

STATE DEPARTMENT OF HIGHWAYS DIVISION OF HIGHWAYS—STATE OF COLORADO

PE., ROW AND UTILITIES
UNDER PROJECT
BRS 0012(18)

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJECT NO.	SHEET NO.
22	COLORADO	BRS 0012(18)	1

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. BRS 0012(18) STATE HIGHWAY NO. 12 HUERFANO COUNTY

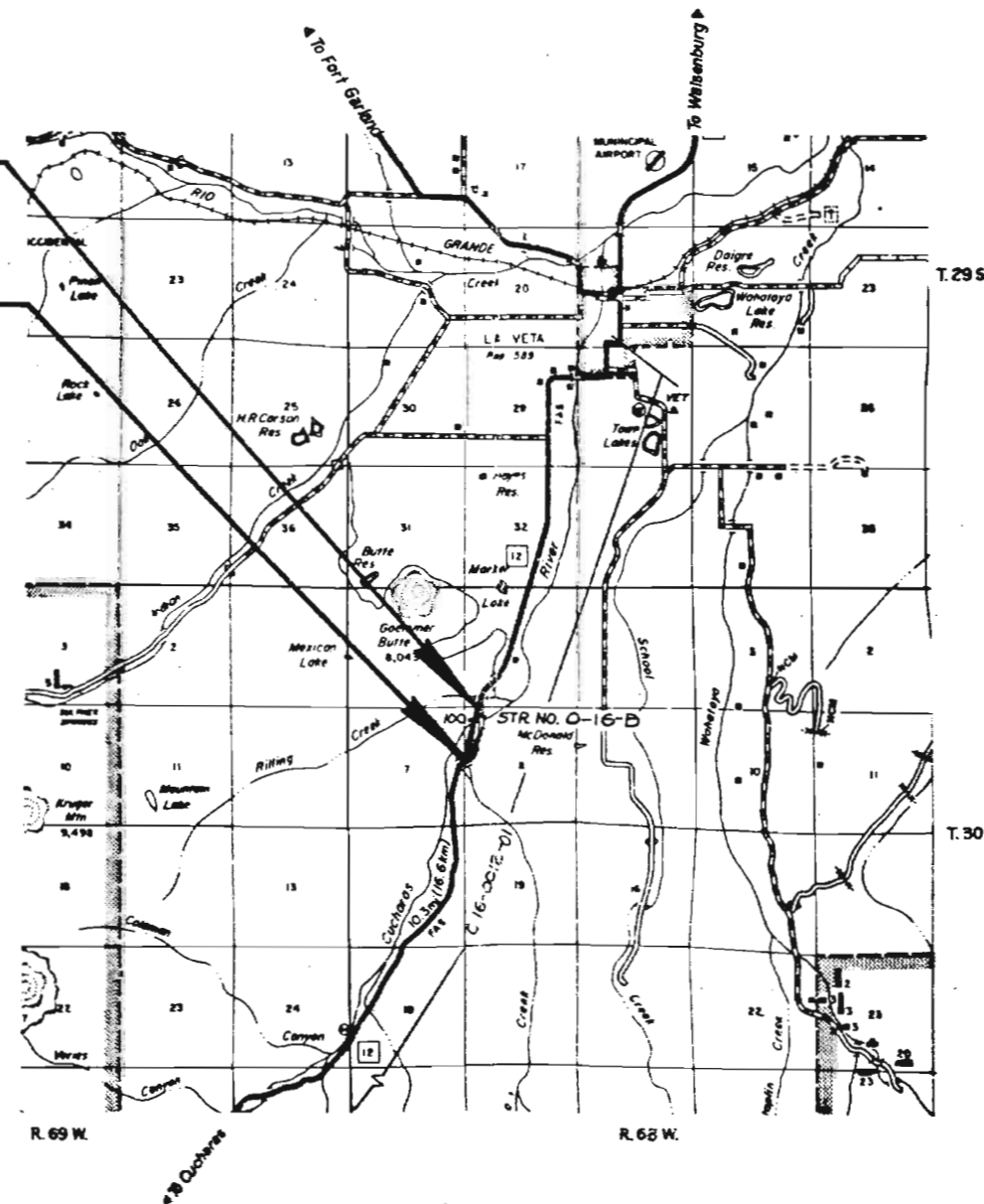
INDEX OF SHEETS	SHEET NO.
	1 TITLE SHEET
	2 STANDARD PLANS LIST
	3 TYPICAL SECTION, GENERAL NOTES
	4-5 SUMMARY OF APPROXIMATE QUANTITIES
	6-7 STRUCTURE QUANTITIES
	8 SURFACING PLAN, SUMMARY OF EARTHWORK QUANTITIES, METTING, TABULATIONS OF GUARD RAIL, FENCING, CONSTRUCTION TRAFFIC CONTROL DEVICES
	9 WINGWALL DATA, DETAILS OF HEADWALL, CONCRETE LINED INLET
	10 ALIGNMENT PLAN AND PROFILE

SCALES OF ORIGINAL DRAWINGS
ON PLAN, 1 IN. = 50 FT.
ON PROFILE { 1 IN. = 50 FT. HORIZONTAL
 1 IN. = 5 FT. VERTICAL
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD

	REVISED STANDARDS	
M-203-SC	SUPERELEVATION OF CURVES - CROWNED HIGHWAYS	8-17-81
M-603-MB	METAL CULVERT PIPE - H-20 LOADING	(2 SHEETS) 6-26-81
M-606-AC	GUARD RAIL - TYPE 3 W BEAM	(8 SHEETS) 7-01-80
M-607-A	WIRE FENCES AND GATES	(2 SHEETS) 2-29-80
M-620-B	FIELD LABORATORY CLASS 1	5-30-80
S-614-50	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	(4 SHEETS) 9-01-81
S-614-51	BARRICADES, DRUMS, CONCRETE BARRIER (TEMP) AND VERTICAL PANELS	9-01-81

90+50.00 BEGIN BRS 0012(18)=
215+46.5 ON C 16-0012-01

105+88.97 BK.=
106+00.00 AH, END BRS 0012(18)=
230+96.5 ON C 16-0012-01

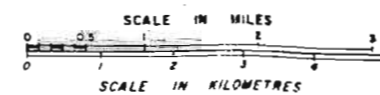


OFFICE REVIEW

JAN 5 1982

ROADWAY PLANS

LENGTH AND DESIGN DATA							
90+50.00 BEGIN BRS 0012(18) = 215+46.5 ON C 16-0012-01	ROADWAY LIN. FT.						
105+88.97 BK = 106+00.00 AH, END BRS 0012(18) = 230+96.5 ON C 16-0012-01	1,538.97						
TOTAL	1,538.97						
SUMMARY							
PROJECT NET AND GROSS LENGTH	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th style="text-align: left;">LIN. FT.</th> <th style="text-align: left;">MILE</th> </tr> <tr> <td style="text-align: center;">1,538.97</td> <td style="text-align: center;">0.291</td> </tr> </table>	LIN. FT.	MILE	1,538.97	0.291		
LIN. FT.	MILE						
1,538.97	0.291						
DESIGN DATA							
MAXIMUM DEGREE OF CURVE	5° 00'						
MAXIMUM GRADE	4.00%						
MINIMUM SSD HORIZONTAL	423'						
MINIMUM SSD VERTICAL	279'						
MAXIMUM DESIGN SPEED	40 MPH						
1998 DESIGN TRAFFIC VOLUME	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>DHV</td> <td style="text-align: center;">= 200</td> </tr> <tr> <td>ADT</td> <td style="text-align: center;">= 1003</td> </tr> <tr> <td>% TRUCKS</td> <td style="text-align: center;">= 10%</td> </tr> </table>	DHV	= 200	ADT	= 1003	% TRUCKS	= 10%
DHV	= 200						
ADT	= 1003						
% TRUCKS	= 10%						



DIVISION OF HIGHWAYS

APPROVED: _____

CHIEF ENGINEER DATE

AS CONSTRUCTED INFORMATION

CONTRACTOR _____

ENGINEER _____
(Project or Resident)

PROJECT STARTED _____

PROJECT COMPLETED _____

AS CONSTRUCTED PLANS APPROVED _____

TITLE DATE

C.D.L.

