

JUL 1 1968

INACTIVE

DEPARTMENT OF HIGHWAYS STATE OF COLORADO AS CONSTRUCTED REVISED

RIGHT OF WAY PURCHASED
ORDER PROJ. NO. U032-1(7)
Rev. Standard Date - MEM-9/7/66
(R-2) Added Sheet 49A - J.C.R.-10/26/66

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
9	COLORADO	U 032-1(7)	1

DATE OCT 4 1967
SHEET NO.

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2. TYPICAL SECTIONS & GENERAL NOTES.
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- 5x STRUCTURE QUANTITIES.
- 6-8 ~~9x-9.6x~~ SURFACING PLAN, SUBBASE MATERIAL PLAN, FENCING REQUIREMENTS, TABULATION OF GUARD RAIL, CURB AND GUTTER, ~~AND DELINEATORS, FRAGGING.~~
- 10-11. WASHINGTON AVE. INTERCHANGE.
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- 49A. METAL PLATE GUARD RAIL.

"As Constructed
No Revisions"
10 thru 13; 15 thru 19; 21;
23 thru 43; 45 thru 49A.

(R-2)

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SEE SPECIAL PROVISIONS FOR
NOTICE TO BIDDERS

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

APPROVED: *[Signature]* 7-28-66
CHIEF ENGINEER DATE

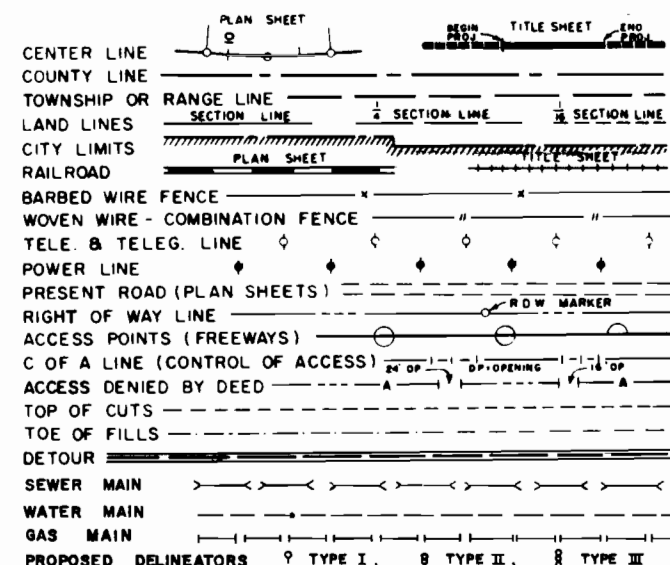
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED: _____ DATE _____

DIVISION ENGINEER

W.E.M.

CONVENTIONAL SIGNS



PLAN AND PROFILE OF PROPOSED

FEDERAL AID PROJECT NO. U 032-1(7) STATE HIGHWAY NO. 58 JEFFERSON COUNTY

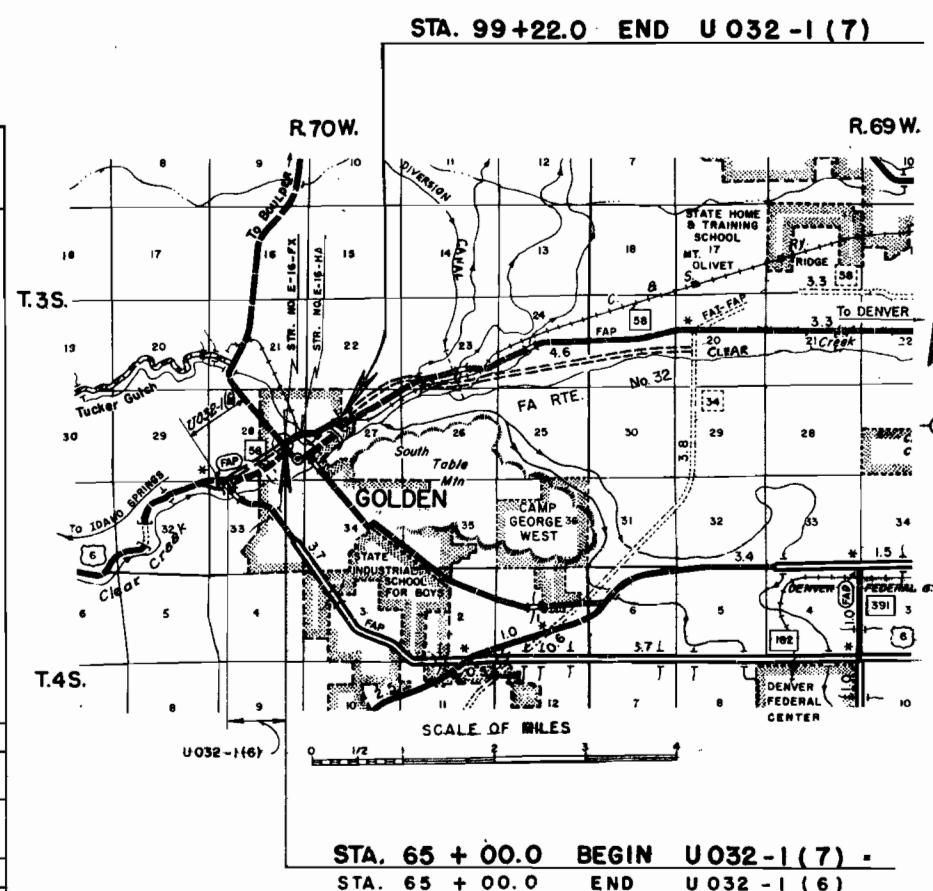
SCALES OF ORIGINAL DRAWINGS

ON PLAN, 1 IN. = 50 FT.
ON PROFILE, 1 IN. = 50 FT. HORIZONTAL
1 IN. = 10 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT
NET LENGTH OF PROJECT

CONTRACTOR: ASPHALT PAVING CO.
RESIDENT ENGR: L.G. WOOD
DATE COMPLETED: OCTOBER 4, 1967

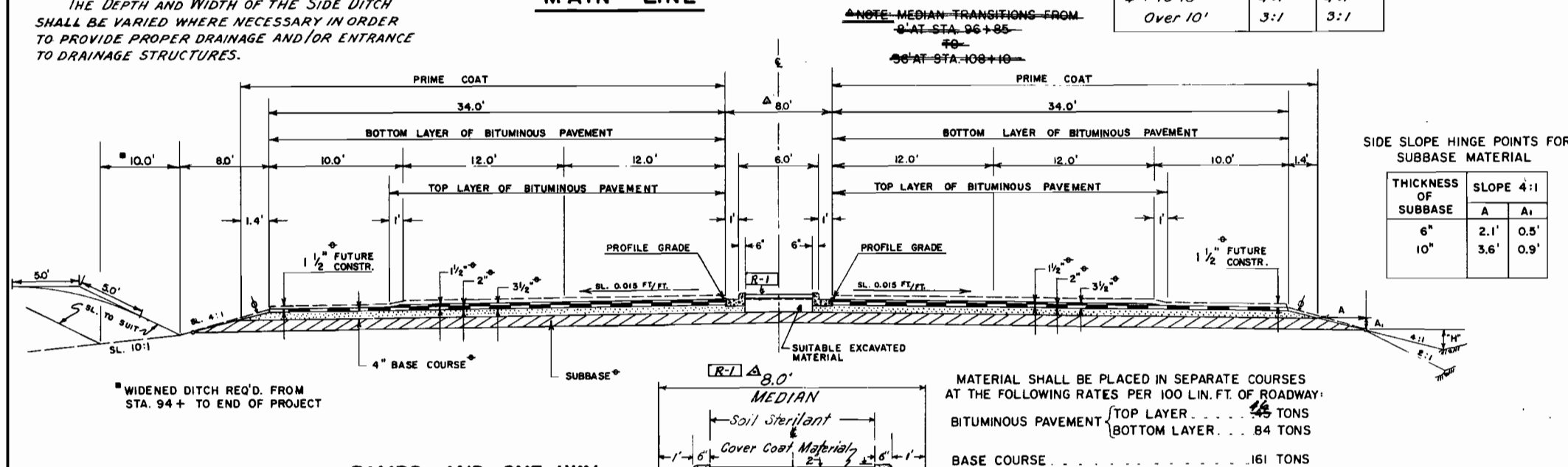
TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY LIN. FT.	MAJOR STRUCTURE LIN. FT.	LOADING
65 + 00.0 ~ BEGIN U032-1(7) = 65 + 00.0 END U032-1(6)	572.8		
70 + 72.8 } FORD STREET OVERPASS, 73 + 27.6 } STR. No. E-16-HA	254.8	HS 20-44	
99 + 22.0 ~ END U032-1(7)	2594.4		
TOTALS =	3167.2	254.8	
SUMMARY			
ROADWAY	3,167.2	0.600	
MAJOR STRUCTURE	254.8	0.048	
PROJ. TOTAL (NET & GROSS LENGTH)	3,422.0	0.648	
DESIGN DATA			
MAXIMUM DEGREE OF CURVE	6° 00'		
MAXIMUM GRADE	6.86 %		
MINIMUM S.S.D. ~ HORIZONTAL	550'		
MINIMUM S.S.D. ~ VERTICAL	350'		
MAXIMUM DESIGN SPEED	45 MPH		



NOTES:
SEE STANDARDS FOR DETAILS OF CUT SLOPE
TREATMENT, FLARING, AND WIDENING.
EXCAVATION BELOW 4:1 SLOPE AND/OR 10:1
SLOPE WILL NOT BE PERMITTED.
THE DEPTH AND WIDTH OF THE SIDE DITCH
SHALL BE VARIED WHERE NECESSARY IN ORDER
TO PROVIDE PROPER DRAINAGE AND/OR ENTRANCE
TO DRAINAGE STRUCTURES.

TYPICAL CROSS SECTION MAIN LINE



"H"	CURVES	TANGENTS
4' or Less	6:1	6:1
4' + To 10'	4:1	4:1
Over 10'	3:1	3:1

AS CONSTRUCTED
REVISED DATE OCT 4 1967

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	U 032 - 1 (7)	2	

Rev. Median Detail 9-7-66 W.E.M.
GENERAL NOTES

For preliminary plan quantities of Bituminous Materials, the following rates of application were used.

Prime Coat MC @ 0.22 gals. per sq. yd.

Tack Coat AC @ 0.01 gals. per sq. yd.

Rates of application shall be as determined by the Engineer at time of application.

Road approaches which require bituminous pavement shall be primed and a 2" thickness of pavement placed as follows:
Public approaches and entrances to buildings or residences shall be paved 50 ft out from edge of shoulder or to the R.O.W. line, whichever is less.

Depth of Moisture-Density Control for this project shall be as follows:

Full depth of all embankments.
Bases of cuts 1 foot. } Excav. req'd. for this operation will not be paid for separately.
Bases of fills 1 foot.

Where culverts, portions of culverts or culvert extensions are to be placed in embankment areas, the new embankment shall be built to a sufficient elevation to allow shaping under the culvert.

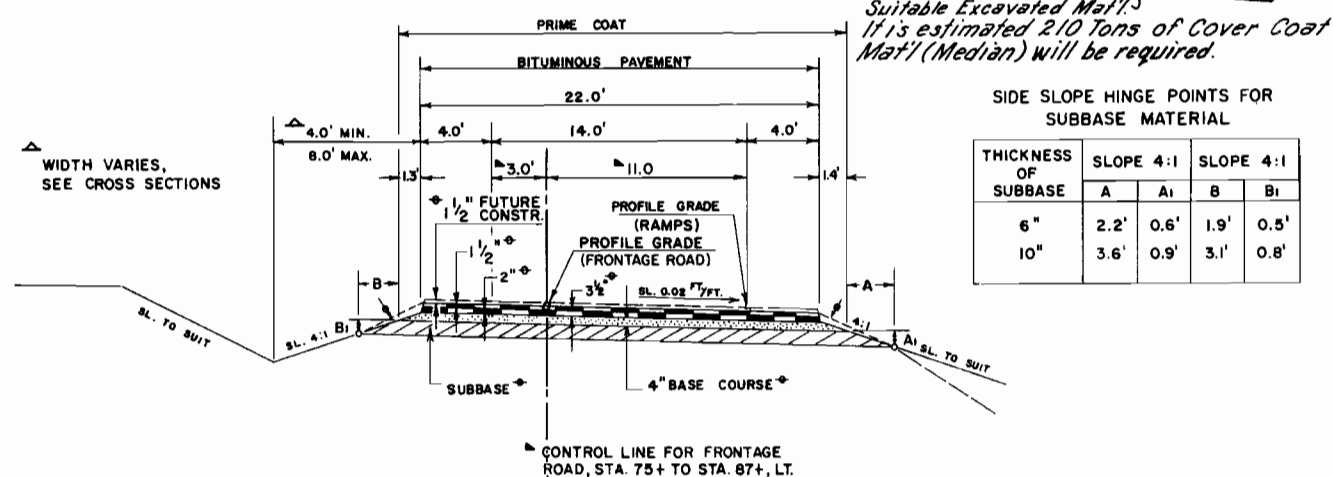
~~A mixture of Emulsified Asphalt (SS-1) and water shall be used for a dust palliative, as ordered.~~

Earth slopes shall be disc'd, or roughened by other approved methods for mulching or erosion protection.

"Removal of Obstructions" for this Project shall include removal of all buildings and appurtenances required for completing the widening of Washington St.

~~Preliminary plan quantities of Structure Excavation and Structure Backfill for culvert pipes are computed for concrete culvert pipe.~~

RAMPS AND ONE-WAY FRONTAGE ROADS.



THICKNESS OF SUBBASE	SLOPE 4:1	SLOPE 4:1	SLOPE 4:1	SLOPE 4:1
6"	2.2'	0.6'	1.9'	0.5'
10"	3.6'	0.9'	3.1'	0.8'

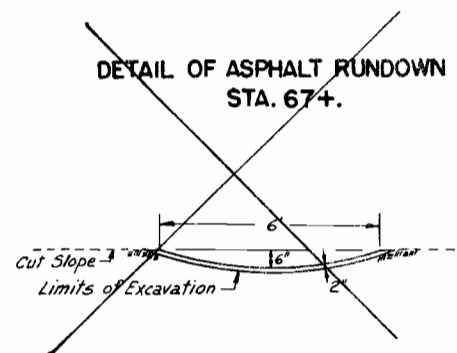
APPROXIMATE THICKNESS

CONTRACTOR WILL BE REQUIRED TO PLACE SURFACING MATERIAL TO THIS LINE AFTER COMPLETION OF PAVING OPERATION. QUANTITIES INCLUDED IN SURFACING PLAN

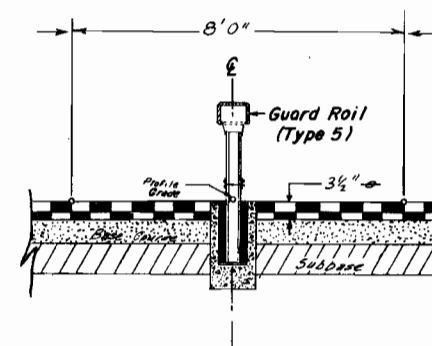
NOTE: ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

MATERIAL SHALL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING RATES PER 100 LIN. FT. OF ROADWAY:
BITUMINOUS PAVEMENT { TOP LAYER 21 TONS
BOTTOM LAYER 27 TONS
BASE COURSE 52 TONS

DETAIL OF ASPHALT RUNDOWN STA. 67+.



NON-DEPRESSED MEDIAN STA. 84+88.35 To 94+02.85



NOTE:
See Standard for Details of Guard Rail Type 5

SUMMARY OF APPROXIMATE QUANTITIES

(R-1) REV. QUANTITIES 9/7/66 W.E.M.

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	COLORADO	U032-1 (7)	3	

CONTRACT ITEM NO.	ITEM	UNIT	ROADWAY	BRIDGE E-16-HA	PROJECT TOTALS
201	CLEARING AND GRUBBING	LUMP SUM	•		•
202	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	•		•
203	UNCLASSIFIED EXCAVATION	CU. YD.	112,400	600	113,000
203	EMBANKMENT (STANDARD)	CU. YD.	100,400	600	101,000
204	HAUL	YD. MI.	13,400		13,400
206	STRUCTURE EXCAVATION	CU. YD.	1,625	965	2,590
206	STRUCTURE BACKFILL (CLASS 3)	CU. YD.	1,210	880	2,090
208	SOIL STERILANT	SQ. YD.	2,100		2,100
209	WETTING	M GAL.	4,480		4,480
304	AGGREGATE BASE COURSE (CLASS 1) (HAUL)	TON	14,500		14,500
304	AGGREGATE BASE COURSE (CLASS 6) (HAUL)	TON	8,100		8,100
403	HOT BITUMINOUS PAVEMENT (GRABING E) (HAUL & ASPHALT)	TON	6,600		6,600
409	COVER COAT MATERIAL (MEDIAN)	TON	210		210
411	ASPHALT CEMENT (85-100 PEN.)	TON	15		15
411	EMULSIFIED ASPHALT (SS-1)	GAL.	4,100		4,100
411	LIQUID ASPHALTIC MATERIAL (MC-70)	GAL.	15,700		15,700
412	CONCRETE PAVEMENT (10")	SQ. YD.	402		402
502	STEEL PILING (12 SP 53)	LIN. FT.		828	828
507	CONCRETE SLOPE AND DITCH PAVING (REINFORCED)	CU. YD.	315	210	525
507	BITUMINOUS SLOPE AND DITCH PAVING	TON	6		6
506	RIRAP	CU. YD.		300	300
509	STRUCTURAL STEEL	LUMP SUM		•	•
509	STRUCTURAL STEEL (GALVANIZED)	LUMP SUM		•	•
516	DAMP-PROOFING (LINSSEED OIL)	SQ. YD.		2,900	2,900
518	BRIDGE COMPRESSION JOINT SEALER (TYPE A)	LIN. FT.	162		162
518	BRIDGE COMPRESSION JOINT SEALER (TYPE B)	LIN. FT.		82	82
601	CONCRETE CLASS A	CU. YD.	279	1,192	1,471
602	REINFORCING STEEL	LB.	30,360	287,540	317,900
603	18" CORRUGATED STEEL PIPE	LIN. FT.	290		290
603	18" STEEL END SECTION	EACH	2		2
604	INLET TYPE A (5 FOOT)	EACH	4		4
604	INLET TYPE B (5 FOOT)	EACH	1		1
604	INLET TYPE 12 (5 FOOT)	EACH	3		3
604	INLET TYPE 12 (10 FOOT)	EACH	2		2

(R-1)

(R-1)

(R-1)

(R-1)

(R-1)

(R-1)

(R-1)

(R-1)

SUMMARY OF APPROXIMATE QUANTITIES

(CONTINUED FROM SHEET No. 3)

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	U032-1(7)	4	

CONTRACT ITEM NO.	ITEM	UNIT	ROADWAY	BRIDGE E-16-HA	PROJECT TOTALS
606	GUARD RAIL TYPE 3	LIN. FT.	1,800		1,800
607	END POST	EACH	2		2
607	CORNER AND LINE BRACE POST	EACH	4		4
607	FENCE BARBED WIRE WITH METAL POSTS	LIN. FT.	900		900
607	FENCE CHAIN LINK	LIN. FT.	2,950		2,950
608	CONCRETE SIDEWALK	SB. YD.	535		535
609	CURB TYPE 2 (SECTION - VARIABLE)	LIN. FT.	106		106
609	CURB AND GUTTER TYPE 2 (SECTION I-B)	LIN. FT.	6,229		6,229
609	CURB AND GUTTER TYPE 2 (SECTION E-B)	LIN. FT.	120		120
609	CURB AND GUTTER TYPE 2 (SECTION - VARIABLE)	LIN. FT.	101		101
609	GUTTER TYPE 2 (4 FOOT)	LIN. FT.	22		22
609	CURB TYPE 6 (SECTION M)	LIN. FT.	1,300		1,300
612	DELINEATOR (TYPE I)	EACH	28		28
612	DELINEATOR (TYPE II)	EACH	21		21
612	DELINEATOR (TYPE III)	EACH	3		3
613	1 1/2 INCH ELECTRICAL CONDUIT	LIN. FT.	520		520
614	FLAGGING	HOOR	100		100
617	18 INCH CULVERT PIPE	LIN. FT.	218		218
617	24 INCH CULVERT PIPE	LIN. FT.	874		874
617	30 INCH CULVERT PIPE	LIN. FT.	188		188
617	36 INCH CULVERT PIPE	LIN. FT.	224		224
620	FIELD LABORATORY	EACH	1		1
620	SANITARY FACILITY	EACH	1		1
	FORCE ACCOUNTS UNDER U032-1(5)				
	RELOCATE POWER LINE (PUBLIC SERVICE CO. OF COLORADO)				
	RELOCATE TELEPHONE LINES (M.S.T. CO.)				
	RELOCATE SEWER AND WATER LINES (CITY OF GOLDEN)				
	STATE FORCES				
	IDENTIFICATION SIGN	EACH	3		3
	STATE FORCES (NON FEDERAL AID)				
	SIGNING AND STRIPING ENTIRE PROJECT	LUMP SUM	•		•

STRUCTURE QUANTITIES

FED. ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NO.
9	CORO.	U032-1(7)	5

LOCATION	DESCRIPTION	REMOVAL OF STRUCTURES NO.	EXCAVATION			STRUCTURE EXCAVATION CUBIC YARDS	STRUCTURE BACKFILL CL. 3 CUBIC YARDS	AGGREGATE BASE COURSE CL. 6 (HAUL) TONS	HOT BIT. PAVEMENT TONS	CONCRETE CUBIC YARDS CL. "A"	REINFORCING STEEL LBS.	CULVERT PIPE				INCH OVER CULVERT PIPE FT.	CONCRETE SLOPE AND DITCH PAVING CU. YDS.	CULVERT END SECTIONS				MISCELLANEOUS				
			CUBIC YARDS									LINEAR FEET						NO.								
			UNCL.	EMB.	DITCH																					
6+75 To 7+50	COMPLETE WIDENING OF WASHINGTON AVE.		75					27	26				18"	24"	30"	36"			18"	24"	30"	36"	35 TONS - AGGREGATE BASE COURSE (CLASS 1) (HAUL) 120 LIN. FT. - CURB AND GUTTER TYPE 2 (SECTION II-B) 22 LIN. FT. - GUTTER TYPE 2 (4 FOOT) 535 SQ. YD. CONCRETE SIDEWALK (4'-6" WIDE)			
64+, RT.	REQ'D - 18"x134' CULVERT UNDER RAMP, RT. TYPE 12 CONCRETE INLET ON EAST SIDE OF WASHINGTON AVE. (H=4'-0")					115		25									10						1-INLET TYPE 12 (4'-0") 134 LIN. FT. - 18" CORRUGATED STEEL PIPE 1-18 INCH STEEL END SECTION			
64+, LT.	REQ'D - 18"x156' CULVERT UNDER RAMP, LT. TYPE 12 CONCRETE INLET ON EAST SIDE OF WASHINGTON AVE. (H=4'-0")					200		30									14						1-INLET TYPE 12 (4'-0") 156 LIN. FT. - 18" CORRUGATED STEEL PIPE 1-18 INCH STEEL END SECTION			
64+ To 70+	REQ'D - RAMPS TO WASHINGTON AVE. (DETAILS ON SHEET NOS 10 & 11)		*	*					▲	▲																
64+	REQ'D - IDENTIFICATION SIGN RT. ON WASHINGTON AVE. (STATE FORCES)																						1-IDENTIFICATION SIGN (STATE FORCES)			
65+	REQ'D - APPROACH RT., FROM RAMP TO 7TH ST.		*					60	15																	
67+20	REQ'D - 24"x42' CROSS CULVERT WITH TYPE A CONCRETE INLET (H=4'-0") UNDER RAMP RT.					27		10					42				3		1				1-INLET TYPE A (4'-0")			
67+45	REQ'D - 24"x38' CROSS CULVERT WITH TYPE A CONCRETE INLET (H=4'-0") UNDER RAMP LT.					20		9					38				2		1				1-INLET TYPE A (4'-0")			
67+	REQ'D - 24"x40' CROSS CULVERT UNDER ALLEY APPROACH TO JACKSON ST., BITUMINOUS RUNDOWN ON CUT SLOPE (DETAILS ON SHEET NO. 2)				2	25		10					40				1		2				3 TONS - BITUMINOUS SLOPE AND DITCH PAVING			
67+ To 69+	REQ'D - ALLEY APPROACH TO JACKSON ST., LT.		20						60																	

APPROACH TO PROJECT

STRUCTURE QUANTITIES

FED. ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NO.
9	COLO.	U032-1(7)	6

LOCATION	DESCRIPTION	REMOVAL OF STRUCTURES NO.	EXCAVATION CUBIC YARDS			STRUCTURE EXCAVATION CUBIC YARDS	STRUCTURE BACKFILL CUBIC YARDS	AGGREGATE BASE COURSE CL. 6 (HAUL) TONS	HOT BIT. PAVEMENT TONS	CONCRETE CUBIC YARDS CL. "A"	REINFORCING STEEL LBS.	CULVERT PIPE LINEAR FEET				"H" OVER CULVERT PIPE -FT.	CONCRETE SLOPE AND DITCH PAVING CU. YDS.	CULVERT END SECTIONS NO.				MISCELLANEOUS
			UNCL.	EMB.	DITCH							18"	24"	30"	36"			18"	24"	30"	36"	
69+00	REQ'D-24"x78' MEDIAN DRAIN UNDER EAST BOUND LANE WITH TYPE 12 CONCRETE INLET (H=6'-0") LT.					40	18					78				6		1				1-INLET TYPE 12 (6'-0")
70+ To 73+	REQ'D-BRIDGE, STRUCTURE NO. E-16-HA (DETAILS ON SHEET NO'S 14 TO 43)																					
70+ AND 73+	REQ'D-APPROACH SLABS (DETAILS ON SHEET NO. 40)										11,854											101 LIN. FT.-CURB AND GUTTER TYPE 2 (SECTION VARIABLE) 106 LIN. FT.-CURB TYPE 2 (SECTION VARIABLE) 162 LIN. FT.-BRIDGE COMPRESSION JOINT SEALER (TYPE A) 402 SQ. YD.-CONCRETE PAVEMENT (10 INCHES)
71+	REQ'D-IDENTIFICATION SIGN LT. AND RT. ON FORD ST. (STATE FORCES)																					2-IDENTIFICATION SIGNS (STATE FORCES)
75+50	REQ'D-24"x58' MEDIAN DRAIN UNDER EAST BOUND LANE WITH TYPE 12 CONCRETE INLET (H=5'-0") LT. OUTLET DITCH, RT.				4	10	13					58				2		1				1-INLET TYPE 12 (5'-0")
73+ To 76+50	REQ'D-ACCELERATION LANE RT.		*	*					▲	▲												
73+ To 84+	REQ'D-RAMP AND ACCELERATION LANE FROM FRONTAGE ROAD, LT. (DETAILS ON SHEET NO'S 12 & 13)		*	*					▲	▲												
75+ To 87+	REQ'D-FRONTAGE ROAD, LT. (DETAILS ON SHEET NO'S 12 & 13)		*	*					▲	▲												
78+30	REQ'D-ROAD APPROACH TO FRONTAGE ROAD, LT. 18"x52' SIDEDRAIN, LT.		10			5	9	24	13		52					1		2				

STRUCTURE QUANTITIES

FED. ROAD REGION NO.	DIVISION	PROJECT NUMBER	SHEET NO.
9	COLO.	U032-1(7)	7

LOCATION	DESCRIPTION	REMOVAL OF STRUCTURES NO.	EXCAVATION			STRUCTURE EXCAVATION CUBIC YARDS	STRUCTURE BACKFILL CUBIC YARDS CL. 3	AGGREGATE BASE COURSE CL. 6 (HAUL) TONS	HOT BIT. PAVEMENT TONS	CONCRETE CUBIC YARDS CL. "A"	REINFORCING STEEL LBS.	CULVERT PIPE				"H" OVER CULVERT PIPE FT.	CONCRETE SLOPE AND DITCH PAVING CU. YDS.	CULVERT END SECTIONS				MISCELLANEOUS
			CUBIC YARDS									LINEAR FEET						NO.				
			UNCL.	EMB.	DITCH							18"	24"	30"	36"			18"	24"	30"	36"	
80+ To 83+	REQ'D- CONCRETE RETAINING WALL, RT. (DETAILS ON SHEET No's 44 TO 49)					650	775			279	18,494											
82+ To 83+	REQ'D-18"x110' CULVERT WITH TYPE B CONCRETE INLET (H=3'-0") UNDER RAMP, LT.					100	20					110				6		1				1-INLET TYPE B (3'-0")
84+10	REQ'D-18"x56' CROSS CULVERT WITH TYPE A CONCRETE INLET (H=4'-0") UNDER FRONTAGE ROAD, LT.					25	10					56				5		1				1-INLET TYPE A (4'-0")
84+20	REQ'D-24"x52' MEDIAN DRAIN UNDER EAST BOUND. LANE WITH TYPE 12 CONCRETE INLET (H=6'-0"), OUTLET DITCH, RT.			45	40		12					52				4		1				1-INLET TYPE 12 (6'-0")
84+	REQ'D- APPROACH TO FRONTAGE ROAD, LT. FILL LOW SPOT.			3000					35	40												568 YD. MI. HAUL (EMBANKMENT MATERIAL TO BE OBTAINED FROM STORAGE AREA STA. 73+ TO STA. 76+)
88+25	REQ'D-24"x102' CROSS CULVERT WITH TYPE A CONCRETE INLET (H=3'-6"), OUTLET DITCH, RT.			10	80		22					102				5		1				1-INLET TYPE A (3'-6")
88+50 To 97+70	REQ'D- CONCRETE LINED DITCH, RT. (DETAILS ON SHEET No. 51)		*	*												315						
89+10	REQ'D-24"x146' CROSS CULVERT					14	35					146				8		2				
90+10	REQ'D-24"x174' CROSS CULVERT					40	40					174				15		2				
92+10	REQ'D-30"x188' CROSS CULVERT (D.A.=13.3 ACRES ~ K=60)					120	55					188				21		2				

OCTOBER 1960

LOCATION	DESCRIPTION	REMOVAL OF STRUCTURES NO.	EXCAVATION			STRUCTURE EXCAVATION CUBIC YARDS	STRUCTURE BACKFILL CUBIC YARDS CL. 3	AGGREGATE BASE COURSE CL. 6 (HAUL) TONS	HOT BIT. PAVEMENT TONS	CONCRETE CUBIC YARDS CL. "A"	REINFORCING STEEL LBS.	CULVERT PIPE				"H" OVER CULVERT PIPE FT.	CONCRETE SLOPE AND DITCH PAVING CU. YDS.	CULVERT END SECTIONS				MISCELLANEOUS
			CUBIC YARDS									LINEAR FEET						NO.				
			UNCL.	EMB.	DITCH							18" 24" 30" 36"						18" 24" 30" 36"				
87+ To 92+	REQ'D ~ RAMP TO FRONTAGE ROAD, LT. (DETAILS ON SHEET NO'S 12 & 13)		*	*				▲	▲													
94+10	REQ'D ~ 36"x224' CROSS CULVERT (D.A.=30.0 ACRES ~K=60)					60	82						224		22				2			
99+60	REQ'D ~ 24"x144' CROSS CULVERT					50	33						144		10			1				
	FROM TABULATION OF CURB TYPE 6 AND EMBANKMENT PROTECTORS TYPE 5					3														3 TONS-BIT. SLOPE AND DITCH PAVING FOR RUNDOWNS 1300 LIN.FT.-CURB TYPE 6 (SECTION M)		
	TOTAL		105	3,000	61	1,624		1,208	206	94	279	30,348	218	874	188	224		315				

* INCLUDED IN PROFILE QUANTITIES
▲ INCLUDED IN SURFACING PLAN

SURFACING AND SUBBASE PLAN

IT IS ESTIMATED THAT MATERIAL FOR SUBBASE AND SURFACING FOR THE PROJECT ARE TO BE OBTAINED FROM UNDESIGNATED SOURCES.
ESTIMATED QUANTITIES INVOLVED IN THESE OPERATIONS ARE SHOWN BELOW.
ALTERATION OF THE PLANS, AS HERE OUTLINED, WILL BE ALLOWED ONLY ON WRITTEN PERMISSION FROM THE DEPARTMENT.

SURFACING PLAN

STATION	SOURCE & AVAILABLE	T O N S			
		AGGREG. BASE COURSE		HOT BITUMINOUS PAVEMENT	
		CLASS 6		BOTTOM LAYER GRADING E	TOP LAYER GRADING E
60 + 00 % 65 + 00 (AMP. LANE)	UNDESIGNATED	805		421	225
65 + 00 % 70 + 72.8		923		481	258
73 + 27.6 % 99 + 22		4,177		2,180	1,168
ESTIMATED FOR:					
FINISHING SHOULDER (R-1)		110			
RAMPS TO WASHINGTON AVE. ACCEL. LANE, 73+ % 76+, RT.		580		305	250
RAMP & ACCEL. LANE, 73+ % 84+, LT.		28		16	31
		340		180	175
FRONTAGE ROAD, 75+ % 87+, LT.		650		340	265
RAMP & FRONTAGE RD., 87+ % 92+, LT.		215		110	90
STRUCTURE QUANTITIES		206		94	
PROJ. TOTALS =		8,034		4,127	2,462

SUBBASE MATERIAL PLAN

STATION	SOURCE	THICKNESS	AGGREGATE BASE COURSE	
			CLASS 4	
			TONS	
65 + 00 % 70 + 72.8	UNDESIGNATED	6"	1,547	
73 + 27.6 % 90 + 00		6"	4,516	
90 + 00 % 99 + 22		10"	4,222	
ESTIMATED FOR:				
CORRECTING IRREGULARITIES			1,030	
MEDIAN WIDENING, 97+ % 99+		10"	15	
RAMPS & WASHINGTON AVE. ACCEL. LANE, 73+ % 76+, RT.		6"	1,000	
RAMP & ACCEL. LANE 73+ % 84+, LT.		6"	45	
		6"	570	
FRONTAGE ROAD, 75+ % 87+, LT.		6"	1,120	
RAMP & FRONTAGE ROAD, 87+ % 92+, LT.		6"-10"	375	
STRUCTURE QUANTITIES			35	
PROJ. TOTAL =			14,475	

BASED ON DESIGN CURVE "E"

(R-1) Deleted Median Cap - NEM 9/7/66

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	U032-1(7)	9	

FENCING REQUIREMENTS

STATION	DESCRIPTION	SIDE	BUILD FENCE		POSTS	
			CHAIN & LINK LIN. FT.	BARB. WIRE LIN. FT.	END EACH	CORNER & LINE BRACE EACH
64 + 38 % 65 + 78	On R.O.W. Line	RT.	145			
65 + 80 % 71 + 15	North side 7th St.	RT.	525			
64 + 38 % 67 + 40	On R.O.W. Line	LT.	340			
67 + 40 % 70 + 95	South Side of Alley	LT.	440			
73 + 00 % 82 + 00	Between Main Rdwy. & Frontage Rd.	LT.	940			
86 + 25 % 91 + 60	On R.O.W. Line	LT.	560			
91 + 60 % 99 + 10	On R.O.W. Line	LT.		860	2	4
PROJ. TOTALS =			2950	860	2	4

*) Includes End Posts.

