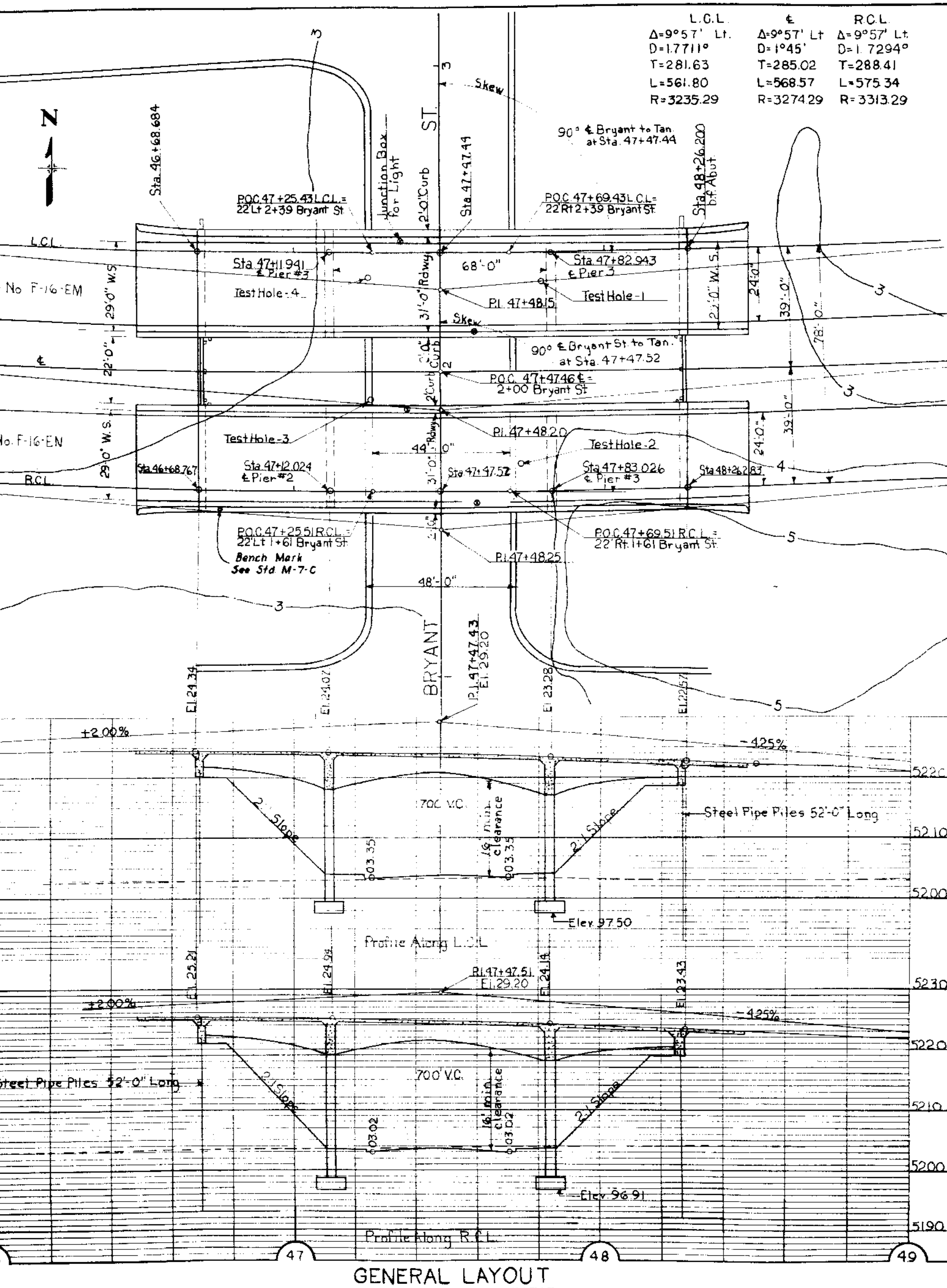
REVISIONS

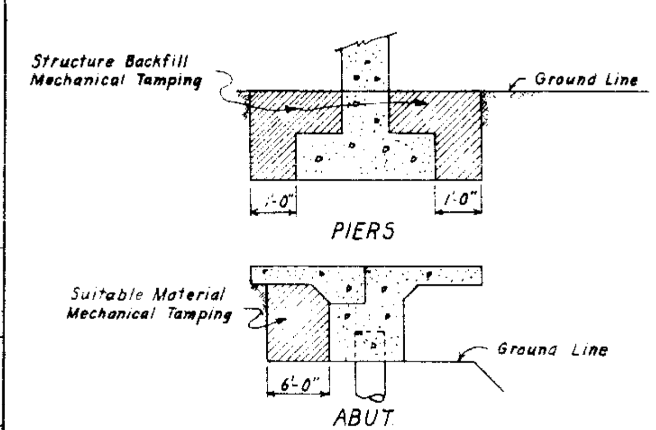
FED. ROAD DIV. NO	DISTRICT	PROJECT NO.	SHEET NO	TOTAL SHEETS
9	COLO.	U 012-2(3)	43	



SUMMARY OF QUANTITIES

Item	Description	Unit	STRUCTURE F-16-EN: Super structure	Abut #1 Plus Median	Pier #2	Pier #3	Abut. #4	2 Approach Slabs Δ	Total	STRUCTURE F-16-EM: Super Structure	Abut #1	Pier #2	Pier #3	Abut #4 Plus Median	2 Approach Slabs Δ	total
~~11a~~	~~Removal of Bridges~~	Lump Sum														
14b.	Dry Common Excavation (Str.)	Cu. Yards			96	96			192			93	93			186
16a.	Structure Backfill (Class I)	Cu. Yards			69	69			138			67	66			133
16c.	Mechanical Tamping	Hours		8	7	7	4		26		4	7	7	8		26
46a.	Class "A" Concrete	Cu. Yards	262.2	22.2	40.1	39.6	13.9	41.0	378.0	261.8	13.6	39.6	39.1	21.9	40.9	376.0
47	Reinforcing Steel (Includes 1% for Overrun)	Lbs.	78380	1290	4725	4660	780	4980	89835	78375	780	4620	4550	1290	4980	89615
18a.	Station Yard Overhaul	Sta. Yards														
18b	Yard Mile Overhaul	Yard Mile														
61ay	Steel Pipe Piling (10¾" O.D. x .188")	Lin. ft.		208			208		416		208			208		416
60x	Holes to Facilitate Pile Driving	Lin. Ft.		72			60		132		68			63		131
90b	1¼" Electric Conduit with Junction Boxes	Lin. ft.	249						249	248						248
*	½" Expansion Joint Material Type III	Sq. ft.		4			4		8		4			4		8
91b	Steel Railing	Lin. ft.							366							366

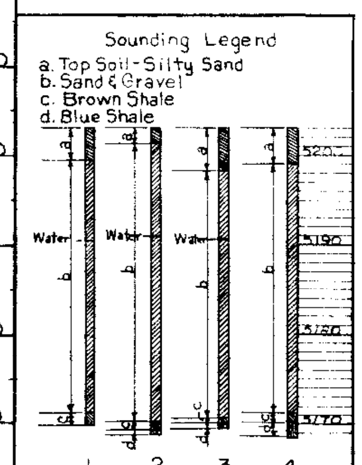
* To be included in the bid price of Class "A" Concrete. Expansion joint material shall be in accordance with A.S.H.O. Spec. M 153-54 and of the Type shown.
Δ Quantities for two Approach Slabs are not included in total.



STRUCTURE BACKFILL & MECHANICAL TAMPING DIAGRAMS

All material that is to be mechanically tamped shall be placed in horizonal layers not more than 6" inches in depth and tamped before the next layer is placed.

