

GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE DIVISION OF HIGHWAYS, STATE OF COLORADO, APPLICABLE TO THE PROJECT.

STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH STANDARD M-206-2.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

ALL STRUCTURAL STEEL SHALL BE AASHTO M-222 (ASTM A-588, CORROSION RESISTANT), UNLESS OTHERWISE NOTED. REQUIREMENTS FOR PAINTING STEEL ARE GIVEN IN REVISION OF SECTION 509. STRUCTURAL STEEL PAINTING, INSIDE OF BOX GIRDERS SHALL RECEIVE ONE SHOP COAT OF PAINT. EXPOSED SURFACES SHALL BE PAINTED AS PER SPECIFICATIONS.

FOLLOWING MEMBERS SHALL BE FRACTURE CRITICAL: ALL STRUCTURAL ELEMENTS USING AASHTO M-222 (ASTM A-588) STEEL AND ANY MEMBER INDICATED AS FCM IN THESE DRAWINGS. R-1

ALL BOLTS SHALL BE AASHTO M-164 (ASTM A-325), 7/8 INCH DIAMETER, HIGH STRENGTH, TYPE 3, UNLESS OTHERWISE NOTED.

NO FIELD WELDING OF ANY KIND SHALL BE PERMITTED ON THE FLANGES OF STEEL GIRDERS UNLESS SPECIFICALLY CALLED FOR ON THE PLANS. SHOP WELDING FOR SPLICES OF FLANGES AND WEBS, AS DETAILED ON THE PLANS, SHALL BE PERMITTED. SHOP DRAWINGS SHALL SHOW LOCATION AND DETAILS OF ALL SHOP SPLICES.

CLASS 1 FINISH, FOLLOWED BY APPLICATION OF A COLORED ACRYLIC COATING, WILL BE REQUIRED ON ALL EXPOSED CONCRETE SURFACES DOWN TO 1'-0" BELOW GROUND LINE. REQUIREMENTS FOR COATING ARE GIVEN IN REVISION OF SECTION 601, STRUCTURAL CONCRETE (COATING).

ALL EXTERIOR CONCRETE CORNERS SHALL BE CONSTRUCTED WITH 3/4" CHAMFERS, UNLESS OTHERWISE NOTED.

GRADE 60 REINFORCING STEEL IS REQUIRED FOR #4 BARS AND LARGER. ALL REINFORCING STEEL SHALL BE EPOXY COATED, UNLESS NOTED OTHERWISE.

THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS:

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPLICE LENGTH FOR CLASS B CONCRETE	1'-0"	1'-3"	1'-8"	2'-3"	3'-0"	3'-10"	4'-10"	5'-11"
SPLICE LENGTH FOR CLASS D, BZ & S CONCRETE	1'-0"	1'-3"	1'-6"	2'-0"	2'-7"	3'-4"	4'-2"	5'-1"

THE ABOVE SPLICE LENGTHS SHALL BE INCREASED BY 20 PERCENT FOR 3 BAR BUNDLES AND 33 PERCENT FOR 4 BAR BUNDLES.

ANY REINFORCING STEEL SPLICES NOT SHOWN SHALL BE APPROVED BY THE ENGINEER.

APPLIED WIND LOADS AND EARTHQUAKE LOADS WERE NOT CONSIDERED IN ANALYZING THE STRUCTURE FOR STABILITY DURING THE CONSTRUCTION STAGES.

FOR STRUCTURE NUMBER INSTALLATION, SEE STANDARD S-614-12.

PERMANENT STEEL BRIDGE DECK FORMS SHALL BE USED FOR ALL INTERIOR SLAB SPANS AS SHOWN IN THE TYPICAL SECTIONS. NO STEEL BRIDGE DECK FORMS WILL BE ALLOWED ON THE CANTILEVER PORTIONS OF THE SLAB. FORMS SHALL NOT BE ATTACHED TO THE STEEL GIRDERS BY WELDING.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE TO THEM.

THE FOLLOWING ARE STANDARD ABBREVIATIONS:

- | | |
|------------------|-------------------------|
| E.F. = EACH FACE | T.F. = TOP FACE |
| F.F. = FAR FACE | B.F. = BOTTOM FACE |
| N.F. = NEAR FACE | N.C. = NON-EPOXY COATED |
| E.W. = EACH WAY | |

DESIGN NOTES

CURRENT AASHTO SPECIFICATIONS:

LIVE LOAD : AASHTO HS-20-44 AND INTERSTATE ALTERNATE
DEAD LOAD : ASSUMES 48 LBS. PER SQ. FT. FOR BITUMINOUS PAVEMENT
ASSUMES 7 LBS. PER SQ. FT. FOR IN-PLACE CONCRETE FORMWORK

REINFORCED CONCRETE:
CLASS B CONCRETE: $f_c = 1,200$ psi, $n = 9$, $f'_c = 3,000$ psi AT 28 DAYS
CLASS D CONCRETE: $f_c = 1,800$ psi, $n = 8$, $f'_c = 4,500$ psi AT 28 DAYS

REINFORCING STEEL: #4 BARS AND LARGER: $f_s = 24,000$ psi, $f_y = 60,000$ psi

STRUCTURAL STEEL: AASHTO M-183 (ASTM A-36) $f_s = 20,000$ psi
AASHTO M-222 (ASTM A-588) $f_s = 27,000$ psi

PRESTRESSED CONCRETE:
CLASS S CONCRETE: $f'_c = 5,500$ psi AT 28 DAYS
 $f'_{ci} = 4,500$ psi AT STRESSING

PRESTRESSING STEEL: HIGH STRENGTH ALLOY STEEL BARS
CONFORMING TO ASTM A-722,
ULTIMATE STRENGTH = 150,000 psi MINIMUM.

DESIGN METHOD:

SUPERSTRUCTURE: SERVICE LOAD DESIGN (WORKING STRESS)
SUBSTRUCTURE: SERVICE LOAD (WORKING STRESS) EXCEPT LOAD
FACTOR DESIGN FOR PIER COLUMNS AND CAISSONS.

▲ Except Purlins (Dwg. B-33 & B-34) R-1

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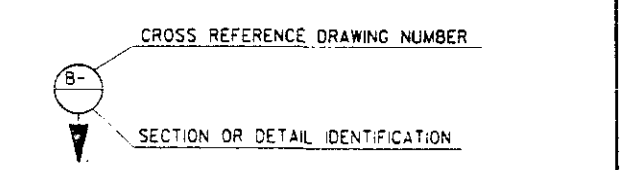
AS CONSTRUCTED

NO REVISIONS REVISED VOID

FED. HWY. REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR25-2(208)	91	177

REVISIONS


R-1	7-11-88	Note Added & Signature	J.A.B.



BRIDGE DESCRIPTION

UNIT 1 : 4-SPAN (97'-10 13/16", 118'-4 1/16", 118'-3 15/16", 116'-2 1/2") BRIDGE.
UNIT 2 : 6-SPAN (86'-1 5/8", 137'-6", 172'-8 7/8", 138'-1 11/16", 111'-0", 88'-8 5/8") BRIDGE.
EACH UNIT CONTINUOUS AND COMPOSITE, STEEL BOX GIRDER.
OVER I-25 AND 6TH AVENUE.
VARIABLE ROADWAY WIDTH AND SKEW.
1'-6" CONCRETE BARRIERS, BRIDGE RAIL TYPE 4.

DeLeuw, Cather & Company Denver, CO.



DIVISION OF HIGHWAYS

GENERAL INFORMATION

Sta. 803+18.00 to 815+11.75

In DENVER Sec. 4 & 9 T4S R68W

Designer <i>J.L. Sizeron</i>	Structure Number <i>F-16-OL</i>
Detailer <i>S. Shibe</i>	

Drawing Number B-1 of 57 Drawings

DESIGNED BY: J.L.S. 11-87
 CHECKED BY: J.A.B. 11-88
 DETAIL BY: S.S. 11-88

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SUPER-STRUCTURE	PIER 3(HS)	PIER 4G	PIER 5G	PIER 6G	PIER 7G	PIER 8G	PIER 9G	PIER 10G	PIER 11G	PIER 12G	ABUT. 13G	AS CONSTRUCTED TOTAL
206	STRUCTURE EXCAVATION	CU. YD.			7	7	7	103	7		7	7	7	394	478
206	STRUCTURE BACKFILL (CLASS 1)	CU. YD.												394	394
206	STRUCTURE BACKFILL (CLASS 2)	CU. YD.			5	5	5	86	5		5	5	5		126
206	FILTER MATERIAL (CLASS B)	CU. YD.												5	5
403	HOT BITUMINOUS PAVEMENT (GR. E) (HAUL AND ASPHALT)	TON	287												287
410	PLANT MIXED SEAL COAT (TYPE B) (HAUL AND ASPHALT)	TON	172												172
503	DRILLED CAISSON (30 INCH)	LIN. FT.												350	350
503	DRILLED CAISSON (84 INCH)	LIN. FT.			51	51	58	54	44		42	36.5	45.5		382
① 509	STRUCTURAL STEEL	LB.	1,648,700	280		305		560		305	305	305		280	1,651,040
512	BEARING DEVICE (TYPE 111)	EACH		2	2	2	2	4	2	2	2	2	2	2	24
513	BRIDGE DRAIN (SPECIAL)	EACH	4												4
515	WATERPROOFING (MEMBRANE)	SQ. YD.	4,174												4,174
518	BRIDGE COMPRESSION JOINT SEALER	LIN. FT.												18	18
518	WATERSTOP (6 INCH)	LIN. FT.												26	26
518	BRIDGE EXPANSION DEVICE (0-9 INCH)	LIN. FT.	104												104
601	CONCRETE CLASS B (BRIDGE)	CU. YD.												108	108.33
② 601	CONCRETE CLASS D (BRIDGE)	CU. YD.	1,238		13	14	9	80	24	21	22	24	12	36	1,493
③ 601	CONCRETE CLASS S (BRIDGE)	CU. YD.			33	29	29		29	33	29	29	29		240
602	REINFORCING STEEL	LB.												2,490	2,490
④ 602	REINFORCING STEEL (EPOXY COATED)	LB.	463,200		12,380	11,155	10,190	16,520	15,090	12,325	14,805	15,645	11,190	14,370	596,870
606	BRIDGE RAIL TYPE 4	LIN. FT.	2,409											30	2,439
⑥ 606	BRIDGE RAIL TYPE 4 SPECIAL	LIN. FT.	526												526
613	3/4 - INCH ELECTRICAL CONDUIT	LIN. FT.	78												78
613	2 - INCH ELECTRICAL CONDUIT	LIN. FT.	1,200												1,200
613	INTERIOR LIGHTING (STEEL BOX GIRDER)	EACH	1												1
⑤ 618	PRESTRESSING STEEL BAR	M. KFT.			24.2	22.5	22.5		22.5	24.8	22.5	22.5	22.5		184
626	MOBILIZATION	LS													.7

DESIGNED BY: K.M.A. 3-88
 CHECKED BY: S.S.J. 3-88
 DATE: 3-88
 QUANTITIES BY: K.M.A. 3-88
 CHECKED BY: S.S.J. 3-88

- ① Includes 117,200 Lbs. of A-36 Steel for Interior bracing; 12,260 Lbs. of A-36 Steel for temporary bracing is incidental to the project and will not be paid for separately.
- ② Includes 20 Cu. Yds. Concrete Class D for approach slab.
- ③ Volume of concrete for payment shall not be reduced by the volume of prestressing ducts.

- ④ Includes 2,720 Lbs. Reinforcing Steel (Epoxy-Coated) for approach slab.
- ⑤ Includes furnishing, placing in the concrete and post-tensioning the prestressing steel. The Contractor shall furnish all stressing equipment and accessories required for installation and stressing operations. Quantity shall not be remeasured, but shall be the number shown.
- ⑥ Applies to bridge barrier replacement on Existing Structure F-16-DU

DeLeuw, Cather & Company Denver, CO.

