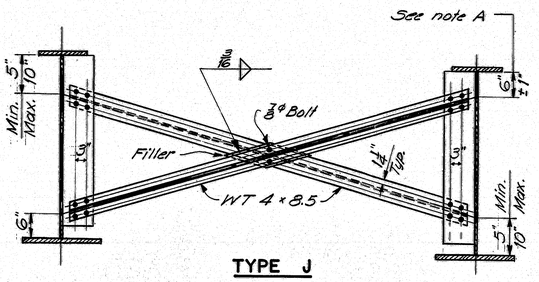
TYPE E & F



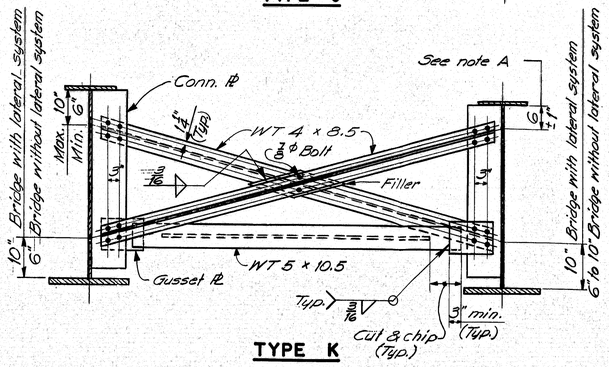
TYPE G



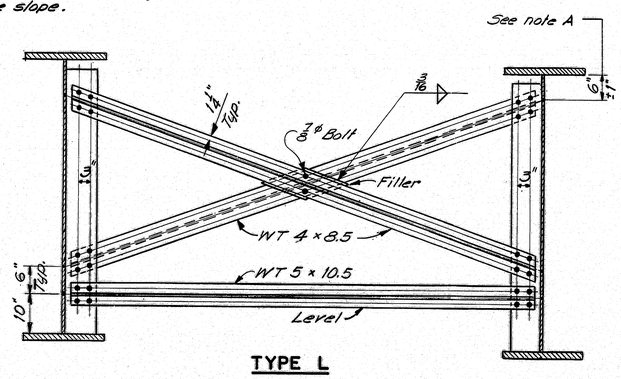
TYPE H



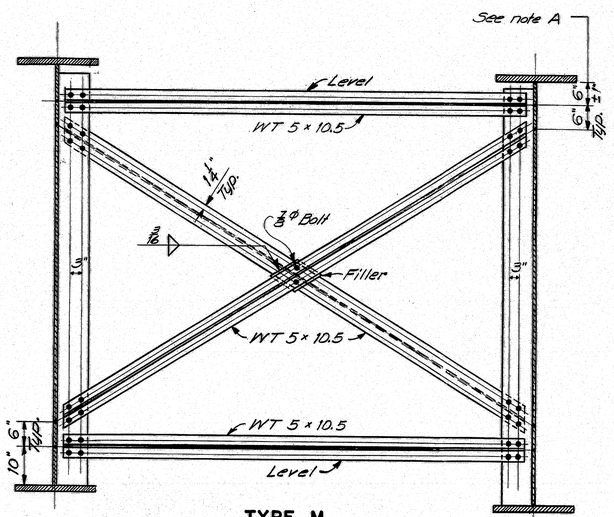
TYPE J



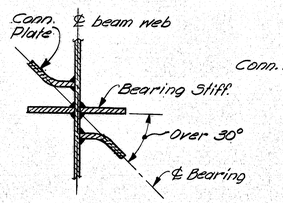
TYPE K



TYPE L

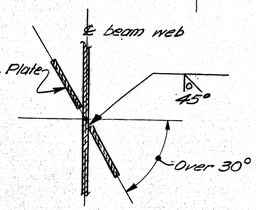


TYPE M



DETAIL A

Referenced from Note 5



DETAIL B

Referenced from Note 4

MATERIALS

Diaphragms, Crossframes and All Plates (Filler, gusset, and connection) ASTM A36

High Strength Bolts 7/8" diameter — — — ASTM A 325

FABRICATION NOTES

1. For location and type of diaphragm or crossframe see design details.
2. Holes for 7/8" diameter bolts shall be 15/16" dia. and Edge distances shall be 1 1/2" minimum unless otherwise shown.
3. Connection plates and gusset plates shall have a minimum thickness of 3/8" and shall have sufficient width to provide erection clearances. When bearing stiffeners or intermediate stiffeners are used as connection plates, the plate size will be given on the design details.
4. Connection plates shall be fastened to beam and girder webs as follows:
   - 0° to 30° skew --- fillet weld both sides.
   - Over 30° skew --- full penetration groove weld (See Detail B) except as indicated in Note 5
   - Over 45° skew - weld prequalification will be required.

