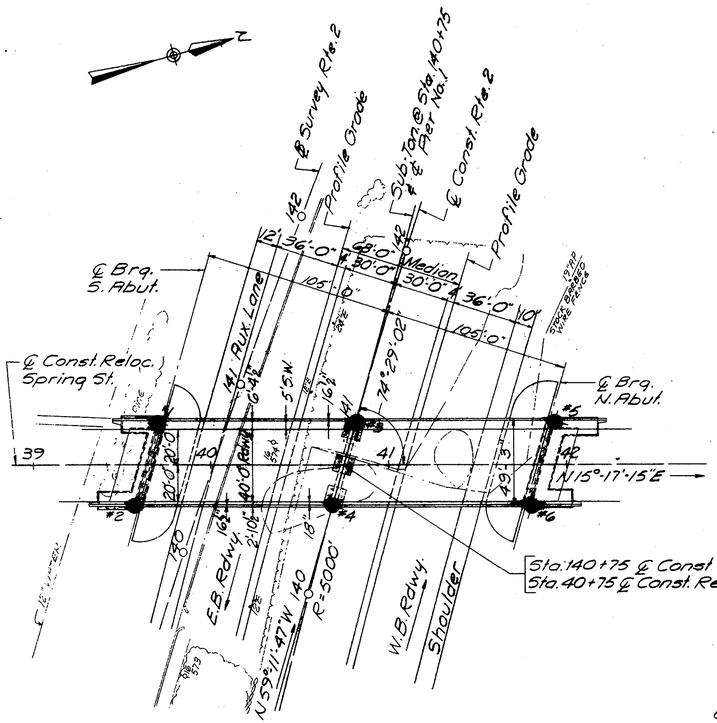
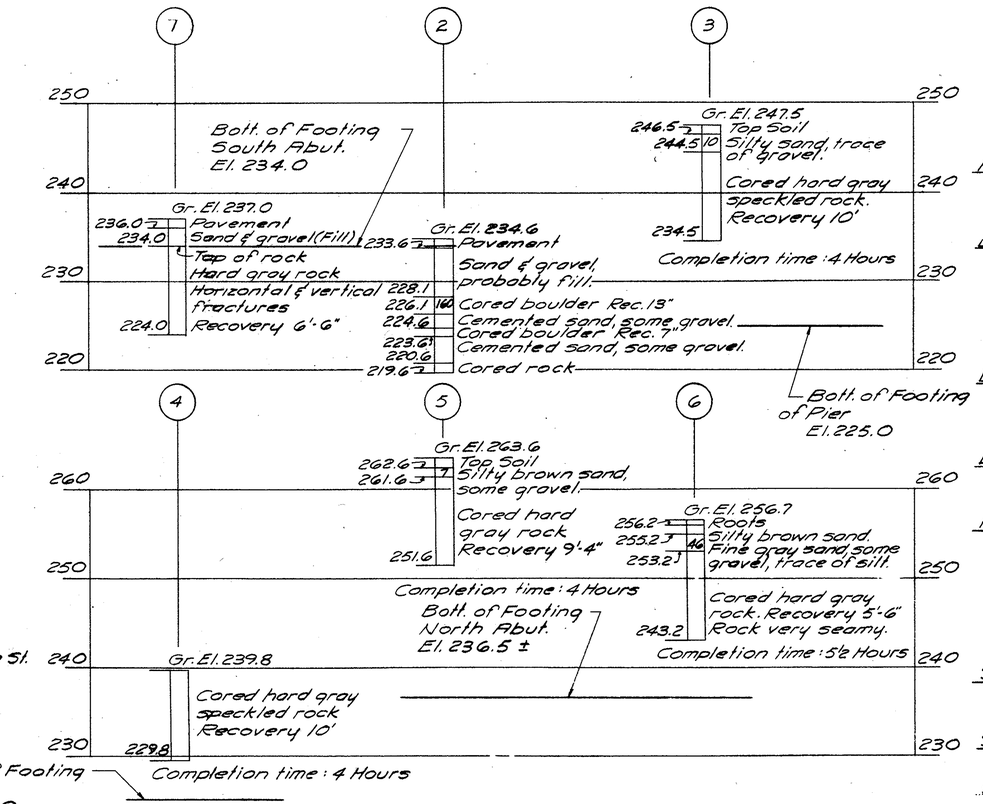
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(12)	196	8.5	355

CONTRACT B





GENERAL NOTES

FOUNDATIONS
May be altered if necessary to suit conditions encountered during construction.

DATE & SEAL
To be placed on the inside face of the Northwest & Southeast End Posts. A sheet showing size & character of numerals will be furnished. Seal will be furnished by the Commonwealth & installed by the contractor.

DESIGN
In accordance with the current specifications of the American Association of State Highway Officials (1961 Edition) for H20-44 Loading.

BENCH MARK
A chiseled "D" cut on ledge outcrop at Sta. 141+53 in Lexington 93.5' left of Exist. Rte. 2 ℄ El. 236.558.

REINFORCEMENT
All bars shall have deformations conforming to A.S.T.M. designation A-305. Unless otherwise shown on plans, reinforcing bars shall be lapped 20 diameters to make a splice, except that main reinforcing bars near top of slabs & beams having more than 12 inches of concrete under the bars shall be lapped 35 diameters to make a splice.

SURVEY NOTEBOOKS
For survey information see Survey Book Nos. 14814, 15038, 16424, 19635, 19617, 16432, 15234, 25419, & 16610.

SCALES
Scales noted on plans are not applicable to reduced size prints. Divide scales by 2 for ½ size prints.

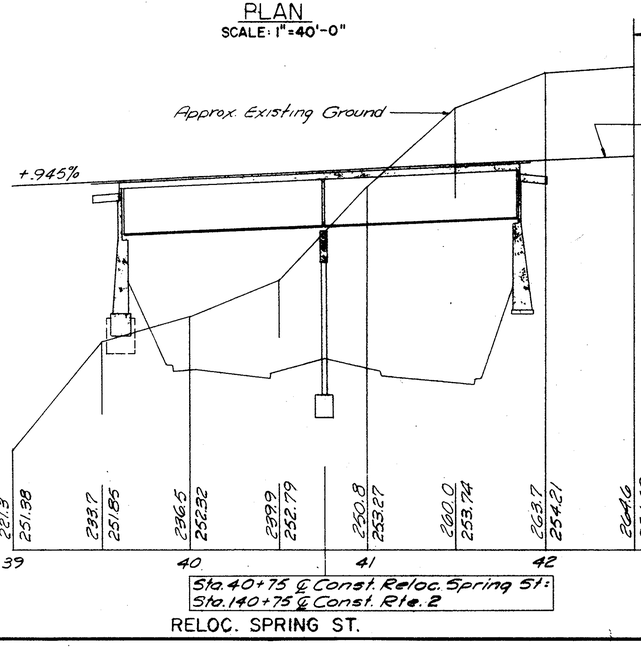
STANDARD RAILING
See Department Standard Plans, dated May, 1965 for details of Bridge Railings.

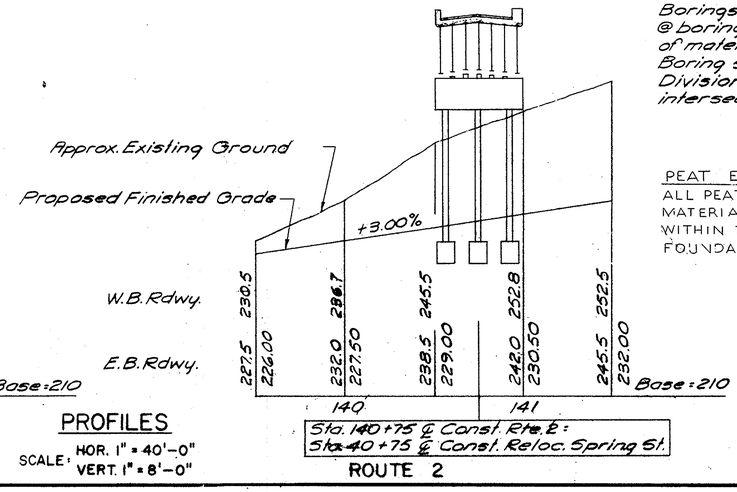
ESTIMATED QUANTITIES
(Not Guaranteed)

Class "B" Cem. Conc. Masonry	575 C.Y.
Bridge Excavation	190 C.Y.
Class "B" Rock Excavation	960 C.Y.
Gravel Borrow	400 C.Y.
Gravel Borrow For Bridge Foundations	50 C.Y.
Class I Bit. Conc. Pvmt. Type I-1	147 TONS
Bridge Structure (L-10-17)	L.S.
Metal Bridge Railing (Type ST-3 or AL-3)	330 L.F.
The Following items are part of item G15-1	
Steel Reinforcing For Structures	106,500 LBS.
Structural Steel	376,500 LBS.
(Above steel quantities not guaranteed.)	

BORINGS TAKEN BY NORTHEAST TEST BORING CO. NORTH QUINCY 71, MASS.
AUGUST & OCTOBER 1963

BORING DATA
SCALE: 1/8" = 1'-0"





PROFILES
SCALE: HOR. 1" = 40'-0"
VERT. 1" = 8'-0"

BORING NOTES

Location of Borings shown on Plan thus ●#1
Figures in columns indicate blows per ft. on 1⅜" split tube sampler produced by 30" fall of 140 lb. weight.
Borings taken for purpose of design & show conditions @ boring points only but do not necessarily show nature of materials to be encountered during construction.
Boring samples may be seen @ the Research & Materials Division, 99 Worcester St., Wellesley Hills @ the intersection of Rte. 9 & Rte. 128.

PEAT EXCAVATION
ALL PEAT OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE.

COMMONWEALTH OF MASSACHUSETTS ANTHONY FAUL LAGOSA 13643 REGISTERED PROFESSIONAL ENGINEER

ABBOTT ENGINEERING
INCORPORATED
STATE STREET BOSTON 9, MASS.

JUNE 24, 1966	⚠ REVISION — SHEET 8
AUGUST 28, 1965	ISSUED FOR CONSTRUCTION

DES. AL.
DR. JGS.
CHK. DHS.

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
LEXINGTON
RELOC. SPRING ST.
OVER
RECONSTRUCTION OF ROUTE 2
SCALE AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. - BOSTON, MASS.
AUG 1965

J. J. McGovern — BRIDGE ENGINEER
D. H. Shaw P.E. — CHIEF ENGINEER

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(12)	196	86	355

CONTRACT B

N

105'-0"

38 Spaces @ 6'-6" = 247'-0"

7 1/16" 3 Spcs. @ 6'-0 1/2" = 18'-2 3/4"

108'-11 3/8"

108'-14"

10 3/8"

℄ Bearing (Expansion)

℄ Bearing (Fixed)

℄ Pier No. 1

℄ Railing (Type ST-3) *

Limits of Special Slope Paving

Paraffin Joint (Typ)

1" Premoulded Filler

Limits of 4" Class "D" Conc. Sidewalk (Bridge Item)

Limits of VA-5 Granite Curb (Highway Item)

15'-0" Approach Slab

Face of Granite Curb

2" Premoulded Filler

Profile Grade ℄ Crown Line

Sta. 41+83.97

℄ Constr. Reloc. Spring St.

N 15°17'15" E

Sta. 39+66.09

Sta. 40+75.00 ℄ Constr. Reloc. Spring St. = Sta. 140+75.00 ℄ Constr. Rte. 2

74°29'02"

E.B. Roadway

W.B. Roadway

Profile Grade

40

41

42

49'-3"

6'-4 1/2"

5'-0"

20'-0"

40'-0" Roadway

20'-0"

2'-10 1/2"

16 1/2"

14 1/4" (*)

1" Premoulded Filler

℄ Bearing (Fixed) South Abut.

90°

12'-0" Aux. Lane

36'-0" Roadway

4'-0"

30'-0"

10"

10"

R=5000

68'-0" Median

105'-0

Sub-Tangent @ Sta. 140+75.00

℄ Constr. Rte. 2

38 Spaces @ 6'-6" = 247'-0"

1/2" Premoulded Filler

15'-0" Approach Slab

Exp. Joint See Detail #2

6"x6" 0/0 Welded Wire Mesh (Typical)

Special Slope Paving (4" Conc. Slab)

4" ø Weepholes 10'-0" O.C. (Staggered) with Galv. Wire Screen See Detail #1

6" Gravel Bed

12"x12" Crushed Stone Drains, Continuous

10'-0"

6"

11" Premoulded Filler

℄ Bearing (Exp.) North Abut.

10'-0" Shoulder

Limits of Special Slope Paving to be set by Engineer

For Grading, see Grading Plan Acc. No. N-9334

7 1/16"

(*) The Dimension shown on this plan to the ℄ of Railing refer to Metal Bridge Railing Type ST-3 (Steel) only.

SECTION N-N

SCALE: 3/16" = 1'-0"

PLAN

SCALE: 3/32" = 1'-0"

Exp. Joints See Detail #2

6"

18"

SECTION M-M

SCALE: 1/4" = 1'-0"

Joint Sealer

Slope Paving Type "C"

2"

½" Premoulded Filler

DETAIL NO. 2

NOT TO SCALE

Note: Expansion Joint Detail Applies At All Contacting Surfaces of Slope Pavement with Abutments, End Walls and Toe Walls.

12"

Galv. Wire Screen

Slope ¼" / Ft.

12"

Crushed Stone Drain 12" Wide Branch At Weephole

DETAIL NO. 1

SCALE: 3/4" = 1'-0"

1½"

3/8" 3/8" 3/8"

1"

3/4" 1/16" 5/8" 3/8" 3/8"

Panel Joint & Const. Jt. to be Formed Here

TYPICAL STRIATED PANEL JOINT

FULL SIZE

Paraffin Joint Spacing 20'-8 5/8" | 4 Spaces @ 19'-6" = 78'-0" | 11'-7 5/8" | 14'-4 3/8" | 4 Spaces @ 19'-6" = 78'-0" | 17'-11 7/8"

Metal Bridge Railing - Types ST-3 or AL-3 (See Attached Std's.)

Paraffin Joint (Typ.)

Approx. Existing Ground

E

14'-7 1/16" Min. Vert. Cl. @ Westerly Stringer

36'-0" Roadway

68'-0" Median

15'-7 1/16" Min. Vert. Cl. @ Westerly Stringer

36'-0" Roadway

10'-0" Shoulder

12'-0" Aux. Lane

3:0

¼" Per Ft.

4'-0"

30'-0"

℄ Constr. Rte. 2

½" Per Ft.

Profile Grade

5/16" Per Ft.

7" (Typ)

½" Per Ft. prop. 2:1 slope (or Style (E))

El. 234.0

45°

Limits of Gravel Borrow for Bridge Foundations

Final Decision for this Elevation to be Determined by Engineer in Field

Special Slope Paving

El. 225.0

Extend Striations 18" Below Finished Grade (Typ)

Special Slope Paving

Sloped Edging (Typ)

EASTERLY ELEVATION

SCALE: 3/32" = 1'-0"

WESTERLY ELEVATION OPPOSITE HAND

Notes:
E = Expansion Joint: Top, Center & Bottom Rails
See Railing Details Sh. No. 9

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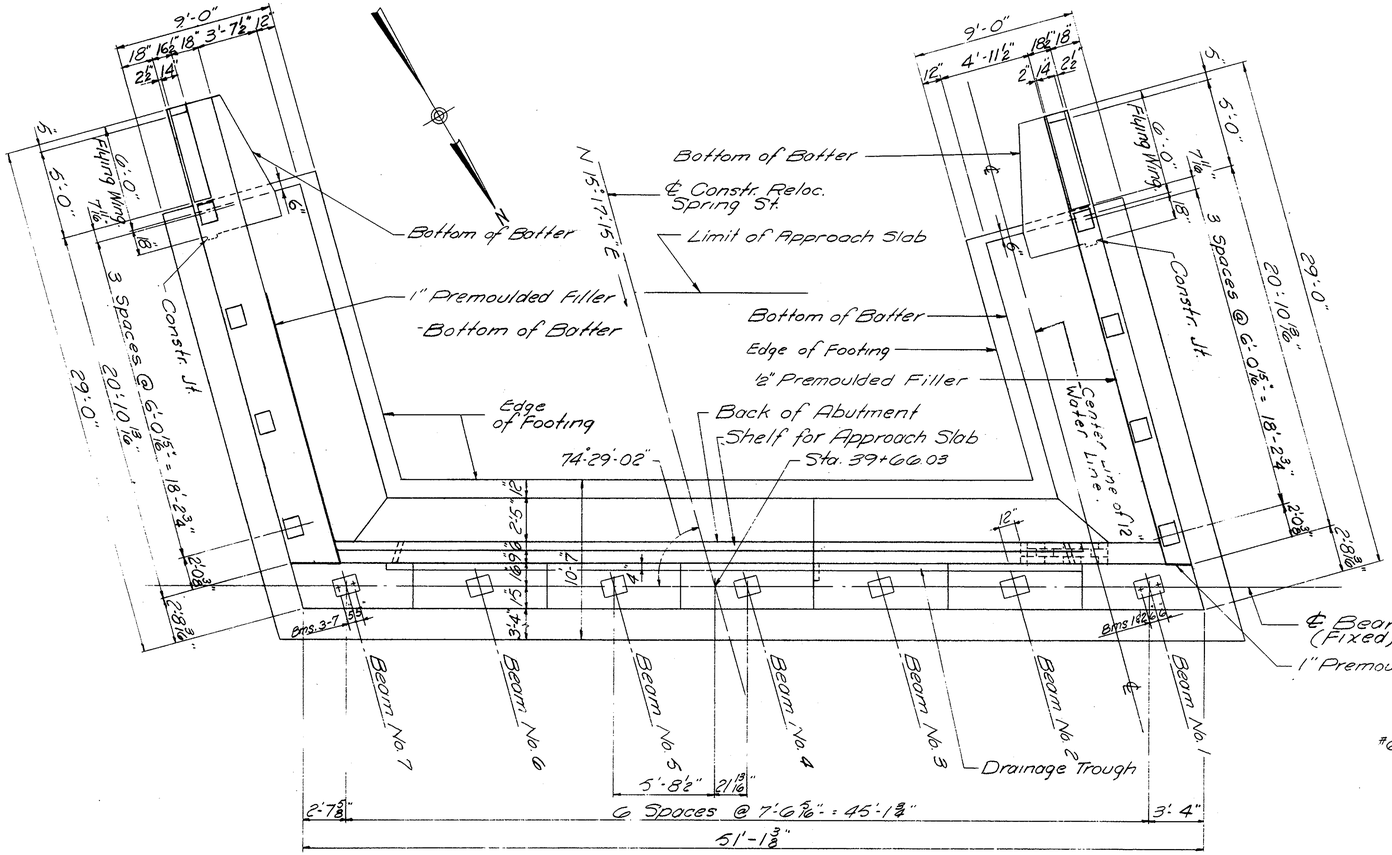
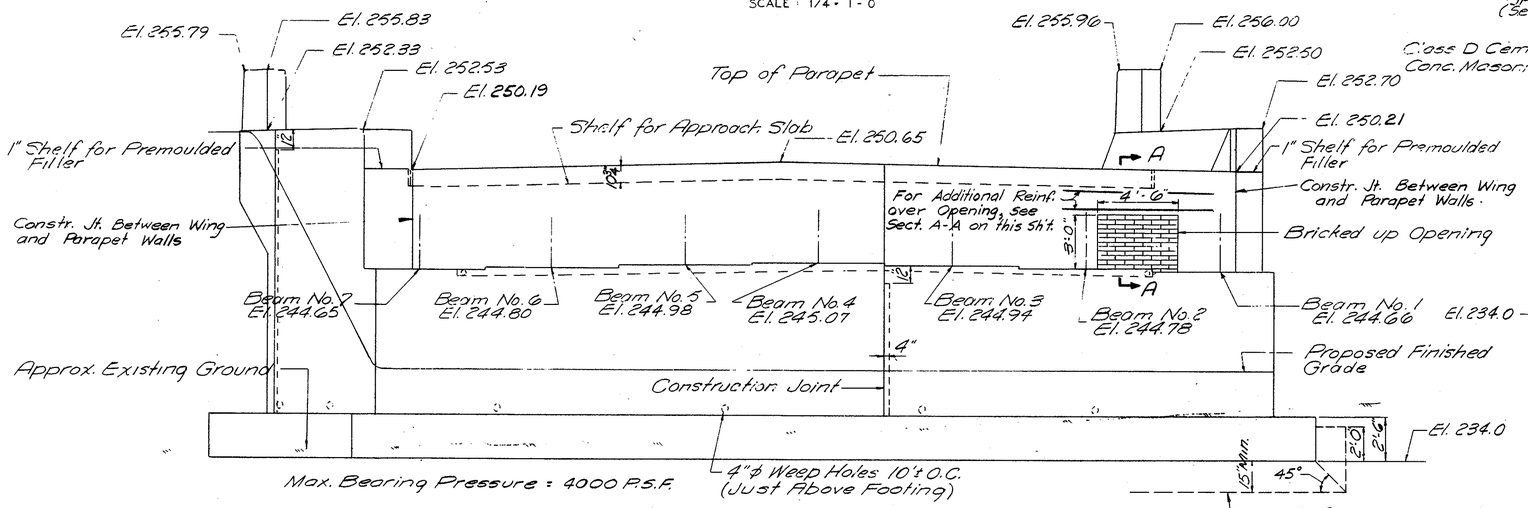
1	MASS.	U-24-2(12)	196	87	355

CONT. ACT B



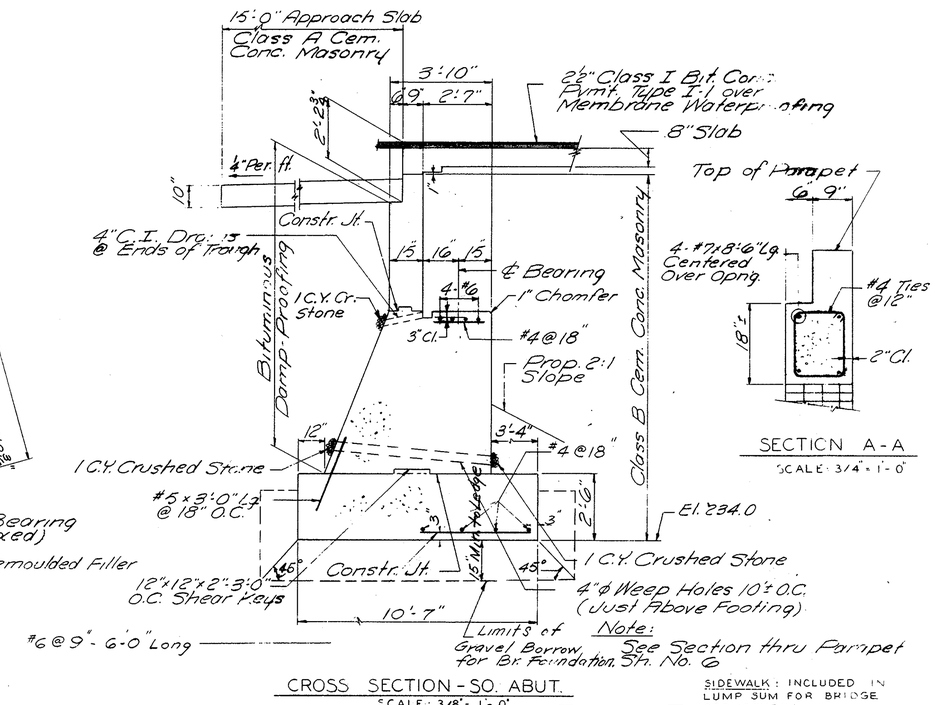
PLAN - SOUTH ABUTMENT

SCALE : 1/4" = 1'-0"



ELEVATION

SCALE : 1/4" = 1'-0"



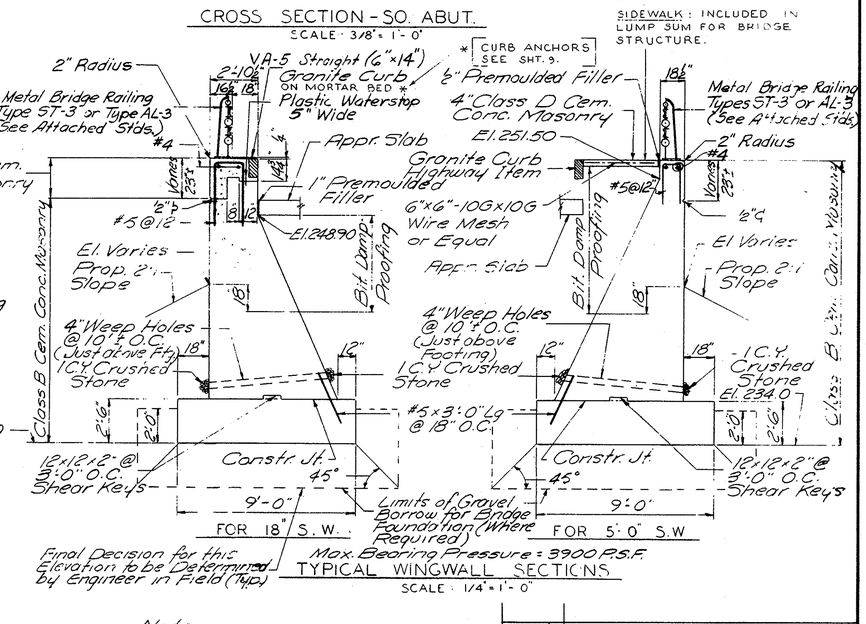
SECTION A-A

SCALE: 3/4" = 1'-0"

CROSS SECTION - SO. ABUT.

SCALE: 3/8" = 1'-0"

SIDEWALK : INCLUDED IN LUMP SUM FOR BRIDGE STRUCTURE.



TYPICAL WINGWALL SECTIONS

SCALE : 1/4" = 1'-0"

Note:
See Constr. Jt. Sh. No. 4
See Flying Wingwall Section Sh. No. 6

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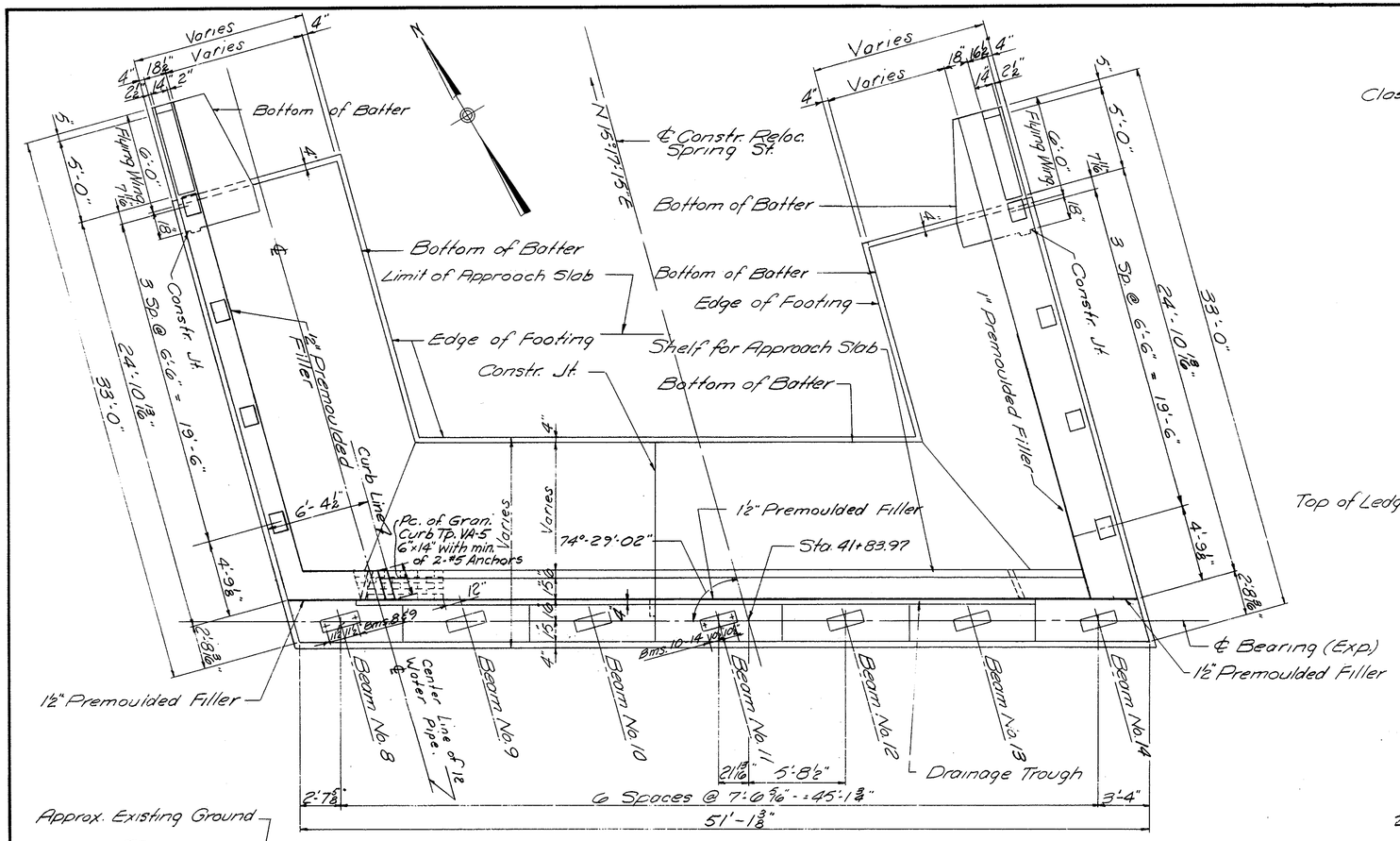
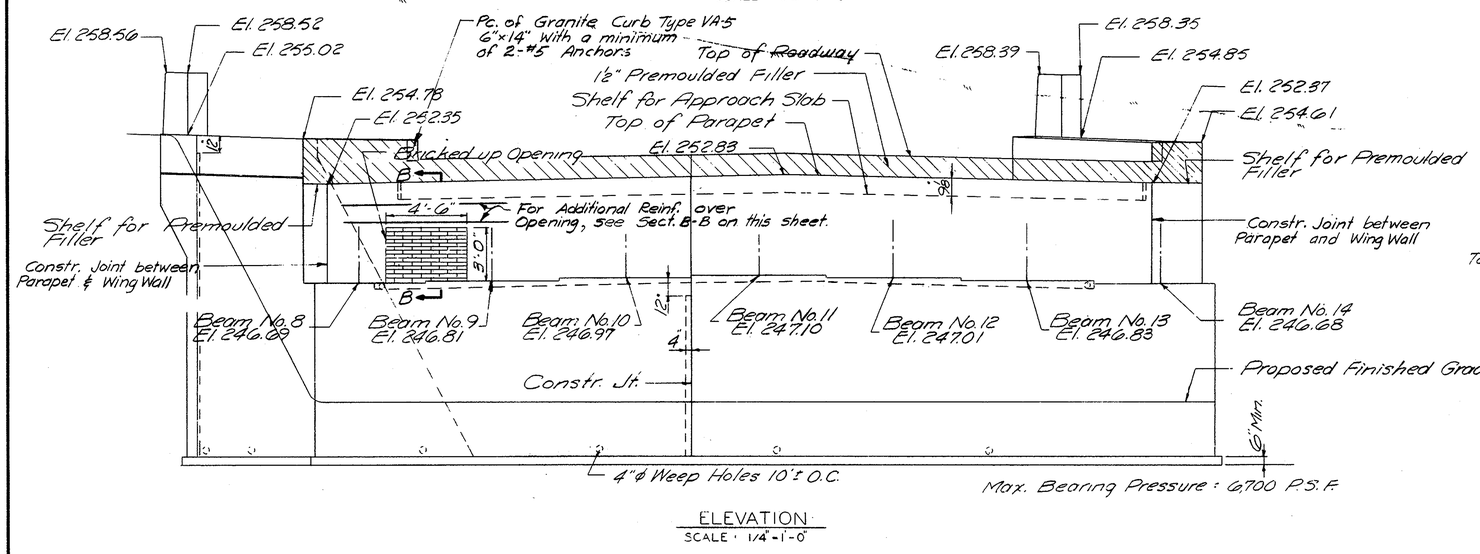
1	MASS.	U-242(12)	196	88	355

CONTRACT B



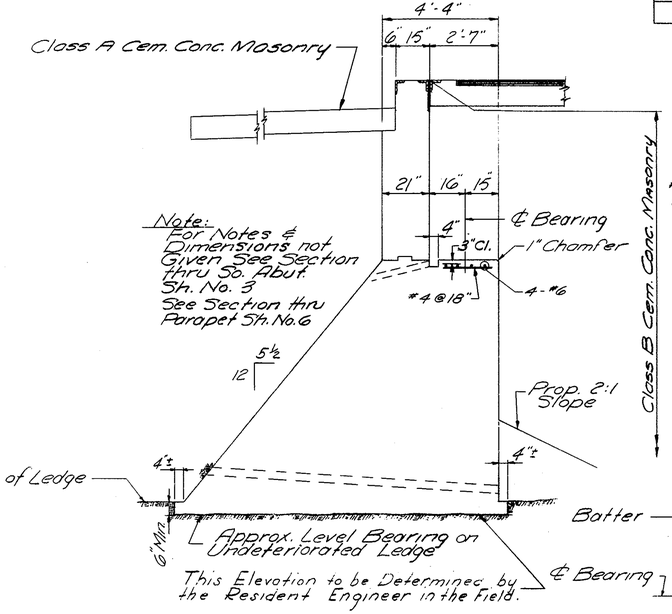
PLAN - NORTH ABUTMENT

SCALE : 1/4" = 1'-0"



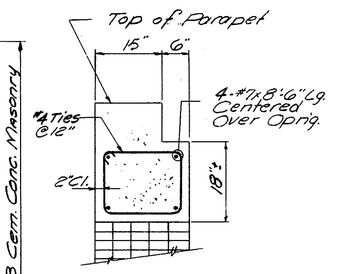
ELEVATION

SCALE : 1/4" = 1'-0"



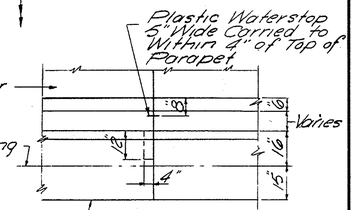
TYPICAL NORTH ABUTMENT SECTION

SCALE : 3/8" = 1'-0"



SECTION B - B

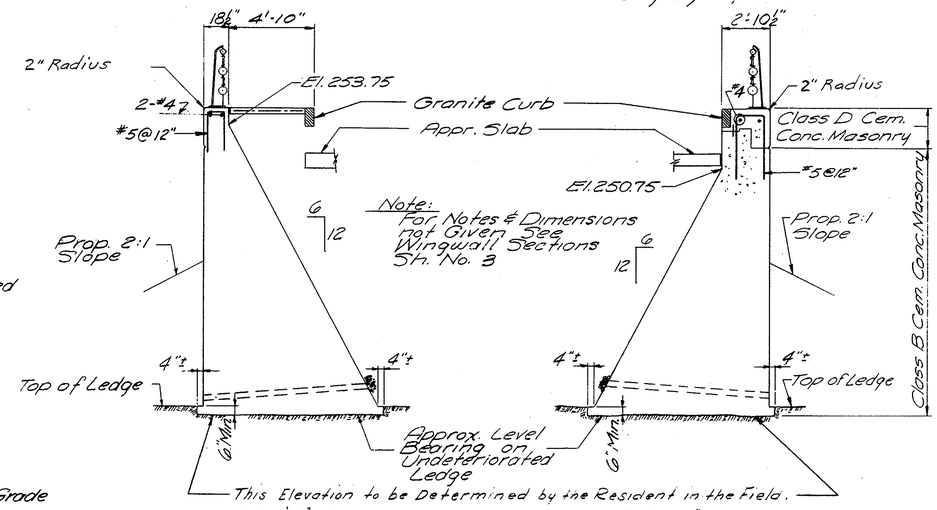
SCALE : 3/4" = 1'-0"



PLAN - CONSTRUCTION JOINT

SCALE : 3/8" = 1'-0"

Note:- All Const. Jt. Keys to be Slightly Tapered



FOR 5'-0" S.W.

Max. Bearing Pressure = 5,200 P.S.F.

FOR 18" S.W.

Max. Bearing Pressure = 5,100 P.S.F.

TYPICAL WINGWALL SECTIONS

SCALE : 1/4" = 1'-0"

Note: See Flying Wingwall Section Sta. No. 6

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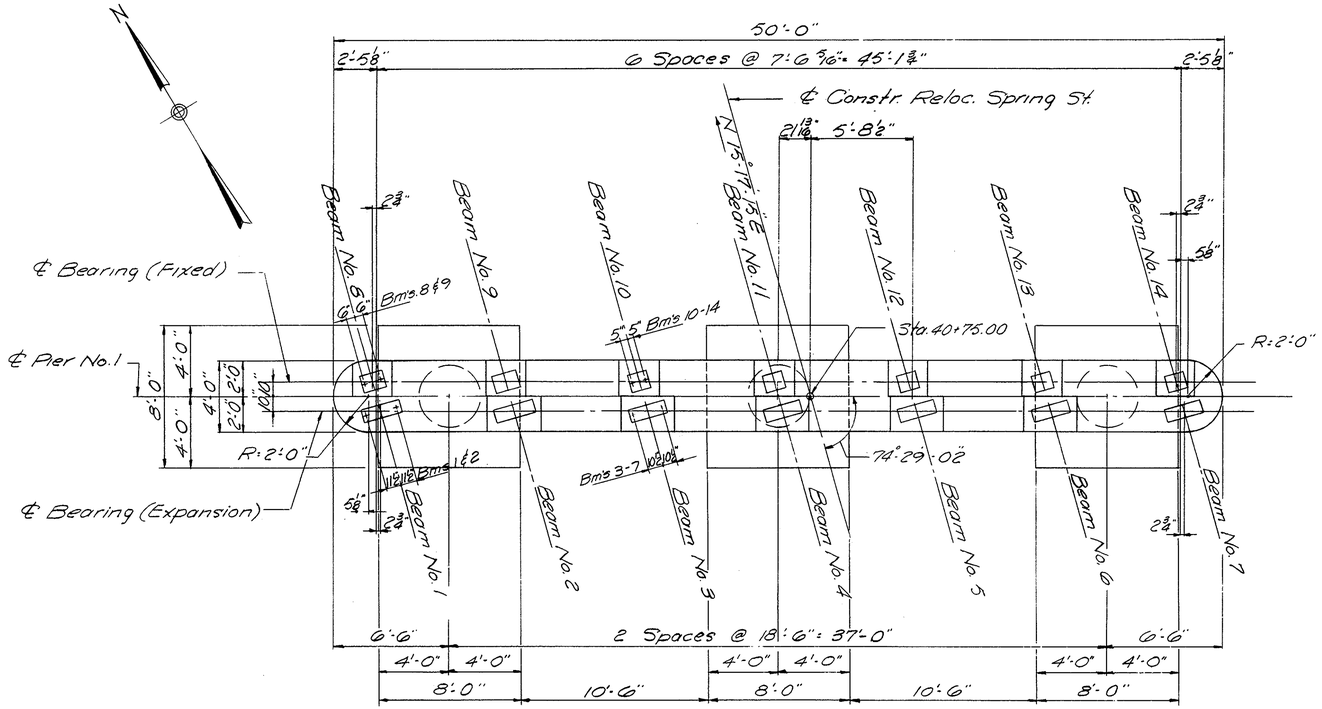
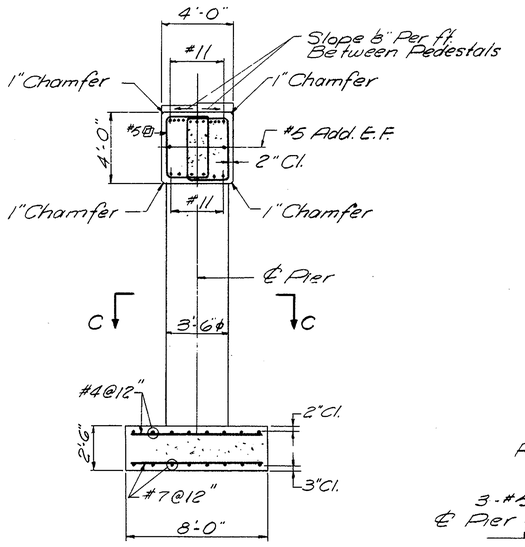
1	MASS.	U-242(12)	196	89	355

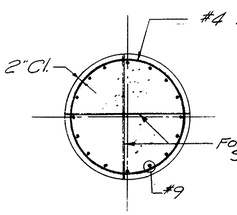
CONTRACT B



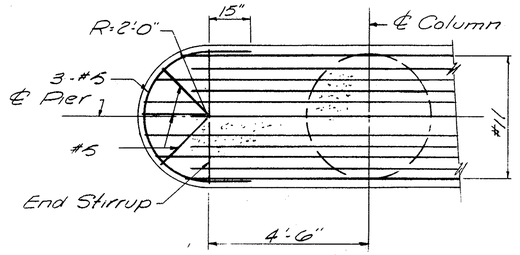
PLAN - PIER
SCALE: 1/4" = 1'-0"



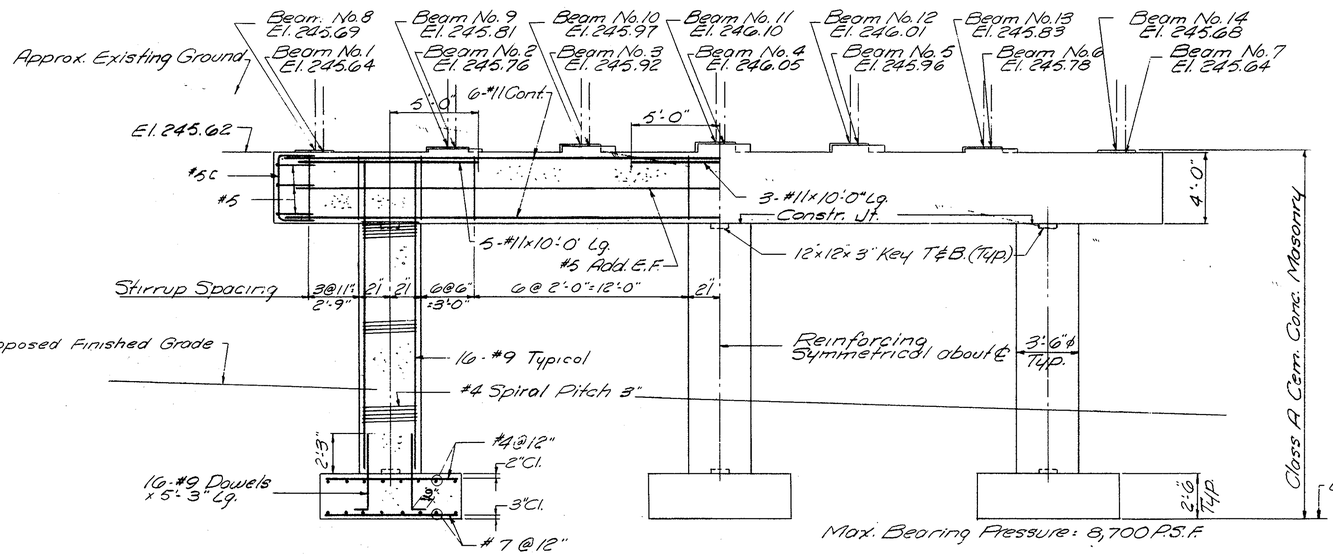
PIER CROSS SECTION
SCALE: 1/4" = 1'-0"



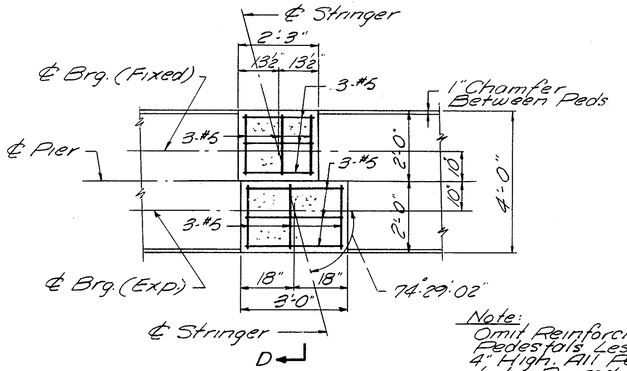
SECTION C-C
SCALE: 1/2" = 1'-0"



TYPICAL END DETAIL
SCALE: 1/2" = 1'-0"

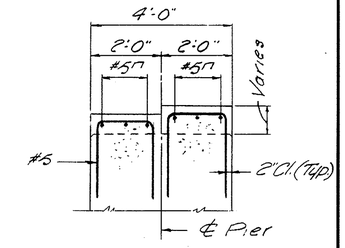


ELEVATION
SCALE: 1/4" = 1'-0"



PLAN

Note:
Omit Reinforcing in Pedestals Less than 4' High. All Pedestals to be Poured Monolithically w/ Cap Beam



SECTION D-D

TYPICAL PEDESTAL DETAILS
SCALE: 1/2" = 1'-0"

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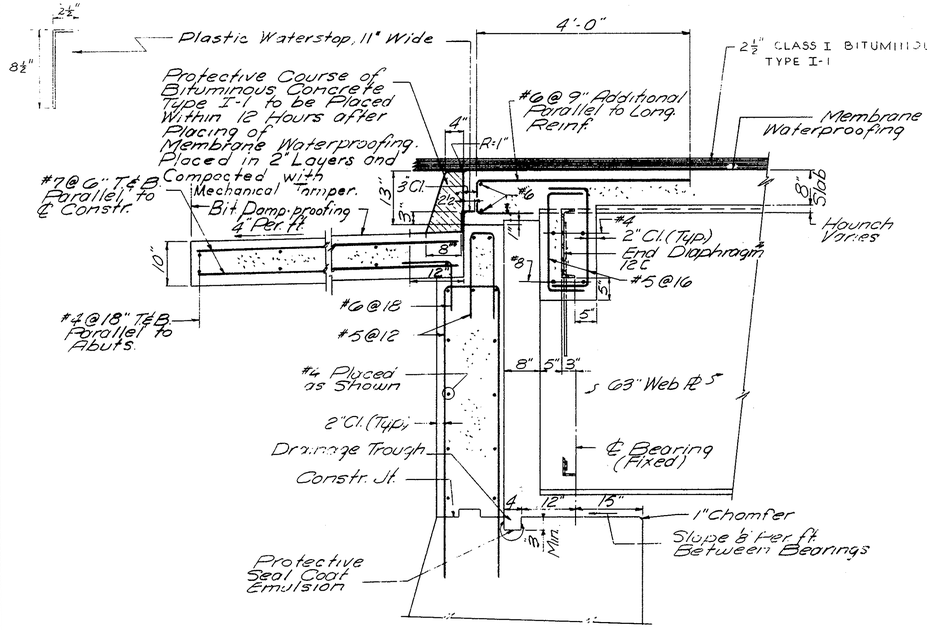
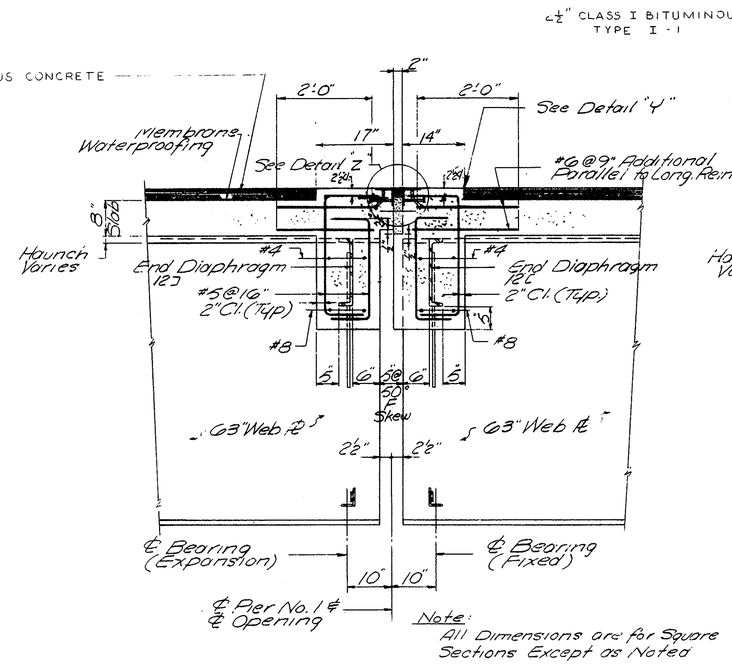
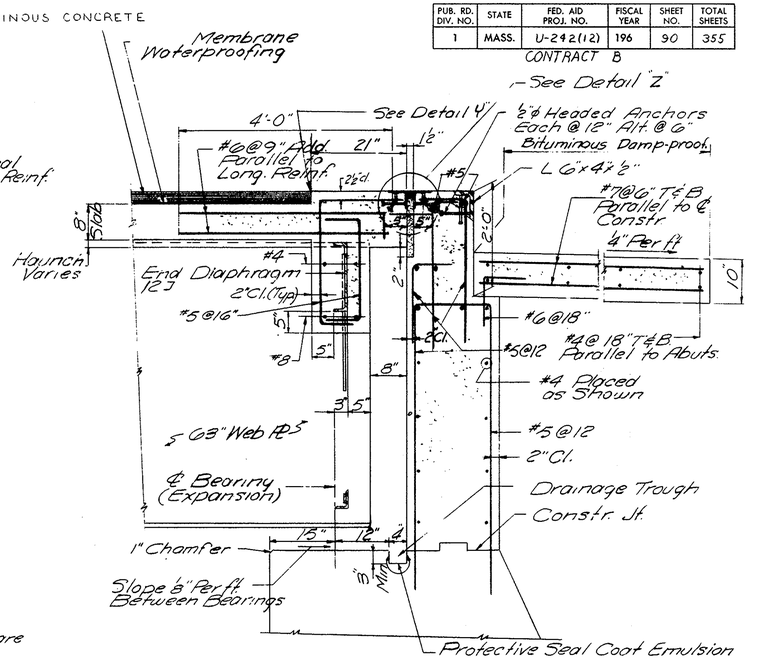
CONTRACT B







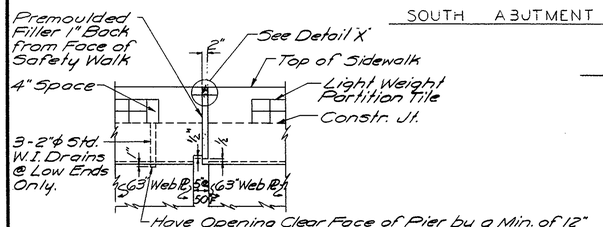
SOUTH ABUTMENT

PIER NO 1

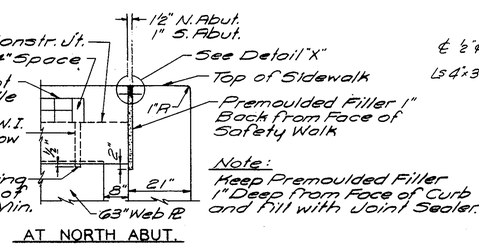
NORTH ABUTMENT

TYPICAL DECK DETAILS

SCALE: 3/4" = 1'-0"



AT PIER NO. 1

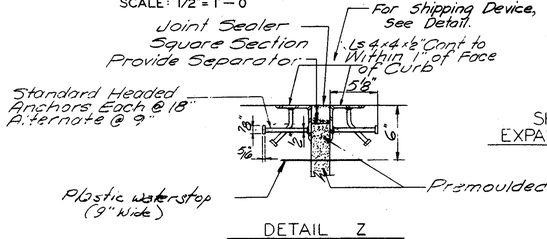


AT NORTH ABUT.

Note:
Keep Premoulded Filler 1" Deep from Face of Curb and Fill with Joint Sealer.

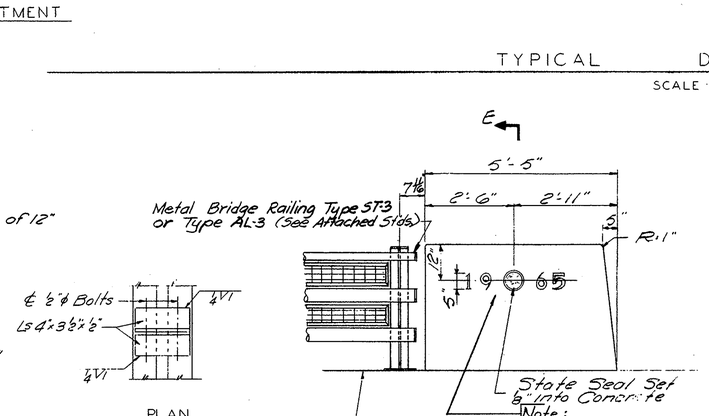
TYPICAL SIDEWALK SECTIONS

SCALE: 1/2" = 1'-0"



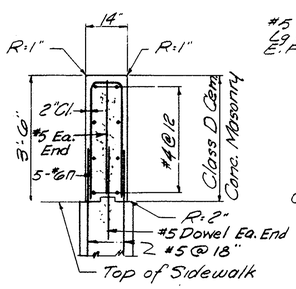
DETAIL Z

NOT TO SCALE



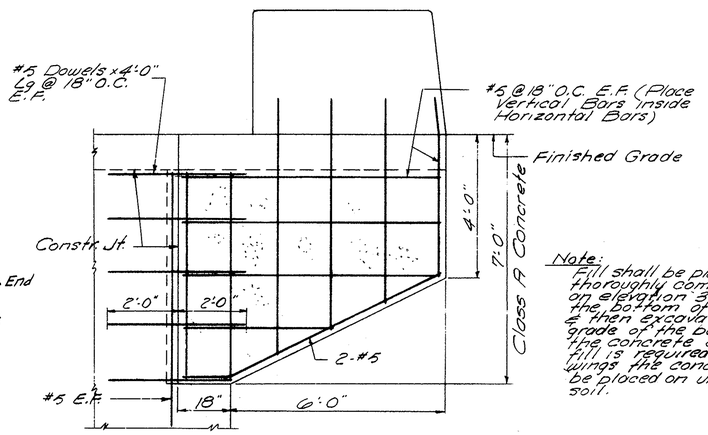
TYPICAL END POST DETAIL

SCALE 1½" = 1'-0"



SECTION E-E

SCALE: 1/2" = 1'-0"



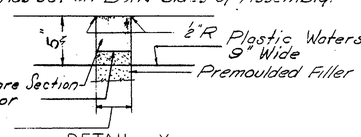
FLYING WINGWALL SECTION

SCALE: 1/2" = 1'-0"

Note:
Fill shall be placed & thoroughly compacted to an elevation 2'-0" above the bottom of the wings & then excavated to the grade of the bottom of the concrete, or where no fill is required below the wings the concrete shall be placed on undisturbed soil.

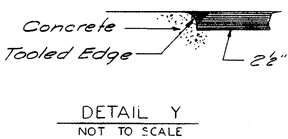
SHIPPING DEVICE FOR EXPANSION JOINT ASSEMBLY

SCALE: 1"-1'-0"



DETAIL X

SCALE: 3"-1'-0"



DETAIL Y

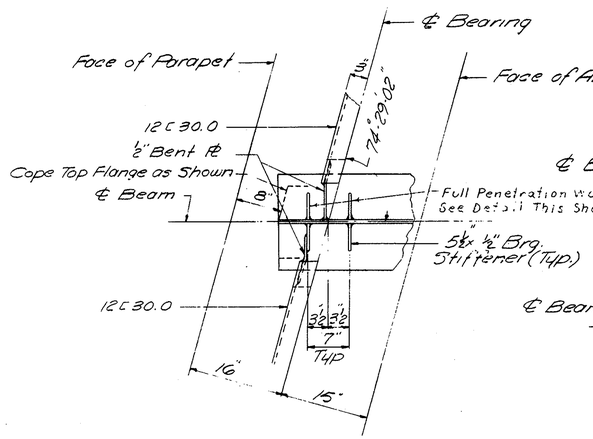
NOT TO SCALE

Note:
All Expansion Joint Assemblies must be Properly Fitted in Shop & Shipped with Device for Maintaining Proper Spacing & Fit. Bolts on Shipping Device must be Loosened Within one Hour after Concrete is Placed so that Movement may take place. Device shall be Removed after Concrete has set on Both Sides of Assembly.

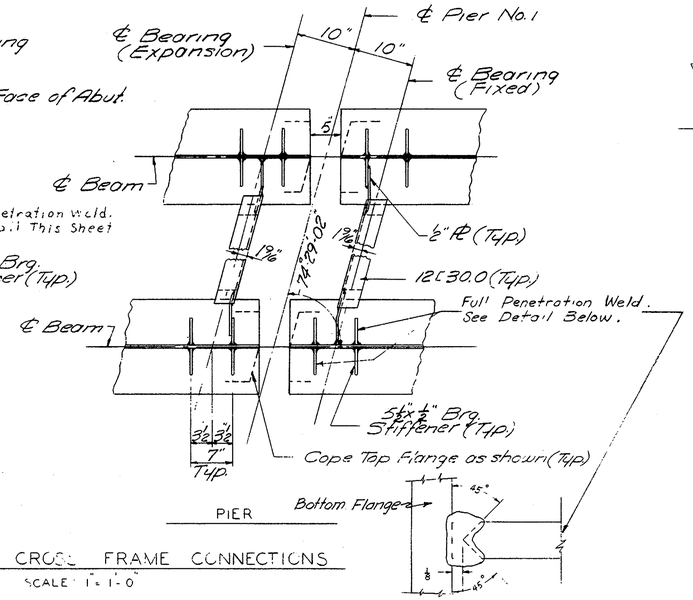
AUG. 28, '65	· ISSUED FOR CONSTRUCTION ·
DATE	· DESCRIPTION ·
· USE ONLY PRINTS OF LATEST DATE ·	

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(12)	196	91	355

CONTRACT B



ABUTMENTS

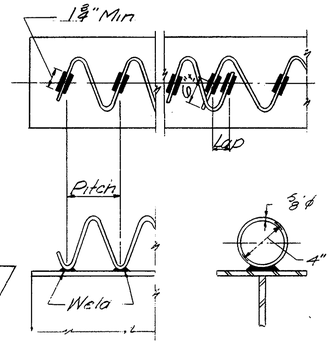


PIER

TYPICAL END CROSS FRAME CONNECTIONS

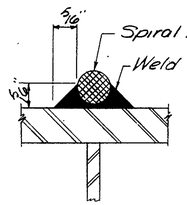
SCALE: 1"=1'-0"

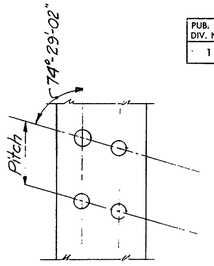
FULL PENETRATION WELD DETAIL

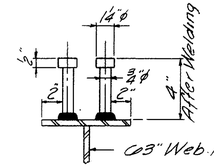


SPIRALS

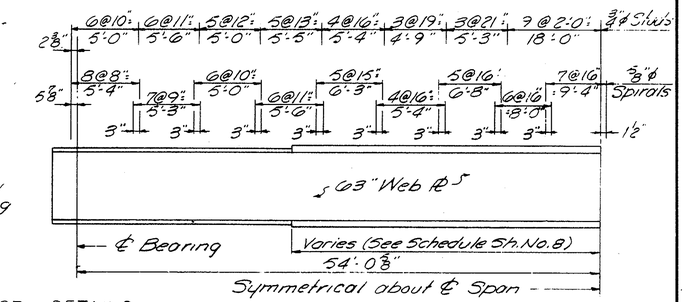
Note:
⅞" Diameter Studs may be substituted for ¾" Diameter studs by providing an equivalent cross-sectional area & adjusting the pitch accordingly





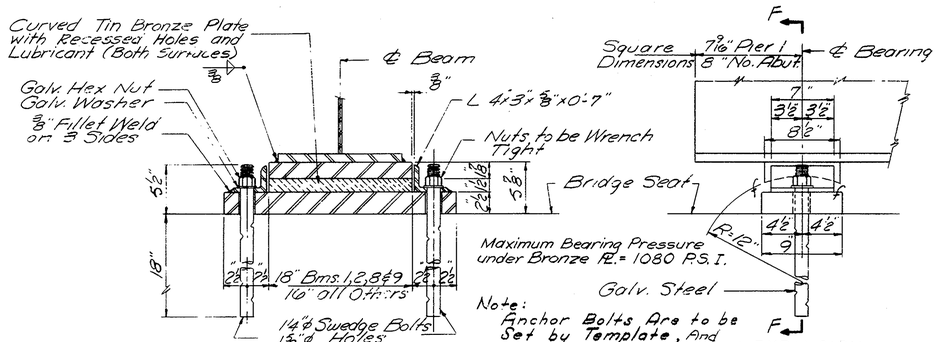


STUDS



SHEAR CONNECTOR DETAILS

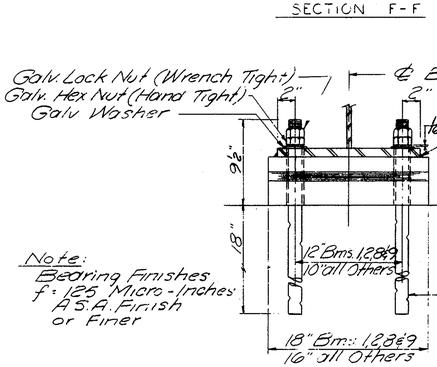
NOT TO SCALE



SECTION F-F

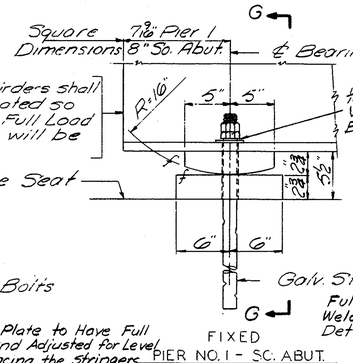
Note:
Anchor Bolts Are to be Set by Template, And placed before concrete is poured. (Fixed & Exp. Brgs.)

EXPANSION PIER NO. 1 — NO. ABUT.



Note:
Bearing Finishes f = 125 Micro-Inches A.S.A. Finish or Finer

SECTION G G

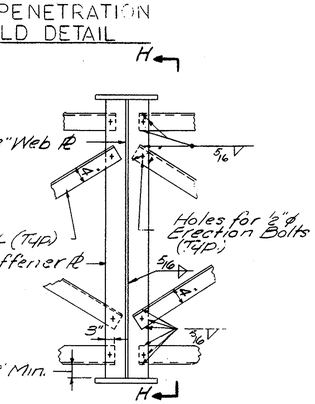


Note: Masonry Plate to Have Full Bearing and Adjusted for Level before Placing the Stringers on the Bearing Assembly. (Fixed & Exp.)

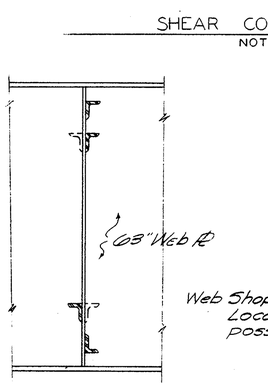
FIXED PIER NO. 1 — SO. ABUT.

TYPICAL BEARING DETAILS

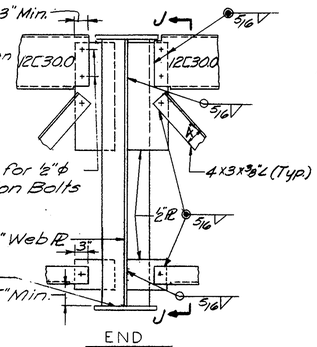
SCALE: 1½"=1'-0"



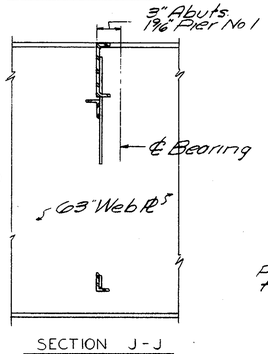
INTERMEDIATE



SECTION H H



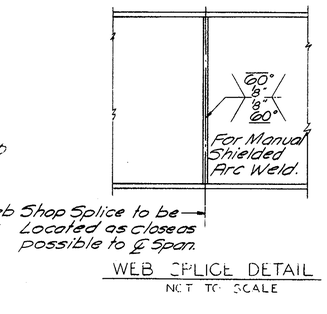
END



SECTION J-J

TYPICAL CROSS FRAME CONNECTIONS

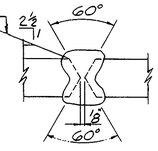
SCALE: 3/4"=1'-0"



Web Shop Splice to be Located as close as possible to ℄ Span.

WEB SPLICE DETAIL

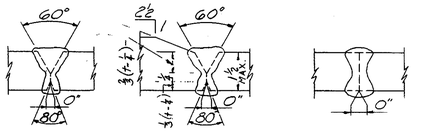
NOT TO SCALE



FLANGE & WEB SPLICE

MANUAL SHIELDED ARC WELD

NOT TO SCALE

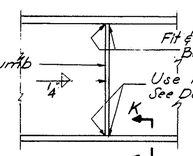


FLANGE WEB

SUBMERGED ARC WELD

NOT TO SCALE

NOTE:
IN ADDITION TO THE WELDS SHOWN ABOVE, ANY WELDED JOINT PRE-QUALIFIED BY THE AMERICAN WELDING SOCIETY FOR WELDED HIGHWAY AND RAILWAY BRIDGES WILL BE ACCEPTABLE IN THE FABRICATION OF THE STRUCTURAL STEEL.



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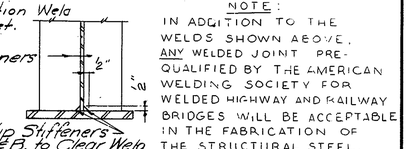
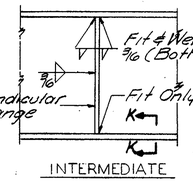


SECTION K-K

NOT TO SCALE



INTERMEDIATE

Note:
Use ⅜ø Welds @ Stiffeners Receiving Cross Frames.

TYPICAL STIFFENERS

NOT TO SCALE

DATE	DESCRIPTION
AUG. 28, 65	· ISSUED FOR CONSTRUCTION ·
	· USE ONLY PRINTS OF LATEST DATE ·

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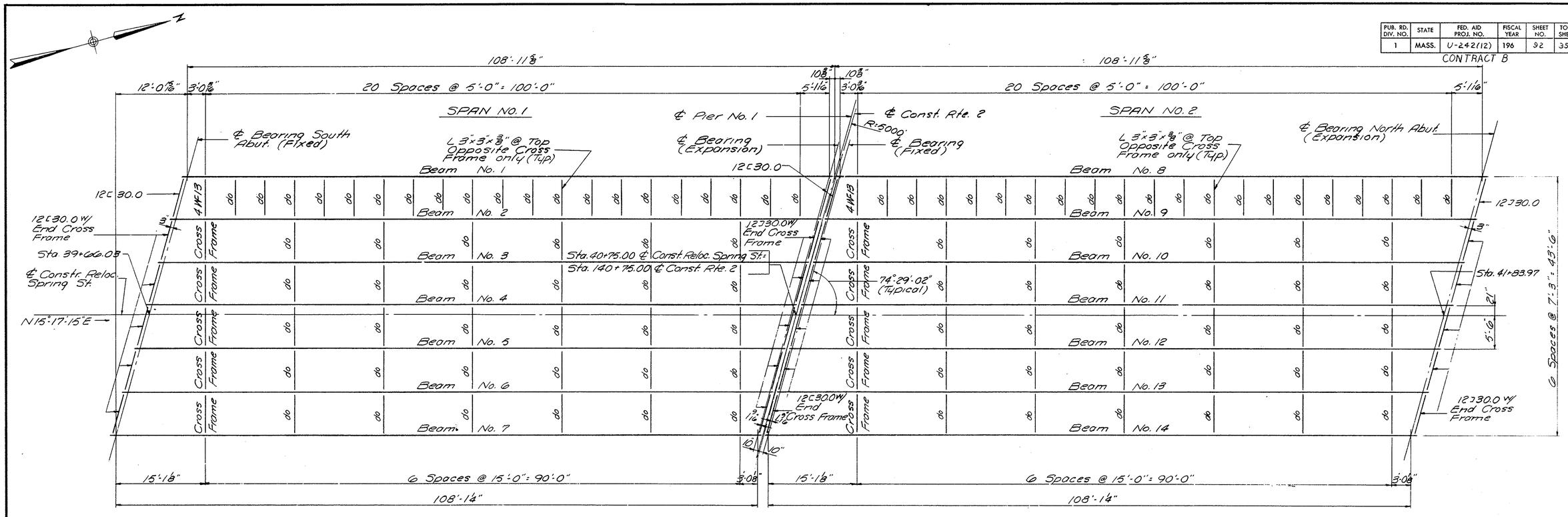
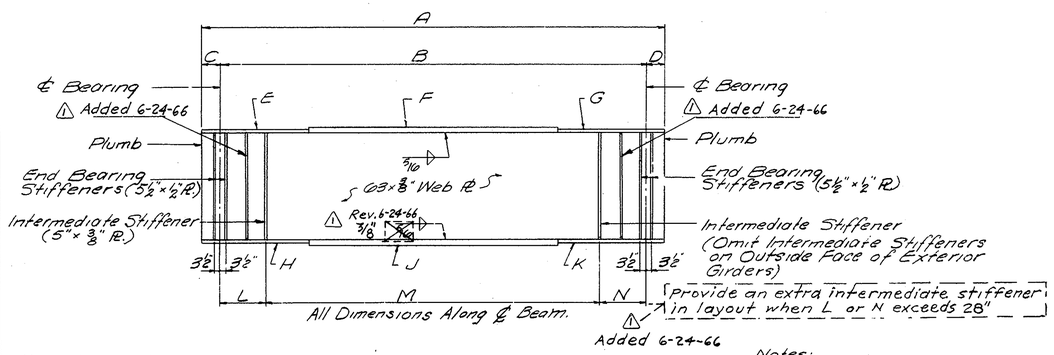
1	MASS.	U-242(12)	196	92	355

CONTRACT B



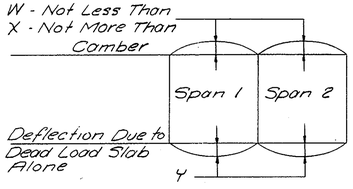
FRAMING PLAN

SCALE : 1/8" = 1'-0"



STIFFENER & PLATE SCHEDULE

Beam No.	A	B	C	D	E	F	G	H	J	K	L	M	N
1	109'-5⅞"	108'-1¼"	8⅝"	7⅞"	14"x⅜"PLx28'-2⅝"	14"x1⅛"PLx53'-0"	14"x⅜"PLx28'-2⅝"	16"x⅜"PLx28'-2⅝"	16"x⅞"PLx53'-0"	16"x⅜"PLx28'-2⅝"	3'-0⅜"	20@5'-0"=100'-0"	5'-1⅛"
2					14"x⅜"PLx26'-2⅝"	14"x⅝"PLx57'-0"	14"x⅜"PLx26'-2⅝"	16"x⅝"PLx26'-2⅝"	16"x2"PLx57'-0"	16"x⅜"PLx26'-2⅝"	5'-0⅜"	20@5'-0"=100'-0"	3'-0⅜"
3					14"x⅜"PLx28'-2⅝"	14"x1"PLx53'-0"	14"x¾"PLx28'-2⅝"	14"x⅝"PLx28'-2⅝"	14"x2"PLx53'-0"	14"x⅜"PLx28'-2⅝"	2'-0½"	21@5'-0"=105'-0"	12⅜"
4					↓	↓	↓	↓	↓	↓	4'-0⅜"	20@5'-0"=100'-0"	4'-0⅜"
5											12⅛"	21@5'-0"=105'-0"	2'-0⅛"
6											3'-0⅛"	20@5'-0"=100'-0"	5'-0⅛"
7					14"x⅜"PLx29'-2⅝"	14"x⅞"PLx51'-0"	14"x¾"PLx29'-2⅝"	14"x¼"PLx29'-2⅝"	14"x1¾"PLx51'-0"	14"x¼"PLx29'-2⅝"	5'-1⅛"	20@5'-0"=100'-0"	3'-0⅛"
8			7⅞"	8⅛"	14"x⅜"PLx28'-2⅝"	14"x1¼"PLx53'-0"	14"x⅜"PLx28'-2⅝"	16"x⅝"PLx28'-2⅝"	16"x1⅜"PLx53'-0"	16"x⅜"PLx28'-2⅝"	3'-0⅜"	20@5'-0"=100'-0"	5'-1⅛"
9					14"x⅜"PLx26'-2⅝"	14"x1⅜"PLx57'-0"	14"x⅜"PLx26'-2⅝"	16"x⅝"PLx26'-2⅝"	16"x2"PLx57'-0"	16"x⅜"PLx26'-2⅝"	5'-0⅜"	20@5'-0"=100'-0"	3'-0⅜"
10					14"x¾"PLx28'-2⅝"	14"x1"PLx53'-0"	14"x¾"PLx28'-2⅝"	14"x⅝"PLx28'-2⅝"	14"x2"PLx53'-0"	14"x⅜"PLx28'-2⅝"	2'-0½"	21@5'-0"=105'-0"	12⅜"
11					↓	↓	↓	↓	↓	↓	4'-0⅜"	20@5'-0"=100'-0"	4'-0⅜"
12											12⅛"	21@5'-0"=105'-0"	2'-0⅛"
13											3'-0⅛"	20@5'-0"=100'-0"	5'-0⅛"
14					14"x¾"PLx29'-2⅝"	14"x⅞"PLx51'-0"	14"x¾"PLx29'-2⅝"	14"x¼"PLx29'-2⅝"	14"x1¾"PLx51'-0"	14"x¼"PLx29'-2⅝"	5'-1⅛"	20@5'-0"=100'-0"	3'-0⅛"



DEADLOAD & CAMBER DIAGRAM

NOT TO SCALE

CAMBER

BEAM NO.	W	X	Y
1	3⅛"	3⅛"	⅜"
2	3⅜"	4"	1⅛"
3	3½"	3⅝"	1⅜"
4	↓	↓	↓
5			
6			
7	3½"	3⅝"	1⅜"
8	3⅜"	3⅜"	⅜"
9	3⅜"	4"	1⅛"
10	3½"	3⅝"	1⅜"
11	↓	↓	↓
12			
13			
14	3½"	3⅝"	1⅜"

Notes:

The beams shall be cambered to the amount shown in table. The beams at the time & place of erection shall have the required camber. The camber will be checked by the engineer @ the bridge site & he shall reject any beams not having the required camber. The contractor shall handle & store the beams in such a manner that the camber supplied by the fabricator will not be changed.

TOP OF BEAM ELEVATIONS

Beam No.	Brg.(So.)	¼ Point	½ Point	¾ Point	Brg.(No.)	Beam No.	Brg.(So.)	¼ Point	½ Point	¾ Point	Brg.(No.)
1	250.36	251.00	251.36	251.51	251.37	8	251.59	252.04	252.40	252.55	252.62
2	250.68	251.17	251.48	251.68	251.69	9	251.71	252.21	252.52	252.72	252.74
3	250.83	251.27	251.60	251.78	251.84	10	251.86	252.31	252.64	252.82	252.89
4	250.96	251.40	251.74	251.91	251.97	11	251.99	252.44	252.78	252.95	253.02
5	250.87	251.31	251.64	251.82	251.88	12	251.90	252.35	252.68	252.86	252.93
6	250.69	251.13	251.46	251.64	251.70	13	251.72	252.17	252.50	252.68	252.75
7	250.53	250.98	251.30	251.48	251.55	14	251.56	252.01	252.34	252.52	252.59

Note:

The top of beam elevations shown are for the use of the Resident Engineer to compare the theoretical top of beam elevations as shown in the table & the actual top of beam elevations as found in the field. The elevations in the table are without dead load of slab applied & include deflection due to dead load of structural steel only.

DATE	DESCRIPTION
JUNE 24, '66	⚠ REVISION-Size of Weld @ Bottom of Web — Spacings of Interm. Stiffeners @ Ends
AUG. 28, '65	· ISSUED FOR CONSTRUCTION ·

· USE ONLY PRINTS OF LATEST DATE ·

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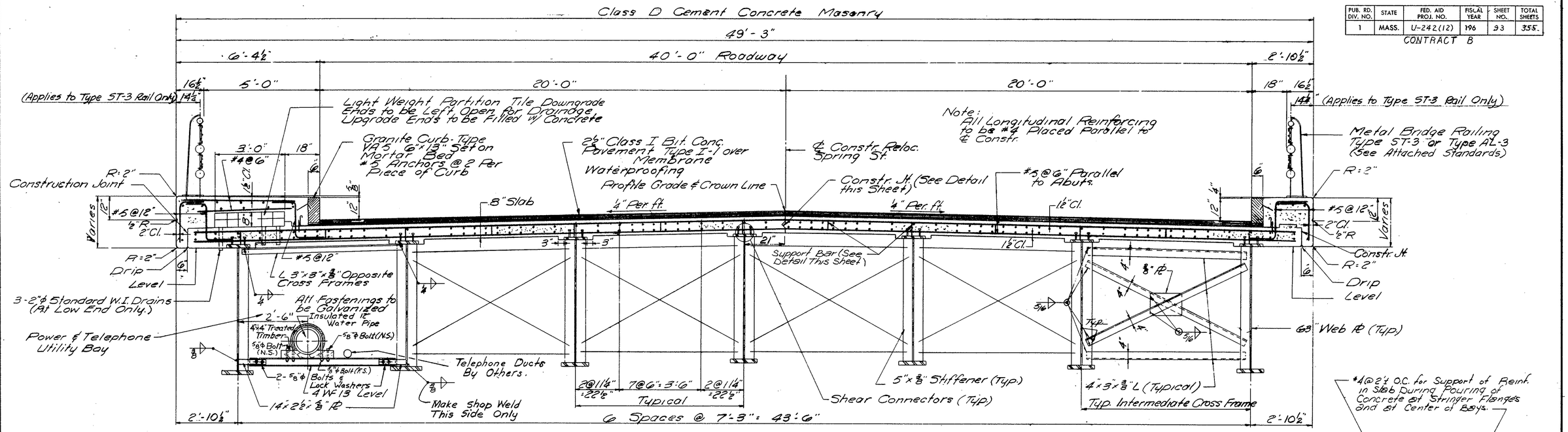
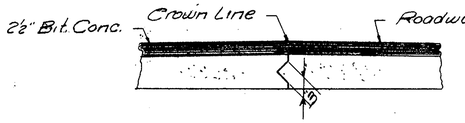
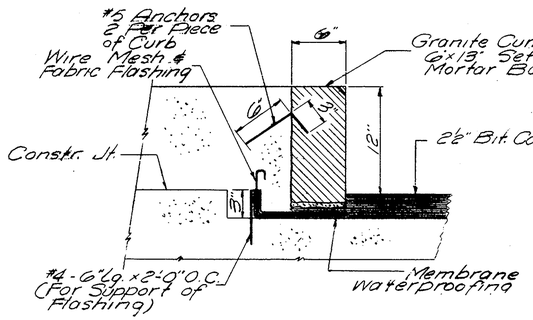
1	MASS.	U-242(12)	196	33	355

CONTRACT B

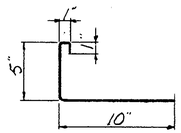




ROADWAY CONSTRUCTION JOINT
NOT TO SCALE

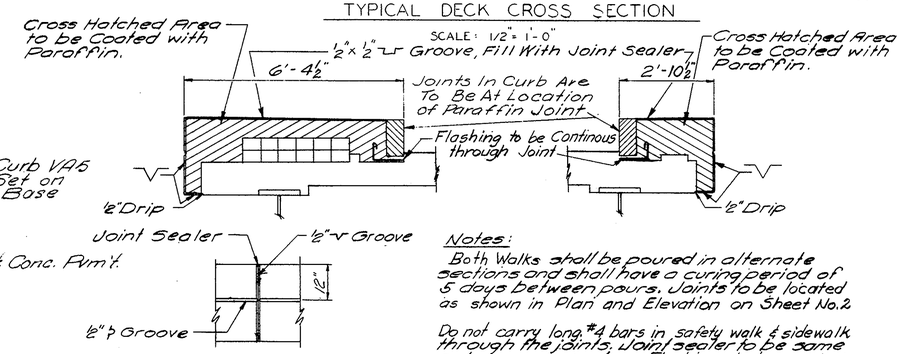


DETAILS UNDER CURB
SCALE : 1½"=1'-0"



DETAIL OF FLASHING
NOT TO SCALE

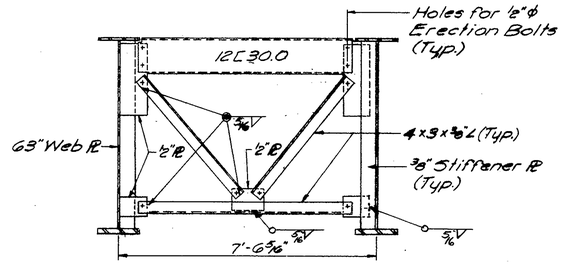
TYPICAL DECK CROSS SECTION
SCALE : 1/2"= 1'-0"



Notes:
Both Walks shall be poured in alternate sections and shall have a curing period of 5 days between pours. Joints to be located as shown in Plan and Elevation on Sheet No.2

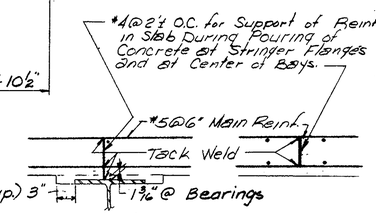
Do not carry long #4 bars in safety walk & sidewalk through the joints. Joint sealer to be same color as concrete. Flashing to be carried through joints.

PARAFFIN JOINT THROUGH SAFETY WALK & SIDEWALK
NOT TO SCALE

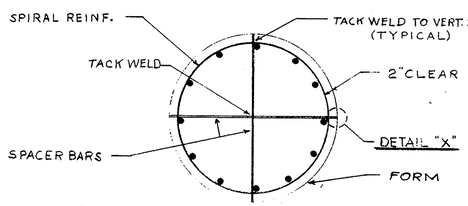


TYPICAL END CROSS FRAME
NOT TO SCALE

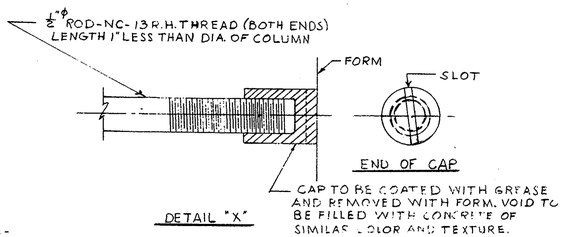
Note:
Longitudinal Joint In Deck Slab May Be Omitted When Directed By The Engineer.



HAUNCH & SUPPORT BAR DETAIL
NOT TO SCALE



COLUMN SECTION



DETAIL "X"

NOTE:-
SPACER BARS TO BE PLACED AT ¼ POINTS IN COLUMN

SPACER BARS FOR COLUMN REINFORCEMENT

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AUG.28,65	· ISSUED FOR CONSTRUCTION ·
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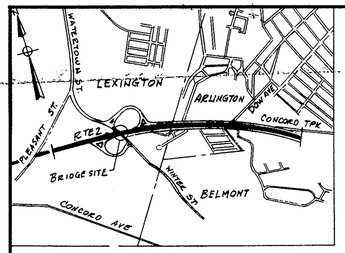
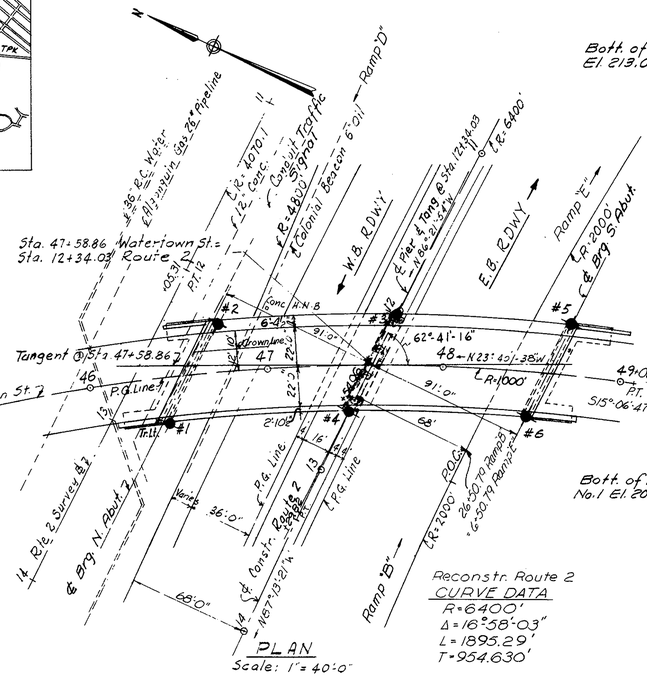
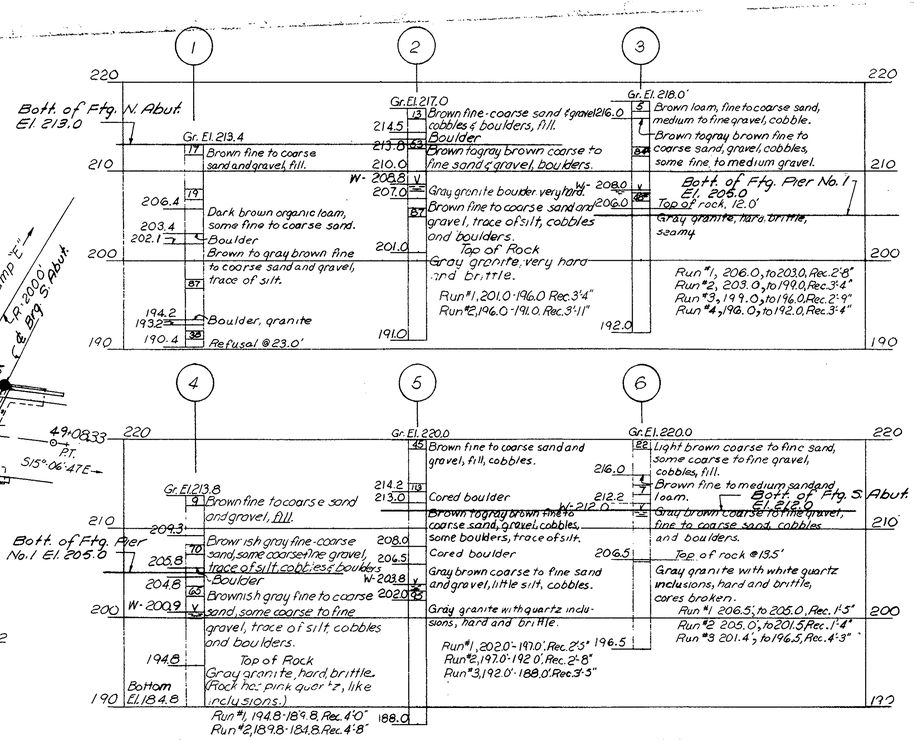
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		196	108	334



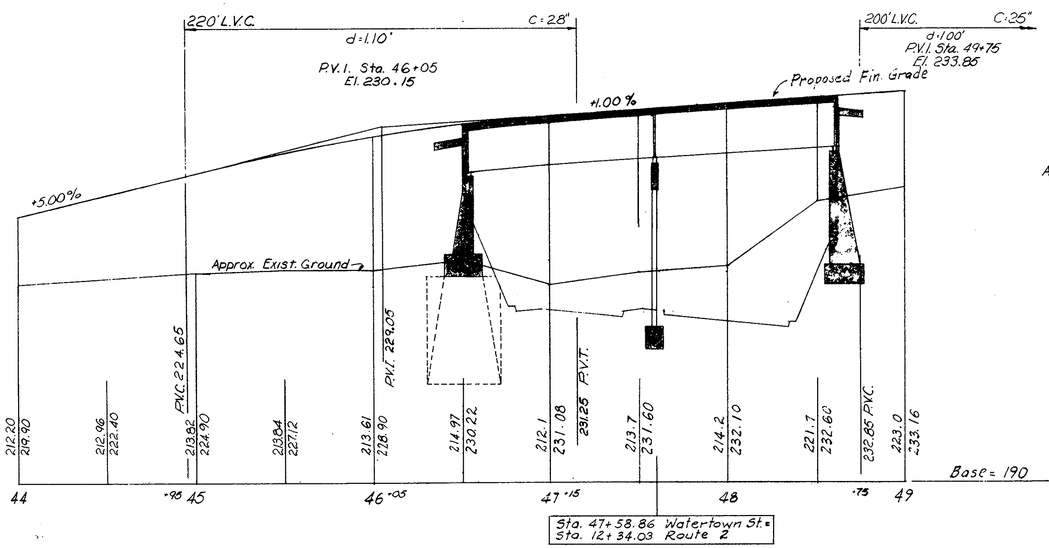
LOCATION PLAN
SCALE: 1" = 2000'





BORINGS TAKEN BY AMERICAN DRILLING & BORING CO., INC. EAST PROVIDENCE, R.I.
JANUARY & FEBRUARY 1966

BORING DATA
SCALE 1/8"=1'-0"



PROFILES
Scales: Hor. 1"=40'-0"
Vert. 1"=8'-0"

BORING NOTES

Location of Core Prep. borings shown on plan thus ✦#1
Figures in columns indicate blows per ft on 1⅜" ø split tube sampler produced by 30" fall of 140 lb. weight.
Borings taken for purpose of design & show conditions @ boring points only but do not necessarily show nature of materials to be encountered during construction.
Boring samples may be seen @ the Research & Materials Division, 99 Worcester St., Wellesley Hills @ the intersection of Rte. 9 & Rte. 128.
Water levels shown on the Boring Logs were observed at the time of taking borings and do not necessarily show the true ground water level.

GENERAL NOTES

FOUNDATIONS
May be altered if necessary to suit conditions encountered during construction.

DATE & SEAL
To be placed on the inside face of the Northwest & Southeast End Posts. A sheet showing size & character of numerals will be furnished. Seal will be furnished by the Common wealth & installed by the contractor.

DESIGN
In accordance with current specifications of the American Association of State Highway Officials (1961 Edition) for H 20-44 Loading.

BENCH MARK
B.M. C-6, 42+50 Watertown St. ℄ Rt. 42' ° cut on ledge outcrop El. 211.781.

REINFORCEMENT
All bars shall have deformations conforming to A.S.T.M. designation A-305. Unless otherwise shown on plans, reinforcing bars shall be lapped 20 diameters to make a splice, except that main reinforcing bars near top of slabs & beams having more than 12 inches of concrete under the bars shall be lapped 35 diameters to make a splice.

STANDARD RAILING
See Department Standard Plans, dated Oct., 1966 for details of Bridge Railings. Anchor Bolts are to be set by Template and placed before Concrete is poured.

SURVEY NOTEBOOKS
For survey information see Survey Book Nos. 20223, 14814, 15042, 15008, 23177 & 21200.

SCALES
Scale noted on plans are not applicable to reduced size prints. Divide scales by 2 for ½ size prints.

UNSUITABLE MATERIAL
All unsuitable material shall be removed within the limits of the Foundations of the Structure.

ESTIMATED QUANTITIES
(Not Guaranteed)

Class "B" Rock Excavation	20 C.Y.
Bridge Excavation	1000 C.Y.
Gravel Borrow	500 C.Y.
Gravel Borrow For Bridge Foundations	550 C.Y.
Class I Bit. Conc. Pavement Type I-1	76 Tons
Class I Dense Protective Bottom Course For Bridges	76 Tons
Metal Bridge Railing (3 Rails) Option	520 L.F.
Bridge Structure No. (L-10-20)	1 L.S.
The following items are part of item 995.01	
Steel Reinforcing For Structures	129,200 lbs.
Structural Steel	348,500 lbs.

(Above steel quantities not guaranteed)

DATE	DESCRIPTION
APRIL 8, 1967	ISSUED FOR CONSTRUCTION

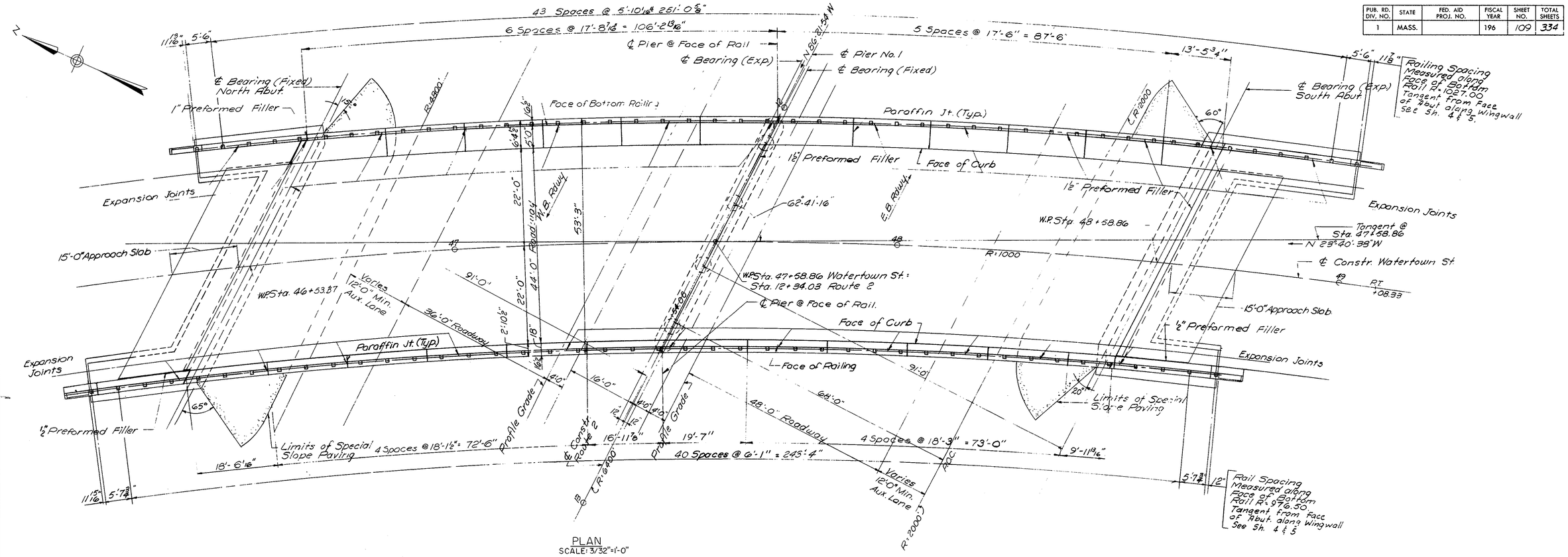
P.A.B.
DES. F.M.
L.W.
DR. J.S.
F.M.
CHK. G.D.F

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
LEXINGTON
RELOC. WATERTOWN ST.
OVER
RECONSTRUCTION OF ROUTE 2
SCALE AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. BOSTON, MASS.
APRIL 1967

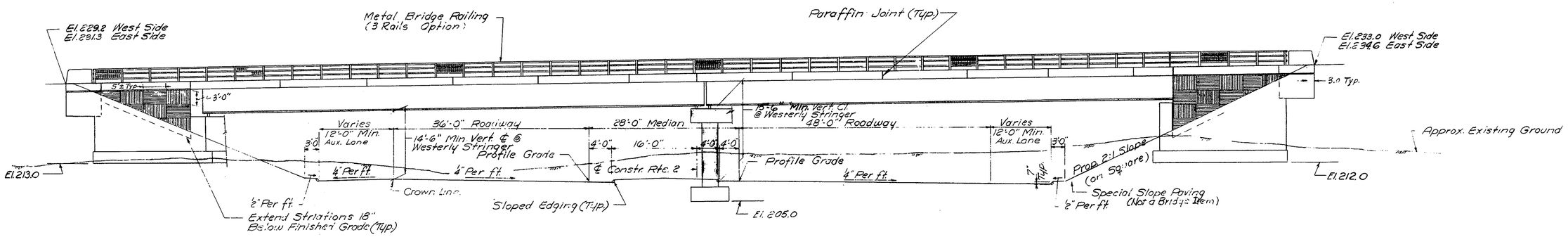
R. J. McDonough, BRIDGE ENGINEER
Daniel A. Hayes, P.E., CHIEF ENGINEER

SHEET 1 OF 10 SHEETS BRIDGE NO. L-10-20

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		196	109	334



PLAN
SCALE: 3/32"=1'-0"



ELEVATION - LOOKING EASTERLY
SCALE: 3/32"=1'-0"

Notes:
Bridge Railing Anchor Bolts are to be set by Templote and placed Before the concrete is Poured.

