

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS, BITUMINOUS SURFACING, CURB & GUTTER, AND SEWER REPAIRS

LOCATED ON CSAH 78 BETWEEN 500' SOUTH OF STATION PKWY AND 500' NORTH OF STATION PKWY

GOVERNING SPECIFICATIONS

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

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THIS PLAN CONTAINS 9 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
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3	TYPICAL SECTIONS
4	DETAILS
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6	CONSTRUCTION PLAN
7	PERMANENT MARKING TABULATION
8	TEMPORARY SIGNING, PERMANENT SIGNING, AND STRIPING
9	TRAFFIC CONTROL QUANTITY



BEGIN CP 17-32-78

CSAH 78, STA: 102+80 LNB
CSAH 78, STA: 202+75 LSB



END CP 17-32-78

CSAH 78, STA: 109+95 LNB
CSAH 78, STA: 209+90 LSB

PROJECT LOCATION



CSAH 78	
GROSS LENGTH	715 FEET 0.135 MILES
EXCEPTIONS-LENGTH	0.00 FEET 0.000 MILES
NET LENGTH	715 FEET 0.135 MILES
DESIGN SPEED	55 MPH
CURRENT ADT	20795

CITY OF ANDOVER
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 18
TOWNSHIP 32 NORTHWEST
RANGE 24 WEST

Approved

[Signature]
ANOKA COUNTY ENGINEER 4/7/17

NO	DATE	BY	CKD	APPR	REVISION	

NAME: P:\17-01-00\CSAH_78_(Median-Improvement)\Base\PROPOSED\IGM.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: MATTHEW J. JOHN
SIGNATURE: *[Signature]*
DATE: 3/15/2017 LICENSE NO. 51639

DRAWN BY: KPR DATE: 02/24/2017
DESIGN BY: KPR DATE: 02/24/2017
CHECKED BY: MJJ DATE: 03/15/2017



**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 17-32-78

TITLE SHEET
Sheet 1 of 9 Sheets

MJJCHN

STATEMENT OF ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE SEWER PIPE (STORM)		LN FT	40
2104.501	REMOVE CURB & GUTTER	1	LN FT	594
2104.503	REMOVE CONCRETE MEDIAN	1	SQ FT	4778
2104.505	REMOVE BITUMINOUS PAVEMENT	1	SQ YD	230
2104.509	REMOVE CASTING	1	EACH	3
2104.509	REMOVE DRAINAGE STRUCTURE	1	EACH	3
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	1	LN FT	32
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	1	LN FT	784
2104.523	SALVAGE SIGN	2	EACH	7
2211.501	AGGREGATE BASE CLASS 5	3,4	TON	39
2232.501	MILL BITUMINOUS SURFACE (2.0")	5	SQ YD	956
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	48
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,C)		TON	110
2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	6	TON	56
2503.541	12" RC PIPE SEWER DESIGN 3006 CLASS V		LN FT	40
2503.541	21" RC PIPE SEWER DESIGN 3006 CLASS V		LN FT	20
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	7	LN FT	12.6
2506.516	CASTING ASSEMBLY	8	EACH	3
2521.501	4" CONCRETE WALK	9	SQ FT	3543
2521.501	6" CONCRETE WALK		SQ FT	70
2531.501	CONCRETE CURB AND GUTTER DESIGN B418		LN FT	596
2563.601	TRAFFIC CONTROL	10,11	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	12	UNIT DAY	14
2564.602	INSTALL SIGN	2	EACH	7
2573.530	STORM DRAIN INLET PROTECTION	13	EACH	13
2582.502	4" SOLID LINE EPOXY	14	LN FT	604
2582.502	4" DOUBLE SOLID LINE EPOXY	14	LN FT	519

