

STATE OF MINNESOTA CARLTON COUNTY

CONSTRUCTION PLAN FOR MILL BITUMINOUS SURFACE, BITUMINOUS SURFACING, AGGREGATE SURFACING, AND PAVEMENT MARKINGS.

PROJECT NO. C.P. 009-157-007

LOCATED ON C.R. #157 BETWEEN C.S.A.H. #6 AND MILLER ROAD (GEOGRAPHIC DESCRIPTION)
(12' NORTH OF CL-CL) (YIELD SIGN AT MILLER RD.)

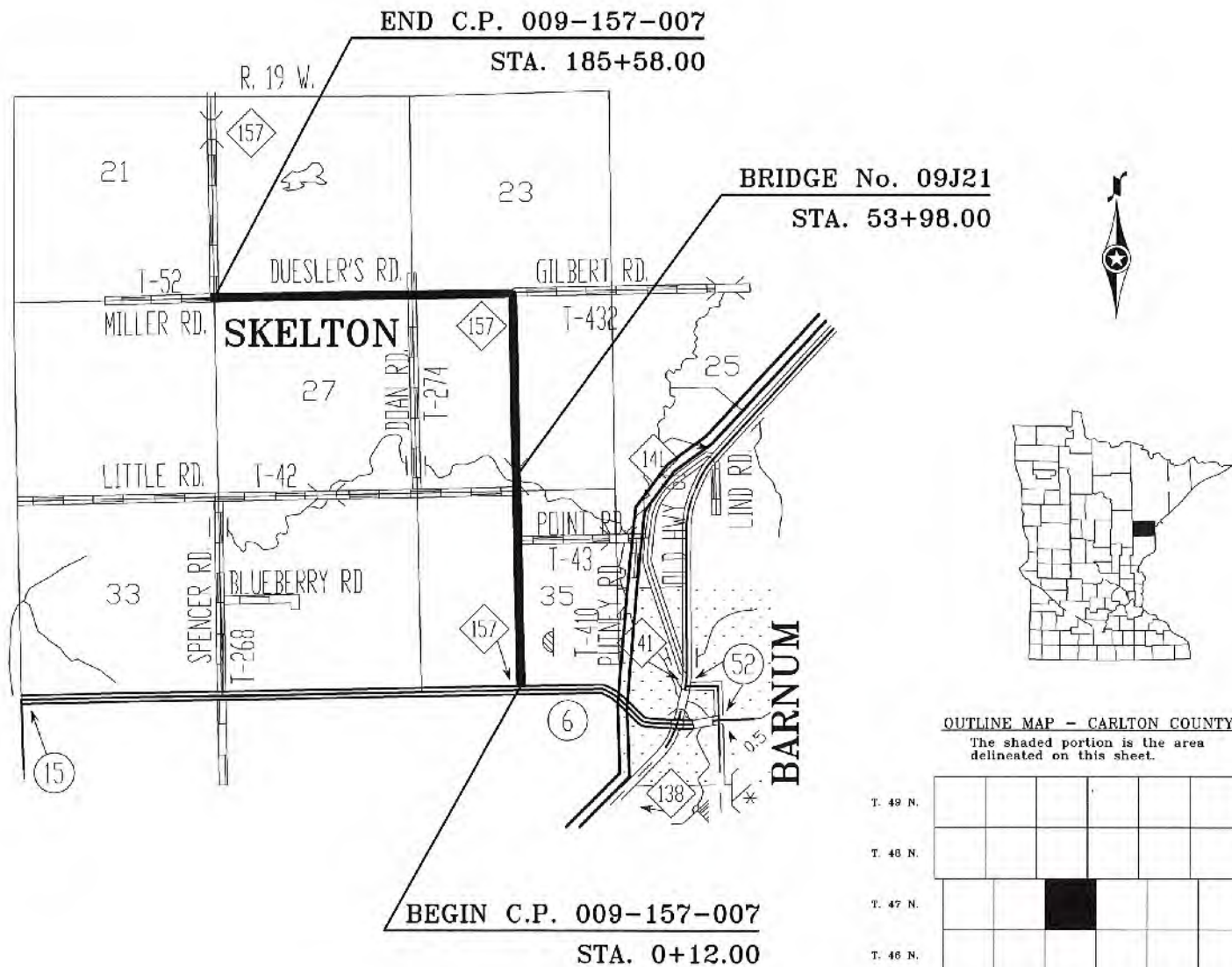
FROM 11.17 FT NORTH OF THE TO 12.00 FT WEST OF THE (LEGAL DESCRIPTION)
SOUTH QUARTER CORNER OF NORTHWEST CORNER OF
SEC. 35, T. 47 N., R. 19 W. SEC. 27, T. 47 N., R. 19 W.

GROSS LENGTH	18,546.00	FEET	3.513	MILES
BRIDGES - LENGTH	0.00	FEET	0.000	MILES
EXCEPTIONS - LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	18,546.00	FEET	3.513	MILES

STATE LINE	
COUNTY LINE	
TOWNSHIP OR RANGE LINE	
SECTION LINE	
QUARTER SECTION LINE	
SIXTEENTH SECTION LINE	
RIGHT OF WAY LINE	
SLOPE EASEMENT	
PRESENT RIGHT OF WAY LINE	
CONTROL OF ACCESS LINE	
PROPERTY LINE	
(VACATED PROPERTY LINE)	
CORPORATE OR CITY LIMITS	
TRUNK HIGHWAY CENTER LINE	
RETAINING WALL	
RAILROAD	
RAILROAD RIGHT OF WAY LINE	
RIVER OR CREEK	
DRY RUN	
DRAINAGE DITCH	
DRAIN TILE	
CULVERT	
DROP INLET	
GUARD RAIL	
BARBED WIRE FENCE	
WOVEN WIRE FENCE	
CHAIN LINK FENCE	
RAILROAD SNOW FENCE	
STONE WALL OR FENCE	
HEDGE	
RAILROAD CROSSING SIGN	
RAILROAD CROSSING BELL	
ELECTRICAL WARNING SIGN	
CROSSING GATE	
MEANDER CORNER	
SPRINGS	
MARSH	
TIMBER	
ORCHARD	
BRUSH	
NURSERY	
CATCH BASIN	
FIRE HYDRANT	
CATTLE GUARD	
OVERPASS (Highway Over)	
UNDERPASS (Highway Under)	
BRIDGE	
BRIDGE (See Sign Frame)	
IRON PIPE OR ROD	
MONUMENT (Stone, Concrete, or Metal)	
WOODEN HUB	
GRAVEL PIT	
SAND PIT	
BORROW PIT	
ROCK QUARRY	
UTILITIES SYMBOLS	
POWER POLE LINE	
TELEPHONE OR TELEGRAPH POLE LINE	
JOINT TELEPHONE AND POWER ON POWER POLES	
JOINT TELEPHONE AND POWER ON TELEPHONE POLES	
ANCHOR	
STEEL TOWER	
STREET LIGHT	
PEDESTAL (Telephone Cable Terminal)	
GAS MAIN	
WATER MAIN	
CONDUIT	
TELEPHONE CABLE IN CONDUIT	
ELECTRIC CABLE IN CONDUIT	
TELEPHONE MANHOLE	
ELECTRIC MANHOLE	
BURIED TELEPHONE CABLE	
BURIED ELECTRIC CABLE	
AERIAL TELEPHONE CABLE	
SEWER (SANITARY OR STORM)	
SEWER MANHOLE	

SCALES

INDEX MAP 0 2640 FEET



OUTLINE MAP - CARLTON COUNTY

The shaded portion is the area delineated on this sheet.

