COLORADO
Department of Transportation

DOCUMENT SEPARATOR SHEET

REGION 5 – JUNE 2017 CONVERSION

To be placed at the beginning of each separator sheet.

r500001525

Description:
ROW Plans 11X17

Route # and Mile Points:
SH 15

Originating Office:
ROW/Survey

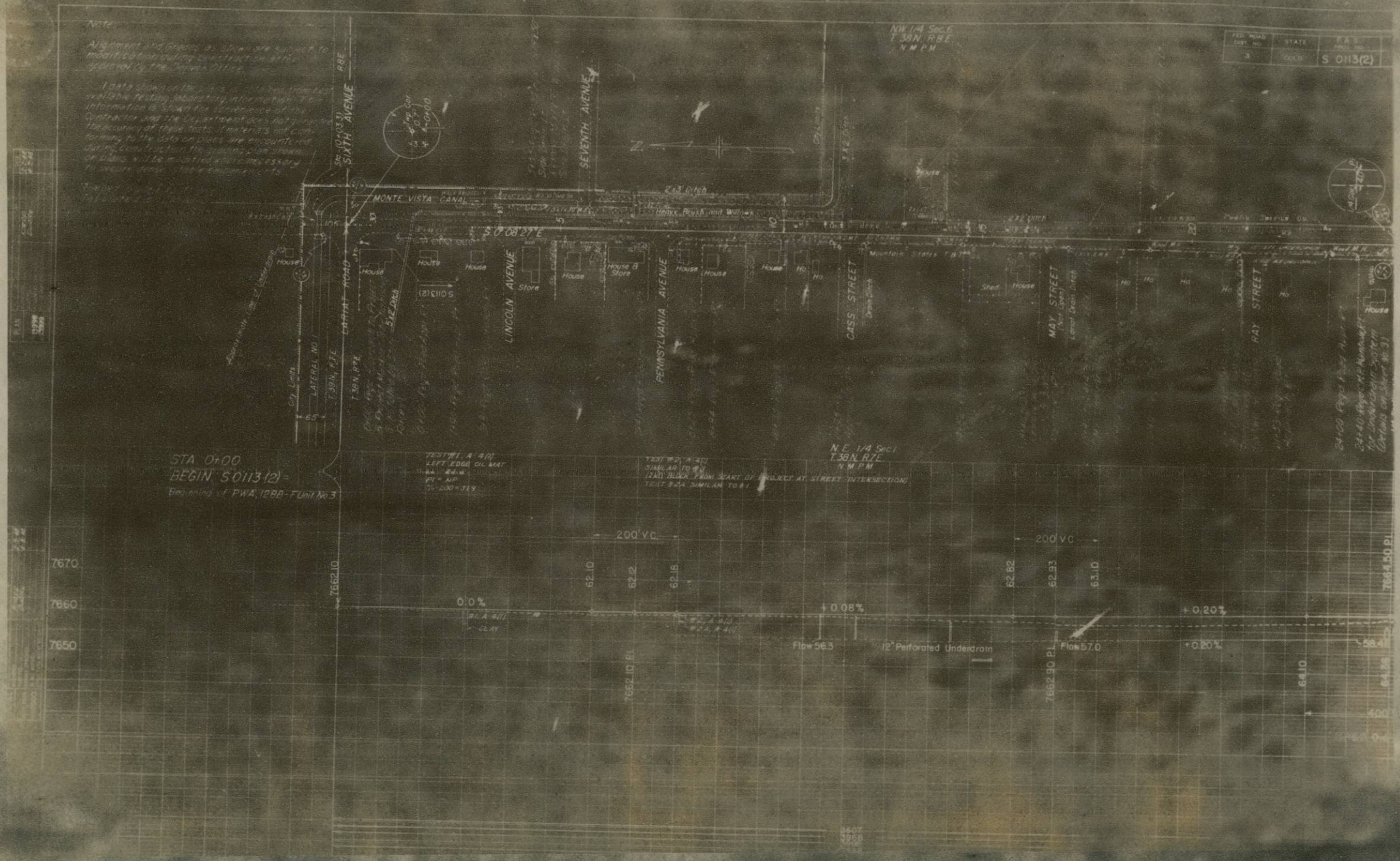
File Name:
S 0113(2)_ROW(.PDF)

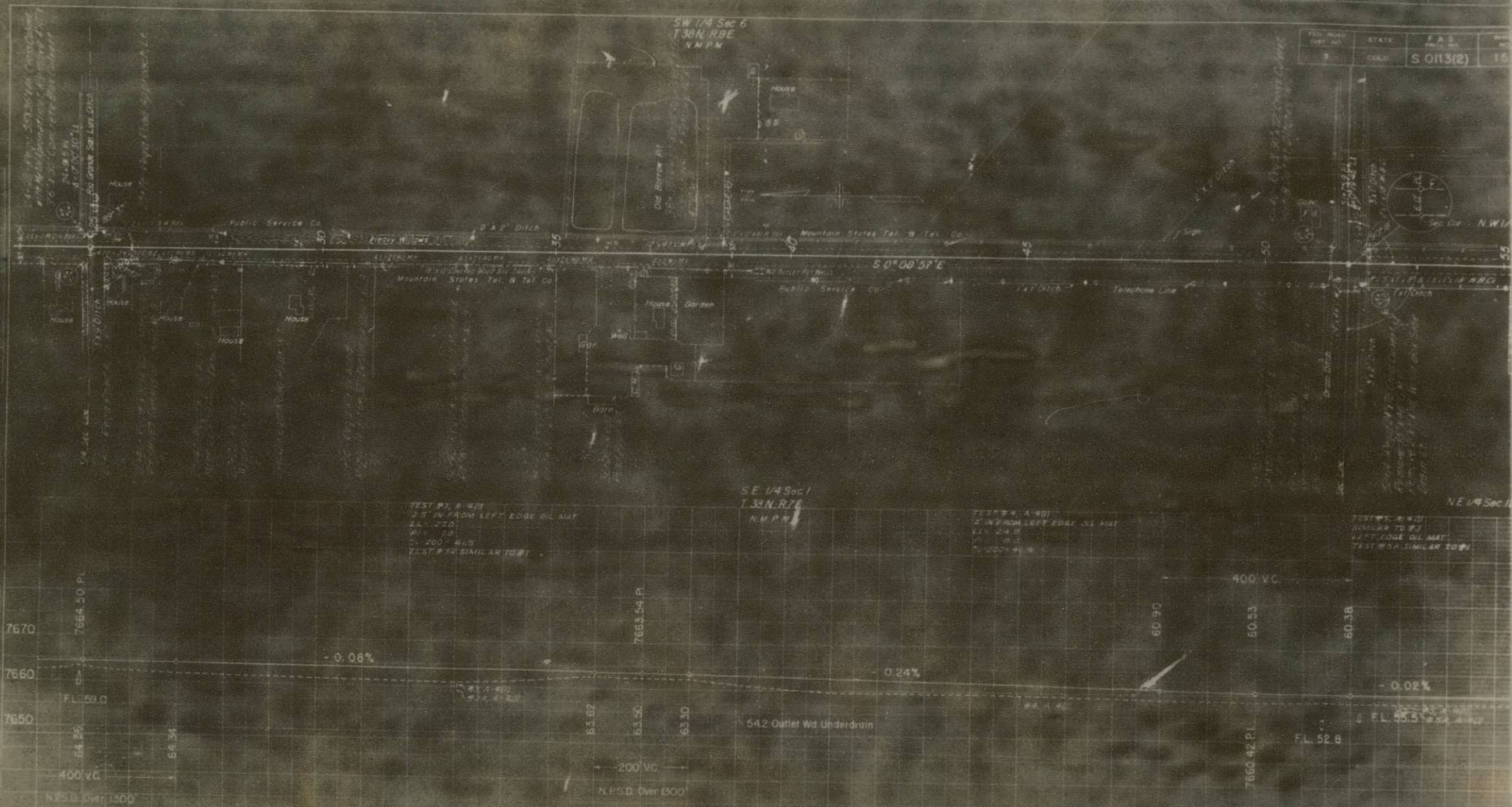
Box Location:
25 of 38

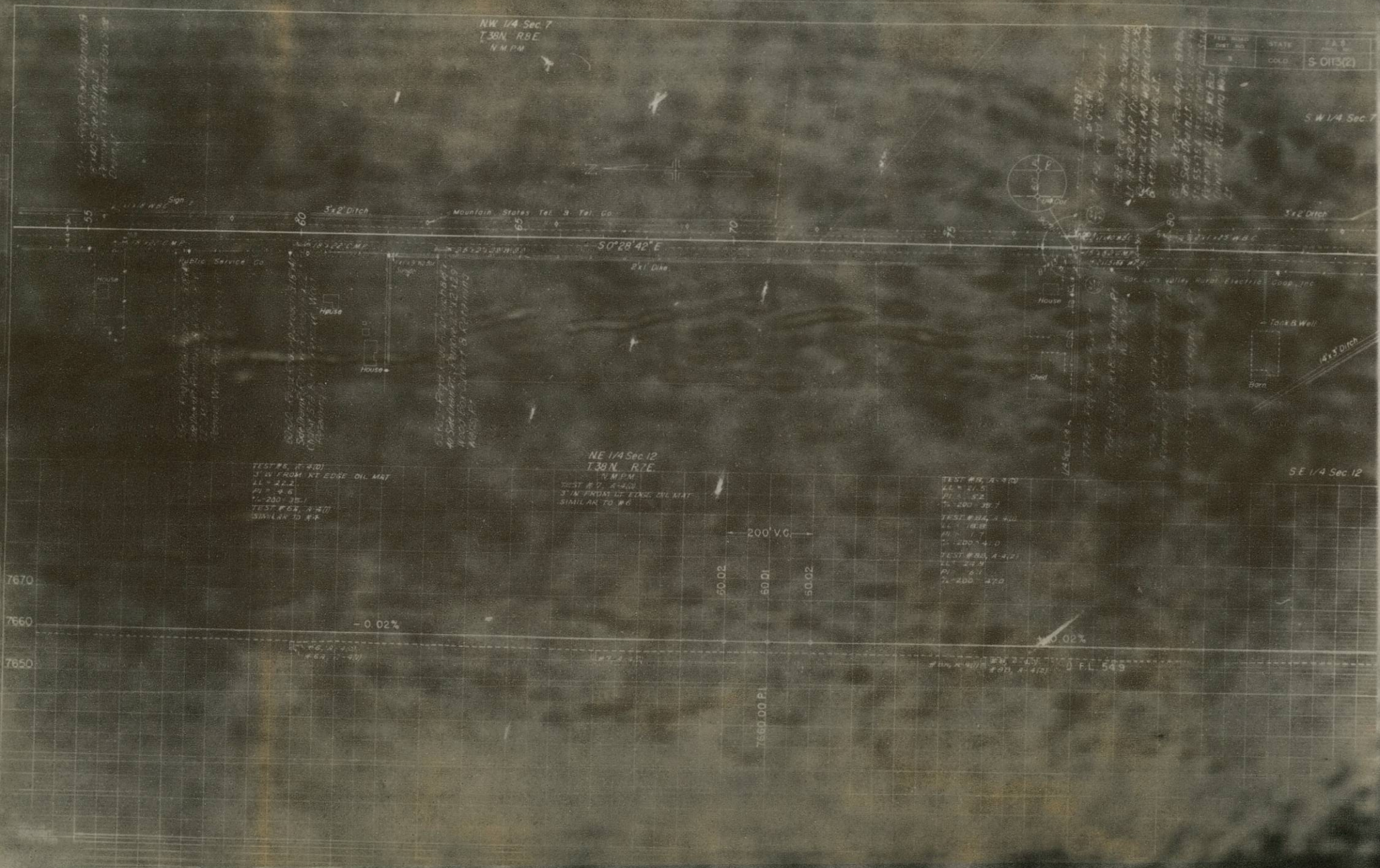
For assistance, or to request changes to this form, please email helpdesk@msimaging.com.