AS CONSTRUCTED
NO REVISIONS REVISED VOID

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	BRS 0012(18)	2	

PLAN NUMBER	TITLE	PAGE	PLAN NUMBER	TITLE	PAGE
<input checked="" type="checkbox"/> M-100-A	STANDARD SYMBOLS	1	<input type="checkbox"/> M-607-C	PICKET SNOW FENCE	57
<input type="checkbox"/> M-107-A	TEMPORARY EROSION CONTROL	2	<input type="checkbox"/> M-607-D	BARRIER FENCE	58
<input checked="" type="checkbox"/> M-203-B	APPROACH ROADS, FLARING, CUT SLOPE TREATMENT, BRIDGE & CREST WIDENING	3	<input type="checkbox"/> M-607-E	DEER FENCE AND GATE (2 SHEETS)	59
<input checked="" type="checkbox"/> M-203-C	DITCH TYPES	4	<input type="checkbox"/> M-608-A	CURB RAMPS FOR THE HANDICAPPED	61
<input type="checkbox"/> M-203-SC	SUPERELEVATION OF CURVES - CROWNED HIGHWAYS	5	<input type="checkbox"/> M-609-A	CURBS AND GUTTERS	62
<input type="checkbox"/> M-203-SD	SUPERELEVATION OF CURVES - DIVIDED HIGHWAYS	6	<input type="checkbox"/> M-611-D	CATTLE GUARD - WELDED GRILL UNITS - 10' THRU 42' ROADWAYS (2 SHEETS)	63
<input type="checkbox"/> M-203-SS	SUPERELEVATION OF CURVES - STREETS	7	<input type="checkbox"/> M-612-A	MARKER POSTS AND BENCH MARKS	65
<input checked="" type="checkbox"/> M-206-AB	EXCAVATION AND BACKFILL FOR STRUCTURES (3 SHEETS)	8	<input type="checkbox"/> M-613-AA	HIGHWAY LIGHTING	66
<input type="checkbox"/> M-214-A	PLANTING DETAILS	11	<input type="checkbox"/> M-615-A	EMBANKMENT PROTECTOR, TYPES 3 & 4 (SHEET 1)	67
<input type="checkbox"/> M-412-AB	CONCRETE PAVEMENT JOINTS	12	<input type="checkbox"/> M-615-A	EMBANKMENT PROTECTOR, TYPE 5 (SHEET 2)	68
<input type="checkbox"/> M-504-B	STEEL CRIBBING	13	<input type="checkbox"/> M-616-S	INVERTED SIPHON (ALSO USE M-603 OR M-604 AS REQUIRED)	69
<input type="checkbox"/> M-506-A	GABIONS AND SLOPE MATTRESS	14	<input type="checkbox"/> M-620-A	FIELD LABORATORY - CLASS 2	70
<input type="checkbox"/> M-510-AB	STRUCTURAL PLATE CULVERT PIPE - H-20 LOADING (2 SHEETS)	15	<input checked="" type="checkbox"/> M-707-CB	TYPICAL ALTERNATE COUPLING BANDS FOR CORRUGATED CULVERT PIPE	71
<input type="checkbox"/> M-601-BC1	SINGLE CONCRETE BOX CULVERT	17	<input type="checkbox"/> S-612-1	TYPICAL DELINEATOR INSTALLATIONS . . (4 SHEETS)	72
<input type="checkbox"/> M-601-BC2	DOUBLE CONCRETE BOX CULVERT	18	<input type="checkbox"/> S-614-1	TYPICAL GROUND SIGN PLACEMENT	76
<input type="checkbox"/> M-601-BC3	TRIPLE CONCRETE BOX CULVERT	19	<input type="checkbox"/> S-614-2	CLASS I GROUND SIGN INSTALLATIONS	77
<input checked="" type="checkbox"/> M-601-CH	HEADWALL FOR PIPE CULVERTS	20	<input type="checkbox"/> S-614-3	CLASS II GROUND SIGN INSTALLATIONS	78
<input type="checkbox"/> M-601-KA	TYPE "S" SADDLE HEADWALL FOR PIPE CULVERTS (2 SHEETS)	21	<input type="checkbox"/> S-614-4	CLASS III SIGNS, LAMINATED ALUMINUM PANELS AND POST SPACING TABLE (2 SHEETS)	79
<input type="checkbox"/> M-601-L	HEADWALL, INTERCEPTING HEADWALL AND CULVERT OUTLET PAVING	23	<input type="checkbox"/> S-614-5	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	81
<input checked="" type="checkbox"/> M-601-WW	WINGWALLS FOR PIPE OR BOX CULVERTS	24	<input type="checkbox"/> S-614-6	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	83
<input type="checkbox"/> M-603-CA	CONCRETE AND METAL END SECTIONS	25	<input type="checkbox"/> S-614-10	TYPICAL MARKER ASSEMBLY INSTALLATIONS	85
<input type="checkbox"/> M-603-MA	METAL CULVERT PIPE - H-20 LOADING	26	<input type="checkbox"/> S-614-11	MILEPOST SIGN AND INSTALLATION	86
<input checked="" type="checkbox"/> M-603-RC	REINFORCED CONCRETE PIPE	27	<input type="checkbox"/> S-614-12	STRUCTURE NUMBER INSTALLATION (BRIDGE INFORMATION SHEET)	87
<input type="checkbox"/> M-604-AB	CONCRETE INLET, TYPE 13	28	<input type="checkbox"/> S-614-20	TYPICAL POLE MOUNT SIGN INSTALLATION	88
<input type="checkbox"/> M-604-BA	INLET, TYPE C	29	<input type="checkbox"/> S-614-22	TYPICAL MULTI-SIGN INSTALLATIONS	89
<input type="checkbox"/> M-604-DA	STEPS FOR MANHOLES & INLETS	30	<input type="checkbox"/> S-614-30	INTERSTATE ROUTE MARKERS	90
<input type="checkbox"/> M-604-E	MANHOLES	31	<input type="checkbox"/> S-614-31	U. S. & COLORADO ROUTE MARKERS	91
<input type="checkbox"/> M-604-H	INLET, TYPE D	32	<input type="checkbox"/> S-614-32	AUXILIARY MARKERS	92
<input type="checkbox"/> M-604-R	CURB INLET, TYPE R (2 SHEETS)	33	<input type="checkbox"/> S-614-40	TRAFFIC SIGNAL INSTALLATION DETAILS (3 SHEETS)	93
<input type="checkbox"/> M-604-S	PIPE SEWER IN TRENCH	35	<input type="checkbox"/> S-614-50	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (4 SHEETS)	96
<input type="checkbox"/> M-606-AC	GUARD RAIL, TYPE 3, W-BEAM (8 SHEETS)	36	<input type="checkbox"/> S-614-51	BARRICADES, DRUMS, CONCRETE BARRIER (TEMP) & VERTICAL PANELS	100
<input type="checkbox"/> M-606-B	GUARD RAIL, TYPE 5, STEEL BARRIER, BOX BEAM (3 SHEETS)	44	<input type="checkbox"/> S-627-1	TYPICAL PAVEMENT MARKINGS (3 SHEETS)	101
<input type="checkbox"/> M-606-D	GUARD RAIL, TYPE 4, CONCRETE BARRIER, CAST-IN-PLACE	47			
<input type="checkbox"/> M-606-EA	GUARD RAIL, TYPE 4, CONCRETE BARRIER, PRECAST-PORTABLE	48			
<input type="checkbox"/> M-606-G	GUARD RAIL, TYPE 3, W-BEAM FOR LOCAL ROADS & STREETS (3 SHEETS)	49			
<input type="checkbox"/> M-607-A	WIRE FENCES AND GATES (2 SHEETS)	52			
<input type="checkbox"/> M-607-BA	CHAIN LINK FENCE (3 SHEETS)	54			

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

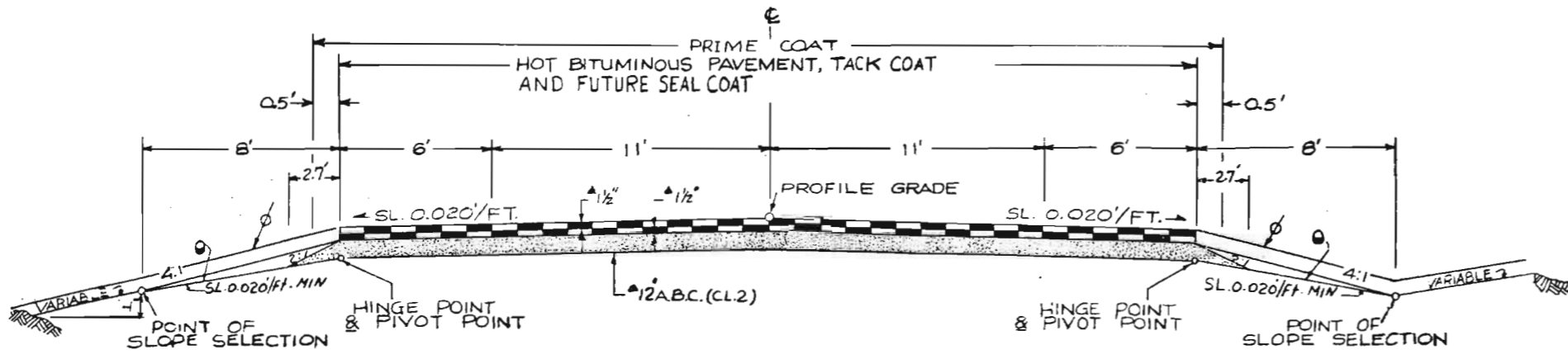
DEPARTMENT OF HIGHWAYS
STATE OF COLORADO
DIVISION OF HIGHWAYS

STANDARD PLANS LIST
M & S STANDARDS — JANUARY, 1980

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	EFS 0012(18)	3	
AS CONSTRUCTED				
NO REVISIONS <input type="checkbox"/>		REVISED <input type="checkbox"/>		VOID <input type="checkbox"/>

TYPICAL SECTION

STA. 96+58.23 TO STA. 101+40.84
 STA. 90+50.00 TO STA. 91+28.56 EXISTING WIDTH
 STA. 91+28.56 TO STA. 96+58.23 TRANSITION
 STA. 101+40.84 TO STA. 105+14.67 TRANSITION
 STA. 105+14.67 TO STA. 105+88.97 BK. EXISTING WIDTH



- ▲ APPROXIMATE THICKNESS
- SUITABLE MATERIAL
- ⊕ TOPSOIL WILL BE PLACED TO THE LINE SHOWN.

THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE.

BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE.

MATERIAL SHALL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING APPROXIMATE RATES PER 100 LIN. FT. OF ROADWAY:

BITUMINOUS PAVEMENT	TOP LAYER	32 TONS
	BOTTOM LAYER.	32 TONS
BASE COURSE.		244 TONS

THE RATES SHOWN HAVE BEEN DETERMINED FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. RATES SHOULD BE ADJUSTED DURING CONSTRUCTION TO OBTAIN THE REQUIRED APPROXIMATE THICKNESS.

FILL SLOPES:

SLOPE 4:1 WHERE "H" IS 4' OR LESS.
SLOPE 3:1 WHERE "H" IS 4'+ TO 15'
SLOPE 2:1 WHERE "H" IS OVER 15'

IN SPECIAL CASES, SLOPE MAY BE STEEPENED.

GENERAL NOTES

FOR PRELIMINARY PLAN QUANTITIES OF BITUMINOUS MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

TACK COAT DILUTED EMUL. ASPH. (CSS-1H)	@ 0.10 GALS./SQ. YD. (DILUTED)
PRIME COAT (MC-70)	@ 0.30 GALS./SQ. YD.
BITUMINOUS PAVEMENT	@ 110 LBS. PER SQ. YD./INCH

DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.

RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED.

THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER.

1. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.
2. SHORT SKI OR SHOE.

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

ROAD APPROACHES WHICH REQUIRE BITUMINOUS PAVEMENT SHALL HAVE A 2" THICKNESS OF PAVEMENT PLACED AS FOLLOWS:

PUBLIC APPROACHES AND ENTRANCES TO BUILDINGS OR RESIDENCES SHALL BE PAVED 50 FEET OUT FROM EDGE OF SHOULDER OR TO THE RIGHT OF WAY LINE, WHICHEVER IS LESS. FIELD ENTRANCES SHALL BE PAVED 4 FEET OUT FROM EDGE OF SHOULDER.

DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:

FULL DEPTH OF ALL EMBANKMENTS.
 BASES OF CUTS AND FILLS 0.5 FOOT.

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

THE MINIMUM THICKNESS OF TOPSOIL SHALL BE 4 INCHES, AND WILL BE OBTAINED FROM WITHIN THE ROADWAY PRISM.

SEEDING AND MULCHING WILL BE DONE BY STATE FORCES AT NO COST TO THE PROJECT.

FLEXIBLE CONDUITS ON THIS PROJECT WITH HELICAL CORRUGATIONS, JOINED BY DIMPLED CONNECTING BANDS, SHALL USE A SEALING COMPOUND OR GASKET WITH THE CONNECTING BAND.

GUARD POSTS, DELINEATORS AND SIGNS WILL BE REMOVED BY STATE FORCES AT NO COST TO THE PROJECT.

SIGNING AND STRIPING WILL BE DONE BY STATE FORCES IN ACCORDANCE WITH THE M.U.T.C.D. AT NO COST TO THE PROJECT.

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	BRS 0012 (18)	8	
AS CONSTRUCTED				
NO REVISIONS		REVISED	VOID	

SURFACING PLAN

STATION TO STATION	SOURCE	QUANTITY - TONS		
		AGGREGATE BASE COURSE	HOT BITUMINOUS PAVEMENT	
		CLASS 2	BOTTOM LAYER GRADING E	TOP LAYER GRADING E
90+50.00 TO 91+28.56	UNDESIGNATED		12	12
91+28.56 TO 96+58.23		546	84	84
96+58.23 TO 101+40.84		1,178	154	154
101+40.84 TO 105+14.67		456	60	60
105+14.67 TO 105+88.97 BK. FROM STRUCTURE QUANTITIES		105	12	12
CORRECTING IRREGULARITIES (10%)		238	32	26
TOTALS		2,623	354	348

NOTE: Stabilization Based On
 1. 18" EDLA ----- 9
 2. Regional Factor ----- 1.0
 3. Serviceability Index ----- 2.0
 4. Subgrade R Value ----- 70
 Strength Coefficient
 5. Hot Bituminous Pavement ----- D40

SUMMARY OF EARTHWORK QUANTITIES

UNCLASSIFIED EXCAVATION	CU. YD.
ROADWAY (FROM COMPUTER)	9,744
STRUCTURE QUANTITIES AS EMB.	425
STRUCTURE QUANTITIES AS EXCAV.	26
STRUCTURE QUANTITIES AS DITCH	29
EST. FOR CUT SLOPE TREATMENT	49
TOTAL	10,273
COMPACTION (AASHTO T 99)	
EMBANKMENT (NET)	4,944
BASE OF CUTS AND FILLS	1,237
STRUCTURE QUANTITIES AS EMB. (NET)	425
EMB. MATERIAL FOR SHOULDERS TO REPLACE TOPSOIL EMB. (NET)	375
TOTAL	7,529
HAUL	YD. MI.
FROM MASS DIAGRAM	255
EMB. MATERIAL FOR SHOULDERS	11
STR. QUANTITIES AS EMB.	19
EST. FOR REPLACING TOPSOIL	29
TOTAL	314

ROADWAY QUANTITIES BALANCE (FOR INFORMATION ONLY)	CU. YD.
EXCAVATION	
UNCLASSIFIED	9,744
TOTAL	9,744
EMBANKMENT NET	
ROADWAY (FROM COMPUTER)	4,944
TOTAL	4,944
EMBANKMENT X 1.10	
ROADWAY (FROM COMPUTER)	5,439
EXCESS EXCAVATION	4,305
TOTAL	9,744
EXCESS EXCAV. TO BE DISPOSED AS: EMB. MATERIAL FOR SHOULDERS TO REPLACE TOPSOIL EMB. PROPERTY OF CONTRACTOR	419 603 3289
TOTAL	4,305

NETTING

	M GAL.
COMPACTION	309
SUBBASE	39
DUST PALLIATIVE	33
TOTAL	379

GUARD RAIL

LOCATION	SIDE	REMOVAL OF GUARD RAIL TYPE 3	GUARD RAIL TYPE 3 (6-3 POST SPACING)	END ANCHORAGE TYPE 3E
		LN. FT.	LN. FT.	EACH
98+10 TO 99+00	LT	90		
98+85 TO 99+63	LT	80		
99+15 TO 99+60	LT	50		
99+98 TO 101+20	LT	125		
100+00 TO 101+30	LT	135		
98+90 TO 101+40	LT		250	2
98+90 TO 100+90	RT		200	2
TOTALS		480	450	4

GUARD RAIL MATERIAL SHALL BE GALVANIZED.
 POST SPACING OVER THE TRIPLE 96 INCH CULVERTS SHALL BE ADJUSTED TO AVOID HITTING THE PIPES.

FENCING

LOCATION	SIDE	REMOVE FENCE	FENCE BARBED WIRE WITH METAL POSTS	BARBED WIRE GATE
		LN. FT.	LN. FT.	
92+35 TO 96+90	RT	470		
98+70 TO 101+90	LT	315		
101+90 TO 104+25	RT	235		
92+35 TO 104+25	RT		1,250	
94+00	RT			1
98+80	RT			1
102+45	RT			1
TOTALS		1,020	1,250	

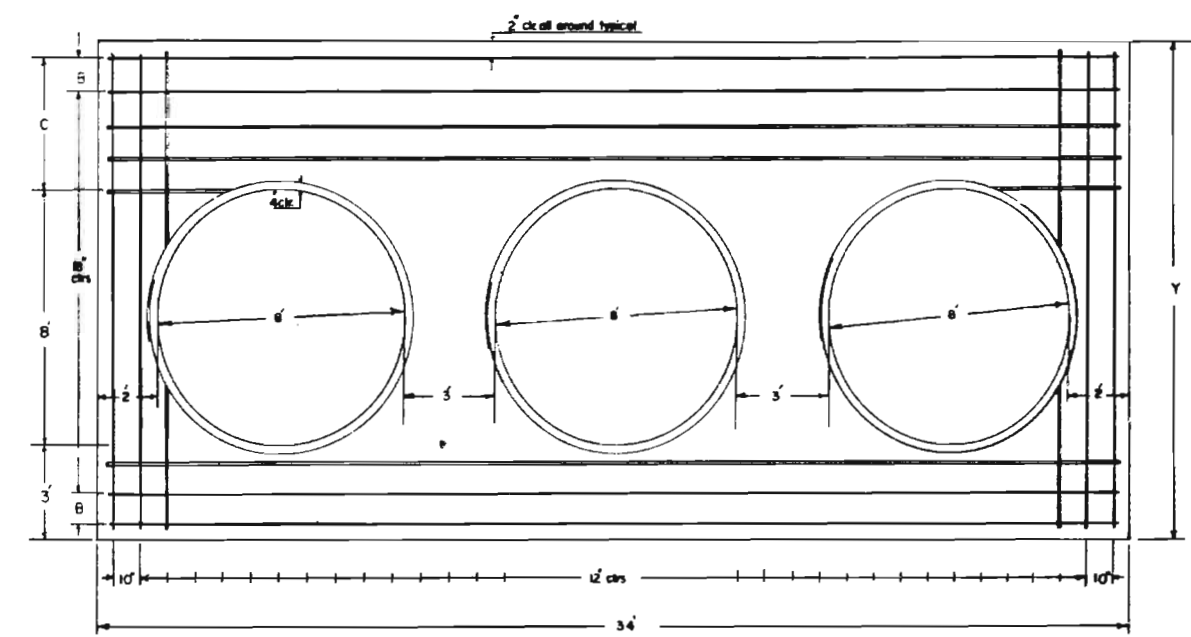
IT IS ESTIMATED THAT 8 END POSTS AND 4 CORNER AND LINE BRACE POSTS WILL BE REQUIRED.