CONSTRUCTION NOTES

1	REFERENCE SHEET 5 FOR REMOVAL DETAILS
2	ITEM USED FOR SIGNS IN MEDIAN.
3	ITEM USED FOR BASE UNDER WIDING AREA AND THE NEW MEDIAN CURB.
4	EXCAVATION AND DISPOSAL OF EXISTING GRADING MATERIAL IS INCIDENTAL TO AGGREGATE BASE CLASS 5.
5	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
6	ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES.
7	PAY HEIGHT IS MEASURED FROM INVERT OF OUTLET PIPE TO TOP OF PRECAST CONCRETE STRUCTURE PLUS AN ALLOWANCE OF 0.70 FEET FOR THE DEPTH OF THE CONCRETE BASE, REGARDLESS OF ITS ACTUAL THICKNESS. CONCRETE ADJUSTMENT RINGS ARE INCIDENTAL. CONNECTIONS TO EXISTING STORM SEWER ARE INCIDENTAL.
8	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. SEE STORM TABULATIONS FOR RING HEIGHTS.
9	ITEM USED FOR CONCRETE MEDIAN NOSES.
10	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
11	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES." DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE IN PLACE WHENEVER PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT.
12	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
13	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
14	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.

BASIS OF PLANNED QUANTITIES

2357	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2211	AGGREGATE BASE CLASS 5	1.8 TONS / CU YD
2360	ALL BITUMINOUS PAVEMENT	115 LBS / SQ YD / IN
2581	REMOVABLE PREFORM PAVEMENT MARKING TAPE	2' AT 50' INTERVALS

MNDOT STANDARD PLATES

PLATE NUMBER	DESCRIPTION
4020J	MANHOLE OR CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
7100H	CONCRETE CURB AND GUTTER
8000J	CHANNELIZERS

CASTING ASSEMBLIES SUMMARY

ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	PLATE	QUANTITY
NEENAH*	R-3448-C		NO		3
*OR APPROVED EQUAL					
ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD.					
ALL MANHOLE COVERS SHALL BE STAMPED AS STORM SEWER OR					

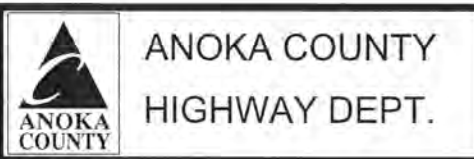
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NAME: P:\17-01-00\CSAH_78_(Median-Improvement)\Base\PROPOSED\IGM.dgn

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PRINT NAME: MATTHEW J. JOHN
 SIGNATURE: *[Signature]*
 DATE: 3/28/2017 LICENSE NO. 51639

DRAWN BY: KPR DATE: 02/24/2017
 DESIGN BY: KPR DATE: 02/24/2017
 CHECKED BY: MJJ DATE: 03/29/2017

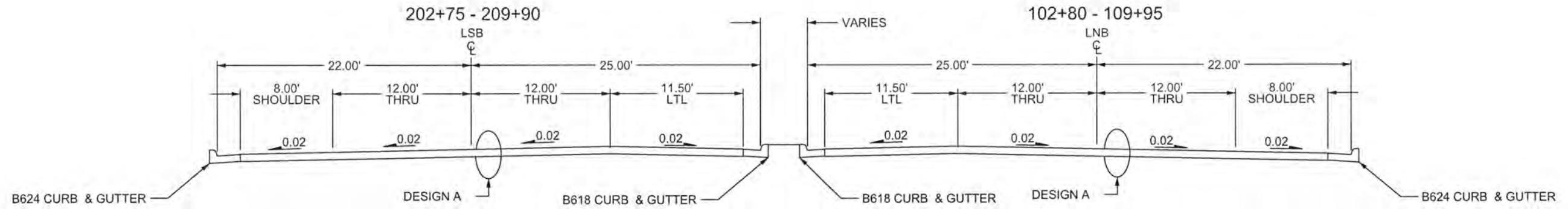


COUNTY PROJECT 17-32-78

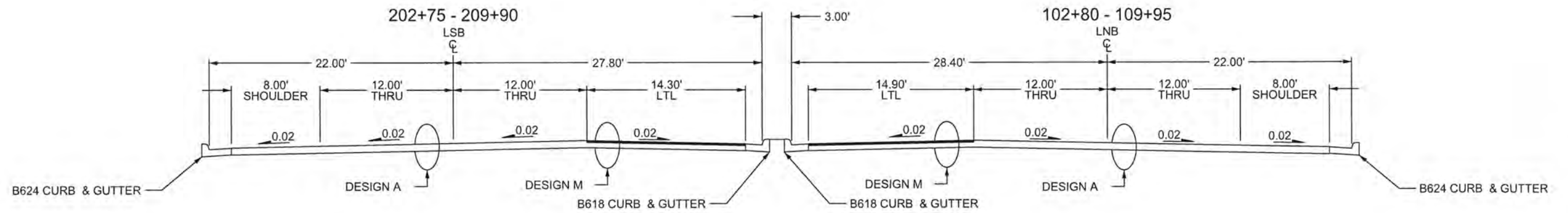
STATEMENT OF ESTIMATED QUANTITIES
 Sheet 2 of 9 Sheets

