

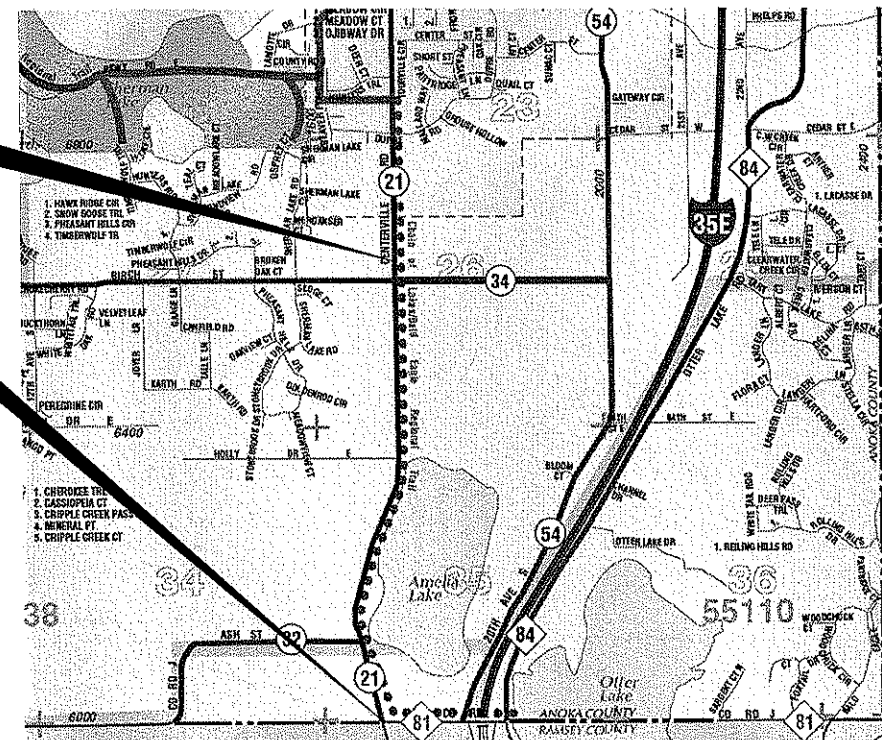
MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR RECLAIM BITUMINOUS SURFACING & OVERLAY
 LOCATED ON C.S.A.H. 21 BETWEEN SOUTH ASH ST. (COUNTY ROAD J) AND 500' NORTH OF BIRCH ST. (C.S.A.H. 34)

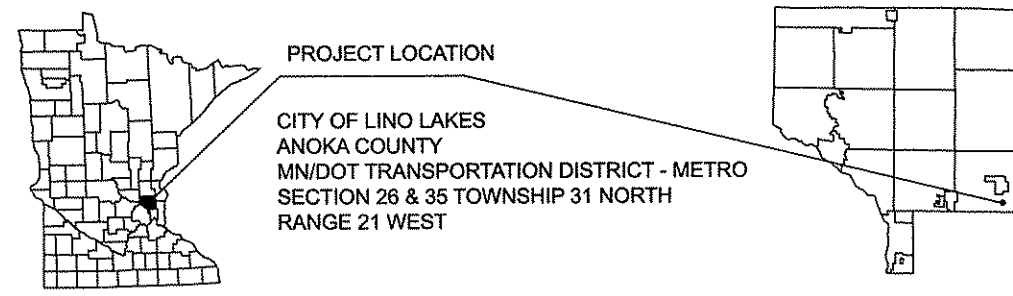
COUNTY PROJ. NO. 12-13-21
C.S.A.H. 21

GROSS LENGTH	8766 FEET	1.66 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	8766 FEET	1.66 MILES



END COUNTY PROJECT 12-13-21
 C.S.A.H. 21 STA. 99+00

BEGIN COUNTY PROJECT 12-13-21
 C.S.A.H. 21 STA. 11+34



PLAN SYMBOLS

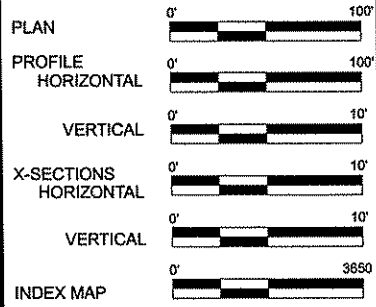
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- SLOPE EASEMENT
- EXISTING RIGHT OF WAY
- PROPERTY LINE
- CORPORATE OR CITY LIMITS
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY
- RIVER OR CREEK
- DRAINAGE DITCH
- CULVERT
- DROP INLET
- 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)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO
- RAILROAD CROSSING BELL
- RAILROAD CROSSING GATE
- MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- CAST IRON MONUMENT
- IRON PIN
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

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
- BURIED ELECTRIC CABLE
- SEWER (Sanitary or Storm)
- SEWER MANHOLE

SCALES



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

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES,
3-5	MISCELLANEOUS DETAILS
6-7	TYPICAL SECTIONS
8-11	CONSTRUCTION PLAN
12	PERMANENT MARKING TABULATION
13-16	TEMPORARY SIGNING, PERMANENT STRIPPING, PAVEMENT MESSAGES
17-18	SIGNING & STRIPING PLAN, TAB. & DETAILS

THIS PLAN CONTAINS 18 SHEETS
 DESIGN DESIGNATION

ESAL 20	NA
R VALUE	NA
ADT (2011) =	10412
Proj. ADT (2031) =	14576
Proj. HCADT (2031) =	14576
Soil Factor	NA
10 TON DESIGN	
Functional Classification	MAJOR COLLECTOR
No. of Traffic Lanes	2
No. of Parking Lanes	0
Design Speed	55 MPH
Based on Stopping Sight Distance	N/A
Height of eye	3.5'
Height of object	2.0'
Design Speed not achieved at:	STA. _____ TO STA. _____ MPH _____

Approved: 3/1/12
 ANOKA COUNTY ENGINEER

NO.	DATE	BY	CHKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_21_(CountyLine-CSAH14)\Plan1_Title.dgn 02/27/2012 1:23:01 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: CHARLES CADEREHEAD
 SIGNATURE:
 DATE: 3/2/12 LICENSE NO. 40416

DRAWN BY: CSO DATE: 1/9/2012
 DESIGN BY: CSO DATE: 1/9/2012
 CHECKED BY: JO DATE: _____

ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

TITLE SHEET

Sheet 1 of 18 Sheets

CSAH 21		STATEMENT OF ESTIMATED QUANTITIES		
ITEM NO.	ITEM	NOTES	UNIT	TOTAL EST. QUANT.
2011.601	CONSTRUCTION SURVEY		LUMP SUM	1
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE PIPE CULVERTS	15	LIN FT	108
2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	11	SQ FT	615
2104.503	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	11	SQ FT	8304
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	35
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	364
2104.523	SALVAGE SIGN TYPE C		EACH	15
2104.523	SALVAGE SIGN TYPE D		EACH	1
2105.525	TOPSOIL BORROW (LV)	5	CU YD	187
2105.602	CONSTRUCT TURN LANE	12	EACH	3
2105.602	CONSTRUCT BY-PASS LANE	12	EACH	1
2123.503	MOTOR GRADER	13	HOUR	10
2130.501	WATER		M-GAL	84
2211.501	AGGREGATE BASE CLASS 5	10, 9	TON	125
2221.501	AGGREGATE SHOULDERING CLASS 5	14, 9	TON	1169
2232.501	MLL BITUMINOUS SURFACE (2.0")		SQ YD	123
2331.604	BITUMINOUS PAVEMENT RECLIMATION	2	SQ YD	25088
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	1169
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4, B)	1, 11, 9	TON	106
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4, E)	16	TON	3191
2360.502	TYPE SP 12.5 NON-WEARING COURSE MIXTURE (4, B)		TON	3316
2501.515	18" CS PIPE APRON		EACH	2
2501.515	24" CS PIPE APRON		EACH	2
2503.603	18" HDPE PIPE SEWER		LIN FT	72
2503.603	24" HDPE PIPE SEWER		LIN FT	60
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	11	SQ YD	68
2535.501	BITUMINOUS CURB (MODIFIED)	6, 7	LIN FT	303
2540.602	INSTALL MAIL BOX SUPPORTS		EACH	14
2563.601	TRAFFIC CONTROL	3, 4	LUMP SUM	1
2564.533	FURNISH SIGN PANNEL TYPE C		SQ FT	66
2564.536	INSTALL SIGN PANEL TYPE C		EACH	9
2564.536	INSTALL SIGN PANEL TYPE D		EACH	1
2575.523	EROSION CONTROL BLANKET, CATEGORY 3	5	SQ YD	600
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	8	LIN FT	700
2582.502	4" SOLID LINE WHITE-EPOXY	9	LIN FT	18027
2582.502	4" SOLID LINE YELLOW - EPOXY	9	LIN FT	5671
2582.502	4" BROKEN YELLOW LINE-EPOXY	9	LIN FT	1130
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	9	LIN FT	3696

NOTES:

- USED FOR PAVING DRIVEWAYS AND STREET APPROACHES
- ITEM INCLUDES THE REMOVAL OF BITUMINOUS CURB
- ALL TRAFFIC CONTROL DEVICES AND METHODS SHALL CONFORM TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL
- ROAD WORK AHEAD, DO NOT PASS, PASS WITH CARE, NO CENTERLINE STRIPE, BUMP AND BUMP AHEAD SIGNS TO BE IN PLACE AT THE START OF RECLAIM AND OVERLAY OPERATIONS
- ITEM FOR AREA BEHIND BITUMINOUS CURB & FIX SLOPES IN LEFT TURN LANE AREA
- SHALL BE INSTALLED WITH SAME OPERATION AS MAINLINE BITUMINOUS WEAR COURSE
- BITUMINOUS TONS TO CREATE BIT CURB SHALL BE PAID UNDER 2360.501 WEARING COURSE MIX (4, E)
- SHALL BE PLACED AFTER EACH DAYS PAVING OPERATION
- SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING
- ITEM FOR GRAVEL ENTRANCES
- CONTRACTORS RESPONSIBILITY TO CONTACT OWNER 48 HOURS BEFORE STARTING OPERATION
- INCLUDES TIME AND MATERIAL TO CONSTRUCT ITEM. COMMON EXCAVATION, SELECT GRANULAR, AGGREGATE BASE CLASS 5, SILT FENCE, EROSION CONTROL BLANKET CATEGORY 3, SEED & DOZER / MOTOR GRADER TIME TO CONSTRUCT TURN (TAB F) NOTE -BITUMINOUS BASE AND WEAR COURSE IS NOT INCLUDED IN THIS ITEM
- INCLUDES TIME TO REMOVE EXCESS RECLAIMED MATERIAL AT BEGINNING AND END OF RECLAIM AREAS TO MATCH EXISTING BITUMINOUS HEIGHT
- MATERIAL FOR FINISHED GRAVEL SHOULDERS
- INCLUDES APRON IN LENGTH
- INCLUDES SAFETY EDGE CONSTRUCTION

BASIS OF PLANNED QUANTITIES

ITEM NO.		
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	.05 GAL / SQ YD
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4, E)	115/SQ.YD./IN THICKNESS
2361.502	TYPE SP 12.5 NON-WEARING COURSE MIX (4, B)	115/SQ.YD./IN THICKNESS
2211.501	AGGREGATE BASE CLASS 5	CU YDS * 1.8 = TONS
2221.501	AGGREGATE SHOULDERING CLASS 5	CU YDS * 1.8 = TONS
2581.501	REMOVABLE PREFORMED PLASTIC MARKING	2' AT 50' INTERVALS FOR SKIPS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P112-01-00CSAH_21 (CountyLine-CSAH14)Plant2_SEQ.dgn 02/27/2012 1:32:33 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: CHARLES CADENHEAD

