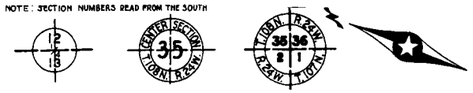
Conventional Signs

STATE LINE
COUNTY LINE
TWP OR RANGE LINE
SECTION LINE
RIGHT OF WAY LINE
CORPORATE OR CITY LIMITS
ROAD CENTER LINE
RETAINING WALL
RAILROADS
CREEK
DRY RUN
DRAINAGE DITCH
POWER POLE LINE
TELEPHONE OR TELEGRAPH LINE
CULVERTS - PLAN
WITH ENDWALLS
WITH WINGWALLS
DROP INLET
FENCE LINE
GRAVEL PIT
SAND PIT
CLAY PIT
ROCK QUARRY
SPRINGS
MARSH
BRUSH OR TIMBER
HEDGE
ROCK LEDGE
SAND
EDGE OF CUT
TOE OF EMBANKMENT
RAILROAD R/W LINE
BUILDING (One Story Frame)

Abbreviations

EXCAVATION	EXC.
EARTH	E.
LOOSE ROCK	L.R.
SOLID ROCK	S.R.
EMBANKMENT	F.
OVERHAUL	H.
SURFACING	S.
HAND DITCHING	H.D.
SPECIAL EXCAVATION	S.E.
SPECIAL PLOWING	S.P.
GUARD RAIL	G.R.
CORRUGATED METAL CULVERT	C.M.CULV.
SECTIONAL CONCRETE CULVERT	R.CULV.
SECTIONAL CONCRETE CULVERT (Heavy Type)	R.CULV.
TON MILES	T.M.
TELEPHONE POLE	TEL. P.
POWER POLE	P.P.
PLACE	P.
INPLACE	INP.
REPLACE	REP.
RIGHT	RT.
LEFT	LT.
INTERSECTION ANGLE	Δ
RADIUS	R.
TANGENT	T.
LENGTH OF CURVE	L.
POINT OF CURVE	P.C.
POINT OF TANGENT	P.T.
POINT OF INTERSECTION	P.I.
VERTICAL CURVE	V.C.
BENCH MARK	B.M.
ELEVATION	EL.
ACRES	A

NOTE: SECTION NUMBERS READ FROM THE SOUTH



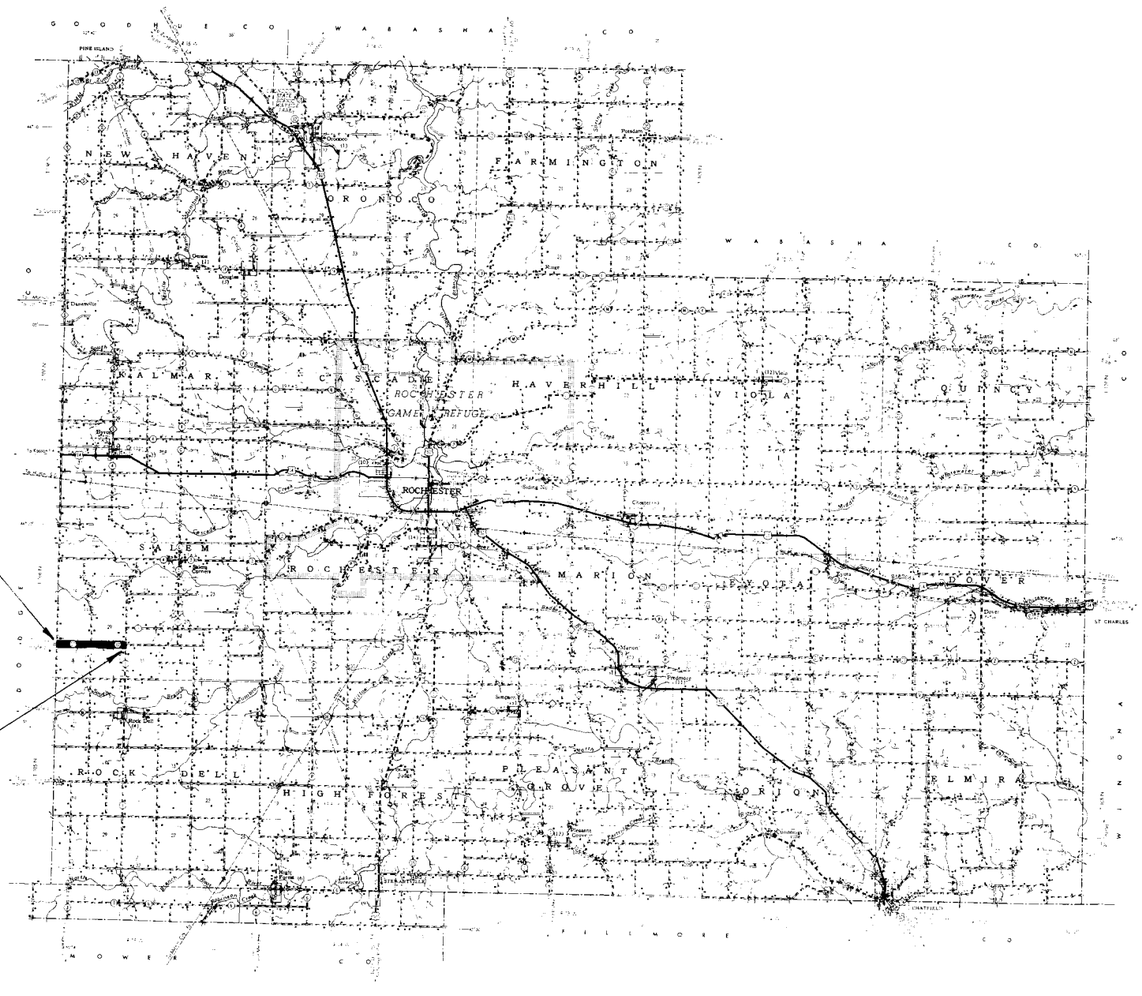
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
Plan and Profile of State Aid Road No. 17
Construction Plan for Grade and Crushed Rock Surface