Note: Earth fill at abutments shall be made to bottom of cap before driving piles



TEST HOLES

GENERAL NOTES

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

ALL CONCRETE SHALL BE CLASS "A" AND AIR ENTRAINED AS SPECIFIED

ALL CONCRETE SURFACES EXPOSED TO NORMAL VIEW BY HIGHWAY TRAFFIC, INCLUDING WING SURFACES, SHALL RECEIVE CLASS "I" SURFACE FINISH.

CONCRETE GIRDERS, FLOOR SLABS, AND CURBS SHALL BE POURED MONOLITHICALLY.

FORMS FOR CONCRETE SURFACES EXPOSED IN THE FINISHED WORK SHALL BE CONSTRUCTED OF SHIPLAP OR TONGUE AND GROOVE LUMBER S 2 S UNLESS FACED WITH PANEL BOARD

FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED

SOUNDINGS AND DEPTH OF FOOTING SHOWN ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA AND WHEN DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL INSPECT AND DETERMINE IF REDESIGN IS NECESSARY.

ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A 305-50T OR THE LATEST REVISION THEREOF, AND SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE NUMBER DESIGNATION AND THE STATION NUMBER OF THE PROJECT. SECONDARY BARS WHEN SPLICED SHALL LAP 20 DIAMETERS OF THE BAR. DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTER LINE OF THE BAR.

ALL STRUCTURAL STEEL SHALL BE PAINTED ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM, UNLESS OTHERWISE NOTED. EXCEPT THE UNEXPOSED PORTION OF STEEL PILING NEED NOT BE PAINTED.

HANDRAIL BOLTS SHALL HAVE HEX HEADS, NUTS, AND LOCK WASHERS UNLESS OTHERWISE SPECIFIED AND ALL RIVETS EXCEPT AS NOTED ARE ¾" DIA. AND SHALL BE POWER DRIVEN

WHEN TREATED TIMBER OR PILING IS SHOWN ON THE DRAWING THE PRESERVATIVE FOR TREATMENT SHALL BE CREOSOTE OIL

WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND LABOR METHODS

PRIMARY BARS SHALL NOT BE SPLICED EXCEPT BY PERMISSION OF THE ENGINEER. WHEN PRIMARY BARS ARE SPLICED THEY SHALL LAP 34 DIAMETERS FOR BARS NEAR TOP OF BEAMS AND GIRDERS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS AND 20 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS

LOADING DATA

LIVE LOAD A.A.S.H.O. (H20-S16-44)
DEAD LOAD ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE ½ INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA

A.A.S.H.O. 1953 UNIT STRESSES, EXCEPT AS NOTED.

Reinforcing Steel	fs	20000 lbs. per sq. in.
Structural Steel	fs	18000 lbs. per sq. in.
	fc	1200 lbs. per sq. in.
	n	10

STRUCTURE NO. F-16-EM Sta. 46+68.68 to 48+26.20
STRUCTURE NO. F-16-EN Sta. 46+68.77 to 48+26.28

COLORADO DEPARTMENT OF HIGHWAYS

2-3 SPANS (42' 71' 42') CONCRETE SLAB & GIRDER BRIDGES. 31'-0" RDWY. GENERAL LAYOUT, SUMMARY OF QUANTITIES & NOTES

Over Bryant St. on West 6th Ave. Sta. 46+
In Denver Sec. 8 T.4S. R68W

Designed by G.H.W.	Approved by A.W. Newbold, Bridge Engineer
Made by F.L.	
Checked by	Date: May 15, 1956

REVISIONS

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
8	COLO.	U 012-2(3)	44	

PLAN

SECTION T - T

SECTION S-S

DETAILS STEEL HANDRAIL

DISTANCE ℄ OF CURB GIRDER TO EDGE OF BRIDGE

COLORADO
DEPARTMENT OF HIGHWAYS
2-3 SPANS (42' 71' 42')
CONCRETE SLAB & GIRDER BRIDGES
31'-0" ROADWAY
DETAIL OF SUPERSTRUCTURE
Over Bryant St. on West 6th Ave.
Sta. 46+
In Denver Sec. 8 T. 4S R. 68W

Designed by G.H.W.
Made by F.L.
Checked by
Approved by A.C. Bridge Engineer
Date: May 15, 1958

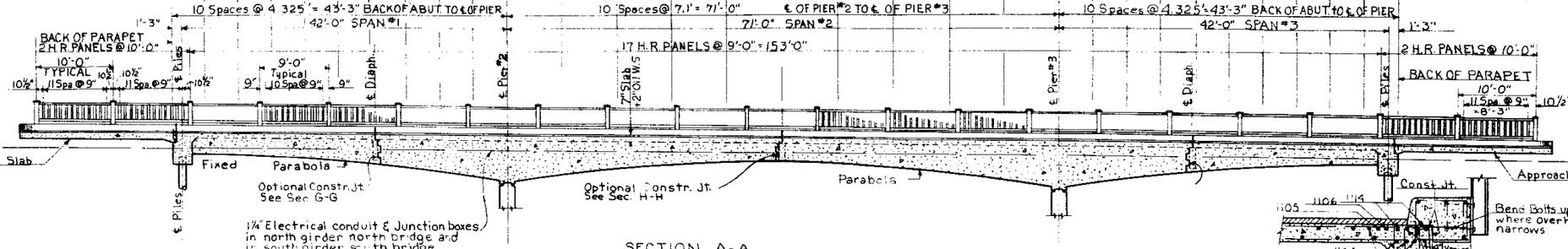
STRUCTURE NO. F-16-EM. Sta. 46+68.89 to 48+26.20
STRUCTURE NO. F-16-EK. Sta. 46+68.77 to 48+26.36

REVISIONS

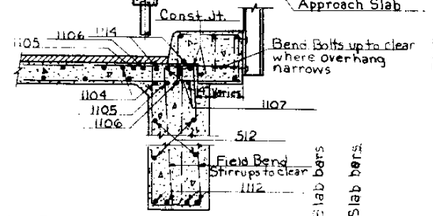
FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(3)	45	

POINT	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
R FOR DEAD LOAD (NOT IN ELEVATIONS BELOW) FEET	-0.000	-0.001	-0.004	-0.007	-0.011	-0.013	-0.014	-0.011	-0.006		0.004	0.024	0.032	0.041	0.045	0.041	0.032	0.024	0.004		-0.006	-0.011	-0.014	-0.013	-0.011	-0.007	-0.004	-0.001	-0.000
ADWAY ELEVATIONS NORTH LINE BRIDGE	24.467	24.446	24.423	24.399	24.373	24.346	24.317	24.286	24.254	24.221	24.186	24.125	24.059	23.990	23.917	23.839	23.757	23.671	23.581	23.486	23.388	23.326	23.262	23.197	23.131	23.063	22.993	22.922	22.849	22.774	22.699
OF GIRDER ②, TOP OF SOUTH LINE BRIDGE	24.879	24.857	24.835	24.810	24.785	24.757	24.728	24.698	24.666	24.632	24.597	24.535	24.470	24.400	24.326	24.248	24.166	24.079	23.988	23.893	23.794	23.731	23.667	23.601	23.534	23.465	23.395	23.323	23.250	23.175	23.098
E FROM TOP OF 2" OIL W.S. TO BOTTOM OF GIRDER	2'-8¼"	2'-9⅜"	2'-11⅞"	3'-2⅜"	3'-6⅜"	3'-11¼"	4'-5"	4'-11¼"	5'-7⅛"	6'-4"	5'-2⅛"	4'-4⅛"	3'-8⅛"	3'-4½"	3'-3"	3'-4½"	3'-8⅛"	4'-4⅛"	5'-2⅛"	6'-4"	5'-7⅛"	4'-11¼"	4'-5"	3'-11¼"	3'-6⅜"	3'-2⅜"	2'-11⅞"	2'-9⅜"	2'-8¼"

