

COLORADO STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED FEDERAL AID SECONDARY PROJECT NO. S 0023(I) STATE HIGHWAY NO. 71 OTERO & CROWLEY COUNTIES

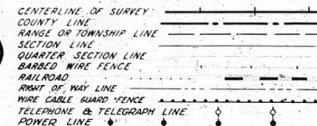
FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0023(I)	1	

Rev. 11-13-47 - W.H.M. ~ Reinf. Conc. Pipe

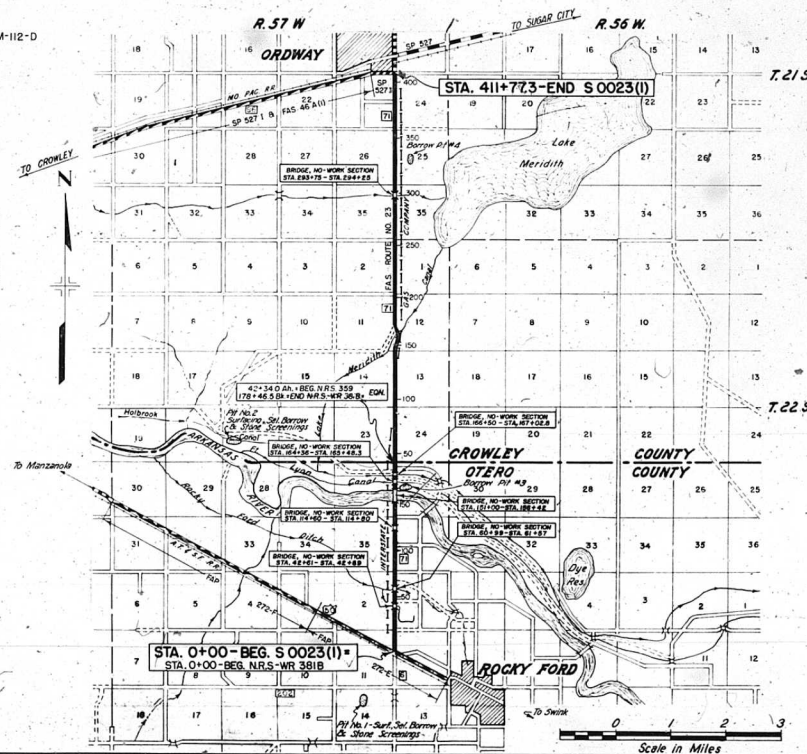
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CONVENTIONAL SIGNS



SCALE OF ORIGINAL TRACINGS
ON PLAN. 1 IN. = 100 FT.
ON PROFILE. 1 IN. = 100 FT. HORIZONTAL
1 IN. = 10 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
GROSS LENGTH OF PROJECT = 54,783.2 FT. = 10.375 MILES
NET LENGTH OF PROJECT = 53,920.1 FT. = 10.212 MILES



~NOTE~
It is recommended that bidders on this Project go over the plan details with one of the following field representatives of this department.
Mr. G.N. Miles, Division Engineer, Pueblo, Colo.
Mr. J.W. Robertson, Resident Engineer, Ordway, Colo.

RECOMMENDED FOR APPROVAL DATE

Just Bell
ASSISTANT ENGINEER
9-18-47

APPROVED DATE

Mark H. Watrous
STATE HIGHWAY ENGINEER

RECOMMENDED FOR APPROVAL DATE

DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED DATE

DIVISION ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

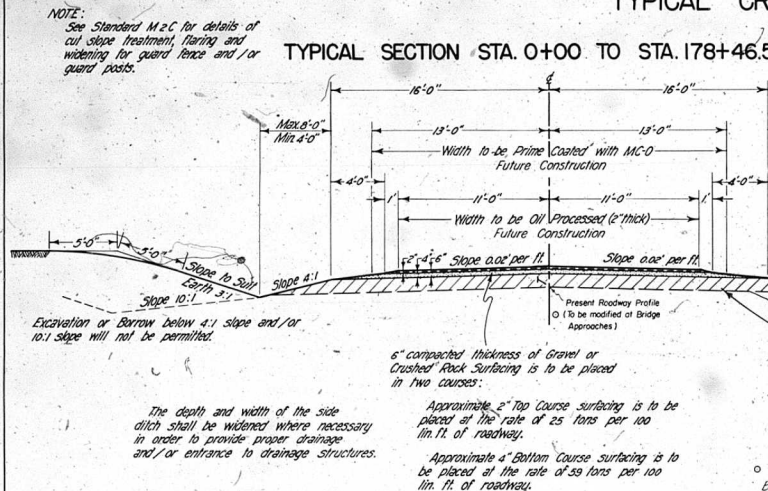
FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0023(1)	2	

Rev 11-13-47 - W.H.M. - Ref. Conc. Pipe.

TYPICAL CROSS SECTIONS OF IMPROVEMENT

TYPICAL SECTION STA. 0+00 TO STA. 178+46.5 BK.

TYPICAL SECTION STA. 42+34.0 AH. TO STA. 411+77.3

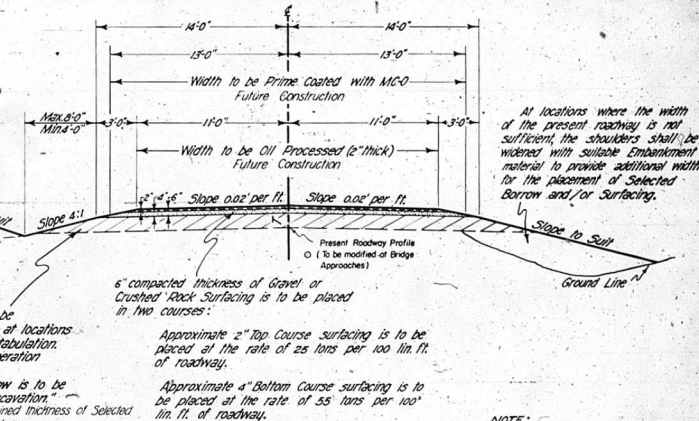


Notes pertaining to Cut Slope Treatment, Excavation or Borrow and depth of side ditch shown on the Typical Section for Sta. 0+00 to Sta. 178+46.5 shall apply to the entire project.

At locations where the width of the present roadway is not sufficient, the shoulders shall be widened with suitable Embankment material to provide additional width for the placement of Selected Borrow and/or Surfacing.

The upper portion of subgrade is to be constructed of Selected Borrow material at locations designated in Selected Borrow material tabulation. Estimated quantities involved in this operation and thickness of material required are tabulated on sheet No. 4. Selected Borrow is to be classified and paid for as Unclassified Excavation.

At Bridge approaches the present roadway shall be excavated to sufficient depth to allow for the Selected Borrow and/or Surfacing required. This excavation shall extend a sufficient distance from bridge ends to allow suitable approach grades and to provide the required thickness of Selected Borrow and/or Surfacing.



At locations where the width of the present roadway is not sufficient, the shoulders shall be widened with suitable Embankment material to provide additional width for the placement of Selected Borrow and/or Surfacing.

GENERAL NOTES

This Project is to be constructed in conformity with the Standard Specifications of the Colorado State Highway Department adopted June 1, 1940.

All quantities on preliminary plans are to be considered approximate only.

All roadway excavation required to construct this Project is to be obtained as indicated on the plans. Quantities involved beyond the limits of the ditch as shown on the Typical Section, either noted on the profile as "Borrow" or on the List of Structures as "Embankment", are to be classified and paid for as "Unclassified Excavation". These quantities are to be stated as part of the original excavation at locations indicated on the plans. Slope stakes beyond the limits of the Typical Section as shown, are subject to change by the Engineer to fit conditions actually met in construction.

All poles encroaching on construction are to be moved by the owners.

Except as otherwise noted on the plans, payment for overhaul will be based on measurement along the centerline of the project.

The entire project shall be cleared in conformity with the requirements of the Standard Specifications except that such trees or shrubs as the Engineer may designate shall be left in place and protected from damage during construction operations.

All curves are to be superelevated and widened as provided by the Standard Superelevation Sheet included with the plans, except as otherwise noted on plans.

The Detour for this project lies along the present traveled road. At all places on the project where the new work lies along the present traveled road, the Contractor shall, at his own expense, prosecute construction in such manner that traffic may readily pass over the road. Also, the Contractor shall maintain in safe condition and at his own expense, all temporary approaches to and crossings of intersecting roads.

All concrete used on this Project shall be "air-entrained" concrete.

All corrugated Metal Pipe cross culverts that are to be placed or extended shall be laid with Metal Aprons on each end unless otherwise noted on plans.

Approximately 6 inches of embankment material will be used to cover culverts in such a manner that a minimum of pipe shall be exposed in the completed work. This shall be accomplished by warping embankment slopes around and adjacent to the culvert.

At Bridge Approaches, the Oil Processing shall be widened to meet the curved width of the bridge and shall take place gradually over a distance of 300' each way from the Bridge ends.

Asphaltic Road Material, MC-O, is to be placed over a 24 ft. width of roadway previous to placing of Oil Processed Material.

All side approach roads to the project shall be Oil Processed approximately to the right of way line.

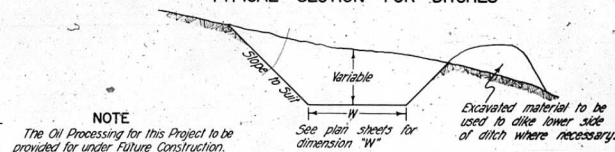
Asphaltic Road Material, MC-3, is to be used for Processing.

Asphaltic Road Material, MC-4, is to be used for Seal Coat over the entire Oil Processed Area.

Stone Screenings for this Project shall conform to requirements for aggregate specified in Item 31 of the Special Provisions.

Reinforced Concrete Pipe used on this project shall be Standard Strength Pipe.

