

COLORADO DEPARTMENT OF HIGHWAYS
ENGINEERS DETAILED ESTIMATE

Name of Project: Idaho Springs - West
 County of : Clear Creek, SH No. 2
 Type : Grading, Structures,
 Stabilization & Plant
 Mixed Asphaltic Sur-
 facing
 Prepared by : H. E. Pape
 Title : Associate Highway Engr.

Colorado Project No. I 70-3(15)243
 Sheet No. 1
 Date: March 13, 1963
 Rev. August 13, 1963
 Length: 9,340.6 ft. = 1.769 miles
 Roadway Pavement: 2 @ 24 ft. wide
 (with paved shoulders)
 Thickness in inches: roadway 3
 shoulders 1-3/4

ROADWAY: STA. 350+00.0 TO STA. 445+00

NO.	ITEM	UNIT	QUANTITY	PRICE	AMOUNT
10	Clearing & Grubbing Entire Project	Lump Sum (Prorated)		\$ --	\$ 2,000.00
11	Removal of Obstructions	Lump Sum	--	--	4,000.00
11	Removal of Headwalls	Each	1	100.00	100.00
11	Removal of Structures	Each	12	75.00	900.00
11	Plug Culverts	Each	3	25.00	75.00
11	Removing Guard Posts	Each	20	1.50	30.00
11	Removal of Sign Structures	Each	3	250.00	750.00
12	Removing Fence	Lin. Ft.	700	0.05	35.00
12	Removing Guard Fence	Lin. Ft.	9,932	0.75	7,449.00
12	Removing & Rebuilding Guard Fence	Lin. Ft.	200	3.50	700.00
13	Unclassified Excavation	Cu. Yd.	807,000	1.10	887,700.00
13	Unclassified Ditch Excavation	Cu. Yd.	400	1.50	600.00
13	Stripping	Cu. Yd.	150	0.20	30.00
14	Unclassified Structural Excavation - Miscellaneous	Cu. Yd.	1,050	2.00	2,100.00
16	Structure Backfill (Class 1)	Cu. Yd.	575	1.75	1,006.25
17	Compaction (Modified)	Cu. Yd.	876,600	0.03	26,298.00
17	Wetting	M Gal.	8,760	1.00	8,760.00
18	Station Yard Overhaul	Sta. Yd.	3,879,400	0.008	31,035.20
18	Yard Mile Overhaul	Yd. Mi.	75,595	0.10	7,559.50
18	Ton Mile Overhaul	Ton Mi.	52,850	0.09	4,756.50
23	Subbase Material (Class 1)	Ton	22,850	0.95	21,707.50
26	Gravel or Crushed Rock Surfacing (Grading C)	Ton	20,450	1.15	23,517.50
29	Asphalt (85-100 Penetration)	Ton	925	31.00	28,675.00
30	Asphaltic Road Material MC (Prime)	Gal.	40,740	0.17	6,925.80
30	Asphaltic Road Material RC (Seal)	Gal.	9,500	0.19	1,805.00
31	Stone Screenings (Type 1)	Ton	340	6.50	2,210.00
32	Plant Mixed Asphaltic Shoulder Roll	Ton	10	25.00	250.00
32	Plant Mixed Asphaltic Surfacing	Ton	12,695	3.50	44,432.50
32	Plant Mixed Asphaltic Ditch Paving	Ton	210	20.00	4,200.00
37	Concrete Pavement (10" Thick)	Sq. Yd.	400	6.50	2,600.00
35	Class "A" Concrete	Cu. Yd.	482	62.00	29,884.00
37	Reinforcing Steel	Lb.	61,090	0.13	7,941.70
33	18" Corrugated Metal Culvert Pipe	Lin. Ft.	334	5.00	1,670.00
33	24" Corrugated Metal Culvert Pipe	Lin. Ft.	801	6.40	5,126.40
33	24" Corrugated Metal Culvert Pipe (Transport & Place)	Lin. Ft.	126	3.75	472.50

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Name of Project: Idaho Springs - West
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Colorado Project No. I 70-3(15)243
Sheet No. 2
Date: March 13, 1963
Rev. August 13, 1963

ROADWAY: (CONTINUED)

NO.	ITEM	UNIT	QUANTITY	PRICE	AMOUNT
53	30" Corrugated Metal Culvert Pipe	Lin. Ft.	122	\$ 8.25	\$ 1,006.50
53	36" Corrugated Metal Culvert Pipe (12 Gage)	Lin. Ft.	416	12.50	5,200.00
53	48" Corrugated Metal Culvert Pipe	Lin. Ft.	140	17.50	2,450.00
58	36" Asbestos Bonded Corrugated Metal Culvert Pipe (Paved Invert)	Lin. Ft.	168	13.50	2,268.00
63	Grouted Rubble Slope & Ditch Paving	Cu. Yd.	105	25.00	2,625.00
75	Metal Plate Guard Fence (Beam Type)	Lin. Ft.	7,775	4.00	31,100.00
76	Barbed Wire Fence with Metal Posts	Lin. Ft.	1,200	0.25	300.00
76	Corner & Line Brace Posts	Each	3	25.00	75.00
76	End Posts	Each	4	17.50	70.00
81	Right-of-Way Markers	Each	22	15.00	330.00
95	24" Metal Aprons for Corrugated Metal Pipe Culverts	Each	5	55.00	275.00
95	30" Metal Aprons for Corrugated Metal Pipe Culverts	Each	1	80.00	80.00
95	36" Metal Aprons for Corrugated Metal Pipe Culverts	Each	3	120.00	360.00
132	Inlet Grating & Frame (Median)	Each	6	80.00	480.00
132	Inlet Grating & Frame (Median) (Transport & Place)	Each	4	20.00	80.00
192	Delineators (Type I)	Each	178	3.90	694.20
192	Delineators (Type II)	Each	84	4.50	378.00
192	Delineators (Type III)	Each	6	5.10	30.60
SUB-TOTAL MAIN ROADWAY					<u>\$1,215,104.65</u>

DETOUR

10	Clearing & Grubbing Entire Project	Lump Sum (Prorated)		\$ --	\$ 3,000.00
11	Removal of Structures	Each	1	75.00	75.00
12	Removing Fence	Lin. Ft.	500	0.05	25.00
12	Removing & Rebuilding Fence	Lin. Ft.	400	0.25	100.00
13	Unclassified Excavation	Cu. Yd.	247,000	1.10	271,700.00
13	Unclassified Ditch Excavation	Cu. Yd.	200	1.50	300.00
13	Stripping	Cu. Yd.	50	0.20	10.00
14	Unclassified Structural Excavation - Miscellaneous	Cu. Yd.	410	2.00	820.00
16	Structure Backfill (Class 1)	Cu. Yd.	280	1.75	490.00
17	Compaction (Modified)	Cu. Yd.	253,400	0.03	7,602.00
17	Wetting	M Gal.	3,980	1.00	3,980.00
18	Station Yard Overhaul	Sta. Yd.	735,600	0.008	5,884.80
18	Yard Mile Overhaul	Yd. Mi.	99,205	0.10	9,920.50
18	Ton Mile Overhaul	Ton Mi.	41,450	0.09	3,730.50

COLORADO DEPARTMENT OF HIGHWAYS
ENGINEERS DETAILED ESTIMATE

Name of Project: Idaho Springs - West
County of : Clear Creek, SH No. 2

Colorado Project No. I 70-3(15)243
Sheet No. 3
Date: March 13, 1963
Rev. August 13, 1963

ROADWAY: (CONTINUED)

NO.	ITEM	UNIT	QUANTITY	PRICE	AMOUNT
23	Subbase Material (Class 1)	Ton	17,550	\$ 0.95	\$ 16,672.50
26	Gravel or Crushed Rock Surfacing (Grading C)	Ton	15,850	1.15	18,227.50
29	Asphalt (85-100 Penetration)	Ton	545	31.00	16,895.00
30	Asphaltic Road Material MC (Prime)	Gal.	30,660	0.17	5,212.20
32	Plant Mixed Asphaltic Surfacing	Ton	7,595	3.50	26,582.50
37	Concrete Pavement (10" Thick)	Sq. Yd.	125	6.50	812.50
47	Reinforcing Steel	Lb.	5,580	0.13	725.40
53	18" Corrugated Metal Culvert Pipe	Lin. Ft.	1,250	5.00	6,250.00
53	24" Corrugated Metal Culvert Pipe	Lin. Ft.	236	6.40	1,510.40
53	48" Corrugated Metal Culvert Pipe	Lin. Ft.	78	17.50	1,365.00
58	18" Asbestos Bonded Corrugated Metal Culvert Pipe	Lin. Ft.	58	6.00	348.00
58	24" Asbestos Bonded Corrugated Metal Culvert Pipe	Lin. Ft.	23	7.50	172.50
63	Grouted Rubble Slope & Ditch Paving	Cu. Yd.	12	25.00	300.00
75	Metal Plate Guard Fence (Beam Type)	Lin. Ft.	100	4.00	400.00
192	Delineators (Type I)	Each	8	3.90	31.20
192	Delineators (Type III)	Each	2	5.10	10.20
SUB-TOTAL DETOUR					\$403,152.70
<u>FORCE ACCOUNT</u>					
	Obliterating Old Road	Lump Sum	--	\$ --	\$ 1,000.00
	Clearing of Building Sites, Etc.	Lump Sum	--	--	2,500.00
SUB-TOTAL ROADWAY					\$1,621,757.35
Plus 10% for engineering and contingencies					162,175.73
TOTAL ROADWAY					\$1,783,933.08

Length of Roadway, exclusive of bridges of more than 20' span: 9,136.0 ft. = 1.730 mi.
 Cost per mile, exclusive of bridges of more than 20' span: \$1,031,175.19
 Amount Federal Aid requested (91.32% of Total) \$1,629,087.68
 Amount Federal Aid recommended (91.32% of Total) \$1,629,087.68

COLORADO DEPARTMENT OF HIGHWAYS
ENGINEERS DETAILED ESTIMATE

Name of Project: Idahp Springs - West
County of : Clear Creek, SH No. 2

Colorado Project No. I 70-3(15)243
Sheet No. 5
Date: March 13, 1963
Rev. August 13, 1963

NON-FEDERAL AID:

NO.	ITEM	UNIT	QUANTITY	PRICE	AMOUNT
<u>STATE FORCES</u>					
	Signing & Striping Entire Project	Lump Sum	--	\$ --	\$ 3,000.00
	Removal of 1 - Flashing Amber Warning Light	Lump Sum	--	--	150.00
<u>STATE FURNISHED MATERIALS</u>					
53	24" Corrugated Metal Culvert Pipe	Lin. Ft.	126	\$ 3.855	\$ 485.73
132	Inlet Grating & Frame (Median)	Each	4	78.90	315.60
SUB-TOTAL NON-FEDERAL AID					\$ 3,951.33
Plus 10% for engineering and contingencies					395.13
TOTAL NON-FEDERAL AID					\$ 4,346.46

S U M M A R Y

	<u>Estimated Cost</u>	<u>Federal Aid Funds Requested & Recommended</u>	<u>Length Miles</u>
ROADWAY	\$1,783,933	\$1,629,088	1.730
MAJOR STRUCTURES	160,107	146,210	0.039
SUB-TOTAL	\$1,944,040	\$1,775,298	1.769
NON-FEDERAL AID	4,346	---	---
TOTAL	\$1,948,386	\$1,775,298	1.769

NOTE: This estimate forwarded by the Division Engineer, Bureau of Public Roads, with his memorandum to the Regional Engineer dated _____, 19____.

August 21, 1963

COLORADO DEPARTMENT OF HIGHWAYS
SPECIAL PROVISIONS
COLORADO PROJECT NO. I 70-3(15)243
IDAHO SPRINGS - WEST

The following Special Provisions take precedence over all conflicting details in Specifications or on Plans, and supplement the Standard Specifications for Road and Bridge Construction, adopted by the Department on January 1, 1958.

REQUIRED PROVISIONS FEDERAL-AID CONTRACTS, INTERSTATE HIGHWAYS, Act of 1956
(Dated April 24, 1962, except as otherwise noted)

Application	
Nondiscrimination of Employees	
Payment of Predetermined Minimum Wages	
Statement and Payrolls	
Employment Classification Reports	
Record of Materials and Supplies	
Subletting or Assigning the Contract	
Safety; Accident Prevention	
False Statements Concerning Highway Projects	
Regulations	
Labor Classification - CRS 1953	
Rental of Teams and Trucks	(March 28, 1947)
Exemption from Ton-Mile Taxes	(April 26, 1955)
General	(May 19, 1958)
Revision of Section 1, Standard Specifications (Definition of Terms)	(March 16, 1962)
Contractor's Certificate (CDH 106 - DR 513 Mod.)	(March 7, 1958)
Sales Tax Refund on Construction Materials	(April 3, 1958)

SPECIAL PROVISIONS

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Notice to Bidders	(March 13, 1963) 10
Minimum Wages (Third District)(Colorado Requirements)	(May 3, 1961) 11
Minimum Wages (Federal Requirements - Interstate)	(Nov. 17, 1961) 12
Minimum Wages (Federal Requirements - Interstate) Wage Schedule	(August 13, 1963) 13a-16a
Commencement and Completion of Work	(March 13, 1963) 17
Identification Signs	(March 13, 1963) 18
Rev. of Section 4-Scope of Work	(Oct. 26, 1962) 19
Revision of Section 8-Prosecution and Progress	(Jan. 14, 1963) 20
Removal of Obstructions	(August 13, 1963) 21a
Removal of Headwalls	(June 22, 1959) 22
Plug Culverts	(June 1, 1958) 23
Rev. of Item 10-Clearing and Grubbing	(April 19, 1962) 24
* Revision of Item 13-Roadway and Drainage Excavation	(Aug. 3, 1962) 25
Rev. of Item 16-Structure Backfill	(June 11, 1963) 26a
Rev. of Item 23-Subbase Material	(June 11, 1962) 27
* Rev. of Item 26-Gravel or Crushed Rock Surfacing	(Sept. 7, 1962) 28
Revision of Item 26	(March 13, 1963) 29
* Revision of Item 32-Plant Mixed Asphaltic Surfacing	(Sept. 5, 1961) 30

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August 21, 1963.

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COLORADO DEPARTMENT OF HIGHWAYS
SPECIAL PROVISIONS
COLORADO PROJECT NO. I 70-3(15)243
IDAHO SPRINGS - WEST

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Item 32-Plant Mixed Asphaltic Shoulder Roll and Ditch Paving	(July 18, 1960)	31
Revision of Item 32-Plant Mixed Asphaltic Surfacing Source of Materials	(Sept. 14, 1960) (August 21, 1963)	32 33 b
Option to Buy Material (Copy)	(March 13, 1963)	34
Item 37-Concrete Pavement (Approach Slab)	(March 20, 1963)	35
Revision of Item 38-Paints and Painting	(March 13, 1963)	36
* Rev. of Item 42-Timber Bridges	(March 2, 1962)	37
Revision of Item 46-Concrete (Manufactured Sand)	(June 1, 1958)	38
Rev. of Item 46-Concrete	(March 21, 1962)	39
Rev. of Item 46-Concrete	(April 30, 1962)	40
Rev. of Item 47-Reinforcing Steel (Bar Supports and Spacers)	(June 26, 1962)	41
Rev. of Items 65 and 84-Slope & Ditch Paving and Curbs & Gutters	(June 27, 1962)	42
Rev. of Item 75-Metal Plate Guard Fence	(Jan. 10, 1963)	43
Rev. of Item 76-Barbed Wire and Combination Wire Fence	(May 28, 1962)	44
Rev. of Item 90-Electrical Conduit with Junction Boxes	(Dec. 7, 1962)	45
Item 192-Delineators	(May 22, 1963)	46a-49a
Items 53 & 132-Transport and Place State Furnished Materials	(August 13, 1963)	50 a
Disposal of Asphalt Surfacing	(June 1, 1958)	51
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Provisions for Traffic During Construction	(March 13, 1963)	53
Work Hours Act of 1962 (Interstate System)	(Sept. 17, 1962)	54
Requirements of Executive Order	(July 17, 1963)	55-56
Right of Way Restrictions	(August 21, 1963)	57

* Supplemental Specifications

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March 13, 1963

NOTICE TO BIDDERS

COLORADO PROJECT NO. I 70-3(15)243

It is recommended that bidders on this project go over the plan details with one of the following field representatives of this Department:

Construction Engineer - R. A. Frandsen
Denver, Colorado
Office Phone: SK 6-1531, Ext. 344

Resident Engineer - R. C. Hopper
Idaho Springs, Colorado
Office Phone: 62
Home Phone : 493

Prospective bidders are required to contact Engineer at least twelve (12) hours in advance of time they wish to go over the project in order that the Engineer may efficiently schedule his work.

May 3, 1961

1.

MINIMUM WAGES
(Third District)

The minimum wage paid to all Skilled Labor employed on this contract shall be One Dollar and Ten Cents (\$1.10) per hour.

The minimum wage paid to all Intermediate Labor employed on this contract shall be Seventy Cents (\$0.70) per hour.

The minimum wage paid to all Unskilled Labor employed on this contract shall be Fifty Cents (\$0.50) per hour.

When Federal Aid funds are involved, the Contractor shall comply with the provisions of the Federal Fair Labor Standards Act of 1938, as amended.

When Federal Aid Interstate funds are involved, the Contractor shall comply with the established wage rates as specified in the Special Provisions for the project.

When the respective minimum rates for any particular craft differ, the higher minimum rate will govern.

November 17, 1961

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MINIMUM WAGES (FEDERAL REQUIREMENTS - INTERSTATE)

U. S. DEPARTMENT OF LABOR

OFFICE OF THE SECRETARY

WASHINGTON

DECISION OF THE SECRETARY

This case is before the Department of Labor pursuant to a request for a wage predetermination as required by law applicable to the work described.

A study has been made of wage conditions in the locality and on the basis of information assembled by the Department of Labor the wage rates listed herein are hereby determined by the Secretary of Labor as the prevailing rates of wages for the described classes of labor in accordance with the applicable law.

This wage determination decision and any modifications thereof during the period prior to the stated expiration date shall be used during such period and made a part of every contract for performance of the described work as provided by applicable law and regulations of the Secretary of Labor, and the wage rates contained in this decision, unless modified, shall be the minimum wage rates to be paid under any such contract by contractors and subcontractors on the work.

Under the Davis-Bacon Act the contracting officer shall require that any class of laborers and mechanics not listed in the Secretary's decision, which will be employed on the contract, shall be classified or reclassified by the contractor or subcontractor conformably to the Secretary's decision and a report of the administrative action taken in such cases shall be transmitted by the agency to the Secretary of Labor. In the event the interested parties cannot agree on the proper classification or reclassification of and rates for a particular class of laborers and mechanics to be used, the question, accompanied by the recommendation of the contracting officer, shall be referred to the Secretary of Labor for final determination. Where classifications of laborers and mechanics which were not included in the original decision are desired under any statutes other than the Davis-Bacon Act, a supplementary wage determination shall be requested by the Agency Head. Wage determinations issued under the Davis-Bacon Act are identified by law code "DB." The law code is omitted on wage determinations issued under other statutes.

The wage rates contained in this decision are straight hourly wage rates. In some areas management and labor organizations in the construction industry have collectively bargained for health and welfare funds and other similar contributions. Such contributions are not included in wage rates determined by the Secretary of Labor for construction projects.

By direction of the Secretary of Labor,

/s/ Charles Donahue

Solicitor of Labor.

MINIMUM WAGES (FEDERAL REQUIREMENTS - INTERSTATE)
WAGE SCHEDULE

The list of crafts and rates shall contain the following heading:

State: Colorado
Project No. I 70-3(15)243

Decision No. AB-32,037
Date of Decision: 6-11-63
Expires: 9-8-63

	<u>Per Hour</u>		<u>Per Hour</u>
M 1-Bricklayers	\$ 4.25	M 9-Painters, Str Stl, Brush	\$ 4.11
M 2-Hodcarriers	2.65	M 10- " , Str Stl, Spray	4.11
M 3-Carpenters	3.45	M 12-Plumbers, Pipefitters	4.25
M 4-Cement Masons	3.54	M 13-Sheet Metal Workers	4.05
M 5-Electricians	4.30		
M 6-Iron Workers, Str	4.05	M 15-Ground-Sign Erectors	2.70
M 6- " " , Reinf	4.05		
M 7-Painters, Brush	3.65		
M 8- " , Spray	4.11		

<u>Drivers of:</u>	<u>Per Hour</u>	<u>Drivers of:</u>	<u>Per Hour</u>
S 1-Pickup	\$ 2.75	S 17-Water Truck, single	\$ 2.85
S 2-Dump - to 6 cu yds hauled	2.85	S 18-Water Truck, Semi-Trailer	
S 3-Dump - 6 to 13 cu yds hauled	2.95	or Tandem	3.00
S 4-Dump - 13 cu yds to 20 cu yds hauled	3.10	S 19-Water Truck, Euclid or Similar	3.10
S 5-Dump - 20 cu yds to 30 cu yds hauled	3.30	S 20-Warehousemen, Greasemen, Tiremen, Servicemen	2.85
S 6-Dump - Over 30 cu yds hauled	3.45	S 21-Material Checkers	2.95
S 7-Flat Rack	2.85	S 22-Truck Helpers, if used	2.80
S 8-Semi-Flat Rack-Highboys (with single axle tractor)	2.95	S 23-Truck Mechanics	3.25
S 9-Dumptors, End and Bottom Dump Euclids	3.15	S 24-Truck Mechanics-Heavy Duty Diesel	3.45
S 10-Lumber Carrier	3.00	S 25-Truck Mechanics Helpers	2.90
S 12-Oil Distributors	3.10	S 26-Truck Driver-Tunnel or Underground - Rate plus 15¢ per hr	
S 13-Concrete Mixer to 5 cu yds	3.00	S 27-Truck Scalmen, Checkers, Spotters (if used) - Driver Rate	
S 14-Concrete Mixer - 5 cu yds & over	3.10		
S 15-Low-Boy - Hi-Boy (Tandem Axle Tractor & Trailer and Heavy Duty Oil Field Floats)	3.15		
S 16-Winch Pole & "A" Frame Trucks	3.15		
S 11-Fork Lift Operator	3.05		

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MINIMUM WAGES (FEDERAL REQUIREMENTS - INTERSTATE)
 WAGE SCHEDULE
 COLORADO PROJECT NO. I 70-3(15)243

<u>Laborers:</u>	<u>Per Hour</u>	<u>Laborers:</u>	<u>Per Hour</u>
L 1-General Labor incl, Particularly but not Exclusively, Caissons to 8 Ft. Carrying Reinf Rods	\$ 2.57	L 36-Mechanical Grouters	\$ 2.77
L 2-Installing Corr Met Culv Pipe, Reinf Conc Drainage Pipe on Highway Work	2.57	L 37-Boring Machines (Air Hydraulic)	2.77
L 3-Fence Erectors	2.57	L 38-Automatic Conc Power Curbing Mach	2.77
L 4-Handling & Placing of Met Mesh, Dowel Bars, Tie Bars & Chairs in Conc Paving	2.57	L 39-Hot Asph Labor	2.79
L 5-Stake Chaser	2.57	L 40-Rakers	2.79
L 6-Flag Man Directing Traffic	2.57	L 41-Box Tenders	2.79
L 7-Chuck Tenders	2.62	L 42-Asphalt Curb Mach	2.79
L 8-Nippers	2.62	L 43-Potmen (not Mechanical)	2.79
L 9-Core and Diamond Drill Helpers	2.62	L 44-Guniting Helpers	2.90
L 10-Powdermen Helpers	2.62	L 45-Operators for Wagon Drills & Air Tracks	2.90
L 11-Multiplate Culv Pipe	2.72	L 46-In Caissons over 12 Ft.	2.90
L 12-Air, Gas & Elec Tool Operators	2.72	L 47-Cofferdams	2.90
L 13-Jack Hammers	2.72	L 48-Scalers	2.90
L 14-Vibrators	2.72	L 49-Formsetters	2.90
L 15-Barco Hammers	2.72	L 50-Timbermen, Underpinning & Shoring	2.90
L 16-Paving Breakers	2.72	L 51-Formsetters on Roads, Highways, Streets & Airport Runways	2.90
L 17-Spaders	2.72	L 52-Distribution, Placing & Hooking of Landing Mats	2.90
L 18-Elec Hammers	2.72	L 53-Bullfloat and Center Expansion Mach	2.90
L 19-Air Tampers	2.72	L 54-Sand Blasters	2.90
L 20-Spotters	2.72	L 56-Powdermen & Blasters	3.00
L 21-Signalmen	2.72	L 57-Gunite Nozzlemen	3.00
L 22-Dumpmen	2.72	L 58-Jack Hammer Operators in Caissons over 12 Ft.	3.20
L 23-Cutting Torches on Demolition Work	2.72	L 59-Bellers & Stemmen	3.20
L 24-In Caissons from 8 Ft to 12 Ft	2.72	L 60-Licensed Powdermen, if req'd	3.20
L 25-In Cofferdams	2.72	L 61-Diamond & Core Drills that are powered by Air	3.20
L 26-Power-Operated Conc Buggies	2.72	L 62-High Scalers, working from Bos'n Chair, Swing Stage, Life Belt or Block and Tackle	3.35
L 27-Operators of Conc Saws on Pavement (other than Gang Saws)	2.72		
L 28-On Timber & Chain Saws	2.72		
L 29-Stresser or Stretchermen on Post Tension or Prestressed Conc on or Off Job Site	2.72		
L 30-Tool Room Men & Checkers	2.72		
L 31-Cement Finisher Helper	2.72		
L 32-Sand Blaster Helpers	2.72		
L 33-Applying of Conc Processing Mat'l	2.72		

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MINIMUM WAGES (FEDERAL REQUIREMENTS - INTERSTATE)
WAGE SCHEDULE
COLORADO PROJECT NO. I 70-3(15)243

<u>Operators of:</u>	<u>Per Hour</u>	<u>Operators of:</u>	<u>Per Hour</u>
0 1-Air Compressor	\$ 3.20	0 44-Oilers (Shovel, Hoe,	\$
0 2-Asph Plant	3.45	Clam, Crane, Truck Crane,	
0 3-Backfiller	3.45	Cableway, Crusher, Washing	
0 4-Bituminous Spreader or Laydown Machine	3.45	Plants, Asph Plants,	
0 5-Brakemen	2.85	Caisson Drills, Conc	
0 6-Cableway	3.60	Pavers, Road-mix Machines,	
0 7-Caisson Drill	3.45	etc.), Dragline, (Batch	
0 8-Clamshell	3.60	Plant Oiler if reqd by	
		Contractor)	2.85
0 9-Crane	3.60	0 45-Pneum Gun	3.45
0 10-Conc Mixer (1 cu yd & over)	3.60	0 46-Power Shovel	3.60
0 11-Conc Mixer (less than 1 cu yd) (with skip)	3.45	0 47-Pugmill	3.45
0 12-Conc Paver (2 drum)	3.60	0 48-Pulsometer	2.85
0 13-Conc Paver (1 drum)	3.45	0 49-Pump	3.20
0 14-Conc Finishing Machine	3.45	0 50-Pumpcrete	3.45
0 15-Conc Bull Float	3.45	0 51-Roller (Asph or Flat Wheel)	3.45
0 16-Conc Batching Bins (Vibr Type)	3.45	0 52-Roller (Pneum-Self-propelled)	3.45
0 17-Conc Batching Bins (Grav Type)	2.85	0 53-Roller (Pneum-Track Type Power)	3.45
0 18-Conc Gang Saws on Conc Paving	3.45	0 54-Roller (Pneum Wheel Type Power)	2.85
0 19-Conveyor (Handling Bldg Matls)	3.45	0 55-Roller (Compaction-Vibr Type)	3.45
0 20-Crushing Plants (Stone & Grav)	3.45	0 56-Road Mix Machine (Asph)	3.45
0 21-Derrick (Guy & Stiffleg, Power Skid or Stationary)	3.60	0 57-Sand Blasting Machine	3.45
0 22-Dragline	3.60	0 58-Scoopmobile	3.45
0 23-Distributors (Bit Surf)	3.45	0 59-Screed	2.85
0 24-Engineer Fireman (License reqd)	3.60	0 60-Tie Tamper (Wheel Mounted) & Ballast Machine	3.45
0 25-Engineer Fireman (No License reqd)	3.45	0 61-Tractor (70 HP & over with attachments)	3.45
0 26-Euclid Loader (& similar types)	3.45	0 62-Tractor (under 70 HP without attachments)	2.85
0 27-Fireman or Tank Heater (road)	3.45	0 63-Tractor (Boom Type)	3.60
0 28-Fork Lift	3.45	0 64-Tractor (w/Scraper or Scoop)	3.45
0 29-Front End Loader	3.45	0 65-Tractor (Push or Pull)	3.45
0 30-Grader or Motor Patrol	3.45	0 66-Tractor-Bulldozer	3.45
0 31-Gravel Screening Plant	3.45	0 67-Trenching Mach (rigged to dig over 7' in Depth)	3.45
0 32-Greaser (Equipment) (If Leadman designated - 15¢ per hour additional)	2.85	0 68-Trenching Mach Oiler (for above)	2.85
0 33-Grout Machines	3.45	0 69-Trenching Mach (rigged to dig less than 7' in Depth)	3.45
0 34-Gunite Machines	3.45	0 70-Truck Crane	3.60
0 35-Haulage Motorman	3.18	0 71-Hi-Speed Scrapers (& similar types)	3.45
0 36-Helpers (Mechanics & Welders)	2.85	0 72-Washing Plant (Aggregate)	3.45
0 37-Hoes (Shovel Control Type)	3.60	0 73-Welders (Heavy Duty-Gas or Electric)	3.45
0 38-Hoes (Ford & Ferguson Type)	3.60	0 74-Winch Truck	3.45
0 39-Hoist (2 Drum)	3.60		
0 40-Hoist (1 Drum)	3.45		
0 41-Loader (Barber Greene, etc.)	3.45		
0 42-Mechanics (Heavy Duty)	3.45		
0 43-Mixermobile (with tower)	3.60		

August 13, 1963

COLORADO PROJECT NO. I 70-3(15)243

-4-
 MINIMUM WAGES (FEDERAL REQUIREMENTS - INTERSTATE)
 WAGE SCHEDULE

APPRENTICE SCHEDULE

Period, Code and Rate											
The apprentice rate is by percentage of the journeyman's rate unless otherwise indicated.											
Craft	Interval	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Bricklayers Code	6 mos	30 M1A	40 M1B	50 M1C	60 M1D	70 M1E	80 M1F	φ M1G			
Carpenters Code	6 mos	60 M3A	65 M3B	70 M3C	75 M3D	80 M3E	85 M3F	90 M3G	95 M3H		
Cement Masons Code	6 mos	50 M4A	60 M4B	70 M4C	80 M4D	90 M4E	95 M4F				
Electricians Code	6 mos	45 M5A	50 M5B	55 M5C	60 M5D	65 M5E	70 M5F	75 M5G	80 M5H		
Iron Workers Code	9 mos	66 2/3 M6A	72 1/2 M6B	80 M6C	90 M6D						
Painters Code	3 mos	50 M7A	55 M7B								
Painters Code	6 mos		60 M7C	65 M7D	70 M7E	75 M7F	80 M7G	85 M7H	90 M7J		
Plumbers, Pipefitters Code	6 mos.	40 M12A	45 M12B	50 M12C	50 M12C	60 M12D	60 M12D	75 M12E	75 M12E	90 M12F	90 M12F
Sheet Metal Workers Code	6 mos	45 M13A	50 M13B	55 M13C	60 M13D	65 M13E	70 M13F	75 M13G	80 M13H		

φ Fourth Year - \$1.00 per day less than Journeyman's Rate.

REMOVAL OF OBSTRUCTIONS

COLORADO PROJECT NO. I 70-3(15)243

DESCRIPTION:

This item shall consist of the removal from the right of way and disposal of bridge Sta. 371+, Mine Trestle Sta. 414+, Concrete Box Culvert with Trestle & Ore Bins Sta. 419+, Concrete Box Culvert with Timber Portal Sta. 428+, Concrete Box Culvert Sta. 437+ and any other obstructions which may be encountered during construction except the removal items shown in the Summary of Approximate Quantities and except any items which may be directed by the Engineer to remain in place.

CONSTRUCTION METHODS:

The Contractor shall raze, remove and satisfactorily dispose of all obstructions which exist within the right of way. All removed materials shall become the property of the Contractor and it shall be his responsibility to dispose of these materials in accordance with the County ordinances pertaining to such disposals.

The bridge superstructure shall be completely removed and all components comprising the substructure, which constitute obstructions to the stream channel or new construction, shall be removed to such an extent that no remaining portion thereof shall be closer than three (3) feet to any stream bed or finished ground surface.

Any public utilities that would interfere with construction and which are to be removed by the owners or other agencies will not be held as a charge or responsibility of the Contractor. The Contractor shall waive any and all claims for interference, delay, or damage on account of their removal or non-removal.

BASIS OF PAYMENT:

The removal of obstructions in accordance with the foregoing requirements will be paid for at the contract lump sum price bid for "Removal of Obstructions," which price and payment will be full compensation for removing the various items and the disposal of the removed materials, for all excavation, loading, hauling, and for furnishing all labor, equipment, tools, supplies and incidentals necessary to complete the work.

January 14, 1963

REVISION OF SECTION 8

PROSECUTION AND PROGRESS

The schedule of liquidated damages per day, as shown in Paragraph 8.7.1, is hereby deleted.

The following schedule of liquidated damages will apply in lieu thereof:

Schedule of Liquidated Damages for
Each Day of Overrun in Contract Time

<u>Original Contract Amount</u>		<u>Daily Charge</u>
<u>From More Than</u>	<u>To And Including</u>	<u>Calendar Day</u>
\$ 0	\$ 25,000	\$ 30
25,000	50,000	50
50,000	100,000	75
100,000	500,000	100
500,000	1,000,000	150
1,000,000	2,000,000	200
2,000,000	and over	300

October 26, 1962

REV. OF SECTION 4 - SCOPE OF WORK

Paragraph 4.3 of the Standard Specifications is hereby deleted and the following substituted in lieu thereof:

4.3 ALTERATION OF WORK

4.3.1 The Engineer reserves the right to make such alterations in the Plans, in the quantities or in the character of Work as may be considered necessary. Such alterations shall be authorized in writing and shall not be considered as a waiver of any conditions of the Contract nor to invalidate any of the provisions thereof; provided that no alteration shall involve an extension or shortening of the length of the Project of more than twenty-five (25) per cent, and provided that a supplemental agreement with the Contractor will be necessary when alterations involve: (1) An increase or decrease of more than twenty-five (25) per cent of the total cost of the Work calculated from the original Proposal quantities and the Contract unit prices, or (2) An increase or decrease of more than twenty-five (25) per cent in the quantity of any one (1) major Contract item, or (3) A substantial change in the character of the Work to be performed under a Contract pay item or items that materially increases or decreases the cost of its performance. The Engineer shall be the sole judge as to whether there has been a substantial change in the character of the Work.

4.3.2 Before Work shall be started on any alteration requiring such supplemental agreement, the agreement setting forth an equitable adjustment of compensation mutually satisfactory to the Department and the Contractor shall be executed by the Engineer and the Contractor. The Contractor shall perform the Work as increased, decreased or changed.

4.3.3 In the case of an increase, any adjustment in payment shall apply only to the related quantities of work performed in excess of the stated percentage. In the case of a decrease, any adjustment in payment shall apply to the quantity or quantities of work actually performed. In the case of a change in character of the Work, the adjusted payment will apply to all quantities of all related items of work performed as covered by the supplemental agreement.

4.3.4 In case the Contractor and the Department are unable to agree on a mutually satisfactory price or prices for Work to be covered by supplemental agreement, the Department reserves the right to order the work done by Force Account as provided in Paragraph 4.5.

IDENTIFICATION SIGNS

COLORADO PROJECT NO. I 70-3(15)243

The Contractor will be required to furnish and install "Identification Signs" as shown on plans.

Number of signs required for project: 2

INFORMATION FOR SIGN PLAQUES

1.8 MILES

COST \$ *

PROJECT I 70-3(15)243

* Cost figure to be used on sign will be furnished to the Contractor by the Department after award of contract.

These signs shall be washed and cleaned of all dust, dirt and other foreign material prior to erection at the project site, and shall be kept clean by the Contractor until acceptance of the project by the Engineer.

Upon acceptance of the project by the Engineer, Contractor shall immediately remove these signs from the premises.

All costs incidental to the above shall be considered as subsidiary to the project and will not be paid for as a separate item.

March 13, 1963

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COMMENCEMENT AND COMPLETION OF WORK

COLORADO PROJECT NO. I 70-3(15)243

The Contractor on this project shall commence work under his contract on or before the tenth (10th) day following the date of the contract unless such time for beginning the work shall be changed by the Chief Engineer, and shall fully complete all work thereunder within Three Hundred Sixty (360) calendar days from and including the date of contract, or from and including such later date as may be designated in writing by the Engineer.

June 1, 1958

PLUG CULVERTS

DESCRIPTION AND REQUIREMENTS:

This item shall consist of filling in the ends of concrete or masonry culverts and/or crushing the ends of C.M.P. culverts to be left in place at locations indicated on plans. Culvert ends are to be sufficiently filled and crushed to prevent any future settlement of embankment over the ends of abandoned structures. Where headwalls are encountered, they are to be broken down enough to enable the culvert end to be crushed.

BASIS OF PAYMENT:

This item shall be paid for at the contract unit price each for "Plug Culverts," as specified, which price and payment shall be full compensation for filling in with earth both ends of culverts, crushing ends of culverts, breaking headwalls and for all excavation, labor, tools, equipment, supplies and work incidental thereto.

April 19, 1962

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REV. OF ITEM 10

CLEARING & GRUBBING

This item shall conform to the requirements of Item 10 of the Specifications except for the following:

Clearing and Grubbing beyond the limits outlined under this item in the Specifications will be paid for as Extra Work in accordance with paragraph 4.5.

August 3, 1962

REVISION OF ITEM 13

ROADWAY AND DRAINAGE EXCAVATION

This item shall conform to the requirements of Item 13, of the standard Specifications, except for the following:

1. When removal of muck or other unstable materials is shown on the plans and is tabulated in "Summary of Earthwork Quantities", all work will be in accordance with Item 13.3.6 of the Standard Specifications. The Department reserves the right to overrun removal quantities of such materials by twenty-five (25) per cent. Payment for removal of muck or other unstable materials in excess of plan quantity plus twenty-five (25) per cent of plan quantity will be in accordance with Section 4.

2. When removal of muck or unstable materials is necessary outside of original prisms and there is no "removal of muck" quantity shown in Summary of Earthwork Quantities tabulation, payment will be made in accordance with Article 4.5 of the Standard Specifications.

REV. OF ITEM 16

STRUCTURE BACKFILL

This item shall conform to the requirements of Item 16 of the Standard Specifications except for the following:

1. The gradation requirements for Class 1 Backfill as shown in paragraph 16.2.1 is deleted and the following is substituted:

<u>Sieve Designation</u>	<u>% by Weight Passing Lab. Sieves</u>
2-inch	100
No. 4	30 - 100
No. 40	60 - Max.
No. 200	5 - 20

2. Section 16.2 Materials shall include: 16.2.3, Class X Backfill.

Class X Backfill shall be composed of suitable "Unclassified Structural Excavation" or "Unclassified Excavation" materials developed on the project. To be suitable for use under this item, backfill shall be free of frozen lumps, wood or other organic material. Material shall be of such type that when properly compacted a homogeneous embankment free from large voids will result. If the "Unclassified Excavation" or "Unclassified Structural Excavation" contain rock fragments that, in the opinion of the Engineer, will be injurious to the structure, then the native material will not be used for backfilling. The Contractor will then be required to furnish "Class 1 Backfill" for backfilling the structure. When no contract unit price exists for Class 1 Backfill, it shall be paid for as provided for under paragraph 4.5.1 of the Standard Specifications.

3. For Class X Backfill only, paragraph 16.3.5 is deleted and the following is substituted:

Concurrently with the placement of backfill materials in vicinity of structures, they shall be compacted in accordance with paragraphs 17.2.2.1 and 17.2.2.2 of Standard Specifications.

REV. OF ITEM 23
SUBBASE MATERIAL

This item shall conform to the requirements of Item 23 of the Standard Specifications and shall include the following:

1. In lieu of the procedures described in section 23.3, the Contractor will be permitted to place subbase material with a spreader box capable of depositing uniform layers without segregation. The use of such spreading device will be permitted only when subbase material received at the point of placement in the spreader box has been processed to provide uniformity of sieve analyses as described in paragraph 23.2.

2. Sampling and testing of subbase materials for acceptance or rejection shall be performed immediately after a layer of subbase material is spread to the required thickness.

All costs incidental to the foregoing requirement shall be included in the original contract unit price for Item 23.

September 7, 1962

REV. OF ITEM 26

GRAVEL OR CRUSHED ROCK SURFACING

DESCRIPTION AND REQUIREMENTS:

This item shall conform to the requirements of Item 26 of Standard Specifications and shall include the following:

1. Placing:

In lieu of procedure described in paragraph 26.3.2.1 and 26.3.2.2, the Contractor will be permitted to place surfacing materials with a spreader box capable of depositing uniform layers without segregation. The use of a spreader box will be permitted only when surfacing materials received for deposit by spreader box are uniform in sieve analysis. Material will be placed in layers not to exceed four inches in depth after compaction.

After the material has been spread, it shall be compacted to a density equivalent to that provided by AASHTO T-180. The use of water in an amount which results in the accumulation of a mulch of fines at the surface under the action of compacting equipment shall be avoided. Field density will be determined in accordance with AASHTO Method T-147, or other approved method.

2. Finish:

Paragraph 26.3.2.6 is to be supplemented by the following:

The prepared surface shall not vary by more than one-half (1/2) inch above or below the theoretical grading plane at any point. The entire surface shall be tested for compliance with this tolerance prior to the application of any primer or superimposed course, and any areas not complying with the tolerance shall be reworked to obtain conformity.

The tolerance shown above shall be one-fourth (1/4) inch at locations where Concrete Pavement is being placed over the surfacing material.

3. Sampling and Testing:

If a spreader box is used to place surfacing materials, all sampling and testing of surfacing materials for acceptance or rejection shall be performed immediately after the layer of surfacing material has been spread on the roadway.

All costs incidental to the foregoing shall be included in the contract unit cost for Item 26.

REVISION OF ITEM 26

COLORADO PROJECT NO. I 70-3(15)243

This item shall conform with the requirements of Item 26 of the Standard Specifications, except for the following:

All Surfacing Material used on this project shall be Grading C.

The grading in Table 26-1 for Base Course Surfacing on this project is modified to:

Passing 3/4"	-	100%
Passing #4	-	30% to 60%
Passing #10	-	25% to 50%
Passing #200	-	5% to 12%

The grading in Table 26-1 for Aggregate for Item 32 on this project is modified to:

Passing 3/4"	-	100%	} Includes 1% Hydrated Lime
Passing #4	-	45% to 60%	
Passing #10	-	30% to 50%	
Passing #200	-	5% to 10%	

One (1) percent (by dry weight) of Hydrated Lime will be required to be added to 99% sand and gravel, thoroughly mixed, stockpiled and allowed to stand for at least 48 hours before the addition of asphalt in order to produce the specified plant mixed asphaltic surfacing.

Hydrated Lime, furnished by the Contractor, shall comply with Table 34-0 of the Standard Specifications and A.S.T.M. Designation C 207-49 (Type N).

It is estimated that filler material for surfacing is available on top of, adjacent to, or throughout the pit.

One hundred per cent (100%) of all filler-binder materials used must pass a screen with 1/4" -square or -slotted openings.

Overhaul for hauling the Hydrated Lime from the source to the plant will not be paid for separately, but will be included in the original unit price bid for Item 32. Overhaul will be paid for from the plant to the roadway.

All costs incidental to the foregoing requirements shall be included in the original contract unit prices for Items 13, 26 and 32.

September 5, 1961

REVISION OF ITEM 32

PLANT MIXED ASPHALTIC SURFACING

This item shall conform with the requirements of Item 32 of the Standard Specifications, except as herein modified:

The following is added to Section 32.3.4 of the Specifications.

32.3.4.5 At the discretion of the Engineer, surfacing may be placed at temperatures lower than those specified in Paragraph 32.3.4.2, when it is in the public interest for serving traffic.

July 18, 1960

ITEM 32

PLANT MIXED ASPHALTIC SHOULDER ROLL AND DITCH PAVING

This item shall conform to the provisions of Item 32 of the Standard Specifications, and these Special Provisions except for the following:

DESCRIPTION:

At location designated on plans, plant mixed asphaltic surfacing material shall be used for shoulder roll and/or ditch paving for controlling erosive action of roadway drainage. This work is to be done in accordance with details and dimensions shown on plans.

Any excavation or shaping of slopes necessary to insure proper placement of ditch paving materials shall be performed as part of this item.

All material required for this item shall be properly shaped to the required cross section and thoroughly compacted.

METHOD OF MEASUREMENT:

Method of measurement of Plant Mixed Asphaltic Shoulder Roll or Plant Mixed Asphaltic Ditch Paving shall be in accordance with section 32.4 of Standard Specifications.

BASIS OF PAYMENT:

Paragraph 32.5.1 shall include the contract unit price per ton for "Plant Mixed Asphaltic Shoulder Roll" and contract unit price per ton for "Plant Mixed Asphaltic Ditch Paving." Contract unit price per ton for "Plant Mixed Asphaltic Ditch Paving" shall also include any necessary excavation or shaping that is not elsewhere included for payment in plans.

32.
September 14, 1960

REVISION OF ITEM 32

PLANT MIXED ASPHALTIC SURFACING

Section 32.3.5 of the Standard Specifications is revised to the following:

32.3.5 Compaction:

32.3.5.1 While still hot, the mixture shall be thoroughly and uniformly compacted to a specified density determined by the Laboratory. The following description of rolling procedures is typical.

32.3.5.2 Rolling should first employ a Flat Wheeled Roller for initial or breakdown rolling, followed by Rubber Tired Rollers to provide a kneading and densifying action, and be finished to a final surface with Flat Wheeled Rollers. The rolling must be continuous from the time when compaction first is begun until the specified density is reached. Compaction is to begin at the sides, shall be longitudinal in direction and proceed toward the center of the pavement, overlapping on successive trips by at least one-half ($\frac{1}{2}$) the width of the roller. The motion of the roller shall be regulated to avoid displacement of the hot mixture but if displacement occurs, it shall be immediately corrected by the use of rakes and the addition of fresh mixture where required. Rolling is to proceed at a uniform rate and continue until specified densities are obtained. To prevent adhesion of the mixture to the roller, the wheels may be kept moistened but an excess of water will not be permitted. The Contractor will be required to provide sufficient compaction equipment to insure densification of the mixture while the temperature of the mix is within suitable ranges. The Contractor will be required to obtain a minimum of ninety-five (95) per cent of a laboratory density determined from specimens made in accordance with the procedure outlined in Par. 31.2.2.3.

32.3.5.3 Work performed in the manner prescribed will be acceptable as will other methods which result in a finished product having the specified density, conformance with typical section, and tolerance regarding exactness of surface finish. In no case shall the Contractor use compaction methods which fracture aggregate or laterally displace the paving mixture.

32.3.5.4 Along curbs, headers and similar structures and at all places not accessible to the roller, the surface course mixture shall be thoroughly compacted with hot tampers.

32.3.5.5 The surface of the mixture after compression shall be smooth and true to the established crown and grade. Any mixture which becomes loose or broken, mixed with dirt or in any way defective shall be removed, and replaced with fresh hot mixture, which shall be immediately compacted to conform with the surrounding area.

32.3.5.6 On completion of the rolling operation, the pavement shall be true to Typical Section, smooth, and free from humps, depressions or irregularities. When a straightedge twelve (12) feet long is laid on the finished surface and parallel with the centerline of the road, the surface shall not vary more than one-quarter ($\frac{1}{4}$) inch from the lower edge of the straightedge in any place. One-quarter ($\frac{1}{4}$) inch shall be the maximum permissible variation from transverse template elevation.

32.3.5.7 All costs incidental to the foregoing requirements shall be included in the original contract unit price for Item 32.

August 21, 1963

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SOURCE OF MATERIALS
COLORADO PROJECT NO. I 70-3(15)243

The Department estimates that materials for subbase, surfacing and structure backfill for this project are available from the pit indicated on Sheet No. 5 and on Title Sheet of Plans and from channel excavation adjacent to the pit area.

The source of Stone Screenings for this project is undesignated.

Subbase material for the detour is available from detour cut Sta. 369+ at no cost to the Contractor. The Department holds option on pit for material required outside detour cut right of way limits, the purchase price of which is shown thereon.

The amount of materials required from this pit is subject to change by the Engineer to meet requirements encountered during construction.

The Contractor shall pay the property owner for all material removed. Payment therefor shall be in monthly installments; each monthly payment shall be based upon the quantity included in the Department's progress estimate for the preceding month, and the same shall be made on or before the twentieth (20th) day of each month. The Contractor shall retain ten (10) per cent of the money due the property owner until final yardage or tonnage is determined by the Department.

Free running water must be drained from the material before placing material on the roadway.

The Contractor shall use the sources designated above and on plans or shall receive written permission from the Engineer to use other sources. Such permission to use sources not shown on plans will be given when tests indicate that the undesignated sources meet an acceptable gradation specification and are equal in quality to the designated sources. The written approval must be obtained prior to use of the material.

If permission is granted for use of other sources, the Contractor shall make his own arrangements with property owner for the use of materials.

All pits are to be excavated and backsloped uniformly and left in a neat, leveled condition, with adequate drainage provided.

The Contractor shall be required to follow strictly all of the terms and conditions of any option for materials which is procured by the Department and which he exercises for the purpose of the fulfillment of the contract or supplements thereto. Copy of the option procured by the Department is included in these Special Provisions.

All material taken from roadway cuts and paid for as Structure Backfill will be excluded from payment as "Unclassified Excavation."

The cost of the foregoing requirements shall be included in the original contract unit prices for the project.

March 13, 1963

COLORADO PROJECT NO. I 70-3(15)243
LOCATION: Idaho Springs-West

PIT NO. 1

OPTION TO BUY MATERIAL

AGREEMENT, Made and entered into this 28th day of November, 1962, by and between Regents, University of Colorado, A body Corporate, Boulder, Colorado of Boulder County, Colorado, hereinafter referred to as the Owner, and the COLORADO DEPARTMENT OF HIGHWAYS, hereinafter referred to as the Department. (The term "Department" shall be construed to include Department employees, agents and contractors.) WITNESSETH: That

WHEREAS, the Department desires to obtain construction materials of satisfactory quality and quantity for use in construction, improvement and maintenance of its highways, which material is available from land owned by the "Owner" and described as follows, to-wit: Oregon Millsite, Survey 10 70-B, area not officially sectioned.

NOW, THEREFORE, IT IS AGREED BY THE PARTIES:

The Owner, for the consideration of One Dollar, receipt of which is hereby acknowledged, hereby grants to the Department the exclusive right and option from the date of this Agreement until the 31st day of December, 1963, at 12:00 Noon, to purchase and remove from the subject premises

- (a) Rock and Fines at Four Cents (4¢) per ton
- (b) Rock and Fines at Five Cents (5¢) per cu. yd.

or for a lump sum of \$----. If the Department exercises this Option within the time aforesaid, the Department shall then have the right to purchase and remove all material necessary for construction of Department projects in the area and for adequate maintenance stockpile. If the Department exercises this Option, the Owner shall be paid a minimum of \$25.00.

Department shall have the right of ingress and egress to and from the subject premises and to erect any temporary structures and employ any reasonable methods for removal of material. After the Department has completed its removal operations, it will leave the premises in a neat condition.

This Agreement is for removal of material for use on Department projects and maintenance only, and removal by any other persons including the Department's contractor or contractors for any purpose other than as herein provided shall be under a separate agreement with the Owner and only with written approval of the Department.

The Owner hereby warrants that he has good title to the above-described premises; that he has the lawful right to grant this Option, and that he agrees to hold Department harmless from any and all claims from others asserting any interest in the subject land.

Additional Conditions: Pit sides to be sloped 2:1 and bottom leveled so as to drain; construction debris, rocks, etc. to be removed and site left in neat condition.

THE REGENTS OF THE UNIVERSITY OF COLORADO
/s/ Quigg Newton
President

COLORADO DEPARTMENT OF HIGHWAYS
MARK U. WATROUS, Chief Engineer

By /s/ Glen McEldowney
Title Asst. District Engineer

March 20, 1963

ITEM 37

CONCRETE PAVEMENT (APPROACH SLAB)

The following provisions supersede any conflicting requirements of the Standard Specifications for Item 37 respecting approach slabs.

Forms for approach slabs shall be made of metal or straight, sound timber. Timber used for forms shall be at least two (2) inches in thickness. Forms shall be free from warp and of sufficient strength to resist springing out of shape. Forms shall be staked securely to line and grade to the satisfaction of the Engineer. All mortar and dirt shall be removed from forms that have been previously used.

Subgrade machine will not be required but Contractor will be required to finish subgrade to lines and grades as staked by the Engineer. The concrete shall be placed to produce the thickness shown on plans. Joints and Joint Filler shall be as required by plans and Specifications.

