

# STATE OF MAINE STATE HIGHWAY COMMISSION



## MOORE ROAD OVER INTERSTATE 95 IN THE TOWN OF HOULTON AROOSTOOK COUNTY FEDERAL AID PROJECT NO. I-95-9(22)295

DATE OF PROJECT COMPLETION: 2 Nov. 65

Scales: { Survey - 1" = 50' (Hor.) & 1" = 5' (Vert.)  
Cross Sections - 1" = 5'

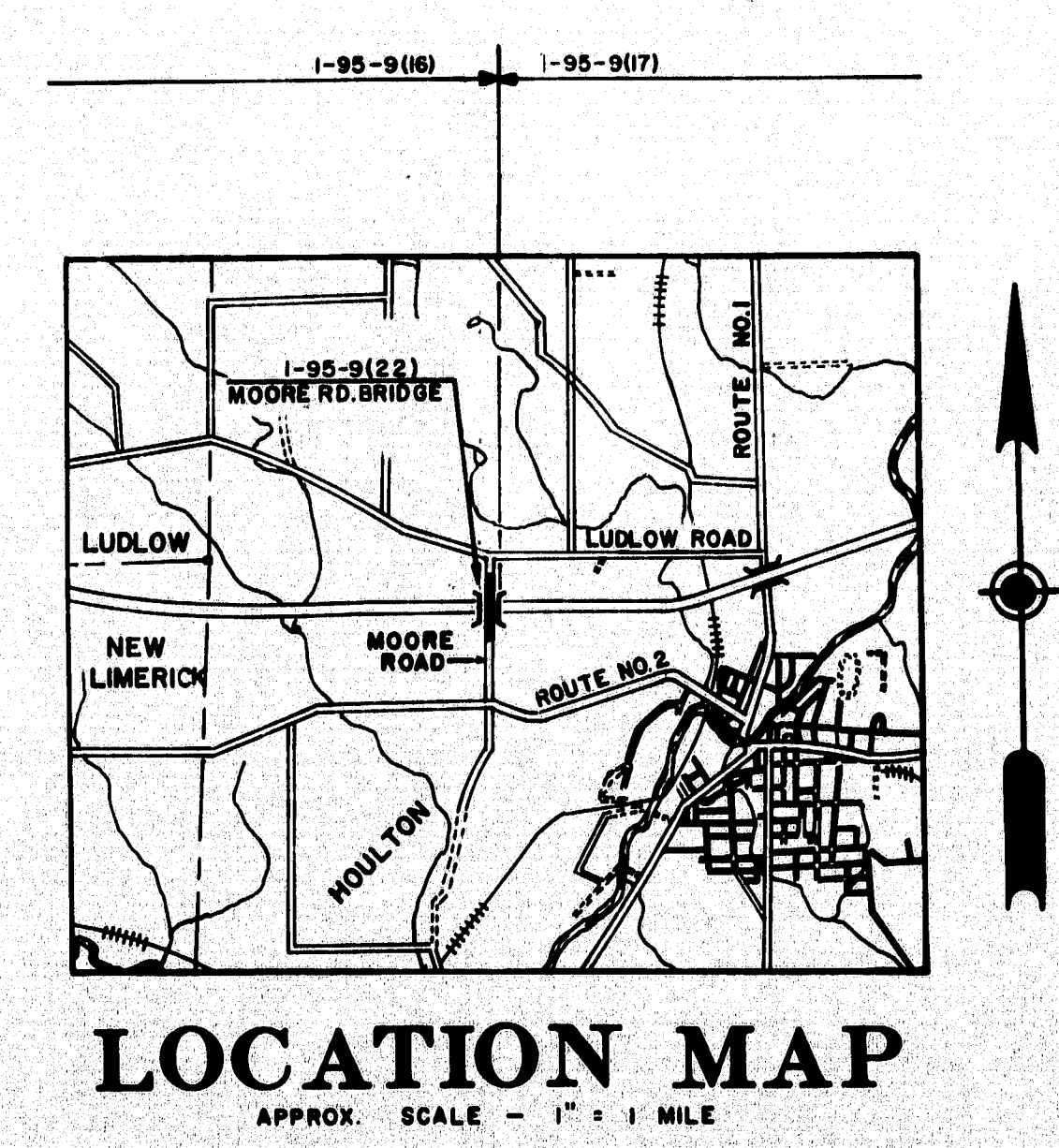
PROJECT LENGTH = 0.417 MILES

### INDEX OF SHEETS

- 1 - TITLE SHEET
- 2 - GENERAL PLAN AND QUANTITIES
- 384 - TYPICAL SECTION & PLANS - MOORE RD.
- 5-12 - CROSS SECTIONS - MOORE RD.
- 13 - FOUNDATION SURVEY
- 14 - ABUTMENT NO. 1
- 15 - ABUTMENT NO. 2 AND APPROACH SLAB
- 16 - PIERS
- 17 - STRUCTURAL STEEL & BLOCKING
- 18 - SUPERSTRUCTURE
- 19 - SLOPE PAVING
- 20 - REINFORCING STEEL

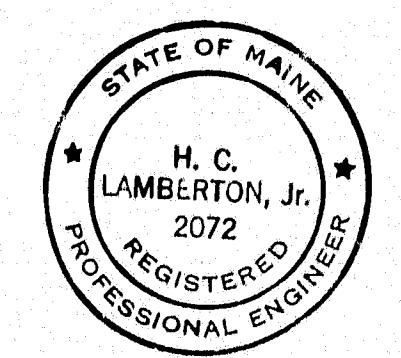
### STANDARD DETAILS SHEETS

- BD 101-64 - BEARING DETAILS
- BD 103-64 - BEAM SPLICES
- BD 104-64 - DIAPHRAGMS, ARMORED JOINT, SHEAR CONNECTORS, DRAIN
- BD 105-64 - EXPANSION DAMS
- BD 107-64 - STEEL RAIL
- BD 108-64 - ALUMINUM RAIL
- 2-64 - GUARD RAIL



### TRAFFIC

A.D.T. 1965 ..... 175  
A.D.T. 1985 ..... 275  
D.H.V. .... 35  
T. .... 14%  
D. .... 60%  
V. .... 50 MPH.

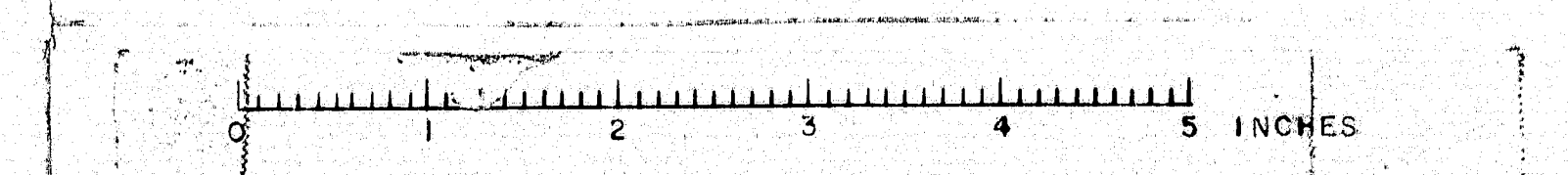


HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
CONSULTING ENGINEERS  
NEW YORK BOSTON KANSAS CITY  
*H.C. Lambert, Jr.* 9/18/64  
DATE

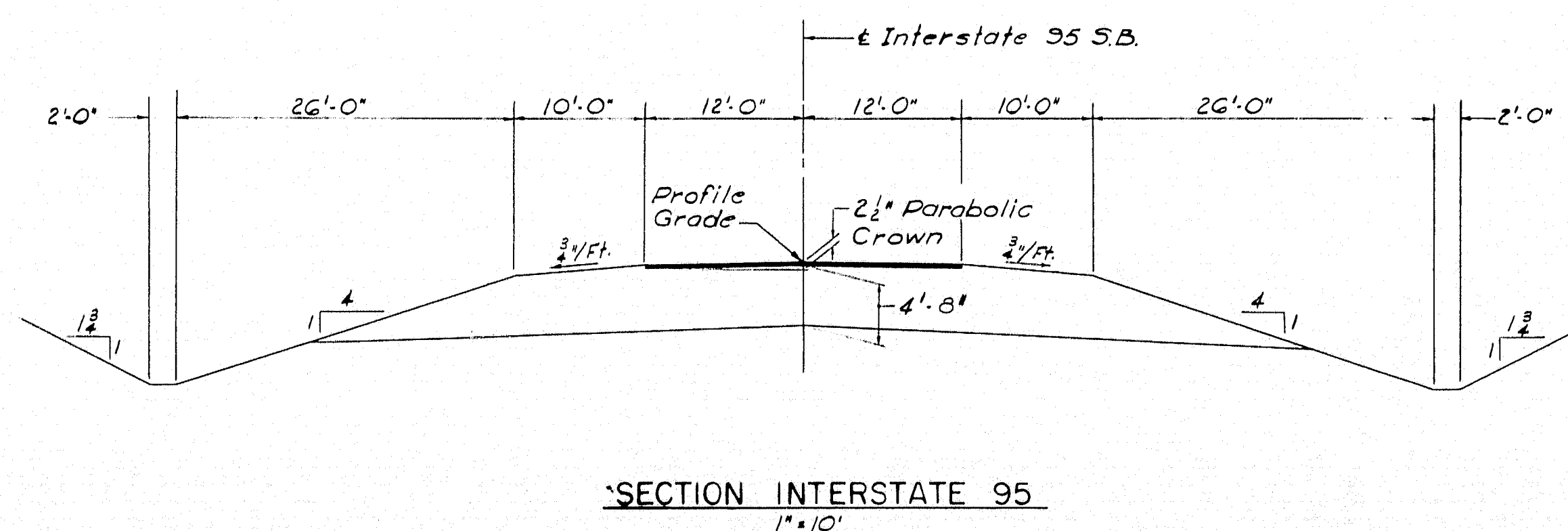
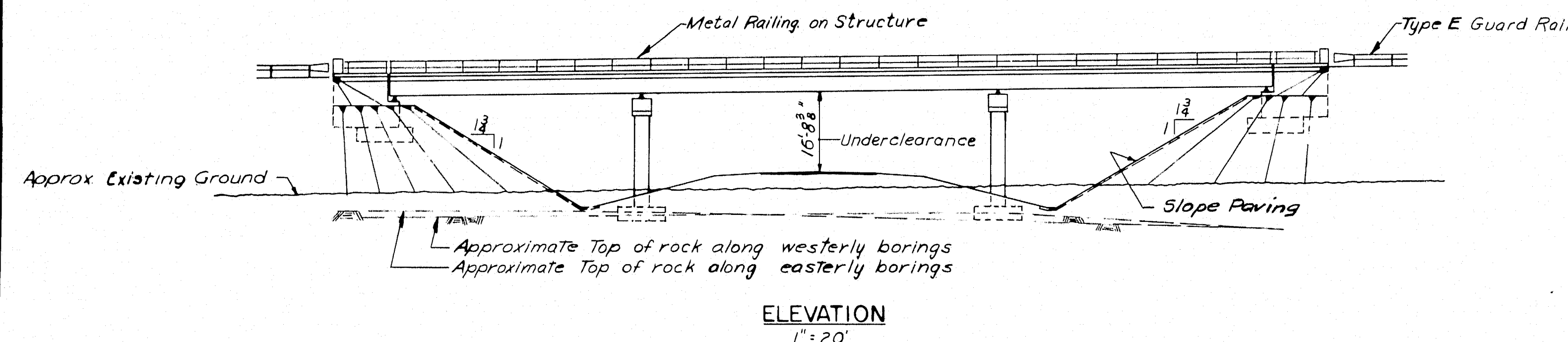
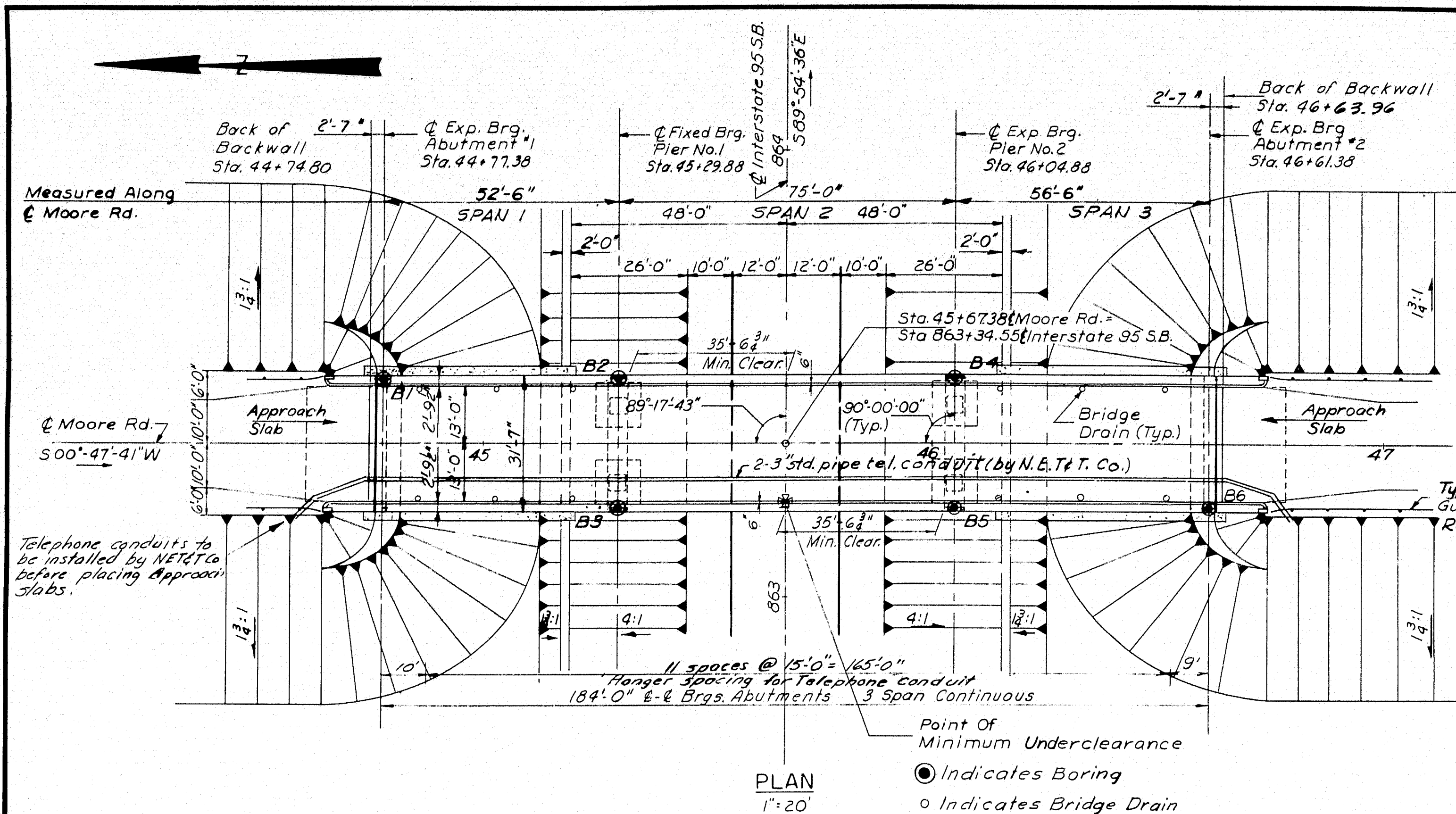
APPROVED  
MAINE STATE HIGHWAY COMMISSION  
CHAIRMAN *Donald H. Sturges* 9/9/64  
CHIEF ENGINEER *Carl M. Stephens* 9/9/64  
*Bertand G. Lachaise* 9/9/64  
DATE

DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS  
REGION I  
APPROVED  
DIVISION ENGINEER DATE

93-101

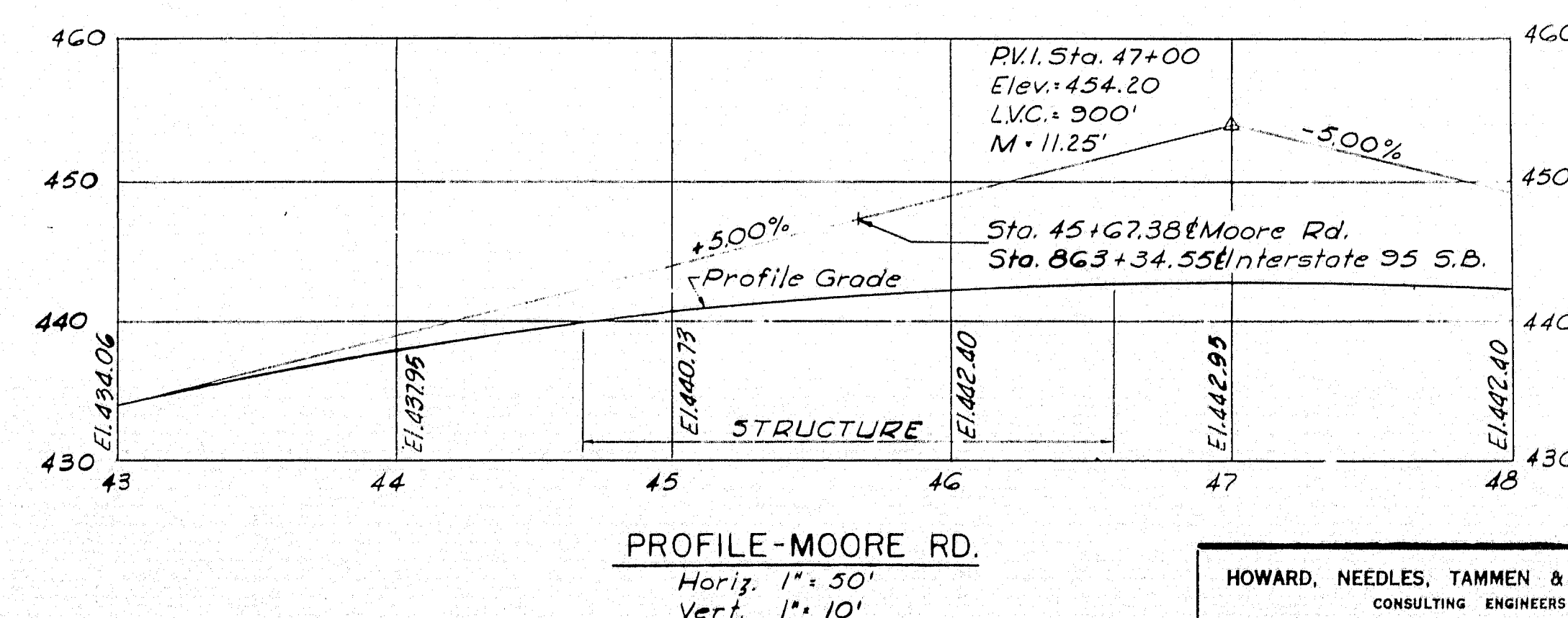
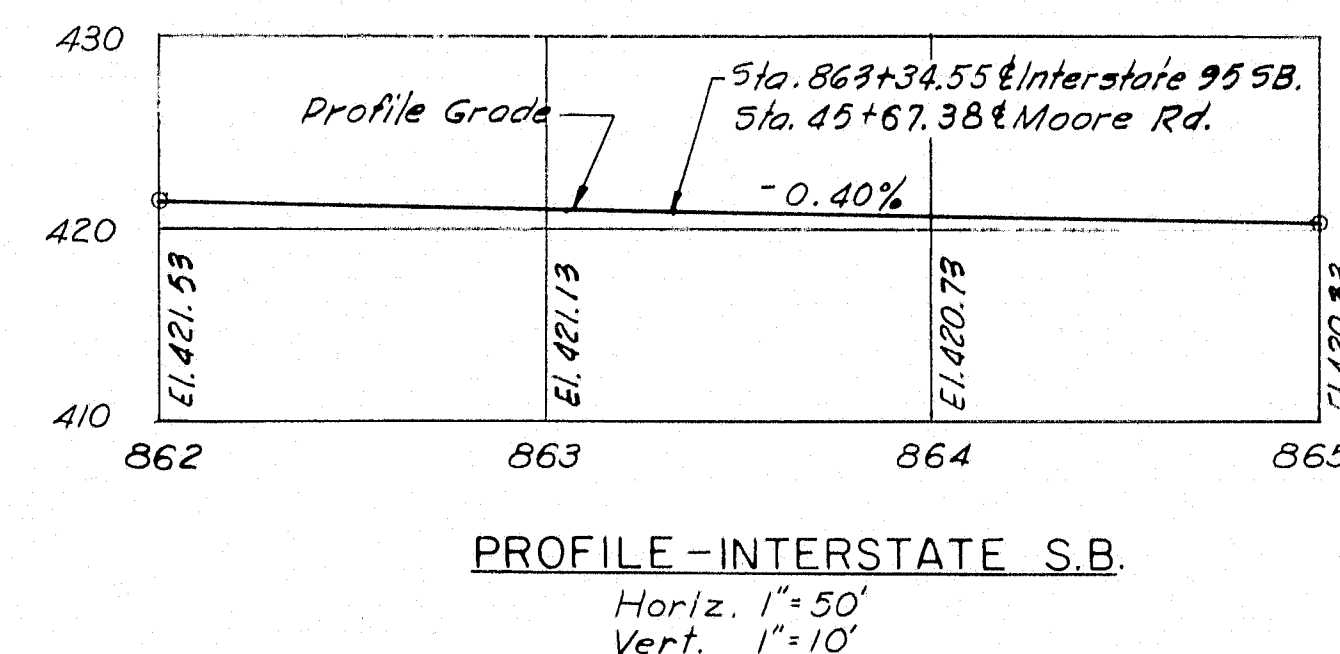






Item No.	Description	Unit	Quantity
201-5	Clearing	Acres	0.1
203-9	Earth Excavation	Cu.Yds.	1,300
	Muck Excavation	Cu.Yds.	10
204-10	Structural Earth Excavation-Drainage	Cu.Yds.	16
204-12	Structural Earth Excavation-Abuts. & Ret. Walls	Cu.Yds.	55
204-14	Structural Earth Excavation-Piers	Cu.Yds.	61
204-15	Structural Rock Excavation-Piers	Cu.Yds.	8
205-9	Granular Borrow	Cu.Yds.	62,000
205-12	Gravel Borrow (I.P.M.)	Cu.Yds.	1,800
302-7	Gravel Base Course (I.P.M.)	Cu.Yds.	3,300
310-6	Sprinkling	Units	200
311-6	Calcium Chloride	Tons	10
401-11	Gravel Surface Course	Cu.Yds.	350
404-29	Bituminous Concrete Surface Course, Type 'B'	Tons	60
501-7	Road Tar	Gals.	2,250
602-11	15-Inch Asphalt Coated Corrugated Metal Pipe	Lin.Ft.	102
701-33	Portland Cement Concrete, Abuts. & Ret. Walls	Cu.Yds.	177
701-35	Portland Cement Concrete, Piers	Cu.Yds.	76
701-40	Port. Cem. Conc., Rdwy. & Sidw. Slab on Steel Bridges	Cu.Yds.	166
701-55	Curing Box For Concrete Cylinders	Each	1
702-103	Structural Steel, Fabricated & Delivered	Lump Sum	Lump Sum
702-104	Structural Steel, Erection	Lump Sum	Lump Sum
702-105	Structural Steel, Field Painting	Lump Sum	Lump Sum
705-13	Reinforcing Steel, Delivered	Lbs.	57,366
705-14	Reinforcing Steel, Placing	Lbs.	57,366
805-8	Bridge Rail	Lin.Ft.	405
807-9	Membrane Waterproofing	Sq.Yds.	541
807-11	Epoxy Resin Surface Sealant	Sq.Yds.	60
808-6	Slope Paving	Sq.Yds.	405
901-24	Vertical Bridge Curb-Type I	Lin.Ft.	393
901-25	Vertical Bridge Curb-Circular-Type I	Lin.Ft.	21
905-27	Guard Rail-Type 'E'	Lin.Ft.	2,175
905-37	Guard Rail-Type 'E'-Terminal Section	Each	8
908-10	Loam (I.P.M.)	Cu.Yds.	580
909-7	Sodding	Sq.Yds.	20
910-13	Seeding-Method No. 2	Units	127
912-7	Hay Mulch	Tons	8

Estimated weight of Structural Steel including drains is 153,800 Lbs.  
\* Undetermined Location



# BRIDGE QUANTITIES

S. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(22)	2	20

**DESIGN:**  
A.S.S.H.O. Standard Specifications for Highway Bridges 1961 with Interim Specifications 1961, 1962, 1963 & 1964.  
**CONTRACT:**  
State of Maine, State Highway Commission.  
Standard Specifications for Highway and Bridges, Revision of January, 1956 and Supplemental Specifications of February, 1960.

**LIVE LOADING**  
HS-20-44

**FOUNDATIONS**  
Abutments No. 1 & No. 2, Maximum Soil Design.  
Pressure, 225 Tons/Sq. Ft.  
Piers, Spread Footing on Ledge

**ALLOWABLE STRESSES**  
Concrete (n=10) ~ f<sub>c</sub> = 1,200 p.s.i.  
Reinforcing Steel, Int. Grade ~ f<sub>s</sub> = 20,000 p.s.i.  
Structural Steel ~ f<sub>s</sub> = 20,000 p.s.i. (A.S.T.M. Designation A-36)

**CONCRETE CLASSIFICATION**  
All concrete shall be Class 'A', except slope paving which shall be class 'Y'.

DESIGN-GM	DETAIL-RPF	BRIDGE NO.
TRACE-PAN	PLOT-	SURVEY-PAN
STATE HIGHWAY COMMISSION		
BRIDGE DIVISION		
MOORE ROAD		
OVER		
INTERSTATE 95		
IN THE TOWN OF		
HOULTON		
AROOSTOOK COUNTY		
GENERAL PLAN AND QUANTITIES		

SHEET 2 OF 20 AUGUSTA, MAINE OCTOBER 1964

93-102 HOULTON (22)

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

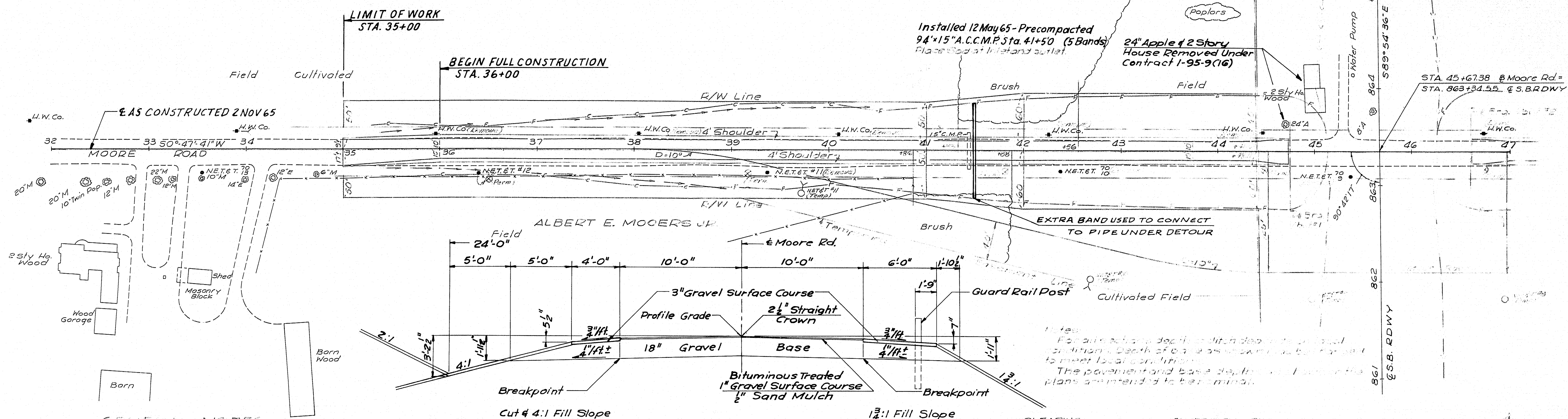


- UTILITY POLES  
LEGEND
- Existing NET&T Co.
  - Existing Houlton Water Co.
  - Temporary NET&T Co.
  - Permanent NET&T Co. - H.W. Co. (Joint)
  - Another Guy

ALBERT E. MOORE JR.

EXIST 15" C.M.P. REMOVED  
12 MAY 65 STA. 41+50

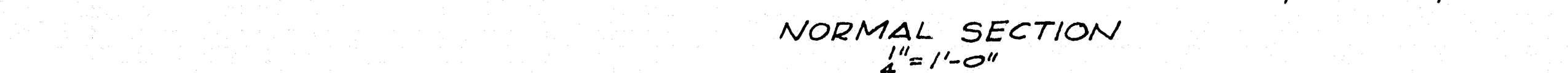
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
ME	1-95-9(22)	3	20



# GENERAL NOTES

1. ALL LOCAL AREA AND DEPTHS MUST BE AUTHORIZED BY THE ENGINEER, UNLESS SPECIFICALLY CALLED FOR ON THE TYPICAL SECTIONS, PLANS OR IN THE SPECIFICATIONS. DEPTHS OF LOCAL AREAS HAS BEEN ESTIMATED ON A 2" DEPTH.
2. ALL 1:1 FILL SLOPES SHALL BE LEANED UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
3. ALL UTILITY FACILITIES ARE TO BE ADJUSTED AS NECESSARY BY THE RESPECTIVE UTILITIES UNLESS NOTED.
4. THE UTILITIES INVOLVED IN THIS CONTRACT ARE THE NEW ENGLAND TEL. & TEL. CO. AND THE HOULTON WATER CO.
5. FILLING METHOD NO. 2 AND HAY MULCH SHALL BE USED AS DIRECTED BY THE ENGINEER.
6. ALL MUCK EXCAVATION SHALL BE REPLACED WITH GRAVEL BORROW.
7. IN MUCK AREAS, ALL MUCK EXCAVATION UNDER CULVERTS SHALL BE PAID FOR AS ITEM 803-2, EARTH EXCAVATION.
8. ALL CLEARING PAY LIMITS (AS NOTED) ARE SHOWN BY PLUS STATIONS ON THE PLAN.

## NORMAL SECTION 4" = 1'-0"

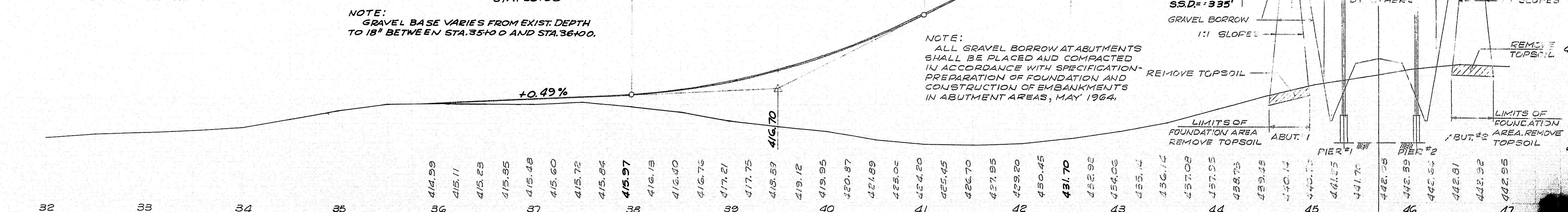


CLEARING  
STA. 40+82 TO 41+88 RT.  
STA. 41+88 TO 42+52 LT.

TREES IN FILL  
STA. 40+82 TO 41+88 RT.  
STA. 41+88 TO 42+52 LT.

GUARD RAIL TYPE "E"  
STA. 40+01 TO 44+64 LT.  
STA. 40+51 TO 44+64 RT.

CONTROLLED DENSITY METHOD SHALL BE USED FOR PLACING ALL EMBANKMENT BETWEEN THESE STATIONS



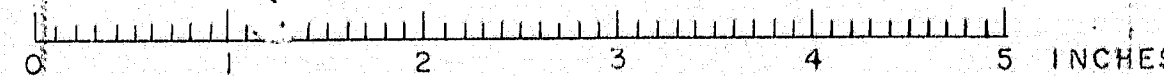
NOTE:  
GRAVEL BASE VARIES FROM EXIST. DEPTH TO 18" BETWEEN STA. 35+00 AND STA. 36+00.

NOTE:  
ALL GRAVEL BORROW AT ABUTMENTS SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SPECIFICATION- PREPARATION OF FOUNDATION AND CONSTRUCTION OF EMBANKMENTS IN ABUTMENT AREAS, MAY 1964.

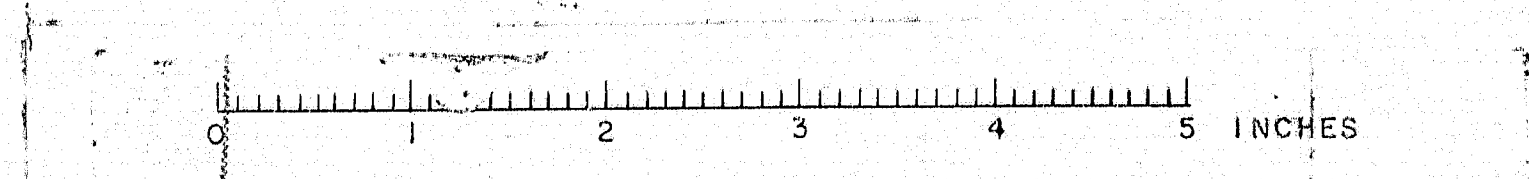
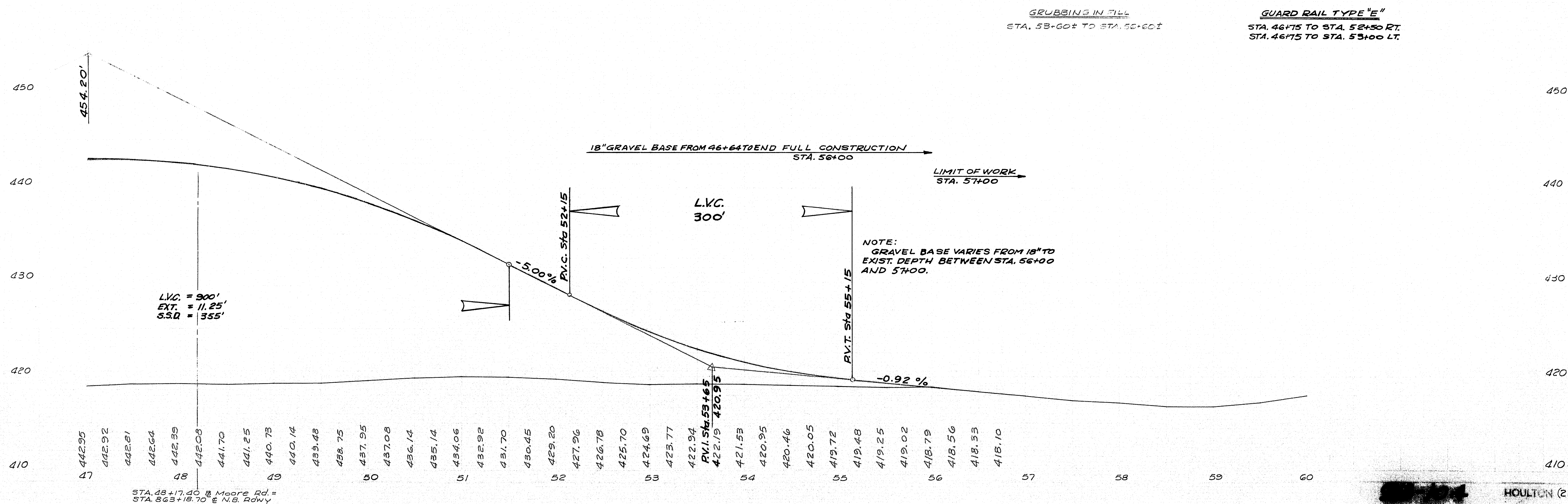
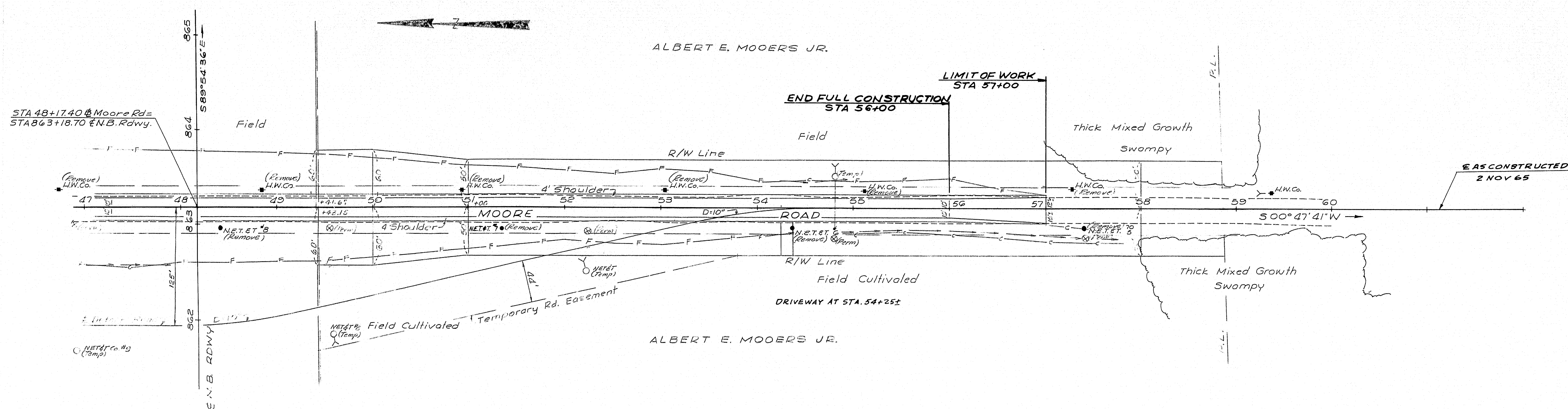
LIMITS OF FOUNDATION AREA REMOVE TOPSOIL

STA. 45+67.38 @ Moore Rd. = STA. 45+67.38 @ S.B. RDWY

HOUSE (22)



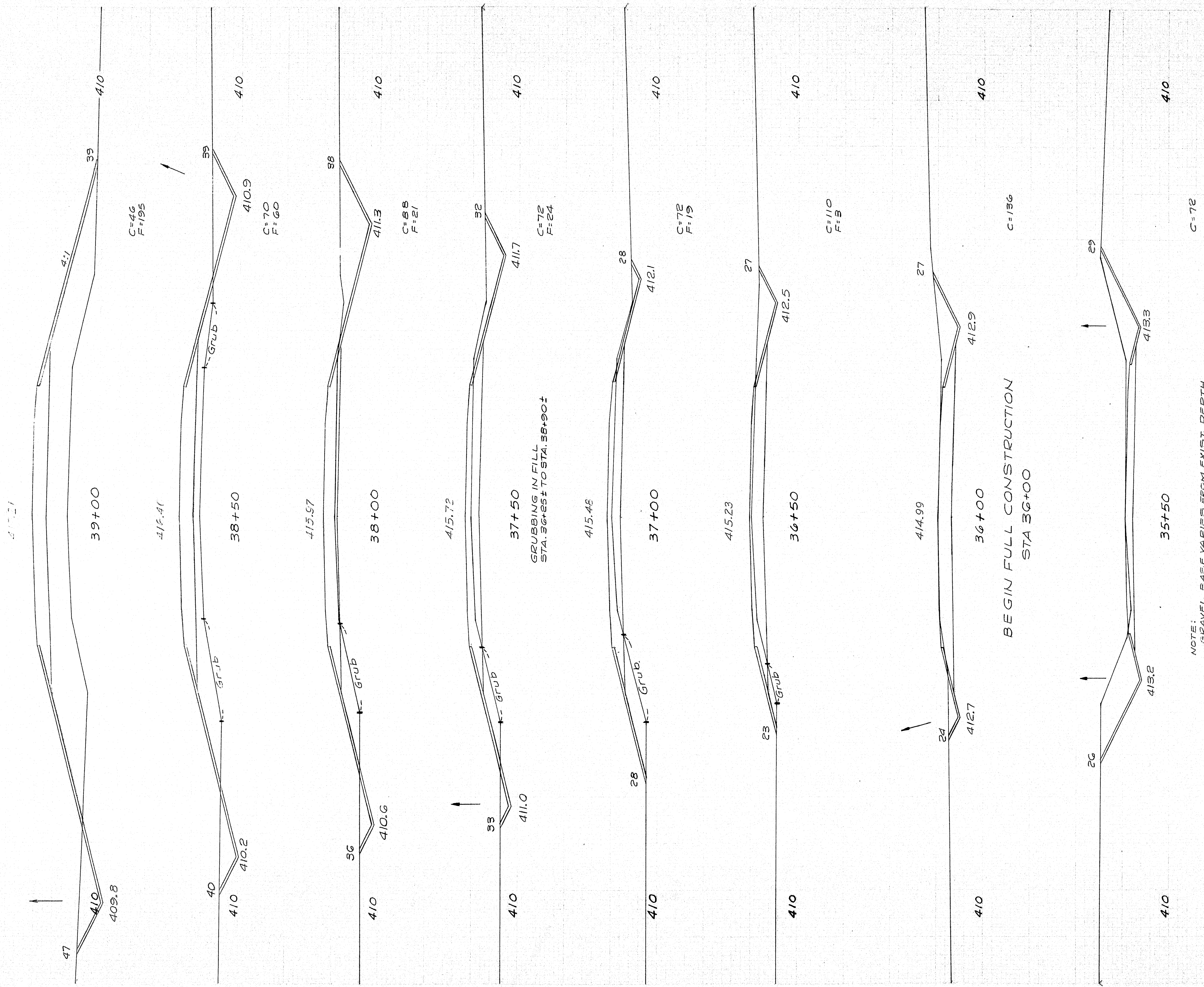






SEA. JAY 3-44  
S.E.C. 4-44

2



NOTE:  
GRAVEL BASE VARIES FROM EXIST. DEPTH  
TO 18" BETWEEN STA 35+00 AND STA 36+00

35+00  
LIMIT OF WORK  
STA. 35+00

B.P.N. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-1-100	5	20





JAY, CEA. 3-64  
RSD. 4-64

6

2

429.20

53

42+00

426.70

405

54

F=2210

INSTALL:  
98"x15" ACCMP  
STA. 41+50  
PLACE SODAT INLET  
AND OUTLET

49

407.0

405

41+50

406.8

50

405

424.20

F=1750

44

405

41+00

421.89

45

405

F=1280

3:1

3:1

40

405

40+50

405

419.95

C=9  
F=876

3:1

3:1

49

409.0

405

40+00

86

405

C=91  
F=588

418.39

A:1

A:1

409.4

405

39+50

42

405

C=37  
F=392

0 1 2 3 4 5 INCHES

SUPP.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
REG. NO.	MAINE		6	20

(22)



C.E.A., JAY 3-64  
R.B.D.