CONSTRUCTION TRAFFIC CONTROL DEVICES

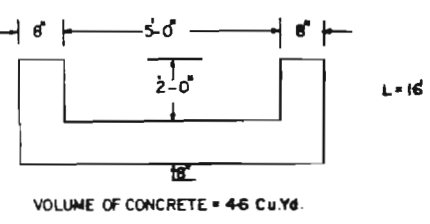
SIGM CODE	LEGEND	DIMENSIONS	PANEL SIZE - QUANTITY EACH		
			A	B	OTHER
XW20-1	ROAD/CONST/(DISTANCE)	48" X 48"		4	
XW20-7a	FLAGGER SYMBOL	48" X 48"		2	
SR11-2	ROAD/CLOSED	48" X 30"		2	
SG20-2	END/CONSTRUCTION	60" X 24"		2	
XW20-2	DETOUR/(DISTANCE)	48" X 48"		2	
IW1-4(R)	REVERSE CURVE RT.	48" X 48"		2	
IW1-4(L)	REVERSE CURVE LT.	48" X 48"		2	
SM4-10(R)	DETOUR ARROW	48" X 18"	2		
SM4-10(L)	DETOUR ARROW	48" X 18"	2		
TYPE 2 BARRICADE			20		
VERTICAL PANEL (WITH LIGHT)(STEADYURN)					12
BARRICADE (TYPE 3 M-B) (TEMPORARY)					2
TOTALS			24	16	

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	BRS-0012 (18)	9	
AS CONSTRUCTED				
NO REVISIONS	<input type="checkbox"/>	REVISED	<input type="checkbox"/>	VOID
				<input type="checkbox"/>

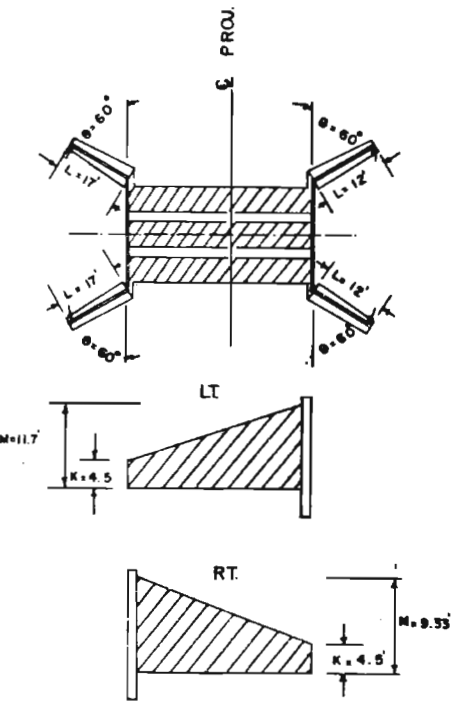
DETAIL OF HEADWALL
 STA. 99+78 LT AND RT.



DETAIL OF CONCRETE LINED INLET
 STA. 98+65 RT



WINGWALL DATA
 STA. 99+78 LT AND RT.



HEAD WALL	C	B	Y	CONCRETE	STEEL
	FT.-IN.	IN.	FT.-IN.	CU. YD.	LBS.
LT.	4-8	20	15-8	20	1302
RT.	2-5	15	13-4	17	1040

SEE STANDARD M-601-CH FOR ADDITIONAL DETAIL

PROJECTED
Δ=0°59'00" RT.

SURVEY
Δ=2°50'30" LT.

PROJECTED
Δ=16°29'00" LT.

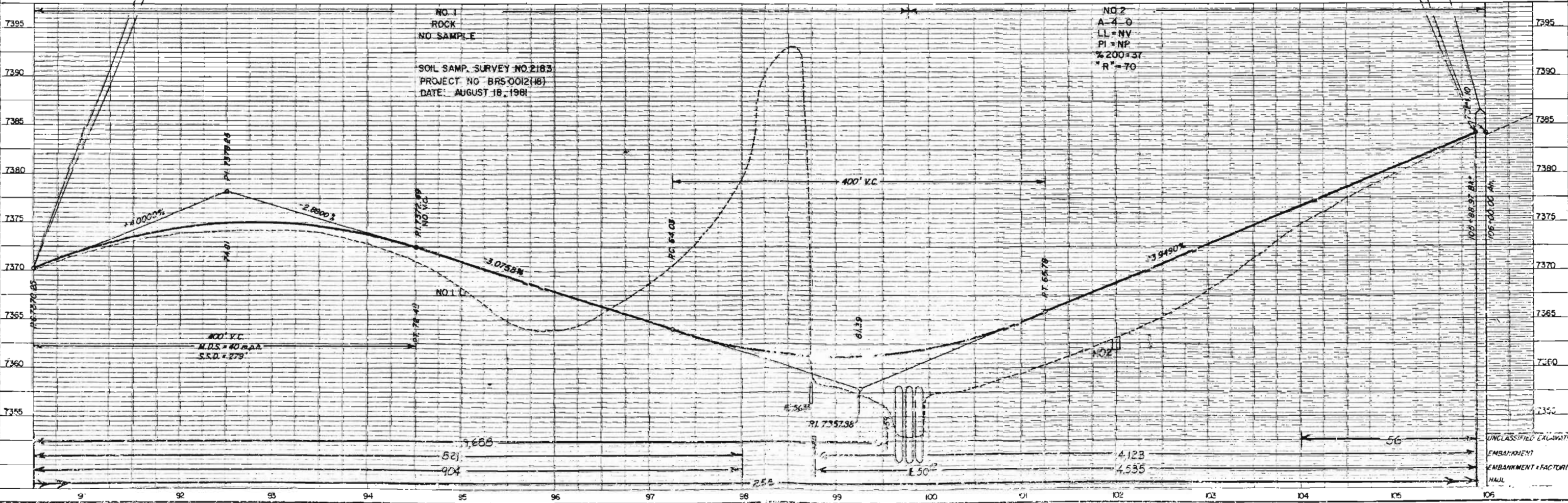
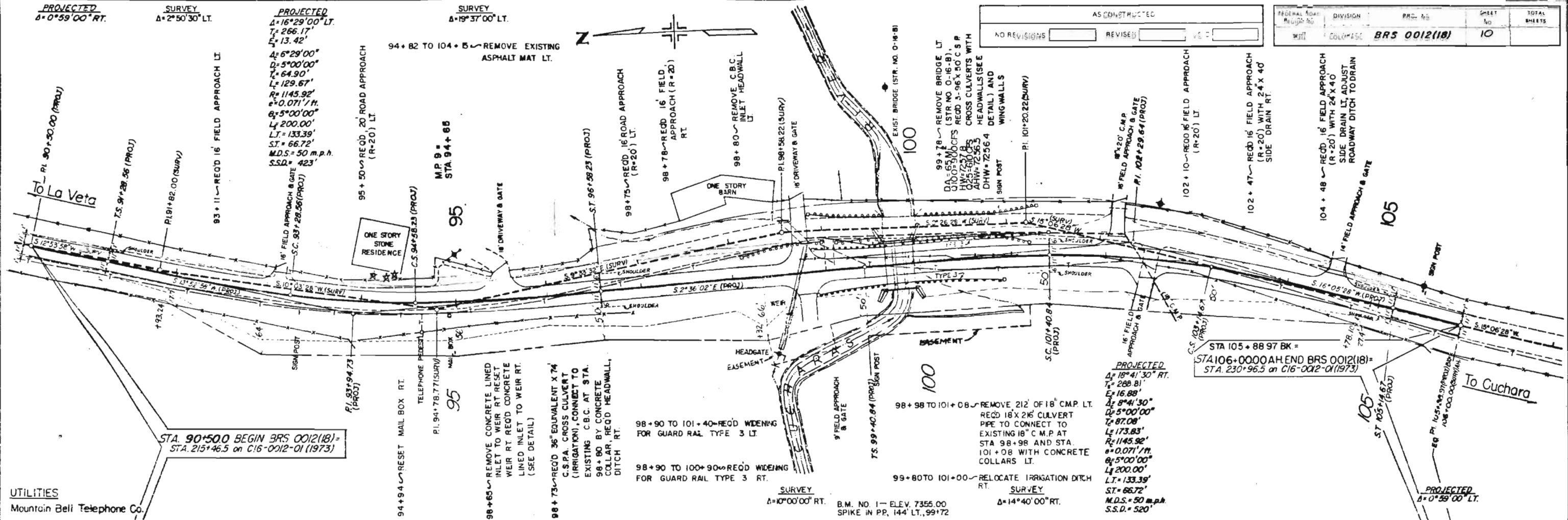
SURVEY
Δ=19°37'00" LT.

AS CONSTRUCTED	
NO REVISIONS	REVISED

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
	COLORADO	BRS 0012(18)	10	

PLAN
DRAWN BY: [Name]
CHECKED BY: [Name]
DATE: [Date]

PROFILE
DRAWN BY: [Name]
CHECKED BY: [Name]
DATE: [Date]



UNCLASSIFIED EXCAVATION
EMBANKMENT
EMBANKMENT + FACTOR(L1)
HAUL

MEMORANDUM

DEPARTMENT OF HIGHWAYS

4201 East Arkansas Ave.
Denver, Colorado 80222



DATE: December 21, 1981
TO: H. W. Harris
FROM: J. W. Kasenga
SUBJECT: Final Office Review



BRS 0012(18)
4.2 Mi. S. of LaVeta -
Str. 0-16-B

This is to advise you that the above plans have been summarized.

Advance plans and special provisions are being sent to those as shown below. These prints are for review and recommendations prior to completion of plans by the Staff Design Branch.

The FOR will be held on January 5, 1982 at 1:00 in Room 404, Denver Headquarters.

*Bill =
for Review + use
S.D.*

JAMES W. KASENGA
Staff Design Engineer

By *D. H. Heiderstadt*
D. H. HEIDERSTADT
Roadway Design Engineer

CDL/acb
Encl. - 1 set
copy: T. L. Mueller
R. Q. Brown
R. W. Walls
W. C. Brown w/o encl.
L. B. Leigh
S. C. Droge
H. W. Walters
Kasenga/Davis
G. W. Fritts
M. T. Byers w/o encl.
Reisbeck/Johnson
Atchison/Chocol - w/o encl.
S. C. Tapp - w/o encl.
G. C. Johnson
W. E. Tucker

LIST OF STANDARD SPECIAL PROVISIONS
NUMBERED ITEMS

ITEM	DATE	NO. OF PAGES
Revision of Section 620-Field Facilities	July 1, 1981	2
Revision of Section 620-Field Facilities	Sept. 16, 1981	1
Section 624-Corrosion Resistant Culverts	July 1, 1981	2
Revision of Section 703-Fine Aggregate for Concrete (Districts 1, 2 and 4)	July 1, 1981	1
Revision of Sections 707 and 710-Galvanizing	Sept. 10, 1981	1
Revision of Section 710-Alternative Pipe Material for Fence	July 1, 1981	1

LIST OF STANDARD
SPECIAL PROVISIONS

October 16, 1981

ALPHABETICAL

ITEM	DATE	NO. OF PAGES
Affirmative Action Requirements - Equal Employment Opportunity	Jan. 5, 1981	6
Bid Conditions Minority Business Enterprise	May 15, 1981	7
Construction Safety and Health Standards	July 24, 1978	1
Errata to the 1981 Standard Specifications	Sept. 1, 1981	1
Governor's Executive Order-Equal Opportunity and Affirmative Action	May 1, 1975	1
Minimum Wages-Colorado-U.S. Department of Labor Decision No. C081-5149 Mod. 1. Statewide Heavy and Highway Construction, Applicable to selected Federal Aid Projects having bid openings on or after October 10, 1981.	Oct. 16, 1981	9
Minimum Wages-Federal Requirements (C.O.L.)	Aug. 28, 1968	1
Miscellaneous Contract Requirements	July 1, 1979	1
On-The-Job Training	June 16, 1981	2
Railroad Insurance	Oct. 27, 1980	1
Subcontracting	Aug. 1, 1976	1

Special Provisions
Work Sheet No. 102-1
Notice to Bidders
Oct. 1981
Prepared by _____
Proofed by _____

_____ Date

NOTICE TO BIDDERS
COLORADO PROJECT NO. BRS 0012(18)

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 - T. L. Mueller
Pueblo, Colorado
Office Phone: 544-6286

Resident Engineer - R. W. Walls
Pueblo, Colorado
Office Phone: 544-6286
Home Phone : 566-1527

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

Special Provisions
Work Sheet No. 108-1
Commencement and Completion of Work
Oct. 1981
Prepared by _____
Proofed by _____

NOTE: Alter as necessary.