From NW. Corner Section 31 T108N R15W **To** NE. Corner Sec. 32 T106N R15W
Give proper reference to Sections, Township and Range

GROSS LENGTH- 105667 FEET 2.001 MILES
LENGTH OF EXCEPTIONS- FEET MILES
NET LENGTH 105667 FEET 2.001 MILES

SCALES
- PLAN. Inch = 100 Feet.
- PROFILE. Horz. Inch = 100 Feet. Vert. Inch = 10 Feet
- WORKING PLANS: Horz. Inch = 100 Feet; Vert. Inch = 10 Feet; Cross-Section, Inch = 10 Feet

LAYOUT
Scale, Inch = 10,560 Feet



Begin S.P. 55-511-02 Minn. Proj. S 6223 (1)
Sta. 0+00

End S.P. 55-511-02 Minn. Proj. S 6223 (1)
Sta. 105+66.7

INDEX OF SHEETS

Sheet No. 1. Title Sheet and Layout Map
" No. 2. Typical Cross-Sections and Statement
" No. 3. to 6 Plan and Profile
" No. 7 to 14 Cross Sections

MINN. PROJ. S 6223(1)

SPECIFICATION REFERENCE:
The specifications for Highway Construction, dated July 1, 1947, and submitted for approval by the Division Engineer of the Bureau of Public Roads October 15, 1947, as modified by 'supplement 1' thereto dated April 15, 1953, and submitted for approval by the Division Engineer of the Bureau of Public Roads on March 25, 1953, shall govern.

DETAIL PLATE REFERENCE:
Standard detail plates issued October 1, 1947 and approved by the Bureau of Public Roads April 1, 1948, with revisions approved February 24, 1949, shall govern.

Design Speed 50 M.P.H.

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
RECOMMENDED FOR APPROVAL
DISTRICT ENGINEER — DATE

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 8-14-55 REG. NO. 1207

Planned By L. J. Sullivan
HIGHWAY ENGINEER FOR OLMSTED COUNTY.
Recommended for Approval _____ DISTRICT ENGINEER
Recommended for Approval _____
Recommended for Approval _____

S 6223 (1)

State Proj. No. 55-511-02 Plan No. ..... Sheet 1 of 14 Sheets

FORM 129 C - # 1 REV. '46

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5N	MINN.					