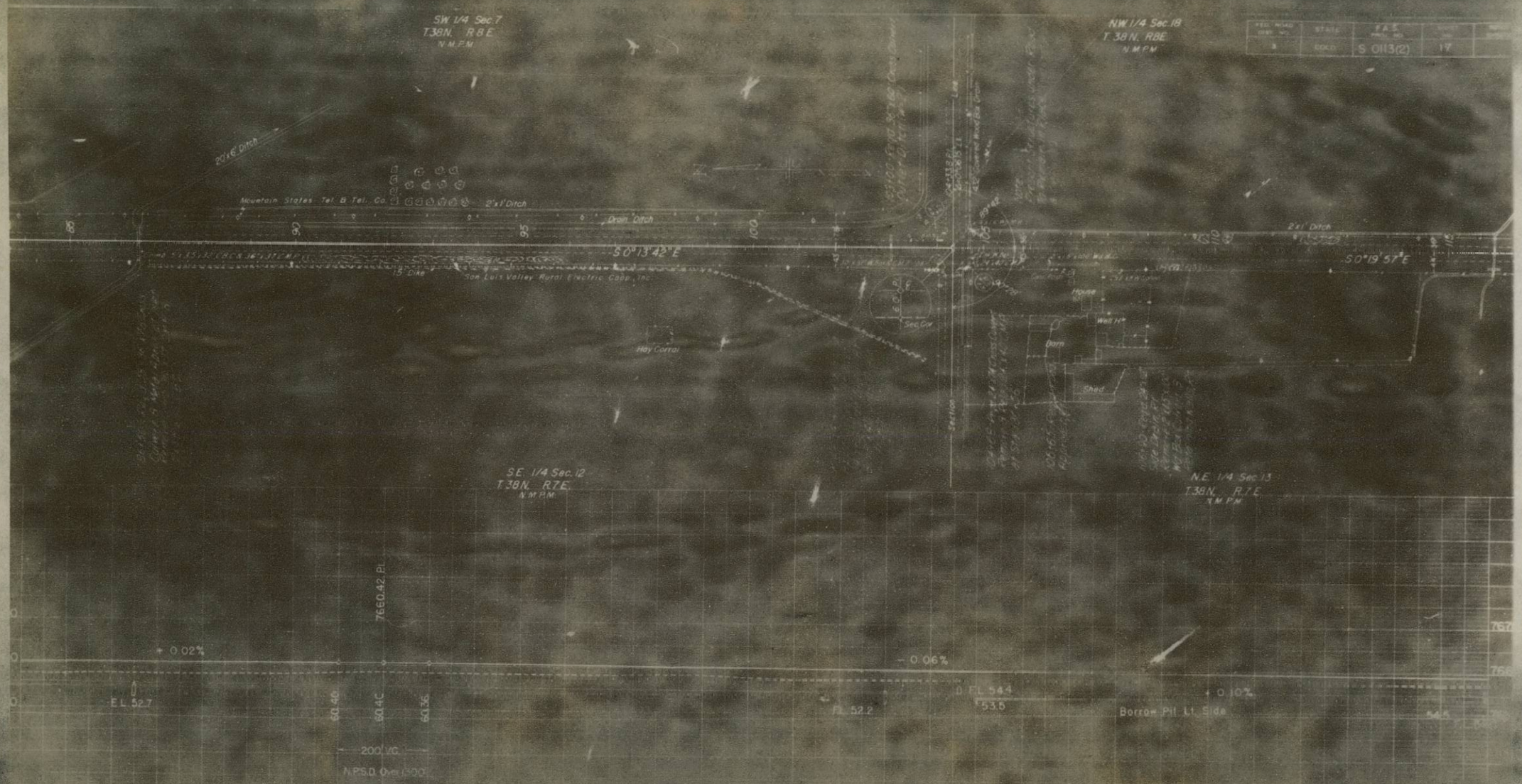
MOUNTAIN STATES IMAGING

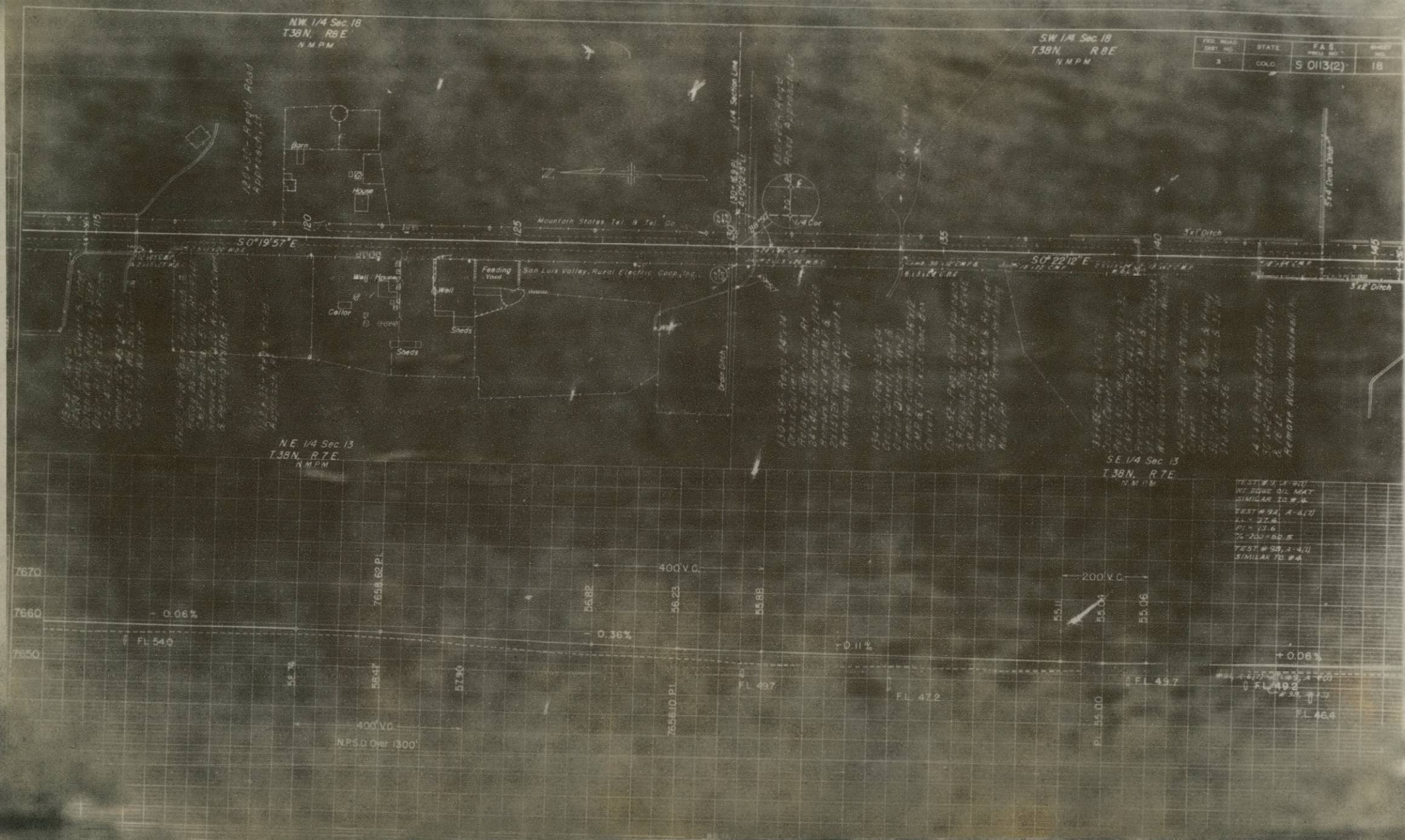
S 0113 (2)

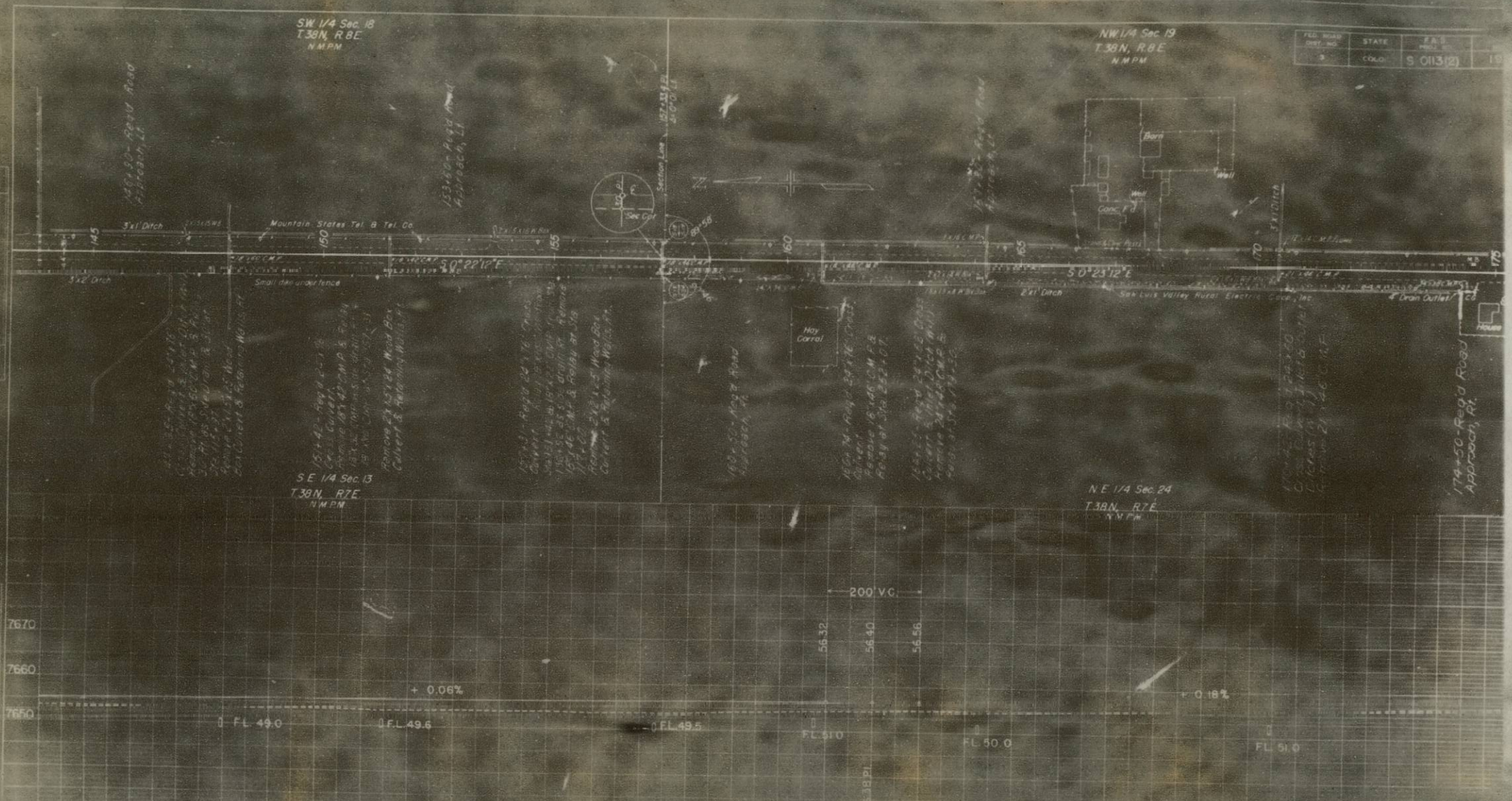

Note:
Alignment and grades as shown are subject to modification during construction with approval of the Engineer.
Data shown on plans is based on the available testing laboratory information. This information is shown for convenience of the contractor and the Department does not warrant the accuracy of these tests. Materials not conforming to the data on plans are encountered during construction the contractor shall remove or bring within specified limits, as necessary, at his own expense.
NW 1/4 Sec 1 T 38N R 8E N M P M
S 0113(2)
SIXTH AVENUE
SEVENTH AVENUE
MONTE VISTA CANAL
S 0°08'2"E
LINCOLN AVENUE
PENNSYLVANIA AVENUE
CASS STREET
MAY STREET
RAY STREET
LATERAL NO 1
T 38N, R 7E
T 39N, R 7E
House
Store
House & Store
Shed
Drain Ditch
Mountain States T & T Co
Public Service Co
Oil Lines
Sta 0+00 BEGIN S 0113(2) = Beginning of PWA 1288-F Unit No 3
TEST #1 A-40 LEFT EDGE OIL MAT
TEST #2 A-40 SIMILAR TO #1 (2ND BLOCK FROM START OF PROJECT AT STREET INTERSECTION)
TEST #2A SIMILAR TO #1
N E 1/4 Sec 1 T 38N R 7E N M P M
200' VC
0.0%
+0.08%
+0.20%
Flow 56.3
12" Perforated Underdrain
Flow 57.0
7670
7660
7650
7662.10
62.10
62.12
62.16
7662.10 P.I.
62.82
62.93
63.10
7662.90 P.I.
64.10
7664.50 P.I.

