

GENERAL NOTES

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE DIVISION OF HIGHWAYS, STATE OF COLORADO APPLICABLE TO THIS PROJECT.

STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.

ALL STRUCTURAL STEEL SHALL BE AASHTO M-222 (ASTM A-572, CORROSION RESISTANT), UNLESS OTHERWISE NOTED. REQUIREMENTS FOR PAINTING STEEL ARE GIVEN IN REVISION OF SECTION 509. STRUCTURAL STEEL COATING INSIDE OF BOX GIRDERS SHALL RECEIVE ONE FIELD COAT OF PAINT. THE FOLLOWING MEMBERS SHALL BE FRACTURE CRITICAL: TENSION FLANGES AND ANY MEMBER INDICATED AS FCM IN THESE DRAWINGS. ALL BOLTS SHALL BE AASHTO M-194 (ASTM A-325) 1/2" DIAMETER, HIGH STRENGTH, TYPE 3, UNLESS OTHERWISE NOTED.

NO WELDING OF ANY KIND SHALL BE PERMITTED ON THE FLANGES OF STEEL GIRDERS UNLESS SPECIFICALLY CALLED FOR ON THE PLANS.

GRADE OR REINFORCING STEEL IS REQUIRED. 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 A CONCRETE	1'-0"	1'-0"	1'-0"	2'-0"	2'-0"	2'-10"	4'-10"	5'-10"
SPlice LENGTH FOR CLASS BZ CONCRETE	1'-0"	1'-0"	1'-0"	2'-0"	2'-0"	2'-4"	4'-2"	5'-1"

THE ABOVE SPlice LENGTH SHALL BE INCREASED BY 25 PERCENT FOR 3 BAR BUNDLES AND 33 PERCENT FOR 4 BAR BUNDLES.

ANY 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.

ALL EXPOSED CONCRETE SURFACES DOWN TO 1'-0" BELOW CROWN LINE SHALL BE FINISHED WITH A CLASS 1 FINISH, FOLLOWED BY AN APPLICATION OF A COLORADO COATING MEETING THE REQUIREMENTS GIVEN IN REVISION OF SECTION 601. STRUCTURAL CONCRETE (EDGING).

ALL CHAMFERS SHALL BE 3/4" UNLESS OTHERWISE NOTED.

PERMANENT STEEL BRIDGE DECK FORMS SHALL BE USED. 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.

E.F. - EACH FACE
I.F. - INSIDE FACE
O.F. - OUTSIDE FACE
E.W. - EACH WAY

T.F. - TOP FACE
B.F. - BOTTOM FACE
N.C. - NON-EPOXY COATED

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.

DESIGN NOTES

CURRENT AASHTO SPECIFICATIONS:

LIVE LOAD: AASHTO HS-20-44 AND INTERSTATE ALTERNATE
DEAD LOAD: ASSUMES 40 LBS. PER SQ. FT. FOR BITUMINOUS PAVEMENT

REINFORCED CONCRETE:

CLASS A CONCRETE: $f_c = 1200 \text{ psi}$, $n = 9$, $f'_s = 3,000 \text{ psi}$ AT 28 DAYS
CLASS D CONCRETE: $f_c = 1820 \text{ psi}$, $n = 8$, $f'_s = 4,120 \text{ psi}$ AT 28 DAYS
CLASS BZ CONCRETE: $f_c = 1620 \text{ psi}$, $n = 8$, $f'_s = 4,120 \text{ psi}$ AT 28 DAYS

REINFORCING STEEL: #4 BARS AND LAMINAR: $f_y = 24,000 \text{ psi}$, $f_u = 32,000 \text{ psi}$

INDEX OF DRAWINGS

- B-1 GENERAL INFORMATION
- B-2 SUMMARY OF QUANTITIES
- B-3 GENERAL LAYOUT - UNIT 1
- B-4 GENERAL LAYOUT - UNIT 2
- B-5 TYPICAL SECTIONS
- B-6 ENGINEERING GEOLOGY
- B-7 CAISSON AND CONSTRUCTION LAYOUT - UNIT 1
- B-8 CAISSON AND CONSTRUCTION LAYOUT - UNIT 2
- B-9 CAISSON DETAILS
- B-10 PIERS 4 & ICE BEARING SEAT DETAILS
- B-11 PIERS 5, 6, 7 & 8 DETAILS
- B-12 PIERS 9, 11, 12 & 13 DETAILS
- B-13 PIER 10 DETAILS
- B-14 PIER 10 DETAILS
- B-15 PIERS 14, 15, 6'0" DETAILS
- B-16 FRAMING PLAN & GIRDER ELEVATION - UNIT 1
- B-17 FRAMING PLAN & GIRDER ELEVATION - UNIT 1
- B-18 FRAMING PLAN & GIRDER ELEVATION - UNIT 1
- B-19 FRAMING PLAN & GIRDER ELEVATION - UNIT 2
- B-20 FRAMING PLAN & GIRDER ELEVATION - UNIT 2
- B-21 FRAMING PLAN & GIRDER ELEVATION - UNIT 2
- B-22 PIER CAP PRESTRESSING - PIERS 5, 6, 7, 8, 11, 12, 13 & 14
- B-23 PIER CAP PRESTRESSING - PIERS 9 AND 10
- B-24 PIER CAP REINFORCEMENT - PIERS 5 THRU 9 AND 11 THRU 15
- B-25 ERECTION PROCEDURE
- B-26 BEARING DEVICE (TYPE 111) DETAILS
- B-27 END DIAPHRAGM DETAILS - PIERS 4 & 12

- B-28 END DIAPHRAGM DETAILS - PIER 10
- B-29 DIAPHRAGM AND STRUCTURAL STEEL MISCELLANEOUS DETAILS
- B-30 STRUCTURAL STEEL MISCELLANEOUS DETAILS
- B-31 BOX GIRDER - FIELD SPLICES
- B-32 INTERIOR DIAPHRAGM DETAILS - PIERS 5 THRU 9 & 11 THRU 15
- B-33 STEEL BOX GIRDER CAMBER DIAGRAM - UNIT 1
- B-34 STEEL BOX GIRDER CAMBER DIAGRAM - UNIT 2
- B-35 DECK REINFORCEMENT - UNIT 1
- B-36 DECK REINFORCEMENT - UNIT 2
- B-37 DECK REINFORCEMENT AND SECTIONS - UNITS 1 & 2
- B-38 EXPANSION JOINT DETAILS - PIER 4
- B-39 EXPANSION JOINT DETAILS - PIER 10
- B-40 EXPANSION JOINT DETAILS - PIER 12E
- B-41 EXPANSION JOINT DETAILS
- B-42 EXPANSION DEVICE (8-9 INCH)
- B-43 BRIDGE RAIL TYPE 4 DETAILS
- B-44 BRIDGE DRAIN (SPECIAL) - DETAILS
- B-45 BRIDGE DECK ELEVATIONS
- B-46 BRIDGE DECK ELEVATIONS
- B-47 BRIDGE DECK ELEVATIONS
- B-48 BRIDGE DECK ELEVATIONS
- B-49 BRIDGE DECK ELEVATIONS
- B-50 BRIDGE DECK ELEVATIONS
- B-51 BRIDGE DECK ELEVATIONS
- B-52 BRIDGE DECK ELEVATIONS
- B-53 INTERIOR LIGHTING (STEEL BOX GIRDER)
- B-54 DECK REINFORCEMENT AT EXPANSION JOINTS
- B-55 BENCH MARK

AS CONSTRUCTED
NO REVISIONS REVISED VOID

FED. ROAD REGION	DIVISION	PROJECT NO.	PROJECT DATE	SHEET TOTAL
VIII	COLO.	IR25-2(191)	1/80	242

REVISIONS	

CROSS REFERENCE DRAWING NUMBER
SECTION OR DETAIL IDENTIFICATION


BRIDGE DESCRIPTION

UNIT 1: 6 - SPAN (113'-0" x 124'-7" x 124'-7" x 124'-7" x 124'-7" x 118'-1") BRIDGE.

UNIT 2: 6 - SPAN (107'-9" x 115'-0" x 115'-0" x 115'-0" x 107'-0" x 66'-4") BRIDGE.

EACH UNIT CONTINUOUS AND COMPOSITE, STEEL BOX GIRDER, OVER 1-25 AND 6TH AVENUE, VARIABLE ROADWAY WIDTH AND SKEW, 1'-6" CONCRETE BARRIERS, BRIDGE RAIL TYPE 4.

DeLuw, Cather & Company, Denver, CO.

	DIVISION OF HIGHWAYS	
	RAMP 'E' GENERAL INFORMATION Station 602+78.57 to 616-56.62	
IN DENVER Sec. 4 T4S R6W		Designer: J.L. COOPER Checker: CLG Drawing Number: B-1 of 55 Drawings

DESIGN METHOD

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

STRUCTURAL STEEL:

AASHTO M-103 (ASTM A-26) $f_y = 29,000 \text{ psi}$
AASHTO M-222 (ASTM A-588) $f_c = 27,000 \text{ psi}$

PRESTRESSED CONCRETE:

CLASS 5 CONCRETE: $f_c = 5020 \text{ psi}$ AT 28 DAYS

PRESTRESSING STEEL: HIGH STRENGTH ALLOY STEEL BARS CONFORMING TO ASTM A722 ULTIMATE STRENGTH: 150,000 psi MINIMUM.

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SUPER-STRUCT	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	PIER 9	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14	PIER 15	PIER 12E	PIER "G"	TOTAL
206	STRUCTURE EXCAVATION	CU YD			9	9	9	9	12	3	9	9	9	9	9		12	135
206	STRUCTURE BACKFILL (CLASS 2)	CU YD			7	7	7	7	8	10	7	7	7	7	7		8	98
403	HOT BITUMINOUS PAVEMENT (OR EXHAUL)	TON	725 717															725
411	ASPHALT-CEMENT-AGG (NONFORTIFIED)	TON	41															41
503	DRILLED CAISSON (54 INCH)	LIN. FT.			20.15	24.35	33	26.40	26.30	24.01	48.57	30	24	27.24	24.40		11.42	467
① 509	STRUCTURAL STEEL	LB	2,050,000	305		280	280	280	715	610		280	280	280		305	715	2,054,350
512	BEARING DEVICE (TYPE III)	EACH		2	2	2	2	2	2	4	2	2	2	2	2	2		25
513	BRIDGE DRAIN (SPECIAL)	EACH	7															7
515	WATERPROOFING MEMBRANE	SQ YD	2,500															2,500
518	BRIDGE EXPANSION DEVICE (0-9 INCH)	LIN. FT.	132															132
601	CONCRETE CLASS D (BRIDGE)	CU YD	1658.6		14.1	14.8	14.2	22.7	31.1	83.1	12.9	33.2	32.0	27.7	20.9		95	2,220
② 601	CONCRETE CLASS S (BRIDGE)	CU YD			40.0	43.6	43.6	43.6	52.2		43.6	43.6	43.6	41.6	39.0			443
602	REINFORCING STEEL (EPOXY COATED)	LB	650,105		14,160	13,560	16,130	17,405	20,615	15,420	14,050	21,780	20,820	15,685	14,590		13,325	679,435
606	BRIDGE RAIL TYPE 4	LIN. FT.	2516.30															2,516
613	2-INCH ELECTRICAL CONDUIT	LIN. FT.	11,455															11,455
613	3/4-INCH ELECTRICAL CONDUIT	LIN. FT.	182.71															183
613	INTERIOR LIGHTING (STEEL BOX GIRDER)	EACH	1															1
③ 618	PRESTRESSING STEEL BAR	M. KFT.			44.4	39.6	39.6	39.6	41.2		38.4	38.4	38.4	38.4	30.0			388

CHECKED BY: J.A. [Signature]
 DRAWN BY: J.A. [Signature]
 DATE: 11/11/66

- ① Includes 218,000 lbs. of A-36 Steel for interior bracing; 19,200 lbs. of A-36 Steel for temporary bracing is incidental to the project and will not be paid for separately.
- ② Volume of concrete for payment shall not be reduced by the volume of prestressing ducts.
- ③ Includes furnishing, placing in the concrete & 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.

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

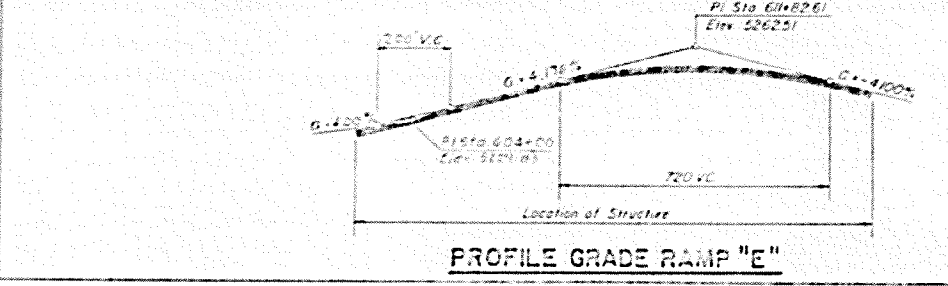
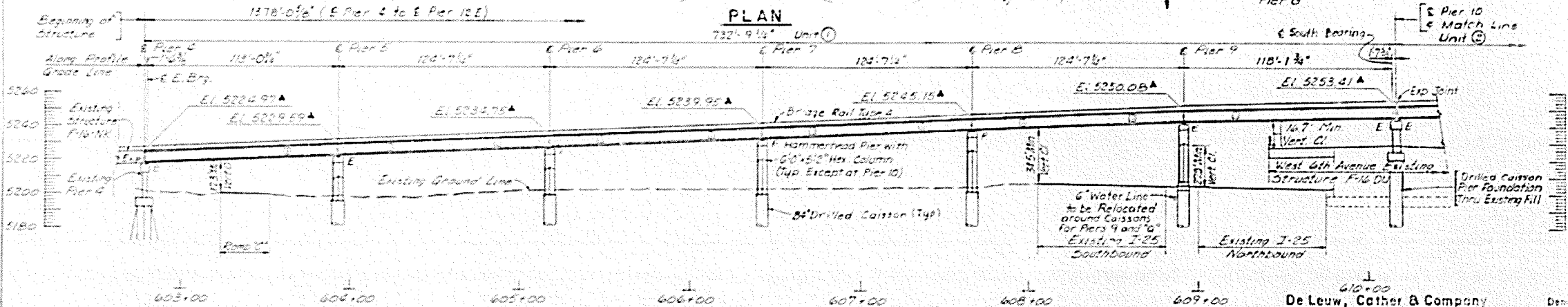
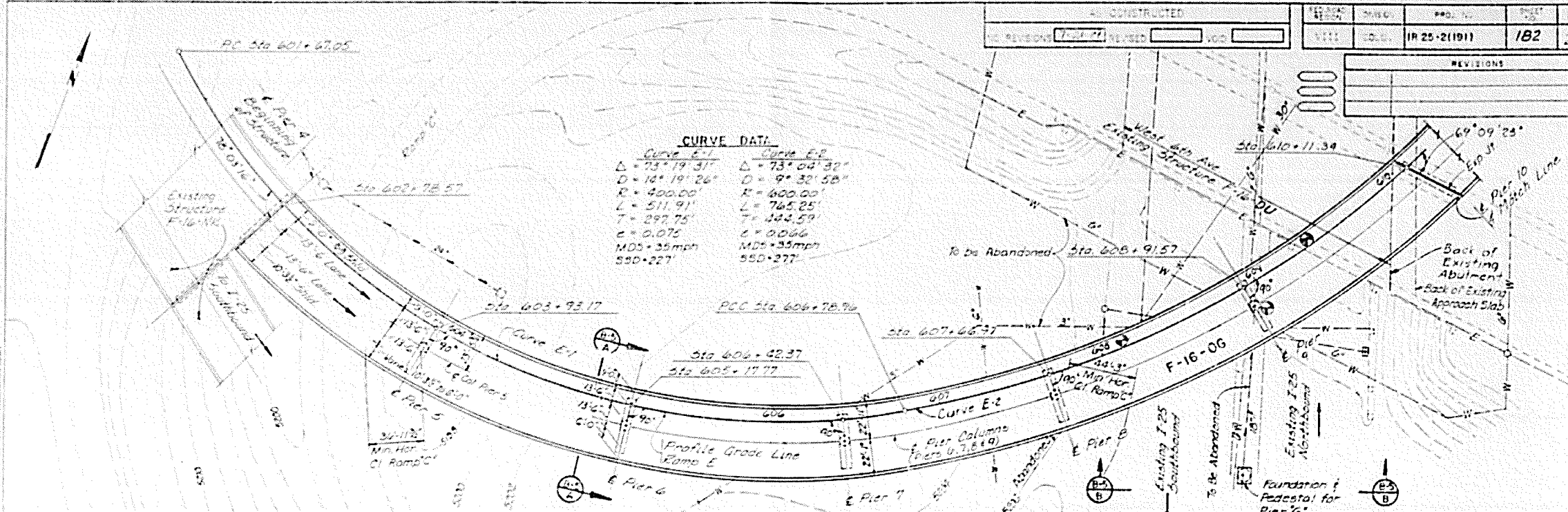
SUMMARY OF QUANTITIES

Designer: R.A. Dodge	Structure: F-16-66
Detailer: R. Hinchey	Numbers:
Drawing Number: 8-2	of 55 Drawings

SCALE
 1" = 40'
 1/4" = 10'

NO. REVISIONS	DATE	BY	CHKD.	APP'D.	PROJ. NO.	SHEET NO.
1					IR 25-2(191)	182

REVISIONS	



- NOTES**
1. Live Loading = HS20-44 and Interstate Alternate.
 2. For Continuation of Bridge Structure (Unit 2) see Dwg No. B-2.
- ⊙ Indicates Point of Minimum Vertical Clearance

De Leuw, Cather & Company

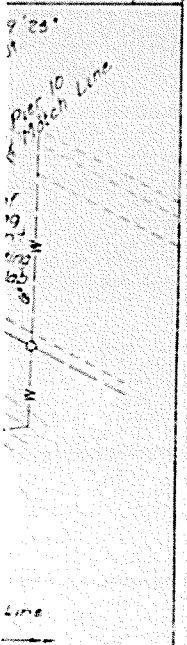
DIVISION OF HIGHWAYS

GENERAL LAYOUT

UNIT 1

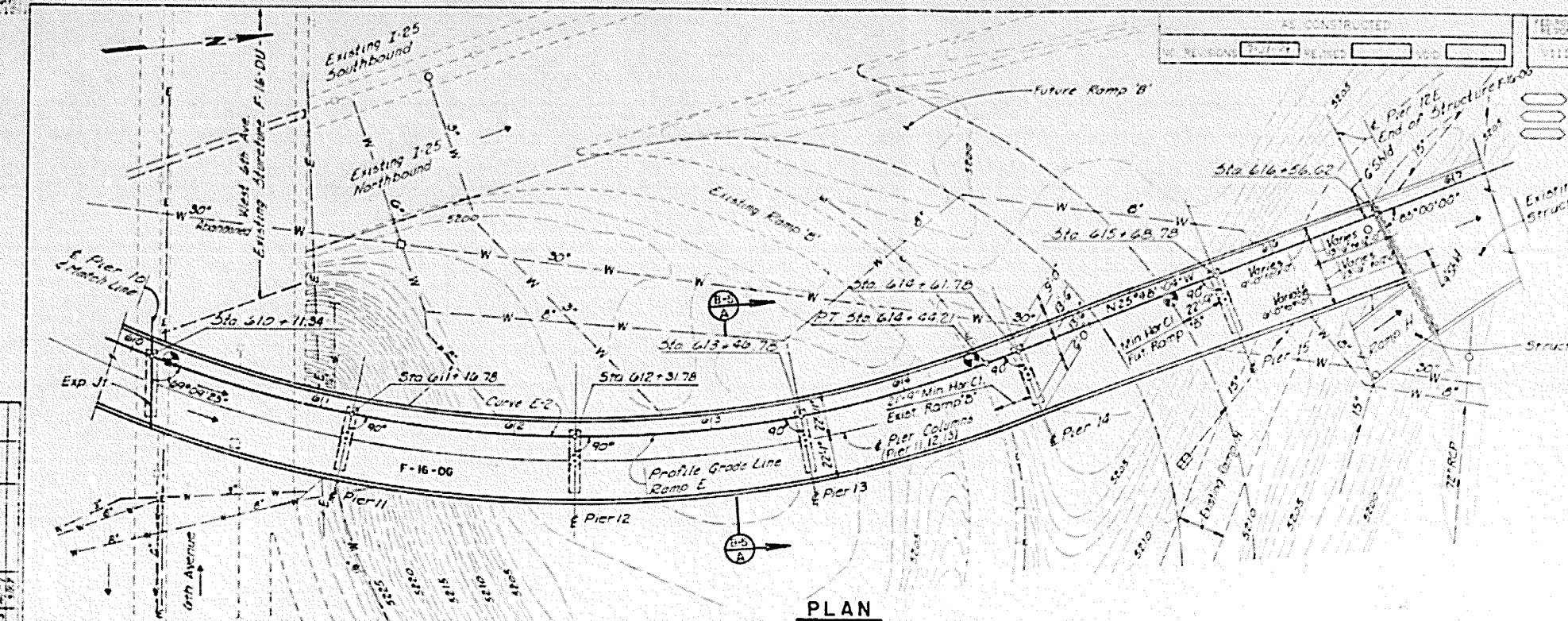
Designer J. Barraza	Structure F-16-08
Estimator K. Davison	Amount
Drawing Number B-3	of 55
Drawn	

SHEET	TOTALS
182	47



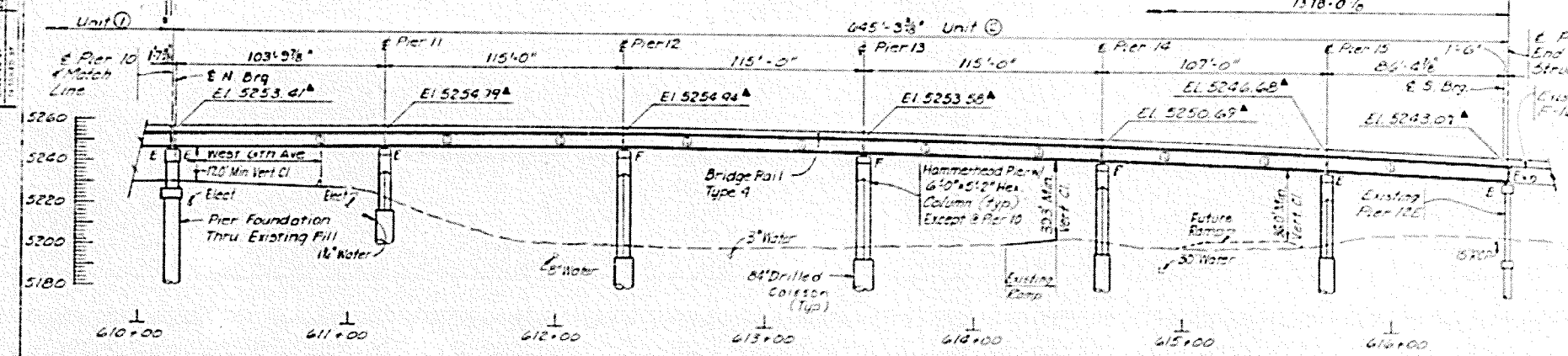
DESIGNED BY
CHECKED BY
DATE 5/12/77

DESIGNED BY	DATE
CHECKED BY	5/12/77
APPROVED BY	
DATE	



CURVE DATA	
Curve E-2	
Δ = 73° 04' 38"	
D = 9° 32' 58"	
R = 600.00'	
L = 765.25'	
T = 424.59'	
e = 0.006 Ft/Ft	
MDS = 35 mph	
SSD = 277'	

PLAN
● Indicates Point of Minimum Vertical Clearance



SECTION
▲ Finished Roadway Elevations Taken at Profile Grade Line

NOTES
1. For Continuation of Bridge Structure (Unit 1), See Dwg No B.3.

De Leuw, Cather & Company
DIVISION OF HIGHWAYS

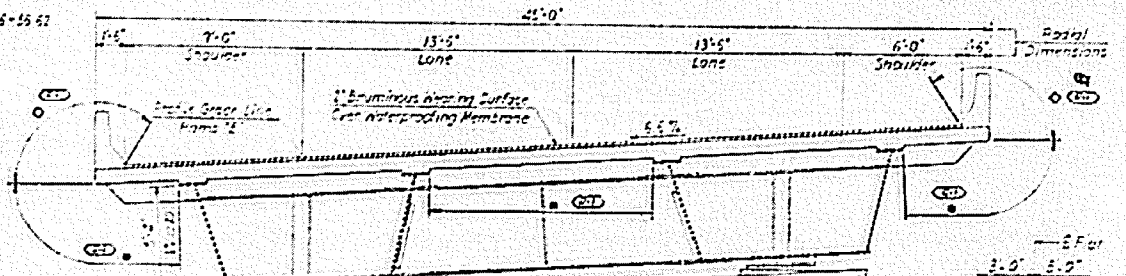
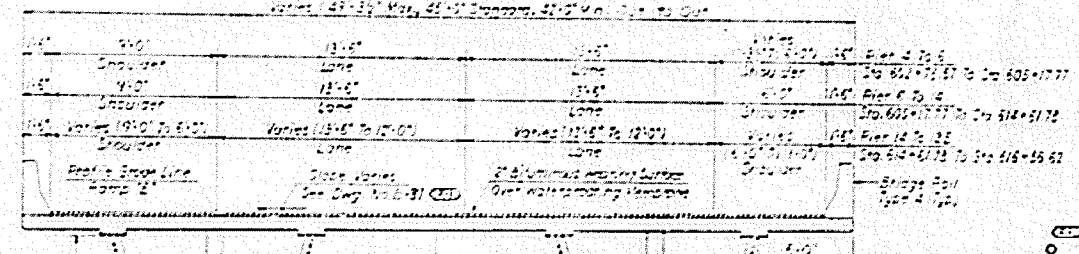
**GENERAL LAYOUT
UNIT 2**

Designer	J. Barraza	Structure	F-16-06
Checker	M. Davison	Number	
Drawing Number	5-4	of	55 Drawings

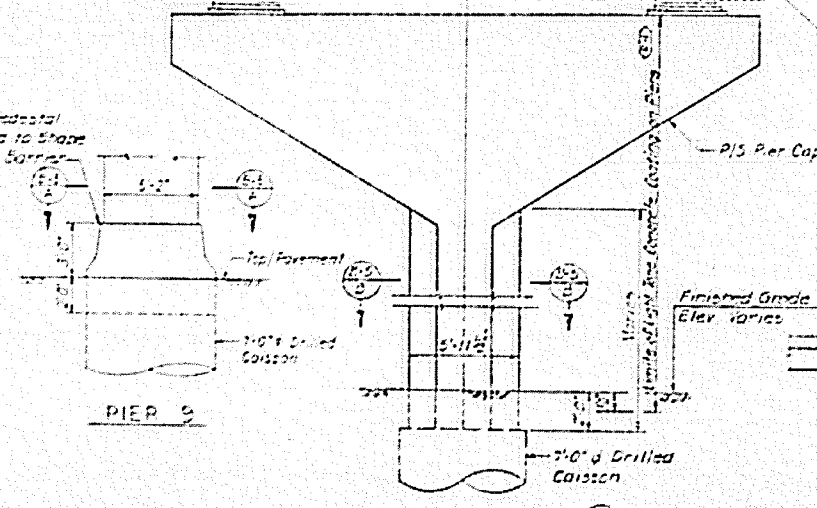
Denver, CO
HIGHWAYS
ROUT
F-16-06
5 Drawings

1934
 1935
 1936

AS CONSTRUCTED	FILED RECORD	DESIGN	PROJ. NO.	SHEET NO.	TOTAL SHEETS
REVISIONS: 1-21-54	REVISED	WOOD	IR 25-2(191)	184	242
REVISIONS					
B-25-B7 Limits of Color Coating; Cross Ref. J.F.R.					



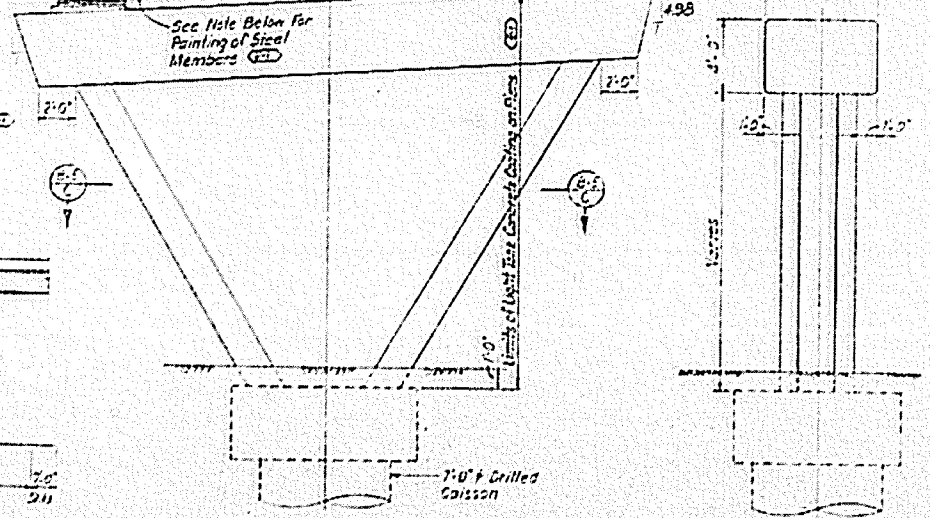
Column Pedestal
 Conform to Shape
 of Type 4 Boring
 see Dwg
 No. B-15



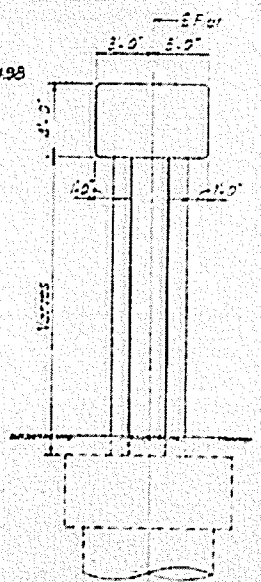
- Limits of Light Tone Concrete Coating On Bridge Rail (Typical)
- Limits of Dark Tone Coating On Superstructure (Typical)



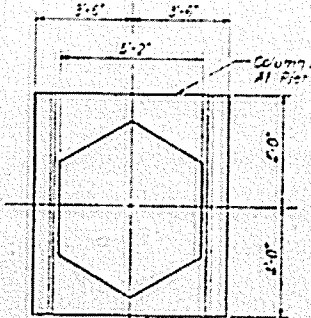
SECTION 11-3



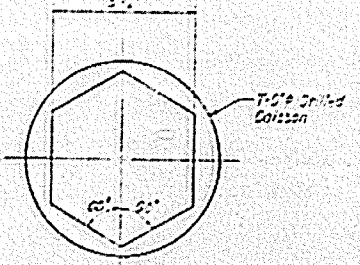
SECTION - PIER 10



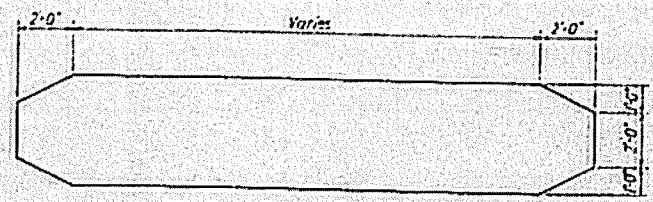
END VIEW - PIER 10



SECTION 11-2



SECTION 11-5



SECTION 11-4

PAINTING OF STEEL MEMBERS:
 All Exposed Surfaces of the Steel Superstructure Shall Receive One Shop Coat And Two Field Coats of Approved Paint. Interior Surfaces Shall Receive One Shop Coat And One Field Coat.

DeLouw, Cather & Company
 Denver, CO

DIVISION OF HIGHWAYS

TYPICAL SECTIONS

Designer: KAD / H.O.	Structure: F-16-00
Detailer: M.M.S.	Number:
Drawing Number: B-5	of 55 Drawings

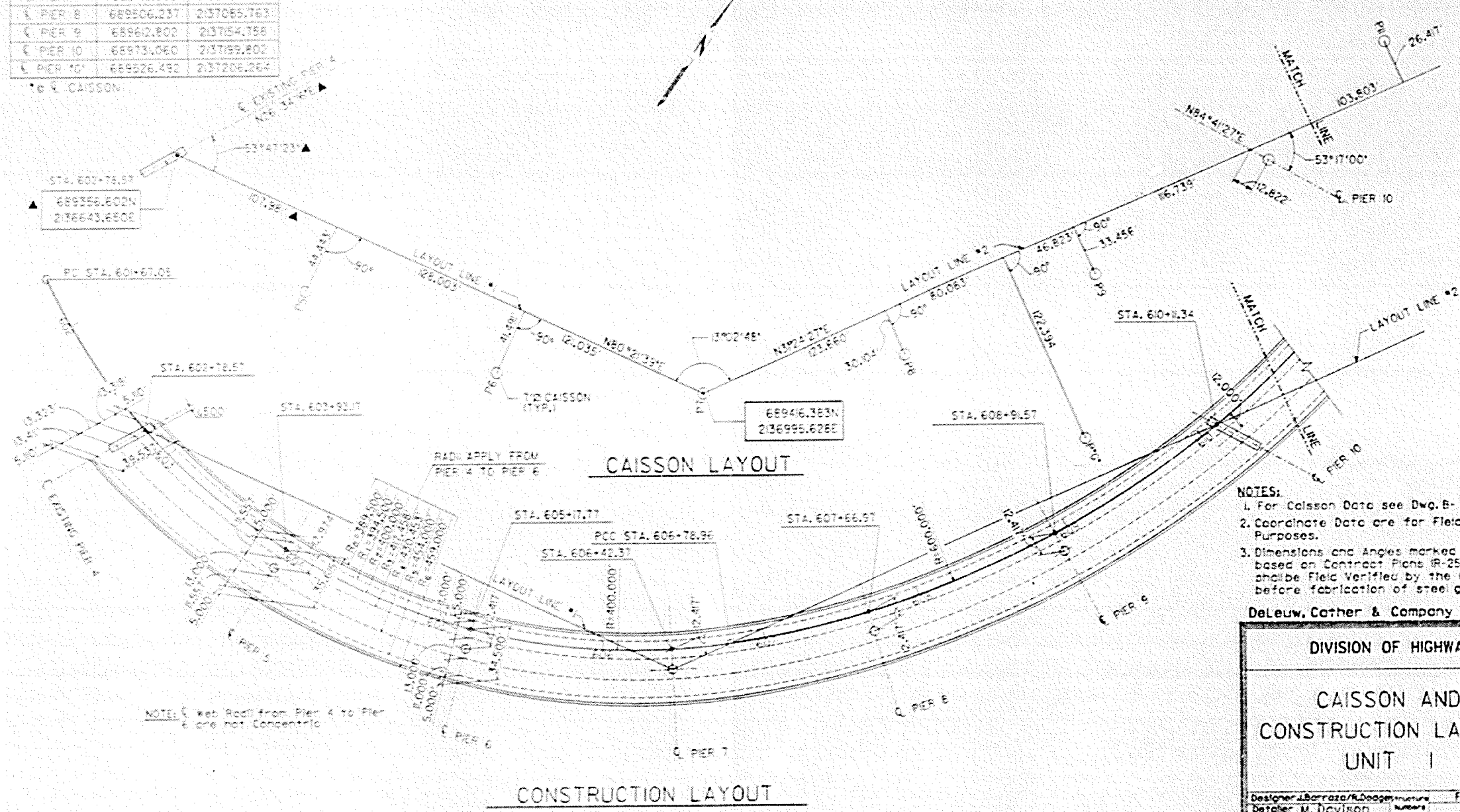
STATE OF COLORADO
DEPARTMENT OF HIGHWAYS
DESIGN DIVISION
FEB. 1964

AS CONSTRUCTED
NO REVISIONS REVISED VOID

FED. ROAD REGION	DIVISION	PROJ. NO.
V III	COLO.	1R25-2(191)

TABLE OF COORDINATES		
POINT	NORTH	EAST
PIER 5	689330.867	2136757.548
PIER 6	689355.20	2136883.249
PIER 7	68946.353	2136995.626
PIER 8	689506.237	2137055.763
PIER 9	68962.802	2137154.756
PIER 10	68973.060	2137199.802
PIER 10'	689526.492	2137206.264

REVISIONS	



SHEET NO.	SHEET TOTALS
186	

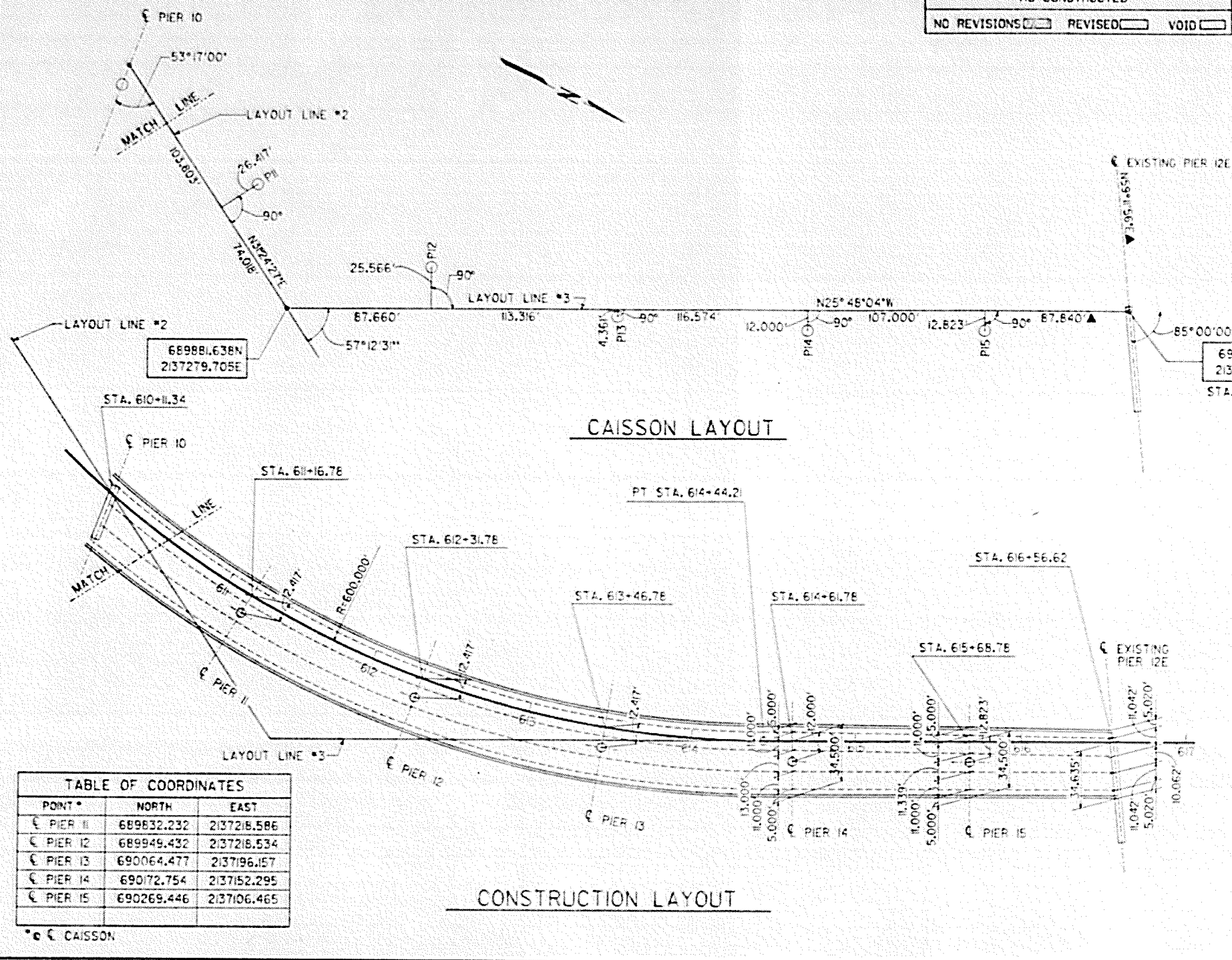
CO. DIVISION OF HIGHWAYS
 DIVISION OF HIGHWAYS
 FEB. 1964

AS CONSTRUCTED
 NO REVISIONS REVISED VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
V-III	COLO.	IR25-2(19)	187	242

REVISIONS				

DESIGNED BY	JAS. S. ST.
CHECKED BY	JAS. S. ST.
DATE	1-17-64
APPROVED BY	JAS. S. ST.
DATE	1-17-64



POINT *	NORTH	EAST
€ PIER 11	689832.232	2137216.586
€ PIER 12	689949.432	2137216.534
€ PIER 13	690064.477	2137196.157
€ PIER 14	690172.754	2137152.295
€ PIER 15	690269.446	2137106.465

- NOTES:
1. For Caisson Data see Dwg. B-9.
 2. Coordinate Data are for Field Layout Purposes.
 3. Dimensions and Angles marked ▲ are based on Contract Plans IR-25-2(19) and shall be field verified by the Contractor before fabrication of steel girders.

