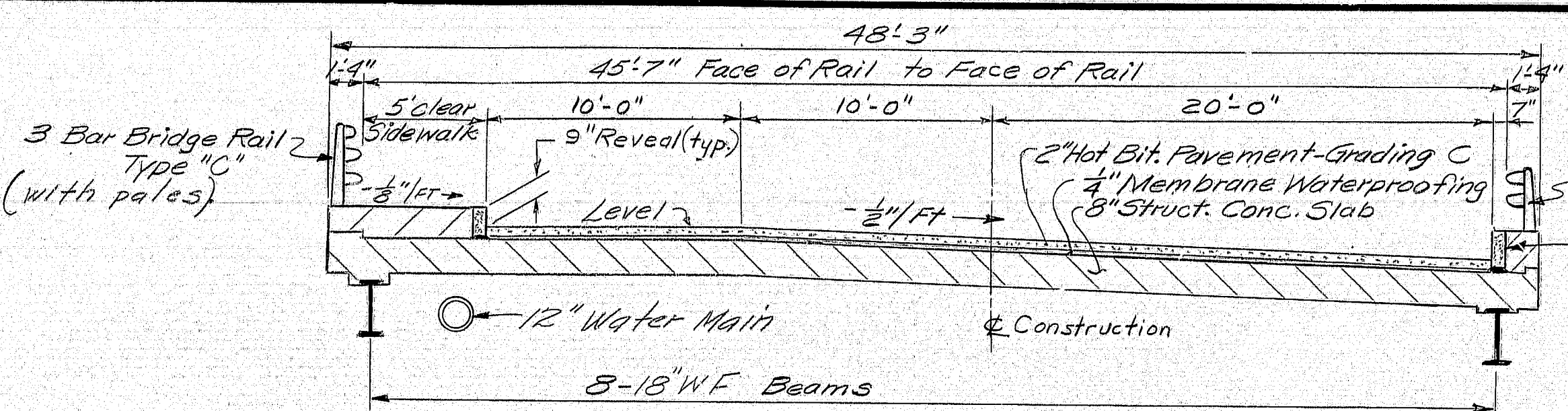


F.H.W.A. NO. 1	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-7201(1)	13	67



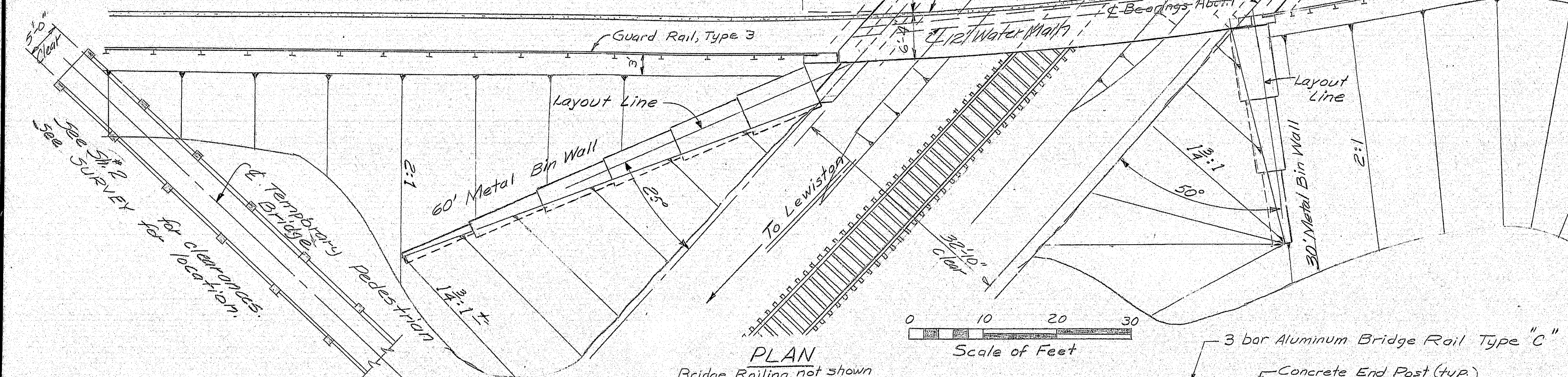
TYPICAL TRANSVERSE SECTION

Curve Data  
P.I. Sta. 6+66.33  
 $\Delta = 37^{\circ}44'27''$  RT  
 $D = 11^{\circ}00'00''$   
 $T = 178.03'$   
 $L = 343.10'$   
 $R = 520.87'$   
 $E = 29.58'$

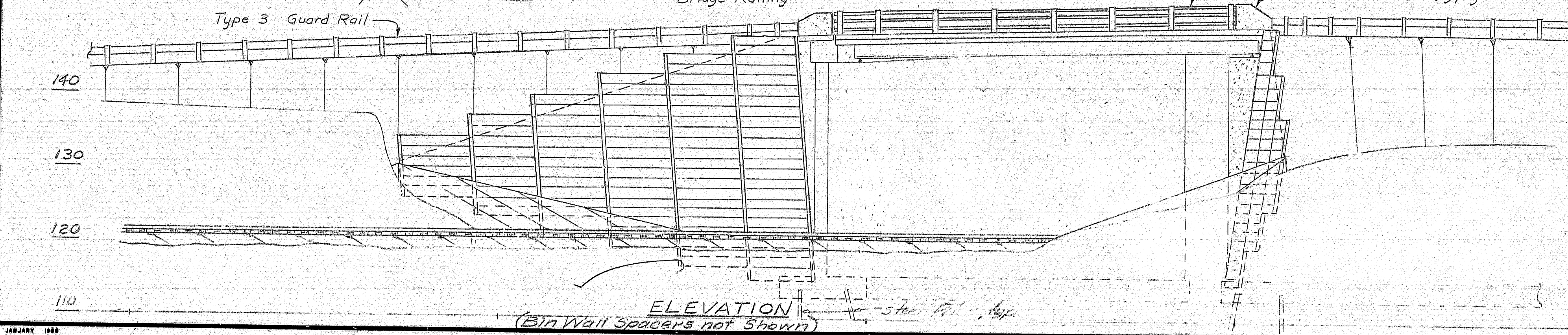
- INDEX OF BRIDGE PLANS**
- 1-2 GENERAL PLAN
  - 3 ABUTMENT 1 FOOTING
  - 4 ABUTMENT 1
  - 5 ABUTMENT 2 FOOTING
  - 6 ABUTMENT 2
  - 7 RETAINING WALL-ABUTMENT 2
  - 8 RETAINING WALL-ABUTMENT 2-REINFORCING STEEL
  - 9 APPROACH SLABS
  - 10 BIN TYPE RETAINING WALLS
  - 11 LAYOUT FOR BIN TYPE RETAINING WALLS
  - 12 STRUCTURAL STEEL & BOTTOM OF SLAB ELEVATIONS
  - 13 SUPERSTRUCTURE SLAB PLAN
  - 14 SUPERSTRUCTURE TRANSVERSE SECTION
  - 15 REINFORCING STEEL SCHEDULE-ABUTMENTS
  - 16 REINFORCING STEEL SCHEDULE-SUPERSTRUCTURE & RETAINING WALL
  - 17 FOUNDATION SURVEY
  - 18 BORING DETAILS

**HIGHWAY STANDARDS**  
AUG 1969  
CONCRETE END POST TO GUARD RAIL

- BRIDGE STANDARDS**
- BD 101-74 BEARING PEDESTALS
  - BD 104-73 ARMORED JOINT, SHEAR CONNECTORS
  - SD 114-73 ALUMINUM BRIDGE RAILING TYPE 'A'
  - BD 115-73 ALUMINUM BRIDGE RAILING TYPE 'B'
  - BD 116-73 ALUMINUM BRIDGE RAILING PALE PANEL & HEAVY DUTY POST



PLAN



ELEVATION

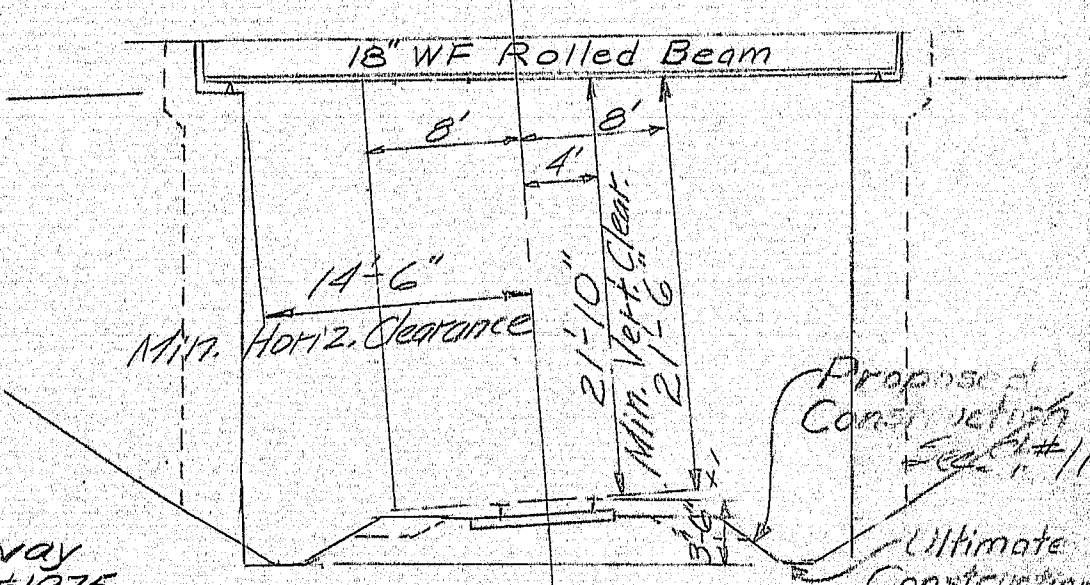
**SPECIFICATIONS**  
DESIGN: Standard Specifications for Highway Bridges, 1973 with Interim Spec. 1974 & 1975  
CONTRACT: State of Maine, State Highway Commission  
Standard Specifications, Highways and Bridges  
Revision of June 1968.

**LIVE LOADING**  
HS20-44

**MATERIALS**  
Concrete - Class A  
Reinforcing Steel - ASTM A615 Grade 60  
Structural Steel - Beams & Cover Plates - A572 Grade 50  
Others - A36

**BASIC ALLOWABLE STRESSES**  
Concrete:  $f_c = 1,200$  psi  $n = 10$   
Reinforcing Steel:  $f_s = 24,000$  psi  
Structural Steel: A572  $f_s = 27,000$  psi  
A36  $f_s = 20,000$  psi

**TRAFFIC DATA**  
AADT 1973 = 4,310  
AADT 1993 = 6,610  
D.V. = 793  
 $T = 3$



NORMAL RAILROAD SECTION  
As Built 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

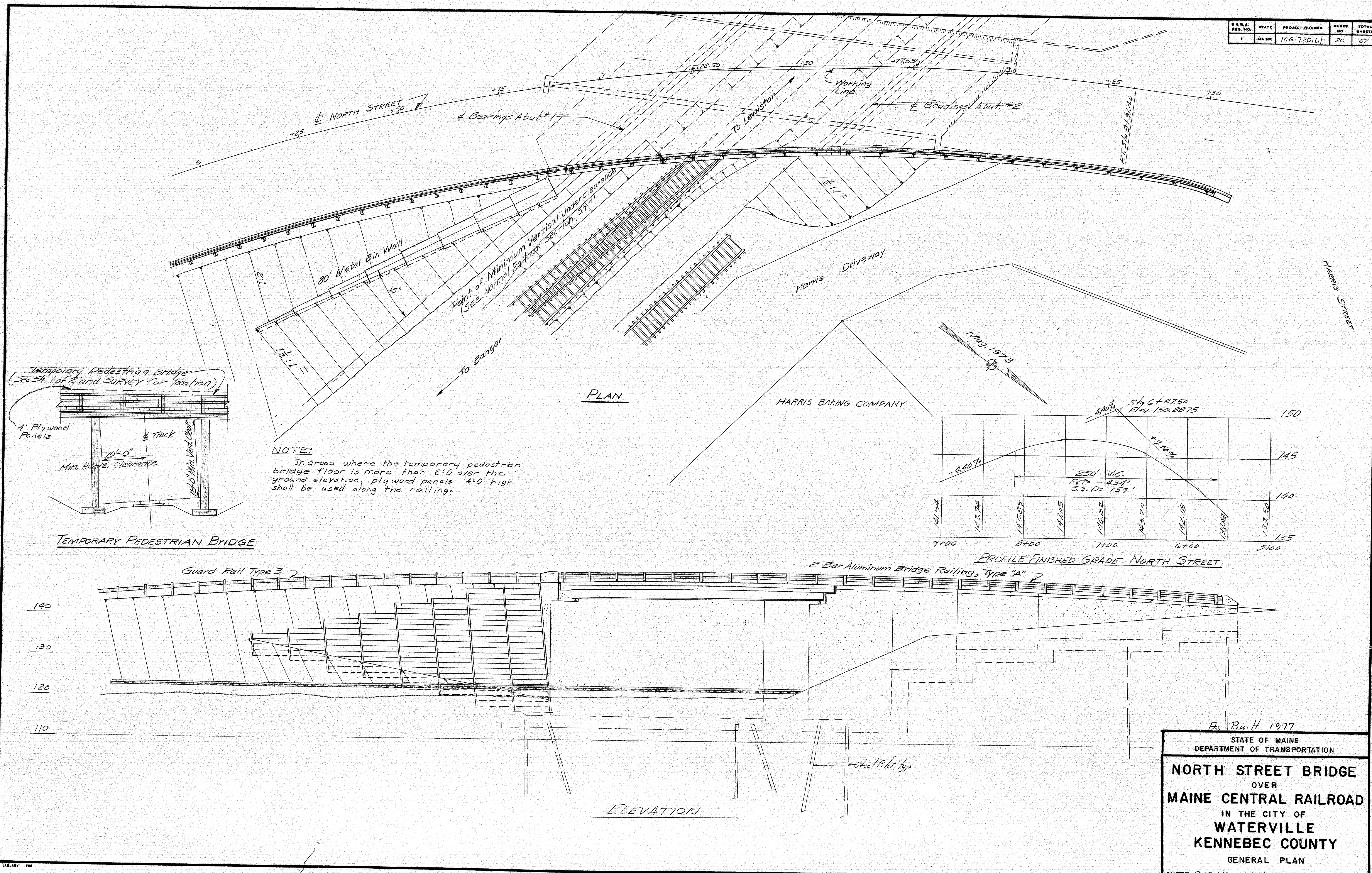
**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATERVILLE**  
**Kennebec County**  
GENERAL PLAN

SHEET / OF 18 AUGUSTA, MAINE OCT. 13

170-64



R.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-720(1)	20	67



PROJECT DESIGN ENGINEER	DATE
DESIGN - DETAILED	2-7-75
CHECKED	2-10-75
REVISIONS	
FIELD CHANGES	

As Built 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATERVILLE**  
**Kennebec County**  
GENERAL PLAN

SHEET 2 OF 18 AUGUSTA, MAINE

170-65



F.H.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-720(1)	21	67

#### ABUTMENT NOTES

- Chamfer all exposed edges of concrete  $\frac{1}{2}$  inch unless otherwise indicated.
- Reinforcing steel shall have 2 inches cover unless otherwise indicated.
- Place reinforcing steel in bridge seats to clear anchor bolts.
- Break bond at vertical contraction joints by a method approved by the Engineer.
- Polyvinylchloride waterstops shall be placed in all vertical contraction joints.
- Waterstops are not required in horizontal construction joints.
- Protective Coating for Concrete Surfaces shall be applied to the following areas: Top of Curbs and down to 1" V-groove.
- Reinforcing steel splices, not shown on the plans, shall be a minimum length as follows: #5 bar = 26", #6 bar = 33", #7 bar = 45", #8 bar = 59", #9 bar = 74".
- Place 4 inch diameter drains in breastwall and wing at 20 ft. maximum spacing. Exact location to be determined by the Engineer in the field.

#### H-BEAM PILE NOTES

- Piles shall be driven to ledge or practical refusal.
- All piles shall have pointed reinforced tips.
- Alternate types of pointed reinforced pile tips may be used if approved by the Engineer.

- Estimated lengths of piles are determined from available soils information with no allowance for pile cut-offs and no allowance for uncertain pile penetration.
- Piles marked thus,  $\nabla$ , shall be battered 3 inches per foot in the direction of the arrow.
- Maximum pile load equals: HP 10x42 = 55.5 tons and HP 14x89 = 113 tons

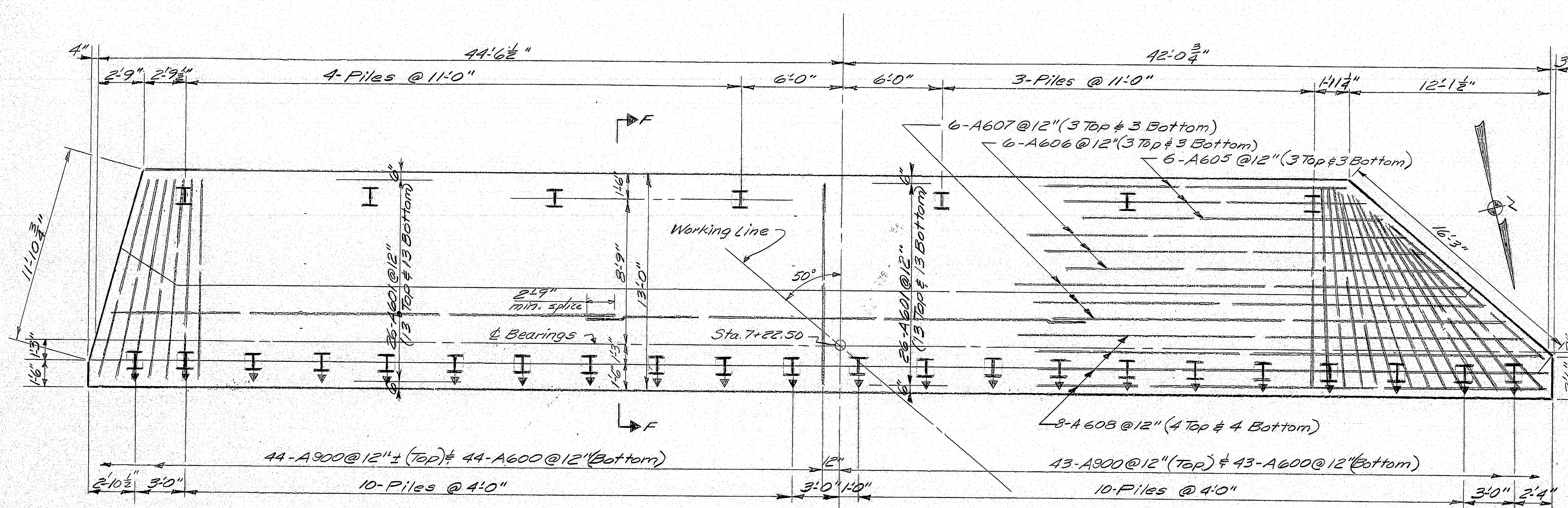
- Following are pile locations, number of piles required, size of piles and estimated driven lengths:

Abut No.1 29- HP 14x89 @ 20 ft.

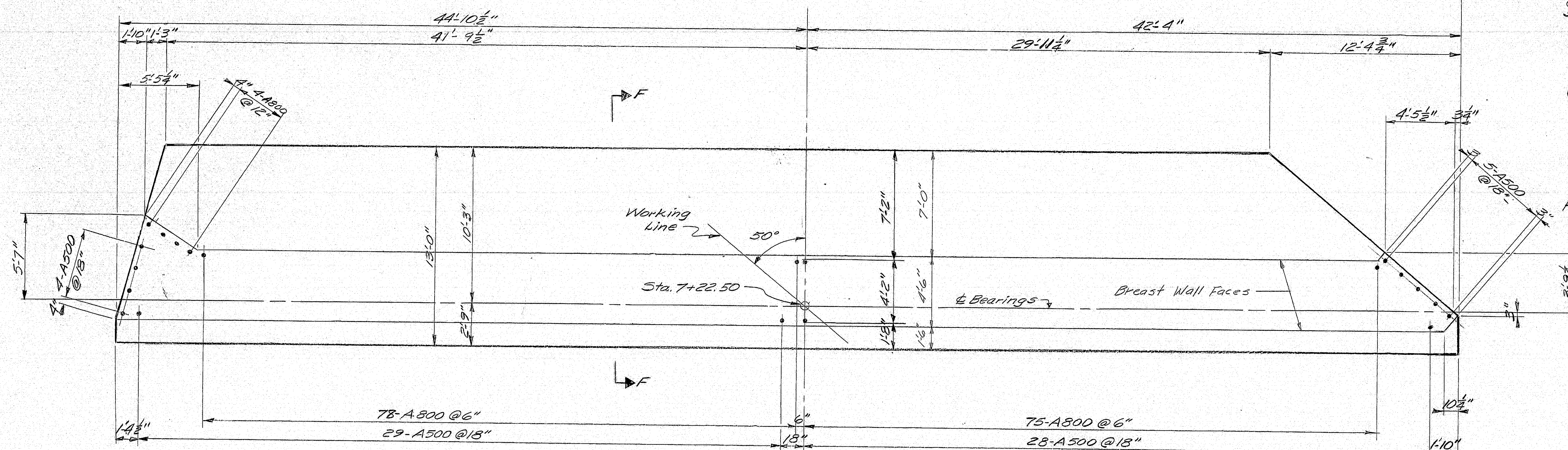
Abut No.2 30- HP 14x89 @ 20 ft.

2- HP 14x89 @ 32 ft.

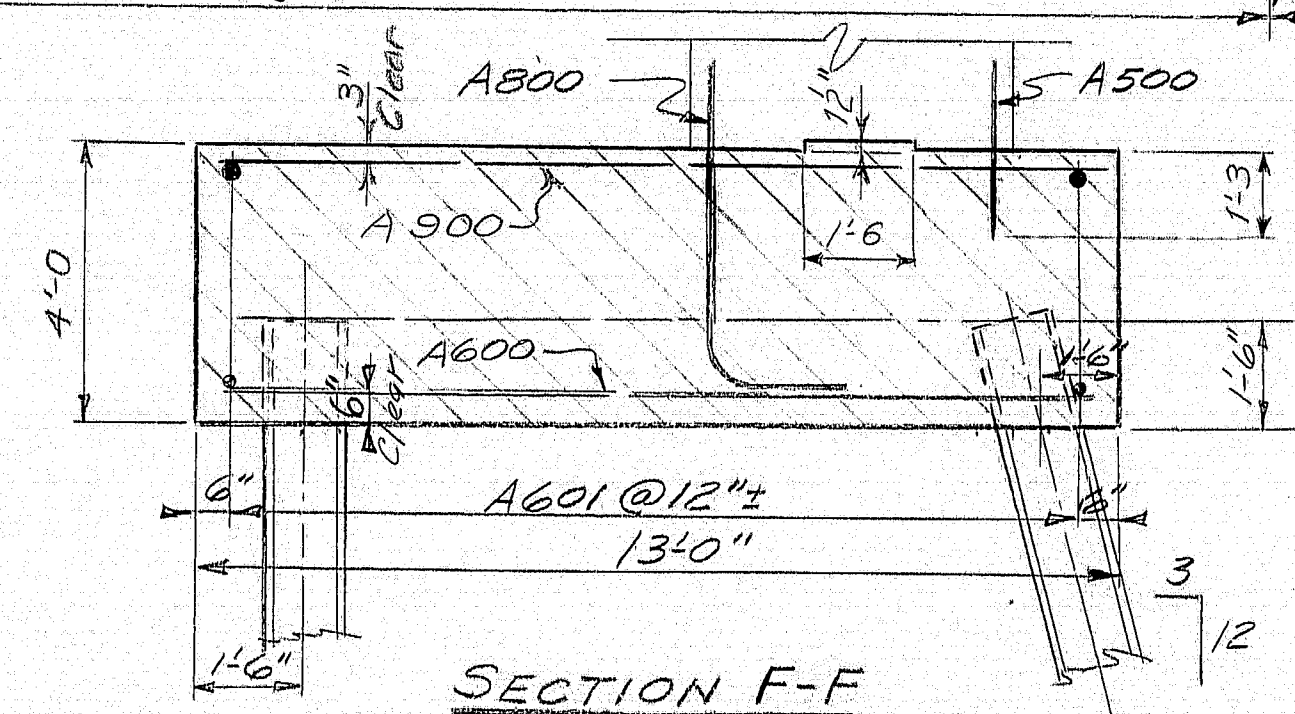
Retaining Wall 21- HP 10x42 32 ft. to 45 ft.