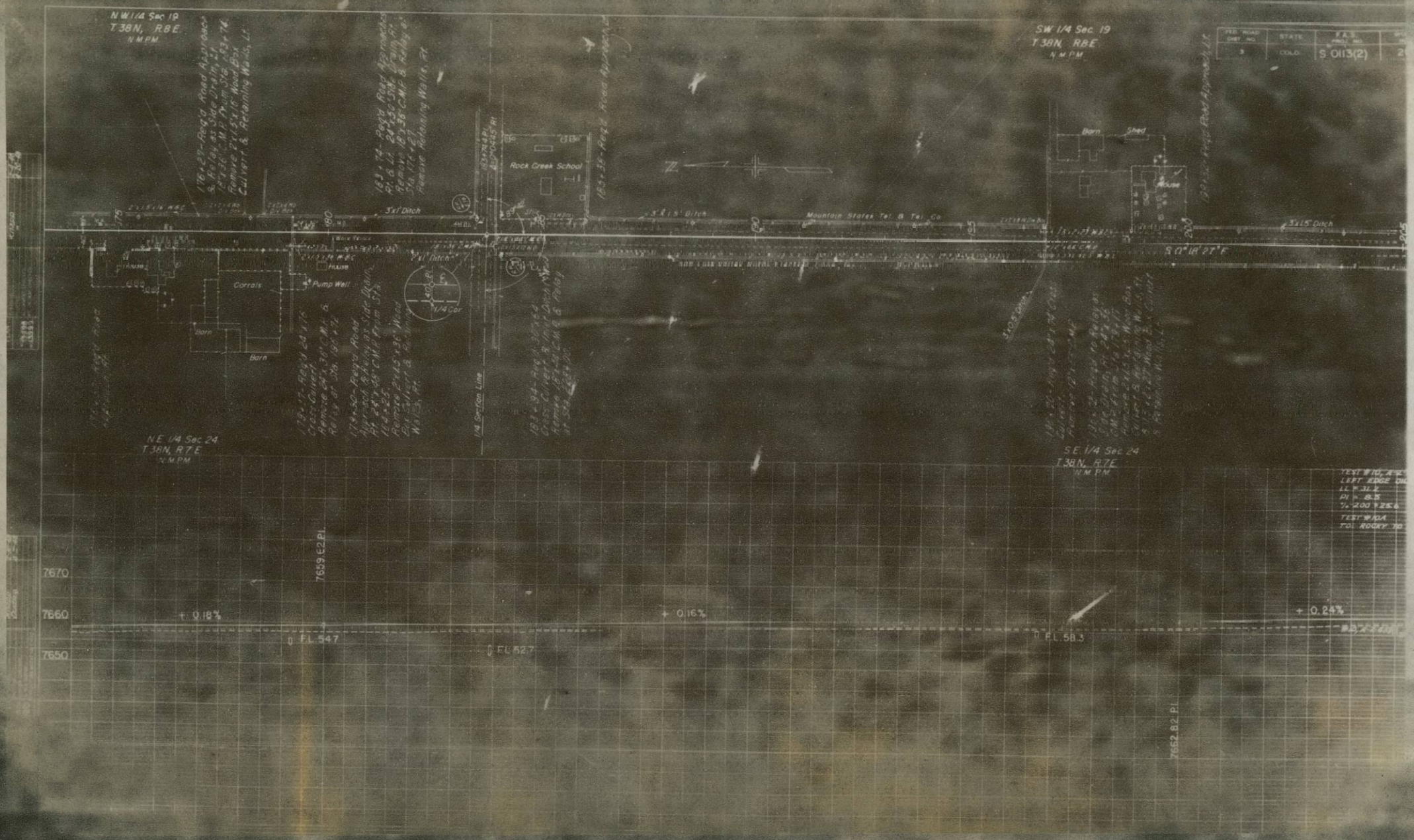

SW 1/4 Sec 6
T 38N R8E
N.M.P.M.
S 0113(2)
Public Service Co.
2' x 2' Ditch
Mountain States Tel. & Tel. Co.
S 0°08'57"E
Telephone Line
House
Garden
Barn
Well
Old Borrow Pit
Sec. Cor.
N.W. 1/4
S.E. 1/4 Sec 1
T 38N R7E
N.M.P.M.
N.E. 1/4 Sec 1
TEST #3, A-401
2.5' IN FROM LEFT EDGE OIL MAT
TEST #14 SIMILAR TO #1
TEST #4, A-401
2' IN FROM LEFT EDGE OIL MAT
TEST #5, A-401
SIMILAR TO #3
LEFT EDGE OIL MAT
TEST #5A SIMILAR TO #1
7664.50 P.I.
7663.54 P.I.
7660.42 P.I.
7670
7660
7650
- 0.08%
- 0.24%
- 0.02%
F.L. 59.0
F.L. 55.5
F.L. 52.8
64.86
64.34
63.82
63.56
63.30
60.90
60.53
60.38
400' V.C.
200' V.C.
N.P.S.D. Over 1300'
542 Outlet Wd. Underdrain

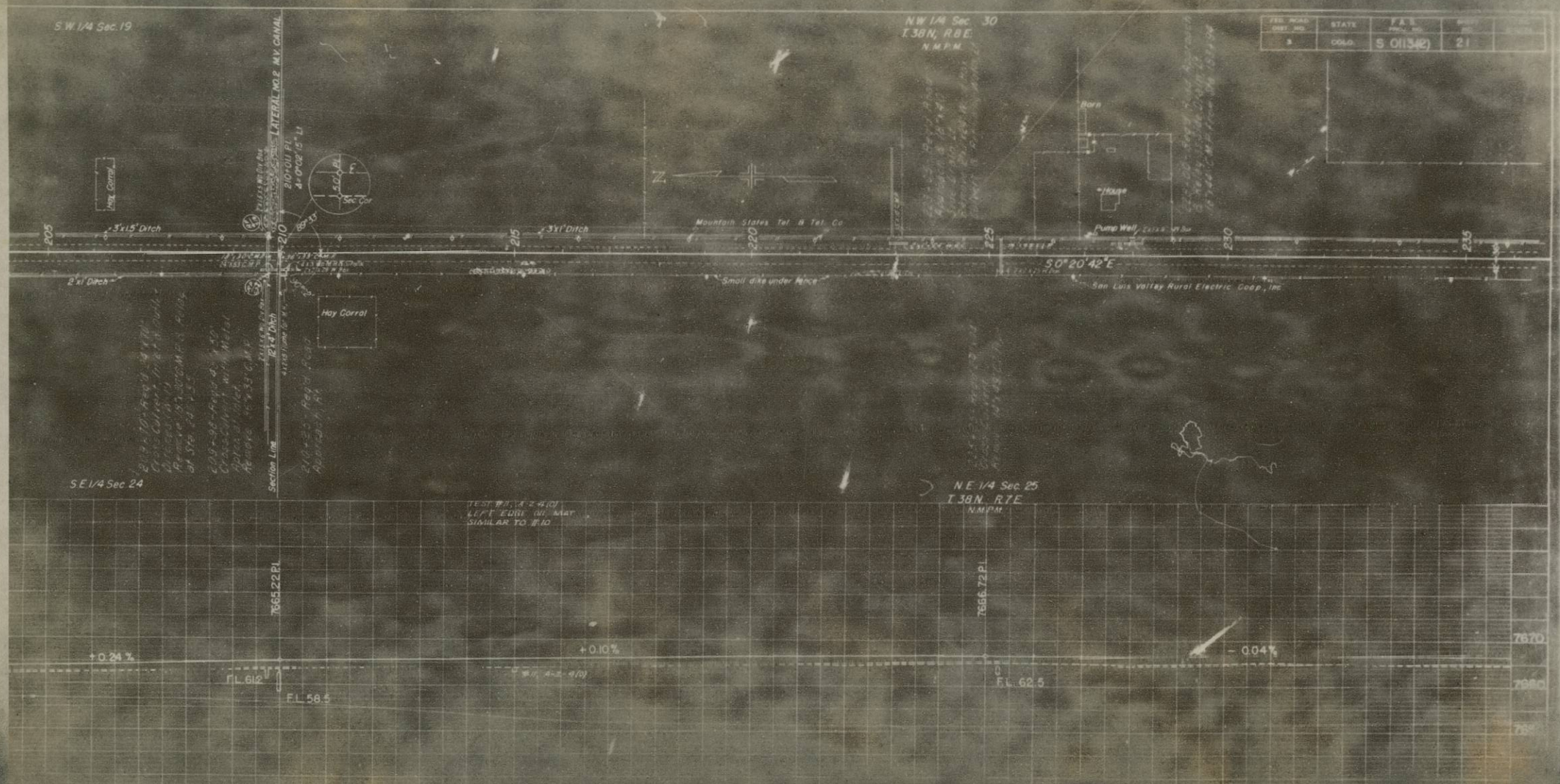

NW 1/4 Sec. 7
T.38N. R.8E
N.M.P.M.
S.W. 1/4 Sec. 7
3'x2' Ditch
Mountain States Tel. & Tel. Co.
S0°28'42"E
Public Service Co.
House
Sign
Tank & Well
Barn
Shed
4'x3' Ditch
NE 1/4 Sec. 12
T.38N. R.7E.
N.M.P.M.
S.E. 1/4 Sec. 12
200' V.C.
50.02
50.01
50.02
7660.00 P.I.
7670
7660
7650
-0.02%
+0.02%
F.L. 549
S-013(2)

