MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING & AGGREGATE BASE

LOCATED ON C.S.A.H. 14 **BETWEEN** T.H. 52, 1.5 MI. N. OF ROCHESTER **AND** T.H. 63 **(GEOGRAPHIC DESCRIPTION)**

FROM 867.00' E. OF N.W. COR. SEC. 4 T107N-R14W **TO** 836.26' E. OF N.W. COR. SEC. 1 T107N-R14W **(LEGAL DESCRIPTION)**

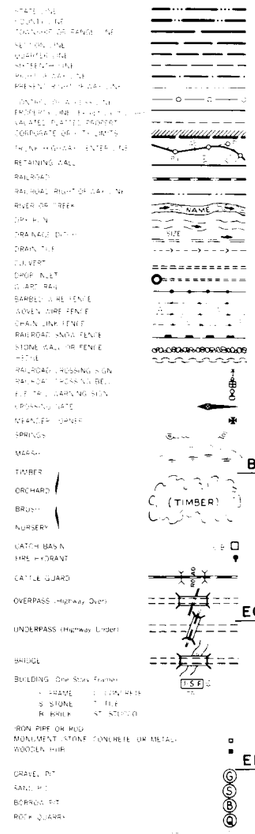
STATE PROJ. NO. 55-614-10

GROSS LENGTH	15,827.91	FEET	2.998 MILES
BRIDGES-LENGTH	0	FEET	0 MILES
EXCEPTIONS-LENGTH	0	FEET	0 MILES
NET LENGTH	15,827.91	FEET	2.998 MILES

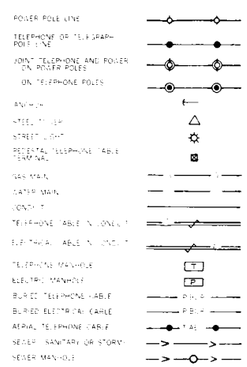
STATE PROJ. NO. _____

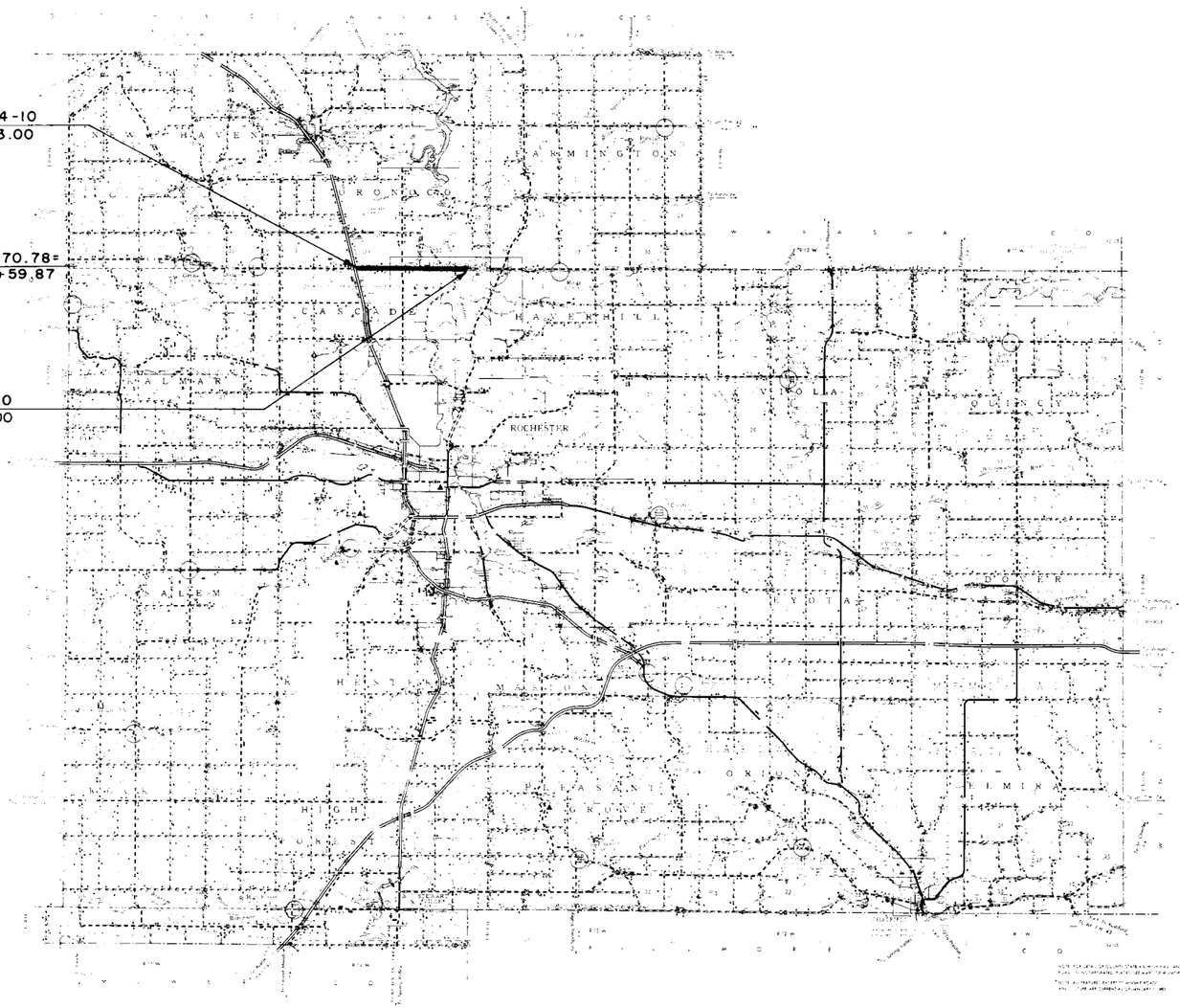
GROSS LENGTH		FEET	MILES
BRIDGES-LENGTH		FEET	MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH		FEET	MILES

PLANS SYMBOLS



UTILITIES SYMBOLS





SCALES

PLAN	———	50 FEET
PROFILE	———	50 FEET HORIZ. & 10' VERT.
INDEX MAP	———	10,560
CROSS SECTIONS	———	10 FEET HORIZ & VERT.

MINN. PROJ. NO. RS 6219 (006)
MINN. PROJ. NO. CRP 0091 (034)

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STAND. SPECIFICATIONS FOR CONSTRUCTION" AS AMENDED BY THE JANUARY 2, 1991 SUPPLEMENTAL SPECIFICATIONS SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET AND LAYOUT MAP
SHEET NO. 2	ESTIMATE OF QUANTITIES & TYPICAL SECTIONS
SHEET NO. 3	DETAIL DRAWINGS & TYPICAL SECTIONS
SHEET NO. 4	TRAFFIC CONTROL PLAN
SHEET NO. 5-16	PLAN & PROFILE SHEETS
SHEET NO. 17-75	CROSS SECTIONS
SHEET NO. 76-79	DETAIL DRAWING & BOX CULVERT PLANS FOR ℄ CULVERT STA. 571+80

DESIGN DESIGNATION

R		ΣN18(20)	
ADT (Current Year)	= 1400 (1991)	Design Speed	55 MPH
ADT (Future Year)	= 2520 (2011)	Based on	STOPPING Sight Distance
DHV (Design Hr. Vol.)	=	Height of eye	3.5' Height of object 0.5'
D (Directional Distr.)	= %	Design Speed not achieved at:	
T (Heavy Commercial)	= 7.4 %	STA.	TO STA. MPH
SOIL FACTOR	130	STA.	TO STA. MPH
9 TON DESIGN		STA.	TO STA. MPH
SHOULDER WIDTH	8'		

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 1/3/91 REG. NO. 16397 ENGR. Richard L. Nielsen