TYPICAL SECTION FOR DITCHES



NOTE

The Oil Processing for this Project to be provided for under Future Construction.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET	TOTAL SHEETS
3	COLO.	S 0023(1)	3	

TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY		BRIDGES NO-WORK SECTION
	LINEAR FEET		
	32' RDWY	28' RDWY	LIN. FT.
0+00 BEG. S 0023(1) + 0+00 BEG. N.R.S. - WR 381 B Opposite 58+14.2 OF F&P 272 E			
42+61 Bridge End Rocky Ford Ditch	4,261.0		280
42+69 Bridge End	1,810.0		580
60+99 Bridge End A.B.S. Co. Drain Canal			
61+57 Bridge End	5,303.0		
114+60 Bridge End A.B.S. Co. Ditch			200
114+80 Bridge End	3,620.0		
151+00 Bridge End Arkansas River			542.0
156+42 Bridge End	794.0		
164+36 Bridge End Fort Lyon Canal			112.3
165+48.3 Bridge End	101.7		
166+50 Bridge End Holbrook Canal			52.8
167+02.8 Bridge End	1,143.7		
178+46.5 Bk + END N.R.S. - WR 381 B + 42+34.0 Ah. BEG. N.R.S. 359 EQUATION		13,294.0	
175+28.0 Bk + EQUATION			
175+34.6 Ah		11,840.4	
293+75 Bridge End Bob Creek			500
294+25 Bridge End		6,420.0	
358+45 END N.R.S. 359 + 358+45 On S 0023(1)		5,332.3	
411+77.3 END S 0023(1)			
TOTALS	17,033.4	36,886.7	863.1
SUMMARY			
	LIN. FT.	MILES	
S 0023 (1) 32' Roadway	17,033.4	3.226	
S 0023 (1) 28' Roadway	36,886.7	6.986	
TOTAL	53,920.1	10.212	
S 0023 (1) - No-Work Section	863.1	0.163	
TOTAL S 0023(1) Including No-Work Section	54,783.2	10.375	
DESIGN DATA			
Maximum Degree Of Curve	6°00'		
Maximum Grade	4% ±		
Minimum N.P.S.D. - Horizontal	> 1300'		
Minimum N.P.S.D. - Vertical	500' ±		
Maximum Design Speed	55 MPH.		

TIMBER GUARD POSTS

STATION	SIDE	SPACING	NO.
41+97 - 42+58	Rt. & Lt.	Bridge	10
42+92 - 43+53	Rt. & Lt.	Bridge	10
60+35 - 60+96	Rt. & Lt.	Bridge	10
61+80 - 62+61	Rt. & Lt.	Bridge	10
113+96 - 114+57	Rt. & Lt.	Bridge	10
114+63 - 115+44	Rt. & Lt.	Bridge	10
125+45	Rt. & Lt.	Culvert	2
150+36 - 150+97	Rt. & Lt.	Bridge	10
156+45 - 157+06	Rt. & Lt.	Bridge	10
163+72 - 164+33	Rt. & Lt.	Bridge	10
165+51 - 165+62	Rt. & Lt.	Bridge	8
165+86 - 166+47	Rt. & Lt.	Bridge	10
167+06 - 167+66	Rt. & Lt.	Bridge	10
TOTAL OTERO COUNTY (32' RDWY)			120
47+00	Rt. & Lt.	Culvert	2
101+00	Rt. & Lt.	Culvert	2
133+30	Rt. & Lt.	Culvert	2
168+00 - 179+00	Lt.	50'	23
169+00 - 174+00	Rt.	100'	6
203+74	Rt. & Lt.	Culvert	2
255+96	Rt. & Lt.	Culvert	2
293+11 - 293+72	Rt. & Lt.	Bridge	10
294+28 - 294+89	Rt. & Lt.	Bridge	10
332+75	Rt. & Lt.	Culvert	2
358+32	Rt. & Lt.	Culvert	2
359+08	Rt. & Lt.	Culvert	2
359+45	Rt. & Lt.	Culvert	2
TOTAL CROWLEY COUNTY (28' RDWY)			67

REMOVING GUARD FENCE

LOCATION	SIDE	REMOVE GUARD FENCE
		LIN. FT.
42+00 - 42+61	Rt. & Lt.	122
42+69 - 43+40	Rt. & Lt.	102
114+10 - 114+60	Rt. & Lt.	100
114+80 - 115+30	Rt. & Lt.	100
150+50 - 157+00	Rt. & Lt.	100
156+42 - 156+92	Rt. & Lt.	100
165+48 - 165+89	Rt. & Lt.	80
167+03 - 167+43	Rt. & Lt.	80
TOTAL 32' RDWY.		784
169+00 - 172+00	Lt.	270
TOTAL 28' RDWY.		270

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT	FUTURE CONSTRUCT.				PROJECT TOTALS
			32' RDWY	32' RDWY	28' RDWY	28' RDWY	
10a	Clearing & Grubbing Entire Project	Lump Sum					
10b	Clearing & Grubbing Entire Project	Lump Sum					
11a	Removal Of B Structures	Lump Sum					
11b	Remove Conc. Catch Basin, 30' of CMP & Plug 24" Cross Culv. Sta. 19+	Lump Sum					
11c	Remove Headwall & Cut Keyway	Each					
11d	Removing Oil Surfacing	Sq. Yd.	41,700		2		41,700
12a	Removing Fence	Lm. Ft.			1,500		1,500
12y	Removing Guard Fence	Lm. Ft.	800		300		1,100
13c	Unclassified Excavation	Cu. Yd.	20,700		80,300		101,000
13d	Unclassified Ditch Excavation	Cu. Yd.	3,000		100		3,100
14a	Dry Rock Excavation (Structural)	Cu. Yd.	20		10		30
14b	Dry Common Excavation (Structural)	Cu. Yd.	250		170		420
14c	Wet Rock Excavation (Structural)	Cu. Yd.	10		10		20
14d	Wet Common Excavation (Structural)	Cu. Yd.	200		110		310
14e	Mechanical Tamping	Hr.			10		10
15a	Rolling Embankments & Cuts	Unit Hr.	110		290		400
15b	Furnishing Roller	Roll Unit	2		2		4
15c	Wetting Embankments & Cuts	M-Gal	800		2,360		3,160
15d	Rolling With Finishing Roller	Hr.	160		430		590
15e	Furnishing Finishing Roller	Lump Sum					
15x	Wetting Surfacing	M-Gal					
15y	Selected Backfill	Cu. Yd.			70		70
18a	Station Yard Overhaul	Sq. Yd.	201,000		6,300,000		831,000
18b	Yard Mile Overhaul	Yd. Mile	42,300		356,800		399,100
26a	Gravel Or Crushed Rock Surfacing	Ton					
26c	Overhaul Of Surfacing	Ton Mile	15,300		30,300		45,600
30e	Asphaltic Road Material RC-4	Gal.					
30g	Asphaltic Road Material MC-0	Gal.					
30j	Asphaltic Road Material MC-3	Gal.					
31a	Road Mix Oil Processing	Sq. Yd.					
31b	Stone Screenings in Stockpile	Ton					
31c	Rolling Surfacing (Rubber Tired)	Hr.					
31f	Rolling Surfacing (Flat Wheeled)	Hr.					
31g	Furnishing Roller (Rubber Tired)	Lump Sum					
31h	Furnishing Roller (Flat Wheeled)	Lump Sum					
44b	Miscellaneous Treated Timber	M Ft. bm.					
46a	Class A Concrete	Cu. Yd.					
47	Reinforcing Steel	Lb.	4		11		15
53b	18" Corrugated Metal Culvert Pipe (Asphalt Coated)	Lm. Ft.	230		70		300
53c	24" Corrugated Metal Culvert Pipe (Asphalt Coated)	Lm. Ft.	240		20		260
53d	30" Corrugated Metal Culvert Pipe (Asphalt Coated)	Lm. Ft.			82		82
53e	36" Corrugated Metal Culvert Pipe (Asphalt Coated)	Lm. Ft.	310		90		360
53k	84" Corrugated Metal Culvert Pipe (Asphalt Coated)	Lm. Ft.			176		176
53x	21" Corrugated Metal Culvert Pipe (Asphalt Coated)	Lm. Ft.			14		14
59a	Treated Sheet Piling	Lm. Ft.			6,912		6,912
67a	Riprap	Cu. Yd.			90		90
76a	Barbed Wire Fence With Treated Wooden Posts	Lm. Ft.			1,700		1,700
76g	Barbed Wire Gates	Each			1		1
81a	Project Markers	Each	1		1		2
81b	Right Of Way Markers	Each			5		5
85e	Trash Guard For 36" Siphon	Each	1				1
92	Timber Guard Posts	Each	120		67		187
95b	Metal Aprons For 18" CMP Culverts (Asphalt Coated)	Each			2		2
95c	Metal Aprons For 24" CMP Culverts (Asphalt Coated)	Each			6		6
95d	Metal Aprons For 30" CMP Culverts (Asphalt Coated)	Each			6		6
95e	Metal Aprons For 36" CMP Culverts (Asphalt Coated)	Each			6		6
101	Scoring, Windrowing & Compacting Surfacing	Sq. Yd.			54,500		110,300
ALTERNATE ITEMS FOR REINFORCED CONCRETE PIPE CULVERTS. The following items are to be bid upon in lieu of the foregoing items 53b, 53c, 53d, 53e, 53k, 53x and 95b, 95c, 95d, 95e.							
52b	18" Reinforced Concrete Culvert Pipe	Lm. Ft.					308
52c	24" "	"					106
52d	30" "	"					176
52e	36" "	"					176
52f	84" "	"					176
52x	21" "	"					14
95f	Metal Aprons For 24" CMP culverts (Asphalt Coated)	Each					2

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0023 (I)	4	

SELECTED BORROW MATERIAL TABULATION

It is estimated that Selected Borrow material for the project is available in the vicinity of the pits indicated in the following tabulation. Estimated quantities involved in this operation are shown below.