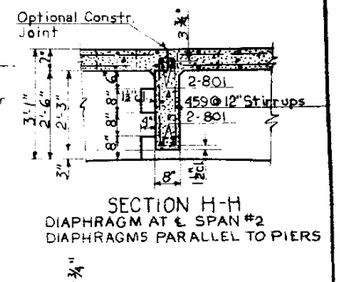
ALL REINFORCING DIMENSIONS TO ℄ BAR UNLESS MARKED "CL." CLEAR



SECTION A-A

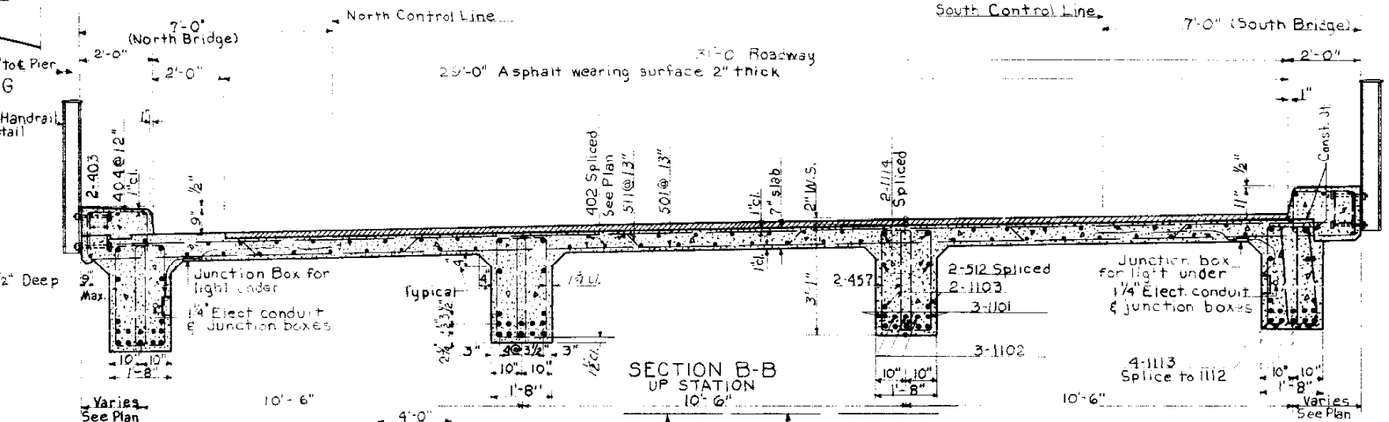


CURB DETAIL FOR FUTURE WIDENING
GIRDER ② NORTH BR & GIRDER ① SOUTH BR.



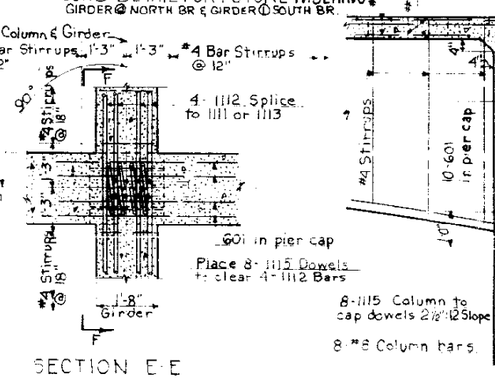
SECTION H-H
DIAPHRAGM AT ℄ SPAN #2
DIAPHRAGMS PARALLEL TO PIERS

SECTION G-G

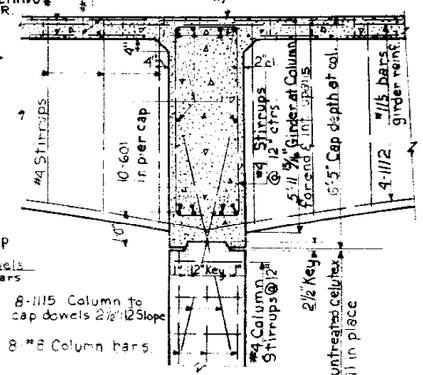


SECTION B-B
UP STATION

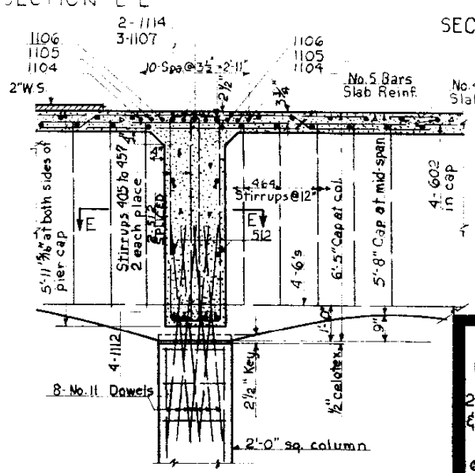
ELEVATION GIRDER REINFORCING



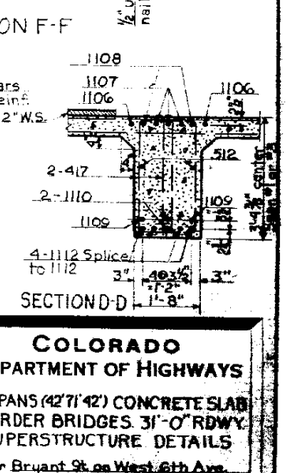
SECTION E-E



SECTION F-F



SECTION C-C



SECTION D-D

COLORADO
DEPARTMENT OF HIGHWAYS

2-35 SPANS (42'-71'-42') CONCRETE SLAB & GIRDER BRIDGES. 31'-0" RDWY.
SUPERSTRUCTURE DETAILS

Over Bryant St. on West 6th Ave. Sta. 46+
In: Denver Sec. 8 T.4S R.68W

Designed by G.H.W.
Made by F.L.
Checked by
Approved by
Bridge Engineer
Date:

STRUCTURE NO. F-16-EM Sta. 46+68.68 to 48+26.20
STRUCTURE NO. F-16-EN Sta. 46+68.77 to 48+26.28

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(3)	46	

REVISIONS

...tions, Elevations
...ets are at back of
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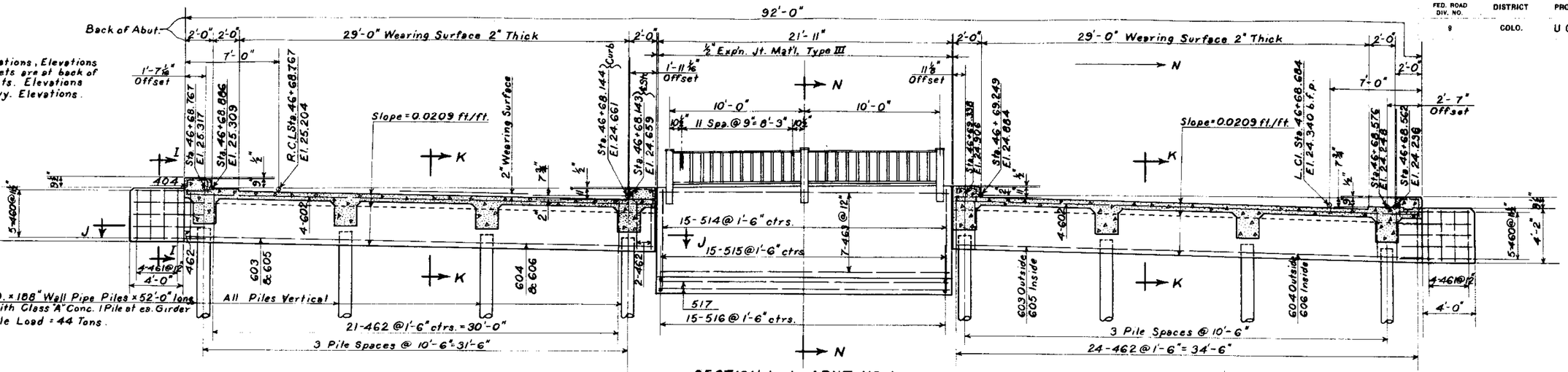
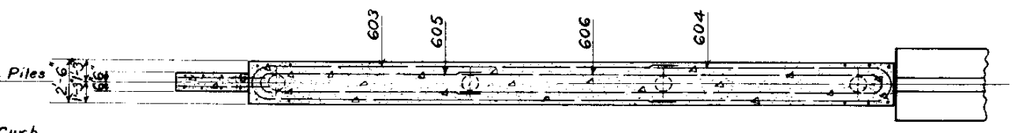
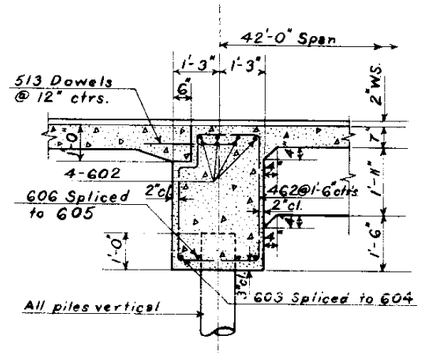
...y. Elevations.