COUNTY Olmsted

Recommended for Approval _____ 1-14 1991
DISTRICT STATE AID ENGINEER

Recommended for Approval _____ 19__
STATE AID PLANS AND SPECS ENGINEER

Approved _____ 19__
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

_____ _____
DIVISION ADMINISTRATOR DATE

STATE AID PROJ. NO. OLMSTED COUNTY
STATE PROJ. NO. 55-614-10 C.S.A.H. NO. 14 **SHEET NO.** 1 **OF** 79 **SHEETS**

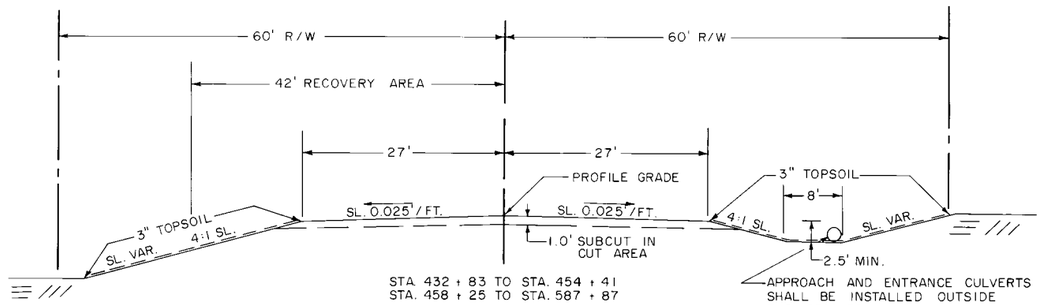
ALBERDING, MPLS. 55401
72065

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	NON PARTICIPATING	PARTICIPATING	TOTAL ESTIMATED QUANTITIES
	0563.601	TRAFFIC CONTROL	LUMP SUM		1	1
	2101.501	CLEARING	ACRE		4.40	4.40
	2101.502	CLEARING	TREE		320	320
	2101.506	GRUBBING	ACRE		4.40	4.40
	2101.507	GRUBBING	TREE		278	278
	2104.501	REMOVE PIPE CULVERTS	LIN. FT.		1,256	1,256
(1)	2104.509	REMOVE BOX CULVERT	EACH		2	2
(2)	2104.509	REMOVE MISC STRUCTURES	EACH		1	1
	2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.		224	224
(18)	2104.521	SALVAGE CONCRETE PIPE CULVERT	LIN. FT.		80	80
(18)	2104.523	SALVAGE CONCRETE APRON	EACH		2	2
(3)	2105.515	UNCLASSIFIED EXCAVATION	CU.YD.		180,120	180,120 (P)
(4)	2105.535	SALVAGED TOPSOIL	CU.YD.		11,286	11,286 (P)
(5)	2123.503	MOTOR GRADER	HOUR		32	32
(5)	2123.508	15 CU.YD. SCRAPER	HOUR		32	32
(5)	2123.509	DOZER	HOUR		32	32
(6)	2130.501	WATER	M-GAL		145	145
(7)	2211.501	AGGREGATE BASE CLASS 5	TON		17,250	17,250
(8)	2211.501	AGGREGATE BASE CLASS 5 MODIFIED	TON		15,675	15,675
	2412.511	8x6 PRECAST CONCRETE BOX CULVERT (10' OVERFILL)	LIN.FT.		56	56
	2412.511	8x6 PRECAST CONCRETE BOX CULVERT (20' OVERFILL)	LIN. FT.		36	36
	2412.511	8x6 PRECAST CONCRETE BOX CULVERT (31' OVERFILL)	LIN. FT.		108	108
(16)	2412.512	8x6 PRECAST CONCRETE BOX CULVERT END SECTION	EACH		2	2
	2451.507	GRANULAR BEDDING (CV)	CU. YD.		187	187 (P)
(9)	2501.511	18" C.S. PIPE CULVERT	LIN. FT.		940	940
	2501.511	24" C.S. PIPE CULVERT	LIN. FT		536	536
	2501.511	30" C.S. PIPE CULVERT	LIN. FT.		214	214
	2501.511	24" R.C. PIPE CULVERT	LIN. FT.		170	170
	2501.511	36" R.C. PIPE CULVERT	LIN. FT.		78	78
	2501.511	42" R.C. PIPE CULVERT CL. III	LIN. FT.		118	118
	2501.511	48" R.C. PIPE CULVERT	LIN. FT.		84	84
	2501.515	18" G.S. PIPE APRON	EACH		3	3
	2501.515	24" R.C. PIPE APRON	EACH		4	4
	2501.515	36" R.C. PIPE APRON	EACH		2	2
	2501.515	42" R.C. PIPE APRON	EACH		2	2
	2501.515	48" R.C. PIPE APRON	EACH		2	2
	2501.521	44" SPAN R.C. PIPE-ARCH CULV. CL. II A	LIN. FT.		78	78
	2501.521	58" SPAN R.C. PIPE-ARCH CULV. CL. II A	LIN. FT.		78	78
	2501.521	73" SPAN R.C. PIPE-ARCH CULV. CL. II A	LIN. FT.		78	78
	2501.521	102" SPAN R.C. PIPE-ARCH CULV. CL. II A	LIN. FT.		188	188
	2501.525	44" SPAN R.C. PIPE-ARCH APRON	EACH		2	2
	2501.525	58" SPAN R.C. PIPE-ARCH APRON	EACH		2	2
	2501.525	73" SPAN R.C. PIPE-ARCH APRON	EACH		2	2
	2501.525	102"SPAN R.C. PIPE-ARCH APRON	EACH		4	4
(17)	0501.602	18" C.S.PIPE SAFETY APRON	EACH		27	27
(17)	0501.602	24" C.S.PIPE SAFETY APRON	EACH		18	18
(17)	0501.602	30" C.S.PIPE SAFETY APRON	EACH		8	8
(18)	2501.571	INSTALL CONCRETE CULVERT	LIN. FT.		80	80
(18)	2501.573	INSTALL CONCRETE APRON	EACH		2	2
	2502.521	8" C.S. PIPE DRAIN	LIN. FT.		350	350
	2502.521	10" C.S. PIPE DRAIN	LIN. FT.		138	138
	2502.551	8" C.S. INSPECTION TEE	LIN. FT.		30	30
	2502.551	10" C.S. INSPECTION TEE	LIN. FT.		10	10
(10)	2573.503	SILT FENCE, PREASSEMBLED	LIN. FT.		608	608
	2506.502	CONSTRUCT DRAINAGE STRUCTURE, DESIGN SPECIAL	EACH		1	1
(11)	2511.501	RANDOM RIPRAP CL. III	CU. YD.		210	210
	2575.501	SEEDING	ACRE		30	30(P)
(12)	2575.502	SEED MIXTURE 500	POUND		1,800	1,800
(13)	2575.502	SEED MIXTURE 1100	POUND		2,400	2,400
	2575.505	SODDING TYPE EROSION	SQ. YD.		18,750	18,750
(14)	2575.511	MULCH MATERIAL, TYPE 1	TON		60	60
	2575.519	DISK ANCHORING	ACRE		24	24(P)
(15)	2575.531	COMMERCIAL FERTILIZER ANALYSIS 10-10-10	TON		3	3

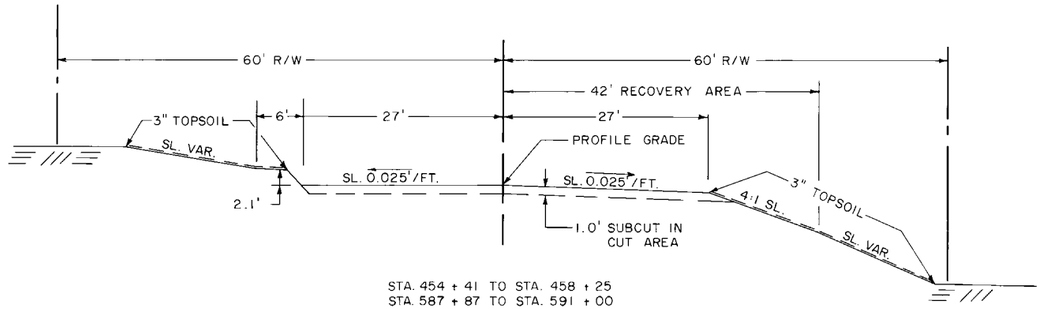
(1) LOCATED AT STA. 494 + 42, INPLACE W10'x 5'x 39' CONCRETE BOX CULV. LOCATED AT STA. 571 + 76, INPLACE W8'x 8'x 82' CONCRETE BOX CULV.
(2) LOCATED AT STA. 571 + 76, INPLACE 8'x 32' CONCRETE DROP OUTLET.
(3) UNCLASSIFIED EXCAVATION INCLUDES SUBGRADE TREATMENT AS SHOWN ON PLAN. THE QUANTITY OF EMBANKMENT SHOWN ON X-SECTION SHEETS HAS BEEN INCREASED BY 36% FOR SHRINKAGE.
(4) TO BE PLACE ON DITCH BOTTOMS & SLOPES.
(5) EQUIPMENT HOURS TO BE USED TO OBLITERATE OLD ROAD FROM RT. STA. 537 TO STA. 540 & RT. STA. 551 TO STA. 556 AND RELOCATE FIRE LANE LT. STA. 572 TO STA. 574.
(6) WATER TO BE USED AS A DUST PREVENTIVE AS DIRECTED BY THE ENGINEER.
(7) INCLUDES 14,110 TONS FOR MAINLINE, 2,875 TONS FOR 40 APPROACHES AND 265 TONS FOR CR. 133 APPROACH.
(8) INCLUDES 15,375 TONS FOR MAINLINE AND 300 TONS FOR C.R. 133 APPROACH.
(9) INCLUDES 2-45° BENDS.
(10) SILT FENCE TO BE USED AS DITCH CHECKS AS DIRECTED BY THE ENGINEER, SILT FENCE TO REMAIN INPLACE AFTER COMPLETION OF THE CONTRACT.
(11) GRANULAR FILTER MATERIAL OR GEOTEXTILE FILTER MATERIAL WILL BE CONSIDERED TO BE INCIDENTAL TO RIPRAP CONSTRUCTION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.
(12) APPLICATION RATE 60 POUNDS PER ACRE.
(13) APPLICATION RATE 80 POUNDS PER ACRE.
(14) APPLICATION RATE 2 TONS PER ACRE.
(15) APPLICATION RATE 200 POUNDS PER ACRE.
(16) INLET END SECTION IS MODIFIED, SEE SHEET NO. 76.
(17) SEE STANDARD PLATE 3128, WITHOUT THE GRATE.
(18) SALVAGE & INSTALL 24" CONCRETE CULVERT.

TYPICAL GRADING SECTION



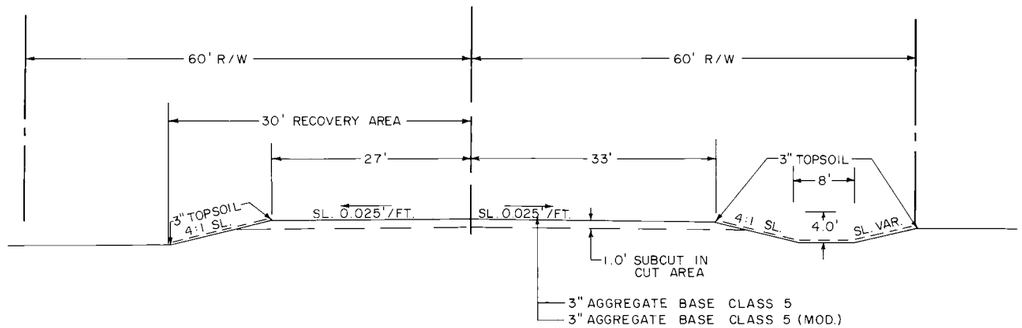
STA 432 + 83 TO STA. 454 + 41
STA. 458 + 25 TO STA. 587 + 87

APPROACH AND ENTRANCE CULVERTS SHALL BE INSTALLED OUTSIDE THE RECOVERY AREA.