2

6

437.95

60

410

44+00

60

410

436.14

F=2210

58

410

43+50

59

410

434.06

F=2100

58

405

43+00

57

405

431.70

F=2880

56

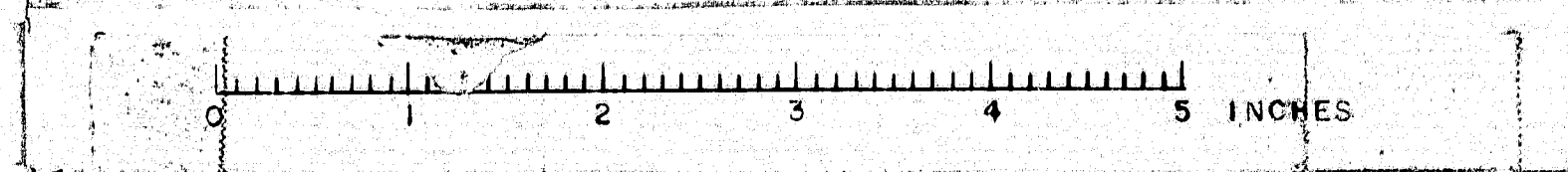
405

42+50

56

405

F=2590



B.A.R.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
REG. NO.	MAINE		7	20

(22)







CEA 3-64

2

6

444.70

60

410

48+50

410

58

F=5250

442.39

60

410

48+00

410

58

C=3  
F=5300

442.81

60

415

47+50

415

64

417.5

C=3  
F=5350

442.95

1.8

13.1

62

410

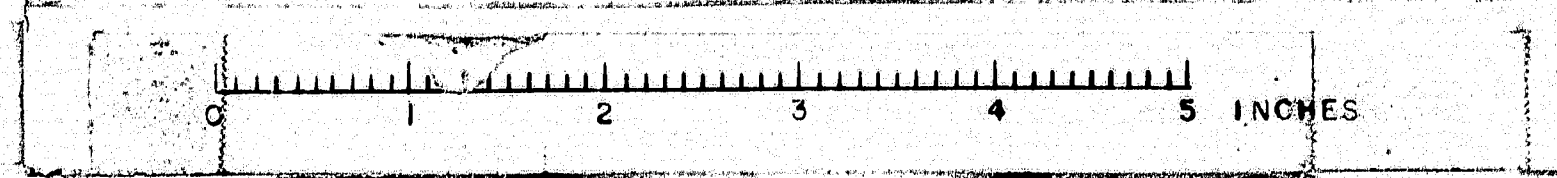
47+00

410

F=1750

S.P.R.	REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1		MAINE		9	50

PLATE 3, CROSS SECTION  
PRINTED & PUBLISHED





DATE: 3-44  
BY: CEA  
3-64

2

431.70

51+50

434.06

51+00

436.14

50+50

437.95

50+00

439.48

49+50

440.73

49+00

442.20

F=1365

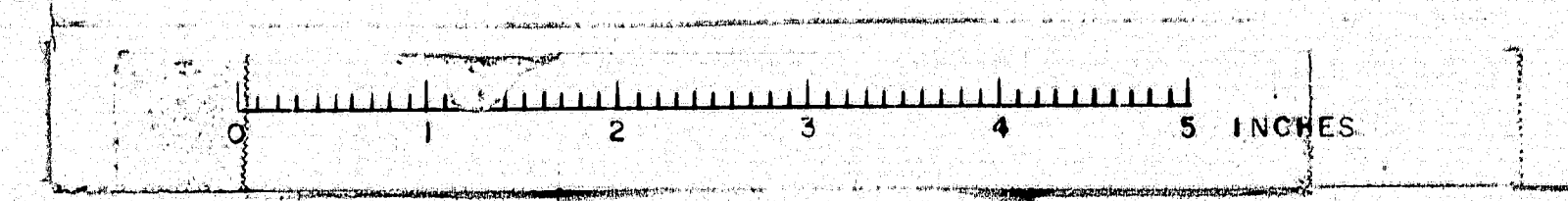
F=1715

F=2140

F=2560

F=2890

F=3120



D.P.R.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE		10	20

(22)



C.E. MOORE, C.E.A. 3-64  
P.B.D. 4-64

2

6

419.25

25

416.2

410

55+50

C=6.5  
F=1.5

410

419.72

28

27

416.6

410

55+00

GRUBBING IN FILL  
STA. 53+60 TO STA. 56+00

C=3.3  
F=1.3

410

420.46

29

27

417.0

410

54+50

C=5  
F=4.6

410

421.53

29

29

417.0

410

54+00

F=17.9

410

422.94

38

35

411

410

53+50

F=411

410

424.69

41

40

411

410

53+00

F=607

410

426.78

35

38

311

410

52+50

F=779

410

429.20

40

34

1211

410

52+00

F=1050

410

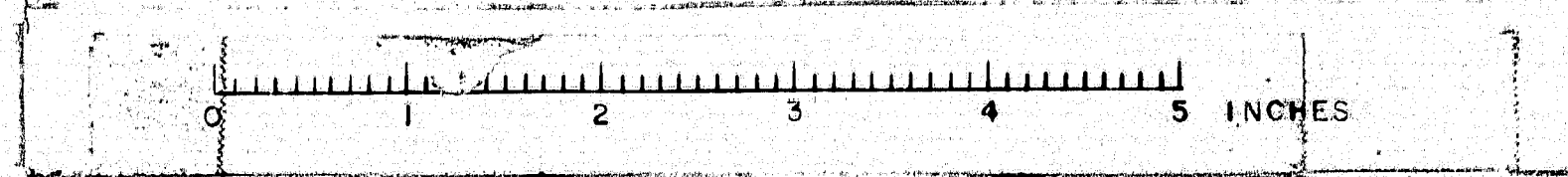


PLATE C, CROSS SECTION  
EARTH & WATER CO.

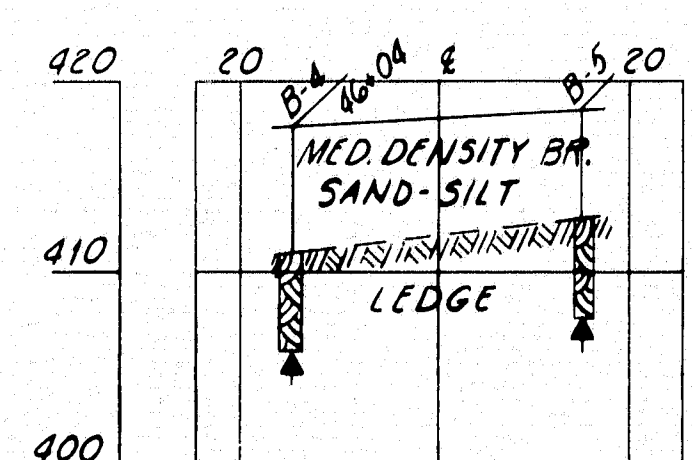
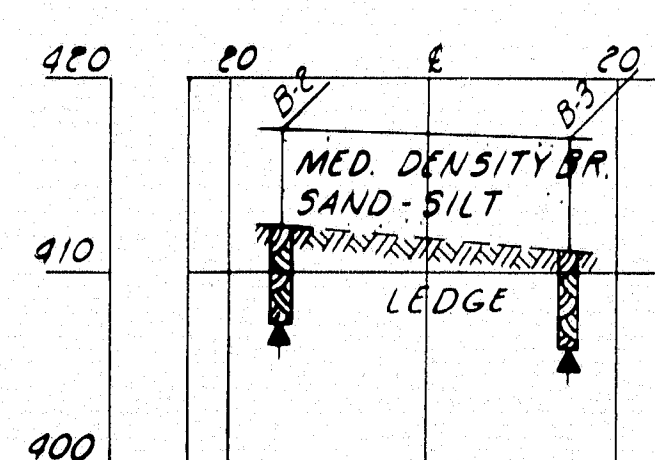
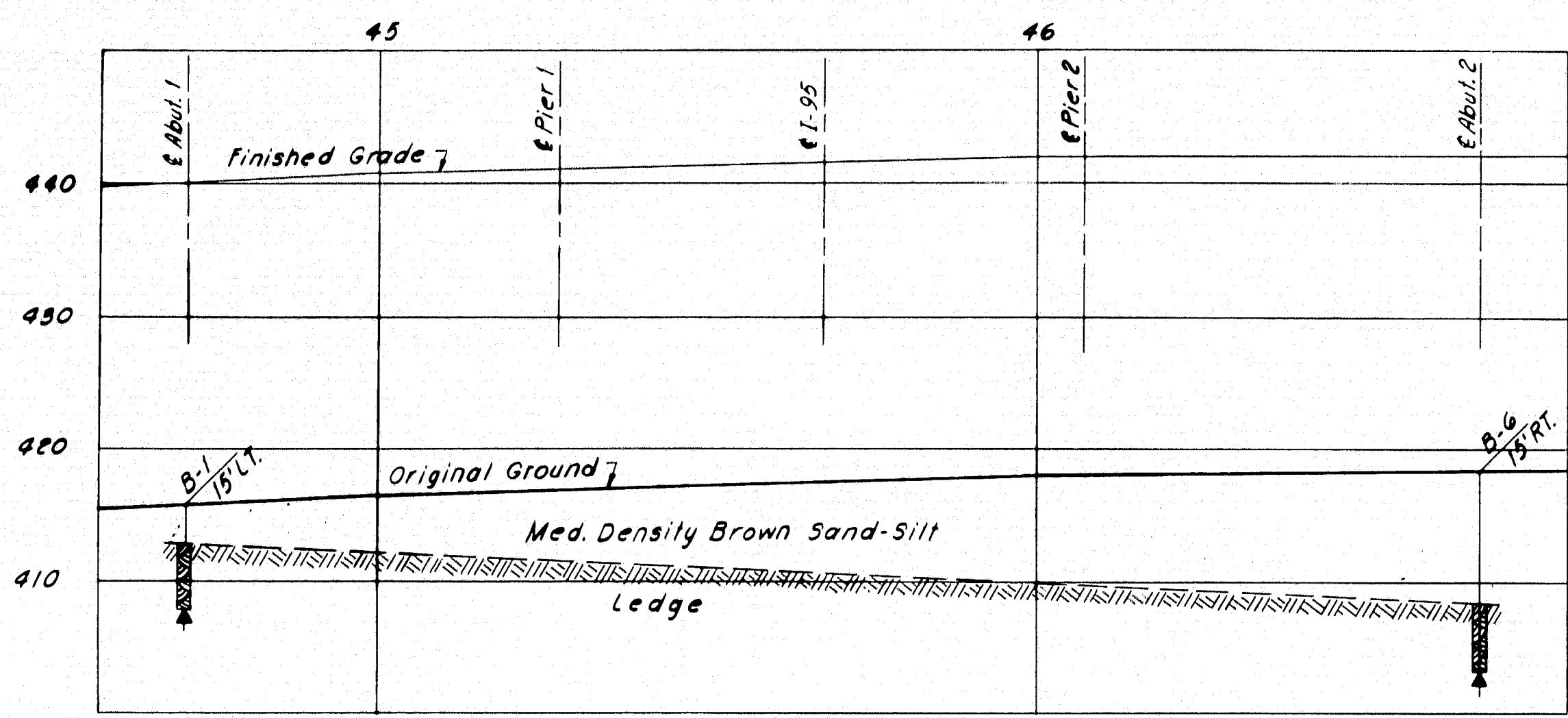
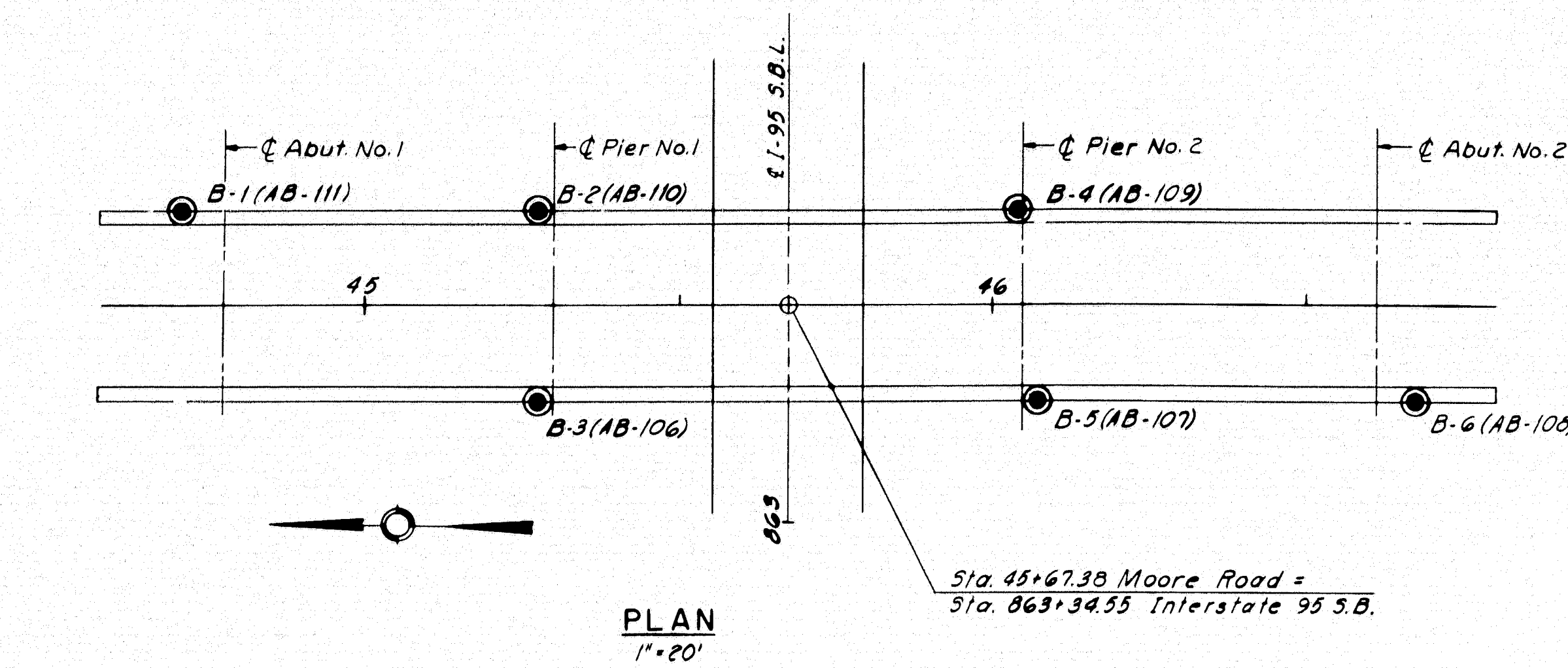
B.P.R.	STATE	PROJECT NUMBER	SHEET	TOTAL SHEETS
1	MAINE		11	20

(22)





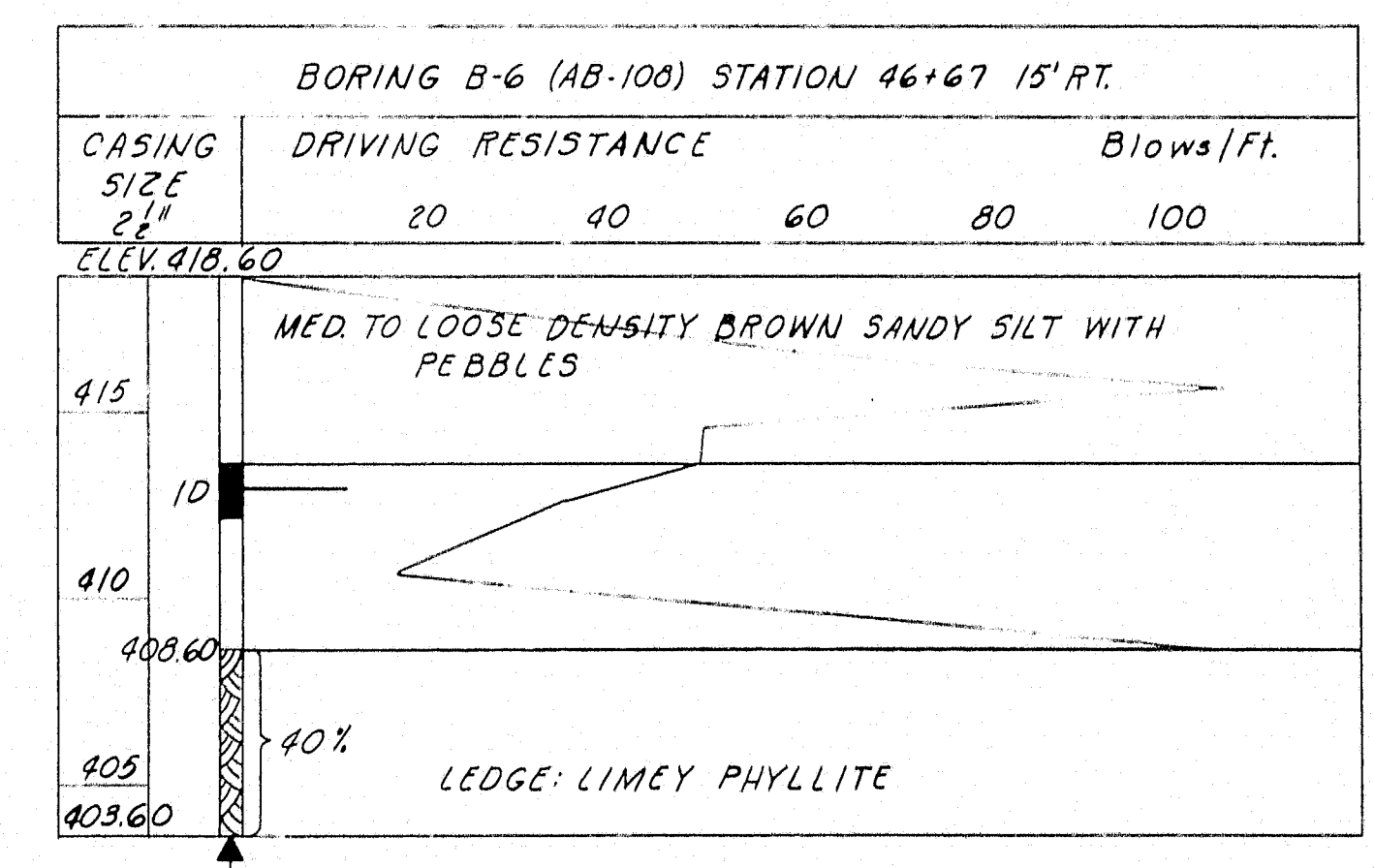
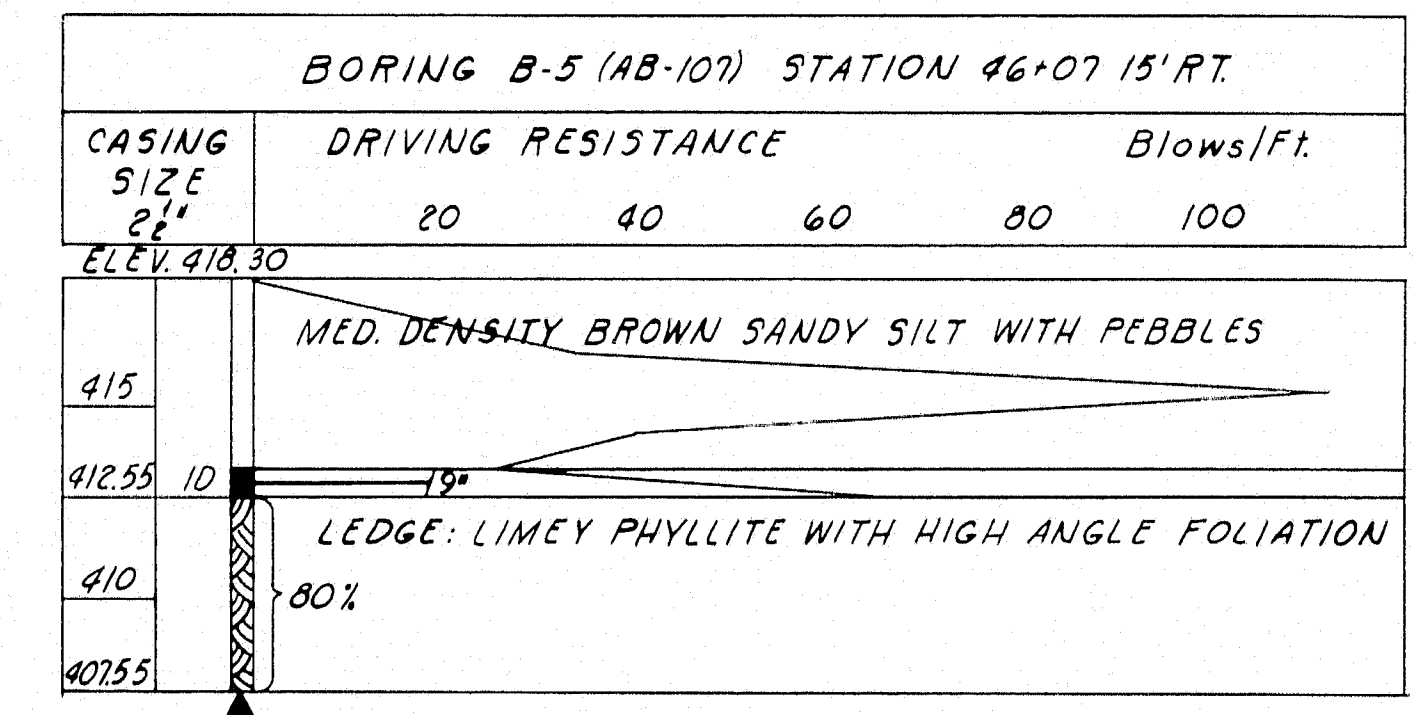
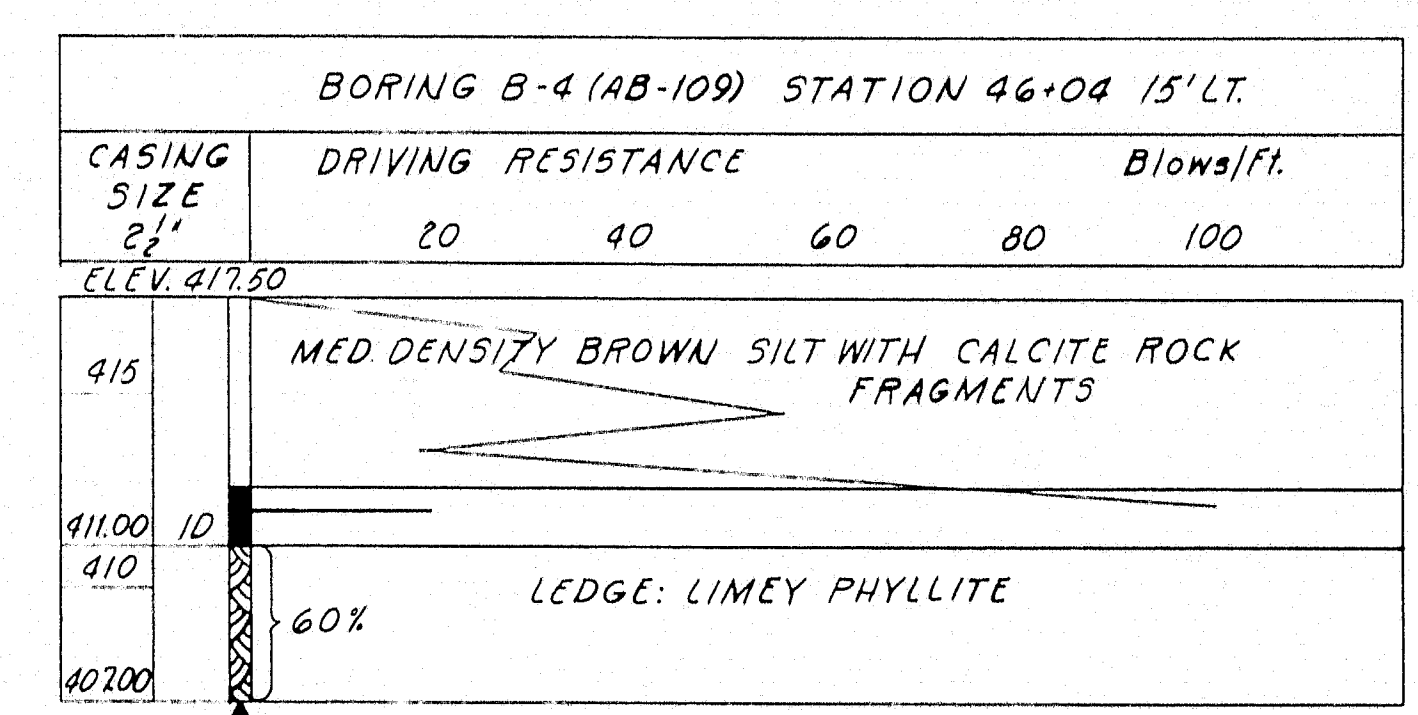
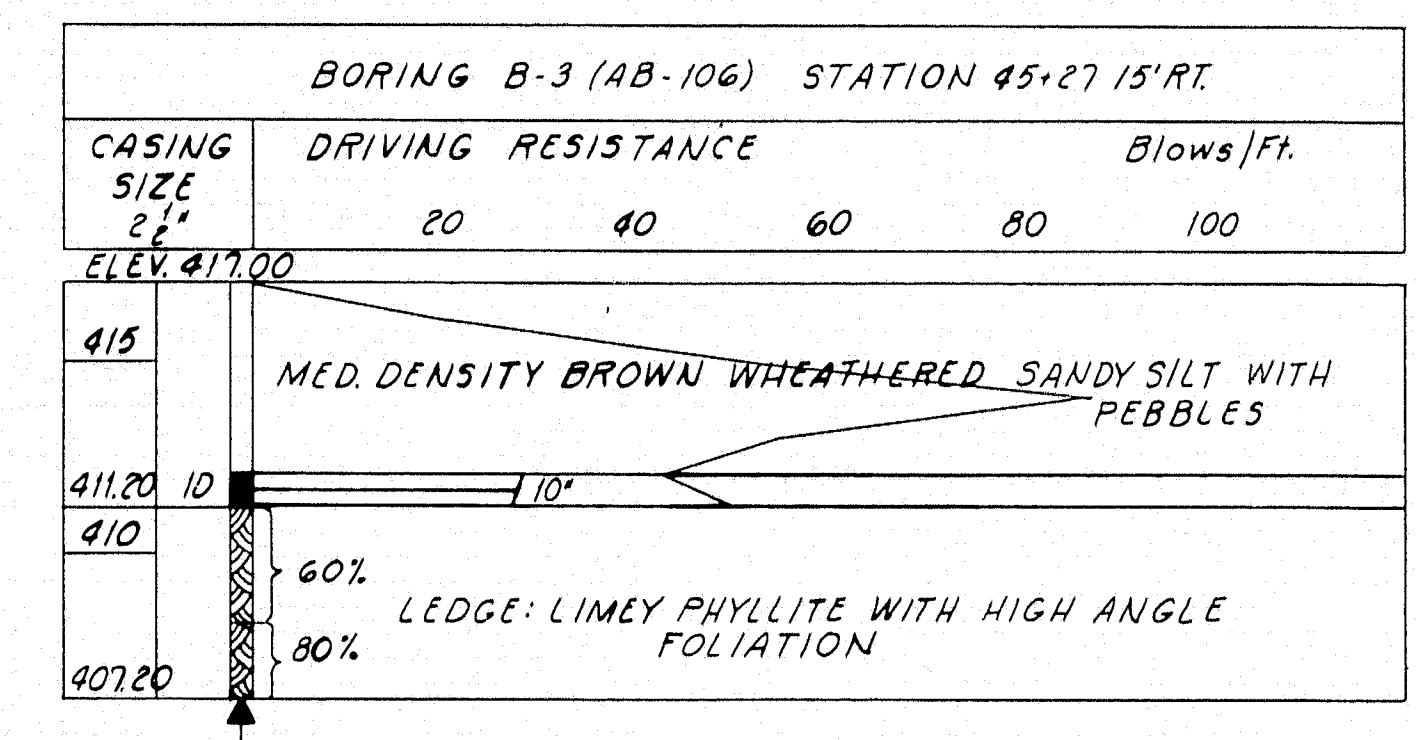
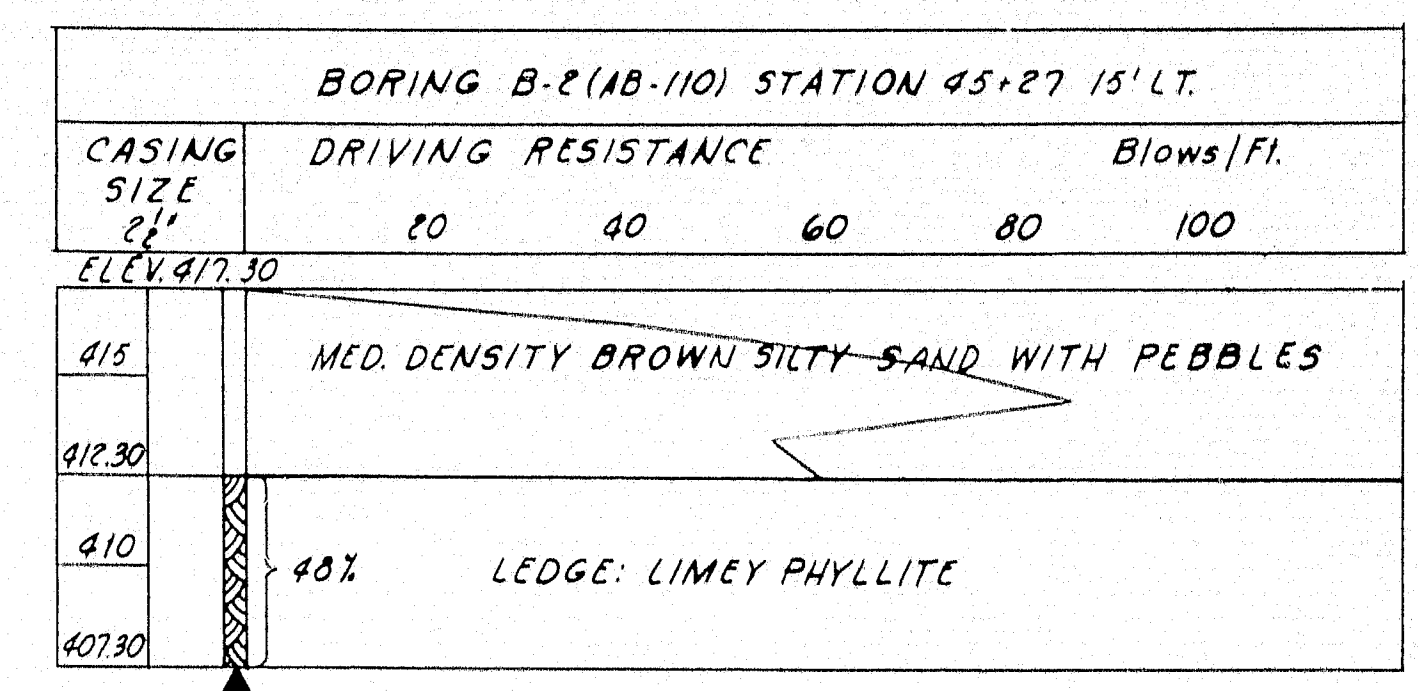
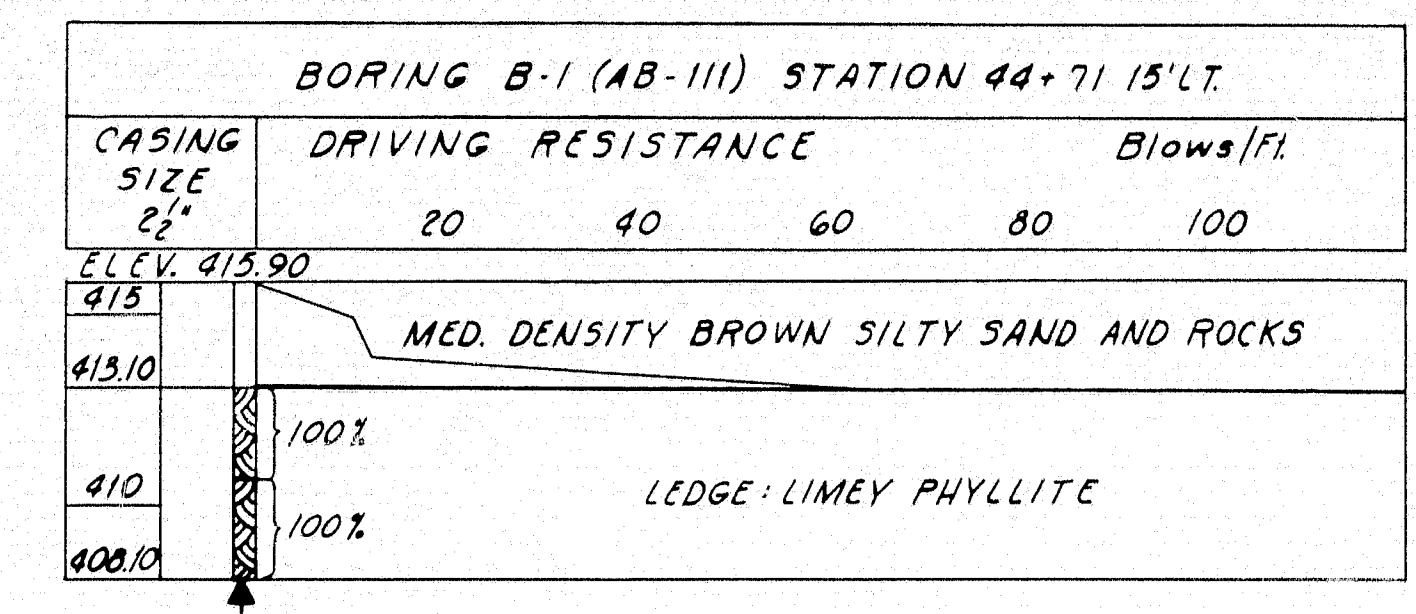