TABULATION OF GUARD RAIL

STATION	SIDE	TYPE 3 LIN. FT.
EASTBOUND ON: (LT. SIDE OF RAMP)		
200 + 45 % 203 + 20	RT.	275
WESTBOUND OFF: (LT. SIDE OF RAMP)		
302 + 90 % 305 + 65	LT.	275
69 + 20 % 70 + 70	LT.	150
69 + 15 % 70 + 75	RT.	150
73 + 13 % 74 + 13	LT.	100
80 + 00 % 83 + 50	RT.	350
82 + 00 % 87 + 00	LT.	500
PROJ. TOTAL =		1800

CURB TYPE 6 (SECTION M)

STATION	SIDE	CURB TYPE 6 (SEC. M) LIN. FT.	EMBANKMENT PROTECTOR TYPE 5 TON	STRUCTURE EXCAVATION CU. YDS.
68 + 50 % 70 + 52	RT.	200		
68 + 50			1	1
85 + 50 % 96 + 50	RT.	1,100		
92 + 25	RT.		2	2
PROJ. TOTALS =		1,300	3	3

TABULATION OF CURB & GUTTER

STATION	SIDE	CURB & GUTTER TYPE 2 (Sec. 7-B) LIN. FT.
65 + 00 % 70 + 48	LT.	548
65 + 00 % 70 + 53	RT.	553
73 + 46 % 99 + 22	LT.	2576
73 + 70 % 99 + 22	RT.	2582
PROJ. TOTAL =		6229

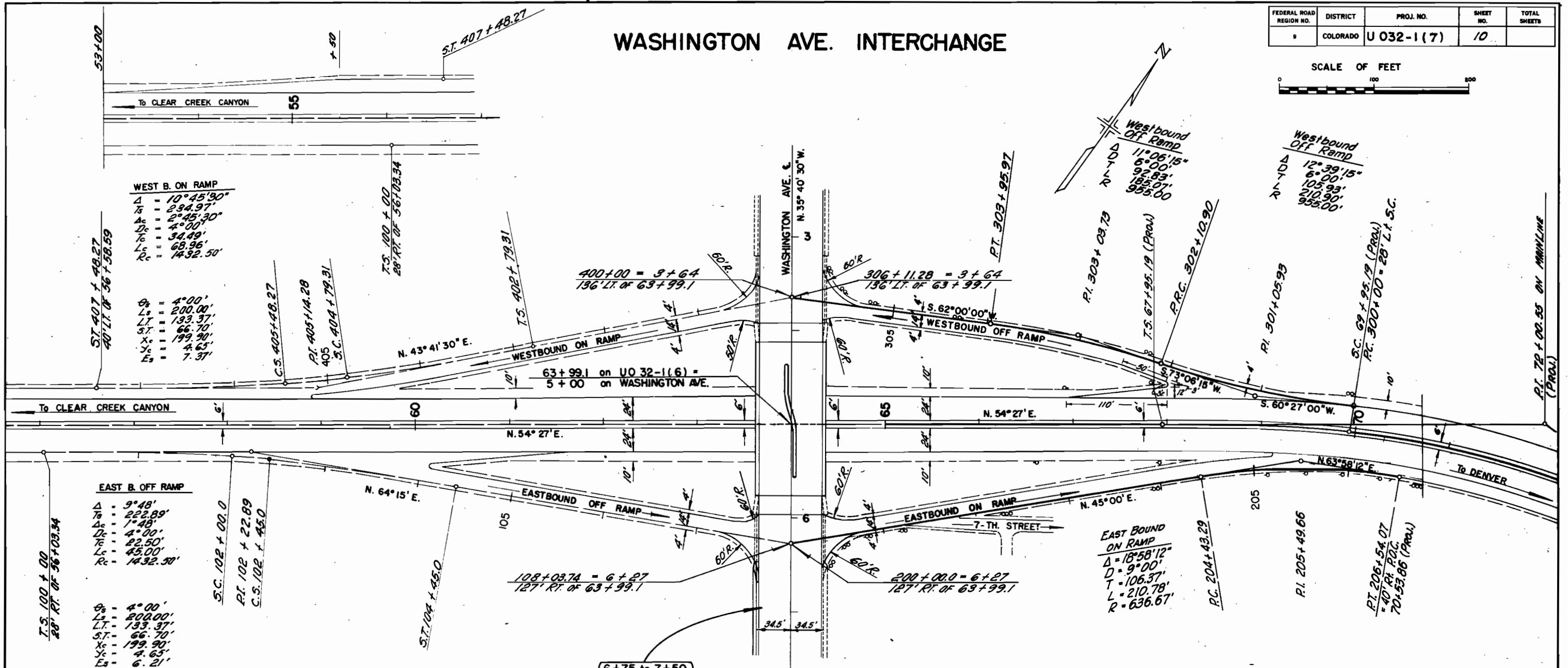
TABULATION OF DELINEATORS

STATION	TYPE		
	I EACH	II EACH	III EACH
65 + 00 % 99 + 22	28	21	3
SEE SHEET NO. 10 & 12 FOR PLACING.			
PROJ. TOTALS =	28	21	3

WASHINGTON AVE. INTERCHANGE

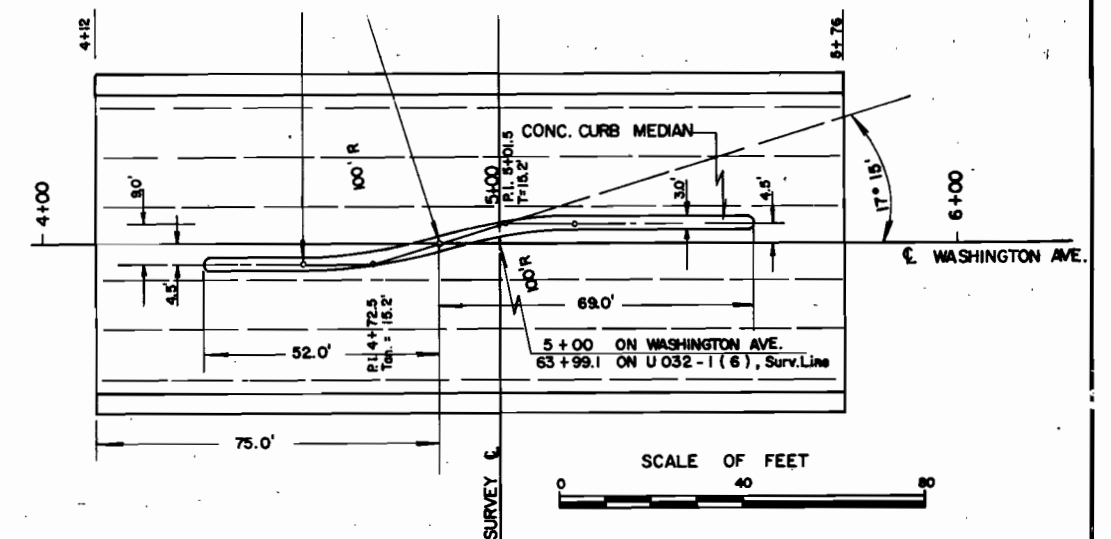
FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	U 032-1 (7)	10	

SCALE OF FEET



(6+75 to 7+50)
See Structure
Quantities

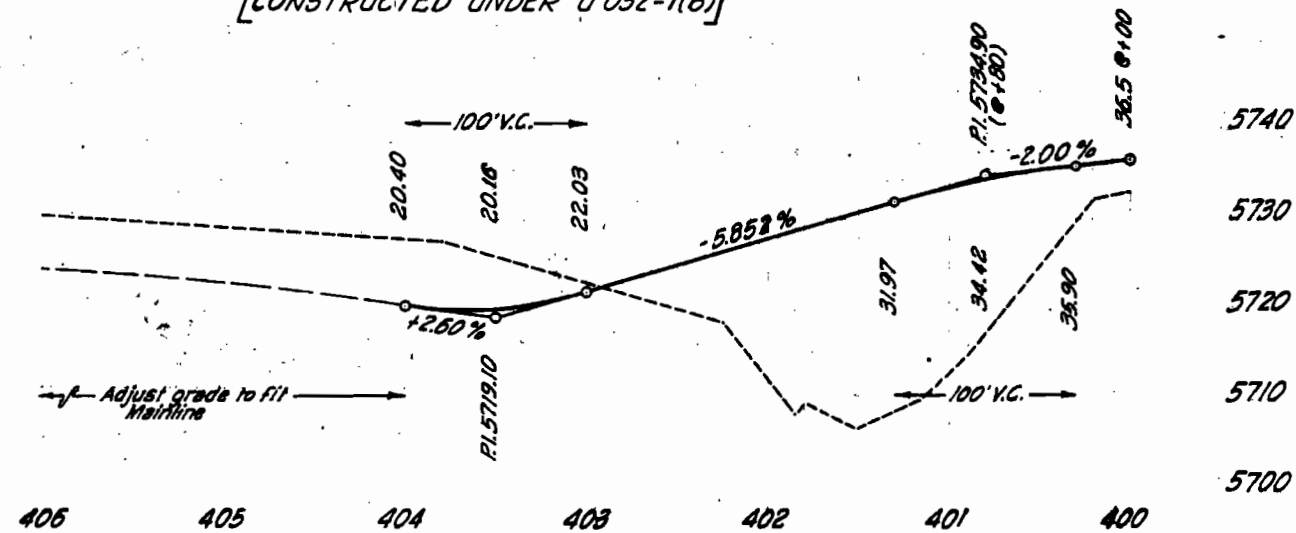
DETAILS OF LEFT TURN LANE



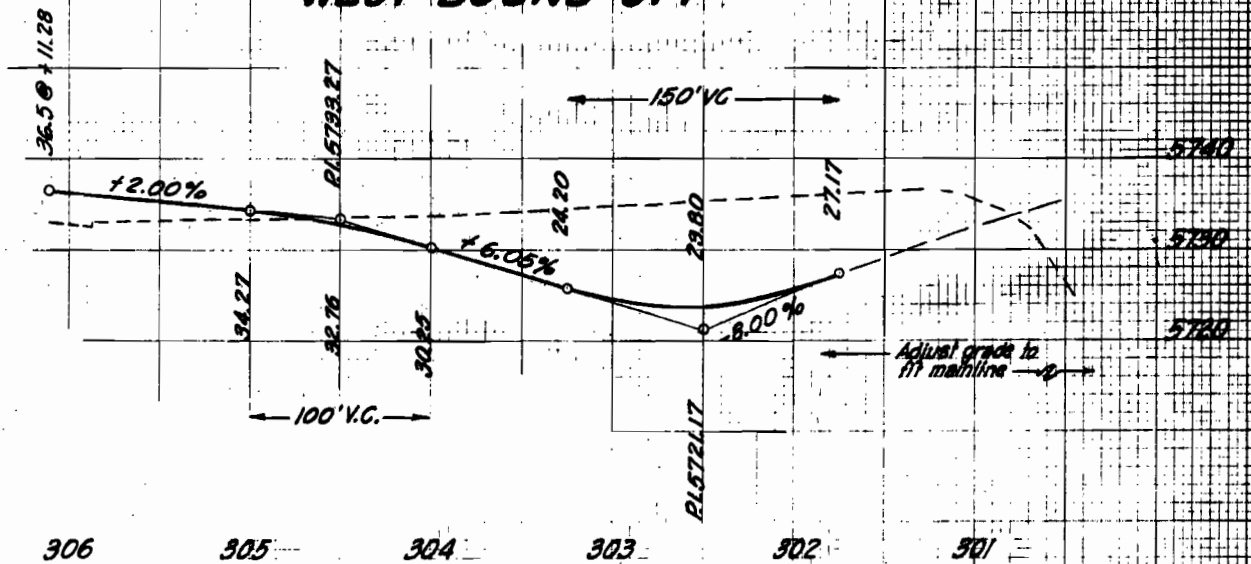
WASHINGTON AVE. INTERCHANGE - RAMP GRADES

FEDERAL RD. DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9 COLORADO	U 032-1(7)	11	

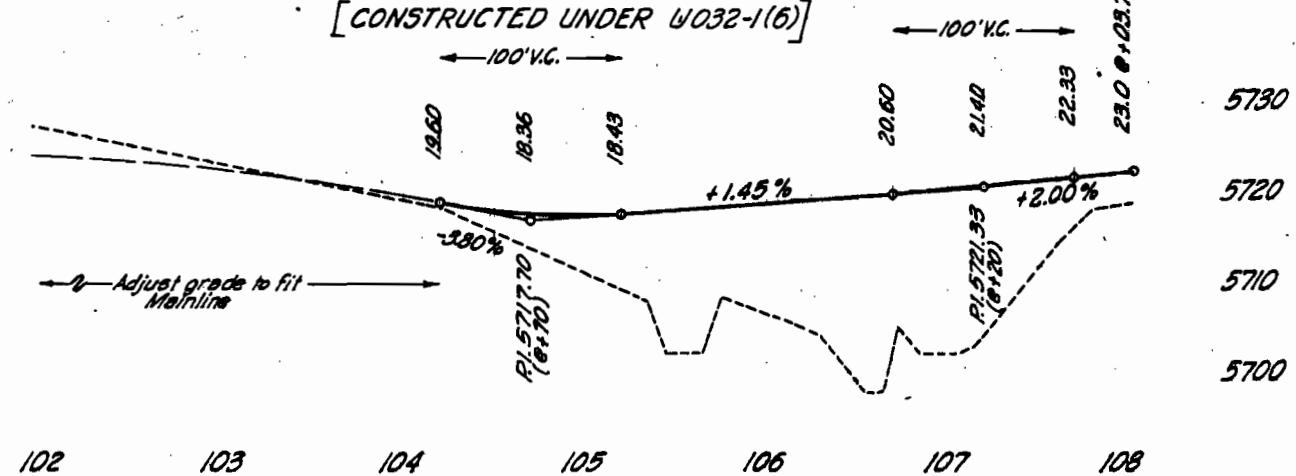
WEST BOUND ON [CONSTRUCTED UNDER U 032-1(6)]



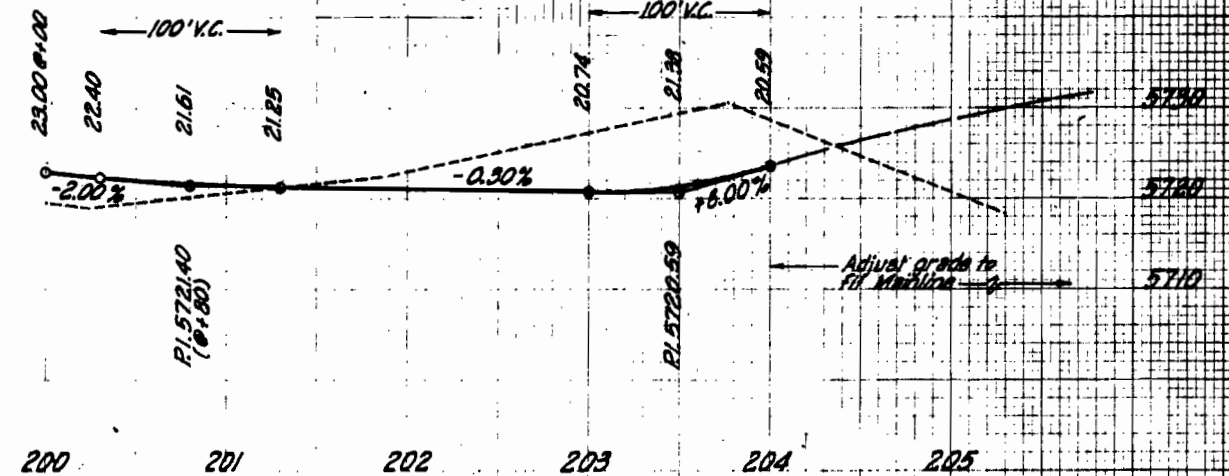
WEST BOUND OFF



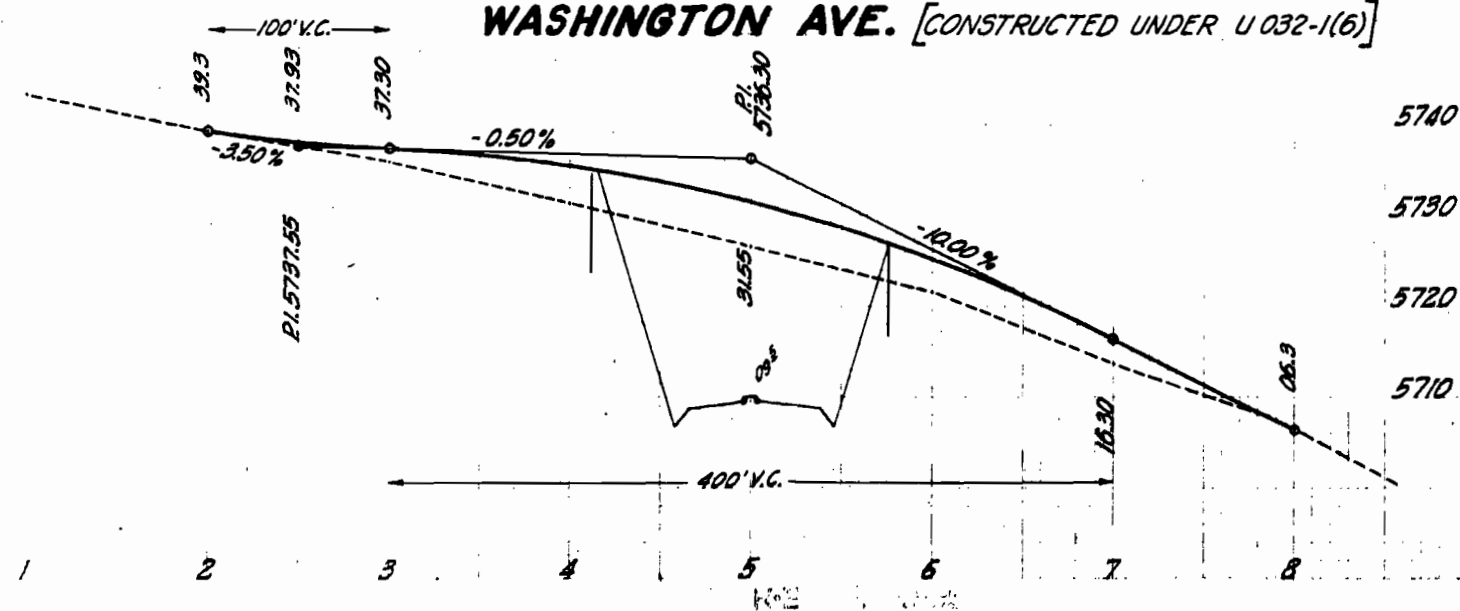
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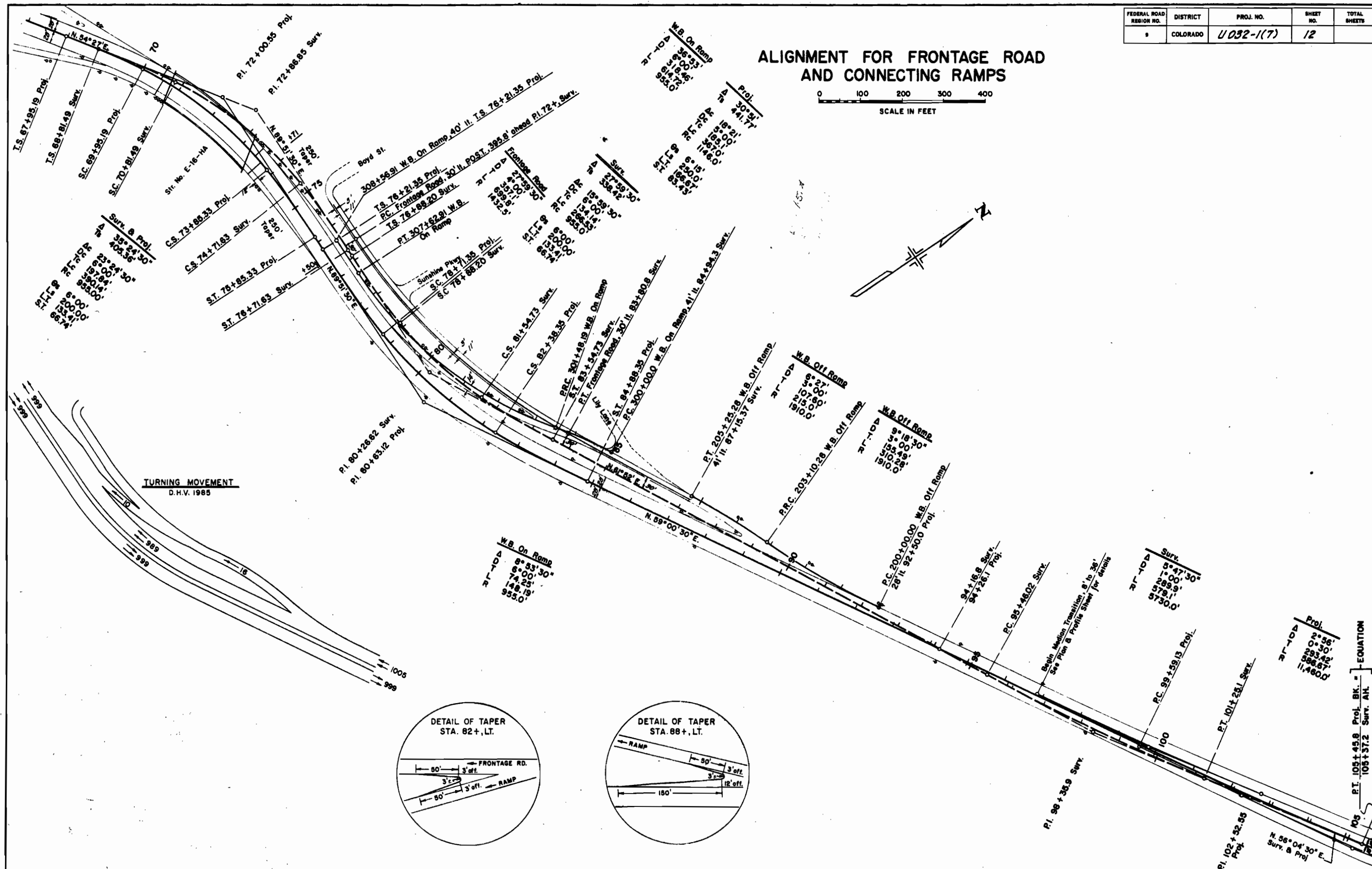
EAST BOUND ON



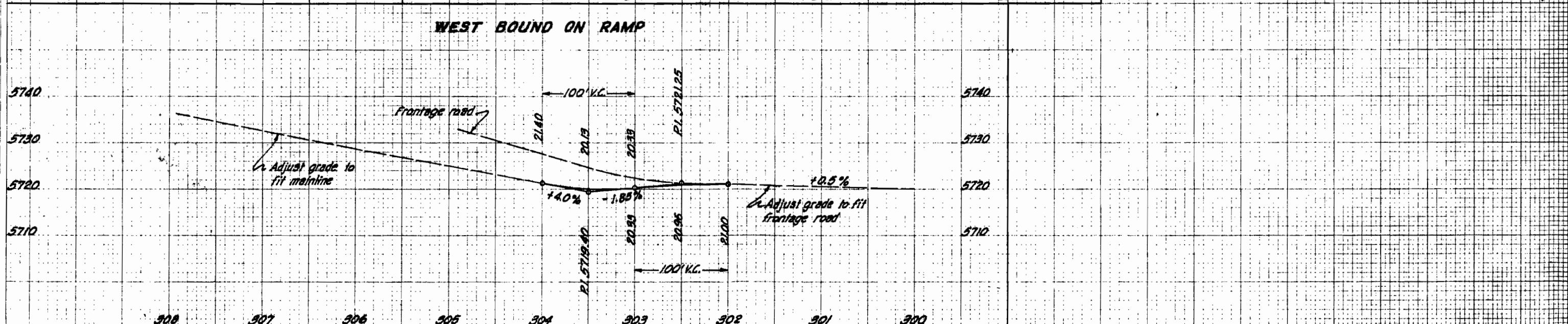
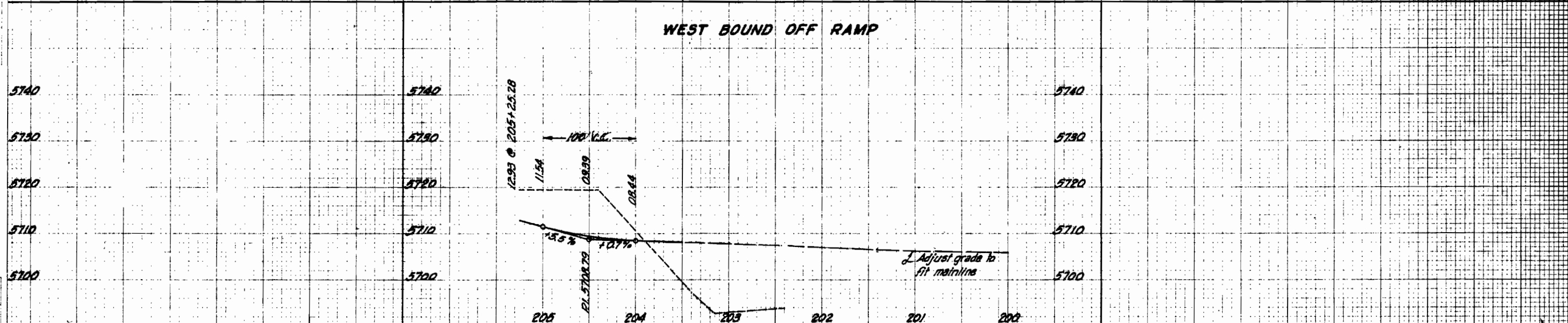
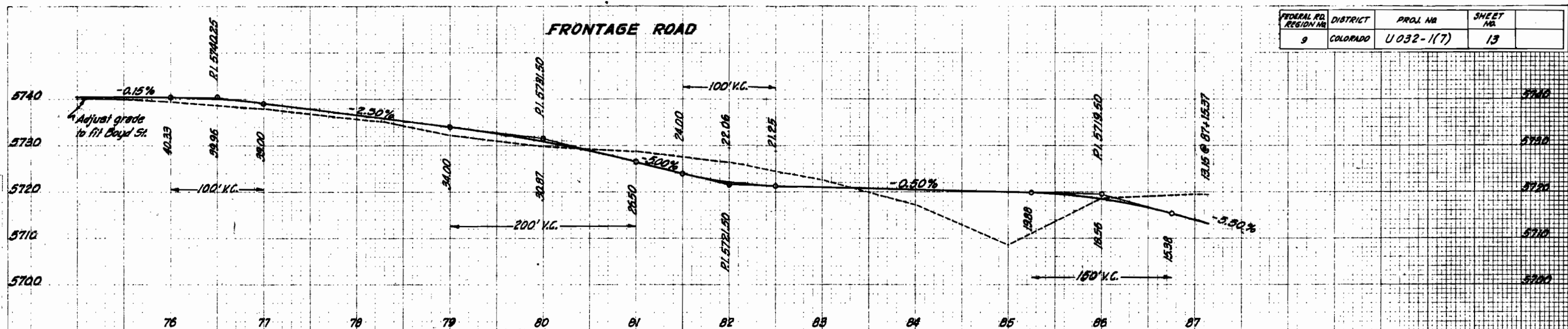
WASHINGTON AVE. [CONSTRUCTED UNDER U 032-1(6)]

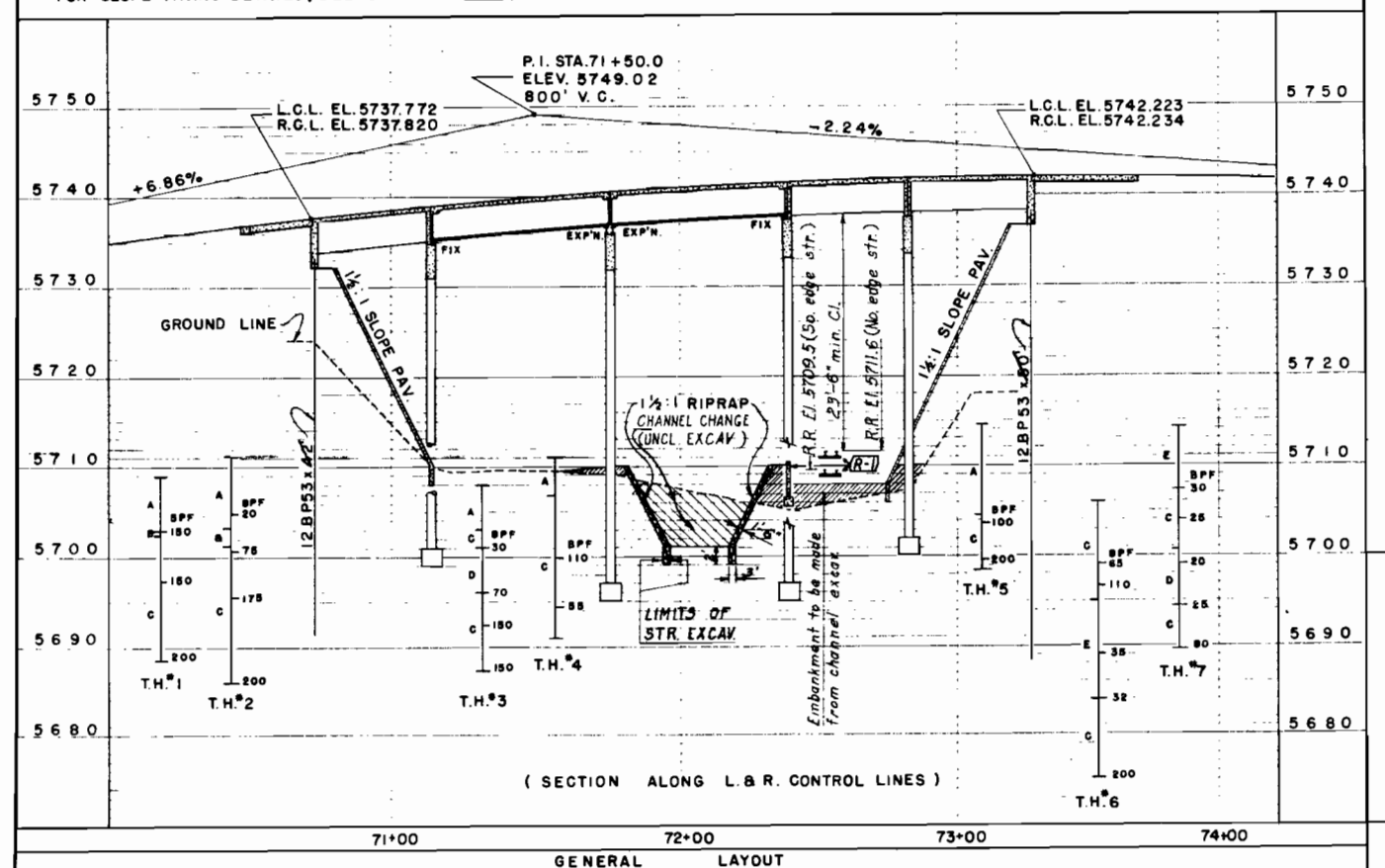
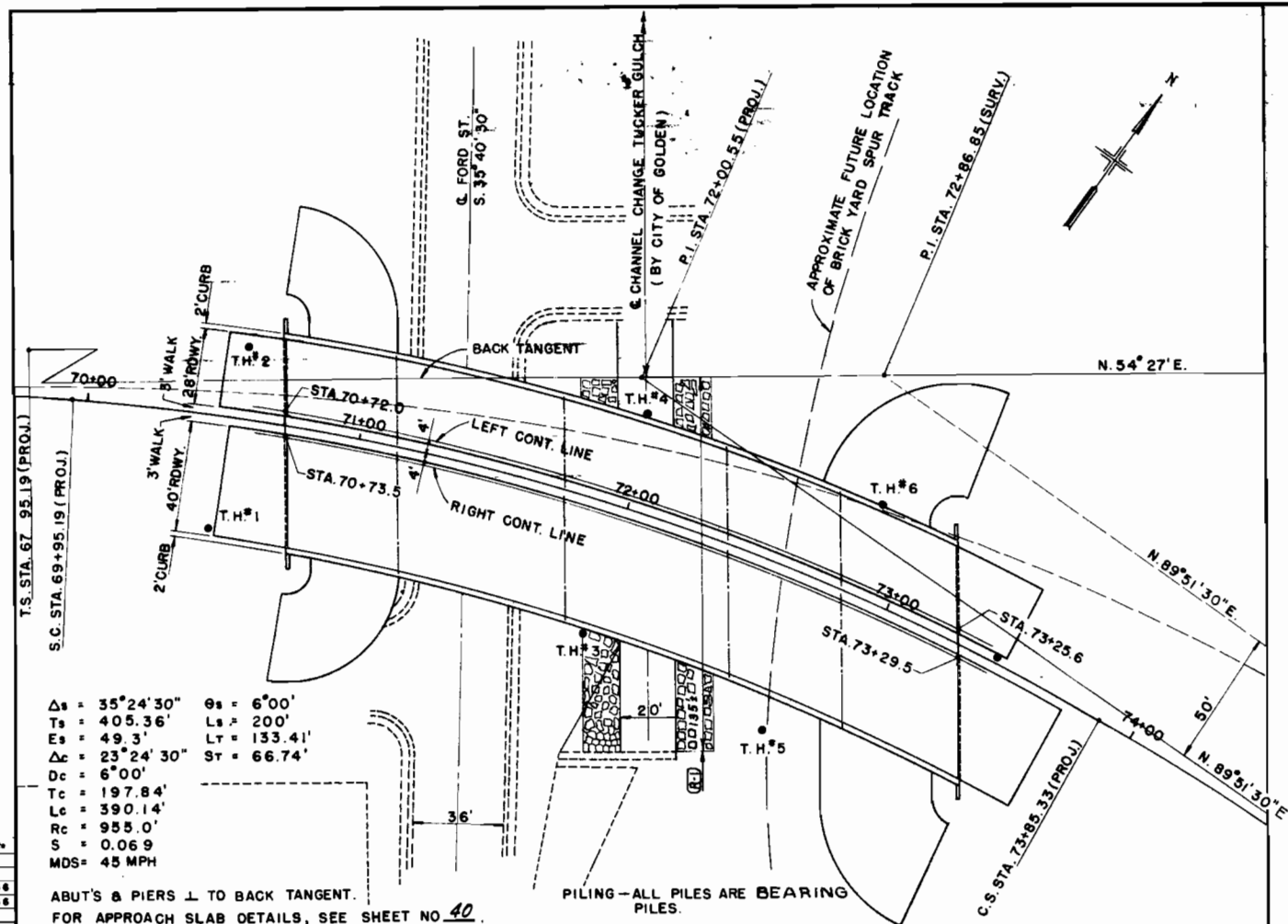


0 100 200 300 400
SCALE IN FEET



FEDERAL RD. REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.
9	COLORADO	U 032-1(7)	13





TEST HOLE SOUNDINGS

A = FILL
B = SAND, GRAVEL, COBBLES
C = SAND, GRAVEL, BOULDERS
D = SAND & GRAVEL
E = SAND, SILT, GRAVEL
BPF = BLOWS PER FOOT

(R-1) Added RR Ret. Wall, Span 4. Changed Riprap
From 90' To 135'. J.W.M. 9/7/66

AS CONSTRUCTED

REVISED DATE 10/1/67 See Sheet #14x

(R-1) - SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	SUPER-STRUCTURE	ABUT. NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	ABUT. NO. 6	TOTAL
203	UNCLASSIFIED EXCAVATION	CU. YD.								575
206	STRUCTURE EXCAVATION	CU. YD.		10	215	293	235	200	12	965
206	STRUCTURE BACKFILL (CLASS III)	CU. YD.		37	185	230	213	173	40	878
203	EMBANKMENT (STANDARD)	CU. YD.								575
502	STEEL PILING (12 BP 53)	LIN. FT.		378					450	828
507	CONCRETE SLOPE & DITCH PAVING (REINFORCED)	CU. YD.		90					130	220
509	STRUCTURAL STEEL (GALVANIZED)	L. S.								L. S.
509	STRUCTURAL STEEL (GALVANIZED)	L. S.								L. S.
506	RIPRAP	CU. YD.				150	150			300
516	DAMPPOOFING (LINSEED OIL)	SQ. YD.	2900							2900
518	BRIDGE COMPRESSION JOINT SEALER (TYPE B)	LIN. FT.	82							82
601	CONCRETE, CLASS A	CU. YD.	7997	337	743	787	928	761	367	1192
602	REINFORCING STEEL	LB.	190485	1290	20714	22320	25830	25430	1394	287463
613	1/2" ELECTRICAL CONDUIT	LIN. FT.	520							520
4	EXP'N. JOINT MAT'L. (TYPE III) AASHTO SPEC. M-193-54	SQ. FT.	180	12			18		13	223

- ① DESIGN WEIGHT = 168935 LB.
- ② DESIGN WEIGHT = 24960 LB.
- ③ INCLUDES QUANTITIES FOR 4 APPR. SLABS.
- ④ TO BE INCLUDED IN THE BID PRICE FOR ITEM 601.
- (R-1) - ⑤ INCLUDES QUANTITIES FOR RET. WALL AT PIER NO. 4.

⑤ SUMMARY OF QUANTITIES FOR 4 APPR. SLABS

DESCRIPTION	UNIT	TOTAL
CONCRETE, PAVEMENT (10 inches)	SQ. YD.	400.2
REINFORCING STEEL	LB.	11854

⑤ QUANTITIES TO BE INCLUDED IN ROADWAY SUMMARY.

GENERAL NOTES

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

ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE BAR DESIGNATION AND STATION NUMBER OF THE PROJECT.

IF BY PERMISSION OF THE ENGINEER PRIMARY BARS ARE SPICED, THEY SHALL LAP A MINIMUM OF 25 DIAMETERS FOR BARS NEAR TOPS OF BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BARS, AND 17 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS. SECONDARY BARS WHEN SPICED SHALL LAP 17 DIAMETERS OF THE BAR.

DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTERLINE OF THE BAR.

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

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

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

FOR DETAILS OF STRUCTURAL EXCAVATION AND STRUCTURE BACKFILL, SEE STANDARD M-208-A.

ALL CONCRETE SURFACES MARKED WITH THE SYMBOL F AS SHOWN ON SHEET NO. 42, SHALL RECEIVE CLASS "B" SURFACE FINISH.

ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 508 FOR GREEN BRIDGE PAINT.

ALL RIVETS SHALL BE 1/2 INCH DIAMETER UNLESS OTHERWISE NOTED.

