COLORADO
Department of Transportation

DOCUMENT SEPARATOR SHEET

REGION 5 – JUNE 2017 CONVERSION

To be placed at the beginning of each separator sheet.

r500001931

Description:
ROW Plans 11X17

Route # and Mile Points:
US 160

Originating Office:

ROW/Survey

File Name:
F 022-3(7)_ROW(.PDF)

Box Location:
30 of 38

For assistance, or to request changes to this form,
please email helpdesk@msimaging.com.

MOUNTAIN STATES IMAGING

R.O.W. Purchased under Project No. F 022-3(6)

FEDERAL ROAD REGION NO	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F022-3(7)	1	

COLORADO
DEPARTMENT OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

FEDERAL AID PROJECT NO. F 022-3(7)

STATE HIGHWAY NO. 10

COSTILLA COUNTY

CONVENTIONAL SIGNS

GENTER LINE (P PLAN SHEET / TITLE & SHEET)
RIGHT OF WAY LINE (R.O.W. MARKER)
COUNTY LINE
TOWNSHIP OR RANGE LINE
LAND LINES (SECTION LINE / 1/4 SECTION LINE / 1/16 SECTION LINE)
RAILROAD (TITLE SHEET / PLAN SHEET)
BARBED WIRE FENCE
COMBINATION WIRE FENCE
SNOW FENCE
TELEPHONE & TELEGRAPH LINES
POWER LINE
DETOUR
PRESENT ROAD (Plan Sheets)

SCALES OF ORIGINAL DRAWINGS

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 } 26,296.3 FT. = 4.980 MILES
NET LENGTH OF PROJECT }

INDEX OF SHEETS

STA. 815+62.3 BEGIN F022-3(7)=
STA. 815+62.3 BEGIN F022-3(6)