3/USERS

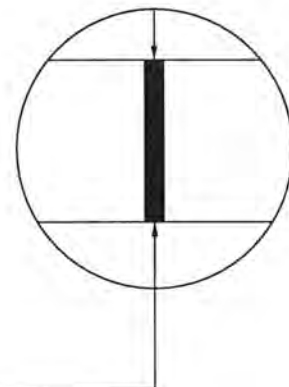
HANSON BLVD CSAH 78 EXISTING SECTION



HANSON BLVD CSAH 78 PROPOSED SECTION

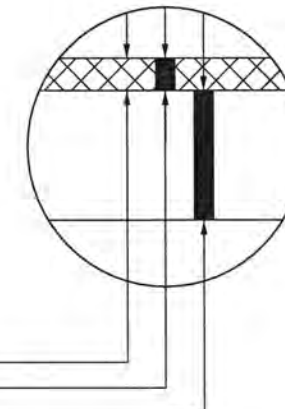


DESIGN A MILL SECTION



EXISTING BITUMINOUS

DESIGN M MILL SECTION



2.0" MILL BITUMINOUS
 2.0" BITUMINOUS WEAR (SPWEB440C)
 REMAINING BITUMINOUS

NO	DATE	BY	CKD	APPR	REVISION	\$DATES	\$TIMES

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 CHECKED BY: MJJ DATE: \$DATES



ANOKA COUNTY
 HIGHWAY DEPT.

