FORM 100-A '65

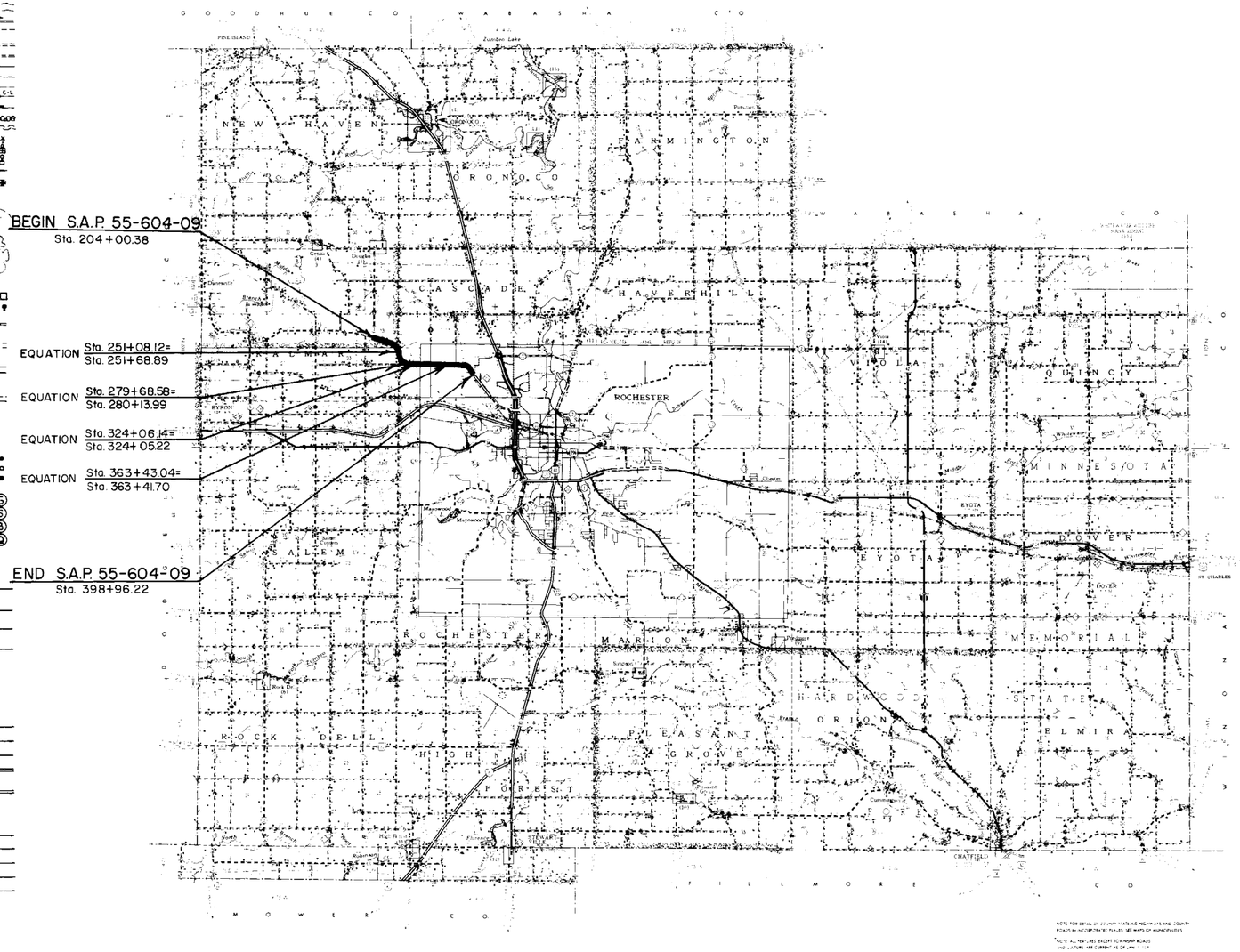
Fed. Proj. No.

PLANS SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
PRESENT RIGHT OF WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY LINE
RIVER OR CREEK (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE (C-L)
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN (C.B.)
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame)
F FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST STUCCO
IRON PIPE OR ROD
MONUMENT (STONE, CONCRETE, OR METAL)
WOODEN HUB
GRAVEL PIT (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN (G)
WATER MAIN (I)
CONDUIT
TELEPHONE CABLE IN CONDUIT (T)
ELECTRIC CABLE IN CONDUIT (P)
TELEPHONE MANHOLE (T)
ELECTRIC MANHOLE (P)
BURIED TELEPHONE CABLE (T-BUR)
BURIED ELECTRIC CABLE (P-BUR)
AERIAL TELEPHONE CABLE (T-AE)
SEWER, (SANITARY OR STORM)
SEWER MANHOLE



STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR Grading & Aggregate Base

COUNTY STATE AID HIGHWAY NO. 4

BETWEEN C.S.A.H. 3 **AND** C.R. 151

From 1,621.6' North & 1,370.1' West of S1/4 Cor. Sec. 13 T107N-R15W
(Give proper reference to Sections, Township and Range)

To 1,669.77' N.W. of S1/4 Cor. Sec. 21 T107N-R14W

GROSS LENGTH	19,391.92	FEET	3.672 MILES
BRIDGES-LENGTH	0	FEET	0 MILES
EXCEPTIONS-LENGTH	0	FEET	0 MILES
NET LENGTH	19,391.92	FEET	3.672 MILES

INDEX OF SHEETS

Sheet No 1 Title Sheet & Layout Map
" No 2 Est. Quantities & Typical Sec
" No 3 To 9 Plan & Profile
" No 10 To 42 Cross Sections

DESIGN SPEED 50 M. P. H.