BASIS OF PAYMENT:

Paragraph 37.5.1 is hereby deleted and the following substituted therefor:

37.5.1 The quantity of Concrete Pavement measured as provided in Paragraph 37.4.1 shall be paid for at the contract unit price per square yard for "Concrete Pavement" of the specified thickness complete in place, which price and payment shall be full compensation for the completed pavement, for preparing the subgrade, furnishing, hauling, placing, finishing, curing and for all materials, all joints including tie bars, and all labor, equipment, tools, supplies, work and incidentals necessary to complete the item, except that reinforcing steel will be paid for as a separate item as provided in Paragraph 37.5.3.

March 13, 1963

REVISION OF ITEM 38

PAINTS AND PAINTING

This item shall conform to the requirements of Item 38 of Standard Specifications except for the following:

1. Last sentence of paragraph 38.3.2.1 is hereby deleted. The following is substituted: "The tops of floor beams, bases of rockers and other metal surfaces in contact with fresh concrete shall not be painted."

March 2, 1962

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REV. OF ITEM 42
TIMBER BRIDGES

This item shall conform to the requirements of Item 42 of the Standard Specifications, except as herein modified:

Table 42-1 is deleted.

Paragraph 42.2.3 is revised to the following:

42.2.3 All timber, treated or untreated (except "Native") shall conform to the descriptions given in Paragraph 42.2.4 and shall meet the requirements for the numerical stress values specified by rules developed in accordance with ASTM D-245. Detailed grading rules for commercial stress grades which serve as purchase specifications, established and published by agencies which formulate and maintain such rules and operate inspection facilities covering the various species, may be used if they provide material of an equal or greater stress value.

Paragraph 42.2.9. The following is hereby added:

The State reserves the right to have its own inspector re-examine the timber at its destination and reject any piece or pieces which do not fulfill the requirements set forth in Item 42 of the Standard Specifications for road and bridge construction.

Paragraph 42.2.16.1 is revised to the following:

42.2.16.1 All treated timber shall be treated by a Standard Pressure Process in accordance with the requirements of current AASHO Standard Specifications for Highway Bridges and using a preservative prescribed in Paragraph 42.2.20. All green Douglas Fir shall be seasoned by the Boulton or "boiling under vacuum" method sufficiently to insure specified penetration and retention of preservative. All green Southern Pine shall be seasoned with proper steam treatment under pressure before treatment with preservative.

Paragraph 42.2.19.1 is revised to the following:

42.2.19.1 In Southern Pine, the preservative shall penetrate a minimum of two and five-tenths (2.5) inches or eighty-five (85) per cent of the sapwood in at least eighty (80) per cent of the borings taken from a charge of lumber. Tests for penetration shall be made by boring a representative number of pieces as determined by the Engineer. All holes so bored shall be plugged by the Contractor with tight fitting treated plugs.

Paragraph 42.2.20.2 is revised to the following:

42.2.20.2 Pentachlorophenol preservative shall consist of a five (5) per cent solution of Pentachlorophenol in a suitable petroleum solvent. Pentachlorophenol and the petroleum solvent shall meet the requirements of AASHO Specification M 133. Where treated timber is required to be paintable, the petroleum solvent shall comply with the requirements for Light Petroleum solvent of the AASHO M 133 Specification. The retention of Pentachlorophenol shall be not less than ten (10) pounds of solution per cubic foot nor less than fifty-hundredths (50/100) pounds per cubic foot of dry Pentachlorophenol. When Copper Naphthenate is used, the retention shall be not less than forty-five thousandths (45/1000) pounds of copper-metal per cubic foot.

REVISION OF ITEM 46 - CONCRETE
(Manufactured Sand)

This item shall conform to the requirements of Item 46 of the Standard Specifications except for the following:

On this project the Contractor will be permitted to furnish manufactured sand meeting the requirements of Table 1 of A.S.T.M. Specification C-33-52 T as it amends "Fine Aggregate" (3/8" to #100) as shown in Table 46-1 "Grading and Composition Requirements" and paragraph 46.2.2.1 of the Standard Specifications.

The source and end product of manufactured sand will be subject to approval by the Department prior to its use.

All costs incidental to the foregoing requirements are to be included in the original contract prices for Item 46.

March 21, 1962

REV. OF ITEM 46

CONCRETE

This item shall conform to the requirements of Item 46 of Standard Specifications except for the following:

1. Paragraph 46.2.1.1 is revised to read, "Type I Cement shall be used when required by plans or by special provisions."

2. Paragraph 46.2.1.2 is revised to read, "Type II Cement shall be used in all concrete unless high early strength concrete or sulphate resisting concrete is called for on the plans."

All costs incidental to the above requirements shall be included in the contract unit price for Item 37.

April 30, 1962

REV. OF ITEM 46

CONCRETE

This item shall conform to the requirements of Item 46 of Standard Specifications and shall include the following:

46.3.12 Curing:

46.3.12.2 All "Concrete Slope and Ditch Paving", "Concrete Curb", "Concrete Gutter", "Concrete Combination Curb and Gutter", "Concrete Sidewalk" and any other concrete surface not protected by forms shall be cured with membrane curing compounds in accordance with Paragraph 37.3.20.5 of Standard Specifications. All colored concrete not protected with forms must be cured with a "clear" membrane curing compound.

All costs incidental to the foregoing requirements shall be included in the contract unit prices for Items 46, 65, 84 and 86.

June 26, 1962

REV. OF ITEM 47

REINFORCING STEEL (BAR SUPPORTS AND SPACERS)

This item shall conform to the requirements of Item 47 of the Standard Specifications and shall include the following:

47.3.3 The last sentence of 47.3.3 is deleted and the following is substituted:

Precast Concrete Blocking shall be used to support footing bars and bars in slabs on grade.

47.3.4 Revise sentence to read:

Steel Chairs shall be furnished and placed in accordance with the latest edition of "The Recommended Practice for Placing Reinforcing Bars" as published by the Concrete Reinforcing Steel Institute. All surfaces of chairs coming in contact with forms shall be galvanized or otherwise protected against rust.

47.4.1 Delete the last sentence.

47.5.1 Basis of Payment. The last sentence of 47.5.1 is deleted and the following is substituted:

No allowance will be made for clips, wire, separators, or other material used for fastening the reinforcing steel in place. The cost of furnishing and placing the Steel Chairs shall be included in the contract unit price for reinforcing steel.

June 27, 1962

REV. OF ITEMS 65 AND 84

SLOPE & DITCH PAVING AND CURBS & GUTTERS

This item shall conform to Items 65 and 84 of Standard Specifications except for the following:

1. Contractor may use an approved type of slip form paver for paving ditches or placing concrete curb, concrete gutter or combination curb and gutter.
2. If the end product produced is not suitable in quality, the use of the slip form paver shall be terminated.
3. Class "D" Concrete as described in Item 46 of Standard Specifications may be used for these items.
4. For this work, the "Minimum Cement per cu. yd. of Concrete" as given in Table 46-2 of Standard Specifications is changed from 611 lbs. (6.5 Sx.) to 564 lbs. (6.0 Sx.).
5. Any excavation or shaping of slopes, that require paving under bridges, necessary to insure proper placement of slope pavement shall be performed as part of this item. Cost of removing these irregularities shall be included in the price bid for Item 65.

All costs incidental to the foregoing requirements shall be included in original contract unit prices for Items 65 and 84.

January 10, 1963

REV. OF ITEM 75

METAL PLATE GUARD FENCE

The use of twenty five (25) foot long rail elements will be permitted in construction of guard fence.

Reference to splicing the rail element at each post in paragraph 75.2.2.1 of the Standard Specifications is hereby deleted where 25-foot lengths are used.

Installation shall be as required by plan details.

All costs incidental to the foregoing requirements shall be included in the original contract unit price bid for Item 75.

May 28, 1962

REV. OF ITEM 76

BARBED WIRE AND COMBINATION WIRE FENCE

This item shall conform to the requirements of Item 76 of the Standard Specifications except for the following:

- 1. Paragraph 76.4.1 is deleted and the following is substituted:

The quantities to be paid for under this item shall be the number of linear feet of completed fence including length of Barbed Wire Gates and/or Combination Wire Gates, measured in place and accepted, but excluding the length of Driveway Gates and Walk Gates. The quantity of Driveway Gates, Walk Gates, Corner and Line Brace Posts and End Posts to be paid for shall be the actual number of each item complete in place and accepted.

- 2. Paragraph 76.5.1 is deleted and the following is substituted:

The fence, except for corner and line brace posts and end posts measured as provided above, shall be paid for at the contract unit price per linear foot for:

- "Barbed Wire Fence with Treated Wooden Posts,"
- "Barbed Wire Fence with Untreated Wooden Posts,"
- "Barbed Wire Fence with Metal Posts,"
- "Combination Wire Fence with Treated Wooden Posts,"
- "Combination Wire Fence with Untreated Wooden Posts,"
- "Combination Wire Fence with Metal Posts," or
- "Barrier Fence with Metal Posts,"

as provided on plans which price and payment shall be full compensation for furnishing and erecting the fence, complete in place, for all line posts, and other materials, excavation, labor, equipment, tools and incidentals necessary to complete the item. Corner and line brace posts will be paid for at the contract unit price each for "Corner and Line Brace Posts." End posts will be paid for at the contract unit price each for "End Posts". The contract unit price each for "Corner and Line Brace Posts," and for "End Posts", shall include all concrete, fittings, materials, labor, tools, equipment and supplies necessary to complete the items.

- 3. Paragraph 76.5.2. The words "Barbed Wire Gates" are deleted.

December 7, 1962

REV. OF ITEM 90

ELECTRICAL CONDUIT WITH JUNCTION BOXES

This item shall conform to the requirements of the Standard Specifications for Item 90, with the following changes and additions:

Conduit shall be placed in such a manner that there will be no sags between junction boxes so that any moisture will drain to the junction boxes.

A No. 9 iron wire shall be placed in all conduit as it is laid, and left there for cable pulling purposes.

The junction boxes used in Bridge Structures shall be of galvanized steel, approximately six (6) inches square and four (4) inches deep, with weatherproof covers.

Conduit located in ground shall be placed a minimum of 2 feet below roadway grade and natural ground.

Junction boxes and/or pull boxes shall be placed as shown on plans and in addition throughout the length of the conduit at a maximum spacing of three hundred (300) feet. For each ninety (90) degree bend or major fraction of such bend, the allowable length between boxes shall be reduced by 25 to 50 feet. Junction boxes and/or pull boxes shall also be located at flashing amber lights and lighted signs.

The cost of the foregoing requirements shall be included in the original contract unit price for Item 90.

ITEM 192

DELINEATORS

DESCRIPTION:

This Item shall consist of the furnishing and installing of delineators of the type, size and dimensions and at the locations called for on the plans, in accordance with this specification and as directed by the Engineer. Type I delineators shall consist of one (1) crystal reflector, one (1) 7-foot metal post, and mounting accessories; Type II delineators shall consist of two (2) yellow reflectors, one (1) 7-foot metal post, and mounting accessories; Type III delineators shall consist of three (3) yellow reflectors, one (1) 7-foot metal post, and mounting accessories. Details showing each type of delineator are shown on the plans.

MATERIALS:

Reflectors

1. Description

The reflector shall consist of a hermetically sealed acrylic plastic prismatic reflex lens housed in embossed aluminum and provided with a single grommetted mounting hole.

The reflectors shall consist of a clear and transparent face, herein referred to as the lens, and a white opaque plastic back of identical material fused to the lens under heat and pressure around the entire perimeter to form a homogeneous unit permanently sealed against dust, water, and water vapor. The lens shall consist of a smooth front surface free from projection or indentations other than for identification; and a rear surface bearing a prismatic configuration such that it will effect total internal reflection of light. The lens shall be colorless or yellow as required. The manufacturer's trademark shall be molded legibly into the face of the lens.

2. Optical Requirements

a. Definitions:

Entrance Angle shall mean the angle at reflector between direction of light incident on it and direction of reflector axis.

Observation Angle shall mean the angle at reflector between observer's line of sight and direction of light incident on the reflector.

Specific Intensity shall mean candle power returned at the chosen observation angle by a reflector unit for each foot-candle of illumination at the reflector.

(continued)

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ITEM 192
DELINEATORS

b. Specific Intensity:

The specific intensity of each reflex reflector shall be equal to or exceed the following minimum values, regardless of reflector orientation. Failure to meet the specific intensity minimum shall constitute failure.

Observation Angle Degrees	Entrance Angle Degrees	Specific Intensity Candlepower per Foot Candle	
		Crystal	Yellow
0.1	0	110	50
0.1	20	60	30

c. Optical Testing Procedure:

The reflex reflector to be tested shall be located at a distance of 100 feet from a single uniformly bright light source having an effective diameter of 2 inches; the light source shall be operated at approximately normal efficiency.

The return light from the reflector shall be measured by means of a photoelectric photometer having a minimum sensitivity of 1×10^{-7} foot-candles per mm scale division.

The photometer shall have a receiver aperture 0.5" diameter, shielded to eliminate stray light. The distance from light source center to aperture center shall be 2.1" for 0.1° observation angle. During testing the reflectors shall be spun so as to average the orientation effect.

If a test distance other than 100 feet is used, the source and aperture dimensions and the distance between source and aperture shall be modified in the same proportion as the test distance.

3. Durability

a. Seal Test:

The following test shall be used to determine if a reflector is adequately sealed against dust and water:

Submerge samples in water bath at room temperature. Subject the submerged samples to a vacuum of five inches gage for five minutes. Restore atmospheric pressure and leave samples submerged for five minutes; then examine the samples for water intake. Failure shall be cause for rejection.

(continued)

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ITEM 192
DELINEATORS

b. Heat Resistance Test:

Reflectors shall be tested for four hours in a circulating air oven at $175^{\circ} \pm 5^{\circ}$ F. The test specimens shall be placed in a horizontal position on a grid or perforated shelf permitting free air circulation. At the conclusion of the test, the samples shall be removed from the oven and permitted to cool in air to room temperature. The samples, after exposure to heat, shall show no significant change in shape and general appearance when compared with unexposed control standards.

c. Corrosion Test:

The reflectors shall withstand the combined corrosion test set forth in A.S.T.M. Specification B 117-57T, or latest revision thereof.

4. Sampling Procedure

The Contractor shall submit reflectors, through the Engineer, to the Department's Laboratory for approval before using on the project.

A minimum of two (2) crystal reflectors and two (2) yellow reflectors, picked at random, will be required for testing on each 100, or part thereof, of each color proposed for use on the project.

Acceptance or rejection of materials shall be based on tests run by the Department of Highways Laboratory.

Posts

Posts for supporting reflectors shall conform to requirements shown on Department's M Standard M-192 which is included in plans.

Posts shall have a protective coating of baked enamel. The color shall be standard Interstate green.

Mounting Hardware

The mounting hardware shall consist of an open-end blind expansion rivet (domed-head aluminum rivet - steel-break stem mandrel) as shown on plans.

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ITEM 192
DELINEATORS

CONSTRUCTION METHODS:

The delineators shall be set to the lines and grades established by the Engineer. All posts after being installed shall be plumb and unmarred. Any damage to the finish of the post, such as paint chips, scratches or scuffs shall be field painted with an approved exterior green paint.

METHOD OF MEASUREMENT:

The quantity to be paid for under this Item shall be the number of delineators of the specified type complete in place and accepted.

BASIS OF PAYMENT:

The number of delineators as provided above shall be paid for at the contract unit price each for "Delineators" of the specified type complete in place, which price and payment shall be full compensation for furnishing, assembling and for all materials, labor, excavation, equipment, tools, supplies, mounting hardware, painting, and all work incidental thereto.

August 13, 1963

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ITEMS 53 & 132
TRANSPORT AND PLACE
STATE-FURNISHED MATERIALS
COLORADO PROJECT NO. I 70-3(15)243

DESCRIPTION AND REQUIREMENTS:

These items shall consist of transporting and placing 4-Inlet Gratings and Frames (Median) & 126 Lin. Ft. of 24" Corrugated Metal Culvert Pipe in accordance with plan details.

The State-Furnished Materials required by the plans for this project will be furnished without cost to the Contractor by the State and stored at the following locations:

The 4-Inlet Gratings and Frames are at the K.O.A. Maintenance Yard, 18500 E. Colfax Ave., Aurora, Colorado. The 126' of 24" C.M.P. is at the Winter Park Maintenance Yard.

The Contractor will assume full responsibility for these materials immediately after he has loaded them on his equipment. Thereafter, the Contractor will be responsible for damage and loss until final acceptance of the project. The Contractor shall furnish the Engineer a written receipt covering this material.

The above items shall be installed and measured in accordance with Item 53 - Corrugated Metal Culvert Pipe, and Item 132 - Inlet Grating and Frame (Median) of the Standard Specifications.

BASIS OF PAYMENT:

These items shall be paid for at the contract unit price each for Inlet Grating and Frame (Median)(Transport and Place) and at the contract unit price per linear foot for 24" Corrugated Metal Culvert Pipe (Transport and Place), complete in place, which price and payment shall be full compensation for hauling, installing and for all materials, labor, equipment, tools, and incidentals necessary to complete the items, except structural excavation and structure backfill.

DISPOSAL OF ASPHALT PROCESSED SURFACING

This item shall conform to paragraph 11.1.11 of Specifications and shall include the following:

1. Asphalt processed surfacing shall be considered thoroughly plowed and mixed when no piece has a dimension greater than six (6) inches.

2. Paragraph 11.2.1 is deleted and the following is substituted:

All costs incidental to this item will not be paid for as extra work, but shall be considered as subsidiary work pertaining to construction of sub-grade and shall be included in original contract prices for the project.

FACILITIES FOR TESTING MATERIALS

Section 6.5 "Facilities for Testing Materials" of the Standard Specifications is hereby deleted and the following is substituted:

6.5 Facilities for Testing Materials:

6.5.1 In order that field tests can be properly made on the Project, the Contractor shall provide a mobile weatherproof house-type commercial trailer, together with equipment specified hereinbelow, at locations designated by the Engineer. Water supply sufficient for testing shall be furnished by the Contractor. This trailer shall be on the Project, and ready for use prior to the time that the Contractor's operations start on any phase of the work which requires laboratory tests. Sufficient outlets from the electrical circuits shall be provided so that all testing equipment requiring electricity can be operated simultaneously.

The following are established as minimum requirements for trailers which are to be supplied under this Specification:

Outside overall dimension: 26' x 8' x 7'

Windows: 4

Doors: 2, at least one of which shall be 28" wide, lock equipped.

Electricity: 3000-watt capacity, 120-130 volt, AC. (Independent generator to be provided where commercial power is not available.)

Water Supply: 100 gallon, insulated and pressurized by pump or gravity to provide full flow at ceiling height.

Vent Fan: 1

Fire Extinguisher: 1, minimum 5# CO₂.

Shelving: Total of 24 linear feet, 14 inches wide.

Work Benches: 24' x 30", 36" high.

Sink: 1 with faucet and outside drain.

Heating: The trailer shall be insulated and provided with a thermostatically-controlled heating unit and an adequate fuel or power source.

6.5.2 These facilities shall not be combined with the scale house or other similar structure.

6.5.3 One such facility will not be paid for directly, but all costs therefor shall be covered by the original contract unit prices for the project. In case more than one unit is required, additional units shall be supplied as provided under Paragraph 4.5 of the Specifications.

6.5.4 In case the Contractor has facilities which in some minor respect do not meet the minimal requirements stated herein, approval of the trailer may be requested from the District Engineer of any District Office of the Department. The request for approval shall state the respects in which the trailer is substandard. Immediately upon receipt of the request, arrangements will be made for an examination of the facility and, if approved by the District Engineer, a letter will be prepared by him informing the Contractor of the approval and the approval will then be in force Statewide.

6.5.5 Any facility for testing materials on highway projects purchased after February 1, 1962, shall meet all of the minimal requirements stated herein.

March 13, 1963

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PROVISIONS FOR TRAFFIC DURING CONSTRUCTION

COLORADO PROJECT NO. I 70-3(15)243

The detour on this project is to be completely finished and open to thru traffic before any construction is started on the main roadway.

During construction of the main roadway, the Contractor will be required to arrange his work so that local traffic will be adequately provided for thru the area of construction.

Before proceeding with construction, the Contractor must obtain from the Engineer, written approval of the proposed method of handling traffic during construction.

All costs incidental to the foregoing requirements shall be included in the original contract unit prices for the project.

5
September 17, 1962

WORK HOURS ACT OF 1962

(INTERSTATE SYSTEM)

Public Law 87-581, known as the Work Hours Act of 1962, provides that all Laborers and Mechanics employed by Contractors or Subcontractors on Federal Works Projects, or for the initial construction of the Interstate Highway System may be employed in excess of eight (8) hours per day and/or forty (40) hours per week only on the condition that overtime wages at rates not less than one and one-half ($1\frac{1}{2}$) times the basic hourly rate are paid.

It shall be the Contractor's sole responsibility to acquaint himself with the detailed implementing instructions pertaining to this Public Law.

All costs incidental to the foregoing shall be included in the original unit prices for the project.

REQUIREMENTS OF EXECUTIVE ORDER

The Contractor's attention is directed to "Part II--Amendments to Executive Order No. 10925."

Part II--Amendments to Executive Order No. 10925

Section 201. Section 301 of Executive Order No. 10925 of March 6, 1961, is amended to read:

"Section 301. Except in contracts exempted in accordance with section 303 of this order, all Government contracting agencies shall include in every Government contract hereafter entered into the following provisions:

'During the performance of this contract, the contractor agrees as follows:

'(1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited, to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

'(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

'(3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

'(4) The contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, as amended, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

(continued)

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REQUIREMENTS OF EXECUTIVE ORDER

'(5) The contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, as amended, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

'(6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, as amended, and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

'(7) The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.' "

Section 202. Section 303 of Executive Order No. 10925 is amended to read:

"The Committee may, when it deems that special circumstances in the national interest so require, exempt a contracting agency from the requirement of including any or all of the provisions of section 301 of this order in any specific contract, subcontract or purchase order. The Committee may, by rule or regulation, also exempt certain classes of contracts, subcontracts or purchase orders (a) where work is to be or has been performed outside the United States and no recruitment of workers within the limits of the United States is involved; (b) for standard commercial supplies or raw materials; (c) involving less than specified amounts of money or specified numbers of workers; or (d) to the extent that they involve subcontracts below a specified tier. The Committee may also provide, by rule, regulation, or order, for the exemption of facilities of a contractor which are in all respects separate and distinct from activities of the contractor related to the performance of the contract, provided that such an exemption will not interfere with or impede the effectuation of the purposes of this order and provided that in the absence of such an exemption all such facilities shall be covered by the provisions of this order."

August 21, 1963

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RIGHT OF WAY RESTRICTIONS
COLORADO PROJECT NO. I 70-3(15)243

Contractor's attention is directed to Plan Sheets No. 92-99 inclusive, wherein certain parcels of Rights of Way are annotated by cross-hatching. These parcels are numbered as follows:

136	89	27 Rev. 2
D 122 A Rev. 2	34	D 27
107 Rev.	D 35 A	22
92	D 35 C	3 Rev. 2
86	D 27 B	

These parcels are currently under condemnation, the hearings for immediate possession of all of same being scheduled for September 6, 1963, in District Court, Georgetown, Colorado. The Department anticipates no delays whatsoever in obtaining possession thereof; however, prospective bidders may secure any such later information pertinent to court rulings from the Engineer prior to submittal of bid.

In the event the District Court does not grant immediate right of entry to any one or more of the aforementioned parcels, owing to improvements or otherwise, the Contractor will not be allowed to enter upon or perform any work in subject parcel, or parcels, until otherwise directed in writing by the Engineer.

All costs incidental to the foregoing shall be included in the original contract prices for the project.

R.O.W. Purchased under Project
No. I 70-3(17)240

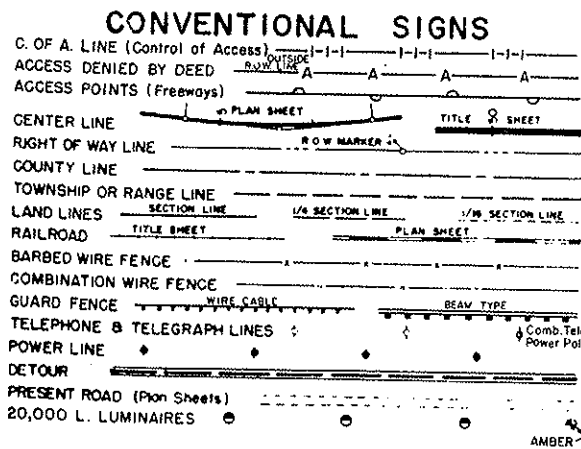
FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	170-3(15)243	1	

Rev. 8-13-63 Pit 6
Index of Sheets "H.E.P." Rev. 8-21-63 Index of Sheets "H.E.P."

COLORADO DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. I 70-3(15)243 STATE HIGHWAY NO. 2 CLEAR CREEK COUNTY

AS CONSTRUCTED 1965 Completed: June 2011
RE: *Contractor H.E. Landwehr*



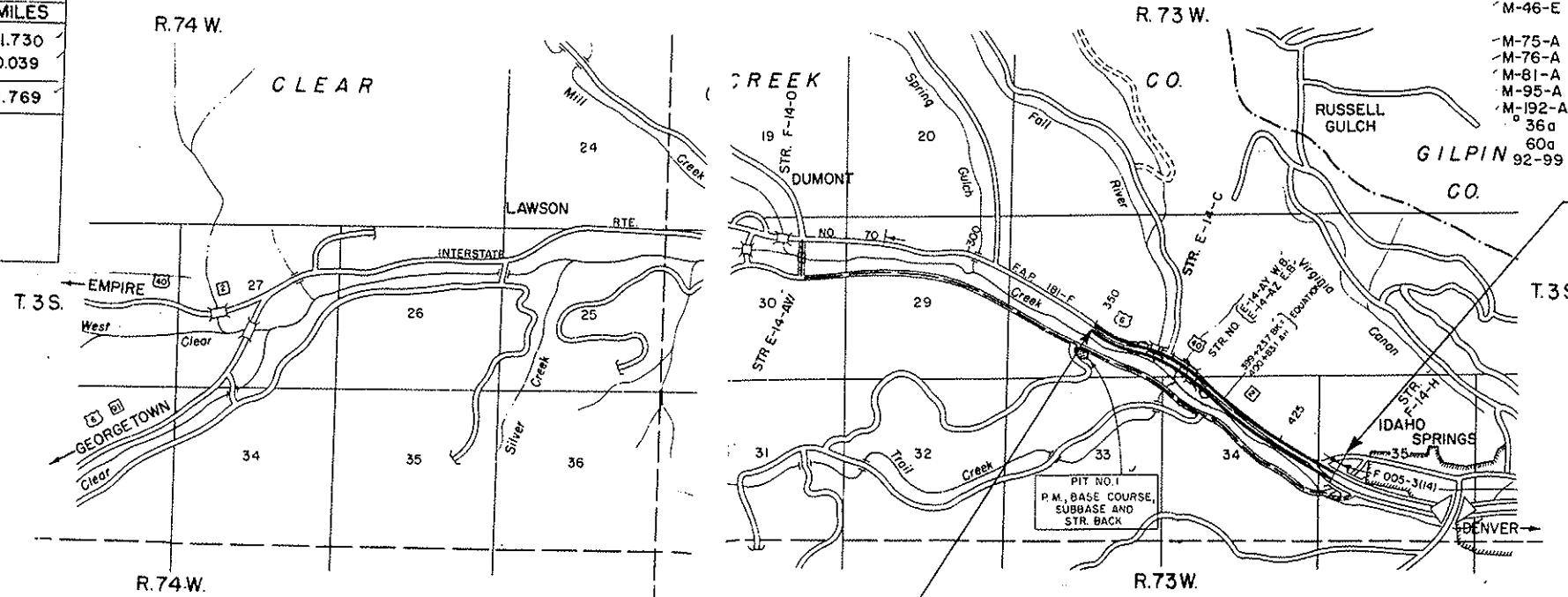
INDEX OF SHEETS

SHEET NO. 1	SKETCH MAP, TITLE PAGE AND TABULATION OF LENGTH AND DESIGN DATA.
2	TYPICAL SECTIONS.
3-4	SUMMARY OF APPROXIMATE QUANTITIES.
5	SURFACING AND SUB-BASE MATERIAL PLAN, PLANT MIXED ASPHALTIC DITCH PAVING, PIT LOCATION AND GENERAL NOTES.
6	DETOUR TABULATION OF LENGTH AND DESIGN DATA, TABULATION OF CHANNEL CHANGES, SUMMARY OF EARTHWORK QUANTITIES AND DETAILS OF C.B.C. WITH CONCRETE INLETS.
7	FENCING REQUIREMENTS, RIGHT OF WAY MARKERS, GUARD FENCE AND TABULATION OF DELINEATORS.
8	STRUCTURE QUANTITIES FOR MAINLINE.
9	STRUCTURE QUANTITIES FOR DETOUR.
10-15	DETAILS OF BRIDGE RT. OF STA. 243+.
16-36	DETAILS OF TWIN BRIDGES STA. 383+.
37	DETAILS OF GROUTED RUBBLE SLOPE AND DITCH PAVING, HEADWALL REMOVAL AND ROCK EMBANKMENT.
37a	CONCRETE MEDIAN INLETS.
38	DETAILS OF FALL RIVER INTERCHANGE STA. 355+ TO 399+.
39	PROFILE OF FALL RIVER FRONTAGE ROAD AND RAMPS AND FRONTAGE ROAD STA. 432+ TO STA. 449+.
40-43	DETOUR PROFILE.
44-50	ALIGNMENT PLAN AND PROFILE.
51-63	STRUCTURE CROSS SECTIONS.
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TABULATION OF LENGTH AND DESIGN DATA

STATION	ROADWAY LIN. FT.	MAJOR STRUCTURES LIN. FT.
350+00 BEG. I-70-3(15)243 OPPOSITE APPROX. STA. 349+30 ON F.A.P. 181-F		
383+02.3 } STR. NO. [E-14-AY WB. 385+06.9 } [E-14-AZ EB.]	3,302.3	204.6
399+23.7 BK. } EQUATION 400+83.1 AH. }	1,416.8	
445+00 END I-70-3(15)243 = STA. 445+00 ON F005-3(14)	4,416.9	
TOTAL	9,136.0	204.6
SUMMARY		
ROADWAY	9,136.0	1.730
MAJOR STRUCTURES	204.6	0.039
TOTAL-NET & GROSS LENGTH	9,340.6	1.769
DESIGN DATA		
MAXIMUM DEGREE OF CURVE	5°00'	
MAXIMUM GRADE	3.61%	
MINIMUM S.S.D.-HORIZONTAL	575 FT.	
MINIMUM S.S.D.-VERTICAL	610 FT.	
MAXIMUM DESIGN SPEED	60 M.P.H.	

SCALES OF ORIGINAL DRAWINGS
ON PLAN 1 IN = 100 FT
ON PROFILE 1 IN = 10 FT VERTICAL
GRADE LINE ON PROFILE 1/8" SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT 9,340.6 FT. = 1.769 MI.
NET LENGTH OF PROJECT

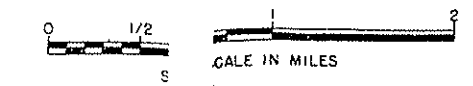


STA. 445+00.0 END I 70-3(15)243 =
STA. 445+00.0 ON F 005-3(14)

SEE SPECIAL PROVISIONS FOR NOTICE TO BIDDERS

COLORADO DEPARTMENT OF HIGHWAYS
APPROVED: *[Signature]*
CHIEF ENGINEER DATE 3-20-63

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS
APPROVED: _____
DIVISION ENGINEER DATE _____



H.E.P.

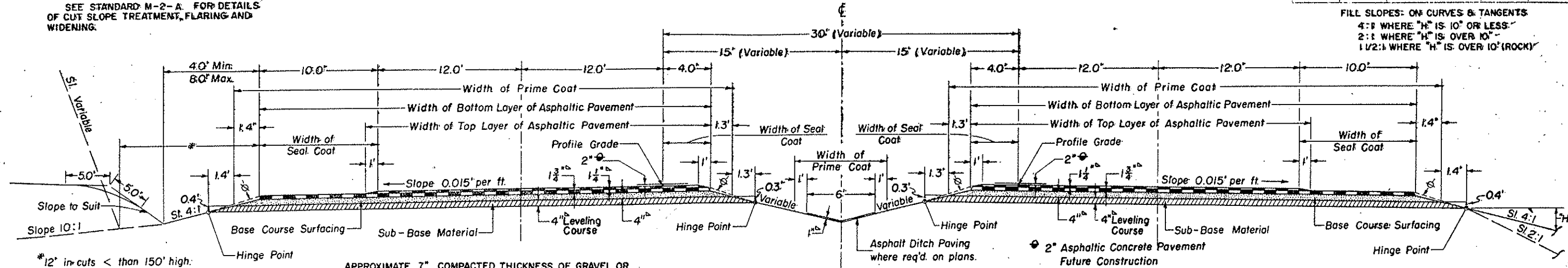
TYPICAL CROSS SECTIONS OF IMPROVEMENT

Rev 8-13-63 Added Fr. Rd. Detail H.E.P.

FEDERAL ROAD DIVISION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I 70-3(15)243	2	

NOTE
SEE STANDARD M-2-A FOR DETAILS OF CUT SLOPE TREATMENT, FLARING AND WIDENING.

FILL SLOPES: ON CURVES & TANGENTS
4:1 WHERE "H" IS 10' OR LESS
2:1 WHERE "H" IS OVER 10'
1 1/2:1 WHERE "H" IS OVER 10' (ROCKY)



SECTION A
Main Line

APPROXIMATE 7" COMPACTED THICKNESS OF GRAVEL OR CRUSHED ROCK SURFACING SHALL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING RATES PER 100 LIN. FT. OF ROADWAY:

ASPHALTIC PAVEMENT...	TOP LAYER	42 TONS
	BOTTOM LAYER	80 TONS
BASE COURSE		175 TONS

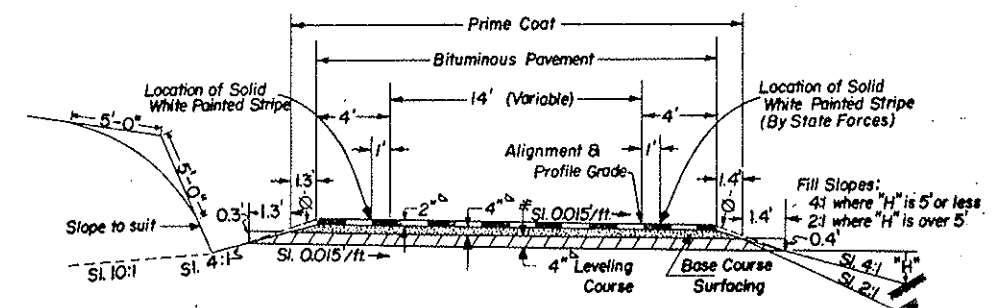
NOTE
BOTTOM LAYER OF BITUMINOUS SURFACING SHALL BE COMPLETED FOR FULL WIDTH BEFORE TOP LAYER OF BITUMINOUS SURFACING IS PLACED. PAVING JOINTS IN TOP LAYER WILL OVERLAP MIN. 1 FT. OVER JOINTS IN BOTTOM LAYER.

MATERIAL ABOVE THE SUBGRADE IS TO BE CONSTRUCTED OF SUB-BASE MATERIAL AT LOCATIONS DESIGNATED IN SUB-BASE MATERIAL TABULATION. ESTIMATED QUANTITIES INVOLVED IN THIS OPERATION AND THICKNESS OF MATERIAL REQUIRED ARE TABULATED IN THE SUB-BASE MATERIAL PLAN.

* 12' in cuts < than 150' high:
15' in cuts > 150' high.

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.

RAMP



FILL SLOPES:
ON CURVES
SLOPE 4:1 WHERE "H" IS 5' OR LESS
SLOPE 2:1 WHERE "H" IS OVER 5'
ON TANGENTS
SLOPE 4:1 WHERE "H" IS 3' OR LESS
SLOPE 2:1 WHERE "H" IS OVER 3'

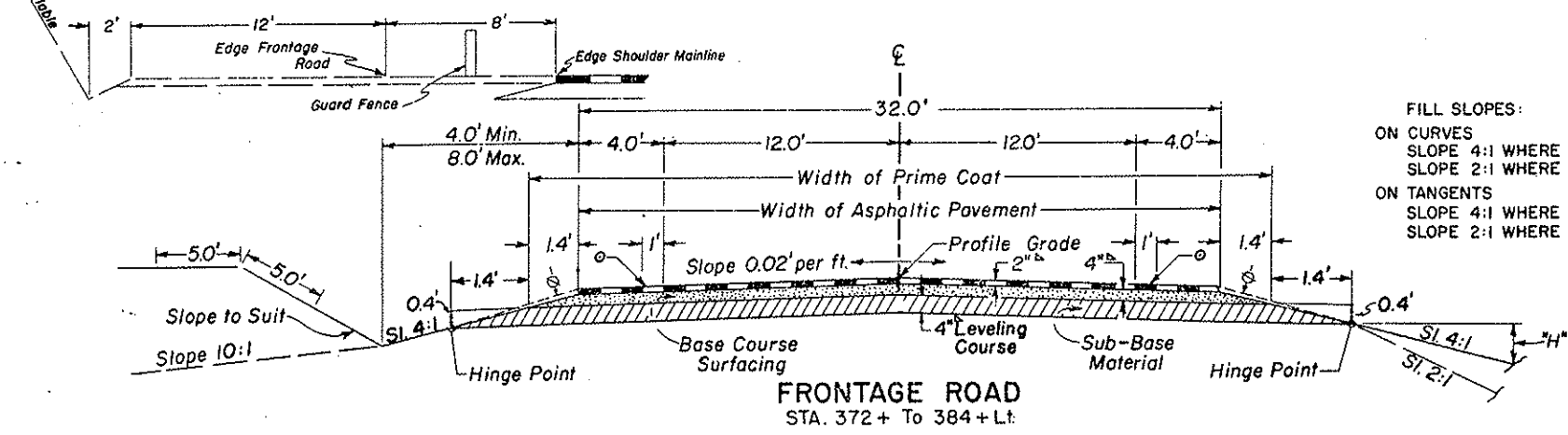
APPROXIMATE 6" COMPACTED THICKNESS OF GRAVEL OR CRUSHED ROCK SURFACING SHALL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING RATES PER 100 LIN. FT. OF ROADWAY:

SECTION	BASE COURSE	ASPHALTIC PAVEMENT BOTTOM LAYER	TOP LAYER
DETOUR	70	36	—
FRONT. RD.	75	39	—
RAMP	52	27	—

* This Slope for Ramps on Rt. side of Project. Slope 0.015'/ft. in opposite direction for Ramps on Lt.

FRONTAGE ROAD

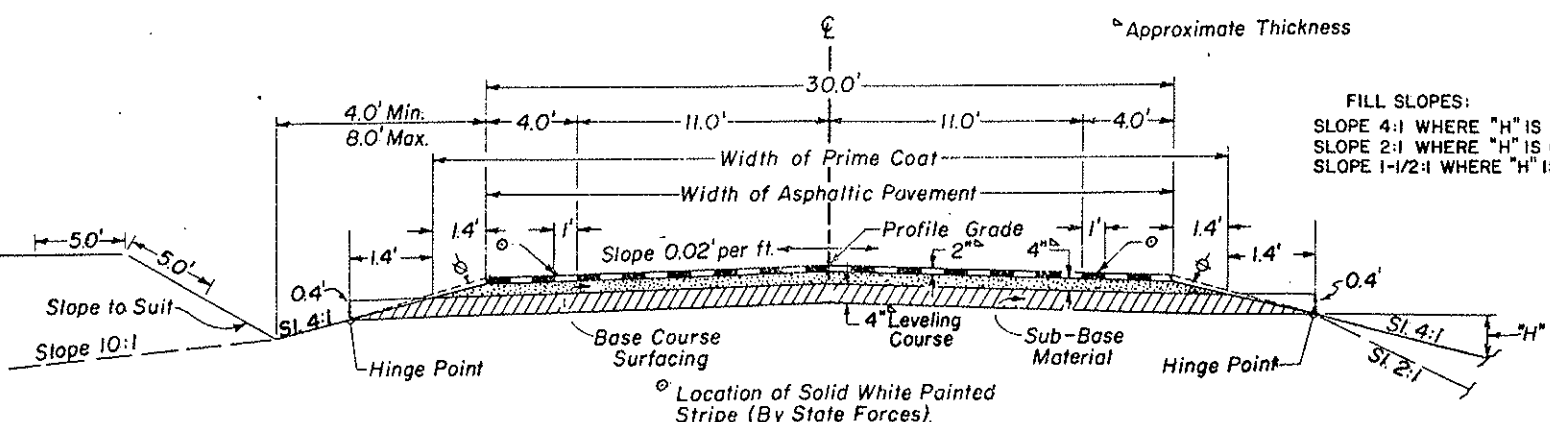
STA. 432+ To 449+Lt.



FRONTAGE ROAD
STA. 372+ To 384+Lt.

Approximate Thickness

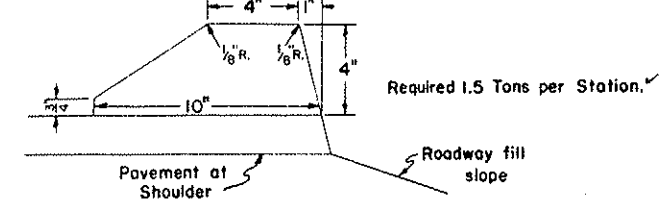
FILL SLOPES:
SLOPE 4:1 WHERE "H" IS 5' OR LESS
SLOPE 2:1 WHERE "H" IS OVER 5'
SLOPE 1-1/2:1 WHERE "H" IS OVER 5' (IN ROCK)



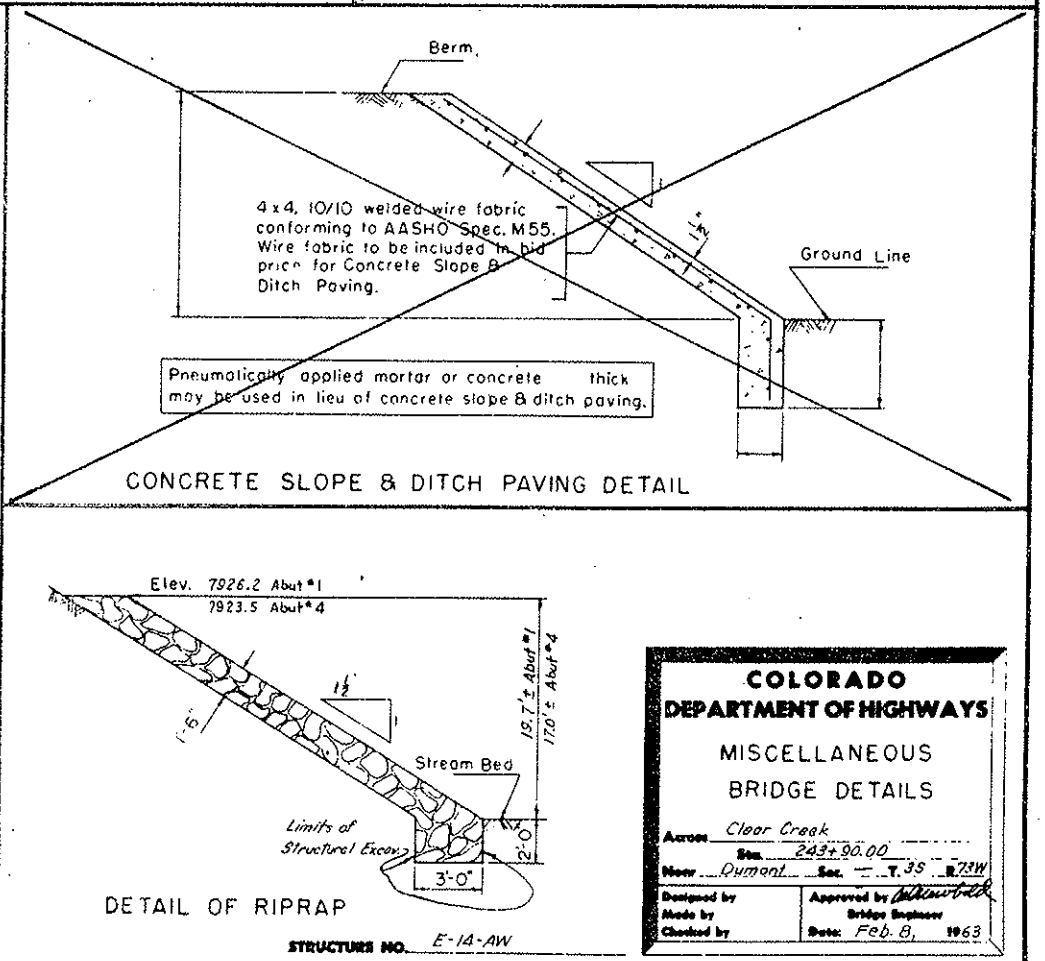
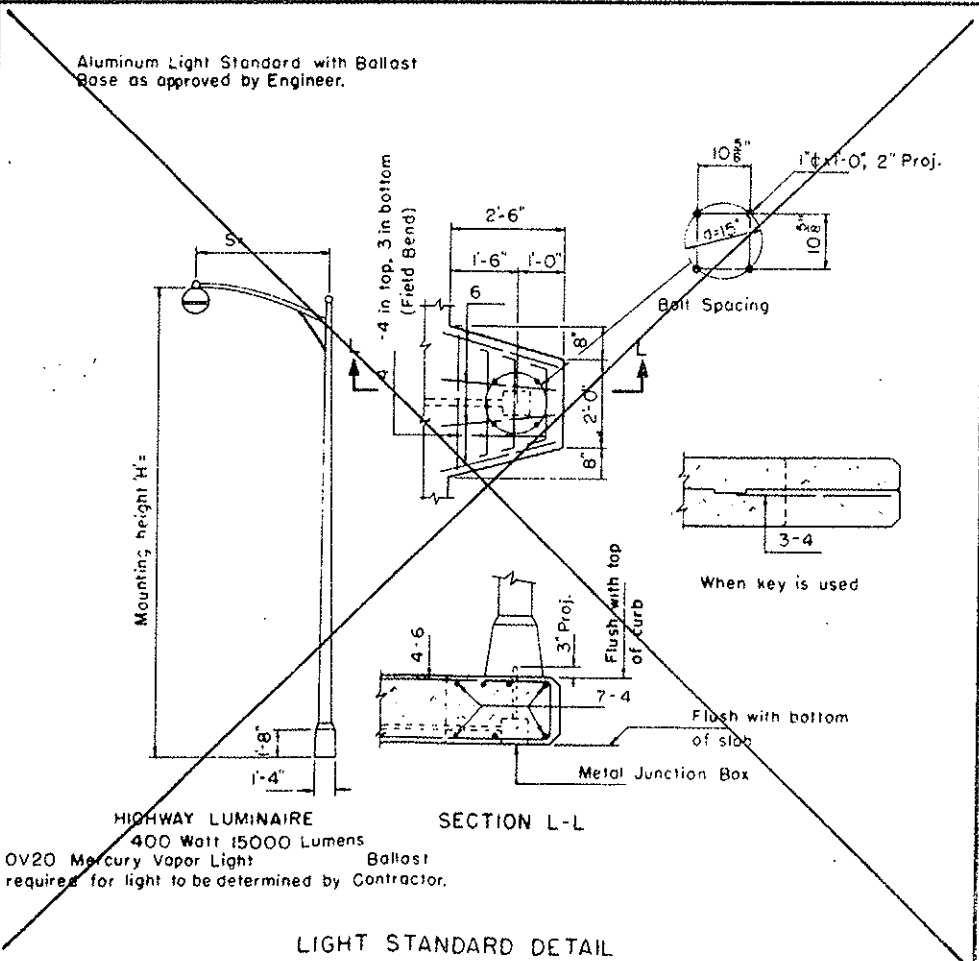
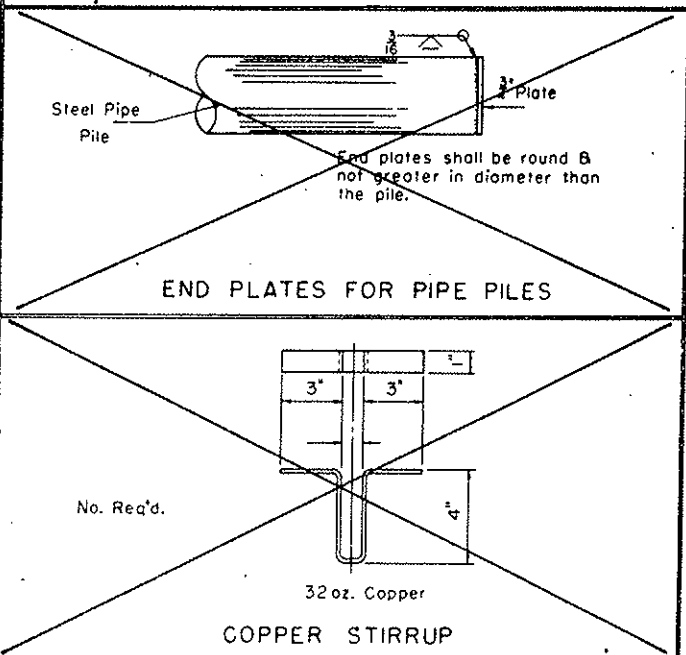
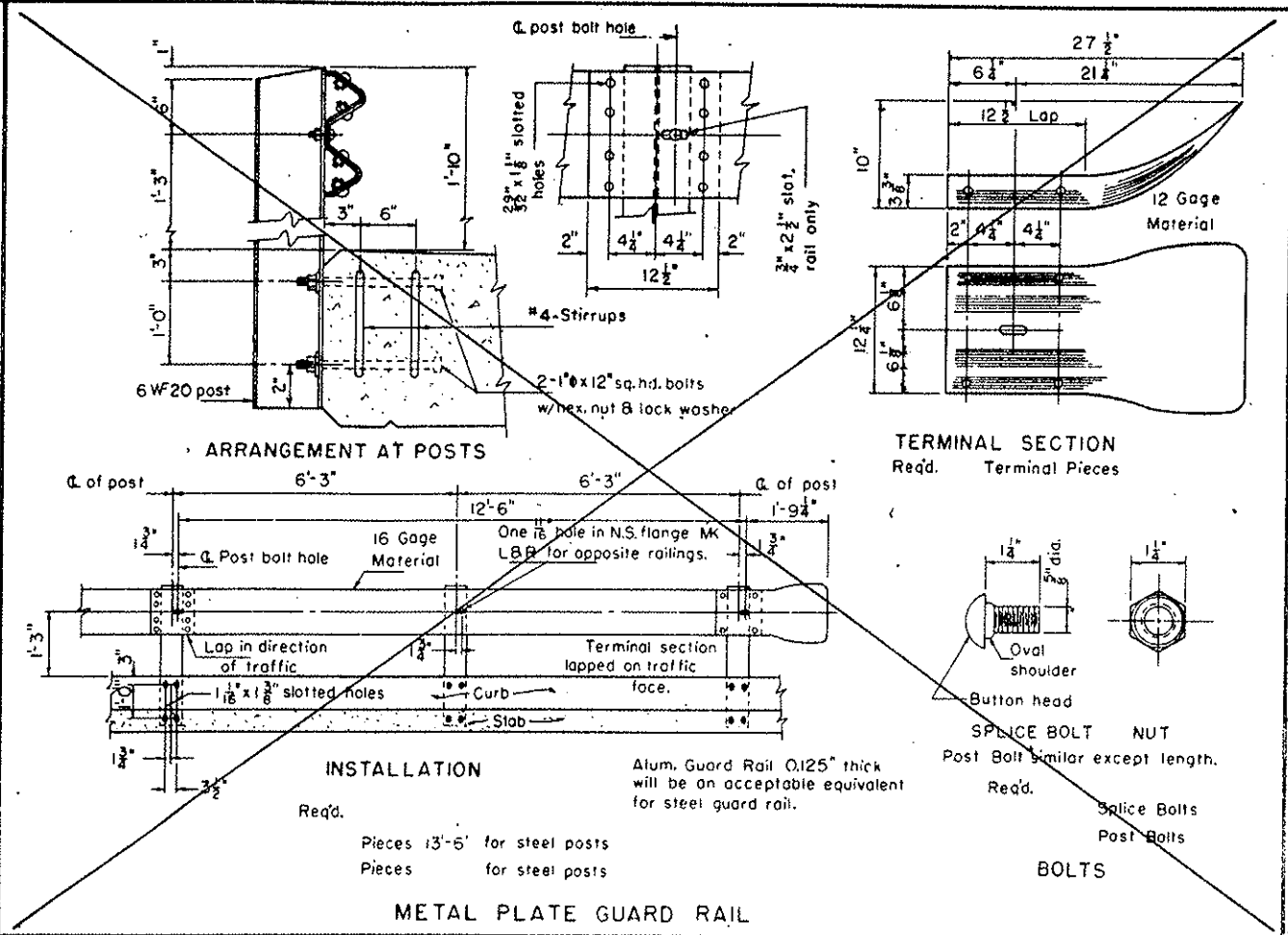
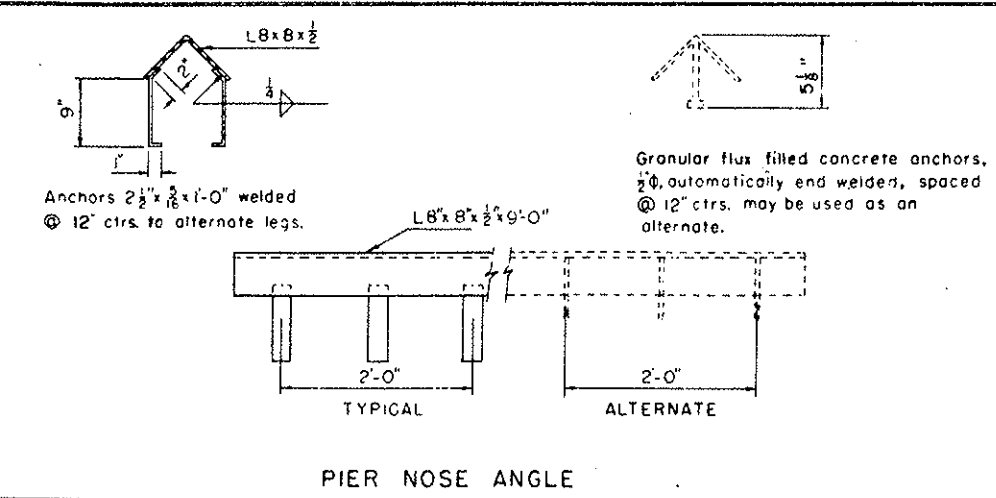
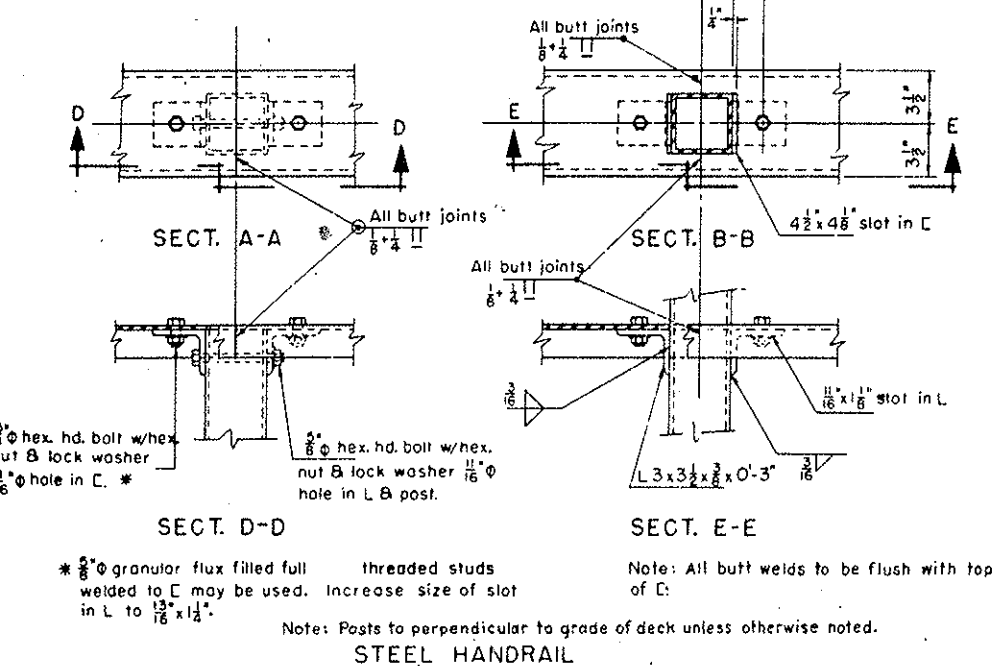
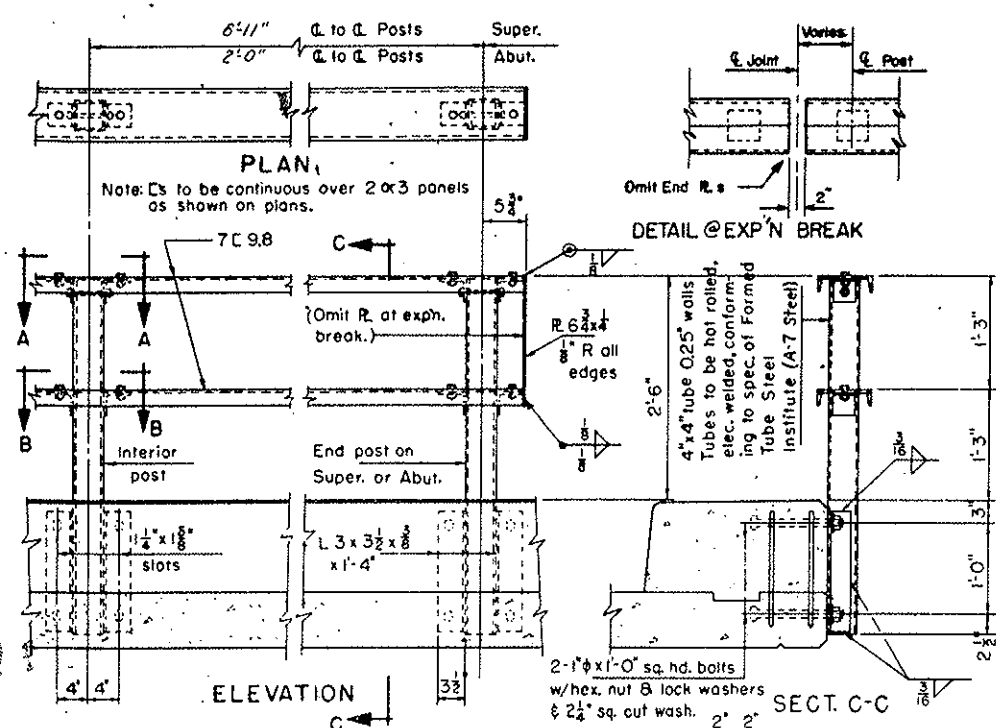
DETOUR

Contractor will be required to blade Slope Material to this line after completion of Paving Operation

ASPHALTIC SHOULDER ROLL



REV. NO.	DESCRIPTION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
0	COLO.	I 70-3(15)243	15	



COLORADO DEPARTMENT OF HIGHWAYS
 MISCELLANEOUS BRIDGE DETAILS
 Across Clear Creek
 Sta. 243+90.00
 New Dymal. Sec. 7.35 R 73W
 Designed by [Signature]
 Made by [Signature] Bridge Engineer
 Checked by [Signature] Date: Feb. 8, 1963
 STRUCTURE NO. E-14-AW

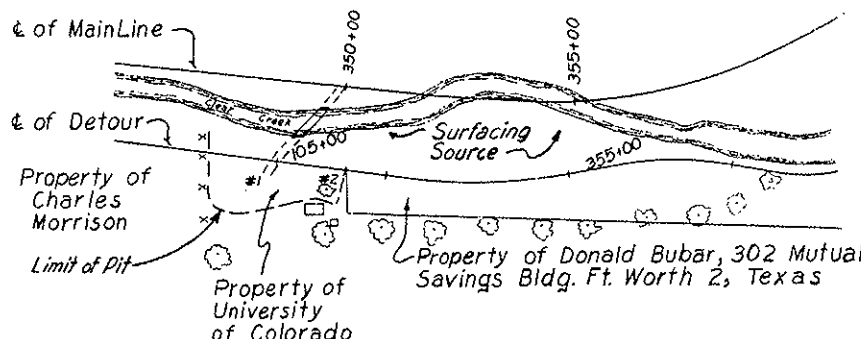
FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
9	COLORADO	I 70-3(15)243	5

Rev. 8-13-63 Pit & Surfacing Plan H.E.P.