Alteration of the Selected Borrow material plan as here outlined will be allowed only on written permission from the Department.

MATERIAL TO BE PLACED	SOURCE	QUANTITY				OVERHAUL				THICKNESS CURVE USED
		AVAILABLE	THICKNESS	CU. YDS. USED		32' RDWY		26' RDWY		
				32' RDWY	26' RDWY	STA. YDS.	YD. MI.	STA. YDS.	YD. MI.	
0+00 To 15+00 15+00 " 25+00 25+00 " 31+00 31+00 " 42+61	PIT No. 1		Spot Loads 6" Spot Loads 6"	76 730 145 848		836 8030 1595 9328	94 1077 236 1521			"D" " " "
42+89 " 60+99 61+57 " 97+00	W. 1/2, OF N.E. 1/4, & E. 1/2, OF N.W. 1/4, SEC. 14 T. 23 S., R. 57 W. (1.4 Miles from Sta. 0+00)	AMPLE	6" 6"	1321 2586		14531 28446	2749 6720			" "
97+00 " 114+60 114+80 " 121+00 121+00 " 151+00			12" 12" 8"	2710 955 2970		29810 10505 32670	8403 3180 10908			" " "
156+42 " 164+36			8"	786		8646	3250			"
165+48.3 " 166+50			8"	101		1111	428			"
167+02.8 " 170+00			8"	294		3234	1261			"
163+00 Ah. 169+00 Ah. 169+00 Ah. 294+25 " 411+77.3	PIT No. 2 N. 1/2, OF SW. 1/4, SEC. 21 T. 22 S., R. 57 W. (3 Miles from Sta. 169+50 Bk.)	60,000 Cu. Yds. Avail- able for Surf. & Selected Borrow	4" 16" 16"	252 23690 22329		2772 260590 245619	1313 152714 195366			" " " "
TOTALS.				13,522	46,271	148,742	39,827	508,981	349,393	

Note: Spot loads are for widening present surfacing to required width.

SURFACING PLAN

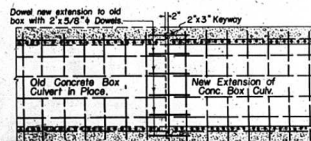
It is estimated that material for Gravel Surfacing for the project is available in the vicinity of the pits indicated in the following tabulation. Estimated quantities involved in this operation are shown below.

Alteration of the Surfacing Plan as here outlined will be allowed only on written permission from the Department.

MATERIAL TO BE PLACED	SOURCE	AVAILABLE	QUANTITY				OVERHAUL	
			TONS USED	32' RDWY	26' RDWY	TON MILES	32' RDWY	26' RDWY
0+00 To 42+61 42+89 " 60+99	PIT No. 1	AMPLE	1,065 453	2,514 1,068		2,876 2,106		
61+57 " 114+80 114+80 " 156+42 156+42 " 165+48.3	W. 1/2, OF N.E. 1/4, & E. 1/2, OF N.W. 1/4, SEC. 14, T. 23 S., R. 57 W. (1.4 Miles from Sta. 0+00)		1,326 905 199 25	3,129 2,136 468 60		9,214 8,871 2,293 301		
167+02.8 " 178+46.5 Bk. 42+34.0 Ah. Estimated for Approaches Estimated for Bridge Widening			286 835 150	675 4,011 8,824		3,529 4,135 743		68,016
202+84 " 293+75 294+25 " 411+77.3	N. 1/2, OF S.W. 1/4, SEC. 21, T. 22 S., R. 57 W. (3 Miles from Sta. 169+50 Bk.)	60,000 Cu. Yds. available for Surf. & Selected Borrow		2,273 2,938	5,000 6,464	44,141 75,709		
Estimated for Approaches				700		3,467		
TOTALS			5,244	10,050	9,922	20,288	34,067	191,333

★ It is estimated 10% Binder will be added to Surfacing at Pit No. 2. Binder Pit is located approximately 300' West of Surfacing Pit.

DETAIL OF JOINT FOR C.B.C. EXTENSION STA. 358+



NOTE: The cost of removing headwall and cutting highway is to be paid for at the contract unit price each.

Place one Dowel to each U-bar shown on Standard Concrete-Box Culvert Sheet M-103-F.

Dowel bars are to be grouted in place with a cement grout composed of one part cement and two parts of clean, well graded sand. The cost of drilling holes, grouting and placing dowels is to be included in payment for Reinforcement Steel.

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3	COLO.	S 0023 (1)	5	

LIST OF STRUCTURES

STATION	DESCRIPTION	REMOVE STRUCT.	EXCAVATION				STRUCTURAL EXCAVATION	SELECT. BACK- FILL	GRAVEL CRUSHED ROCK SAND FILL TREATED TIMBER	CONCRETE	REINF. STEEL	TREATED SHEET PILING	RIPRAP	CORRUGATED METAL CULVERT PIPE				METAL APRONS FOR G.M.P. CULVERTS				R.O.W. MARKERS	MISCELLANEOUS																																																																																																																																																																																																																																																																																																																																																																																																																				
			UNCLASSIFIED	UNCL. DITCH	CU. YD.									CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.			CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0023 (1)	6	

LIST OF STRUCTURES CONTINUED FROM SHEET 5

STATION	DESCRIPTION	REMOVE STRUCT.	EXCAVATION				STRUCTURAL EXCAVATION	SELECT. BACK- FILL	OR GRAVEL OR CRUSHED ROCK SURE	MISC. ITEMS THESER	CONCRETE	REINF. STEEL	TREATED SHEET PILING	RIPRAP	CORRUGATED CULVERT				METAL C.M.P. CULVERTS				ROW MARKERS	MISCELLANEOUS									
			UNCLASSIFIED	UNCL. DITCH	CU. YD.	CU. YD.									CU. YD.	CU. YD.	TON	FI. BM	CU. YD.	LB.	LIN. FT.	CU. YD.			LINEAR				EACH				
																									18"	24"	30"	36"	18"	24"	30"	36"	EACH
46+95	Extend 24" Cr. Culk 6" LI, 4" RI, Ditches (W-1), Diversion Ditch at Inlet & Outlet			10	10	8		5									4+1 6+1			2													
42+1072+	Adjust Borrow Ditch Grade, LI.			375																													
101+00 104+00	Diversion Ditch RI & LI and Ditches for Cross Culk (W-1) Road Approach, RI & LI.			10	25			40																									
130+10 136+ 133+30 151+00 167+72	Adjust Borrow Ditch Grade RI & LI Outlet Ditch for Cross Culvert (W-1) Road Approach, RI & LI Right Of Way Marker, LI.			350	25			40																									
167+72 to 182+00 167+08 167+08 to 182+00 168+08 169+ to 180+	B.W. Fence, LI Right Of Way Marker, LI Remove B.W. Fence LI Road Approach, RI Channel Change LI, (W-12)							20															1660 lin. LI, B.W. Fence 1430 lin. LI, Removing B.W. Fence										
169+ to 180+ 169+54.2 170+00 171+00	Channel Change LI, (Plating) Right Of Way Marker LI Double Side Drain, Road Approach, & B.W. Gate, LI Ditch Check LI.			900																			80 Lin. LI, 84" C.M.P., 1 B.W. Gate										
171+80 172+60 173+40 174+20	Ditch Check LI Ditch Check LI Ditch Check LI Ditch Check LI.					12 12 12 12		65	98 98 98 98				576 576 576 576	7 7 7 7																			
174+23.6 175+00 175+57 176+67	Right Of Way Marker LI Ditch Check LI Ditch Check LI Ditch Check LI.					12 12 12 12		98 98 98 98					576 576 576 576	7 7 7 7																			
177+47 178+27 179+07 179+87 182+00	Ditch Check LI Ditch Check LI Ditch Check LI Ditch Check LI Right Of Way Marker LI.					12 12 12 12		98 98 98 98					576 576 576 576	7 7 7 7																			
203+50 209+50 209+11 209+60	Road Approach, RI & LI Road Approach, RI & LI Road Approach, RI & LI Road Approach, LI.			50 20 35 10				80 40 60 20																									
300+31 306+80 307+00 317+80	Extend 36" Cr. Culk 2" LI & 4" RI, Outlet ditch (W-12) Road Approach, LI Road Approach, RI Road Approach, RI & LI.			600	10 10 20	2		1	20 20 40								2+1 11			2													
330+65 332+75 345+50	Road Approach, LI Cross Culvert & Outlet ditch (W-12) Ditch at Inlet & Outlet, Side Drain in Irrigation ditch, RI Road Approach, LI.			1000	10 10 10	32		20	20 20					18		42			2														
347+50 357+35 358+63 359+82	Road Approach, RI Road Approach, LI Road Approach, LI Road Approach, RI.			10 10 25 10				20 20 45 20																									
368+10 369+27	Road Approach, LI Road Approach, RI.			10 10				10 10																									