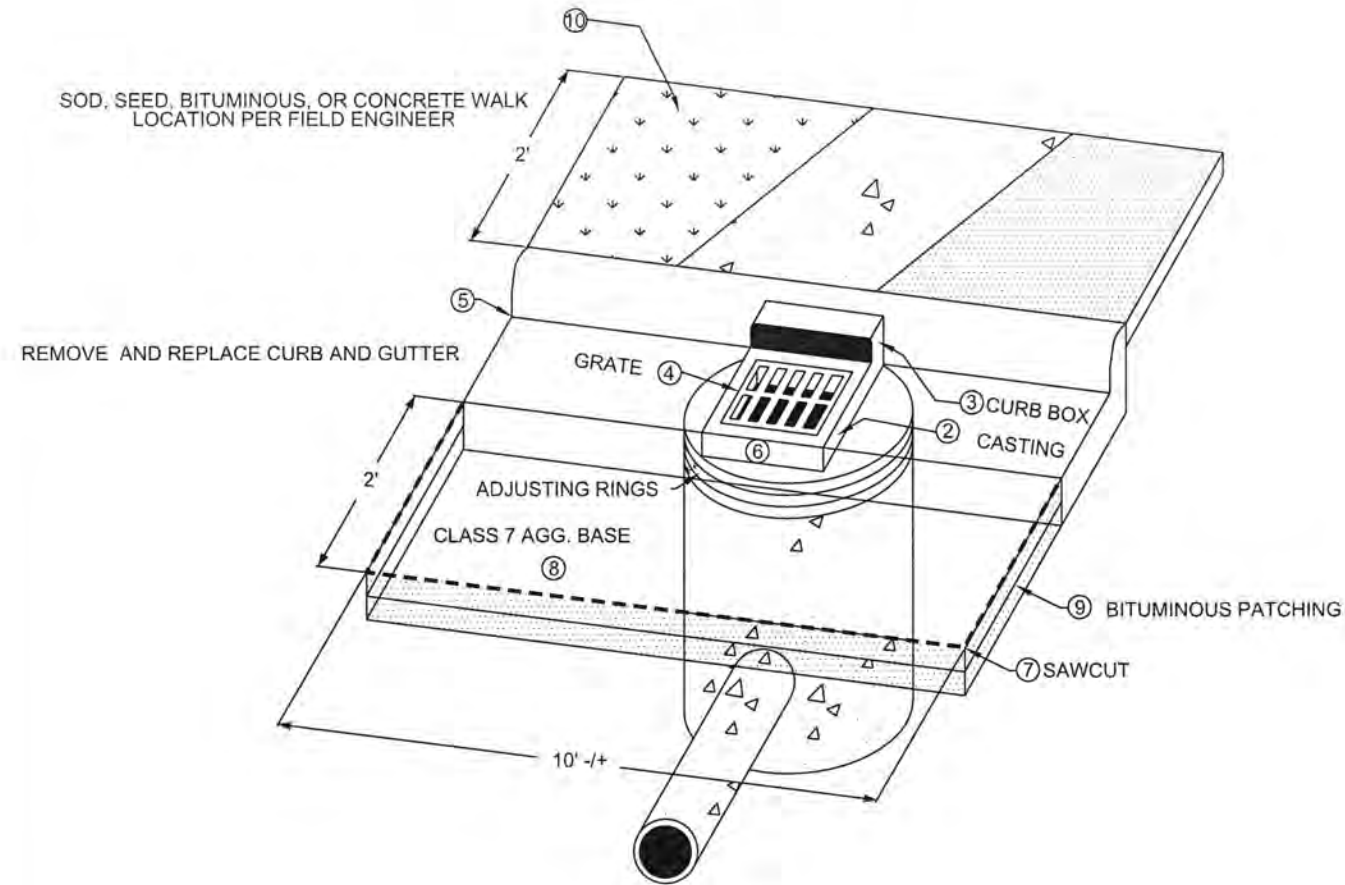
COUNTY PROJECT 17-32-78

TYPICAL SECTIONS

Sheet 3 of 9 Sheets

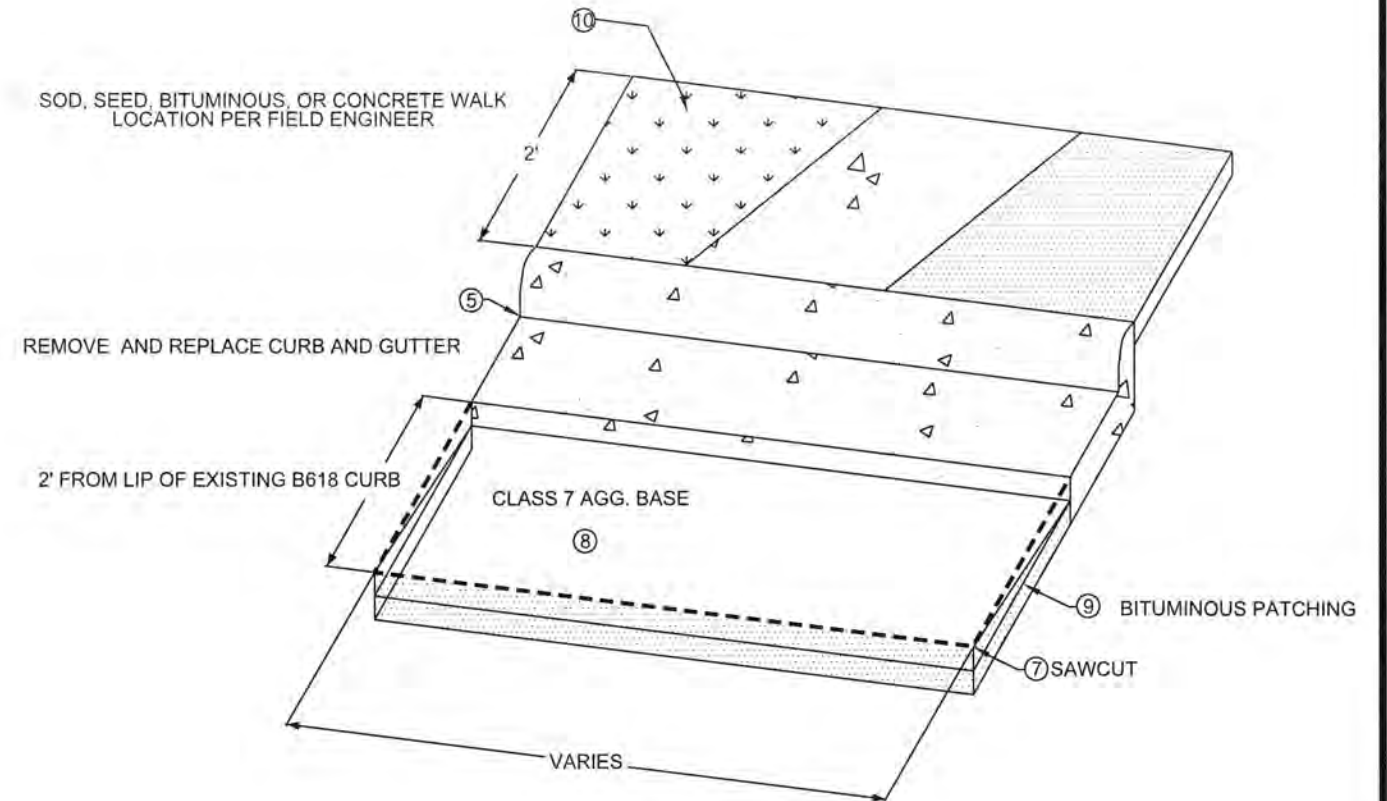
CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)



