

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

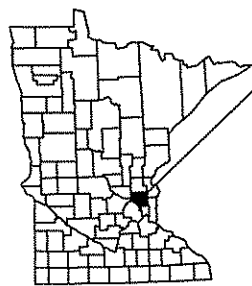
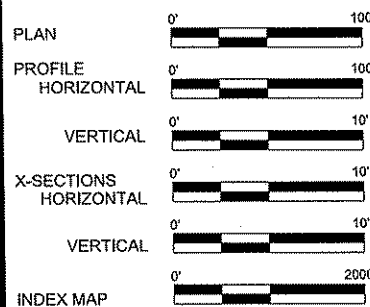
- BUILDING (One Story Frame)
- F-FRAME C-CONCRETE
- S-STONE T-TILE
- B-BRICK ST-STUCCO

- 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

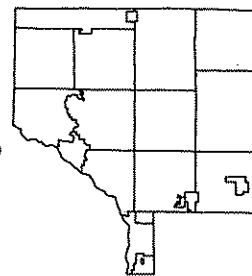
- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE & POWER ON POWER POLES
- ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (Cable Terminal)
- GAS MAIN
- WATERMAIN
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
-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

SCALES



PROJECT LOCATION

CITY OF COON RAPIDS
 ANOKA COUNTY
 MN/DOT TRANSPORTATION DISTRICT - METRO
 SECTION X
 TOWNSHIP X NORTH
 RANGE X WEST



MINNESOTA DEPARTMENT OF TRANSPORTATION

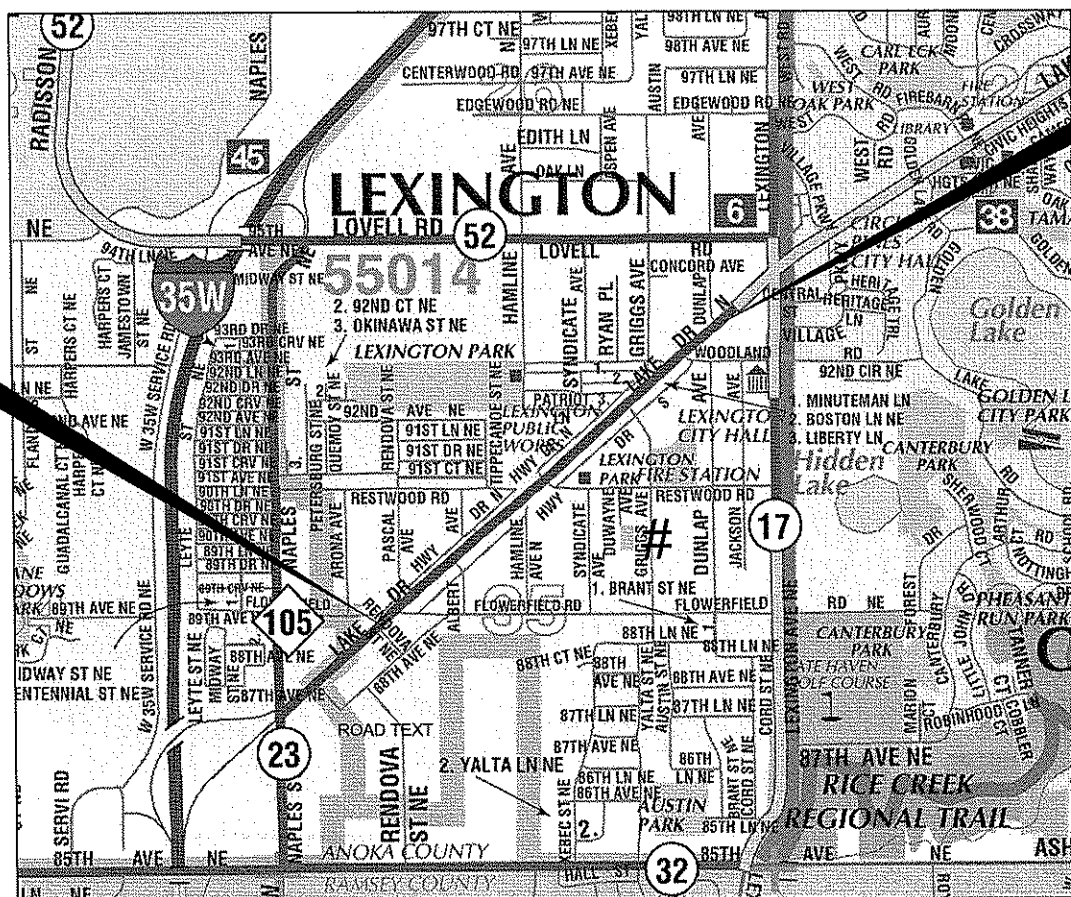
ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS SURFACING, MEDIAN, CURB & GUTTER, STRIPING

LOCATED ON C.S.A.H. 23 AT RENDOVA ST AND DUNLAP AVE AND WOODLAND AVE

C.S.A.H. 23

GROSS LENGTH	5611.49 FEET	1.062 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	781.67 FEET	0.148 MILES



END C.P. 12-60-23
 C.S.A.H. 23 STA. 156+95.58



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 AND TABS
3	REMOVAL PLAN
4	CONSTRUCTION PLAN
5	PAVEMENT MARKING TABULATION
6 - 7	TRAFFIC CONTROL PLAN & QUANTITIES
8 - 10	SIGNING & STRIPING DETAILS

THIS PLAN CONTAINS 10 SHEETS

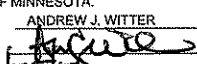
DESIGN DESIGNATION

ESAL 20	NA
R VALUE	NA
ADT (2011) =	NA
Proj. ADT (2031) =	NA
Proj. HCADT (2031) =	NA
Soil Factor	NA
10 TON DESIGN	
Functional Classification	MINOR RELIEVER
No. of Traffic Lanes	2 No. of Parking Lanes 0
Design Speed	NA 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  3/22/13
 ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\113-01-00\CSAH_23_(Naples-Lexington)\Plan\12-60-23_TSH.DGN 03/11/2013 9:04:07 AM

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 J. WITTER
 SIGNATURE: 
 DATE: 3/25/13 LICENSE NO. 42757

DRAWN BY DFF DATE 01-18-13
 DESIGN BY DFF DATE 01-18-13
 CHECKED BY HG DATE 02-01-13



ANOKA COUNTY
 HIGHWAY DEPT.

C.P. 12-60-23

TITLE SHEET
 Sheet 1 of 10 Sheets

NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
	2021.501	MOBILIZATION	LUMP SUM	1
	2102.502	PAVEMENT MARKING REMOVAL	LIN FT	2450
4	2102.602	PAVEMENT MARKING REMOVAL-SPECIAL	EACH	2
5	2102.603	PAVEMENT MARKING REMOVAL-SPECIAL	LIN FT	48
	2104.501	REMOVE CURB AND GUTTER	LIN FT	67
	2104.503	REMOVE CONCRETE MEDIAN	SQ FT	1175.0
	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	214
	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	13
	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	257
	2104.523	SALVAGE SIGN TYPE C	EACH	10
	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1
3	2105.507	SUBGRADE EXCAVATION	CU YD	35
	2105.522	SELECT GRANULAR BORROW (CV)	CU YD	
	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	35
	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	144.0
	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	10.6
	2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,E)	TON	24.6
	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	24.6
2	2521.501	4" CONCRETE WALK	SQ FT	386
2	2531.501	CONCRETE CURB & GUTTER DESIGN B418 (MOD)	LIN FT	116
1	2531.503	CONCRETE MEDIAN (6")	SQ YD	31
	2563.601	TRAFFIC CONTROL	LUMP SUM	1
	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UDAY	14
	2564.531	SIGN PANELS TYPE C	SQ FT	54.5
	2564.536	INSTALL SIGN PANEL TYPE C	EACH	5
	2581.602	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	EACH	2
	2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT	1747
	2582.502	4" SOLID LINE YELLOW-EPOXY	LIN FT	50
	2582.502	4" DOUBLE SOLID LINE-EPOXY	LIN FT	973

NOTES:

- [1] CENTER MEDIAN CONSTRUCTION AT LAKE AND RENDOVA
- [2] ISLAND CONSTRUCTION AT WOODLAND RD AND AT DUNLAP AVE
- [3] 6" OF EXCAVATION FOR NEW PAVEMENT AREA
- [4] LEFT TURN ARROW PAVEMENT MARKING REMOVAL
- [5] 24" PAVEMENT MARKING REMOVAL

THE FOLLOWING STANDARD PLATES APPROVED BY THE DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

STANDARD PLATES

PLATE NO.	DESCRIPTION
7100H	CONCRETE CURB AND GUTTER (DESIGN B and DESIGN V)
7113A	CONCRETE APPROACH NOSE DETAIL

BASIS OF QUANTITIES		
SPEC NO	DESCRIPTION	RATE
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD / LIFT
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE	115 LBS / SQ YD / IN
2360.502	TYPE SP 12.5 NON-WEARING COURSE MIXTURE	115 LBS / SQ YD / IN