DATE	DESCRIPTION
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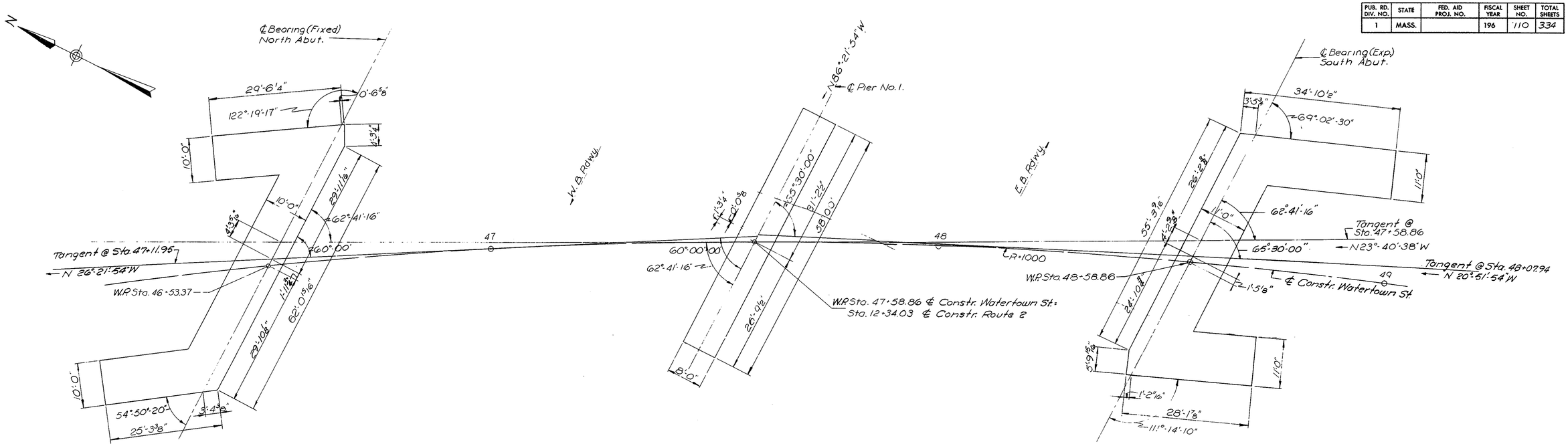
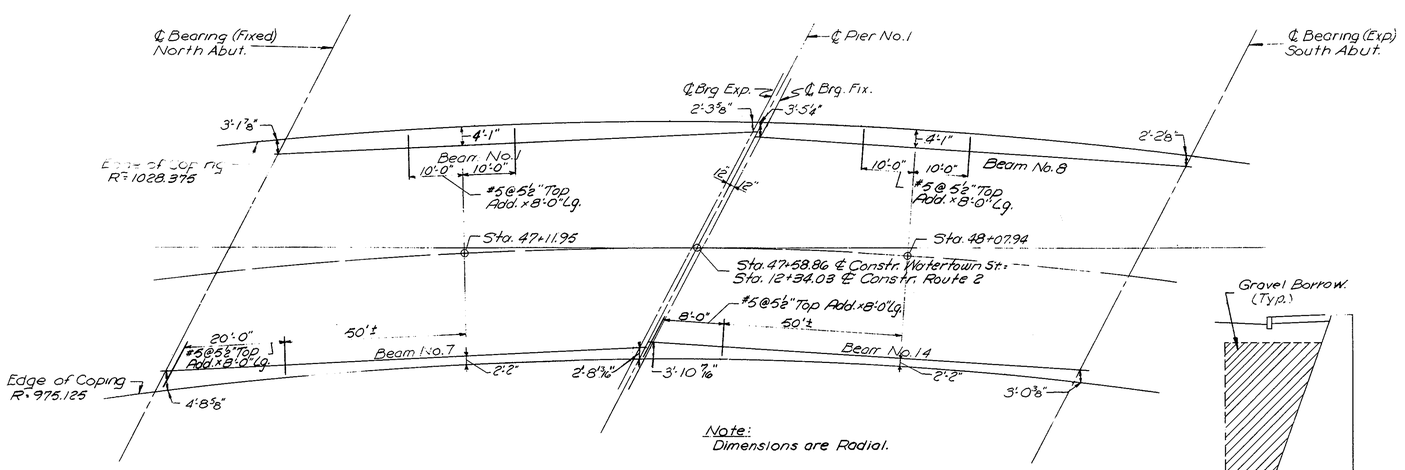
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		196	110	334

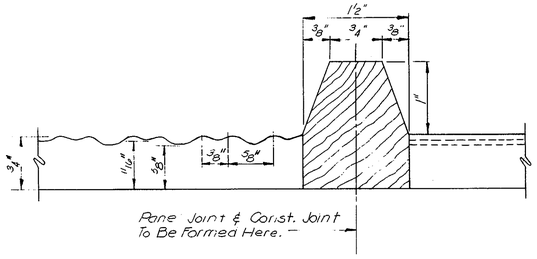


FOOTING LAYOUT PLAN
SCALE: 3/32"=1'-0"

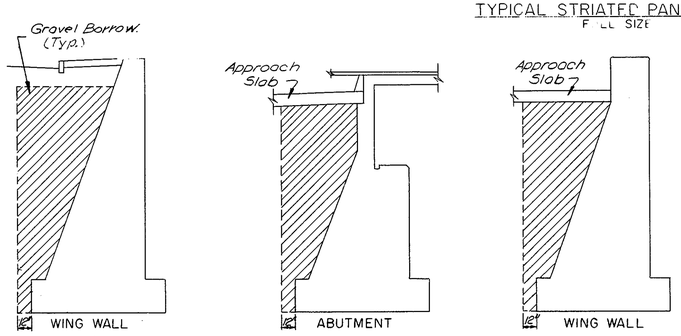


Note:
Dimensions are Radial.

RADIAL OFFSETS
NOT TO SCALE



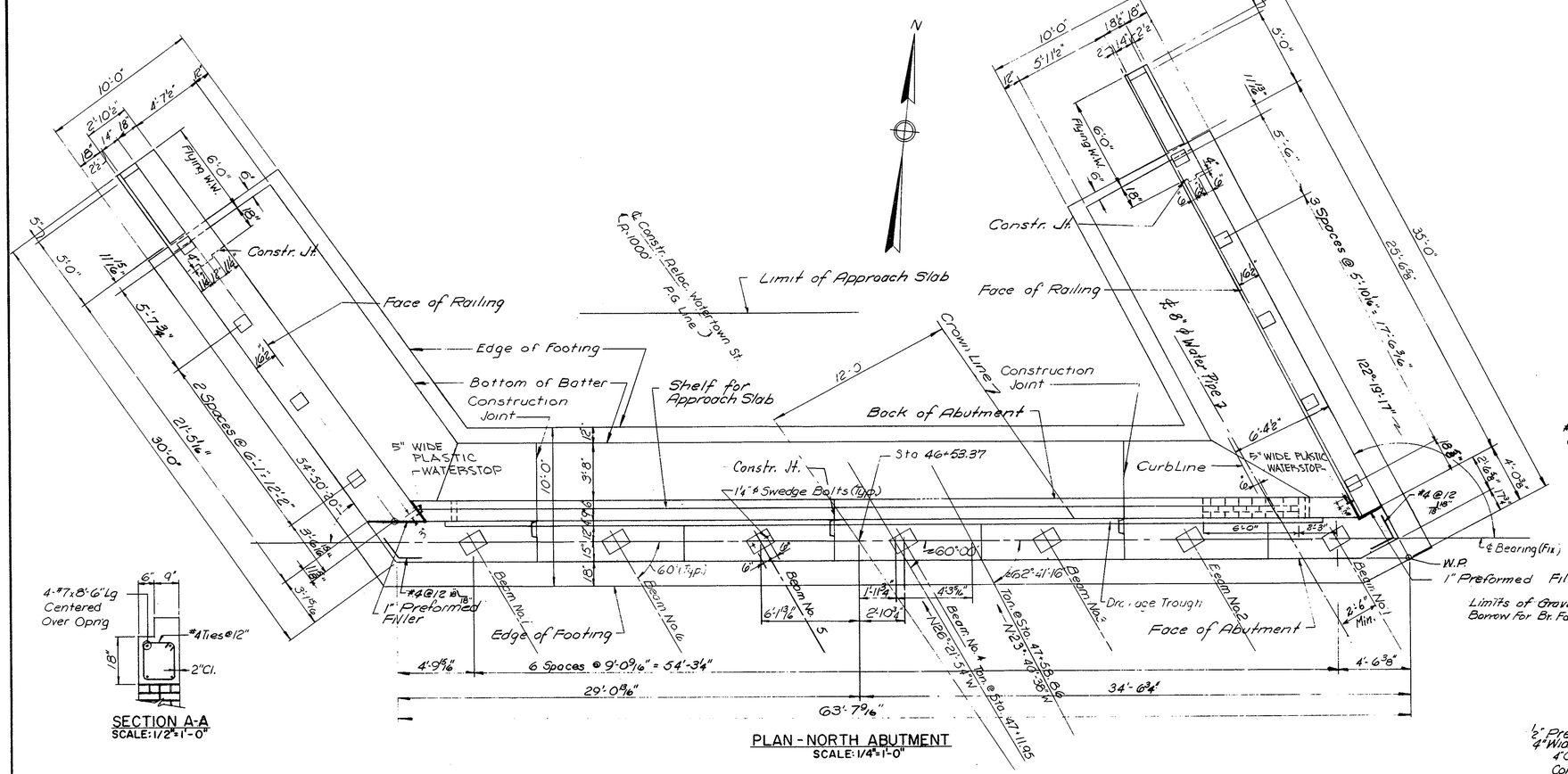
TYPICAL STRIATED PANEL JOINT
FULL SIZE



TYPICAL SECTION FOR COMPUTING GRAVEL BORROW QUANTITIES
NOT TO SCALE

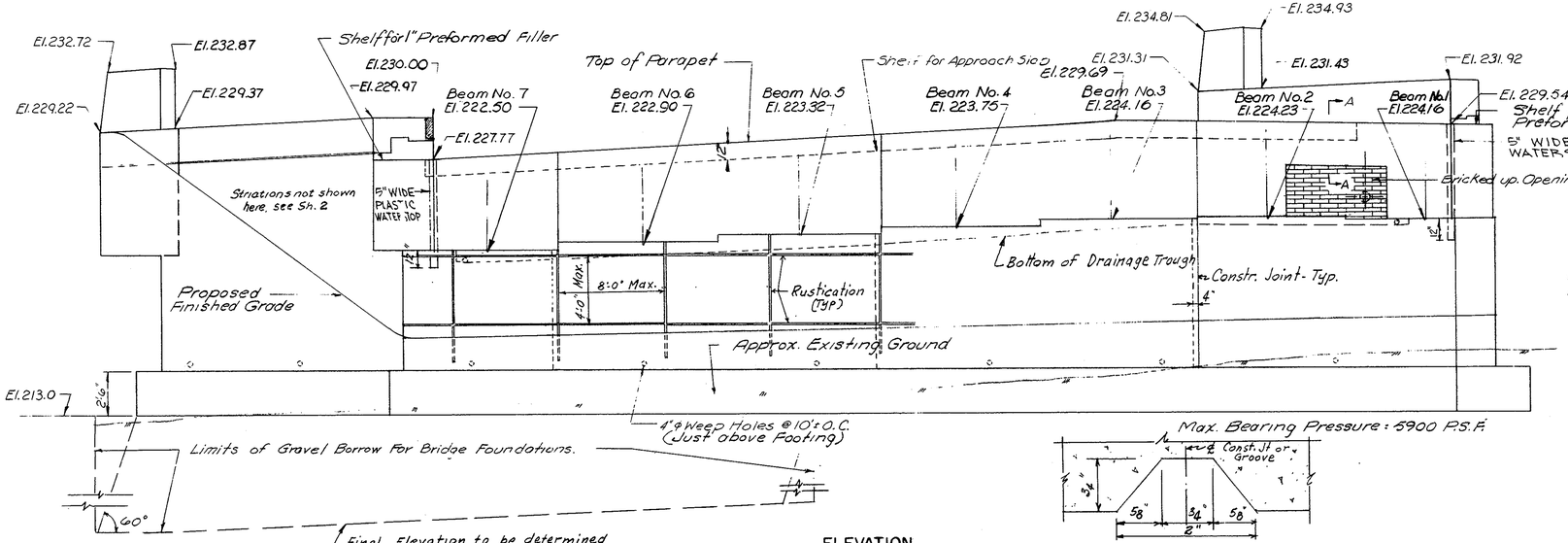
DATE	· DESCRIPTION ·
APRIL 8, 1967	· ISSUED FOR CONSTRUCTION ·
	· USE ONLY PRINTS OF LATEST DATE ·

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		196	111	334



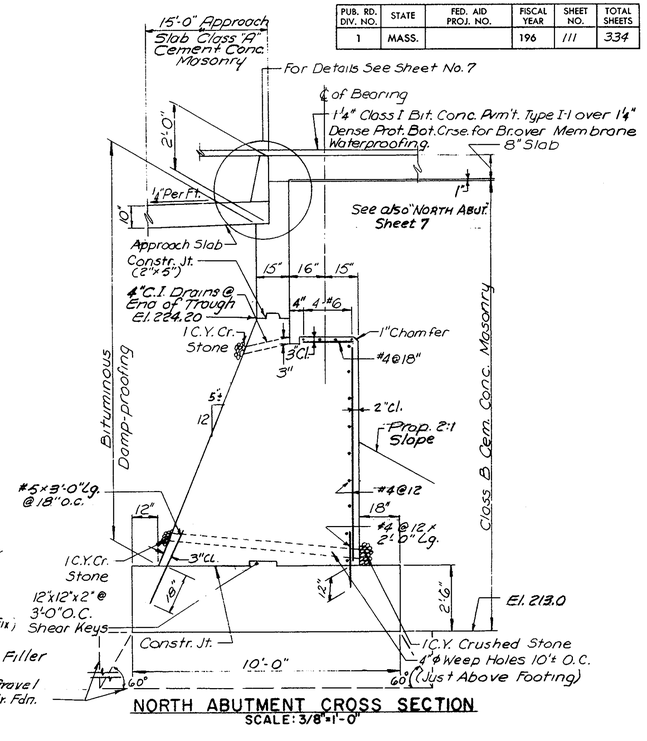
PLAN - NORTH ABUTMENT
SCALE: 1/4" = 1'-0"

SECTION A-A
SCALE: 1/2" = 1'-0"

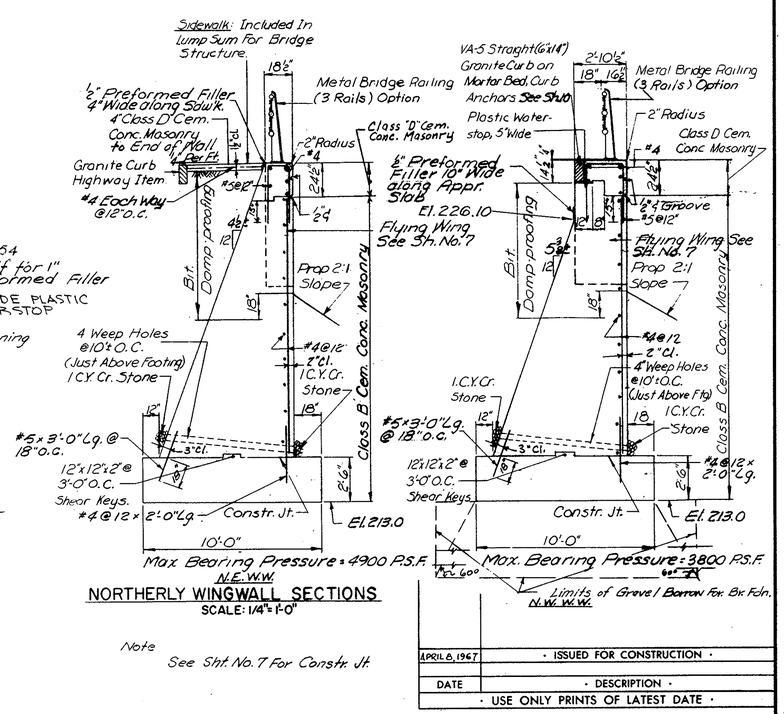


ELEVATION
SCALE: 1/4" = 1'-0"

HORIZONTAL & VERTICAL GROOVE DETAIL
SCALE: FULL SIZE



NORTH ABUTMENT CROSS SECTION
SCALE: 3/8" = 1'-0"



NORTHERLY WINGWALL SECTIONS
SCALE: 1/4" = 1'-0"

Note
See Sht. No. 7 For Constr. Jt.

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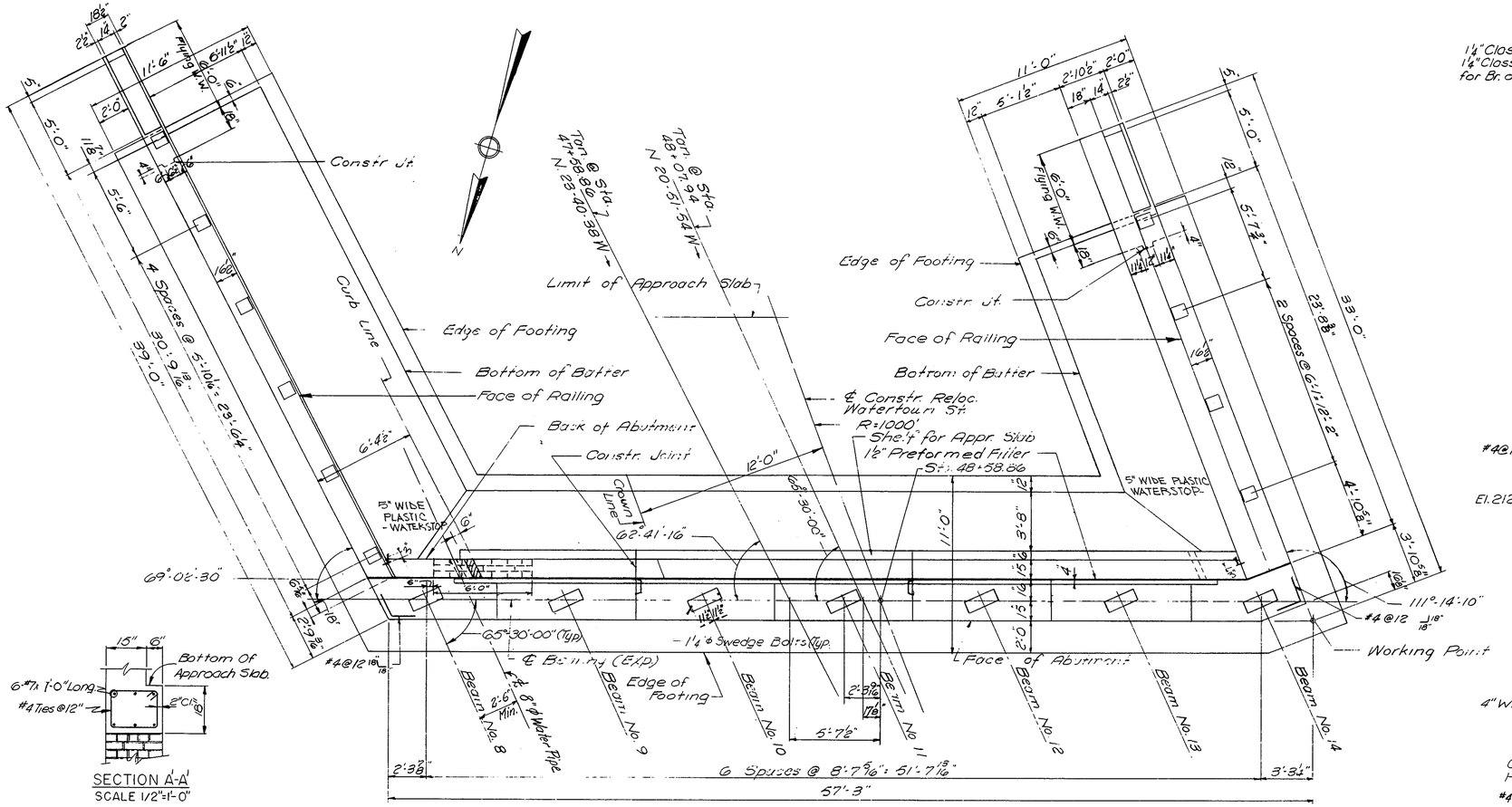
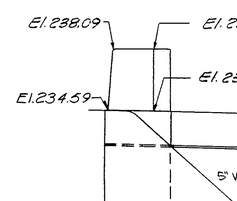
1	MASS.		196	112	334



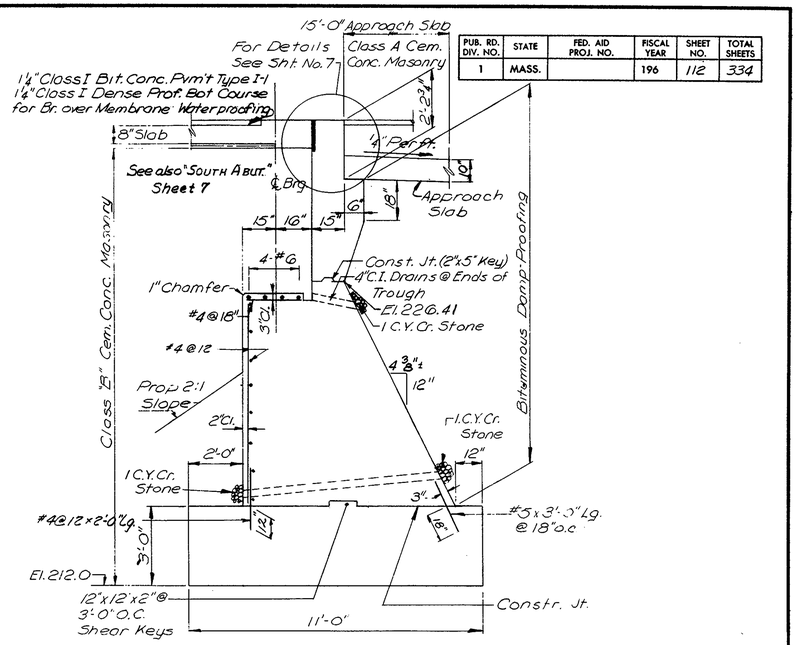
PLAN SOUTH ABUTMENT
SCALE: 1/4"=1'-0"



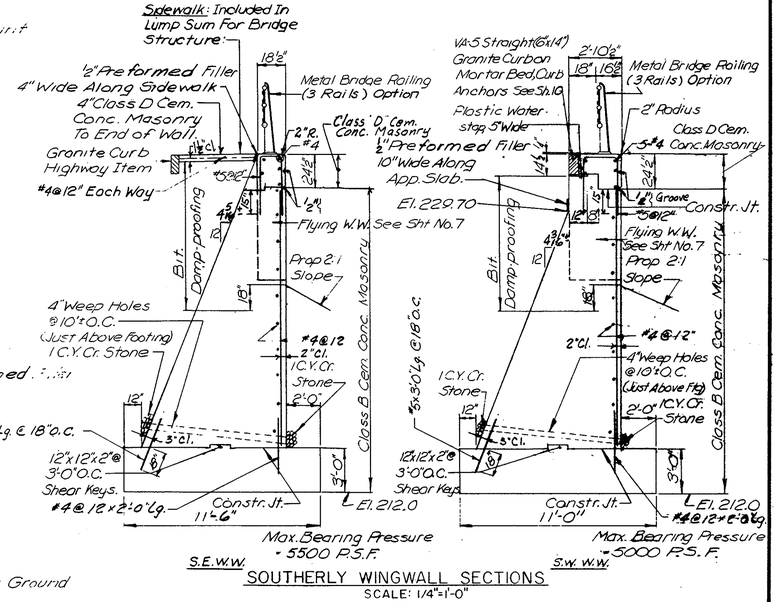
SECTION A-A'
SCALE 1/2"=1'-0"

ELEVATION
SCALE: 1/4"=1'-0"

Max. Bearing Pressure = 6100 P.S.F.



SOUTH ABUTMENT CROSS SECTION
SCALE: 3/8"=1'-0"



SOUTHERLY WINGWALL SECTIONS
SCALE: 1/4"=1'-0"

Note: See Sht. No. 7 For Constr. Jt. Detail. See Sheet No. 4 For Rustication Detail.

DATE	DESCRIPTION
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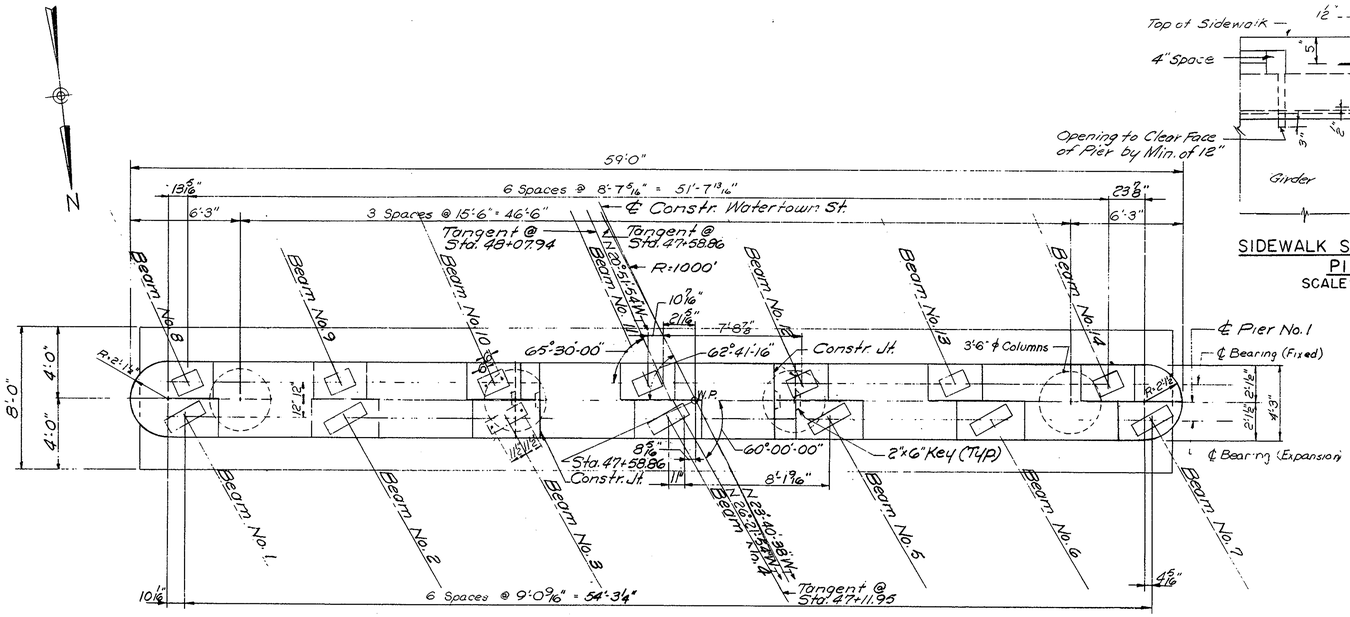
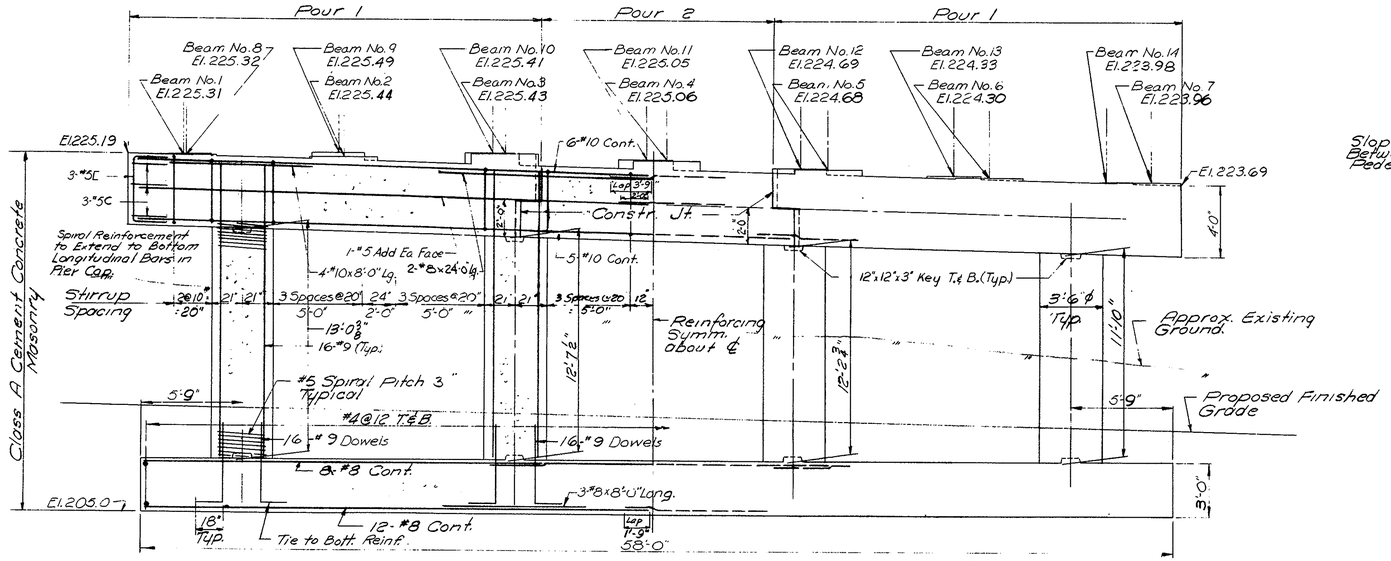
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		196	113	334



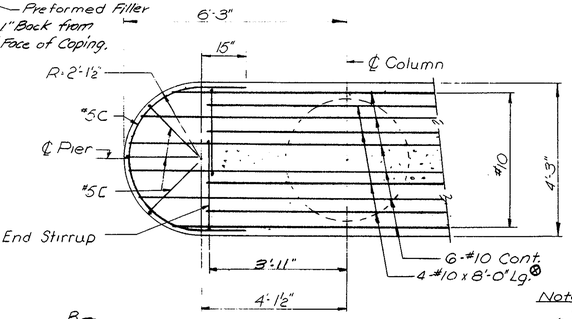
PLAN-PIER
SCALE: 1/4"=1'-0"



ELEVATION
SCALE: 1/4"=1'-0"

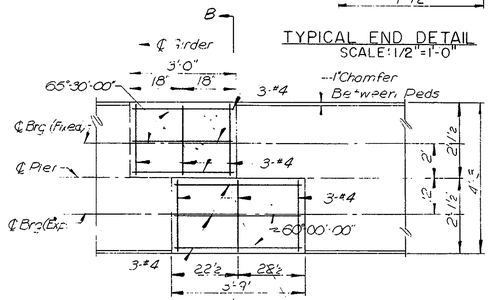
Max. Bearing Pressure: 4000 P.S.F.

SIDEWALK SECTION THRU PIER
SCALE: 1"=1'-0"

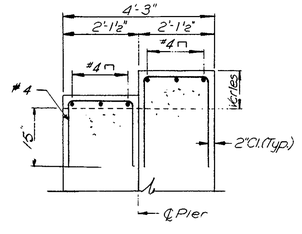


⊗ Tie some of the top bars in the pier cap loosely to permit insertion of the vibrator. Fasten securely after vibrating and before concrete is level with the reinforcement.

TYPICAL END DETAIL
SCALE: 1/2"=1'-0"

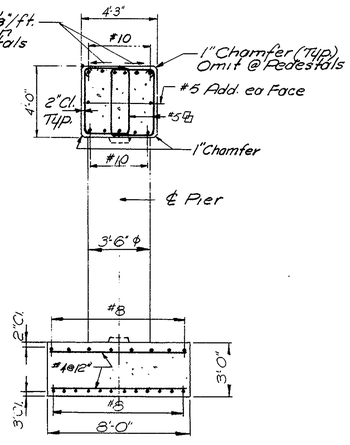


Note:
Omit Reinforcing in Pedestals (No. 1, 7, 8, 12, & 14) Less than 4" high. All Pedestals to be Poured Monolithically with cap Beam.

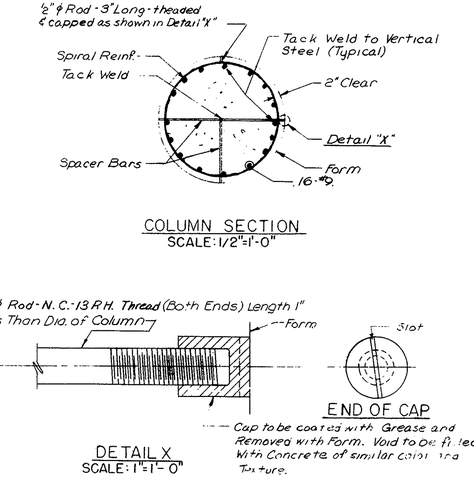


SECTION B-B

TYPICAL PEDESTAL DETAILS
SCALE: 1/2"=1'-0"



PIER CROSS SECTION
SCALE: 1/4"=1'-0"



COLUMN SECTION
SCALE: 1/2"=1'-0"

END OF CAP

Cap to be coated with Grease and Removed with Form. Void to be filled With Concrete of similar color and Texture.

DETAIL X
SCALE: 1"=1'-0"

Note:
Spacer Bars to be placed at 4 Points in Columns.

Pouring Sequence for Pier Cap
Pour Segment ① First
Pour Segment ② Not Less than 24 Hours after Completion of Pour of Segment ①

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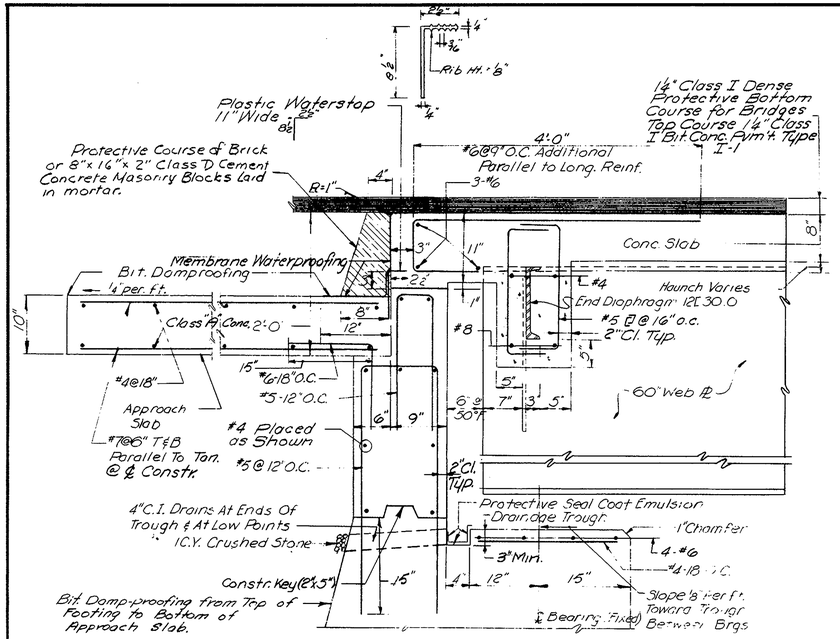
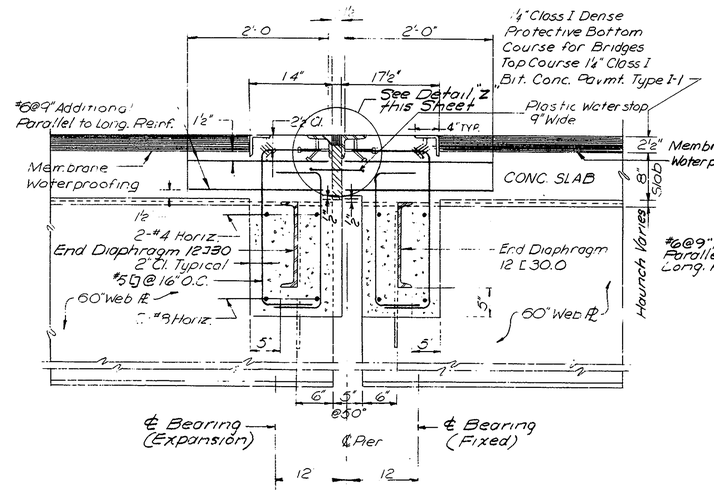
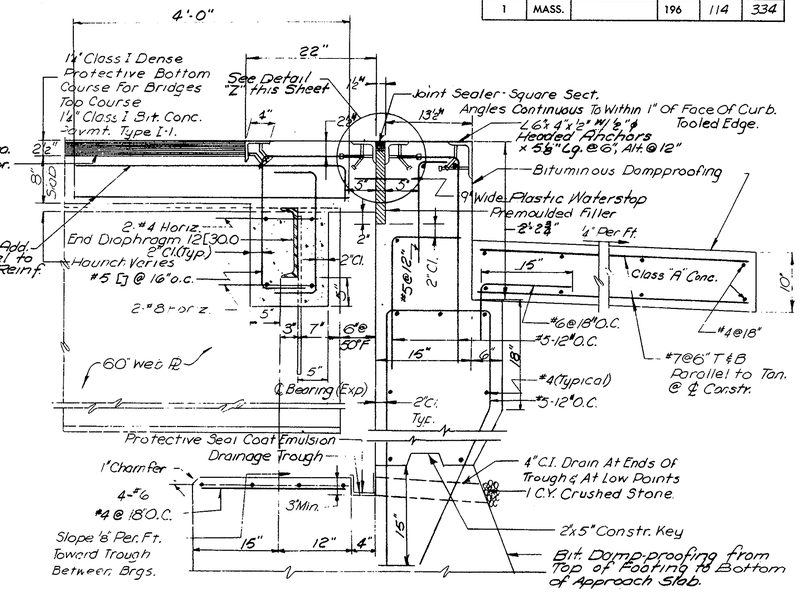
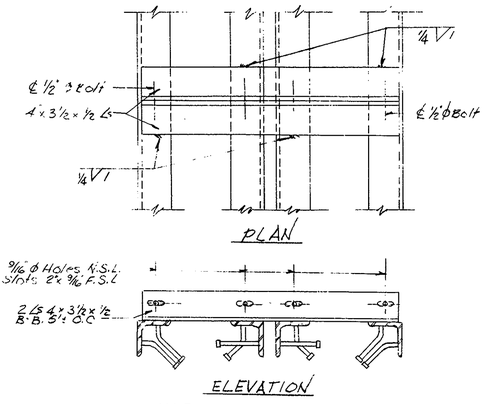
1	MASS.		196	114	334







NORTH ABUTMENT



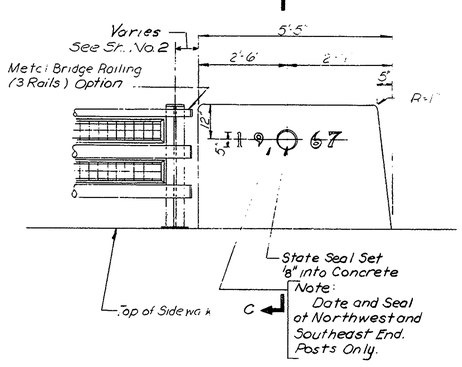
PLAN

ELEVATION

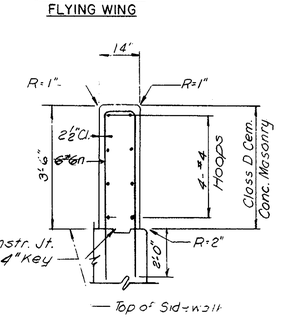
SHIPPING DEVICE FOR ARMORED JOINT ASSEMBLY
SCALE: ½" = 1'-0"

PIER No. 1

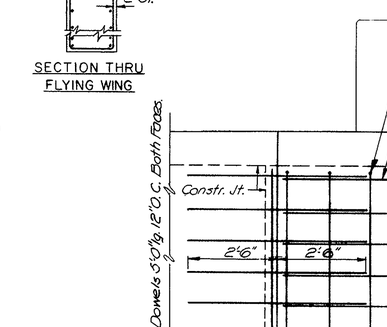
TYPICAL DECK DETAILS
SCALE: 1"=1'-0"



TYPICAL END POST DETAIL
SCALE: 1/2"=1'-0"

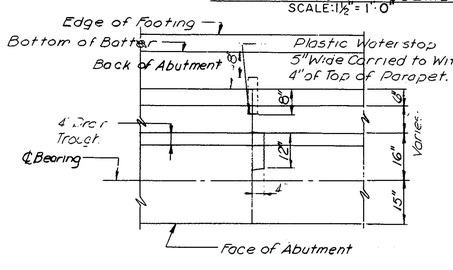


SECTION C-C
SCALE: 1/2"=1'-0"

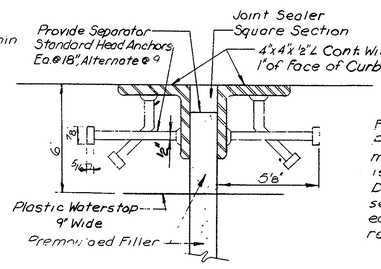


SOUTH ABUTMENT
SCALE 1"=1'-0"

FLYING WINGWALL SECTION
SCALE: ½"=1'-0"

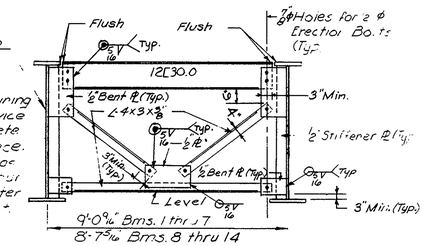


PLAN-CONSTRUCTION JOINT
SCALE: 1/2"=1'-0"



DETAIL Z
NOT TO SCALE

Note:
All these Jt. Assemblies must be Properly Fitted in Shop & Shipped w/ Device for Maintaining Proper Spacing & Fit. Bolts on shipping device must be Loosened in one hour after Concrete is placed so that Movement may take place. Device shall be removed after concrete has set on both sides of Assembly. Grind Armored Joint Surface to a Smooth Finish after removal of Shipping Device & Field Paint.



TYPICAL END CROSS FRAME
SCALE: 3/8"=1'-0"

Note:
For End View of Flying Wingwalls See Wall Sections Sheets 4 & 5.

"Fill shall be placed and thoroughly compacted to the grade of the bottom of the wings; or where no fill is required below the wings, the concrete shall be placed upon undisturbed soil."

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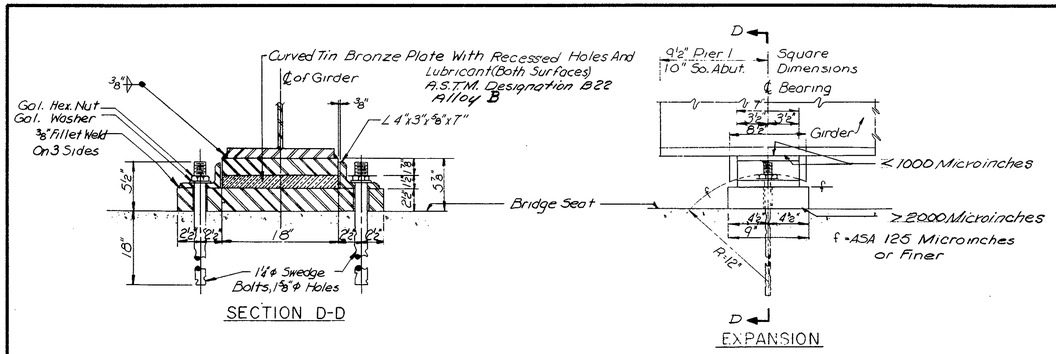
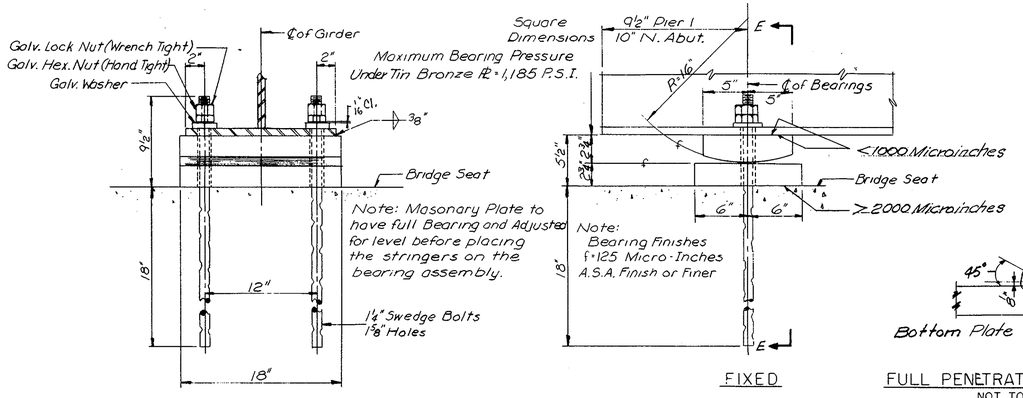
1	MASS.		196	115	334



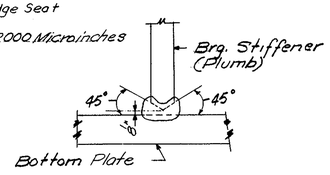
SECTION D-D

EXPANSION

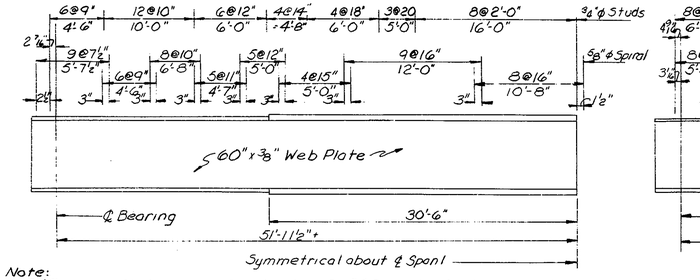


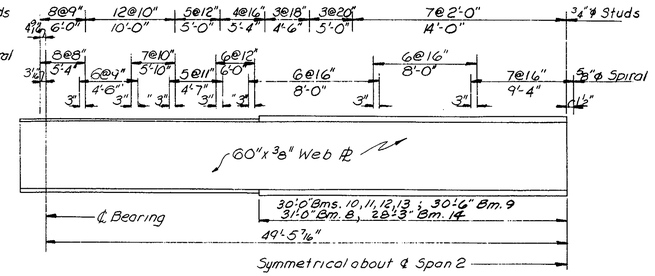
SECTION E-E

FIXED

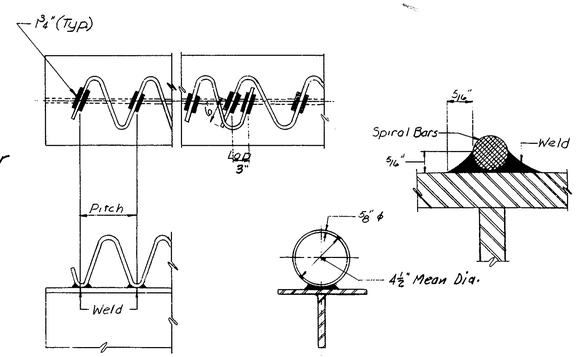


FULL PENETRATION WELD DETAIL
NOT TO SCALE

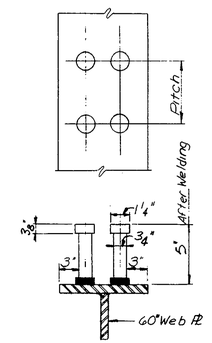




Note:
"8" Diameter Studs may be Substituted for ¾" Diameter Studs by providing an equivalent cross-sectional area & adjusting the pitch accordingly.



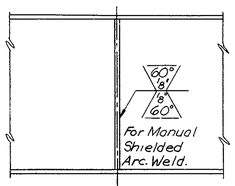
SPIRALS



STUDS

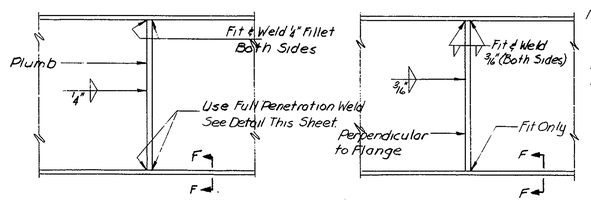
TYPICAL BEARING DETAILS
SCALE: 1-1/2"=1'-0"

The Finished Surfaces Shall Meet the American Standards Association Surface Roughness Requirements As Defined in A.S.A. B46-1, Surface Roughness, Waviness & Lay, Part I.



Web Splice Optional, and shown for the convenience of the Contractor. One splice per beam allowed, located at approximate ⅓-point, & 12" (min.) from stiffener.

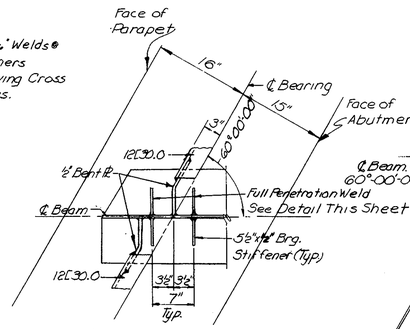
WEB SPLICE DETAIL
NOT TO SCALE



END INTERMEDIATE

TYPICAL STIFFENERS
NOT TO SCALE

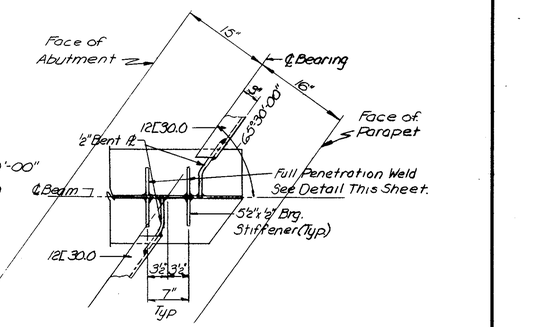
Note: Use ⅜" Welds @ Stiffeners Receiving Cross Frames.



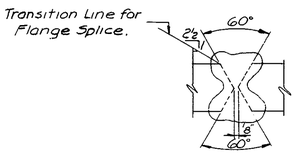
ABUTMENT SPAN 1

SHEAR CONNECTOR DETAILS
NOT TO SCALE

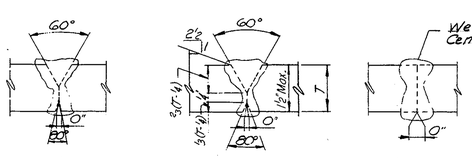
PIER



ABUTMENT SPAN 2

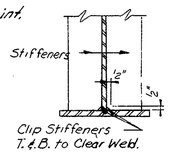


FLANGE & WEB SPLICE
MANUAL SHIELDED ARC WELD
NOT TO SCALE



FLANGE WEB

SUBMERGED ARC WELD
NOT TO SCALE



SECTION F-F
NOT TO SCALE

Note: In Addition To The Welds Shown Above, ANY Welded Joint Pre-Qualified By The American Welding Society 1966 Ed. for Welded Highway And Railway Bridges Will Be Acceptable In The Fabrication Of The Structural Steel.

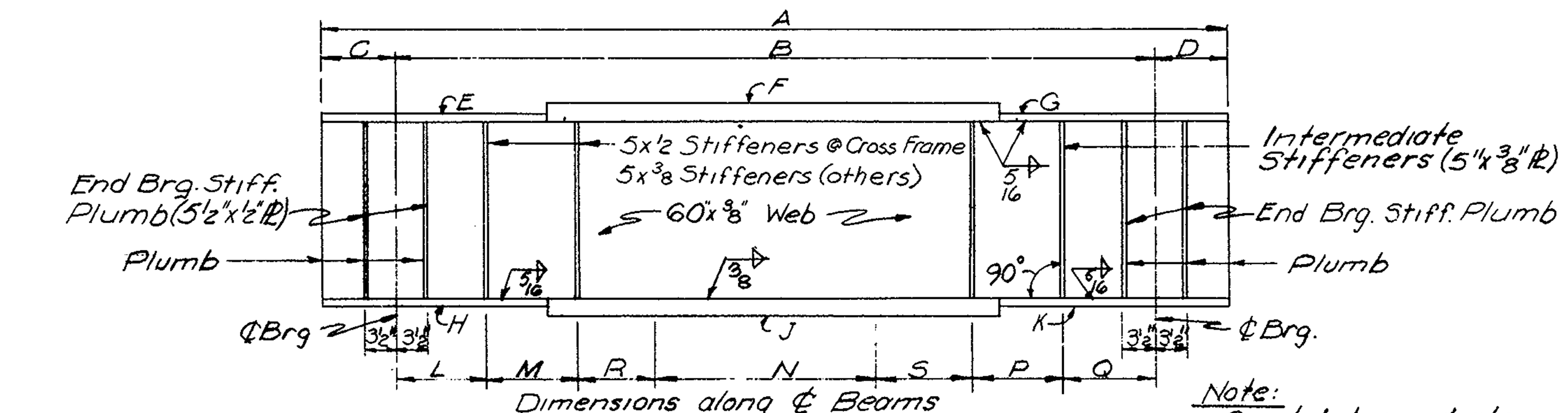
Notes: 1) Preparation of material for welding shall conform to Art. 402, A.W.S. 1966 Ed. (D2.0).
2) Assembly of material for welding shall conform to Art. 403 A.W.S. 1966 Ed. (D2.0)

TYPICAL END CROSS FRAME CONNECTIONS
SCALE: 1"=1'-0"

APRIL 8, 1967	· ISSUED FOR CONSTRUCTION ·
DATE	· DESCRIPTION ·
	· USE ONLY PRINTS OF LATEST DATE ·

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		196	116	334

FRAMING PLAN
SCALE: 1/8"=1'-0"

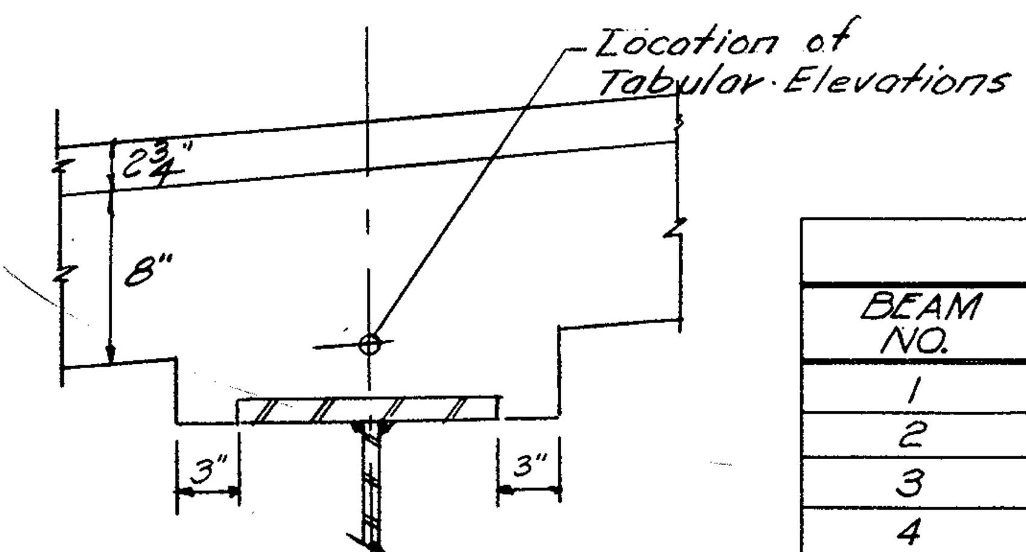


Note: Omit Intermediate Stiffeners on outside face of Exterior Girders

	Beam No.	A	B	C	D	E	F	G	H	J	K	L	M	R	N	S	P	Q
SPAN No. 1	1	105'-9 5/8"	103'-11 1/16"	11 9/16"	11"	12x3/4 PL x 22'-5 1/8"	12x1 1/4 PL x 61'-0"	12x3/4 PL x 22'-4 1/2"	16x1 1/8 PL x 22'-5 1/8"	16x1 3/4 PL x 61'-0"	16x1 1/8 PL x 22'-4 1/2"	21 3/4"	19"	4@2'-6"=10'-0"	16@5'-0"=80'-0"	2@2'-6"=5'-0"	2@20"=3'-4"	2'-2 5/16"
	2	105'-9 5/8"	103'-11 1/16"	11 9/16"	11"	12x3/4 PL x 22'-5 1/8"	12x1 1/4 PL x 61'-0"	12x3/4 PL x 22'-4 1/2"	16x1 1/8 PL x 22'-5 1/8"	16x1 3/4 PL x 61'-0"	16x1 1/8 PL x 22'-4 1/2"	19"	16"	4@2'-6"=10'-0"	16@5'-0"=80'-0"	2@2'-6"=5'-0"	3@20"=5'-0"	12 1/16"
	3	105'-9 5/8"	103'-11 1/16"	11 9/16"	11"	12x3/4 PL x 22'-5 1/8"	12x1 1/4 PL x 61'-0"	12x3/4 PL x 22'-4 1/2"	16x1 1/8 PL x 22'-5 1/8"	16x1 3/4 PL x 61'-0"	16x1 1/8 PL x 22'-4 1/2"	16 1/4"	13"	4@2'-6"=10'-0"	16@5'-0"=80'-0"	2@3'-4"=6'-8"	2'-3"	2'-6 13/16"
	4	105'-9 5/8"	103'-11 1/16"	11 9/16"	11"	12x3/4 PL x 22'-5 1/8"	12x1 1/4 PL x 61'-0"	12x3/4 PL x 22'-4 1/2"	16x1 1/8 PL x 22'-5 1/8"	16x1 3/4 PL x 61'-0"	16x1 1/8 PL x 22'-4 1/2"	2'-4 1/2"	2'-1"	3@2'-6"=7'-6"	16@5'-0"=80'-0"	3@2'-6"=7'-6"	2'-1"	2'-4 9/16"
	5	105'-9 5/8"	103'-11 1/16"	11 9/16"	11"	12x3/4 PL x 22'-5 1/8"	12x1 1/4 PL x 61'-0"	12x3/4 PL x 22'-4 1/2"	16x1 1/8 PL x 22'-5 1/8"	16x1 3/4 PL x 61'-0"	16x1 1/8 PL x 22'-4 1/2"	2'-6 13/16"	2'-3"	2@3'-4"=6'-8"	16@5'-0"=80'-0"	4@2'-6"=10'-0"	13"	16 1/4"
	6	105'-9 5/8"	103'-11 1/16"	11 9/16"	11"	12x3/4 PL x 22'-5 1/8"	12x1 1/4 PL x 61'-0"	12x3/4 PL x 22'-4 1/2"	16x1 1/8 PL x 22'-5 1/8"	16x1 3/4 PL x 61'-0"	16x1 1/8 PL x 22'-4 1/2"	12 1/16"	3@20"=5'-0"	2@2'-6"=5'-0"	16@5'-0"=80'-0"	4@2'-6"=10'-0"	16"	19"
	7	105'-9 5/8"	103'-11 1/16"	11 9/16"	11"	12x3/4 PL x 22'-5 1/8"	12x1 PL x 61'-0"	12x3/4 PL x 22'-4 1/2"	16x1 PL x 22'-5 1/8"	16x1 1/2 PL x 61'-0"	16x1 PL x 22'-4 1/2"	2'-2 3/8"	2@20"=3'-4"	2@2'-6"=5'-0"	16@5'-0"=80'-0"	4@2'-6"=10'-0"	19"	21 11/16"
SPAN No. 2	8	100'-8 5/16"	98'-10 7/8"	10 7/16"	11"	12x3/4 PL x 19'-3 7/8"	12x1 PL x 62'-0"	12x3/4 PL x 19'-4 7/16"	16x7/8 PL x 19'-3 7/8"	16x1 5/8 PL x 62'-0"	16x7/8 PL x 19'-4 7/16"	23 15/16"	21"	2@2'-6"=5'-0"	16@5'-0"=80'-0"	2@2'-6"=5'-0"	2'-5"	2'-8 13/16"
	9	100'-8 5/16"	98'-10 7/8"	10 7/16"	11"	12x3/4 PL x 19'-9 7/8"	12x1 PL x 61'-0"	12x3/4 PL x 19'-10 7/16"	16x7/8 PL x 19'-9 7/8"	16x1 5/8 PL x 61'-0"	16x7/8 PL x 19'-10 7/16"	2'-7 3/4"		2@2'-4"=4'-8"	16@5'-0"=80'-0"	2@2'-6"=5'-0"	3@20"=5'-0"	19 1/8"
	10	100'-8 5/16"	98'-10 7/8"	10 7/16"	11"	12x3/4 PL x 20'-3 7/8"	12x1 PL x 60'-0"	12x3/4 PL x 20'-4 7/16"	16x7/8 PL x 20'-3 7/8"	16x1 5/8 PL x 60'-0"	16x7/8 PL x 20'-4 7/16"	2'-2 5/8"	23"	3@2'-3"=6'-9"	16@5'-0"=80'-0"	2@2'-6"=5'-0"	16"	20 1/4"
	11	100'-8 5/16"	98'-10 7/8"	10 7/16"	11"	12x3/4 PL x 20'-3 7/8"	12x1 PL x 60'-0"	12x3/4 PL x 20'-4 7/16"	16x7/8 PL x 20'-3 7/8"	16x1 5/8 PL x 60'-0"	16x7/8 PL x 20'-4 7/16"	2'-4 7/16"	2'-1"	2@2'-6"=5'-0"	16@5'-0"=80'-0"	2@2'-6"=5'-0"	2'-1"	2'-4 3/16"
	12	100'-8 5/16"	98'-10 7/8"	10 7/16"	11"	12x3/4 PL x 20'-3 7/8"	12x1 PL x 60'-0"	12x3/4 PL x 20'-4 7/16"	16x7/8 PL x 20'-3 7/8"	16x1 5/8 PL x 60'-0"	16x7/8 PL x 20'-4 7/16"	20 1/4"	16"	2@2'-6"=5'-0"	16@5'-0"=80'-0"	3@2'-3"=6'-9"	23"	2'-2 5/8"
	13	100'-8 5/16"	98'-10 7/8"	10 7/16"	11"	12x3/4 PL x 20'-3 7/8"	12x1 PL x 60'-0"	12x3/4 PL x 20'-4 7/16"	16x7/8 PL x 20'-3 7/8"	16x1 5/8 PL x 60'-0"	16x7/8 PL x 20'-4 7/16"	19 1/8"	3@20"=5'-0"	2@2'-6"=5'-0"	16@5'-0"=80'-0"	2@2'-4"=4'-8"		2'-7 7/8"
	14	100'-8 5/16"	98'-10 7/8"	10 7/16"	11"	12x3/4 PL x 22'-0 7/8"	12x7/8 PL x 56'-6"	12x3/4 PL x 22'-1 7/16"	16x7/8 PL 22'-0 7/8"	16x1 3/8 PL x 56'-6"	16x7/8 PL x 22'-1 7/16"	2'-8 5/16"	2'-5"	2@2'-6"=5'-0"	16@5'-0"=80'-0"	2@2'-6"=5'-0"	21"	23 15/16"

STIFFENER & PLATE SCHEDULE

	Minimum Theoretical CAMBER	
	Beam No.	Camber
SPAN NO. 1	1	4 1/2"
	2	4 1/2"
	3	3 3/4"
	4	4"
	5	4 1/4"
	6	4 7/16"
	7	4 9/16"
SPAN NO. 2	8	3 1/4"
	9	3 3/16"
	10	3 1/8"
	11	3 1/8"
	12	3 3/8"
	13	3 1/8"
	14	3 1/4"



HAUNCH DETAIL
N.T.S.

TOP OF FORM ELEVATION FOR DECK SLAB PRIOR TO PLACEMENT OF CONCRETE

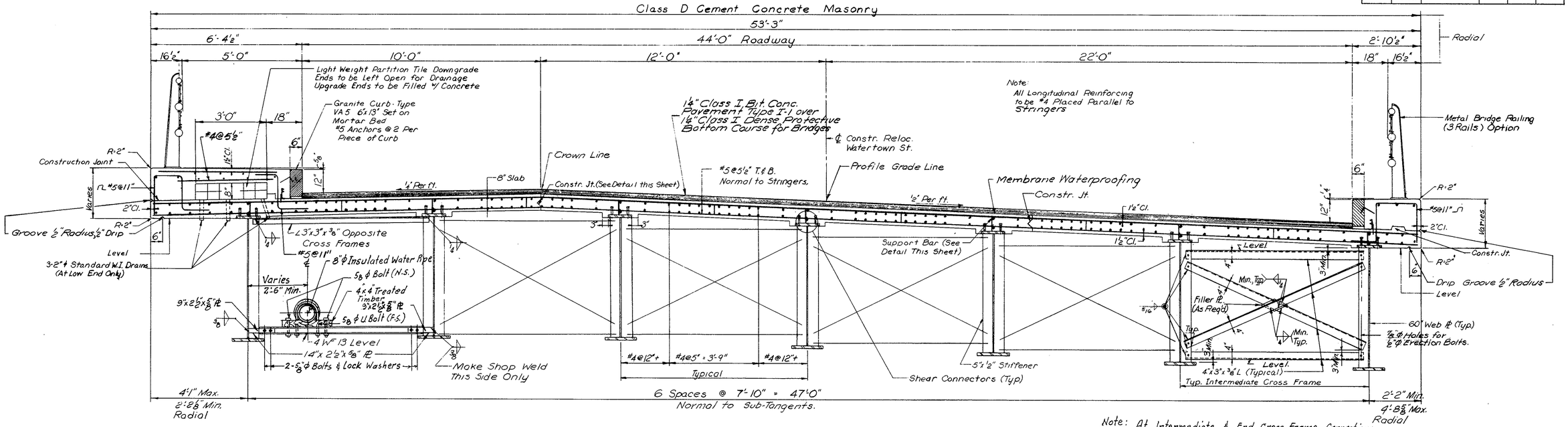
BEAM NO.	¢ Brg.	1/8 Pt.	1/4 Pt.	3/8 Pt.	1/2 Pt.	5/8 Pt.	3/4 Pt.	7/8 Pt.	¢ Brg.	BEAM NO.	¢ Brg.	1/8 Pt.	1/4 Pt.	3/8 Pt.	1/2 Pt.	5/8 Pt.	3/4 Pt.	7/8 Pt.	¢ Brg.
	INCREASING STATIONS →										INCREASING STATIONS →								
1	229.94	230.25	230.51	230.71	230.86	230.97	231.04	231.09	231.12	8	231.16	231.36	231.55	231.71	231.84	231.95	232.02	232.07	232.10
2	230.01	230.32	230.59	230.81	230.96	231.08	231.16	231.21	231.25	9	231.28	231.48	231.67	231.83	231.96	232.07	232.14	232.20	232.24
3	229.94	230.24	230.49	230.70	230.86	230.98	231.08	231.17	231.25	10	231.25	231.42	231.59	231.74	231.88	231.99	232.09	232.18	232.26
4	229.53	229.83	230.10	230.32	230.49	230.61	230.71	230.80	230.87	11	230.89	231.06	231.23	231.38	231.51	231.63	231.73	231.81	231.89
5	229.11	229.42	229.70	229.93	230.11	230.24	230.34	230.42	230.49	12	230.53	230.70	230.87	231.02	231.15	231.26	231.36	231.45	231.52
6	228.68	229.01	229.29	229.53	229.72	229.87	229.96	230.04	230.12	13	230.18	230.35	230.51	230.65	230.79	230.90	231.00	231.08	231.16
7	228.25	228.58	228.88	229.14	229.34	229.49	229.59	229.67	229.74	14	229.82	229.99	230.16	230.30	230.44	230.55	230.64	230.72	230.79

After the structural steel is erected, but before the forms are built, Elevations on the top of the flange of the beams are to be obtained at the points indicated in the table. The difference between the elevation obtained and those shown in the table gives the actual blocking distance from the top of beam to the bottom of slab at centerline of beam. See haunch detail.

DATE	DESCRIPTION
APRIL 8, 1967	ISSUED FOR CONSTRUCTION

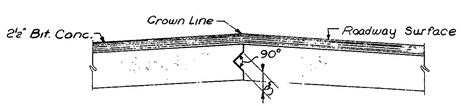
· USE ONLY PRINTS OF LATEST DATE ·

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		196	117	334



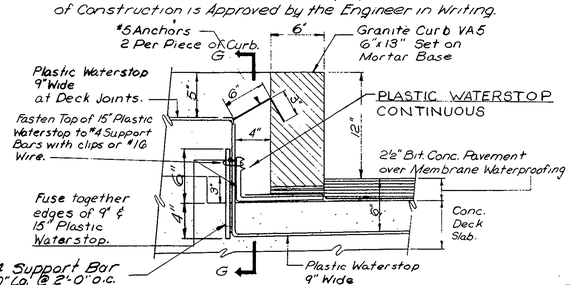
TYPICAL DECK CROSS SECTION
SCALE: 1/2" = 1'-0"

Note: At Intermediate & End Cross Frame Connections ⅞" ϕ High Strength Bolted Connections may be used in lieu of welded Connections shown, subject to approval of Shop drawings. Allow two ⅞" ϕ High Strength Bolts at each end and at intersections of Angles and six ⅞ ϕ High Strength Bolts at each end of 12 L 30. Widen stiffeners and plates as required.

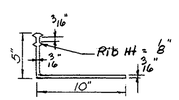


ROADWAY CONSTRUCTION JOINT
NOT TO SCALE

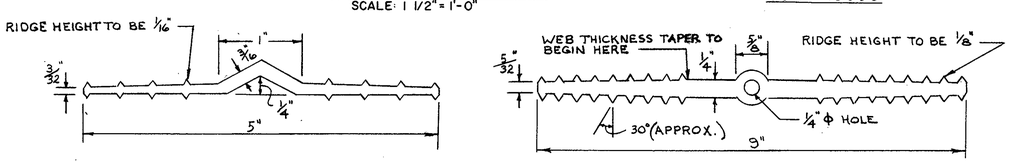
Note: Longitudinal Constr. jts. in bridge deck slabs may be omitted when the Contractors proposed method of Construction is Approved by the Engineer in Writing.



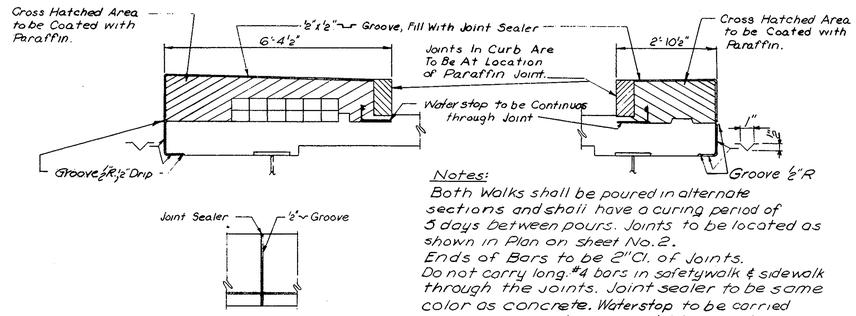
DETAILS UNDER CURB
SCALE: 1 1/2" = 1'-0"



PLASTIC WATERSTOP CONTINUOUS

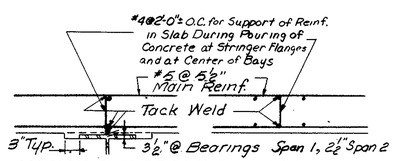


PLASTIC WATERSTOP DETAILS



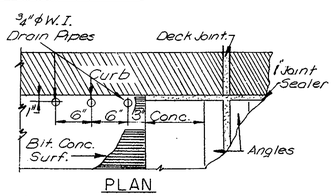
Notes:
Both Walks shall be poured in alternate sections and shall have a curing period of 5 days between pours. Joints to be located as shown in Plan on sheet No. 2.
Ends of Bars to be 2" Cl. of Joints.
Do not carry long. #4 bars in safetywalk & sidewalk through the joints. Joint sealer to be same color as concrete. Waterstop to be carried through joints. Joints in curb shall be mortared no sooner than 5 days after concrete in walk has been poured.

PARAFFIN JOINT THROUGH SAFETY WALK & SIDEWALK
NOT TO SCALE



HAUNCH & SUPPORT BAR DETAIL
NOT TO SCALE

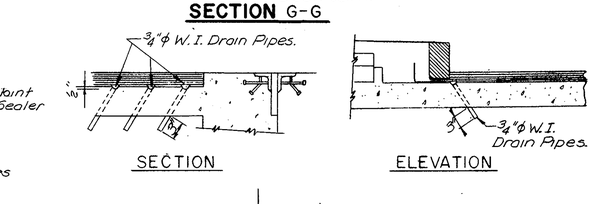
An Equal Device May be Substituted For #4 Bar Upon Written Approval of the Engineer.



PLAN

DETAILS OF DRAIN PIPES THROUGH DECK SLAB
NOT TO SCALE

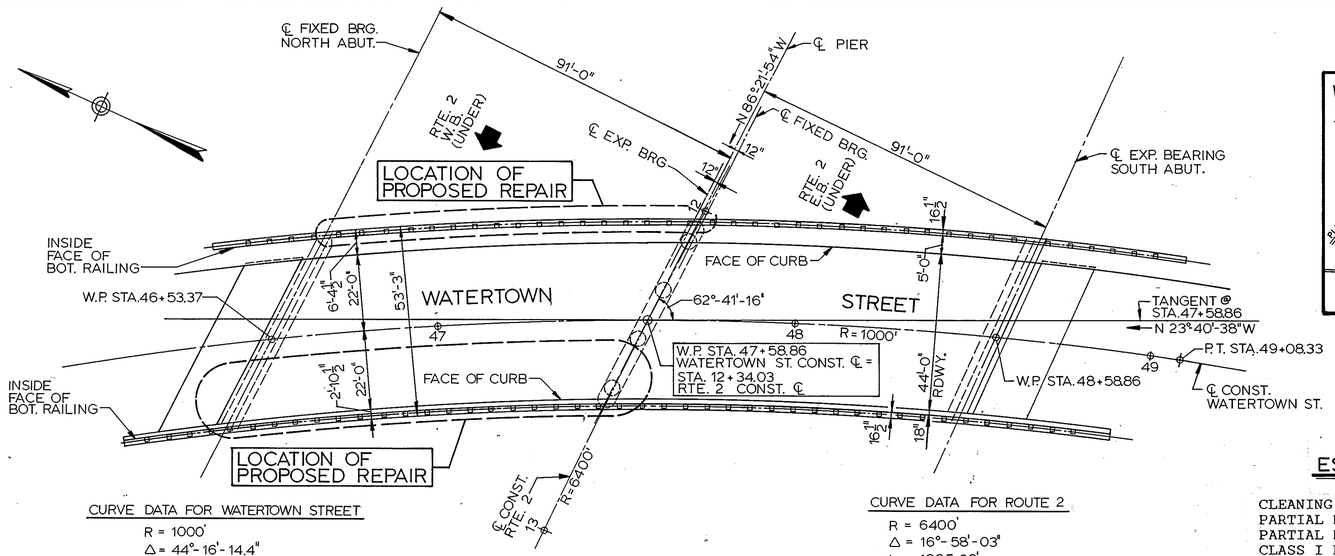
¾" ϕ W.I. Pipe Drains to be Located at Downhill End of Each Span, at Curb Line Low Points.
Set ½" Low, and Seal Puncture in Membrane Waterproofing with Tar Mastic.



SECTION G-G

SECTION ELEVATION

APRIL 8, 1967	· ISSUED FOR CONSTRUCTION ·
DATE	· DESCRIPTION ·
· USE ONLY PRINTS OF LATEST DATE ·	



CURVE DATA FOR WATERTOWN STREET

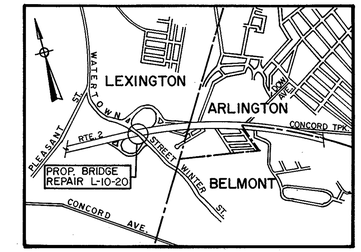
R = 1000'
Δ = 44°-16'-14.4"
L = 772.67'
T = 406.78'

CURVE DATA FOR ROUTE 2

R = 6400'
Δ = 16°-58'-03"
L = 1895.29'
T = 954.630'

PLAN - EXISTING STRUCTURE

SCALE: 1" = 20'-0"

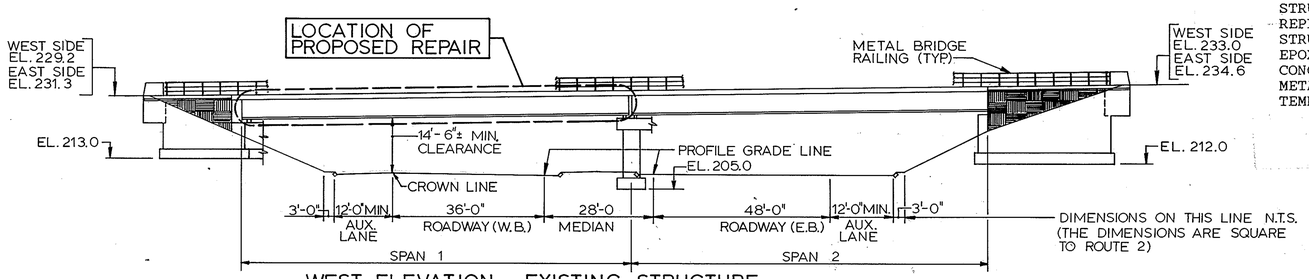


LOCUS MAP

SCALE : 1" = 2000'

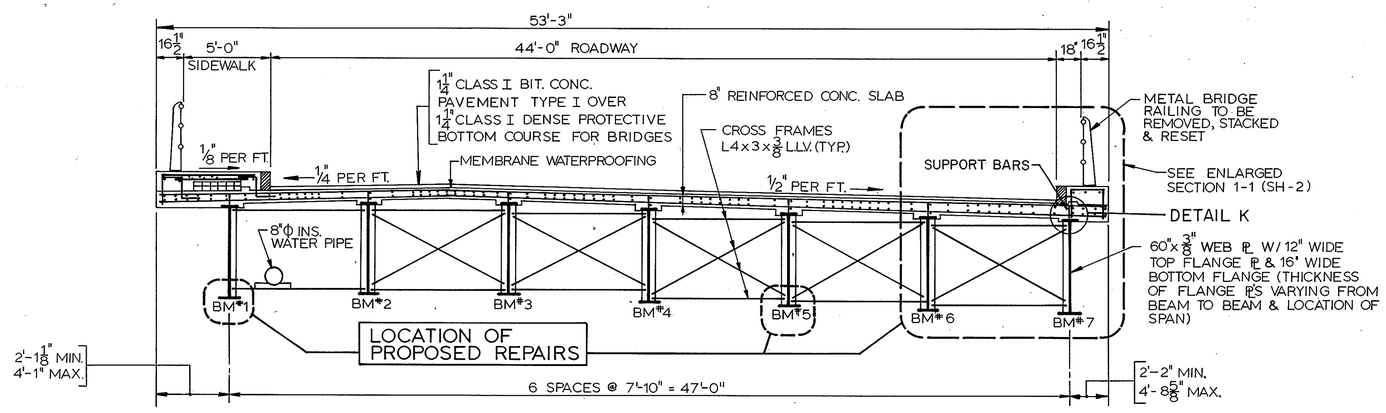
ESTIMATED QUANTITIES

CLEANING AND PAINTING STRUCT. STEEL	1	LUMP SUM
PARTIAL DEMOLITION OF SUPERSTRUCTURE	1	LUMP SUM
PARTIAL DEMOLITION OF SAFETY CURB	107	L.F.
CLASS I BIT. CONC. PAVEMENT TYPE I-1	9	TONS
CLASS I DENSE PROTECTIVE BOT. COURSE	9	TONS
SAWING BITUMINOUS CONCRETE	120	L.F.
4 INCH REFLECTORIZED WHITE LINES	110	L.F.
CLASS "D" CEMENT CONCRETE MASONRY	39	C.Y.
STEEL REINFORCEMENT FOR STRUCTURES	6770	LBS.
SHEAR CONNECTORS	188	EACH
STRUCT. STEEL PLATE GIRDER BEARINGS REPLACED	1	LUMP SUM
STRUCTURAL STEEL - A36 WELDED	24200	LBS.
EPOXY BONDING COMPOUND	90	S.F.
CONCRETE PENETRANT	34	S.Y.
METAL BRIDGE RAILING (REM. AND RES.)	120	L.F.
TEMPORARY PROTECTIVE SHIELDING	1	LUMP SUM



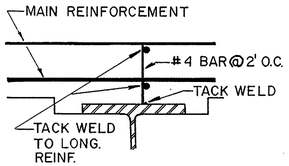
WEST ELEVATION - EXISTING STRUCTURE

SCALE: 1" = 20'-0"



TYPICAL DECK CROSS SECTION – EXISTING STRUCTURE (SPAN 1 ONLY, LOOKING SOUTH)

SCALE: ¼"=1'-0"



DETAIL K

NOT TO SCALE

GENERAL NOTES

REINFORCEMENT :

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A 615 GRADE 60. ALL REINFORCING STEEL BAR DEFORMATIONS SHALL CONFORM TO ASTM SPECIFICATION A-305. ALL #4 BARS SHALL BE LAPPED 20" AND ALL #5 BARS SHALL BE LAPPED 26". FOR HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE BELOW THE BAR, THE LAP LENGTHS SHALL BE 29" FOR #4 BARS AND 36" FOR #5 BARS. IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80 % OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS ARE TO BE LAPPED AS SHOWN ON PLANS.

STRUCTURAL STEEL :

ALL NEW STRUCTURAL STEEL SHALL CONFORM TO THE SPECIFICATIONS OF ASTM DESIGNATION A-36 EXCEPT AS NOTED.

WELDING :

WELDING SHALL CONFORM TO THE AWS STRUCTURAL WELDING CODE D1.1-80, AS AMENDED BY THE 1981 AASHTO STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES AND CURRENT AASHTO INTERIM SPECIFICATIONS THROUGH 1983.

EXISTING CONDITIONS :

DIMENSIONS SHOWN ON EXISTING DETAILS ARE TAKEN FROM ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE ALL DIMENSIONS AND VERIFY ALL PERTINENT EXISTING DETAILS NECESSARY FOR THE COMPLETION OF THIS CONSTRUCTION REPAIR. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY OF ALL ACTUAL DIMENSIONS AND MEASUREMENTS. FABRICATION OR ORDERING OF ANY MATERIAL SHALL REQUIRE PRIOR APPROVAL OF THE ENGINEER.

PLANS :

PLANS FOR THE EXISTING STRUCTURE AND MAINTENANCE INSPECTION DATA MAY BE REVIEWED AT THE OFFICE OF THE BRIDGE ENGINEER, DEPARTMENT OF PUBLIC WORKS, 10 PARK PLAZA, BOSTON, MASS.

DESIGN :

IN ACCORDANCE WITH AASHTO SPECIFICATIONS 1977 EDITION AND CURRENT INTERIM SPECIFICATIONS THRU 1984 FOR H20-44 LOADING.

TRAFFIC :

A MINIMUM OF TWO LANES OF TRAVEL EACH WAY WILL BE KEPT OPEN TO TRAFFIC ON ROUTE 2 AT ALL TIMES DURING DEMOLITION AND RECONSTRUCTION PHASES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

BENCHMARK :

B.M. C-6, 42+50 WATERTOWN ST. ℄ RIGHT 42' SQUARE CUT ON LEDGE OUTCROP EL. 211.78'.

CONCRETE MIXES :

CLASS	(1)	(2)	(3)
D	4000	3/4	610

(1) DENOTES MIN. 28 DAY COMPRESSIVE STRENGTH (PSI.)
(2) DENOTES MAX. COURSE AGGREGATE SIZE (IN.)
(3) DENOTES MIN. CEMENT CONTENT (LBS. PER CU. YD.) (TYPE III)
PORTLAND CEMENT SHALL CONFORM TO AASHTO M85

COMMONWEALTH OF MASSACHUSETTS — GABRICK H. GOLDENBERG — STRUCTURAL — No. 32828 — REGISTERED PROFESSIONAL ENGINEER

Gabrick H. Goldenberg

SCHOENFELD ASSOC., INC.
CONSULTING ENGINEERS
BOSTON, MASSACHUSETTS

ISSUED FOR CONSTRUCTION

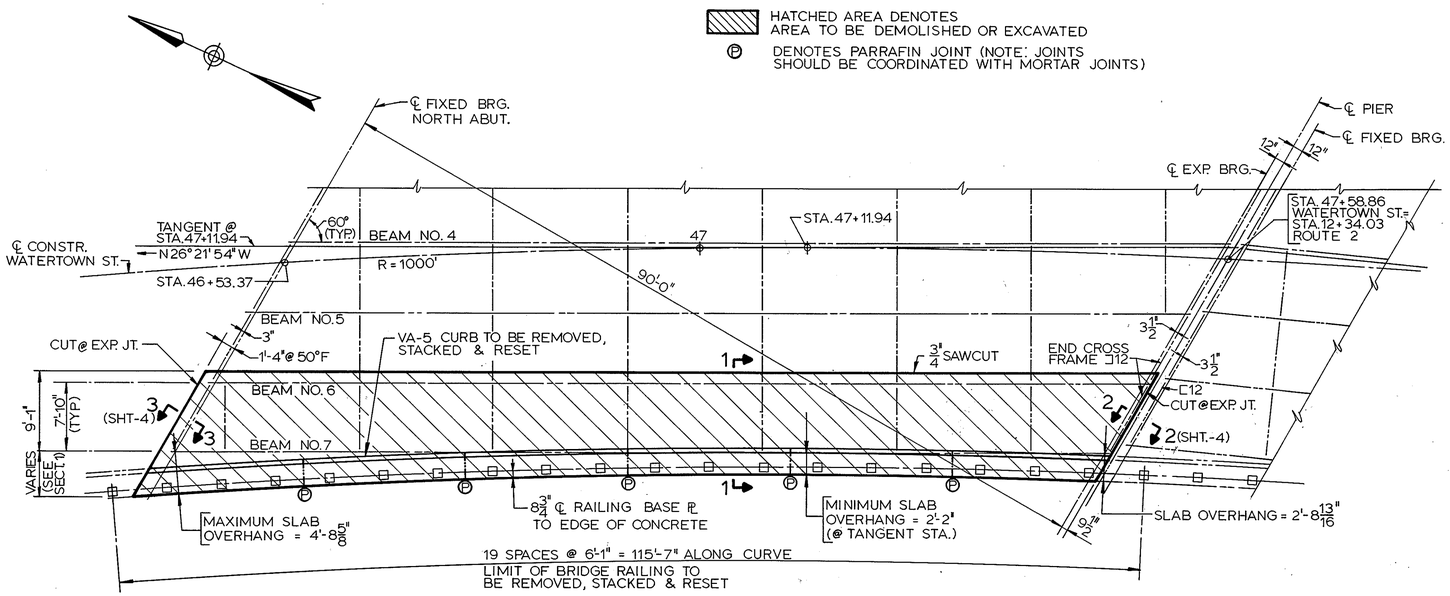
THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE REPAIRS

LEXINGTON

ROUTE 2 STA. 12+34.03 UNDER
WATERTOWN STREET STA. 47+58.86

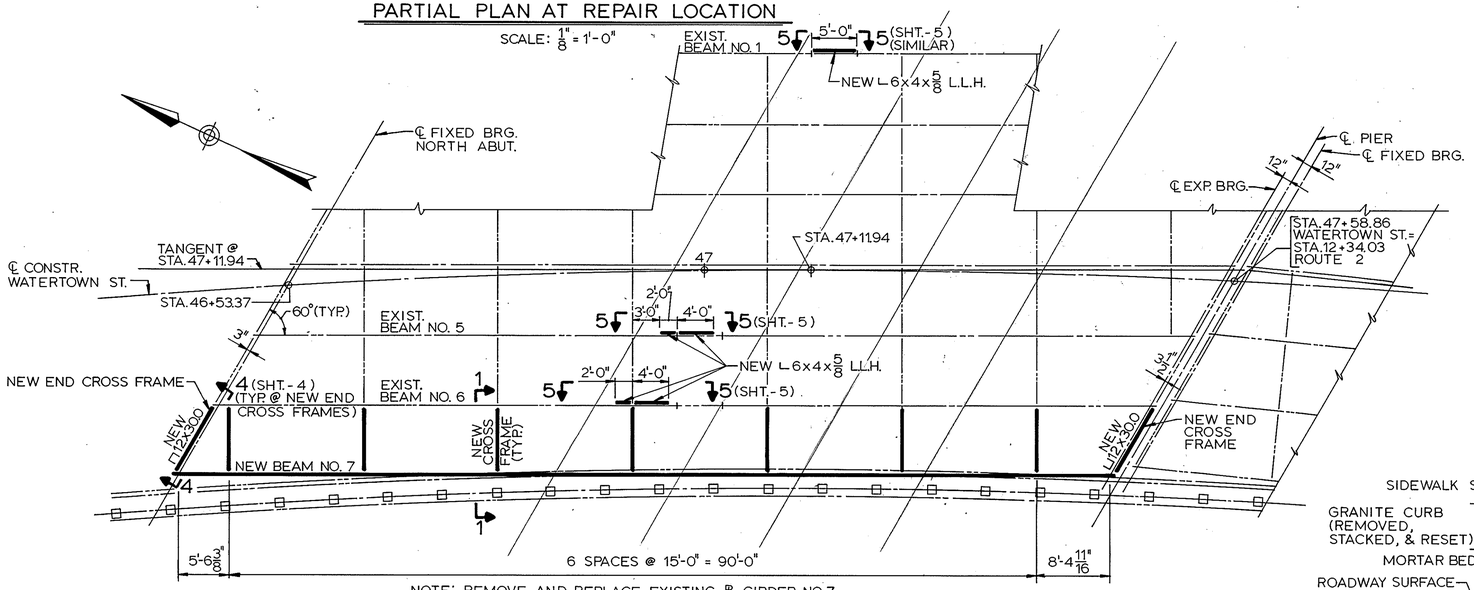
SCALES AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
10 PARK PLAZA BOSTON, MASS.

S Berlucchi 6/21/90
MAINTENANCE ENGINEER



PARTIAL PLAN AT REPAIR LOCATION

SCALE: 1/8" = 1'-0"

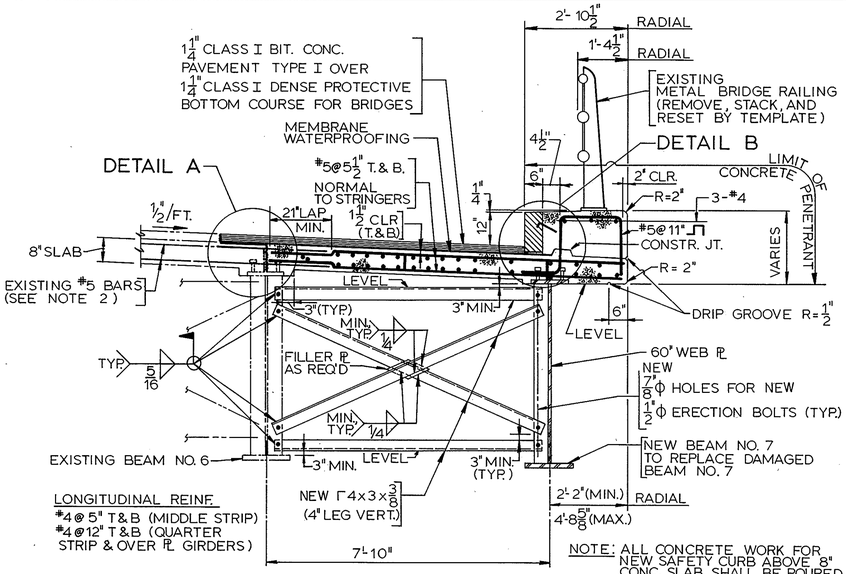


NOTE: REMOVE AND REPLACE EXISTING ℙ GIRDER NO. 7 (FOR SIZES SEE SHEET NO. 3 "WEST ELEVATION OF NEW BEAM NO. 7"). ALSO REMOVE AND REPLACE CROSS FRAMES AND END CROSS FRAMES.

PARTIAL FRAMING PLAN AT REPAIR LOCATION

SCALE: 1/8" = 1'-0"

NOTE: ALL PAINTING WILL BE CONFINED TO STEEL THAT HAS BEEN REMOVED AND REPLACED, OR REPAIRED. (SHOWN ON THIS FRAMING PLAN AS NEW OR REPAIRED STEEL) NEW ℙ GIRDER TO BE SHOP PAINTED AND ONE COAT IN THE FIELD.



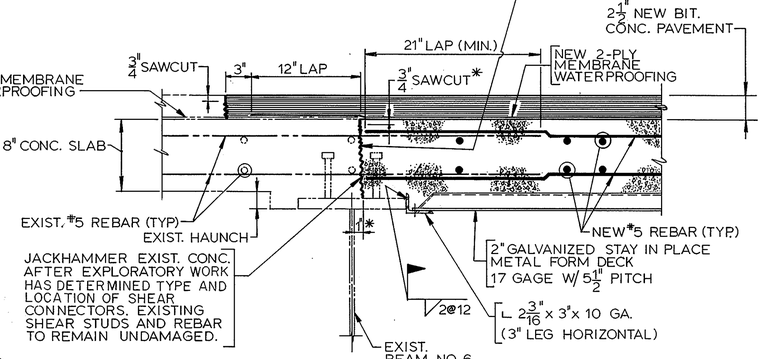
NOTE: ALL CONCRETE WORK FOR NEW SAFETY CURB ABOVE 8" CONC. SLAB SHALL BE POURED IN ALTERNATING SECTIONS W/ CURING PERIOD OF NOT LESS THAN 3 DAYS.

PROPOSED DECK DETAILS

SECTION 1-1 (SHT.-1)

SCALE: 1/2" = 1'-0"

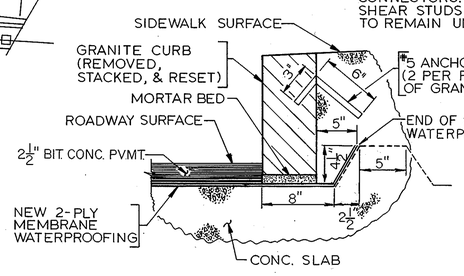
CLEAN EXISTING CONC. OF ALL DUST AND UNBONDED PARTICLES AND APPLY EPOXY BONDING COMPOUND IMMEDIATELY PRIOR TO PLACING NEW CONCRETE.



DETAIL A

SCALE: 1 1/2" = 1'-0"

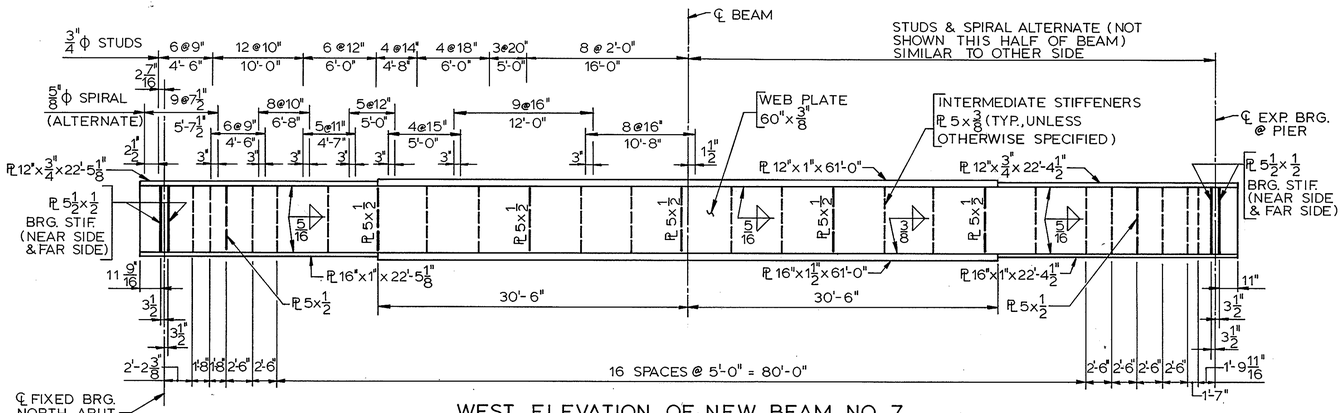
* NOTE: IF SPIRAL SHEAR CONNECTOR (ALTERNATE) WAS USED, THIS DIMENSION, LOCATION OF SAWCUT, TO BECOME 2 1/2". (SOME EXPLORATORY WORK MUST BE PERFORMED BEFORE SAWCUT IS MADE IN CONCRETE)



DETAIL B

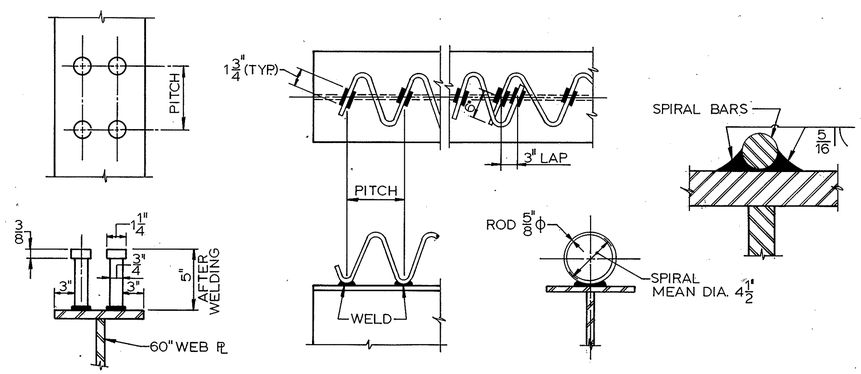
SCALE: 1 1/2" = 1'-0"

DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE



WEST ELEVATION OF NEW BEAM NO. 7

NOT TO SCALE
(STIFFENERS FAR SIDE ONLY, UNLESS OTHERWISE SPECIFIED)

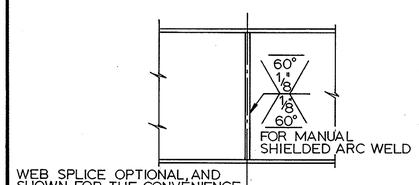


STUDS

SPIRALS

SHEAR CONNECTOR DETAILS

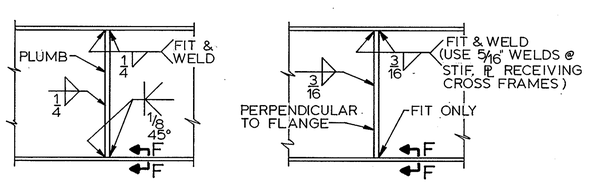
NOT TO SCALE



WEB SPLICE OPTIONAL, AND SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. ONE SPLICE PER BEAM ALLOWED, LOCATED @ APPROX. 1/3 POINT & 12" MIN. FROM STIF. PL

WEB SPLICE DETAIL

NOT TO SCALE

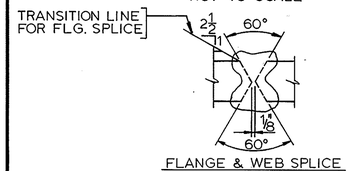


END

INTERMEDIATE

TYPICAL STIFFENERS

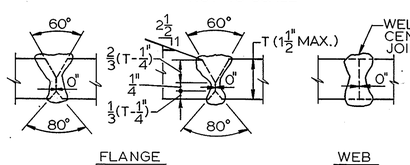
NOT TO SCALE



FLANGE & WEB SPLICE

MANUAL SHIELDED ARC WELD

NOT TO SCALE

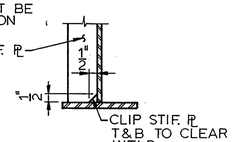


FLANGE

WEB

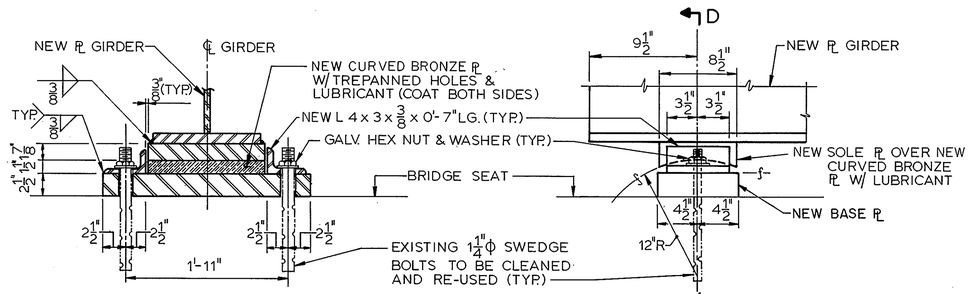
SUBMERGED ARC WELD

NOT TO SCALE



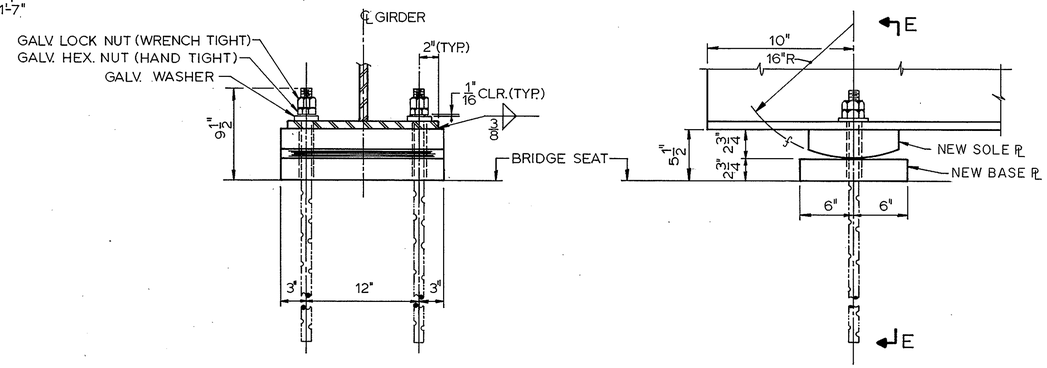
SECTION F-F

NOT TO SCALE



SECTION D-D

EXPANSION



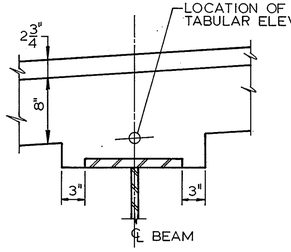
SECTION E-E

FIXED

TYPICAL BEARING DETAILS

SCALE: 1½" = 1'-0"

TOP OF FORM ELEVATION FOR DECK SLAB PRIOR TO PLACEMENT OF CONCRETE									
BEAM NO.	INCREASING STATIONS →								
	℄ BRG.	⅛ PT.	¼ PT.	⅜ PT.	½ PT.	⅝ PT.	¾ PT.	⅞ PT.	℄ BRG.
7	228.25	228.58	228.88	229.14	229.34	229.49	229.59	229.67	229.74



NOTE: MINIMUM THEORETICAL CAMBER FOR BEAM NO. 7 = 4 9/16"

AFTER THE STRUCTURAL STEEL IS ERECTED, BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON THE TOP OF THE FLANGE OF THE BEAMS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE ABOVE. THE DIFFERENCE BETWEEN THE ELEVATION OBTAINED AND THOSE SHOWN IN THE TABLE GIVES THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF BEAM TO BOTTOM OF SLAB @ ℄ BEAM. (SEE HAUNCH DETAIL)

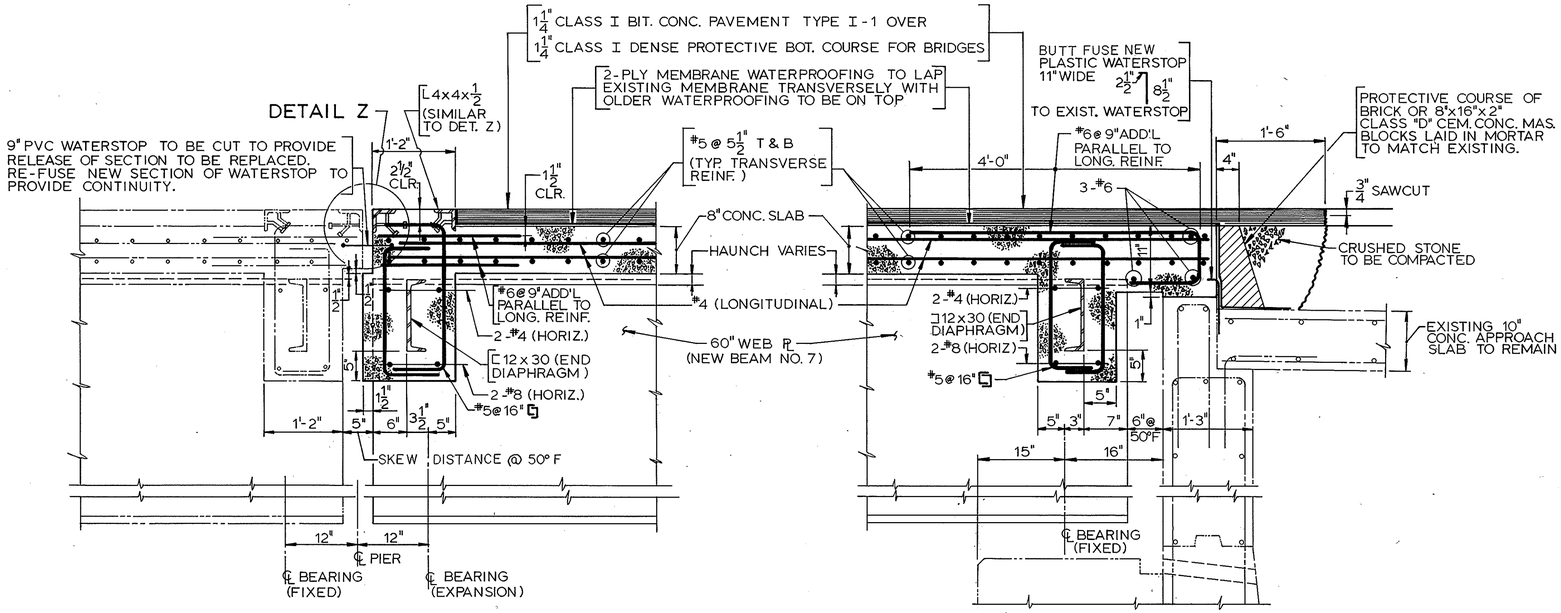
HAUNCH DETAIL

NOT TO SCALE

NOTE:
ALL DIMENSIONS ABOVE ARE SQUARE TO WALL ABUTMENT AND PIER.