_____ Date

COMMENCEMENT AND COMPLETION OF WORK
COLORADO PROJECT NO. BRS 0012(18)

Certified Check, Cashier's Check or Bid Bond required in the amount of 5% of the Contractor's Bid Proposal.

The Contractor on this project shall commence work under his contract on or before the 20th day following the date of award unless such time for beginning the work shall be changed by the Chief Engineer in the "Notice to Proceed". The Contractor shall complete all work within _____ working days in accordance with the "Notice to Proceed".

This work shall conform to Section 108 of the Standard Specifications with the following revision:

* Delete the first sentence of the eighth paragraph in subsection 108.06 and replace with the following:

Time will not be charged during the months of

_____, _____, _____,

_____ and _____.

△ This work shall conform to Section 108 of the Standard Specifications with the following revision:

Delete the eighth paragraph in subsection 108.06.

* Use if months as shown in paragraph 108.06 of the Standard Specifications are revised.

△ Use on projects for which contract time will be charged during all months, e.g.-traffic signal projects.

Special Provisions
Work Sheet No. 102-3
MBE Goals
Oct. 1981
Prepared by _____
Proofed by _____

_____ Date

CONTRACT GOALS FOR
MINORITY BUSINESS ENTERPRISE
COLORADO PROJECT NO. *BRS 0012(18)*

- (a) The Division has determined that two or more MBE firms owned and controlled by minorities can reasonably be expected to compete for _____ percent of the work contained in the proposal for this project, and that two or more MBE firms owned and controlled by women can reasonably be expected to compete for _____ percent of the work contained in the proposal for this project.
- (b) It is therefore the goal of the Division that MBE firms owned and controlled by minorities and women will contract for the following percentages of the total dollar amount of this contract:

	<u>Contract Performance Goals</u>	<u>Contract Award Goals</u>
MBE (Minorities)	_____ Percent	_____ Percent
MBE (Women)	_____ Percent	_____ Percent

- (c) The percentages will be calculated from proposals received for this project according to the following formula:

$$\text{Percentage} = 100 \times \frac{\text{Dollar amount of work to be contracted to MBEs}}{\text{Total dollar amount of the prime contract}}$$

Special Provisions
Work Sheet No. 102-2
Cross Sections and Computer Output Data
Oct. 1981
Prepared by _____
Proofed by _____

NOTE: Alter as necessary.

_____ Date

REVISION OF SECTION 102
CROSS SECTIONS AND COMPUTER OUTPUT DATA
COLORADO PROJECT NO. BRS 0012(18)

The following information will be available for review in the Agreements and Specifications Unit of the Staff Design Branch, Room 282, 4201 East Arkansas Avenue, Denver, Colorado 80222 until the date set for opening of bids:

CROSS SECTIONS

Roadway
Structures

COMPUTER OUTPUT DATA

Earthwork Quantities
Mass Diagram

All or part of the above material may be purchased upon request.

FOR INFORMATION ONLY

The Cross Section sheets have been numbered as follows:

<u>Sheet No.</u>	
<u>101</u> to <u>110</u>	ROADWAY
<u>201</u> to <u>203</u>	STRUCTURES

REVISION OF SECTION 304
AGGREGATE BASE COURSE
COLORADO PROJECT NO. BRS 0012(18)

This work shall conform to Section 304 of the Standard Specifications with the following additions:

The source of aggregate for Aggregate Base Course is not designated. The conditions for acquiring materials from undesignated sources are in Section 106. Approval of the aggregate source will be contingent on material meeting the gradation requirements and having a resistance value of not less than 69 when tested by the Hveem Stabilometer method.

Subsection 304.02 shall include the following:

Materials for the leveling course shall be Aggregate Base Course (Class 2). The gradation requirements are as follows:

Passing 3" Sieve	-	100%
Passing #200 Sieve	-	5% to 15%

Subsection 304.04 shall include the following:

Steel wheel rollers shall be used to compact aggregate base course.

Subsection 304.08 shall include the following:

Haul, compaction with steel wheel rollers, and stripping will not be paid for separately but shall be included in the work.

Special Provisions
Work Sheet No. 107-1
Utilities
Oct. 1981
Prepared by ash
Proofed by _____

NOTE: Alter as necessary.

_____ Date

UTILITIES
COLORADO PROJECT NO. BRS 0012(18)

It is anticipated that utilities conflicting with construction will be moved or adjusted in coordination with the Contractor's activities.

The owners of the utilities and estimated completion dates of move or adjustment of their facilities are as follows:

~~_____~~
~~_____~~
~~_____~~
Coordinated with Construction

~~The Division anticipates no delay, beyond the above dates, toward the completion of the project due to utility moves or adjustments.~~

* The utilities involved are:

Mountain Bell Tele. Co.

The Division anticipates no delay toward the completion of the project due to utility moves or adjustments.

~~* To be used when all Utilities involved have to be coordinated with construction.~~

14 sets

Special Provisions
Work Sheet No. 100-1
Index-Fed. Aid Projects (except 3R)
Oct. 1981
Prepared by CWJ
Proofed by _____

_____ Date

STATE DEPARTMENT OF HIGHWAYS
DIVISION OF HIGHWAYS - STATE OF COLORADO
SPECIAL PROVISIONS
COLORADO PROJECT NO. BRS 0012(18)
4.2 MI. S. OF LAVETA - STR. 0-16-B

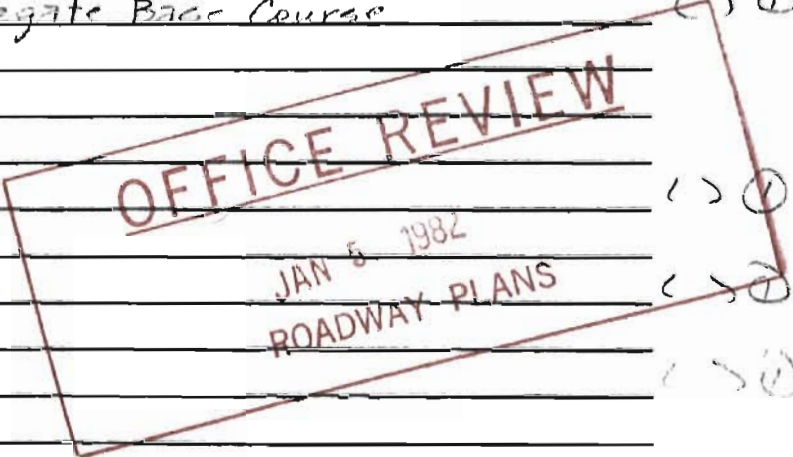
The following Provisions take precedence over Specifications or Plans, and supplement the Standard Specifications for Road and Bridge Construction adopted July 1, 1981 which is to be used to control construction of this Project.

REQUIRED PROVISIONS - FEDERAL-AID CONTRACTS

Form PR-1273 Rev. 9/75
Federal-Aid Proposal Notice

PROJECT SPECIAL PROVISIONS

	()	Page
Index Page	()	9 - 9x
Notice to Bidders	()	10
Commencement and Completion of Work	()	11
<u>Contract Goals For Minority Business Enterprise</u>	()	()
<u>Revision of Section 102 - Cross Sections And Computer Output Data</u>	()	()
<u>Revision of Section 304 - Aggregate Base Course</u>	()	()
<u>Force Account Items</u>	()	()
<u>Utilities</u>	()	()
<u>Water Quality Permit</u>	()	()



(continued)