REMOVALS, SAWING AND MILLING								A
ALIGNMENT	STATION TO STATION	REMOVE (SPEC. 2104)			SAWING (SPEC. 2104)		MILL BIT. SURFACE (2.0") (SPEC. 2232)	NOTES
		BIT. PAVEMENT	CONC. MEDIAN	CONC. CURB & GUTTER	BIT. PAVEMENT	CONC. PAVEMENT		
		(SQ YD)	(SQ FT)	(LIN FT)	(LIN FT)	(LIN FT)		
CL	105+24 - 105+82		642		73	13	144	[1]
CL	149+27 - 149+69	83	533	67	70			[1]
CL	153+97 - 154+76	131			114			
PROJECT TOTAL		214	1175	67	257	13	144	

REMOVALS NOTES:

- [1] CONCRETE APPROACH NOSE REMOVAL INCIDENTAL

BITUMINOUS SUMMARY					B
ALIGNMENT	STATION TO STATION	[1] BITUMINOUS			AGGREGATE BASE CLASS 5
		2360 TYPE SP 12.5 WEAR (3,E)	2360 TYPE SP 12.5 NON-WEAR (3,B)	2357 BIT. TACK COAT	
		TON	TON	GALLON	
CL	105+24 - 105+82	34.1	25.4	14.8	13
CL	149+27 - 149+69	12.8	12.8	5.5	18
CL	153+97 - 154+76	11.8	11.8	5.1	17
PROJECT TOTAL		24.6	24.6	10.6	35

CONCRETE					C
STATION		CONCRETE CURB & GUTTER DESIGN B418 (MOD)	4" CONCRETE WALK	CONCRETE MEDIAN (6")	NOTES
BEGIN	END	LIN FT	SQ FT	SQ YD	
105+24	105+48			25	1
149+59	149+72	39	232	3	1
154+29	154+49	77	154	3	1
PROJECT TOTAL		116	386	31	

CONCRETE NOTES:

- [1] CONCRETE APPROACH NOSE PAID FOR AS CONCRETE MEDIAN (6")

NO	DATE	BY	CKD	APPR	REVISION

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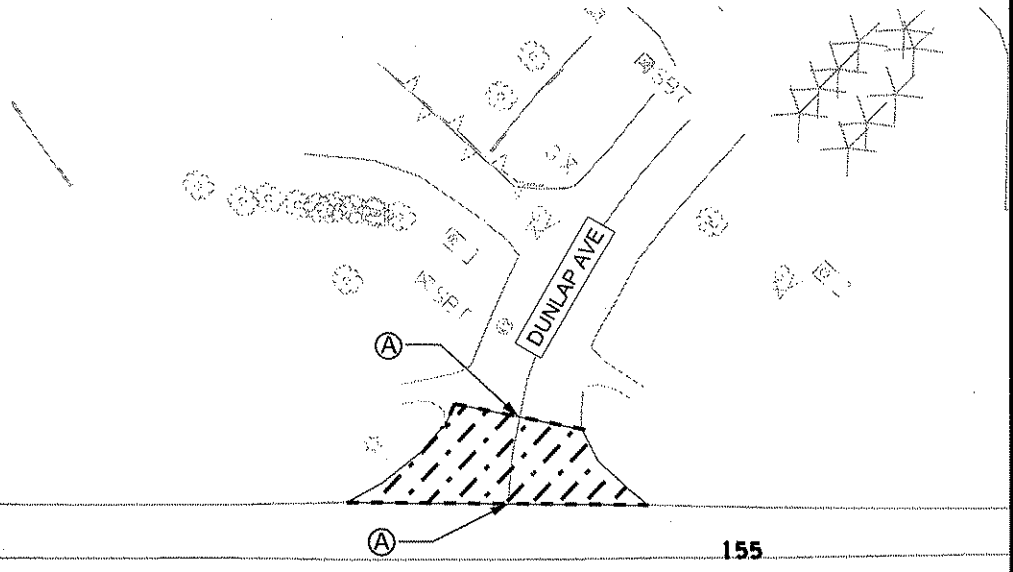
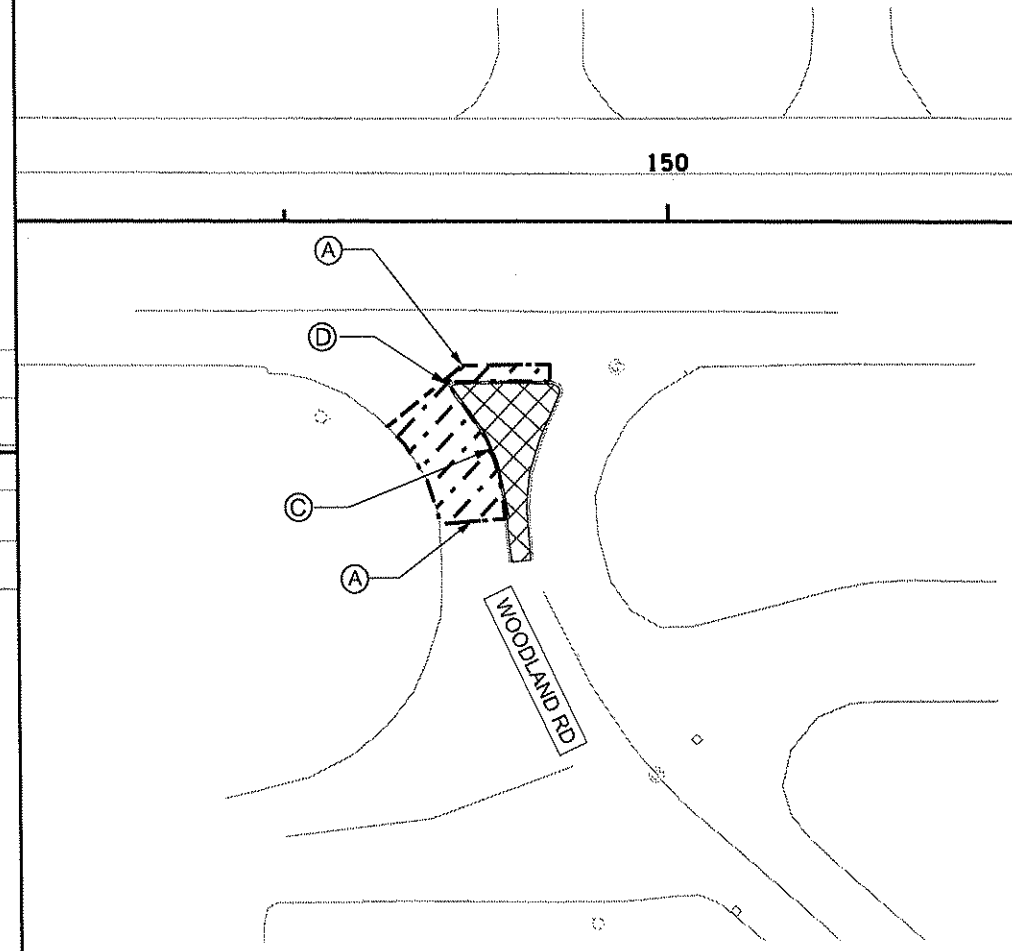
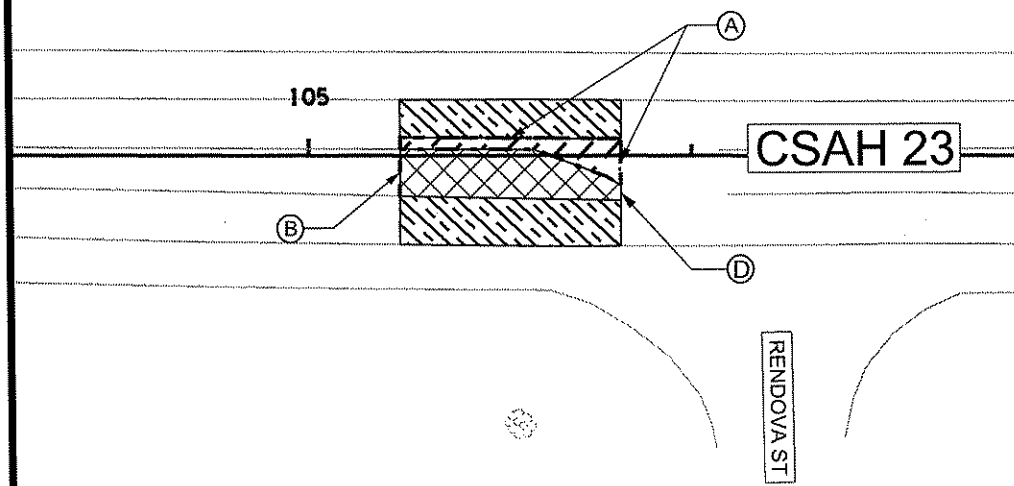
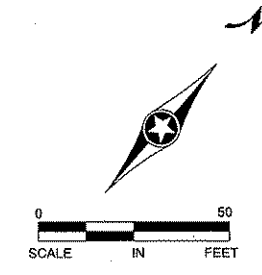
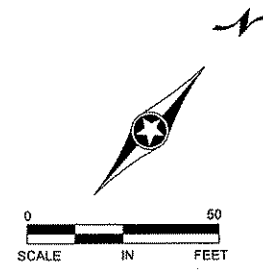
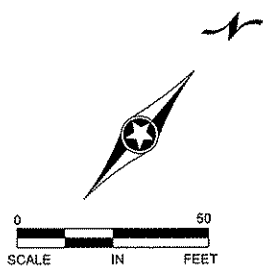







ANOKA COUNTY
HIGHWAY DEPT.