DeLew, Cather & Company Denver, CO.

DIVISION OF HIGHWAYS

CAISSON AND CONSTRUCTION LAYOUT UNIT 2

Designer: Barraza/R. Dodge/structure F-16-06
 Detailer: M. Davison
 Drawing Number: B-8 of 55 Drawings

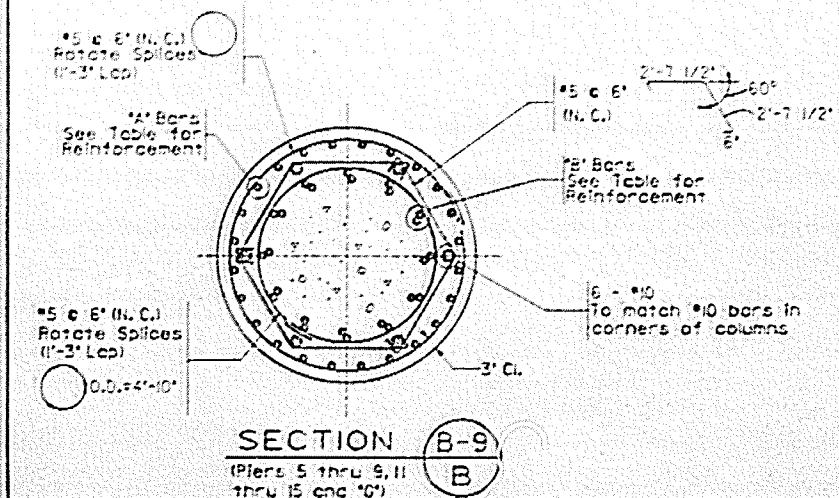
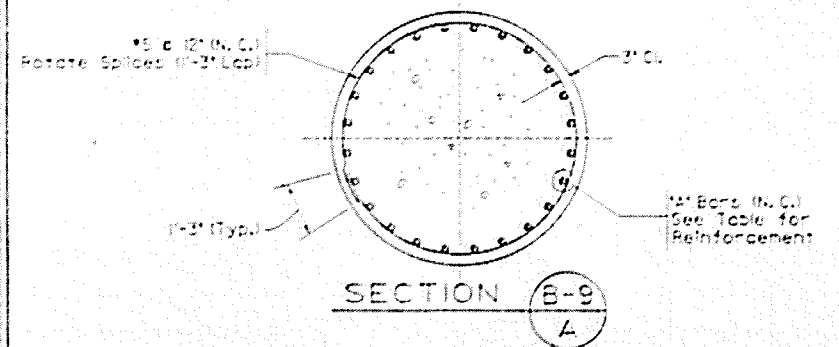
9. Layout
 ▲ are
 (21157) and
 Contractor
 girders.
 Denver, CO.
 LAYOUT
 -16-06
 Drawings

DESIGNED BY: M. DAVISON
 CHECKED BY: D. HENKLE
 DATE: 12/15/55

CAISSON DATA

LOCATION	DIMENSIONS				ELEVATIONS		REINFORCEMENT		MAX. ALLOW. LOAD PER CAISSON	TOTAL NUMBER OF CAISSONS	
	A	E	C	D	F	G	BAR# 'A'	BAR# 'B'			
Pier 5	64"	29'-6" 7'-0"	N/A	14'-0" 8'-6"	N/A	595.50	590.00	36-#11	30-#11	1,116Ton	1
Pier 6	64"	33'-6" 7'-0"	N/A	14'-0" 8'-0"	12'-0"	500.50	515.00	36-#11	44-#11(B)	1,050Ton	1
Pier 7	64"	33'-0" 7'-0"	N/A	14'-0" 8'-0"	14'-7"	500.50	515.50	36-#11	44-#11(B)	1,000Ton	1
Pier 8	64"	34'-6" 7'-0"	N/A	14'-0" 8'-0"	16'-8"	520.50	515.00	36-#11	46-#11(B)	1,033Ton	1
Pier 9	64"	35'-0" 12'-0"	N/A	14'-0" 8'-0"	9'-0"	520.50	515.50	40-#11	68-#11(B)	1,527Ton	1
Pier 10	64"	36'-6" N/A	3'-9"	8'-0" N/A	N/A	522.00	515.50	40-#11	N/A	1,040Ton	1
Pier 11	64"	32'-6" 7'-0"	N/A	14'-0" 8'-6"	N/A	522.50	514.50	36-#11	22-#11	1,054Ton	1
Pier 12	64"	30'-0" 7'-0"	N/A	14'-0" 8'-6"	N/A	515.00	515.00	36-#11	30-#11	955Ton	1
Pier 13	64"	29'-0" 7'-0"	N/A	14'-0" 8'-6"	N/A	515.00	515.00	36-#11	30-#11	1,002Ton	1
Pier 14	64"	29'-0" 7'-0"	N/A	14'-0" 8'-6"	N/A	520.00	515.00	36-#11	30-#11	976Ton	1
Pier 15	64"	39'-6" 7'-0"	N/A	14'-0" 8'-6"	N/A	520.50	515.50	36-#11	22-#11	937Ton	1
Pier C	64"	42'-4" 10'-0"	N/A	16'-0" 13'-0"	9'-0"	520.75	515.50	48-#11	68-#11(B)	1,480Ton	1

(B) = 2 Bar Bundle. One bar with N projection; the other bar with N2 projection, above top of caisson.



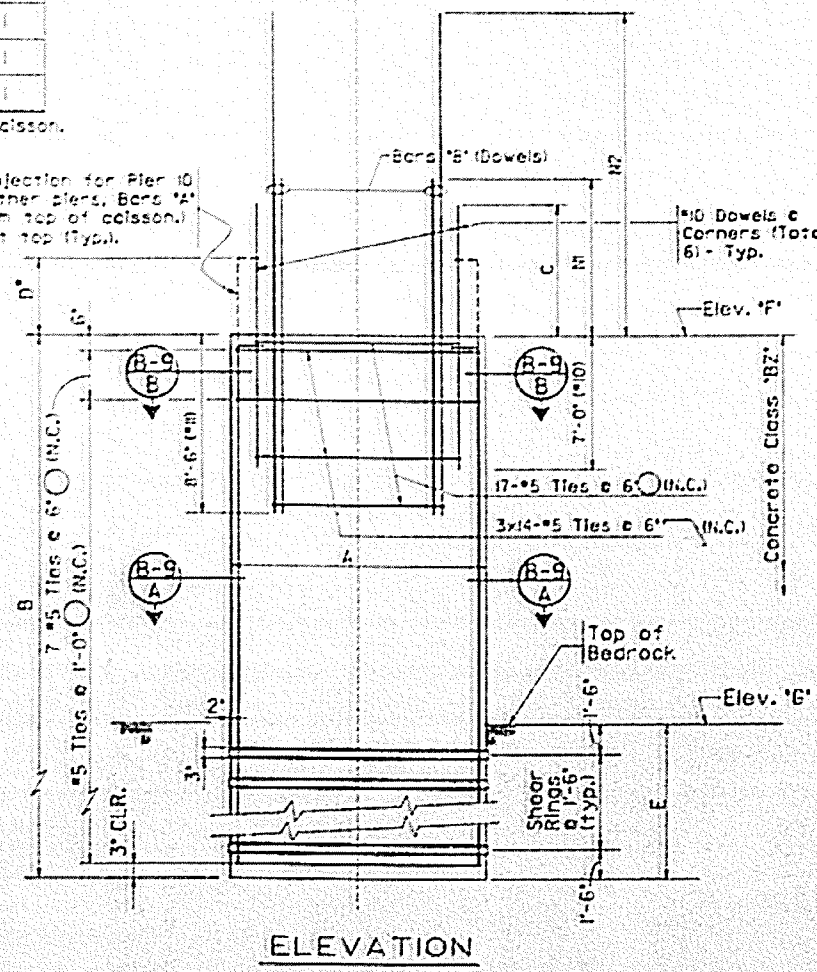
*Bars 'A' projection for Pier 10 only. (For other piers, Bars 'A' step 3" from top of caisson.) 90° hook at top (Typ.).

AS CONSTRUCTED
 NO REVISIONS REVISED VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
V III	COLO.	1R25-2(19)	166	211

REVISIONS	

- NOTES:
- For caisson layout see Dwg. No. B-7 and B-8.
 - Dimension 'E' shown is the required minimum penetration in bedrock.
 - Dimension 'B' shown is based on an estimated top of bedrock elevation 'G'. Actual top of bedrock shall be as determined by the Engineer in the field.
 - Dowel bars to match column reinforcement. See Dwg. Nos. B-11, B-12 and B-15. Dowel bars to be Epoxy Coated.
 - Dowel bars in the caisson will not be paid for separately and shall be included in pay item 503.
 - Shear rings may be deleted, at the option of the Engineer, if the presence of water and/or weakly cemented materials result in the degradation of the hole during the installation of the shear rings.
 - Placement of dowel bars in caissons at Piers 9 & 'C' shall be done with the use of a template to ensure proper location and spacing.
 - Steel casing for caissons at Piers 9 & 'C' shall be left in place. Any void space between the exterior of the casing and the surrounding soil shall be compacted by water jetting, except the top 8 ft., which shall be filled by means of cement grouting. All necessary labor and materials to be included under pay item 503.



DeLeuy, Cather & Company Denver, Co.

DIVISION OF HIGHWAYS

CAISSON DETAILS

Designer: D. Henkle	Structure Number: F-16-06
Checker: M. Davison	
Drawing Number B-9 of 55 Drawings	

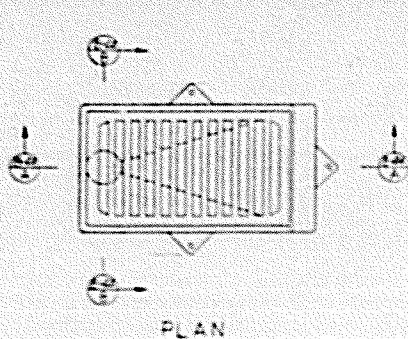
NO. REVISIONS	REVISED	DATE
222		

DE LEUW, CATHERS & COMPANY
DIVISION OF HIGHWAYS
1110 N. 17th St., Phoenix, Arizona
18, 1964

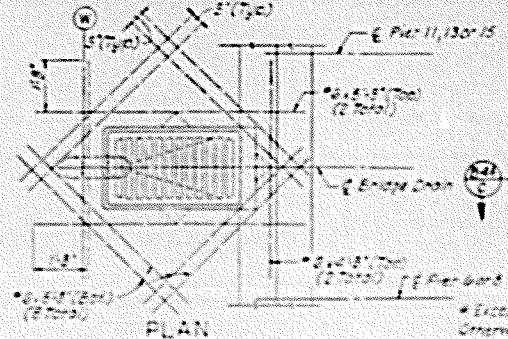
AS CONSTRUCTED		REVISED	DATE
NO REVISIONS	REVISED	DATE	

VIII	VOL. I	IR 29-2(19)	223
------	--------	-------------	-----

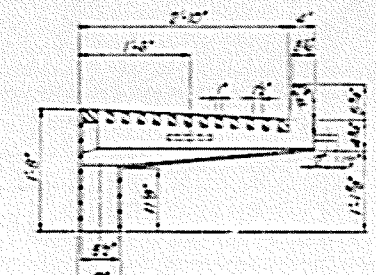
REVISIONS	



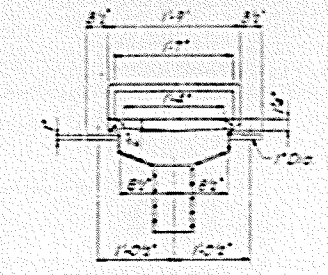
PLAN



PLAN

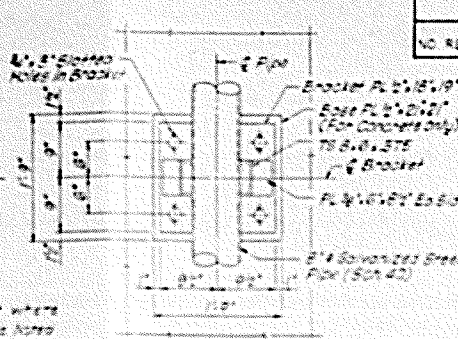


SECTION

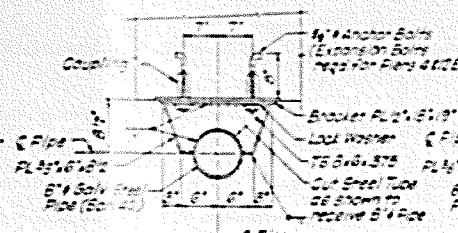


SECTION

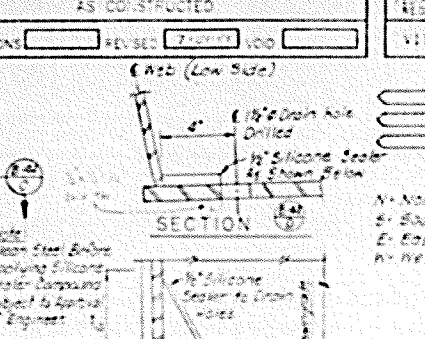
BRIDGE DRAIN (SPECIAL)



PLAN



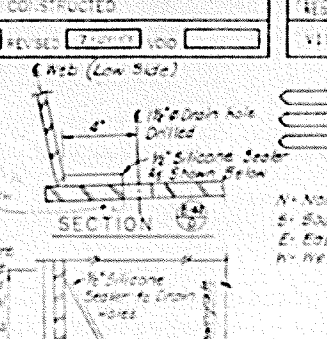
SECTION AT CONCRETE



SECTION AT STEEL

SUPPORT BRACKET

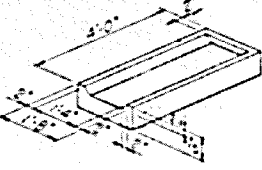
(Galvanized after fabrication)



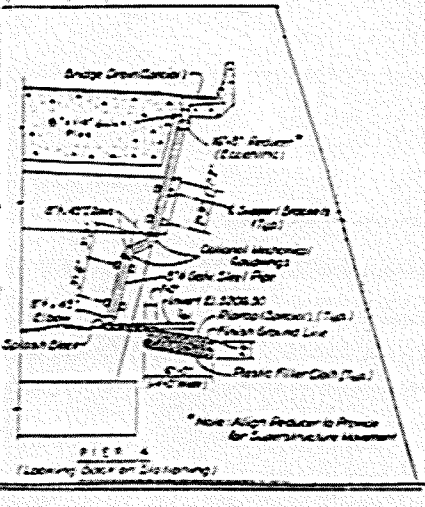
GIRDER HOLE DRAIN DETAIL

STATION	LOCATION
0+00.00	0+00.00
0+05.00	0+05.00
0+10.00	0+10.00
0+15.00	0+15.00
0+20.00	0+20.00
0+25.00	0+25.00
0+30.00	0+30.00
0+35.00	0+35.00
0+40.00	0+40.00
0+45.00	0+45.00
0+50.00	0+50.00

BOX GIRDER DRAINAGE

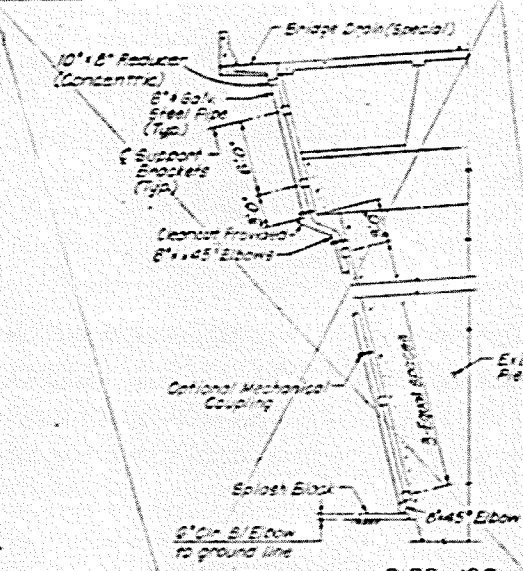


SPLASH BLOCK DETAIL



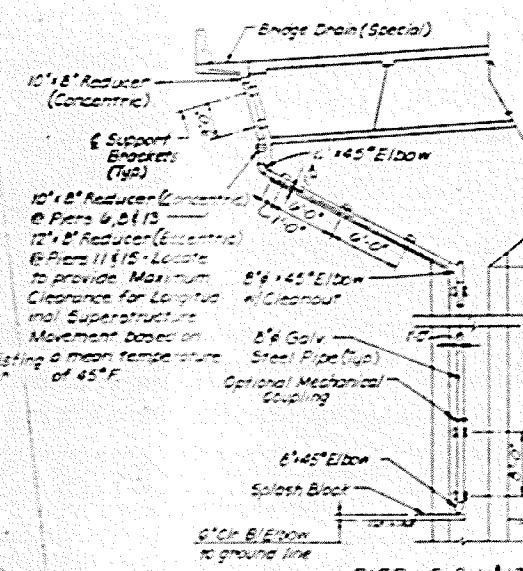
PIER 4

(Looking South on Stationing)



PIER 12E

(Looking Ahead on Stationing)



PIER 6, 8, 11, 13, & 15

(Looking Ahead on Stationing)

* Drain Pipe on Back Side of Column

DRAINAGE NOTES

1. For Location of Bridge Drains, See Deck Plans, Dwg No. B-1
2. Cut Edge Reinforcing Bars to Clear Bridge Drains. Additional #6 Bars Shall be Set Between Top and Bottom Bars Beneath Bridge Rail Rein.
3. Cost of Furnishing and Installing 8" Pipe, Elbow Blocks, Support Brackets, Bridge Drains, and when necessary Drainage System Incidentals shall be included in Bridge Drain (Special).

De Leuw, Cather & Company

DIVISION OF HIGHWAYS

BRIDGE DRAIN (SPECIAL) DETAILS

Designer: R. A. Cox	Scale: F-16-00
Checker: R. J. ...	Number: ...
Drawing Number: B-44	of 55

Class C

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

1000 sq ft

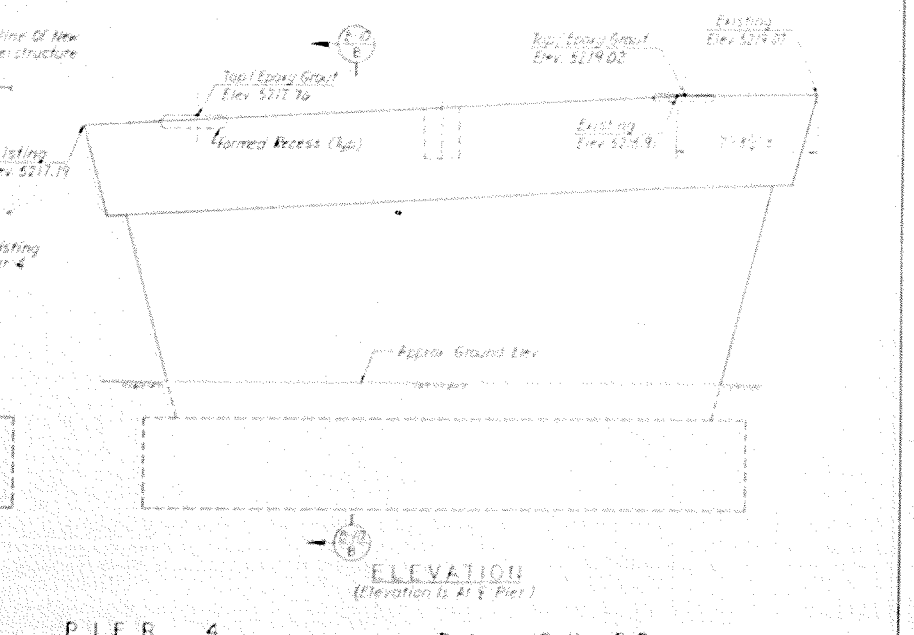
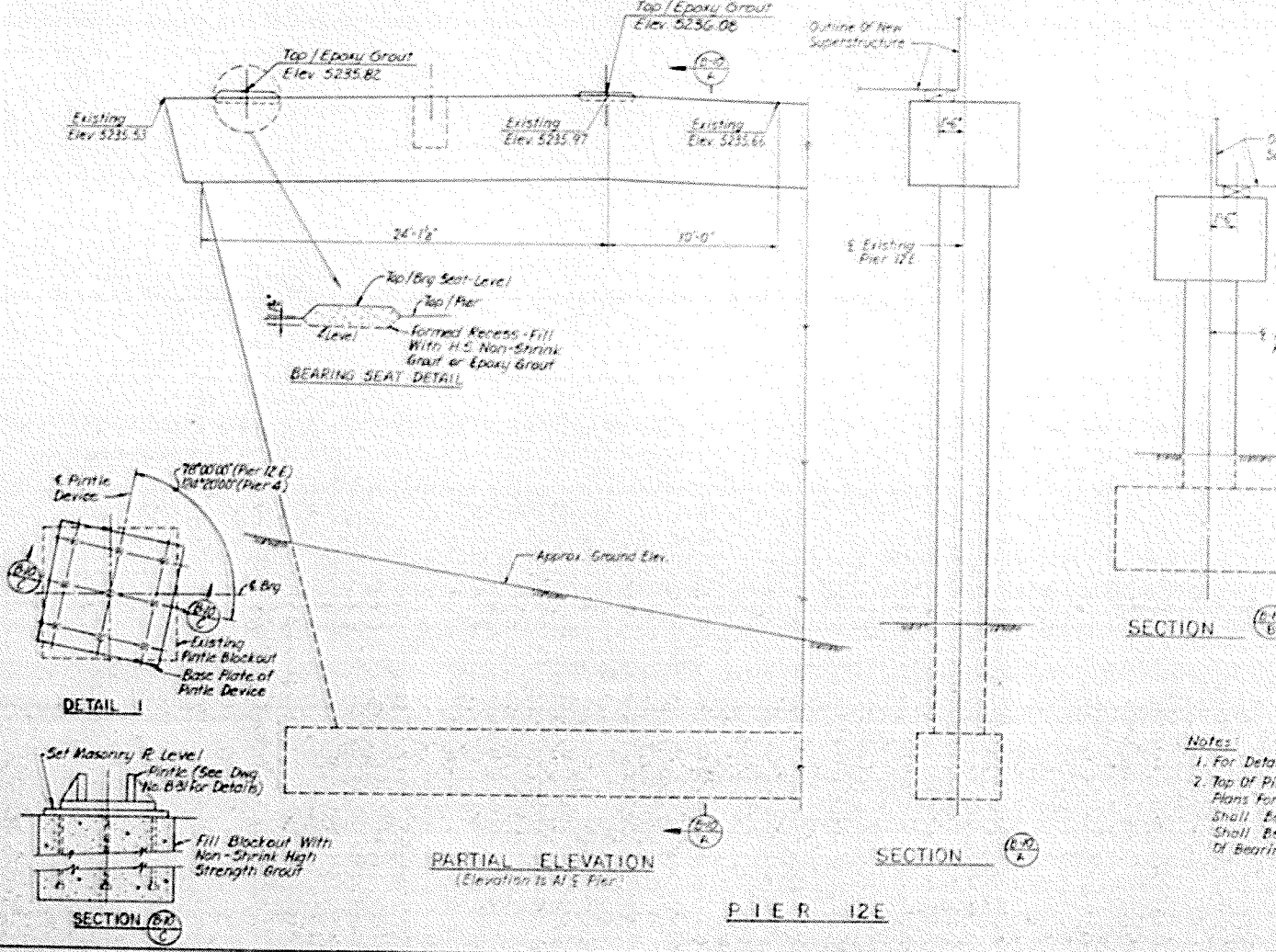
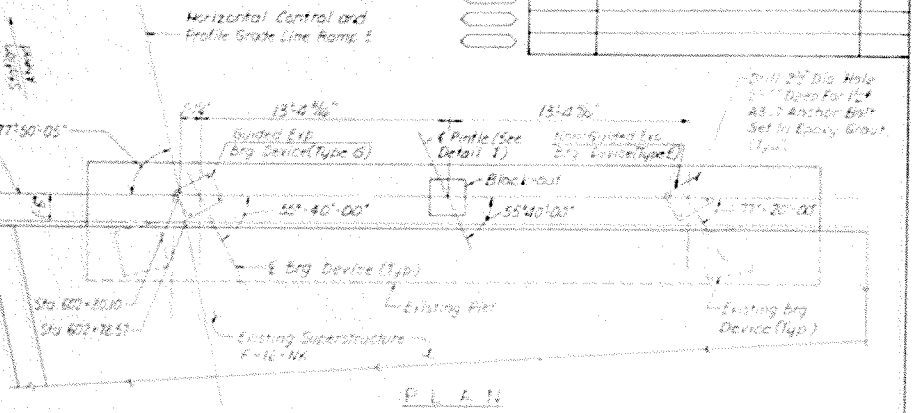
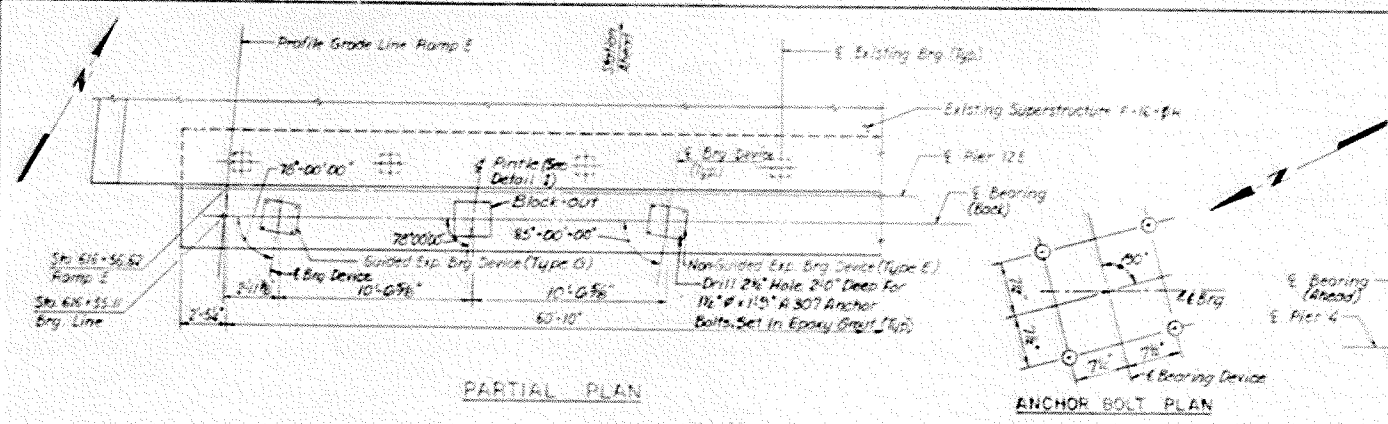
1000 sq ft

1000 sq ft

NO. REVISIONS	45 CONSTRUCTED	REVISED	DATE	BY
1/1/23				

FED. ROAD REGION	DIVISION	PRG. NO.	SHEET NO.	SHEET TOTAL
1177	CO. 6	IR 25-2 (191)	189	242

REVISIONS	



- Notes**
1. For Details of Bearing Device See Dwg. No. B-26.
 2. Top of Pier Cap Elevations Are Based On Construction Plans For Contracts TR 25-2 (187) And TR 25-2 (190) And Shall Be Verified By The Contractor. Any Discrepancies Shall Be Notified To The Engineer Before Fabrication Of Bearings And/Or Steel Box Girders.

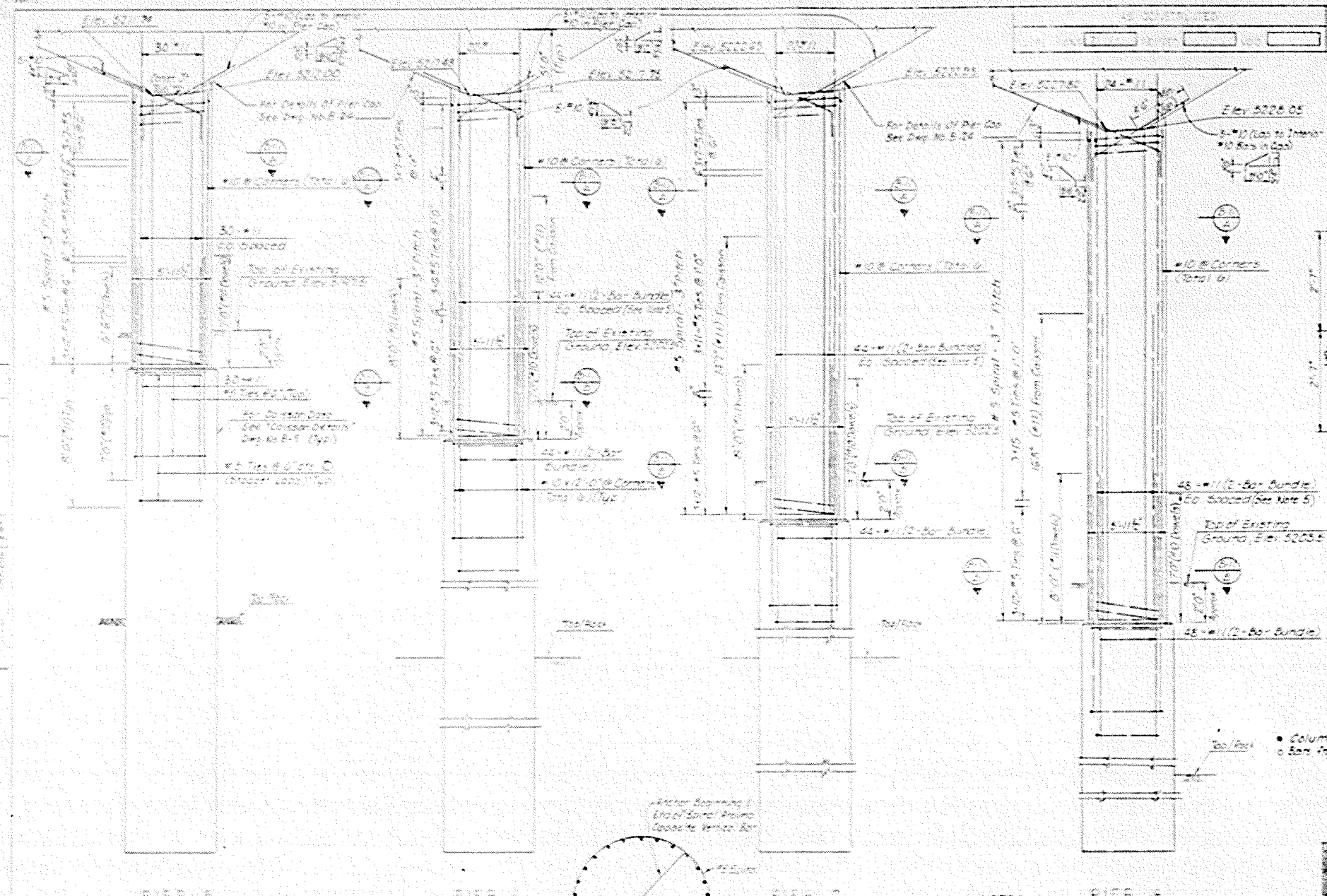
De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

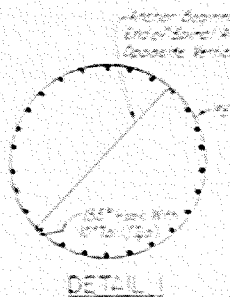
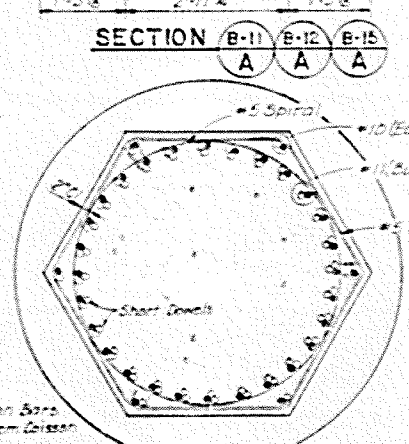
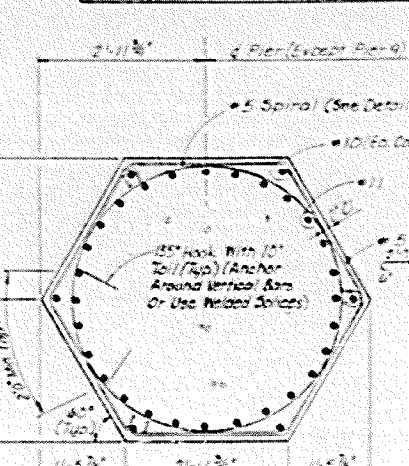
**PIERS 4 AND 12E
 BEARINGS SEAT DETAILS**

Designer: H. D. ...	Structure: F-16-DG
Detailer: ...	Numbers: ...
Drawing Number: B-10	of 55 Drawings

Revision Table:



PROJECT NO.	DESIGN	REV. NO.	DATE
1111	COLL.	IR 25-2(191)	190



- NOTES:**
1. Concrete for Columns to be Class "C" Concrete, $f_c = 4000$ psi.
 2. For Pier Cap Dimensions and Prestressing Details see Dwg. No. B-22 & B-23.
 3. For Pier Cap Reinforcement see Dwg. No. B-24.
 4. Pier Elevations Are Locking Up Stationing.
 5. 10 #11 Bundles in Piers 6, 7 & 8. Include One Bar From Column. At Each Bundle Bars From Column Will Not Be Fold For Separately But Shall Be Included In The Work For Item 205.