PIT NO. 1

P.M. ASPH. SURF., BASE COURSE,
SUBBASE & STR. BACKFILL

OWNER: REGENTS OF UNIV. OF COLO.
LOCATION: S.W. 1/4 SECTION 28 T.3S., R.73W.
HAUL: { 400 FT. TO STA. 350+00 MAINLINE
50 FT. TO STA. 105+00 DETOUR
QUANTITY AVAILABLE: AMPLE



Haul is 400' to sta. 350, however there is no bridge within 2.8 mi. to the west and within 1.9 mi. to the east.

South end of this source is approximately 20' higher than north end. Final base of pit to be left flat and at the approx. grade of the Detour road.

Primary Crusher will be required.

An adequate structure for crossing Clear Creek in the vicinity of the Pit shall be provided by the Contractor.

SAMPLE 2570 LOG OF PIT

TEST NO.	DEPTH	DESCRIPTION
1	0'-12'	Sand & Granite
2	0'-12'	Sand & Granite

Est. for Stripping: 200 Cu. Yds.

SURFACING AND SUB-BASE MATERIAL PLAN

It is estimated that Surfacing and Sub-base Material for the project is available in the vicinity of the pits indicated in the following tabulation. Estimated quantities involved in these operations are shown below. Alteration of the plan as here outlined will be allowed only on written permission from the Department.

MATERIAL TO BE PLACED	SOURCE	TONS USED				TON MILE OVERHAUL			
		P.M. ASPH. SURFACING		BASE COURSE GRADING "C"	SUB-BASE MATERIAL CLASS I	P.M. ASPH. SURFACING		BASE COURSE	SUB-BASE MATERIAL
		TOP LAYER	BOTTOM LAYER			TOP LAYER	BOTTOM LAYER		
MAIN LINE									
350+00 to 382+73	Sub-Base: Pit No. 1	1,387	2,643	5,781	6,178	539	1,027	2,246	2,401
385+33 to 399+23.7BK	R-78	595	1,134	2,481	2,651	520	991	2,168	2,317
400+83.1Ah. to 445+00	R-78	1,855	3,534	7,730	8,260	2,646	5,041	11,027	11,783
Frontage Road & Ramps Sta. 355+ to 399+									
Frontage Road Lt. Sta. 432+ to 449+	Surfacing: Pit No. 1	—	1,522	2,936	3,161	—	1,000	1,925	2,071
From List of Structures	Channel Excav.	—	—	459	493	—	—	964	1,036
Est. for Corr. Irregularities	R-82	—	23'	42'	—	—	14	21	—
Est. for Corr. Irreg. in Sub-Grade	R-82	—	—	971'	—	—	—	917'	—
DETOUR									
0+00 to 21+24.0 BK.	Sub-Base: Detour Cut	—	765	1,487	1,614	—	1,373	2,669	2,897
21+22.5 Ah. to 84+46.5 BK.	Sta. 369±	—	2,277	4,427	4,806	—	2,266	4,405	4,782
84+58.1 Ah. to 105+00	R-78	—	735	1,429	1,552	—	149	290	315
105+00 to 107+42.9BK.	R-78	—	87	170	185	—	3	6	6
351+00.0Ah. to 371+30.2BK.	R-78	—	731	1,421	1,543	—	181	352	382
371+31.2 Ah. to 438+36.9 BK.	Surfacing: Pit No. 1	—	2,414	4,694	5,096	—	2,595	5,046	5,478
439+02.2Ah. to 444+00	R-80	—	179	348	378	—	315	611	664
Appr. from Detour to Present Road Sta. 244±	R-80	—	—	—	—	—	—	—	—
Appr. to Present Road Sta. 444+	R-80	—	182	353	388	—	373	724	795
Appr. to Detour 450+ to 6+	R-80	—	36	35	38	—	65	64	69
From List of Structures	R-80	—	147	285	309	—	295	572	620
Est. for Corr. Irregularities	R-80	—	—	42'	421'	—	55	637	—
Est. for Corr. Irreg. in Sub-Grade	R-80	—	—	754'	—	—	—	769'	—
SUB-TOTAL--MAINLINE		3,837'	8,856'	20,400'	22,817'	3,705'	8,073'	19,268'	21,569'
SUB-TOTAL--DETOUR		—	7,595'	15,824'	17,500'	—	7,670'	16,145'	17,608'
PROJECT TOTAL		3,837'	16,451'	36,224'	40,317'	3,705'	15,743'	35,413'	39,177'

4" Leveling Course

*Includes 40 Tons Under Appr. Slabs

PLANT MIXED ASPHALTIC DITCH PAVING

STATION	TONS USED	TON MILE OVERHAUL
MAINLINE:		
356+00 To 374+00	65	23
385+06 To 399+23.7BK	51	45
400+83.1Ah To 402+50	6	6
412+00 To 434+00	79	113
PROJECT TOTAL	201	187

GENERAL NOTES

THIS PROJECT IS TO BE CONSTRUCTED IN CONFORMITY WITH THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS ADOPTED JANUARY 1, 1958.

ALL QUANTITIES ON PRELIMINARY PLANS ARE TO BE CONSIDERED APPROXIMATE ONLY.

ALL POLES ENCRANCHING ON CONSTRUCTION ARE TO BE MOVED BY THE OWNERS.

FOR PRELIMINARY PLAN QUANTITIES OF ASPHALTIC ROAD MATERIALS AND STONE SCREENINGS, THE FOLLOWING RATES OF APPLICATION WERE USED.

PRIME COAT MC @ 0.40 GALS. PER SQ. YD.
PAVING ASPHALT (85-100 PENETRATION) @ 7.0 LBS. PER SQ. YD. PER INCH.
SEAL COAT RC @ 0.35 GALS. PER SQ. YD.
STONE SCREENINGS TYPE I @ 24.0 LBS. PER SQ. YD.

RATE OF APPLICATION AND GRADE OF ASPHALTIC MATERIAL SHALL BE AS DETERMINED BY THE ENGINEER AT TIME OF APPLICATION.

IT IS ESTIMATED THAT OLD ROAD IS TO BE OBLITERATED AT THE FOLLOWING LOCATION: (MAINLINE) STA. 358+ TO 363+ RT.

APPLICATION METHODS FOR LIQUID ASPHALTIC ROAD MATERIAL, WHICH RESULT IN THE DISCOLORATION OF CONCRETE PAVEMENT, CURBS OR GUTTERS WILL NOT BE PERMITTED.

ALL SIDE APPROACH ROADS TO THE PROJECT SHALL BE PRIMED AND SURFACED WITH A 2" THICKNESS OF ASPHALTIC SURFACING, PLACED AS FOLLOWS:
-FIELD APPROACHES-4 FT. OUT FROM EDGE OF SHOULDER.
-ALL OTHER APPROACHES-TO THE RIGHT OF WAY LINE OR AS DIRECTED BY THE ENGINEER.

THICKNESS OF SUB-BASE, SURFACING AND ASPHALTIC PAVEMENT MATERIALS AS SHOWN ON PLANS IS APPROXIMATE ONLY. THESE MATERIALS ARE TO BE PLACED ON THE BASIS OF TONNAGES SHOWN ON PLANS.

IF EXCAVATION OPERATIONS DEVELOP MATERIALS WHICH WILL STAND ON SLOPES STEEPER THAN SLOPE STAKE LINES, THE DEPARTMENT RESERVES THE RIGHT TO CHANGE CUT SLOPES DURING THE PROGRESS OF SUCH EXCAVATIONS.

THE FORCE ACCOUNT ITEM, "CLEARING OF BUILDING SITES, INCLUDING REMOVAL OF FOUNDATION AND APPURTENANCES," SHALL INCLUDE REMOVAL OF ALL FOUNDATIONS, WELLS, OUTHOUSES AND OTHER APPURTENANCES NOT REMOVED BY THE OWNER, AND ANY NECESSARY BACKFILLING OF CELLARS, MINE SHAFTS, WELLS, ETC., TO PROVIDE NEAT ROAD-SIDE CONDITIONS. IT IS ESTIMATED THAT THIS ITEM APPLIES AT THE FOLLOWING LOCATIONS: (MAINLINE) STA. 243+LT., STA. 313+ TO 317+RT., STA. 331+RT., STA. 376+LT., STA. 380+ TO 387+ RT. & LT., STA. 406+ TO 419+ RT. & LT. (DETOUR) STA. 382+LT., STA. 395+ TO 396+RT., 428+LT. AND STA. 432+RT.

CLASS "A" AGGREGATE MAY BE SUBSTITUTED FOR PAVEMENT AGGREGATE.

TABULATION OF CHANNEL CHANGES

*STATION TO STATION	SIDE
MAINLINE:	
330+ to 334+	Rt. ✓
342+ to 357+	Rt. ✓
364+ to 371+	Rt. ✓
378+ to 384+	Rt. ✓
388+ to 394+	Rt. ✓
401+ to 404+	Rt. ✓
420+ to 435+	Rt. ✓
DETOUR:	
93+ to 96+	Lt. ✓
386+ to 388+	Lt. ✓

* Channel Excavation included in Profile Quantities

**DETOUR TABULATION OF LENGTH & DESIGN DATA
(FOR INFORMATION ONLY)**

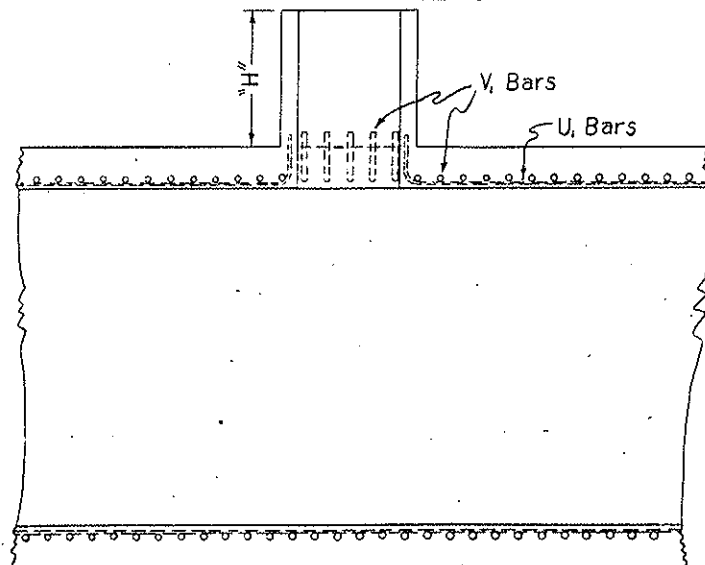
STATION	ROADWAY	
	LIN. FT.	MILES
0+00 BEG. DETOUR		
21+24.0 BK.= } EQUATION 21+22.5 Ah. }	2,124.0	
84+46.5 BK.= } EQUATION 84+58.1 Ah. }	6,324.0	
107+42.9 BK.= } EQUATION 351+00.0 Ah. }	2,284.8	
371+30.2 BK.= } EQUATION 371+31.2 Ah. }	2,030.2	
438+36.9 BK.= } EQUATION 439+02.2 Ah. }	6,705.7	
444+00 END DETOUR	497.8	
TOTAL	19,966.5	
SUMMARY		
TOTAL NET & GROSS LENGTH	19,966.5	3.782
DESIGN DATA		
MAXIMUM DEGREE OF CURVE	14° 00'	
MAXIMUM GRADE	6 %	
MINIMUM S.S.D. ~ HORIZONTAL	235 FT.	
MINIMUM S.S.D. ~ VERTICAL	325 FT.	
MAXIMUM DESIGN SPEED	35 M.P.H.	

SUMMARY OF EARTHWORK QUANTITIES

	MAINLINE	DETOUR	PROJECT TOTAL
EXCAVATION			
FROM ELECTRONIC COMPUTER	727,681 ✓	194,882 ✓	922,563 ✓
EST. FOR OVERBREAK & SUBSIDENCE	72,768 ✓	19,488 ✓	92,256 ✓
LIST OF STRUCTURES AS EXCAVATION	4,970 ✓	1,135 ✓	6,105 ✓
LIST OF STRUCTURES AS EMBANKMENT	1,102 ✓	1,043 ✓	2,145 ✓
EST. FOR CUT SLOPE TREATMENT	204 ✓	1,035 ✓	1,239 ✓
▲ MATERIAL TO BE STOCKPILED		29,000 ✓	29,000 ✓
TOTALS	806,725 *	246,583 ✓	1,053,308 ✓
EXCAVATION			
FROM ELECTRONIC COMPUTER	727,681 ✓	194,882 ✓	922,563 ✓
TOTALS	727,681 ✓	194,882 ✓	922,563 ✓
EXCAVATION X FACTOR	844,266 ✓	220,499 ✓	1,064,765 ✓
EMBANKMENT			
FROM ELECTRONIC COMPUTER	944,408 ✓	120,357 ✓	1,064,765 ✓
STATION YARD OVERHAUL			
FROM MASS DIAGRAM	3,521,168 ✓	375,902 ✓	3,897,070 ✓
EST. FOR OVERBREAK & SUBSIDENCE	352,117 ✓	37,590 ✓	389,707 ✓
STOCKPILE MATERIAL		319,000 ✓	319,000 ✓
EST. FOR STRUCTURE BACKFILL	5,775 ✓	3,080 ✓	8,855 ✓
TOTALS	3,879,060 ✓	735,572 ✓	4,614,632 ✓
YARD MILE OVERHAUL			
FROM MASS DIAGRAM	68,507 ✓	15,591 ✓	84,098 ✓
EST. FOR OVERBREAK & SUBSIDENCE	6,851 ✓	1,559 ✓	8,410 ✓
STOCKPILE MATERIAL		81,850 ✓	81,850 ✓
EST. FOR STRUCTURE BACKFILL	237 ✓	202 ✓	439 ✓
TOTALS	75,595 ✓	99,202 ✓	174,797 ✓
COMPACTION			
TOTAL UNCLASSIFIED EXCAVATION	806,725 ✓	217,583 ✓	1,024,308 ✓
BASE OF CUTS & FILLS	69,507 ✓	35,421 ✓	104,928 ✓
TOTALS	876,232 ✓	253,004 ✓	1,129,236 ✓

* Not included for compaction

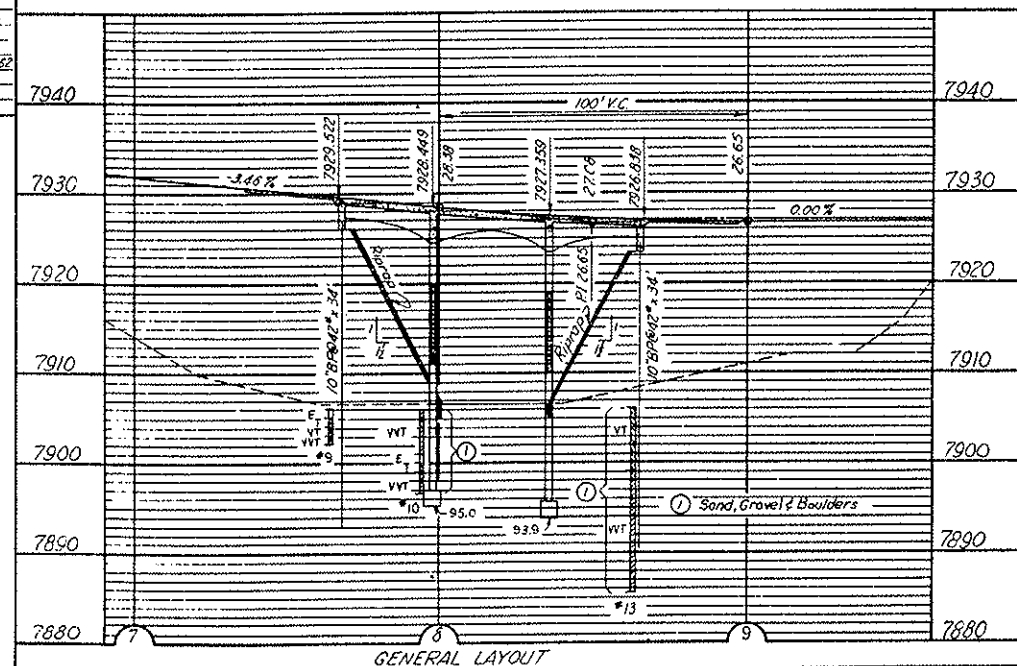
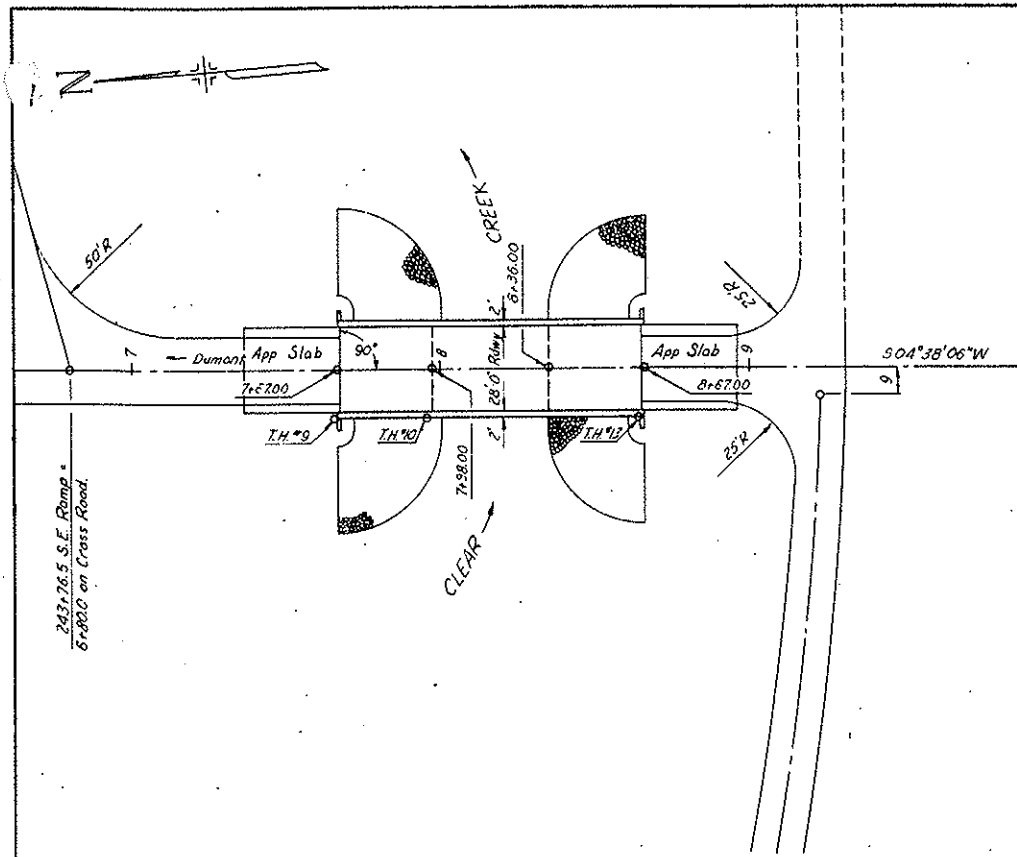
DETAILS OF C.B.C. WITH CONCRETE INLETS



U, and V, bars are to be cut and bent upward around Median Inlet.

For details of Concrete Inlet for Median Ditch see Std. M-46-B.

All 401, 402, 403 bars in Inlet shall be cut or bent to provide for opening in C. B. C.



REVISIONS

Rev 8-13-63 Item 47 & Gen Layout & Str. Backfill H.E.P.

FED. ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I 70-3(15)243	10	

SUMMARY OF QUANTITIES								
Item	Description	Unit	Superstructure	Abut. N#1	Pier N#2	Pier N#3	Abut. N#4	Totals
14	Unclassified Structural Excavation (Bridge)	Cu. Yd.		30	55	60	30	175
16	Structure Backfill (Class 1)	Cu. Yd.			43	47		90
46	Class 'A' Concrete	Cu. Yd.	128.4	8.4	25.4	25.4	8.4	196.0
47	Reinforcing Steel (Incl. 1% for Overrun)	Lb.	40,340	650	3,220	3,220	650	48,080
48	Structural Steel (Incl. 1/2% for Point)	Lb.	6,720	325	265	265	325	8,300
61	Steel Piling (10" BP @ 42")	Lin. Ft.		136			136	272
67	Rip Rap (1-6" Thick)	Cu. Yd.		230			150	420
89	Drain Pipe (4" x 1' x 6" Conc. Floor)	Ea.	6					6

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".

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 30 DIAMETERS FOR BARS NEAR TOP OF MEMBERS HAVING MORE THAN 12 INCHES OF CONCRETE UNDER THE BAR, 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 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-16-A.

ALL CONCRETE SURFACES MARKED WITH THE SYMBOL 'I' AS SHOWN ON SHEET NO. 2B... SHALL RECEIVE CLASS "I" SURFACE FINISH.

ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM PAINT UNLESS OTHERWISE NOTED.

ALL RIVETS SHALL BE 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 FIVE 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 GIRDER.

WHEN CALLED FOR IN THE SPECIAL PROVISIONS, SHOP WELDS SHALL BE INSPECTED RADIOGRAPHICALLY AND BY THE PENETRANT DYE METHOD.

WHEN TREATED TWICE PILING IS SHOWN ON THE PLANS, THE PRESERVATIVE FOR TREATMENT SHALL BE CHROSDITE DIL.

ALL STRUCT. STEEL NOT OTHERWISE NOTED SHALL BE ASTM A36-62T.

LOADING DATA.

LIVE LOAD A. A. S. H. O. M20-S16-44

DEAD LOAD - ASSUMES 15 LBS. PER SQ. FT. ADDITIONAL WEARING SURFACE WHICH INCLUDES THE 1/4 INCH CONCRETE MONOLITHIC WEARING SURFACE SHOWN.

DESIGNING DATA.

UNIT STRESSES.

A. A. S. H. O.

$f_c = 1,200$ Lbs. per Sq. In.

$f_s = 20,000$ Lbs. per Sq. In. (REINF. STEEL & A-36 STR. STEEL)

$f_t = 18,000$ Lbs. per Sq. In. (Struct. Steel A-7)

COLORADO
DEPARTMENT OF HIGHWAYS

3 SPAN (30'-35'-30') CONC. SLAB & GIRDER BRIDGE 28 Rows 2 Curbs 90' Skew

Summary of Quantities, General Layout & General Notes & Loading Data.

Across Clear Creek
Sta. 243+90.00

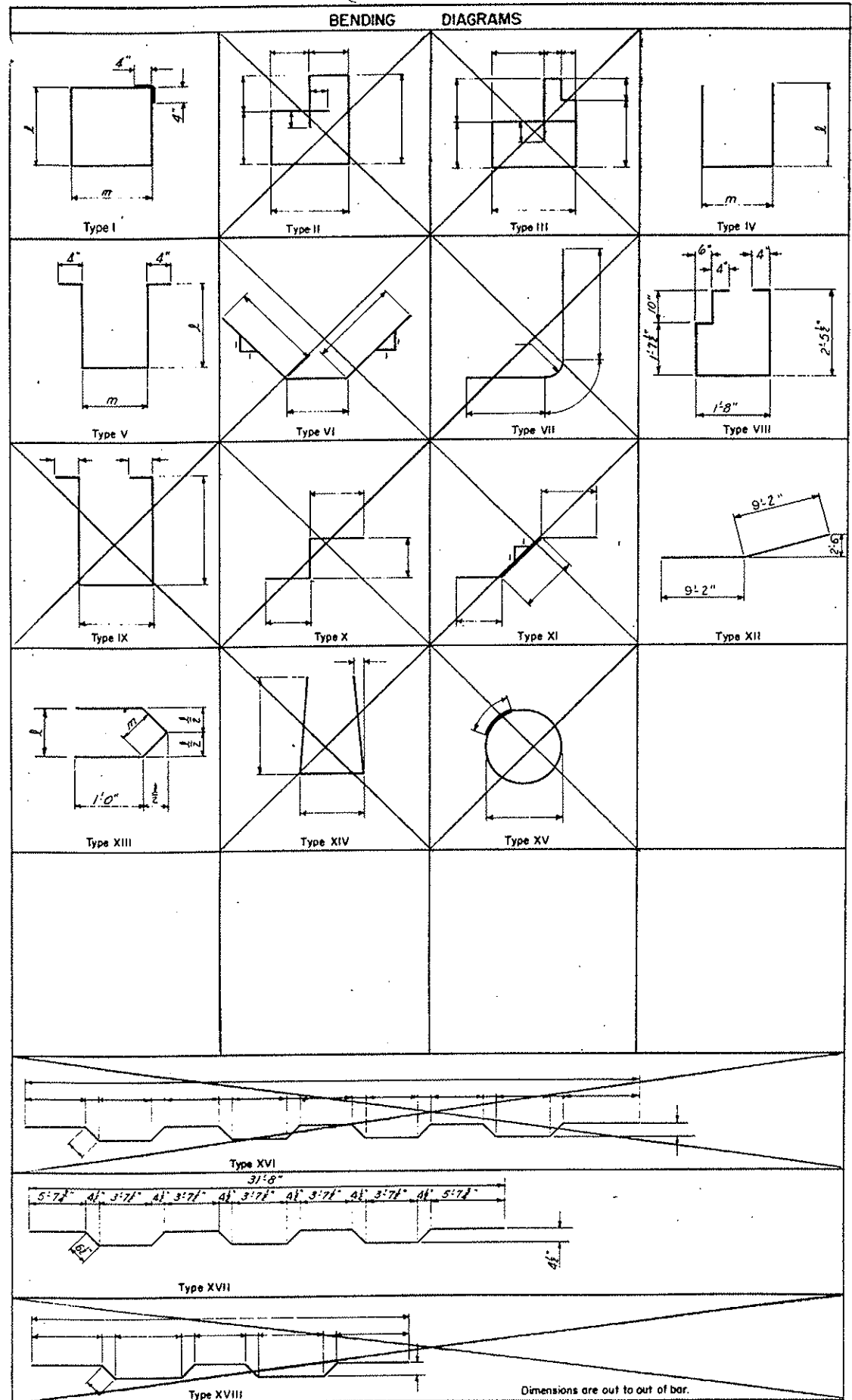
Near Dumont Sec. T. 33. R. 73W

Designed by _____ Approved by *Allen*

Made by _____ Bridge Engineer

Checked by _____ Date: Feb. 8, 1963

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	170-3(15)243	11	



BAR LIST - SUPERSTRUCTURE

Mark	Size	N ^o Req'd	Length	Type	Dimensions	
					l	m
401	1/2" φ	200	4'2"	IV	1'3"	1'8"
402	1/2" φ	60	5'0"	I	1'3"	1'11"
408	1/2" φ	148	4'8 1/2"	V	1'5 1/2"	1'1"
409	1/2" φ	16	4'9"		1'6"	
410	1/2" φ		4'9 1/2"		1'6 1/2"	
411	1/2" φ		4'10 1/2"		1'6 1/2"	
412	1/2" φ		4'11 1/2"		1'7 1/2"	
413	1/2" φ		5'0 1/2"		1'7 1/2"	
414	1/2" φ		5'2 1/2"		1'8 1/2"	
415	1/2" φ	16	5'4"		1'9 1/2"	
416	1/2" φ	8	5'5 1/2"		1'10 1/2"	
417	1/2" φ		5'7"		1'11"	
418	1/2" φ		5'9"		2'0"	
419	1/2" φ		5'11"		2'1"	
420	1/2" φ		6'1"		2'2"	
421	1/2" φ		6'3"		2'3"	
422	1/2" φ		6'5"		2'4"	
423	1/2" φ		6'7"		2'5"	
424	1/2" φ		6'9"		2'6"	
425	1/2" φ		7'0"		2'7 1/2"	
426	1/2" φ		7'3"		2'8"	
427	1/2" φ		7'6"		2'10 1/2"	
428	1/2" φ		7'9"		3'0"	
429	1/2" φ		5'6"		1'10 1/2"	
430	1/2" φ		5'8"		1'11 1/2"	
431	1/2" φ		5'10"		2'0 1/2"	
432	1/2" φ		6'0"		2'1 1/2"	
433	1/2" φ		6'2"		2'2 1/2"	
434	1/2" φ		6'4"		2'3 1/2"	
435	1/2" φ		6'7"		2'5"	
436	1/2" φ		6'9"		2'6"	
437	1/2" φ		6'11 1/2"		2'7 1/2"	
438	1/2" φ		7'3"		2'9"	
439	1/2" φ		7'5"		2'10"	
440	1/2" φ	8	7'8"	V	2'11 1/2"	1'1"
441	1/2" φ	32	24'0"	Str.		
442	1/2" φ	8	20'6"	Str.		
481	1/2" φ	63	3'8 1/2"	V	1'3 1/2"	6"
478	1/2" φ	42	9'5"	V	3'3"	2'3"
501	1/2" φ	202	31'0"	Str.		
502	1/2" φ	99	32'0"	XVII		
505	1/2" φ	4	25'0"	Str.		
509	1/2" φ	8	31'8"	Str.		
510	1/2" φ	78	50'6"	Str.		
511	1/2" φ	16	16'5"	Str.		
512	1/2" φ	26	40'0"	Str.		
513	1/2" φ	13	21'6"	Str.		
602	1/2" φ	6	25'0"	Str.		
701	1/2" φ	16	17'0"	Str.		
801	1" φ	24	18'4"	XII		
901	1 1/8" φ	24	51'0"	Str.		
902	1 1/8" φ	16	35'4"	Str.		
903	1 1/8" φ	16	21'6"	Str.		
904	1 1/8" φ	16	9'4"	Str.		
1101	1 1/8" φ	48	24'0"	Str.		
1102	1 1/8" φ	16	15'0"			
1103	1 1/8" φ	16	8'0"			
1104	1 1/8" φ	8	12'0"			
1105	1 1/8" φ	8	25'0"			
1107	1 1/8" φ	8	21'0"	Str.		

BAR LIST - ABUTMENT N^o 1
ABUTMENT N^o 2 SIMILAR

Mark	Size	N ^o Req'd	Length	Type	Dimensions	
					l	m
443	1/2" φ	32	7'4"	VIII		
444	1/2" φ	4	31'8"	Str.		
445	1/2" φ	20	3'8"	Str.		
503	1/2" φ	8	31'8"	Str.		
504	1/2" φ	16	5'0"	Str.		

SUMMARY
 448 Lin Ft 1/2" φ @ 0.668 lbs/lin ft. = 299 Lbs
 333 Lin Ft 1/2" φ @ 1.043 lbs/lin ft. = 347 Lbs
 Plus 1% for Overrun = 4 Lbs
 Total = 650 Lbs

BAR LIST - PIER N^o 2
PIER N^o 3 SIMILAR

Mark	Size	N ^o Req'd	Length	Type	Dimensions	
					l	m
450	1/2" φ		7'4"		1'8"	
470	1/2" φ	2 ea.	by 1" to	I	1'8"	by 1" to
477	1/2" φ		9'7"		2'9 1/2"	
479	1/2" φ	43	8'6"	Str.		
480	1/2" φ	16	24'6"	Str.		
481	1/2" φ		4'7 1/2"		1'10 1/2"	1'3 1/2"
489	1/2" φ	1 ea.	by 1/2" to	XIII	by 1/2" to	by 1/2" to
506	1/2" φ	18	7'6"	Str.		
507	1/2" φ	20	5'6"	Str.		
508	1/2" φ	2	24'6"	Str.		

802	1" φ	16	13'4"	Str.		
905	1 1/8" φ	20	17'8"	Str.		
1106	1 1/8" φ	16	3'2"	Str.		

SUMMARY
 127.5 Lin Ft 1/2" φ @ 0.668 lbs/lin ft. = 852 Lbs
 294 Lin Ft 1/2" φ @ 1.043 lbs/lin ft. = 307 Lbs
 213 Lin Ft 1" φ @ 2.670 lbs/lin ft. = 569 Lbs
 350 Lin Ft 1 1/8" φ @ 3.400 lbs/lin ft. = 1,190 Lbs
 51 Lin Ft 1 1/8" φ @ 5.313 lbs/lin ft. = 271 Lbs
 Plus 1% for Overrun = 31 Lbs
 Total = 3,220 Lbs

SUMMARY - SUPERSTRUCTURE

5251 Lin Ft 1/2" φ @ 0.668 lbs/lin ft. = 3508 Lbs
 15,507 Lin Ft 1/2" φ @ 1.043 lbs/lin ft. = 16,174 Lbs
 150 Lin Ft 1/2" φ @ 1.502 lbs/lin ft. = 225 Lbs
 272 Lin Ft 1/2" φ @ 2.044 lbs/lin ft. = 556 Lbs
 440 Lin Ft 1" φ @ 2.670 lbs/lin ft. = 1,175 Lbs
 2,283 Lin Ft 1 1/8" φ @ 3.400 lbs/lin ft. = 7,762 Lbs
 1,984 Lin Ft 1 1/8" φ @ 5.313 lbs/lin ft. = 10,541 Lbs
 Plus 1% for Overrun = 399 Lbs
 Total = 40,340 Lbs

COLORADO
 DEPARTMENT OF HIGHWAYS

BENDING DIAGRAMS & BAR LIST

Across Clear Creek
 Sta. 243+90.00

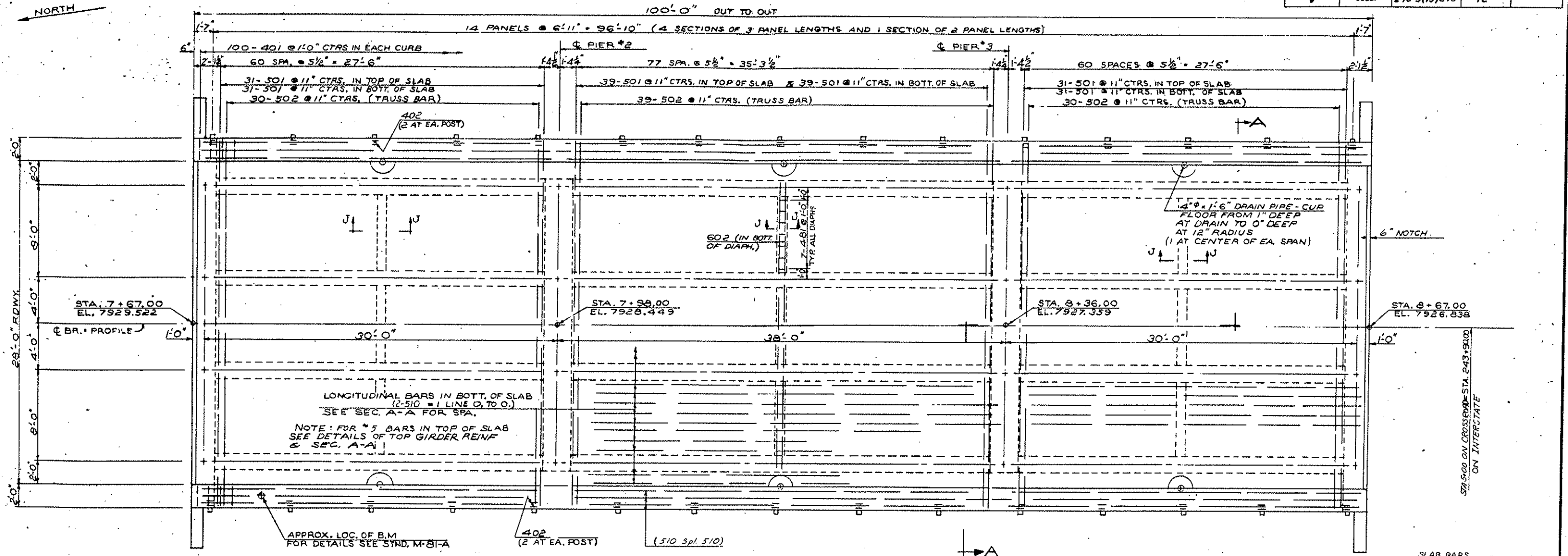
Near Dumont Sec. T.35 R. 73W

Designed by J.B. Bridge Engineer
 Checked by J.B. Date: Feb. 8, 1963

REVISIONS

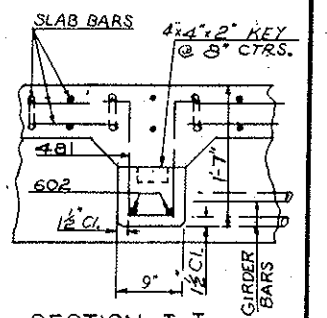
Rev 8-13-63 Add. Appr Slab

REV. NO.	DESCRIPTION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I 70-3(15)243	12	



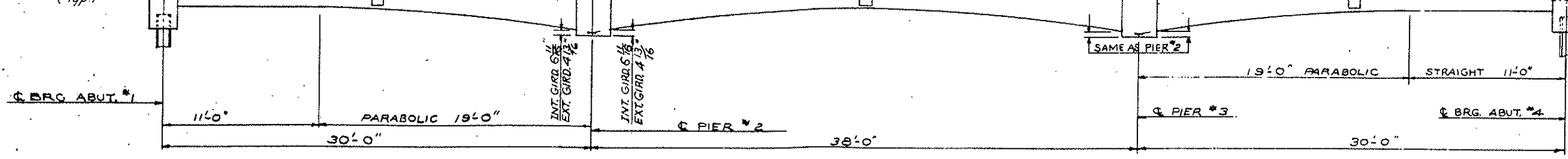
PLAN

POINT	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
BLOCKING FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE (FT)	0	.006	.011	.014	.014	.010	.007	.003	.001	0	-.022	-.038	-.050	-.055	-.056	-.055	-.050	-.040	-.022	0	-.013	-.022	-.026	-.027	-.025	-.023	-.018	-.013	-.007	0	
D.L. DEFLECTION (FT)	0	.006	.011	.014	.014	.010	.007	.003	.001	0	-.001	.000	.002	.005	.006	.005	.002	.000	-.001	0	.001	.003	.007	.010	.014	.014	.011	.006	0		
DISTANCE FROM TOP OF SLAB TO BOT. OF GIRDER (FEET)	1'-9"	1'-9"	1'-9"	1'-9"	1'-9 1/8"	1'-9 1/8"	1'-11 3/8"	2'-2 1/8"	2'-6 1/8"	2'-11 1/8"	3'-6"	2'-10 3/8"	2'-4 3/8"	2'-0 3/8"	1'-9 3/8"	1'-9"	1'-9 1/8"	2'-0 3/8"	2'-4 3/8"	2'-10 3/8"	3'-6"	2'-11 1/8"	2'-6 1/8"	2'-2 1/8"	1'-11 3/8"	1'-9 1/8"	1'-9 1/8"	1'-9"	1'-9"	1'-9"	



SECTION J-J
TYPICAL DIAPHRAGM

For Approach Slab See Sld. M-37-B-2 (Typ)



TYPICAL GIRDER ELEVATION

COLORADO DEPARTMENT OF HIGHWAYS
DETAIL OF SUPERSTRUCTURE
28'-0" RDWY. 2'-0" CURBS

Across CLEAR CREEK
Sta. 243+50.00
Near DUMONT Sta. - 1.35 8.77W

Designed by WWD Approved by *Calhoun*
Made by FL Bridge Engineer
Checked by *FL* Date Feb. 8 1963

STA. 243+00 TO 243+05
 100' LONG BY
 10' WIDE

REVISIONS

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
0	COLO.	I 70-3(15)243	13	

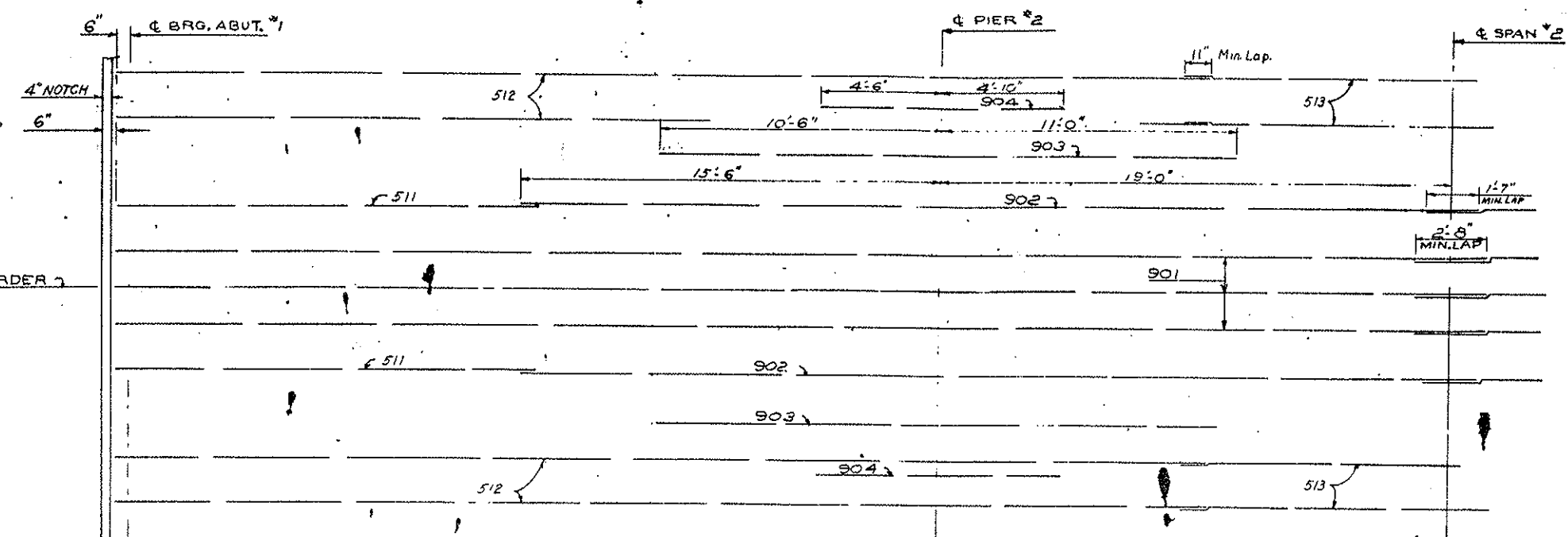
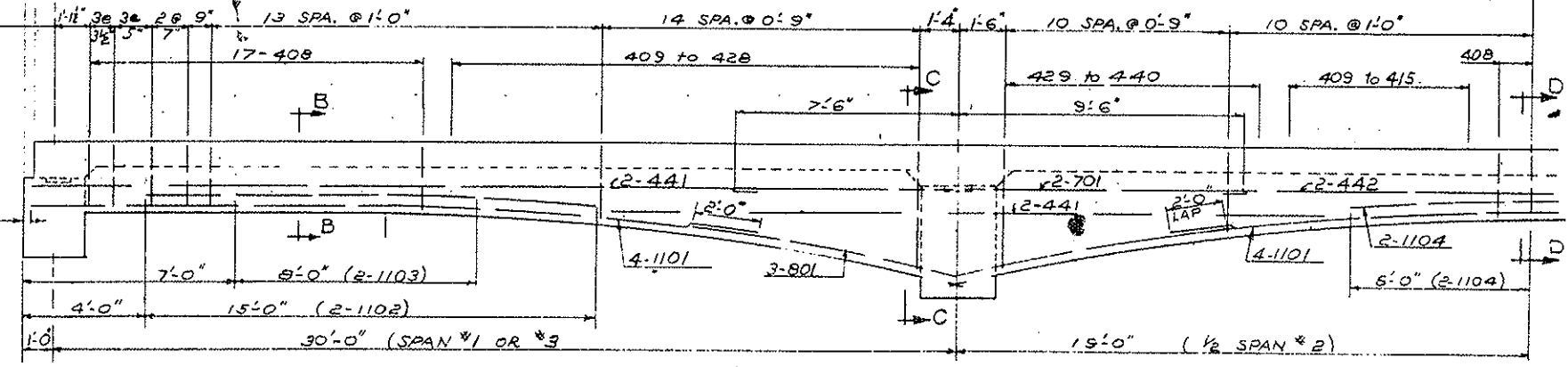


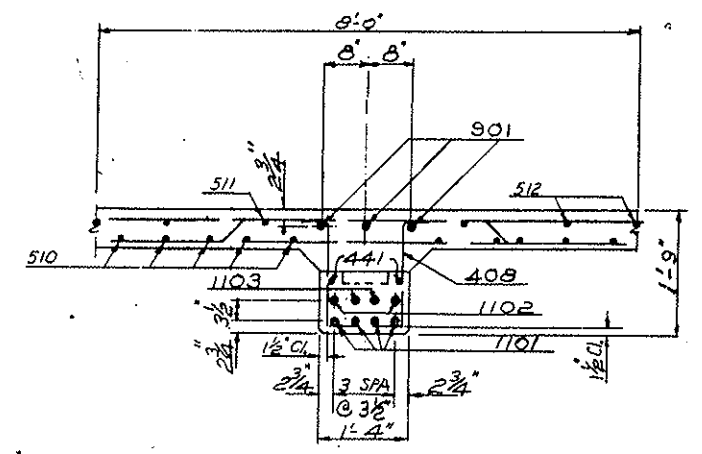
DIAGRAM OF REINF STEEL IN TOP OF GIRDER

REINF. STEEL IS SYMM. ABOUT \bar{C} SPAN #2

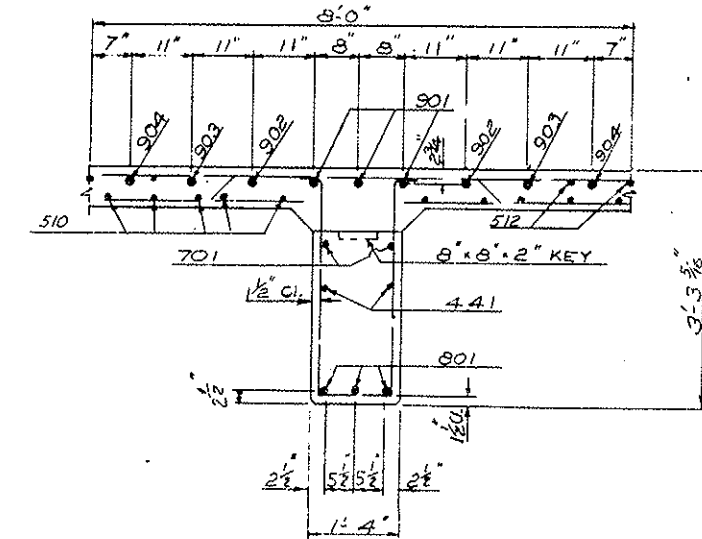
STIRRUP SPACING
 1- #4 STIRRUP
 EACH PLACE



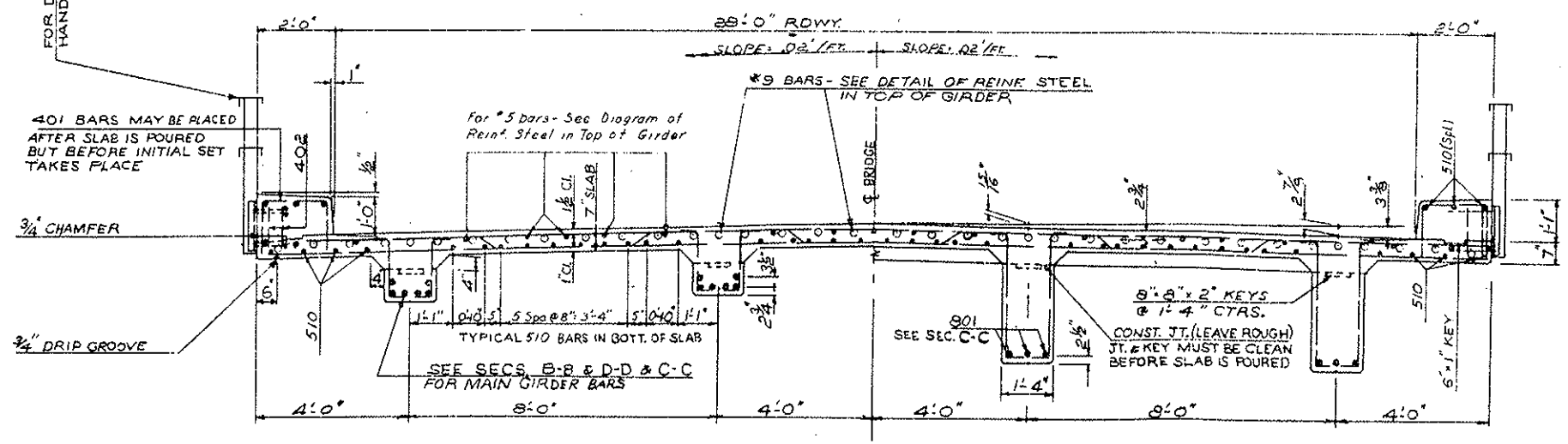
ELEVATION TYPICAL GIRDER



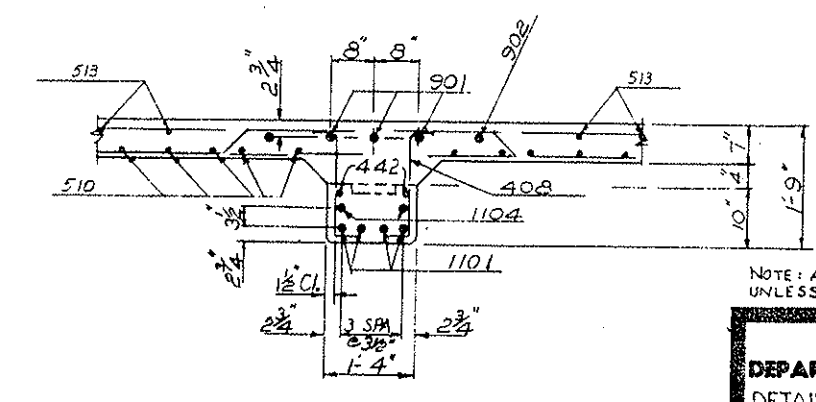
SECTION B-B



SECTION C-C



SECTION A-A



SECTION D-D

NOTE: GIRDER SHORING SHALL REMAIN IN PLACE FULL LENGTH UNTIL ALL POURS HAVE REACHED A MIN. STRENGTH OF 2500 PSI AND THE SLAB SHALL NOT BE POURED UNTIL THE GIRDER POURS HAVE REACHED A MIN. STRENGTH OF 2500 PSI.