ESTIMATED QUANTITIES

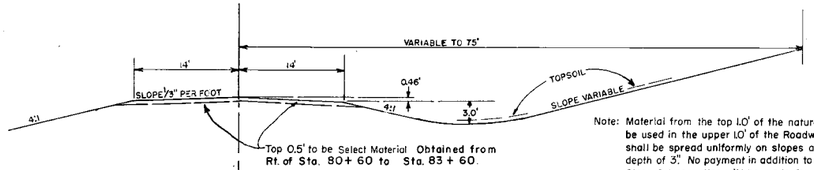
	SPECIFICATION NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
	2101.501	Clearing	Acre	1.2
	2101.502	Clearing	Tree	88
	2101.506	Grubbing	Acre	1.2
	2101.507	Grubbing	Tree	113
(2)	2105.503	Class C Excavation	Cubic Yard	53437
	2104.501	Remove Portable Culverts	Linear Foot	292
	2501.511-18	Furnish and Install Corrugated Metal Pipe Culverts 18"	Linear Foot	300
	2501.511-24	Furnish and Install Corrugated Metal Pipe Culverts 24"	Linear Foot	294
	2501.521-24	Furnish and Install Sectional Concrete Pipe Culverts 24"	Linear Foot	44
	2515.531-18	Furnish and Install Aprons for Corrugated Metal Pipes 18"	Apron	20
	2515.531-24	Furnish and Install Aprons for Corrugated Metal Pipes 24"	Apron	10
	2515.541-24	Furnish and Install Concrete Aprons for S.C.P. 24"	Apron	2
	2515.541-36	Furnish and Install Concrete Aprons for S.C.P. 36"	Apron	2
	2501.521-36	Furnish and Install Sectional Concrete Pipe Culverts 36"	Linear Foot	42
	2411.501	Concrete	Cubic Yard	39.8
	2411.525	Class U Excavation	Cubic Yard	25
	2411.541	Reinforcement Bars	Pound	6195
(1)	2252.527	Crushed Rock Wearing Course inplace	Cubic Yard (V.M.)	3900

(1) Note: Item 2252.527 includes 200 Cubic Yards for Entrances and Approaches.

(2) ITEM 2105.503 INCLUDES 7394 CU. YDS. OF SELECTED MATERIAL FROM WIDENED SECTION RIGHT OF STA. 80+60 TO STA. 83+60.

PLATE NO.	STANDARD DETAIL PLATES
3000 & 3001	Sectional Concrete Culvert Pipe
3100 & 3102	Concrete Apron for Reinforced Sectional Concrete Pipe
3123A	Metal Apron for Corrugated Metal Pipes
9000	Approaches and Entrances
3065A	Connection between Existing Culv. and New "C" Culv. Barrel.

TYPICAL GRADING SECTIONS



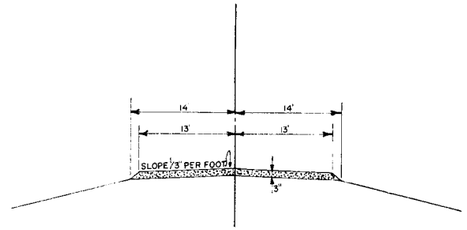
Top 0.5' to be Select Material Obtained from Rt. of Sta. 80+60 to Sta. 83+60.

Note: Material from the top 1.0' of the natural topsoil shall not be used in the upper 1.0' of the Roadway. Part of this material shall be spread uniformly on slopes and ditch bottoms to a depth of 3". No payment in addition to the Contract price for Class C Excavation will be made for spreading the topsoil as above provided, nor will any undercutting made in excavations prior to placing the topsoil be measured for payment.

SPECIAL DETAILS

Note: Corrugated Metal and Sectional Concrete Pipe Culvert excavation shall be considered incidental and will be paid under unit price for Furnish and Install Culvert Pipe.

TYPICAL BASE & SURFACE SECTIONS



1850 Cu. Yds. per mile compacted.

56223 (1)

DAMM'S PHOTO PRINT CO. MPLS. 1, MINN.

Twp. Road 0+00 Lt.
No Culv. Inpl.
No Culv. req'd.

F.E. 2+88 Lt.
Inpl. 12"X18' C.M.P.
Remove
F. and I. 18"X30' C.M.P.
F. and I. 2-18" Metal Aprons

5+08 ℄
Inpl. 18" X32' C.M.P.
Remove
F. and I. 24"X44' S.C.P.
F. and I. 2-24" Conc. Aprons

F.E. 15+38 Lt.
No Culv. Inpl.
F. and I. 18"X30' C.M.P.
F. and I. 2-18" Metal Aprons

F.E. 21+20 Lt.
No Culv. Inpl.
No Culv. req'd.