STA. 454 + 41 TO STA. 458 + 25
STA. 587 + 87 TO STA. 591 + 00

RIGHT TURN LANES



T.H. NO. 52 LT. STA. 432 + 83 TO STA. 436 + 75
C.R. NO. 112 LT. STA. 503 + 29 TO STA. 507 + 90
RT. STA. 499 + 10 TO STA. 503 + 20
TWP. RD LT. STA. 516 + 56 TO STA. 520 + 70
TWP. RD. LT. STA. 529 + 66 TO STA. 533 + 90
CR. NO. 133 RT. STA. 578 + 10 TO STA. 582 + 64

STANDARD PLATES

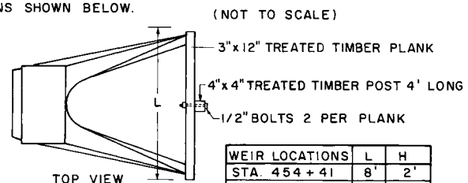
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
0005 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3000 L	REINFORCED CONCRETE PIPE.
3007 B	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES.
3014 J	REINFORCED CONCRETE PIPE ARCH DETAIL.
3040 F	CORRUGATED METAL PIPE CULVERT.
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE.
3110 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH.
3123 I	METAL APRON FOR C.S. PIPE.
3124 B	METAL APRON CONNECTION.
3128 D	SAFETY APRON
3133 B	RIPRAP AT R.C.P. OUTLETS.
3145 E	CONCRETE PIPE TIES, EYE BOLT TIE.
3221 C	CORRUGATED STEEL PIPE COUPLING BANDS.
8000 I	STANDARD BARRICADES.
8003 B	BREAKAWAY SIGN SUPPORT. (PLASTIC)
9000 B	APPROACHES AND ENTRANCES.
3143 C	INSPECTION TEES.
4101 C	RING CASTING FOR MANHOLE OR CATCH BASIN.
4140 D	SPECIAL GRATE CASTINGS FOR CATCH BASINS (CASTING NO. 720)

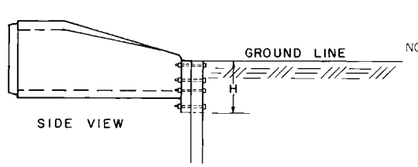
SODDING LOCATIONS			SQ. YDS.
DITCH & SLOPES	LT.	STA. 454+50 TO STA. 458+50.	1300
" "	RT.	STA. 456+75 TO STA. 462+25	1400
" "	LT.	STA. 463+00 TO STA. 465+00	350
" "	RT.	STA. 474+00 TO STA. 478+25	1475
" "	LT.	STA. 481+25 TO STA. 484+75	1400
" "	RT.	STA. 483+50 TO STA. 487+00	1000
" "	LT.	STA. 490+00 TO STA. 493+25	1200
" "	LT.	STA. 508+60 TO STA. 511+25	1075
" "	RT.	STA. 509+75 TO STA. 512+75	1250
" "	LT.	STA. 526+25 TO STA. 529+50	750
" "	RT.	STA. 529+65 TO STA. 531+65	700
" "	RT.	STA. 556+50 TO STA. 558+25	800
" "	LT.	STA. 558+25 TO STA. 562+75	3125
" "	RT.	STA. 588+50 TO STA. 591+00	775
DITCH LINER	LT.	STA. 470+00 TO STA. 474+00	550
" "	RT.	STA. 470+00 TO STA. 474+00	550
" "	LT.	STA. 562+75 TO STA. 570+25	1050
TOTAL SQ. YDS. SOD			18750

INCIDENTAL ITEMS

TIMBER WEIR CONSTRUCTION AT INLET OF R.C. PIPE APRONS AT LOCATIONS SHOWN BELOW. (NOT TO SCALE)



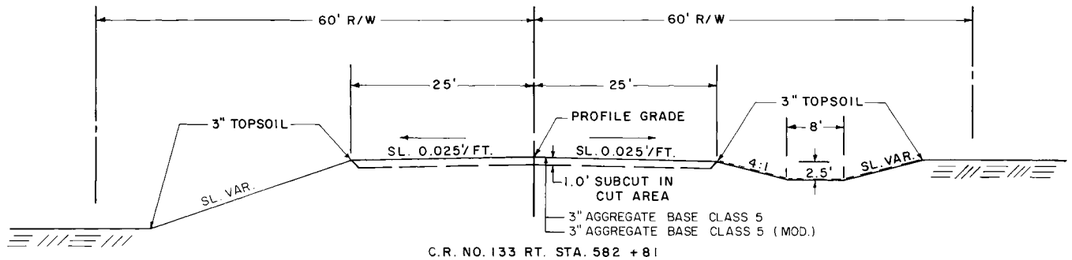
WEIR LOCATIONS	L	H
STA. 454+41	8'	2'
STA. 475+87	8'	3'
STA. 516+16	9'	3'



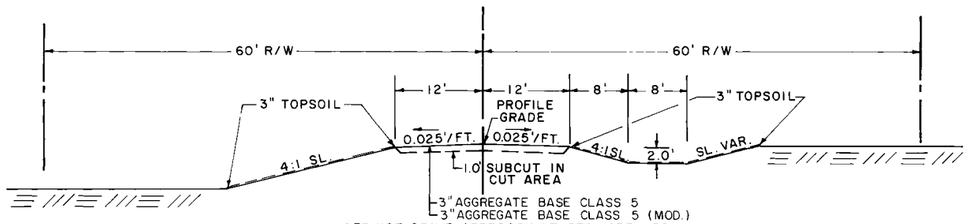
NOTE: CONSTRUCTION OF TIMBER WEIR WILL BE CONSIDERED TO BE INCIDENTAL TO THE APRON INSTALLATION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

ALL UTILITY POLES AND UNYIELDING OBJECTS WILL BE RELOCATED OUTSIDE THE 42' RECOVERY AREA. (BY OTHERS)

TYPICAL GRADING SECTIONS

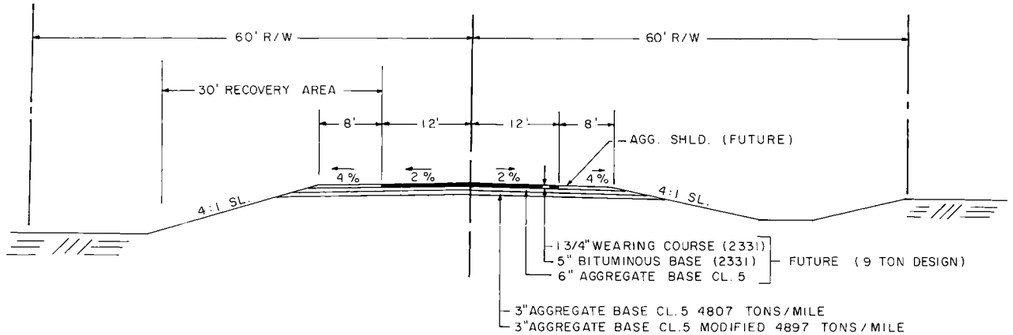


C.R. NO. 133 RT. STA. 582+81
STA. 318+00 TO STA. 321+00

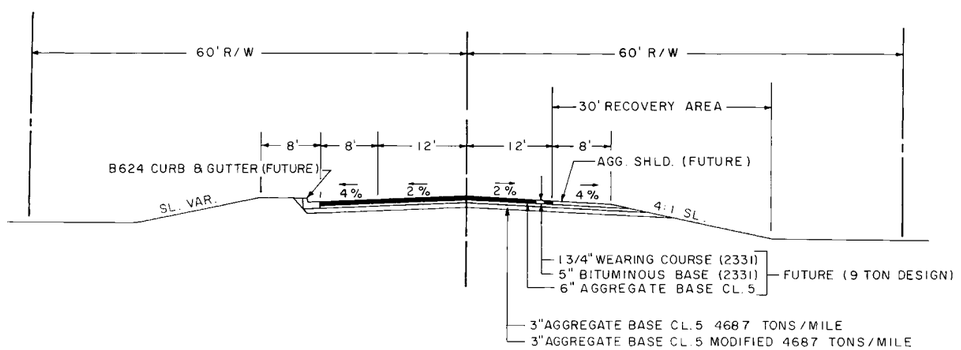


SERVICE DRIVE APPROACH LT. STA. 433+50
STA. 0+00 TO STA. 2+50

TYPICAL SURFACING SECTIONS



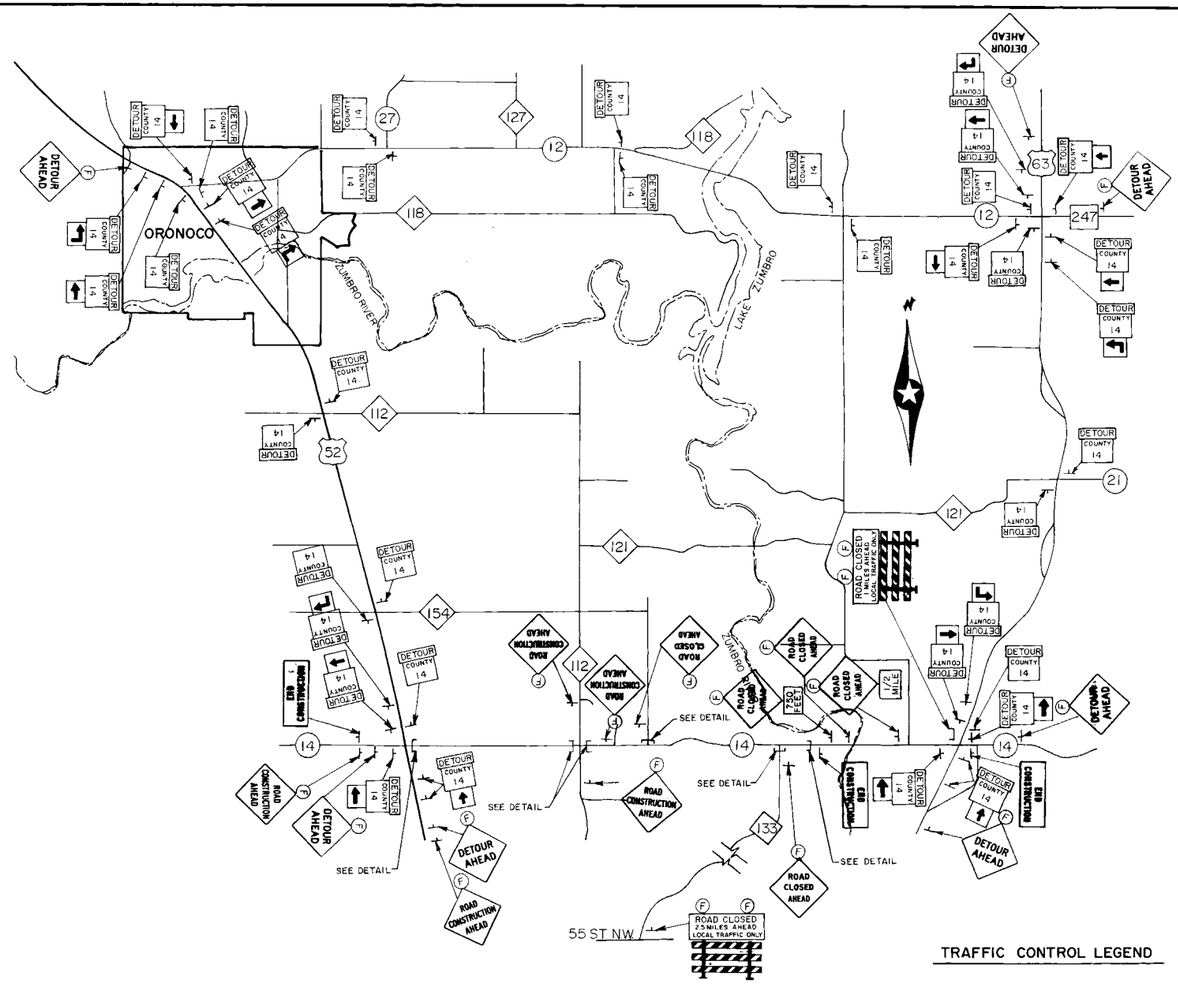
STA. 432+83 TO STA. 454+41
STA. 458+25 TO STA. 587+87