   The skew angle is the angle between the connection plate and a line normal to the beam.
5. Bearing stiffeners shall be used as connection plates when the skew is not over 30°. When the skew is over 30° a bent connection plate shall be attached to the web adjacent to the bearing stiff. as shown in Detail A.
6. All fillet weld sizes shall be the minimum for the thickness of metal being joined according to AWS Specifications for Welded Highway & Railway Bridges.
7. Connection plates on welded beams and girders shall extend to the top flange in areas where the top flange is always in compression or when used as a bearing stiffener or intermediate stiff.
8. Connection plates shall extend to the bottom flange when used as a bearing stiffener, at points where lateral bracing is attached & on welded beams and girders in areas where the bottom flange is always in compression.
9. When a conn. plate is extended to a flange it shall be a paint tight fit except as otherwise indicated on design details.
10. Conn. plates shall be 2 1/2" clear from flanges, except as indicated by Notes 7&8.
11. Use only those items called for on the design details. In case of conflict between these standard details and the design details, the design details shall be followed.

PLANS	BY	DATE
DESIGN - DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS
(BD 113 - 72)

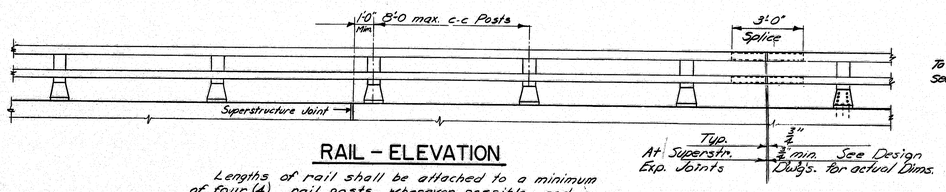
DIAPHRAGMS & CROSSFRAMES

SHEET 27 OF 31 AUGUSTA, MAINE SEPT. 1972

172-99

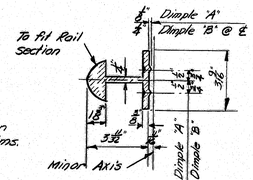
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	28	31.

DESIGN SPECIFICATIONS
A.A.S.H.O. Standard Specifications for Highway Bridges 1969 and Interim Specifications.

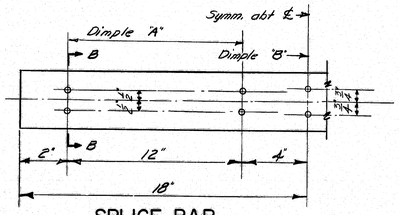


RAIL - ELEVATION

Lengths of rail shall be attached to a minimum of four (4) rail posts wherever possible, and in any case never less than two (2). Rail posts are to be set normal to grade unless otherwise shown on the Bridge Plans.

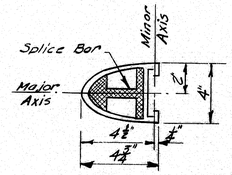


SECTION B-B



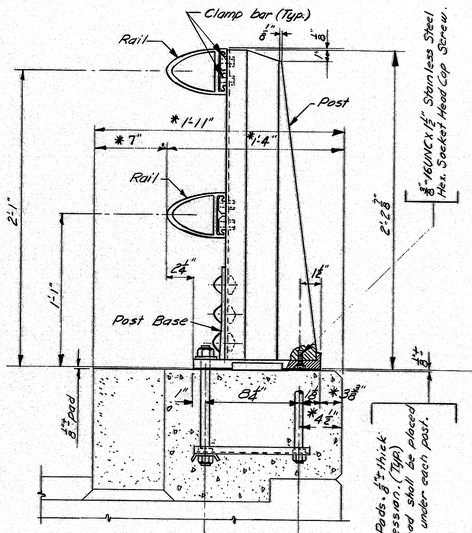
SPLICE BAR

Note - An alternate to the dimple system for holding the splice bar in position may be used if approved by the Engineer.



RAIL SECTION

See "Rail Detail"

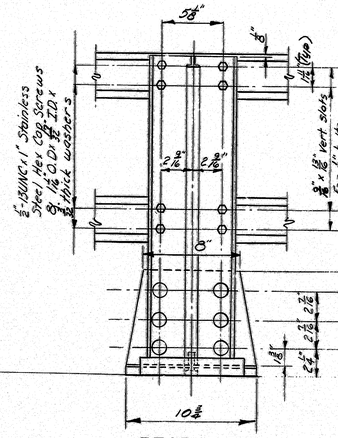


BRIDGE RAIL

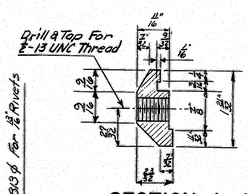
(Assembly)

* Preferable minimum dimensions. For actual dimensions see Bridge Plan.

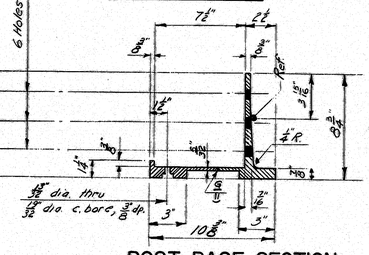
Preformed Pads, ½" thick after compression. (Typ) At least one pad shall be placed at front & back under each post.