HIGH TENSILE BOLTS MAY BE SUBSTITUTED FOR FIELD RIVETS AT THE CONTRACTOR'S OPTION. BOLTS SHALL BE FURNISHED IN THE AMOUNT OF TWO PERCENT IN EXCESS OF THE NOMINAL NUMBER REQUIRED FOR EACH SIZE AND LENGTH.

WELDING SHALL CONFORM TO THE LATEST EDITION OF THE A.W.S. STANDARD SPECIFICATIONS FOR WELDING HIGHWAY BRIDGES.

FOR WELDED GIRDERS ALL SHOP BUTT WELDS IN FLANGES AND WEBS SHALL BE MADE BEFORE WELDING INTO GIRDERS.

SHOP WELDS SHALL BE INSPECTED RADIOGRAPHICALLY OR BY THE PENETRANT DYE METHOD.

WHEN TREATED TIMBER PILING IS SHOWN ON THE PLANS, THE PRESERVATIVE FOR TREATMENT SHALL BE CROSCOTE OIL.

ALL STRUCTURAL STEEL NOT OTHERWISE NOTED SHALL BE A.S.T.M. A36-62 T.

ALL CONCRETE CHAMBERS TO BE 3/4" UNLESS OTHERWISE NOTED.

LOADING DATA

LIVE LOAD - A.A.S.H.O. HS 20-44
DEAD LOAD ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/2 INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA

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

Reinforcing Steel $f_s = 20000$ lbs. per sq. in.
Structural Steel $f_s = 18000$ lbs. per sq. in.
Concrete $f_c = 12000$ lbs. per sq. in.
A36 STRUCT. STEEL $f_y = 20000$ LBS PER SQ. IN.
 $n = 10$

COLORADO
DEPARTMENT OF HIGHWAYS

SPAN NO. 2 & 3 @ 80'-11" COMPOSITE CONC. SLAB & STEEL GIRD'S. SPAN NO. 1 @ 40'-0", NO. 4 & 5 @ 43'-0" CONC. SLAB & BRD'S.
28" W.B. RDWY. 40" E.B. RDWY. 2' OUTSIDE CURBS & 6" MEDIAN GURR.
GENERAL LAYOUT & NOTES
SUMMARY OF QUANTITIES

Across FORD ST. & C.B.S. R.R.
Sta. *
Near GOLDEN Sec. 2B T. 3S. R. 70W

Designed by EFS
Made by
Checked by

Approved by *Acharya*
Bridge Engineer
Date: July 7, 1966

* STA. 70+72.0 TO 73+25.6 (28' RDWY.)
STA. 70+73.5 TO 73+29.5 (40' ROWY.)

STRUCTURE NO. E-16-HA

Excavation
Cu. Yds. Area

Embankment
Area Cu. Yds.

Excavation
Cu. Yds. Area

Embankment
Area Cu. Yds.

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U-032-1(7)	14x	

AS CONSTRUCTED
REVISED DATE OCT 4 1967

FINAL CONSTRUCTION SHEET

BRIDGE E16HA

BOOK	PAGE	SHEET	ITEM	DESCRIPTION	UNIT	SUPERSTRUCTURE	ABUT. #1	PIER #2	PIER #3	PIER #4	PIER #5	ABUT. #6	PARTICIPATING			*NON-PARTICIPATING		
													PLAN	FINAL	DIFF	PLAN	FINAL	DIFF
			203	Unexcavated Excavation (Under Deck)	CU. YD.								575	7208	+633			
			206	Structure Excavation	CU. YD.		10	215	293	235	200	12	965	965	0			
			206	Structure Backfill (Gr. II)	CU. YD.		37	185	230	213	175	40	878	878	0	22	22	0
			203	Embankment (Standard)	CU. YD.								575	848	+273			
													887	1160	+273			
1	3-4		502	Steel Piling (ZEPAS)	Lin. Ft.		311.6					312.6	828	424.2	-203.8			
7	3-4		502X	Steel Piling Cutoff	Lin. Ft.		20.3					11.7	0	32	+32			
14	12-13		507	Concrete Slope and Ditch Easing - Reinforced	CU. YD.		116.5					117.3	220	238.8	+18.8			
7	15		509	Structural Steel	L.S.								100%	100%	0			
			509	Structural Steel (Bolt)	L.S.								100%	100%	0			
14	18		506	Rip Rap	CU. YD.				119.3	190	128.7	190	300	248	-52			
14	21		516	Dampproofing (Linedail)	Sq. Yd.		2,713.8	2900					2900	2900	0			
14	30		518	Bridges Compression Joint Sealer - Type B	Lin. Ft.		82						82	82	0			
			601	Concrete, Class A.	CU. YD.	799.7	33.7	74.3	78.7	92.8	76.7	36.7	1192	1192	0	10.4	10.4	0
			602	Reinforcing Steel	LB.	190485	1290	20714	22320	25850	25420	1394	287463	287463	0	2036	2062	+26
14	33		613	1/2" Electrical Conduit	Lin. Ft.	520							520	520	0			
			6	1/2" Exposed Jt. Material, Type A (incl. in bid price, Item 601)	Sq. Ft.	180	12			18		13	223	223	0			

* Field Field Count

* NON-PARTICIPATING
REFER TO WORK
ORDERS 11978 AND
11979

SHEET
TOTALS

EXCAVATION
EXCAVATION
EMBANKMENT

CU. YDS.
CU. YDS.
CU. YDS.

① BAR LIST FOR 4 APPR. SLABS

[illegible]

① BAR LIST & SUMMARY ARE FOR 4 APPROACH
SLABS AND ARE TO BE INCLUDED IN ROADWAY
SUMMARIES.

* STA. 70+72.0 TO 73+25.6 (28' RDWY.)
STA 70+73.5 TO 73+29.5 (40' RDWY.)

STRUCTURE NO. E - 16 - HA



20103 LIN. FT. 1 1/2 @ 0.668 7/8 FT. = 13429
126631 LIN. FT. 1 1/2 @ 1.043 7/8 FT. = 132078
993 LIN. FT. 1 1/2 @ 2.044 7/8 FT. = 2030
1670 LIN. FT. 1 1/2 @ 4.303 7/8 FT. = 7186
6731 LIN. FT. 1 1/2 @ 5.313 7/8 FT. = 35762
TOTAL = 190485 LB

III104	1 1/2'	—	—	—	15	15	43' - 10"	STR.
III108	1	—	—	—	10	10	40' - 0"	STR.
III109	—	—	—	—	10	10	34' - 0"	STR.
III110	1	—	—	—	5	5	25' - 0"	STR.
III111	1 1/2'	—	—	—	—	10	11' - 0"	STR.

① BAR LIST FOR 4 APPR. SLABS

INPUT DATA FOR BRIDGE E-16-HA

STATION	ELEVATION	STATION	ELEVATION
1	100	1	100
2	100	2	100
3	100	3	100
4	100	4	100
5	100	5	100
6	100	6	100
7	100	7	100
8	100	8	100
9	100	9	100
10	100	10	100
11	100	11	100
12	100	12	100
13	100	13	100
14	100	14	100
15	100	15	100
16	100	16	100
17	100	17	100
18	100	18	100
19	100	19	100
20	100	20	100
21	100	21	100
22	100	22	100
23	100	23	100
24	100	24	100
25	100	25	100
26	100	26	100
27	100	27	100
28	100	28	100
29	100	29	100
30	100	30	100
31	100	31	100
32	100	32	100
33	100	33	100
34	100	34	100
35	100	35	100
36	100	36	100
37	100	37	100
38	100	38	100
39	100	39	100
40	100	40	100
41	100	41	100
42	100	42	100
43	100	43	100
44	100	44	100
45	100	45	100
46	100	46	100
47	100	47	100
48	100	48	100
49	100	49	100
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52	100	52	100
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62	100	62	100
63	100	63	100
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65	100	65	100
66	100	66	100
67	100	67	100
68	100	68	100
69	100	69	100
70	100	70	100
71	100	71	100
72	100	72	100
73	100	73	100
74	100	74	100
75	100	75	100
76	100	76	100
77	100	77	100
78	100	78	100
79	100	79	100
80	100	80	100
81	100	81	100
82	100	82	100
83	100	83	100
84	100	84	100
85	100	85	100
86	100	86	100
87	100	87	100
88	100	88	100
89	100	89	100
90	100	90	100
91	100	91	100
92	100	92	100
93	100	93	100
94	100	94	100
95	100	95	100
96	100	96	100
97	100	97	100
98	100	98	100
99	100	99	100

SOUTH OUT			SOUTH OUT		
STA BACK	70+82.7113	5735+2791	STA BACK	73+03.8899	5739+2993
1 TENTH	70+86.9190	5735+2075	1 TENTH	73+08.0516	5739+3233
2 TENTH	70+91.1267	5735+5339	2 TENTH	73+12.10134	5739+3452
3 TENTH	70+95.3345	5735+6582	3 TENTH	73+17.5752	5739+3646
4 TENTH	70+99.5422	5735+7806	4 TENTH	73+22.1369	5739+3821
5 TENTH	71+03.7499	5735+9009	5 TENTH	73+26.6987	5739+3965
6 TENTH	71+07.9576	5736+0193	6 TENTH	73+31.2605	5739+4099
7 TENTH	71+12.1699	5736+1396	7 TENTH	73+35.8222	5739+4232
8 TENTH	71+16.3731	5736+2499	8 TENTH	73+40.3840	5739+4274
STA AHEAD	71+20.5808	5736+3621	9 TENTH	73+44.9458	5739+4326
		5736+4725	STA AHEAD	73+49.5075	5739+4358

SOUTH OUT		
STA BACK	71+26.1394	5736.5075
1 TENTH	71+52.5572	5736.6707
2 TENTH	71+38.9749	5736.8294
3 TENTH	71+45.3926	5736.9833
4 TENTH	71+51.8104	5737.1326
5 TENTH	71+58.2281	5737.2772
6 TENTH	71+64.6458	5737.4171
7 TENTH	71+71.0635	5737.5524
8 TENTH	71+77.4813	5737.6828
9 TENTH	71+83.8990	5737.8087
STA AHEAD	71+90.3167	5737.9299
EVALUATION		

PIER 3 F BRG TO			
PIER 4 W BRG			
PROJECTED			
STA	BACK	71+77.1068	5740.7804
1 TENTH		71+83.1994	5740.9002
2 TENTH		71+89.2920	5741.0159
3 TENTH		71+95.3846	5741.1273
4 TENTH		72+01.4773	5741.2344
5 TENTH		72+07.5699	5741.3373
6 TENTH		72+13.6625	5741.4361
7 TENTH		72+19.7551	5741.5306
8 TENTH		72+25.8477	5741.6209
9 TENTH		72+31.9404	5741.7069
STA AHEAD		72+38.0330	5741.7888

SOUTH STA			
STA	BACK	71+91.5012	5737.9517
1	TENTH	71+97.9329	5738.0676
2	TENTH	72+04.3646	5738.1787
3	TENTH	72+10.7963	5738.2852
4	TENTH	72+17.2280	5738.3869
5	TENTH	72+23.6598	5738.4839
6	TENTH	72+30.0915	5738.5763
7	TENTH	72+36.5232	5738.6639
8	TENTH	72+42.9549	5738.7468
9	TENTH	72+49.3866	5738.8250
STA	AHEAD	72+55.8183	5738.8986
	STATION		ELEVATION

PIER 4 E BRG TO		
PIER 5 W BRG		
PROJECTED		
STA	BACK	72+39.3685 5741.8061
1	TENTH	72+43.6688 5741.8607
2	TENTH	72+47.9692 5741.9132
3	TENTH	72+52.2696 5741.9636
4	TENTH	72+56.5700 5742.0118
5	TENTH	72+60.8704 5742.0580
6	TENTH	72+65.1707 5742.1021
7	TENTH	72+69.4711 5742.1439
8	TENTH	72+73.7715 5742.1838
9	TENTH	72+78.0719 5742.2216
ST	HEAD	72+82.3722 5742.2572

SOUTH OUT			
STA BACK	72+57.2300	5738.9140	
1 TENTH	72+61.7806	5738.9625	
2 TENTH	72+66.3313	5739.0086	
3 TENTH	72+70.8820	5739.0522	
4 TENTH	72+75.4327	5739.0937	
5 TENTH	72+79.9833	5739.1327	
6 TENTH	72+84.5340	5739.1693	
7 TENTH	72+89.0847	5739.2036	
8 TENTH	72+93.6354	5739.2356	
9 TENTH	72+98.1860	5739.2651	
STA AHEAD	73+02.7367	5739.2924	

[illegible]

STATION	STATION
5	7
STA BACK	STA BACK
1 TENTH	1 TENTH
2 TENTH	2 TENTH
3 TENTH	3 TENTH
4 TENTH	4 TENTH
5 TENTH	5 TENTH
6 TENTH	6 TENTH
7 TENTH	7 TENTH
8 TENTH	8 TENTH
9 TENTH	9 TENTH
STA AHEAD	STA AHEAD
71:47:03.0	71:40:59.9
71:48:14.1	71:47:17.1
71:49:25.2	71:48:38.2
71:50:36.3	71:49:49.3
71:51:47.4	71:50:59.4
71:52:58.5	71:52:10.5
71:54:09.6	71:53:21.6
71:55:20.7	71:54:32.7
71:56:31.8	71:55:43.8
71:57:42.9	71:56:54.9
71:58:53.0	71:58:05.0
71:59:04.1	71:59:16.1
71:59:15.2	71:59:27.2
71:59:26.3	71:59:38.3
71:59:37.4	71:59:49.4
71:59:48.5	71:59:59.5
71:59:59.6	72:00:10.6
72:00:10.7	72:00:21.7
72:00:21.8	72:00:32.8
72:00:32.9	72:00:43.9
72:00:44.0	72:00:54.0
72:00:55.1	72:01:05.1
72:01:06.2	72:01:16.2
72:01:17.3	72:01:27.3
72:01:28.4	72:01:38.4
72:01:39.5	72:01:49.5
72:01:50.6	72:02:00.6
72:02:01.7	72:02:11.7
72:02:12.8	72:02:22.8
72:02:23.9	72:02:33.9
72:02:34.0	72:02:44.0
72:02:45.1	72:02:55.1
72:02:56.2	72:03:06.2
72:03:07.3	72:03:17.3
72:03:18.4	72:03:28.4
72:03:29.5	72:03:39.5
72:03:40.6	72:03:50.6
72:03:51.7	72:04:01.7
72:04:02.8	72:04:12.8
72:04:13.9	72:04:23.9
72:04:24.0	72:04:34.0
72:04:35.1	72:04:45.1
72:04:46.2	72:04:56.2
72:04:57.3	72:05:07.3
72:05:08.4	72:05:18.4
72:05:19.5	72:05:29.5
72:05:30.6	72:05:40.6
72:05:41.7	72:05:51.7
72:05:52.8	72:06:02.8
72:06:03.9	72:06:13.9
72:06:14.0	72:06:24.0
72:06:25.1	72:06:35.1
72:06:36.2	72:06:46.2
72:06:47.3	72:06:57.3
72:06:58.4	72:07:08.4
72:07:09.5	72:07:19.5
72:07:20.6	72:07:30.6
72:07:31.7	72:07:41.7
72:07:42.8	72:07:52.8
72:07:53.9	72:08:03.9
72:08:04.0	72:08:14.0
72:08:15.1	72:08:25.1
72:08:26.2	72:08:36.2
72:08:37.3	72:08:47.3
72:08:48.4	72:08:58.4
72:08:59.5	72:09:09.5
72:09:10.6	72:09:20.6
72:09:21.7	72:09:31.7
72:09:32.8	72:09:42.8
72:09:43.9	72:09:53.9
72:09:54.0	72:10:04.0
72:10:05.1	72:10:15.1
72:10:16.2	72:10:26.2
72:10:27.3	72:10:37.3
72:10:38.4	72:10:48.4
72:10:49.5	72:10:59.5
72:11:00.6	72:11:10.6
72:11:11.7	72:11:21.7
72:11:22.8	72:11:32.8
72:11:33.9	72:11:43.9
72:11:44.0	72:11:54.0
72:11:55.1	72:12:05.1
72:12:06.2	72:12:16.2
72:12:17.3	72:12:27.3
72:12:28.4	72:12:38.4
72:12:39.5	72:12:49.5
72:12:50.6	72:13:00.6
72:13:01.7	72:13:11.7
72:13:12.8	72:13:22.8
72:13:23.9	72:13:33.9
72:13:34.0	72:13:44.0
72:13:45.1	72:13:55.1
72:13:56.2	72:14:06.2
72:14:07.3	72:14:17.3
72:14:18.4	72:14:28.4
72:14:29.5	72:14:39.5
72:14:40.6	

Pier 3 Pier 4		ELEVATION
GIRDER	5737-9148	
	5738-0360	
	5738-1564	
	5738-2766	
	5738-3959	
	5738-5146	
	5738-6324	
	5738-7497	
	5738-8663	
	5738-9823	
	5739-0975	
GIRDER	5737-3148	
	5737-4370	
	5737-5586	
	5737-6793	
	5737-7996	
	5737-9190	
	5738-0378	
	5738-1558	
	5738-2732	
	5738-3906	
	5738-5097	
GIRDER	5736-7157	
	5736-8389	
	5736-9613	
	5737-0831	
	5737-2042	
	5737-3244	
	5737-4440	
	5737-5629	
	5737-6829	
	5737-7984	
	5737-9151	
GIRDER	5736-1177	
	5736-2419	
	5736-3675	
	5736-4939	
	5736-6211	
	5736-7511	
	5736-8515	
	5736-9712	
	5737-0899	
	5737-2081	
	5737-3254	
GIRDER	5735-5308	
	5735-6559	
	5735-7813	
	5735-7703	
	5735-8938	
	5736-0167	
	5736-1387	
	5736-2598	
	5736-3802	
	5736-4999	
	5736-6187	
	5736-7367	
	ELEVATION	

STATION	5 TO	STATION
BACK	70+76-1395	
ENTH	70+76-1317	
ENTH	70+82-1445	
ENTH	70+86-1776	
ENTH	70+90-1911	
ENTH	70+94-2046	
ENTH	70+98-2181	
ENTH	71+02-2315	
ENTH	71+06-2445	
ENTH	71+10-2572	
HEAD	71+14-2692	
BACK	70+76-1746	
ENTH	70+80-2207	
ENTH	70+84-2273	
ENTH	70+88-2345	
ENTH	70+92-2385	
ENTH	70+96-2425	
ENTH	71+00-2464	
ENTH	71+04-2501	
ENTH	71+08-2604	
ENTH	71+12-2732	
HEAD	71+16-2782	
BACK	70+76-0467	
ENTH	70+82-1412	
ENTH	70+86-2261	
ENTH	70+90-2313	
ENTH	70+94-2466	
ENTH	70+98-2518	
ENTH	71+02-2619	
ENTH	71+06-2660	
ENTH	71+10-2804	
ENTH	71+14-2897	
HEAD	71+18-2926	
BACK	70+79-9578	
ENTH	70+84-0946	
ENTH	70+88-1593	
ENTH	70+92-1935	
ENTH	70+96-2046	
ENTH	71+00-2439	
ENTH	71+04-2710	
ENTH	71+08-2977	
ENTH	71+13-0538	
ENTH	71+17-1892	
HEAD	71+21-2327	
BACK	70+81-9087	
ENTH	70+86-0887	
ENTH	70+90-2690	
ENTH	70+94-2494	
ENTH	70+98-2299	
ENTH	71+02-2101	
ENTH	71+06-1994	
ENTH	71+11-1694	
ENTH	71+15-2481	
ENTH	71+19-2560	
HEAD	71+23-2029	
	STATION	

ABUT 1 CL BRG
Pier 2 W BRG
GIRDER 5 STA
1
2
3
4
5
6
7
8
9
STA
GIRDER 6 STA
1
2
3
4
5
6
7
8
9
STA
GIRDER 7 STA
1
2
3
4
5
6
7
8
9
STA
GIRDER 8 STA
1
2
3
4
5
6
7
8
9
STA
GIRDER 9 STA
1
2
3
4
5
6
7
8
9
STA

[illegible]

GIRDERS

5739-2810
5739-4304
5739-5765
5739-7820
5739-8699
5739-8740
5740-0132
5740-0132
5740-2951
5740-4338
5740-5708

GIRDERS

5738-5308
5738-6828
5738-8333
5738-9523
5739-2761
5739-2761
5739-4194
5739-5619
5739-7027
5739-8618
5739-9794

GIRDERS

5737-9326
5738-0857
5738-2371
5738-2371
5738-3552
5738-6818
5738-8265
5738-9697
5739-1110
5739-2508
5739-3888

GIRDERS

5737-3355
5737-4521
5737-6821
5737-7928
5737-9418
5738-0891
5738-2346
5738-3783
5738-5203
5738-6604
5738-7987

GIRDERS

5736-7395
5736-8946
5737-0480
5737-1996
5737-3494
5737-4973
5737-6436
5737-7909
5738-0707
5738-0707

[illegible]


COLORADO
DEPARTMENT OF HIGHWAYS

TENTH POINTS	
E-16-HA EAST BOUND	
Designed by	Approved by <i>Richards</i>

COLORADO DEPARTMENT OF HIGHWAYS TENTH POINTS E-16-HA EAST BOUND	
Designed by Made by Checked by	Approved by <i>Richard J. [Signature]</i> Date: <i>July 2, 1966</i>

PROJECT NO U032-1(7)
STRUCT NO E-16-HA WEST BOUND
PORTION OVER FOND ST. AND
C-S R.R. STA. 70+ NEAR GOLDEN
DET JE INPUT CR 4-20-66 DES ES

INPUT DATA FOR BRIDGE E-16-HA

POC = 0070+72.7500 ALPHA = 10 39 11.70- PLOFF = 004.0000 GBK = 6.8600
PI = 0071+50.0000 EPI = 5749.0200 CLOFF = 000.0000 GAH = 2.2400-
CTLST = 0070+72.7500 RADIUS = 00955.0000 CTLS = 000.0000 SUPER = .0890
VC = 00800.00 PLES = 0.0000

STATION	ELEVATION	STATION	ELEVATION
ABUT 1 CL BRG TO PIER 2 CL W BRG		PIER 5 F BRG ABUT 6 CL NORTH OUT	
GIRDER 1		GIRDER 1	
STA BACK 70+68.9089 5739.4312		STA BACK 72+69.7685 5743.8718	
1 TENTH 70+72.1870 5739.5491		1 TENTH 72+73.8969 5743.9100	
2 TENTH 70+76.0659 5739.6665		2 TENTH 72+78.0253 5743.9461	
3 TENTH 70+79.9454 5739.7835		3 TENTH 72+82.1538 5743.9805	
4 TENTH 70+83.8254 5739.8997		4 TENTH 72+86.2822 5744.0128	
5 TENTH 70+87.7056 5740.0153		5 TENTH 72+90.4106 5744.0432	
6 TENTH 70+91.5861 5740.1304		6 TENTH 72+94.5390 5744.0716	
7 TENTH 70+95.4666 5740.2449		7 TENTH 72+98.6674 5744.0982	
8 TENTH 70+99.3471 5740.3588		8 TENTH 73+02.7958 5744.1228	
9 TENTH 71+03.2274 5740.4721		9 TENTH 73+06.9243 5744.1454	
STA AHEAD 71+07.1074 5740.5849		STA AHEAD 73+11.0527 5744.1661	
GIRDER 2		GIRDER 2	
STA BACK 70+69.9093 5738.8674		STA BACK 72+83.4607 5741.7139	
1 TENTH 70+73.8230 5738.9863		1 TENTH 72+87.7611 5741.7469	
2 TENTH 70+77.7375 5739.1045		2 TENTH 72+92.0615 5741.7778	
3 TENTH 70+81.6525 5739.2222		3 TENTH 72+96.3619 5741.8066	
4 TENTH 70+85.5679 5739.3393		4 TENTH 73+00.6623 5741.8333	
5 TENTH 70+89.4836 5739.4558		5 TENTH 73+04.9626 5741.8578	
6 TENTH 70+93.3994 5739.5716		6 TENTH 73+09.2630 5741.8803	
7 TENTH 70+97.3152 5739.6869		7 TENTH 73+13.5634 5741.9008	
8 TENTH 71+01.2309 5739.8015		8 TENTH 73+17.8638 5741.9191	
9 TENTH 71+05.1464 5739.9155		9 TENTH 73+22.1642 5741.9352	
STA AHEAD 71+09.0615 5740.0289		STA AHEAD 73+26.4645 5741.9493	
GIRDER 3		GIRDER 3	
STA BACK 70+71.5392 5738.3044		STA BACK 72+83.4607 5741.7139	
1 TENTH 70+75.4892 5738.4242		1 TENTH 72+87.7611 5741.7469	
2 TENTH 70+79.4398 5738.5433		2 TENTH 72+92.0615 5741.7778	
3 TENTH 70+83.3910 5738.6619		3 TENTH 72+96.3619 5741.8066	
4 TENTH 70+87.3425 5738.7797		4 TENTH 73+00.6623 5741.8333	
5 TENTH 70+91.2942 5738.8970		5 TENTH 73+04.9626 5741.8578	
6 TENTH 70+95.2460 5739.0137		6 TENTH 73+09.2630 5741.8803	
7 TENTH 70+99.1977 5739.1297		7 TENTH 73+13.5634 5741.9008	
8 TENTH 71+03.1493 5739.2450		8 TENTH 73+17.8638 5741.9191	
9 TENTH 71+07.1005 5739.3598		9 TENTH 73+22.1642 5741.9352	
STA AHEAD 71+11.0513 5739.4738		STA AHEAD 73+26.4645 5741.9493	
GIRDER 4		GIRDER 4	
STA BACK 70+73.1994 5737.7424		STA BACK 72+83.4607 5741.7139	
1 TENTH 70+77.1863 5737.8630		1 TENTH 72+87.7611 5741.7469	
2 TENTH 70+81.1738 5737.9830		2 TENTH 72+92.0615 5741.7778	
3 TENTH 70+85.1617 5738.1023		3 TENTH 72+96.3619 5741.8066	
4 TENTH 70+89.1500 5738.2211		4 TENTH 73+00.6623 5741.8333	
5 TENTH 70+93.1383 5738.3392		5 TENTH 73+04.9626 5741.8578	
6 TENTH 70+97.1267 5738.4566		6 TENTH 73+09.2630 5741.8803	
7 TENTH 71+01.1150 5738.5734		7 TENTH 73+13.5634 5741.9008	
8 TENTH 71+05.1031 5738.6895		8 TENTH 73+17.8638 5741.9191	
9 TENTH 71+09.0907 5738.8049		9 TENTH 73+22.1642 5741.9352	
STA AHEAD 71+13.0778 5738.9196		STA AHEAD 73+26.4645 5741.9493	
PIER 2 CL E BRG TO PIER 3 CL W BRG		PIER 4 CL E BRG TO PIER 5 CL W BRG	
GIRDER 1		GIRDER 1	
STA BACK 71+08.2677 5740.6433		STA BACK 72+28.4477 5743.1728	
1 TENTH 71+12.1715 5740.7606		1 TENTH 72+32.6151 5743.2214	
2 TENTH 71+16.0777 5740.8765		2 TENTH 72+36.7836 5743.2693	
3 TENTH 71+20.0858 5741.0812		3 TENTH 72+40.9531 5743.3168	
4 TENTH 71+24.0939 5741.2246		4 TENTH 72+45.1233 5743.3634	
5 TENTH 71+28.1020 5741.3667		5 TENTH 72+49.2941 5743.4093	
6 TENTH 71+32.1101 5741.5073		6 TENTH 72+53.4643 5743.4547	
7 TENTH 71+36.1182 5741.6466		7 TENTH 72+57.6369 5743.4992	
8 TENTH 71+40.1263 5741.7845		8 TENTH 72+61.8085 5743.5433	
9 TENTH 71+44.1344 5741.9210		9 TENTH 72+65.9801 5743.5864	
STA AHEAD 71+48.1425 5742.0563		STA AHEAD 72+70.1515 5743.6290	
GIRDER 2		GIRDER 2	
STA BACK 71+10.2574 5740.0803		STA BACK 72+31.6489 5742.5976	
1 TENTH 71+14.2158 5740.2286		1 TENTH 72+35.8552 5742.6461	
2 TENTH 71+18.1742 5740.3755		2 TENTH 72+40.0623 5742.6941	
3 TENTH 71+22.1326 5740.5212		3 TENTH 72+44.2703 5742.7414	
4 TENTH 71+26.0910 5740.6654		4 TENTH 72+48.4790 5742.7880	
5 TENTH 71+30.0494 5740.8082		5 TENTH 72+52.6881 5742.8339	
6 TENTH 71+34.0078 5740.9496		6 TENTH 72+56.8975 5742.8790	
7 TENTH 71+37.9662 5741.0897		7 TENTH 72+61.1071 5742.9236	
8 TENTH 71+41.9246 5741.2282		8 TENTH 72+65.3167 5742.9673	
9 TENTH 71+45.8830 5741.3654		9 TENTH 72+69.5261 5743.0103	
STA AHEAD 71+49.8414 5741.5010		STA AHEAD 72+73.7352 5743.0527	
GIRDER 3		GIRDER 3	
STA BACK 71+12.2840 5739.5181		STA BACK 72+34.9097 5742.0226	
1 TENTH 71+16.2424 5739.6674		1 TENTH 72+39.1553 5742.0713	
2 TENTH 71+20.1999 5739.8154		2 TENTH 72+43.4017 5742.1192	
3 TENTH 71+24.1573 5739.9620		3 TENTH 72+47.6489 5742.1665	
4 TENTH 71+28.1148 5740.1070		4 TENTH 72+51.8966 5742.2129	
5 TENTH 71+32.0722 5740.2506		5 TENTH 72+56.1446 5742.2587	
6 TENTH 71+36.0296 5740.3928		6 TENTH 72+60.3929 5742.3037	
7 TENTH 71+40.0870 5740.5335		7 TENTH 72+64.6411 5742.3479	
8 TENTH 71+44.0444 5740.6728		8 TENTH 72+68.8892 5742.3915	
9 TENTH 71+48.0018 5740.8105		9 TENTH 72+73.1370 5742.4343	
STA AHEAD 71+52.0592 5740.9466		STA AHEAD 72+77.3843 5742.4763	
GIRDER 4		GIRDER 4	
STA BACK 71+14.3484 5738.9569		STA BACK 72+38.2315 5741.4483	
1 TENTH 71+18.3068 5739.1072		1 TENTH 72+42.5171 5741.4968	
2 TENTH 71+22.2652 5739.2561		2 TENTH 72+46.8035 5741.5447	
3 TENTH 71+26.2236 5739.4036		3 TENTH 72+51.0905 5741.5918	
4 TENTH 71+30.1820 5739.5495		4 TENTH 72+55.3778 5741.6380	
5 TENTH 71+34.1404 5739.6938		5 TENTH 72+59.6654 5741.6837	
6 TENTH 71+38.0988 5739.8368		6 TENTH 72+63.9530 5741.7284	
7 TENTH 71+42.0572 5739.9781		7 TENTH 72+68.2405 5741.7725	
8 TENTH 71+46.0156 5740.1179		8 TENTH 72+72.5277 5741.8157	
9 TENTH 71+50.0740 5740.2562		9 TENTH 72+76.8144 5741.8583	
STA AHEAD 71+54.0324 5740.3928		STA AHEAD 72+81.1005 5741.8999	

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
9	COLORADO	U032-1(7)	18

COLORADO
DEPARTMENT OF HIGHWAYS
TENTH POINTS
E-16-HA WEST BOUND

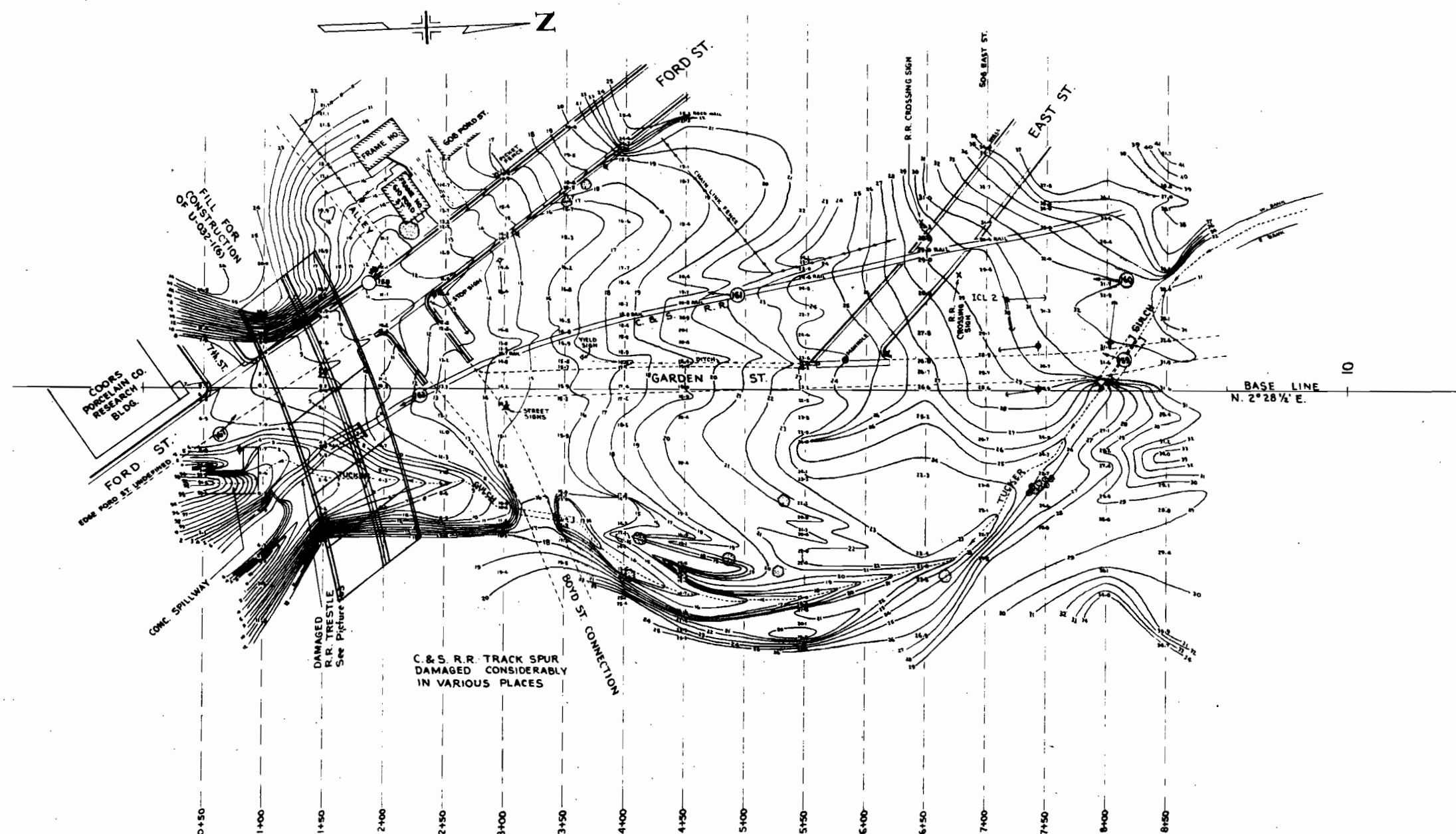
Designed by
Made by
Checked by

Approved by
Date: July 7, 1966

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	U032-1(7)	19	

TOPOGRAPHIC MAP
OF AREA AT FORD ST. & GARDEN ST.
IN GOLDEN, COLORADO

SURVEYED AUGUST 3, 1965
DRAWN BY A.F.D. AUGUST 18, 1965



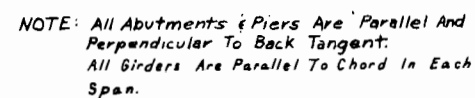
* STA. 70+72.0 TO 73+25.6 (28' RDWY)
STA. 70+73.5 TO 73+29.5 (40' RDWY)

STRUCT. NO. E-16-HA

DEPARTMENT OF HIGHWAYS STATE OF COLORADO	
TOPOGRAPHIC MAP FOR REFERENCE ONLY	
Across FORD ST. & C & S R.R.	
Near GOLDEN Sec. 28 T. 3 S. R. 70 W.	
Designed by	Approved by <i>P. J. H. H. H.</i>
Made by	Bridge Engineer
Checked by	Date July 7, 1966

FT. OF INTEREST
SITE OF COLONIAL
BIA B.O. IL 117
JY 1964

	Initial	Date
REMOVED BY		
CHECKED BY		
SAWN BY		
CHECKED BY		
TACED BY		
CHECKED BY		



SPAN No.2

CENTER OF
PIER COL'S.

PILING LAYOUT ABUT. NO. 1
 STA. 70+72.0 TO 73+25.6 (28'-0" ROW)
 STA. 70+73.5 TO 73+29.5 (40'-0" ROW)
 Across FORD ST. & C. & S. R.R.

