

CONVENTIONAL SIGNS

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 (Easement Line)	---
VACATED PLATTED PROPERTY	---
CORPORATE OR CITY LIMITS	---
TRUNK HIGHWAY CENTER LINE	---
RETAINING WALL	---
RAILROAD	---
RAILROAD RIGHT-OF-WAY LINE	---
RIVER OR CREEK	---
DRY RICK	---
BRAINAGE DITCH	---
ELECTRIC POWER LINE	---
TELEPHONE OR TELEGRAPH LINE	---
JOINT TELEPHONE AND POWER	---
CONDUIT	---
TELEPHONE CABLE - AERIAL	---
TELEPHONE CABLE - UNDERGROUND	---
POWER CABLE - UNDERGROUND	---
GAS MAIN	---
COLVERT	---
DROP INLET	---
GUARD RAIL	---
BARBED WIRE FENCE	---
WOODEN WIRE FENCE	---
CHAIN LINK FENCE	---
RAILROAD SNOW FENCE	---
STONE WALL OR FENCE	---
HEDGE	---
WATER PIPE	---
SEWER PIPE	---
DRAIN TILE	---
SPRINGS	---
MARSH	---
TIMBER	---
ORCHARD	---
BRUSH	---
NURSERIES	---
CATCH BASIN	---
MANHOLE	---
FIRE HYDRANT	---
STREET LIGHT	---
RAILROAD CROSSING SIGN	---
RAILROAD CROSSING BELL	---
ELECTRIC WARNING SIGN	---
CROSSING GATE	---
CATTLE GUARD	---
OVERPASS (Highway Over)	---
UNDERPASS (Highway Under)	---
BRIDGE	---
BUILDING (One Story Frame)	---
F FRAME	---
S STONE	---
B BRICK	---
ST STUCCO	---
IRON PIPE OR RIB	---
MONUMENT (STONE, CONCRETE, OR METAL)	---
WOODEN PILE	---
GRAVEL PIT	---
SAND PIT	---
BANDED PIT	---
ROCK QUARRY	---
MEANDER CORNER	---

Proj. No. C.P. 73-05-51

STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR GRADING BITUMINOUS BASE BITUMINOUS SURFACE

County _____ Highway No. 51

Between _____TH AVE. N.E. _____ And T.H. 242

A. POINT 1267' NORTH OF

From _____ SE COR. SEC. 13 T.31N. R.24W. _____ To _____ N.E. COR. SEC. 12 T.31N. R.24W. _____

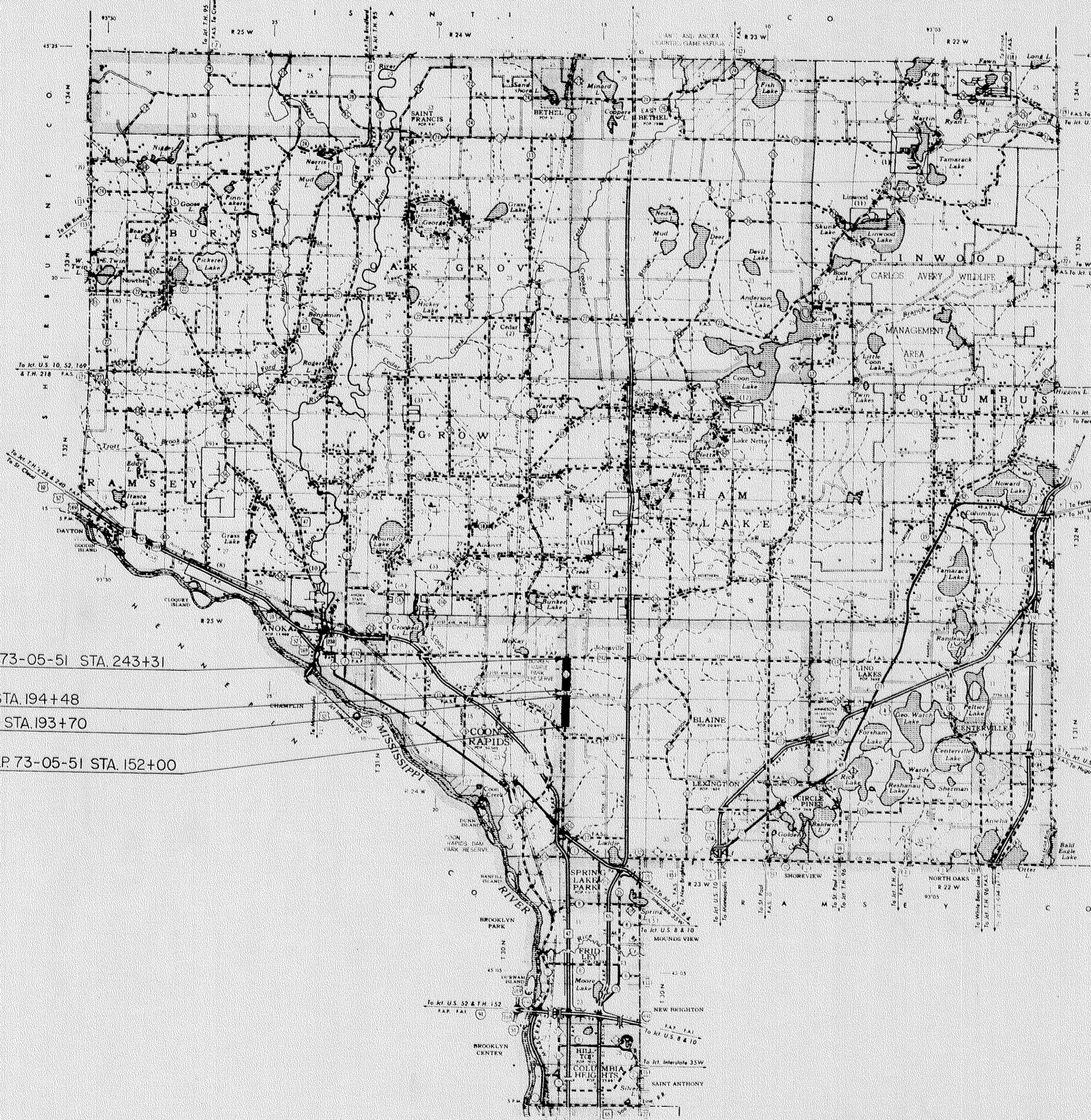
Give proper reference to Sections, Township and Range