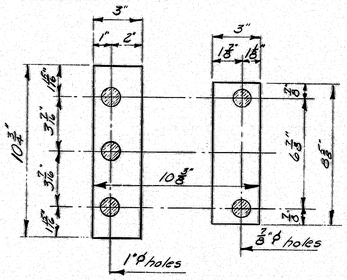
REAR ELEV.



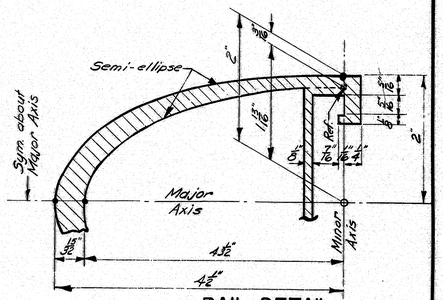
SECTION A-A



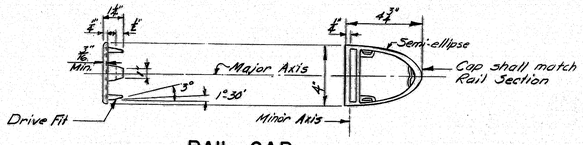
POST BASE SECTION



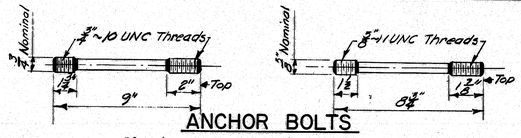
PREFORMED PADS



RAIL DETAIL

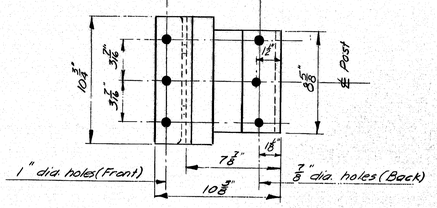


RAIL CAP



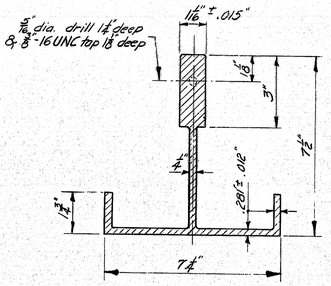
ANCHOR BOLTS

If cut threads are used, body diameter shall be not less than nominal diameter.
If rolled threads are used, body diameter shall be not less than root diameter of the threads.

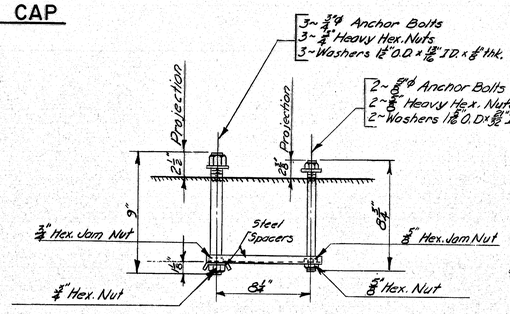


POST BASE

(Bottom View)

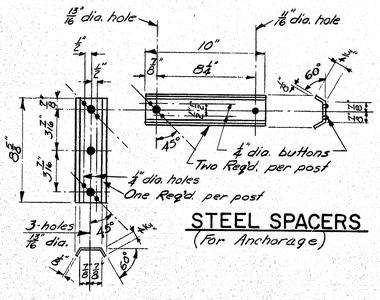


POST SECTION



RAIL POST ANCHORAGE

(Assembly)



STEEL SPACERS

(For Anchorage)

PLANS	BY	DATE
DESIGN - DETAILED	K. Meade / K. Leach	Jan. 1973
CHECKED		
REVISIONS		
FIELD CHANGES		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS

(BD 114-73)

ALUMINUM RAILING

2 - BAR (SEMI-ELLIPSE)
EXTRUDED POST

SHEET 28 OF 31 AUGUSTA, MAINE FEBRUARY 1973

JANUARY 1969

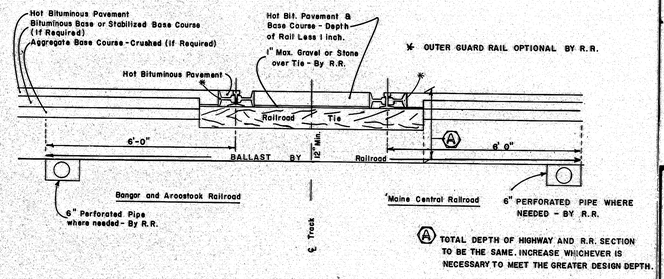
203-1 2080

172-100

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	29	31

NOTES:

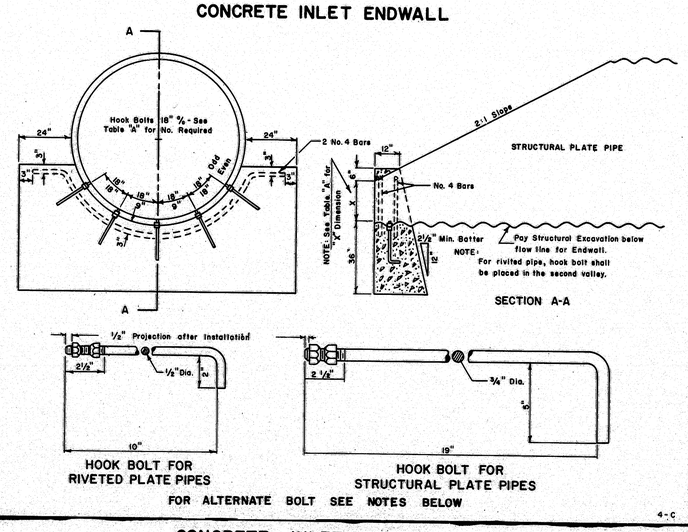
1. CREOSOTED TIES THROUGH CROSSING.
2. RAIL JOINTS IN CROSSING TO BE WELDED.
3. STONE BALLAST TO EXTEND ALONG TRACK BEYOND EACH SIDE OF THE CROSSING FOR A DISTANCE OF APPROXIMATELY 40' AT SAME MINIMUM DEPTH AS THRU CROSSING- THEN TAPER TO A MIN. DEPTH UNDER TIES OF 6" IN THE NEXT 40'.
4. WORK TO BE DONE BY RAILROAD
   (a) PLACEMENT OF BALLAST.
   (b) PLACEMENT OF TIES AND RAILS.
   (c) PLACEMENT OF 1" MAX. GRAVEL OVER TIES.
5. PAVING ALONG TRACK TO BE OUT TO OUT OF SHOULDER TAPERED TO NORMAL PAVING WIDTH IN ABOUT 25 FEET.
6. STYRA FOAM-IS OPTIONAL UNDER HIGHWAY APPROACHES TO THE CROSSING AREA.
7. NOT TO SCALE.



RAILROAD GRADE CROSSING DETAIL

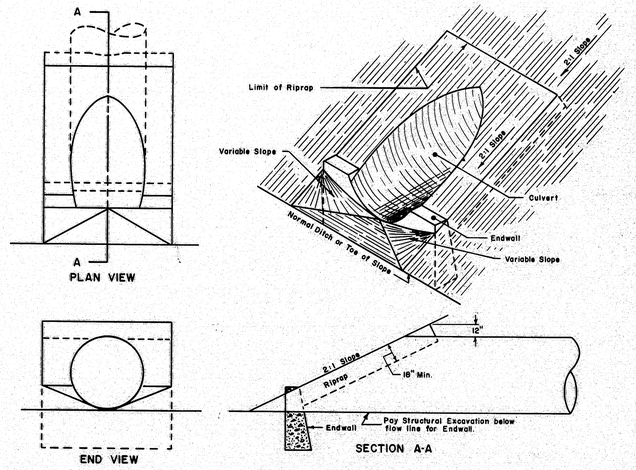
4-A

CONCRETE INLET ENDWALL



4-C

CONCRETE INLET ENDWALLS FOR RIVETED AND STRUCTURAL PLATE PIPES 60" TO 180" IN 2:1 SLOPES



4-E

CONCRETE INLET ENDWALL

TABLE A

RIVETED PIPES		
SIZE	NO. BOLTS REQUIRED	"X" DIMENSION
60"	4	1.5
66"	4	1.5
72"	4	1.5
78"	5	1.5
84"	5	1.5

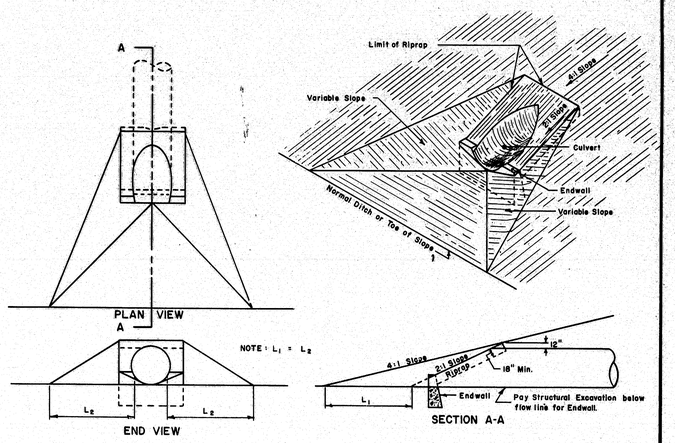
STRUCTURAL PLATE PIPE		
SIZE	NO. BOLTS REQUIRED	"X" DIMENSION
72"	4	1.5"
78"	5	1.625"
84"	5	1.75"
90"	5	1.875"
96"	6	2.0"
102"	6	2.125"
108"	6	2.25"
114"	7	2.375"
120"	7	2.5"
126"	7	2.625"
132"	8	2.75"
138"	8	2.875"
144"	9	3.0"
150"	9	3.125"
156"	9	3.25"
162"	10	3.375
168"	10	3.5"
174"	10	3.625"
180"	11	3.75"

NOTES

1. Culverts installed under 2:1 slopes shall have riprap laid on 2:1 slope and no ditch transitions. All riprap as shown shall be hand laid.
2. Excavation required to grade culvert inlets and outlets as shown will not be paid separately, but will be incidental to the culvert.
3. Bolts are required in metal pipes only and will be incidental to concrete items.
4. Concrete endwalls shall be structural concrete class "A" and shall be paid for as Item 502.32 structural concrete culvert endwalls. Reinforcing steel will not be paid for separately but will be considered incidental to Item 502.32.
5. Standard galvanized carriage or machine bolts 1/2" x 8" long or 3/4" x 12" long with minimum of 2" thread, may be furnished in place of hook bolts. Washers shall be furnished at the head of each bolt.
6. Bolt material shall conform to ASTM A307. Nuts shall conform to ASTM A563. Bolts, nuts, and washers shall be hot dip galvanized after fabrication to meet ASTM A153.