C.P. 12-60-23

STATEMENT OF ESTIMATED QUANTITIES AND TABS

Sheet 2 of 10 Sheets



-  REMOVE BITUMINOUS PAVEMENT
-  REMOVE CONCRETE MEDIAN
-  MILL BITUMINOUS PAVEMENT (2")
-  SAWING BITUMINOUS PAVEMENT
-  REMOVE CURB AND GUTTER

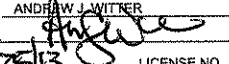
- NOTES:**
- PAVEMENT DEPTH ON CSAH 23 ASSUMED TO BE 6"
 - PAVEMENT DEPTH ON WOODLAND RD AND DUNLAP AVE ASSUMED TO BE 4"
 - (A) SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
 - (B) SAWCUT CONCRETE PAVEMENT (FULL DEPTH)
 - (C) REMOVE CONCRETE CURB & GUTTER
 - (D) REMOVE CONCRETE MEDIAN NOSE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH_23_(Naples-Lexington)\Plan\12-60-23_REM.DGN 03/11/2013 9:04:23 AM

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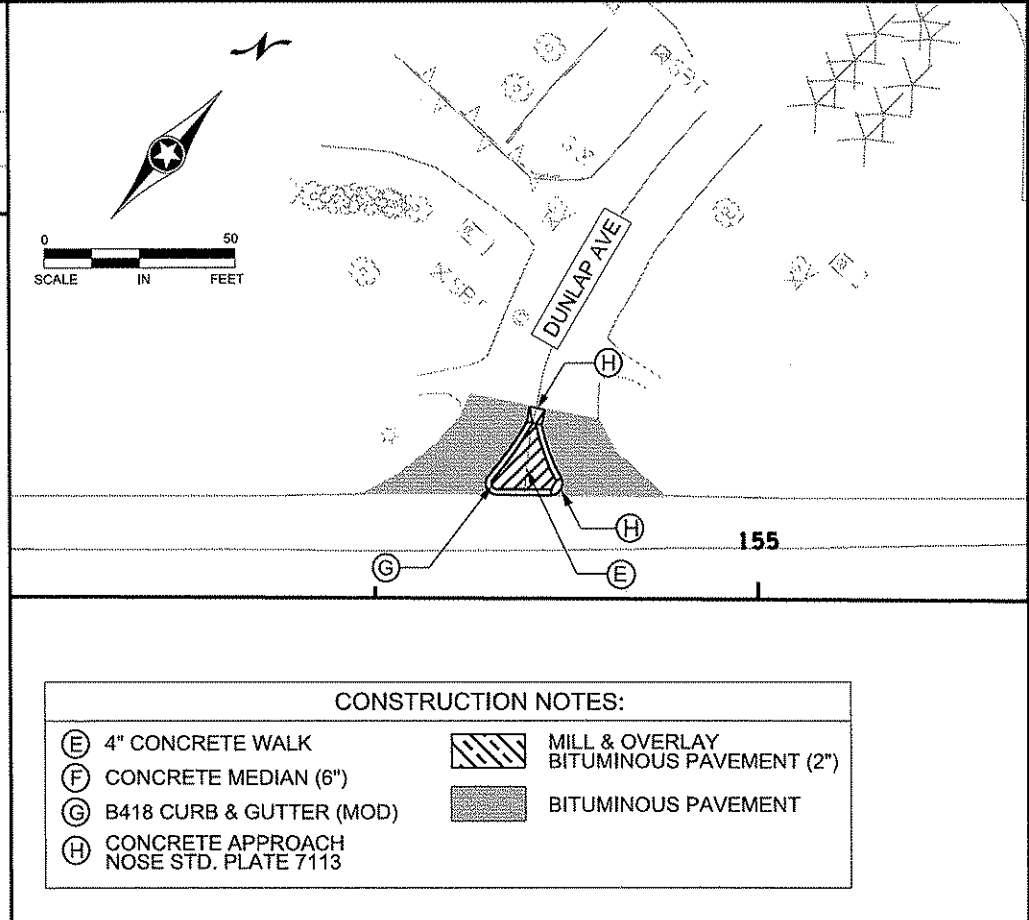
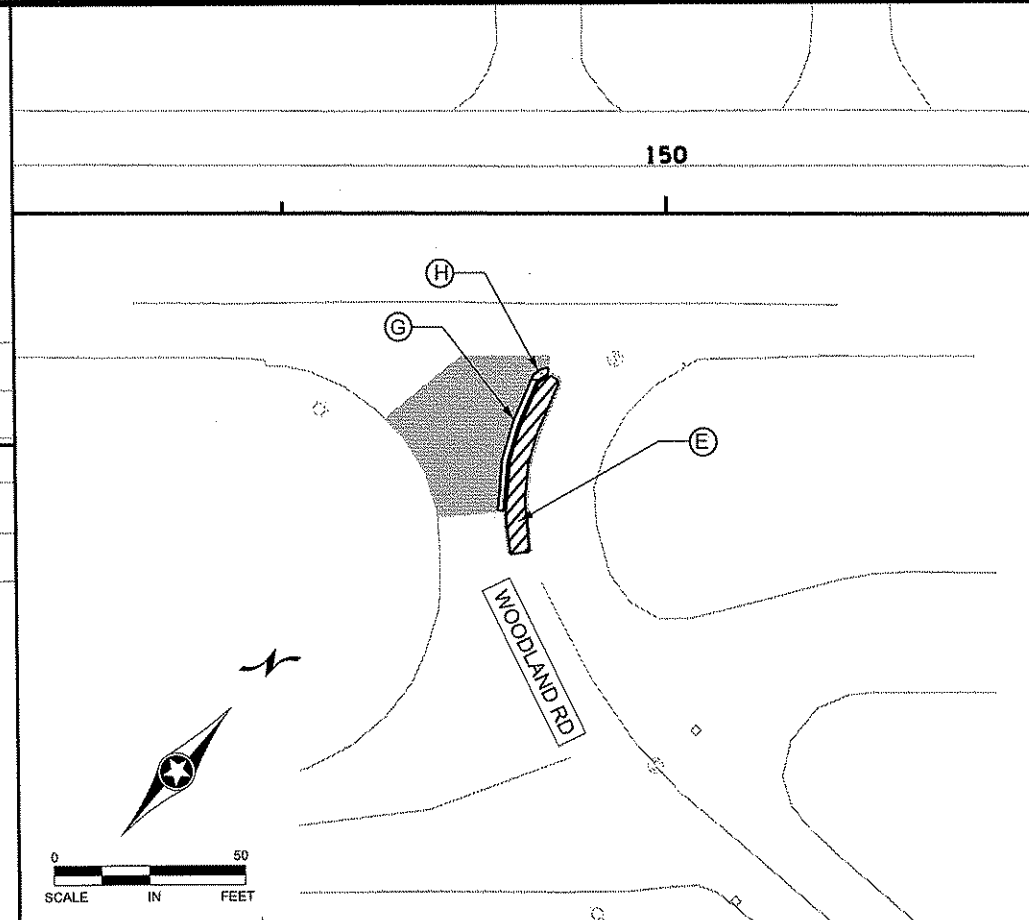
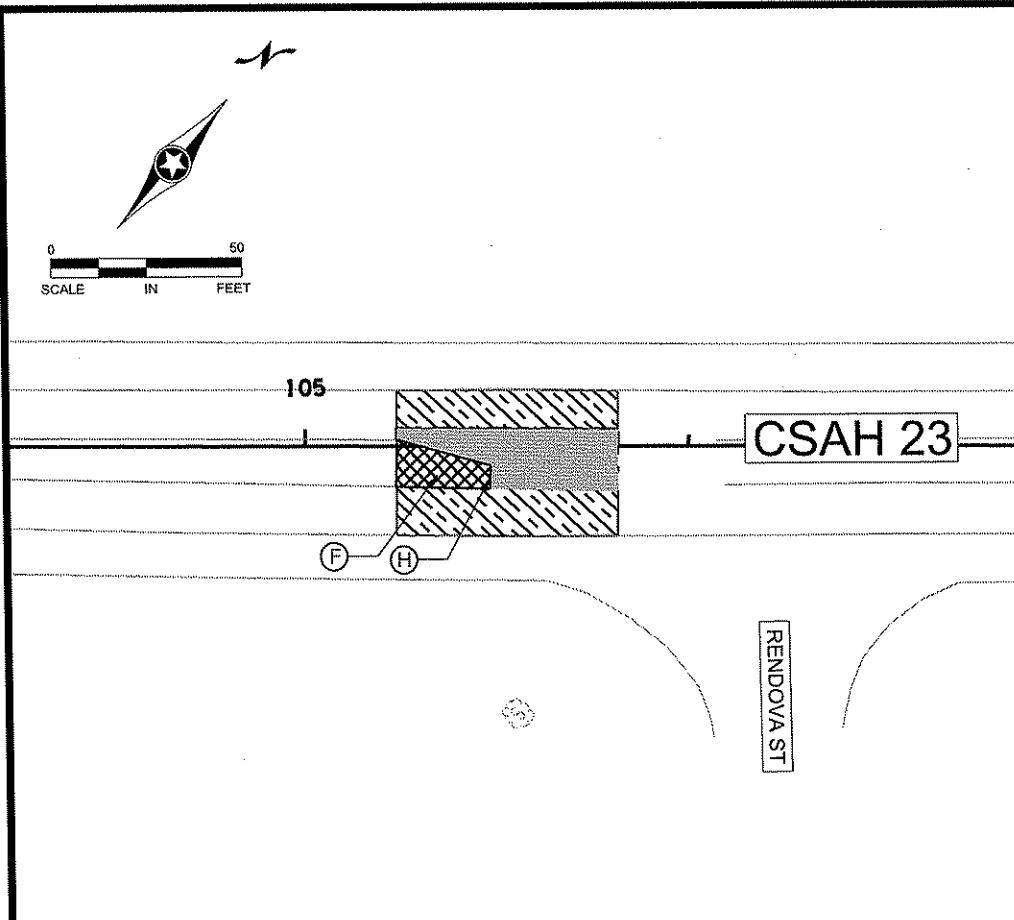
CHECKED BY HG DATE 02-01-13