PROJECTED A. D. T. 1,925
H.C.A.D.T. less than 150

9 TON DESIGN

SOIL FACTOR 130

— SPECIFICATIONS —
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JANUARY 1, 1972, SHALL GOVERN.

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES 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.

A. G. Schellhammer (COUNTY ENGINEER) DATE August 28 1973

Olmsted COUNTY REG. NO. 8284

RECOMMENDED FOR APPROVAL Karl H. Pettinen (DISTRICT STATE AID ENGINEER) 8/28 1973

RECOMMENDED FOR APPROVAL S. F. Brandy 9-10 1973

APPROVED 9/10 1973 William M. Gray (STATE AID ENGINEER)

Minn. Project No. _____ S.A.P. 55-604-09 State Project No. _____

Olmsted County, Minnesota. County Proj. No. _____ Plan No. _____ Sheet 1 of 42 Sheets

ALBINSON, INC.

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES
	2101.502	Clearing	Tree		161	161
	2101.507	Grubbing	Tree		121	121
	2104.501	Remove Pipe Culverts	Lin. Ft.		1,723	1,723
	2104.509	Remove Box Culverts	Each		3	3
①	2104.521	Salvage Pipe Culvert	Lin. Ft.		90	90
	2105.501	Common Excavation	Cu. Yd.		210,578	210,578
②	2105.503	Rock Excavation	Cu. Yd.		7,032	7,032
	2105.507	Subgrade Excavation	Cu. Yd.		22,850	22,850
③	2105.523	Common Borrow (E.V.)	Cu. Yd.		2,051	2,051
	2130.501	Water	M-Gal.		50	50
④	2211.501	Aggregate Base Class 2	Ton		20,718	20,718
	2413.511	Timber Box Culv. 48" X 60"	Lin. Ft.		170	170
	2413.512	Timber Box Culv. End Section 48" X 60"	Each		4	4
	2501.511	18" C.S. Pipe Culvert	Lin. Ft.		1002	1,002
⑤	2501.511	24" C.S. Pipe Culvert	Lin. Ft.		46	46
	2501.511	48" C.S. Pipe Culvert	Lin. Ft.		70	70
	2501.511	24" R.C. Pipe Culvert Class III	Lin. Ft.		786	786
	2501.511	24" R.C. Pipe Culvert Class III	Lin. Ft.		176	176
	2501.511	30" R.C. Pipe Culvert Class III	Lin. Ft.		90	90
	2501.511	30" R.C. Pipe Culvert Class II	Lin. Ft.		104	104
	2501.511	54" R.C. Pipe Culvert Class II	Lin. Ft.		100	100
	2501.511	60" R.C. Pipe Culvert Class II	Lin. Ft.		84	84
	2501.515	18" G.S. Pipe Aprons	Each		64	64
	2501.515	24" G.S. Pipe Aprons	Each		3	3
	2501.515	48" G.S. Pipe Aprons	Each		2	2
	2501.515	24" R.C. Pipe Aprons	Each		20	20
	2501.515	30" R.C. Pipe Aprons	Each		4	4
	2501.515	54" R.C. Pipe Aprons	Each		2	2
	2501.515	60" R.C. Pipe Aprons	Each		2	2
	2501.521	28" Span R.C. Pipe-Arch Culv. Class II A	Lin. Ft.		80	80
	2501.521	102" Span R.C. Pipe-Arch Culv. Class III A	Lin. Ft.		66	66
	2501.521	102" Span R.C. Pipe-Arch Culv. Class IV A	Lin. Ft.		80	80
	2501.525	28" Span R.C. Pipe-Arch Aprons	Each		2	2
	2501.525	102" Span R.C. Pipe-Arch Aprons	Each		2	2
①	2501.571	Install Concrete Culverts	Lin. Ft.		90	90
	2511.501	Random RipRap Class "B"	Cu. Yd.		52	52
	2511.504	Filter Blanket Type 2	Cu. Yd.		26	26

① Aprons included in length.

② Includes 961 Cu. Yds. of overbreak.

③ To be Excavated Volume and source to be provided by county, as noted on Plan & Profile Sheet No. 5.

④ Includes 300 Tons for drives, 350 Tons for public roads and 390 Tons for field ent.

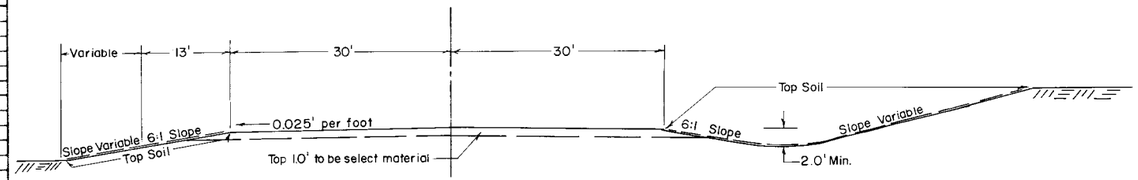
⑤ 1-45° Elbow included in quantity.

STANDARD DETAIL PLATES

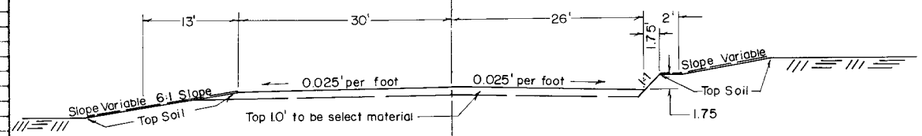
THE FOLLOWING STANDARD DETAIL PLATES, APPROVED BY THE BUREAU OF PUBLIC ROADS, SHALL APPLY ON THIS PROJECT.