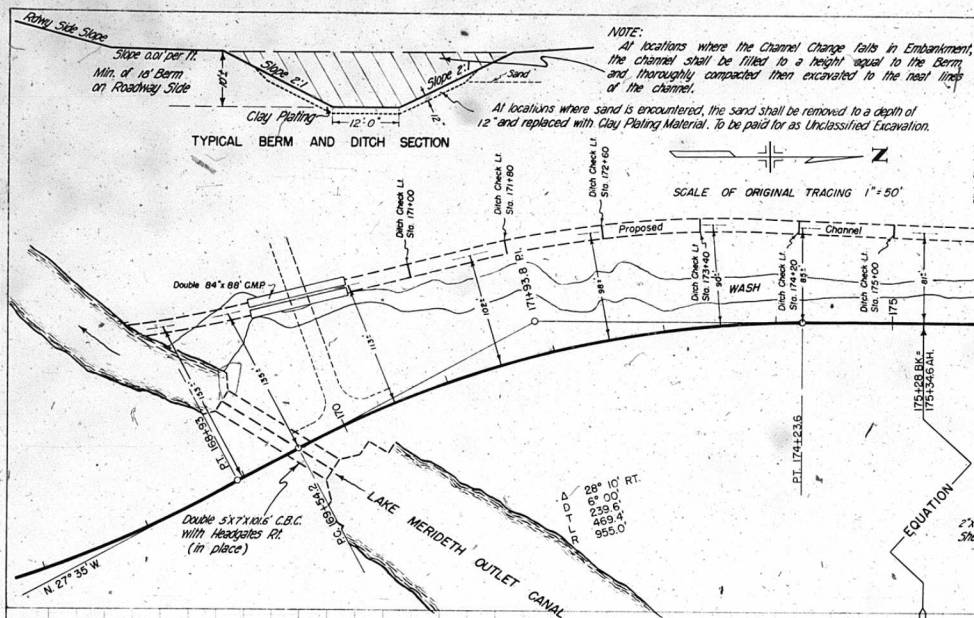
CONTINUED ON SHEET 7

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0023 (1)	7	

LIST OF STRUCTURES CONTINUED FROM SHEET 6

CONTINUED FROM SHEET 6																													
STATION	DESCRIPTION	REMOVE STRUCT.	EXCAVATION			STRUCTURAL EXCAVATION			SELECT. BACK- FILL	OR GRAVEL CRUSHED ROCK SURF	TREATED TIMBER	CONCRETE		REINF. STEEL	TREATED SHEET PILING	RIPRAP	CORRUGATED METAL CULVERT PIPE				METAL APRONS FOR C.M.P. CULVERTS				ROW MARKERS	MISCELLANEOUS			
			UNCLASSIFIED	UNCL. DITCH	CU. YD.			CU. YD.				TON	Ft. lin				CU. YD.	LIN. FT.	CU. YD.	LINEAR		FEET		EACH					
					NO.	EXCAV.	EMB.													CU. YD.	CU. YD.	18"	24"	30"			36"	18"	24"
372+8.5 381+16 384+98 386+25	Road Approach, Lt. Road Approach, Lt. Road Approach, Rt. Road Approach, Lt.			10 10 10 10						10 10 10 10																			
389+75 391+62 392+07	Road Approach, Lt. Road Approach, Rt. Road Approach, Lt.			10 10 10						10 10 10																			
396+00 408+38 411+77.3	Road Approach, Lt. Road Approach, Rt. Project Marker			10 10						10 10																1- Project Marker			
183+90	Type "H" Metal Aprons at Inlet & Outlet of present 24" Cr. Culk					2																2							
184+50 203+74 255+96 320+10	Extend 21" Cross Culvert 6' Lt. & 6' Rt., No Aprons. Reg'd. Extend 36" Cross Culvert 2' Lt. & 2' Rt. Type "H" Metal Aprons at Inlet & Outlet of present 36" Cr. Culk Cross Culk & Outlet ditch, (W-12'), Dikes at Inlet & Outlet, Side drain in fringe ditch Rt.					2 2 2 20			1 1									20		2 1/2' Δ		2 2				Δ 6'1" & 6'1" L&R Lt. 21" C.M.P.			
358+30 359+08 359+4.5	Remove 2 Hdwts, Cul Heyways & Extend 3'x2'x24" C.B.C. 6' Rt. and 6' Lt. Extend 24" Cross Culvert 2' Lt. & 4' Rt. Extend 18" Cross Culvert 4' Lt. & 6' Rt.					26 2 2			5 1 1			10.5		1168					2 1/2' Δ 4'1" Δ			2 2				Remove 2 Hdwts, Cul Heyways, 5 hrs. Mech. Tampering			
348+45	Cross Culvert & Outlet ditch, (W-12'), Dikes at Inlet & Outlet, Side drain in Irrigation ditch Rt.					20			14									20				2							
TOTALS - 28' ROADWAY				1250	2580	60	292			63	700	1176	10.5		1168	6912	84	70	20	82	50'	2	6	6	6	5			

- * Quantities included in Profile Quantities.
- Δ Allowance for Connecting Bands.
- * All Corrugated Metal Pipe and Metal Aprons shall be Asphalt Coated.
- * Structural Excavation is estimated to be 95% Common and 5% Rock, each of which is estimated to be 60% Dry and 40% Wet.
- * Pipe to be provided with 2'x2'x1/4" Standard Light Rolled Flange & 30" elbow, included in Price Bid for C.M.P.



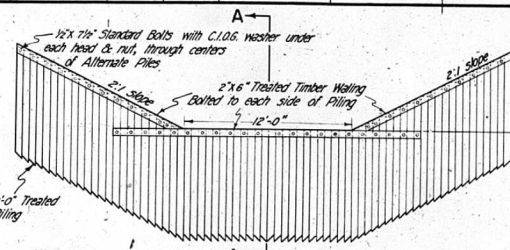
DETAILS OF TREATED SHEET PILE DITCH CHECK

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0023(1)	17	

BILL OF MATERIALS FOR ONE DITCH CHECK

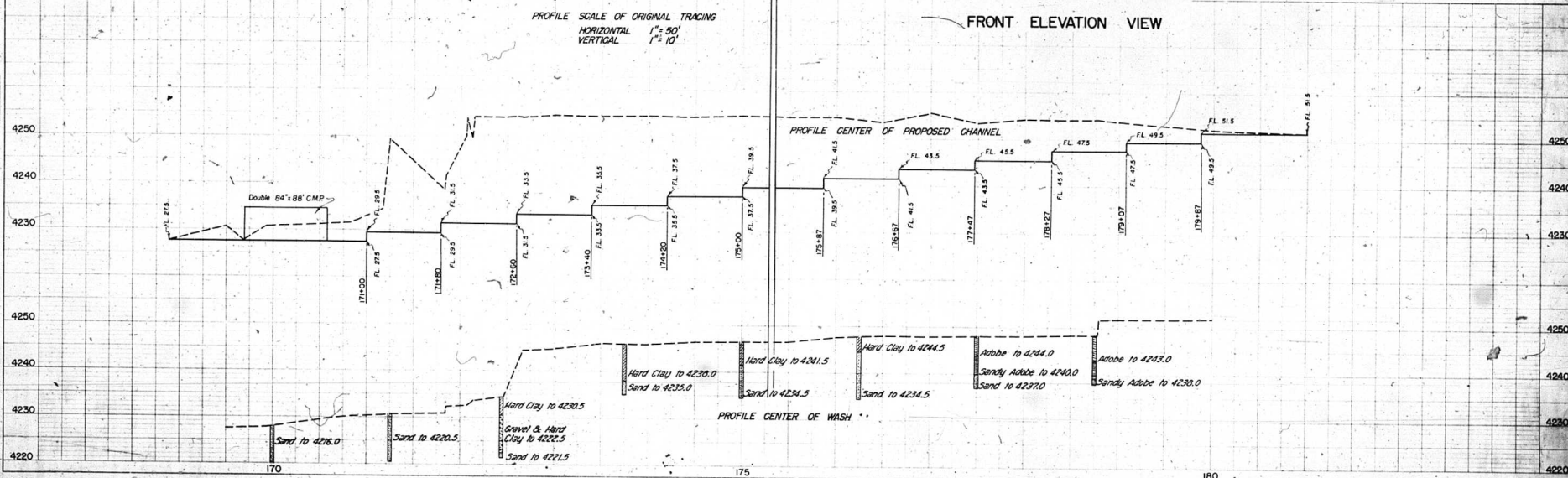
ITEM	NO. PCS.	SIZE	LIN. FT.	FT. B.M.
Treated Sheet Piling	72	2'x6'x8'-0"	576	
Miscellaneous Treated Timber	2	2'x6'x8'-0"		4
" " "	4	2'x6'x8'-6"		5

Cost of Bolts and Washers to be included in Bid Price of Miscellaneous Treated Timber.



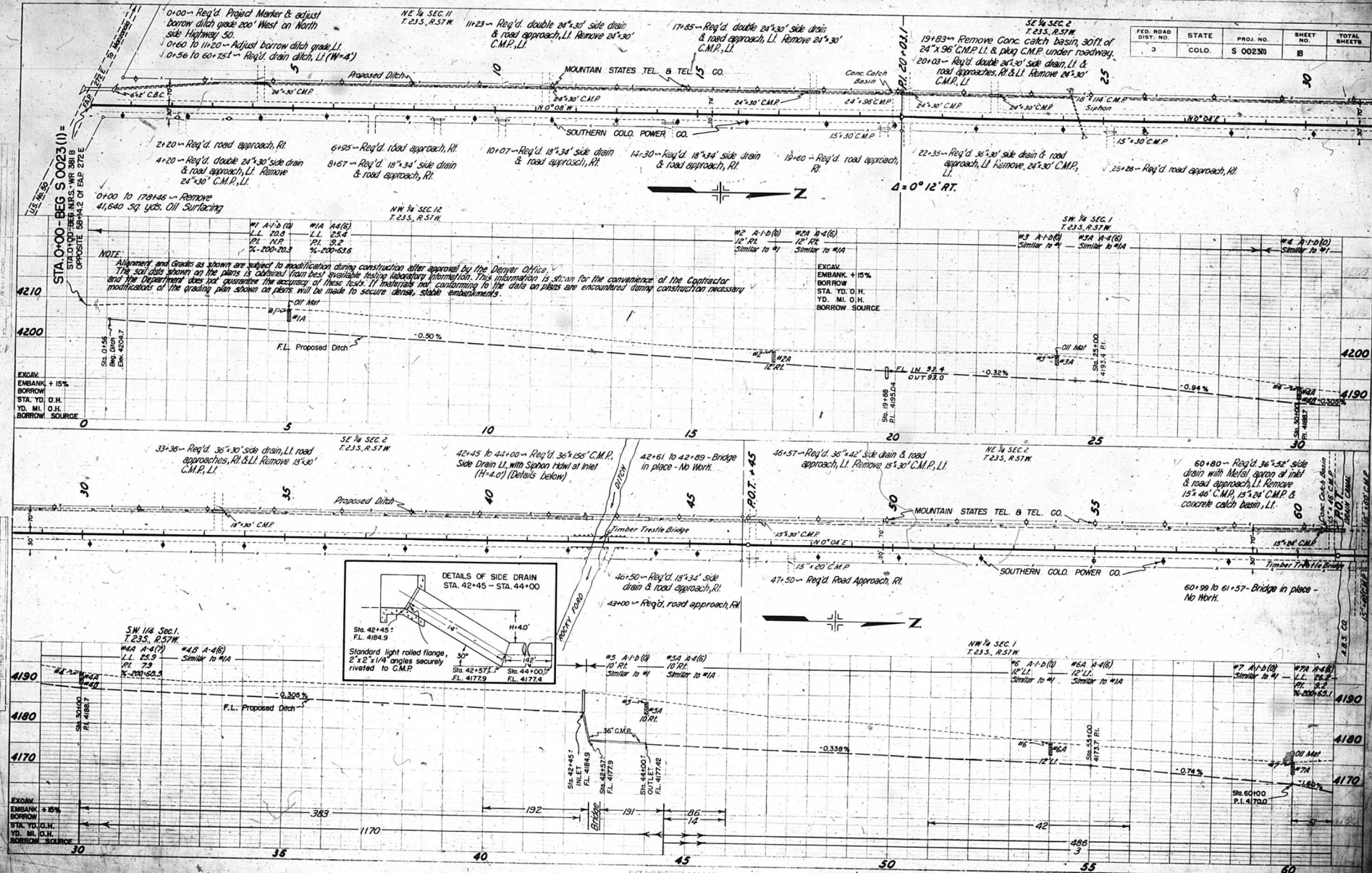
Riprap 18" thick
to be placed
of Ditch on L
side of check
Downstream Ditch Grade 8