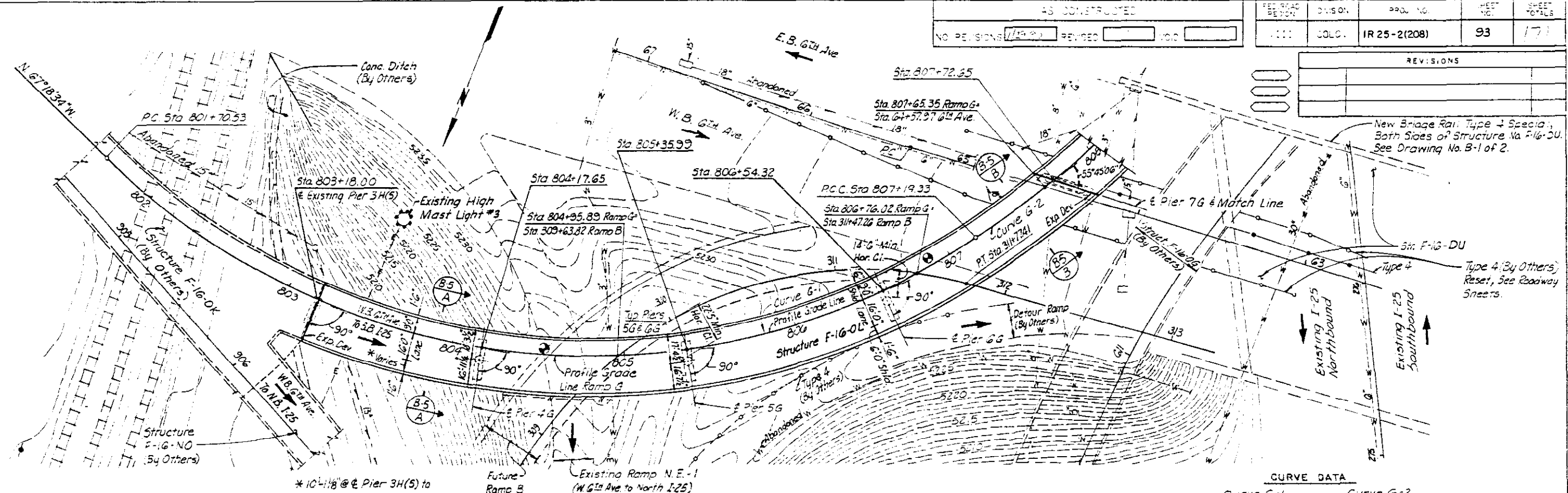
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

Designer K. Alkanani	Structure F-16-OL
Detailer S. Shihoo	Number
Drawing Number B-2 of 57 Drawings	

Revision Dates (Preliminary Stage Only)

REVISIONS	

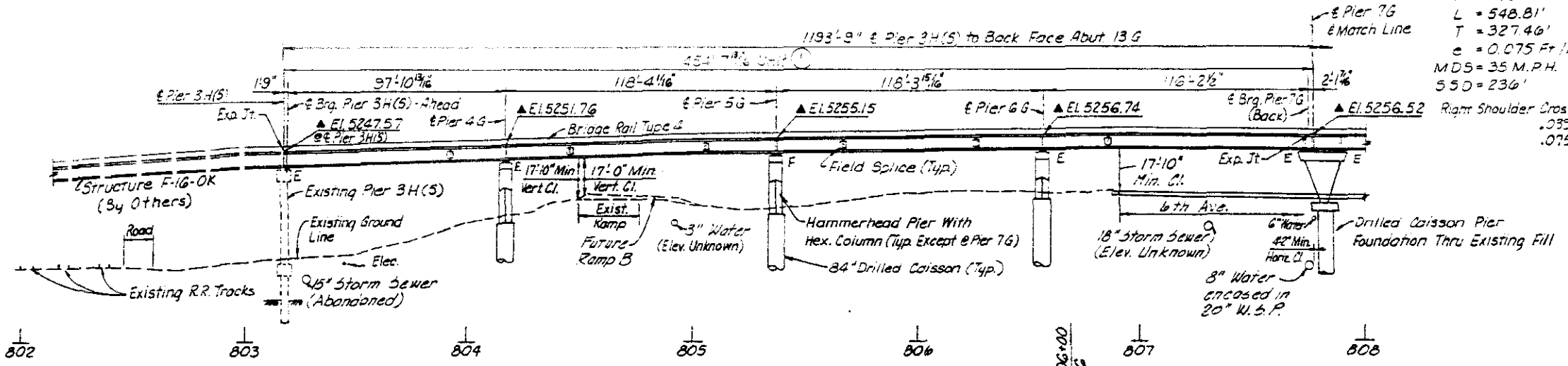


PLAN

CURVE DATA

Curve G-1	Curve G-2
$\Delta = 78^{\circ}36'30''$ Lt.	$\Delta = 83^{\circ}40'08''$ Lt.
$D = 14^{\circ}19'26''$	$D = 9^{\circ}32'58''$
$R = 400.00'$	$R = 600.00'$
$L = 548.81'$	$L = 876.18'$
$T = 327.46'$	$T = 537.11'$
$e = 0.075$ Ft./Ft.	$e = 0.066$ Ft./Ft.
$MDS = 35$ M.P.H.	$MDS = 35$ M.P.H.
$SSD = 236'$	$SSD = 288'$

Right Shoulder Cross-Slope Transition:
 .035% Ft./Ft. At Sta 803+18.00
 .075% Ft./Ft. At Sta 803+78.00

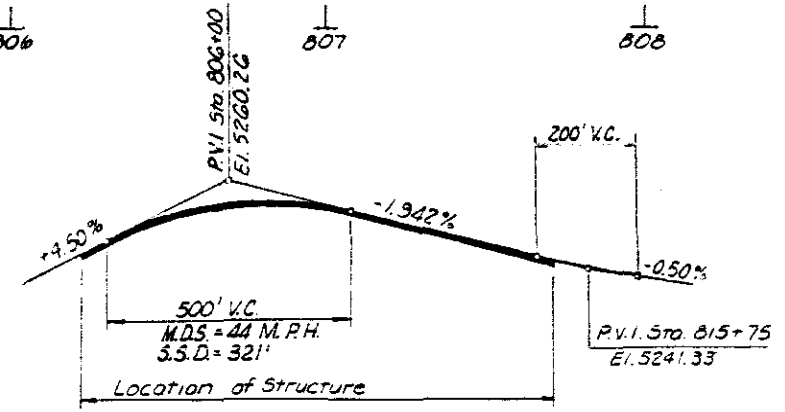


SECTION

Taken At Profile Grade Line Ramp G
 ▲ Finished Grade Elevations

NOTES:

1. Live Loading = HS 20-44 And Interstate Alternate
 2. For Continuation of Bridge Structure (Unit 2) See Dwg. No. B-4.
 3. Construction Labeled "By Others" Is Under Project IR 25-2(191).
- Indicates Point of Minimum Vertical Clearance.



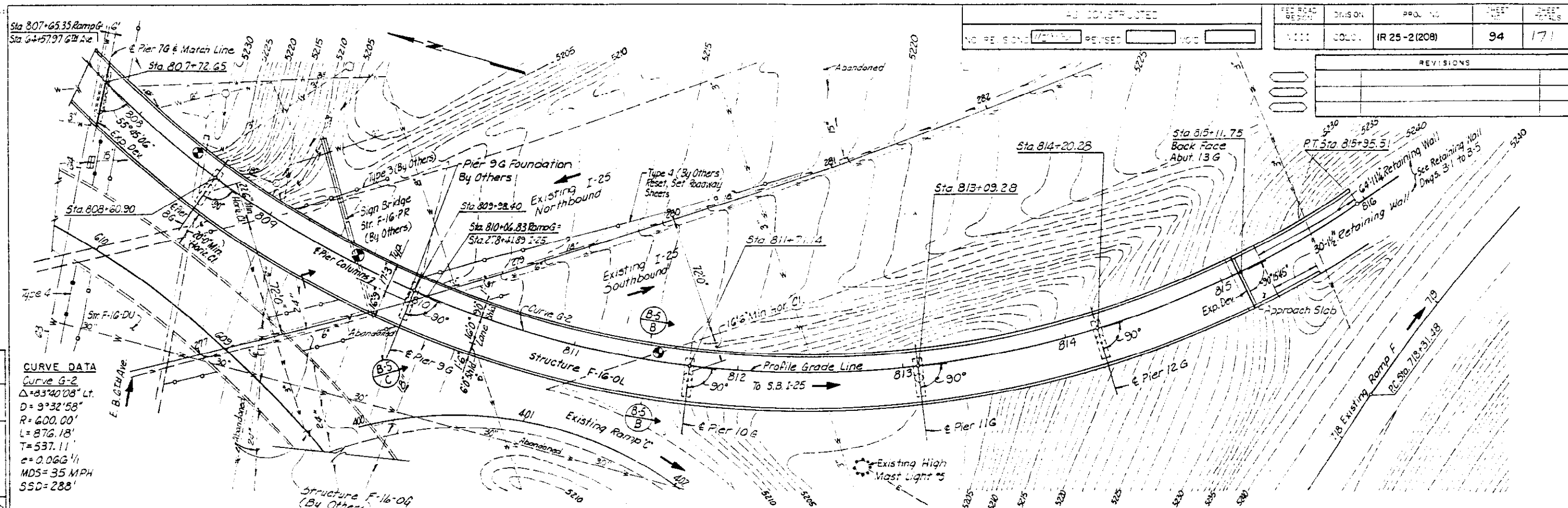
PROFILE GRADE RAMP "G"

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS	
GENERAL LAYOUT	
RAMP G UNIT ①	
Designer J. Barrozo	Structure F-16-OL
Detailer R. Hinshaw	Numbers
Drawing Number B-3	of 57 Drawings

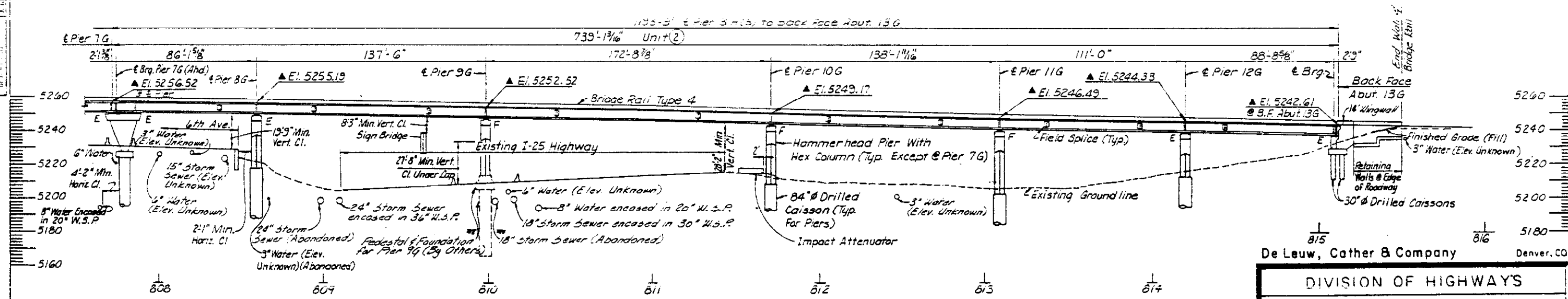
DATE	6-27
DESIGNED BY	JAB
CHECKED BY	AKM
DATE	6-27
DESIGNED BY	JAB
CHECKED BY	AKM

REVISIONS	



CURVE DATA
 Curve G-2
 $\Delta = 83^{\circ}40'08''$ Lt.
 $D = 9^{\circ}32'58''$
 $R = 600.00'$
 $L = 876.18'$
 $T = 537.11'$
 $e = 0.066\frac{1}{4}$
 $MDS = 35$ MPH
 $SSD = 288'$

PLAN



SECTION

Taken At Profile Grade Line Ramp G
 ▲ Finished Grade Elevations

- NOTES:**
1. Live Loading = HS 20-44 And Interstate Alternate
 2. For Continuation of Bridge Structure (Unit 1) See Dwg. No. B-3
 3. For Profile Grade Ramp G See Dwg. No. B-3
 4. Construction Labeled "By Others" is Under Project IR 25-2 (191)
- Indicates Point of Minimum Vertical Clearance

De Leuw, Cather & Company
 Denver, CO

DIVISION OF HIGHWAYS

GENERAL LAYOUT

RAMP G
UNIT ②

Designer J. Barraza	Structure Numbers F-16-JL
Detailer R. Hinshaw	
Drawing Number B-4	of 57 Drawings