PLATE NO	DESCRIPTION
0002 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 F	REINFORCED CONCRETE PIPE
3014 F	REINFORCED CONCRETE PIPE-ARCH DETAIL
3040 C	CORRUGATED METAL PIPE
3060 A	TIMBER BOX CULVERT
3100 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 D	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3122 F	STEEL APRON FOR C.S. PIPE-ARCH CULVERT
3123 F	STEEL APRON FOR C.S. PIPE
3124 A	STEEL APRON CONNECTION
3145 A	CONCRETE PIPE JOINT TIES
8000 D	STANDARD BARRICADES
8008 D	CONTRACTORS SIGN
9000 B	APPROACHES AND ENTRANCES
3133 A	RIP RAP AT RCP OUTLETS

TYPICAL GRADING SECTIONS



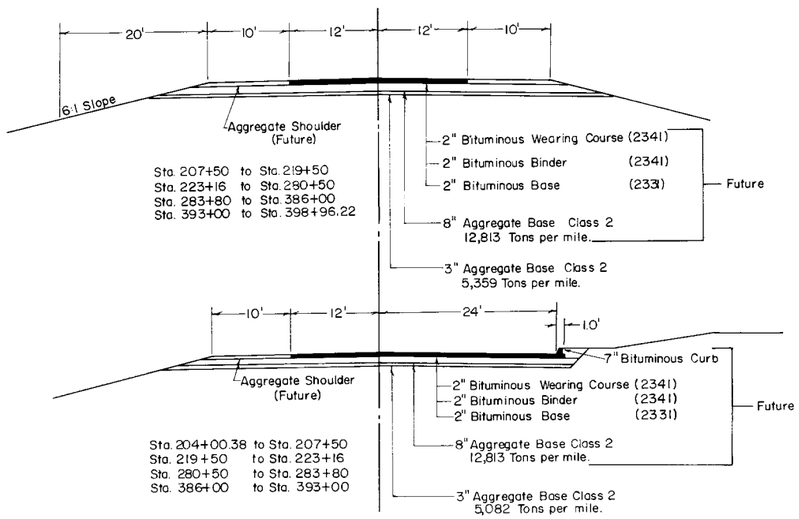
Sta. 207+50 to Sta. 219+50
Sta. 223+16 to Sta. 280+50
Sta. 283+80 to Sta. 386+00
Sta. 393+00 to Sta. 398+96.22



Sta. 204+00.38 to Sta. 207+50
Sta. 219+50 to Sta. 223+16
Sta. 280+50 to Sta. 283+80
Sta. 386+00 to Sta. 393+00

SPECIAL DETAILS

TYPICAL BASE AND SURFACING SECTIONS



Sta. 207+50 to Sta. 219+50
Sta. 223+16 to Sta. 280+50
Sta. 283+80 to Sta. 386+00
Sta. 393+00 to Sta. 398+96.22

Sta. 204+00.38 to Sta. 207+50
Sta. 219+50 to Sta. 223+16
Sta. 280+50 to Sta. 283+80
Sta. 386+00 to Sta. 393+00

Note: Material 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 borrow excavation will be made for spreading material as above provided, nor will any use resulting voids in excavation prior to placing the topsoil be measured for payment.

Note: Corrugated Steel and Reinforced Concrete pipe culvert excavation will be considered incidental, and will be under unit price for "Pipe Culvert."

Note: Subgrade Treatment:
Excavate 1.0' below grade for construction, as shown on the plan and profile sheets. Excavation has been accounted for in the Grading Quantities. Backfill with select material from 1.0' below subgrade to 50% in all cases.

Note: Pipe Bedding for Culverts Pipe as Class "B" and Class "C" Bedding. All bedding to be considered as incidental and no direct compensation shall be made thereon.

Note: All dimensions and depths on the typical sections are approximate.

S.A.P. 55-604-09

Minn. Proj. No. _____ State Project No. _____

Olmsted County, Minn. Proj. No. _____ Plan No. _____ Sheet No. 2 of 42 Sheets

ALBINSON, INC. MINNEAPOLIS

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

204+00 CSAH 3 Lt
No Culv Inpl
No Culv. Req'd

211+92 FE Lt
Inpl 18"X20' CMP
Remove
18"X28' CS Pipe Culvert
2-18" G.S. Pipe Culv. Aprons

215+90 ℄ Culv
Inpl 18"X48' CMP
Remove
24"X 92' R.C. Pipe Culvert
2-24" R.C. Pipe Culv. Aprons
Place Culvert on "C" Bedding
F&I CONCRETE PIPE JOINT TIES.

Class II

216+10 FE Lt
No Culv Inpl
No Culv. Req'd

220+00 Res. Drive Lt.
Inpl. 18" X 32' CMP
Remove
No Culv. Req'd.

223+16 Form. Ent Lt
Inpl 15"X24' CMP
Remove
No Culv. Req'd

226+06 FE Lt
Inpl 15"X24' CMP
Remove
No Culv. Req'd.

226+33 ℄ Culv
Inpl 18"X 62' CMP
Remove
24"X 96' RCPipe Culv. Class II
2-24" R.C. Pipe Culv. Aprons
Place Culv. on "C" Bedding
F&I CONCRETE PIPE JOINT TIES

P.I. 220+86.81
Δ Lt 0°57'30"
D 0°09'
T 319.70'
L 639.0'

P.C. 217+67.11

P.T. 224+06.11

P.O.T. 232+00

P.I. 204+00.38

Subgrade
Δ 72°30'
T 36.7'
R 50'

CSAH 3

CSAH 4

100'

S71°48'E

S72°45'30"E

Ho.