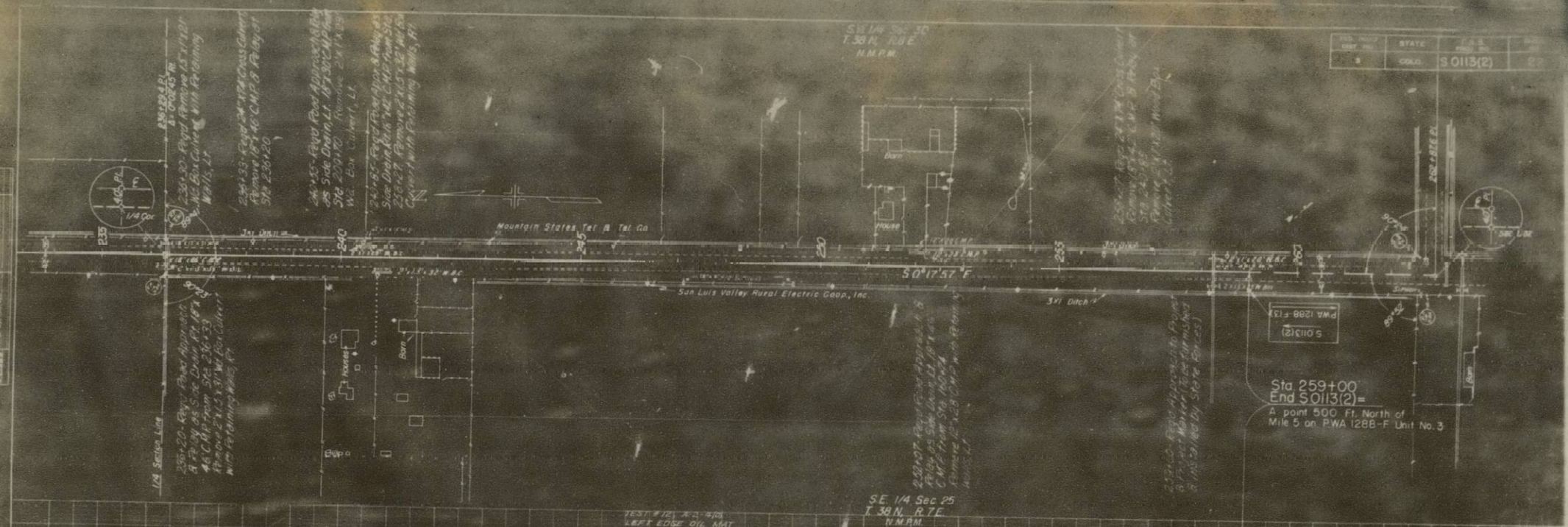

SW 1/4 Sec. 7
T.38N. R.8E
N.M.P.M.
NW 1/4 Sec. 18
T.38N. R.8E
N.M.P.M.
STATE
COLO.
S 0113(2)
17
20'x6' Ditch
Mountain States Tel. & Tel. Co.
2'x1' Ditch
Drain Ditch
2'x1' Ditch
S0°13'42"E
S0°19'57"E
15' Dike
San Luis Valley Rural Electric Coop., Inc.
House
Well H.
Barn
Shed
Hay Corral
Sec. Cor.
Section
Line
S.E. 1/4 Sec. 12
T.38N. R.7E.
N.M.P.M.
N.E. 1/4 Sec. 13
T.38N. R.7E.
N.M.P.M.
7+60.42 P.I.
+0.02%
-0.06%
+0.10%
E.L. 52.7
50.40
50.40
50.36
F.L. 52.2
F.L. 54.4
53.5
Borrow Pit Lt. Side
200' V.C.
N.P.S.D. Over 1300'


N.W. 1/4 Sec. 18
T.38N. R.8E.
N.M.P.M.
S.W. 1/4 Sec. 18
T.38N. R.8E.
N.M.P.M.
FED. ROAD DIST. NO.
STATE
F.A.S. ROUTE NO.
SHEET NO.
3
COLO.
S 0113(2)
18
Barn
House
Mountain States Tel. & Tel. Co.
S 0°19'57" E
S 0°22'12" E
Well House
Cellar
Well
Sheds
Feeding Yard
San Luis Valley Rural Electric Coop. Inc.
Drain Ditch
1/4 Cor.
3'x1' Ditch
3'x2' Ditch
N.E. 1/4 Sec. 13
T.38N. R.7E.
N.M.P.M.
S.E. 1/4 Sec. 13
T.38N. R.7E.
N.M.P.M.
7670
7660
7650
- 0.06%
- 0.36%
+ 0.11%
+ 0.06%
400' V.C.
200' V.C.
400' V.C.
N.P.S.D. Over 1300'
F.L. 54.0
F.L. 49.7
F.L. 47.2
F.L. 46.4


SW 1/4 Sec. 18
T.38N, R.8E
N.M.P.M.
NW 1/4 Sec. 19
T.38N, R.8E
N.M.P.M.
FED. ROAD DIST. NO. 5
STATE COLO.
F.A.S. S 0113(2)
146+50 - Reqd. Road Approach, Lt.
133+00 - Reqd. Road Approach, Lt.
Section Line
Log of Sec. Cor.
Barn
Well
Conc. F
Mountain States Tel. & Tel. Co.
3'x1' Ditch
S 0°22'12" E
S 0°23'12" E
Small dec. ur. fence
2'x1' Ditch
Salt Lake Valley Rural Electric Coop., Inc.
Drain Outlet
Hay Corral
House
174+50 - Reqd. Road Approach, Rt.
S.E. 1/4 Sec. 13
T.38N, R.7E
N.M.P.M.
N.E. 1/4 Sec. 24
T.38N, R.7E
N.M.P.M.
200' V.C.
7670
7660
7650
+ 0.06%
+ 0.18%
F.L. 49.0
F.L. 49.6
F.L. 49.5
F.L. 51.0
F.L. 50.0
F.L. 51.0
56.32
56.40
56.56


NW 1/4 Sec 19
T.38N, R.8E
N.M.P.M.
SW 1/4 Sec 19
T.38N, R.8E
N.M.P.M.
Rock Creek School
Mountain States Tel. & Tel. Co.
Corrals
Pump Well
Barn
Shed
House
3'x1' Ditch
3'x1.5' Ditch
1/4 Cor
1/4 Section Line
N.E. 1/4 Sec 24
T.38N, R.7E
N.M.P.M.
S.E. 1/4 Sec 24
T.38N, R.7E
N.M.P.M.
S 0°18'27" E
7659.62 P.I.
7662.82 P.I.
7670
7660
7650
+ 0.18%
+ 0.16%
+ 0.24%
F.L. 54.7
F.L. 52.7
F.L. 58.3
STATE
COLO.
S 0113(2)


S.W. 1/4 Sec. 19
N.W. 1/4 Sec. 30
T.38N, R.8E.
N.M.P.M.
FED. ROAD DIST. NO.
STATE
F.A.S. PROJ. NO.
SHEET NO.
3
COLO.
S 011342
21
LATERAL NO. 2 IRV. CANAL
Hay Corral
3'x15' Ditch
3'x1' Ditch
2'x1' Ditch
12'x4' Ditch
Section Line
Sec. Cor.
Mountain States Tel. & Tel. Co.
Small dike under fence
Barn
House
Pump Well
S0°20'42"E
San Luis Valley Rural Electric Coop., Inc.
S.E. 1/4 Sec. 24
N.E. 1/4 Sec. 25
T.38N. R.7E.
N.M.P.M.
7665.22 P.I.
7666.72 P.I.
+0.24%
+0.10%
-0.04%
F.L. 61.2
F.L. 58.5
F.L. 62.5
7670
7660
7650


STATE
COLO.
S 0113(2)
S.E. line Sec. 30
T. 38 N. R. 8 E
N.M.P.M.
Barn
House
Mountain States Tel. & Tel. Co.
S 0°17'57" E
San Luis Valley Rural Electric Coop., Inc.
3'x1' Ditch
Sta. 259+00
End S.0113(2) =
A point 500 Ft. North of
Mile 5 on PWA 128B-F Unit No. 3
S 0113(2)
PWA 128B-F(3)
1/4 Sec. Line
Houses
Barn
SE. 1/4 Sec 25
T. 38 N. R. 7 E.
N.M.P.M.
TEST #12, A-2-4(0)
LEFT EDGE O/L MAT
SIMILAR TO #10
7670
7660
7650
0 F.L. 62.4
-0.04%
#12, A-2-4(0)
65.36
F.L. 62.0

FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0113(2)	1	

113,022

COLORADO
STATE HIGHWAY DEPARTMENT

PLAN AND PROFILE OF PROPOSED
FEDERAL AID SECONDARY PROJECT NO. S 0113(2)
STATE HIGHWAY NO. 15
RIO GRANDE COUNTY

INDEX OF SHEETS

Sheet No. 1 Sketch Map & Title Page.
2 Typical Section, Tabulation of Length & Design Data & Timber Guard Posts.
3 Summary of Quantities, Surfacing Plan, Details of C.M.P. Manhole &
4 Details for Relaying Wooden Manholes.
4-6 List of Structures.
7 Standard Marker Posts. M 7 B
8 Standard Headwalls and Aprons for CMP Culverts. M 102 G
9 Unreinforced & Reinforced Concrete Culvert Pipe. M 112 D
10 Deleted.
11 Standard Timber Guard Posts. M 19 B
12 Typical Side Approach Roads, Flaring, Cut Slope Treatment and Widening of Bridges. M 2 C
13 Standard Roadway Construction Traffic Signs M 2 D
14-22 Alignment Plan & Profile.
23-121 Cross Sections.
122 Summary of Earthwork Quantities.

SCALES OF ORIGNAL TRACINGS

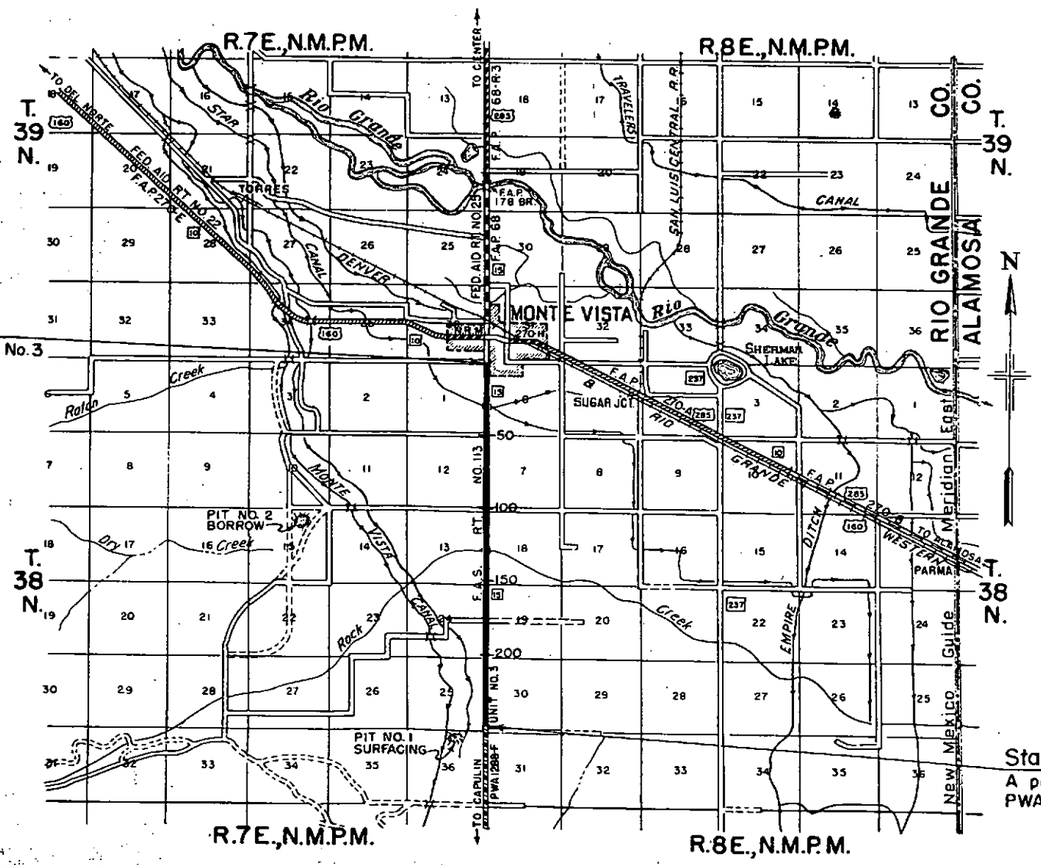
ON PLAN, 1 IN. - 100 FT.

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 } 25,900.0 ft. = 4.905 miles
NET LENGTH OF PROJECT }

Sta. 0+00 - Begin S0113(2) =
Beginning of PWA 1288-F Unit No. 3


R.7E., N.M.P.M.
R.8E., N.M.P.M.
T. 39 N.
T. 38 N.
RIO GRANDE CO.
ALAMOSA CO.
MONTE VISTA
SHERMAN LAKE
SUGAR JCT
TORRES
PARMA
PIT NO. 2 BORROW
PIT NO. 1 SURFACING
Rio Grande
Star
Rio Grande
Rio Grande
Rio Grande

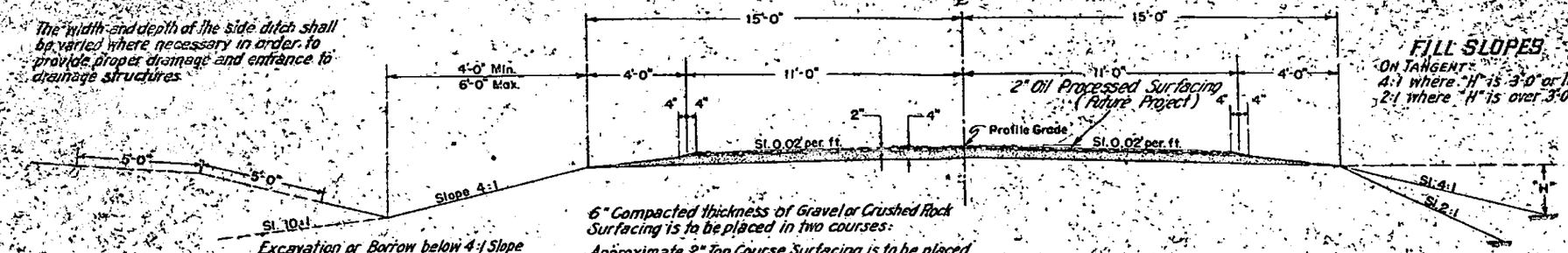
FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0113(2)	2	

TYPICAL CROSS SECTION OF IMPROVEMENT

NOTE:
See Standard M-2-C for details of Cut Slope Treatment, flaring and widening for guard fence and/or guard posts.