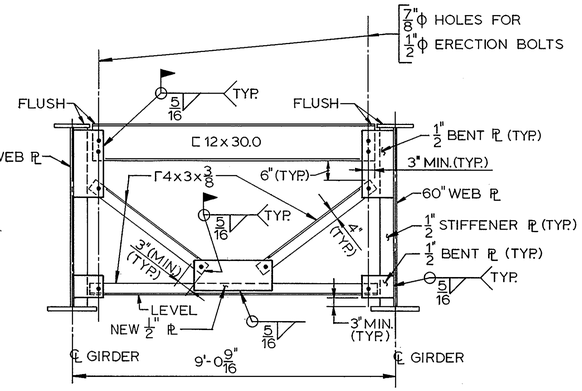
DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		19		

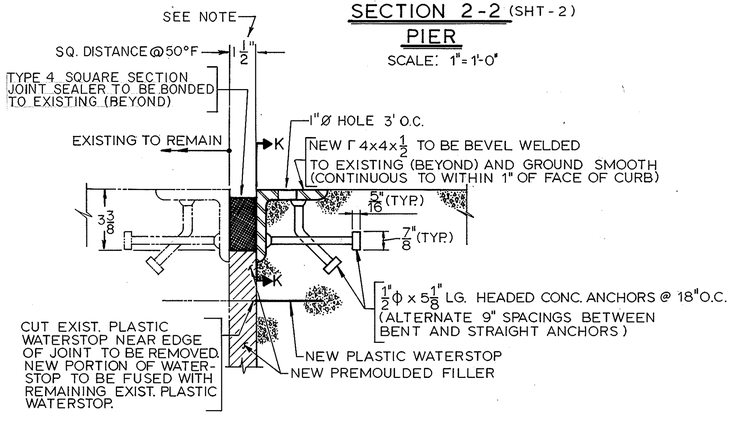


SECTION 2-2 (SHT-2)
PIER
SCALE: 1" = 1'-0"

SECTION 3-3 (SHT-2)
NORTH ABUTMENT
SCALE: 1" = 1'-0"

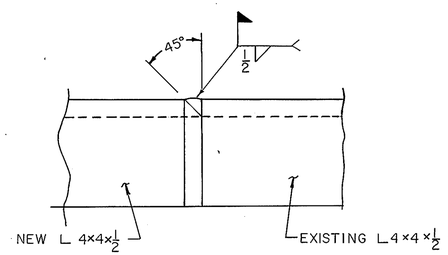


SECTION 4-4 (SHT-2)
END CROSS FRAME
SCALE: 1/2" = 1'-0"

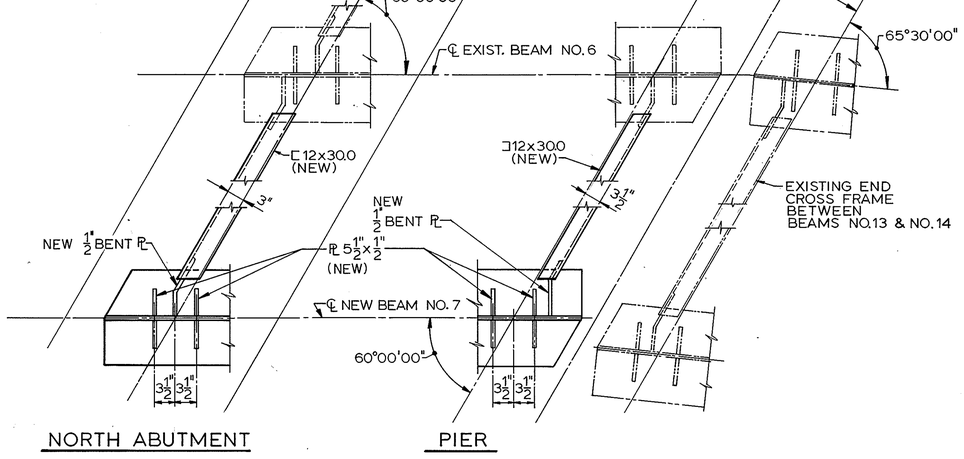


DETAIL Z
SCALE: 1/4" = 1"

NOTE: THE EXISTING OPENING DURING INSTALLATION OF NEW L 4x4x1/2 SHALL GOVERN AND THE JOINT SEALER SHALL SUIT THAT OPENING.



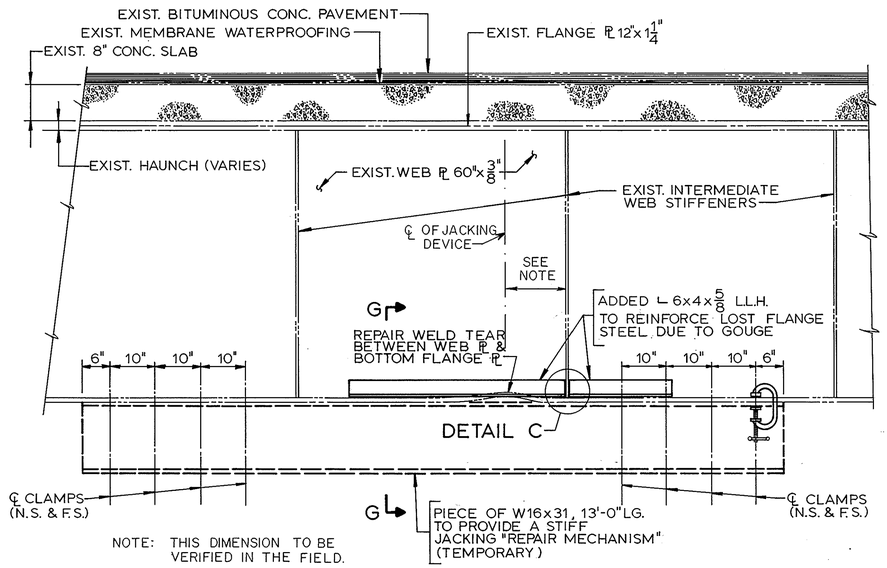
SECTION K-K
NOT TO SCALE



TYPICAL END CROSS FRAME CONNECTIONS
SCALE: 1" = 1'-0"

DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.		19		



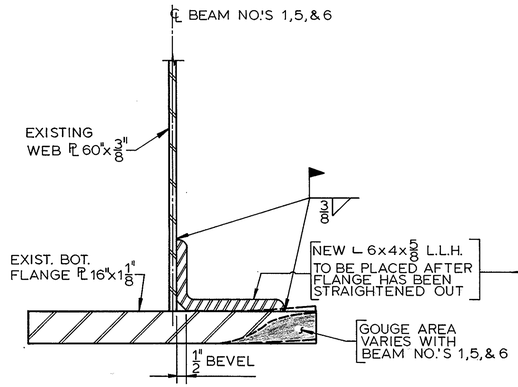
NOTE: THIS DIMENSION TO BE VERIFIED IN THE FIELD.

SECTION 5-5 (SHT.-2)
REPAIR OF BEAM NO.'S 1,5,&6

SCALE: $\frac{3}{4}$" = 1'-0"

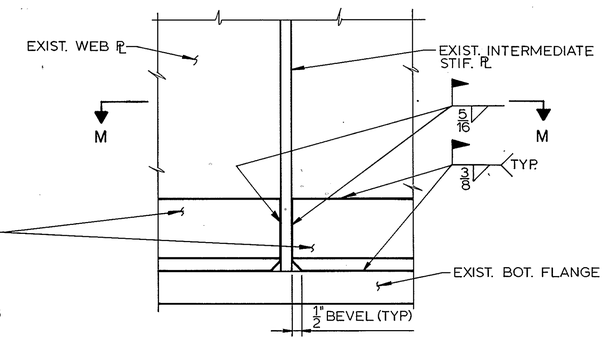
REPAIR PROCEDURE

1. AFTER LOCATING AREA OF DAMAGE, CENTER REPAIR MECHANISM AND CLAMP BOTTOM FLANGE OF PL GIRDER TO TOP FLANGE OF W16. (MINIMUM OF 16 CLAMPS REQ'D PER REPAIR MECHANISM) CLAMPS TO BE CAPABLE OF HAVING AN APPLIED FORCE = 50 KIPS EACH.
2. HEAT DAMAGED MEMBER (TEMPERATURE FOR BENDING REPAIR IS NOT TO EXCEED 1100°F) AND, USING A JACKING MECHANISM, SLOWLY RE-POSITION FLANGE.
3. AFTER FLANGE HAS BEEN RE-POSITIONED TO IT'S ORIGINAL STATE, REPAIR ANY TEARS IN THE WEB TO FLANGE WELDS BY CHIPPING OR GRINDING AWAY TORN WELDS AND REWELDING.
4. GOUGED FLANGE AREAS TO BE REINFORCED WITH L-6x4'S AS SHOWN ABOVE. CORNER OF ANGLE TO BE BEVELLED OUT TO ADJUST FOR EXISTING FLANGE TO WEB FILLET WELDS. ANGLES ONLY ON SIDE WITH TORN/GOUGED AREAS.
5. BEVEL REINFORCING ANGLES TO CLEAR EXISTING FLANGE TO STIF PL FILLET WELD. BUTT AND WELD ANGLES TO STIF. PL (SEE DETAIL C).
6. BEVEL REINFORCING ANGLES TO CLEAR EXISTING WEB TO STIFFENER PL FILLET WELD.



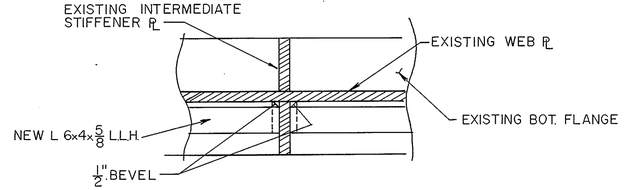
SECTION G-G

SCALE: $\frac{1}{4}$" = 1"



DETAIL C

SCALE: $\frac{1}{4}$" = 1"



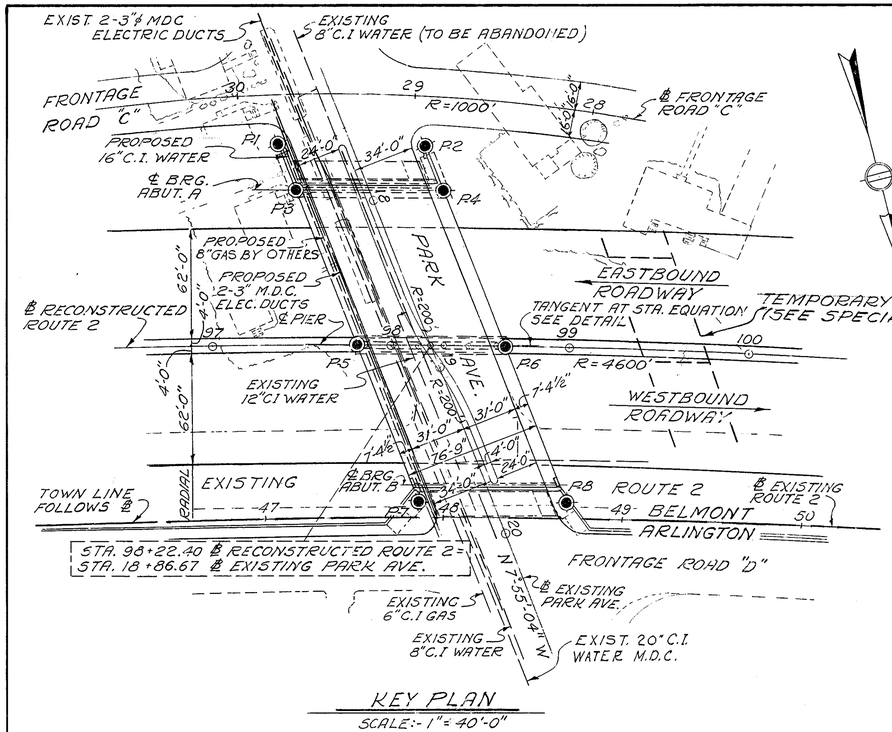
SECTION M-M

NOT TO SCALE

DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

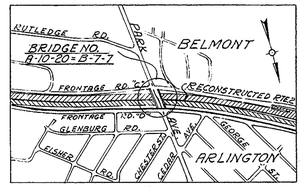
SHEET 5 OF 5 SHEETS BRIDGE NO. L-10-20

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	202	600



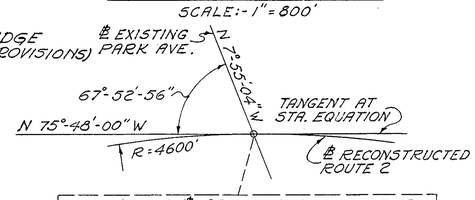
KEY PLAN

SCALE:-1"=40'-0"



LOCUS PLAN

SCALE:-1"=800'



STA. 98+22.40 ℄ RECONSTRUCTED ROUTE 2 = STA. 18+86.67 ℄ EXISTING PARK AVE.

TANGENT DETAIL AT STATION EQUATION

NOT TO SCALE

CURVE DATA
℄ RECONST. RTE. 2

R = 4600'
Δ = 12°-37'-34"
T = 508.91'
L = 1013.69'

GENERAL NOTES

BENCH MARK

B.M. #A-24 RIGHT OUTER CORNER OF FIRST CONCRETE STEP HOUSE #25 HERMON ST. 171'±LT. STA. 95+77 ℄ RECONSTRUCTED ROUTE 2. (BELMONT) ELEV. 305.307. (U.S.C.G.S. 1929 DATUM)

SURVEY NOTEBOOKS

℄: 16744; LEVELS: 25525; X-SECTIONS: 25523, 25525 DETAIL: 16740, 16604.

FOUNDATIONS

MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED IN CONSTRUCTION.

DATE & SEAL

TO BE PLACED ON THE INSIDE FACE OF THE NORTHWEST AND SOUTHEAST END POSTS. A SHEET SHOWING THE SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. SEAL WILL BE FURNISHED BY THE COMMONWEALTH AND SET BY THE CONTRACTOR.

DESIGN

IN ACCORDANCE WITH THE 1961 SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS AND INTERIM SPECIFICATIONS FOR H20-44 LOADING.

REINFORCEMENT

ALL BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. SPECIFICATION A305. UNLESS OTHERWISE SHOWN ON THE PLANS, REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE, EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

BRIDGE RAILINGS

SEE DEPARTMENT STANDARD PLANS, DATED OCT. 1966, FOR DETAILS OF BRIDGE RAILINGS.

UNSUITABLE MATERIAL

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE.

SCALES

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR ½ SIZE PRINTS.

ANCHOR BOLTS

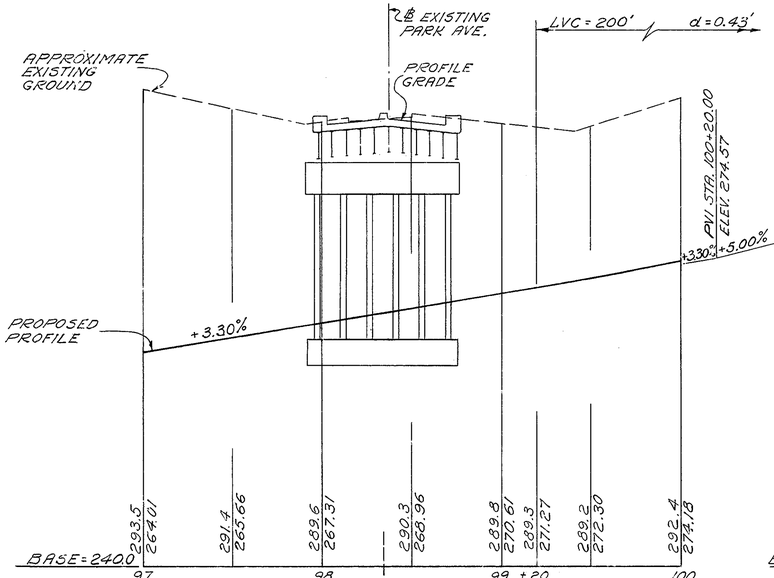
ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE AND PLACED BEFORE THE CONCRETE IS POURED, EXCEPT AS NOTED ON SHEET 9.

ESTIMATED QUANTITIES

(NOT GUARANTEED)

TEMPORARY BRIDGE	1 L.S.
CLASS B ROCK EXCAVATION	800 C.Y.
BRIDGE EXCAVATION	440 C.Y.
GRAVEL BORROW	1090 C.Y.
GRAVEL BORROW FOR BRIDGE FOUNDATIONS	80 C.Y.
CLASS I BITUMINOUS CONCRETE PAVEMENT, TYPE I-1	84 TONS
CLASS I DENSE PROTECTIVE (BOTTOM) COURSE FOR BRIDGES	88 TONS
CLASS B CEMENT CONCRETE MASONRY	1195 C.Y.
BITUMINOUS DAMP-PROOFING	750 S.Y.
METAL BRIDGE RAILING (3 RAILS) OPTION	385 L.F.
BRIDGE STRUCTURE (BRIDGE NO. A-10-20=B-7-7)	1 L.S.
STEEL REINFORCEMENT FOR STRUCTURES	160,500 LBS.
ESTIMATED WEIGHT OF STRUCTURAL STEEL	553,000 LBS.

THIS QUANTITY IS PART OF ITEM 995.02 BRIDGE STRUCTURE (BRIDGE NO. A-10-20=B-7-7) AND IS NOT GUARANTEED.

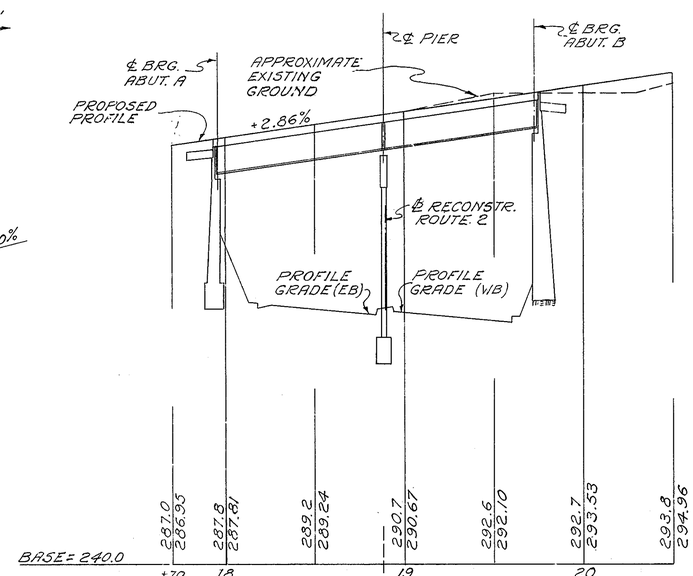


STA. 98+22.40 ℄ RECONSTRUCTED ROUTE 2 = STA. 18+86.67 ℄ EXISTING PARK AVE.

PROFILES - RECONSTRUCTED ROUTE 2

EASTBOUND ROADWAY (3' LEFT ℄) - WESTBOUND ROADWAY (8' RIGHT ℄)

SCALES:- HORIZ. 1"=40'-0"
VERT. 1"=8'-0"



STA. 18+86.67 ℄ EXISTING PARK AVE. = STA. 98+22.40 ℄ RECONSTRUCTED ROUTE 2

PROFILE - EXISTING PARK AVE.

(7' LEFT ℄)

HORIZ. 1"=40'-0"
SCALE:- VERT. 1"=8'-0"

DESIGNED BY R.L.M. CHECKED BY C.H.K.
DRAWN BY E.K. GEOMETRICS R.L.M.

JULY 6, 1967	⚠	REVISION - SHEETS 4 & 5
MAR. 22, 1967	⚠	REVISION - SHEET 13
JAN. 28, 1967		ISSUED FOR CONSTRUCTION
OCT. 29, 1968	⚠	SHEET 15A OF 15 SHEETS ADDED
NOV. 6, 1968	⚠	LENGTH OF ¾"Ø BOLT ADDED ON SHEET 15A
NOV. 21, 1968	⚠	CORRECT DIMENSION ON SHEET 15A

COMMONWEALTH OF MASSACHUSETTS WILLIAM A. HENDERSON No. 3905 REGISTERED PROFESSIONAL ENGINEER

UNIVERSAL ENGINEERING CORPORATION
DESIGNING ENGINEERS
38 CHAUNCY STREET
BOSTON 11, MASS.

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE

ARLINGTON - BELMONT

RECONSTRUCTED ROUTE 2
UNDER
PARK AVENUE

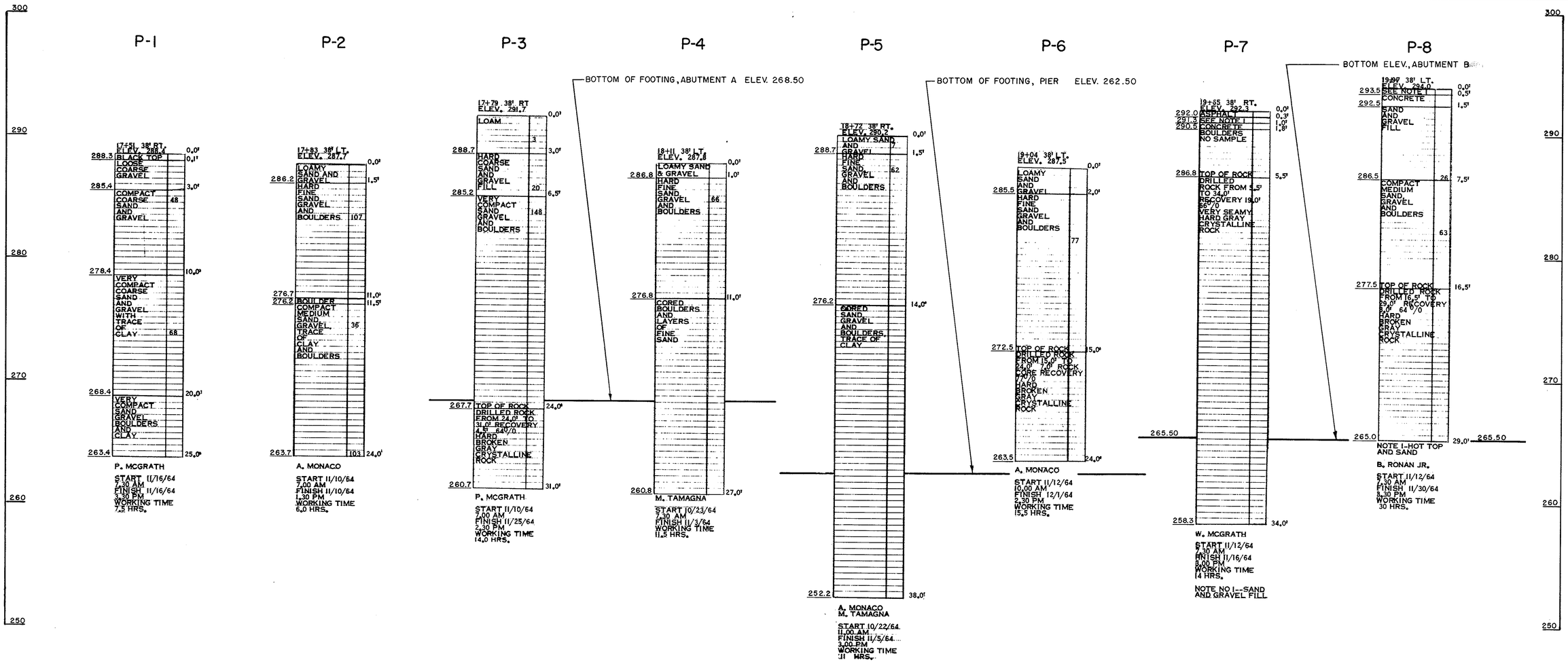
SCALES: AS NOTED

OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST., BOSTON 14, MASS.
JAN. 1967

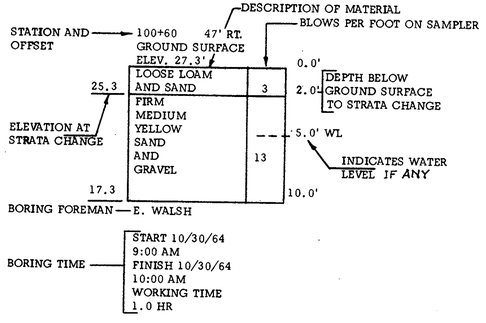
R.J. McGonagle BRIDGE ENGINEER — CHIEF ENGINEER

SHEET 1 OF 15 SHEETS - BRIDGE NO. A-10-20=B-7-7

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	203	600



LEGEND



BORING DATA

VERTICAL SCALE: - 1/4" = 1'-0"

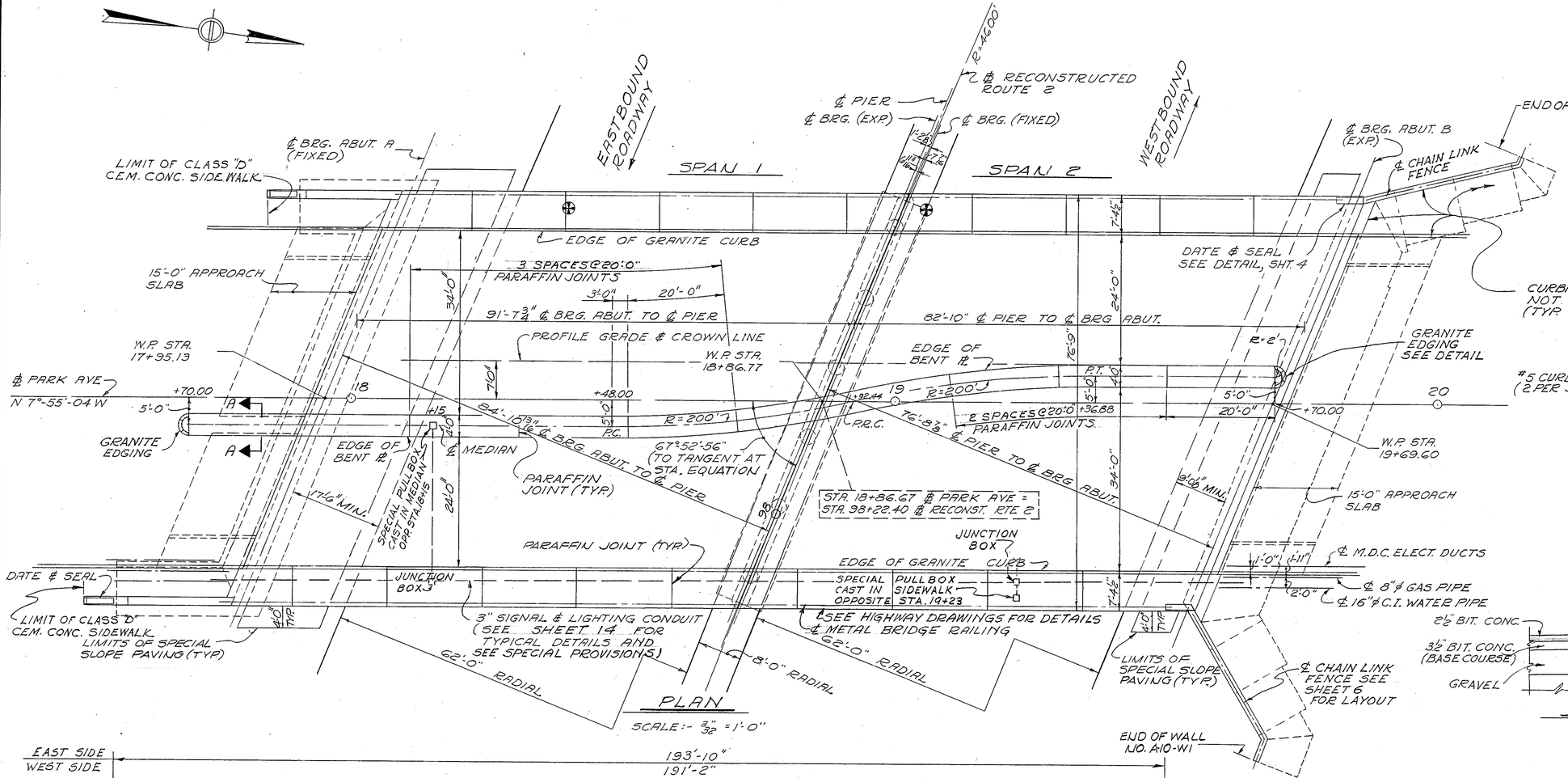
BORING NOTES

1. LOCATIONS OF BORINGS ARE SHOWN ON KEY PLAN (SHEET 1) THUS:-◉ P-1
2. BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON A 1 3/8" I.D. SAMPLER PRODUCED BY A 30" FALL OF A 140 LB. HAMMER.
4. BORING SAMPLES MAY BE SEEN AT THE RESEARCH AND MATERIALS DIVISION, 99 WORCESTER ST., WELLESLEY HILLS (INTERSECTION OF ROUTES 9 AND 128)
5. BORINGS TAKEN BY RAYMOND CONCRETE PILE COMPANY, 147 MEDFORD ST., CHARLESTOWN, MASS.
6. WATER LEVELS SHOWN ON BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.

DESIGNED BY R.L.M. CHECKED BY R.L.M.
DRAWN BY E.K. GEOMETRICS R.L.M.

DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	204	600



NOTES :-

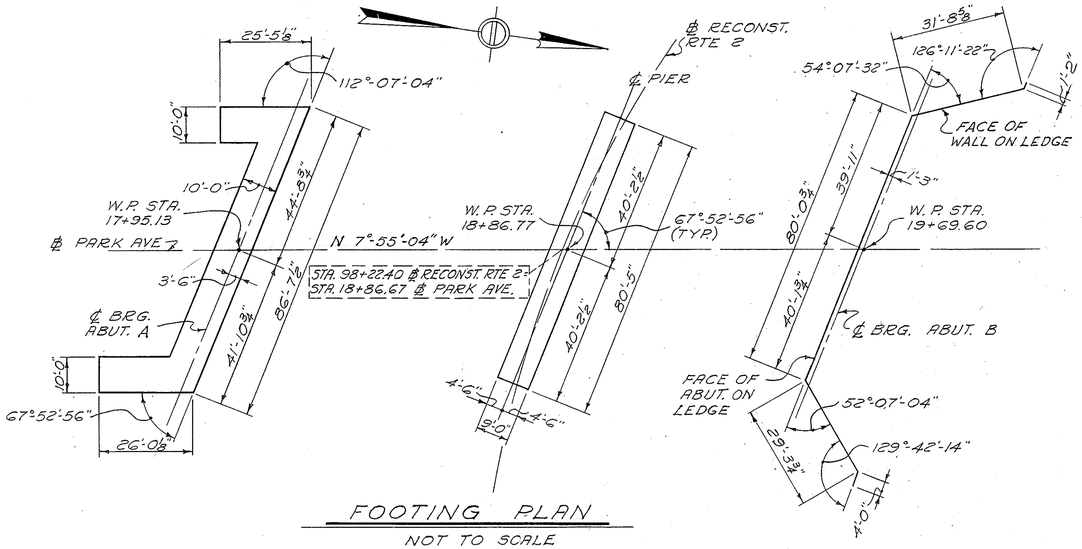
1. POINTS OF MINIMUM VERTICAL CLEARANCE SHOWN THUS:- ⊕
2. LIGHTING CONDUIT, JUNCTION BOXES, ETC. ARE NOT A BRIDGE ITEM.

DESIGNED BY J.A.O'D CHECKED BY C.H.K.
DRAWN BY M.J.L. GEOMETRICS J.A.O'D

JAN. 28, 1967	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

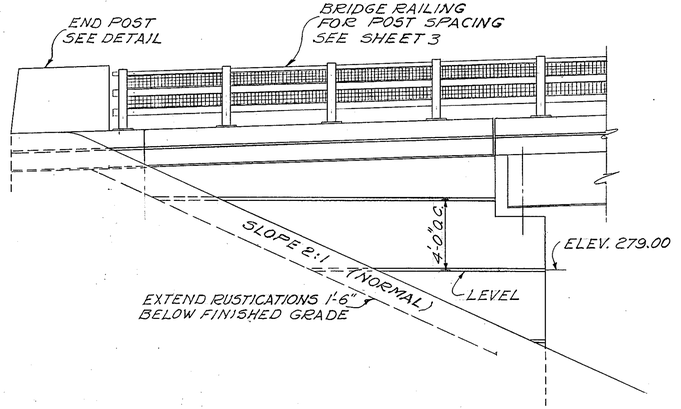
SHEET 3 OF 15 SHEETS - BRIDGE NO. A-10-20=B-7-7

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242 (14)	19	205	600



FOOTING PLAN

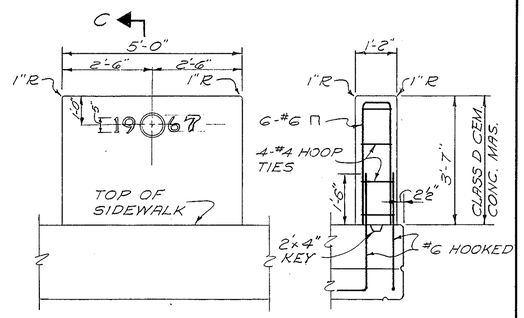
NOT TO SCALE



TYPICAL WINGWALL ELEVATION

ABUTMENT A

SCALE:- ¼" = 1'-0"

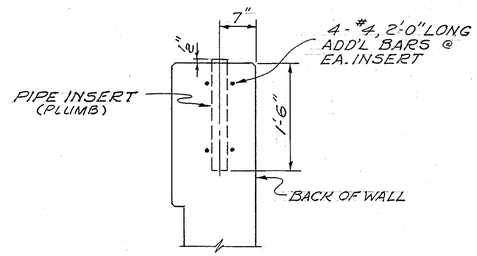


ABUTMENT B - END POST DETAILS

SCALE :- ½" = 1'-0"

NOTE :-

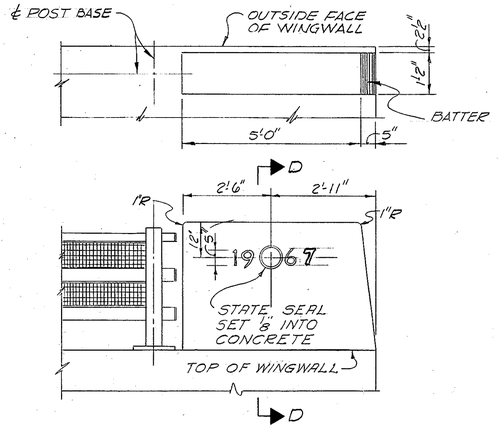
TWO STATE SEALS REQUIRED, SEE SHEET 3 FOR LOCATIONS. SEALS SHALL BE FURNISHED BY THE COMMONWEALTH AND SET BY THE CONTRACTOR.

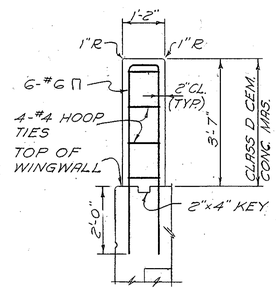


GALVANIZED PIPE INSERT DETAIL

(FOR CHAIN LINK FENCE)

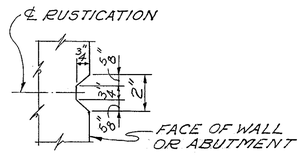
SCALE: 1" = 1'-0"





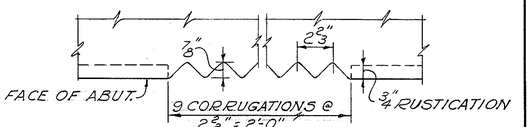
ABUTMENT A END POST DETAILS

SCALE :- ½" = 1'-0"



RUSTICATION DETAIL

SCALE:- 3" = 1'-0"

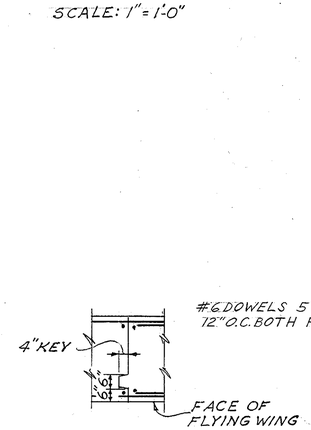


VERTICAL FLUTING DETAIL

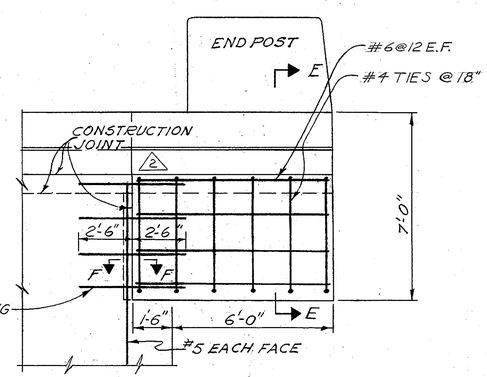
NOT TO SCALE

NOTE:

FORM FROM STANDARD CORRUGATED ALUMINUM OR PLASTIC SHEET.



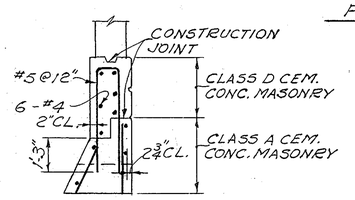
SECTION F-F



ELEVATION

FLYING WING DETAILS

SCALE:- ⅜" = 1'-0"



SECTION E-E

FLYING WING NOTES:

1. FOR WINGWALL REINFORCEMENT, SEE TYPICAL WINGWALL SECTIONS.
2. FILL SHALL BE PLACED AND THOROUGHLY COMPACTED TO THE GRADE OF THE BOTTOM OF THE WINGS; OR WHERE NO FILL IS REQUIRED BELOW THE WINGS, THE CONCRETE SHALL BE PLACED UPON UNDISTURBED SOIL.

DESIGNED BY H.S.B. CHECKED BY G.F.M.
DRAWN BY M.J.E. GEOMETRICS J.A.O.D.

DATE	DESCRIPTION
JULY 6, 1967	⚠2 CONST. JOINT EXTENDED
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

⚠2

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	206	600

BMS. 101, 102, 110 & 111
BMS. 103 THRU 109

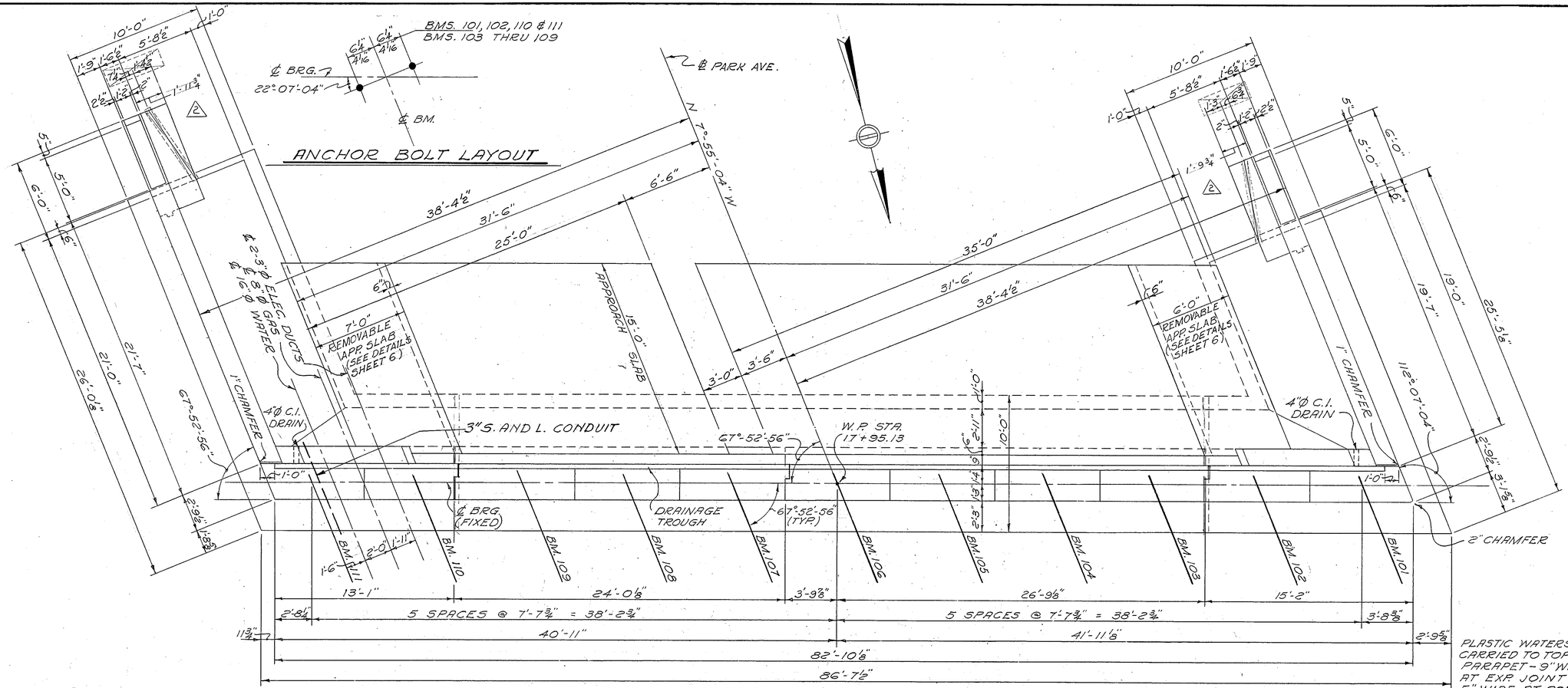
℄ BRG.
22°-07'-04"

℄ BM.

℄ PARK AVE.

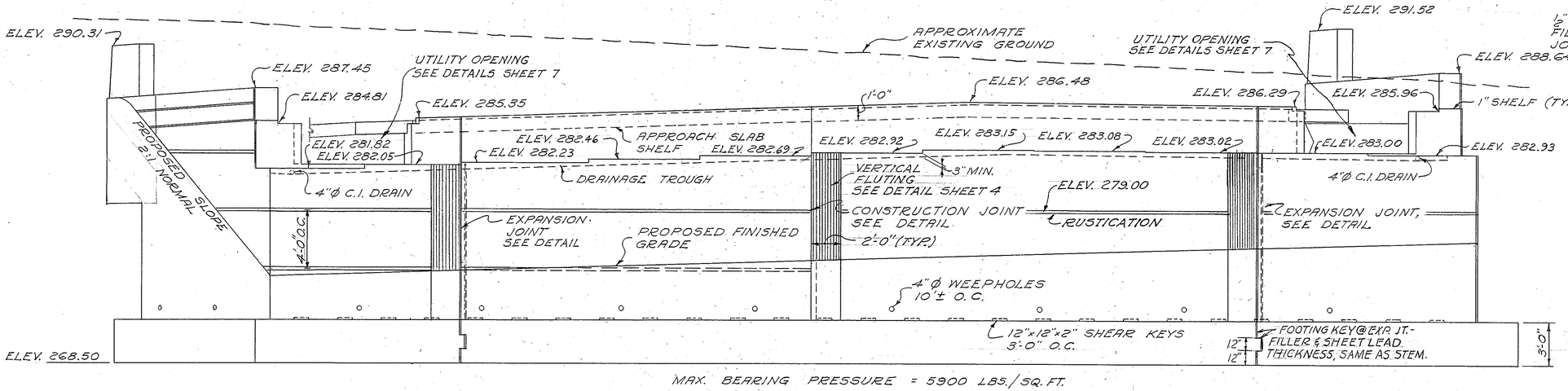
N 7°-55'-04" W

ANCHOR BOLT LAYOUT



PLAN - ABUTMENT A

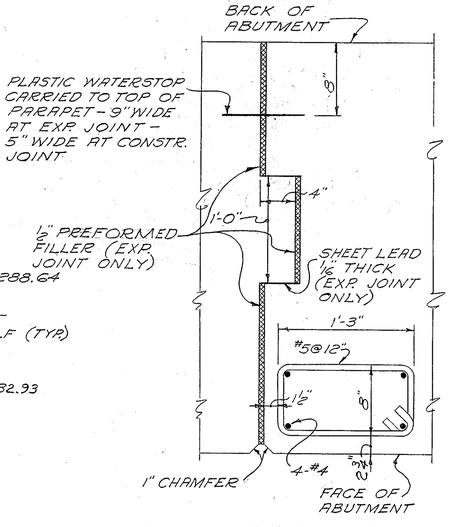
SCALE :- ¼" = 1'-0"



MAX. BEARING PRESSURE = 5900 LBS./SQ. FT.

ELEVATION - ABUTMENT A

SCALE :- ¼" = 1'-0"



CONSTRUCTION AND EXPANSION JOINT DETAIL

SCALE:- 1½" = 1'-0"

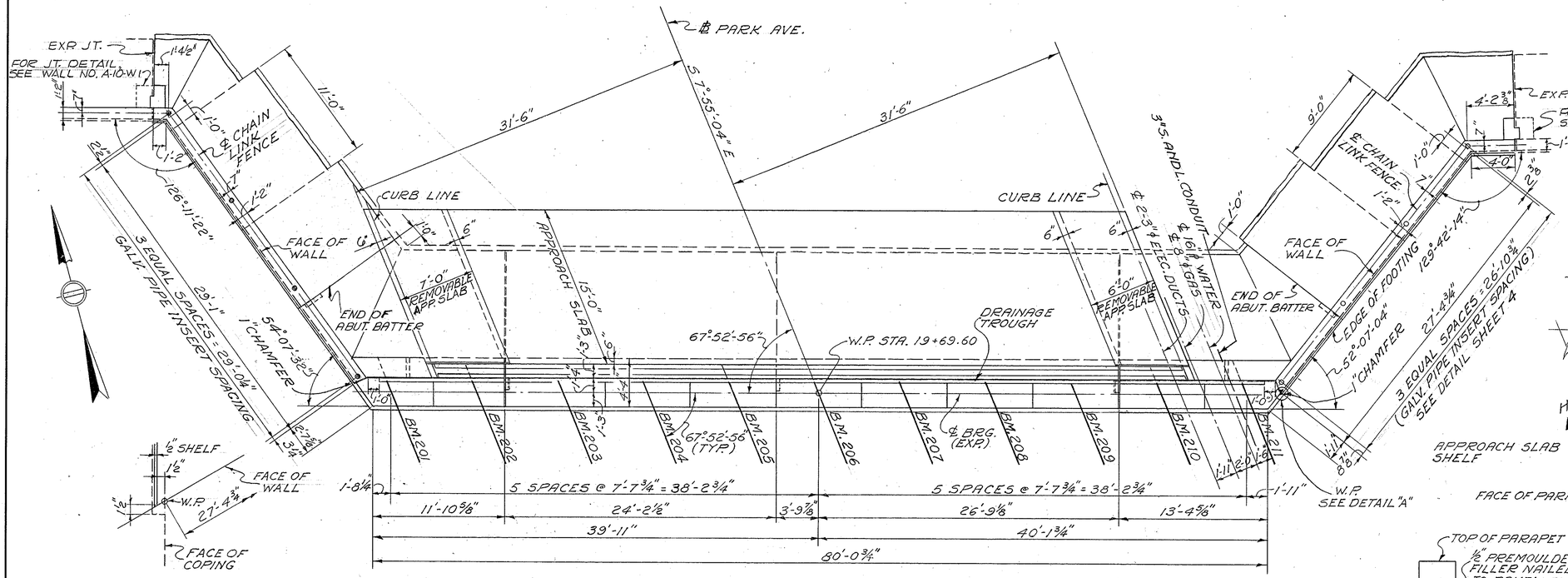
(OMIT CORNER REINFORCEMENT AT CONSTRUCTION JOINTS.)

DESIGNED BY H.B.B. CHECKED BY G.F.M.
DRAWN BY M.J.E. GEOMETRICS J.A.O.D.

DATE	DESCRIPTION
JULY 6, 1967	⚠2 FLYING WING REVISED
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

⚠2 ⚠2

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	207	600

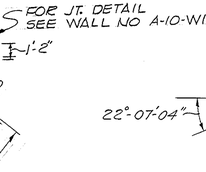


PLAN - ABUTMENT B

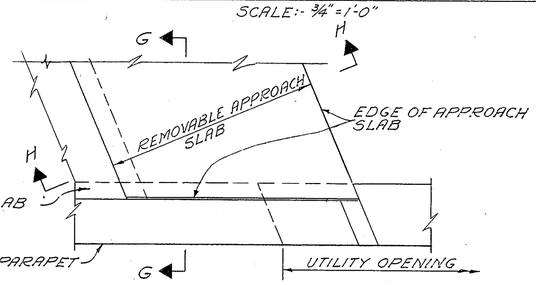
SCALE:- 3/16" = 1'-0"

DETAIL "A"

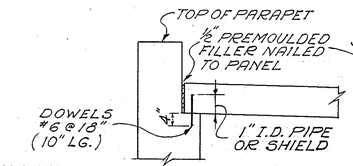
NOT TO SCALE



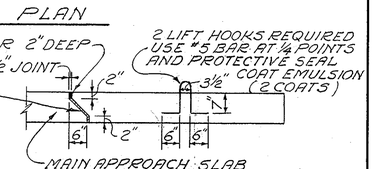
ABUTMENT B-ANCHOR BOLT LAYOUT



PLAN



SECTION G-G

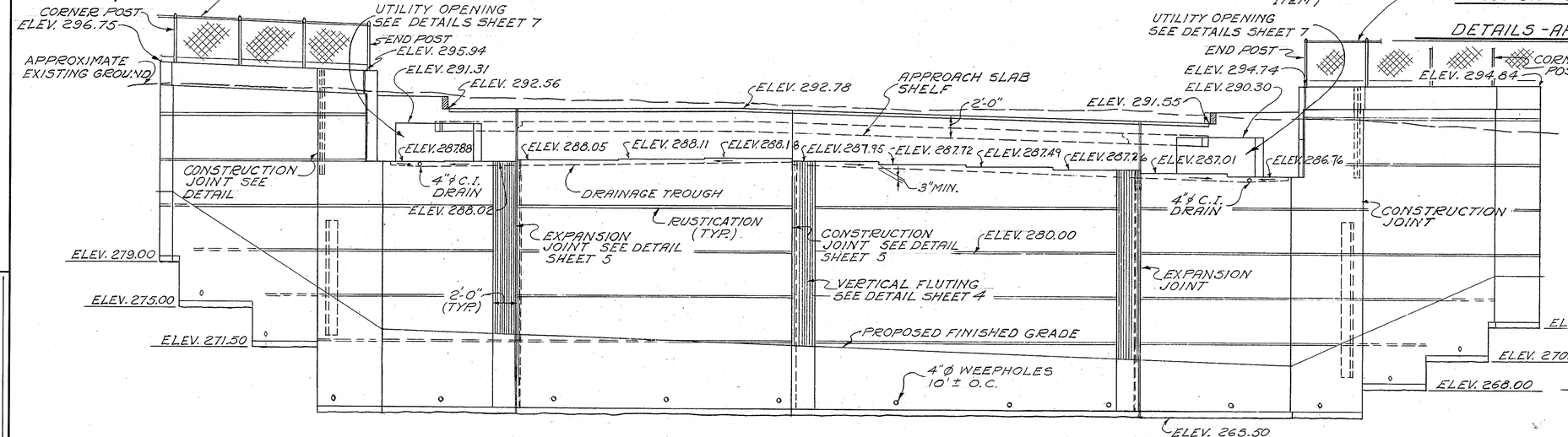


SECTION H-H

DETAILS - APPROACH SLAB OVER UTILITY OPENINGS

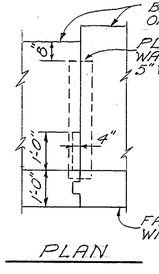
(TYPICAL ABUTMENTS A & B)

SCALE:- ½" = 1'-0"

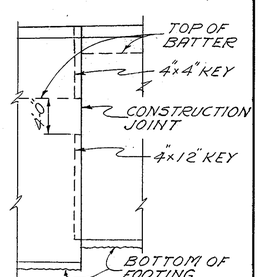


ELEVATION - ABUTMENT B

SCALE:- 3/16" = 1'-0"



PLAN



ELEVATION

WINGWALL CONSTRUCTION JOINT DETAIL

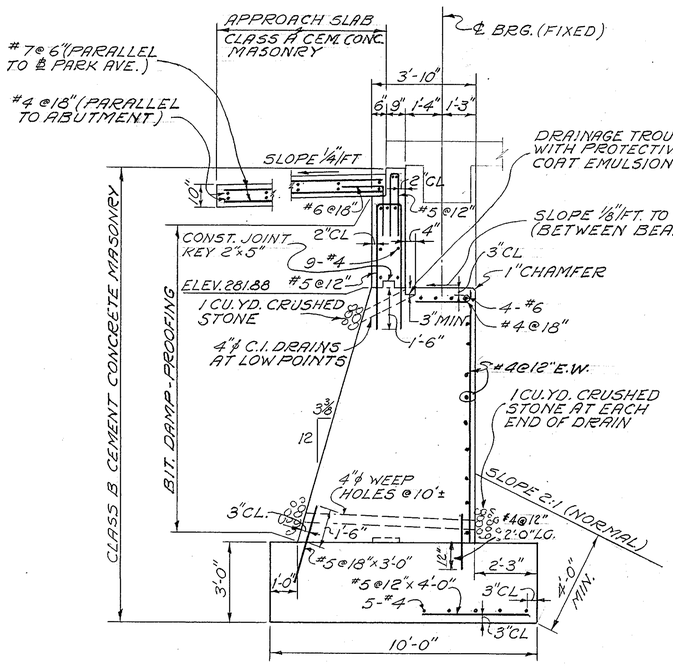
NOT TO SCALE

CARRY PLASTIC WATERSTOP TO WITHIN 4" OF TOP OF COPING.

DESIGNED BY H.B.B. CHECKED BY G.E.M.
DRAWN BY E.K. GEOMETRICS J.A.O.D.

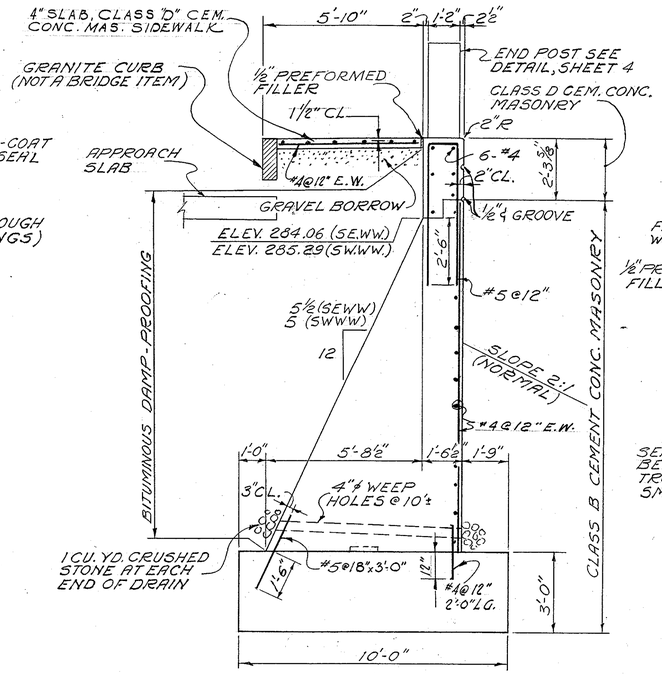
DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	208	600



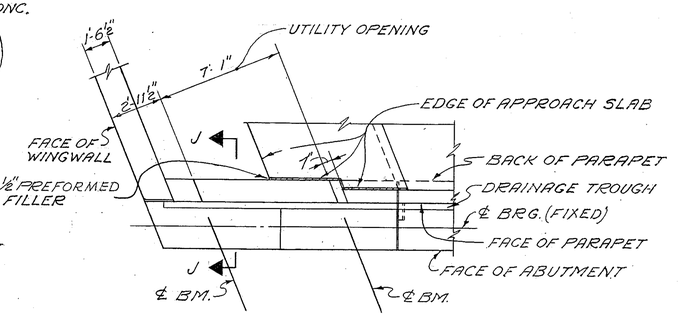
ABUTMENT

MAX. BEARING PRESSURE = 5900 LBS PER SQ. FT.



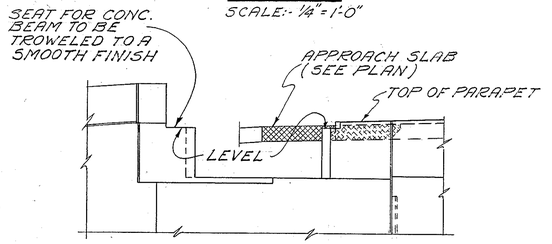
WINGWALL

MAX. BEARING PRESSURE = 5600 LBS PER SQ. FT.



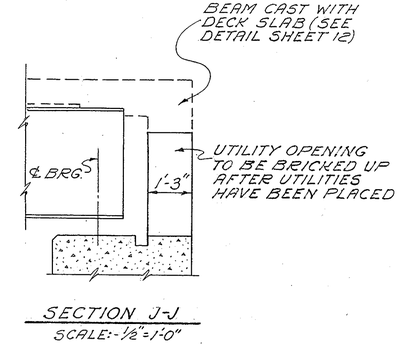
PLAN

SCALE:- ¼" = 1'-0"



ELEVATION

SCALE:- ¼" = 1'-0"

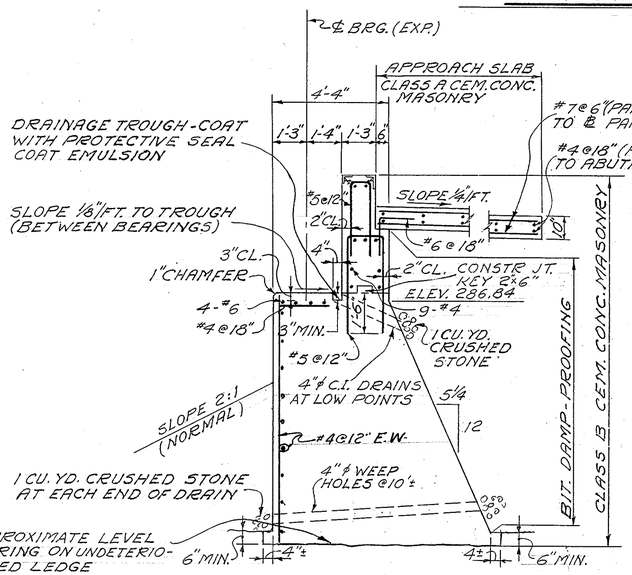


SECTION J-J

SCALE:- ½" = 1'-0"

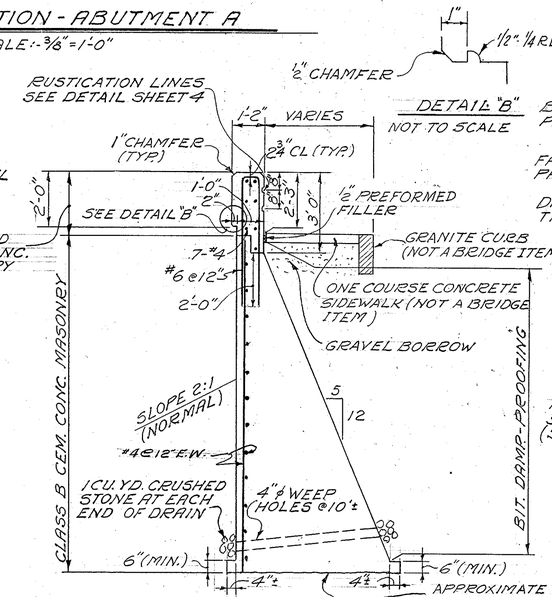
TYPICAL SECTION - ABUTMENT A

SCALE:- ⅜" = 1'-0"



ABUTMENT

MAX. BEARING PRESSURE = 9950 LBS PER SQ. FT.



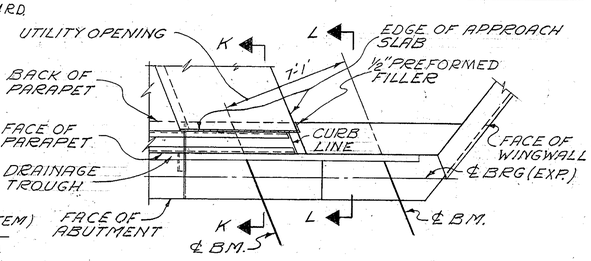
WINGWALL

MAX. BEARING PRESSURE = 8900 LBS PER SQ. FT.

TYPICAL SECTION - ABUTMENT B

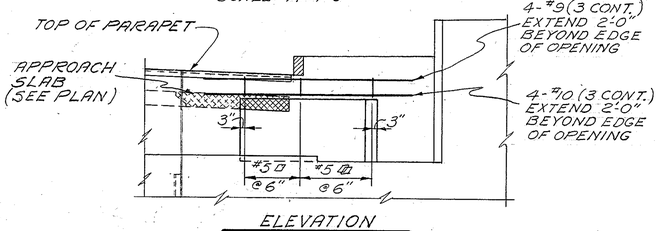
SCALE:- ⅜" = 1'-0"

DETAILS - UTILITY OPENING IN ABUTMENT A



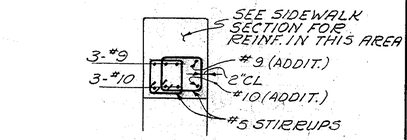
PLAN

SCALE:- ¼" = 1'-0"



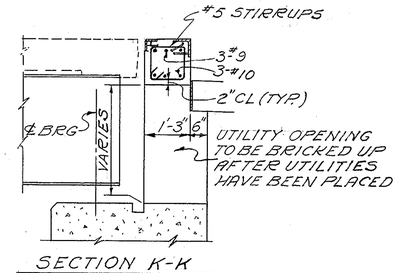
ELEVATION

SCALE:- ¼" = 1'-0"



SECTION L-L

SCALE:- ½" = 1'-0"



SECTION K-K

SCALE:- ½" = 1'-0"

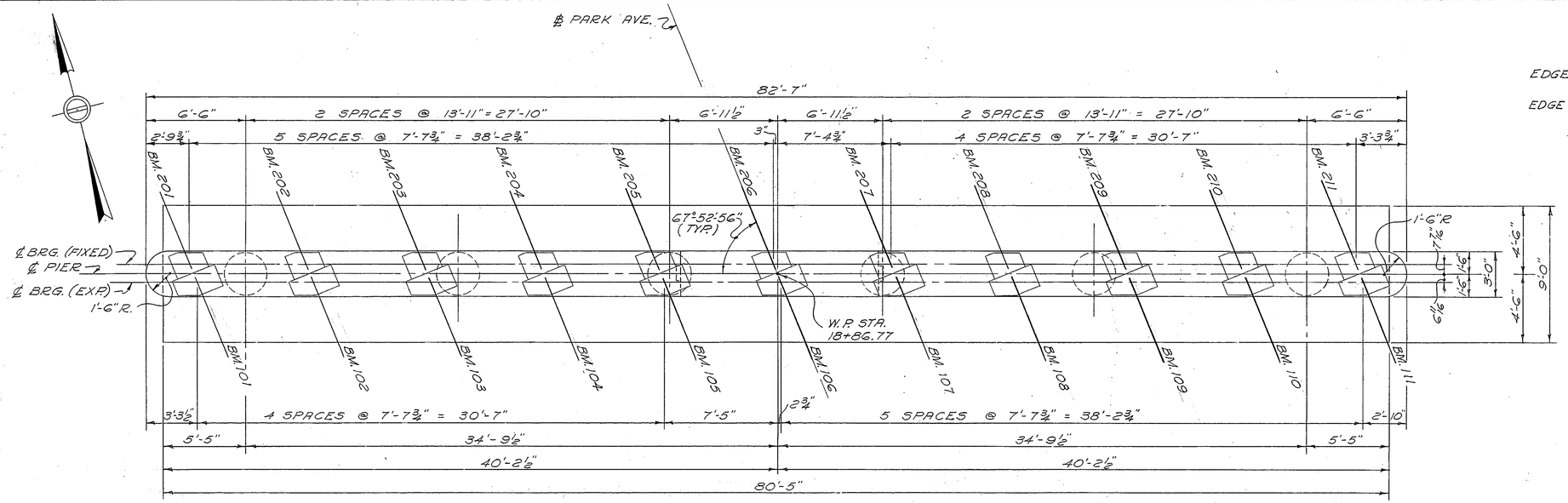
DETAILS - UTILITY OPENING IN ABUTMENT B

DESIGNED BY H.S.B. CHECKED BY G.E.M.
DRAWN BY E.K. GEOMETRICS J.A.O.D.

DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

SHEET 7 OF 15 SHEETS - BRIDGE NO. A-10-20=B-7-7

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	209	600



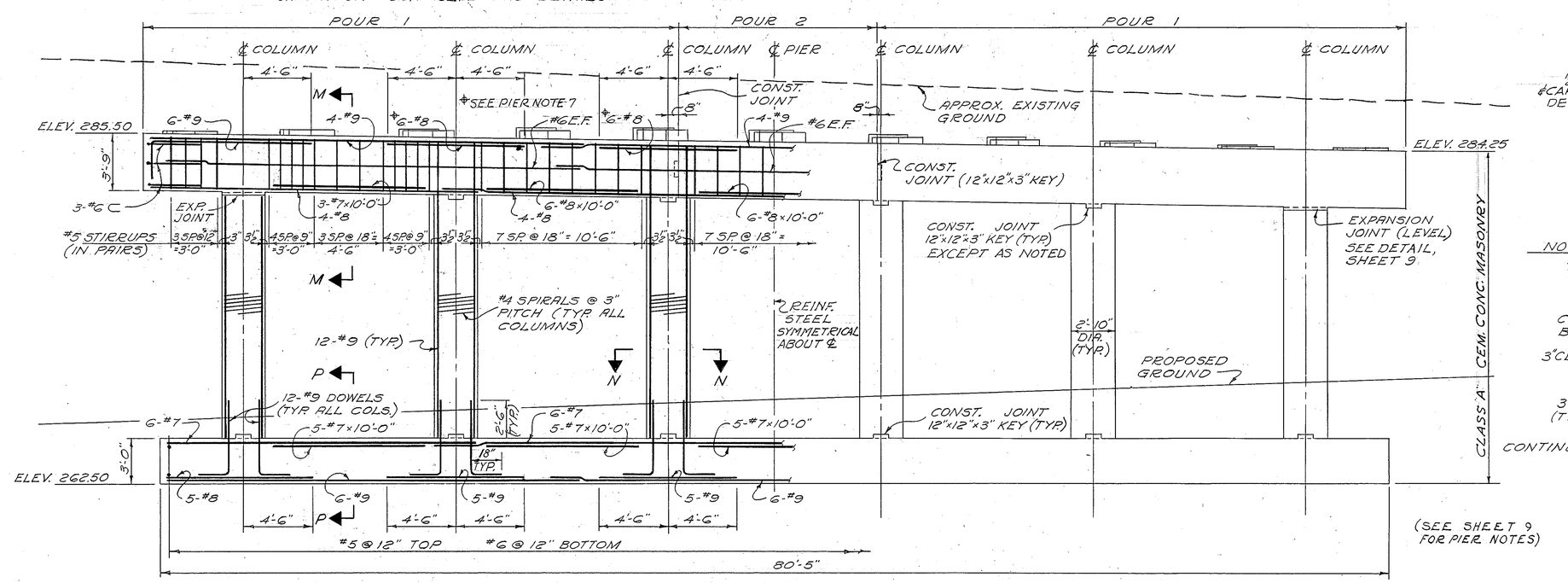
PLAN - PIER

SCALE :- ¼" = 1'-0"

BOTTOM OF MASONRY PLATE ELEVATIONS

BM.101	BM.102	BM.103	BM.104	BM.105	BM.106	BM.107	BM.108	BM.109	BM.110	BM.111	BM.201	BM.202	BM.203	BM.204	BM.205	BM.206	BM.207	BM.208	BM.209	BM.210	BM.211
285.51	285.57	285.59*	285.65*	285.72*	285.49*	285.26*	285.03*	284.80*	284.62	284.39	285.56	285.62*	285.73*	285.79*	285.86*	285.63*	285.40*	285.17*	284.94*	284.67*	284.44

NOTE:- * INDICATES PADS 4" OR MORE IN HEIGHT WHICH SHALL BE REINFORCED AS SHOWN ON "CONCRETE PAD DETAILS"

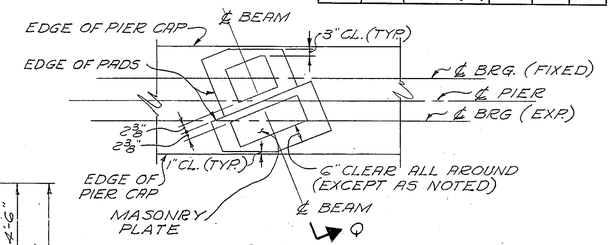


(SEE SHEET 9 FOR PIER NOTES)

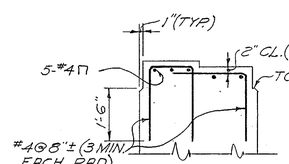
ELEVATION - PIER

SCALE :- ¼" = 1'-0"

MAX. BEARING PRESSURE = 4050 LBS./SQ. FT.



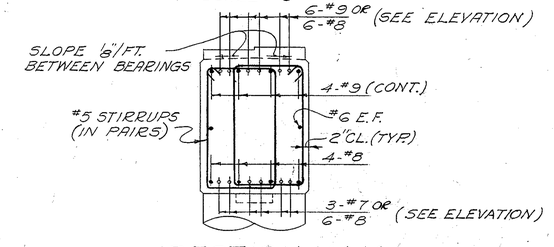
PLAN



SECTION Q-Q

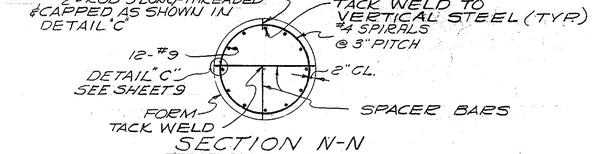
CONCRETE PAD DETAILS

SCALE :- ½" = 1'-0"



SECTION M-M

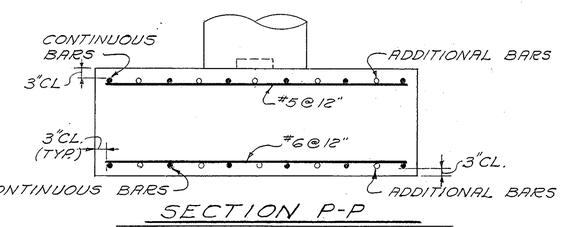
SCALE :- ½" = 1'-0"



SECTION N-N

SCALE :- ½" = 1'-0"

NOTE:
SPACER BARS SHALL BE LOCATED AT ¼ POINTS IN COLUMNS.



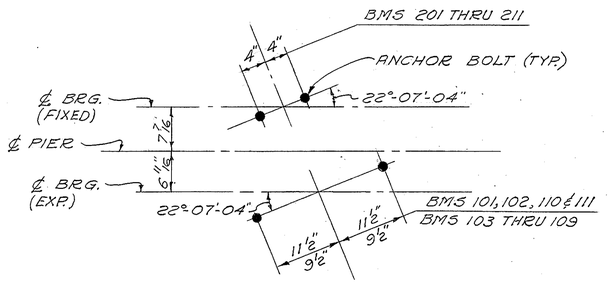
SECTION P-P

SCALE :- ½" = 1'-0"

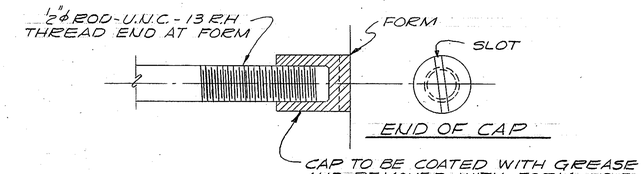
DESIGNED BY	H.J.B.	CHECKED BY	G.F.M.
DRAWN BY	M.J.R.	GEOMETRICS	J.A.O.D.

DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

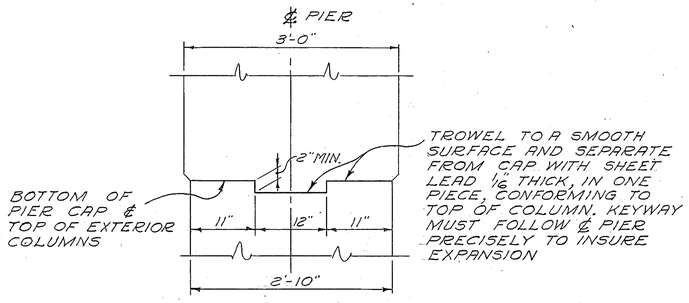
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	810	600



ANCHOR BOLT LAYOUT
PIER
NOT TO SCALE



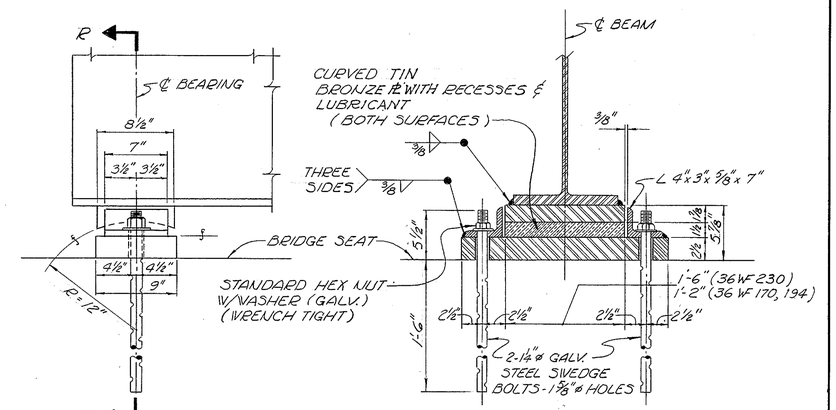
DETAIL "C"
NOT TO SCALE



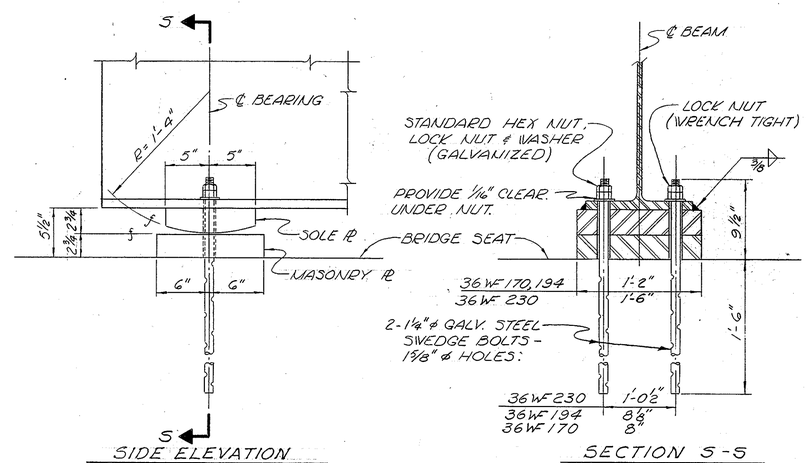
DETAIL - EXPANSION JOINT AT EXTERIOR COLUMNS
SCALE :- 1"=1'-0"

PIER NOTES

1. CONCRETE PADS SHALL BE POURED MONOLITHICALLY WITH THE PIER CAP, EXCEPT AT BEAMS 105, 205, 107 & 207.
2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1".
3. CONSTRUCTION JOINTS SHALL NOT BE ALLOWED IN COLUMNS.
4. SPIRAL REINFORCEMENT IN COLUMNS SHALL EXTEND FROM THE TOP OF FOOTING TO THE BOTTOM STEEL IN PIER CAP, EXCEPT AT EXPANSION COLUMNS WHERE ALL STEEL SHALL STOP 2" FROM TOP OF COLUMN.
5. POURING SEQUENCE - POUR SEGMENTS ① FIRST. POUR SEGMENT ② NOT LESS THAN 24 HOURS AFTER COMPLETION OF POUR OF SEGMENTS ①. FORMS SHALL BE STRIPPED AS PRESCRIBED IN SPECIFICATIONS.
6. ANCHOR BOLTS FOR BEAMS 105, 205, 107 & 207 TO BE DRILLED AND SET PRIOR TO POURING BEARING PADS.
7. TIE SOME OF THE TOP BARS IN THE PIER CAP LOOSELY TO PERMIT INSERTION OF VIBRATOR. SECURE FAST AFTER VIBRATING IS COMPLETE AND BEFORE CONCRETE IS LEVEL WITH THE REINFORCEMENT.



EXPANSION BEARING DETAILS
SCALE : 1½"= 1'-0"



FIXED BEARING DETAILS
SCALE: 1½"= 1'-0"

NOTES:
1. SURFACES INDICATED THUS - 5, SHALL BE FINISHED TO 125 MICRO INCHES OR FINER.
2. MASONRY PLATE TO HAVE FULL AND LEVEL BEARING BEFORE PLACING THE STRINGERS ON THE BEARING ASSEMBLY.
3. MAXIMUM DESIGN UNIT STRESS ON CURVED TIN BRONZE (2) = 1181 P.S.I.
4. ANCHOR BOLTS SHALL BE SET BY TEMPLATE AND PLACED BEFORE CONCRETE IS POURED, EXCEPT AT ABUTMENTS WHERE DRILLING AND GROUTING FOR ANCHOR BOLTS MAY BE USED AT THE CONTRACTOR'S OPTION.

DESIGNED BY H.B.B. CHECKED BY G.F.N.
DRAWN BY M.J.R. GEOMETRICS L.A.O.D.

DATE	DESCRIPTION
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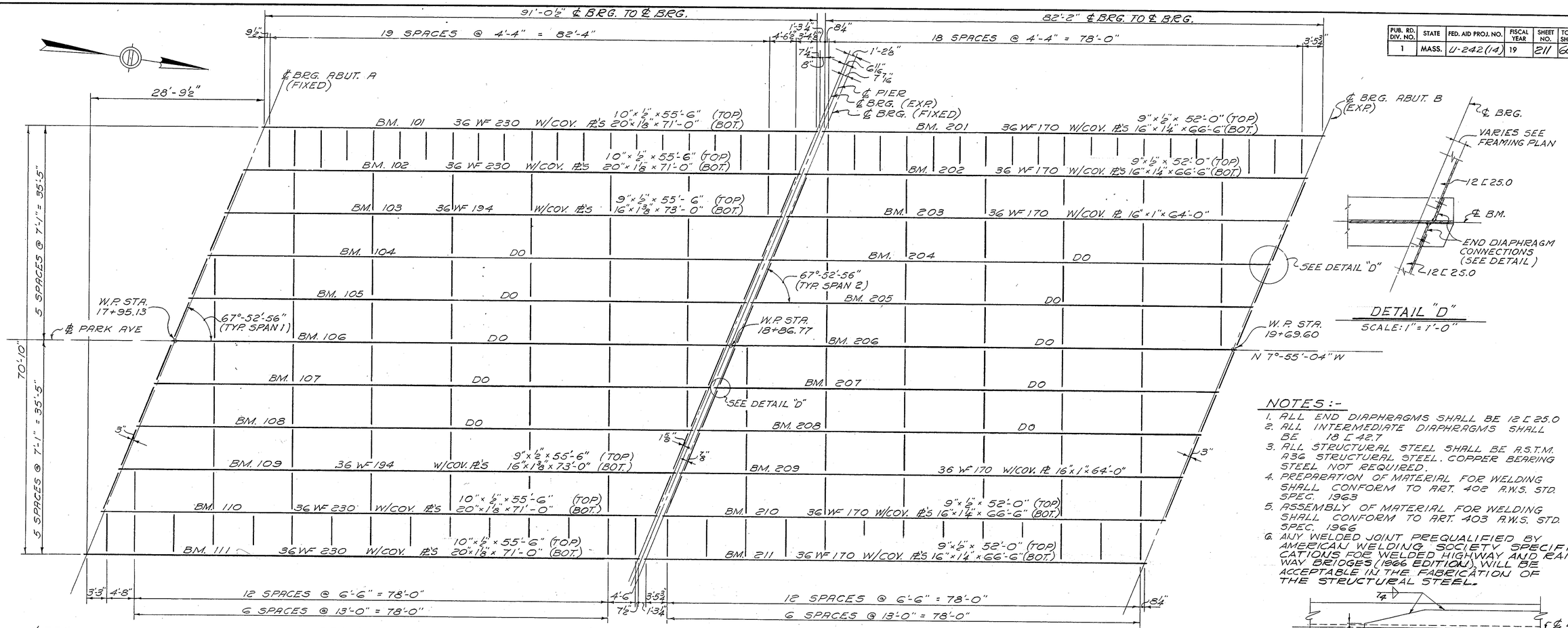
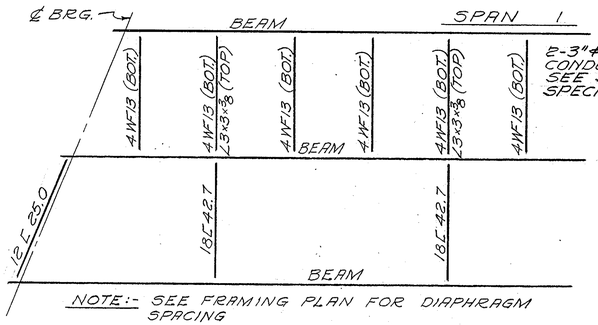
1	MASS.	U-242(14)	19	211	600



DETAIL "D"
SCALE: 1" = 1'-0"

NOTES:-

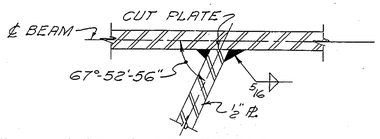
1. ALL END DIAPHRAGMS SHALL BE 12 L 25.0
2. ALL INTERMEDIATE DIAPHRAGMS SHALL BE 18 L 42.7
3. ALL STRUCTURAL STEEL SHALL BE A.S.T.M. A36 STRUCTURAL STEEL. COPPER BEARING STEEL NOT REQUIRED.
4. PREPARATION OF MATERIAL FOR WELDING SHALL CONFORM TO ART. 402 A.W.S. STD. SPEC. 1963
5. ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO ART. 403 A.W.S. STD. SPEC. 1966
6. ANY WELDED JOINT PREQUALIFIED BY AMERICAN WELDING SOCIETY SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES (1966 EDITION) WILL BE ACCEPTABLE IN THE FABRICATION OF THE STRUCTURAL STEEL.



NOTE:- SEE FRAMING PLAN FOR DIAPHRAGM SPACING

TYPICAL PART PLAN - UTILITY BAYS

NOT TO SCALE



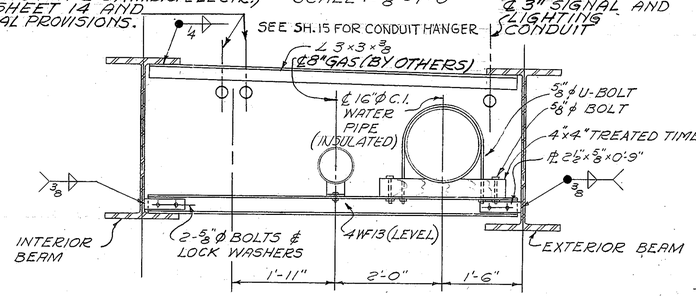
END DIAPHRAGM CONNECTION

NOT TO SCALE

2-3" ℄ SIGNAL AND LIGHTING CONDUITS (TYPE 5) (M.D.C. ELECTR.) SEE SHEET 14 AND SPECIAL PROVISIONS.

FRAMING PLAN

SCALE:- ⅛" = 1'-0"

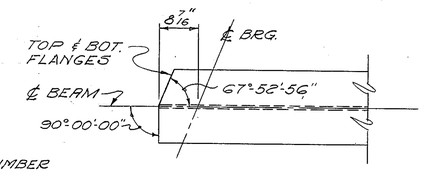


DETAIL - UTILITY BAY

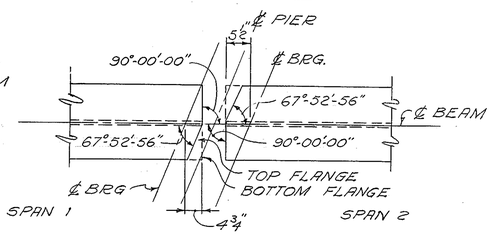
SCALE:- ¾" = 1'-0"

NOTE:- UTILITY BAY ON EASTERLY SIDE SHOWN. WESTERLY SIDE SIMILAR EXCEPT OPPOSITE HAND AND UTILITIES NOT INCLUDED IN THIS CONTRACT.
ALL FASTENINGS SHALL BE GALVANIZED, CONFORMING TO A.S.T.M. DESIGN. A153.

SPAN 2



AT ABUTMENTS

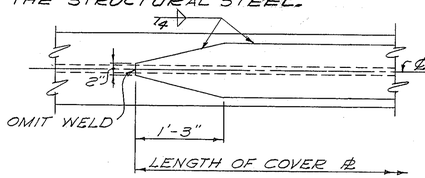


AT PIER

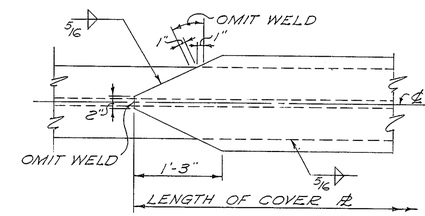
BEAM END DETAILS

NOT TO SCALE

NOTE:- ENDS OF BEAMS SHALL BE FABRICATED SO THAT UNDER FULL LOAD THE ENDS WILL BE PLUMB.



TOP COVER PLATE



BOTTOM COVER PLATE

COVER PLATE DETAILS

NOT TO SCALE

DESIGNED BY H.B.B. CHECKED BY G.F.M.
DRAWN BY M.J.R. GEOMETRICS J.A.O.D.

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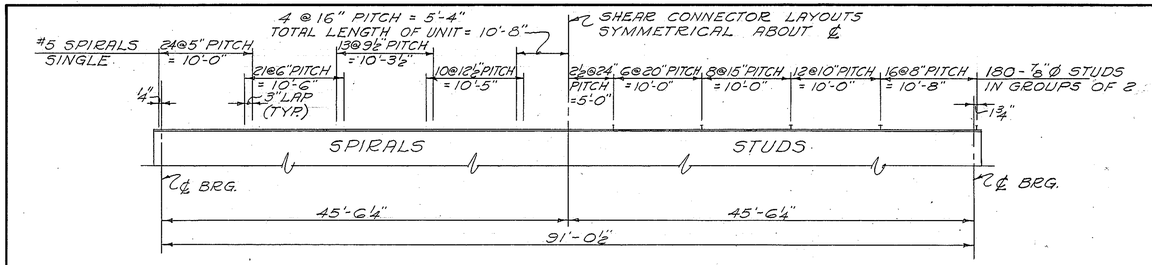
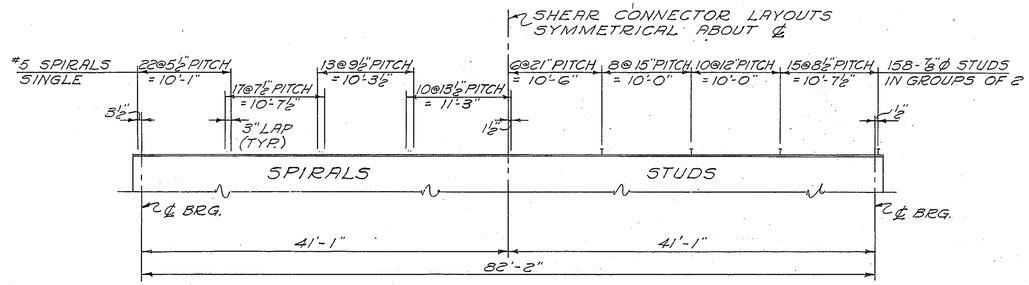
1	MASS.	U-242(14)	19	2/2	600



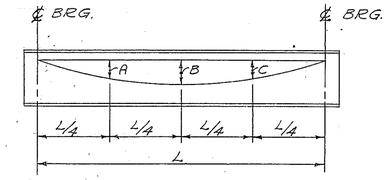
BEAMS 101 THRU 111



BEAMS 201 THRU 211

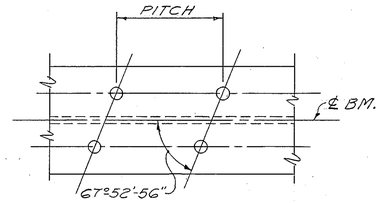
SHEAR CONNECTOR LAYOUTS

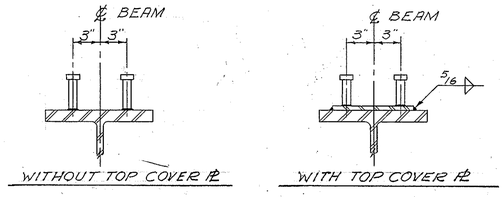
NOT TO SCALE



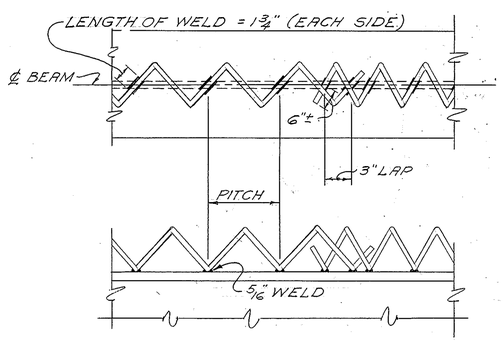
CONCRETE SLAB DEAD LOAD DEFLECTIONS

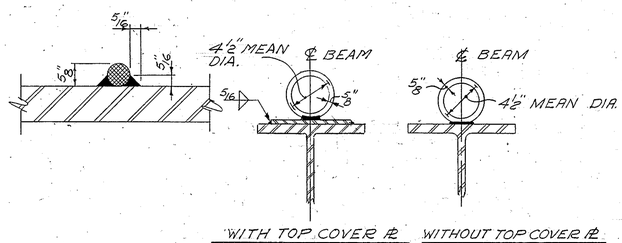
THEORETICAL CAMBER	
BEAM NO.	MIN.
101 , 111	4 3/8"
102 , 110	4¼"
103 - 109	4"
201 , 211	3 3/8"
202 , 210	3½"
203 - 209	3½"





STUD SHEAR CONNECTORS



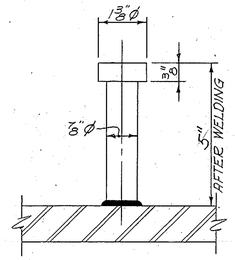


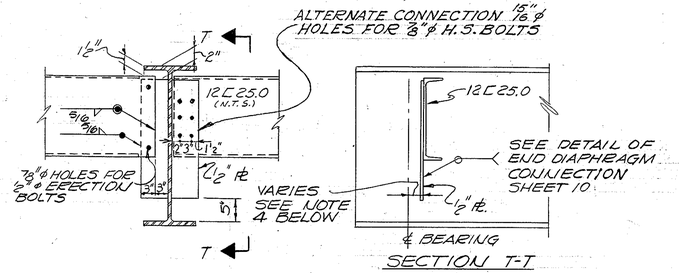
SPIRAL SHEAR CONNECTORS

SHEAR CONNECTOR DETAILS

NOT TO SCALE

NOTE:-
1. EITHER SPIRAL OR STUD SHEAR CONNECTORS MAY BE USED.
2. ¾" DIA. STUDS MAY BE SUBSTITUTED FOR ⅞" DIA. STUDS BY PROVIDING AN EQUIVALENT CROSS SECTIONAL AREA AND ADJUSTING THE PITCH ACCORDINGLY.

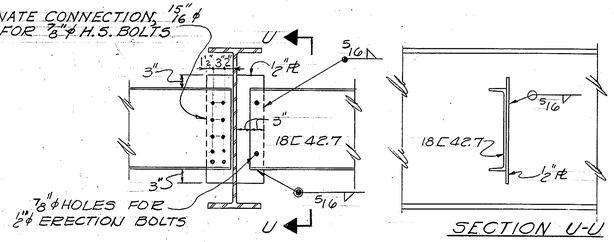




SECTION T-T

WELDED END DIAPHRAGM CONNECTION

SCALE: 3/4"=1'0"



SECTION U-U

WELDED INTERIOR DIAPHRAGM CONNECTION

SCALE: 3/4"=1'0"

NOTES:
1. CONNECTION PLATES SHALL BE SHOP WELDED TO MAIN CARRYING MEMBERS.
2. ERECTION BOLTS, NUTS, AND STANDARD WASHERS FOR DIAPHRAGM CONNECTIONS SHALL BE FURNISHED BY THE FABRICATOR.
3. INTERIOR DIAPHRAGMS SHALL BE CENTERED ON BEAM. WHERE BEAM SIZES VARY, CENTER DIAPHRAGM ABOUT SMALLER BEAM.
4. FOR LOCATION OF END DIAPHRAGMS FROM ℄ BEARING, SEE FRAMING PLAN, SHEET 10.
5. ANY WELDED JOINT PREQUALIFIED BY AMERICAN WELDING SOCIETY SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES (1966 EDITION), WILL BE ACCEPTABLE IN THE FABRICATION OF THE STRUCTUREAL STEEL.

DESIGNED BY J.A.O. CHECKED BY G.F.M.
DRAWN BY M.J.R. GEOMETRICS J.A.O.

DATE	DESCRIPTION
JAN. 28 1967	ISSUED FOR CONSTRUCTION
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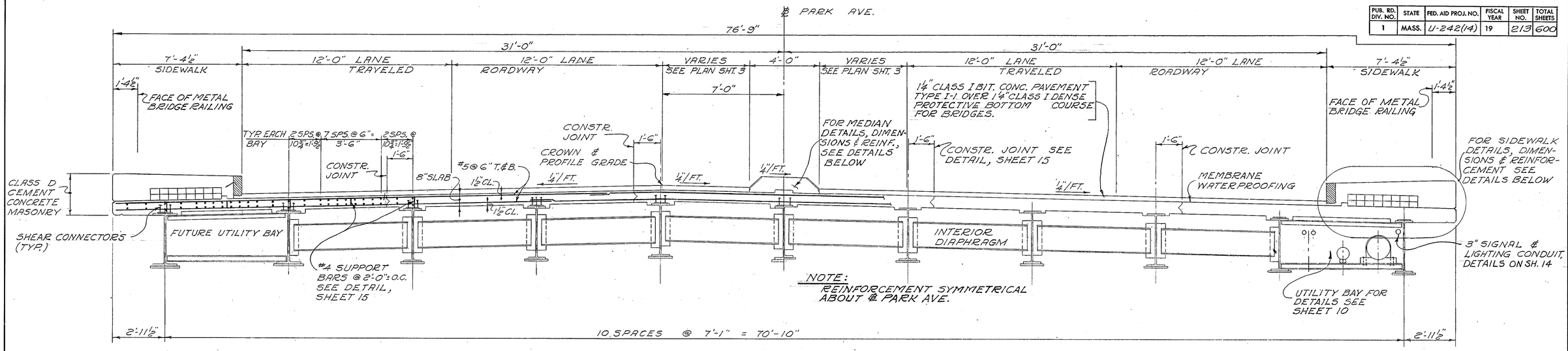
1	MASS.	U-242(14)	19	213	600



NOTE:
REINFORCEMENT SYMMETRICAL ABOUT ℄ PARK AVE.