T. 49 N.						
T. 48 N.						
T. 47 N.						
T. 46 N.						
	R. 21 W.	R. 20 W.	R. 19 W.	R. 18 W.	R. 17 W.	R. 16 W.

GOVERNING SPECIFICATIONS

THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION
"STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

DESCRIPTION	INDEX	SHEET NO.
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TRAFFIC CONTROL PLAN	12	12

(THIS PLAN CONTAINS 12 SHEETS)

DESIGN DESIGNATION

FUNCTIONAL CLASS=	<u>MINOR COLLECTOR</u>
TON DESIGN=	<u>10 TON</u>
PRESENT ADT. (YEAR)=	<u>259 (2017)</u>
PROJ. ADT. (YEAR)=	<u>285 (2037)</u>
PROJ. HCADT.	<u><150</u>
DESIGN SPEED=	<u>50 M.P.H.</u>
N18=	<u>N&S= 87,861 AND E&W= 55,129</u>
R-VALUE=	<u>N&S= 30-70 AND E&W= 20</u>
SOIL FACTOR=	<u>100 %</u>
TRAFFIC LANES/WIDTH=	<u>2/11 FT.</u>
SHOULDER WIDTH=	<u>0.5 & 2.5 FT. GRAVEL</u>
BASED ON STOPPING SIGHT DISTANCE:	
HEIGHT OF EYE=	<u>3.5 FT.</u>
HEIGHT OF OBJECT=	<u>2.0 FT.</u>
DESIGN SPEED NOT ACHIEVED AT:	
STA.	<u> </u> TO STA. <u> </u>

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.

Michael L. Tardy
MICHAEL L. TARDY, CARLTON COUNTY ENGINEER, LICENSE NO. 19416
DATE 3/29 2017

ESTIMATED QUANTITIES

SHEET NO.	NOTE NO.	SPECIFICATION NO.	SPECIFICATION ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
		2021.501	MOBILIZATION	LUMP SUM	1
5		2104.513	SAWING BITUMINOUS PAVEMENT	LIN FT	92
9-11	11	2118.501	AGGREGATE SURFACING CLASS 1	TON	591
3 AND 11	3	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	8376
3 AND 9	3	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	26,150
9-11	4	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	6545
9-11	5	2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (2,C)	TON	6897
8	1, 2, 12	2540.602	MAIL BOX SUPPORT	EACH	18
	1	2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
12	1	2563.601	TRAFFIC CONTROL	LUMP SUM	1
6	1, 13	2564.531	SIGN PANELS TYPE C	SQ FT	99.0
7	2, 6	2582.502	4" SOLID LINE PAINT	LIN FT	27,706
7	2, 7	2582.502	4" BROKEN LINE PAINT	LIN FT	6220
7	2, 8	2582.502	4" SOLID LINE EPOXY GROUND IN	LIN FT	13,853
7	2, 9	2582.502	6" SOLID LINE EPOXY GROUND IN	LIN FT	37,054
7	2, 10	2582.502	4" BROKEN LINE EPOXY GROUND IN	LIN FT	3110

BASIS FOR ESTIMATED QUANTITIES

- ① SEE SPECIAL PROVISIONS FOR DETAILS.
- ② LOCATIONS SHALL BE STAKED IN THE FIELD BY THE ENGINEER.
- ③ MILL BITUMINOUS SURFACE IS BASED ON THE ACTUAL AREA OF BITUMINOUS PAVEMENT TO BE MILLED AT A NOMINAL DEPTH AS DETAILED IN THE TYPICAL SECTION SHEETS. SEE TYPICAL SECTION SHEETS 9 AND 11 FOR LENGTHS, WIDTHS, AND NOMINAL DEPTHS.
- ④ BITUMINOUS MATERIAL FOR TACK COAT IS BASED ON 0.060 GAL./SQ. YD. FOR NON-MILLED SURFACES AND 0.10 GAL./SQ. YD. FOR MILLED SURFACES.
- ⑤ TYPE SP 12.5 WEARING COURSE MIXTURE (2,C) (SPWEB240C) IS BASED ON 113 LBS./SQ. YD./INCH AND INCLUDES 211 TONS FOR 7 ROAD APPROACHES AND 3 TONS FOR 1 BITUMINOUS DRIVEWAY.
- ⑥ 4" SOLID LINE PAINT IS BASED ON THE ACTUAL LENGTH OF YELLOW PAINT APPLIED AND SHALL BE USED AS TEMPORARY LANE MARKINGS AFTER EACH DAY'S OPERATION HAS BEEN COMPLETED. THIS QUANTITY IS BASED ON 2 APPLICATIONS.
- ⑦ 4" BROKEN LINE PAINT IS BASED ON THE ACTUAL LENGTH OF YELLOW PAINT APPLIED USING 10 FOOT STRIPE AND 40 FOOT GAP CYCLE AND SHALL BE USED AS TEMPORARY LANE MARKINGS AFTER EACH DAY'S OPERATION HAS BEEN COMPLETED. THIS QUANTITY IS BASED ON 2 APPLICATIONS.
- ⑧ 4" SOLID LINE EPOXY GROUND IN IS BASED ON THE ACTUAL LENGTH OF YELLOW EPOXY GROUND IN APPLIED AND SHALL BE USED AS PERMANENT LANE MARKINGS AFTER THE APPROPRIATE BITUMINOUS PAVEMENT CURE TIME HAS BEEN ACHIEVED AS SPELLED OUT IN THE SPECIAL PROVISIONS.
- ⑨ 6" SOLID LINE EPOXY GROUND IN IS BASED ON THE ACTUAL LENGTH OF WHITE EPOXY GROUND IN APPLIED AND SHALL BE USED AS PERMANENT LANE MARKINGS AFTER THE APPROPRIATE BITUMINOUS PAVEMENT CURE TIME HAS BEEN ACHIEVED AS SPELLED OUT IN THE SPECIAL PROVISIONS.
- ⑩ 4" BROKEN LINE EPOXY GROUND IN IS BASED ON THE ACTUAL LENGTH OF YELLOW EPOXY GROUND IN APPLIED USING 10 FOOT STRIPE AND 40 FOOT GAP CYCLE AND SHALL BE USED AS PERMANENT LANE MARKINGS AFTER THE APPROPRIATE BITUMINOUS PAVEMENT CURE TIME HAS BEEN ACHIEVED AS SPELLED OUT IN THE SPECIAL PROVISIONS.
- ⑪ AGGREGATE SURFACING CLASS 1 IS BASED ON 135 LBS./CU.FT. AND WILL BE PLACED AS SHOULDERING MATERIAL. THIS QUANTITY INCLUDES 69 TONS FOR 33 EXISTING GRAVEL DRIVEWAYS, BASED ON 12' LENGTH BY 19.9' WIDTH AND 2-12' RADII.
- ⑫ MAIL BOX SUPPORT SHALL INCLUDE REMOVING THE EXISTING MAIL BOX SUPPORT; SALVAGING THE EXISTING MAIL BOX OR FURNISHING AND INSTALLING A RECOMMENDED MAIL BOX ON THE NEW SUPPORT IF THE INPLACE MAIL BOX IS DAMAGED, NOT ABLE TO BE SALVAGED, OR FURNISHED BY THE OWNER.

STANDARD DETAIL PLATES

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

PLATE NO.	DESCRIPTION
8000 J	CHANNELIZERS (3 SHEETS)
9350 A	MAILBOX SUPPORT SWING-AWAY TYPE

UTILITY SUBSURFACE STATEMENT

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "D." THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

UTILITIES ON THIS PROJECT

ALL UTILITIES AND CONTACT PHONE NUMBERS ON THIS PROJECT SHALL BE VERIFIED WITH A GOPHER STATE ONE CALL.