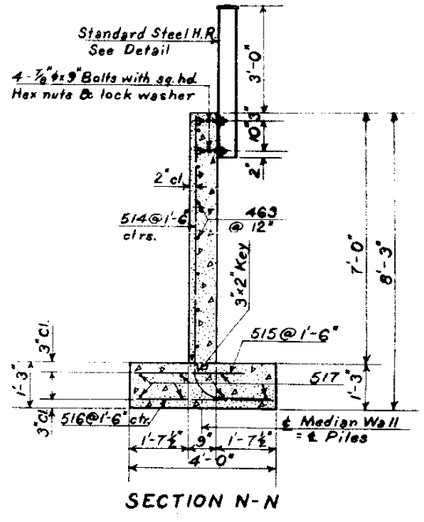
SECTION L-L ABUT. NO. 1



SECTION J-J

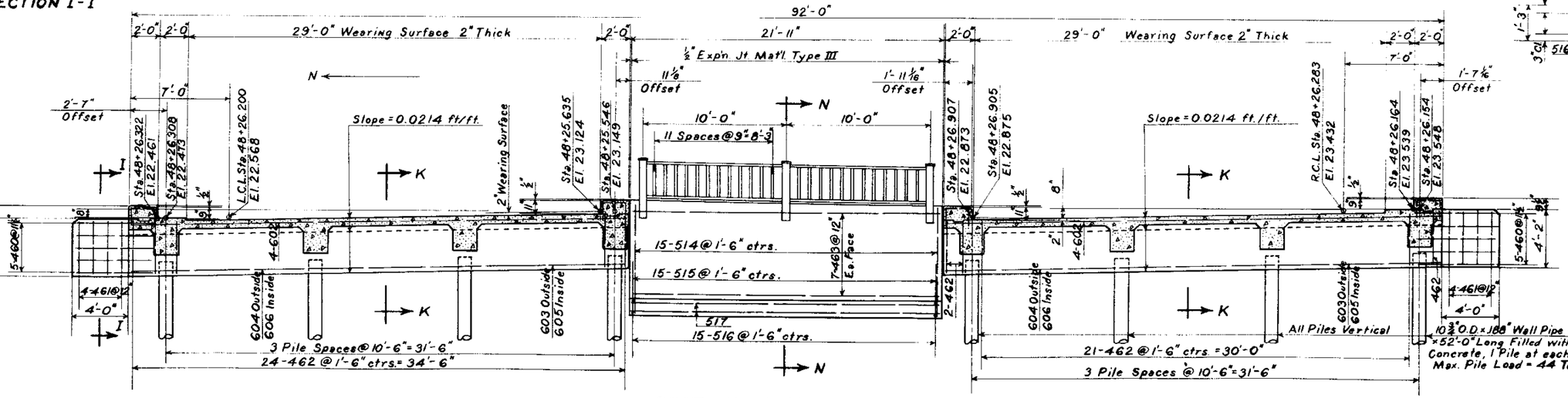


SECTION K-K



SECTION N-N

ECTION I-I



SECTION M-M ABUT. NO. 4

STRUCTURE NO. F-16-E M Sta 46+68.08 & 48+26.28

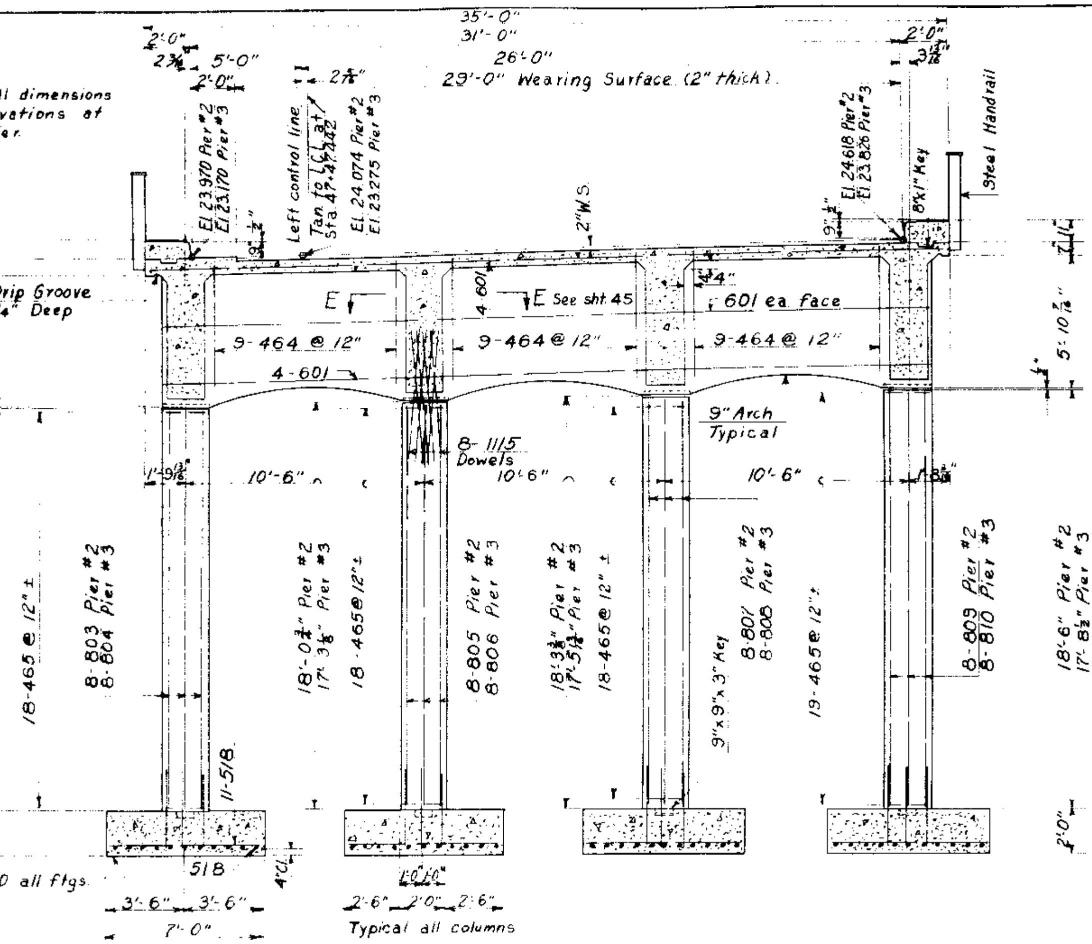
STRUCTURE NO. F-16-E N Sta 46+68.77 & 48+26.28