FOOTING PLAN  
(HP 14x89 Piles & Rein. Steel Shown)



FOOTING PLAN  
(Vertical Rein. Steel Dowels Shown)



SECTION F-F

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	MEP	4-25-77
CHECKED	MEP	5-15-77
REVISIONS		
FIELD CHANGES		

As Built 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERVILLE  
KENNEBEC COUNTY

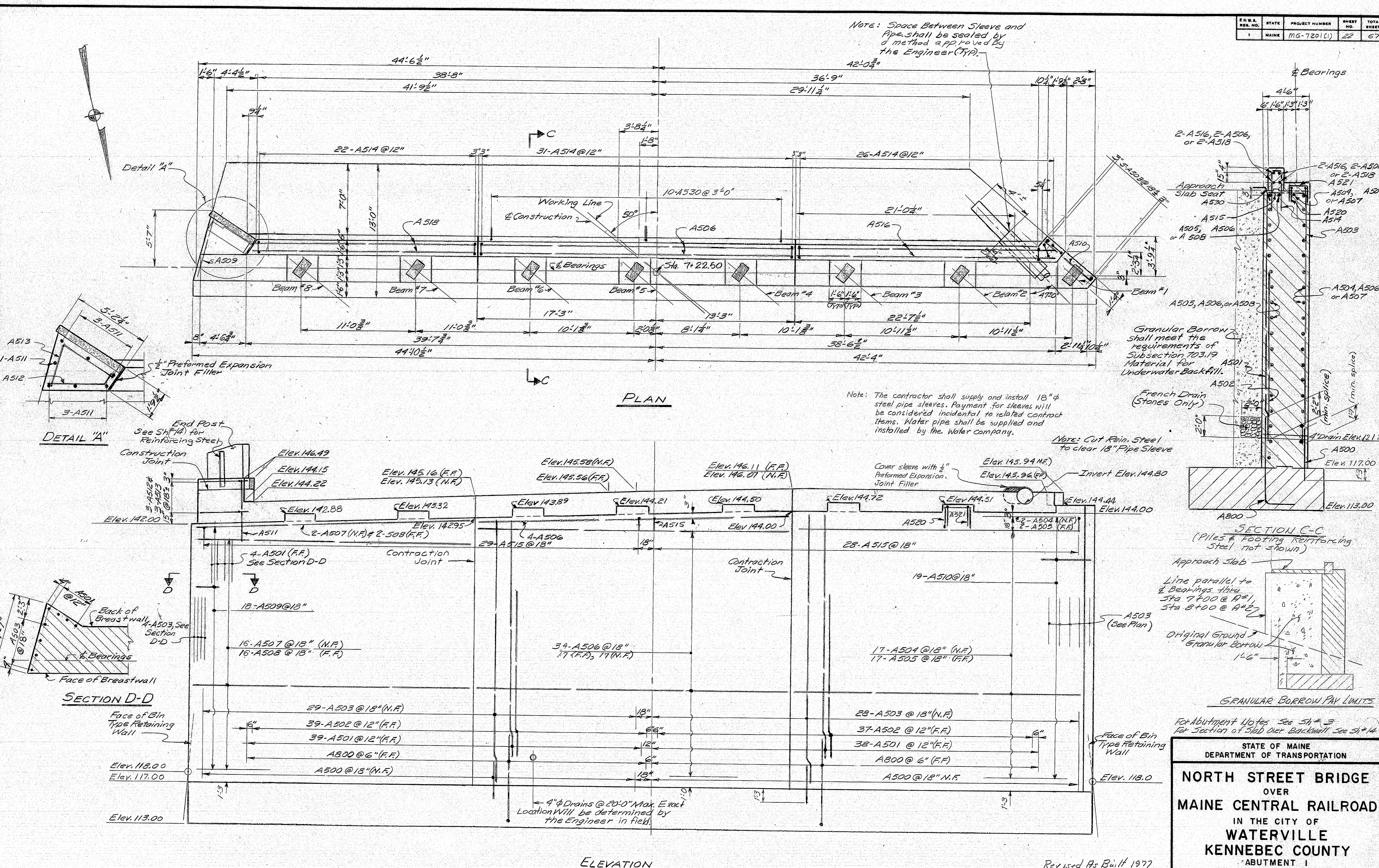
ABUTMENT 1 FOOTING

SHEET 3 OF 18 AUGUSTA, MAINE

170-66



F.H.W.A. NO. 1	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	116-7291(1)	22	67



PROJECT DESIGN ENGINEER	DATE
BY: [Signature]	2/75
DESIGN - CHECKED	5/75
REVISIONS	
FIELD CHANGES	

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATerville**  
KENNEBEC COUNTY

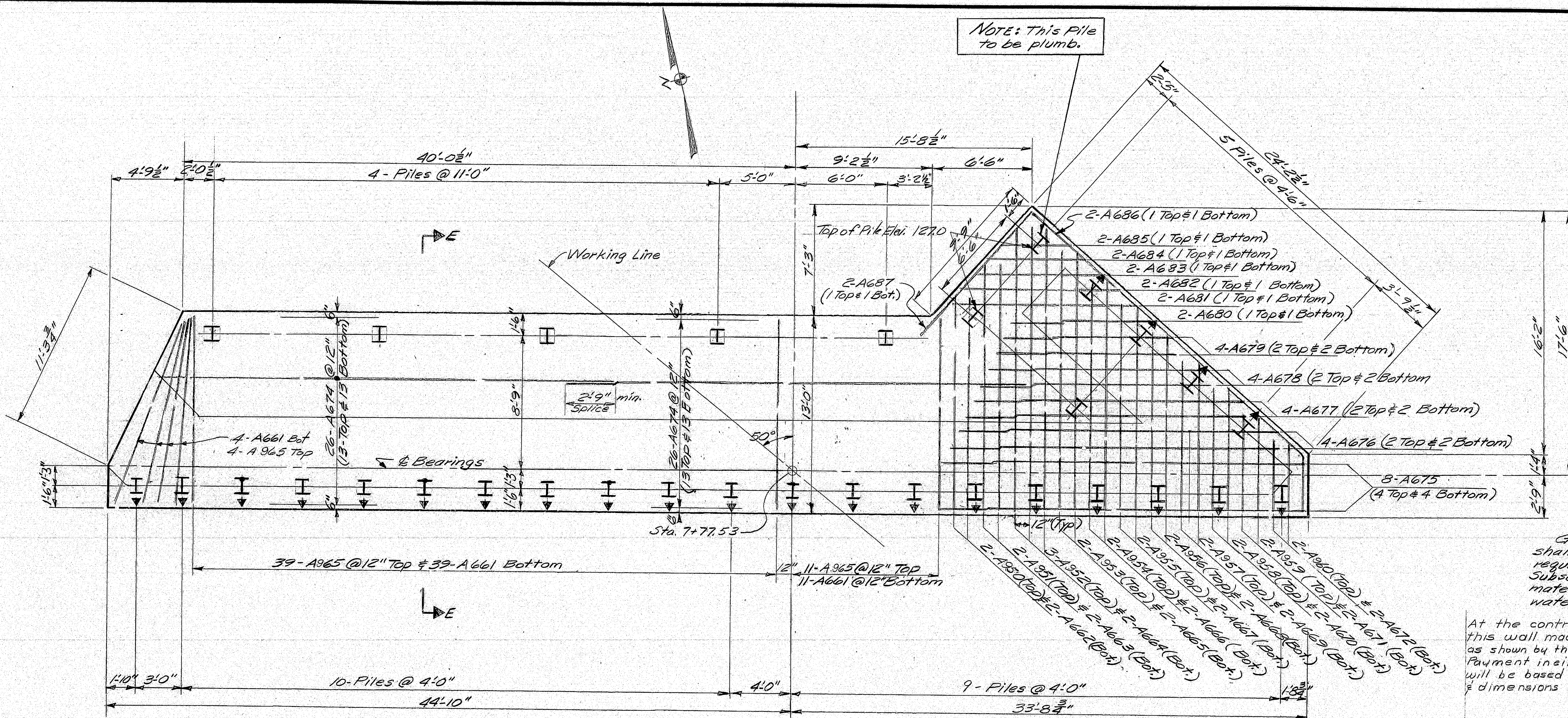
ABUTMENT 1  
PLAN AND ELEVATION  
SHEET 4 OF 13 AUGUSTA, MAINE

Revised As Built 1977  
E.C. Drake July 1977

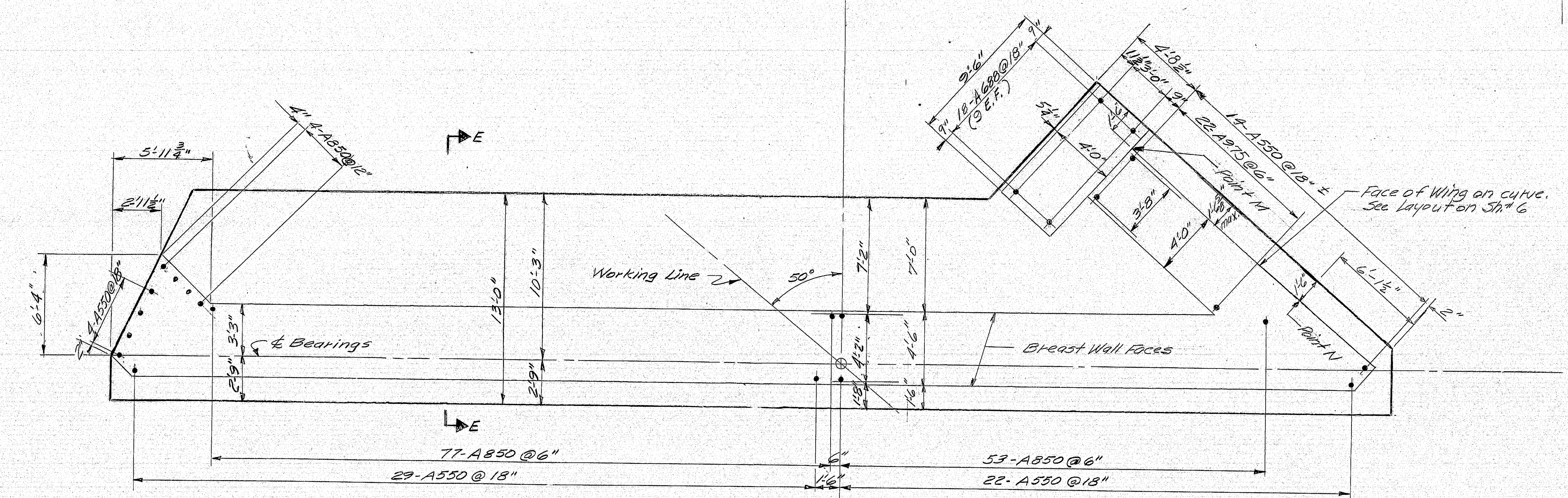
170-67



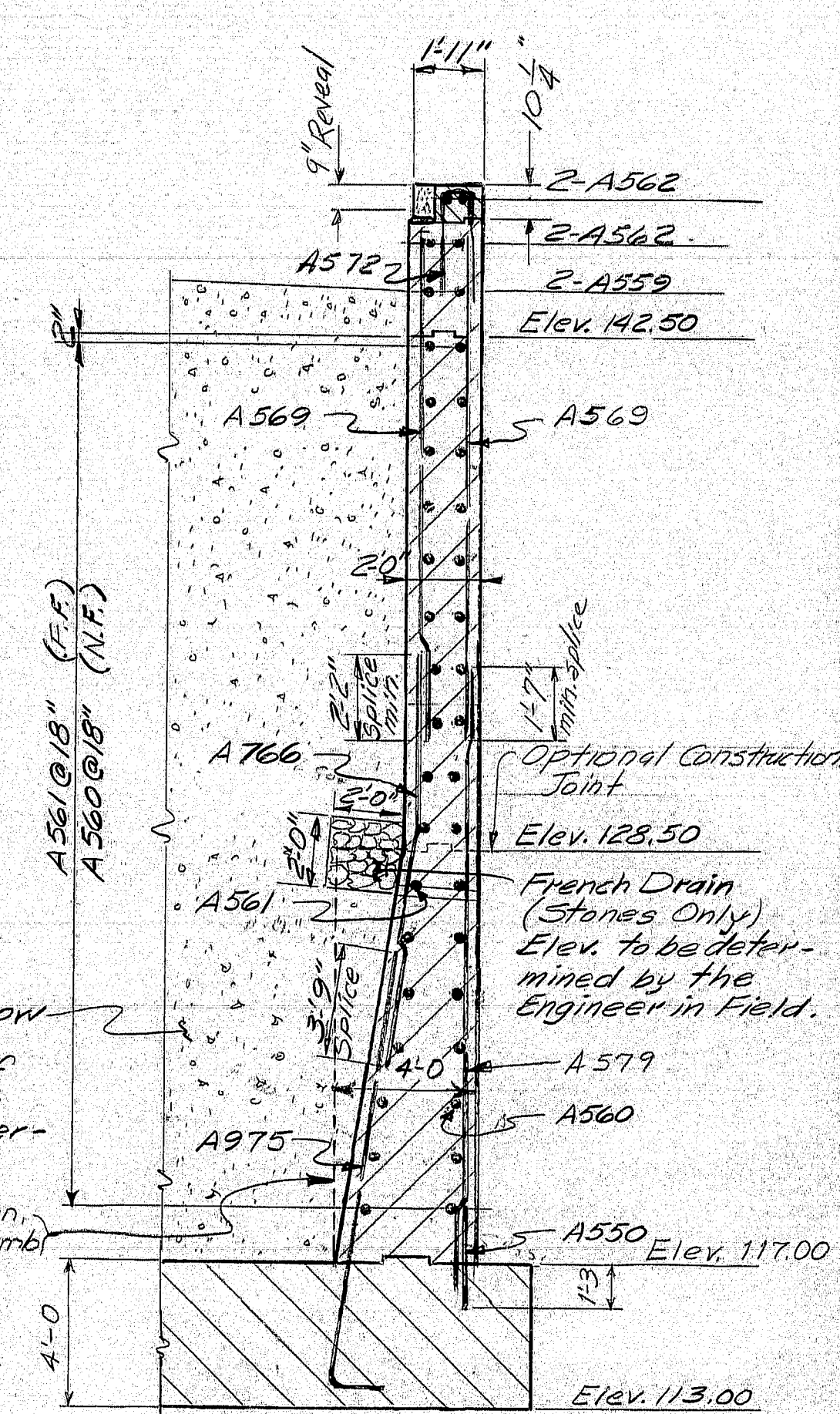
F.H.W.A. REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	116-7201(1)	23	67



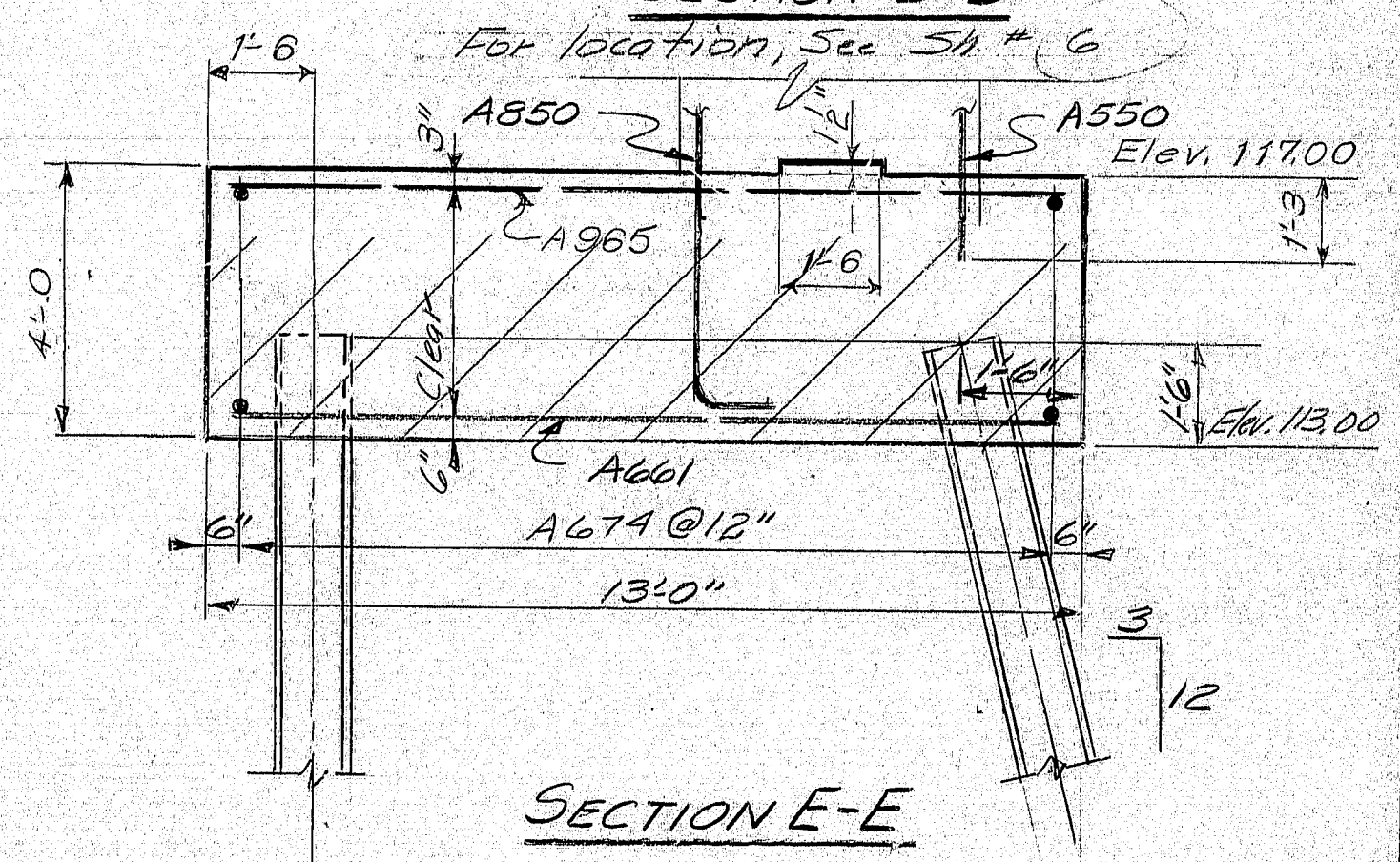
FOOTING PLAN



FOOTING PLAN  
(Vertical Rein. Steel Dowels Shown)



SECTION B-B



SECTION E-E

Granular Borrow shall meet the requirements of Subsection 703.19 material for Underwater Backfill.

At the contractor's option, this wall may be built plumb as shown by the dotted lines. Payment in either case will be based on the lines & dimensions shown.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN - DETAILED	CHW/NEP	4/75
CHECKED	MMG	8/77
REVISIONS		
FIELD CHANGES		

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATERVILLE**  
KENNEBEC COUNTY

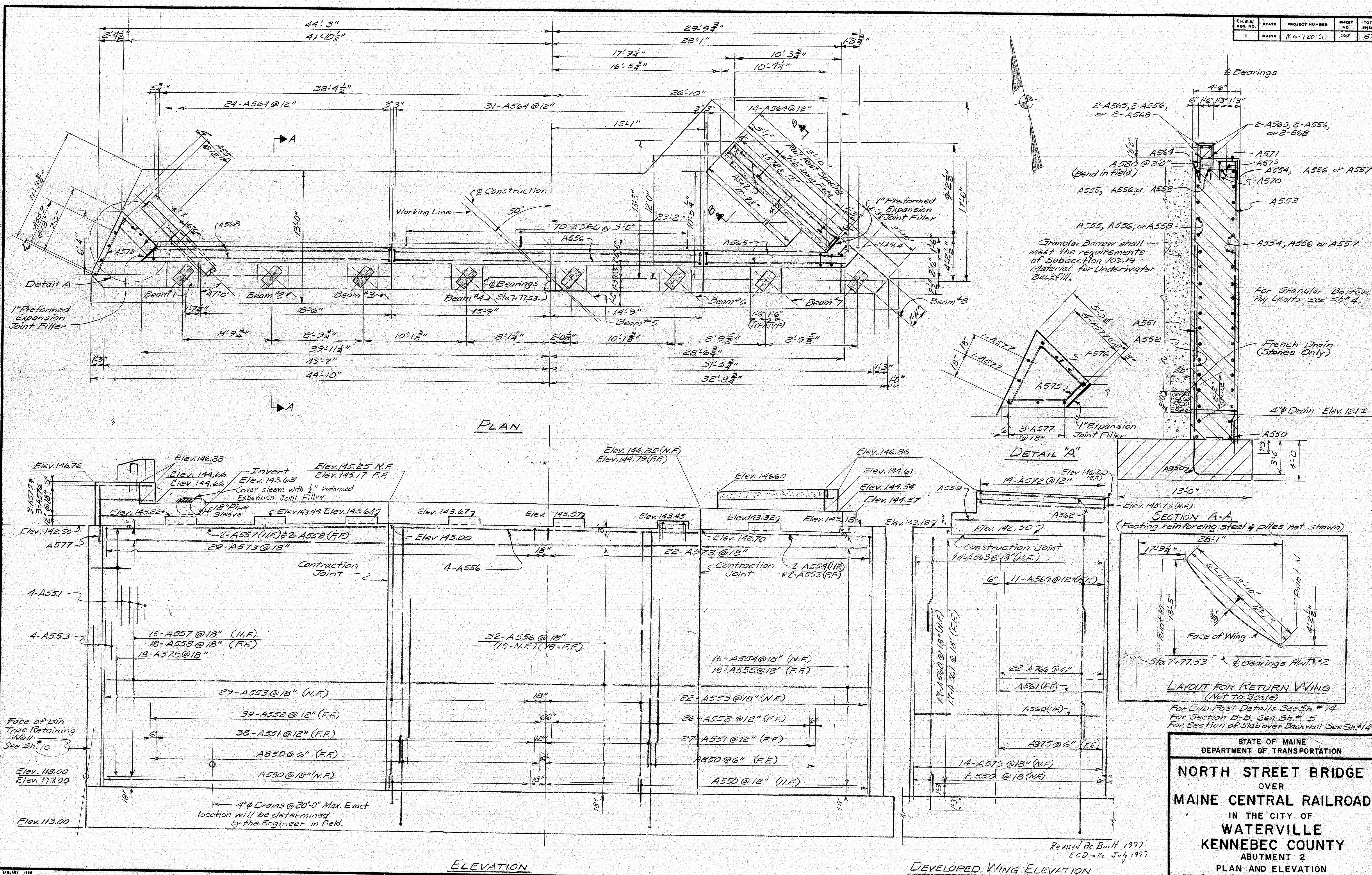
ABUTMENT 2 FOOTING

SHEET 5 OF 18 AUGUSTA, MAINE

170-68



F.H.W.A. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-7201(1)	24	62



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

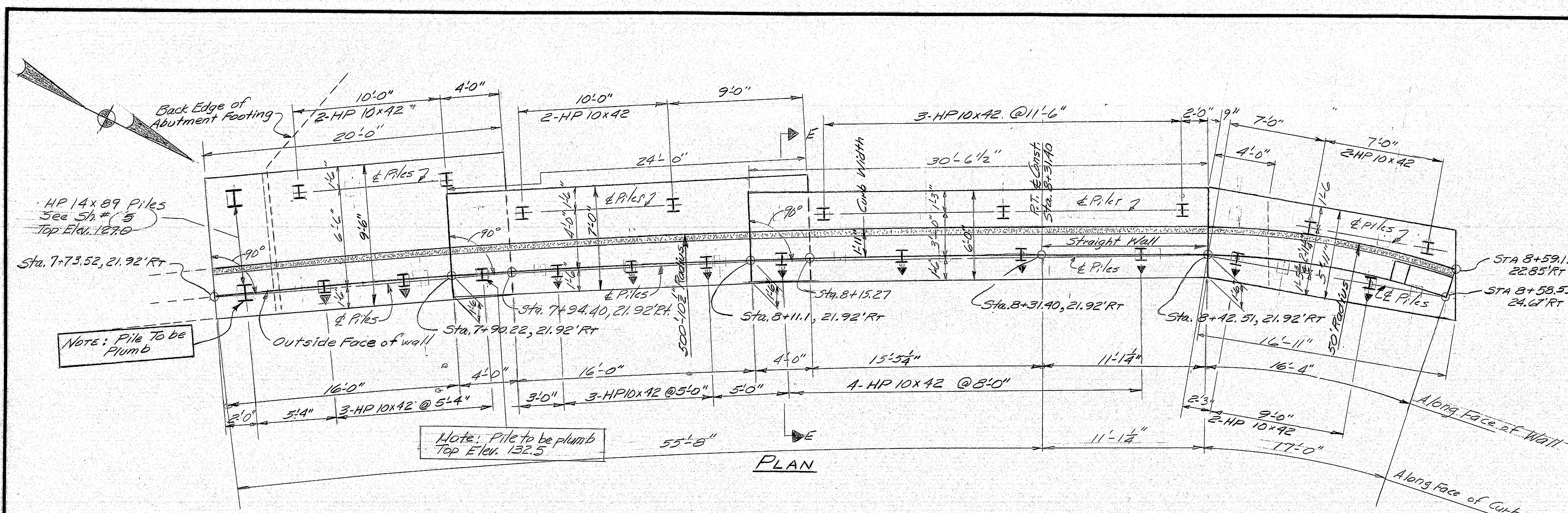
**NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERTVILLE  
KENNEBEC COUNTY  
ABUTMENT 2  
PLAN AND ELEVATION**

SHEET 6 OF 18 AUGUSTA, MAINE

170-69

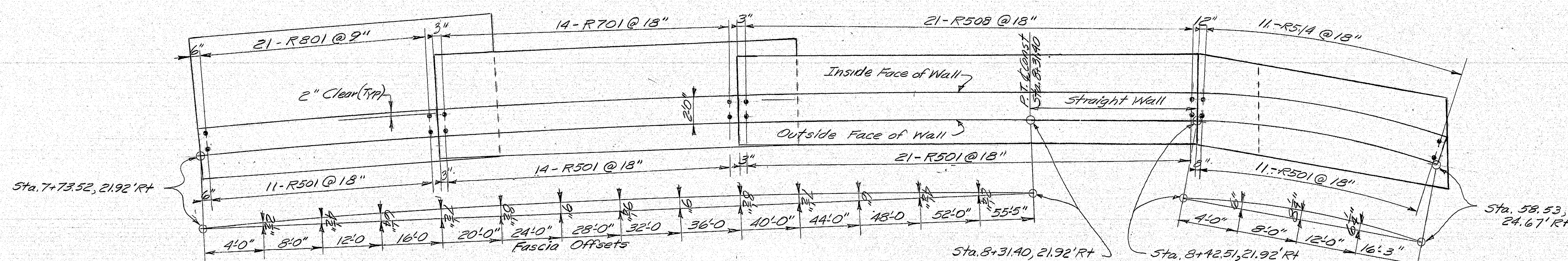


R.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-720(1)	25	6

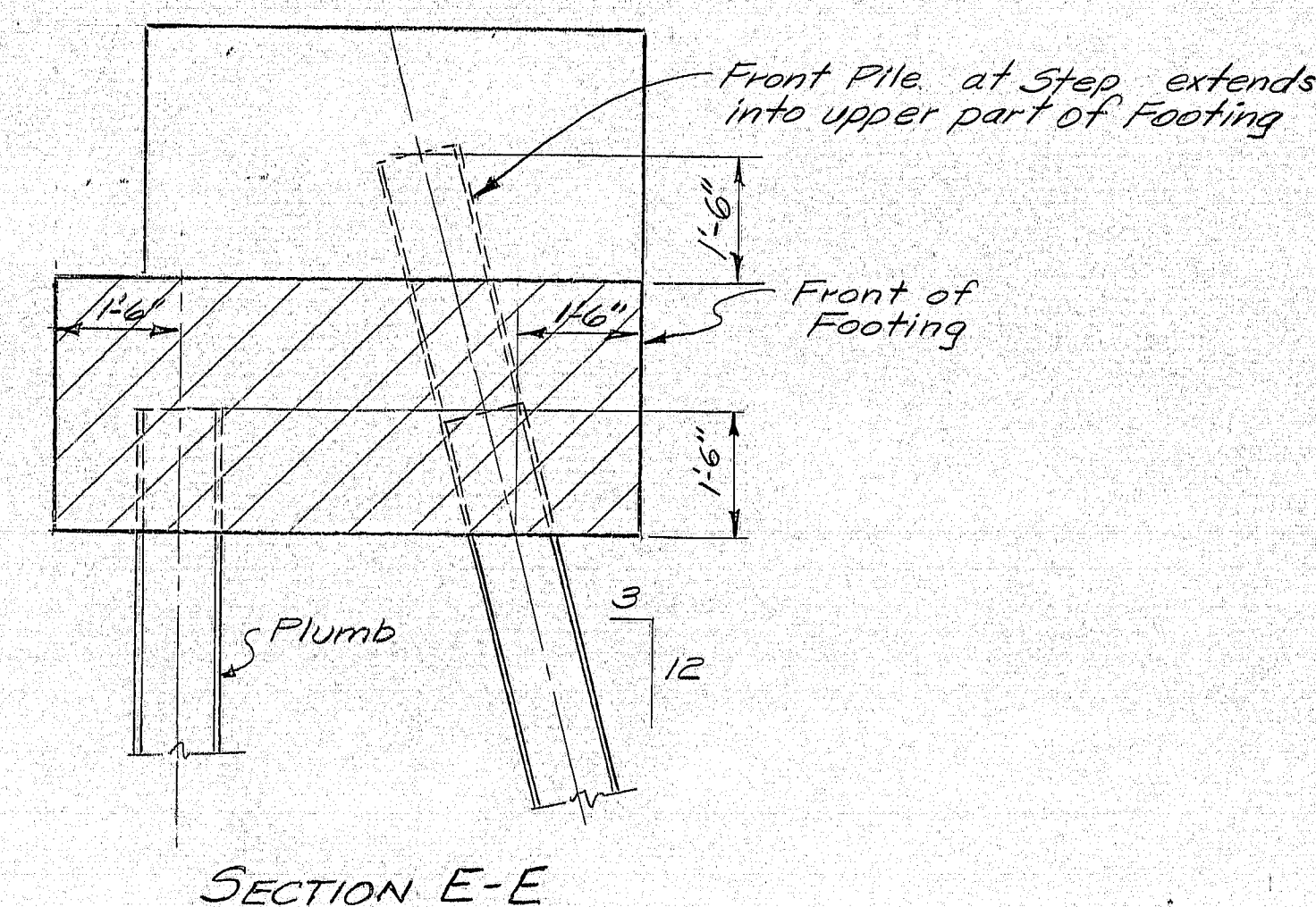


## RETAINING WALL

- ① Chamfer all exposed edges of concrete  $\frac{1}{2}$  inch unless otherwise indicated.
- ② Reinforcing steel shall have 2 inches cover unless otherwise indicated.
- ③ Break bond at vertical contraction joints by a method approved by the Engineer.
- ④ Polyvinylchloride waterstops shall be placed in all vertical contraction joints.
- ⑤ Waterstops are not required in horizontal construction joints.
- ⑥ Protective Coating for Concrete Surfaces shall be applied to the following areas:  
Top of Curb and down to 1" V-Groove.
- ⑦ Place 4 inch diameter drains in Retaining Wall at 20'-0" maximum spacing. Exact location to be determined by the Engineer in the field.
- ⑧ Reinforcing Steel Splices, not shown on the plans, shall be a minimum length as follows:  
#5 bar = 26" #6 bar = 33" #7 bar = 45" #8 bar = 55"