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

TYPICAL SECTION



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

6" Compacted thickness of Gravel or Crushed Rock Surfacing is to be placed in two courses:

Approximate 2" Top Course Surfacing is to be placed at the rate of 25 Tons per 100 lin. ft. of Roadway.

Approximate 4" Bottom Course Surfacing is to be placed at the rate of 59 Tons per 100 lin. ft. of Roadway.

FILL SLOPES

ON TANGENT:
4:1 where "H" is 3'-0" or less
2:1 where "H" is over 3'-0"

GENERAL NOTES

This Project is to be constructed in conformity with the Standard Specifications of the Colorado State Highway Department adopted January 1, 1948.

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

All Roadway Excavation required to construct this Project is to be obtained and used as indicated on the plans. Quantities involved beyond the limits of the ditches shown on the Typical Cross Section, either noted as "Borrow" on the plans or as "Embankments" in the List of Structures, are to be classified and paid for as "Unclassified Excavation". These quantities are to be staked as part of the original Excavation at locations indicated on the plans. Any 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.

All Corrugated Metal Pipe Cross Culverts, including arch culverts, shall be laid without Metal Aprons unless otherwise noted on the plans.

Except as otherwise noted on the plans, payment for Overhaul will be based on measurement along the center line of the Project.

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.

Flat wheeled roller may be substituted for rubber tired roller.

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.

Right of Way Lines for this project are along the existing fence lines.

TIMBER GUARD POSTS

STATION	SIDE	SPACING	NO.
11+40	Rt. & Lt.		2
12+25	Rt.		1
14+62	Rt.		1
17+04	Rt.		1
21+15	Rt.		1
24+40	Rt.		1
24+92	Rt. & Lt.	Culvert	2
26+46	Rt.		1
27+40	Rt.		1
77+96	Rt. & Lt.	Culvert	3
86+50	Rt.		1
139+56	Rt. & Lt.		2
142+33	Rt. & Lt.		3
160+74	Rt. & Lt.		2
179+17	Rt. & Lt.		2
186+70	Rt. & Lt.		2
209+70	Rt. & Lt.		2
209+98	Rt. & Lt.		2
225+25	Rt. & Lt.		2
236+39	Rt. & Lt.		2
258+27	Rt. & Lt.		2
Total			34

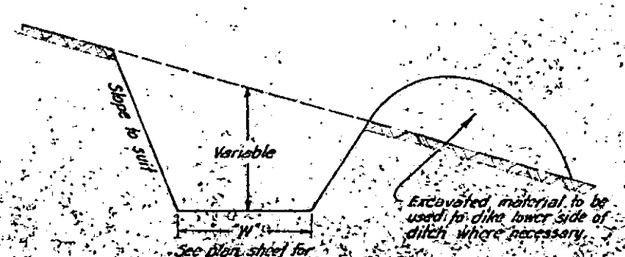
TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY LIN. FT.		
0+00 Begin S 0113(2) Beginning of PWA 1288-F Unit No. 3	25,300.0		
259+00 End S 0113(2) A point 500' North of Mile 5 of PWA 1288-F Unit No. 3			
Total	25,300.0		

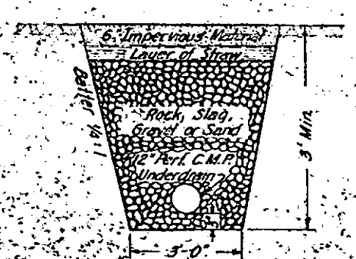
SUMMARY	LIN. FT.	MILES
Total S 0113(2) - Roadway	25,300.0	4.80

DESIGN DATA	
Maximum Degree of Curve	No Horizontal Curves
Maximum Grade	3.6%
Minimum N.P.S.D. - Horizontal	No Horizontal Curves
Minimum N.P.S.D. - Vertical	1300'
Maximum Design Speed	60 M.P.H.

TYPICAL SECTION OF DITCHES & CHANNEL CHANGES



TYPICAL SECTION OF TRENCH FOR 12" PERF. C.M.P. UNDERDRAIN



FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S0113(2)	3	

Rev. Concrete Culvert Pipe - Dec. 10, 1948 - M.W.

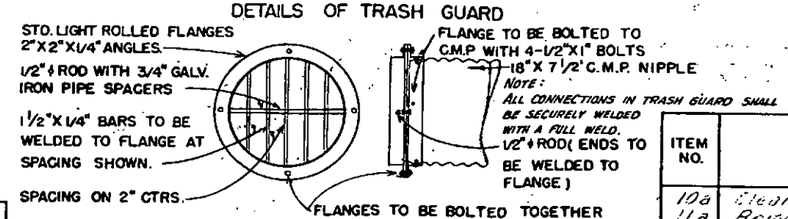
SURFACING PLAN

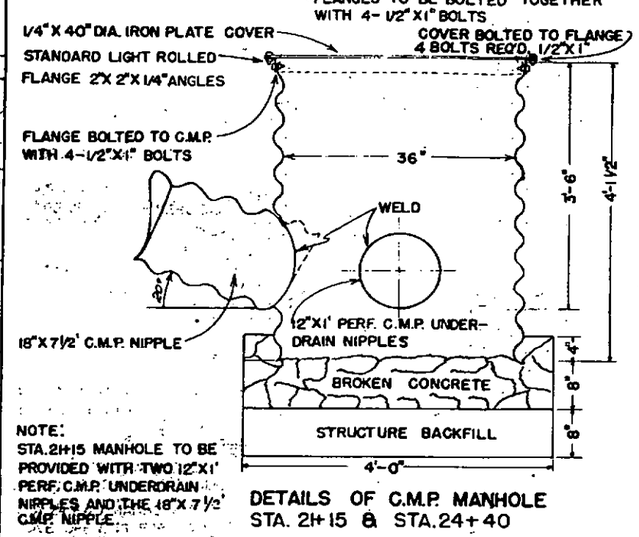
is estimated that material for Gravel Surfacing for the project is available the vicinity of the pit indicated in the following tabulation. Estimated entities involved in this operation are shown below.

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

MATERIAL TO BE PLACED	SOURCE	QUANTITY TONS USED TOP COURSE GRADING C	QUANTITY TONS USED BOTTOM COURSE GRADING B	OVERHAUL TON MILE
0+00 to 229+20	Pit No. 1 2300' Rt. of Sta. 259+00 In N.E. 1/4 Sec. 36, T. 38 N., R 7 E.	5730	13,523	41,788
229+20 to 259+00		745	1759	Free
Road Approaches			1545	2967
Approaches to Proj.	Quantity Available 20,800 Cu. Yds.	85	200	327
TOTALS		6560	17,027	45,082

STA. 21+15
DETAILS OF TRASH GUARD





NOTE:
STA. 21+15 MANHOLE TO BE PROVIDED WITH TWO 12"X1' PERF. C.M.P. UNDERDRAIN NIPPLES AND THE 18"X 7 1/2' C.M.P. NIPPLE.

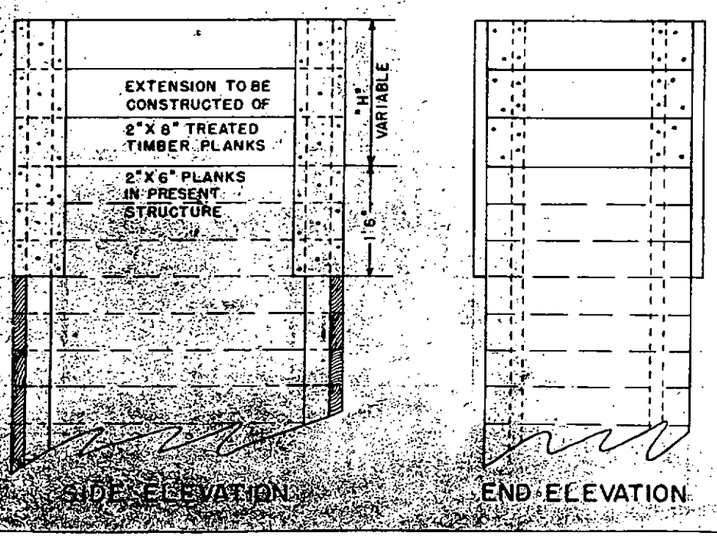
STA. 24+40 MANHOLE TO BE PROVIDED WITH TWO 12"X1' PERF. C.M.P. UNDERDRAIN NIPPLES.

MANHOLE, NIPPLES, FLANGES, TRASH GUARD & COVER PLATE TO BE BITUMINOUS COATED.

DETAILS OF C.M.P. MANHOLE
STA. 21+15 & STA. 24+40

DETAILS FOR RAISING WOODEN MANHOLES, RT. STA. 26+, 27+, 31+, 32+, & 34+

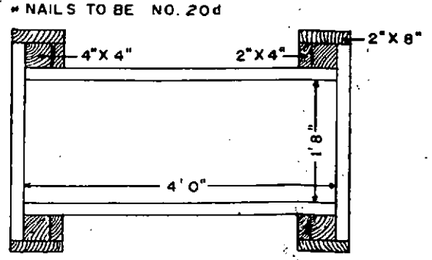
NOTE:
PRESENT WOODEN LID TO BE USED ON RAISED MANHOLE.



LIST OF MATERIALS

STATION LOCATION	"H"	*NAILS LBS.	TREATED TIMBER M ft. bm.
26+46	16"	6	.065
27+40	16"	6	.065
31+00	32"	9	.119
32+92	16"	6	.065
34+95	16"	6	.065
TOTAL		33	.379