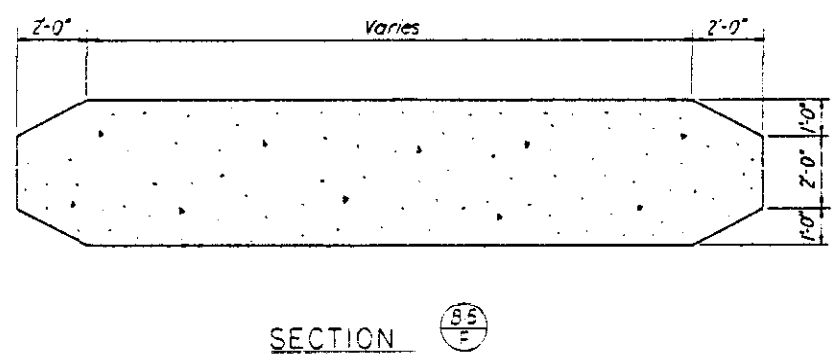
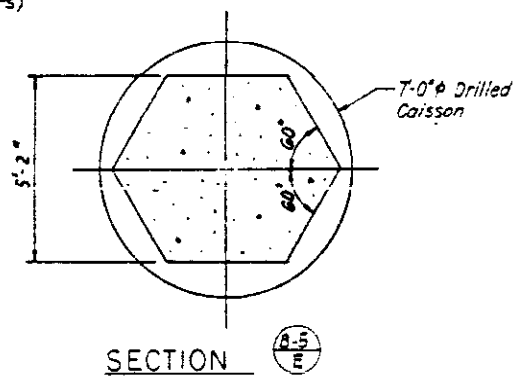
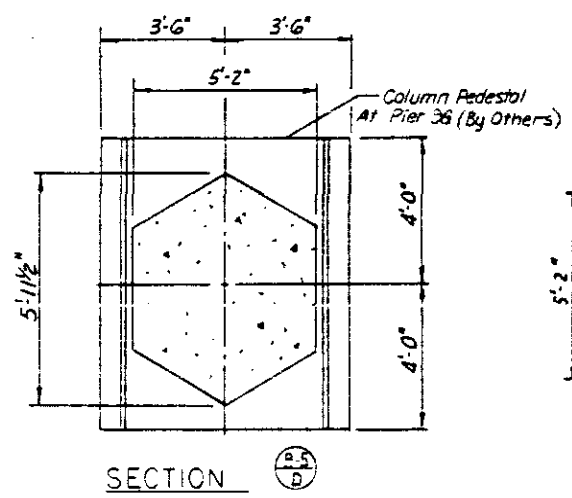
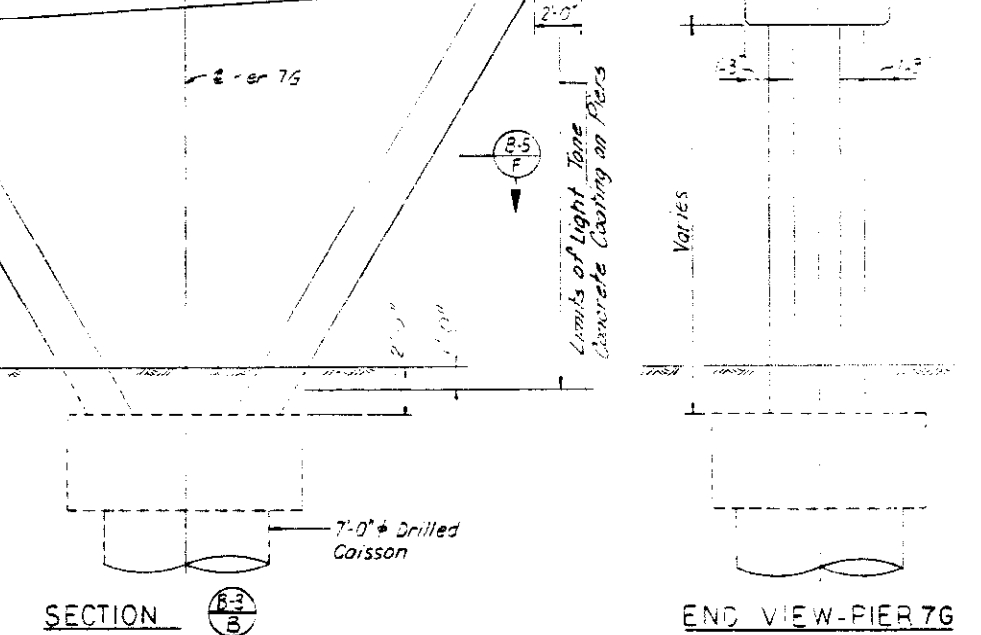
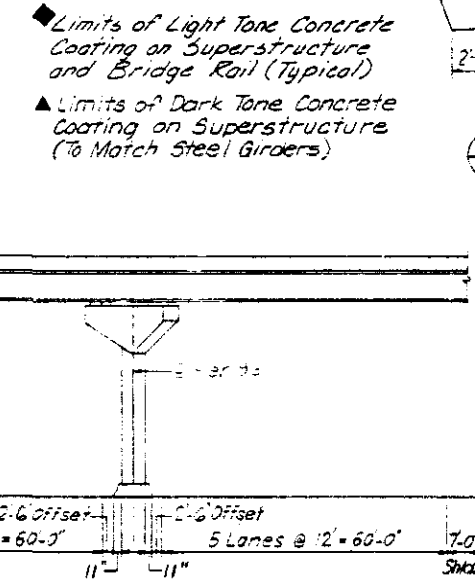
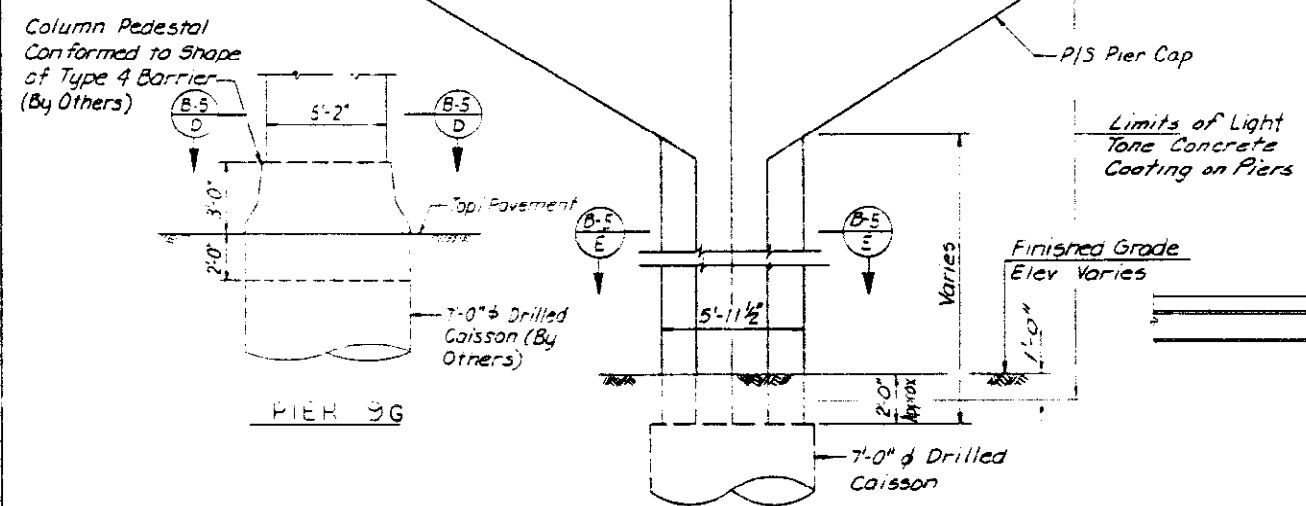
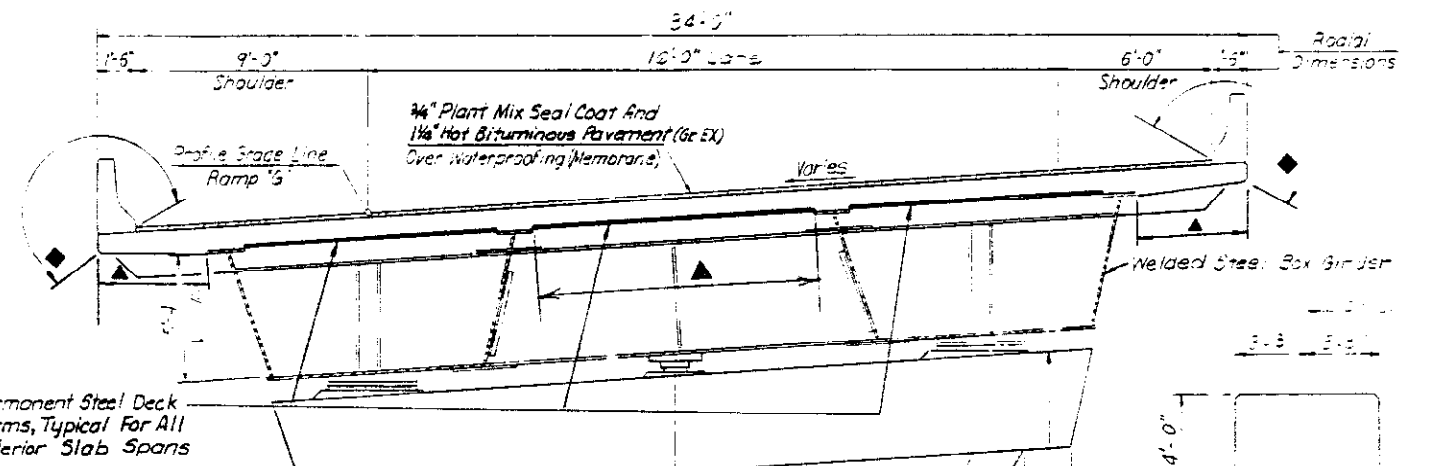
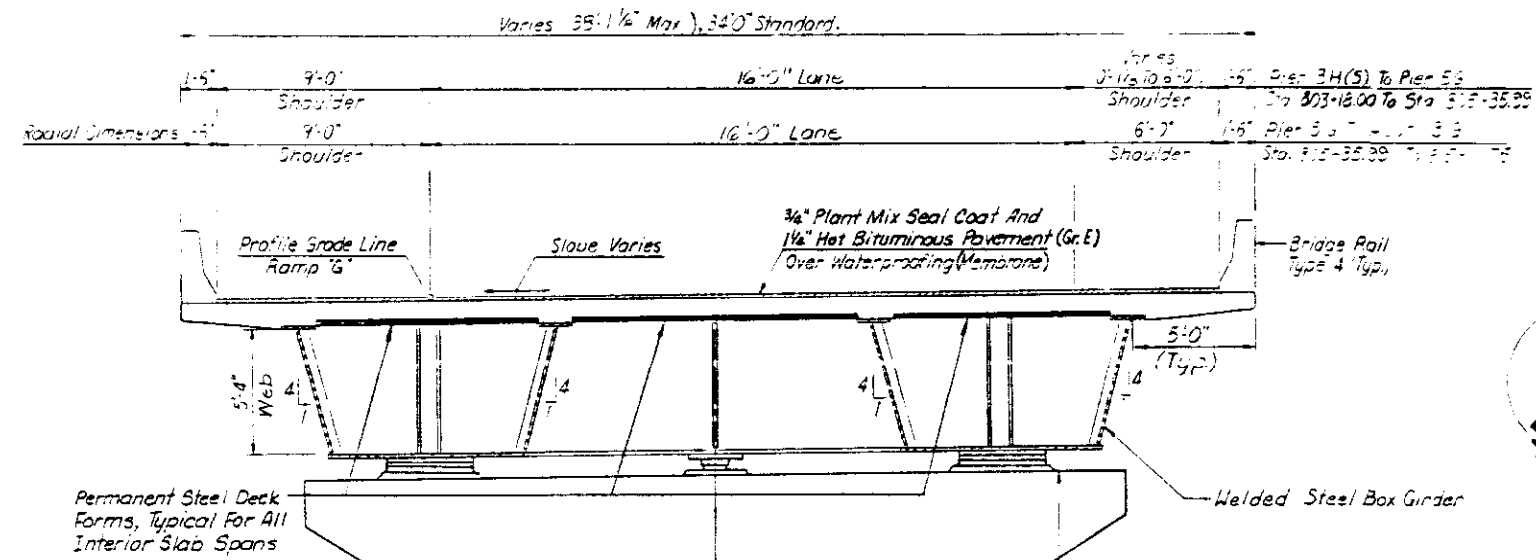
Revision Dates (Preliminary Stage Only)

DATE	DESIGNED BY	CHECKED BY
6-87	JAB	MM
6-87	JAB	MM
9-87	MM	MM
6-87	MM	MM

FORM NO. 1001
FEB. 1964

AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO. REVISIONS	REVISED 1/24/90	VIII	COLD.	TR 25-2(208)	95	171

REVISIONS	



De Leuw, Cather & Company Denver, CO

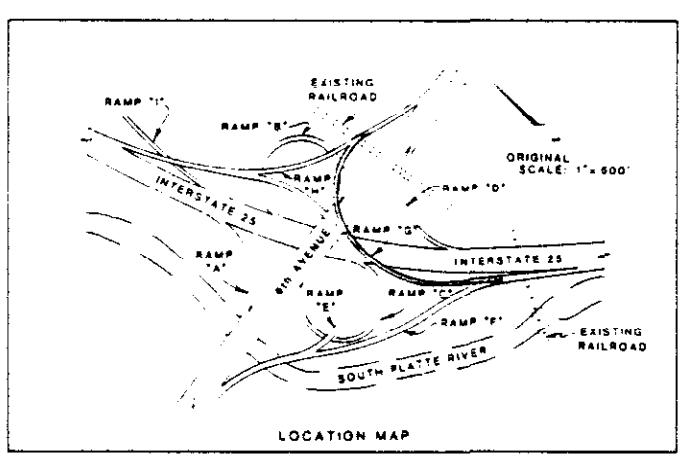
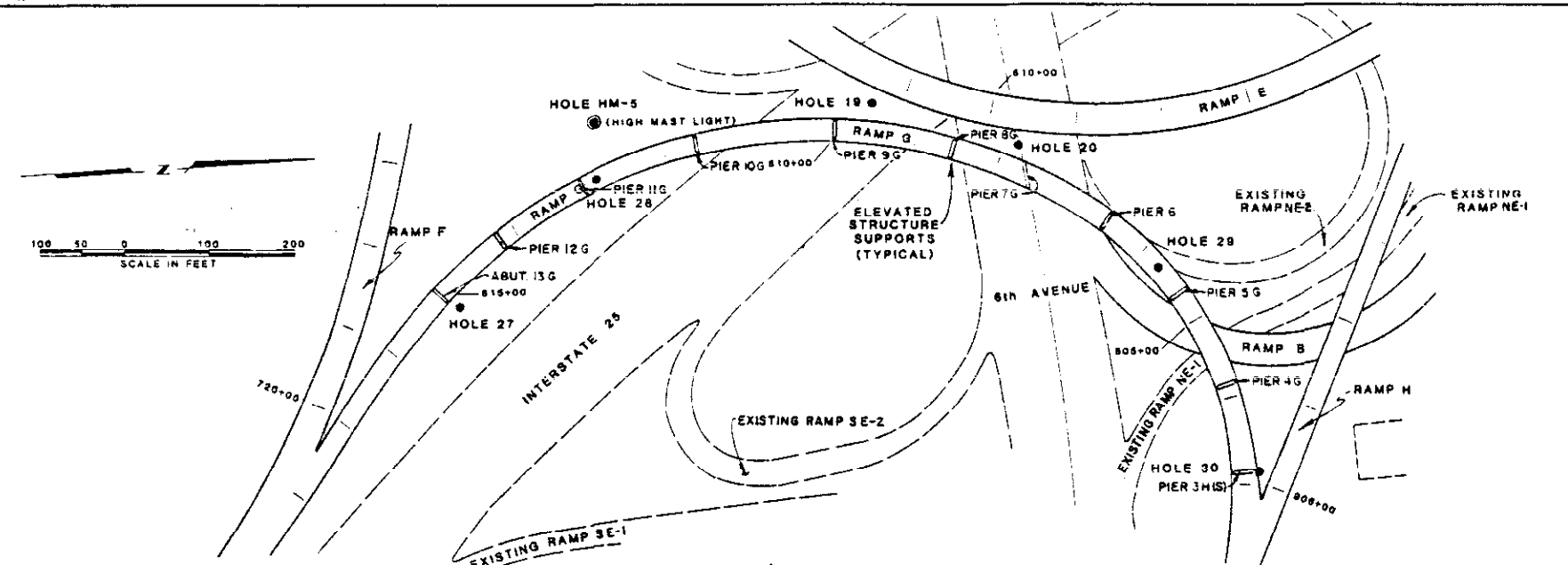
DIVISION OF HIGHWAYS