CENTURY LINK (720) 578-8090	LAKE COUNTY POWER (800) 421-9959
MINNESOTA POWER (800) 228-4966	MINNESOTA ENERGY RESOURCES (800) 889-9508
NORTHERN NATURAL GAS (877) 654-0646	MAGELLAN MIDSTREAM PARTNERS (918) 574-7098

PREVIOUS CONSTRUCTION

PROJECT NO.	YEAR	DESCRIPTION
C.P. 09-157-01	1997	GRADING (GILBERT RD. TO 1000' NORTH OF MILLER RD.)
C.P. 09-157-02	1998	BITUMINOUS SURFACE (CSAH #6 TO 2.0 MILES NORTH, GILBERT RD.)
C.P. 09-157-03	2000	BITUMINOUS SURFACE (GILBERT RD. TO 0.9 MILES WEST)
C.P. 009-157-006	2012	BITUMINOUS REPAIR PATCH (2012 FLOOD EVENT)
S.A.P. 009-598-009	2012	BRIDGE No. 09J26 & APPROACHES (2012 FLOOD EVENT)
S.A.P. 009-598-010	2012	BRIDGE No. 09J21 & APPROACHES (2012 FLOOD EVENT)

BASIS FOR ESTIMATED QUANTITIES CONTINUED

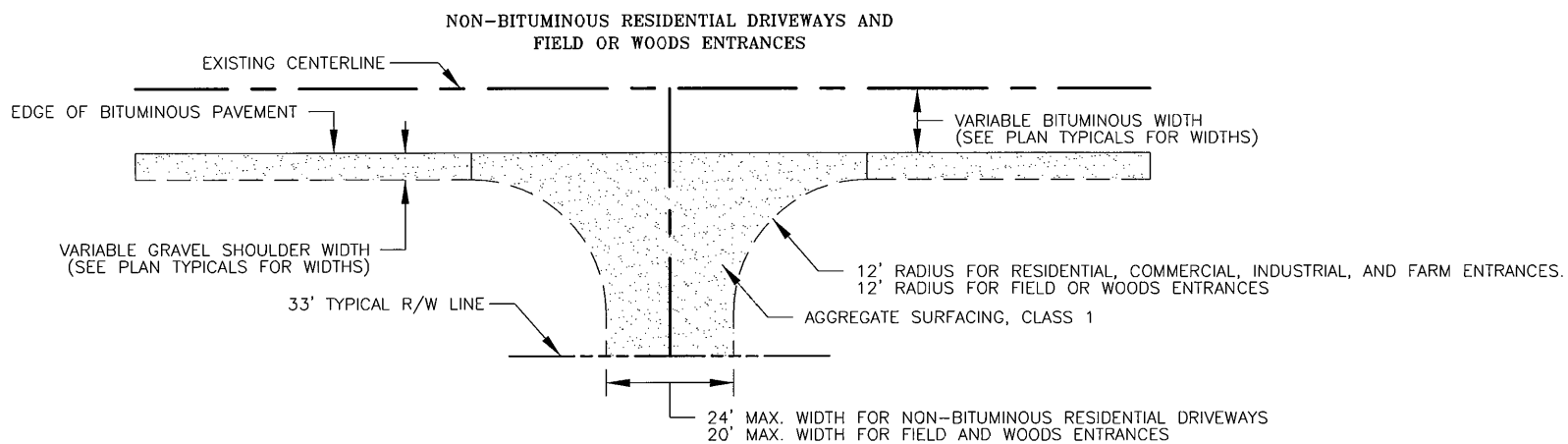
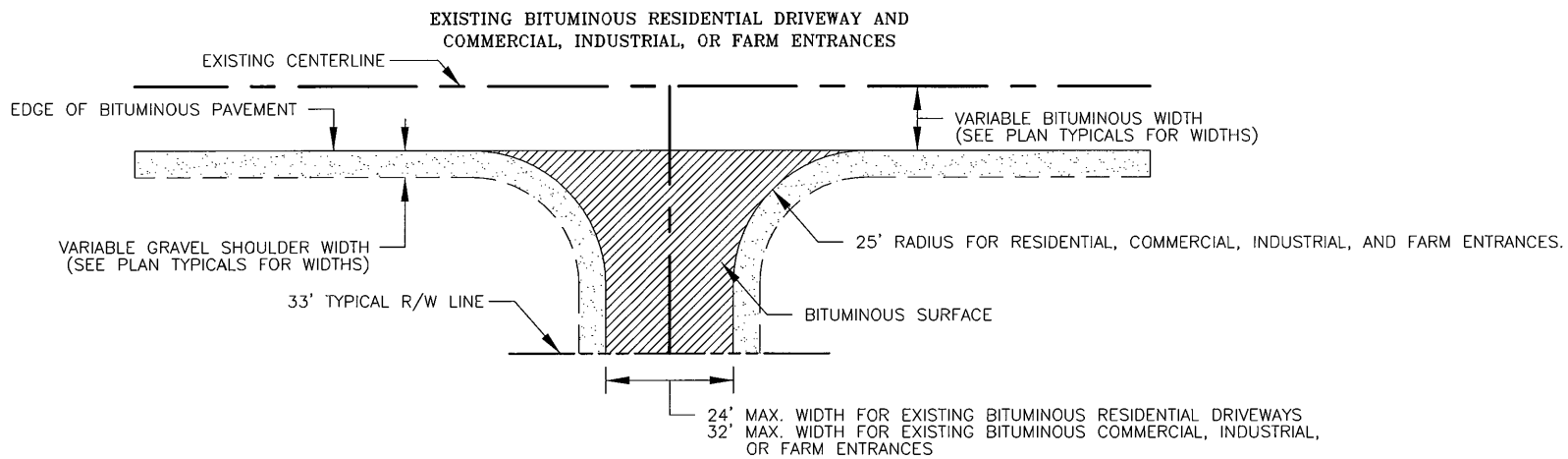
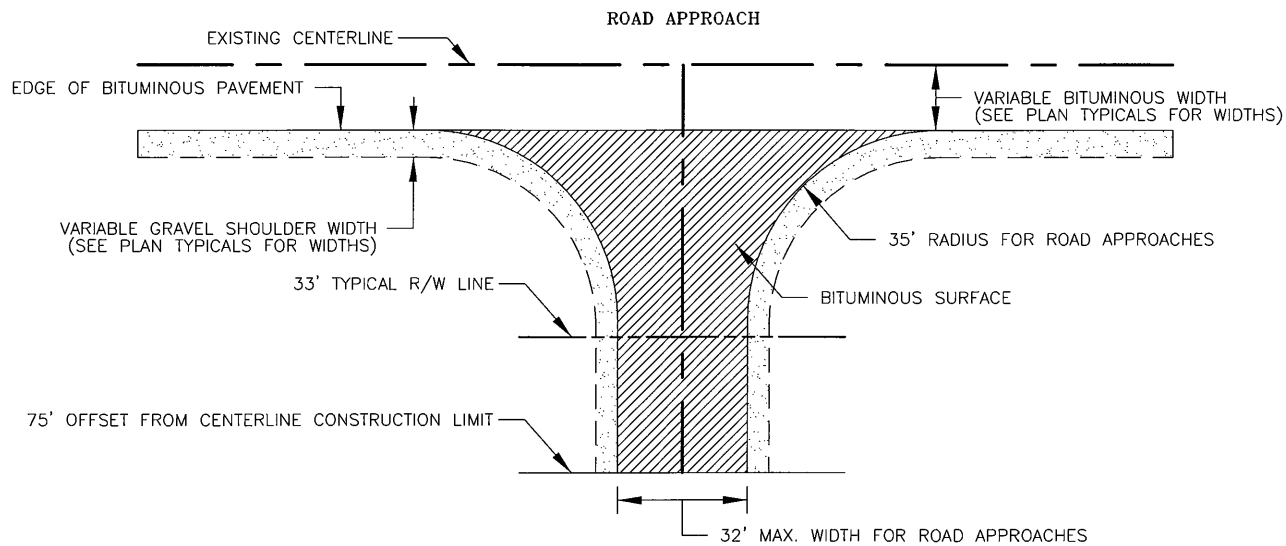
- ⑬ SIGN PANEL TYPE C SHALL INCLUDE PROVIDING AND INSTALLING THE FLANGED CHANNEL SIGN POSTS (1-TOP AND 1-BOTTOM), STRINGERS, BRACKETS, AND ATTACHMENT ANGLES OR STRAP MOUNTING HARDWARE FOR SIGN PANEL ATTACHMENT. ALL SIGNS SHALL CONFORM TO THE MOST CURRENT VERSION OF THE MINNESOTA STANDARD SIGNS MANUAL AND THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES UNLESS OTHERWISE NOTED IN THE SPECIAL PROVISIONS. THIS QUANTITY SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE EXISTING POSTS AND ALL HARDWARE ATTACHED. THE EXISTING SIGNS SHALL BE SALVAGED AND PLACED IN ONE LOCATION TO BE RETAINED BY THE AGENCY.

