

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

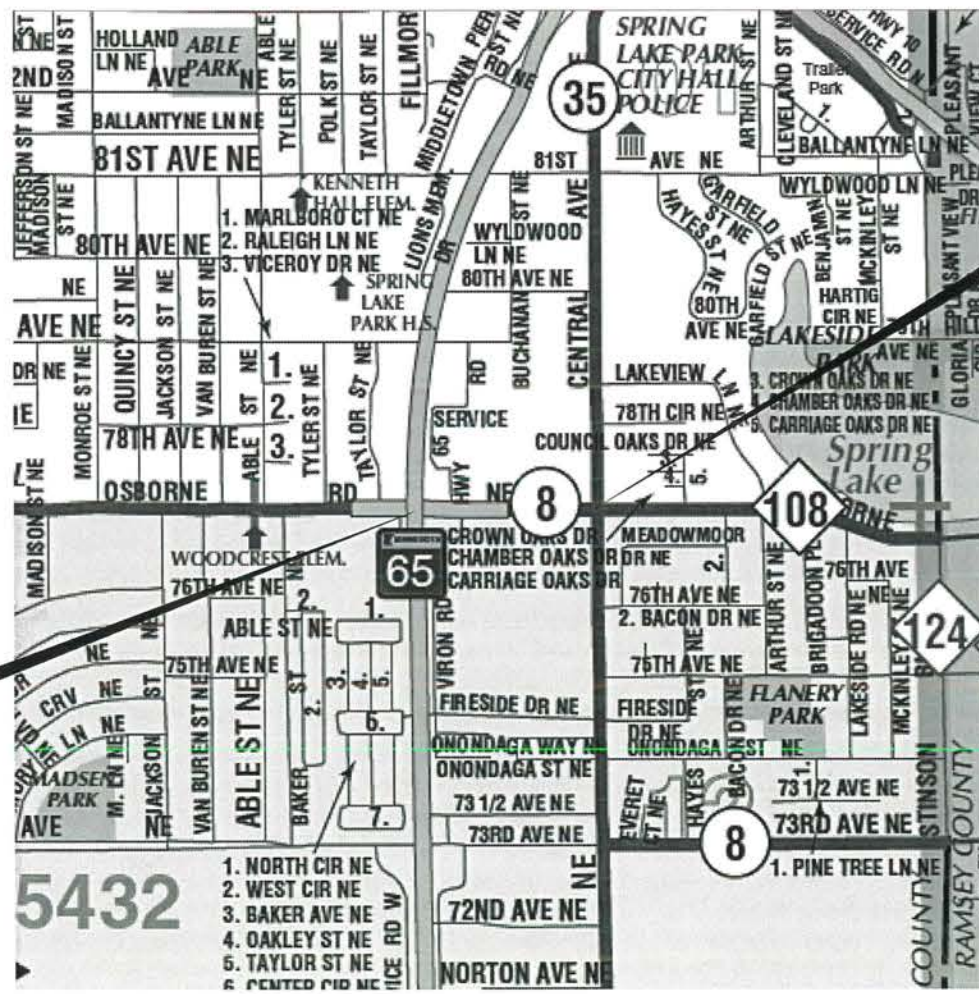
CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS, BITUMINOUS SURFACING, CURB & GUTTER, AND SEWER REPAIRS
LOCATED ON CSAH 8 BETWEEN TH 65 AND OLD CENTRAL AVE NE

GOVERNING SPECIFICATIONS
THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE 2014 EDITION OF THE "MATERIALS LAB SUPPLEMENTAL 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."

THIS PLAN CONTAINS 18 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
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5	DETAILS
6	CONSTRUCTION PLAN
7	PERMANENT MARKING TABULATION
8-9	TEMPORARY SIGNING, PERMANENT SIGNING, AND STRIPING
10	TRAFFIC CONTROL QUANTITY
11-13	SIGNING AND STRIPING DETAILS
14-18	ORIGINAL SIGNAL PLANS (FOR REFERENCE ONLY)