TYPICAL SECTIONS

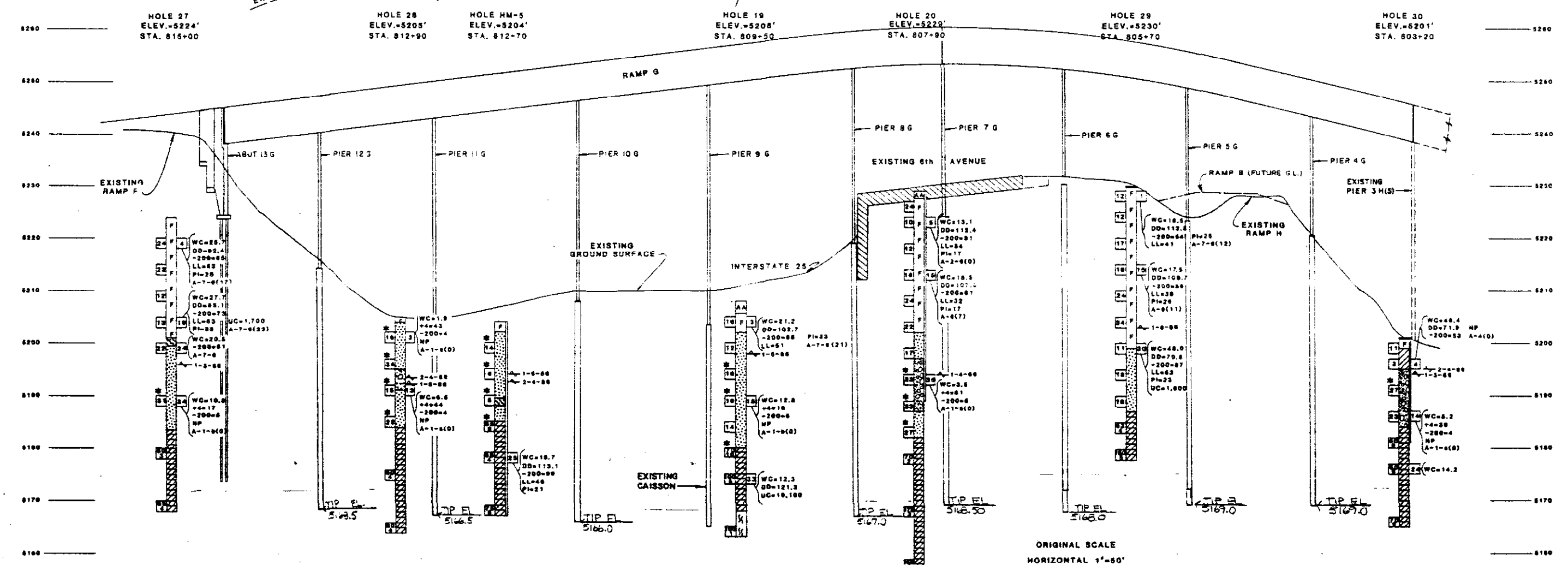
Designer J. Barraza	Structure Numbers	F-16-0L
Detailer R. Hinchaw	of 57	Drawings

Revision Dates (Preliminary Stage Only)

DESIGNED BY	DATE	CHECKED BY
J.A.B.	5/87	J.L.S.
CHECKED BY	DATE	DESIGNED BY
R.M.H.	5/87	J.A.B.



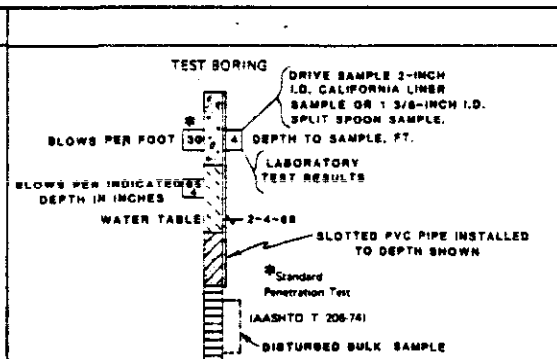
REVISIONS				



ORIGINAL SCALE
 HORIZONTAL 1"=50'
 VERTICAL 1"=10'

SUMMARY OF TEST RESULTS											
Sample No.	Depth	Classification	Grading Analysis				Atterberg Limits			Unconfined Strength (psi)	Tribial Shear Strength (psi)
			Coarse	Fine	Clay	Sand	LL (%)	PL (%)	NP (%)		

TYPE OF MATERIAL	
	TOPSOIL
	FILL, GRAVELLY SAND TO SANDY CLAY, MOIST, BROWN, ESTIMATED SOME TRASH CONSISTING OF RAGS, WOOD AND METAL IN HOLE 27 AT 11' TO 15'.
	SAND (SP) CLEAN TO SLIGHTLY SILTY, LOOSE TO DENSE, MOIST TO WET, BROWN.
	SAND (SC) CLAYEY TO SILTY, LOOSE TO MEDIUM DENSE, MOIST, BROWN.
	SAND AND GRAVEL (SP-GP) CLEAN TO SILTY, MEDIUM DENSE TO DENSE, MOIST TO WET, BROWN.
	CLAY (CL) SLIGHTLY SANDY TO SANDY, MEDIUM TO STIFF, MOIST, BROWN.
	CLAYSTONE BEDROCK, HARD TO VERY HARD, MOIST, BROWN TO BLUE-GRAY.
	SANDSTONE BEDROCK, VERY HARD, MOIST, BROWN TO BLUE-GRAY.



LEGEND	
	HIGH MAST LIGHTING

LABORATORY TEST RESULTS:

WC=MOISTURE CONTENT, %
 DD=DRY DENSITY,pcf
 %=PERCENTAGE RETAINED ON NO. 4 SIEVE
 -200=PASSING NO. 200 SIEVE
 LL=LIQUID LIMIT, %
 PL=PLASTICITY INDEX, %
 NP=NON-PLASTIC
 UC=UNCONFINED COMPRESSIVE STRENGTH, pcf
 SPD=MAXIMUM STANDARD PROCTOR DENSITY, pcf
 OM=OPTIMUM MOISTURE CONTENT, %
 N=HYEEM STABILOMETER RESISTANCE VALUE
 A-1-N(0)=AASHTO CLASSIFICATION (GROUP INDEX)

DIVISION OF HIGHWAYS
 CHEN & ASSOCIATES, INC.
 ENGINEERING GEOLOGY

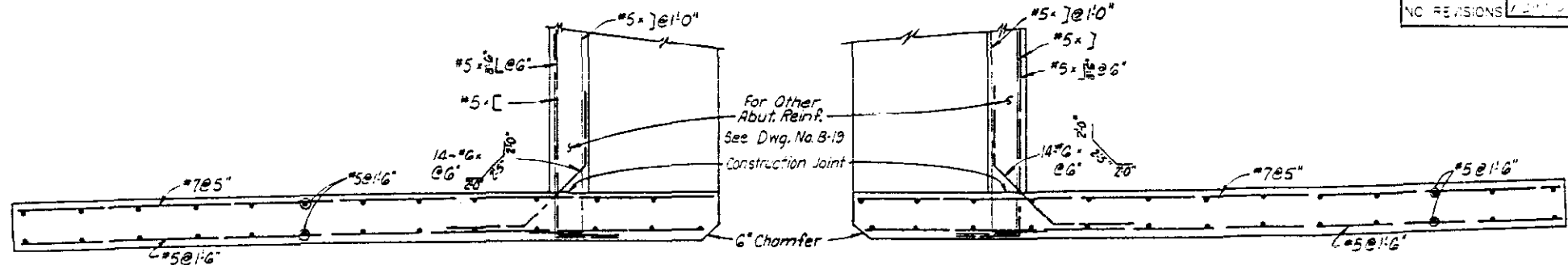
RAMP G
 6th AVENUE/INTERSTATE 25 INTERCHANGE

Geologist:
 Drawn by: A.S.
 Checked by: R.J.T. Date: February, 1988

NO. REVISIONS	REVISED	VOID
1		

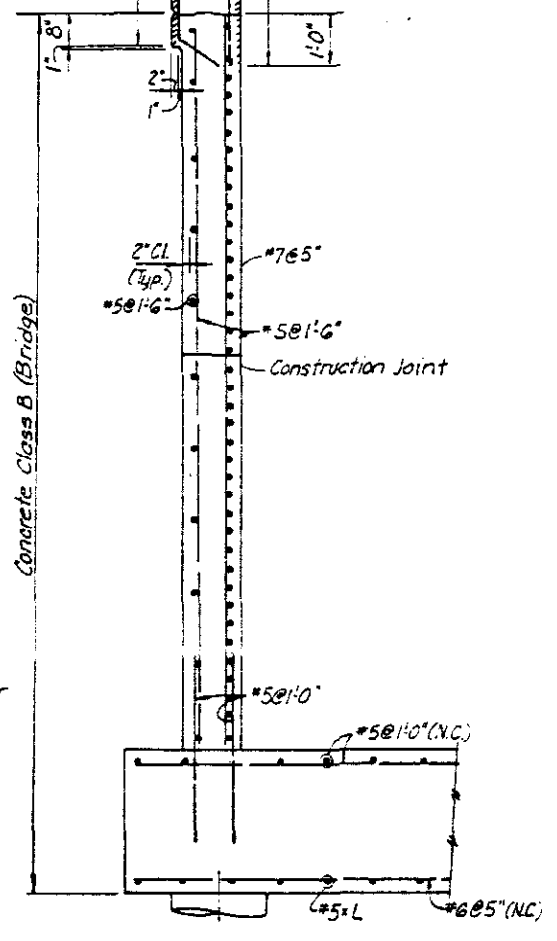
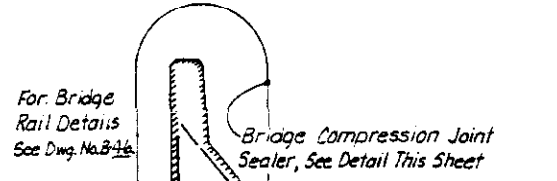
PROJECT NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
IR 25-2 (208)	COLD.		109	171