SECTION AA



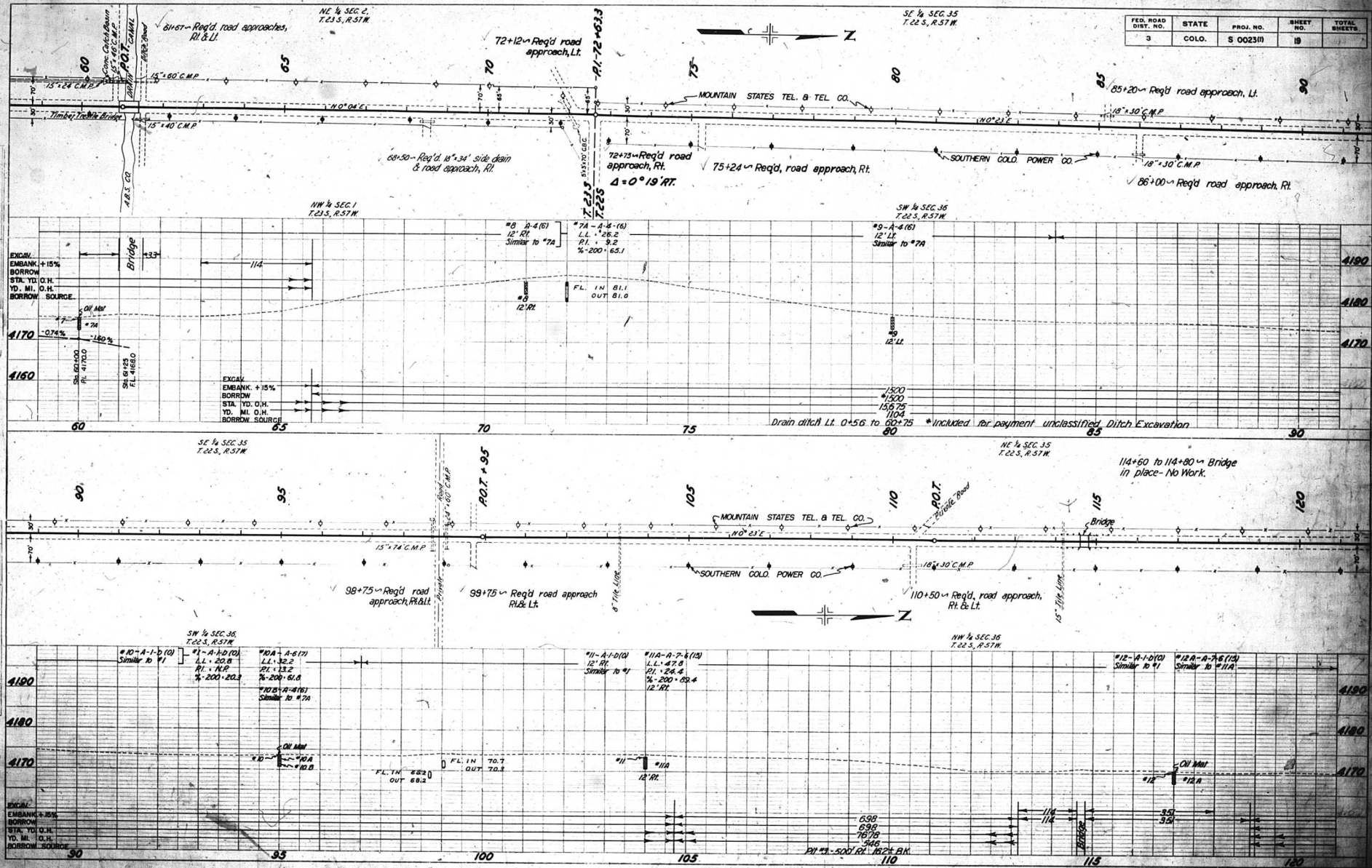
PLAN	DATE	BY	CHKD	APP'D
STA. 0+00 - BEG. S 0023 (I) =	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
STATIONING	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
DATE	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
BY	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
CHKD	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
APP'D	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.

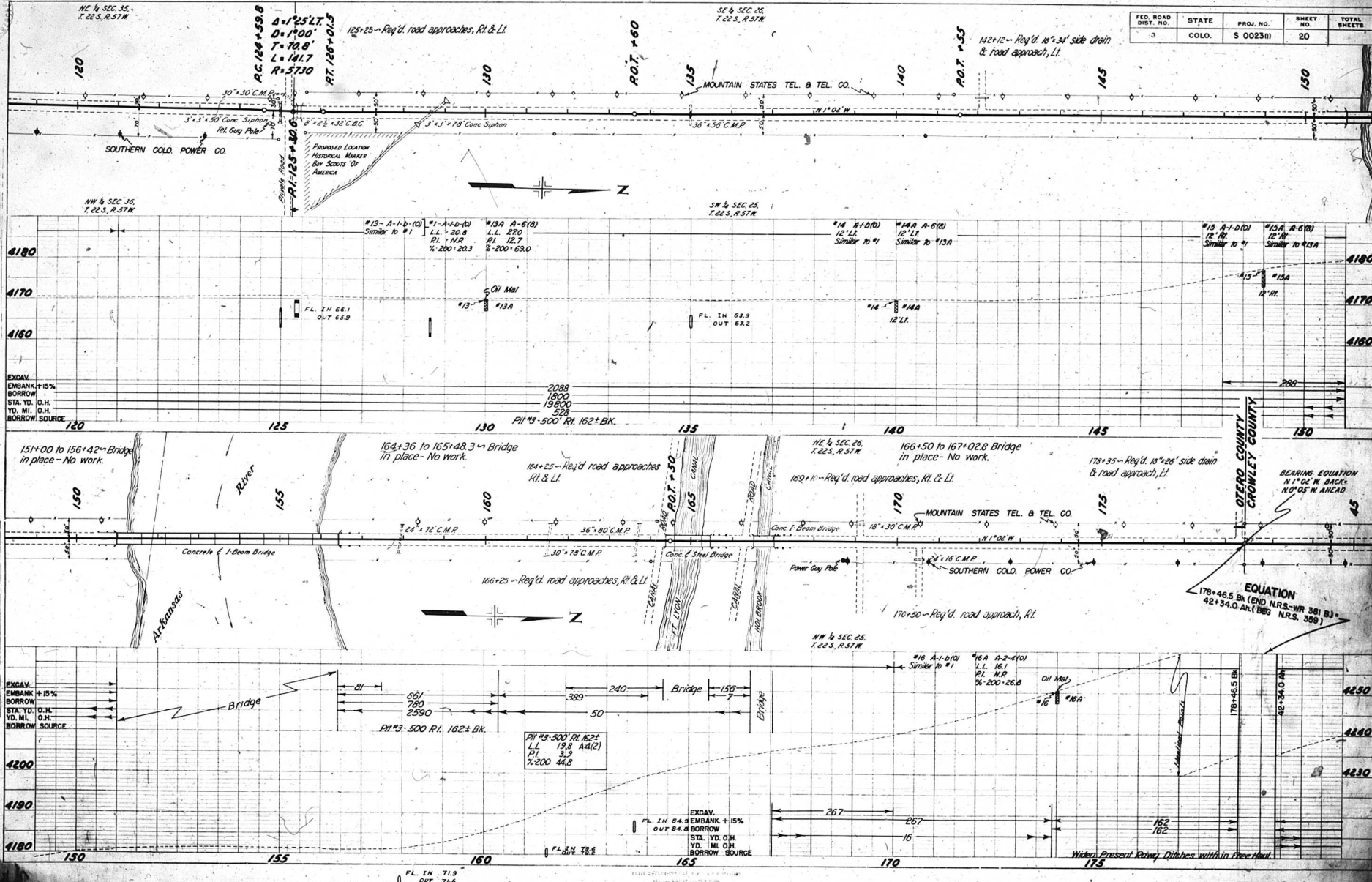
PROFILE	DATE	BY	CHKD	APP'D
STA. 0+00 - BEG. S 0023 (I) =	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
STATIONING	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
DATE	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
BY	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
CHKD	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.
APP'D	11-1-42	W. J. H. H.	W. J. H. H.	W. J. H. H.