De Leuw, Cather & Company

DIVISION OF HIGHWAYS

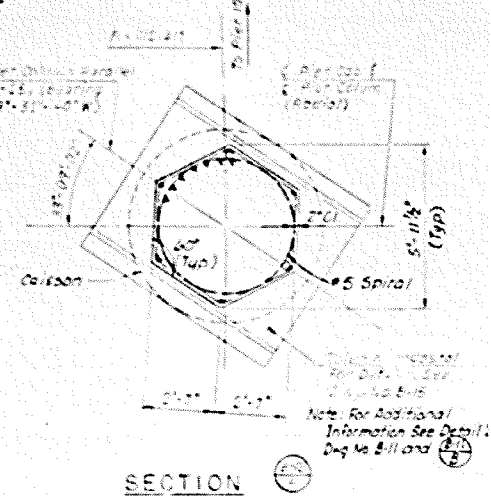
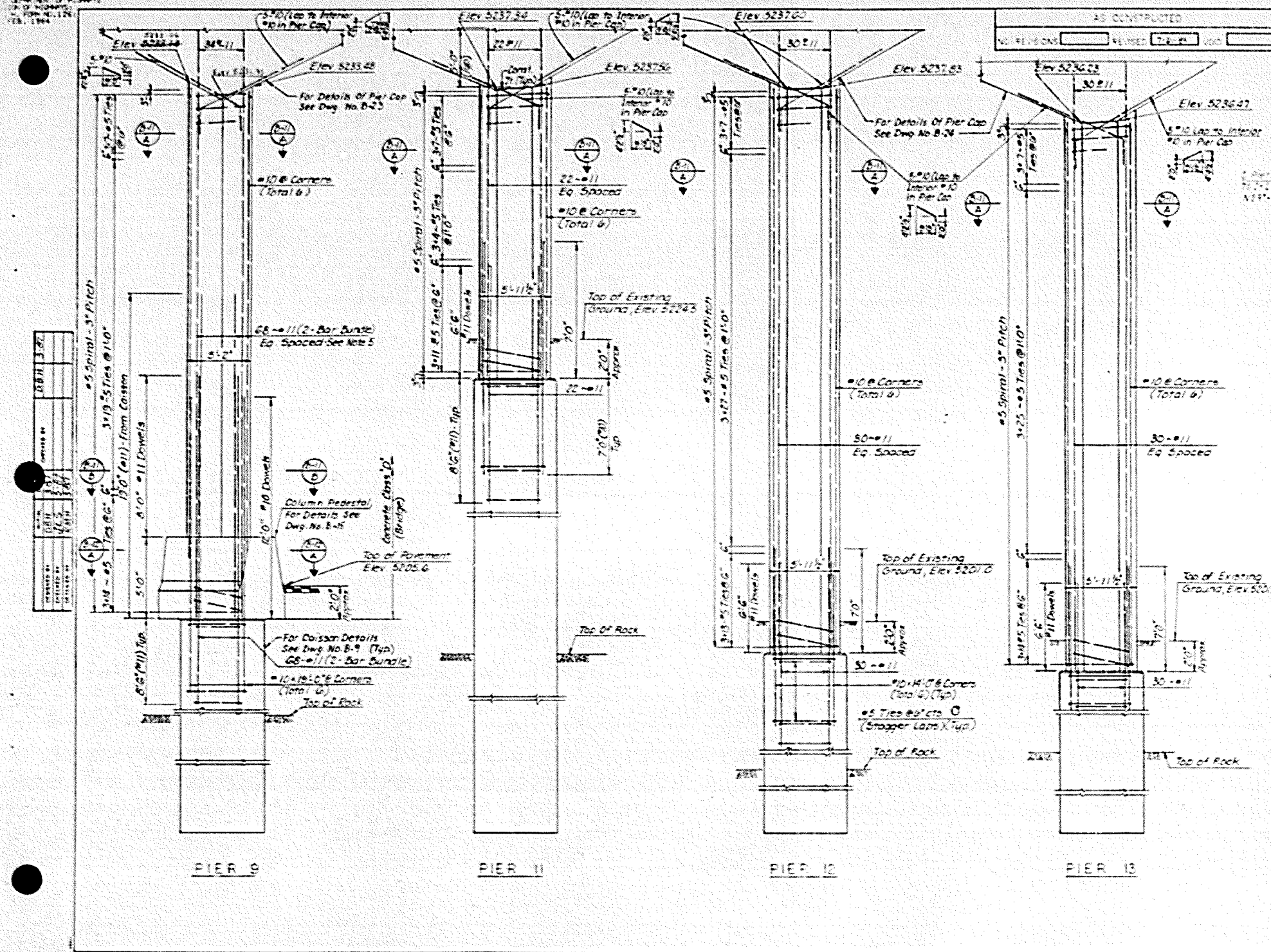
PIERS 5, 6, 7 & 8 DETAILS

Designer: D. Henkle	Checker: F. 16-05
Drawn: E. Alkshar	Number:
Drawing Number: B-11	of 55

D. J. DOLAN
 DIVISION OF HIGHWAYS
 1111 N. HIGHWAY
 DENVER, CO. 80202
 12.1.1964

REGION	DIVISION	PROJECT NO.	SHEET NO.	SHEET TOTALS
VIII		IR 25-2(191)	191	242

REVISIONS	



- NOTES:**
- Concrete for Column to be Class 'D' Concrete, $f_c = 4500$ psi
 - For Pier Cap Dimensions And Prestressing Detail See Dwg No B-22 & B-23.
 - For Pier Cap Reinforcement See Dwg No B-24
 - Pier Elevations Are Looking Up Stationing
 - The Bar Bundles Include One Bar From Caisson At Each Bundle, Bars From Caisson Will Not Be Paid For Separately But Shall Be Included In The Work For Item (503)

De Lew, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

PIERS 9, 11, 12 & 13 DETAILS

Designer: D. J. Dolan	Structure: F-16-06
Detailer: P. H. Johnson	Number:
Drawing Number: E-12	of 55 Drawings

190	242
-----	-----

See Detail D
 #10 (Eq. Corn)

#10 (Eq. Corn)

#11 (Bundled)

#5 Ties

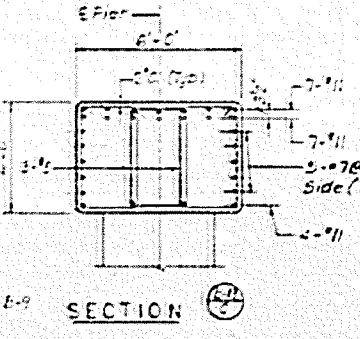
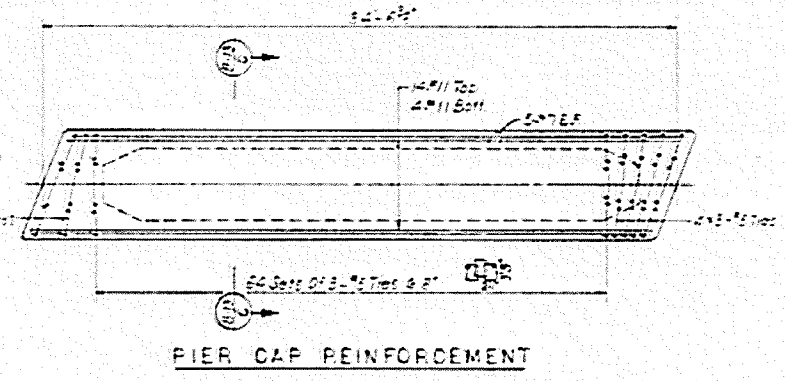
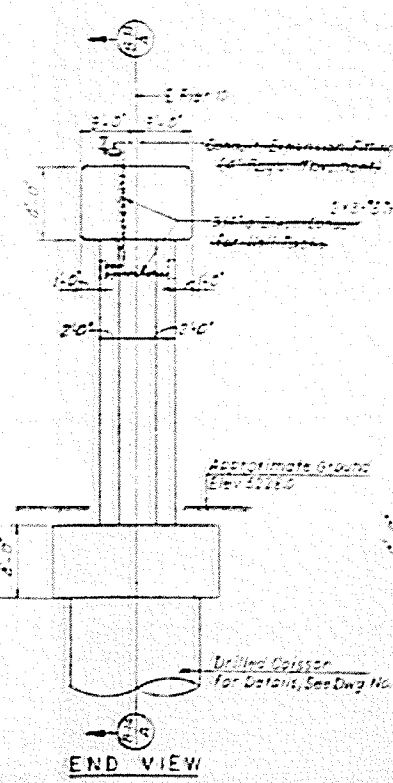
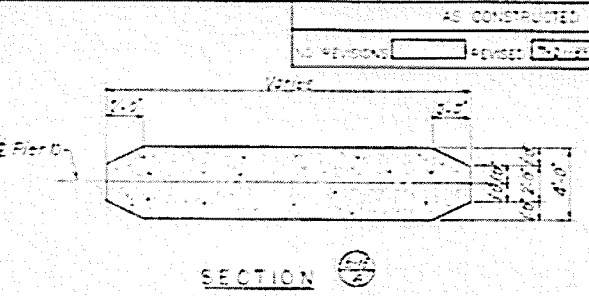
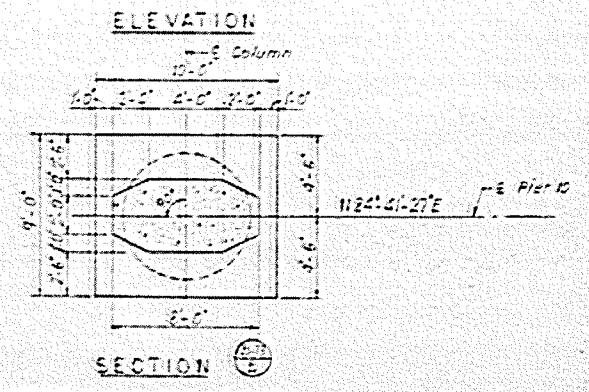
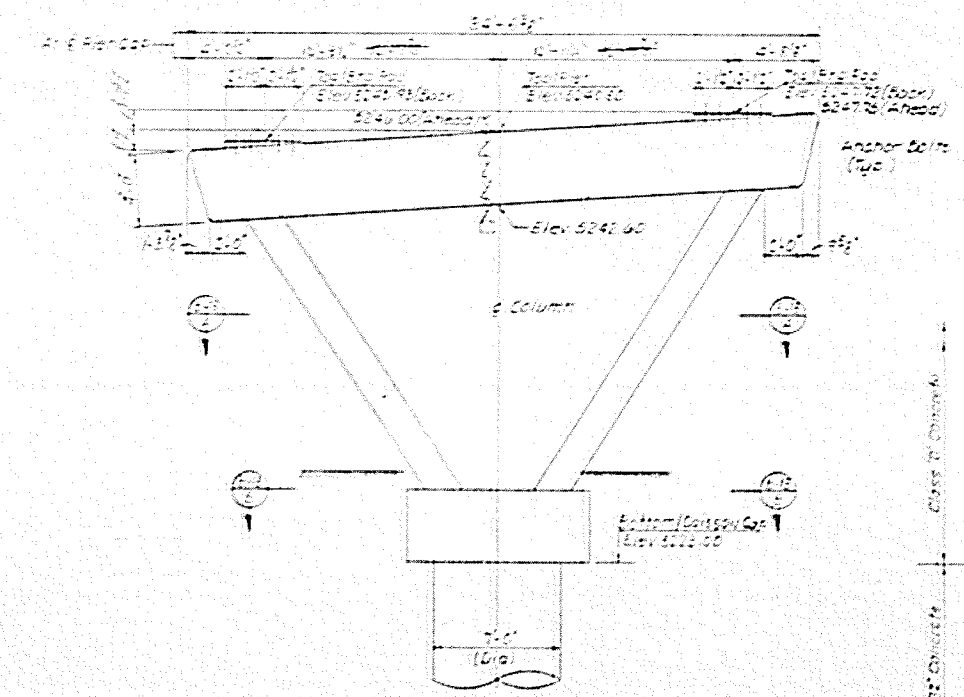
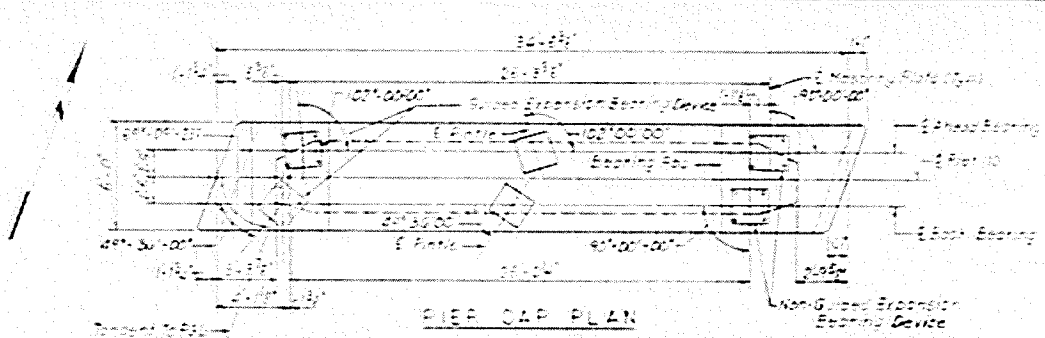
Denver, CO

AYS

TAILS

DG
 Drawings

D. BROWN
 CIVIL ENGINEER
 LICENSE NO. 1234



- NOTES
1. For Caisson Data, See Dwg. No. B-9.
 2. For Bearing Details, See Eng. No. B-20 & B-2B.
 3. For Additional Reinforcement Details, See Dwg. No. B-16.
 4. For Finkle Details See Dwg. No. B-31.

AS CONSTRUCTED		DESIGN	NO.	192	SHEET	222
NO. REVISIONS	REVISED	DATE	BY	COLL.	IR 25-2 (191)	192
REVISIONS						

De Leuw, Cather & Company
 Denver, CO

DIVISION OF HIGHWAYS

PIER 10 DETAILS

Designer: D. Brown	Structure Number: F-15-06
Detailer: J.P. Feltus	
Drawing Number: B-13	of 55 Drawings

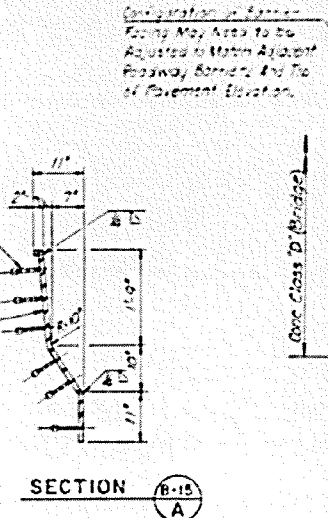
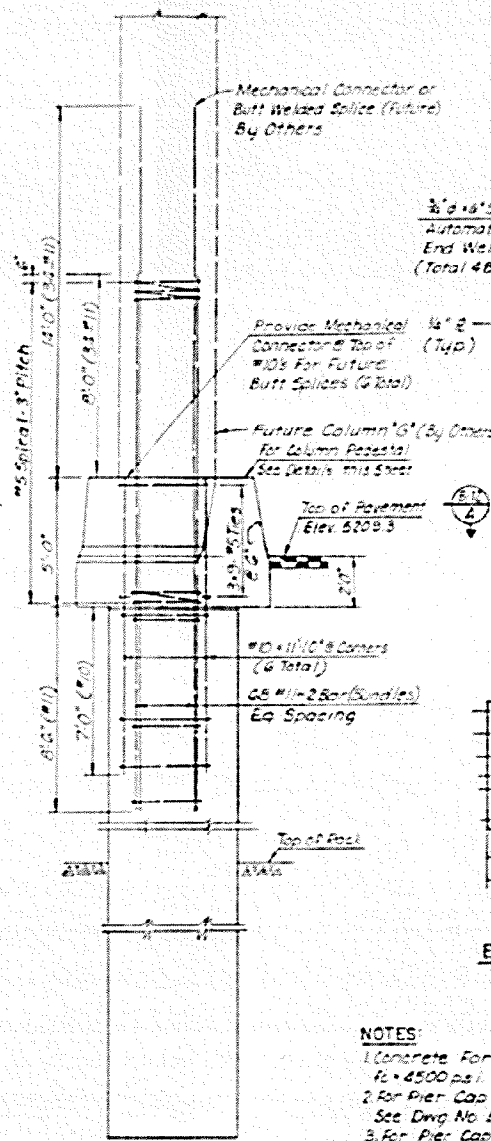
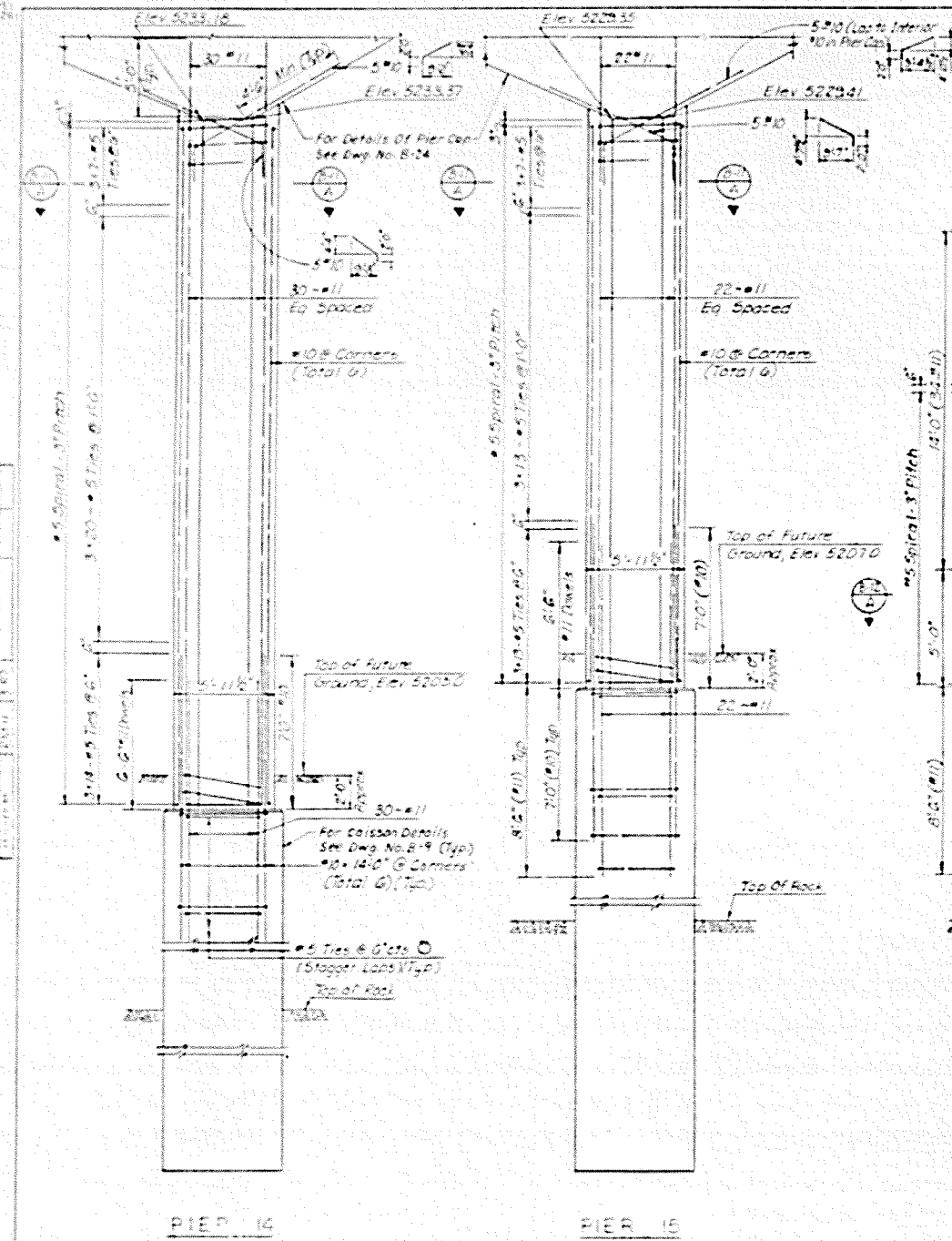
12-31-57

SCALE: 1/4" = 1'-0"
 1/8" = 1'-0"
 1/16" = 1'-0"

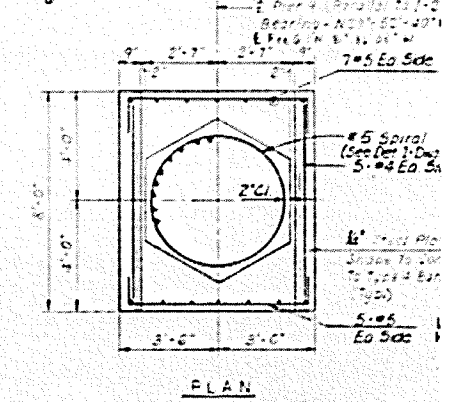
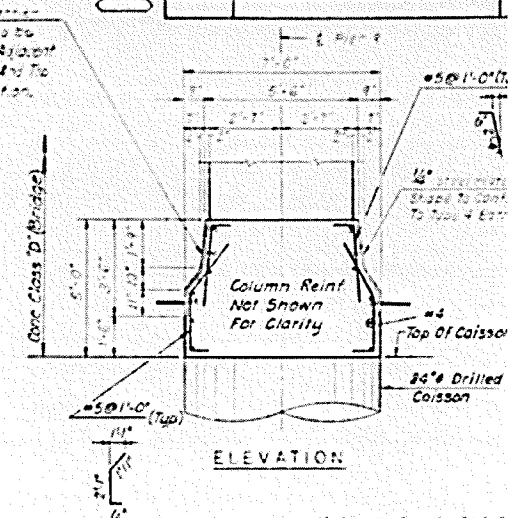
NO REVISIONS	REVISED	DATE	BY

DESIGN NO.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	IR 25-2(19)	194	24

REVISIONS	



ELEVATION - PEDESTAL PLATE
(4 Read)



DETAILS OF COLUMN PEDESTAL
(PIER 9 SHOWN - PIER 'G' SIMILAR)

- NOTES:
1. Concrete For Column to be Class 'D' Concrete $f_c = 4500$ psi.
 2. For Pier Cap Dimensions And Prestressing Detail See Dwg No. B-22 & B-23.
 3. For Pier Cap Reinforcement See Dwg No. B-24.
 4. Pier Elevations Are Looking Up Stationing.
 5. Structural Steel For Pedestal Plates Shall Be Class ASTM A-36.
 6. Visible Metal Surfaces on Pedestal Plates Shall Be Treated With A Colored Acrylic Coating to Match The Concrete Guard Rail Type 4.

De Leuw, Cather & Company

DIVISION OF HIGHWAYS

PIERS 14, 15 AND "G"
DETAILS

Designer: D. Henkle	Structure: F-16-00
Detailer: R. Hinson	Number: _____
Drawing Number: B-15	of 55 Drawing

SHEET NO.	SHEET TOTALS
194	242

OF COLORADO
 DEPARTMENT OF HIGHWAYS
 DIVISION OF HIGHWAYS
 FORM NO. 126
 12. 1964

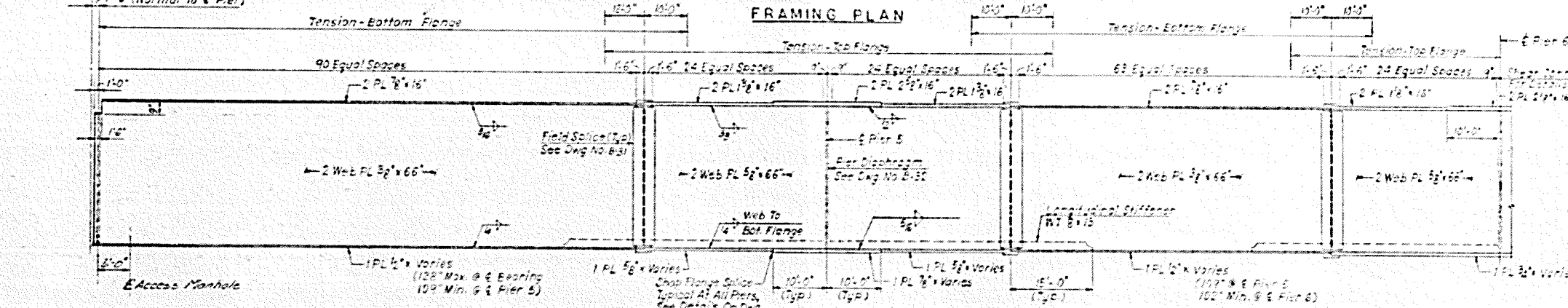
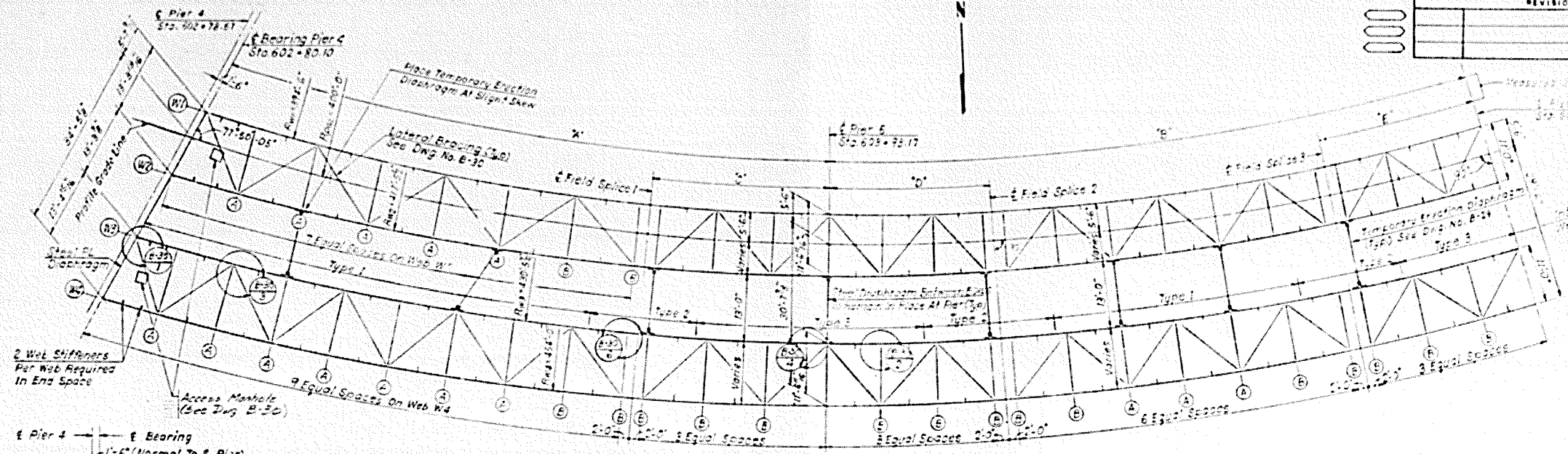
AS CONSTRUCTED	NO. REVISIONS	REVISED	DATE
	2	2/21/77	

DESIGN NO.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	IR 25-2(191)	195	2

REVISIONS	

- 50' 1'-0" (Top)
- 1/4" Profile Grade Line
- 1/4" Top of Caisson
- 34" Drilled Caisson
- 1/4" Steel PL Diaphragm
- 2 Web Stiffeners Per Web Required In End Space
- 1/4" Access Manhole (See Dwg. B-30)
- 9 Equal Spaces On Web W4
- 1'-6" (Normal To Pier 4)
- 7'-5" Ea Side
- 1/4" 5 Splice (See Det. 1-Dwg. B-15)
- 5'-4" Ea Side
- 1/4" 1/4" Steel Plate
- 1/4" 5'-6" Ea Side
- 1/4" 1/4" Ea Side

FEDERAL MILAR
 Denver, CO
 IWAYS
 D "G"
 -16-06
 Drawings



GIRDER DIMENSION SCHEDULE

DIMENSION	"A"	"B"	"C"	"D"	"E"
WEB 1	110'-3 1/8"	122'-10 3/8"	131'-10 3/8"	142'-13 1/8"	152'-7 3/8"
PROFILE GRADE LINE	115'-0 1/8"	124'-7 1/4"	132'-4 1/2"	142'-6 1/2"	152'-6 1/2"
WEB 2	116'-7 1/8"	126'-4 1/2"	132'-11"	143'-0 3/4"	153'-0 3/4"
WEB 3	123'-0 7/8"	130'-5 1/4"	135'-11 1/2"	142'-1"	149'-1"
WEB 4	129'-4 1/2"	133'-11 1/8"	135'-0"	142'-0"	155'-0"

- NOTES:**
1. (A)-(E) Denotes Location Of Crossframes And Type.
 2. Intermediate Stiffeners Shall Be Equally Spaced Between Crossframes, Unless Otherwise Noted.
 3. For Typical Details, See Dwg. No. B-10 and B-30.
 4. Bottom Flange Dimensions In Elevation Apply To Exterior Web Of Outer Girder (W4).
 5. Field Splices Apply Between Piers 4 & 5 Only. Field Splices Are Not Concentric.
 6. For Camber Of Girder Webs, See Dwg. No. B-25.
 7. For Typical Box Girder Section Dimensions, See Dwg. No. B-17.

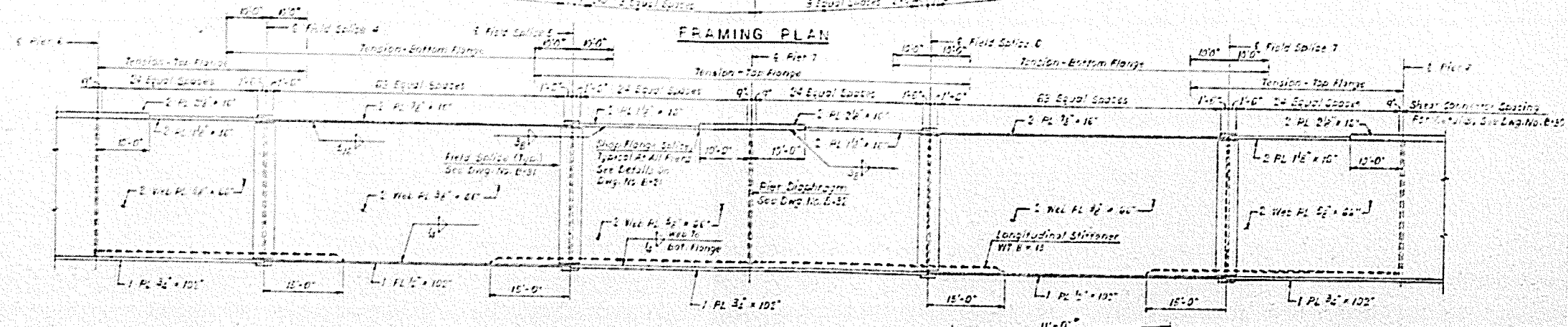
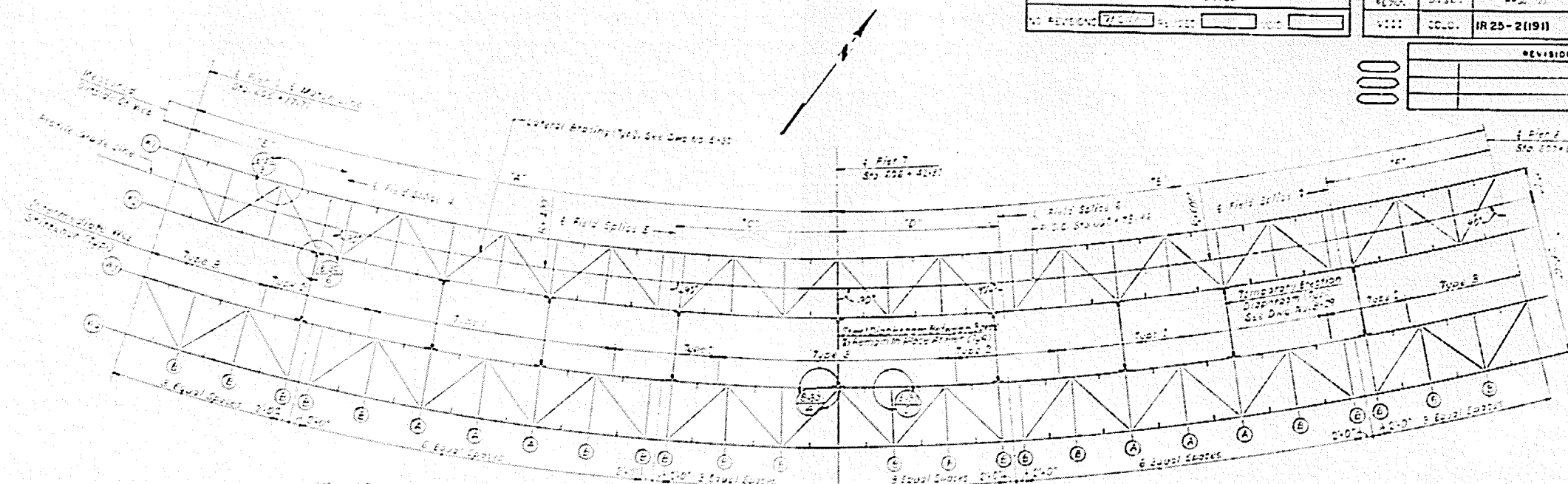
De Leuw, Cather & Company
 DIVISION OF HIGHWAYS
FRAMING PLAN AND GIRDER ELEVATION
 UNIT I

Designer	Structure	F-16-06
Detailer	Number	
Drawing Number	of	55 Drawings
Revision	Date	

211000
 10-11-57
 10-11-57

OF COLORADO
 DIVISION OF HIGHWAYS
 FORM NO. 1
 (8, 1954)

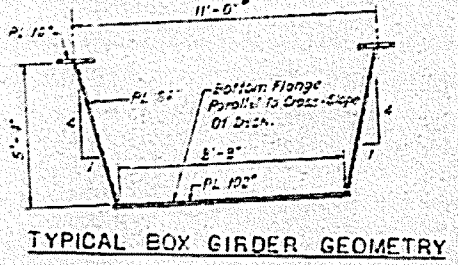
PROJECT NO.	IR 25-2(191)	DATE	196	SHEET NO.	242
CONTRACT NO.		CONTRACT DESCRIPTION			
REVISIONS					
NO.	DESCRIPTION	DATE			



GIRDER DIMENSION SCHEDULE

DIMENSION	"A"	"B"	"C"	"D"	"E"	"F"
WEB 1	122'-10 1/2"	123'-3 1/2"	22'-1 1/2"	32'-1 1/2"	32'-1 1/2"	33'-0 1/2"
PROFILE GRADE LINE	124'-7 1/4"	124'-7 1/4"	37'-7 1/2"	32'-7 1/2"	32'-7 1/2"	33'-4 1/2"
WEB 2	125'-3 1/4"	125'-11"	31'-0 1/2"	32'-0 1/2"	32'-0 1/2"	33'-0"
WEB 3	125'-4 1/2"	125'-6 1/2"	28'-1 1/2"	32'-1 1/2"	32'-1 1/2"	34'-2 1/2"
WEB 4	123'-7 1/4"	131'-7 1/2"	35'-0"	35'-0"	35'-0"	35'-0"

- NOTES:**
1. (C), (D) Denotes Location Of Crossbraces And Type.
 2. Intermediate Stiffeners Shall Be Equally Spaced Between Crossbraces Unless Otherwise Noted.
 3. For Typical Details, See Drawings B-25 and B-33.
 4. Bottom Flange Dimensions In Elevation Apply To Exterior Web Of Outer Girder (Web 4).
 5. All Webs Curve To Common Center With Profile Grade Line.
 6. For Typical Box Girder Section Dimensions, See Int. S. 11.
 7. For Camber Of Girder Webs, See Eng. No. B-24.



De Louw, Cather & Company
 Denver, CO

DIVISION OF HIGHWAYS

FRAMING PLAN AND GIRDER ELEVATION

UNIT I

Designer	J. A. Catter	Structure Number	F-16-DG
Detailer	J. A. Catter		
Drawing Number	B-17	of 55	Drawings

CHECKED BY: [Signature]
 DATE: 10-11-57
 DRAWN BY: [Signature]
 DATE: 10-11-57

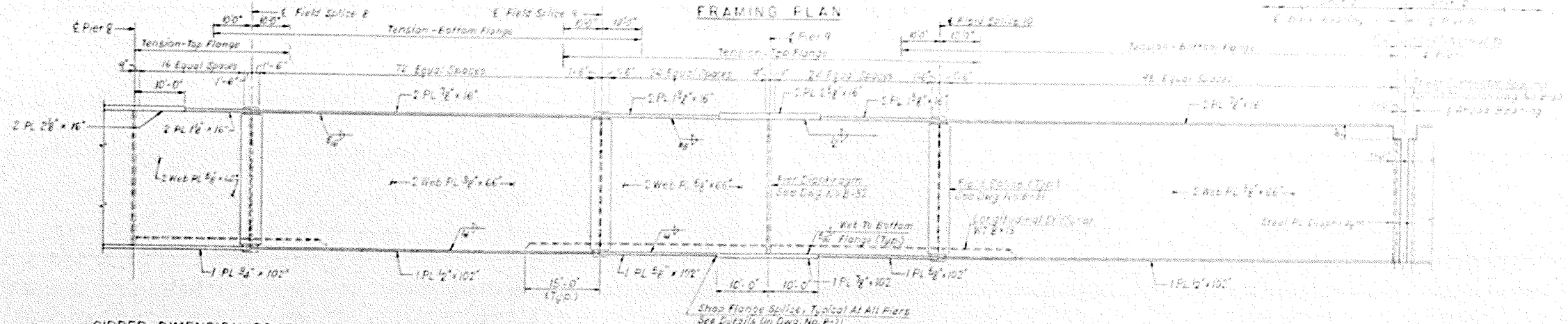
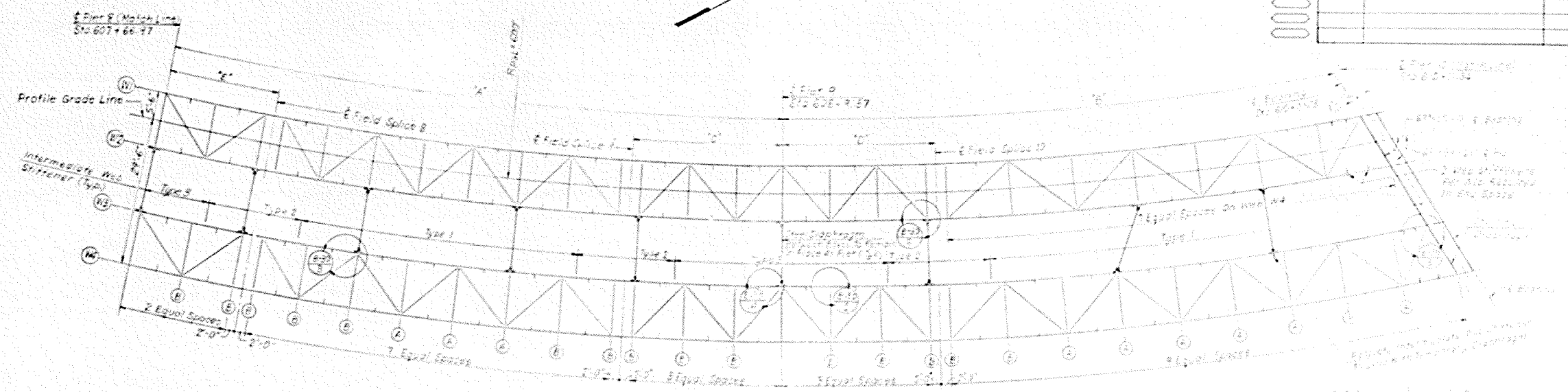
CHECKED BY: [Signature]
 DATE: 10-11-57
 DRAWN BY: [Signature]
 DATE: 10-11-57

STATE OF COLORADO
 DEPARTMENT OF HIGHWAYS
 DIVISION OF HIGHWAYS
 DENVER, COLORADO
 FEB. 1964

AS INSTRUCTED	REVISED	NO. REV.	DATE	BY	CHKD.
		027	11-0		

NO. REV.	DATE	BY	CHKD.
027	11-0		

REVISIONS			



GIRDER DIMENSION SCHEDULE

DIMENSION	"A"	"B"	"C"	"D"	"E"
WEB 1	123'-5 1/2"	114'-11 1/2"	33'-0 1/2"	33'-0 1/2"	23'-7 1/4"
PROFILE GRADE LINE	124'-7 1/4"	116'-1 1/4"	33'-2 1/2"	33'-2 1/2"	23'-0 1/2"
WEB 2	125'-8 1/2"	121'-4 1/2"	33'-8"	33'-8"	24'-0 1/2"
WEB 3	128'-6 1/2"	121'-1 1/2"	34'-4 1/2"	34'-4 1/2"	24'-6 1/2"
WEB 4	130'-8 1/2"	135'-0 1/2"	35'-0"	35'-0"	25'-0"

- NOTES:**
1. (S), (C) Denotes Location Of Crossframes And Type
 2. Intermediate Stiffener Shall Be Equally Spaced Between Crossframes, Unless Otherwise Noted.
 3. For Typical Details, See Dwg. No. E-247 & 30.
 4. Bottom Flange Dimension Apply To Exterior Web Of Outer Girder (W4).
 5. All Webs Curve To Common Center With Profile Grade Line.
 6. For Typical Box Girder Section Dimensions, See Dwg. No. E-17.
 7. For Center Of Girder Nees, See Dwg. No. E-15.