REVISIONS	

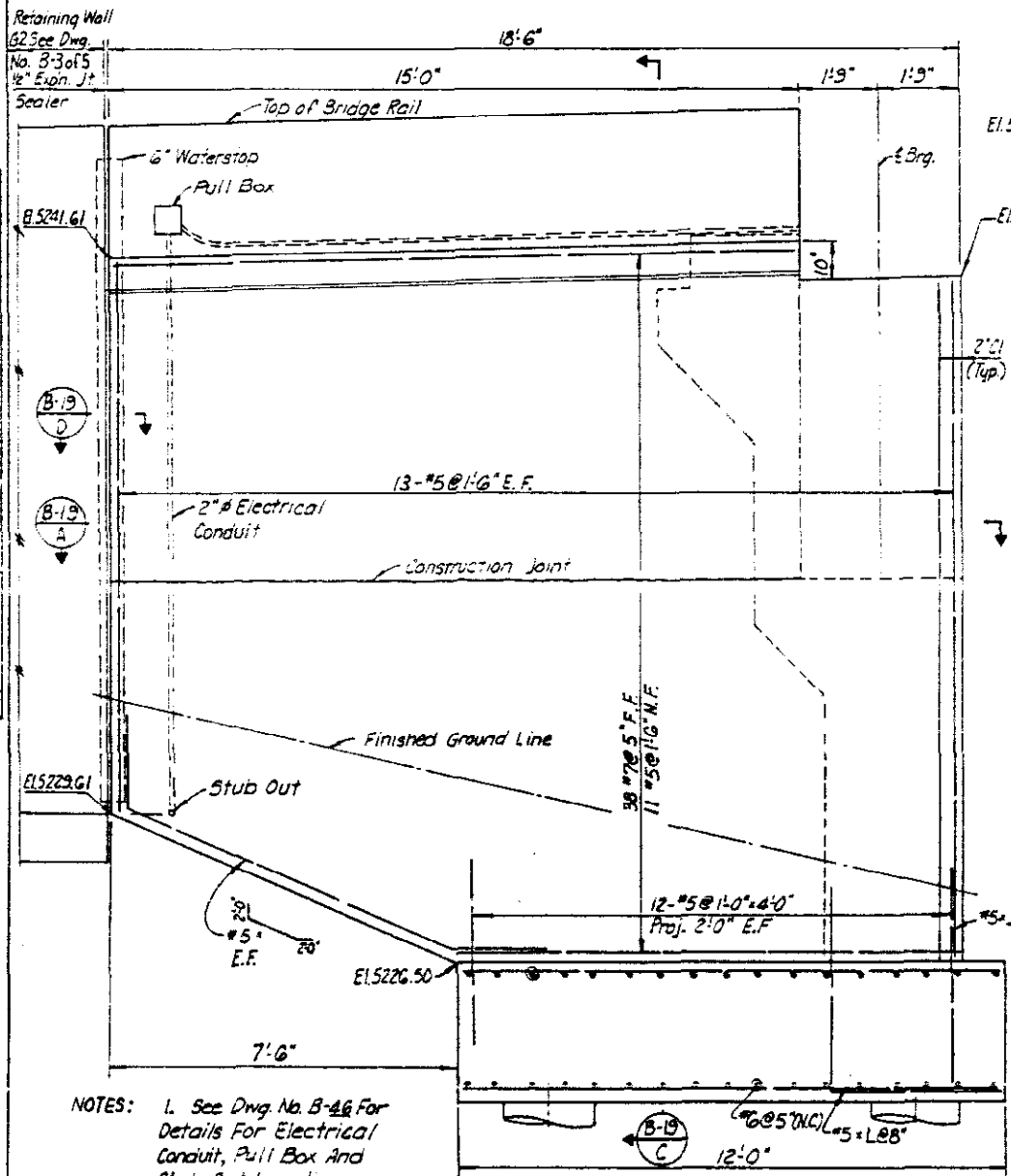


SECTION B-19
A

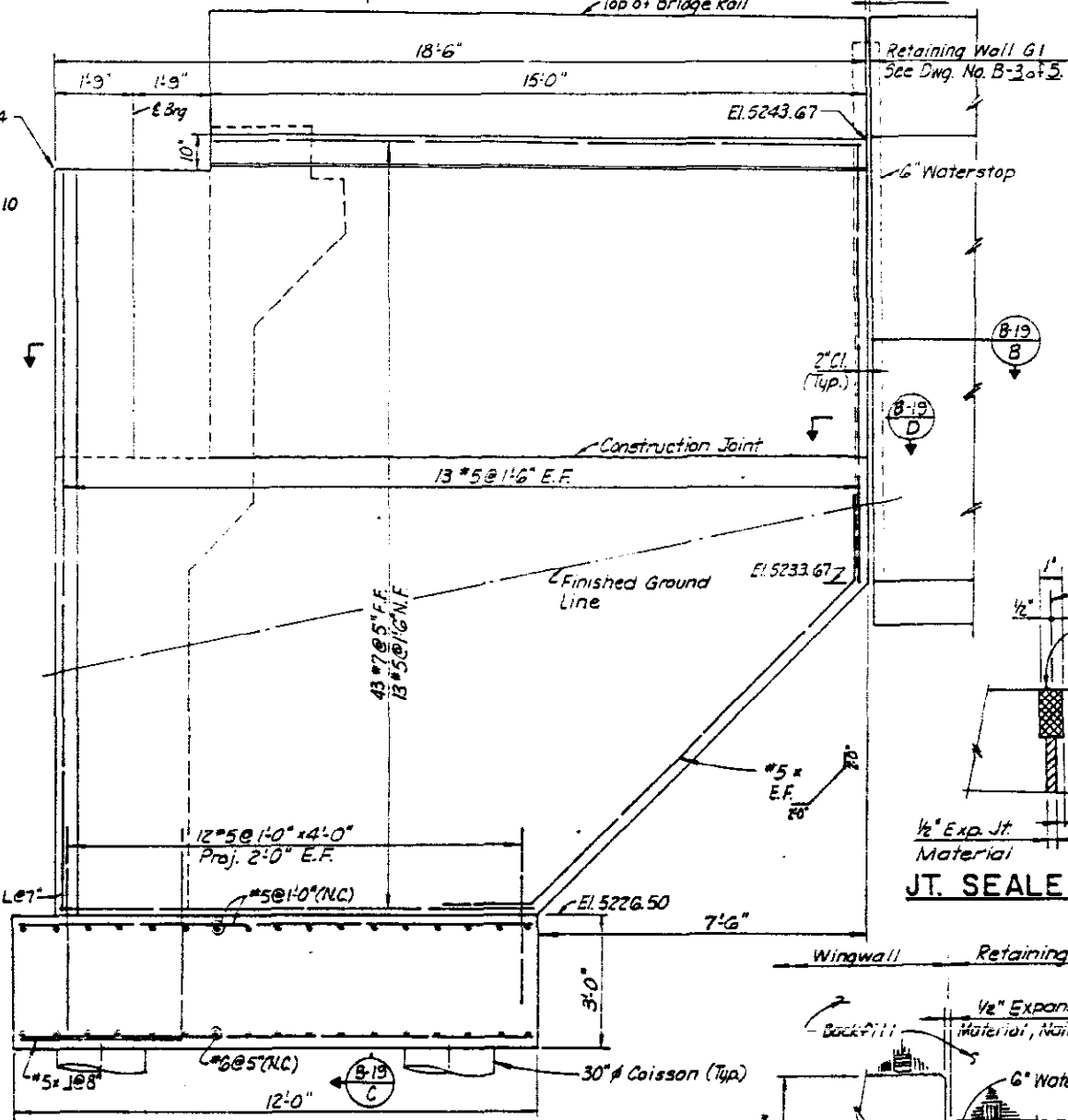
SECTION B-19
B



SECTION B-19
C

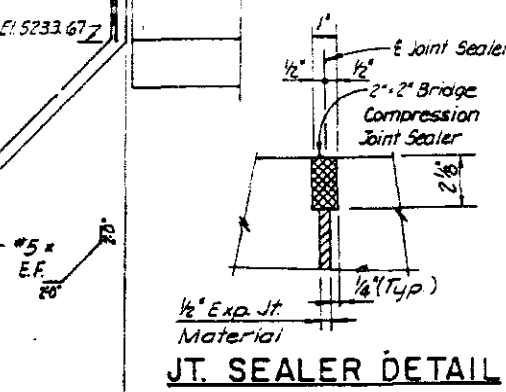


EAST WINGWALL

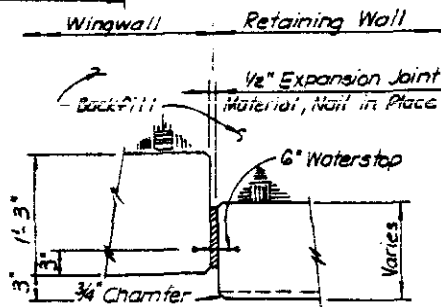


WEST WINGWALL

ELEVATION



JT. SEALER DETAIL



SECTION B-19
D

NOTES:
 1. See Dwg. No. B-46 For Details For Electrical Conduit, Pull Box And Stub Out Location.
 2. For Other Details See Dwg. No. B-18.

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS	
ABUTMENT 13G AND WINGWALL DETAILS	
Designer S.S. Jiang	Structure F-16-0L
Detailer R. Hinshaw	Numbers
Drawing Number B-19	of 57 Drawings

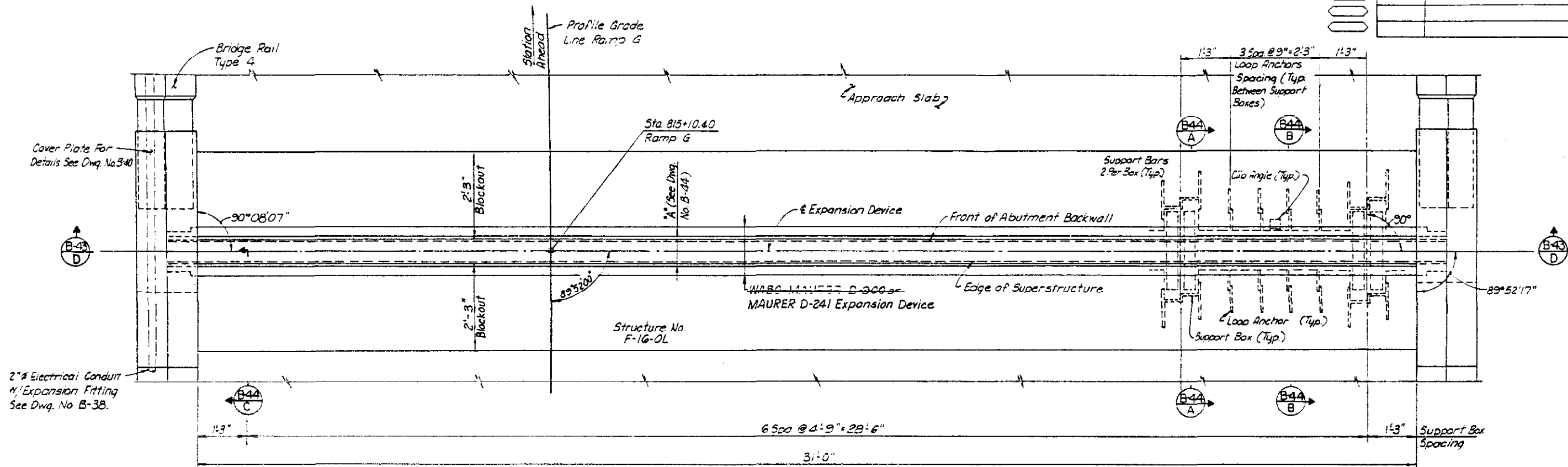
Revision Dates (Preliminary Stage Only)