* NAILS TO BE NO. 20d



PLAN

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	ITEM	UNIT			PROJ. TOTALS
10a	Clearing and Grubbing Entire Project	Lump Sum			•
11a	Removal of Wood Underdrain & 3 Manholes	Lump Sum			•
11b	Removal of 3 Structures (C.M.P.'s & C.B.C.'s.)	Lump Sum			•
11c	Removal of 42 Structures	Lump Sum			•
11d	Removing and Resetting Mail Boxes	Lump Sum			•
13c	Unclassified Excavation	Cu. Yd.			24,000
13d	Unclassified-Ditch Excavation	Cu. Yd.			100
14a	Dry Rock Excavation (Str.)	Cu. Yd.			90
14b	Dry Common Excavation (Str.)	Cu. Yd.			750
14c	Wet Rock Excavation (Str.)	Cu. Yd.			30
14d	Wet Common Excavation (Str.)	Cu. Yd.			250
16a	Structure Backfill (Class 1)	Cu. Yd.			1130
16d	Mechanical Tamping	Hour			28.0
17a	Rolling with Tamping Roller	Unit Hr.			160
17c	Rolling with Rubber Tired Roller	Hour			150
17d	Furnishing Tamping Roller	Roller Unit			2
17f	Furnishing Rubber Tired Roller	Lump Sum			•
17g	Wetting	M Gal.			2550
18a	Station Yard Overhaul	Sta. Yd.			892,000
18b	Yard Mile Overhaul	Yd. Mi.			272,400
18c	Ton Mile Overhaul	Ton Mi.			45,100
26b	Gravel or Crushed Rock Surfacing (Grading B)	Ton			17,100
26c	Gravel or Crushed Rock Surfacing (Grading C)	Ton			6,600
44b	Miscellaneous Treated Timber	M ft. bm.			0.4
51b	Relaying 18" Pipe	Lin. Ft.			584
51c	Relaying 24" Pipe	Lin. Ft.			170
58b	18" Asbestos Bonded Corrugated Metal Culvert Pipe	Lin. Ft.			462
58c	24" Asbestos Bonded Corrugated Metal Culvert Pipe	Lin. Ft.			1714
58d	30" Asbestos Bonded Corrugated Metal Culvert Pipe	Lin. Ft.			164
58e	36" Asbestos Bonded Corrugated Metal Culvert Pipe	Lin. Ft.			124
58g	48" Asbestos Bonded Corrugated Metal Culvert Pipe	Lin. Ft.			50
58xg	58"x36" Asbestos Bonded Corrugated Metal Pipe Arch Culvert	Lin. Ft.			124
71c	12" Perforated Corrugated Metal Pipe Underdrain	Lin. Ft.			800
85a	Trash Guards	Each			1
92	Timber Guard Posts	Each			34
95g	Metal Aprons for 48" C.M.P. Culverts (Bituminous Coated)	Each			1
95xg	Metal Aprons for 58"x36" C.M.P. Arch Culverts (Bituminous Coated)	Each			2
132mx	Manholes (Bituminous Coated C.M.P.)	Each			2
81a	Project Markers (To be furnished & installed by State Forces)	Each			2
	Alternate Bids to Provide Reinforced Concrete Culvert Pipe Will be Received in Lieu of Above Item Nos. 58b, 58c, 58d, 58e, 58g, & 95g.				
52b	18" Reinforced Concrete Culvert Pipe	Lin. Ft.			462
52c	24" Reinforced Concrete Culvert Pipe	Lin. Ft.			1714
52d	30" Reinforced Concrete Culvert Pipe	Lin. Ft.			164
52e	36" Reinforced Concrete Culvert Pipe	Lin. Ft.			124
52g	48" Reinforced Concrete Culvert Pipe	Lin. Ft.			58

All concrete culvert pipe is to be Standard Strength

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S-0113(2)	4	7

LIST OF STRUCTURES

STATION	DESCRIPTION	REMOVE STRUCTURE	EXCAVATION UNCLASS. CU. YDS. EXC.	EXCAVATION UNCLASS. CU. YDS. EMB.	EXCAVATION UNCL. DITCH CU. YDS.	STRUCTURAL EXCAVATION CU. YDS. ★	STR. BACKFILL CLASS 1 CU. YDS.	GRAVEL OR CRUSHED ROCK SURF. TONS	△ CORRUGATED METAL CULVERT PIPE LIN. FT. 18"	24"	30"	36"	48"	RELAY C.M.P. LIN. FT. 18"	24"	C.M.P. ARCH CULVERT LIN. FT. 58"X36"	PERF. C.M.P. LIN. FT. 12"	● METAL APRONS EACH 58"X36"	48"	MISC. TRTD. TIMBER M.F.T.bm	MECH. TAMPING HOURS	MISCELLANEOUS
0+00	Project Marker & Approach to Project							75														1 Project Marker (State Forces)
8+00	Road Approach, Rt.							60														
1+90	Road Approach, Rt.							15														
3+81	Road Approach, Rt.							60														
5+55	Road Approach & Side Drain, Lt.						10	13	60	50												
	Remove 1.5'x 1.0'x 30' Wood Box Side Drain, Lt.	1																				
7+41	Road Approach, Rt.								60													
8+25	Road Approach, Rt.			10					15													
8+84	Road Approach, Rt.			10					15													
10+35	Road Approach, Rt.			15					15													
11+95	Road Approach, Rt.			20					60													
13+84	Road Approach, Lt.			20					15													
14+62	Road Approach, Rt.			20					15													
18+40 to 23+33	Remove Wood Underdrain & 3 Wood Manholes, Rt.																					Remove Wood Underdrain & Manholes
18+40 to 24+40	Underdrain, Rt.						100															
18+69	Road Approach, Rt.			50					30							600						
18+83	Road Approach, Lt.			35					15													
19+49	Road Approach, Rt.			35					15													
21+15	Manhole, Surface Drain Inlet with Trash Guard (Details on Sheet No. 3)				5		5	5		6												● 1 C.M.P. Manhole 1 Trash Guard
21+53	Road Approach, Rt.			150					60													
24+00	Road Approach, Rt.			40					15													
24+40	Manhole Rt. (Details on Sheet No. 3)																					● 1-C.M.P. Manhole
24+92	Cross Culvert with Metal Apron at Inlet						10	30								46		1				
	Remove 4'-10"x 3'-6"x 30' Conc. Box Culvert																					Remove 4'-10"x 3'-6"x 30' Conc. Box Culvert
25+10	Road Approach, Rt.			10					20													
25+76	Road Approach, Lt.			20					15													
26+46	Raise Wood Manhole, Rt. (H=16") Details on Sht. No. 3						5													.065		
27+40	Raise Wood Manhole, Rt. (H=16") Details on Sheet No. 3						5													.065		
27+72	Road Approach, Rt.			35					15													
29+00	Road Approach, Rt.			35					15													
31+00	Raise Wood Manhole, Rt. (H=32") Details On Sht. No. 3						5													.119		
32+92	Raise Wood Manhole, Rt. (H=16") Details on Sht. No. 3						5													.065		
34+95	Raise Wood Manhole, Rt. (H=16") Details on Sht. No. 3						5													.065		
36+00	Road Approach, Rt.			5					15													
38+36	Road Approach & Side Drain Lt.; Remove 12'x47' C.M.P.	1		10			5	13	15	50												
51+40	Cross Culvert; Inlet & Outlet Ditches (W=2')				10		32	29				72										
51+76	Road Approaches, Rt. & Lt.; Side Drain, Rt.			260			25	26	120		50											
	& 18"x 40' Side Drain, 60' Rt.; Remove 24"x 46' C.M.P.						10	10		40												
	& Relay at Sta. 136+52.																					
	Remove 1.5'x 1'x 8.0 Wood B.C. & 1.5'x 1'x 15' Wood B.C., Rt.	2																				
52+14	Cross Culvert;						20	25			76											
	Remove 15" x 46' C.M.P.	1																				
	Remove 2' x 1' x 18' Wood Box Side Drain, Lt.	1																				
55+52	Road Approach & Side Drain, Lt.; Remove 1x1x 18' Wood Box Side Drain, Lt.	1		30			10	10	15	40												
55+75	Road Approach & Side Drain, Rt.; Remove & Relay			25			15	10	15	40												
	18"x 22' C.M.P. at Sta. 80+10. Remove Wd. Retaining Walls, Rt.	1																				
60+00	Road Approach & Side Drain, Rt.; Remove & Relay			30			15	10	15	40												
	18"x 22' C.M.P. at Sta. 80+10. Remove Wd. Retaining Walls, Rt.	1																				
63+25	Road Approach & Side Drain, Rt.; Remove 2.5'x 2'x 29'			30			15	10	15	40												
	Wood Box & Retaining Walls, Rt.	1																				
77+80	Road Approach, Rt.			30					15													
77+82	Road Approach, Lt.			40					15													
77+88	Relay as Side Drain, Lt. C.M.P. from Sta. 139+56						15	16						62								
	Remove 2'x 1'x 40' Wood Box & Retaining Walls, Rt.	1																				
77+94	Side Drain, Rt.; Remove 2'x 1.5'x 66' W.B. Side Drain &						25	21		80												
	Retaining Walls, Rt.	1																				
77+96	Cross Culvert; Remove 15"x 52' C.M.P. Cross Drain	1					20	24			74											

CONTINUED ON SHEET NO. 5

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	[illegible]		

LIST OF STRUCTURES - CONT.

STATION	DESCRIPTION	REMOVE STRUCTURE	EXCAVATION UNCLASS. CU. YDS. EXC.	EXCAVATION UNCLASS. CU. YDS. EMB.	EXCAVATION UNCL. DITCH CU.YDS	STRUCTURAL EXCAVATION CU. YDS. ★	STR. BACKFILL CLASS I CU.YDS	GRAVEL OR CRUSHED ROCK SURF. TONS	CORRUGATED METAL CULVERT PIPE LIN. FT. 18"	24"	30"	36"	48"	RELAY C.M.P. LIN. FT. 18"	24"	C.M.P. ARCH CULVERT LIN. FT. 58"X36"	PERF. C.M.P. LIN. FT. 12"	METAL APRONS EACH 58"X36"	48"	MISC. TRT'D. TIMBER M.Ft.bm	MECH. TAMPING HOURS	MISCELLANEOUS
	Road Approach Rt.			30				15														
80+00	Road Approach & Relay as Side Drain, Lt. C.M.P.'s from			50			5	11	15	14				44								
	24"x40' C.M.P. @ 68+00																					
	Remove 2'x1.5'x45' Wood Box & Retaining Walls, Lt.	1																				
80+00	Cross Culvert & Metal Apron at Inlet						20	50								78		1				
	Remove Combined 36"x37' C.M.P. & 5'x3.5'x32' C.B.C.																					Remove Comb. 36"
104+00	Cross Culvert & Outlet Ditch (W-2)				5		40	29				60										
104+44	Road Approaches Rt. & Lt.; Side Drain Rt. &			250			50	26	120	40	80											
	Side Drain 60' Rt.						10	10														
109+88	Cross Culvert Remove & Relay 24"x40' C.M.P. at Sta.						15	24			74											
	130+36																					
106+65	Road Approach Rt.			25					30													
106+90	Side Drain Rt.; Remove 2'x1.5'x108' Wood Box Culvert &	1					30	37			112											
	Retaining Walls, Rt.																					
115+97	Cross Culvert & Inlet Ditch (W-1), Relay as				5		15	24			74			30								
	Side Drain Rt. C.M.P. from Sta. 147+95; Remove						10	8														
	12"x45' C.M.P. & 2'x1.5'x23' Wd. B.C. & Retaining Walls, Rt.	2																				
117+00	Road Approach & Relay as Side Drain Rt. C.M.P. from Sta. 151+			25			10	12	15					46								
	Remove 2.5'x1'x20' Wd. B.C. & Retaining Walls, Rt.	1																				
120+30	Road Approach, Lt.			15					15													
122+35	Road Approach, Rt.			15					15													
130+20	Road Approach, Lt.			30					20													
130+56	Cross Culvert, Relay as Side Drain Rt. C.M.P. from Sta. 104+						15	24			74											
	Remove 24"x46' C.M.P. & 2'x1.5'x26' Wd. B.C. & Ret. walls, Rt.	2					10	13							40							
134+03	Cross Culvert, Inlet & Outlet Ditches (W-2)				10		20	31				64										
	Remove comb. 36"x12' C.M.P. & 6'x3'x78' Conc. Box Culv.																					
136+52	Road Approach & Relay 24"x46' C.M.P. from Sta. 51+76			30			10	15	15						46							Remove Comb. 36"x17' C.M.P. & 6'x3'x78'
	as Side Drain, Rt. Remove 18"x22' C.M.P. and																					
	relay at Sta. 157+31. Remove retaining walls, Rt.	1																				
139+56	Cross Culvert Relay as Side Drain Rt. C.M.P. from Sta. 142+33						15	25			76											
	Remove 18"x62' C.M.P. & Relay at Sta. 174+88; Remove						10	8						32								
	2.5'x1.5'x24' Wood B.C. & retaining walls, Rt.	1																				
142+33	Cross Culvert: Remove 18"x64' C.M.P. & Relay 32' as						15	25			76											
	Side Drain Rt. & 32' at Sta. 139+56.						5	8						32								
143+80	Extend 30"x42' Cross Culvert 12' Rt. & 16' Lt.						15	10				±14 Rt. ±17 Lt.										
	Remove Wooden Headwall	1																				
146+90	Road Approach, Lt.			30					15													
149+85	Cross Culvert & Inlet Ditch (W-1) Remove 18"x60'				5																	
	C.M.P. & Relay 30' Rt. as Side Drain & 30' at Sta. 115+97.						20	25			76											
	Remove 2'x1.5'x25' Wood Box Culvert & Retaining	1					10	8						30								
	Walls Rt.																					
151+42	Cross Culvert. Remove 18"x42' C.M.P. & Relay 18" x						20	25			76											
	32' as side drain Rt. & Relay 12" x 10' C.M.P.																					
	at Sta. 157+31. Remove 2'x1.5'x24' Wood						10	8						32								
	Box & Retaining Walls, Rt.	1																				
153+60	Road Approach, Lt.			35					15													
157+31	Cross Culvert. Relay 18"x10' C.M.P. from Sta. 151+42						20	25			76											
	& 18"x22' C.M.P. from Sta. 136+52 as side drain, Rt.						10	8		±1				32								
	Remove 18"x46' C.M.P. & relay at Sta. 117+00.	1																				
	Remove 2'x2'x25' Wd. B.C. & Retaining walls, Rt.																					
160+50	Road Approach, Rt.			30					15													
160+74	Cross Culvert. Remove 18"x46' C.M.P. & Relay at 252+07.						15	25			76											
164+25	Cross Culvert & Inlet Ditch (W-1) Remove 24"x48'				5		15	20			62											
	C.M.P. & Relay at Sta. 174+30.																					
167+80	Road Approach, Lt.			30					15													
170+42	Cross Culvert, Inlet & Outlet Ditches (W-1)	1			5		20	20			60											
174+50	Road Approach Rt. Remove 18"x46' C.M.P.			25					15													
176+27	Road Approach & Relay as Side Drain Lt. C.M.P.			20					15													
	Remove 2'x1.5'x16' Wood Box	1					10	9						36								
	Culvert & Retaining Walls, Lt.																					