NEW CURB DETAIL

SEE PLAN FOR LOCATION



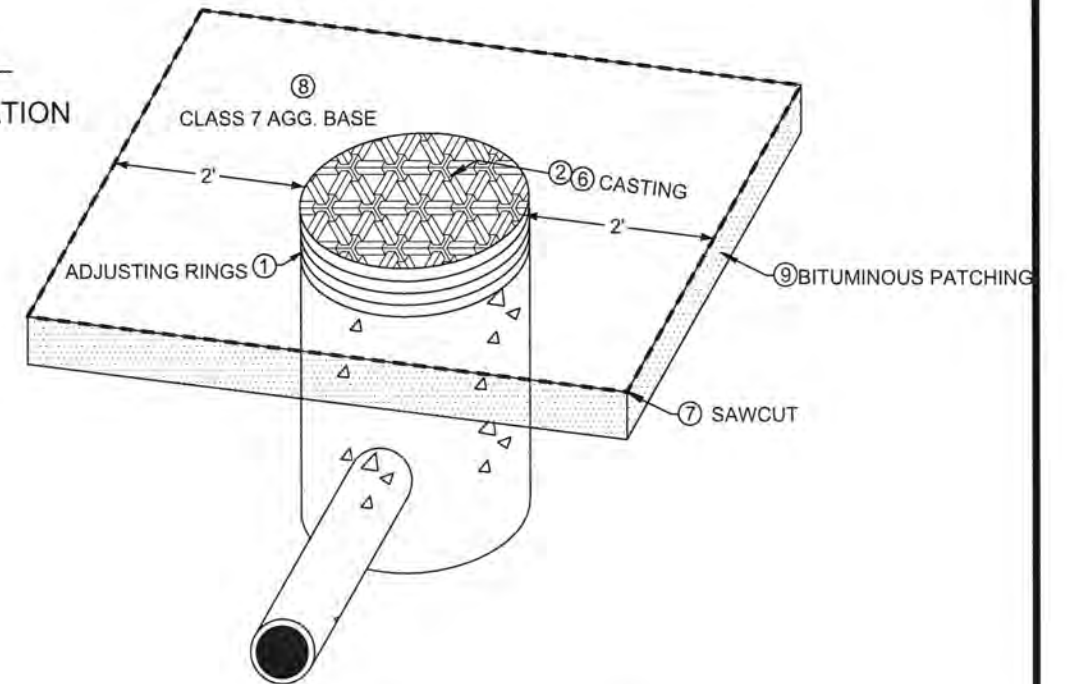
NOTES

FOR TRAFFIC CONTROL AT CATCH BASIN AND MANHOLE REPAIRS REFER TO THE MINNESOTA MANUAL ON TEMPORARY TRAFFIC CONTROL LAYOUTS FIELD MANUAL.