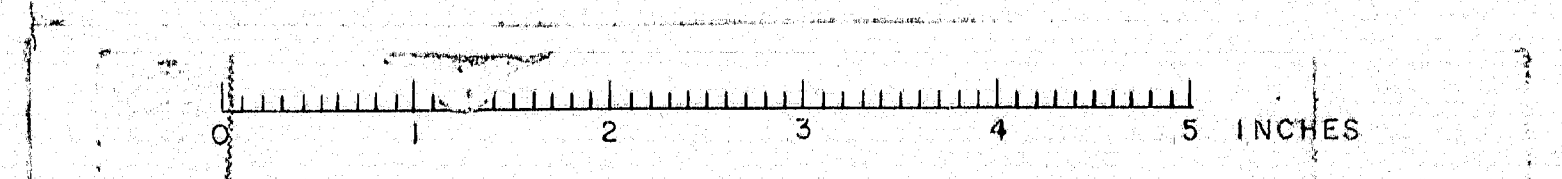
**TRANSVERSE SECTIONS**

**LEGEND**  
● Wash boring

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



DESIGN— TRACE— CHECK—P.P.N.	DETAIL—JMS	BRIDGE NO. SURVEY— PLOT—
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
MOORE ROAD OVER INTERSTATE 95 IN THE TOWN OF HOULTON AROOSTOOK COUNTY FOUNDATION SURVEY		
HOWARD, NEEDLES, TAMMEN & BERGENDOFF CONSULTING ENGINEERS NEW YORK BOSTON KANSAS CITY		SHEET 13 OF 20 AUGUSTA, MAINE OCTOBER 14, 1995 <b>93-113</b> HOULTON (22)

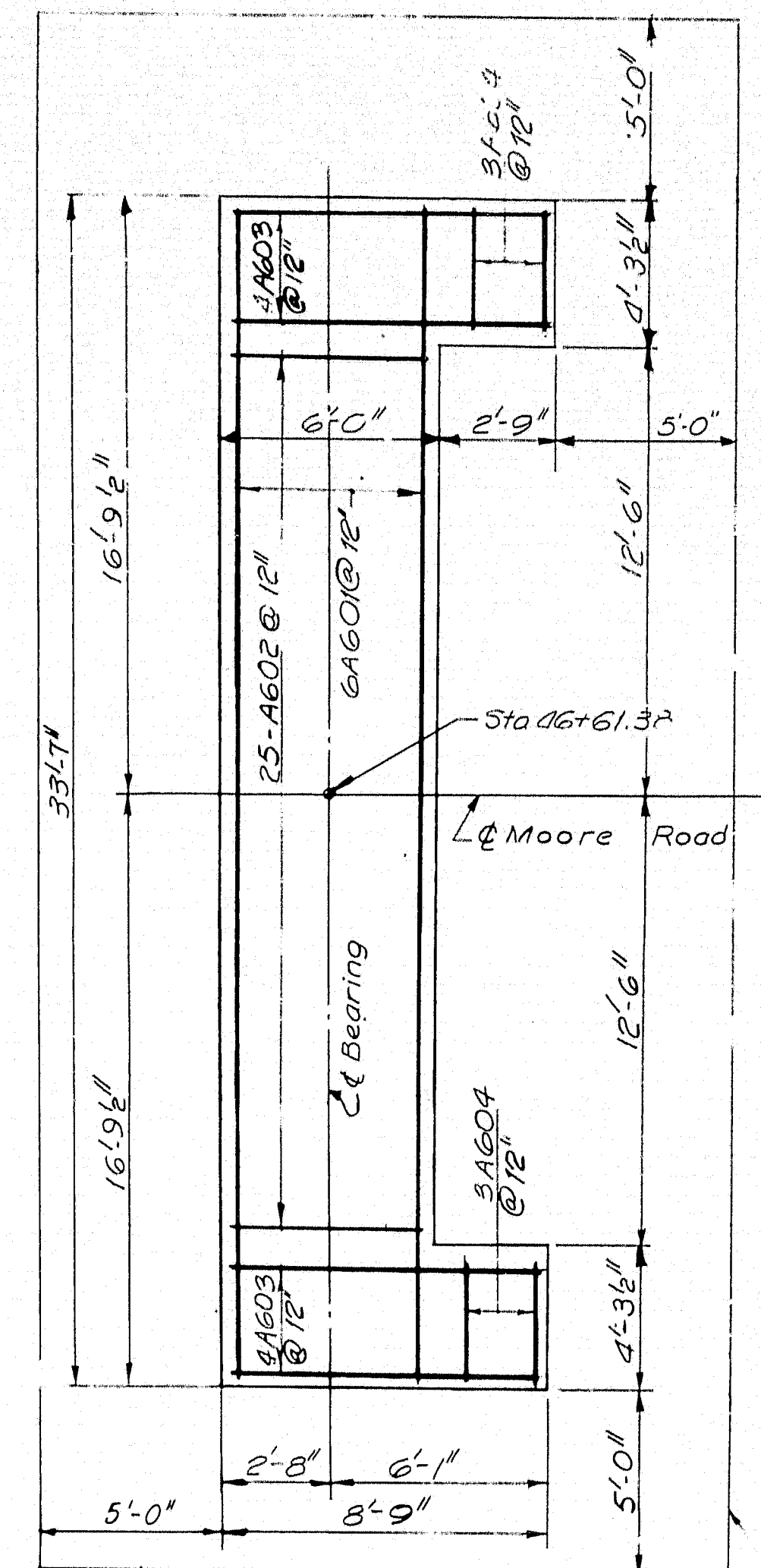
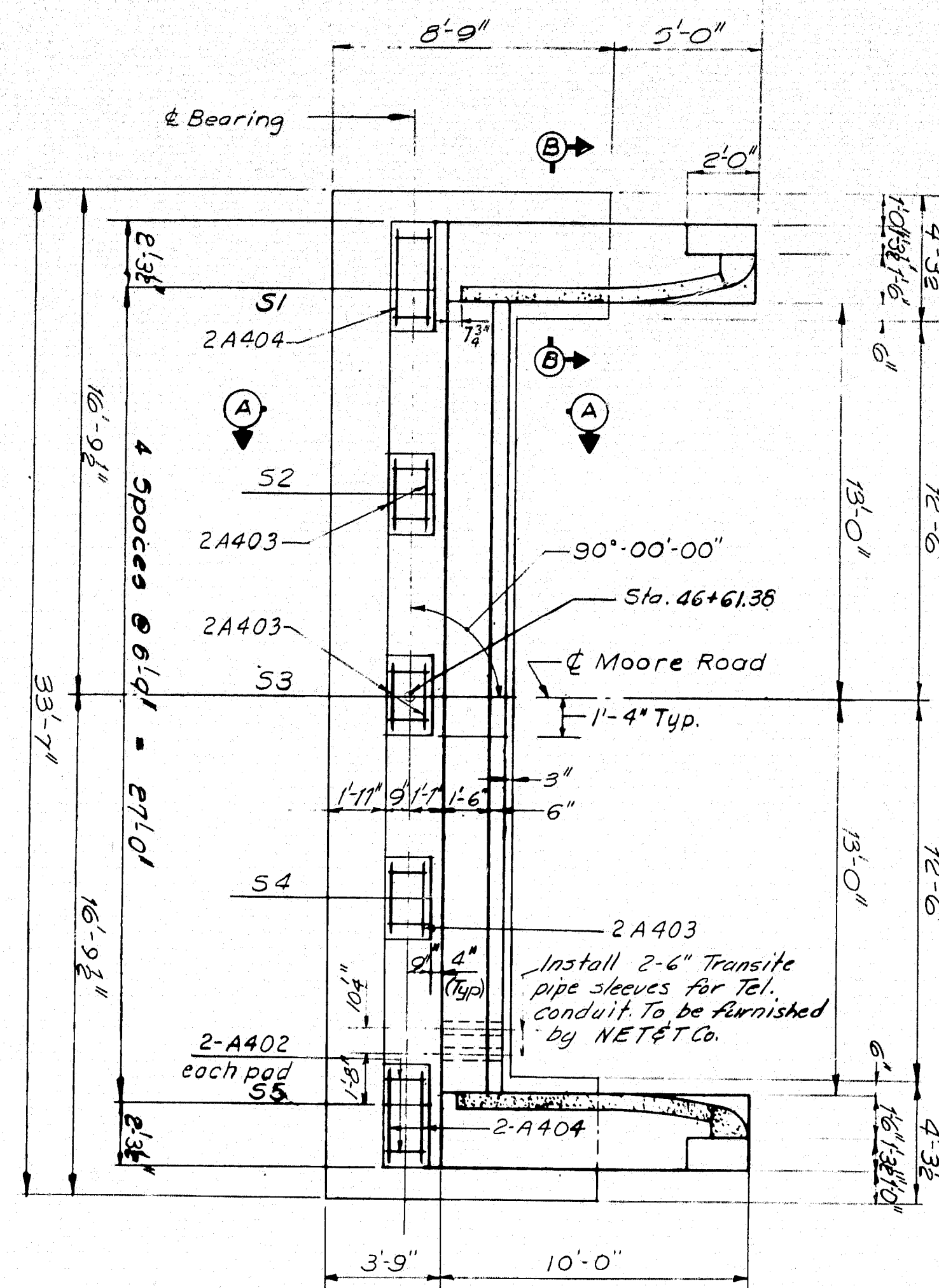




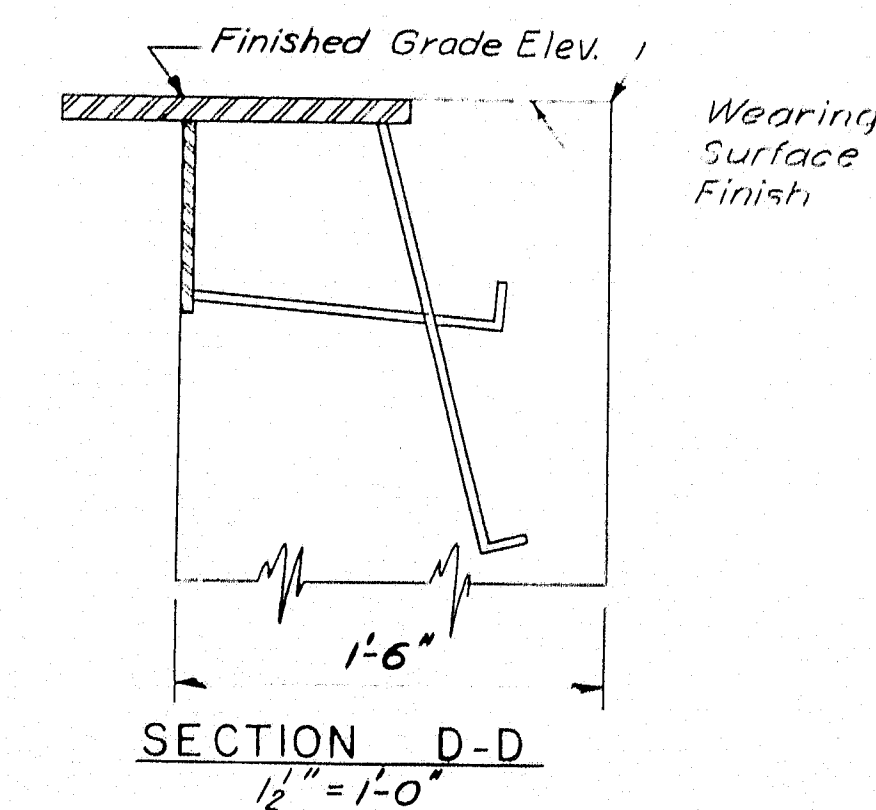
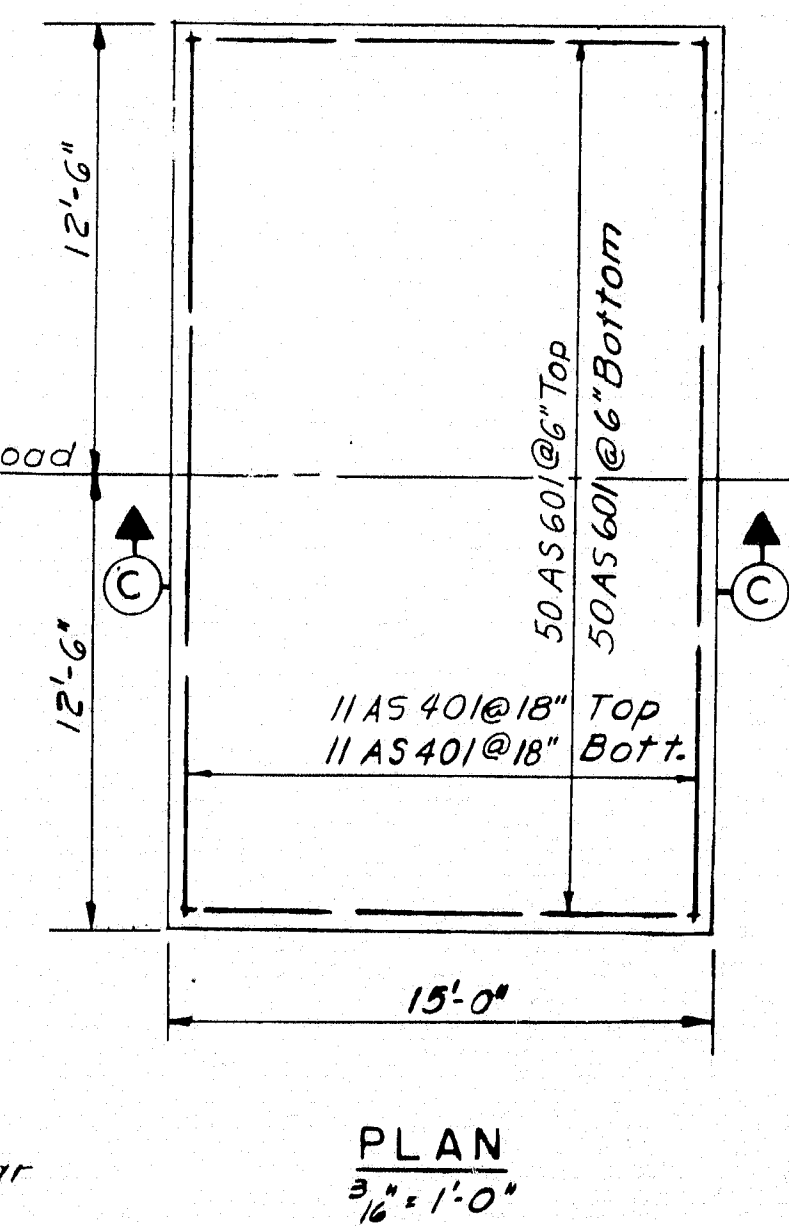




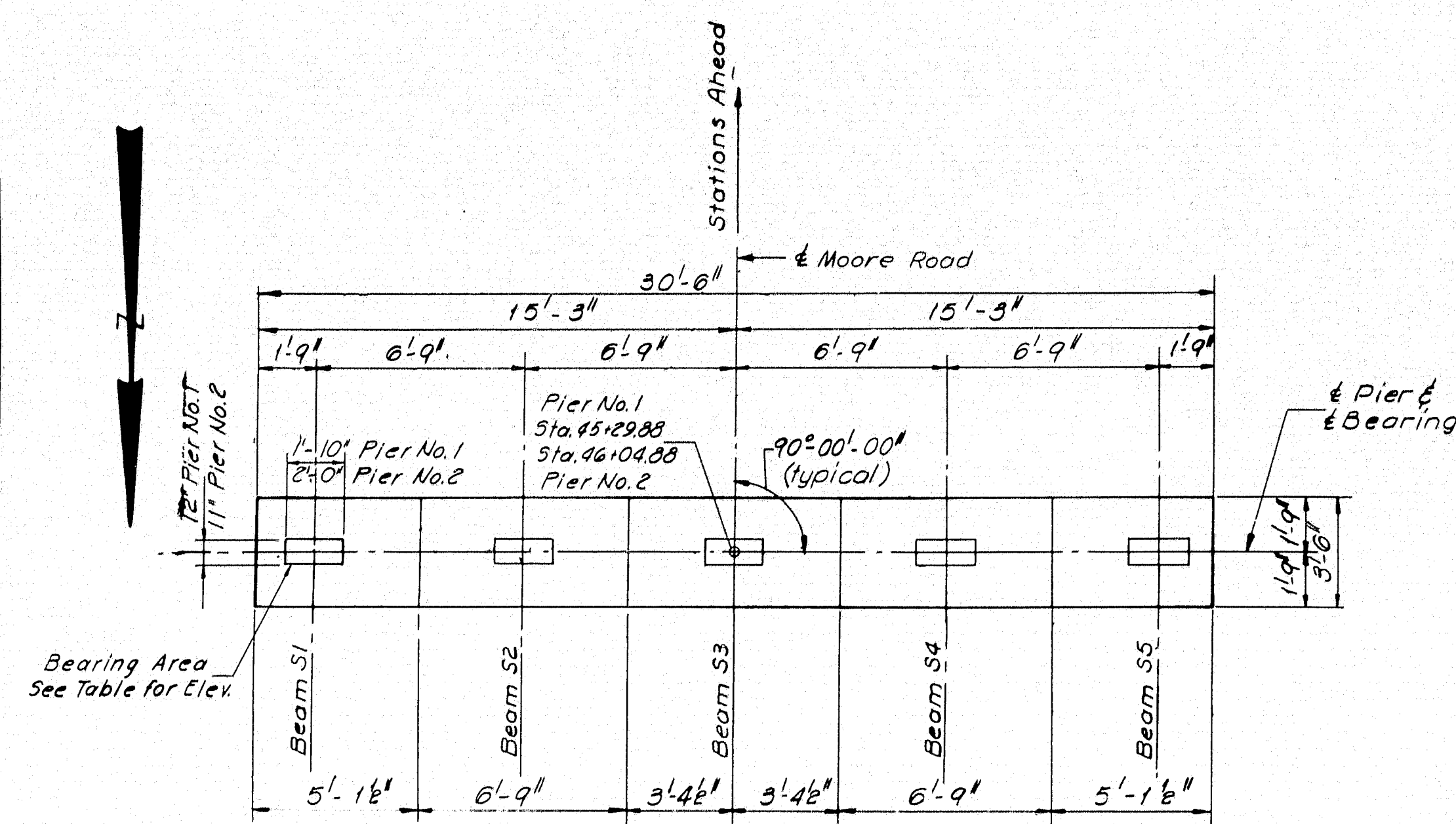
B. F. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(22)	15	20



NOTES:

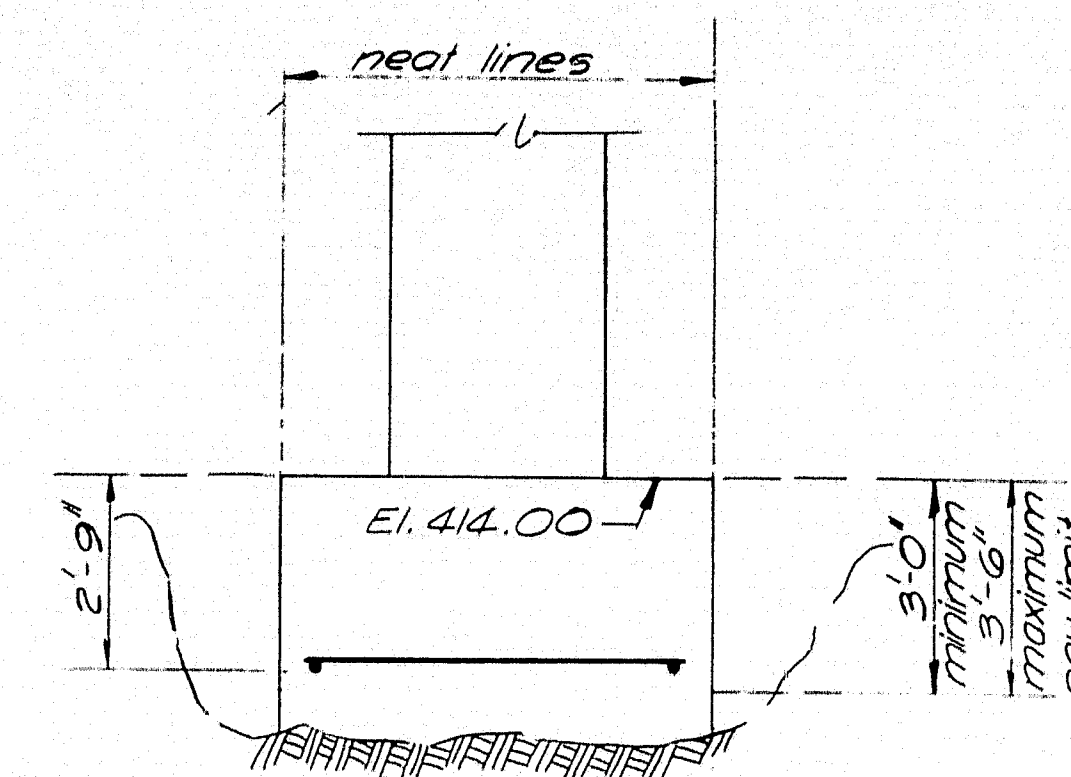






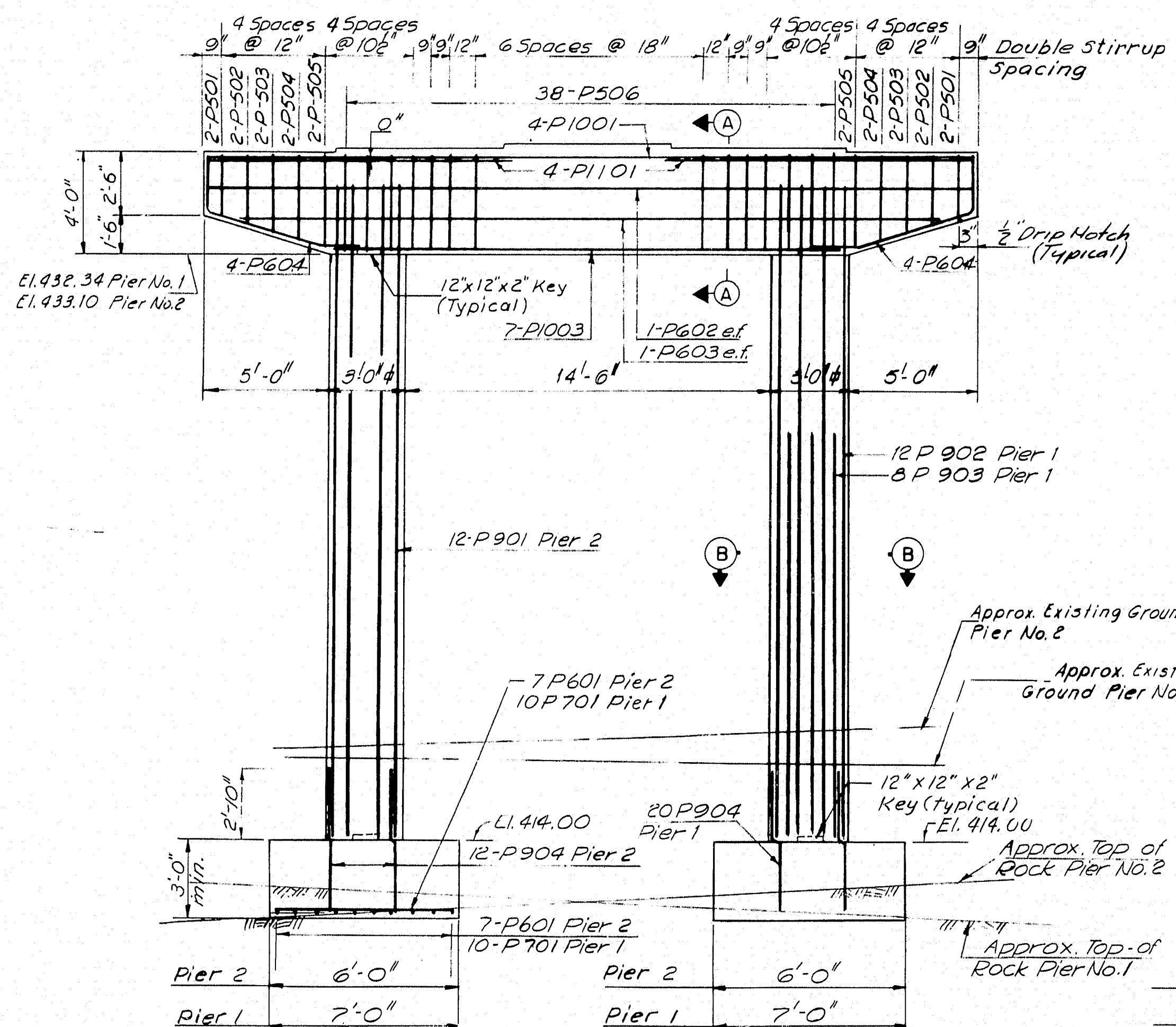
PLAN  
4' - 1'-0"

BEAM	Pier No. 1	Pier No. 2
S1	436.34	437.10
S2	436.48	437.24
S3	436.62	437.38
S4	436.76	437.52
S5	436.90	437.66

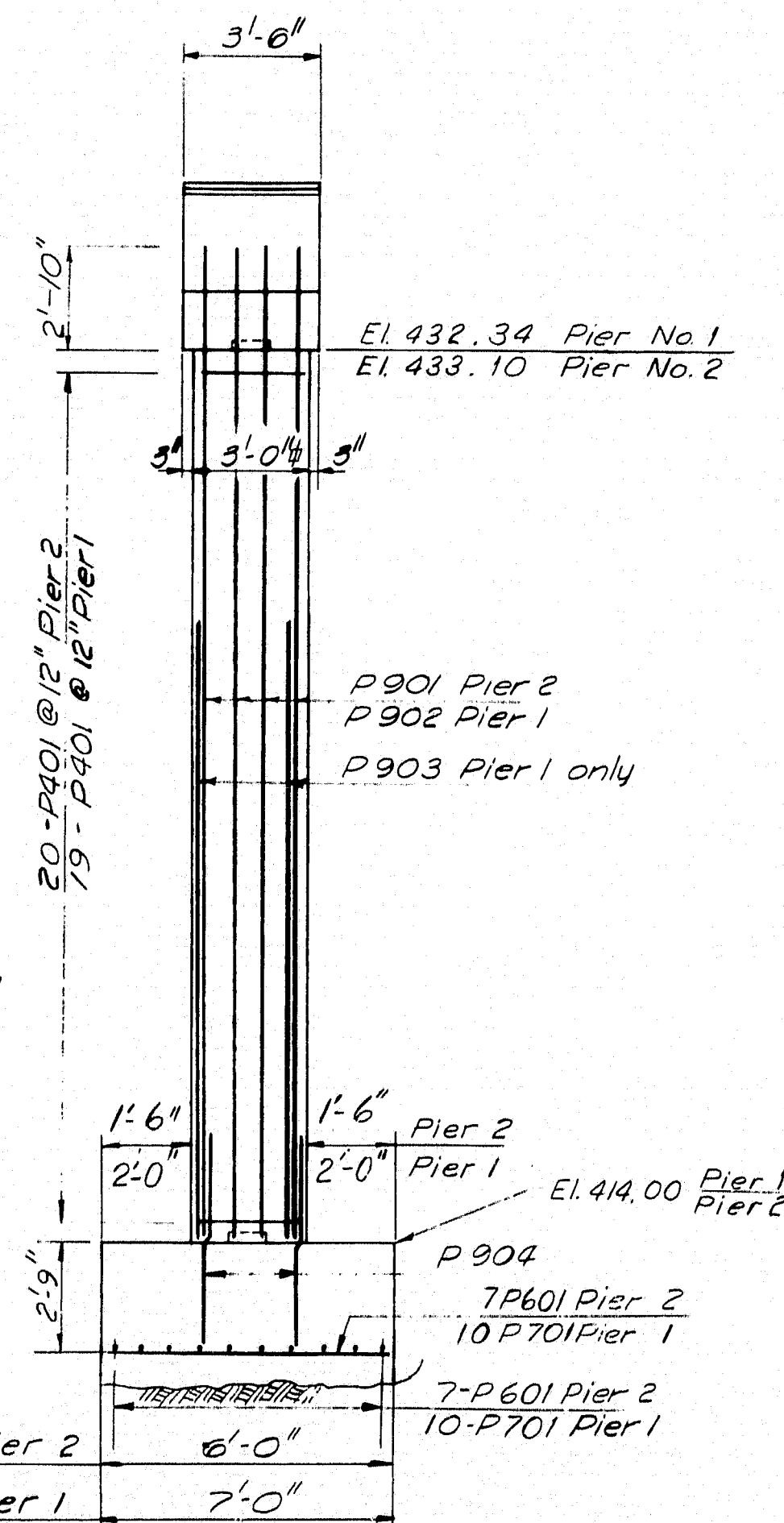


FOOTING DETAIL  
3' - 1'-0"

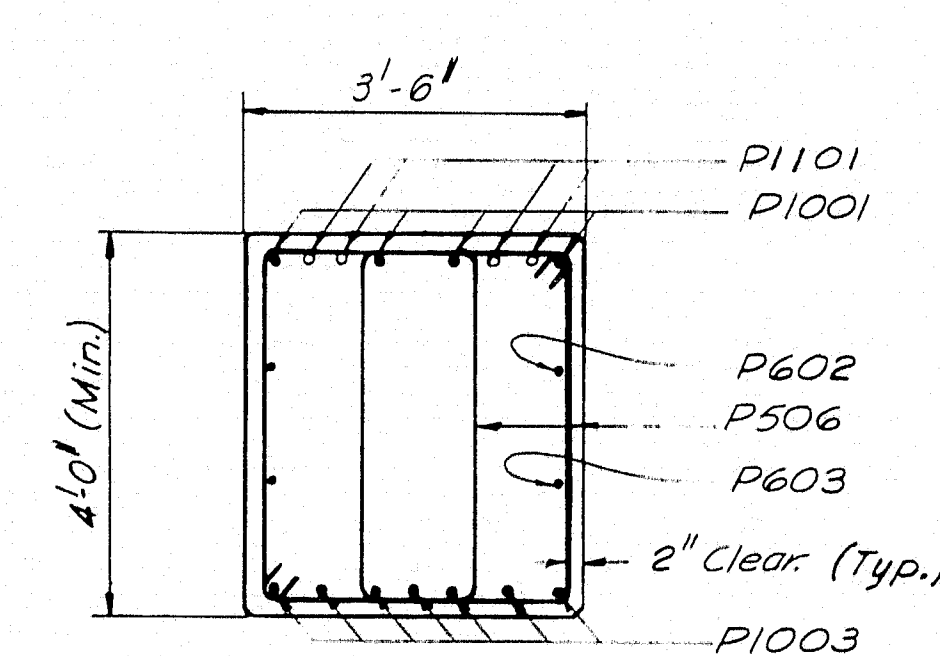
- NOTES
1. Footing side forms may be omitted if approved by the engineer. No payment will be made for concrete outside the neat lines shown.
  2. In case of overbreakage of ledge downward, no payment will be made for Structural Rock Excavation Piers, or for concrete more than 3'-6" below the top of the footing elevation shown.
  3. All weathered or broken ledge shall be removed before any footing concrete is placed.



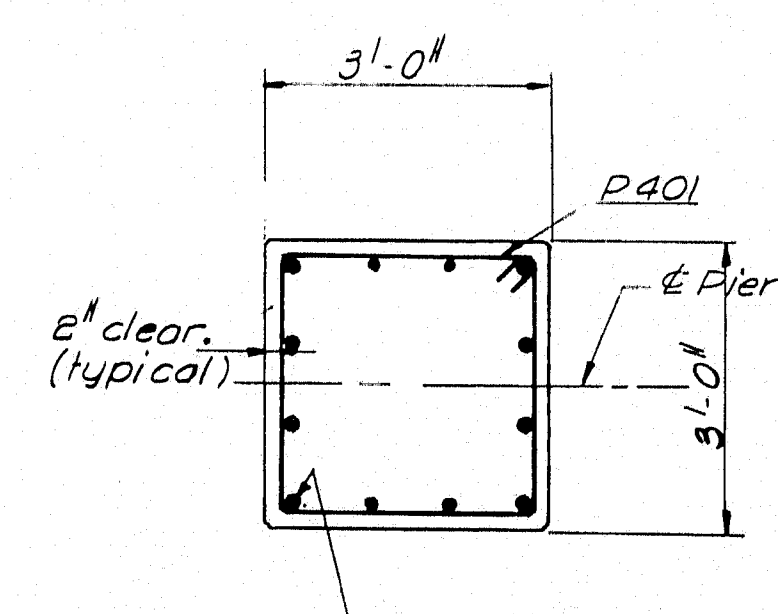
FRONT ELEVATION  
4' - 1'-0"



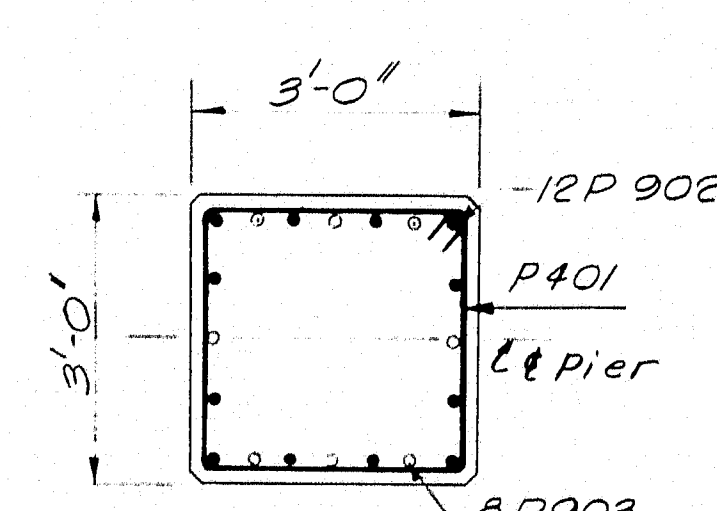
END ELEVATION  
4' - 1'-0"



SECTION A-A  
1'-0" - 1'-0"



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



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

- NOTE:
- Indicates Cut off Bars
  - Indicates Full Length Bars

- NOTES:
- Dress bearing areas 1" larger, all around, than masonry plates, to exact elevations shown.
  - Reinforcing steel to have 2" minimum cover unless otherwise shown.
  - Maximum Footing Pressure Group I Loading 5.5 Tons/S.F. CRITICAL Group II Loading 9.0 Tons/S.F.
  - Place reinforcing steel to clear anchor bolts.

DESIGN - G.H.	DETAIL - D.A.T.	BRIDGE NO.
TRACE -	SURVEY -	PLOT -
CHECK - P.R.N.		

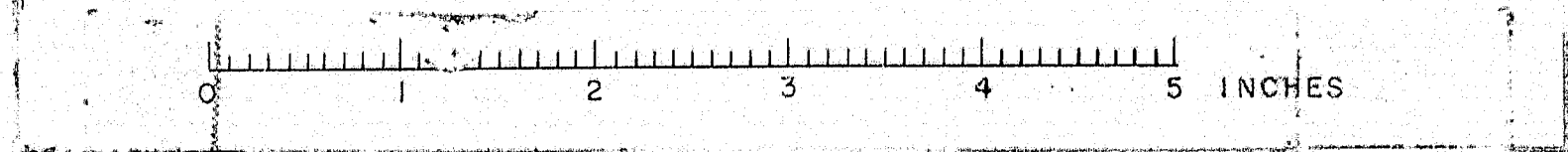
STATE HIGHWAY COMMISSION  
BRIDGE DIVISION  
MOORE ROAD  
OVER  
INTERSTATE 95  
IN THE TOWN OF  
HOULTON  
AROSTOOK COUNTY  
PIERS

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

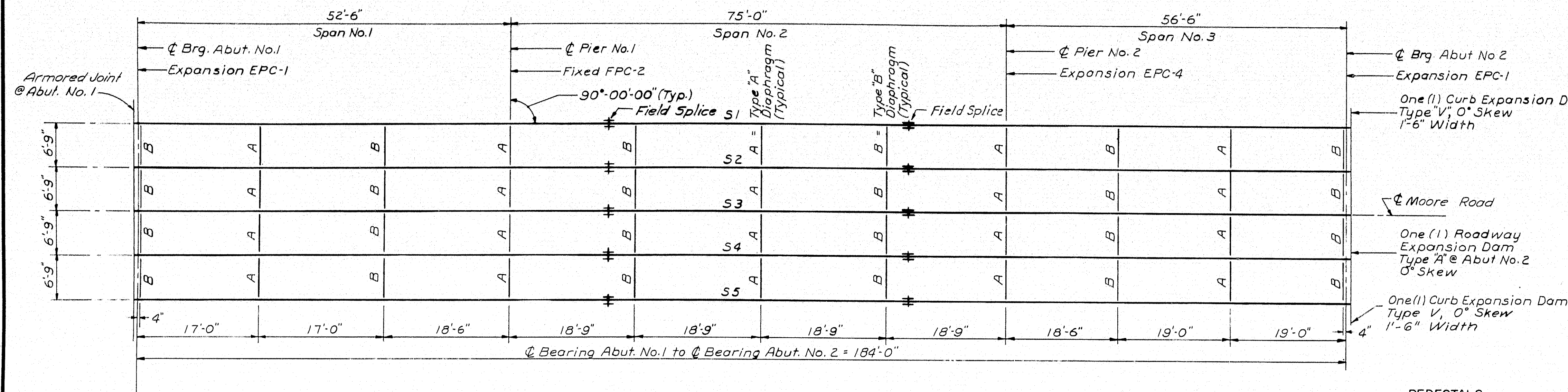
SHEET 16 OF 20 AUGUSTA, MAINE OCTOBER 1964

93-116

HOULTON (22)







ERECTION DIAGRAM  
1" = 10'

#### REFERENCE

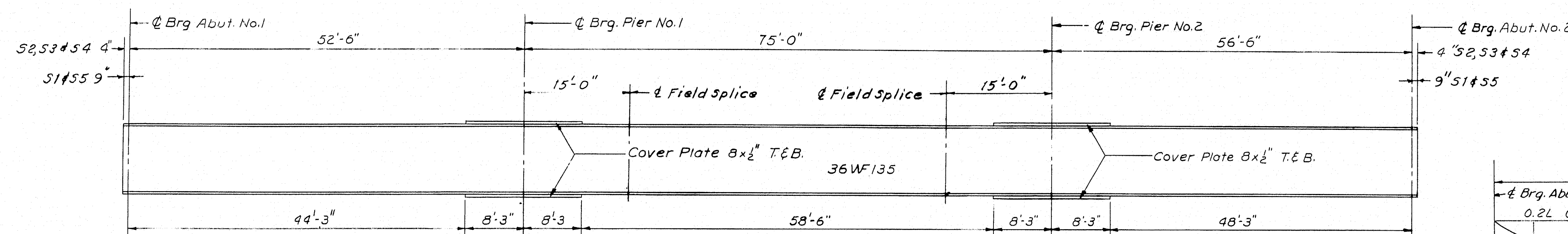
Splice - See Standard Details BD-103-64  
Diaphragms - See Standard Details BD-104-64  
Pedestals - See Standard Details BD-101-64  
Expansion Dam - See Standard Details BD-105-64  
Armored Joint - See Standard Details BD-104-64

#### SPECIFICATIONS

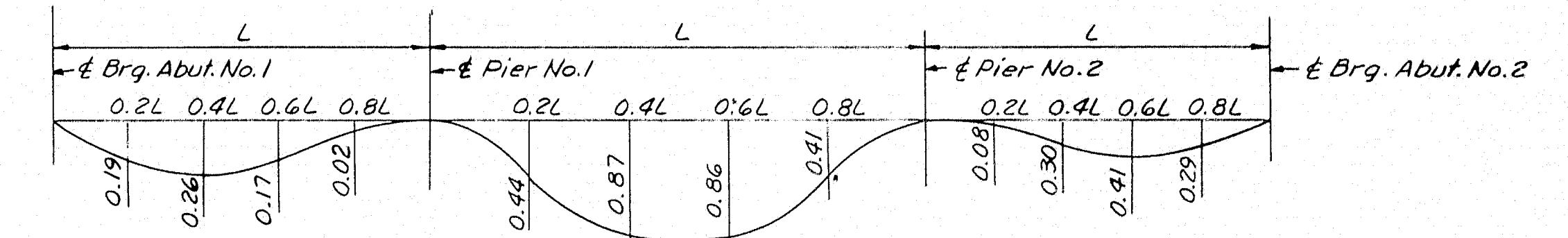
**Fabrication and Erection:** State of Maine Standard Specifications, Highways and Bridges, Revision of Jan. 1956 and Supplemental Specifications of Feb. 1960  
**Design and Detail:** A.A.S.H.O. Standard Specifications of 1961, and Interim Specifications 1961, 1962, 1963 and 1964.  
**Materials:** Except as otherwise noted on the standard details, all materials shall conform to A.S.T.M. designation A-36.