TYPICAL CROSS SECTION

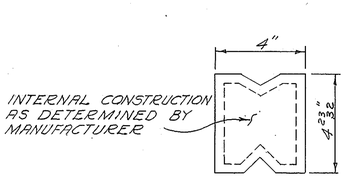
SCALE :- ⅜" = 1'-0"

NOTES :-

1. ALL LONGITUDINAL REINFORCEMENT SHALL BE #4 EXCEPT AS NOTED AND SHALL BE PLACED PARALLEL TO ℄ BEAMS.
2. ALL TRANSVERSE REINFORCEMENT SHALL BE PLACED PARALLEL TO ABUTMENTS AND PIER.
3. LONGITUDINAL CONSTRUCTION JOINTS IN BRIDGE DECK SLABS MAY BE OMITTED WHEN THE CONTRACTOR'S PROPOSED METHOD OF CONSTRUCTION IS APPROVED BY THE ENGINEER IN WRITING.

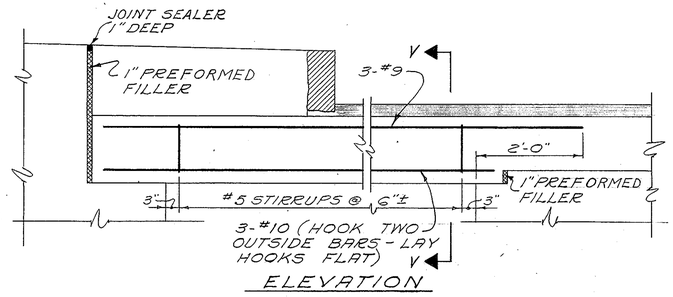
MEDIAN DETAIL

SCALE :- ¾" = 1'-0"



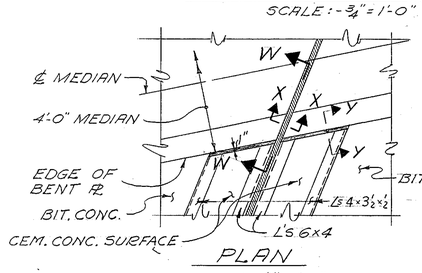
PREFORMED ELASTIC JOINT SEALER

NOT TO SCALE



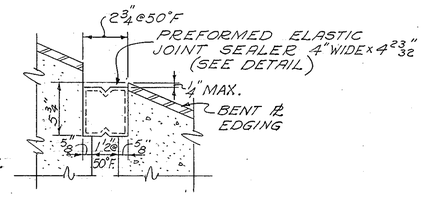
BEAM OVER UTILITY OPENING - ABUTMENT A

NOT TO SCALE



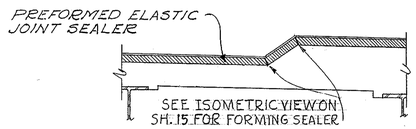
PLAN

SCALE :- ½" = 1'-0"



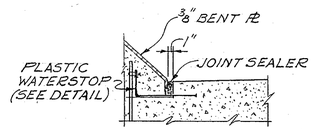
SECTION X-X

SCALE :- 3" = 1'-0"



SECTION W-W

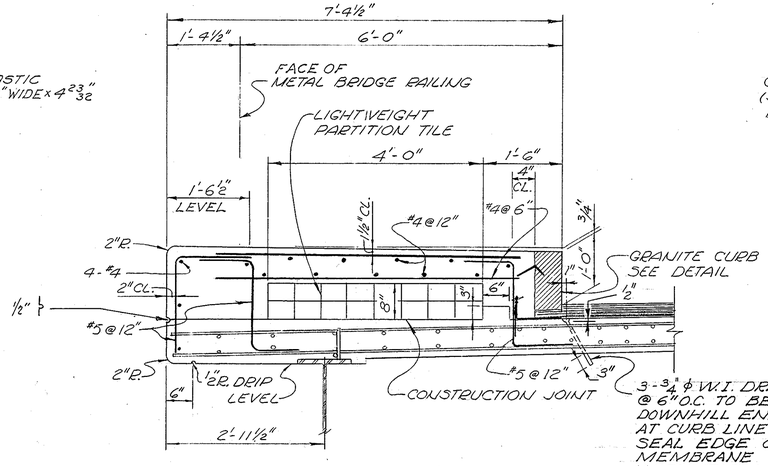
SCALE :- ½" = 1'-0"



SECTION Y-Y

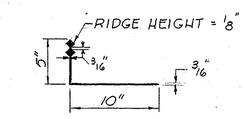
SCALE: 1" = 1'-0"

JOINT DETAIL AT MEDIAN

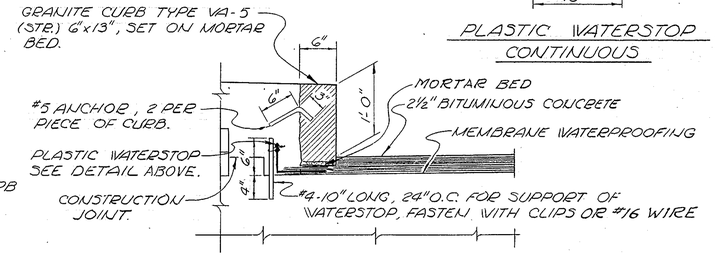


SIDEWALK DETAIL

SCALE: ¾" = 1'-0"



PLASTIC WATERSTOP CONTINUOUS



GRANITE CURB DETAIL

SCALE: 1" = 1'-0"

DESIGNED BY J.A.O'D. CHECKED BY G.F.M.
DRAWN BY M.J.E. GEOMETRICS J.A.O'D.

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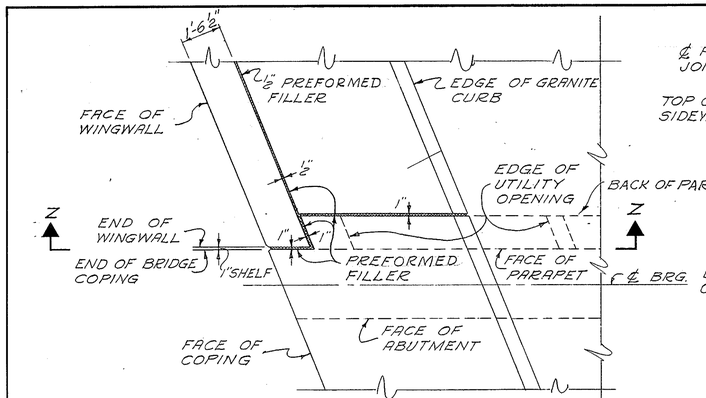
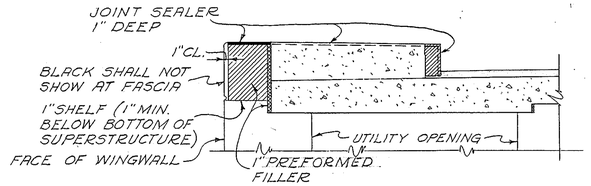
1	MASS.	U-242(14)	19	214	600

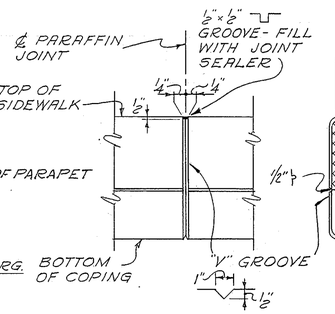


PLAN - EAST SIDE-ABUT. A

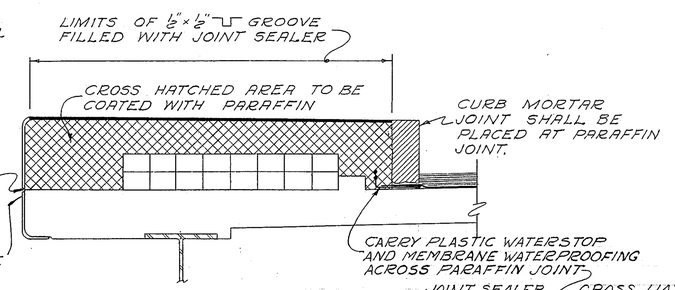
WEST SIDE SIMILAR OPPOSITE HAND



SECTION Z-Z



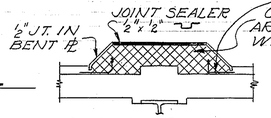
ELEVATION



SECTION

PARAFFIN JOINT DETAIL

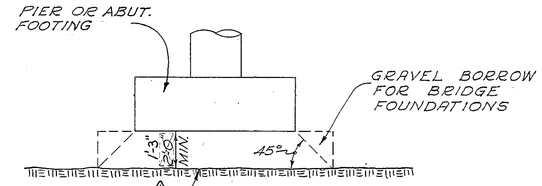
SCALE :- ¾"=1'-0"



SECTION @ MEDIAN

NOTE :-

1. WALKS SHALL BE PLACED IN ALTERNATE SECTIONS AND SHALL HAVE A CURING PERIOD OF NOT LESS THAN 5 DAYS BETWEEN POURS
2. PROVIDE JOINT SPACING AS SHOWN ON PLAN AND ELEVATION. SEE SHEET 3.
3. LONGITUDINAL STEEL SHALL NOT BE CARRIED THROUGH JOINTS. PROVIDE 2" CLEARANCE AT JOINT.
4. JOINT SEALER SHALL BE THE SAME COLOR AS THE CONCRETE.
5. JOINT IN CURB SHALL BE MORTARED NO SOONER THAN 5 DAYS AFTER CONCRETE IN COPING HAS BEEN PLACED.
6. JOINTS TO BE SQUARE TO FACE OF COPING AND RADIAL TO MEDIAN.



UTILIZATION OF GRAVEL BORROW FOR BRIDGE FOUNDATIONS

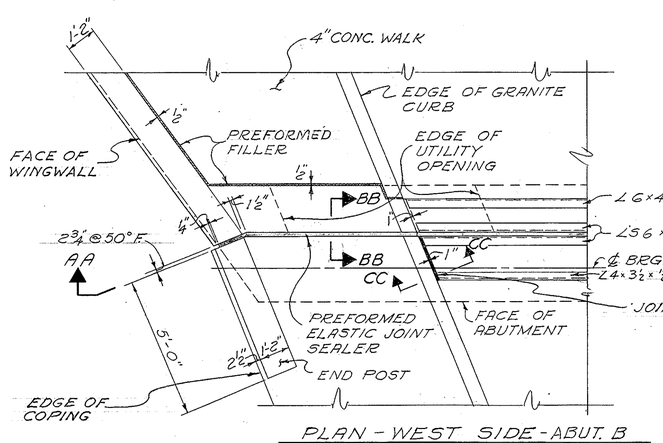
FOOTINGS FOUNDED PARTIALLY ON LEDGE

ABUTMENT A AND PIER

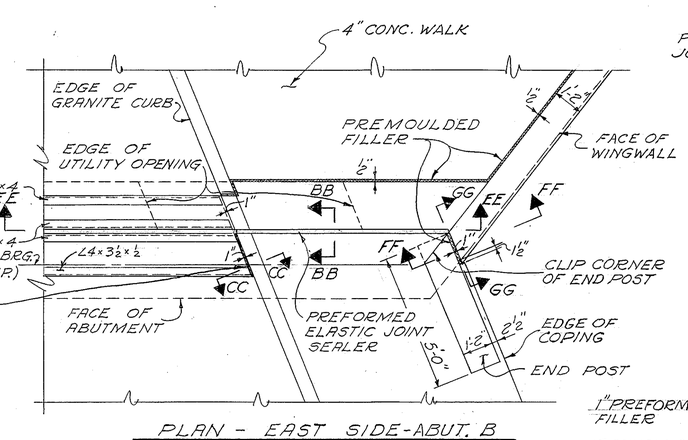
NOT TO SCALE

NOTE :-

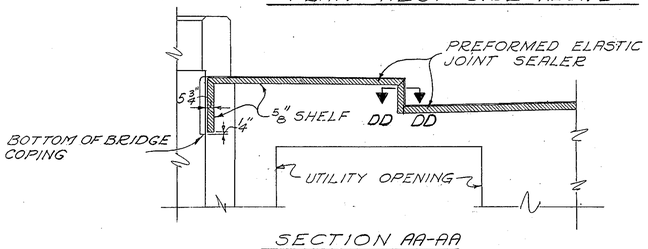
AS DIRECTED BY THE RESIDENT ENGINEER, WHERE LEDGE OCCURS UNDER PART OF A FOOTING: ALL LEDGE SHALL BE REMOVED TO A DEPTH NOT LESS THAN 1'-3" BELOW THE BOTTOM OF FOOTING AND A CUSHION OF GRAVEL BORROW FOR BRIDGE FOUNDATIONS PROVIDED TO OBTAIN A LEVEL BEARING SURFACE UNDER THE FOOTING. ⚠



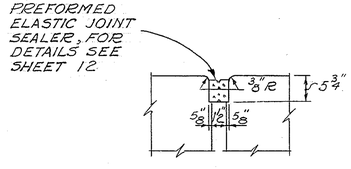
PLAN - WEST SIDE-ABUT. B



PLAN - EAST SIDE-ABUT. B

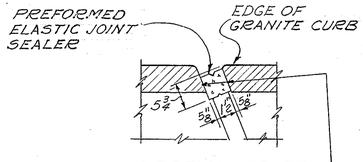


SECTION AA-AA



SECTION BB-BB

NOT TO SCALE



SECTION DD-DD

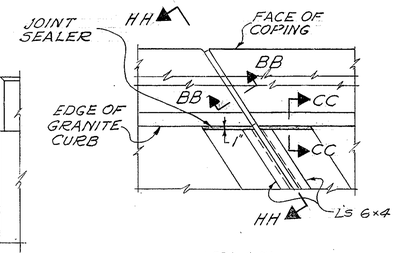
NOT TO SCALE

CURB TO HAVE SMOOTH SAWN ENDS CUT TO FOLLOW JOINT.

ABUTMENT CORNER DETAILS

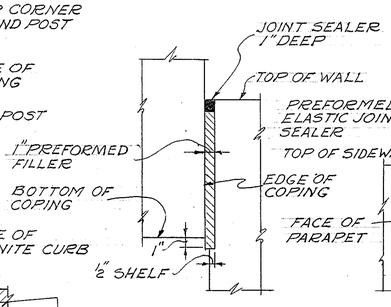
SCALE :- ⅜"=1'-0"

SECTION EE-EE



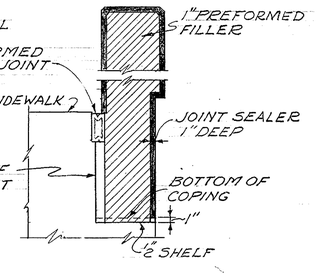
PLAN

SCALE: ⅜"=1'-0"



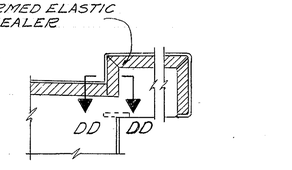
SECTION FF-FF

NOT TO SCALE



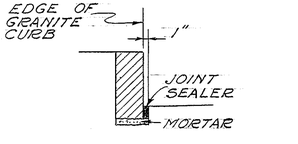
SECTION GG-GG

NOT TO SCALE



SECTION HH-HH

SCALE: ⅜" = 1'-0"



SECTION CC-CC

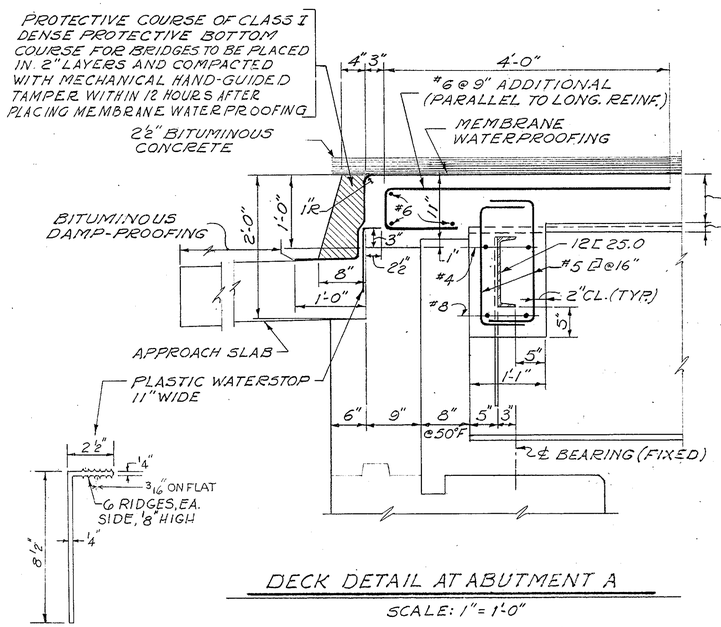
SCALE: ¾"=1'-0"

DETAIL-JOINT SEALER AT PIER

DESIGNED BY	J.A.O.D.	CHECKED BY	G.F.M.
DRAWN BY	M.J.E.	GEOMETRICS	J.A.O.D.

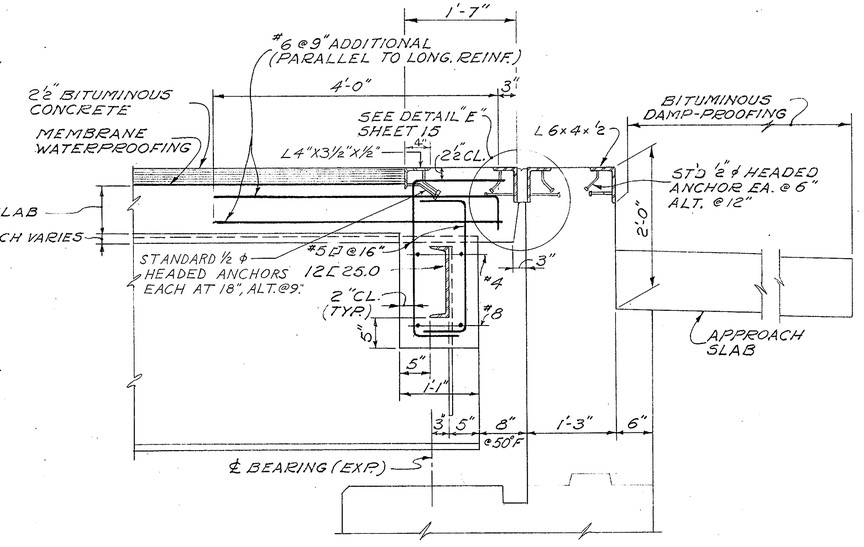
DATE	DESCRIPTION
MAR. 22, 1967	⚠ MINIMUM DEPTH OF GRAVEL BORROW ON LEDGE REVISED
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE	

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242 (14)	19	215	600



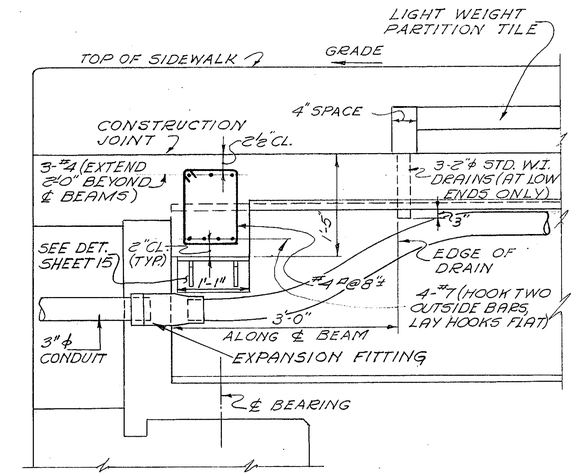
DECK DETAIL AT ABUTMENT A

SCALE: 1"= 1'-0"



DECK DETAIL AT ABUTMENT B

SCALE: 1"= 1'-0"

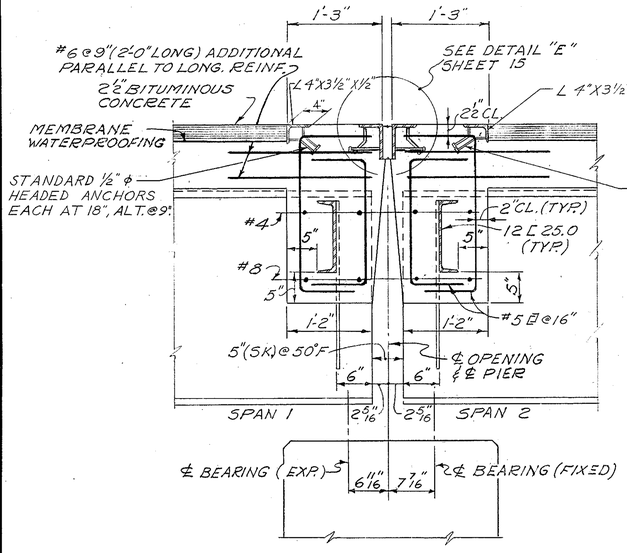


SIDEWALK SECTION AT ABUTMENTS

SCALE:- 1"= 1'-0"

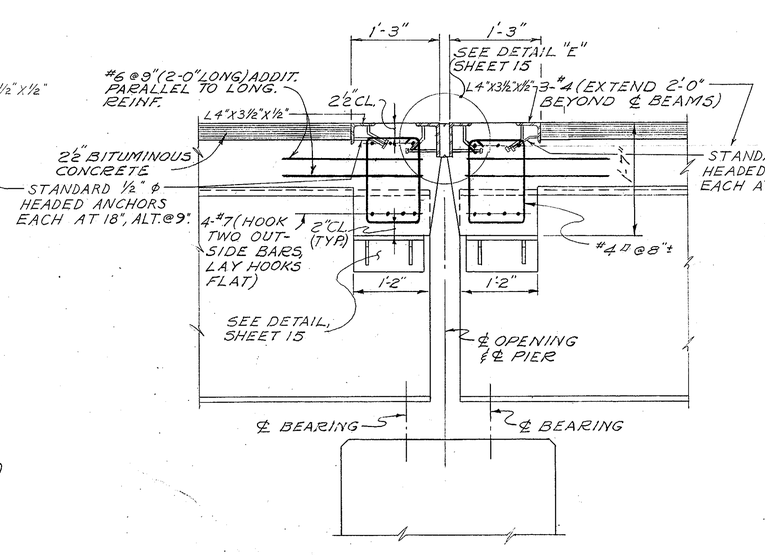
NOTE:
ABUTMENT A SHOWN, ABUTMENT B SIMILAR.

NOTE:-
DIMENSIONS ARE FOR A SQUARE SECTION EXCEPT AS NOTED.



DECK DETAIL AT PIER

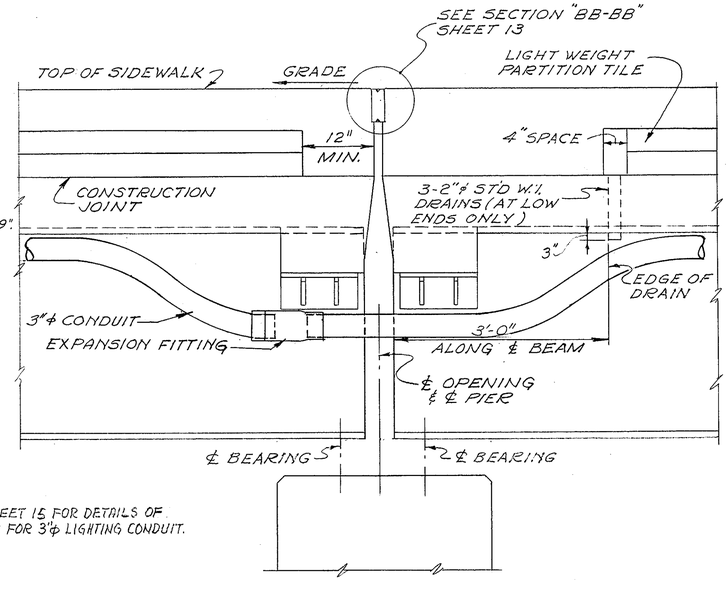
SCALE:- 1"=1'-0"



DECK DETAIL AT PIER - UTILITY BAY

SCALE:- 1"=1'-0"

NOTE:-
PROVIDE FOR EXPANSION OF UTILITIES



NOTE:
SEE SHEET 15 FOR DETAILS OF HANGER FOR 3" ϕ LIGHTING CONDUIT.

SIDEWALK SECTION OVER PIER

SCALE:- 1"=1'-0"

DESIGNED BY J.A.O.D. CHECKED BY G.F.M.
DRAWN BY E.K. GEOMETRICS J.A.O.D.

DATE	DESCRIPTION
JAN. 28 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	216	600

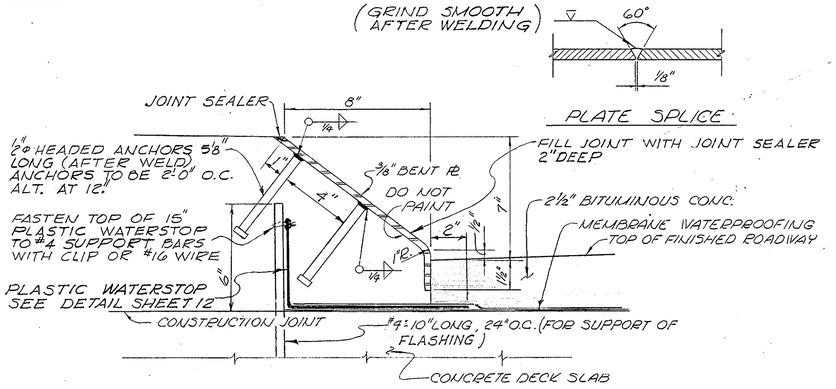
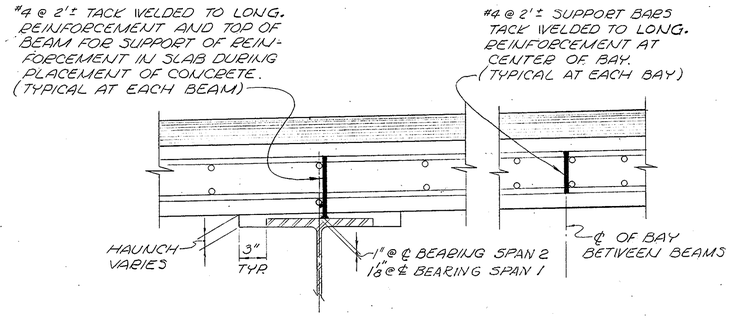


PLATE SPLICE

BENT PLATE EDGING

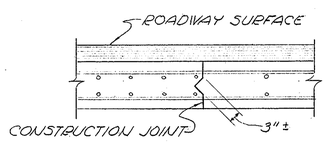
SCALE: 3" = 1'-0"



DETAIL HAUNCH AND SUPPORT BARS

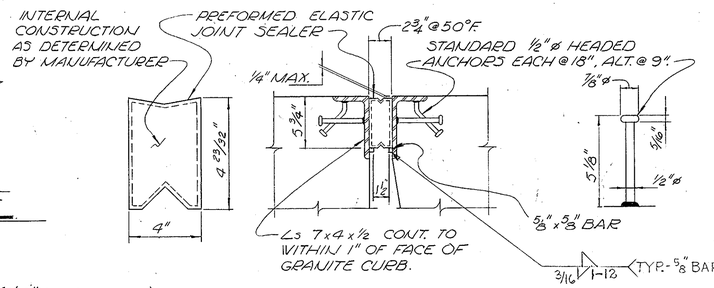
SCALE: 1 1/2" = 1'-0"

NOTE:
AN EQUAL DEVICE MAY BE SUBSTITUTED FOR THE #4 BAR UPON WRITTEN APPROVAL OF THE ENGINEER.



DECK SLAB
CONSTRUCTION JOINT

SCALE: 1" = 1'-0"



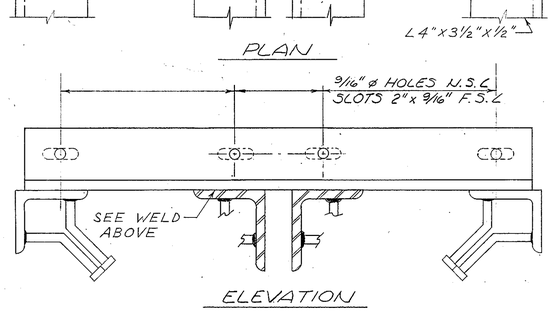
DETAIL "E"

NOT TO SCALE

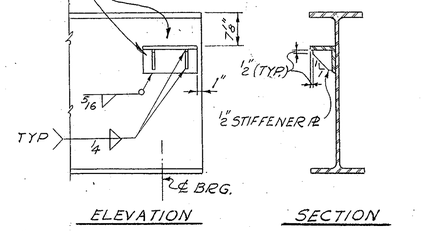
TOP OF FORM ELEVATIONS FOR DECK SLAB PRIOR TO PLACEMENT OF CONCRETE

BEAM NO.	INCREASING STATIONS → ℄ BRG.	1/8 POINT	1/4 POINT	3/8 POINT	MID-POINT	5/8 POINT	3/4 POINT	7/8 POINT	℄ BRG.
101	286.60	287.00	287.38	287.75	288.08	288.37	288.68	288.95	289.20
102	286.67	287.06	287.44	287.82	288.16	288.47	288.74	289.01	289.26
103	286.73	287.12	287.53	287.91	288.24	288.56	288.83	289.08	289.33
104	286.80	287.19	287.59	287.97	288.30	288.62	288.89	289.14	289.39
105	286.86	287.25	287.66	288.04	288.37	288.68	288.96	289.20	289.43
106	286.63	287.03	287.43	287.81	288.14	288.46	288.73	288.98	289.23
107	286.40	286.80	287.20	287.58	287.91	288.23	288.50	288.73	289.00
108	286.17	286.57	286.97	287.35	287.68	288.00	288.28	288.52	288.77
109	285.94	286.34	286.74	287.12	287.45	287.77	288.04	288.29	288.54
110	285.71	286.11	286.50	286.87	287.20	287.52	287.79	288.06	288.31
111	285.49	285.88	286.27	286.64	286.97	287.28	287.56	287.83	288.09
201	289.23	289.59	289.93	290.25	290.56	290.84	291.10	291.35	291.58
202	289.30	289.66	290.00	290.33	290.63	290.92	291.17	291.42	291.64
203	289.36	289.72	290.09	290.42	290.73	291.01	291.27	291.49	291.71
204	289.43	289.79	290.15	290.49	290.79	291.08	291.33	291.55	291.77
205	289.49	289.86	290.22	290.57	290.86	291.14	291.39	291.62	291.84
206	287.27	289.63	290.00	290.33	290.63	290.92	291.17	291.39	291.61
207	289.04	289.40	289.76	290.10	290.41	290.68	290.94	291.14	291.38
208	288.81	289.17	289.53	289.87	290.18	290.45	290.71	290.93	291.15
209	288.58	288.94	289.30	289.64	289.94	290.23	290.48	290.70	290.92
210	288.35	288.72	289.04	289.38	289.68	289.97	289.22	290.47	290.69
211	288.12	288.48	288.82	289.14	289.44	289.73	289.99	290.24	290.46

NOTES
1. AFTER THE STRUCTURAL STEEL IS ERECTED BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON THE TOP OF THE TOP COVER ℄ OR ON TOP OF THE FLANGE (BEYOND THE COVER ℄'S) ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AT THOSE SHOWN IN THE TABLE GIVES THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF BEAM TO THE BOTTOM OF SLAB AT CENTERLINE OF BEAM. SEE HAUNCH DETAIL BELOW.

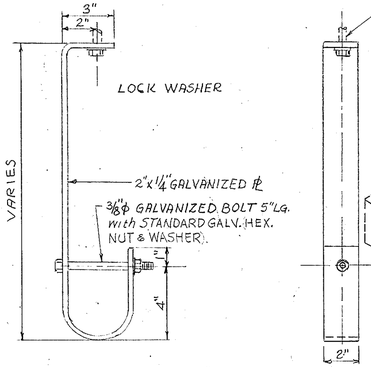


SHIPPING DEVICE FOR ROADWAY ARMORED JOINT



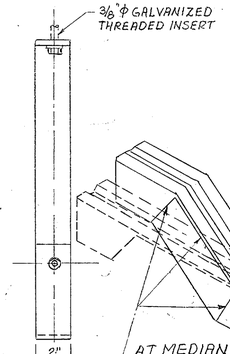
SEAT FOR CONCRETE BEAM IN UTILITY BAY AT PIER

SCALE: 3/4" = 1'-0"

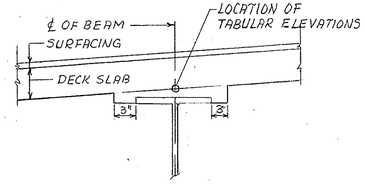


HANGER FOR 3" LIGHTING CONDUIT

NO SCALE

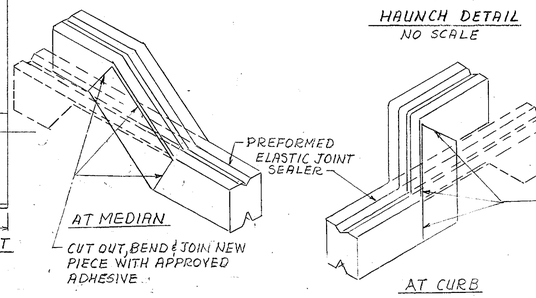


NOTE
1. Bolts, Nuts, Washers & Plate to be Galvanized Steel.
2. Galvanized Plate to conform to A.S.T.M. A-123.
3. Galvanized Bolts, Nuts & Washers to A.S.T.M. A-153
4. Spacing, as required; Maximum @ 5'-0" o.c.



HAUNCH DETAIL

NO SCALE



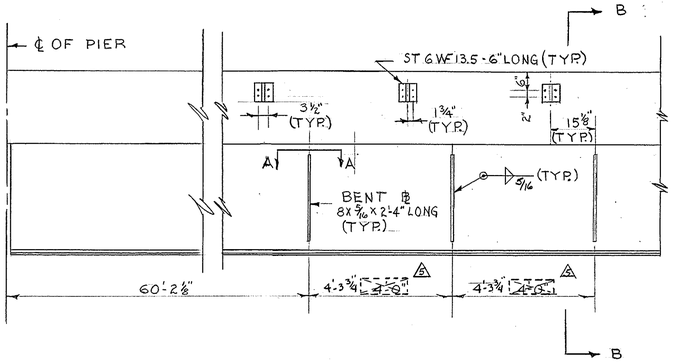
JOINT SEALER ISOMETRIC DETAILS

NO SCALE

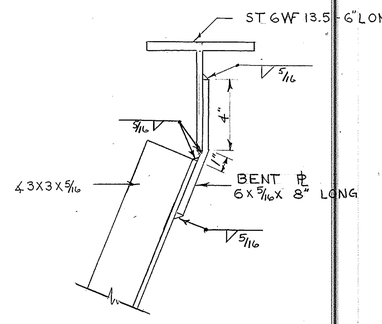
DESIGNED BY J.A.O'D CHECKED BY G.F.M.
DRAWN BY W.P.D. GEOMETRICS J.A.O'D

DATE	DESCRIPTION
JAN 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U242(14)		216A	600



ATTACHMENTS TO BEAM #211
SCALE: ½" = 1'-0"

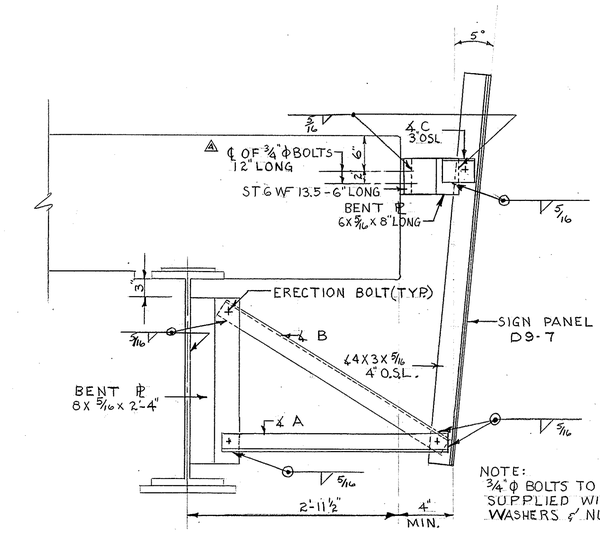


DETAIL "A"
SCALE: 3" = 1'-0"

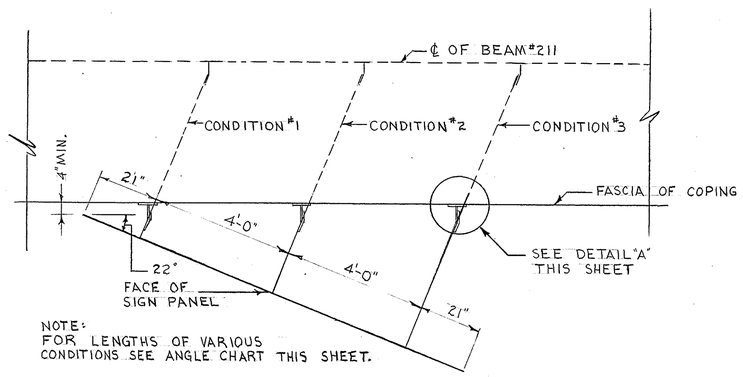
CONDITION	∠A	∠B	∠C
# 1	4X3X5/16 - 3'-8 5/16"	4X3X5/16 - 4'-1⅛"	*
# 2	4X3X5/16 - 5'-4 1/16"	4X3X5/16 - 5'-8 1/4"	4X4X5/16 - 1'-11⅛"
# 3	4X3X5/16 - 6'-11⅛"	4X3X5/16 - 7'-1⅞"	4X4X5/16 - 3'-6¾"

* IN CONDITION # 1 OMIT ∠C AND INCREASE BENT ℙ TO 6" X 5/16" X 10½" LONG

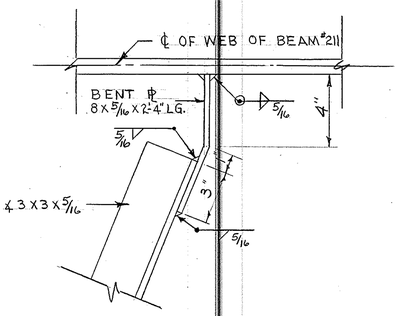
ANGLE CHART



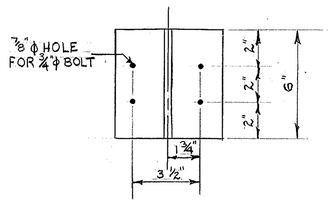
SECTION B-B
SCALE: 1" = 1'-0"



PLAN
FURTHER DETAILS THIS SHEET
SCALE: ½" = 1'-0"



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



DETAIL OF ST 6WF 13.5 (TYP.)
SCALE: 3" = 1'-0"

DATE	DESCRIPTION
NOV. 21, 1968	△ CORRECT DIMENSION
NOV 6, 1968	△ LENGTH OF ¾"ϕ BOLT ADDED
OCT. 29, 1968	△ THIS SHEET ADDED
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

SHEET 15A OF 15 SHEETS BRIDGE NO. A-10-20: B-7-7

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS HIGHWAY DEPARTMENT

DISTRICT FOUR
VARIOUS ROUTES

FHWA DIV.NO.	STATE	FED.AID.PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	1	34
PROJECT FILE NO. 600702					

TITLE & INDEX

95 61

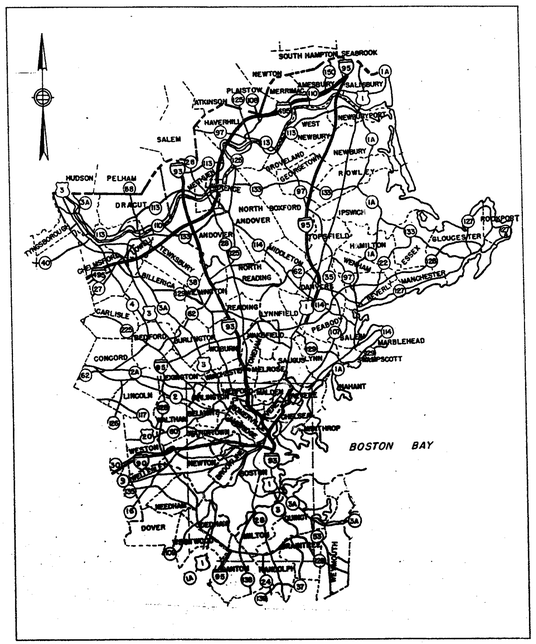
PLAN OF

INSTALLATION OF BRIDGE JOINT SYSTEMS AND BRIDGE JOINT REPAIRS

IN THE CITIES AND TOWNS OF

DISTRICT FOUR
(TWO PROJECTS)

CONTRACT FOR "ESSEX & MIDDLESEX COUNTIES"
CONTRACT FOR "NORFOLK & SUFFOLK COUNTIES"



INDEX

SHEET NO.	DESCRIPTION
1	TITLE & INDEX
2-16	STANDARD DRAWINGS
17-26	ESSEX & MIDDLESEX COUNTIES CONTRACT AREA
27-31	NORFOLK & SUFFOLK COUNTIES CONTRACT AREA
32-34	NFA: BOSTON - CENTRAL ARTERY

THE 1988 "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES", THE "SUPPLEMENTAL SPECIFICATIONS" DATED NOVEMBER 30, 1994, THE 1977 "CONSTRUCTION STANDARDS", THE 1988 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", THE 1990 "STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", AND THE "AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z-60.1-1986)" WILL GOVERN.

DESIGN DESIGNATION

DESIGN SPEED	65 M.P.H. MAX.
ADT (1992)	VARIES
ADT (2012)	VARIES
K	VARIES
D	VARIES
T (PEAK HOUR)	VARIES
T (AVERAGE DAY)	VARIES
DHV	VARIES
DDHV	VARIES

SCALES - AS NOTED

NOTE

MASS HIGHWAY

MASSACHUSETTS
HIGHWAY DEPARTMENT

RECOMMENDED FOR APPROVAL

Paul B. Quirk P.E. 1-4-95
CHIEF ENGINEER Date

APPROVED

Thomas T. Broderick 1/4/95
MHD COMMISSIONER Date

1/5/95
1/5/95
ASSOCIATE COMMISSIONERS Date

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

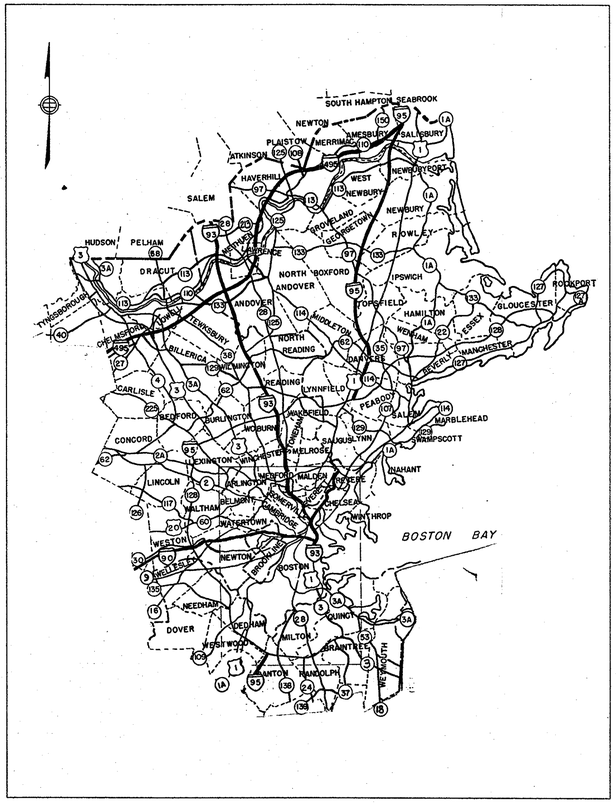
DIVISION ADMINISTRATOR Date

9561

DISTRICT..FOUR
STANDARD..DRAWINGS

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	2	34
PROJECT FILE# 600702					

TITLE,..INDEX..&..NOTES



DISTRICT MAP
NOT TO SCALE

INDEX

SHEET NO.	DESCRIPTION
1	TITLE, INDEX & NOTES
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8–10	ARMORED JOINTS
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13	ARMORED JOINT DETAILS
14–15	ARMORED BRIDGE JOINT SYSTEM

GENERAL NOTES

PLANS

PLANS FOR EXISTING BRIDGE MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MASSACHUSETTS HIGHWAY DEPARTMENT, 10 PARK PLAZA, BOSTON, MASSACHUSETTS.

TRAFFIC

AT LEAST ONE LANE OF ROADWAY IN EACH DIRECTION MUST BE KEPT OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION. THE ENTIRE ROADWAY MUST BE OPENED TO TRAFFIC AT THE END OF EACH WORK PERIOD.

EXISTING CONDITIONS

DIMENSIONS SHOWN OF EXISTING DETAILS ARE TAKEN FROM THE ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE HAS MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M270 GRADE 36 EXCEPT AS NOTED. PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO THE AWS STRUCTURAL WELDING CODE, AWS D1.5–88 AS AMMENDED BY THE 1992 A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES AND CURRENT A.A.S.H.T.O. INTERIM SPECIFICATIONS THROUGH 1993. ANY HIGH STRENGTH (HS) BOLTS USED SHALL CONFORM TO EITHER A.A.S.H.T.O. M164 (ASTM A325) TYPE 3 OR A.A.S.H.T.O. M253 (ASTM 490) TYPE 3. NUTS FOR HS BOLTS M164 SHALL CONFORM TO A.A.S.H.T.O. M291 (ASTM A563) GRADE C3 OR DH3. NUTS FOR HS BOLTS M253 SHALL CONFORM TO A.A.S.H.T.O. M291 (ASTM A563) GRADE DH3.

REINFORCEMENT

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M284 FOR DEFORMED STEEL BARS GR 60. ALL #4 BARS SHALL BE LAPPED 24", ALL #5 BARS SHALL BE LAPPED 30", ALL #6 BARS SHALL BE LAPPED 36", AND ALL #8 BARS SHALL BE LAPPED 59". FOR HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE BELOW THE BAR, THE LAP LENGTH SHALL BE 33" FOR #4 BARS, 42" FOR #5 BARS, 50" FOR #6 BARS, AND 82" FOR #8 BARS. IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER WITH AT LEAST 3" CLEAR COVER MEASURED IN THE DIRECTION OF SPACING, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE.

CONCRETE MIXES

THE FOLLOWING CONCRETE MIXES ARE TO BE USED:

(1)	(2)	(3)
4000	– 3/8 –	660
8500	– 1/2 –	1260 (GYPSUM MODIFIED CEMENT)

(1) 28 DAY COMPRESSIVE STRENGTH [PSI]
(2) MAXIMUM AGGREGATE SIZE [INCHES]
(3) CEMENT CONCRETE [LB/CU YD]

CEMENT SHALL CONFORM TO A.S.S.H.T.O. DESIGNATION M85. FINE AGGREGATE SHALL CONFORM TO A.A.S.H.T.O. M6. ALL COARSE AGGREGATE SHALL CONFORM TO A.A.S.H.T.O. M80. GYPSUM MODIFIED CEMENT SHALL CONFORM TO THE PROVISIONS OF ITEM 904.12.

ELASTOMERIC CONCRETE

ELASTOMERIC CONCRETE MANUFACTURER SHALL BE PREQUALIFIED WITH A FIVE YEAR PROVEN HISTORY OF SUCCESSFUL PRODUCT MANUFACTURE.

ARMORED BRIDGE JOINT SYSTEM ASSEMBLY

ARMORED BRIDGE JOINT ASSEMBLY MANUFACTURER SHALL BE PREQUALIFIED WITH A FIVE YEAR PROVEN HISTORY OF SUCCESSFUL PRODUCT MANUFACTURE. THE ASSEMBLY SHALL BE DESIGNED IN ACCORDANCE WITH THE 1992 SPECIFICATIONS OF THE A.A.S.H.T.O. WITH CURRENT INTERIM SPECIFICATIONS THROUGH 1993 FOR HS20–44 LOADING.

CORING AND GROUNTING DOWELS

WHERE EXISTING REINFORCING STEEL BARS IN THE BACKWALL ARE TOO LOW, THE CONTRACTOR SHALL INSTALL NEW #5 EPOXY COATED BARS BY CORING 12" DEEP HOLES AND GROUTING THE BARS INTO PLACE IN ACCORDANCE WITH THE BACKWALL MODIFICATION DETAIL ON SHEET 14 OF THESE STANDARD DRAWINGS.

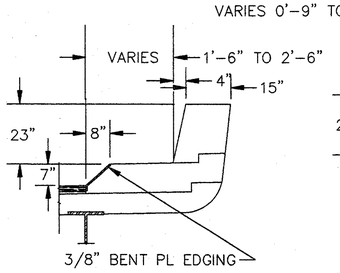
DESIGNED BY	ISSUED FOR CONSTRUCTION
E. MIESSNER	MASS HIGHWAY
DRAWN BY	INSTALLATION OF BRIDGE JOINT SYSTEMS
E. MIESSNER	**DISTRICT FOUR**
CHECKED BY	STANDARD DRAWINGS
SPECS BY	THE COMMONWEALTH OF MASSACHUSETTS
E. MIESSNER	MASSACHUSETTS HIGHWAY DEPARTMENT
APPROVED FOR DESIGN	10 PARK PLAZA BOSTON, MASS

BJSTITLE 12/9/94

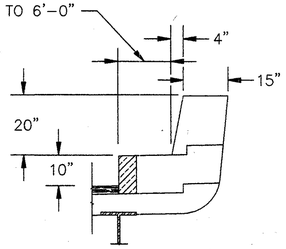
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	3	34
PROJECT FILE#600702					

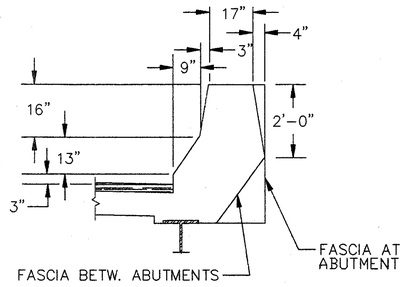
CURB DETAILS



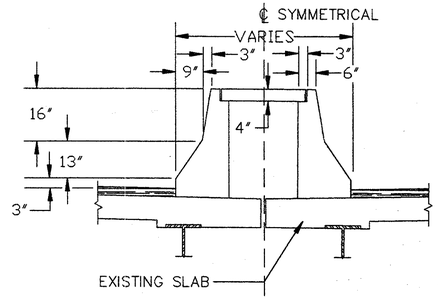
STEEL CURB AT COPING WALL
NOT TO SCALE



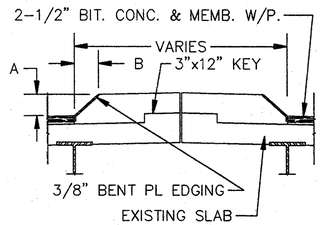
GRANITE CURB AT COPING WALL
NOT TO SCALE



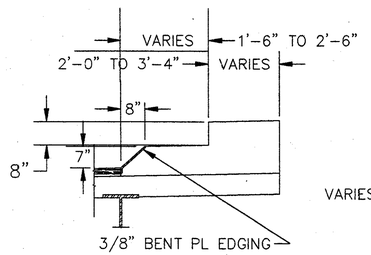
G.M. SHAPE JERSEY BARRIER
NOT TO SCALE



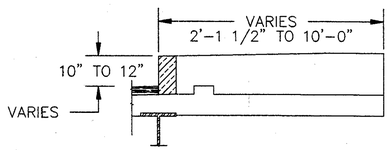
G.M. SHAPE JERSEY BARRIER
NOT TO SCALE



STEEL CURB AT MEDIAN
NOT TO SCALE



STEEL CURB AT RAILING
NOT TO SCALE



GRANITE CURB AT RAILING
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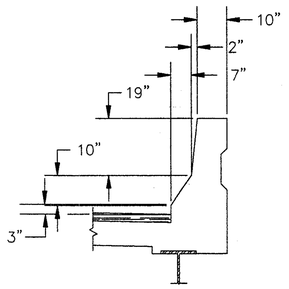
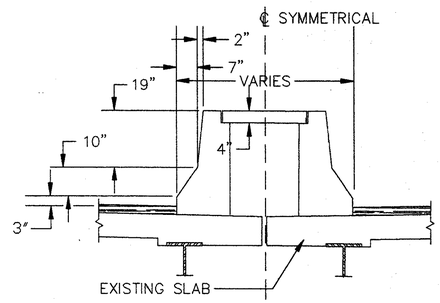


N.J. SHAPE JERSEY BARRIER
NOT TO SCALE



N.J. SHAPE JERSEY BARRIER
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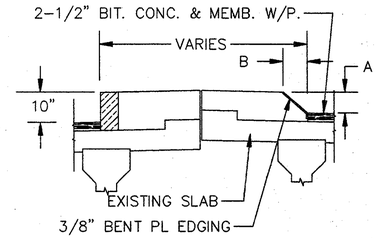
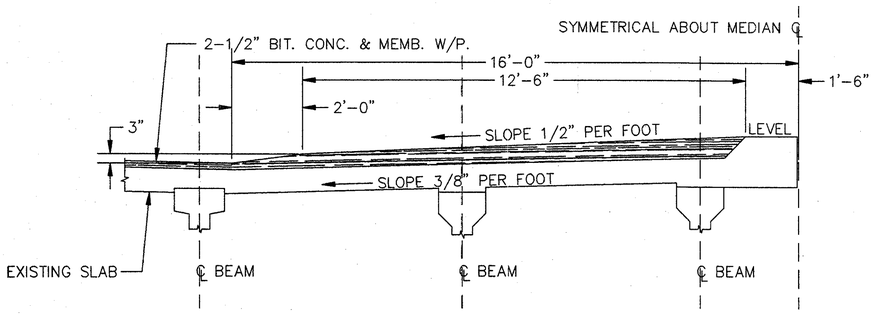
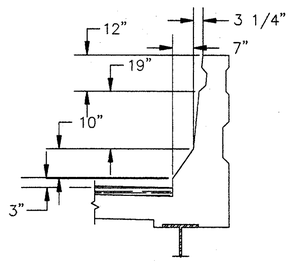


GRANITE & STEEL CURBS AT MEDIAN
NOT TO SCALE

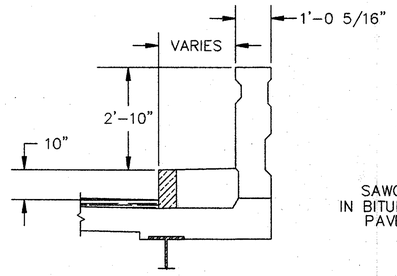


NOTE: ASPHALTIC BRIDGE JOINT SYSTEM AND ELASTOMERIC BRIDGE JOINT SYSTEM SHALL BE CONSTRUCTED THROUGHOUT THE FULL THICKNESS OF THE BITUMINOUS CONCRETE TEMPLATE IN THE MEDIAN.

CURBLESS MEDIAN
I-93 MEDFORD TO METHUEN
NOT TO SCALE

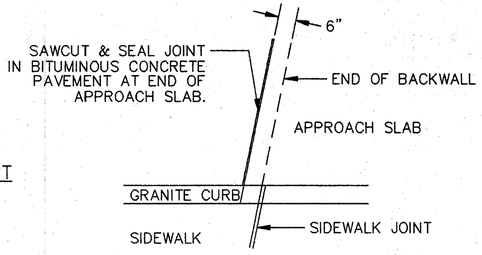


SPECIAL HIGH JERSEY BARRIER
COPING WALL - CHELSEA VIADUCT
NOT TO SCALE



SPECIAL HIGH BARRIER
COPING WALL - CHELSEA VIADUCT
NOT TO SCALE

	DIMENSIONS	
EDGING TYPE	A	B
OLD STANDARD BENT PLATE	7"	8"
BR. MANUAL DWG. E-26	4"	10"



PLAN VIEW
END OF APPROACH SLAB
NOT TO SCALE

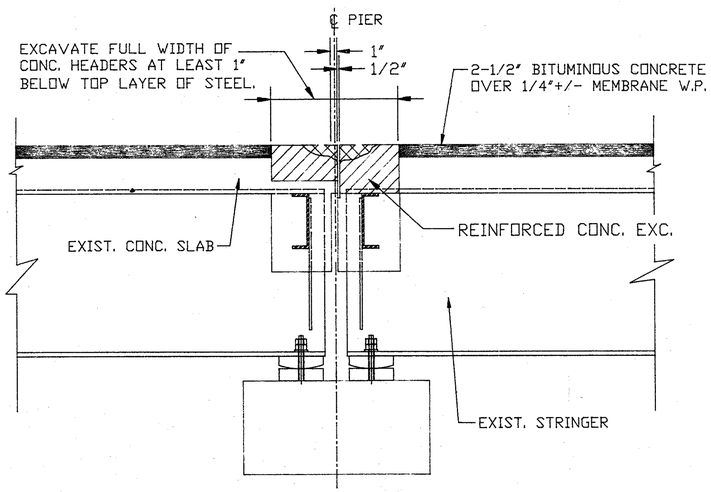
LONGITUDINAL JOINT NOTE:
ALL LONGITUDINAL JOINTS IN THE MEDIAN, SIDEWALKS AND SAFETY WALKS SHALL BE PROPERLY SEALED. TYPE OF SEAL TO BE USED WILL BE SELECTED BY THE RESIDENT ENGINEER. SEALS SHALL CONFORM TO JOINT DETAILS A THROUGH K.

	ISSUED FOR CONSTRUCTION
DATE	REVISION
USE ONLY PRINTS OF LATEST DATE	

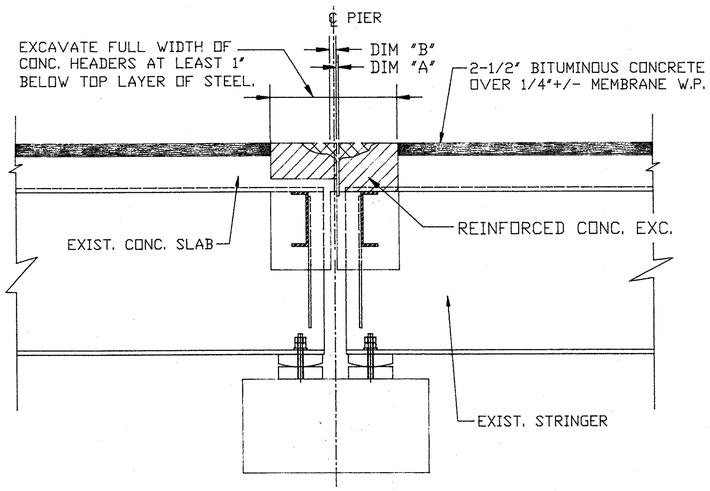
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	4	34
PROJECT FILE# 600702					

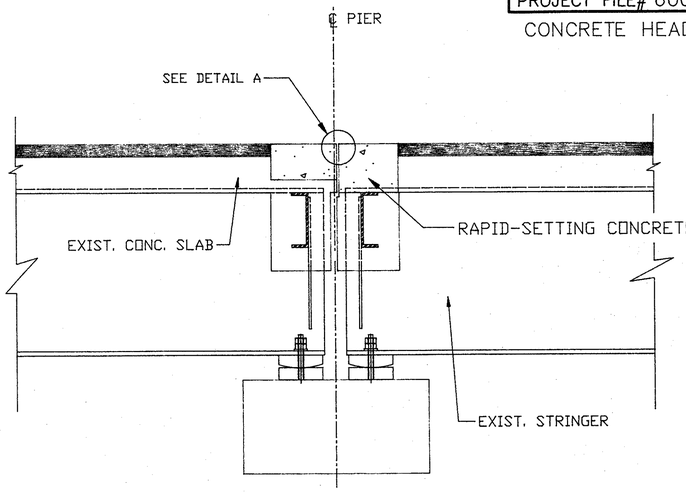
CONCRETE HEADER JOINTS



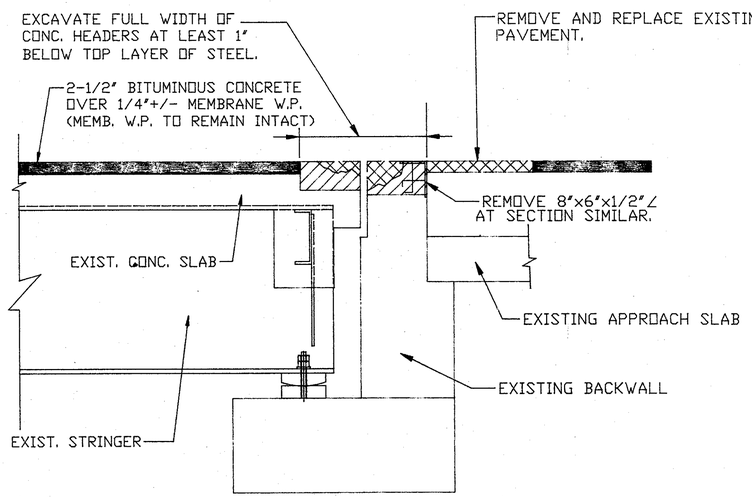
SECTION 1–1
TYPICAL EXISTING CONCRETE HEADER JOINT
FIXED BEARINGS
NOT TO SCALE



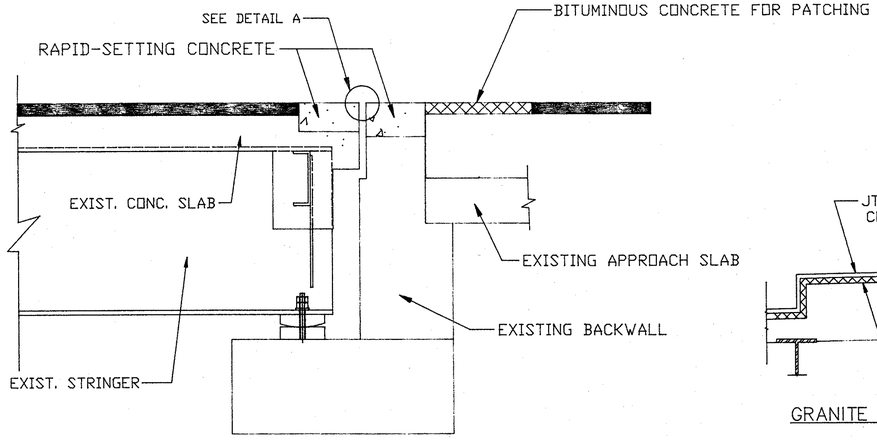
SECTION 2–2
TYPICAL EXISTING CONCRETE HEADER JOINT
EXPANSION BEARINGS
NOT TO SCALE



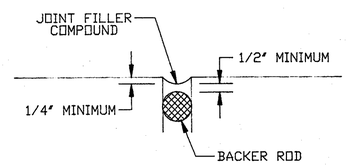
PROPOSED CONSTRUCTION
TYPICAL EXISTING CONCRETE HEADER JOINT
SECTIONS 1–1 & 2–2
NOT TO SCALE



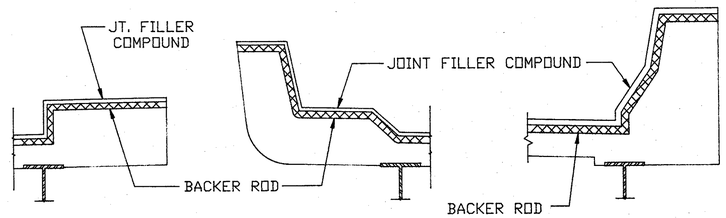
SECTIONS 3–3 & 3–3 SIMILAR
TYPICAL EXISTING CONCRETE HEADER JOINT
AT ABUTMENTS
NOT TO SCALE



PROPOSED CONSTRUCTION
TYPICAL EXISTING CONCRETE HEADER JOINT
SECTIONS 3–3 & 3–3 SIMILAR
NOT TO SCALE



DETAIL A
PROPOSED JOINT SEALING
3" = 1'–0"



GRANITE CURB | STEEL CURB | JERSEY BARRIER

CURB DETAILS
NOT TO SCALE

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

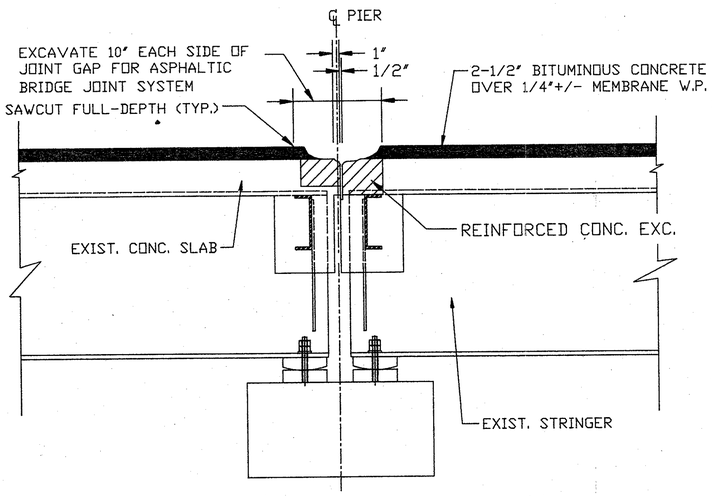
JOINTS\FOURJNT3 11/4/94

DISTRICT FOUR
STANDARD DRAWING

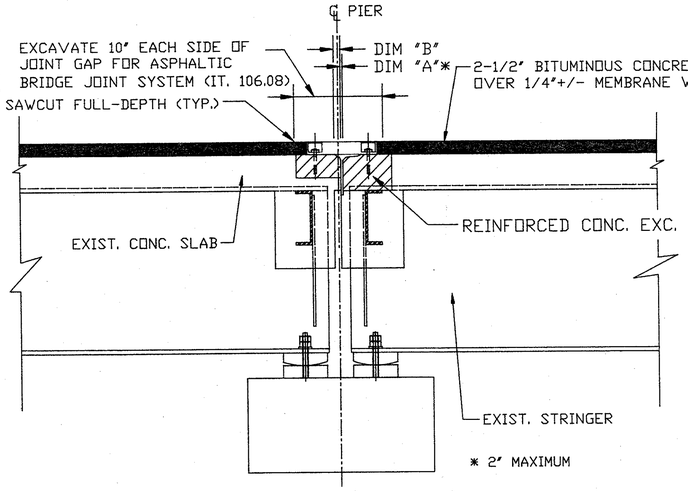
FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	5	34
PROJECT FILE# 600702					

BURIED CONCRETE HEADER JOINTS 1

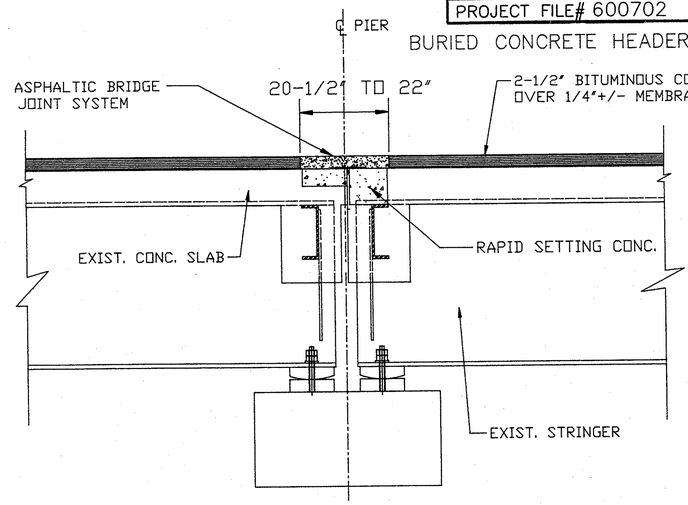
9561



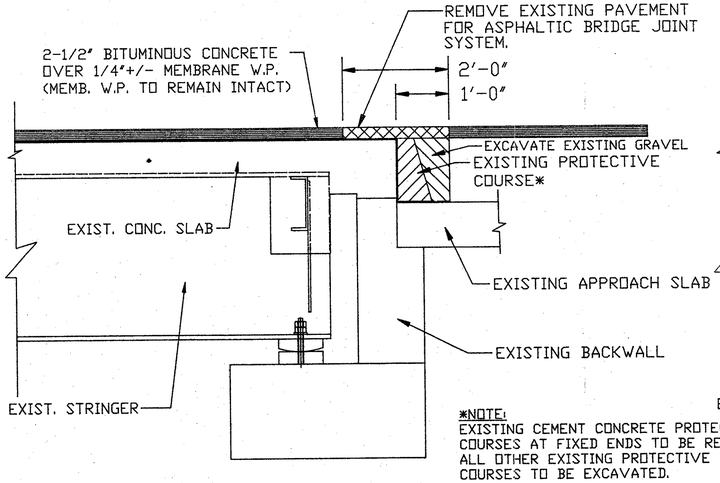
SECTION 4–4
TYPICAL EXISTING BURIED CONCRETE HEADER
JOINT UNDER BITUMINOUS CONCRETE
NOT TO SCALE



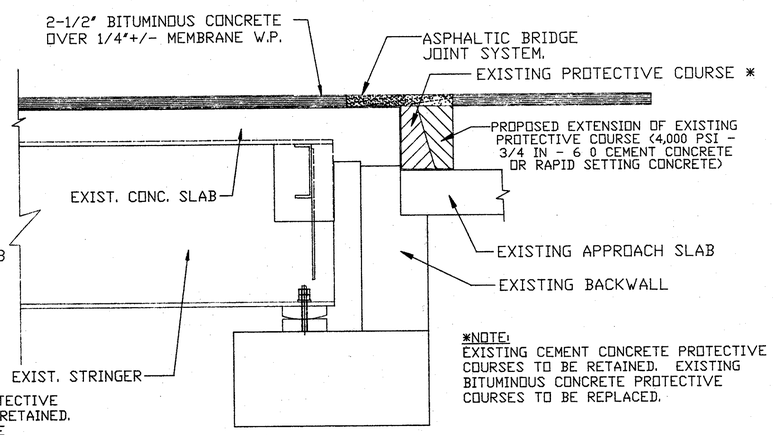
SECTION 5–5
TYPICAL EXISTING BURIED CONCRETE HEADER
UNDER ARMORED ELASTOMERIC JOINT
NOT TO SCALE



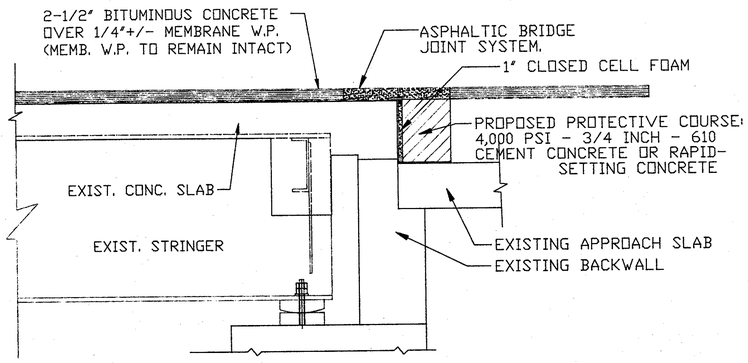
PROPOSED CONSTRUCTION
TYPICAL EXISTING BURIED CONCRETE HEADER
SECTIONS 4–4 & 5–5
NOT TO SCALE



SECTION 6–6
TYPICAL EXISTING END OF DECK DETAILS
NOT TO SCALE



PROPOSED CONSTRUCTION
EXISTING OR NEW PROTECTIVE COURSE
FIXED ENDS
SECTION 6–6
NOT TO SCALE



PROPOSED CONSTRUCTION
EXPANSION ENDS
SECTION 6–6
NOT TO SCALE

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

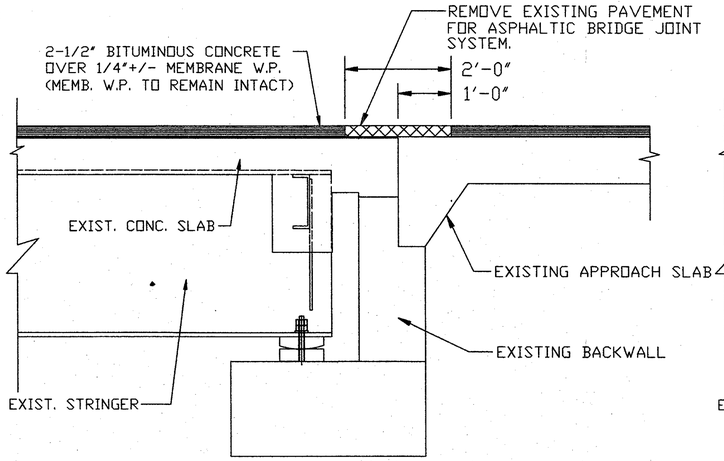
JOINTS\FOURJNT4 11/4/94

1956

DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	6	34
PROJECT FILE# 600702					

BURIED CONCRETE HEADER JOINTS 2

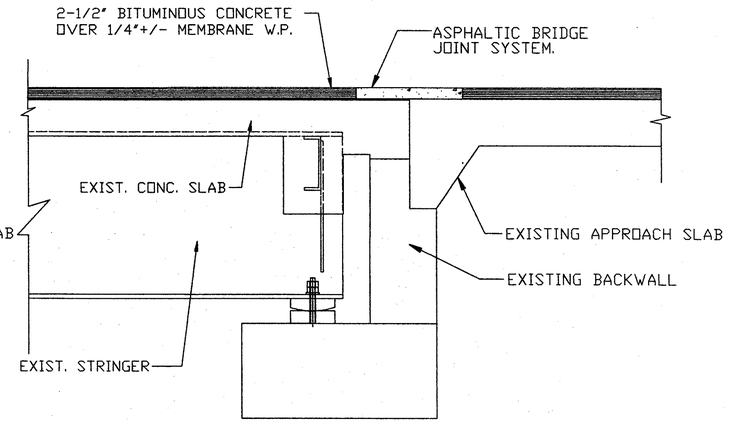


SECTION 7-7

END OF DECK & SURFACE APPROACH SLAB

NO JOINT GAP - EXISTING CONDITION

NOT TO SCALE

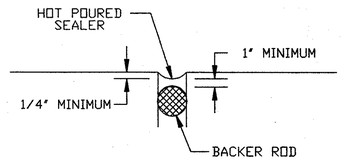


PROPOSED CONSTRUCTION

END OF DECK AND SURFACE APPROACH SLAB

SECTION 7-7

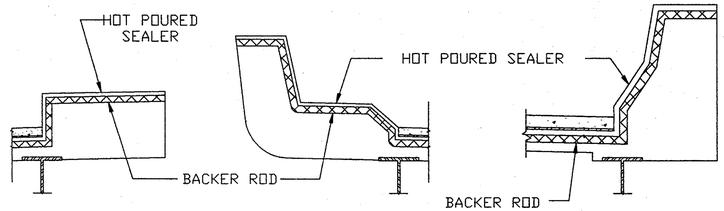
NOT TO SCALE



DETAIL B

PROPOSED SIDEWALK JOINT SEALING

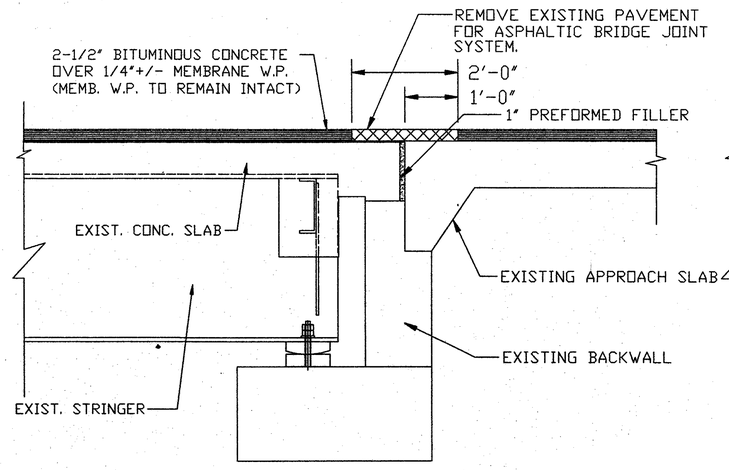
3" = 1'-0"



GRANITE CURB STEEL CURB JERSEY BARRIER

CURB DETAILS

NOT TO SCALE

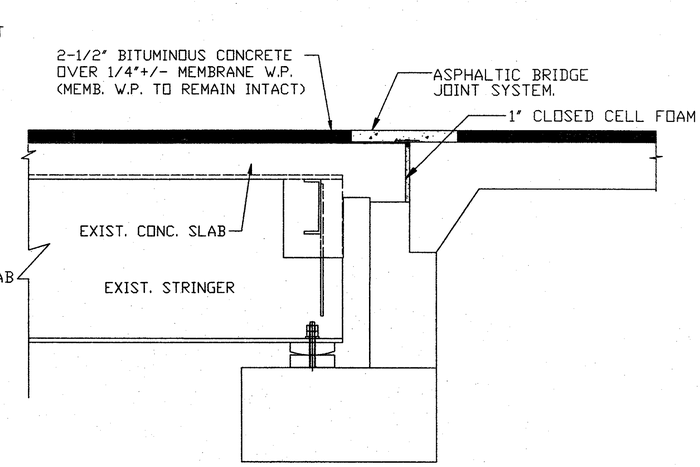


SECTION 8-8

END OF DECK & SURFACE APPROACH SLAB

WITH JOINT GAP - EXISTING CONDITION

NOT TO SCALE



PROPOSED CONSTRUCTION

END OF DECK AND SURFACE APPROACH SLAB

SECTION 8-8

NOT TO SCALE

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

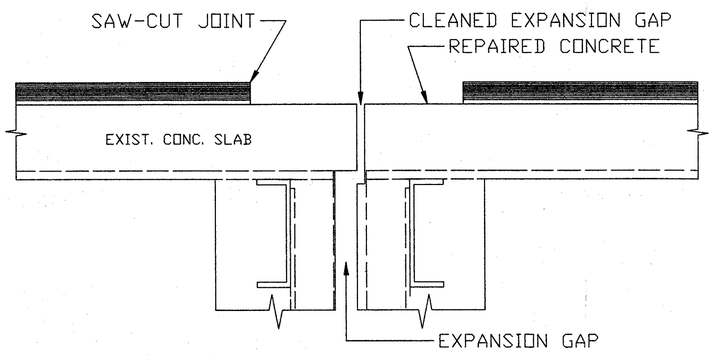
JOINTS\FOURJT4C 11/4/94

95611

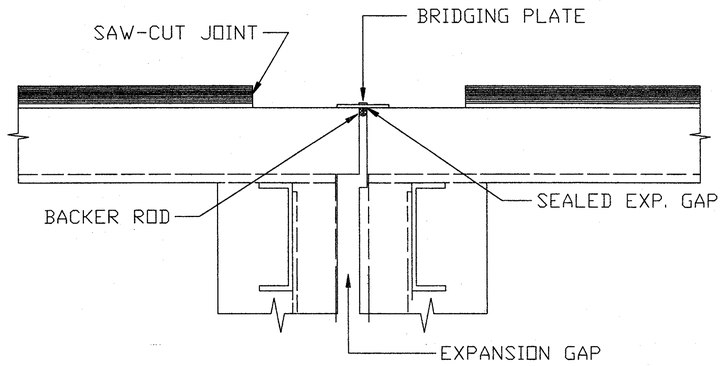
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	7	34
PROJECT FILE# 600702					

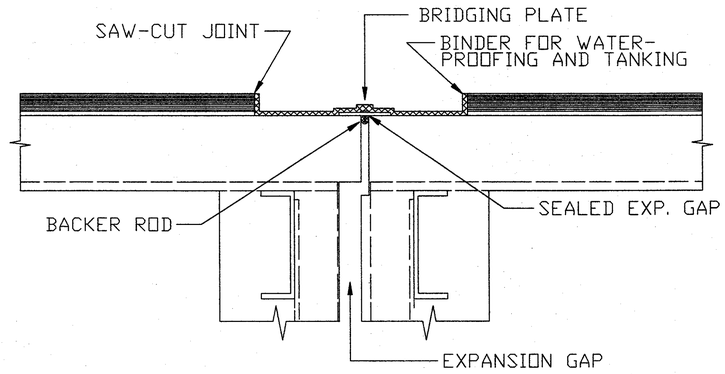
ASPHALTIC BRIDGE JOINT SYSTEM



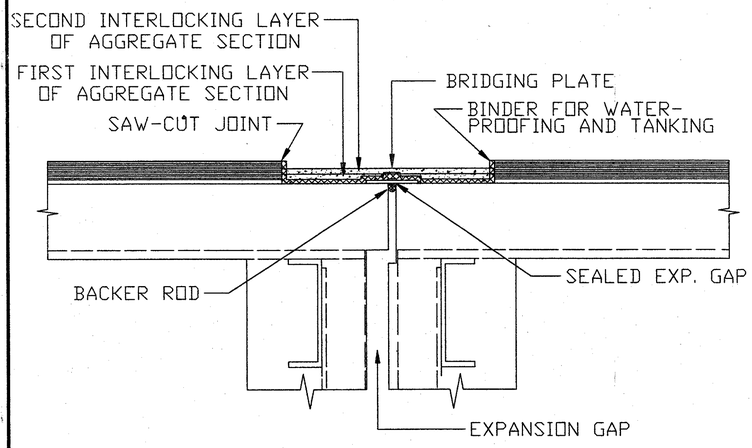
PREPARATION OF CONTACT SURFACES
FOR BRIDGE JOINT SYSTEM
NOT TO SCALE



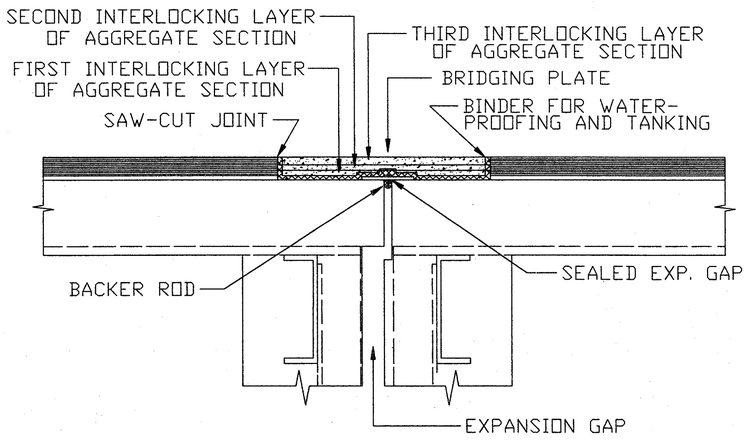
INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 1
NOT TO SCALE



INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 2
NOT TO SCALE

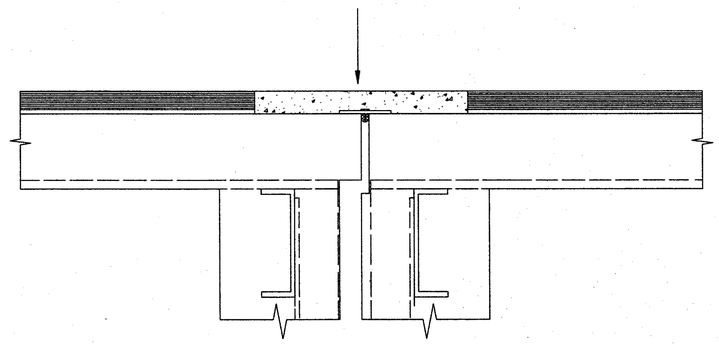


INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 3
NOT TO SCALE



INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 4
NOT TO SCALE

THE COMPLETED SYSTEM



COMPLETED BRIDGE JOINT SYSTEM
ITEM 481.41
NOT TO SCALE

INSTALLATION OF ASPHALTIC BRIDGE JOINT SYSTEM

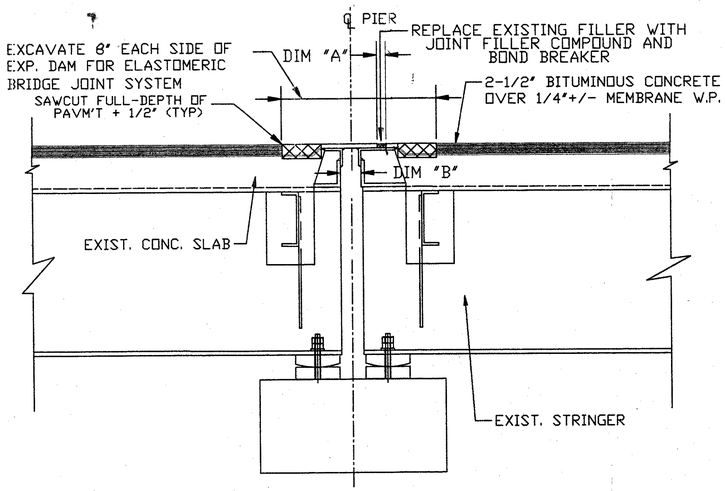
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\ASPHBJST 11/4/94

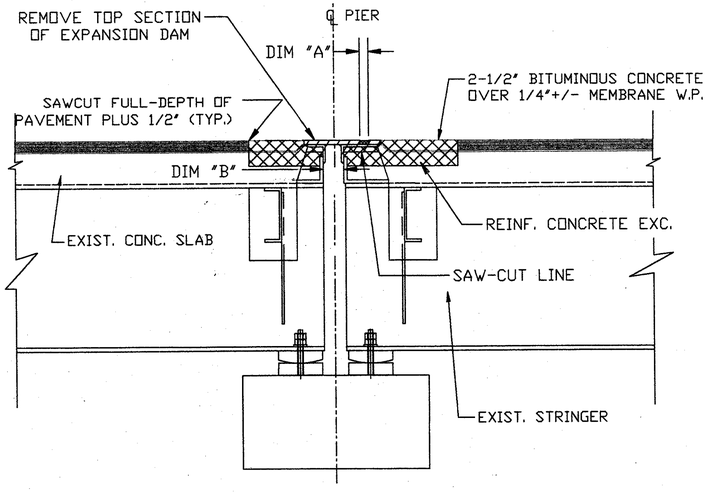
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	8	34
PROJECT FILE# 600702					

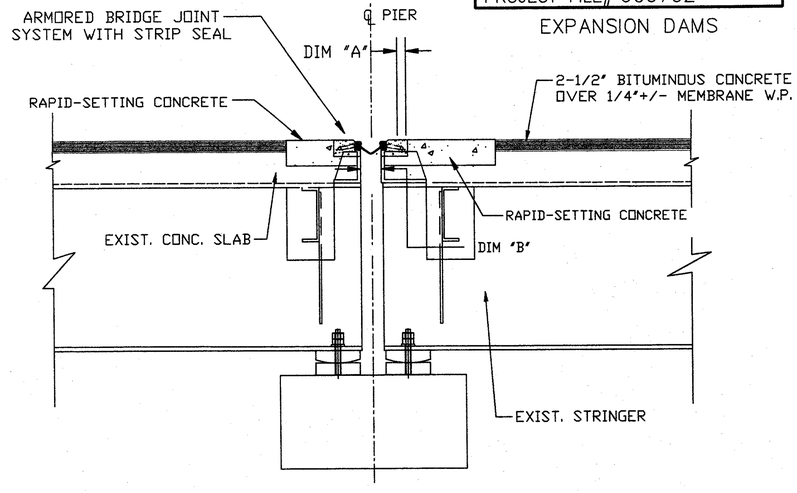
EXPANSION DAMS



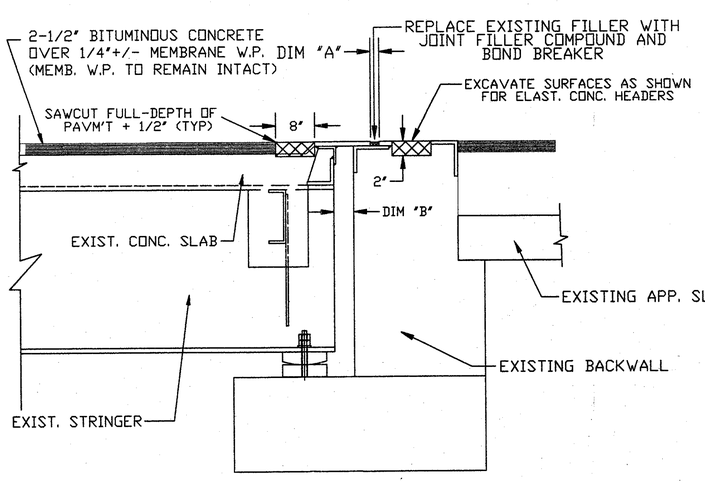
SECTIONS 9–9 & 9–9 SIMILAR
SLIDING STEEL PL EXPANSION DAM AT PIER
IN GOOD CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



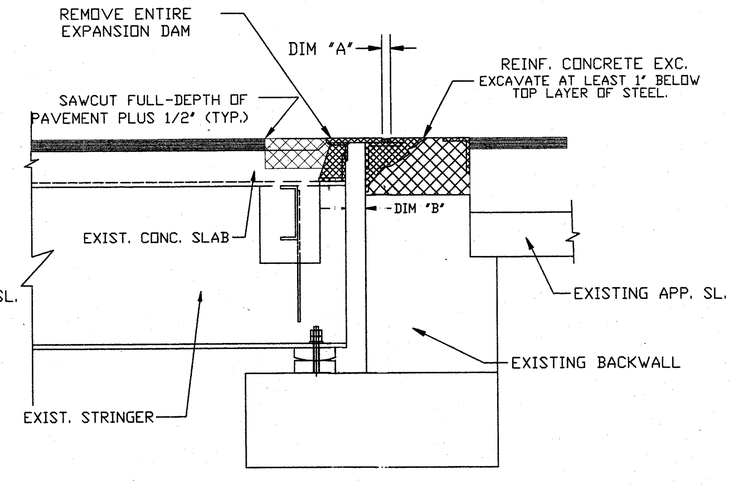
SECTIONS 9–9 & 9–9 SIMILAR
SLIDING STEEL PL EXPANSION DAM AT PIER
IN POOR CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



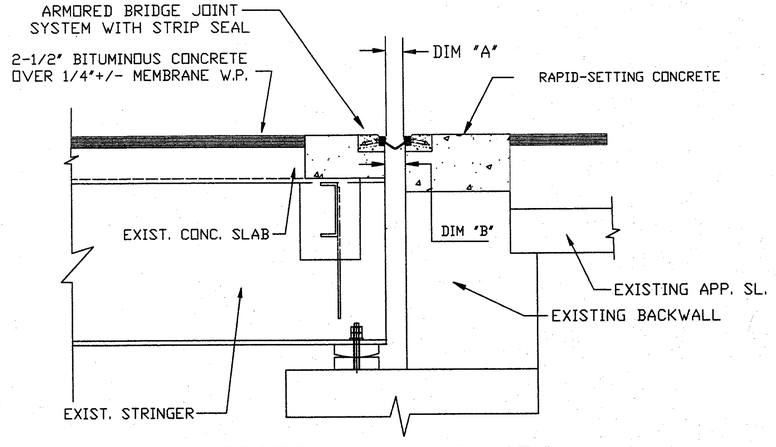
PROPOSED CONSTRUCTION
EXPANSION DAMS IN POOR CONDITION
SECTIONS 9–9 & 9–9 SIMILAR
NOT TO SCALE



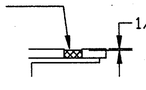
SECTIONS 10–10 & 10–10 SIMILAR
SLIDING STEEL PL EXP DAM AT ABUTMENT
IN GOOD CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



SECTIONS 10–10 & 10–10 SIMILAR
SLIDING STEEL PL EXP DAM AT ABUTMENT
IN POOR CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



PROPOSED CONSTRUCTION
EXPANSION DAMS IN POOR CONDITION
SECTIONS 10–10 & 10–10 SIMILAR
NOT TO SCALE



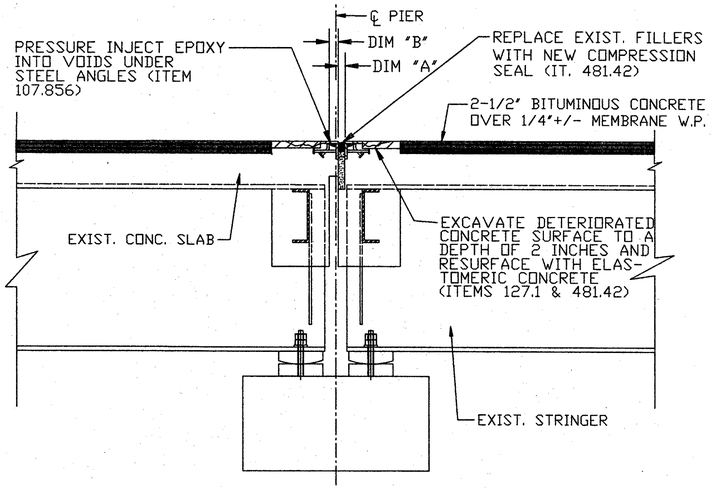
DETAIL C
NOT TO SCALE

DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE	

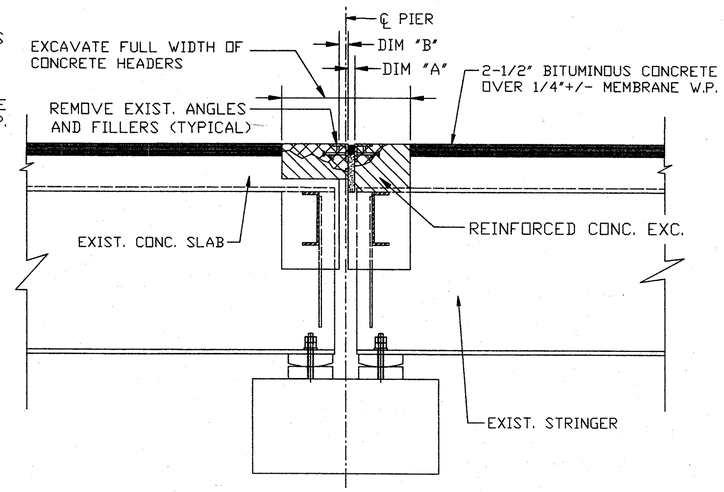
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	9	34
PROJECT FILE# 600702					

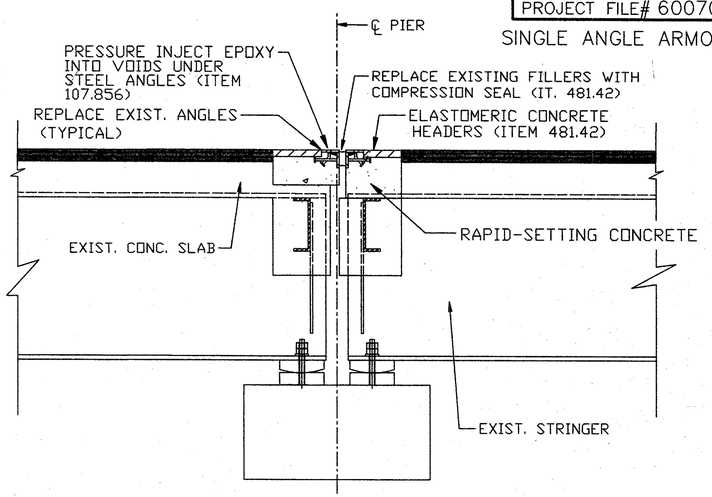
SINGLE ANGLE ARMORED JOINTS



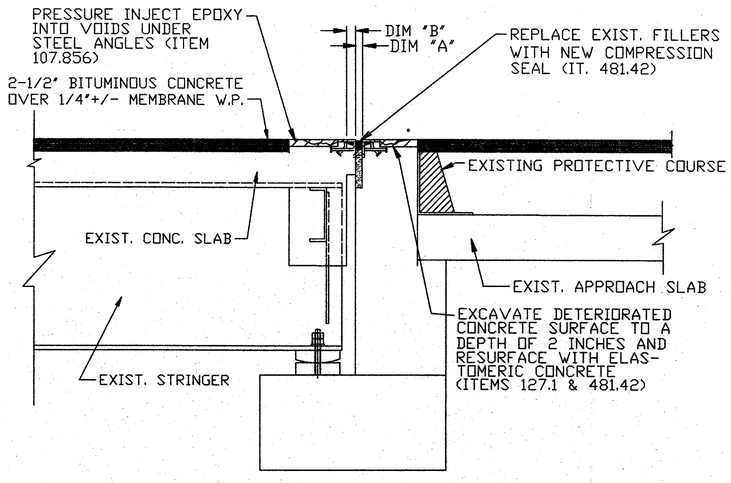
SECTION 11–11
PROPOSED REPAIRS TO TYPICAL EXISTING
SINGLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



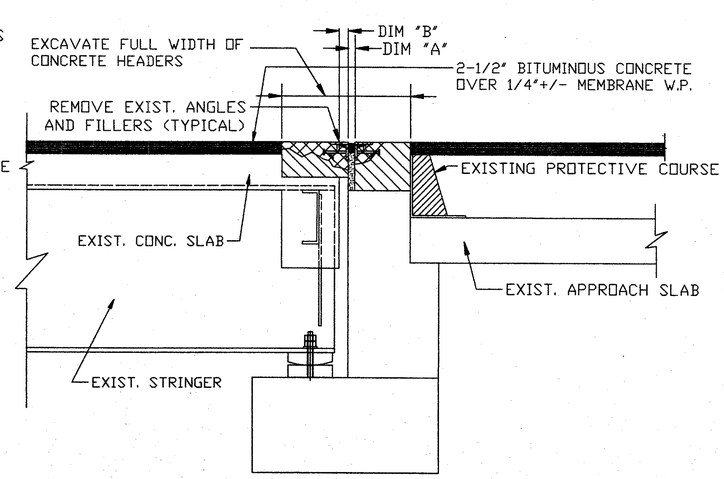
SECTION 11–11
TYPICAL EXISTING SINGLE ANGLE
ARMORED JOINT IN POOR CONDITION
NOT TO SCALE



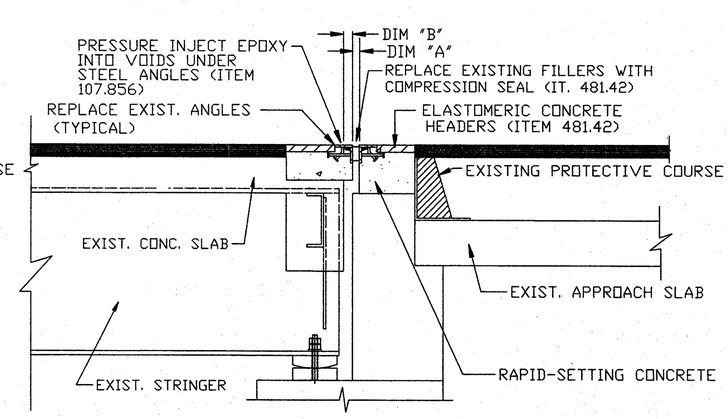
PROPOSED CONSTRUCTION
EXISTING SINGLE ANGLE ARMORED JOINT
IN POOR CONDITION – SECTION 11–11
NOT TO SCALE



SECTION 12–12
PROPOSED REPAIRS TO TYPICAL EXISTING
SINGLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



SECTION 12–12
PROPOSED REPAIRS TO TYPICAL EXISTING
SINGLE ANGLE ARMORED JOINT IN POOR COND.
NOT TO SCALE



PROPOSED CONSTRUCTION
EXISTING SINGLE ANGLE ARMORED JOINT
IN POOR CONDITION – SECTION 12–12
NOT TO SCALE

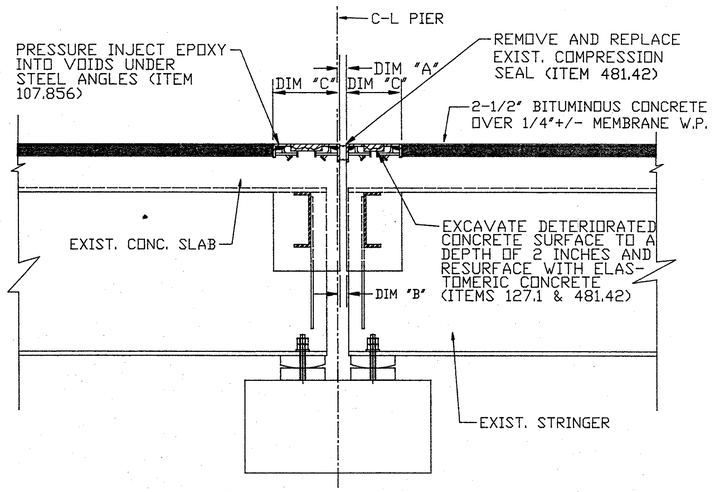
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\FOURJT6A 11/4/94