September 21, 1981

LIST OF STANDARD SPECIAL PROVISIONS

NUMBERED ITEMS

ITEM	DATE	NO. OF PAGES
Revision of Section 102-Material Guaranty	July 1, 1981	1
Revision of Section 105-Reduction in Sampling Frequency	July 1, 1981	1
Revision of Section 105-Conformity with Plans and Specifications	July 1, 1981	1
Revision of Section 301-Plant Mix Bituminous Base (Cl. 6-Pueblo/Colo. Spgs.)	<i>Oct. 9</i> Sept. 10, 1981	1
Revision of Section 304-Stockpile Aggregate Base Course	July 1, 1981	1
Revision of Section 304-Aggregate Base Course (Cl. 2-Pueblo/Colo. Spgs.)	Sept. 10, 1981	1
Revision of Section 304-Aggregate Base Course (Cl. 6-Pueblo/Colo. Spgs.)	Sept. 11, 1981	1
Revision of Sections 401 and 515-Waterproofing Membrane	July 1, 1981	3
Revision of Section 403-Hot Bituminous Pavement (Pueblo/Colo. Spgs.)	Sept. 10, 1981	1
Revision of Section 403-Hot Bituminous Pavement (Denver Area)	Sept. 11, 1981	1
Revision of Sections 407, 411 and 702-Asphalt Cement (Scrap Rubber) (Crack Filler)	July 1, 1981	1
Revision of Section 410-Plant Mixed Seal Coat (Ty. B-Pueblo/Colo. Spgs.)	Sept. 10, 1981	1
<i>Revision of Section 509 - Steel Structures</i>	<i>Dec. 10, 1981</i>	1
Revision of Section 510-Structural Plate Structures	July 10, 1981	1
Revision of Section 601-Bridge Deck Finishing	Sept. 10, 1981	1
Revision of Section 603-Reinforced Concrete Pipe (Jacked)	July 1, 1981	1
Revision of Section 607-Right of Way Fence	July 1, 1981	1
Revision of Section 607-Fences-Fence Wood Sound Barrier	July 1, 1981	1
Revision of Section 608-Bituminous Bikeway	July 1, 1981	1
<i>Revision of Sections 613 and 715 - Lighting</i>	<i>Oct. 26, 1981</i>	1
Revision of Section 614-Flagging	July 1, 1981	1

-Continued-

STATE DEPARTMENT OF HIGHWAYS DIVISION OF HIGHWAYS—STATE OF COLORADO

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
711	COLORADO	BRS 0012(18)	1

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

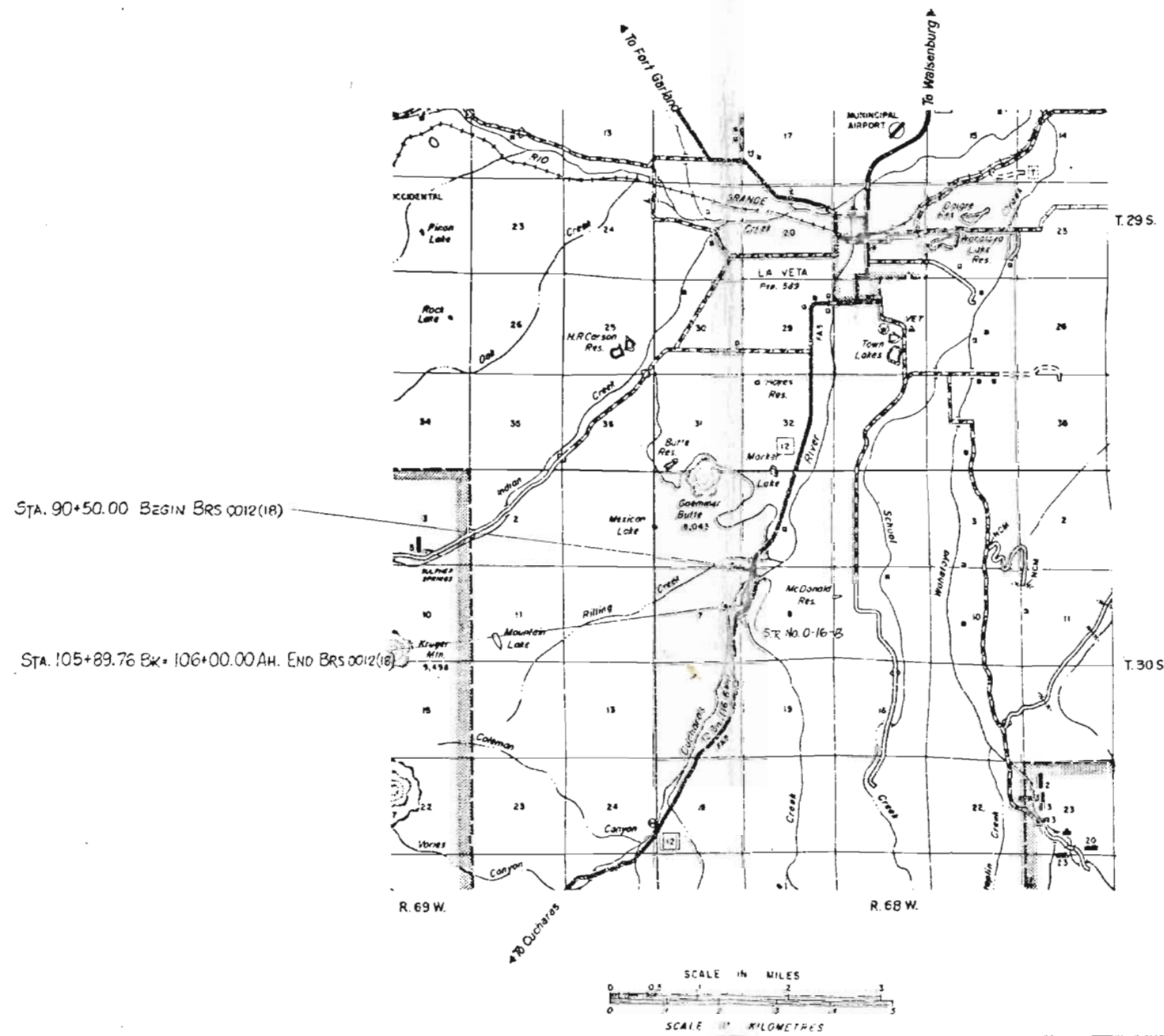
PLAN AND PROFILE OF PROPOSED FEDERAL AID PROJECT NO. BRS 0012(18) STATE HIGHWAY NO. 12 HUERFANO COUNTY

SHEET NO.

INDEX OF SHEETS

SCALES OF ORIGINAL DRAWINGS
 ON PLAN, 1 IN. = 50 FT.
 ON PROFILE { 1 IN. = 50 FT HORIZONTAL
 1 IN. = 5 FT VERTICAL
 GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD
 GROSS LENGTH OF PROJECT }
 NET LENGTH OF PROJECT }

FIELD INSPECTION
 JUL 29 1981
 ROADWAY PLANS



DIVISION OF HIGHWAYS	
APPROVED:	
_____ CHIEF ENGINEER	_____ DATE
AS CONSTRUCTED INFORMATION	
CONTRACTOR _____	
ENGINEER _____ (Project or Resident)	
PROJECT STARTED _____	
PROJECT COMPLETED _____	
AS CONSTRUCTED PLANS APPROVED _____	
_____ TITLE	_____ DATE

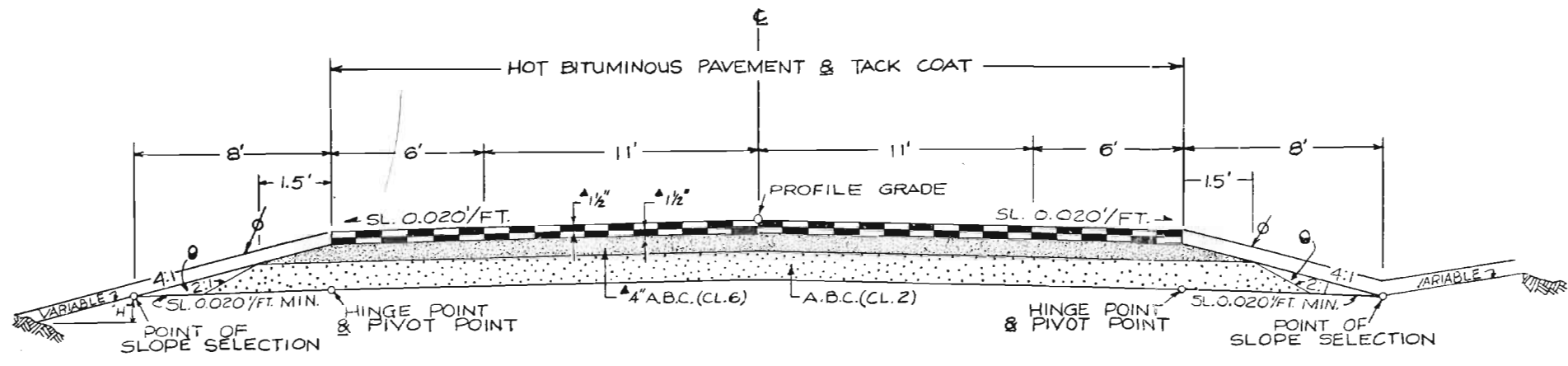
C.D.L.

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	BRS 0012 (18)	2	
AS CONSTRUCTED				
NO REVISIONS		REVISED		VOID

TYPICAL SECTION

STA. 96+58.23 TO STA. 101+40.84

STA. 91+28.56 TO STA. 96+58.23 TRANSITION
 STA. 101+40.84 TO STA. 105+14.67 TRANSITION



- ▲ APPROXIMATE THICKNESS
- SUITABLE MATERIAL
- ⊕ TOPSOIL WILL BE PLACED TO THE LINE SHOWN.

THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE PROPER DRAINAGE.

BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED ON CONSTRUCTION FOR A PLEASING APPEARANCE.

MATERIAL SHALL BE PLACED IN SEPARATE COURSES AT THE FOLLOWING APPROXIMATE RATES PER 100 LIN. FT. OF ROADWAY:

BITUMINOUS PAVEMENT	TOP LAYER	32 TONS
	BOTTOM LAYER	32 TONS
BASE COURSE		79 TONS

THE RATES SHOWN HAVE BEEN DETERMINED FROM INFORMATION AVAILABLE AT THE TIME OF DESIGN. RATES SHOULD BE ADJUSTED DURING CONSTRUCTION TO OBTAIN THE REQUIRED APPROXIMATE THICKNESS.

FILL SLOPES:

SLOPE 4:1 WHERE "H" IS 4' OR LESS.
SLOPE 3:1 WHERE "H" IS 4' + TO 15'
SLOPE 2:1 WHERE "H" IS OVER 15'

IN SPECIAL CASES, SLOPE MAY BE STEEPENED.