#### PEDESTALS

10-EPC 1 Required  
5-EPC 4 Required  
5-FPC 2 Required



TYPICAL STRINGER ELEVATION  
All Dimensions Are Horizontal



DEAD LOAD DEFLECTION DIAGRAM  
ALL DEFLECTIONS IN INCHES

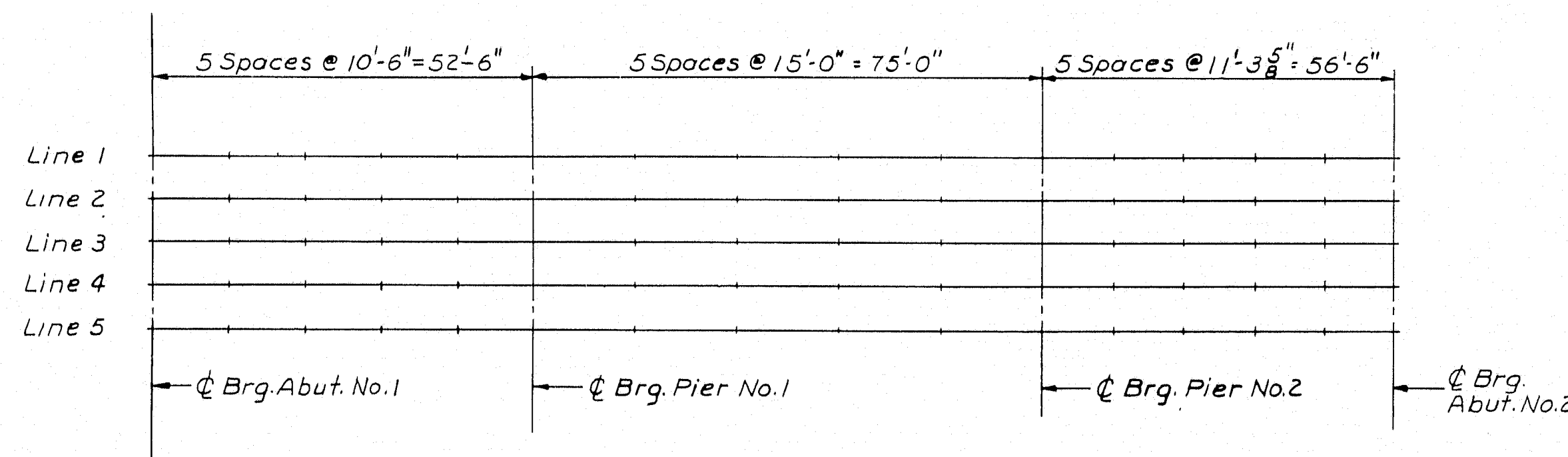
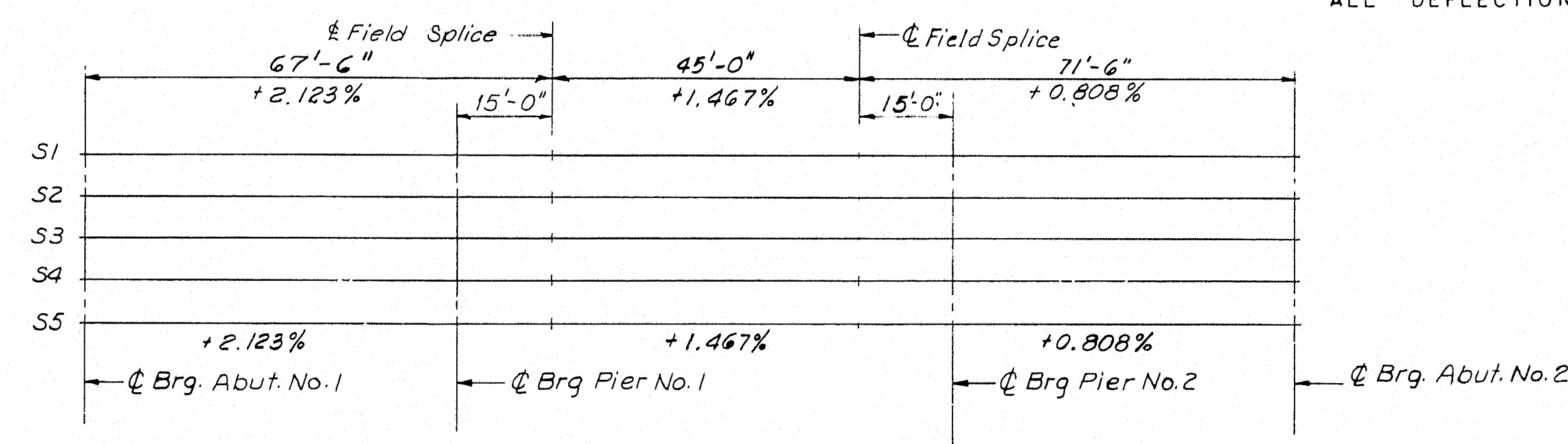
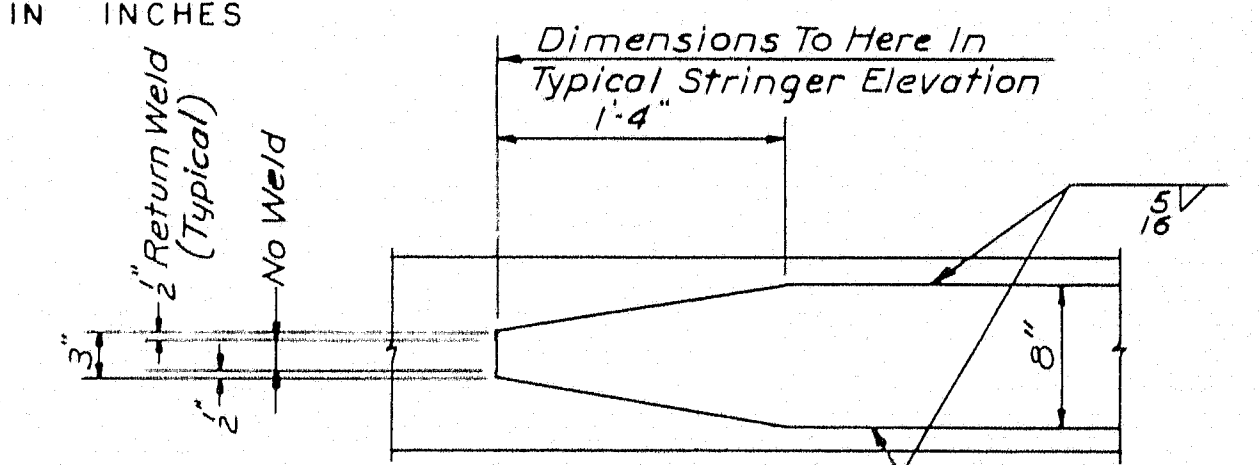


DIAGRAM OF BLOCKING POINTS

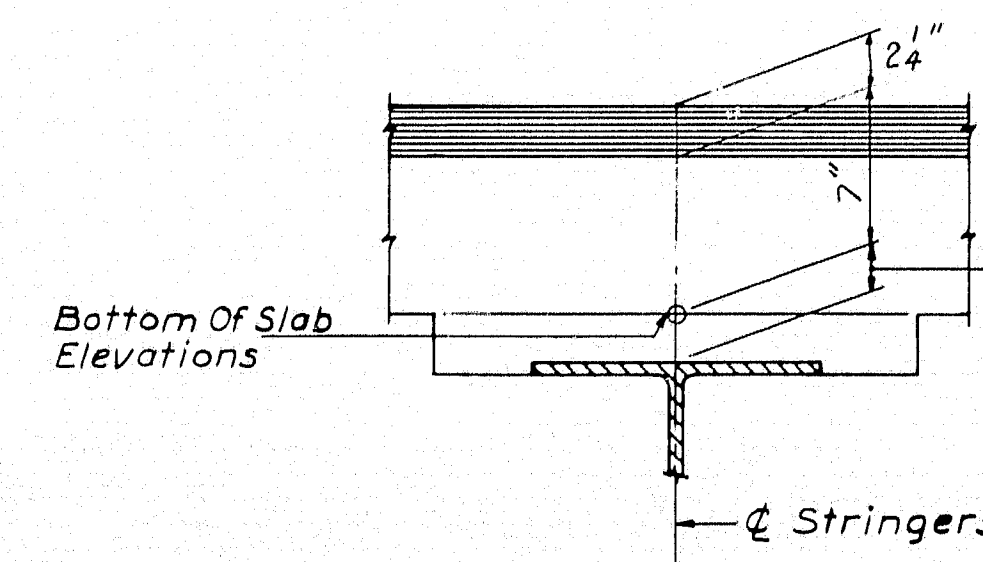


BEAM GRADES



COVER PLATE DETAIL  
1" = 1'-0"

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS																
	¢ Brg. Abut. No.1	SPAN NO. 1				¢ Brg. Pier No.1	SPAN NO. 2				¢ Brg. Pier No.2	SPAN NO. 3				¢ Brg. Abut. No.2
		10'-6"	21'-0"	31'-6"	42'-0"		15'-0"	30'-0"	45'-0"	60'-0"		11'-3 5/8"	22'-7 1/2"	33'-10 7/8"	45'-2'-2"	
Line 1	439.14	439.41	439.66	439.88	440.09	440.29	440.60	440.88	441.10	441.26	441.40	441.51	441.63	441.72	441.78	441.82
Line 2	439.29	439.55	439.80	440.02	440.23	440.43	440.74	441.02	441.24	441.40	441.54	441.65	441.77	441.86	441.92	441.96
Line 3	439.43	439.70	439.94	440.16	440.37	440.57	440.88	441.16	441.38	441.54	441.68	441.79	441.91	442.00	442.06	442.10
Line 4	439.29	439.55	439.80	440.02	440.23	440.43	440.74	441.02	441.24	441.40	441.54	441.65	441.77	441.86	441.92	441.96
Line 5	439.14	439.41	439.66	439.88	440.09	440.29	440.60	440.88	441.10	441.26	441.40	441.51	441.63	441.72	441.78	441.82



BLOCKING DETAIL  
No Scale

Blocking 1" @ Abut. & 1/4" @ Splices (Do Not Use for Setting Forms)

#### NOTE:

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

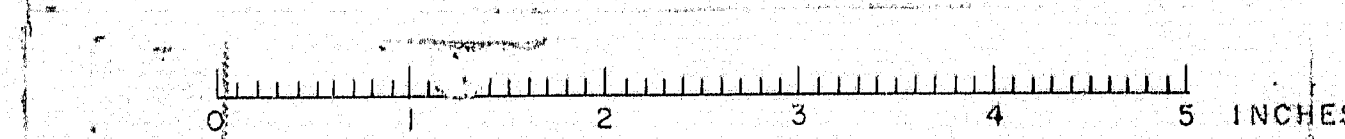
HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

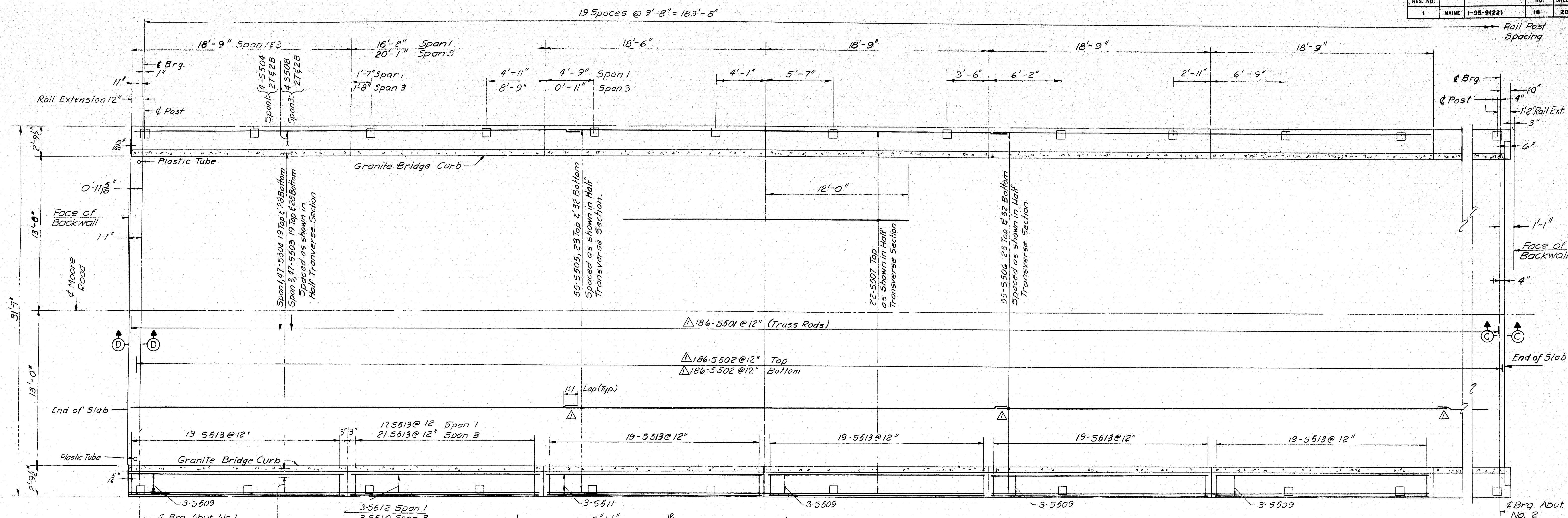
DESIGN - G.W.	DETAIL - R.D.F.	BRIDGE NO.
TRACE -	SURVEY -	PLOT -
CHECK - P.P.N.		
STATE HIGHWAY COMMISSION BRIDGE DIVISION MOORE ROAD OVER INTERSTATE 95 IN THE TOWN OF HOULTON AROOSTOOK COUNTY STRUCTURAL STEEL & BLOCKING		

SHEET 17 OF 20 AUGUSTA, MAINE OCTOBER 1964

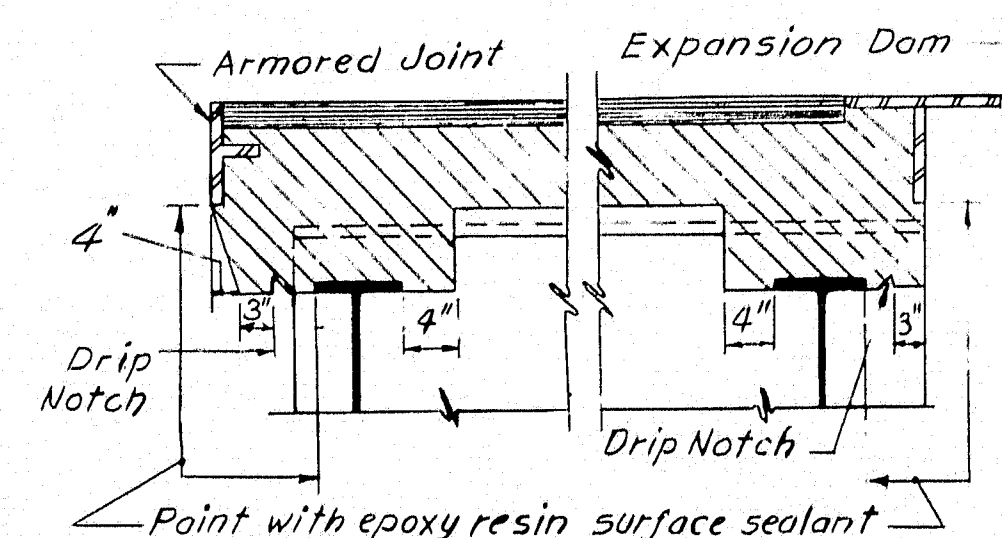
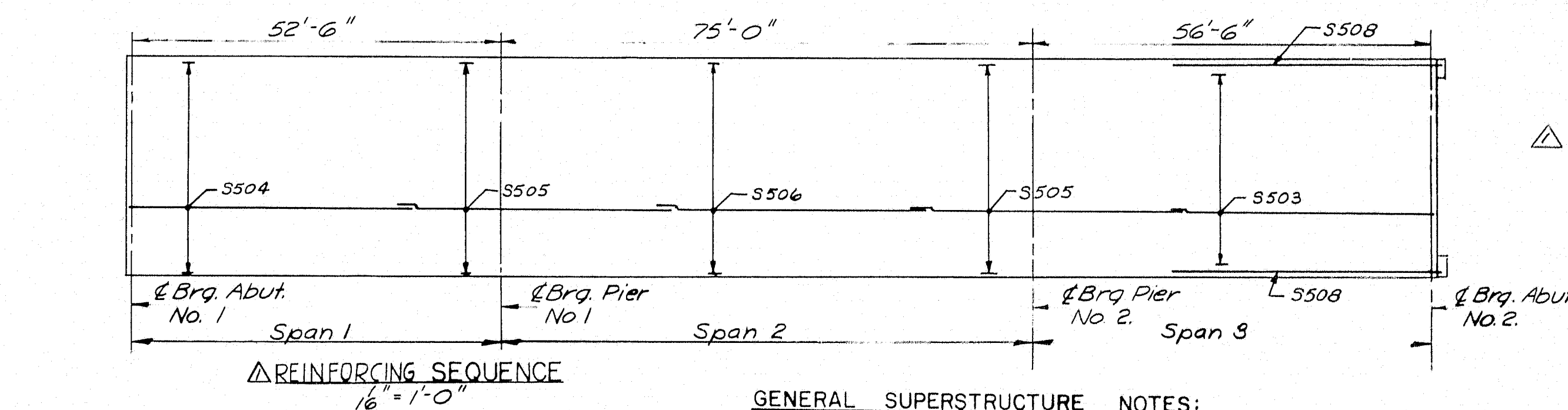
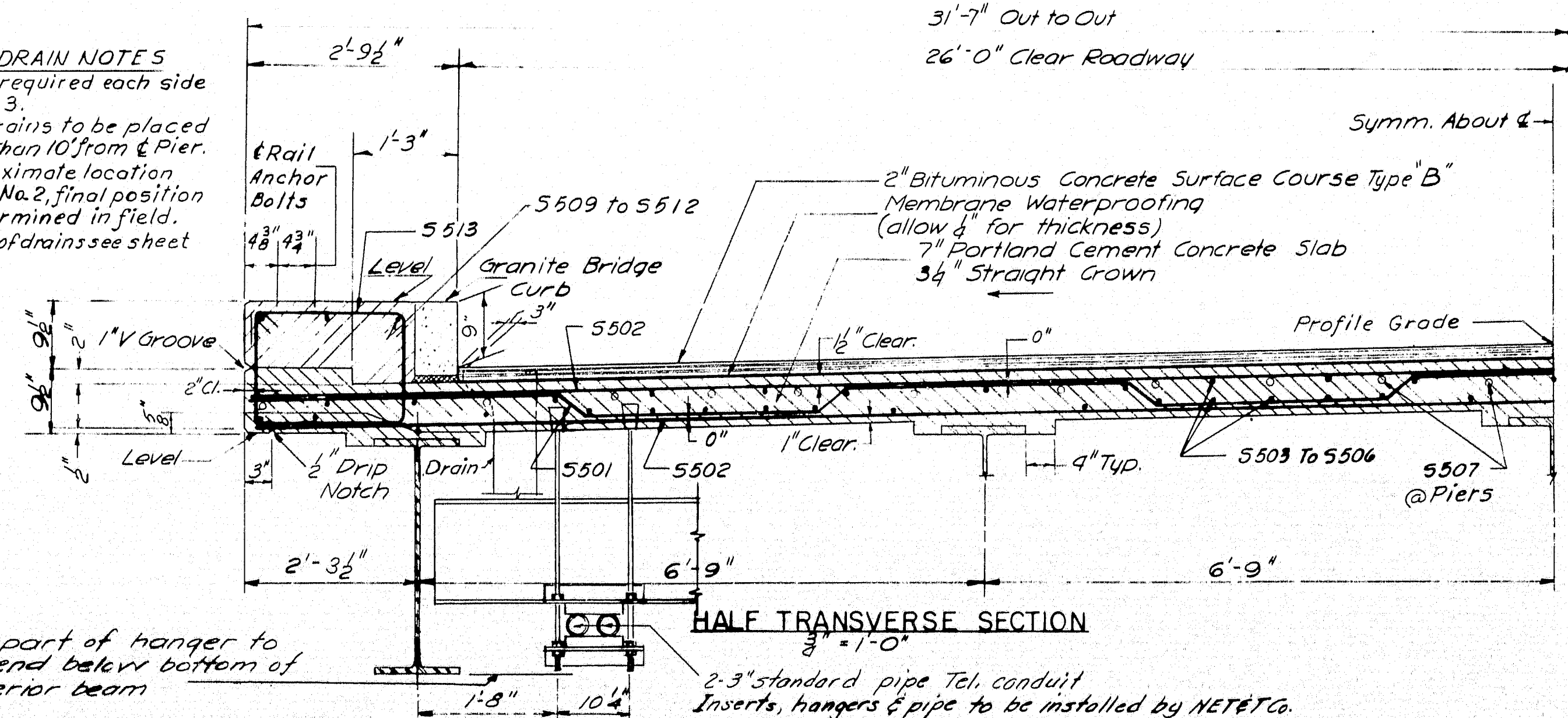
93-117 HOULTON (22)







- BRIDGE DRAIN NOTES**
- 3 drains required each side spans 1 & 3.
  - Bridge drains to be placed not less than 10' from Pier.
  - For approximate location see Sheet No. 2, final position to be determined in field.
  - For details of drains see sheet BD104-64.



**GENERAL SUPERSTRUCTURE NOTES:**

- At joints in curbs and granite bridge curbs over Piers use 4" preformed expansion joint filler. At all other curb joints, break the bond between concrete surfaces with a suitable grade of asphalt paint. Form V-groove on outside face of curb and slab at each vertical joint. Provide joints in granite bridge curb at curb C.J's.
- At low points in slabs place a plastic tube 1" Ø through the slab for drainage. Exact location to be determined in the field. Do not cover tube with waterproofing. This work to be incidental to contract items. Tubes shall extend 2" below bottom of slab. Place tubes to drip clear of bridge seats.
- For Bridge Rail, see Standard Details. Sheets BD107-64 & BD108-64.

Revised 5-24-65

HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
CONSULTING ENGINEERS

NEW YORK BOSTON KANSAS CITY

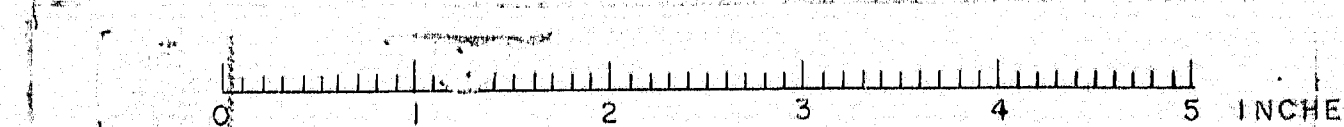
DESIGN - G.H.  
TRACE - R.R.N.  
CHECK - P.R.N.

BRIDGE NO.  
SURVEY -  
PLOT -

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

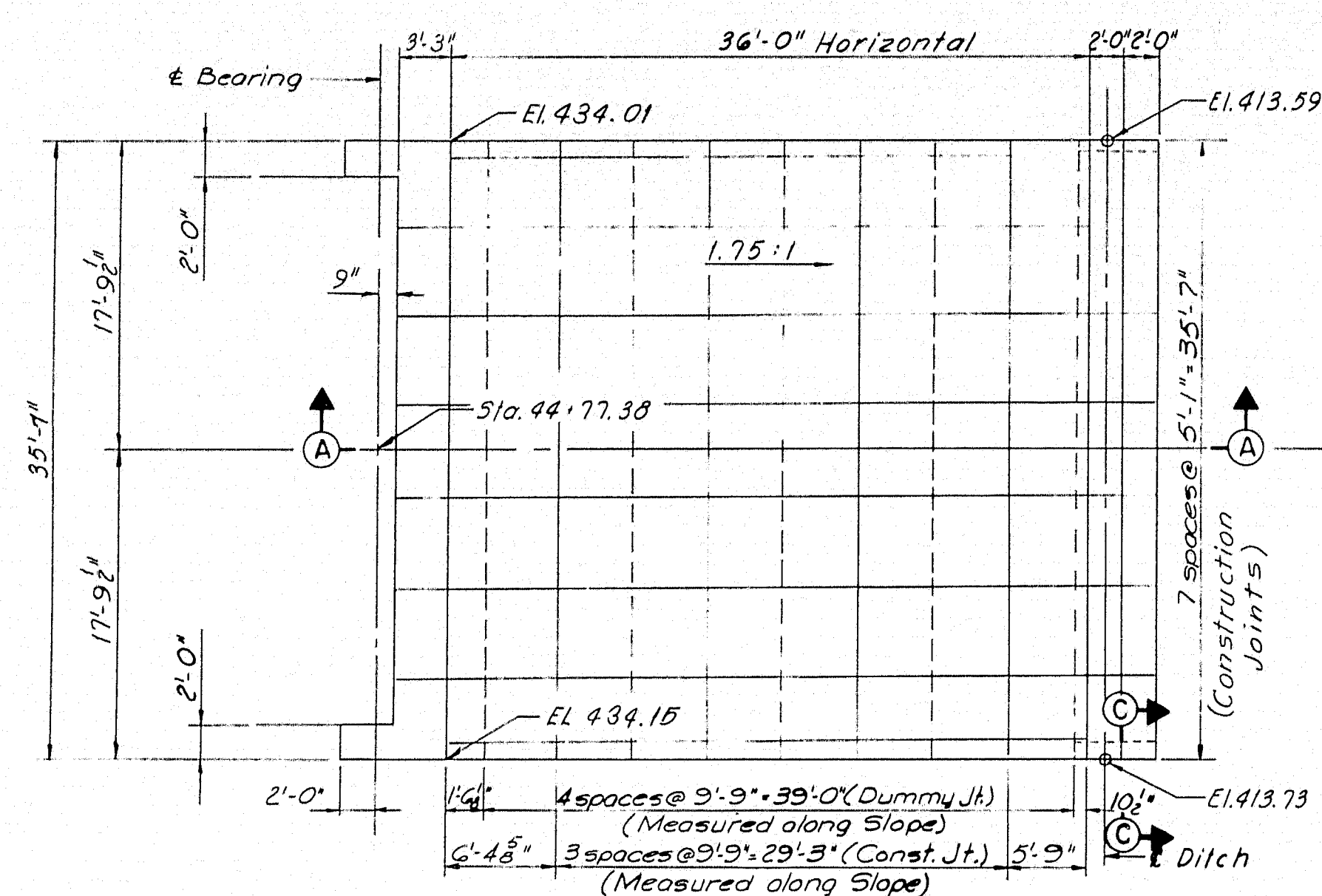
SHEET 18 OF 20 AUGUSTA, MAINE OCTOBER 1964

93-118 HOULTON (22)

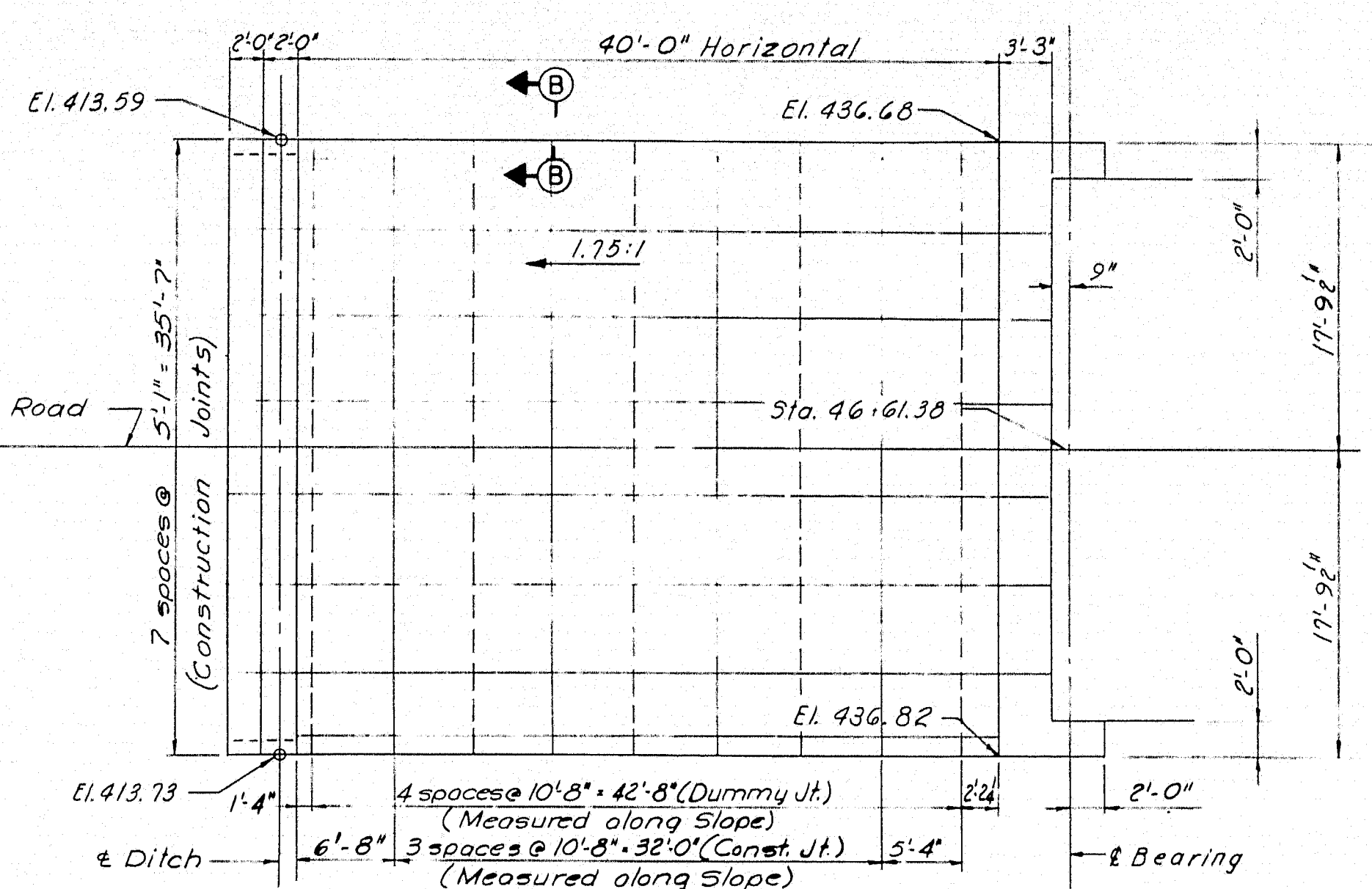




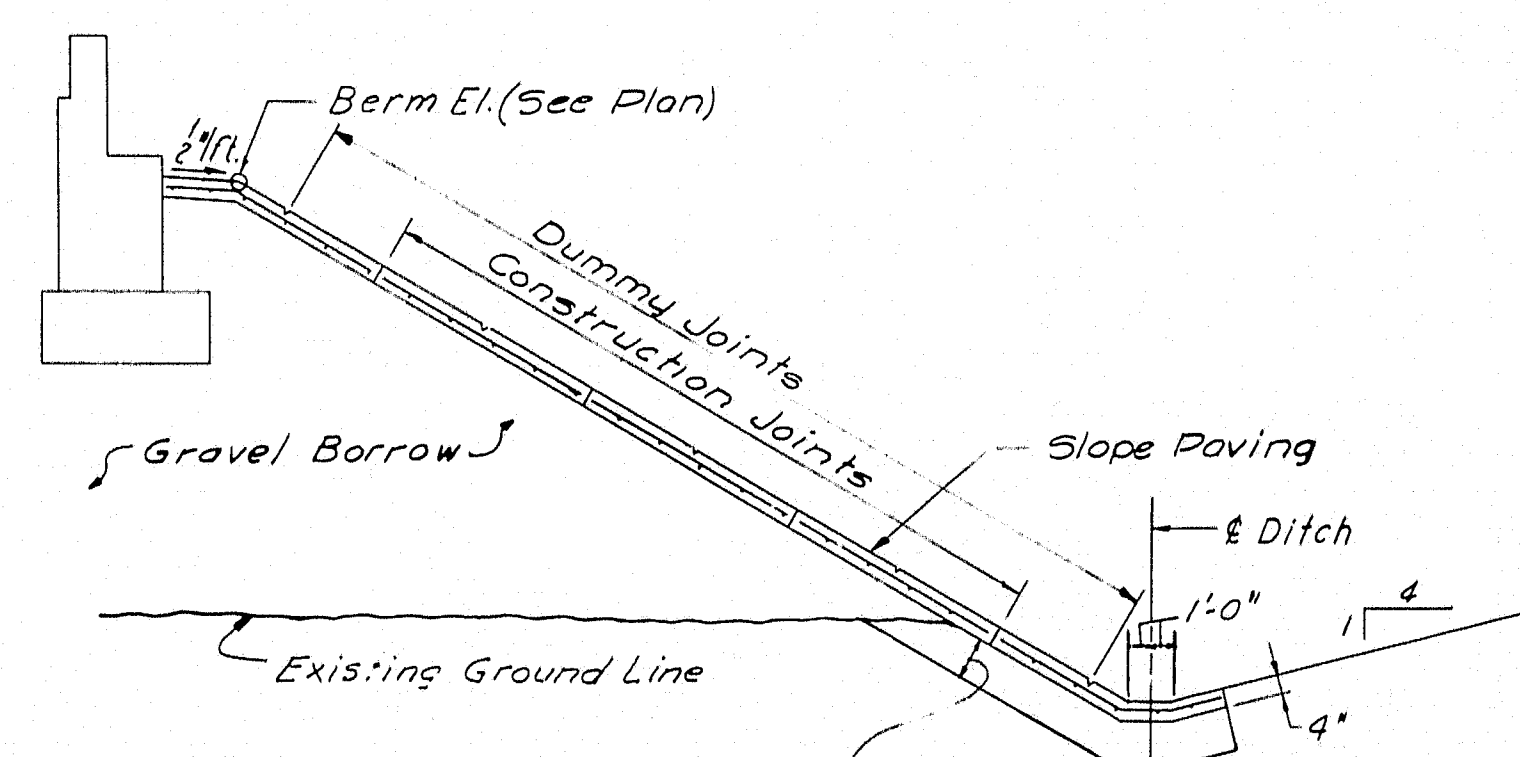
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(22)	19	20



PLAN - ABUTMENT #1  
1/8" = 1'-0"

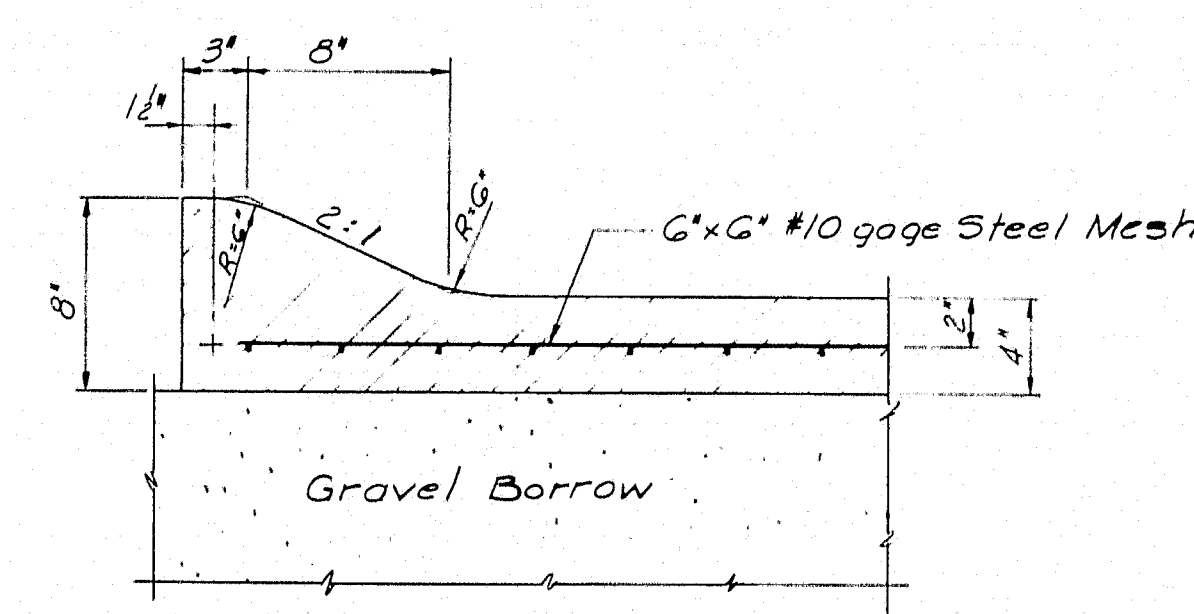


PLAN - ABUTMENT #2  
1/8" = 1'-0"

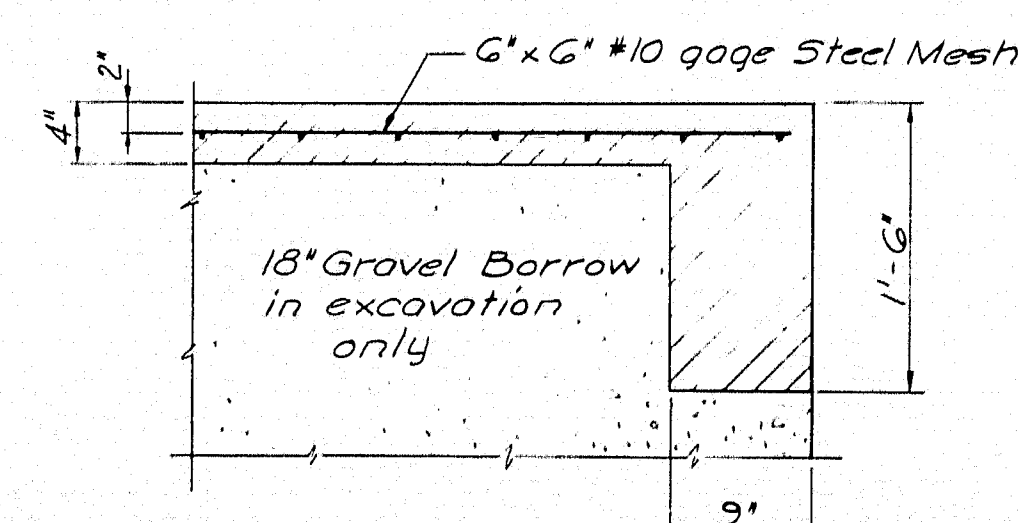


SECTION A-A  
1/8" = 1'-0"

Provide 18" of Gravel Borrow under slope paving in excavation only. The 18" of Gravel Borrow under the slope paving may be reduced or omitted, if in the opinion of the Engineer the existing material is suitable. Payment for any excavation required for slope paving will be made under the appropriate item for Structural Excavation, Piers Items 204-14 and 204-15.