ESTIMATED QUANTITIES

STANDARD PLATES

RECOMMENDED APPROACH AND ENTRANCE DETAILS

CONSTRUCTION NOTE: PLACE BITUMINOUS SURFACES AND AGGREGATE SURFACING CLASS 1 SURFACES TO THE RECOMMENDED DETAILS OR OTHERWISE AS STAKED IN THE FIELD AS DIRECTED BY THE ENGINEER.



APPROACH AND ENTRANCE TABULATION

STATION	LOCATION	TYPE	EXISTING SURFACE	REMARKS
9+56	LT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
11+16	RT	DRIVEWAY #3660	GRAVEL	GRAVEL AS STAKED
15+73	RT	DRIVEWAY #3640	GRAVEL	GRAVEL AS STAKED
20+00	LT	DRIVEWAY #3625	GRAVEL	GRAVEL AS STAKED
26+58	RT	DRIVEWAY #3598	GRAVEL	GRAVEL AS STAKED
39+61	LT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
39+71	RT	ROAD APPROACH-POINT ROAD	BITUMINOUS	PAVE AS STAKED
41+31	LT	DRIVEWAY #3543	GRAVEL	GRAVEL AS STAKED
41+83	RT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
46+65	LT	DRIVEWAY #3525	GRAVEL	GRAVEL AS STAKED
47+08	RT	DRIVEWAY #3524	GRAVEL	GRAVEL AS STAKED
52+31	RT	DRIVEWAY #3502 TOWN HALL	GRAVEL	GRAVEL AS STAKED
53+10	LT	ROAD APPROACH- LITTLE ROAD	BITUMINOUS	PAVE AS STAKED
58+11	RT	DRIVEWAY #3478	GRAVEL	GRAVEL AS STAKED
61+24	LT	DRIVEWAY #3465	GRAVEL	GRAVEL AS STAKED
65+69	LT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
66+43	RT	DRIVEWAY	GRAVEL	GRAVEL AS STAKED
67+88	RT	DRIVEWAY #3440	GRAVEL	GRAVEL AS STAKED
69+66	RT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
90+25	RT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
91+79	LT	DRIVEWAY #3377	GRAVEL	GRAVEL AS STAKED
93+60	LT	DRIVEWAY #3373	GRAVEL	GRAVEL AS STAKED
96+44	RT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
96+44	LT	FIELD ENTRANCE	GRAVEL	GRAVEL AS STAKED
101+51	RT	DRIVEWAY #3356	GRAVEL	GRAVEL AS STAKED
105+82	RT	ROAD APPROACH- GILBERT ROAD	GRAVEL	PAVE AS STAKED
112+50	RT	WOODS ENTRANCE	GRAVEL	GRAVEL AS STAKED
122+06	RT	DRIVEWAY #3326	BITUMINOUS	PAVE AS STAKED
127+62	LT	DRIVEWAY #3307	GRAVEL	GRAVEL AS STAKED
132+44	RT	ROAD APPROACH- NEWMAN ROAD	GRAVEL	PAVE AS STAKED
132+44	LT	ROAD APPROACH- DOAN ROAD	GRAVEL	PAVE AS STAKED
134+42	LT	DRIVEWAY #3295	GRAVEL	GRAVEL AS STAKED
142+09	LT	DRIVEWAY #3281	GRAVEL	GRAVEL AS STAKED

RECOMMENDED APPROACH AND ENTRANCE DETAILS

APPROACH AND ENTRANCE TABULATION SHEET-1

MILL BITUMINOUS SURFACE (1.5")						
STATION	TYPE	LOCATION	DEPTH	WIDTH	SQ YD	REMARKS
154+17 TO 185+58	MAINLINE	CL	1.5"	24'	8376	MILL AS STAKED
TOTAL MILL BITUMINOUS SURFACE (1.5") = 8376 SQ YDS						

SAWING BITUMINOUS PAVEMENT				
STATION	LOCATION	OFFSET	LIN FT	REMARKS
0+12	CL	0'	92'	2-35' RADII AND 2-11' LANES AT B.O.P.
TOTAL SAWING BITUMINOUS PAVEMENT = 92 LIN FT				

MILL BITUMINOUS SURFACE (2.0")						
STATION	TYPE	LOCATION	DEPTH	WIDTH	SQ YD	REMARKS
0+12 TO 105+82	MAINLINE	CL	2.0"	22'	25,838	MILL AS STAKED
39+71	APPROACH	RT	2.0"	40'	136	MILL AS STAKED
53+10	APPROACH	LT	2.0"	60'	176	MILL AS STAKED
TOTAL MILL BITUMINOUS SURFACE (2.0") = 26,150 SQ YDS						

MISCELLANEOUS
 TABULATION SHEET - 1

SIGN PANELS TYPE C

STATION	LOC.	OFFSET	MN M.U.T.C.D. SIGN	SIZE	REMARKS
0+40	LT	24'	(STREET NAME SIGN)		SEE SPECIAL PROVISIONS FOR DETAILS
			COUNTY RD 157 R1-1 (STOP SIGN)	24" X 9" 30" X 30"	INSTALL SIGN FACING NORTH/SOUTH INSTALL SIGN FACING SOUTHBOUND
1+34	RT	24'	M1-X4 (ROUTE MARKER) CARLTON COUNTY 157	24" X 24"	INSTALL SIGN FACING NORTHBOUND
2+31	RT	24'	(ADOPT A HIGHWAY SIGN)		LEAVE IN-PLACE
4+32	RT	24'	R2-1 (SPEED LIMIT) 50 MPH	24" X 30"	INSTALL SIGN FACING NORTHBOUND
6+93	LT	24'	W3-1 (STOP AHEAD SIGN)	36" X 36"	INSTALL SIGN FACING SOUTHBOUND
39+91	RT	30'	(STREET NAME SIGN)		SEE SPECIAL PROVISIONS FOR DETAILS
			POINT ROAD R1-1 (STOP SIGN)	24" X 9" 30" X 30"	INSTALL SIGN FACING EAST/WEST INSTALL SIGN FACING WESTBOUND
52+90	LT	51'	(STREET NAME SIGN)		SEE SPECIAL PROVISIONS FOR DETAILS
			LITTLE ROAD R1-1 (STOP SIGN)	24" X 9" 30" X 30"	INSTALL SIGN FACING EAST/WEST INSTALL SIGN FACING WESTBOUND
97+68	RT	24'	W1-1L (LEFT TURN)	30" X 30"	INSTALL SIGN FACING NORTHBOUND
			W13-1P (ADVISORY SPEED PLAQUE) 15 MPH	18" X 18"	INSTALL SIGN FACING NORTHBOUND
101+34	LT	24'	(ADOPT A HIGHWAY SIGN)		LEAVE IN-PLACE
104+60	LT	24'	R2-1 (SPEED LIMIT) 50 MPH	24" X 30"	INSTALL SIGN FACING SOUTHBOUND
105+82	RT	50'	GILBERT ROAD R1-1 (STOP SIGN)		LEAVE IN-PLACE LEAVE IN-PLACE
TOTAL SIGN PANELS TYPE C = 55.0 SQ FT					