SIGNATURE: *[Signature]*

DATE: 2/2/12 LICENSE NO. 40416

DRAWN BY: CSO DATE: 1/9/2012

DESIGN BY: CSO DATE: 1/9/2012

CHECKED BY: JO DATE:



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

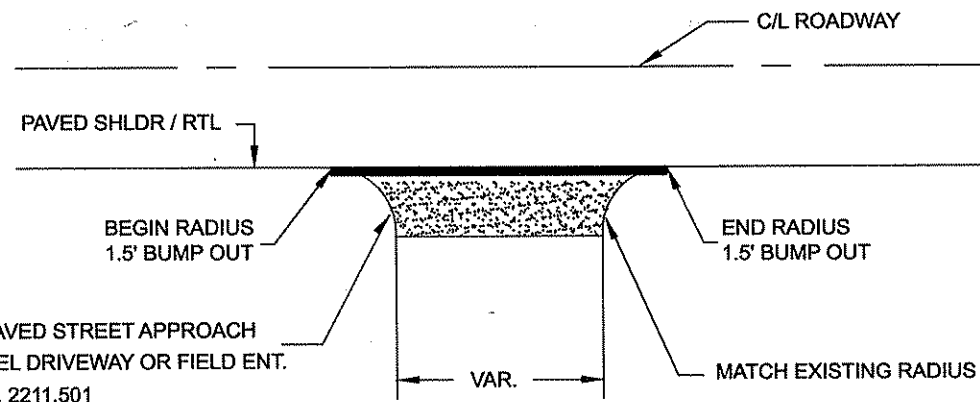
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COUNTY PROJECT NO. 12-13-21

STATEMENT OF ESTIMATED QUANTITIES

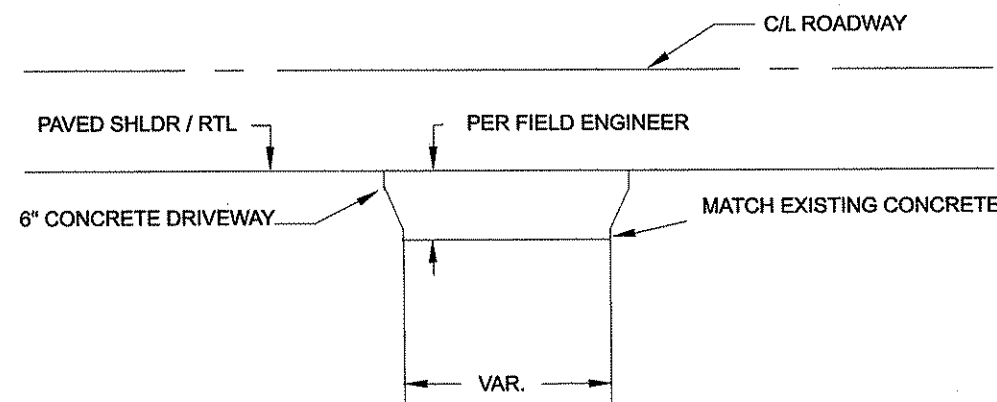
Sheet 2 of 18 Sheets

UNPAVED STREET APPROACHES, GRAVEL DRIVEWAYS AND FIELD ENT.

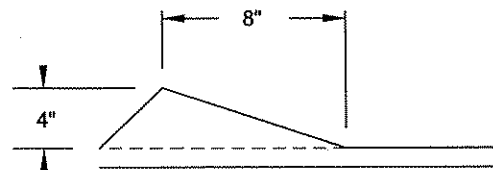


10 TON CL 5 PER UNPAVED STREET APPROACH
 5 TON CL 5 PER GRAVEL DRIVEWAY OR FIELD ENT.
 PAID FOR AS ITEM NO. 2211.501
 AGGREGATE BASE CL 5 (TON)

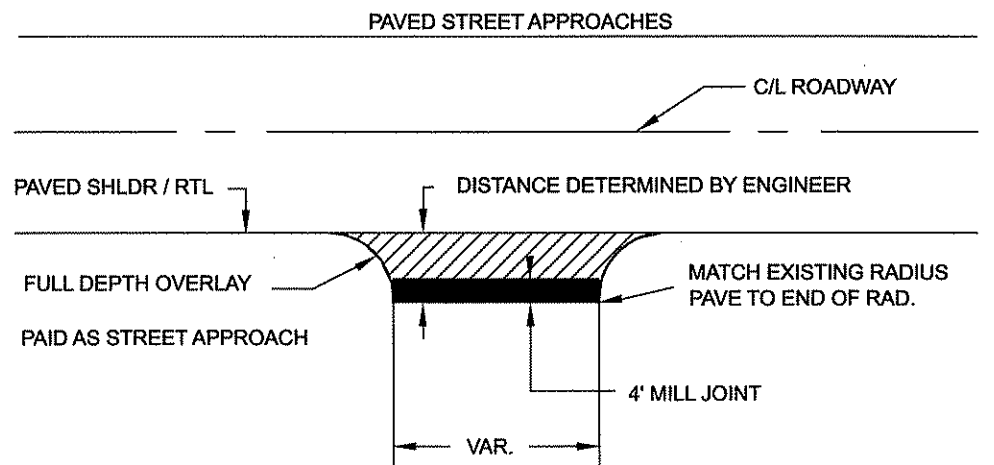
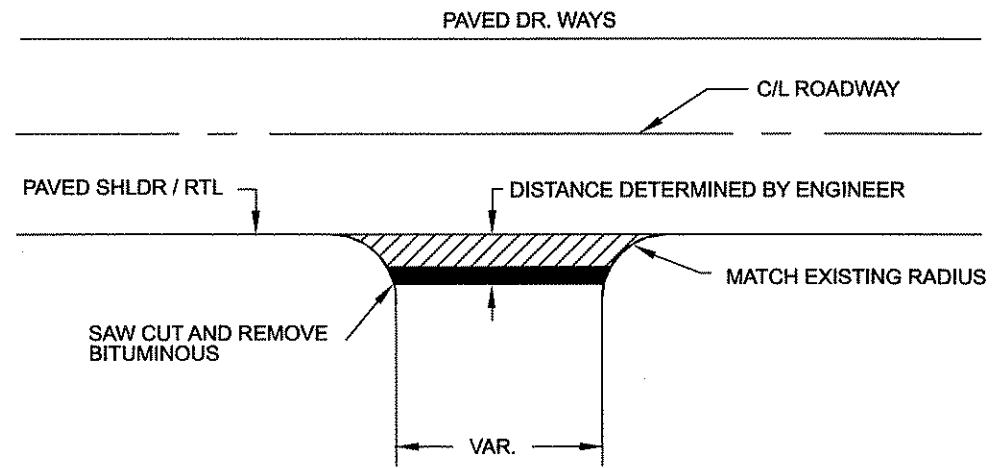
CONCRETE DRIVEWAYS



BITUMINOUS CURB
 (PLACED DURING THE PAVING OF MAIN LINE WEAR COURSE)



EXISTING BITUMINOUS CURB (LIP) TO BE RECLAIMED WITH SHOULDER
 PROPOSED BITUMINOUS CURB (LIP) TO BE PAID UNDER ITEM NO. 2535.501



DRIVEWAYS TO BE PAVED IN SEPERATE OPERATION OTHER THAN MAINLINE WEAR.
 PAID AS STREET APPROACH WEAR

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_21_(CountyLine-CSAH14)\Plan3_Details.dgn 02/27/2012 1:34:19 PM

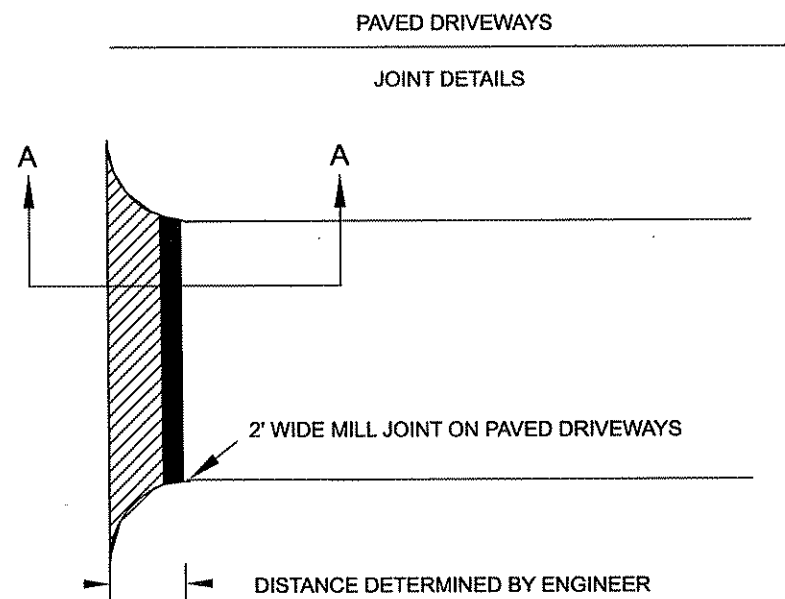
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 LICENSE NO. #40416

DRAWN BY CSO DATE 1/9/2012
 DESIGN BY CSO DATE 1/9/2012
 CHECKED BY JO DATE

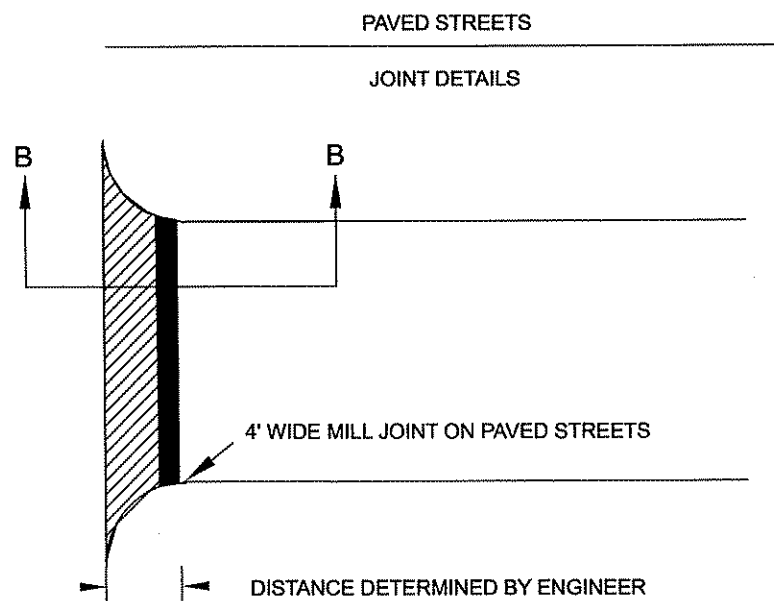


ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
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DRIVEWAYS TO BE PAVED IN SEPERATE OPERATION OTHER THAN MAINLINE WEAR.
PAID AS DRIVEWAY/STREET APPROACH WEAR



OVERLAY EXISTING STEET APPROACH, DO NOT RECLAIM
STREETS TO BE PAVED IN SEPERATE OPERATION OTHER THAN MAINLINE WEAR.
PAID AS DRIVEWAY/STREET APPROACH WEAR