- ① CONCRETE ENCASED CONCRETE ADJUSTING RINGS STANDARD PLATE 4026A
- ② RING AND FRAME CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ③ CURB BOX MATCHES CASTING REFERENCE CHART FOR CASTING TYPE
- ④ GRATE CASTING; REFERENCE CASTING ASSEMBLIES SUMMARY CHART FOR CASTING TYPE
- ⑤ CONCRETE CURB AND GUTTER DESIGN B STANDARD PLATE 7100H, FORM CURB TO FIT CASTING
- ⑥ INSTALLATION OF CATCH BASIN OR MANHOLE CASTINGS; REFERENCE STANDARD PLATE PER TYPE OF CASTING
- ⑦ SAWCUT BITUMINOUS PAVEMENT / CONCRETE CURB FULL DEPTH.
- ⑧ ADD AND COMPACT AGGREGATE BASE CLASS 7 AROUND REPAIRED STRUCTURE. ITEM INCIDENTAL TO ENTIRE STRUCTURE REPAIR
- ⑨ REMOVE VARIABLE DEPTH BITUMINOUS, PATCH WITH 2, 3" LIFTS OF BITUMINOUS, TOP LIFT SHOULD TAPER TO BOTTOM LIFT AT CURB.
- ⑩ REPLACE DISTURBED AREA BEHIND CATCH BASIN WITH EITHER SOD (RESIDENTIAL AREAS), EROSION CONTROL BLANKET, BITUMINOUS, OR CONCRETE

MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)



NO.	DATE	BY	CKD	APPR	REVISION	\$DATES	\$TIMES

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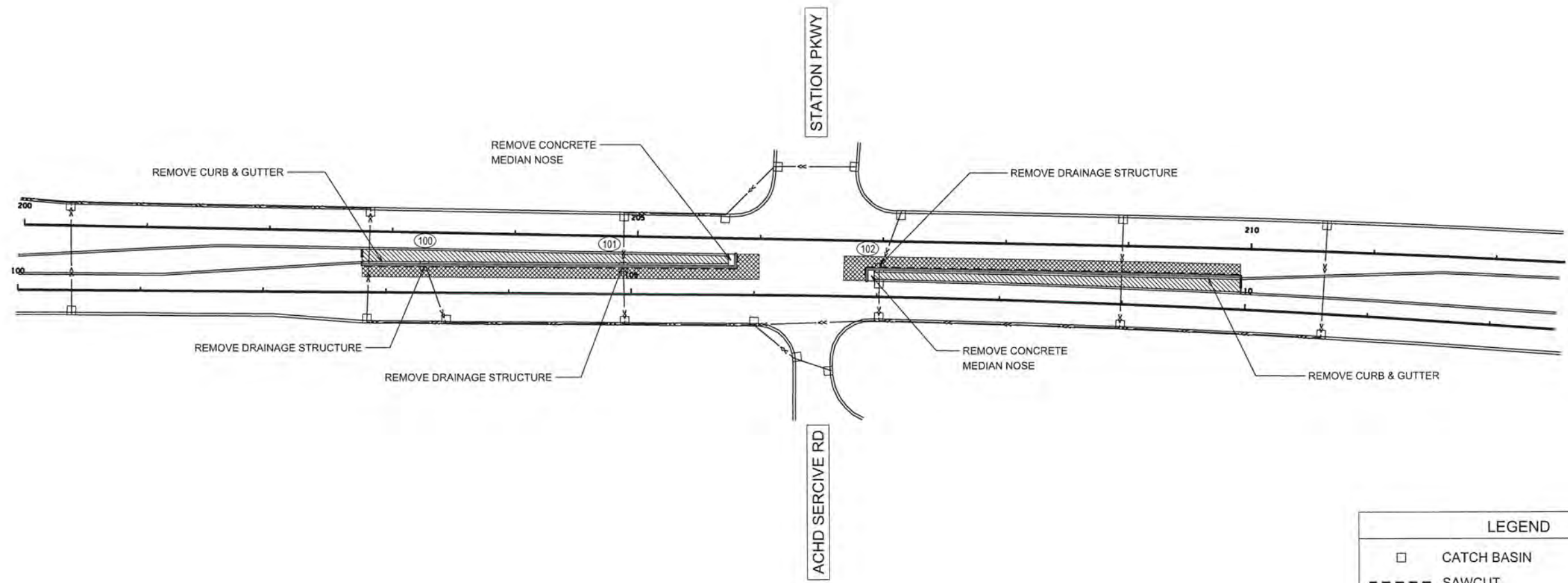
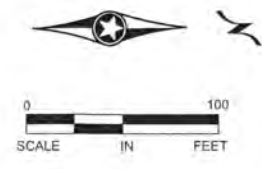
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 CHECKED BY: MJJ DATE: \$DATES