COUNTY

COUNTY

Begin S.P. 55-511-02 MINN. PROJ. S 6223(1)
Sta. 0+00

TWP. ROAD +00

TWP. ROAD +00

FARMYARD

HOUSE

PUMP

BARN

SHED

BARNYARD

HAYLAND

CULTIVATED

HAYLAND

MARSH

Zone 1 5+29

Zone 2 10+56

Zone 3 15+84

Zone 4 21+12

Zone 5 26+40

S.A.R. No 10

427

460.5

F.E. 1+88

F.E. 1+36

F.E. 1+78

F.E. 5+50

F.E. 15+38

F.E. 19+11

F.E. 21+20

T.106N. R.13W. 25 30 36 31 T.106N. R.14W.

0+00

Twp. Road 0+00 Rt.
No Culv. Inpl.
No Culv. req'd.

F.E. 1+36 Rt.
No Culv. Inpl.
F. and I. 18"X30' C.M.P.
F. and I. 2-18" Metal Aprons

F.E. 1+78 Rt.
No Culv. Inpl.
No Culv. req'd.

F.E. 5+50 Rt.
No Culv. Inpl.
No Culv. req'd.

F.E. 19+11 Rt.
Inpl. 12"X26' C.M.P.
Remove
F. and I. 18"X30' C.M.P.
F. and I. 2-18" Metal Aprons

DODGE

OLMSTED

0+00 to 1+50
Clear 6 Trees Grub 2 Trees

13+50 to 16+30
Clear and Grub 51 Trees

22+00 to 23+50
Grub 19 Trees

3 10
3 11

B.M. Elev. 1244.24
Spike in Tel. Pole
45' Rt. 0-36

B.M. Elev. 1236.04
Spike in Tel. Pole
33' Rt. 19+30

Profile 75' Lt. ----
Profile 75' Rt. ——

PI +67.64+08
ELEV. 387.48
400' V.C.
M=1.7

-2.6%

+0.8%

-3.6%

-1.8%

BL. 340
OUT. 32.0

SIGHT DISTANCE 372'

PI +00
ELEV. 46.6
400 V.C.
M=2.2

PI +00
ELEV. 20.8
400 V.C.
M=1.0

E 13590 { 10870 / 2720 SELECTED MAT'L. FROM RT. OF STA. 80+60 TO STA. 83+60
F. 10341

60 50 40 30 20 10 1200

43.1 44.7 12 46.3 46.0 45.8 40 43.2 40.6 40.3 38.5 37.9 37.8 5 12 37.4 37.8 38.6 39.5 40.3 10 12 41.3 41.9 42.6 43.0 43.2 15 12 43.5 43.3 41.8 39.1 36.6 35.6 20 12 31.3 27.7 25.2 23.3 21.8 25 12 20.5 19.0 17.3 15.9 14.3 30 12 12.9

33+66 ℄
Inpl. W44X35.
Conc. Culv.
Construct C44 Extension
Inlet 7.0' Lt.
Outlet 12.0' Rt.
Conc. 17.2 Cu. Yd.
Re. Bars 2765 Lb.
Exc. 10 Cu. Yd.

41+85 ℄
Inpl. 18"X52' C.M.P.
Remove
F. and I. 36"X42' S.C.P.
F. and I. 2-36" Conc. Aprons

Twp. Road 52+84 Lt.
No Culv. Inpl.
No Culv. req'd.

F.E. 53+33 Lt.
No Culv. Inpl.
No Culv. req'd.

PASTURE
Zone 6 31+68
CULTIVATED
Zone 7 36+96
Zone 8 42+24
HAYLAND
Zone 9 47+52
Zone 10 52+80
TWP. ROAD +84
F.E. +33
CULTIVATED
Zone 11 58+08
MARSH
PASTURE
CULTIVATED
BARN
F.E. +67
FARMYARD
TWP. ROAD +84
Storm Flow 52+84.5
CULTIVATED
F.E. +91

T.106N. R.15W. / R.15W. T.106N. — 30 29 31 32

F.E. 50+67 Rt.
Inpl. 15"X20' C.M.P.
Remove
F. and I. 24"X30' C.M.P.
F. and I. 2-24" Metal Aprons

Twp. Road 52+84 Rt.
No Culv. Inpl.
F. and I. 24"X32' C.M.P.
F. and I. 2-24" Metal Aprons

F.E. 59+91 Rt.
No Culv. Inpl.
No Culv. req'd.