GENERAL NOTES

FOR PRELIMINARY PLAN QUANTITIES OF BITUMINOUS MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

- TACK COAT DILUTED EMUL. ASPH. (CSS-1H) @ 0.10 GALS./SQ. YD. (DILUTED)
- BITUMINOUS PAVEMENT @ 110 LBS. PER SQ. YD./INCH
- DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.
- RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED.

THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAYER.

1. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.
2. SHORT SKI OR SHOE.

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

ROAD APPROACHES WHICH REQUIRE BITUMINOUS PAVEMENT SHALL HAVE A 2" THICKNESS OF PAVEMENT PLACED AS FOLLOWS:

PUBLIC APPROACHES AND ENTRANCES TO BUILDINGS OR RESIDENCES SHALL BE PAVED 50 FEET OUT FROM EDGE OF SHOULDER OR TO THE RIGHT OF WAY LINE, WHICHEVER IS LESS. FIELD ENTRANCES SHALL BE PAVED 4 FEET OUT FROM EDGE OF SHOULDER.

DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:

- FULL DEPTH OF ALL EMBANKMENTS.
- BASES OF CUTS AND FILLS 0.5 FOOT.

EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

THE MINIMUM THICKNESS OF TOPSOIL SHALL BE 4 INCHES, AND WILL BE OBTAINED FROM WITHIN THE ROADWAY PRISM.

SEEDING, SOIL PREPARATION, FERTILIZING WITH COMMERCIAL FERTILIZER, AND MULCHING WILL BE REQUIRED FOR APPROXIMATELY 1 ACRE FOR ROADWAY WITHIN RIGHT OF WAY LIMITS ON ALL DISTURBED AREAS NOT SURFACED.

THE FOLLOWING TYPES AND APPROXIMATE RATES SHALL BE USED:

MULCHING MATERIAL		
NATIVE HAY		2 TONS PER ACRE
COMMERCIAL FERTILIZER		RATE LBS./ACRE
NUTRIENT		
AVAILABLE NITROGEN (N)		54
AVAILABLE PHOSPHORUS (P)		138
PROJECT TOTALS		
SEEDING (NATIVE)		35 LBS.
MULCHING		2 TONS
FERTILIZER (AVAILABLE N)		54 LBS.
FERTILIZER (AVAILABLE P)		138 LBS.
SOIL PREPARATION (NATIVE)		1 ACRE
WATER (LANDSCAPING)		25 M GAL.

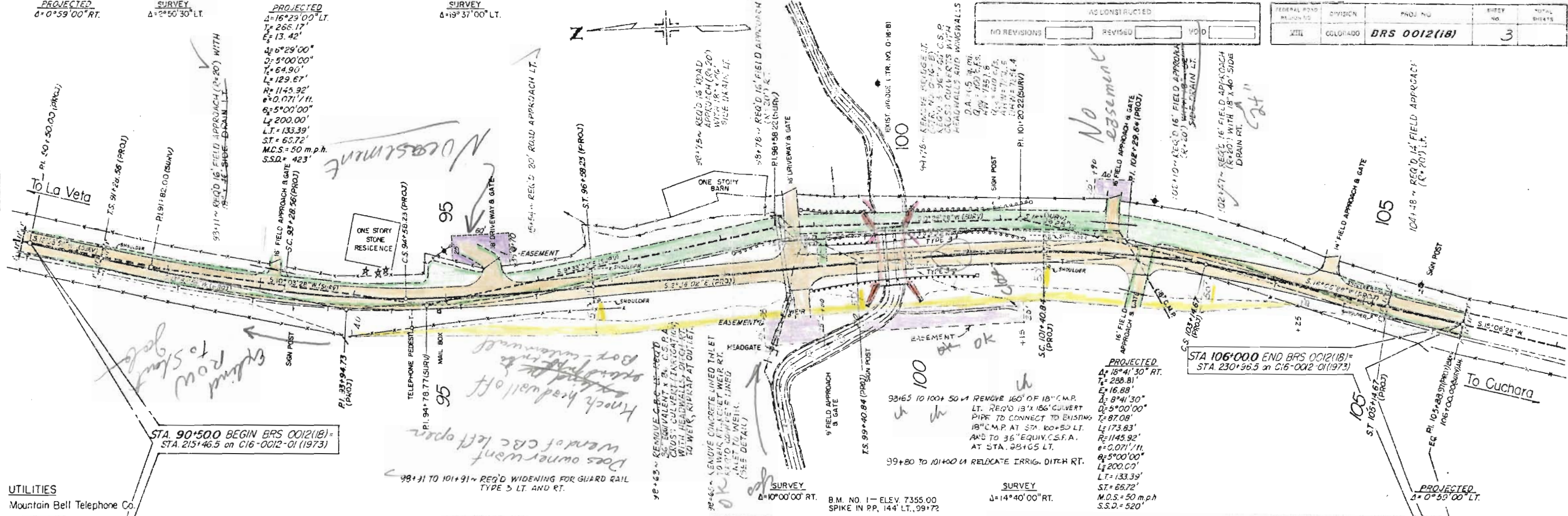
FLEXIBLE CONDUITS ON THIS PROJECT WITH HELICAL CORRUGATIONS, JOINED BY DIMPLED CONNECTING BANDS, SHALL USE A SEALING COMPOUND OR GASKET WITH THE CONNECTING BAND.

GUARD POSTS, DELINEATORS AND SIGNS WILL BE REMOVED BY STATE FORCES AT NO COST TO THE PROJECT.

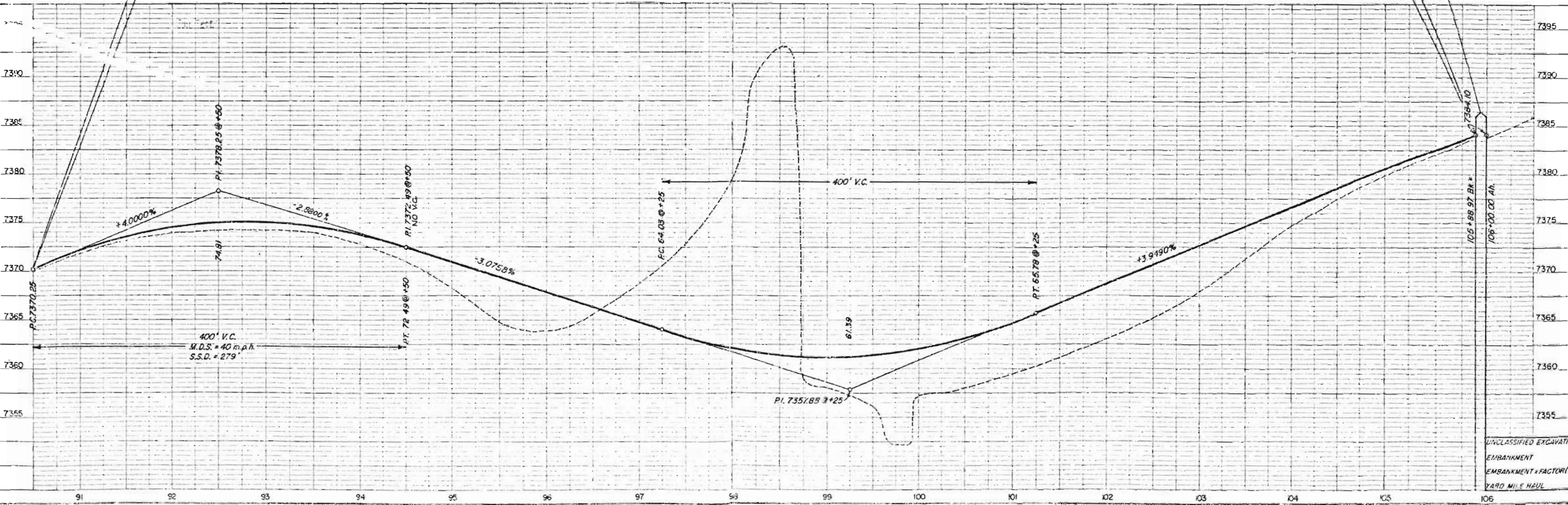
SIGNING AND STRIPING WILL BE DONE BY STATE FORCES IN ACCORDANCE WITH THE M.U.T.C.D. AT NO COST TO THE PROJECT.

FEDERAL ROAD DISTRICT NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	BRS 0012(18)	3	

PLAN
 SURVEY
 NOTE BOOK
 NO. 55574



PROFILE
 SURVEY
 NOTE BOOK
 NO. 55574



UNCLASSIFIED EXCAVATION
 EMBANKMENT
 EMBANKMENT & FACTORIAL
 YARD MILE HEUL

STATE DEPARTMENT OF HIGHWAYS

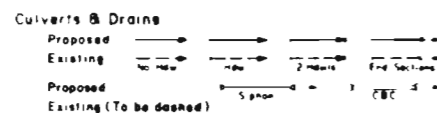
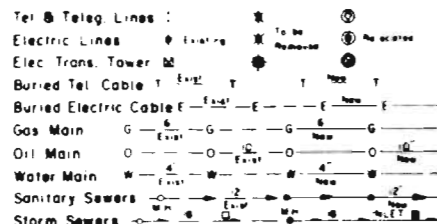
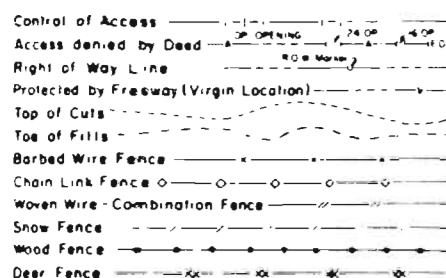
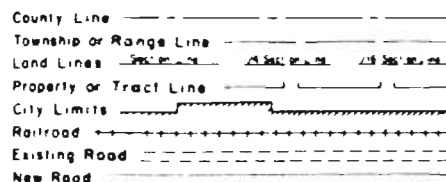
DIVISION OF HIGHWAYS—STATE OF COLORADO

FEDERAL ROAD REGION NO.	DIVISION	PROJECT NO.	SHEET NO.
VII	COLORADO	BRS 0012 (18)	1

RIGHT OF WAY
4.2 MI. S. OF LAVETA,
STRUCTURE 0-16-B

REVISIONS	

CONVENTIONAL SIGNS



RIGHT OF WAY PLAN OF PROPOSED FEDERAL AID PROJECT NO. BRS 0012 (18) STATE HIGHWAY NO. 12 HUERFANO COUNTY RIGHT OF WAY

SCALE OF ORIGINAL DRAWINGS

PLAN SHEETS 1" = 50'

OWNERSHIP MAPS 1" = 400'

ROW LENGTH OF PROJECT = 1288.41' = 0.244 mi.