Sewer Outlet

Barn

BEGIN S.A.P 55-604-09
Sta. 204+00.38

204+19 Form Ent Rt
Inpl 18"X28' CMP
Remove
18" span X 28' C.S. Pipe
2-18" G.S. Aprons

207+10 Const. Res. Drive Rt.
18" X 28' C.S. Culv.
2-18" G.S. Pipe Culv. Aprons

211+90 FE Rt
No Culv Inpl
18" X 28' C.S. Culv.
2-18 G.S. Pipe Aprons

P.O.S.T. 217+70.05

219+00 Const. ℄ Culvert
28" Span X 80' R.C. Pipe-Arch Culv. Cl. IIA
2-28" Span R.C. Pipe-Arch Aprons
Place Culvert on "B" Bedding

223+16 FE Rt
No Culv Inpl
No Culv. Req'd.

231+70 FE Rt
No Culv Inpl
18"X 28' C.S. Pipe Culvert
2-18" G.S. Pipe Culv. Aprons

PLAN

PROFILE

CL. 4 GR. 6

BM Elev. 1225.91'
Spk in TP 27' Rt
Sta. 204+01

BM Elev. 1210.55'
Spk in PP 35' Lt
Sta. 217+01

BM Elev. 1189.92'
Spk in TP 34' Rt
Sta. 229+42

Subgrade Elevations

Inlet Elev. 21.3
Outlet Elev. 21.0

P.I. +00
Elev. 24.6
400' V.C.
M= 0.65

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

P.I. +00
Elev. 23.0
400' V.C.
M= 0.7

-1.8 %

P.I. +00
Elev. 12.2
400' V.C.
M=0.5

-0.8 %

Inlet Elev. 07.2
Outlet Elev. 02.1

Inlet Elev. 05.5
Outlet Elev. 05.0

P.I. +00
Elev. 05.8
400' V.C.
M= 0.6

Inlet Elev. 92.4
Outlet Elev. 85.2

-2.4 %

P.I. +00
Elev. 770
600' V.C.
M= 1.05

Profile 75' Lt
Profile 75' Rt

Subgrade Treatment
Excavate 1.0' Below Profile Grade
Sta. 204+00.4 to Sta. 241+50

COMMON EXC. 4,438 Cu. Yds.
SUBGRADE EXC. 1,645 Cu. Yds.
EMB 3,052 Cu. Yds.

COMMON EXC. 1,955 Cu. Yds.
SUBGRADE EXC. 542 Cu. Yds.
EMB 1,340 Cu. Yds.

COMMON 2,679 Cu. Yds.
SUBGRADE 930 Cu. Yds.
EMB 1,787 Cu. Yds.

COMMON 1,624
SUBGRADE 461
EMB 1,137

COMMON EXC. 36,867 Cu. Yds.
SUBGRADE EXC. 3,081 Cu. Yds.
EMB 25,733 Cu. Yds.

Present ℄ Grades

PROFILE

DATE 8-1-68
SCALE 1"=100'
DRAWN BY
CHECKED BY
NO.

PLANS NO. 5891

OLMSTED COUNTY, MINN. C.S.A.H. 4 State Proj. No. S.A.P. 55-604-09 Sheet No. 3 of 42 Sheets

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

244+26 Twp. Rd. Lt.
Inpl. 18" X 32' CMP
2 Aprons
No Change

244+72 ℄ Culv
Inpl 86 X 60'
Remove Structure
102" Span X 80' R.C. Pipe-Arch CL. IV A
102" Span X 66' R.C. Pipe-Arch CL. III A
2-102" Span R.C. Pipe-Arch Aprons
Place Culv. on "B" Bedding
F&I Approved Joint Fasteners
PLACE RIP RAP AT OUTLET AS PER STANDARD PLATE 3133A
RANDOM RIP RAP CL. "B" 52 C.Y. 18" Depth.
FILTER BLANKET 26 C.Y.
TYPE 2 9" Depth

P.I. 245+00.99
Δ Rt 71°56'
D 5°00'
L 831.54'
T 438.67'
E 269.92'
Super 0.056'/foot
270' Transition

252+71 Form Ent. Lt
Inpl 18"X24' CMP
Remove
18" X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

P.O.T. 252+44.16

EQUATION

252+33 FE Rt
Inpl 18"X24' CMP
Remove
18"X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

256+73 ℄ Culv
Inpl 18'X54' CMP
Remove
No Culvert Req'd

261+62 Form Ent. Lt
Inpl 18"X30' CMP
Remove
18" X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

265+34 Form Ent. Lt
Inpl 15"X24' CMP
Remove
18" X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

P.I. 273+15.25
Δ Lt 89°00'
D 5°00'
L 1126.09'
T 1780.00'
E 460.69'
Super 0.056'/foot
270' Transition

P.I. 253+98.28 5/8" Reinf. Rod
Δ Lt 90°00'30"

P.C. 261+88.58

P.C. 263+76.64

265+22 FE Rt
Inpl 18"X24' CMP
Remove
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

266+43 ℄ Culv
Inpl 22"X48" CMP
Remove
24" X 84' R.C. Pipe Culv. CL. II
2-24" R.C. Pipe Culv. Aprons
Place Culv. on "C" Bedding
Const. Ditch Block

P.C. 236+69.45

BM Elev. 1131.72'
☐ on SW Cor Hdwl
Sta. 244+76

BM Elev. 1173.28'
Hub 33' Rt
Sta. 255+00

BM Elev. 1154.89'
Spk in TP 30' Lt
Sta. 265+22

Subgrade Elevations
Present ℄ Grades
Elev.
P.V.T. +00
P.V.C. +50
-3.8%
Profile 75' Lt
Profile 75' Rt
P.I. +50
Elev. 37.1
800' V.C.
M=8.2
Elev. 52.3
Elev. 54.7
Elev. 55.22702
P.V.T. +50
P.V.C. +61.97785
+08.12
EQUATION
P.I. +22.74785
Elev. 77.22702
1000' V.C.
M= 7.0
-68.89
Elev. 71.22703
Elev. 70.9
-1.2%
P.V.T. + 22.74785
P.V.C. +50
P.I. +50
Elev. 67.3
600' V.C.
M= 2.1
Elev. 55.3
-4.0%
Elev. 49.47778
P.V.T. +50
Inlet Elev. 49.0
Outlet Elev. 45.2
P.V.C. +95.55555

Inlet Elev. 23.6
Outlet Elev. 19.2

COMMON EXC. 17,378 Cu. Yds.
SUBGRADE EXC. 1,161 Cu. Yds.
EMB 12,018 Cu. Yds.