4-B

CONCRETE INLET ENDWALLS FOR RIVETED AND STRUCTURAL PLATE PIPES 60" TO 180" IN 4:1 SLOPES

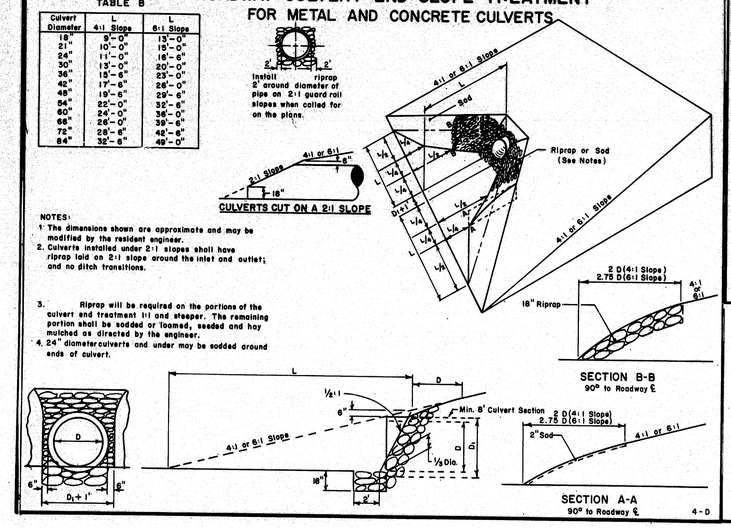


4-F

ROADWAY CULVERT END SLOPE TREATMENT FOR METAL AND CONCRETE CULVERTS

TABLE B

Culvert Diameter	L 4:1 Slope	L 6:1 Slope
18"	9'-0"	13'-0"
21"	10'-0"	15'-0"
24"	11'-0"	16'-6"
30"	13'-0"	20'-0"
36"	15'-6"	23'-0"
42"	17'-6"	26'-0"
48"	19'-6"	29'-6"
54"	22'-0"	32'-6"
60"	24'-0"	36'-0"
66"	26'-0"	39'-6"
72"	26'-6"	42'-6"
84"	32'-6"	49'-0"



NOTES:

1. The dimensions shown are approximate and may be modified by the resident engineer.
2. Culverts installed under 2:1 slopes shall have riprap laid on 2:1 slope around the inlet and outlet; and no ditch transitions.
3. Riprap will be required on the portions of the culvert end treatment 1:1 and steeper. The remaining portion shall be sodded or loamed, seeded and hay mulched as directed by the engineer.
4. 24" diameter culverts and under may be sodded around ends of culvert.

4-D

REVISIONS	
Plate 4-D	12-23-69
PLATE A,B,C	2-15-72
PLATE 'A'	6-18-74

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

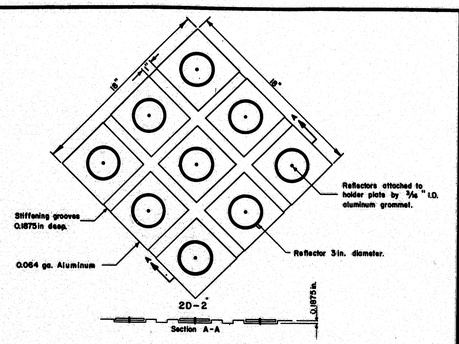
STANDARD DETAILS

CULVERT INLETS & OUTLETS

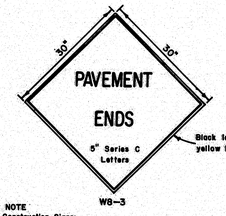
AUG. 1969

4

172-101



HAZARD MARKER

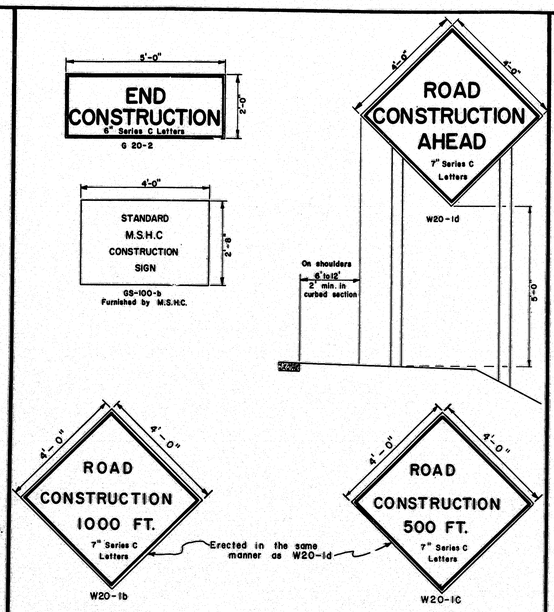


NOTE

SIGNING IN AN AREA WHERE BLASTING IS NECESSARY SHALL BE PLACED AS OUTLINED IN THE "MANUAL", AND THE PRECAUTIONS OF SUBSECTION 107.12 OF THE STANDARD SPECIFICATIONS SHALL BE OBSERVED.