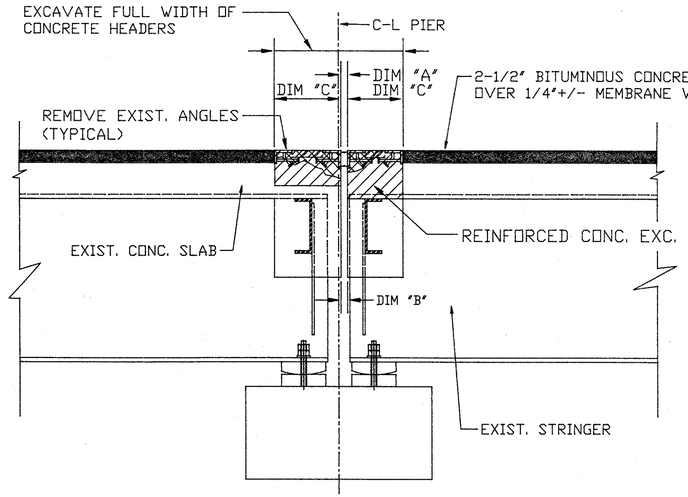
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	10	34
PROJECT FILE# 600702					

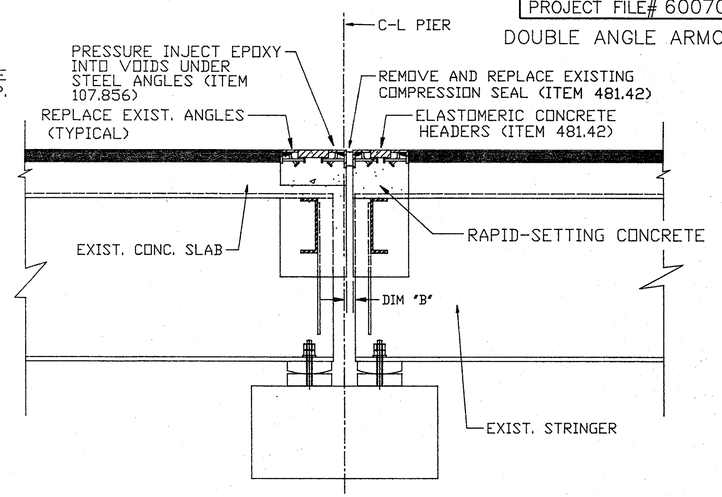
DOUBLE ANGLE ARMORED JOINTS



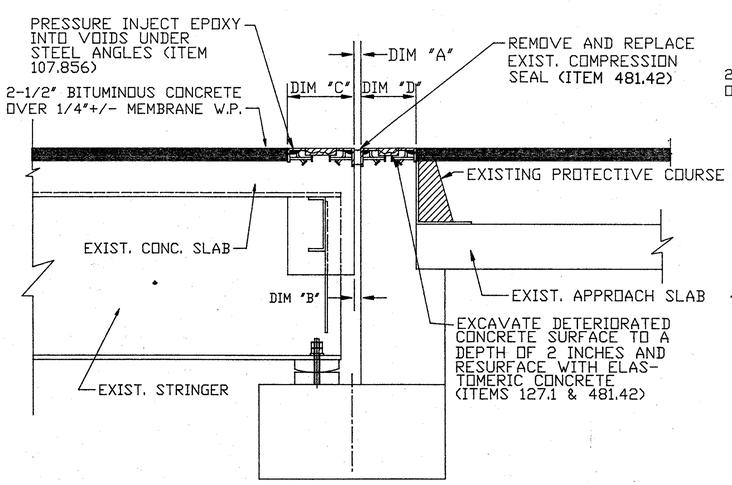
SECTION 13–13
PROPOSED REPAIRS TO TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



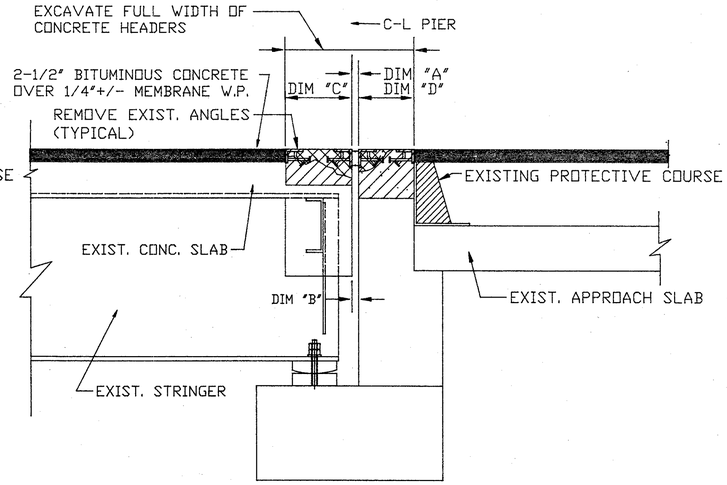
SECTION 13–13
TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION
NOT TO SCALE



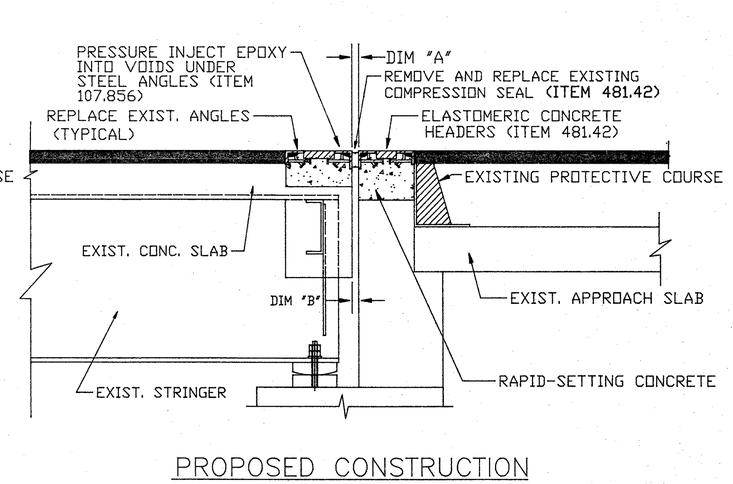
PROPOSED CONSTRUCTION
EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION – SECTION 13–13
NOT TO SCALE



SECTION 14–14
PROPOSED REPAIRS TO TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



SECTION 14–14
TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION
NOT TO SCALE



PROPOSED CONSTRUCTION
EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION – SECTION 14–14
NOT TO SCALE

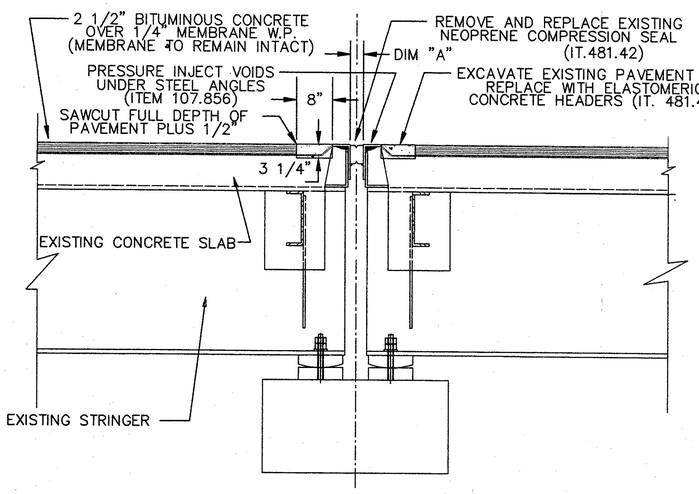
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\FOURJNT6 11/18/94

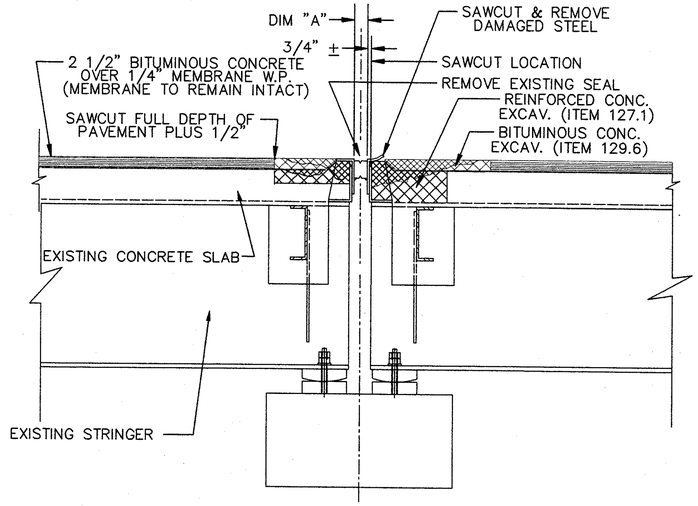
9591

DISTRICT FOUR
STANDARD DRAWING

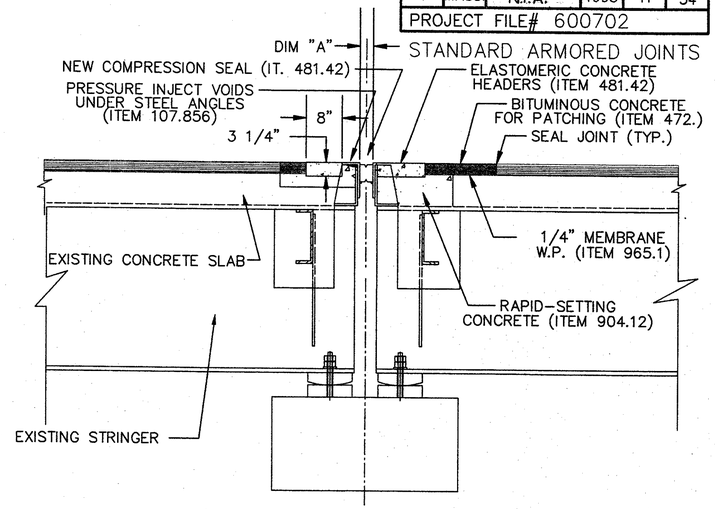
FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	11	34
PROJECT FILE# 600702					



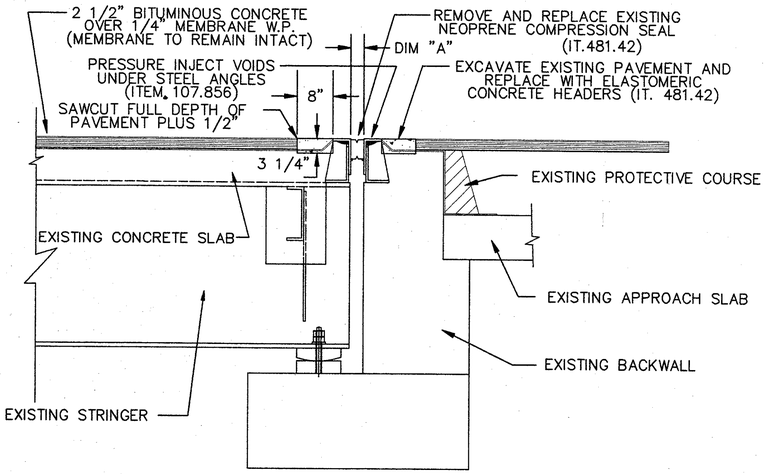
SECTIONS 15–15 & 15–15 SIMILAR
COMPRESSION SEAL JOINT OVER PIER IN GOOD CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



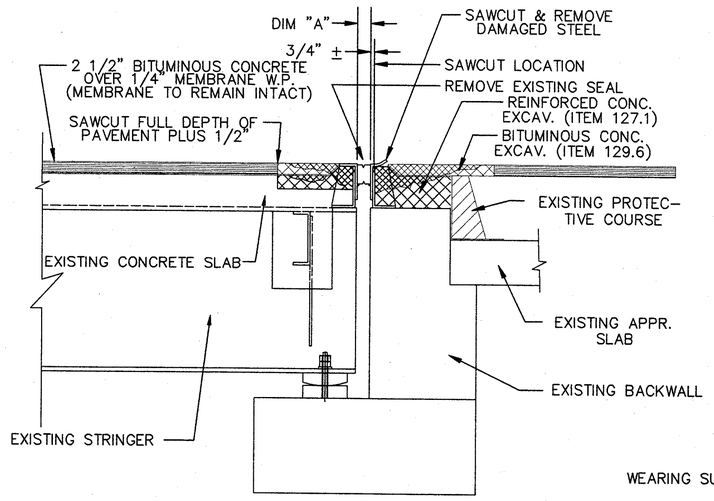
SECTIONS 15–15 & 15–15 SIMILAR
COMPRESSION SEAL JOINT OVER PIER IN POOR CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



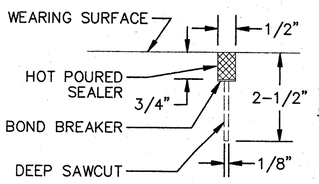
PROPOSED CONSTRUCTION
JOINT OVER PIER IN POOR CONDITION
SECTIONS 15–15 & 15–15 SIMILAR)
NOT TO SCALE



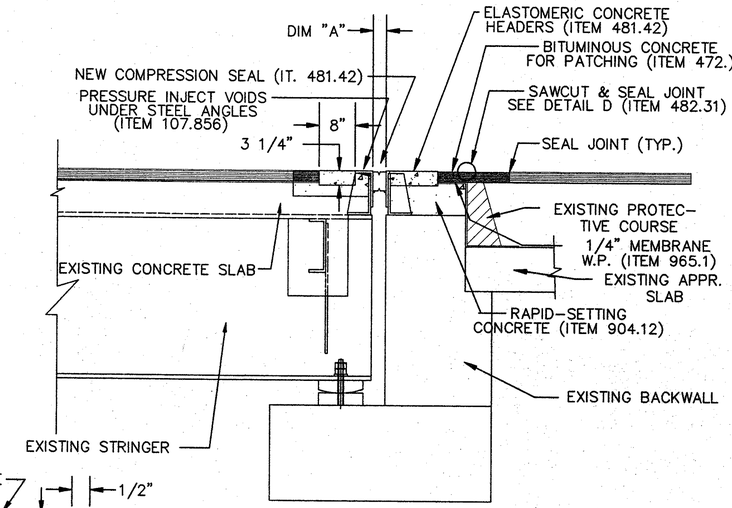
SECTIONS 16–16 & 16–16 SIMILAR
COMPRESSION SEAL JOINT AT ABUTMENT IN GOOD CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



SECTIONS 16–16 & 16–16 SIMILAR
COMPRESSION SEAL JOINT AT ABUTMENT IN POOR CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



DETAIL D
SCALE: HALF–SIZE



PROPOSED CONSTRUCTION
JOINT AT ABUTMENT IN POOR CONDITION
SECTIONS 16–16 & 16–16 SIMILAR)
NOT TO SCALE

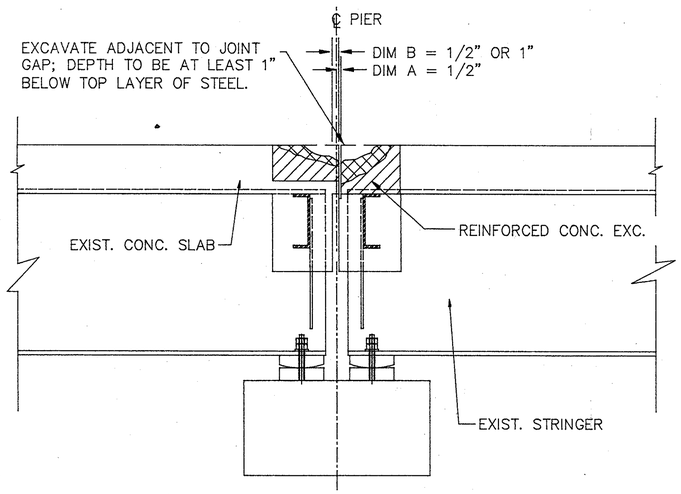
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\STDARMJT 11/22/94

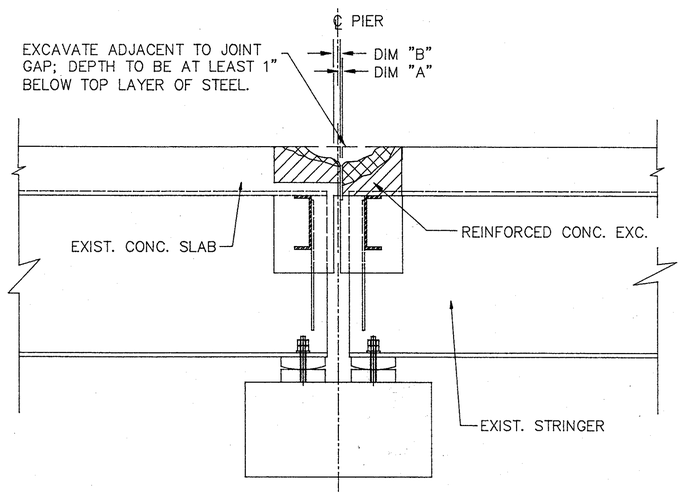
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	12	34
PROJECT FILE# 600702					

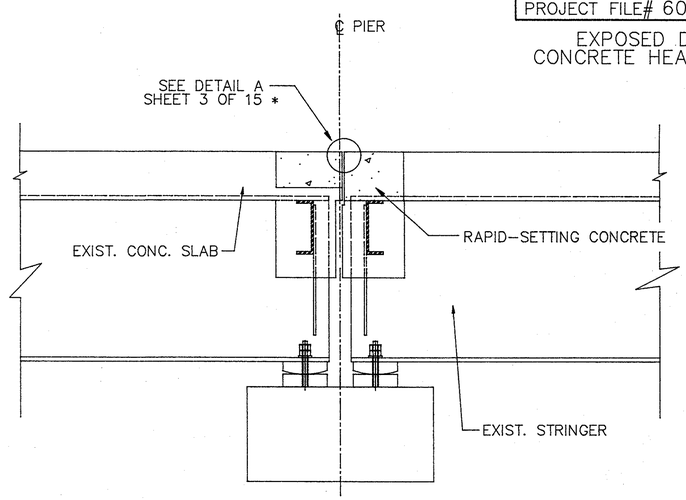
EXPOSED DECKS 1
CONCRETE HEADER JOINTS



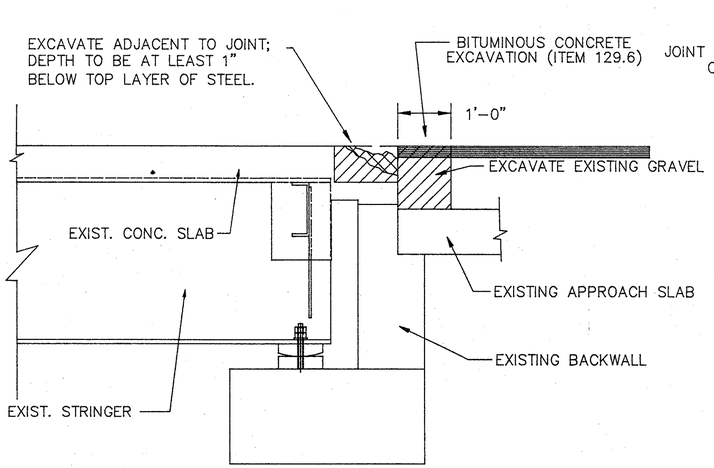
SECTION 17–17
TYPICAL EXISTING CONCRETE HEADER JOINT
FIXED BEARINGS AT PIER
NOT TO SCALE



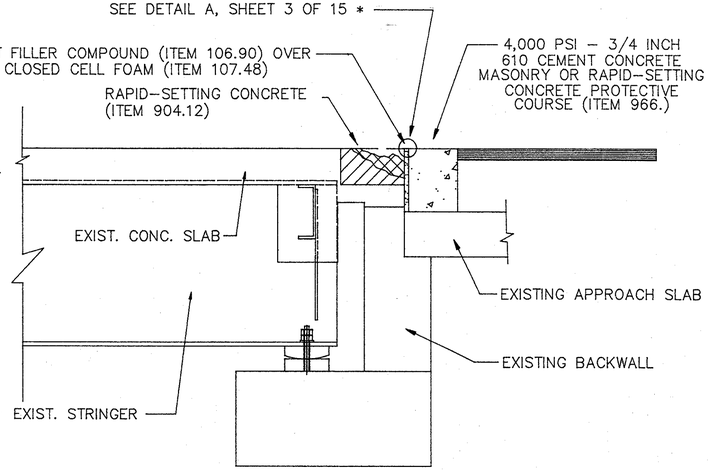
SECTION 18–18
TYPICAL EXISTING CONCRETE HEADER JOINT
EXPANSION BEARINGS AT PIER
NOT TO SCALE



PROPOSED CONSTRUCTION
TYPICAL EXISTING CONCRETE HEADER JOINT
SECTIONS 17–17 & 18–18
NOT TO SCALE



SECTION 19–19
TYPICAL EXISTING END OF DECK DETAILS
FIXED OR EXPANSION BEARINGS
NOT TO SCALE



PROPOSED CONSTRUCTION
TYPICAL END OF DECK DETAILS
SECTION 19–19
NOT TO SCALE

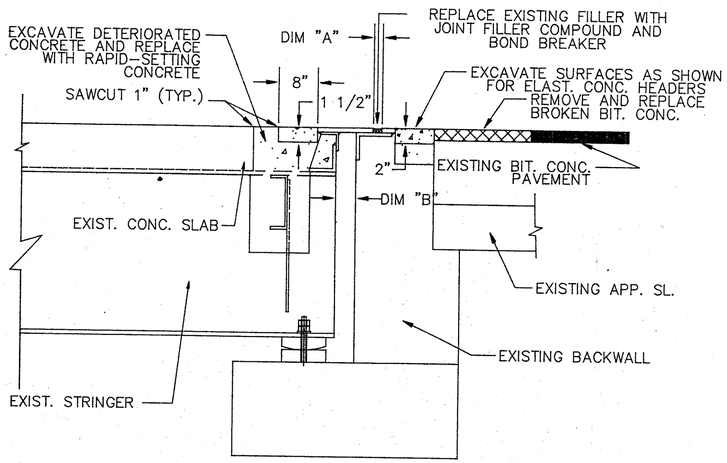
* NOTE:
JOINT FILLER COMPOUND TO BE PLACED DIRECTLY ON TOP OF CLOSED CELL FOAM.

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

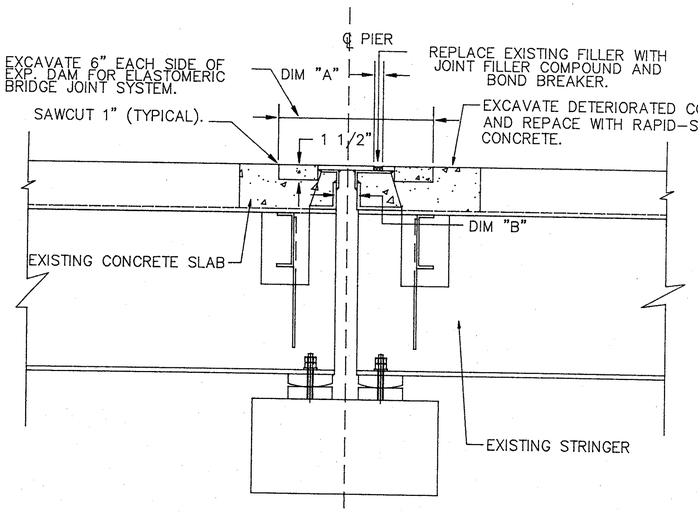
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	13	34
PROJECT FILE#600702					

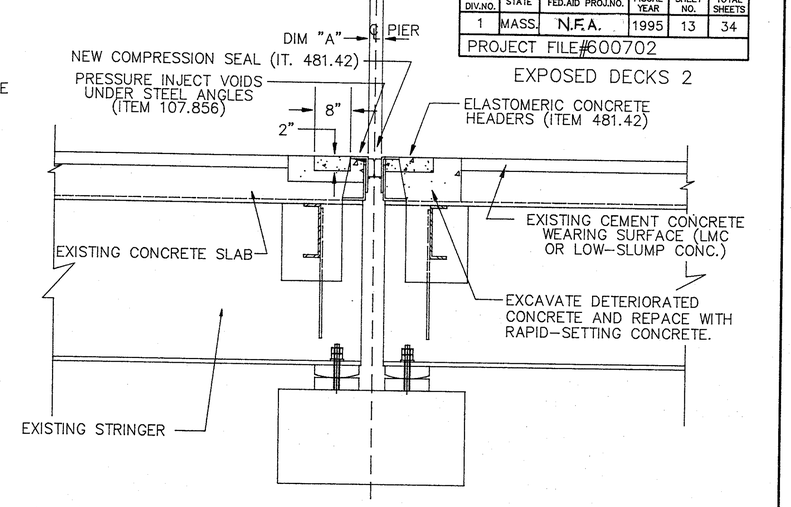
EXPOSED DECKS 2



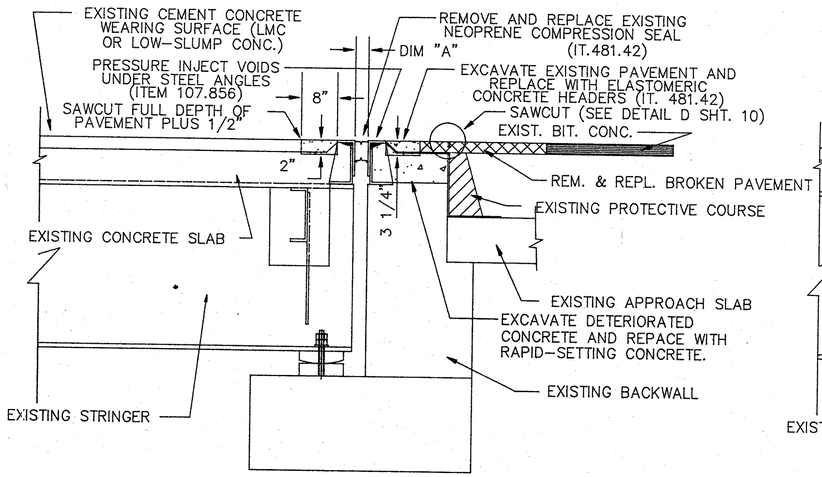
SECTIONS 20-20 & 20-20 SIMILAR
SLIDING STEEL PLATE EXPANSION DAM AT ABUTMENT
(FINGER DAM SIMILAR)
NOT TO SCALE



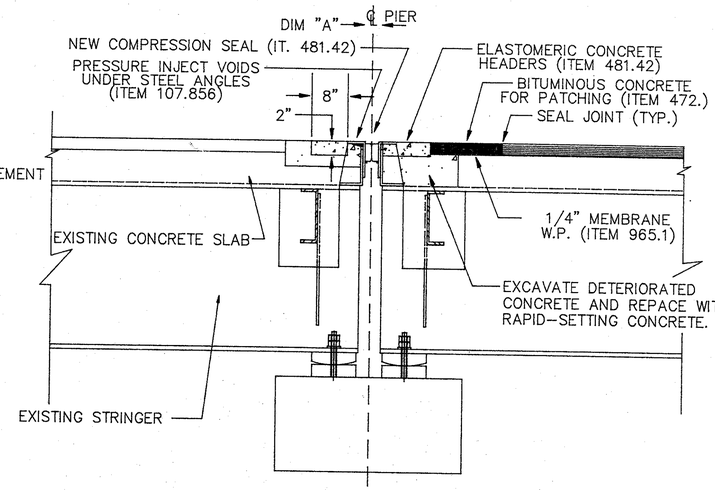
SECTIONS 21-21 & 21-21 SIMILAR
SLIDING STEEL PLATE EXPANSION DAM OVER
(FINGER DAM SIMILAR)
NOT TO SCALE



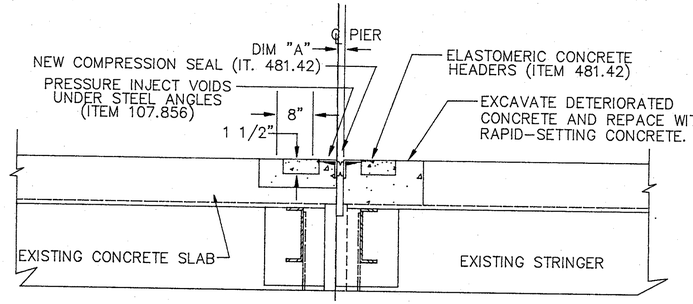
SECTIONS 22-22 & 22-22 SIMILAR
COMPRESSION SEAL JOINT OVER PIER
STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



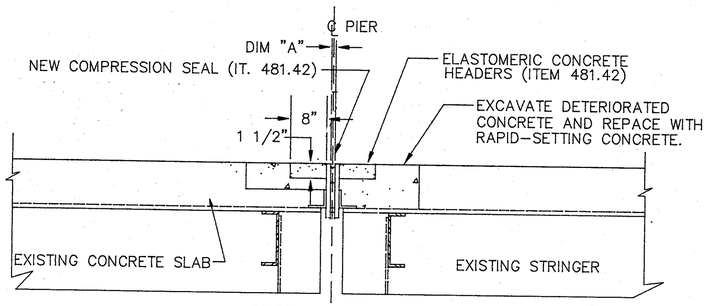
SECTIONS 23-23 & 23-23 SIMILAR
COMPRESSION SEAL JOINT AT ABUTMENT
(STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



SECTIONS 24-24 & 24-24 SIMILAR
COMPRESSION SEAL JOINT OVER PIER
(STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



SECTION 25-25
SINGLE ANGLE ARMORED JOINT OVER PIER
NOT TO SCALE



SECTION 26-26
VERTICAL PLATE ARMORED JOINT OVER PIER
NOT TO SCALE

NOTE:
DETAILS NOT SHOWN ON THIS SHEET ARE SIMILAR TO DETAILS SHOWN IN SECTIONS 9-9 THROUGH 16-16.

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

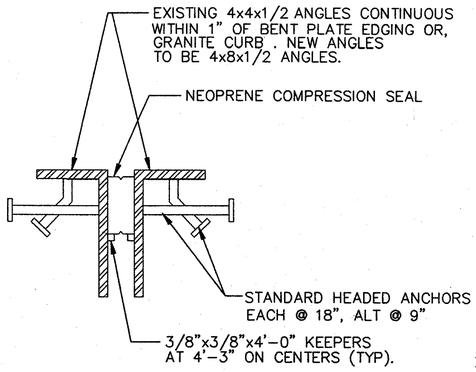
JOINTS\EXPDECK2 12/02/94

DISTRICT FOUR
STANDARD DRAWING

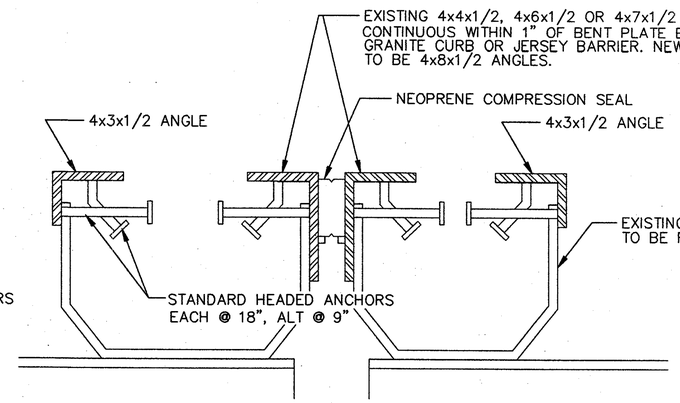
FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	14	34
PROJECT FILE# 600702					

9561

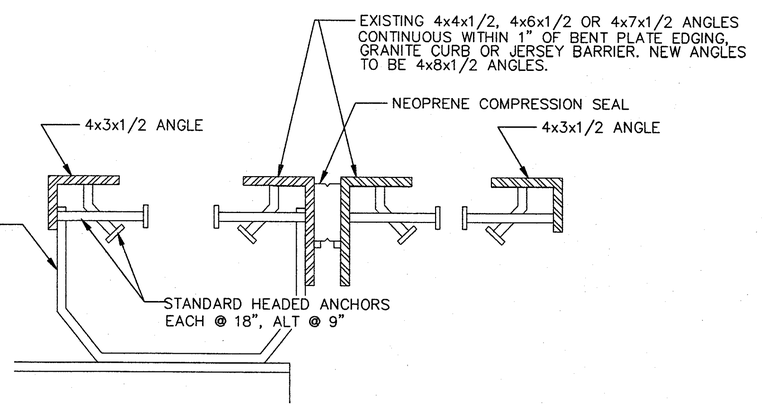
ARMORED JOINT DETAILS



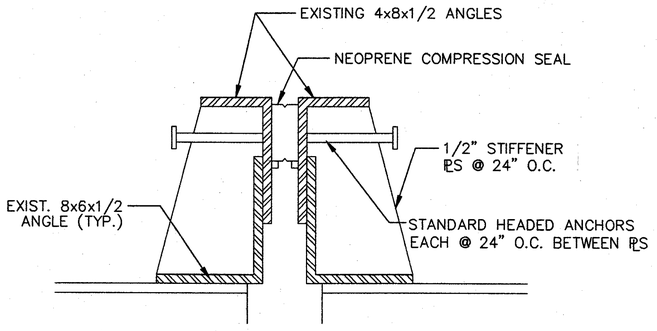
JOINT DETAIL E
JOINTS OVER PIERS
APPROX. SCALE 3" = 1'-0"



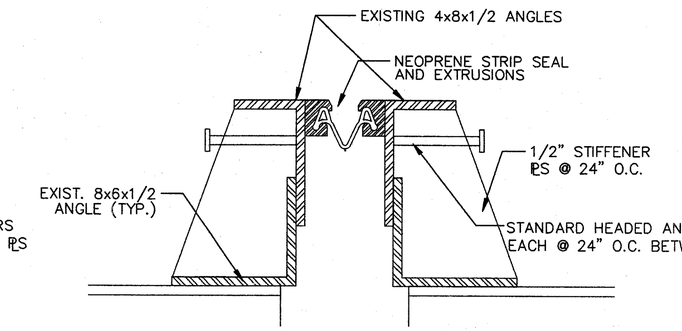
JOINT DETAIL F
JOINTS OVER PIERS
APPROX. SCALE 3" = 1'-0"



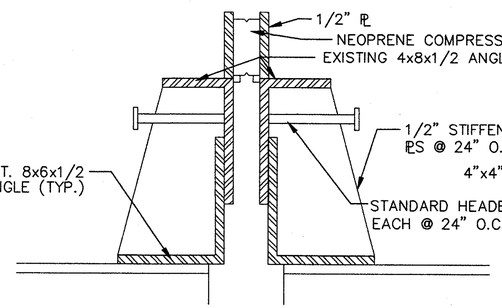
JOINT DETAIL G
JOINTS OVER PIERS
APPROX. SCALE 3" = 1'-0"



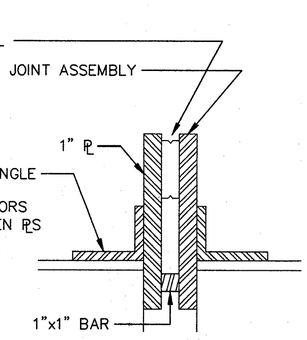
STANDARD ARMORED DETAIL H
COMPRESSION SEAL
APPROX. SCALE 3" = 1'-0"



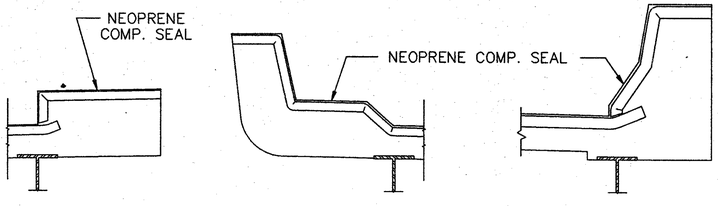
STANDARD ARMORED JOINT DETAIL I
STRIP SEAL
APPROX. SCALE 3" = 1'-0"



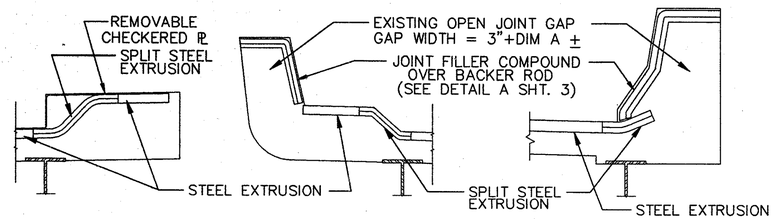
STANDARD ARMORED JOINT DETAIL J
JOINTS IN MEDIAN & SIDEWALK
APPROX. SCALE 3" = 1'-0"



JOINT DETAIL K
VERTICAL PLATE ARMORED JOINT
APPROX. SCALE 3" = 1'-0"



CURB DETAILS – COMPRESSION SEAL
3/8" = 1'-0"



CURB DETAILS – STRIP SEAL

NOTE:
EXISTING WELDS TO BE GROUND SMOOTH. NEW FIELD WELDS SHALL BE SAME SIZE AS EXISTING, BUT CONTINUOUS WHERE STRAP ANCHOR IS IN CONTACT WITH ANGLE (EXCEPT AT BOTTOM CORNERS).

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

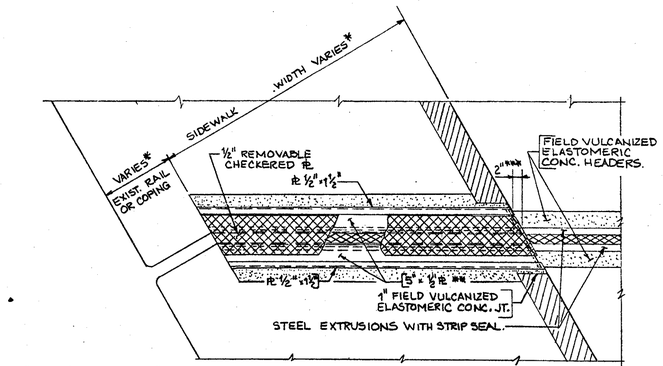
JOINTS\ARMJTDET 12/6/94

DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	15	34
PROJECT FILE# 600702					

ARMORED BRIDGE JOINT SYSTEM

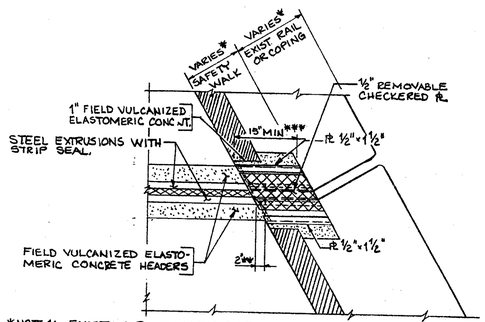
9561



*NOTE 1: EXISTING DIMENSIONS ON BRIDGE PLANS TO BE VERIFIED WITH FIELD MEASUREMENTS.
**NOTE 2: 5"×½" PLATES ARE SUFFICIENT FOR MOVEMENTS UP TO 3½" NORMAL TO ℄ OF JOINT. WIDER PLATES MUST BE USED FOR LARGER MOVEMENTS.
***NOTE 3: SEE DETAIL "X" FOR SECTION PARALLEL TO ℄ OF JOINT.

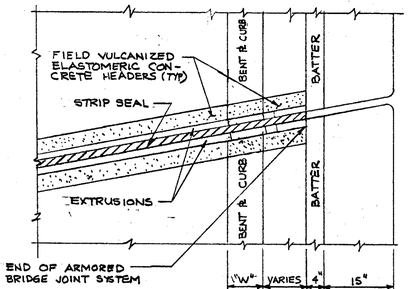
PLAN - SIDEWALK

ARMORED BRIDGE JOINT SYSTEM
SCALE: ¾" = 1'-0"



*NOTE 1: EXISTING DIMENSIONS ON BRIDGE PLANS TO BE VERIFIED WITH FIELD MEASUREMENTS.
**NOTE 2: SEE DETAIL "Y" FOR SECTION PARALLEL TO ℄ OF JOINT.
***NOTE 3: 15" MIN. REQUIRED AT ALL SAFETY WALKS THAT DO NOT HAVE ADJACENT CONC. COPING WALLS.

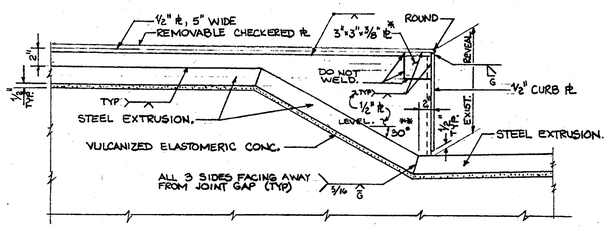
PLAN - SAFETY WALK
WITH VERTICAL CURB
ARMORED BRIDGE JOINT SYSTEM
SCALE: ¾" = 1'-0"



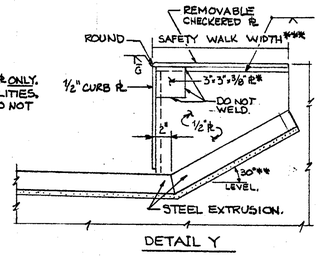
"W"	TYPE OF BT. PL. CURB
10"	BR. MANUAL DWG E-26
8"	OLD STANDARD

NOTE: SEE DETAIL "Z" FOR SECTION PARALLEL TO ℄ OF JOINT.

PLAN - SAFETY WALK WITH BENT PL CURB
(SLOPED EDGING)
ARMORED BRIDGE JOINT SYSTEM
SCALE ¾" = 1'-0"



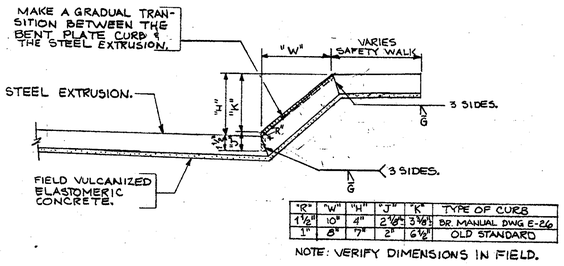
DETAIL X



DETAIL Y

*NOTE 1: WELD 3"×3"×⅜" PL TO REMOVABLE CHECKERED PL & CURB PL ONLY.
**NOTE 2: ADJUST ANGLE WHERE NECESSARY TO AVOID UTILITIES.
***NOTE 3: 15" MIN. REQUIRED AT ALL SAFETY WALKS THAT DO NOT HAVE ADJACENT CONCRETE COPING WALLS.

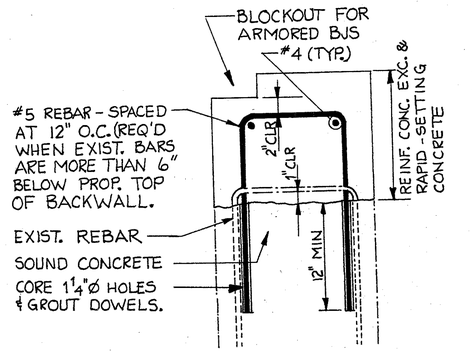
ARMORED BRIDGE JOINT SYSTEM CURB DETAIL.
1½" = 1'-0"



"B"	"W"	"H"	"J"	"K"	TYPE OF CURB
1⅛"	10"	4"	2⅜"	3⅜"	BR. MANUAL DWG E-26
1"	8"	7"	2"	6½"	OLD STANDARD

NOTE: VERIFY DIMENSIONS IN FIELD.

DETAIL Z
ARMORED BRIDGE JOINT SYSTEM BENT PLATE CURB DETAIL
(SLOPED EDGING)
1½" = 1'-0"



BACKWALL MODIFICATION
(NOT TO SCALE)

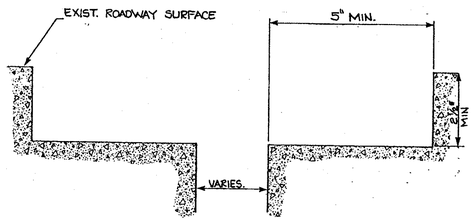
DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE

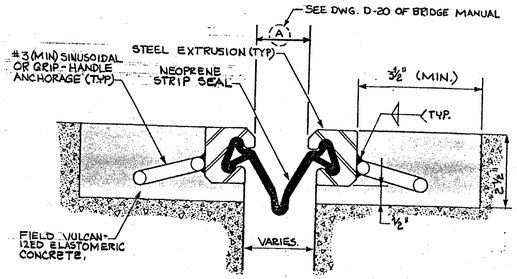
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	16	34
PROJECT FILE# 600702					

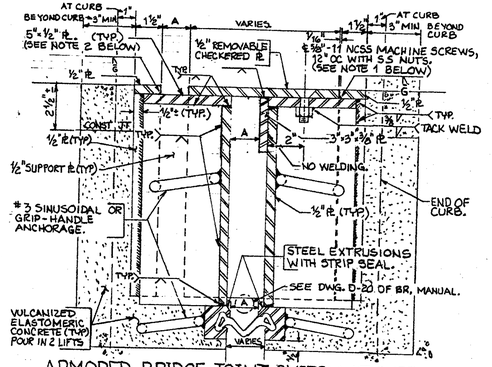
ARMORED BRIDGE JOINT SYSTEM



BLOCKOUT DETAIL
ARMORED BRIDGE JOINT SYSTEM
(NTS)

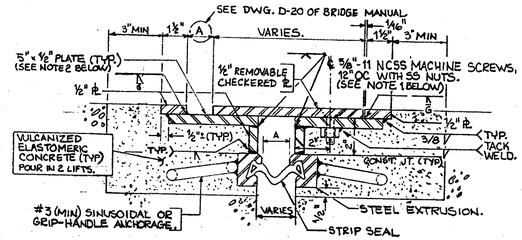


ROADWAY JOINT CROSS-SECTION
ARMORED BRIDGE JOINT SYSTEM
(NTS)

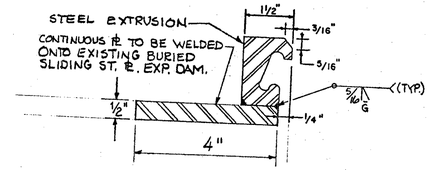


ARMORED BRIDGE JOINT SYSTEM AT CURB
3" = 1'-0"

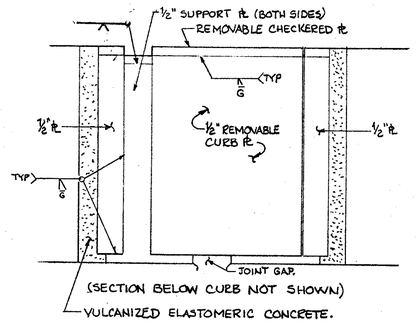
NOTE 1: PRIOR TO PLACEMENT OF CONCRETE ⅝"ϕ SS MACHINE SCREWS TO BE LUBRICATED WITH GRAPHITE AND SECURELY SET IN PLACE. MACHINE SCREW TO BE TEMPORARILY REMOVED AFTER CONCRETE HAS ATTAINED FINAL SET.
NOTE 2: 5"x ½" PLATES ARE SUFFICIENT FOR MOVEMENTS UP TO 3½" NORMAL TO ℄ OF JOINT. WIDER PLATES MUST BE USED FOR LARGER MOVEMENTS.



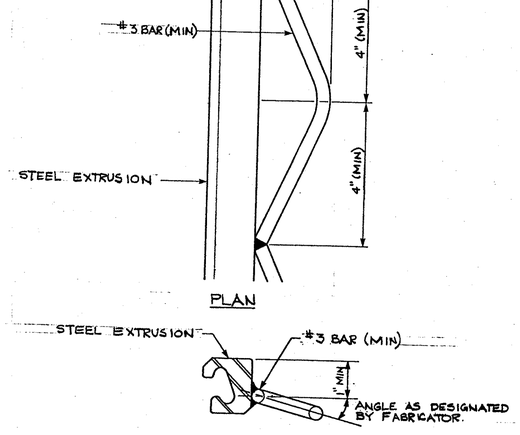
ARMORED BRIDGE JOINT SYSTEM AT SIDEWALK
3" = 1'-0"



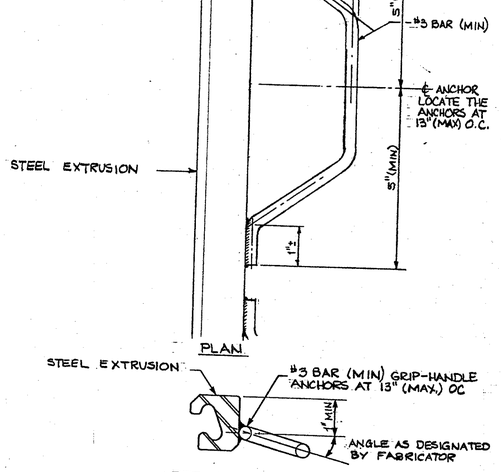
ELEVATION
PLATE ANCHORAGE
ARMORED BRIDGE JOINT SYSTEM
AT EXPANSION DAM
(HALF-SIZE)



ELEVATION.
ARMORED BRIDGE JOINT SYSTEM AT CURB.
3" = 1'-0"



ELEVATION.
SINUSOIDAL ANCHORAGE,
ARMORED BRIDGE JOINT SYSTEM
HALF-SIZE



ELEVATION
GRIP-HANDLE ANCHORAGE
ARMORED BRIDGE JOINT SYSTEM
HALF-SIZE

ARMORED BRIDGE JOINT SYSTEM NOTES

1. THE NEOPRENE STRIP SEAL SYSTEMS SHALL BE PRE-FABRICATED AND PREASSEMBLED IN THE SHOP AND SHIPPED WITH SHIPPING DEVICES TO MAINTAIN PROPER SPACING AND FIT.
2. THE STRIP SEALS SHALL BE FIELD BONDED TO THE STEEL EXTRUSIONS IN ONE PIECE.
3. FOR ALL LOCATIONS WHERE THE STRIP SEALS CANNOT BE FIELD BONDED TO THE STEEL EXTRUSIONS IN ONE PIECE, THE STRIP SEALS SHALL BE SHOP BONDED TO THE STEEL EXTRUSIONS AND FIELD SPLICED FULL-WIDTH WITH 0.0625 INCH (1/16") SHEET NEOPRENE, MINIMUM 12" IN LENGTH.
4. SHOP DRAWINGS OF THE ARMORED BRIDGE JOINT SYSTEMS, SPLICING DETAILS AND SHIPPING DEVICES SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER.
5. ARMORED BRIDGE JOINT SYSTEMS SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS BETWEEN 40° F AND 80° F. NO FIELD ADJUSTMENT OF THE OPENING IS PERMITTED. THE SHIPPING DEVICE MUST BE REMOVED AFTER THE ARMORED JOINT IS SECURED IN PLACE.
6. THE ARMORED JOINT SURFACE SHALL BE GROUND TO A SMOOTH FINISH AFTER REMOVAL OF THE SHIPPING DEVICE.
7. ALL EXPOSED SURFACES OF ARMORED JOINTS ARE TO BE FIELD PAINTED.
8. WHERE THE EXISTING JOINT GAP EXCEEDS THE DIMENSION "A" RECOMMEDED IN BRIDGE MANUAL DRAWING D-20, THE DIMENSION "A" SHALL BE SET SO THAT THE EXTRUSIONS ARE SECURELY SEATED IN THE BLOCKOUTS ON BOTH SIDES OF THE GAP.

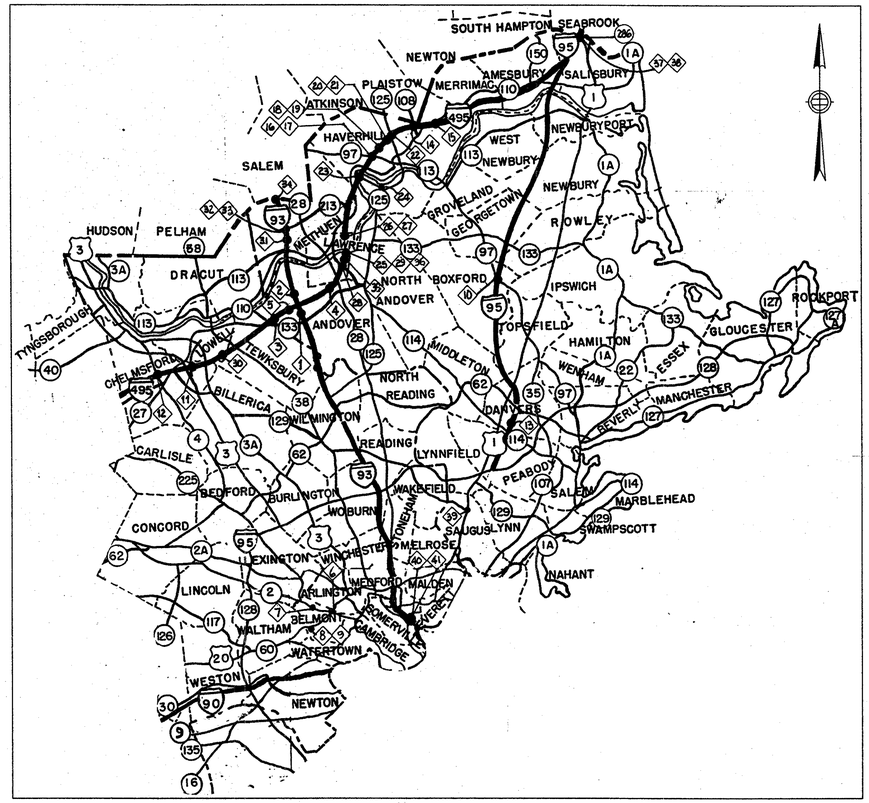
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

95561

DISTRICT FOUR
ESSEX & MIDDLESEX COUNTIES

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	17	34
PROJECT FILE NO. 600702					

BRIDGE TITLE SHEET



LOCATION MAP
(NOT TO SCALE)

GENERAL NOTES:

1. ALL DIMENSIONS AND DETAILS SHOWN FOR EXISTING STRUCTURES SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR.
2. THE BRIDGES AND ADJACENT ROADWAYS MUST BE KEPT OPEN TO TRAFFIC AT ALL TIMES.
3. PLANS FOR THE EXISTING BRIDGES MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MASS. HIGHWAY DEPARTMENT, TEN PARK PLAZA, BOSTON, MASS.
4. THE WORK DONE UNDER THIS CONTRACT SHALL CONFORM TO THE STANDARD DRAWINGS FOR INSTALLATION OF BRIDGE JOINT SYSTEMS (SHEETS 2 THROUGH 16 OF 34 SHEETS). ALL NUMBERED SECTIONS AND LETTERED DETAILS REFERRED TO IN THESE PLANS ARE LOCATED ON THE STANDARD DRAWINGS.

LIST OF BRIDGES:

LOCATION	FUNDS	BRIDGE NUMBER	CITY OR TOWN	LOCATION
1.	IM	A-9-27 (2YW)	ANDOVER	HIGH PLAIN RD. / I-93
2.	IM	A-9-28 (2YY)	ANDOVER	CHANDLER RD. / I-93
3.	IM	A-9-30 (2XM & 2XN)	ANDOVER	I-495 / HAGGETTS POND RD.
4.	IM	A-9-35 (305)	ANDOVER	CORBETT ST. / I-495
5.	IM	A-9-40 (2YX)	ANDOVER	HIGH PLAIN RD. / I-495
6.	NHS	A-10-12=B-7-3 (2DN)	ARLINGTON-BELMONT	RTE. 60 PLEASANT ST. / RTE. 2
7.	NHS	A-10-20=B-7-7 (2LK)	ARLINGTON-BELMONT	PARK AVE. / RTE. 2
8.	NFA	B-7-4 (2MP)	BELMONT	TRAPELO RD. / MBTA R.R.
9.	NFA	B-7-6 (2MN)	BELMONT	LEXINGTON ST. / MBTA R.R.
10.	IM	B-19-14 (30D)	BOXFORD	RTE. 97 KILLAM HILL RD. / I-95
11.	NFA	C-8-30 (2JG)	CHELMSFORD	RAMP B-11 / I-495
12.	NFA	C-8-37 (2K7)	CHELMSFORD	RTE. 4 NORTH RD. / I-495
13.	IM	D-3-32 (30K)	DANVERS	CENTRE ST. / I-95
14.	IM	H-12-34 (2WR & 2WT)	HAVERHILL	I-495 / RTE. 108 NEWTON RD.
15.	IM	H-12-35 (2WY & 2WU)	HAVERHILL	I-495 / RTE. 110 AMESBURY RD.
16.	IM	H-12-42 (30G)	HAVERHILL	RTE. 97 BROADWAY / I-495 NB
17.	IM	H-12-43 (30H)	HAVERHILL	RTE. 97 BROADWAY / I-495 SB
18.	IM	H-12-44 (313)	HAVERHILL	NORTH BROADWAY / I-495 SB
19.	IM	H-12-45 (312)	HAVERHILL	NORTH BROADWAY / I-495 NB
20.	IM	H-12-48 (2WQ)	HAVERHILL	I-495 SB / LITTLE RIVER & MBTA R.R.
21.	IM	H-12-49 (2WP)	HAVERHILL	I-495 NB / LITTLE RIVER & MBTA R.R.
22.	IM	H-12-50 (2TM)	HAVERHILL	RTE. 125 NORTH MAIN ST. / I-495
23.	IM	H-12-56 (2RV & 2RU)	HAVERHILL	RTE. 125 CONN. / I-495
24.	NHS	H-12-57 (2RT & 2RR)	HAVERHILL	RTE. 125 CONN. / OLD FERRY RD. & MBTA R.R.
25.	IM	L-4-37=N-15-16 (2XB)	LAWRENCE-N. ANDOVER	I-495 / MERRIMAC ST. & MBTA R.R.
26.	IM	L-4-39 (2X7 & 2X8)	LAWRENCE	I-495 / RAMPS A & B
27.	IM	L-4-40 (2XA & 2X9)	LAWRENCE	I-495 / TRAINING SCHOOL RD.
28.	IM	L-4-41 (2X3 & 2X4)	LAWRENCE	I-495 / RTE. 114 WINTHROP AVE.
29.	IM	L-4-44=N-15-17 (2XC)	LAWRENCE	I-495 SB RAMP L / MERRIMACK ST. & MBTA R.R.
30.	IM	L-15-85 (2L7)	LOWELL	BOYLSTON ST. / I-495
31.	IM	M-17-20 (2UT)	METHUEN	I-93 / PELHAM ST.
32.	IM	M-17-21 (2UU)	METHUEN	I-93 / RTE. 213 EB
33.	IM	M-17-23 (2UV)	METHUEN	I-93 / RTE. 213 WB
34.	IM	M-17-27 (2UX)	METHUEN	I-93 / HAMPSHIRE RD.
35.	IM	N-15-15 (2XJ)	N. ANDOVER	I-495 / MASSACHUSETTS AVE.
36.	IM	N-15-18 (2XK)	N. ANDOVER	I-495 NB RAMP N / SUTTON ST. & MBTA R.R.
37.	IM	S-2-7 (31N)	SALISBURY	SB CONNECTOR / I-95
38.	IM	S-2-8 (31P)	SALISBURY	RTE. 286 MAIN ST. / I-95
39.	NHS	S-5-16 (31C)	SAUGUS	RTE. 129 WALNUT ST. / US-1
40.	IM	S-17-31 (3BH)	SOMERVILLE	I-93 ASSEMBLY SQUARE VIADUCT
41.	IM	S-17-35 (3BJ)	SOMERVILLE	I-93 SB OFF-RAMP RD / MYSTIC AVE. SB

ESTIMATED QUANTITIES
(NOT GUARANTEED)

JOINT FILLER COMPOUND	6632	LINEAR FEET
PREFORMED ELASTOMERIC COMPRESSION JOINT SEALER	1312	LINEAR FEET
PREFORMED ELASTOMERIC STRIP JOINT SEALER	200	LINEAR FEET
PREFORMED JOINT FILLER	8328	LINEAR FEET
PRESSURE INJECTION OF VOIDS UNDER ARMORED JOINT ANGLES	3663	LINEAR FEET
STRUCTURAL STEEL REPAIRS	4500	POUNDS
WELDING	86	HOURS
UNCLASSIFIED EXCAVATION	91	CUBIC YARDS
REINFORCED CONCRETE EXCAVATION	197	CUBIC YARDS
BRIDGE PAVEMENT EXCAVATION	1854	SQUARE YARDS
BITUMINOUS CONCRETE FOR PATCHING	305	TONS
ASPHALTIC BRIDGE JOINT SYSTEM	4666	LINEAR FEET
ELASTOMERIC BRIDGE JOINT SYSTEM	5765	LINEAR FEET
ARMORED BRIDGE JOINT SYSTEM WITH STRIP SEAL	173	LINEAR FEET
SAWCUT AND SEAL JOINTS IN BITUMINOUS CONCRETE PAVEMENT	377	LINEAR FEET
HOT POURED JOINT SEALER	1696	LINEAR FEET
CURB REMOVED AND RESET	100	LINEAR FEET
CONCRETE SIDEWALK	43	SQUARE YARDS
RAPID-SETTING CONCRETE	197	CUBIC YARDS
STEEL REINFORCEMENT FOR STRUCTURES (EPOXY COATED)	5250	POUNDS
CORING AND GROUTING DOWELS	260	LINEAR FEET
MEMBRANE WATERPROOFING (RUBBERIZED ASPHALT)	704	SQUARE YARDS
WATERPROOFING PROTECTIVE COURSE	441	SQUARE YARDS
PROTECTIVE SHIELDING	710	SQUARE YARDS

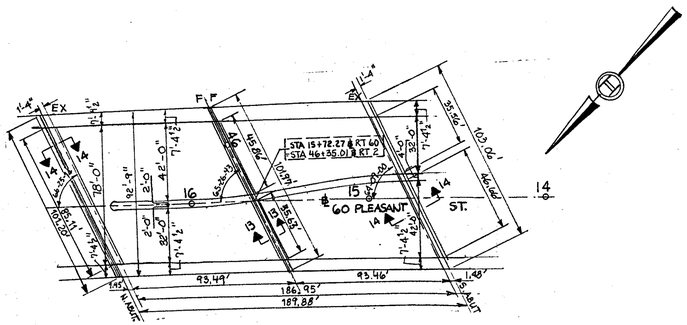
DESIGNED BY	ISSUED FOR CONSTRUCTION
E. MIESSNER	
DRAWN BY	MASS HIGHWAY
E. MIESSNER	INSTALLATION OF BRIDGE JOINT SYSTEMS
CHECKED BY	**ESSEX AND MIDDLESEX COUNTIES**
	41 LOCATIONS
SPECS BY	ON VARIOUS HIGHWAYS
E. MIESSNER	THE COMMONWEALTH OF MASSACHUSETTS
APPROVED FOR DESIGN	MASSACHUSETTS HIGHWAY DEPARTMENT
	10 PARK PLAZA BOSTON, MASS

JOINTS\ESSEXSH1 12/8/94

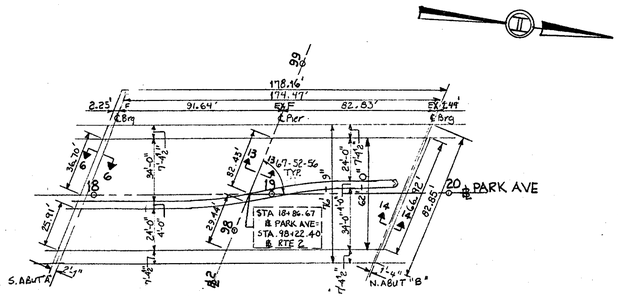
DISTRICT FOUR
ESSEX & MIDDLESEX COUNTIES

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	19	34
PROJECT FILE NO. 600702					

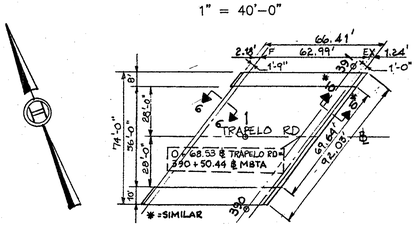
BRIDGE DECK PLANS
ARLINGTON–BELMONT–BOXFORD
CHELMSFORD–DANVERS



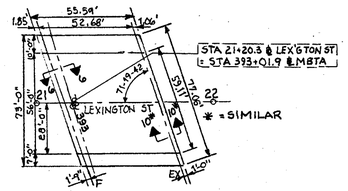
DECK PLAN A–10–12=B–7–3 (2DN)
RTE. 60 PLEASANT STREET / RTE. 2
1" = 40'–0"



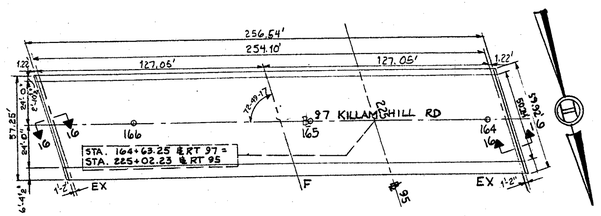
DECK PLAN A–10–20=B–7–7 (2LK)
PARK AVENUE / RTE. 2
1" = 40'–0"



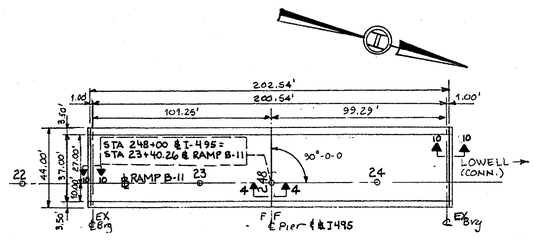
DECK PLAN B–7–4 (2MP)
TRAPELO ROAD / MBTA RAIL ROAD
1" = 40'–0"



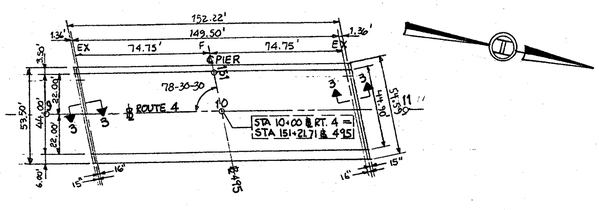
DECK PLAN B–7–6 (2MN)
LEXINGTON STREET / MBTA RAIL ROAD
1" = 40'–0"



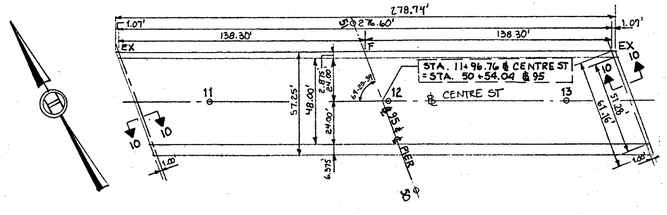
DECK PLAN B–19–14 (30D)
RTE. 97 KILLAM HILL ROAD / I–95
1" = 40'–0"



DECK PLAN C–8–30 (2JG)
RAMP B–11 / I–495
1" = 40'–0"



DECK PLAN C–8–37 (2K7)
RTE. 4 NORTH ROAD / I–495
1" = 40'–0"



DECK PLAN D–3–32 (30K)
CENTRE STREET / I–95
1" = 40'–0"

BRIDGE JOINT SCHEDULE A–10–12=B–7–3 (2DN)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
N. ABUT.	14–14	2 3/4"	8"	19"	15"	4"	–
CTR. PIER	13–13	1 1/8"	4"	14"	–	1 3/4"	–
S. ABUT.	14–14	2 3/4"	8"	19"	15"	4"	–

BRIDGE JOINT SCHEDULE A–10–20=B–7–7 (2LK)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
N. ABUT.	14–14	2 3/4"	8"	19"	15"	4"	–
CTR. PIER	13–13	2 3/4"	4 5/8"	15"	–	4"	–
S. ABUT.	6–6	0"	–	–	–	–	–

BRIDGE JOINT SCHEDULE B–7–4 (2MP)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
W. ABUT.	6–6	0"	–	–	–	–	–
E. ABUT.	10–10 SIMILAR	1 1/4"	1 7/8"	–	–	–	3"

BRIDGE JOINT SCHEDULE B–7–6 (2MN)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
S. ABUT.	6–6	0"	–	–	–	–	–
N. ABUT.	10–10 SIMILAR	1 1/4"	1 7/8"	–	–	–	3"

BRIDGE JOINT SCHEDULE B–19–14 (30D)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
W. ABUT.	16–16	2"	–	–	–	4"	–
E. ABUT.	16–16	2"	–	–	–	4"	–

BRIDGE JOINT SCHEDULE C–8–30 (2JG)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
S. ABUT.	10–10	2"	4"	–	–	–	–
CTR. PIER	4–4	1/2"	1"	–	–	–	–
N. ABUT.	10–10	2"	4"	–	–	–	–

BRIDGE JOINT SCHEDULE C–8–37 (2K7)

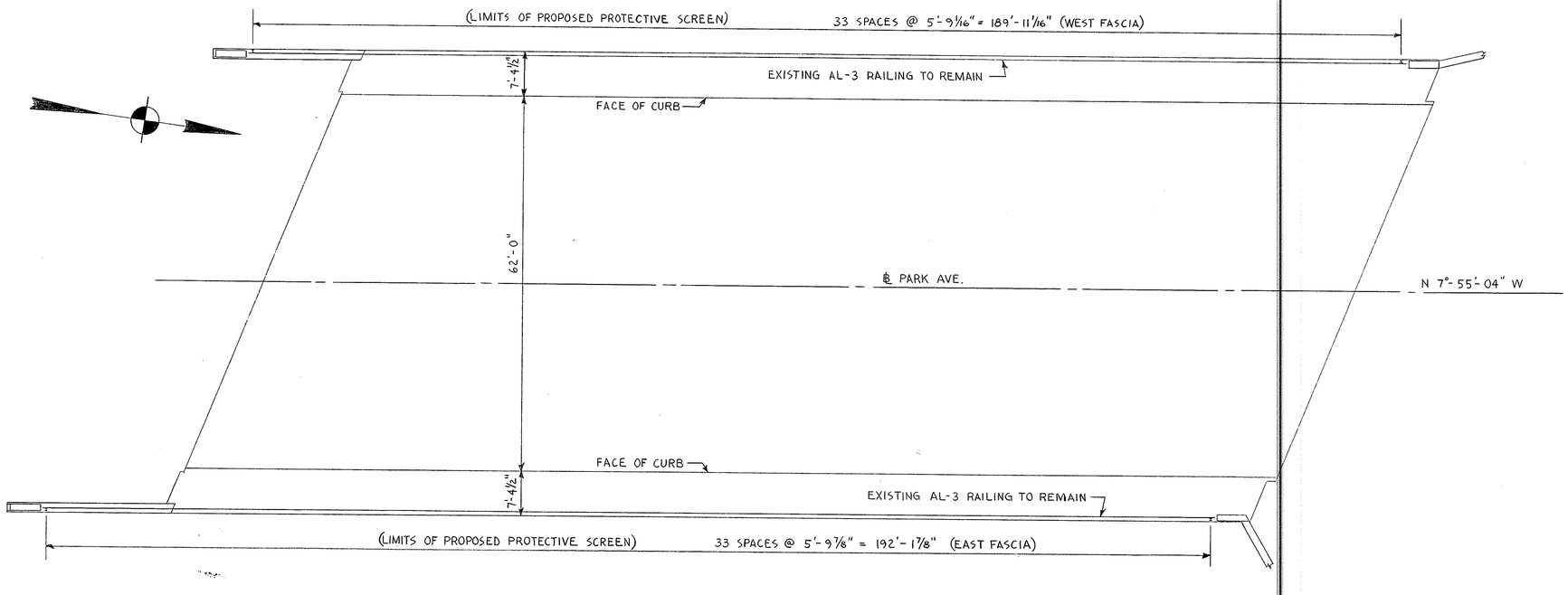
PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
S. ABUT.	3–3	1"	4"	–	–	–	–
N. ABUT.	3–3	1"	4"	–	–	–	–

BRIDGE JOINT SCHEDULE D–3–32 (30K)

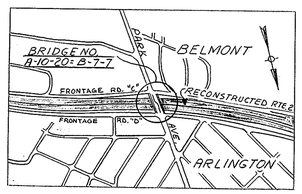
PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
W. ABUT.	10–10	2"	4"	–	–	–	–
E. ABUT.	10–10	2"	4"	–	–	–	–

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

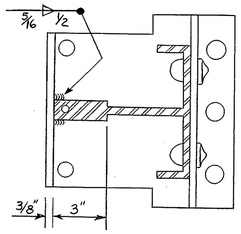
PUB. RD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.				



PLAN
SCALE: 3/32" = 1'-0"



LOCUS
SCALE: 1" = 800'



PROPOSED WELD AT EXISTING BASE PLATE
SCALE: 1/4" = 1"

+ GENERAL NOTES +

DIMENSIONS:
ALL DIMENSIONS AND DETAILS SHOWN FOR THE EXISTING STRUCTURE SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR.

PROTECTIVE SCREEN:
SEE DEPARTMENT STANDARD PLANS DATED DECEMBER, 1971 FOR DETAILS OF STANDARD PROTECTIVE SCREEN.

WELDING:
WELDING SHALL BE PERFORMED BY METAL INERT GAS ("MIG") PROCESS. ALL WELDING SHALL CONFORM TO THE SPECIFICATIONS FOR STRUCTURES OF ALUMINUM 'ALLOYS, ALUMINUM CONSTRUCTION MANUAL, SECTION A PUBLISHED BY "THE ALUMINUM ASSOCIATION" NEW YORK, N.Y.

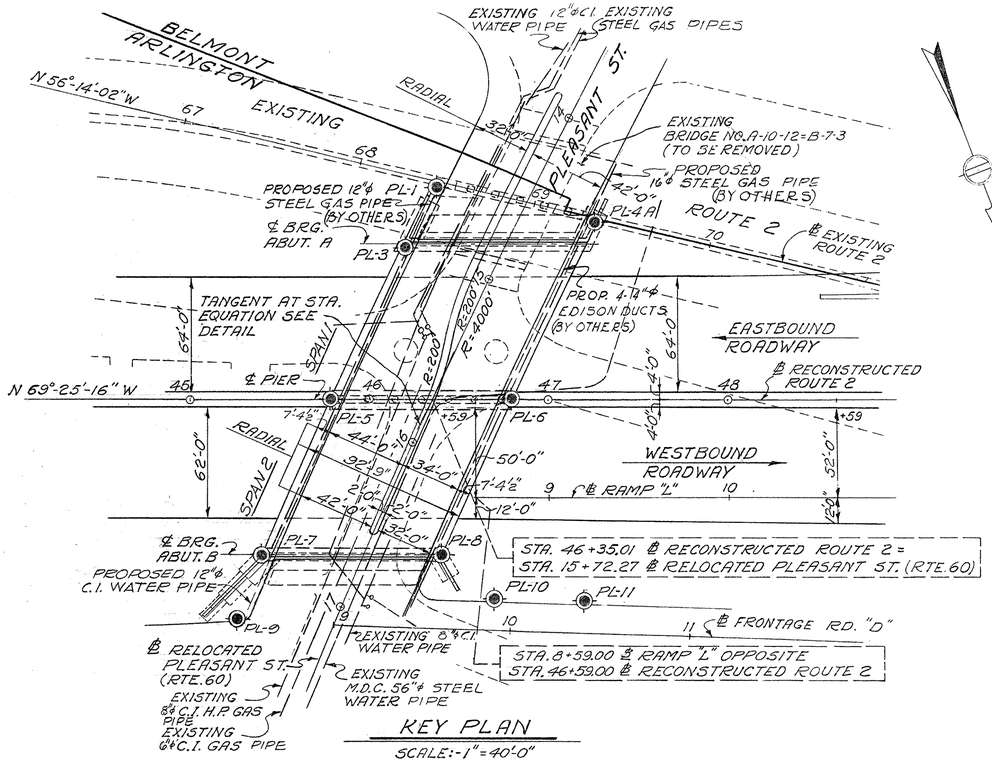
ESTIMATED QUANTITES
(NOT GUARANTEED)

PROTECTIVE SCREEN (CHAIN LINK) _ _ _ _ _ _ _ _ _ _ 382 LF
CHAIN LINK PANELS REMOVED AND STACKED _ _ _ _ _ _ _ 66 EA

DESIGNED BY HAXTON DRAWN BY HAXTON CHECKED BY O'CONNOR	FEB. 17, 1973	ISSUED FOR CONSTRUCTION
APPROVED FOR DESIGN MEDEIROS SPECS. FORTE	THE COMMONWEALTH OF MASSACHUSETTS PROPOSED ALTERATION ARLINGTON - BELMONT RTE. 2 UNDER PARK AVENUE INSTALLATION OF PROTECTIVE SCREEN SCALES AS NOTED OFFICE OF DEPARTMENT OF PUBLIC WORKS 100 NASHUA ST. BOSTON, MASS FEB. 1973 J. J. Ahern Jr. P.E. BRIDGE ENGINEER Justin P. Ridley P.E. ACT. CHIEF ENGINEER	

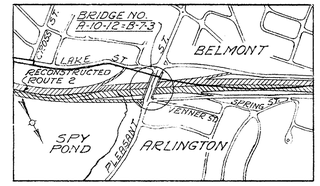
SHEET 1 OF 1 SHEETS BRIDGE NO. A-10-20 = B-7-7

PUB RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
I	MASS.	U-242(14)	19	182	600



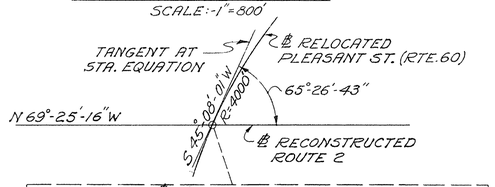
KEY PLAN

SCALE:-1"=40'-0"



LOCUS PLAN

SCALE:-1"=800'



STA. 46+35.01 ℄ RECONSTRUCTED ROUTE 2 = STA. 15+72.27 ℄ RELOCATED PLEASANT ST. (RTE.60)

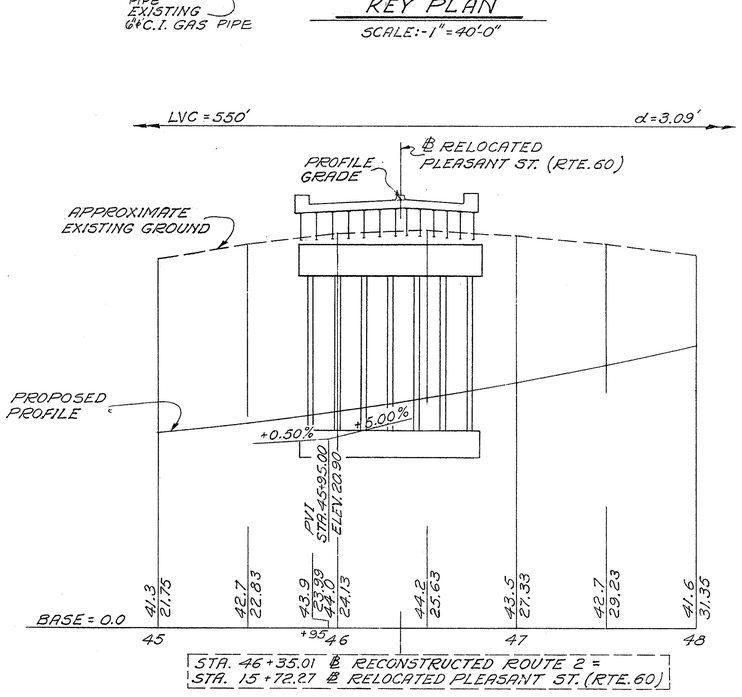
TANGENT DETAIL AT STATION EQUATION

NOT TO SCALE

CURVE DATA

℄ RELOC. PLEASANT ST. (RTE.60)

R = 4000'
Δ = 6°-23'-23"
T = 223.27'
L = 446.09'

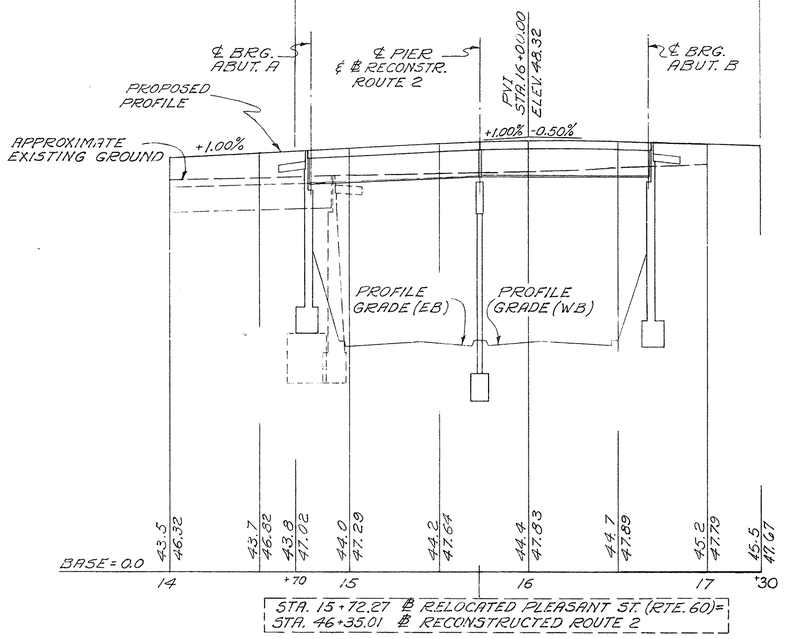


STA. 46+35.01 ℄ RECONSTRUCTED ROUTE 2 = STA. 15+72.27 ℄ RELOCATED PLEASANT ST. (RTE.60)

PROFILES - RECONSTRUCTED ROUTE 2

EASTBOUND ROADWAY (8' LEFT ℄) - WESTBOUND ROADWAY (8' RIGHT ℄)

SCALES:- HORIZ. 1" = 40'-0"
VERT. 1" = 8'-0"



STA. 15+72.27 ℄ RELOCATED PLEASANT ST. (RTE.60) = STA. 46+35.01 ℄ RECONSTRUCTED ROUTE 2

PROFILE - ℄ RELOCATED PLEASANT ST. (RTE.60)

SCALES:- HORIZ. 1" = 40'-0"
VERT. 1" = 8'-0"

GENERAL NOTES

BENCH MARK

(B.M. "A-44) EIGHT OUTER CORNER OF FIRST STEP (BRICK) HOUSE #17 VENNER ROAD. 240'±T. STA. 48+40 ℄ RECONSTRUCTED ROUTE 2 (ARLINGTON) ELEV. 49.043. (U.S.C.G.S. 1929 DATUM).

SURVEY NOTEBOOKS

℄: 16918 ; X-SECTIONS: 25875 ; DETAIL: 14864, 17018.

FOUNDATIONS

MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED IN CONSTRUCTION.

DATE & SEAL

TO BE PLACED ON THE INSIDE FACE OF THE NORTHWEST AND SOUTHEAST END POSTS A SHEET SHOWING THE SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. SEAL WILL BE FURNISHED BY THE COMMONWEALTH AND SET BY THE CONTRACTOR.

DESIGN

IN ACCORDANCE WITH THE 1961 SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS AND INTERIM SPECIFICATIONS FOR H20-44 LOADING.

REINFORCEMENT

ALL BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. SPECIFICATION A305. UNLESS OTHERWISE SHOWN ON THE PLANS, REINFORCING BARS SHALL BE LAPPED 20 DIAMETERS TO MAKE A SPLICE. EXCEPT THAT MAIN REINFORCING BARS NEAR THE TOP OF SLABS AND BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS SHALL BE LAPPED 35 DIAMETERS TO MAKE A SPLICE.

BRIDGE RAILINGS

SEE DEPARTMENT STANDARD PLANS, DATED OCT. 1966 FOR DETAILS OF BRIDGE RAILINGS.

UNSUITABLE MATERIAL

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE.

SCALES

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR ½ SIZE PRINTS.

ANCHOR BOLTS

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE AND PLACED BEFORE THE CONCRETE IS POURED EXCEPT WHERE NOTED ON SHEET 8.

ESTIMATED QUANTITIES

(NOT GUARANTEED)

CLASS B ROCK EXCAVATION	10 C.Y.
BRIDGE EXCAVATION	980 C.Y.
GRAVEL BORROW	1480 C.Y.
GRAVEL BORROW FOR BRIDGE FOUNDATIONS	170 C.Y.
CLASS I BITUMINOUS CONCRETE PAVEMENT TYPE I-1	113 TONS
CLASS I DENSE PROTECTIVE BOTTOM COURSE FOR BRIDGES	115 TONS
METAL BRIDGE RAILING (3 RAILS) OPTION	488 L.F.
REMOVAL OF PRESENT BRIDGE (BRIDGE NO. A-10-12=B-7-3)	1 L.S.
BRIDGE STRUCTURE (BRIDGE NO. A-10-12=B-7-3)	1 L.S.
ESTIMATED WEIGHT OF REINFORCING STEEL	239,000 LBS.
ESTIMATED WEIGHT OF STRUCTURAL STEEL	815,300 LBS.

THESE QUANTITIES ARE PART OF ITEM 995.01 BRIDGE STRUCTURE (BRIDGE NO. A-10-12=B-7-3) AND ARE NOT GUARANTEED.

NOTE: PLANS OF EXISTING BRIDGE MAY BE SEEN AT THE M.D.P.W. 100 NASHUA ST. BOSTON, MASS. ROOM 609

DESIGNED BY R.L.M. CHECKED BY J.A.O.D.
DRAWN BY E.K. GEOMETRICS R.L.M.

JAN. 28, 1967 | ISSUED FOR CONSTRUCTION

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE

ARLINGTON - BELMONT

RECONSTRUCTED ROUTE 2
UNDER
RELOCATED PLEASANT ST. (RTE. 60)

SCALES: AS NOTED

OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST., BOSTON 14, MASS.
JAN. 1967

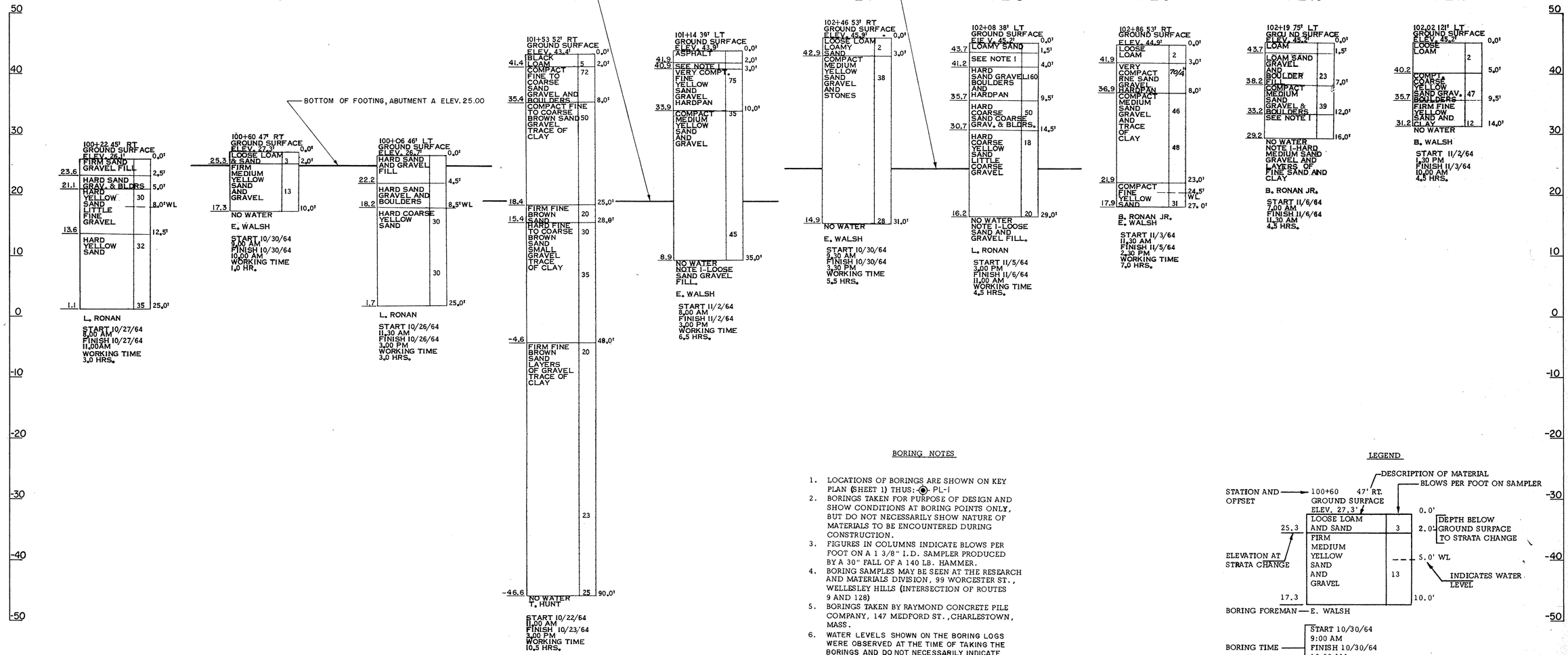
COMMONWEALTH OF MASSACHUSETTS · WILLIAM A. MENDERSON No. 3905 · REGISTERED PROFESSIONAL ENGINEER

UNIVERSAL ENGINEERING CORPORATION
DESIGNING ENGINEERS
38 CHAUNCY STREET
BOSTON 11, MASS.

R.J. McDonough BRIDGE ENGINEER
Donald Hayes P.E. CHIEF ENGINEER

SHEET 1 OF 14 SHEETS - BRIDGE NO. A-10-12 = B-7-3

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	183	600



BORING NOTES

1. LOCATIONS OF BORINGS ARE SHOWN ON KEY PLAN (SHEET 1) THUS: ⊙ PL-1
2. BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW NATURE OF MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON A 1 3/8" I.D. SAMPLER PRODUCED BY A 30" FALL OF A 140 LB. HAMMER.
4. BORING SAMPLES MAY BE SEEN AT THE RESEARCH AND MATERIALS DIVISION, 99 WORCESTER ST., WELLESLEY HILLS (INTERSECTION OF ROUTES 9 AND 128)
5. BORINGS TAKEN BY RAYMOND CONCRETE PILE COMPANY, 147 MEDFORD ST., CHARLESTOWN, MASS.
6. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING THE BORINGS AND DO NOT NECESSARILY INDICATE THE TRUE GROUND WATER LEVEL.

LEGEND

BORING DATA

VERTICAL SCALE: 1/8" = 1'-0"

DESIGNED BY R.L.M. CHECKED BY R.L.M.
DRAWN BY E.K. GEOMETRICS R.L.M.

DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	184	600

SPAN 1

SPAN 2

℄ BRG (EXP.) ABUT. A

15'-3⅝"

64'-0" EASTBOUND ROADWAY

℄ PIER & ℄ RECONSTRUCTED ROUTE 2

℄ BRG. (FIXED)

℄ BRG. (FIXED)

2'-6"

7¼"

2'-6"

62'-0" WESTBOUND ROADWAY

RADIAL

18'-2¾"

℄ BEG. (EXP.) ABUT. B

EDGE OF CURB

DATE & SEAL SEE DETAIL, SHEET 4

LIMIT OF CLASS "D" CEM. CONC. SIDEWALK.

EDGE OF GRANITE CURB

PARAFFIN JOINT (TYP.)

15'0" APPROACH SLAB

STA. 15+72.27 ℄ RELOCATED PLEASANT ST. (RTE. 60) = STA. 46+35.01 ℄ RECONSTRUCTED ROUTE 2

℄ 4-4"ϕ EDISON DUCTS (BY OTHERS)

℄ 16" ϕ GAS PIPE (BY OTHERS)

34'-0"

GRANITE EDGING AT END OF MEDIAN (SEE DETAIL)

15'0" APPROACH SLAB

℄ RELOCATED PLEASANT ST. (RTE. 60)

W.P. STA. 14+78.81

+94.00

15

PROFILE GRADE & CROWN LINE

65°26'-43" (TO TANGENT)

+40.60

W.P. STA. 15+72.27

+82.88

PRC

16

R=4000'

EDGE OF BENT ℄

+54.00

W.P. STA. 16+65.76

17

10'0"

PARAFFIN. JOINT (TYP.)

9"

PRC

2.200'

2'-0"

R=2'-0"

R=401.0'

PCC

2.200'

40'

PARAFFIN JOINTS - 3 SPACES @ 20'0"

TANGENT AT STA. EQUATION

EDGE OF BENT ℄

PARAFFIN JOINTS 2 SPACES @ 20'0"

20'0"

MEDIAN (NOT A BRIDGE ITEM)

84'-6⅝" ℄ BRG. ABUT. TO ℄ PIER

92'-9"

85'-5¾" ℄ PIER TO ℄ BRG. ABUT.

44'-0"

CURBING AND SIDEWALKS AT ABUT. B NOT A BRIDGE ITEM (TYP. 2 CORNERS)

℄ 12"ϕ GAS PIPE (BY OTHERS)

℄ 12"ϕ WATER PIPE

PRESENT BRIDGE TO BE REMOVED.

LIMIT OF CLASS "D" CEM. CONC. SIDEWALK

EDGE OF GRANITE CURB

JUNCTION BOX

PARAFFIN JOINT (TYP.)

DATE & SEAL

EDGE OF CURB

RADIAL

11"

3" 8"

#5 CURB ANCHORS (2 PER SECTION)

6"

SAWN FACE

12"

7"

6¼"

SPLIT FACE

2"MORTAR BED

¾"

BIT. CONC.

4'-0" (TYP.)

LIMITS OF SPECIAL SLOPE PAVING

SPECIAL PULL-BOX CAST IN SIDEWALK OPPOSITE STA. 16+00 (SEE HIGHWAY DRWGS. FOR DETAILS)

S 69°25'16" E

3" SIGNAL & LIGHTING CONDUIT (SEE SHEET 13 FOR TYPICAL DETAILS, AND SEE SPECIAL PROVISIONS

LIMITS OF SPECIAL SLOPE PAVING

NOTE: LIGHTING CONDUIT, JUNCTION BOXES ETC. ARE NOT A BRIDGE ITEM.

PLAN

SCALE:- 3/32"=1'-0"

RAILING SPACING MEASURED ALONG THIS LINE

FACE OF COPING

8½" ASSUMED

2'-5 7/16"

℄ POST

2'-10"

4'-0"

BEND RAILS HERE

3'-1⅜"

3'-2¼"

TYPICAL RAILING LAYOUT ON SPLAYED WINGWALLS

NOT TO SCALE

NOTES:

1. POINTS OF MINIMUM VERTICAL CLEARANCE INDICATED THUS: ⊗
2. RAILING POST AND PARAFFIN JOINT SPACING ARE MEASURED ALONG AN ARC 8½" INSIDE THE FACE OF COPING.

GRANITE EDGING DETAIL

SCALE:- ¾"=1'-0"

271'-10½" (EAST SIDE)

240'-9⅝" (WEST SIDE)

41 SPACES @ 6'-3⅞" = 259'-2⅝" (EAST SIDE)

36 SPACES @ 6'-4" = 228'-0" (WEST SIDE)

METAL BRIDGE RAILING SPACING. (AL-3 OR ST-3)

10'-8"

11'-11 1/16"

PARAFFIN JOINT SPACING

4 SPACES @ 19'-0" = 76'-0"

18'-7½"

19'-1⅛"

18'-7⅝"

19'-0¾"

4 SPACES @ 19'-0" = 76'-0"

EAST SIDE

WEST SIDE

℄ JOINT

℄ JOINT

℄ JOINT

10'-3"

11'-11 1/16"

EXPANSION JOINTS IN RAILINGS

(SEE ELEVATION VIEW OF RAILING)

⊗ = REQUIRED EA. SIDES

x = LOCATION FOR EAST SIDE

WEST SIDE SIMILAR, 3 PANEL MIN.

APPROXIMATE EXISTING GROUND

SQ.

64'-0" ROADWAY

8'-0" MEDIAN

62'-0" ROADWAY

3'-0"

12'-0"

12'-0"

12'-0"

12'-0"

12'-0"

12'-0"

4'-0"

4'-0"

12'-0"

12'-0"

12'-0"

10'-0"

3'-0"

SLOPE 2:1 (NORMAL) TYP.

ELEV. 35.50

ELEV. 30.00

ELEV. 24.50

ELEV. 25.00

½"/FT.

¼"/FT.

1½"/FT.

¼"/FT.

PROFILE GRADE

¼"/FT.

CROWN

¼"/FT.

7" (TYP.)

⅜"/FT.

½"/FT.

MIN. VERTICAL CLEARANCE = 14'-8½"

CROWN

PROFILE GRADE

ELEV. 19.00

MIN. VERTICAL CLEARANCE = 16'-3¼"

SPECIAL SLOPE PAVING (NOT A BRIDGE ITEM.)

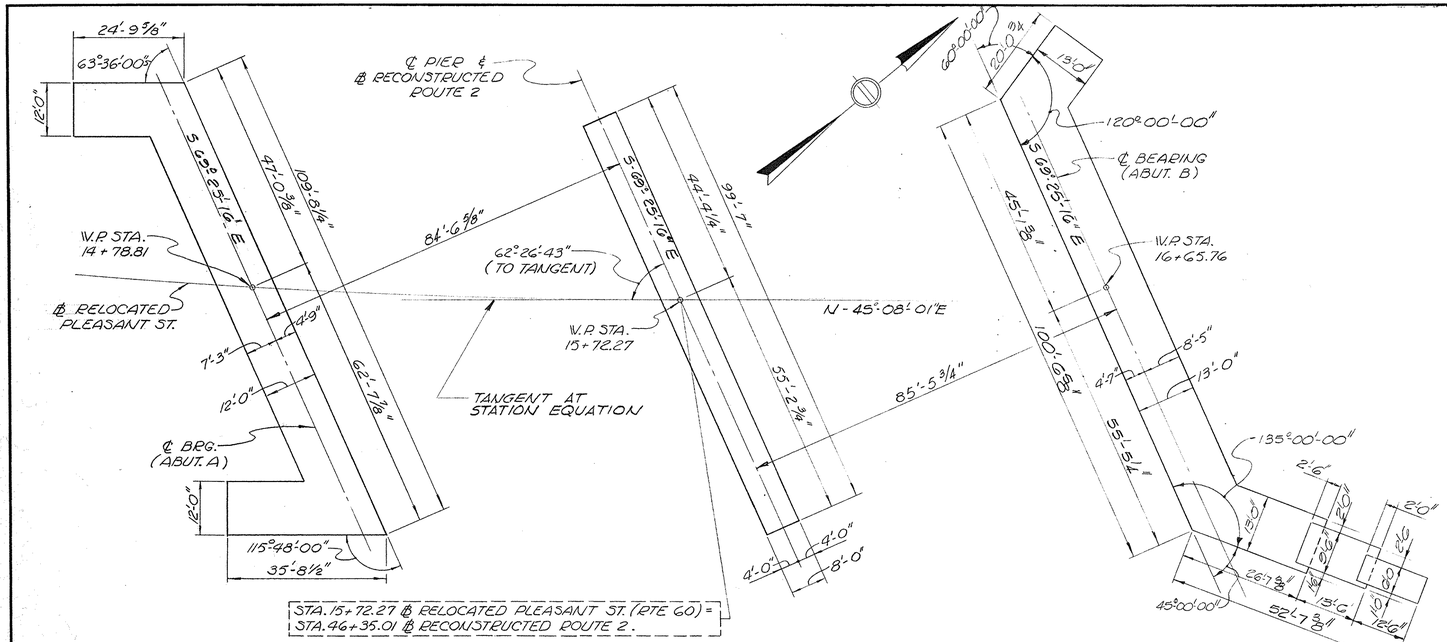
ELEVATION

SCALE:- 3/32" = 1'-0"

DESIGNED BY	P.W.P.	CHECKED BY	J.A.O'D.
DRAWN BY	E.K.	GEOMETRICS	P.W.P.

DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

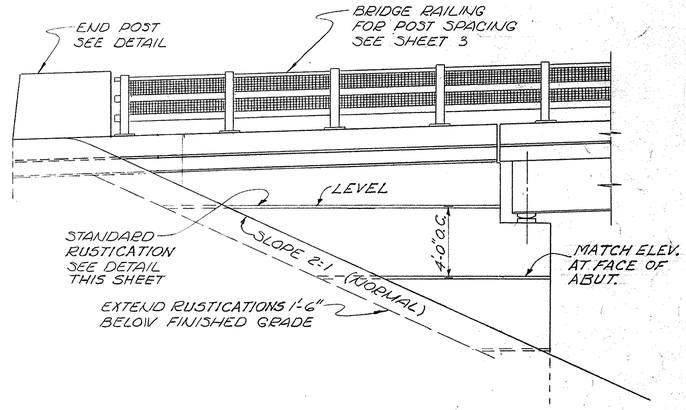
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	I-242(14)	19	185	600



FOOTING PLAN

NOT TO SCALE

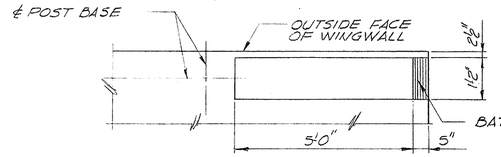
STA. 15+72.27 ℄ RELOCATED PLEASANT ST. (PTE 60) = STA. 46+35.01 ℄ RECONSTRUCTED ROUTE 2.

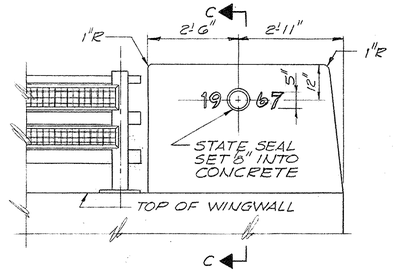


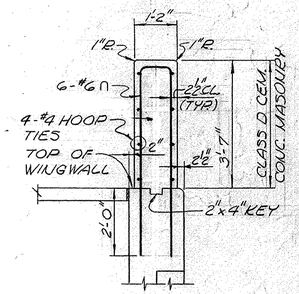
TYPICAL WINGWALL ELEVATION

ABUTMENTS A & B

SCALE: 1/4" = 1'-0"







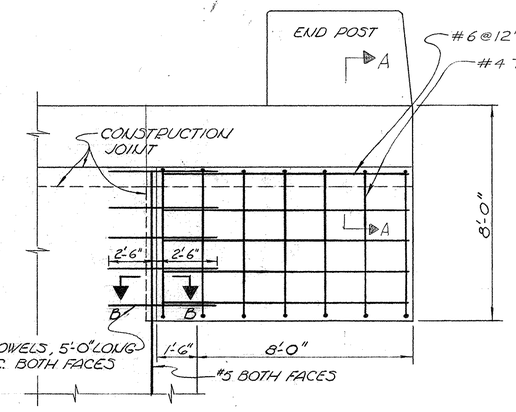
SECTION C-C

END POST DETAILS

SCALE: 1/2" = 1'-0"

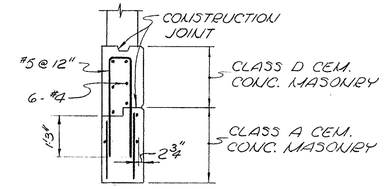
NOTE:

TWO STATE SEALS REQUIRED, SEE SHEET 3 FOR LOCATIONS. SEALS SHALL BE FURNISHED BY THE COMMONWEALTH AND SET BY THE CONTRACTOR.

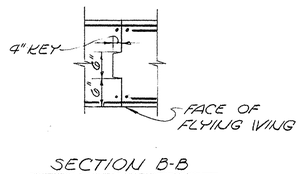


NOTES:

1. FOR WINGWALL REINFORCEMENT, SEE TYPICAL WINGWALL SECTIONS, SHEET 7.
2. FILL SHALL BE PLACED AND THOROUGHLY COMPACTED TO THE GRADE OF THE BOTTOM OF THE WINGS; OR WHERE NO FILL IS REQUIRED BELOW THE WINGS, THE CONCRETE SHALL BE PLACED UPON UNDISTURBED SOIL.



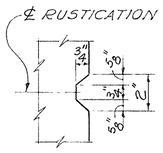
SECTION A-A



SECTION B-B

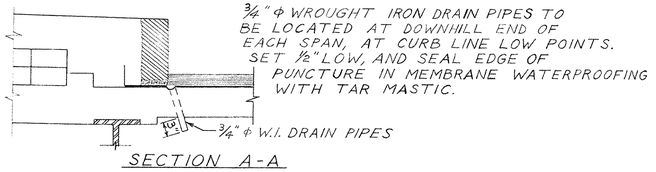
FLYING WING DETAILS

NOT TO SCALE

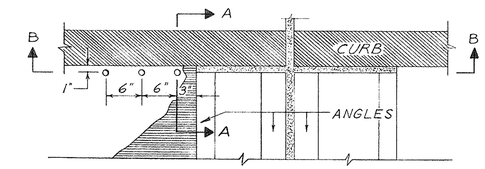


RUSTICATION DETAIL

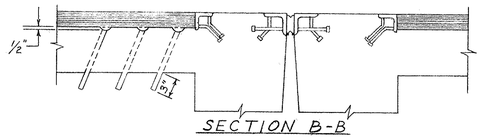
SCALE: 3" = 1'-0"



SECTION A-A



PLAN OF DECK DETAIL AT CURB



SECTION B-B

DETAIL OF DRAIN PIPES THROUGH DECK SLAB

SCALE: ¾" = 1'-0

DESIGNED BY P.N.P. CHECKED BY J.A.O'D
DRAWN BY W.R.D. GEOMETRICS P.N.P.

DATE	DESCRIPTION
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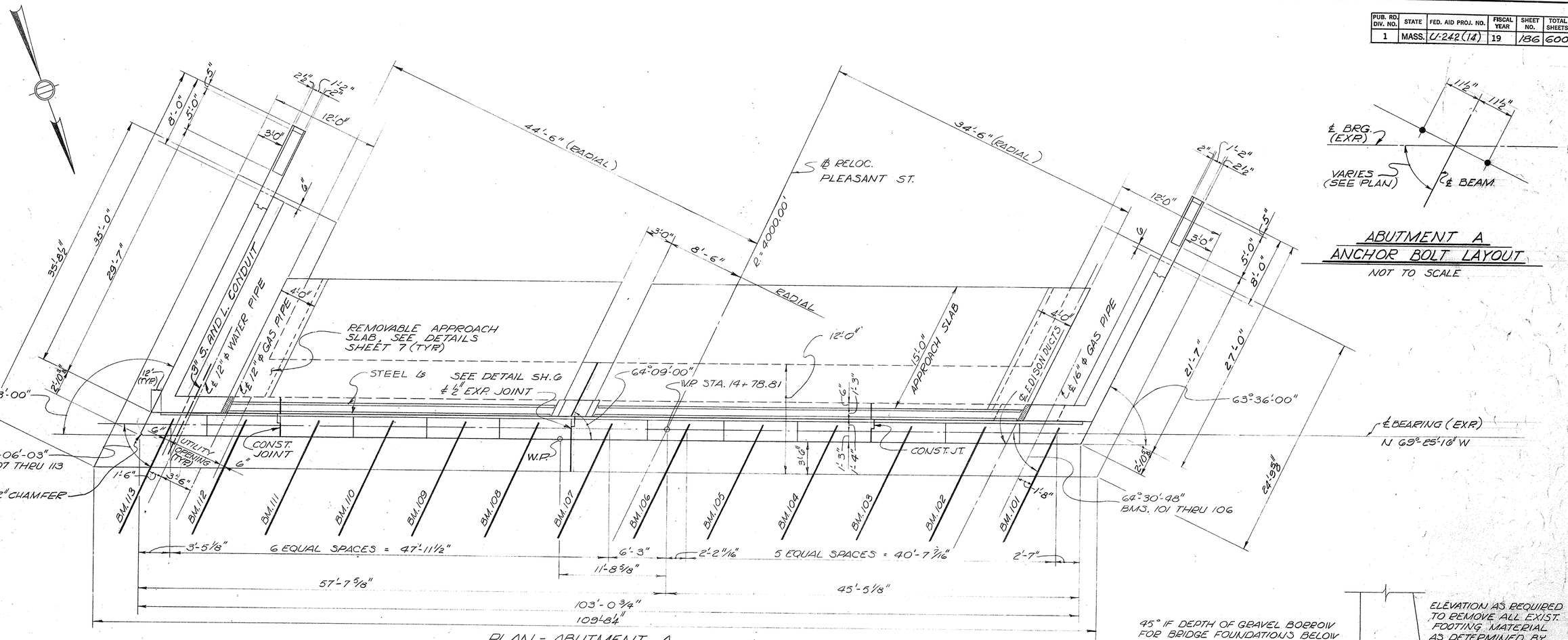
1	MASS.	U-242(14)	19	186	600

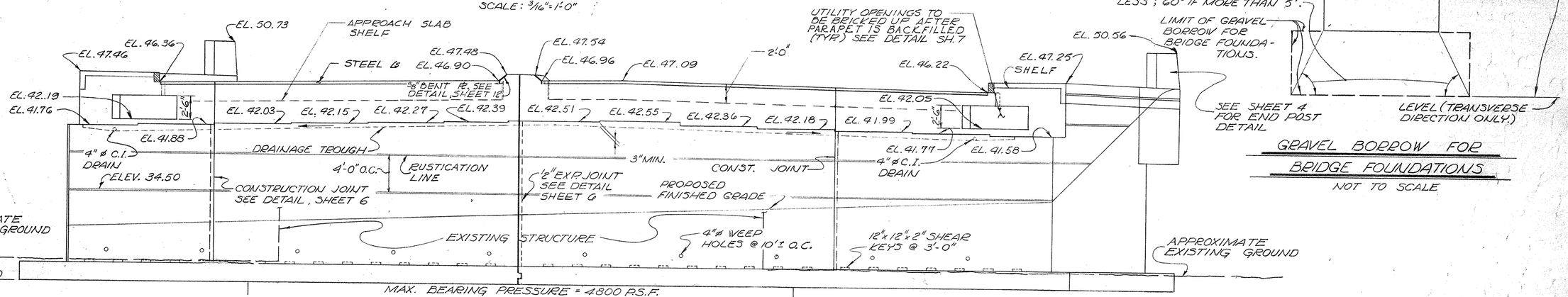


PLAN - ABUTMENT A

SCALE: 3/16"=1'-0"

ABUTMENT A
ANCHOR BOLT LAYOUT

NOT TO SCALE



ELEVATION - ABUTMENT A

SCALE: 3/16"=1'-0"

GRAVEL BORROW FOR BRIDGE FOUNDATIONS

NOT TO SCALE

DESIGNED BY P.N.P. CHECKED BY J.A.O.D.
DRAWN BY W.K.D. GEOMETRICS P.N.P.

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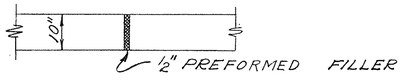
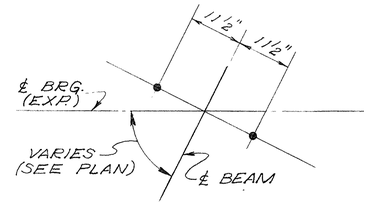
1	MASS.	U-242(14)	19	187	600



SECTION D-D

NOT TO SCALE



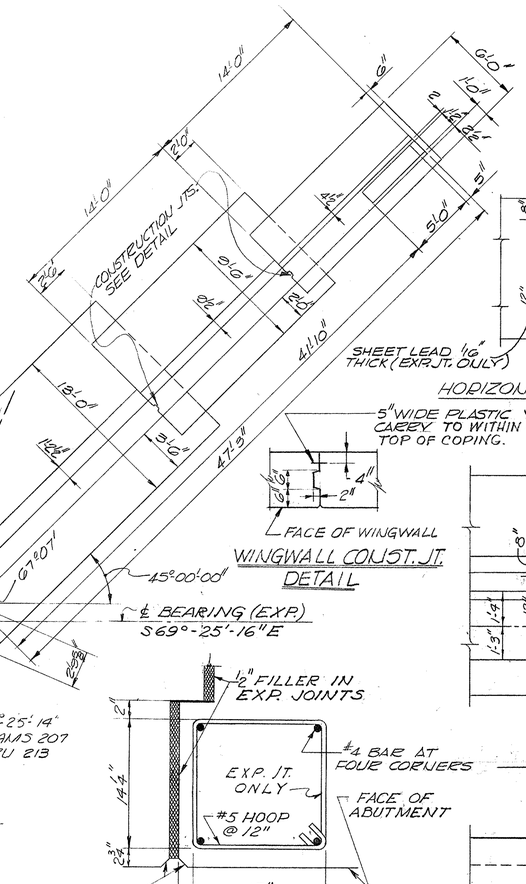
ABUTMENT B

ANCHOR BOLT LAYOUT

NOT TO SCALE

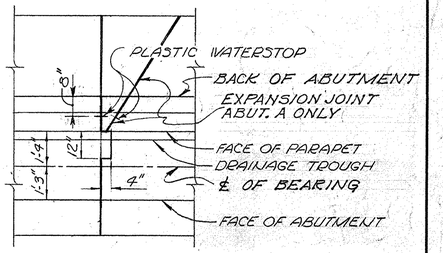
PLAN - ABUTMENT B

SCALE: 3/16" = 1'-0"



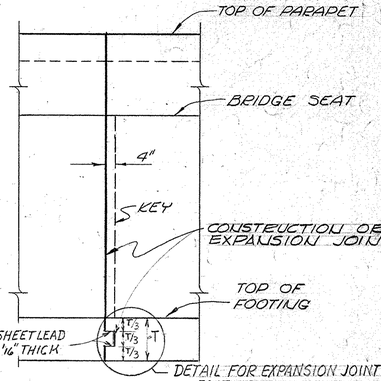
HORIZONTAL SECTION

WINGWALL CONST. JT. DETAIL



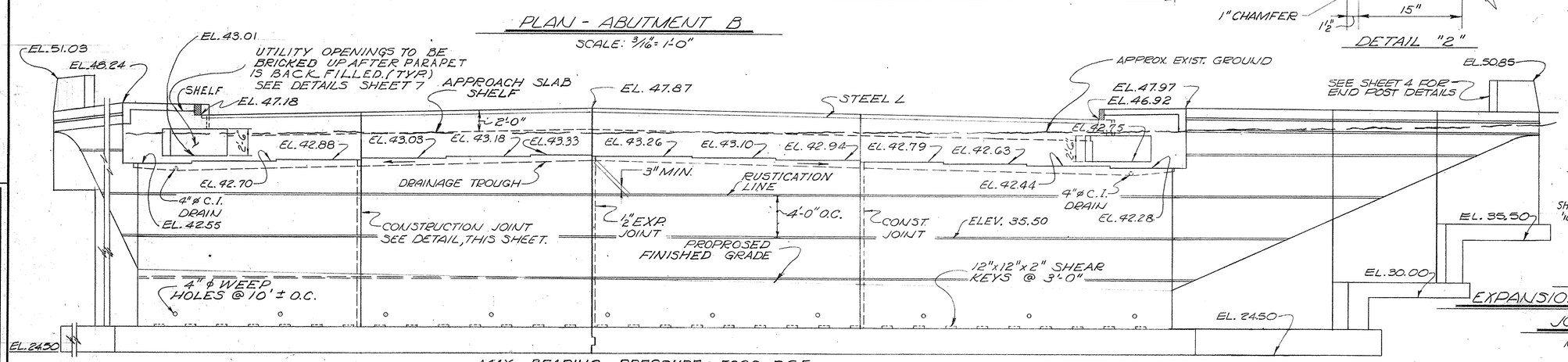
PLAN

DETAIL "2"



ELEVATION ABUTMENT EXPANSION & CONSTRUCTION JOINT DETAILS

NOT TO SCALE



MAX. BEARING PRESSURE = 5300 P.S.F.

ELEVATION - ABUTMENT B

SCALE: 3/16" = 1'-0"

DESIGNED BY P.N.P. CHECKED BY J.A.O'D.
DRAWN BY W.R.D. GEOMETRICS P.N.P.

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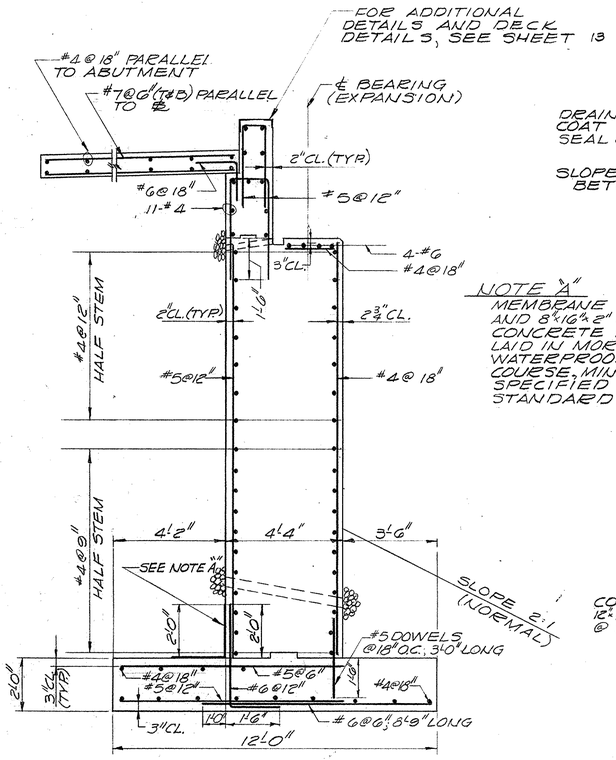
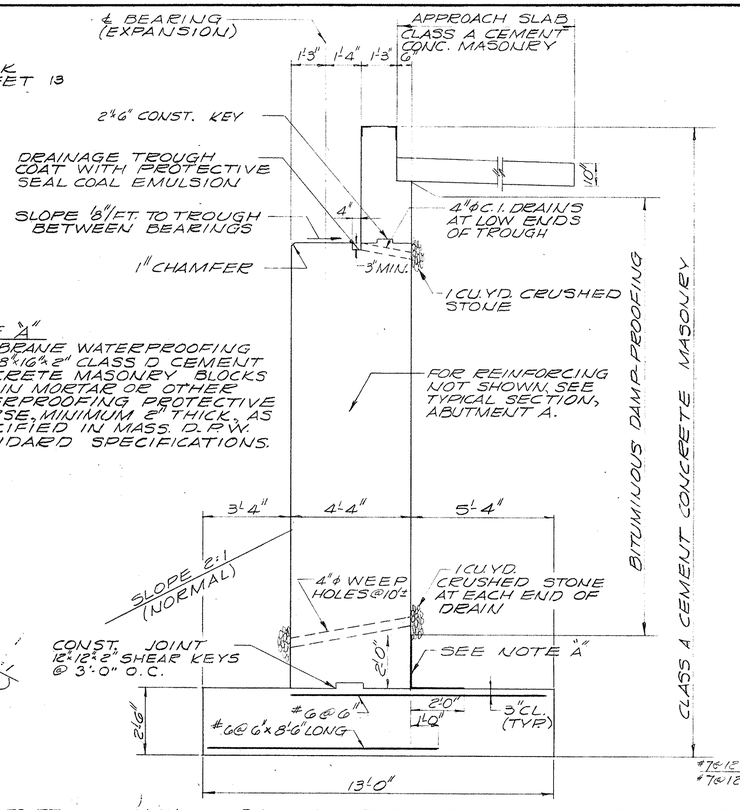
1	MASS.	U-242(14)	19	188	600



MAXIMUM BEARING PRESSURE = 4800 LBS. PER SQ. FT.

TYPICAL SECTION - ABUTMENT A

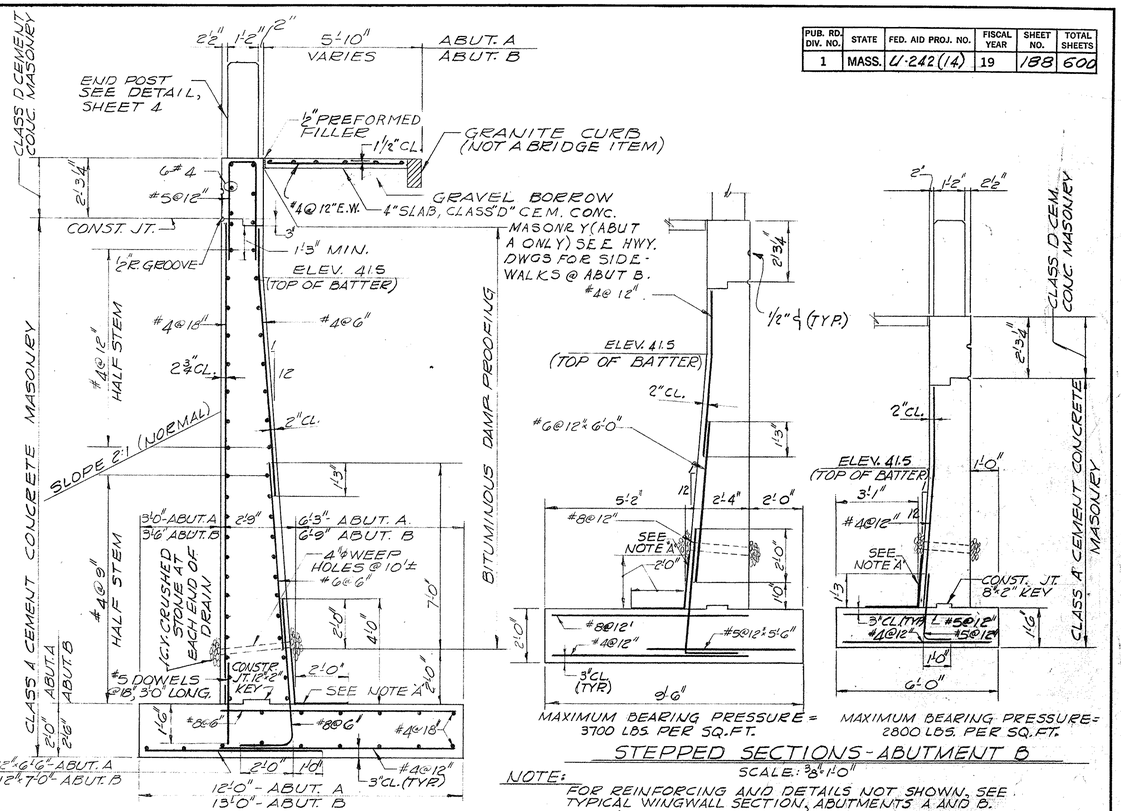
SCALE: 3/8" = 1'-0"



MAXIMUM BEARING PRESSURE = 5300 LBS. PER SQ. FT.

TYPICAL SECTION - ABUTMENT B

SCALE: 3/8" = 1'-0"



MAXIMUM BEARING PRESSURE = 4100 LBS. PER SQ. FT. (ABUT. A)
MAXIMUM BEARING PRESSURE = 4000 LBS. PER SQ. FT. (ABUT. B)

TYPICAL WINGWALL SECTION ABUTMENTS A & B

SCALE: 3/8" = 1'-0"

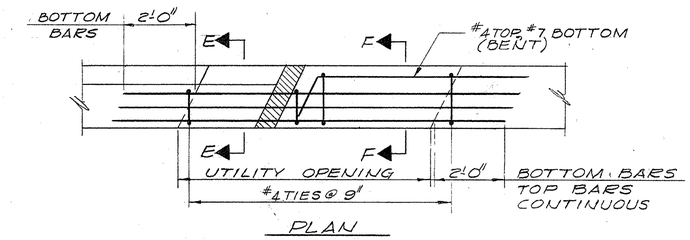
MAXIMUM BEARING PRESSURE = 3700 LBS. PER SQ. FT.

MAXIMUM BEARING PRESSURE = 2800 LBS. PER SQ. FT.

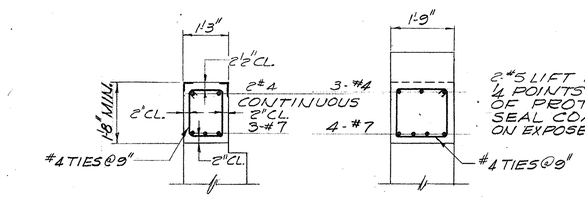
STEPPED SECTIONS - ABUTMENT B

SCALE: 3/8" = 1'-0"

NOTE: FOR REINFORCING AND DETAILS NOT SHOWN, SEE TYPICAL WINGWALL SECTION, ABUTMENTS A AND B.



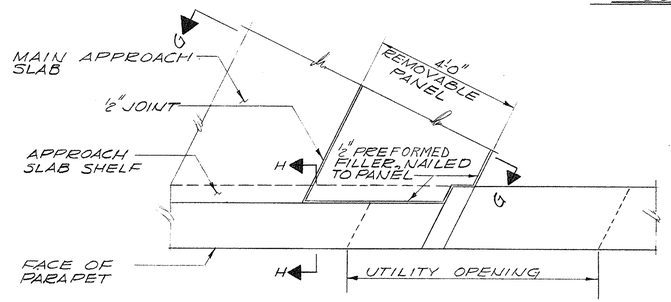
PLAN



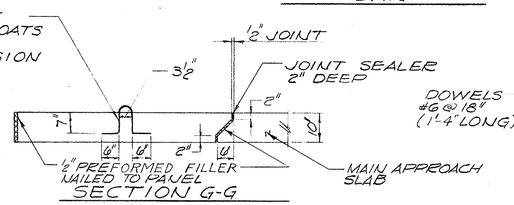
SECTION E-E SECTION F-F

DETAIL - REINFORCEMENT AT UTILITY OPENING

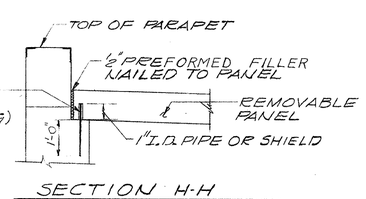
SCALE: ½" = 1'-0"



PLAN



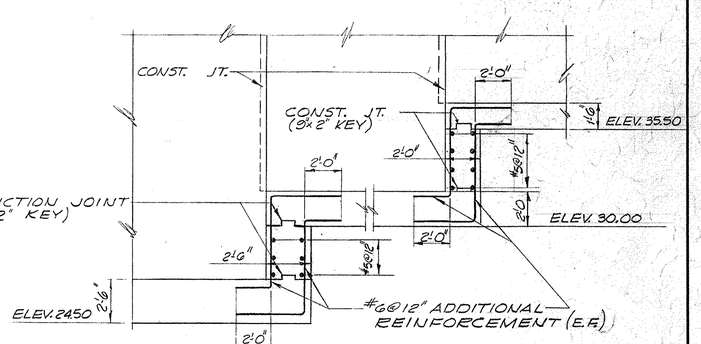
SECTION G-G



SECTION H-H

DETAILS - REMOVABLE PANEL OF APPROACH SLAB

SCALE: 1/2" = 1'-0"



FOOTING STEP DETAIL

SCALE 1½" = 1'-0"

DESIGNED BY	P.L.P.	CHECKED BY	J.A.O'D.
DRAWN BY	W.J.P.	GEOMETRICS	P.L.P.

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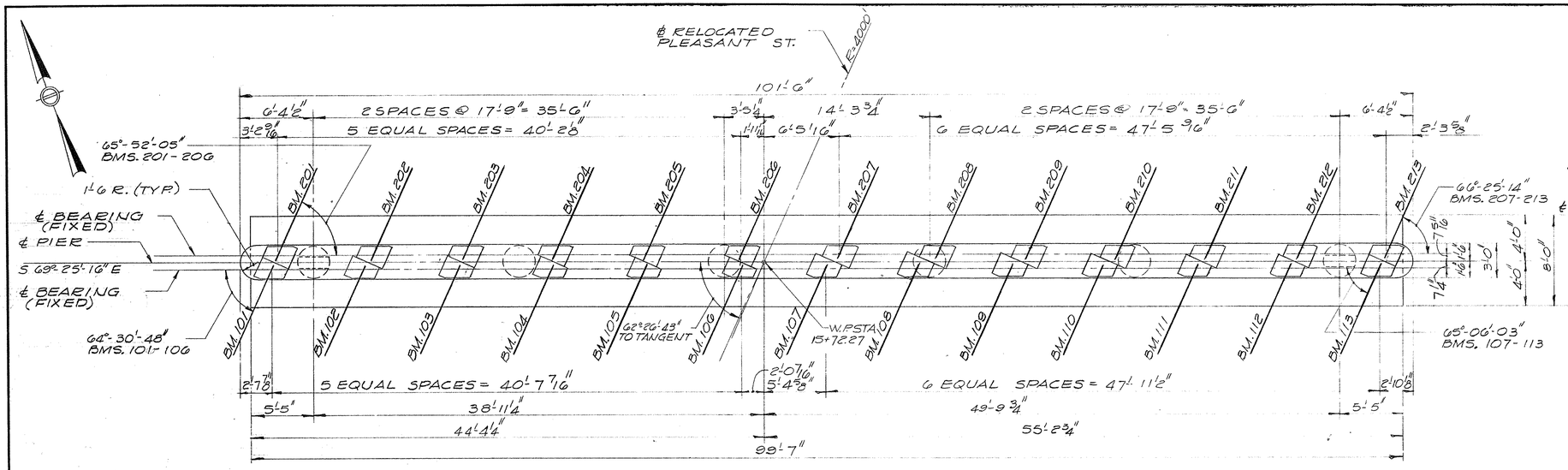
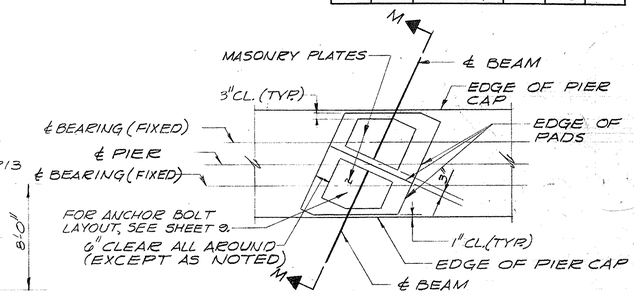
1	MASS.	U-242(14)	19	189	600

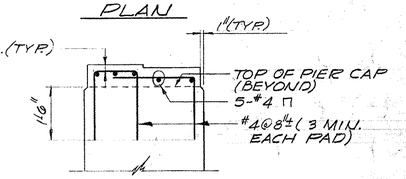


PLAN - PIER

SCALE: 3/16"=1'-0"



PLAN



SECTION M-M

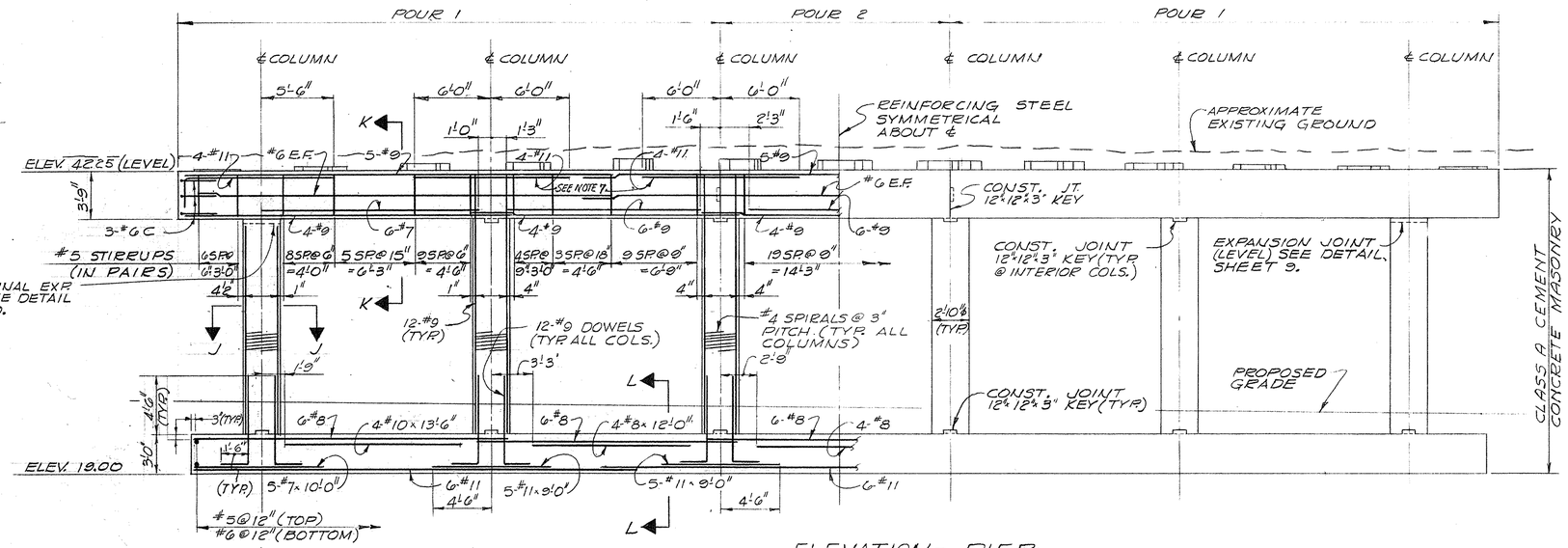
CONCRETE PAD DETAILS

SCALE: ½"=1'-0"

BOTTOM OF MASONRY PLATE ELEVATIONS

BM.101	BM.102	BM.103	BM.104	BM.105	BM.106	BM.107	BM.108	BM.109	BM.110	BM.111	BM.112	BM.113	BM.201	BM.202	BM.203	BM.204	BM.205	BM.206	BM.207	BM.208	BM.209	BM.210	BM.211	BM.212	BM.213
42.35	42.52	42.72	42.89	43.06	43.23	43.17	43.03	42.89	42.75	42.61	42.43	42.29	42.35	42.52	42.72	42.89	43.06	43.22	43.16	43.02	42.89	42.75	42.61	42.44	42.30

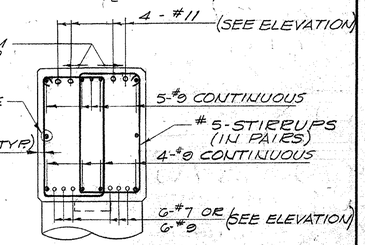
NOTE:
* INDICATES PADS THAT ARE 4" OR MORE IN HEIGHT WHICH SHALL BE REINFORCED AS SHOWN ON CONCRETE PAD DETAILS, THIS SHEET.



ELEVATION - PIER

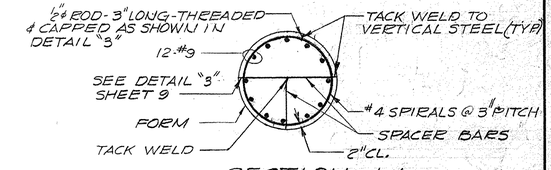
SCALE: 3/16"=1'-0"

MAXIMUM BEARING PRESSURE = 5700 LBS. PER SQ. FT.



SECTION K-K

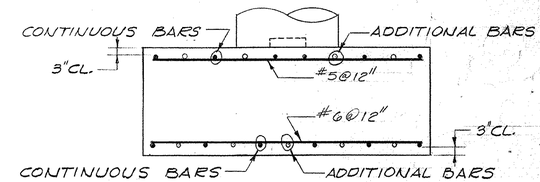
SCALE: ½"=1'-0"



SECTION J-J

SCALE: ½"=1'-0"

NOTE: PLACE SPACER BARS AT ¼ POINTS IN COLUMNS.



SECTION L-L

SCALE: ½"=1'-0"

PIER NOTES:

1. CONCRETE PADS SHALL BE POURED MONOLITHICALLY WITH THE PIER CAP. (EXCEPT AT BMS. 106, 206, 108 & 208.)
2. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1".
3. CONSTRUCTION JOINTS SHALL NOT BE ALLOWED IN COLUMNS.
4. SPIRAL REINFORCEMENT IN COLUMNS SHALL EXTEND FROM THE TOP OF THE FOOTING TO THE BOTTOM STEEL IN PIER CAP, EXCEPT AT EXPANSION COLUMNS WHERE ALL STEEL SHALL STOP 2" FROM TOP OF COLUMN.
5. POURING SEQUENCE - POUR SEGMENTS 1 FIRST POUR SEGMENT 2 NOT LESS THAN 24 HOURS AFTER COMPLETION OF POUR OF SEGMENTS 1. FORMS SHALL BE STRIPPED AS PRESCRIBED IN SPECIFICATIONS.
6. ANCHOR BOLTS FOR BMS. #106, 206, 108 & 208, TO BE DRILLED AND SET PRIOR TO POURING BEARING PADS.
7. TIE A FEW TOP BARS IN PIER CAP LOOSELY TO PERMIT INSERTION OF VIBRATOR. SECURE FAST AFTER VIBRATING AND BEFORE CONCRETE IS LEVEL WITH REINFORCEMENT.

DESIGNED BY RWP CHECKED BY J.A.O'D.
DRAWN BY W.J.P GEOMETRICS P.W.P

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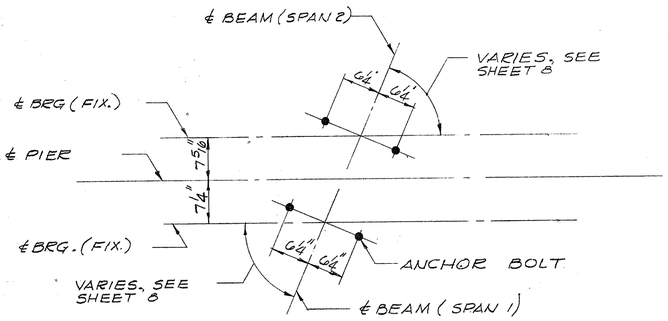
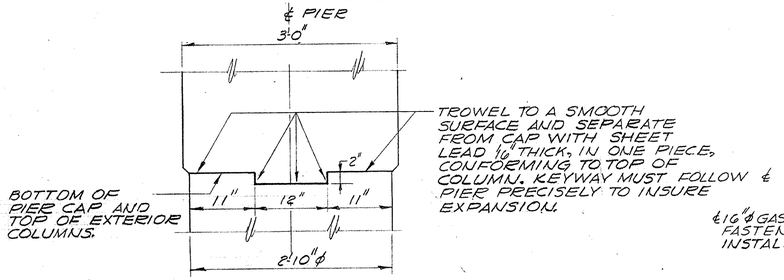


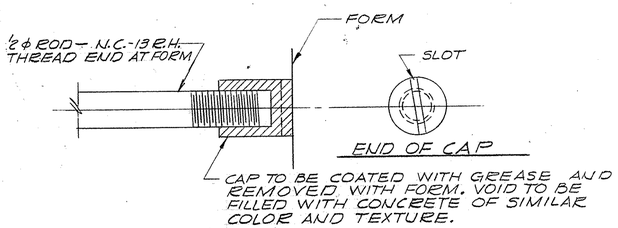
ANCHOR BOLT LAYOUT PIER

NOT TO SCALE



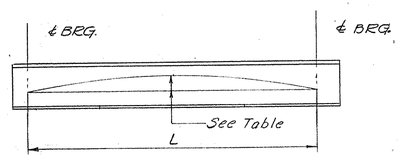
DETAIL- EXPANSION JOINT AT EXTERIOR COLUMNS

SCALE: 1½"=1'-0"



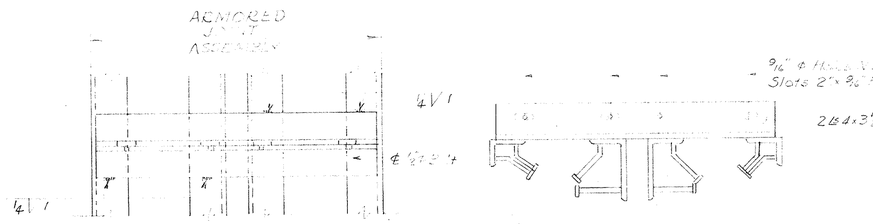
DETAIL "3"

NOT TO SCALE



CAMBER DIAGRAM

BEAM NO.	MIN. CAMBER
101, 113, 201&213	4 3/8"
102-112&202-212	4 1/2"



PLAN ELEVATION

SHIPPING DEVICE FOR ROADWAY ARMORED JOINT

SCALE: 1½"=1'-0"

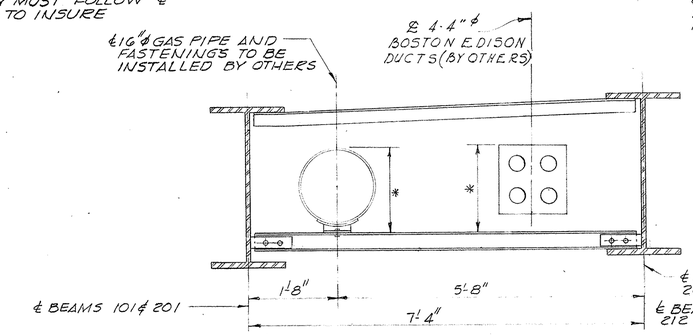
NOTES

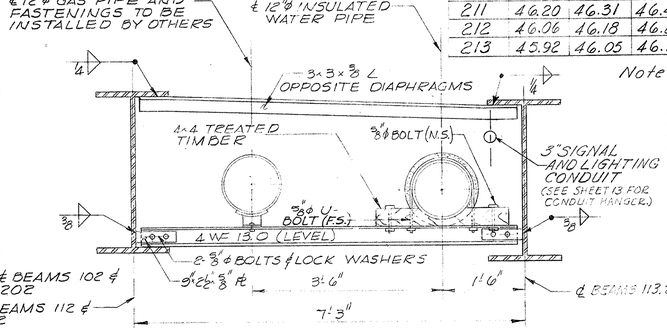
1. ALL ARMORED JOINT ASSEMBLIES MUST BE PROPERLY FITTED IN SHOP AND SHIPPED WITH DEVICE FOR MAINTAINING PROPER SPACING AND FIT.
2. BOLTS ON SHIPPING DEVICE MUST BE LOOSENED WITHIN ONE HOUR AFTER CONCRETE IS PLACED SO THAT MOVEMENT MAY TAKE PLACE. DEVICE SHALL BE REMOVED AFTER CONCRETE HAS SET ON BOTH SIDES OF ASSEMBLY.
3. GRIND ARMORED JOINT SURFACE TO A SMOOTH FINISH AFTER REMOVAL OF SHIPPING DEVICE
4. ALL EXPOSED SURFACES OF JOINT SHALL BE FIELD PAINTED AFTER GRINDING.

TOP OF FORM ELEVATIONS FOR SLAB PRIOR TO PLACING CONCRETE

BEAM NO.	INCREASING STATIONS → ℄ BRG.	½ PT.	¼ PT.	⅜ PT.	½ PT.	⅝ PT.	¾ PT.	⅞ PT.	℄ BRG.
101	45.23	45.45	45.64	45.80	45.92	45.99	46.01	46.00	45.97
102	45.42	45.62	45.80	45.95	46.06	46.13	46.17	46.16	46.14
103	45.61	45.80	45.97	46.11	46.22	46.29	46.32	46.33	46.31
104	45.80	45.99	46.06	46.30	46.40	46.47	46.50	46.50	46.48
105	45.98	46.17	46.34	46.48	46.58	46.64	46.67	46.67	46.65
106	46.17	46.36	46.52	46.66	46.76	46.82	46.84	46.84	46.82
107	46.13	46.34	46.53	46.67	46.77	46.83	46.84	46.81	46.76
108	46.01	46.20	46.36	46.49	46.59	46.64	46.66	46.65	46.62
109	45.89	46.07	46.24	46.36	46.46	46.51	46.53	46.51	46.48
110	45.77	45.95	46.11	46.24	46.33	46.38	46.39	46.38	46.34
111	45.65	45.83	45.99	46.11	46.20	46.24	46.26	46.24	46.20
112	45.53	45.72	45.88	46.00	46.09	46.13	46.14	46.11	46.05
113	45.41	45.60	45.77	45.90	46.00	46.03	46.02	45.98	45.91
201	45.97	46.13	46.26	46.36	46.41	46.41	46.37	46.30	46.20
202	46.14	46.28	46.40	46.49	46.53	46.54	46.50	46.44	46.35
203	46.31	46.44	46.55	46.63	46.67	46.67	46.64	46.58	46.50
204	46.48	46.61	46.71	46.79	46.83	46.83	46.80	46.74	46.65
205	46.65	46.77	46.88	46.95	46.99	46.99	46.95	46.89	46.80
206	46.81	46.96	47.07	47.16	47.20	47.19	47.14	47.06	46.95
207	46.75	46.90	47.00	47.10	47.14	47.13	47.08	46.99	46.88
208	46.61	46.74	46.84	46.91	46.94	46.93	46.89	46.82	46.72
209	46.48	46.60	46.70	46.76	46.79	46.78	46.74	46.66	46.56
210	46.34	46.46	46.55	46.62	46.64	46.63	46.59	46.51	46.41
211	46.20	46.31	46.41	46.47	46.50	46.48	46.43	46.35	46.25
212	46.06	46.18	46.28	46.34	46.37	46.35	46.30	46.21	46.09
213	45.92	46.05	46.16	46.23	46.26	46.23	46.16	46.06	45.93

Note:
After The Structural Steel is Erected, But Before The Forms Are Built, Elevations On The Top Of The Flange Of The Beams Are To Be Obtained At The Points Indicated In The Table. The Difference Between The Elevation Obtained And Those Shown In The Table Gives The Actual Blocking Distance From The Top Of Beam To The Bottom Of Slab At Centerline Of Beam. (See Haunch Detail)

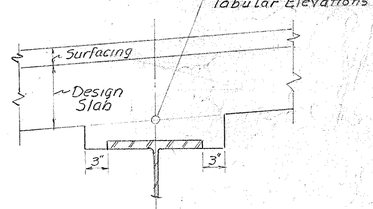




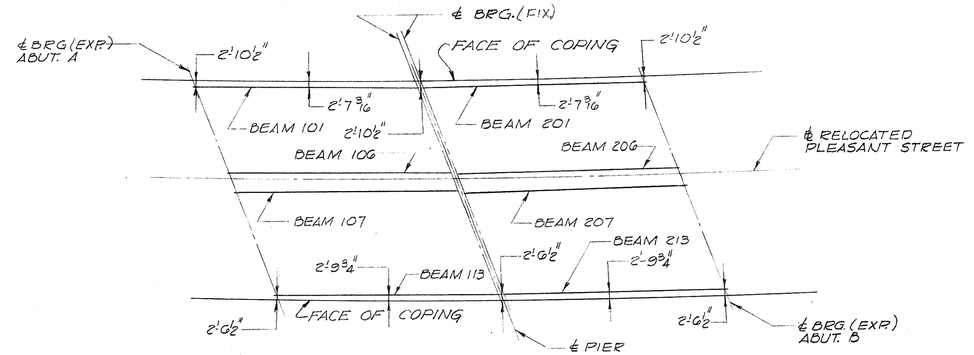
DETAILS - UTILITY BAYS

SCALE: ¾"=1'-0"

NOTE: ALL FASTENINGS SHALL BE GALVANIZED, CONFORMING TO A.S.T.M. DESIGN. A153.



HAUNCH DETAIL



BRIDGE DECK OVERHANG LAYOUT

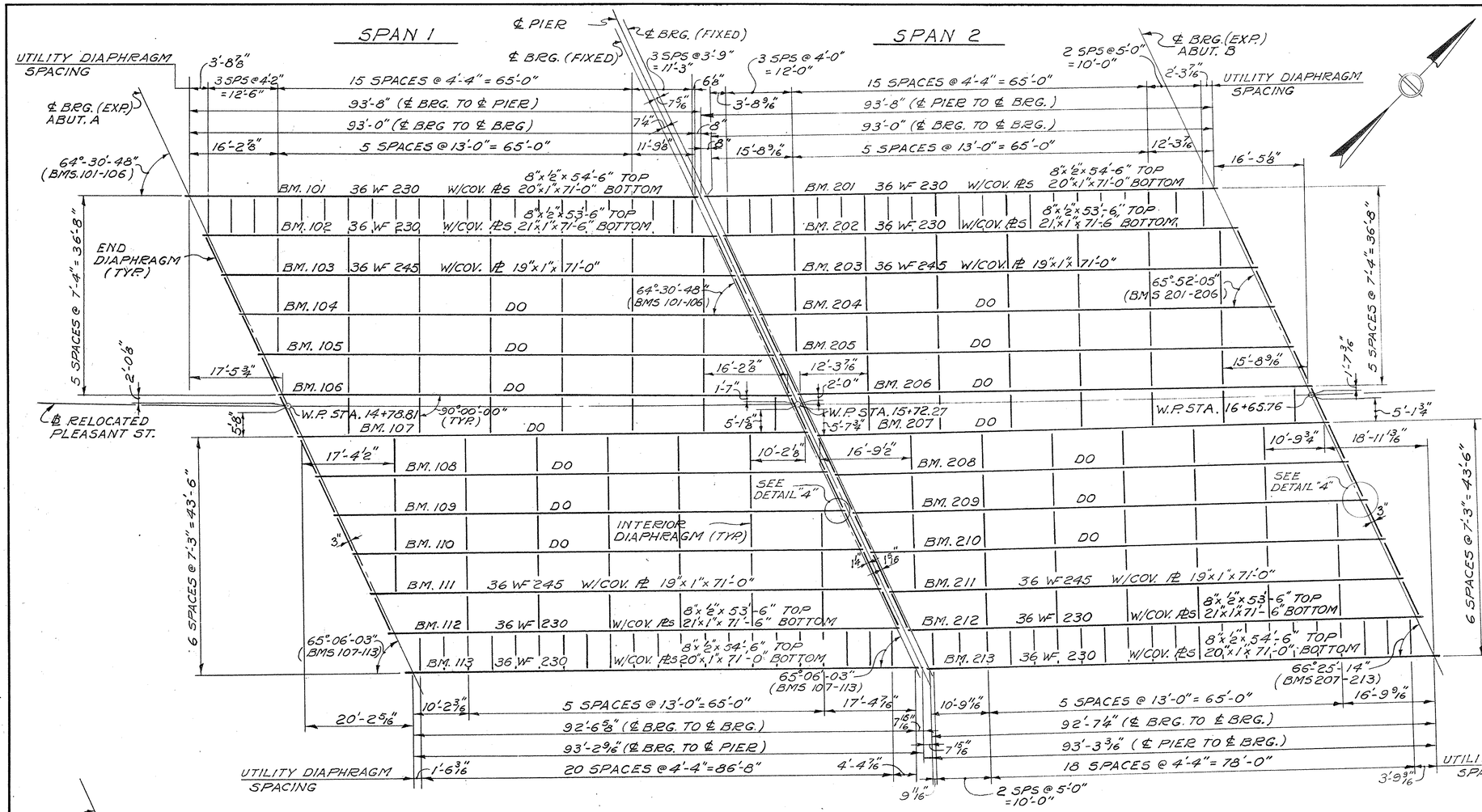
NOT TO SCALE

NOTE:
ALL DIMENSIONS ARE RADIAL.

DESIGNED BY	P.V.P.	CHECKED BY	J.A.O'D.
DRAWN BY	W.V.P.	GEOMETRICS	P.V.P.

JAN. 28 1967	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	191	600

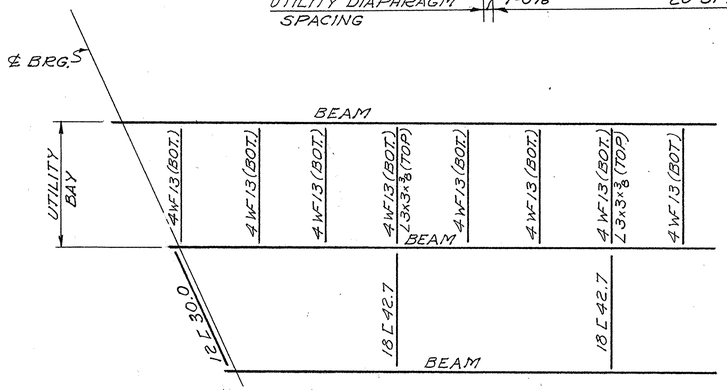


FRAMING PLAN

SCALE:- 3/32" = 1'-0"

NOTES:

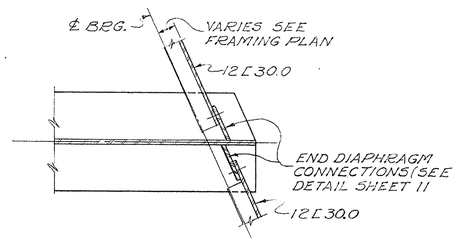
1. ALL END DIAPHRAGMS SHALL BE 12 ℄ 30.0 EXCEPT AS NOTED.
2. ALL INTERMEDIATE DIAPHRAGMS SHALL BE 18 ℄ 42.7 EXCEPT AS NOTED.
3. ALL STRUCTURAL STEEL SHALL BE A.S.T.M. A36 STRUCTURAL STEEL. COPPER BEARING STEEL NOT REQUIRED.



TYPICAL PART PLAN - UTILITY BAYS

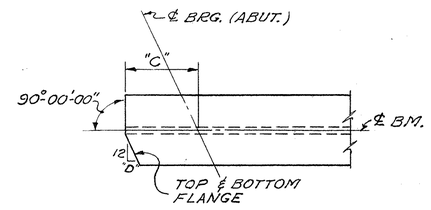
NOT TO SCALE

NOTE: SEE FRAMING PLAN FOR DIAPHRAGM SPACING



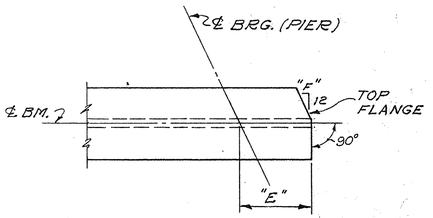
DETAIL "4"

SCALE: 1" = 1'-0"



AT ABUTMENTS

LOCATION	BM. NOS.	BEVEL "D"	DIMENSION "C"
ABUT. A	101-106	5 3/4"	8 1/16"
	107-113	5 9/16"	8 5/8"
ABUT. B	201-206	5 3/8"	8 5/8"
	207-213	5 1/4"	8 9/16"



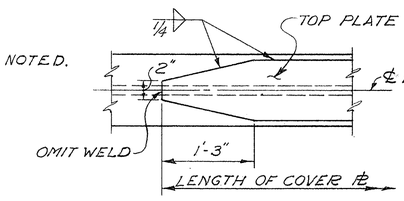
AT PIER

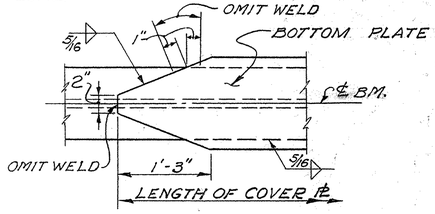
LOCATION	BM. NOS	BEVEL "F"	DIMENSION "E"
PIER	101-106	5 3/4"	5 7/8"
	107-113	5 9/16"	5 13/16"
	201-206	5 3/8"	5 7/8"
	207-213	5 1/4"	5 13/16"

BEAM END DETAILS

NOT TO SCALE

NOTE: ENDS OF BEAMS SHALL BE FABRICATED SO THAT UNDER FULL LOAD THE ENDS WILL BE PLUMB.





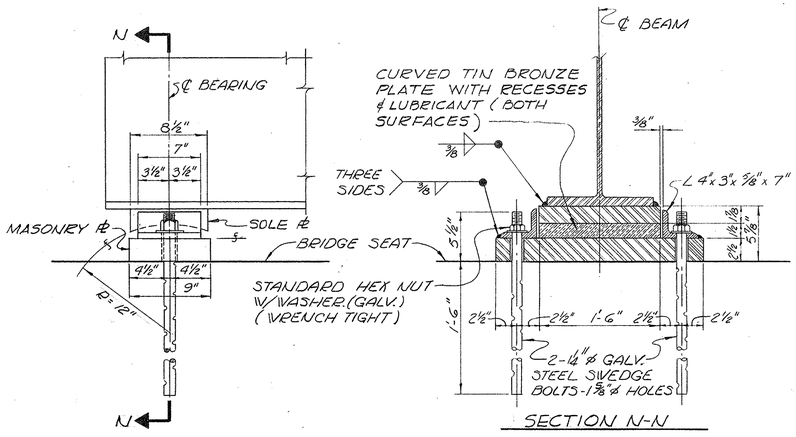
COVER PLATE DETAILS

NOT TO SCALE

DESIGNED BY	P.N.P.	CHECKED BY	J.A.O.D.
DRAWN BY	E.K.	GEOMETRICS	P.N.P.

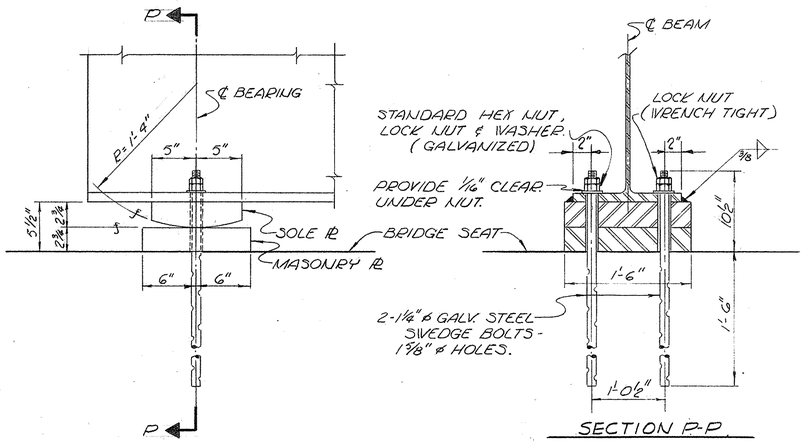
DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	198	600



EXPANSION BEARING @ ABUT'S.

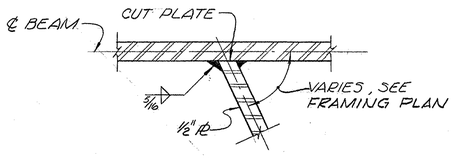
SCALE: 1½"=1'-0"



FIXED BEARING @ PIER

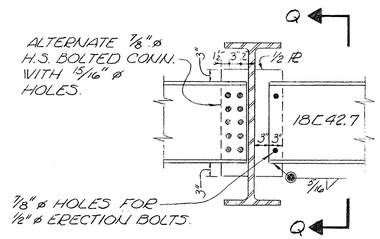
SCALE: 1½"=1'-0"

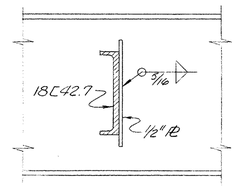
NOTES:
1. SURFACES INDICATED THUS - f, SHALL BE FINISHED TO 125 MICRO-INCHES, OR FINER.
2. MASONRY PLATE TO HAVE FULL AND LEVEL BEARING BEFORE PLACING THE STRINGERS ON THE BEARING ASSEMBLY.
3. MAXIMUM DESIGN UNIT STRESS ON CURVED TIN BRONZE PL = 975 P.S.I.



END DIAPHRAGM CONNECTION PL

NOT TO SCALE

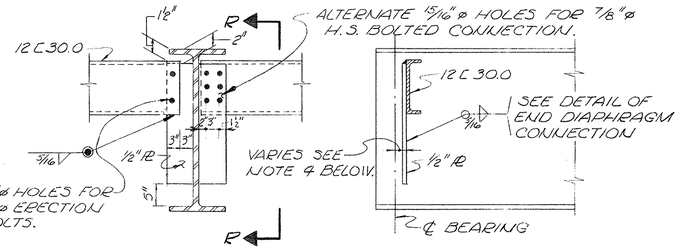




SECTION Q-Q

WELDED INTERIOR DIAPHRAGM CONNECTION

SCALE: ¾"=1'-0"

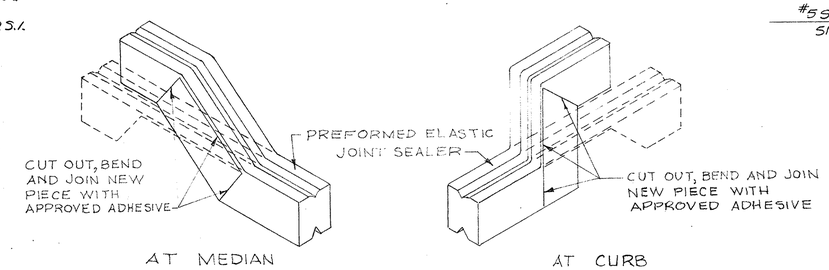


SECTION R-R

WELDED END DIAPHRAGM CONNECTION

SCALE: ¾"=1'-0"

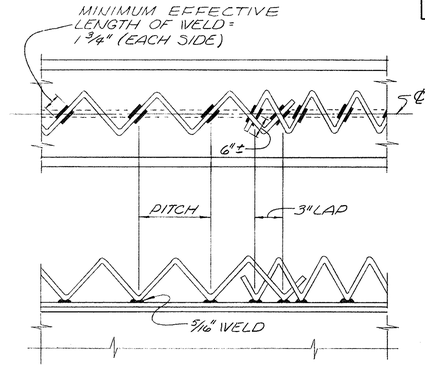
NOTES:
1. CONNECTION PLATES SHALL BE SHOP WELDED TO MAIN CARRYING MEMBERS.
2. ERECTION BOLTS, NUTS AND STANDARD WASHERS FOR DIAPHRAGM CONNECTIONS SHALL BE FURNISHED BY THE FABRICATOR.
3. INTERIOR DIAPHRAGMS SHALL BE CENTERED ON BEAMS.
4. FOR LOCATION OF END DIAPHRAGMS FROM ℄ OF BEARING, SEE FRAMING PLAN SHEET 10.
5. ANY WELDED JOINT PREQUALIFIED BY AMERICAN WELDING SOCIETY SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES (1966 EDITION) WILL BE ACCEPTABLE IN THE FABRICATION OF THE STRUCTURAL STEEL. THE PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO ARTICLES 402-403.
6. ANCHOR BOLTS SHALL BE SET BY TEMPLATE AND PLACED BEFORE CONCRETE IS POURED, EXCEPT AT ABUTMENTS WHERE DRILLING AND GROUTING FOR ANCHOR BOLTS MAY BE USED AT THE CONTRACTOR'S OPTION.



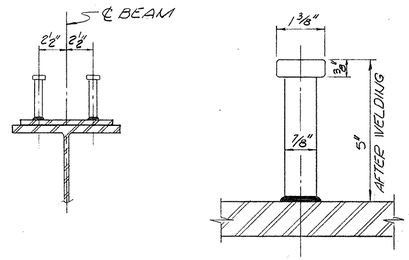
AT MEDIAN AT CURB

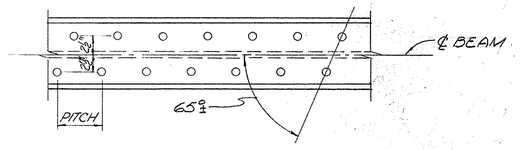
JOINT SEALER ISOMETRIC DETAILS

NO SCALE



SPIRAL SHEAR CONNECTORS



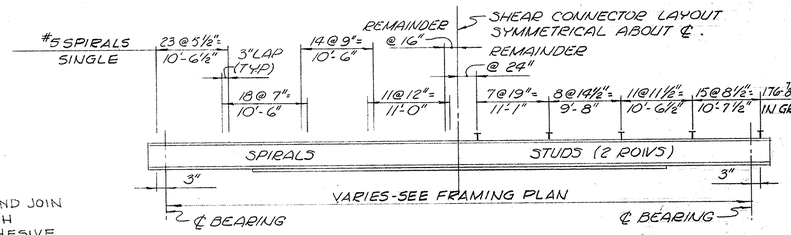


STUD SHEAR CONNECTORS

SHEAR CONNECTOR DETAILS

NOT TO SCALE

NOTES:
1. DETAILS SIMILAR FOR BEAMS WITHOUT TOP COVER PLATES.
2. ¾" DIA. STUDS MAY BE SUBSTITUTED FOR ⅞" DIA. STUDS BY PROVIDING AN EQUIVALENT CROSS-SECTIONAL AREA AND ADJUSTING THE PITCH ACCORDINGLY.
3. EITHER SPIRAL OR STUD SHEAR CONNECTORS MAY BE USED.

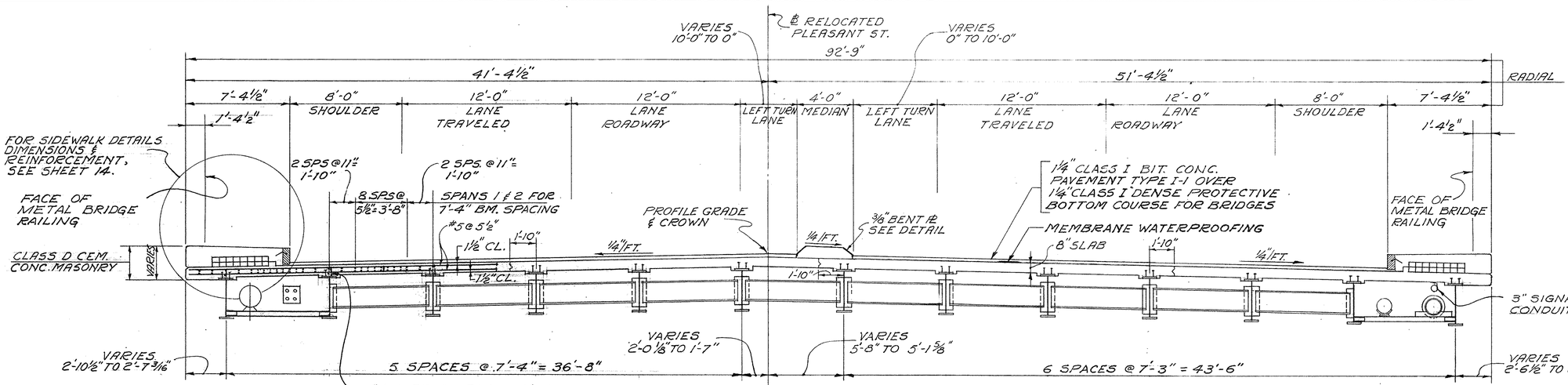


SHEAR CONNECTOR LAYOUT (ALL BEAMS)

DATE	DESCRIPTION
JAN. 23 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

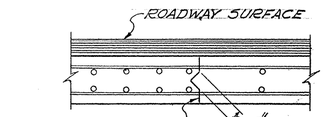
DESIGNED BY P.N.P. CHECKED BY J.A.O'D.
DRAWN BY W.R.D. GEOMETRICS P.N.P.

PUB. RD. DIV. NO.	STATE	FED.AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	193	600



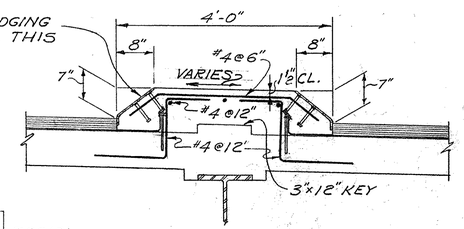
TYPICAL CROSS SECTION SPAN 1

SCALE:- ¼" = 1'-0"



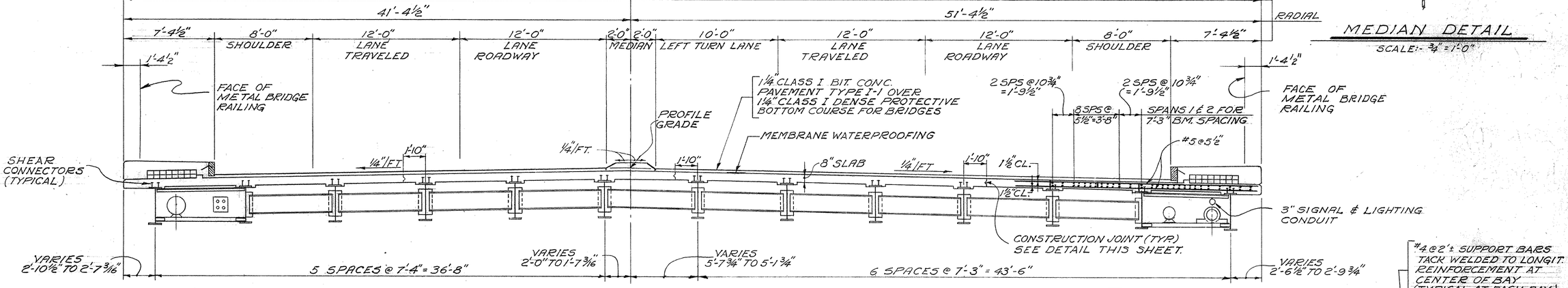
DECK SLAB CONSTRUCTION JOINT

SCALE: 1" = 1'-0"



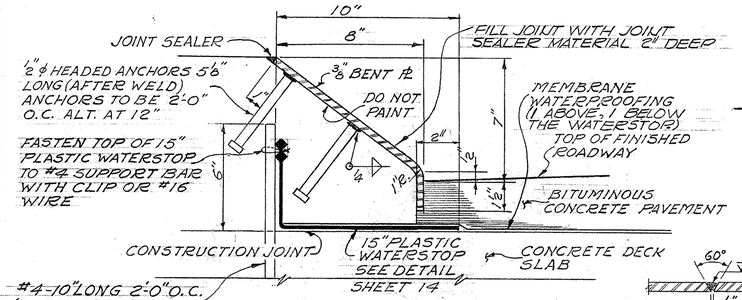
MEDIAN DETAIL

SCALE:- ¾" = 1'-0"



TYPICAL CROSS SECTION SPAN 2

SCALE:- ¼" = 1'-0"



BENT PLATE EDGING

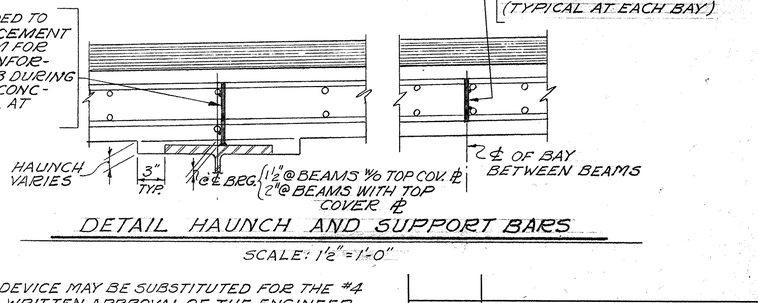
SCALE: 3" = 1'-0"

PLATE SPLICE

(GRIND SMOOTH AFTER WELDING)

NOTES:

1. ALL LONGITUDINAL REINFORCEMENT SHALL BE #4 EXCEPT AS NOTED, AND SHALL BE PLACED PARALLEL TO ℄ OF BEAMS.
2. ALL TRANSVERSE REINFORCEMENT SHALL BE PLACED PARALLEL TO ABUTMENTS AND PIERS.
3. LONGITUDINAL CONSTRUCTION JOINTS IN BRIDGE DECK SLABS MAY BE OMITTED WHEN THE CONTRACTORS PROPOSED METHOD OF CONSTRUCTION IS APPROVED BY THE ENGINEER IN WRITING.



DETAIL HAUNCH AND SUPPORT BARS

SCALE: 1½" = 1'-0"

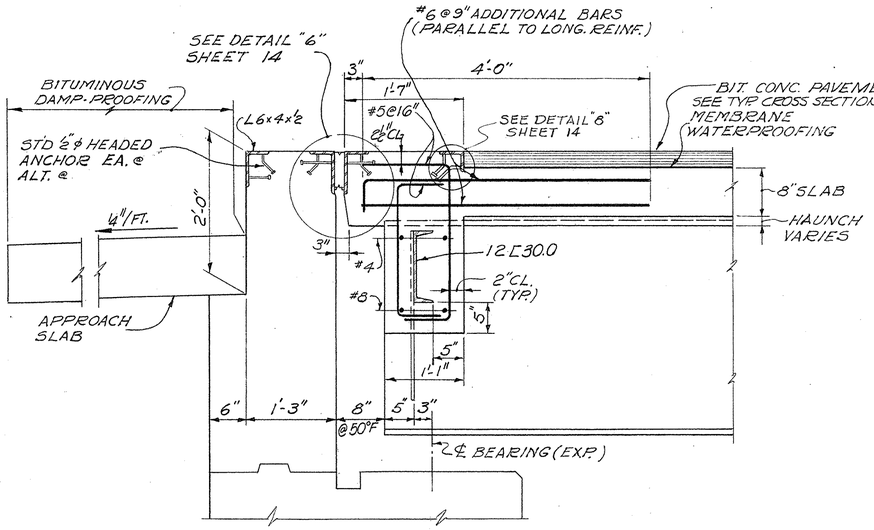
NOTE:

AN EQUAL DEVICE MAY BE SUBSTITUTED FOR THE #4 BAR UPON WRITTEN APPROVAL OF THE ENGINEER.

DESIGNED BY R.N.P. CHECKED BY A.O.D.
DRAWN BY E.K. GEOMETRICS R.N.P.

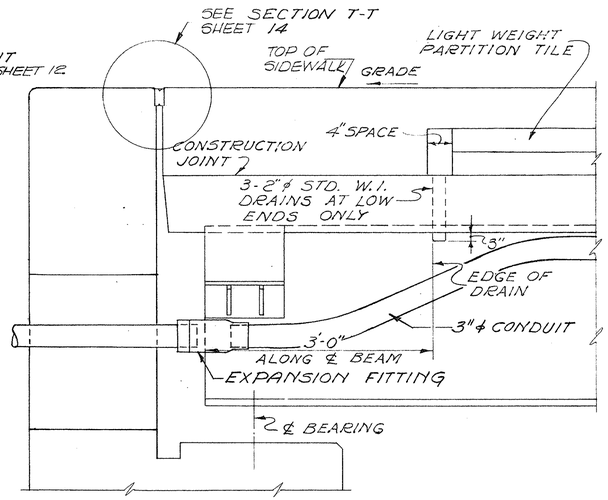
DATE	DESCRIPTION
JAN. 28 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	194	600



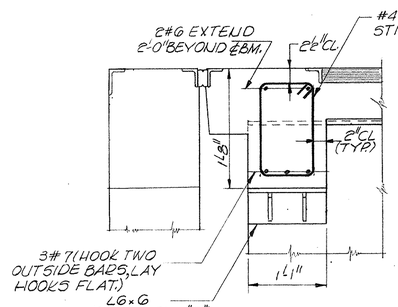
DECK DETAIL AT ABUTMENTS A & B

SCALE: 1"= 1'-0"



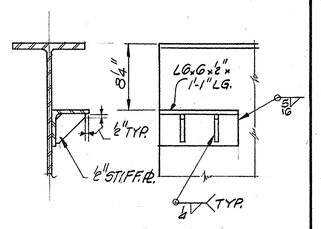
SIDEWALK SECTION AT ABUTMENT

SCALE:- 1"= 1'-0"



DECK DETAIL @ ABUTMENT UTILITY BAY

SCALE 1"= 1'-0"

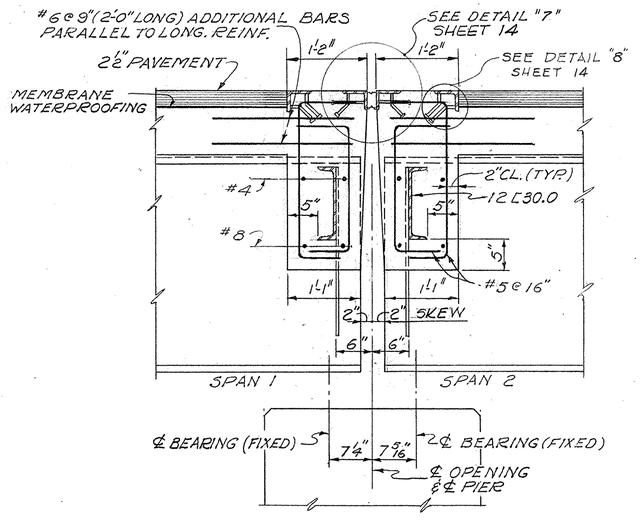


DETAIL "5"

SCALE: 1"= 1'-0"

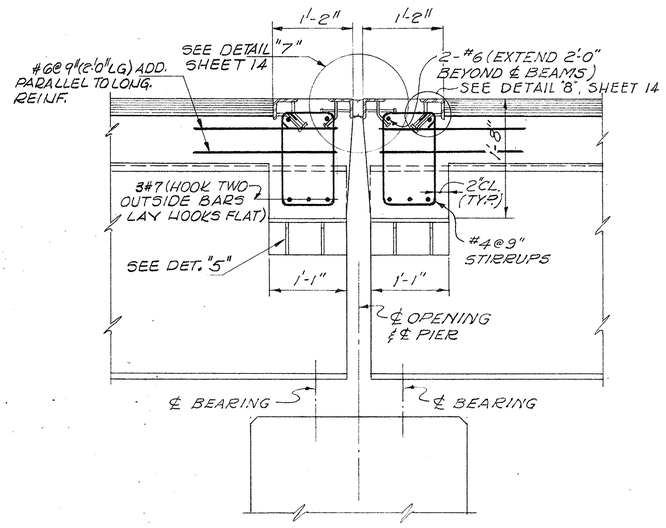
NOTE:

ALL DIMENSIONS ARE FOR SQUARE SECTIONS EXCEPT AS NOTED.



DECK DETAIL AT PIER

SCALE:- 1"=1'-0"

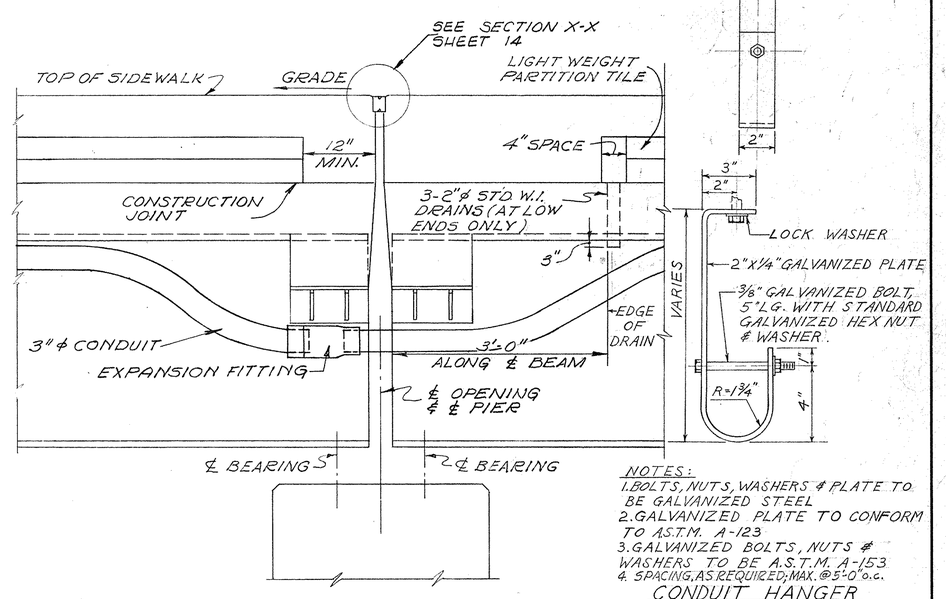


DECK DETAIL AT PIER - UTILITY BAY

SCALE:- 1" = 1'-0"

NOTE:

PROVIDE FOR EXPANSION OF UTILITIES



NOTES:

1. BOLTS, NUTS, WASHERS & PLATE TO BE GALVANIZED STEEL
2. GALVANIZED PLATE TO CONFORM TO A.S.T.M. A-123
3. GALVANIZED BOLTS, NUTS & WASHERS TO BE A.S.T.M. A-153
4. SPACING, AS REQUIRED; MAX. @ 5'-0" o.c.

CONDUIT HANGER

NO SCALE

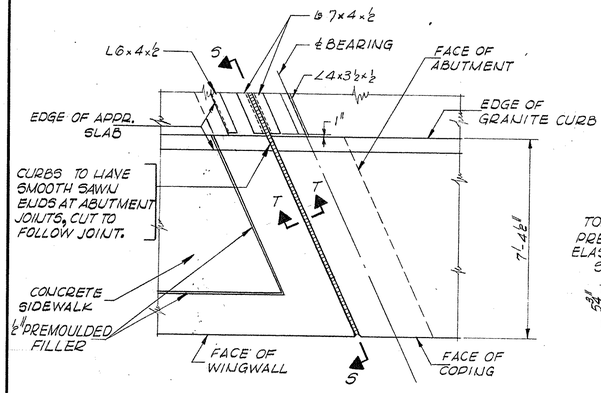
SIDEWALK SECTION OVER PIER

SCALE:- 1"=1'-0"

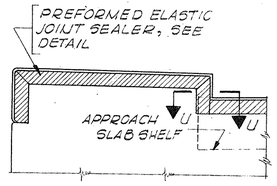
DESIGNED BY R.J.P. CHECKED BY J.A.O'D.
DRAWN BY E.K. GEOMETRICS R.J.P.

DATE	DESCRIPTION
JAN. 28, 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

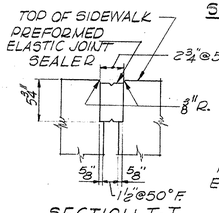
PUB. RD. DIV. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	U-242(14)	19	195	600



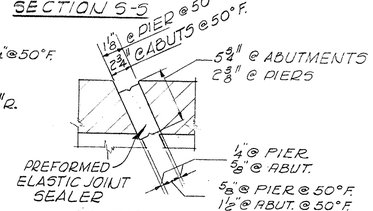
PLAN AT SIDEWALK



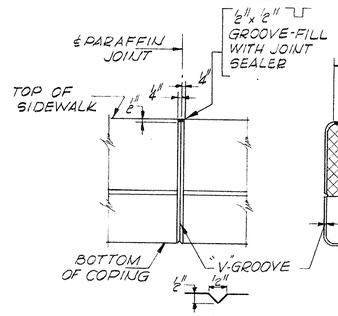
SECTION S-S



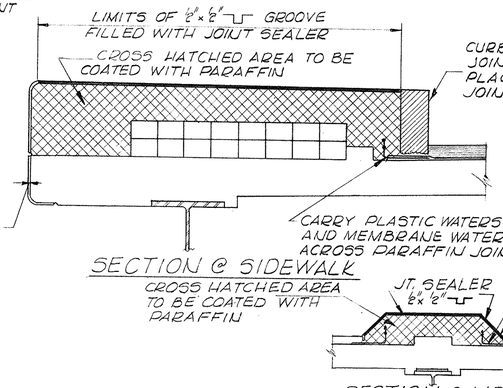
SECTION T-T



SECTION U-U



ELEVATION



SECTION @ SIDEWALK

SECTION @ MEDIAN

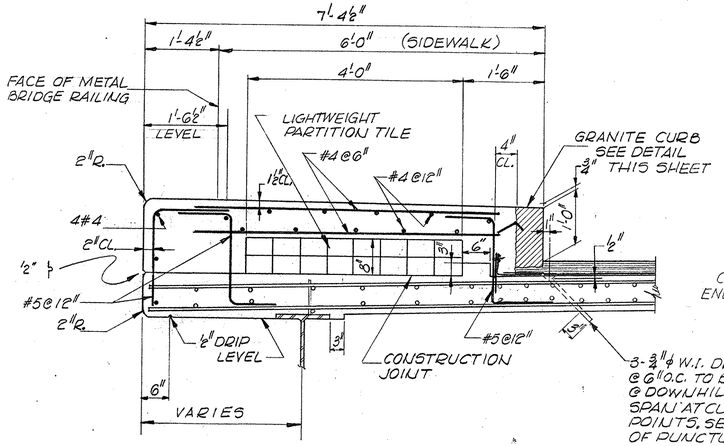
PARAFFIN JOINT DETAILS

NOTES:-

1. WALKS SHALL BE PLACED IN ALTERNATE SECTIONS AND SHALL HAVE A CURING PERIOD OF NOT LESS THAN 5 DAYS BETWEEN POURS.
2. PROVIDE JOINT SPACING AS SHOWN ON PLAN AND ELEVATION. SEE SHEET 3.
3. LONGITUDINAL STEEL SHALL NOT BE CARRIED THRU JOINTS PROVIDE 2" CL. @ JT.
4. JOINT SEALER SHALL BE THE SAME COLOR AS THE CONCRETE.
5. JOINT IN CURB SHALL BE MORTARED NO SOONER THAN 5 DAYS AFTER CONCRETE IN COPING HAS BEEN PLACED.
6. JOINTS TO BE SQUARE TO FACE OF COPING AND ℄ MEDIAN.

DETAILS-ELASTIC JOINT SEALER @ ABUTMENTS

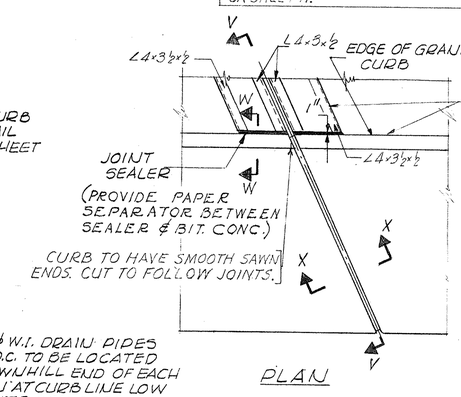
NOT TO SCALE



SIDEWALK DETAIL

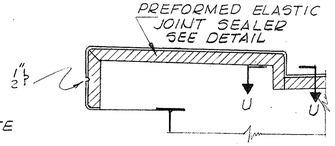
SCALE: ¾" = 1'-0"

FOR METHOD OF FORMING ELASTIC JOINT SEALER AT CURB AND MEDIAN, SEE ISOMETRIC VIEW ON SHEET 11.

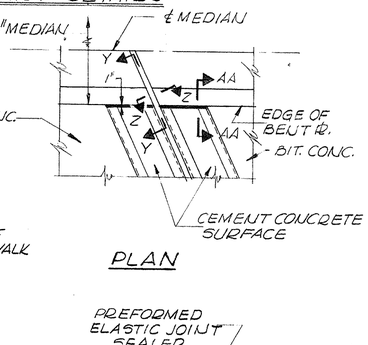


PLAN

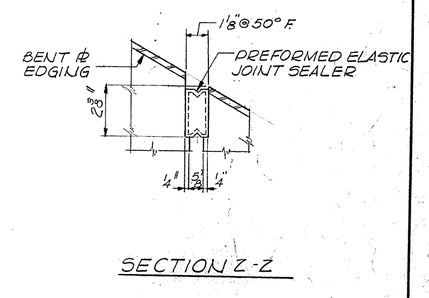
DETAILS-ELASTIC JOINT SEALER @ PIER



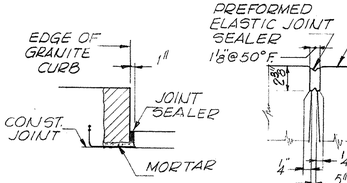
SECTION V-V



PLAN

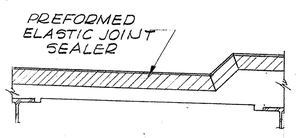


SECTION Z-Z

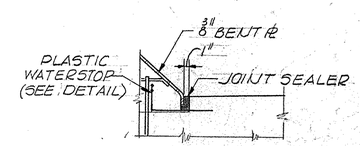


SECTION W-W

SECTION X-X

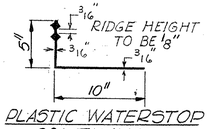


SECTION Y-Y

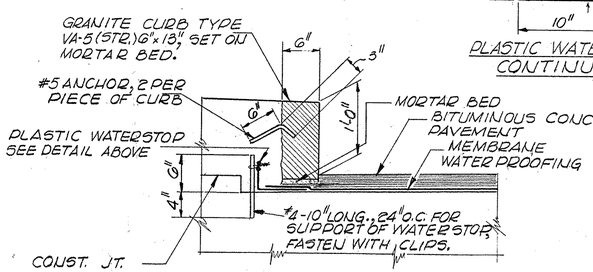


SECTION AA-AA

JOINT DETAIL @ MEDIAN

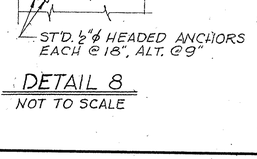


PLASTIC WATERSTOP CONTINUOUS



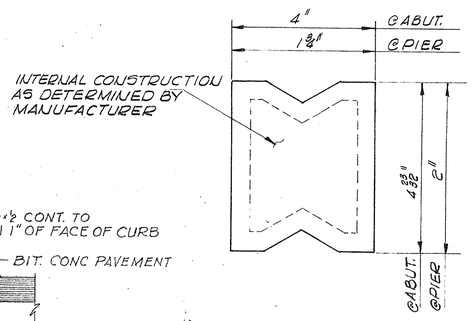
GRANITE CURB DETAIL

SCALE: 1" = 1'-0"

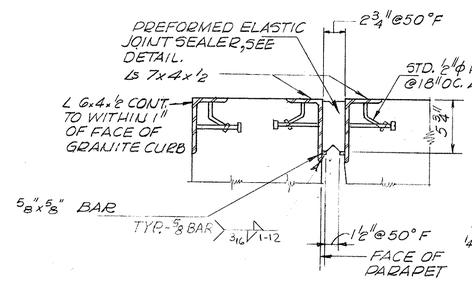


DETAIL 8

NOT TO SCALE

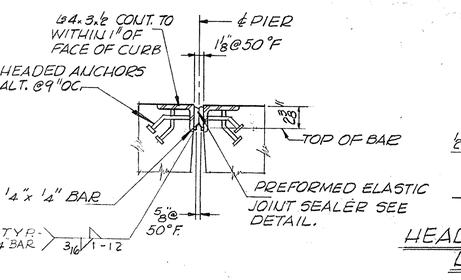


DETAIL-PREFORMED ELASTIC JOINT SEALER



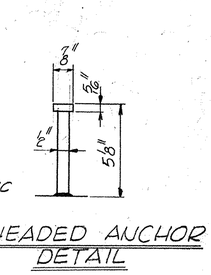
DETAIL 6

NOT TO SCALE



DETAIL 7

NOT TO SCALE



HEADED ANCHOR DETAIL

DESIGNED BY	A.J.P.	CHECKED BY	J.A.O.
DRAWN BY	D.A.T.	GEOMETRICS	P.J.P.

DATE	DESCRIPTION
JAN 28 1967	ISSUED FOR CONSTRUCTION
	USE ONLY PRINTS OF LATEST DATE

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS HIGHWAY DEPARTMENT

DISTRICT FOUR
VARIOUS ROUTES

FHWA DIV.NO.	STATE	FED.AID.PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	1	34
PROJECT FILE NO. 600702					

TITLE & INDEX

95 61

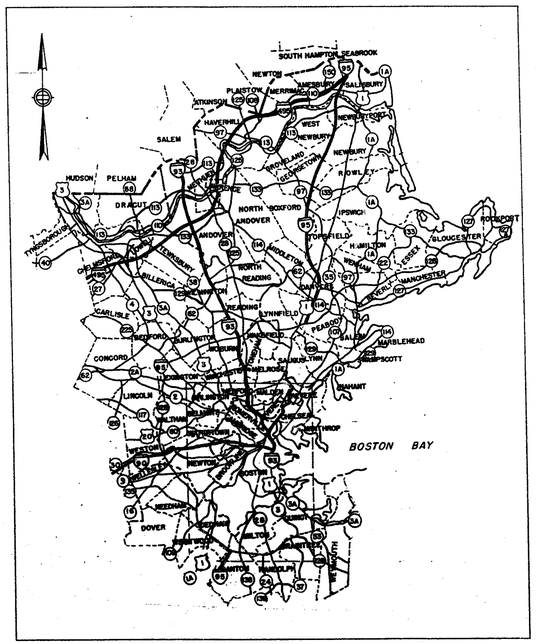
PLAN OF

INSTALLATION OF BRIDGE JOINT SYSTEMS AND BRIDGE JOINT REPAIRS

IN THE CITIES AND TOWNS OF

DISTRICT FOUR
(TWO PROJECTS)

CONTRACT FOR "ESSEX & MIDDLESEX COUNTIES"
CONTRACT FOR "NORFOLK & SUFFOLK COUNTIES"



INDEX

SHEET NO.	DESCRIPTION
1	TITLE & INDEX
2-16	STANDARD DRAWINGS
17-26	ESSEX & MIDDLESEX COUNTIES CONTRACT AREA
27-31	NORFOLK & SUFFOLK COUNTIES CONTRACT AREA
32-34	NFA: BOSTON - CENTRAL ARTERY

THE 1988 "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES", THE "SUPPLEMENTAL SPECIFICATIONS" DATED NOVEMBER 30, 1994, THE 1977 "CONSTRUCTION STANDARDS", THE 1988 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", THE 1990 "STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", AND THE "AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z-60.1-1986)" WILL GOVERN.

DESIGN DESIGNATION

DESIGN SPEED	65 M.P.H. MAX.
ADT (1992)	VARIES
ADT (2012)	VARIES
K	VARIES
D	VARIES
T (PEAK HOUR)	VARIES
T (AVERAGE DAY)	VARIES
DHV	VARIES
DDHV	VARIES

SCALES - AS NOTED

NOTE

MASS HIGHWAY

MASSACHUSETTS
HIGHWAY DEPARTMENT

RECOMMENDED FOR APPROVAL

Paul B. Quirk P.E. 1-4-95
CHIEF ENGINEER Date

APPROVED

Thomas T. Broderick 1/4/95
MHD COMMISSIONER Date

1/5/95
1/5/95
ASSOCIATE COMMISSIONERS Date

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

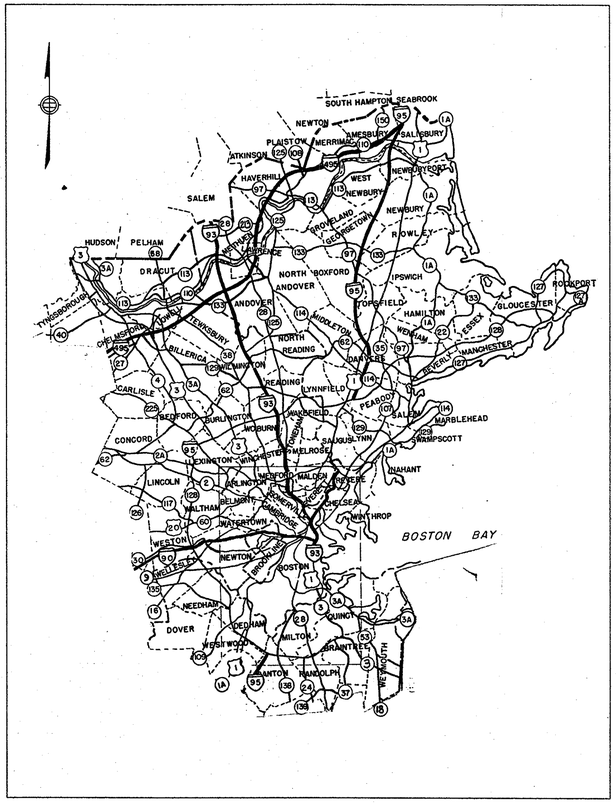
DIVISION ADMINISTRATOR Date

9561

DISTRICT..FOUR
STANDARD..DRAWINGS

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	2	34
PROJECT FILE# 600702					

TITLE,..INDEX..&..NOTES



DISTRICT MAP
NOT TO SCALE

INDEX

SHEET NO.	DESCRIPTION
1	TITLE, INDEX & NOTES
2	CURB DETAILS
3	CONCRETE HEADER JOINTS
4–5	BURIED CONCRETE HEADER JOINTS
6	ASPHALTIC BRIDGE JOINT SYSTEM
7	EXPANSION DAMS
8–10	ARMORED JOINTS
11–12	EXPOSED DECKS
13	ARMORED JOINT DETAILS
14–15	ARMORED BRIDGE JOINT SYSTEM

GENERAL NOTES

PLANS

PLANS FOR EXISTING BRIDGE MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MASSACHUSETTS HIGHWAY DEPARTMENT, 10 PARK PLAZA, BOSTON, MASSACHUSETTS.

TRAFFIC

AT LEAST ONE LANE OF ROADWAY IN EACH DIRECTION MUST BE KEPT OPEN TO TRAFFIC AT ALL TIMES DURING CONSTRUCTION. THE ENTIRE ROADWAY MUST BE OPENED TO TRAFFIC AT THE END OF EACH WORK PERIOD.

EXISTING CONDITIONS

DIMENSIONS SHOWN OF EXISTING DETAILS ARE TAKEN FROM THE ORIGINAL DESIGN DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND EXISTING DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENT AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE HAS MADE THE REQUIRED MEASUREMENTS ON THE ACTUAL STRUCTURE AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

STRUCTURAL STEEL

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M270 GRADE 36 EXCEPT AS NOTED. PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO THE AWS STRUCTURAL WELDING CODE, AWS D1.5–88 AS AMMENDED BY THE 1992 A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES AND CURRENT A.A.S.H.T.O. INTERIM SPECIFICATIONS THROUGH 1993. ANY HIGH STRENGTH (HS) BOLTS USED SHALL CONFORM TO EITHER A.A.S.H.T.O. M164 (ASTM A325) TYPE 3 OR A.A.S.H.T.O. M253 (ASTM 490) TYPE 3. NUTS FOR HS BOLTS M164 SHALL CONFORM TO A.A.S.H.T.O. M291 (ASTM A563) GRADE C3 OR DH3. NUTS FOR HS BOLTS M253 SHALL CONFORM TO A.A.S.H.T.O. M291 (ASTM A563) GRADE DH3.

REINFORCEMENT

ALL REINFORCING STEEL SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. M284 FOR DEFORMED STEEL BARS GR 60. ALL #4 BARS SHALL BE LAPPED 24", ALL #5 BARS SHALL BE LAPPED 30", ALL #6 BARS SHALL BE LAPPED 36", AND ALL #8 BARS SHALL BE LAPPED 59". FOR HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE BELOW THE BAR, THE LAP LENGTH SHALL BE 33" FOR #4 BARS, 42" FOR #5 BARS, 50" FOR #6 BARS, AND 82" FOR #8 BARS. IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER WITH AT LEAST 3" CLEAR COVER MEASURED IN THE DIRECTION OF SPACING, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE.