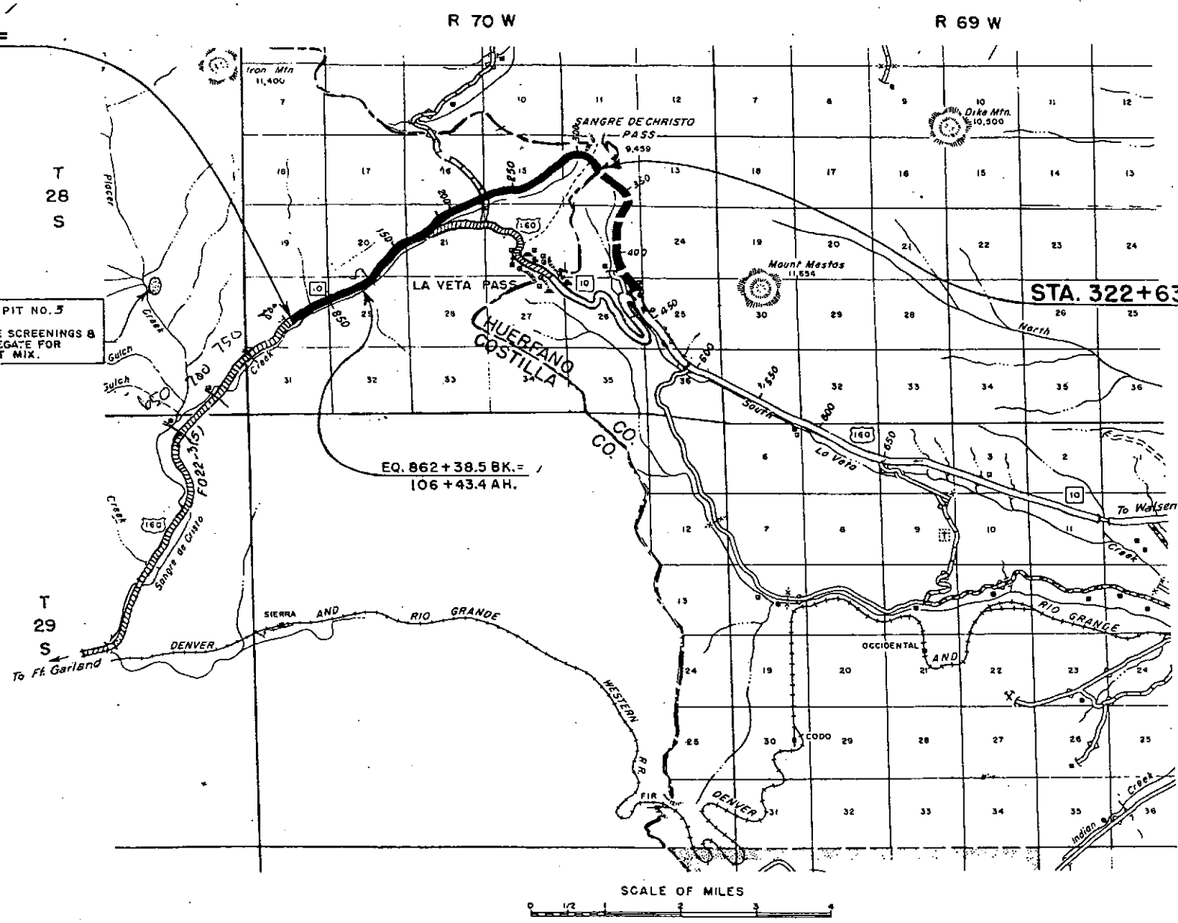
TABULATION OF LENGTH & DESIGN DATA

STATION	F022-3(7) ROADWAY LIN. FT.
815+62.3 BEGIN F022-3(7)= 815+62.3 BEGIN F022-3(6)	4,676.2
862+38.5 BK. = 106+43.4 AH.	8,356.6
190+00 BEGIN GRADING	13,263.5
322+63.5 END F022-3(7) OPPOSITE ∅ 322+26.8 END F022-3(6) (R.O.W.)	
TOTAL	26,296.3

SUMMARY	LIN. FT.	MILES
ROADWAY	26,296.3	4.980
TOTAL NET & GROSS LENGTH	26,296.3	4.980

DESIGN DATA	
MAXIMUM DEGREE OF CURVE	4°00'
MAXIMUM GRADE	5.60%
MINIMUM S.S.D. VERTICAL	615'
MINIMUM S.S.D. HORIZONTAL	710'
MAXIMUM DESIGN SPEED	60 M.P.H.

∅ COSTILLA-HUERFANO CO. LINE



SEE SPECIAL PROVISIONS FOR NOTICE TO BIDDERS

COLORADO DEPARTMENT OF HIGHWAYS

APPROVED: Mont. T. Anthis 10-3-6.
CHIEF ENGINEER DATE

DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS

APPROVED: (DATE)
DIVISION ENGINEER

D.H.H.

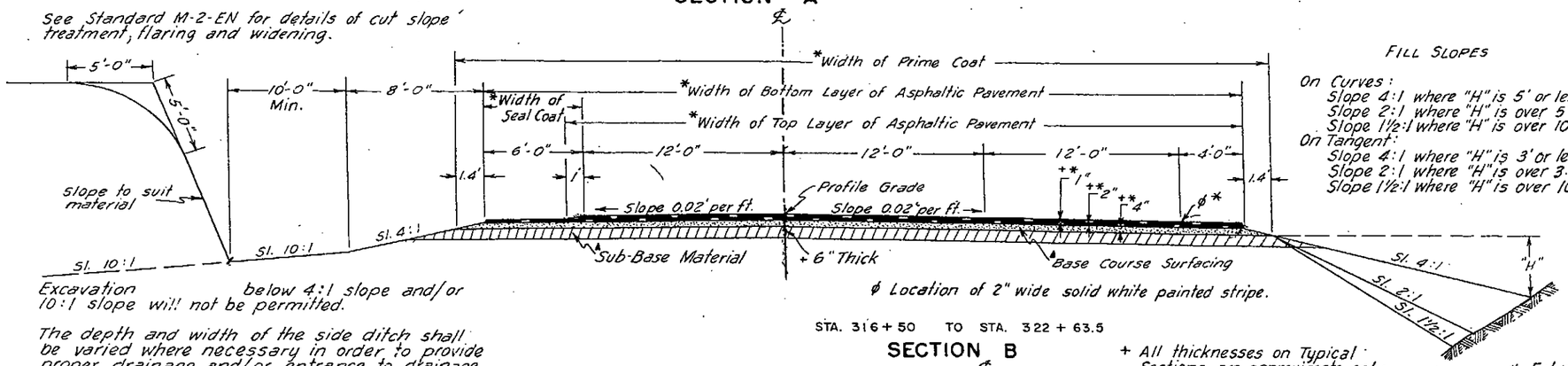
TYPICAL CROSS SECTIONS OF IMPROVEMENT

STA. 815 + 62.3 TO STA. 316 + 50

SECTION A

Note:

See Standard M-2-EN for details of cut slope treatment, flaring and widening.