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
9	COLO.	[illegible]	6	

LIST OF STRUCTURES

STATION	DESCRIPTION	REMOVE STRUCTURE	EXCAVATION UNCLASS. CU. YDS. EXC.	EXCAVATION UNCLASS. CU. YDS. EMB.	EXCAVATION UNCL. DITCH CU. YDS.	STRUCTURAL EXCAVATION CU. YDS. ☆				STR. BACKFILL CLASS 1 CU. YDS.	GRAVEL OR CRUSHED ROCK SURF. TONS	▲ CORRUGATED METAL CULVERT PIPE LIN. FT. 18"	24"	30"	36"	48"	RELAY C.M.P. LIN. FT. 18"	24"		C.M.P. ARCH CULVERT LIN. FT.	58X35	PERF. C.M.P. LIN. FT. 12"	● METAL APRONS EACH 53X35	48"	MISC. TRT'D. TIMBER M.F.B.M.	MECH. TAMPING HOURS	MISCELLANEOUS
[illegible]	Road Approaches, Rt.			25							50																	
[illegible]	Cross Culvert; Remove 24"x35' C.M.P. & Relay at 196+72									20	25		76															
[illegible]	Road Approaches, Rt. & Lt.; Side Drain, Rt.; Remove 24"x35' C.M.P. & Relay as Side Drain, Rt. C.M.P. from Sta. 13+25			25						20	16	15						48										
[illegible]	Remove 2'x1.5x36' Wood B.C. & Retaining Walls, Rt.	1																										
185+[illegible]	Road Approaches, Rt. & Lt.; Side Drain, Rt.; Remove 18"x36' C.M.P. & Relay at Sta. 176+27. Remove Ret. Walls, Rt.	1		250						25	16	120		50														
185+[illegible]	Cross Culvert, Inlet Ditch (W=1'); Remove 18"x44' C.M.P. Sta. 228+00.				5					25	26				60													
185+[illegible]	Road Approach, Lt.:			20								50																
[illegible]	Cross Culvert; Remove 12"x66' C.M.P.	1								15	24		74															
[illegible]	Relay as Side Drain, Rt. C.M.P. from Sta. 179+17 (Remove 2'x1.5'x25' W.B.C.) & Retaining Walls, Rt. & 2'x1.5'x27' Wood Box C. & Retaining Walls, Lt.	2								15	12							36										
199+32	Road Approach, Lt.			15								25																
209+70	Cross Culvert, Inlet & Outlet Ditches (W=1') Remove 18"x30' C.M.P. & Relay at 240+55				5					10	23		70															
209+98	Cross Culvert with Metal Apron at Inlet. Remove 36"x33' C.M.P.	1								40	32					50								1				
210+25	Road Approach, Rt.			10								15																
223+05	Road Approach & Side Drain, Lt.; Remove 2'x1'x24' Wood Box Culvert & Retaining Walls, Lt.	1		30						10	10	15	40															
225+25	Cross Culvert; Remove 14"x49' Cast Iron Pipe.	1								15	24			74														
228+00	Road Approach & Relay as Side Drain, Lt. C.M.P. from Sta. 183+95			20						10	11	15					44											
236+20	Road Approach & Relay as Side Drain, Rt. C.M.P. from Sta. 236+32 Remove 2'x1.5'x31' Wood B.C. & Retaining Walls, Rt.	1		15						15	12	15					46											
236+30	Remove 1.5'x1'x21' Wood B.C. & Retaining Walls, Lt.	1																										
236+39	Cross Culvert; Remove 18"x46' C.M.P. & Relay at 236+20.									15	24			74														
240+55	Road Approach & Relay as Side Drain, Lt. C.M.P. from Sta. 209+70			30						10	8	15					30											
	Remove 2'x1'x23' Wood Box Culvert, Lt.	1																										
240+85	Road Approach & Relay as Side Drain, Rt. C.M.P. from Sta. 253+27																											
	Remove 2'x1.5'x32' Wood B.C. & Retaining Walls, Lt.	1		20						20	11	15					42											
252+07	Road Approach & Relay as Side Drain, Lt. C.M.P. from Sta. 160+74			10						5	12	15					46											
	Remove 12"x28' C.M.P. & Retaining Walls, Lt.	1																										
253+27	Cross Culvert. Remove 18"x42' C.M.P. & Relay at 240+85.									15	24			74														
	Remove 2'x1'x20' Wood Box Culvert, Lt.	1																										
253+00	Project Marker & Approach to Project			400								210																Project Marker (State Forces)
	Mechanical Tamping for all C.M.P. Culverts																										280	
	PROJECT TOTALS	42		2475	60					1110	1125	1830	468	1714	164	124	50	584	170			124	600	2	1	379	280	

☆ Structural Excavation is estimated to be 90% Common & 10% Rock, each of which is estimated to be 75% Dry & 25% Wet.
‡ 1-foot of pipe is included for Connecting Band.
▲ Asbestos Bonded
○ Bituminous Coated

FED. ROAD DIST. NO.	STATE	F.A.S. PROJ. NO.	SHEET NO.	TOTAL SHEETS
5	COLO.	S 0113(2)	4	

Water table elevations as shown are subject to change according to seasonal fluctuations etc.

Soil data shown on the plans is obtained from past highway testing laboratory investigation. 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.

Timber Guard Posts are tabulated on Sht. No. 2

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
5	COLO.	S 0113(2)	3	

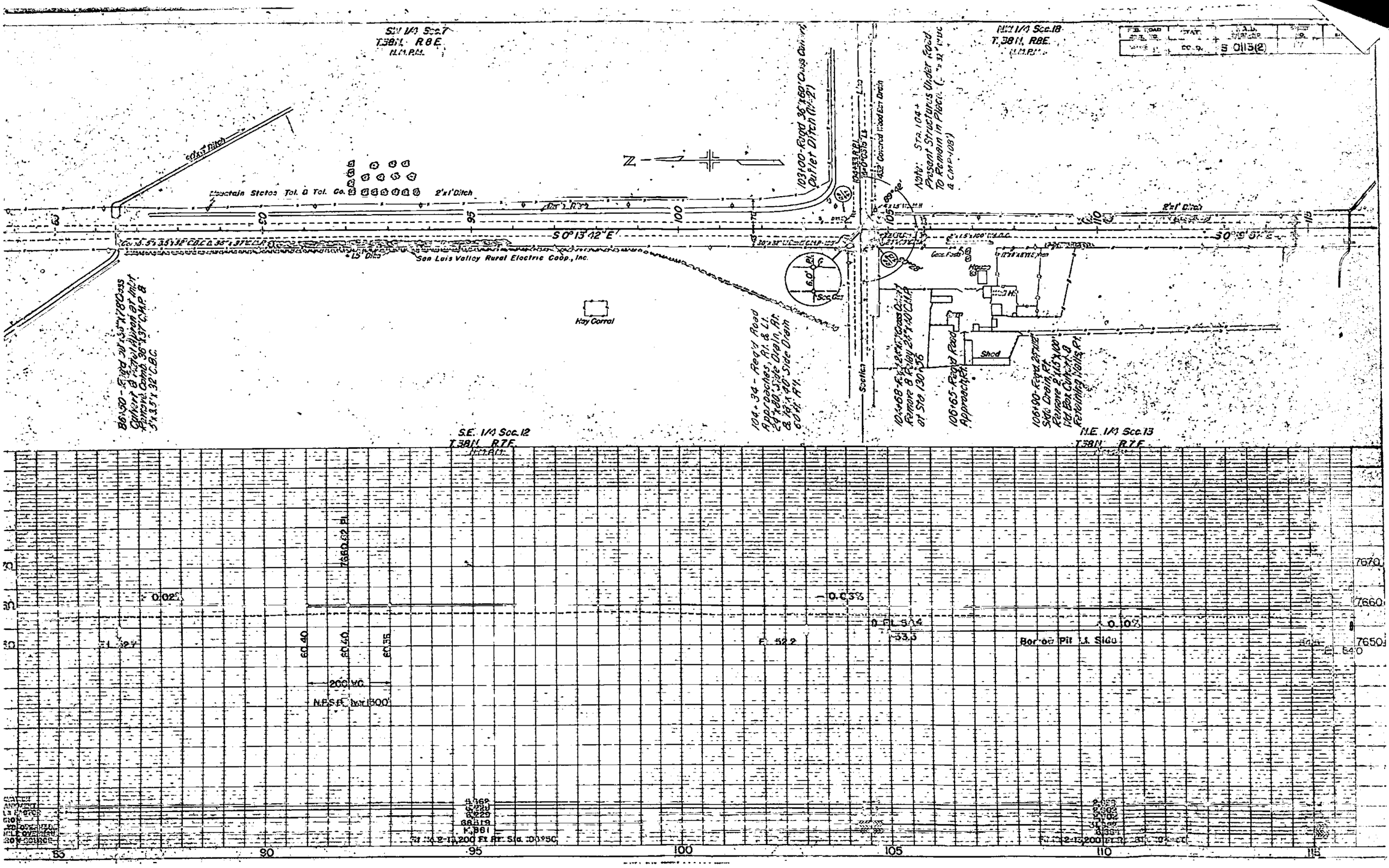
S1/2 1/4 Sec. 6
T 38 N. R 8 E.
N.M.P.M.

S.E. 1/4 Sec. 1
T 38 N. R 7 E.
N.M.P.M.