FILE COPY
DO NOT REMOVE

INDEX OF SHEETS

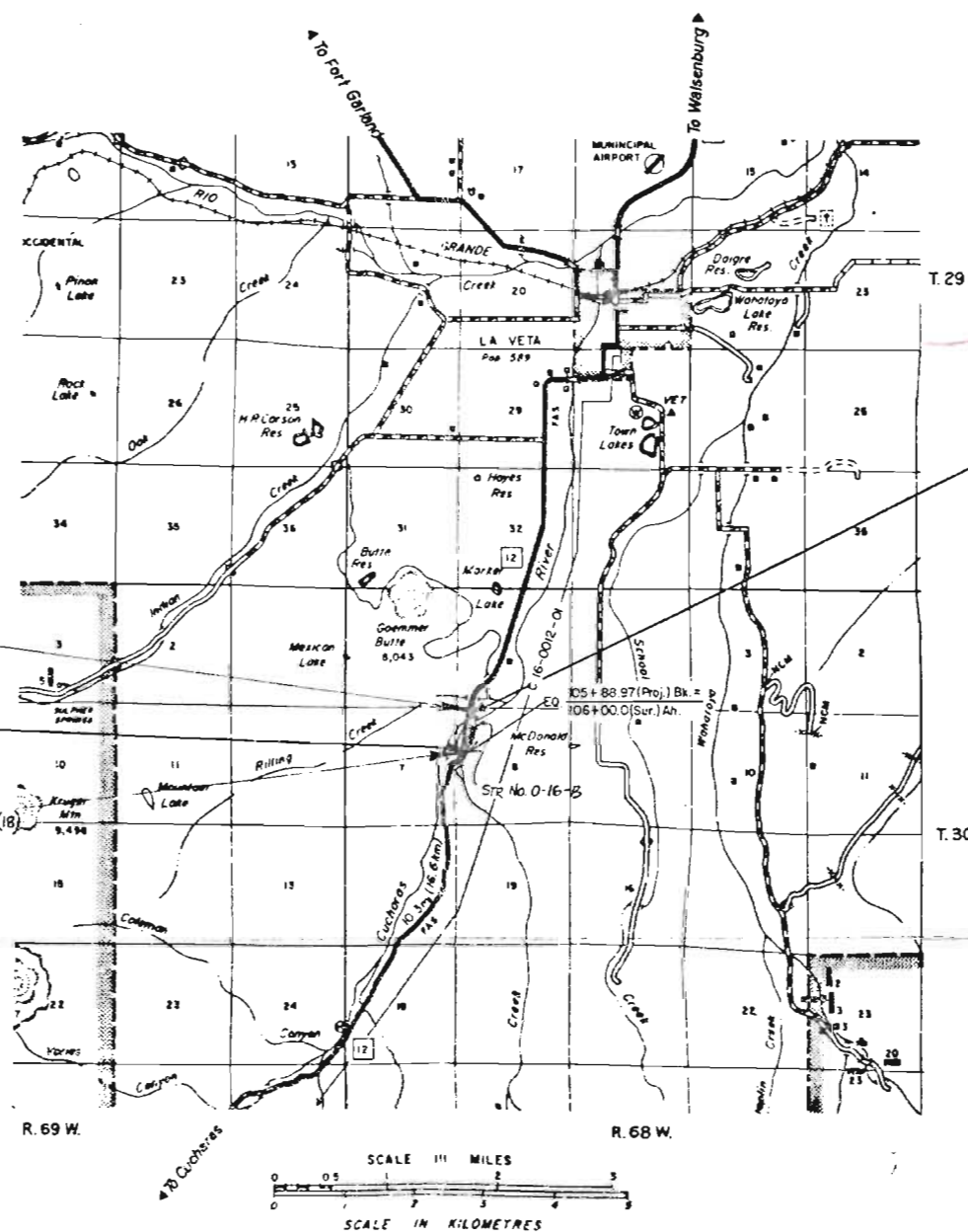
Sheet No.	Title
1	TITLE SHEET
2	TABULATION OF PROPERTIES
3	LINE SHEET
4	OWNERSHIP MAP

Construction STA. 90+50.00 BEGIN BRS 0012(18)

STA. 104+81.20(proj.) END R.O.W.
BRS 0012(18)

Construction STA. 105+88.97 Bk= 106+00.00 AH. END BRS 0012(18)

STA. 91+92.79(proj.) BEGIN R.O.W.
BRS 0012(18)



DIVISION OF HIGHWAYS

APPROVED: *B. N. Hagan* 10/19/81
CHIEF ENGINEER DATE

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DATE _____
DIVISION ADMINISTRATOR

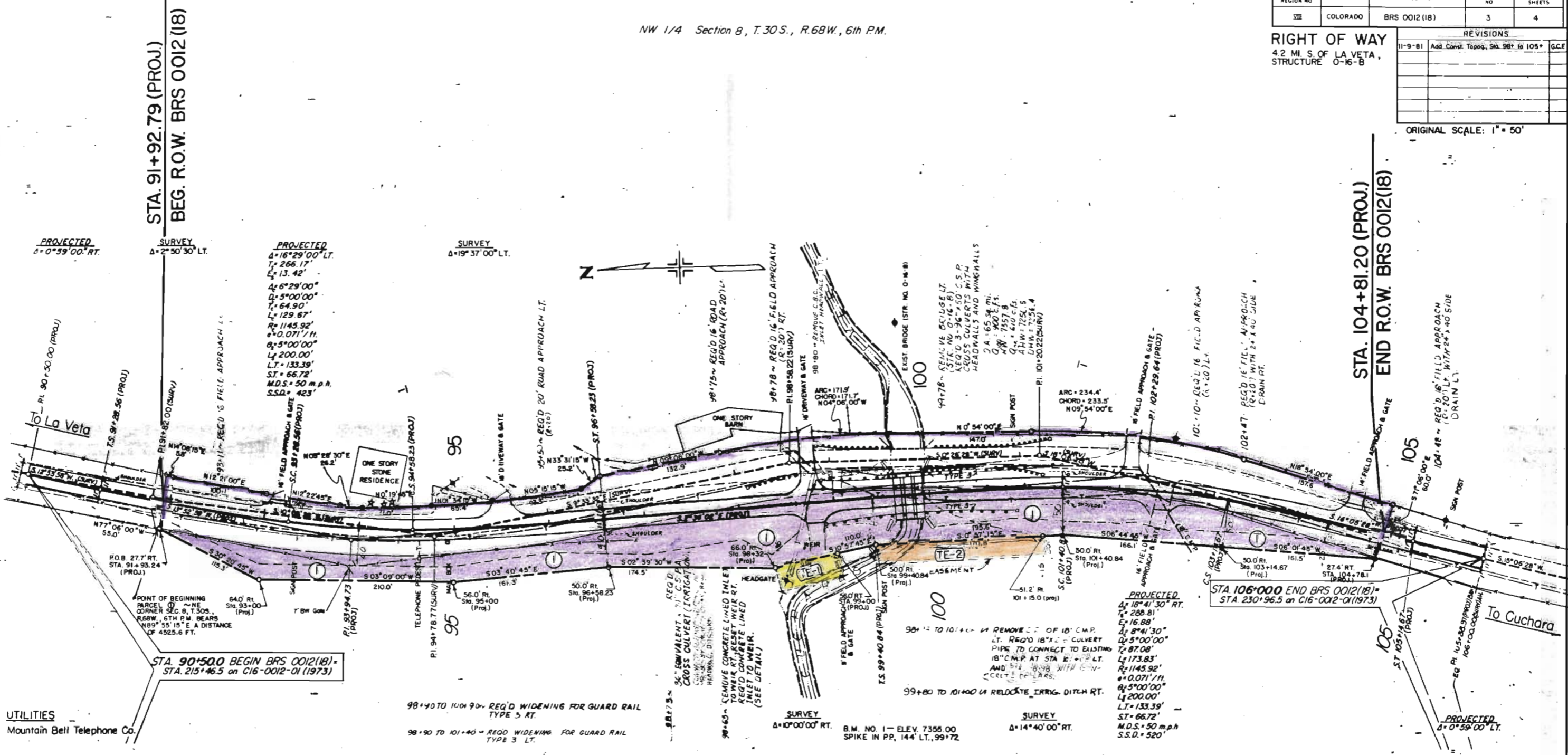
NW 1/4 Section 8, T.30S., R.68W., 6th P.M.

FEDERAL ROAD REGION NO.	DIVISION	PROJ NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	BRS 0012 (18)	3	4

REVISIONS			
11-9-81	Add. Cont. Topog. Sta. 98+16 105+	G.C.F.	

RIGHT OF WAY
 4.2 MI. S. OF LA VETA,
 STRUCTURE 0-16-B

ORIGINAL SCALE: 1" = 50'



BASIS OF SURVEY BEARING:
 Solar Observation taken
 Jan. 20, 1981

BRUNO CASSAI, dec. and
 ARMANO CASSAI

UTILITIES
 Mountain Bell Telephone Co.

STA. 90+50.0 BEGIN BRS 0012(18) -
 STA. 215+46.5 on C16-0012-01 (1973)

STA 106+00.0 END BRS 0012(18) -
 STA 230+96.5 on C16-0012-01 (1973)

B.M. NO. 1 - ELEV. 7355.00
 SPIKE IN PP, 144' LT., 99+72