NOTE: ALL CHAMFERS TO BE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED

COLORADO DEPARTMENT OF HIGHWAYS
 DETAIL OF SUPERSTRUCTURE

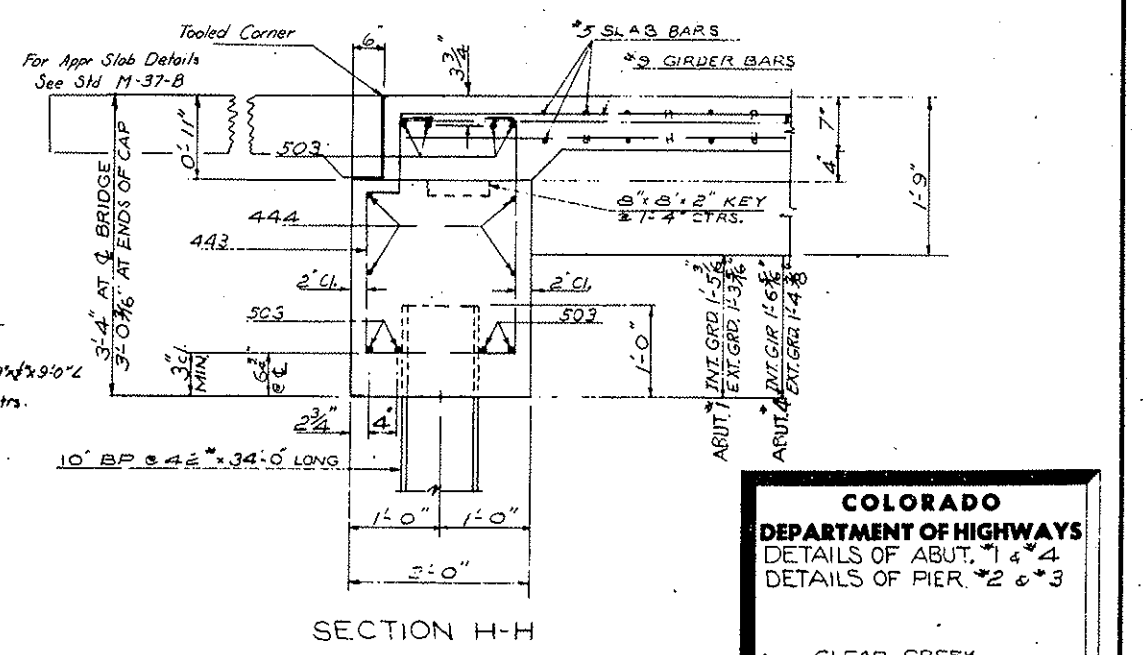
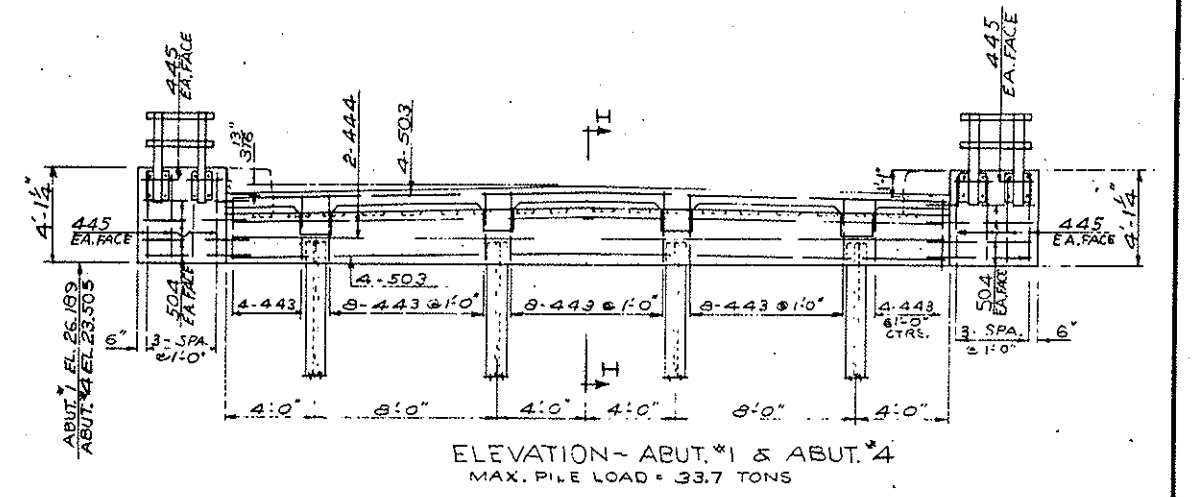
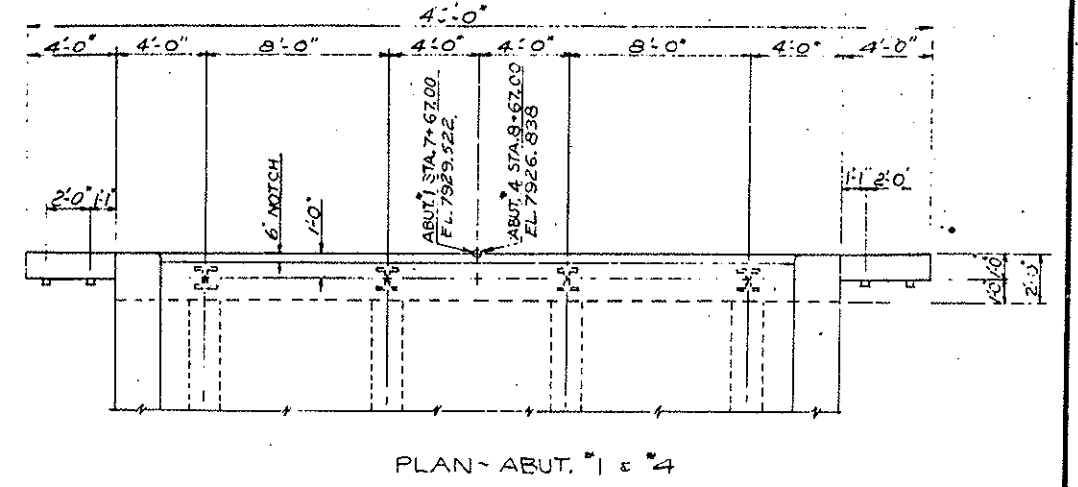
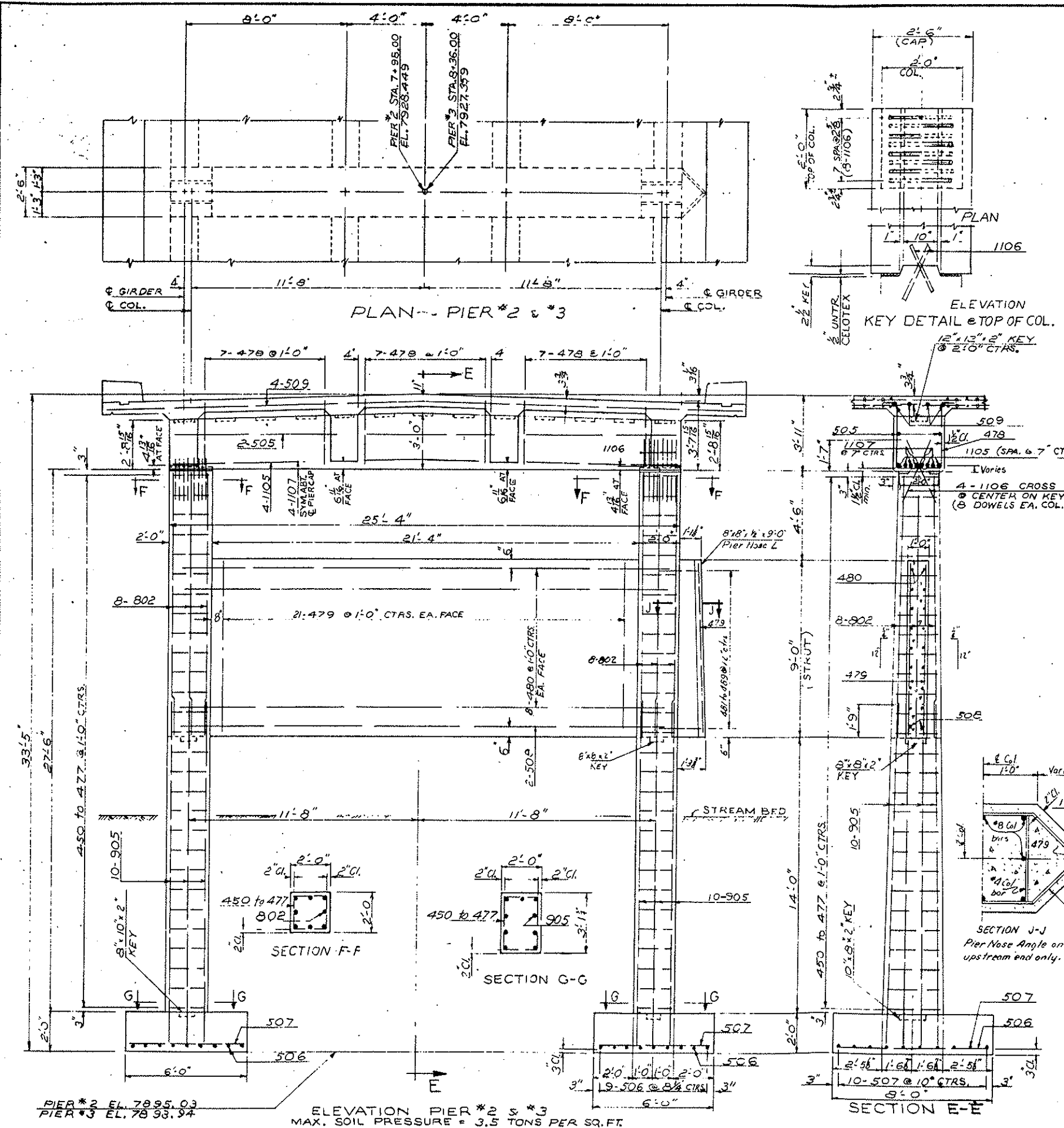
Across CLEAR CREEK
 Sta. 243+90.00
 Near DUMONT Sta. 7.3 S. 273W

Designed by WWD Approved by *Edgewood*
 Made by FL Bridge Engineer
 Checked by Date: Feb. 8, 1963

REVISIONS

Rev 8-13-63 Deleted w/O Dowels

PRO. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
6	COLO.	I 70-3(15)243	14	



COLORADO DEPARTMENT OF HIGHWAYS

DETAILS OF ABUT. *1 & *4
DETAILS OF PIER *2 & *3

Across CLEAR CREEK
Sta. 243 + 90.00
Near DUMONT Sec. - T. 3 S. R. 78 W.

Designed by WWD Approved by *W. J. S. R. 78 W.*
Made by FL Bridge Engineer
Checked by Date: Feb. 6, 1963

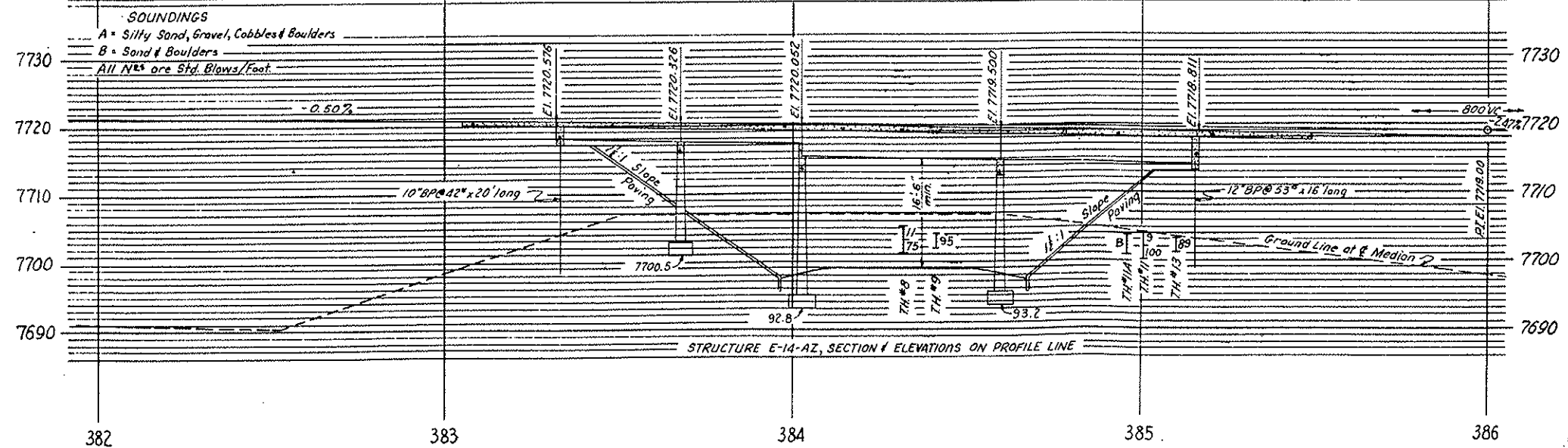
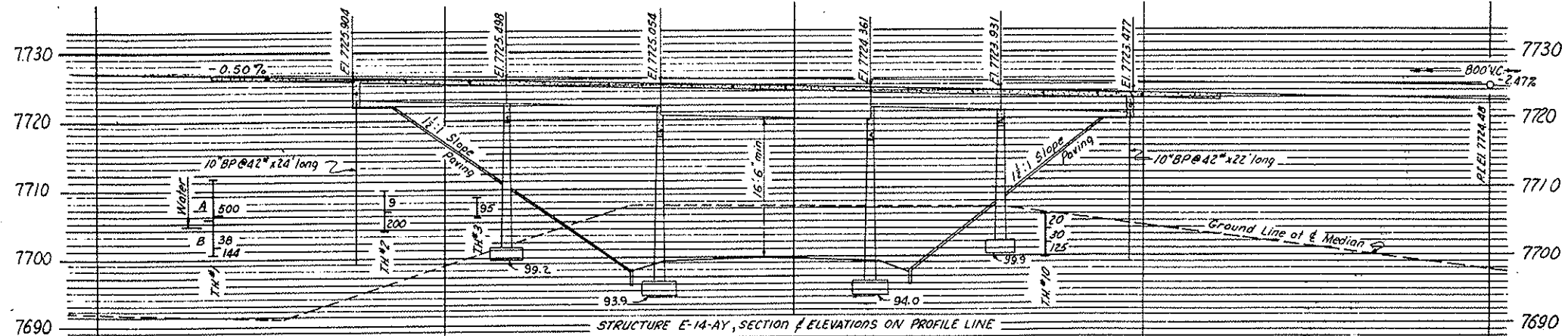
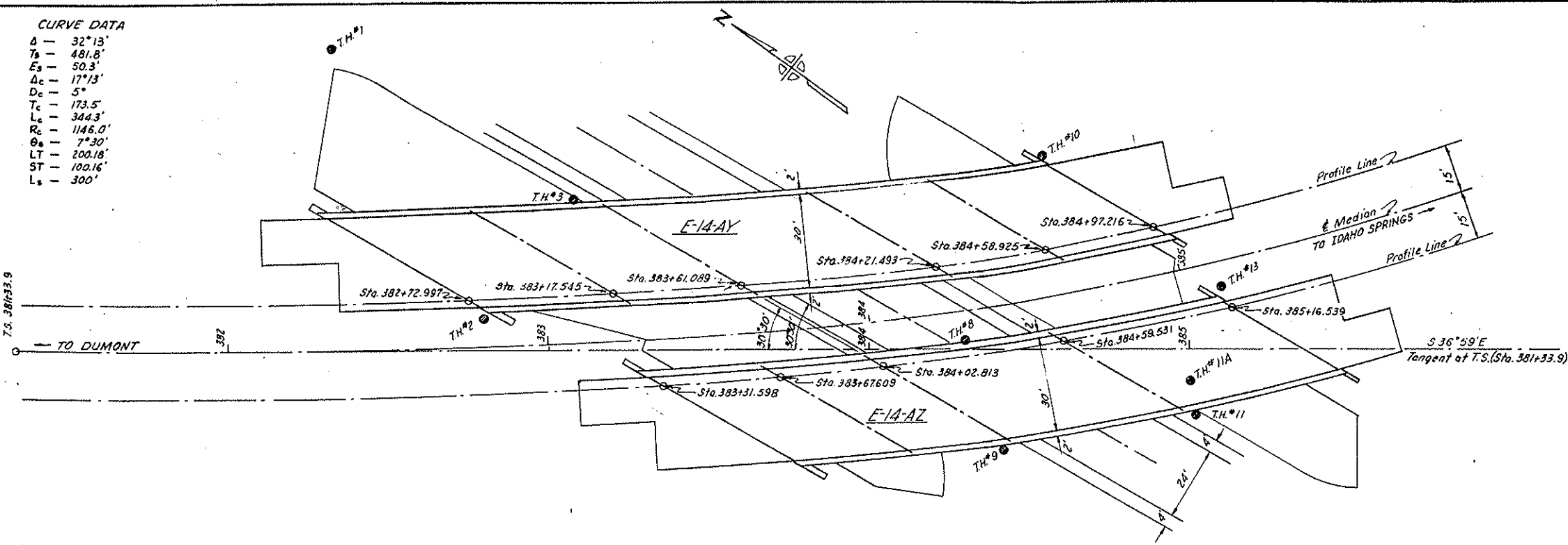
STRUCTURE NO. E-14-AW

FED. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I 70-3(15)243	16	

Rev 8-13-63, Str. Back. Cl. I, H.E.P.

CURVE DATA

- Δ - 32°13'
- Ts - 481.8'
- Es - 50.3'
- Δc - 17°13'
- Dc - 5'
- Tc - 173.5'
- Lc - 344.3'
- Rc - 1146.0'
- θs - 7°30'
- LT - 200.18'
- ST - 100.16'
- Ls - 300'



SUMMARY OF QUANTITIES - E-14-AY

Item	Description	Unit	Totals					
			Superstr.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5
14	Unclassified Structural Excavation (Bridge)	Cu. Yd.	6	32	80	80	80	80
16	Structure Backfill (Class I)	Cu. Yd.	6	12	56	56	56	56
46	Class A Concrete	Cu. Yd.	359.1	232	410	516	515	15.5
47	Reinforcing Steel (Incl. 1% for Overrun)	Lb.	117,080	2,145	7,395	9,080	8,815	1440
48	Structural Steel (Incl. 1/2% for Paint)	Lb.	18,285	630				585
61	Steel Piling (10" BP @ 42")	Lin. Ft.		168				300
65	Concrete Slope & Ditch Paving (with wire mesh)	Cu. Yd.		70				50
90	1/2" Electrical Conduit (with Junction Boxes)	Lin. Ft.	250					250

SUMMARY OF QUANTITIES - E-14-AZ

Item	Description	Unit	Totals					
			Superstr.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5
14	Unclassified Structural Excavation (Bridge)	Cu. Yd.	6	60	49	49	41	4
16	Structure Backfill (Class I)	Cu. Yd.	6	45	32	28	28	105
46	Class A Concrete	Cu. Yd.	308.9	71.5	29.2	39.7	34.4	23.3
47	Reinforcing Steel (Incl. 1% for Overrun)	Lb.	92,600	1,925	6,725	7,715	7,155	1,410
48	Structural Steel (Incl. 1/2% for Paint)	Lb.	13,040	585				585
61	Steel Piling (10" BP @ 42")	Lin. Ft.	100					100
65	Concrete Slope & Ditch Paving (with wire mesh)	Cu. Yd.	55					80
90	1/2" Electrical Conduit (with Junction Boxes)	Lin. Ft.	200					35

GENERAL NOTES

ALL WORK SHALL BE DONE ACCORDING TO THE STANDARD SPECIFICATIONS OF THE COLORADO DEPARTMENT OF HIGHWAYS, LATEST EDITION, AND ANY AMENDMENTS THERE TO.

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

IF IN THE OPINION OF THE ENGINEER, REINFORCING BARS ARE SPLICED, THEY SHALL LAP A MINIMUM OF 40 DIAMETERS FOR BARS NEAR TOPS OF BEAMS HAVING MORE THAN 12 INCHES OF CONCRETE COVER, AND 35 DIAMETERS FOR BARS NEAR BOTTOMS OF MEMBERS. SECONDARY BARS SHALL BE SPLICED SHALL LAP 12 DIAMETERS OF THE BAR.

REINFORCING STEEL NOT SHOWN AS CLEAR SHALL BE TO THE CENTERLINE OF THE MEMBER.

THE NUMBER AND DEPTH OF FOOTINGS ARE IN ACCORDANCE WITH THE BEST AVAILABLE DATA, AND WHEN DIFFERENT CONDITIONS ARE ENCOUNTERED THE BRIDGE ENGINEER WILL INSPECT AND RECOMMEND THE NECESSARY CHANGES.

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

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

THE METHOD OF STRUCTURAL EXCAVATION AND STRUCTURE BACKFILL, SEE STANDARD SPECIFICATIONS, CLASS "C" SURFACE FINISH.

ALL EXPOSED STEEL SHALL BE PAINTED WITH ONE SHOP COAT OF ZINC CHROMATE AND TWO FIELD COATS OF ALUMINUM PAINT UNLESS OTHERWISE NOTED.

ALL WELDS SHALL BE 1/4" INCH DIAMETER UNLESS OTHERWISE NOTED.

WELDS SHALL BE SUBSTITUTED FOR FIELD BIRTS AT THE CONTRACTORS OPTION, BUT SHALL BE FURNISHED IN THE AMOUNT OF FIVE PERCENT IN EXCESS OF THE NOMINAL REQUIREMENT FOR EACH SIZE AND LENGTH.

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

FIELD JOINTS ALL SHOP BUTT WELDS IN FLANGES AND WEBS SHALL BE MADE BEFORE PLACING INTO PLACE.

ALL WELDS SHALL BE INSPECTED AND APPROVED BY THE BRIDGE ENGINEER.

ALL STRUCTURAL STEEL NOT OTHERWISE NOTED SHALL BE ASTM A36-62T

* Sta. 382+72.997 to 384+97.216 - E-14-AY
 * Sta. 383+31.598 to 385+16.539 - E-14-AZ

Interstate Alternate

LOADING DATA.
 LIVE LOAD A. A. S. H. O. H20-516-4d
 DEAD LOAD ASSUMES 10 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 STRENGTHS:
 f_c = 2,000 Lbs. per Sq. In.
 f_s = 20,000 Lbs. per Sq. In. (Reinf. A36 Struct. Steel)
 f_s = 18,000 lbs per sq in (A7 Struct. Steel)

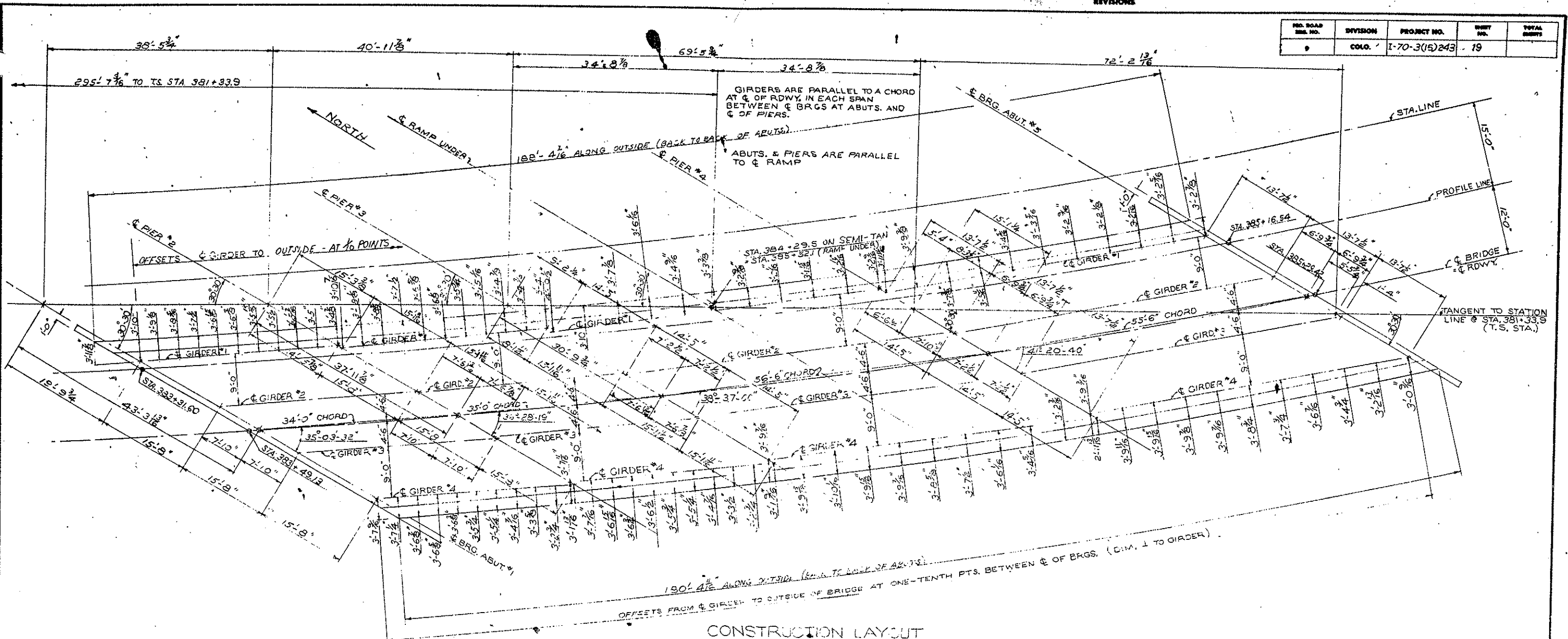
COLORADO DEPARTMENT OF HIGHWAYS
 E-14-AY - 5 SPAN Conc. S/G. Bridge
 E-14-AZ - 4 SPAN Conc. S/G. Bridge
 30' Rdwys, 2' Curbs, 30' 30' Skews
 General Notes & General Layout.

Across **RAMP**
 Sta. *
 Near **DUMONT** Sec. 28 T. 35 R. 73W

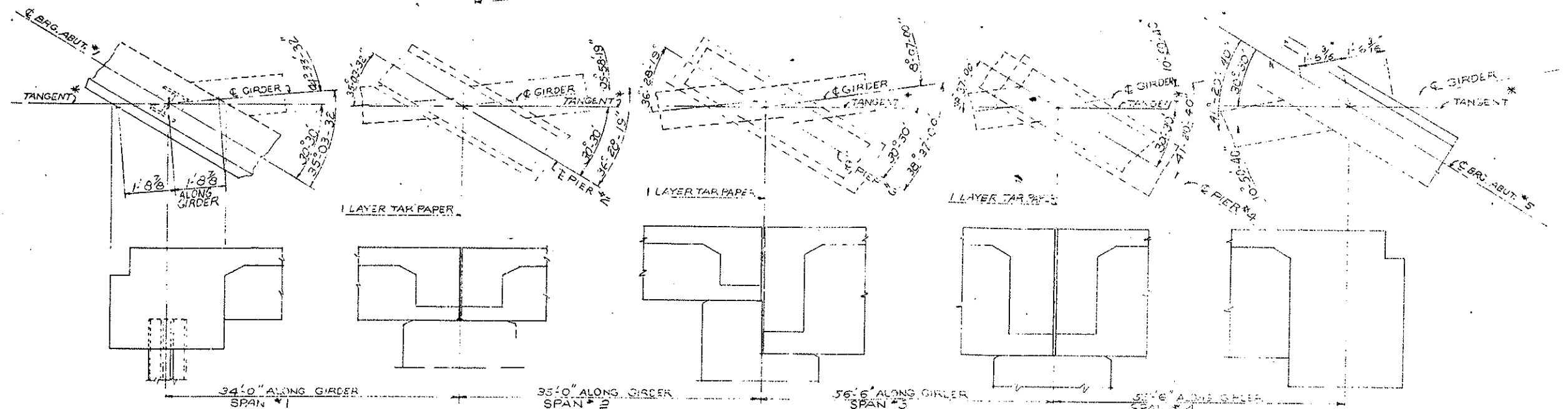
Designed by **Robert H. ...**
 Made by **...**
 Checked by **...**

Approved by **...**
 Bridge Engineer
 Date: Feb. 6, 1963

PRJ. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
	COLO.	I-70-3(15)243	19	



CONSTRUCTION LAYOUT



TYPICAL GIRDER ELEVATION

* NOTE: TANGENT IN TYPICAL ELEVATION IS PARALLEL TO TANGENT TO STA. LINE AT T.S. STA. 381+33.9 (PROJ.)

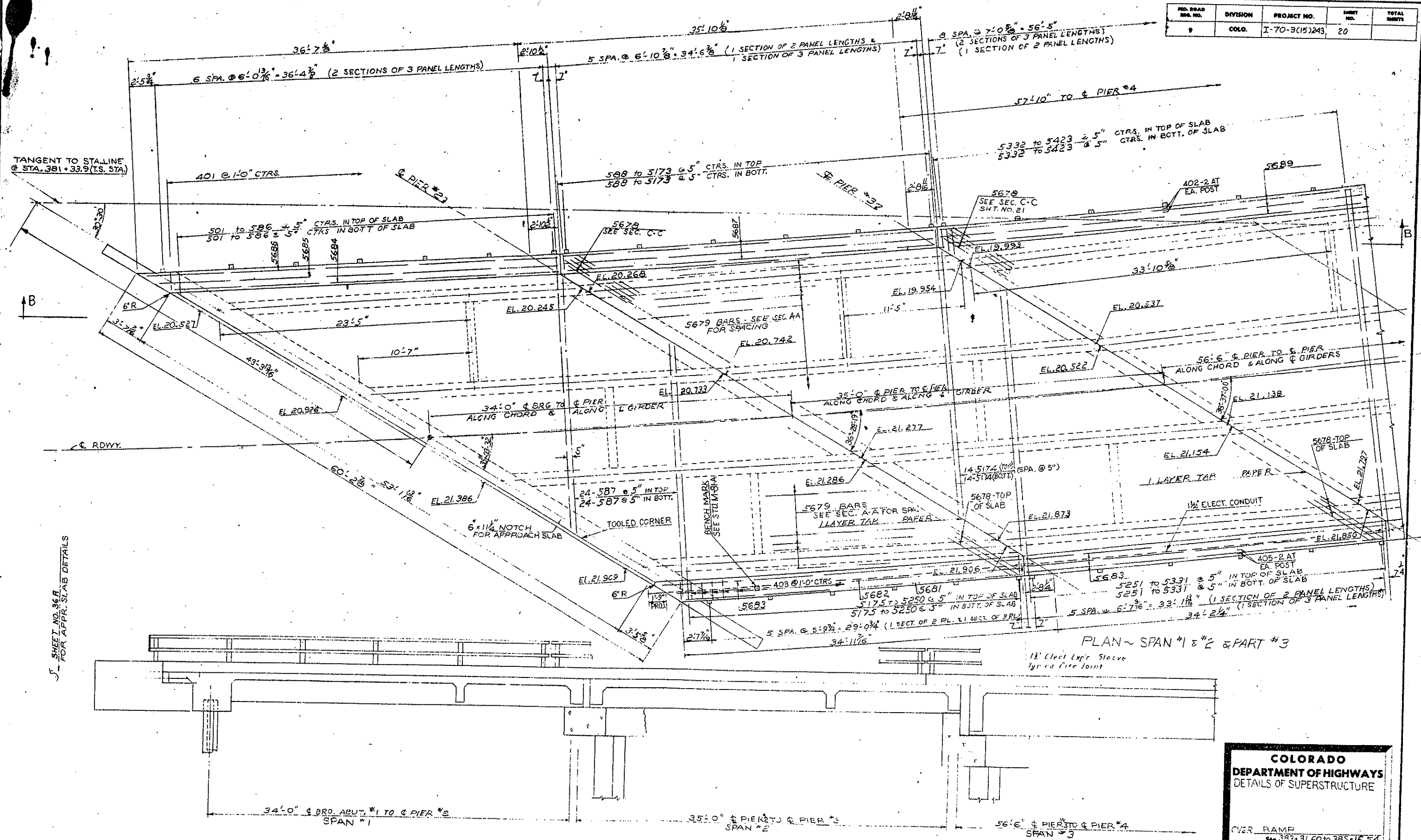
COLORADO DEPARTMENT OF HIGHWAYS
 DETAILS OF SUPERSTRUCTURE
 33'-0" R.D.W.Y. 24" CURBS

OVER RAMP
 Sta. 383+31.60 to 385+16.54
 Near DUMONT Sec. 29, T. 2 S. R. 21 W.

Designed by G.E.T. Approved by [Signature]
 Made by F.L. Checked by [Signature]
 Date: Feb. 9, 1968

REVISIONS

FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I-70-3(15)243	20	



SHEET NO. 36 B FOR APPR. SLAB DETAILS

SECTION B-B (GIRDER ELEVATION)

COLORADO
DEPARTMENT OF HIGHWAYS
 DETAILS OF SUPERSTRUCTURE

COVER RAMP
 Sta. 333+31.60 to 385+16.54
 Near DUMONT Sec. 28 T. 3 S. R. 73W

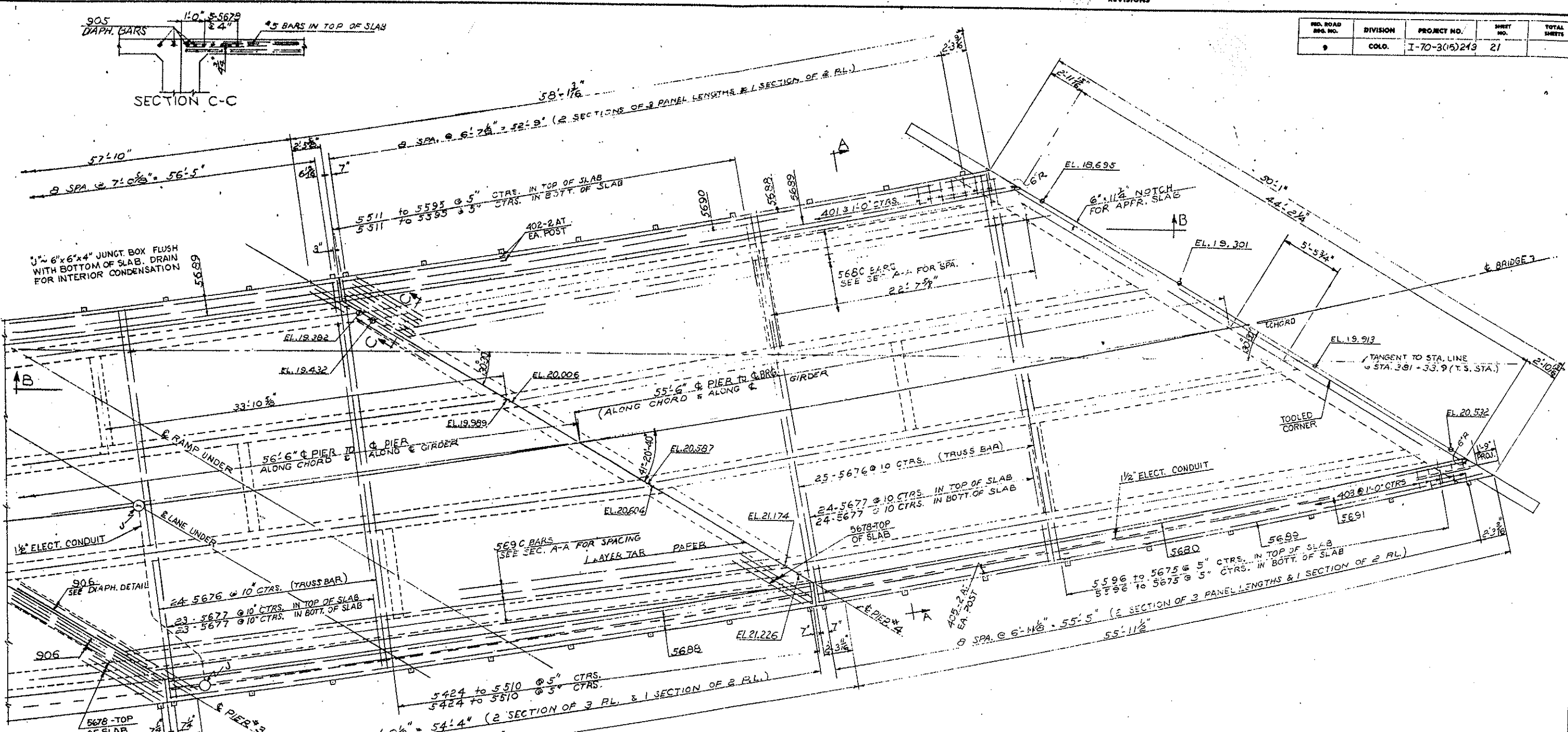
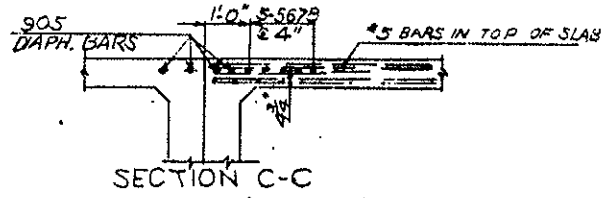
Designed by G.E.T.
 Made by F...
 Checked by

Approved by *[Signature]*
 Bridge Engineer

Date: Feb. 8, 1963

STRUCTURE NO. E-14-AZ (EAST RAMP)

RD. ROAD BRG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I-70-3(5)243	21	



SECTION B-B (GIRDER ELEVATION)

COLORADO
DEPARTMENT OF HIGHWAYS
 DETAILS OF SUPERSTRUCTURE

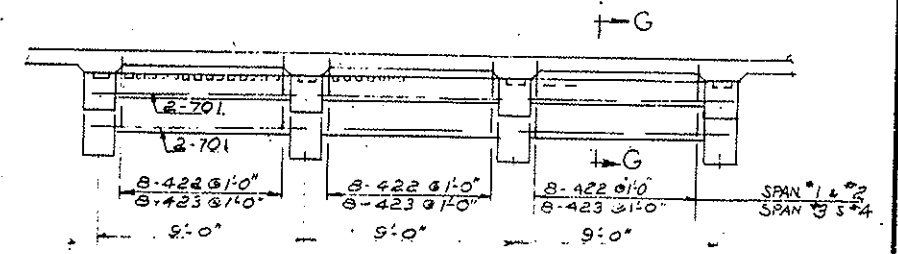
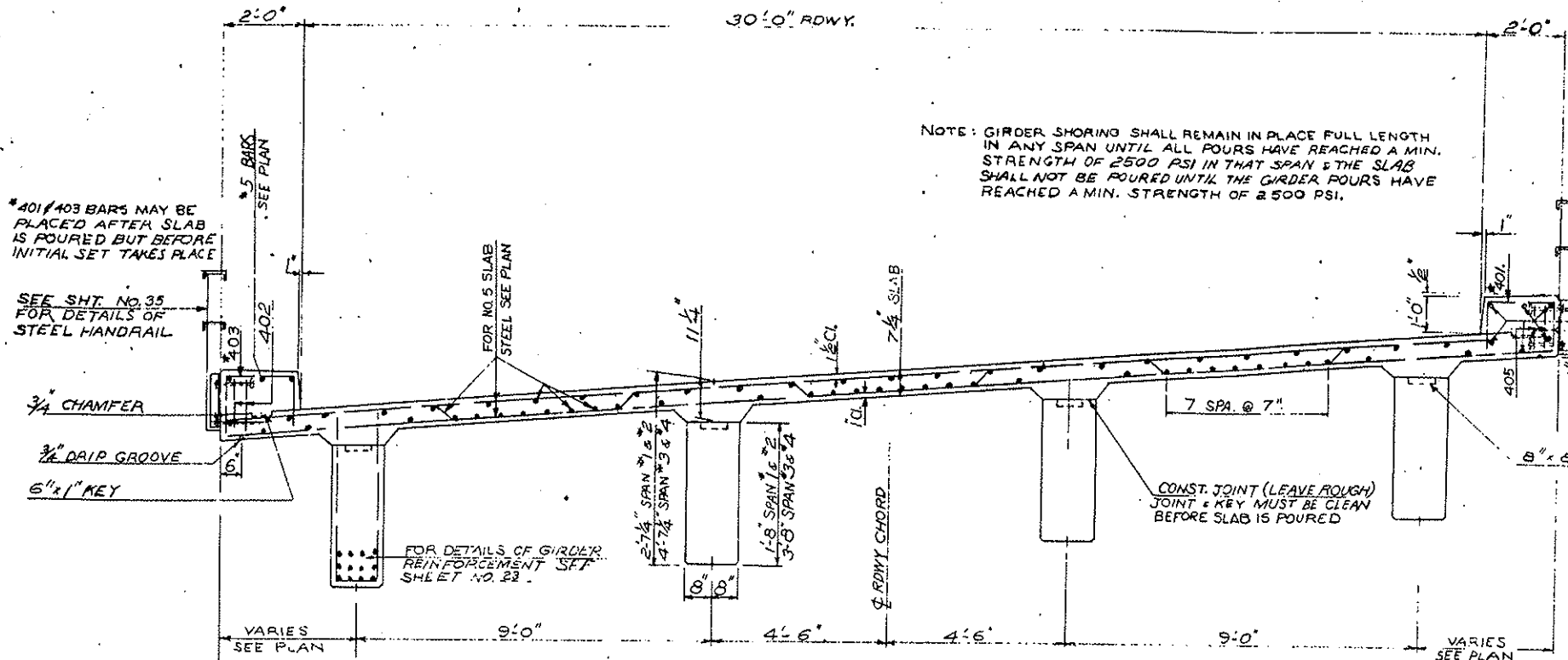
OVER RAMP
 Sta. 383+31.60 to 385+16.54
 Near DUMONT, Sec. 2A T. 3 S. R. 73W

Designed by GET
 Made by FL
 Checked by

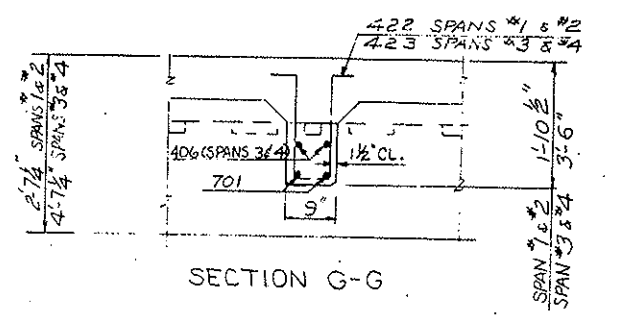
Approved by [Signature]
 Bridge Engineer
 Date: Feb. 8, 1963

STRUCTURE NO. E-14-AZ (E. BND.)

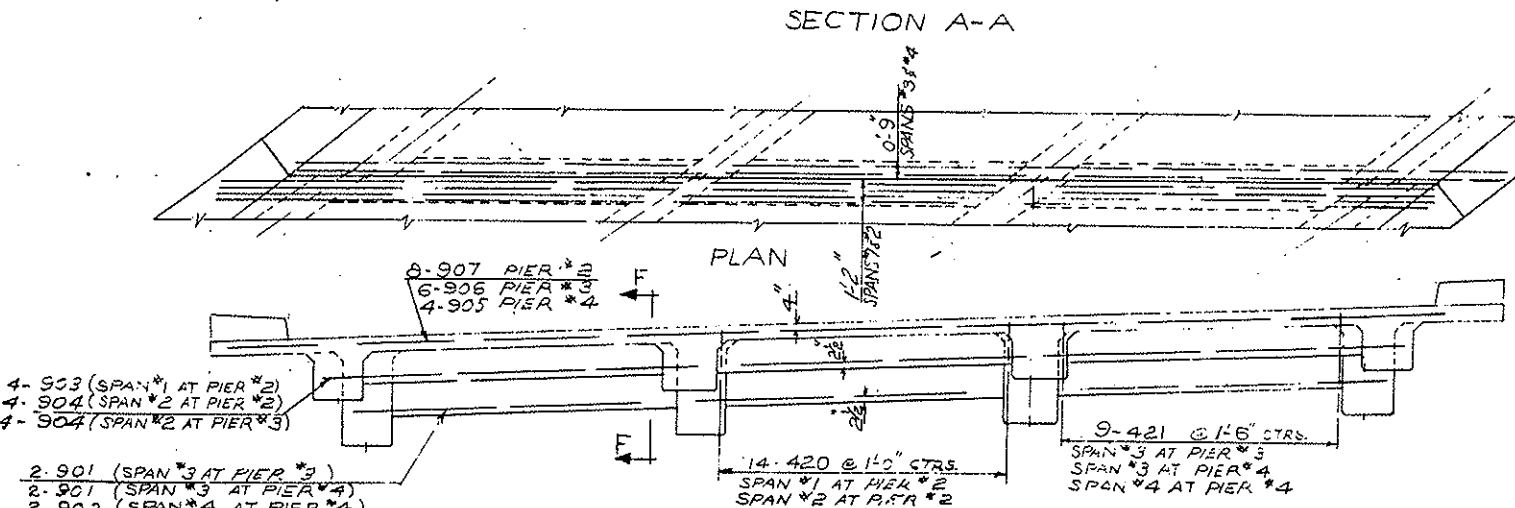
RD. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
2	COLO.	I-70-3(15)243	22	



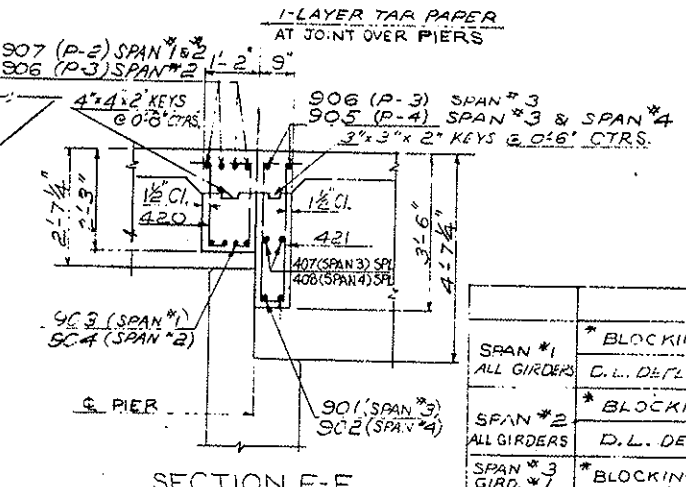
ELEVATION - INTERMEDIATE DIAPHRAGMS



SECTION G-G



SECTION A-A



SECTION F-F

ELEVATION OF END DIAPHRAGMS AT PIERS

ELEVATIONS AT ONE-TENTH POINTS ALONG GIRDERS

SPAN #1											
POINT	¢ BRG ABUT #1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	¢ PIER #2
GIRDER #1	20.51	20.49	20.46	20.43	20.41	20.38	20.35	20.32	20.30	20.27	20.24
GIRDER #2	20.92	20.90	20.88	20.86	20.84	20.82	20.80	20.79	20.77	20.75	20.73
GIRDER #3	21.38	21.37	21.36	21.35	21.34	21.33	21.32	21.31	21.30	21.29	21.28
GIRDER #4	21.91	21.91	21.91	21.90	21.90	21.90	21.90	21.90	21.90	21.90	21.90

10 SPACES @ 3.4' = 34'-0"

SPAN #2											
POINT	¢ PIER #2	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	¢ PIER #3
GIRDER #1	20.27	20.24	20.20	20.17	20.14	20.11	20.08	20.05	20.02	19.99	19.95
GIRDER #2	20.74	20.72	20.70	20.67	20.65	20.62	20.61	20.59	20.58	20.54	20.52
GIRDER #3	21.28	21.26	21.25	21.24	21.22	21.21	21.20	21.19	21.17	21.16	21.15
GIRDER #4	21.87	21.87	21.86	21.86	21.86	21.85	21.85	21.85	21.85	21.85	21.85

10 SPACES @ 3.5' = 35'-0"

SPAN #3											
POINT	¢ PIER #3	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	¢ PIER #4
GIRDER #1	19.99	19.93	19.87	19.81	19.75	19.69	19.62	19.56	19.50	19.44	19.38
GIRDER #2	20.54	20.49	20.43	20.39	20.34	20.27	20.21	20.16	20.10	20.05	19.99
GIRDER #3	21.14	21.10	21.06	20.99	20.93	20.87	20.82	20.76	20.71	20.65	20.60
GIRDER #4	21.80	21.73	21.66	21.60	21.55	21.49	21.43	21.39	21.33	21.28	21.23

10 SPACES @ 5.65' = 56'-6"

SPAN #4											
POINT	¢ PIER #4	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	¢ BRG ABUT #5
GIRDER #1	19.43	19.35	19.28	19.20	19.13	19.06	18.98	18.91	18.85	18.78	18.71
GIRDER #2	20.01	19.93	19.86	19.79	19.71	19.64	19.58	19.51	19.44	19.38	19.32
GIRDER #3	20.59	20.51	20.44	20.38	20.31	20.24	20.18	20.11	20.05	19.99	19.93
GIRDER #4	21.17	21.11	21.04	20.97	20.91	20.84	20.78	20.72	20.66	20.60	20.55

10 SPACES @ 5.55' = 55'-6"

		0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0
SPAN #1 ALL GIRDERS	* BLOCKING	0"	1/8"	3/16"	3/16"	1/4"	5/16"	1/2"	3/8"	1/2"	1/2"	0"
	D.L. DEFLECTION	0"	1/8"	1/8"	3/16"	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"	0"
SPAN #2 ALL GIRDERS	* BLOCKING	0"	1/8"	1/8"	3/16"	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"	0"
	D.L. DEFLECTION	0"	1/16"	1/8"	3/16"	1/4"	1/4"	1/4"	3/8"	1/2"	1/2"	0"
SPAN #3 GIRD. #1 GIRD. #2 GIRD. #3 GIRD. #4	* BLOCKING	0"	3/16"	3/8"	7/16"	1/2"	9/16"	3/4"	7/8"	3/4"	3/4"	0"
	D.L. DEFLECTION	0"	3/16"	3/8"	7/16"	1/2"	1/2"	1/2"	7/8"	3/4"	3/4"	0"
SPAN #4 ALL GIRDERS	* BLOCKING	0"	1/8"	1/4"	5/16"	5/16"	5/16"	5/16"	5/16"	1/2"	1/2"	0"
	D.L. DEFLECTION	0"	3/16"	3/8"	7/16"	1/2"	1/2"	1/2"	7/8"	3/4"	3/4"	0"

GIRDER BLOCKING DIAGRAM

* NOTE: BLOCKING INCLUDES DEAD LOAD DEFLECTION & V.C.

