CSAH 34	STATEMENT OF ESTIMATED QUANTITIES						
ITEM NO.		ITEM	NOTE NO.	UNIT	TOTAL EST. QUANT.	UNIT PRICE	COST EST.
2021.501	/00010	MOBILIZATION		LUMP SUM	1	$10,539.00	$10,539.00
2104.505	/00108	REMOVE CONCRETE DRIVEWAY PAVEMENT	2	SQ YD	21	$18.72	$393.12
2104.505	/00120	REMOVE BITUMINOUS PAVEMENT (DRIVEWAYS)	2	SQ YD	104	$10.70	$1,112.80
2104.511	/00011	SAWING CONCRETE PAVEMENT (FULL DEPTH)	1,2	LIN FT	16	$5.20	$83.20
2104.513	/00011	SAWING BIT PAVEMENT (FULL DEPTH)	1,2	LIN FT	76	$2.60	$197.60
2104.523	/00543	SALVAGE SIGN TYPE C		EACH	10	$31.00	$310.00
2105.522	/00010	SELECT GRANULAR BORROW (LV)	20	CU YD	66	$15.00	$990.00
2105.525	/00010	TOPSOIL BORROW (LV)	1	CU YD	573	$25.00	$14,336.67
2105.602	/00020	CONSTRUCT TURN LANE (P) (RTL @ CR 21)	6	EACH	1	$8,550.13	$8,550.13
2105.602	/00020	CONSTRUCT TURN LANE (P) (RTL @ CR 54)	6	EACH	1	$10,664.16	$10,664.16
2123.503	/00010	MOTOR GRADER	17	HOUR	10	$155.00	$1,550.00
2130.501	/00010	WATER	18	M-GAL	100	$25.00	$2,500.00
2211.501	/00050	AGGREGATE BASE CLASS 5	3	TON	432	$14.00	$6,048.00
2221.501	/00050	AGGREGATE SHOULDERING CLASS 5	4,9	TON	442	$18.00	$7,957.44
2232.501	/00050	MILL BITUMINOUS SURFACE (2") (JOINTS)	1	SQ YD	76	$8.50	$649.78
2331.604	/00060	BITUMINOUS PAVEMENT RECLAMATION	1	SQ YD	11043	$0.61	$6,736.23
2331.607	/00010	HAUL BIT PAVEMENT RECLAMATION (LV)		CU YD	84	$30.00	$2,520.00
2357.502	/00010	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	663	$2.00	$1,326.10
2360.501	/24200	TYPE SP 12.5 WEARING COURSE MIX (4,B)	2,5,9	TON	10	$100.00	$954.50
2360.501	/24500	TYPE SP 12.5 WEARING COURSE MIX (4,E)		TON	3059	$60.00	$183,549.20
2451.509	/00010	AGGREGATE BEDDING (LV)	20	CU YD	22	$50.00	$1,100.00
2501.511	/20150	15" CS PIPE CULVERT	21	LIN FT	14	$18.00	$252.00
2501.511	/20240	24" CS PIPE CULVERT	21	LIN FT	14	$24.00	$336.00
2501.515	/20150	15" GS PIPE APRON		EACH	1	$125.00	$125.00
2501.515	/20240	24" GS PIPE APRON		EACH	1	$175.00	$175.00
2511.501	/00012	RANDOM RIPRAP CLASS II	16	CU YD	14	$200.00	$2,800.00
2531.507	/00060	6" CONCRETE DRIVEWAY PAVEMENT	2,3,9	SQ YD	21	$55.00	$1,155.00
2535.501	/00011	BITUMINOUS CURB (MODIFIED)	12,13	LIN FT	871	$3.50	$3,048.50
2540.602	/00140	INSTALL MAIL BOX SUPPORT	10,9	EACH	12	$100.00	$1,200.00
2540.602	/00158	RELOCATE MAIL BOX SUPPORT	19	EACH	2	$93.00	$186.00
2563.601	/00010	TRAFFIC CONTROL	8,15	LUMP SUM	1	$3,702.65	$3,702.65
2563.613	/01100	PORTABLE MESSAGE SIGN	14	UNIT DAY	14	$140.00	$1,960.00
2564.531	/00130	SIGN PANELS TYPE C		SQ FT	55.5	$210.00	$11,655.00
2564.537	/00013	INSTALL SIGN TYPE C		EACH	7	$50.00	$350.00
2573.502	/00040	SILT FENCE, TYPE MACHINE SLICED	19	LIN FT	1040	$1.80	$1,872.00
2573.508	/00010	BITUMINOUS LINED FLUME		SQ YD	14	$200.00	$2,800.00
2573.602	/00090	CULVERT PROTECTION		EACH	4	$210.00	$840.00
2575.523	/00010	EROSION CONTROL BLANKET CATEGORY 00	1,11	SQ YD	5182	$2.50	$12,955.56
2575.601	/00011	RAPID STABILIZATION METHOD 3	1,11	M-GAL	4	$90.00	$387.77
2581.501	/00010	REMOVABLE PREFORMED PLASTIC MARKING	7	LIN FT	314	$1.55	$486.08
2582.502	/41104	4" SOLID LINE WHITE - EPOXY	9	LIN FT	8231	$0.30	$2,469.30
2582.502	/42104	4" SOLID LINE YELLOW-EPOXY	9	LIN FT	1975	$0.30	$592.50
2582.502	/42204	4" BROKEN LINE YELLOW-EPOXY	9	LIN FT	790	$0.30	$237.00
							$311,653.28

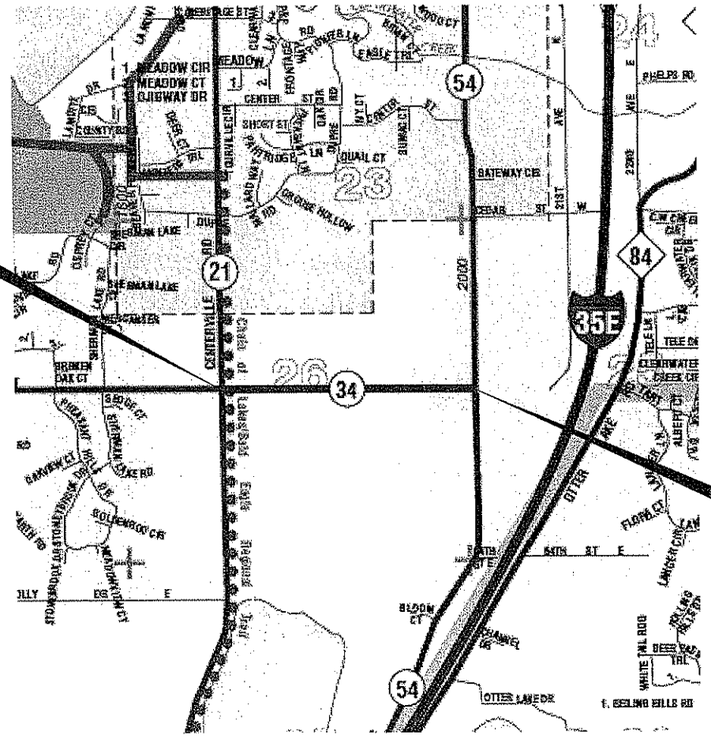
MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

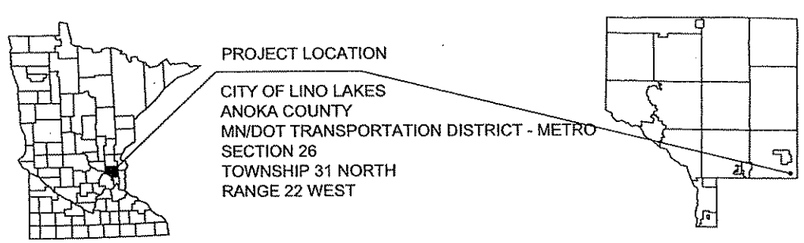
CONSTRUCTION PLAN FOR BITUMINOUS RECLAIM AND OVERLAY, CONSTRUCT RIGHT TURN LANES

LOCATED ON C.S.A.H. 34 BETWEEN CSAH 21 / CENTERVILLE RD AND CSAH 54 / 20TH AVE

COUNTY PROJ. NO. C.P. 13-17-34
C.S.A.H. 34

GROSS LENGTH	3910 FEET	0.740 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	3910 FEET	0.740 MILES





PLAN SYMBOLS

COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
SLOPE EASEMENT
EXISTING RIGHT OF WAY
PROPERTY LINE
CORPORATE OR CITY LIMITS
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY
RIVER OR CREEK
DRAINAGE DITCH
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
WOOD FENCE
STONE WALL OR FENCE
HEDGE
LOWLAND
TIMBER
ORCHARD
BRUSH
NURSERY
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) 1-S-F
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
RAILROAD CROSSING BELL
RAILROAD CROSSING GATE
MANHOLE M.H.
CATCH BASIN C.B.
FIRE HYDRANT
CAST IRON MONUMENT
IRON PIN
GRAVEL PIT G
SAND PIT S
BORROW PIT B
ROCK QUARRY Q

UTILITY SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE & POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (Cable Terminal)
GAS MAIN
WATERMAIN
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE T-BUR
BURIED ELECTRIC CABLE P-BUR
T-AE
SEWER (Sanitary or Storm)
SEWER MANHOLE

