

TITLE SHEET

### CONVENTIONAL SIGNS

CENTER LINE	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
RAILROAD	TITLE SHEET	PLAN SHEET
BARBED WIRE FENCE		
COMBINATION WIRE FENCE		
SNOW FENCE		
TELEPHONE & TELEGRAPH LINES		
POWER LINE		
DETOUR		
PRESENT ROAD (Plan Sheets)		

### TABULATION OF LENGTH & DESIGN (Connection)

STATION	ROADWAY LIN. FT.	MILES
0+00: BEG C 60-0279-03	145	0.027
1+45: END C 60-0279-03		
TOTAL	145	0.027
SUMMARY		
	ROADWAY LIN. FT.	MILES
TOTAL NET & GROSS LENGTH	145	0.027
DESIGN DATA		
MAXIMUM GRADE	10.16 %	
MAXIMUM DEGREE OF CURVE	TANGENT	
MINIMUM N. P. S. D. HORIZONTAL	TANGENT	
MINIMUM N. P. S. D. VERTICAL	>1000'	
MAXIMUM DESIGN SPEED	30 MPH	

# COLORADO DEPARTMENT OF HIGHWAYS

## PLAN AND PROFILE OF PROPOSED COLORADO PROJECT NO. C 60-0279-03 STATE HIGHWAY NO. 279 GILPIN COUNTY

### SCALES OF ORIGINAL DRAWINGS

ON PLAN, 1 IN. = 10 FT.  
ON PROFILE, 1 IN. = 10 FT. HORIZONTAL  
1 IN. = 10 FT. VERTICAL  
GRADE LINE ON PROFILE IS SHOWN AS GRADE OF FINISHED ROAD  
GROSS LENGTH OF PROJECT } 145 Lin. Ft. = 0.027 Mi.  
NET LENGTH OF PROJECT } (Connection)

