Form 413 Rev. 1959

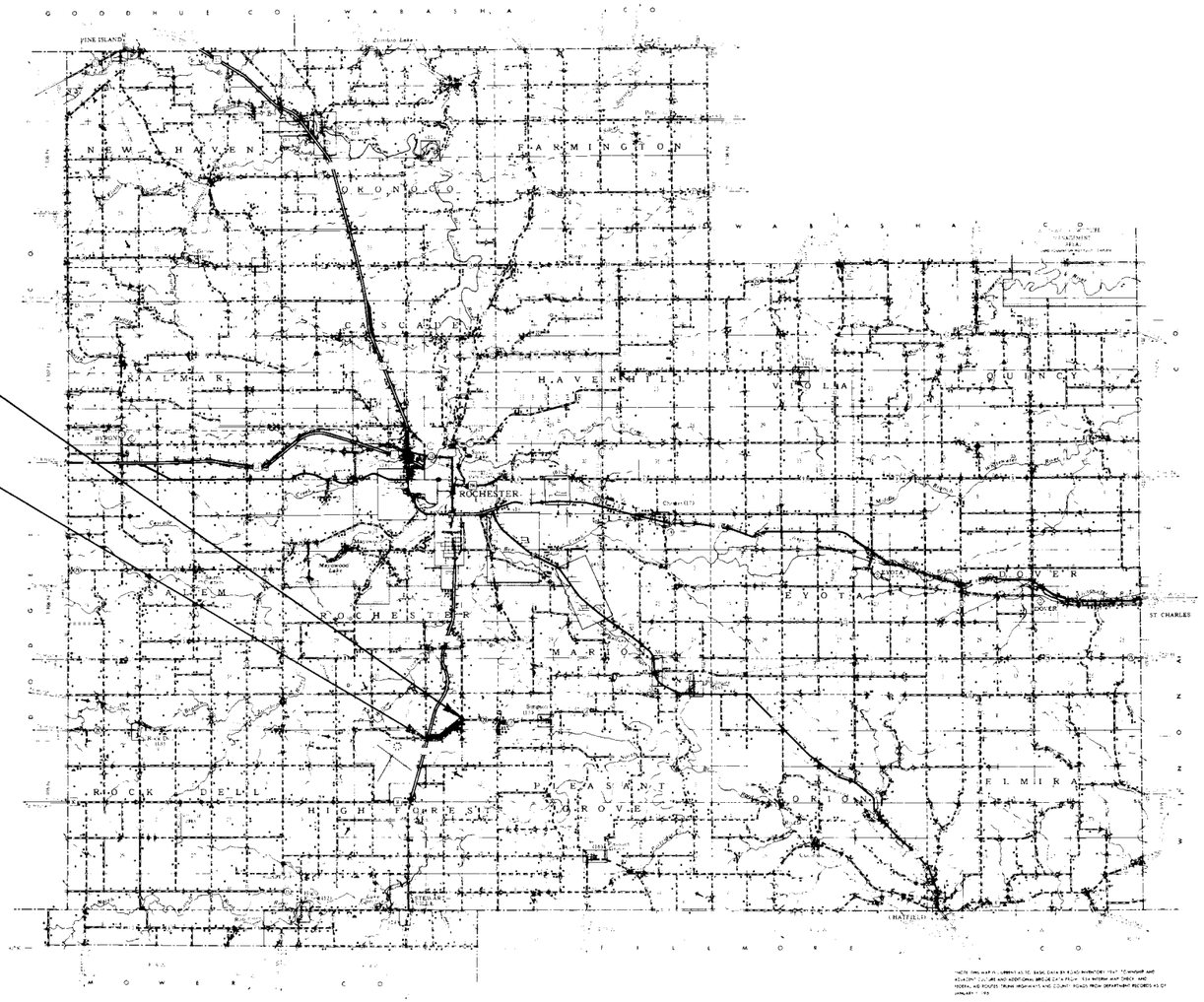
CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT ROAD R/W LINE
LIMITED ACCESS
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
STEAM RAILROAD
ELECTRIC RAILROAD
RAILROAD RIGHT-OF-WAY LINE
CREEK
RAPIDS OR WATERFALL
DRY RUN
DRAINAGE DITCH
HIGH TENSION LINE
POWER POLE LINE
TELEPHONE OR TELEGRAPH LINE
TELEPHONE CONDUIT
GUARD RAIL
WIRE FENCE
RAILROAD SNOW FENCE
BOARD OR HIGHWAY SNOW FENCE
STONE WALL OR FENCE
GAS MAIN
WATER PIPE
SEWER PIPE
DRAIN TILE
GRAVEL PIT
SAND PIT
CLAY PIT
ROCK QUARRY
SPRINGS
MARSH