CONCRETE MIXES

THE FOLLOWING CONCRETE MIXES ARE TO BE USED:

(1)	(2)	(3)
4000	– 3/8 –	660
8500	– 1/2 –	1260 (GYPSUM MODIFIED CEMENT)

(1) 28 DAY COMPRESSIVE STRENGTH [PSI]
(2) MAXIMUM AGGREGATE SIZE [INCHES]
(3) CEMENT CONCRETE [LB/CU YD]

CEMENT SHALL CONFORM TO A.S.S.H.T.O. DESIGNATION M85. FINE AGGREGATE SHALL CONFORM TO A.A.S.H.T.O. M6. ALL COARSE AGGREGATE SHALL CONFORM TO A.A.S.H.T.O. M80. GYPSUM MODIFIED CEMENT SHALL CONFORM TO THE PROVISIONS OF ITEM 904.12.

ELASTOMERIC CONCRETE

ELASTOMERIC CONCRETE MANUFACTURER SHALL BE PREQUALIFIED WITH A FIVE YEAR PROVEN HISTORY OF SUCCESSFUL PRODUCT MANUFACTURE.

ARMORED BRIDGE JOINT SYSTEM ASSEMBLY

ARMORED BRIDGE JOINT ASSEMBLY MANUFACTURER SHALL BE PREQUALIFIED WITH A FIVE YEAR PROVEN HISTORY OF SUCCESSFUL PRODUCT MANUFACTURE. THE ASSEMBLY SHALL BE DESIGNED IN ACCORDANCE WITH THE 1992 SPECIFICATIONS OF THE A.A.S.H.T.O. WITH CURRENT INTERIM SPECIFICATIONS THROUGH 1993 FOR HS20–44 LOADING.

CORING AND GROUNTING DOWELS

WHERE EXISTING REINFORCING STEEL BARS IN THE BACKWALL ARE TOO LOW, THE CONTRACTOR SHALL INSTALL NEW #5 EPOXY COATED BARS BY CORING 12" DEEP HOLES AND GROUTING THE BARS INTO PLACE IN ACCORDANCE WITH THE BACKWALL MODIFICATION DETAIL ON SHEET 14 OF THESE STANDARD DRAWINGS.

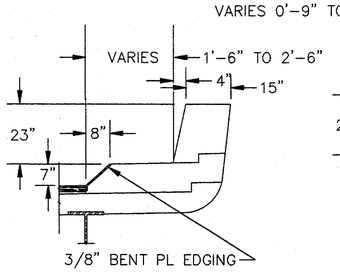
DESIGNED BY	ISSUED FOR CONSTRUCTION
E. MIESSNER	MASS HIGHWAY
DRAWN BY	INSTALLATION OF BRIDGE JOINT SYSTEMS
E. MIESSNER	**DISTRICT FOUR**
CHECKED BY	STANDARD DRAWINGS
SPECS BY	THE COMMONWEALTH OF MASSACHUSETTS
E. MIESSNER	MASSACHUSETTS HIGHWAY DEPARTMENT
APPROVED FOR DESIGN	10 PARK PLAZA BOSTON, MASS

BJSTITLE 12/9/94

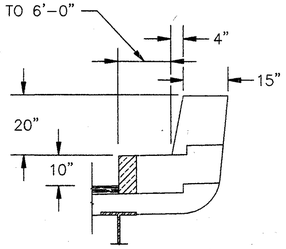
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	3	34
PROJECT FILE#600702					

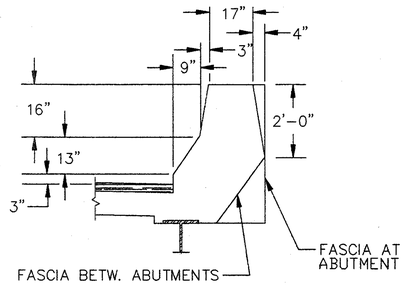
CURB DETAILS



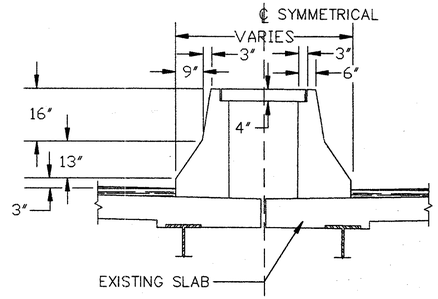
STEEL CURB AT COPING WALL
NOT TO SCALE



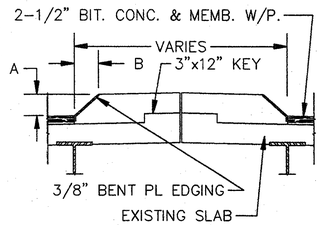
GRANITE CURB AT COPING WALL
NOT TO SCALE



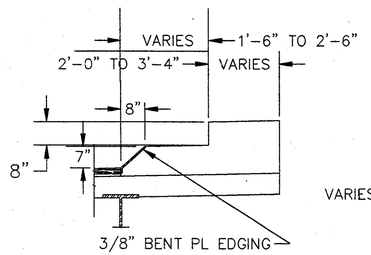
G.M. SHAPE JERSEY BARRIER
NOT TO SCALE



G.M. SHAPE JERSEY BARRIER
NOT TO SCALE



STEEL CURB AT MEDIAN
NOT TO SCALE



STEEL CURB AT RAILING
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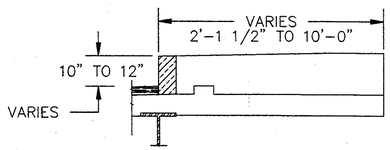

GRANITE CURB AT RAILING
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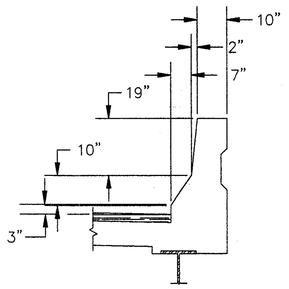
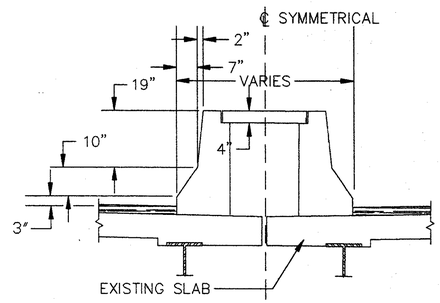
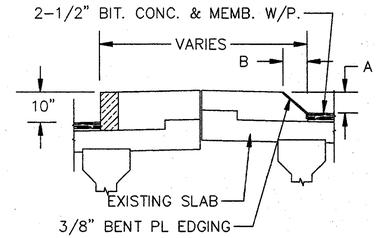


N.J. SHAPE JERSEY BARRIER
NOT TO SCALE



N.J. SHAPE JERSEY BARRIER
NOT TO SCALE



GRANITE & STEEL CURBS AT MEDIAN
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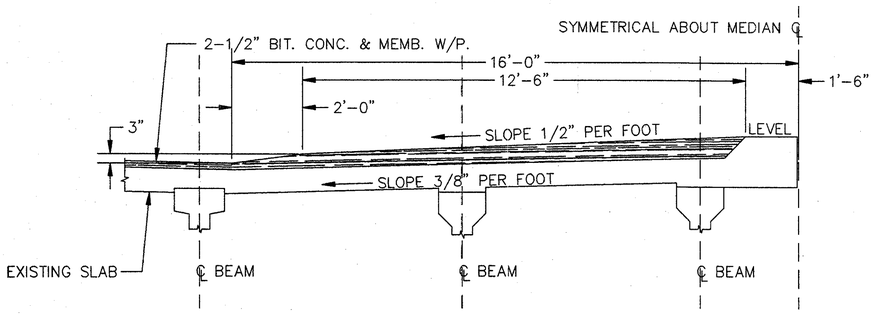
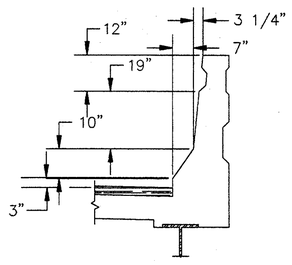
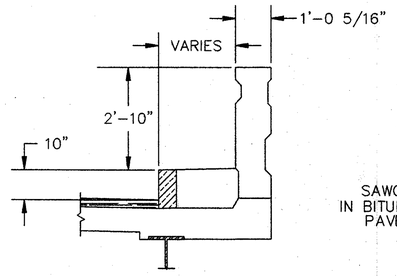


NOTE: ASPHALTIC BRIDGE JOINT SYSTEM AND ELASTOMERIC BRIDGE JOINT SYSTEM SHALL BE CONSTRUCTED THROUGHOUT THE FULL THICKNESS OF THE BITUMINOUS CONCRETE TEMPLATE IN THE MEDIAN.

CURBLESS MEDIAN
I-93 MEDFORD TO METHUEN
NOT TO SCALE

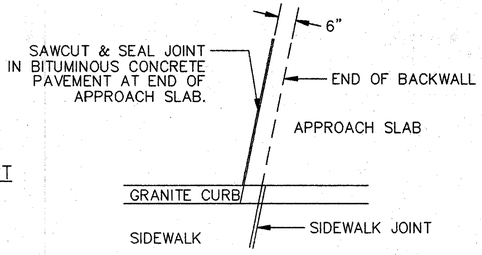


SPECIAL HIGH JERSEY BARRIER
COPING WALL - CHELSEA VIADUCT
NOT TO SCALE



SPECIAL HIGH BARRIER
COPING WALL - CHELSEA VIADUCT
NOT TO SCALE

	DIMENSIONS	
EDGING TYPE	A	B
OLD STANDARD BENT PLATE	7"	8"
BR. MANUAL DWG. E-26	4"	10"



PLAN VIEW
END OF APPROACH SLAB
NOT TO SCALE

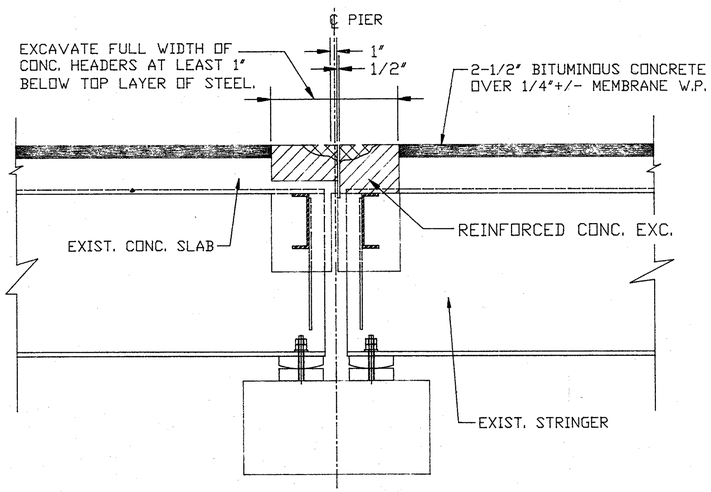
LONGITUDINAL JOINT NOTE:
ALL LONGITUDINAL JOINTS IN THE MEDIAN, SIDEWALKS AND SAFETY WALKS SHALL BE PROPERLY SEALED. TYPE OF SEAL TO BE USED WILL BE SELECTED BY THE RESIDENT ENGINEER. SEALS SHALL CONFORM TO JOINT DETAILS A THROUGH K.

	ISSUED FOR CONSTRUCTION
DATE	REVISION
USE ONLY PRINTS OF LATEST DATE	

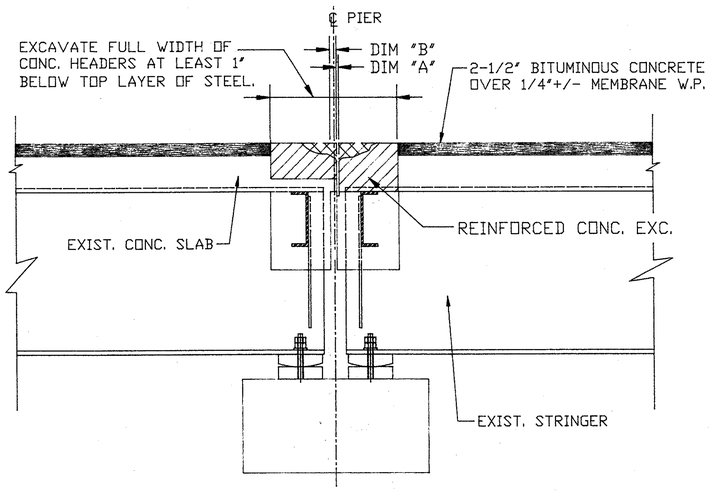
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	4	34
PROJECT FILE# 600702					

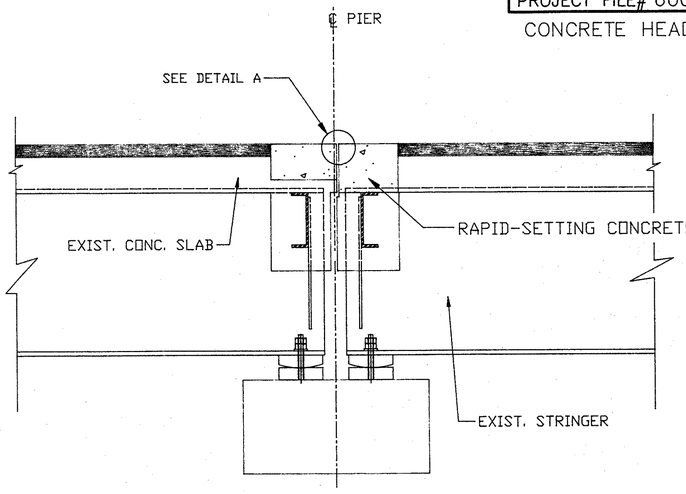
CONCRETE HEADER JOINTS



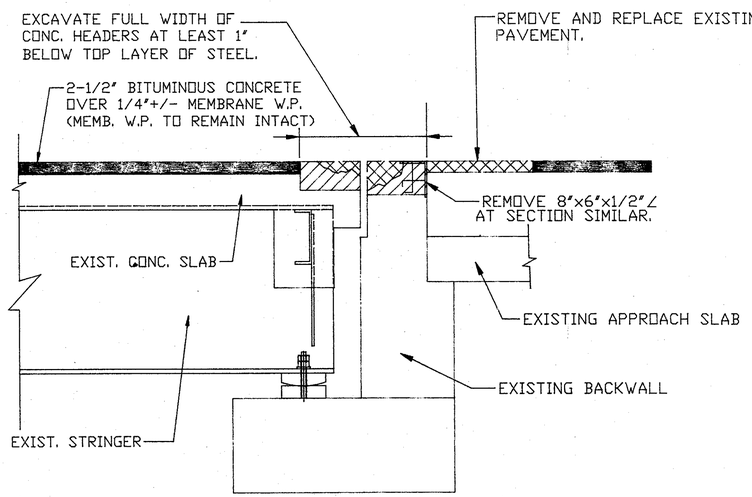
SECTION 1–1
TYPICAL EXISTING CONCRETE HEADER JOINT
FIXED BEARINGS
NOT TO SCALE



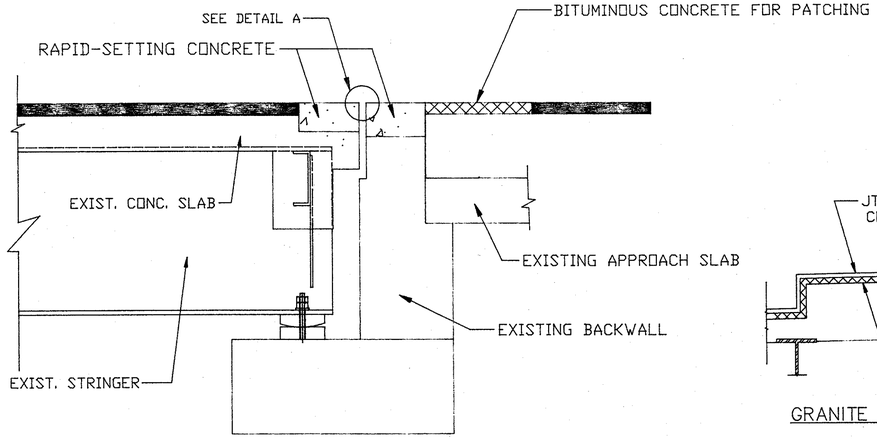
SECTION 2–2
TYPICAL EXISTING CONCRETE HEADER JOINT
EXPANSION BEARINGS
NOT TO SCALE



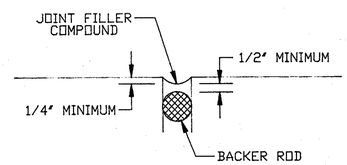
PROPOSED CONSTRUCTION
TYPICAL EXISTING CONCRETE HEADER JOINT
SECTIONS 1–1 & 2–2
NOT TO SCALE



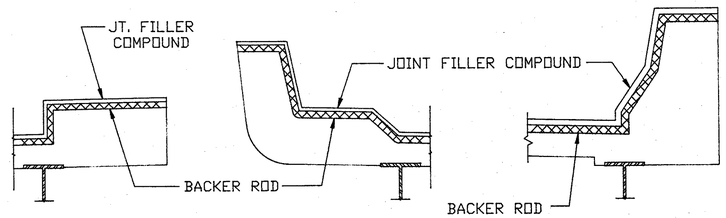
SECTIONS 3–3 & 3–3 SIMILAR
TYPICAL EXISTING CONCRETE HEADER JOINT
AT ABUTMENTS
NOT TO SCALE



PROPOSED CONSTRUCTION
TYPICAL EXISTING CONCRETE HEADER JOINT
SECTIONS 3–3 & 3–3 SIMILAR
NOT TO SCALE



DETAIL A
PROPOSED JOINT SEALING
3" = 1'–0"



GRANITE CURB | STEEL CURB | JERSEY BARRIER

CURB DETAILS
NOT TO SCALE

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

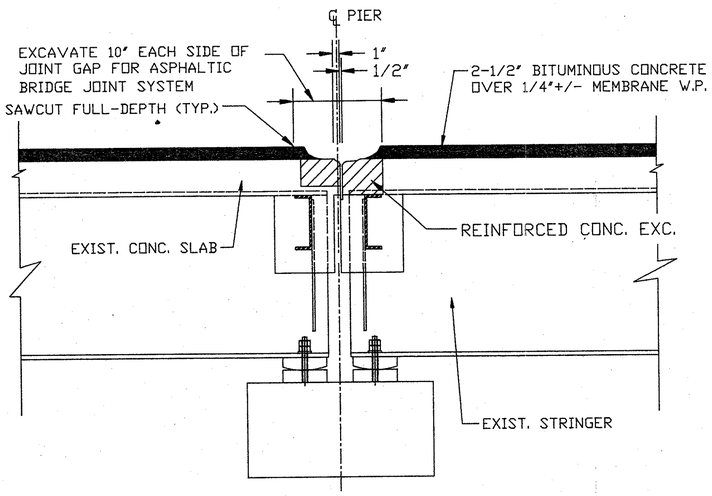
JOINTS\FOURJNT3 11/4/94

DISTRICT FOUR
STANDARD DRAWING

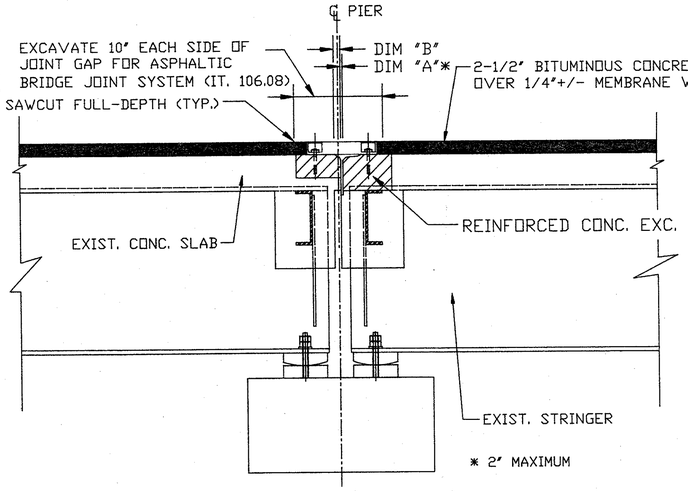
FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	5	34
PROJECT FILE# 600702					

BURIED CONCRETE HEADER JOINTS 1

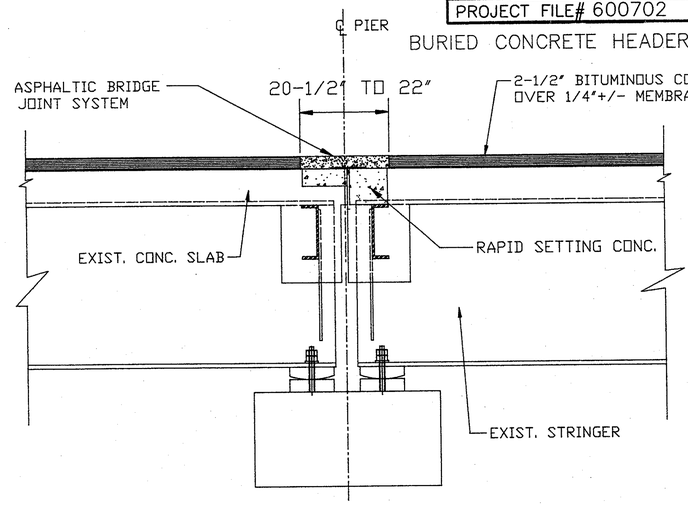
9561



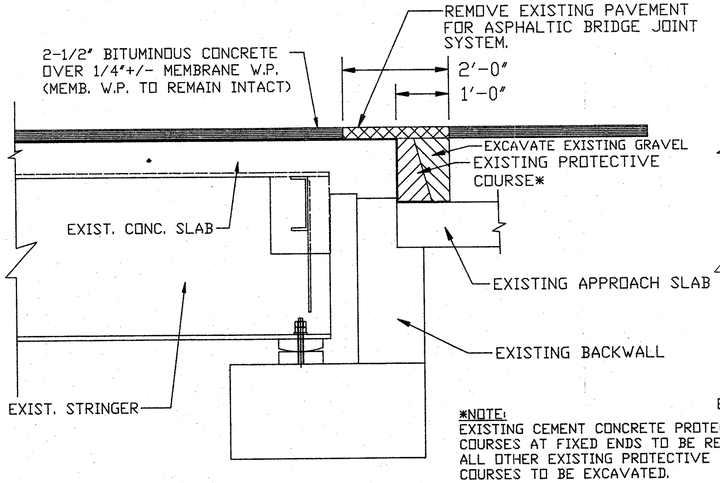
SECTION 4–4
TYPICAL EXISTING BURIED CONCRETE HEADER
JOINT UNDER BITUMINOUS CONCRETE
NOT TO SCALE



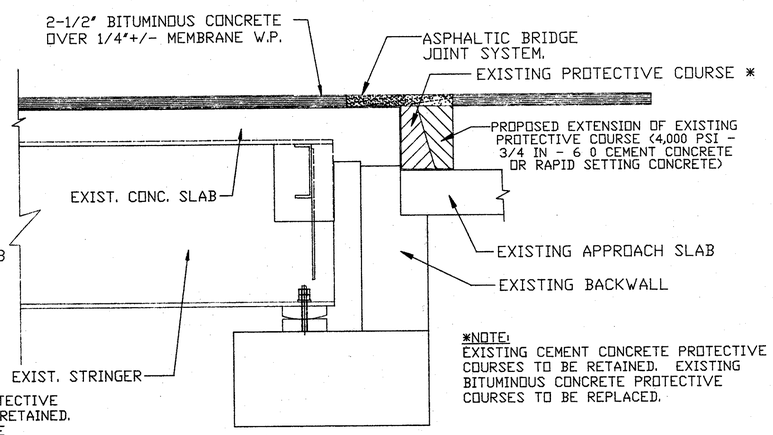
SECTION 5–5
TYPICAL EXISTING BURIED CONCRETE HEADER
UNDER ARMORED ELASTOMERIC JOINT
NOT TO SCALE



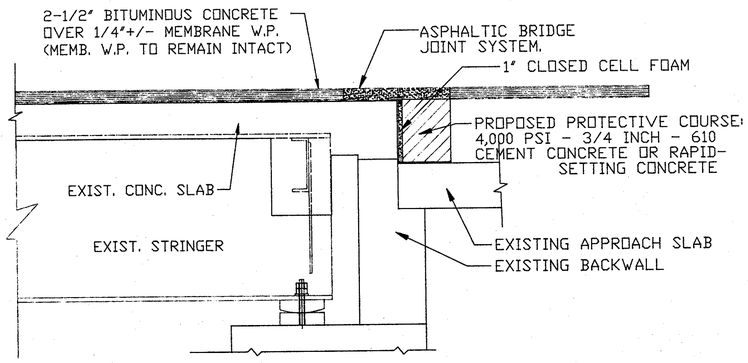
PROPOSED CONSTRUCTION
TYPICAL EXISTING BURIED CONCRETE HEADER
SECTIONS 4–4 & 5–5
NOT TO SCALE



SECTION 6–6
TYPICAL EXISTING END OF DECK DETAILS
NOT TO SCALE



PROPOSED CONSTRUCTION
EXISTING OR NEW PROTECTIVE COURSE
FIXED ENDS
SECTION 6–6
NOT TO SCALE



PROPOSED CONSTRUCTION
EXPANSION ENDS
SECTION 6–6
NOT TO SCALE

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

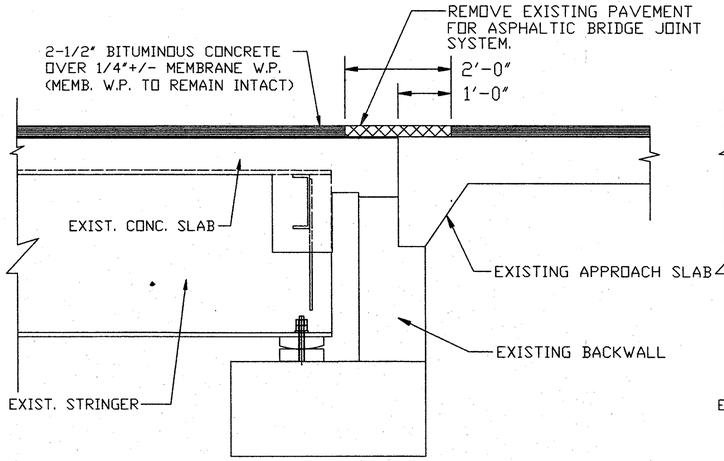
JOINTS\FOURJNT4 11/4/94

1956

DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	6	34
PROJECT FILE# 600702					

BURIED CONCRETE HEADER JOINTS 2

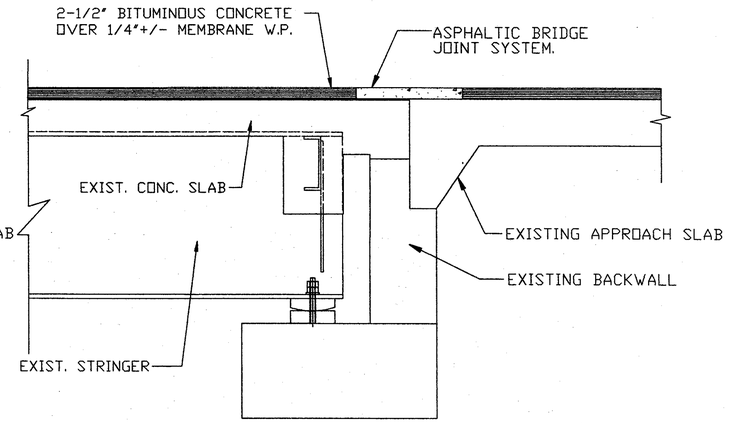


SECTION 7-7

END OF DECK & SURFACE APPROACH SLAB

NO JOINT GAP - EXISTING CONDITION

NOT TO SCALE

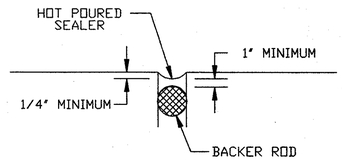


PROPOSED CONSTRUCTION

END OF DECK AND SURFACE APPROACH SLAB

SECTION 7-7

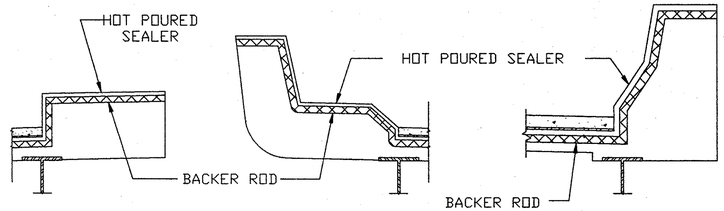
NOT TO SCALE



DETAIL B

PROPOSED SIDEWALK JOINT SEALING

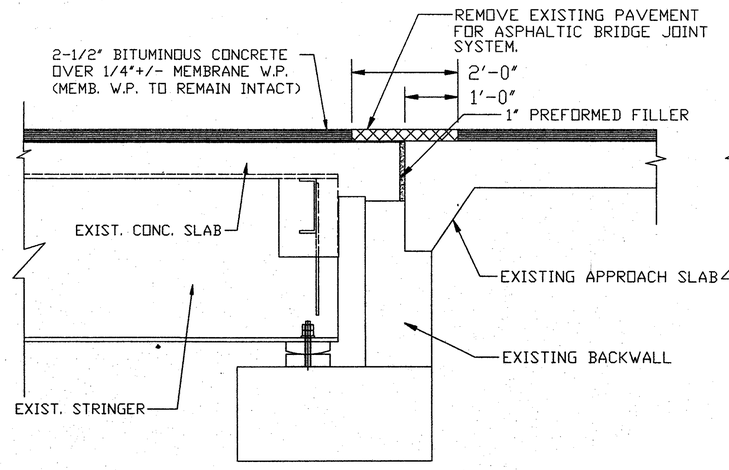
3" = 1'-0"



GRANITE CURB STEEL CURB JERSEY BARRIER

CURB DETAILS

NOT TO SCALE

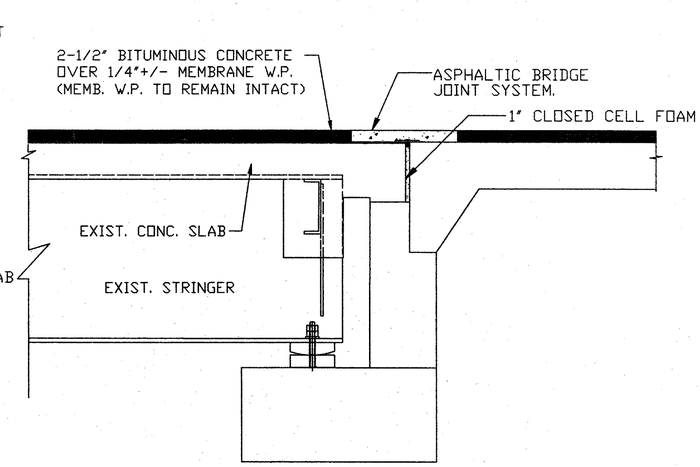


SECTION 8-8

END OF DECK & SURFACE APPROACH SLAB

WITH JOINT GAP - EXISTING CONDITION

NOT TO SCALE



PROPOSED CONSTRUCTION

END OF DECK AND SURFACE APPROACH SLAB

SECTION 8-8

NOT TO SCALE

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

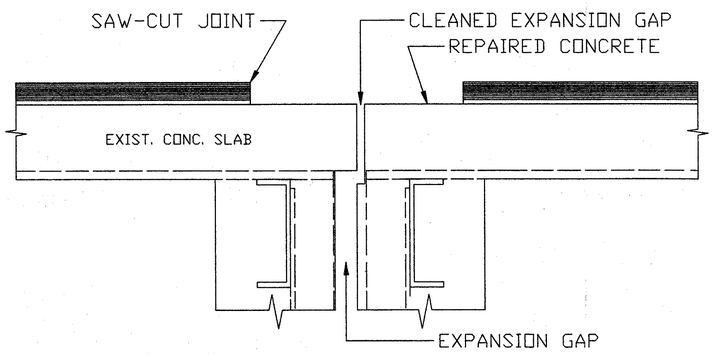
JOINTS\FOURJT4C 11/4/94

95611

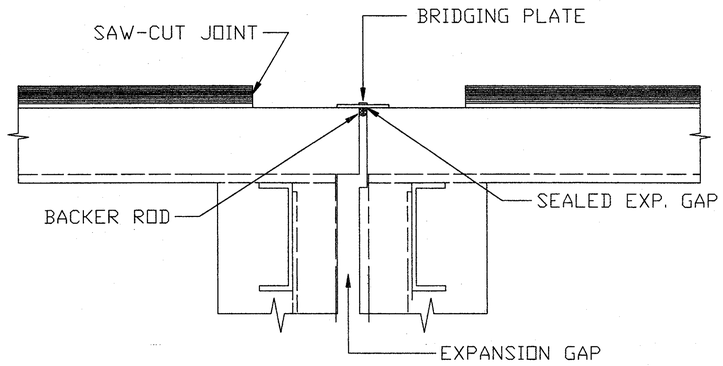
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	7	34
PROJECT FILE# 600702					

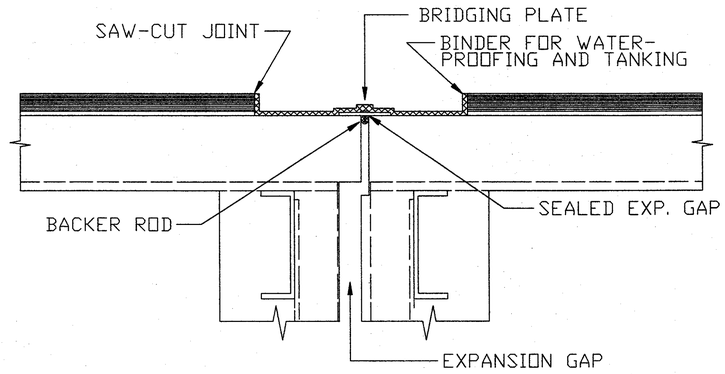
ASPHALTIC BRIDGE JOINT SYSTEM



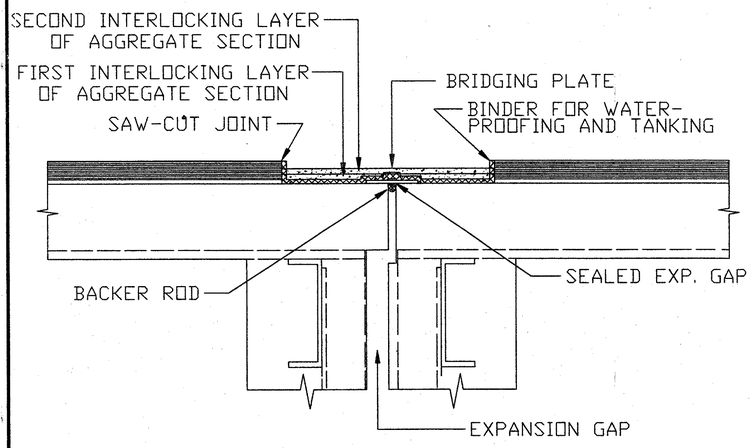
PREPARATION OF CONTACT SURFACES
FOR BRIDGE JOINT SYSTEM
NOT TO SCALE



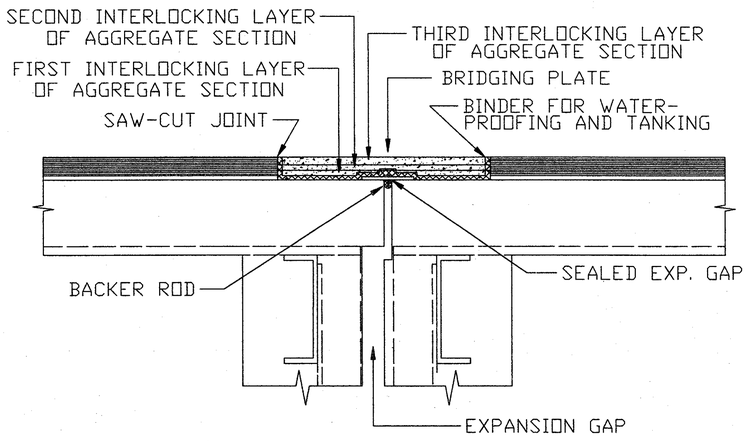
INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 1
NOT TO SCALE



INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 2
NOT TO SCALE

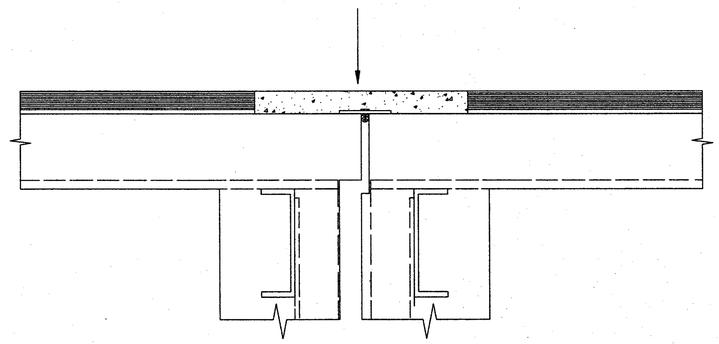


INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 3
NOT TO SCALE



INSTALLATION OF BRIDGE JOINT SYSTEM
STEP 4
NOT TO SCALE

THE COMPLETED SYSTEM



COMPLETED BRIDGE JOINT SYSTEM
ITEM 481.41
NOT TO SCALE

INSTALLATION OF ASPHALTIC BRIDGE JOINT SYSTEM

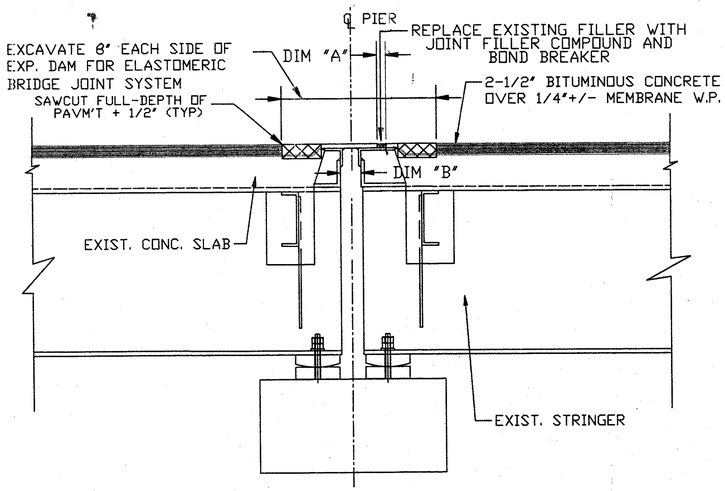
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\ASPHBJST 11/4/94

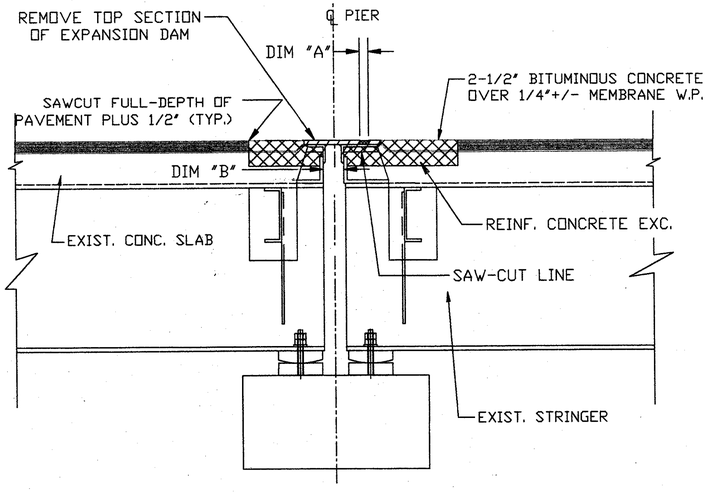
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	8	34
PROJECT FILE# 600702					

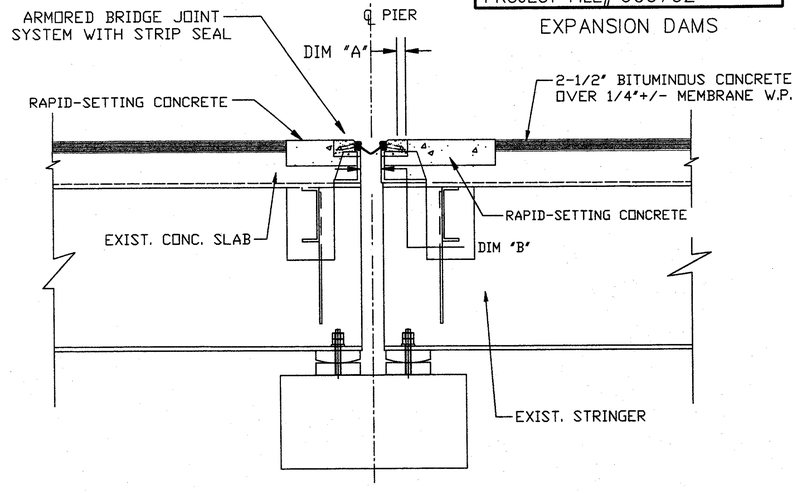
EXPANSION DAMS



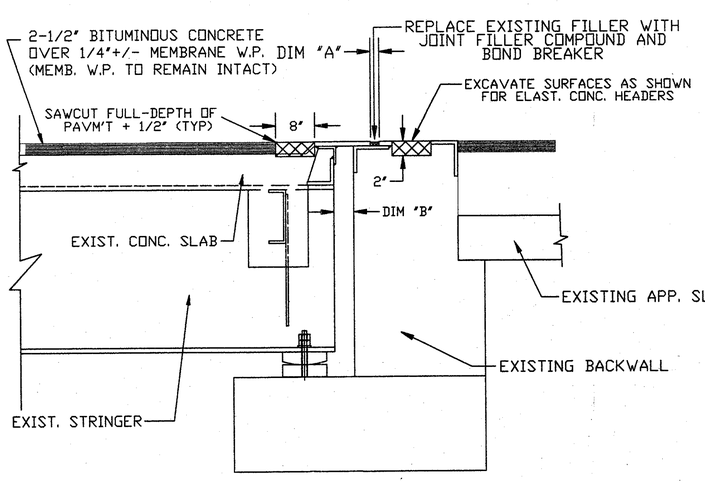
SECTIONS 9–9 & 9–9 SIMILAR
SLIDING STEEL PL EXPANSION DAM AT PIER
IN GOOD CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



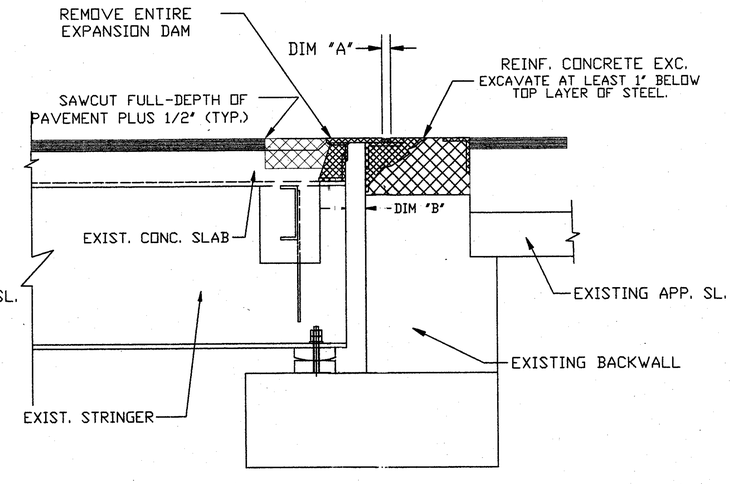
SECTIONS 9–9 & 9–9 SIMILAR
SLIDING STEEL PL EXPANSION DAM AT PIER
IN POOR CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



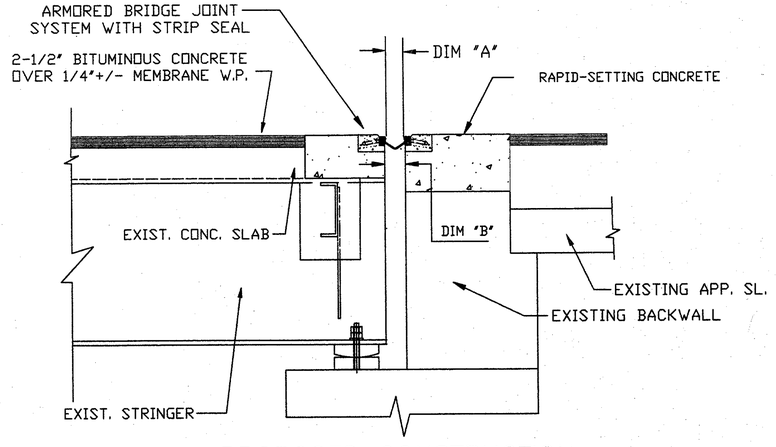
PROPOSED CONSTRUCTION
EXPANSION DAMS IN POOR CONDITION
SECTIONS 9–9 & 9–9 SIMILAR
NOT TO SCALE



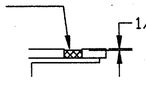
SECTIONS 10–10 & 10–10 SIMILAR
SLIDING STEEL PL EXP DAM AT ABUTMENT
IN GOOD CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



SECTIONS 10–10 & 10–10 SIMILAR
SLIDING STEEL PL EXP DAM AT ABUTMENT
IN POOR CONDITION (FINGER DAM SIMILAR)
NOT TO SCALE



PROPOSED CONSTRUCTION
EXPANSION DAMS IN POOR CONDITION
SECTIONS 10–10 & 10–10 SIMILAR
NOT TO SCALE



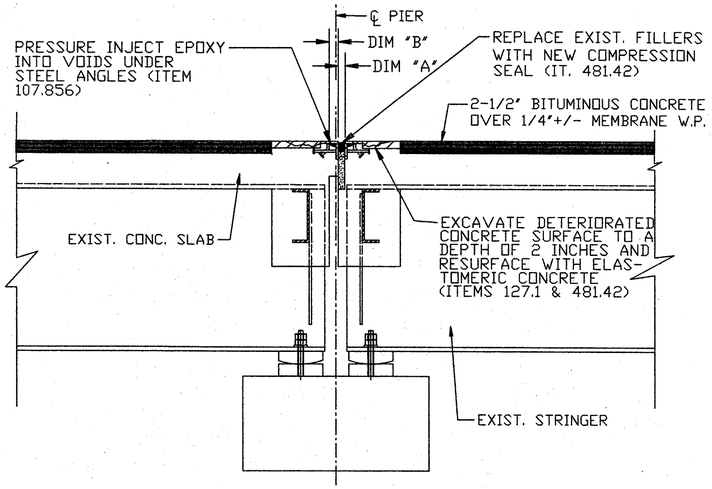
DETAIL C
NOT TO SCALE

DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE	

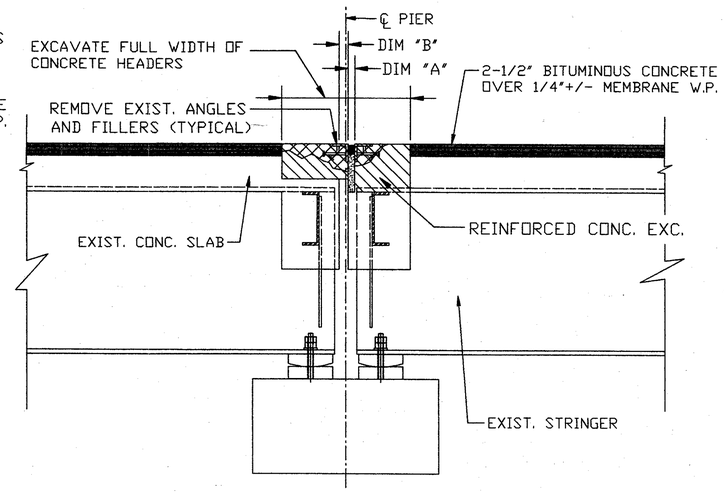
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	9	34
PROJECT FILE# 600702					

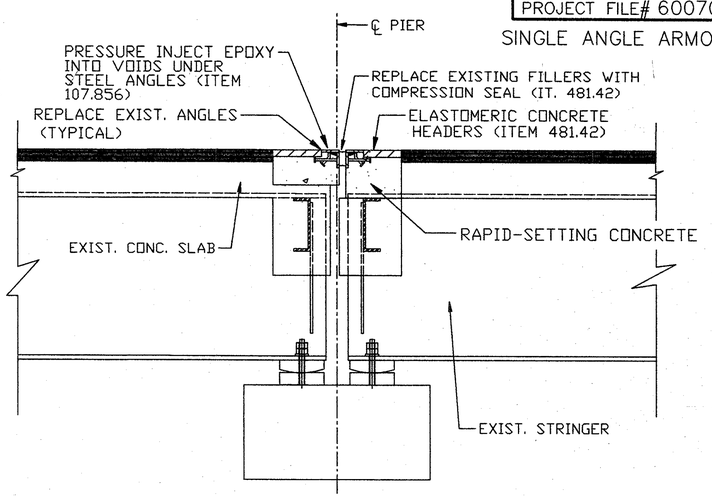
SINGLE ANGLE ARMORED JOINTS



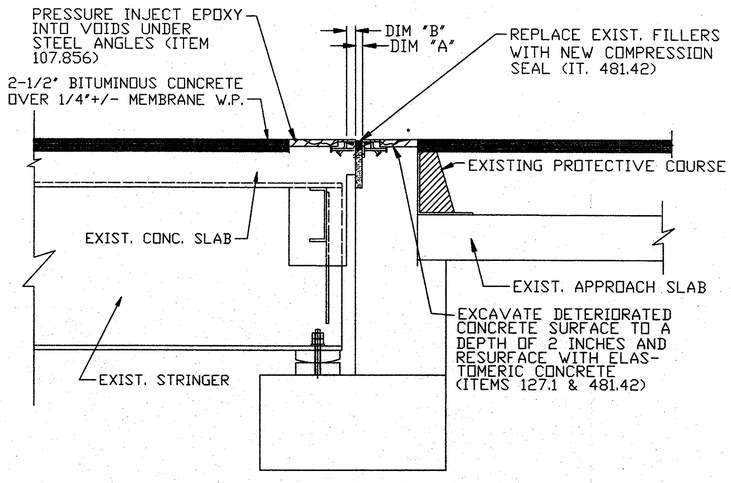
SECTION 11–11
PROPOSED REPAIRS TO TYPICAL EXISTING
SINGLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



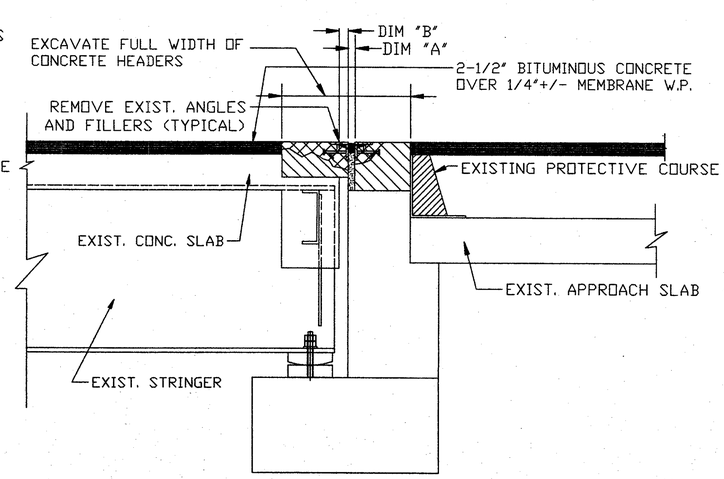
SECTION 11–11
TYPICAL EXISTING SINGLE ANGLE
ARMORED JOINT IN POOR CONDITION
NOT TO SCALE



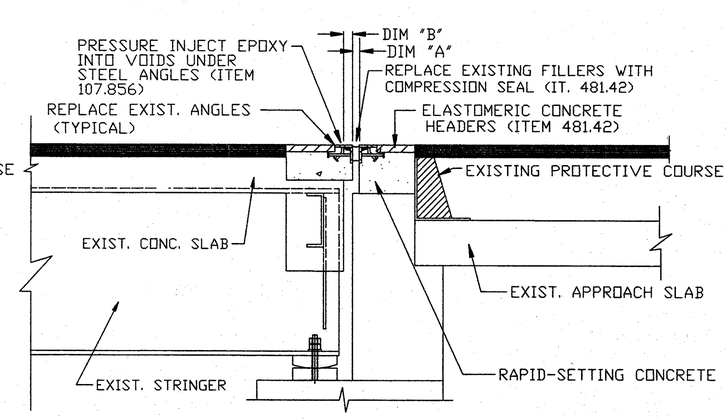
PROPOSED CONSTRUCTION
EXISTING SINGLE ANGLE ARMORED JOINT
IN POOR CONDITION – SECTION 11–11
NOT TO SCALE



SECTION 12–12
PROPOSED REPAIRS TO TYPICAL EXISTING
SINGLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



SECTION 12–12
PROPOSED REPAIRS TO TYPICAL EXISTING
SINGLE ANGLE ARMORED JOINT IN POOR COND.
NOT TO SCALE



PROPOSED CONSTRUCTION
EXISTING SINGLE ANGLE ARMORED JOINT
IN POOR CONDITION – SECTION 12–12
NOT TO SCALE

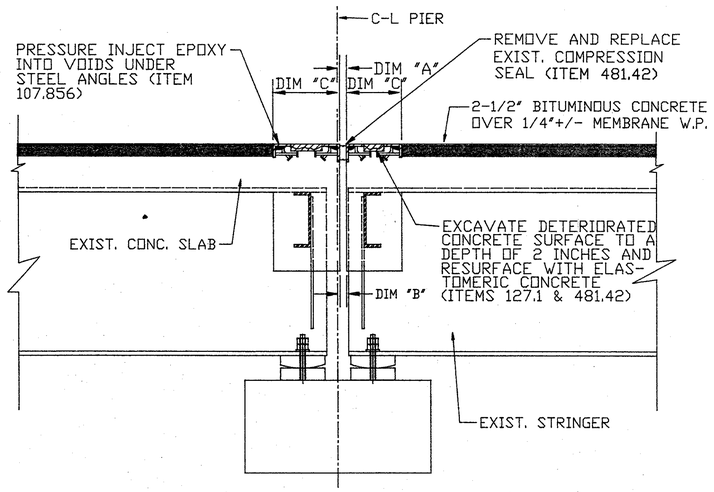
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\FOURJT6A 11/4/94

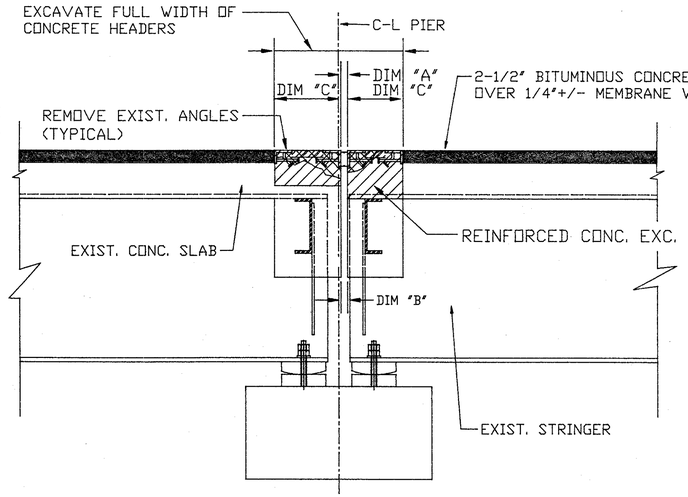
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	10	34
PROJECT FILE# 600702					

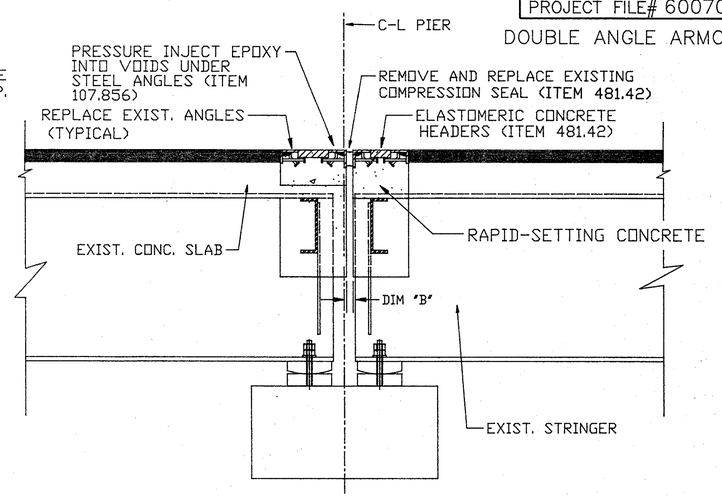
DOUBLE ANGLE ARMORED JOINTS



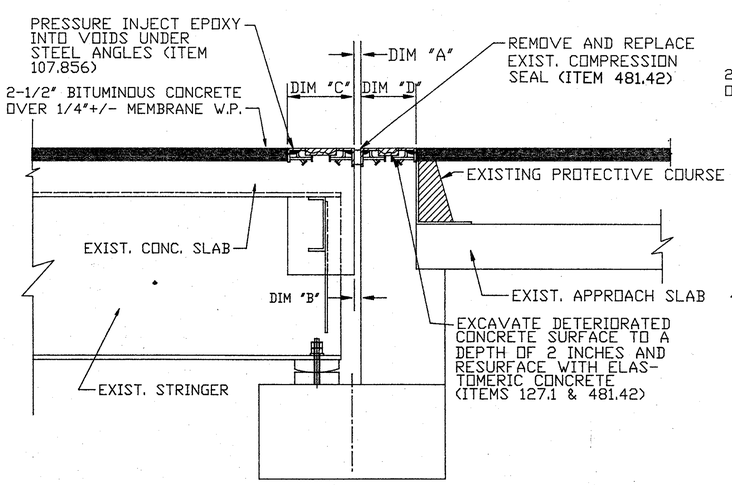
SECTION 13–13
PROPOSED REPAIRS TO TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



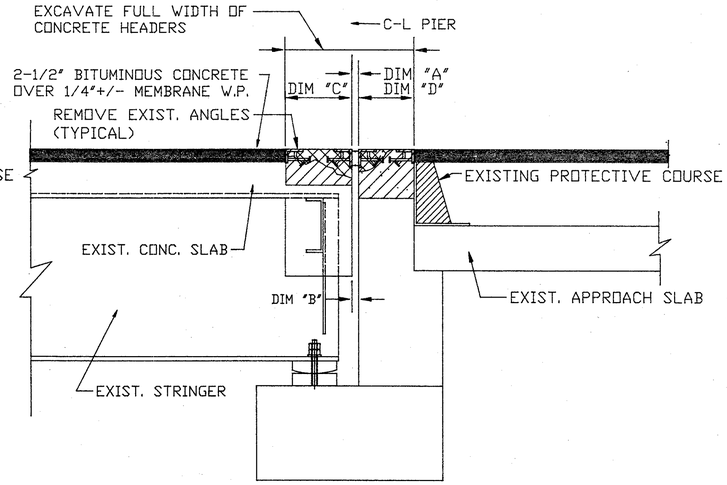
SECTION 13–13
TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION
NOT TO SCALE



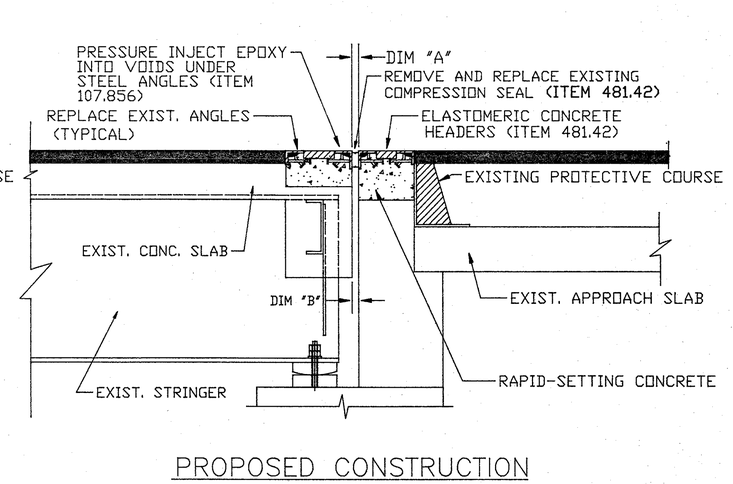
PROPOSED CONSTRUCTION
EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION – SECTION 13–13
NOT TO SCALE



SECTION 14–14
PROPOSED REPAIRS TO TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN GOOD COND.
NOT TO SCALE



SECTION 14–14
TYPICAL EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION
NOT TO SCALE



PROPOSED CONSTRUCTION
EXISTING DOUBLE ANGLE ARMORED JOINT IN POOR CONDITION – SECTION 14–14
NOT TO SCALE

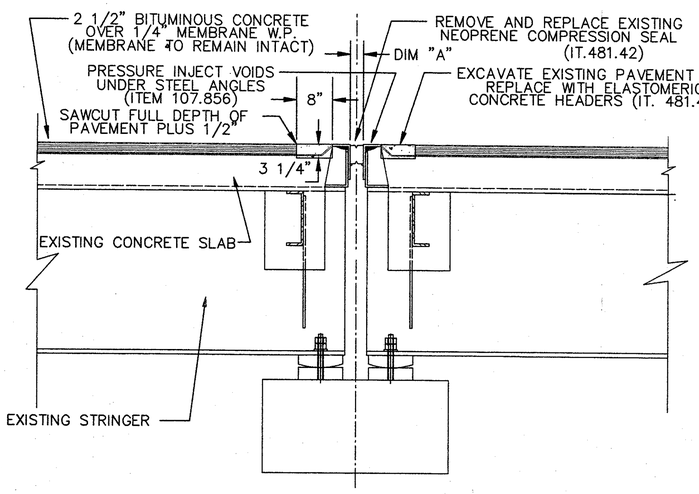
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\FOURJNT6 11/18/94

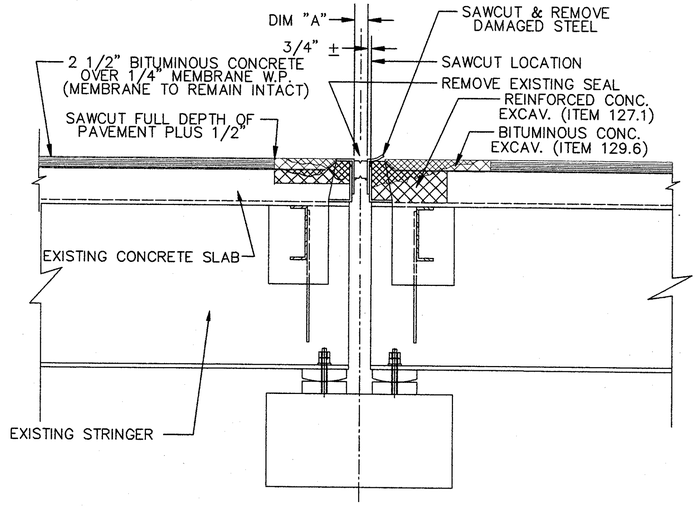
9591

DISTRICT FOUR
STANDARD DRAWING

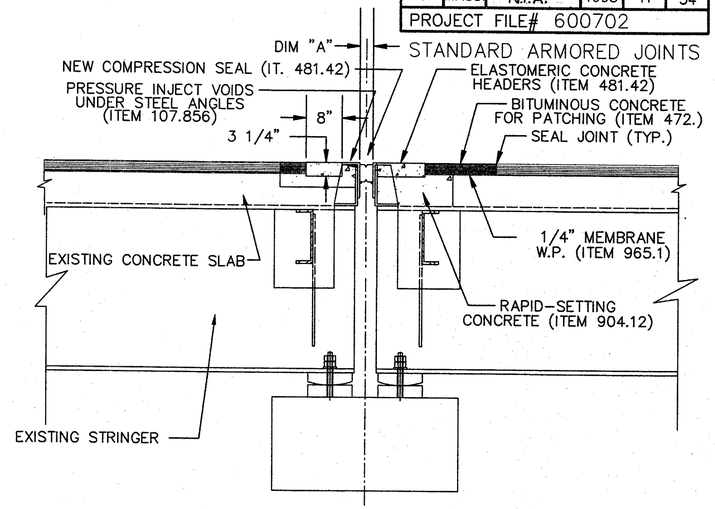
FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	11	34
PROJECT FILE# 600702					



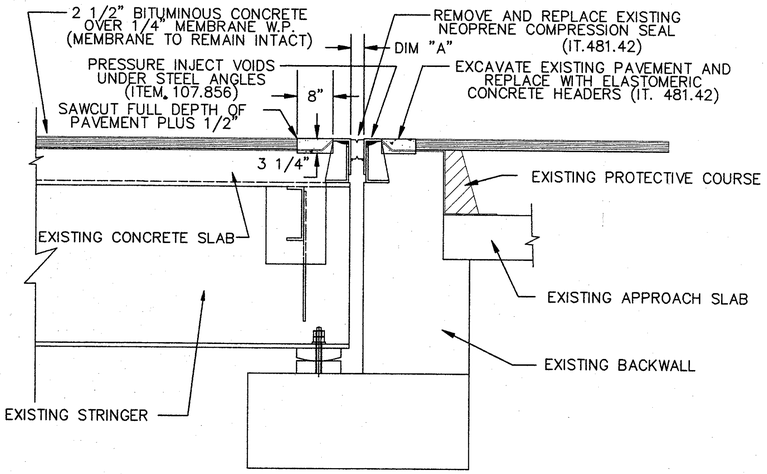
SECTIONS 15–15 & 15–15 SIMILAR
COMPRESSION SEAL JOINT OVER PIER IN GOOD CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



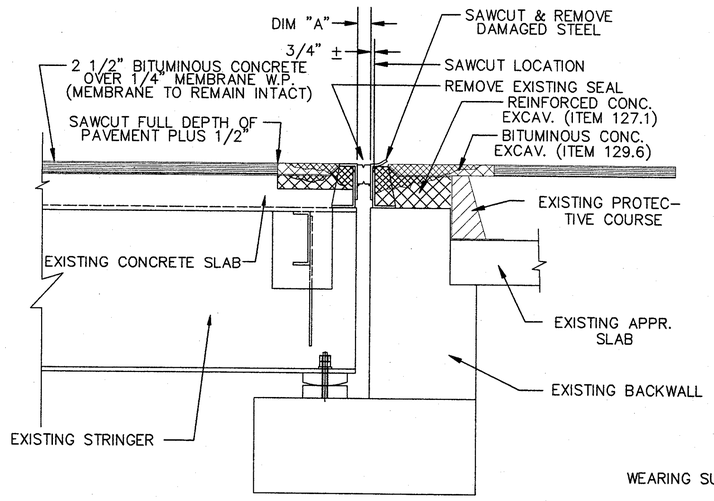
SECTIONS 15–15 & 15–15 SIMILAR
COMPRESSION SEAL JOINT OVER PIER IN POOR CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



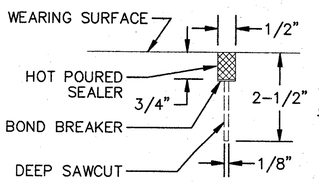
PROPOSED CONSTRUCTION
JOINT OVER PIER IN POOR CONDITION
SECTIONS 15–15 & 15–15 SIMILAR)
NOT TO SCALE



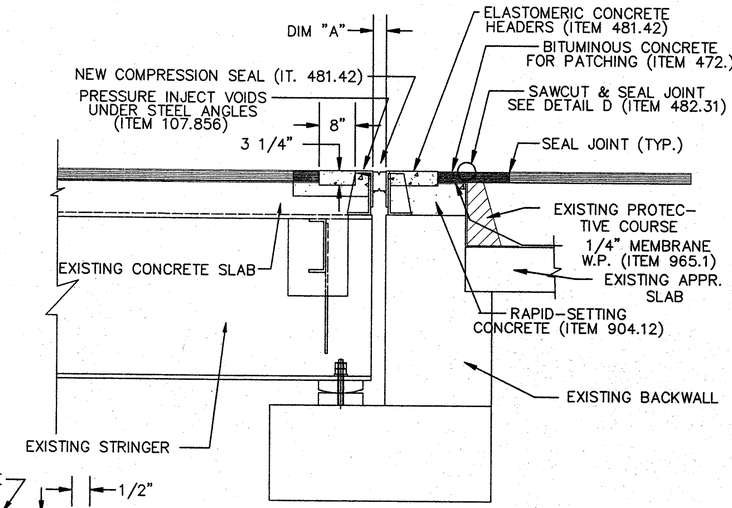
SECTIONS 16–16 & 16–16 SIMILAR
COMPRESSION SEAL JOINT AT ABUTMENT IN GOOD CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



SECTIONS 16–16 & 16–16 SIMILAR
COMPRESSION SEAL JOINT AT ABUTMENT IN POOR CONDITION (STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



DETAIL D
SCALE: HALF–SIZE



PROPOSED CONSTRUCTION
JOINT AT ABUTMENT IN POOR CONDITION
SECTIONS 16–16 & 16–16 SIMILAR)
NOT TO SCALE

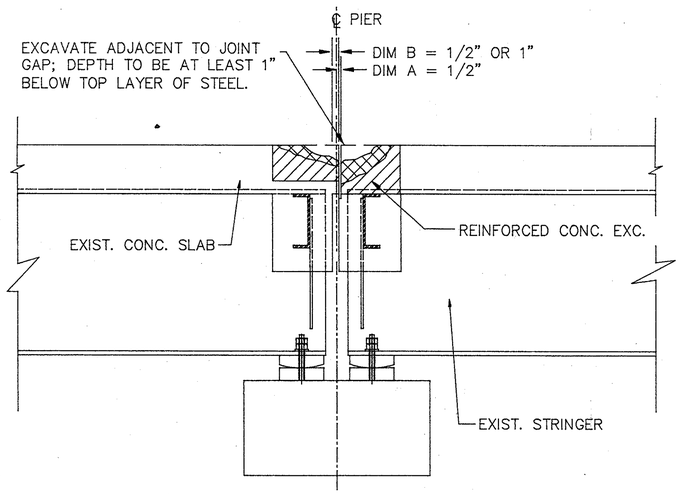
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

JOINTS\STDARMJT 11/22/94

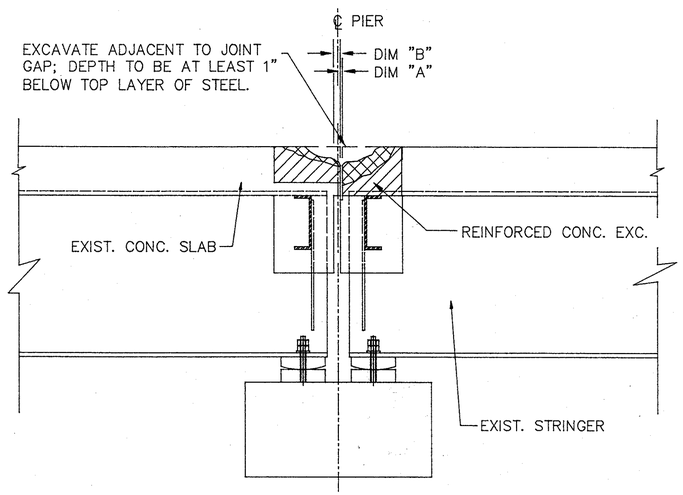
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	12	34
PROJECT FILE# 600702					

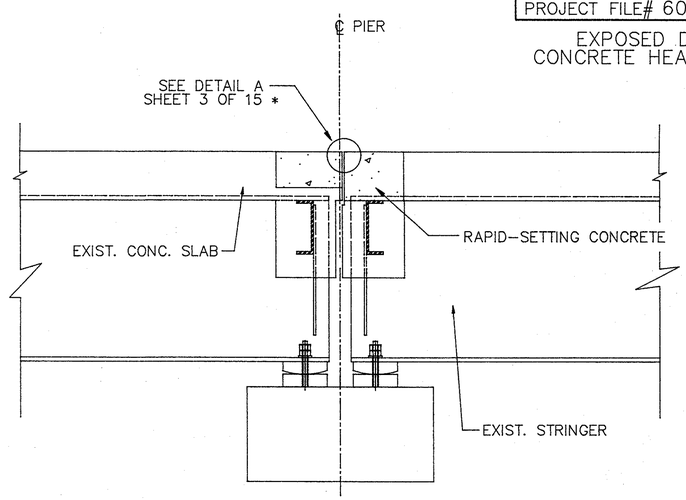
EXPOSED DECKS 1
CONCRETE HEADER JOINTS



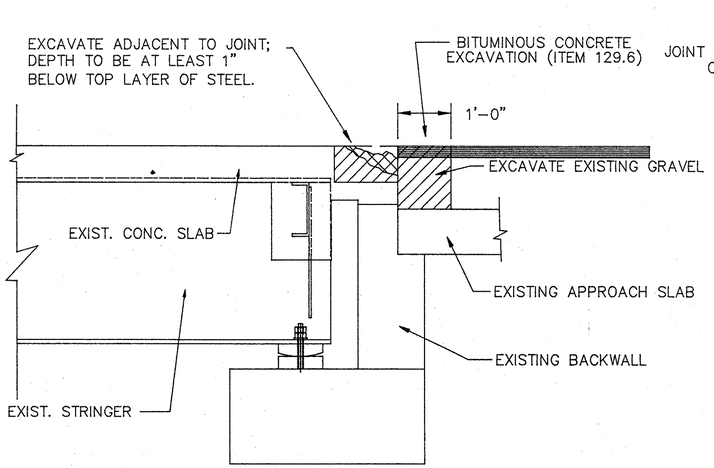
SECTION 17–17
TYPICAL EXISTING CONCRETE HEADER JOINT
FIXED BEARINGS AT PIER
NOT TO SCALE



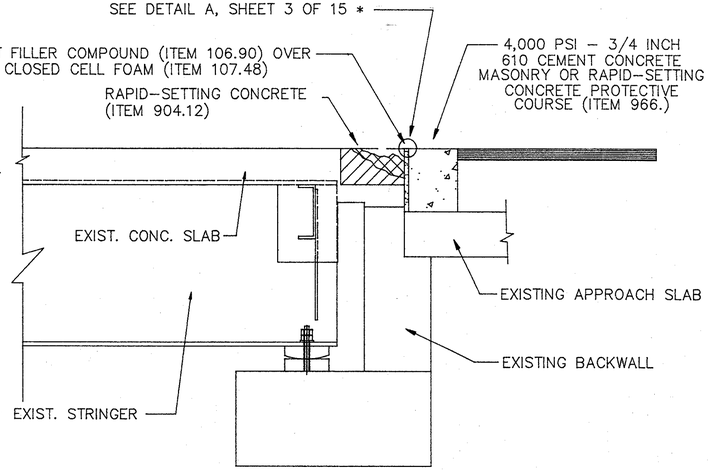
SECTION 18–18
TYPICAL EXISTING CONCRETE HEADER JOINT
EXPANSION BEARINGS AT PIER
NOT TO SCALE



PROPOSED CONSTRUCTION
TYPICAL EXISTING CONCRETE HEADER JOINT
SECTIONS 17–17 & 18–18
NOT TO SCALE



SECTION 19–19
TYPICAL EXISTING END OF DECK DETAILS
FIXED OR EXPANSION BEARINGS
NOT TO SCALE



PROPOSED CONSTRUCTION
TYPICAL END OF DECK DETAILS
SECTION 19–19
NOT TO SCALE

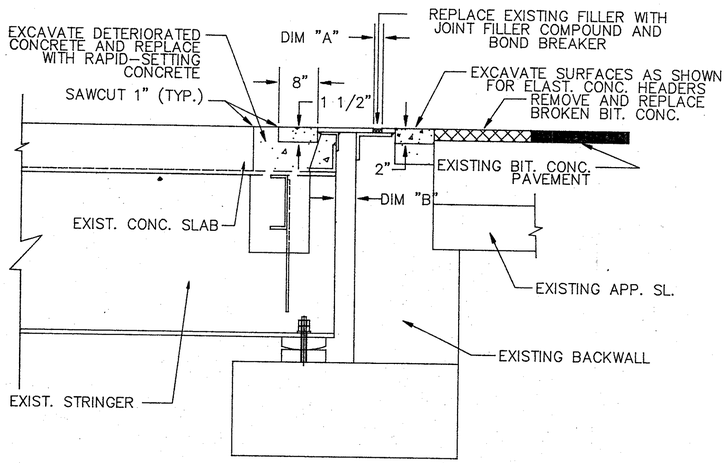
* NOTE:
JOINT FILLER COMPOUND TO BE PLACED DIRECTLY ON TOP OF CLOSED CELL FOAM.

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

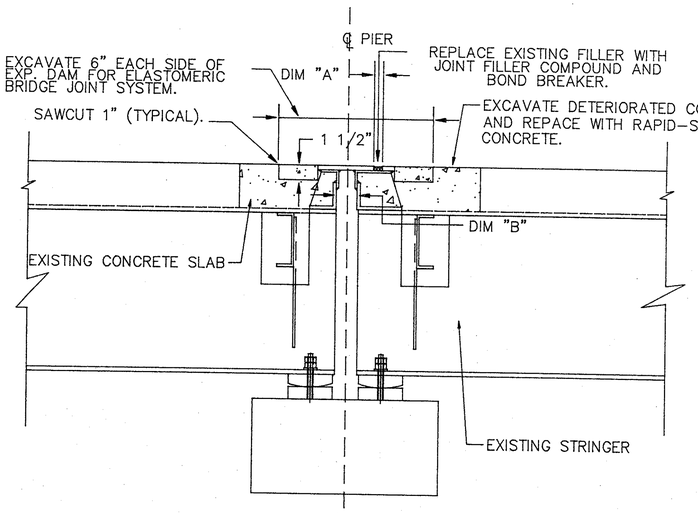
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	13	34
PROJECT FILE#600702					

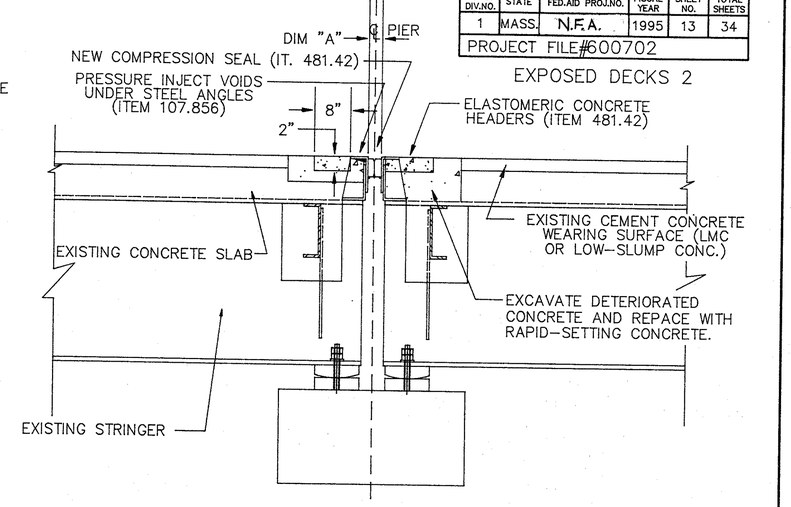
EXPOSED DECKS 2



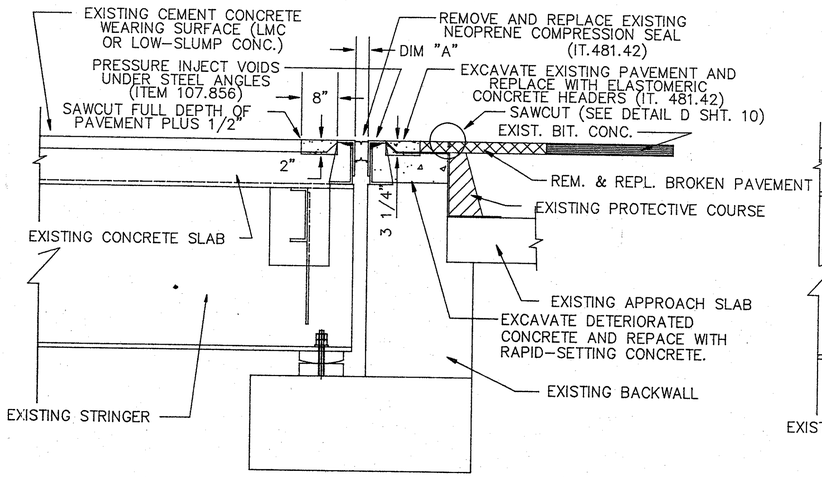
SECTIONS 20-20 & 20-20 SIMILAR
SLIDING STEEL PLATE EXPANSION DAM AT ABUTMENT
(FINGER DAM SIMILAR)
NOT TO SCALE



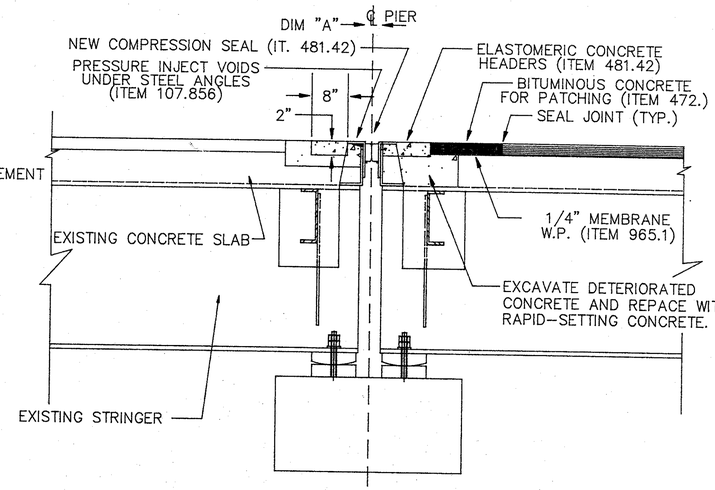
SECTIONS 21-21 & 21-21 SIMILAR
SLIDING STEEL PLATE EXPANSION DAM OVER
(FINGER DAM SIMILAR)
NOT TO SCALE



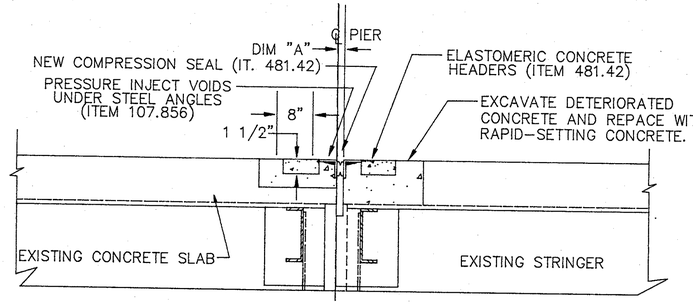
SECTIONS 22-22 & 22-22 SIMILAR
COMPRESSION SEAL JOINT OVER PIER
STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



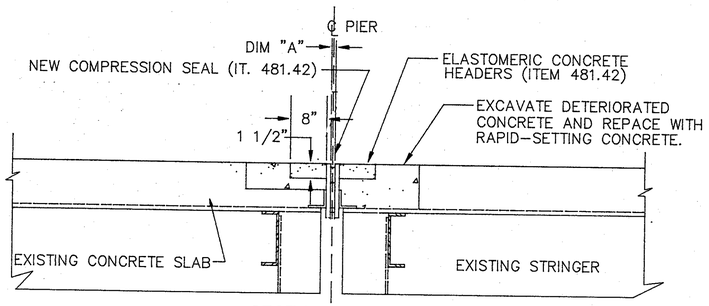
SECTIONS 23-23 & 23-23 SIMILAR
COMPRESSION SEAL JOINT AT ABUTMENT
(STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



SECTIONS 24-24 & 24-24 SIMILAR
COMPRESSION SEAL JOINT OVER PIER
(STRIP SEAL JOINT SIMILAR)
NOT TO SCALE



SECTION 25-25
SINGLE ANGLE ARMORED JOINT OVER PIER
NOT TO SCALE



SECTION 26-26
VERTICAL PLATE ARMORED JOINT OVER PIER
NOT TO SCALE

NOTE:
DETAILS NOT SHOWN ON THIS SHEET ARE SIMILAR TO DETAILS SHOWN IN SECTIONS 9-9 THROUGH 16-16.

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

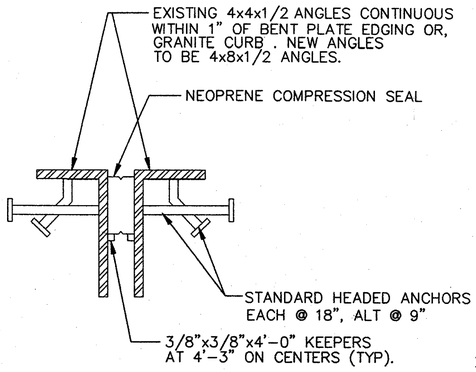
JOINTS\EXPDECK2 12/02/94

DISTRICT FOUR
STANDARD DRAWING

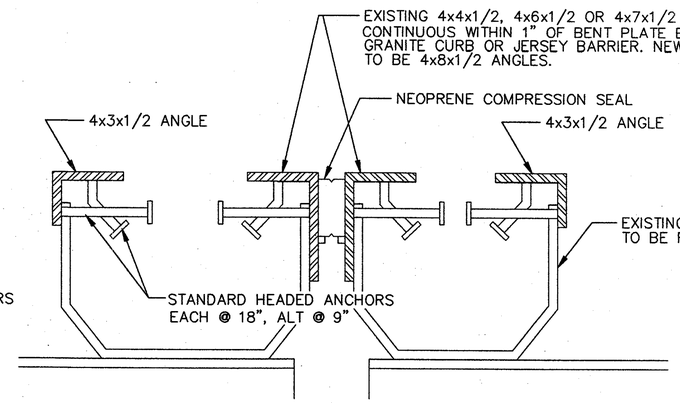
FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	14	34
PROJECT FILE# 600702					

9561

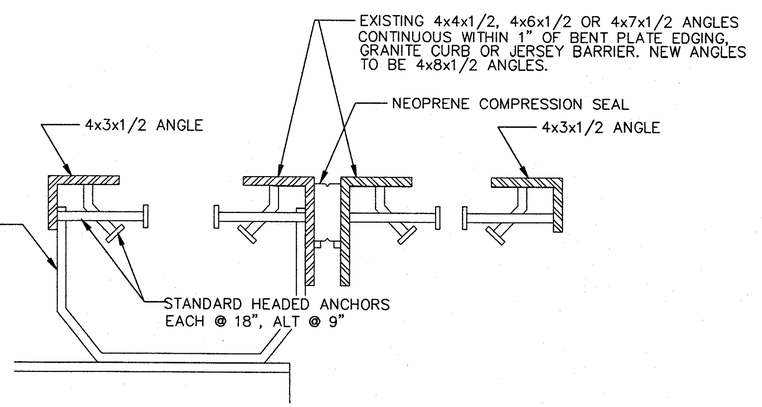
ARMORED JOINT DETAILS



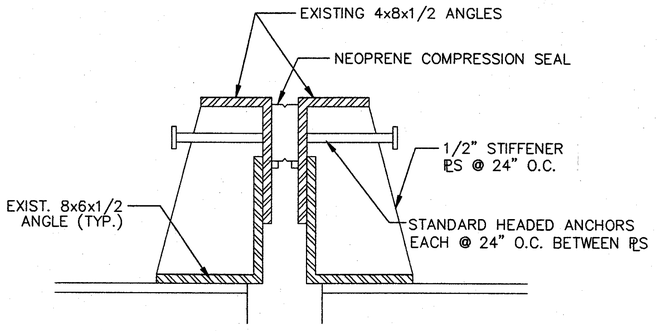
JOINT DETAIL E
JOINTS OVER PIERS
APPROX. SCALE 3" = 1'-0"



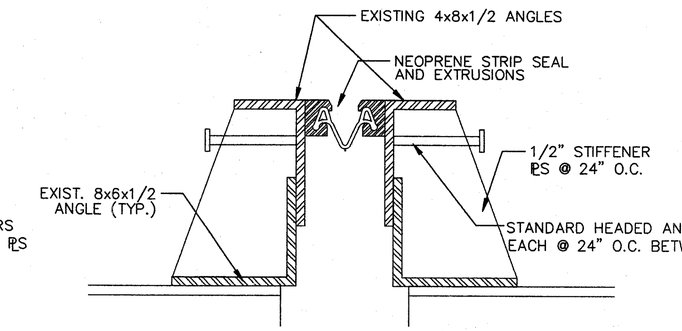
JOINT DETAIL F
JOINTS OVER PIERS
APPROX. SCALE 3" = 1'-0"



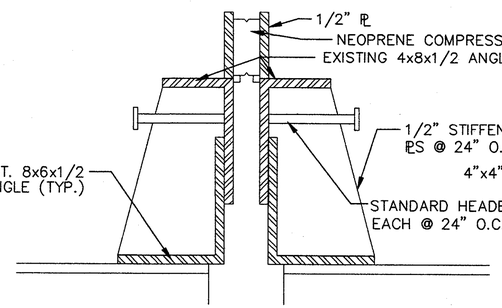
JOINT DETAIL G
JOINTS OVER PIERS
APPROX. SCALE 3" = 1'-0"



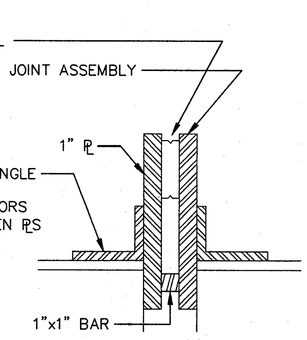
STANDARD ARMORED DETAIL H
COMPRESSION SEAL
APPROX. SCALE 3" = 1'-0"



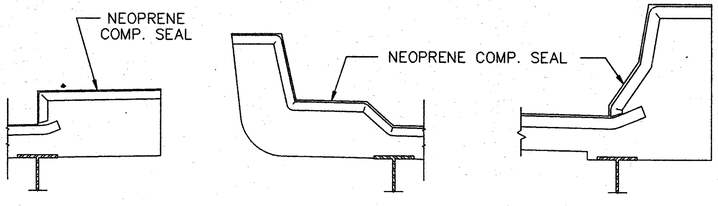
STANDARD ARMORED JOINT DETAIL I
STRIP SEAL
APPROX. SCALE 3" = 1'-0"



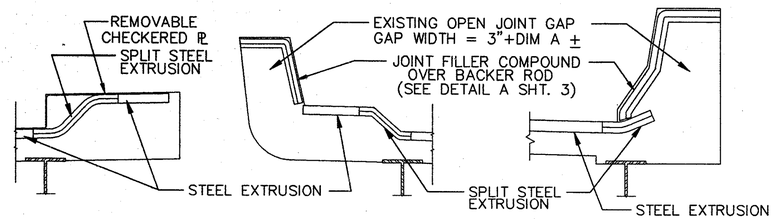
STANDARD ARMORED JOINT DETAIL J
JOINTS IN MEDIAN & SIDEWALK
APPROX. SCALE 3" = 1'-0"



JOINT DETAIL K
VERTICAL PLATE ARMORED JOINT
APPROX. SCALE 3" = 1'-0"



CURB DETAILS – COMPRESSION SEAL
3/8" = 1'-0"



CURB DETAILS – STRIP SEAL

NOTE:
EXISTING WELDS TO BE GROUND SMOOTH. NEW FIELD WELDS SHALL BE SAME SIZE AS EXISTING, BUT CONTINUOUS WHERE STRAP ANCHOR IS IN CONTACT WITH ANGLE (EXCEPT AT BOTTOM CORNERS).

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

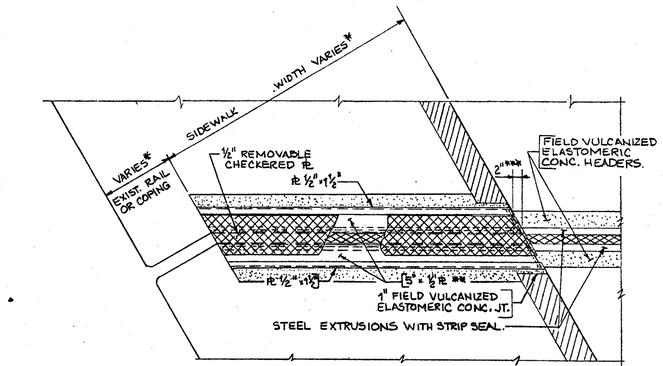
JOINTS\ARMJTDET 12/6/94

DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	15	34
PROJECT FILE# 600702					

ARMORED BRIDGE JOINT SYSTEM

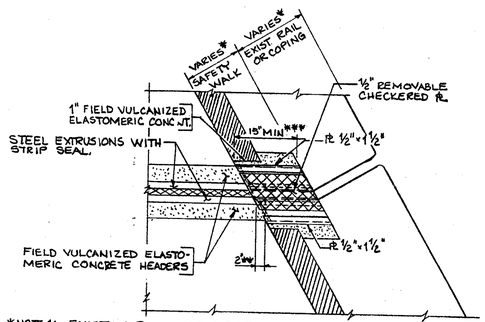
9561



*NOTE 1: EXISTING DIMENSIONS ON BRIDGE PLANS TO BE VERIFIED WITH FIELD MEASUREMENTS.
**NOTE 2: 5"×½" PLATES ARE SUFFICIENT FOR MOVEMENTS UP TO 3½" NORMAL TO ℄ OF JOINT. WIDER PLATES MUST BE USED FOR LARGER MOVEMENTS.
***NOTE 3: SEE DETAIL "X" FOR SECTION PARALLEL TO ℄ OF JOINT.

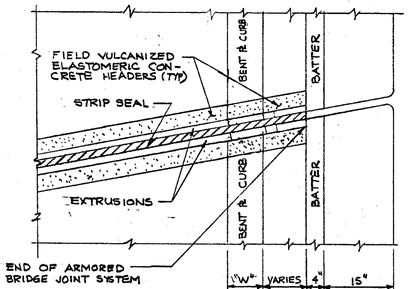
PLAN - SIDEWALK

ARMORED BRIDGE JOINT SYSTEM
SCALE: ¾" = 1'-0"



*NOTE 1: EXISTING DIMENSIONS ON BRIDGE PLANS TO BE VERIFIED WITH FIELD MEASUREMENTS.
**NOTE 2: SEE DETAIL "Y" FOR SECTION PARALLEL TO ℄ OF JOINT.
***NOTE 3: 15" MIN. REQUIRED AT ALL SAFETY WALKS THAT DO NOT HAVE ADJACENT CONC. COPING WALLS.

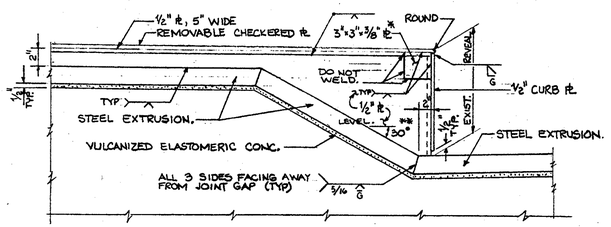
PLAN - SAFETY WALK
WITH VERTICAL CURB
ARMORED BRIDGE JOINT SYSTEM
SCALE: ¾" = 1'-0"



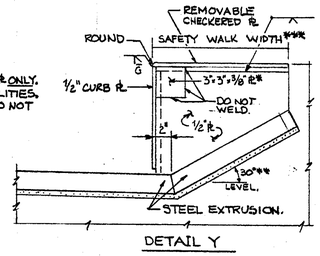
"W"	TYPE OF BT. PL. CURB
10"	BR. MANUAL DWG E-26
8"	OLD STANDARD

NOTE: SEE DETAIL "Z" FOR SECTION PARALLEL TO ℄ OF JOINT.

PLAN - SAFETY WALK WITH BENT PL CURB
(SLOPED EDGING)
ARMORED BRIDGE JOINT SYSTEM
SCALE ¾" = 1'-0"



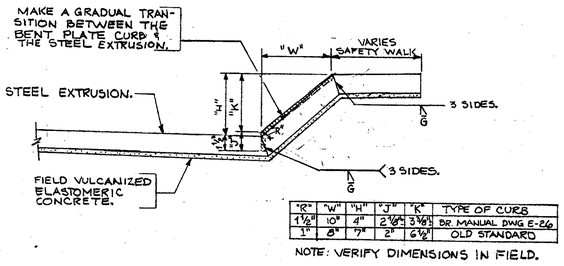
DETAIL X



DETAIL Y

*NOTE 1: WELD 3"×3"×⅜" PL TO REMOVABLE CHECKERED PL & CURB PL ONLY.
**NOTE 2: ADJUST ANGLE WHERE NECESSARY TO AVOID UTILITIES.
***NOTE 3: 15" MIN. REQUIRED AT ALL SAFETY WALKS THAT DO NOT HAVE ADJACENT CONCRETE COPING WALLS.

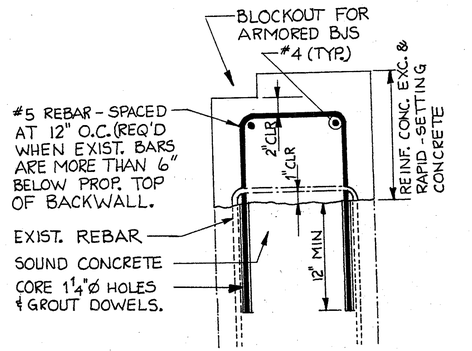
ARMORED BRIDGE JOINT SYSTEM CURB DETAIL.
1½" = 1'-0"



"B"	"W"	"H"	"J"	"K"	TYPE OF CURB
1⅛"	10"	4"	2⅜"	3⅜"	BR. MANUAL DWG E-26
1"	8"	7"	2"	6½"	OLD STANDARD

NOTE: VERIFY DIMENSIONS IN FIELD.

DETAIL Z
ARMORED BRIDGE JOINT SYSTEM BENT PLATE CURB DETAIL
(SLOPED EDGING)
1½" = 1'-0"



BACKWALL MODIFICATION
(NOT TO SCALE)

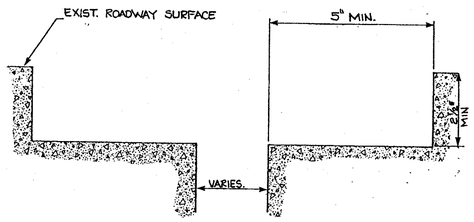
DATE	DESCRIPTION
	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE

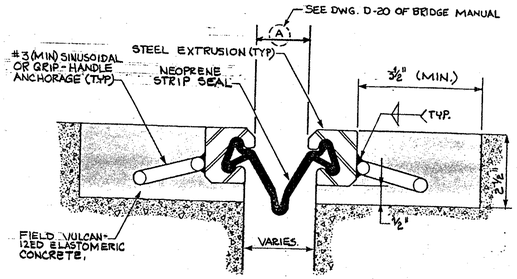
DISTRICT FOUR
STANDARD DRAWING

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	16	34
PROJECT FILE# 600702					

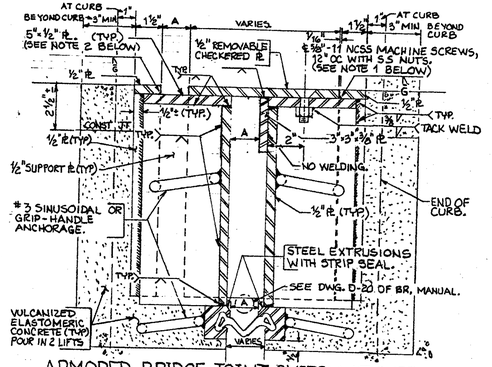
ARMORED BRIDGE JOINT SYSTEM



BLOCKOUT DETAIL
ARMORED BRIDGE JOINT SYSTEM
(NTS)

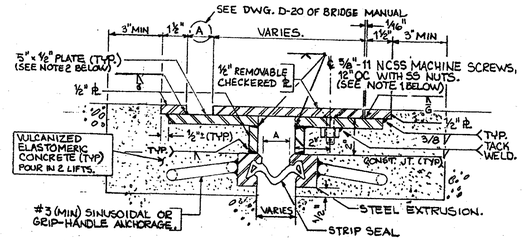


ROADWAY JOINT CROSS-SECTION
ARMORED BRIDGE JOINT SYSTEM
(NTS)

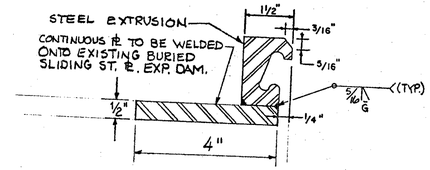


ARMORED BRIDGE JOINT SYSTEM AT CURB
3" = 1'-0"

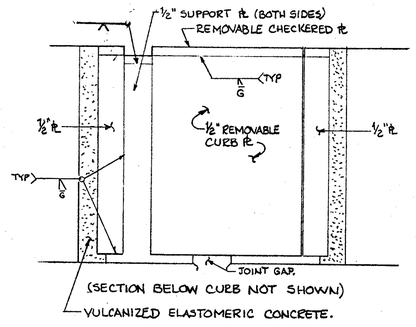
NOTE 1: PRIOR TO PLACEMENT OF CONCRETE ⅝"ϕ SS MACHINE SCREWS TO BE LUBRICATED WITH GRAPHITE AND SECURELY SET IN PLACE. MACHINE SCREW TO BE TEMPORARILY REMOVED AFTER CONCRETE HAS ATTAINED FINAL SET.
NOTE 2: 5"x ½" PLATES ARE SUFFICIENT FOR MOVEMENTS UP TO 3½" NORMAL TO ℄ OF JOINT. WIDER PLATES MUST BE USED FOR LARGER MOVEMENTS.