REV. 1957

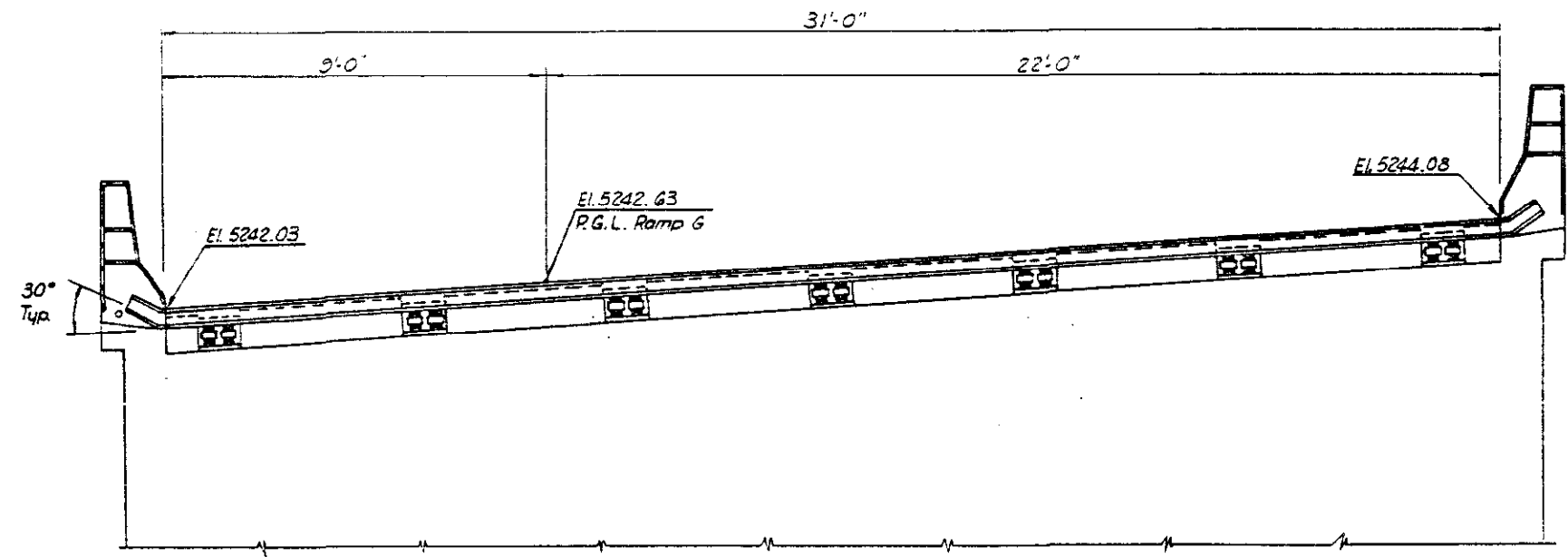
NO. REVISIONS	REVISED	DATE	BY
1	1/27/57		

PROJECT	CONTRACT	SHEET NO.	TOTAL SHEETS
IR 25-2(208)		133	171

REVISIONS	



PLAN AT ABUTMENT 13G



SECTION B-43
D

DESIGNED BY	DATE	CHECKED BY
MRM	8-27	JAB
CHECKED BY	DATE	DESIGNED BY
KMH	8-27	MRM

De Leuw, Cather & Company Denver, CO

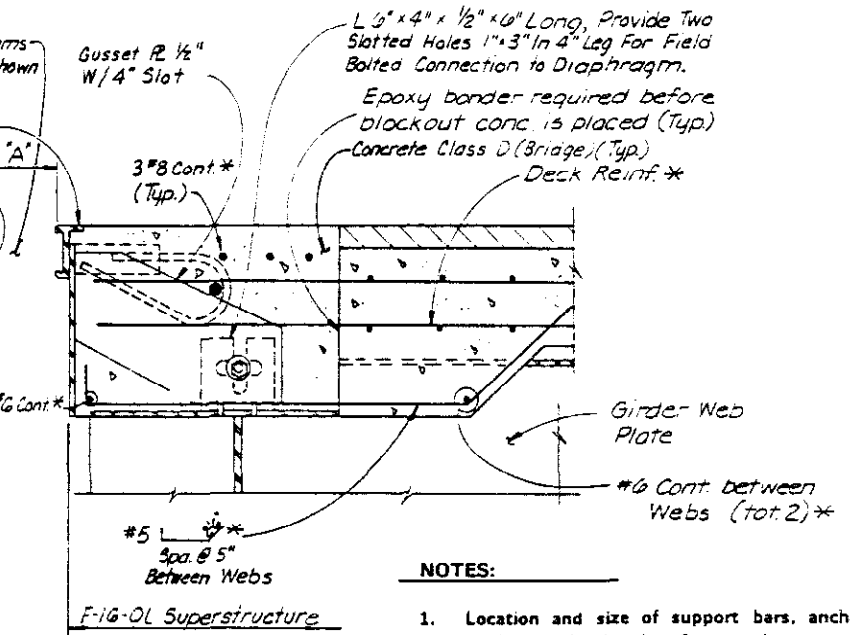
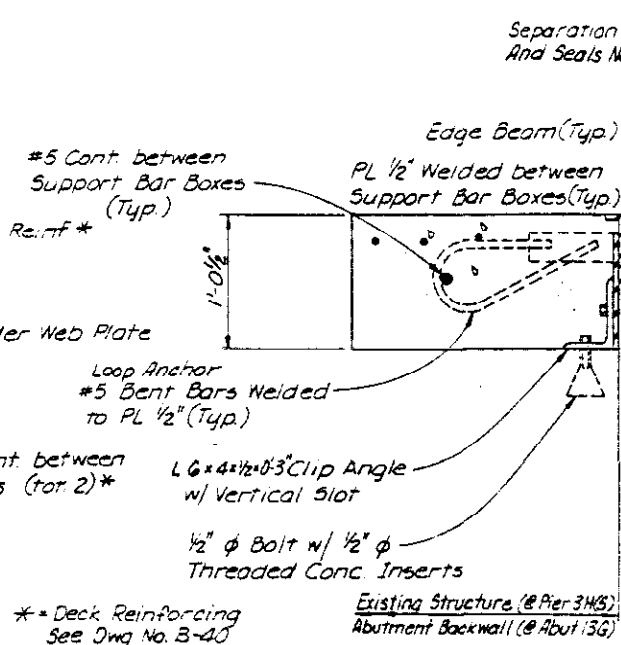
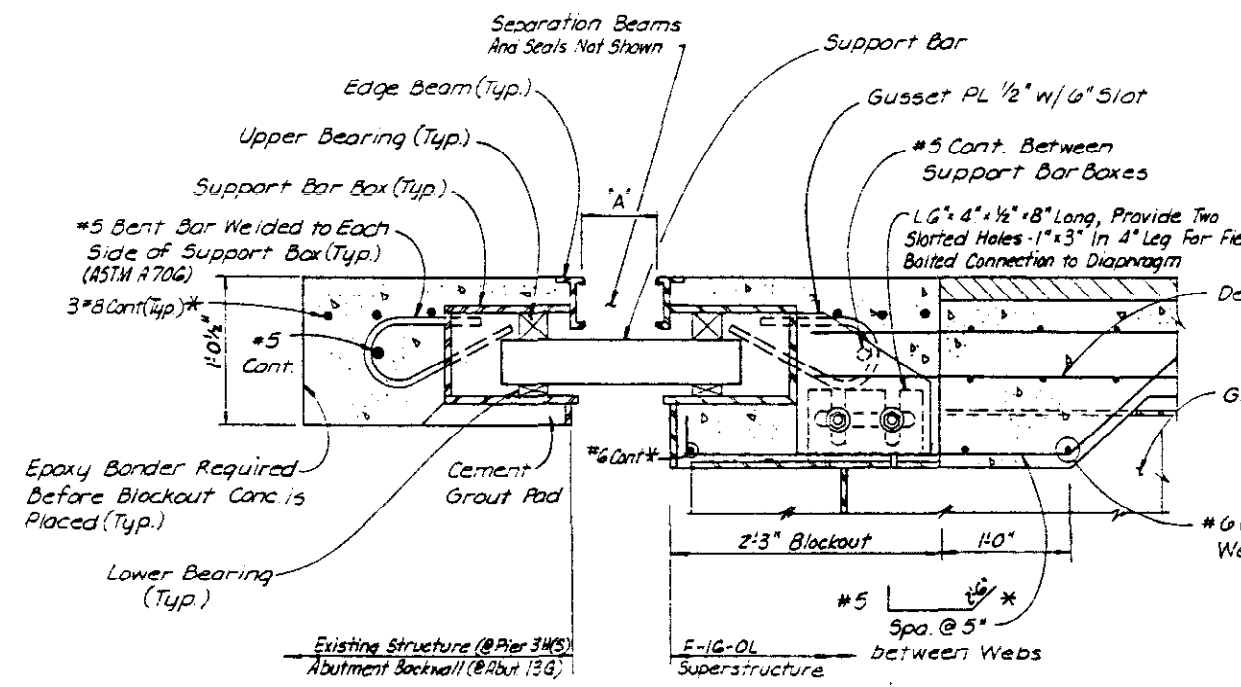
DIVISION OF HIGHWAYS

EXPANSION DEVICE DETAILS
(0 - 9 INCH)
ABUTMENT 13 G

Designer	M. Merklinger	Structure Numbers	F-16-0L
Detailer	R. Hinshaw	Drawing Number	B-43 of 57 Drawings

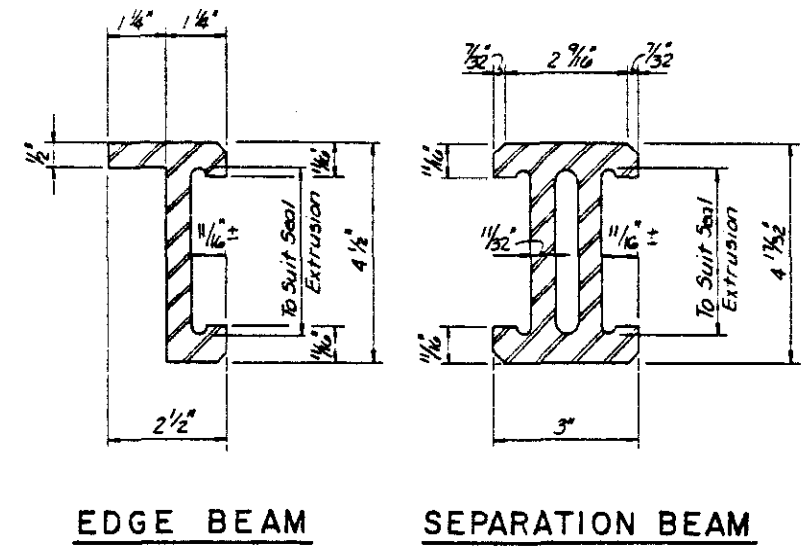
Revision Dates (Preliminary Stage Only)

REVISIONS	



- NOTES:**
1. Location and size of support bars, anchor angle, anchor angle, bracket for attachment to steel and stiffener plates shall be per manufacturer's drawings.
 2. See table for dimension "A."
 3. The expansion device shall be installed on grade, parallel to the slope and grade of the deck.
 4. After the concrete has attained initial set, the attachments used to hold the expansion device assembly in its proper position shall be removed.
 5. Do not paint steel surfaces in contact with concrete and elastomeric seals.
 6. "A" dimensions are dependent upon the particular expansion device supplied and shall be shown on the shop drawings.
 7. The shop drawings shall indicate the "A" dimensions at a range of temperatures from 30° F to 100° F assuming a mid-point temperature of 40° F.
 8. The neoprene seals shall be supplied and installed in one continuous piece.

DESIGNED BY	MEM	DATE	11-87
CHECKED BY	BAA	DATE	1-88
DESIGNED BY	BAA	DATE	1-88
CHECKED BY	R.M.H.	DATE	11-87



STRUCTURE	"A" DIMENSION		
	PIER 3H(S)	PIER 7G	ABUTMENT 13G
TEMPERATURE	DIMENSION "A"	DIMENSION "A"	DIMENSION "A"
30°F	10 11/16"	10 9/16"	10 3/4"
40°F	10 1/2"	10 1/2"	10 1/2"
50°F	10 5/16"	10 3/16"	10 1/4"
60°F	10 3/16"	9 7/8"	10"
70°F	10"	9 9/16"	9 1/16"
80°F	9 13/16"	9 1/8"	9 7/16"
90°F	9 11/16"	8 5/16"	9 3/16"
100°F	9 1/2"	8 3/8"	8 15/16"

Min "A" = 6"; Max "A" = 15"

SECTION B-41 B-42 B-43
C C C

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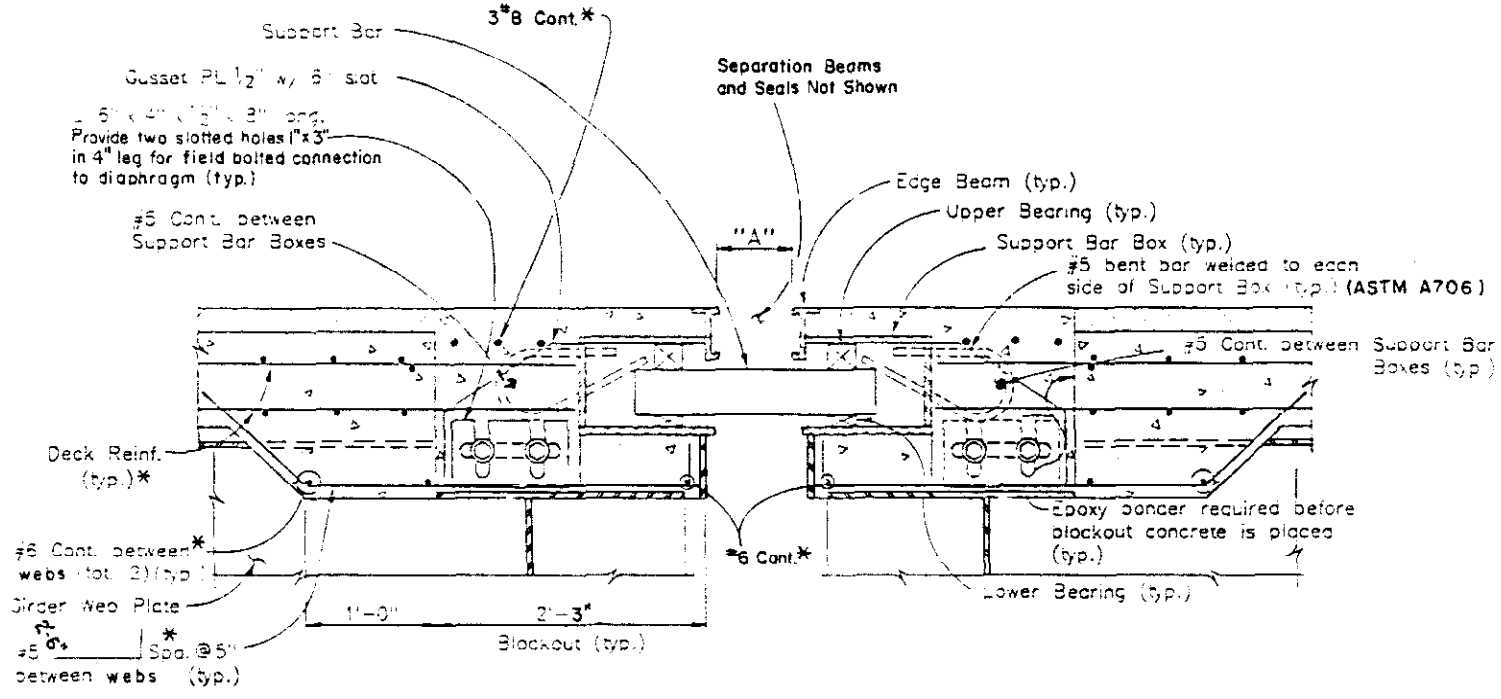
DIVISION OF HIGHWAYS

EXPANSION DEVICE
(0-9 INCH)