### DOWEL LAYOUT IN FOOTING



For End Post Details See Sh.# 8 -  
For Estimated Pile lengths See Sh.# 3  
For Retaining Wall Reinforcing  
Steel See Sh.# 8

As Bu. # 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

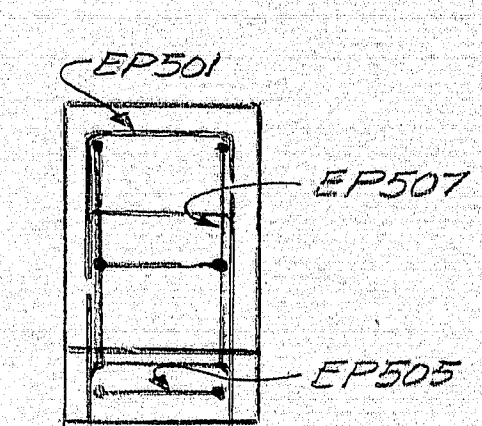
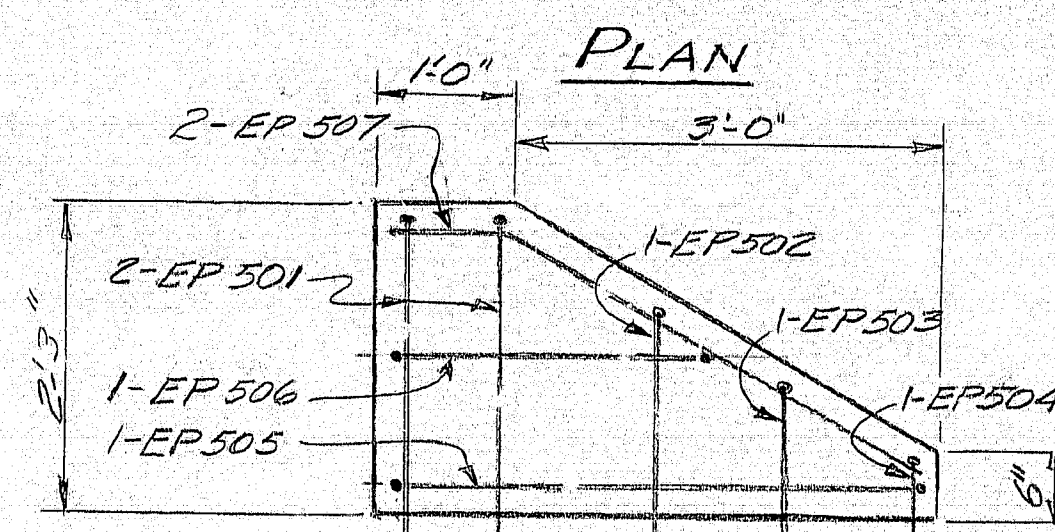
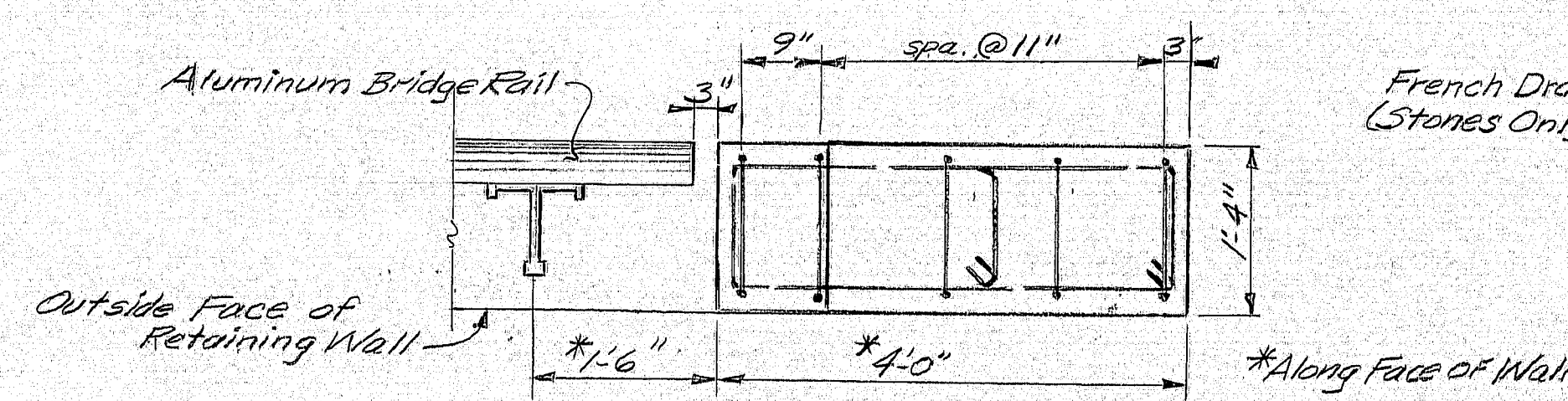
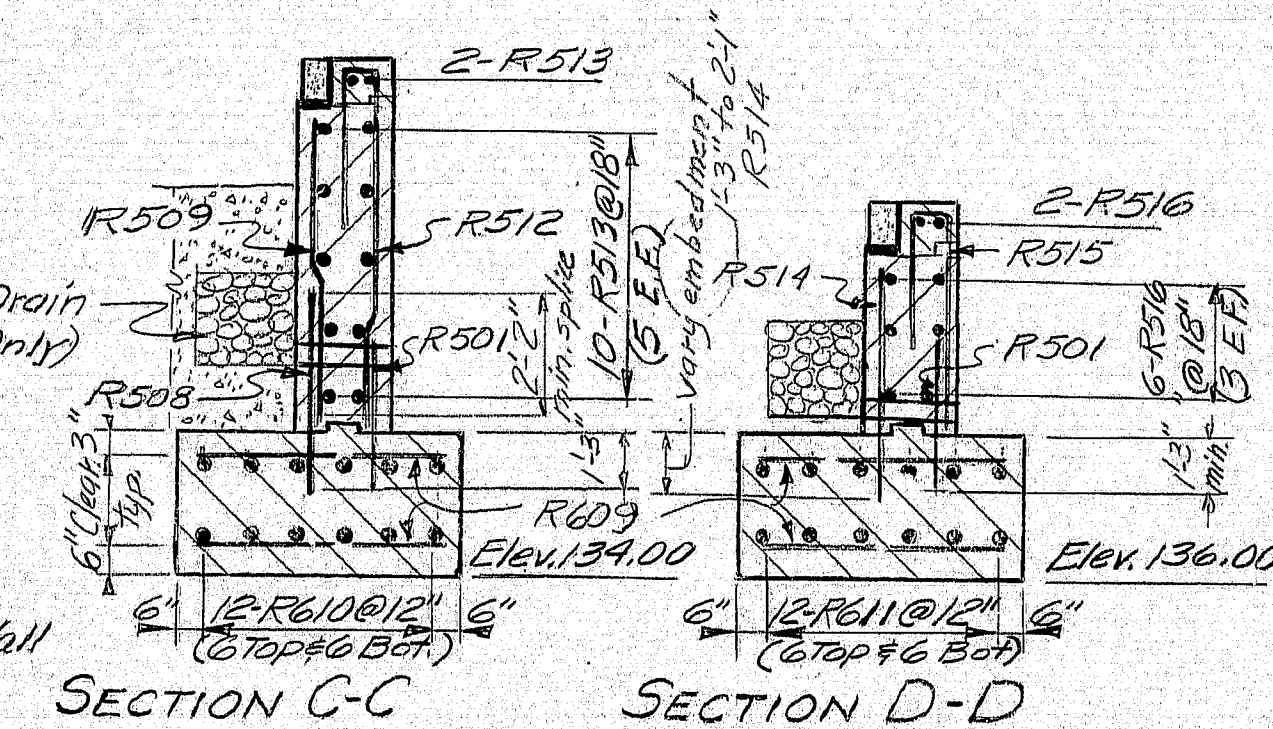
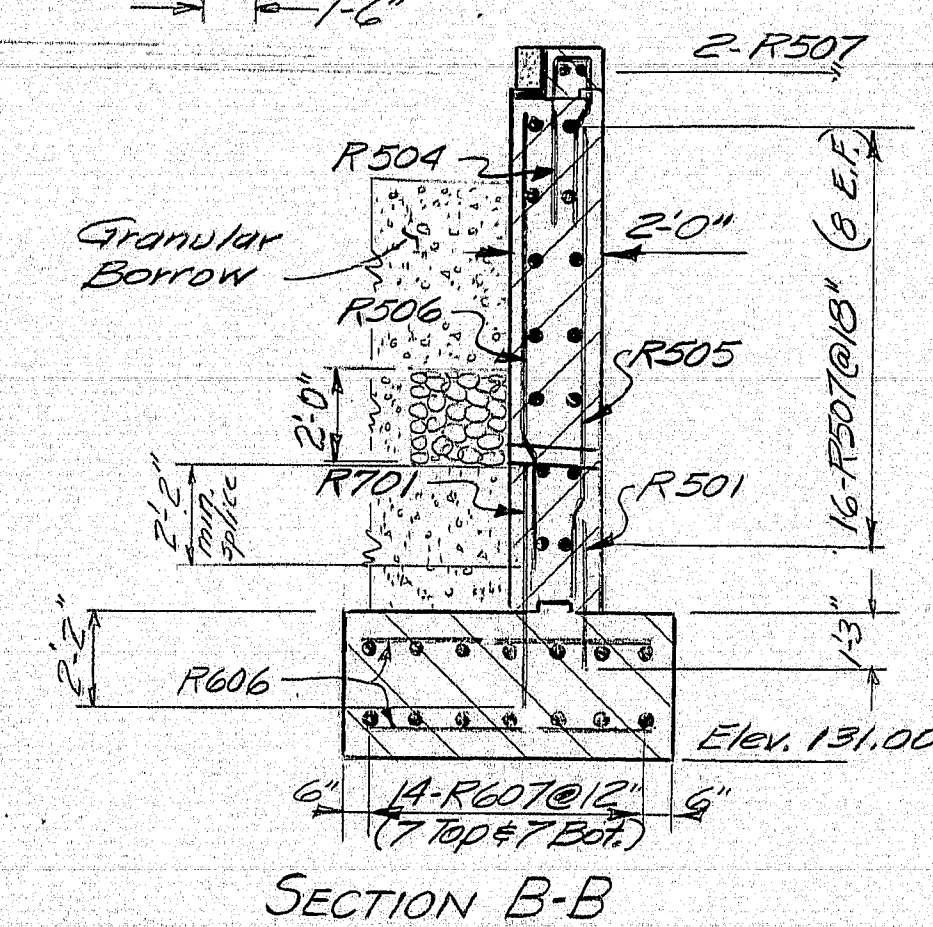
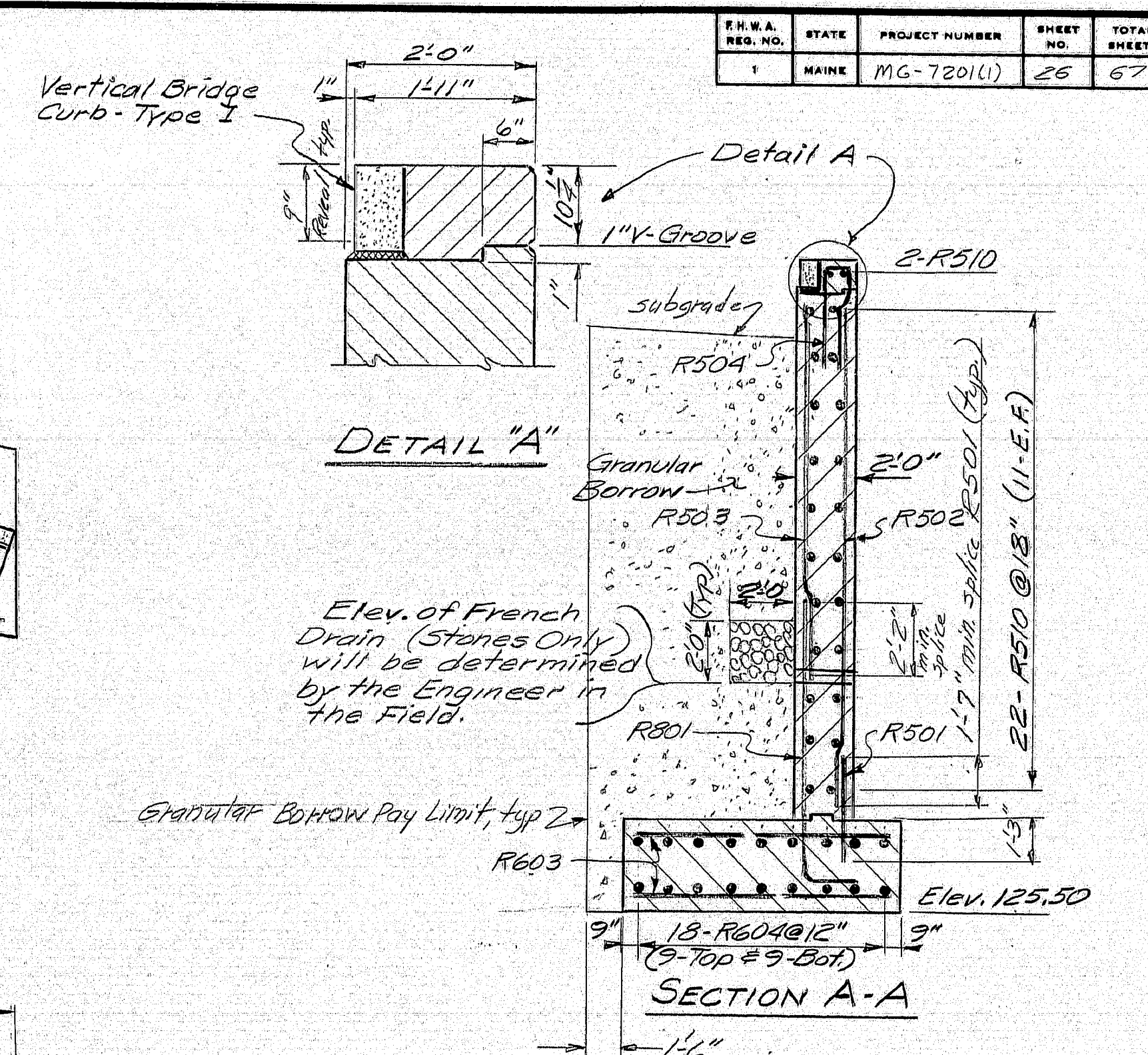
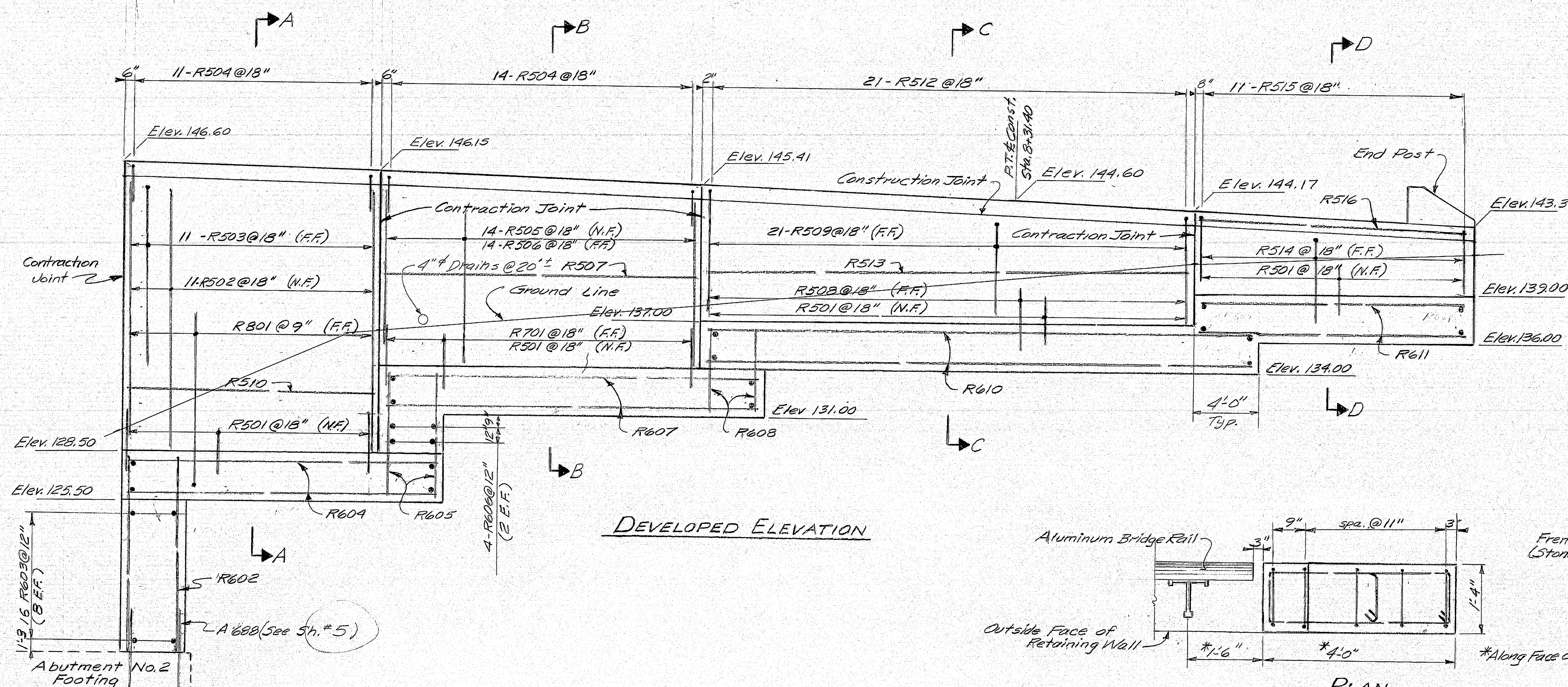
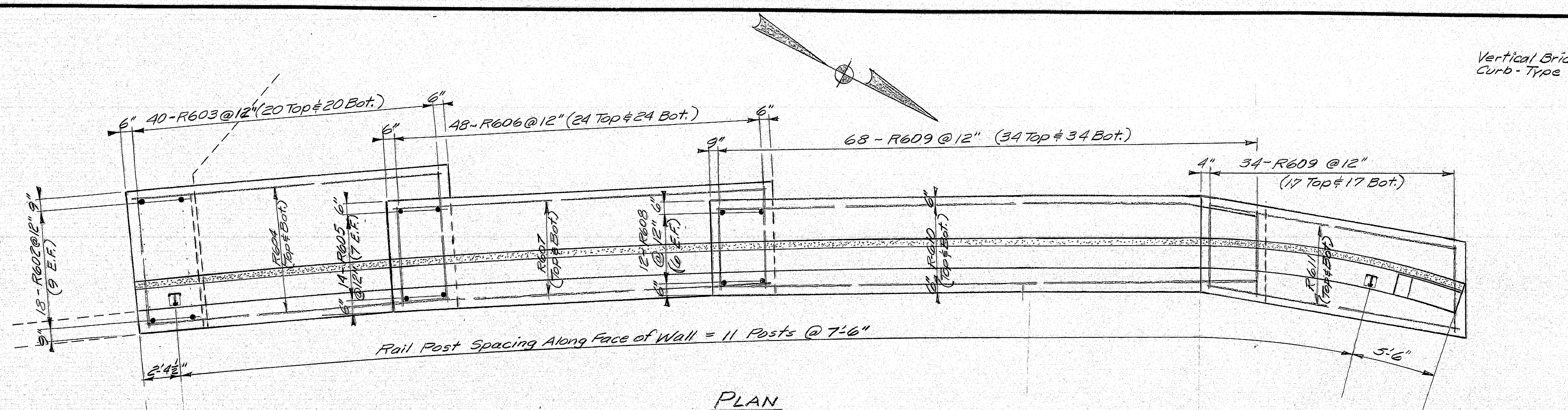
NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERVILLE  
KENNEBEC COUNTY  
RETAINING WALL  
ABUTMENT 2  
SHEET 7 OF 18 AUGUSTA, MAINE

SHEET 7 OF 18

170-70 203-1 21

<b>PLANS</b>	PROJECT DESIGN ENGINEER	BY	DATE
	DESIGN - DETAILED	<i>PAUL NEP</i>	<i>5-75</i>
	CHECKED	<i>MMG</i>	<i>8/75</i>
	REVISIONS		
	FIELD CHANGES		





END POST Note: End Post shall be given a Rubbed Finish.

END VIEW

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

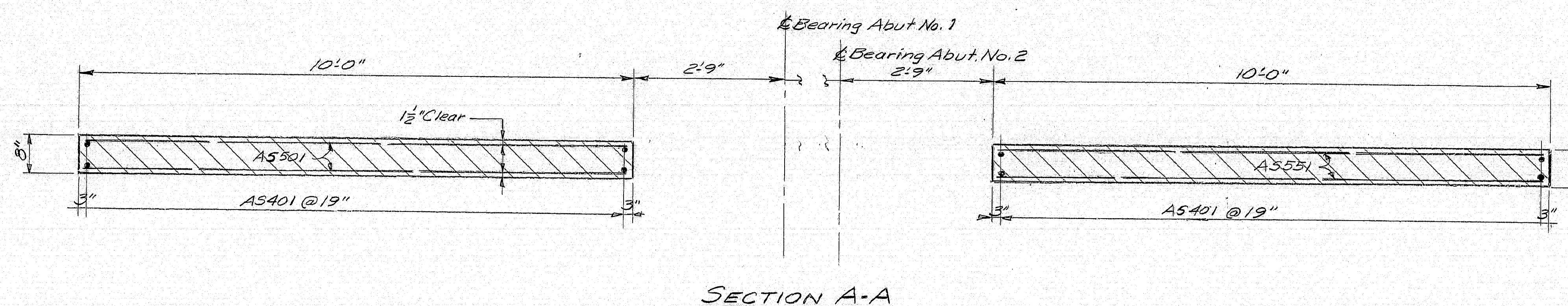
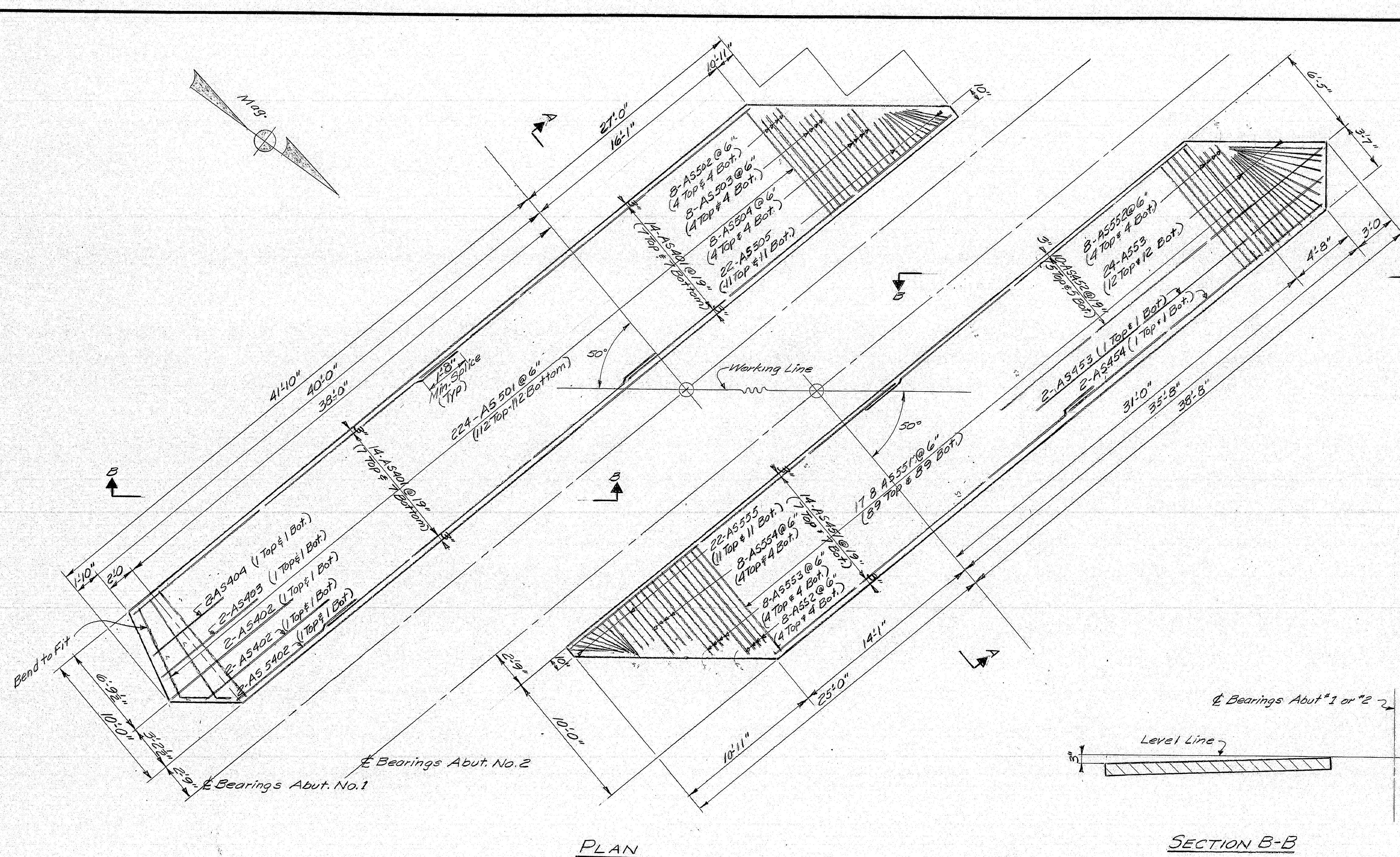
**NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERVILLE  
KENNEBEC COUNTY  
RETAINING WALL, ABUTMENT 2  
REINFORCING STEEL**

SHEET 3 OF 18 AUGUSTA, MAINE

170-71 103-1 200  
WY FERRVILLE 219



F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TO SHEET
1	MAINE	MG-720(1)	27	6



See Sheet #4 for Abut. 1 Details  
See Sheet #6 for Abut. 2 Details

As Built 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERVILLE  
KENNEBEC COUNTY**