COLORADO DEPARTMENT OF HIGHWAYS
 DETAILS OF SUPERSTRUCTURE

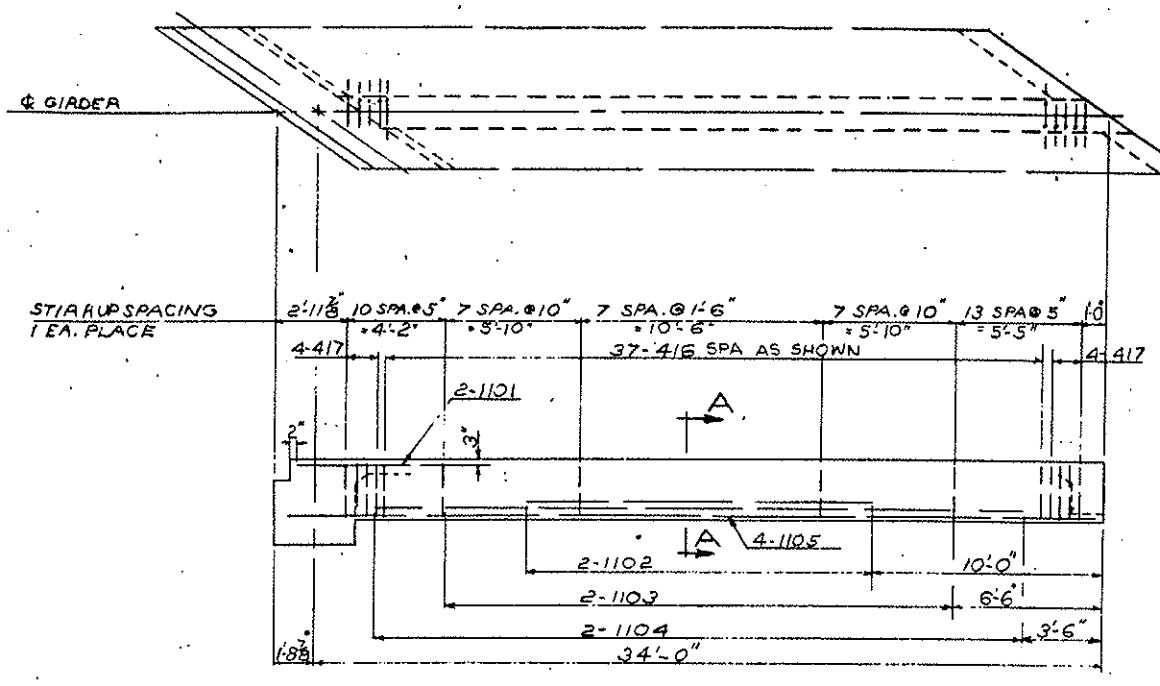
OVER RAMP
 Sta. 382+31.60 to 385+16.54
 Near DUMONT - Sec. 24, T. 3 S., R. 73 W.

Designed by GET
 Made by FL
 Checked by

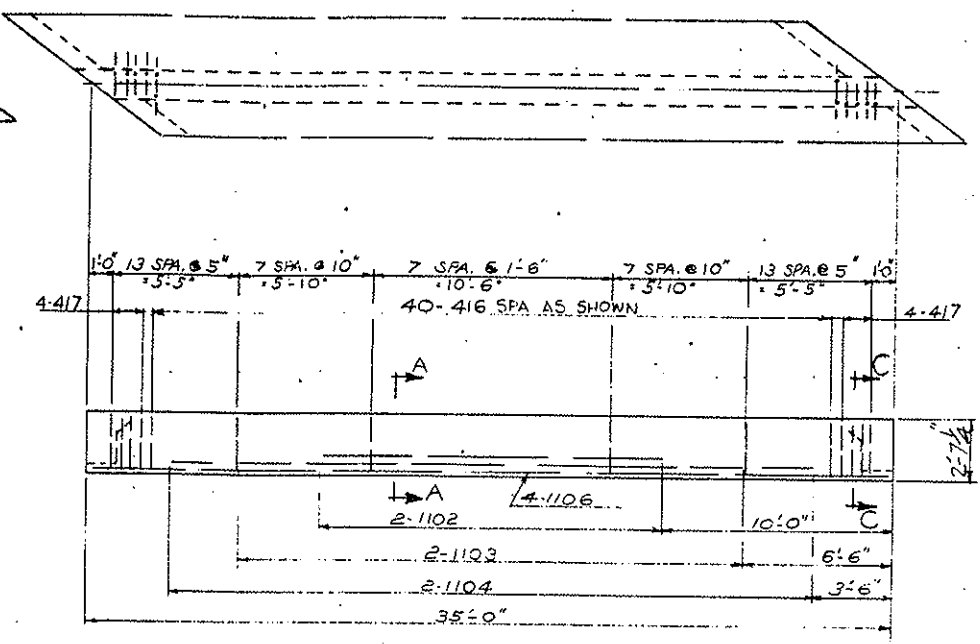
Approved by *William J. ...*
 Bridge Engineer
 Date: Feb 8, 1963

REVISIONS

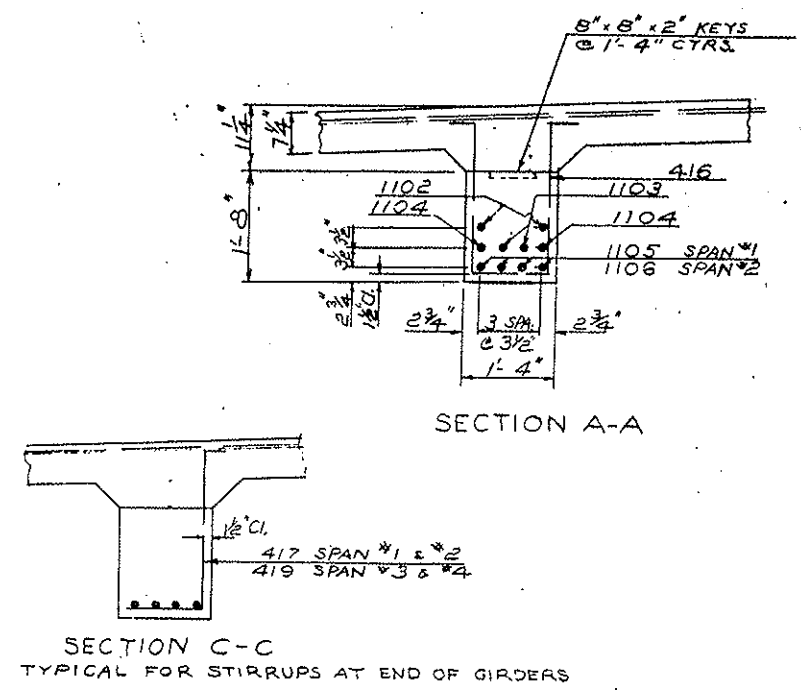
RD. ROAD SHE. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I-70-3(15)248	23	



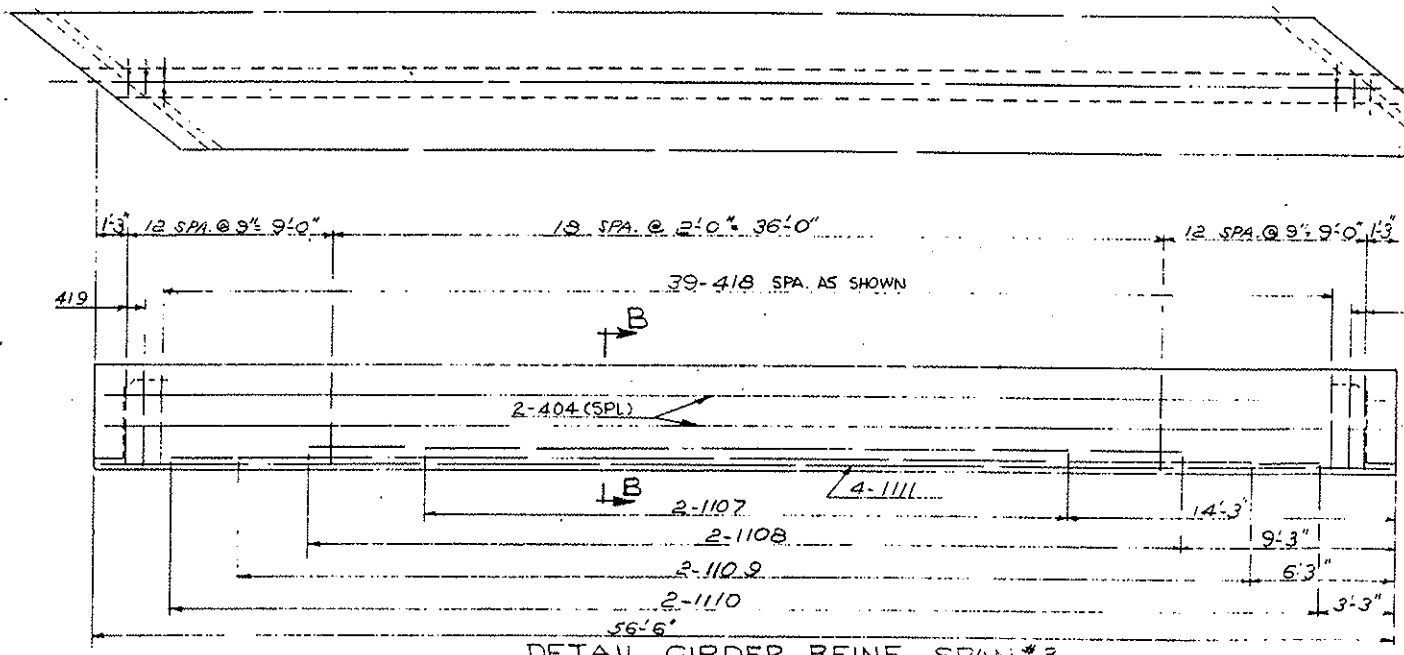
DETAIL GIRDER REINF SPAN #1



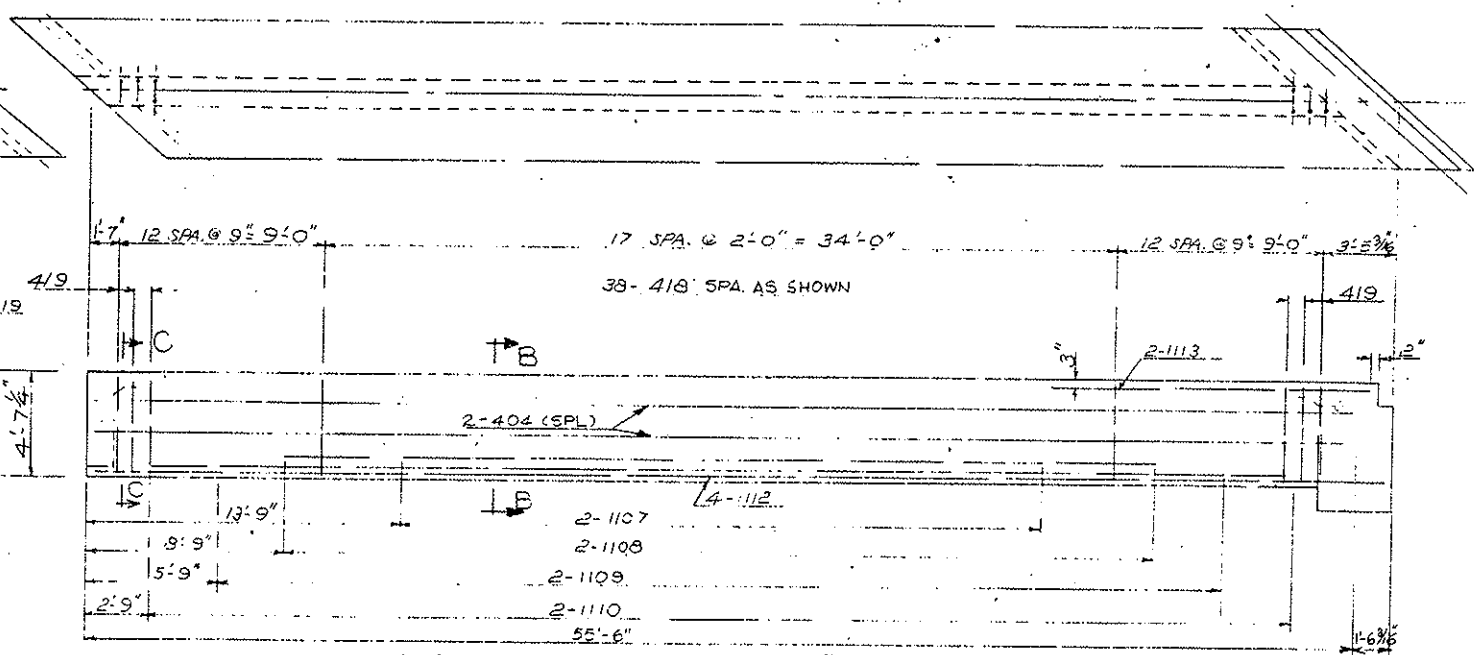
DETAIL GIRDER REINF SPAN #2



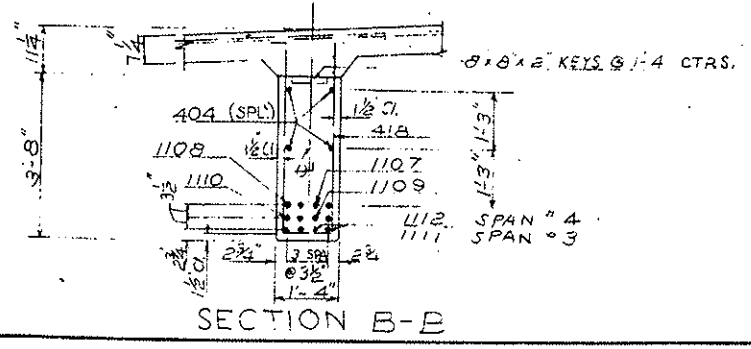
SECTION C-C
TYPICAL FOR STIRRUPS AT END OF GIRDERS



DETAIL GIRDER REINF SPAN #3



DETAIL GIRDER REINF SPAN #4



SECTION B-B

COLORADO
DEPARTMENT OF HIGHWAYS
DETAILS OF SUPERSTRUCTURE

OVER RAMP
 Sta 383+37.60 to 385+16.54
 Near DUMONT, Sec. 28, T. 3 S., R. 73 W.

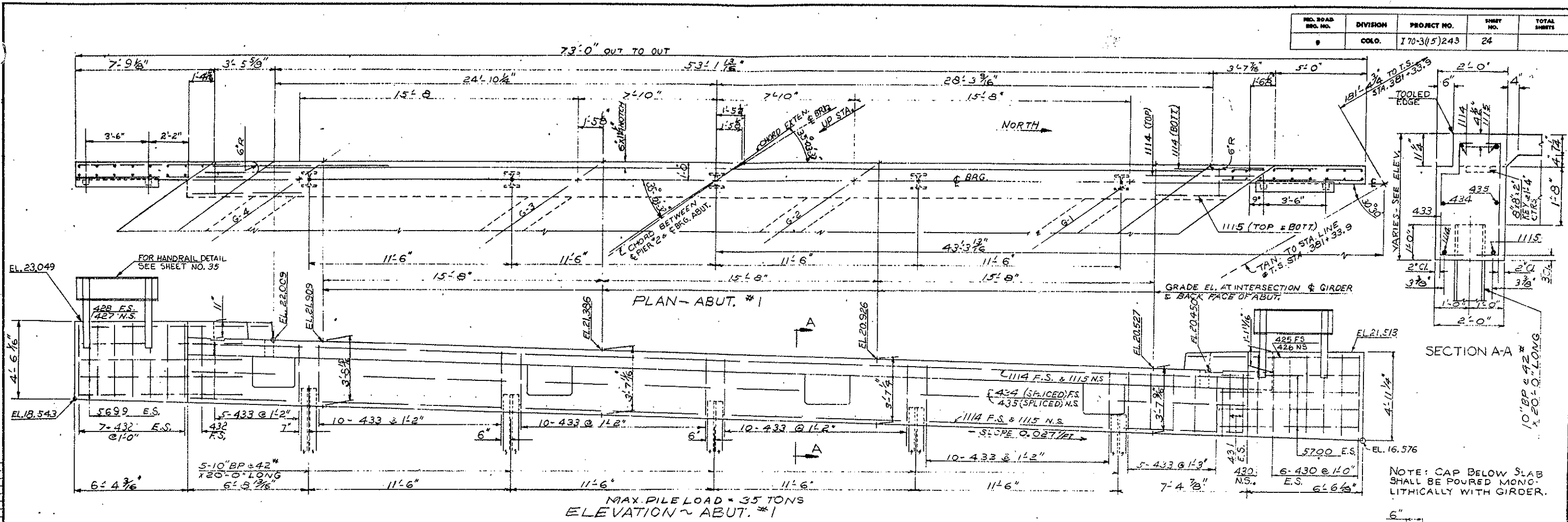
Designed by G.E.T.
 Made by F.L.
 Checked by

Approved by *[Signature]*
 Ridge Engineer

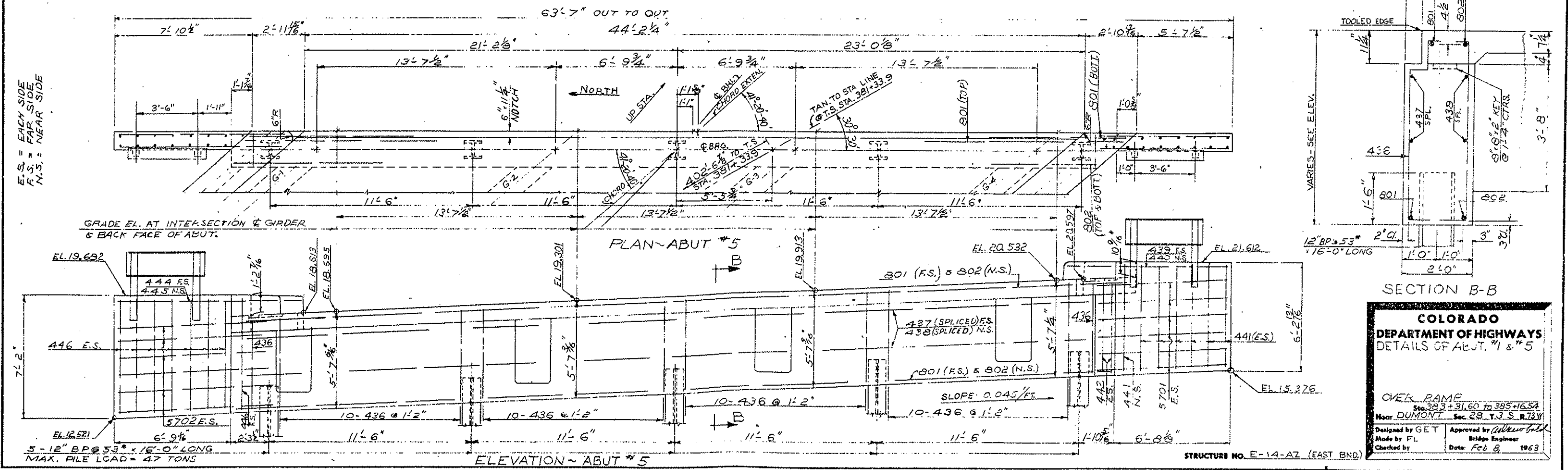
Date: Feb 8, 1963

STRUCTURE NO. E-14-AZ (EAST END)

REV. ROAD BRG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	170-3(15)243	24	



NOTE: CAP BELOW SLAB SHALL BE POURED MONOLITHICALLY WITH GIRDER.



COLORADO DEPARTMENT OF HIGHWAYS
DETAILS OF ABUT. #1 & #5

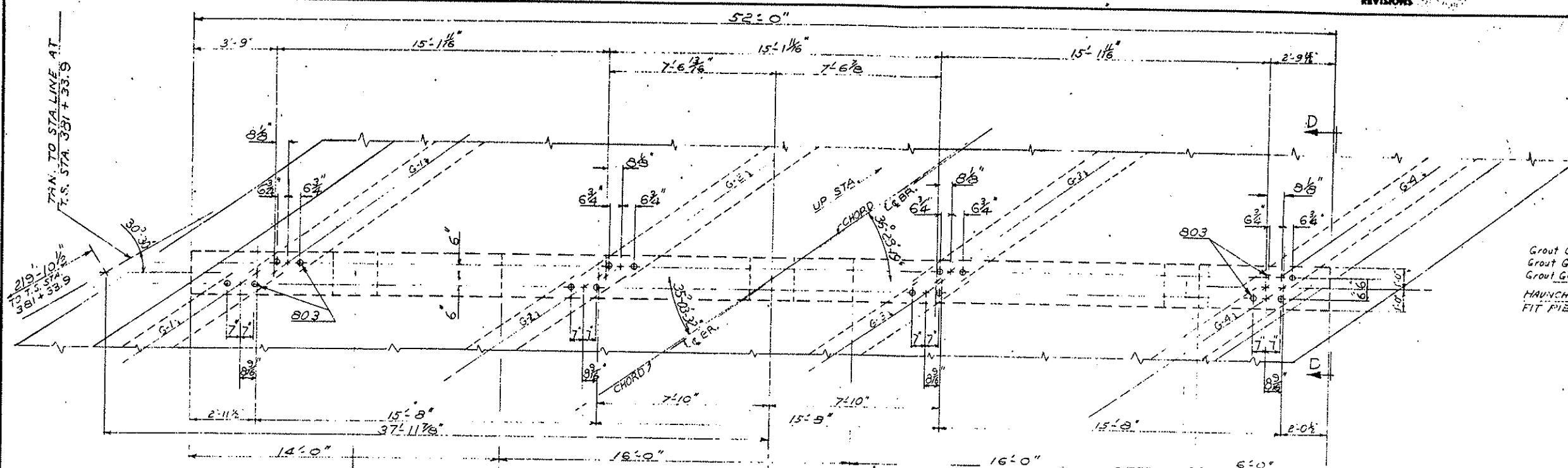
OVER RAMP
 Sta. 383+31.60 to 385+16.54
 Near DUMONT, Sec. 28, T.3 S., R.73 W.

Designed by GET
 Made by FL
 Checked by

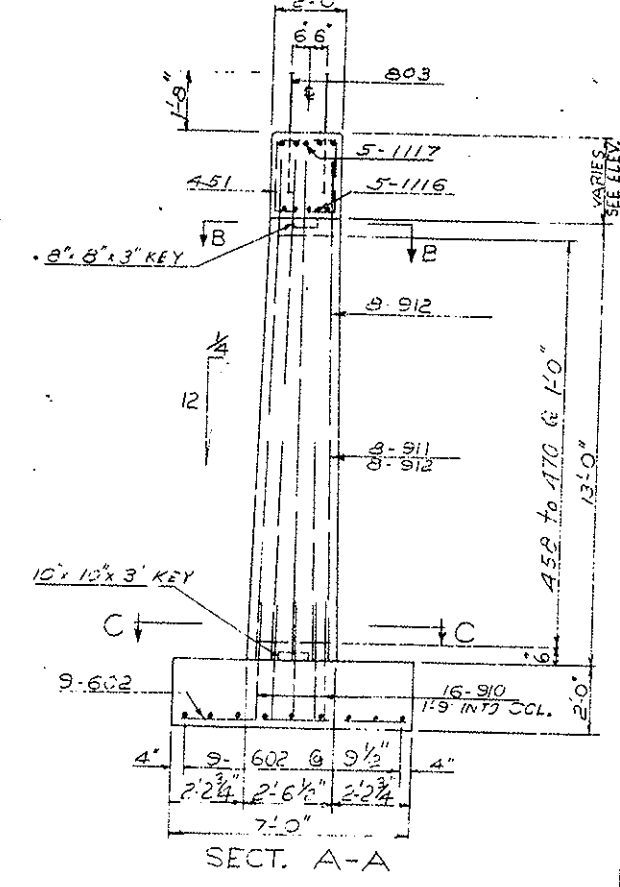
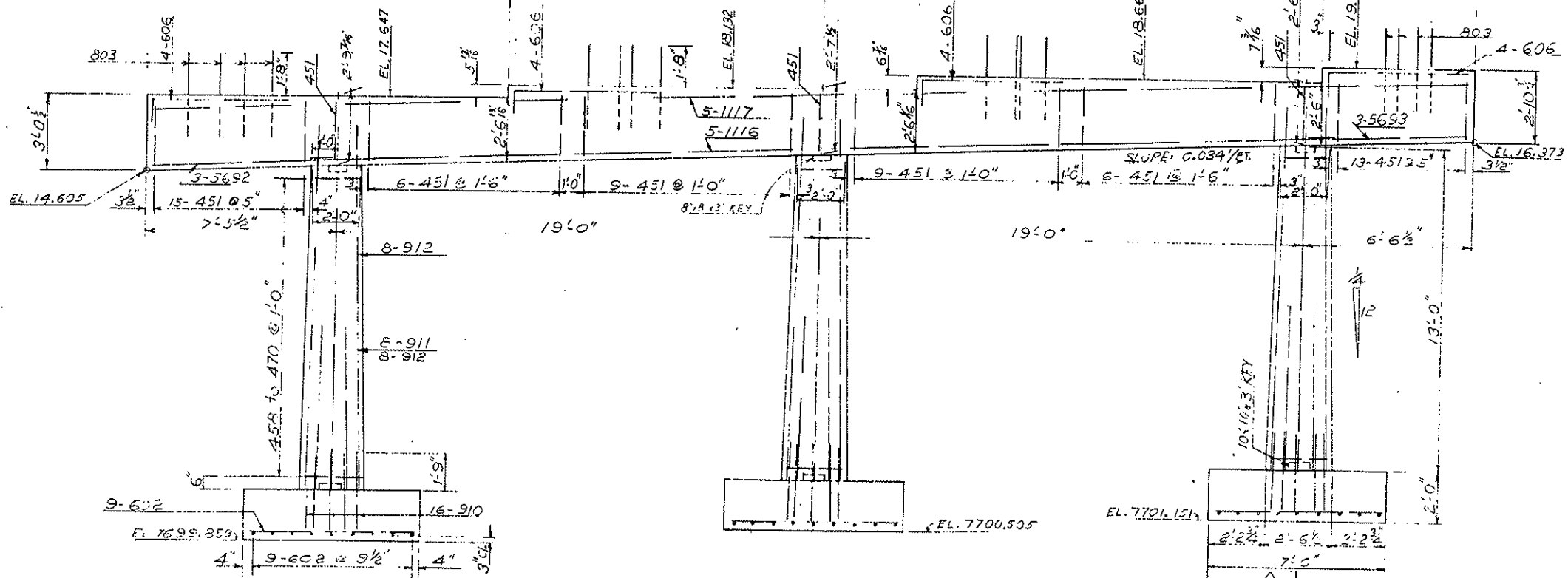
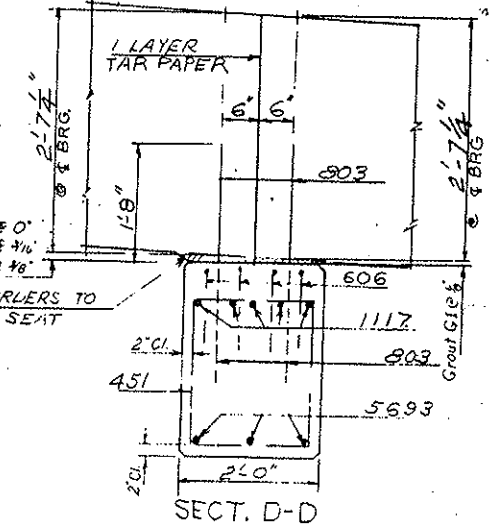
Approved by *[Signature]*
 Bridge Engineer

Date: Feb 8, 1963

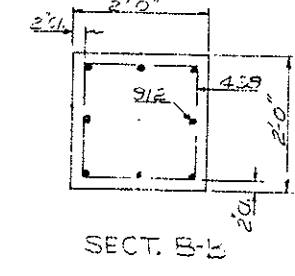
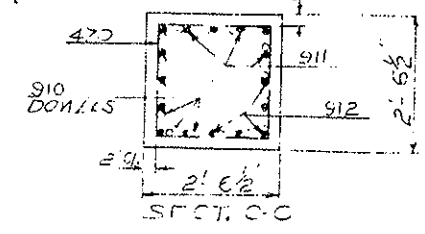
FED. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	COLO.	170-3(15)243	25	



Grout G2 @ 0"
Grout G3 @ 4 1/2"
Grout G4 @ 7'0"
HAUNCH GIRLERS TO FIT PIER SEAT



ELEVATION ~ PIER * E
MAX. FOOTING PRESS. = 0.200 #/sq. FT.



COLORADO DEPARTMENT OF HIGHWAYS
DETAIL PIER #2

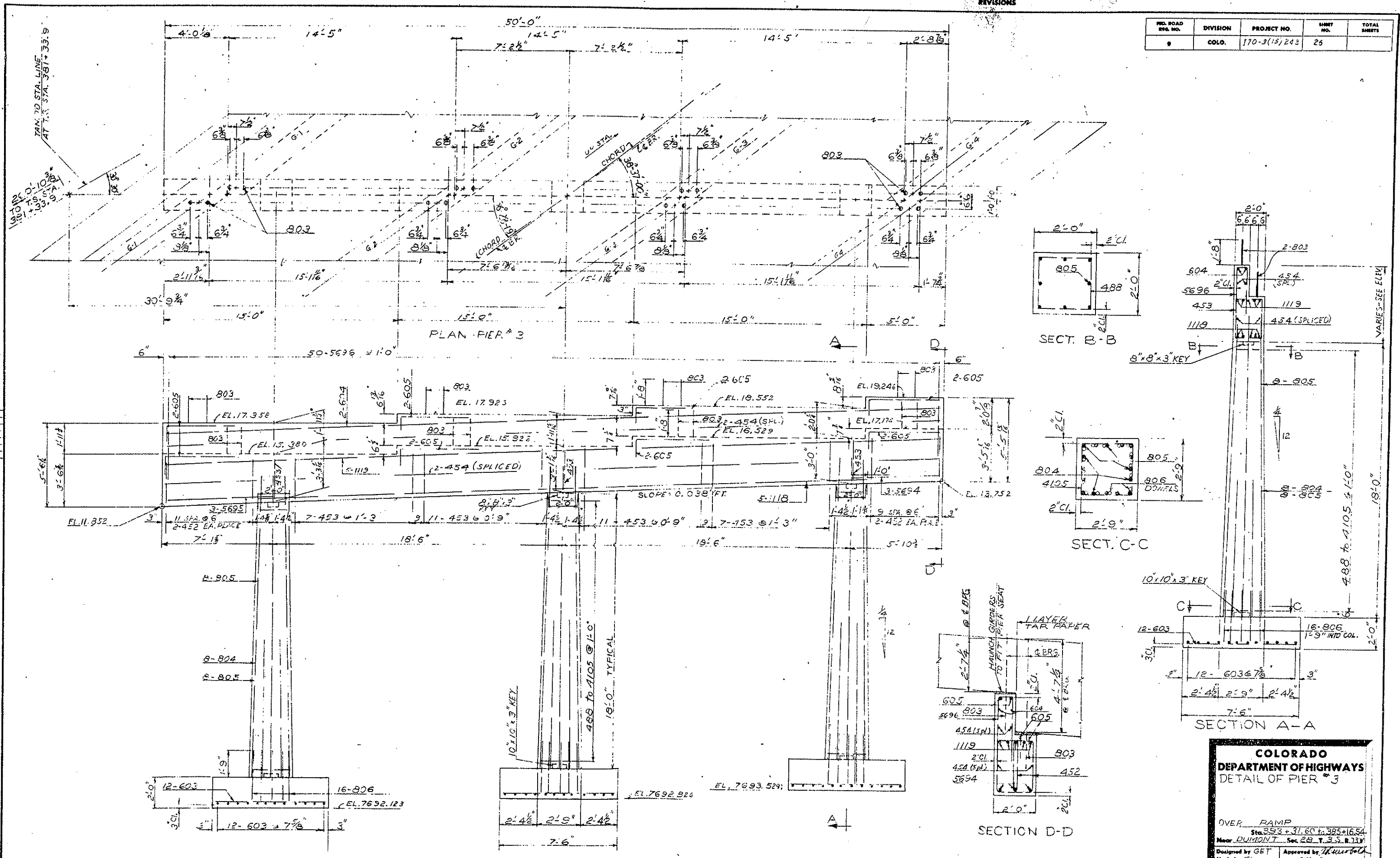
OVER RAMP
Sta. 383+31.60 to 385+16.54
Near DUNSMONT Sec. 28 T. 2 S. R. 73 W.

Designed by GET
Made by FL
Checked by

Approved by [Signature]
Bridge Engineer
Date: Feb 8 1963

REVISIONS

REG. ROAD REG. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	170-3(15)243	25	



ELEVATION PIER #3 MAX. FOOTING PRESSURE = 6000 / sq. FT.

STRUCTURE NO. E-14-AZ (PART BNC)

COLORADO DEPARTMENT OF HIGHWAYS
DETAIL OF PIER #3

OVER RAMP
 Sta. 393+31.60 to 385+16.54
 Near DUMONT, Sec. 24, T. 3, S. R. 13N

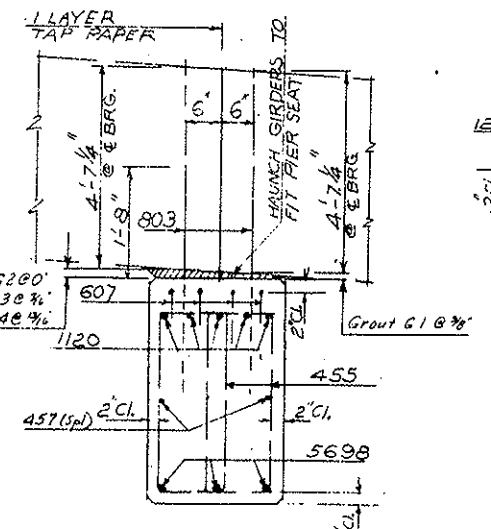
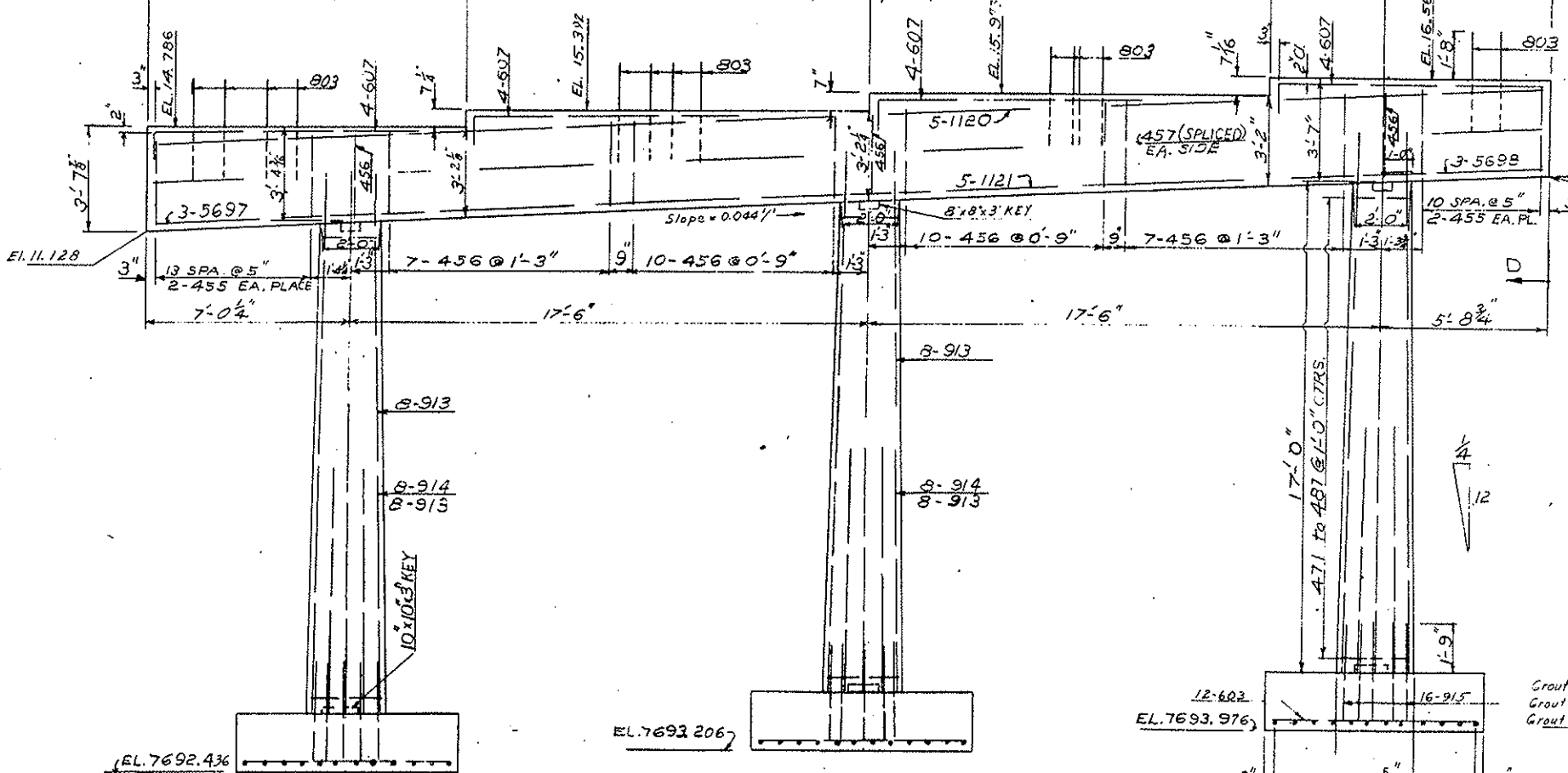
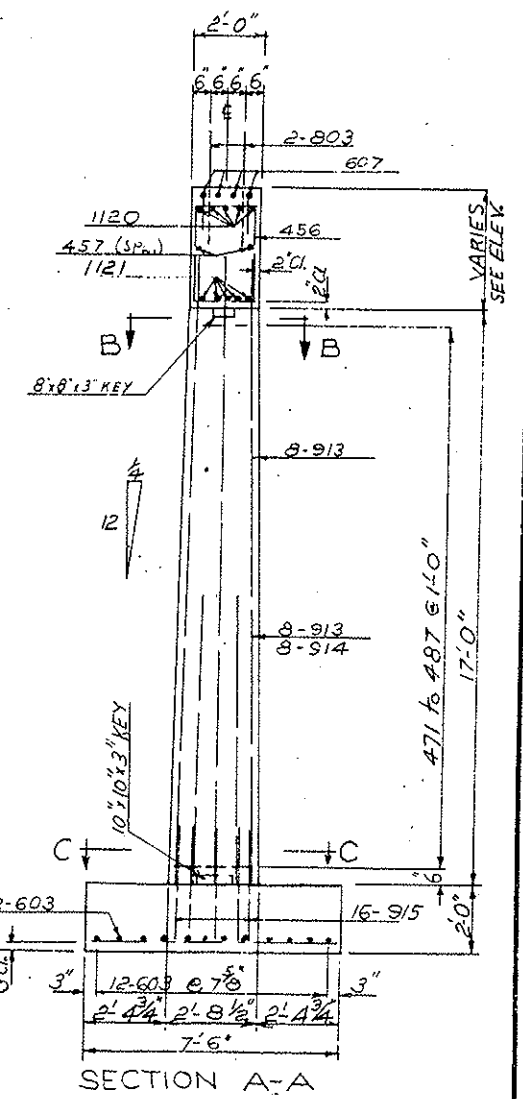
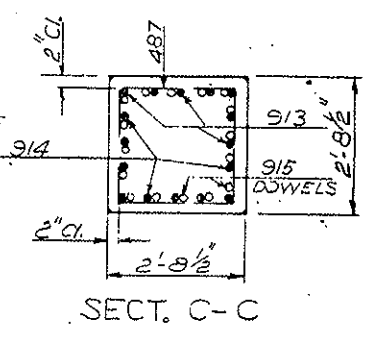
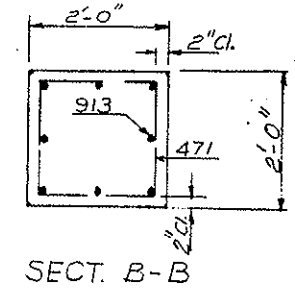
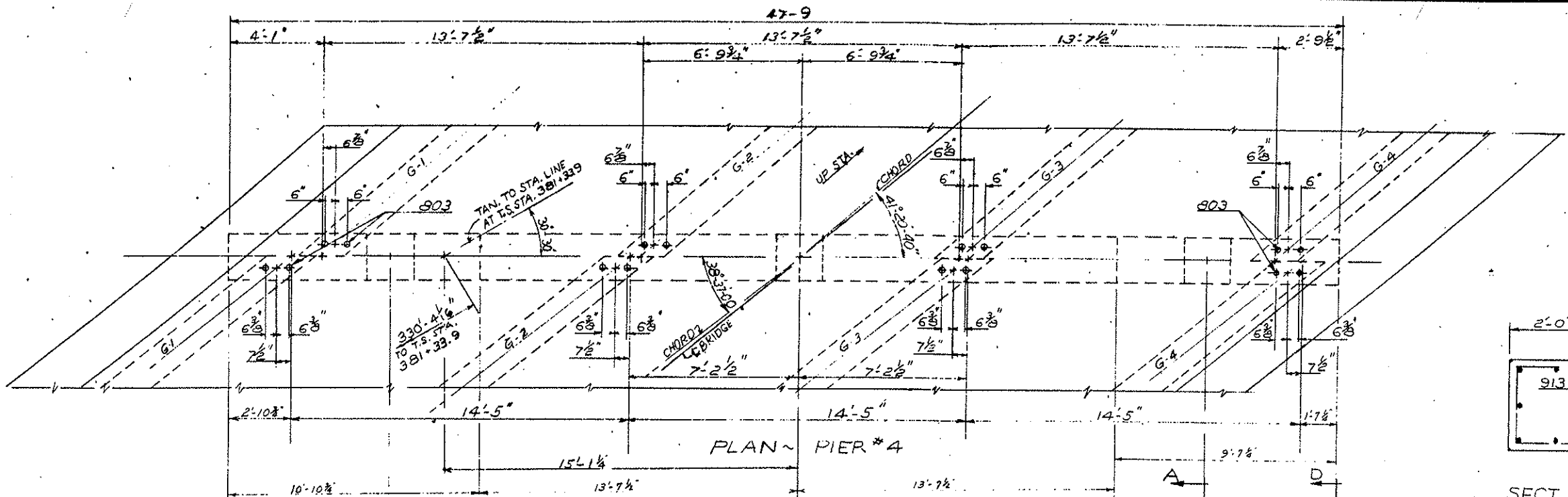
Designed by GET
 Made by FL
 Checked by

Approved by *[Signature]*
 Bridge Engineer

Date: Feb 8 1963

REVISIONS

REV. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
B	COLO.	170-3(15)243	27	



ELEVATION - PIER #4
MAX. FOOTING PRESSURE = 6000#/SQ.FT.

COLORADO DEPARTMENT OF HIGHWAYS
DETAIL OF PIER #4

OVER RAMP
 Sta. 383+31.60 to 385+16.54
 Near DUMONT, Sec. 28 T. 3 S. R. 72 W.

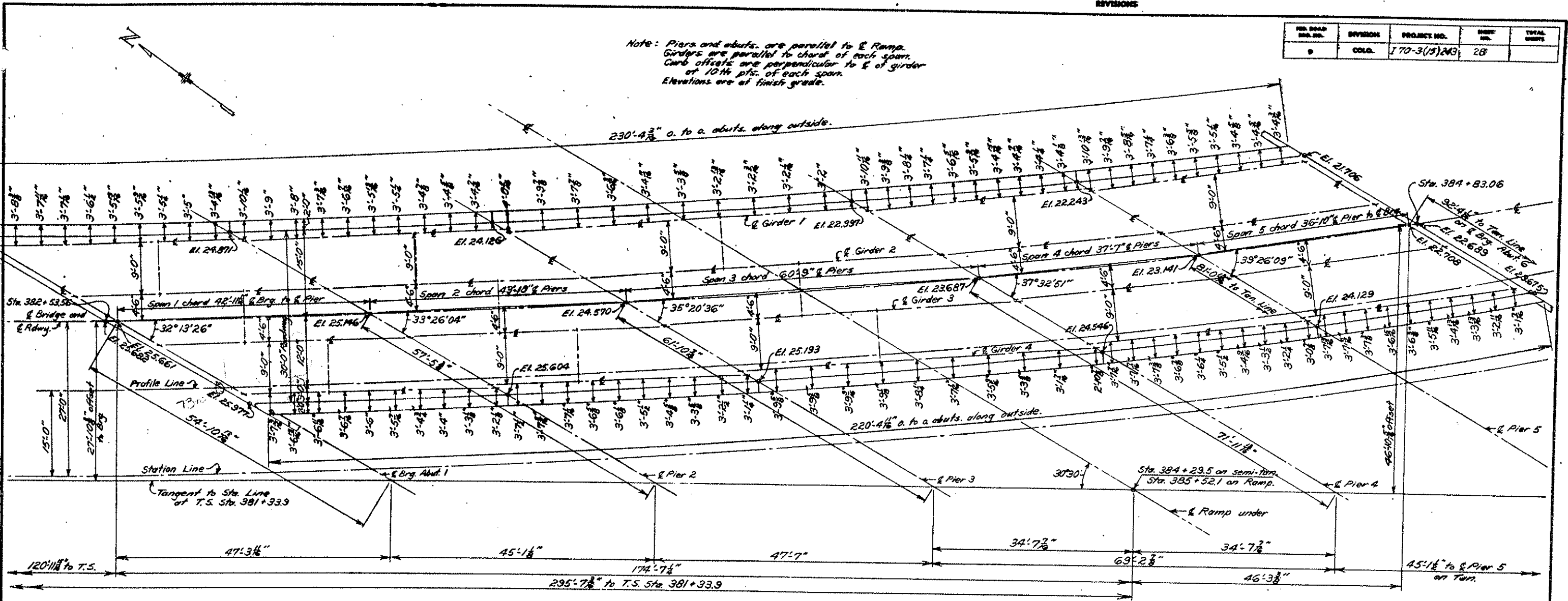
Designed by GET
 Made by FL
 Checked by

Approved by [Signature]
 Bridge Engineer
 Date: Feb. 8, 1963

STRUCTURE NO. E-14-AZ (EAST END)

REV. NO.	DESCRIPTION	DATE	TOTAL SHEETS
0	COLO.	170-3(15)243	28

Note: Piers and abuts. are parallel to E. Ramp.
Girders are parallel to chord of each span.
Curb offsets are perpendicular to E. of girder
at 10th pts. of each span.
Elevations are at finish grade.



CONSTRUCTION LAYOUT

D.L. Defl.	SPAN 1 10th pts. @ 4'-3 1/2" = 42'-11 1/2"										SPAN 2 10th pts. @ 4'-4 1/8" = 43'-10"										SPAN 3 10th pts. @ 6'-0 3/8" = 60'-9"										SPAN 4 10th pts. @ 3'-9 3/8" = 37'-7"										SPAN 5 10th pts. @ 3'-7 1/8" = 36'-10"														
	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Gir. 1	25.55	25.49	25.42	25.36	25.29	25.22	25.16	25.09	25.02	24.96	24.89	24.90	24.82	24.75	24.68	24.60	24.53	24.46	24.38	24.31	24.23	24.16	24.17	24.06	23.95	23.84	23.72	23.61	23.50	23.38	23.27	23.16	23.05	23.06	23.00	22.92	22.84	22.77	22.69	22.61	22.54	22.46	22.39	22.31	22.24	22.26	22.18	22.13	22.08	22.04	21.99	21.95	21.90	21.86	21.81
Gir. 2	25.61	25.55	25.50	25.44	25.38	25.33	25.27	25.21	25.16	25.10	25.04	25.05	24.98	24.92	24.86	24.79	24.73	24.67	24.60	24.54	24.48	24.42	24.42	24.32	24.23	24.13	24.03	23.93	23.84	23.74	23.64	23.55	23.46	23.47	23.40	23.33	23.27	23.20	23.14	23.07	23.00	22.94	22.86	22.84	22.85	22.80	22.76	22.71	22.67	22.62	22.58	22.53	22.48	22.45	22.41
Gir. 3	25.75	25.69	25.64	25.59	25.55	25.50	25.45	25.41	25.36	25.31	25.27	25.26	25.21	25.16	25.11	25.05	25.00	24.95	24.90	24.85	24.79	24.74	24.73	24.65	24.57	24.49	24.40	24.32	24.24	24.17	24.09	24.01	23.94	23.92	23.87	23.81	23.76	23.70	23.65	23.56	23.56	23.52	23.48	23.44	23.43	23.39	23.34	23.30	23.26	23.21	23.17	23.13	23.09	23.05	23.01
Gir. 4	25.92	25.89	25.85	25.81	25.78	25.74	25.71	25.67	25.63	25.59	25.56	25.55	25.50	25.46	25.42	25.38	25.34	25.30	25.26	25.22	25.18	25.14	25.11	25.04	24.96	24.91	24.85	24.78	24.72	24.66	24.60	24.54	24.49	24.44	24.40	24.35	24.31	24.27	24.24	24.20	24.16	24.13	24.06	24.06	24.02	23.98	23.93	23.89	23.85	23.81	23.77	23.73	23.70	23.66	23.62

Note: Blocking dimension is from straight line to finish form.
Blocking includes dead load deflection and vertical curve.