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



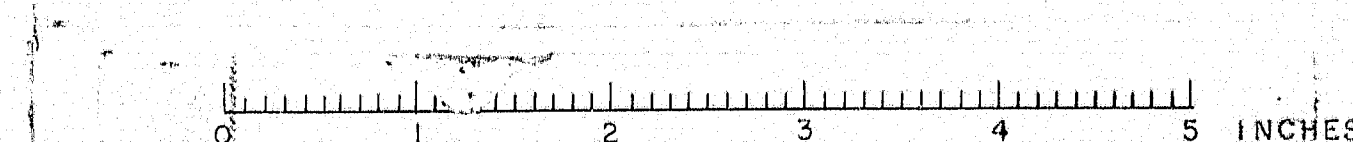
SECTION C-C  
1/8" = 1'-0"

- Notes:
- Slope paving shall conform to Section 808 of the Supplemental Specifications dated February 1960 and as modified in Oct. 1964.
  - Break band at construction joints with a coat of asphalt paint.
  - Reinforce with #10 gage 6"x6" steel mesh, not to pass through construction joints.
  - Dummy joints shall be made with a sidewalk edging tool to a depth of 4".

DESIGN - G.H.	DETAIL - JMS	BRIDGE NO.
TRACE -	SURVEY -	PLOT -
CHECK - P.R.N.		
STATE HIGHWAY COMMISSION BRIDGE DIVISION		
MOORE ROAD OVER INTERSTATE 95 IN THE TOWN OF HOULTON AROOSTOOK COUNTY		
SLOPE PAVING		
SHEET 19 OF 20 AUGUSTA, MAINE OCTOBER 1964		

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

93-119 HOULTON (22)

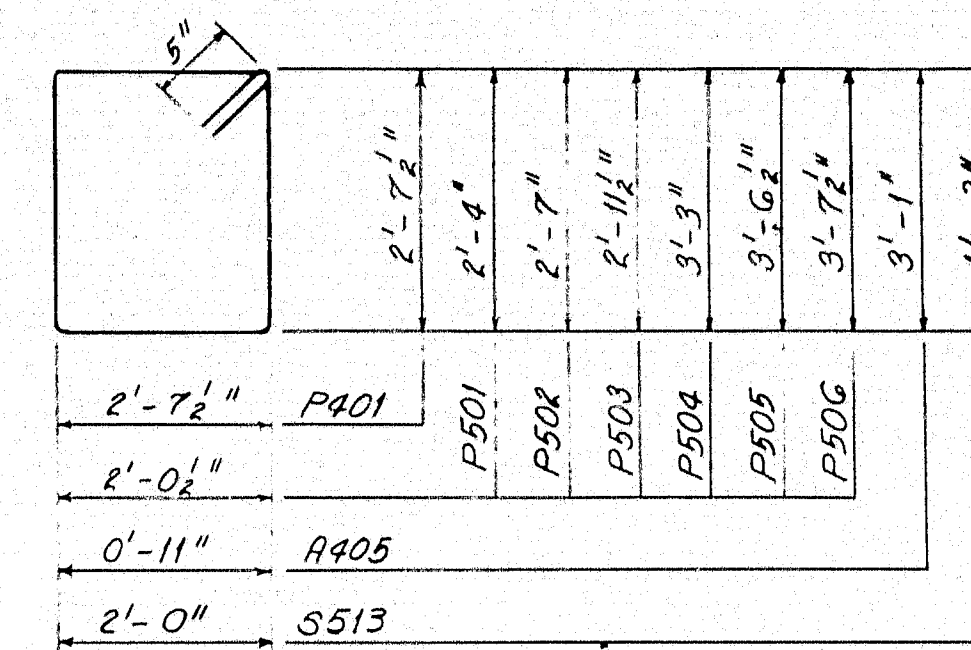




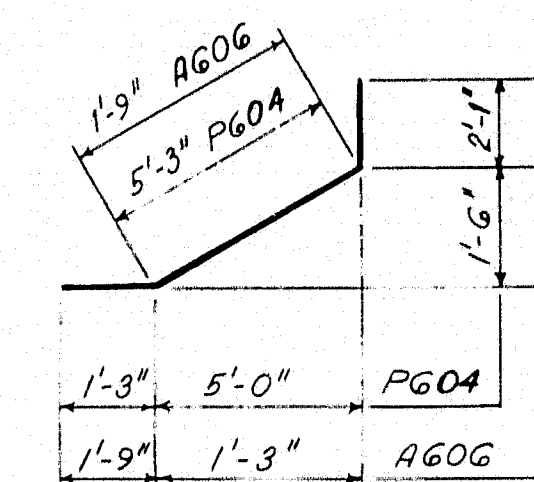
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1-95-9(22)	20	20

MARK	SIZE	NUMBER	LENGTH	LOCATION
<b>ABUTMENTS 1 &amp; 2</b>				
<b>STRAIGHT BARS</b>			Total is for Two Abutments	
A401	4	12	31'-3"	Backwall
A408	4	32	9'-8"	Wingwall Stem
A409	4	16	11'-6"	Wingwall Stem
A410	4	32	1'-8"	End Post
A501	5	70	4'-4"	Backwall
A502	5	24	31'-3"	Abutment Stem
A503	5	36	7'-6"	"
A504	5	42	3'-0"	Dowel-Abutment Stem
A505	5	130	2'-6"	" " & Wingwall Flg.
A506	5	24	11'-6"	Wingwall Stem
A507	5	80	4'-6"	"
A508	5	80	7'-8"	"
A509	5	8	5'-4"	Abutment Stem
A512	5	12	9'-8"	Wingwall Railing Safety Walk
A601	6	12	33'-1"	Abutment Flg
A602	6	50	5'-6"	"
A603	6	16	8'-3"	Wingwall Flg
A604	6	12	3'-9"	"
<b>BENT BARS</b>			Total is for Two Abutments	
A102	4	20	3'-2"	Bearing Pads
A403	4	12	4'-4"	"
A404	4	8	5'-3"	"
A405	4	12	8'-10"	Wingwall Railing End Post
A511	5	44	5'-0"	Wingwall Railing Safety Walk
A510	5	42	8'-10"	Abutment Stem
A606	6	36	3'-6"	Approach Slab Seat
<b>PIERS 1 &amp; 2</b>				
<b>STRAIGHT BARS</b>			Total is for Two Piers Except as Noted	
P601	6	28	5'-6"	Pier # 2 Footing
P602	6	4	30'-2"	Pier Cap
P603	6	4	28'-0"	"
P701	7	40	6'-6"	Pier 1 Footing
P901	9	24	22'-0"	Columns - Pier 2
P902	9	24	21'-3"	" " 1
P903	9	16	12'-0"	" " 1
P904	9	64	5'-7"	" Dowels
P1001	10	8	30'-2"	Pier Cap Top
P1101	11	16	12'-0"	" " "
P1003	10	14	20'-0"	" " Bottom
<b>BENT BARS</b>			Total is for Two Piers	
P401	4	78	11'-4"	Column Ties
P501	5	8	9'-7"	Pier Cap Stirrups
P502	5	8	10'-1"	" " "
P503	5	8	10'-10"	" " "
P504	5	8	11'-5"	" " "
P505	5	8	12'-0"	" " "
P506	5	76	12'-2"	" " "
P604	6	16	8'-7"	Pier Cap

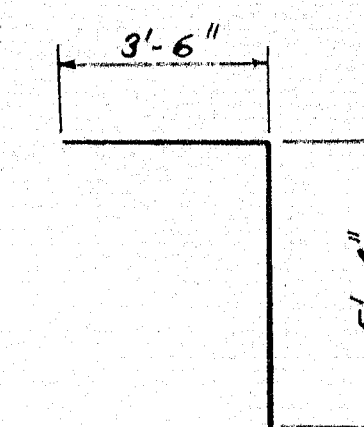
MARK	SIZE	NUMBER	LENGTH	LOCATION
<b>SUPERSTRUCTURE</b>				
<b>STRAIGHT BARS</b>			Safety Walk	
S509	5	36	18'-5"	"
S510	5	6	19'-9"	"
S511	5	12	18'-2"	"
S512	5	6	18'-10"	"
S502	5	372	31'-3"	Transverse Top & Bottom Deck Slab
S503	5	47	38'-0"	Longitudinal- " " " "
S504	5	55	40'-3"	" " " " " "
S505	5	110	36'-11"	" " " " " "
S506	5	55	37'-2"	" " " " " "
S507	5	44	24'-0"	Longitudinal Top @ Piers
S508	5	8	38'-6"	Railing Parapet & Safety Wall
<b>BENT BARS</b>				
S501	5	186	32'-4"	Truss Rod Deck Slab
S513	5	380	7'-4"	Safety Walk
<b>APPROACH SLAB</b>			Total is for two Approach Slabs	
AS601	6	200	14'-6"	
AS401	4	44	24'-6"	



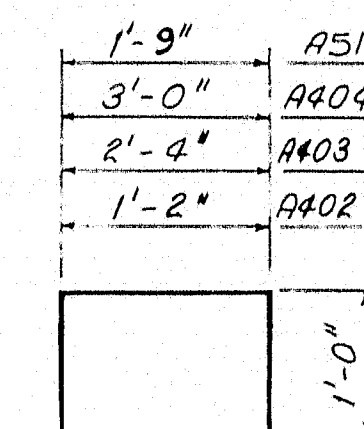
A405, A406, P401, P501 THRU P506, S513



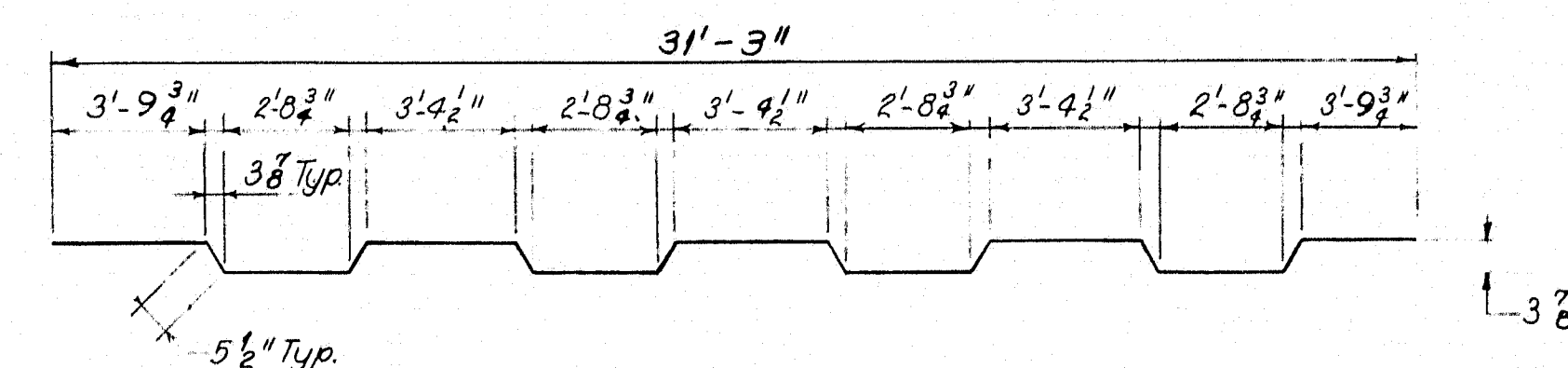
A606, P604



A510



A402, A403, A404, A511



S501

**NOTES:**

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

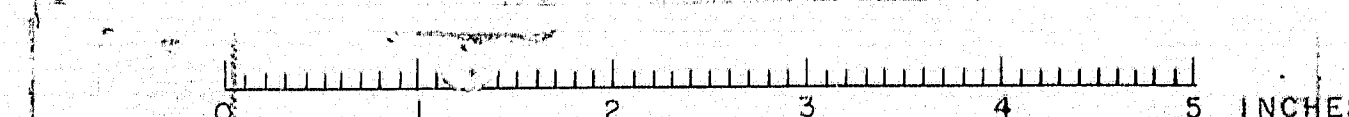
Revised 5-24-65

HOWARD, NEEDLES, TAMMEN & BERGENDOFF  
CONSULTING ENGINEERS

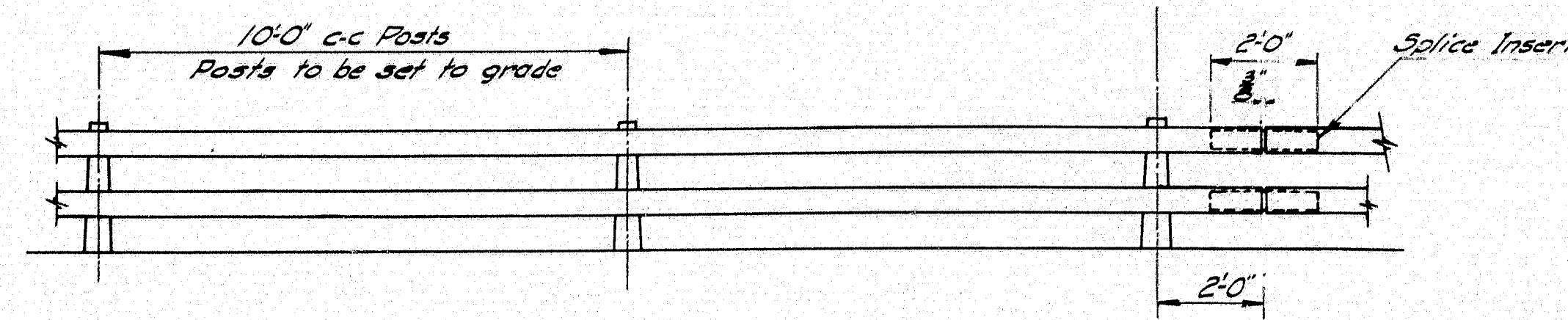
NEW YORK BOSTON KANSAS CITY

DESIGN- G. H. TRACE- CHECK- P. R. N.	DETAIL- RPK SURVEY- PLOT-	BRIDGE NO. STATE HIGHWAY COMMISSION BRIDGE DIVISION MOORE ROAD OVER INTERSTATE 95 IN THE TOWN OF HOULTON AROOSTOOK COUNTY REINFORCING STEEL
SHEET 20 OF 20 AUGUSTA, MAINE OCTOBER, 1964		

93-120 HOULTON (22)

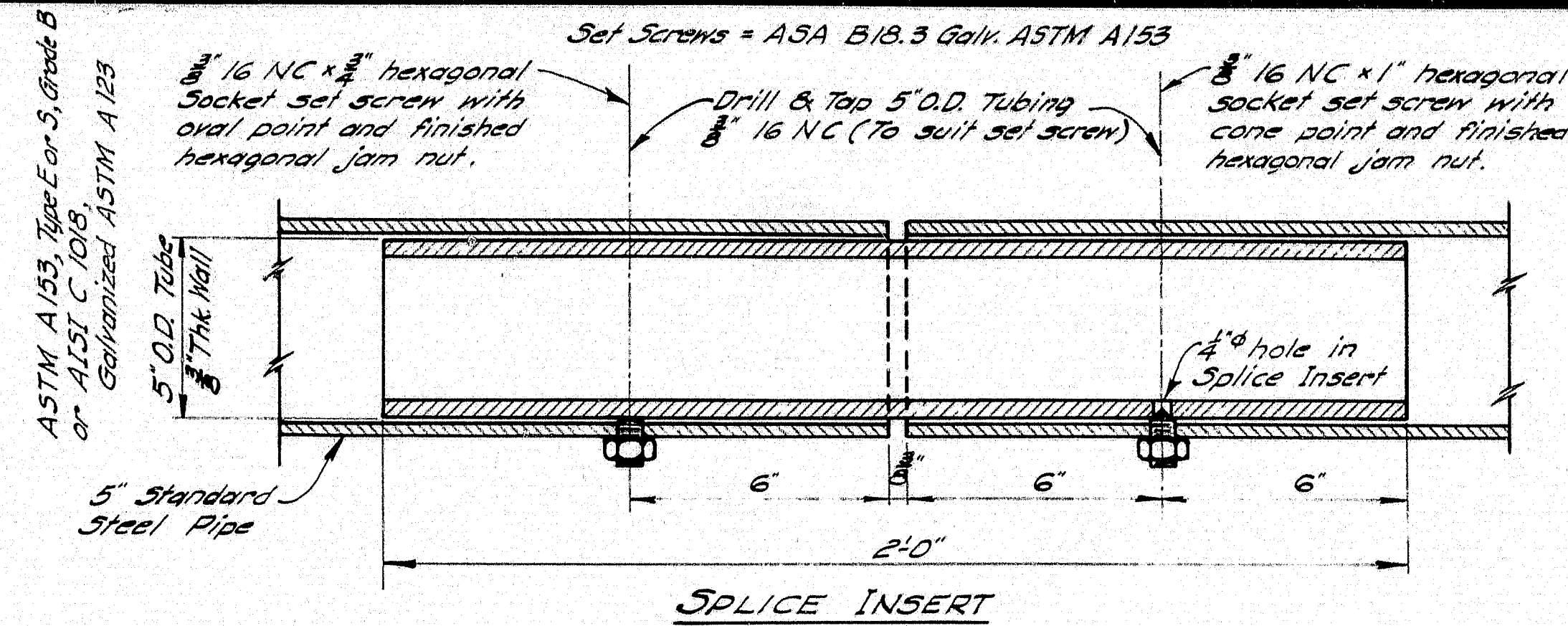




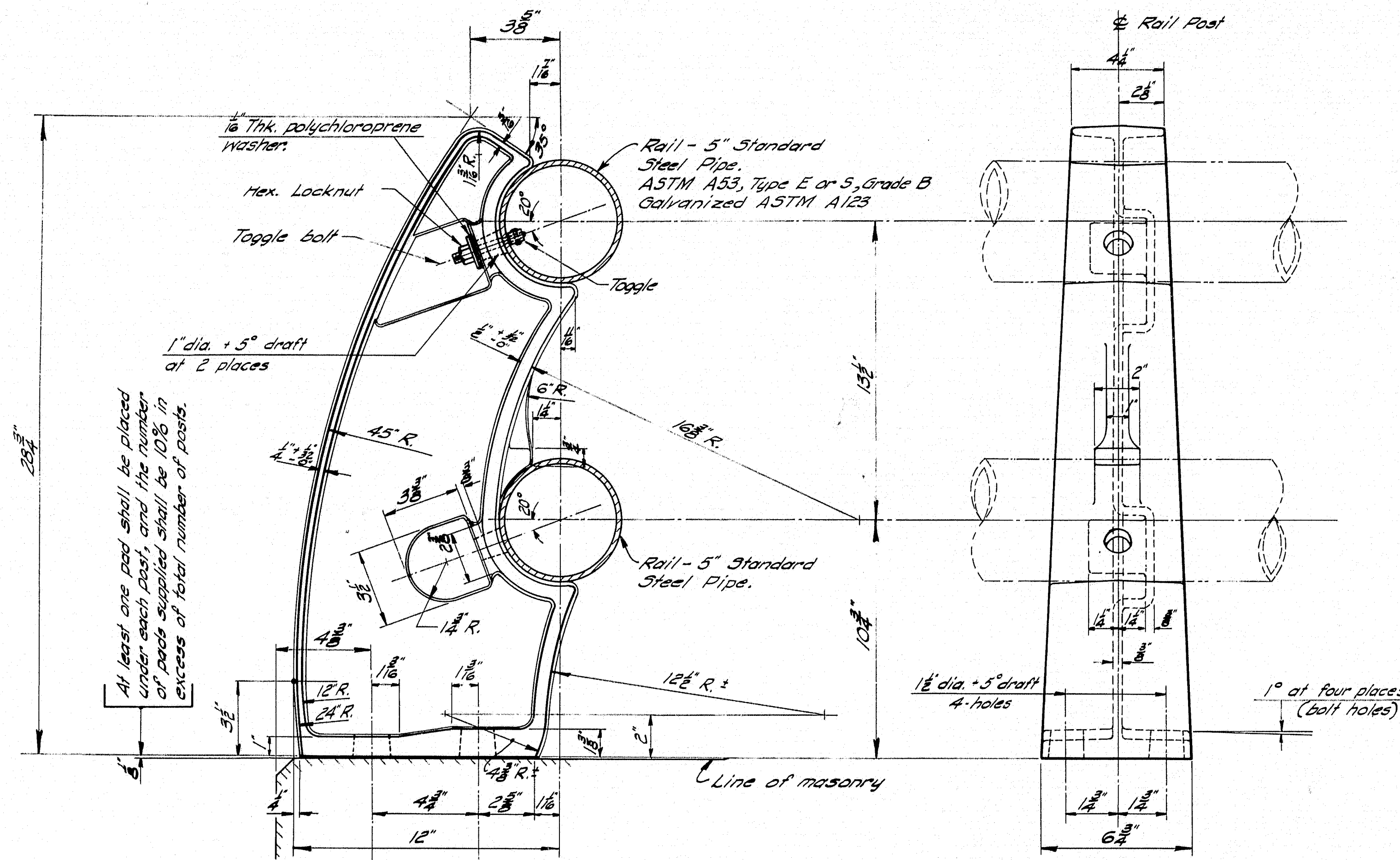


**RAIL ELEVATION**

Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.



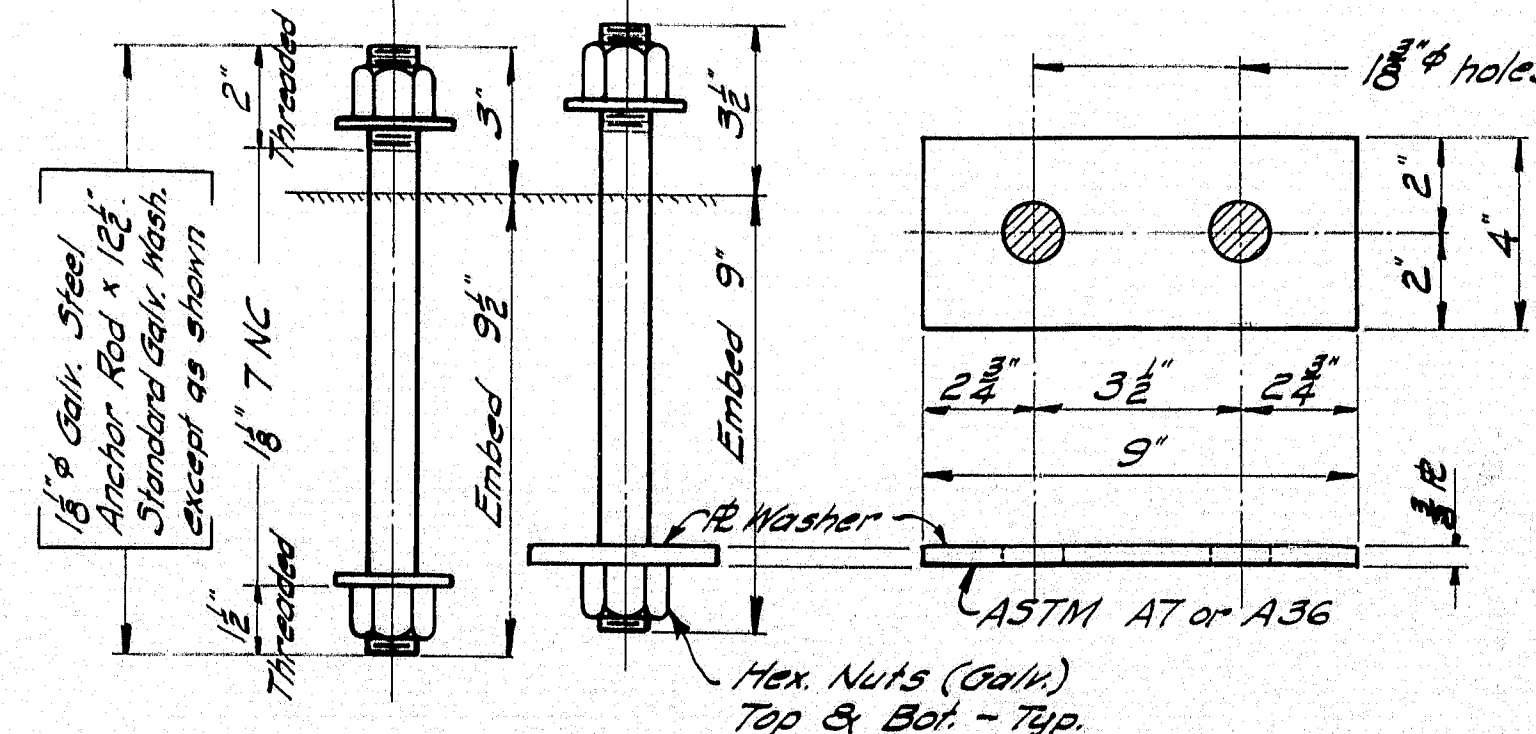
**SPlice INSERT**



**RAIL POST**

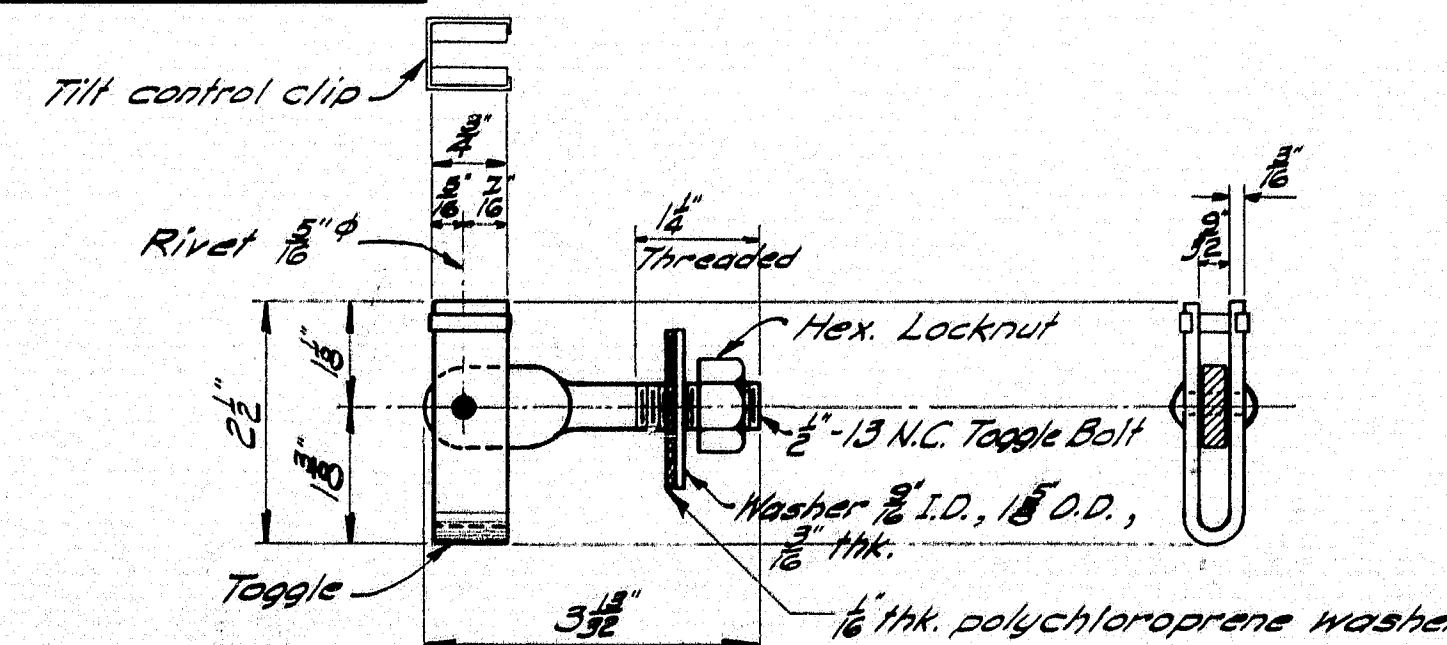
ASTM A27, Grade 65-35, Galvanized ASTM A153

**FRONT ELEVATION**



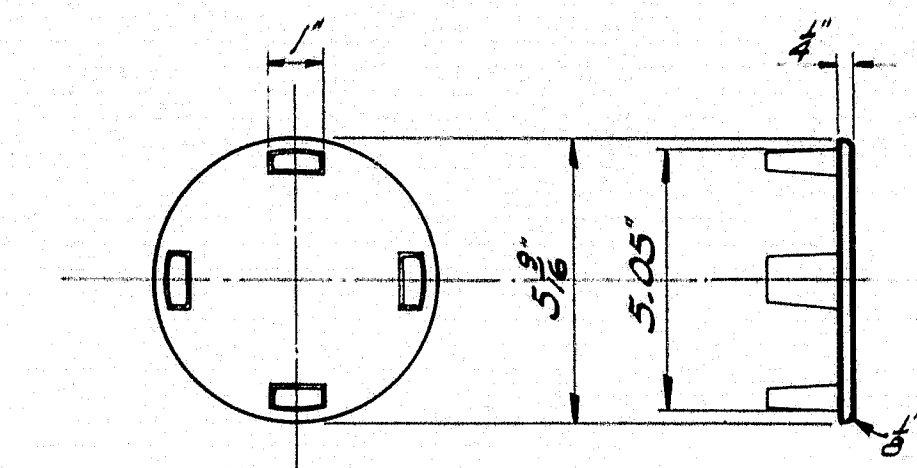
**RAIL POST ANCHORAGE**

Bolts, Nuts, & Std. Washers = ASTM A325 Galvanized ASTM A153



**TOGGLE BOLT DETAIL**

Cadmium Plate metal parts ASTM A165-55, Type NS, .0005" thick



**RAIL CAP**

ASTM A27, Grade 65-35, Galv. ASTM A153

**PAD**  
At each rail post  
See Article 702-80 Supplemental Specifications of Feb. 1960.

**DESIGN SPECIFICATIONS**

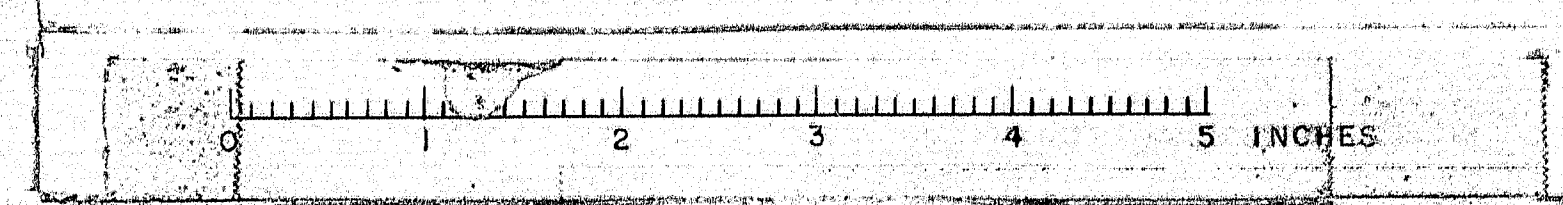
A.A.S.H.O. Interim Specifications Int. 1 (64)

MAINE STATE HIGHWAY COMMISSION  
AUGUSTA, MAINE

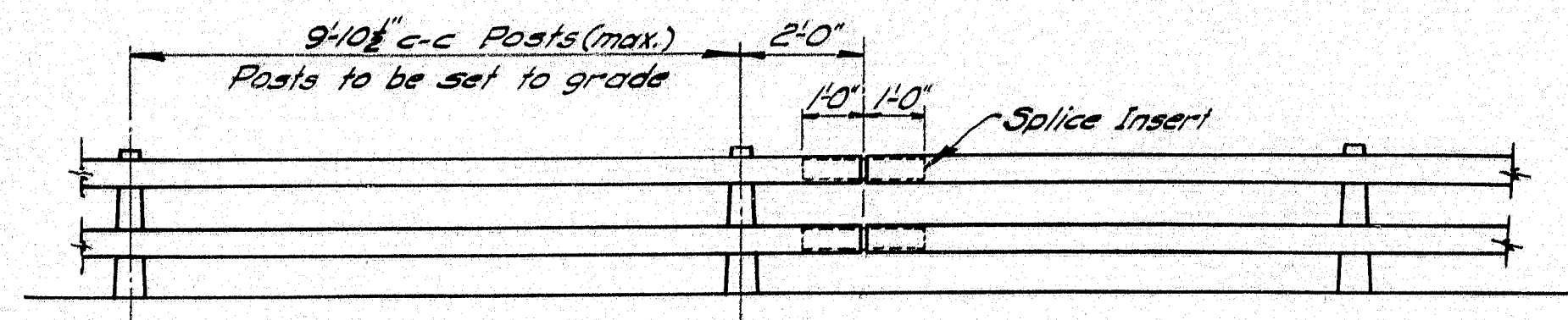
**STANDARD DETAILS**  
(BD 107 - 64)  
**STEEL RAIL**  
(2-BAR PIPE RAIL)  
CAST POST

OCT. 1964

**93-121**





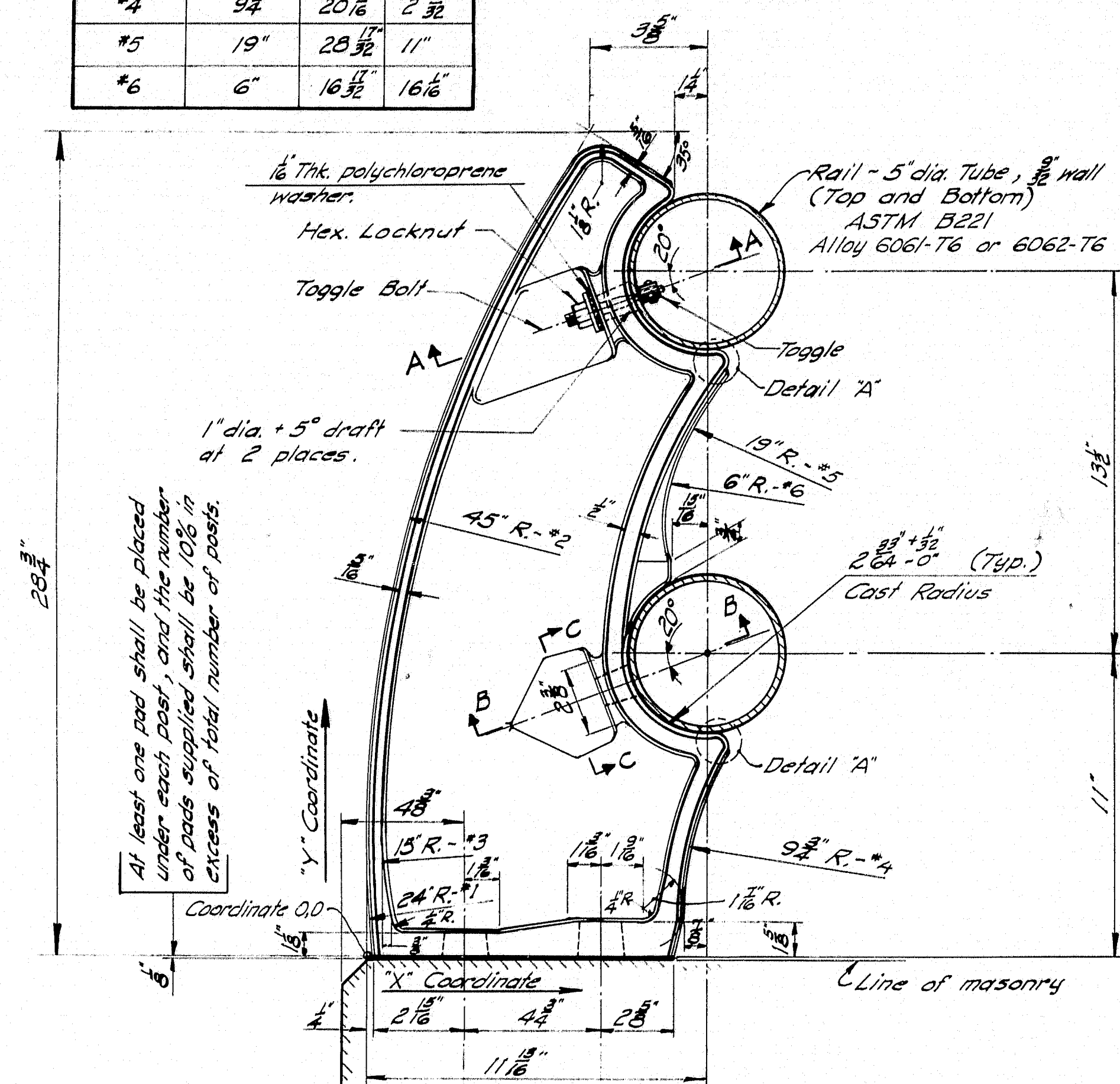


**RAIL ELEVATION**

Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.