STA. 454+41 TO STA. 458+25
STA. 587+87 TO STA. 591+00

ESTIMATE OF TRAFFIC CONTROL DEVICES

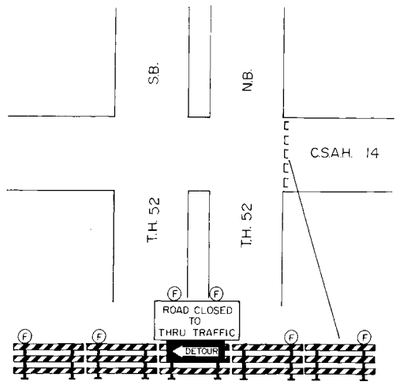
DEVICE	NUMBER	SIZE	COLOR	QUANTITY	DEVICE	NUMBER	SIZE	COLOR	QUANTITY
ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY	R11-3	60x30	BLK/WH	2	DETOUR	M4-10L	48x18	BLK/OR	1
ROAD CLOSED TO THRU TRAFFIC	R11-4	60x30	BLK/WH	6		M5-1L	21x15	BLK/WH	3
ROAD CONSTRUCTION AHEAD	W20-1	48x48	BLK/OR	4		M5-1R	21x15	BLK/WH	3
DETOUR AHEAD	W20-2	48x48	BLK/OR	7		M6-1	21x15	BLK/WH	11
ROAD CLOSED AHEAD	W20-3	48x48	BLK/OR	6		M6-3	21x15	BLK/WH	5
750 FEET	W20-100P	36x24	BLK/OR	1	END CONSTRUCTION	G20-2	60x24	BLK/OR	3
1/2 MILE	W20-100P	36x24	BLK/OR	1		TYPE III	MIN. 6'	OR & BLK	32
COUNTY 14	M1-X4A	24x24	BLK/WH	40	(F)	TYPE A	FLASHING LAMP	AMBER	56
DETOUR	M4-8	24x12	BLK/OR	40					



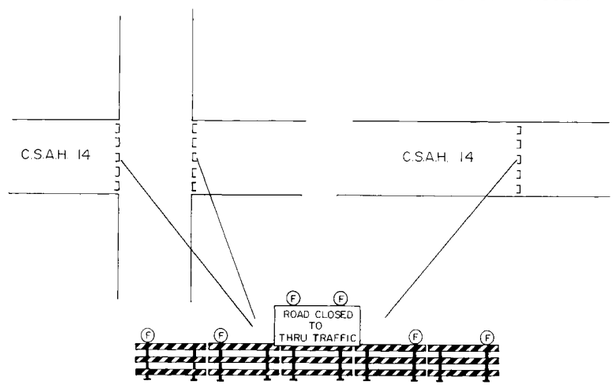
TRAFFIC CONTROL LEGEND

- ⊥ POST OR STAND MOUNTED SIGN
- ⌊⌋ TYPE III BARRICADE
- (F) TYPE "A" AMBER FLASHING LAMP

WEST END OF PROJECT

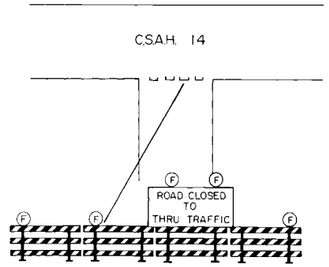


C.S.A.H. 14 & 18 AVE. N.W.



EAST END OF PROJECT

C.S.A.H. 14 & C.R. 133 / 11 AVE. N.W.



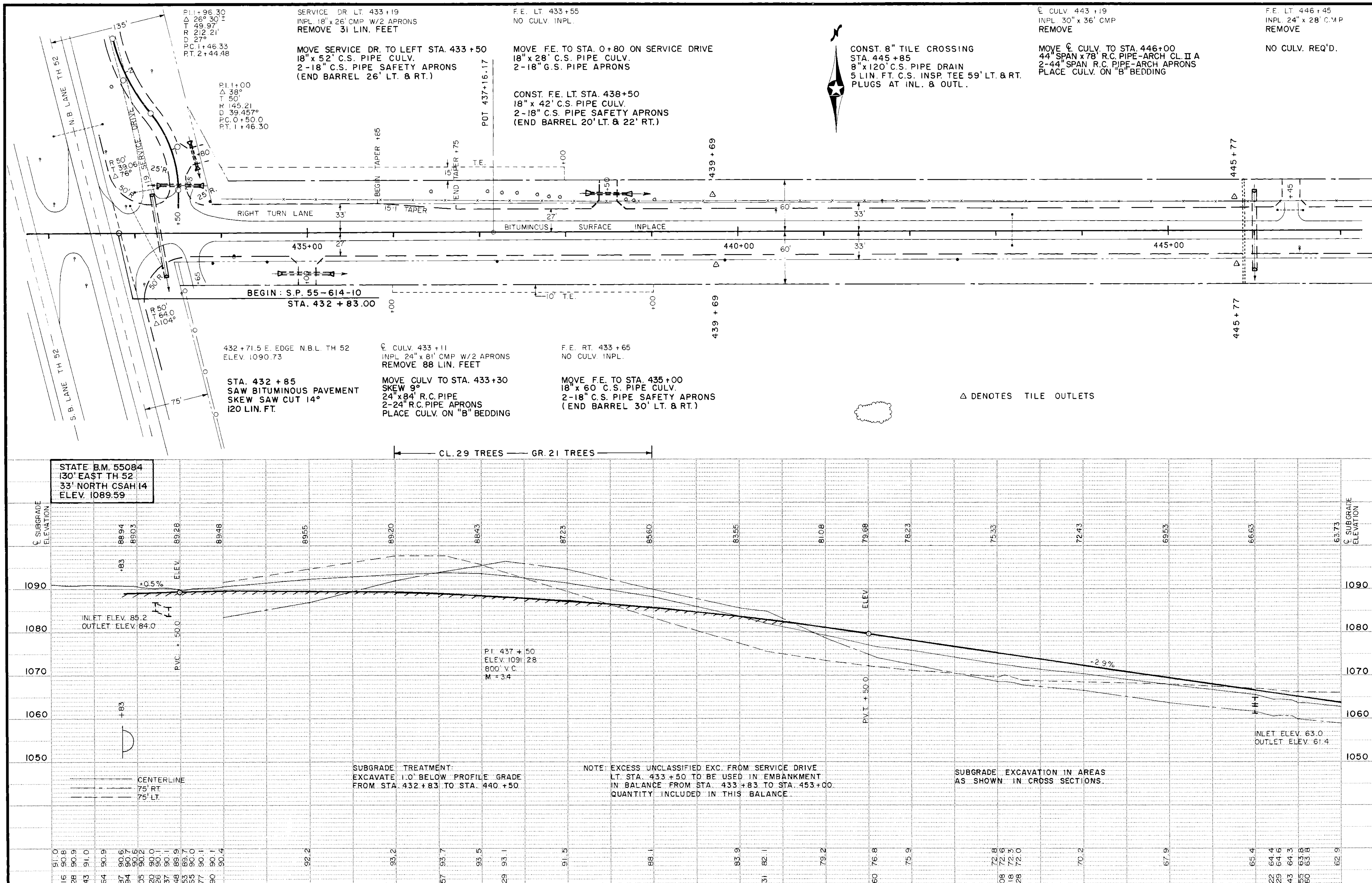
TYPICAL LAYOUT OF PROJECT TERMINI & INTERSECTIONS

TRAFFIC CONTROL NOTES

1. TRAFFIC CONTROL LAYOUTS NOT DRAWN TO SCALE. ALL DISTANCES ARE APPROXIMATE.
2. THE CONTRATOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL ON THIS PROJECT.
3. THE LOCATION OF SIGNS AND DEVICES WILL BE STAKED BY THE ENGINEER IN THE FIELD.
4. THE CONTRACTOR SHALL FURNISH & STORE 6 TYPE III BARRICADES WITH AMBER FLASHING LAMPS AT A CONVENIENT LOCATION WITHIN THE PROJECT LIMITS TO BE USED AT THE DIRECTION OF THE ENGINEER AND/OR IN CASE OF EMERGENCY. THESE ITEMS ARE INCLUDED IN ESTIMATE OF TRAFFIC CONTROL DEVICES.
5. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING APPENDIX B DATED MARCH 1990.
6. CONSTRUCTION ZONE SIGNING SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR AND WILL INCLUDE, BUT NOT LIMITED TO SIGNS FOR LANE CLOSURES, MACHINERY AHEAD, BUMP, DIP, LOOSE GRAVEL, ETC. THE NUMBER AND LOCATION WILL BE DETERMINED BY THE CONTRACTORS OPERATION.