SCALES

PLAN	0'	100'
PROFILE HORIZONTAL	0'	100'
VERTICAL	0'	10'
X-SECTIONS HORIZONTAL	0'	10'
VERTICAL	0'	10'

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

INDEX

THIS PLAN CONTAINS 17 SHEETS

DESIGN DESIGNATION

ESAL 20	
R VALUE	
ADT (2012) =	2800
Proj. ADT (2032) =	3900
Proj. HCADT (2032) =	160
Soil Factor	NA

9 TON DESIGN

Functional Classification MAJOR COLLECTOR
No. of Traffic Lanes 2 No. of Parking Lanes 0
Design Speed ____ MPH N/A
Based on Stopping Sight Distance
Height of eye 3.5' Height of object 2.0'
Design Speed not achieved at:
STA. ____ TO STA. ____ MPH ____

Approved [signature] 3/14/13
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_34_(CSAH21-CSAH54)\Plan\title.dgn 02/27/2013 1:28:12 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW WITTER
SIGNATURE: [signature]
DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY KPR DATE 1/14/13
DESIGN BY KPR DATE 1/14/13
CHECKED BY DFF DATE 1/29/13

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO.
STATE AID PROJECT NO.
CITY PROJECT NO.
COUNTY PROJECT NO. 13-17-34

TITLE SHEET

Sheet 1 of 17 Sheets

CSAH 34	STATEMENT OF ESTIMATED QUANTITIES				
ITEM NO.		ITEM	NOTE NO.	UNIT	TOTAL EST. QUANT.
2021.501	/00010	MOBILIZATION		LUMP SUM	1
2104.505	/00108	REMOVE CONCRETE DRIVEWAY PAVEMENT	2	SQ YD	21
2104.505	/00120	REMOVE BITUMINOUS PAVEMENT (DRIVEWAYS)	2	SQ YD	104
2104.511	/00011	SAWING CONCRETE PAVEMENT (FULL DEPTH)	1,2	LIN FT	16
2104.513	/00011	SAWING BIT PAVEMENT (FULL DEPTH)	1,2	LIN FT	76
2104.523	/00543	SALVAGE SIGN TYPE C		EACH	10
2105.522	/00010	SELECT GRANULAR BORROW (LV)	20	CU YD	66
2105.525	/00010	TOPSOIL BORROW (LV)	1	CU YD	573
2105.602	/00020	CONSTRUCT TURN LANE (P) (RTL @ CR 21)	6	EACH	1
2105.602	/00020	CONSTRUCT TURN LANE (P) (RTL @ CR 54)	6	EACH	1
2123.503	/00010	MOTOR GRADER	17	HOUR	10
2130.501	/00010	WATER	18	M-GAL	100
2211.501	/00050	AGGREGATE BASE CLASS 5	3	TON	432
2221.501	/00050	AGGREGATE SHOULDERING CLASS 5	4,9	TON	442
2232.501	/00050	MILL BITUMINOUS SURFACE (2") (JOINTS)	1	SQ YD	76
2331.604	/00060	BITUMINOUS PAVEMENT RECLAMATION	1	SQ YD	11043
2331.607	/00010	HAUL BIT PAVEMENT RECLAMATION (LV)		CU YD	84
2357.502	/00010	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	663
2360.501	/24200	TYPE SP 12.5 WEARING COURSE MIX (4,B)	2,5,9	TON	10
2360.501	/24500	TYPE SP 12.5 WEARING COURSE MIX (4,E)		TON	3059
2451.509	/00010	AGGREGATE BEDDING (LV)	20	CU YD	22
2501.511	/20150	15" CS PIPE CULVERT	21	LIN FT	14
2501.511	/20240	24" CS PIPE CULVERT	21	LIN FT	14
2501.515	/20150	15" GS PIPE APRON		EACH	1
2501.515	/20240	24" GS PIPE APRON		EACH	1
2511.501	/00012	RANDOM RIPRAP CLASS II	16	CU YD	14
2531.507	/00060	6" CONCRETE DRIVEWAY PAVEMENT	2,3,9	SQ YD	21
2535.501	/00011	BITUMINOUS CURB (MODIFIED)	12,13	LIN FT	871
2540.602	/00140	INSTALL MAIL BOX SUPPORT	10,9	EACH	12
2540.602	/00158	RELOCATE MAIL BOX SUPPORT	19	EACH	2
2563.601	/00010	TRAFFIC CONTROL	8,15	LUMP SUM	1
2563.613	/01100	PORTABLE MESSAGE SIGN	14	UNIT DAY	14
2564.531	/00130	SIGN PANELS TYPE C		SQ FT	55.5
2564.537	/00013	INSTALL SIGN TYPE C		EACH	7
2573.502	/00040	SILT FENCE, TYPE MACHINE SLICED	19	LIN FT	1040
2573.508	/00010	BITUMINOUS LINED FLUME		SQ YD	14
2573.602	/00090	CULVERT PROTECTION		EACH	4
2575.523	/00010	EROSION CONTROL BLANKET CATEGORY 00	1,11	SQ YD	5182
2575.601	/00011	RAPID STABILIZATION METHOD 3	1,11	M-GAL	4
2581.501	/00010	REMOVABLE PREFORMED PLASTIC MARKING	7	LIN FT	314
2582.502	/41104	4" SOLID LINE WHITE - EPOXY	9	LIN FT	8231
2582.502	/42104	4" SOLID LINE YELLOW-EPOXY	9	LIN FT	1975
2582.502	/42204	4" BROKEN LINE YELLOW-EPOXY	9	LIN FT	790

NOTES:

1. LOCATION TO BE DETERMINED BY ENGINEER.
2. CONTRACTORS RESPONSIBILITY TO CONTACT OWNER 48 HOURS BEFORE STARTING OPERATION.
3. GRAVEL BASE FOR CONCRETE DRIVEWAYS AND BITUMINOUS DRIVEWAYS.
4. MATERIAL FOR FINISHED GRAVEL SHOULDERS AND GRAVEL ENTRANCES.
5. ITEM USED FOR PAVING DRIVEWAYS AND STREET APPROACHES.
6. INCLUDES ALL TIME AND MATERIAL TO CONSTRUCT ITEM AS SHOWN IN PLAN AND AS DIRECTED BY ENGINEER. COMMON EXCAVATION, TOPSOIL BORROW, SELECT GRANULAR, AND AGGREGATE BASE CLASS 5.
7. YELLOW CENTERLINE SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH LIFT (MUST BE APPLIED BEFORE THE CONTRACTOR LEAVES FOR THE DAY). CONTRACTOR TO REMOVE PRIOR TO FINAL PAINT STRIPING.
8. "ALL TRAFFIC CONTROL METHODS SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES." DO NOT PASS, PASS WITH CARE, AND NO CENTER STRIPE.
9. SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
10. MAILBOXES TO BE INSTALLED AT THE EXISTING MAILBOX LOCATION. MAILBOX REMOVAL / INSTALLATION, INCIDENTAL TO ITEM. CONTRACTOR RESPONSIBLE TO COORDINATE WITH THE LOCAL POSTAL AUTHORITY.
11. ITEM INCLUDES SEEDING, FERTILIZER, AND SEED.
12. SHALL BE INSTALLED WITH SAME OPERATION AS MAINLINE BITUMINOUS WEAR COURSE.
13. BITUMINOUS TONS TO CREATE BIT CURB SHALL BE PAID UNDER 2360.501 WEARING COURSE MIX (4,E).
14. 2 - MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 -DAYS PRIOR TO ANY CONSTRUCTION. REFERANCE "TEMPORARY SIGNING,PERMANENT SIGNING, STRIPING AND PAVEMENT MESSAGES" SECTION OF THIS PLAN FOR DETAILS.
15. THE DETOUR IS PAID UNDER THE TRAFFIC CONTROL ITEM LUMP SUM.
16. USED AT BITUMINOUS FLUMES. PLACEMENT OF GEOTEXTILE FABRIC TYPE IV INCIDENTAL.
17. USED TO REMOVE EXCESS RECLAIM FROM ENDS OF PROJET TO TIE BITUMINOUS BASE COURSE INTO EXISTING BITUMINOUS.
18. TO BE USED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.
19. TO BE USED IN TURN LANE AREAS.
20. SHALL BE USED AT CULVERT IF EXISTING MATERIAL IS NOT SUITABLE FOR BACKFILL.
21. ALL MATERIAL AND LABOR NECESSARY TO COMPLETE SPLICE / CONNECTIONS SHALL BE CONSIDERED INCIDENTAL TO PIPE CULVERT (LF).

BASIS OF PLANNED QUANTITIES

2211.501	AGGREGATE BASE CLASS 5	CU YDS (CV) * 1.8 = TONS
2221.501	AGGREGATE SHOULDERING CLASS 5	CU YDS (CV) * 1.8 = TONS
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2360.501	TYPE SP 12.5 WEARING COURSE (SPWEB440E)	115 LBS/SQYD/IN THICKNESS
2360.502	TYPE SP 12.5 WEARING COURSE (SPWEB440B)	115 LBS/SQYD/IN THICKNESS
2575.601	RAPID STABILIZATION METHOD 3	6 MGAL / ACRE
2581.501	REMOVABLE PREFORM PLASTIC MARKINGS	2' AT 50' INTERVALS FOR SKIPS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_34_(CSAH21-CSAH54)\Plan\seq.dgn 02/27/2013 3:22:44 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW WITTER

SIGNATURE:

DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY KPR DATE 1/14/13

DESIGN BY KPR DATE 1/14/13

CHECKED BY DFF DATE 1/29/13

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO.