COLORADO
DEPARTMENT OF HIGHWAYS
3 SPAN CONC. GIRDER (42', 71', 42') 31'-0" RDWY.
DETAILS OF ABUTMENTS
Over BRYANT ST.
Sta 46+
In Denver Sec. 6 T. 4S R. 68W

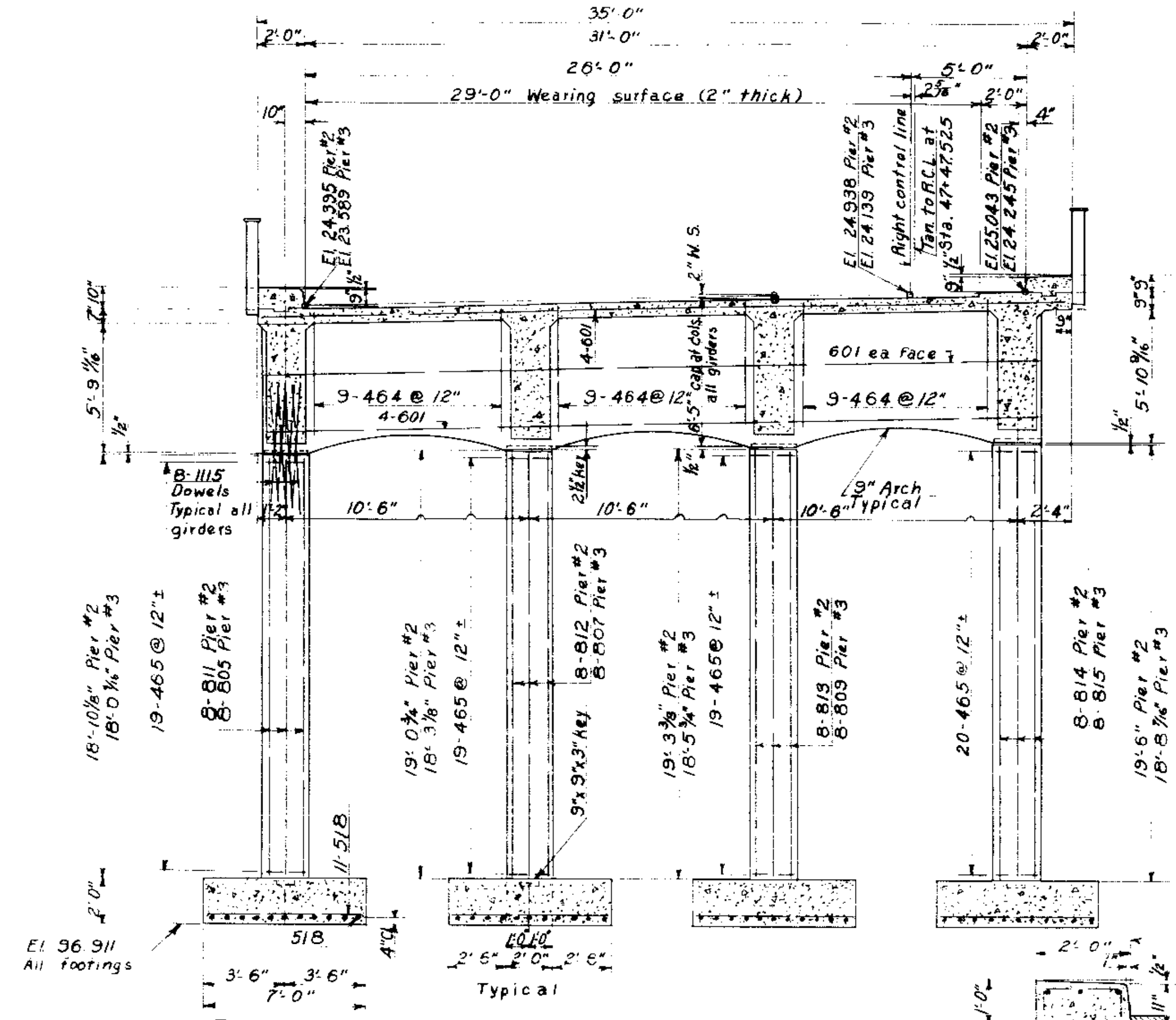
Designed by G.H.W.	Approved by [illegible]
Made by F.L.	Bridge Engineer
Checked by	Date: May 15, 1956

REVISIONS

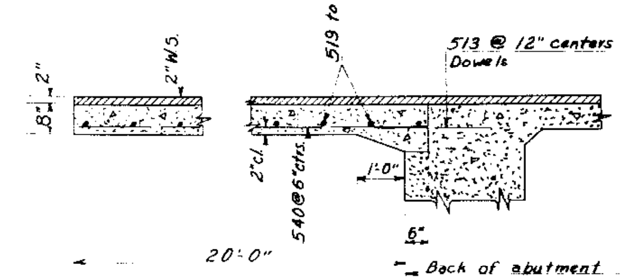
FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(3)	47	



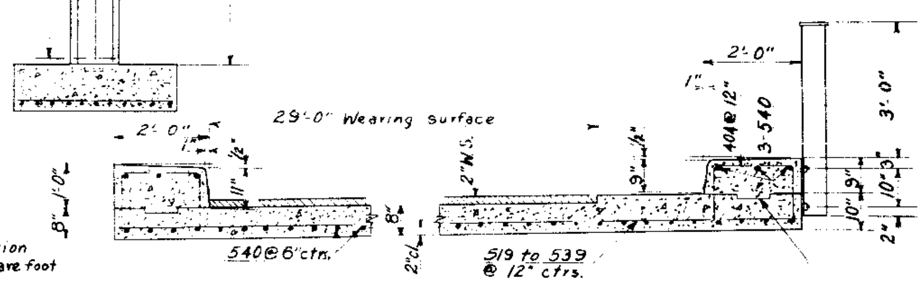
SECTION O-O
Elevation Pier #2 & Pier #3 North Bridge Up Station
Maximum soil pressure = 3.0 Tons per square foot



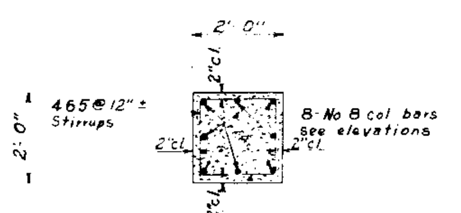
SECTION P-P
Elevation Pier #2 & Pier #3 South Bridge, Up Station
Maximum soil pressure = 3.0 Tons per square foot