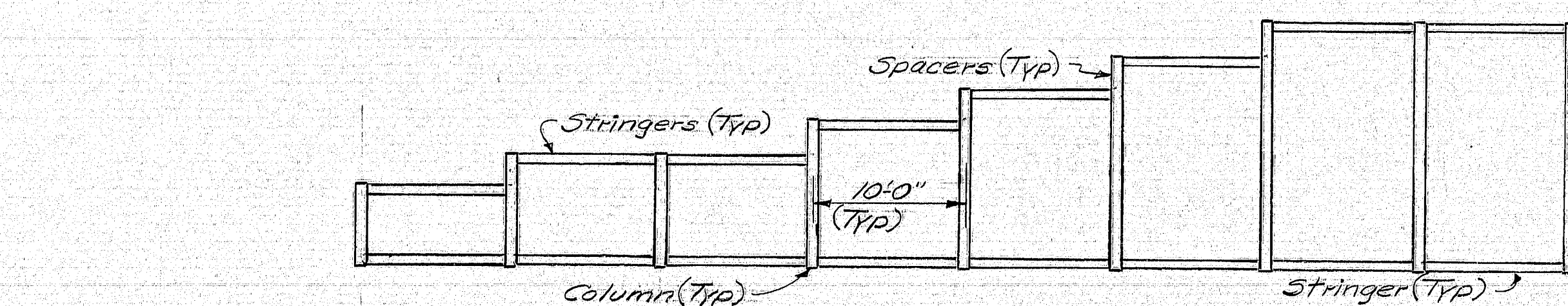
## APPROACH SLABS

SHEET 9 OF 18 AUGUSTA, MAINE

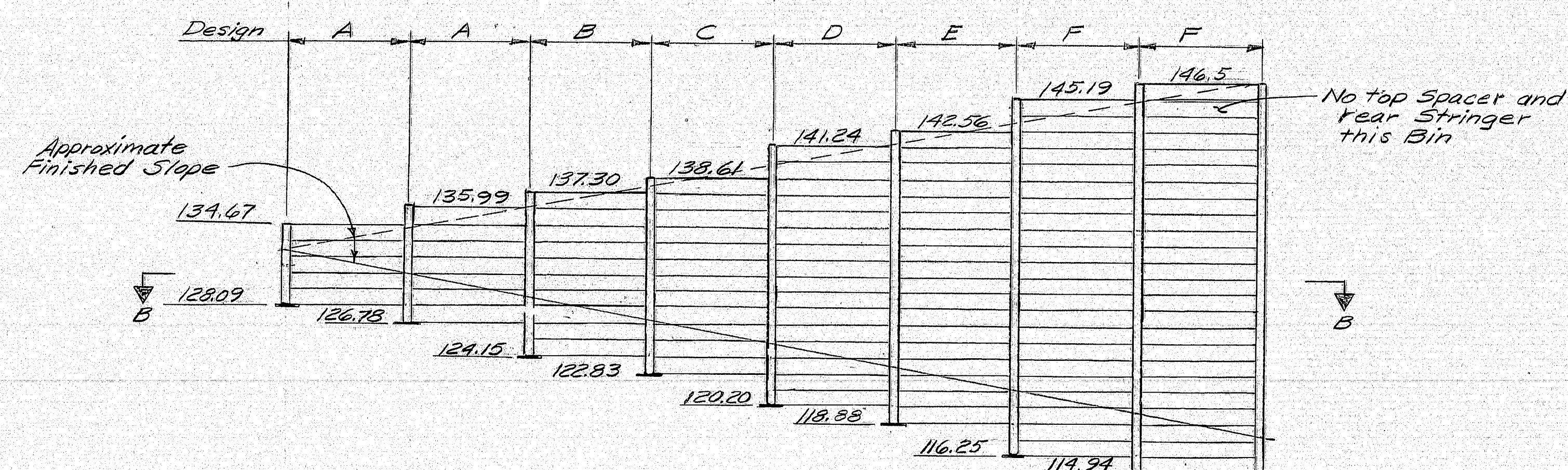
170-72

PLANS	DESIGN - DETAILED	BY	DATE
	CHECKED	PMCL NEP	5-25
	REVISIONS	NMFC	8/2/5
	FILED IN		

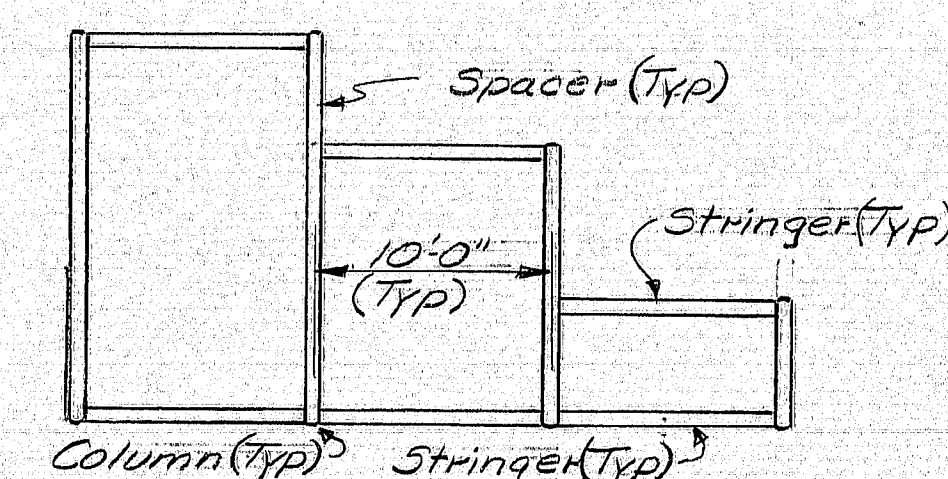




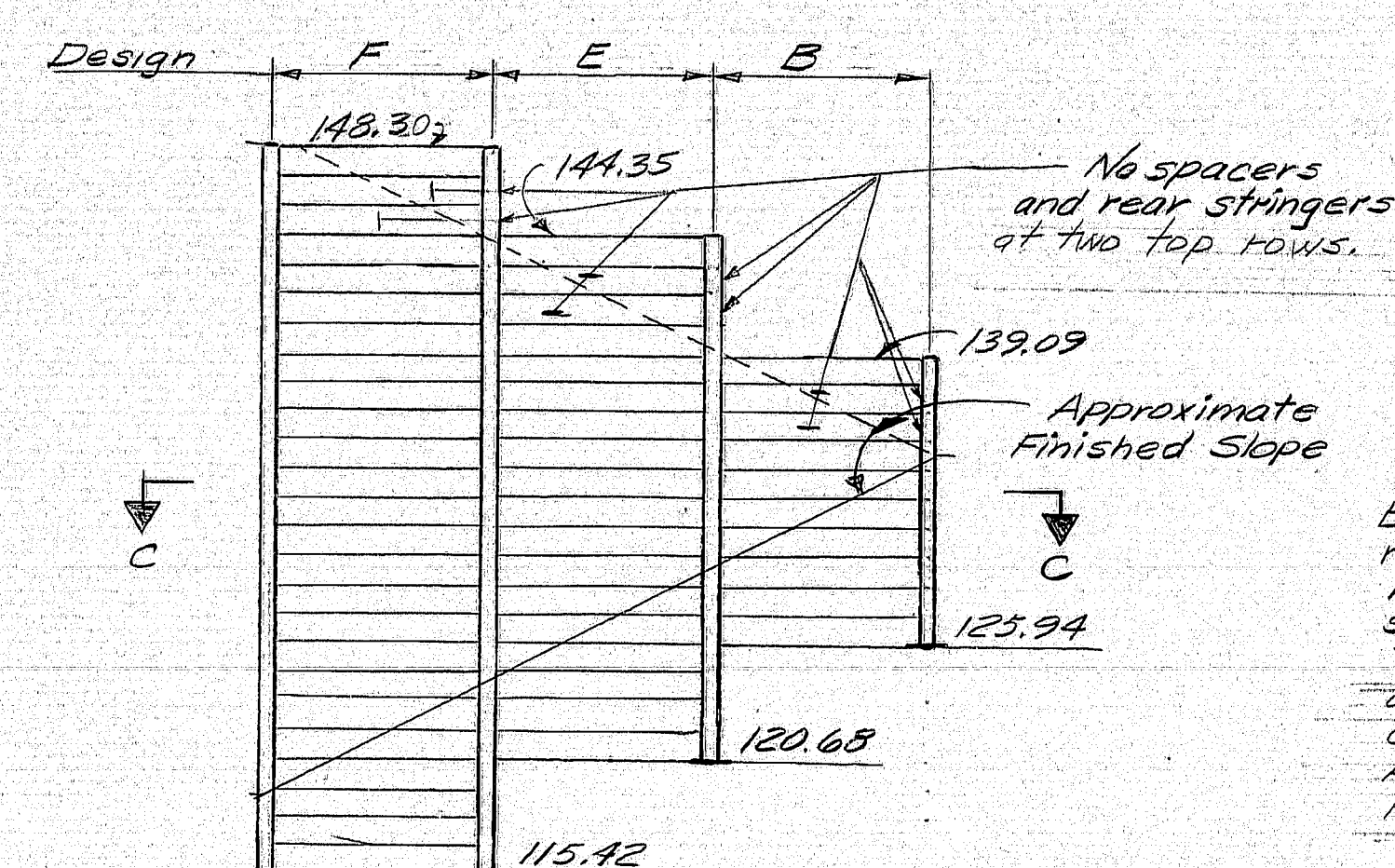
SECTION B-B



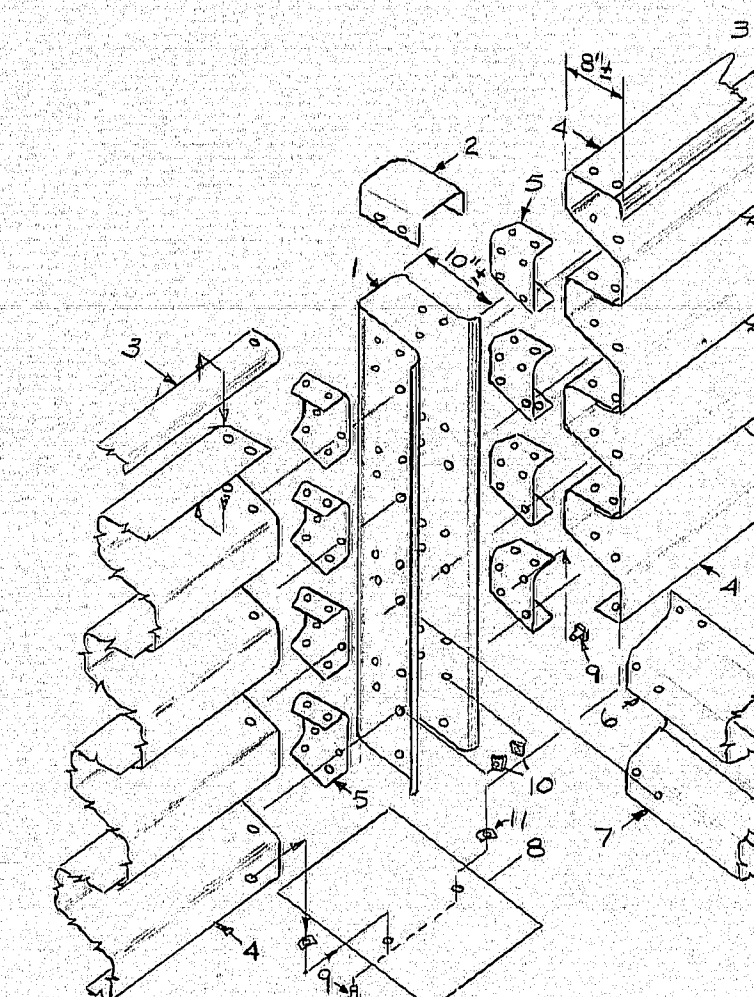
ELEVATION RIGHT WING



SECTION C-C

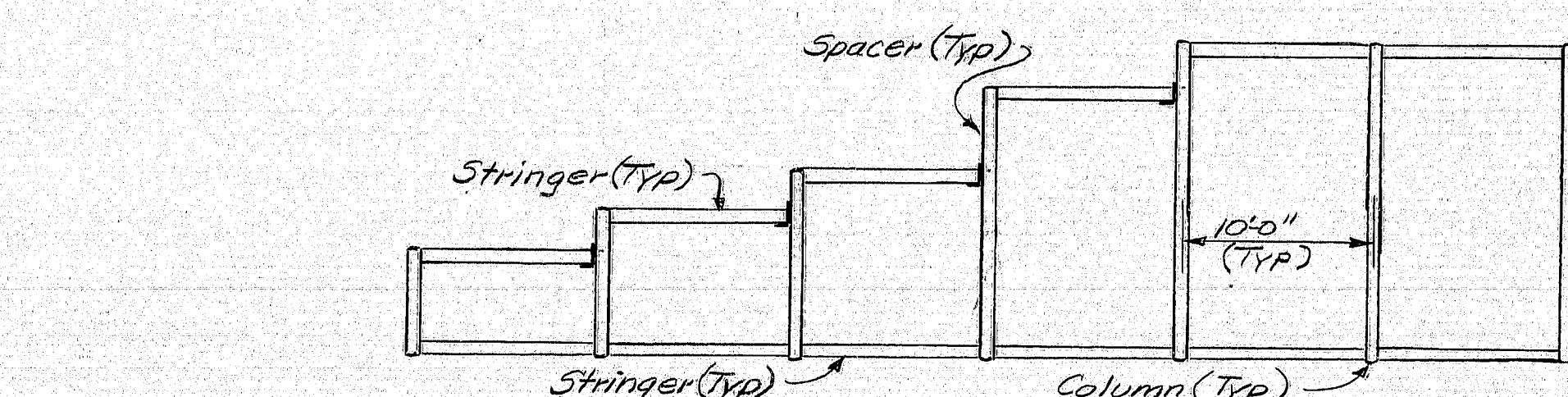


ELEVATION LEFT WING

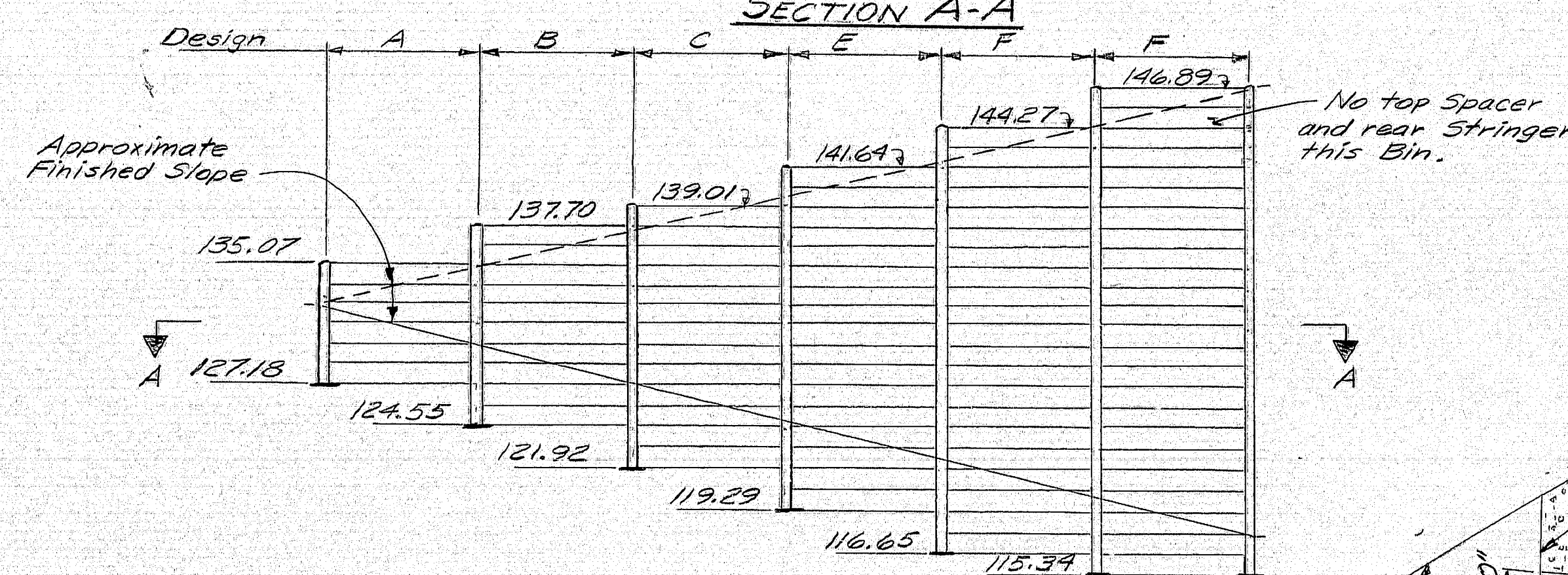


Exploded view of a front panel joint of steel bin-type retaining wall, as seen from the rear. Other wall member configuration may be used if it is of equal strength and approved by the Engineer. See Parts Table below. Materials shall conform to the requirements of Subsection 703.15, except that asbestos fiber coating and bituminous paint will not be required. All bins shall be filled with Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Rockfill.

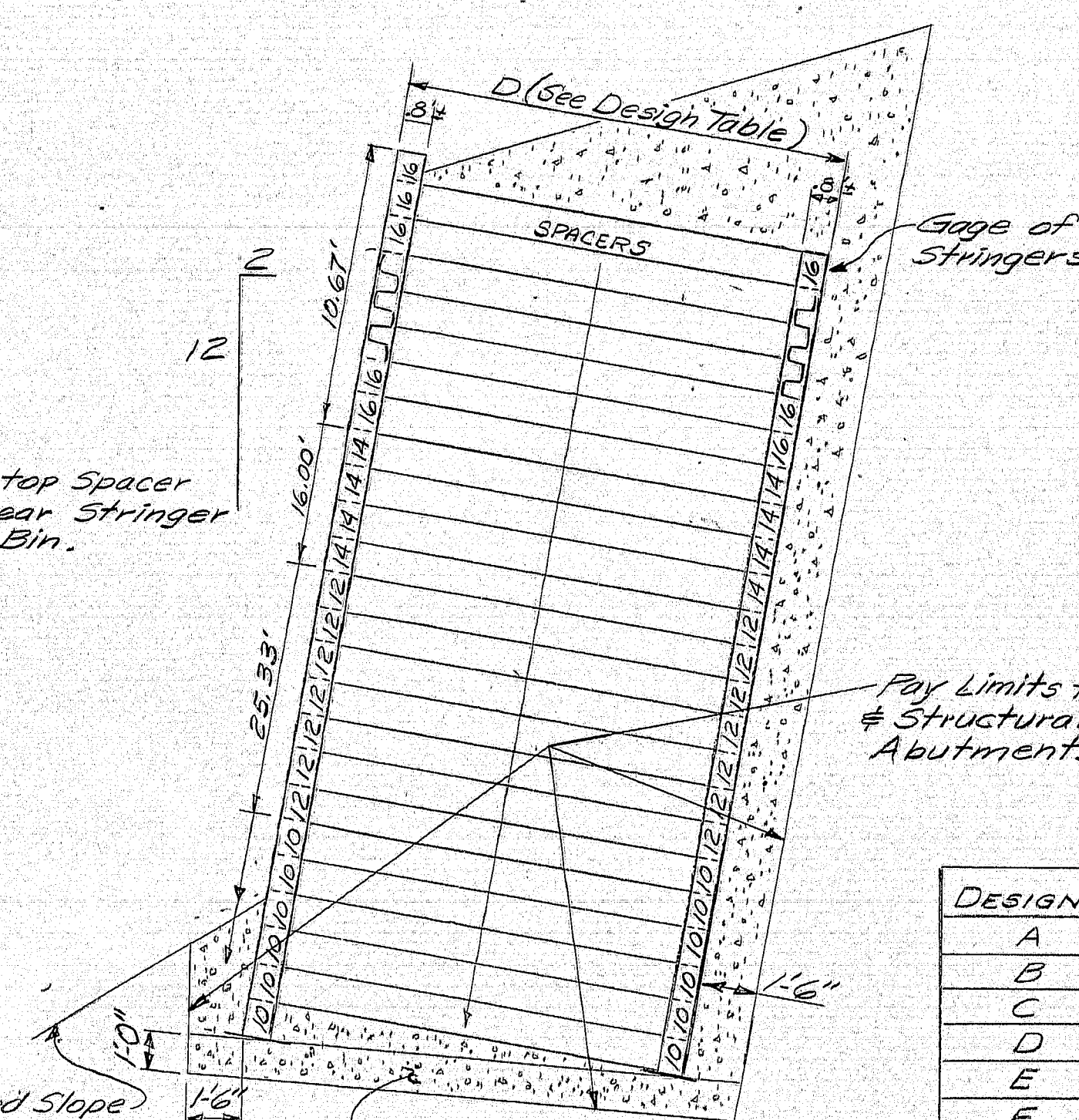
ABUTMENT No. 1



SECTION A-A



ELEVATION LEFT WING ABUTMENT No. 2



TYPICAL SECTION FOR ALL DESIGNS

NAME	GAGE	DESCRIPTION
1. Column	8	Vertical member connecting all other units
2. Column Cap	12	Cover for front column
3. Stringer Stiffener	8	Top flange protector
4. Stringer	See Section	Horizontal longitudinal member in front and rear walls
5. Connecting Channel	8	Connector for attaching stringers to columns
6. Spacer		Transverse members that separate the front/rear columns
7. Bottom Spacer		Special bottom transverse member
8. Base Plate	1	Installation plate on which the column rests
* Column Splice	10	Connects columns for higher walls
* Split Column	8	Connects rear stringer of thinner wall to transverse section of thicker wall
9. 1/2"x3/8" bolts		
10. 3/8" nuts		
11. 3/8" spring nuts		
* Not Shown		

For Bin Wall Layout See Sh. 11  
For Abutment Layout See Sh. 4 & 6  
For Bin Wall Location See Sh. 1 & 2

DESIGN	D DIMENSION	Spacer Length	Spacer Gage
A	5.5'	5.2'	16
B	7.7'	7.4'	16
C	9.9'	9.6'	14
D	12.1'	11.8'	12
E	14.3'	14.0'	12
F	16.5'	16.2'	12

As Built 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

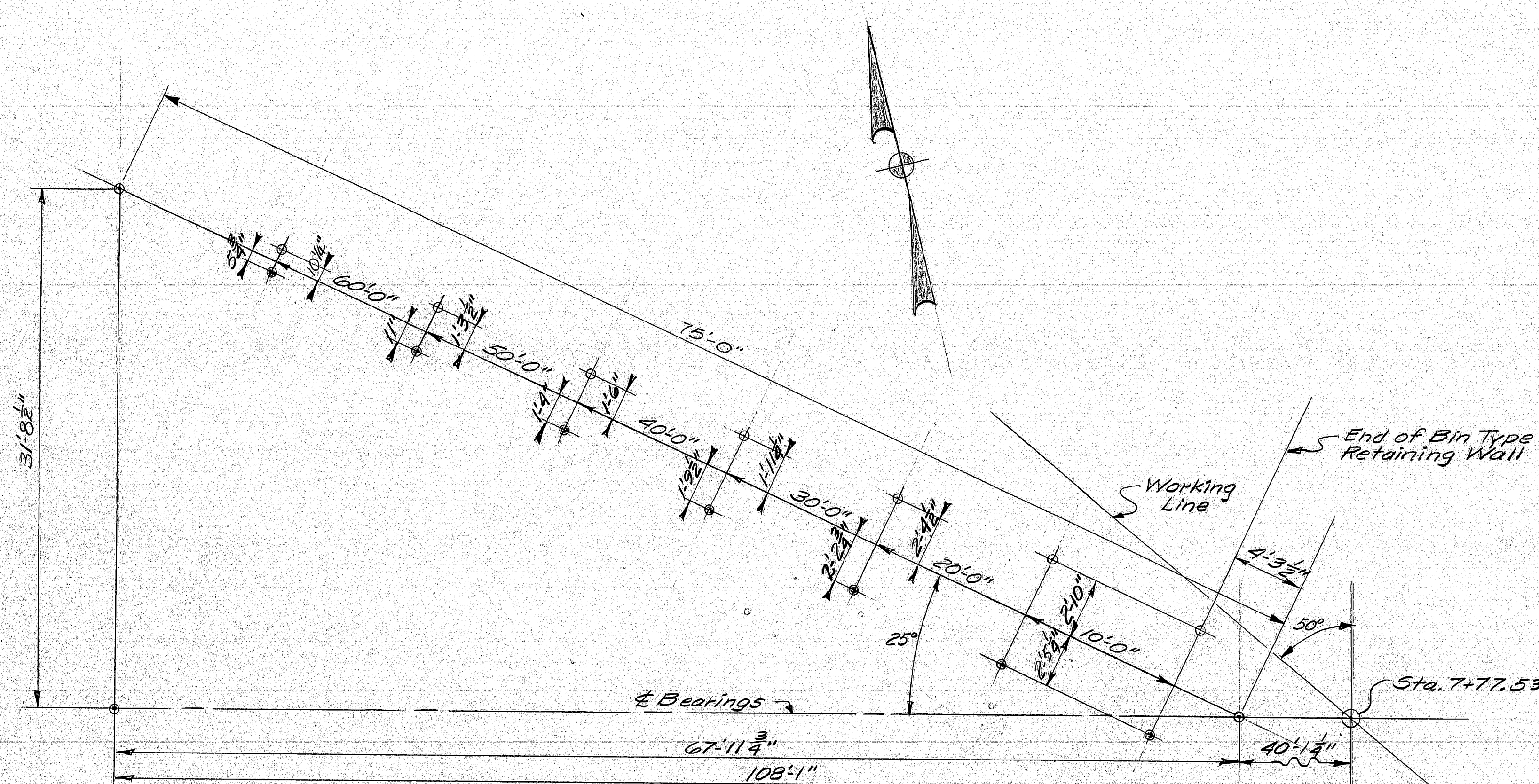
**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATERVILLE**  
**KENNEBEC COUNTY**  
BIN TYPE RETAINING WALLS