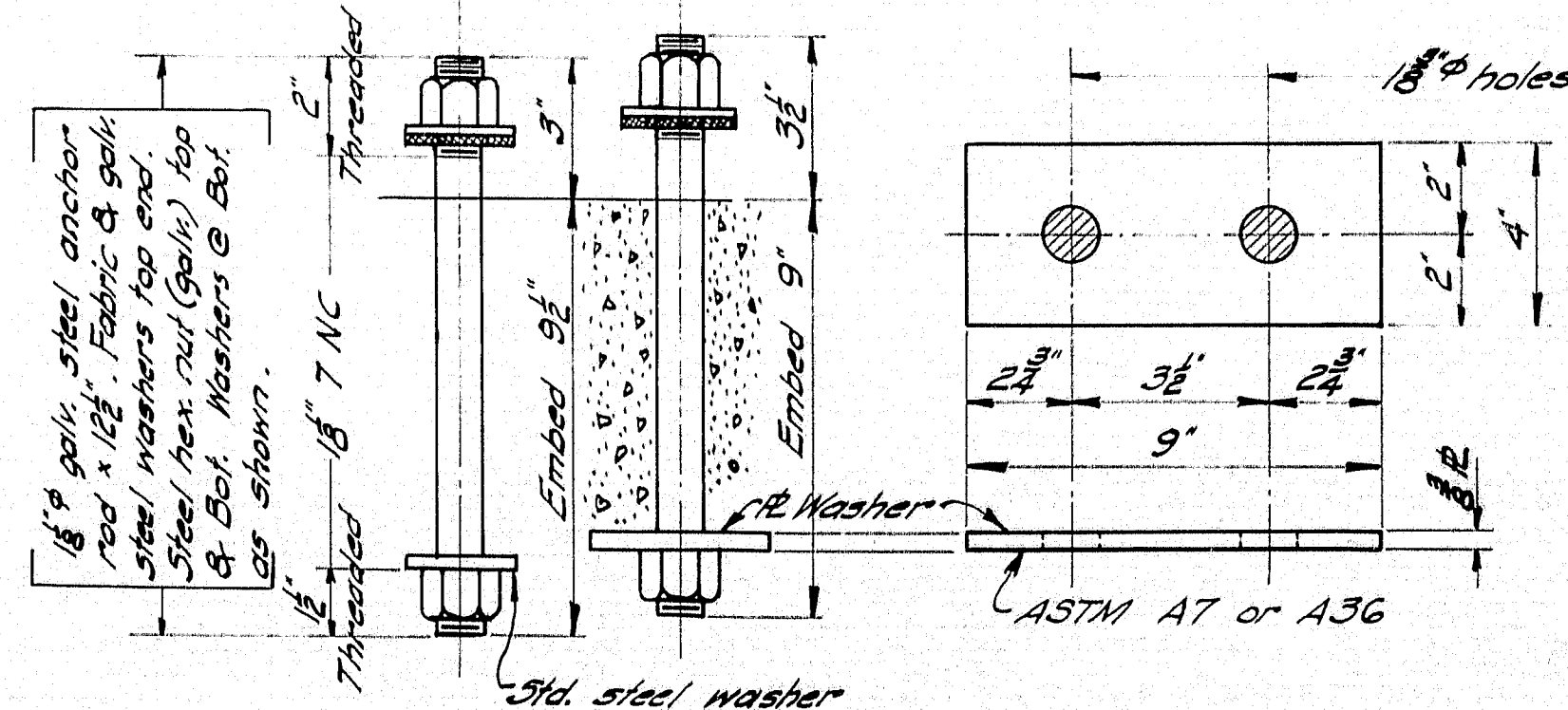
**ORIGIN LOCATION-PRINCIPAL CURVES**

Curve	Radius "X"	"Y"
*1	24"	3 1/2"
*2	45"	2 3/4"
*3	15"	4 3/4"
*4	9 1/4"	2 3/4"
*5	19"	11"
*6	6"	16 1/2"



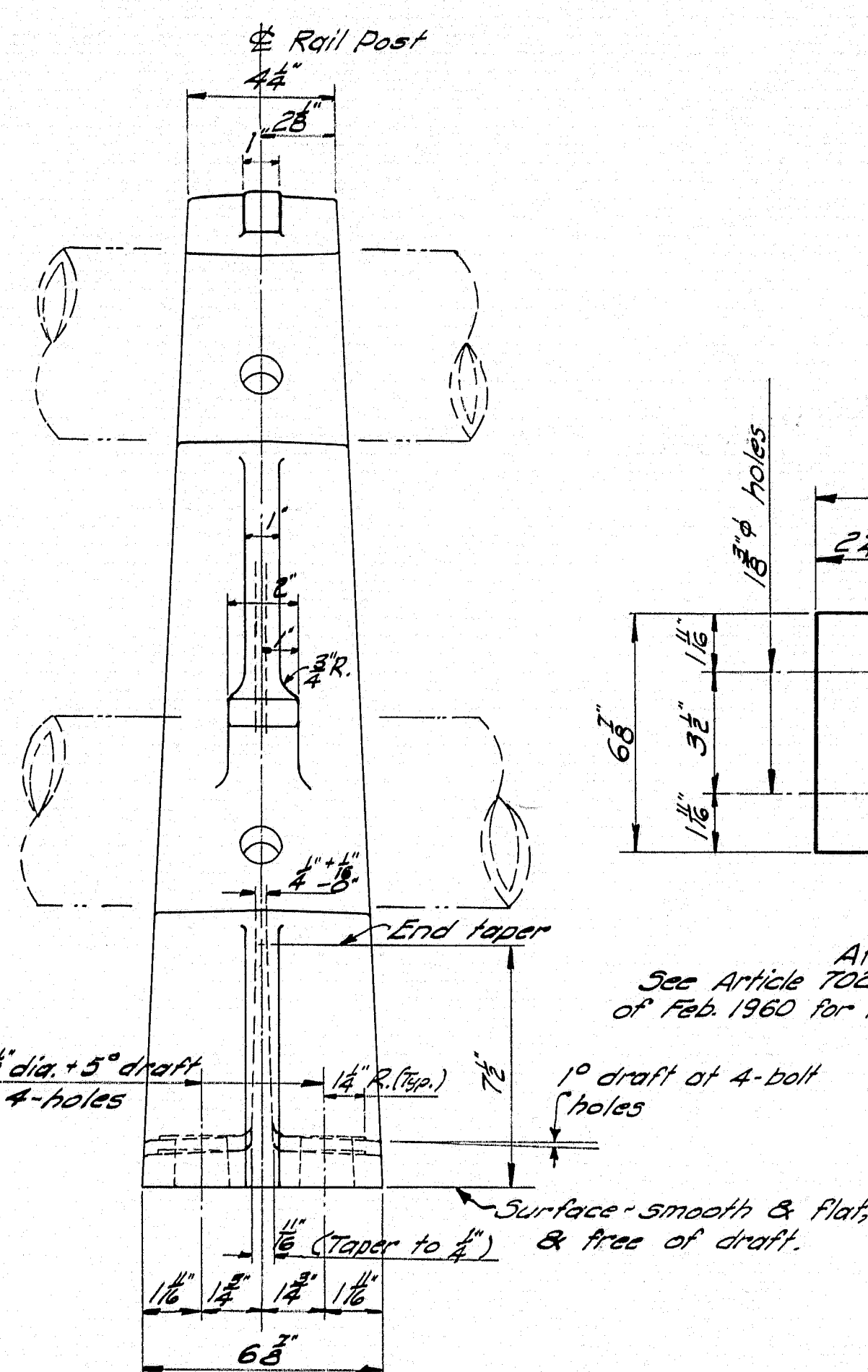
**RAIL POST**

Aluminum Association Alloy A344-T4

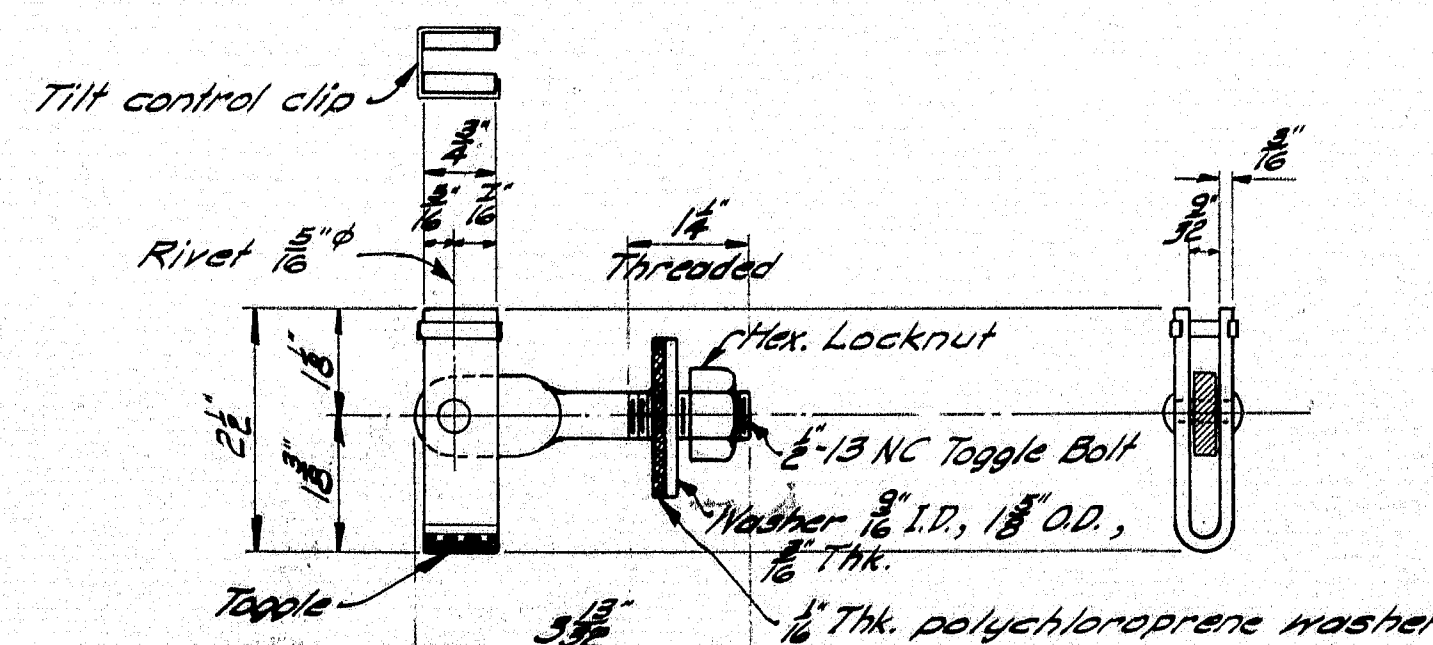


**RAIL POST ANCHORAGE**

Bolts, Nuts & Std. Washers = ASTM A325 Galvanized ASTM A153

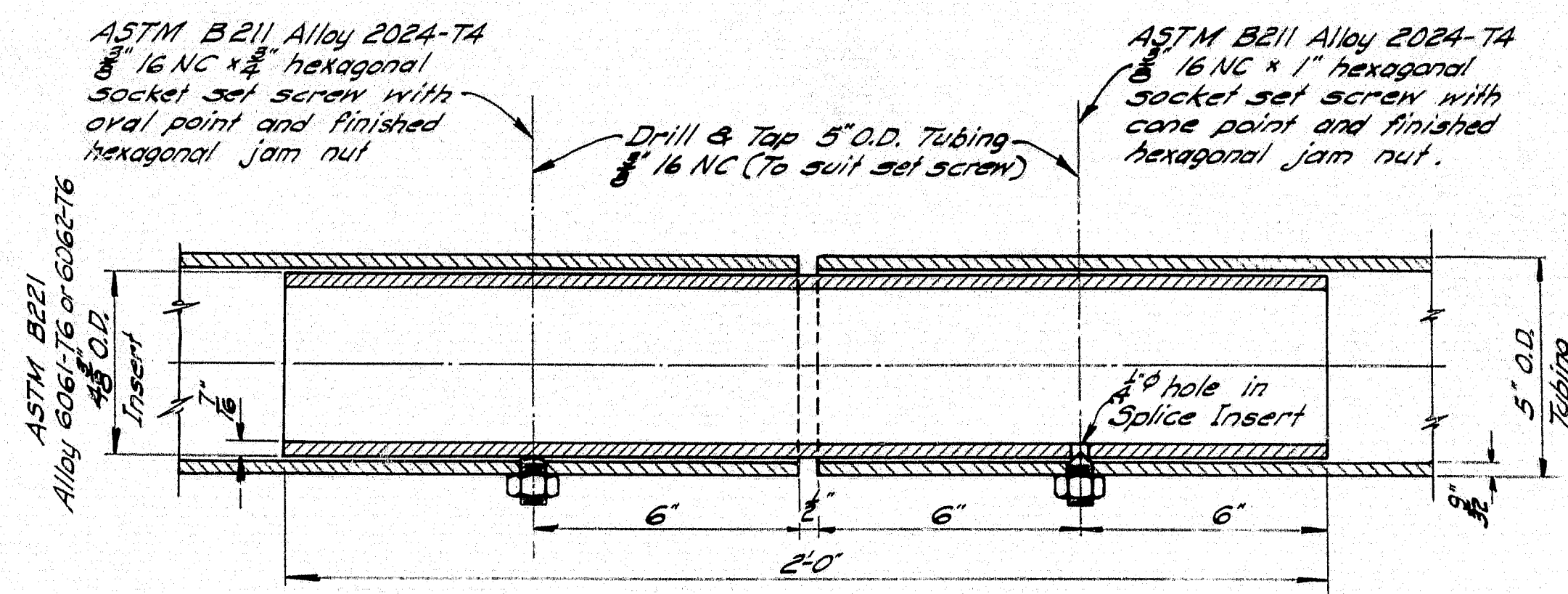


**FRONT ELEVATION**

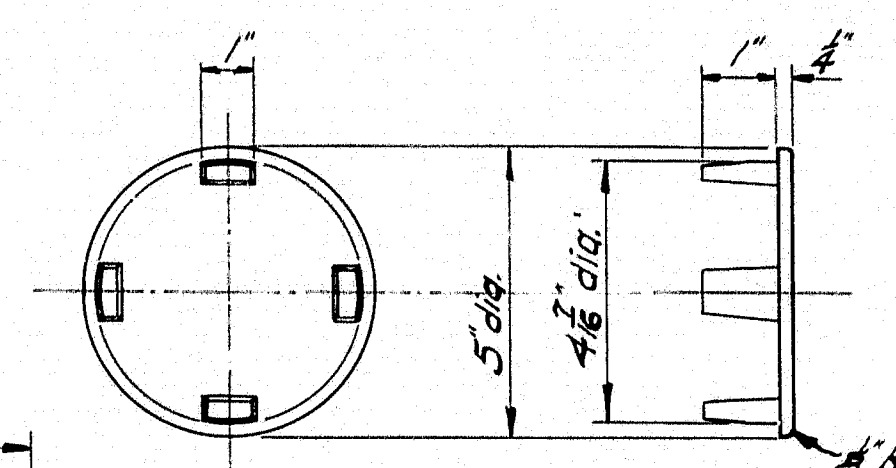


**TOGGLE BOLT DETAIL**

Cadmium Plate metal parts ASTM A165-35, Type N3, .0005" thick

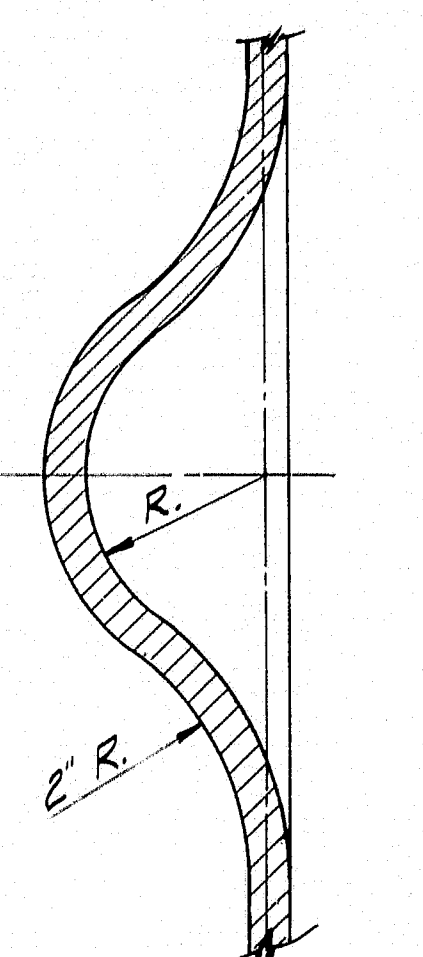


**SPLICE**

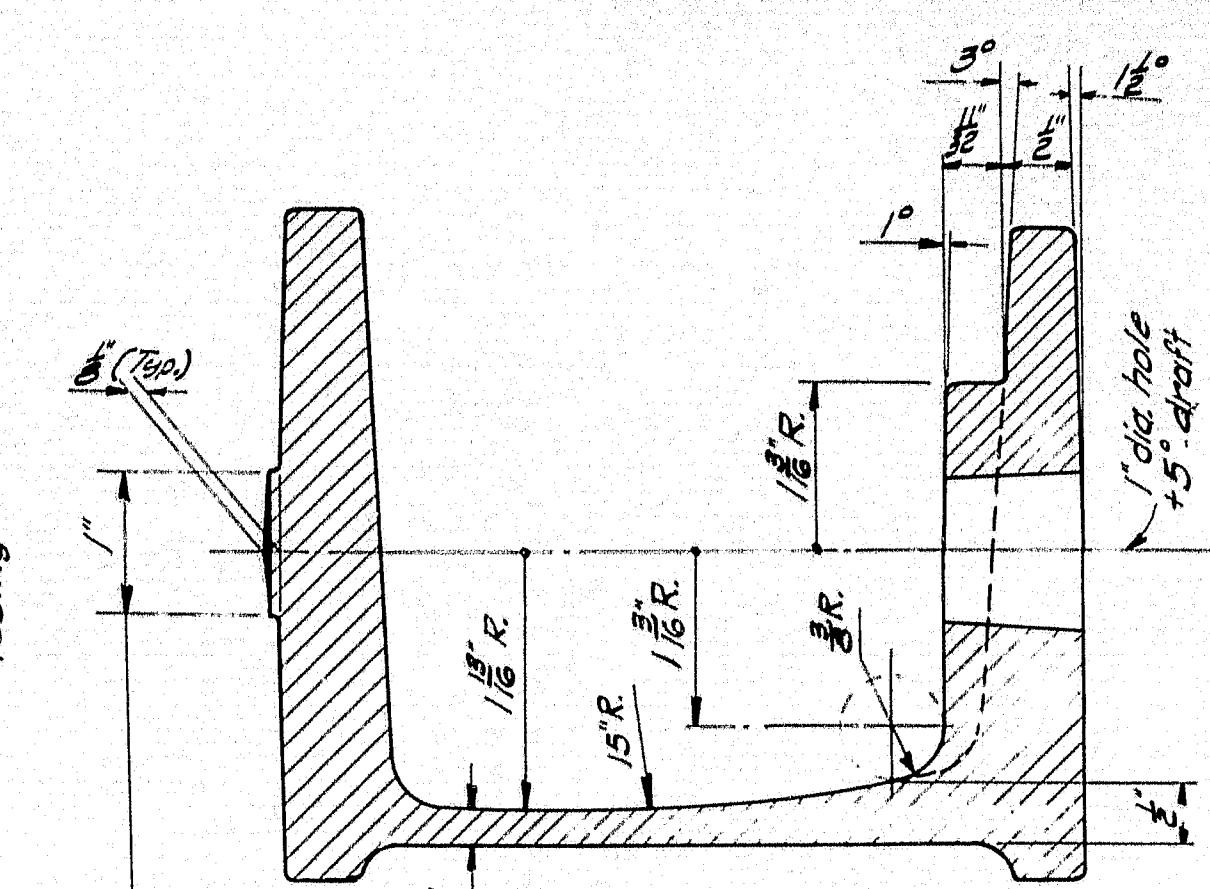


**RAIL CAP**

ASTM B26 Alloy 5G TO A or S5A

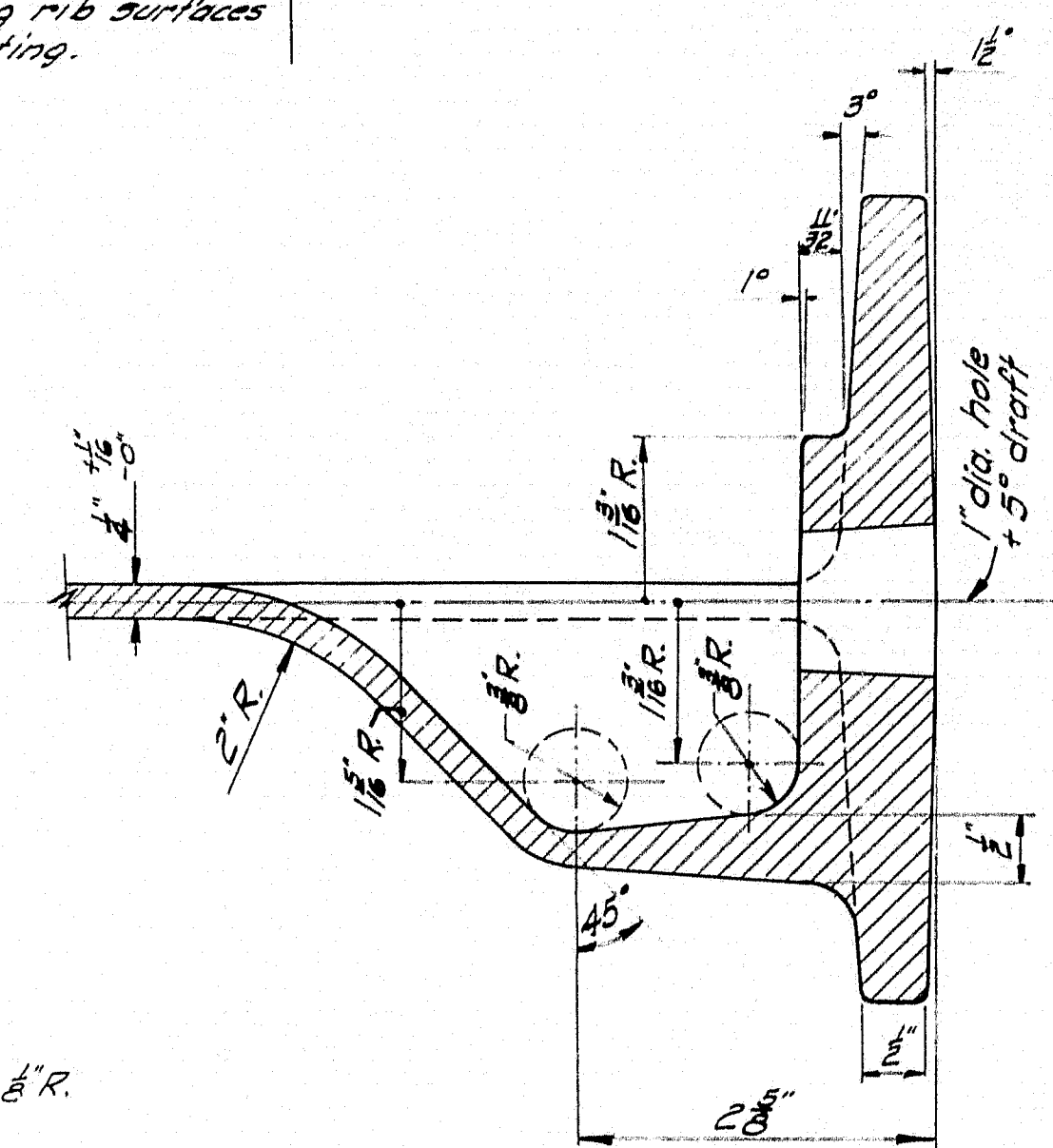


**SECTION C-C**



**SECTION A-A**

Casting to be supplied with a 60 grit belt grind finish on all gating rib surfaces around entire casting.



**SECTION B-B**

**DESIGN SPECIFICATIONS**

A.A.S.H.O. Interim Specifications Int. I (64).

A344-T4 Alloy to meet the Specification outlined by Aluminum Association.

ALTERATION:

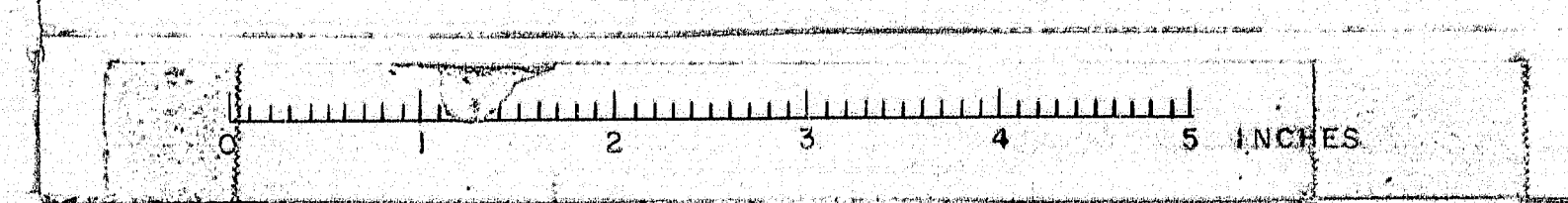
- Added Detail 'A' and Origin Location-Principal Curves. Nov. 19, 1964.

MAINE STATE HIGHWAY COMMISSION  
AUGUSTA, MAINE

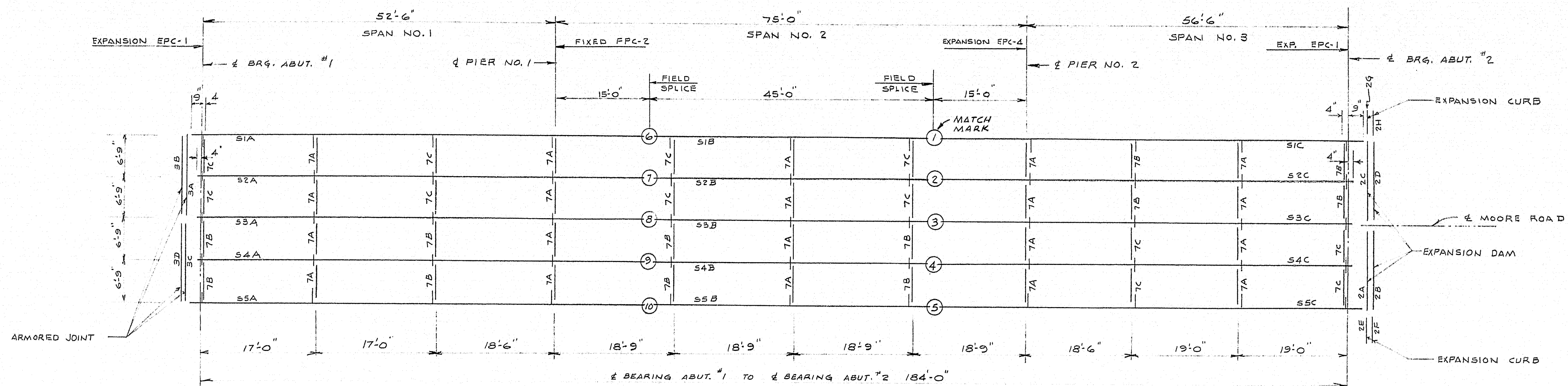
**STANDARD DETAILS**  
(BD 108-64)  
**ALUMINUM RAIL**  
2-BAR (TUBE RAIL)  
CAST POST

OCT. 1964

93-122







NORTH

# ERECTION DIAGRAM

USE  $\frac{3}{4}$ "  $\phi$  M. BOLTS @ DIAPHRAGMS.  
USE  $\frac{3}{8}$ "  $\phi$  H.S. BOLTS ELSEWHERE.

## ERECTION DIAGRAM

MEGQUIER & JONES CORP.  
33 PEARL ST. PORTLAND, MAINE

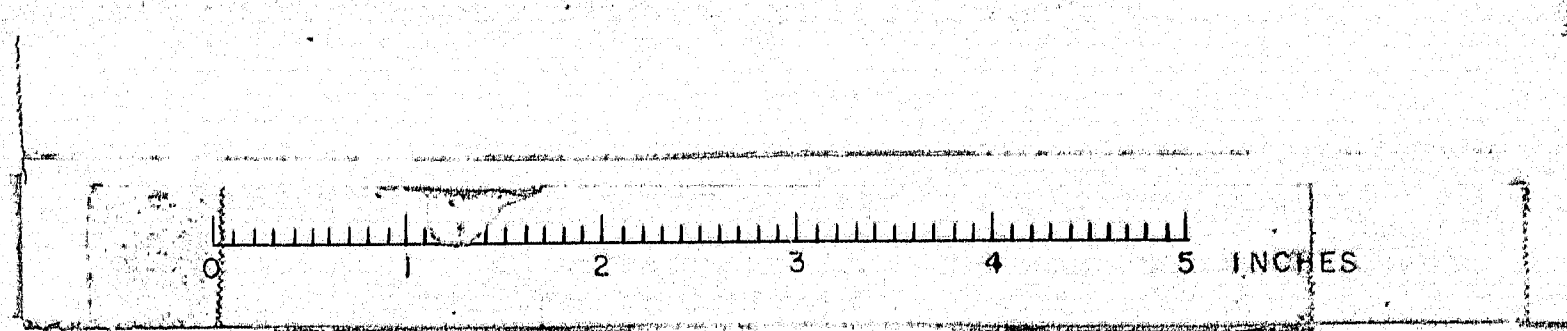
MOORE ROAD BRIDGE OVER  
INTERSTATE 95 HOULTON, ME.

CUSTOMER CALLAHAN BROTHERS, INC.  
ARCHITECT MAINE STATE HIGHWAY COMM.

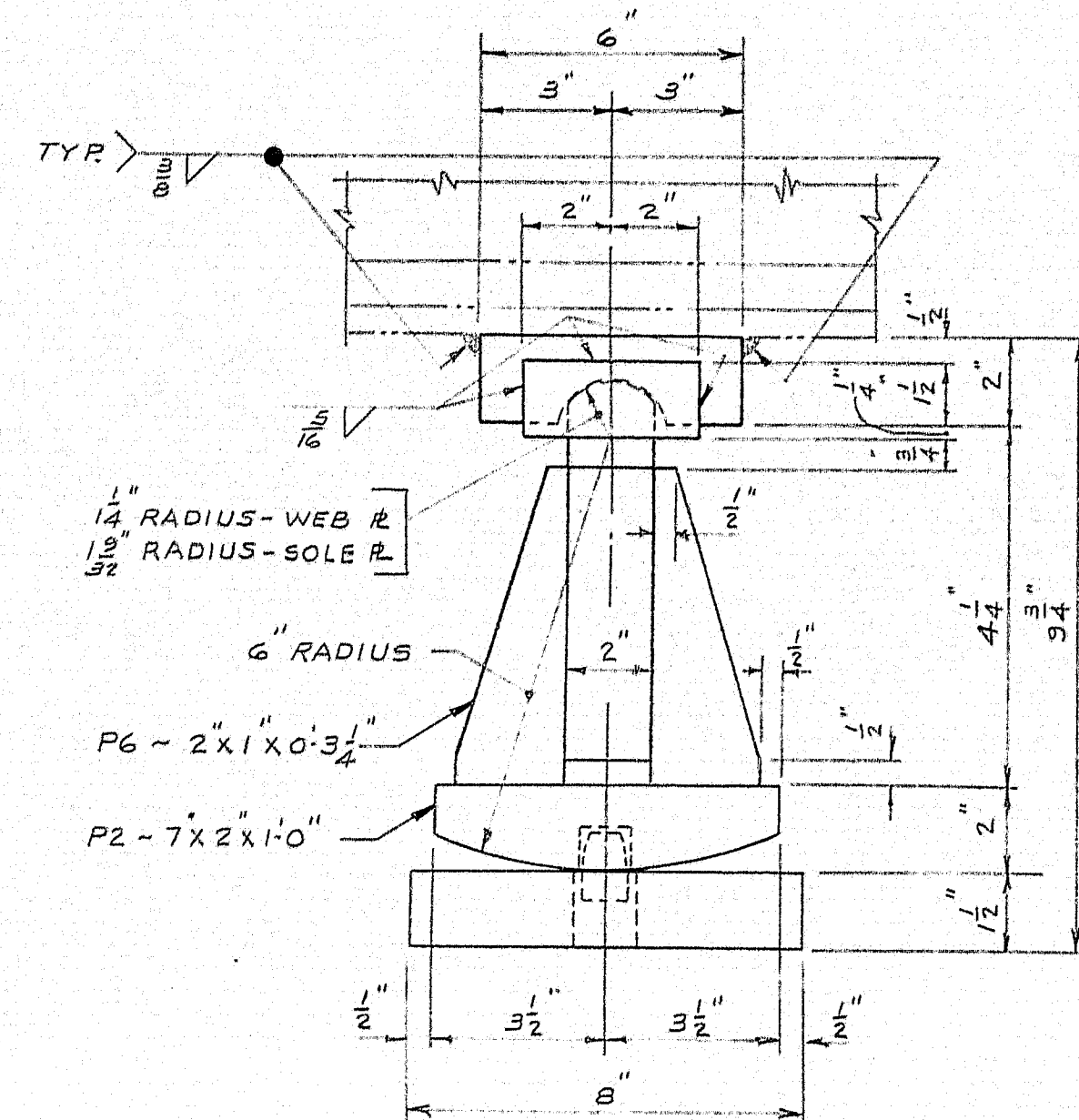
DRAWN	SPH	2-15-65
REVISION	SPH	3-10-65
REVISION		
REVISION		