C.P. 12-60-23

REMOVAL PLAN

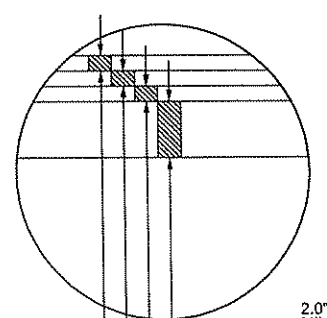
Sheet 3 of 10 Sheets



CONSTRUCTION NOTES:

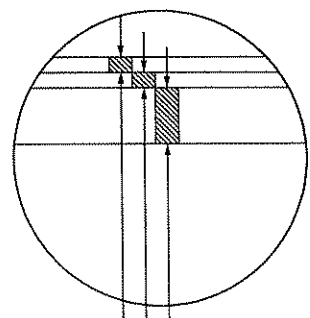
(E) 4" CONCRETE WALK	MILL & OVERLAY BITUMINOUS PAVEMENT (2")
(F) CONCRETE MEDIAN (6")	BITUMINOUS PAVEMENT
(G) B418 CURB & GUTTER (MOD)	
(H) CONCRETE APPROACH NOSE STD. PLATE 7113	

PAVEMENT SECTION
105+23.80 TO 105+81.58 (RENDOVA ST)

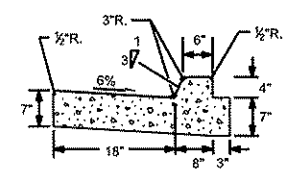


- 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) SPWEB340E
- 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) SPWEB340E
- 2.0" TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B) SPNWB330B
- 6.0" CL 5 AGGREGATE BASE (SPEC 2211) (CRUSHED)

PAVEMENT SECTION
149+26.60 TO 149+69.12 (WOODLAND RD)
153+96.97 TO 154+75.69 (DUNLAP AVE)



- 2.0" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) SPWEB340E
- 2.0" TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B) SPNWB330B
- 6.0" CL 5 AGGREGATE BASE (SPEC 2211) (CRUSHED)



DETAIL
B418 MOD C&G

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH_23 (Naples-Lexington)\Plan\12-60-23_CP.DGN 03/11/2013 9:04:32 AM

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SIGNATURE:
DATE: 3/28/13 LICENSE NO. 42757

DRAWN BY: DFF DATE: 01-18-13
DESIGN BY: DFF DATE: 01-18-13
CHECKED BY: HG DATE: 02-01-13



C.P. 12-60-23

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 EPOXY 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 APPLICATION 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.

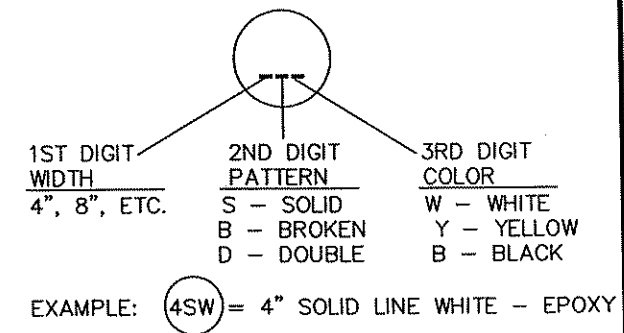
THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

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



PAVEMENT MARKING QUANTITIES		
Item	Quantity	Units
4" Double Solid Line Yellow - Epoxy	973	Lin Ft
4" Solid Line Yellow - Epoxy	50	Lin Ft
4" Solid Line White - Epoxy	1747	Lin Ft
Pavt Mssg (Lt Arrow) Pref Thermoplastic	2	Each
4" Pavement Marking Removal	2450	Lin Ft
24" Pavement Marking Removal	48	Lin Ft
Lt Arrow Pavement Marking Removal	2	Each

NO	DATE	BY	CKD	APPR	REVISION

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DRAWN BY: MTH DATE 2/20/2013
 DESIGN BY: MTH DATE 2/20/2013
 CHECKED BY: JR DATE 2/xx/2013



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 12-60-23

PERMANENT MARKING
TABULATION
 Sheet 5 of 10 Sheets

STRIPING NOTES:

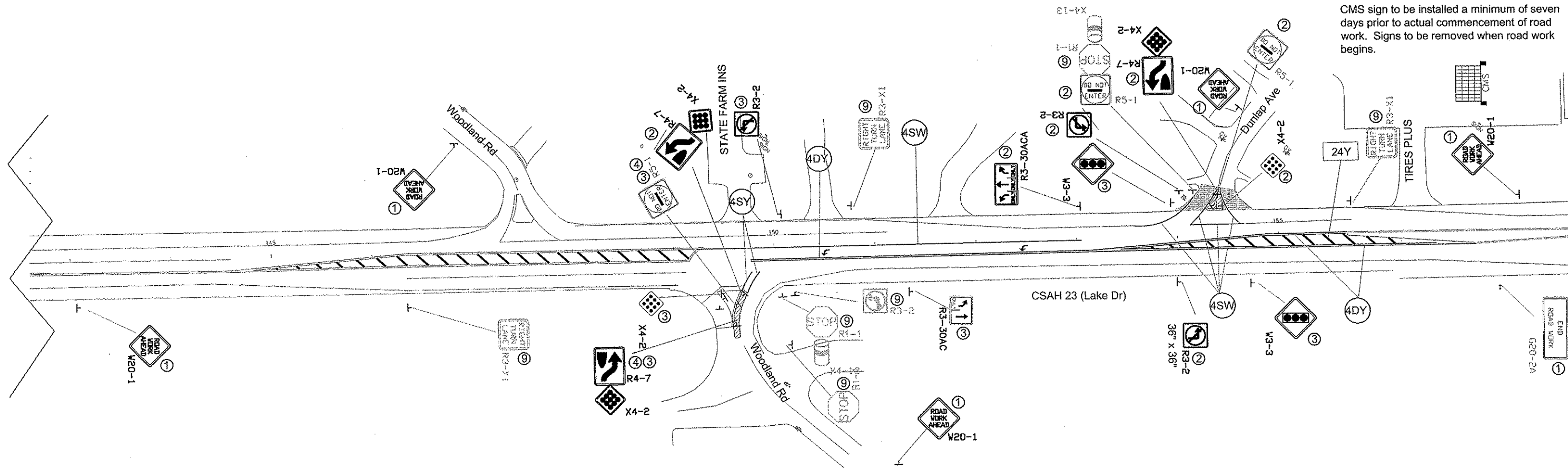
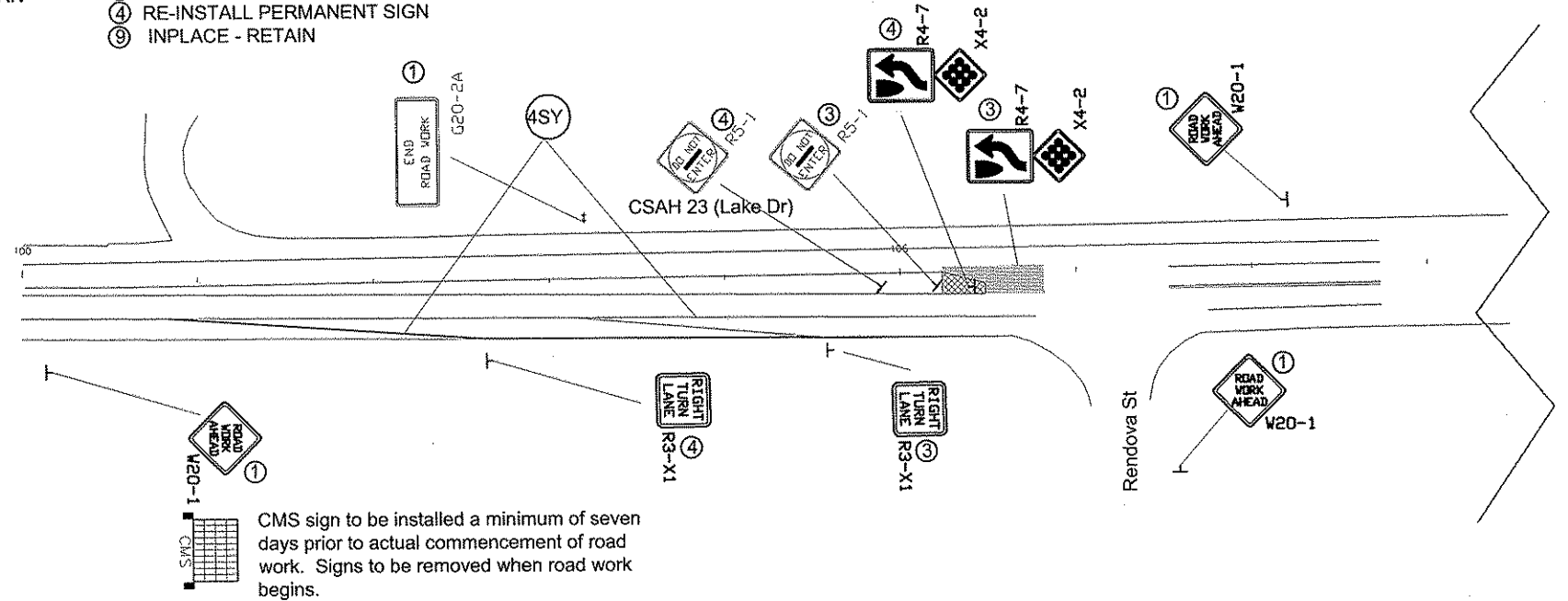
- REMOVE EASTBOUND 4" SOLID LINE WHITE PAINT STA 100+80 TO 104+50
- ADD EASTBOUND 4" SOLID LINE WHITE PAINT STA 100+80 TO 105+70
- REMOVE EASTBOUND 4" DOUBLE SOLID LINE YELLOW PAINT FROM STA 149+10 TO 154+00 AND 154+80 TO 156+50
- REMOVE 24" YELLOW PAVEMENT MARKINGS FROM STA 149+10 TO 151+30.
- REMOVE WESTBOUND 4" DOUBLE LINE YELLOW PAINT FROM STA 149+30 TO 151+30
- REMOVE EASTBOUND 4" SOLID LINE WHITE PAINT (RIGHT TURN LANE) FROM STA 149+10 TO 149+80 AND (LEFT TURN LANE) FROM STA 151+30 TO 154+20
- ADD EASTBOUND 4" DOUBLE LINE YELLOW PAINT FROM STA 149+80 TO 156+50
- ADD WESTBOUND 4" DOUBLE LINE YELLOW PAINT FROM STA 153+20 TO 155+70
- ADD WESTBOUND 4" SOLID LINE WHITE (LEFT TURN LANE) PAINT FROM STA 149+30 TO 153+00
- ADD 4" SOLID LINE WHITE PAINT AROUND THE DUNLAP AVE RI/RO MEDIAN, AS SHOWN ON THIS PLAN SHEET.
- REMOVE LT TURN ARROW AT STA 151+50 AND 153+00
- ADD LT TURN ARROWS AT STA 150+50 AND 152+50

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.

SIGNING NOTES:

- ① TEMPORARY TRAFFIC CONTROL SIGN
- ② F & I PERMANENT SIGN
- ③ SALVAGE PERMANENT SIGN
- ④ RE-INSTALL PERMANENT SIGN
- ⑨ 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: **ANDREW WITTER**

SIGNATURE: *Andrew Witter*

DATE: **02/19/13** REG. NO. **42757**

DRAWN BY: **MTH** DATE **02/19/13**

DESIGN BY: **MTH** DATE **02/19/13**

CHECKED BY: **JR** DATE **02/xx/13**

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. **12-60-23**

TRAFFIC CONTROL LAYOUT

Sheet **6** of **10** Sheets

F & I PERMANENT SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO POST TOP (FT.)
R3-2	24" x 24"	4.00		1	1	7.0'
R3-2	36" x 36"	9.00		1	2	7.0'
R3-30ACA	54" x 30"	11.25		1	2	7.0'
R4-7	24" x 30"	5.00		2	1	7.0'
x4-2	18" x 18"	2.25		3		7.0'
R5-1	30" x 30"	6.25		2	1	7.0'

TEMPORARY TRAFFIC CONTROL SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY	No. POST	MOUNTING HEIGHT TO POST TOP (FT.)
W8-12	48" x 48"	16.00		0	2	7.0'
R4-1	24" x 30"	5.00		0	1	7.0'
R4-2	24" x 30"	5.00		0	1	7.0'
R8-10	24" x 36"	6.00		0	1	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		
W8-9	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 8)		
			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.	2		

NOTES:

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ITEM	Quantity	Units
SALVAGE SIGN PANEL TYPE C	10	EACH
SIGN PANEL TYPE C	54.50	SQ FT
INSTALL SIGN PANEL TYPE C	5	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

STATION		SALVAGE SIGN TYPE C	INSTALL SIGN TYPE C	SIGN NUMBER
		EACH	EACH	
102+60	Rt	1		R3-x1
104+20	Rt		1	R3-x1
104+90	Lt		1	R5-1
105+30	Lt	1		R5-1
105+45	Lt		1	R4-7
				x4-2
105+45	Lt	1		R4-7
				x4-2
149+45	Rt	1		x4-2
149+60	Rt	1	1	R4-7
				x4-2
149+60	Rt	1	1	R5-1
150+10	Lt	1		R3-2
151+30	Rt	1		R3-30AC
154+00	Lt	1		W3-3
154+70	Rt	1		W3-3
TOTAL		10	5	

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: ANDREW WITTER

SIGNATURE:

DATE: 2/26/13 REG. NO. 42757

DRAWN BY: MTH DATE 02/19/13

DESIGN BY: MTH DATE 02/19/13

CHECKED BY: JR DATE 02/XX/13



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

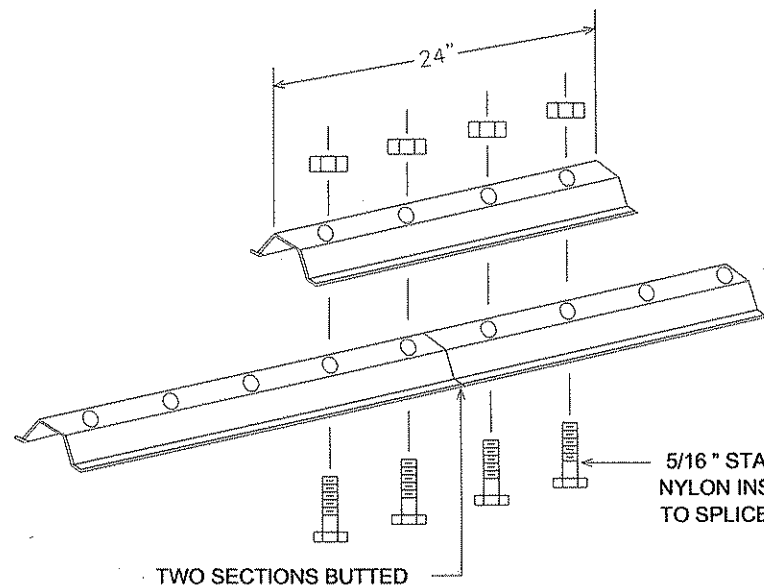
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STATE AID PROJECT NO. _____