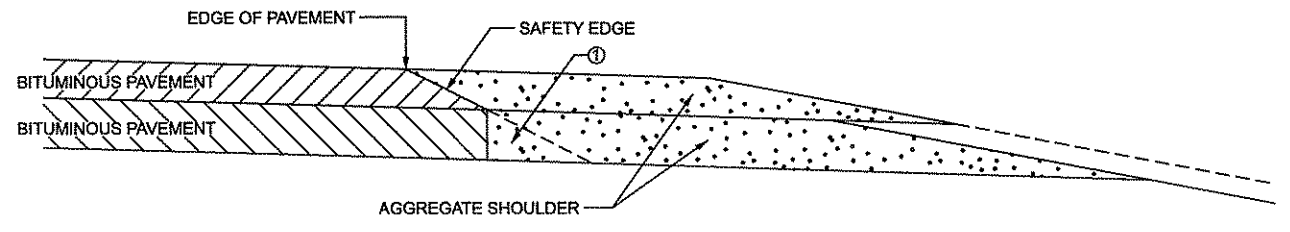
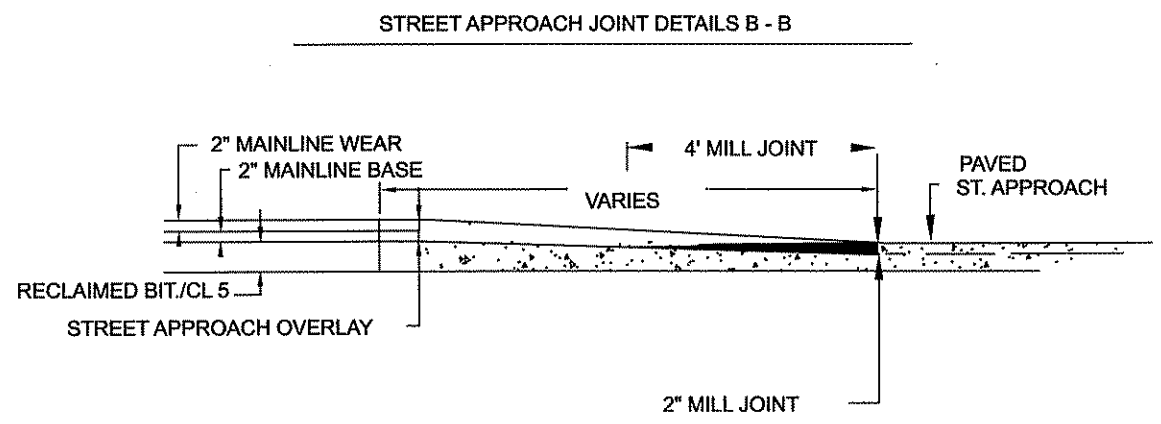
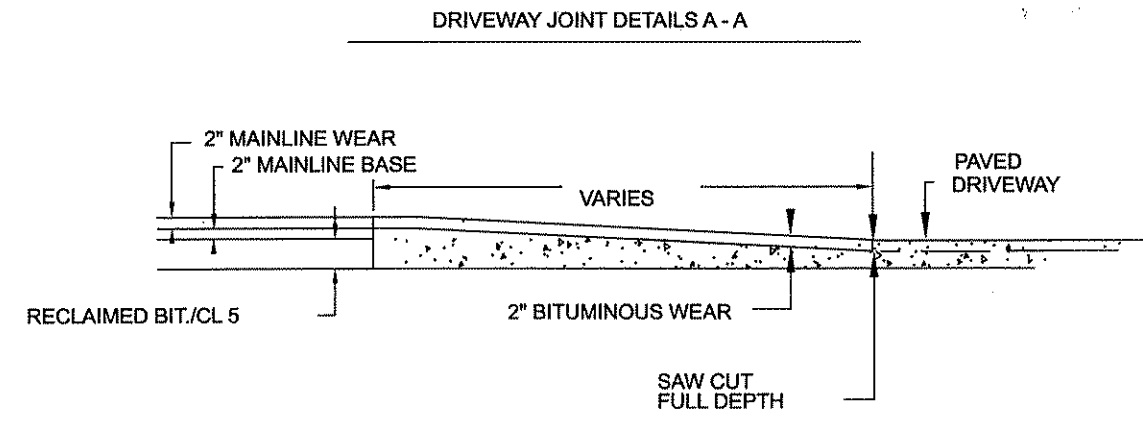


FIGURE B
BITUMINOUS PAVEMENT

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

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\12-01-00\CSAH_21_(CountyLine-CSAH14)\Plan3_Details.dgn					
02/27/2012 1:34:24 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: CHARLES GADENHEAD

SIGNATURE: *[Signature]*

DATE: 3/2/12 LICENSE NO. #40416

DRAWN BY CSO DATE 1/9/2012

DESIGN BY CSO DATE 1/9/2012

CHECKED BY JO DATE

ANOKA COUNTY
HIGHWAY DEPT.

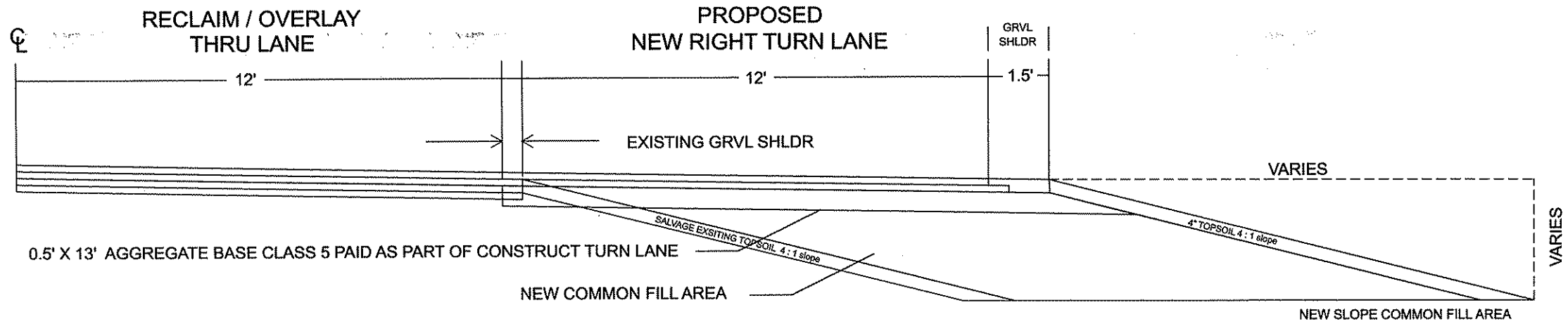
STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 12-13-21

R.T.L. LOCATIONS
 N.B. 21 @ CSAH 34
 N.B. 21 @ FUTURE PARK ENT (2)



* NOTE: CALC. BASED ON AVERAGE DITCH DEPTH ELEVATION & AVERAGE EXISTING EDGE OF BITUMINOUS ELEVATION

CURVE GRADES		
STATION	% LT OF CL	% RT OF CL
28+00	-1.0%	-4.0%
29+00	5.0%	-6.0%
30+00	5.5%	-6.0%
31+00	6.0%	-6.0%
32+00	2.5%	-6.0%
33+00	-1.5%	-3.0%
34+00	-2.0%	-2.0%

CURVE GRADES		
STATION	% LT OF CL	% RT OF CL
50+00	-2.0%	-2.0%
51+00	-2.0%	0.0%
52+00	-6.0%	2.5%
53+00	-6.0%	2.5%
54+00	-6.0%	3.5%
55+00	-6.0%	3.5%
56+00	-6.0%	3.5%
57+00	-6.0%	3.5%
58+00	-6.0%	3.0%
59+00	-6.0%	2.0%
60+00	-5.0%	2.0%
61+00	-2.5%	0.0%
62+00	-2.0%	-2.0%

RIGHT TURN LANE LOCATION	RIGHT TURN LANES CALCULATIONS										
	STATION	STATION	LENGTH	EXRTA WIDTH	COMMON EX		SELECT GRANULAR		CLASS 5 (CU YD)	SILT FENCE (LIN FT)	EROSION CONTROL BLANKET (SQ YD)
					DEPTH (FT)	VOLUME (CY)	DEPTH (FT)	VOLUME (CY)			
N.B. 21 @ CSAH 34	88+24	93+04	480	12	0.5	213	3.74	797	116	520	640
FUTURE PARK ENT	83+00	88+24	524	12	0.5	233	3.61	840	126	564	699
FUTURE PARK ENT	69+40	74+20	480	12	0.5	160	1.39	298	116	520	640

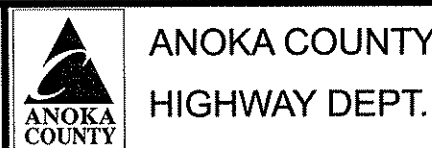
NOTE:
 DOZER, MOTOR GRADER, AND PNEMATIC-TIRED ROLLER ARE INCIDENTAL TO CONSTRUCTING RIGHT TURN LANES AND BY-PASS LANES
 SEEDING, SEED MIXTURE 240 AND FERTILIZER TYPE 3 ARE INCIDENTAL TO EROSION CONTROL BLANKET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_21_(CountyLine-CSAH14)\Plan3_Details.dgn 02/27/2012 1:34:32 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: CHARLES CADENHEAD
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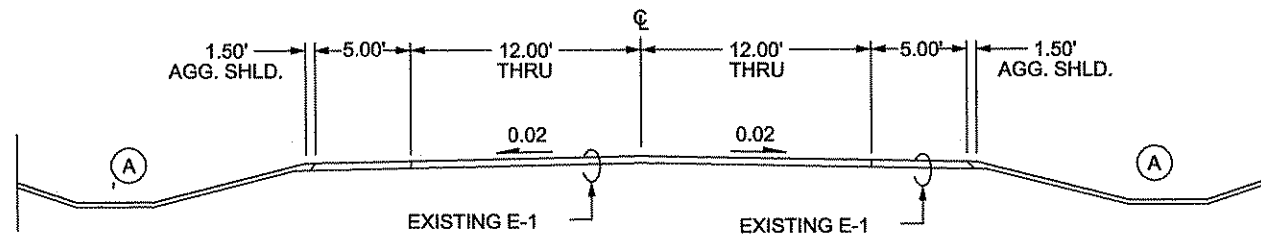


STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
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MISCELLANEOUS DETAILS
 Sheet 5 of 18 Sheets

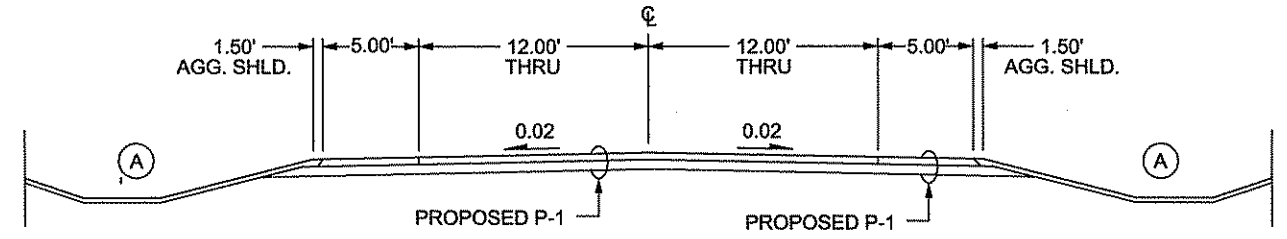
C.S.A.H. 21

EXISTING SECTION
STA. 11+34.00 - STA. 26+00.00



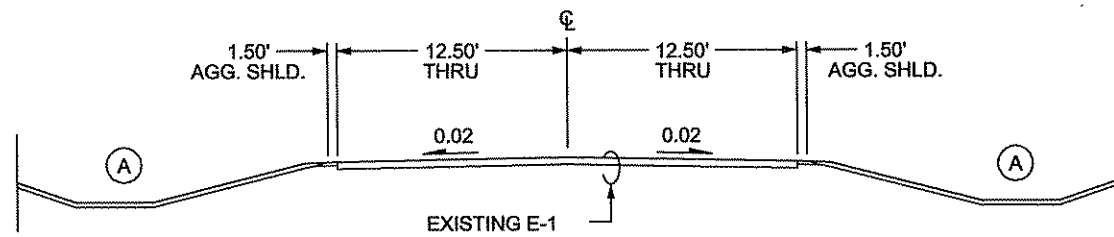
C.S.A.H. 21

PROPOSED SECTION
STA. 11+34.00 - STA. 21+87.00



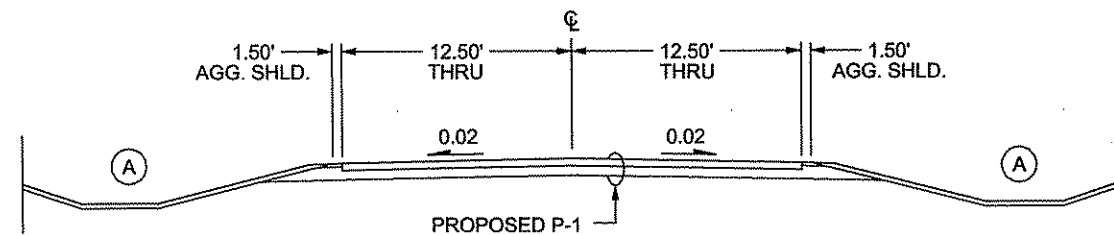
C.S.A.H. 21

EXISTING SECTION
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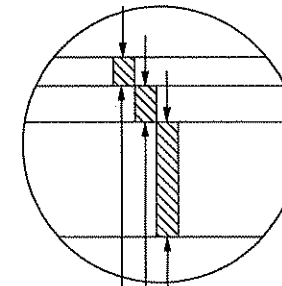