ORDER NO. 4067 DWG. NO. E1

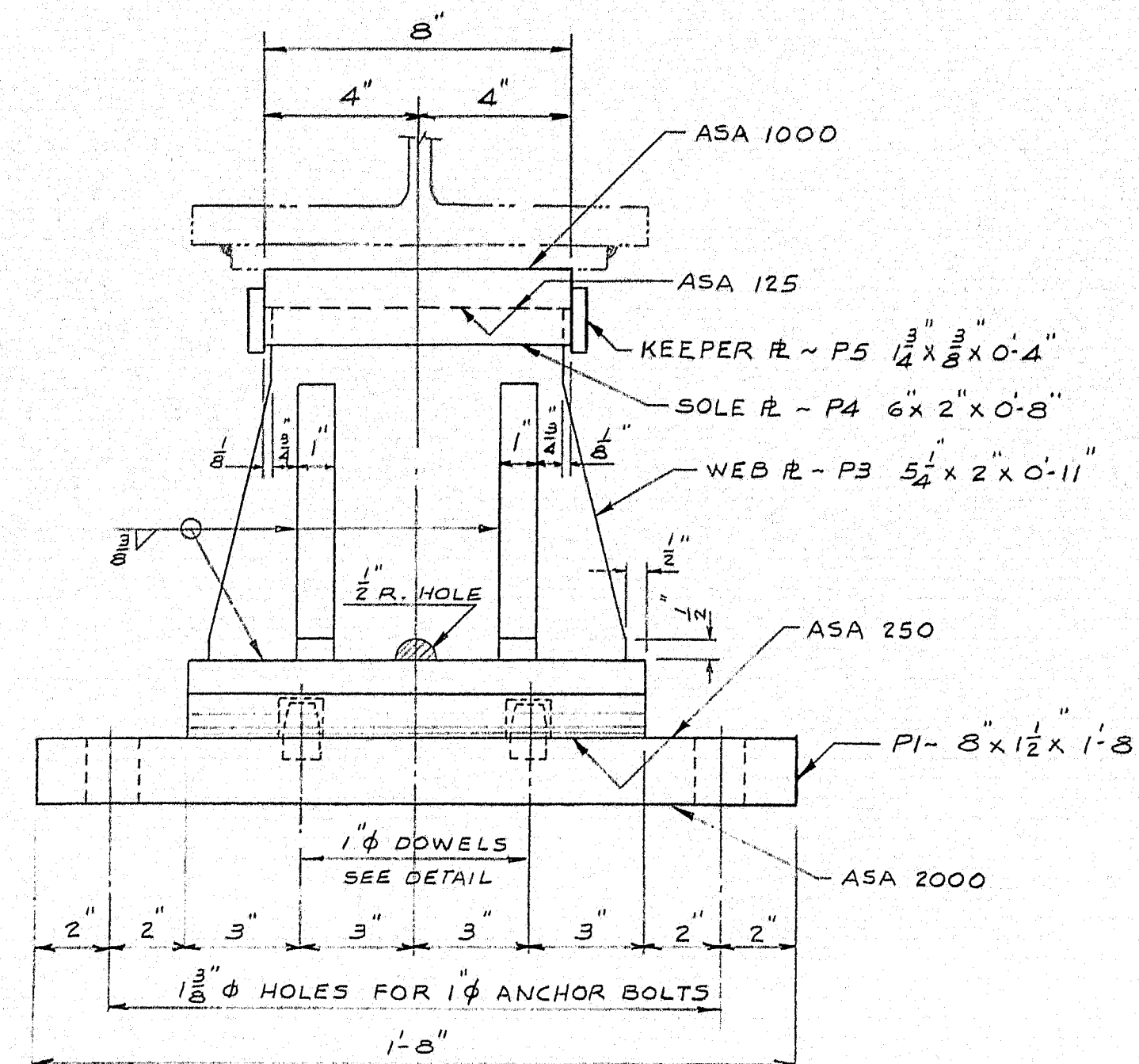
93-123



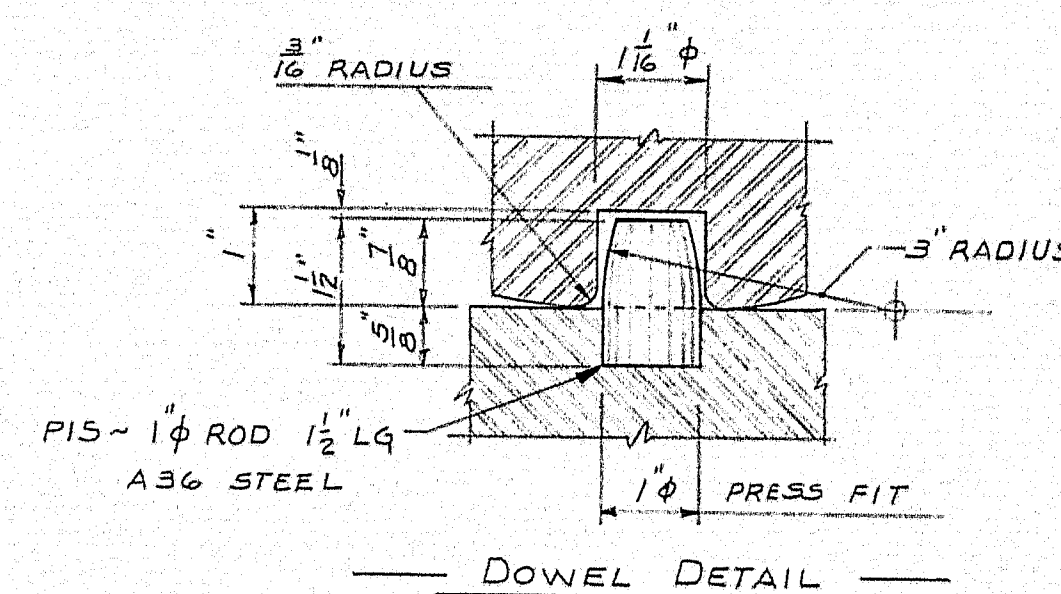




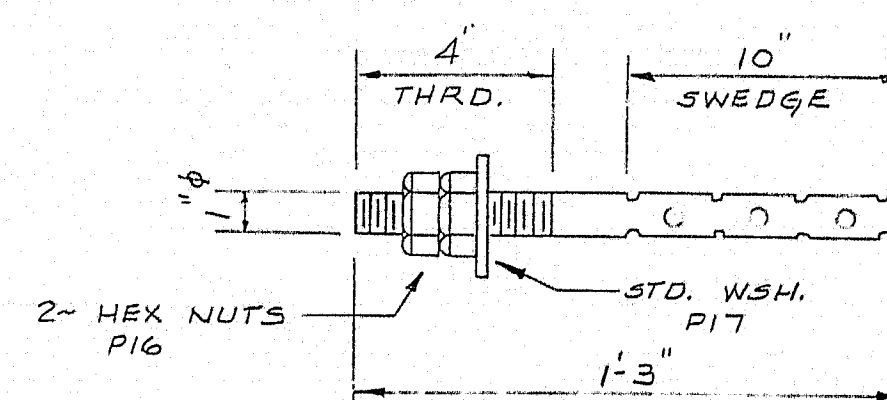
10 REQ'D. ~ MARK EPC-1  
A36 STEEL  
WELD ~ E70XX LOW-HYDROGEN ELECTRODES



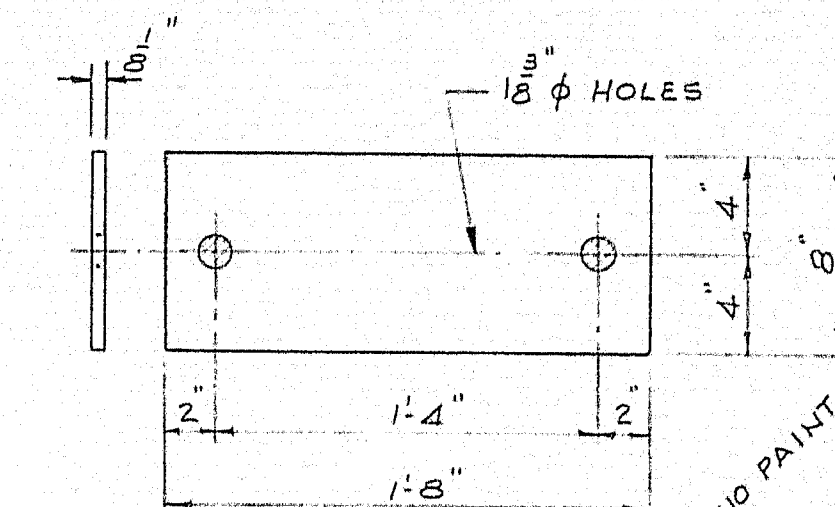
5 REQ'D. ~ MARK EPC-4  
A36 STEEL  
WELD ~ E70XX LOW-HYDROGEN ELECTRODES



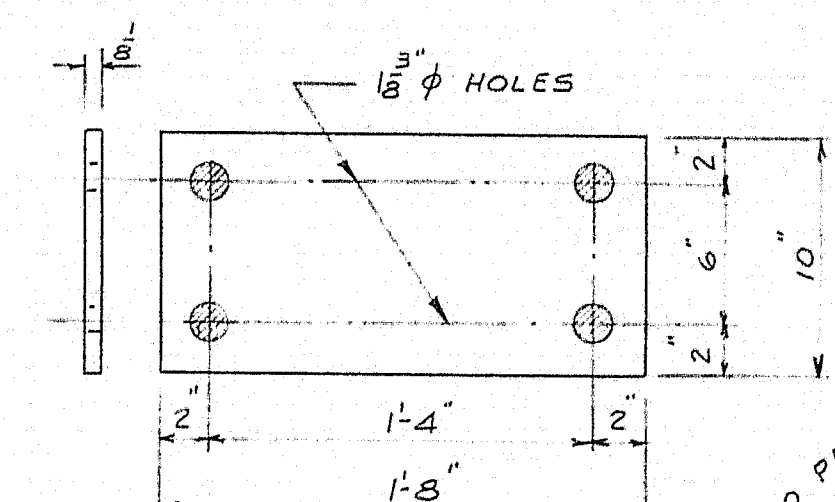
5 REQ'D. ~ MARK IB (EPC-4)  
DO ~ SEE DETAIL 1A



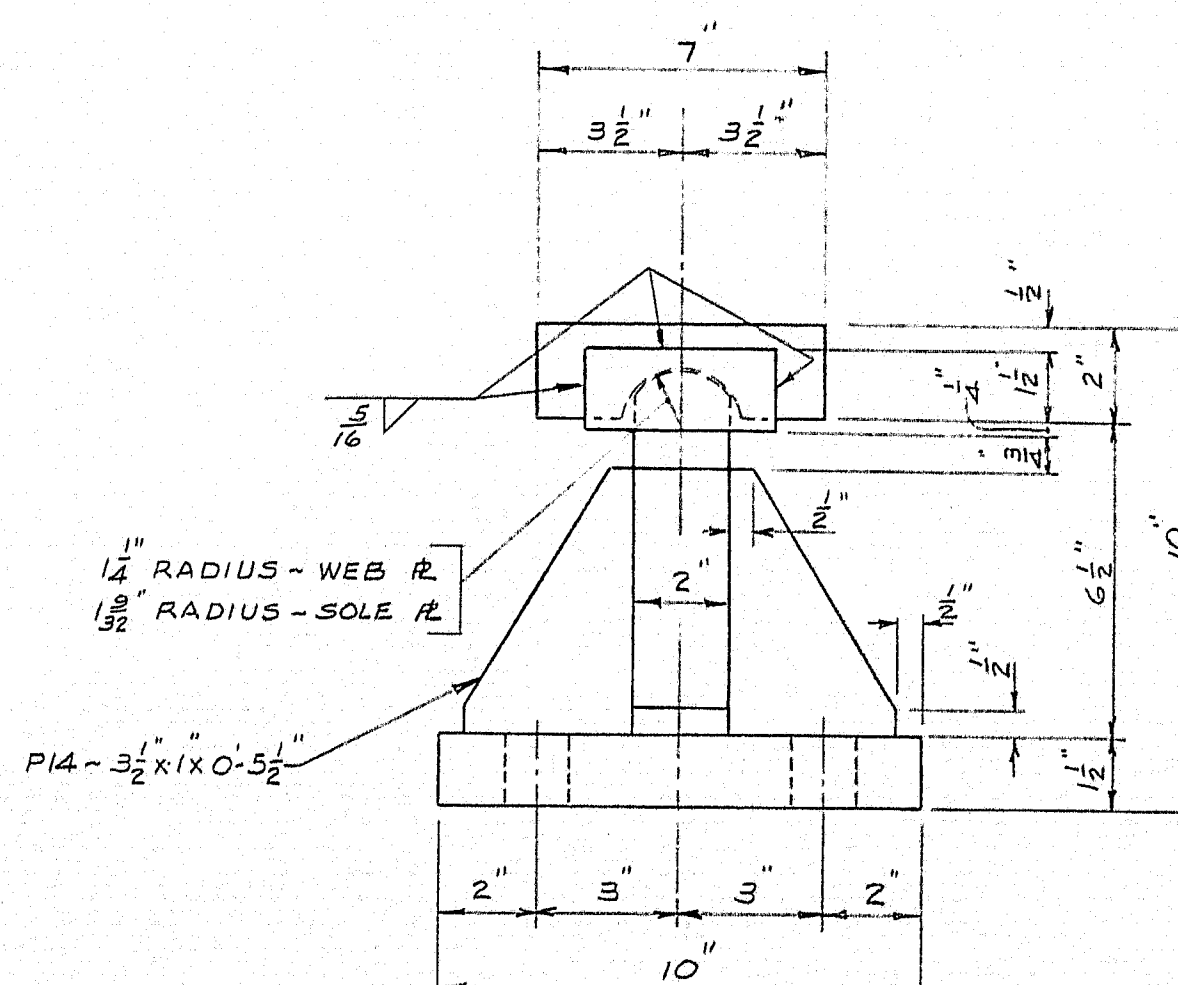
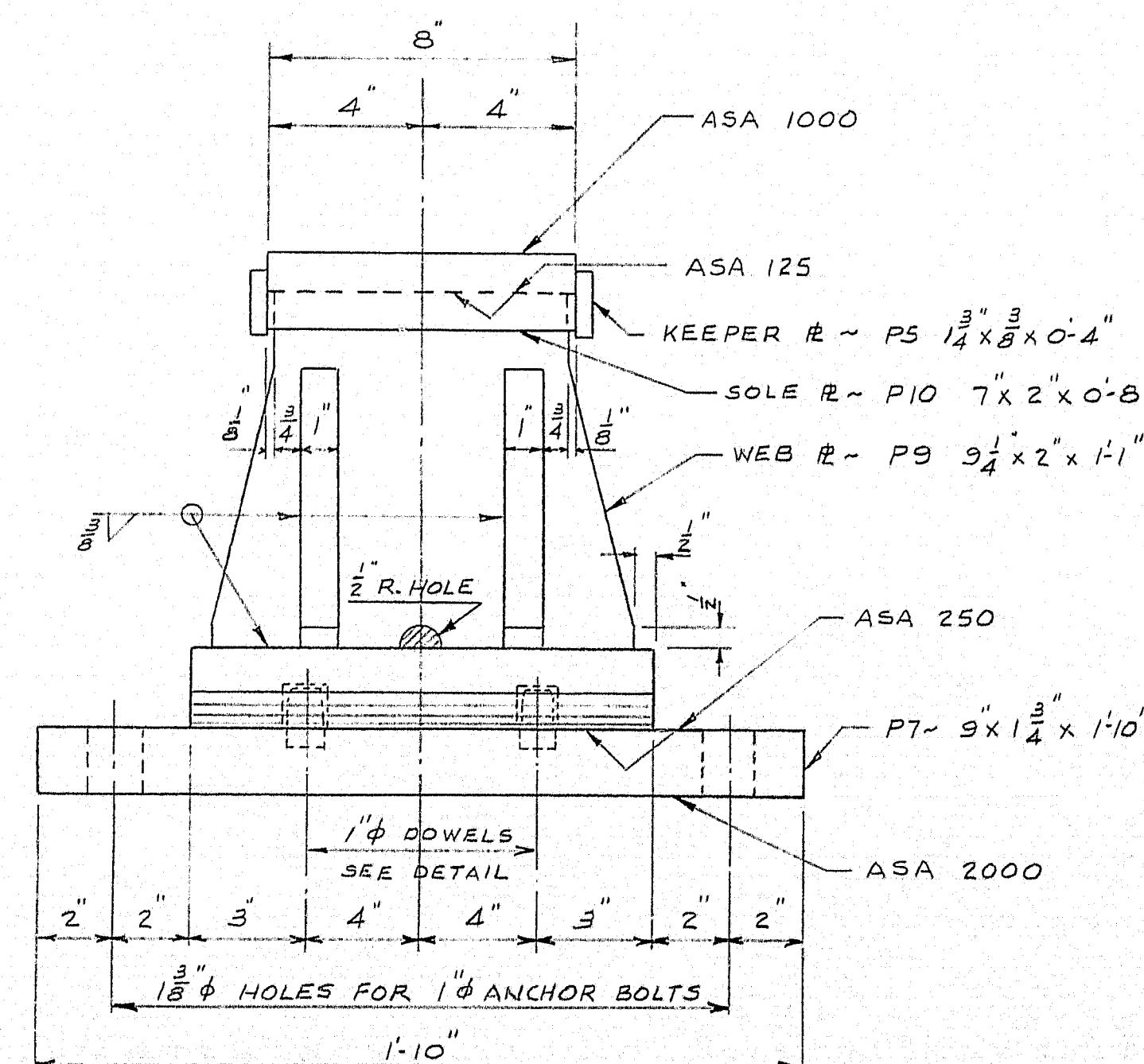
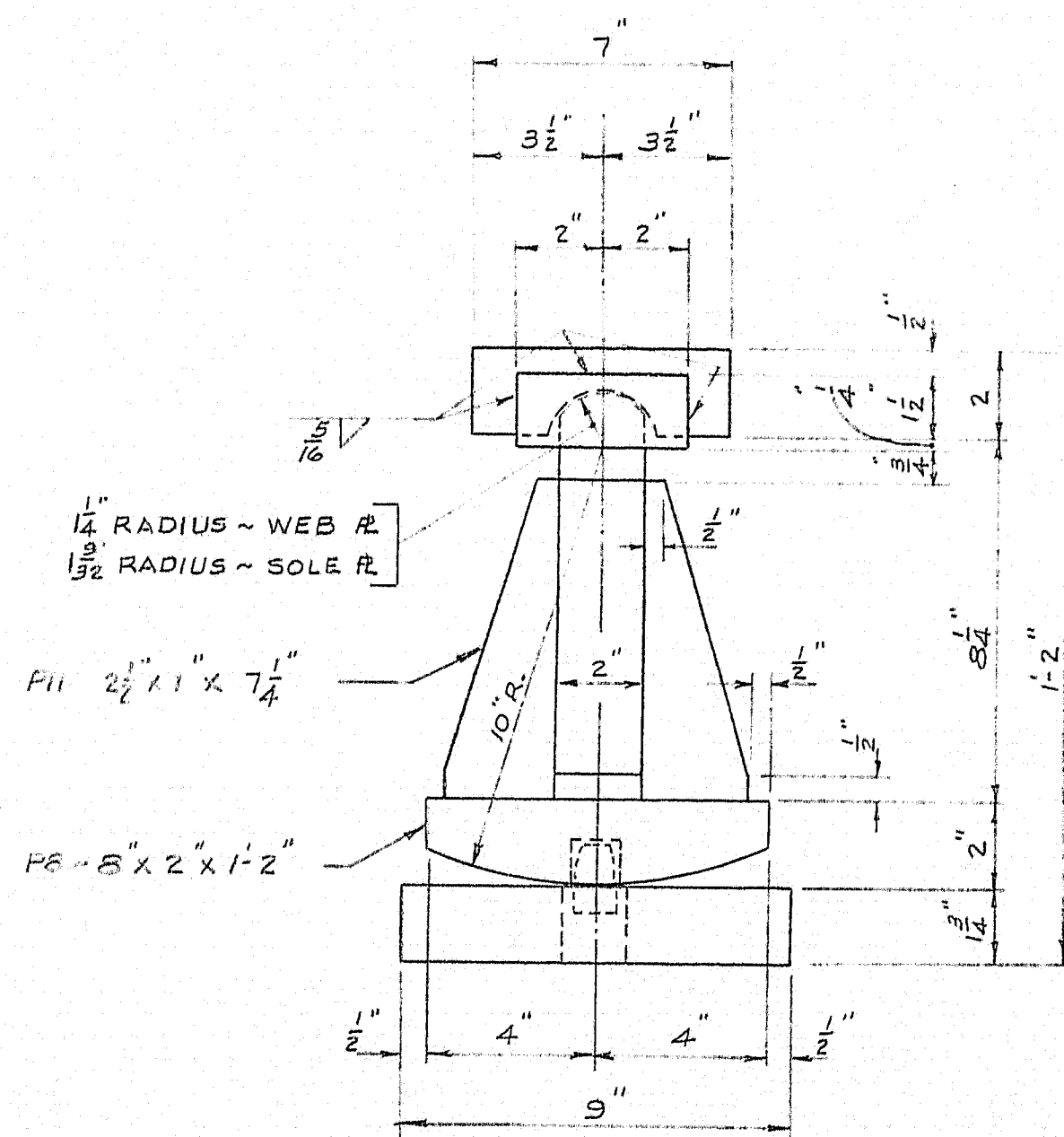
50 REQ'D. ~ MARK ID  
A36 STEEL ROD



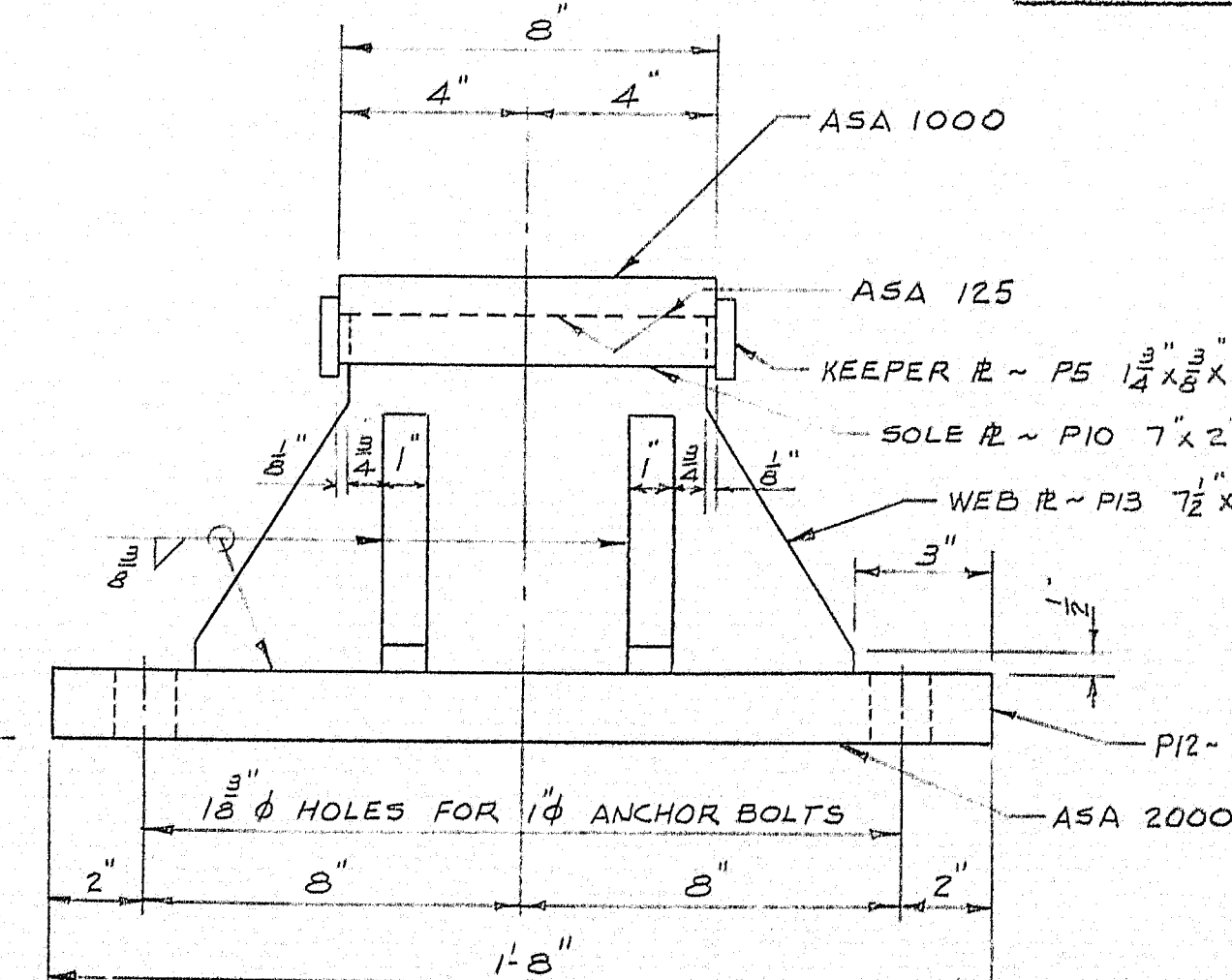
10 REQ'D. ~ MARK 1A (EPC-1)  
SHEET LEAD ~ COMMON DESILVERIZED  
LEAD A<sub>1</sub> OF THE SPECIFICATION FOR  
PIL LEAD OF THE A.S.T.M. DESIGNATION B-29.



5 REQ'D. ~ MARK 1C (FPC-2)  
DO ~ SEE DETAIL 1A



5 REQ'D. ~ MARK FPC-2  
A36 STEEL  
WELD ~ E70XX LOW-HYDROGEN ELECTRODES



PAINT NOTE: { ACCORDING TO S.H.C. SPECS.  
EXCEPT AS FOLLOWS:  
POWER WIRE BRUSH THOROUGHLY  
AND PAINT WITH RED LEAD AS PER  
S.H.C. SPECS.  
ALL WELDED AREAS TO BE NEUTRALIZED  
WITH CHEMICALS PRIOR TO PAINTING  
AND RINSED WITH WATER.  
MACHINE-FINISHED SURFACES SHALL  
BE COATED WITH A HOT MIXTURE  
OF WHITE LEAD AND TALLOW.  
EXCEPT FOR ASA 250 SURFACES WHICH  
SHALL BE PAINTED.  
ALL PIECE MARKS SHALL HAVE A  
PRIME COAT UNDER THEM.

HOLES: AS NOTED  
FIELD CONN: ANCHOR BOLTS  
PAINT: SEE NOTE ABOVE

PEDESTAL AND ANCHOR BOLT DETAILS

MEGQUIER & JONES CORP.  
33 PEARL ST. PORTLAND, MAINE

MOORE ROAD BRIDGE OVER  
INTERSTATE 95 HOULTON, MAINE

CUSTOMER CALLAHAN BROTHERS, INC.  
ARCHITECT MAINE STATE HIGHWAY COMMISSION

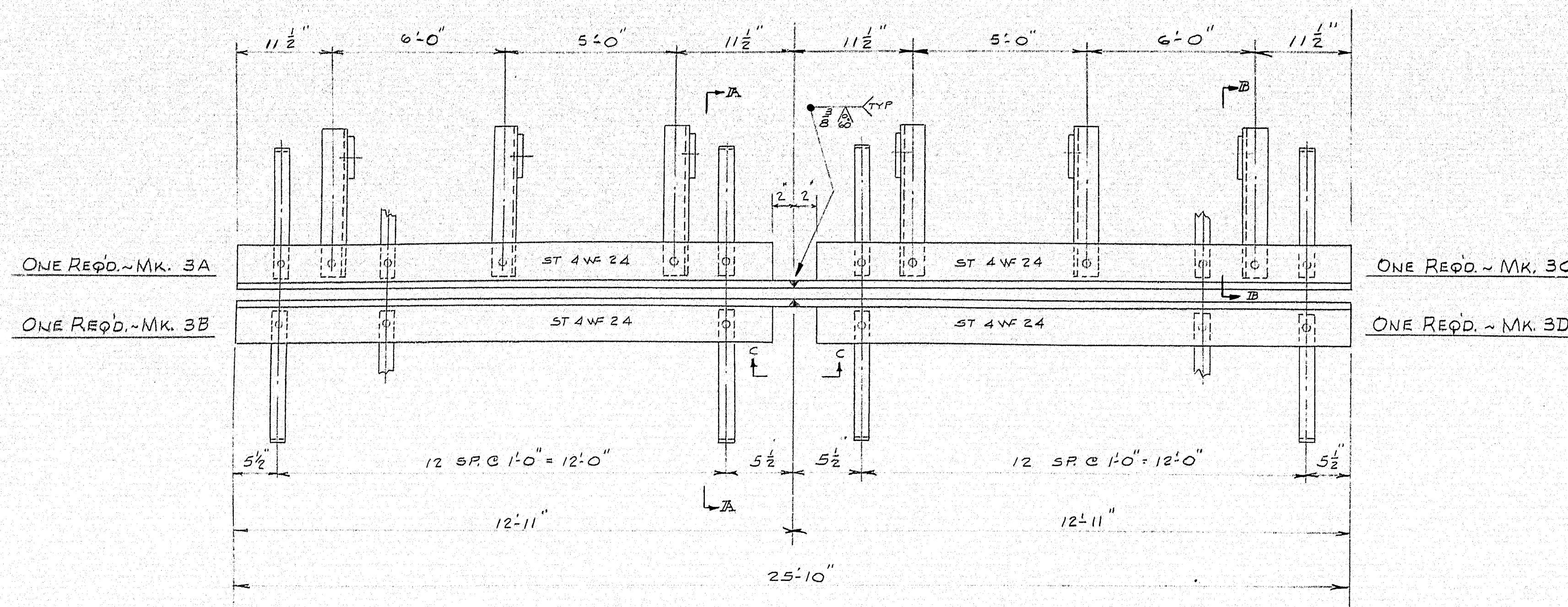
ORDER NO. 4067 DWG. NO. 1

DRAWN	SPH	2-8-65
REVISION	SPH	3-10-65
REVISION		
REVISION		

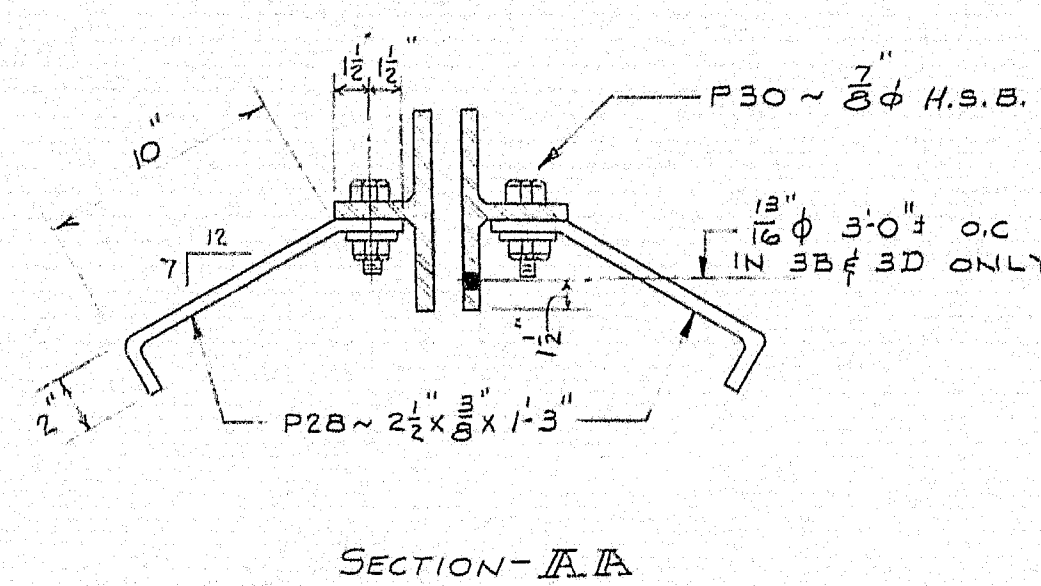




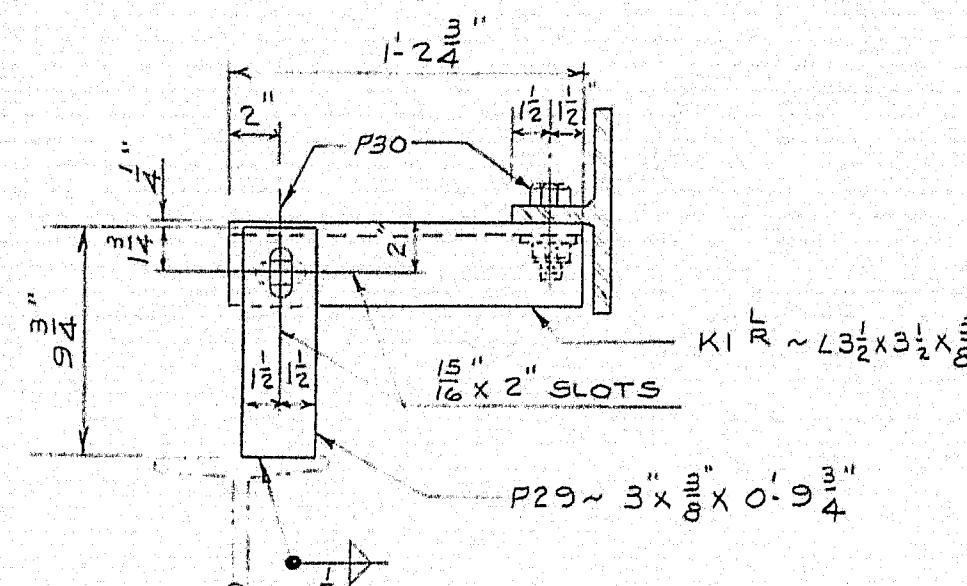




ONE ASSEMBLY REQ'D.  
ALL A36 STEEL

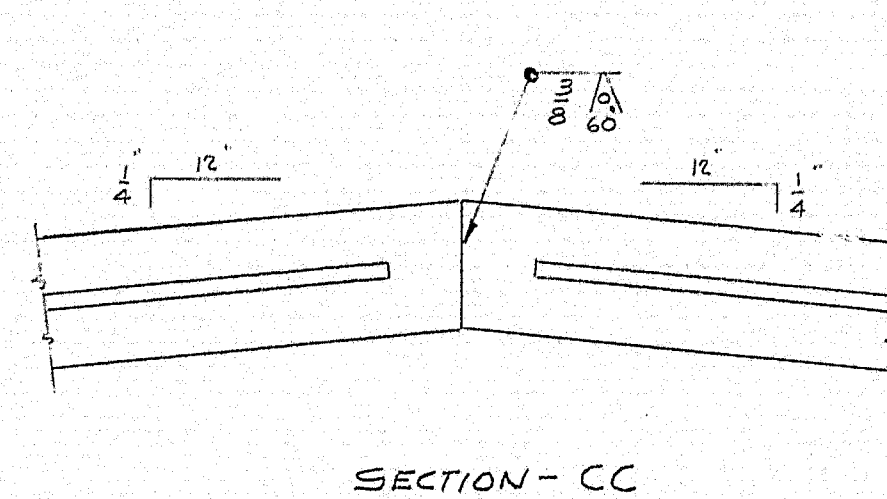


SECTION-AA

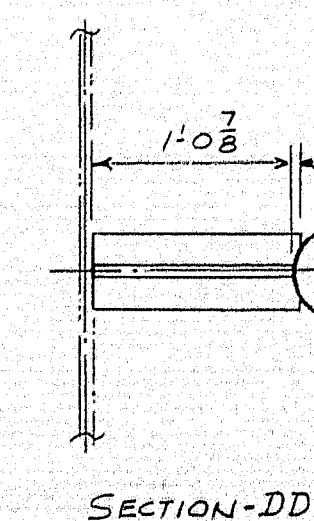


SECTION-BB

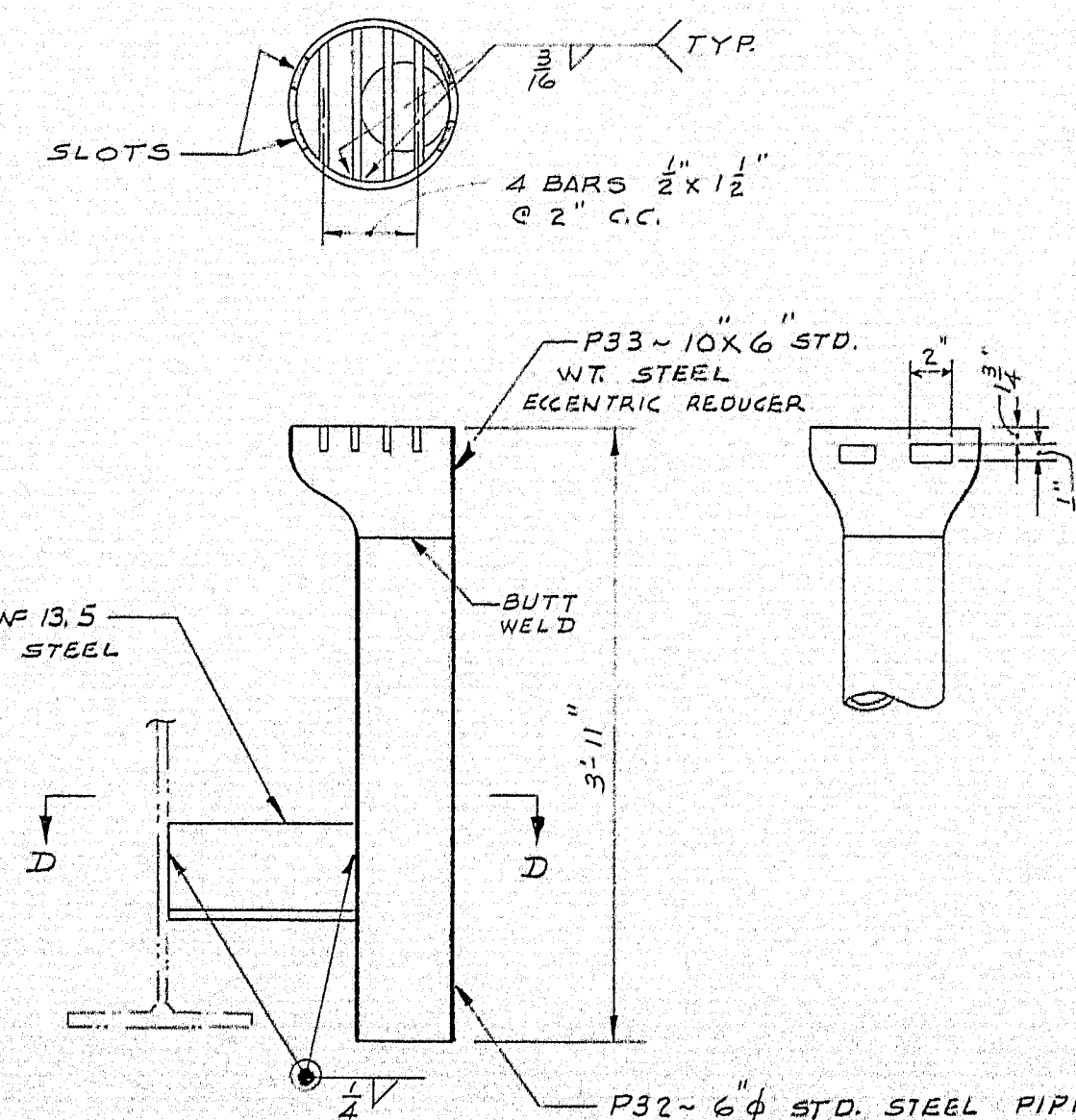
AFTER UNIT IS IN FINAL POSITION FIELD  
WELD P2B TO K1R WITH 1/4" FILLET.



SECTION-CC



SECTION-DD



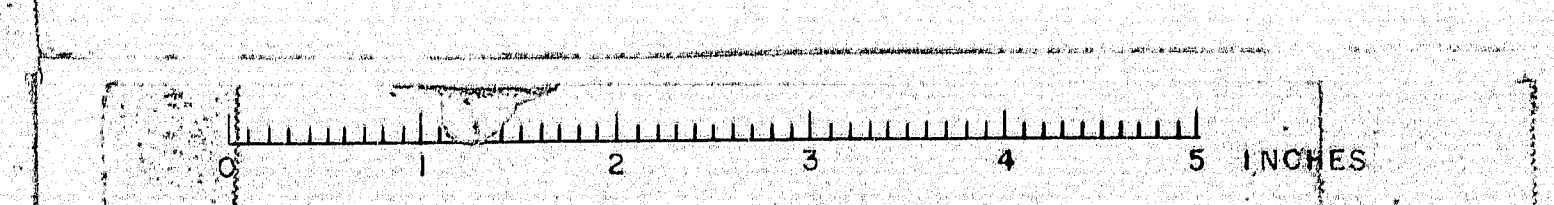
12 REQ'D. ~ MK. 3E

SHIP		BILL OF MATERIAL		JOB NO. 4067		DWG. NO. 3	
MARK	NO.	MARK	SHAPE	LENGTH	WT.	REMARKS	
3A	1		ST 4WF 24	12	11		
3B	1		do	12	11		
3C	1		do	12	11		
3D	1		do	12	11		
52	P2B		2 1/2 x 3/8 PL	1	3		
6	P29		3 x 3/8 PL	9	3		
64	P30		7/8 x 4 H.S.B.	2	1		
6	K1R		L 3 1/2 x 3/8	1	2 1/2		3 OF EACH
3E	12		DRAINS				
12	P32		6" STD. STEEL PIPE	2	8 1/2		
12	P33		10" x 6"				STD. WT. STEEL ECCENTRIC REDUCER
48			1 1/2 x 1/2 F.B.	10			
P31	12		ST 6 WF 13.5	1	2 3/8		
64			3/8" H.S.B.				