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 204+00.4 to Sta. 241+50

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 249+50 to Sta. 266+00

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

P.I. 273+15.25
Δ Lt 89°00'
D 5°00'
T 1126.09'
L 1780.00'
E 460.69

270

275

279

Ho.

24.19
14

Cast Iron Monument

33'

66'

340'

BORROW AREA

47.36

40.78

54.68

62.04

52.28

57.48

64.97

P.T. 279+68.58 = P.O.T. 280+13.99

EQUATION

+68.58 = +13.99

P.O.T. 281+33.12

P.C. 283+16.40

Well

Ho.

P.C.

+85

+80

+91

+42

+12

+65

+90

+81

+86

+18

+30

+67

+12

Tel. Cable

285

290

33'

P.T. 289+83.55

P.C. 293+16.94

Tel. Marker

Ho.

+34

+18

+34

295

33'

+07

+23

+49

296+50

+33

+48

+81

Ho.

P.I. 286+50.0
Δ Lt 1°53.41379
D 0°17'
T 333.60'
L 667.15'
E 0.79'

P.I. 296+50.54
Δ Rt 1°53.41379
D 0°17'
T 333.60'
L 667.15'
E 0.79'

set iron rod Sur Cert 9715 (E.K.)

280+80 FE Lt
Inpl 18"X24' CMP
Remove
No Culv Req'd

281+12 FE Lt
No Culv Inpl
No Culv. Req'd

283+42 Driveway Lt
Inpl 15"X32' CMP
2-15" Metal Aprons
Remove (36 Lin. Feet)
No Culv. Req'd

290+00 FE. Lt.
Inpl. 18" X 30' CMP
Remove
18" X 28' C.S.P. Culv.
2-18" G.S. Aprons

285+67 Drive Lt.
Inpl. 18" X 30' CMP
Remove
18"X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

292+27 ℄ Culv
Inpl 42"X66' CMP
Remove

Sta. 292+31
60"X 84' R.C. Pipe Culvert CL. II
2-60" R.C. Pipe Culv. Aprons
Place Culvert on "C" Bedding
F&I CONCRETE PIPE JOINT TIES

292+36 ℄ Culv
Inpl 42" X 66' CMP
Remove

294+34 FE Lt
Inpl 18"X36' CMP
Remove
24"X 28' C.S. Pipe Culvert
2-24" G.S. Pipe Culv. Aprons

273+83 ℄ Culv
Inpl 24"X 4' CMP
Remove (78 Lin. Feet)
24"X 114' R.C. Pipe Culv. CL. II
2-24" R.C. Pipe Culvert Aprons
Place Culvert on "C" Bedding
F&I CONCRETE PIPE JOINT TIES

272+70 CR #104 Rt
Inpl 24"X 78' R.C. Pipe Class III
Inpl 2-24" R.C. Pipe Aprons
Salvage (90 Lin. Feet Aprons Included)
Install 70' Right 24"X 90' R.C.P.
Culvert Aprons Included in length

280+81 FE Rt
Inpl 18"X24' CMP
Remove
18"X 28' C.S. Pipe Culvert
2-18" G.S. Pipe Culv. Aprons

283+30 Driveway Rt
Inpl 18"X30' CMP
Remove
18"X 32' C.S. Pipe Culvert
2-18" G.S. Pipe Culv. Aprons

286+12 FE. Rt
Inpl 18"X30' CMP
Remove
18" X 32' C.S. Pipe Culvert
2-18" G.S. Pipe Culv. Aprons

294+07 Farm Ent. Lt
No Culv Inpl
Move to Sta. 294+20
No Culv. Req'd

297+48 Driveway Rt
No Culv Inpl
No Culv. Req'd.

CL. I - GR. I

BM Elev. 1140.53'
Spk in PP 16' Lt
Sta. 276+64

BM Elev. 1113.14'
Spk in PP 33' Lt
Sta. 286+68

1160
50
40
30
20
1100
1090

℄ Subgrade Elevation

45.8 43.2 41.5 40.7 40.75 41.25 41.75 42.25 42.53965 42.7 42.75 42.15 41.15 40.1 | 40.1 38.5 36.1 33.2 29.7 25.7 21.2 16.4 12.2 08.9 06.5 05.0 04.3 04.6 05.8 08.9 10.9 14.7 19.4 24.3

+0.5%

Elev. 42.53965

+0.4%

SPECIAL DITCH LEFT

P.I. +45.55555
Elev. 39.47778
500' V.C.
M=2.8125

Profile 75' Lt
Profile 75' Rt

P.V.T. +95.55555
Elev. 40.72777

Inlet Elev. 37.0
Outlet Elev. 30.0

P.V.C. 57.93056

37.8 38.2 38.6
+0.4% SPECIAL DITCH Lt.