C.S.A.H. 21

PROPOSED SECTION
STA. 28+00.00 - STA. 99+0.00

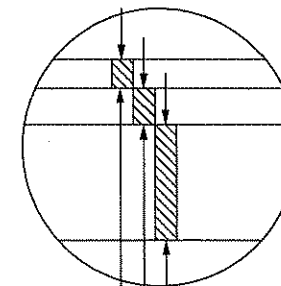


DESIGN "P-1" MAINLINE
PAVEMENT DESIGN



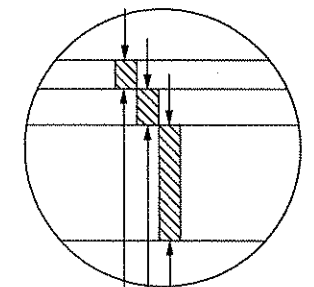
2" BITUMINOUS WEAR (SPWEB440E)
2.0" BITUMINOUS NON-WEAR (SPNWB430B)
RECLAIM AGGREGATE BASE, CLASS 5

EXISTING "E-1" MAINLINE
PAVEMENT



3-5" BITUMINOUS
3" AGGREGATE BASE
BITUMINOUS SAND

DESIGN "P-2" MAINLINE
PAVEMENT DESIGN



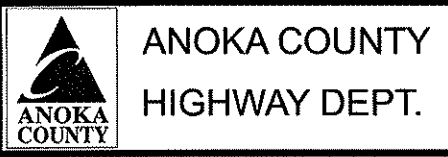
2" BITUMINOUS WEAR (SPWEB440E)
2.0" BITUMINOUS NON-WEAR (SPNWB430B)
6" AGGREGATE BASE, CLASS 5
(INCLUDED IN BID PRICE FOR CONSTRUCT TURN LANE)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:12-01-00\CSAH_21 (CountyLine-CSAH14)\Plan4_TS.dgn 02/27/2012 1:35:12 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: CHARLES CADENFEAD
SIGNATURE: *[Signature]*
DATE: 3/2/12 LICENSE NO. 40416

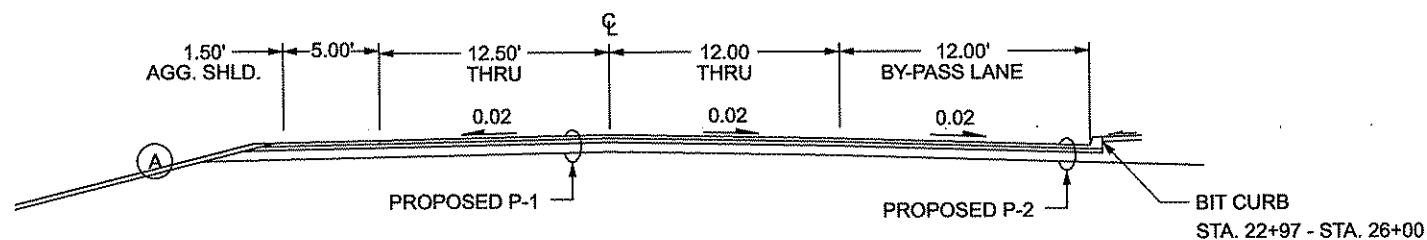
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CHECKED BY: JO DATE:



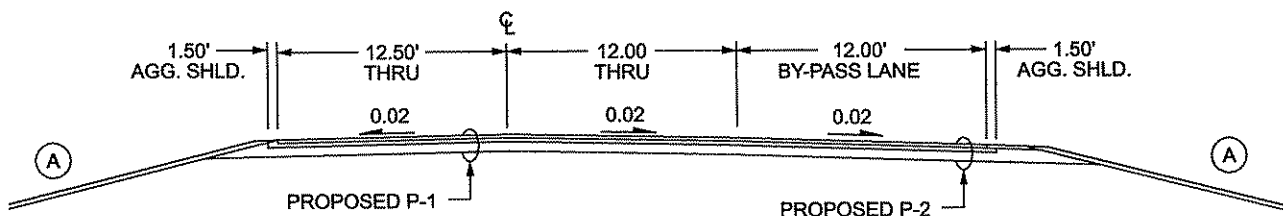
STATE PROJECT NO.
STATE AID PROJECT NO.
CITY PROJECT NO.
COUNTY PROJECT NO. 12-13-21

TYPICAL SECTIONS
Sheet 6 of 18 Sheets

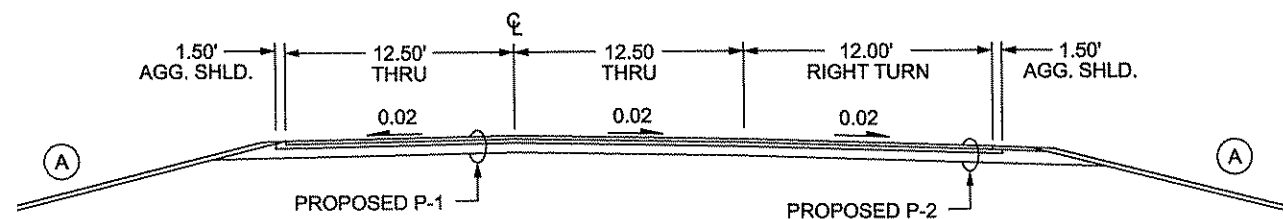
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PROPOSED BY-PASS LANE W/ BIT CURB
N.B. @ STA. 21+87 - STA. 26+00



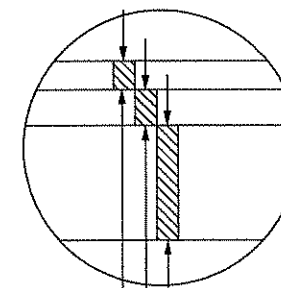
C.S.A.H. 21
PROPOSED BY-PASS LANE W/O BIT CURB
N.B. @ STA. 26+00 - STA. 28+07



C.S.A.H. 21
PROPOSED RIGHT TURN LANE
N.B. @ STA. 69+40 - STA. 74+20
N.B. @ STA. 83+00 - STA. 88+24
N.B. @ STA. 88+24 - STA. 93+04

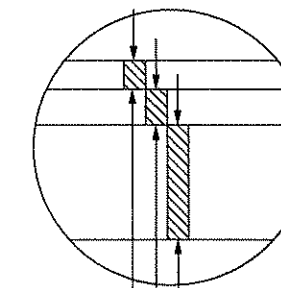


DESIGN "P-1" MAINLINE PAVEMENT DESIGN



2" BITUMINOUS WEAR (SPWEB440E)
 2.0" BITUMINOUS NON-WEAR (SPNWB430B)
 RECLAIM AGGREGATE BASE, CLASS 5

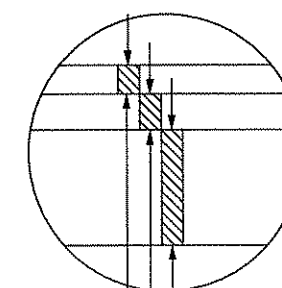
DESIGN "P-2" MAINLINE PAVEMENT DESIGN



2" BITUMINOUS WEAR (SPWEB440E)
 2.0" BITUMINOUS NON-WEAR (SPNWB430B)
 6" AGGREGATE BASE, CLASS 5

(INCLUDED IN BID PRICE FOR CONSTRUCT TURN LANE)

EXISTING "E-1" MAINLINE PAVEMENT



3-5" BITUMINOUS
 3" AGGREGATE BASE
 BITUMINOUS SAND

SPECIFIC NOTES:

- (A) DITCH SLOPES VARY 1:1 - 6:1
- DITCH DEPTH VARIES 1.0' - 5.0'
- DITCH WIDTH VARIES 0.0' - 10.0'

GENERAL NOTES:

- ALL CROSS SLOPES ARE EXPRESSED IN FT / FT

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_21_County\Line-CSAH14\Plan4_TS.dgn
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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: CHARLES CAPENHEAD
 SIGNATURE: *[Signature]*
 DATE: 2/27/12 LICENSE NO. 40416

DRAWN BY: CSO DATE: 1/9/2012
 DESIGN BY: CSO DATE: 1/9/2012
 CHECKED BY: JO DATE:



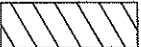
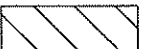

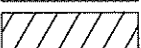
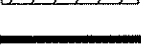
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

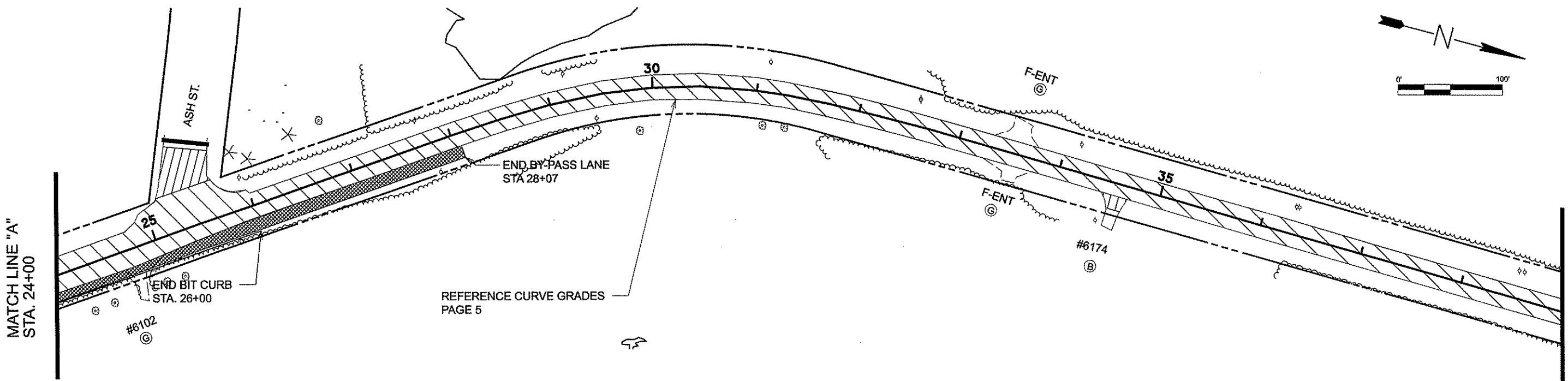
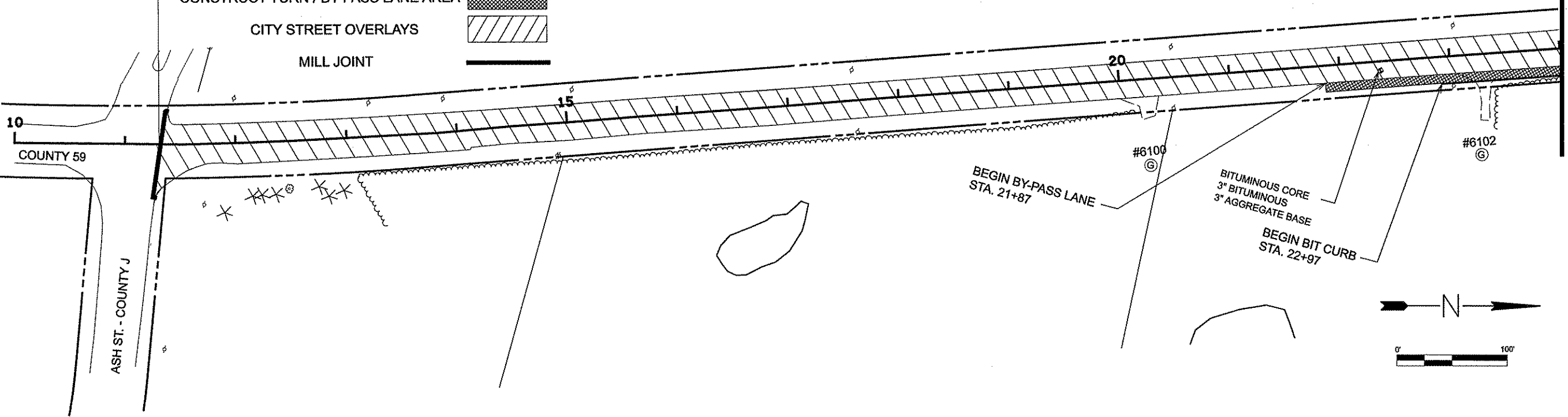
TYPICAL SECTIONS