TRAFFIC CONTROL PLAN

State Project No. 55-614-10


P.I. 1+96.30
Δ 26° 30'±
T 49.97'
R 212.21'
D 27°
P.C. 1+46.33
P.T. 2+44.48
135'
P.I. 1+00
Δ 38°
T 50'
R 145.21
D 39.457°
P.C. 0+50.0
P.T. 1+46.30
N.B. LANE TH 52
S.B. LANE TH 52
19 SERVICE DRIVE
R 50'
T 39.06
Δ 76°
25'R.
50'R.
R 50'
T 64.0
Δ104°
75'
SERVICE DR. LT. 433+19
INPL. 18" x 26' CMP W/2 APRONS
REMOVE 31 LIN. FEET
MOVE SERVICE DR. TO LEFT STA. 433+50
18" x 52' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 26' LT. & RT.)
POT 437+16.17
F.E. LT. 433+55
NO CULV. INPL.
MOVE F.E. TO STA. 0+80 ON SERVICE DRIVE
18" x 28' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS
CONST. F.E. LT. STA. 438+50
18" x 42' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 20' LT. & 22' RT.)
CONST. 8" TILE CROSSING
STA. 445+85
8" x 120' C.S. PIPE DRAIN
5 LIN. FT. C.S. INSP. TEE 59' LT. & RT.
PLUGS AT INL. & OUTL.
℄ CULV. 443+19
INPL. 30" x 36' CMP
REMOVE
MOVE ℄ CULV. TO STA. 446+00
44" SPAN x 78' R.C. PIPE-ARCH CL. II A
2-44" SPAN R.C. PIPE-ARCH APRONS
PLACE CULV. ON "B" BEDDING
F.E. LT. 446+45
INPL. 24" x 28' C.M.P.
REMOVE
NO CULV. REQ'D.
BEGIN TAPER +65
END TAPER +75
T.E.
15'
15:1 TAPER
RIGHT TURN LANE
33'
27'
BITUMINOUS SURFACE INPLACE
60'
439+69
445+77
+45
+50
+80
+65
+00
435+00
440+00
445+00
10' T.E.
BEGIN: S.P. 55-614-10
STA. 432+83.00
432+71.5 E. EDGE N.B.L. TH 52
ELEV. 1090.73
STA. 432+85
SAW BITUMINOUS PAVEMENT
SKEW SAW CUT 14°
120 LIN. FT.
℄ CULV. 433+11
INPL. 24" x 81' CMP W/2 APRONS
REMOVE 88 LIN. FEET
MOVE CULV TO STA. 433+30
SKEW 9°
24" x 84' R.C. PIPE
2-24" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
F.E. RT. 433+65
NO CULV. INPL.
MOVE F.E. TO STA. 435+00
18" x 60 C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 30' LT. & RT.)
Δ DENOTES TILE OUTLETS
CL. 29 TREES — GR. 21 TREES
STATE B.M. 55084
130' EAST TH 52
33' NORTH CSAH 14
ELEV. 1089.59
℄ SUBGRADE ELEVATION
88.94 89.03 89.28 89.48 89.55 89.20 88.43 87.23 85.60 83.55 81.08 79.68 78.23 75.33 72.43 69.53 66.63 63.73
1090
1080
1070
1060
1050
+0.5%
+83
ELEV.
P.V.C. +50.0
INLET ELEV. 85.2
OUTLET ELEV. 84.0
P.I. 437+50
ELEV. 1091.28
800' V.C.
M = 3.4
P.V.T. +50.0
-2.9%
INLET ELEV. 63.0
OUTLET ELEV. 61.4
CENTERLINE
75' RT.
75' LT.
SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 432+83 TO STA. 440+50
NOTE: EXCESS UNCLASSIFIED EXC. FROM SERVICE DRIVE
LT. STA. 433+50 TO BE USED IN EMBANKMENT
IN BALANCE FROM STA. 433+83 TO STA. 453+00.
QUANTITY INCLUDED IN THIS BALANCE.
SUBGRADE EXCAVATION IN AREAS
AS SHOWN IN CROSS SECTIONS.
91.0 90.8 90.9 91.0 90.9 90.6 90.7 90.6 90.2 90.0 90.1 90.1 89.9 89.7 90.0 90.1 90.1 90.4 92.2 93.2 93.7 93.5 93.1 91.5 88.1 83.9 82.1 79.2 76.8 75.9 72.8 72.6 72.3 72.0 70.2 67.9 65.4 64.4 64.6 64.3 63.8 63.8 62.9
+16 +28 +43 +64 +87 +94 +05 +20 +26 +37 +48 +53 +65 +77 +90 +57 +29 +31 +60 +08 +18 +28 +22 +29 +43 +55 +60
433 434 435 436 437 438 439 440 441 442 443 444 445 446

CONST. F.E. LT. STA. 451+10
24"x 40' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 17' LT. & 23' RT.)

℄ CULV. 454+86
INPL. 48" SPAN x 44' C.M.P. W/APRONS
REMOVE 53 LIN. FT.

MOVE CULV. TO STA. 454+41
CONST. DITCH BLOCK AT INLET
CONST. TIMBER WEIR AT INLET APRON
58" SPAN x 78" R.C. PIPE-ARCH CL. IIA
2-58" SPAN R.C. PIPE-ARCH APRONS
PLACE CULV. ON "B" BEDDING

RES. DR. LT. 455+95
INPL. 15" x 24' C.M.P.
REMOVE
NO CULV. REQ'D.

RES. DR. LT. 458+06
INPL. 18" x 24' C.M.P.
REMOVE

CONST. 18" x 198' C.S. PIPE 40' LT.
FROM STA. 456+30 TO STA. 458+20
LENGTH INCLUDES 2-45° BENDS
1-18" G.S. PIPE APRON - INLET
1-18" C.S. PIPE SAFETY APRON - OUTL.

P.I. 450+54.01
RT. 00° 00' 21"

SAVE PINE
SAVE WILLOW

449+95
454+12
455+00
460+00
450+00

APPROX. LOCATION
DRAIN FIELD

18" x 198' C.S. PIPE & 2-45° BENDS
-0.75%

60' 33' 27' BITUMINOUS SURFACE INPLACE 50'

CONST. 8" TILE CROSSING STA. 454+25
8" x 110' C.S. PIPE DRAIN
5 LIN. FT. INSPECTION TEE 59' LT.
5 LIN. FT. INSPECTION TEE 49' RT.
PLUGS AT INLET & OUTLET

RES. DR. RT 458+98
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 460+78
INPL. 18" x 26' C.M.P.
REMOVE
NO CULV. REQ'D.

△ DENOTES DRAIN OUTLETS

CL. 77 TREES — GR. 71 TREES

SPK. IN P. POLE 60'
LT. STA. 450+52
ELEV. 1056.21

SPK. IN P. POLE 40'
LT. STA. 461+40
ELEV. 1043.90

℄ SUBGRADE ELEVATION

63.73 60.83 57.93 55.03 52.13 49.59 47.76 46.66 45.90 45.16 44.40 43.66 42.90 42.16 41.40 40.66

2.9%

P.V.C. + 00. ELEV. 52.13
P.V.T. + 00. ELEV. 46.66

INLET ELEV. 44.8
BEND ELEV. 41.73
-0.75%
18" x 198' C.S. PIPE 2-45° BENDS
OUTLET ELEV. 40.2

WEIR ELEV. 43.2
INLET ELEV. 41.6
OUTLET ELEV. 41.3

P.I. 452+00
ELEV. 1047.78
300' V.C.
M = 0.80625

P.I. 462+00
ELEV. 1040.655

CENTERLINE
75' RT.
75' LT.

SALVAGED TOPSOIL	1,358	CU. YDS.
UNCLASSIFIED EXC.	13,185	CU. YDS.
EMBANKMENT	13,434	CU. YDS.

SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 447+50 TO STA. 462+50

60.9 60.2 57.5 54.8 53.2 52.1 50.5 49.6 47.6 46.3 46.2 45.7 45.4 45.1 45.2 45.0 44.7 44.3 44.0 43.6 43.7 43.6 43.3 42.9 43.0 42.8 41.9 41.4 41.3 41.9 40.6

448 449 450 451 452 453 454 455 456 457 458 459 460 461

State Proj. No. 55-614-10 CSAH 14 OLMSTED COUNTY **Sheet No.** 6 **of** 79 **Sheets**

RES. DR. LT. 463+73
INPL. 18" x 32' C.M.P.
REMOVE

F.E. LT. 464+50
INPL. 18" x 28' C.M.P.
REMOVE

STA. 464+09
SINGLE CULVERT FOR 2 APPROACHES
24" x 122' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 61' LT. & RT.

CONST. F.E. LT. STA. 474+25
30" x 50' C.S. PIPE CULVERT
2-30" C.S. PIPE SAFETY APRONS
(END BARREL 20' LT. & 30' RT.)

℄ CULV. 475+87
INPL. 36" x 58' C.M.P.
REMOVE
48" x 84' R.C. PIPE
2-48" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
CONST. TIMBER WEIR AT INLET APRON
CONST. RIPRAP AT OUTLET APRON
20 CU. YDS. RANDOM RIPRAP CL. 3 - 18" DEPTH
9" GRANULAR FILTER OR GEOTEXTILE
FILTER MATERIAL

PI 476+91.649
Δ LT. 00°00'23"

POT 470+26.09

T.E. +53
120'
T.E. +93

+00 T.E. +00 35' T.E. +00 10' T.E. +00

60' 27' BITUMINOUS SURFACE INPLACE 33'

465+00 470+00 475+00

26' 60' 20' T.E. 23' 85' 40' T.E. +40 +65 10'

F.E. RT. 462+26
INPL. 18" x 28' C.M.P.
REMOVE
NO CULV. REQ'D.

℄ CULV. 465+08
INPL. 18" x 36' C.M.P.
REMOVE
24" x 86' R.C. PIPE
2-24" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
CONST. DITCH BLOCK AT INLET

CONST. F.E. RT. STA. 471+00
18" x 48' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 20' RT. & 28' LT.)

CONST. 8" TILE CROSSING STA. 476+05
8" x 120' C.S. PIPE DRAIN
5 LIN. FT. C.S. INSPECTION TEE 59' LT.
5 LIN. FT. C.S. INSPECTION TEE 59' RT.
PLUGS AT INLET & OUTLET

RES. DR. RT. 475+23
INPL. 15" x 36' C.M.P.
REMOVE
18" x 64' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 38' LT. & 26' RT.)

CL. 5 TREES — GR. 5 TREES

CL. 0.36 ACRES — GR 0.36 ACRES

CL. 64 TREES — GR. 59 TREES

SPK. IN P. POLE 33
LT. STA. 469+80
ELEV. 1038.28

℄ SUBGRADE ELEVATION

40.66 40.16 39.66 39.16 38.66 38.2979 38.16 37.42 36.25 34.64 32.60 30.11 28.82478 22.26 24.74 22.98 21.98 21.74

ELEV. ELEV. ELEV.

1040 1030 1020 1010

-0.5%

INLET ELEV. 35.9
OUTLET ELEV. 31.0

P.I. 462+00
ELEV. 1040.655

PVC +96.04167

P.I. 469+71.04167
ELEV. 1036.79979
550' V.C.
M = 1.65

+27
PVT +46.04167

PVC +00

-2.9%

TOP WEIR ELEV. 16.2
INLET ELEV. 14.2
OUTLET ELEV. 12.6

P.I. 475+50
ELEV. 1020.01
500' V.C.
M = 2.375

℄ SUBGRADE ELEVATION

CENTERLINE
75' RT.
75' LT.