TIMBER
BRUSH
ORCHARD
ROCK LEDGE
SAND
EDGE OF CUT
TOE OF EMBANKMENT
CATCH BASIN
MANHOLE
DROP INLET
FIRE HYDRANT
ARC LAMP
OTHER LAMPS (State Kind)
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
CATTLE GUARD
OVERHEAD (Highway Over)
UNDERPASS (Highway Under)
ABUTMENT, WALL & PIER
BRIDGE
CULVERT
BUILDING (One Story Frame)
C-CONCRETE S-STONE T-TILE B-BRICK ST.-STUCCO
HEDGE
IRON PIPE
STONE MONUMENT
WOOD STAKE OR NUB
MEANDER CORNER

T.108 N. R.24 W. — 35 36 / 2 1 — R.24 W. T.107 N.
CENTER SECTION 35 T.108 N. R.24 W.
12 / 13

NOTE: SECTION NUMBERS READ FROM THE SOUTH



End S.A.P. 55-616-02
Sta. 200+88.02

Begin S.A.P. 55-616-02
Sta. 142+64.95

—SPECIFICATIONS—

THE "SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED MAY 1, 1959, AND SUBMITTED FOR APPROVAL BY THE DIVISION ENGINEER OF THE BUREAU OF PUBLIC ROADS ON MARCH 26, 1959, SHALL GOVERN.

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR Grading, Box Culvert and Crushed Rock Wearing Course

County State Aid Highway No. 16

BETWEEN T.H. 63 AND CSAH 20

From 695' East of the SW Corner of the NW 1/4 NW 1/4 Sec 11 T105N-R14W To 1144' N. and 238' E. of the SW Corner Sec 1 T105N-R14W

Give proper reference to Sections, Township and Range

GROSS LENGTH 5823.07 FEET 1.1029 MILES
BRIDGES LENGTH —— FEET —— MILES
EXCEPTIONS LENGTH —— FEET —— MILES
NET LENGTH 5823.07 FEET 1.1029 MILES

MINN. PROJ. _____

SCALES
PLAN, 1 Inch= 100 Feet
PROFILE, Horz. 1 Inch= 100 Feet, Vert. 1 Inch= 10 Feet
WORKING PLANS: Horz. 1 Inch=100 Feet; Vert. 1 Inch=10 Feet; Cross-Section 1 Inch= 10Feet

LAYOUT
Scale, 1 Inch= 10,560Feet

INDEX OF SHEETS

Sheet No. 1. Title Sheet & Layout Map
" No. 2. Est. Quantities & Typical Sec.
" No. 3. To 5 Plan & Profile
" No. 6 To 15 Cross Sections
" No. 16 Int. of C.R. 1 Cross Sections

Design Speed 50 M.P.H.

Projected ADT 250

ALL FEDERAL, STATE AND LOCAL LAWS WILL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

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

E. Erickson DATE 2-8-63
COUNTY ENGINEER
Olmsted COUNTY REG NO 4207

RECOMMENDED FOR APPROVAL Claude F. Shilney 1963
DISTRICT ENGINEER S.A.I.

RECOMMENDED FOR APPROVAL _____ 19__

APPROVED _____ 19__
STATE AID ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

Minn. Proj. No. _____ State Proj. No. _____ State Aid Project No. 55-616-02

Olmsted County, Minnesota County Proj. No. _____ Plan No. _____ Sheet No. 1 of 16 Sheets