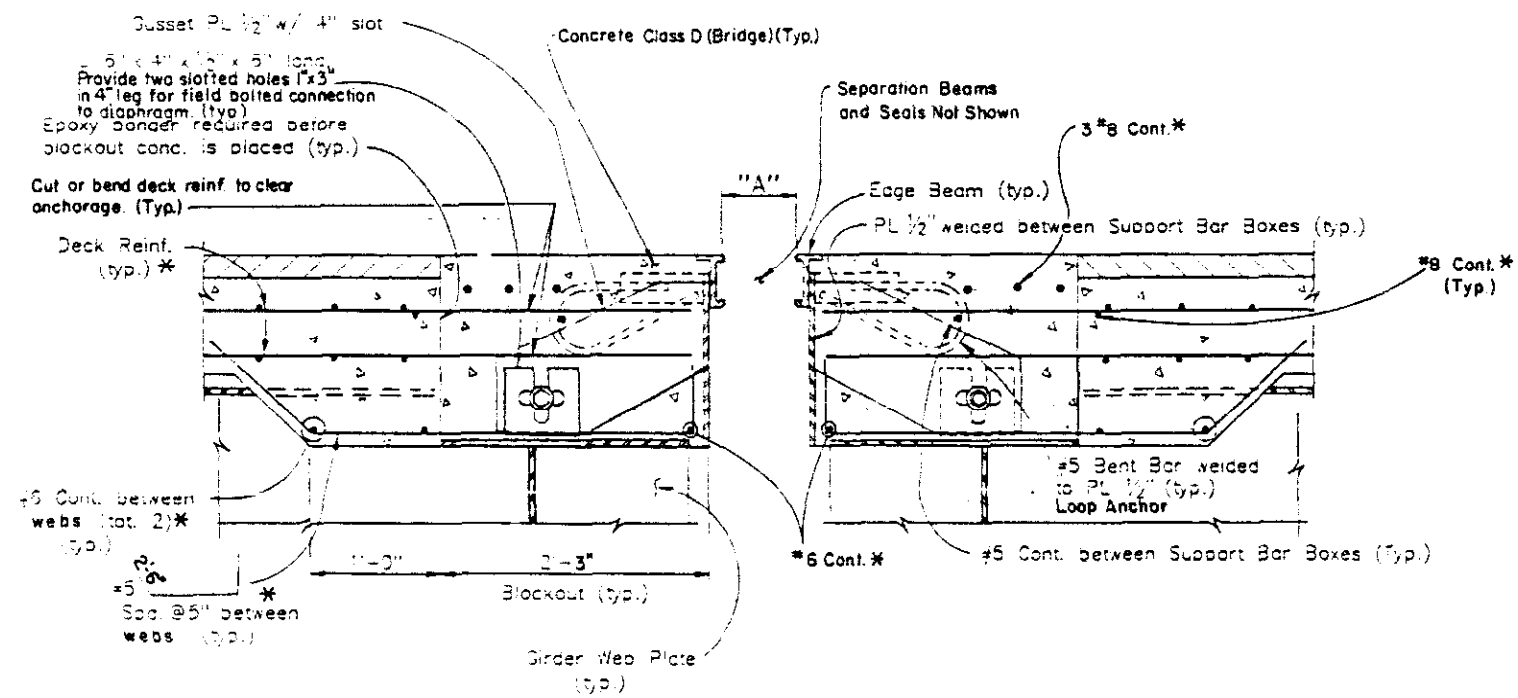
Designer M. Merklinger	Structure F-16-0L
Detailer R. Hinshaw	Numbers
Drawing Number B-44	of 57 Drawings

Revision Dates (Preliminary Stage Only)

NO REVISIONS		REVISED	DATE	BY	NO.	SHEET
					135	171
REVISIONS						



SECTION 342 A



SECTION 342 B

NOTES:
 1. For table of "A" Dimensions and notes, see dwg. no. B-44.
 2. * = Deck Reinforcing, see dwg. no. B-40.

DIVISION OF HIGHWAYS		
EXPANSION DEVICE		
(0-9 INCH)		
STEEL BOX GIRDER BRIDGE		
EXPANSION JOINT DETAILS		
DESIGNER M. Merklinger	STRUCTURE NUMBER	F-16-01
DETAILER R. Hinshaw		
DRAWING NUMBER B-45	OF 57	DRAWINGS

REVISION DATES	PRELIMINARY STAGE 3/1/1
4-85	6-85

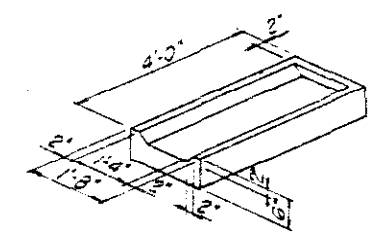
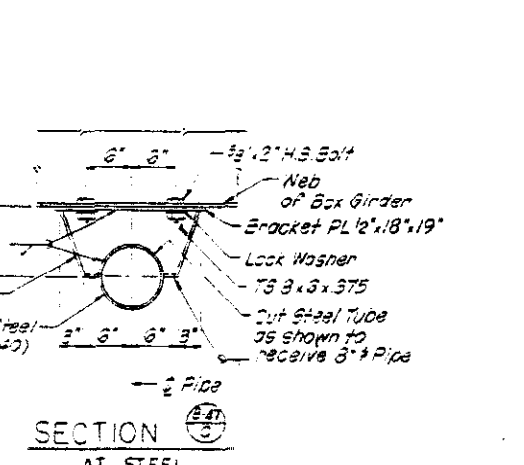
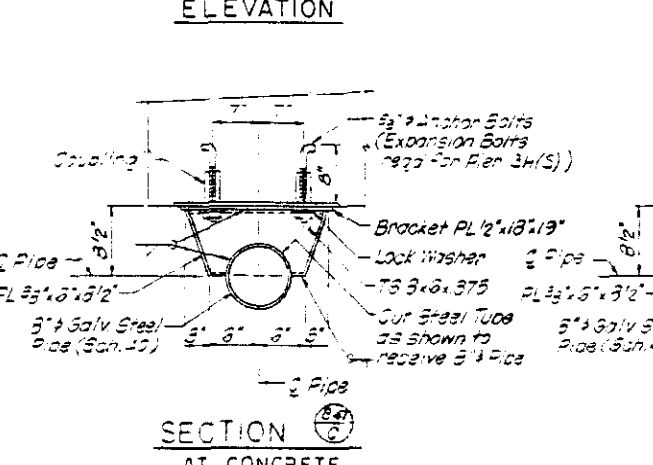
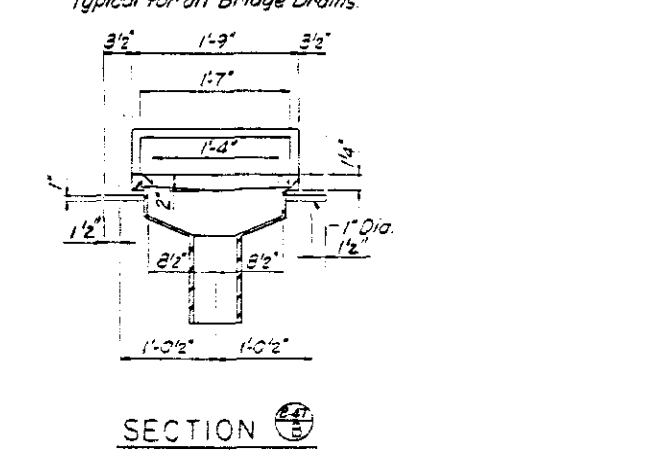
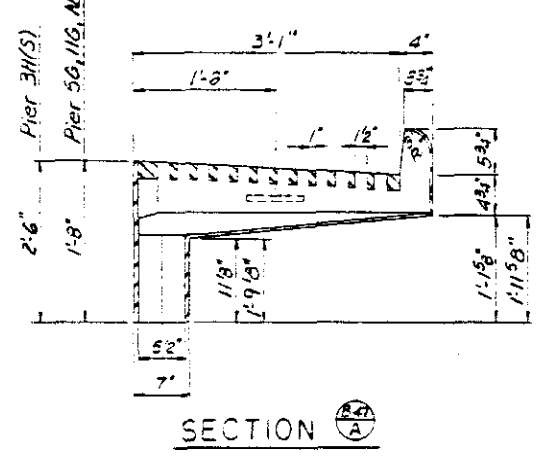
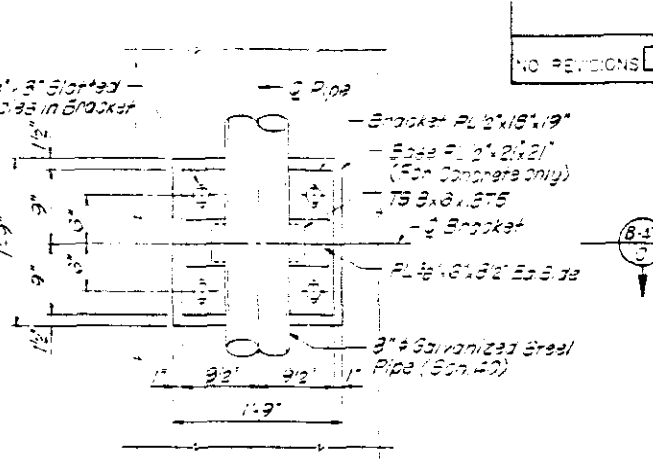
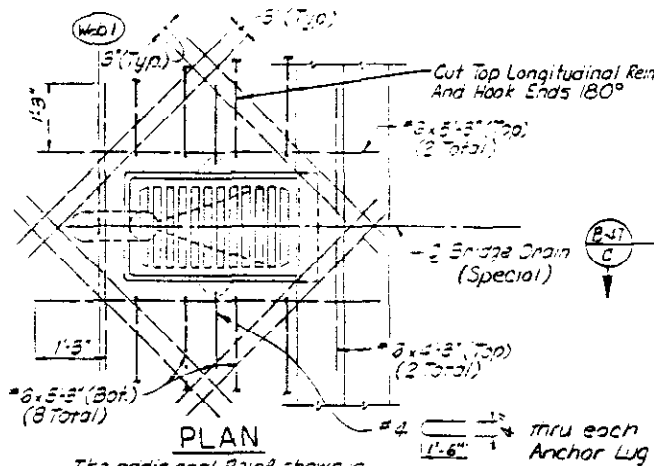
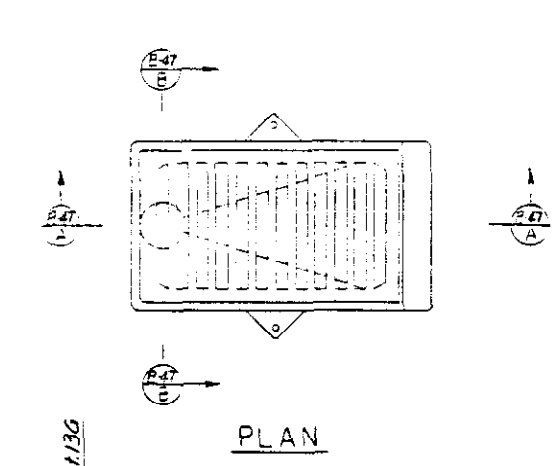
DATE	11-87
BY	BAA
DATE	11-87
BY	BAA
DATE	11-87
BY	BAA

NO. 05 EXPANSION DEVICE STUDY EXPNOV345

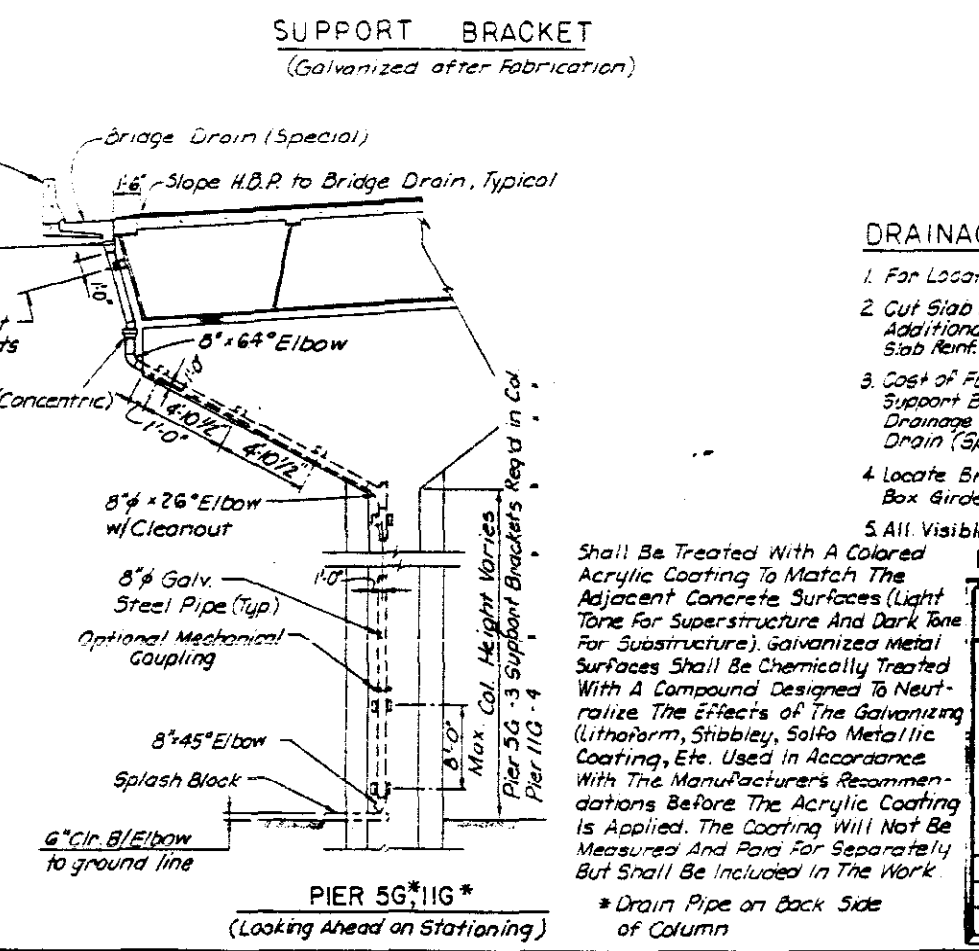
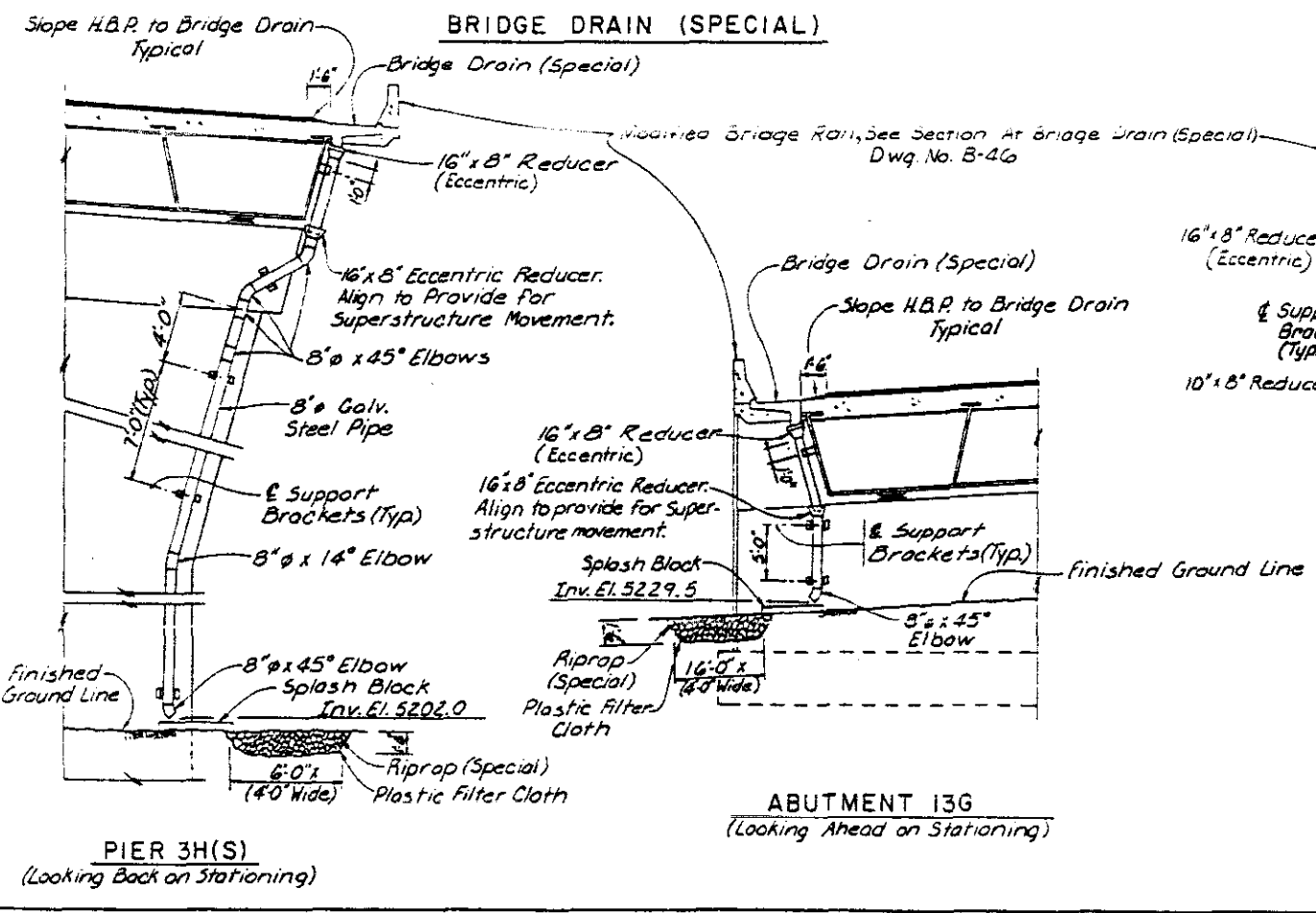
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DESIGNER	DESIGN	PROJECT NO.	SHEET NO.	TOTAL SHEETS
COLL.	IR 25-2(208)	137	71	