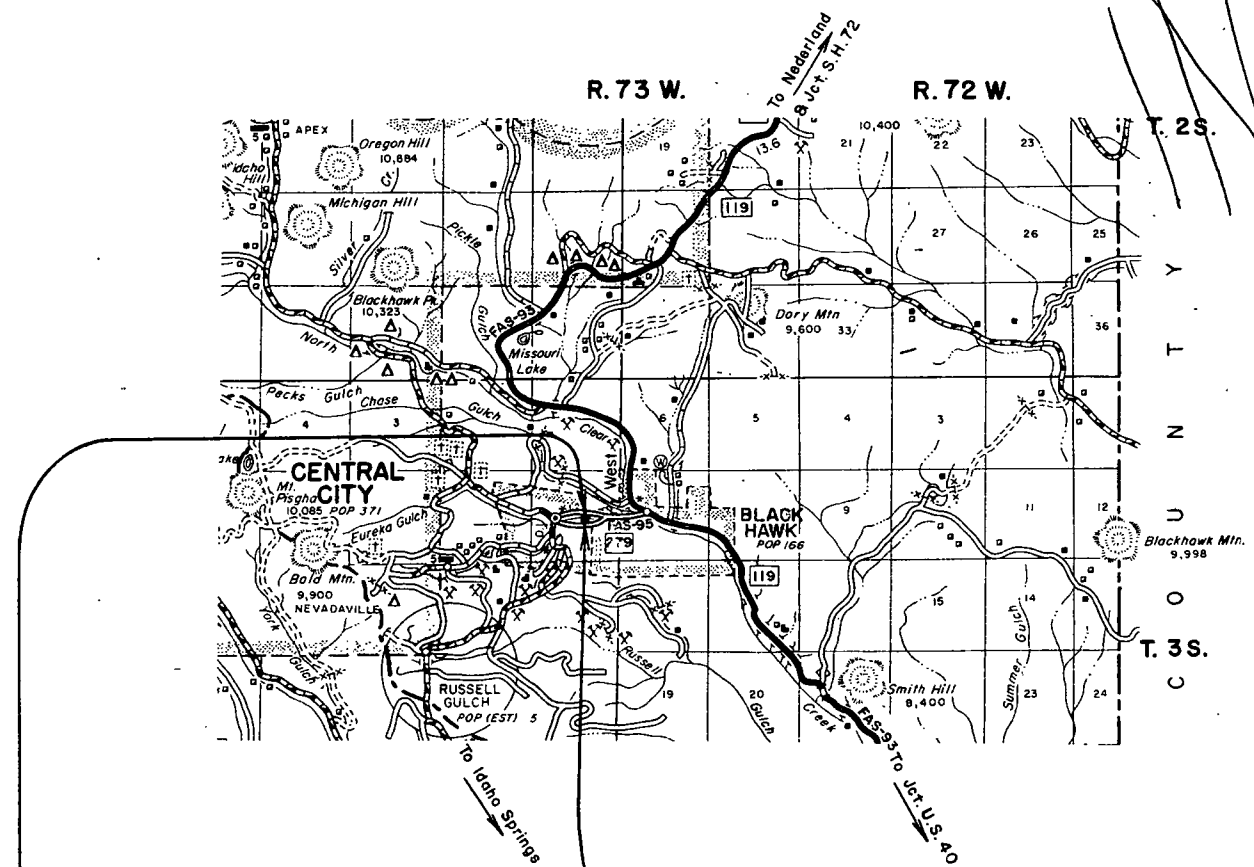
60.27903

FEDERAL ROAD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLORADO	C 60-0279-03	1	

Rev. 1-18-61 Added Conc. Pipe Standard G.S.

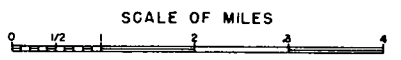
### INDEX OF SHEETS

SHEET NO.	TITLE PAGE, SKETCH MAP & TABULATION OF LENGTH & DESIGN
1	TYPICAL SECTION, SUMMARY OF APPROXIMATE QUANTITIES, SUMMARY OF EARTHWORK QUANTITIES, LIST OF STRUCTURES & GENERAL NOTES
2	STANDARD METAL PLATE GUARD FENCE (BEAM TYPE) M-21-D
3	STANDARD ROADWAY CONSTRUCTION TRAFFIC SIGNS M-29-C
4	REINFORCED CONC. CULV. PIPE & CONC. SEWER PIPE M-112-G
5	ALIGNMENT PLAN & PROFILE
6	CROSS-SECTIONS