H. A. ROGERS CO. Minneapolis

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	2.12
2101.502	Clearing	Tree	42
2101.506	Grubbing	Acre	2.12
2101.507	Grubbing	Tree	55
2104.501	Remove Portable Culverts	Linear Feet	238
2104.520	Remove Old Structure Concrete Sta. 185+00	Structure	1
2104.520	Remove Old Structure Concrete Sta. 200+80	Structure	1
2105.501	Class "A" Excavation	Cubic Yard	63,422
2109.501	Obliterate Old Road	Acre	4.71
2130.501	Water	M. Gallon	87
2252.527	Crushed Rock Wearing Course	Cubic Yard (V.M.)	3,472
2411.501	Concrete	Cubic Yard	156.24
2411.525	Class "U" Excavation	Cubic Yard	260
2411.541	Reinforcement Bars	Pound	23,301
2501.511-18"	F&I CMP Culverts - 18"	Linear Feet	304
2501.521-24"	F&I SCP Culverts - 24"	Linear Feet	204
2501.521-30"	F&I SCP Culverts - 30"	Linear Feet	80
2515.531-18"	F&I Metal Aprons for CMP - 18"	Apron	20
2515.541-24"	F&I Conc. Aprons for SCP - 24"	Apron	6
2515.541-30"	F&I Conc. Aprons for SCP - 30"	Apron	2
2108.511	Channel Excavation (Class "A")	Cubic Yard	366

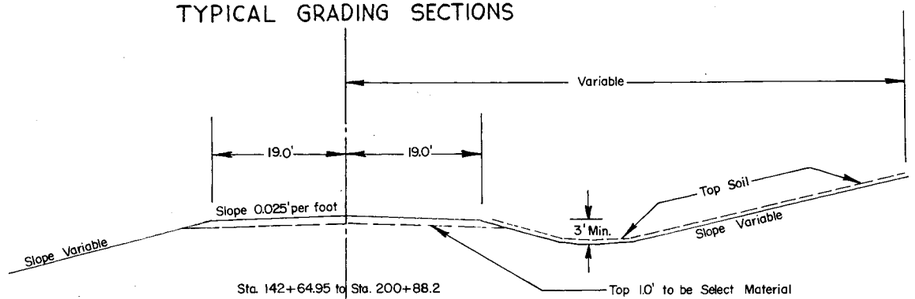
Note: Item 2252.527 Includes 205 Cu.Yds. for Approaches and 406 Cu.Yds. for County Road "I"

STANDARD DETAIL PLATES

THE FOLLOWING STANDARD DETAIL PLATES, APPROVED BY THE BUREAU OF PUBLIC ROADS, SHALL APPLY ON THIS PROJECT.

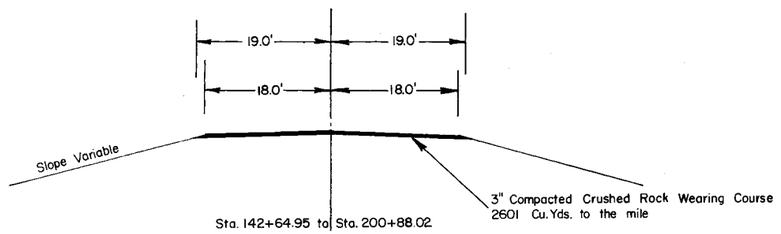
PLATE NO.	DESCRIPTION
3100B	Conc. Apron for Reinforced Conc. Pipes
3123A	Metal Apron for CMP Pipes

TYPICAL GRADING SECTIONS



Sta. 142+64.95 to Sta. 200+88.2

TYPICAL BASE & SURFACE SECTIONS



Sta. 142+64.95 to Sta. 200+88.02

SPECIAL DETAILS

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

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

Note: Subgrade Treatment:
Excavate 1.0' below profile grade for compaction, as shown on plan and Profile sheets. Excavation has been computed and is included in balanced quantities. Backfill with select material from R.O.W. Tapers shall be 50:1 in all cases.

Note: Place sectional concrete pipe on Class "C" bedding.

Note: All dimensions and slopes shown on typical sections are approximate.

DAHMS PHOTO PRINT CO
MPLS. 1, MINN

FED. ROAD DIST. No	STATE	FEDERAL PROJ. No	FISCAL YEAR	SHEET No.	TOTAL SHEETS

PLAN — SURVEYED ____ PLOTTED ____ GRADES CHECKED ____ ALIGNMENT CHECKED ____ RT. OF WAY CHECKED ____ NOTE BOOK ____ NO. ____ BY ____ DATE ____

144+20 F.E. Lt.
Inpl 15"x30' CMP
Remove
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

148+36 ℄ Culv.
Inpl 18"x30' CMP
Remove
No Culv. Req'd

150+89 F.E. Lt.
No Culv. Inpl
F&I 18"x 28' CMP
F&I 2-18" Metal Aprons
For CMP

P.I. 142+64.95

P.C. 152+33.62

P.I. 156+24.6
Lt 37°40'
5°00'
390.98'
753.334'

Existing R/W
P.T. 159+38.6
159+38.6
159+38.6

N62°20'E

Highway 63

Bridge No. 9407

Woods & Brush

Woods

Woods

Farm Ent.