GROSS LENGTH	9131	FEET	1.73	MILES
BRIDGES-LENGTH	78	FEET	0.014	MILES
EXCEPTIONS-LENGTH	78	FEET	0.014	MILES
NET LENGTH	9053	FEET	1.71	MILES

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 13 Cross Sections

SCALE
 PLAN 1"=50'
 PROFILE 1"=50'
 VERT. 1"=5'
 CROSS SECTIONS 1"=10'



END PROJECT C.P. 73-05-51 STA. 243+31

END EXCEPTION STA. 194+48

BEGIN EXCEPTION STA. 193+70

BEGIN PROJECT C.P. 73-05-51 STA. 152+00

DESIGN DESIGNATION

ADT (CURRENT YEAR) 1820
 ADT (FUTURE YEAR) 4186
 T (HEAVY COMMERCIAL) A.D.T. LESS THAN 300
 9 Ton Design SOIL FACTOR 50%

Design Speed LOCALLY RESTRICTED MPH
 Design Speed not achieved at:

STA _____ TO STA _____ MPH _____
 STA _____ TO STA _____ MPH _____

SPECIFICATIONS

THE "STANDARD" SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, DATED JAN. 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.

E. J. Lundheim
 COUNTY ENGINEER DATE April 18, 1973

ANOKA COUNTY REG. NO. 2551

RECOMMENDED FOR APPROVAL _____ 19____
 DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL _____ 19____

APPROVED _____ 19____
 STATE AID ENGINEER

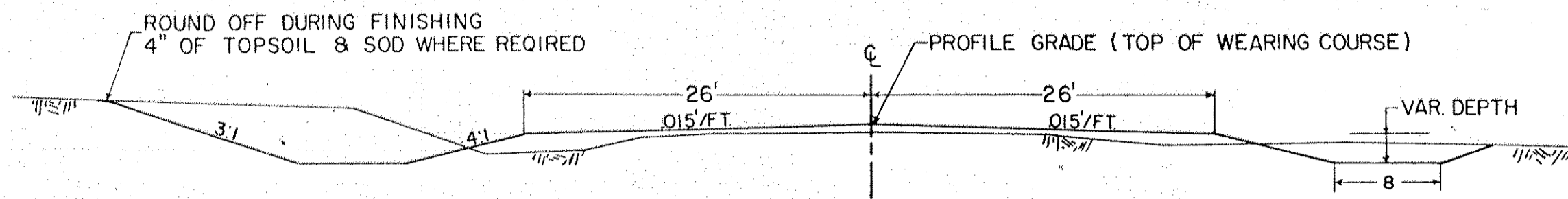
Minn. Proj. No. _____ County Proj. No. C.P. 73-05-51