SIGN PANELS TYPE C

STATION	LOC.	OFFSET	MN M.U.T.C.D. SIGN	SIZE	REMARKS
105+82	RT	24'	W1-7 (DOUBLE HEAD ARROW)		LEAVE IN-PLACE
107+34	RT	24'	R12-5 SUPPLEMENT COMBO (BRIDGE WEIGHT LIMIT ADVANCE)		
			BRIDGE PLAQUE WEIGHT LIMIT 36T 2 MILES DISTANCE PLAQUE		LEAVE IN-PLACE LEAVE IN-PLACE LEAVE IN-PLACE
112+07	LT	24'	W1-1R (RIGHT TURN)	30" X 30"	INSTALL SIGN FACING EASTBOUND
			W13-1P (ADVISORY SPEED PLAQUE) 15 MPH	18" X 18"	INSTALL SIGN FACING EASTBOUND
132+28	LT	24'	DOAN ROAD R1-1 (STOP SIGN)		LEAVE IN-PLACE LEAVE IN-PLACE
132+58	RT	24'	(STREET NAME SIGN)		SEE SPECIAL PROVISIONS FOR DETAILS
			NEWMAN ROAD R1-1 (STOP SIGN)	24" X 9" 30" X 30"	INSTALL SIGN FACING NORTH/SOUTH INSTALL SIGN FACING SOUTHBOUND
147+28	RT	24'	W8-3 (PAVEMENT ENDS)	30" X 30"	REMOVE AND REINSTALL AT 185+58
154+04	LT	24'	R2-1 (SPEED LIMIT) 50 MPH	24" X 30"	INSTALL SIGN FACING EASTBOUND
154+04	RT	24'	(SPEED LIMIT)		
			R3-9dP (END PLAQUE) R2-1 (SPEED LIMIT) 50 MPH	30" X 12" 24" X 30"	INSTALL SIGN FACING WESTBOUND INSTALL SIGN FACING WESTBOUND
180+32	RT	24'	W1-1R (RIGHT TURN)		LEAVE IN-PLACE
185+58	LT	24'	(STREET NAME SIGN)		SEE SPECIAL PROVISIONS FOR DETAILS
			MILLER ROAD R1-1 (YIELD SIGN)	24" X 9" 30" X 30"	INSTALL SIGN FACING EAST/WEST INSTALL SIGN FACING EASTBOUND
TOTAL SIGN PANELS TYPE C = 44.0 SQ FT					

MISCELLANEOUS

TABULATION SHEET-2

4" SOLID LINE EPOXY GROUND IN (PERMANENT)					
4" BROKEN LINE EPOXY GROUND IN (PERMANENT)					
STATION	DISTANCE	LEFT	RIGHT	SKIP LENGTH	SOLID LENGTH
0+12 TO 7+04	692'	SOLID	SKIPS	138'	692'
7+04 TO 39+69	3265'	SKIP ONLY		653'	0'
39+69 TO 46+72	703'	SKIPS	SOLID	141'	703'
46+72 TO 53+38	666'	SOLID	SKIPS	133'	666'
53+38 TO 55+42	204'	SOLID	SOLID	0'	408'
55+42 TO 59+45	403'	SKIPS	SOLID	81'	403'
59+45 TO 60+63	118'	SKIP ONLY		24'	0'
60+63 TO 67+20	697'	SOLID	SKIPS	139'	697'
67+20 TO 89+36	2216'	SKIP ONLY		443'	0'
89+36 TO 96+60	724'	SKIPS	SOLID	145'	724'
96+60 TO 110+48	1388'	SOLID	SOLID	0'	2776'
110+48 TO 119+18	870'	SOLID	SKIPS	174'	870'
119+18 TO 125+15	597'	SKIP ONLY		119'	0'
125+15 TO 132+86	771'	SKIPS	SOLID	154'	771'
132+86 TO 147+28	1442'	SOLID	SOLID	0'	2884'
147+28 TO 154+17	689'	SOLID	SKIPS	138'	689'
154+17 TO 169+87	1570'	SOLID	SKIPS	314'	1570'
169+87 TO 185+58	1571'	SKIP ONLY		314'	0'
TOTAL 4" SOLID LINE EPOXY GROUND IN = 13,853 LIN FT					
TOTAL 4" BROKEN LINE EPOXY GROUND IN = 3110 LIN FT					
NOTE: THIS TABULATION INDICATES THE QUANTITIES OF 4" SOLID LINE YELLOW EPOXY AND 4" BROKEN LINE YELLOW EPOXY TO BE GROUND IN AND APPLIED.					

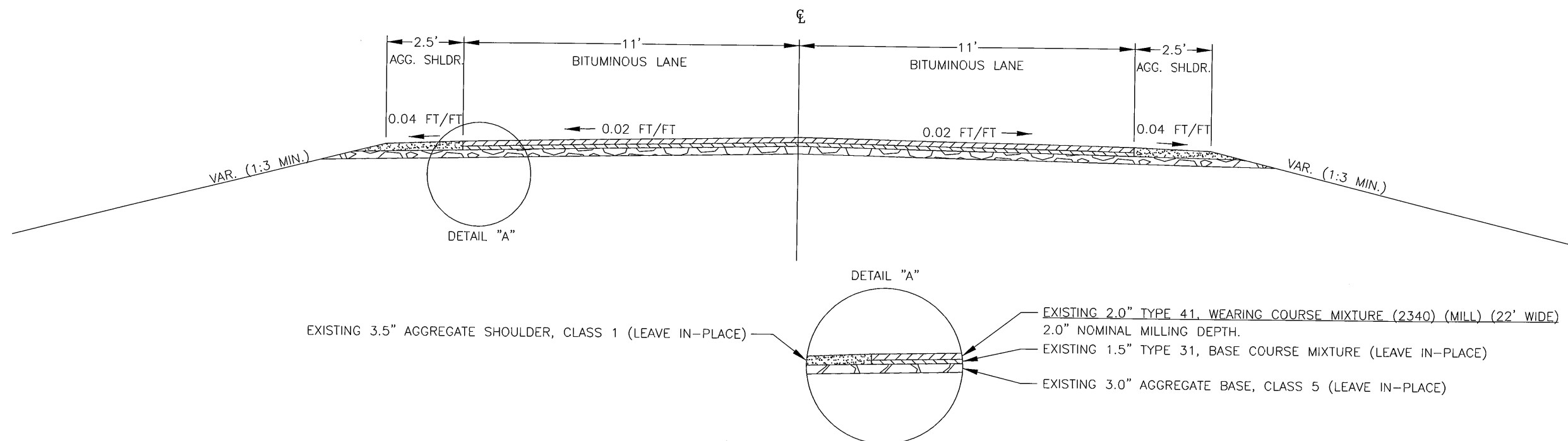
4" SOLID LINE PAINT (TEMPORARY)					
4" BROKEN LINE PAINT (TEMPORARY)					
STATION	DISTANCE	LEFT	RIGHT	SKIP LENGTH	SOLID LENGTH
0+12 TO 7+04	692'	SOLID	SKIPS	138'	692'
7+04 TO 39+69	3265'	SKIP ONLY		653'	0'
39+69 TO 46+72	703'	SKIPS	SOLID	141'	703'
46+72 TO 53+38	666'	SOLID	SKIPS	133'	666'
53+38 TO 55+42	204'	SOLID	SOLID	0'	408'
55+42 TO 59+45	403'	SKIPS	SOLID	81'	403'
59+45 TO 60+63	118'	SKIP ONLY		24'	0'
60+63 TO 67+20	697'	SOLID	SKIPS	139'	697'
67+20 TO 89+36	2216'	SKIP ONLY		443'	0'
89+36 TO 96+60	724'	SKIPS	SOLID	145'	724'
96+60 TO 110+48	1388'	SOLID	SOLID	0'	2776'
110+48 TO 119+18	870'	SOLID	SKIPS	174'	870'
119+18 TO 125+15	597'	SKIP ONLY		119'	0'
125+15 TO 132+86	771'	SKIPS	SOLID	154'	771'
132+86 TO 147+28	1442'	SOLID	SOLID	0'	2884'
147+28 TO 154+17	689'	SOLID	SKIPS	138'	689'
154+17 TO 169+87	1570'	SOLID	SKIPS	314'	1570'
169+87 TO 185+58	1571'	SKIP ONLY		314'	0'
TOTAL 4" SOLID LINE PAINT = 13,853 LIN FT					
TOTAL 4" BROKEN LINE PAINT = 3110 LIN FT					
NOTE: TEMPORARY LANE MARKINGS SHALL BE APPLIED AFTER EACH DAYS OPERATION HAS BEEN COMPLETED AND APPLIED TO EVERY LIFT OF BITUMINOUS PAVEMENT. THE ESTIMATED QUANTITIES SHOWN ON SHEET 2 ARE BASED ON 2 APPLICATIONS.					