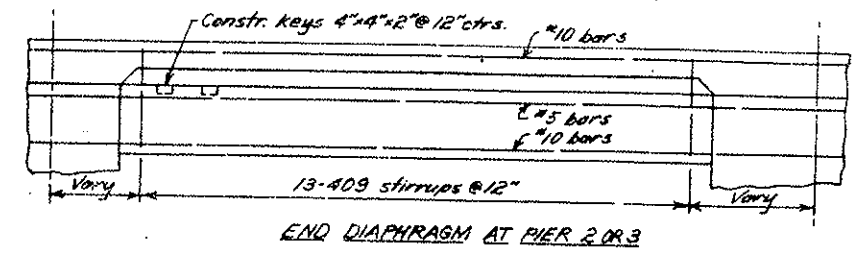
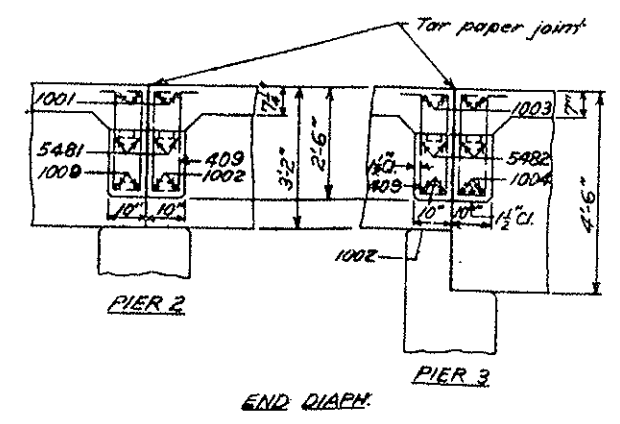
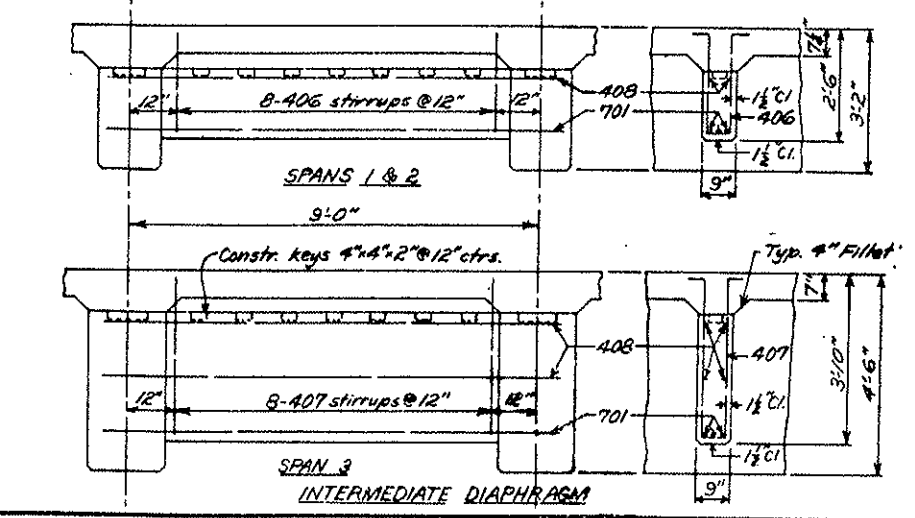
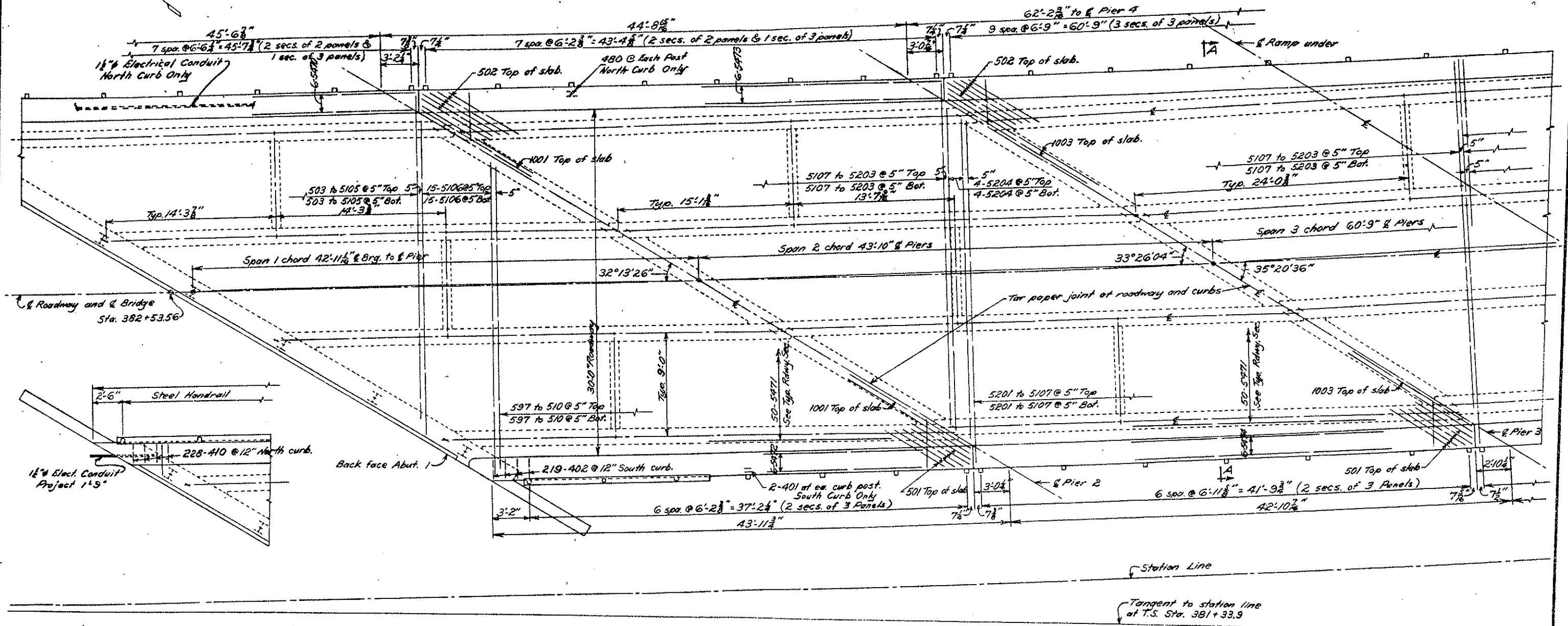
COLORADO DEPARTMENT OF HIGHWAYS

CONSTRUCTION LAYOUT

Ramp
Sta. 382+73.00 to 384+97.22
Near Dumont, Sec. 28, T. 9S, R. 73W

Designed by W.W.D. Approved by J.L.B.
Made by J.L.B. Checked by J.L.B.
Date: Feb. 8, 1963

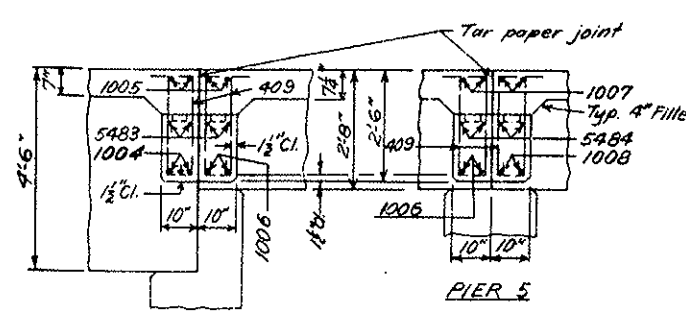
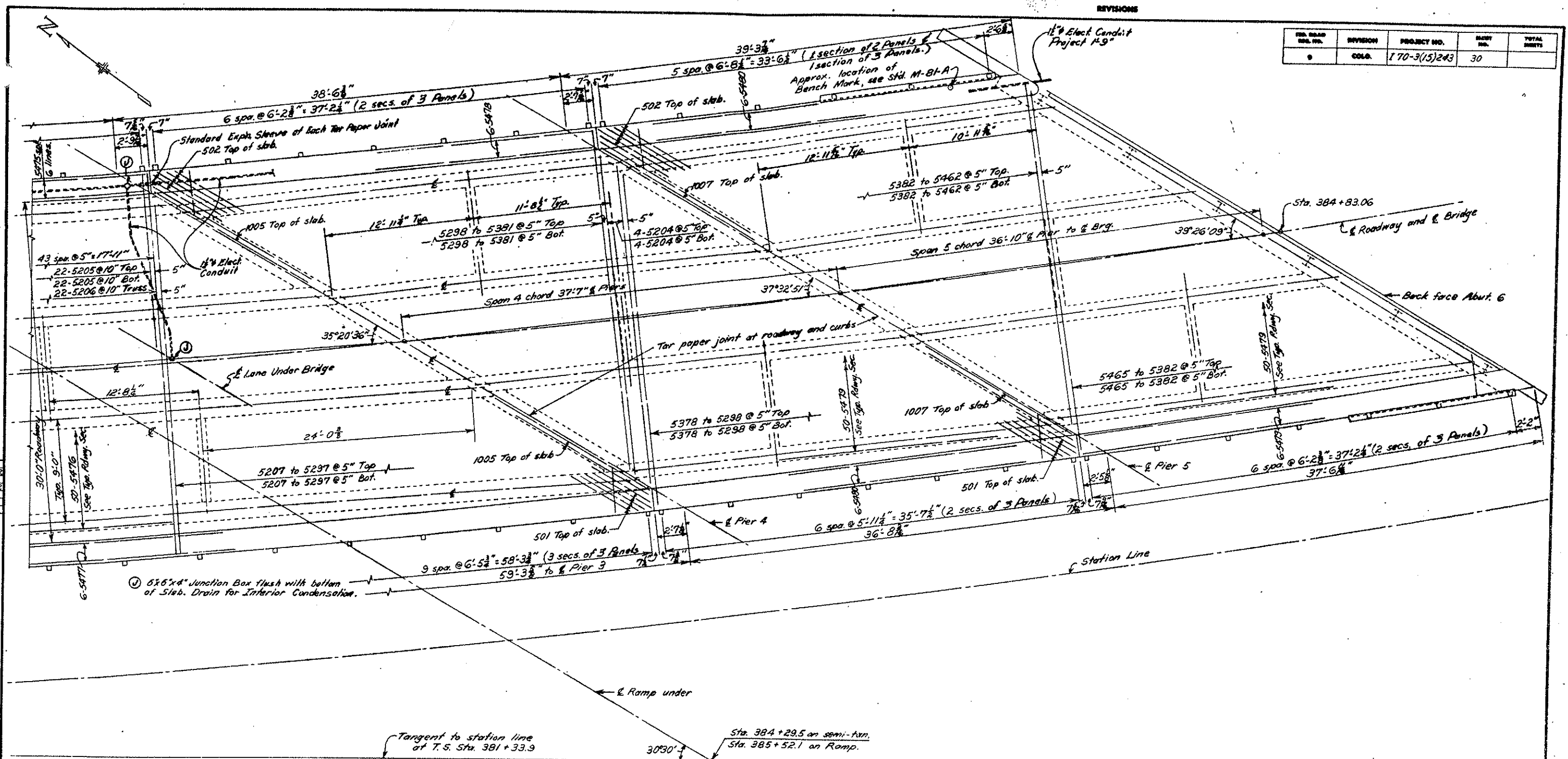
RD. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	170-3(15)243	29	



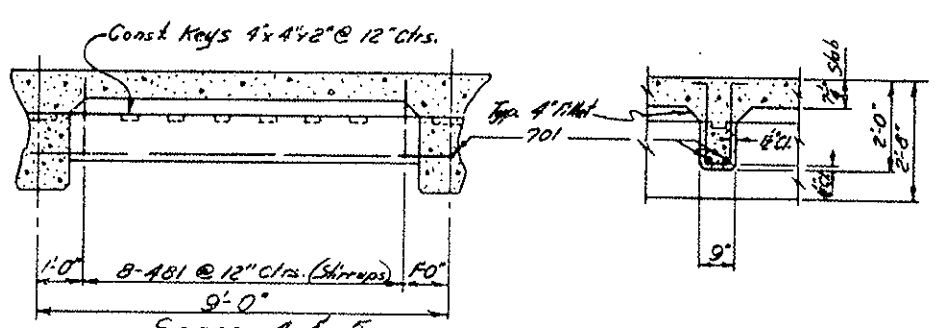
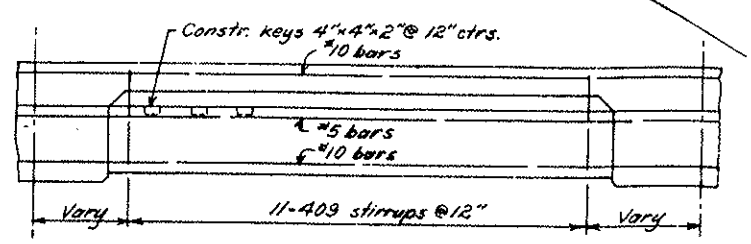
COLORADO DEPARTMENT OF HIGHWAYS
DETAILS OF SUPERSTRUCTURE

Across: Ramp
 Sta. 382+73.00 to 384+97.22
 Name: Dumbart Sta. 28 V. 3.5 N. 29W
 Drawn by: W. H. D. Approved by: J. L. B.
 Made by: J. L. B. Checked by: J. L. B.
 Date: Feb 8, 1963

REV. NO.	DESCRIPTION	DATE	BY	CHECKED
0				

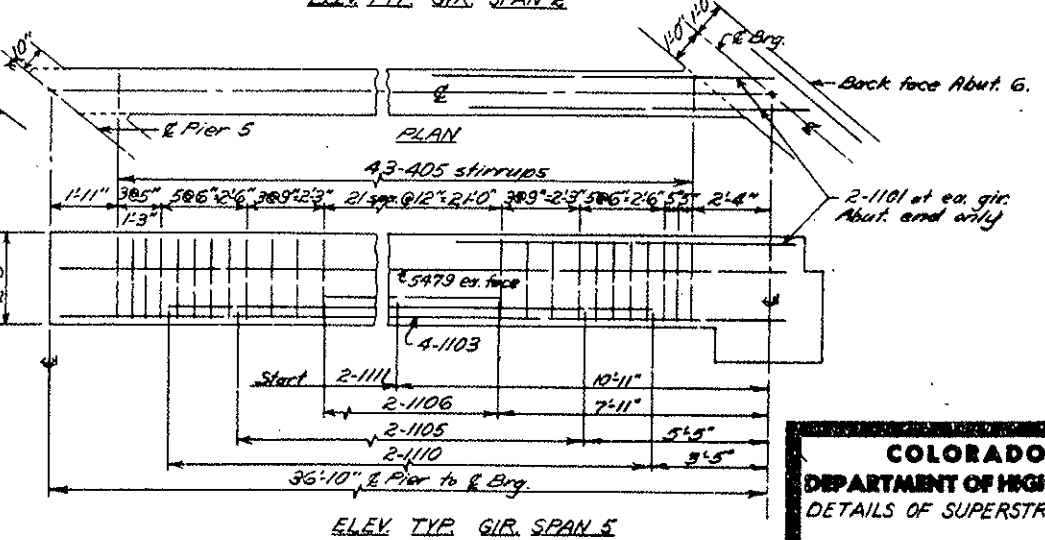
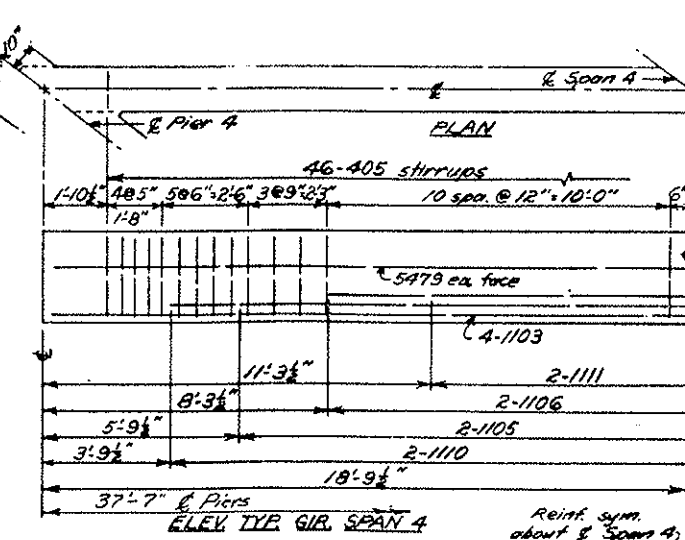
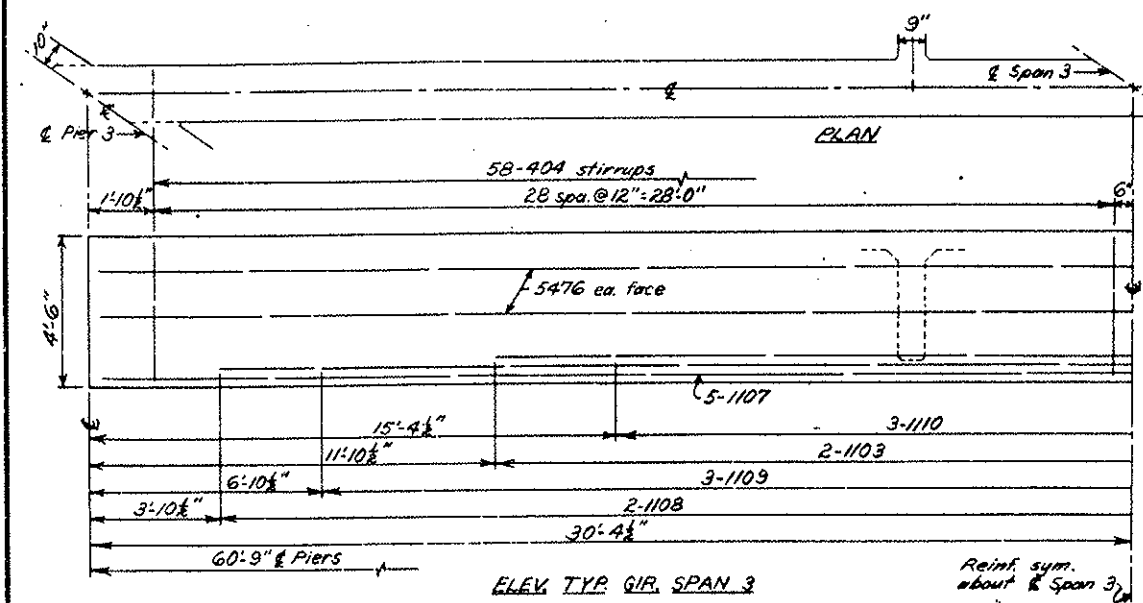
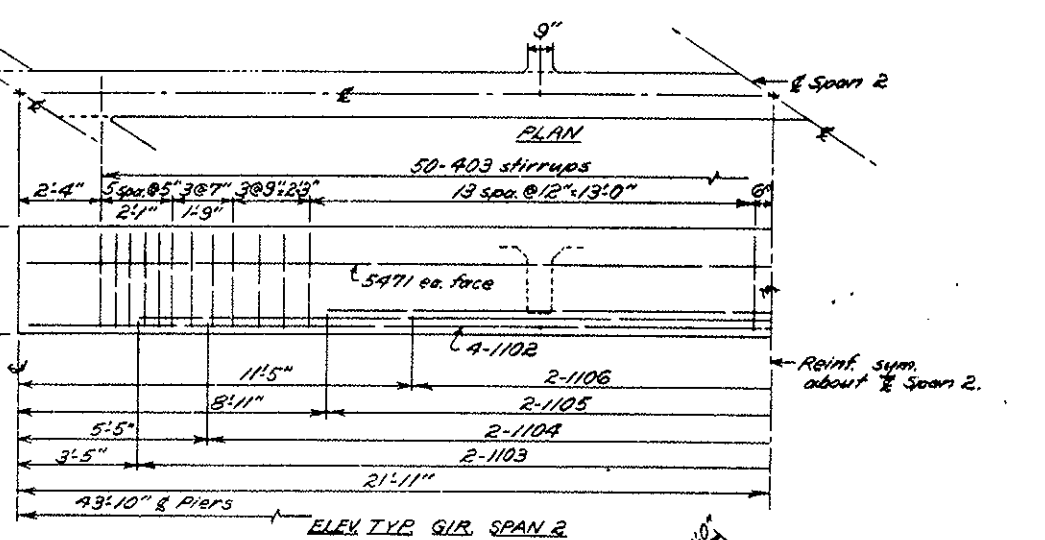
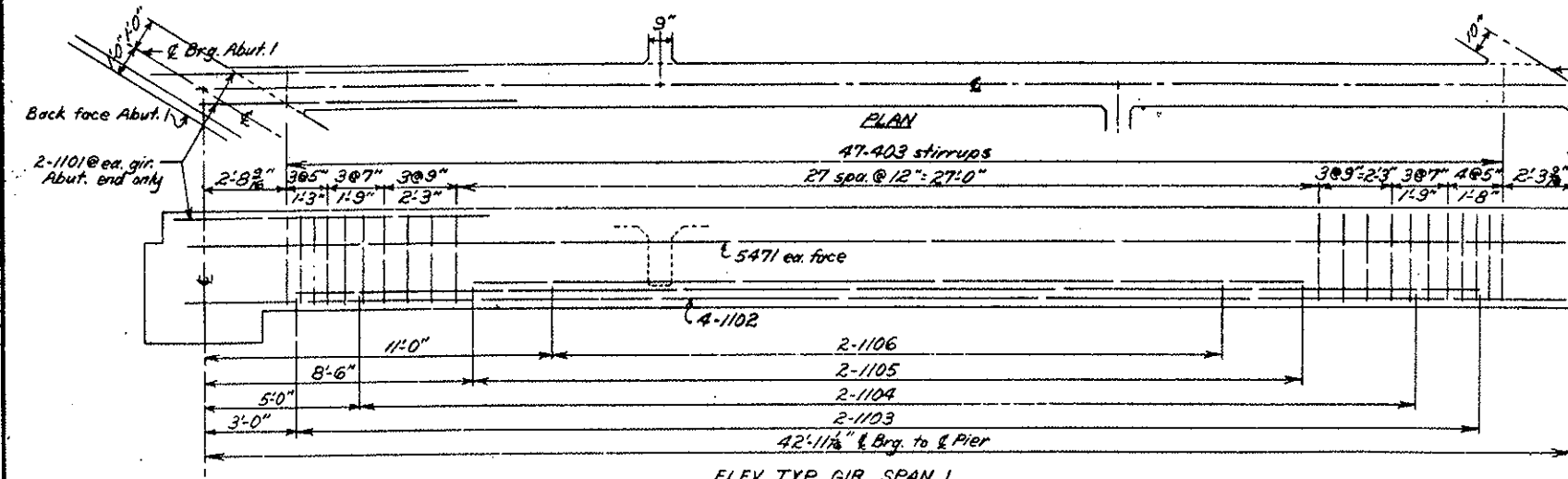
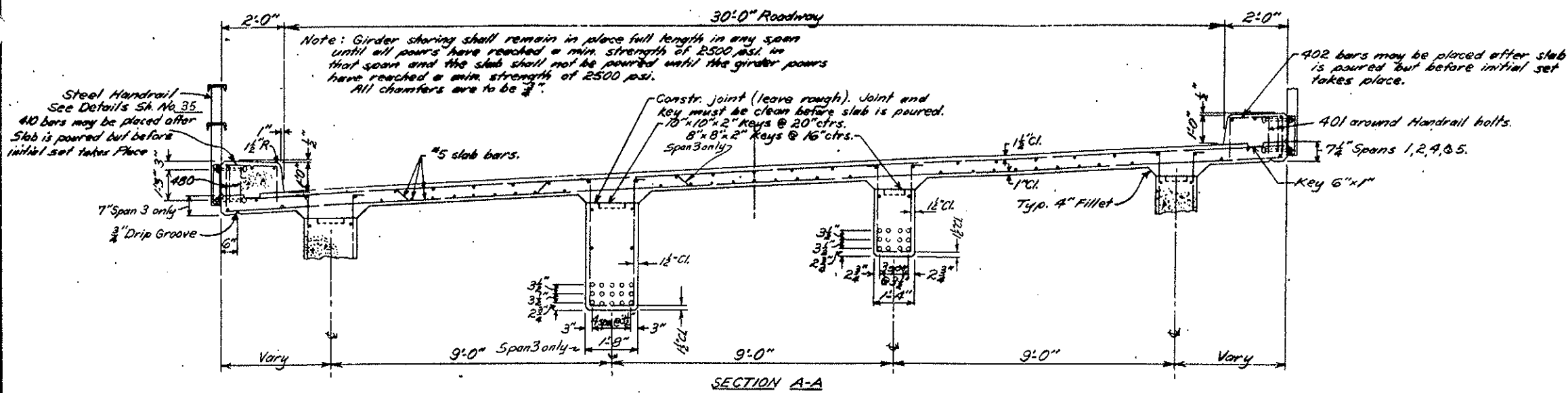


END DIAPH



COLORADO
DEPARTMENT OF HIGHWAYS
DETAILS OF SUPERSTRUCTURE
 Across Ramp
 Sta. 382+73.00 to 384+97.22
 Near Dumont Sec. 29 T. 35 R. 72W
 Designed by W.W.D. Approved by Arthur B. Taylor
 Made by J.L.B. Bridge Engineer
 Checked by _____ Date: Feb. 8, 1963

REV. NO.	DESCRIPTION	DATE	BY	TOTAL
1	As Shown			1

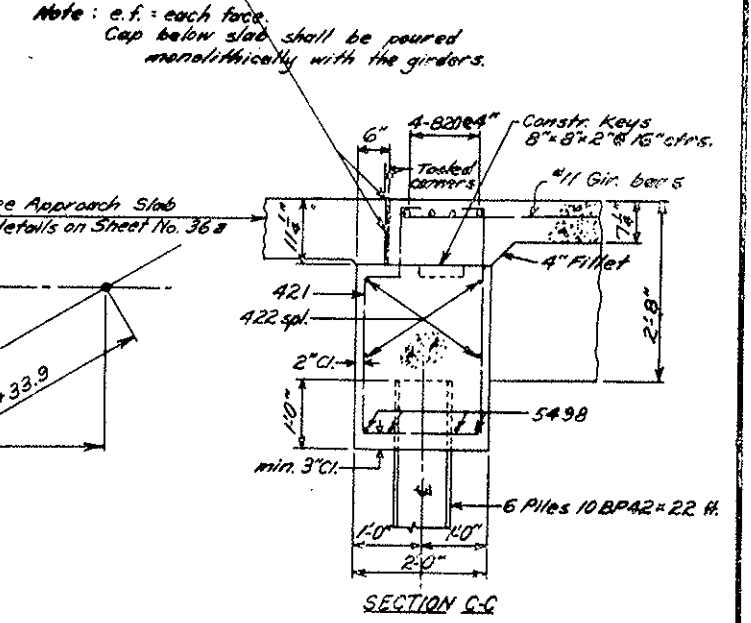
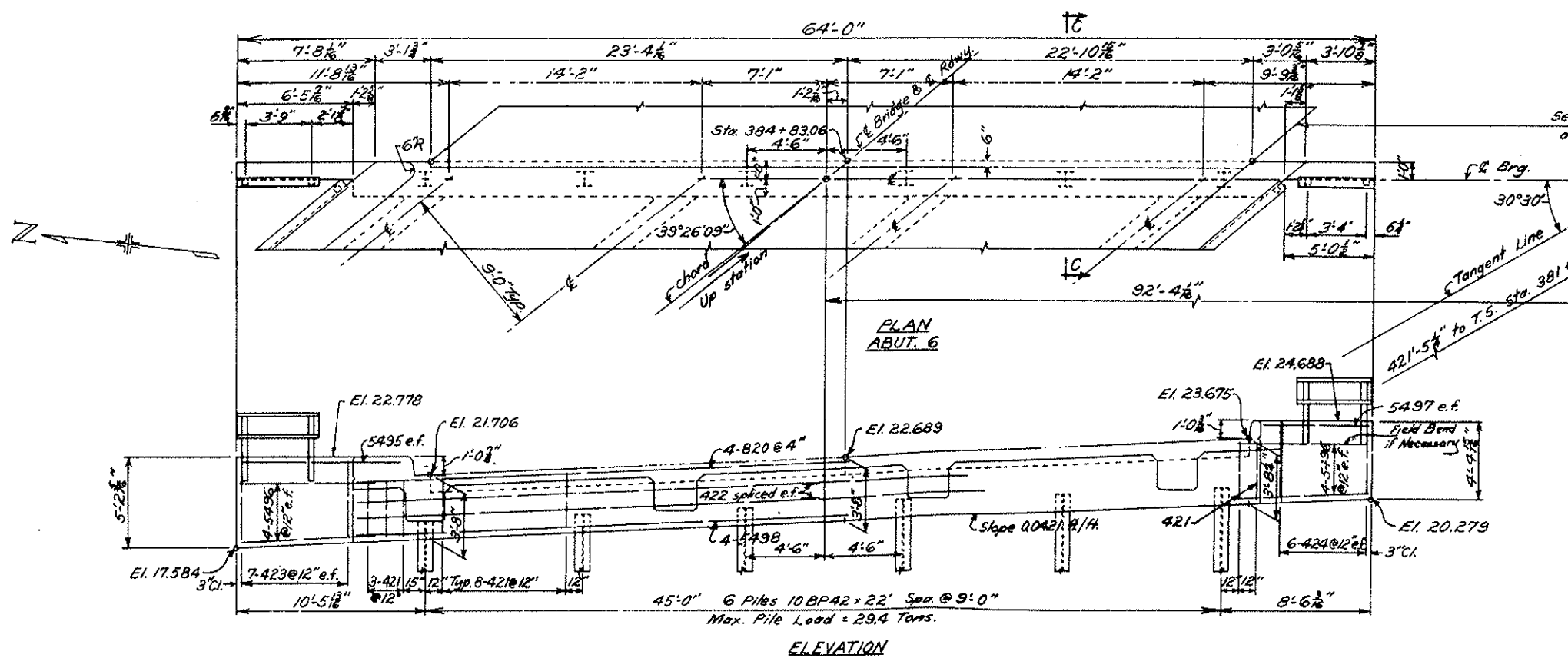
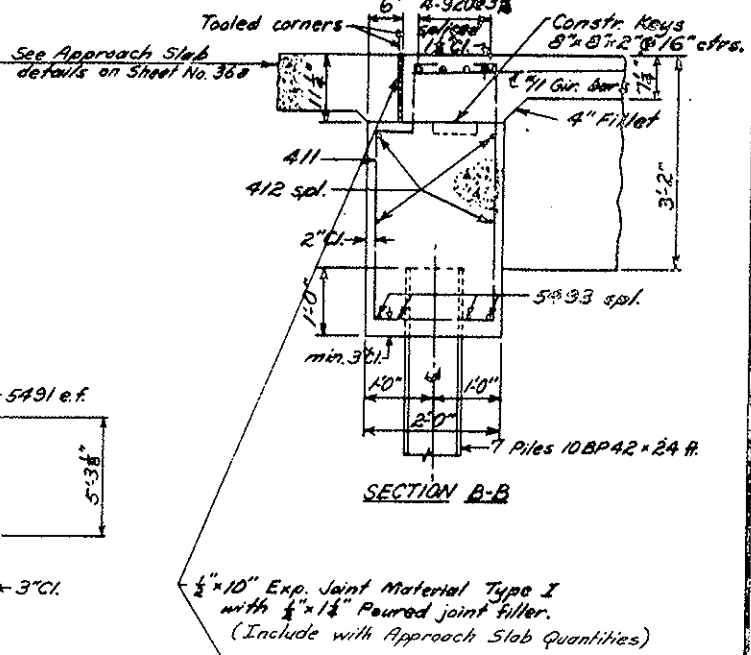
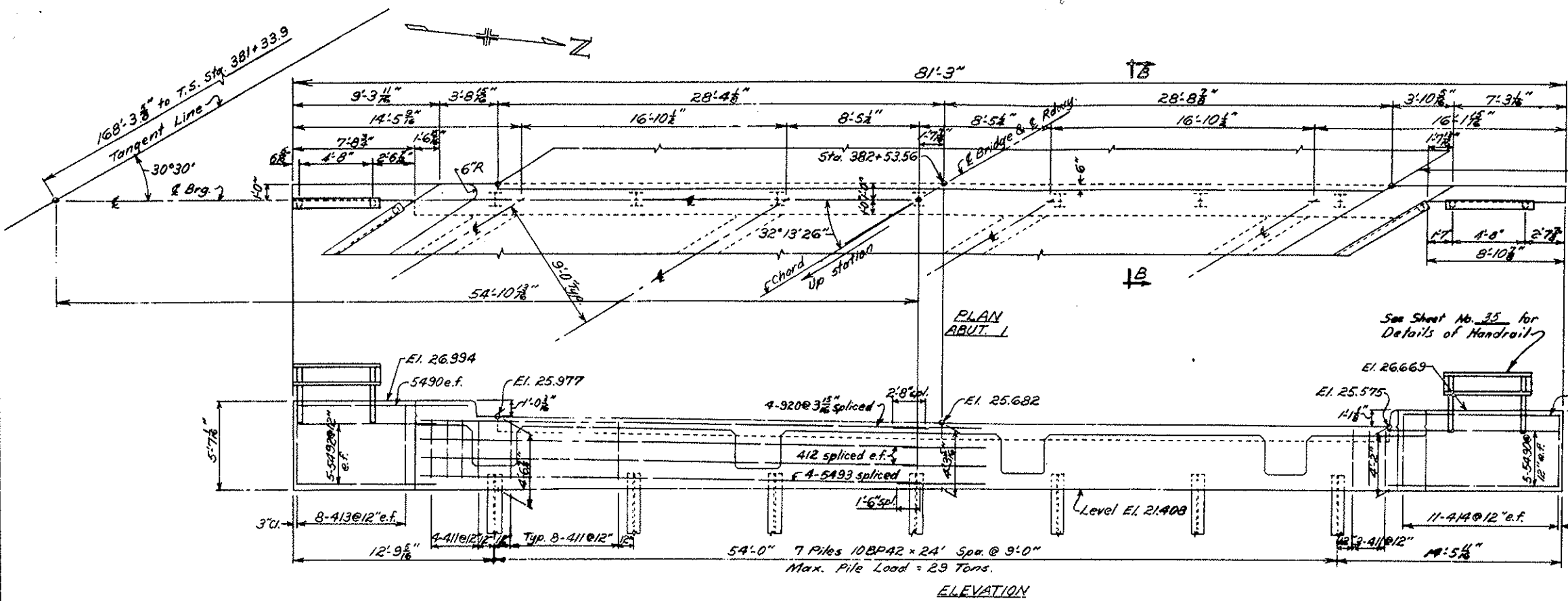


COLORADO
DEPARTMENT OF HIGHWAYS
DETAILS OF SUPERSTRUCTURE

Across *Ramp*
Sta. 382+73.00 to 384+37.22
View *Down* Sta. 28+3.5 to 28+7.87

Designed by *H.W.D.* Approved by *J.L.B.*
Drawn by *J.L.B.* Bridge Engineer
Checked by *J.L.B.* Date: Feb. 6, 1963

DESIGN NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	CELS.	170-3(13)243	32	

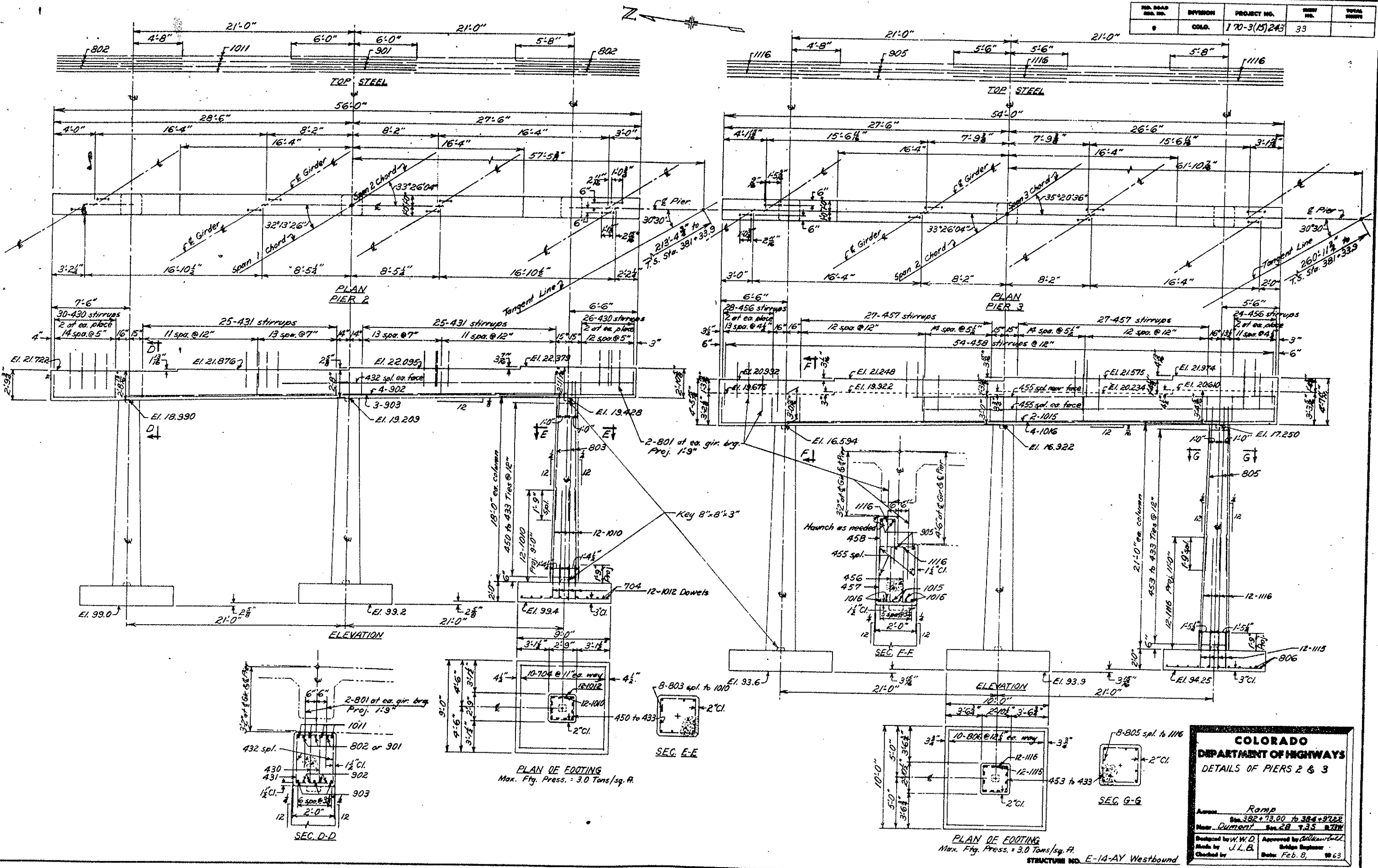


COLORADO DEPARTMENT OF HIGHWAYS
DETAILS OF ABUTS. I & G

Ramp
From Sta. 382+73.00 to 384+97.22
Near Dumont Sta. 28+7.35 R.W.M.

Designed by W.W.D. Approved by J. Scherbell
Checked by J.L.B. Bridge Engineer
Date: Feb. 8, 1963

REV. NO.	DESCRIPTION	PROJECT NO.	DATE	TOTAL SHEETS
0	COND.	170-3(15)243	33	



COLORADO DEPARTMENT OF HIGHWAYS
DETAILS OF PIERS 2 & 3

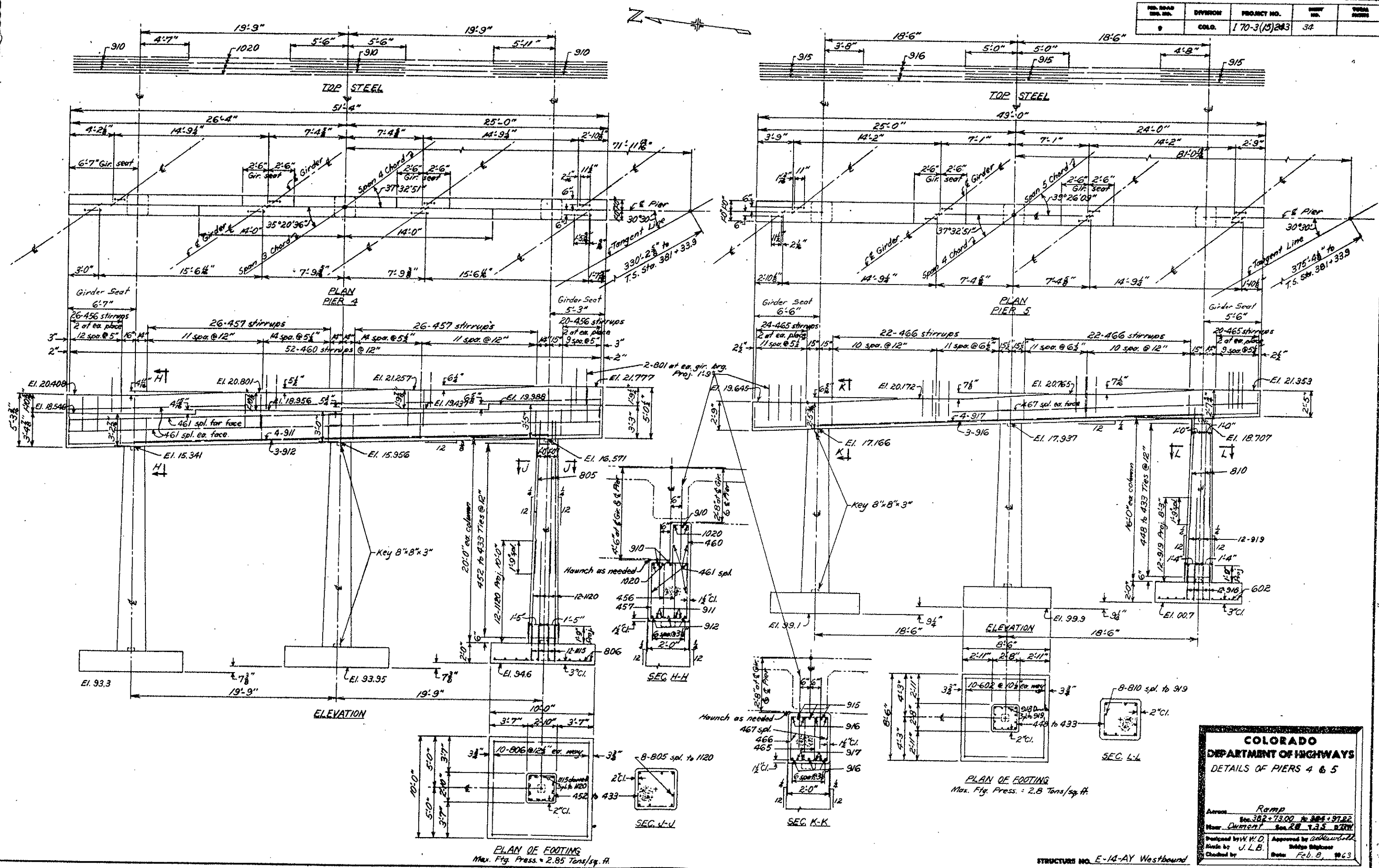
Access: Ramp
 Sta. 382+75.00 to 384+97.22
 Near Dumont, Sta. 28+7.35 NTH

Designed by W.D. Approved by J.L.B.
 Made by J.L.B. Bridge Engineer
 Checked by Date: Feb. 8, 1963

PLAN OF FOOTING
 Max. Ftg. Press. = 3.0 Tons/sq. ft.
 STRUCTURE NO. E-14-AY Westbound

REVISIONS

REV. NO.	DATE	BY	REASON
1			



COLORADO
DEPARTMENT OF HIGHWAYS
 DETAILS OF PIERS 4 & 5

Across Ramp
 Sta. 382+73.00 to 384+97.82
 Near Divergent Sta. 28+3.5 B.T.M.

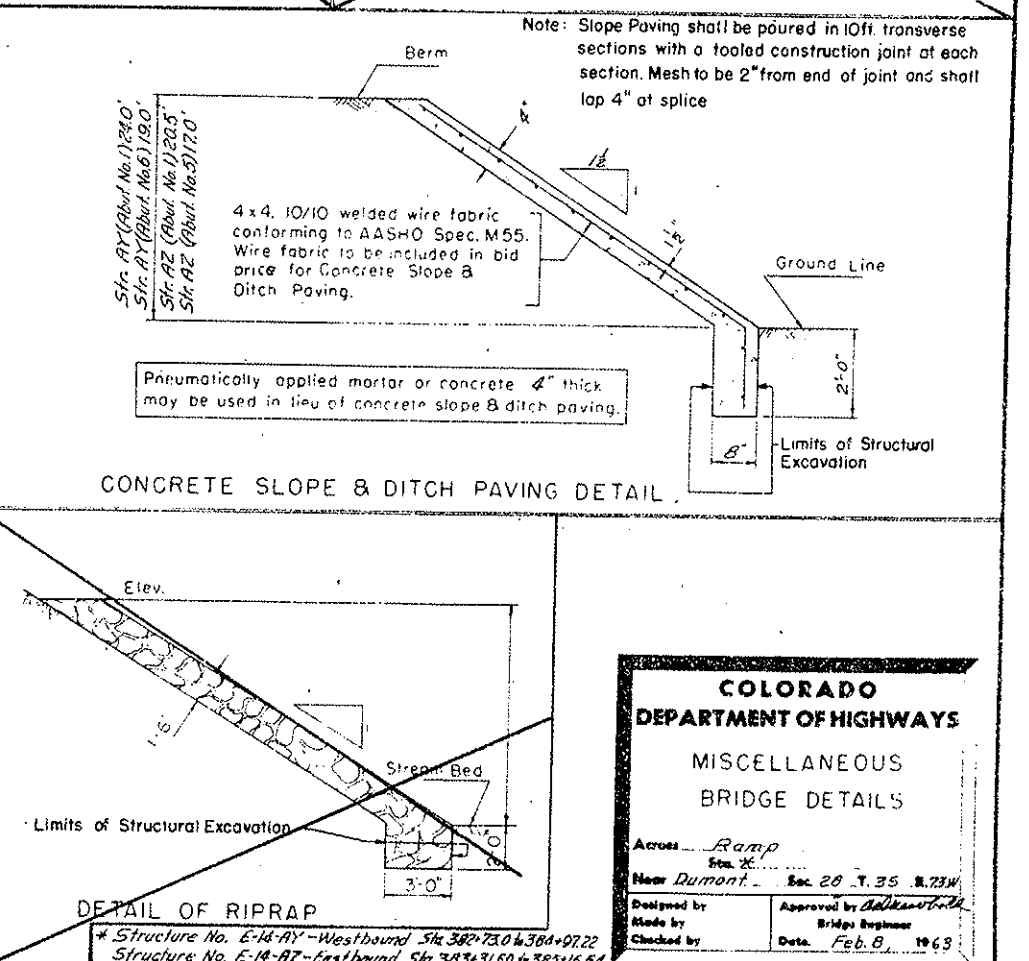
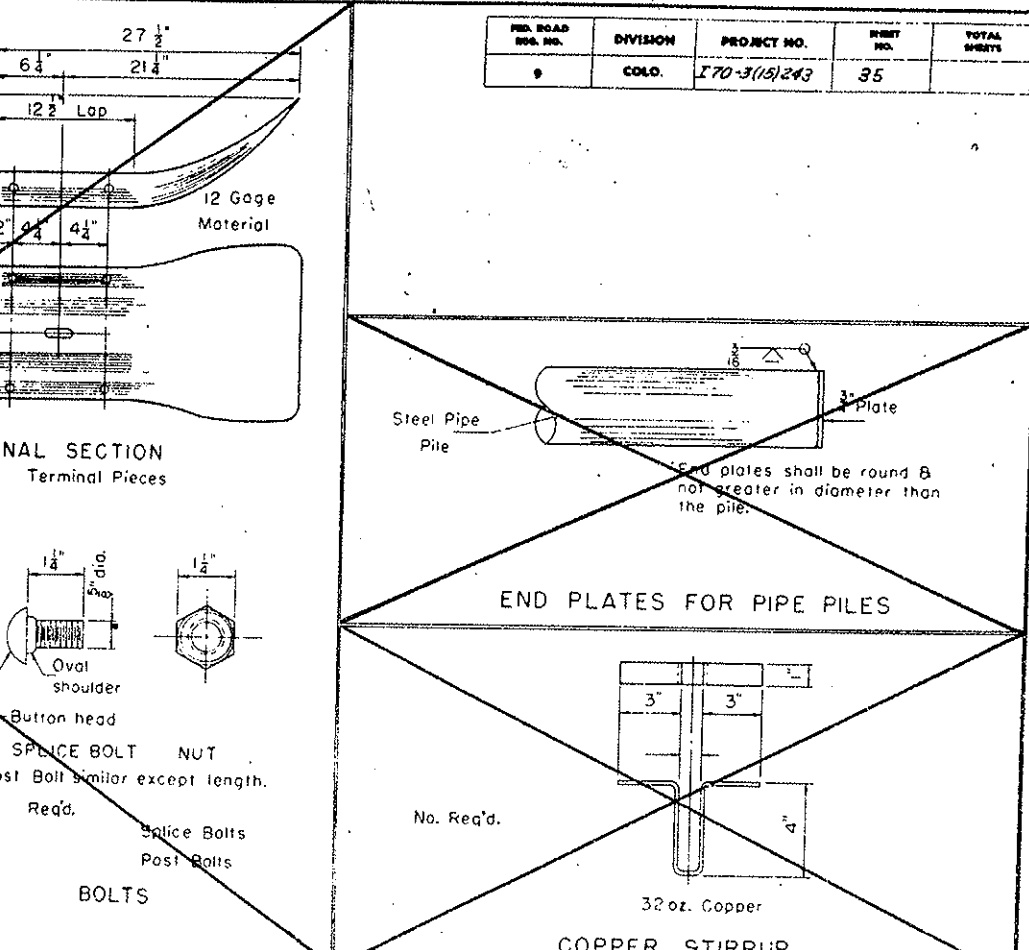
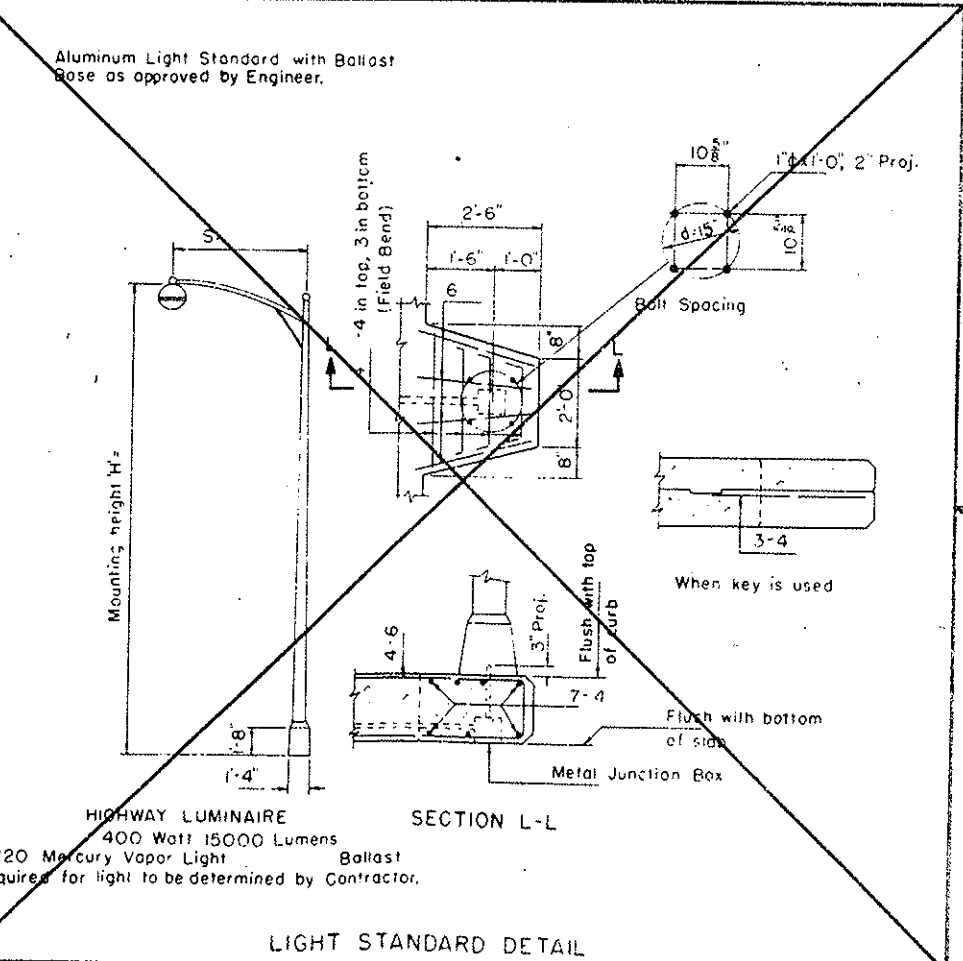
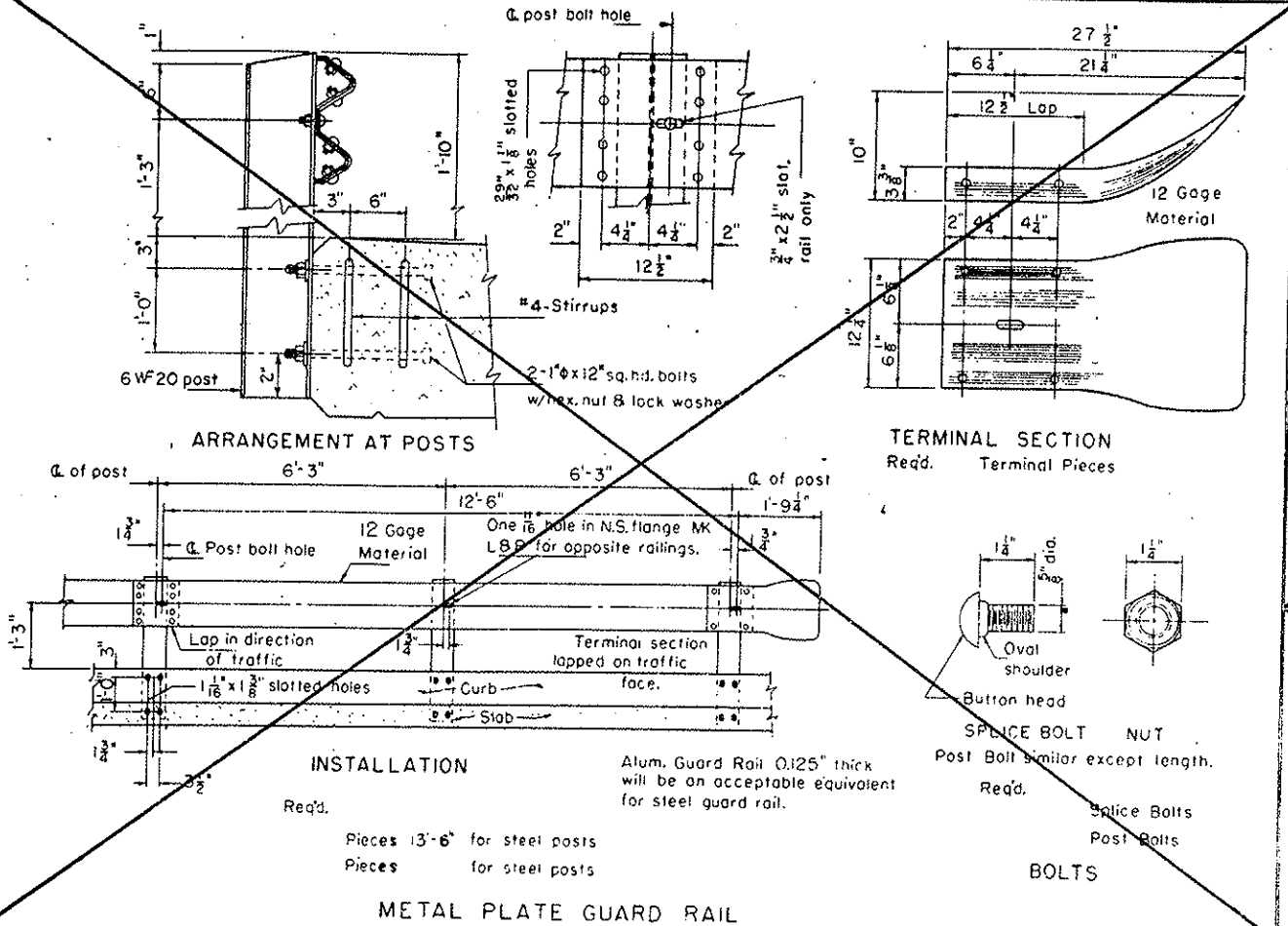
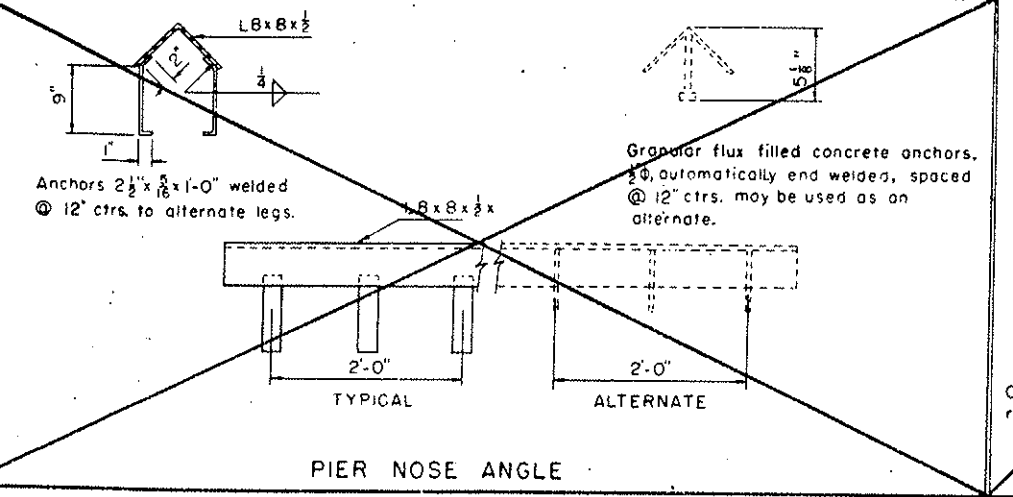
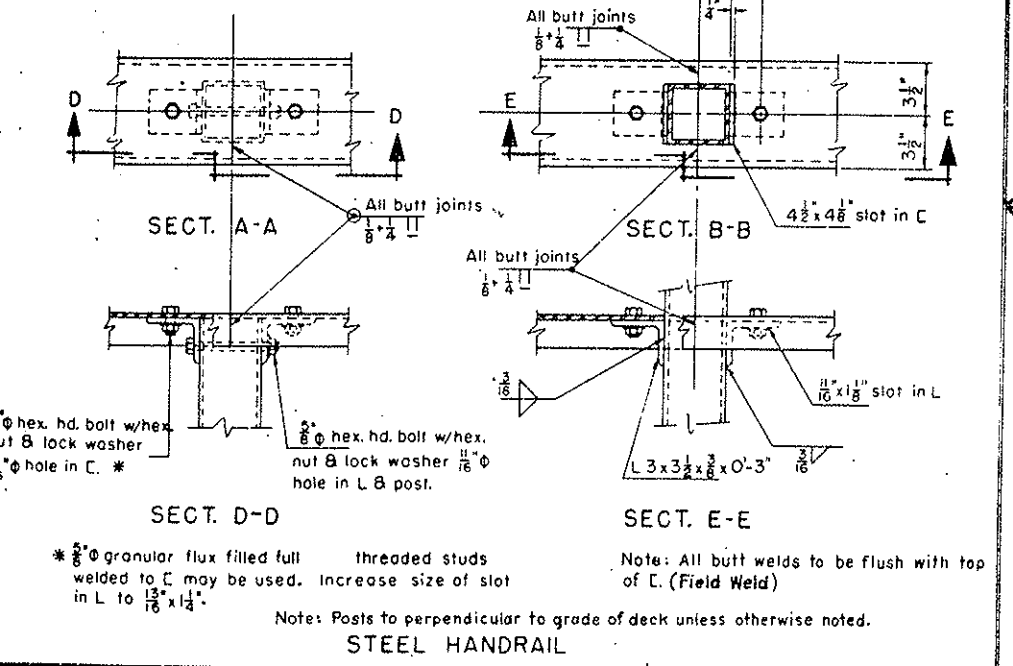
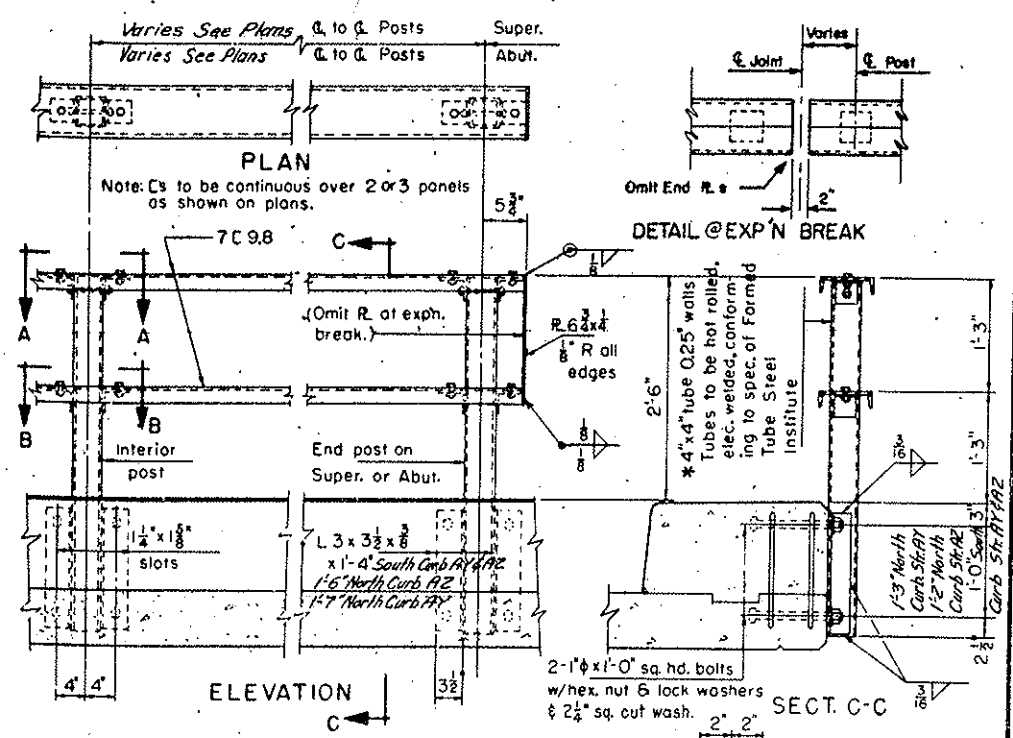
Designed by W.W.D. Approved by [Signature]
 Made by J.L.B. Bridge Engineer
 Checked by [Signature] Date Feb. 8, 1963