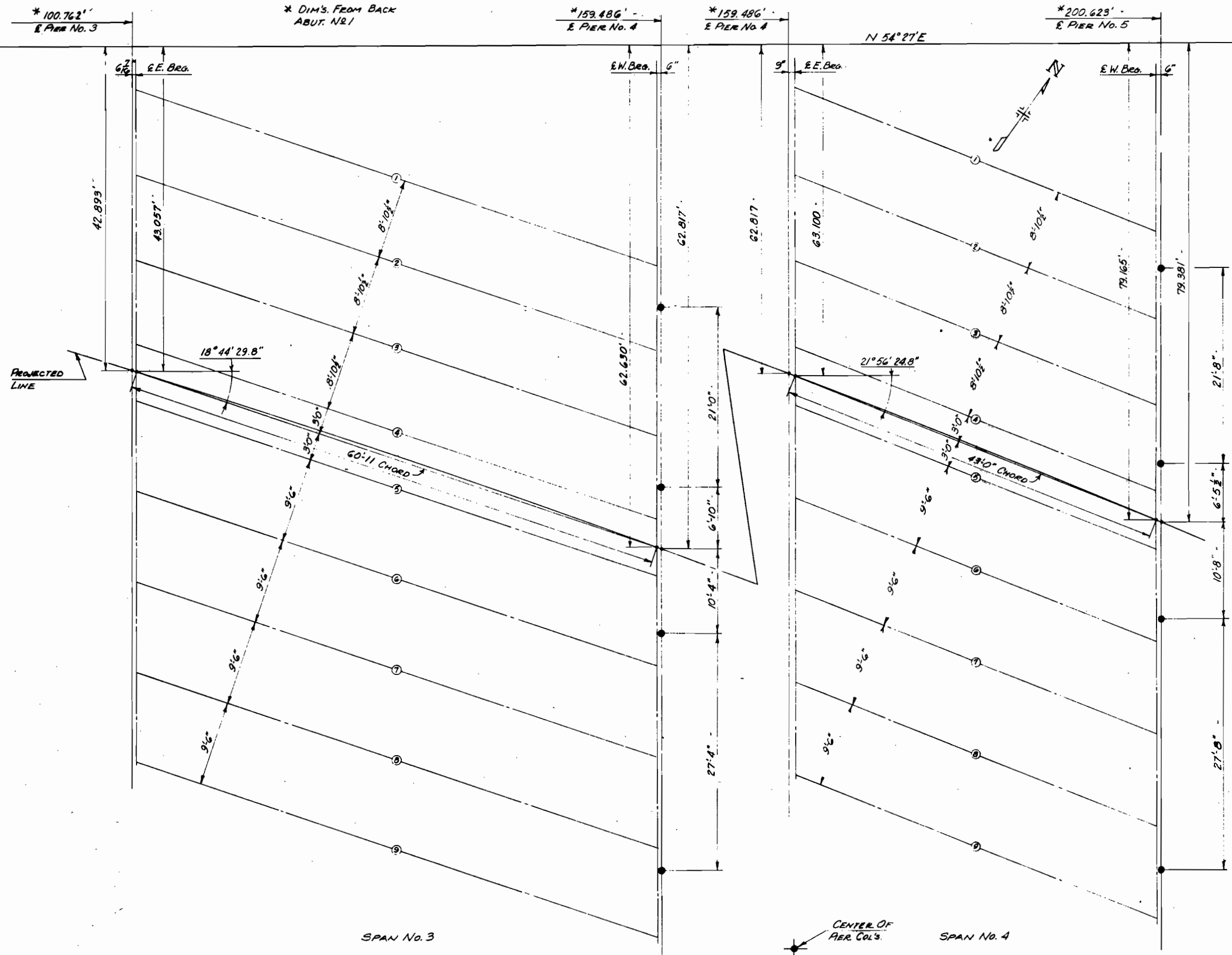
Across _____ Sta _____
Near GOLDEN Sec. 28 T. 35 R. 10W
Designed by EFS Approved by P. H. W. and
Made by JRE Bridge Engineer
Checked by _____ Date: July 7, 1966

STRUCTURE NO. E-16-HA

IN HIGHWAYS
OF COLORADO
D.O. N. 117
84

REVISIONS

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1(7)	21	



DATE	BY	INITIAL	DATE
DESIGNED BY			
CHECKED BY			
IN CHARGE			
APPROVED BY			

**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**
CONSTRUCTION LAYOUT
SPAN No. 3 & No. 4

Sta. 70+72.0 To 73+25.6 (28'0" ROW'Y.)
Sta. 70+73.5 To 73+29.5 (40'0" ROW'Y.)
Across FORD ST. & C.S.R.R.

Sta. GOLDEN Sec. 28 T. 35 R. 10W

Designed by EFS Approved by REH
Made by JRE Bridge Engineer
Checked by _____ Date: July 7, 1966

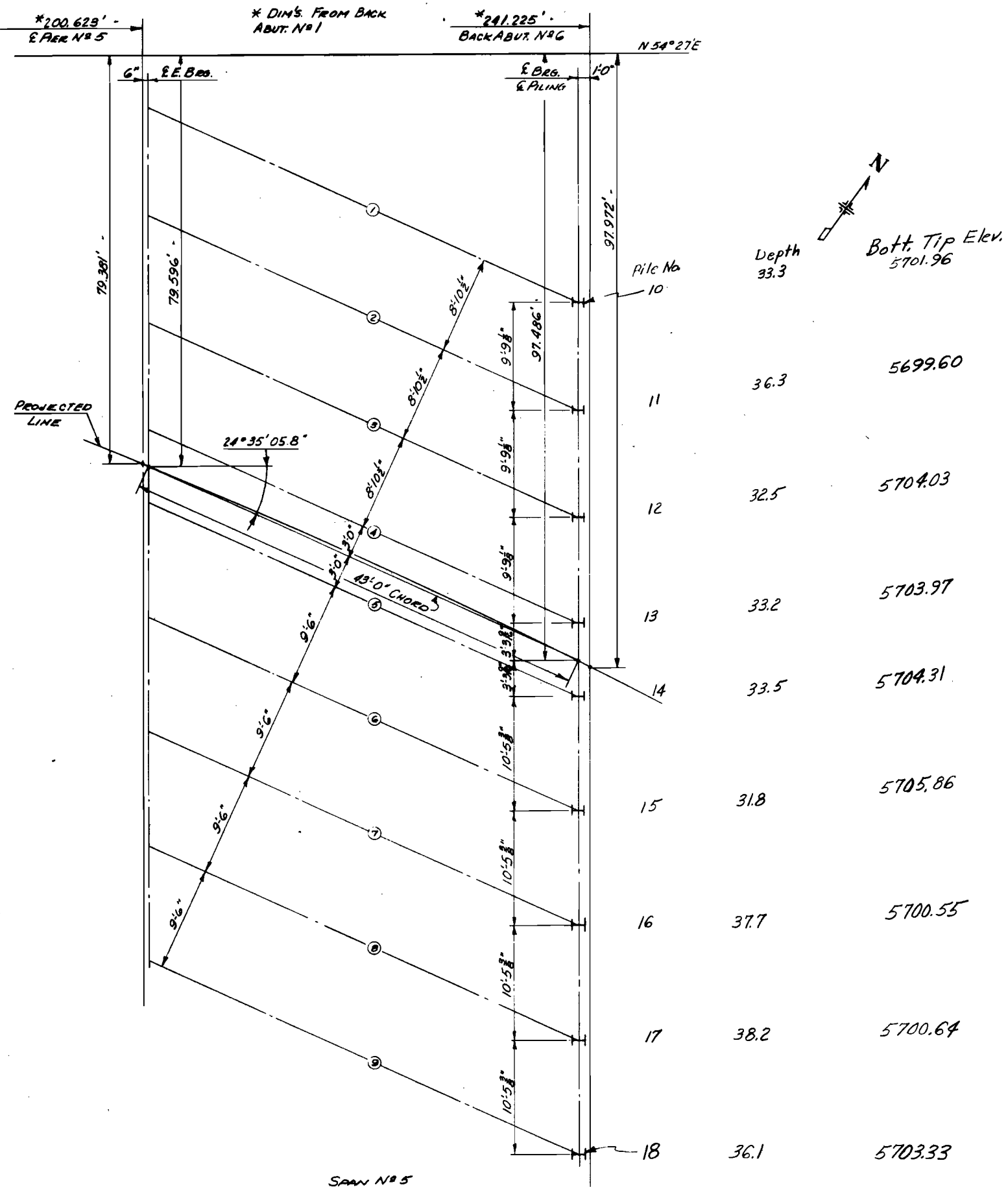
STRUCTURE NO. E-16-HA

7. OF HIGHWAYS
175 OF COLORADO
BY E. G. H. 117
7 1966

REVISIONS

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U032-1(7)	22	

AS CONSTRUCTED
REVISED DATE OCT 4 1967

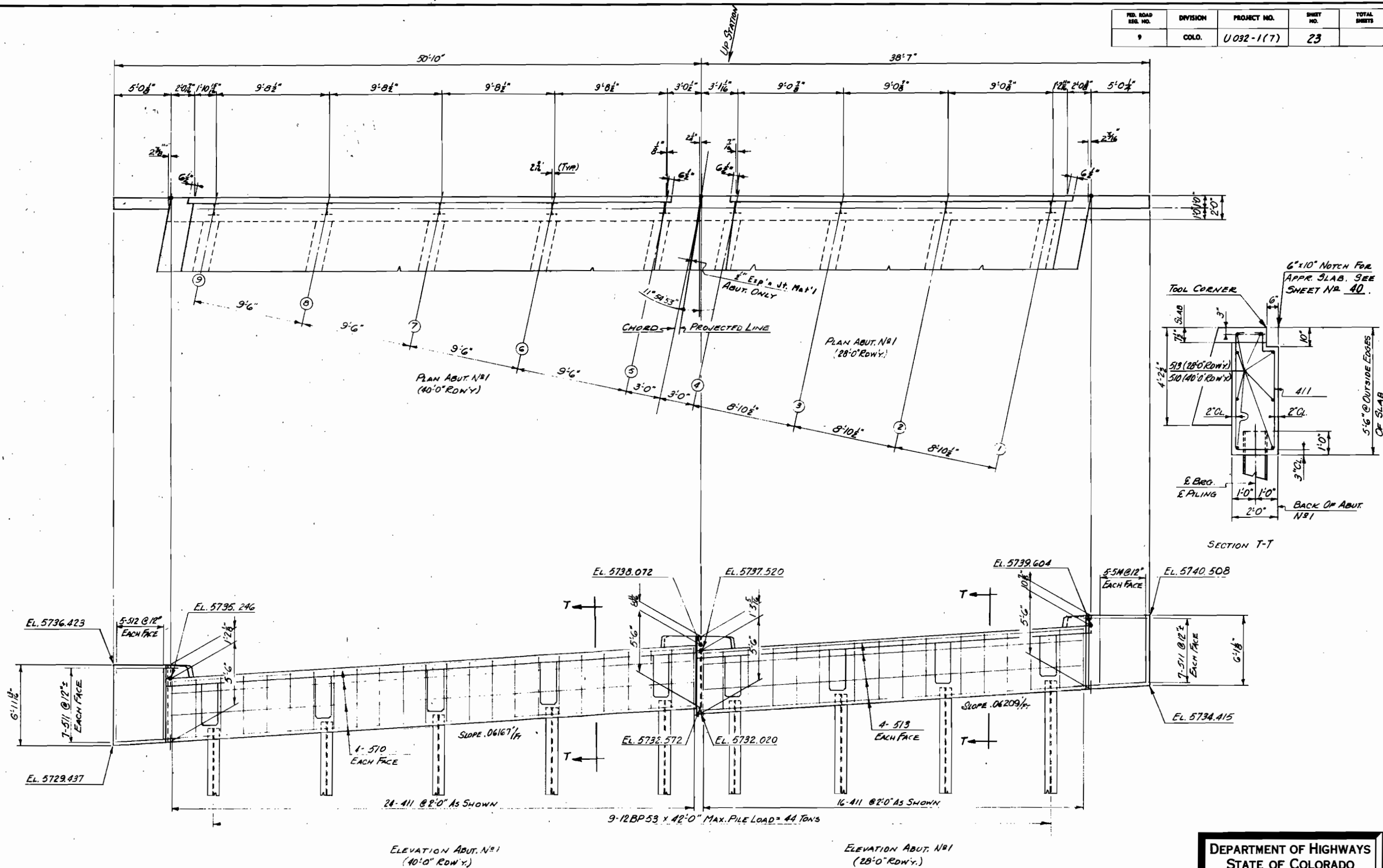


DESIGNED BY	CHECKED BY	DATE

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
CONSTRUCTION LAYOUT
SPAN No 5
PILING LAYOUT ABUT. NO 6
Sta. 70+72.0 TO 73+25.6 (28'-0" ROW W.)
Sta. 70+73.5 TO 73+29.5 (40'-0" ROW W.)
Across FORD ST. & C. & S. R.R.
Near GOLDEN, Sec 28 T. 35 S. R. 70 W.
Designed by JRE Approved by R. J. H. R. 1966
Made by JRE Bridge Engineer
Checked by Date: July 3, 1966

STRUCTURE NO. E-16-HA

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	1032-1(7)	23	



Note: All Elevations Are At Backface.

**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**

DETAILS ABUT. N°1
(28'-0" & 40'-0" ROW Y.)

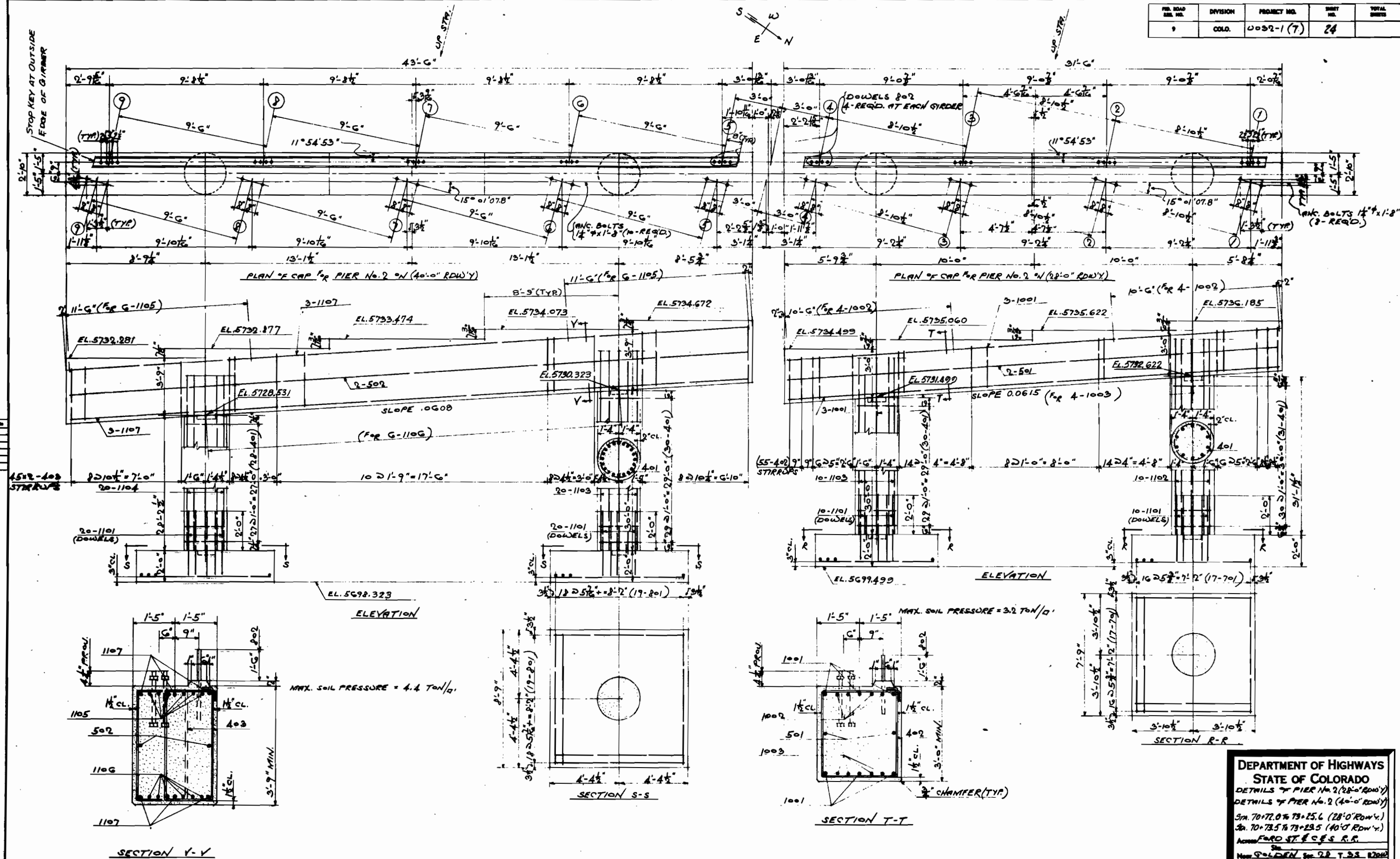
Sta. 70+72.076-73+25.6 (28'-0" ROW Y.)
Sta. 70+73.576-73+29.5 (40'-0" ROW Y.)
Across FRED ST. & C.F.S.R.R.

See
Near GOLDEN Sec. 28 T. 35 R. 70W

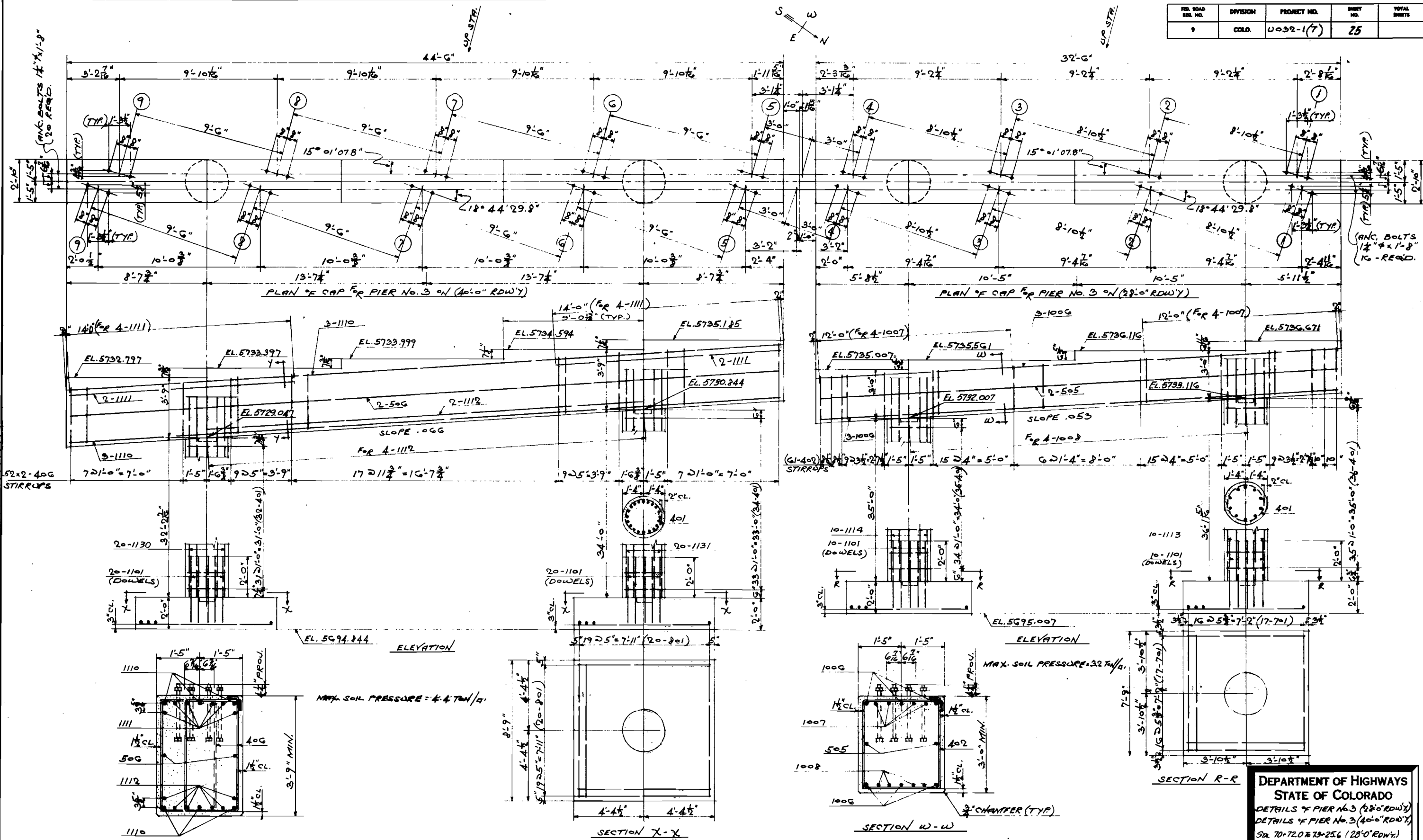
Designed by JRS
Made by JRE
Checked by

Approved by R. H. H. H. H.
Bridge Engineer
Date: July 7, 1966

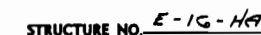
REV. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	0032-1 (7)	24	



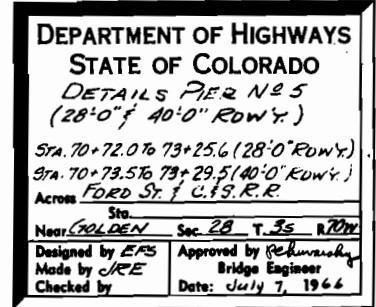
FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	0032-1(7)	25	



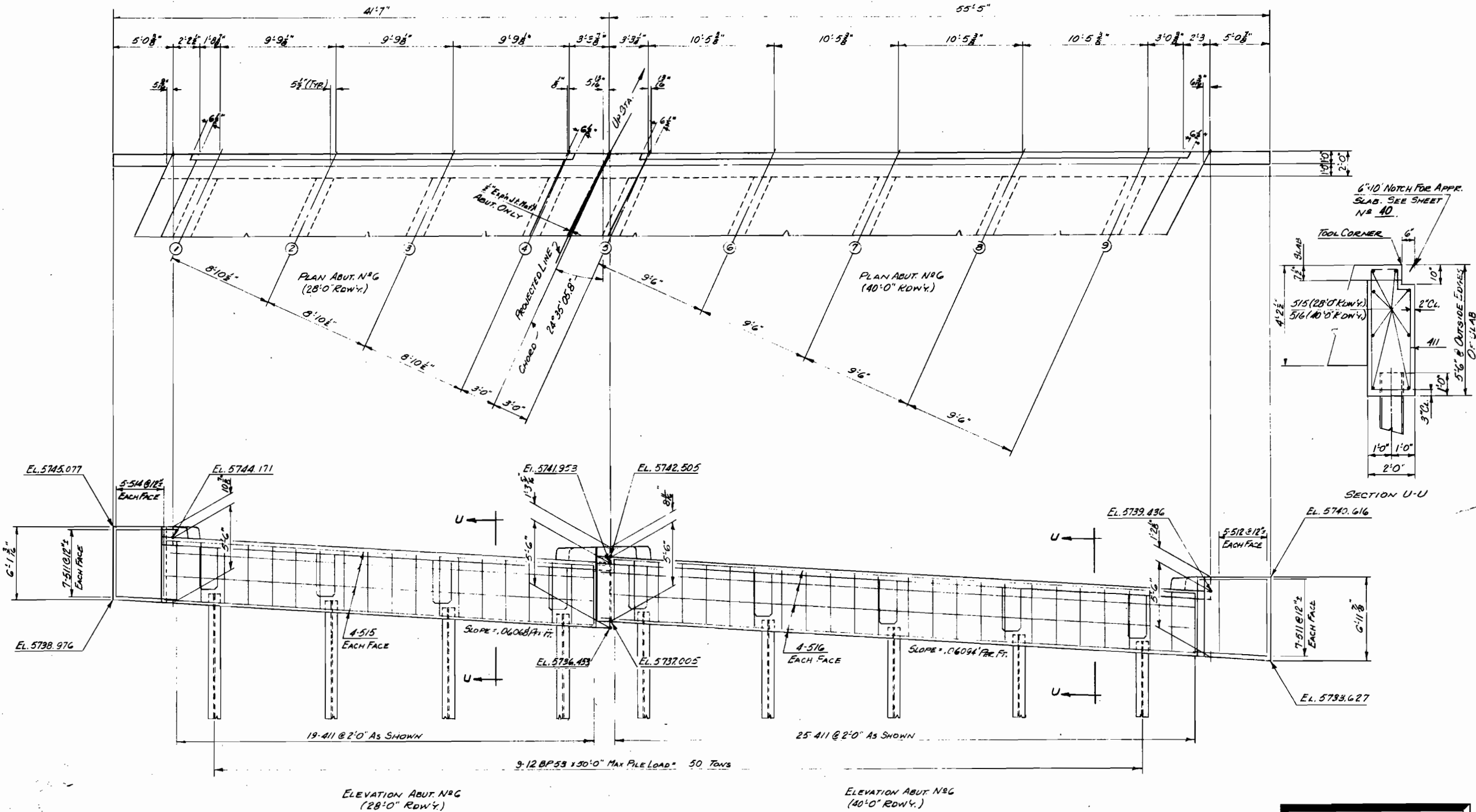
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DETAILS OF PIER NO. 3 (28'-0" RDWY)
DETAILS OF PIER NO. 3 (40'-0" RDWY)
Sta. 70+72.0 to 73+25.6 (28'-0" RDWY)
Sta. 70+73.5 to 73+29.5 (40'-0" RDWY)
Across FORD ST. & C.S.R.R.
Near GOLDEN
Designed by E.F.S. Made by REG. Checked by REG.
Approved by R. H. W. Bridge Engineer
Date: July 7, 1966



	Initial	Date
ID BY		
D BY		
BY		
D BY		
BY		
D BY		

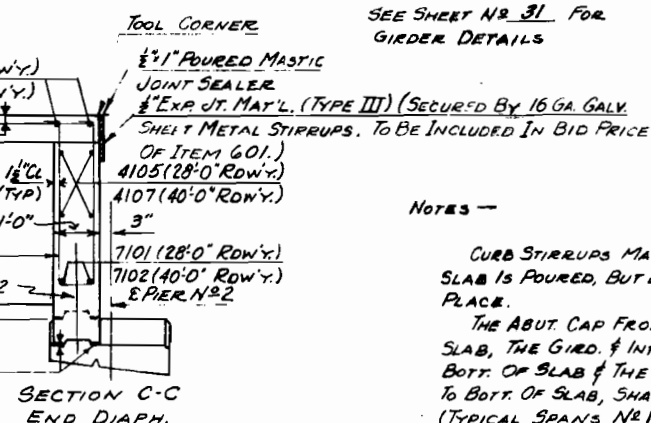
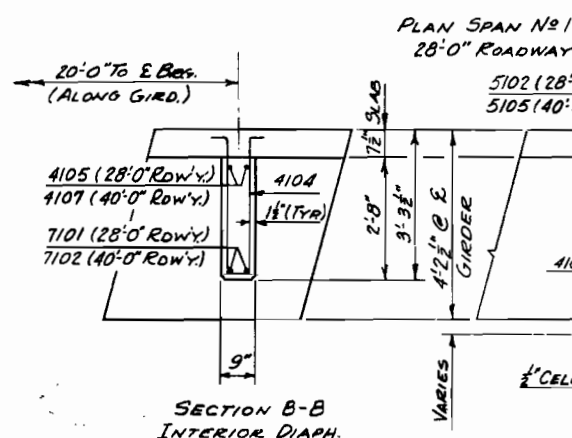
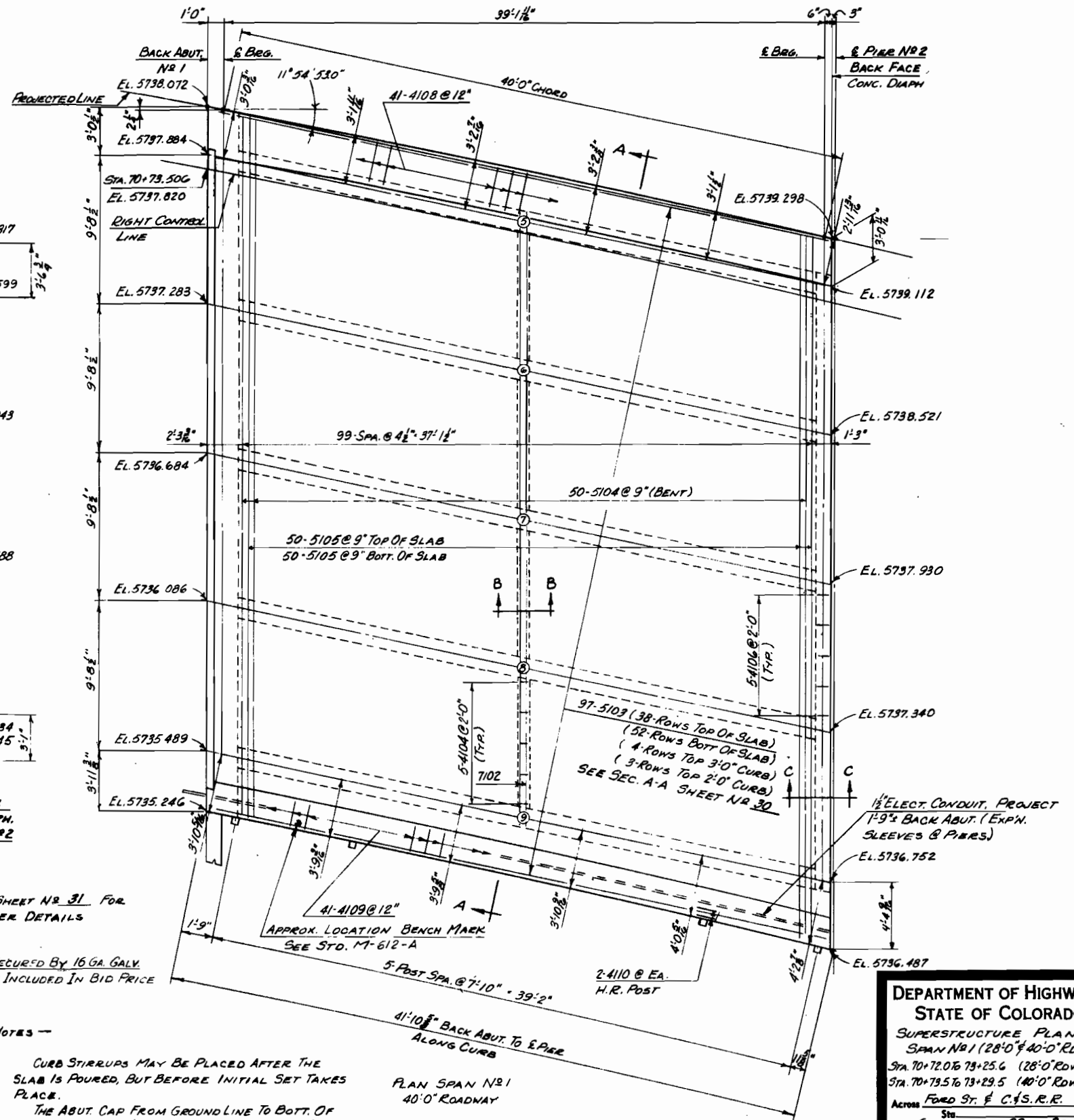
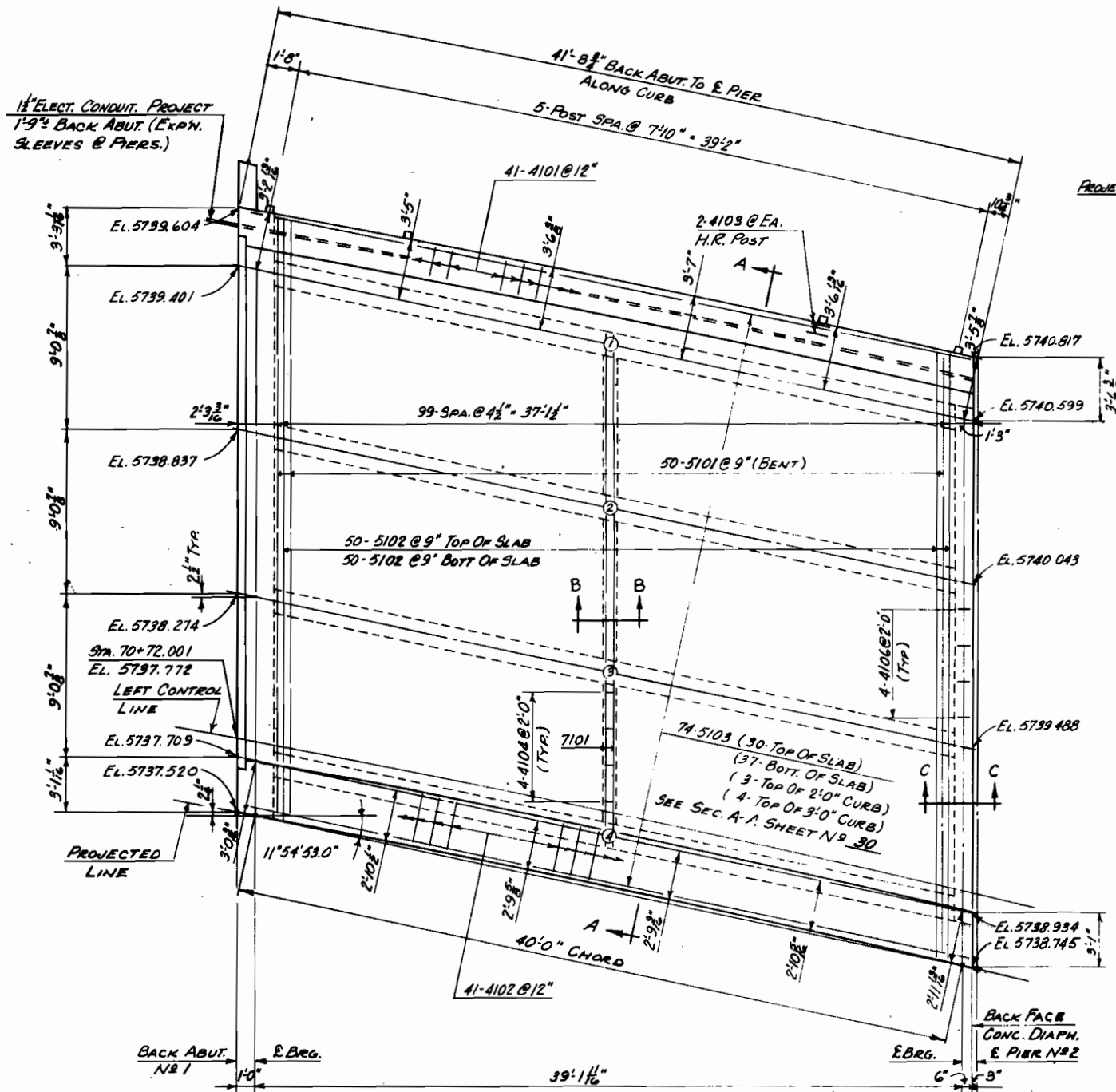


FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U092-1(7)	28	



DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DETAILS OF ABUT. N°6
(28'-0" & 40'-0" ROW'Y.)
Sta. 70+72.0 To 73+25.6 (28'-0" ROW'Y.)
Sta. 70+73.5 To 73+29.5 (40'-0" ROW'Y.)
Across FORD ST. & C.F.S.R.R.
Near GOLDEN
Sec. 28 T.3S R.70W
Designed by EFS
Made by JRE
Checked by
Approved by R. H. H. H.
Bridge Engineer
Date: July 7, 1966

PER. ROAD SHEET NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	COLO.	U032-1(7)	29	



NOTES -

CURB STIRRUPS MAY BE PLACED AFTER THE SLAB IS POURED, BUT BEFORE INITIAL SET TAKES PLACE.

THE ABUT. CAP FROM GROUND LINE TO BOT. OF SLAB, THE GIRD. & INTERIOR DIAPH. STEMS UP TO BOT. OF SLAB & THE END DIAPHS. FROM PIER CAP TO BOT. OF SLAB, SHALL ALL BE POURED MONOLITICALLY. (TYPICAL SPANS NR 1, 4 & 5.)