P.I. +03.34056
Elev. 45.03965
1000' V.C.
M=6.625

Elev. 21.03966

4.8%

P.V.C. + 69.59760
Elev. 17.68

P.V.T. 03.34056

P.I. +19.5876
Elev. 91.4578
1,100' V.C.
M=13.3375
C=.4409

+4.9%

P.V.T. +69.59760
Elev. 17.91

Inlet Elev. 96.0
Outlet Elev. 93.0

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 269+00 to Sta. 271+50 and
Sta. 276+20 to Sta. 284+60

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 287+30 to Sta. 306+70

COMMON EXC.	17,598 Cu. Yds.		
COMMON BORROW	2,051 Cu. Yds. (Excavated Volume)		
SUBGRADE EXC.	2,236 Cu. Yds.		
EMB	13,717 Cu. Yds.		
COMMON EXC.	22,770 Cu. Yds.	EMB	15,455 Cu. Yds.
ROCK EXC.	82 Cu. Yds.		
SUBGRADE EXC.	3,320 Cu. Yds.		

Present ℄ Grades

+17 +50 +70 +69 +63 +81 +66 +50 +60 +50 +50 +50 +20 +58 +34 +86 +60 +57 +63 +44 +45 +25 +36 +46 +86 +26 +41 +33 +62

460 457 450 434 429 426 | 423 419 411 403 382 | 362 368 385 391 | 392 397 415 436 437 438 434 | 430 426 418 | 393 387 375 358 341 314 307 | 275 253 224 204 161 124 095 | 079 070 | 065 050 045 040 039 038 040 047 049 054 | 073 084 102 141 154 183 211 230

270 275 280 285 290 295

ENGINEER NO. 5697

OLMSTED COUNTY, MINN. CSAH. 4 State Proj. No. S.A.P. 55-604-09 Sheet No. 5 of 42 Sheets

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

Construct F.Ent. Lt. Sta. 315+00
18"X 28' C.S. Pipe Culvert
2-18" G.S. Pipe Culvert Aprons

299+86 FE Lt
No Culv Inpl
No Culv. Req'd

299+93 ℄ Culv
Inpl 24"X48' CMP
Remove
24" X 98' R.C. Pipe Culv. CL.II
2-24" R.C. Pipe Culv. Aprons
Place Culv. on "C" Bedding
F&I CONCRETE PIPE JOINT TIES

320+65 Twp Rd Lt
Inpl 48"X 36' CMP
Remove
48" X70' C.S. Pipe Culvert
2-48" G.S. Pipe Culv. Aprons

P.I. 320+64.20
Δ Lt 3°59.41379
D 0°35'
T 342.10'
L 684.04'
E 5.95'

323+64 ℄ Box Culv
Inpl 46 X 29'
Remove Structure
54"X100' R.C.Pipe Culv.Cl.II
2-54" R.C.Pipe Culv. Aprons
Place Culv. on "C" Bedding
F&I CONCRETE PIPE JOINT TIES

329+79 Form Ent. Lt
Inpl 18"X24" CMP
Remove
18"X32' C.S. Pipe Culv.
2-18" G.S.Pipe Culv. Aprons

330+49 Form Ent. Lt
No Culv Inpl
No Culv. Req'd

EQUATION
P.T. 324+06.14 =
P.O.T. 324+05.22

P.I. 310+63.71
Δ Rt. 1° 53.41379
D 0°17'
T 333.60'
L 667.15'
E 0.79'

316+25 FE Rt
Inpl 15"X24" CMP
Remove
Move to Sta. 315+00
18" X 28' C.S. Pipe Culvert
2-18" G.S. Pipe Culv. Aprons

320+63 Twp Rd Rt
Inpl 18"X38" CMP
No change
18"X 50' C.S. Pipe Culvert
2-18"G.S. Pipe Culv. Aprons

Const. Timber Box culvert 326+50
48"X 60" X 84' Timber Box culv.
2-48"X60" Timber box culv.
End sections.
Place on "C" Bedding

329+83 FE Rt
No Culv Inpl
Move to Sta. 328+50
No Culv. Req'd.

330+61 ℄ Culv
Inpl 18"X52" CMP
Remove
24" X 98' R.C. Pipe Culv. Cl. II
2-24" R.C. Pipe Culv. Aprons
Place on "C" Bedding
F&I Concrete pipe joint ties.

5/8" Steel Rod

Tel. Marker

Ha.

BM Elev. 1125.19'
Spk in PP 35' Lt
Sta. 299+69

BM Elev. 1151.49'
Spk in PP 34' Lt
Sta. 311+42

BM Elev. 1096.53'
Spk in PP 33' Lt
Sta. 321+00

CL. 3 – GR. 1

Profile 75' Lt
Profile 75' Rt

P.V.C. +11.1111
Elev. 34.55

P.I. +11.1111
Elev. 69.4444
1400' V.C.
M=17.325
C=.3536

P.V.T. +11.1111
Elev. 25.16

P.V.C. +17.1055
Elev. 18.74

P.I. +17.1055
Elev. 94.1448
1000' V.C.
M=9.5
C=.38

P.V.T. +17.1055
Elev. 07.14

+4.9%
-5.0%
-1.0%
+0.9%
+2.6%

Inlet Elev. 24.1
Outlet Elev. 16.2

Inlet Elev. 92.0
Outlet Elev. 86.0

SPECIAL DITCH LEFT -1% SPECIAL DITCH RIGHT +0.9%

Inlet Elev. 94.6
Outlet Elev. 94.0

Inlet Elev. 09.0
Outlet Elev. 98.0

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 287+30 to Sta. 306+70

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 310+35 to Sta. 315+27

Present ℄ Grades

BALTIMORE NO. 1697

OLMSTED COUNTY, MINN. C.S.A.H. 4 State Proj. No. S.A.P. 55-604-09 Sheet No. 6 of 42 Sheets

℄ Culv. 340+28
Inpl. 24" X 44' CMP
Remove
24"X 104' R.C. Pipe Culv. Cl. III
2-24" R.C. Pipe Culv. Aprons
Place Culv. on "C" Bedding
F&I CONCRETE PIPE JOINT TIES.