END CP 15-13-08
CSAH 8, STA: 23+77



BEGIN CP 15-13-08
CSAH 8, STA: 11+30

PROJECT LOCATION



<u>CSAH 8</u>			
GROSS LENGTH	1247 FEET	0.236 MILES	
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES	
NET LENGTH	1247 FEET	0.236 MILES	
DESIGN SPEED	45 MPH		
CURRENT ADT	3956		

CITY OF FRIDLEY
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 35
TOWNSHIP 30 NORTH
RANGE 24 WEST

Approved: 4/2/15
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\15-01-00\CSAH_08\TH65-OldCentral\Bases\PROPOSED\TEMPLATE_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: MATTHEW J. JOHN
SIGNATURE:
DATE: 4/2/15 LICENSE NO. 51639

DRAWN BY: KPR DATE: 02/17/2015
DESIGN BY: KPR DATE: 02/17/2015
CHECKED BY: MJJ DATE: 02/17/2015

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 15-13-08

TITLE SHEET
Sheet 1 of 18 Sheets

STATEMENT OF ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE CURB & GUTTER	1	LIN FT	155
2104.503	REMOVE CONCRETE WALK	1	SQ FT	1587
2104.505	REMOVE BITUMINOUS PAVEMENT	1	SQ YD	33
2104.509	REMOVE CASTING	1	EACH	4
2104.509	REMOVE DRAINAGE STRUCTURE	1	EACH	1
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	1	LIN FT	77
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	1	LIN FT	197
2104.523	SALVAGE SIGN	2	EACH	2
2211.501	AGGREGATE BASE CLASS 5	3	TON	36
2232.501	MILL BITUMINOUS SURFACE (2.0")	4	SQ YD	8007
2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	5	SQ YD	171
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	409
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3.B)	6	TON	20
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4.E)		TON	921
2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	7	TON	9
2504.602	ADJUST GATE VALVE	8	EACH	3
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	9	LIN FT	3.2
2506.516	CASTING ASSEMBLY	10	EACH	4
2506.602	GROUT CATCH BASIN OR MANHOLE	11	EACH	5
2521.501	6" CONCRETE WALK		SQ FT	1573
2531.501	CONCRETE CURB AND GUTTER DESIGN B618		LIN FT	155
2531.503	CONCRETE MEDIAN (NOSE)		SQ YD	3
2531.618	TRUNCATED DOMES		SQ FT	52
2550.602	LOOP DETECTOR DESIGN NMC	12	EACH	2
2563.601	TRAFFIC CONTROL	13,14	LUMP SUM	1
2563.610	POLICE OFFICER		HOURL	32
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	15	UNIT DAY	14
2564.602	INSTALL SIGN	2	EACH	2
2573.530	STORM DRAIN INLET PROTECTION	16	EACH	4
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	17,18	SQ YD	192
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	19	LN FT	198
2582.502	4" SOLID LINE WHITE-EPOXY	20	LN FT	3090
2582.502	4" SOLID LINE YELLOW-EPOXY	20	LN FT	370
2582.502	4" DOUBLE SOLID LINE YELLOW-EPOXY	20	LN FT	1560
2582.502	4" BROKEN LINE YELLOW-EPOXY	20	LN FT	258
2582.601	PAVEMENT MESSAGE (LT ARROW) PREFORMED THERMOPLASTIC	20	EACH	1
2582.601	PAVEMENT MESSAGE (RT ARROW) PREFORMED THERMOPLASTIC	20	EACH	2
2582.601	PAVEMENT MESSAGE (THRU ARROW) PREFORMED THERMOPLASTIC	20	EACH	1
2582.601	PAVEMENT MESSAGE (THRU/RT ARROW) PREFORMED THERMOPLASTIC	20	EACH	1
2582.602	24" SOLID LINE YELLOW PREFORMED THERMOPLASTIC	20	LN FT	326
2582.602	24" SOLID LINE WHITE PREFORMED THERMOPLASTIC	20	LN FT	58
2582.618	3' X 6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	20	SQ FT	468