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

FRAMING PLAN AND GIRDER ELEVATION

UNIT I

Designer: J. J. ...	Structure: F-16-06
Detailer: J. J. ...	Number: ...
Drawing Number: E-16	of 55 Drawings

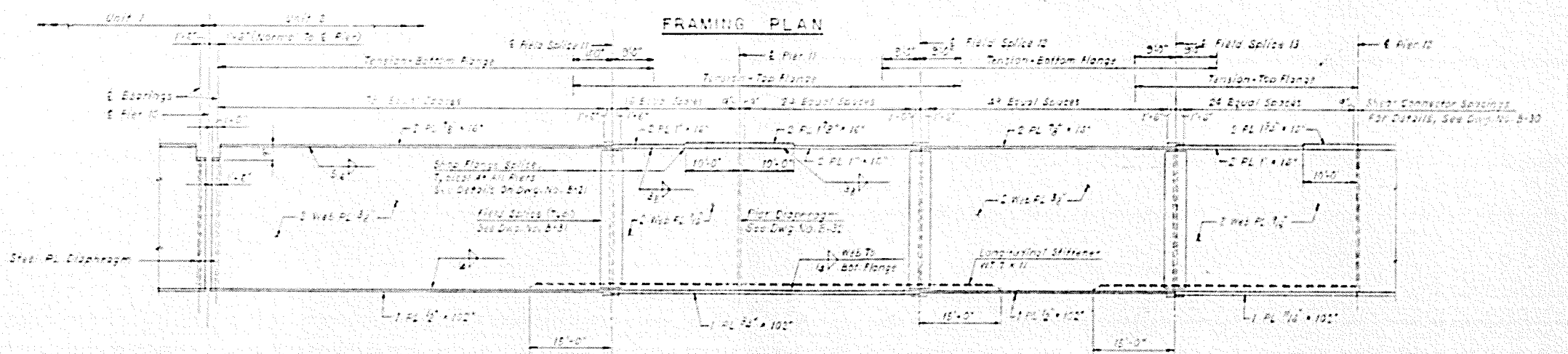
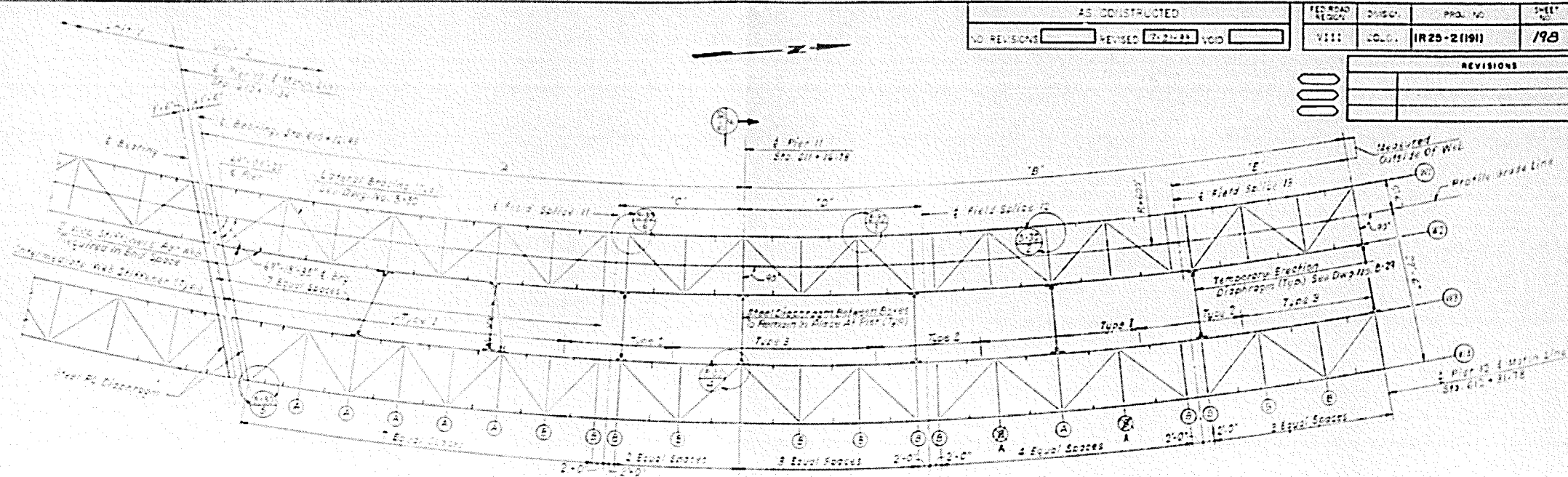
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

17 COLLEGE
 ENGINEERS
 1111 17th St., N.W.
 DENVER, CO. 80202

AS CONSTRUCTED
 NO REVISIONS REVISION 7-27-93 VOID

FED. ROAD DIST. NO. 1000
 VILL. COL. 1R25-2(191) SHEET NO. 198 SHEET TOTAL 241

REVISIONS	



DIMENSION	"A"	"B"	"C"	"D"	"E"
WEB 1	24'-11 1/2"	112'-4 1/2"	23'-7 1/2"	23'-0 1/2"	21'-0 1/2"
PROFILE GRADE LINE	123'-6 5/8"	118'-0"	23'-8 1/2"	23'-7 1/2"	21'-4 1/2"
WEB 2	21'-8"	110'-3 1/2"	24'-0 1/2"	23'-8"	23'-8"
WEB 3	21'-8 1/2"	112'-8 1/2"	24'-0 1/2"	23'-8 1/2"	22'-4 1/2"
WEB 4	21'-7 1/2"	110'-7 1/2"	23'-0 1/2"	23'-0 1/2"	21'-0"

- Notes:
1. (C) Denotes Location Of Crossframes And Type.
 2. Intermediate Stiffeners Shall Be Equally Spaced Between Crossframes, Unless Otherwise Noted.
 3. For Typical Details, See Dwg. No. 2-29 & 2-30.
 4. Bottom Flange Dimensions Apply To Extension Web Of Outer Girder (114).
 5. All Webs Curve To Common Center With Profile Grade Line.
 6. For Typical Box Girder Section Dimensions, See Dwg. No. 2-17.
 7. For Center Of Girder Webs, See Dwg. No. 2-24.

De Leuw, Cather & Company Denver, Colorado

DIVISION OF HIGHWAYS

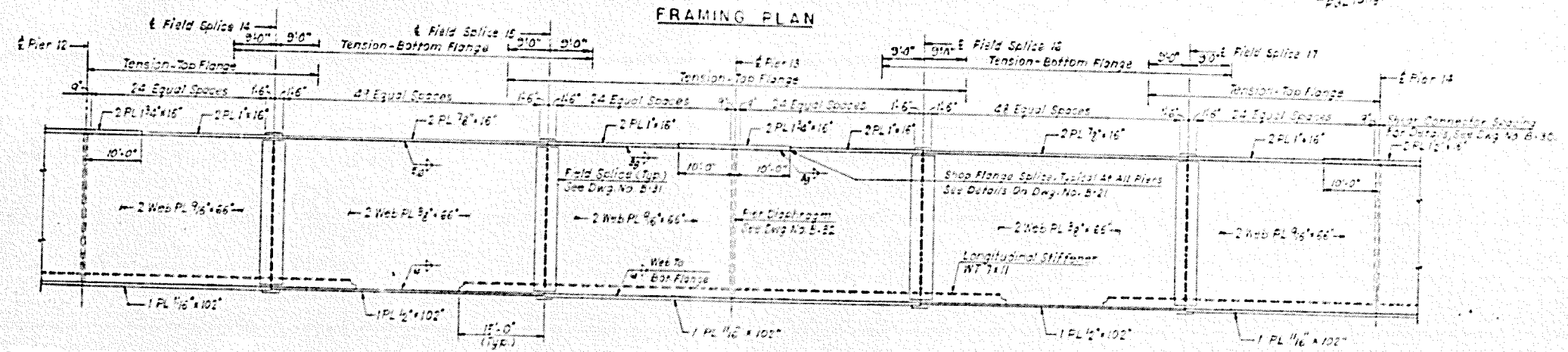
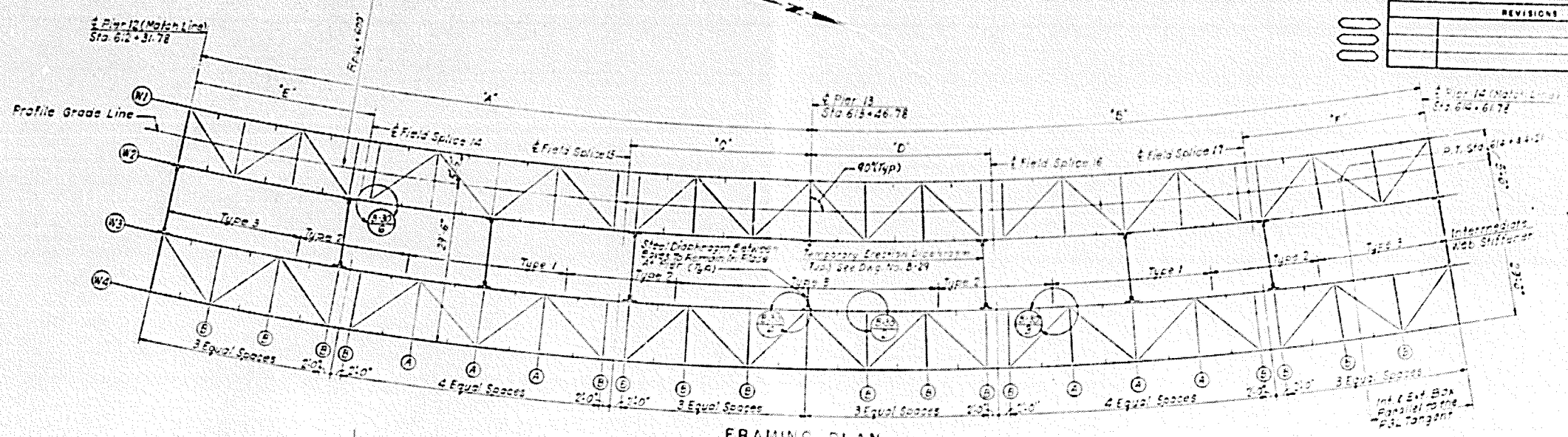
FRAMING PLAN AND GIRDER ELEVATION UNIT 2

Designer: A. DeLeuw	Structure Number: F-16-OG
Detailer: J. A. C. 2557	
Drawing Number: 4-19	of 55 Drawings

SHEET NO.	SHEET TOTALS
198	242

DIVISION OF HIGHWAYS
 DEPARTMENT OF TRANSPORTATION
 COLORADO
 DENVER, COLORADO

AS CONSTRUCTED		REVISED	NO. REVISIONS	DATE
			7	7/1/77
			100	
PROJECT NO.	DISTRICT	SHEET NO.	OF	
IR 25-2(191)	199	24	55	



GIRDER DIMENSION SCHEDULE

DIMENSION	'A'	'B'	'C'	'D'	'E'	'F'
WEB 1	113'-11 3/8"	114'-1 1/4"	33'-0 3/8"	33'-0 3/8"	33'-0 3/8"	34'-7 1/8"
PROFILE GRADELINE	115'-0"	115'-0"	33'-2 3/8"	33'-2 3/8"	33'-2 3/8"	34'-7 1/8"
WEB 2	116'-0 1/2"	115'-10 1/2"	33'-8"	33'-8"	33'-8"	34'-8 1/2"
WEB 3	118'-6 1/2"	118'-0 1/2"	34'-4 1/2"	34'-4 1/2"	34'-2 1/2"	34'-10 1/2"
WEB 4	120'-7 1/2"	119'-9 1/2"	35'-0"	35'-0"	35'-0"	35'-0"

- NOTES:**
1. (A), (B) Denotes Location Of Crossframes And Type.
 2. Intermediate Stiffeners Shall Be Equally Spaced Between Crossframes, Unless Otherwise Noted.
 3. For Typical Details, See Dwg. No. B-24 & B-30.
 4. Bottom Flange Dimension Apply To Exterior Web Of Outer Girder (114).
 5. All Webs Curve To Common Center With Profile Grade Line.
 6. For Typical Box Girder Section Dimensions, See Dwg. No. B-17.
 7. For Camber Of Girder Webs, See Dwg. No. B-34.

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

FRAMING PLAN AND GIRDER ELEVATION

UNIT 2

Designer	Number
Detailer	Number
Drawing Number	of 55 Drawings

Denver, CO

VAYS

ND

ON

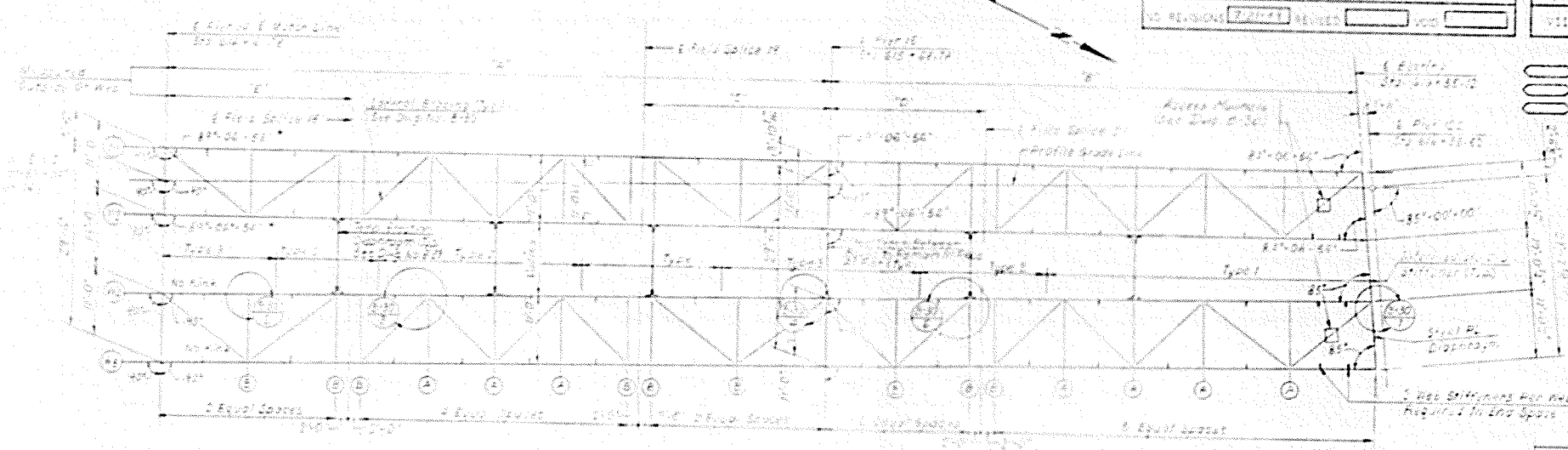
OG

Drawings

1.00 SHEET
 1.00 SHEET
 1.00 SHEET

NO. REVISIONS	2	REVISED	NO.	100
DATE	COLL.	IR 25-2(191)	SHEET NO.	200
			SHEET TOTALS	242

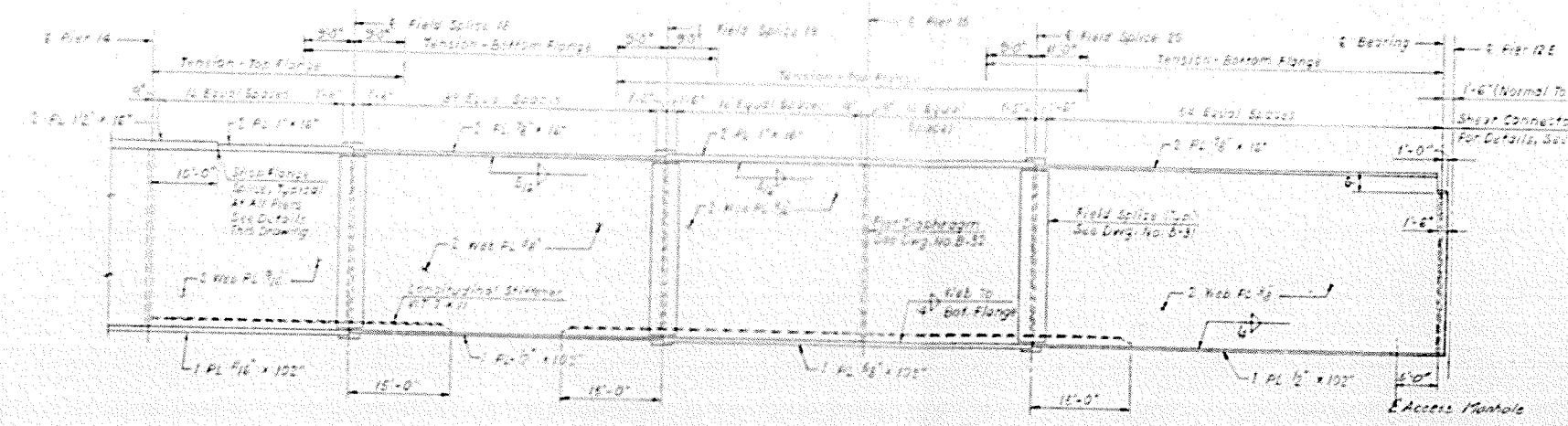
REVISIONS	



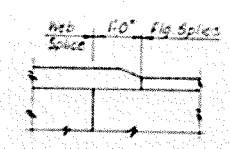
FRAMING PLAN



SHOP FLANGE SPLICE DETAIL



GIRDER ELEVATION



SHOP SPLICES OFFSET DETAIL

NOTE: All Butt welds for materials of equal thicknesses shall be ground flush.

GIRDER DIMENSION SCHEDULE

DIMENSION	A	B	C	D	E
WEB 1	107'-0"	86'-1 1/2"	50'-0"	25'-0"	30'-0"
PROFILE GRADE LINE	107'-0"	85'-2 1/2"	50'-0"	25'-0"	30'-0"
WEB 2	107'-0"	87'-0"	50'-0"	25'-0"	30'-0"
WEB 3	107'-0"	87'-0"	50'-0"	25'-0"	30'-0"
WEB 4	107'-0"	88'-0"	50'-0"	25'-0"	30'-0"

- NOTES:
1. (A) - (E) Denotes Location of Crossbracing and Type.
 2. Intermediate Stiffeners shall be equally spaced unless otherwise noted.
 3. For Typical Details, See Exp. No. 5-29 & B-30.
 4. System Flange Dimension Apply to Exterior Web of Outer Girder (V-4).
 5. For Typical Box Girder Section Dimensions, See Dwg. No. 5-17.
 6. For Center of Girder Webs, See Dwg. No. 5-14.

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

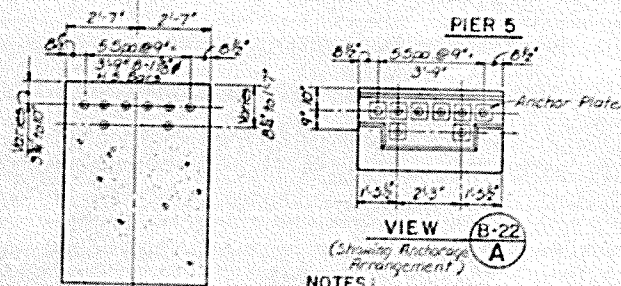
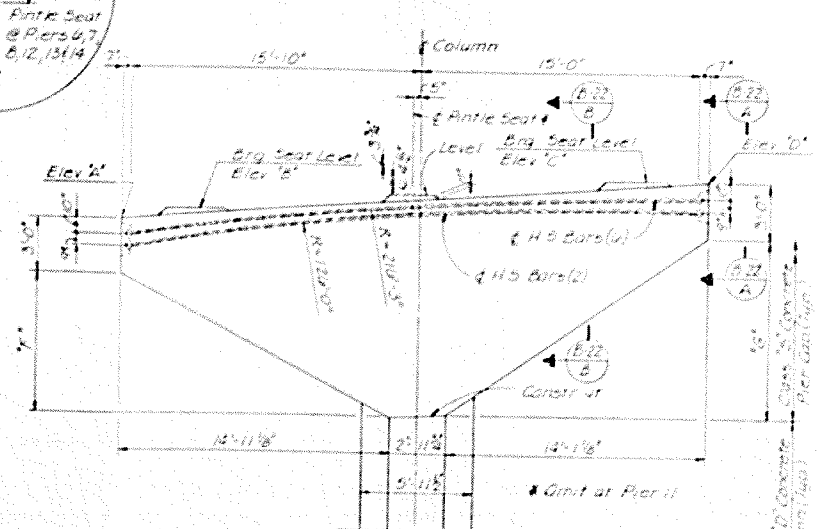
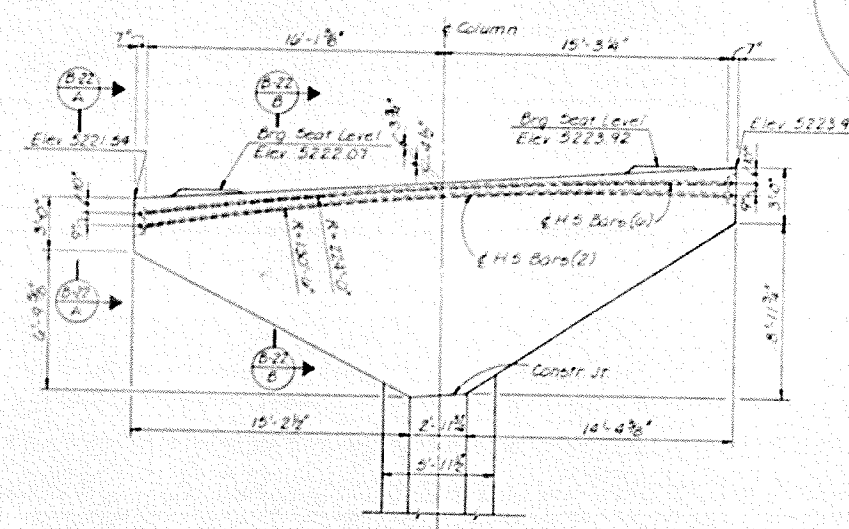
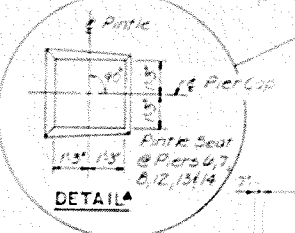
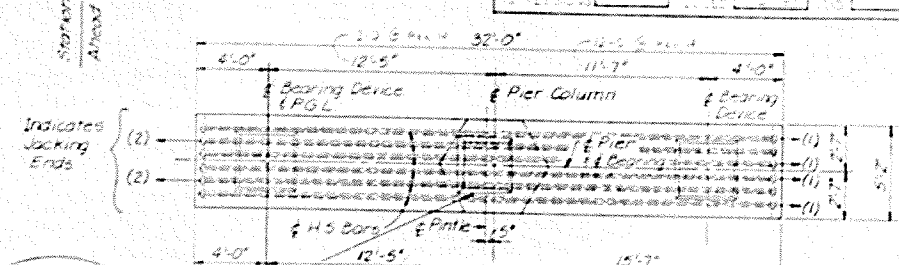
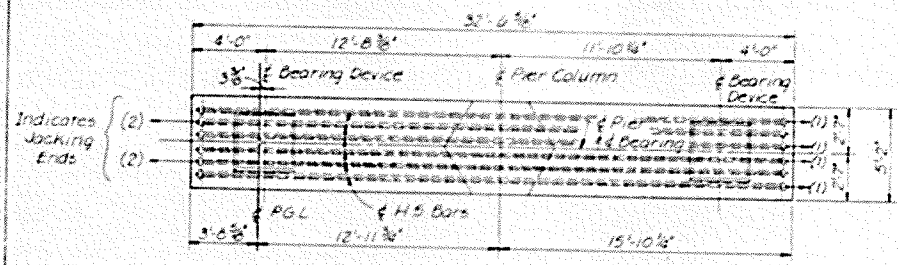
FRAMING PLAN AND GIRDER ELEVATION

UNIT 2

Designer	Structure	F-16-00
Detailer	Number	
Drawing Number	B-21 of 55 Drawings	

REVISED	DATE	BY	CHKD
1	10-25-2010		

REVISIONS	



PIER NO.	ELEV. "A"	ELEV. "B"	ELEV. "C"	ELEV. "D"	DIM. "F"	DIM. "G"
6	5226.77	5227.35	5229.15	5229.19	6'-3 1/2"	8'-5 1/2"
7	5231.99	5232.55	5234.35	5234.39	6'-3 1/2"	8'-5 1/2"
8	5237.23	5237.76	5239.37	5239.39	6'-5"	8'-4"
11	5246.77	5247.29	5248.67	5248.69	6'-5 1/4"	8'-3 3/8"
12	5247.04	5247.55	5249.14	5249.15	6'-5 1/4"	8'-3 3/8"
13	5245.07	5246.18	5247.77	5247.78	6'-5 1/4"	8'-3 3/8"
14	5242.89	5243.30	5244.46	5244.44	6'-8 1/2"	8'-0 7/8"

2. STRESSING SEQUENCE
- HIGH-STRENGTH BARS SHALL BE JACKED FROM ONE END WITH HALF OF THE BARS BEING JACKED FROM THE OPPOSITE END.
 - SEQUENCE OF PRESTRESSING SHALL BE FROM CENTER TO OUTSIDE BARS. AT NO TIME DURING THE PRESTRESSING OPERATIONS SHALL MORE THAN 16 PERCENT OF THE TOTAL PRESTRESSING FORCE BE APPLIED ECCENTRICALLY ABOUT THE VERTICAL CENTERLINE OF THE PIER CAP. POST-TENSIONING SEQUENCE MUST BE SHOWN ON THE POST-TENSIONING SHOP DRAWINGS.
 - AT THE CONTRACTOR'S OPTION, THE PRESTRESSING FORCE MAY VARY +/- 3 PERCENT FROM THE THEORETICAL FORCE PER BAR PROVIDED THE TOTAL (PIACK) FORCE AT EACH END IS OBTAINED AND DISTRIBUTED SYMMETRICALLY ABOUT THE CENTERLINE OF THE SECTION.
- FOR PRESTRESSING DESIGN NOTES SEE DWG. NO. B-22

- PRESTRESSING NOTES
- GENERAL
 - REINFORCING THAT INTERFERES WITH THE PRESTRESSING DUCT ALIGNMENT SHALL BE ADJUSTED TO CLEAR PRESTRESSING DUCTS AS DIRECTED BY THE ENGINEER. NO CUTTING OF THE REINFORCING STEEL IS PERMITTED.
 - DEAD END ANCHORAGES AND LENGTH OF PROJECTING STEEL AT DEAD END ANCHORAGES SHALL PERMIT JACKING WITH THE SAME JACKING EQUIPMENT USED ON THE LIVE END.
 - DEVIATIONS FROM THE DUCT PATTERN, DUCT SIZE AND BAR SIZE ASSUMED IN THE DESIGN MUST BE APPROVED BY THE ENGINEER.
 - JACKING FORCES FOR EACH PIER CAP SHALL BE AS INDICATED IN THE FOLLOWING TABLE, WHERE PIACK IS THE TOTAL FORCE IN KIIPS FOR THE TOTAL BARS BEING STRESSED AT EACH END.

PIER	PIACK FORCES
PIER 5	1800
PIERS 6, 7, 8	1500
PIERS 11, 12, 13, 14	1400
PIER 15	1350
 - DESIGN IS BASED ON CORRODED SHEATHING 2" O.D. WITH A FRICTION COEFFICIENT $\mu = 0.25$ AND A FRICTION LOSS COEFFICIENT $k = 0.001$. ALLOWANCE FOR OTHER LOSSES IS TO BE MADE BY CONTRACTOR TO SUBMIT DEVIATION AND JACKING CALCULATIONS BASED ON THESE VALUES.
 - THE CONTRACTOR SHALL SUBMIT CALCULATIONS FOR BEARING STRESSES AT ANCHORAGES USING:
 - A) AT TRANSFER OF LOAD
 $FCP = 0.8 FC \frac{A_B}{A_D} \leq 125 \text{ ksi}$
 - B) AT SERVICE LOAD
 $FCP = 0.6 FC \frac{A_B}{A_D} \leq 75$
 - FC = BEARING AREA OF DEVICE
 - A_B = PIER AREA OF THE DEVICE BEARING SURFACE THAT IS SIMILAR TO AND COEXTENSIVE WITH THE BEARING AREA OF THE DEVICE
 - CONCRETE SHALL BE PLACED IN SUCH A MANNER AS TO ENSURE THAT ALIGNMENT OF POST-TENSIONING SHEATHING REMAINS UNCHANGED. SPECIAL PROVISION SHALL BE MADE TO ENSURE PROPER VIBRATION OF CONCRETE AROUND BEARING PLATES.

De Lew, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

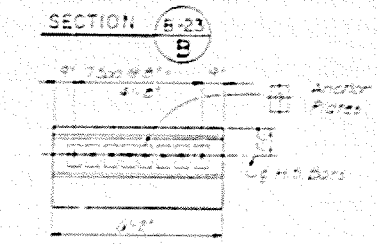
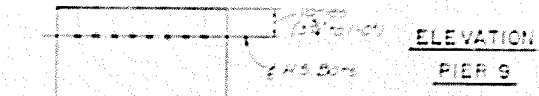
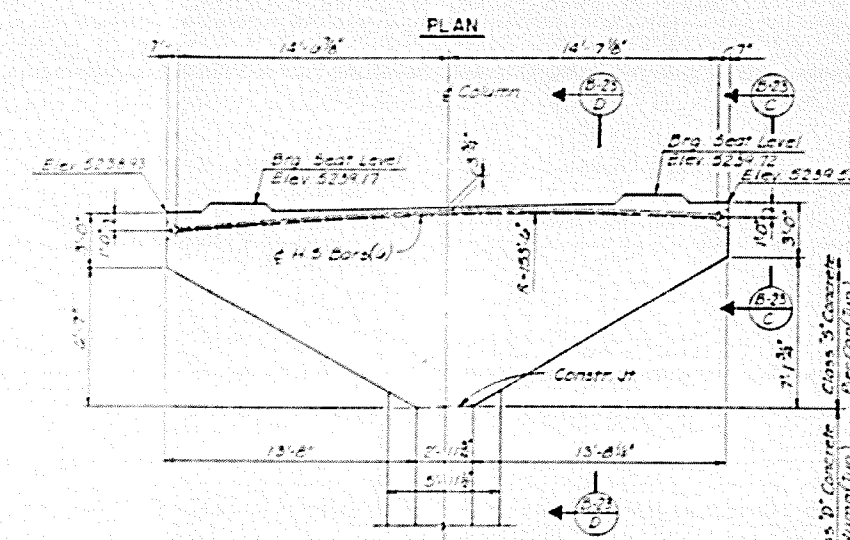
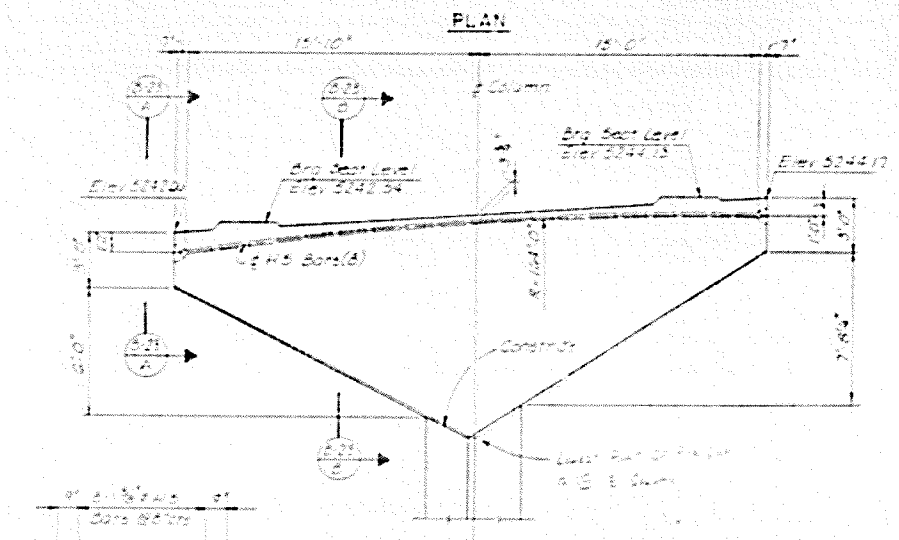
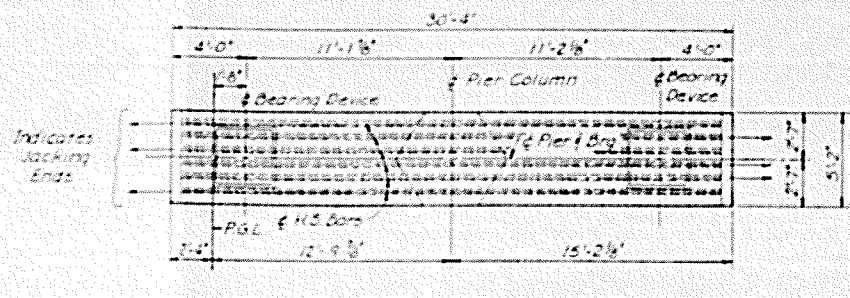
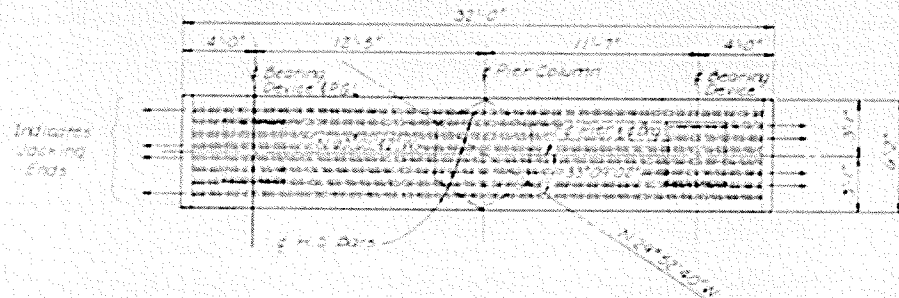
PIER CAP PRESTRESSING
 PIERS 5, 6, 7, 8, 11, 12, 13 & 14

Designer: J. Barajas
 Checker: A. Furest
 Drawing Number: B-22 of 55 Drawings

AS CONSTRUCTED
NO REVISIONS

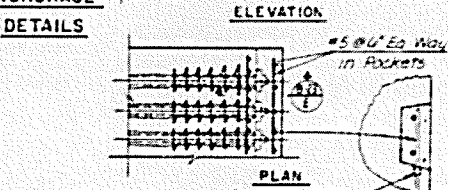
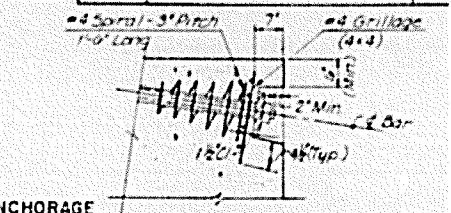
DESIGN	DIVISION	PROJECT NO.	SHEET	TOTAL SHEETS
VII	COLD	IR 25-2(191)	202	242

REVISIONS	



- PRESTRESSING NOTES**
- CONCRETE FOR PIER CAPS SHALL BE CONCRETE CLASS 5 (BRIDGE)
 - $f_c = 4,500$ psi
 - $f_c = 3,000$ psi (28 DAYS)
 - PRESTRESSING STEEL TO BE HIGH STRENGTH ALLOY STEEL BARS CONFORMING TO ASTM A312 WITH ULTIMATE STRENGTH $f_u = 150,000$ psi MINIMUM.