STA. 1+45 END C 60-0279-03

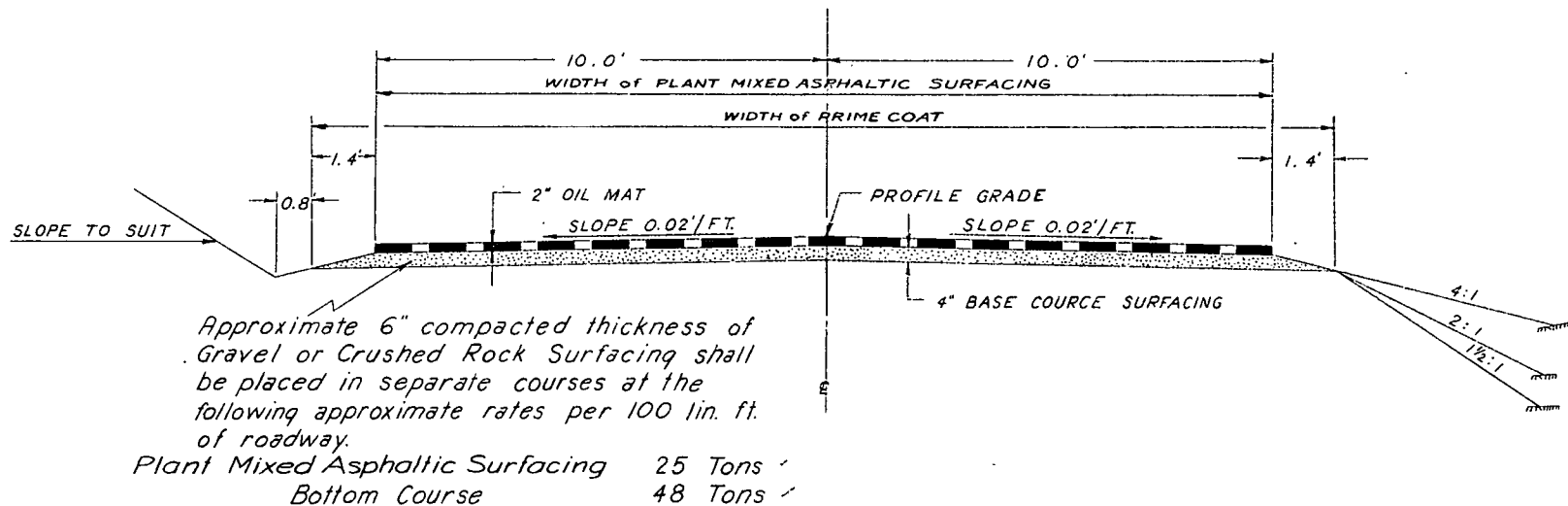
STA. 0+00 BEG. C 60-0279-03



SEE SPECIAL PROVISIONS FOR NOTICE TO BIDDERS

COLORADO DEPARTMENT OF HIGHWAYS	
APPROVED	
<i>Mark W. Hartman</i>	12-16-60
CHIEF ENGINEER	DATE

TYPICAL SECTION



## 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 encroaching on construction are to be moved by the owners.

*Culverts projecting from embankments shall be covered with approximately 6 inches of embankment material 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.*

*For preliminary plan quantities of Asphaltic Road Materials the following rates of application were used.*

✓ Prime Coat --- MC --- @ 0.40 Gal. per Sq. Yd.

Asphalt --- (85-100 Pen.) @ 6.37 Lb. per Sq. Yd. per In. Thickness.

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

## LIST OF STRUCTURES

LOCATION	DESCRIPTION	STRUCTURAL EXCAVATION (MISCELLANEOUS)	STRUCTURE BACKFILL	R.C. Culvert Pipe (Elliptical) Class III	MISCELLANEOUS
		CUBIC YARDS	CUBIC YARDS CLASS I	LINEAR FEET 77" x 121"	
0+40 to 1+10	Remove Timber Cribbing				
0+20 to 1+20	Req'd. Metal Plate Guard Fence Lt.				Removal of Timber Cribbing
0+10 to 1+25	Req'd. Metal Plate Guard Fence Rt.				125 lin. ft. Guard Fence
0+42	Req'd. 77" x 121" R.C. Culv. Pipe (Elliptical)	40	200	* 108	125 " " " "
0+00 to 1+45					70 Tons Plant Mixed Asphaltic Surfacing & 120 Tons Base Course Surfacing.

\* *Class B Bedding.*

## SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
11	Removal of Cribbing	L. S.	0
13	Unclassified Excavation (Embankment)	Cu. Yd.	4,000
14	Unclassified Structural Excavation - Miscellaneous	Cu. Yd.	40
16	Structure Backfill (Class I)	Cu. Yd.	200
17	Compaction (Modified)	Cu. Yd.	600
17	Wetting	M Gal.	130
26	Gravel or Crushed Rock Surfacing (Grading C)	Ton	120
30	Asphaltic Road Material, MC (Prime)	Gal.	250
32	Plant Mixed Asphaltic Surfacing	Ton	70
52	77" x 121" Reinforced Concrete Culvert Pipe (Elliptical), Class III	Lin. ft.	108
75	Metal Plate Guard Fence (Beam Type)	Lin. ft.	250
	FORCE ACCOUNT		
	Move Anchor Pole (Work by A.T.&T. Co. Forces)	L. S.	0
	Relocate Two Sanitary Sewers	L. S.	0