PLAN	CURTAINED	BY	DATE
NOTE BOOK	AL	117	CHECKED
			OF WAY CARRIED

PROFILE	APPROVED	BY	DATE
1077 5004	SCOTTED		
NO	GAMES CHECKED		
	ALL POTOS		
	STRUCTURE POTIONS ON 10		







PROFILE		ST	DATE
SURVEYED	PLATTED		
NOTED	GRADES CHECKED		
	A.M. - NOTED		
STRUCTURE NOTED AND CURED			

EXCAV.	
EMBANK + 15%	
BORROW	
STA. YD O.H.	
YD MI O.H.	

Printed in U.S.A.
IMPERIAL Trading Co.

42+ to 72+ - Adjust borrow ditch grade, Lt.

SEC. 24, T. 22 S., R. 57 W.

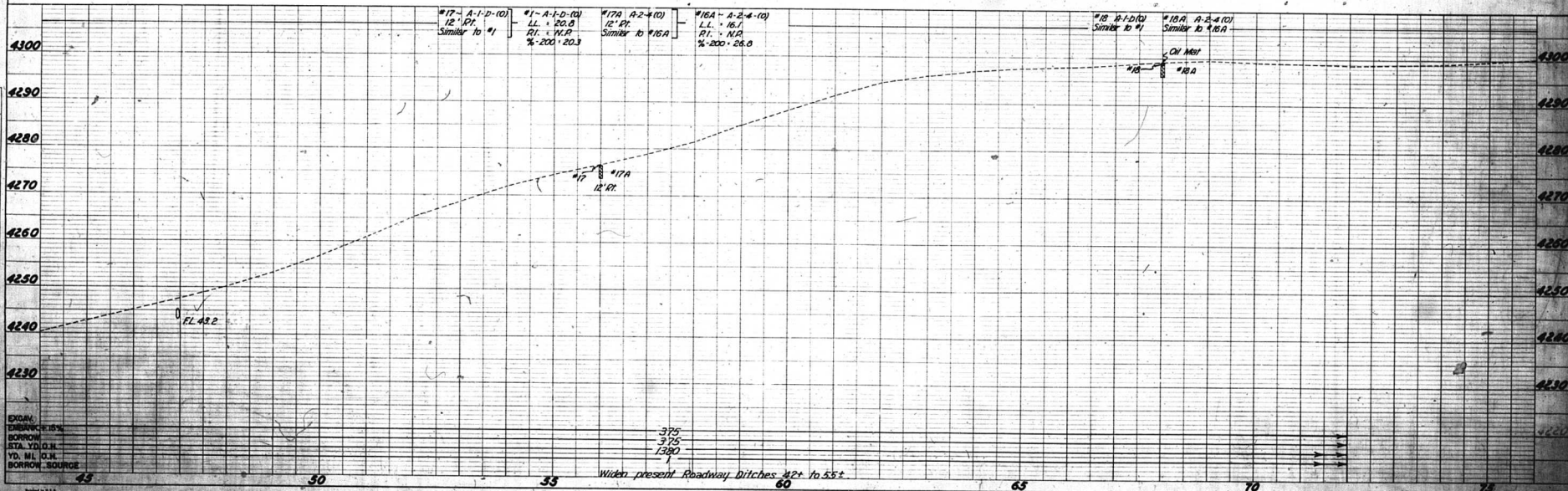
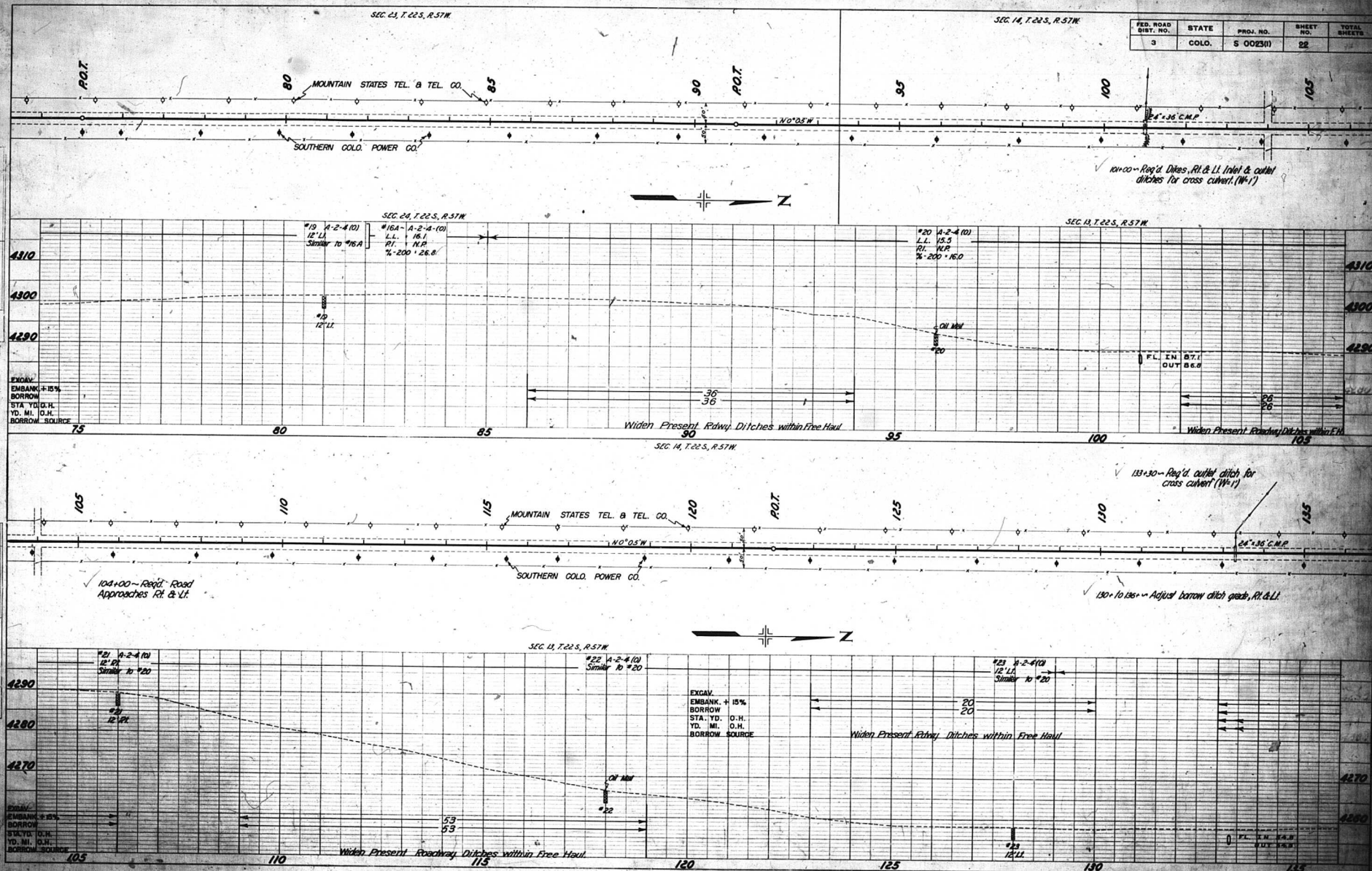


PLATE 1-PLAN-PROFILE R. F. R. STANDARD
EUGENE DITZGEN CO., Chicago-New York

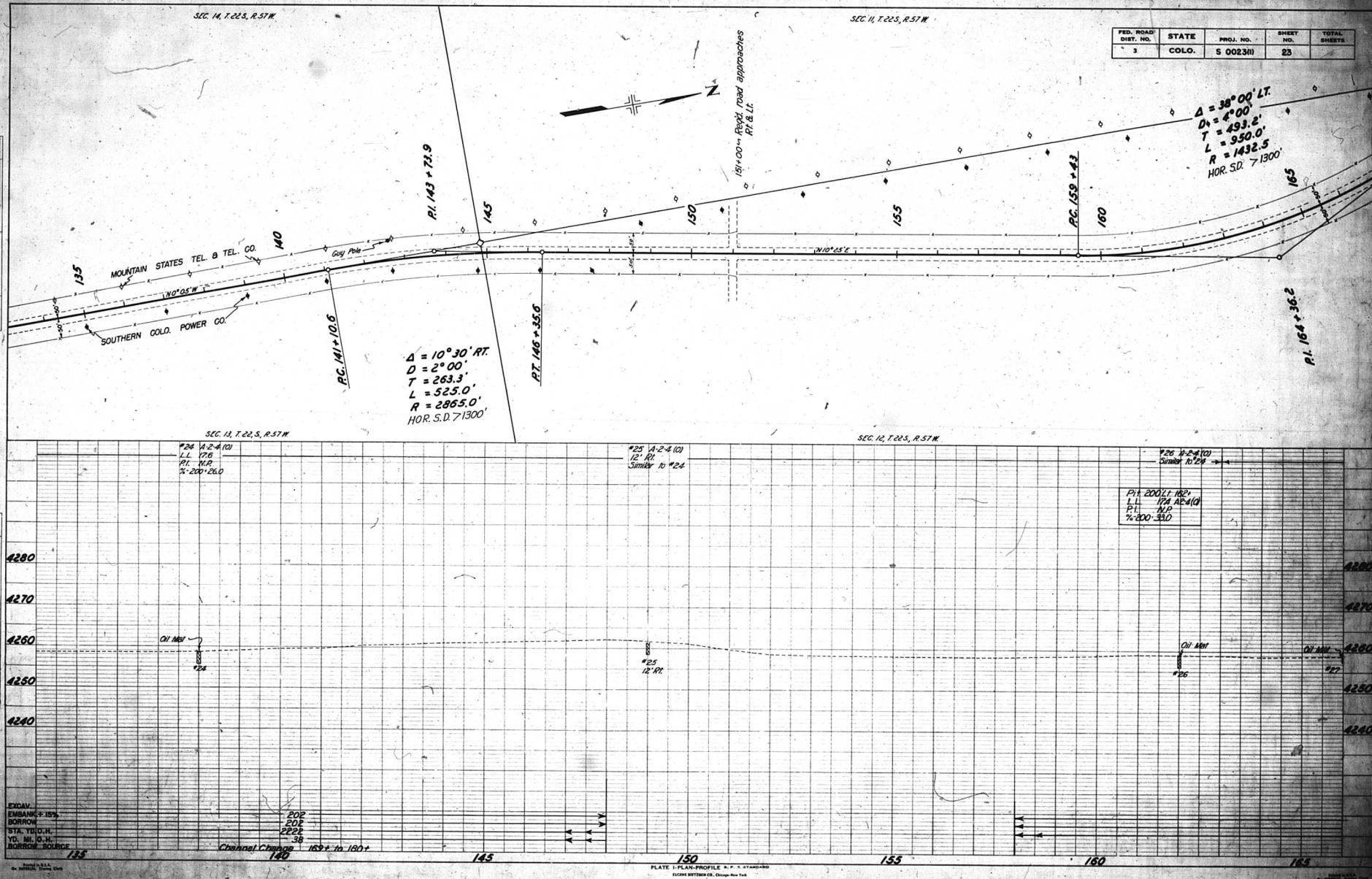
PLAN	BY	DATE
DESIGNED		
PLOTTED		
NOTE BOOK		
NO.		