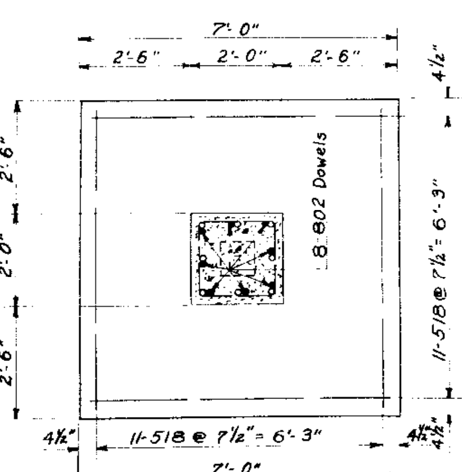
SECTION R-R



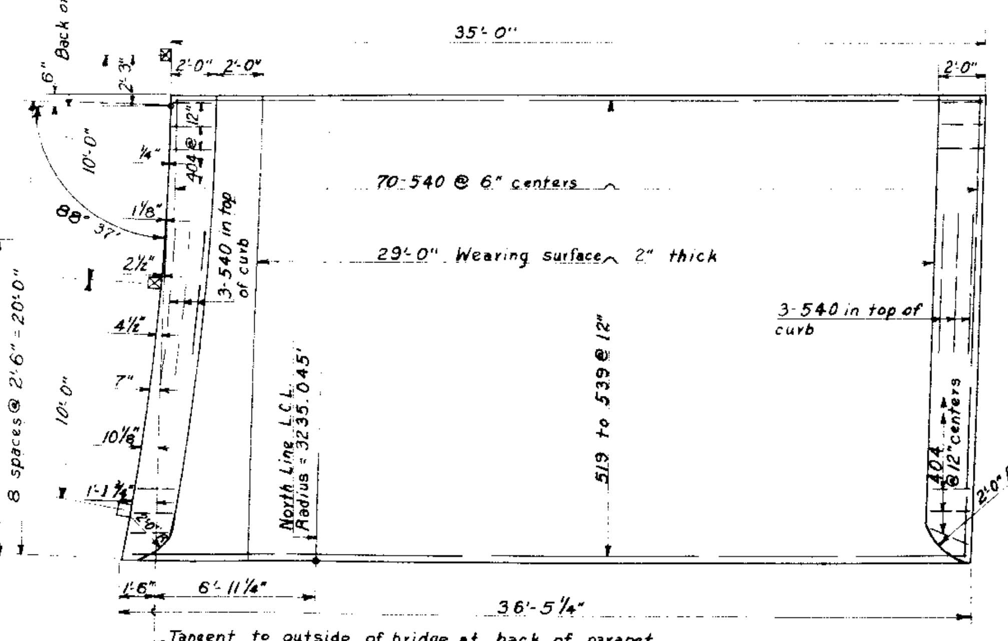
SECTION Q-Q



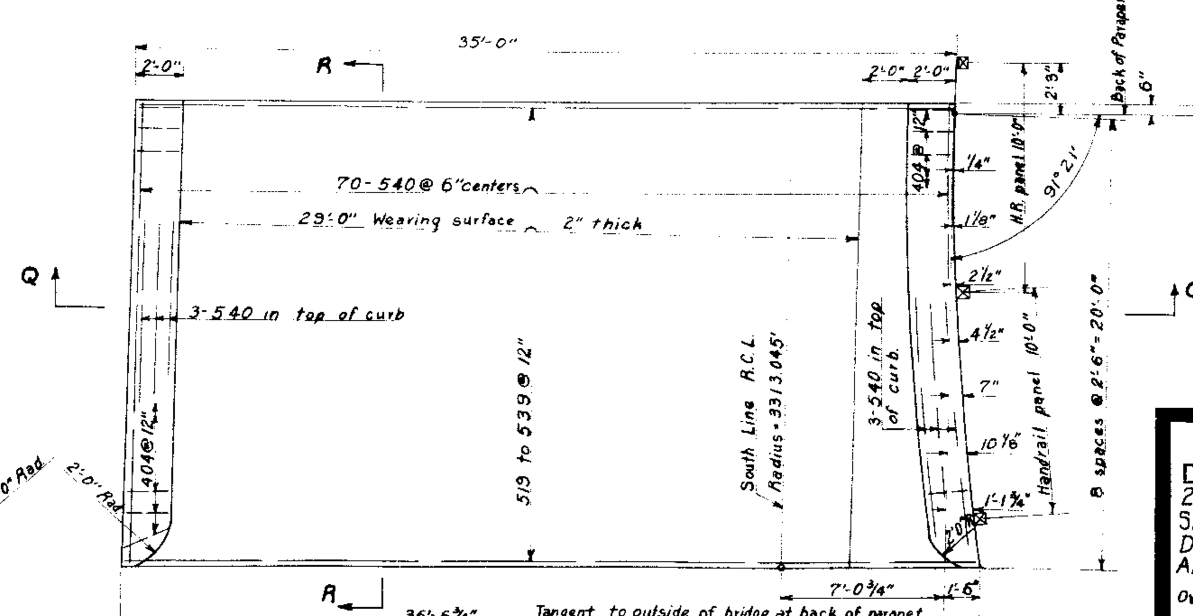
TYPICAL COLUMN SECTION



FOOTING PLAN - ALL PIER FOOTINGS



NORTH BRIDGE APPROACH SLAB AT ABUTMENT NO. 1
Approach slab at Abutment No. 4 opposite hand



SOUTH BRIDGE APPROACH SLAB AT ABUTMENT NO. 1
Approach slab at Abutment No. 4 opposite hand

All Reinforcing Bar dimensions not marked (Cl.) shall be to ℄ of bar.

STRUCTURE NO. E-16-EM Sta. 46+68.68 to 48+26.20
STRUCTURE NO. F-16-EN Sta. 46+68.77 to 48+26.28

COLORADO
DEPARTMENT OF HIGHWAYS
2-3 SPAN (42'-71'-42') CONCRETE SLAB & GIRDER BRIDGES, 31'-0" RDWY
DETAILS OF PIERS & APPROACH SLABS

Over Bryant St. on West 6th Ave. Sta. 46+
In Denver — Sec. 8 T.4S. R.68W

Designed by G.H.W.
Made by F.L.
Checked by

Approved by [signature]
Bridge Engineer
Date: May 15, 1956

REVISIONS

FED. ROAD DIV. NO.	DISTRICT	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 012-2(3)	48	

…E ABUT NORTH BRIDGE
ALL ABUTS. SAME

Size	No. Req'd.	Length	Type	Dimensions ℓ	Dimensions m
½"φ	10	5'-6"	Str.		
½"φ	8	3'-10"	Str.		
½"φ	24	12'-1"	VII		
⅝"φ	35	2'-6"	Str.		
¾"φ	4	34'-8"	Str.		
¾"φ	1	47'-1¾"	V	22'-6"	
¾"φ	1	27'-1¾"	V	12'-0"	
¾"φ	1	25'-0⅜"	VI	11'-8"	
¾"φ	1	46'-8⅜"	VI	22'-6"	

SUMMARY ONE ABUT 4 Req'd.
Lin. ft. ½"φ @ .668#/Lin. ft. = 251 Lbs.
Lin. ft. ⅝"φ @ 1.043#/Lin. ft. = 92 Lbs.
Lin. ft. ¾"φ @ 1.502#/Lin. ft. = 428 Lbs.
+1% ± Overrun = 9 Lbs.
Total = 780 Lbs.

…APPROACH SLABS F-16-EM
…APPROACH SLABS F-16-EN - SIMILAR

Size	No. Req'd.	Length	Type	Dimensions ℓ	Dimensions m
½"φ	80	4'-0"	III		
		34'-6"			
⅝"φ	2 ea	by 1"	Str.		
		36'-2"			
⅝"φ	152	20'-0"	Str.		

SUMMARY 2 SLABS F-16-EM
Lin. ft. ½φ @ .668#/Lin. ft. = 214 Lbs.
Lin. ft. ⅝φ @ 1.043#/Lin. ft. = 4718 Lbs.
+1% ± Overrun = 48 Lbs.
Total = 4980 Lbs.
F-16-EN Similar

…E MEDIAN WALL F-16-EM
…dian wall for F-16-EN Similar

Size	No. Req'd.	Length	Type	Dimensions ℓ	Dimensions m
½"φ	7	21'-7"	Str.		
⅝"φ	15	9'-3⅝"	IV	7'-6"	1'-1½"
⅝"φ	15	2'-9"	Str.		
⅝"φ	15	3'-8"	Str.		
⅝"φ	7	21'-7"	Str.		