## SUMMARY of EARTHWORK QUANTITIES

<b>EMBANKMENT</b> <i>From Cross Sections</i> <i>Estimate for Subsidence</i> <i>List of Structures as Excavation</i> <i>List of Structures as Embankment</i>		3455 346 0 0
<b>TOTALS</b> <i>Cu. Yd.</i>		<u>3801</u>
<i>X EXCAVATION</i> <i>From Cross Sections</i> <i>Borrow</i>		0 3974
<b>TOTALS</b> <i>Cu. Yd.</i>		<u>3974</u>
<b>EMBANKMENT</b> <i>From Cross Sections</i>		<i>Cu. Yd.</i> 3455
<i>X EMBANKMENT x FACTOR</i>		<i>Cu. Yd.</i> 3974
<b>COMPACTION</b> <i>Embankment from Earthwork Summary</i> <i>Base of Cuts &amp; Fills</i>		3801 $\phi$ 593
<b>TOTALS</b> <i>Cu. Yd.</i>		<u>4394</u>

¶ This Portion to be Included in Cost of Unclassified Excavation (Embankment)

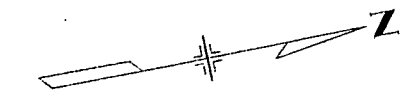
*X For Information Only*

PLAN	DATE	BY	DATE
SURVEYED			
ALIGNED			
GRADES CHECKED			
STRUCTURE NOTATIONS CTD			

PROFILE	DATE	BY	DATE
SURVEYED			
GRADES CHECKED			
STRUCTURE NOTATIONS CTD			

FED. ROAD DIST. NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	CG.O.	C 60-0279-03	7	

ORIGINAL SCALE: 1"=10'  
Rev. Pipe 1-18-61 G.S.