PROFILE	DATE
ADMITTED	
NOT ADMITTED	
CRACKS CHECKED	
REPAIRS MADE	
STRUCTURE NOTED AS OK	



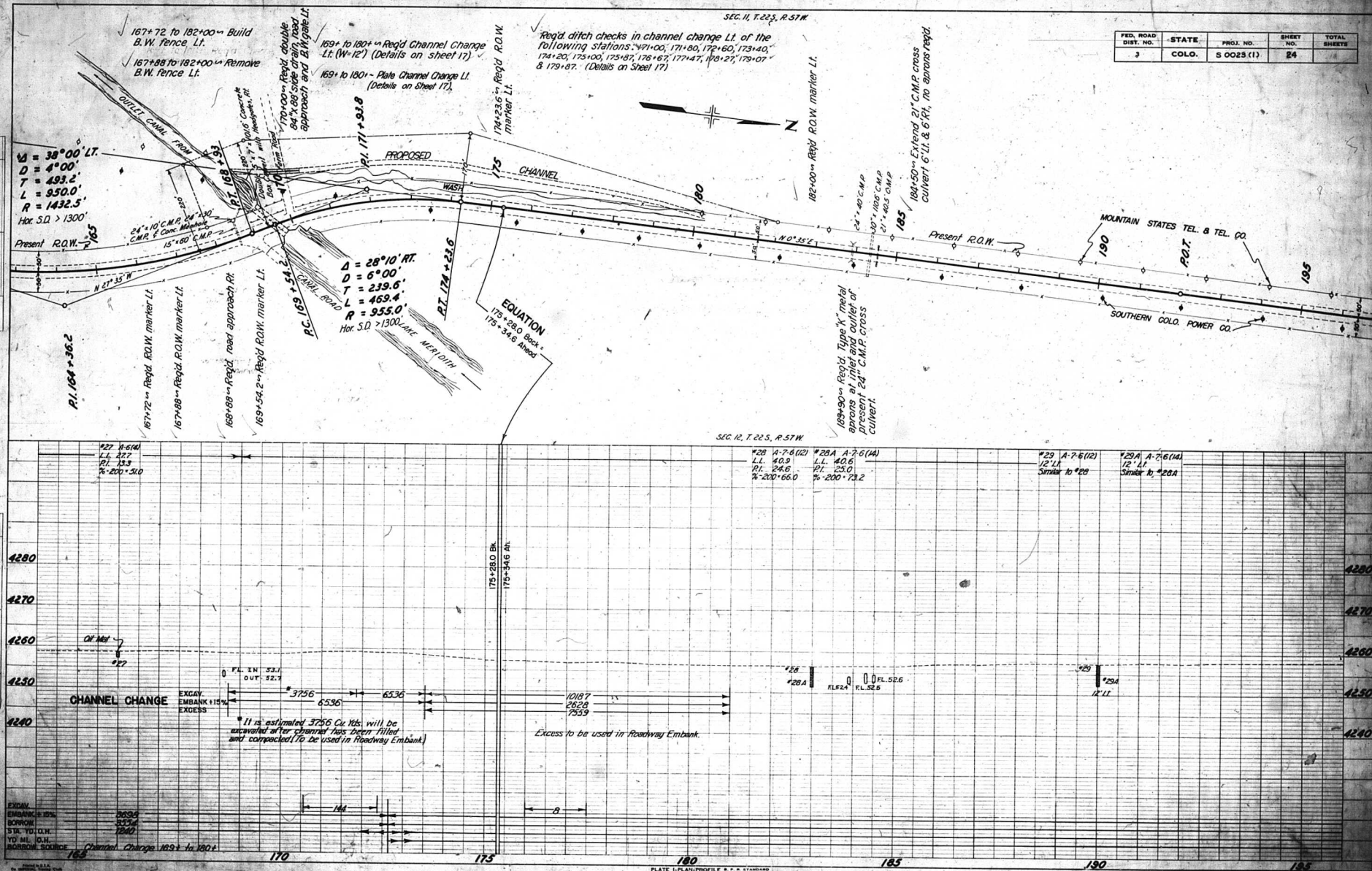
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DATE	

PROFILE	DATE
DESIGNED BY	
CHECKED BY	
APPROVED BY	
DATE	



PROFILE	SURVEYED	N.	DATE
NOTE BOOK	PLOTTED		
	CHANGES CHECKED		
	N.M. - DOTTED		
	STRUCTURE NOTATIONS DIFF.		

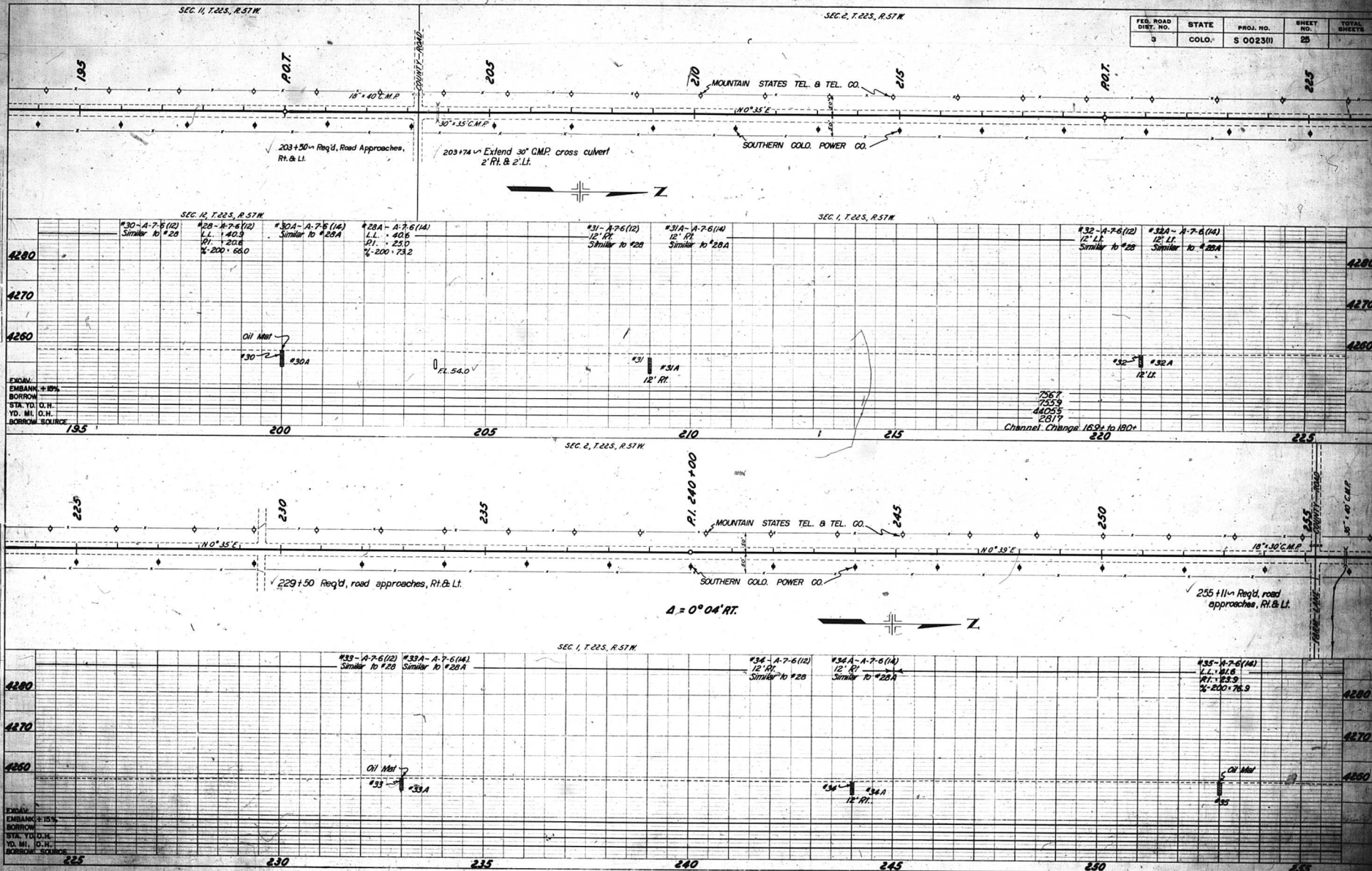
FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0025 (1)	24	