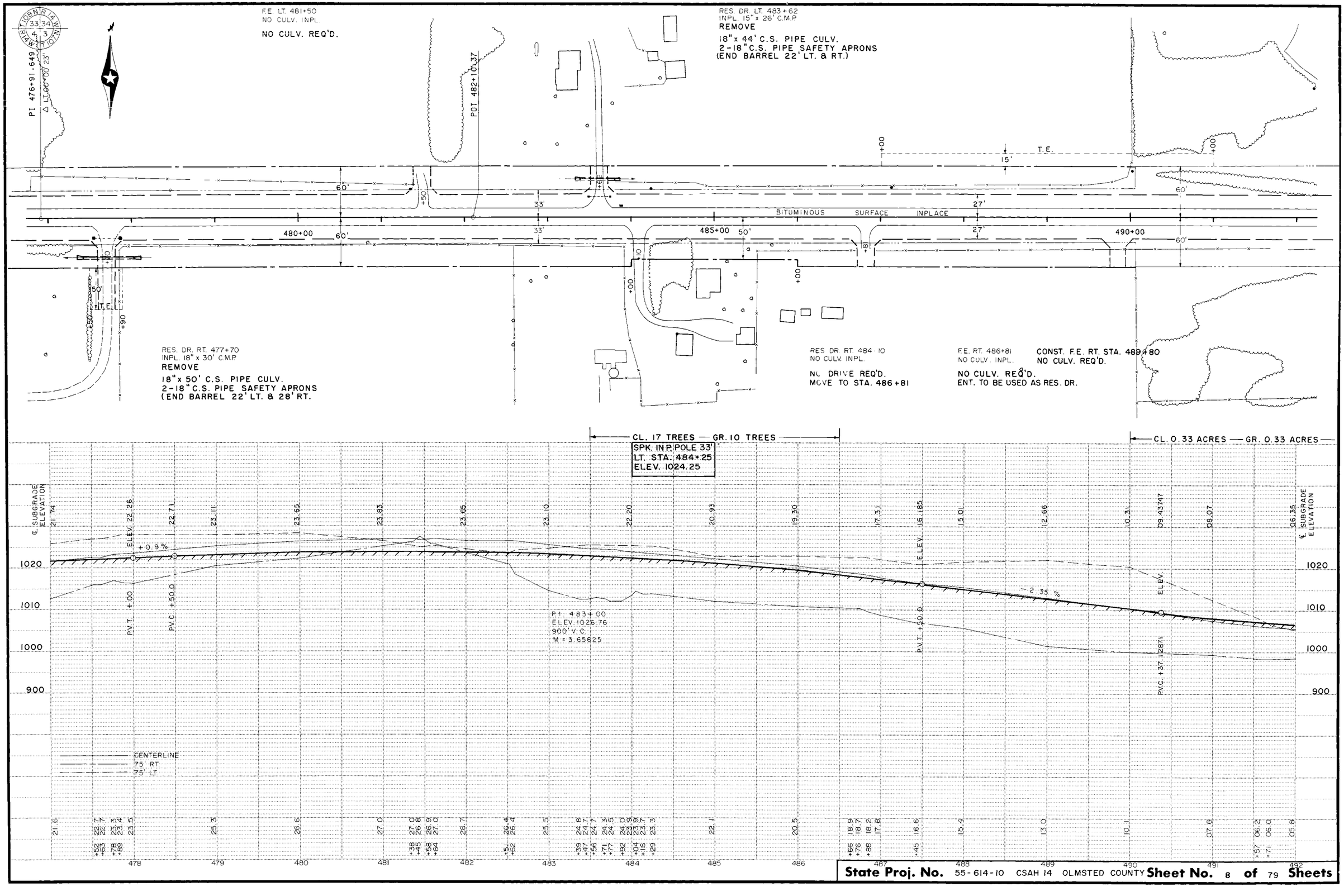
SALVAGED TOPSOIL	1,080	CU.YDS.
UNCLASSIFIED EXC.	9,073	CU.YDS.
EMBANKMENT	11,318	CU.YDS.

SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 466+50 TO STA. 515+00.

40.6 40.4 39.9 39.7 38.9 37.9 38.0 37.5 37.6 37.6 37.3 37.3 37.1 36.9 36.9 36.9 37.0 37.0 37.9 38.2 38.4 38.7 39.5 39.8 39.9 39.1 38.6 38.2 36.5 33.7 32.8 28.1 27.4 27.1 26.2 24.6 22.9 22.5 21.8 21.4 21.0 21.0 21.1 21.3 21.4 21.6

+10 +17 +34 +40 +63 +79 +89 +36 +41 +62 +69 +82 +45 +35 +41 +69 +60 +45 +78 +87 +14 +35 +62 +16 +31 +45 +90 +26 64 +88 +92

463 464 465 466 467 468 469 470 471 472 473 474 475 476 477


T 106 R 14 W
33 34
4 3
P.I. 476+91.649
Δ I 00° 00' 23"
F.E. LT. 481+50
NO CULV. INPL.
NO CULV. REQ'D.
POT 482+10.37
RES. DR. LT. 483+62
INPL. 15" x 26' C.M.P.
REMOVE
18" x 44' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 22' LT. & RT.)
T.E.
15'
60'
33'
27'
BITUMINOUS SURFACE INPLACE
480+00
485+00
490+00
50'
T.E.
RES. DR. RT. 477+70
INPL. 18" x 30' C.M.P.
REMOVE
18" x 50' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 22' LT. & 28' RT.
RES. DR. RT. 484+10
NO CULV. INPL.
NO DRIVE REQ'D.
MOVE TO STA. 486+81
F.E. RT. 486+81
NO CULV. INPL.
NO CULV. REQ'D.
ENT. TO BE USED AS RES. DR.
CONST. F.E. RT. STA. 489+80
NO CULV. REQ'D.
CL. 17 TREES — GR. 10 TREES
CL. 0.33 ACRES — GR. 0.33 ACRES
SPK. IN P. POLE 33' LT. STA. 484+25 ELEV. 1024.25
℄ SUBGRADE ELEVATION
ELEV. 22.26
+0.9%
P.V.T. +00
P.V.C. +50.0
P.I. 483+00
ELEV. 1026.76
900' V.C.
M = 3.65625
ELEV. 18.185
-2.35%
P.V.T. +50.0
P.V.C. +37.1 2871
1020
1010
1000
900
CENTERLINE
75' RT
75' LT
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492

RES. DR. LT. 492+62
INPL. 15" x 26' C.M.P
REMOVE

MOVE DR. TO STA. 492+55
24"x40' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 18' LT. & 22' RT.)

℄ CULV 494+42
INPL. W105 x 39'+30" CONC BOX
BR. NO. 88731
REMOVE CONC. BOX CULV.

CONST. ℄ CULV. STA. 494+42 SKEW 30°
102" SPAN x 94' R.C. PIPE-ARCH CL. II A
2-102" SPAN R.C. PIPE-ARCH APRONS
45 CU.YDS. (CV) GRANULAR BEDDING

CONST. ℄ CULV. STA. 494+59.7 SKEW 30°
102" SPAN x 94' R.C. PIPE-ARCH CL. II A
2-102" SPAN R.C. PIPE-ARCH APRONS
45 CU.YDS. (CV) GRANULAR BEDDING

CONST. RIPRAP AT OUTLET APRONS STA. 494+42 & STA. 494+59.7
120 CU.YDS. RANDOM RIPRAP CL.3 18" DEPTH
9" GRANULAR FILTER OR GEOTEXTILE FILTER MATERIAL

CR 112 LT 503+29
NO CULV. INPL.
NO CULV. REQ'D.

CONST. 10" TILE CROSSING STA. 494+80
10"x138' C.S. PIPE DRAIN
5 LIN. FT. C.S. INSP. TEE 59' LT.
5 LIN. FT. C.S. INSP. TEE 59' RT.
SKEW PIPE 30°
PLUGS AT INLET & OUTLET

FE. RT 497+30
INPL. 18"x 28' C.M.P W/2 APRONS
REMOVE 33 LIN. FT.

30"x 50' C.S. PIPE CULV.
2-30" C.S. PIPE SAFETY APRONS
(END BARREL 21' LT. & 29' RT.

CR 112 RT 503+29
INPL. 24"x 80' R.C. PIPE W/2- APRONS
SALVAGE 24"x 80' R.C. PIPE CULV.
SALVAGE 2-24" R.C. PIPE APRONS

INSTALL 24"x80' R.C. PIPE CULVERT
INSTALL 2-24" R.C. PIPE APRONS
F & I CONCRETE PIPE TIES

SAW BITUMINOUS
83' LT. ON C.R.112
40 LIN. FT.

SAW BITUMINOUS
100' RT. ON C.R.112
40 LIN. FT.

RIGHT TURN LANE

BEGIN TAPER +10 15:1 TAPER END TAPER +00

BITUMINOUS SURFACE INPLACE

P.I. 503+29.18
Δ RT. 00° 00' 49" CR 112

+00 BEGIN TAPER

CL. 10 TREES — GR. 5 TREES

TOP SURVEY MARKER
S.E. COR. INTERS.
ELEV. 1022.28

℄ SUBGRADE ELEVATION

INLET ELEV. 95.8
OUTLET ELEV. 95.6

P.I. 494+87.1287
ELEV. 998.86247
900' V.C.
M = 5.68125

P.V.T. +37.1287 ELEV. 01.0248

+2.7 %

P.V.C. +35.0 ELEV. 13.655

P.I. 506+50.0
ELEV. 1030.26
1230' V.C.
M = 8.3025

CENTERLINE
75' RT.
75' LT.

RES. DR. LT. 510+10
INPL. 18" x 32' C.M.P
REMOVE
18"x 48' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(BARREL 21' LT. & 27' RT.

TWP. RD. LT. 516+57
INPL. 18" x 60' C.M.P. W/2 APRONS
REMOVE 65 LIN. FT.
18"x 68' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(BARREL 30' LT. & 38' RT.)

SAFARI ESTATES OUTLOT "F"

TWP. ROAD

+00 BEGIN TAPER
+90 END TAPER
POT 508+62.80
+10
+80 BEGIN TAPER
+70 END TAPER
15:1 TAPER
33'
60'
33'
30' R
RIGHT TURN LANE
BITUMINOUS SURFACE INPLACE
510+00
515+00
520+00
SAVE PINES
15'
T.E.
+78
+00

PARCEL A
PARCEL B
PARCEL C

RES. DR. RT. 512+00
INPL. 18"x 32' C.M.P.
REMOVE
18"x 58' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(BARREL 33' LT. & 25' RT.

℄ CULV. 516+16
INPL. 2-30"x 38' C.M.P.
REMOVE 76 LIN. FT.
MOVE CULV. TO STA. 516+00
73" SPAN x 78' R.C. PIPE-ARCH CL. II A
2-73" SPAN R.C. PIPE-ARCH APRONS
PLACE CULV. ON "B" BEDDING
CONST. TIMBER WEIR AT INLET APRON

RES. DR. RT. 520+78
INPL. 18" x 32' C.M.P
REMOVE
18"x 64' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(BARREL 28' LT. & 36' RT.)