STRUCTURE NO. E-14-AY Westbound

* Note: Posts May Be ASTM A-7 Steel

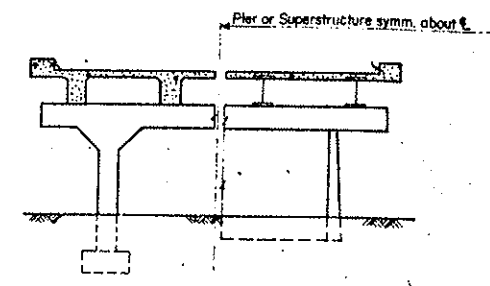
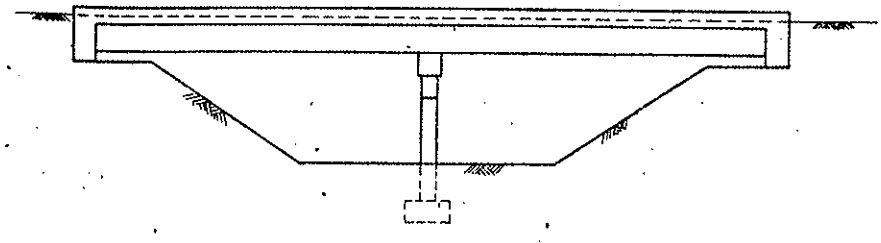
REVISIONS

FD. ROAD DIST. NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I70-3(15)243	35	



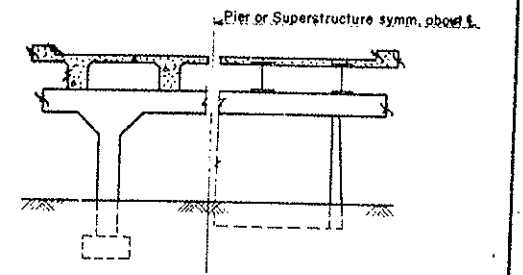
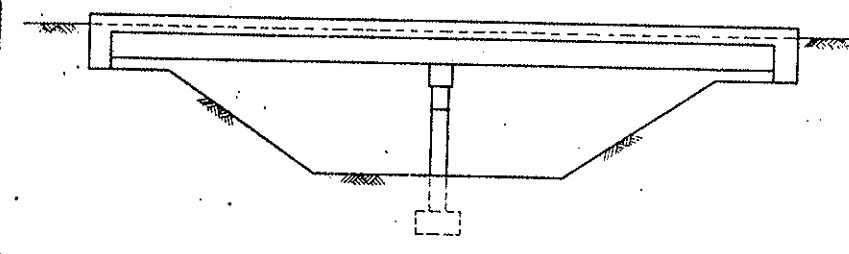
COLORADO DEPARTMENT OF HIGHWAYS
 MISCELLANEOUS BRIDGE DETAILS
 Across Ramp Sta. 26
 Near Dumont - Sec 20 T. 35 R. 23W
 Designed by [Signature]
 Made by [Signature]
 Checked by [Signature]
 Date Feb. 8, 1963

FED. ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I 70-3(15)243	36	



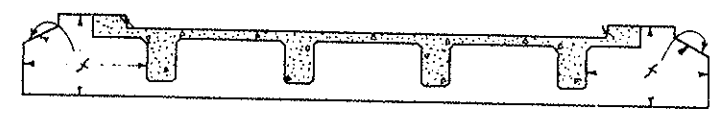
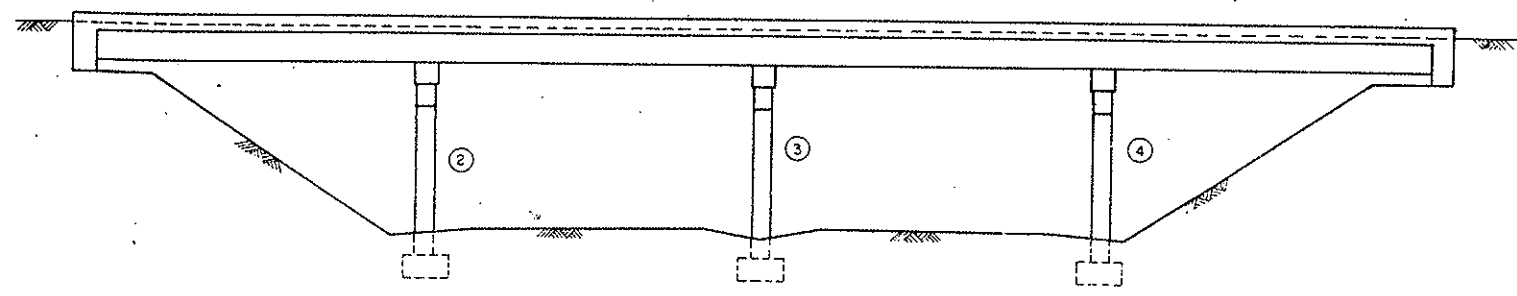
PIER AND SUPERSTRUCTURE

RURAL STREAM CROSSING

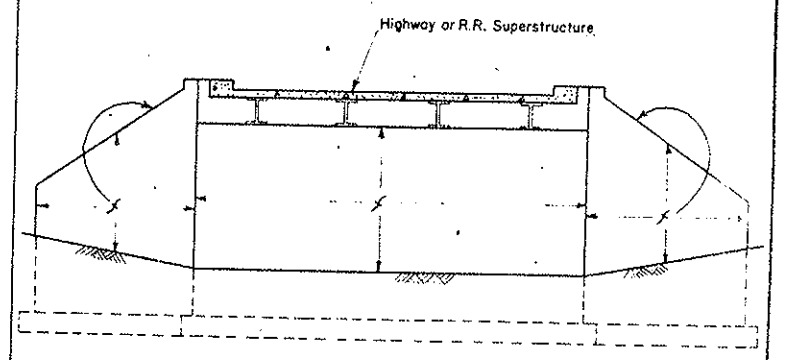


PIER AND SUPERSTRUCTURE

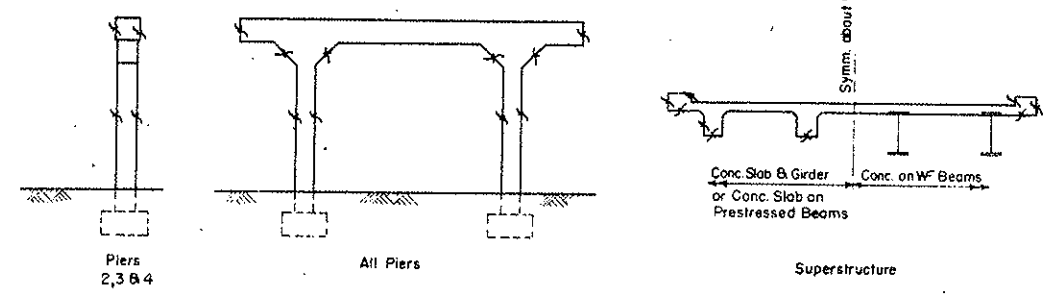
STREAM CROSSING IN OR NEAR URBAN AREA



STUB ABUTMENTS
(Underpass Only)



CANTILEVER ABUTMENTS
(Underpass Only)



Piers 2, 3 & 4

All Piers

Superstructure

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

UNDERPASS

COLORADO
DEPARTMENT OF HIGHWAYS

DETAILS SHOWING PORTIONS OF
STRUCTURE TO RECEIVE CLASS
"I" SURFACE FINISH.

Across *Various Locations*
Sta. _____
Near *Dumont* Sec. _____ T. _____ R. _____

Designed by A.D.N. Approved by *[Signature]*
Made by R.R.A.-J.B. Bridge Engineer
Checked by _____ Date: _____ 19__

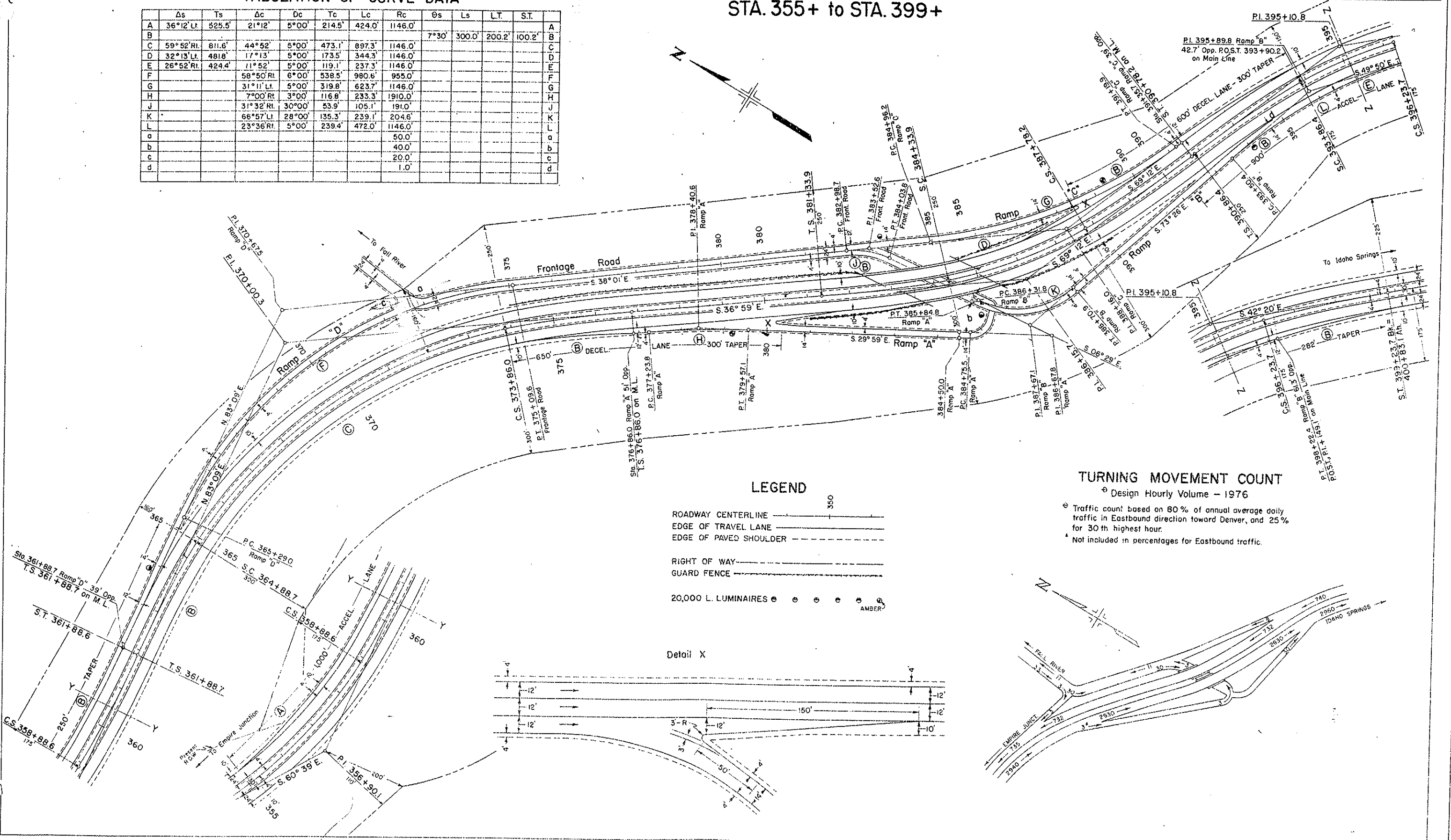
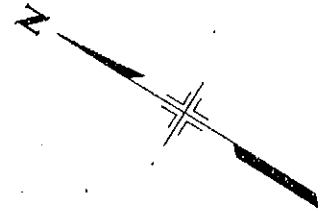
STRUCTURE NO. _____

DETAILS OF FALL RIVER INTERCHANGE STA. 355+ to STA. 399+

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	I 70-3 (15) 243	38	

TABULATION OF CURVE DATA

A	Δs	T_s	Δc	D_c	T_c	L_c	R_c	θ_s	L_s	LT.	ST.	A
B	36°12' Lt.	525.5	21°12'	5°00'	214.5	424.0	1146.0	7°30'	300.0	200.2	100.2	B
C	59°52' Rt.	811.6	44°52'	5°00'	473.1	897.3	1146.0					C
D	32°13' Lt.	481.8	17°13'	5°00'	173.5	344.3	1146.0					D
E	26°52' Rt.	424.4	11°52'	5°00'	119.1	237.3	1146.0					E
F			58°50' Rt.	6°00'	538.5	980.6	955.0					F
G			31°11' Lt.	5°00'	319.8	623.7	1146.0					G
H			7°00' Rt.	3°00'	116.8	233.3	1910.0					H
J			31°32' Rt.	30°00'	53.9	105.1	191.0					J
K			66°57' Lt.	28°00'	135.3	239.1	204.6					K
L			23°36' Rt.	5°00'	239.4	472.0	1146.0					L
a							50.0					a
b							40.0					b
c							20.0					c
d							1.0					d



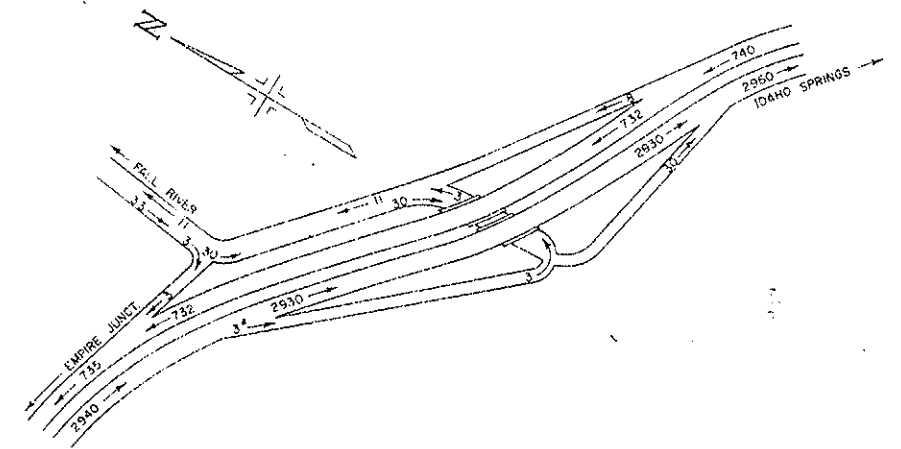
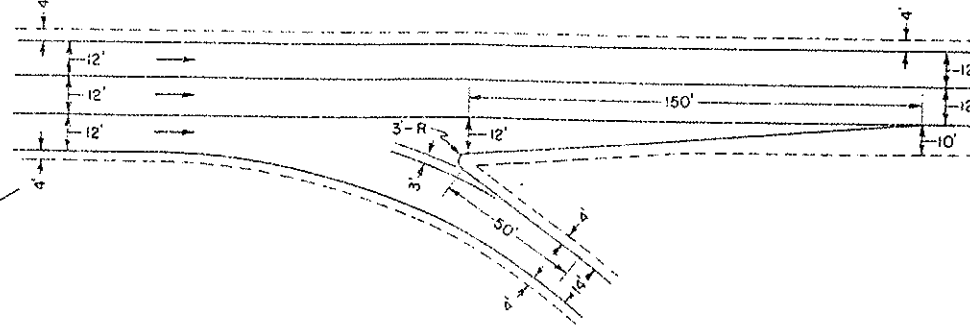
LEGEND

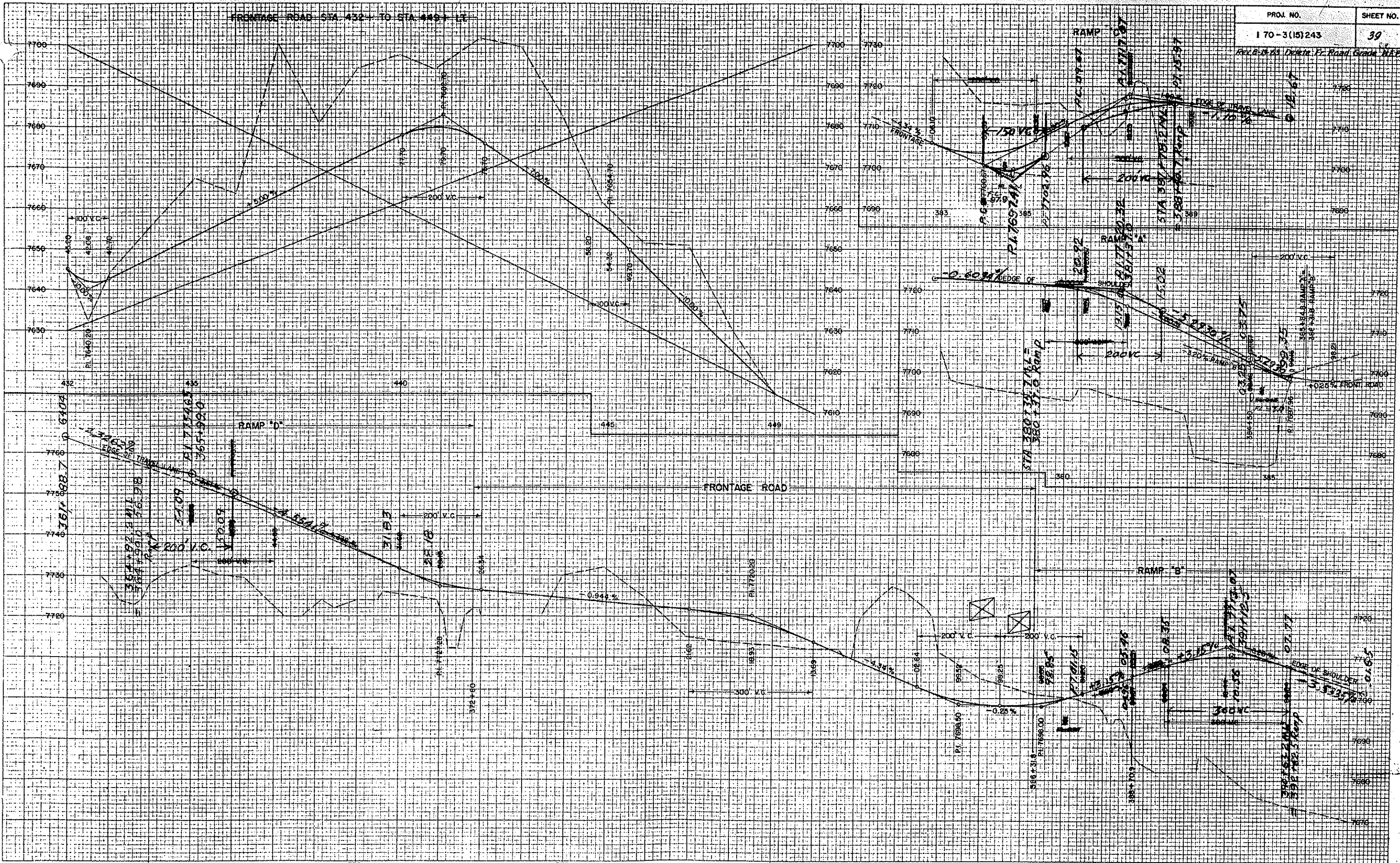
- ROADWAY CENTERLINE
- EDGE OF TRAVEL LANE
- EDGE OF PAVED SHOULDER
- RIGHT OF WAY
- GUARD FENCE
- 20,000 L. LUMINAIRES ● ● ● ● ● ●
- AMBER ● ● ● ● ● ●

TURNING MOVEMENT COUNT

- ⊙ Design Hourly Volume - 1976
- ⊙ Traffic count based on 80% of annual average daily traffic in Eastbound direction toward Denver, and 25% for 30th highest hour.
- ▲ Not included in percentages for Eastbound traffic.

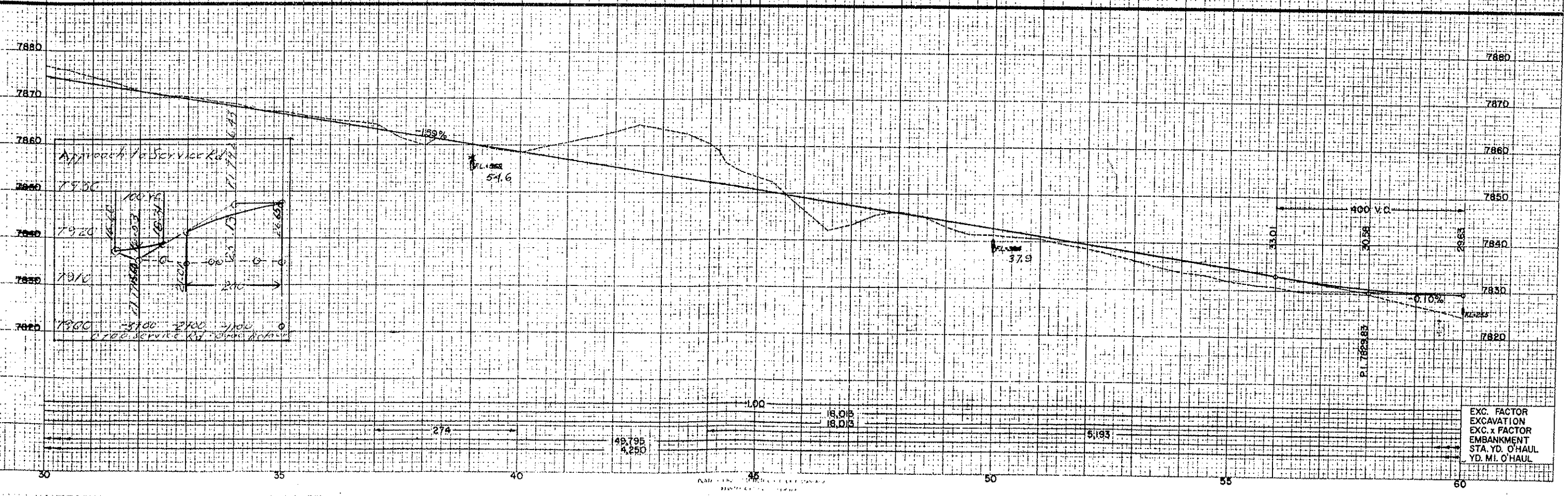
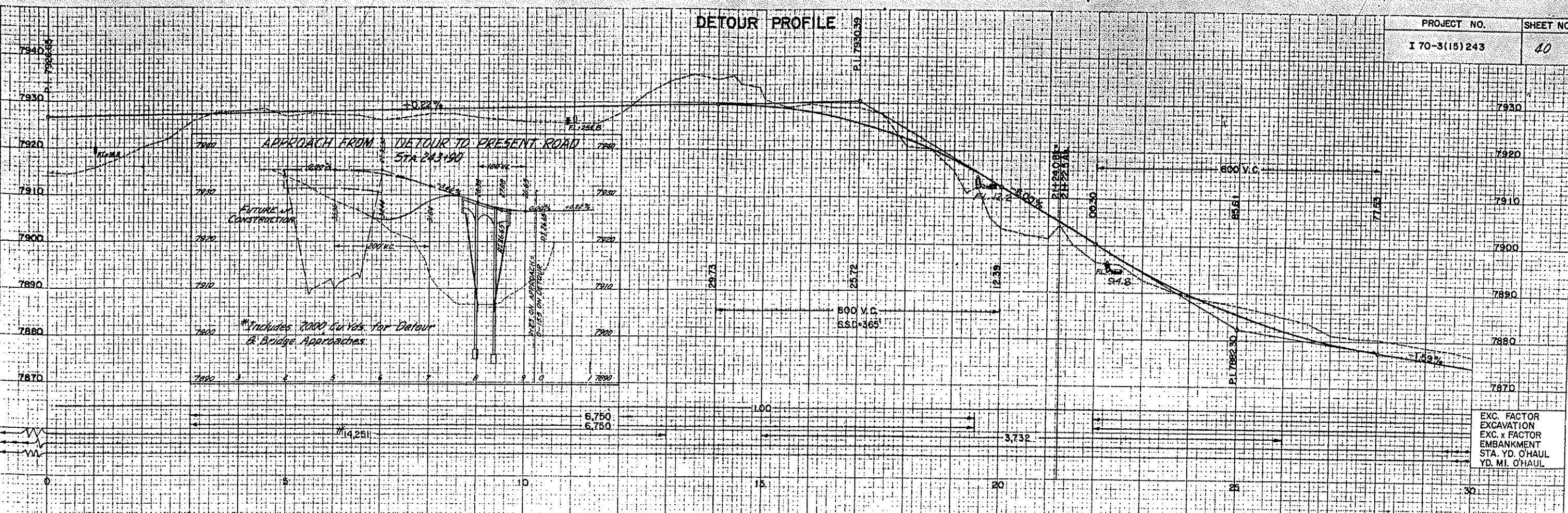
Detail X





DETOUR PROFILE

PROJECT NO. I 70-3(15)243
SHEET NO. 40



PROFILE
DATE
DRAWN BY
CHECKED BY
NO. 23906
L.S.C. ENGINEERS

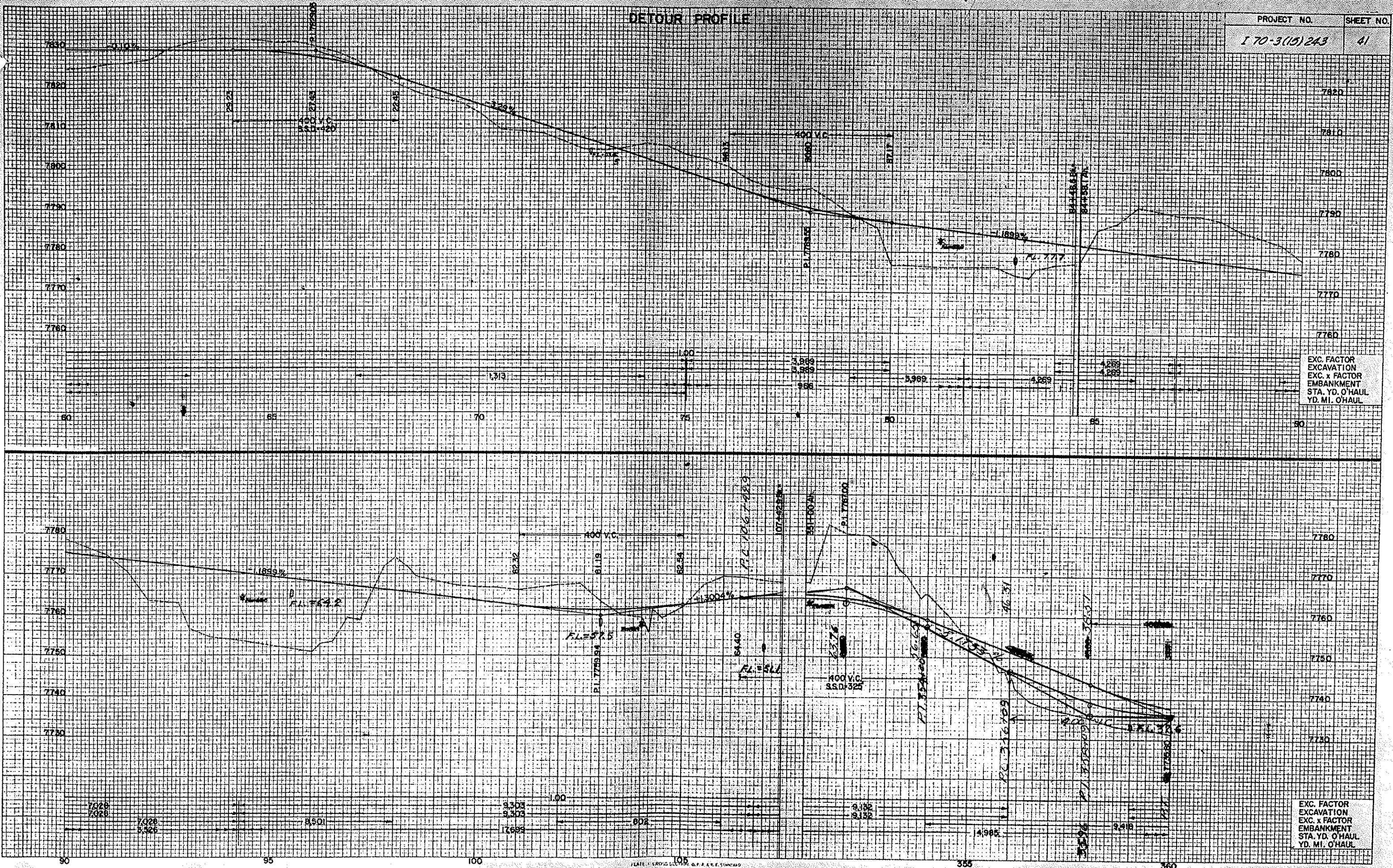
PROFILE
DATE
DRAWN BY
CHECKED BY
NO. 23906
L.S.C. ENGINEERS

DETOUR PROFILE

PROJECT NO.	SHEET NO.
170-3(15)243	41

DATE	BY
PROJECT NO.	SHEET NO.
ROUTE NO.	SCALE
DRAWN BY	CHECKED BY
DATE	DATE

DATE	BY
PROJECT NO.	SHEET NO.
ROUTE NO.	SCALE
DRAWN BY	CHECKED BY
DATE	DATE

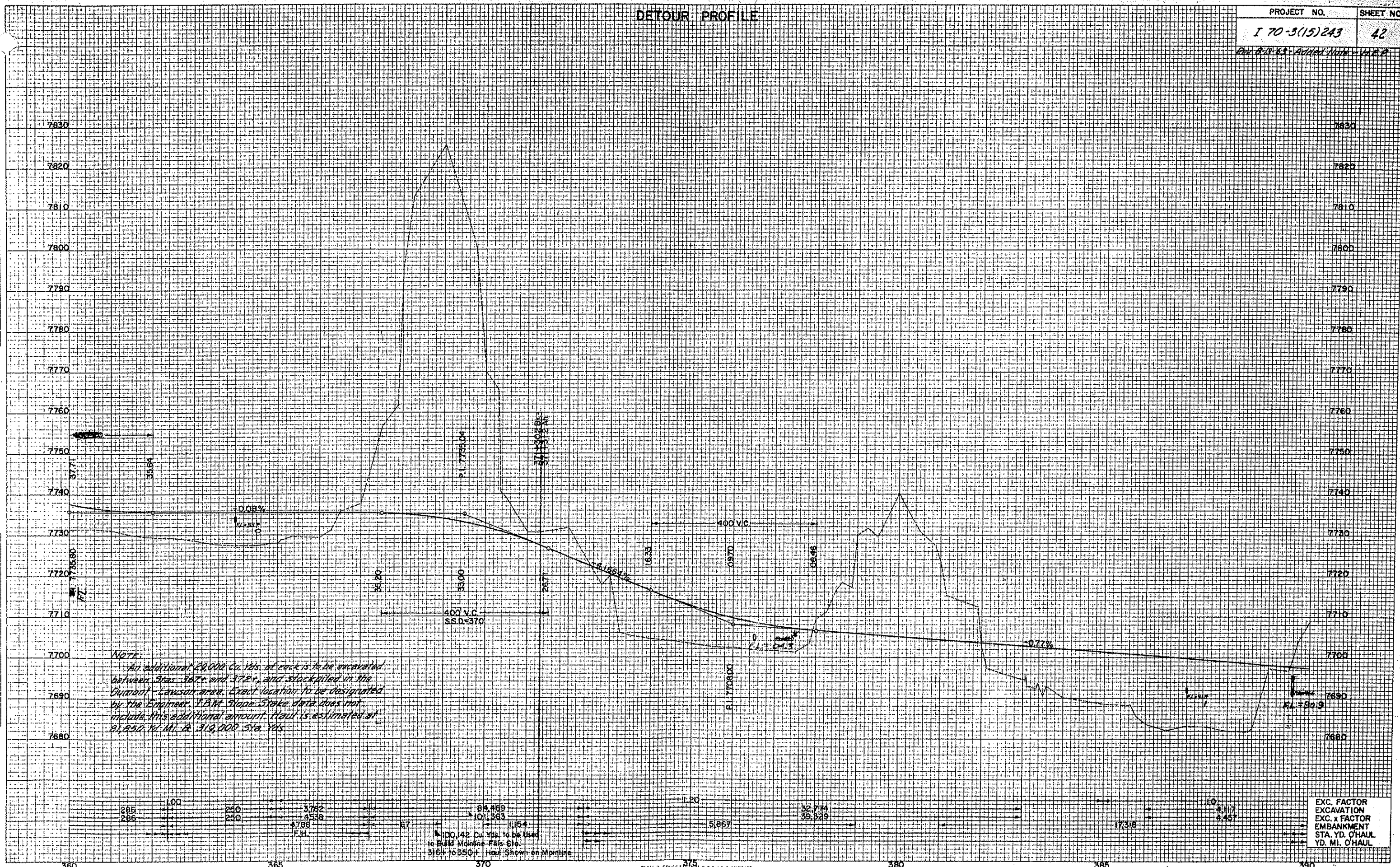


EXC. FACTOR
EXCAVATION
EXC. x FACTOR
EMBANKMENT
STA. YD. O'HAUL
YD. MI. O'HAUL

EXC. FACTOR
EXCAVATION
EXC. x FACTOR
EMBANKMENT
STA. YD. O'HAUL
YD. MI. O'HAUL

DETOUR PROFILE

PROJECT NO.	SHEET NO.
I 70-3(15)243	42
Rev. 8-10-63 - Added Note - H.R.P.	



PROFILE
 NO. 23908
 DATE 10/15/63

PROFILE
 NO. 23908
 DATE 10/15/63

NOTE:
 An additional 24,000 Cu. Yds. of rock is to be excavated between Stas. 367+ and 372+, and stockpiled in the Dunant-Lauson area. Exact location to be designated by the Engineer. I.B.M. Slope Stake data does not include this additional amount. Haul is estimated at 21,250 Yd. Mi. @ 313,000 5th Yds.

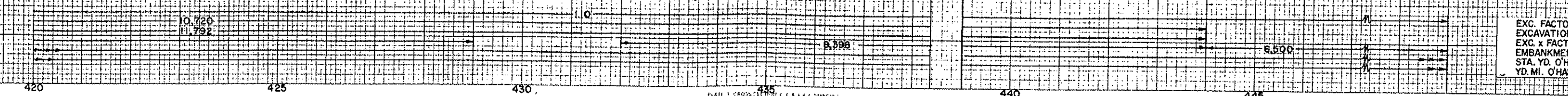
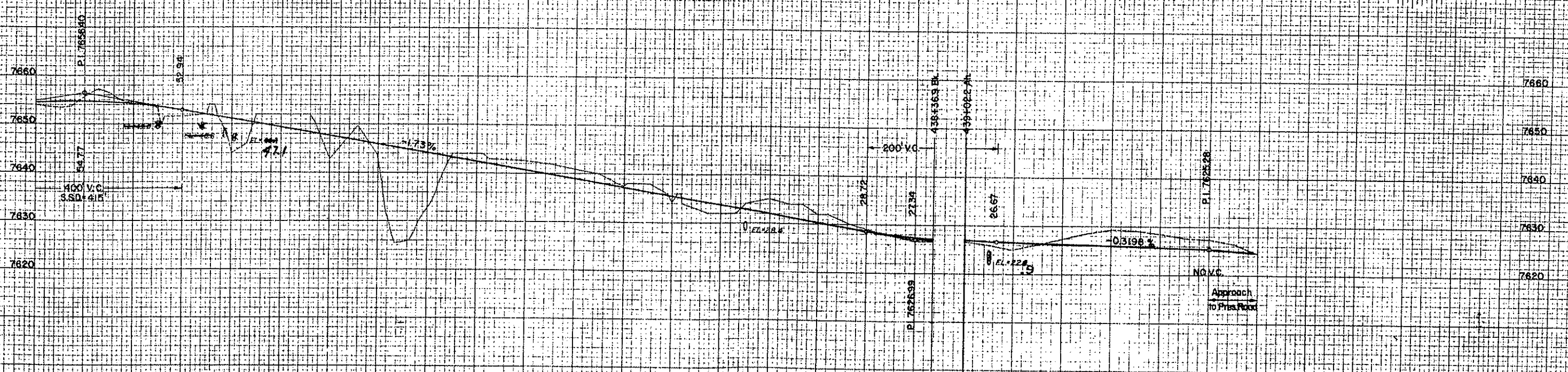
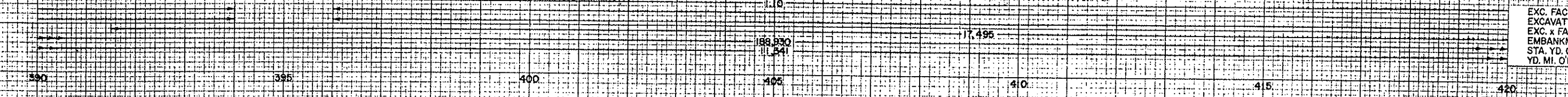
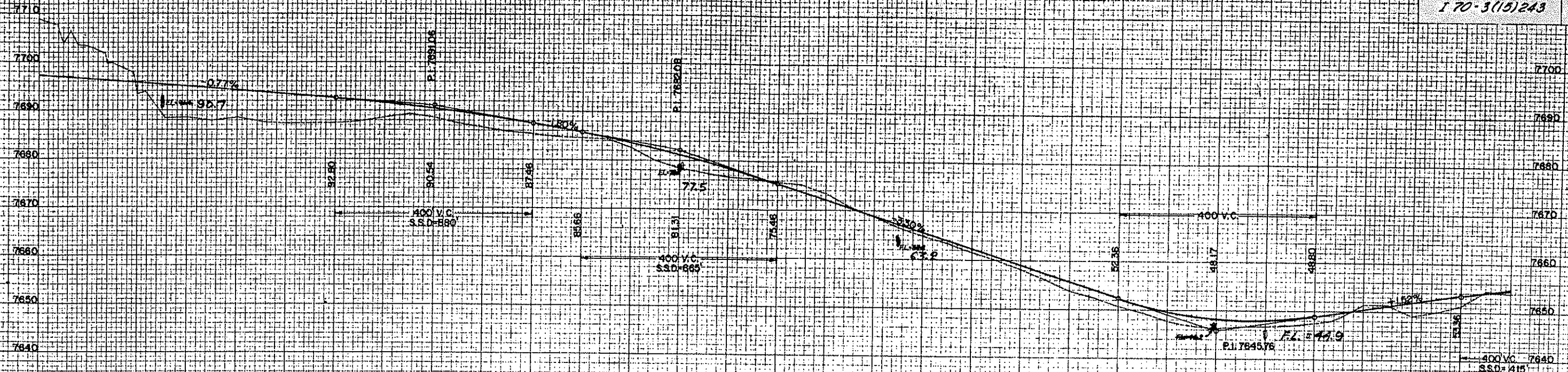
286	100	240	3782	84,489	11.20	32.74	10	10	8.457
286		240	3538	101,363	5,867	39,929			
			4788	1154					
			F.H.						

1100,42 Cu. Yds. to be used to Bulk Minefill Site. 316+ to 350+ Haul shown on Mapping

EXC. FACTOR
 EXC. x FACTOR
 STA. YD. O'HAUL
 YD. MI. O'HAUL

DETOUR PROFILE

PROJECT NO.	SHEET NO.
170-3(15)243	43



PROFILE
 DRAWN BY
 CHECKED BY
 DATE
 NO. 23942

PROFILE
 DRAWN BY
 CHECKED BY
 DATE
 NO. 23942

NE 1/4 Sec 30
T.35, R.73W

B.M. 64' Lt. 243+00
Spike in Power Pole
El. 7934.10
B.M. 110' Lt. 251+00 (Surv.)
Spike in Power Pole
El. 7918.22

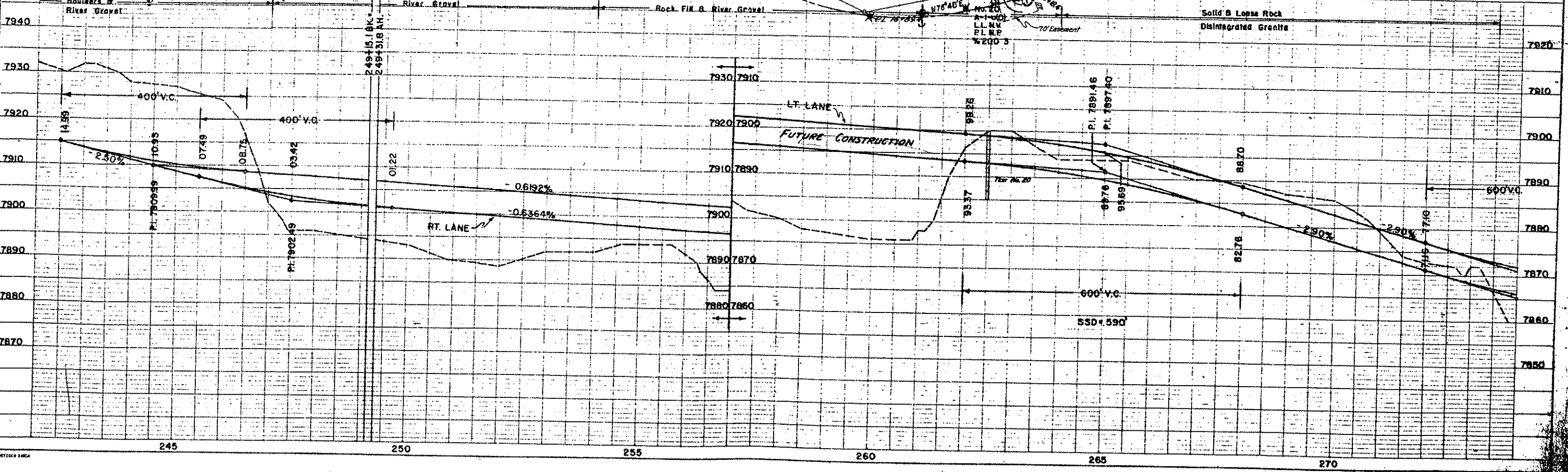
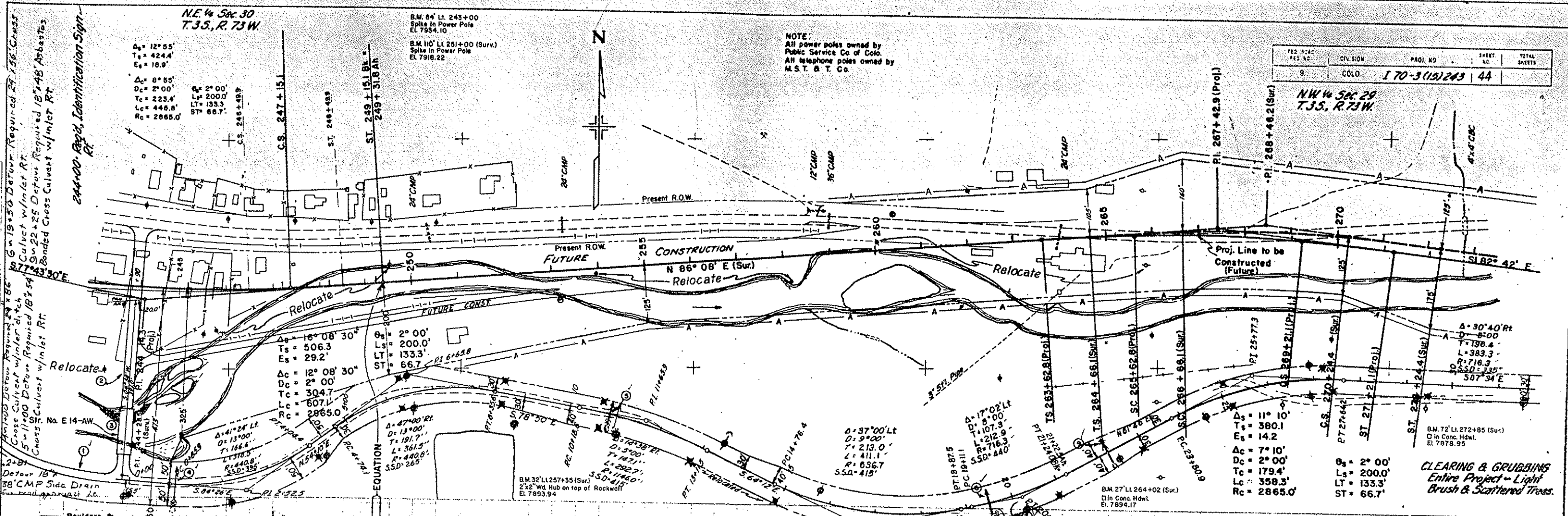
NOTE:
All power poles owned by
Public Service Co. of Colo.
All telephone poles owned by
M.S.T. & T. Co.