6" SOLID LINE EPOXY GROUND IN (PERMANENT)				
STATION	LEFT OFFSET	RIGHT OFFSET	LENGTH	REMARKS
155+00 TO 318+77	12'	12'	16,377'	B.O.P. TO E.O.P.
TOTAL 6" SOLID LINE WHITE-EPOXY GROUND IN = 32,754 LIN FT				
NOTE: THIS TABULATION INDICATES THE QUANTITY OF 6" SOLID LINE WHITE EPOXY TO BE GROUND IN AND APPLIED AS EDGE STRIPING.				

LANE MARKING
TABULATION SHEET

EXISTING TYPICAL SECTION

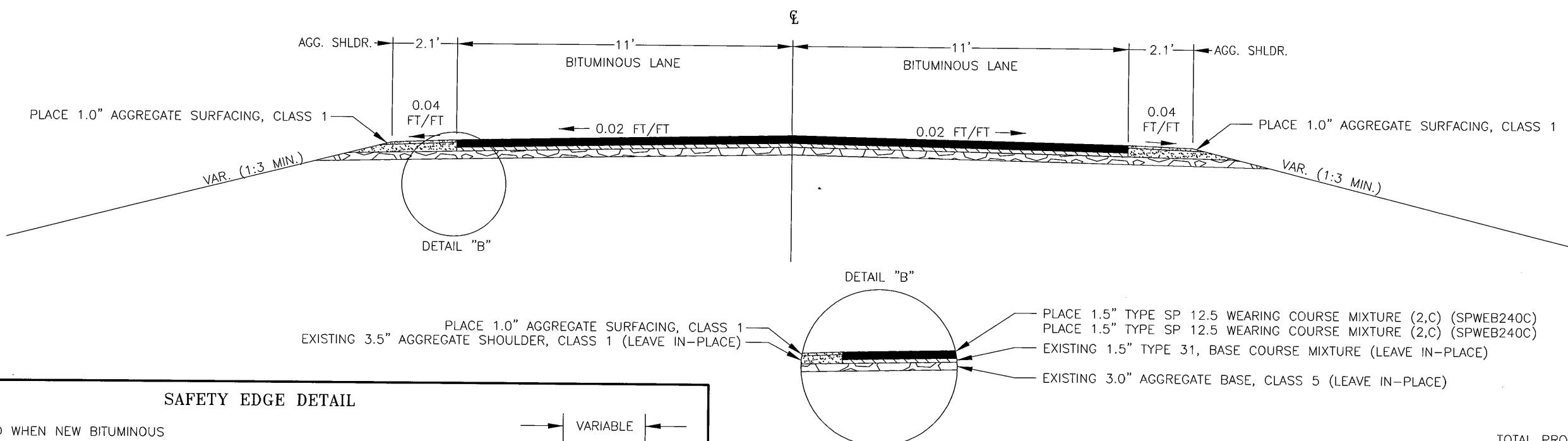
STA. 0+12.00 TO STA. 105+82.00



- EXISTING 3.5" AGGREGATE SHOULDER, CLASS 1 (LEAVE IN-PLACE)
- EXISTING 2.0" TYPE 41, WEARING COURSE MIXTURE (2340) (MILL) (22' WIDE) 2.0" NOMINAL MILLING DEPTH.
- EXISTING 1.5" TYPE 31, BASE COURSE MIXTURE (LEAVE IN-PLACE)
- EXISTING 3.0" AGGREGATE BASE, CLASS 5 (LEAVE IN-PLACE)

PROPOSED TYPICAL SECTION

STA. 0+12.00 TO STA. 105+82.00

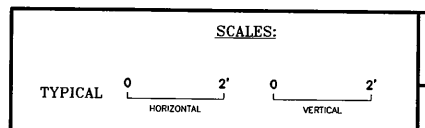
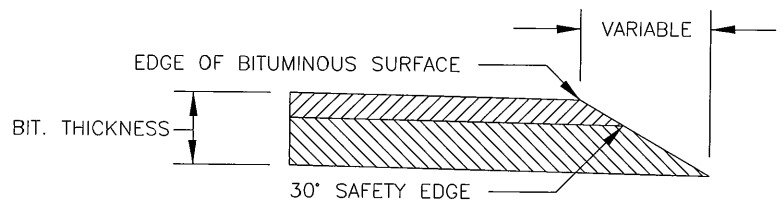


- PLACE 1.0" AGGREGATE SURFACING, CLASS 1
- EXISTING 3.5" AGGREGATE SHOULDER, CLASS 1 (LEAVE IN-PLACE)
- PLACE 1.5" TYPE SP 12.5 WEARING COURSE MIXTURE (2,C) (SPWEB240C) GE = 3.375
- PLACE 1.5" TYPE SP 12.5 WEARING COURSE MIXTURE (2,C) (SPWEB240C) GE = 3.375
- EXISTING 1.5" TYPE 31, BASE COURSE MIXTURE (LEAVE IN-PLACE) GE = 3.000
- EXISTING 3.0" AGGREGATE BASE, CLASS 5 (LEAVE IN-PLACE) GE = 3.000

TOTAL PROPOSED GE = 12.750

SAFETY EDGE DETAIL

NOTE: SHALL BE USED WHEN NEW BITUMINOUS IS GREATER THAN 2" AND LESS THAN 6"