State Proj. No. _____ S. A. P. _____

STATEMENT OF ESTIMATED QUANTITIES

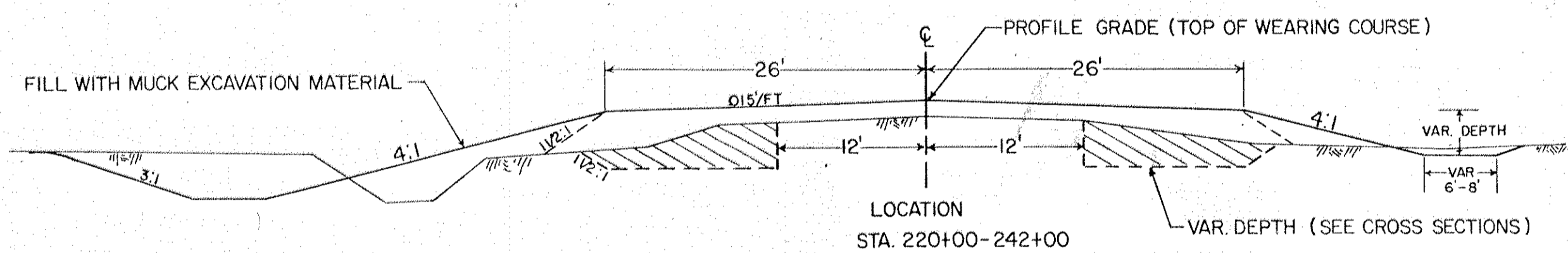
ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
2031.503	FIELD LABORATORY, TYPE - B	EACH	1
2101.501	CLEARING	ACRE	2.25
2101.502	CLEARING	TREE	44
2101.506	GRUBBING	ACRE	2.25
2101.507	GRUBBING	TREE	36
2104.501	REMOVE PIPE CULVERTS	LIN. FT.	371
2104.521	SALVAGE FENCE	LIN. FT.	1293
2104.523	SALVAGE 88" SPAN R.C.P.A. APRON	EACH	2
2105.501	COMMON EXCAVATION	CU. YD.	19,231
2105.505	MUCK EXCAVATION	CU. YD.	16,048
2105.521	GRANULAR BORROW (E.V.)	CU. YD.	20,415
2105.531	SALVAGED BITUMINOUS MIXTURE (E.V.)	CU. YD.	2,792
2105.535	SALVAGED TOPSOIL IN STOCKPILE	CU. YD.	4,046
2130.501	WATER	M - GAL.	200
2207.503	BITUMINOUS MATERIAL FOR MIXTURE	GALLON	86,345
2207.512	BITUMINOUS STABILIZED SUBGRADE (6" THICK)	SQ. YD.	27,905
2221.501	AGGREGATE SHOULDERING CLASS I	TON	3,016
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	24.6
2341.508	WEARING COURSE MIXTURE	TON	2,135
2341.510	BINDER COURSE MIXTURE	TON	2,135
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1,294
2501.571	INSTALL 15" C.M.P. CULVERT	LIN. FT.	982
2501.571	INSTALL 18" C.M.P. CULVERT	LIN. FT.	284
2501.571	INSTALL 24" C.M.P. CULVERT	LIN. FT.	74
2501.571	INSTALL 36" C.M.P. CULVERT	LIN. FT.	90
2501.573	INSTALL 15" C.M.P. APRON	EACH	8
2501.573	INSTALL 18" C.M.P. APRON	EACH	2
2501.573	INSTALL 36" C.M.P. APRON	EACH	2
2501.571	INST. 88" SPAN R.C.P. PIPE ARCH CULV. CL. II	LIN. FT.	24
2501.573	INSTALL 88" SPAN R.C.P. PIPE ARCH APRON	EACH	2
0557.604	INSTALL FENCE	LIN. FT.	1,276
0504.685	ADJUST WATER GATE HOUSINGS	HOUSING	2
2575.501	ROADSIDE SEEDING	ACRE	10.62
2575.505	SODDING	SQ. YD.	5,900
2575.511	MULCH MATERIAL TYPE I	TON	21.24
2506.522	ADJUST FRAME AND RING CASTINGS	EACH	3