PLAN SPAN NR 1
40'-0" ROADWAY

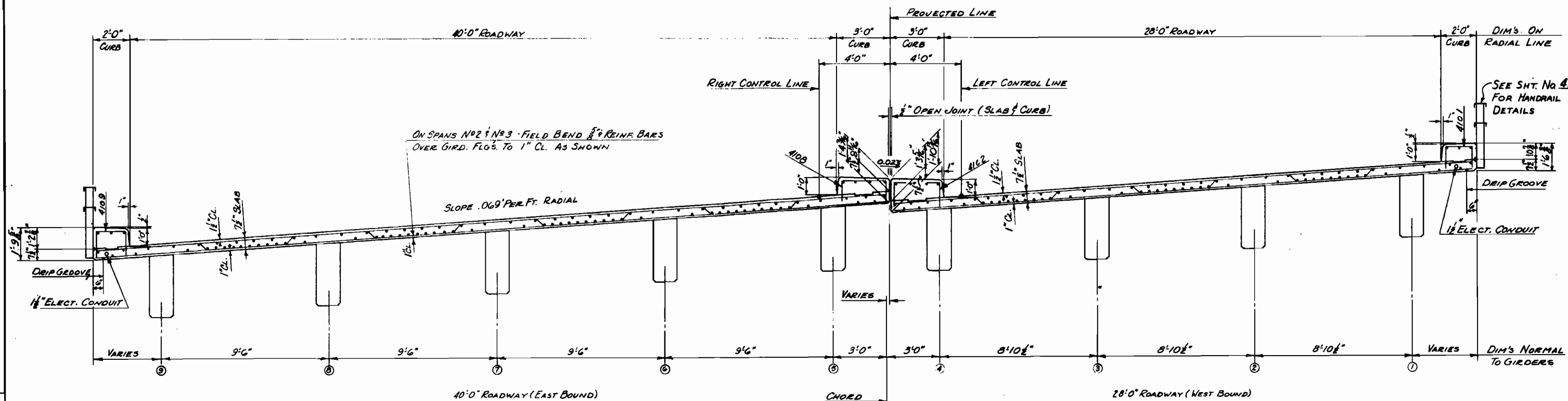
STRUCTURE NO. E-16-HA

DEPARTMENT OF HIGHWAYS STATE OF COLORADO	
SUPERSTRUCTURE PLAN SPAN NR 1 (28'-0" & 40'-0" ROW'Y.)	
STA. 70+72.0 TO 73+25.6 (28'-0" ROW'Y.)	
STA. 70+73.5 TO 73+29.5 (40'-0" ROW'Y.)	
Across Ford St. & C.F.S.R.R.	
Sta. Near GOLDEN	Sec. 28 T. 33 R. 70W
Designed by EFS	Approved by R. Hummel
Made by JRE	Bridge Engineer
Checked by	Date: July 7, 1966

REVISIONS

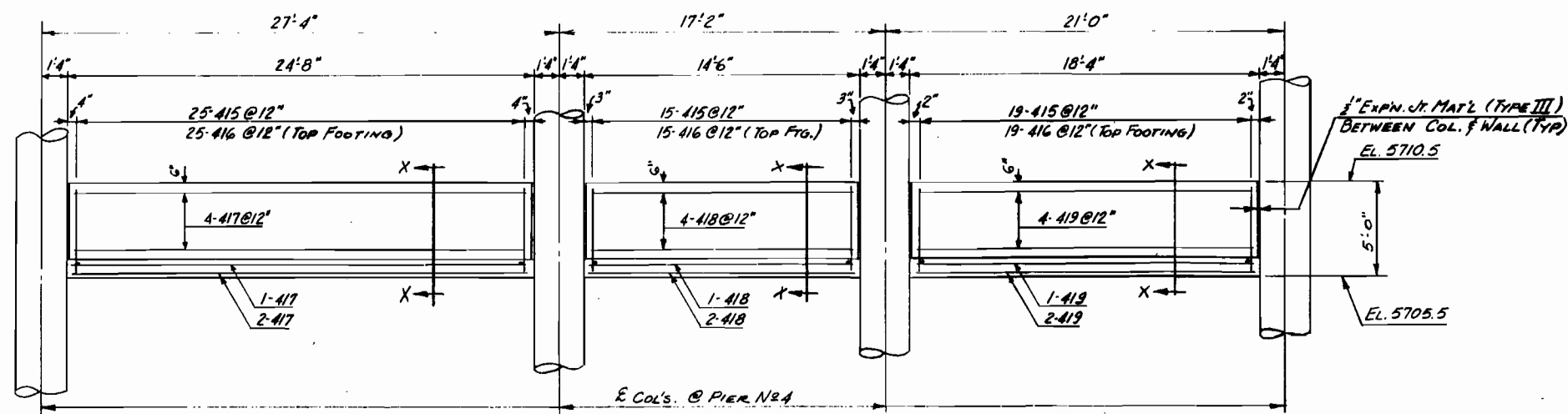
① REVISED 9-7-66 ADDED RETAINING WALLS @ PIER NO. 4. J.R.E.

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1(7)	30	

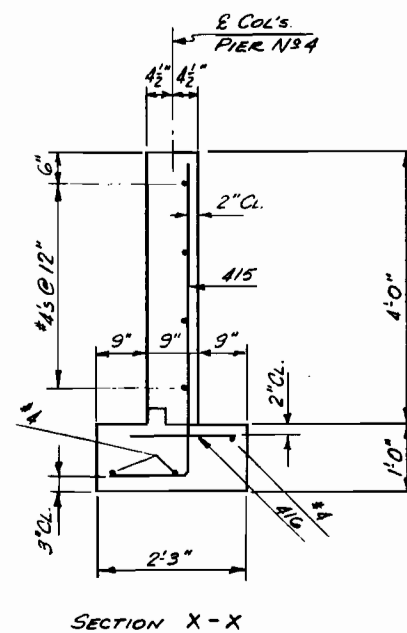


SECTION A-A
TYPICAL SECTION THRU SPANS NO. 1,
NO. 4 & NO. 5 (LOOKING BACK STA.)

SPANS NO. 2 & NO. 3 SAME AS ABOVE
EXCEPT FOR WELDED R.G.R.'S (SPACING
SAME AS CONC. GIRDERS.)



ELEVATION RETAINING WALLS @ PIER NO. 4
(VIEW LOOKING BACK STATION)



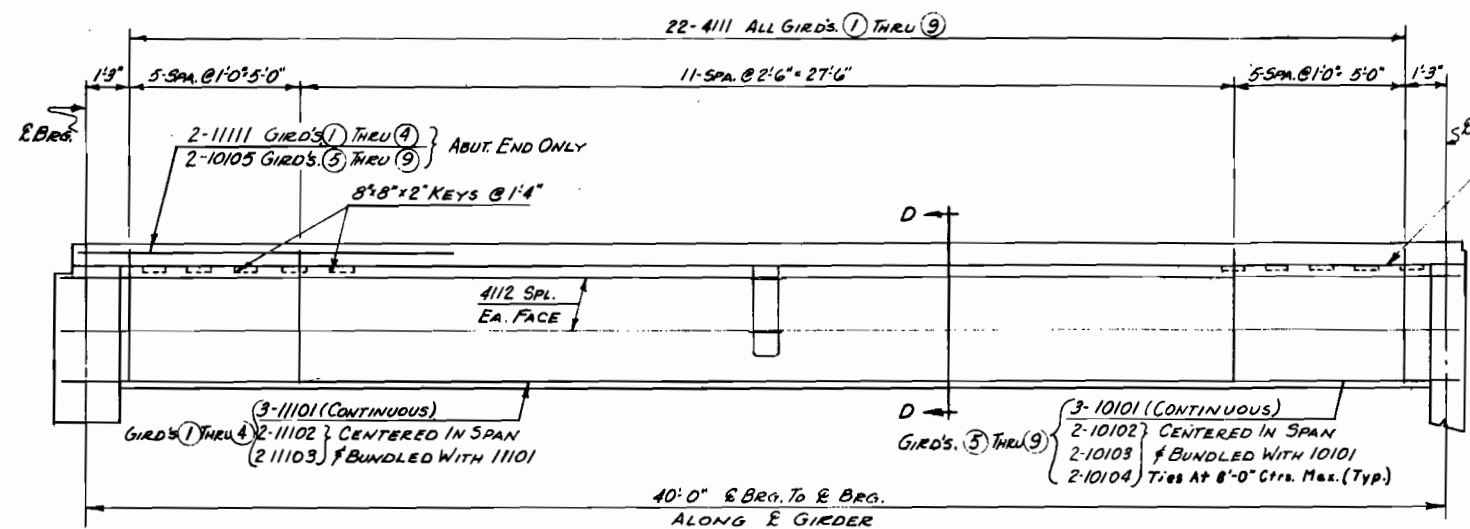
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
SUPERSTRUCTURE DETAILS

Sta. 70+72.0 to 79+25.6 (28'-0" Rdwy.)
Sta. 70+73.5 to 73+29.5 (40'-0" Rdwy.)
Across FORD ST. & C. & S. R.R.

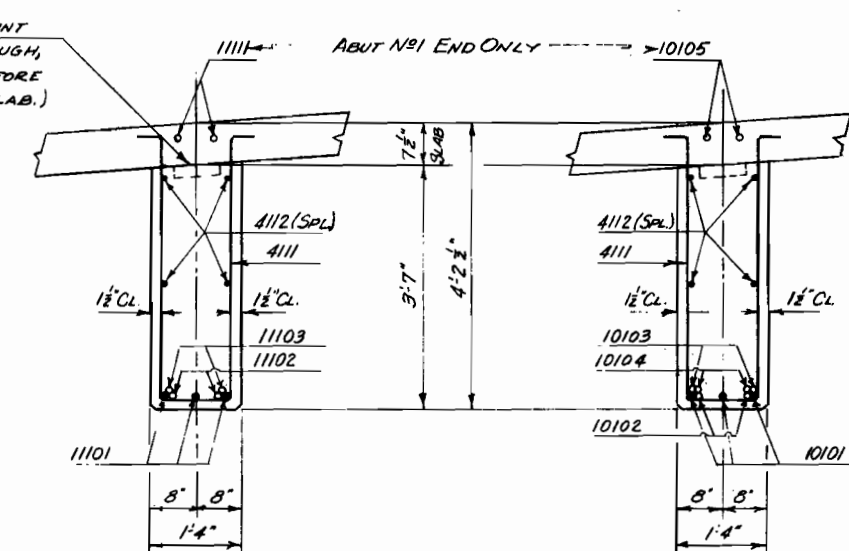
Neer GOLDEN Sec. 28 T. 35 R. 20N
Designed by EFS Approved by PCH
Made by JRE Bridge Engineer
Checked by Date: July 7, 1966

STRUCTURE NO. E-16-HA.

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1(7)	31	

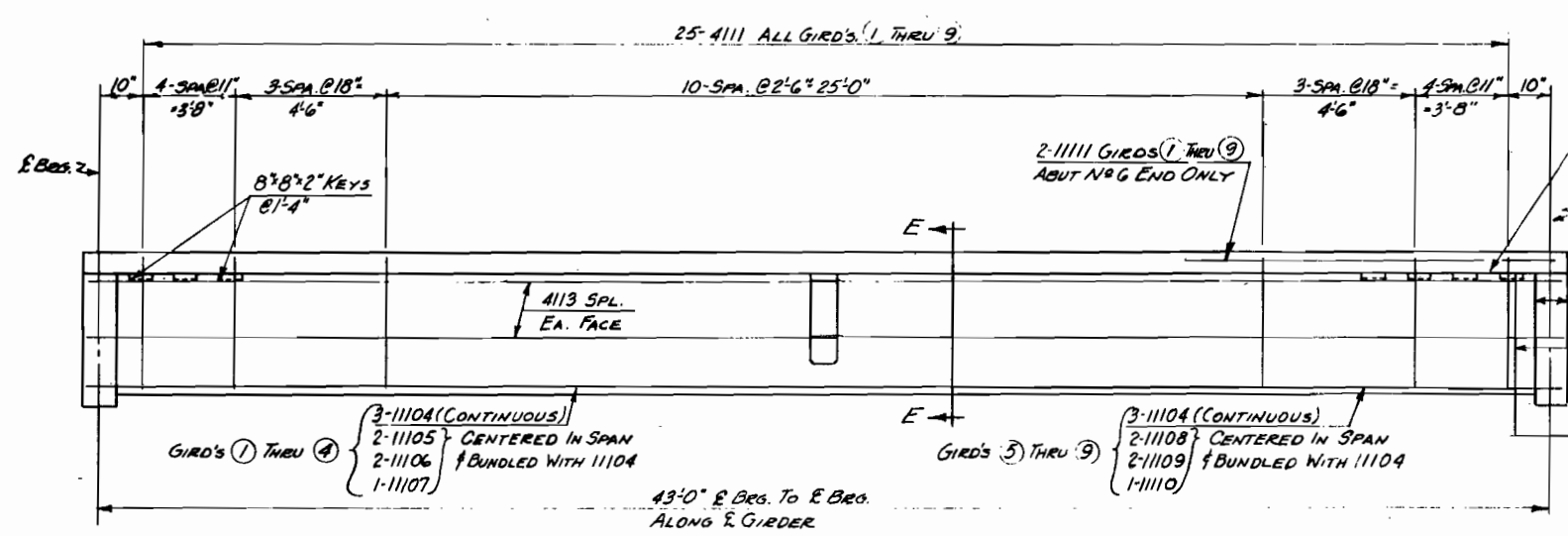


TYPICAL GIRDER ELEVATION
GIRDERS 1 THRU 9 SPAN NO. 1

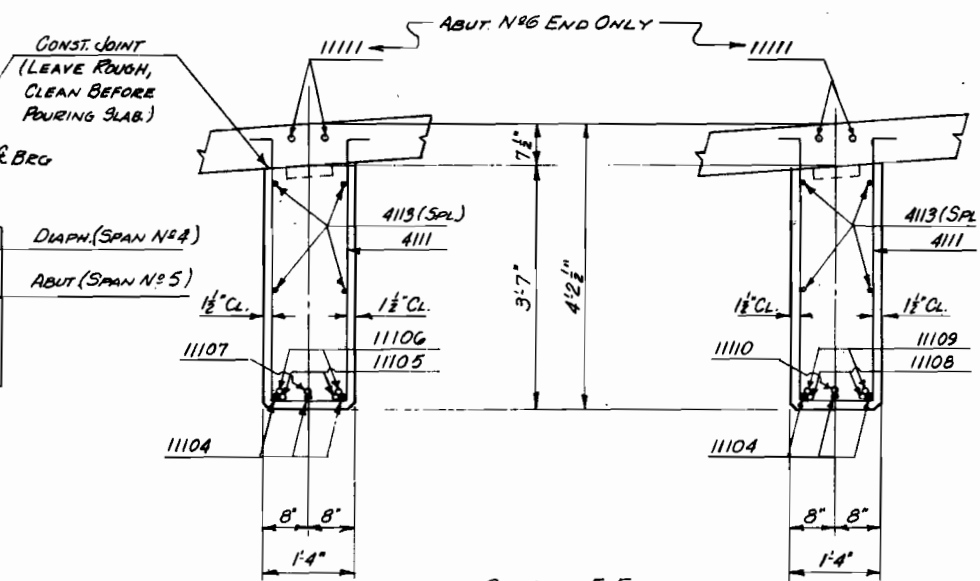


SECTION D-D
GIRDERS 1 THRU 4
28'-0" ROW

GIRDERS 5 THRU 9
40'-0" ROW

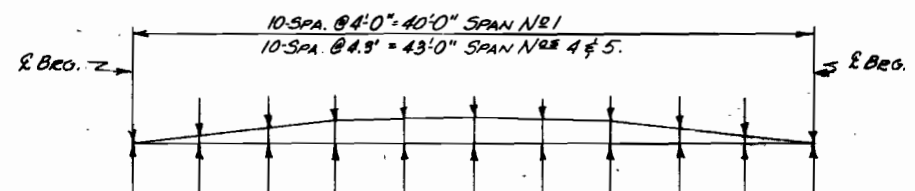


TYPICAL GIRDER ELEVATION
GIRDERS 1 THRU 9 SPAN NOS. 4 & 5



SECTION E-E
GIRDERS 1 THRU 4
28'-0" ROW

GIRDERS 5 THRU 9
40'-0" ROW



SPAN NO. 1 ALL GIRDERS	DEAD LOAD DEFLECTION = 0"	1/16"	1/8"	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	0"
	TOTAL INCLUDING CURVE CORRECTION = 0"	1/16"	1/8"	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	0"

SPAN NOS. 4 & 5 ALL GIRDERS	DEAD LOAD DEFLECTION = 0"	1/16"	1/8"	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	0"
	TOTAL INCLUDING CURVE CORRECTION = 0"	1/16"	1/8"	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	0"

GIRDER BLOCKING DIAGRAMS

NOTE:
GIRDER SHORING SHALL REMAIN IN PLACE FULL LENGTH IN ANY SPAN UNTIL ALL POURS HAVE REACHED A MIN. STRENGTH OF 2400 P.S.I. IN THAT SPAN, AND THE SLAB SHALL NOT BE Poured UNTIL THE GIRD POURS HAVE REACHED A MIN. STRENGTH OF 2400 P.S.I.

STRUCTURE NO. E-16-HA

**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**

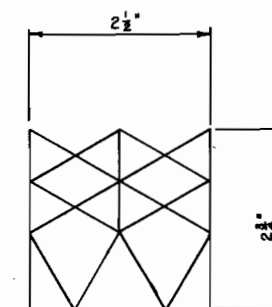
GIRDER DETAILS SPAN NO. 1
GIRDER DETAILS SPAN NOS. 4 & 5

Sta. 70+72.0 TO 73+25.6 (28'-0" ROW)
Sta. 70+73.5 TO 73+29.5 (40'-0" ROW)
Across Ford St. & C.F.S.R.R.

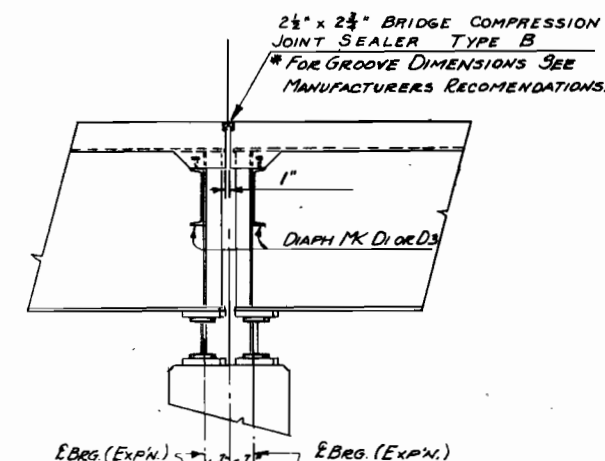
Sta. 70+72.0 TO 73+25.6 (28'-0" ROW)
Sta. 70+73.5 TO 73+29.5 (40'-0" ROW)
Across Ford St. & C.F.S.R.R.

Designed by EPS
Made by J.R.E.
Checked by

Approved by R. H. H. H.
Bridge Engineer
Date: July 7, 1966



Uncompressed Jt. Sealer



SECTION S-S

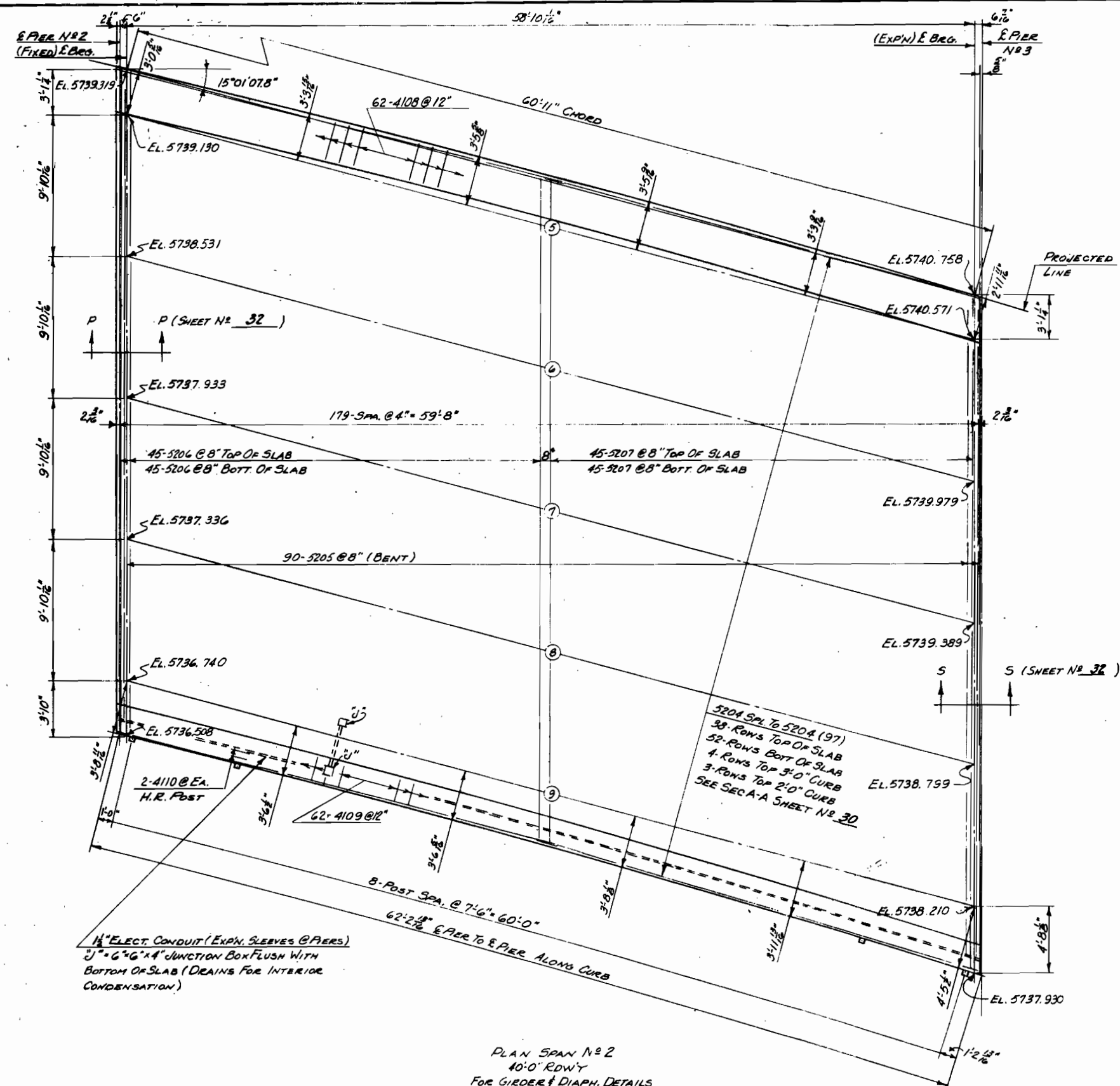
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
SUPERSTRUCTURE PLAN
SPAN NO.2 (28'-0" RDWY)

STA. 70+72.0 TO 73+25.6 (28'-0" ROW'Y.)
STA. 70+73.5 TO 73+29.5 (40'-0" ROW'Y.)
ACROSS FORD ST. & C. & S. RR.

Sta. _____
Near GOLDEN Sec 28 T. 35 R. 20
Designed by EFS Approved by PC Hansen
Made by JRE Bridge Engineer
Checked by _____ Date: July 7, 1966

STRUCTURE NO. E-16-HA

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1(7)	33	



PLAN SPAN NO. 2
40'-0" RDWY
FOR GIRDER & DIAPH. DETAILS
SEE SHEET NO. 37

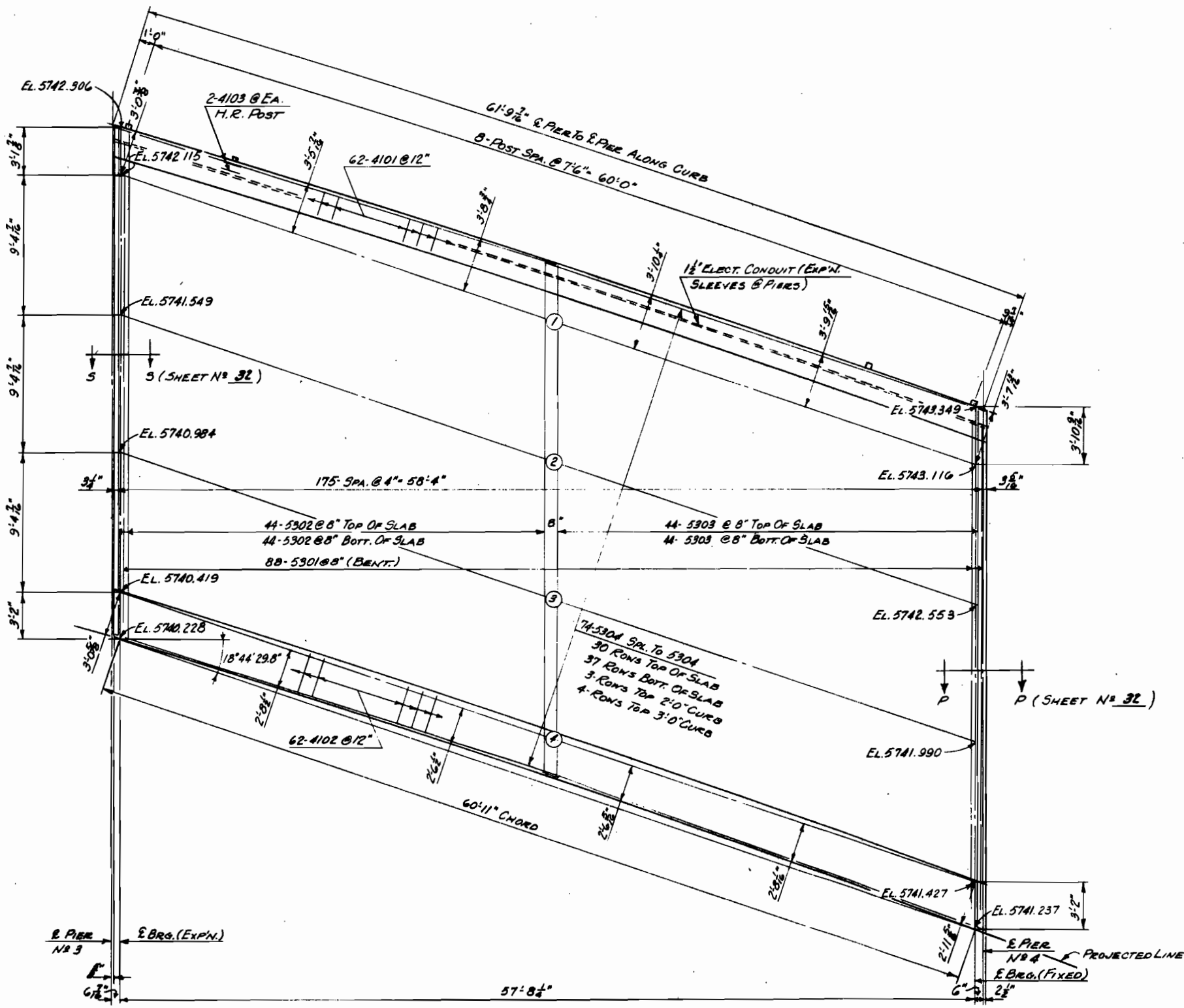
**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**
SUPERSTRUCTURE PLAN
SPAN NO. 2 (40'-0" RDWY.)

Sta. 70+72.0 TO 78+25.6 (28'-0" RDWY.)
Sta. 70+79.5 TO 79+29.5 (40'-0" RDWY.)
Across FORD ST. & C.F.S. R.R.

Site: NEAR GOLDEN, CO. Sec. 28, T. 35, R. 70W.
Designed by EPS
Made by JKE
Checked by

Approved by [Signature]
Bridge Engineer
Date: July 7, 1966

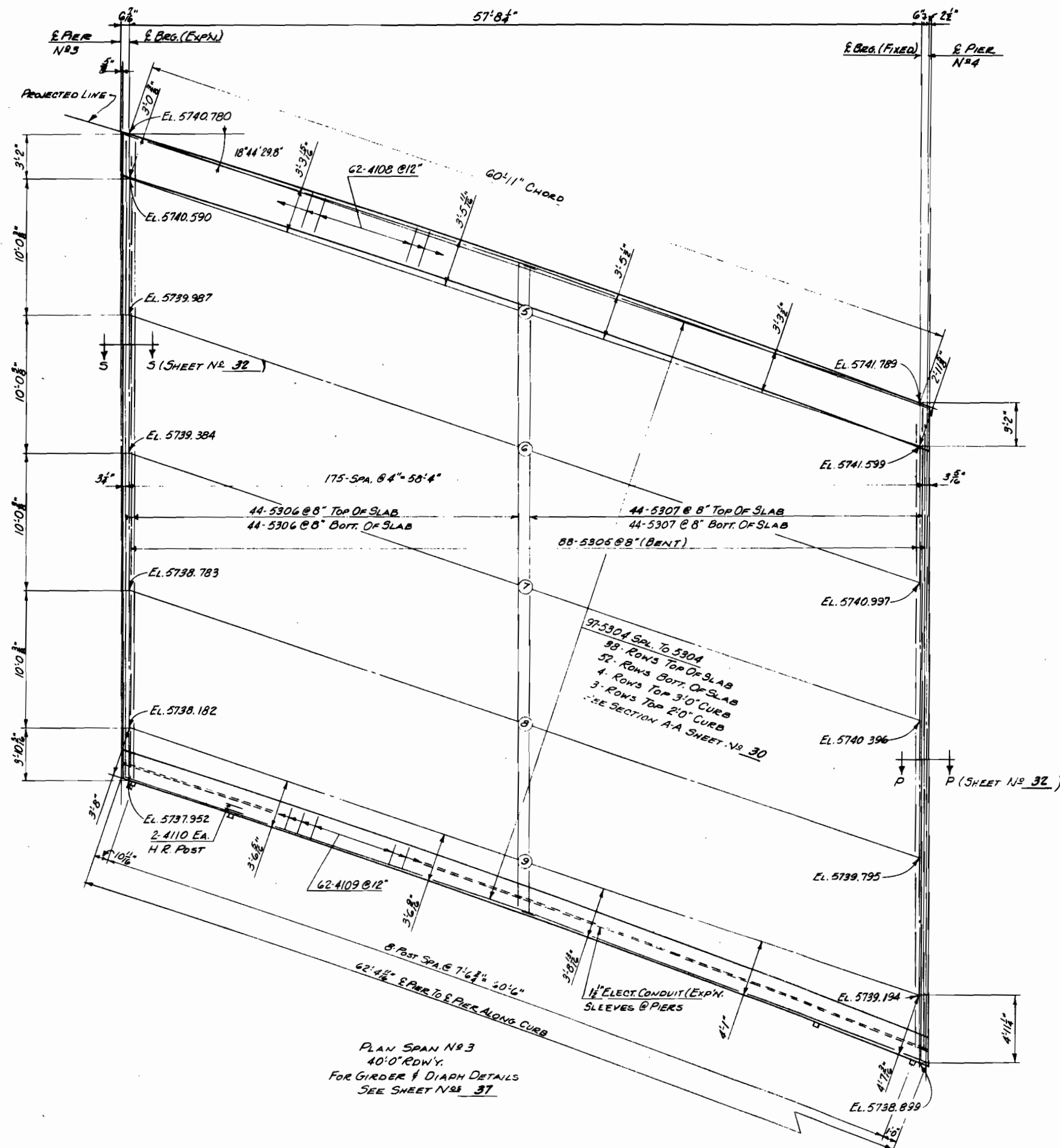
FED. ROAD LEG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1(7)	34	



PLAN SPAN NO. 3
28'-0" RDWY
FOR GIRDER & DIAPH. DETAILS
SEE SHEET NOS 36 & 37

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
SUPERSTRUCTURE PLAN
SPAN NO. 3 (28'-0" RDWY.)
Sta. 70+72.0 TO 73+25.6 (28'-0" RDWY.)
Sta. 70+73.5 TO 73+29.5 (40'-0" RDWY.)
Across FORD ST. & C.F.S.R.R.
Near GOLDEN, CO. T. 35 S. 22 W. R. 22
Designed by EFS
Made by JRE
Checked by
Approved by [Signature]
Bridge Engineer
Date: July 7, 1966

FILE NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	C.O.D.	U092-1(7)	35	



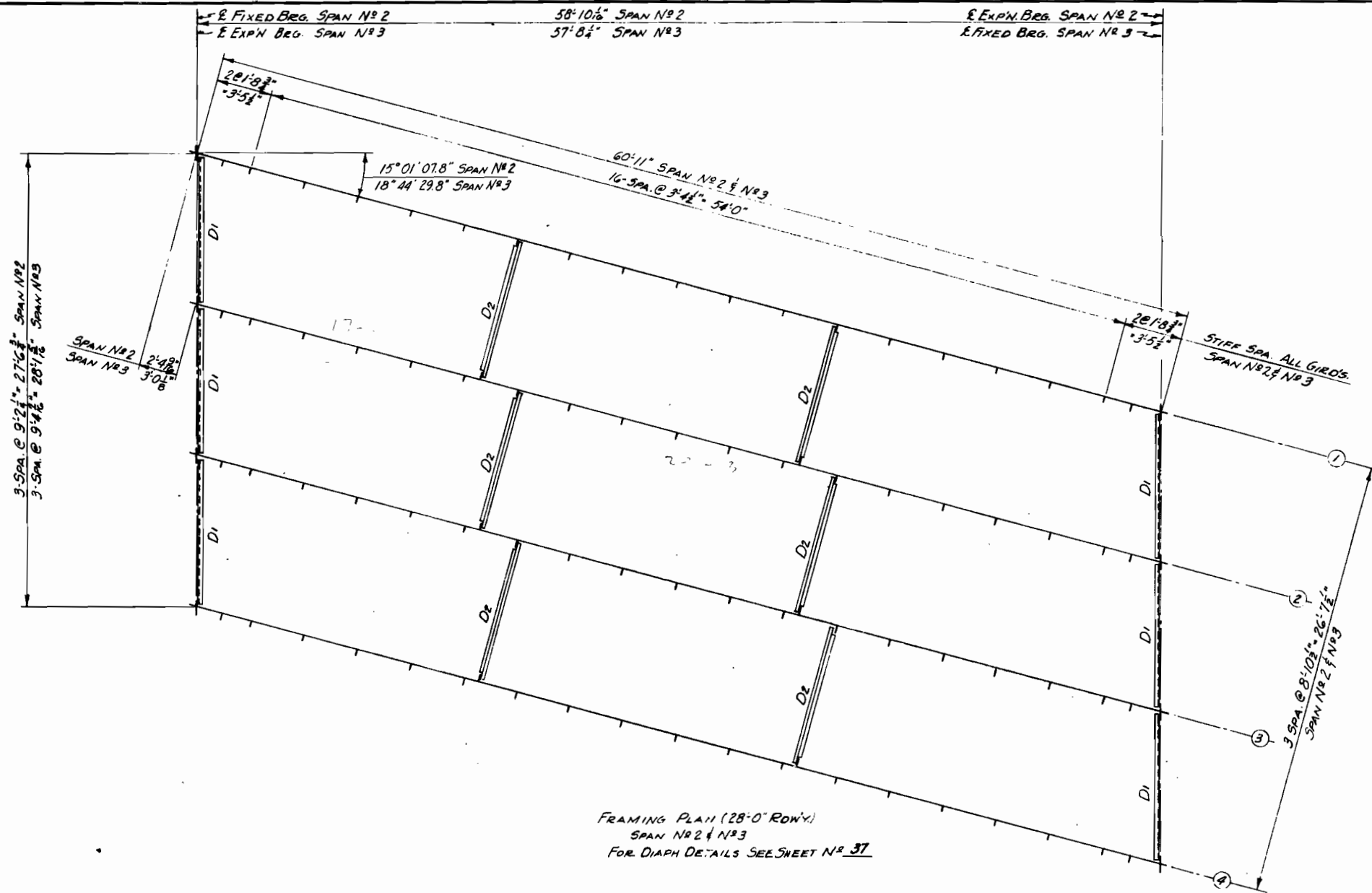
PLAN SPAN NO. 3
40'-0\"/>

STRUCTURE NO. E-16-HA

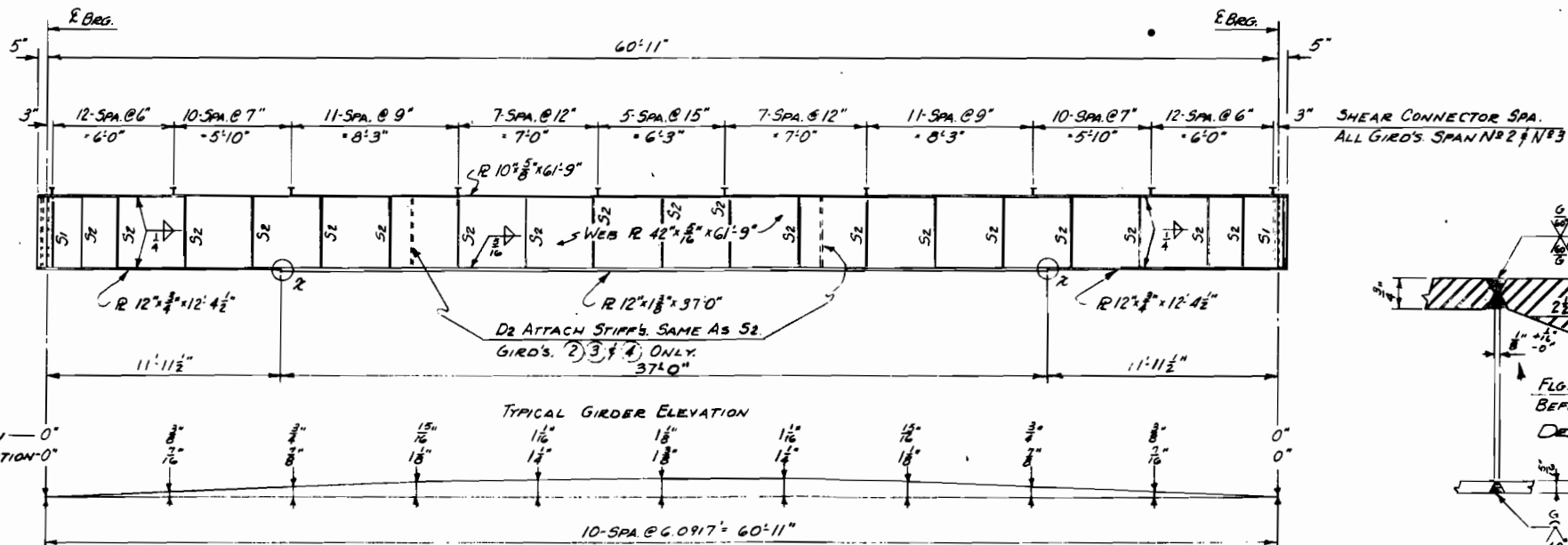
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
SUPERSTRUCTURE PLAN
SPAN NO. 3 (40'-0\"/>