FE Lt. 344+64
Inpl. 18"X 24' CMP
Remove
18"X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

FE Lt. 345+57
Inpl. 18" X 24' CMP
Remove
No F.E. Req'd.

FE Lt. 350+25
No Culv. Inpl.
18"X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

℄ Culv. 353+24
Inpl. 18"X 38' CMP
Remove
24"X 88' R.C. Pipe Culv. Cl. III
2-24" R.C. Pipe Culv. Aprons
Place Culv. on "B" Bedding

P.I. 360+01.41
Δ Lt. 2° 03'
D 0° 18'
T 341.70'
L 683.33'
E 3.07'

P.I. 333+00
Δ Lt. 2° 02.725'
D 0° 18'
T 340.93'
L 681.81'
E 0.91'

P.C. 329+59.07
P.T. 336+40.88
P.C. 356+59.71
Ho.
Underground Water Pipe
Shed
Cattle Guard
Tele. Cable Marker
Temp. Rd. +05
66'

FE Rt. 333+21
No Culv. Inpl.
No Culv. Req'd.

FE Rt. 339+07
No Culv. Inpl.
No Culv. Req'd.

Const. Timber Box Culv. 342+00
48"X60"X 86' Timber Box Culvert
2-48"X 60" Timber Box Culvert
End Sections
Place Culv. on "B" Bedding

P.C. 343+09.04

Res. Drive Rt. 345+59
Inpl. 18" X 39' CMP
Remove
18"X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

P.I. 346+50.86
Δ Rt. 4° 06'
D 0° 36'
T 341.82'
L 683.33'
E 6.12'

346+50.0

P.T. 349+92.37

Res. Drive Rt. 351+27
Inpl. 18" X 26' CMP
Remove
18"X32' C.S. Pipe Culv.
2-18' G.S. Pipe Culv. Aprons

Res. Drive Rt. 353+75
Inpl. 18" X 24' CMP
Remove
18" X 32' C.S.P. Culv.
2-18" G.S. Aprons

CL. 69 GR. 34 — CL. 35 GR. 35 — CL. 45 GR. 40

BM Elev. 1124.37
Spk. in PP 34' Lt.
Sta. 334+61

BM Elev. 1143.42
Spk. in PP 34' Lt.
Sta. 345+91

BM Elev. 1121.48
Spk. in PP 33' Lt.
Sta. 356+22

℄ Subgrade Elev.

Profile 75' Rt.
Profile 75' Lt.

Elev. 21.9
P.V.C. +00
P.I. +00
Elev. 27.5
V.C. 400'
M=0.35
C=.0875
P.V.T. +00
Elev. 31.3
+2.6%
+1.9%
P.V.C. +48.14814
Elev. 39.81481
Inlet Elev. 30.4
Outlet Elev. 23.8
Inlet Elev. 32.2
Outlet Elev. 30.2
P.I. +48.14814
Elev. 51.21481
1200' V.C.
M=8.10
Inlet Elev. 30.8
Outlet Elev. 27.0
Elev. 30.21484
P.V.T. +48.14814
-3.5%

Subgrade Treatment:
Excavate 1.0' below profile grade
Sta. 331+90 to Sta. 339+10.

COMMON EXC. 54,458 Cu. Yds.
ROCK EXC. 5,989 Cu. Yds.
SUBGRADE EXC. 2,316 Cu. Yds.
EMB 40,507 Cu. Yds.

COMMON EXC. 4,895 C.Y.
SUBGRADE EXC. 298 C.Y.
EMB 3,374 C.Y.

COMMON EXC. 12,063 Cu. Yds.
SUBGRADE EXC. 2,357 Cu. Yds.
EMB 8,606 Cu. Yds.

Subgrade Treatment:
Excavate 1.0' below profile grade
Sta. 344+80 to Sta. 368+25.

330 335 340 345 350 355 360

Twp. Rd. Lt. 360+05
No Culv. Inpl.
18" X 56' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

℄ Culv. 29' Rt. 363+42
Inpl. 24" X 38' CMP
Remove
No Culv. Req'd.

FE. Lt. (Old Road) 367+00
Inpl. 15" X 24' CMP
Remove
Const. F.E. Lt. 368+00
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

Drive Rt. (Old Road) 373+75
Inpl. 15" X 48' CMP
Remove
18" X 42' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

℄ Culv. (Old Road) Rt. 375+70
Inpl. 24" X 50' CMP
Remove

FE Rt. 381+23
No Culv. Inpl.
Const. F.E. Rt. 380+00
No Culv. Req'd.

℄ Culv. (Old Road) Rt. 378+25
Inpl. 24" X 38' CMP
Remove

Res. Drive Lt. 387+94
No Culv. Inpl.
No Culv. Req'd.

Res. Drive Lt. 389+82
Inpl. 15" X 44' CMP
Remove
No Culv. Req'd.

FE Rt. (Old Road) 379+05
Inpl. 15" X 24' CMP
Remove

Construct Drive Rt. Sta. 373+25
18" X 32' C.S. Pipe Culvert
2-18" G.S. Pipe Culv. Aprons

Const ℄ Culv. Sta. 378+08
24" X 100' R.C. Pipe Culv. Cl. III
2-24" R.C. Pipe Culv. Aprons
Place culv. on "C" Bedding.

Const F. Ent. Rt. Sta. 380+00
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

CHICAGO AND GREAT WESTERN RAILROAD

P.T. 363+43.04 = EQUATION
P.O.T. 363+41.70

P.C. 373+76.81

Pl. 380+78.74
Δ 72°40' 30"
D 16°00'
T 702.43'
R 1211.25'
L 1537.59'
Super 0.05ft/foot
Transition 280'

P.C. 390+13.38

MATCH LINE

MATCH LINE

FE Rt. 360+11
Inpl. 15" X 24" CMP
Remove
18" X 28' C.S. Pipe Culvert
2-18" G.S. Pipe Culv. Aprons.