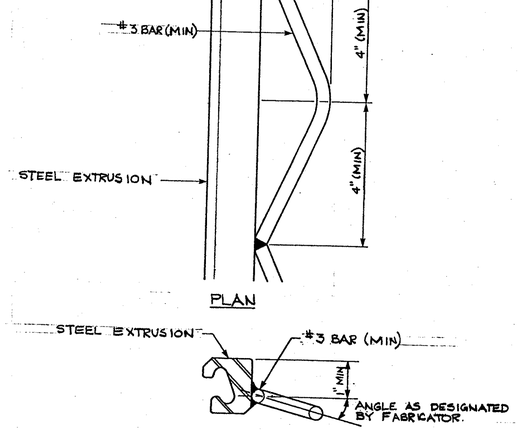
ARMORED BRIDGE JOINT SYSTEM AT SIDEWALK
3" = 1'-0"



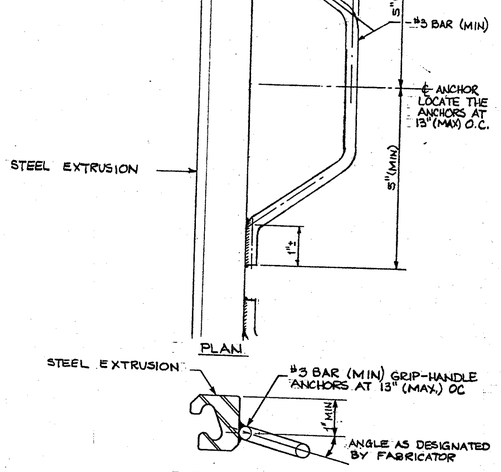
ELEVATION
PLATE ANCHORAGE
ARMORED BRIDGE JOINT SYSTEM
AT EXPANSION DAM
(HALF-SIZE)



ELEVATION.
ARMORED BRIDGE JOINT SYSTEM AT CURB.
3" = 1'-0"



ELEVATION.
SINUSOIDAL ANCHORAGE,
ARMORED BRIDGE JOINT SYSTEM
HALF-SIZE



ELEVATION
GRIP-HANDLE ANCHORAGE
ARMORED BRIDGE JOINT SYSTEM
HALF-SIZE

ARMORED BRIDGE JOINT SYSTEM NOTES

1. THE NEOPRENE STRIP SEAL SYSTEMS SHALL BE PRE-FABRICATED AND PREASSEMBLED IN THE SHOP AND SHIPPED WITH SHIPPING DEVICES TO MAINTAIN PROPER SPACING AND FIT.
2. THE STRIP SEALS SHALL BE FIELD BONDED TO THE STEEL EXTRUSIONS IN ONE PIECE.
3. FOR ALL LOCATIONS WHERE THE STRIP SEALS CANNOT BE FIELD BONDED TO THE STEEL EXTRUSIONS IN ONE PIECE, THE STRIP SEALS SHALL BE SHOP BONDED TO THE STEEL EXTRUSIONS AND FIELD SPLICED FULL-WIDTH WITH 0.0625 INCH (1/16") SHEET NEOPRENE, MINIMUM 12" IN LENGTH.
4. SHOP DRAWINGS OF THE ARMORED BRIDGE JOINT SYSTEMS, SPLICING DETAILS AND SHIPPING DEVICES SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER.
5. ARMORED BRIDGE JOINT SYSTEMS SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS BETWEEN 40° F AND 80° F. NO FIELD ADJUSTMENT OF THE OPENING IS PERMITTED. THE SHIPPING DEVICE MUST BE REMOVED AFTER THE ARMORED JOINT IS SECURED IN PLACE.
6. THE ARMORED JOINT SURFACE SHALL BE GROUND TO A SMOOTH FINISH AFTER REMOVAL OF THE SHIPPING DEVICE.
7. ALL EXPOSED SURFACES OF ARMORED JOINTS ARE TO BE FIELD PAINTED.
8. WHERE THE EXISTING JOINT GAP EXCEEDS THE DIMENSION "A" RECOMMEDED IN BRIDGE MANUAL DRAWING D-20, THE DIMENSION "A" SHALL BE SET SO THAT THE EXTRUSIONS ARE SECURELY SEATED IN THE BLOCKOUTS ON BOTH SIDES OF THE GAP.

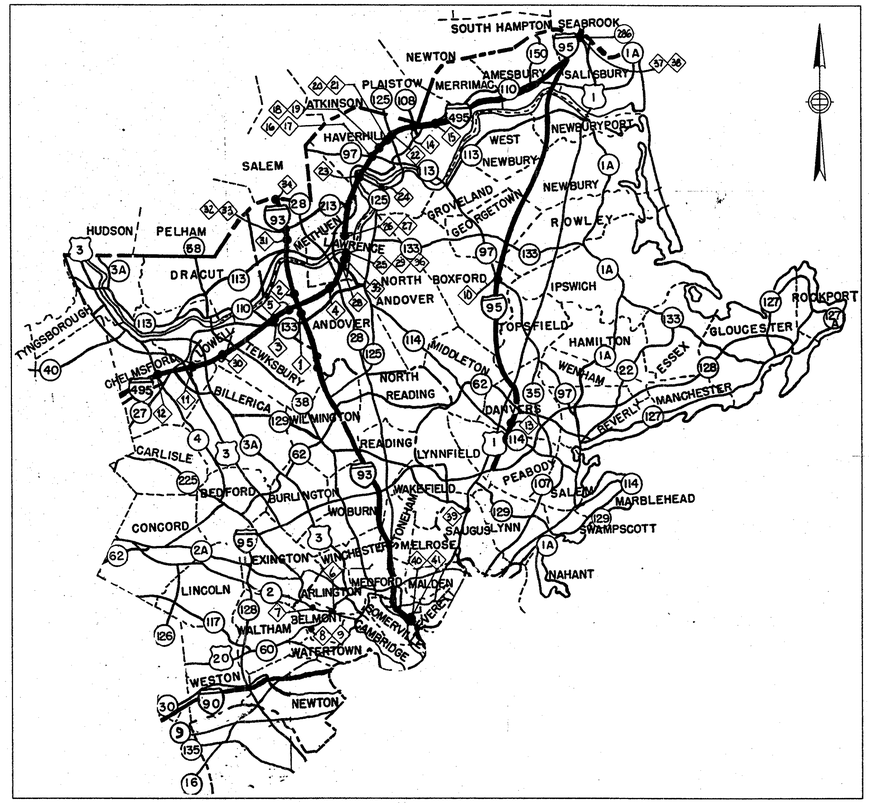
	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

95561

DISTRICT FOUR
ESSEX & MIDDLESEX COUNTIES

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	17	34
PROJECT FILE NO. 600702					

BRIDGE TITLE SHEET



LOCATION MAP
(NOT TO SCALE)

GENERAL NOTES:

1. ALL DIMENSIONS AND DETAILS SHOWN FOR EXISTING STRUCTURES SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR.
2. THE BRIDGES AND ADJACENT ROADWAYS MUST BE KEPT OPEN TO TRAFFIC AT ALL TIMES.
3. PLANS FOR THE EXISTING BRIDGES MAY BE SEEN AT THE OFFICE OF THE BRIDGE ENGINEER, MASS. HIGHWAY DEPARTMENT, TEN PARK PLAZA, BOSTON, MASS.
4. THE WORK DONE UNDER THIS CONTRACT SHALL CONFORM TO THE STANDARD DRAWINGS FOR INSTALLATION OF BRIDGE JOINT SYSTEMS (SHEETS 2 THROUGH 16 OF 34 SHEETS). ALL NUMBERED SECTIONS AND LETTERED DETAILS REFERRED TO IN THESE PLANS ARE LOCATED ON THE STANDARD DRAWINGS.

LIST OF BRIDGES:

LOCATION	FUNDS	BRIDGE NUMBER	CITY OR TOWN	LOCATION
1.	IM	A-9-27 (2YW)	ANDOVER	HIGH PLAIN RD. / I-93
2.	IM	A-9-28 (2YY)	ANDOVER	CHANDLER RD. / I-93
3.	IM	A-9-30 (2XM & 2XN)	ANDOVER	I-495 / HAGGETTS POND RD.
4.	IM	A-9-35 (305)	ANDOVER	CORBETT ST. / I-495
5.	IM	A-9-40 (2YX)	ANDOVER	HIGH PLAIN RD. / I-495
6.	NHS	A-10-12=B-7-3 (2DN)	ARLINGTON-BELMONT	RTE. 60 PLEASANT ST. / RTE. 2
7.	NHS	A-10-20=B-7-7 (2LK)	ARLINGTON-BELMONT	PARK AVE. / RTE. 2
8.	NFA	B-7-4 (2MP)	BELMONT	TRAPELO RD. / MBTA R.R.
9.	NFA	B-7-6 (2MN)	BELMONT	LEXINGTON ST. / MBTA R.R.
10.	IM	B-19-14 (30D)	BOXFORD	RTE. 97 KILLAM HILL RD. / I-95
11.	NFA	C-8-30 (2JG)	CHELMSFORD	RAMP B-11 / I-495
12.	NFA	C-8-37 (2K7)	CHELMSFORD	RTE. 4 NORTH RD. / I-495
13.	IM	D-3-32 (30K)	DANVERS	CENTRE ST. / I-95
14.	IM	H-12-34 (2WR & 2WT)	HAVERHILL	I-495 / RTE. 108 NEWTON RD.
15.	IM	H-12-35 (2WY & 2WU)	HAVERHILL	I-495 / RTE. 110 AMESBURY RD.
16.	IM	H-12-42 (30G)	HAVERHILL	RTE. 97 BROADWAY / I-495 NB
17.	IM	H-12-43 (30H)	HAVERHILL	RTE. 97 BROADWAY / I-495 SB
18.	IM	H-12-44 (313)	HAVERHILL	NORTH BROADWAY / I-495 SB
19.	IM	H-12-45 (312)	HAVERHILL	NORTH BROADWAY / I-495 NB
20.	IM	H-12-48 (2WQ)	HAVERHILL	I-495 SB / LITTLE RIVER & MBTA R.R.
21.	IM	H-12-49 (2WP)	HAVERHILL	I-495 NB / LITTLE RIVER & MBTA R.R.
22.	IM	H-12-50 (2TM)	HAVERHILL	RTE. 125 NORTH MAIN ST. / I-495
23.	IM	H-12-56 (2RV & 2RU)	HAVERHILL	RTE. 125 CONN. / I-495
24.	NHS	H-12-57 (2RT & 2RR)	HAVERHILL	RTE. 125 CONN. / OLD FERRY RD. & MBTA R.R.
25.	IM	L-4-37=N-15-16 (2XB)	LAWRENCE-N. ANDOVER	I-495 / MERRIMAC ST. & MBTA R.R.
26.	IM	L-4-39 (2X7 & 2X8)	LAWRENCE	I-495 / RAMPS A & B
27.	IM	L-4-40 (2XA & 2X9)	LAWRENCE	I-495 / TRAINING SCHOOL RD.
28.	IM	L-4-41 (2X3 & 2X4)	LAWRENCE	I-495 / RTE. 114 WINTHROP AVE.
29.	IM	L-4-44=N-15-17 (2XC)	LAWRENCE	I-495 SB RAMP L / MERRIMACK ST. & MBTA R.R.
30.	IM	L-15-85 (2L7)	LOWELL	BOYLSTON ST. / I-495
31.	IM	M-17-20 (2UT)	METHUEN	I-93 / PELHAM ST.
32.	IM	M-17-21 (2UU)	METHUEN	I-93 / RTE. 213 EB
33.	IM	M-17-23 (2UV)	METHUEN	I-93 / RTE. 213 WB
34.	IM	M-17-27 (2UX)	METHUEN	I-93 / HAMPSHIRE RD.
35.	IM	N-15-15 (2XJ)	N. ANDOVER	I-495 / MASSACHUSETTS AVE.
36.	IM	N-15-18 (2XK)	N. ANDOVER	I-495 NB RAMP N / SUTTON ST. & MBTA R.R.
37.	IM	S-2-7 (31N)	SALISBURY	SB CONNECTOR / I-95
38.	IM	S-2-8 (31P)	SALISBURY	RTE. 286 MAIN ST. / I-95
39.	NHS	S-5-16 (31C)	SAUGUS	RTE. 129 WALNUT ST. / US-1
40.	IM	S-17-31 (3BH)	SOMERVILLE	I-93 ASSEMBLY SQUARE VIADUCT
41.	IM	S-17-35 (3BJ)	SOMERVILLE	I-93 SB OFF-RAMP RD / MYSTIC AVE. SB

ESTIMATED QUANTITIES
(NOT GUARANTEED)

JOINT FILLER COMPOUND	6632	LINEAR FEET
PREFORMED ELASTOMERIC COMPRESSION JOINT SEALER	1312	LINEAR FEET
PREFORMED ELASTOMERIC STRIP JOINT SEALER	200	LINEAR FEET
PREFORMED JOINT FILLER	8328	LINEAR FEET
PRESSURE INJECTION OF VOIDS UNDER ARMORED JOINT ANGLES	3663	LINEAR FEET
STRUCTURAL STEEL REPAIRS	4500	POUNDS
WELDING	86	HOURS
UNCLASSIFIED EXCAVATION	91	CUBIC YARDS
REINFORCED CONCRETE EXCAVATION	197	CUBIC YARDS
BRIDGE PAVEMENT EXCAVATION	1854	SQUARE YARDS
BITUMINOUS CONCRETE FOR PATCHING	305	TONS
ASPHALTIC BRIDGE JOINT SYSTEM	4666	LINEAR FEET
ELASTOMERIC BRIDGE JOINT SYSTEM	5765	LINEAR FEET
ARMORED BRIDGE JOINT SYSTEM WITH STRIP SEAL	173	LINEAR FEET
SAWCUT AND SEAL JOINTS IN BITUMINOUS CONCRETE PAVEMENT	377	LINEAR FEET
HOT POURED JOINT SEALER	1696	LINEAR FEET
CURB REMOVED AND RESET	100	LINEAR FEET
CONCRETE SIDEWALK	43	SQUARE YARDS
RAPID-SETTING CONCRETE	197	CUBIC YARDS
STEEL REINFORCEMENT FOR STRUCTURES (EPOXY COATED)	5250	POUNDS
CORING AND GROUTING DOWELS	260	LINEAR FEET
MEMBRANE WATERPROOFING (RUBBERIZED ASPHALT)	704	SQUARE YARDS
WATERPROOFING PROTECTIVE COURSE	441	SQUARE YARDS
PROTECTIVE SHIELDING	710	SQUARE YARDS

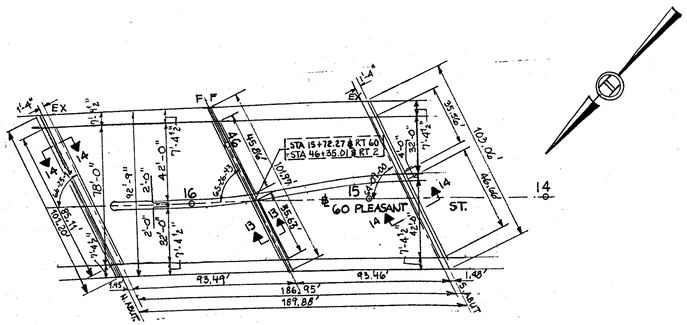
DESIGNED BY	ISSUED FOR CONSTRUCTION
E. MIESSNER	
DRAWN BY	MASS HIGHWAY
E. MIESSNER	INSTALLATION OF BRIDGE JOINT SYSTEMS
CHECKED BY	**ESSEX AND MIDDLESEX COUNTIES**
	41 LOCATIONS
SPECS BY	ON VARIOUS HIGHWAYS
E. MIESSNER	THE COMMONWEALTH OF MASSACHUSETTS
APPROVED FOR DESIGN	MASSACHUSETTS HIGHWAY DEPARTMENT
	10 PARK PLAZA BOSTON, MASS

JOINTS\ESSEXSH1 12/8/94

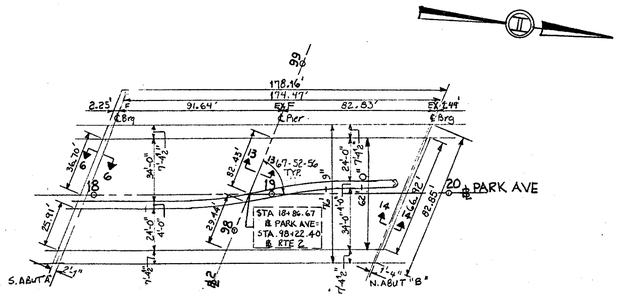
DISTRICT FOUR
ESSEX & MIDDLESEX COUNTIES

FHWA DIV.NO.	STATE	FED.AID PROJ.NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MASS.	N.F.A.	1995	19	34
PROJECT FILE NO. 600702					

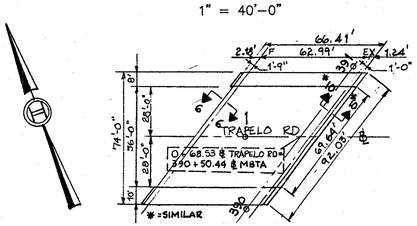
BRIDGE DECK PLANS
ARLINGTON–BELMONT–BOXFORD
CHELMSFORD–DANVERS



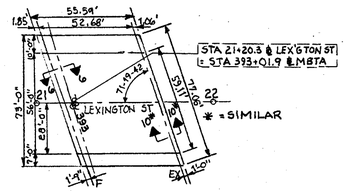
DECK PLAN A–10–12=B–7–3 (2DN)
RTE. 60 PLEASANT STREET / RTE. 2
1" = 40'–0"



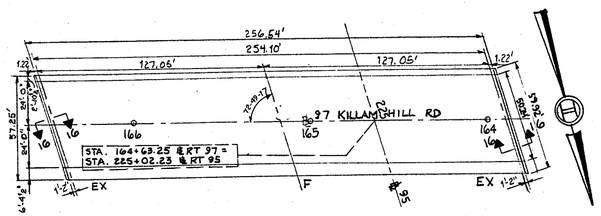
DECK PLAN A–10–20=B–7–7 (2LK)
PARK AVENUE / RTE. 2
1" = 40'–0"



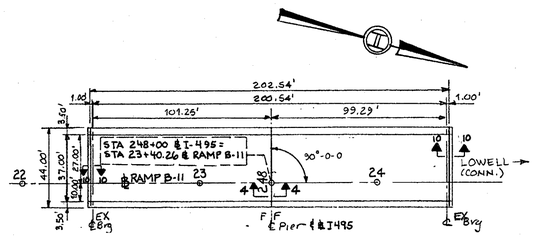
DECK PLAN B–7–4 (2MP)
TRAPELO ROAD / MBTA RAIL ROAD
1" = 40'–0"



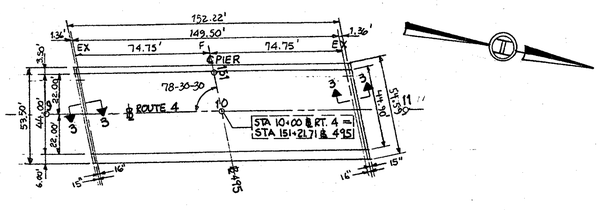
DECK PLAN B–7–6 (2MN)
LEXINGTON STREET / MBTA RAIL ROAD
1" = 40'–0"



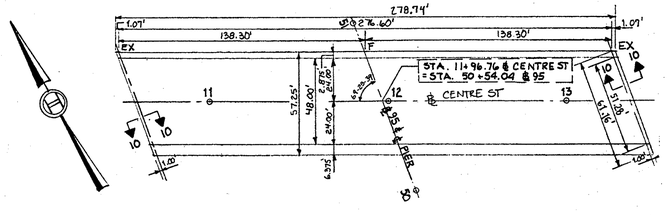
DECK PLAN B–19–14 (30D)
RTE. 97 KILLAM HILL ROAD / I–95
1" = 40'–0"



DECK PLAN C–8–30 (2JG)
RAMP B–11 / I–495
1" = 40'–0"



DECK PLAN C–8–37 (2K7)
RTE. 4 NORTH ROAD / I–495
1" = 40'–0"



DECK PLAN D–3–32 (30K)
CENTRE STREET / I–95
1" = 40'–0"

BRIDGE JOINT SCHEDULE A–10–12=B–7–3 (2DN)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
N. ABUT.	14–14	2 3/4"	8"	19"	15"	4"	–
CTR. PIER	13–13	1 1/8"	4"	14"	–	1 3/4"	–
S. ABUT.	14–14	2 3/4"	8"	19"	15"	4"	–

BRIDGE JOINT SCHEDULE A–10–20=B–7–7 (2LK)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
N. ABUT.	14–14	2 3/4"	8"	19"	15"	4"	–
CTR. PIER	13–13	2 3/4"	4 5/8"	15"	–	4"	–
S. ABUT.	6–6	0"	–	–	–	–	–

BRIDGE JOINT SCHEDULE B–7–4 (2MP)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
W. ABUT.	6–6	0"	–	–	–	–	–
E. ABUT.	10–10 SIMILAR	1 1/4"	1 7/8"	–	–	–	3"

BRIDGE JOINT SCHEDULE B–7–6 (2MN)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
S. ABUT.	6–6	0"	–	–	–	–	–
N. ABUT.	10–10 SIMILAR	1 1/4"	1 7/8"	–	–	–	3"

BRIDGE JOINT SCHEDULE B–19–14 (30D)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
W. ABUT.	16–16	2"	–	–	–	4"	–
E. ABUT.	16–16	2"	–	–	–	4"	–

BRIDGE JOINT SCHEDULE C–8–30 (2JG)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
S. ABUT.	10–10	2"	4"	–	–	–	–
CTR. PIER	4–4	1/2"	1"	–	–	–	–
N. ABUT.	10–10	2"	4"	–	–	–	–

BRIDGE JOINT SCHEDULE C–8–37 (2K7)

PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
S. ABUT.	3–3	1"	4"	–	–	–	–
N. ABUT.	3–3	1"	4"	–	–	–	–

BRIDGE JOINT SCHEDULE D–3–32 (30K)

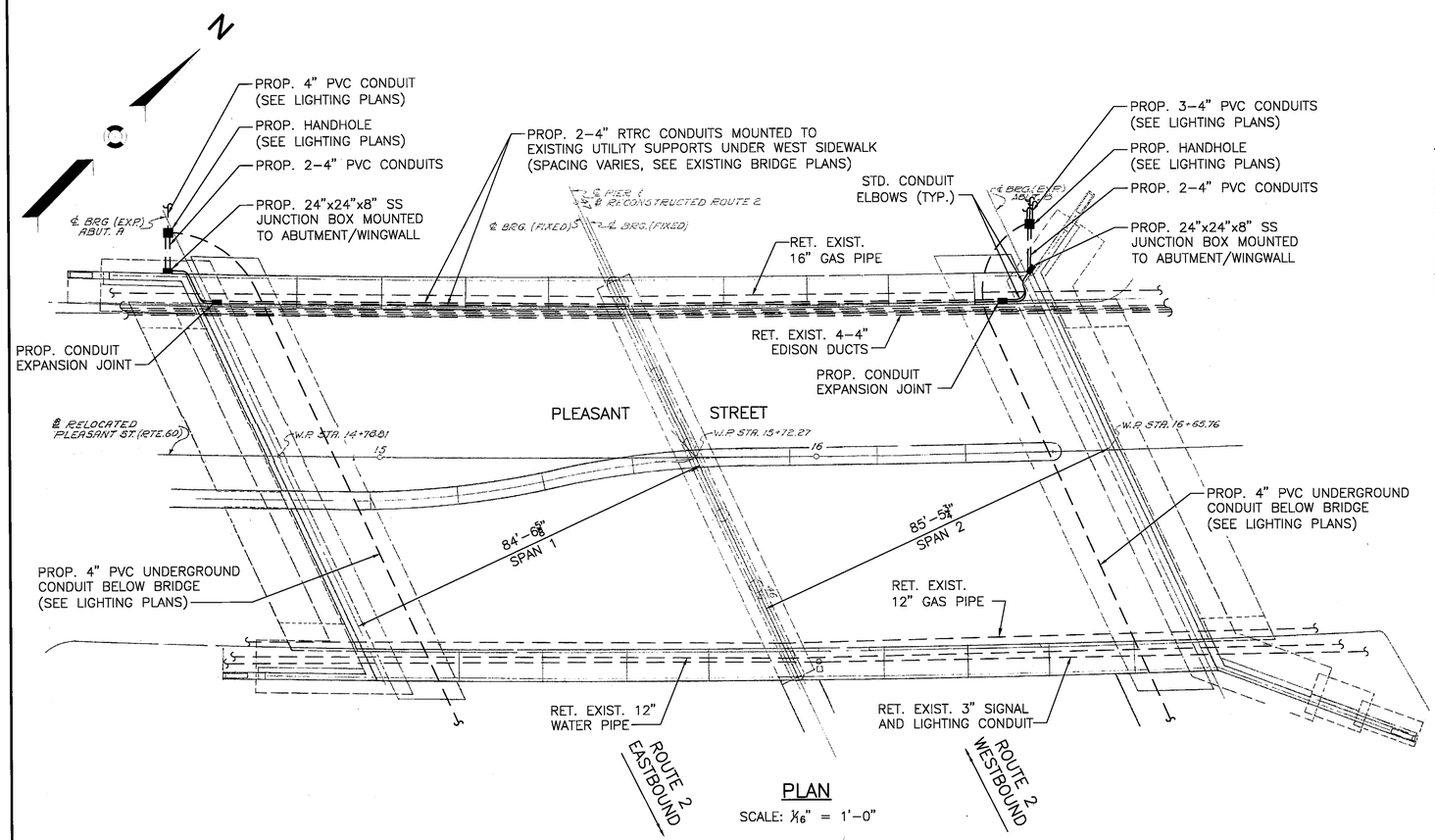
PIER/ ABUTMENT	SECTION	DIM A	DIM B	DIM C	DIM D	SEAL WIDTHS COMP.	SEAL WIDTHS STRIP
W. ABUT.	10–10	2"	4"	–	–	–	–
E. ABUT.	10–10	2"	4"	–	–	–	–

	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

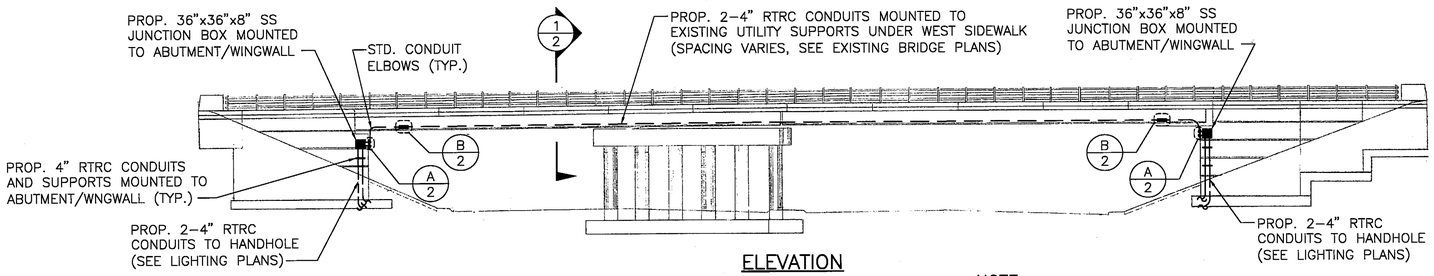
CAMBRIDGE / ARLINGTON / BELMONT / LEXINGTON
ROUTE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HPP/STP-003S(229)X	83	90
PROJECT FILE NO. 606381			

BRIDGE PLAN AND ELEVATION



PLAN
SCALE: 1/16" = 1'-0"



ELEVATION
SCALE: 1/16" = 1'-0"

NOTE:
EAST ELEVATION SHOWN, MOUNT PROPOSED CONDUIT TO EXISTING UTILITY SUPPORTS ON WEST SIDE OF BRIDGE.

DESIGN
IN ACCORDANCE WITH THE 2017 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS. WHERE A RELEVANT AASHTO PROVISION DOES NOT EXIST, CONDUIT SUPPORT DESIGN PER THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) STEEL CONSTRUCTION MANUAL, 15TH EDITION.

EXISTING BRIDGE PLANS
PLANS FOR EXISTING BRIDGE NUMBER A–10–012 = B–07–003 (2DN) CAN BE FOUND AT THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION – HIGHWAY DIVISION, 10 PARK PLAZA, BOSTON, MASSACHUSETTS.

EXISTING PLAN, ELEVATION, BASELINE STATIONING, AND UTILITIES SHOWN WERE TAKEN FROM RECORD BRIDGE DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL RELEVANT DIMENSIONING AND DETAILS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL.

CONSTRUCTION
PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL ALL PROPOSED CONSTRUCTION METHODS, EQUIPMENT, CONSTRUCTION SEQUENCE PLANS, AND MATERIAL TO PERFORM THE WORK.

ALL MODIFICATIONS TO PROPOSED WORK SHOWN ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.

THE CONTRACTOR SHALL EXERCISE CAUTION TO AVOID DAMAGING THE EXISTING BRIDGE AND ANY COMPONENTS TO REMAIN, AND SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED DURING CONSTRUCTION.

EMPLOY TEMPORARY SHIELDING AS REQUIRED TO PROTECT SURROUNDING ROADWAY FROM FALLING OBJECTS AND CONSTRUCTION DEBRIS. DURING CONSTRUCTION THE ENGINEER MAY REVIEW SHIELDING AND DETERMINE WHETHER ADEQUATE PROTECTION HAS BEEN PROVIDED BY THE CONTRACTOR. IF DEEMED NOT ACCEPTABLE, WORK WILL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

SCALES
SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF–SIZE PRINTS.

TRAFFIC MANAGEMENT
REFER TO THE TEMPORARY TRAFFIC CONTROL PLANS FOR STAGED CONSTRUCTION SEQUENCING AND PROPOSED TRAFFIC MAINTENANCE THROUGHOUT ALL STAGES OF CONSTRUCTION.

ELECTRICAL WORK
REFER TO THE LIGHTING PLANS FOR ADDITIONAL DETAILS REGARDING PROJECT ELECTRICAL WORK.

ESTIMATED QUANTITIES
(NOT GUARANTEED)

CLEAN AND PAINT STRUCTURAL STEEL	45 SF
STRUCTURAL STEEL – STAINLESS STEEL	65 LB

EXISTING UTILITIES
THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND THE COMMENCEMENT OF EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION AND SHALL COORDINATE WORK WITH THE UTILITY COMPANIES PERFORMING WORK IN THE SAME AREA.

THE CONTRACTOR SHALL NOTIFY DIG–SAFE (1–888–344–7233) AT LEAST 72 BUSINESS HOURS BEFORE CONSTRUCTION BEGINS.

THE CONTRACTOR SHALL DE–ENERGIZE ALL ELECTRICAL CIRCUITS IN CONDUITS THAT ARE IN AREAS TO BE DEMOLISHED. THE CONTRACTOR SHALL ALSO VERIFY AS NEEDED THE LOCATIONS OF EXISTING REBAR AND ELECTRICAL CONDUIT TO AVOID DAMAGE DURING CONSTRUCTION.

EXPANSION ANCHORS
UNLESS NOTED OTHERWISE, EXPANSION ANCHORS SHALL BE ¾"ø STAINLESS STEEL WITH A MINIMUM ALLOWABLE LOAD CAPACITY OF 1 KIP IN BOTH TENSION AND SHEAR ASSUMING 2500 PSI "CRACKED" CONCRETE AND INCLUDING ALL APPLICABLE LOAD ADJUSTMENT FACTORS AS PER THE MANUFACTURER. THE CONTRACTOR SHALL SUBMIT PROPOSED SYSTEM TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

STRUCTURAL STEEL FOR CONDUIT SUPPORTS:
STRUCTURAL STEEL MATERIALS SHALL MEET THE FOLLOWING REQUIREMENTS:

- ANGLES, PLATES: ASTM A276
- BOLTS: ASTM F593
- COLD–FORMED CHANNELS: ASTM A240
- NUTS: ASTM F594

STRUCTURAL STEEL FOR CONDUIT AND EQUIPMENT SUPPORTS AND ALL HARDWARE INCLUDING BOLTS, NUTS, AND WASHERS SHALL BE TYPE 316 STAINLESS STEEL UNLESS NOTED OTHERWISE.

SHOP CONNECTIONS SHALL BE WELDED, UNLESS NOTED OTHERWISE.

ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS APPROVED BY THE STATE OF MASSACHUSETTS AND SHALL CONFORM TO THE LATEST EDITION OF THE AWS STRUCTURAL WELDING CODES INCLUDING AWS D1.1 (STEEL) AND AWS D1.6 (STAINLESS STEEL).

NO FIELD WELDING SHALL BE PERMITTED, UNLESS NOTED OTHERWISE ON THE PLANS.

INSULATING NEOPRENE WASHERS AND BUSHINGS SHALL BE PROVIDED IN BOLTED CONNECTIONS MADE BETWEEN STAINLESS STEEL COMPONENTS AND DISSIMILAR MATERIALS.

ALL U–BOLT NUTS FOR CONDUIT SUPPORT CONNECTION SHALL BE NYLOCK TYPE AND HAND TIGHTENED.

SEPT. 1, 2018	ISSUED FOR CONSTRUCTION

BRIAN P. PINELLI STRUCTURAL No. 53008 REGISTERED PROFESSIONAL ENGINEER
Brian P. Pinelli 1/9/19

JACOBS
100 CAMBRIDGE PARK DRIVE, SUITE 400
CAMBRIDGE, MA 02140
OFFICE: (617) 242-9222
FAX: (617) 242-9654

MassDOT Massachusetts Department of Transportation Highway Division

PROPOSED BRIDGE REHABILITATION
ARLINGTON – BELMONT
ST 60 (PLEASANT STREET) OVER ST 2
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

TITLE: State Bridge Engineer, P.E. — CHIEF ENGINEER

SHEET 1 OF 2 SHEETS BRIDGE NO. A–10–012 = B–07–003 (2DN)

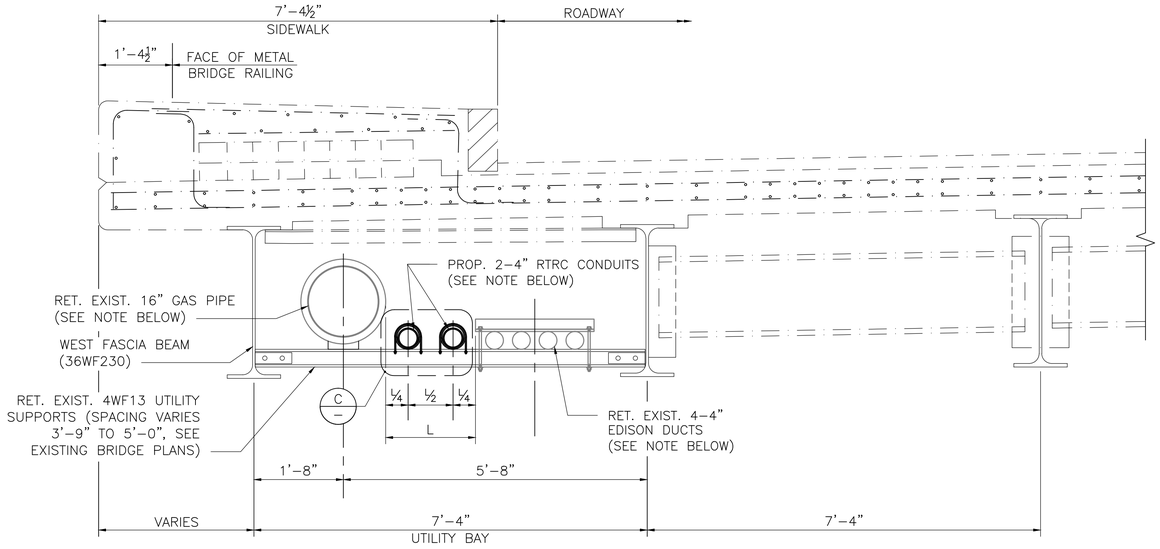
83-84_606381_BR(A10012).DWG 3-Jan-2019

Second Structural Submittal (S2) APRIL-2018

CAMBRIDGE / ARLINGTON / BELMONT / LEXINGTON
ROUTE 2

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HPP/STP-003S(229)X	84	90
PROJECT FILE NO.	606381		

PROPOSED CONDUIT SUPPORT DETAILS



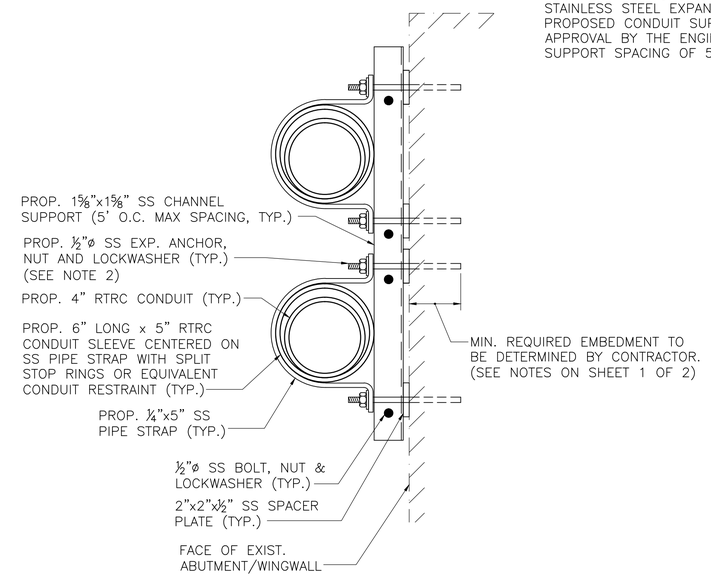
WEST SIDEWALK SECTION (1/1)

SCALE: ¾"=1'-0"

NOTE:
THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND CLEARANCES OF EXISTING UTILITIES AND UTILITY SUPPORTS PRIOR TO THE INSTALLATION PROPOSED CONDUIT. THE LOCATION OF PROPOSED CONDUITS MAY BE ADJUSTED WITH APPROVAL BY THE ENGINEER IF FIELD MEASUREMENTS ARE DOCUMENTED AND SUBMITTED DURING SHOP DRAWING REVIEW.

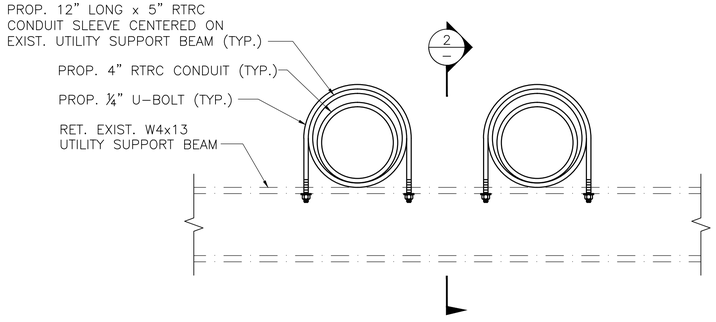
NOTES:

1. FOR GENERAL NOTES, SEE SHEET 1 OF 2.
2. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING ABUTMENT REINFORCING PRIOR TO THE INSTALLATION OF STAINLESS STEEL EXPANSION ANCHORS. THE LOCATION OF PROPOSED CONDUIT SUPPORTS MAY BE ADJUSTED WITH APPROVAL BY THE ENGINEER. MAINTAIN A MAXIMUM CONDUIT SUPPORT SPACING OF 5 FEET ON CENTER.



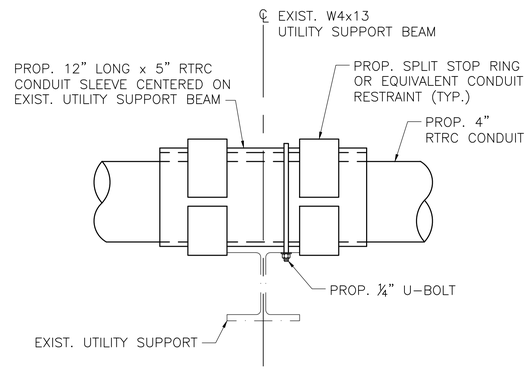
ABUTMENT/WINGWALL CONDUIT SUPPORT DETAIL (A/1)

NTS



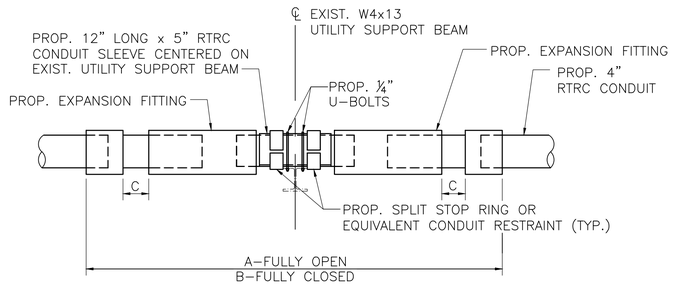
CONDUIT SUPPORT DETAIL (C/–)

SCALE: 3" = 1'-0"



SECTION (2/–)

SCALE: 3" = 1'-0"

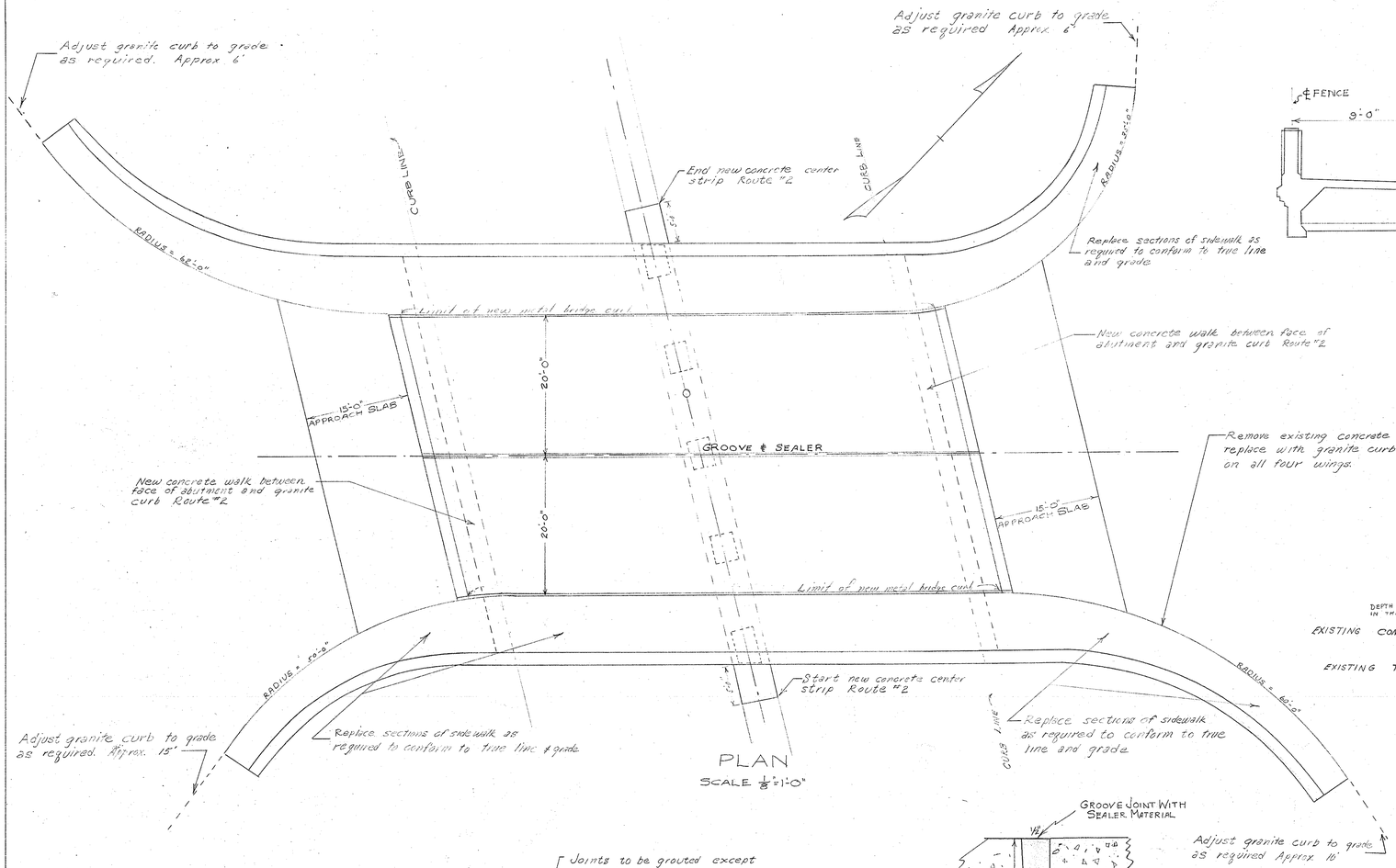


A	B	C STROKE EACH SIDE
60½"	48½"	6"

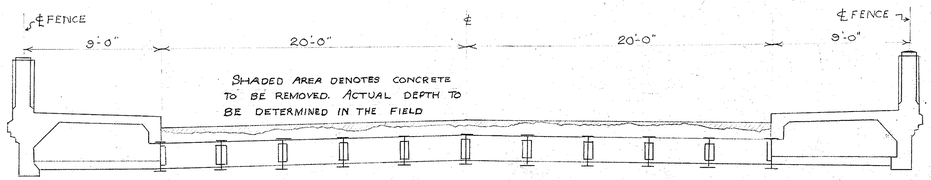
CONDUIT EXPANSION JOINT DETAIL (B/1)

NTS

DATE	DESCRIPTION
SEPT. 1, 2018	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE	

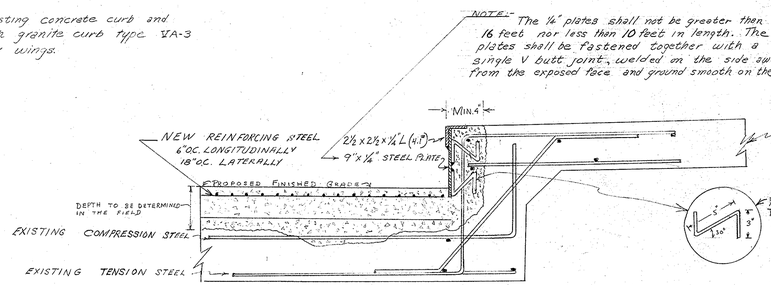


PLAN
SCALE $\frac{1}{8}$"=1'-0"

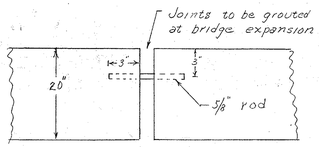


TYPICAL SECTION
SCALE $\frac{1}{4}$"=1'-0

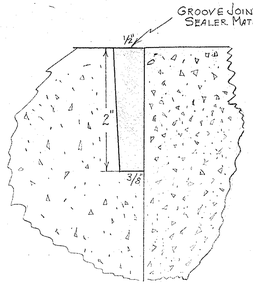
NOTE:- WHERE CONCRETE HAS DETERIORATE BELOW THE LEVEL OF THE TENSION STEEL, THE FULL THICKNESS OF SLAB WILL BE REMOVED FROM CENTER TO CENTER OF THE STRINGERS. ALL EXPOSED REIN. STEEL SHALL BE THOROUGHLY CLEANED BEFORE NEW CONCRETE IS PLACED.



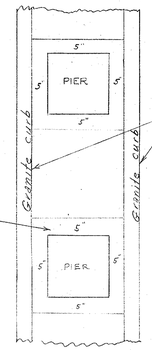
DETAIL OF NEW BRIDGE CURB
Scale 1½"=1'



DETAIL - NEW GRANITE CURB
TYPE VA-3



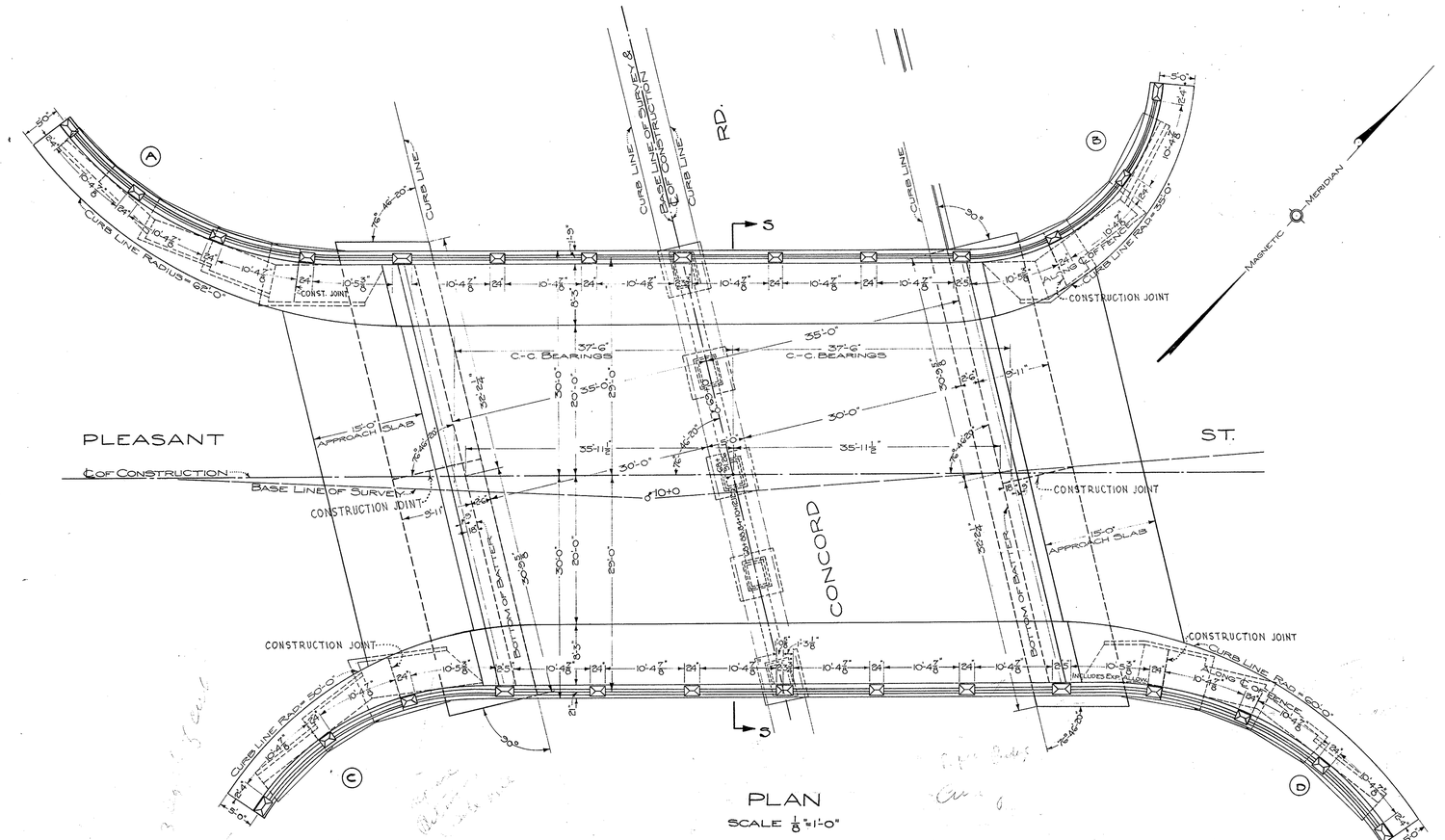
DETAIL OF GROOVE
FULL SCALE



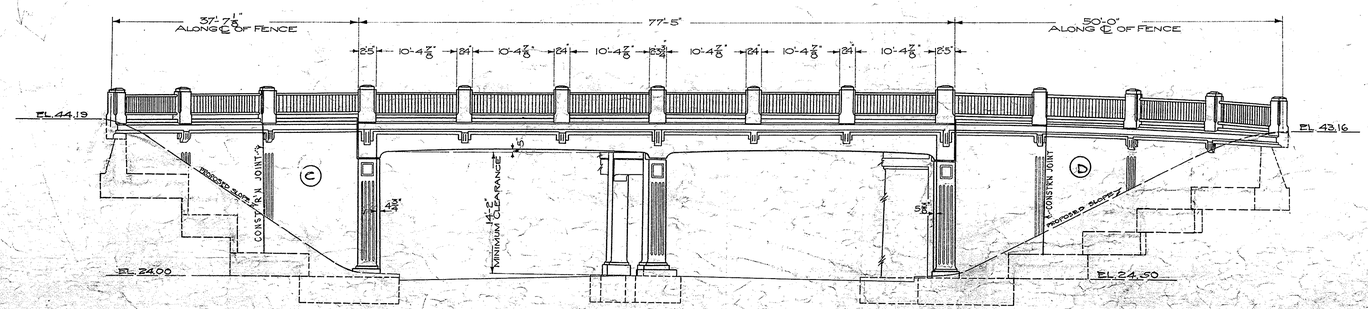
DETAIL
CENTER STRIP ROUTE "2
UNDER BRIDGE
NO SCALE

COMMONWEALTH OF MASSACHUSETTS
BRIDGE REPAIRS
ARLINGTON ~ BELMONT
PLEASANT STREET
DEPARTMENT OF PUBLIC WORKS
MAINTENANCE DIVISION
Scales: As Noted
Date : April 1954
BR MAINT. No. 213-407-000 BR. DIV. No A-10-12 B-7-3

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
9	MASS	NRM 242-A	1933	25	124



PLAN
SCALE $\frac{1}{8}$"=1'-0"



EASTERLY ELEVATION
SCALE $\frac{1}{8}$"=1'-0"

ESTIMATED QUANTITIES
(NOT GUARANTEED)

EXCAVATION (BRIDGE)	2750	CU. YDS.
EXCAVATION (LEDGE)	20	CU. YDS.
BORROW (GRAVEL)	275	CU. YDS.
CONCRETE CLASS "A" (REINFORCED)	280	CU. YDS.
CONCRETE CLASS "B" (FENCES & POSTS)	10	CU. YDS.
CONCRETE CLASS "C" (RUBBLE)	1090	CU. YDS.
WELDED IRON FENCE	271	LIN. FT.
RELOCATING 56" STEEL MAIN	402	LIN. FT.
REINFORCING STEEL	63000	POUNDS
BITUMINOUS SURFACING (TYPE "D")	43	TONS
GRANOLITHIC SIDEWALK	100	SQ. YDS.
CONCRETE CURBING	200	LIN. FT.
STRUCTURAL STEEL	122000	POUNDS
MEMBRANE WATERPROOFING	340	SQ. YDS
BITUMINOUS WATERPROOFING	450	SQ. YDS.
4" C.I. WATER PIPE	100	LIN. FT.

GENERAL NOTES

FINISH : ALL EXPOSED SURFACES TO BE RUBBED SMOOTH WITH CORUNDUM BRICK AND LEFT FREE FROM ALL FORM MARKS AND IMPERFECTIONS.

DATE AND SEAL : TO BE PLACED IN CENTER OF INSIDE FACE OF NORTHWESTERLY AND SOUTHEASTERLY ABUTMENT POSTS. FOR SIZE AND CHARACTER OF NUMERALS SEE DETAILS ON ANOTHER SHEET.

FOUNDATIONS : MAY BE ALTERED IF NECESSARY TO SUIT CONDITIONS OF CONSTRUCTION.

STEEL : ALL REINFORCEMENT TO BE DEFORMED BARS.

WEEP HOLES : TO BE PROVIDED IN ABUTMENTS AND WING WALLS AS DIRECTED BY THE ENGINEER.

BENCH MARK : TOP MOST NORTHERLY GRANO. POST 8 1.3 X 1.3 FRONT # 318 PLEASANT ST. ELEV. 45.197

THE COMMONWEALTH OF MASSACHUSETTS
PROPOSED BRIDGE
ARLINGTON–BELMONT
STATION 68+91.26 (CONCORD RD)
UNDER PLEASANT ST.

SCALES AS NOTED
OFFICE OF
DEPARTMENT OF PUBLIC WORKS
100 NASHUA ST. – BOSTON MASS.
SEPTEMBER 1933

G. E. Harkness — BRIDGE ENGINEER
A. W. Dean — CHIEF ENGINEER

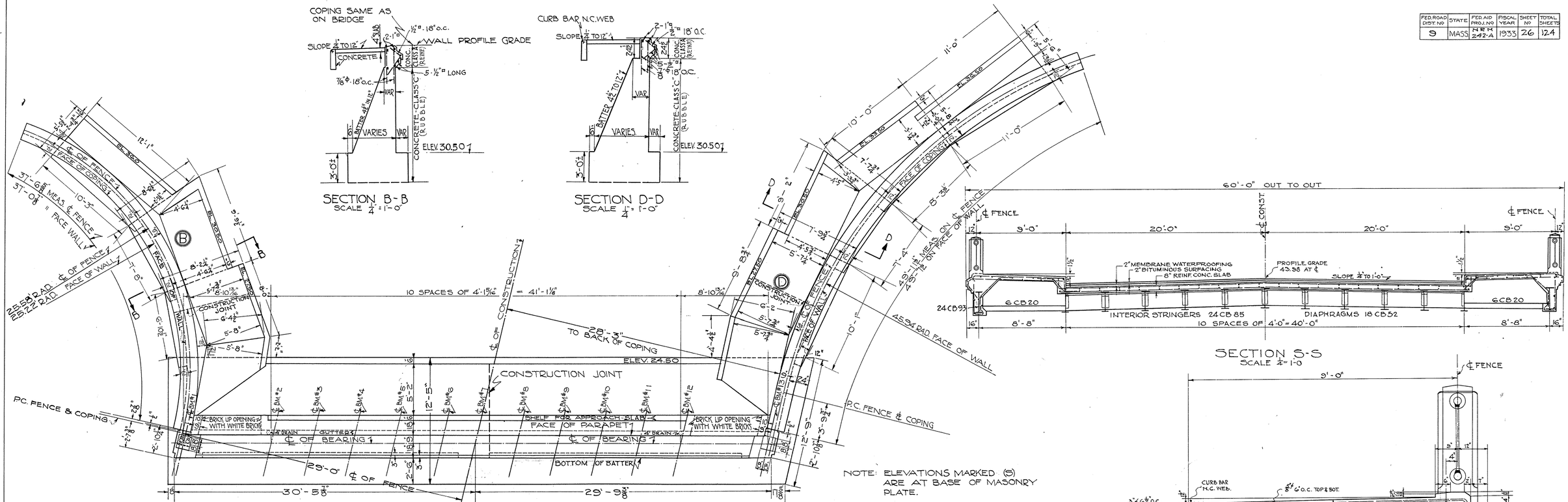
DESIGNED BY L. D. M. TRACED BY W. H. K. CHECKED BY A. G.

DATE OF ISSUE

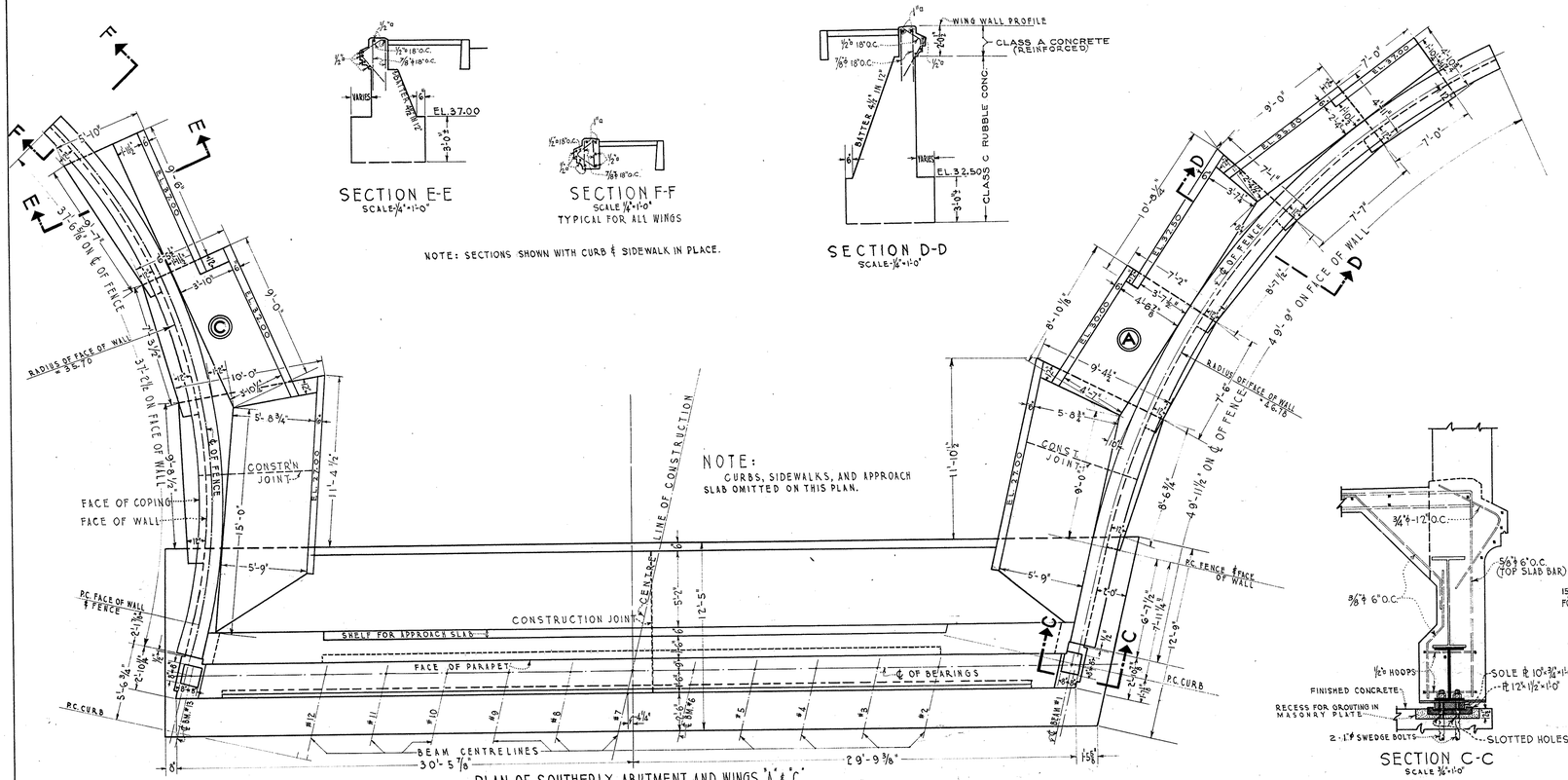
ADVERTISING	CONSTRUCTION				
	11-18-33				

SHEET 1 OF 7 SHEETS BRIDGE NO B-9-5

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
9	MASS	NHH 242-A	1933	26	124



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
0	MASS	N.R.M. 242-A	1933	27	124



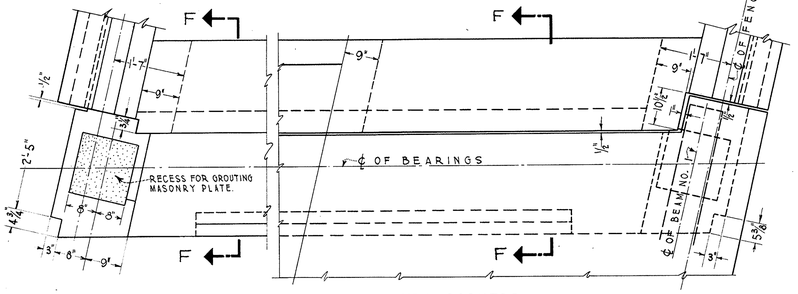
PLAN OF SOUTHERLY ABUTMENT AND WINGS "A" & "C"
SCALE 1/4"=1'-0"

SECTION E-E
SCALE 1/4"=1'-0"

SECTION F-F
SCALE 1/4"=1'-0"
TYPICAL FOR ALL WINGS

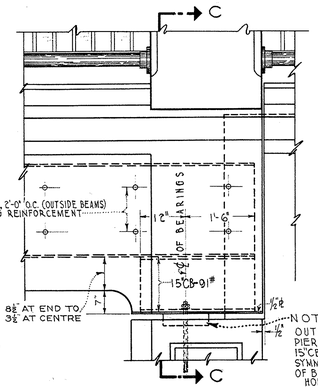
NOTE: SECTIONS SHOWN WITH CURB & SIDEWALK IN PLACE.

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

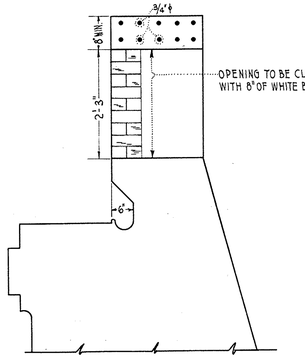


DETAIL OF ABUTMENT CORNERS
SCALE 3/4"=1'-0"

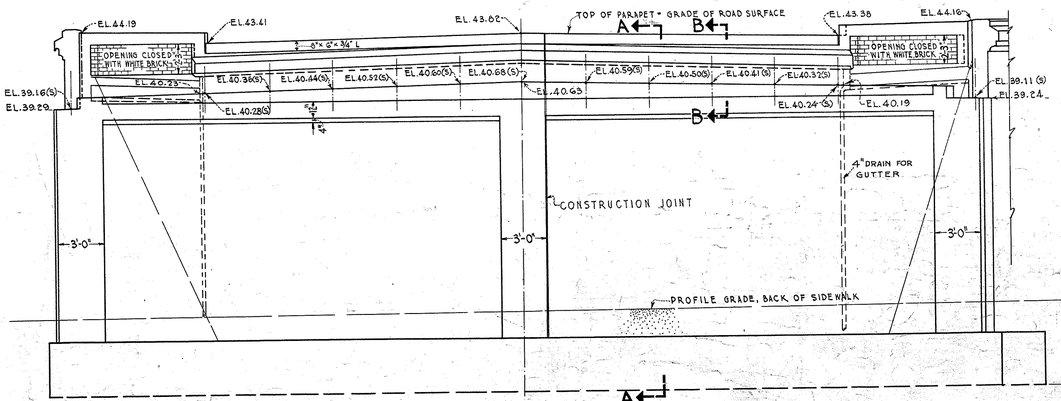
SECTION C-C
SCALE 3/4"=1'-0"



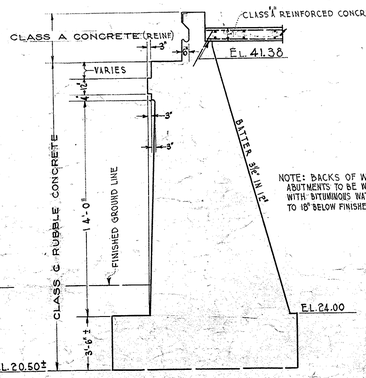
DETAIL OF OUTSIDE BEAM BEARING
SCALE 3/4"=1'-0"



SECTION F-F
SCALE 3/4"=1'-0"

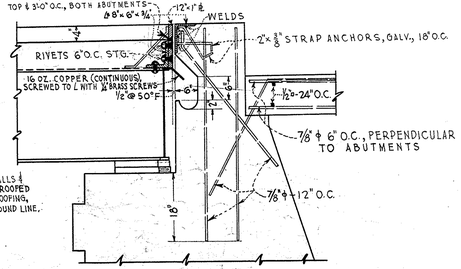


ELEVATION OF SOUTHERLY ABUTMENT
SCALE 1/4"=1'-0"



SECTION A-A
SCALE 1/2"=1'-0"

NOTE: BACKS OF WINGWALLS & ABUTMENTS TO BE WATERPROOFED WITH BITUMINOUS WATERPROOFING, TO 18" BELOW FINISHED GROUND LINE.

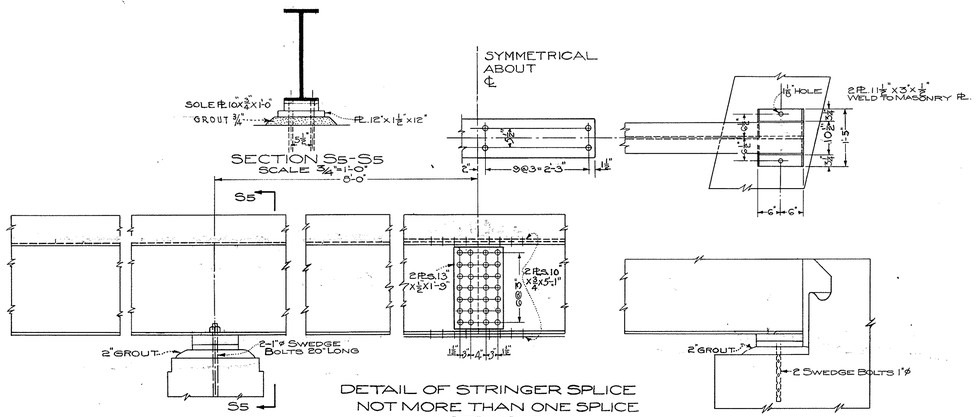


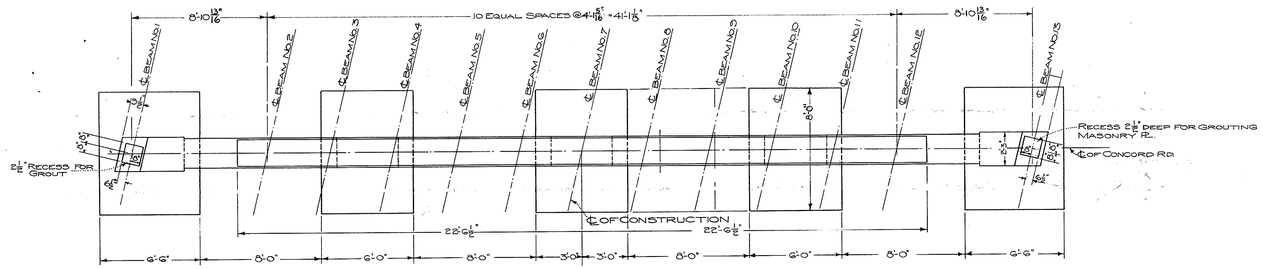
SECTION B-B
SCALE 3/4"=1'-0"

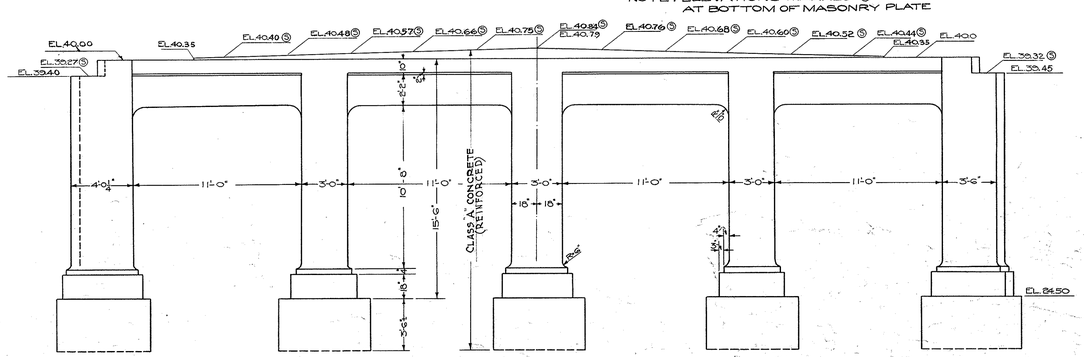
SHEET 3 OF 7 SHEETS BRIDGE NO. A-10-12 B-7-3

UNDER PLEASANT ST. — ARLINGTON-BELMONT

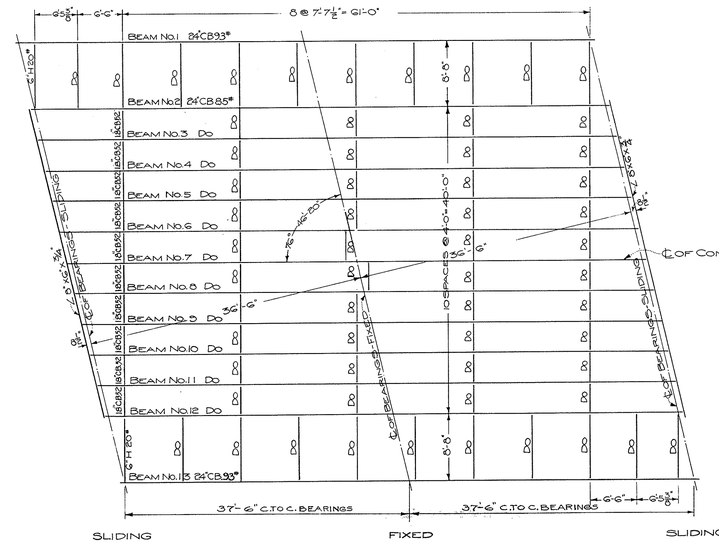
FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
9	MASS	NBM 2.42-A	1933	28	124





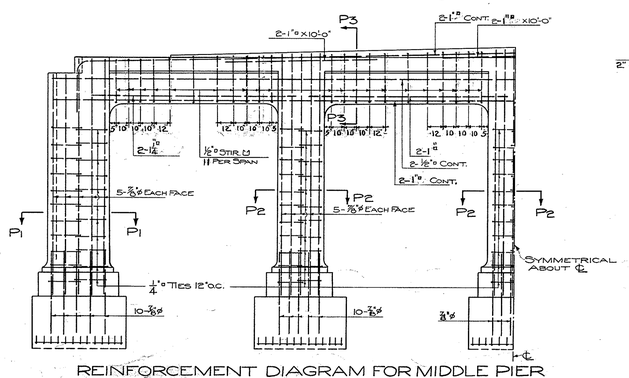


SOUTHERLY ELEVATION OF MIDDLE PIER
SCALE 1/4"=1'-0"

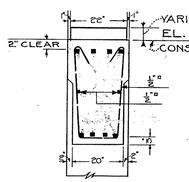


STEEL PLAN
SCALE 1/8"=1'-0"

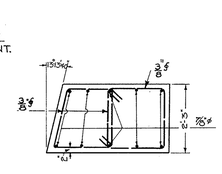
NOTE: BEAMS NO.1 TO NO.13 INCLUSIVE TO BE ROLLED WITH A 1" CAMBER.
RIVETS 7/8" ø
OPEN HOLES 15/16" ø EXCEPT AS OTHERWISE NOTED



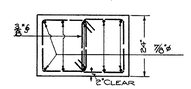
REINFORCEMENT DIAGRAM FOR MIDDLE PIER
SCALE 1/4"=1'-0"



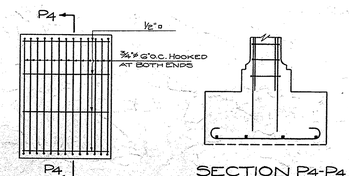
SECTION P3-P3
SCALE 1/2"=1'-0"



SECTION P1-P1
TYPICAL EXTERIOR COLUMNS
SCALE 1/2"=1'-0"



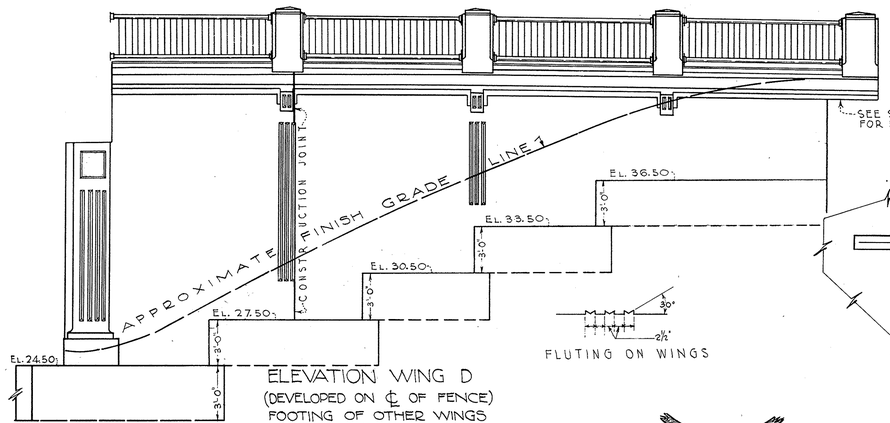
SECTION P2-P2
TYPICAL FOR INTERIOR COLUMNS
SCALE 1/2"=1'-0"



PLAN OF REINFORCEMENT IN FOOTINGS (TYPICAL)
SCALE 1/4"=1'-0"

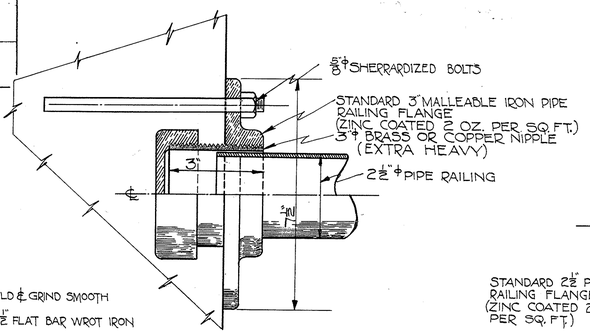
SECTION P4-P4
SCALE 1/4"=1'-0"

FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
9	MASS.	N.P.M 242-A	1933	29	124

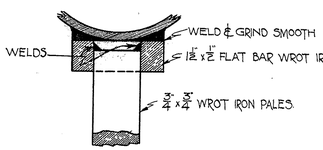


ELEVATION WING D
(DEVELOPED ON ℄ OF FENCE)
FOOTING OF OTHER WINGS STEPPED IN SIMILAR MANNER.
SCALE 1/4" = 1'-0"

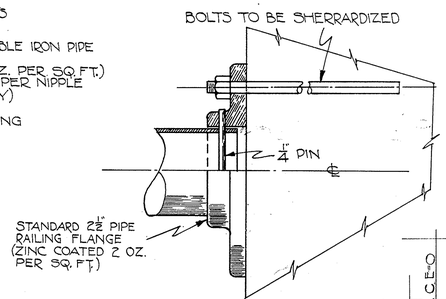
FLUTING ON WINGS



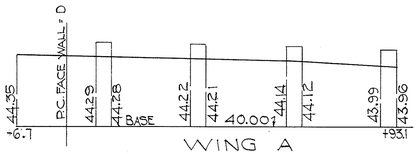
FLANGE FOR PIPE RAILING
WHERE EXPANSION OCCURS
SCALE 2" = 1"



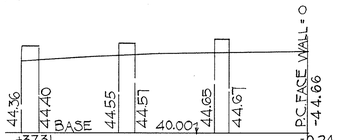
DETAIL F
FULL SIZE



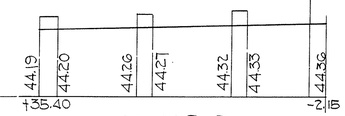
FLANGE FOR PIPE RAILING
WHERE NO EXPANSION OCCURS
SCALE 2" = 1"



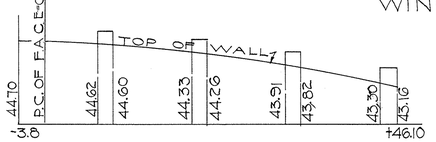
WING A



WING B

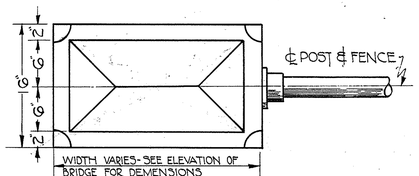


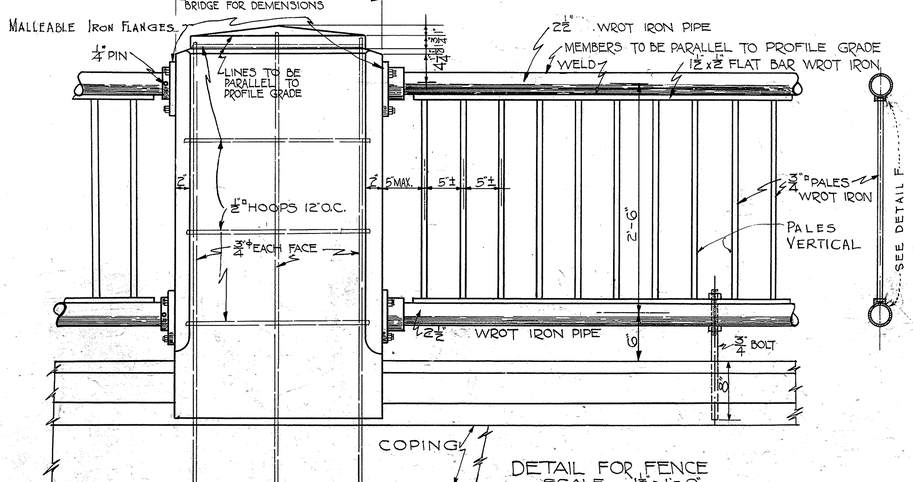
WING C



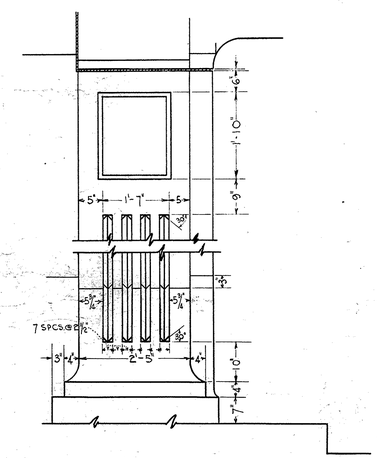
WING D

PROFILE OF TOP OF WING WALLS
HOR. SCALE 1/8" = 1'-0"
VERT. SCALE 1/4" = 1'-0"

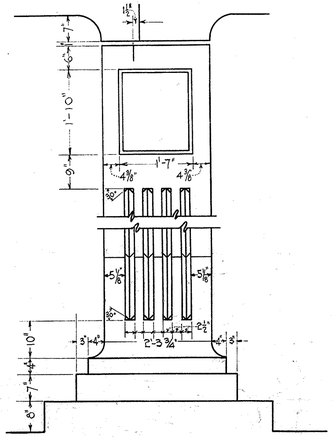




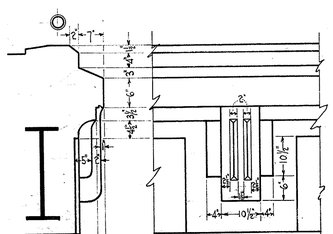
DETAIL FOR FENCE
SCALE 1/2" = 1'-0"



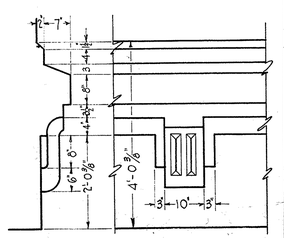
ABUTMENT PILASTER



CENTRE PIER



OVER 2'-5" PILASTER



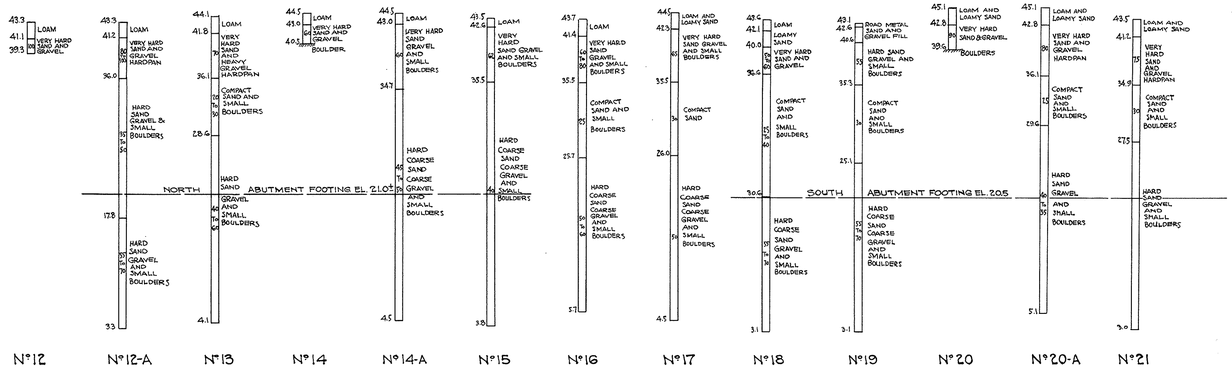
UNDER INTERMEDIATE POSTS

BRACKET DETAILS
SCALE 3/4"-1'-0"

ARCHITECTURAL DETAILS
SCALE 3/4"-1'-0"

SHEET 5 OF 7 SHEETS BRIDGE Nº A-10-12 B-7-3

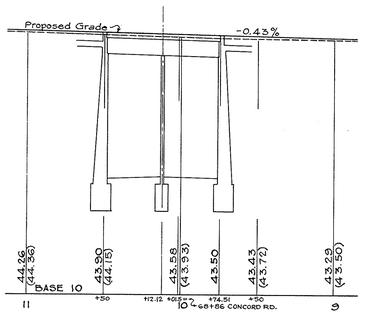
UNDER PLEASANT ST. — ARLINGTON - BELMONT



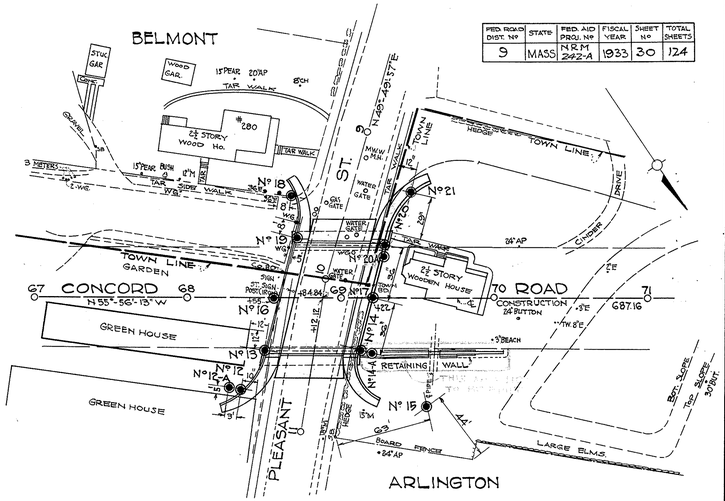
BORING DATA
SCALE 1"=8'-0"

BORINGS TAKEN JULY 5, 1933

BORING NOTES
LOCATION OF BORINGS SHOWN ON KEY PLAN THUS ◉ BORING N°
BORINGS TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY BUT DO NOT NECESSARILY SHOW NATURE OF MATERIAL TO BE ENCOUNTERED IN CONNECTION WITH CONSTRUCTION OF THE BRIDGE. FIGURES IN COLUMNS INDICATE BLOWS PER FOOT ON SPOON.

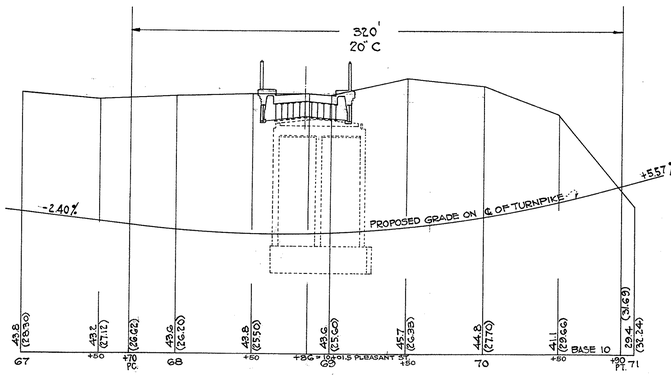


PROFILE
(PLEASANT STREET)
HOR. SCALE 1" = 40'-0"
VERT. SCALE 1" = 80'-0"

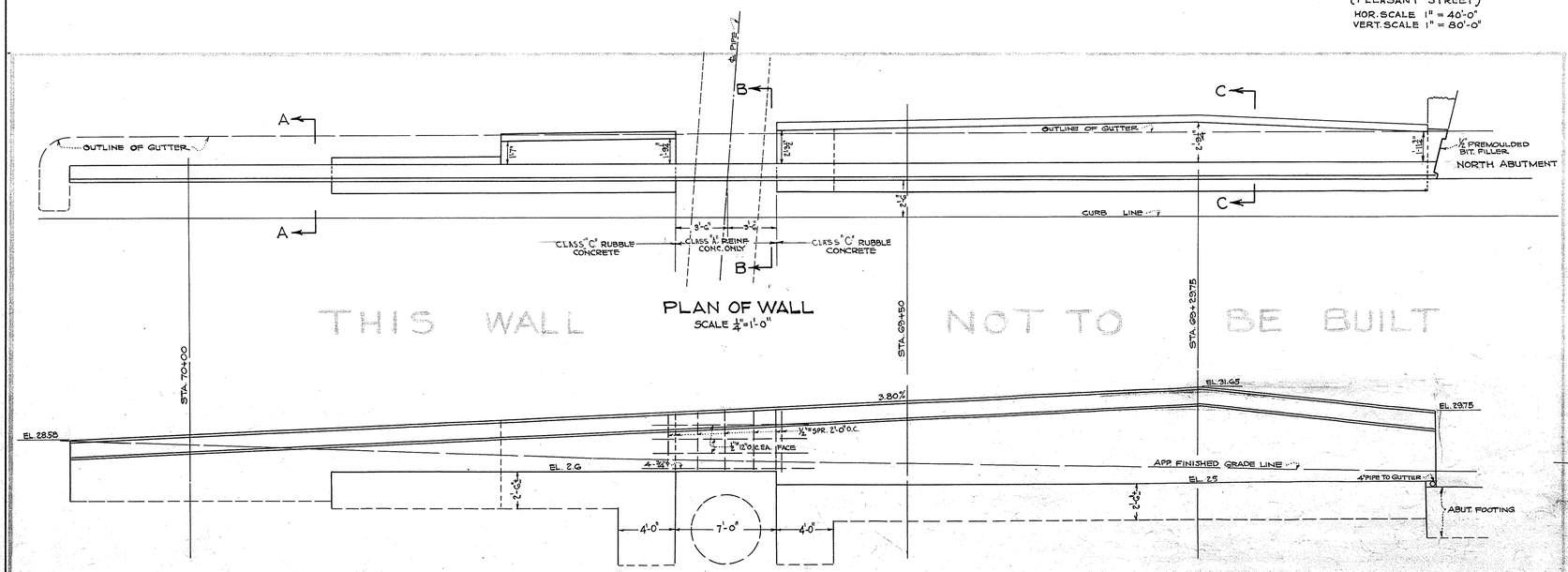


FED. ROAD DIST. NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
9	MASS.	N.R.M. 242-A	1933	30	124

PLAN
SCALE 1"=40'-0"

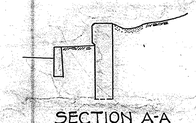


PROFILE
(CONCORD ROAD)
HOR. SCALE 1" = 40'-0"
VERT. SCALE 1" = 80'-0"

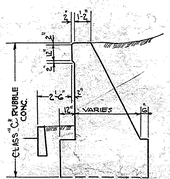


PLAN OF WALL
SCALE ¼"=1'-0"

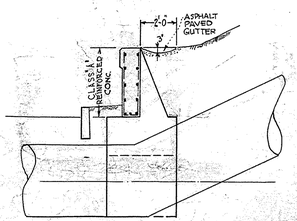
ELEVATION OF WALL
SCALE ¼"=1'-0"



SECTION A-A



SECTION C-C

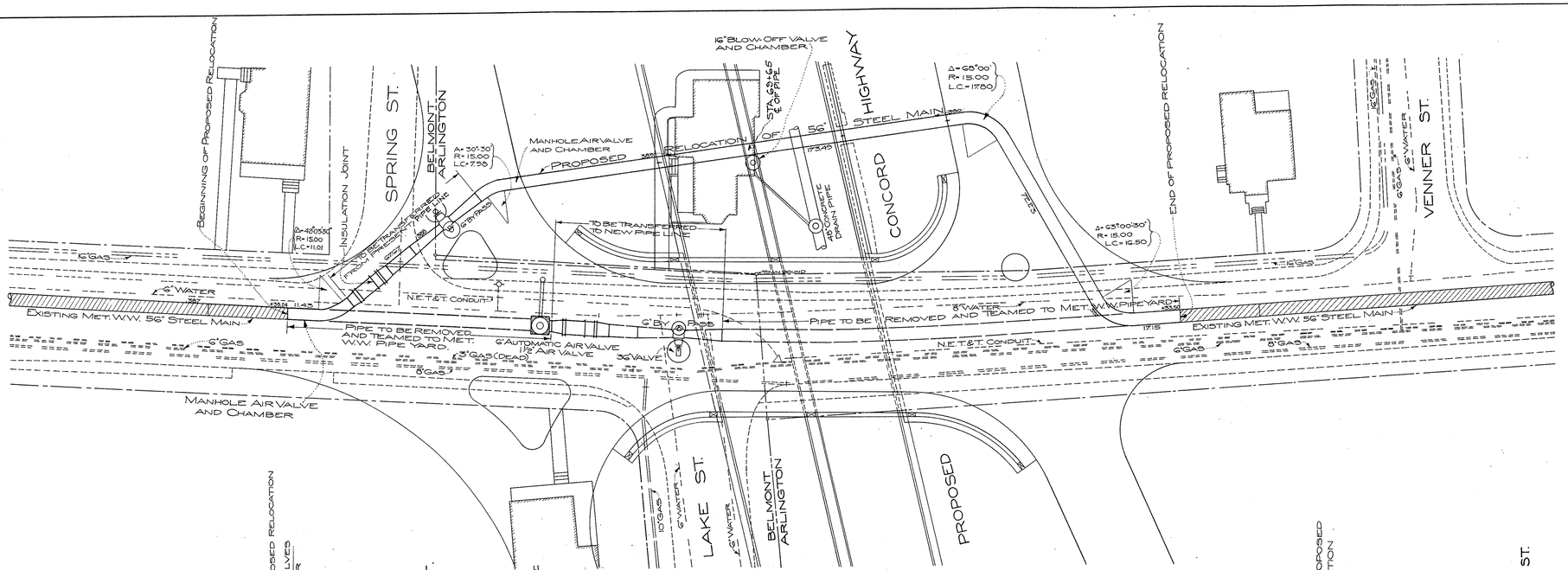


SECTION B-B

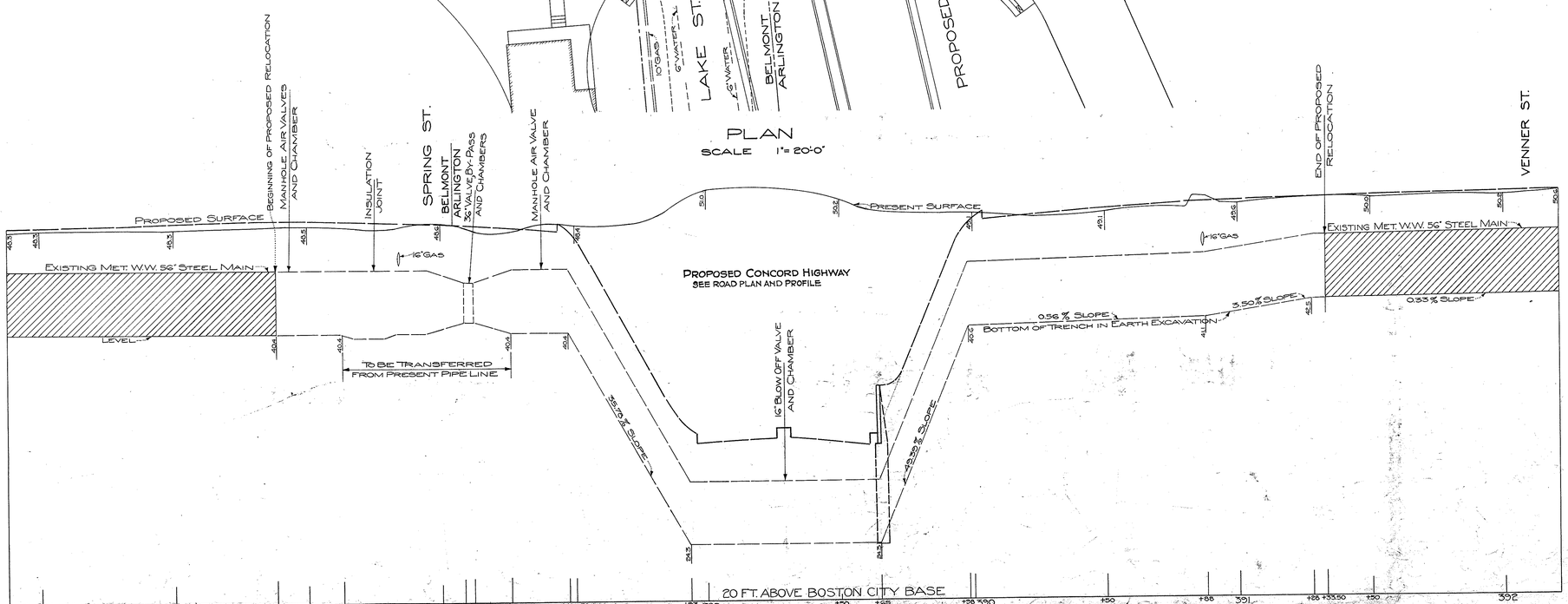
Sheet 6 of 7 Sheets Bridge N° A-10-12 B-7-3

UNDER PLEASANT ST. — ARLINGTON - BELMONT.

FED ROAD DIST. Nº	STATE	FED AID PROJ. Nº	FISCAL YEAR	SHEET Nº	TOTAL SHEETS
9	MASS.	NBM 242-A	1933	31	124



PLAN
SCALE 1" = 20'-0"



PROFILE
SCALE 1" = 4'-0"

RELOCATION OF 56" STEEL WATER MAIN

TRACED FROM PLAN OF
METROPOLITAN DISTRICT COMMISSION
WATER DIVISION

SHEET 7 OF 7 SHEETS BRIDGE Nº A-10-12 B-7-3

UNDER PLEASANT ST. — ARLINGTON - BELMONT