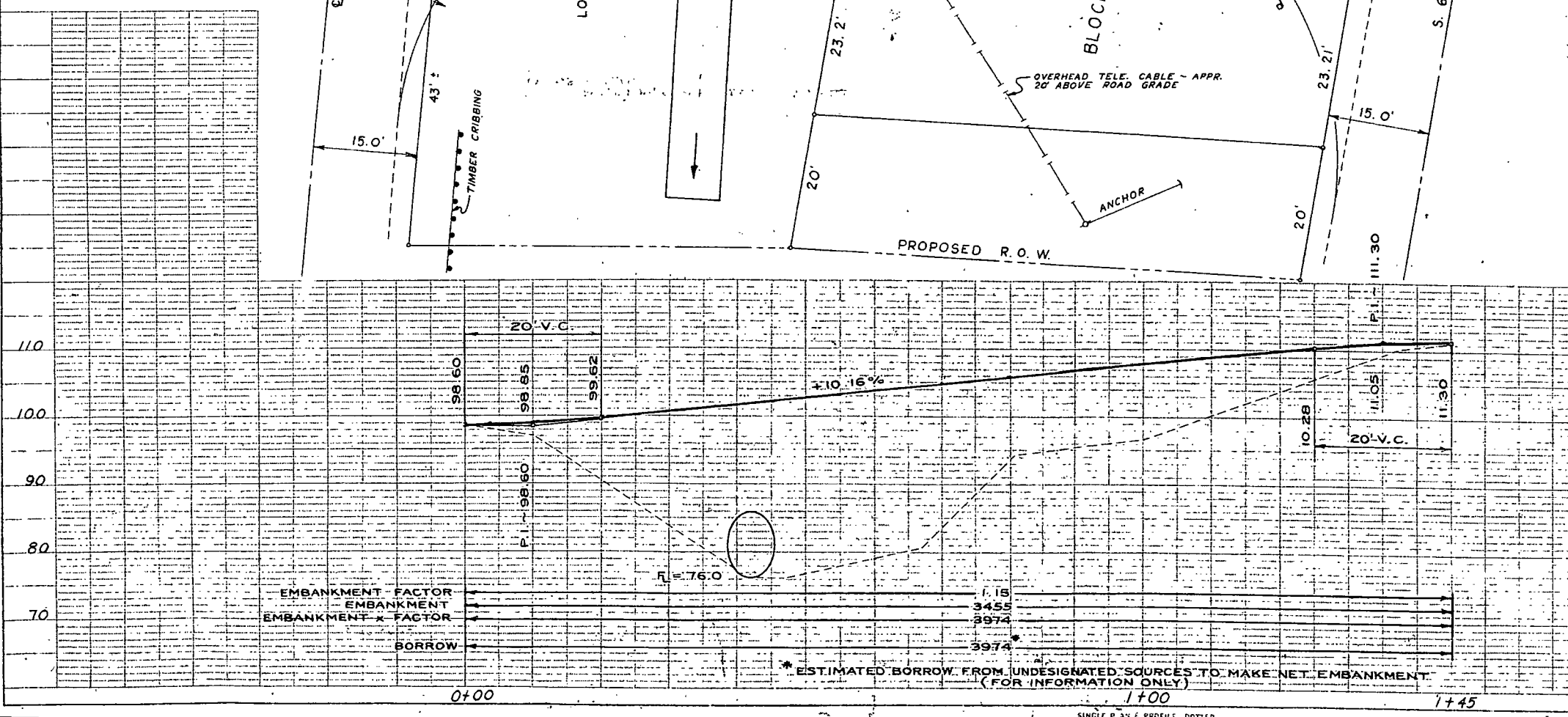
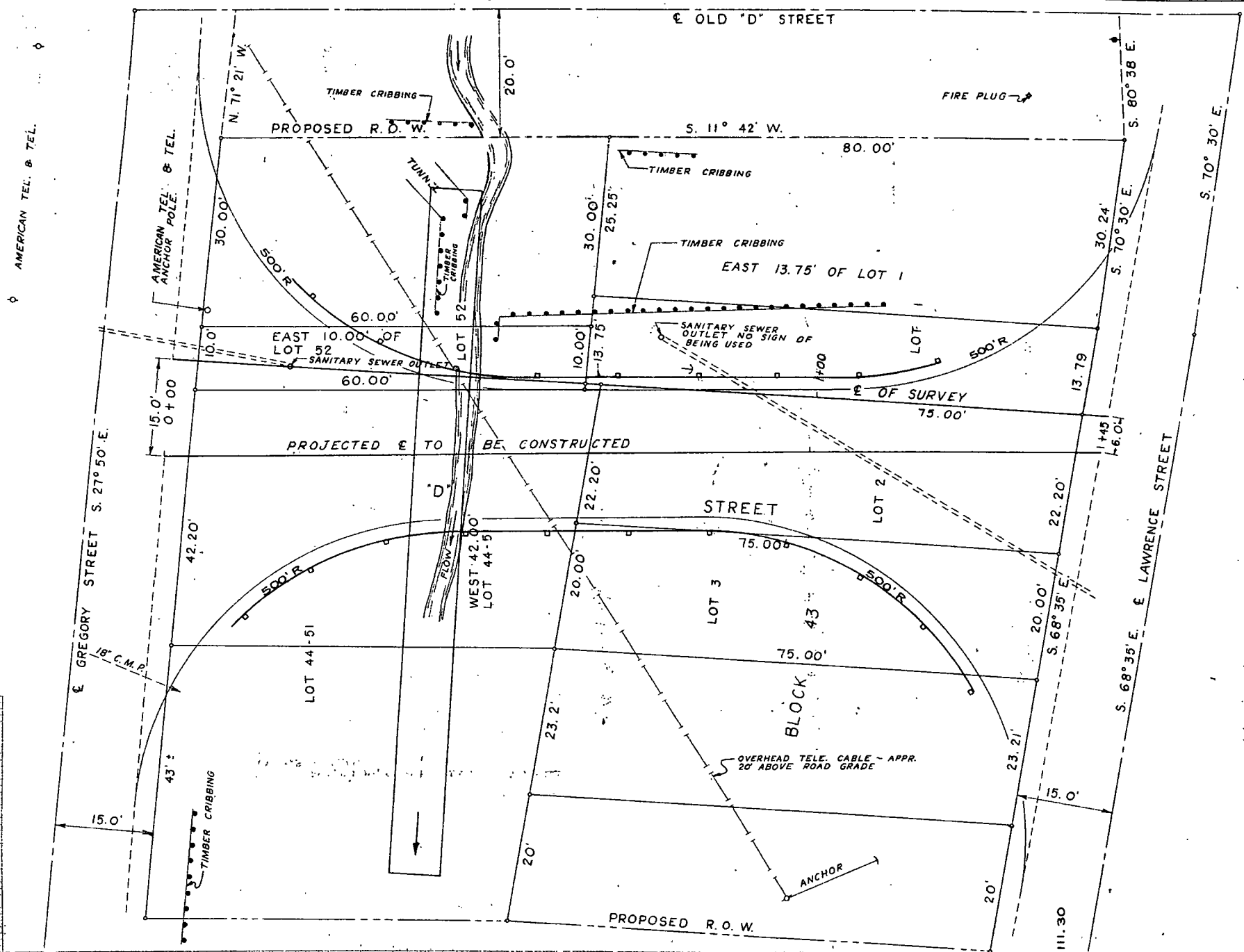