Bearing Assumed Due East

Begin S.A.P. 55-616-02
Sta. 142+64.95

Truck Number

154+72 ℄ Culv(old road)
Inpl 18"x30' CMP
Remove
F&I 24"X 70' SCP Class II
F&I 2-24" Conc Aprons for SCP
Place Ditch Block

155+70 F.E. Rt (old road)
No Culv. inpl
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons

PROFILE — SURVEYED ____ PLOTTED ____ GRADES CHECKED ____ ALIGNMENT CHECKED ____ STRUCTURE NAME NO. CHKD ____ NOTE BOOK ____ NO. ____ BY ____ DATE ____

Cl. 0.14 Acre Gr. 0.14 Acre — Cl. 0.65 Acre Gr. 0.65 Acre

B.M. Elev. 1295.92'
Std Disc in SE
Abut. Bridge 9407

B.M. Elev. 1261.68'
Spk in Cor Fe Post
93' Rt. Sta. 155+86

Profile 75' Lt.
Profile 75' Rt.

Finished ℄ Grade

Present ℄ Grade

-2.2%

-5.6%

P.I. +00
Elev. 58.0
600' V.C.
M=2.55

P.I. +00
Elev. 24.4
600' V.C.
M= 4.2

Elev. 64.6

Elev. 41.2

P.V.C. +00

P.V.T. & P.V.C. +00

Inlet 58.8

Outlet 53.5

EXC 333
EMB 121

EXC 878
EMB 597

EXC 7211
EMB 4567

EXC 7997
EMB 5146

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 142+90 to Sta. 144+20

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 148+20 to Sta. 152+00

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 156+75 to Sta. 162+10

1290 1280 1270 1260 1250 1240 1230 1220 1210

140 145 150 155 160 165

SINGLE PLAN & PROFILE - DOTTED
CHARLES BRUNING COMPANY, INC.

State Proj. No. 55-616-02 Sheet No. 3 of 16 Sheets

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS

PLAN — DATE / BY / SURVEYED / PLOTTED / ALIGNMENT CHECKED / R/T OF WAY CHECKED / NOTE BOOK / NO.

PROFILE — DRAWN / PLOTTED / GRADES CHECKED / NOTE BOOK / NO. / STRUCTURE NO.&ITMS OMND

Equation
P.T. 159+85.35 = 159+80.48

163+90 F.E. Lt
No Culv Inpl
No Culv Req'd

165+67 ℄ Culv
Inpl 18"X32' CMP
Remove
F&I 30"X80' SCP Class II
F&I 2-30° Conc Aprons
For SCP

170+00 F.E. Lt
Inpl 8"X24' CMP
Remove
F&I 18"X32' CMP
F&I 2-18" Metal Aprons
For CMP

180+00 Place FE Lt
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

185+70 ℄
Construct Box Culv.
C128 X 72' +30°
Concrete 156.24 Cu.Yds.
Reinf. Bars 23,301 Lbs.
Class "U" Exc. 260 Cu.Yds.
Channel Exc. 366 Cu.Yds.

190+00 Place FE Rt
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

P.C. 189+79.83

Proposed Channel Change

Obliterate Old Road 1.97 Acres

166+20 F.E. Rt.
Inpl 18"X20' CMP
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

P.O.T. 170+00

172+87 F.E. Rt.
No Culv Inpl
F&I 18"X32' CMP
F&I 2-18" Metal Aprons
For CMP

176+57 ℄ Culv. (old road)
Inpl 18"X34' CMP
Remove
F&I 24"X66' SCP Class II
F&I 2-24" Conc Aprons
For SCP
Place Ditch Block

179+00 F.E. Rt (old road)
No Culv. Inpl
F&I 18"X32' CMP
F&I 2-18" Metal Aprons
For CMP

Woods · Basement · Pump · Gas · Tile · Fence · F.E. · Prop. Ctr. Ln.