Sta. 70+72.0 to 73+25.6 (28'-0\"/>

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1(7)	36	

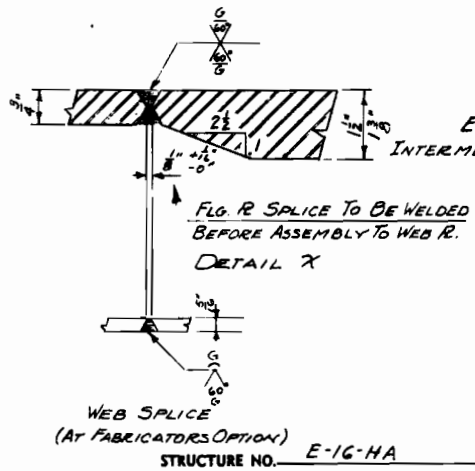
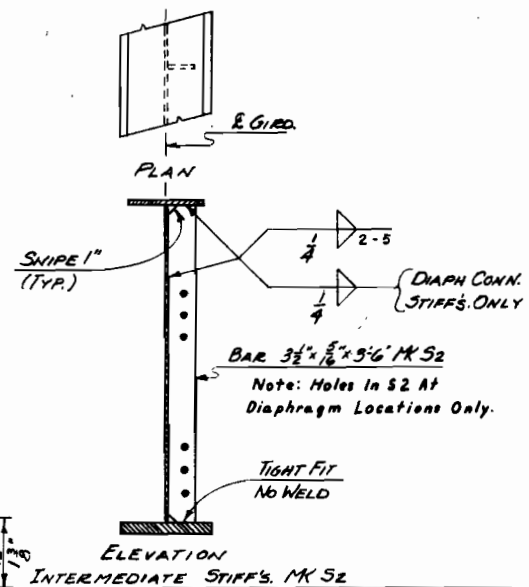
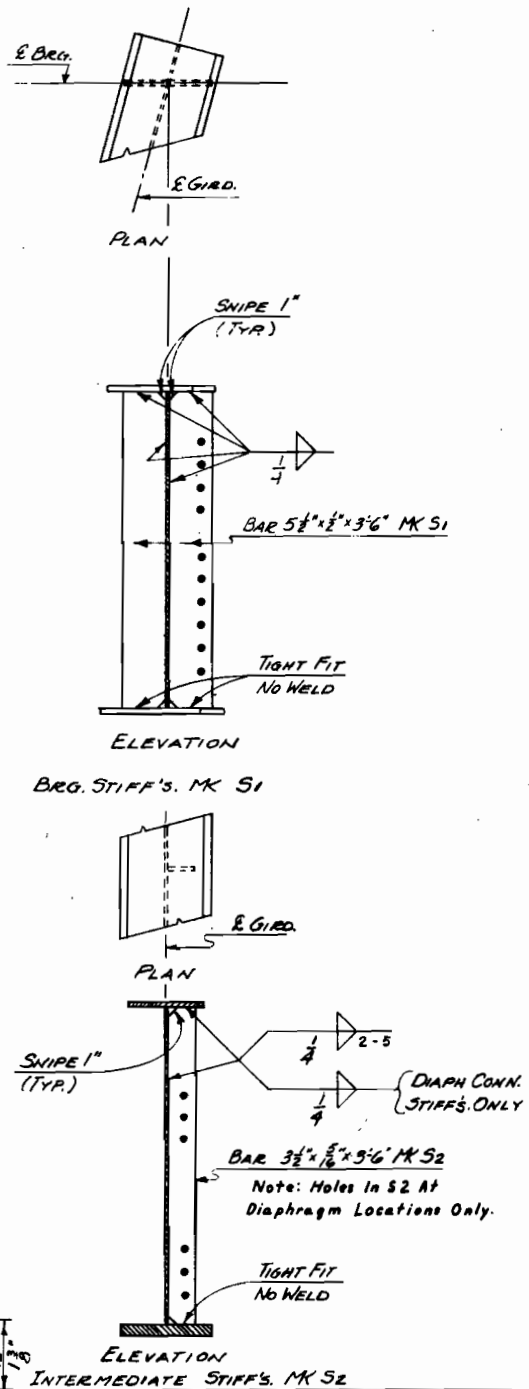


FRAMING PLAN (28'-0" ROW)
SPAN NR 2 & NR 3
FOR DIAPHRAGM DETAILS SEE SHEET NR 37



DEAD LOAD DEFLECTION — 0"
TOTAL INCLUDING CURVE CORRECTION 0"

TYPICAL GIRDER ELEVATION
CAMBER DIAGRAM (ALL GIRD'S)
CUT GIRDER WEB R. TO CAMBER DIAGRAM. SLAB THICKNESS
CONSTANT 7 1/2"



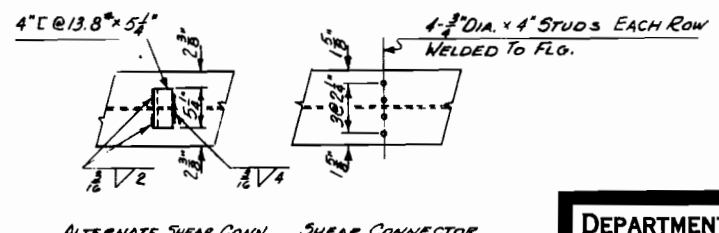
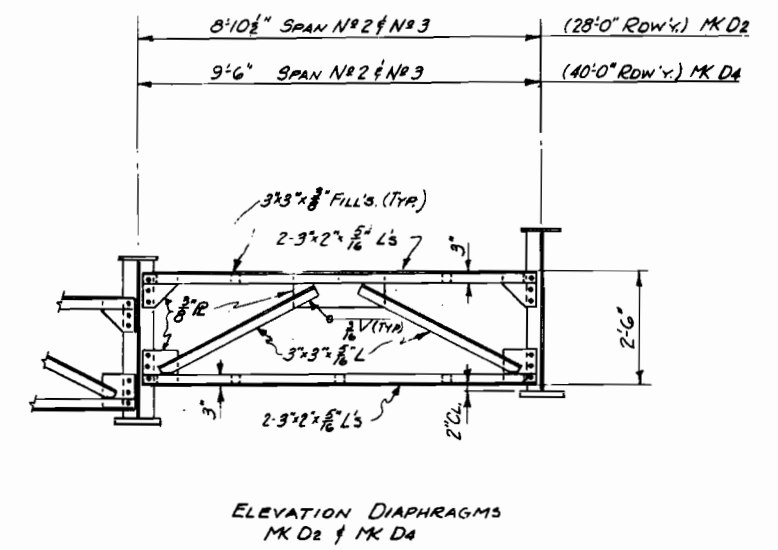
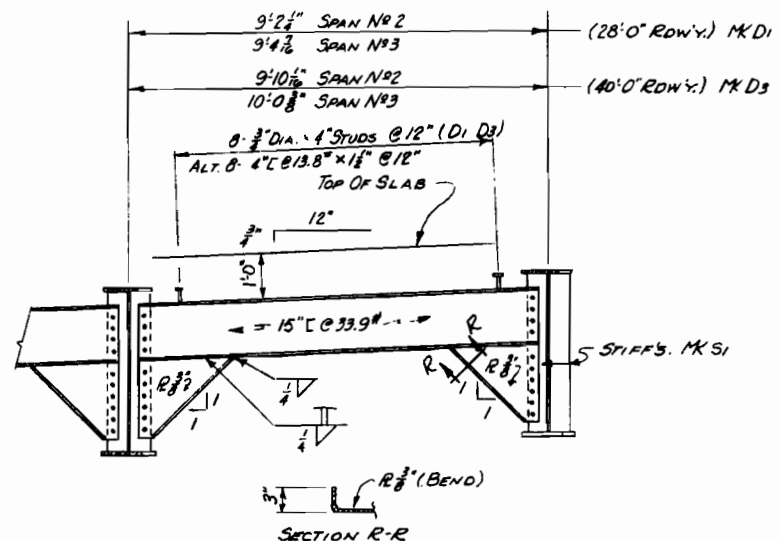
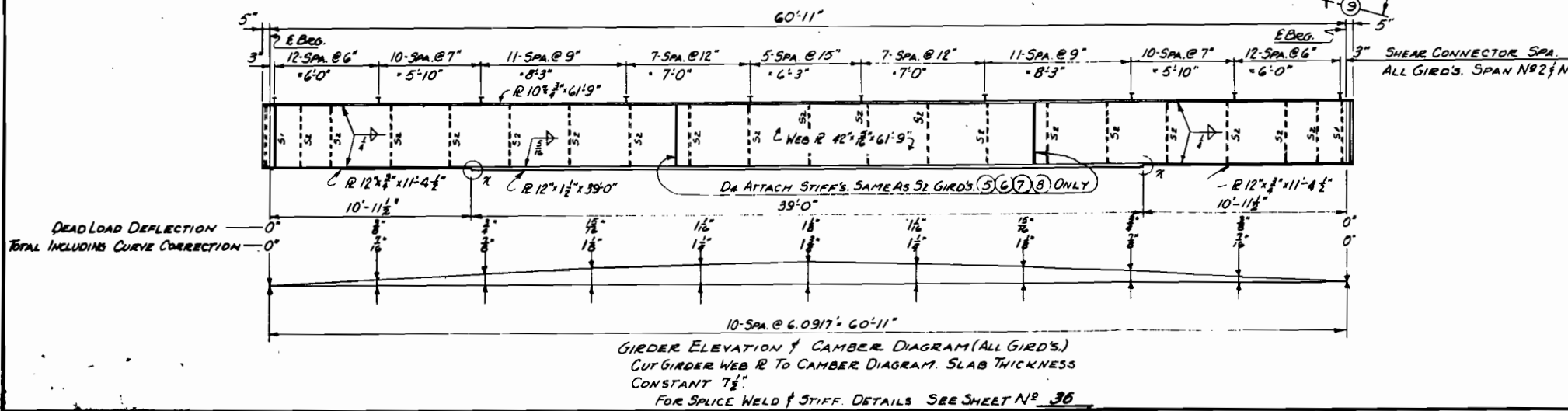
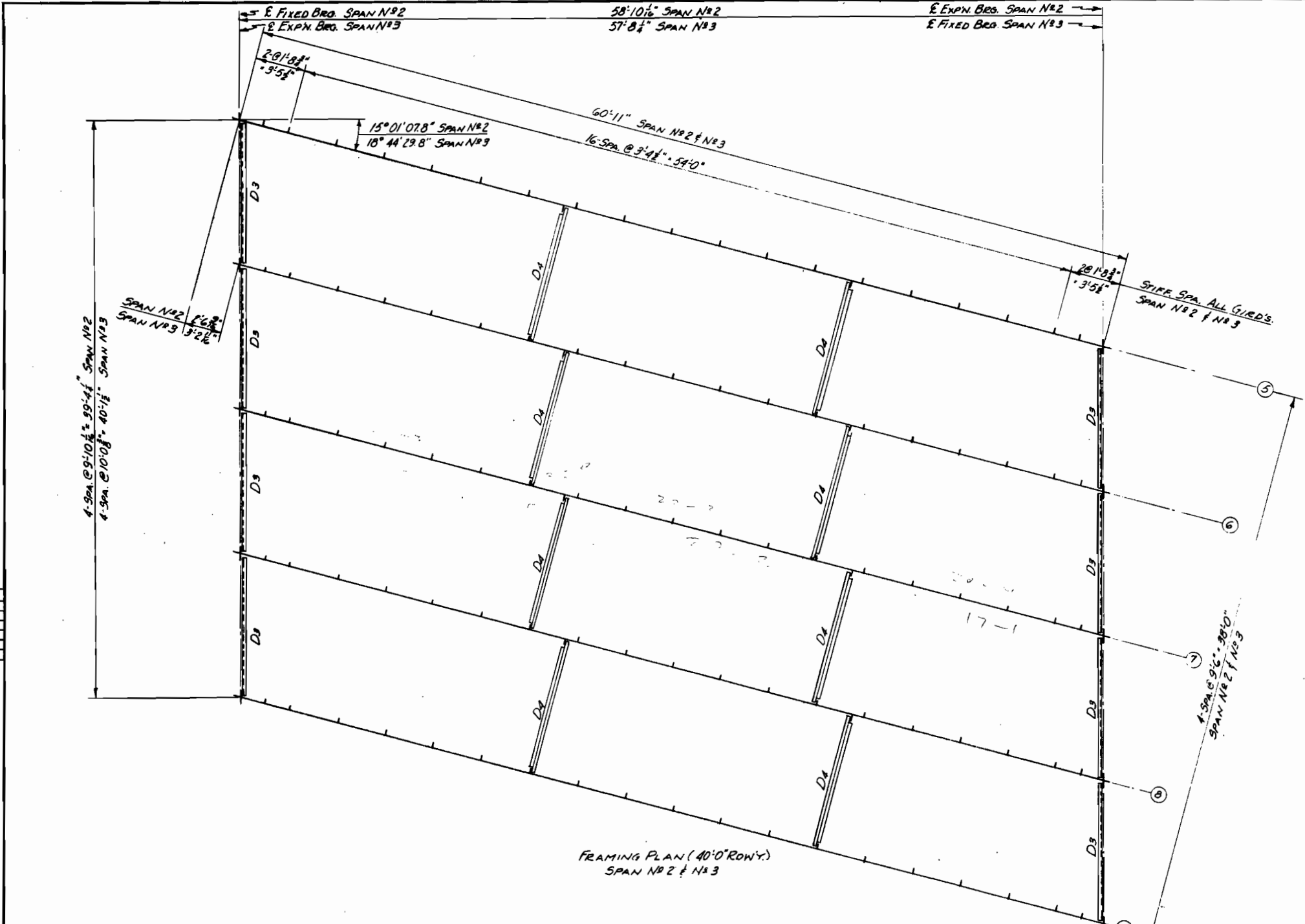
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
FRAMING PLAN & GIRDER DETAIL
28'-0" ROW, SPAN NR 2 & NR 3
Sta. 70+72.078 79+25.6 (28'-0" ROW)
Sta. 70+73.570 79+29.5 (40'-0" ROW)
Across FORD ST. & C.F.S. R.R.
Near GOLDEN
Sec. 28 T. 35 R. 70N
Designed by EFS Approved by R. H. H. H. H.
Made by JRE Bridge Engineer
Checked by Date: July 7 1966

STRUCTURE NO. E-16-HA

FED. ROAD DES. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U032-1(7)	37	

DESIGNED BY
CHECKED BY
DATE

DESIGNED BY	DATE



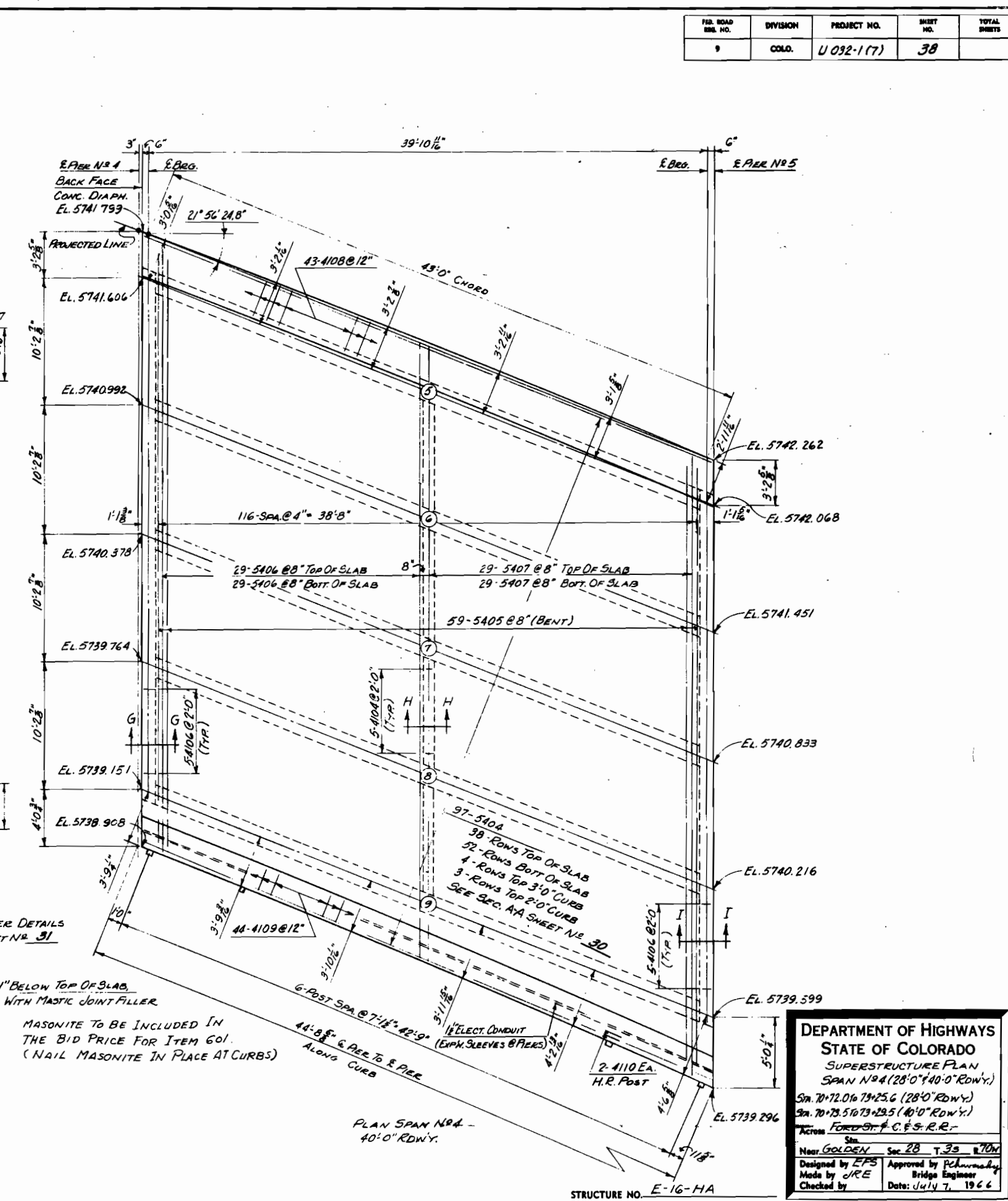
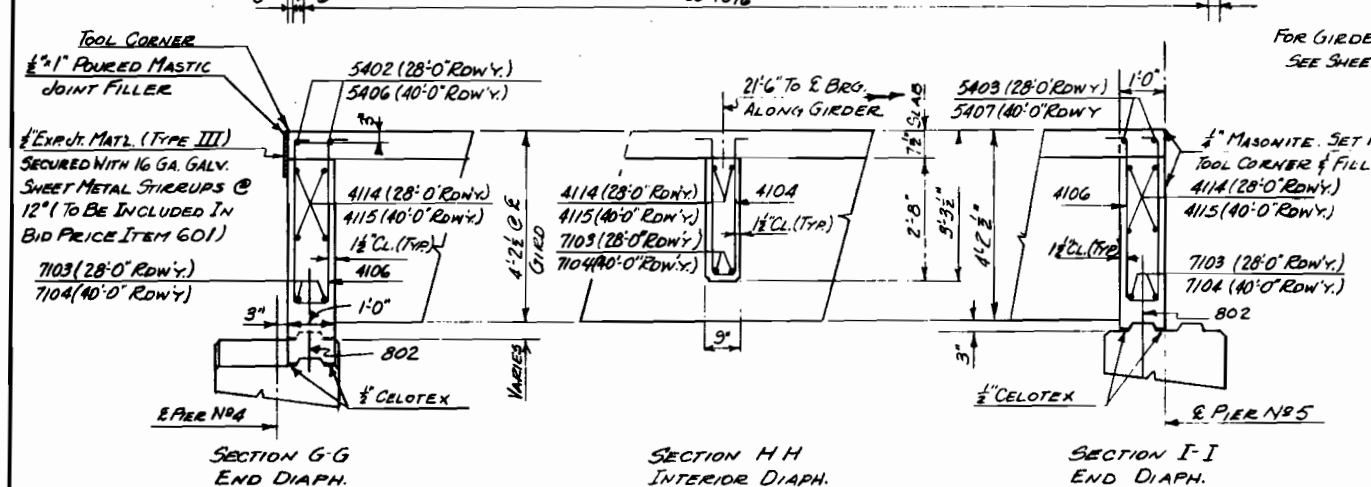
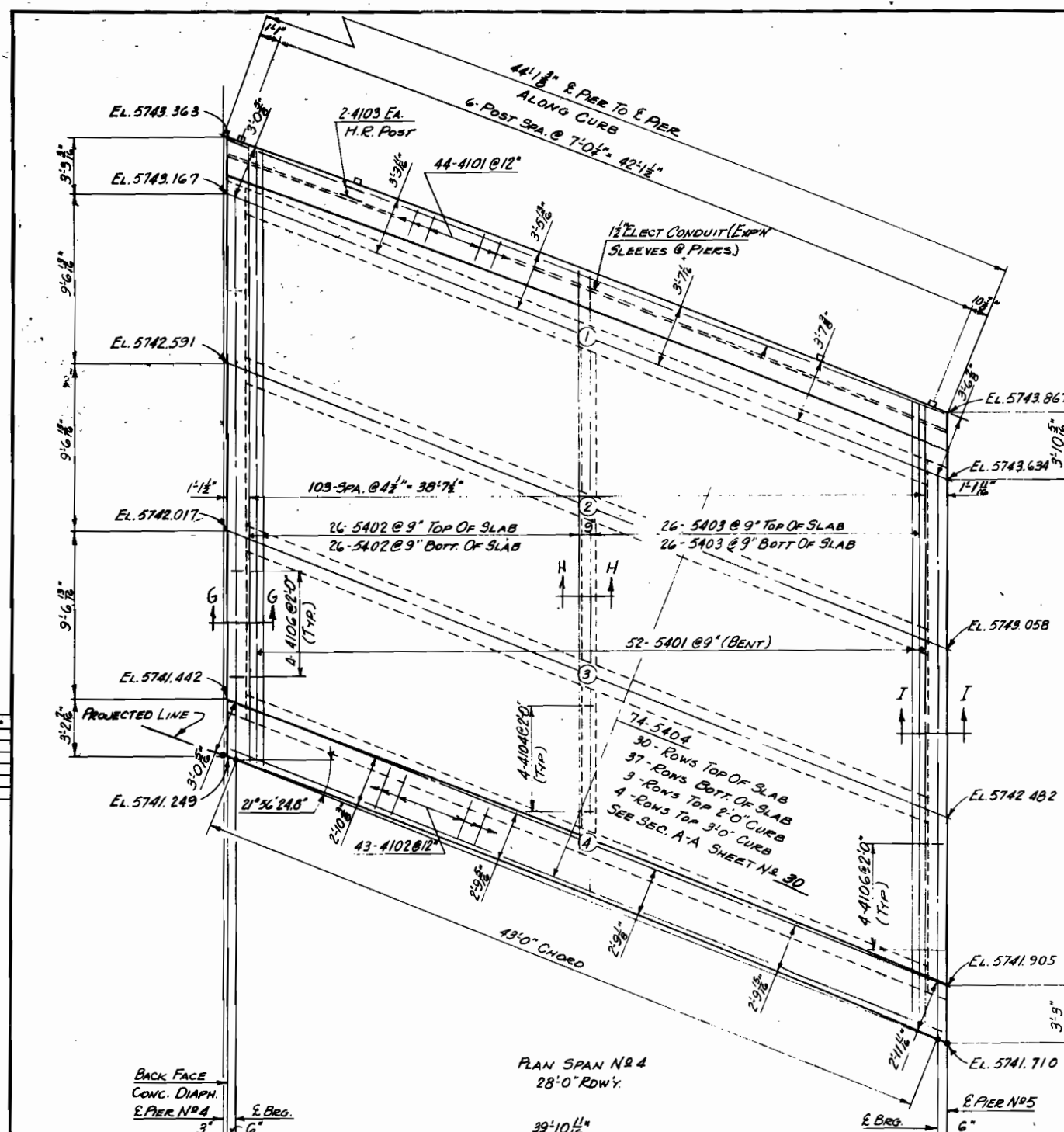
NOTE: L WILL BE CONSIDERED AS ALTERNATE SHEAR CONN. PAY WEIGHT SHALL BE BASED ON WEIGHT OF STUD WELDED SHEAR CONNECTORS.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
 FRAMING PLAN & GIRDER DETAIL
 40'0" ROW'Y. SPAN N°2 & N°3
 DIAPHRAGM DETAILS
 SPAN 70+72.0 TO 73+25.6 (28'0" ROW'Y.)
 SPAN 70+73.5 TO 73+29.5 (40'0" ROW'Y.)
 ACROSS FORD ST. & C.F.S.R.R.
 Near GOLDEN, CO. Sec. 28 T. 33 R. 70W
 Designed by EFS Approved by P. Chmura
 Made by JRE Bridge Engineer
 Checked by Date: July 7, 1966

STRUCTURE NO. E-16-MA

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1 (7)	38	

REV.	BY	DATE
1		
2		
3		
4		
5		



**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**

SUPERSTRUCTURE PLAN
SPAN NO. 4 (28'-0" ROWY.)
Span 70+72.016 to 73+25.6 (28'-0" ROWY.)
Span 70+73.510 to 73+29.5 (40'-0" ROWY.)
Across FORD ST. & C. & S. R.R.

Sta. **GOLDEN** Sec. **28** T. **33** R. **70W**

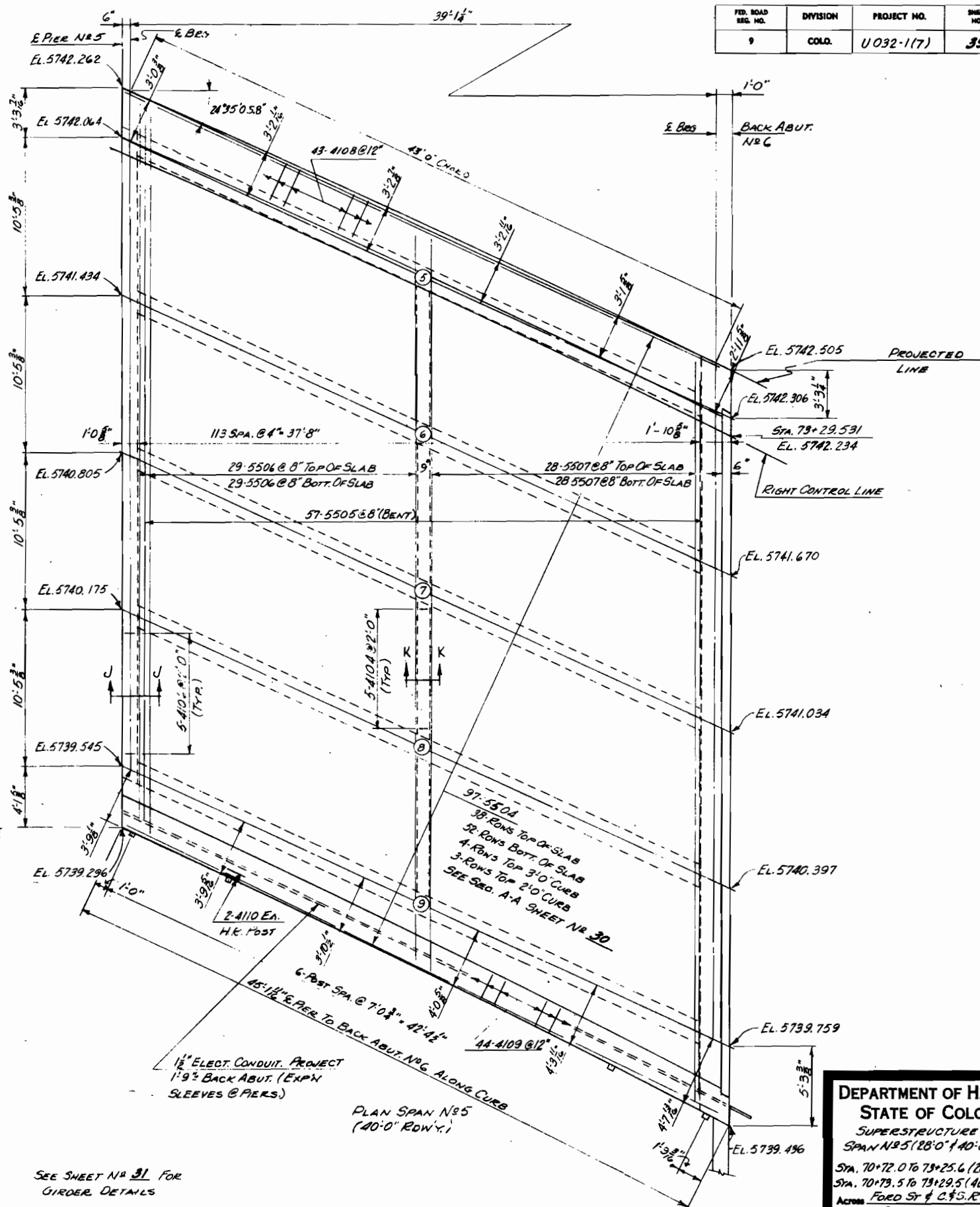
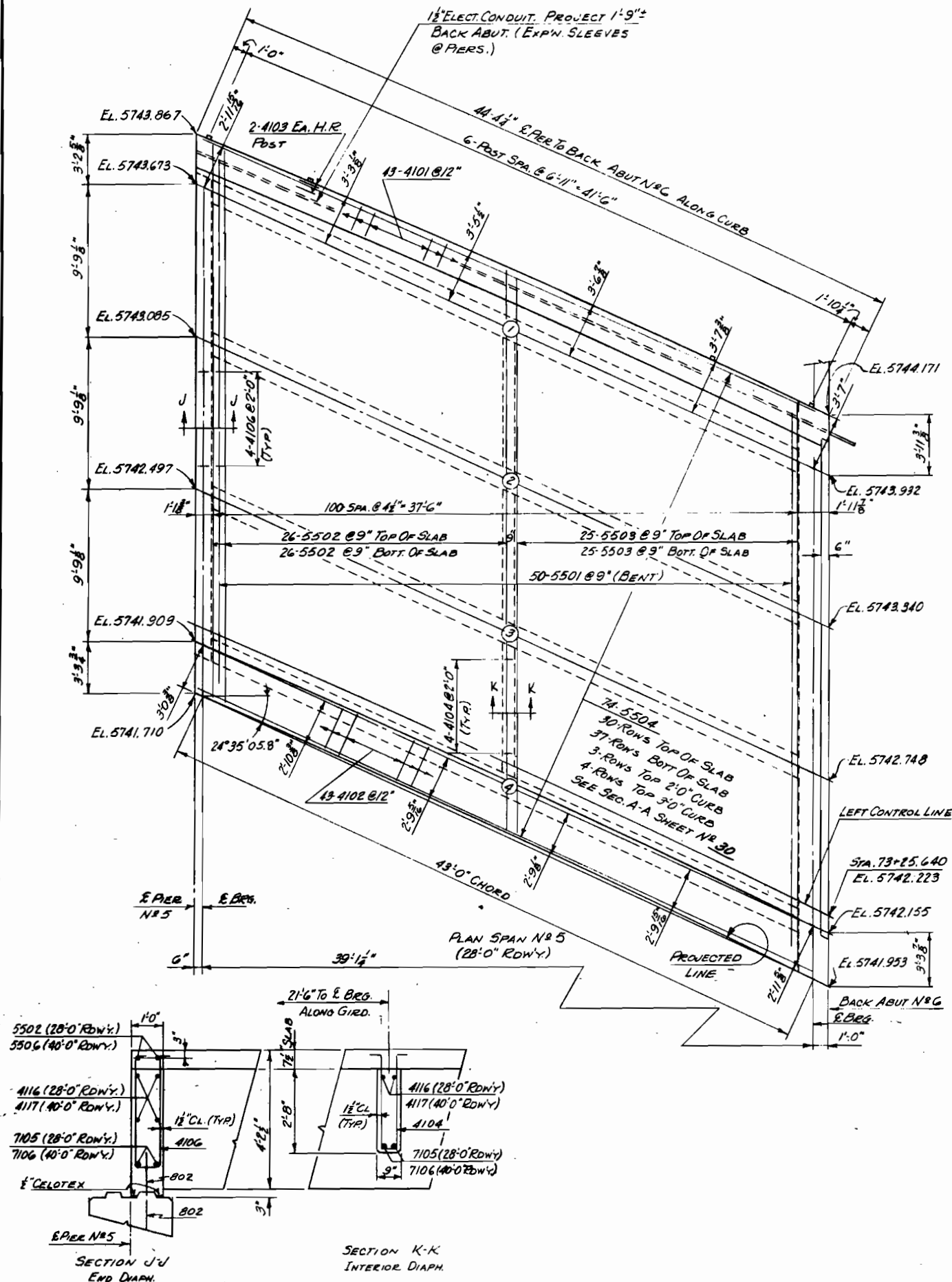
Designed by **EFS** Approved by **Schumacher**
Made by **JRE** Bridge Engineer
Checked by _____ Date: **July 7, 1966**

STRUCTURE NO. E-16-HA

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U032-117	39	

1. HIGHWAYS
2. COLORADO
3. R. 117

REV.	BY	DATE
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SEE SHEET NO. 31 FOR
GIRDER DETAILS

**DEPARTMENT OF HIGHWAYS
STATE OF COLORADO**

SUPERSTRUCTURE DETAILS
SPAN NO. 5 (28'-0" + 40'-0" ROWY.)

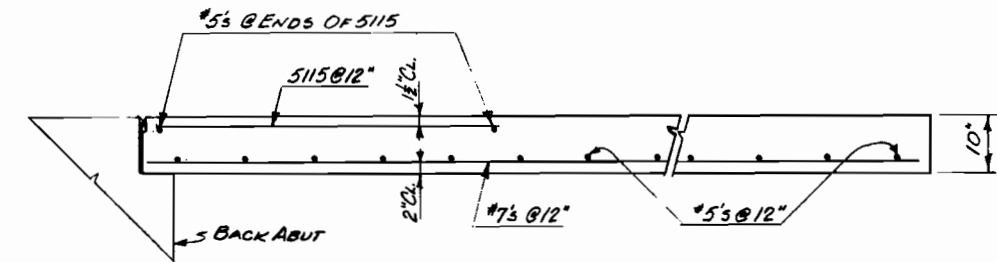
STA. 70+72.0 TO 73+25.6 (28'-0" ROWY.)
STA. 70+73.5 TO 73+29.5 (40'-0" ROWY.)
ACROSS FORD ST. & C.F.S.R.R.

Sta. **GOLDEN** Sec. **28** T. **35** R. **70W**

Designed by **EFS** Approved by **Pchunsky**
Made by **JRE** Bridge Engineer
Checked by Date: **July 7, 1966**

STRUCTURE NO. E-16-HA

	Initial	Date
MADE BY		
RECD BY		
IN BY		
RECD BY		
IN BY		
RECD BY		



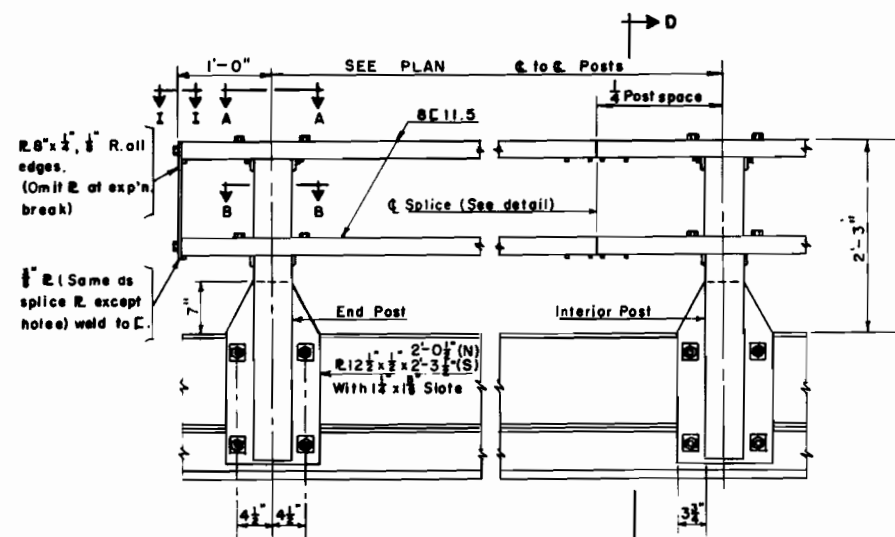
NOTE:

SEE SHEETS 14 & 15 FOR BAR LIST & SUMMARY OF QUANTITIES.