STATE AID PROJECT NO.

CITY PROJECT NO.

COUNTY PROJECT NO. 13-17-34

STATEMENT OF ESTIMATED QUANTITIES

ESTIMATED AVERAGE DEPTH FOR RT. TURN LANES AND BYPASSES USING ELEVATION AT EDGE OF MAT, SHOULDER PI, AND DITCH BOTTOM.

CSAH 21 RT TURN LANE			CSAH 54 RT TURN LANE		
EM	SH PI	BOTTOM	EM	SH PI	BOTTOM
912.06	911.93	912.16	925.37	925.08	922.33
913.00	913.00	912.49	924.97	924.70	921.51
913.12	912.97	911.03	925.81	925.50	925.21
912.09	911.80	909.91	925.71	925.39	924.61
910.41	910.02	907.98	925.44	925.13	922.35
4560.68	4559.72	4553.57	4627.30	4625.80	4616.01
912.14	911.94	910.71	925.46	925.16	923.20
AVERAGE DEPTH		**1.42**	AVERAGE DEPTH		**2.26**
minus 0.5'		**0.92**	minus 0.5'		**1.76**

NEW RTL LOCATIONS BY THE EACH

STREET	STA.	DIR	RTL	WIDTH	LENGTH	COMMON EXCAVATION 2105.501 (CU YD)	TOPSOIL BORROW (LV) 2105.525 (CU YD)	SELECT GRANULAR BORROW (CV) 2105.522 (CU YD)	AGG BASE CLASS 5 (CV) 2211.501 (TON)
CR 21	10+10 - 14+90	WB	RTL	12	480	156	33	262	224
CR 54	44+90 - 49+20	EB	RTL	12	430	167	47	448	201

NOTE: RIGHT TURN LANES ARE SUBJECT TO ELIMINATION. CHECK WITH ENGINER BEFORE CONSTRUCTION.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_34_(CSAH21-CSAH54)\Plan\seq.dgn 02/27/2013 2:08:42 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PRINT NAME: ANDREW RITTER
SIGNATURE:
DATE: 2/27/13 LICENSE NO. 42757

DRAWN BY KPR DATE 1/14/13
DESIGN BY KPR DATE 1/14/13
CHECKED BY DFF DATE 1/29/13

ANOKA COUNTY
HIGHWAY DEPT.

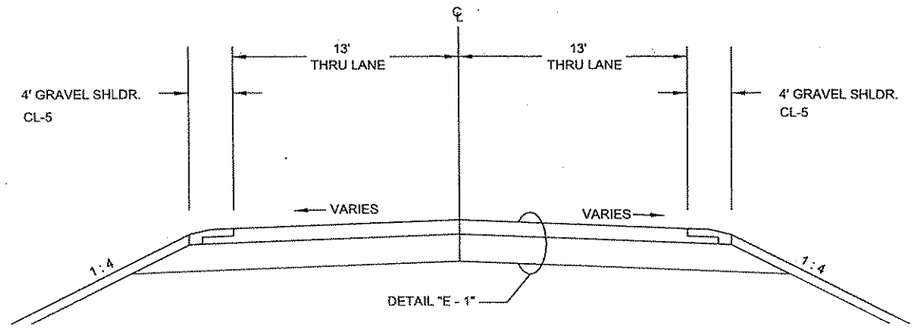
STATE PROJECT NO.
STATE AID PROJECT NO.
CITY PROJECT NO.
COUNTY PROJECT NO. 13-17-34

CALCULATIONS FOR RIGHT TURN LANES

Sheet 3 of 17 Sheets

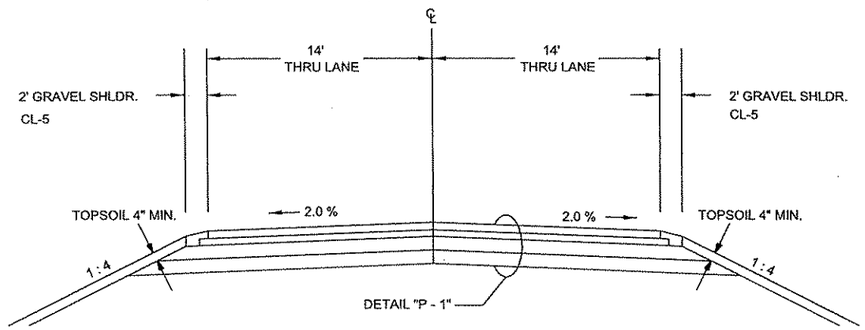
EXISTING TYPICAL SECTION

STA. 10+10 - 49+20

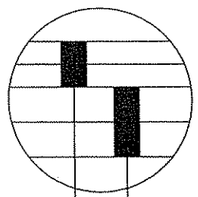


PROPOSED TYPICAL SECTION

STA. 14+90 - 44+40



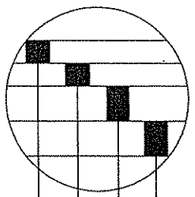
DETAIL "E - 1"



EXISTING BITUMINOUS (CONTRACTOR VERIFY)

EXISTING BASE

DETAIL "P - 1"



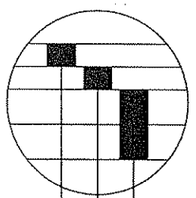
2" TYPE SP 12.5 WEARING COURSE (SPWEB440E)

2" TYPE SP 12.5 WEARING COURSE (SPWEB440E)

RECLAIM EXISTING BIT / AGG. BASE

EXISTING BASE

DETAIL "P - 2"



2" TYPE SP 12.5 WEARING COURSE (SPWEB440E)

2" TYPE SP 12.5 WEARING COURSE (SPWEB440E)

6" AGGREGATE BASE CL 5

NOT TO SCALE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_34_(CSAH21-CSAH54)\Plan\typ.dgn 02/27/2013 3:07:12 PM

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ANDREW WITTER

SIGNATURE:

DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY KPR DATE 1/14/13

DESIGN BY KPR DATE 1/14/13

CHECKED BY DFF DATE 1/29/13

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO.

STATE AID PROJECT NO.

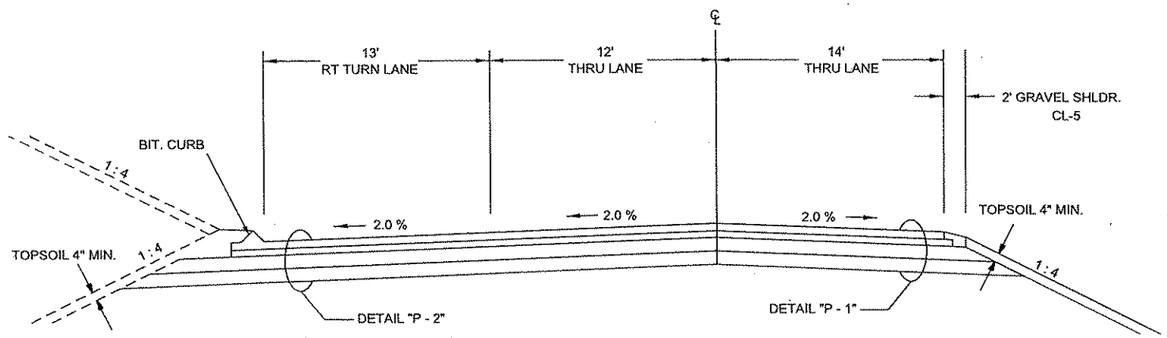
CITY PROJECT NO.

COUNTY PROJECT NO. 13-17-34

TYPICAL SECTIONS

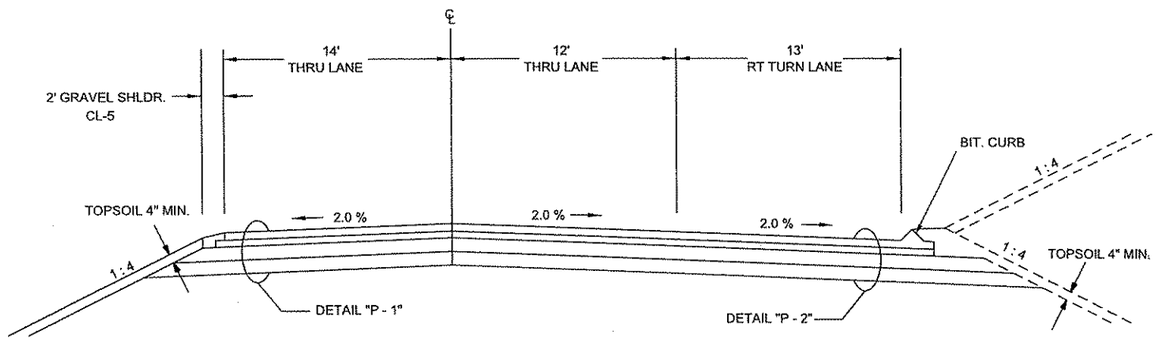
PROPOSED TYPICAL SECTION (RT TURN LANE EB)

STA. 44+40 - 49+20



PROPOSED TYPICAL SECTION (RT TURN LANE WB)

STA. 10+10 - 14+90



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PRINT NAME: ANDREW WITTER

SIGNATURE:

DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY KPR DATE 1/14/13

DESIGN BY KPR DATE 1/14/13

CHECKED BY DFF DATE 1/29/13

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO.