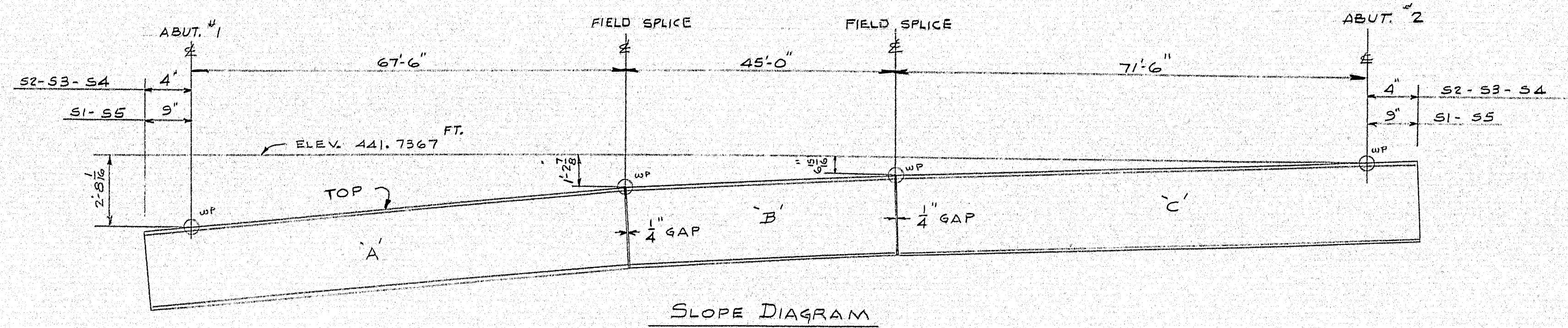
HOLES: AS NOTED  
FIELD CONN:  
PAINT: SEE DWG. #1

ARMORED JOINT BRIDGE DRAINS	
MEGQUIER & JONES CORP., 33 PEARL ST. PORTLAND, MAINE	
MOORE ROAD BRIDGE OVER INTERSTATE 95 HOULTON, ME.	
CUSTOMER CALLAHAN BROTHERS, INC. ARCHITECT MAINE STATE HIGHWAY COMM.	
DRAWN SPH 2-11-65	ORDER NO. 4067
REVISION SPH 3-10-65	DWG. NO. 3
REVISION	

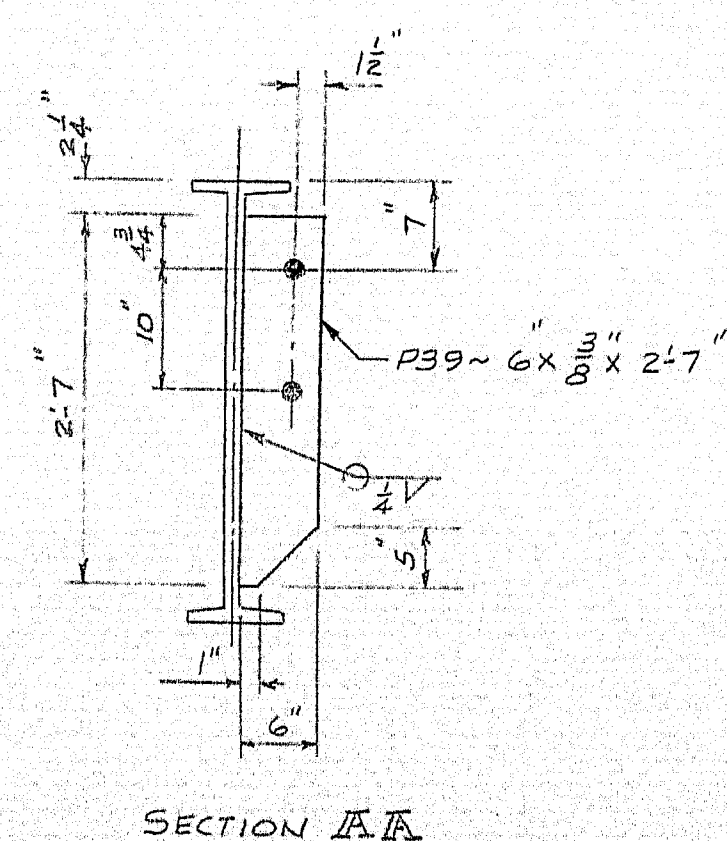
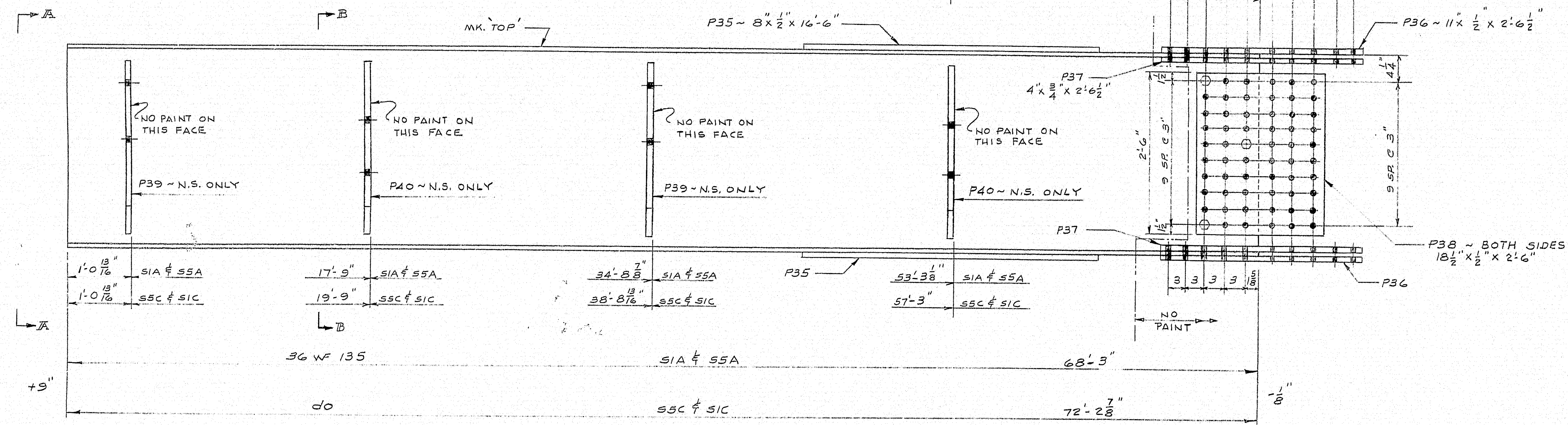
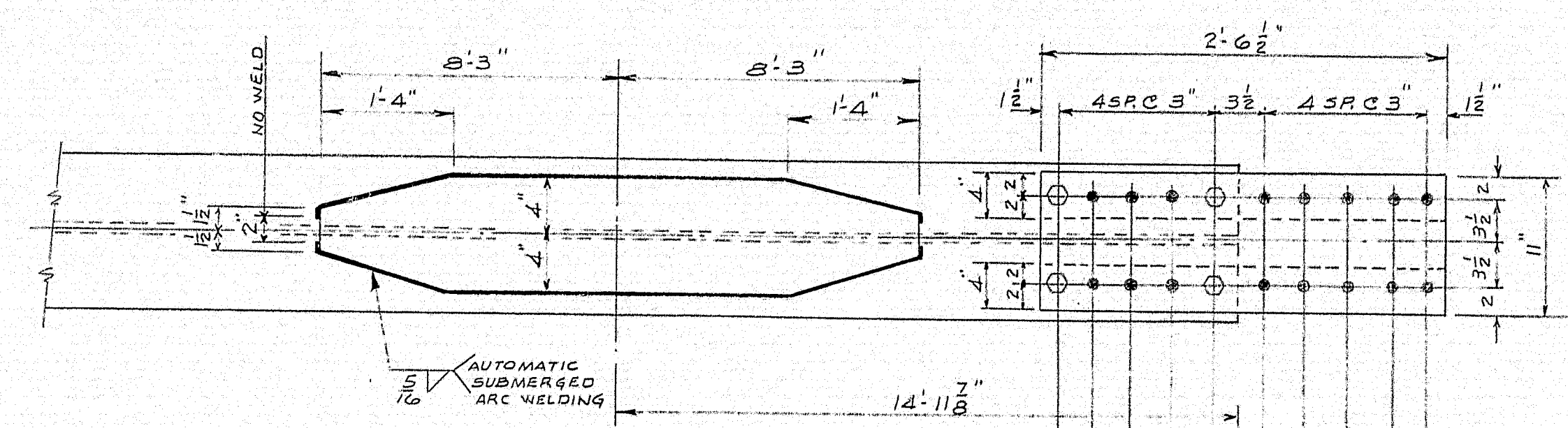
93-126



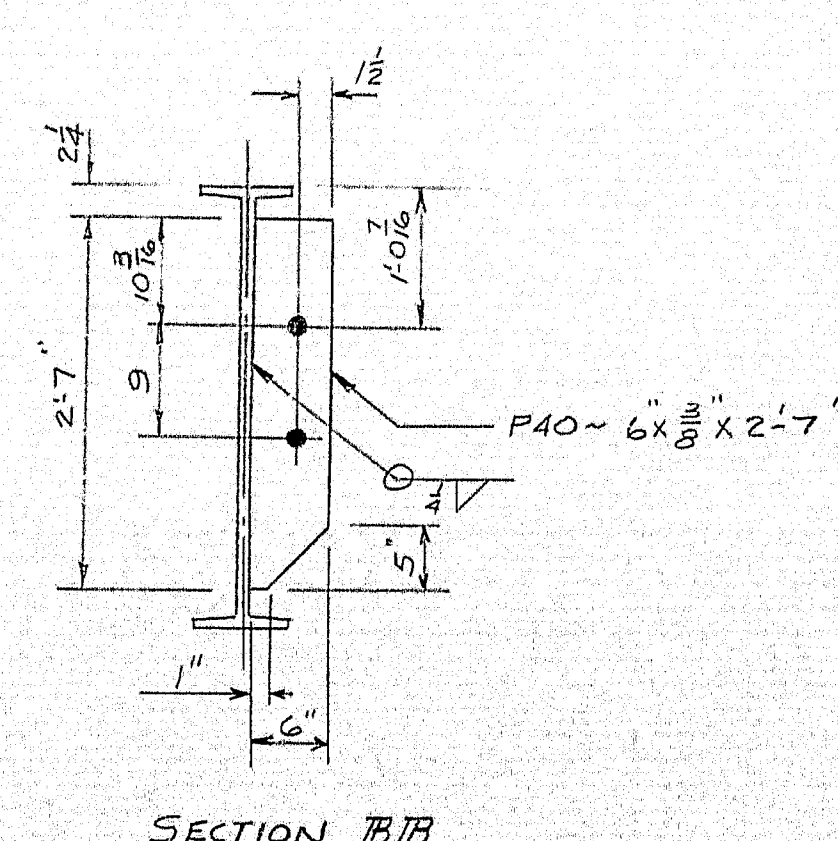




SLOPE DIAGRAM

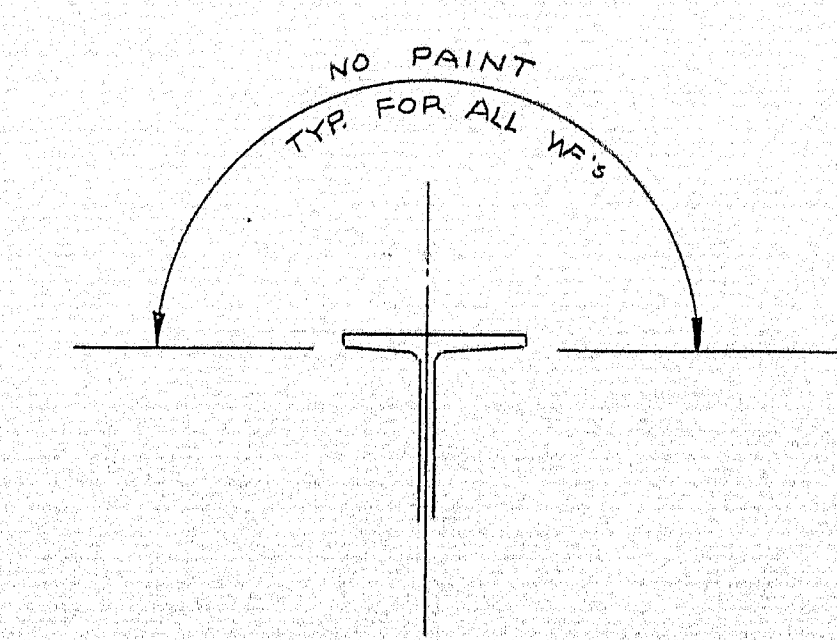


SECTION A-A



SECTION B-B

ONE REQ'D. ~ AS SHOWN ~ MK. S1A  
 ONE REQ'D. ~ OPP HAND ~ MK. S5A  
 ONE REQ'D. ~ AS SHOWN ~ MK. S5C  
 ONE REQ'D. ~ OPP HAND ~ MK. S1C  
 ALL MATERIAL A36 STEEL



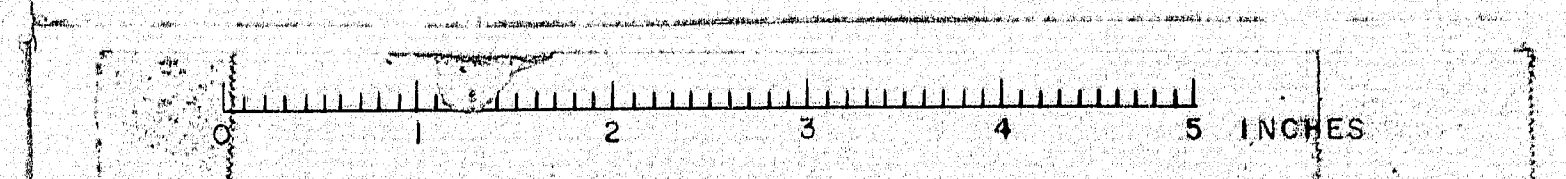
SHIP		BILL OF MATERIAL		JOB NO. 4067		DWG. NO. 4	
MARK	NO.	MARK	SHAPE	LENGTH	WT.	REMARKS	
S1A	1		36 WF 135	68 3			
S5A	1		do	68 3			
S5C	1		do	72 2 7/8			
S1C	1		do	72 2 7/8			
	8	P35	8 x 1/2 R	16 6			
	8	P36	11 x 1/2 R	2 6 1/2			
	16	P37	4 x 3/8 R	2 6 1/2			
	8	P38	18 1/2 x 1/2 R	2 6		SHIP BOLTED	
	8	P39	6 x 3/8 R	2 7			
	8	P40	do	2 7			
	32	~	7/8 phi H.S.B.	3 1/2		FLG. BOLTS (SHOP)	
	12	~	7/8 phi H.S.B.	3		WEB do do	
	44	~	7/8 phi WSH.				
						BOLTS - HWY. 55 WT. FIN. HEX BOLTS & NUTS.	
4A	582		7/8 phi H.S.B.	3		do	
4B	327		do	3 1/2		do	
4C	909		7/8 phi WSH.				

HOLES: SUBPUNCH 1 1/8" REAMED TO 1 5/16"  
 FIELD CONN: 7/8" phi H.S. BOLTS  
 PAINT: SEE DWG. #1

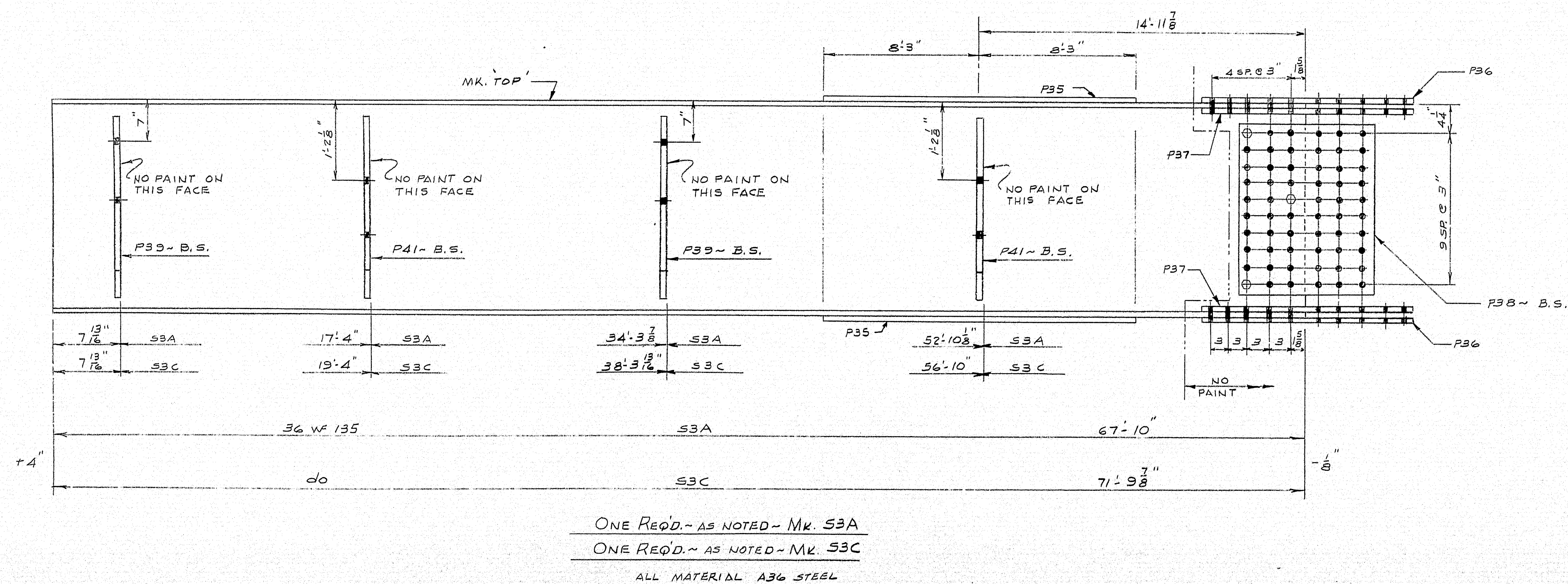
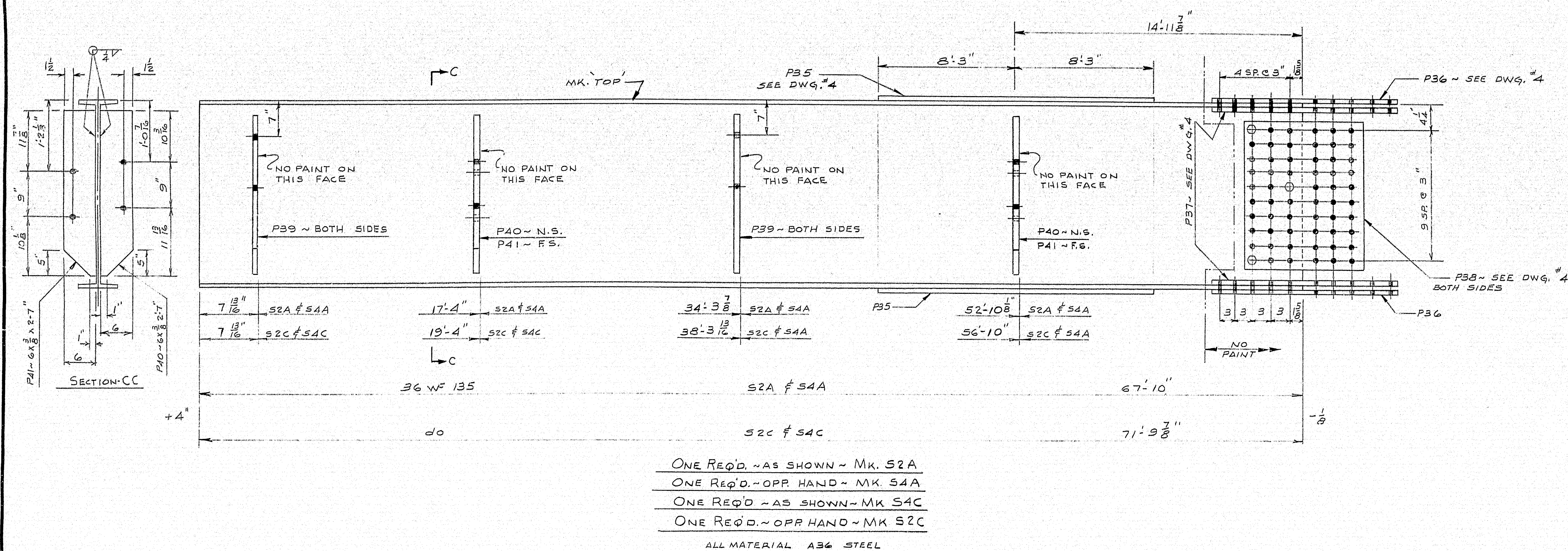
BRIDGE BEAMS  
 MEGQUIER & JONES CORP.  
 33 PEARL ST. PORTLAND, MAINE  
 MOORE ROAD BRIDGE OVER  
 INTERSTATE 95 HOULTON, MAINE

DRAWN	SPH	2-12-65	CUSTOMER	CALLAHAN BROTHERS, INC.
REVISION	SPH	3-10-65	ARCHITECT	MAINE STATE HIGHWAY COMM.
REVISION			ORDER NO.	4067
REVISION			DWG. NO.	4

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HOLES: SUBPUNCH  $\frac{11}{16} \phi$  REAMED TO  $\frac{15}{16} \phi$   
FIELD CONN:  $\frac{7}{8} \phi$  H.S. BOLTS  
PAINT: SEE DWG. #1

BRIDGE BEAMS

MEGQUIER & JONES CORP.  
33 PEARL ST. PORTLAND, MAINE

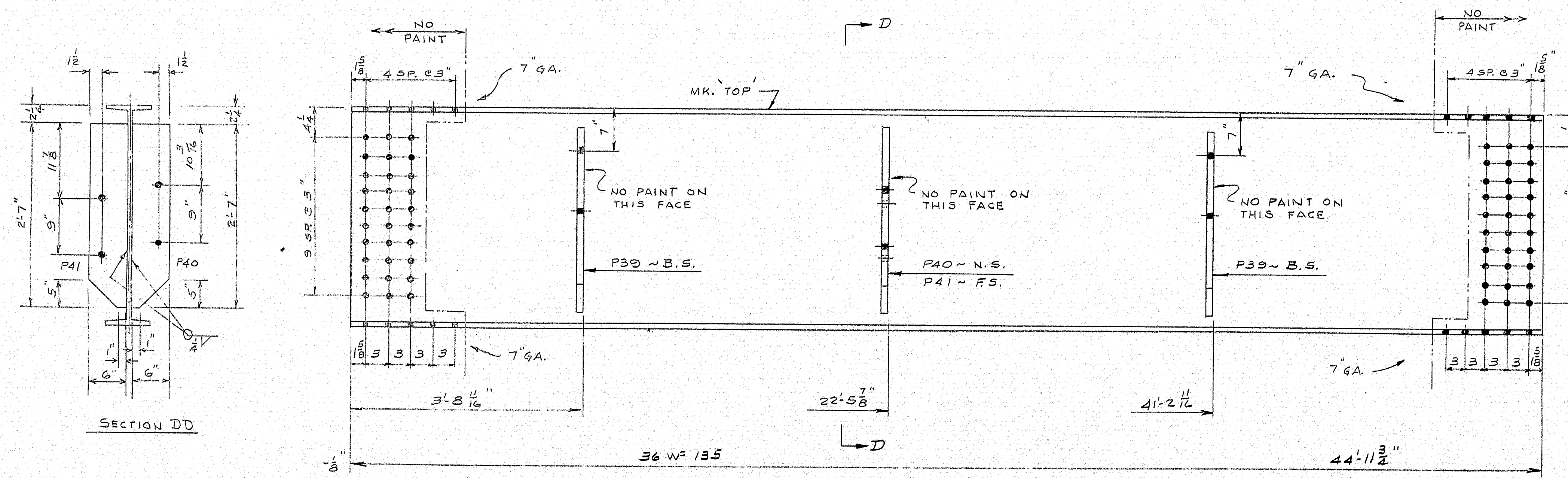
MOORE ROAD BRIDGE OVER  
INTERSTATE 95 HOULTON, ME.

CUSTOMER CALLAHAN BROTHERS, INC.  
ARCHITECT MAINE STATE HIGHWAY COMM.

ORDER NO. 4067 DWG. NO. 5

**93-128**





HOLES: SUBPUNCH  $\frac{11}{16} \phi$  REAMED TO  $\frac{15}{16} \phi$   
FIELD CONN:  $\frac{7}{8} \phi$  H.S. BOLTS  
PAINT: SEE DWG. #1

BRIDGE BEAMS

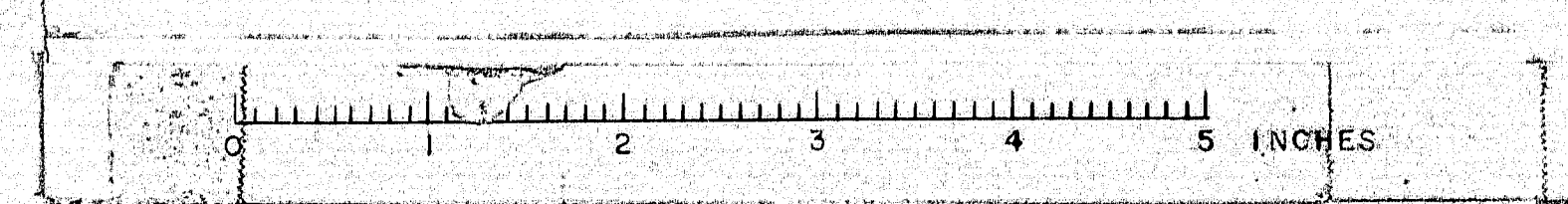
MEGQUIER & JONES CORP.  
33 PEARL ST. PORTLAND, MAINE

MOORE ROAD BRIDGE OVER  
INTERSTATE 95 HOULTON, ME.

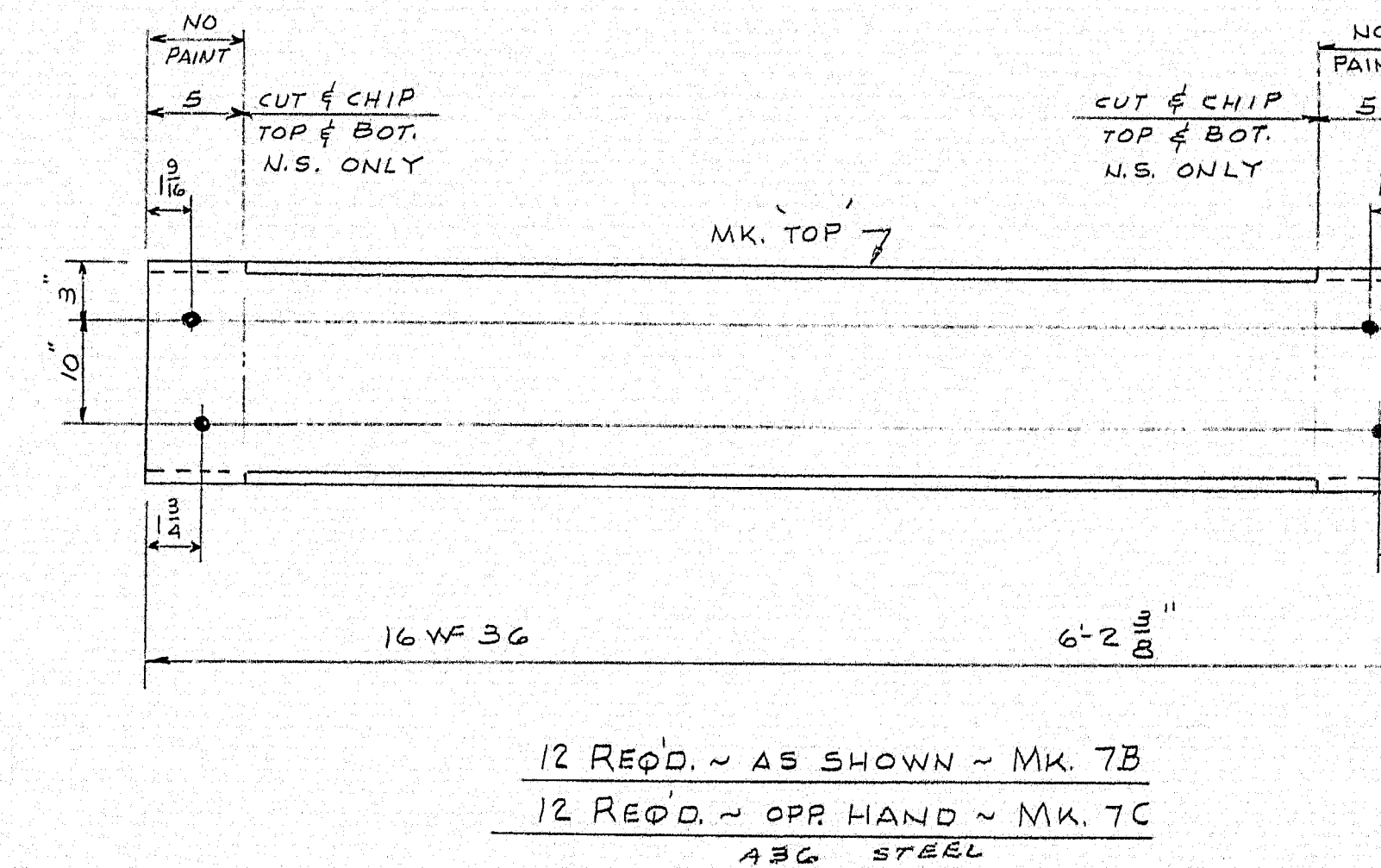
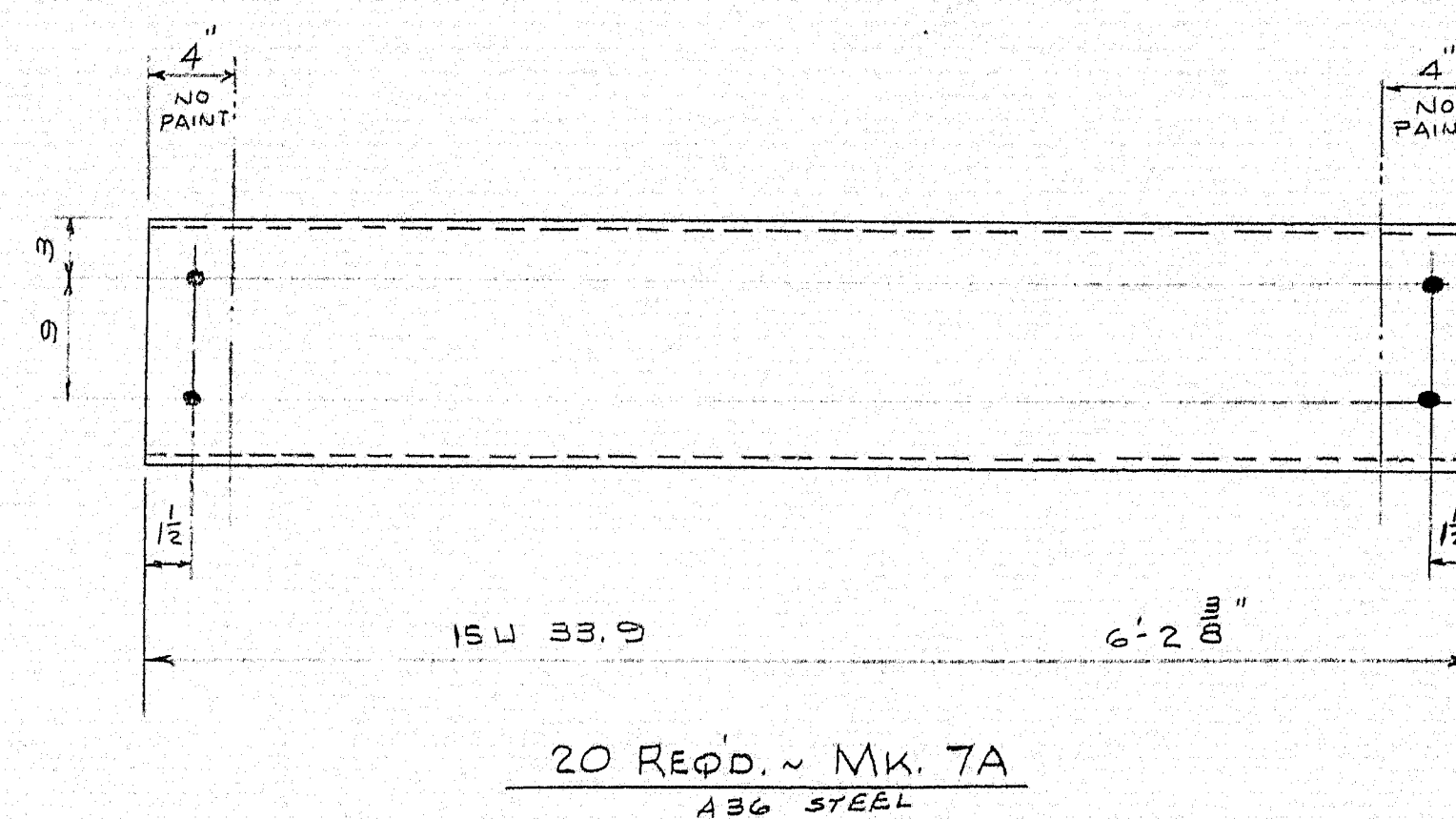
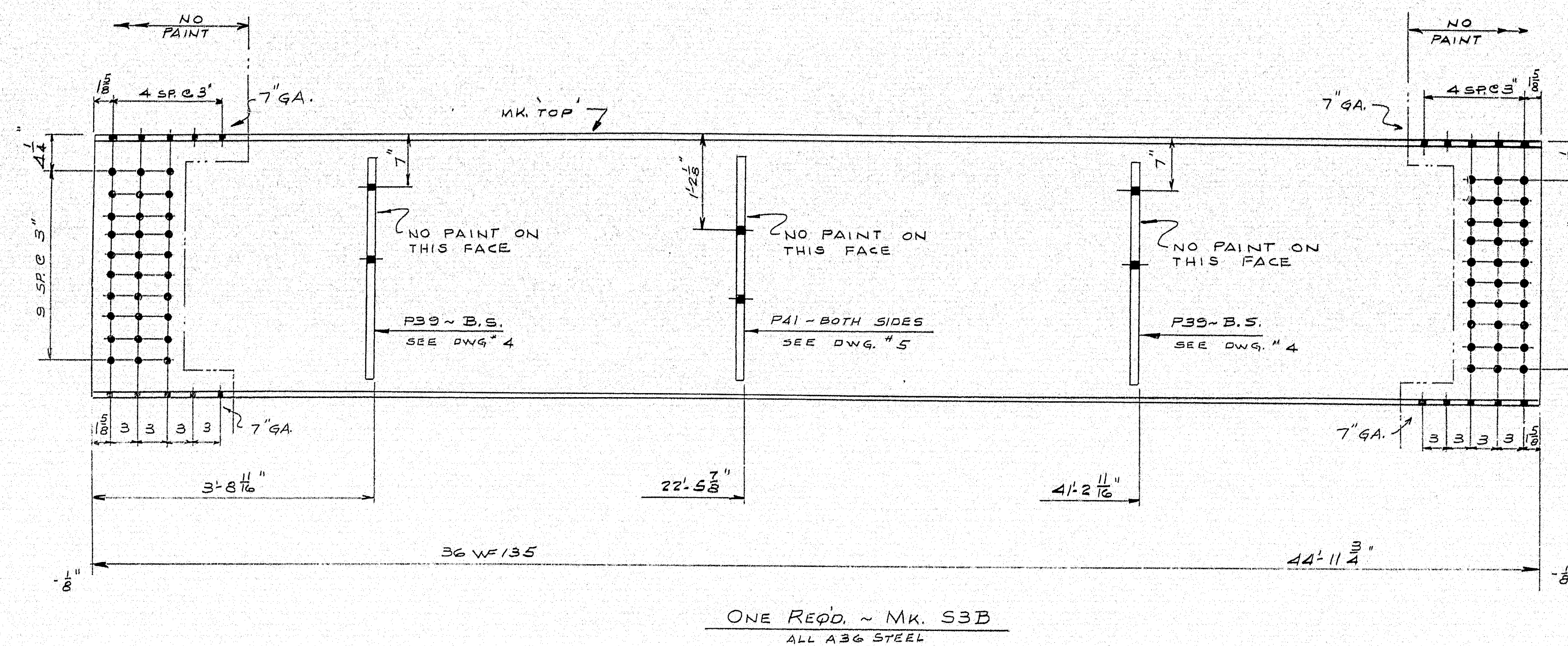
CUSTOMER CALLAHAN BROTHERS, INC.  
ARCHITECT MAINE STATE HIGHWAY COMM.

ORDER NO. 4067 DWG. NO. 6

DRAWN	SPH	2-15-65
REVISION	SPH	3-10-65
REVISION		
REVISION		







SHIP	MARK	NO.	MARK	SHAPE	LENGTH	WT.	REMARKS
S3B	1			36 WF 135	44' 11 1/2"		
	4		P39	4X 0.3	2	7	
	2		P41	20	2	7	
7A	20			15 1/2 33.9	6	2 1/4	
7B	12			16 WF 36	6	2 1/4	
7C	12			20	6	2 1/4	
7D	200			3/4 4 1/2 MB	1 3/4		USE C DIAPHRAGMS

HOLES: SUBPUNCH 1/2" REAMED TO 5/8"  
FIELD CONN: 3/8" H.S.B. AND 3/4" M.B.  
PAINT: SEE DWG. 1

BRIDGE BEAM AND DIAPHRAGM

MEGQUIER & JONES CORP.  
33 PEARL ST. PORTLAND, MAINE

MOORE ROAD BRIDGE OVER  
INTERSTATE 95 HOULTON, ME

CUSTOMER CALLAHAN BROTHERS, INC.  
ARCHITECT MAINE STATE HIGHWAY COMM.

DRAWN	SPH	2-16-65
REVISION	SPH	3-10-65
REVISION		
REVISION		

ORDER NO. 4067 DWG. NO. 7

93-130