FED. ACCT. NO.	CIV. DIV.	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	170-3(15)243	44	

NW 1/4 Sec 20
T.35, R.73W

PLAN
 SURVEYED
 ROUTE 249
 ALBERT DILLON
 11/2/95
 11/2/95

PROFILE
 SURVEYED
 ROUTE 249
 ALBERT DILLON
 11/2/95
 11/2/95



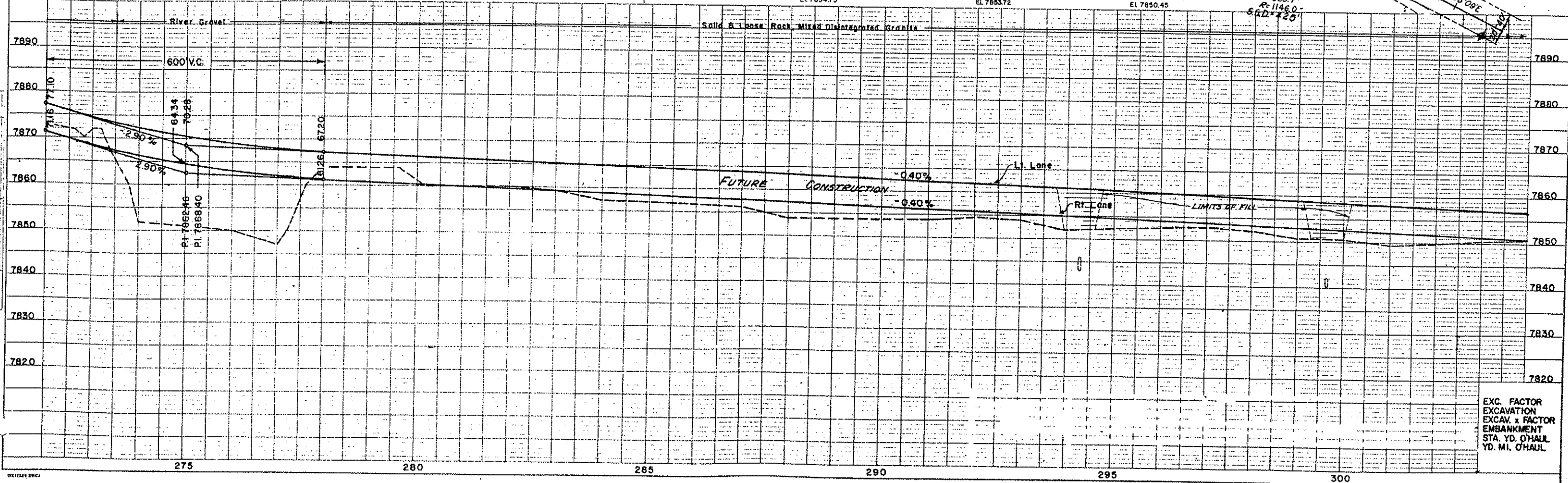
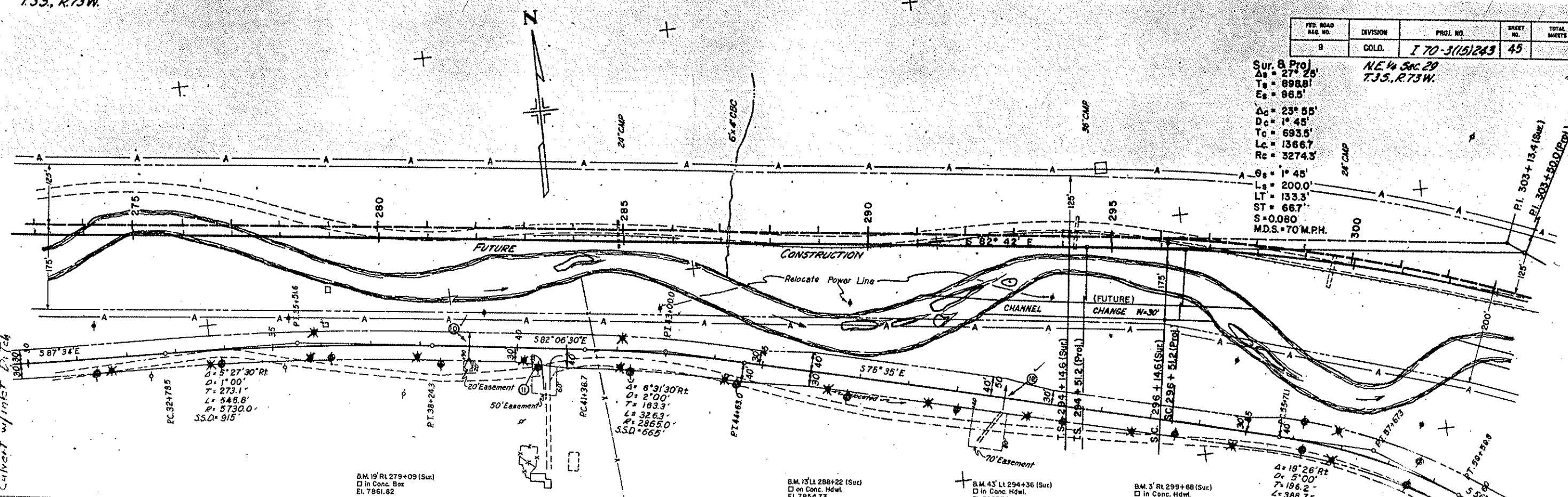
CLEARING & GRUBBING
Entire Project - Light
Brush & Scattered Trees.

N.W. 1/4 Sec. 29
T.35., R.73W.

PROJ. ROAD	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	I 70-3(15)243	45	

Sur. 6 Proj.
 $\Delta_s = 27^\circ 25'$
 $T_s = 898.81'$
 $E_s = 96.5'$
 $\Delta_c = 23^\circ 55'$
 $D_c = 1^\circ 45'$
 $T_c = 693.5'$
 $L_c = 1366.7'$
 $R_c = 3274.3'$
 $\theta_s = 1^\circ 45'$
 $L_s = 200.0'$
 $LT = 133.3'$
 $ST = 66.7'$
 $S = 0.080$
 $M.D.S. = 70 \text{ M.P.H.}$

N.E. 1/4 Sec. 29
T.35., R.73W.



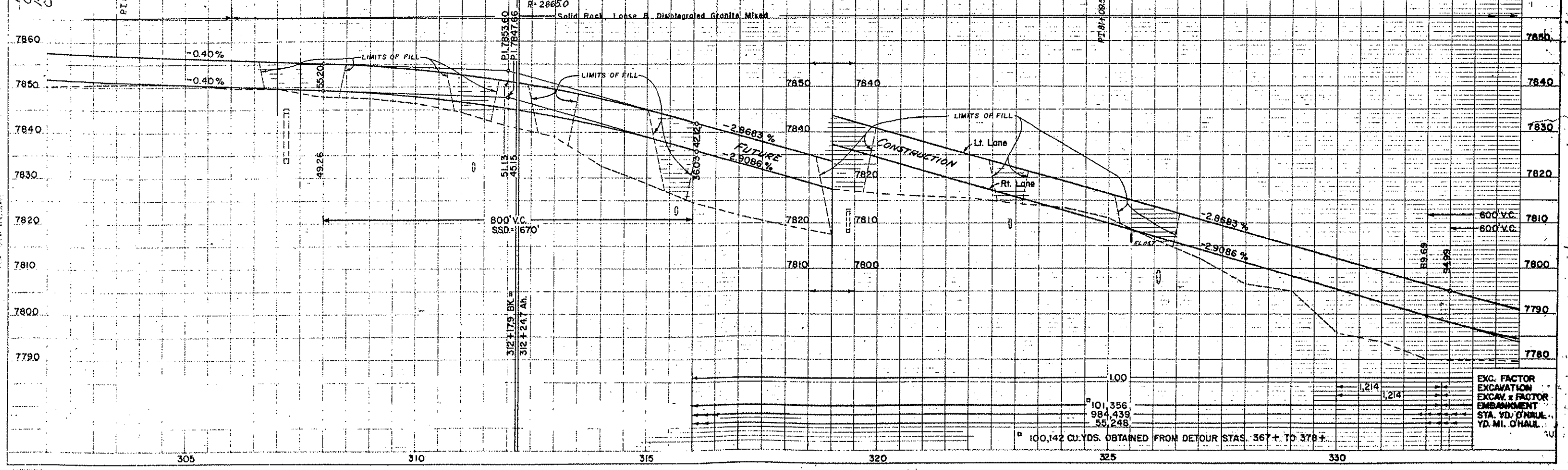
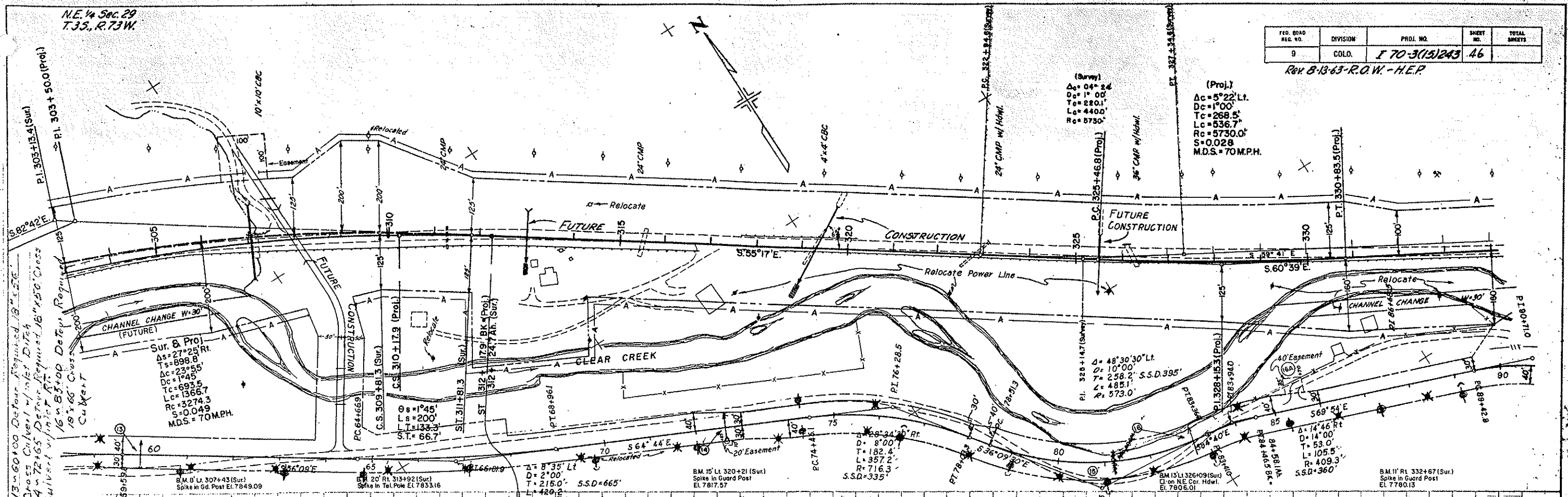
EXC. FACTOR
 EXCAV. x FACTOR
 EMBANKMENT
 STA. YD. O'HAUL
 YD. MI. O'HAUL

PLEASE DO NOT ERASE

N.E. 1/4 Sec. 29
T.35, R.73W.

FED. ROAD DIST. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I 70-3(15)243	46	

Rev 8-13-63-R.O.W.-H.E.P.

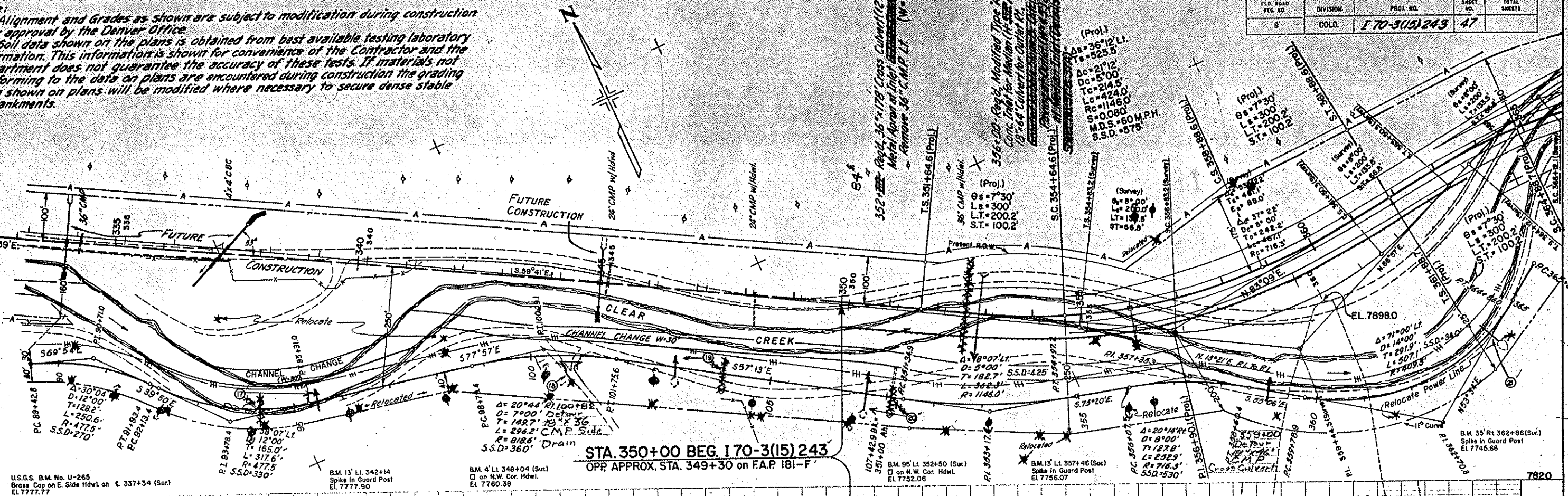


EXC. FACTOR
EXCAV. & FACTOR
EMBARMENT
STA. YD. O'HALL
YD. MI. O'HALL

FED. ROAD DIST. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLD.	170-3(15)243	47	

Note:
Alignment and Grades as shown are subject to modification during construction after approval by the Denver 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 are encountered during construction the grading plan shown on plans will be modified where necessary to secure dense stable embankments.

17 x 95' x 50' Detour Required 18' x 30' Cross Culvert
19 x 103' x 100' Detour Required 18' x 48' Cross Culvert
20 x 101' x 100' Detour Required 24' x 76' Cross Culvert
21 x 364' x 100' Detour Required 18' x 50' Cross Culvert



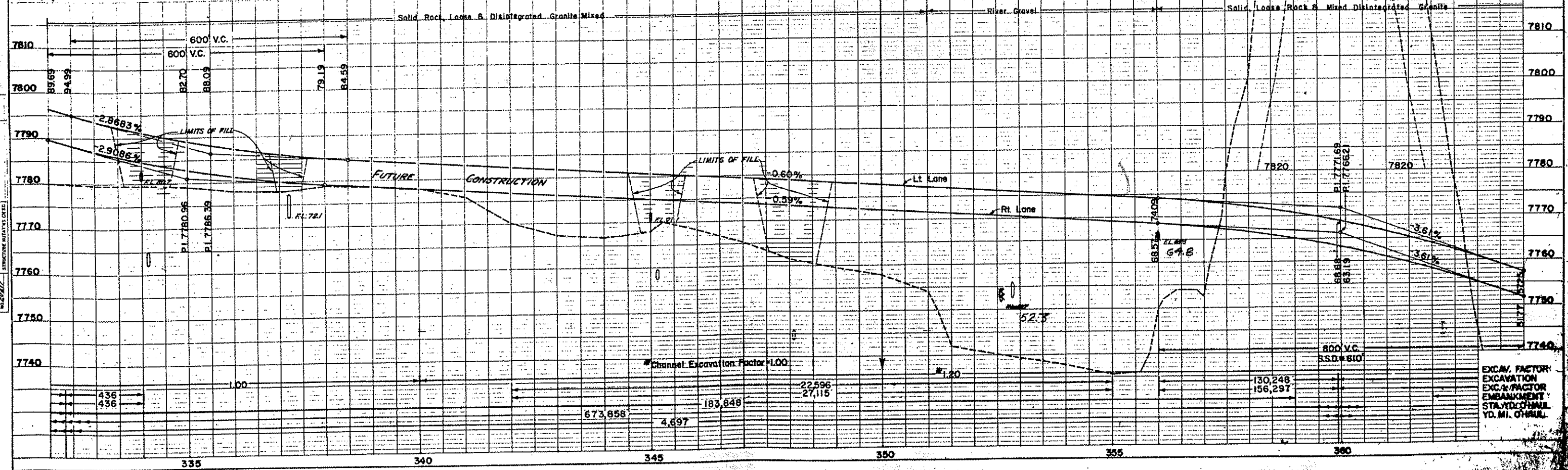
U.S.G.S. B.M. No. U-265
Brass Cop on E. Side Hdwl. on ϵ 337+34 (Sur)
EL 7777.77

B.M. 4' Lt. 348+04 (Sur)
□ on N.W. Cor. Hdwl.
EL 7760.38

B.M. 95' Lt. 352+50 (Sur)
□ on N.W. Cor. Hdwl.
EL 7752.06

B.M. 15' Lt. 357+46 (Sur)
Spike in Guard Post
EL 7756.07

B.M. 35' Rt. 362+86 (Sur)
Spike in Guard Post
EL 7745.68

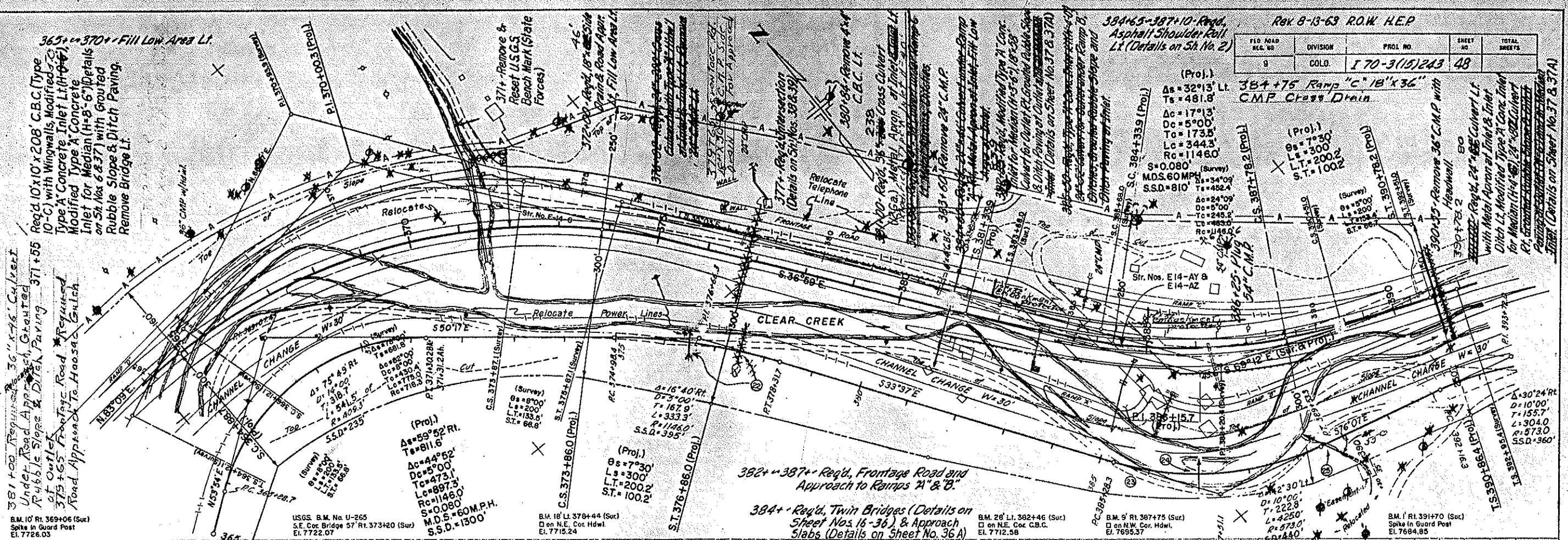


EXCAV. FACTOR
EXC./FACTOR
EMBANKMENT
STA. YD. CHANG.
YD. MI. CHANG.

PLAN SHEETS
 CHECKED
 DATE
 NO. 2227

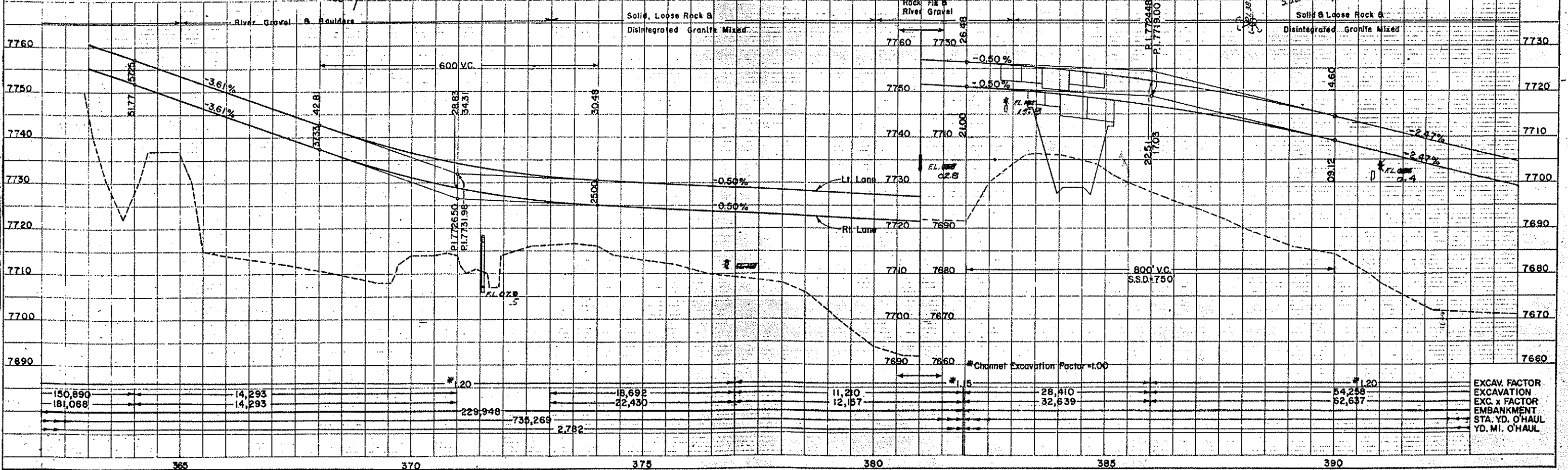
PROFILE SHEETS
 CHECKED
 DATE
 NO. 2227

22+31.67 to 22+32.00 Detour Required 18' x 60"
 Cross Culvert w/outlet ditch
 23+22 Fill low areas RT
 24+38.70 to 24+39.00 Detour Required 18' x 60"
 Cross Culvert
 25+9.58 to 25+10.00 Detour Required 18' x 60"
 Cross Culvert
 W/Inlet Ditch W=2.5' x 2.5' x 2.5'
 Frontage Road 510.58 to 510.79 24' x 15' C.M.P. Cross Culvert
 2 Type A Median Inlet L.T. RT. SKEN 75' x 42' RT
 2-12' x 32' embankment Protector
 381+00 Required 36" x 46" Culvert
 Under Road Approach to
 Rubble Slope & Ditch Paving 371+55
 at Outlet
 375+65 Footing Road Required
 Road Approach to Hoosac Gulch



REV 8-13-63 ROW HEP

FED. ROAD DIST. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	170-3(15)243	48	

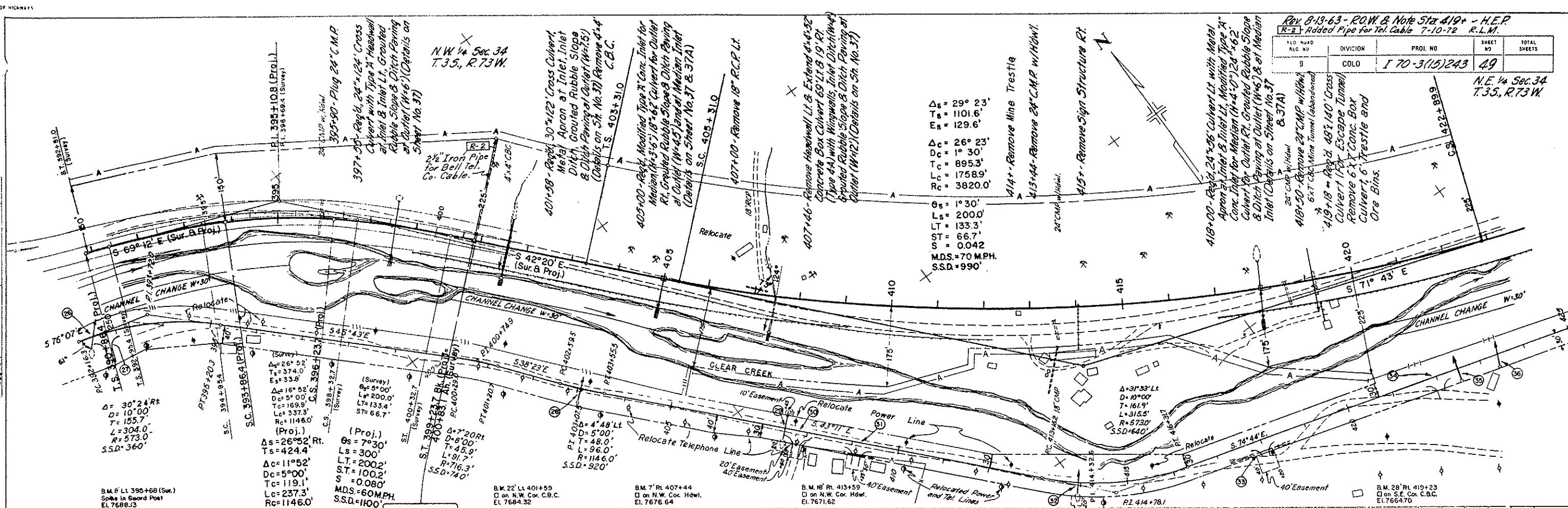


PLAN

DATE	
BY	
REVISED	
NOTED	
BY	
DATE	

PROFILE

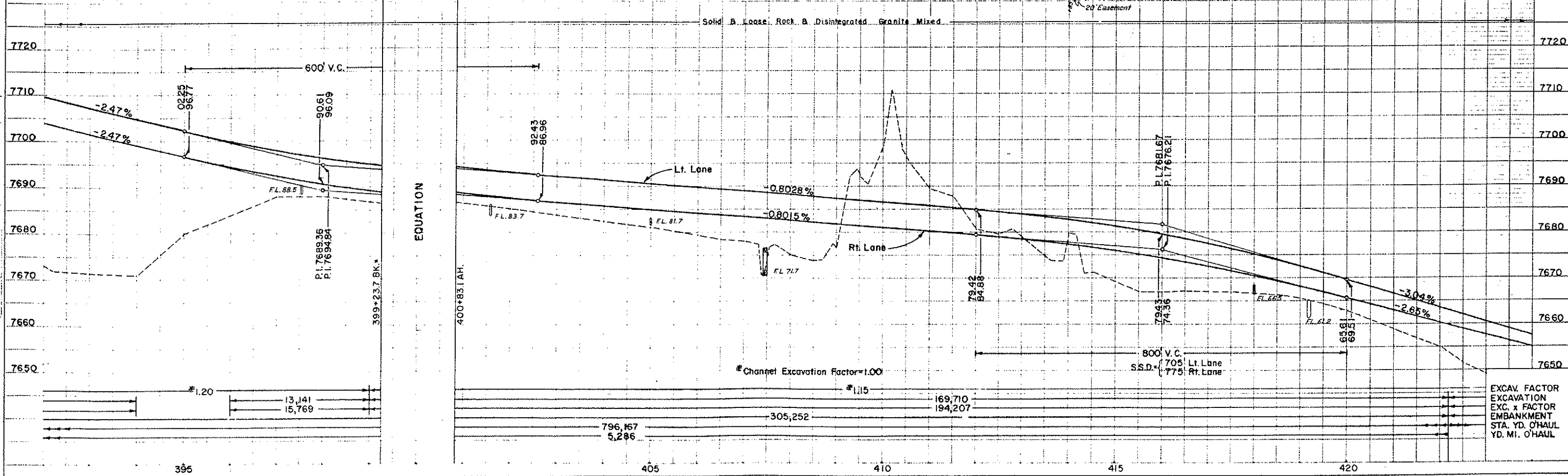
DATE	
BY	
REVISED	
NOTED	
BY	
DATE	



REV. 8-13-63 - ROW & Note Sta 419+ - H.E.P.
 R-2 - Added Pipe for Tel Cable 7-10-72 R.L.M.

PROJ. NO.	170-3(15)243
SHEET NO.	49
TOTAL SHEETS	

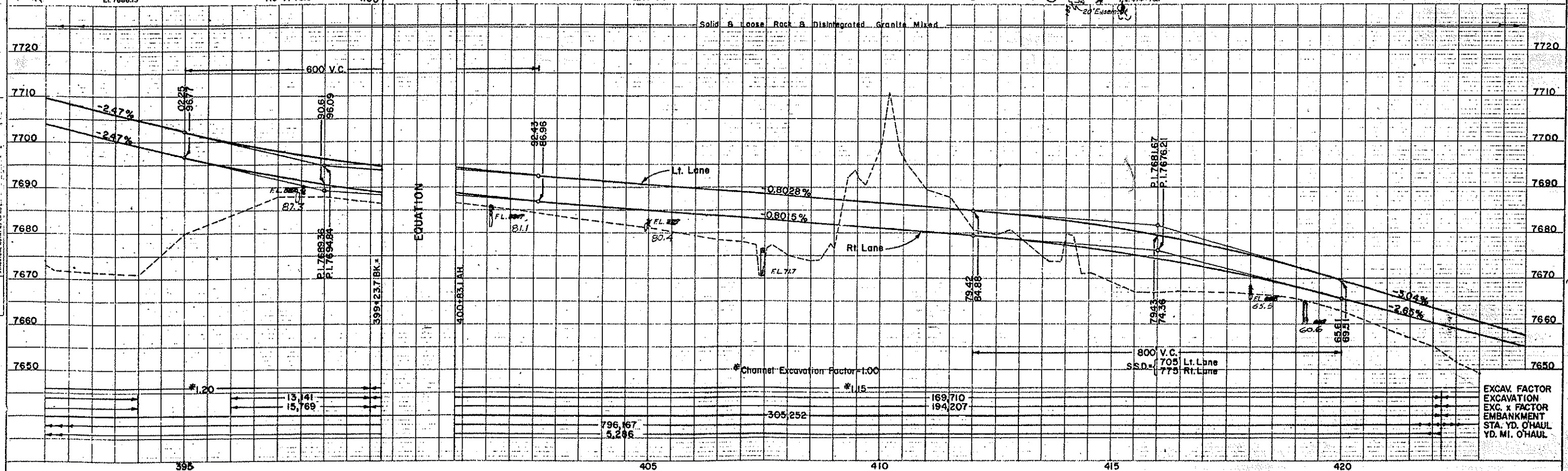
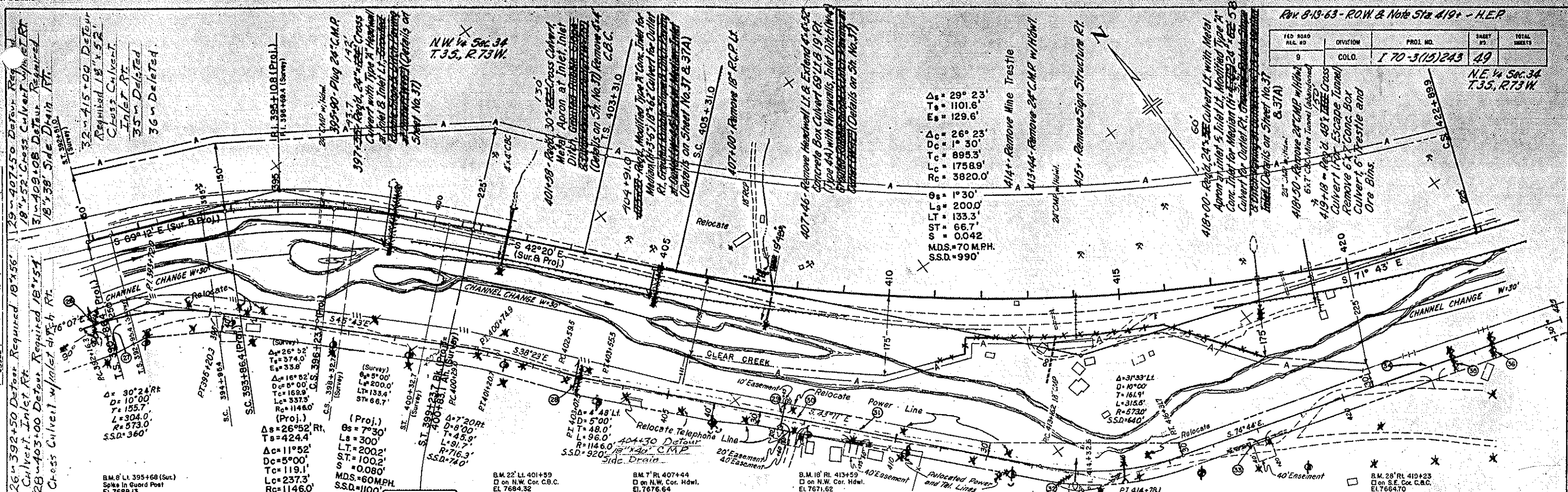
NE 1/4 Sec. 34
 T.35, R.73W



1 - Hopper
 1 - 1/2" subject
 7-17-72.D

FED. ROAD DIST. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	I 70-3(15)243	49	

N.E. 1/4 Sec. 34
T.35, R.73W



PLAN
 DIVISION
 PROJECT
 SHEET NO.
 DATE

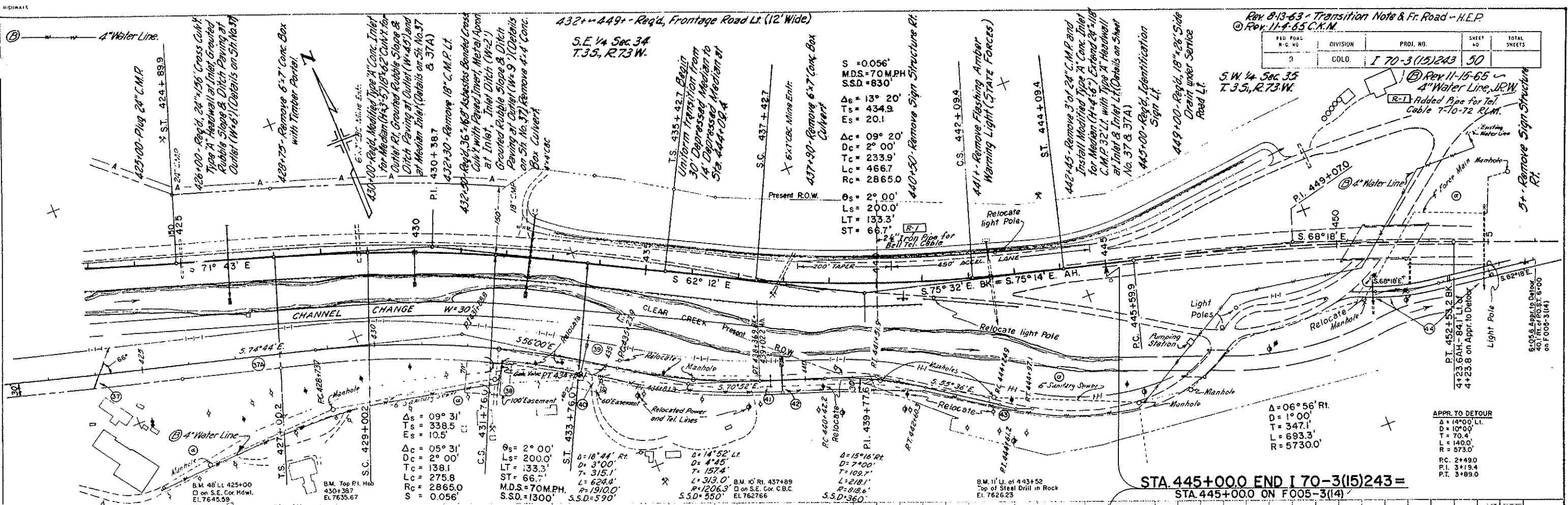
PROFILE
 DIVISION
 PROJECT
 SHEET NO.
 DATE

EXCAV. FACTOR
 EXC. x FACTOR
 EMBANKMENT
 STA. YD. O'HAUL
 YD. MI. O'HAUL

MAR 27 1963

DATE
BY
CHECKED
APPROVED
PLANNING
DESIGN
CONSTRUCTION
CONTRACTOR

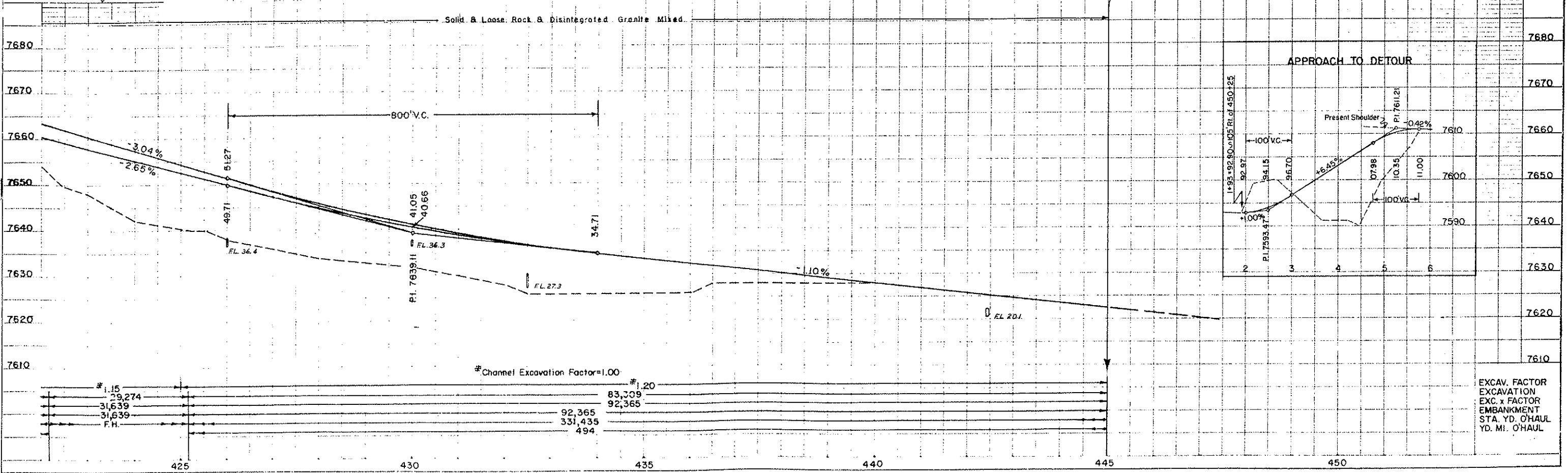
DATE
BY
CHECKED
APPROVED
PROFILE
CONSTRUCTION
CONTRACTOR



FED. ROAD DIST. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	I 70-3(15)243	50	

APPR. TO DETOUR
 $\Delta = 06^{\circ}56' \text{ Rt.}$
 $D = 1^{\circ}00'$
 $T = 347.1'$
 $L = 693.3'$
 $R = 5730.0'$

STA. 445+00.0 END I 70-3(15)243 =
 STA. 445+00.0 ON F005-3(14)

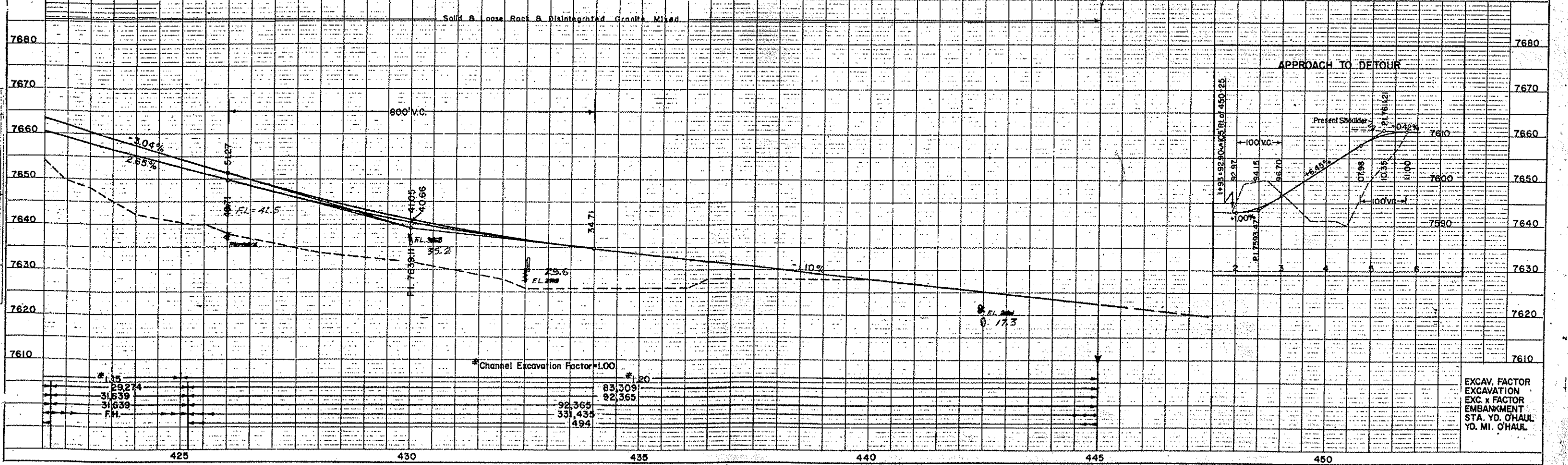
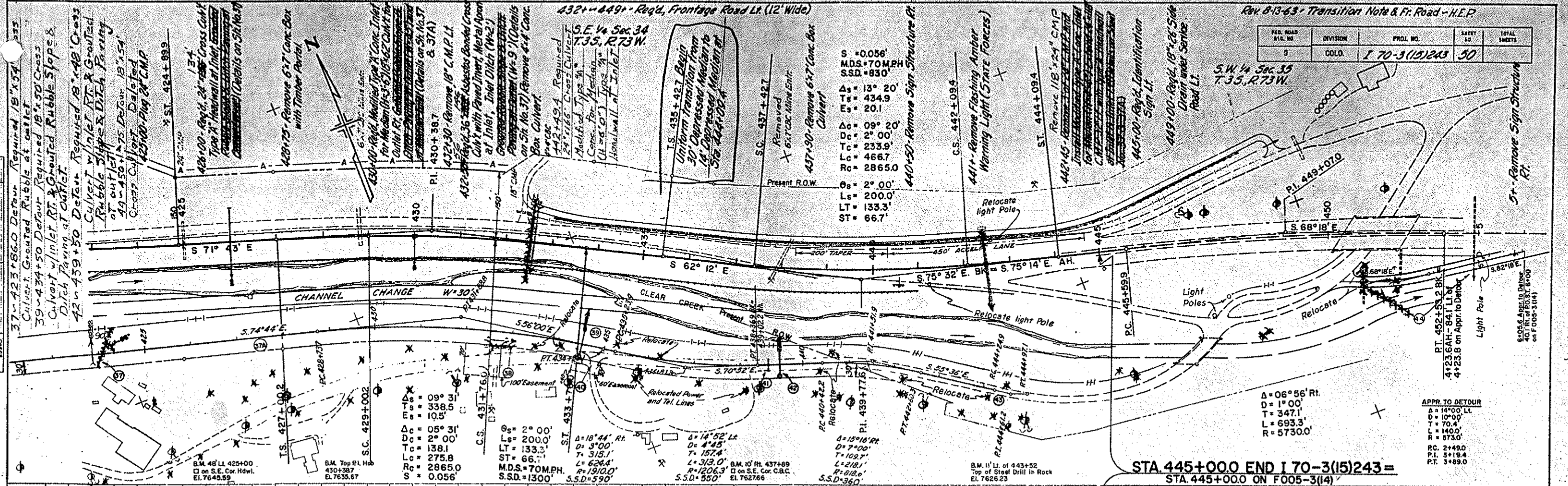


STATION	ELEVATION	EXCAVATION	EMBANKMENT	TOTAL
425	7610	1.15	29,274	29,274
430	7630	31,639	31,639	63,278
435	7650	92,365	331,435	423,800
440	7670	83,309	92,365	175,674
445	7680	494	494	988

EXCAV. FACTOR
 EXC. x FACTOR
 EMBANKMENT
 STA. YD. O'HAUL
 YD. MI. O'HAUL

1 - Hopper
 1 - Fitzpatrick

FED. ROAD DIST. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
5	COLO.	170-3(15)243	50	



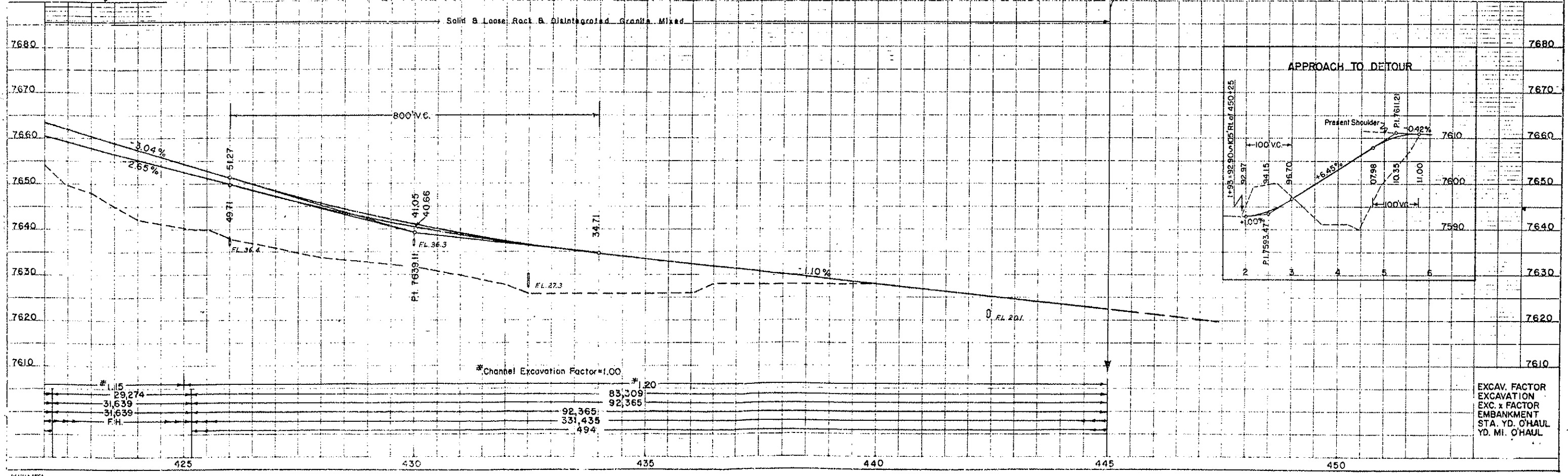
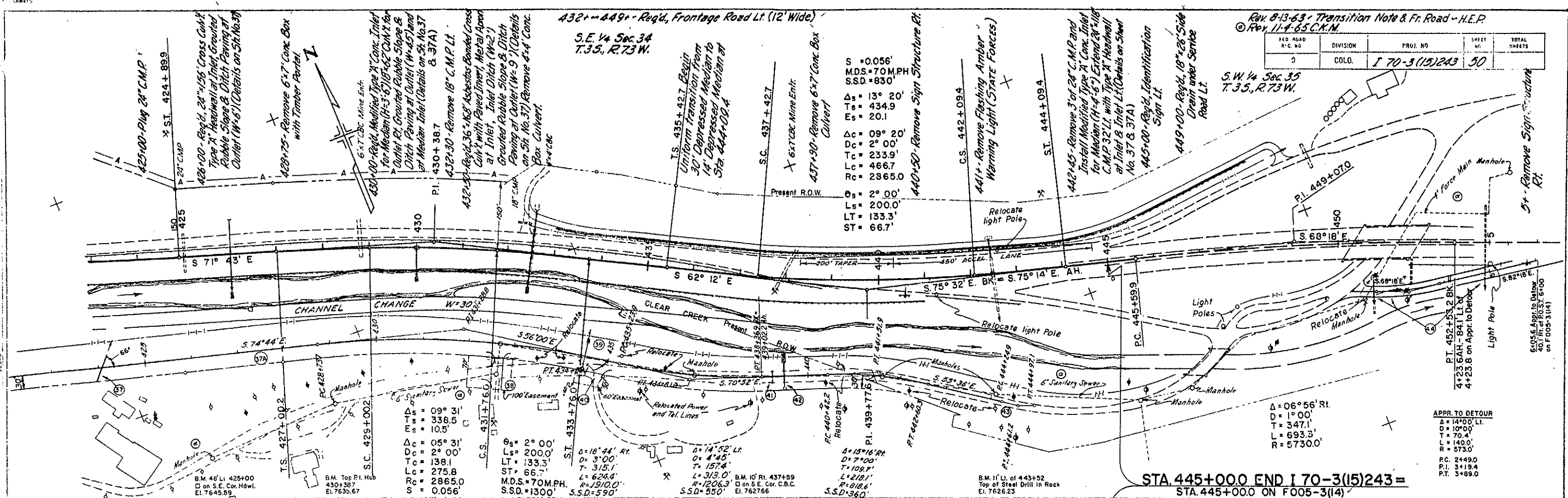
EXCAV. FACTOR
 EXC. x FACTOR
 EMBANKMENT
 STA. YD. O'HAUL
 YD. MI. O'HAUL

Witchman

Rev. 8-13-63 Transition Note & Fr. Road - H.E.P.
 © Rev. 11-4-65 C.K.M.

FED. ROAD A.C. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	I 70-3 (15) 243	50	

S.W. 1/4 Sec. 35
 T.35, R.73W.



STA. 445+00.0 END I 70-3(15)243 =
 STA. 445+00.0 ON F005-3(14)

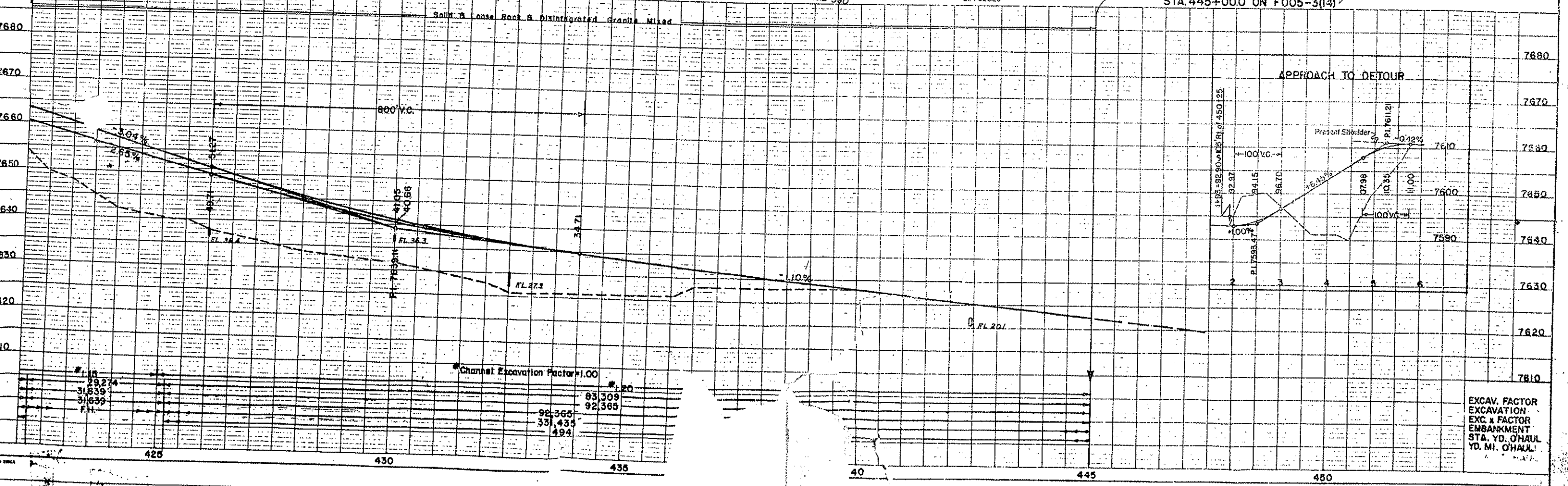
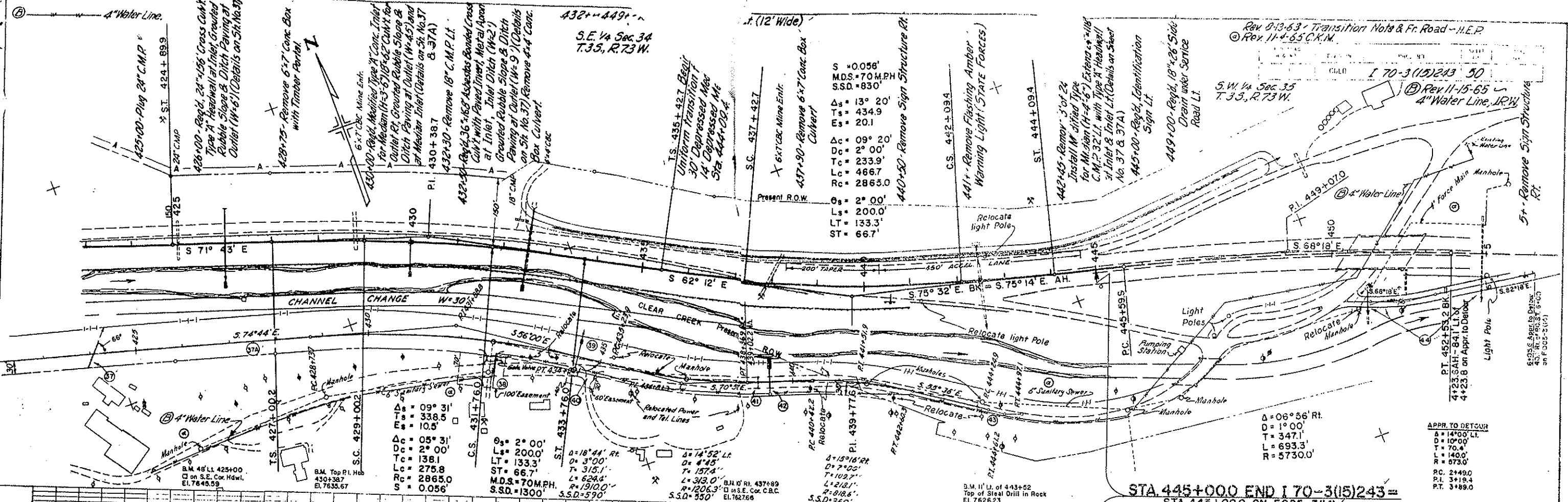
APPR. TO DETOUR
 Δ = 14°00' RI.
 D = 100'0"
 T = 70.4'
 L = 693.3'
 R = 140.0'
 R = 573.0'
 P.C. 2+490
 P.T. 3+184
 P.T. 3+690

EXCAV. FACTOR
 EXC. x FACTOR
 EMBANKMENT
 STA. YD. O'HAUL
 YD. MI. O'HAUL



DATE	
BY	
CHECKED	
APPROVED	

DATE	
BY	
CHECKED	
APPROVED	



STA. 445+000 END I 70-3(15)243 =
 STA. 445+000 ON FO05-3(14)

EXCAV. FACTOR
 EXCAVATION
 EXC. x FACTOR
 EMBANKMENT
 STA. YD. CHAUL
 YD. MI. CHAUL