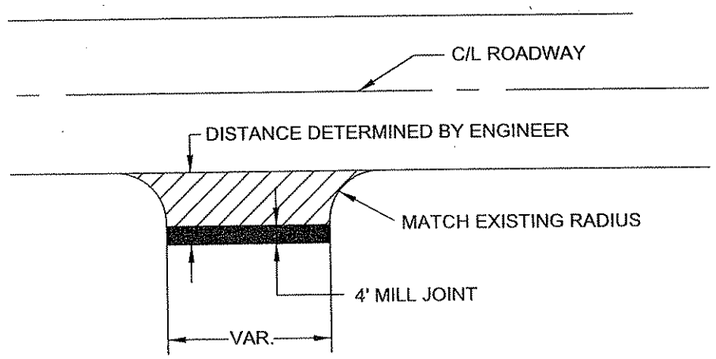
STATE AID PROJECT NO.

CITY PROJECT NO.

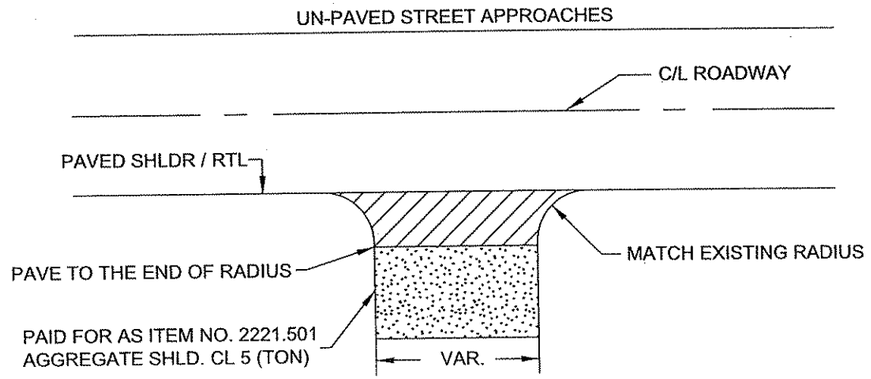
COUNTY PROJECT NO. 13-17-34

TYPICAL SECTIONS

PAVED STREET APPROACHES



UN-PAVED STREET APPROACHES



UNPAVED STREET APPROCHES, PAVED SEPARATE FROM MAINLINE,
PAID AS STREET APPROACHES.

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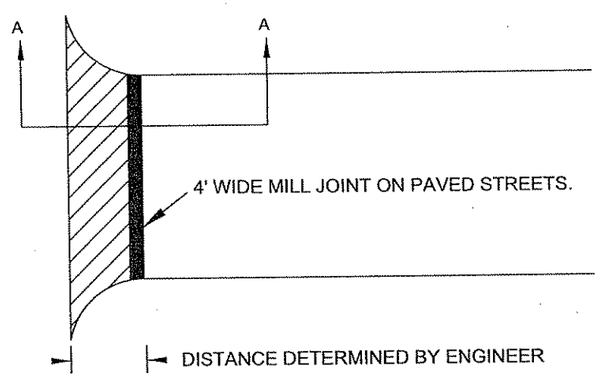
COUNTY PROJECT NO. 13-17-34

MISCELLANEOUS DETAILS

Sheet 6 of 17 Sheets

PAVED STREET APPROACHES
JOINT DETAILS

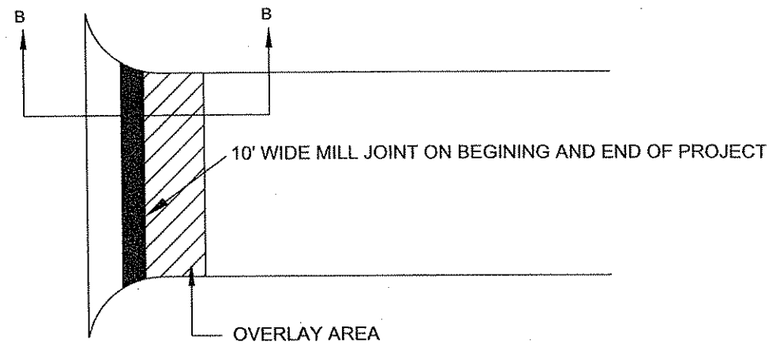


DRIVEWAYS BUMPED OUT TO BE PAVED WITH MAINLINE, PAID AS MAINLINE.

DRIVEWAYS PAVED IN DIFFERENT OPERATION FROM MAINLINE PAVING PAID AS ST./DR. APPROACH.

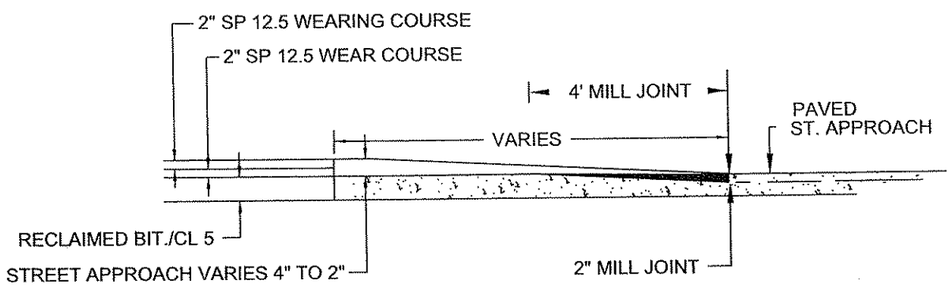
STREET APPROACHES PAID AS ST./DR. APPROACH.

MAINLINE
JOINT DETAILS

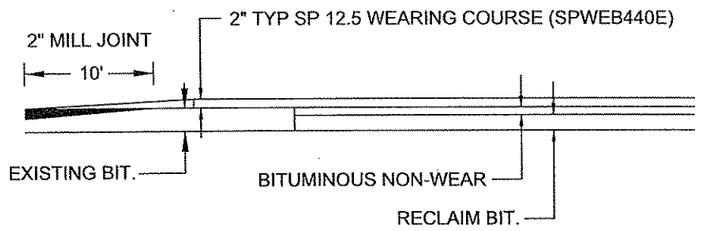


GRADING NEEDED TO TIE NONWEAR INTO EXISTING PAVING. TO BE PAID UNDER 2123.503 MOTOR GRADER HOURS

PAVED STREET APPROACH JOINT DETAILS A - A



JOINT DETAILS B - B



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ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO.

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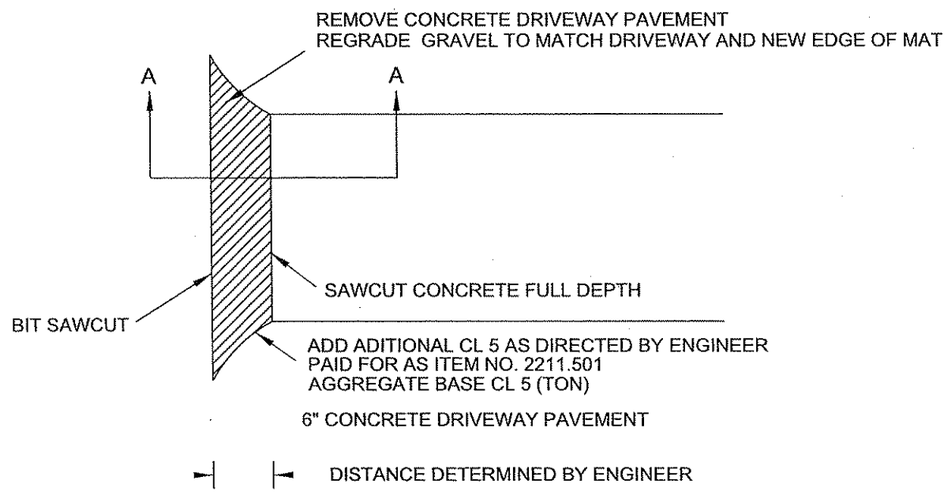
COUNTY PROJECT NO. 13-17-34