SUMMARY ONE MEDIAN WALL 2 Req'd.
Lin. ft. ½"φ @ .668#/Lin. ft. = 101 Lbs.
Lin. ft. ⅝"φ @ 1.043#/Lin. ft. = 405 Lbs.
+1% ± Overrun = 4 Lbs.
Total = 510 Lbs.

BAR LIST SUPERSTRUCTURE F-16-N
Bars for F-16-EM are similar except - 507 to 511 replace 502 to 506

Mark	Size	No Req'd	Length	Type	Dimensions ℓ	Dimensions m	Mark	Size	No Req'd	Length	Type	Dimensions ℓ	Dimensions m
401	½"φ	183	40'-0"	Str.			451	½"φ	16	8'-2½"	II	2'-11¾"	0'-9½"
402	½"φ	61	38'-9"	Str.			452	½"φ	16	8'-2"	II	2'-11½"	0'-9½"
403	½"φ	72	3'-8"	II	1'-0"	0'-6"	453	½"φ	16	8'-1½"	II	2'-11¼"	0'-9½"
404	½"φ	314	4'-0"	III			454	½"φ	16	8'-1"	II	2'-11"	0'-9½"
405	½"φ	112	6'-9½"	II	2'-3¼"	0'-9½"	455	½"φ	16	8'-0½"	II	2'-10¾"	0'-9½"
406	½"φ	80	6'-10"	II	2'-3½"	0'-9½"	456	½"φ	16	8'-0"	II	2'-10½"	0'-9½"
407	½"φ	16	7'-2"	II	2'-5½"	0'-9½"	457	½"φ	8	7'-11½"	II	2'-10¼"	0'-9½"
408	½"φ	16	7'-3"	II	2'-6"	0'-9½"	458	½"φ	54	7'-7½"	II	3'-0¾"	0'-5"
409	½"φ	16	7'-4"	II	2'-6½"	0'-9½"	459	½"φ	27	6'-5½"	II	2'-5¾"	0'-5"
410	½"φ	16	7'-5"	II	2'-7"	0'-9½"							
411	½"φ	16	7'-6"	II	2'-7½"	0'-9½"							
412	½"φ	16	7'-7½"	II	2'-8¼"	0'-9½"	501	⅝"φ	276	34'-8"	Str.		
413	½"φ	16	7'-9"	II	2'-9"	0'-9½"	502	⅝"φ	18	35'-7"	I	4'-5"	4'-4"
414	½"φ	16	7'-10½"	II	2'-9¾"	0'-9½"	503	⅝"φ	18	35'-7"	I	4'-3"	4'-6"
415	½"φ	16	8'-0½"	II	2'-10¾"	0'-9½"	504	⅝"φ	18	35'-7"	I	4'-1"	4'-8"
416	½"φ	16	8'-2½"	II	2'-11¾"	0'-9½"	505	⅝"φ	20	35'-7"	I	3'-11"	4'-10"
417	½"φ	16	8'-5½"	II	3'-1¼"	0'-9½"	506	⅝"φ	64	35'-8"	I	3'-9"	5'-1"
418	½"φ	16	8'-9"	II	3'-3"	0'-9½"	512	⅝"φ	48	40'-0"	Str.		
419	½"φ	16	9'-0½"	II	3'-4¾"	0'-9½"							
420	½"φ	16	9'-4"	II	3'-6½"	0'-9½"							
421	½"φ	16	9'-7½"	II	3'-8¼"	0'-9½"	801	1"φ	12	32'-0"	Str.		
422	½"φ	16	9'-11½"	II	3'-10¼"	0'-9½"							
423	½"φ	16	10'-3½"	II	4'-0¼"	0'-9½"							
424	½"φ	16	10'-8"	II	4'-2½"	0'-9½"	1101	1⅜"φ	12	40'-0"	Str.		
425	½"φ	16	10'-10½"	II	4'-3¾"	0'-9½"	1102	1⅜"φ	12	31'-0"	Str.		
426	½"φ	16	11'-5"	II	4'-7"	0'-9½"	1103	1⅜"φ	8	19'-0"	Str.		
427	½"φ	16	11'-10"	II	4'-9½"	0'-9½"	1104	1⅜"φ	16	17'-0"	Str.		
428	½"φ	16	12'-3"	II	5'-0"	0'-9½"	1105	1⅜"φ	16	29'-0"	Str.		
429	½"φ	16	12'-8½"	II	5'-2¾"	0'-9½"	1106	1⅜"φ	16	40'-0"	Str.		
430	½"φ	16	13'-2"	II	5'-5½"	0'-9½"	1107	1⅜"φ	24	57'-0"	Str.		
431	½"φ	16	13'-8"	II	5'-8½"	0'-9½"	1108	1⅜"φ	16	24'-0"	Str.		
432	½"φ	16	13'-9½"	II	5'-9¼"	0'-9½"	1109	1⅜"φ	16	23'-1"	Str.		
433	½"φ	16	13'-4"	II	5'-6½"	0'-9½"	1110	1⅜"φ	16	27'-1"	Str.		
434	½"φ	16	12'-10½"	II	5'-3¾"	0'-9½"	1111	1⅜"φ	32	30'-6"	Str.		
435	½"φ	16	12'-5"	II	5'-1"	0'-9½"	1112	1⅜"φ	32	30'-0"	VIII		
436	½"φ	16	11'-11½"	II	4'-10¼"	0'-9½"	1113	1⅜"φ	16	45'-8"	Str.		
437	½"φ	16	11'-7"	II	4'-8"	0'-9½"	1114	1⅜"φ	16	60'-0"	Str.		
438	½"φ	16	11'-2"	II	4'-5½"	0'-9½"							
439	½"φ	16	10'-9"	II	4'-3"	0'-9½"							
440	½"φ	16	10'-5"	II	4'-1"	0'-9½"							
441	½"φ	16	10'-1"	II	3'-11"	0'-9½"	Bars 507 to 511 are for F-16-EM only & they						
442	½"φ	16	9'-8½"	II	3'-8¾"	0'-9½"	replace bars 502 to 506 in Str F-16-EN						
443	½"φ	16	9'-5½"	II	3'-7¼"	0'-9½"	507	⅝"φ	18	35'-7"	I	5'-1"	3'-8"
444	½"φ	16	9'-3"	II	3'-6"	0'-9½"	508	⅝"φ	18	35'-7"	I	4'-10"	3'-11"
445	½"φ	16	9'-1"	II	3'-5"	0'-9½"	509	⅝"φ	18	35'-7"	I	4'-8"	4'-1"
446	½"φ	16	8'-10½"	II	3'-3¾"	0'-9½"	510	⅝"φ	20	35'-7"	I	4'-6"	4'-3"
447	½"φ	16	8'-9½"	II	3'-3¼"	0'-9½"	511	⅝"φ	64	35'-7"	I	4'-4"	4'-5"
448	½"φ	16	8'-8"	II	3'-2½"	0'-9½"							
449	½"φ	16	8'-6"	II	3'-1½"	0'-9½"							
450	½"φ	16	8'-4"	II	3'-0½"	0'-9½"							

BAR SUMMARY SUPERSTRUCTURE F-16-EN
20,935 Lin ft ½"φ @ .668#/Lin ft = 13,985 Lbs
16,404 Lin ft ⅝"φ @ 1.043#/Lin ft = 17,109 Lbs.
384 Lin ft 1"φ @ 2.67#/Lin ft = 1,025 Lbs.
8,561 Lin ft 1⅜"φ @ 5.313#/Lin ft = 45,485 Lbs.
+1% ± Overrun = 776 Lbs.
Total = 78,380 Lbs.