SHEET 10 OF 18 AUGUSTA, MAINE

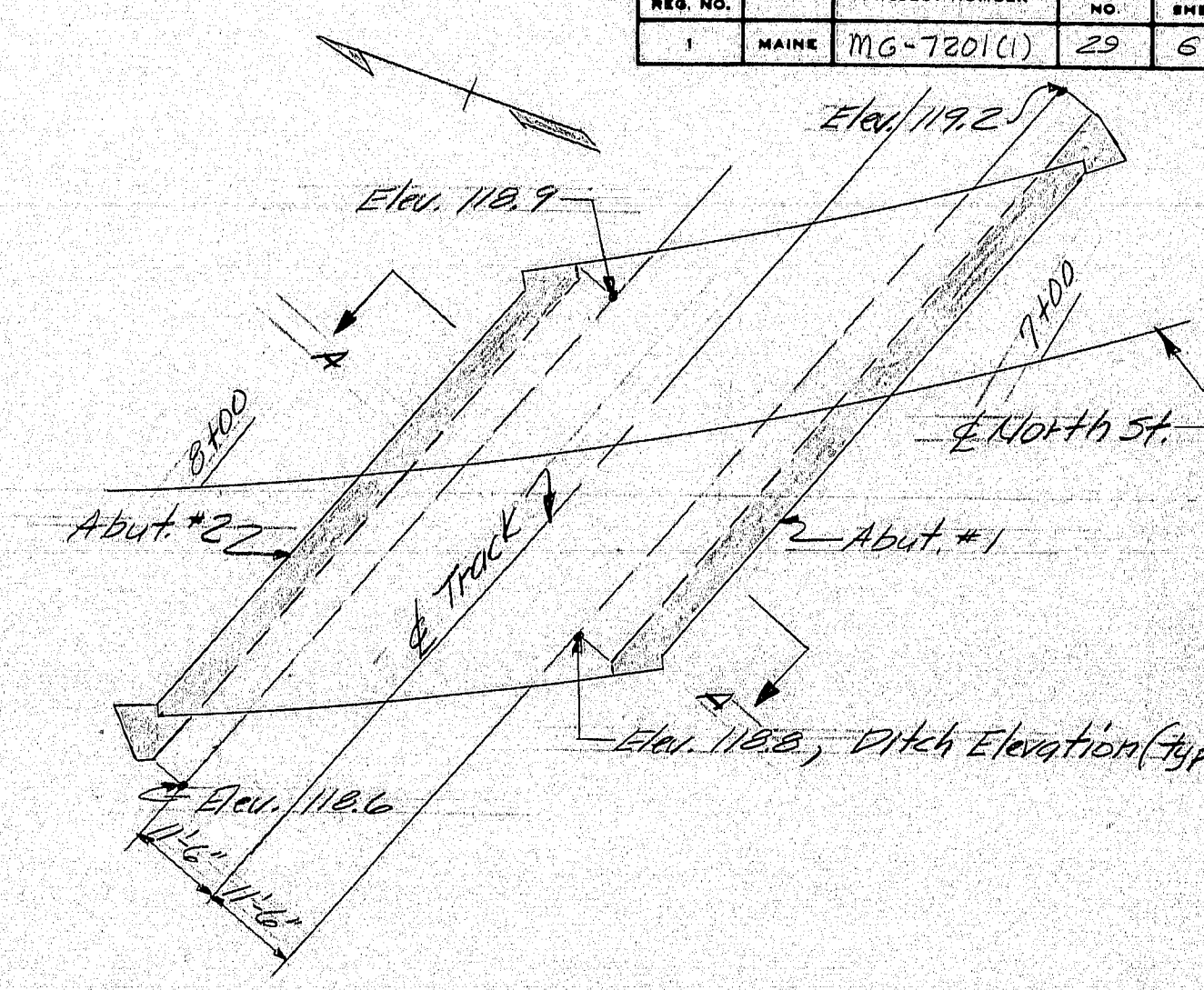
170-73



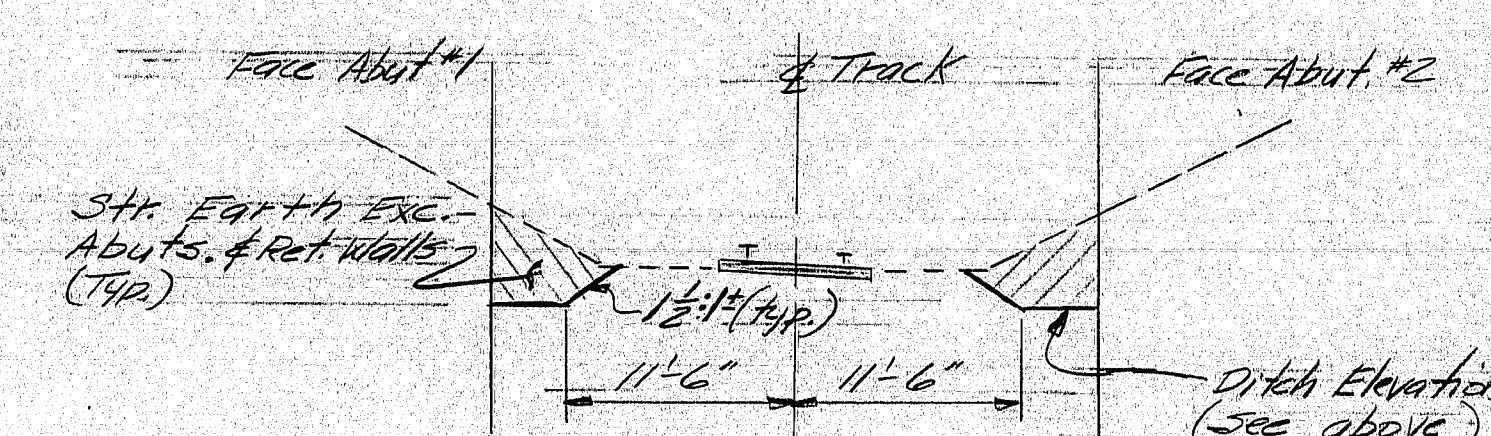
REV. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-7201(1)	29	57



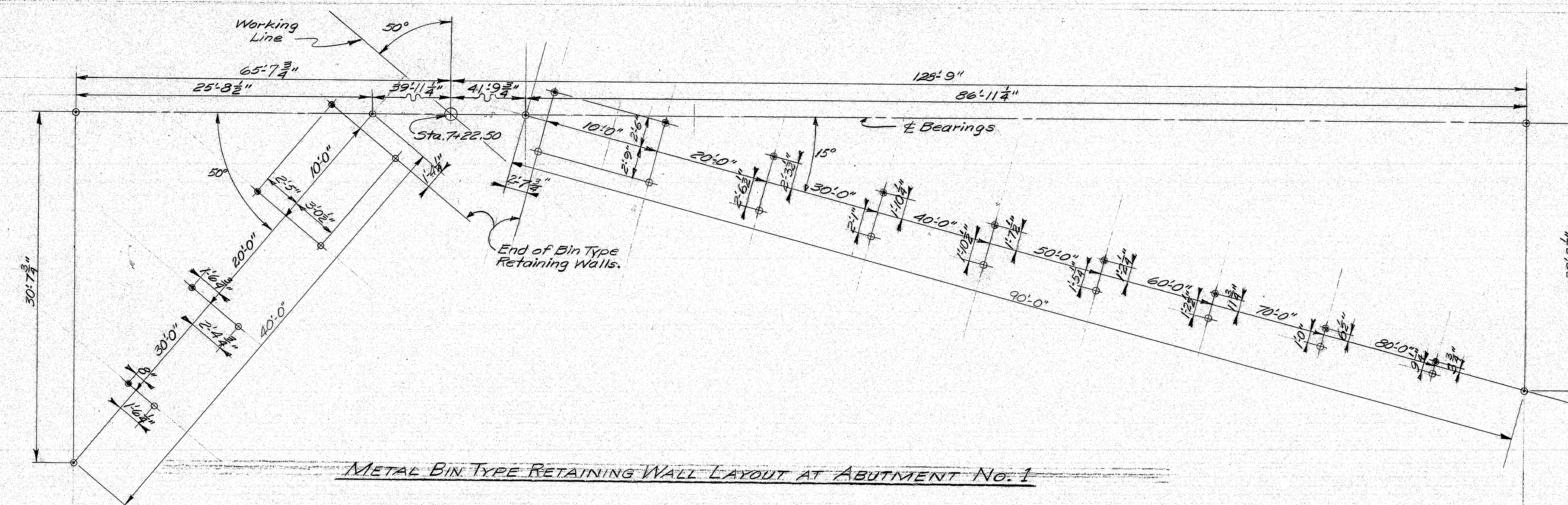
METAL BIN TYPE RETAINING WALL LAYOUT AT ABUTMENT NO. 2



PLAN OF DITCH EXCAVATION AT ABUTMENTS



SECTION A-A



METAL BIN TYPE RETAINING WALL LAYOUT AT ABUTMENT NO. 1

LAYOUT POINTS AT FACE OF COLUMNS

- = Front Face at Bottom
- = Front Face at Top

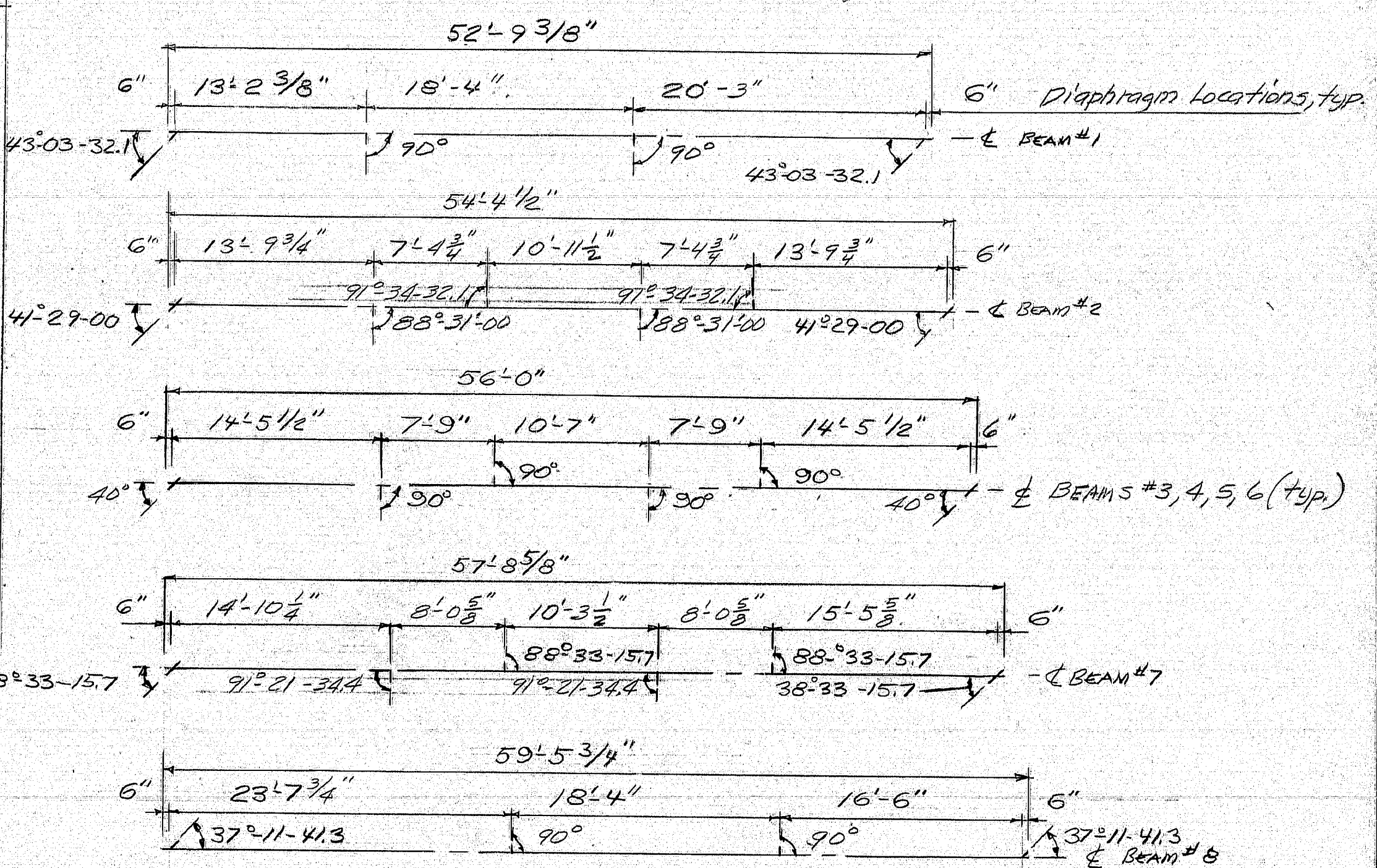
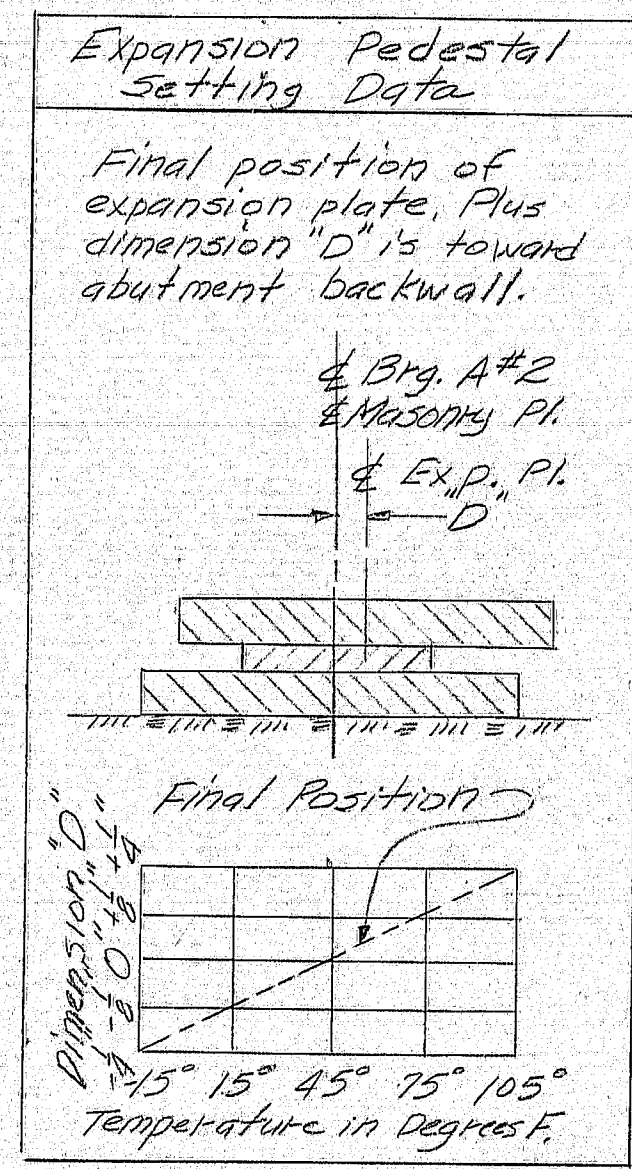
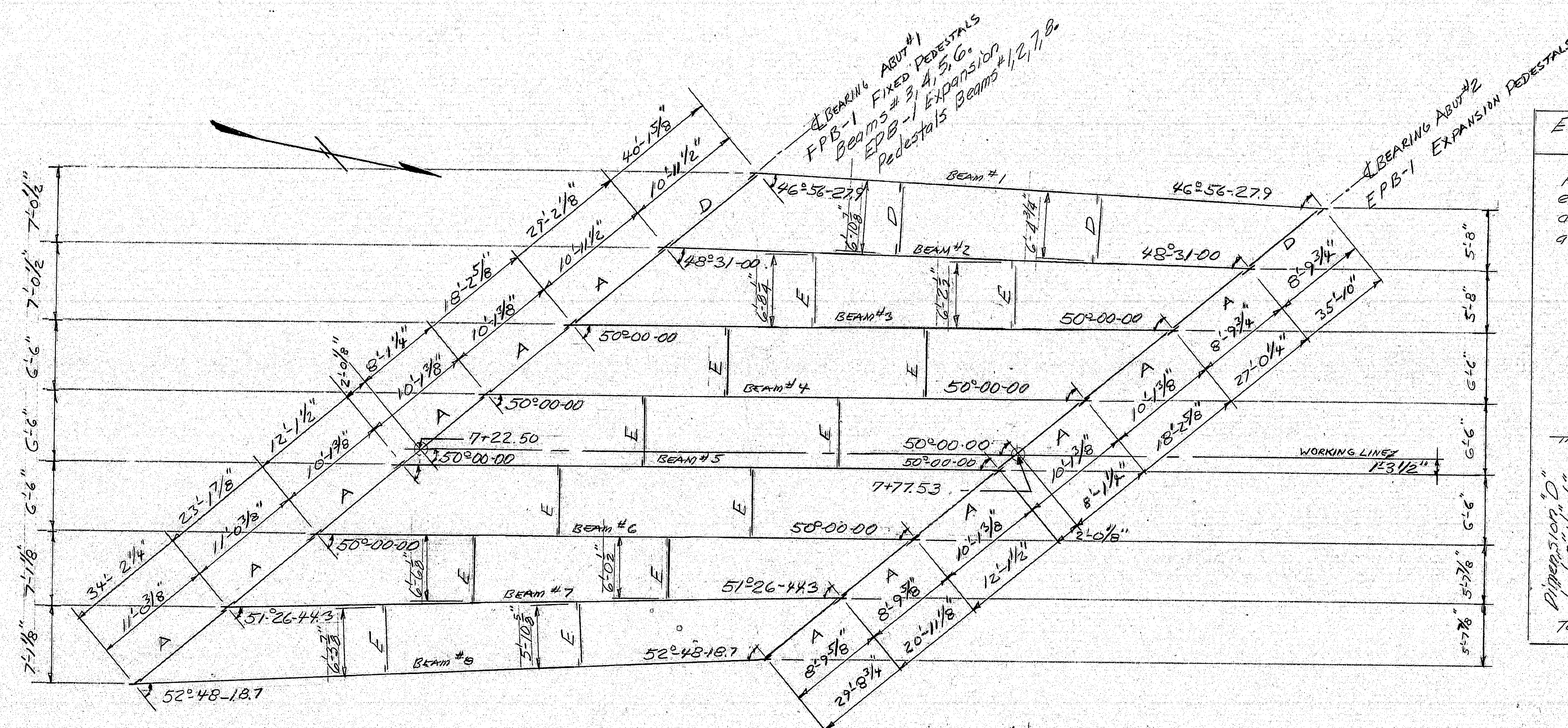
Refer to SH. # 10 for Elevations  
Distances from layout lines are  
calculated from Elev. 130.00

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	7/75
CHECKED	7/75
REVISIONS	
FIELD CHANGES	

As Built 1977  
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATERVILLE**  
KENNEBEC COUNTY  
LAYOUT FOR BIN TYPE RETAINING WALL  
SHEET 11 OF 18 AUGUSTA, MAINE

170-74

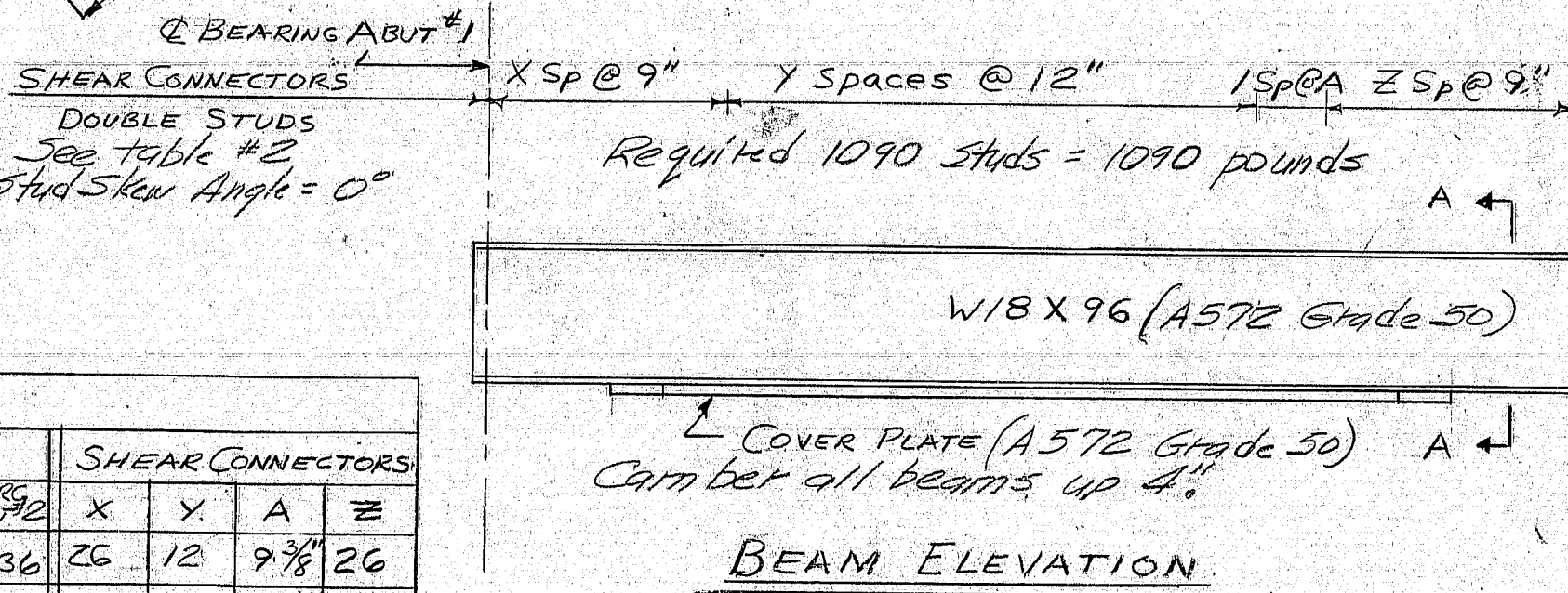




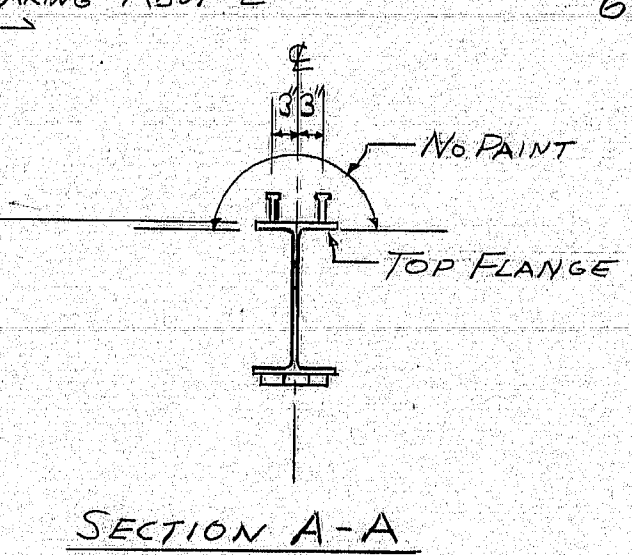
FRAMING PLAN

TABLE #2  
BOTTOM OF SLAB ELEVATIONS

POINT	5'	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	58'
#1	146.58	146.58	146.53	146.47	146.39	146.29	146.16	146.02	145.84	145.65	145.44	145.36
#2	146.65	146.67	146.66	146.63	146.58	146.50	146.39	146.26	146.11	145.93	145.73	145.58
#3	146.69	146.73	146.75	146.75	146.72	146.66	146.58	146.47	146.33	146.17	145.99	145.78
#4	146.87	146.83	146.80	146.78	146.73	146.66	146.57	146.43	146.28	146.14	145.98	145.81
#5	146.18	146.25	146.31	146.34	146.35	146.33	146.29	146.22	146.13	146.01	145.87	145.71
#6	145.84	145.75	145.62	145.08	146.10	146.11	146.08	146.03	145.95	145.85	145.73	145.59
#7	145.86	145.58	145.68	145.76	145.82	145.85	145.86	145.83	145.79	145.72	145.62	145.51
#8	145.02	145.16	145.29	145.39	145.48	145.53	145.57	145.58	145.56	145.52	145.46	145.32



BEAM ELEVATION



SECTION A-A

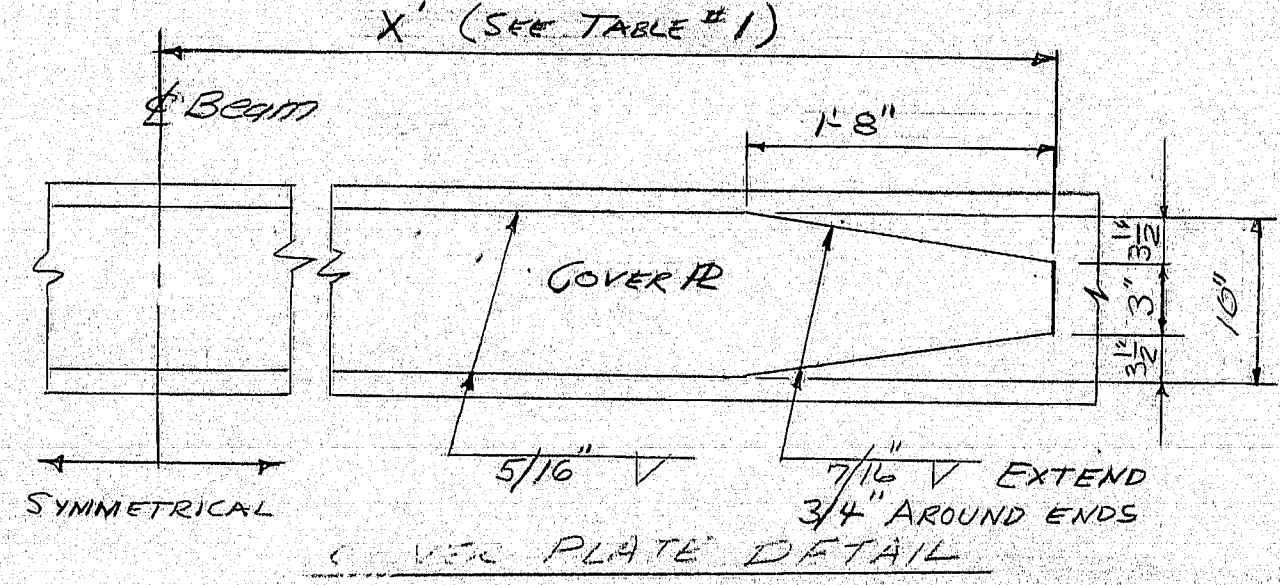
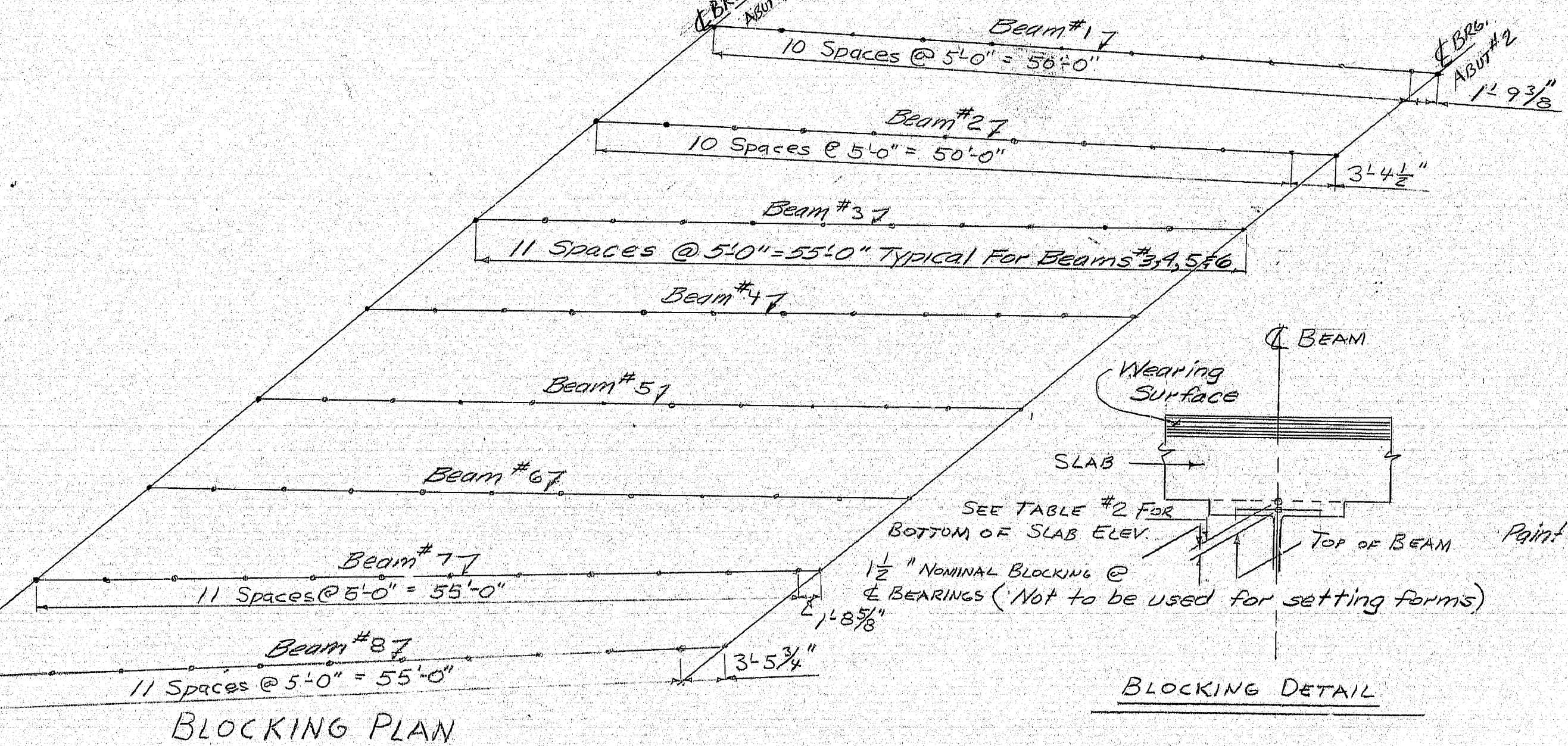
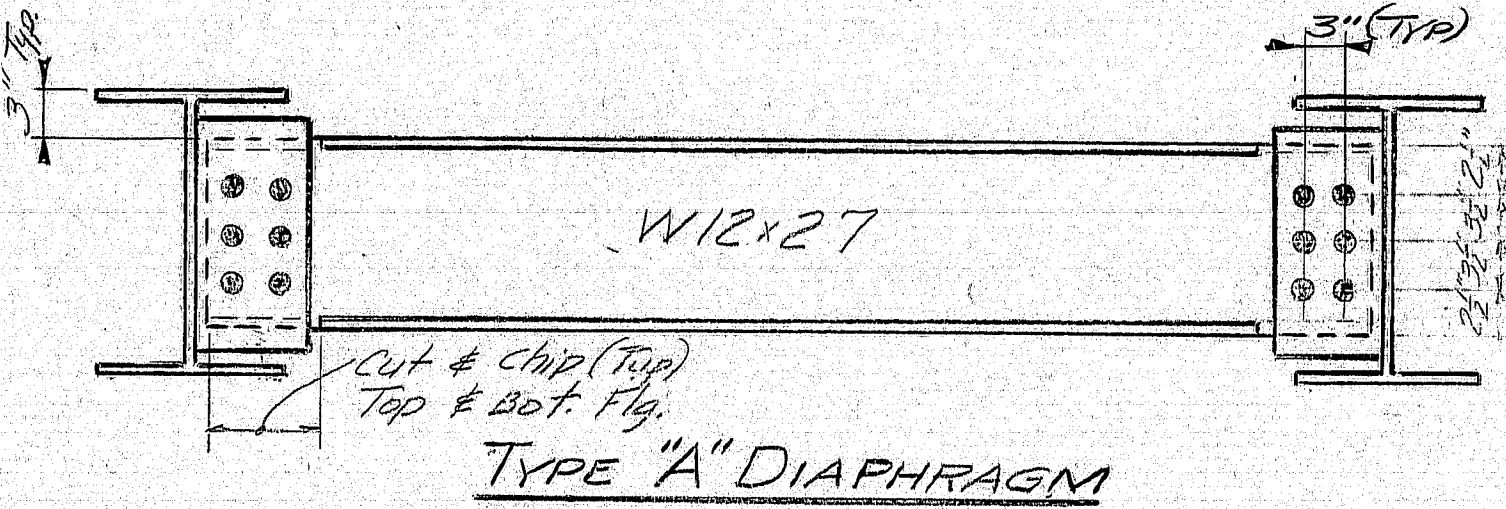