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 17-32-78

DETAILS
 Sheet 4 of 9 Sheets

\$USERS



LEGEND	
	CATCH BASIN
	SAWCUT
	STORM SEWER
	REMOVE BITUMINOUS PAVEMENT
	MILL BITUMINOUS PAVEMENT
	REMOVE 4" CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION	SDATES	STIMES

NAME: SDGNS

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PRINT NAME: MATTHEW J. JOHN
 SIGNATURE: *[Signature]*
 DATE: 3/18/2017 LICENSE NO: 51639

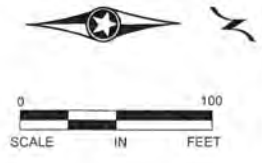
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 CHECKED BY: MJJ DATE: SDATES

ANOKA COUNTY HIGHWAY DEPT.

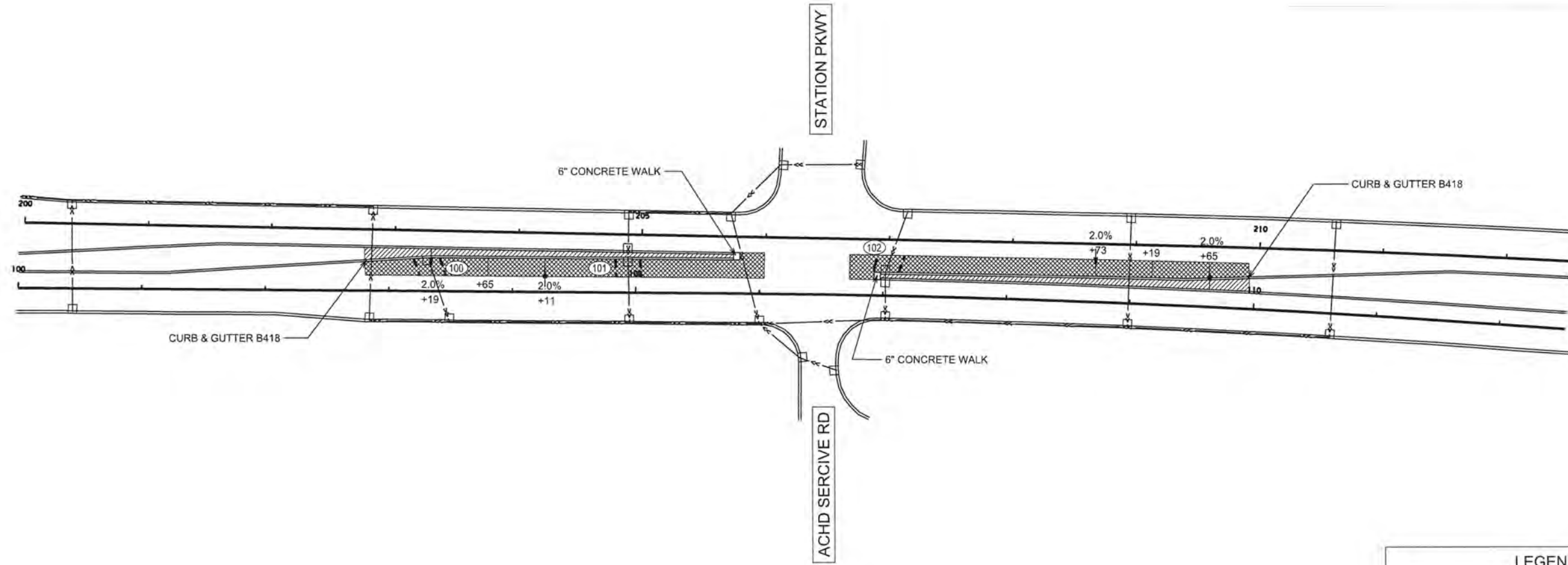
COUNTY PROJECT 17-32-78

REMOVAL PLAN
 STA 10+26 TO 16+26
 Sheet 5 of 9 Sheets

\$USERS\$



STORM DRAINAGE TAB											
NUMBER	TYPE	ACTION	NEW CASTING	FURNISH AND INSTALL CASTING ASSEMBLY	REMOVE DRAINAGE STRUCTURE	12" RC PIPE SEWER DESIGN 3006 CLASS V	21" RC PIPE SEWER DESIGN 3006 CLASS V	DRAINAGE STRUCTURES 48-4020	SAWING CONCRETE PAVEMENT (FULL DEPTH)	SAWING PAVEMENT (FULL DEPTH)	REMOVE BITUMINOUS PAVEMENT
				EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD
100	CB	RECONSTRUCT	R-3030	1	1	8		4.0	6	32	13
101	CB	RECONSTRUCT	R-3030	1	1		20	4.9	6	32	13
102	CB	RECONSTRUCT	R-3030	1	1	20		3.7	6	32	13
TOTALS				3	3	28	20	12.6	18	96	39



LEGEND	
	CATCH BASIN
	SAWCUT
	STORM SEWER
	2" OVERLAY
	4" CONCRETE WALK

NO. DATE BY CKD APPR REVISION SDATES \$TIMES NAME: SDGNS				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: MATTHEW J. JOHN SIGNATURE: <i>[Signature]</i> DATE: 3/13/2017 LICENSE NO. 51639		DRAWN BY: KPR DATE: 02/24/2017 DESIGN BY: KPR DATE: 02/24/2017 CHECKED BY: MJJ DATE: SDATES		ANOKA COUNTY HIGHWAY DEPT.		COUNTY PROJECT 17-32-78		CONSTRUCTION PLAN STA 10+26 TO 16+26 Sheet 6 of 9 Sheets	