BAR SUMMARY SUPERSTRUCTURE F-16-EM
20935 Lin.ft ½"φ @ 0.668#/Lin.ft = 13985 Lbs.
16399 Lin.ft ⅝"φ @ 1.043#/Lin.ft = 17104 Lbs.
384 Lin.ft 1"φ @ 2.67#/Lin.ft = 1025 Lbs.
8561 Lin.ft 1⅜"φ @ 5.313#/Lin.ft = 45485 Lbs.
+1% ± Overrun = 776 Lbs.
Total = 78375 Lbs.

SOUTH BRIDGE F-16-EN
PIER No. 2

Mark	Size	No Req'd	Length	Type	Dimensions ℓ	Dimensions m
464	½"φ	27	14'-6"	II	5'-3"	1'-8"
465	½"φ	77	7'-4"	II	1'-8"	1'-8"
518	⅝"φ	88	6'-8"	Str.		
601	¾"φ	10	32'-10"	Str.		
802	1"φ	32	3'-6"	Str.		
811	1"φ	8	18'-7"	Str.		
812	1"φ	8	18'-9"	Str.		
813	1"φ	8	19'-0"	Str.		
814	1"φ	8	19'-3"	Str.		
1115	1⅜"φ	32	6'-0"	Str.		

BAR SUMMARY PIER No 2
956 Lin.ft ½"φ @ .668#/Lin.ft = 639 Lbs
587 Lin.ft ⅝"φ @ 1.043#/Lin.ft = 612 Lbs
328 Lin.ft ¾"φ @ 1.502#/Lin.ft = 493 Lbs
717 Lin.ft 1"φ @ 2.67#/Lin.ft = 1914 Lbs.
192 Lin.ft 1⅜"φ @ 5.313#/Lin.ft = 1020 Lbs.
+1% ± Overrun = 47 Lbs.
Total = 4725 Lbs.

NORTH BRIDGE F-16-EM
PIER No. 2

Mark	Size	No Req'd	Length	Type	Dimensions ℓ	Dimensions m
464	½"φ	27	14'-6"	II	5'-3"	1'-8"
465	½"φ	73	7'-4"	II	1'-8"	1'-8"
518	⅝"φ	88	6'-8"	Str.		
601	¾"φ	10	32'-10"	Str.		
802	1"φ	32	3'-6"	Str.		
803	1"φ	8	17'-7"	Str.		
805	1"φ	8	17'-9"	Str.		
807	1"φ	8	18'-0"	Str.		
809	1"φ	8	18'-3"	Str.		
1115	1⅜"φ	32	6'-0"	Str.		

BAR SUMMARY PIER No 2
927 Lin.ft ½"φ @ .668#/Lin.ft = 619 Lbs
587 Lin.ft ⅝"φ @ 1.043#/Lin.ft = 612 Lbs.
328 Lin.ft ¾"φ @ 1.502#/Lin.ft = 493 Lbs.
685 Lin.ft 1"φ @ 2.67#/Lin.ft = 1829 Lbs.
192 Lin.ft 1⅜"φ @ 5.313#/Lin.ft = 1020 Lbs.
+1% ± Overrun = 47 Lbs.
Total = 4620 Lbs.

SOUTH BRIDGE F-16-EN
PIER No 3

Mark	Size	No Req'd	Length	Type	Dimensions ℓ	Dimensions m
464	½"φ	27	14'-6"	II	5'-3"	1'-8"
465	½"φ	77	7'-4"	II	1'-8"	1'-8"
518	⅝"φ	88	6'-8"	Str.		
601	¾"φ	10	32'-10"	Str.		
802	1"φ	32	3'-6"	Str.		
805	1"φ	8	17'-9"	Str.		
807	1"φ	8	18'-0"	Str.		
809	1"φ	8	18'-3"	Str.		
815	1"φ	8	18'-6"	Str.		
1115	1⅜"φ	32	6'-0"	Str.		

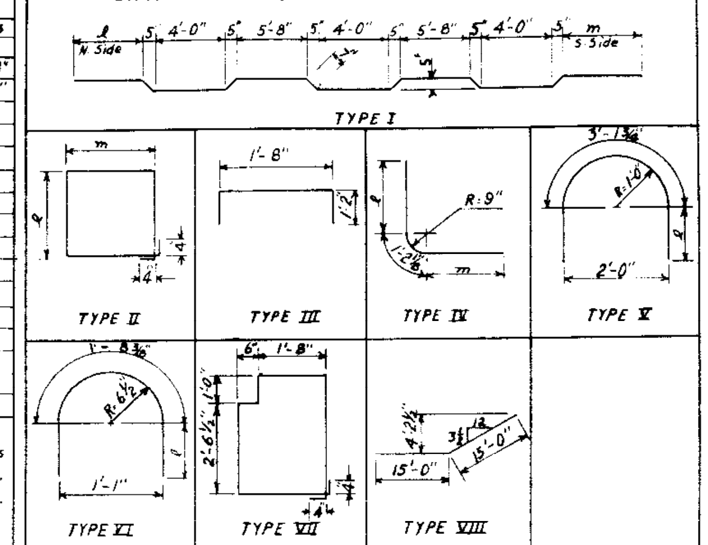
BAR SUMMARY PIER No 3
956 Lin.ft ½"φ @ .668#/Lin.ft = 639 Lbs.
587 Lin.ft ⅝"φ @ 1.043#/Lin.ft = 612 Lbs.
328 Lin.ft ¾"φ @ 1.502#/Lin.ft = 493 Lbs.
692 Lin.ft 1"φ @ 2.67#/Lin.ft = 1848 Lbs.
192 Lin.ft 1⅜"φ @ 5.313#/Lin.ft = 1020 Lbs.
+1% ± Overrun = 48 Lbs.
Total = 4660 Lbs.

NORTH BRIDGE F-16-EM
PIER No 3

Mark	Size	No Req'd	Length	Type	Dimensions ℓ	Dimensions m
464	½"φ	27	14'-6"	II	5'-3"	1'-8"
465	½"φ	73	7'-4"	II	1'-8"	1'-8"
518	⅝"φ	88	6'-8"	Str.		
601	¾"φ	10	32'-10"	Str.		
802	1"φ	32	3'-6"	Str.		
804	1"φ	8	16'-9"	Str.		
806	1"φ	8	17'-0"	Str.		
808	1"φ	8	17'-3"	Str.		
810	1"φ	8	17'-5"	Str.		
1115	1⅜"φ	32	6'-0"	Str.		

BAR SUMMARY PIER No 3
927 Lin.ft ½"φ @ .668#/Lin.ft = 619 Lbs
587 Lin.ft ⅝"φ @ 1.043#/Lin.ft = 612 Lbs.
328 Lin.ft ¾"φ @ 1.502#/Lin.ft = 493 Lbs.
659 Lin.ft 1"φ @ 2.67#/Lin.ft = 1760 Lbs.
192 Lin.ft 1⅜"φ @ 5.313#/Lin.ft = 1020 Lbs.
+1% ± Overrun = 46 Lbs.
Total = 4550 Lbs.

BENDING DIAGRAMS
Dimensions are out to out of bars



STRUCTURE NO. F-16-EM Sta 46+68.68 to 48+26.20
STRUCTURE NO. F-16-EN Sta 46+68.77 to 48+26.28

COLORADO
DEPARTMENT OF HIGHWAYS
2-3 SPANS (42' 71' 42')
CONCRETE SLAB & GIRDER BRIDGES
31'-0" ROADWAY
BAR LIST BRIDGES F-16-EN & F-16-EM
Over Bryant St on West 6th Ave
Sta. 46+
Denver Sec. 8 T.4S R.68W

Designed by G.H.W	Approved by A.P. [illegible]
Made by R.E.S.	Bridge Engineer
Checked by	Date: May 15, 1956