MISCELLANEOUS DETAILS

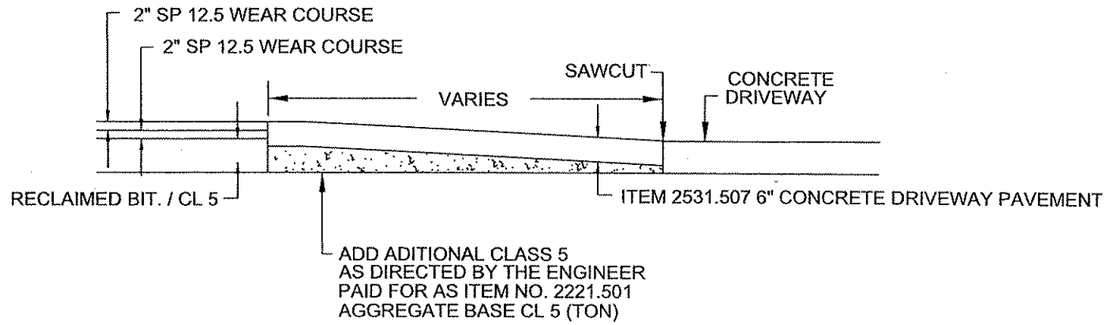
Sheet 7 of 17 Sheets

CONCRETE DRIVEWAYS

DETAILS

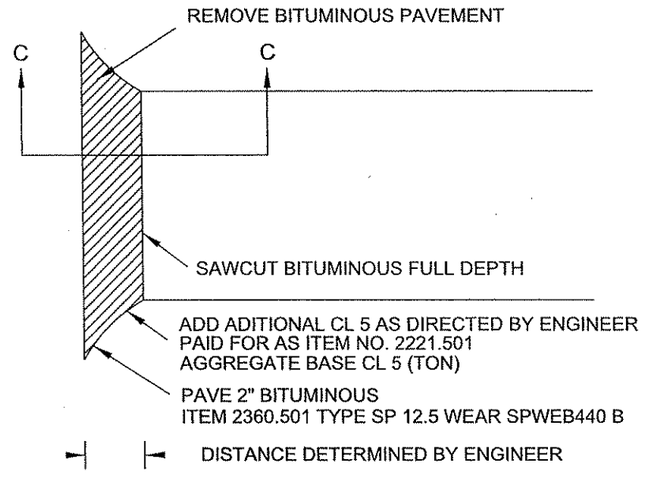


CONCRETE DRIVEWAY DETAILS A - A

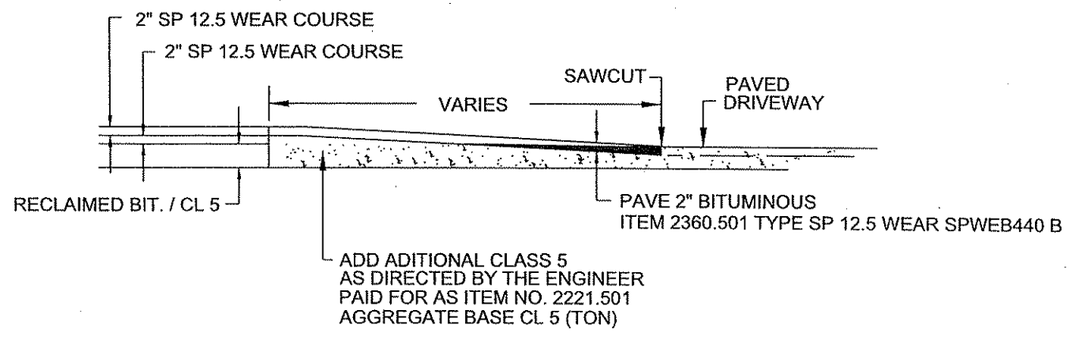


PAVED DRIVEWAYS

DETAILS



PAVED DRIVEWAY DETAILS C - C



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DESIGN BY KPR DATE 1/14/13
CHECKED BY DFF DATE 1/29/13

ANOKA COUNTY
HIGHWAY DEPT.

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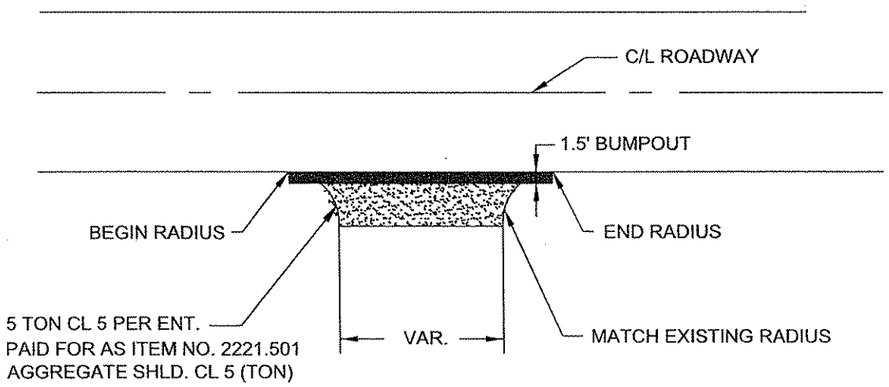
MISCELLANEOUS DETAILS

Sheet 8 of 17 Sheets

GRAVEL DRIVEWAYS AND FIELD ENTRANCES



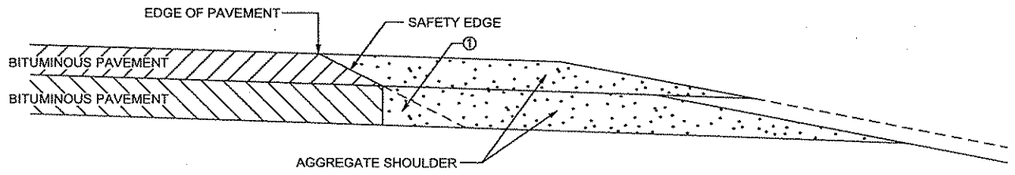
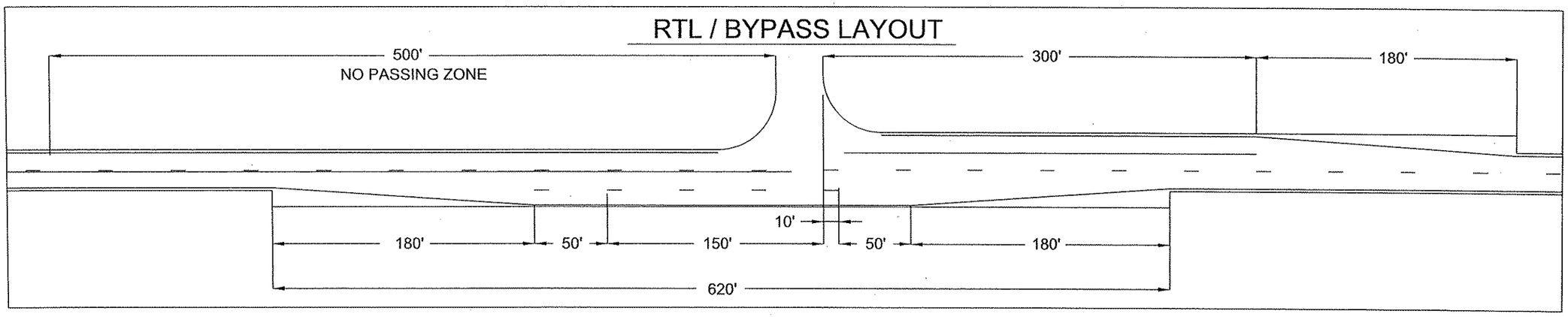


FIGURE B
BITUMINOUS PAVEMENT
SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

① OPTIONAL DESIGN EXTENDS SAFETY EDGE DEEPER THAN 6" AND WIDER THAN 10.5". SEE SPECIAL PROVISIONS .

RTL / BYPASS LAYOUT



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ANOKA COUNTY

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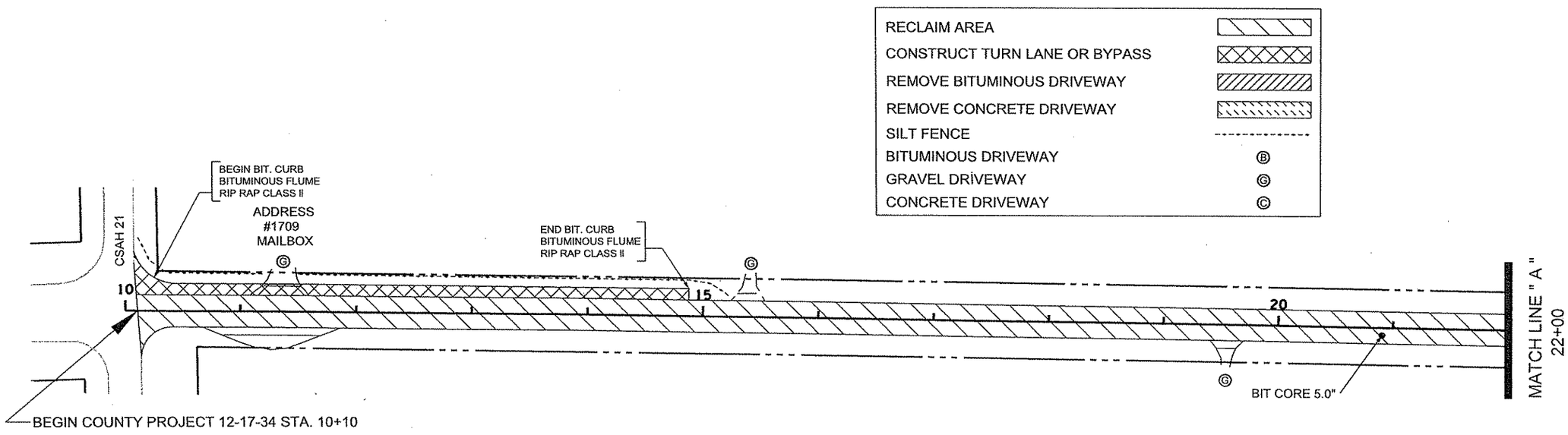
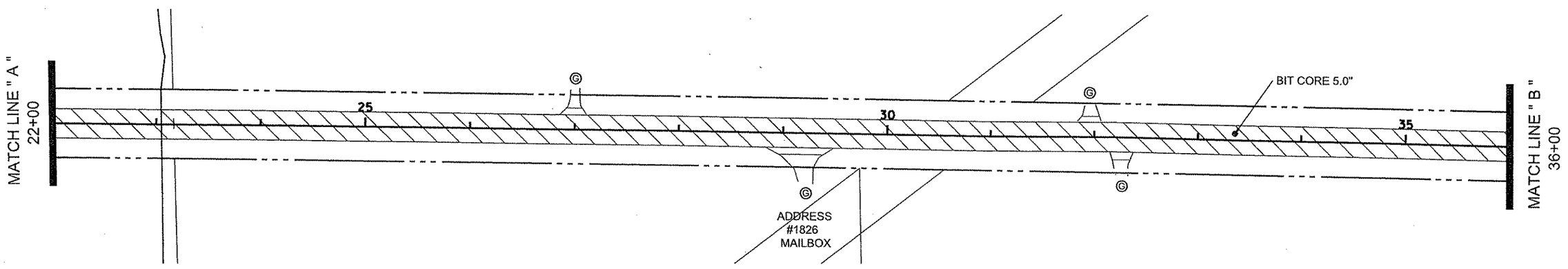
MISCELLANEOUS DETAILS