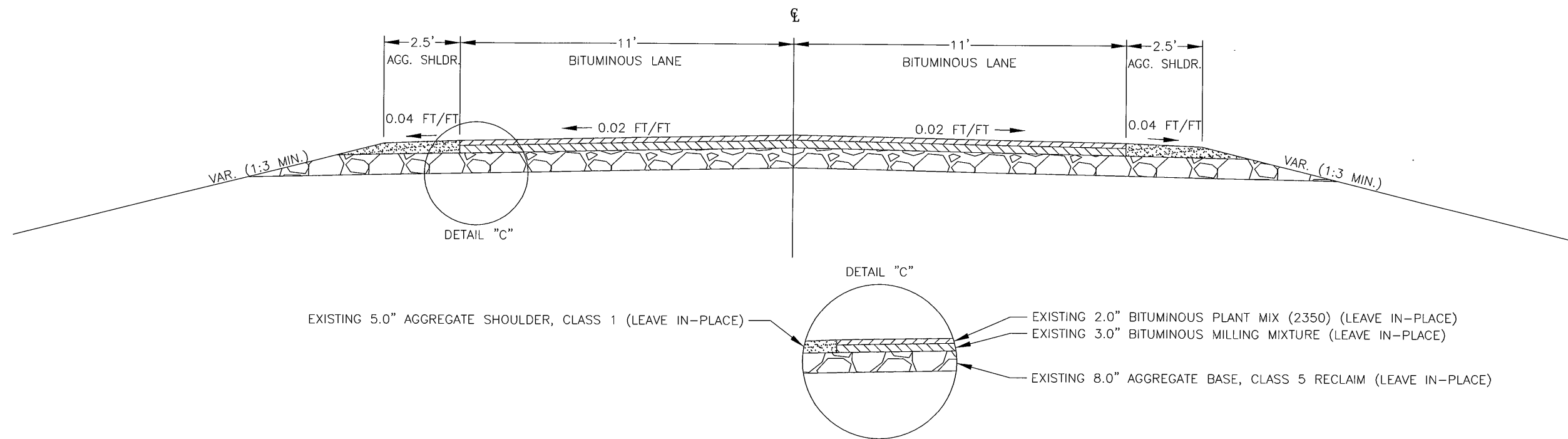


EXISTING AND PROPOSED

TYPICAL SHEET-1

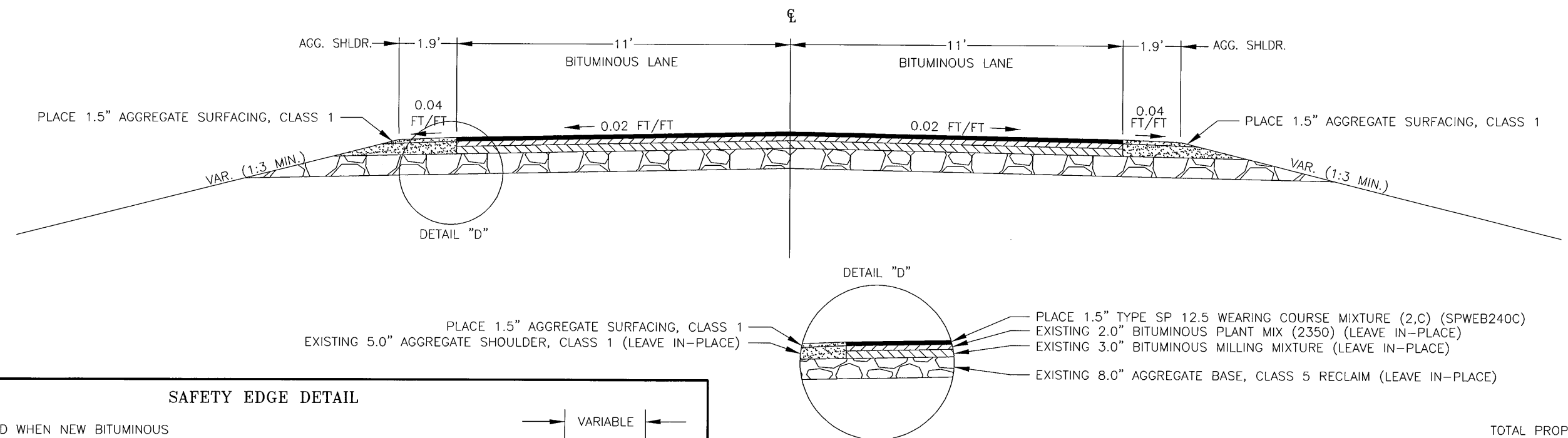
EXISTING TYPICAL SECTION

STA. 105+82.00 TO STA. 154+17.00



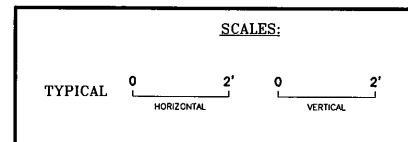
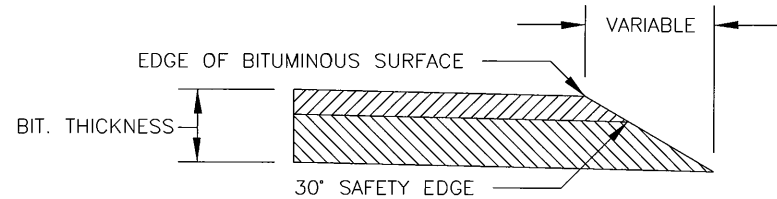
PROPOSED TYPICAL SECTION

STA. 105+82.00 TO STA. 154+17.00



SAFETY EDGE DETAIL

NOTE: SHALL BE USED WHEN NEW BITUMINOUS IS GREATER THAN 2" AND LESS THAN 6")