GENERAL NOTE
Construction Signs
1. Sign Borders: All signs shall have borders conforming to the sizes and spacing as shown below:
a. 30" x 30" Sign - 3/4" Border, 1/2" Space from sign edge.
b. 2' x 5' Sign - 5/8" Border, 3/8" Space from sign edge.
c. 3' x 4' Sign - 3/4" Border, 1/4" Space from sign edge.
d. 4' x 4' Sign - 1 1/4" Border, 3/4" Space from sign edge.

A



CONSTRUCTION SIGNS

B

GENERAL NOTES - BARRICADES

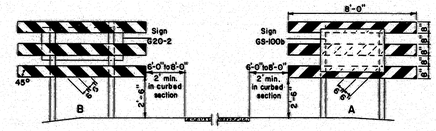
1. Unless otherwise designated, sign designation letters shall refer to the "Manual of Uniform Traffic Control Devices for Streets and Highways," published by the U.S. Department of Transportation, Federal Highway Administration, 1971.
2. White stripes shall be of silver reflective sheeting bonded to 0.019 minimum gauge aluminum, 16 minimum gauge galvanized steel, or 1/4" plywood. Individual white sheets may be attached to a black background or orange reflectorized background to form the black or orange and white stripes. At the Contractor's option the reflective sheeting and backing may extend the full width of the barricade with an opaque film or paint applied to form the stripes.
3. All signs shall be of reflective sheeting on 5/8" thick plywood. The plywood shall conform to subsection 712.25, Maine State Highway Commission, Standard Specifications, June 1968.
4. Pressure sensitive reflective sheeting will be an acceptable alternate to the reflective sheeting required by Maine State Highway Commission, Standard Specifications.

NOTES - PORTABLE BARRICADES

1. Lumber sizes for portable barricades shall be 2" x 8" except posts which shall be 4" x 4" (nominal sizes).
2. The detour sign shall be an oversized M4-10 sign with a demountable "DETOUR" message which shall be made of screened reflective sheeting on 1/4" plywood, masonite, sheet steel or sheet aluminum.
3. Hazard markers shall be attached to the barricade with a bolt assembly of steel cadmium plated 5/16" bolt, lock washer and vandal resistant nuts.
4. When two W1-6 signs are required, R11-2, R11-3, or R11-4 signs shall be omitted.
5. Flashing lights housings shall be mounted to permit rotating in a vertical axis to allow for adjustment to face oncoming traffic.
6. Location of electric service and meter to be determined after the power source has been located.

NOTES-WING BARRICADES

1. Lumber sizes for wing barricades shall be 1" x 8" except posts which shall be 4" x 4" (nominal sizes).
2. Wing barricades will not be required unless specifically called for in the special provisions.
3. Location of signs and barricades will be determined by the Engineer.

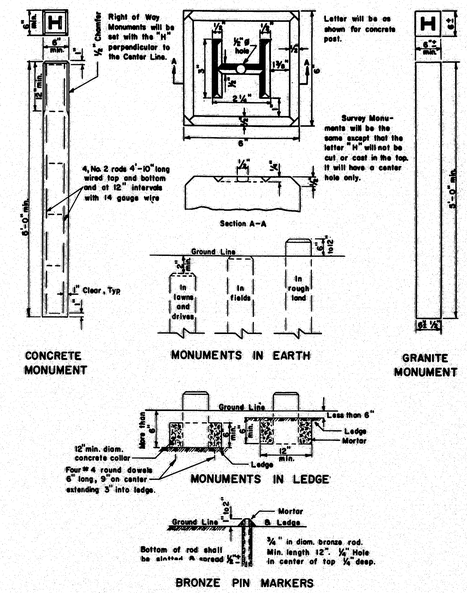


WING BARRICADES

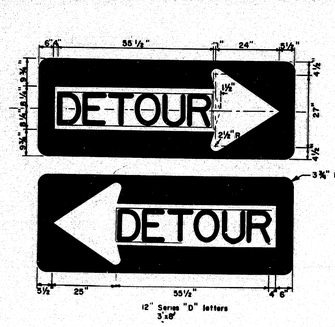
C

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	85-5(42)	30	31

RIGHT OF WAY & SURVEY MONUMENTS

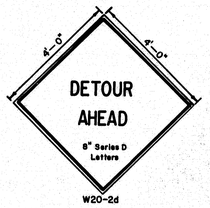


D



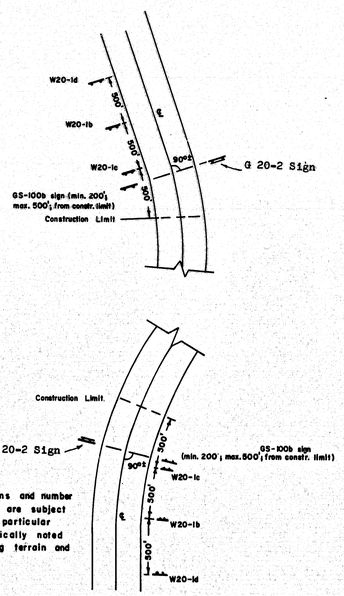
Detachable DETOUR message shall have 1" clearance from letters to edge on all sides.