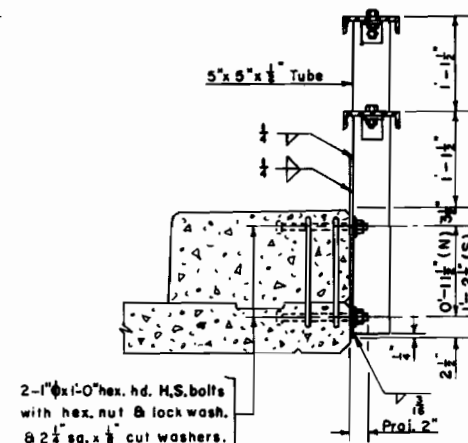
Designed by <i>EFS</i>	Approved by <i>Pchuransky</i>
Made by <i>JRE</i>	Bridge Engineer
Checked by	Date: <i>July 7, 1966</i>

STRUCTURE NO. E-16-HA

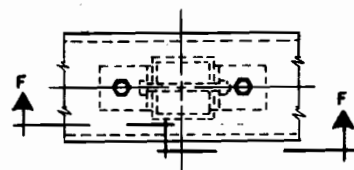
FED-ROAD SEG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	UO 32-1(7)	41	



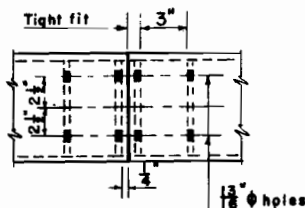
ELEVATION



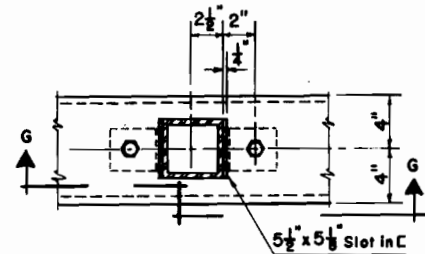
SECTION D-D



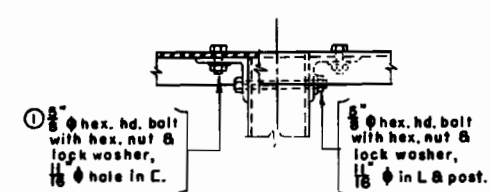
SECTION A-A



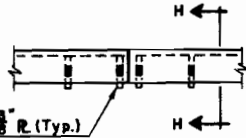
SPlice PLAN



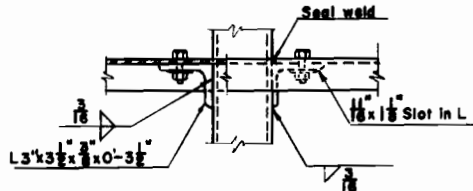
SECTION B-B



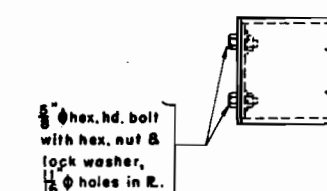
SECTION F-F



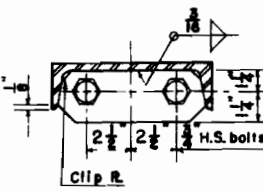
SPlice DETAIL



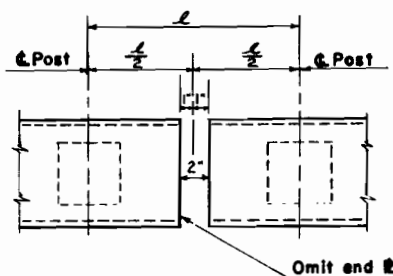
SECTION G-G



SECTION I-I



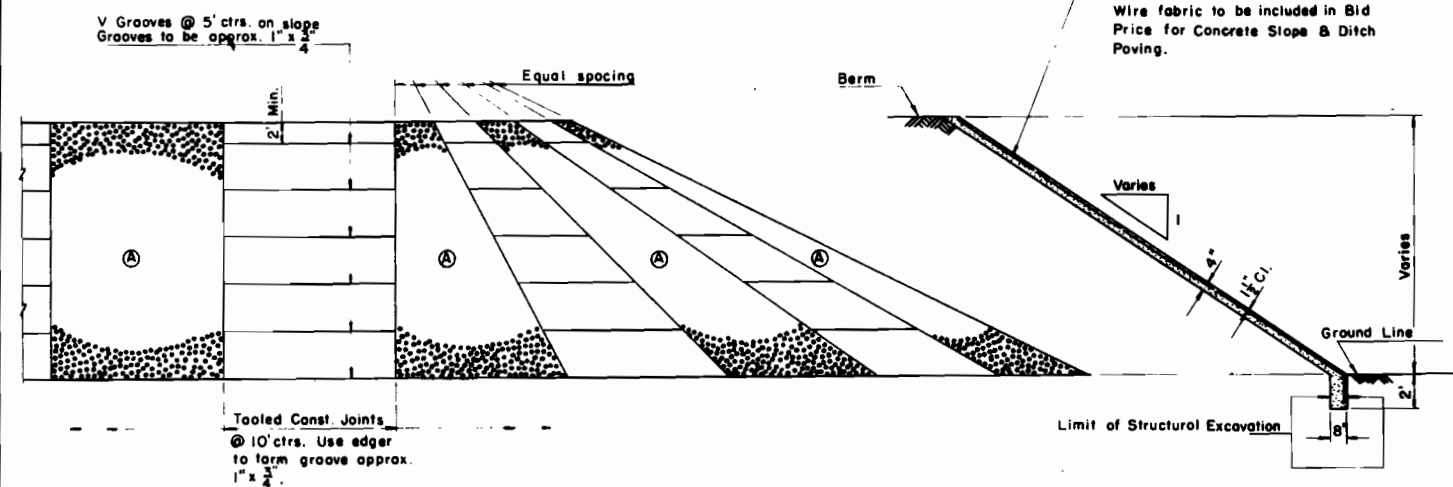
SECTION H-H



DETAIL AT EXP.N. BREAK

- Notes:
- 5/8" x 3/8" tube with 1/2" 50,000 psi may be used in lieu of the posts shown.
 - Posts to be perpendicular to the grade and slope of deck.
 - All rail elements to be galvanized after fabrication in accordance with specifications.
 - A.I.S.I. 1144 steel rods may be used in lieu of H.S. bolts shown. 10" wedge test not required for either bolts or rods used in rail assembly.
 - 5/8" standard full threaded studs welded to the channel may be used. Increase size of slot in the angle to 13/16" x 1/4".
 - Channels to be continuous over 3 or 4 posts before splicing.

GALVANIZED STEEL HANDRAIL DETAILS

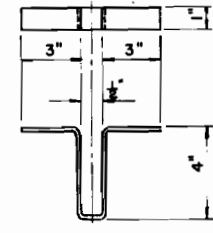


PLAN

SECTION

NOTE: Slope Paving shall be poured in 10' transverse sections with a tooled construction joint at each section. Mesh to be 2" from end of joint and shall lap 4" at splice. Panels marked thus (A) are to receive an exposed aggregate finish. The exposed aggregate finish shall be made by adding 2 ounces of an approved retarder per sack of cement to the concrete mix being used in the exposed aggregate finish panels. After the concrete is struck to grade, the surface shall be sprayed with an approved retarder at the rate of approximately one gallon per 100 sq. ft. of surface area. The surface shall then be sprayed with a curing compound and allowed to set from 4 to 12 hours. The setting time shall be as determined by the Engineer. After setting for the prescribed time the surface shall be broomed and washed with water to expose the aggregate. The exposed aggregate finish shall then be sprayed with a clear curing compound. In all cases the exposed aggregate finish shall be started on the first panel facing oncoming traffic. All work necessary by these requirements shall be included in the Bid Price for Item No. 507.

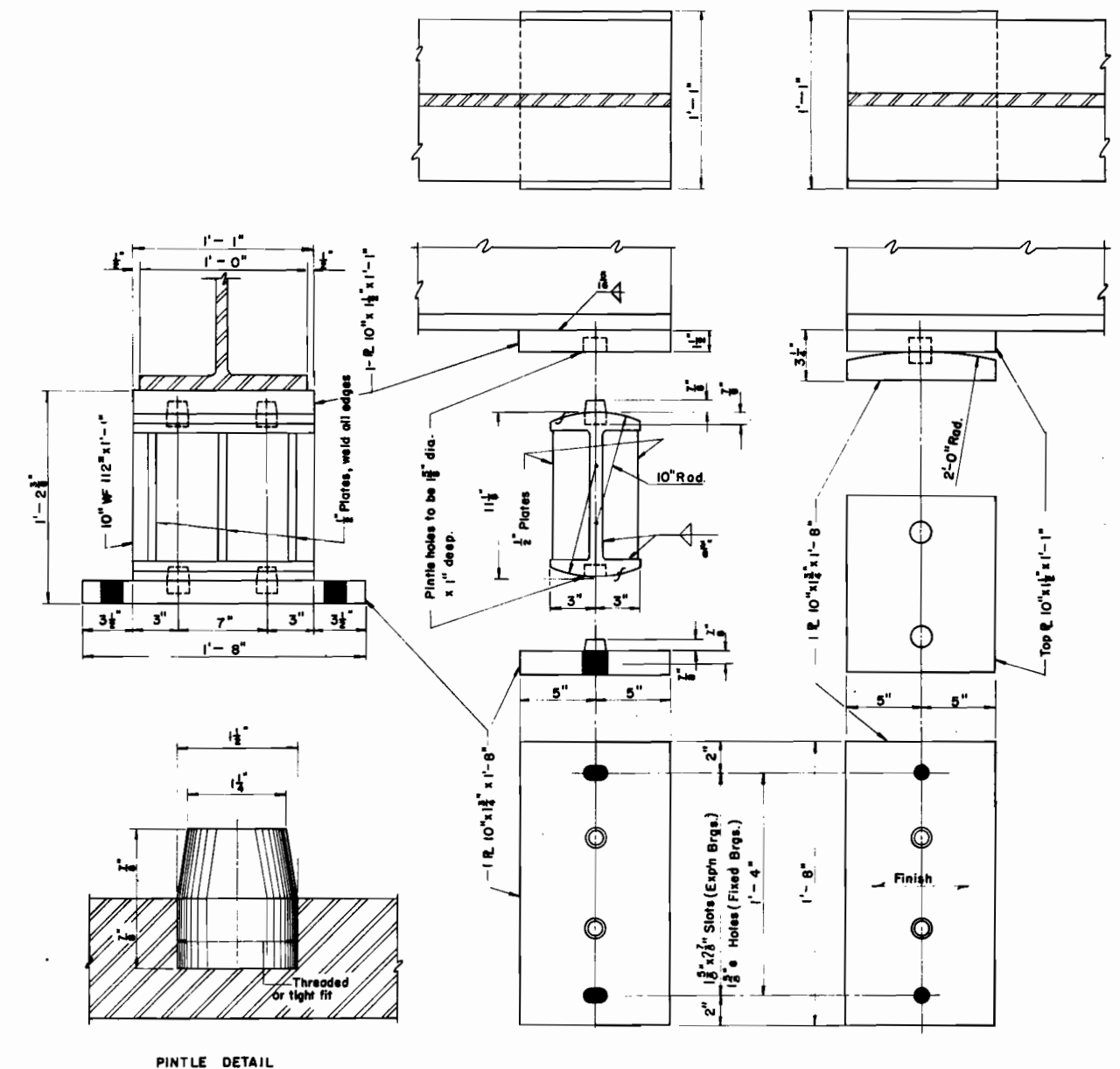
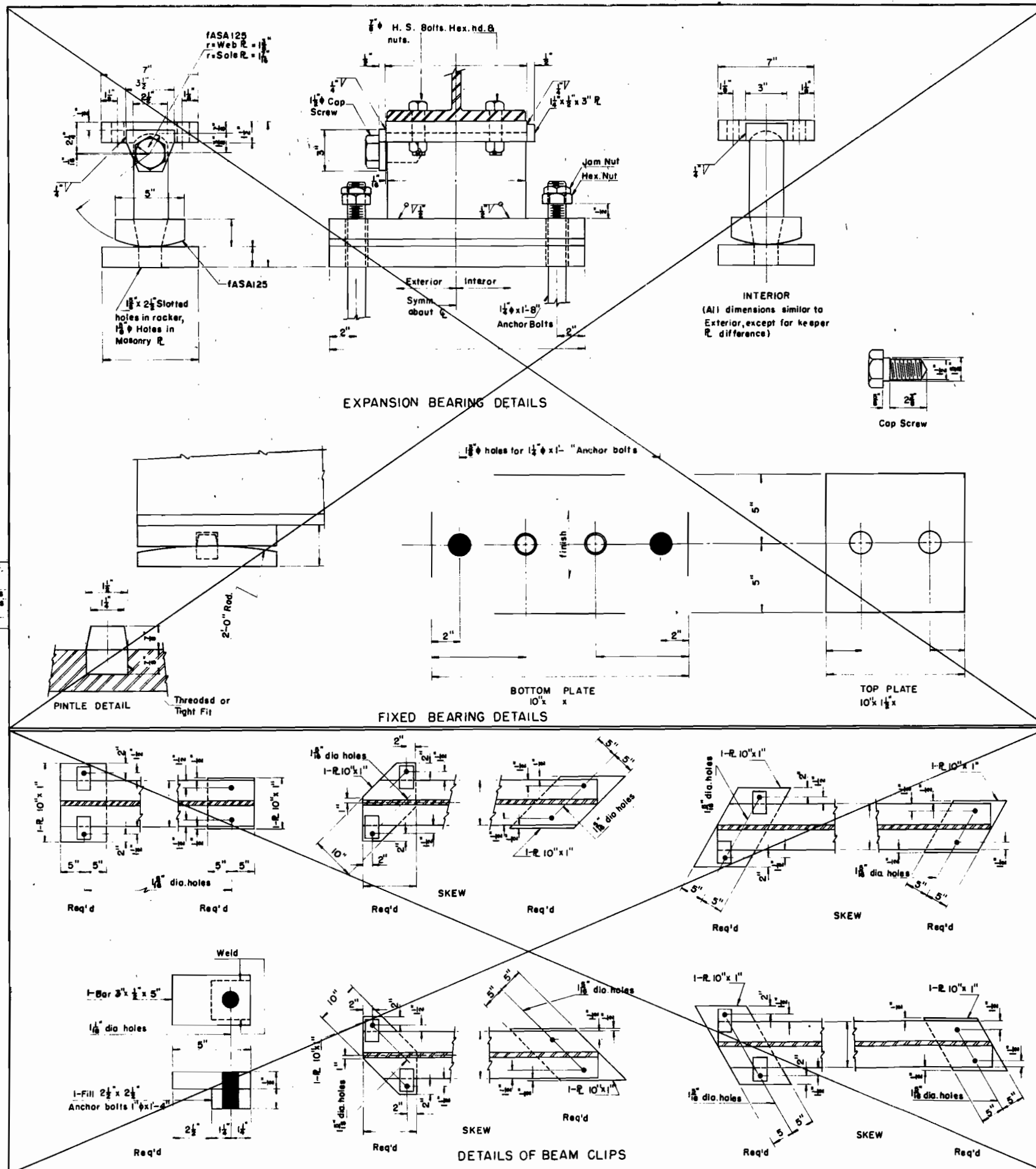
CONCRETE SLOPE & DITCH PAVING DETAILS



16 GA. GALV. SHEET METAL
NO. REQ'D. 165
GALV. STIRRUPS

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DETAILS

Across FORD ST. & C.B.S. R.R.
See the 1st. sheet
Near GOLDEN Sec. 28 T. 33 R. 70W
Designed by *Richman*
Made by *Richman*
Checked by *Richman*
Approved by *Richman*
Date: July 7, 1966



COLORADO
DEPARTMENT OF HIGHWAYS
MISCELLANEOUS
BEARING DETAILS

Across FORD ST. & C. & S. R. R.
Sta. (See the 1st sheet)
Near GOLDEN Sec. 28 T. 3 S. R. 70 W

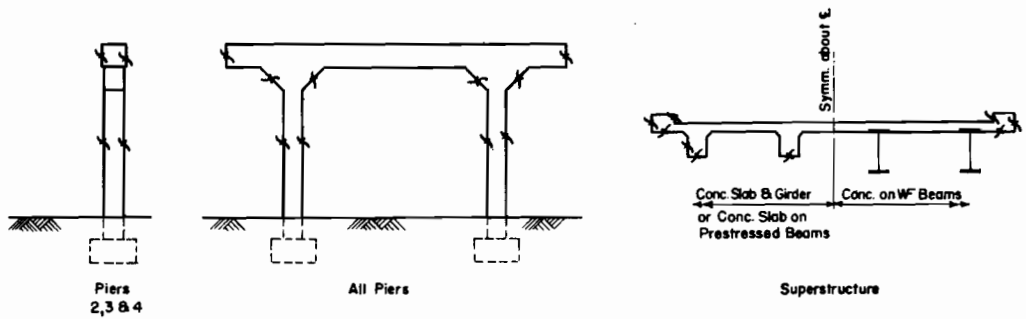
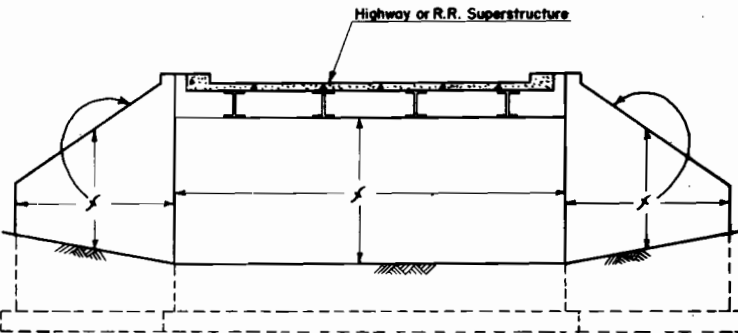
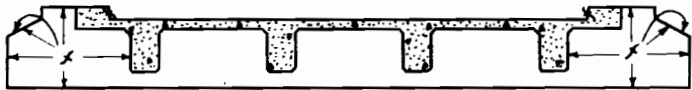
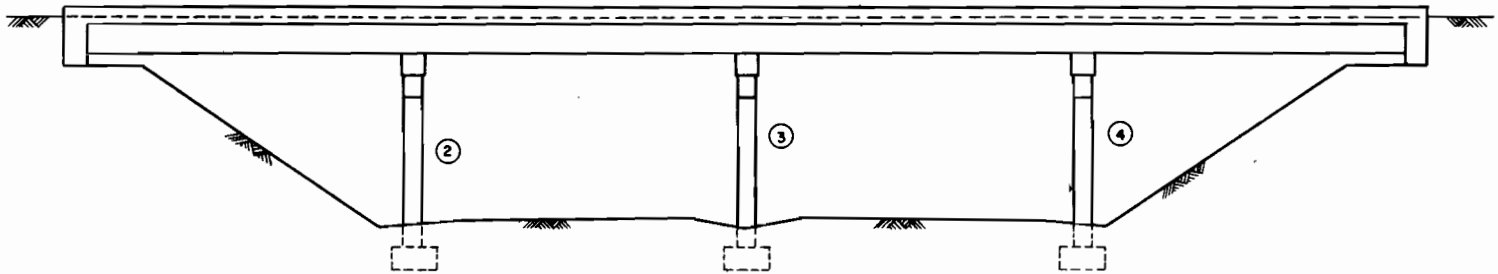
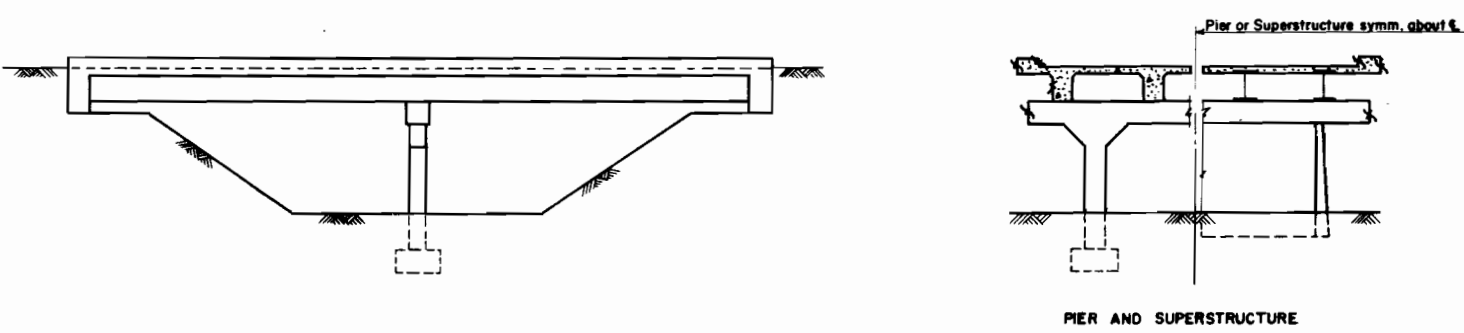
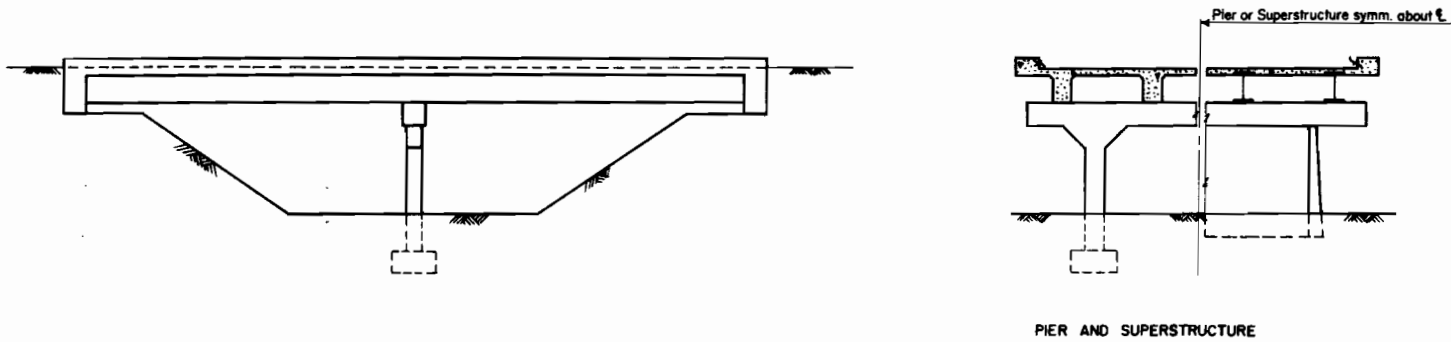
Designed by
Made by
Checked by

Approved by
Bridge Engineer
Date: July 7, 1966

IF HIGHWAYS
137
RACING
PLAIN

REVISIONS

FED. ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U032-1(7)	43	



In case of round columns the whole column shall receive Class "2" finish on all Piers.

UNDERPASS

COLORADO
DEPARTMENT OF HIGHWAYS

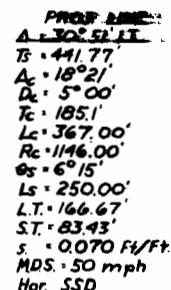
DETAILS SHOWING PORTIONS OF
STRUCTURE TO RECEIVE CLASS 2
SURFACE FINISH.

Across FORD ST. AND C.A. S. R.R.
Sta. (SEE GENERAL LAYOUT)

Near GOLDEN Sec. 20 T. 33 S. R. 70 W.

Designed by A.D.N. Approved by *R. H. H. H.*
Made by R.R.A.-J.B. Bridge Engineer
Checked by Date: July 7, 1966

STRUCTURE NO. E-16-HA



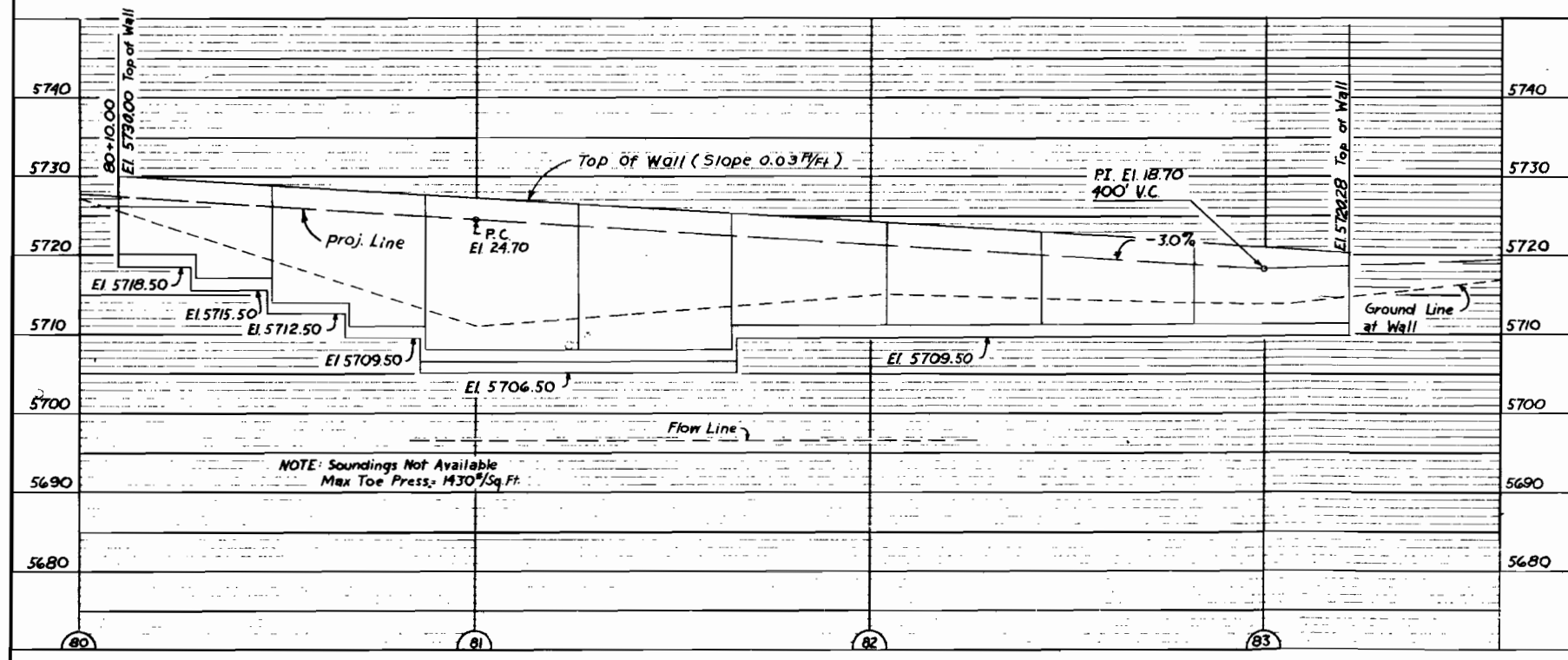
R1 10-26-66 Move wall 8'-0" horiz.,
Increase wall height 2'-0" B.
Add Metal Plate Guard Rail
(Item 509 & 606) J.L.B.

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	CORR.	11032-4(7)	44	

AS CONSTRUCTED
REVISED DATE OCT 4 1961

SUMMARY of QUANTITIES			
Item No.	Description	Unit	Total
206	Structure Excavation	Cu. Yd.	680 -
206	Structure Backfill (Class 3)	Cu. Yd.	795 -
601	Concrete, Class A	Cu. Yd.	303
602	Reinforcing Steel	Lbs.	20,991
② 509	Structural Steel (Galv.)	Lump Sum	Lump Sum
606	Guard Rail Type 3A	Lin. Ft.	319
①	½ Exph Jt. Mat'l (Type III) AMSHO Spec. M153-54	Sq. Ft.	95

- ① To be included in Bid Price for Item 601.
② Design Wt. = 3,863 lbs.



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

ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE BAR DESIGNATION AND STATION NUMBER OF THE PROJECT.

ALL REINFORCING STEEL SHALL BE INTERMEDIATE GRADE STEEL OF A DEFORMED TYPE. EACH BAR SHALL BE TAGGED WITH THE BAR DESIGNATION AND STATION NUMBER OF THE PROJECT.

IF BY PERMISSION OF THE ENGINEER PRIMARY BARS ARE SPLICED, THEY SHALL LAP A MINIMUM OF 28 DIAMETERS FOR BARS NEAR TOPS OF BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE COVER. SECONDARY BARS SHALL LAP 17 DIAMETERS FOR BARS NEAR TOPS OF BEAMS AND 17 DIAMETERS FOR BARS NEAR BOTTOM OF MEMBERS. SECONDARY BARS WHEN SPLICED SHALL LAP 17 DIAMETERS OF THE BAR.

DIMENSIONS FOR REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTERLINE OF THE BAR.

SOUNDINGS AND DEPTH OF FOOTINGS 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.

FOOTINGS IN ROCK SHALL BE POURED OUT TO ROCK AND NOT FORMED.
WHEN EXCAVATING FOR FOOTINGS THE FINAL ONE FOOT IN DEPTH SHALL BE DONE BY HAND-
LABOR METHODS.
FOR DETAILS OF STRUCTURAL EXCAVATION AND STRUCTURE BACKFILL SEE STANDARD M-200

ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 509 FOR GREEN PAINT

ALL RIVETS SHALL BE $\frac{3}{4}$ INCH DIAMETER UNLESS OTHERWISE NOTED.
HIGH TENSILE BOLTS MAY BE SUBSTITUTED FOR FIELD RIVETS AT THE CONTRACTORS OPTION.
BOLTS SHALL BE FURNISHED IN THE AMOUNT OF TWO PERCENT IN EXCESS OF THE NOMINAL

WELDING SHALL CONFORM TO THE LATEST EDITION OF THE A.W.S. STANDARD SPECIFICATIONS FOR WELDING HIGHWAY BRIDGES.
FOR WELDED GIRDERS ALL SHOP BUTT WELDS IN FLANGES AND WEBS SHALL BE MADE BEFORE

GRAPHICALLY OR BY THE PENETRANT DYE METHOD. SHOP WELDS SHALL BE INSPECTED RADIO-
WHEN TREATED TIMBER PILING IS SHOWN ON THE PLANS THE PRESERVATIVE FOR TREATMENT

ALL STRUCT. STEEL NOT OTHERWISE NOTED SHALL BE ASTM. A 36
ALL CONC. CHAMFERS TO BE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED

LOADING DATA
120 LBS./CU.FT. EARTH PRESSURE
2:1 SURCHARGE

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

uctg Reinforcing Steel $f_s = 20000$ lbs. per sq. in.
A7 Structural Steel $f_s = 18000$ lbs. per sq. in.
Concrete $f_c = 1200$ lbs. per sq. in.
 $n = 10$

COLORADO
DEPARTMENT OF HIGHWAYS

RETAINING WALL: 8 PANELS @ 40'-6" (Ch)
GENERAL LAYOUT & NOTES
SUMMARY of QUANTITIES

Sta. 80 + 10.00 to 83 + 22.62
Near GOLDEN Sec. 27 T. 35 R. 70
Designed by JLB Approved by P. [Signature]
Made by EPA Bridge Engineer
Checked by Date: 7-19-66

R-1 10-26-66 ~ Bar List & Summary ~ J.L.B.

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U032-1(7)	45	

BAR LIST ~ RETAINING WALL (PANELS 1-8)

Mark	Size	No. Req'd	Length	Type	Dimensions L x W
401	1/2" #	168	40'-0"	Str.	
402		19	20'-0"	Str.	
403		22	24'-9"	XVI	4'-0" x 20'-9"
404		10	20'-9"	Str.	
405		13	3'-0"		
406		32	3'-6"		
407		13	4'-0"		
408		5	4'-11"		
409		5	5'-8"		
410			6'-6"		
to		1 ea.	by 1/2" to		
430			6'-1"		
431			6'-6 3/4"		
to		1 ea.	by 3/4" to		
440			6'-0"		
441			9'-9 3/4"		
to		1 ea.	by 3/4" to		
450			9'-3"		
451		76	4'-2"		
452		34	4'-9"		
453			7'-1"		
to		1 ea.	by 1/2" to		
464			6'-7 1/2"		
465			9'-1"		
to		1 ea.	by 1/2" to		
476			8'-7 1/2"		
477			6'-5 1/2"		
to		1 ea.	by 3/4" to		
487			5'-10"		
488			8'-4 3/4"		
to		1 ea.	by 3/4" to		
497			7'-10"		
498		82	3'-3"		
499		81	3'-9"		
4100		27	2'-9"		
4101			6'-10"		
to	1/2" #	2 ea.	by 1/2" to	Str.	
4141			6'-0"		
501	3/4" #	6	12'-10"	VI	9'-10" x 1'-3"
502		7	12'-9"	VI	9'-8" x 1'-6"
503		7	12'-8"	VI	9'-6" x 1'-7"
504		19	4'-0"	Str.	
505		13	4'-6"		
506		5	7'-8"		
507			8'-3"		
to		2 ea.	by 1/2" to		
520			7'-8 1/2"		
521			9'-3"		
to		1 ea.	by 1/2" to		
536			8'-7 1/2"		
537			9'-5"		
to		1 ea.	by 1/2" to	Str.	
564			8'-5 1/2"		
565			13'-2"		10'-2"
to	3/8" #	1 ea.	by 1/2" to	VI	by 1/2" to 1'-5"
5105			12'-4"		9'-4"

BAR LIST (CONTINUED)

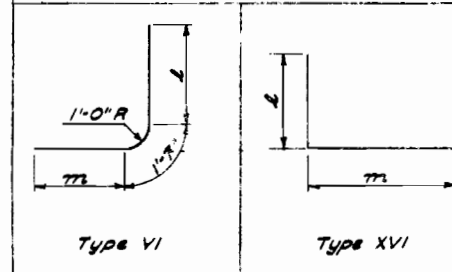
Mark	Size	No. Req'd	Length	Type	Dimensions L x W
601	3/4" #	19	5'-0"	Str.	
602		67	5'-6"	Str.	
603		5	9'-8"	Str.	
604		21	10'-1"	VI	6'-10" x 1'-8"
605		5	8'-2"	Str.	
606		92	7'-9"	XVI	2'-7" x 5'-2"
607	3/4" #	41	9'-1"	VI	5'-10" x 1'-8"
701	7/8" #	22	9'-1"	VI	6'-0" x 1'-6"
702		12	12'-3"		8'-0" x 2'-8"
703		11	11'-6"		8'-0" x 1'-11"
704	7/8" #	41	10'-6"	VI	7'-0" x 1'-11"
801	1" #	23	9'-1"	VI	6'-0" x 1'-6"
802		5	12'-9"		9'-3" x 1'-11"
803		5	13'-4"		9'-3" x 2'-6"
804		14	11'-10"		8'-0" x 2'-3"
805		7	14'-7"		10'-0" x 3'-0"
806	1" #	7	15'-2"		10'-0" x 3'-7"
907	1 1/8" #	30	13'-2"		8'-9" x 2'-10"
908		16	17'-2"		11'-6" x 4'-1"
909		14	17'-2"		11'-9" x 3'-10"
910		27	11'-7"		8'-0" x 2'-0"
911		28	15'-0"	VI	10'-0" x 3'-5"
901	1 1/8" #	55	7'-1"	VI	4'-0" x 1'-6"

BAR SUMMARY

10384 Lin. Ft. 1/2" # bar @ 0.668 Lb./Lin. Ft. = 6937 Lb.
 1565 Lin. Ft. 3/4" # bar @ 1.043 Lb./Lin. Ft. = 1632 Lb.
 1850 Lin. Ft. 3/4" # bar @ 1.502 Lb./Lin. Ft. = 2779 Lb.
 804 Lin. Ft. 7/8" # bar @ 2.044 Lb./Lin. Ft. = 1648 Lb.
 2130 Lin. Ft. 1" # bar @ 2.670 Lb./Lin. Ft. = 5687 Lb.
 620 Lin. Ft. 1 1/8" # bar @ 3.400 Lb./Lin. Ft. = 2108 Lb.
 Total = 20991 Lb.