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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

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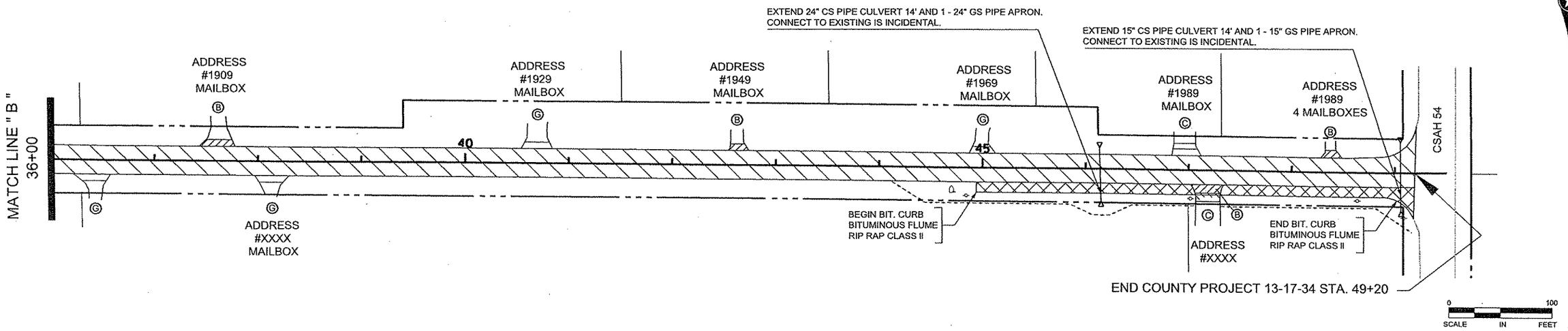
CONSTRUCTION PLAN

STA 10+10 TO 36+00

Sheet 10 of 17 Sheets



RECLAIM AREA	
CONSTRUCT TURN LANE OR BYPASS	
REMOVE BITUMINOUS DRIVEWAY	
REMOVE CONCRETE DRIVEWAY	
SILT FENCE	----------
BITUMINOUS DRIVEWAY	Ⓑ
GRAVEL DRIVEWAY	Ⓖ
CONCRETE DRIVEWAY	Ⓒ

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ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO.

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CONSTRUCTION PLAN

STA 36+00 TO 49+20

Sheet 11 of 17 Sheets

PERMANENT PAVEMENT MARKING PLAN
NOTES AND GUIDELINES

GENERAL INFORMATION:
THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF $\frac{1}{4}$ INCH UNDER OR $\frac{1}{4}$ INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS, ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

EPOXY:
THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

AN EPOLY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PREFORMED THERMOPLASTIC:
THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:
AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICAITON IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

PERMANENT PAVEMENT MARKING QUANTITIES

Item	Quantity	Units
4" Solid Line White - Epoxy	8231	Lin Ft
4" Solid Line Yellow - Epoxy	1975	Lin Ft
4" Broken Yellow Line - Epoxy (10 ft stripe / 40 ft gap)	790	Lin Ft

SYMBOLS & MATERIALS LEGEND

CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

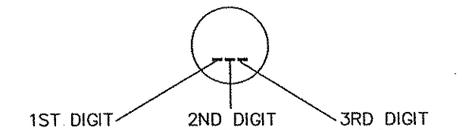
STRIPING KEY

CIRCLE - EPOXY

SQUARE PREFORMED THERMOPLASTIC

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE – EPOXY

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PRINT NAME: ANDREW WITTER
SIGNATURE:
DATE: 3/7/13 LICENSE NO. 42757

DRAWN BY MTH DATE 12/21/2012
DESIGN BY MTH DATE 12/21/2012
CHECKED BY JR DATE 02/20/2013

ANOKA COUNTY HIGHWAY DEPT.

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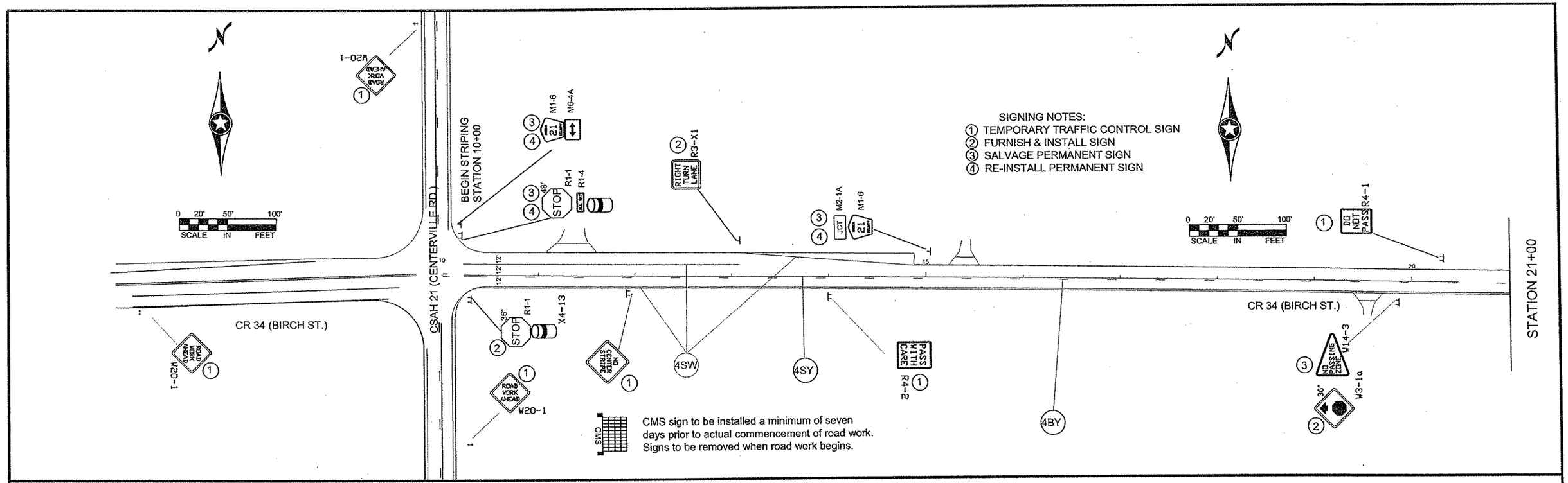
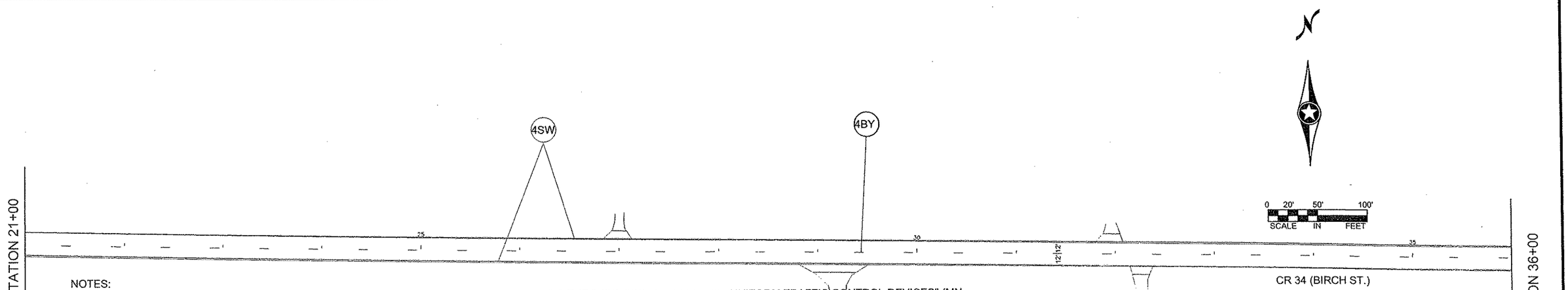
STATE AID PROJECT NO.
COUNTY PROJECT NO. 13-17-34

PERMANENT MARKING TABULATION





NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

NO	DATE	BY	CKD	APPR	REVISION

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SIGNATURE:

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ANOKA COUNTY HIGHWAY DEPT.