- NOTES**
- FOR PIER CAP REINFORCEMENT SEE DWG NO. B-24
 - FOR COLUMN REINFORCEMENT SEE DWG NO. B-11, B-12 & B-13
 - FOR OTHER PRESTRESSING NOTES SEE DWG. NO. B-12



ANCHORAGE NOTES:

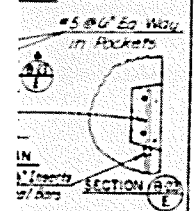
- The anchorage shall be covered with concrete to provide a minimum of 2" cover.
- The distance between the edge of a bearing plate and the edge or corner of the concrete shall be 2" min.
- Ducts for prestressing bars shall be rigid ferrous metal, galvanized, mortar tight and shall be securely fastened in place to prevent movement.
- Anchorage with plastic elements permanently embedded in the concrete will not be allowed.
- All exposed metal surfaces of the anchorage shall be epoxy coated before filling pockets with grout.
- After completion of prestressing and grouting of ducts, the anchorage pockets shall be cleaned and filled with non-shrink high strength grout ($f_c = 6,000$ psi at 28 days). The cost of this work shall be included in the unit cost of Class 5 Concrete (Bridge).
- Bursting steel (spirals and grillages) shall be epoxy coated. The cost of this steel is incidental to the cost of Prestressing Steel (Bars)

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS	
PIER CAP PRESTRESSING PIERS 9 AND 15	
Designer: J. Barrazo	Structure: F-16-DG
Detailer: R. Flanning	Number: _____
Drawing Number: B-23	of 55 Drawings

202	242
-----	-----

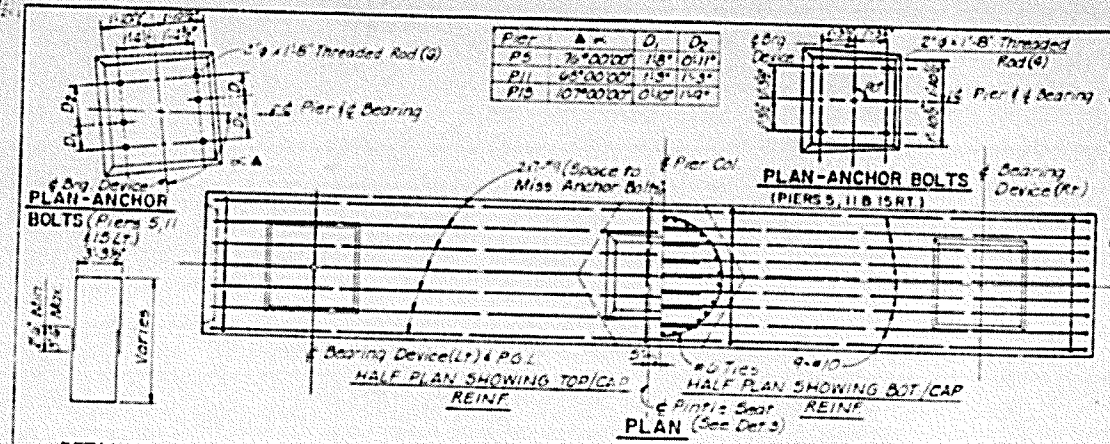
#4 Grillage (4x4)
2" Min. Spacing
#4 Bar (Typ)



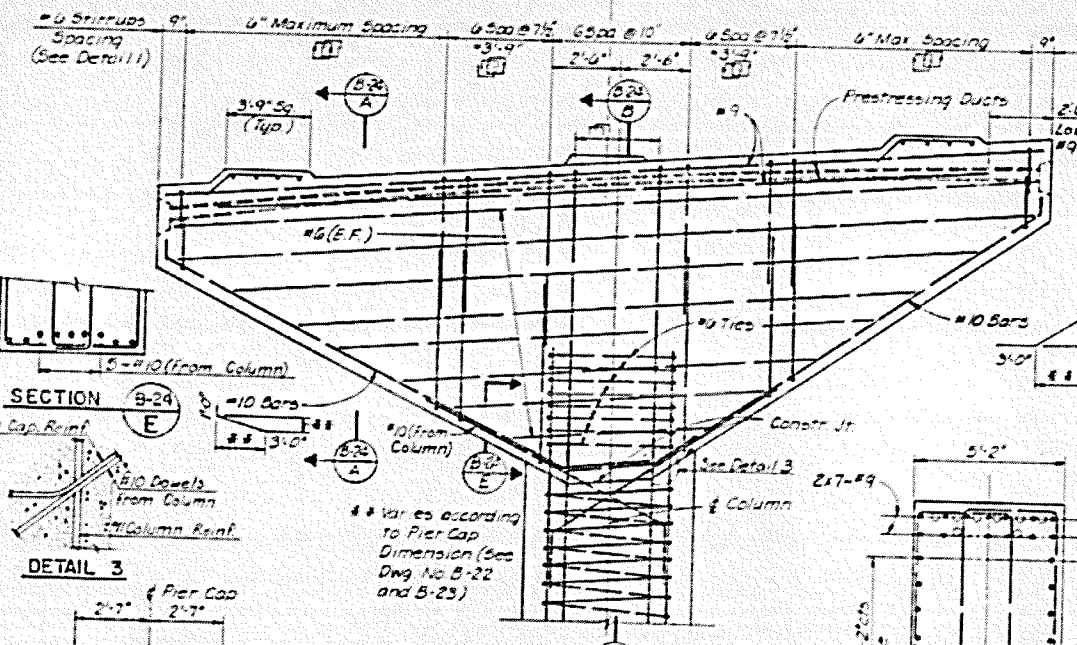
concrete
bearing concrete
slab and pre-
castment allowed.
storage tanks
working be
days, d in
edge).
all rel is
steel

Denver, CO
HIGHWAYS
BRIDGING
115
F-16-CG
Drawings

IF CALIF. CO. DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, DRAWING NO. F-16-CG, 1971 EDITION

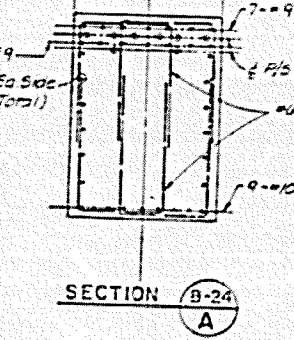


DETAIL I

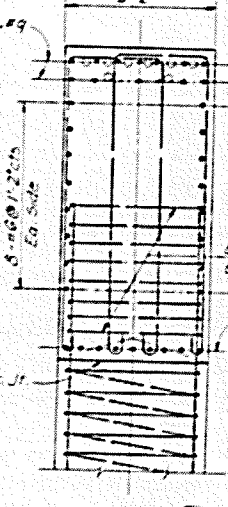


PIER CAP REINFORCING
PIERS 5, 6, 7, 8, 11, 12, 13, 14 & 15

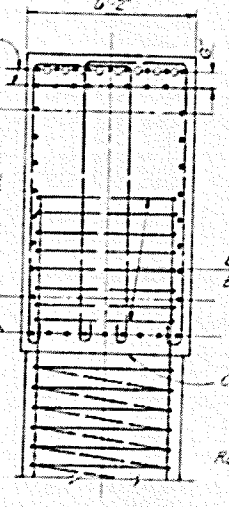
- NOTES:
1. For Column Reinforcement See Dwg. No. B-11, B-12 & B-15
 2. For Prestressing Details and other Pier Cap Details See Dwg. No. B-22 & B-23
 3. Concrete for Pier Caps to be Concrete Class '5'
 4. Left (Lt) and Right (Rt) Bearing Locations are in Reference to Pier Cap Side looking Towards Up Stationing
 5. For Bearing Device Details See Dwg. No. B-26 & B-28
 6. For Pintle Device Details See Dwg. No. B-30



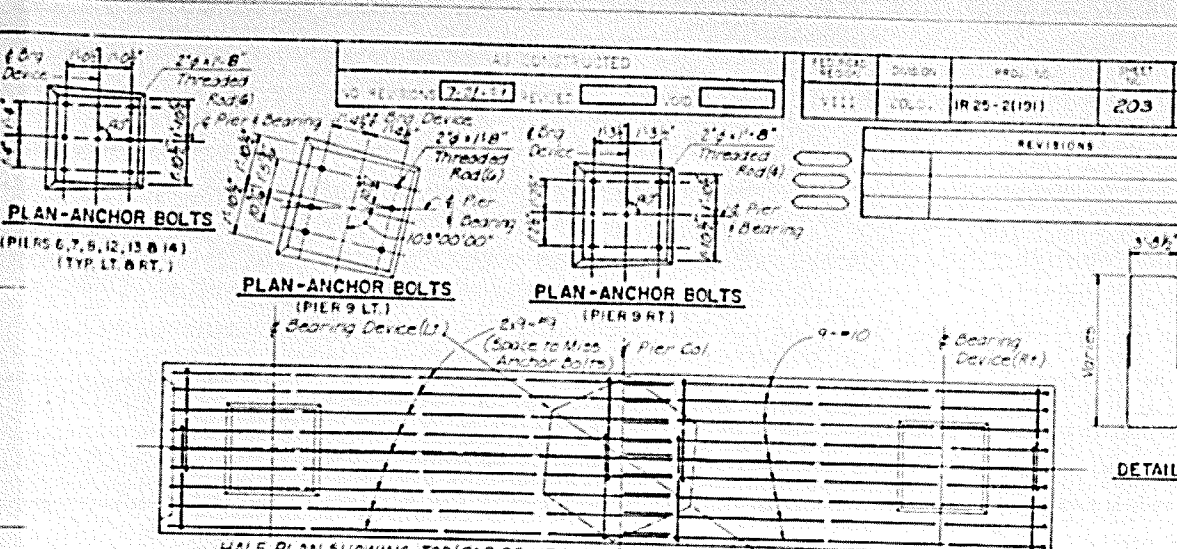
SECTION (B-24) A



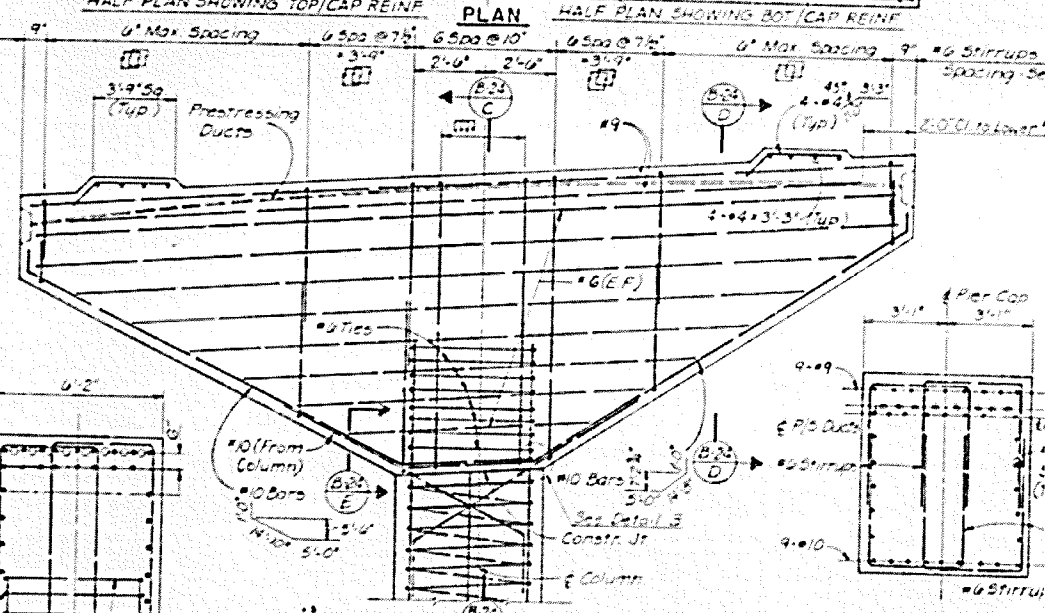
SECTION (B-24) B



SECTION (B-24) C

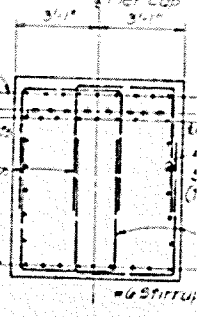


PLAN-ANCHOR BOLTS (PIERS 6, 7, 8, 12, 13 & 14) (TYP. LT. & RT.)



PIER CAP REINFORCING (PIER 9)

Note: For Masonry Band other Pintle Details See Dwg. No. B-30
DETAIL 3 Only



SECTION (B-24) D

PROJECT NO.	IR 25-2(101)	SHEET NO.	203
-------------	--------------	-----------	-----

REVISIONS

De Leuw, Cather & Company
DIVISION OF HIGHWAYS

PIER CAP REINFORCEMENT
PIERS 5 THRU 9 AND 11 THRU 15

Checked by	Structure	F-16-CG
Drawn by	Reinforcing	12, 13, 14
Drawing Number	B-24	of 55

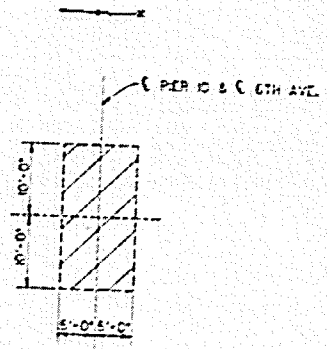
CONSTRUCTION SEQUENCE

- CONSTRUCTION OF FOUNDATIONS AND COLUMN FOR PIER 9 & 10 AND FOUNDATION FOR PIER 11 SHALL BE COORDINATED TO MINIMIZE THE TIME REQUIRED FOR TEMPORARY LAND CLOSURES ON I-25 AND 6TH AVENUE.
- POST-TENSIONING OF PIER CAPS SHALL NOT BE PERFORMED OVER LANES OPEN TO TRAFFIC. NO PERMANENT LOADS SHALL BE APPLIED ON THE PIERS BEFORE 24 HOURS AFTER COMPLETION OF PRESTRESSING TENDONS OR OUTLAYS OR BEFORE CONCRETE IN PIER CAP HAS OBTAINED ITS 28-DAY STRENGTH.
- ERECTION OF BOX GIRDERS AND SPACING OF GIRDERS ABOVE I-25 NB & SB AND 6TH AVENUE SHALL BE LIMITED TO OFF-PEAK NIGHT HOURS.
- WELDING OF BEARING SOLE PLATE TO GIRDER BOTTOM FLANGE AT PIERS 6, 7, 8, 9, 13 & 14 SHALL BE DONE AT AMBIENT TEMPERATURES BETWEEN 30° AND 60° F.
- DECK SLAB TO BE POURED ACCORDING TO SLAB POURING SEQUENCE SHOWN IN THIS DRAWING.
- REMOVAL OF TEMPORARY ERECTION DIAPHRAGMS & TEMPORARY BRACING SHALL NOT BE DONE BEFORE THE CONCRETE IN SLAB HAS OBTAINED ITS 28-DAY STRENGTH.

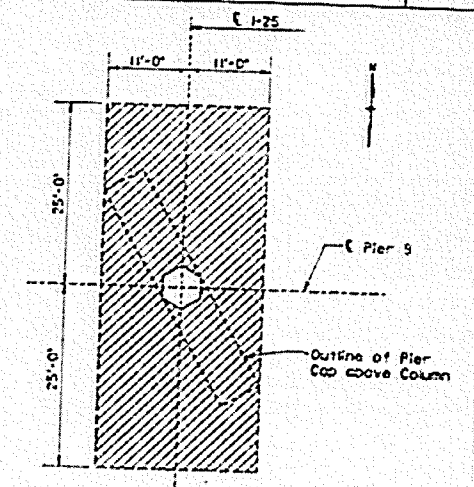
AS CONSTRUCTED
 NO REVISIONS REVISED VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR25-2(191)	204	242

REVISIONS	

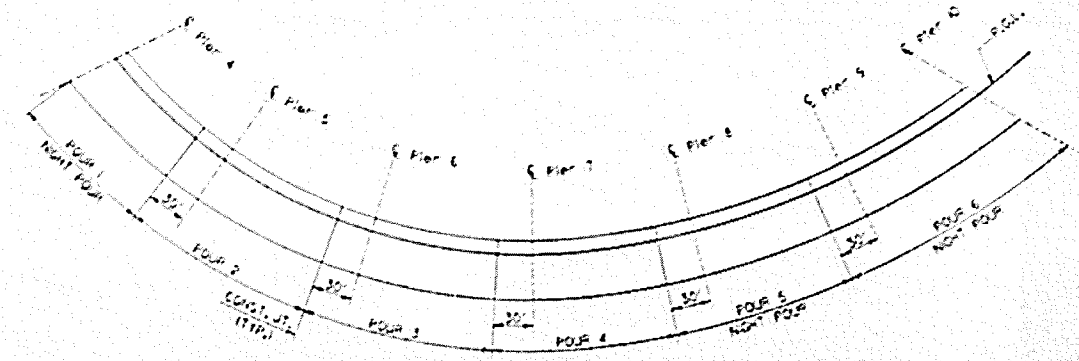


LIMITS OF EXCAVATION FOR PIER 10



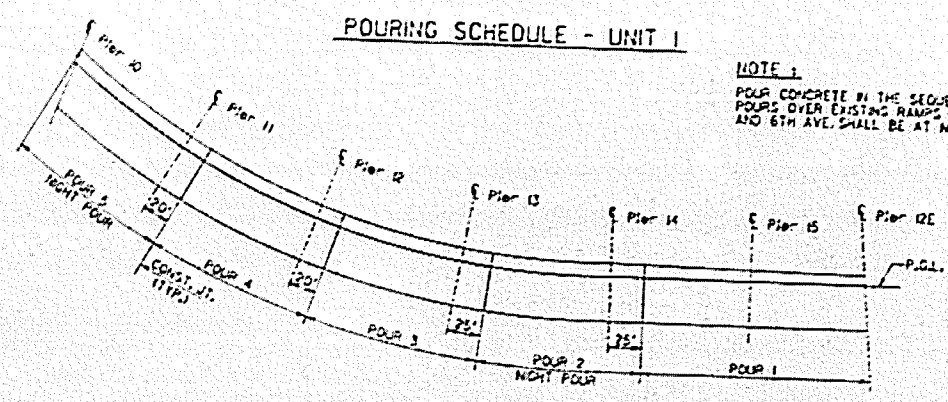
LIMITS FOR PLACEMENT OF TEMPORARY SUPPORTS AT PIER 9

NOTE:
 ADEQUATE SHORING OF THE EXCAVATION ADJACENT TO EXISTING ROADWAYS SHALL BE PROVIDED DURING ALL PHASES OF CONSTRUCTION. METHOD OF SHORING SHALL BE SUBMITTED TO THE ENGINEER. PAYMENT FOR SHORING TO BE INCLUDED IN ITEM 206, STRUCTURE EXCAVATION.



POURING SCHEDULE - UNIT 1

NOTE 1:
 POUR CONCRETE IN THE SEQUENCE SHOWN. POURS OVER EXISTING RAMPS AND OVER I-25 AND 6TH AVE. SHALL BE AT NIGHT.



POURING SCHEDULE - UNIT 2

DeLauw, Cather & Company Denver, CO.

DIVISION OF HIGHWAYS

ERECTION PROCEDURE

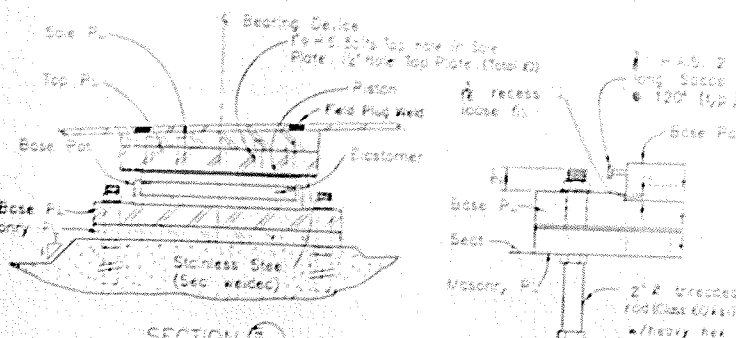
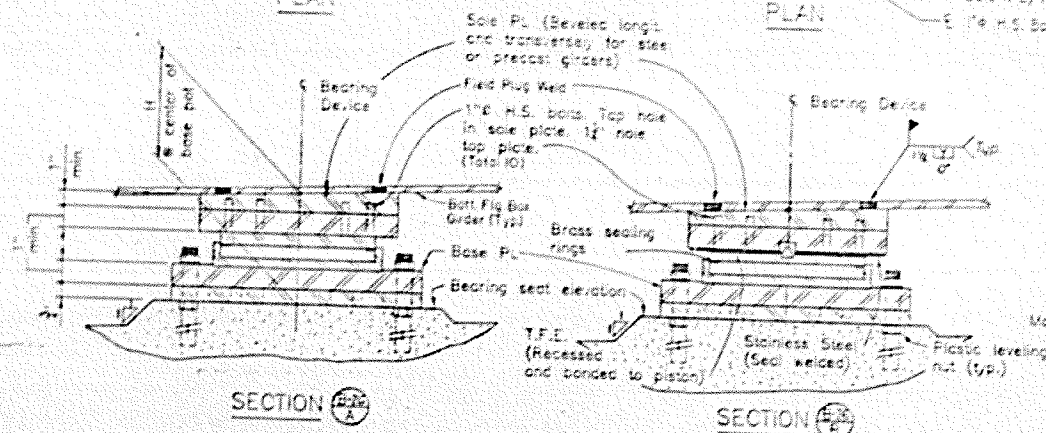
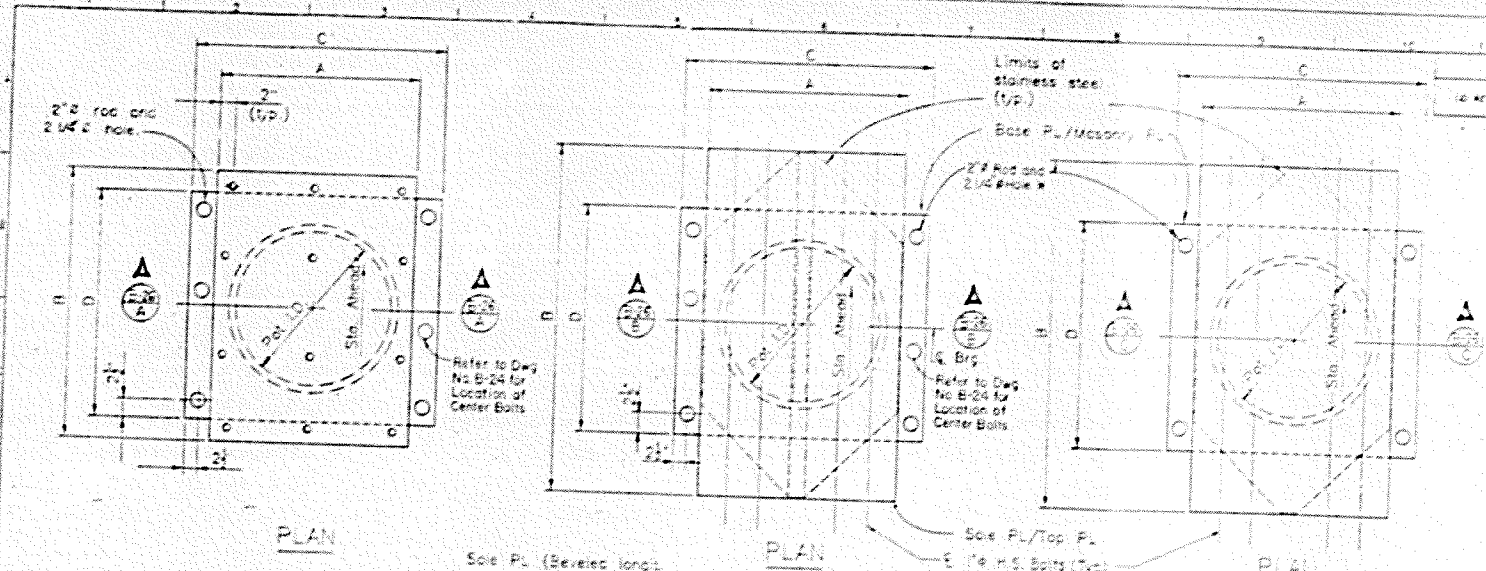
Designer R. Dodds Structure F-16-06
 Detour M. Davison
 Drawing Number B-25 of 55 Drawings

CHECKED BY: J.A.D. DATE: 12-1-77
 DESIGNED BY: J.A.D. DATE: 12-1-77
 DRAWN BY: J.A.D. DATE: 12-1-77
 IN CHARGE: J.A.D. DATE: 12-1-77

CHECKED BY: J.A.C. DATE: 12-1-77
 DESIGNED BY: J.A.C. DATE: 12-1-77
 DRAWN BY: J.A.C. DATE: 12-1-77
 IN CHARGE: J.A.C. DATE: 12-1-77

CHECKED BY: J.A.C. DATE: 12-1-77
 DESIGNED BY: J.A.C. DATE: 12-1-77
 DRAWN BY: J.A.C. DATE: 12-1-77
 IN CHARGE: J.A.C. DATE: 12-1-77

1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
16.0
17.0
18.0
19.0
20.0



SECTION A-A
FIXED BEARING
(Type F)

SECTION B-B
GUIDED EXPANSION BEARING
(Type G)

SECTION C-C
EXPANSION BEARING
(Type E)
(Similar to Type G)

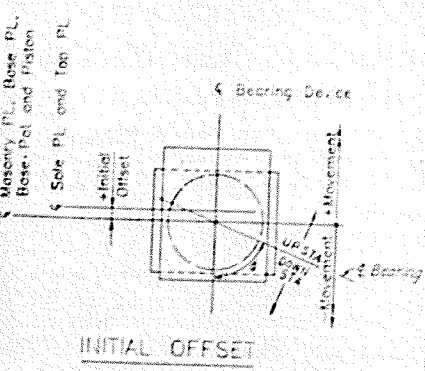
ANCHOR BOLT DETAIL
*Except 1/2" x 2 1/2" Anchor Bolts (A307)
At Piers 4 and 12 E

INITIAL LONGITUDINAL OFFSET				
Y	PIER 4	PIER 5	PIER 9	PIER 10B
80°	-1/2"	-1/2"	+1/2"	+1"
70°	-3/8"	-1/8"	+1/2"	+3/4"
60°	-1/4"	-1/4"	+1/2"	+1/4"
50°	-1/8"	-1/8"	+1/2"	+1/4"
40°	0	0	0	0
30°	+1/8"	+1/8"	-1/4"	-1/4"

BEARING DEVICE TABLE-UNIT I (Note: For UNIT 2 See Dwg. B-26)
Values for one bearing device

Location	Qty.	Type	Horizontal Load (Kips)		Vertical Load (Kips)		Longitudinal Movement (Inches)	Top PL or Base Pot					Sole Plate Level		Initial Longit. Offset (Inches)	Rotation (Radians)	Angle G (Degrees)	Number of Anchor Bolts/Bearing
			Longit.	Transv.	Max.	Min.		A	B	I.D.	C	D	H	+ F1/F1				
Pier 4(Lt)	1	G	0	60	550	180	3"	22"	25"	14"	24"	20"	9 1/2"	+0.050	+0.014	0.0056	55°40'00"	4
Pier 4(Rt)	1	E	0	-	600	197	3 1/4"	24"	25"	15"	22"	20"	8 3/4"	+0.062	+0.040	0.0056	77°20'00"	4
Pier 5(Lt)	1	G	0	213	1050	640	2 1/2"	27"	32"	19 1/2"	38"	36"	11 1/2"	+0.085	+0.027	0.0056	76°00'00"	6
Pier 5(Rt)	1	E	0	0	1150	700	2 1/2"	27"	32"	20 1/2"	36"	34"	11 1/2"	+0.075	+0.041	0.0056	90°00'00"	4
Pier 6	2	F	112	112	1020	560	-	26"	26"	19 1/2"	30"	37"	9 1/2"	+0.075	+0.042	0.0045	90°00'00"	6
Pier 7	2	F	116	116	1020	560	-	26"	26"	19 1/2"	30"	37"	9 1/2"	+0.075	+0.042	0.0045	90°00'00"	6
Pier 8	2	F	112	112	1020	560	-	26"	26"	19 1/2"	30"	37"	9 1/2"	+0.075	+0.042	0.0045	90°00'00"	6
Pier 9(Lt)	1	G	0	210	1050	630	2 1/8"	27"	32"	19 1/2"	38"	33"	11 1/2"	+0.058	+0.043	0.0051	103°00'00"	6
Pier 9(Rt)	1	E	0	-	1140	630	2 1/8"	27"	32"	20 1/2"	36"	34"	11 1/2"	+0.066	+0.034	0.0051	90°00'00"	4
Pier 10(Lt)	1	G	0	50	530	175	3 1/4"	22"	24"	13"	23"	18"	9 1/2"	+0.043	+0.077	0.0051	130°24'00"	4
Pier 10(Rt)	1	E	0	0	450	156	3 1/4"	24"	26"	14"	20"	20"	8 3/4"	+0.053	+0.045	0.0051	30°00'00"	4

▲ Based on a total temperature change of 140° (70° rise and 70° drop from a mean temperature of 40°)



DIVISION OF HIGHWAYS

BEARING DEVICE
(TYPE III) DETAILS

Designer: M. J. ... Structure: F-16-06
 Designer: ... Numbers: ...
 Drawing Number: B-26 of 55 Drawings

NOTES

Bearing seat elevations at abutments and piers shall be checked and adjusted according to the final dimensions of bearing assemblies proposed.

Without alteration of connector sizes and locations, the contractor may propose using other similar bearings which meet the requirements for loads and movements given on the drawing and in the special provisions subject to Engineer's approval. "in" shall be at least 7/16".

The longitudinal movement indicated is based on total temperature change. The bearing device shall have a minimum of 2" additional movement capacity each way from bearing sole plate.

Anchorage shall be included in bid price for item No. 512, Bearing Device (Type III).

Keyway shown in Section B is schematic. Contractor may supply Side Guide Bars as alternate. Side Guide Bars must bear fully against upper elements and not against lower element (Base Pot).

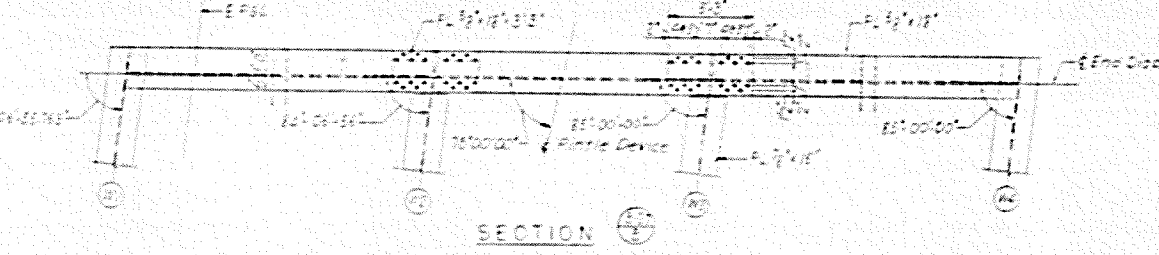
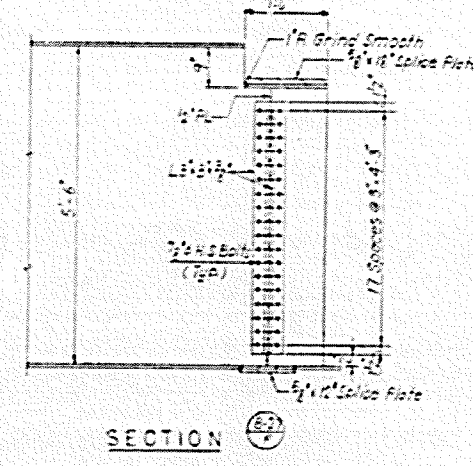
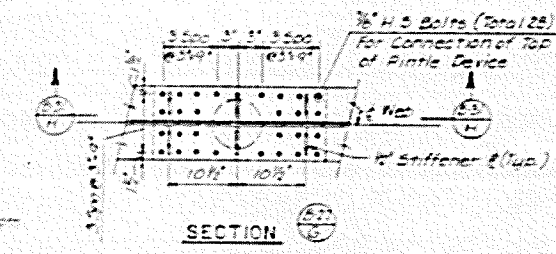
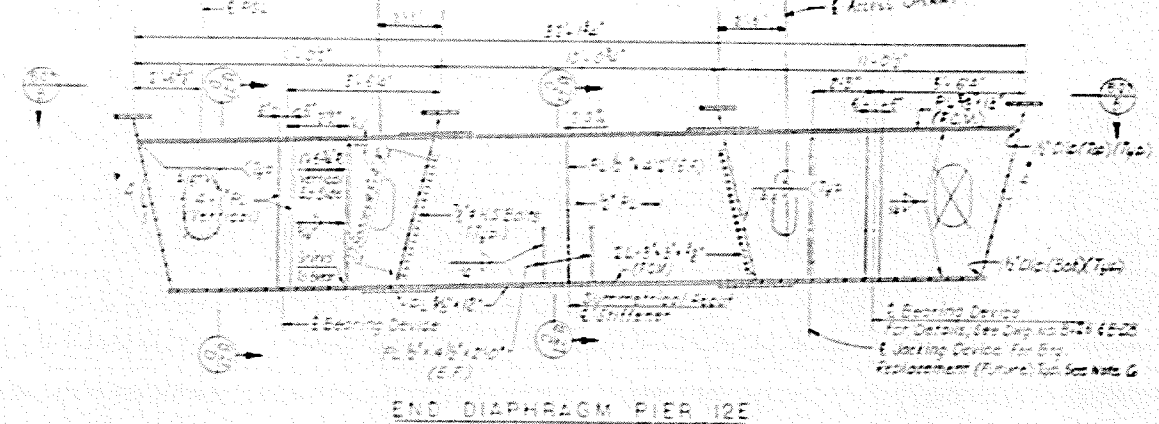
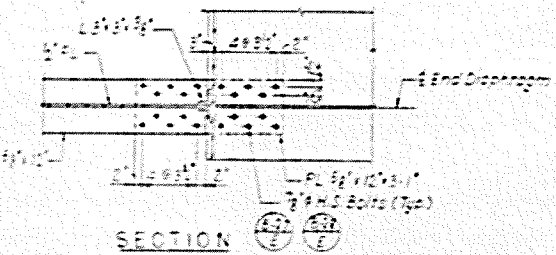
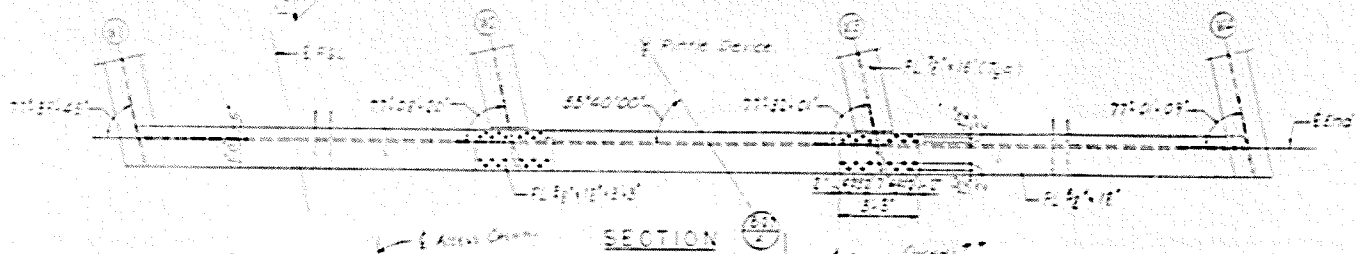
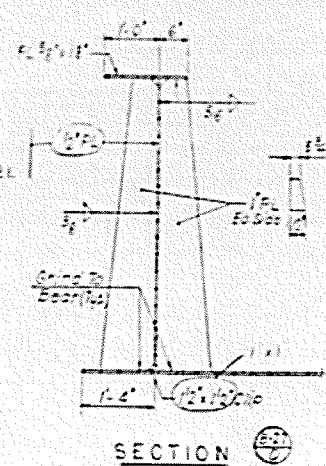
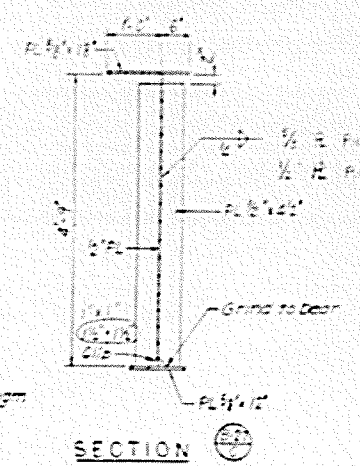
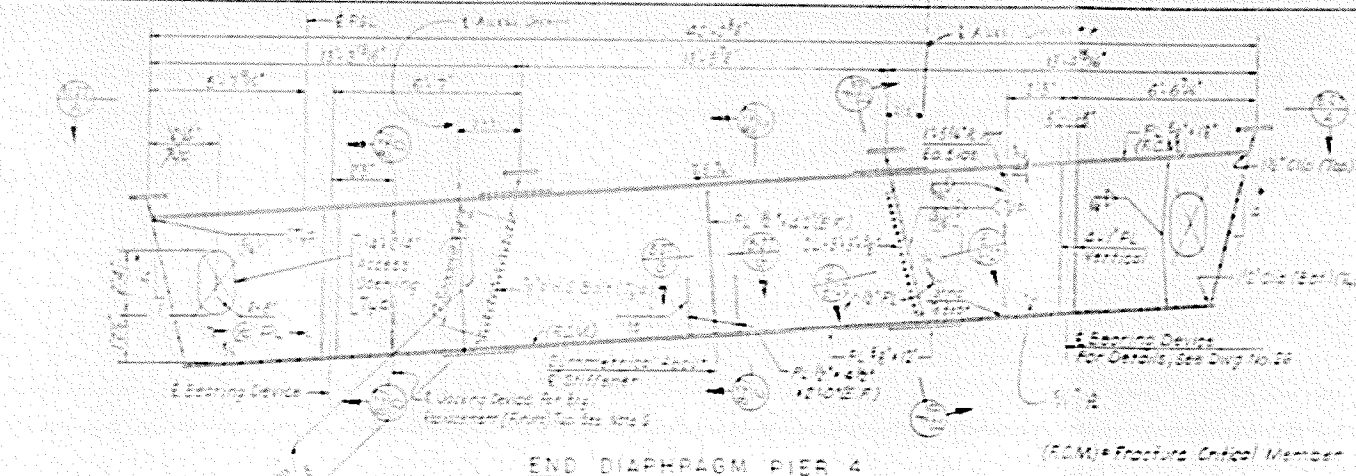
Correction of Bearing Device to bottom flange of Bar Gider to be done with field plug welds. Guided and Expansion Bearing shall have Sole and Top plates located according to the Initial Longitudinal Offset values given in the table below. Fixed Bearings shall have sole plate welded only when the ambient temperature is between 30° and 60°F.

10-10-57
 10-10-57
 10-10-57

AS CONSTRUCTED
 NO REVISIONS REVISIONS 100

DESIGN NO.	DIVISION	PROJ. NO.	SHEET NO.	SPE. NO.
1111	COLO.	(R25-2191)	206	24

REVISIONS	



- NOTES:
1. For Box Gird Geometry, See Dwg. No. B-7 and B-8
 2. For Bearing Device Details, See Dwg. No. B-26 and B-28
 3. For Cross Slope of End Diaphragms, See Dwg. No. B-37
 4. For Expansion Joint Details, See Dwg. No. B-38 and B-40
 5. For Pintle Detail, See Dwg. No. B-31
 6. Jacking of Superstructure for bearing replacement to be done without loss of strength.