PLAN	SECTION	DATE	BY	CHKD
DESIGNED BY	ENGINEER	DATE	BY	CHKD
CHECKED BY	DATE	BY	CHKD	
APPROVED BY	DATE	BY	CHKD	

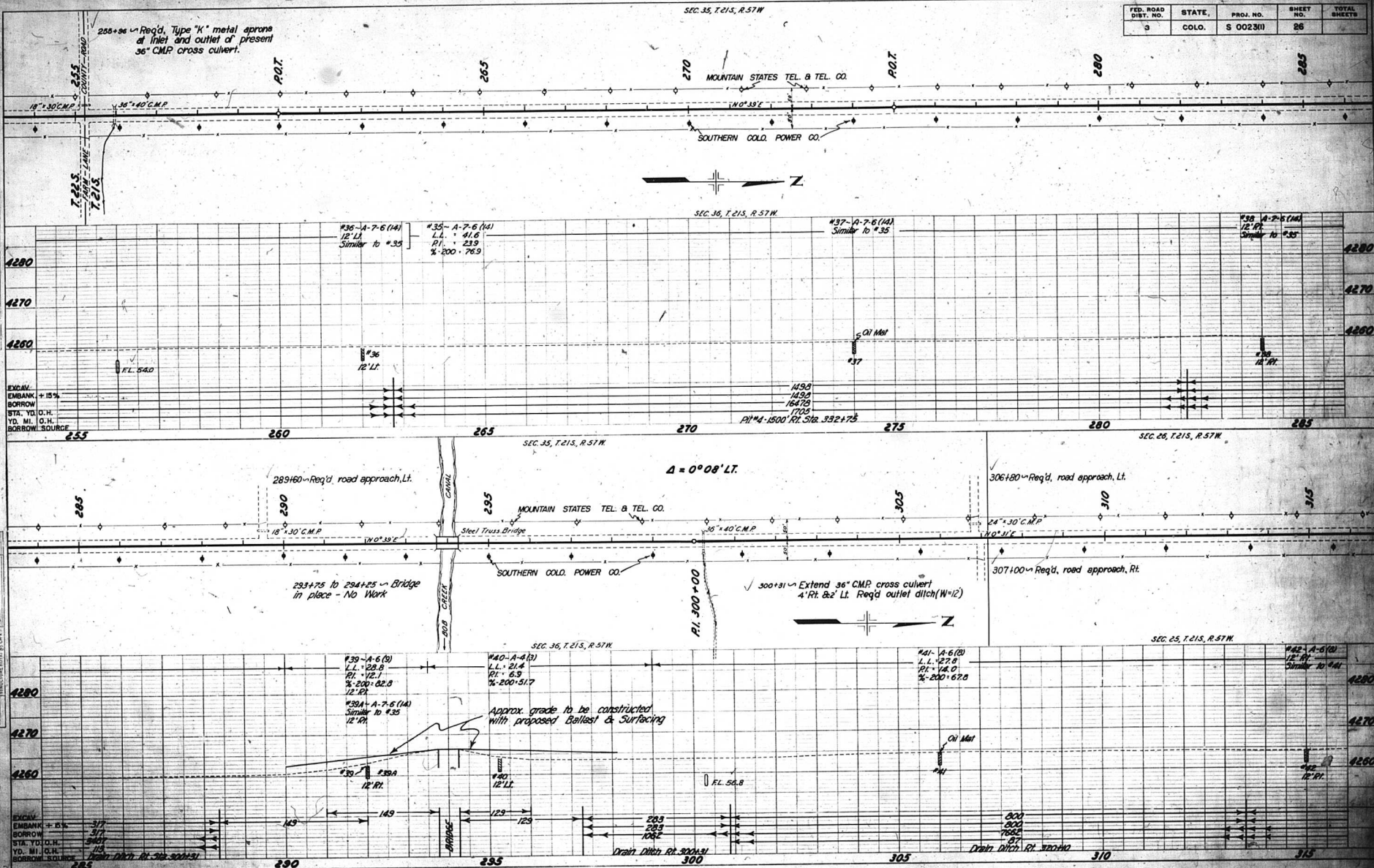
PROFILE	SECTION	DATE	BY	CHKD
DESIGNED BY	ENGINEER	DATE	BY	CHKD
CHECKED BY	DATE	BY	CHKD	
APPROVED BY	DATE	BY	CHKD	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0023(II)	25	



PLAN	BY	DATE
QUANTITY		
PLANTED		
ALIGNMENT CHECKED		
ST. OF RAIL CHECKED		

PROFILE	DATE
UNIVERSITY	
FLOTTA	
(SABIS CHICAGO)	
R. P. NOTED.	

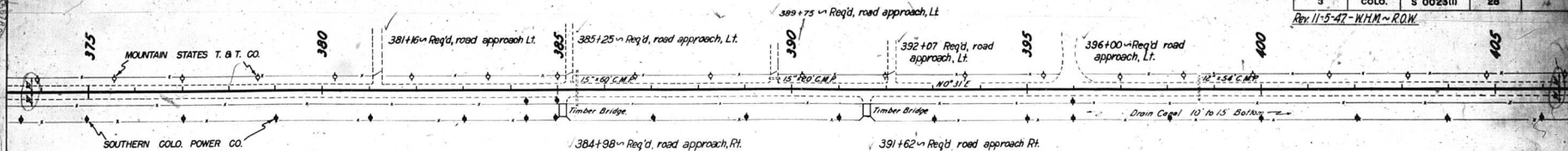




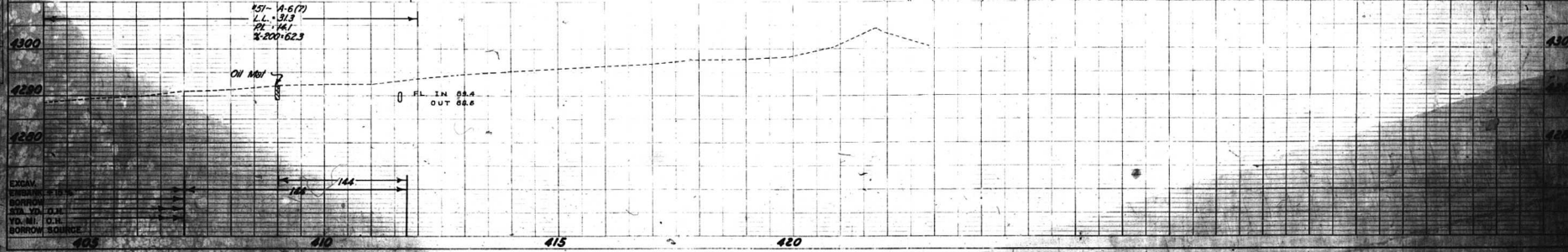
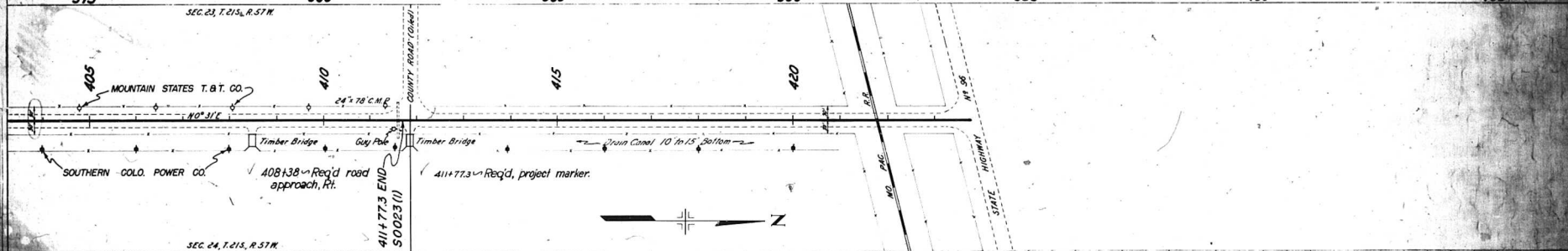
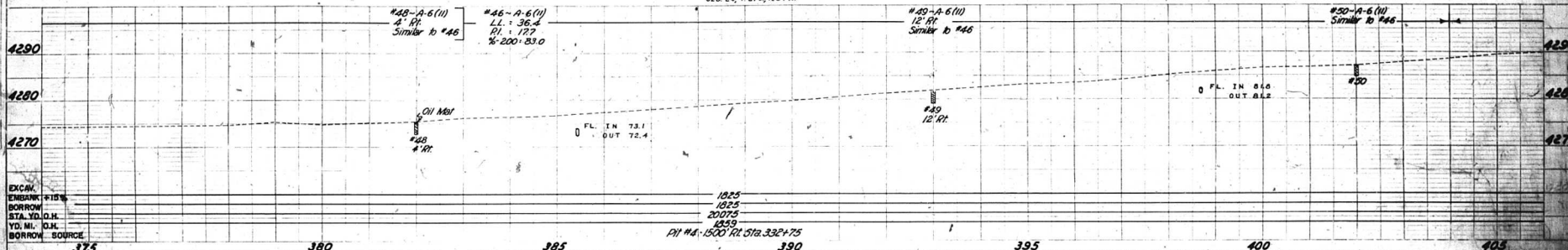
SEC. 23, T.21S, R.57W

FED. ROAD DIST. NO.	STATE COLO.	PROJ. NO. S 0023(1)	SHEET NO. 28	TOTAL SHEETS
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Rev. 11-5-47 - WHM ~ ROW



SEC. 24, T.21S, R.57W



EXCAV. EMBANK. 4.15 ft. BORROW STA. VD. O.H. YD. MI. O.H. BORROW SOURCE

EXCAV. EMBANK. 4.15 ft. BORROW STA. VD. O.H. YD. MI. O.H. BORROW SOURCE