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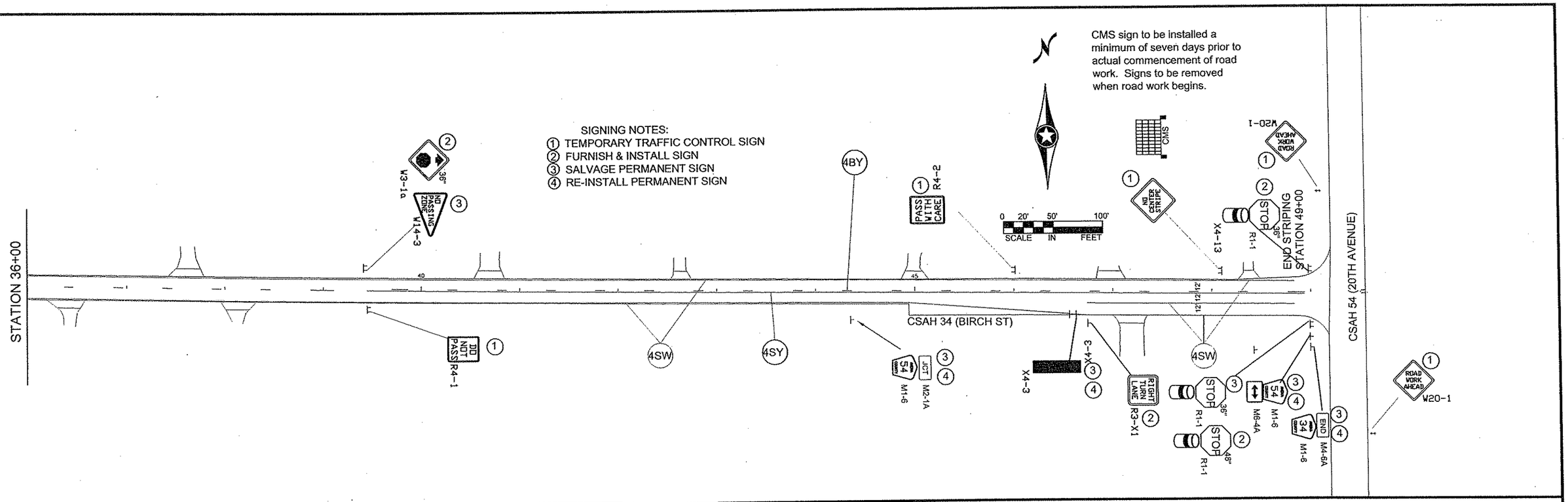
TEMPORARY SIGNING
PERMANENT SIGNING, STRIPING
AND PAVEMENT MESSAGES

Sheet 13 of 17 Sheets



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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH 34\Base\TRAFFIC\SIGNING AND STRIPING.DWG

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.

PRINT NAME: ANDREW WITTER

SIGNATURE:

DATE: 3/7/13 REG. NO. 42757

DRAWN BY MTH DATE 12/21/2012

DESIGN BY MTH DATE 12/21/2012

CHECKED BY JR DATE 2/20/2013

ANOKA COUNTY HIGHWAY DEPT.

STATE PROJECT NO.

STATE AID PROJECT NO.

STATE AID PROJECT NO.

COUNTY PROJECT NO. 13-17-34

TEMPORARY SIGNING
PERMANENT SIGNING, STRIPING
AND PAVEMENT MESSAGES

Sheet 14 of 17 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA FT.²	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO BOTTOM (FT.)
W8-12	48" x 48"	16.00	NO CENTER STRIPE	2	2	7.0'
R4-1	24" x 30"	5.00	DO NOT PASS R4-1	2	1	7.0'
R4-2	24" x 30"	5.00	PASS WITH CARE R4-2	2	1	7.0'
W8-1A	48" x 48"	16.00	BUMP AHEAD W8-1A	AS NEEDED		
W8-1A	48" x 48"	16.00	BUMP W8-1A	AS NEEDED		
W8-8	48" x 48"	16.00	ROUGH ROAD W8-8	AS NEEDED		
W8-9	48" x 48"	16.00	NO SHOULDER W8-9	AS NEEDED		
	48" x 48"	16.00	LOW SHOULDER	AS NEEDED		
W8-11	48" x 48"	16.00	UNEVEN LANES W8-11	AS NEEDED		
W20-1	48" x 48"	16.00	ROAD WORK AHEAD W20-1	AS NEEDED (ESTIMATED 5)		
CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.			CMS	2		

SALVAGE & RE-INSTALL PERMANENT SIGNS

STATION		SALVAGE SIGN TYPE C	INSTALL SIGN TYPE C	SIGN NUMBER
		EACH	EACH	
10+20	Lt	1	1	R1-1
				R1-4
				x4-15
10+20	Lt	1	1	M1-6
				M6-4A
15+00	Lt	1	1	M2-1A
				M1-6
19+80	Rt	1		W14-3
39+40	Lt	1		W14-3
44+35	Rt	1	1	M2-1A
				M1-6
46+55	Rt	1	1	x4-3
				x4-3
49+00	Rt	1		R1-1
				x4-15
49+00	Rt	1	1	M1-6
				M6-4A
49+00	Rt	1	1	M4-6A
				M1-6
TOTAL		10	7	

F & I PERMANENT SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA FT.²	INSERT	QUANTITY	TOTAL PANEL AREA	No. POST	MOUNTING HEIGHT TO BOTTOM (FT.)
R1-1	36" x 36"	9.00	STOP	1	9.00	2	7.0'
R1-1	48" x 48"	16.00		1	16.00	2	7.0'
R3-X1	30" x 30"	6.25	RIGHT TURN LANE	2	12.50	1	7.0'
W3-1a	36" x 36"	9.00		2	18.00	2	7.0'

Item	Quantity	Units
SALVAGE SIGN TYPE C	10	EACH
F & I SIGN PANEL TYPE C	55.50	SQ FT
INSTALL SIGN TYPE C	7	EACH

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		R	O	A	D		
		W	O	R	K		
	B	E	G	I	N	S	

	<	D	A	T	E	>	
	E	X	P	E	C	T	
	D	E	L	A	Y	S	

		U	S	E			
		A	L	T	.		
	R	O	U	T	E	S	

NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF SEVEN DAYS PRIOR TO ACTUAL COMMENCEMENT OF ROAD WORK, TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO BE REMOVED WHEN ROAD WORK BEGINS. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
- CONTRACTOR SHALL SUPPLY AND ERECT THE TEMPORARY TRAFFIC CONTROL SIGNS AS SHOWN ON THIS DRAWING AND DETAILED IN THE SPECIAL PROVISIONS FROM THE TIME WORK COMMENCES ON THIS ROADWAY UNTIL THIS ROADWAY IS PERMANENTLY STRIPED. ALL NECESSARY TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE PAID FOR AS PART OF TRAFFIC CONTROL LUMP SUM.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ALL SALVAGED AND REINSTALLED SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE. THIS WILL BE CONSIDERED AS INCIDENTAL TO INSTALL SIGN TYPE C.

NO	DATE	BY	CKD	APPR	REVISION

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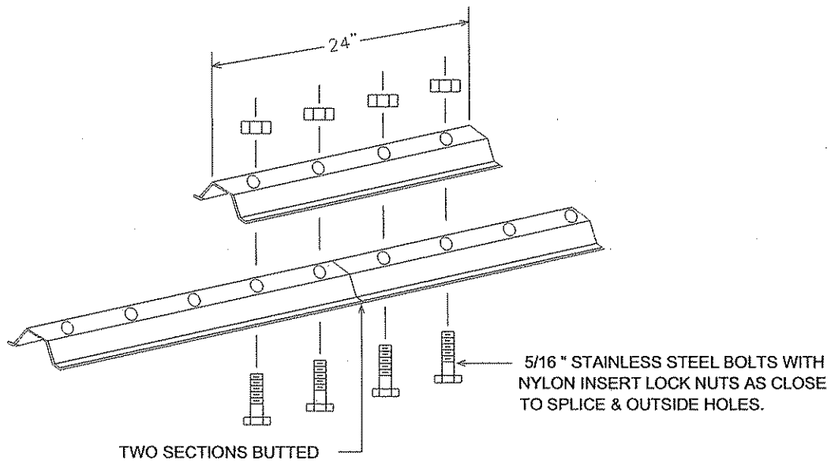
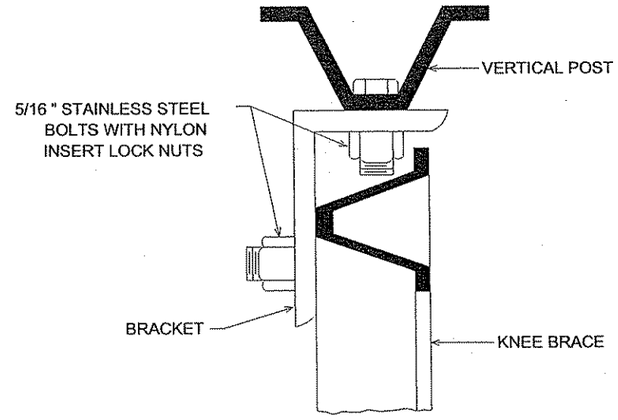
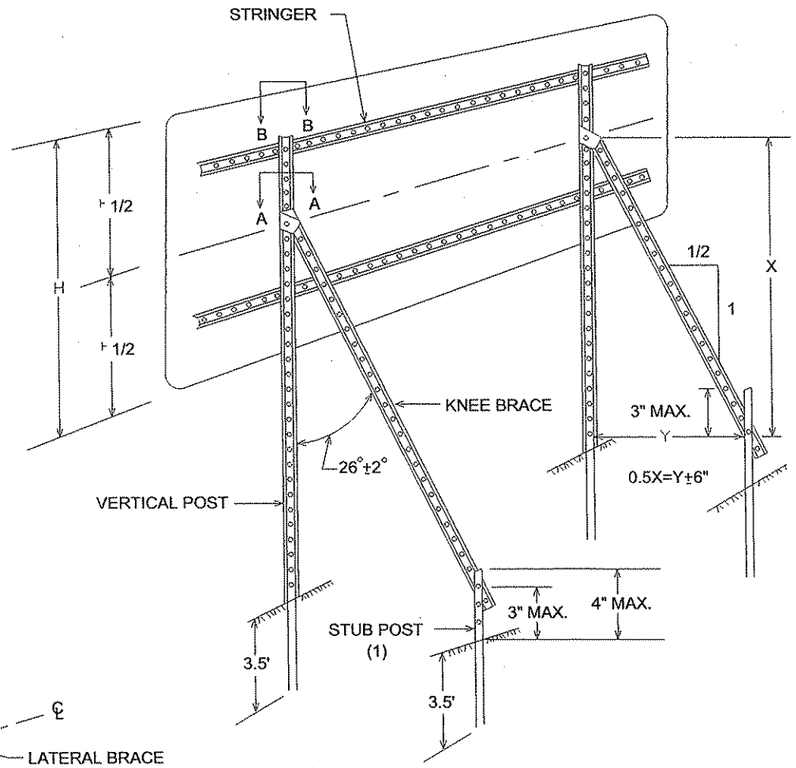
TRAFFIC CONTROL QUANTITIES