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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 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 FILM 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.

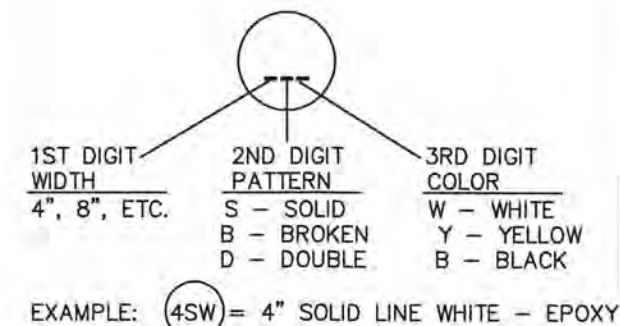
PERMANENT MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" DOUBLE SOLID LINE WHITE - EPOXY PAINT	LIN FT	519
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	604

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



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH 18\Bases\TRAFFIC\Perm pvmt mrkg guide notes_guidelines.dwg

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PRINT NAME: MATTHEW J. JOHN

SIGNATURE: *[Signature]*

DATE: 3/28/2017 LICENSE NO. 51639

DRAWN BY: RLB DATE: 3/1/17

DESIGN BY: RLB DATE: 3/1/17

CHECKED BY: JR DATE: 3/1/17



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 17-32-78

PERMANENT MARKING TABULATION

Sheet 7 of 9 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS					TEMPORARY TRAFFIC CONTROL SIGNS				
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY	M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY
G20-2A	48" x 24"	8.00		2	R11-2	48" x 30"			2
					TYPE III	8 FOOT			3
W8-1A	48" x 48"	16.00		AS NEEDED	R11-2	48" x 30"			2
W8-1A	48" x 48"	16.00		AS NEEDED	TYPE III	8 FOOT			6
W8-8	48" x 48"	16.00		AS NEEDED	W1-6	48" x 24"			2
W8-9	48" x 48"	16.00		AS NEEDED	TYPE III	8 FOOT			4
	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 3)					
R3-2	24" x 24"	4.00		4					
TYPE III	8 FOOT			3					
REBOUNDABLE DRUM REFLECTORIZED				60					
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:
- 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.

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	

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.