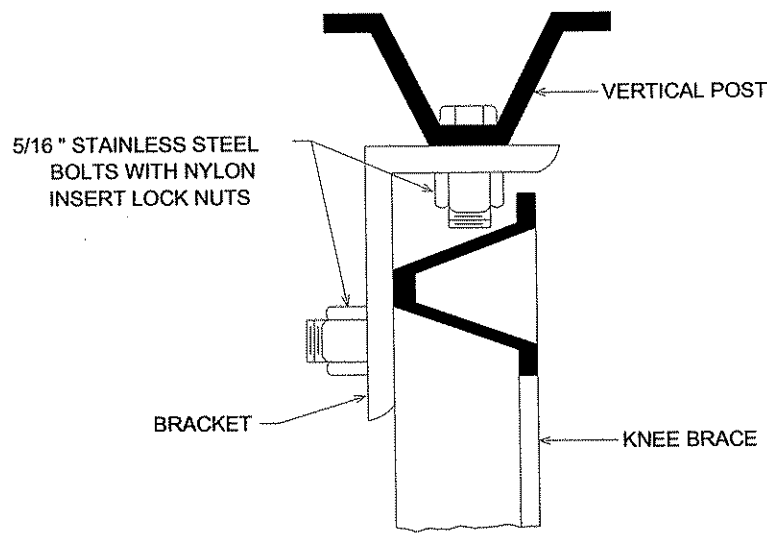
COUNTY PROJECT NO. 12-60-23

TRAFFIC CONTROL
QUANTITIES

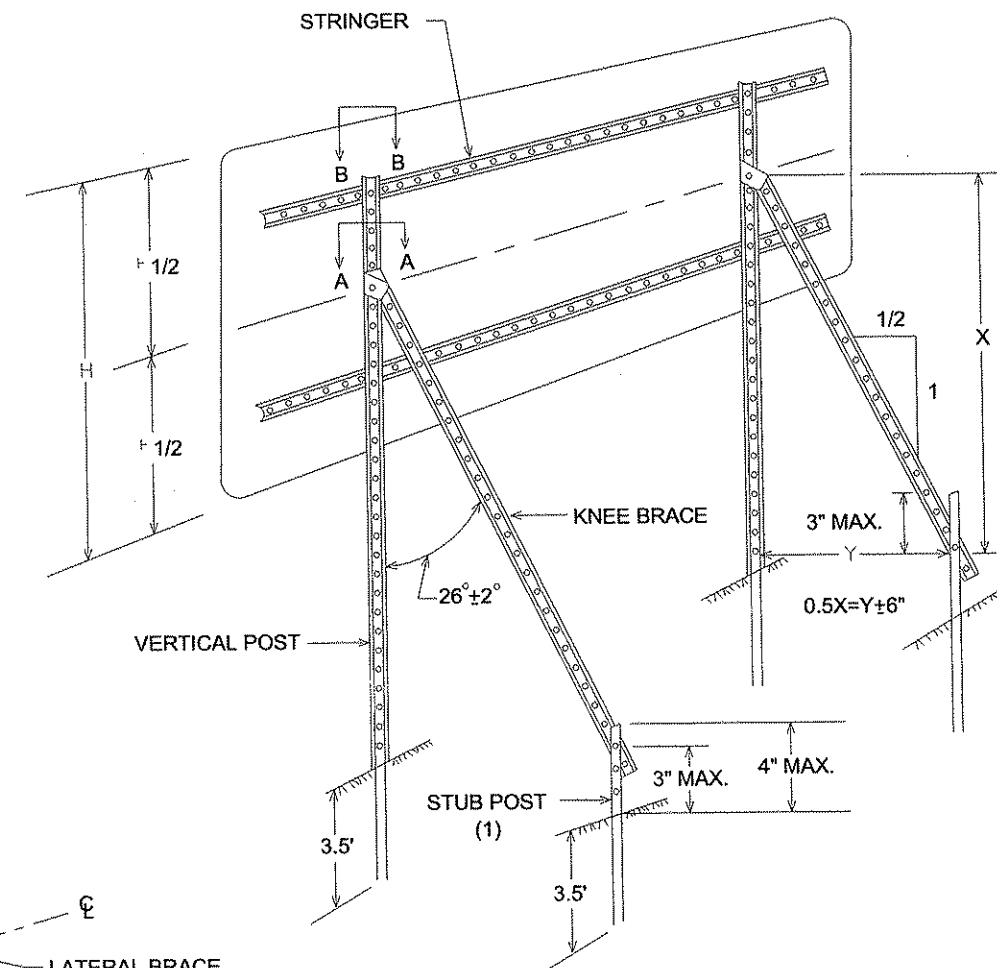
Sheet 7 of 10 Sheets



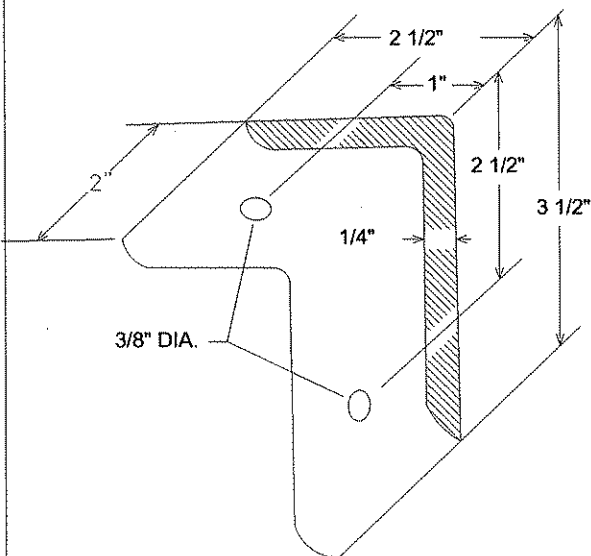
**LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)**