Sheet 7 of 18 Sheets

BEGIN COUNTY PROJECT 12-13-21
STA. 11+34

- DRIVEWAY BIT REMOVAL 
- RECLAIM & OVERLAY AREA 
- CONSTRUCT TURN / BY-PASS LANE AREA 
- CITY STREET OVERLAYS 
- MILL JOINT 

- CONCRETE DRIVEWAY (C)
- BITUMINOUS DRIVEWAY (B)
- GRAVEL DRIVEWAY (G)



1 OF 4

NO	DATE	BY	CHKD	APPR	REVISION
NAME: P:\12-01-00\CSAH_21_CountyLine-CSAH14\Plan5_Plan.dgn					

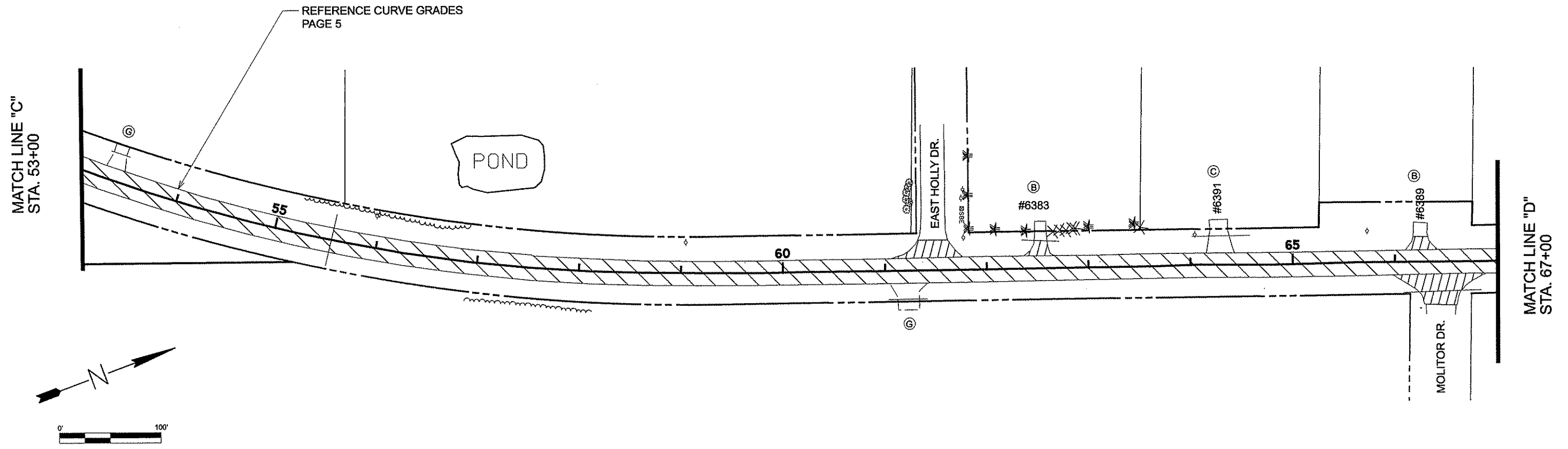
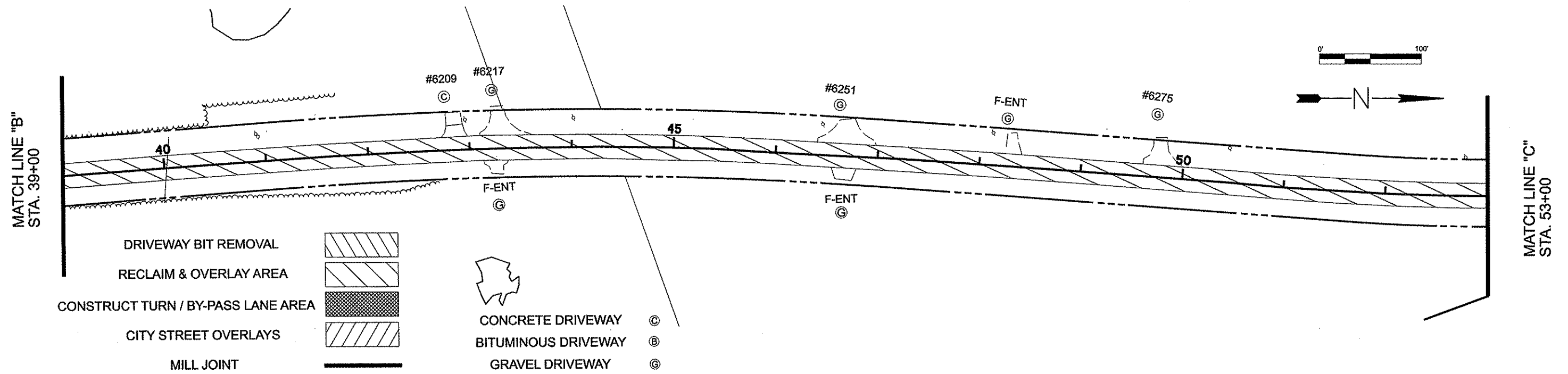
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 2/2/12 LICENSE NO. 49416

DRAWN BY: CSO DATE: 1/9/2012
 DESIGN BY: CSO DATE: 1/9/2012
 CHECKED BY: JO DATE:



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

CONSTRUCTION PLAN
 STA 11+34.00 TO 39+00.00
 Sheet 8 of 18 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_21_(CountyLine-CSAH14)\Plan6_Plan.dgn 02/27/2012 1:37:15 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: CHARLES CAPENHEAD

SIGNATURE: *[Signature]*

DATE: 2/27/12 LICENSE NO. 40416

DRAWN BY CSO DATE 1/9/2012

DESIGN BY CSO DATE 1/9/2012

CHECKED BY JO DATE

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

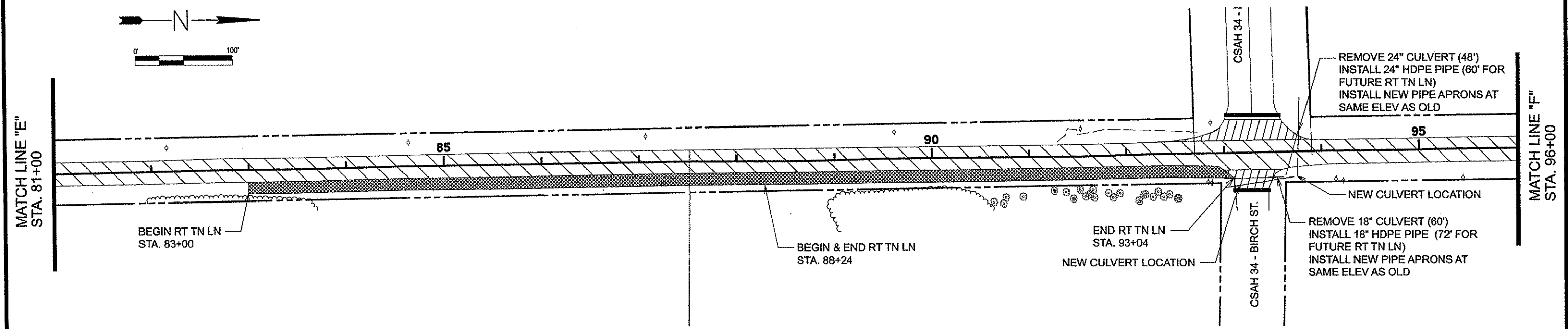
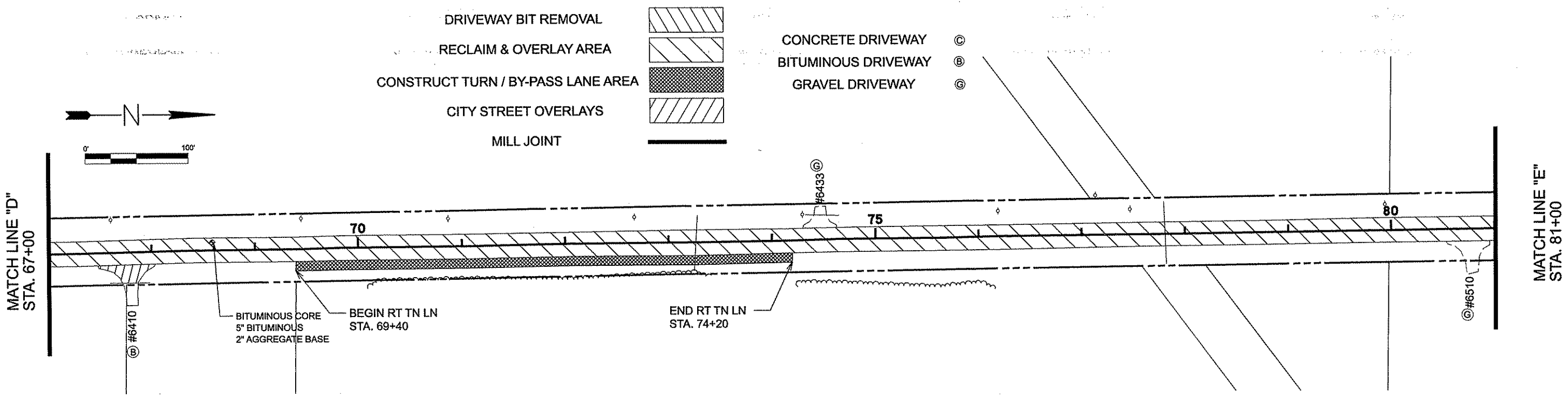
CITY PROJECT NO. _____

COUNTY PROJECT NO. 12-13-21

CONSTRUCTION PLAN

STA 39+00.00 TO 67+00.00

Sheet 9 of 18 Sheets



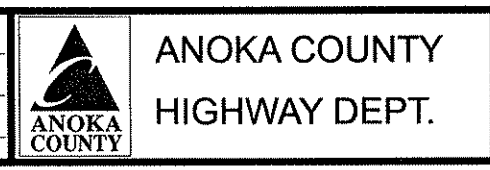
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I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: CHARLES CADDENHEAD
 SIGNATURE: *Charles Caddenhead*
 DATE: 3/2/12 LICENSE NO. 40416