33+60
Grub 1 Tree

48+00 to 52+60
Clear and Grub 25 Trees

B.M. Elev. 1240.22
Spike in Maple
70' Rt. 52+59

Pl.+00 Elev. 1210.0
400' V.C.
M=0.8

Pl.+00 Elev. 1210.0
400' V.C.
M=2.5

Pl.+00 Elev. 1214.0
400' V.C.
M=1.4

Pl.+68.23077 Elev. 1248.98462
400' V.C.
M=1.95
SIGHT DISTANCE 400'

+3.3%

-0.6%

0.0%

+0.5%

INL. 01.9
OUT. 00.4

INL. 07.0
OUT. 05.8

46+50 to 51+50
SUBGRADE TREATMENT. Exc. 2 feet below grade. Backfill with Select Mat'l.

E 5332 {4136
F 4229 {11196 SELECTED MAT'L. FROM RT. STA. 80+60 – 83+60

Profile 75' Lt. ——
Profile 75' Rt. ——

1200 10 20 30 40 50 60

1212.9 11.5 10.1 09.3 09.0 1208.9 09.0 09.4 09.7 10.3 1210.6 11.1 11.5 12.0 13.0 1214.6 17.0 20.1 23.3 26.6 1229.8 33.1 36.2 39.1 40.2 42.7 1246.2 49.7 52.8 55.3 56.8 1257.0 56.9 56.8 56.7 56.4

30 35 40 45 50 55 60 +85 +20 +50 +45

S.P. 55-511-02 Minn. Proj S 6223 (1)

OLMSTED COUNTY, MINN. Sheet No. 4 of 14 Sheets

F.E. 68+30 Lt.
No Culv. Inpl.
F. and I. 18" X30' C.M.P.
F. and I. 2-18" Metal Aprons

71+87℄
Inpl. 18" X44' C.M.P.
Remove
F. and I. 24" X98' C.M.P.
F. and I. 2-24" Metal Aprons

F.E. 78+00 Lt.
No Culv. Inpl.
F. and I. 18" X30' C.M.P.
F. and I. 2-18" Metal Aprons

86+53℄
Inpl. W64X32'
Conc. Culv.
Construct C64 X 21' Extension
Inlet 9.0' Lt.
Outlet 12' Rt.
Conc. 22.6 Cu. Yd.
Re. Bars 3430 Lbs.
Exc. 15 Cu. Yd.

CULTIVATED

WOODS

CULTIVATED

PASTURE

CULTIVATED

SCHOOLYARD

Borrow Pit

WOODS

FARMYARD

CULTIVATED

F.E. 78+52 Rt.
No Culv. Inpl.
F. and I. 18" X30' C.M.P.
F. and I. 2-18" Metal Aprons

F.E. 79+20 Rt.
Inpl. 15" X24' C.M.P.
Remove
F. and I. 18" X30' C.M.P.
F. and I. 2-18" Metal Aprons

F.E. 84+63 Rt.
Inpl. 18" X18' C.M.P.
Remove
F. and I. 24" X30' C.M.P.
F. and I. 2-24" Metal Aprons

F.E. 91+86 Rt.
No Culv. Inpl.
No Culv. req'd.

68+00 to 72+75
Clear 1 Tree Grub 10 Trees

72+75 to 78+75
Clear and Grub 0.4 Acre

81+65 to 83+35
Clear and Grub 0.4 Acre

83+60 to 88+50
Clear and Grub 5 Trees

B.M. Elev. 1213.01
Spike in P.P.
28' Lt. 88+79

Profile 75' Lt. ----
Profile 75' Rt. ——

75+50 to 81+20
SUBGRADE TREATMENT. Exc. 1.5' below Grade
Backfill with Select Material from R.O.W.