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

END DIAPHRAGM DETAILS
 PIERS 4 AND 12E

Designer: A. J. Dodes	Structure: F-16-00
Detector: A. F. F. 100	Numbers:
Drawing Number: E-27	of 55 Drawings

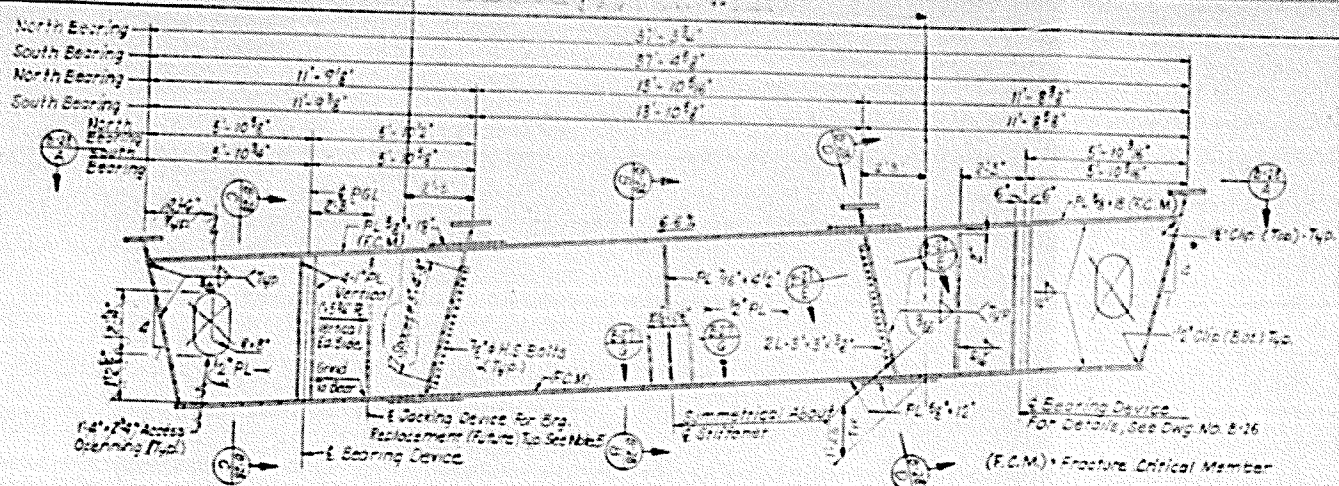
Revision Data (Mechanical, Bridge Dept)

Feb. 12-1957

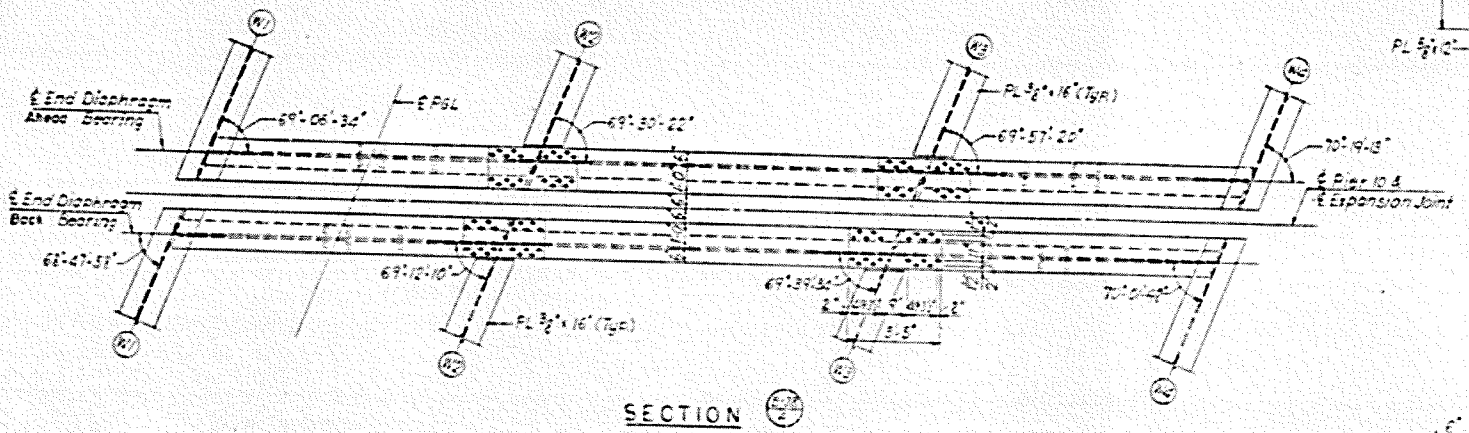
DESIGNED BY
 CHECKED BY
 DATE

SHEET NO.	SHEET TOTALS
206	242

DESIGNED BY
 CHECKED BY
 DATE

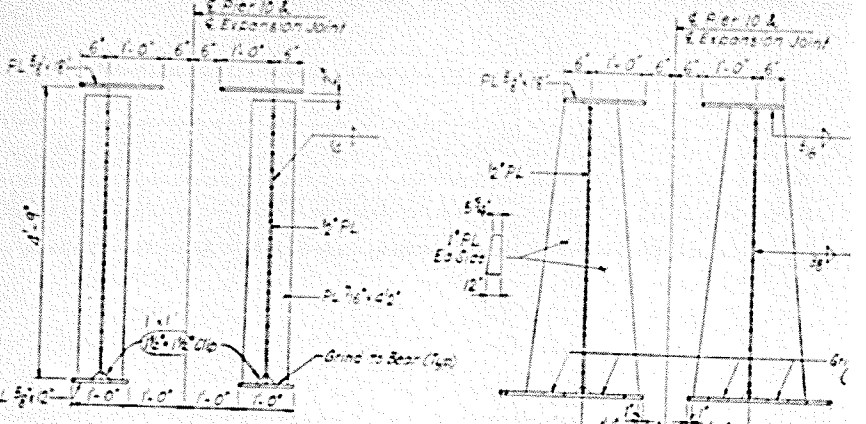


END DIAPHRAGM PIER 10



SECTION 10-10

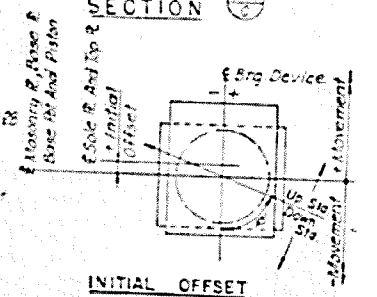
AS CONSTRUCTED		REVISIONS	DIVISION	PROJ. NO.	SHEET NO.
NO. REVISIONS	REVISED	DATE	1111	IR 25-2(191)	207



SECTION 10-11

SECTION 10-12

- Notes:
- 1 For Box Girders Geometry, See Dwg No. B-5.
 - 2 For Bearing Device Details, See Dwg No. B-26 (B-27).
 - 3 For Cross Slope of End Diaphragms At E Bearing, See Dwg No. B-37.
 - 4 For Expansion Joint Details, See Dwg No. B-35.
 - 5 Jacking of Superstructure For Bearing Replacement to be done Without Live Load on Deck.



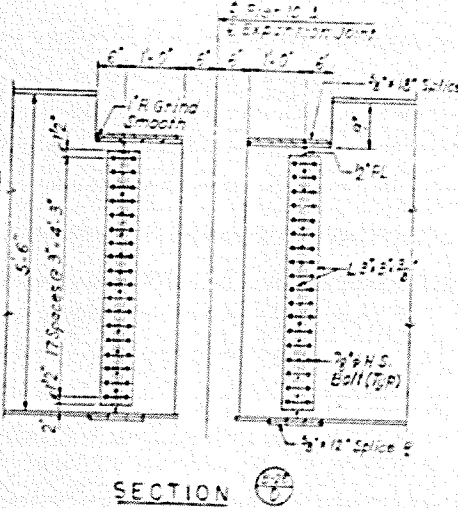
INITIAL OFFSET

BEARING DEVICE TABLE-UNIT 2 (Note: For UNIT 1 See Dwg. B-26)

Values for one bearing device

Location	Qty	Type	Horizontal Load (Kips)		Vertical Load (Kips)		Longitudinal Movement (Inches)	Top PL or Base PL		Masonry Base PL		Height	Sole Plate Bevel		Initial Longit. Offset (Inches)	Rotation (Radians)	Angle β (Degrees)	NO. Anchor Bolts/Brg.
			Longit.	Transv.	Max	Min.		A	B	Mq. L.D.	C		D	H				
Pier 10 (Ls)	1	G	0	54	530	162	3 3/4"	22"	26"	13 1/2"	23"	15	9 1/8"	+0.073	-0.005	0.0056	10000000"	4
Pier 11 (Ls)	1	G	0	0	450	147	3 3/4"	22"	26"	13 1/2"	20"	15	9 1/8"	+0.073	-0.005	0.0056	10000000"	4
Pier 11 (Rt)	1	E	0	170	870	512	2 1/2"	27"	31"	18 1/2"	35"	35"	10 3/4"	+0.059	-0.019	0.0216	10000000"	6
Pier 12	2	F	0	0	910	510	2 1/2"	25"	31"	18 1/2"	36"	36"	10 3/4"	+0.066	-0.008	0.0050	10000000"	4
Pier 13	2	F	90	90	906	447	-	26"	26"	18 1/2"	30"	37"	9 1/2"	+0.066	-0.005	0.0040	10000000"	6
Pier 14	2	F	92	92	918	460	-	26"	26"	18 1/2"	30"	37"	9 1/2"	+0.066	-0.005	0.0040	10000000"	6
Pier 15 (Ls)	1	G	0	138	850	452	-	26"	26"	18 1/2"	30"	37"	9 1/2"	+0.048	-0.021	0.0050	10000000"	6
Pier 15 (Rt)	1	E	0	0	772	415	2 1/2"	26"	26"	17"	36"	36"	10 1/4"	+0.033	-0.033	0.0050	10000000"	6
Pier 12 (Ea)	1	G	0	43	390	125	3 1/2"	22"	26"	13"	20"	20"	9 1/2"	+0.025	-0.039	0.0050	10000000"	4
Pier 12 (Ea)	1	E	0	0	470	132	3 1/2"	22"	26"	13"	20"	20"	9 1/2"	+0.025	-0.039	0.0050	10000000"	4

Based on a total temperature change of 140° F (70° F rise and 70° F drop from a mean temperature of 40°)



SECTION 10-13

INITIAL LONGITUDINAL OFFSET

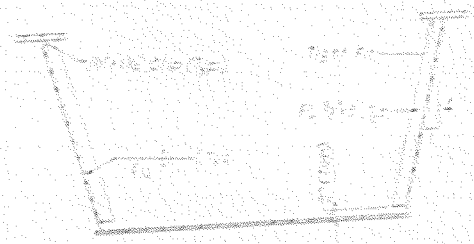
PIER	PIER 10A	PIER 11	PIER 12	PIER 13	PIER 14	PIER 15	PIER 12E
80°	-1/8"	-1/8"	+1/8"	+1/8"	+1/8"	+1/8"	+1/8"
70°	-3/8"	-3/8"	+3/8"	+3/8"	+3/8"	+3/8"	+3/8"
60°	-1/2"	-1/2"	+1/2"	+1/2"	+1/2"	+1/2"	+1/2"
50°	-1/4"	-1/4"	+1/4"	+1/4"	+1/4"	+1/4"	+1/4"
40°	0	0	0	0	0	0	0
30°	+1/8"	+1/8"	-1/8"	-1/8"	-1/8"	-1/8"	-1/8"

De Leuw, Cather & Company
 DIVISION OF HIGHWAYS
 END DIAPHRAGM DETAILS
 PIER 10
 Designer: A.A. Dodge
 Detailer: A.P. Collins
 Drawing Number: E-28 of 55
 Date: F-16-05

Grind Smooth
 1/2" x 1/8" Splice Plate
 17 Splices @ 8'-4.5"
 1/2" Splice Plate
 Denver, CO
 3 HWAYS
 DETAILS
 D 12E
 F-16-05
 55 Drawings

STATE OF COLORADO
DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS
FEB. 1962

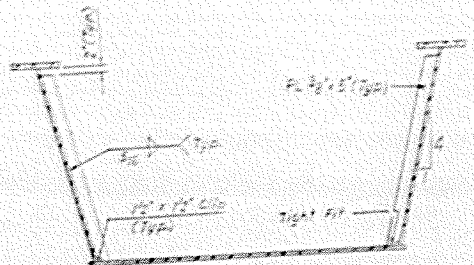
AS CONSTRUCTED		DESIGN	PROJ. NO.	DATE	SHEET NO.
NO REVISIONS	REVISED	1111	IR 25-21190	20E	24
REVISIONS					



TYPE 1

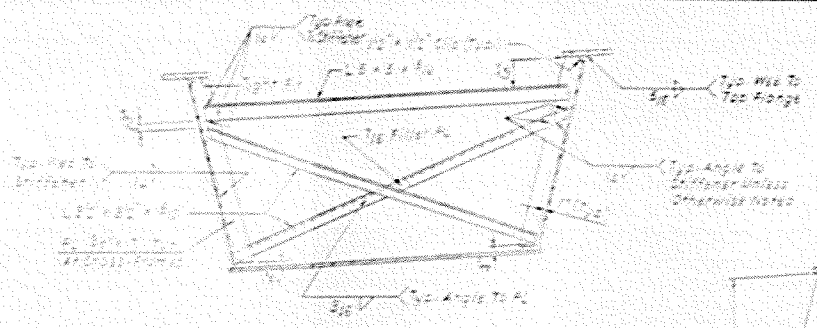


TYPE 2

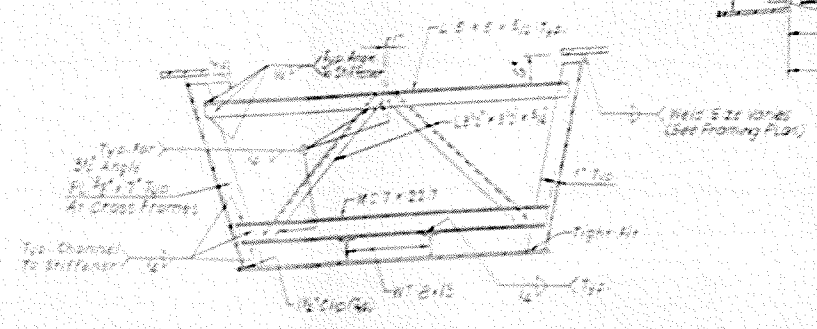


TYPE 3

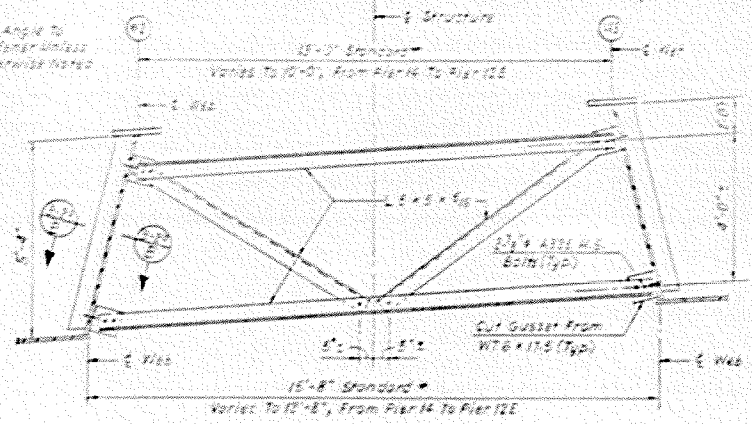
INTERMEDIATE STIFFENERS



TYPE A

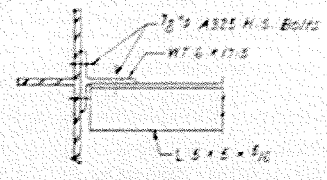


TYPE B



TEMPORARY ERECTION DIAPHRAGM

To Be Removed After Slab Has Reached Its 28-Day Design Strength
* Except At Locations Where Diaphragms Are Skewed (See Notes)
See Dwg. No. B-16, B-17, B-18



SECTION

NOTES:
1. Steel for Permanent and Temporary Bracing
Shall Be AASHTO M-183 (ASTM A-36)

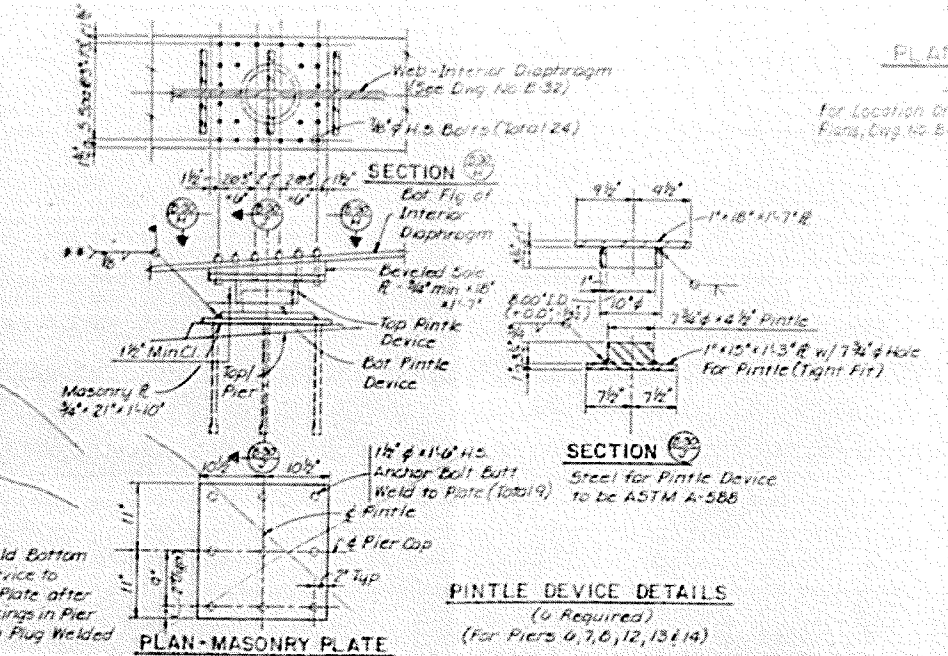
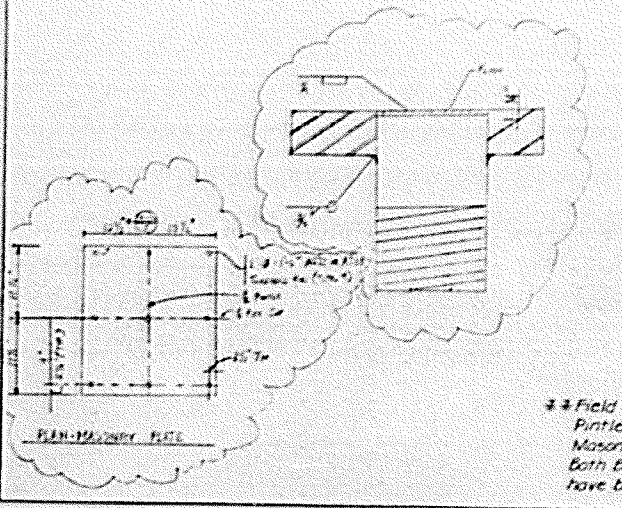
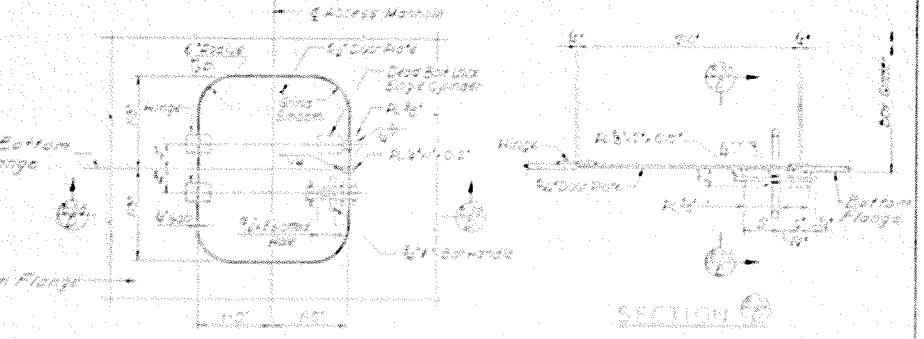
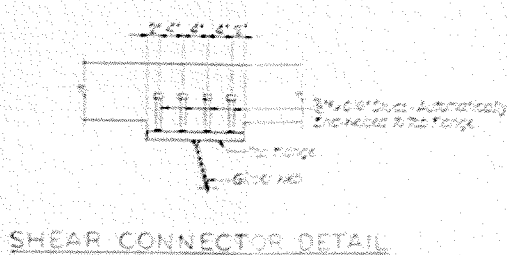
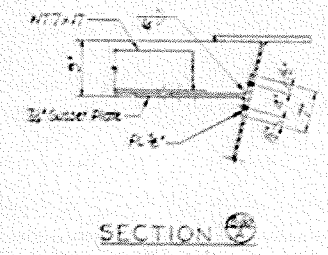
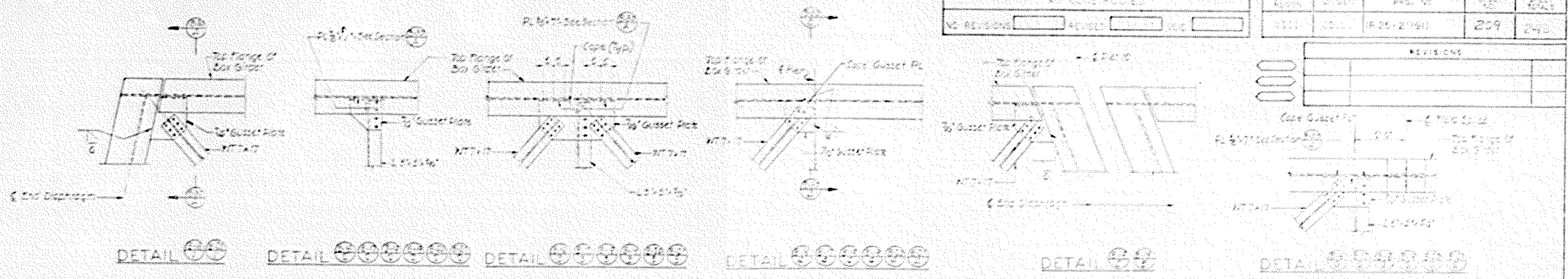
De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS
DIAPHRAGM AND STRUCTURAL STEEL
MISCELLANEOUS DETAILS

Designer	A. A. Dady	Structure	F-16-00
Detailer	J. A. Corbett	Number	
Drawing Number	B-29	of	55 Drawings
Person Title		(Preliminary Stage Only)	

ALL CONSTRUCTED		DESIGN	DATE	SHEET	SHEET
NO. REVISIONS	REVISED	BY	DATE	NO.	TOTAL
				209	248

REVISIONS	



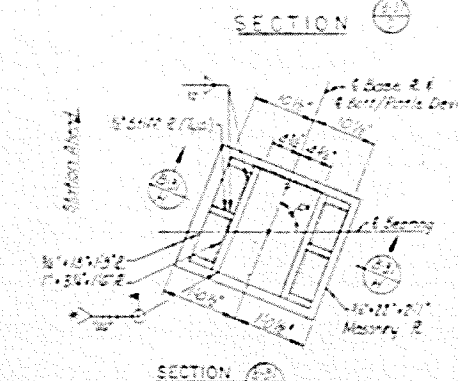
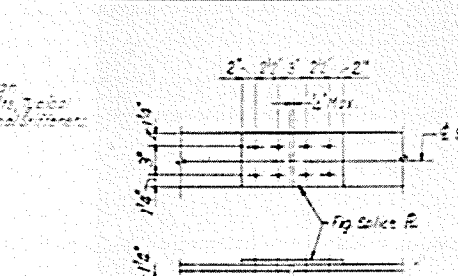
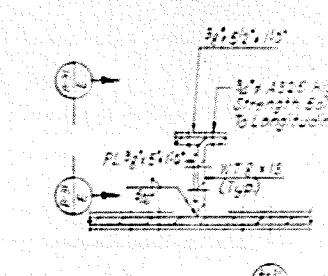
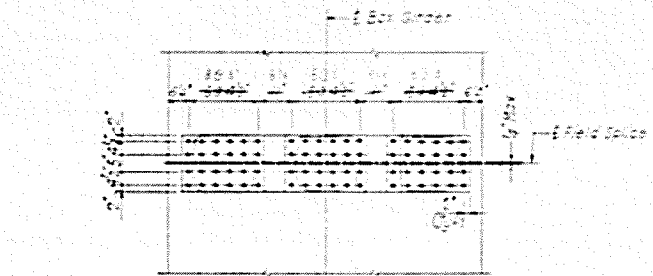
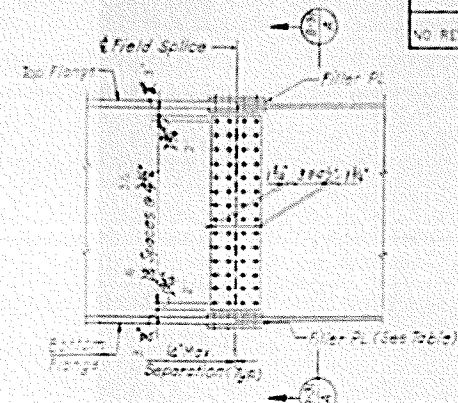
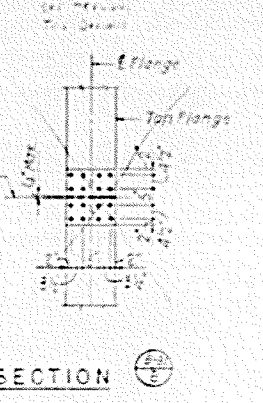
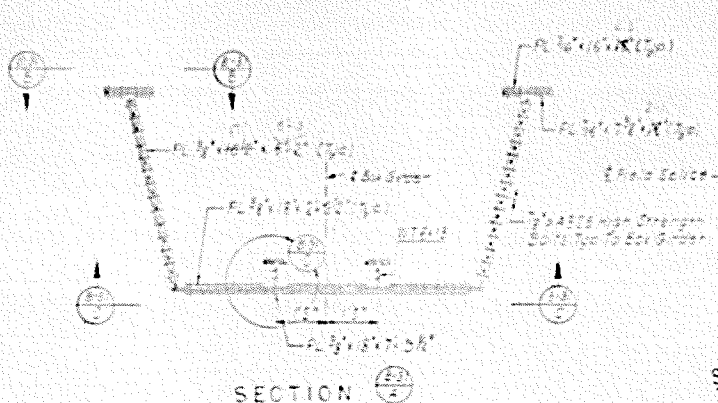
De Leuw, Cather & Company
 DIVISION OF HIGHWAYS
 STRUCTURAL STEEL
 MISCELLANEOUS DETAILS

Designer: R. A. Dodge	Structure: F-16-CG
Detailer: V. Kernay, R. Penning	Numbers:
Drawing Number: E-30	of 55 Drawings

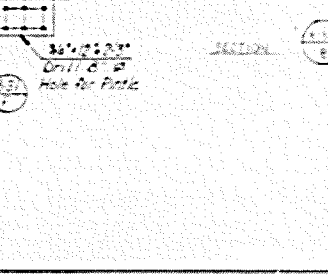
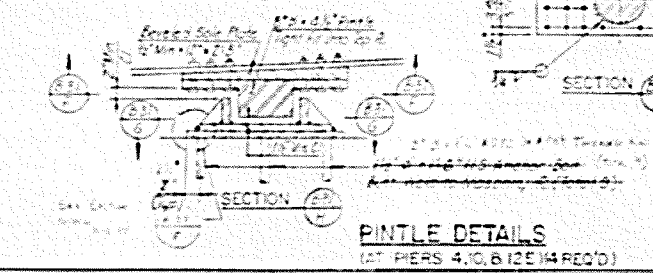
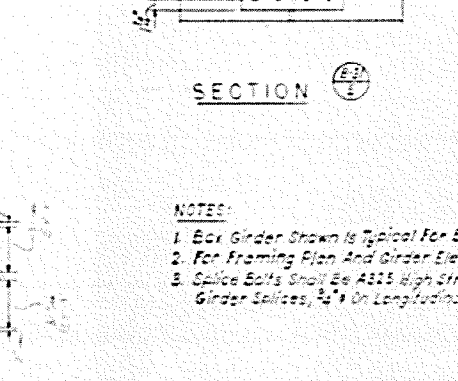
AS CONSTRUCTED
 NO REVISIONS REVISED AUG

REV. NO.	DATE	BY	DESCRIPTION
VIII			

REV. NO.	DATE	BY	DESCRIPTION



PIER	CX
P1	124°20'00"
P10(B)	48°30'00"
P10(A)	100°00'00"
P12	78°00'00"



FILLER PLATE TABLE

FIELD SPLICE	TOP OF TOP FLANGE	EACH SIDE OF WEB	BOTTOM OF BOTTOM FLANGE
1	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
2	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
3	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
4	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
5	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
6	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
7	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
8	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
9	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
10	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
11	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
12	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
13	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
14	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
15	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
16	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
17	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
18	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
19	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"
20	4'-2" x 16" x 9"	8'-1/2" x 62" x 8 1/2"	2'-8" x 93 1/2" x 9"

SPLICE PLATE TABLE

PLATE NO.	LOCATION	NO REQ'D PER F.S.	TOTAL NO REQ'D	DIMENSIONS
1	Top Flanges	4	80	1/2" x 16" x 27"
2	Bottom Flanges	8	160	1/2" x 16" x 27"
3	Sides of Webs	8	160	1/2" x 16" x 17"
4	Bottom Flanges	6	120	1/2" x 16" x 17"
5	Bottom Flanges	2	40	1/2" x 16" x 17"
6	Sides of Long Stiffener	4	80	1/2" x 16" x 12"
7	Long Stiffener Unit 1	4	80	1/2" x 16" x 12"
8	Long Stiffener Unit 2	4	80	1/2" x 16" x 12"

- NOTES:
- Box Girder Shown is Typical for Both Boxes.
 - For Framing Plan and Girder Elevation, See Dwg No. B-16 Thru B-21
 - Splice Bolts Shall Be A325 High Strength, 3/4" On Box Girder Splices, 1/2" On Longitudinal Stiffener Splices.

De Leuw, Cather & Company Denver

DIVISION OF HIGHWAYS

BOX GIRDER - FIELD SPLICES

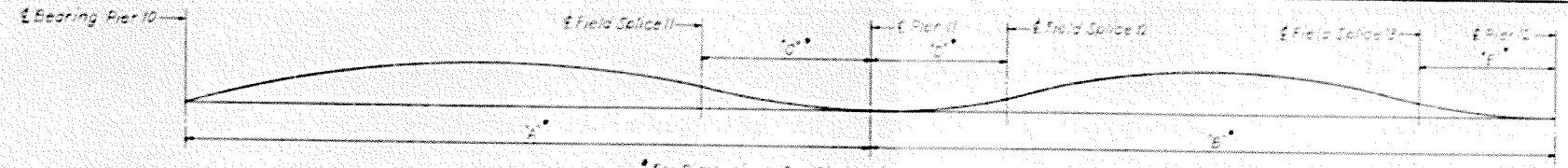
Designer R.A. Codes	Structure F-16-DG
Detailer A.P. Polido	Numbers
Drawing Number B-31	of 55 Drawings

Revised Cons. Preliminary, Stage One

AS CONSTRUCTED
NO REVISIONS 7-21-75 REVISED VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
VIII	COLO.	IR 25-2(191)	213	242

REVISIONS	



*For Dimensions, See Girder Dimension Schedule Dwg No. B-18

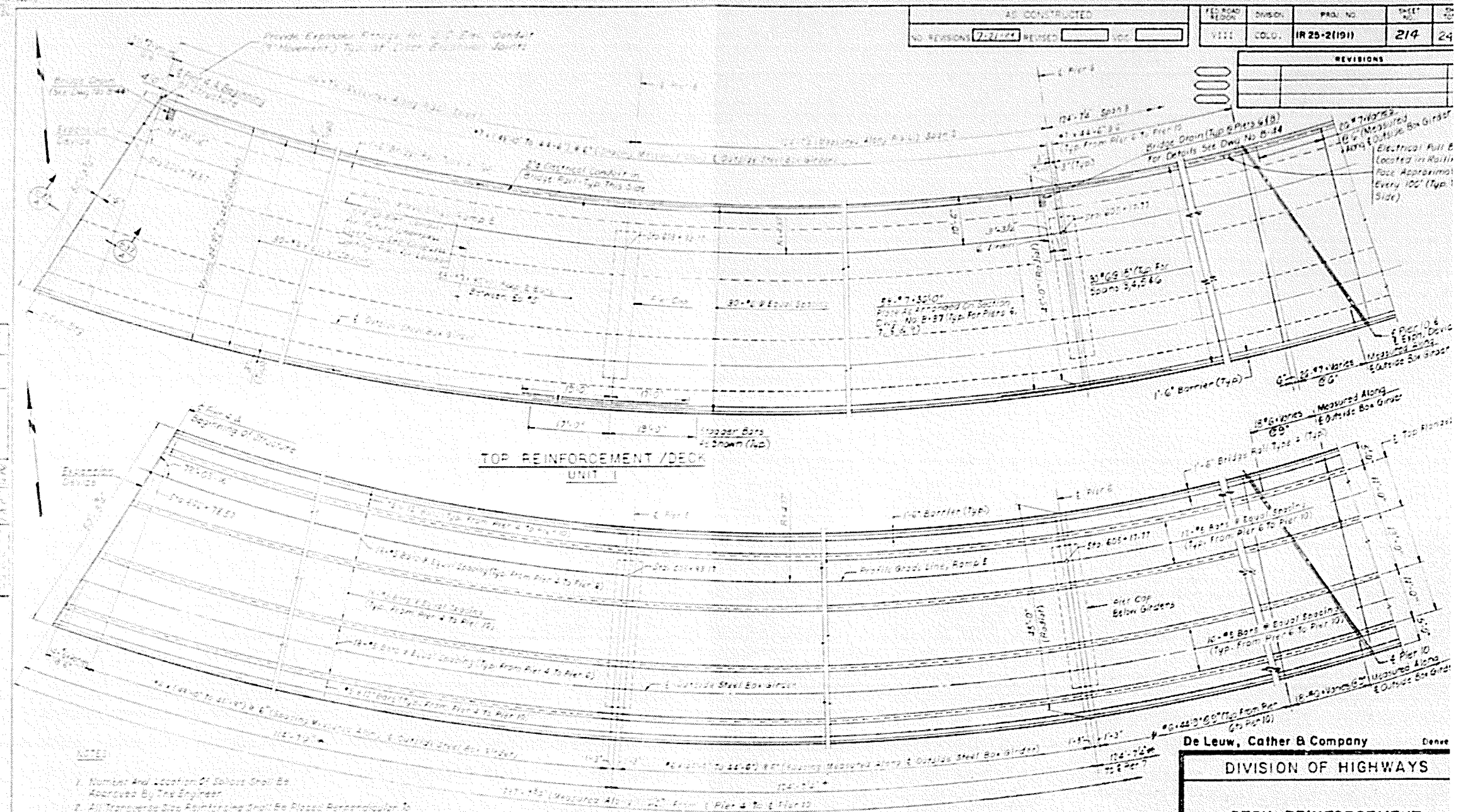
TWENTIETH POINT	10.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95	2.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
GIRDER D.L. DEFLECTION (FT.)	0	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.024	0.025	0.026	0.027	0.028	0.029	0.030	0.031	0.032	0.033	0.034	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.042	0.043	0.044	0.045	0.046	0.047	0.048	0.049	0.050																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
TOTAL D.L. LESS GIRDER D.L. DEFLECTION (FT.)	0	0.004	0.003	0.002	0.001	0.000	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.024	0.025	0.026	0.027	0.028	0.029	0.030	0.031	0.032	0.033	0.034	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.042	0.043	0.044	0.045	0.046	0.047	0.048	0.049	0.050																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
TOTAL D.L. DEFLECTION (FT.)	0	0.001	0.003	0.005	0.007	0.009	0.011	0.013	0.015	0.017	0.019	0.021	0.023	0.025	0.027	0.029	0.031	0.033	0.035	0.037	0.039	0.041	0.043	0.045	0.047	0.049	0.051	0.053	0.055	0.057	0.059	0.061	0.063	0.065	0.067	0.069	0.071	0.073	0.075	0.077	0.079	0.081	0.083	0.085	0.087	0.089	0.091	0.093	0.095	0.097	0.099	0.101	0.103	0.105	0.107	0.109	0.111	0.113	0.115	0.117	0.119	0.121	0.123	0.125	0.127	0.129	0.131	0.133	0.135	0.137	0.139	0.141	0.143	0.145	0.147	0.149	0.151	0.153	0.155	0.157	0.159	0.161	0.163	0.165	0.167	0.169	0.171	0.173	0.175	0.177	0.179	0.181	0.183	0.185	0.187	0.189	0.191	0.193	0.195	0.197	0.199	0.201	0.203	0.205	0.207	0.209	0.211	0.213	0.215	0.217	0.219	0.221	0.223	0.225	0.227	0.229	0.231	0.233	0.235	0.237	0.239	0.241	0.243	0.245	0.247	0.249	0.251	0.253	0.255	0.257	0.259	0.261	0.263	0.265	0.267	0.269	0.271	0.273	0.275	0.277	0.279	0.281	0.283	0.285	0.287	0.289	0.291	0.293	0.295	0.297	0.299	0.301	0.303	0.305	0.307	0.309	0.311	0.313	0.315	0.317	0.319	0.321	0.323	0.325	0.327	0.329	0.331	0.333	0.335	0.337	0.339	0.341	0.343	0.345	0.347	0.349	0.351	0.353	0.355	0.357	0.359	0.361	0.363	0.365	0.367	0.369	0.371	0.373	0.375	0.377	0.379	0.381	0.383	0.385	0.387	0.389	0.391	0.393	0.395	0.397	0.399	0.401	0.403	0.405	0.407	0.409	0.411	0.413	0.415	0.417	0.419	0.421	0.423	0.425	0.427	0.429	0.431	0.433	0.435	0.437	0.439	0.441	0.443	0.445	0.447	0.449	0.451	0.453	0.455	0.457	0.459	0.461	0.463	0.465	0.467	0.469	0.471	0.473	0.475	0.477	0.479	0.481	0.483	0.485	0.487	0.489	0.491	0.493	0.495	0.497	0.499	0.501	0.503	0.505	0.507	0.509	0.511	0.513	0.515	0.517	0.519	0.521	0.523	0.525	0.527	0.529	0.531	0.533	0.535	0.537	0.539	0.541	0.543	0.545	0.547	0.549	0.551	0.553	0.555	0.557	0.559	0.561	0.563	0.565	0.567	0.569	0.571	0.573	0.575	0.577	0.579	0.581	0.583	0.585	0.587	0.589	0.591	0.593	0.595	0.597	0.599	0.601	0.603	0.605	0.607	0.609	0.611	0.613	0.615	0.617	0.619	0.621	0.623	0.625	0.627	0.629	0.631	0.633	0.635	0.637	0.639	0.641	0.643	0.645	0.647	0.649	0.651	0.653	0.655	0.657	0.659	0.661	0.663	0.665	0.667	0.669	0.671	0.673	0.675	0.677	0.679	0.681	0.683	0.685	0.687	0.689	0.691	0.693	0.695	0.697	0.699	0.701	0.703	0.705	0.707	0.709	0.711	0.713	0.715	0.717	0.719	0.721	0.723	0.725	0.727	0.729	0.731	0.733	0.735	0.737	0.739	0.741	0.743	0.745	0.747	0.749	0.751	0.753	0.755	0.757	0.759	0.761	0.763	0.765	0.767	0.769	0.771	0.773	0.775	0.777	0.779	0.781	0.783	0.785	0.787	0.789	0.791	0.793	0.795	0.797	0.799	0.801	0.803	0.805	0.807	0.809	0.811	0.813	0.815	0.817	0.819	0.821	0.823	0.825	0.827	0.829	0.831	0.833	0.835	0.837	0.839	0.841	0.843	0.845	0.847	0.849	0.851	0.853	0.855	0.857	0.859	0.861	0.863	0.865	0.867	0.869	0.871	0.873	0.875	0.877	0.879	0.881	0.883	0.885	0.887	0.889	0.891	0.893	0.895	0.897	0.899	0.901	0.903	0.905	0.907	0.909	0.911	0.913	0.915	0.917	0.919	0.921	0.923	0.925	0.927	0.929	0.931	0.933	0.935	0.937	0.939	0.941	0.943	0.945	0.947	0.949	0.951	0.953	0.955	0.957	0.959	0.961	0.963	0.965	0.967	0.969	0.971	0.973	0.975	0.977	0.979	0.981	0.983	0.985	0.987	0.989	0.991	0.993	0.995	0.997	0.999	1.001	1.003	1.005	1.007	1.009	1.011	1.013	1.015	1.017	1.019	1.021	1.023	1.025	1.027	1.029	1.031	1.033	1.035	1.037	1.039	1.041	1.043	1.045	1.047	1.049	1.051	1.053	1.055	1.057	1.059	1.061	1.063	1.065	1.067	1.069	1.071	1.073	1.075	1.077	1.079	1.081	1.083	1.085	1.087	1.089	1.091	1.093	1.095	1.097	1.099	1.101	1.103	1.105	1.107	1.109	1.111	1.113	1.115	1.117	1.119	1.121	1.123	1.125	1.127	1.129	1.131	1.133	1.135	1.137	1.139	1.141	1.143	1.145	1.147	1.149	1.151	1.153	1.155	1.157	1.159	1.161	1.163	1.165	1.167	1.169	1.171	1.173	1.175	1.177	1.179	1.181	1.183	1.185	1.187	1.189	1.191	1.193	1.195	1.197	1.199	1.201	1.203	1.205	1.207	1.209	1.211	1.213	1.215	1.217	1.219	1.221	1.223	1.225	1.227	1.229	1.231	1.233	1.235	1.237	1.239	1.241	1.243	1.245	1.247	1.249	1.251	1.253	1.255	1.257	1.259	1.261	1.263	1.265	1.267	1.269	1.271	1.273	1.275	1.277	1.279	1.281	1.283	1.285	1.287	1.289	1.291	1.293	1.295	1.297	1.299	1.301	1.303	1.305	1.307	1.309	1.311	1.313	1.315	1.317	1.319	1.321	1.323	1.325	1.327	1.329	1.331	1.333	1.335	1.337	1.339	1.341	1.343	1.345	1.347	1.349	1.351	1.353	1.355	1.357	1.359	1.361	1.363	1.365	1.367	1.369	1.371	1.373	1.375	1.377	1.379	1.381	1.383	1.385	1.387	1.389	1.391	1.393	1.395	1.397	1.399	1.401	1.403	1.405	1.407	1.409	1.411	1.413	1.415	1.417	1.419	1.421	1.423	1.425	1.427	1.429	1.431	1.433	1.435	1.437	1.439	1.441	1.443	1.445	1.447	1.449	1.451	1.453	1.455	1.457	1.459	1.461	1.463	1.465	1.467	1.469	1.471	1.473	1.475	1.477	1.479	1.481	1.483	1.485	1.487	1.489	1.491	1.493	1.495	1.497	1.499	1.501	1.503	1.505	1.507	1.509	1.511	1.513	1.515	1.517	1.519	1.521	1.523	1.525	1.527	1.529	1.531	1.533	1.535	1.537	1.539	1.541	1.543	1.545	1.547	1.549	1.551	1.553	1.555	1.557	1.559	1.561	1.563	1.565	1.567	1.569	1.571	1.573	1.575	1.577	1.579	1.581	1.583	1.585	1.587	1.589	1.591	1.593	1.595	1.597	1.599	1.601	1.603	1.605	1.607	1.609	1.611	1.613	1.615	1.617	1.619	1.621	1.623	1.625	1.627	1.629	1.631	1.633	1.635	1.637	1.639	1.641	1.643	1.645	1.647	1.649	1.651	1.653	1.655	1.657	1.659	1.661	1.663	1.665	1.667	1.669	1.671	1.673	1.675	1.677	1.679	1.681	1.683	1.685	1.687	1.689	1.691	1.693	1.695	1.697	1.699	1.701	1.703	1.705	1.707	1.709	1.711	1.713	1.715	1.717	1.719	1.721	1.723	1.725	1.727	1.729	1.731	1.733	1.735	1.737	1.739	1.741	1.743	1.745	1.747	1.749	1.751	1.753	1.755	1.757	1.759	1.761	1.763	1.765	1.767	1.769	1.771	1.773	1.775	1.777	1.779	1.781	1.783	1.785	1.787	1.789	1.791	1.793	1.795	1.797	1.799	1.801	1.803	1.805	1.807	1.809	1.811	1.813	1.815	1.817	1.819	1.821	1.823	1.825	1.827	1.829	1.831	1.833	1.835	1.837	1.839	1.841	1.843	1.845	1.847	1.849	1.851	1.853	1.855	1.857	1.859	1.861	1.863	1.865	1.867	1.869	1.871	1.873	1.875	1.877	1.879	1.881	1.883	1.885	1.887	1.889	1.891	1.893	1.895	1.897	1.899	1.901	1.903	1.905	1.907	1.909	1.911	1.913	1.915	1.917	1.919	1.921	1.923	1.925	1.927	1.929	1.931	1.933	1.935	1.937	1.939	1.941	1.943	1.945	1.947	1.949	1.951	1.953	1.955	1.957	1.959	1.961	1.963	1.965	1.967	1.969	1.971	1.973	1.975	1.977	1.979	1.981	1.983	1.985	1.987	1.989	1.991	1.993	1.995	1.997	1.999	2.001	2.003	2.005	2.007	2.009	2.011	2.013	2.015	2.017	2.019	2.021	2.023	2.025	2.027	2.029	2.031	2.033	2.035	2.037	2.039	2.041	2.043