TYPICAL GRADING SECTION

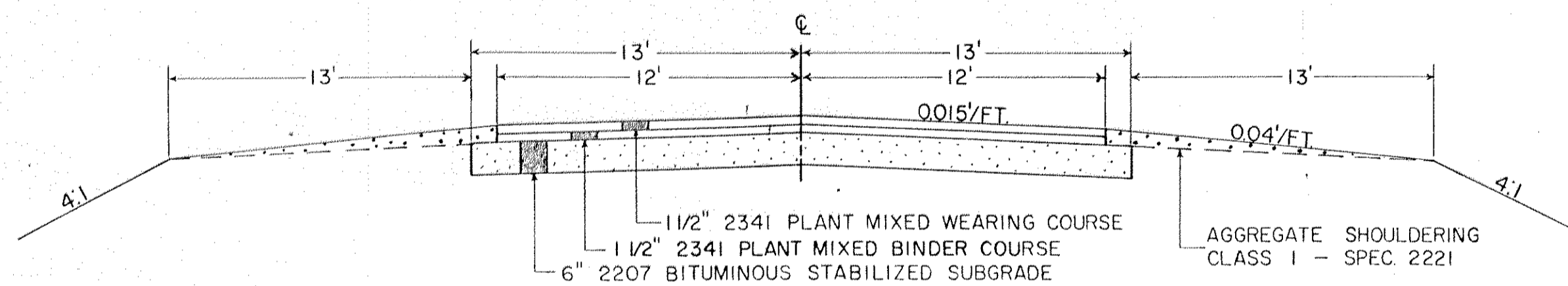


NOTE: BERM SECTION STA 153+00 TO 156+00 (SEE CROSS SECTIONS)

MUCK EXCAVATION



TYPICAL BITUMINOUS SECTION



SPECIAL DETAILS

MUCK EXCAVATION SHALL BE USED AS TOPSOIL COVERING AND SPREAD TO A UNIFORM DEPTH FROM STA. 152+00 TO STA. 220+00. THIS WORK SHALL BE INCIDENTAL TO MUCK EXCAVATION.

SALVAGE BITUMINOUS MIXTURE QUANTITIES ARE COMPUTED AS THE VOLUME OF BITUMINOUS IN ITS ORIGINAL POSITION BASED ON AVE. DEPTH OF 4" AND AVE. WIDTH OF 26'. PAYMENT FOR SALVAGED BITUMINOUS MIXTURE WILL BE MADE ON THE BASIS OF PLANNED QUANTITIES.

BASIS OF PLANNED QUANTITIES

- 2207 BITUMINOUS STABILIZED SUBGRADE BITUMINOUS MATERIAL FOR MIX, 0.5 GAL. PER. SQ. YD. PER. INCH THICKNESS. BITUMINOUS MATERIAL FOR FOG, 0.10 GAL. PER. SQ. YD.
- 2221 AGGREGATE SHOULDERING CLASS - I 140 LBS. PER. CU. FT. (COMPACTED).
- 2341 PLANT MIXED BITUMINOUS BINDER COURSE BITUMINOUS MIXTURE 165 LBS. PER. SQ. YD. BITUMINOUS MATERIAL FOR MIXTURE 4.5% BY WEIGHT.
- 2341 PLANT MIXED BITUMINOUS WEARING COURSE BITUMINOUS MIXTURE 165 LBS. PER. SQ. YD. BITUMINOUS MATERIAL FOR MIXTURE 6.0% BY WEIGHT.
- 2357 BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL. PER. SQ. YD.

FORM 21166-10-58

The following Standard Detail plates, approved by the Bureau of Public Roads, shall apply on this project.

STANDARD DETAIL PLATES	
PLATE NO.	DESCRIPTION
3014 F	REINFORCED CONCRETE PIPE ARCH
3040 C	CORRUGATED METAL PIPE
3123 F	METAL APRON FOR C.M. PIPE
8000 C	STANDARD BARRICADES
8008 D	CONTRACTORS SIGN

CLEARING AND GRUBBING

STA. TO STA.	LOCATION	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
153+66	50' LT.	3		3	
154+08 - 154+63	34' TO 40' LT.	3		3	
155+09 - 155+18	51' TO 65' LT.	3		3	
156+35 - 164+38	28' TO 70' LT.	2	.80	2	.80
166+27 - 166+40	45' LT.	2		2	
167+54	54' LT.	1		1	
168+19 - 178+60	25' TO 60' LT.	1	.90	1	.90
184+98	57' LT.	1		1	
185+04 - 185+25	35' TO 40' LT.	2		2	
185+33	55' RT.	5		5	
185+52 - 186+00	38' TO 60' LT.	5	.15	3	.15
187+02 - 187+43	42' TO 65' RT.	3		3	
187+21	41' LT.	3		3	
188+69	59' RT.	1		1	
192+95	54' RT.	1		1	
208+14 - 208+25	45' TO 55' LT.	3		3	
209+02 - 209+27	38' TO 60' LT.	4		2	
210+53 - 214+80	35' TO 68' LT.	3	.40	3	.40
215+27 - 215+97	41' TO 65' LT.	3		3	
218+53	30' LT.	1		1	
230+44 - 230+98	50' RT.	2		2	
231+95	50' RT.	1		1	