FILL SLOPES

On Curves:
Slope 4:1 where "H" is 5' or less.
Slope 2:1 where "H" is over 5'.
Slope 1½:1 where "H" is over 10'. (In Rock)

On Tangent:
Slope 4:1 where "H" is 3' or less.
Slope 2:1 where "H" is over 3'.
Slope 1½:1 where "H" is over 10'. (In Rock)

Bottom Layer of Bituminous Surfacing shall be completed for full w. before Top Layer of Bituminous Surfacing is placed. Paving joints Top Layer will overlap min. 1 ft. over joints in Bottom Layer.

Excavation below 4:1 slope and/or 10:1 slope will not be permitted.

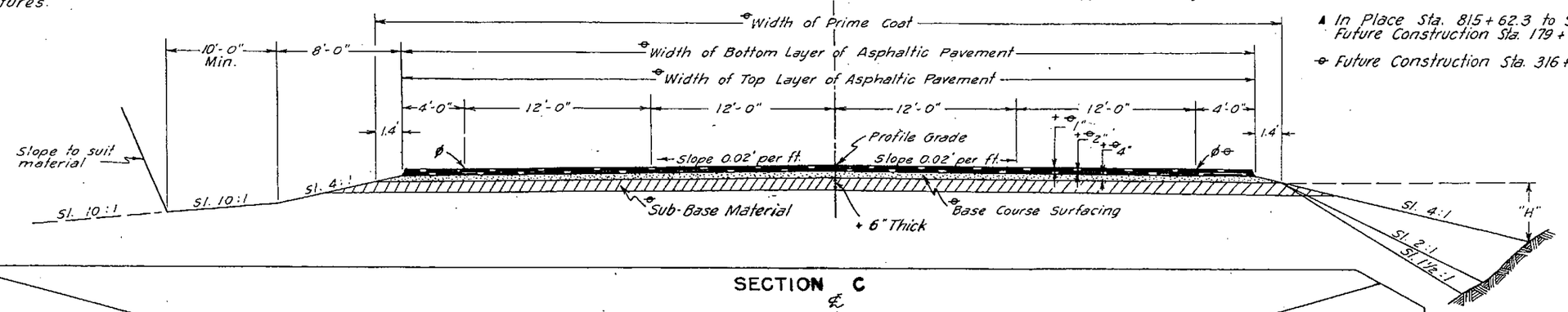
The depth and width of the side ditch shall be varied where necessary in order to provide proper drainage and/or entrance to drainage structures.

ø Location of 2" wide solid white painted stripe.

STA. 316 + 50 TO STA. 322 + 63.5

SECTION B

+ All thicknesses on Typical Sections are approximate only.