TABLE #1

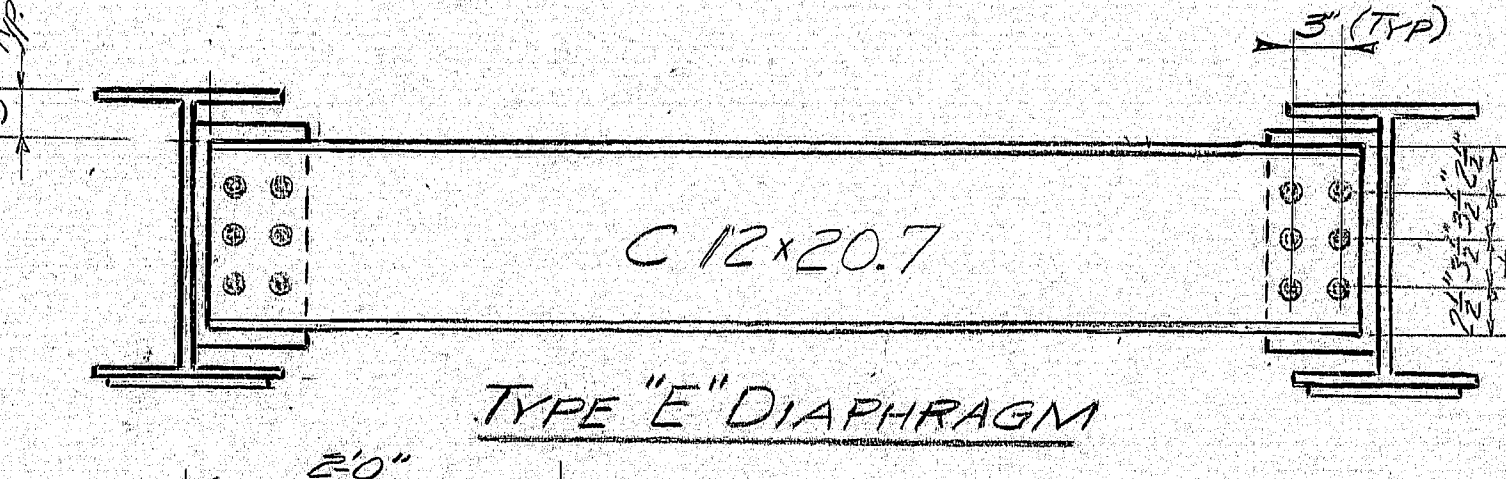
BEAM	X'	COVER PLATE
1	17'-6"	10'x11"
2	20'-0"	10'x11"
3	21'-0"	10'x11"
4	21'-0"	10'x11"
5	21'-0"	10'x11"
6	21'-0"	10'x11"
7	21'-0"	10'x11"
8	22'-0"	10'x11"



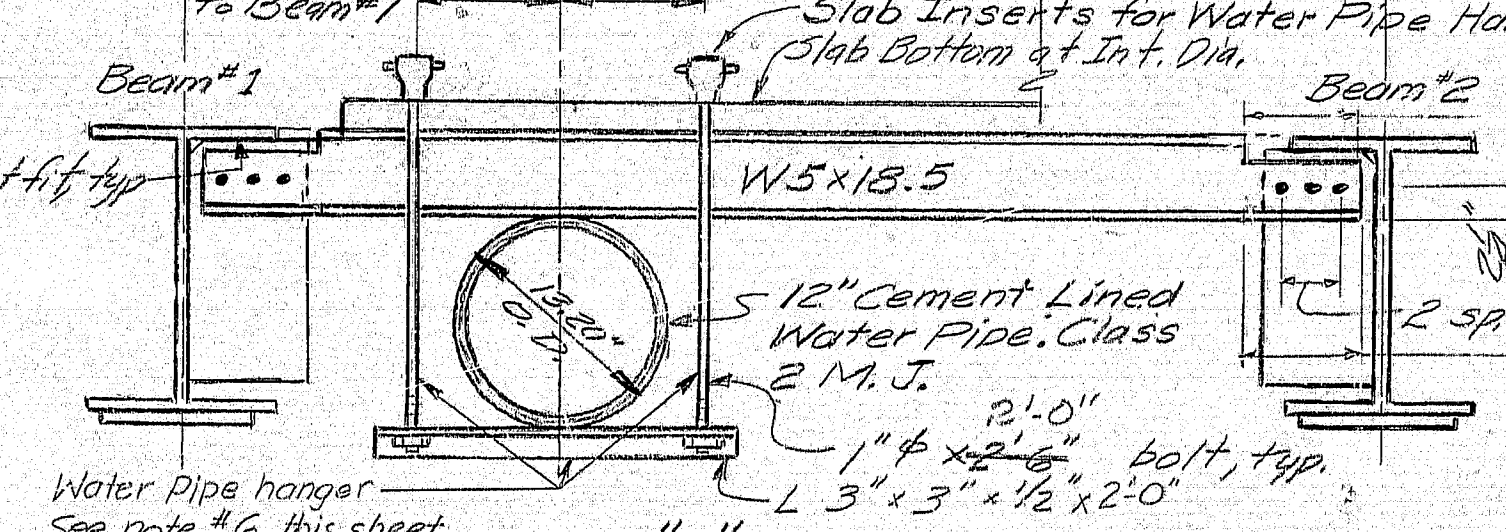
BLOCKING PLAN



TYPE "A" DIAPHRAGM



TYPE "E" DIAPHRAGM



TYPE "D" DIAPHRAGM

- FABRICATION NOTES
1. H.R. for 7/8" dia. high strength bolts (ASTM A325) shall be 7/16" dia. and edge distance shall be 1 1/2" min. unless otherwise shown.
  2. Connection plates shall have a min. thickness of 3/8" and have sufficient width to provide erection clearance.
  3. Conn. plates shall be fastened to beam web as follows: 0° to 30° skew---fillet weld both sides. Over 30° skew---full penetration groove weld. Over 45° skew---weld qualification will be req'd. The skew angle is the angle between the conn. plate and a line normal to the beam.
  4. All fillet weld sizes shall be the min. for the thickness of metal being joined according to AWS Specs. for Welded Highways & Railway Bridges.
  5. Conn. plates shall be 1/4" clear from flanges except as shown.
  6. 10 Water pipe hangers shall be furnished and installed by the contractor. Payment for all materials and labor will be included in the Lump sum price for Items 504.70 and 504.71.

- REFERENCES
- Bearing Pedestals BD 104-74
  - Shear Connectors BD 104-73

Revised As Built 1977 ECD:K: July 1977

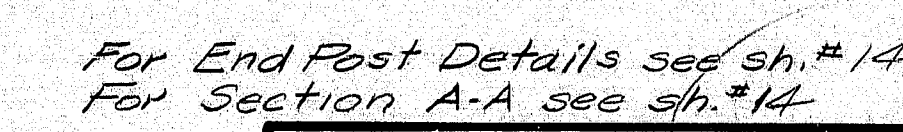
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATERVILLE**  
KENNEBEC COUNTY  
STRUCTURAL STEEL &  
BOTTOM OF SLAB ELEVATIONS

SHEET 12 OF 18 AUGUSTA, MAINE



Metal inserts shall be threaded to receive 1" diameter bolts with National Course Treads. Inserts to have a minimum working load of 5000 lbs. and a minimum ultimate strength of 14,000 lbs. Metal Inserts will not be paid for directly, but will be considered incidental to Item 502.26.



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERVILLE  
KENNEBEC COUNTY  
SUPERSTRUCTURE SLAB  
PLAN**

H. B. H. 1977

9 AUGUSTA, MAINE  
170-76 203-1 2000  
WATER 219



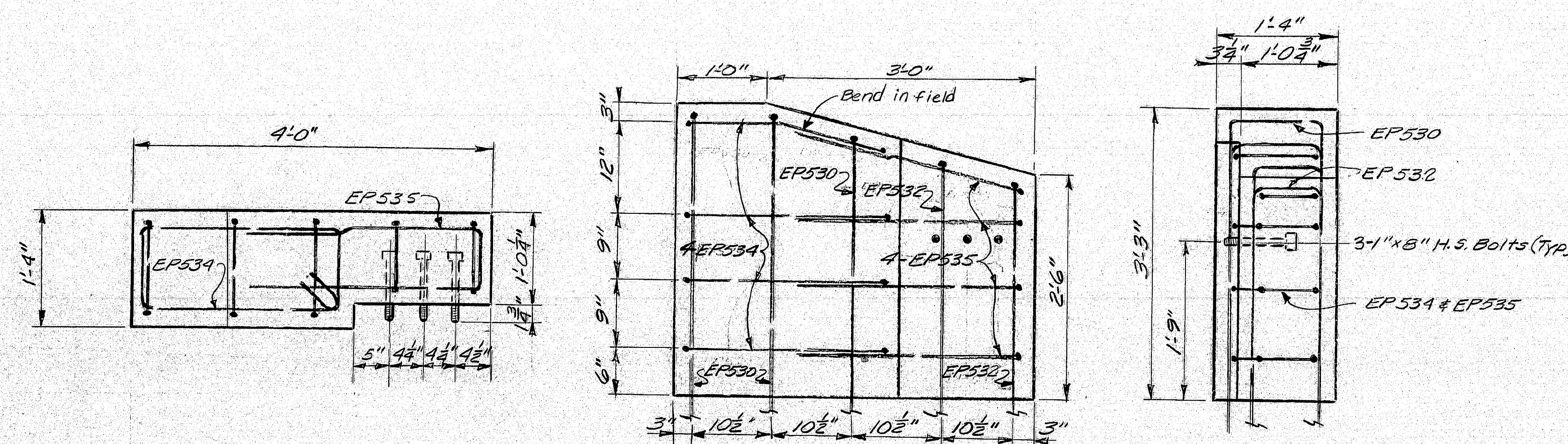
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-720(1)	32	67

# **SUPERSTRUCTURE NOTES**

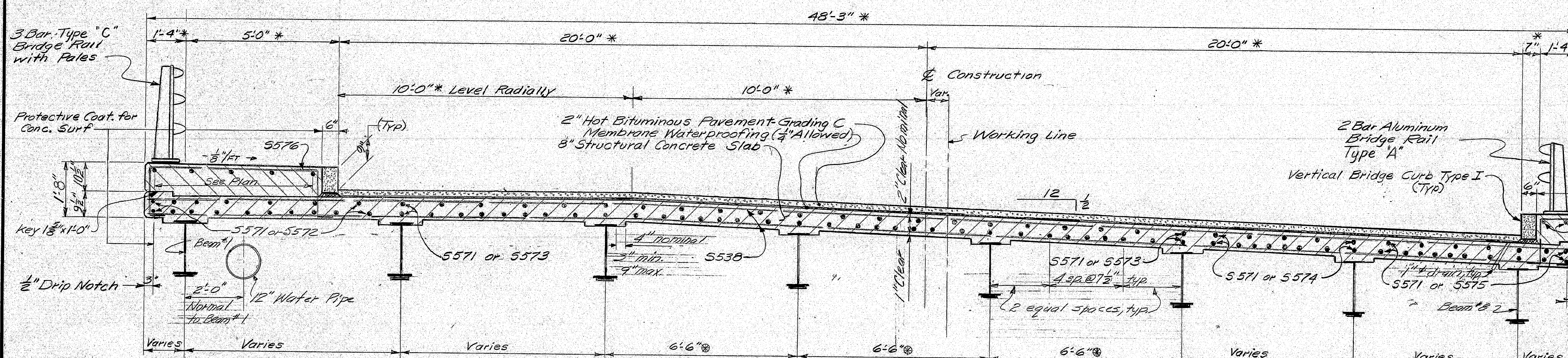
- ① Chamfer all exposed edges of concrete  $\frac{1}{2}$  inch unless otherwise indicated.
- ② Form a 1 inch V-groove on the outside faces of each contraction joint in the curbs and at the joint between the curb and slab.
- ③ Break the bond in contraction joints in the concrete curbs by a method approved by the Engineer.
- ④ Provide joints in the Vertical Bridge Curb, Type 1 at each contraction joint in the concrete curb.
- ⑤ Reinforcing steel shall have a minimum cover of 2 inches unless otherwise indicated.
- ⑥ Place 1 inch diameter plastic tube drains at 10 foot intervals along the curbs to clear concrete and all structural steel. See Standard Detail BD-104-73.
- ⑦ Reinforcing steel splices not shown on the plans shall be a minimum length as follows:  
#5 bar = 26"
- ⑧ Coat the joint between slab and backwall with two layers of heavy roofing 18" wide. Coat the concrete and back of each layer as applied with asphalt flashing cement.

## **References**

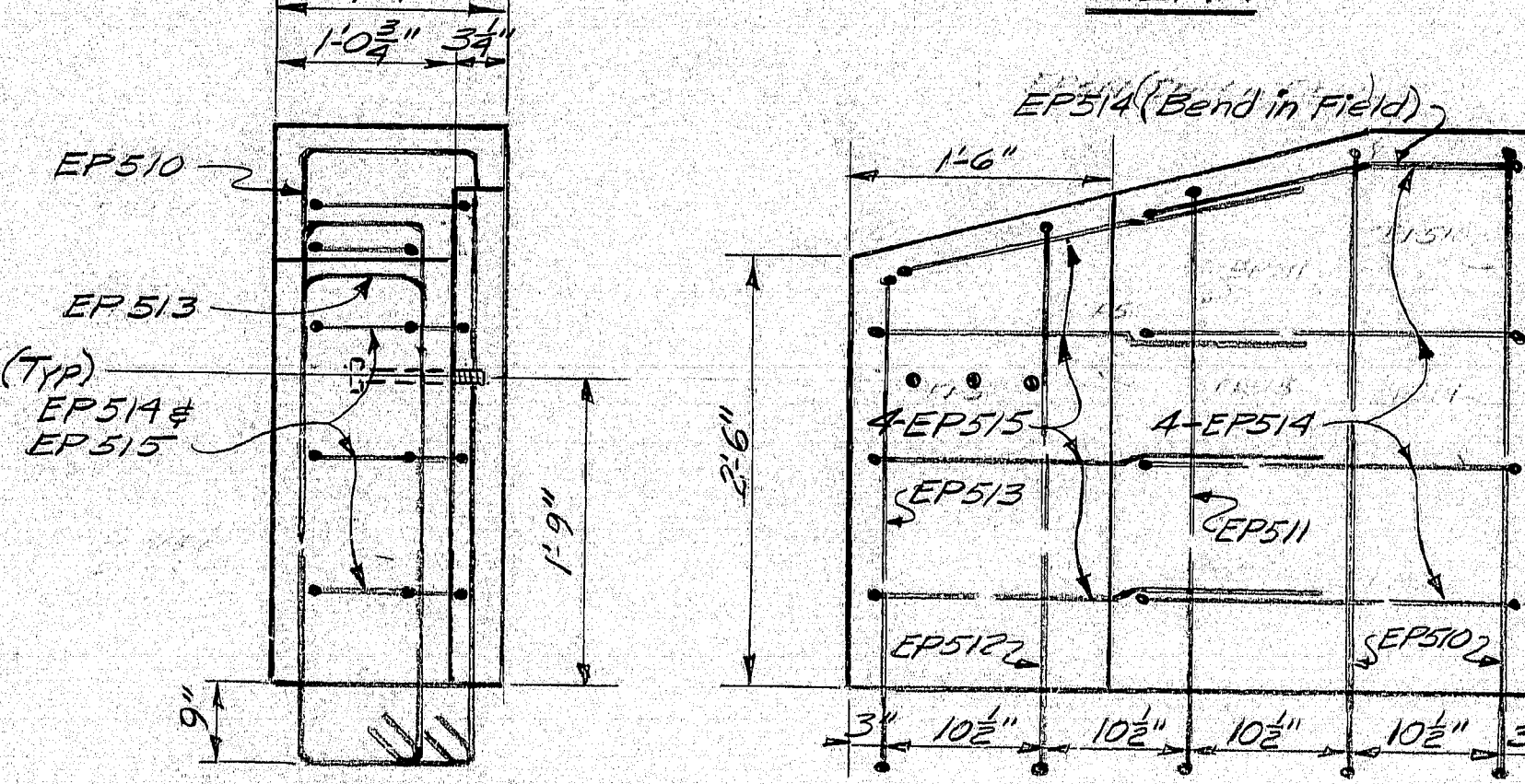
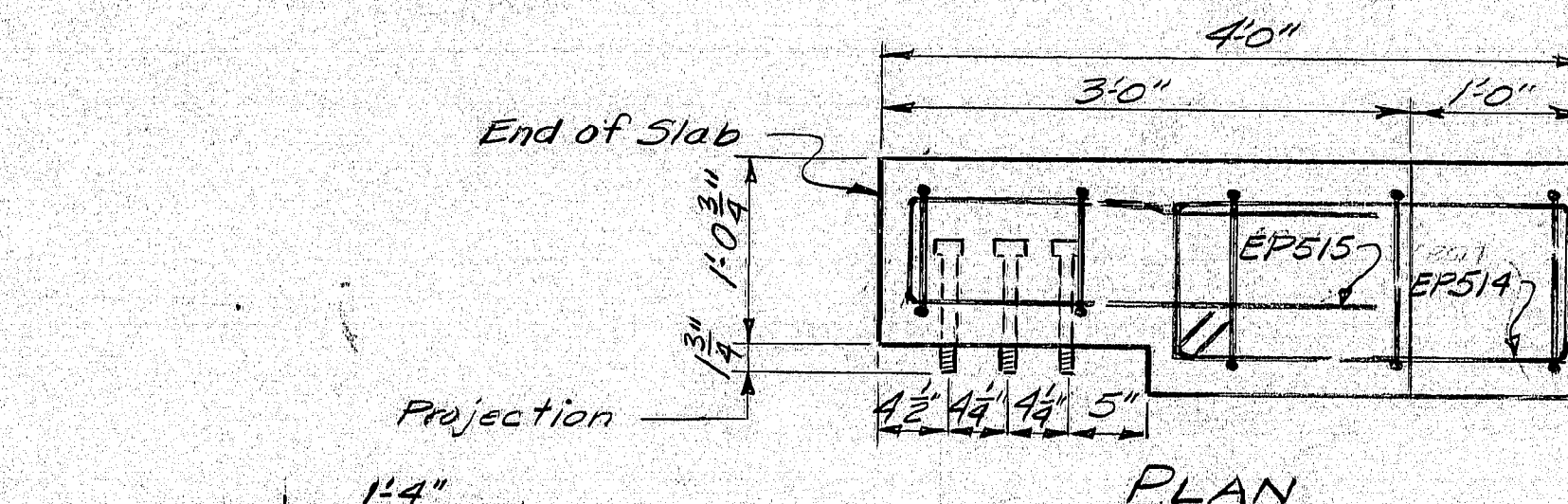
1. For end post to guard rail connection See Highway Standard Detail (C)
2. For railings. See:  
BD-114-73 for Type "A"  
BD-115-73 for Type "B"  
BD-116-73 for Type "C"



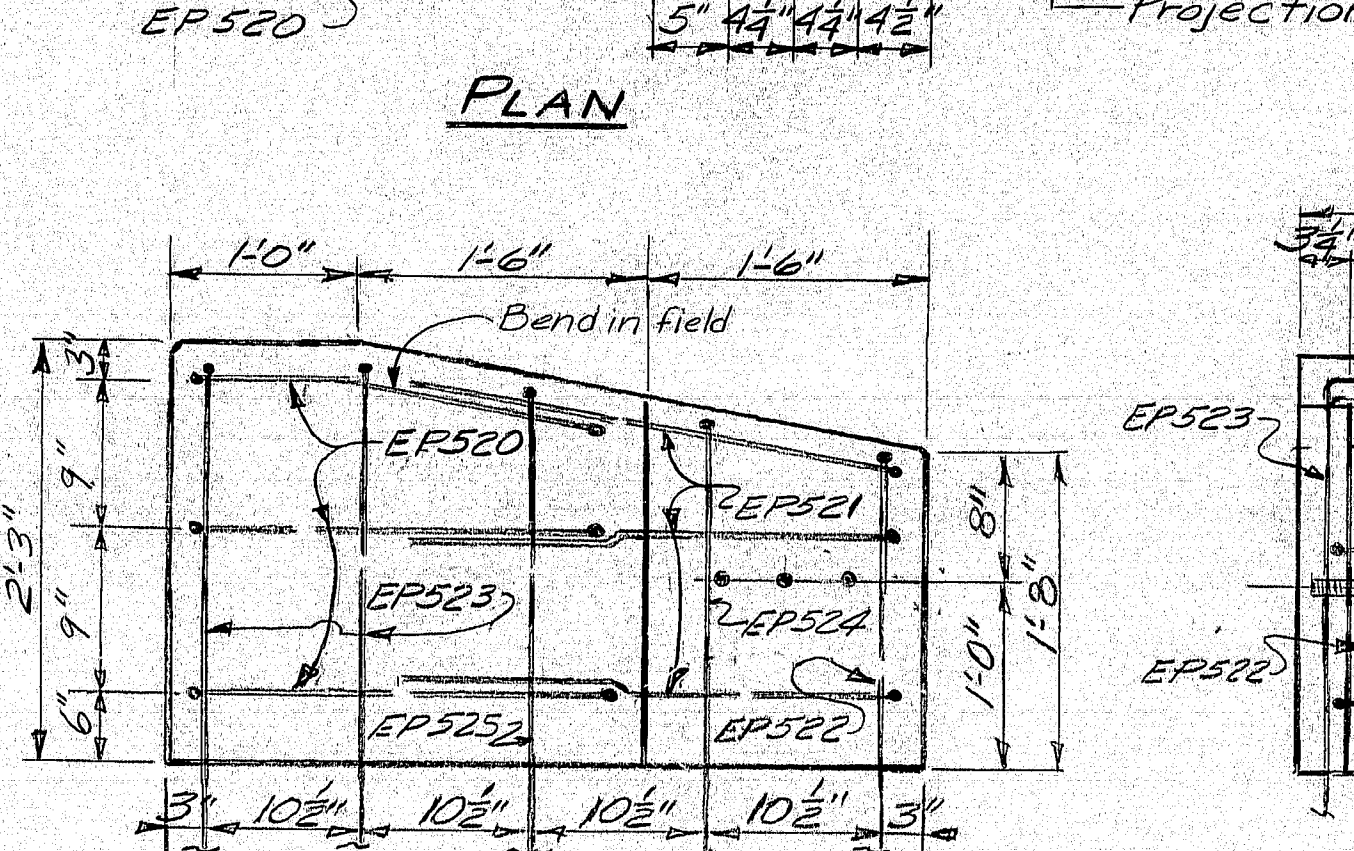
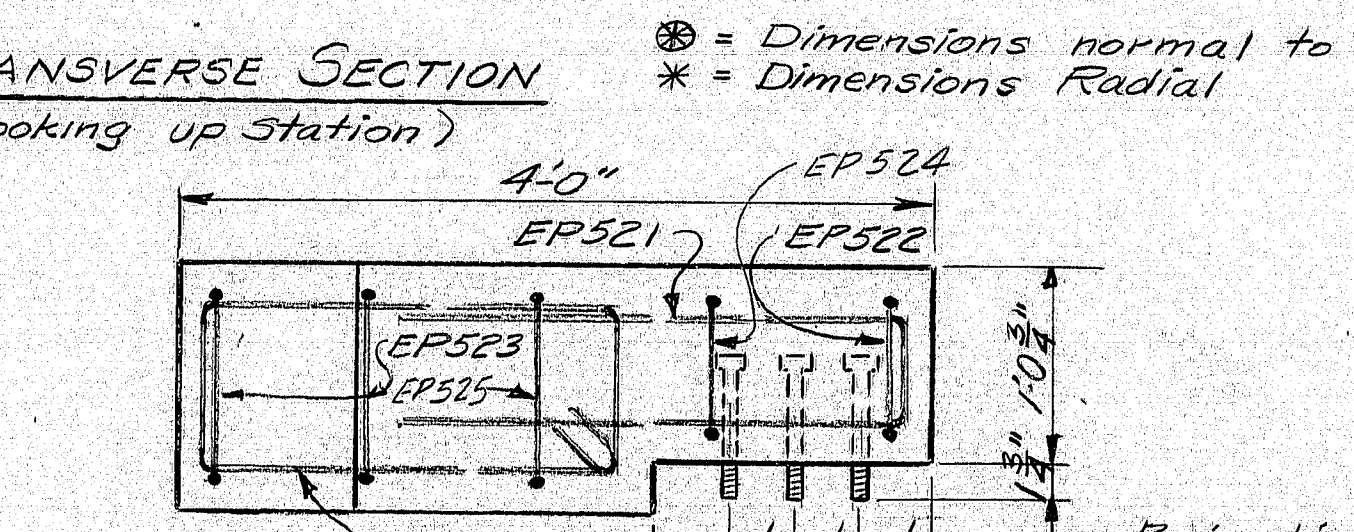
PLAN  
ELEVATION  
END VIEW  
END POST ON ABUTMENT NO. 2 - LT



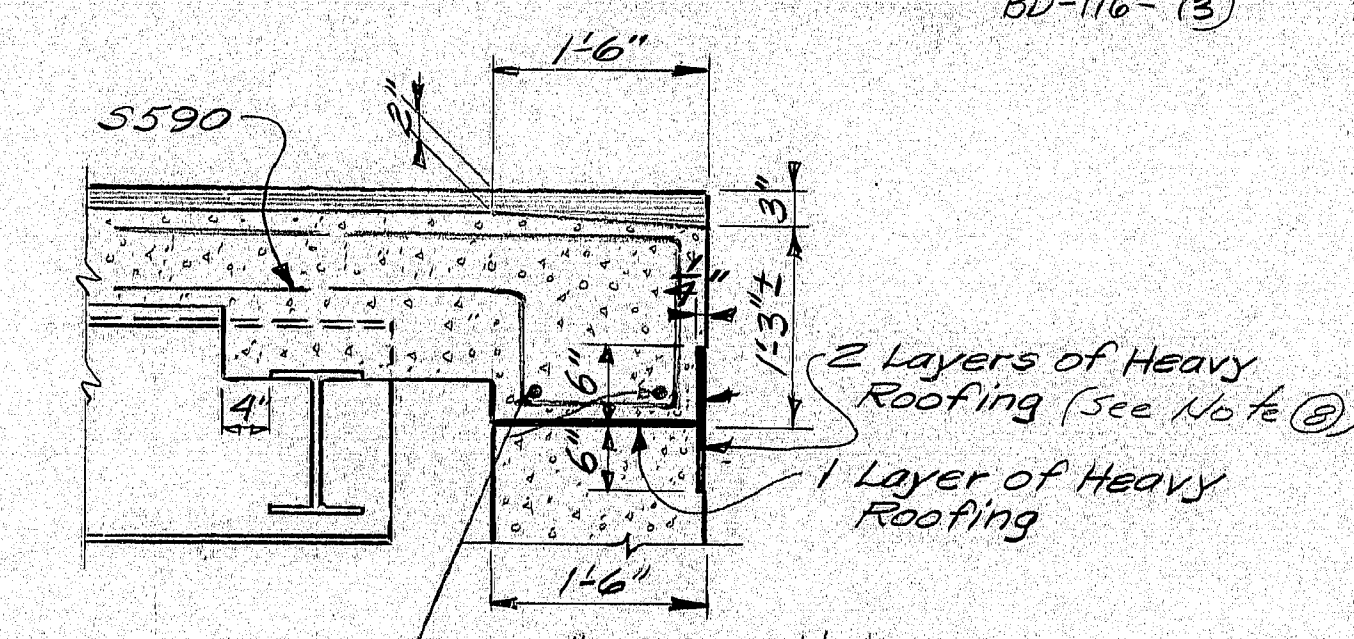
TRANSVERSE SECTION  
(Looking up Station)  
\* = Dimensions normal to Working Line  
\* = Dimensions Radial



PLAN  
ELEVATION  
END VIEW  
END POST ON SUPERSTRUCTURE



PLAN  
ELEVATION  
END VIEW  
END POST ON ABUTMENT NO. 1 - RT



SECTION A-A  
Slab reinforcement not shown  
(For location see Sheet #12)

NOTE: All end posts to be paid under Item 502.21 - Structural Concrete, Abutments and Retaining Walls.  
All End Posts shall be given a Rubbed Finish.