SECTION A-A

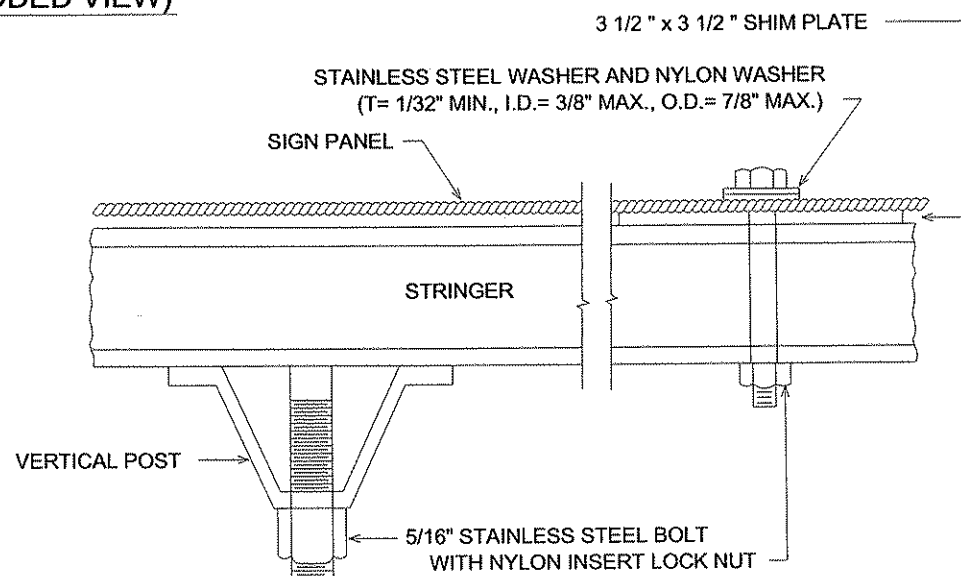


**TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS**

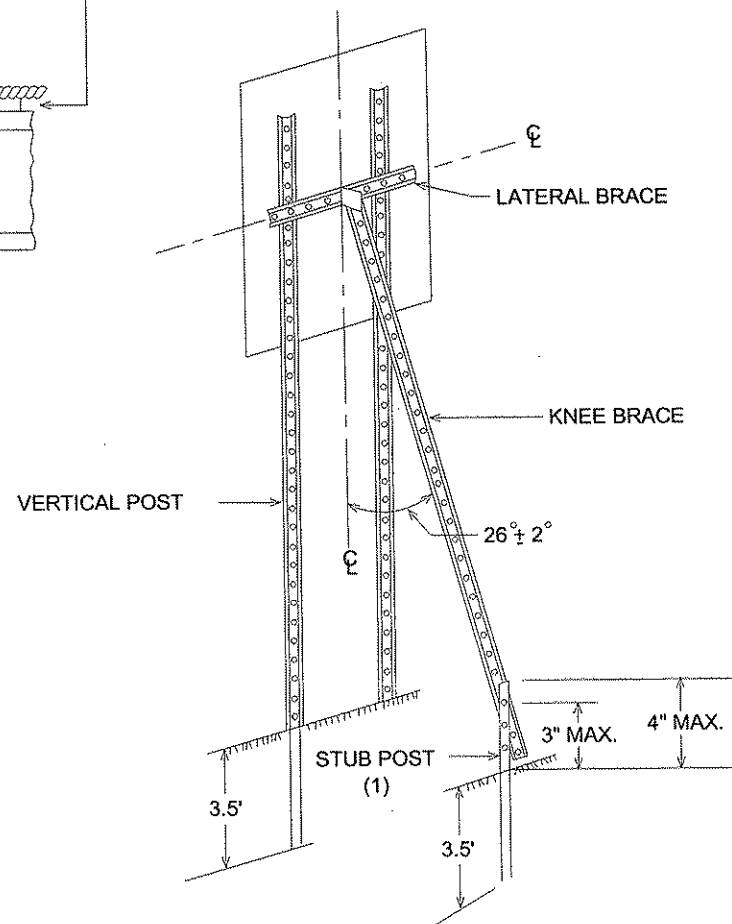


A-FRAME BRACKET

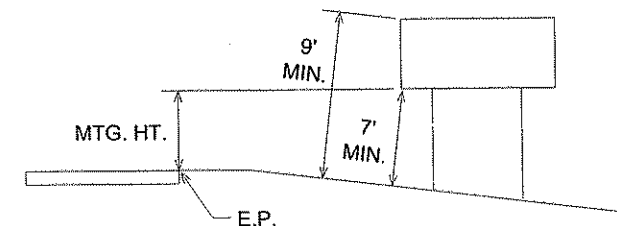
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SECTION B-B



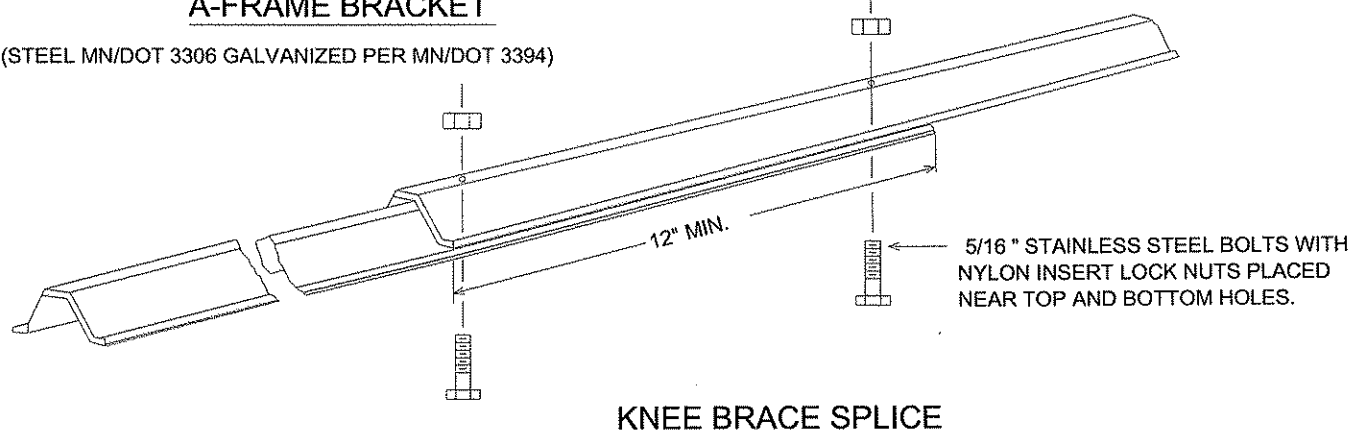
**TYPICAL "A-FRAME" INSTALLATION
TYPE "C" SIGNS**



TYPICAL MOUNTING

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

**TYPE C & D SIGN
STRUCTURAL DETAILS**



KNEE BRACE SPLICE

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: *Andrew Witter*
DATE: 3/25/13 LICENSE NO. 42757

DRAWN BY MTH DATE 2-05-13
DESIGN BY MTH DATE 2-05-13
CHECKED BY JR DATE 1-21-11



**ANOKA COUNTY
HIGHWAY DEPT.**

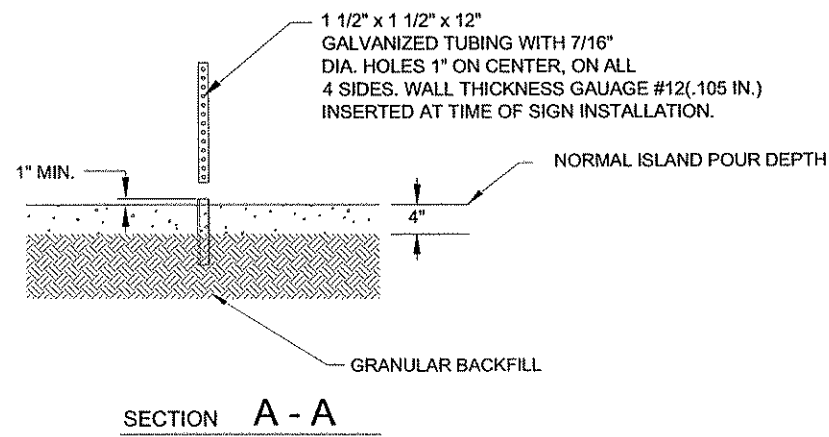
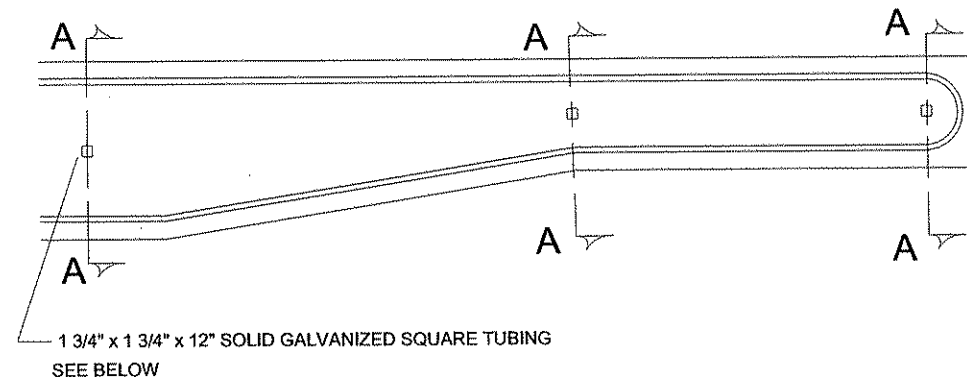
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STATE PROJECT NO. _____
STATE PROJECT NO. _____
COUNTY PROJECT NO. 12-60-23

SIGNING & STRIPING DETAILS

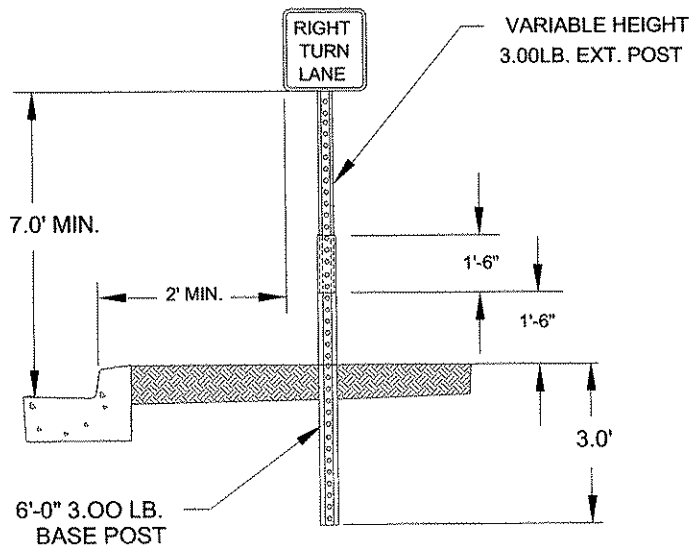
Sheet 8 of 10 Sheets

NO	DATE	BY	CKD	APPR	REVISION

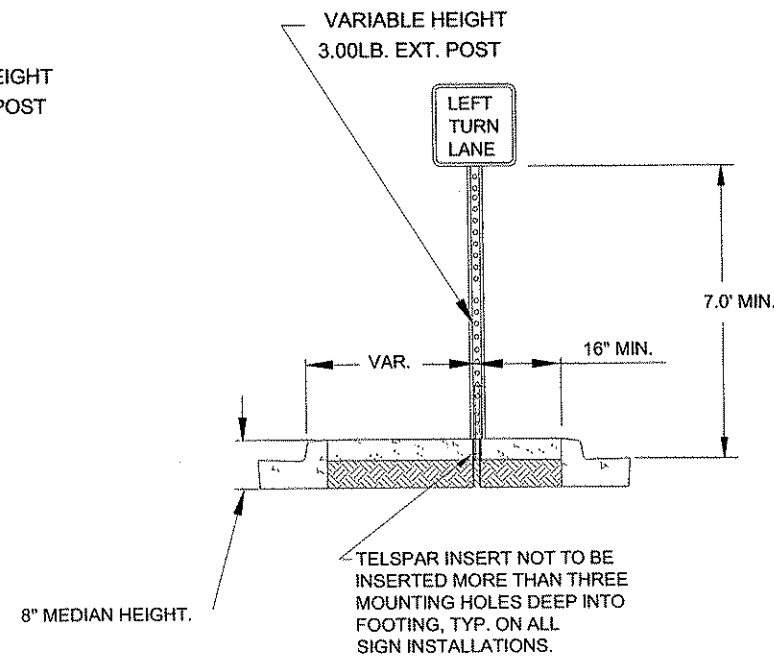
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GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