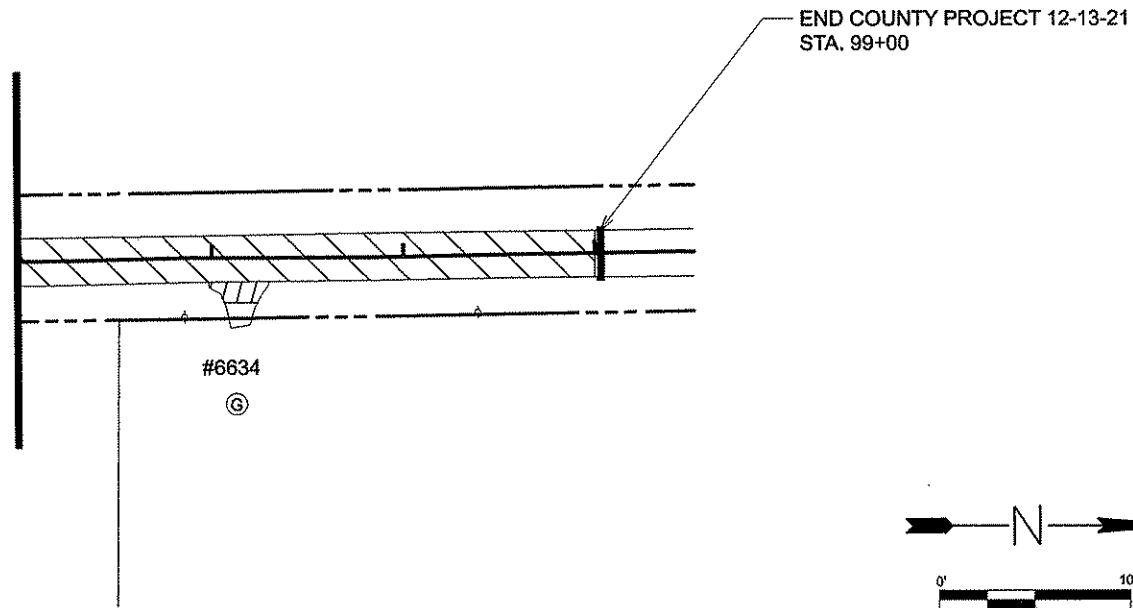
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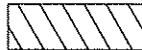


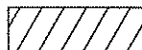

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

CONSTRUCTION PLAN
 STA 67+00.00 TO 96+00.00
 Sheet 10 of 18 Sheets

MATCH LINE "F"
STA. 96+00



- CONCRETE DRIVEWAY ©
- BITUMINOUS DRIVEWAY Ⓑ
- GRAVEL DRIVEWAY Ⓒ

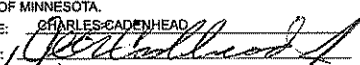
- DRIVEWAY BIT REMOVAL 
- RECLAIM & OVERLAY AREA 
- CONSTRUCT TURN / BY-PASS LANE AREA 
- CITY STREET OVERLAYS 
- MILL JOINT 

NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\12-01-00\CSAH_21_(CountyLine-CSAH14)\Plan5_Plan.dgn 02/27/2012 1:50:29 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: CHARLES CADENHEAD

SIGNATURE: 

DATE: 3/2/12 LICENSE NO. 40416

DRAWN BY CSO DATE 1/9/2012

DESIGN BY CSO DATE 1/9/2012

CHECKED BY JO DATE



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 12-13-21

CONSTRUCTION PLAN

STA 96+00.00 TO 99+00.00

Sheet 11 of 18 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 1/4 INCH UNDER OR 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.

SYMBOLS & MATERIALS LEGEND

■ CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

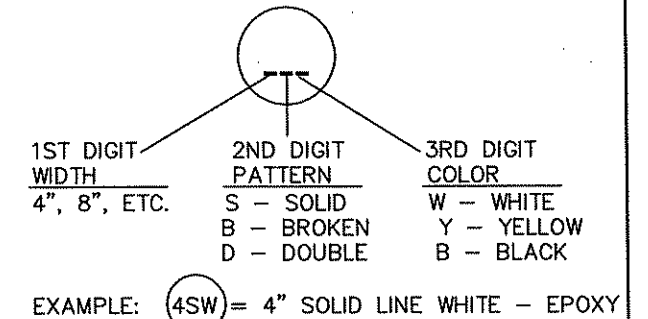
↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

○ CIRCLE - EPOXY □ SQUARE PREFORMED THERMOPLASTIC

△ TRIANGLE - PAINT

⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



PERMANENT PAVEMENT MARKING QUANTITIES

Item	Quantity	Units
4" Double Solid Line Yellow - Epoxy	1977	Lin Ft
4" Solid Line Yellow - Epoxy	6541	Lin Ft
4" Broken Yellow Line - Epoxy (10 ft stripe / 40 ft gap)	1310	Lin Ft
4" Solid Line White - Epoxy	18027	Lin Ft

NO	DATE	BY	CKD	APPR	REVISION

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: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 LICENSE NO. 40418

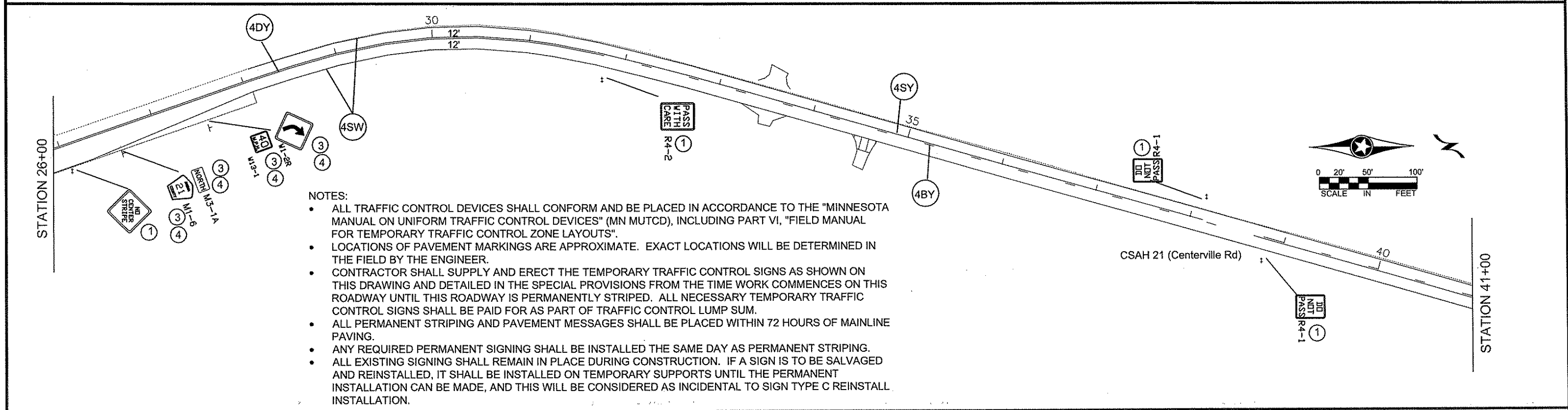
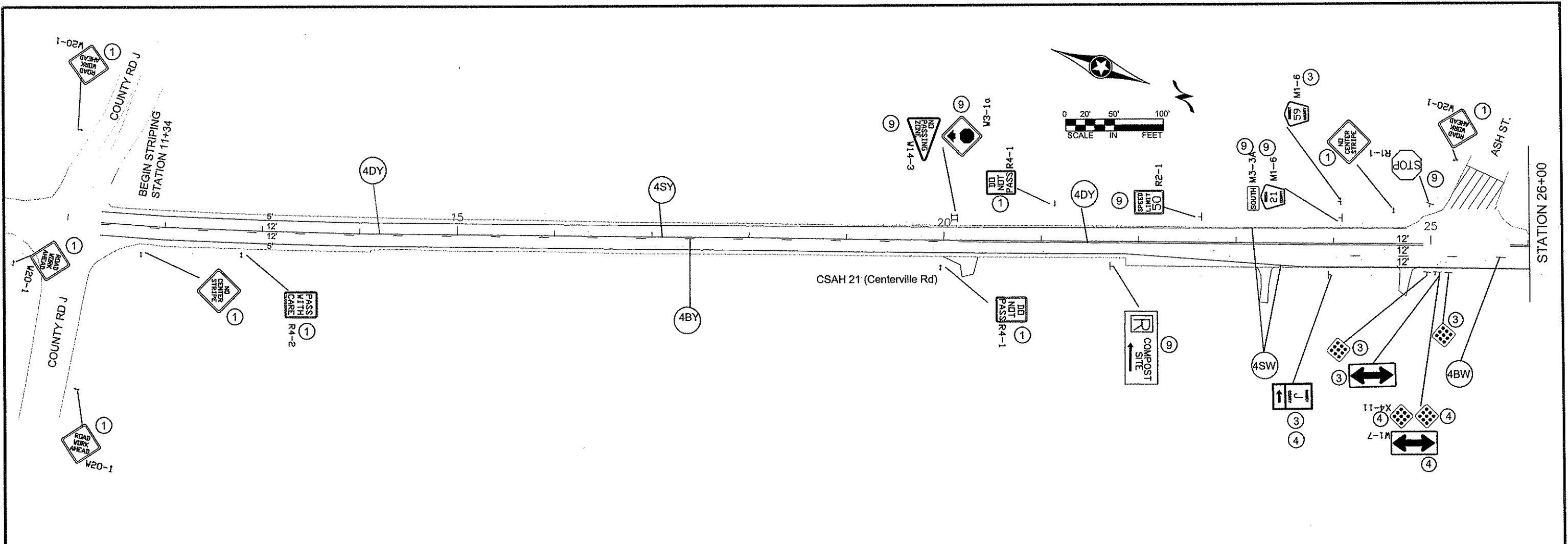
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 DESIGN BY: MTH DATE: 1/26/12
 CHECKED BY: JR DATE: 2/14/12



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

PERMANENT MARKING
TABULATION
 Sheet 12 of 18 Sheets



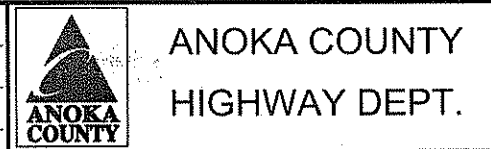
- NOTES:
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE PLACED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD), INCLUDING PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS".
 - LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 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. IF A SIGN IS TO BE SALVAGED AND REINSTALLED, IT SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE, AND THIS WILL BE CONSIDERED AS INCIDENTAL TO SIGN TYPE C REINSTALL INSTALLATION.