Revised As Built 1977 ECD: J. July 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE**  
OVER  
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**KENNEBEC COUNTY**  
SUPERSTRUCTURE  
TRANSVERSE SECTION  
SHEET 14 OF 18 AUGUSTA, MAINE

190-77



FHWA RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-7201(C)	33	67

### TYPE - BENDING DIAGRAMS

The diagrams illustrate various bending moment distributions:

- B**: A continuous beam with multiple supports and point loads, showing a complex bending moment diagram with multiple peaks and troughs.
- B**: A single vertical member with a constant bending moment.
- L**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- H**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- S**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- SL**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- SB**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- L**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- V**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- M**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- PA**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- EP**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- PR**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- J**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- W**: A horizontal member with a point load at one end, showing a linear bending moment distribution.
- C**: A horizontal member with a point load at one end, showing a linear bending moment distribution.

*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 reinforcement bar.  
Mark (A 502) bar size - #5  
Mark (P 1001) bar size - #10  
Mark (S 603) bar size - #6
2. Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.

As Built 1977

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERVILLE  
KENNEBEC COUNTY  
REINFORCING STEEL SCHEDULE  
ABUTMENTS**

SHEET 15 OF 18 AUGUSTA, MAINE

170-78 WATERVILLE 2/9

PLANS	DESIGN - DETAIL	BY	DATE
	CHECKED	PAW NEP	5-75
	REVISIONS	MMG	8/75
	FIELD CHANGES		

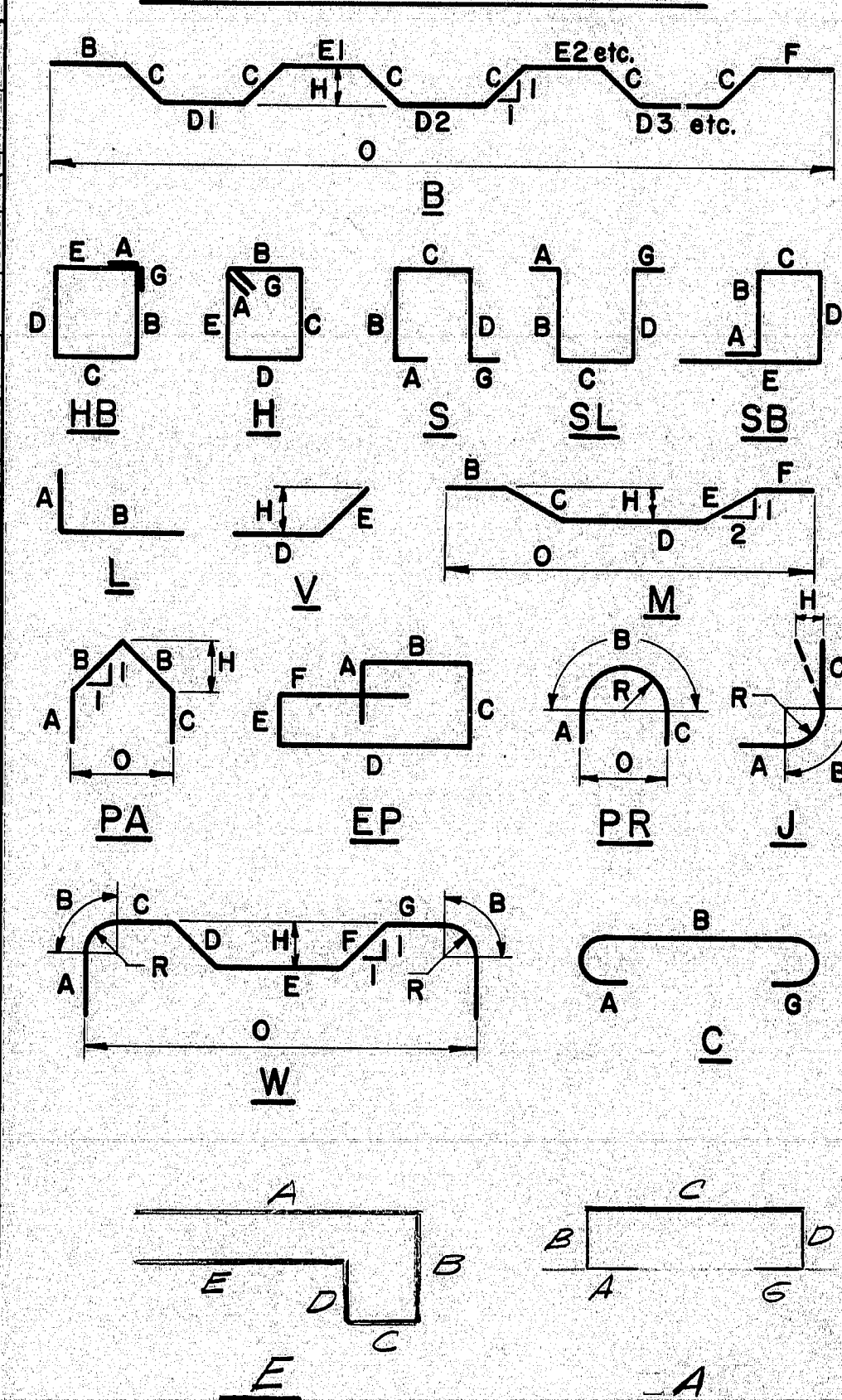


# REINFORCING STEEL SCHEDULE

STRAIGHT BARS				BENT BARS			
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION
SUPERSTRUCTURE				RETAINING WALL			
5501	14	3'5"	Transverse	5547	6	34'4"	Transverse
5502	6	4'3"		5548	6	33'0"	
5503	6	5'6"		5549	6	31'8"	
5504	6	6'6"		5550	6	30'5"	
5505	6	7'9"		5551	6	29'0"	
5506	6	8'9"		5552	6	27'9"	
5507	6	9'3"		5553	6	26'5"	
5508	6	11'0"		5554	6	25'0"	
5509	6	12'0"		5555	6	23'8"	
5510	6	13'0"		5556	6	22'4"	
5511	6	14'3"		5557	6	21'0"	
5512	6	15'6"		5558	6	19'7"	
5513	6	16'9"		5559	6	18'3"	
5514	6	17'9"		5560	6	16'9"	
5515	6	19'0"		5561	6	15'5"	
5516	6	20'0"		5562	6	14'0"	
5517	6	21'3"		5563	6	12'7"	
5518	6	22'7"		5564	6	11'3"	
5519	6	23'9"		5565	6	9'9"	
5520	6	25'0"		5566	6	8'6"	
5521	6	26'0"		5567	6	7'1"	
5522	6	27'2"		5568	6	5'8"	
5523	6	28'3"		5569	6	4'3"	
5524	6	29'6"		5570	14	2'10"	Transverse
5525	6	30'9"		5571	101	30'0"	Longitudinal
5526	6	32'0"		5572	17	32'0"	
5527	6	33'3"		5573	54	35'0"	
5528	6	34'4"		5574	13	36'0"	
5529	6	35'8"		5575	17	39'0"	Longitudinal
5530	6	36'11"		5576	6	17'0"	Long. Rt. Curb
5531	6	38'1"		5577	12	15'0"	Long. Lt. Sidewalk
5532	6	39'3"		5578	2	14'0"	Long. Lt. Sidewalk
5533	6	40'3"		5579	1	12'6"	
5534	6	41'7"		5580	1	11'3"	
5535	6	42'10"		5581	1	10'0"	
5536	6	44'0"		5582	2	14'0"	
5537	6	45'2"		5583	1	15'6"	
5538	40	47'10"		5584	1	17'0"	
5539	6	48'7"		5585	1	18'6"	Long. Lt. Sidewalk
5540	6	49'4"		5586	1	19'0"	
5541	6	42'2"		5587	1	18'6"	
5542	6	40'9"		5588	1	17'0"	
5543	6	39'7"		5589	1	15'6"	
5544	6	38'3"		5590	1	14'0"	
5545	6	36'11"		5591	1	12'6"	
5546	6	35'8"	Transverse	5592	1	11'3"	

FHWA	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-720(1)	34	67

## 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

- 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
- Letter of Marks A, P & S locates bars of Abutments, Piers, and Superstructure parts respectively.

As Built 1977

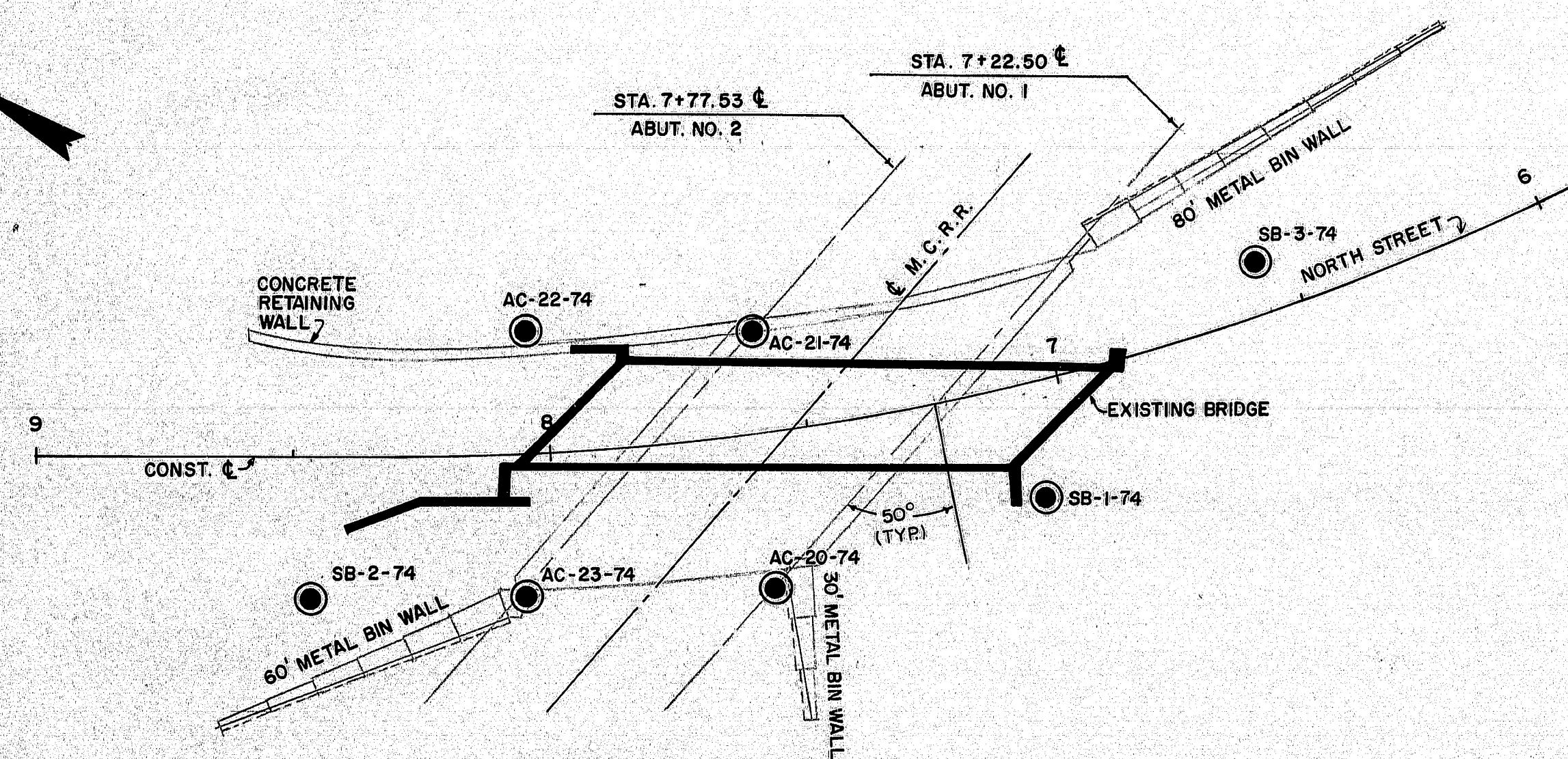
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**NORTH STREET BRIDGE**  
OVER  
**MAINE CENTRAL RAILROAD**  
IN THE CITY OF  
**WATERVILLE**  
**KENNEBEC COUNTY**  
REINFORCING STEEL SCHEDULE  
SUPERSTRUCTURE AND RETAINING WALL  
SHEET 16 OF 18 AUGUSTA, MAINE

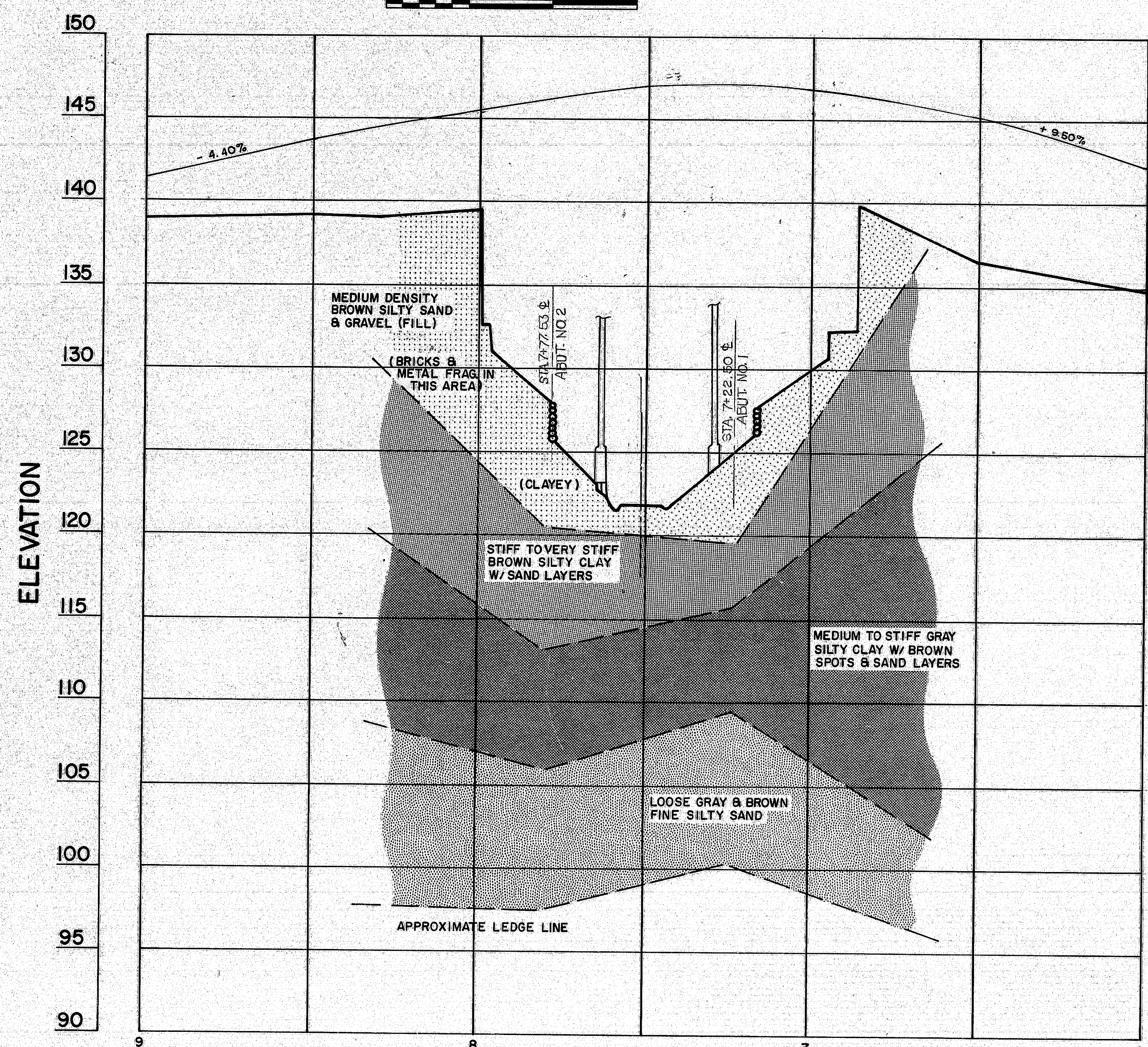
170-19



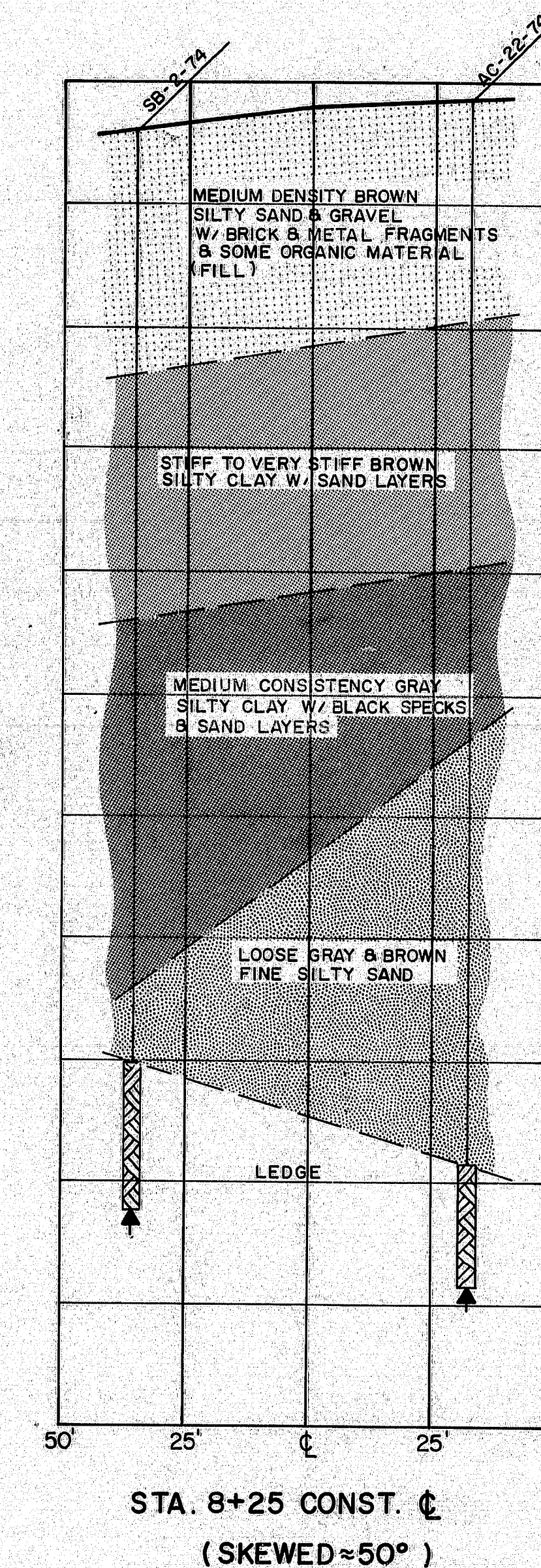
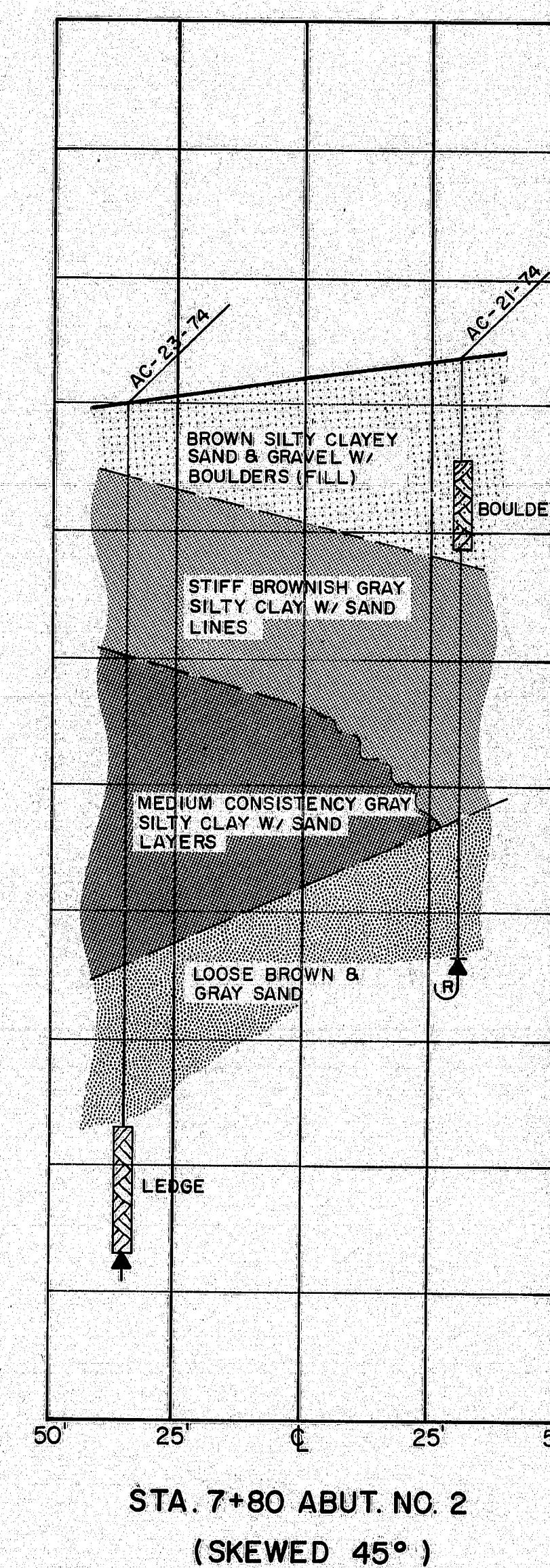
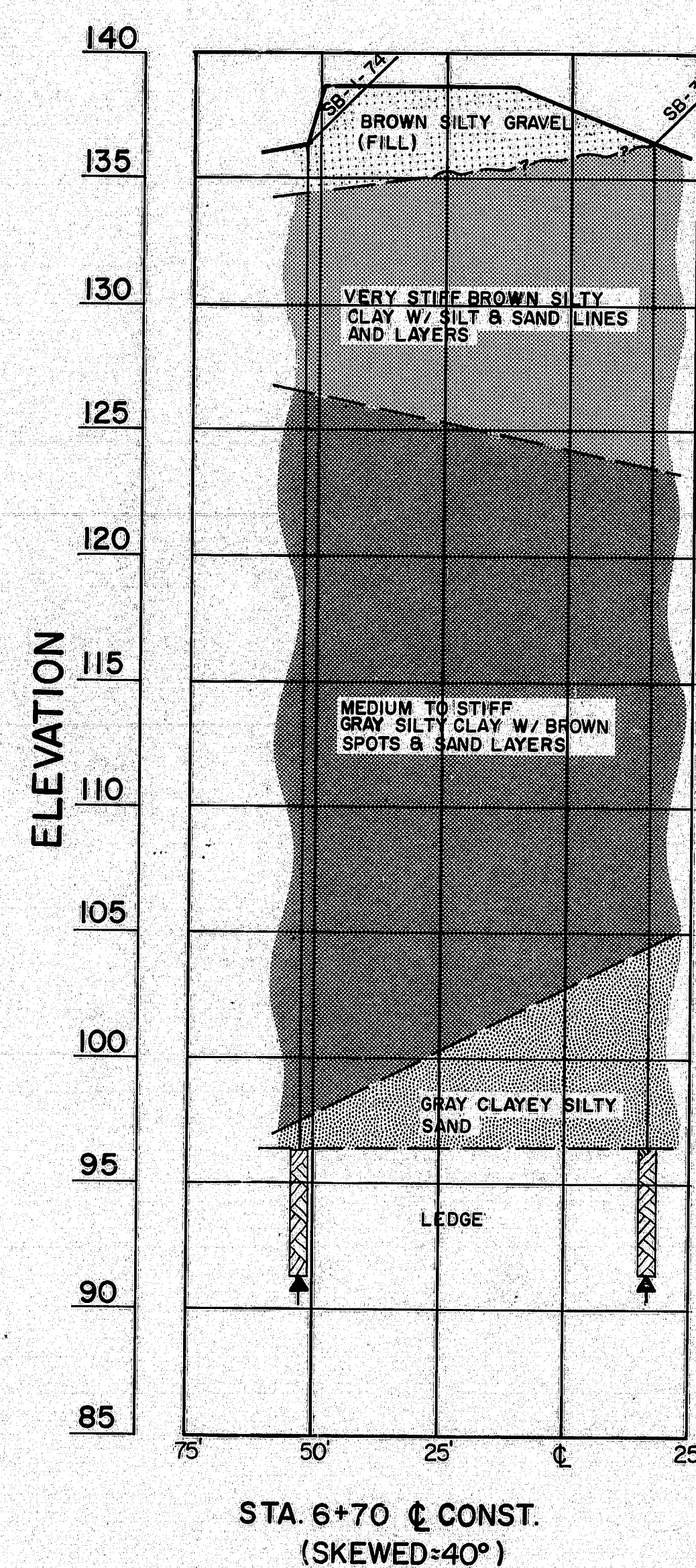
F.R.W.A. RES. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	MG-720(1)	35	67



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



PROFILE  
SCALE  
HORIZ. 25' 10' 0' 25' 50'  
VERT. 5' 0' 5' 10'