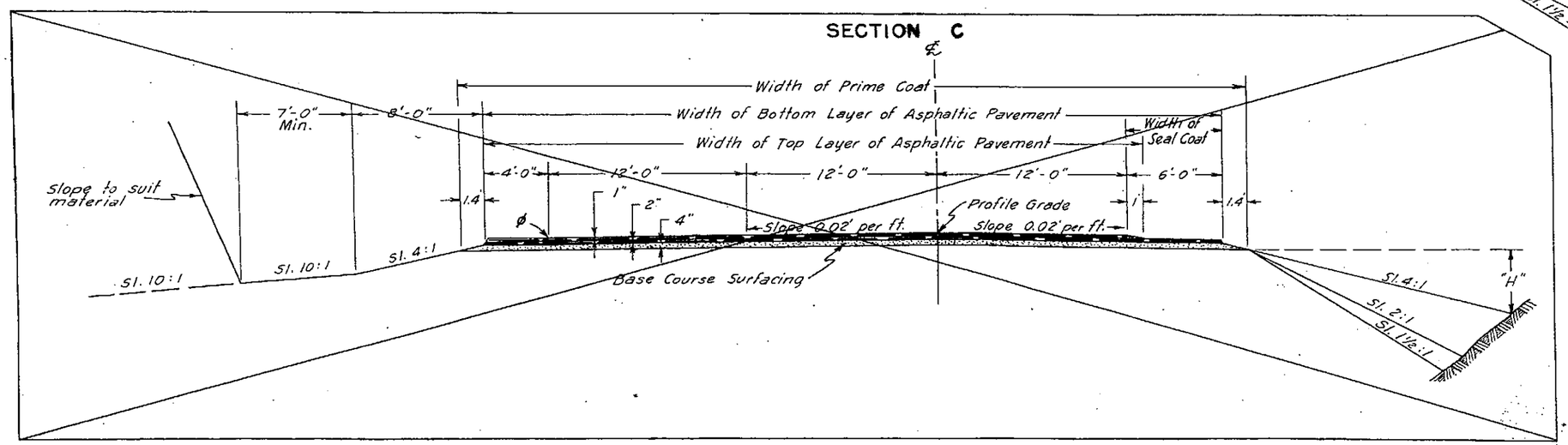


* Future Construction Sta. 179 + 19.7 to Sta. 316+50

▲ In Place Sta. 815 + 62.3 to Sta. 179 + 19.7
Future Construction Sta. 179 + 19.7 to Sta. 316+50

⊖ Future Construction Sta. 316+50 to Sta. 322+63.5

SECTION C



Sta. 815 + to Sta. 179+

An approximate 3" compacted thickness of Plant Mixed Asphaltic Surfacing shall be placed at the following rates per 100 Lin. Ft. of Roadw

Top Layer	24 tons
Bottom Layer	33 tons

FEDERAL ROAD REGION NO.	DISTRICT	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	F 022-3(7)	3	

Rev. 10-18-61 – Quantities – D.H.H.

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT		PROJECT TOTAL
10	Clearing and Grubbing Entire Project	Lump Sum		•
12	Removing Fence	Lin Ft		400
13	Unclassified Excavation	Cu. Yd		366,000
13	Unclassified Ditch Excavation	Cu. Yd		1,400
13	Stripping	Cu. Yd.		200
14	Unclassified Structural Excavation – Misc.	Cu. Yd.		420
16	Structure Backfill (Class 1)	Cu. Yd.		400
17	Compaction (Modified)	Cu. Yd.		425,000
17	Wetting	M Gal		3,110
18	Station Yard Overhaul	Sta. Yd.		1,910,000
18	Yard Mile Overhaul	Yd. Mi.		39,100
18	Ton Mile Overhaul	Ton Mi.		53,900
29	Asphalt (120-150 Penetration)	Ton		800
30	Asphaltic Road Material MC (Prime)	Gal.		28,000
30	Asphaltic Road Material RC (Seal) (Additive)	Gal.		2,600
31	Stone Screenings (Type 1)	Ton		120
32	Plant Mixed Asphaltic Surfacing	Ton		10,140
32	Plant Mixed Asphaltic Shoulder Roll	Ton		60
46	Class "A" Concrete	Cu. Yd.		120
47	Reinforcing Steel	Lb.		9,400
53	12" Corrugated Metal Culvert Pipe	Lin Ft		106
53	24" Corrugated Metal Culvert Pipe	Lin Ft		792
53	36" Corrugated Metal Culvert Pipe	Lin Ft.		366
53	36" Corrugated Metal Culvert Pipe (10 ga.)	Lin Ft.		238
53	48" Corrugated Metal Culvert Pipe	Lin Ft.		132
63	Grouted Rubble Slope and Ditch Paving	Cu. Yd.		3
76	Combination Wire Fence with Metal Posts	Lin Ft.		27,300
76	Driveway Gates	Each		6
81	Right of Way Markers	Each		14
82	Cattle Guards (16' Roadway)	Each		2
92	Timber Guard Posts	Each		113
93	Metal Embankment Protectors (Type 3)	Each		6
95	24" Metal Aprons for C.M.P. Culverts	Each		1
	STATE FORCES			
	Signing and Striping Entire Project ø	Lump Sum		•