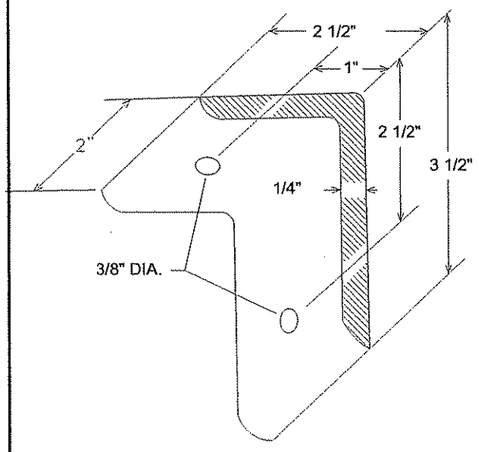
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

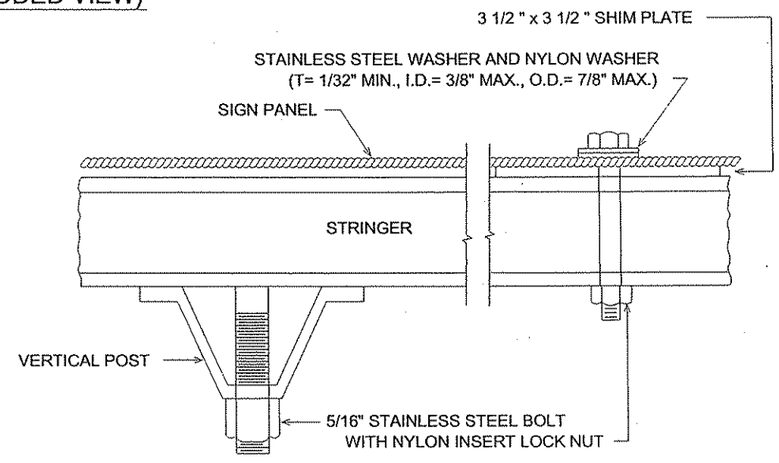


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

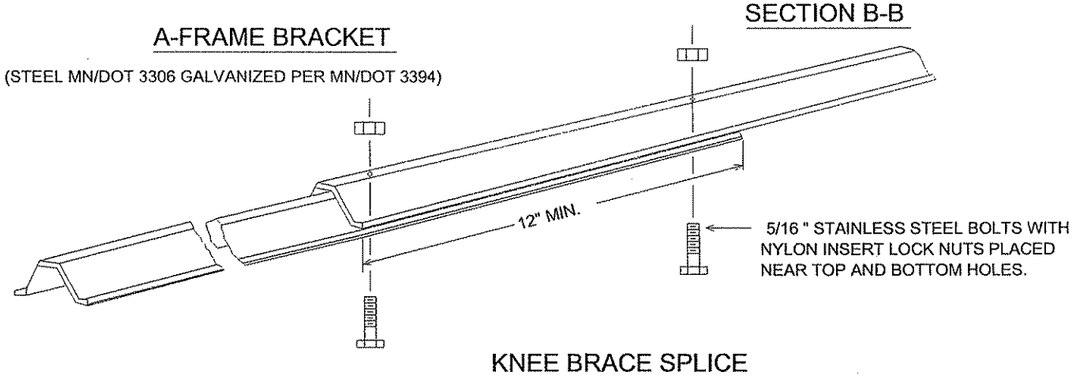


A-FRAME BRACKET

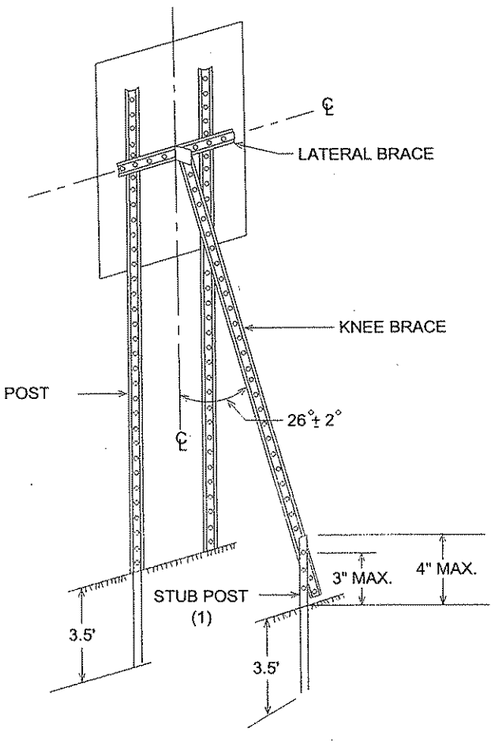
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



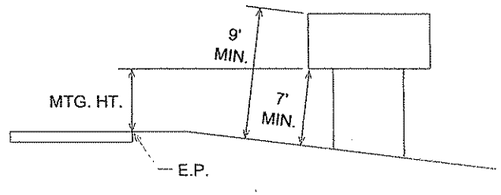
SECTION B-B



KNEE BRACE SPLICE



TYPICAL "A-FRAME" INSTALLATION TYPE "C" SIGNS



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST.

TYPE C & D SIGN STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY MTH DATE 2-05-13
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SIGNING & STRIPING DETAILS

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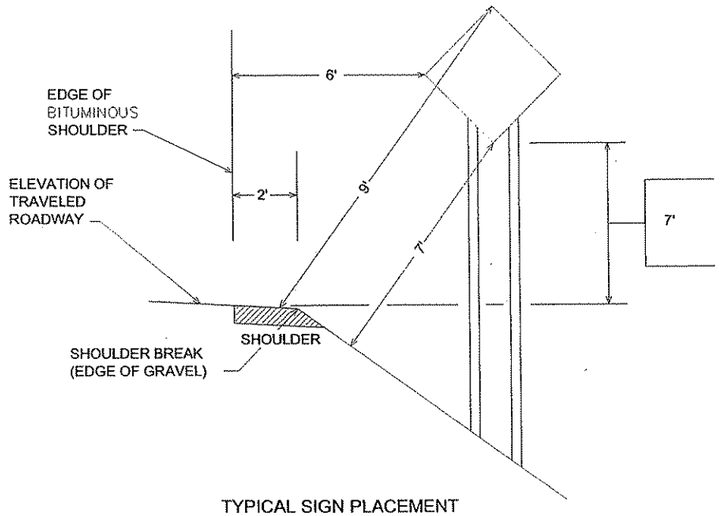
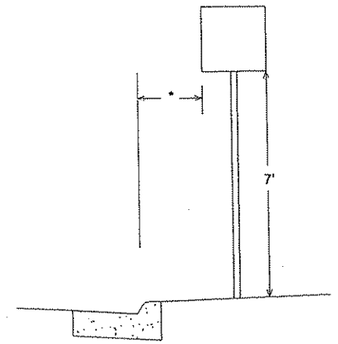
RURAL



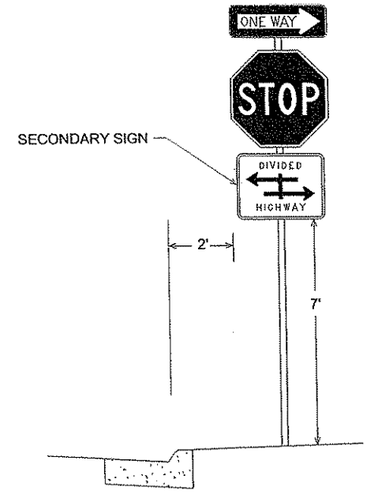
TYPICAL SIGN PLACEMENT

URBAN

- 2' - NARROW BOULEVARD (< 8' WIDE)
  6' - WIDE BOULEVARD



TYPICAL SIGN PLACEMENT



NOTE:

- ALL DIMENSIONS ARE MINIMUMS
- MAINTAIN 2' CLEAR FROM
  SIGNS TO BITUMINOUS TRAIL

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ANOKA COUNTY
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SIGNING & STRIPING DETAILS

Sheet 17 of 17 Sheets