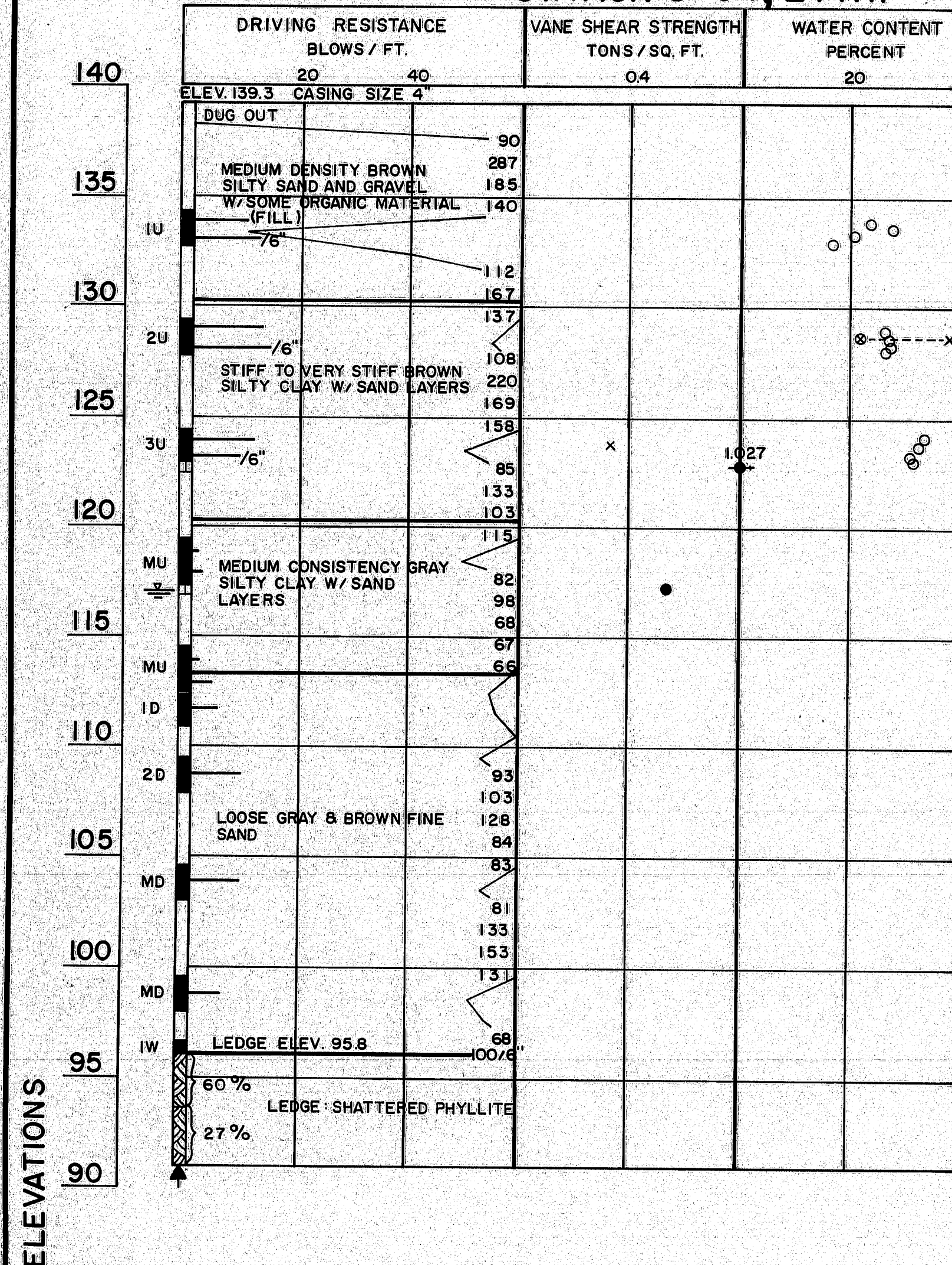
TRANSVERSE SECTIONS  
SCALE  
25' 10' 0' 25' 50'

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
NORTH STREET BRIDGE  
OVER  
MAINE CENTRAL RAILROAD  
IN THE CITY OF  
WATERVILLE  
KENNEBEC COUNTY  
FOUNDATION SURVEY  
SHEET 17 OF 18 AUGUSTA, MAINE

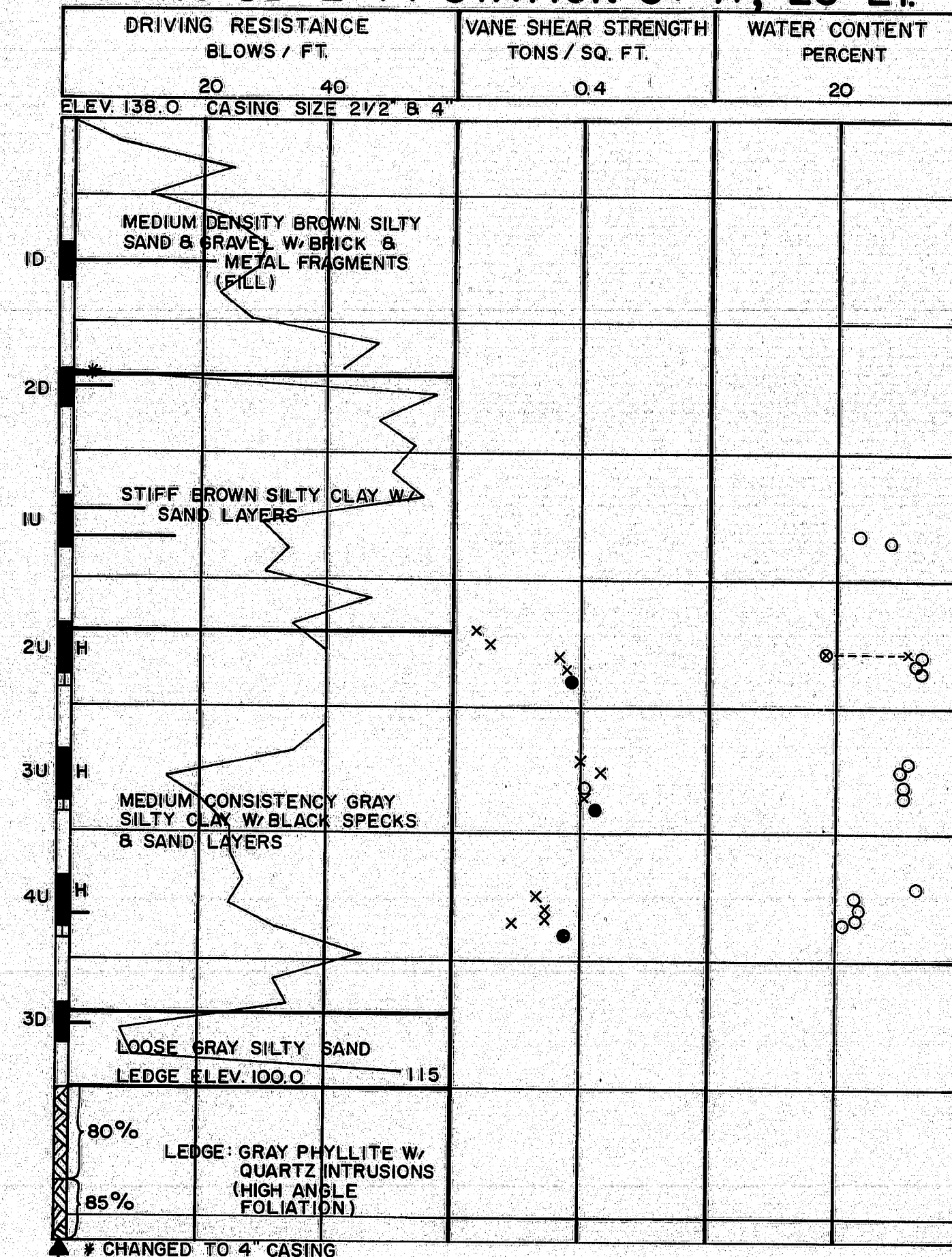
170-80



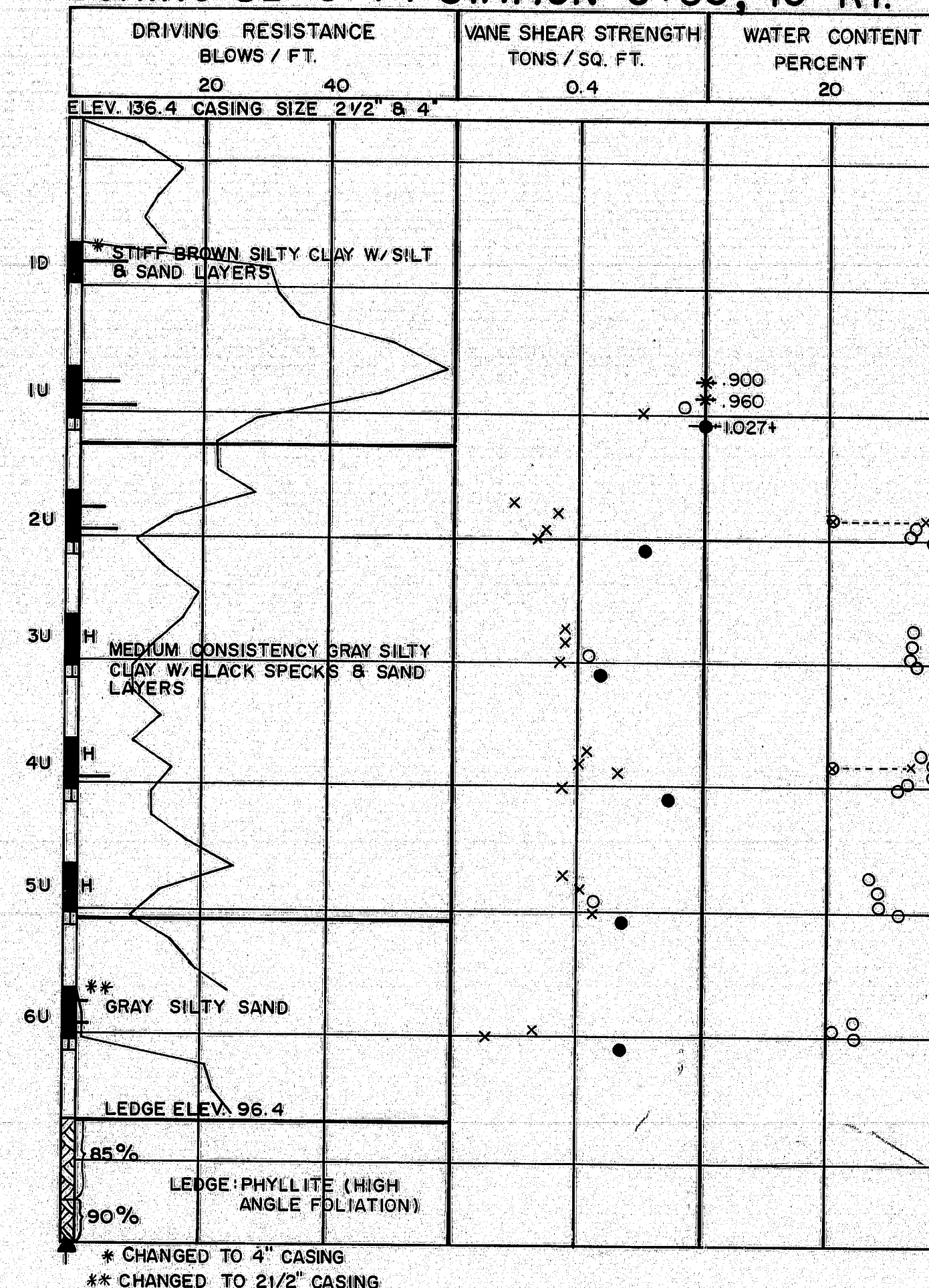
### BORING AC-22-74 STATION 8+04, 24' RT.



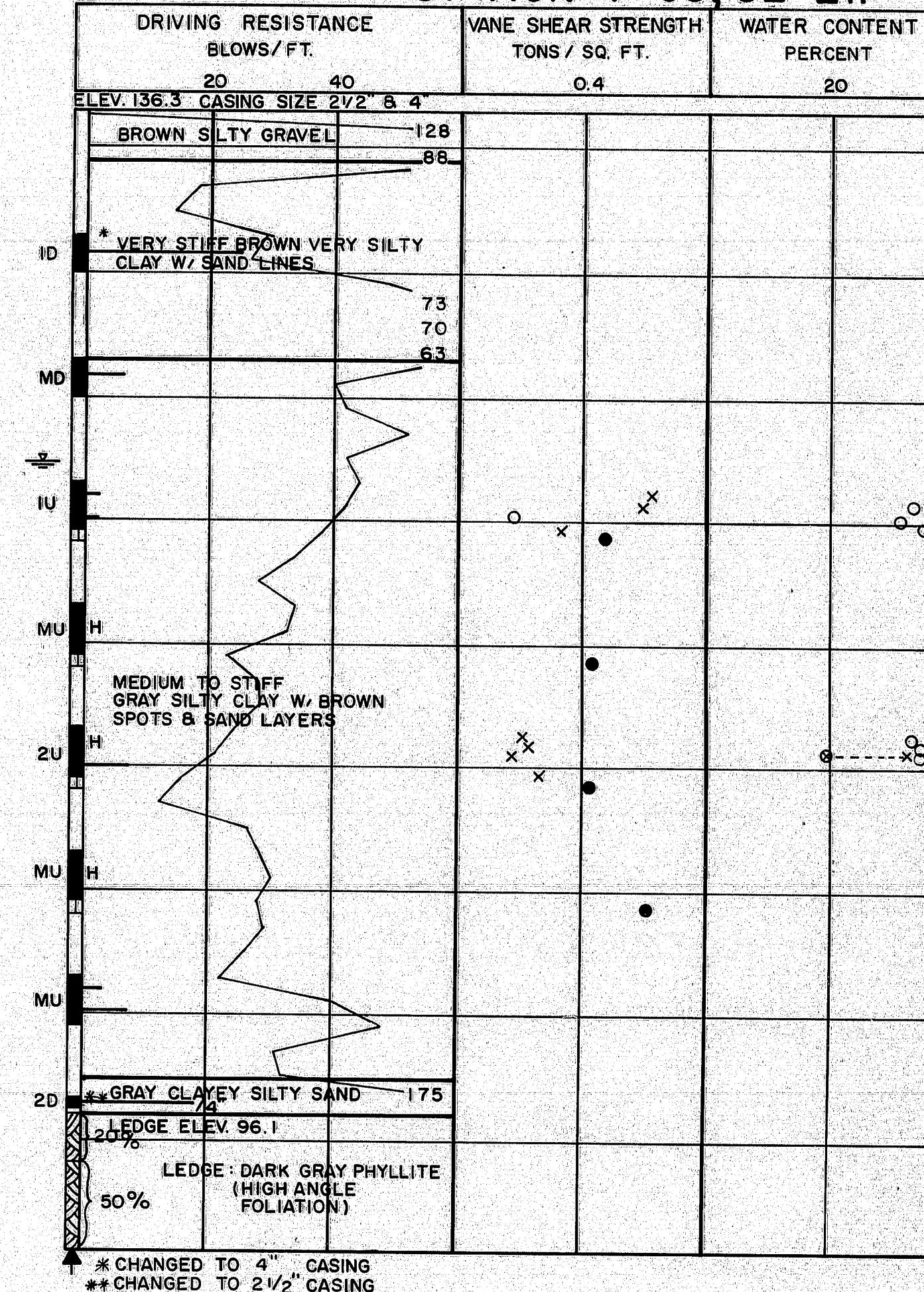
### BORING SB-2-74 STATION 8+47, 28' LT.



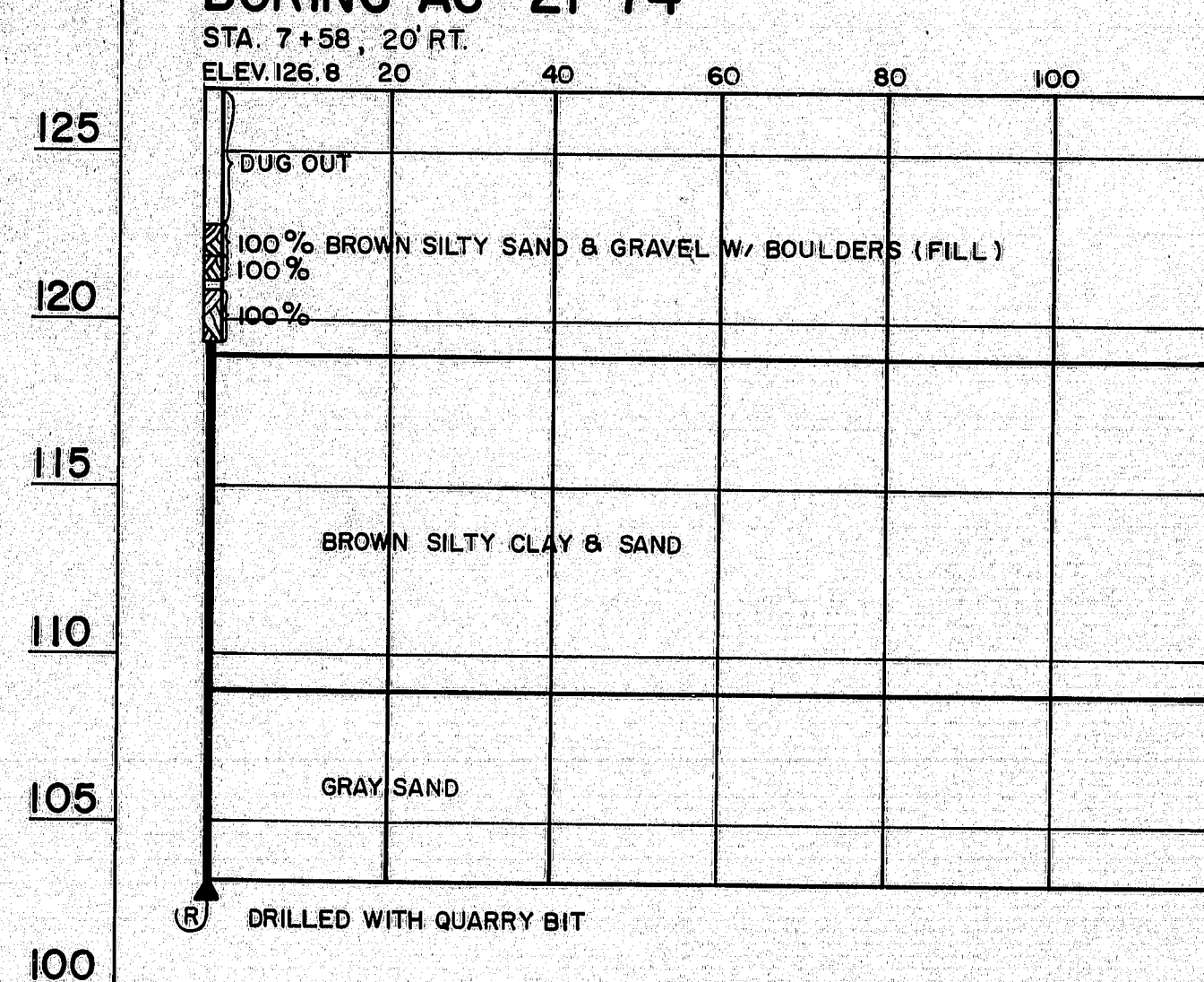
### BORING SB-3-74 STATION 6+56, 10' RT.



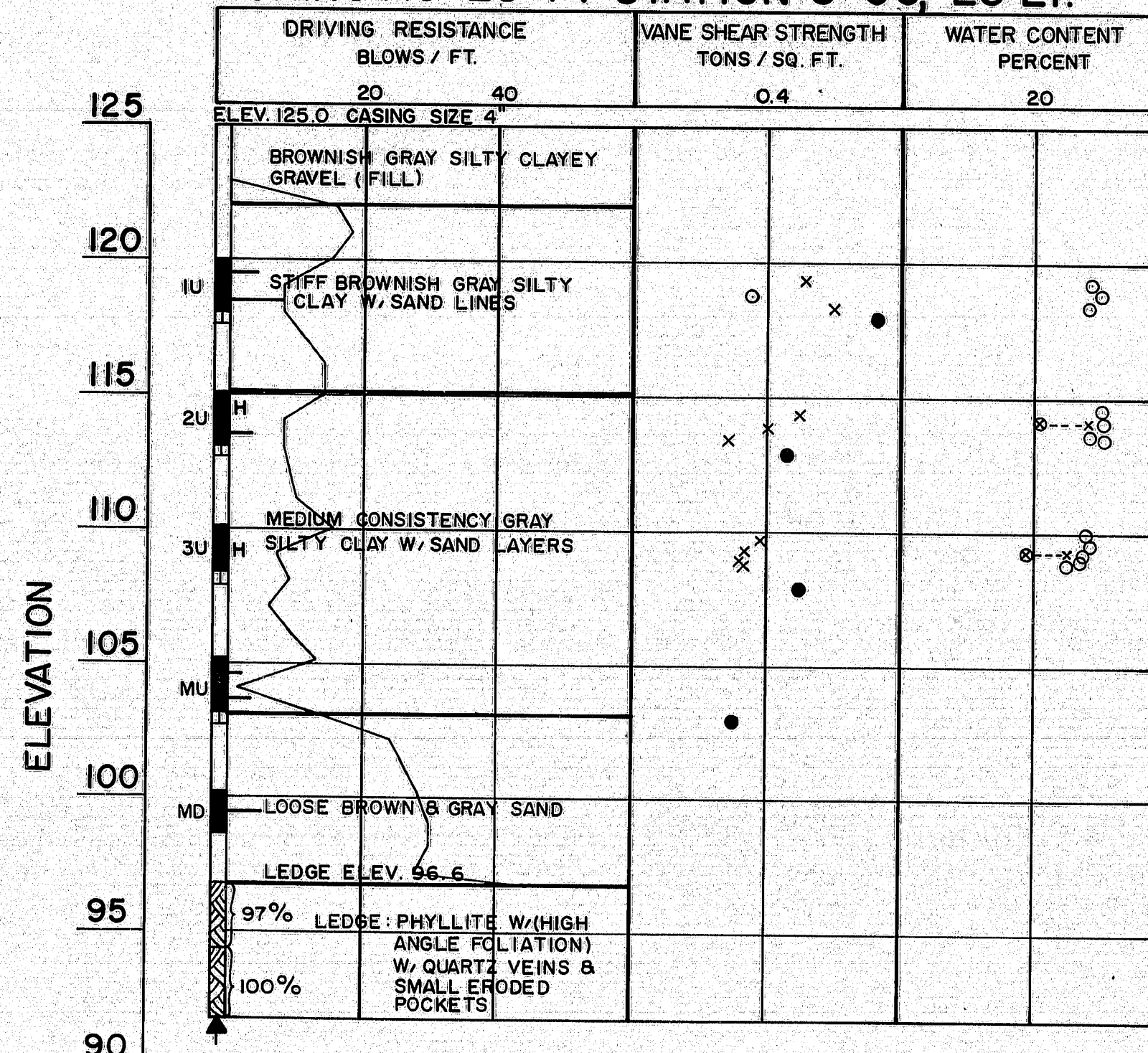
### BORING SB-1-74 STATION 7+08, 32' LT.



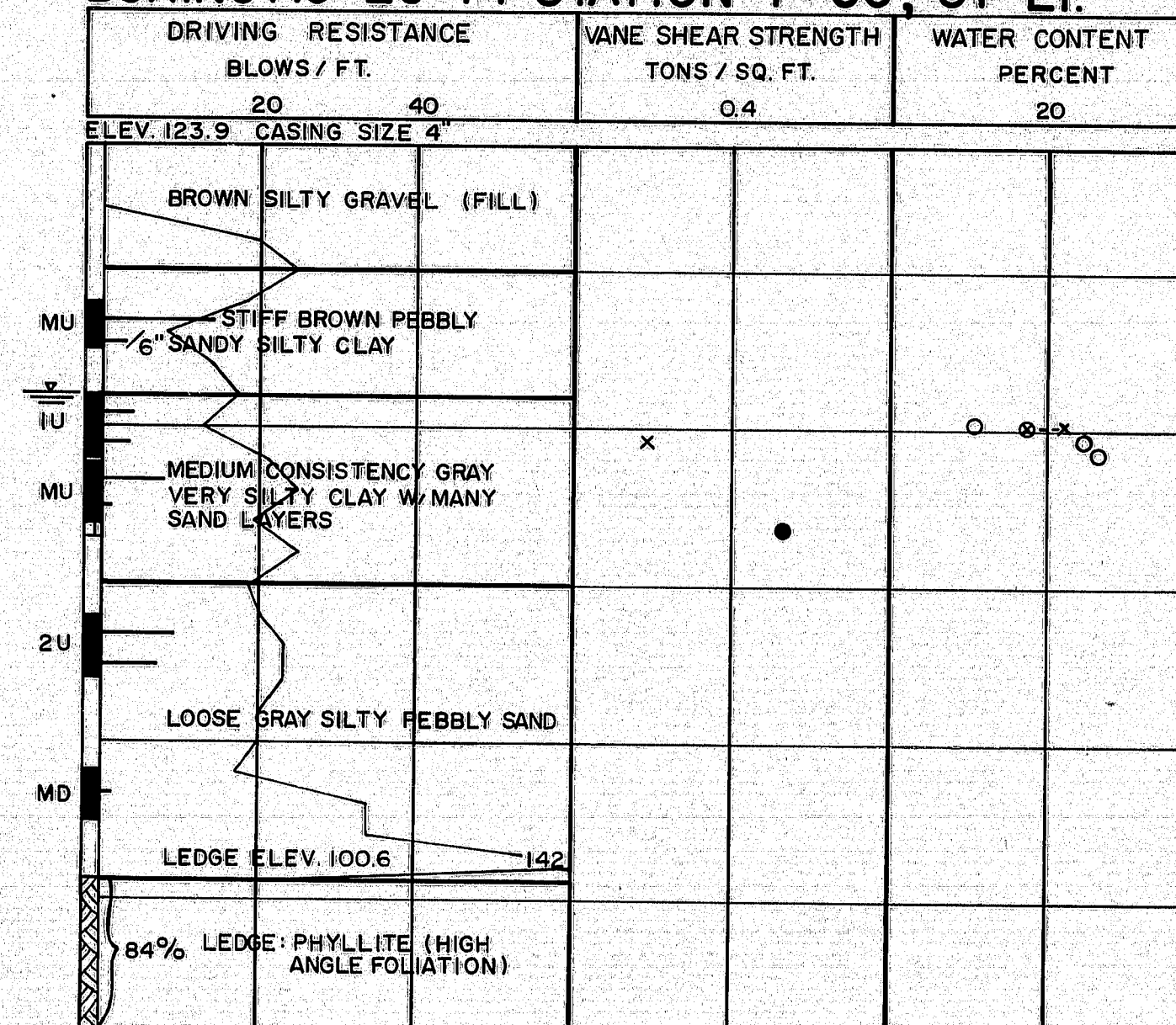
### BORING AC-21-74



### BORING AC-23-74 STATION 8+06, 28' LT.



### BORING AC-20-74 STATION 7+60, 31' LT.



- IU 3 1/2" O.D. 16 ga. seamless tubing  
 IW Wash sample and number  
 MD Unsuccessful sample attempt and type of sampler  
 Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow  
 H 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  
 x Laboratory vane shear strengths  
 — Shear strengths in excess of capacity of equipment  
 o One half unconfined compressive strengths
- WATER CONTENT NOTES**
- o Natural water contents, given as per cent of dry weight  
 o-x Plastic and liquid limits  
 Ignition losses are given as per cent of dry weight

#### BORING NOTES

- All samples and vane tests 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  
 ID S.B.H. Sampler # 1290's

NOTE: ALL WASHBORINGS REFERENCED FROM CONSTRUCTION CENTERLINE

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 NORTH STREET BRIDGE  
 OVER  
 MAINE CENTRAL RAILROAD  
 IN THE CITY OF  
 WATERVERILLE  
 KENNEBEC COUNTY  
 BORING DETAILS  
 SHEET 18 OF 18 AUGUSTA, MAINE

170-81