ø Non Federal Aid

TIMBER GUARD POSTS

STATION	SIDE	SPACING	NO.
815 + 62 TO 820+00	LT.	3°CURVE	6
128 + 00 TO 131+00	LT.	2°30'CURVE	4
152 + 00 TO 157+00	LT.	4°CURVE	7
164 + 50 TO 166+50	LT.	200'	2
819 + 00 TO 824+50	RT.	3°CURVE	7
840 + 00 TO 847+00	RT.	1° CURVE	6
856 + 50 TO 862+38.5	RT.	1°CURVE	5
106+43.4 TO 127+43.4	RT.	3°15'CURVE	25
127 + 43.4 TO 136+73.4	RT.	2°30'CURVE	10
136 + 73.4 TO 146+19.2	RT.	2°30'CURVE	10
146 + 19.2 TO 148+00	RT.	4° CURVE	3
156 + 00 TO 166+00	RT.	4° CURVE	10
168 + 00 TO 170+00	RT.	200'	2
824+95	LT. & RT.	CULVERT	2
829+75	LT. & RT.	CULVERT	2
836+45	LT. & RT.	CULVERT	2
844+05	LT.	CULVERT	1
856+00	LT. & RT.	CULVERT	2
112+00	LT.	CULVERT	1
122+36	LT.	CULVERT	1
139+00	LT.	CULVERT	1
147+00	LT.	CULVERT	1
153+00	RT.	CULVERT	1
177+00	LT. & RT.	CULVERT	2
TOTAL			113

R.O.W. MARKERS

STATION	SIDE	NO.
197+44.7	LT. & RT.	2
227+97.1	LT. & RT.	2
245+30.4	LT. & RT.	2
251+34.9	LT. & RT.	2
267+34.9	LT. & RT.	2
287+93.7	LT. & RT.	2
317+65.4	LT. & RT.	2
TOTAL		14

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.

Approximate location and quantities involved in construction of intercepting ditches are tabulated in Summary of Earthwork Quantities.

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.

For preliminary plan quantities of Asphaltic Road Materials and Stone Screenings, the following rates of application were used.

PRIME COAT MC	@ 0.4 Gals. per Sq. Yd.
PAVING ASPHALT (120-150 PENETRATION)	@ 7.72 Lbs per Sq. Yd. per inch thick
SEAL COAT RC (Fortified)	@ 0.27 Gals. per Sq. Yd.
STONE SCREENINGS (TYPE 1)	@ 35 Lbs. per Sq. Yd.

Rate of application and grade of Asphaltic Material shall be as determined by the Engineer at time of application.

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.

For Alignment and Grades from Sta. 815+62.3 to Sta. 190+00 see Project No. F 022-3(6).

During construction of this project, traffic will use the present traveled roadway except where detours are shown on plans.

Road Approaches which require Plant Mixed Asphaltic Surfacing in the "Surfacing Plan" shall be primed and a 1½" thickness of Asphaltic Surfacing placed as follows:
Public Approaches and Approaches to houses and appurtenances to be surfaced 30 ft. out from edge of Shoulder or to the R.O.W. line, whichever is less and Field Approaches shall be surfaced 4 ft. out from edge of shoulder.

Form C. D. H. 134
Feb. 1960

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 on plans are encountered during construction the grading plan shown on plans will be modified where necessary to secure dense, stable embankments.

For Alignment and Grades from Sta. 815+62.3 to Sta. 190+00 see Project No. F 022-3 (6).

179+19.7
1781512

FED. ROAD REG. NO.	DIVISION	PROJ. NO.	SHEET NO.
9	COLO.	F 022-3 (7)	21

N.W. 1/4 SEC. 21, T. 28 S., R. 70 W.

24" X 90' C.M.P.

C.S. 179+19.7

S.T. 184+19.7

24" X 92' C.M.P.

P.I. 190+95.9
N 41,689.2
E 2,078,889.5

1 194+ to 197+ ~Remove Unsuitable Material & Backfill with Suitable Material.

2 197+10 ~ Proj. 48"x 32" Cross Culvert.

To Fort Garland

N. 28° 37' E.

125' 150' 180 185 190 195 200

N. 61° 37' E.

Δ 33° 00' RT.
Ts 676.2'
Δc 13° 00'
Dc 4° 00'
Tc 163.2'
Lc 325.0'
Rc 1,432.5'
S.S.D. > 1,300'

θs 10° 00'
Ls 500.0'
L.T. 333.9'
S.T. 167.2'

Sangre de Cristo Creek Swamp

S.C. 189+19.7 24" C.M.P.