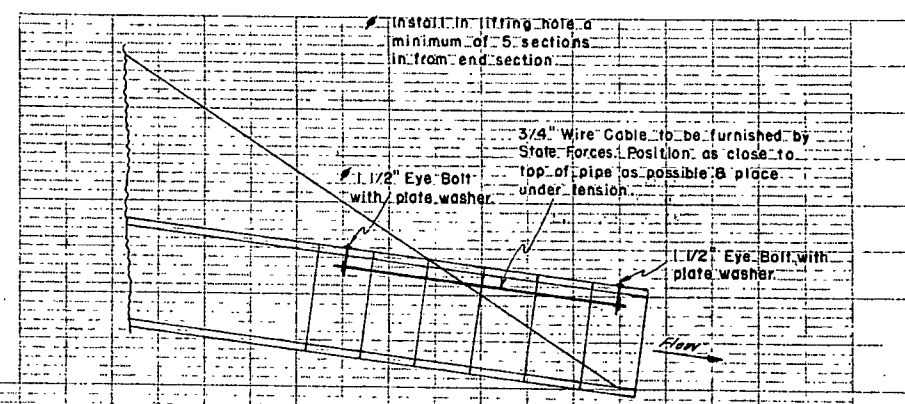
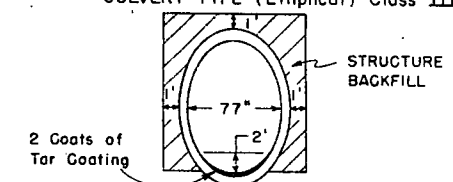