S.E. 1/4 Sec. 12

Public Service Co.
Mountain States Tel. & Tel. Co.
Mountain States Tel. & Tel. Co.
Public Service Co.
Telephone Line
House
Garden
Barn
Old Barrow Pit
38+36-Rgd Road Approaches, Rt. 19'x50' Side Drain, Lt. Remove 12" x 47' C.M.P.
2'x2' Ditch
Sign
Conc. Fd.
1'x1' Ditch
3'x8' Ditch
25+10-Rgd Road Appr. Rt.
25+46-Rgd Raise Wood Manhole, Rt. (H.16') Details on Sheet No. 3
27+40-Rgd Raise Wood Manhole, Rt. (H.16') Details on Sheet No. 3
27+72-Rgd Road Approach, Rt.
29+00 Rgd Road Appr. Rt.
31+00-Rgd Raise Wood Manhole, Rt. (H.32') Details on Sheet No. 3
32+92-Rgd Raise Wood Manhole, Rt. (H.16') Details on Sheet No. 3
34+85-Rgd Raise Wood Manhole, Rt. (H.16') Details on Sheet No. 3
36+00-Rgd Road Appr. Rt.
51+40-Rgd 50'x12' Cross Culvert, Inlet & Outlet Ditches (W.2')
51+78-Rgd Road Approaches, Rt. 8'x1', 24'x80' Side Drain Rt. 8'x18" x-Ax. Side, 60' Rt. Remove 24"x45' C.M.P. & Rebuild at Sta. 136+62, Wasteway 1.5'x1'x8' H.E.C. & 1.5'x1'x1.0' H.E.C. Rt.
3'x8' Ditch
1/4 Sec. Line

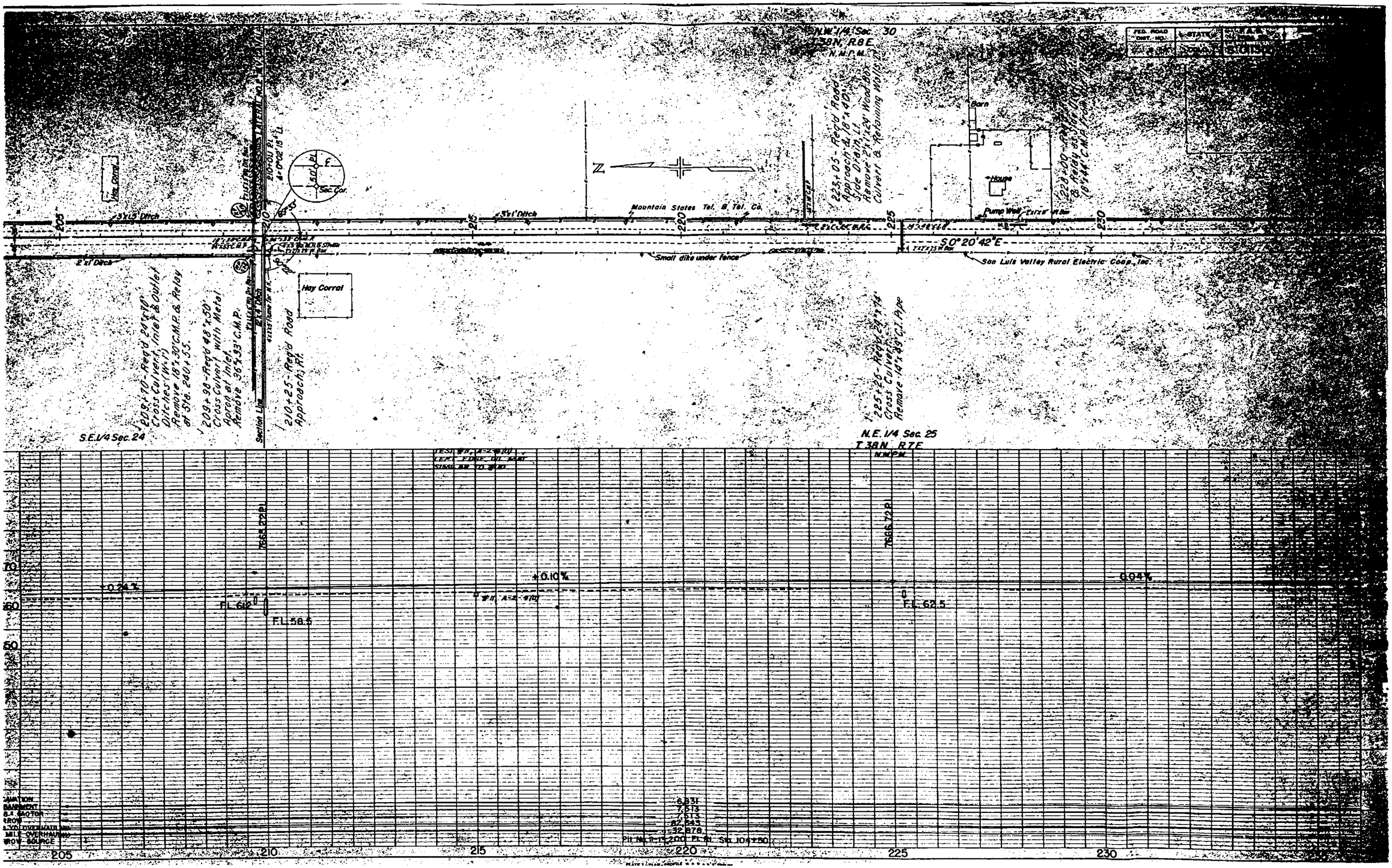
0.08%
0.24%
0.02%
542.0 Not Adjusted
200 V.C.
N.P.S.D. Over 300'
100 V.C.
N.P.S.D. Over 1300'
100 V.C.
Fl. 59.0
Fl. 52.8
7668.30 P.I.
7663.54 P.I.
7380.62 P.I.
53.62
53.50
53.30
60.50
60.35
60.35
7670
7660
7650
25
30
35
40
45
50
55


S.W. 1/4 Sec.7
T.38N. R8E.
N.M.P.M.
N.W. 1/4 Sec.18
T.38N. R8E.
N.M.P.M.
S 0113(2)
Z
2'x1' Ditch
Mountain States Tel. & Tel. Co.
2'x1' Ditch
103+00 - Rigid 36"x60' Cross Culvert (Outlet Ditch No. 2)
Note: Present Structures Under Road To Remain In Place. (See 31" Culvert & CMP-108')
2'x1' Ditch
S 0°13'12" E
S 0°13'07" E
San Luis Valley Rural Electric Coop., Inc.
Hay Corral
86+50 - Rigid 30"x35'x60' Cross Culvert & Partial Riprap at Inlet. Remove Comb. 36"x37' CMP & 3'x3.5'x32' C.B.C.
104+34 - Rigid Road Approaches, Rt. & Lt. 24"x68' Side Drain, Rt. & 18"x40' Side Drain 60' Rt.
106+68 - Remove & Relay 24"x40' CMP at Sta. 130+56
106+65 - Rigid Road Approaches
106+90 - Rigid 24"x16' Side Drain, Rt. Remove 2'x1.5'x100' Wet Box Culvert & Retaining Walls, Rt.
House
Shed
S.E. 1/4 Sec.12
T.38N. R7E.
N.M.P.M.
N.E. 1/4 Sec.13
T.38N. R7E.
7680.62 PI
0.02%
0.03%
0.04%
0.10%
60.40
60.40
60.35
200' VC
N.P.S.H. bar 300'
F. 52.2
53.3
Borrow Pit L.S. 5160
7670
7660
7650
85
90
95
100
105
110
115

FED. ROAD DIST. NO.	STATE	F.A.S. ROUT. NO.	SHEET NO.	TOTAL SHEETS
3	COLO.	S 0113(2)	18	

S.W. 1/4 Sec. 18
T.38N. R.8E.
N.M.P.M.
N.W. 1/4 Sec. 19
T.38N. R.8E.
N.M.P.M.
S.E. 1/4 Sec. 13
T.38N. R.7E.
N.M.P.M.
N.E. 1/4 Sec. 24
T.38N. R.7E.
N.M.P.M.
FED. ROAD DIST. NO.
STATE
FED. AID PROJ. NO.
SHEET NO.
TOTAL SHEETS
S 0113(2)
19
146+90 - Reqd. Road Approach, Lt.
153+60 - Reqd. Road Approach, Lt.
167+80 - Reqd. Road Approach, Lt.
Section Line
157+33.4 Pl
At 0°01' Lt.
Sec Cor
Barn
Well
Conc. Fd.
Stone & Conc. Posts
3'x1' Ditch
2'x1.5'x15' W.B.
Mountain States Tel. & Tel. Co.
2'x1.5'x16' W.Box
1'x16' C.M.P.
12'x16' C.M.P. Flume
S 0°22'12"E
S 0°23'12"E
18"x60' C.M.P.
2'x1.5'x25' W.B.C.
18"x42' C.M.P.
2'x1.5'x26' W.B.C.
18"x48' C.M.P.
24"x48' C.M.P.
21"x46' C.M.P.
Small dike under fence
24"x36' C.M.P.
1.5'x1.5'x8' W. Div. Box
2'x1' Ditch
San Luis Valley Rural Electric Coop., Inc.
Drain Outlet
House
Hay Corral
3'x2' Ditch
147+95 - Reqd. 24"x76' Cross Culvert & Inlet Ditch (W.I.) Remove 18"x60' C.M.P. & Relay 30' Rt. as Side Drain & 30' at Sta. 115+97. Remove 2'x1.5'x25' Wood Box Culvert & Retaining Walls, Rt.
151+42 - Reqd. 24"x76' Cross Culvert. Remove 18"x42' C.M.P. & Relay 18"x32' CMP as side drain Rt. & 18"x10' CMP at Sta. 157+31
Remove 2'x1.5'x26' Wood Box Culvert & Retaining Walls, Rt.
157+31 - Reqd. 24"x76' Cross Culvert. Relay 18"x10' CMP from Sta. 151+42 as 18"x22' CMP from Sta. 136+52 as side drain Rt. Remove 18"x46' C.M.P. & Relay at Sta. 117+00. Remove 2'x1.5'x25' Wood Box Culvert & Retaining Walls, Rt.
160+50 - Reqd. Road Approach, Rt.
160+74 - Reqd. 24"x76' Cross Culvert. Remove 18"x46' C.M.P. & Relay at Sta. 252+07.
164+25 - Reqd. 24"x62' Cross Culvert & Inlet Ditch (W.I.). Remove 24"x46' CMP & Relay at Sta. 115+30.
170+42 - Reqd. 24"x60' Cross Culvert, Inlet & Outlet Ditches (W.I.). Remove 21"x46' C.M.P.
174+50 - Reqd. Road Approach, Rt.
200 V.C.
56.32
56.40
56.56
+0.06%
+0.18%
F.L. 49.0
F.L. 49.6
F.L. 49.5
F.L. 51.0
F.L. 50.0
F.L. 51.0
7656.38 Pl
7670
7660
7650
70
60
50
145
150
155
160
165
170
175
EXCAVATION
EMBANKMENT
B-X FACTOR
ARROW
YD. OVERHAUL
MILE OVERHAUL
ARROW SOURCE
7,784
8,963
8,963
24,193
27,193
Pt. No. 2-13,200 Ft. Rt. Sta. 104+50

FED. ROAD DIST. NO.
STATE
F.A.S. PROJ. NO.
SHEET NO.
TOTAL SHEETS
9
CO
S 0113(2)
20
N.W. 1/4 Sec. 19
T.38N. R.8E.
N.M.P.M.
S.W. 1/4 Sec. 19
T.38N. R.8E.
N.M.P.M.
N.E. 1/4 Sec. 24
T.38N. R.7E.
N.M.P.M.
S.E. 1/4 Sec. 24
T.38N. R.7E.
N.M.P.M.
Rock Creek School
Mountain States Tel. & Tel. Co.
San Luis Valley Rural Electric Coop., Inc.
S 0° 18' 27" E
3'x1' Ditch
3'x1.5' Ditch
2'x1' Ditch
Corrals
Barn
House
Pump Well
Shed
1/4 Cor.
1/4 Section Line
+ 0.18%
+ 0.16%
+ 0.24%
F.L. 54.7
F.L. 52.7
F.L. 58.3
7659.62 P.
7662.82 P.
7670
7660
7650
175
180
185
190
195
200
205


N.W. 1/4 Sec. 30
T.38N. R.8E.
N.M.P.M.
Hay Corral
3'x1.5' Ditch
Sec. Cor.
Mountain States Tel. & Tel. Co.
3'x1' Ditch
2'x1' Ditch
Small dike under fence
S0°20'42"E
San Luis Valley Rural Electric Coop., Inc.
Barn
House
Pump Well
Hay Corral
Section Line
S.E. 1/4 Sec. 24
N.E. 1/4 Sec. 25
T.38N. R.7E.
N.M.P.M.
+0.24%
+0.10%
-0.04%
F.L. 61.2
F.L. 58.5
F.L. 62.5
205
210
215
220
225
230
70
60
50