C.S. 192+44.7

S.T. 197+44.7 24" C.M.P.

60" X 176' C.M.P.

T.S. 184+19.7

Borderline

To Walsenburg

STA. 190+00 BEGIN GRADING

Clearing & Grubbing Scattered Brush & Willows.

815+ ~ Req'd Federal Aid Information Sign, Rt.

187+ ~ Req'd Federal Aid Information Sign, Rt.

TEST NO. 15 49' LT.
0.0' - 10.5'
LL = N.V.
PI = N.P.
-200 = 40 %

TEST NO. 15-A
10.5' +
SOLID ROCK.

TEST NO. 16
0.0' - 3.0'
MUCK

#15
#15-A
#16

+ 2.48 %

Unsuitable Material

F.L. = 6333

PROFILE

9110
9100
9090
9080
9070
9060
9050
9040

EXCAV. FACTOR
EXCAVATION
EXCAV. X FACTOR
EMBANKMENT

STATION YD. O.H.
YARD MILE O.H.

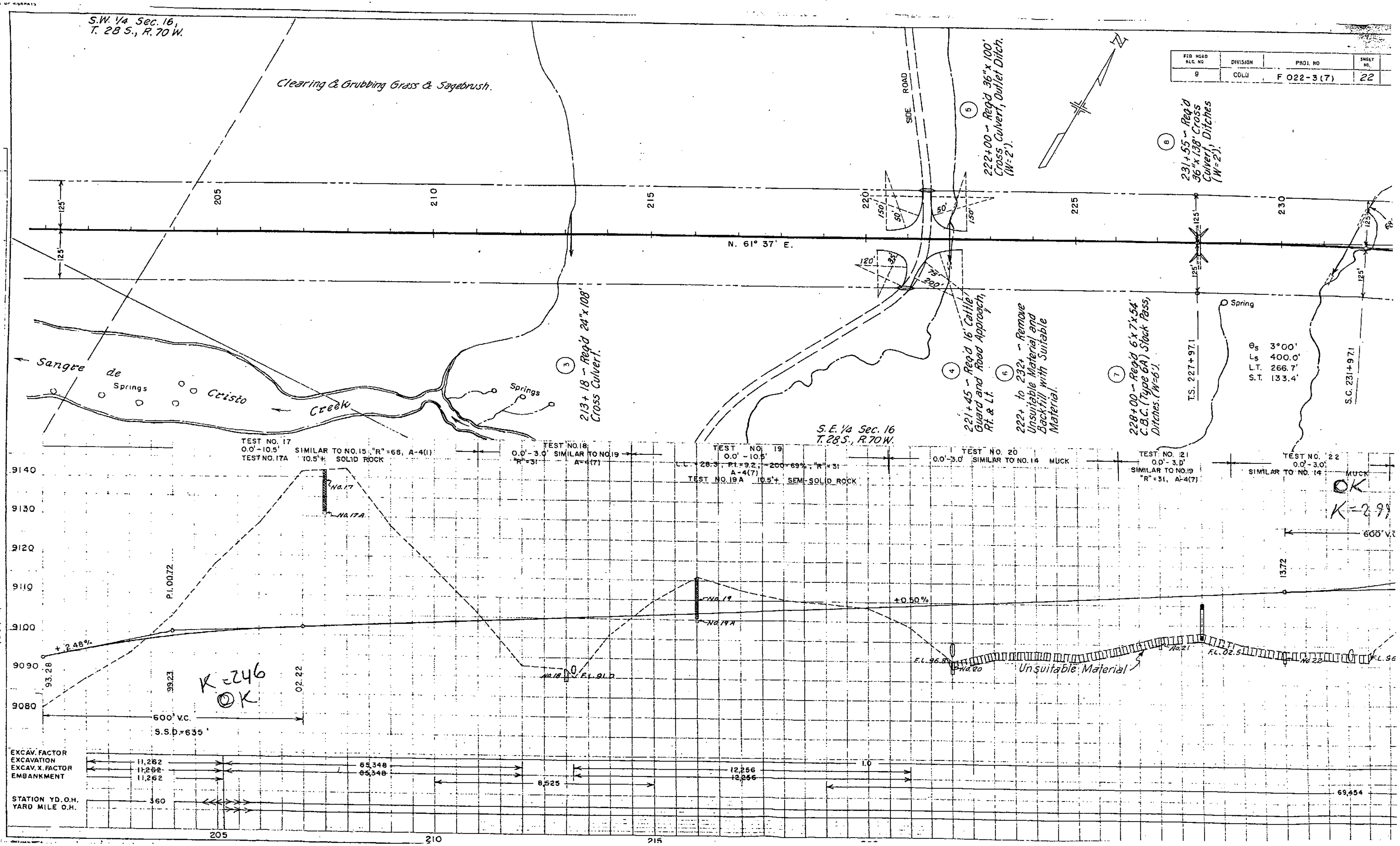
1.0
29,458
29,458
416
29,042
28,000

180 185 190

Plan Sheets Made From Aerial Photo's.

COLORADO DEPARTMENT OF HIGHWAYS
Form C.D.H. 134
Jan 1959

FED. ROAD REG. NO.	DIVISION	PROJ. NO.	SHEET NO.
9	COLO	F 022-3(7)	22



DRAQU DEPARTMENT OF HIGHWAYS
P.C.D. M. 134
ca. 1956

FED. ROAD REG. NO	DIVISION	PROJ. NO	SHEET NO	TOTAL SHEETS
9	COLO	F 022-3(17)	24	

15
4

R2 not to scale

PLAN
PROFILE

Aerial Photo's

Line Shee... ade From Aerial Photo's

S.E. 1/4 Sec. 15
T. 28 S., R. 70 W.

N.E. 1/4 Sec. 15
T. 28 S., R. 70 W.

N.W. 1/4 Sec. 14
T. 28 S., R. 70 W.

P.O.C. 293 + 73.6 (Calc.)
4,304.8' to S.W. Cor. Sec. 14

S.C. 292 + 93.7

T.S. 287 + 93.7

θ_s 10° 00'
L_s 500.0'