Cl. 0.89 Acre Gr. 0.89 Acre · Cl. 22 Gr. 22 — Cl. 0 Gr. 10 — Cl. 0.32 Acre Gr. 0.32 Acre — Cl. 0.12 Acre Gr. 0.12 Acre · Cl. 9 Gr. 12 — Cl. 2' Gr. 2

B.M. Elev. 1224.21'
Spk in PP 28' Lt
Sta. 168+75

B.M. Elev. 1188.29'
Spk in PP 84' Rt
Sta. 178+18

Profile 75' Lt.
Profile 75' Rt.
Finished ℄ Grades
+0.0% Elev. 24.4
Inlet 14.9
Outlet 10.4
P.I.+00 Elev. 24.4 600' V.C. M=4.2
P.V.T. & P.V.C.+00
P.I.+50 Elev. 24.4 900' V.C. M=5.625
P.V.T.+00 Elev. 0.9
-50%
P.V.C.+66.30434 Elev. 88.58478
Inlet 89.5 Outlet 88.5
P.I.+16.3043 Elev. 46.0848 1700' V.C. M=19.55
Outlet 52.9 Inlet 53.5

EXC 9880 EMB 6388
EXC 2819 EMB 1777
EXC 6147 EMB 3943
EXC 5162 EMB 3295
EXC 2017 EMB 1323

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 167+90 to Sta. 175+10

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 179+50 to Sta. 184+70

Present ℄ Grades

FED. ROAD DIST. NO.	STATE	FEDERAL PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS

PLAN — SURVEYED: DATE; PLOTTED; ALIGNMENT CHECKED; RT. OF WAY CHECKED; NOTE BOOK; NO.; BY

PROFILE — SURVEYED: DATE; PLOTTED; CROSS SECTIONED; B. M.'s NOTED; STRUCTURE NOTATIONS CHKD; NOTE BOOK; NO.; BY

P.I. 193+46.70
Δ LT 10°38'
D 1°27'
T 367.87'
L 733.31'

P.C. 189+78.83

P.T. 197+12.14

P.O.T. 198+04.10

Inpl ℄ Culv. (old road)
W33X26' Conc Box Culv.
Remove

CSAH 16

N52°20'E

50'

50'

190

195

200

N41°42'E

91°21'

76.46'

97.17'

86.75'

55.53'

53.7'

50.6'

Construct 80' Shoulder Radius

194+60 Construct Connection to CR "I" — 80' Shoulder Radius

P.T. 6+36.31

P.I. 200+88.02

P.I. 4+68
Δ LT 42°31'
D 12°00'
T 186.0'
L 354.31'

P.C. 2+82.0

36.15'

52.67'

Inpl ℄ Culv(old road)
24"X 38' CMP
Remove
Sta. 6+00
F&I 24"X68' SCP Class II
F&I 2-24" Conc. Aprons
For SCP

4+00 F.E. Rt
No Culv. Inpl
No Culv Req'd

P.I. 0+00
Inpl SPK

0+00 Drive Lt
F&I 18"X32' CMP
F&I 2-18" Metal Aprons
For CMP

CSAH 16

28.05'

CAR I

101.45'

Cl. 9 Gr. 9 → Obliterate Old Road 2.74 Acres

B.M. Elev. 1190.01'
Spk in PP 50' Rt
Sta. 197+56

B.M. Elev. 1195.21'
Spk in Tel. Pole
50' N.E. of P.I.

B.M. Elev. 1174.54'
Spk in PP 100' S.E.
of Int. CAR I & 16

Profile 75' LT
Profile 75' RT

Finished ℄ Grades

Present ℄ Grades

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 189+25 to Sta. 192+20

EXC 7135
EMB 4712

P.I. +00
Elev. 91.6
450' V.C.
M= 1.9125

+4.2%

Elev. 81.78478
P.V.C. +75
Elev. 82.15

P.V.T.

Elev. 93.44

P.V.T. +25

+0.8%

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 197+10 to Sta. 200+00

EXC 5276
EMB 3615

EXC 281
EMB 1027

Note: 1208 Cu.Yds. from CR "I" for embankment. Bal. 200+00 to 200+75

Line for New Intersection of CAR "I" & CSAH 16

P.I. +00
Elev. 85.1
400' V.C.
M = 1.60

P.V.C. +00
Elev. 80.5

P.V.T. +00
Elev. 83.3

Inlet 75.7
Outlet 75.4

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 0+00 to Sta. 1+40

EXC 7955
EMB 3899

SINGLE PLAN & PROFILE - DOTTED
CHARLES BRUNING COMPANY, INC.

State Proj. No. 55-616-02 Sheet No. 5 of 16 Sheets