℄ Culv. (Old Road) Rt. 371+20
Inpl. 24" X 60' CMP
Remove
Construct ℄ Sta. 371+50
30" X 90' R.C. Pipe Culv. Cl. III
2-30" R.C. Pipe Culv. Aprons
Place culv. on "B" Bedding
Const. Ditch Block.

FE Rt. 367+00
Inpl. 15" X 24" CMP
Remove
Const. F.E. Rt. Sta. 367+00
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

FE Lt. (Old Road) 373+10
No Culv. Inpl.
No Field Ent. Req'd.

Drive Rt. (Old Road) 372+75
No Culv. Inpl.
No Change

Res. Drive Rt. 386+98
Inpl. 15" X 32' CMP
Remove
No Culv. Req'd.

Ent. Rt. 389+00
No Culv. Inpl.
Construct 32' Ent. Rt. Sta. 389+00
No Culv. Req'd.

CL. 4 — GR. 4

PLAN

PROFILE

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

Note: 10,402 cu. yds. to be excavated from old roadway from Sta. 366+00 to Sta. 381+00 and used in embankment from Sta. 364+00 to Sta. 384+59. Quantity is included in "Common Excavation."

P.I. +31.25
Elev. 78.30625
500' V.C.
M = 2.0

P.V.C. +81.25
Elev. 87.05625

P.V.T. +81.25
Elev. 77.55625

P.V.C. +48.71794
Elev. 76.15385

P.I. +48.71794
Elev. 75.55385
400' V.C.
M = 0.975

P.V.T. +48.71794
Elev. 78.85384

P.V.T. +00

P.I. +00
Elev. 92.9
600' V.C.
M = 3.98125

Inlet Elev. 74.0
Outlet Elev. 71.9

Inlet Elev. 70.0
Outlet Elev. 67.0

COMMON EXC.	1,995 Cu. Yds.	COMMON EXC.	26,179 Cu. Yds.
SUBGRADE EXC.	231 Cu. Yds.	SUBGRADE EXC.	1,596 Cu. Yds.
EMB	1,391 Cu. Yds.	EMB	17,701 Cu. Yds.

Subgrade Treatment: Excavate 1.0' Below profile grade Sta. 344+80 to Sta. 368+25

Subgrade Treatment: Excavate 1.0' Below Profile Grade Sta. 372+40 to Sta. 376+80

Subgrade Treatment: Excavate 1.0' Below Profile Grade Sta. 380+30 to Sta. 381+52

COMMON EXC. 1818 Cu. Yds.
SUBGRADE EXC. 600 Cu. Yds.
EMB 1,173 Cu. Yds.

Subgrade Treatment: Excavate 1.0' Below profile grade Sta. 383+25 to Sta. 395+15.

SINGLE PLAN & PROFILE SHEET
CHARLES BRUNS COMPANY, INC.

℄ Culv. 394+24 42' Lt.
Inpl. 24" X 122' CMP I.B.M. Ent.
Extend Inlet 10'
24" X 18' C.S. Pipe Culv.
with a 45° Elbow at the
10' point.
1-24" G.S. Pipe Apron

℄ Culv. 397+65
Inpl. 2' X 4' X 37' Limestone Box
Extended by 36" X 24' CMP
Remove Structure
Remove 24 Lin. Feet Portable Culvert
30"X 104' R.C. Pipe Culv. Cl. III
2-30" R.C. Pipe Culv. Aprons
Place Culv. on "C" Bedding

P.I. 392+66.21
Δ Lt. 18°41'30"
D 3°45'
T 252.83'
L 501.11'
E 20.78'
Super .05' / foot
Transition 240'

P.C. 390+13.38

Private I.B.M. Road

P.T. 395+14.49

P.O.T. 398+96.22 = 195+00 S.A.P. 55-604-06

Cable Marker

Cable Splice Box

CHICAGO AND GREAT WESTERN RAILROAD

END S.A.P. 55-604-09
Sta. 398+9622

Twp. Rd. Rt. 392+85
Inpl. 15" X 36' CMP
Remove
18" X 36' C.S. Pipe Culv.
2-18" G.S. Pipe Culv. Aprons

PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, AS-BUILT CHECKED, NOTE BOOK, NO., BY, DATE

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, AS-BUILTED, ENGINEERING NOTATIONS CHKD, NOTE BOOK, NO., BY, DATE

Profile 75' Lt.
Profile 75' Rt.

P.I. + 142857
Elev. 75.0857
400' V.C.
M=1.05

P.V.T. +00
Elev. 80.68572
-2.9%
P.V.C. + 142857.0
P.V.T. + 285714.0
Elev. 73.46572
-0.8%

Inlet Elev. 75.0
Outlet Elev. 73.5

Subgrade Treatment:
Excavate 10' Below profile
Sta. 395+23.7 to Sta. 398+96.2

COMMON EXC. 3,861 Cu. Yds. EMB 2,629 Cu. Yds.
SUBGRADE EXC. 2,076 Cu. Yds.

℄ Subgrade Elev.	89.4	88.35	86.6	84.2	81.3	78.6	76.4	74.7	73.6	72.8	72.04
	+54	+31	+50	+95	+50	+62	+115	+23.7	+75	+50	+66	+96.2	+96.22	+67
	93.7	93.0	1092.0	91.1	89.3	87.6	85.7	82.9	82.7	81.4	80.2	78.8	1077.8	77.34	77.32	76.5	76.1	76.4	74.8	74.3	74.0	73.2	73.2	1072.4	71.5	70.8

390 395 400

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