NO	DATE	BY	CKD	APPR	REVISION

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: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 REG. NO. 46416

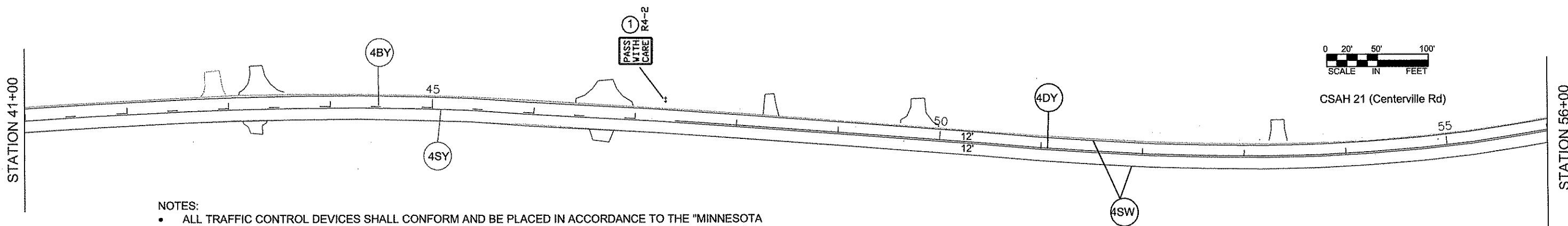
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 DESIGN BY: MTH DATE 1/17/2012
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STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

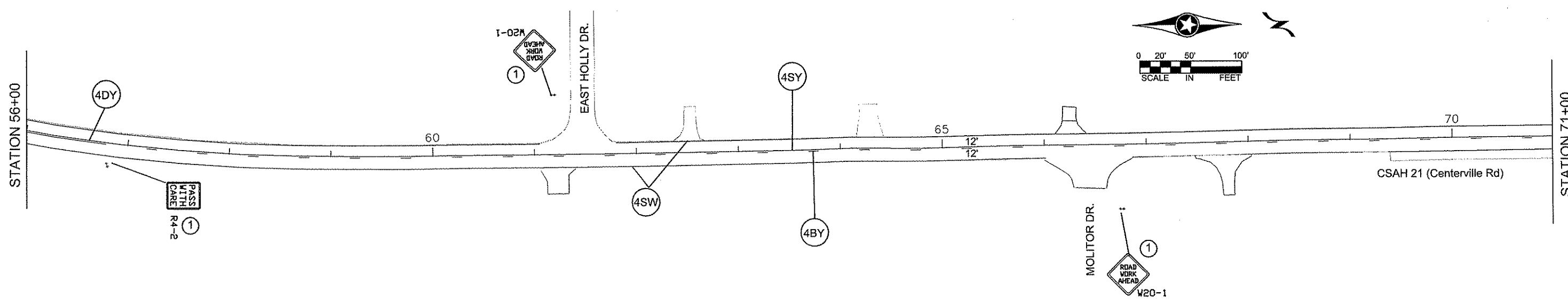
CSAH 21 (CENTERVILLE RD)
 TEMPORARY SIGNING
 PERMANENT STRIPING
 AND PAVEMENT MESSAGES

Sheet 13 of 18 Sheets



NOTES:

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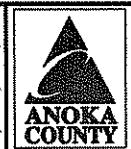


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PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *[Signature]*
 DATE: 3/2/12 REG. NO. 40416

DRAWN BY: MTH DATE: 1/17/2012
 DESIGN BY: MTH DATE: 1/17/2012
 CHECKED BY: JR DATE: 2/14/2012

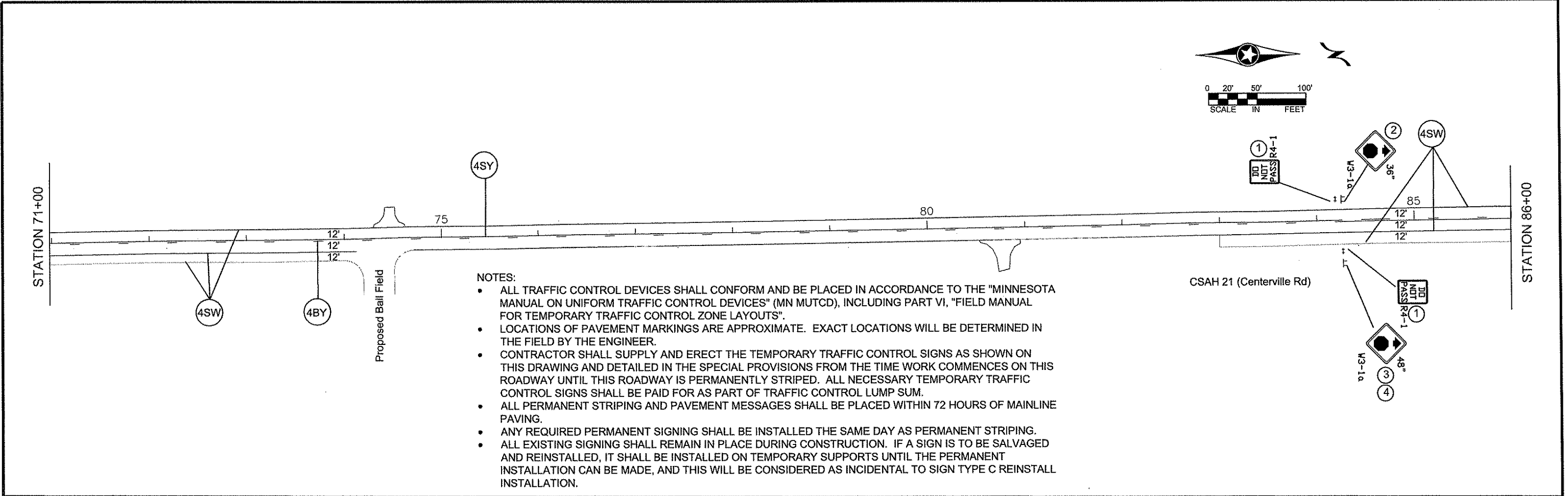


**ANOKA COUNTY
 HIGHWAY DEPT.**

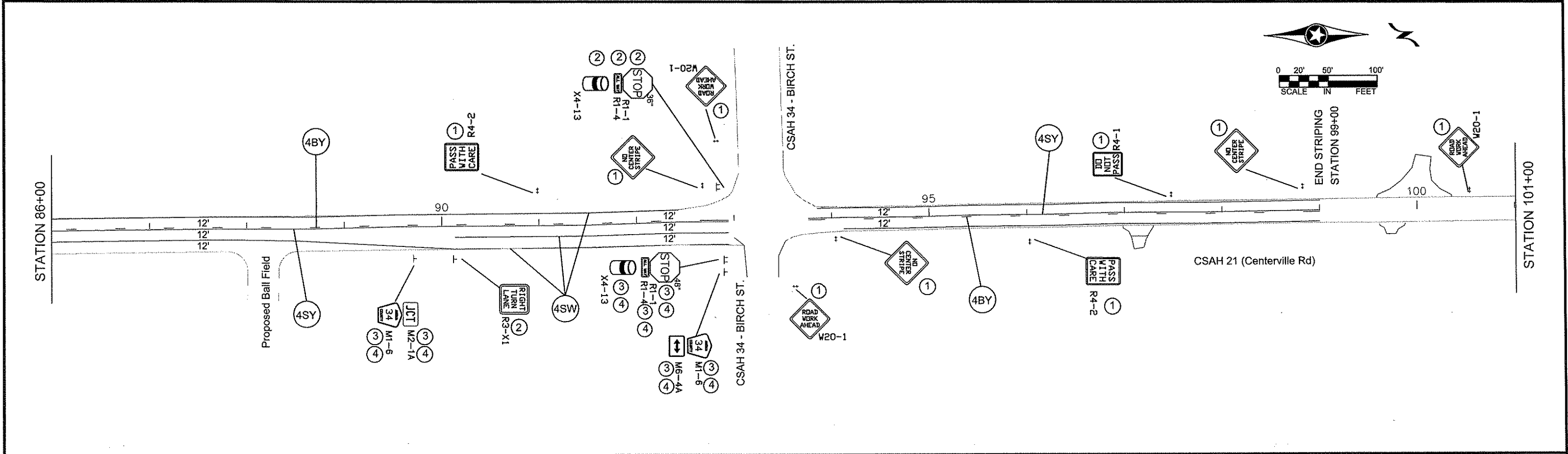
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

CSAH 21 (CENTERVILLE RD)
 TEMPORARY SIGNING
 PERMANENT STRIPING
 AND PAVEMENT MESSAGES

Sheet 14 of 18 Sheets



- NOTES:**
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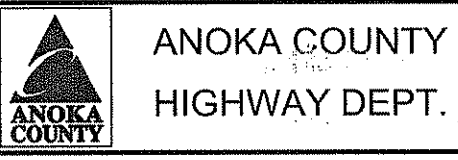


NO	DATE	BY	CKD	APPR	REVISION

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PRINT NAME: CHARLES CADENHEAD
 SIGNATURE: *Charles Cadenhead*
 DATE: 3/1/12 REG. NO. 40416

DRAWN BY: MTH DATE 1/17/2012
 DESIGN BY: MTH DATE 1/17/2012
 CHECKED BY: JR DATE 2/14/2012



STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

CSAH 21 (CENTERVILLE RD)
 TEMPORARY SIGNING
 PERMANENT STRIPING
 AND PAVEMENT MESSAGES

Sheet 15 of 18 Sheets

SALVAGE & RE-INSTALL PERMANENT SIGNS						
STATION		SALVAGE	SALVAGE	INSTALL	INSTALL	SIGN NUMBER
		SIGN TYPE C	SIGN TYPE D	SIGN TYPE C	SIGN TYPE D	
		EACH	EACH	EACH	EACH	
24+00	Rt	1		1		Cty J
24+10	Lt					M1-6
24+10	Lt	1		1		M3-3a
24+10	Lt	1				M1-6
24+90	Lt					R1-1
25+00	Rt	1				W1-7
25+00	Rt	1		1		X4-2
25+00	Rt	1				X4-2
26+60	Rt					M1-6
26+60	Rt	1		1		M3-1a
27+50	Rt					W1-2R
27+50	Rt	1		1		W13-1
84+30	Rt	1		1		W3-1a
89+70	Rt					M1-6
89+70	Rt	1		1		M2-1a
92+90	Rt					R1-1
92+90	Rt	1		1		R1-4
92+90	Rt					X4-13
92+90	Rt					M1-6
92+90	Rt	1		1		M6-4a
TOTAL		12	0	9	0	

F & I PERMANENT SIGNS							
M.U.T.C.D. CODE	SIZE	PANEL AREA	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO Pavement (ft.)	TOTAL AREA
		FT. ²					FT. ²
R1-1	36" X 36"	9.00		1	2	7.00	9.00
R1-4	18" X 6"	0.75		1		7.00	0.75
x4-13	8" x 12"			1		6.00	
R3-X1	30" X 30"	6.25		1	1	7.00	6.25
W3-1a	36" X 36"	9.00		1	2	7.00	9.00
TOTAL PANEL AREA							25.00

TEMPORARY TRAFFIC CONTROL SIGNS							
M.U.T.C.D. CODE	SIZE	PANEL AREA	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO Pavement (ft.)	TOTAL AREA
		FT. ²					FT. ²
W8-12	48" x 48"	16.00		6		7.0'	
R4-1	24" x 30"	5.00		7		7.0'	
R4-2	24" x 30"	5.00		6		7.0'	
W8-1A	48" x 48"	16.00				AS NEEDED	
W8-1A	48" x 48"	16.00				AS NEEDED	
W8-8	48" x 48"	16.00				AS NEEDED	
W8-11	48" x 48"	16.00				AS NEEDED	
W8-11	48" x 48"	16.00				AS NEEDED (ESTIMATED 9)	

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".
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 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. IF A SIGN IS TO BE SALVAGED AND REINSTALLED, IT SHALL BE INSTALLED ON TEMPORARY SUPPORTS UNTIL THE PERMANENT INSTALLATION CAN BE MADE, AND THIS WILL BE CONSIDERED AS INCIDENTAL TO SIGN TYPE C REINSTALL INSTALLATION.