0+20 ~ 1+20 : REQD:  
METAL PLATE GUARD FENCE, LT.

0+10 ~ 1+25 : REQD:  
METAL PLATE GUARD FENCE, RT.

0+40 ~ 1+10:  
REMOVE TIMBER CRIBBING, LT.

0+42 ~ Req'd.  
77" x 121" x 108' REINFORCED CONCRETE  
CULVERT PIPE (Elliptical) Class III



\* ESTIMATED BORROW FROM UNDESIGNATED SOURCES TO MAKE NET EMBANKMENT  
(FOR INFORMATION ONLY)

9 (2)  
January 18, 1961

COLORADO DEPARTMENT OF HIGHWAYS  
SPECIAL PROVISIONS  
COLORADO PROJECT NO. C 60-0279-03  
IN CENTRAL CITY

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, STATE PROJECTS

(Dated May 27, 1959, except as otherwise noted)

Application

Nondiscrimination of Employees

Payment of Predetermined Minimum Wages

Labor Classification - CRS 1953

Rental of Teams and Trucks

(March 28, 1947)

Exemption from Ton-Mile Taxes

(April 26, 1955)

General

(May 19, 1958)

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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December 12, 1960

00 10

NOTICE TO BIDDERS

COLORADO PROJECT NO. C 60-0279-03

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 - F. O. Stearns  
Denver, Colorado  
Office Phone: SK 6-1531, Ext. 225

Resident Engineer - T. H. Kilpatrick  
Denver, Colorado  
Office Phone: SK 6-1531, Ext. 345  
Home Phone : FR 7-7491

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.

April 3, 1958

000011

# 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 conform to the provisions of the Federal Fair Labor Standards Act of 1938 as amended.

When Federal Aid Interstate funds are involved, the Contractor shall also conform to the provisions of the Davis-Bacon Act of 1935 as amended.

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

COMMENCEMENT AND COMPLETION OF WORK  
AND LIQUIDATED DAMAGES FOR  
COLORADO PROJECT NO. C 60-0279-03

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 Sixty (60) 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.

The amount of liquidated damages to be paid as provided in Paragraph 8.7 "Failure to Complete Work on Time" of the Specifications shall be \$25.00 per day.

ITEM 13  
UNCLASSIFIED EXCAVATION (EMBANKMENT)  
COLORADO PROJECT NO. C 60-0279-03

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

The source of Borrow Material on this project is not designated. The Contractor will be required to furnish borrow material from any source that will supply material with a CBR of at least 20.

The material proposed for use must be approved by the Department of Highways Laboratory. Contractors may submit samples of the material, through the Engineer, to the Laboratory for tests without cost. All samples submitted to the Laboratory for testing must be in the Laboratory at least seven (7) days prior to the time of actual use on the project.

Paragraph 13.5.1 shall be changed to read as follows:

"The yardage to be paid for as Roadway and Drainage Excavation shall be the yardage measured in its final position in the roadway. Measurement shall be by the method of average end areas of all embankment completed and accepted under this item."

All reference to payment for overhaul as a separate item is hereby deleted.

All reference to payment for compaction of embankments is hereby deleted. Base of cuts and fills only as referred to in paragraph 17.2.2.3 will be paid for as required under Item 17 of the Standard Specifications.

Cross sections will be taken after base of cuts and fills has been compacted to the required density.

Paragraph 13.6.1 shall include the following:

The contract unit price bid for "Unclassified Excavation (Embankment)" shall include the cost of furnishing the material, all hauling and compaction of embankment. Wetting will be paid for as provided under Item 17.



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 twenty-five (25) per cent of plan quantity will be accordance with Item 4.5 of the Standard Specifications.

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 Item 4.5 of the Standard Specifications.

REVISION OF ITEM 16  
STRUCTURE BACKFILL  
COLORADO PROJECT NO. C 60-0279-03

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

The source for "Structure Backfill" is not designated for this project. The Contractor may purchase, produce, or otherwise obtain this material from any source provided that the material placed as backfill meets structure backfill specifications.

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

Overhaul on structure backfill will not be paid for as a separate item. The contract unit price for this Item shall include the cost of all hauling.

All costs incidental to the foregoing requirements shall be included in the original contract unit price for Item 16.

December 12, 1960

16

REV. OF ITEM 17

COLORADO PROJECT NO. C 60-0279-03

This item shall conform to the requirements of Item 17 of the Standard Specifications except for the following:

All reference to payment for compaction of embankments is hereby deleted.

Compaction of bases of cuts and natural foundations underlying embankments will be required and paid for as described.

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 Paragraphs 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 one hundred (100) per cent of an optimum density determined in the Laboratory. 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 A.A.S.H.O. Method T-147, or other approved and practical compaction tests.