℄ SUBGRADE ELEVATION
1020
1010
1000
990
ELEV
PVT + 65.0
PVC + 65.0
7.2%
PVT + 135.0
PVC + 115.0
4.3%
TOP WEIR ELEV. 03.3
INLET ELEV. 01.3
OUTLET ELEV. 98.3
P.I. 516+00
ELEV. 1004.61
670' V.C.
M = 4.27.25

CENTERLINE
75' RT.
75' LT.

SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 517+50 TO STA. 530+50.

508 509 510 511 512 513 514 515 516 517 518 519 520 521 522

TWP RD LT 529+66
NO CULV. INPL.
NO CULV. REQ'D.

℄ CULV. 530+16
INPL. 2 24" x 34' C.M.P.
REMOVE 68 LIN. FT.
36" x 78' R.C. PIPE
2-36" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING

P.I. 535+89.14
Delta 19° 59' 43.1"
D 3° 00' 00"
T 336.681'
L 666.513'
R 1909.869'
RATE OF SUPERELEVATION 0.05'/FT.
LENGTH OF RUNOFF 240'

P.C. 532+52.46
+00 BEGIN TAPER
+90 END TAPER
15:1 TAPER

PT 529+65.81
ΔRT. 00° 22' 32"
TWP. RD.
+66
30' R
30' R

T.E.
+00
10'
60'
33'
50'
27'
SAVE TREE
SAVE TREE
BITUMINOUS SURFACE INPLACE
525+00
530+00
535+00
RIGHT TURN LANE
33'
33'
33'
27'
60'
60'
27'
60'
15'
T.E.
+00
+30
30'
T.
E.
+15
+55

PARCEL C
PARCEL D

CONST. DITCH BLOCK RT. STA. 526+00
TOP DITCH BLOCK ELEV. 1019.1

RES. DR. RT. 531 34
INPL. 24" x 24' C.M.P.
REMOVE
30" x 52' C.S. PIPE CULV.
2-30" C.S. PIPE SAFETY APRONS
(END BARREL 24' LT. & 28' RT.)

CL. 12 TREES GR. 10 TREES
CL. 0.83 ACRES — GR. 0.83 ACRES

SPK. IN P. POLE
40' LT. STA. 523+00
ELEV. 1021.67

BOLT IN P. POLE
34' LT. STA. 529+50
ELEV. 1020.63

℄ SUBGRADE ELEVATIONS
17.67 19.00 19.94 20.82 21.18 21.54 21.90 22.26 22.62 22.98 23.34 24.08 25.58 27.84 30.86
℄ SUBGRADE ELEVATIONS

P.V.T. +85.0 ELEV. 20.406
20.46
+0.36%
SPECIAL DITCH GRADE RIGHT -0.5%
H-H
INLET ELEV. 16.1
OUTLET ELEV. 15.8
P.V.C. +00
ELEV.
ELEV.
P.V.T. +00

1030
1020
1010

P.I. 522+50
ELEV. 1019.56
470' V.C.
M = 1.198%

P.I. 535+00
ELEV. 1024.06
400' V.C.
M = 1.52%

16.2 17.7 17.2 16.7 16.2

+42

CENTERLINE
75' RT.
75' LT.

21.5 22.6 22.7 22.4 21.9 21.5 21.4 21.3 21.2 21.3 21.3 21.3 21.4 21.3 21.3 21.4 21.5 21.3 21.2 21.7 22.3 23.9 24.2 26.1
+38 +59 +66 +10 +17 +28 +41 +48 +63

523 524 525 526 527 528 529 530 531 532 533 534 535 536 537

SALVAGED TOPSOIL 3,753 CU. YDS.
UNCLASSIFIED EXC. 40,133 CU. YDS.
EMBANKMENT 43,989 CU. YDS.

P.I. 535+89.14
Delta 19° 59' 43.1"
D 3° 00' 00"
T 336.681'
L 666.513'
R 1909.869'
RATE OF SUPERELEVATION 0.05'/FT.
LENGTH OF RUNOFF 240'

P.T. 539+18.98

P.C. 542+25.37

P.I. 546+36.77
Delta 39° 29' 55.9"
D 5° 00' 00"
T 411.414'
L 789.980'
R 1145.920'
RATE OF SUPERELEVATION 0.059'/FT.
LENGTH OF RUNOFF 285'

P.T. 550+15.33

60'
27'
27'
33'
33'
BITUMINOUS SURFACE INPLACE
60'
110'
15'
T.E.
80'
T.E.
+62
+42
540+00
545+00
+00

RES. DR. RT. 539+50
INPL. 18" x 24' C.M.P.
REMOVE

24"x 46' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 20' LT. & 26' RT.)
MOVE DRIVE TO STA. 540+00

CL. 3 TREES — GR. 3 TREES

CL. 0.71 ACRES — GR. 0.71 ACRES

CL. 3 TREES — GR. 3 TREES

TOP SURVEY MARKER
SIGN POST RIGHT
STA. 539+00
ELEV. 1038.07

℄ SUBGRADE ELEVATION

ELEV.

1070
1060
1050
1040
1030
1020

27.84 30.86 34.04 36.79 39.10 40.98 42.42 43.43 44.00 44.13 43.83 43.10 41.93 40.32 38.28

P.V.T. +00
P.V.C. +00
+3.4 %

+69

P.I. 545+50
ELEV 1059.76
1700' V.C.
M = 15.725

SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 541+00 TO STA. 550+75

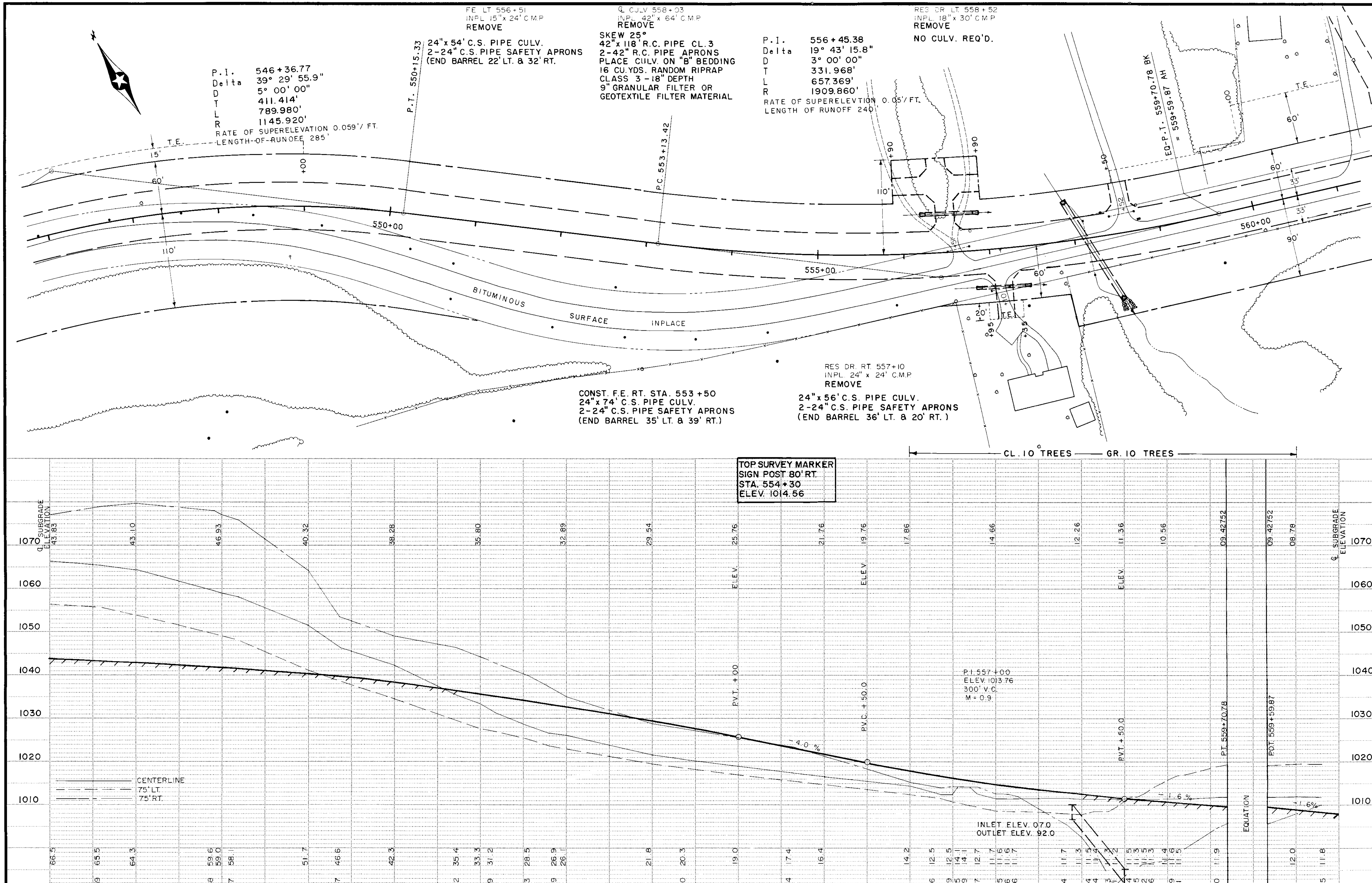
SALVAGED TOPSOIL	309	CU.YDS.
UNCLASSIFIED EXC.	5,520	CU.YDS.
EMBANKMENT	5,827	CU.YDS.

CENTERLINE
75' RT.
75' LT.