REVISIONS	



DATE	10/87
DESIGNED BY	MM
CHECKED BY	MM
DATE	11/87
DESIGNED BY	MM
CHECKED BY	MM
DATE	12/87
DESIGNED BY	MM
CHECKED BY	MM



- DRAINAGE NOTES**
- For Location of Bridge Drains, See Deck Plans, Dwg No. B-37 & B-38.
 - Cut Slab Reinforcing Bars to Clear Bridge Drains. Additional Reinf. shall be set between Top and Bottom Slab Reinf. Band Bridge Rail Reinf.
 - Cost of Furnishing and Installing 8" Pipe, Splash Blocks, Support Brackets, Bridge Drains, and other necessary Drainage System Incidentals shall be Included in Bridge Drain (Special).
 - Locate Bridge Drain (Special) to Clear Top Flange of Box Girder.
 - All Visible Galvanized Metal Surfaces for Bridge Drainage shall be Treated with a Colored Acrylic Coating to Match the Adjacent Concrete Surfaces (Light Tone for Superstructure and Dark Tone for Substructure). Galvanized Metal Surfaces shall be Chemically Treated with a Compound Designed to Neutralize the Effects of the Galvanizing (Lithoform, Stibbly, Solfo Metallic Coating, Etc. Used in Accordance with the Manufacturer's Recommendations Before the Acrylic Coating is Applied. The Coating will Not be Measured and Paid for Separately but shall be Included in the Work.
- De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS	
BRIDGE DRAIN (SPECIAL)	
Designer <i>M. Merklinger</i>	Structure F-16-0L
Detailer <i>D. Kurschinski</i>	Numbers
Drawing Number B-47	of 57 Drawings

Revision Dates	(Preliminary Stage Only)
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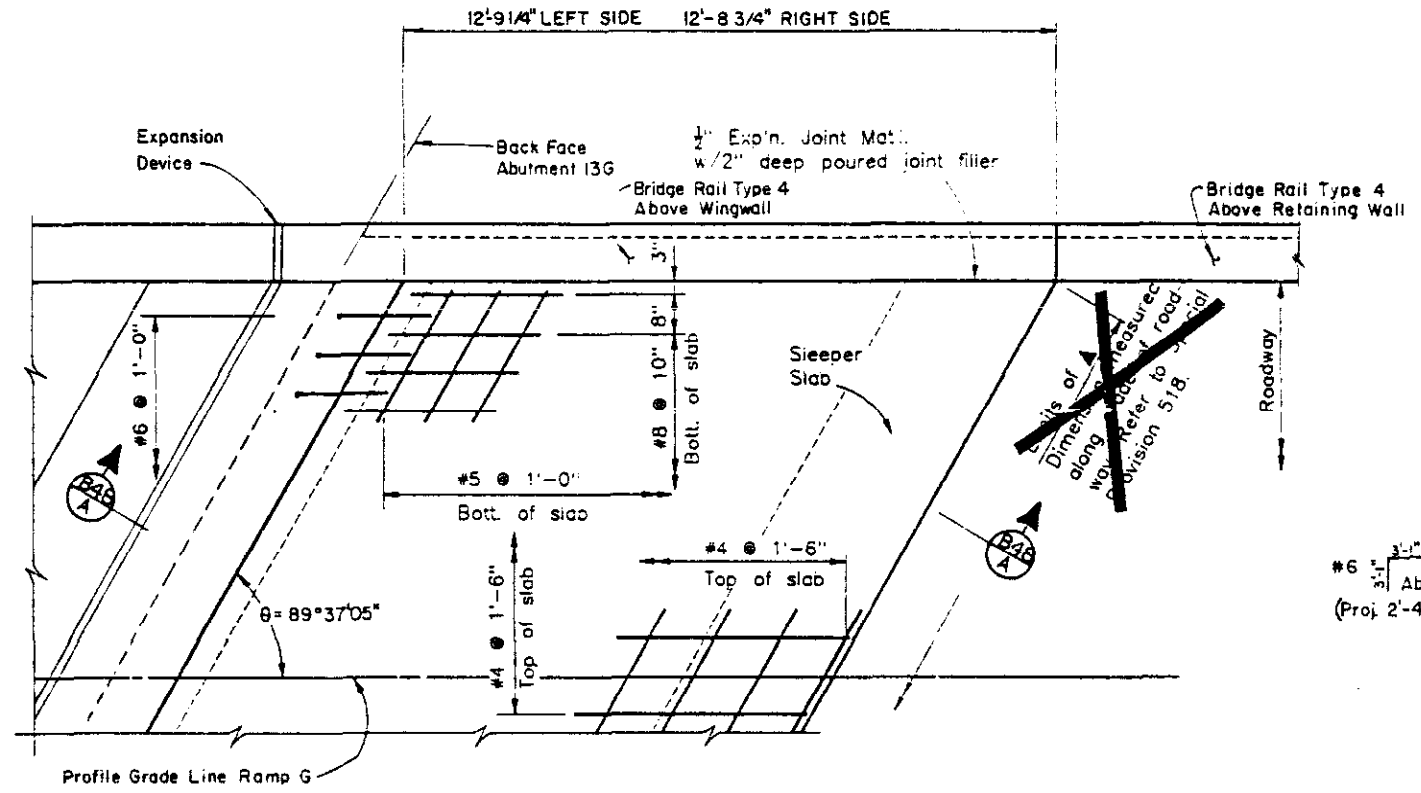
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID
1/1/87		

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NUMBER
138	COLORADO	1R 25-2(208)	138

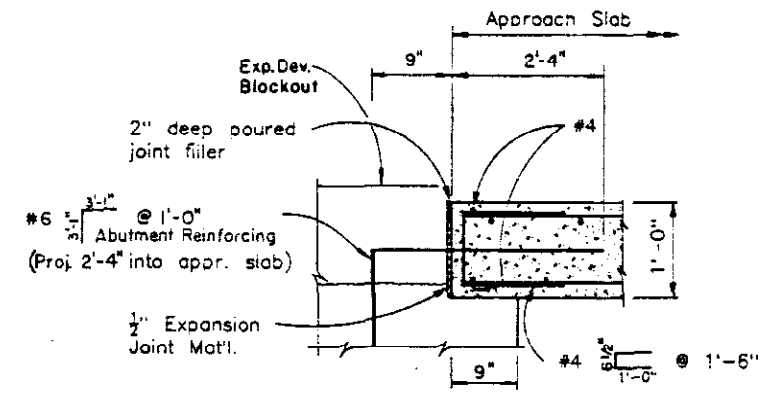
REVISIONS	

B-601-1

NOTES:
 Concrete for approach slab shall be Class D.
 1/2" Expansion Joint Material shall meet AASHTO Specification M213.

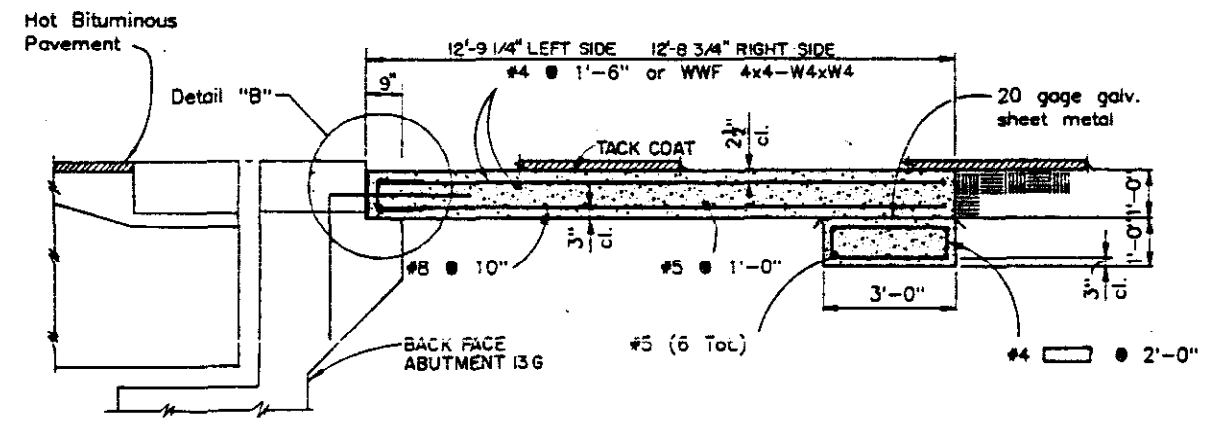


PLAN

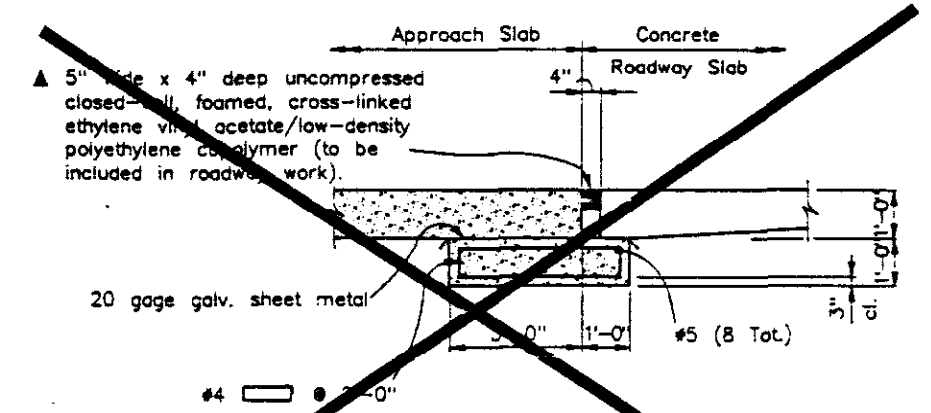


DETAIL "B"

DESIGNED BY	DATE	CHECKED BY	DATE
CHECKED BY	DATE		



SECTION A-A
 With asphalt roadway



SECTION B-B
 With concrete roadway slab

DIVISION OF HIGHWAYS			
APPROACH SLAB DETAILS			
Designer	J. STAPLETON	Structure	F-16-OL
Detailer	R. HINSHAW	Numbers	
Drawing Number	B-48	of 57	Drawings

06/06/86 DUB-CARL BRUCE 766011