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.

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

## REV. OF ITEM 26

COLORADO PROJECT NO. C 60-0279-03

This item shall conform to the requirements of Item 26 of the Standard Specifications except for the following modifications:

All Surfacing used on this project shall be Grading C as indicated on plans.

The Contractor may obtain surfacing for Item 26 from any source subject to approval by the Colorado Department of Highways Laboratory. Contractors may submit samples of materials through the Engineer to the Laboratory for testing, without cost. Approval of the source for Grading C Surfacing Material will be contingent on material having a resistance value of not less than seventy-eight (78) when tested by the Hveem Stabilometer method, since the design presumptions of this project are dependent on this value. Grading requirements for this item will be established by the Department at the time the source is accepted, and strict adherence thereto will be required throughout construction. All samples of materials submitted to Laboratory for testing must be in the Laboratory at least seven (7) days prior to the time of actual use on the project.

Stripping of pits and overhaul on gravel surfacing will not be paid for as separate items. The contract unit price per ton for "Gravel or Crushed Rock Surfacing," complete in place, shall include the cost of all stripping and hauling.

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

REVISION OF ITEM 32  
PLANT MIXED ASPHALTIC SURFACING  
COLORADO PROJECT NO. C 60-0279-03

This item shall conform with the requirements of Item 32 of the Standard Specifications, except for the following:

1. The following requirements are added to Paragraph 32.2 of the Specifications:

Grading C mineral aggregate for the processed mat shall meet the following gradation requirements:

Passing a sieve with 3/4-inch square openings	100%
Passing a No. 4 sieve	30% to 60%
Passing a No. 10 sieve	20% to 45%
Passing a No. 200 sieve	6% to 12%

Not less than fifty (50) per cent, by weight, of the material larger than a No. 4 sieve, shall be crushed material showing at least one crushed face.

2. Source of mineral aggregate is not designated. This material may be obtained from any source producing material complying with the above specification requirements. The Contractor shall make his own arrangements with owners of materials. The material for mineral aggregate proposed for use must be approved by the Department of Highways Laboratory. Contractors may submit samples of the material, through the Engineer, to the Laboratory for tests without cost. All samples of materials submitted to Laboratory for testing must be in the Laboratory at least seven (7) days prior to the time of actual use on the project.

Stripping of pits and overhaul on materials will not be paid for as separate items. The contract unit price per ton for Item 32, complete in place, shall include the cost of all stripping and hauling.

3. 85 to 100 penetration Paving Asphalt, conforming to requirements of Item 29 of the Standard Specifications, shall be used in the Plant Mixed Asphaltic Surfacing used on this project. The quantity of Paving Asphalt required to form the mix shall be determined by the Laboratory. Paving Asphalt will not be paid as a separate item but shall be included in the cost of Item 32.

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

## 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) percent 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 center line 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.

REVISION OF ITEM 52  
REINFORCED CONCRETE CULVERT PIPE (ELLIPTICAL)  
COLORADO PROJECT NO. C 60-0279-03

DESCRIPTION AND REQUIREMENTS:

This item shall conform to the requirements of Item 52 with the following modifications.

Paragraph 52.5.1 of the Standard Specifications shall include "Reinforced Concrete Culvert Pipe (Elliptical)."

For the elliptical pipe the specifications shall be based on the horizontal diameter. For this diameter the requirements shall be as called for on the nearest equivalent round.

Reinforced concrete culvert pipe supplied under this item shall have the invert covered with two coats of coal tar to the height shown on plans.

Coal tar shall be Koppers bitumastic super-service black or an acceptable equivalent.

Coal tar shall be applied at the rate of 150 to 200 sq. ft. per gallon per coat.

The contract unit price bid for "Reinforced Concrete Culvert Pipe (Elliptical)" shall include the cost of all materials and labor required to coat the invert of the pipe and connect the downstream sections.