SALVAGE AND INSTALL FENCE

STATION	LOC.	SALVAGE		INSTALL	
		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
176+36 - 177+11	LT.	75'	75'		
190+20 - 193+50	LT.	347'	330'		
193+85 - 194+00	RT.	15'	15'		
197+64	LT.	24'	24'		
198+19	LT.	22'	22'		
201+30 - 208+00	LT.	670'	670'		
215+10 - 216+50	LT.	140'	140'		
TOTAL		1293'	1276'		

ADJUST M.H.'S AND GATE HOUSING'S

STA.	LOCATION	M.H. & G.V.	REMARKS
170+37	32' RT.	N.W. BELL M.H.	ADJUST BY OTHERS
177+11	20' RT.	N.W. BELL M.H.	ADJUST BY OTHERS
183+37	20' RT.	N.W. BELL M.H.	ADJUST BY OTHERS
183+45	30' RT.	G.V.	ADJUST
190+37	35' RT.	N.W. BELL M.H.	ADJUST BY OTHERS
190+52	20' RT.	WATER M.H.	ADJUST
195+24	20' RT.	WATER M.H.	ADJUST
195+30	28' RT.	G.V.	ADJUST
199+00	49' RT.	WATER M.H.	ADJUST

DRAINAGE

STA.	LOC.	INPLACE	REMARKS	REMOVE PORT. CULV.	INST. 15" C.M.P.	INST. 18" C.M.P.	INST. 24" C.M.P.	INST. 36" C.M.P.	INSTALL R.C.P.A.	INST. R.C.P.A.	SALVAGE R.C.P.A.
					LIN. FT. APR.	LIN. FT. APR.	LIN. FT. APR.	LIN. FT. APR.	APRONS EACH	88" SPAN CL. II	APRONS EACH
154+00	LT.		NO CULVERT REQUIRED								
154+56	LT.		NO CULVERT REQUIRED								
155+31	LT.		NO CULVERT REQUIRED								
155+87	LT.		NO CULVERT REQUIRED								
160+23	LT.		ENTRANCE		30'						
161+60	LT.		CROSS CULVERT								
163+17	RT.		NO CULVERT REQUIRED				66'	2			
165+16	LT.		ENTRANCE		38'						
165+93	LT.		ENTRANCE		42'						
167+06	LT.		ENTRANCE		42'						
167+38	LT.		ENTRANCE		42'						
176+52	LT.		ENTRANCE		38'						
181+20	LT.&RT.	88" SPAN X 98" R.C.P.A.	CROSS CULVERT EXTENSION						2	24	2
185+14	LT.		ENTRANCE		34'						
187+12	RT.		ENTRANCE		26'						
190+20	RT.		ENTRANCE		54'	2					
194+77	LT.	18" X 47' C.M.P.	ENTRANCE	47'	52'						
197+80	LT.	18" X 72' C.M.P.	ENTRANCE	72'	64'						
199+23	RT.	15" X 60' C.M.P.	ENTRANCE	60'	46'	2					
200+82	LT.		NO CULVERT REQUIRED								
208+74	LT.		ENTRANCE		34'						
215+12	RT.	15" X 60' C.M.P.	ENTRANCE	60'	44'	2					
216+46	RT.	15" X 30' C.M.P.	ENTRANCE	30'	38'						
216+64	LT.		ENTRANCE		28'						
217+00	RT.		ENTRANCE		34'						
220+13	LT.		ENTRANCE		60'						
229+74	RT.		ENTRANCE				76'				
229+74	LT.		ENTRANCE				74'				
230+00	LT.	36" X 54' C.M.P.	CROSS CULVERT	54'				90	2		
231+77	RT.		ENTRANCE		36'						
234+04	LT.	30" X 20' R.C.P.	ENTRANCE	20'			74				
234+07	RT.	18" X 28' C.M.P.	ENTRANCE	28'		2	68'				
234+54	LT.		CROSS CULVERT		78'						
241+34	LT.		ENTRANCE		56'						
241+81	RT.		ENTRANCE		66'						