F. DE LUW
 CIVIL ENGINEER
 LICENSE NO. 1000
 1910

NO. REVISIONS	2-21-64	REVISED		NO.	
---------------	---------	---------	--	-----	--

FED. ROAD DISTRICT	DIVISION	PROJ. NO.	1-111	24
VIII	COLO.	IR 25-2(191)	214	24

REVISIONS	



- NOTES
1. Number And Location Of Scaffolds Shall Be Approved By The Engineer
 2. All Transverse Bars Reinforcing Shall Be Placed Perpendicular To Centerline Of Outside Box Girder Unless Otherwise Specified And Dimensioned Along T Of Outside Box
 3. Deck Shall Be Formed Using Permanent Bridge Deck Forms
 4. Welding Of The Scaffolding Forms To The Top Flange Of The Box Girder Shall Not Be Permitted
 5. All Concrete From Ready-Mix Shall Be Placed 24 Hours Minimum Before Striking Form Foot
 6. Provide Conduit Expansion Fittings 1/4\"

De Leuw, Cather & Company Denver

DIVISION OF HIGHWAYS

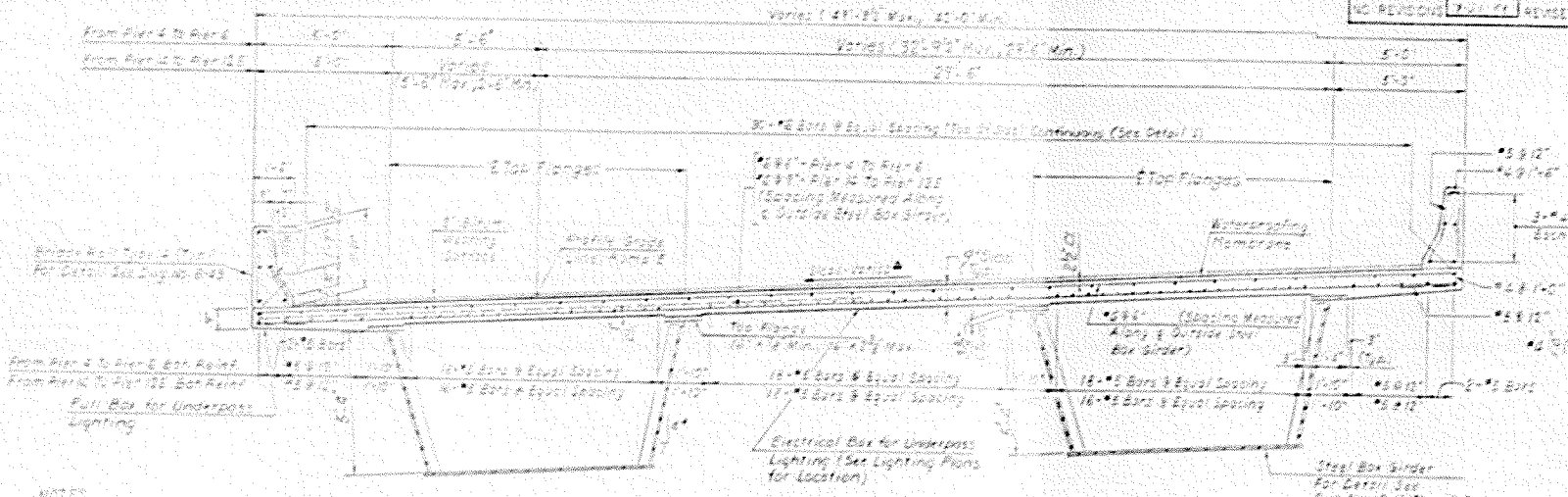
DECK REINFORCEMENT UNIT I

Designer	H. A. GOSDA	Structure	F-16-06
Detailer	T. A. JOHNSON	Numbers	
Drawing Number	B-35	of 55	Drawing

10-11-55
 10-11-55
 10-11-55

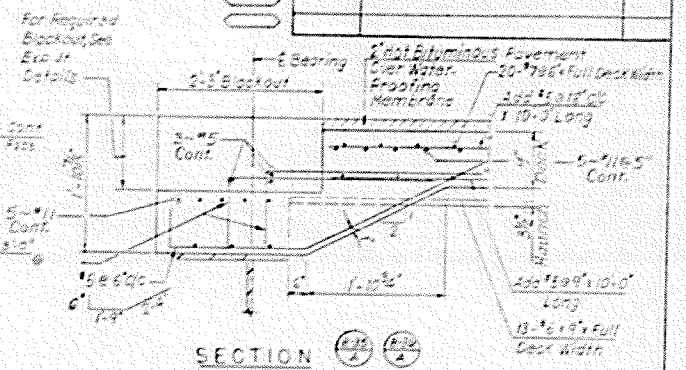
AS CONSTRUCTED		FED. ROAD DISTRICT	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTAL
NO. REVISIONS	2/2/54	VI111	COLO.	IR 25-2(191)	210	242

REVISIONS	

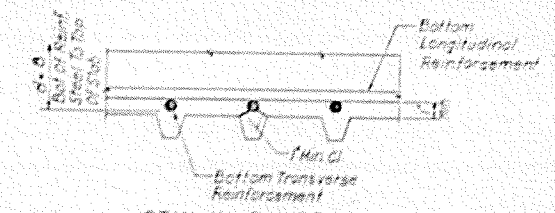


NOTES:
 Top Cross-Section Shows Reinforcing at Masses
 Bottom Cross-Section Shows Reinforcing at Piers

CROSS SECTION
 UNIT 1 AND 2

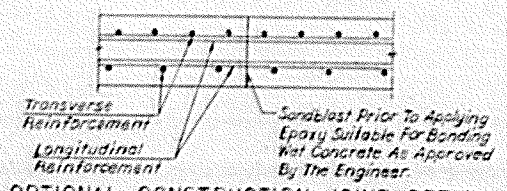


SECTION

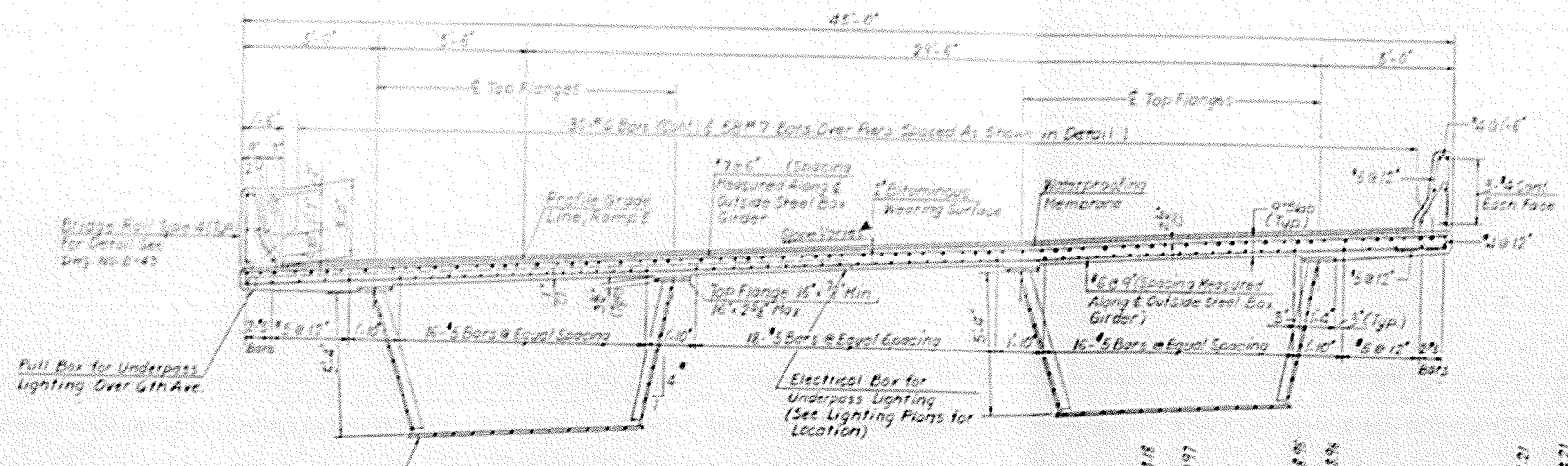


STAY-IN-PLACE FORM DETAIL

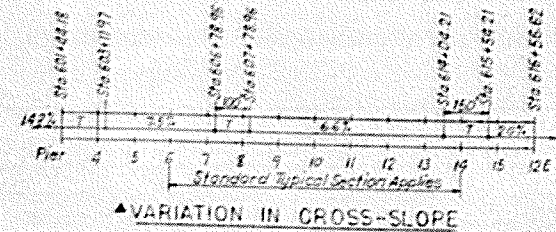
Deck shall be formed using permanent steel bridge deck forms, form flutes, and transverse slab reinforcement shall be placed perpendicular to the girders. Required 'd' values must be maintained. Two sets of shop drawings as described in subsection 601.01 of the Standard Specifications shall be submitted to the Engineer for information only. The drawings will not be approved and returned to the contractor. All costs of additional material and labor required to use forms shall be borne by the contractor.



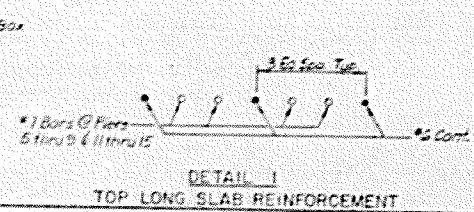
OPTIONAL CONSTRUCTION JOINT DETAIL



STANDARD TYPICAL SECTION
 UNIT 1 AND 2



VARIATION IN CROSS-SLOPE



DETAIL 1
 TOP LONG SLAB REINFORCEMENT

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

DECK REINFORCEMENT AND SECTIONS
 UNITS 1 AND 2

Designer: R.A. Cudde	Structure: F-16-GS
Detailer: A.P. Polido	Number:
Drawing Number: B-37	of 55 Drawings

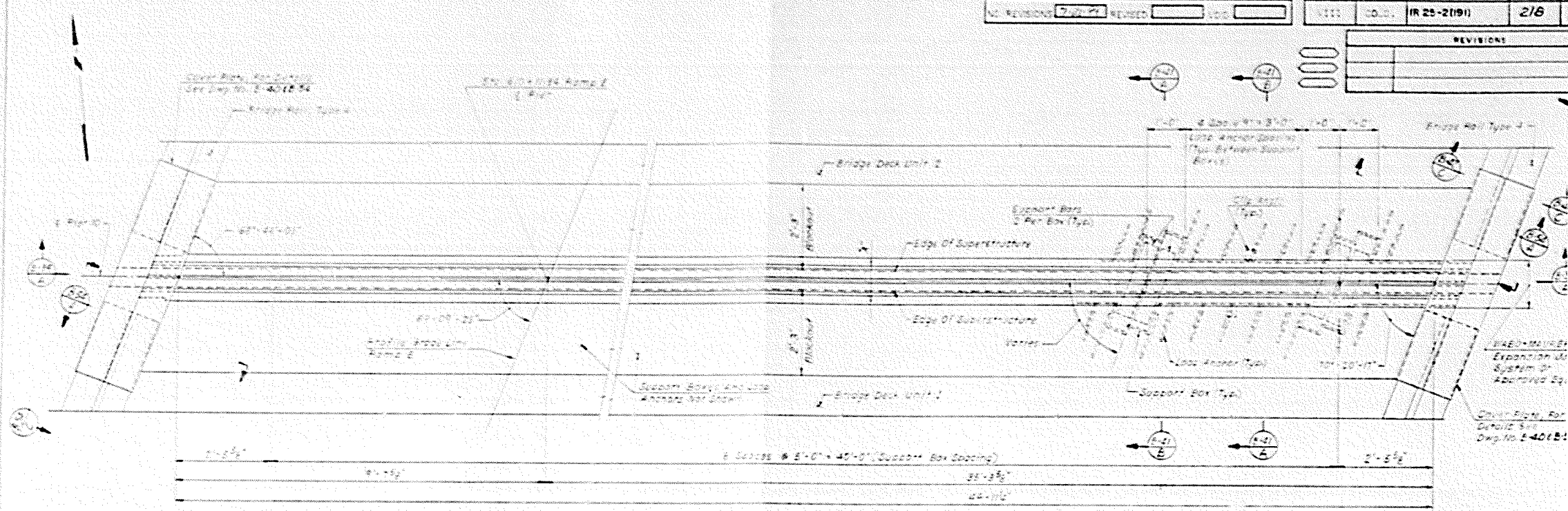
Revision Table (Preliminary Stage Only)

11/23/55
 11/23/55
 11/23/55

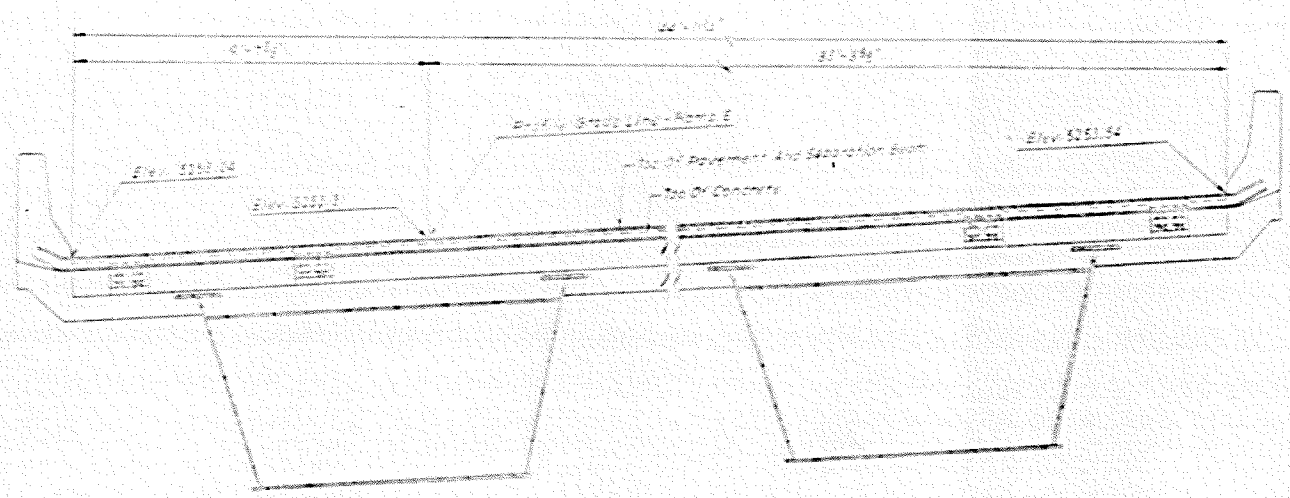
AS CONSTRUCTED
 NO. REVISIONS 2/2/57 REVISED 10/1/57

FED. ROAD DISTRICT	DIVISION	PROJ. NO.	SHEET NO.
1111	1010	FR 25-2(191)	218

REVISIONS	



PLAN AT PIER 10



SECTION

NOTE:
 1. WORK THIS DRAWING WITH DRAWING NO. B-42
 2. FOR DIMENSION "A" SEE DWG. NO. B-41

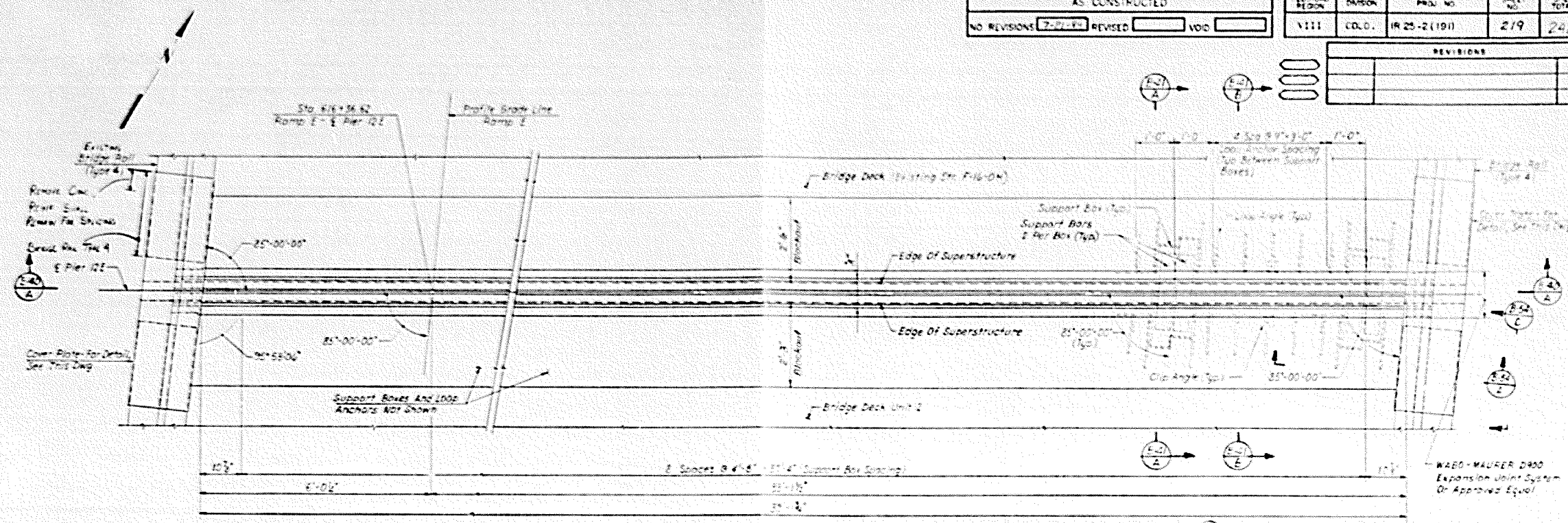
De Leuw, Cather & Company

DIVISION OF HIGHWAYS	
EXPANSION JOINT DETAILS	
PIER 10	
Designer: H. W. Coane	Structure: F-16-06
Detailer: J. A. C.	Number:
Drawing Number: B-39	of 55
Project:	Contract:

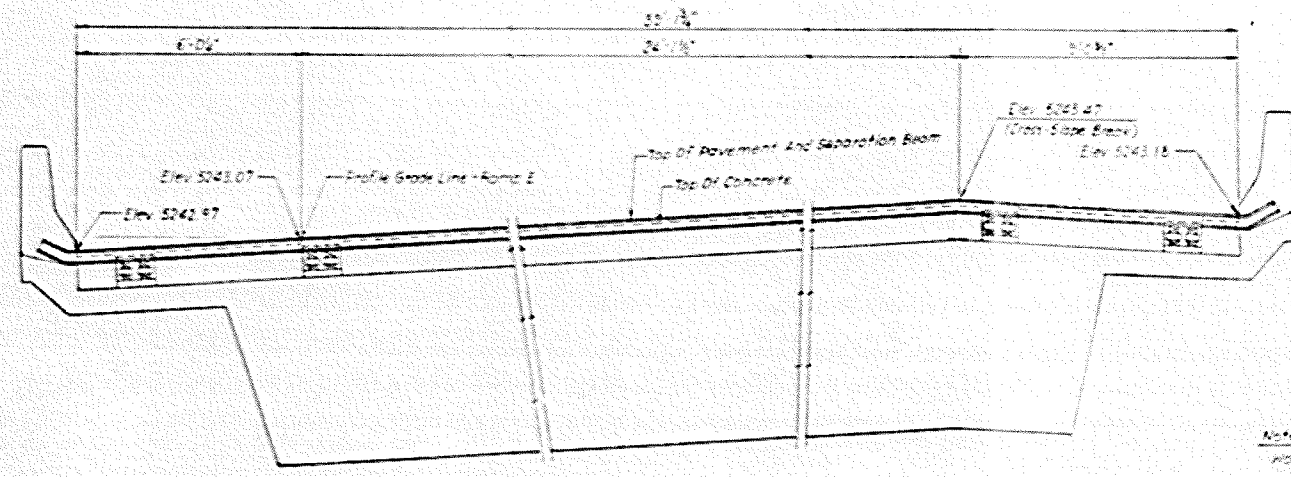
BY SPECIAL ORDER
 DIVISION OF HIGHWAYS
 12-1-1964

AS CONSTRUCTED		FED. ROAD DISTRICT	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTAL
NO REVISIONS	7-21-64	VIII	COL.D.	IR 25-2 (191)	219	242

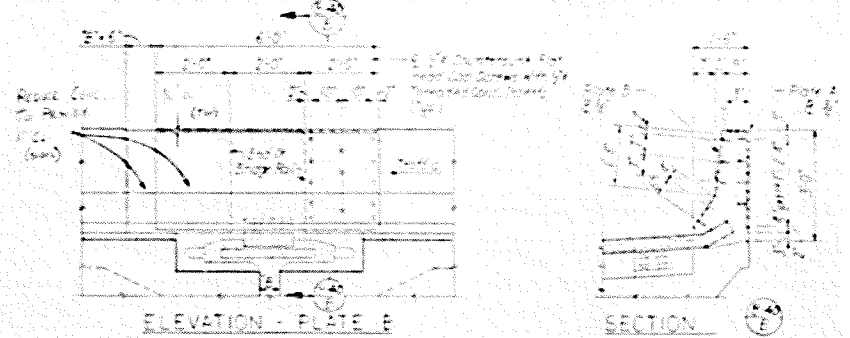
REVISIONS	



PLAN AT PIER 12E



SECTION



COVER PLATE DETAILS
 FOR OTHER DETAILS SEE DWG NO B-54

De Leuw, Cather & Company Denver

DIVISION OF HIGHWAYS

EXPANSION JOINT DETAILS
 PIER 12E

Designer	Structure	F-16-06
Detailer	Numbers	
Drawing Number B-40		of 55 Drawing

218	242
-----	-----

WAEED-MAURER D900
 Expansion Joint System Or
 Approved Equal

For Plans, See
 DWG NO B-40

Denver, CO

WAYS

DETAILS

F-16-06

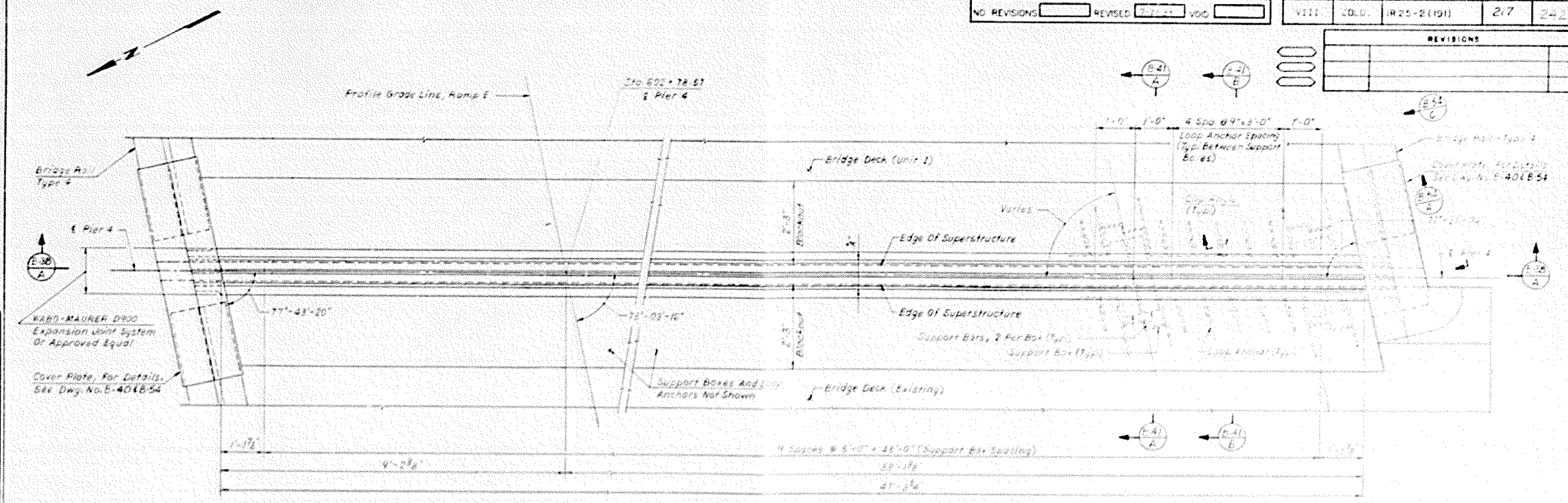
Drawing

1/2" = 1'-0"

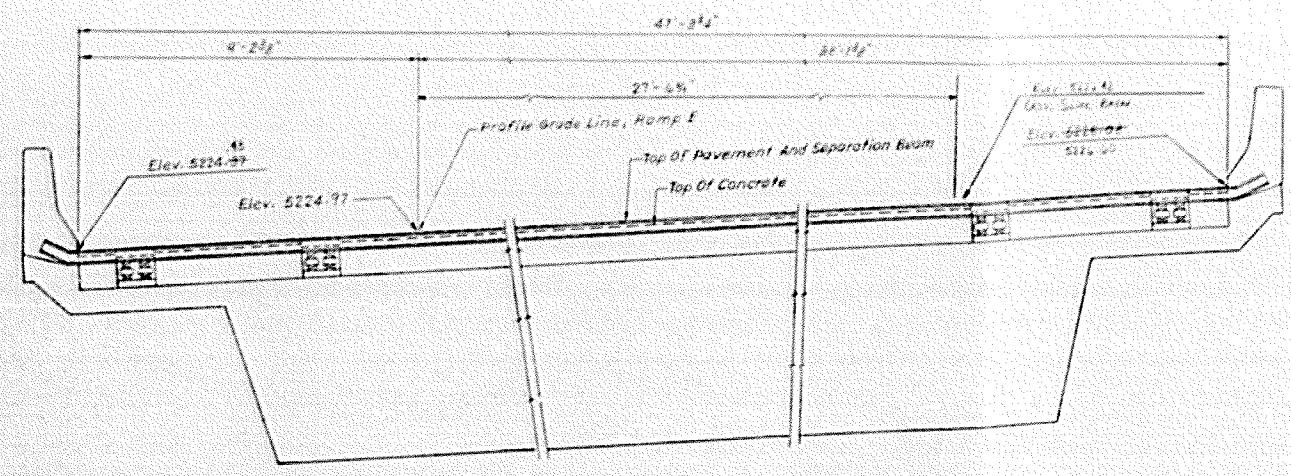
OF COLORADO
 DEPARTMENT OF HIGHWAYS
 DIVISION OF HIGHWAYS
 FORM NO. 1201
 FEB. 1964

AS CONSTRUCTED		FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	SHEET TOTALS
NO. REVISIONS	REVISED	VIII	COLO.	IR 25-2 (IGI)	2/7	242

REVISIONS	



PLAN AT PIER 4



SECTION $\frac{E-36}{A}$

Note:
 Work This Drawing With Drawing No. B-41

DESIGNED BY	
CHECKED BY	
APPROVED BY	
DATE	

De Leuw, Cather & Company Denver, CO

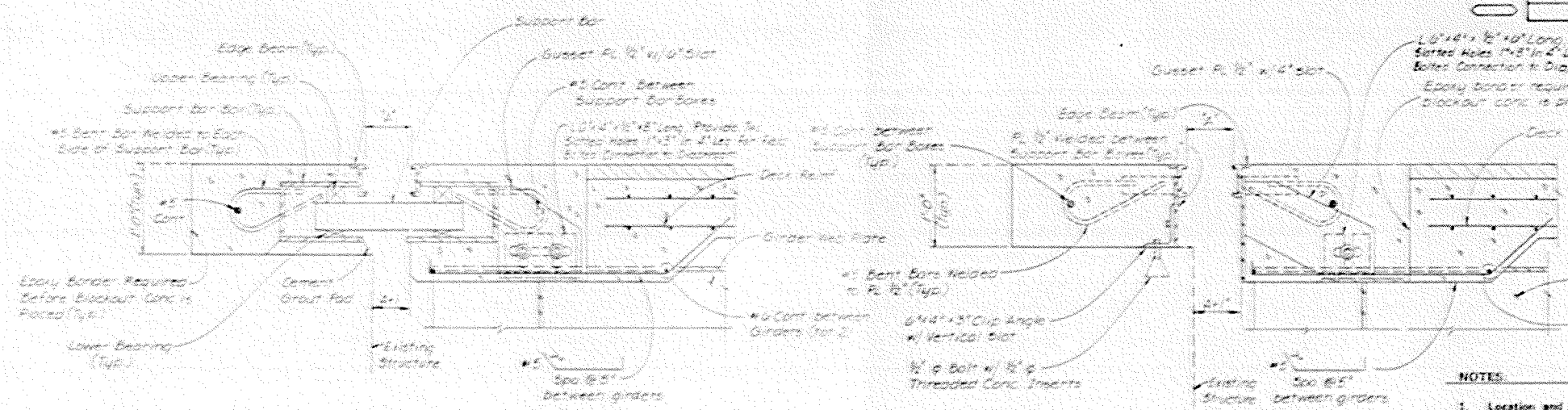
DIVISION OF HIGHWAYS

EXPANSION JOINT DETAILS
 PIER 4

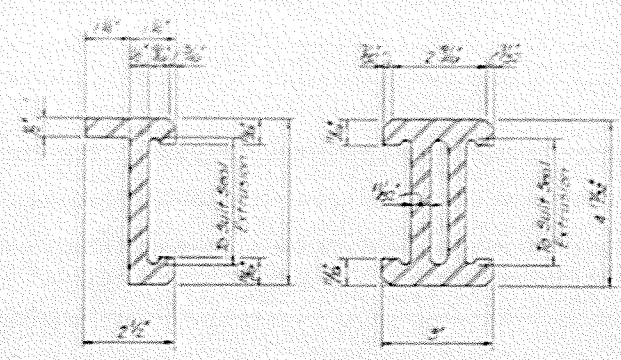
Designer	Structure	F-16-06
Detailer	Numbers	
Drawing Number B-37		of 55 Drawings

AS CONSTRUCTED	REVISION	NO.	DATE	BY
NO REVISION	1			

NO.	DESCRIPTION	DATE	BY



- NOTES**
1. Location and size of support bars, anchor assembly, 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.



EDGE BEAM **SEPARATION BEAM**

"A" DIMENSION

STRUCTURE	PIER 4	PIER 10	PIER 12
TEMPERATURE	DIMENSION "A"	DIMENSION "A"	DIMENSION "A"
30°F	6 1/2"	6 3/8"	7 1/2"
40°F	5 9/16"	5 7/8"	6 5/8"
50°F	5 3/8"	5 1/2"	6"
60°F	4 13/16"	4 1/2"	5 3/8"
70°F	4 1/4"	3 3/8"	4 3/4"
80°F	3 5/8"	3 1/4"	4 1/8"
90°F	3 1/8"	2 5/8"	3 3/4"
100°F	2 3/4"	2"	2 3/8"

De Leuw, Cather & Company Denver, CO

DIVISION OF HIGHWAYS

EXPANSION JOINT DETAILS

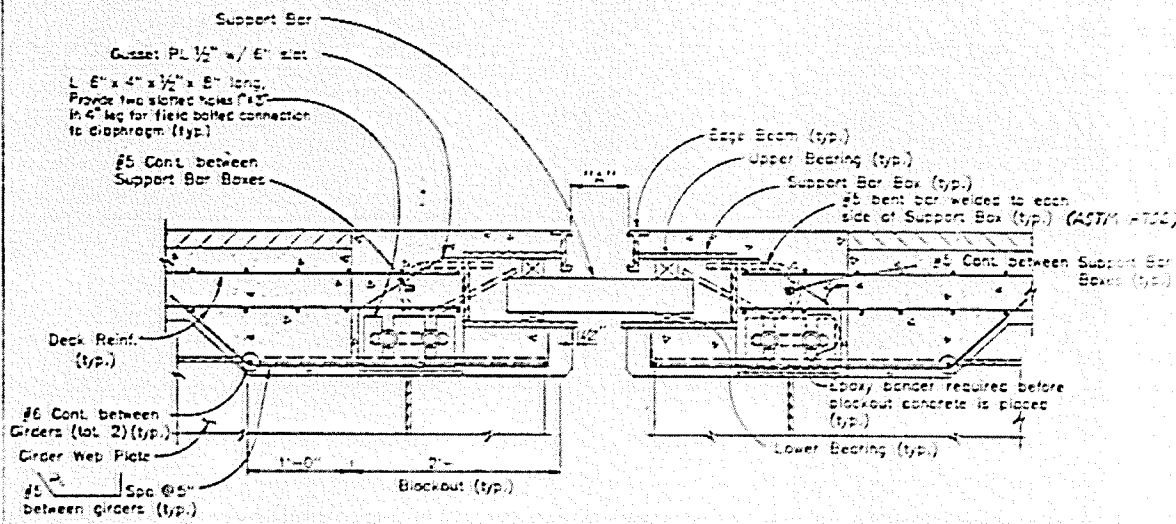
Designer: F. Dodge	Structure: F-16-06
Detailer: F. Panning	Number: _____
Drawing Number: E-41	of 55 Drawings
Revision Code: _____	Preliminary Shop Data: _____

BY ORDER OF
DIRECTOR OF HIGHWAYS
STATE OF COLORADO
1961

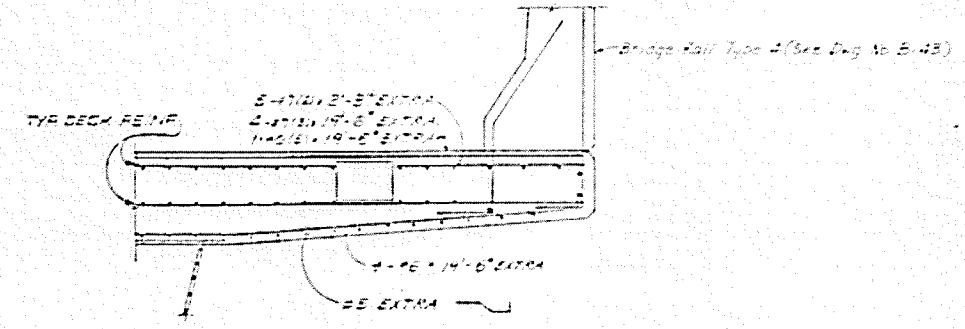
NO. 23-26-1-6. CURB AND GUTTER SYSTEMS EXPANSION JOINTS

STATE OF CALIFORNIA
 DEPARTMENT OF HIGHWAYS
 DIVISION OF HIGHWAYS
 SAN FRANCISCO, CALIF.
 OCT. 1951

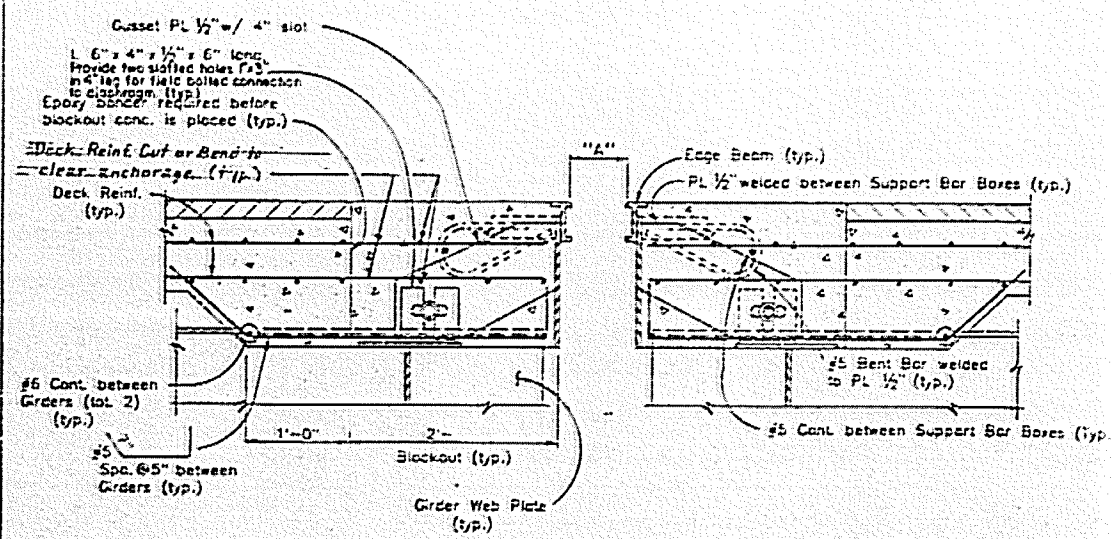
AS COMPLETED		DATE	BY	NO.	DATE	BY
NO. REVISION	7	REVISION		NO.	1824-21150	221
REVISIONS						



SECTION A-A



SECTION B-B



SECTION C-C

NOTE
 1. FOR NOTES, SEE DWG. B-41.
 2. FOR DIMENSION "A" See TABLE, DWG. NO. B-41.