E 9558 { 8361 / 1197 SELECTED MAT'L. FROM RT. OF STA. 80+60 TO 83+60
F 7281

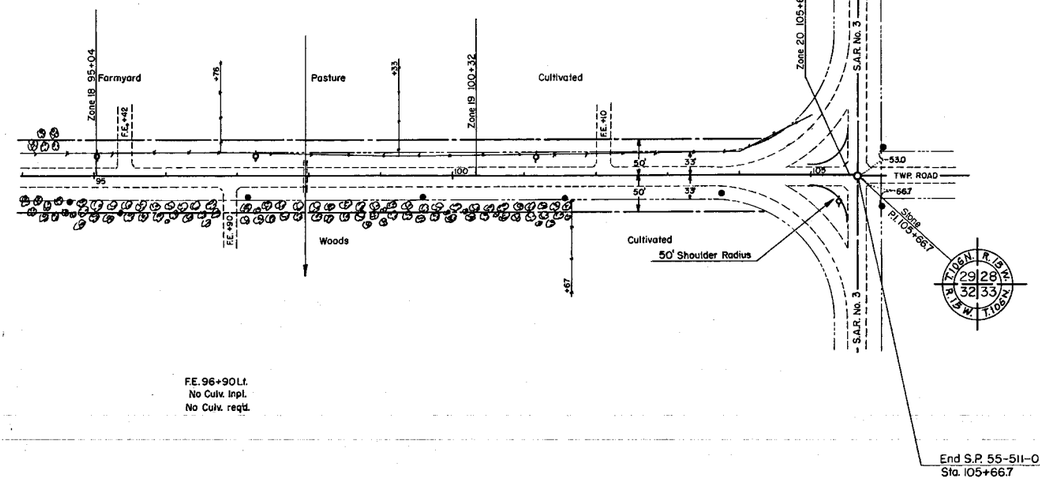
E 10330 { 9329 / 1001 SELECTED MAT'L. FROM RT. OF STA. 80+60 TO 83+60
F 8043

SIGHT DISTANCE 356'

F.E. 95+42 Lt.
No Culv. Inpl.
F. and I. 18"X30' C.M.P.
F. and I. 2-18" Metal Aprons

97+95℄
Inpl. 18" X 58'C.M.P.
Remove
F. and I. 24"X104' C.M.P.
F. and I. 2-24" Metal Aprons

F.E. 102+10 Lt.
No Culv. Inpl.
F. and I. 18"X30' C.M.P.
F. and I. 2-18" Metal Aprons

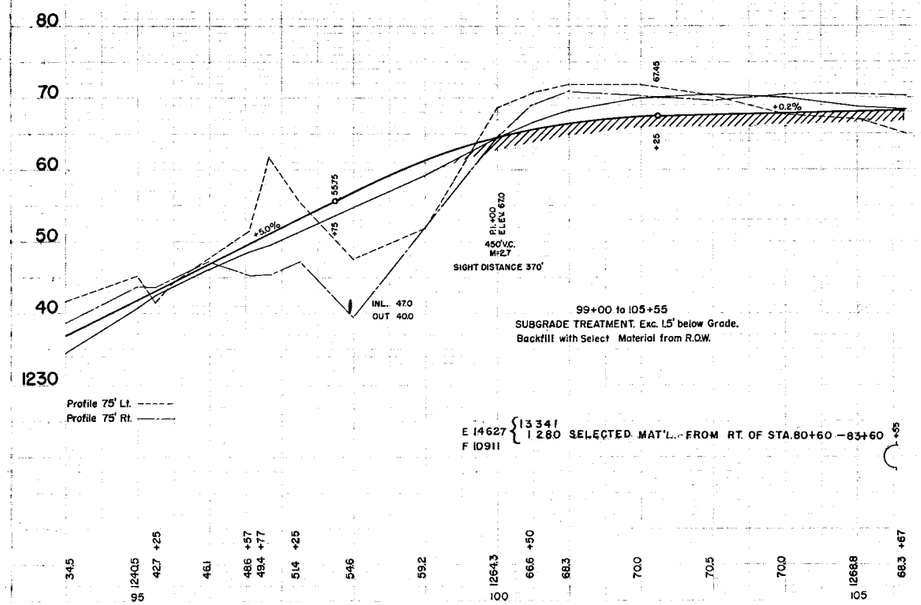


F.E. 96+90 Lt.
No Culv. Inpl.
No Culv. reqd.

End S.P. 55-511-02 Minn. Proj. S 6223 (1)
Sta. 105+66.7

92+35 to 101+70
Clear and Grub 0.4 Acre

B.M. Elev. 127.10
Spike in P.P.
35' Rt. 105+41



99+00 to 105+55
SUBGRADE TREATMENT. Exc. 1.5' below Grade.
Backfill with Select Material from R.O.W.

E 14627 { 13341
F 10911 { 1280 SELECTED MAT'L.-FROM RT. OF STA. 80+60 — 83+60 +55

S.P. 55-511-02 Minn. Proj. S 6223 (1)

OLMSTED COUNTY, MINN. Sheet No. 6 of 14 Sheets