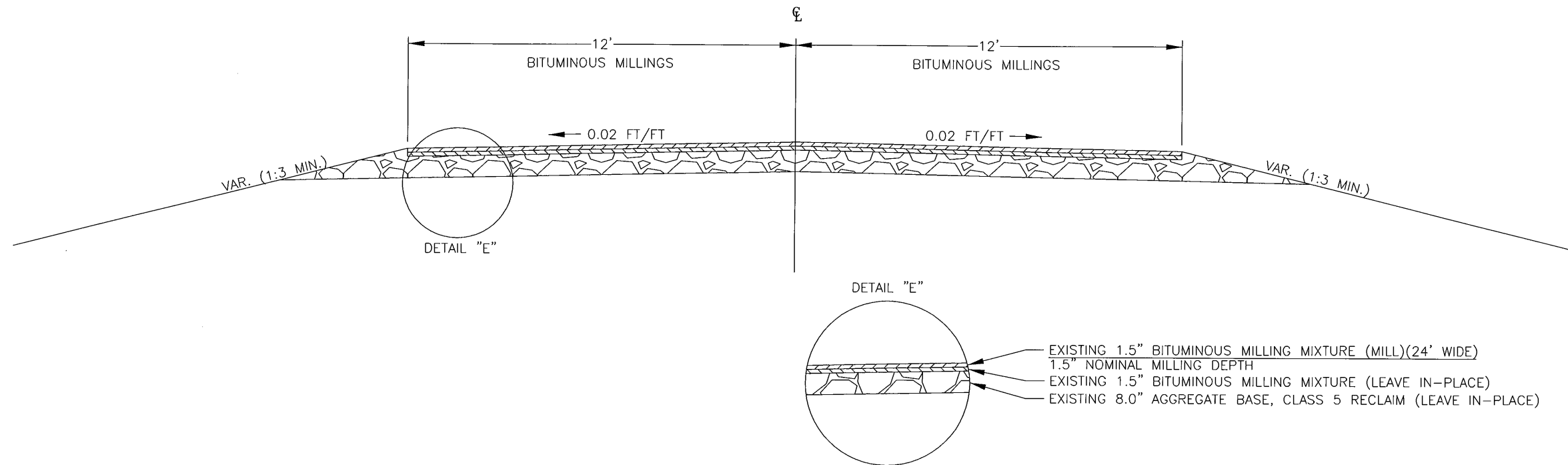


EXISTING AND PROPOSED

TYPICAL SHEET-2

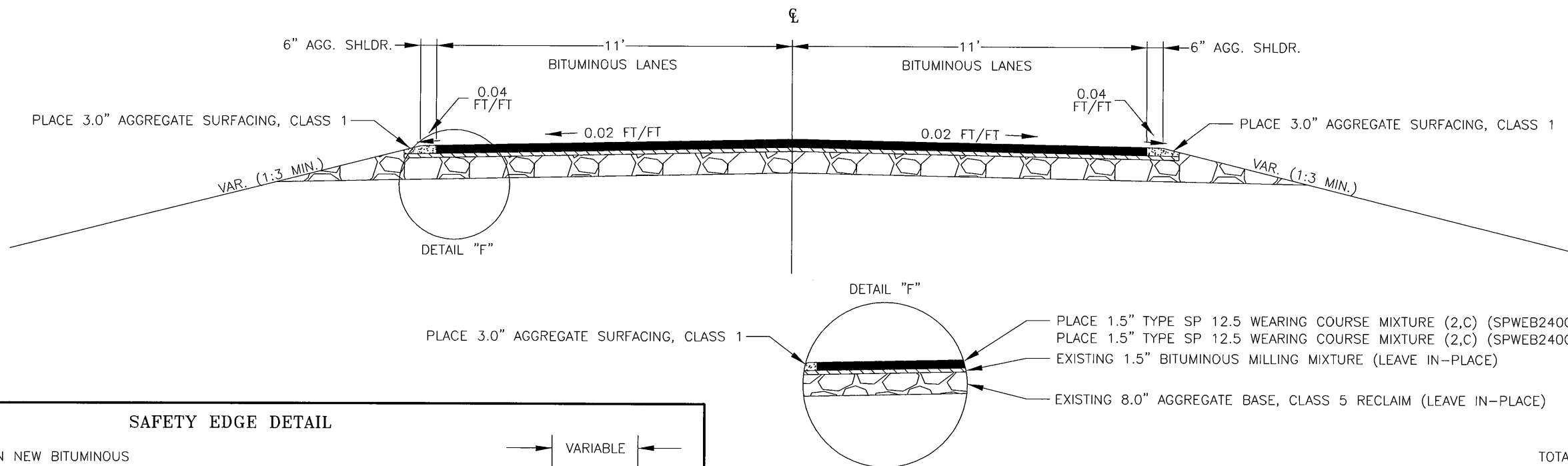
EXISTING TYPICAL SECTION

STA. 154+17.00 TO STA. 185+58.00



PROPOSED TYPICAL SECTION

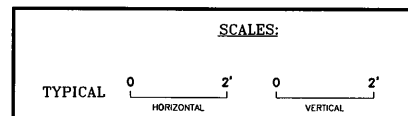
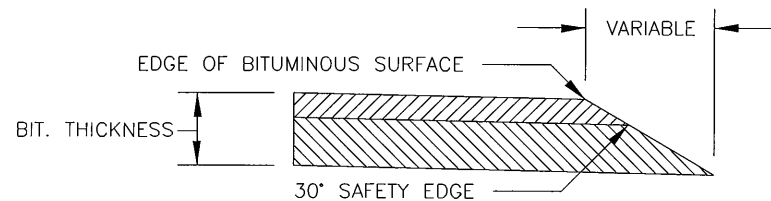
STA. 154+17.00 TO STA. 185+58.00



TOTAL PROPOSED GE = 16.250

SAFETY EDGE DETAIL

NOTE: SHALL BE USED WHEN NEW BITUMINOUS IS GREATER THAN 2" AND LESS THAN 6")



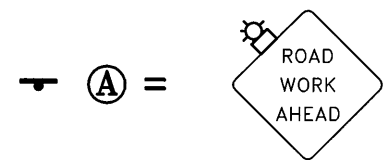
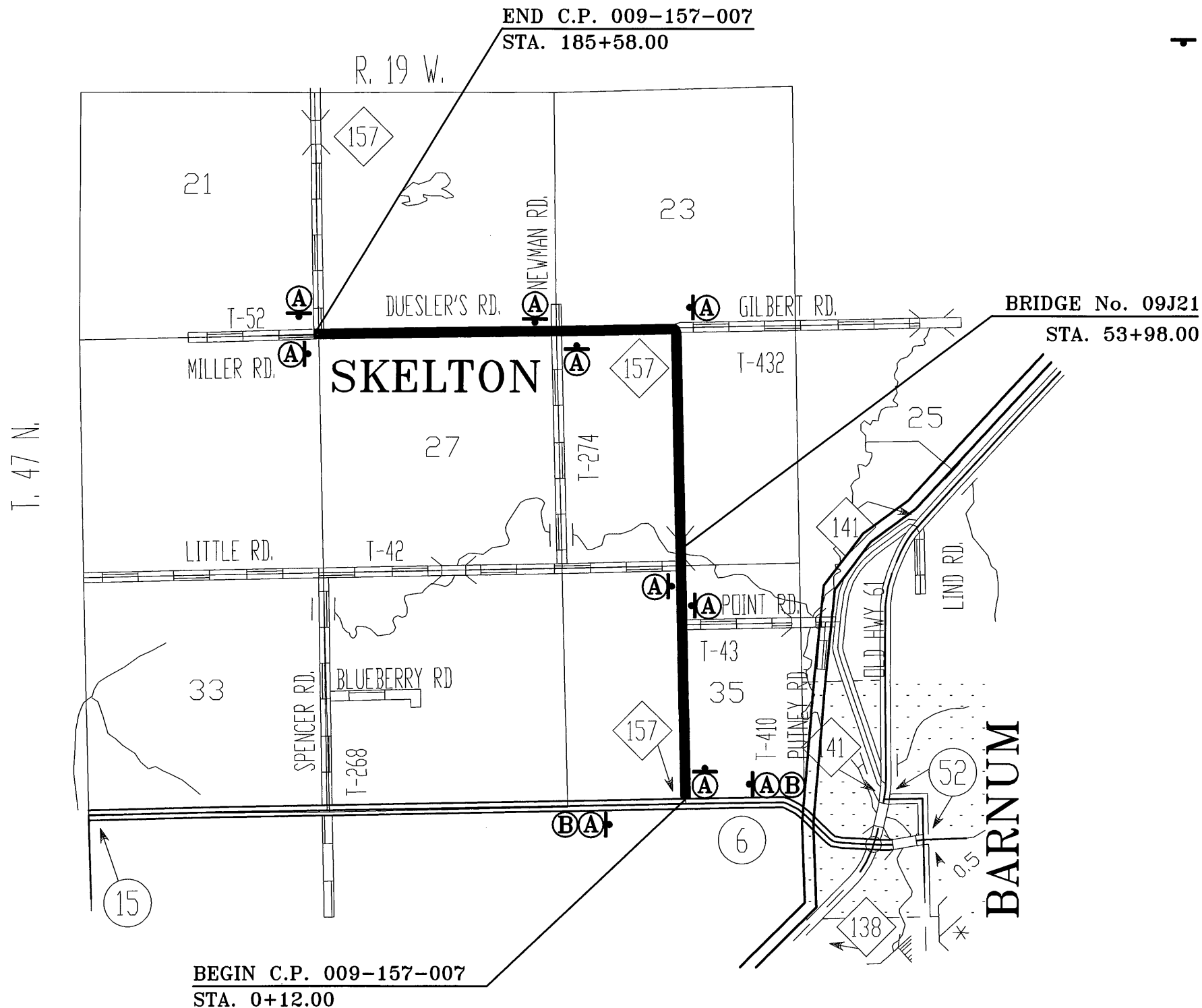
EXISTING AND PROPOSED

TYPICAL SHEET-3

TRAFFIC CONTROL MAP

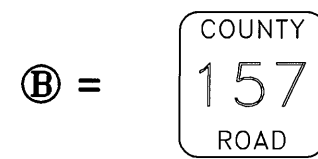
TRAFFIC CONTROL SIGNS

NOTE: THIS IS NOT AN ALL INCLUSIVE LISTING



1- FLASHER
1- W20-1 (48" x 48" MIN.)

TOTAL REQUIRED = 10 UNITS (AS INDICATED ON THE MAP)



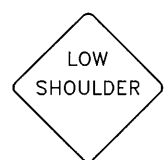
M1-X4 (18" x 18" MIN.)

TOTAL REQUIRED = 2 UNITS (AS INDICATED ON THE MAP)



W20-7A (48" x 48" MIN.)

IF NEEDED OR DIRECTED BY THE ENGINEER



W8-9 (48" x 48" MIN.)

IF NEEDED OR DIRECTED BY THE ENGINEER



W8-11 (48" x 48" MIN.)

IF NEEDED OR DIRECTED BY THE ENGINEER



W8-X3 (48" x 48" MIN.)

IF NEEDED OR DIRECTED BY THE ENGINEER



W8-1A (48" x 48" MIN.)

IF NEEDED OR DIRECTED BY THE ENGINEER

ALL TRAFFIC CONTROL DEVICES AND LAYOUTS SHALL CONFORM TO THE CURRENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE CURRENT EDITION OF THE TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS (FIELD MANUAL).

TRAFFIC CONTROL
PLAN SHEET
SHEET NO. 12 OF 12 SHEETS.