S.T. 267 + 34.9

P.O.S.T. 267 + 84.2
R = 506.3' (Calc.)

(12) 266+00 ~ Reqd 24"x144' Cross Culvert.

(13) 267+ to 270+ Adjust Drainage to Drain Back of Lt.

(14) 272+00 ~ Reqd 24"x158' Cross Culvert.

Clearing & Grubbing
Sagebrush & Scattered Aspen.

(15) 279+00 ~ Reqd 6'x7'x55' C.B.C. Stock Pass (Type 6A) Ditches (W=6')

(16) 288+00 ~ Reqd 24"x80' Cross Culvert with Metal Apron at Inlet End, Ditches.

N. 51° 37' E.

125' 125' 125' 125' 125' 125'

265 270 275 280 285 290 295

TEST NO. 30
0.0'-2.5' SIMILAR TO NO. 24 "R" = 64 A-4(2)
TEST NO. 30 A
2.5'+ SOLID ROCK

TEST NO. 31
0.0'-2.5' SIMILAR TO NO. 24 "R" = 64 A-4(2)
TEST NO. 31A
2.5'+ SOLID ROCK

TEST NO. 32
0.0'-10.5' "R" = 49 LL = 27.2 PI = 2.5 - 200 = 62% A-4(5)

TEST NO. 33
0.0'-9.5' SIMILAR TO NO. 32 "R" = 49 A-4(5)
TEST NO. 33A
9.5'+ SEMI-SOLID TO SOLID

600' V.C.
K = 169.2
OK for Sag
66.63
52.49
43.67
+5.60
FL. = 54.2

+2.054 %
25.18
FL. 07.9
FL. = 16.2
No. 30
No. 30A
No. 31
No. 31A

x 5.60 %
No. 32
FL. = 12.7

No. 33
No. 33A
+5.60 %
39.43
1,600' V.C.

OK
OK
1/33

9270 9260 9250 9240 9230 9220 9210

9270 9260 9250 9290 9280 9270

9330 9320 9310 9350 9340 9330

EXCAV. FACTOR			1.0		
EXCAVATION	64,545	17,373		17,361	32,213
EXCAV. X. FACTOR				17,361	32,213
EMBANKMENT					
STATION YD. O.H.					
YARD MILE O.H.		71,585			83,525