DETOUR SIGN
M 4-(L)



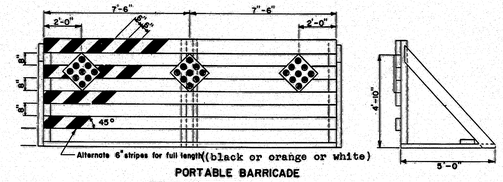
E

STANDARD SIGN LOCATIONS

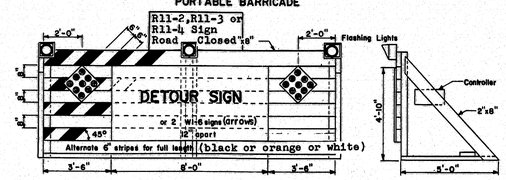


NOTE:
Standard locations and number of signs required are subject to variation on particular projects if specifically noted due to surrounding terrain and land use.

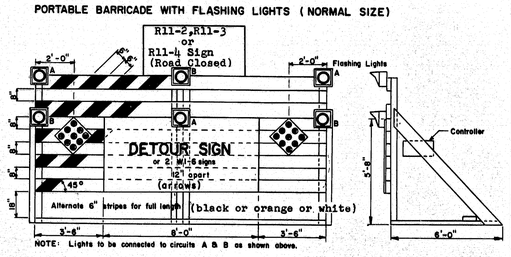
F



PORTABLE BARRICADE



PORTABLE BARRICADE WITH FLASHING LIGHTS (NORMAL SIZE)

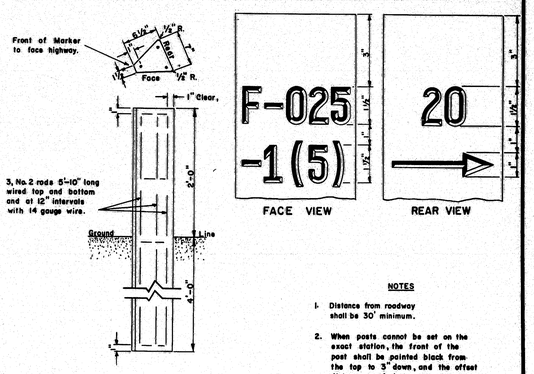


NOTE: Lights to be connected to circuits A & B as shown above.

OVERSIZED PORTABLE BARRICADE WITH FLASHING LIGHTS

BARRICADES

G



NOTES

1. Distance from roadway shall be 30' minimum.
2. When posts cannot be set on the exact station, the front of the post shall be painted black from the top to 3" down, and the offset distance marked on rear with an arrow pointing in direction of beginning or end of project.
3. All markings to be 1/4" deep and 3/16" wide.

PROJECT MARKERS

H

REVISION	
PLATE B	12-21-70
PLATES B, C, E, F & G	12-15-71
PLATE C	10-12-72

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

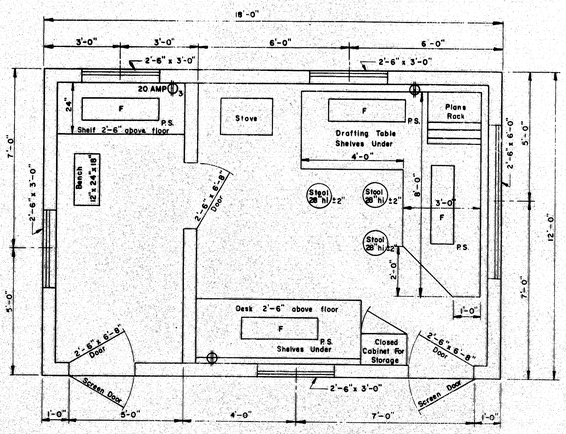
BARRICADES
WARNING SIGNS
MONUMENTS
PROJECT MARKERS

AUG. 1969

11

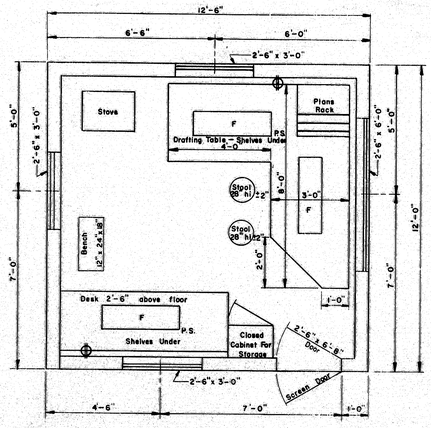
172-102

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	95-5(42)	31	31



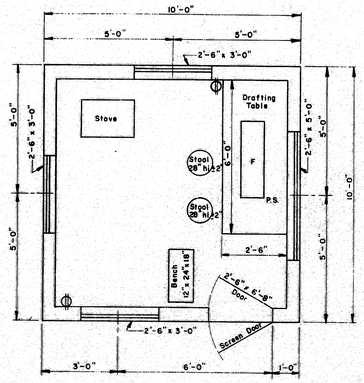
FLOOR PLAN
TYPE "A"