NO	DATE	BY	GKD	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: ANDREW WITTER
 SIGNATURE: *[Signature]*
 DATE: 3/25/13 LICENSE NO. 42757

DRAWN BY MTH DATE 2-05-13
 DESIGN BY MTH DATE 2-05-13
 CHECKED BY JR DATE 1-21-11



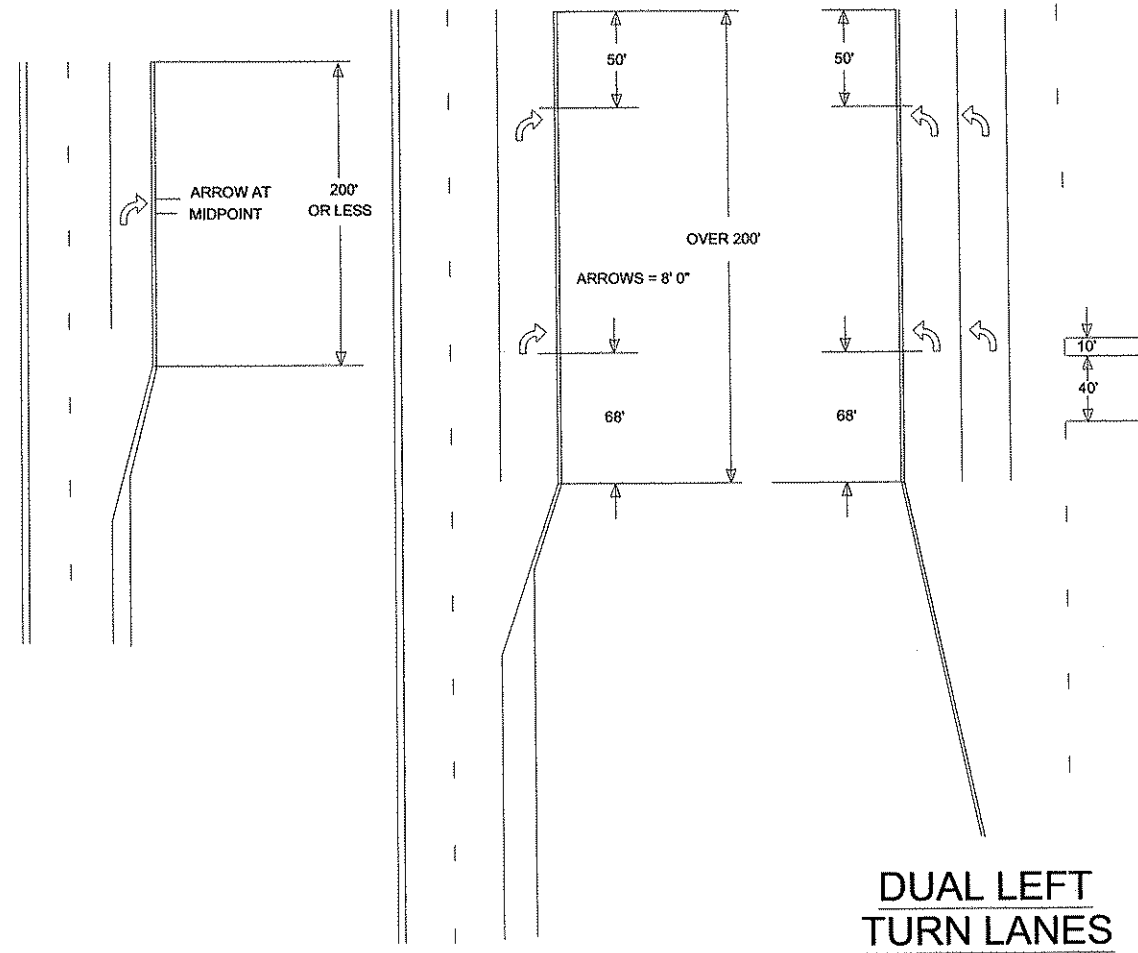
ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
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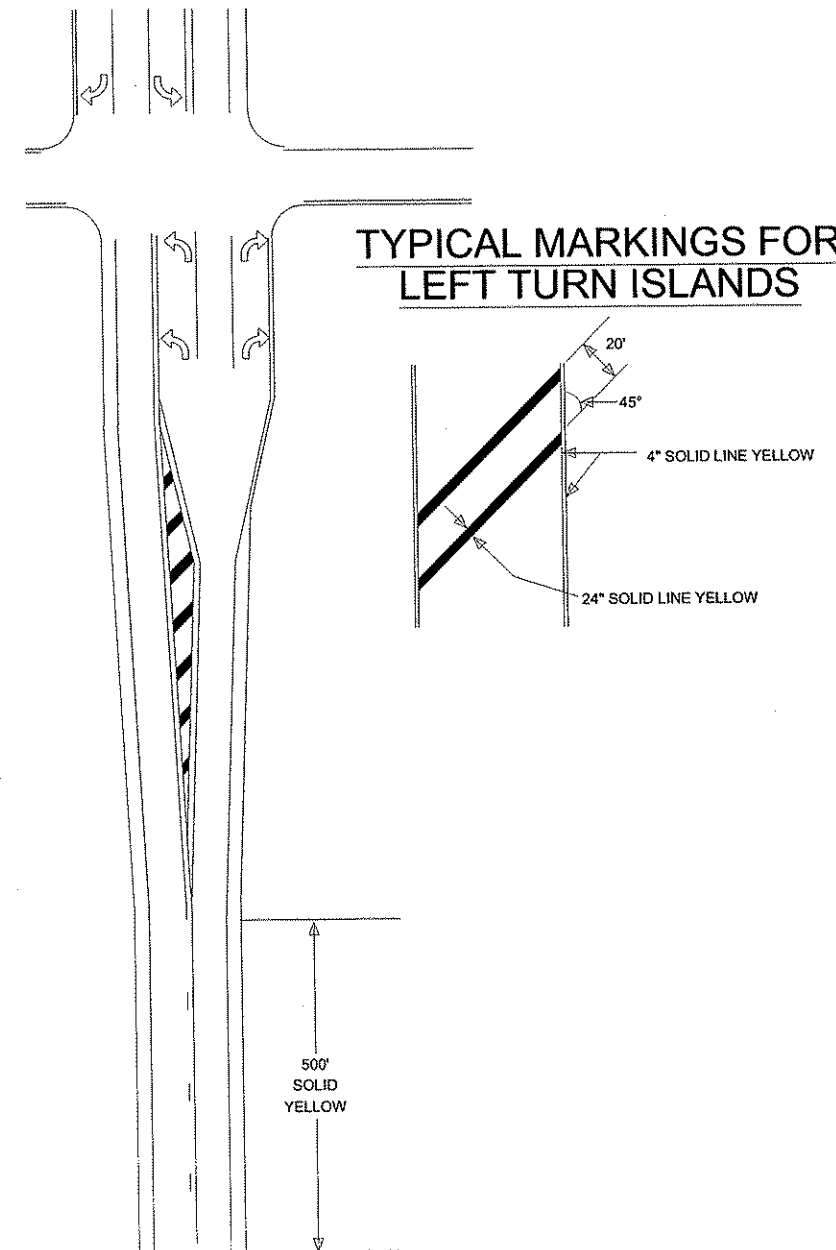
SIGNING & STRIPING DETAILS

Sheet 9 of 10 Sheets

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**

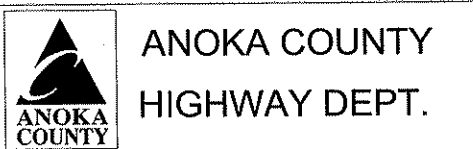


NO	DATE	BY	CKD	APPR	REVISION

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: ANDREW WITTEK
SIGNATURE: *Andrew Wittek*
DATE: 3/25/13 LICENSE NO. 42757

DRAWN BY MTH DATE 2-09-13
DESIGN BY MTH DATE 2-05-13
CHECKED BY JR DATE 02-XX-12



STATE PROJECT NO. _____
STATE PROJECT NO. _____
STATE PROJECT NO. _____
COUNTY PROJECT NO. 12-60-23

SIGNING & STRIPING DETAILS

Sheet 10 of 10 Sheets