BENDING DIAGRAMS

(Dimensions are out to out of bar)



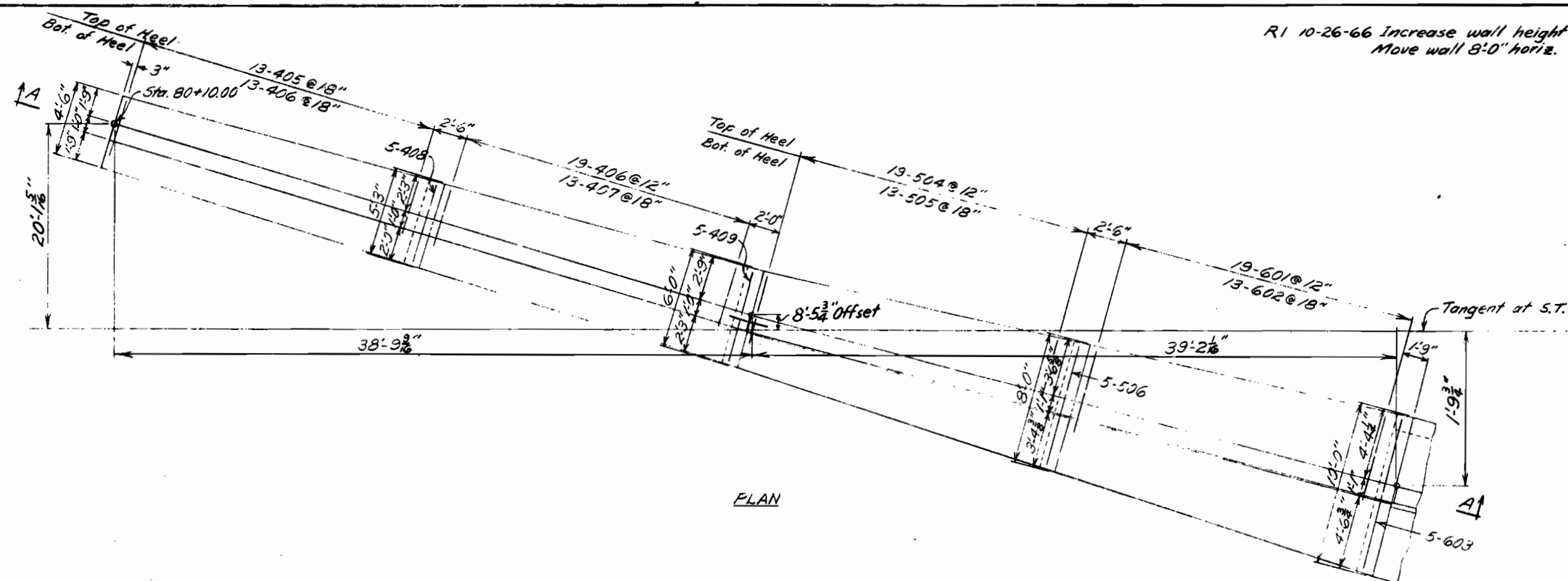
DEPARTMENT OF HIGHWAYS
 STATE OF COLORADO
 BAR LIST AND
 BAR SUMMARY

Sta. 80+10.00 to 83+22.62
 Near 60/607 Sec. 27 T. 23 R. 20W
 Designed by J.L.B. Approved by P. Thompson
 Made by Bridge Engineer
 Checked by Date: June 7 1966

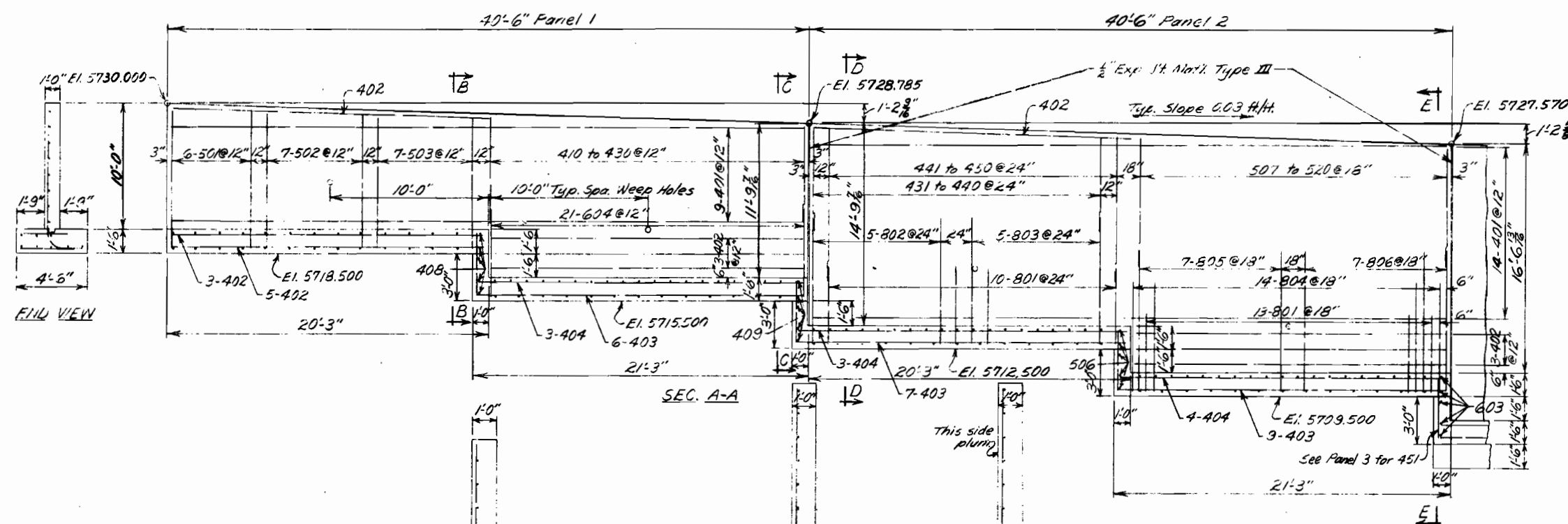
REVISIONS

R1 10-26-66 Increase wall height 2'-0" &
Move wall 8'-0" horiz. JLB

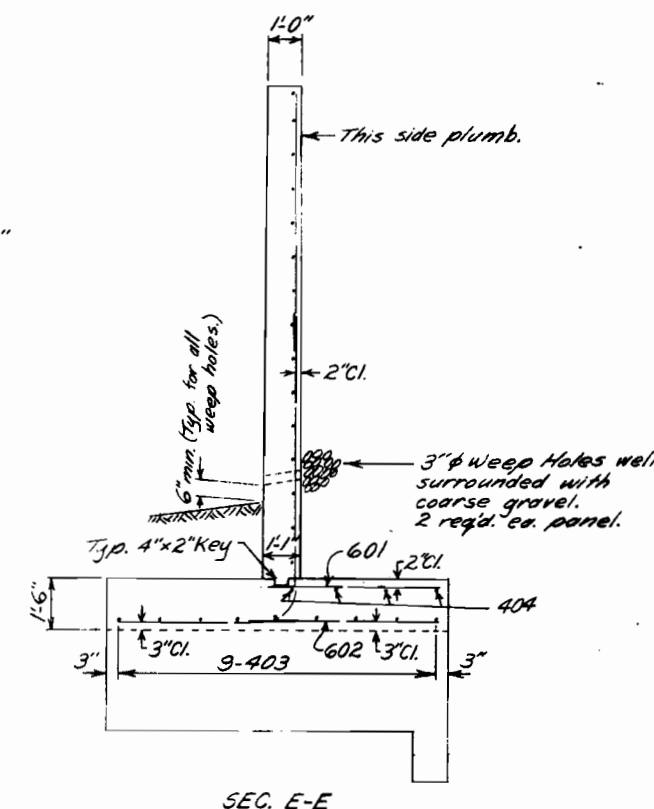
FILE NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	U032-1(7)	46	



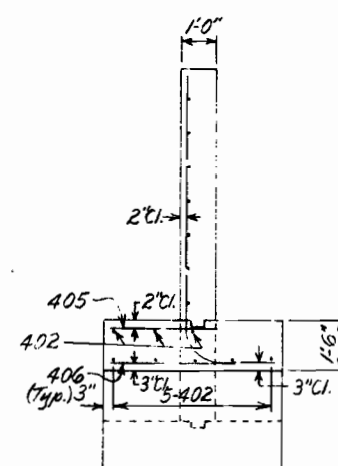
PLAN



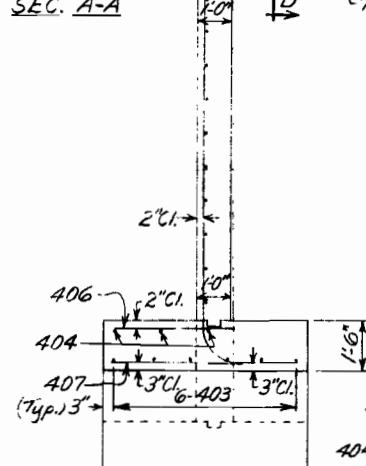
ELEV. VIEW



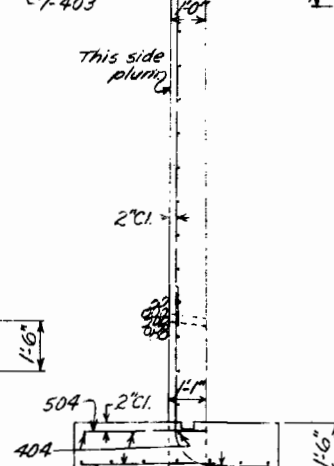
SEC. E-E



SEC. B-B



SEC. C-C



SEC. D-D

Note: Max. Toe Pressure = 1430 lbs/sq. ft.

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
RETAINING WALL
PANELS 1 & 2

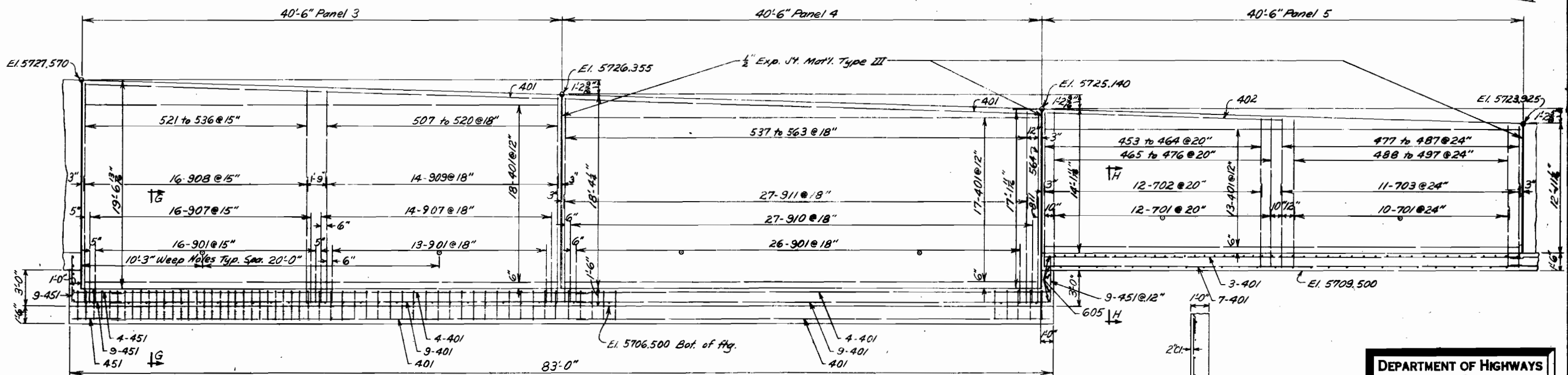
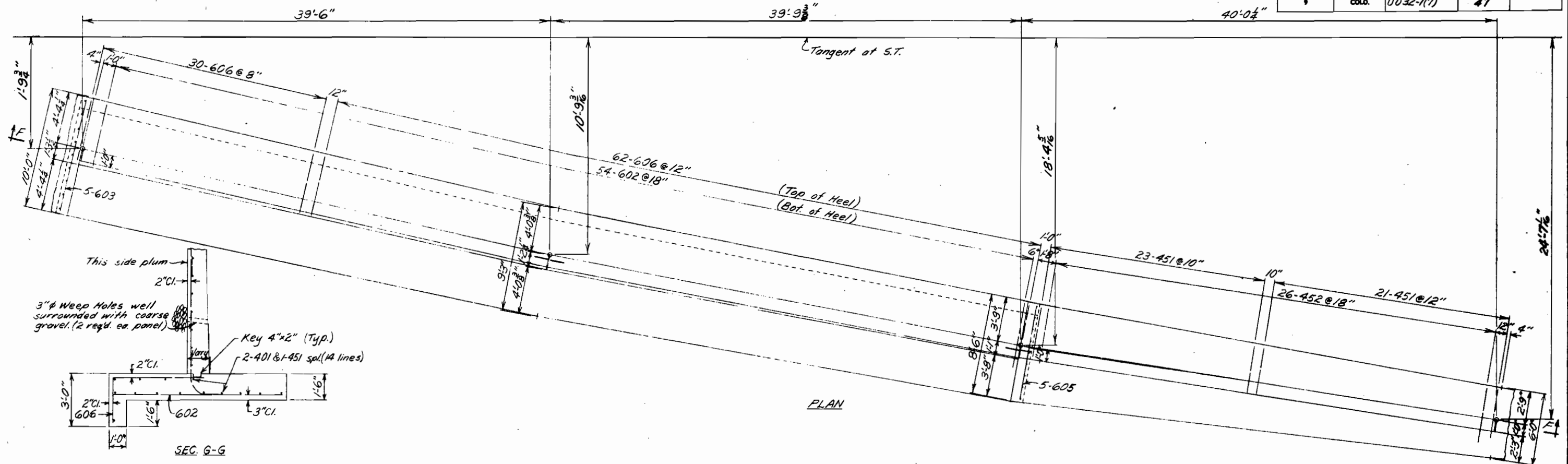
Across Sta. 80+10.00 to 83+23.50
Near Golden Sec. 27 T.35 R.70W
Designed by JLB Approved by JLB
Made by JLB Bridge Engineer
Checked by JLB Date: July 7 1966

STRUCTURE NO. _____

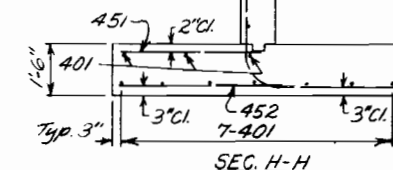
REVISIONS

R1 10-26-66 Increase wall height 2'-0" & Move wall 8'-0" horiz. JLB

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	0032-1(7)	47	



Note: Max. Toe Pressure = 1430 lbs./sq. ft.



DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
RETAINING WALL
PANELS 3, 4, & 5

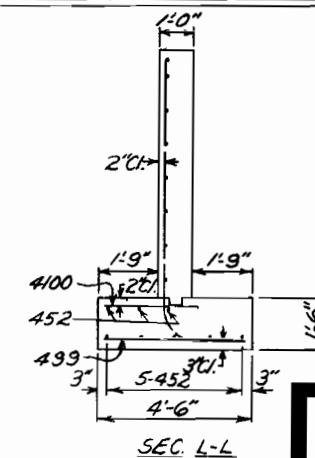
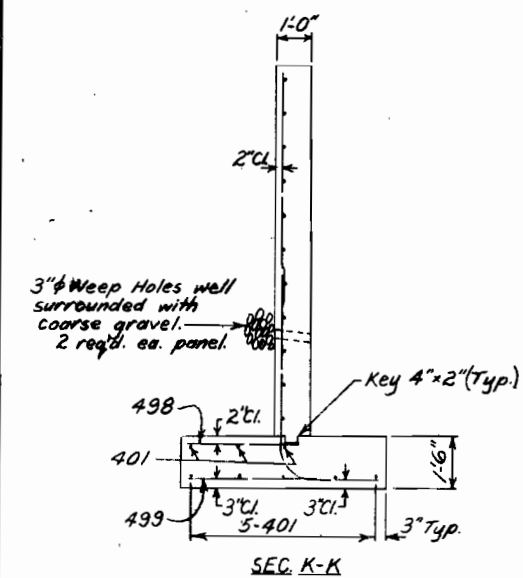
Across Sta. 80+10.00 to 83+28.62
Near Golden Sec. 27 T. 35 R. 70W
Designed by JLB Approved by PCH
Made by JLB Bridge Engineer
Checked by Date: July 7 1966

STRUCTURE NO.

Hand-drawn plan view of a bridge deck showing reinforcement layout. The drawing includes dimensions for the deck width (40'-2 1/2", 40'-4 3/8", 40'-5 1/8"), total depth (35'-0"), and various reinforcement bar sizes and spacings (e.g., 82-498 @ 12" (Top of Heel), 81-499 @ 18" (Bot. of Heel), 27-4100 @ 18"). It also shows a "Tangent at S.T." and a "Spiral Sta. 83+29.62".

[illegible]

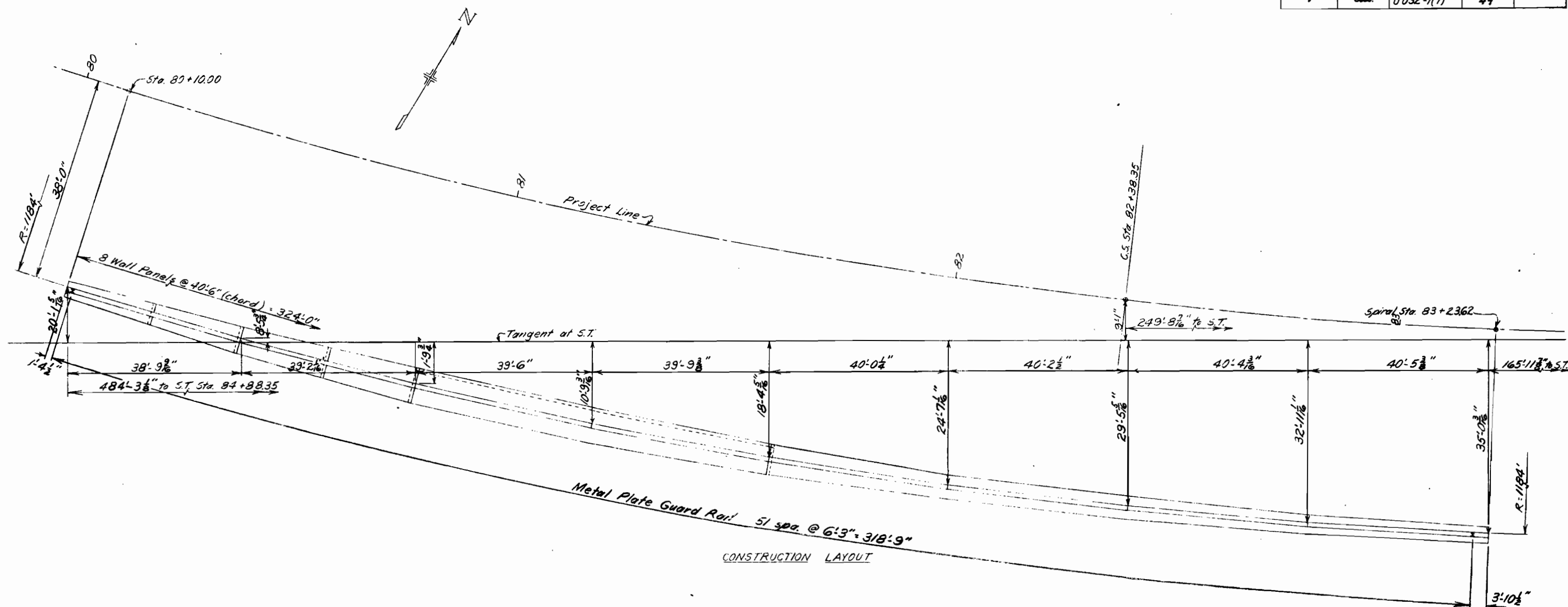
Note: Max. Toe Pressure = 1430 lbs./sq. ft.



Across <u>Sta. 80+10.00 to 83+23.63</u>	
Near <u>Golden</u>	Sec. <u>27</u> T. <u>35</u> R. <u>77W</u>
Designed by <u>JLB</u>	Approved by <u>P. J. [Signature]</u>
Made by <u>JLB</u>	Bridge Engineer
Checked by	Date: <u>Jun. 7 1966</u>

STRUCTURE NO.-

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U032-1(7)	49	



	Initial	Date
BY	JLB	3-66
BY		
BY	JLB	3-66
BY		
BY		
BY		

CONSTRUCTION LAYOUT

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO

RETAINING WALL
Construction Layout
8 Panels @ 40'-6"

Across Sta. 40+70.00 to 43+23.62

Neat Golden Sec. 27 T.3S R.2E

Designed by <u>JLB</u>	Approved by <u>P. Chavira</u>
Made by <u>JLB</u>	Bridge Engineer
Checked by	Date: <u>July 28 1966</u>

STRUCTURE NO.

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	U032-1(7)	49A	

[illegible]

DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
METAL PLATE GUARD RAIL

Sta. 80+1000 to 83+2362
Near Golden Sec. 27 T. 35 R. 30W

Designed by <u>JLB</u>	Approved by
Made by	Bridge Engineer
Checked by	Date: <u>19</u>

STRUCTURE NO.

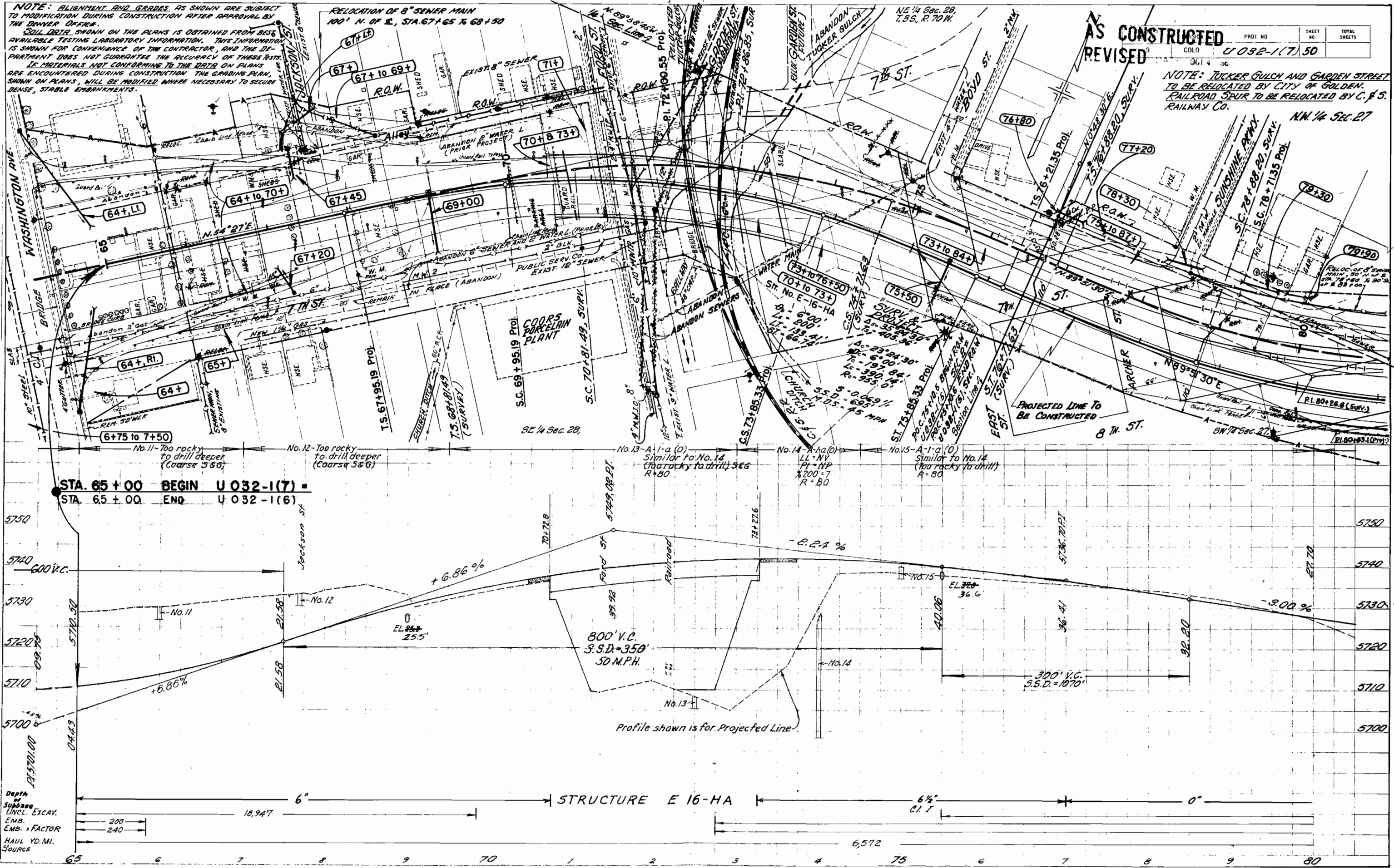
NOTE: ALIGNMENT AND GRADES AS SHOWN ARE SUBJECT TO MODIFICATION DURING CONSTRUCTION AFTER APPROVAL BY THE DANNER OFFICE.
SOIL DATA SHOWN ON THE PLANS IS OBTAINED FROM BEST AVAILABLE TESTING LABORATORY INFORMATION. THIS INFORMATION IS SHOWN FOR CONVENIENCE OF THE CONTRACTOR, AND THE DEPARTMENT DOES NOT GUARANTEE THE ACCURACY OF THESE TESTS.
IF MATERIALS NOT CONFORMING TO THE DATA ON PLANS ARE ENCOUNTERED DURING CONSTRUCTION THE GRADING PLAN, SHOWN ON PLANS, WILL BE MODIFIED WHERE NECESSARY TO SECURE DENSE, STABLE EMBANKMENTS.

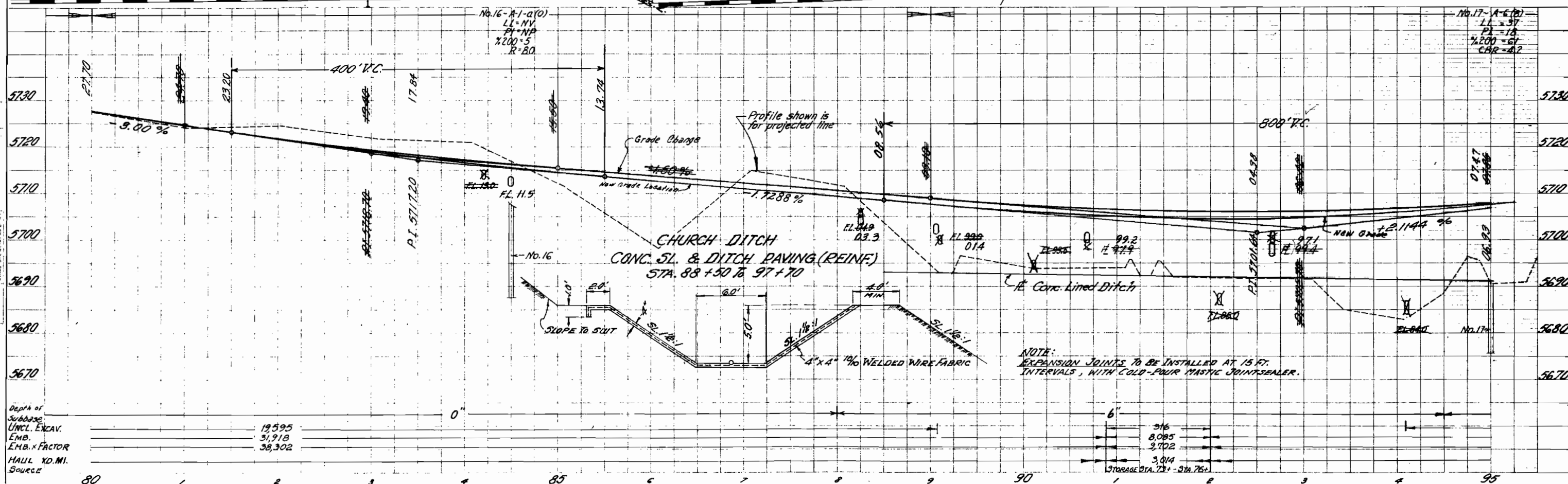
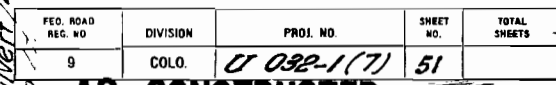
RELOCATION OF 8" SEWER MAIN
100' N. OF E, STA. 67+65 TO 68+50

AS CONSTRUCTED
REVISED

PROJ. NO.	SHEET NO.	TOTAL SHEETS
U 032-1(7)	50	

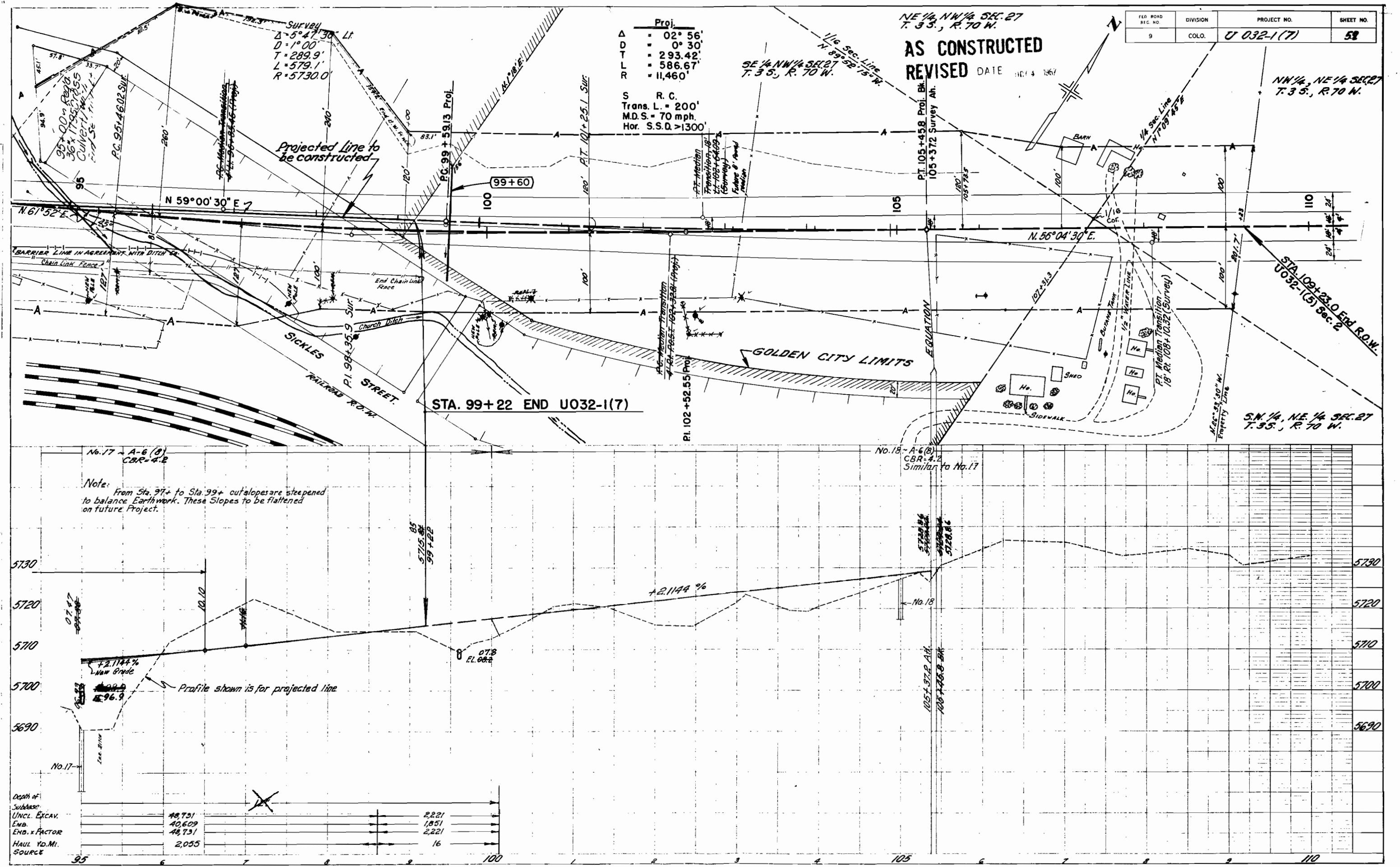
NOTE: TUCKER GULCH AND GARDEN STREET TO BE RELOCATED BY CITY OF GOLDEN.
RAILROAD SPUR TO BE RELOCATED BY C. & S. RAILWAY CO.





PLAN
NOT TO SCALE

25194



Proj.

Δ	02° 56'
D.T.L.R.	0° 30'
S	293.42'
R	586.67'
L	11,460'

S. R.C.
Trans. L. = 200'
M.D.S. = 70 mph
Hor. S.S.D. > 1300'

NE 1/4, NW 1/4 SEC. 27
T. 3 S., R. 70 W.

AS CONSTRUCTED
REVISED DATE 10/4/1967

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.
9	COLO.	U 032-1 (7)	58

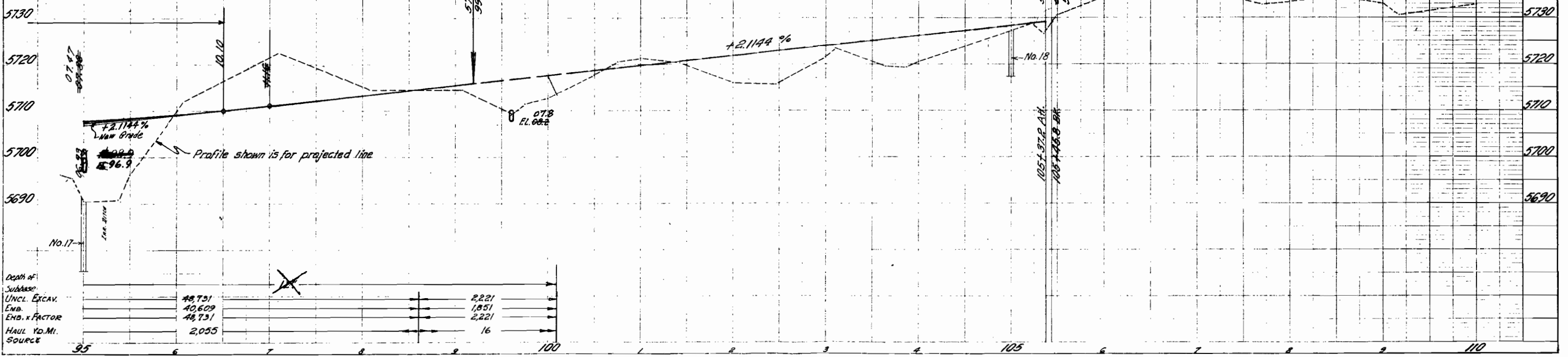
NW 1/4, NE 1/4 SEC. 27
T. 3 S., R. 70 W.

SW 1/4, NE 1/4 SEC. 27
T. 3 S., R. 70 W.

No. 17 - A-6 (B)
CBR = 4.2

Note: From Sta. 97+ to Sta. 99+ cut-slopes are steepened to balance Earthwork. These Slopes to be flattened on future Project.

No. 18 - A-6 (B)
CBR = 4.2
Similar to No. 17



DEPTH OF SUBGRADE

UNCL. EXCAV.	48,731	2,221
EMB.	40,609	1,851
EMB. x FACTOR	48,731	2,221
HAUL YD. MI.	2,055	16
SOURCE		

FINAL	DATE
SURVEY	
NOTE BOOK	
NO.	

ORIGINAL	DATE
SURVEY	
NOTE BOOK	
NO.	

Excavation	Area	Embankment	Area
Cu. Yds.		Cu. Yds.	

Excavation	Area	Embankment	Area
Cu. Yds.		Cu. Yds.	

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	U 032-1(7)	53	

SUMMARY OF EARTH WORK QUANTITIES

UNCLASSIFIED EXCAVATION

ROADWAY (FROM CROSS SECTIONS)	89,810 CU.YD.
FROM STORAGE	9,386 "
EST. FOR SUBSIDENCE	9,660 "
STRUCTURE QUANTITIES AS EMBANKMENT	3,000 "
STRUCTURE QUANTITIES AS EXCAVATION	105 "
STRUCTURE QUANTITIES AS DITCH EXCAV.	61 "
EST. FOR CUT SLOPE TREATMENT	50 "

TOTAL	112,072 CU.YD.
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EMBANKMENTS (STANDARD)

EMBANKMENT (NET)	82,663 CU.YD.
BASE OF CUTS AND FILLS	16,881 "
TOTAL	99,544 CU.YD.

HALL

FROM MASS DIAGRAM	11,657 YD.MI.
ESTIMATE FOR SUBSIDENCE	1,166 "
ESTIMATE TO FILL HOLE AT STA. 84+	568 "
TOTAL	13,391 YD.MI.

ROADWAY QUANTITIES BALANCE [FOR INFORMATION ONLY]

EXCAVATION

UNCLASSIFIED	89,810 CU.YD.
FROM STORAGE	9,386 "
TOTAL	99,196 CU.YD.

EMBANKMENT

FROM CROSS SECTIONS	82,663 CU.YD.
TOTAL	82,663 CU.YD.

EMBANKMENT * FACTOR

TOTAL	99,196 CU.YD.
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SHEET TOTALS	{	EXCAVATION	CU. YDS.
		EXCAVATION	CU. YDS.
		EMBANKMENT	CU. YDS.