A



FLOOR PLAN
TYPE "B"

B



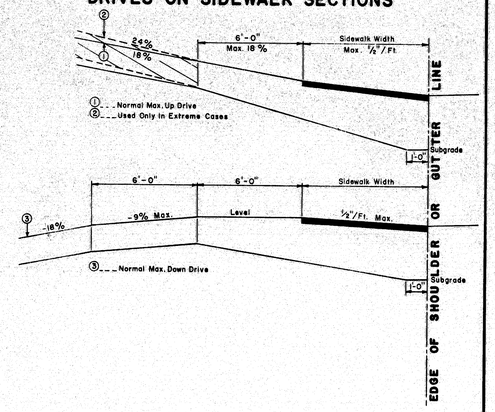
FLOOR PLAN
TYPE "C"

C

GENERAL NOTES

1. Drafting table shall be 3'-4" high at front edge and placed 2" from studs to allow prints to hang down behind table when in use.
2. Shelves under desk shall be constructed to received 11½" x 14" x 25" transfiles.
3. Windows shall be double hung.
4. Stovepipe shall not be in direct contact with combustible material ; the pipe shall be surrounded with at least 6" of fireproof material.
5. Continuous 110 volt 60 cycle electric service shall be supplied.
6. The engineer may rearrange the items shown on the plan views during construction of the field office.
7. FURNISHINGS TO BE SUPPLIED :
   - 2 Straight back chairs for types A and B
   - 1 Bench for types A, B & C
   - 3 Stool for type A
   - 2 Stools for types B & C
8. SYMBOLS :
   - F Florescent lights (2 light , rapid start 48" strips and 40 watt bulbs)
   - P.S. Pull switch
   - Duplex wall outlet — 15 amp unless otherwise noted
   - Triplex Wall Outlet
9. For the Type "A" Field Office one clean 55 gal. drum shall be supplied , installed on a suitable rack and equipped with a spigot suitable for drawing off water. The drum shall be furished with water at all times.

DRIVES ON SIDEWALK SECTIONS



GENERAL NOTES

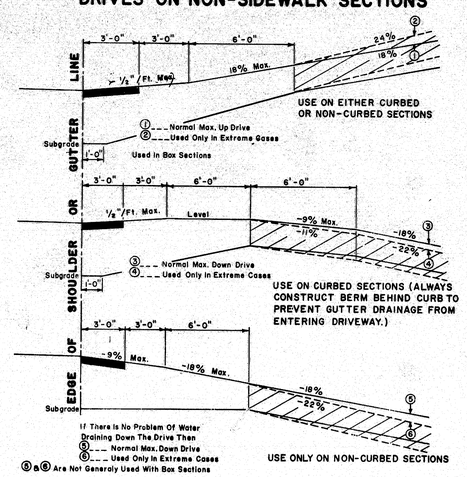
1. The sidewalk width shall be paved in all cases.
2. All residential or commercial drives 10% and over shall be paved.

NOTES ON MAXIMUM DRIVEWAY PROFILES

1. These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
2. Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
3. When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.

D

DRIVES ON NON-SIDEWALK SECTIONS



③ & ④ Are Not Generally Used With Box Sections

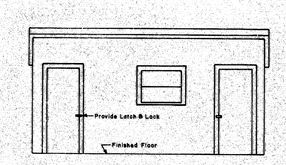
GENERAL NOTES

1. The first 3' shown as pavement shall be paved only when abuting a paved area.
2. All residential or commercial drives 10% and over shall be paved.

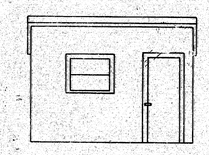
NOTES ON MAXIMUM DRIVEWAY PROFILES

1. These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
2. Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
3. When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.

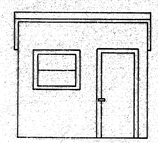
E



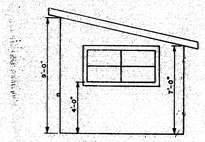
FRONT ELEVATION
TYPE "A"



FRONT ELEVATION
TYPE "B"



FRONT ELEVATION
TYPE "C"



SIDE ELEVATION
TYPES "A" "B" & "C"

F

REVISIONS	
PLATE 'D'E'	3-16-73

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

STANDARD DETAILS

DRIVEWAY DETAILS
FIELD OFFICES
TESTING LABORATORY

AUG. 1969

12

172-103