24.2 26.1 29.5 33.8 34.6 35.5 36.5 37.4 37.7 39.2 40.9 49.1 54.0 56.5 58.6 58.0 57.7 59.7 62.8 65.1 65.6 66.6 66.0 66.5 65.5 64.3 59.6 59.0 51.7 42.3

+20 +34 +46 +56 +62 +79 +31 +77 +28 +50 +67 +45 +75 +59 +88

536 537 538 539 540 541 542 543 544 545 546 547 548 549 550


P.I. 546+36.77
Delta 39° 29' 55.9"
D 5° 00' 00"
T 411.414'
L 789.980'
R 1145.920'
RATE OF SUPERELEVATION 0.059'/ FT.
LENGTH OF RUNOFF 285'
FE LT 556+51
INPL 15"x 24' C.M.P
REMOVE
24"x 54' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 22' LT. & 32' RT.
P.T. 550+15.33
℄ CULV 558+03
INPL 42" x 64' C.M.P
REMOVE
SKEW 25°
42" x 118' R.C. PIPE CL. 3
2-42" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
16 CU. YDS. RANDOM RIPRAP
CLASS 3 - 18" DEPTH
9" GRANULAR FILTER OR
GEOTEXTILE FILTER MATERIAL
P.C. 553+13.42
P.I. 556+45.38
Delta 19° 43' 15.8"
D 3° 00' 00"
T 331.968'
L 657.369'
R 1909.860'
RATE OF SUPERELEVTION 0.05'/ FT.
LENGTH OF RUNOFF 240'
RES DR LT 558+52
INPL 18"x 30' C M P
REMOVE
NO CULV. REQ'D.
EQ-P.T. 559+70.78 BK
= 559+59.87 AH
T.E.
550+00
555+00
560+00
BITUMINOUS SURFACE INPLACE
CONST. F.E. RT. STA. 553+50
24"x 74' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 35' LT. & 39' RT.)
RES DR. RT. 557+10
INPL. 24" x 24' C.M.P
REMOVE
24"x 56' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 36' LT. & 20' RT.)
CL. 10 TREES — GR. 10 TREES
TOP SURVEY MARKER
SIGN POST 80' RT.
STA. 554+30
ELEV. 1014.56
℄ SUBGRADE ELEVATION
1070
1060
1050
1040
1030
1020
1010
CENTERLINE
75' LT.
75' RT.
P.V.T. +00
P.V.C. +50.0
-4.0 %
P.I. 557+00
ELEV. 1013.76
300' V.C.
M = 0.9
PVT. +50.0
INLET ELEV. 07.0
OUTLET ELEV. 92.0
-1.6 %
P.T. 559+70.78
EQUATION
POT. 559+59.87
547
548
549
550
551
552
553
554
555
556
557
558
559
560

RES. DR. LT. 561+34
NO CULV INPL.

MOVE DRIVE TO 561+70
18"x 66' C.S. PIPE CULV.
2-18"C.S. PIPE SAFETY APRONS
(END BARREL 25'LT. & 41'RT.

CONST. F.E. LT. 564+15
24"x 50' C.S. PIPE CULV.
2-24"C.S. PIPE SAFETY APRONS
(END BARREL 20'LT. & 30'RT.

F.E. LT. 570+43
INPL. 30"x 37' CMP
REMOVE

30"x 62' C.S. PIPE CULV.
2-30"C.S. PIPE SAFETY APRONS
(END BARREL 18' LT. & 44'RT.

℄ CONC. BOX CULV. 571+76
INPL. W 88 x 62' CONC. BOX CULV.
WITH CONC. DROP OUTLET

REMOVE CONCRETE BOX CULV.
REMOVE CONCRETE DROP OUTL.

EQ-P.T. 559+70.78 BK
= 559+59.87 AH

T.E.

60'

170'

30'

10'

33'

27'

140'

175'

M.H.1

CONST. FIELD RD. 7

BITUMINOUS SURFACE INPLACE

560+00

565+00

570+00

90'

120'

CONST. ℄ CULV. STA. 571+80
8x6x56 LIN. FT. P.C. CONC. BOX CULV. (10'OVERFILL)
8x6x36 LIN. FT. P.C. CONC. BOX CULV. (20'OVERFILL)
8x6x108 LIN. FT. P.C. CONC. BOX CULV. (31'OVERFILL)
1x8x6 P.C. BOX CULV. END SECTION TYPE I OUTLET END SECTION
1x8x6 P.C. BOX CULV. END SECTION/WEIR & TRASH GUARD TYPE I INLET END SECTION (MODIFIED)
97 CU.YDS. (CV) GRANULAR BEDDING
54 CU.YDS. RANDOM RIPRAP CL. III 18" DEPTH
9" GRANULAR FILTER OR GEOTEXTILE FILTER MATERIAL

CONST. MANHOLE I 94' LT. STA. 571+80 DESIGN "SPECIAL"
SEE PLAN SHEET NO. 76 FOR CULV. AND MANHOLE DETAILS.

CL. 30 TREES — GR. 24 TREES
CL. 1.31 ACRES — GR. 1.31 ACRES

℄ SUBGRADE ELEVATION

PI 559+70.78 EQUATION PI 559+59.867

PVC 1+57.63733 ELEV. 1007.86325

PVT 1+57.63733

PI 562+07.63733
ELEV 1005.46325
300' V.C.
M = 0.5625

PVC 1+69.40299 ELEV 997.34856

PVT 1+69.40299

PI 569+19.40299
ELEV 983.39854
900' V.C.
M = 7.5375

M.H. NO. 1
94' LT STA. 571+80

TOP WEB ELEV. 963.30
INLET INVERT ELEV. 958.55
M.H. 1 INLET ELEV. SOUTH 957.78
M.H. 1 OUTLET ELEV. NORTH 944.65
OUTLET ELEV. 944.50

CENTERLINE
75' RT.
75' LT.

SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 558+00 TO STA. 564+10

State Proj. No. 55 614 10 C.S.A.H. 14 OLMSTED COUNTY **Sheet No.** 14 **of** 79 **Sheets**

RES DR LT 580+20
NO CULV INPL

18"x 50' C.S. PIPE CULV.
2-18" C.S. PIPE SAFETY APRONS
(END BARREL 28' LT. & 22' RT.)

℄ CULV 585+40
INPL 48" x 228' R.C. PIPE CL. 5
48" x 52' R.C. PIPE CL. 3
2-48" R.C. PIPE APRONS
NO CHANGE

PI 582+63.74
LT 00°24'36"

T 108 N R 14 W
T 107 N R 14 W
35 36 2 1

140'
60'
27'
33'
BITUMINOUS SURFACE INPLACE
575+00
580+00
RIGHT TURN LANE
585+00
90'
15:1 TAPER
BEG TAPER 0+10
END TAPER +00
50'R
+32
+81
329
319
33'
15'
+50
T.E.
+25
+40
20'
+10
30'
10' T.E.
60'
65'
40'
+65
+20
+00
+10
+58

RES. DR. RT. 574+20
INPL. 15"x 24' C.M.P.
REMOVE

24"x 54' C.S. PIPE CULV.
2-24" C.S. PIPE SAFETY APRONS
(END BARREL 20' LT. & 34' RT.

C.R. 133 RT. 582+81
INPL. 15"x 24' C.M.P.
REMOVE

NO CULV. REQ'D.

F ENT. RT. 588+15
INPL. 18"x 28' C.M.P. W/2 APRONS
REMOVE 33 LIN. FT.
NO CULV. REQ'D.

CL. 34 TREES — GR. 34 TREES
CL. 0.86 ACRES — GR. 0.86 ACRES

CL. 26 TREES — GR. 23 TREES

SPK. IN P.P. 60'
RT. STA. 574+00
ELEV. 1001.48

TOP SURVEY MARKER
60' RT. STA. 583+06
ELEV. 1017.11

℄ SUBGRADE ELEVATION

1030
1020
1010
1000
990

ELEV. 1008.6
ELEV. 1022.7
ELEV. 1019.3
ELEV. 1025.46
PVC. +25.0
PVT. +75.0
PVC. +58.0
+3.6%
+0.4%
P.I. 580+00
ELEV. 1022.30
750' V.C.
M = 3.0

00.7 04.3 07.9 08.8 11.38 14.45 17.09 19.3 21.09 22.45 23.38 23.8 23.9 24.3 24.7 25.1 25.332 25.46

+12 02.9
+29 03.9
+37 04.4
+56 05.9
575
+69 11.8
13.2
576
+81 16.1
16.6
577
+48 18.4
+87 19.5
19.9
+578
+44 20.9
579
+91 22.6
1022.7
+13 22.5
+34 22.6
+46 22.4
21.9
581
20.1
582
+46 19.4
+64 19.2
+70 19.0
+90 18.5
+583 18.2
+15 18.0
+69 17.3
16.9
584
+63 16.2
16.2
+28 16.5
585
+49 16.5
17.1
586
+43 17.9
+87 18.8
19.1
587
+50 20.2
+92 21.1
21.2
+588 21.3
08 21.3
17 21.4
+28 21.8
+36 22.0
+62 22.8
+83 23.3
23.9

CENTERLINE
75' RT.
75' LT.

SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 573+50 TO STA. 581+50

NOTE: EXCESS UNCLASSIFIED EXC. FROM C.R. NO. 133 RT. STA. 582+81 TO BE USED IN BALANCE FROM STA. 540+69 TO STA. 591+00. QUANTITY INCLUDED IN THIS BALANCE.

SALVAGED TOPSOIL	4,786	CU. YDS.
UNCLASSIFIED EXC.	112,209	CU. YDS.
EMBANKMENT	110,869	CU. YDS.

RES. DR. LT. 595+27
NO CULV. INPL.
NO CHANGE

RES DR LT. 596+29
NO CULV. INPL.
NO CHANGE

END: S.P. 55-614-10
STA. 591+00.00

POT 594+00.00

+27

+29

27'
27'
BITUMINOUS
SURFACE
INPLACE

10'
12'
12'
10'

60'
60'

590+00
595+00
600+00

+31

RES. DR. RT. 591+31
INPL. 18"x 32' C.M.P. W/2 APRONS
NO CHANGE

SAW BITUMINOUS PAVEMENT
STA. 591+00
24 LIN. FT.

SPK. IN P.P. 60'
RT. STA. 601+00
ELEV. 995.75

℄ SUBGRADE ELEVATION
25.46 25.02 24.13 22.82 21.06 18.86 16.3

ELEV. 17.808

-2.6%

P.I. 591+00
ELEV. 1026.70
684' V.C.
M = 2.569

P.V.T. +42.0

1020
1010
1000
990
980

+0.0

CENTERLINE
75' RT.
75' LT.

SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 589+00 TO STA. 591+00

23.9 | 1024.8 22 25.2 | +56 26.0 | 25.7 +12 25.3 +20 25.5 +39 25.2 +51 24.9 | 24.6 | 22.1 | 19.4 +20 19.1 +28 19.1 | +91 17.3 1017.0 +21 16.1 +47 15.7 | 14.3 | +13 14.6 +21 14.0 +38 13.2 | +52 13.1 +59 12.1 +78 12.1 | 11.0 | 08.4 | +55 06.1 | 05.4 | +35 04.7 +49 04.1 +67 03.6 | +92 03.1 1002.7 +600 | +65 00.7 | 99.6 | 95.6 | 91.1 | +56 87.8 | 86.2

590 591 592 593 594 595 596 597 598 599 600 601 602 603