SEE SPECIAL PROVISIONS

- ① TEMPORARY TRAFFIC CONTROL SIGN
- ② F & I PERMANENT SIGN
- ③ SALVAGE PERMANENT SIGN
- ④ RE-INSTALL PERMANENT SIGN
- ⑤ INPLACE - RETAIN

NO	DATE	BY	CKD	APPR	REVISION

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: CHARLES CADENHEAD
 SIGNATURE:
 DATE: 2/2/12 REG. NO. 40416

DRAWN BY: MTH DATE 1/17/2012
 DESIGN BY: MTH DATE 1/17/2012
 CHECKED BY: JR DATE 2/14/2012

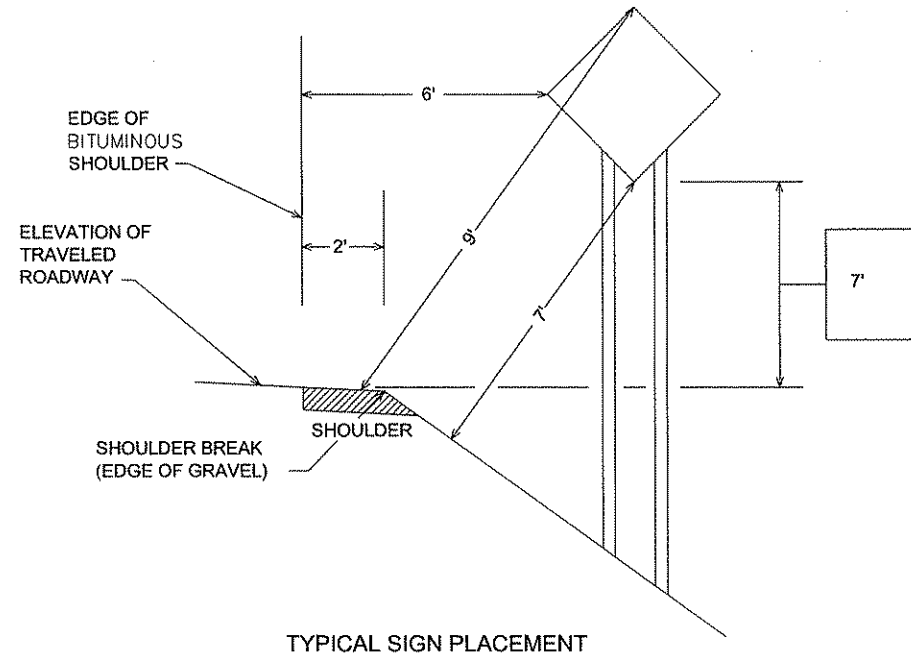


ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 12-13-21

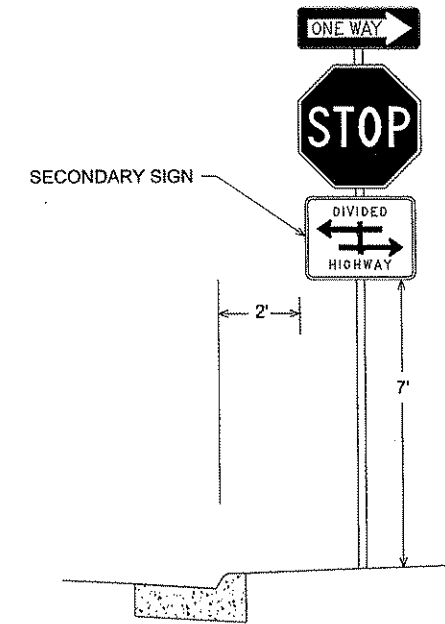
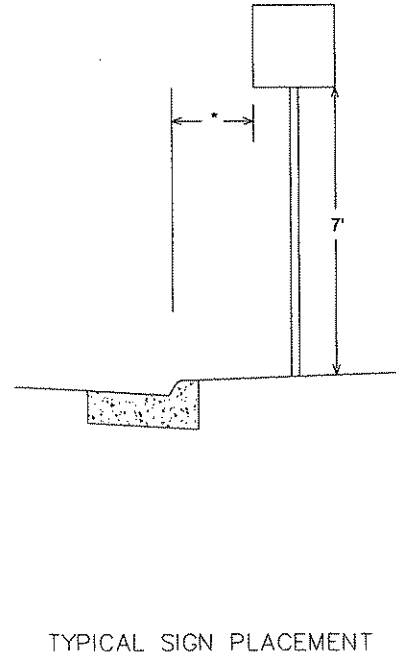
CSAH 21 (CENTERVILLE RD)
 TEMPORARY SIGNING
 PERMANENT STRIPING
 AND PAVEMENT MESSAGES

RURAL



URBAN

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



NOTE:

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

NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\Dwg\CSAH 18 (Crosstown Blvd)\Sign&Stripe_Details.dwg

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: CHARLES CAPENHEAD

SIGNATURE: *Charles Capenhead*

DATE: 7/2/11 LICENSE NO. 40416

DRAWN BY MTH DATE 1-21-11

DESIGN BY #ZZB DATE 8-13-08

CHECKED BY JR DATE 1-21-11



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE PROJECT NO. _____

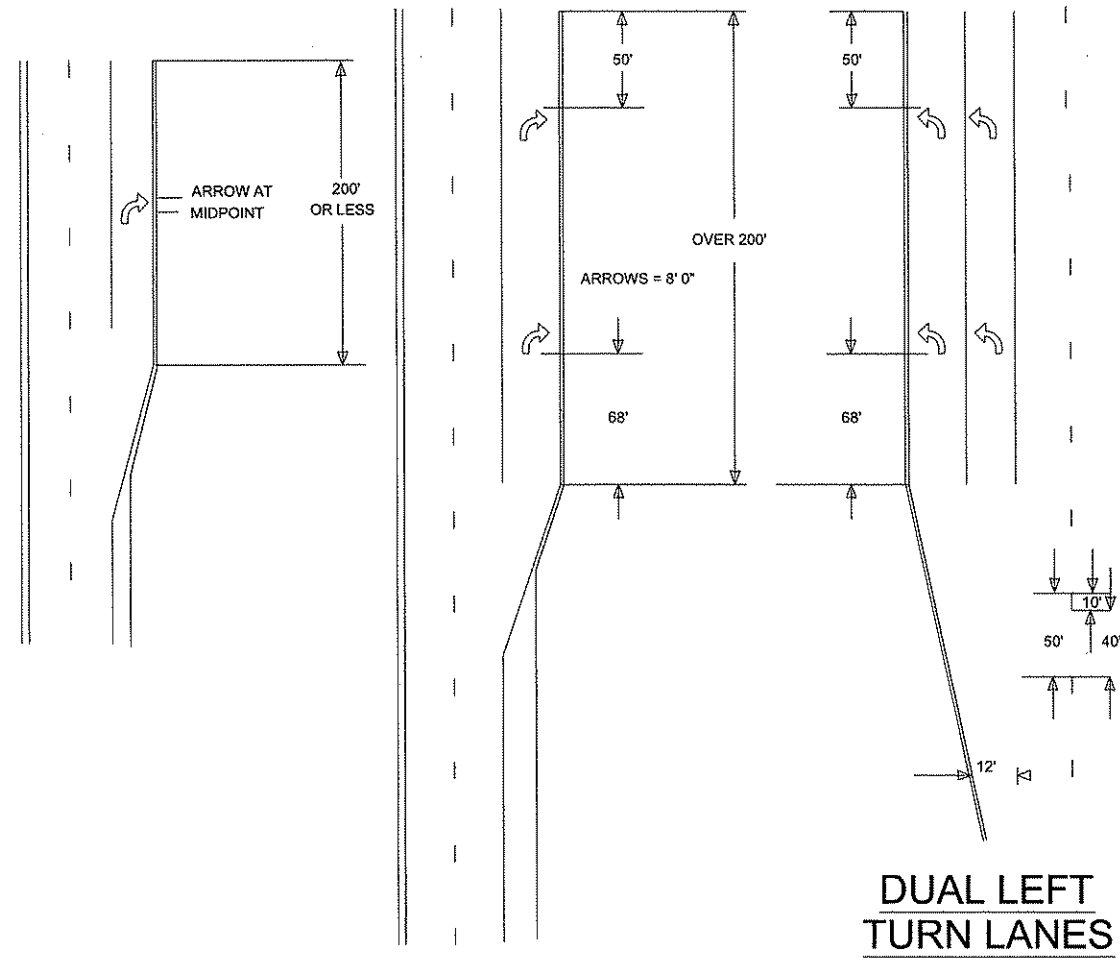
STATE PROJECT NO. _____

COUNTY PROJECT NO. 12-13-21

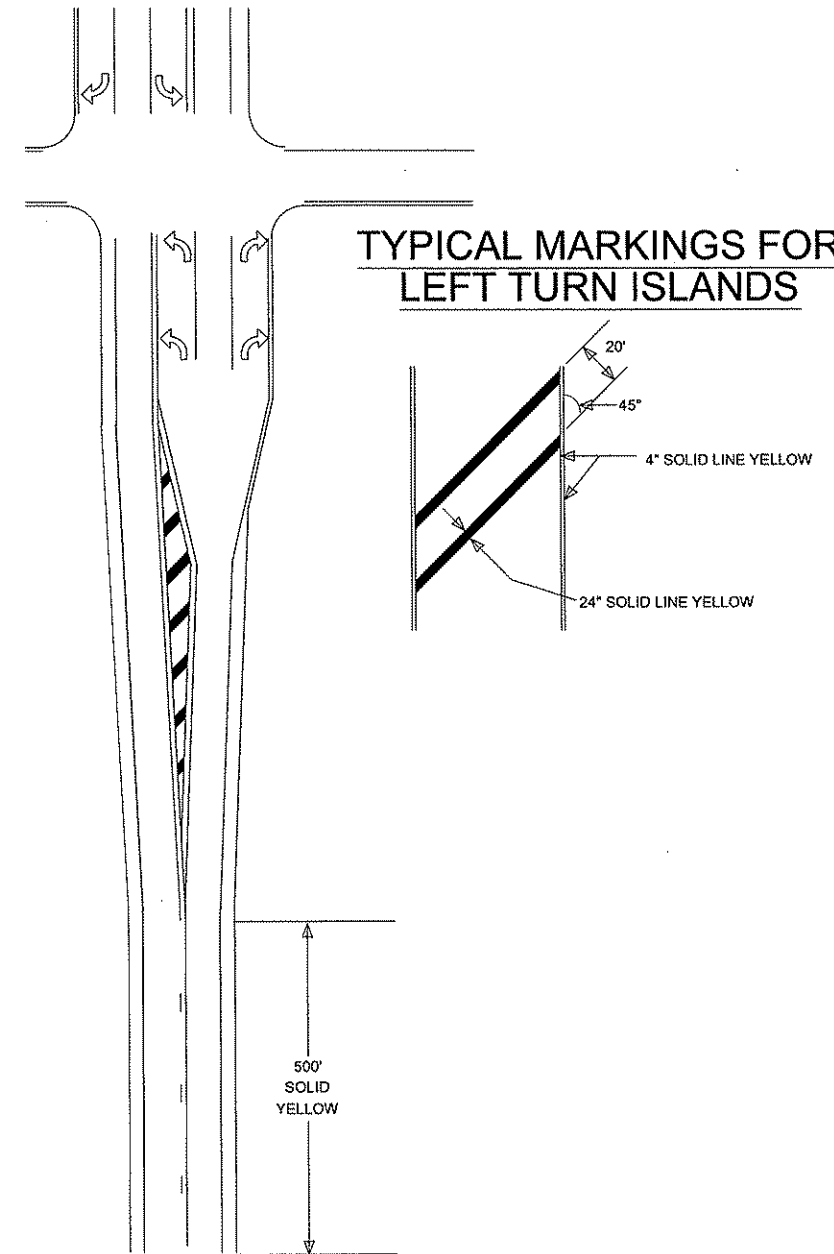
SIGNING & STRIPING DETAILS

Sheet 17 of 18 Sheets

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\Dwg\CSAH 20 (Constance Blvd)\Sign&Stripe_Details.dwg

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: CHARLES CADENHEAD

SIGNATURE: *[Signature]*

DATE: 3/2/12 LICENSE NO. 40416

DRAWN BY MTH DATE 1-21-11

DESIGN BY MTH DATE 1-21-11

CHECKED BY JR DATE 1-21-11



**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____

STATE PROJECT NO. _____

STATE PROJECT NO. _____

COUNTY PROJECT NO. 12-13-21

SIGNING & STRIPING DETAILS

Sheet 18 of 18 Sheets