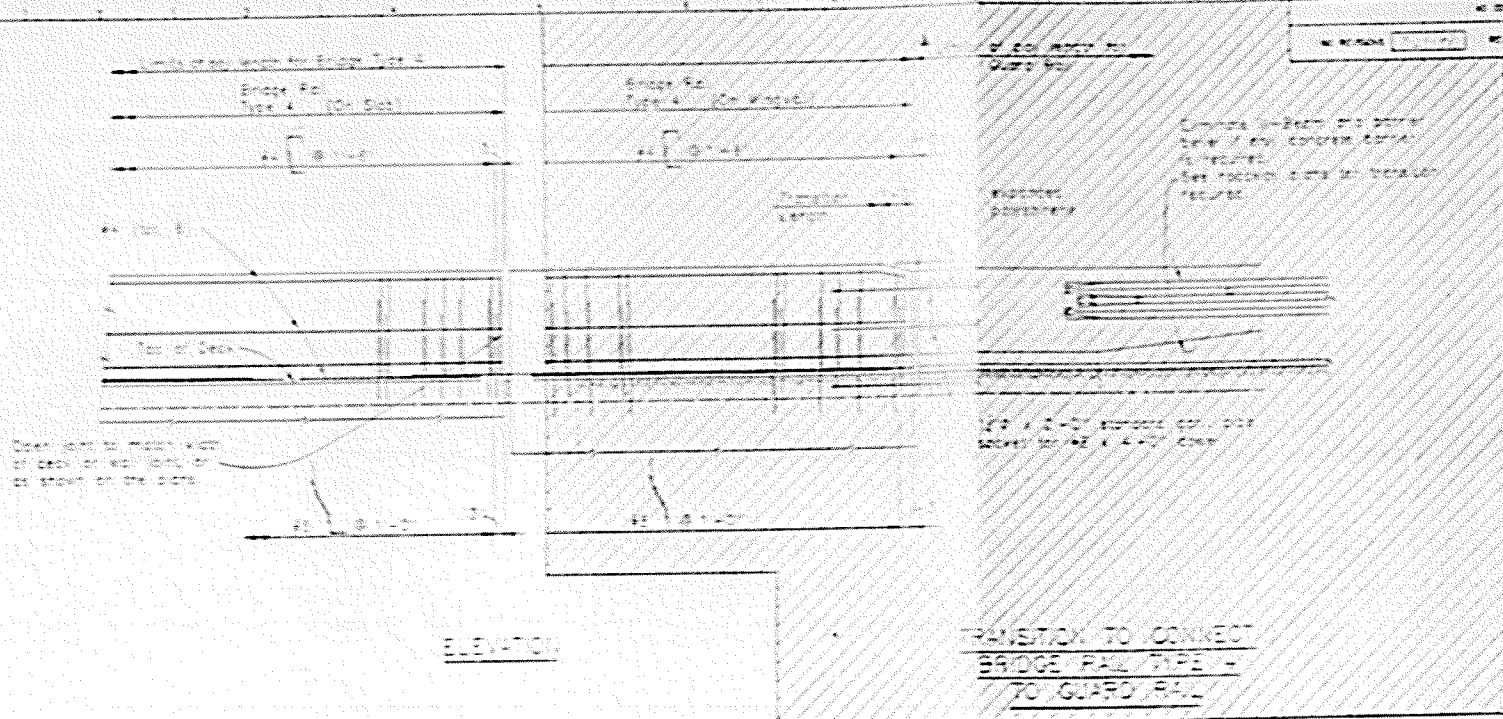
DESIGNED	JAK	5-57
CHECKED		
APPROVED		
DATE		
BY		
FOR		
BY		
DATE		

NO NUMBER ON THIS DRAWING IS TO BE INTERPRETED AS A DESIGN ERROR

DIVISION OF HIGHWAYS		
EXPANSION DEVICE		
(0-9 INCH)		
STEEL BOX GIRDER BRIDGE		
EXPANSION JOINT DETAILS		
DESIGNER	STD	STRUCTURAL
DETAILER	STD	MMG
DATE	10-15-51	OF 55
NO. OF SHEETS	42	TOTAL SHEETS

EXPMDV24E

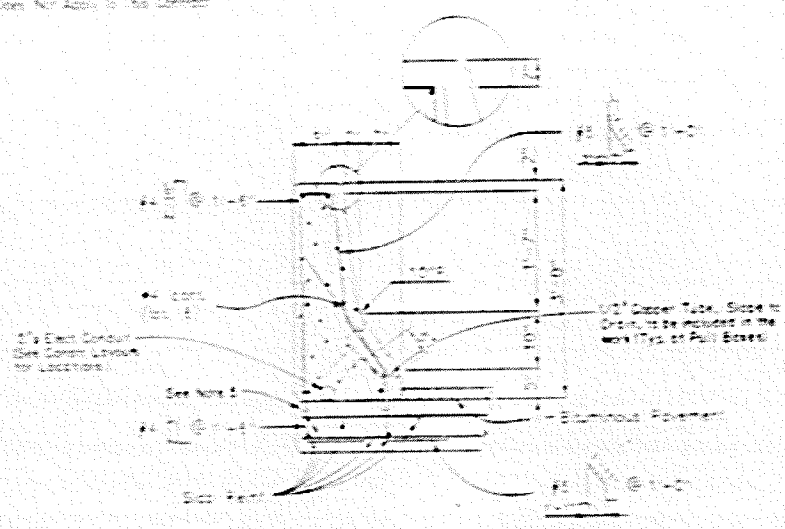
SEE SPECIFICATIONS FOR MATERIALS AND CONSTRUCTION



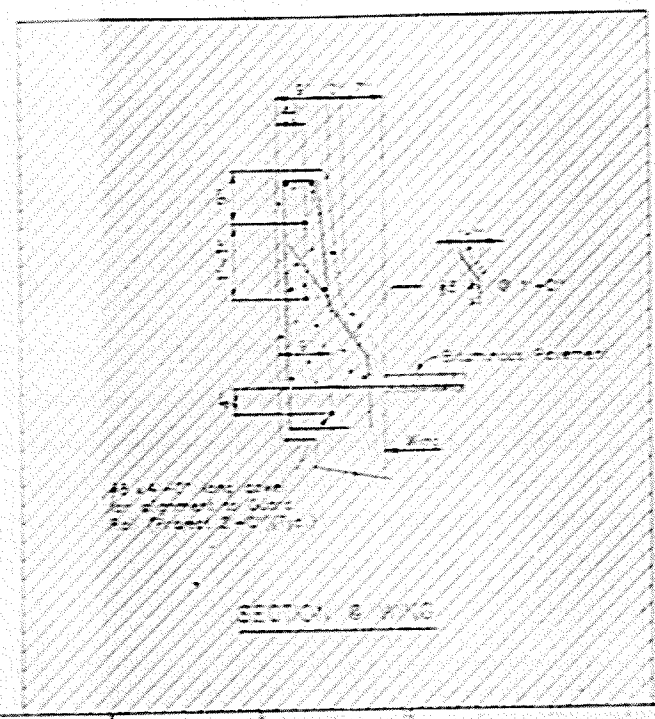
ELEVATION

TRANSITION TO CONNECT
BRIDGE RAIL TYPE 4
TO GUARD RAIL

See Note 1 for details of the concrete



SECTION @ SLAB



SECTION @ PILING

NO. REVISIONS	DATE	BY

DESIGN NO.	PROJECT NAME
BRIDGE 1R 25-2 (191)	
REVISIONS	

NOTES

- All bridge rail concrete shall be Class D.
 - Longitudinal reinforcement shall stop at all excavation joints.
 - Bridge rail shall be constructed blank.
 - Bridge rail concrete (Class D) and bridge rail reinforcement shall be included in item 606 Bridge Rail Type 4.
 - Contractor may use mechanical splices at no additional cost to the state, as approved by the Engineer. Meets splices shall be installed per manufacturers recommendations.
 - All reinforcing steel shall be Epoxy Coated.
- Does not apply to this Contract.

DESIGN DATA

Reinforced Concrete:
Class D Concrete: $f'_c = 1,800$ psi
Reinforcing Steel: $f_y = 24,000$ psi

INFORMATION ONLY

Description	Unit	Per 100
Concrete Class D	CU Yds	0.1
Reinforcing Steel	Lbs	1.3

DIVISION OF HIGHWAY	
BRIDGE RAIL TYPE 4 DETAILS	
Designer: A.A. Gaden	Structure: F-15-09
Detailer: M.K. Johns	Number:
Drawing Number: S-43	of 55
Project:	Sheet:

STATE OF CALIFORNIA
 DEPARTMENT OF HIGHWAYS
 DIVISION OF HIGHWAYS
 SAN FRANCISCO, CALIF.

PROJECT NO.	SECTION	SHEET NO.	SHEET TOTAL
100	100	225	242

PIER NO.	SECTION	OFFSET	ELEVATION	CORRECTIONS		CORRECTED ELEVATION	PIER NO.	SECTION	OFFSET	ELEVATION	CORRECTIONS		CORRECTED ELEVATION
				ADJUSTMENT	ADJUSTMENT						ADJUSTMENT	ADJUSTMENT	
RIGHT INSIDE SINGER													
F-1	60+75.832	28.851	5228.2487	0.0000	0.0000	5228.2487	F-12	60+56.848	26.4487	5225.9518	0.0000	0.0000	5225.9518
F-2	60+76.7427	28.851	5228.4679	0.0000	0.0000	5228.4679	F-13	60+56.8617	26.2428	5226.0050	0.0000	0.0000	5226.0050
F-3	60+77.6532	28.851	5228.6871	0.0000	0.0000	5228.6871	F-14	60+56.8750	26.0440	5226.0582	0.0000	0.0000	5226.0582
F-4	60+78.5637	28.851	5228.9063	0.0000	0.0000	5228.9063	F-15	60+56.8883	25.8452	5226.1114	0.0000	0.0000	5226.1114
F-5	60+79.4742	28.851	5229.1255	0.0000	0.0000	5229.1255	F-16	60+56.9016	25.6464	5226.1646	0.0000	0.0000	5226.1646
F-6	60+80.3847	28.851	5229.3447	0.0000	0.0000	5229.3447	F-17	60+56.9149	25.4476	5226.2178	0.0000	0.0000	5226.2178
F-7	60+81.2952	28.851	5229.5639	0.0000	0.0000	5229.5639	F-18	60+56.9282	25.2488	5226.2710	0.0000	0.0000	5226.2710
F-8	60+82.2057	28.851	5229.7831	0.0000	0.0000	5229.7831	F-19	60+56.9415	25.0500	5226.3242	0.0000	0.0000	5226.3242
F-9	60+83.1162	28.851	5229.9999	0.0000	0.0000	5229.9999	F-20	60+56.9548	24.8512	5226.3774	0.0000	0.0000	5226.3774
F-10	60+84.0267	28.851	5230.2191	0.0000	0.0000	5230.2191	F-21	60+56.9681	24.6524	5226.4306	0.0000	0.0000	5226.4306
F-11	60+84.9372	28.851	5230.4383	0.0000	0.0000	5230.4383	F-22	60+56.9814	24.4536	5226.4838	0.0000	0.0000	5226.4838
F-12	60+85.8477	28.851	5230.6575	0.0000	0.0000	5230.6575	F-23	60+57.0000	24.2548	5226.5370	0.0000	0.0000	5226.5370
F-13	60+86.7582	28.851	5230.8767	0.0000	0.0000	5230.8767	F-24	60+57.0133	24.0560	5226.5902	0.0000	0.0000	5226.5902
F-14	60+87.6687	28.851	5231.0959	0.0000	0.0000	5231.0959	F-25	60+57.0266	23.8572	5226.6434	0.0000	0.0000	5226.6434
F-15	60+88.5792	28.851	5231.3151	0.0000	0.0000	5231.3151	F-26	60+57.0400	23.6584	5226.6966	0.0000	0.0000	5226.6966
F-16	60+89.4897	28.851	5231.5343	0.0000	0.0000	5231.5343	F-27	60+57.0533	23.4596	5226.7498	0.0000	0.0000	5226.7498
F-17	60+90.4002	28.851	5231.7535	0.0000	0.0000	5231.7535	F-28	60+57.0666	23.2608	5226.8030	0.0000	0.0000	5226.8030
F-18	60+91.3107	28.851	5231.9727	0.0000	0.0000	5231.9727	F-29	60+57.0800	23.0620	5226.8562	0.0000	0.0000	5226.8562
F-19	60+92.2212	28.851	5232.1919	0.0000	0.0000	5232.1919	F-30	60+57.0933	22.8632	5226.9094	0.0000	0.0000	5226.9094
F-20	60+93.1317	28.851	5232.4111	0.0000	0.0000	5232.4111	F-31	60+57.1066	22.6644	5226.9626	0.0000	0.0000	5226.9626
F-21	60+94.0422	28.851	5232.6303	0.0000	0.0000	5232.6303	F-32	60+57.1200	22.4656	5227.0158	0.0000	0.0000	5227.0158
F-22	60+94.9527	28.851	5232.8495	0.0000	0.0000	5232.8495	F-33	60+57.1333	22.2668	5227.0690	0.0000	0.0000	5227.0690
F-23	60+95.8632	28.851	5233.0687	0.0000	0.0000	5233.0687	F-34	60+57.1466	22.0680	5227.1222	0.0000	0.0000	5227.1222
F-24	60+96.7737	28.851	5233.2879	0.0000	0.0000	5233.2879	F-35	60+57.1600	21.8692	5227.1754	0.0000	0.0000	5227.1754
F-25	60+97.6842	28.851	5233.5071	0.0000	0.0000	5233.5071	F-36	60+57.1733	21.6704	5227.2286	0.0000	0.0000	5227.2286
F-26	60+98.5947	28.851	5233.7263	0.0000	0.0000	5233.7263	F-37	60+57.1866	21.4716	5227.2818	0.0000	0.0000	5227.2818
F-27	60+99.5052	28.851	5233.9455	0.0000	0.0000	5233.9455	F-38	60+57.2000	21.2728	5227.3350	0.0000	0.0000	5227.3350
F-28	60+100.4157	28.851	5234.1647	0.0000	0.0000	5234.1647	F-39	60+57.2133	21.0740	5227.3882	0.0000	0.0000	5227.3882
F-29	60+101.3262	28.851	5234.3839	0.0000	0.0000	5234.3839	F-40	60+57.2266	20.8752	5227.4414	0.0000	0.0000	5227.4414
F-30	60+102.2367	28.851	5234.6031	0.0000	0.0000	5234.6031	F-41	60+57.2400	20.6764	5227.4946	0.0000	0.0000	5227.4946
F-31	60+103.1472	28.851	5234.8223	0.0000	0.0000	5234.8223	F-42	60+57.2533	20.4776	5227.5478	0.0000	0.0000	5227.5478
F-32	60+104.0577	28.851	5235.0415	0.0000	0.0000	5235.0415	F-43	60+57.2666	20.2788	5227.6010	0.0000	0.0000	5227.6010
F-33	60+104.9682	28.851	5235.2607	0.0000	0.0000	5235.2607	F-44	60+57.2800	20.0800	5227.6542	0.0000	0.0000	5227.6542
F-34	60+105.8787	28.851	5235.4799	0.0000	0.0000	5235.4799	F-45	60+57.2933	19.8812	5227.7074	0.0000	0.0000	5227.7074
F-35	60+106.7892	28.851	5235.6991	0.0000	0.0000	5235.6991	F-46	60+57.3066	19.6824	5227.7606	0.0000	0.0000	5227.7606
F-36	60+107.6997	28.851	5235.9183	0.0000	0.0000	5235.9183	F-47	60+57.3200	19.4836	5227.8138	0.0000	0.0000	5227.8138
F-37	60+108.6102	28.851	5236.1375	0.0000	0.0000	5236.1375	F-48	60+57.3333	19.2848	5227.8670	0.0000	0.0000	5227.8670
F-38	60+109.5207	28.851	5236.3567	0.0000	0.0000	5236.3567	F-49	60+57.3466	19.0860	5227.9202	0.0000	0.0000	5227.9202
F-39	60+110.4312	28.851	5236.5759	0.0000	0.0000	5236.5759	F-50	60+57.3600	18.8872	5227.9734	0.0000	0.0000	5227.9734
F-40	60+111.3417	28.851	5236.7951	0.0000	0.0000	5236.7951	F-51	60+57.3733	18.6884	5228.0266	0.0000	0.0000	5228.0266
F-41	60+112.2522	28.851	5237.0143	0.0000	0.0000	5237.0143	F-52	60+57.3866	18.4896	5228.0798	0.0000	0.0000	5228.0798
F-42	60+113.1627	28.851	5237.2335	0.0000	0.0000	5237.2335	F-53	60+57.4000	18.2908	5228.1330	0.0000	0.0000	5228.1330
F-43	60+114.0732	28.851	5237.4527	0.0000	0.0000	5237.4527	F-54	60+57.4133	18.0920	5228.1862	0.0000	0.0000	5228.1862
F-44	60+114.9837	28.851	5237.6719	0.0000	0.0000	5237.6719	F-55	60+57.4266	17.8932	5228.2394	0.0000	0.0000	5228.2394
F-45	60+115.8942	28.851	5237.8911	0.0000	0.0000	5237.8911	F-56	60+57.4400	17.6944	5228.2926	0.0000	0.0000	5228.2926
F-46	60+116.8047	28.851	5238.1103	0.0000	0.0000	5238.1103	F-57	60+57.4533	17.4956	5228.3458	0.0000	0.0000	5228.3458
F-47	60+117.7152	28.851	5238.3295	0.0000	0.0000	5238.3295	F-58	60+57.4666	17.2968	5228.3990	0.0000	0.0000	5228.3990
F-48	60+118.6257	28.851	5238.5487	0.0000	0.0000	5238.5487	F-59	60+57.4800	17.0980	5228.4522	0.0000	0.0000	5228.4522
F-49	60+119.5362	28.851	5238.7679	0.0000	0.0000	5238.7679	F-60	60+57.4933	16.8992	5228.5054	0.0000	0.0000	5228.5054
F-50	60+120.4467	28.851	5238.9871	0.0000	0.0000	5238.9871	F-61	60+57.5066	16.7004	5228.5586	0.0000	0.0000	5228.5586
F-51	60+121.3572	28.851	5239.2063	0.0000	0.0000	5239.2063	F-62	60+57.5200	16.5016	5228.6118	0.0000	0.0000	5228.6118
F-52	60+122.2677	28.851	5239.4255	0.0000	0.0000	5239.4255	F-63	60+57.5333	16.3028	5228.6650	0.0000	0.0000	5228.6650
F-53	60+123.1782	28.851	5239.6447	0.0000	0.0000	5239.6447	F-64	60+57.5466	16.1040	5228.7182	0.0000	0.0000	5228.7182
F-54	60+124.0887	28.851	5239.8639	0.0000	0.0000	5239.8639	F-65	60+57.5600	15.9052	5228.7714	0.0000	0.0000	5228.7714
F-55	60+125.0000	28.851	5240.0831	0.0000	0.0000	5240.0831	F-66	60+57.5733	15.7064	5228.8246	0.0000	0.0000	5228.8246
F-56	60+125.9105	28.851	5240.3023	0.0000	0.0000	5240.3023	F-67	60+57.5866	15.5076	5228.8778	0.0000	0.0000	5228.8778
F-57	60+126.8210	28.851	5240.5215	0.0000	0.0000	5240.5215	F-68	60+57.6000	15.3088	5228.9310	0.0000	0.0000	5228.9310
F-58	60+127.7315	28.851	5240.7407	0.0000	0.0000	5240.7407	F-69	60+57.6133	15.1100	5228.9842	0.0000	0.0000	5228.9842
F-59	60+128.6420	28.851	5240.9599	0.0000	0.0000	5240.9599	F-70	60+57.6266	14.9112	5229.0374	0.0000	0.0000	5229.0374
F-60	60+129.5525	28.851	5241.1791	0.0000	0.0000	5241.1791	F-71	60+57.6400	14.7124	5229.0906	0.0000	0.0000	5229.0906
F-61	60+130.4630	28.851	5241.3983	0.0000	0.0000	5241.3983	F-72	60+57.6533	14.5136	5229.1438	0.0000	0.0000	5229.1438
F-62	60+131.3735	28.851	5241.6175	0.0000	0.0000	5241.6175	F-73	60+57.6666	14.3148	5229.1970	0.0000	0.0000	5229.1970
F-63	60+132.2840	28.851	5241.8367	0.0000	0.0000	5241.8367	F-74	60+57.68					

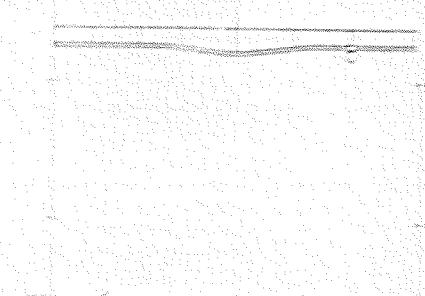
SHEET NO. 230
 SHEET TOTALS 242

STATION	ELEVATION
42.8050	
46.1258	
53.5064	
58.8571	
64.2077	
69.5584	
74.9090	
80.2597	
85.6104	
90.9610	
96.3116	
101.6623	
107.0129	
112.3636	
117.7142	
123.0649	
128.4155	
133.7662	
139.1168	
144.4675	
149.8181	
155.1688	
160.5194	
165.8701	
171.2207	
176.5714	
181.9220	
187.2727	
192.6233	
197.9740	
203.3246	
208.6753	
214.0259	
219.3766	
224.7272	
230.0779	
235.4285	
240.7792	
246.1298	
251.4805	
256.8311	
262.1818	
267.5324	
272.8831	
278.2337	
283.5844	
288.9350	
294.2857	
299.6363	
304.9870	
310.3376	
315.6883	
321.0389	
326.3896	
331.7402	
337.0909	
342.4415	
347.7922	
353.1428	
358.4935	
363.8441	
369.1948	
374.5454	
379.8961	
385.2467	
390.5974	
395.9480	
401.2987	
406.6493	
411.9999	
417.3506	
422.7012	
428.0519	
433.4025	
438.7532	
444.1038	
449.4545	
454.8051	
460.1558	
465.5064	
470.8571	
476.2077	
481.5584	
486.9090	
492.2597	
497.6104	
502.9610	
508.3116	
513.6623	
519.0129	
524.3636	
529.7142	
535.0649	
540.4155	
545.7662	
551.1168	
556.4675	
561.8181	
567.1688	
572.5194	
577.8701	
583.2207	
588.5714	
593.9220	
599.2727	
604.6233	
609.9740	
615.3246	
620.6753	
626.0259	
631.3766	
636.7272	
642.0779	
647.4285	
652.7792	
658.1298	
663.4805	
668.8311	
674.1818	
679.5324	
684.8831	
690.2337	
695.5844	
700.9350	
706.2857	
711.6363	
716.9870	
722.3376	
727.6883	
733.0389	
738.3896	
743.7402	
749.0909	
754.4415	
759.7922	
765.1428	
770.4935	
775.8441	
781.1948	
786.5454	
791.8961	
797.2467	
802.5974	
807.9480	
813.2987	
818.6493	
823.9999	
829.3506	
834.7012	
840.0519	
845.4025	
850.7532	
856.1038	
861.4545	
866.8051	
872.1558	
877.5064	
882.8571	
888.2077	
893.5584	
898.9090	
904.2597	
909.6104	
914.9610	
920.3116	
925.6623	
931.0129	
936.3636	
941.7142	
947.0649	
952.4155	
957.7662	
963.1168	
968.4675	
973.8181	
979.1688	
984.5194	
989.8701	
995.2207	
1000.5714	
1005.9220	
1011.2727	
1016.6233	
1021.9740	
1027.3246	
1032.6753	
1038.0259	
1043.3766	
1048.7272	
1054.0779	
1059.4285	
1064.7792	
1070.1298	
1075.4805	
1080.8311	
1086.1818	
1091.5324	
1096.8831	
1102.2337	
1107.5844	
1112.9350	
1118.2857	
1123.6363	
1128.9870	
1134.3376	
1139.6883	
1145.0389	
1150.3896	
1155.7402	
1161.0909	
1166.4415	
1171.7922	
1177.1428	
1182.4935	
1187.8441	
1193.1948	
1198.5454	
1203.8961	
1209.2467	
1214.5974	
1219.9480	
1225.2987	
1230.6493	
1235.9999	
1241.3506	
1246.7012	
1252.0519	
1257.4025	
1262.7532	
1268.1038	
1273.4545	
1278.8051	
1284.1558	
1289.5064	
1294.8571	
1300.2077	
1305.5584	
1310.9090	
1316.2597	
1321.6104	
1326.9610	
1332.3116	
1337.6623	
1343.0129	
1348.3636	
1353.7142	
1359.0649	
1364.4155	
1369.7662	
1375.1168	
1380.4675	
1385.8181	
1391.1688	
1396.5194	
1401.8701	
1407.2207	
1412.5714	
1417.9220	
1423.2727	
1428.6233	
1433.9740	
1439.3246	
1444.6753	
1450.0259	
1455.3766	
1460.7272	
1466.0779	
1471.4285	
1476.7792	
1482.1298	
1487.4805	
1492.8311	
1498.1818	
1503.5324	
1508.8831	
1514.2337	
1519.5844	
1524.9350	
1530.2857	
1535.6363	
1540.9870	
1546.3376	
1551.6883	
1557.0389	
1562.3896	
1567.7402	
1573.0909	
1578.4415	
1583.7922	
1589.1428	
1594.4935	
1599.8441	
1605.1948	
1610.5454	
1615.8961	
1621.2467	
1626.5974	
1631.9480	
1637.2987	
1642.6493	
1647.9999	
1653.3506	
1658.7012	
1664.0519	
1669.4025	
1674.7532	
1680.1038	
1685.4545	
1690.8051	
1696.1558	
1701.5064	
1706.8571	
1712.2077	
1717.5584	
1722.9090	
1728.2597	
1733.6104	
1738.9610	
1744.3116	
1749.6623	
1755.0129	
1760.3636	
1765.7142	
1771.0649	
1776.4155	
1781.7662	
1787.1168	
1792.4675	
1797.8181	
1803.1688	
1808.5194	
1813.8701	
1819.2207	
1824.5714	
1829.9220	
1835.2727	
1840.6233	
1845.9740	
1851.3246	
1856.6753	
1862.0259	
1867.3766	
1872.7272	
1878.0779	
1883.4285	
1888.7792	
1894.1298	
1899.4805	
1904.8311	
1910.1818	
1915.5324	
1920.8831	
1926.2337	
1931.5844	
1936.9350	
1942.2857	
1947.6363	
1952.9870	
1958.3376	
1963.6883	
1969.0389	
1974.3896	
1979.7402	
1985.0909	
1990.4415	
1995.7922	
2001.1428	
2006.4935	
2011.8441	
2017.1948	
2022.5454	
2027.8961	
2033.2467	
2038.5974	
2043.9480	
2049.2987	
2054.6493	
2060.0000	

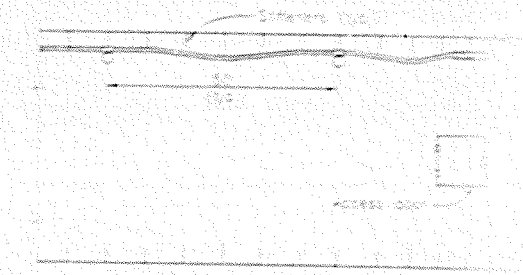
DE LEUW, CATHER & COMPANY
 ENGINEERS
 120 N. 17th St.
 PHOENIX, ARIZONA
 FEB. 1964

AS CONSTRUCTED
 NO REVISIONS (2-21-64) REVISED _____ VOICE _____
 SHEET NO. 231
 SHEET TOTALS 242

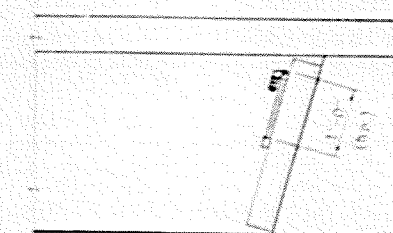
PIER NO.	PIER TYPE	PIER NO.	PIER TYPE	AS CONSTRUCTED		AS CONSTRUCTED		STATION	ELEVATION	STATION	ELEVATION
				OFFSET	DECK ELEVATION	OFFSET	DECK ELEVATION				
P-1	PIER 12 E	615+91.1444	18.5000	5245.9634	18.5000	3474.1368	1326.1637	P-17	615+62.4302	34.5000	5247.4111
P-2	PIER 12 E	615+95.6174	18.5000	5245.7999	18.5000	3476.6406	1326.1637	P-18	615+62.4302	34.5000	5247.4111
P-3	PIER 12 E	615+99.2905	18.5000	5245.5904	18.5000	3479.6090	1326.1637	P-19	615+62.4302	34.5000	5247.4111
P-4	PIER 12 E	615+104.3434	18.5000	5245.4132	18.5000	3483.0618	1326.1637	P-20	615+62.4302	34.5000	5247.4111
P-5	PIER 12 E	615+109.8363	18.5000	5245.2799	18.5000	3487.0277	1326.1637	P-21	615+62.4302	34.5000	5247.4111
P-6	PIER 12 E	615+115.5093	18.5000	5245.2465	18.5000	3491.4926	1326.1637	P-22	615+62.4302	34.5000	5247.4111
P-7	PIER 12 E	615+121.3822	18.5000	5245.2132	18.5000	3496.4575	1326.1637	P-23	615+62.4302	34.5000	5247.4111
P-8	PIER 12 E	615+127.3551	18.5000	5245.1800	18.5000	3501.9224	1326.1637	P-24	615+62.4302	34.5000	5247.4111
P-9	PIER 12 E	615+133.4280	18.5000	5245.1467	18.5000	3507.8873	1326.1637	P-25	615+62.4302	34.5000	5247.4111
P-10	PIER 12 E	615+139.6009	18.5000	5245.1134	18.5000	3514.3522	1326.1637	P-26	615+62.4302	34.5000	5247.4111
P-11	PIER 12 E	615+145.8738	18.5000	5245.0801	18.5000	3521.3171	1326.1637	P-27	615+62.4302	34.5000	5247.4111
P-12	PIER 12 E	615+152.2467	18.5000	5245.0468	18.5000	3528.7820	1326.1637	P-28	615+62.4302	34.5000	5247.4111
P-13	PIER 12 E	615+158.7196	18.5000	5245.0135	18.5000	3536.7469	1326.1637	P-29	615+62.4302	34.5000	5247.4111
P-14	PIER 12 E	615+165.2925	18.5000	5244.9802	18.5000	3545.2118	1326.1637	P-30	615+62.4302	34.5000	5247.4111
P-15	PIER 12 E	615+171.9654	18.5000	5244.9469	18.5000	3554.1767	1326.1637	P-31	615+62.4302	34.5000	5247.4111
P-16	PIER 12 E	615+178.7383	18.5000	5244.9136	18.5000	3563.6416	1326.1637	P-32	615+62.4302	34.5000	5247.4111
P-17	PIER 12 E	615+185.6112	18.5000	5244.8803	18.5000	3573.6065	1326.1637	P-33	615+62.4302	34.5000	5247.4111
P-18	PIER 12 E	615+192.5841	18.5000	5244.8470	18.5000	3584.0714	1326.1637	P-34	615+62.4302	34.5000	5247.4111
P-19	PIER 12 E	615+199.6570	18.5000	5244.8137	18.5000	3595.0363	1326.1637	P-35	615+62.4302	34.5000	5247.4111
P-20	PIER 12 E	615+206.8300	18.5000	5244.7804	18.5000	3606.5012	1326.1637	P-36			



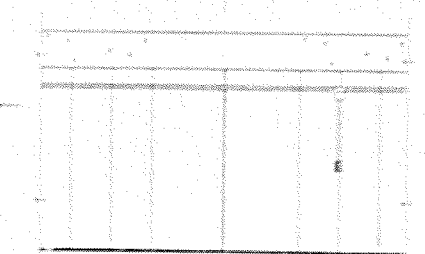
SECTION 1-1



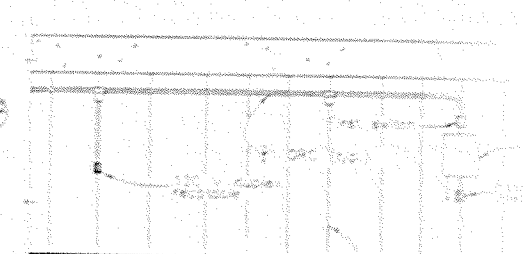
PLAN



SECTION 2-2



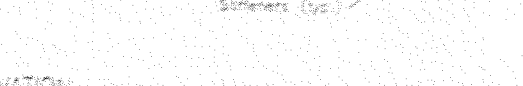
SECTION 3-3



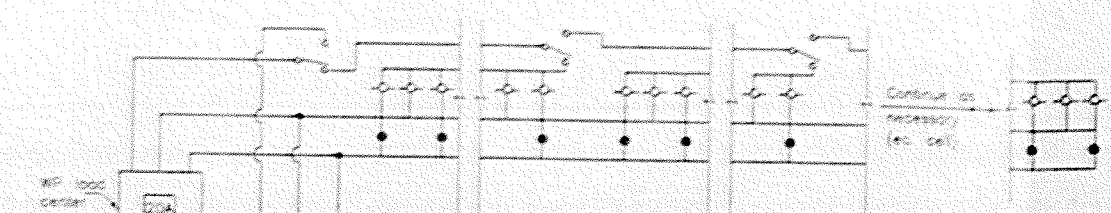
PLAN



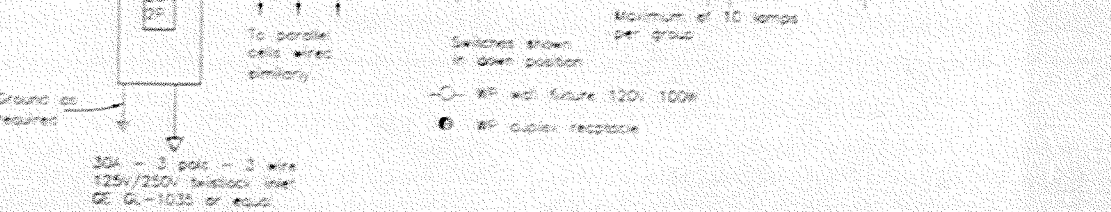
SECTION 4-4



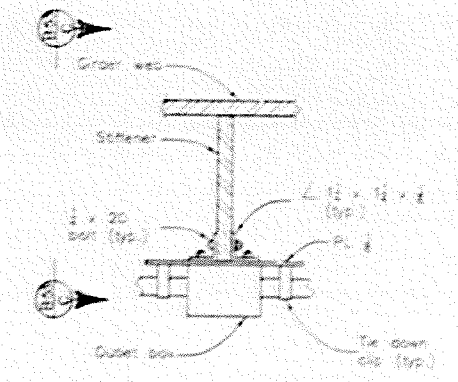
PLAN



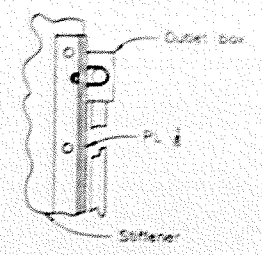
ELEVATION



WIRING DIAGRAM

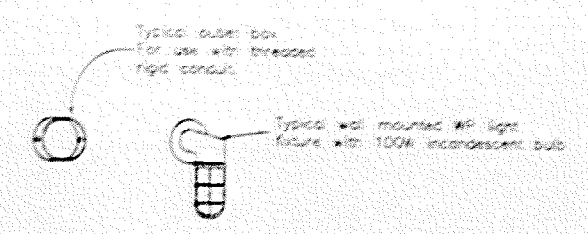


PLAN



SECTION

MOUNTING DETAIL



FIXTURE DETAILS

NOTES:
GPC supports shall be spaced at 10' (max.)

DIVISION OF HIGHWAYS		
INTERIOR LIGHTING (STEEL BOX GIRDER)		
Designer: CDH	Structure: F-16-DG	
Detailer: CDH	Number:	
Drawing Number: E-53	of 55	Drawings
Revised: []	Prepared: []	

17/1/53 2000 1/16/54