CONSTRUCTION NOTES

1	REFERENCE DETAILS (PAGE 5) FOR REMOVAL DETAILS
2	ITEM USED FOR SIGNS IN MEDIAN REPLACEMENT AREAS
3	ITEM USED AS BASE FOR CONCRETE WALK. EXCAVATION AND DISPOSAL OF EXISTING GRADING MATERIAL IS INCIDENTAL TO AGGREGATE BASE CLASS 5.
4	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
5	TO BE USED FOR MILLING STREET APPROACHES AND/OR DETAIL MILLING AREAS AS IDENTIFIED IN THE PLAN. DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
6	STREET APPROACHES ARE TO BE PAVED AFTER MAINLINE PAVING BUT BEFORE FINAL STRIPING.
7	ITEM INCLUDES BITUMINOUS PATCHING AROUND NEW CURB, STORM STRUCTURE REPAIRS, AND ANY POTHOLES.
8	GATE VALVES TO BE ADJUSTED ONLY AS NECESSARY AS DETERMINED BY THE ENGINEER.
9	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.
10	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS. SEE STORM TABULATIONS FOR RING HEIGHTS.
11	ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, AND CASTINGS AS REQUIRED (SEE DRAINAGE TAB, PAGE 3).
12	LOOP REPLACEMENT REQUIRED ONLY IF DAMAGED DURING CONSTRUCTION OPERATIONS. ORIGINAL SIGNAL PLANS ARE INCLUDED AT THE END OF THIS PLAN.
13	CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNAGE WHENEVER EXISTING SIGNAGE IS REMOVED. TEMPORARY SIGNAGE SHALL BE INCIDENTAL TO TRAFFIC CONTROL.
14	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS TO BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS.
15	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
16	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
17	4" OF TOPSOIL IS INCIDENTAL TO ALL TURF ESTABLISHMENT.
18	TYPE 1 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM. 4" OF TOPSOIL IS INCIDENTAL TO ALL TURF ESTABLISHMENT.
19	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON MILLED SURFACE AND EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
20	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
4006L	MANHOLE OR CATCH BASIN
4020J	MANHOLE OR CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4035N	CONCRETE WALK
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE
7038A	DETECTABLE WARNING SURFACE
7100H	CONCRETE CURB AND GUTTER

NO	DATE	BY	CKD	APPR	REVISION	03/24/2015	8:58:31 AM
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**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 15-13-08

STATEMENT OF ESTIMATED QUANTITIES

Sheet 2 of 18 Sheets

mjohn

STORM DRAINAGE TAB

NUMBER	TYPE	ACTION	NEW CASTING	FURNISH AND INSTALL CASTING ASSEMBLY	STRUCTURE TYPE	RING HIEGHT	REMOVE DRAINAGE STRUCTURE	GROUT CATCH BASIN OR MANHOLE	DRAINAGE STRUCTURES G	SAWING CONCRETE PAVEMENT (FULL DEPTH)	REMOVE CURB & GUTTER	CONCRETE CURB & GUTTER DESIGN B618	SAWING BIT PAVEMENT (FULL DEPTH)	REMOVE BITUMINOUS PAVEMENT	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	NOTES
						LIN FT	EACH	EACH	LIN FT	LIN FT	LIN FT	LIN FT	SQ YD	TON		
901	MH/SAN	OK														
903	CB	GROUT RINGS, STRUCTURE						1								
904	MH	GROUT RINGS, STRUCTURE						1								
904A	MH	RE-RING, GROUT STRUCTURE & INV.	A-7D	1		1.3		1								IN BLVD
905	CB	OK														
907	CB	RE-RING, GROUT STRUCTURE & INV.	R-3030	1		0.8		1		6	17	17	21	4	1	
907A	MH	RE-RING, GROUT STRUCTURE & INV.	A-7D	1		1.0		1								IN BLVD/907
908	CB	RECONSTRUCT	R-3030	1	G		1		3.2	6	10	10	14	2	1	
909	CB	OK														
912	CB	OK														
913	CB	OK														
TOTALS				4			1	5	3.2	12	27	27	35	6	2	

CASTING ASSEMBLIES SUMMARY

ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	QUANTITY	DESCRIPTION	NOTES
A-7D	700-7	716		2	STD. PLATE: 4101D, 4110F	CASTING COVER STAMPED "STORM SEWER"
NEENAH*	R-3030	L	YES	2		
*OR APPROVED EQUAL						
ALL CASTING HEIGHTS ARE TO BE VERIFIED IN THE FIELD.						
ALL MANHOLE COVERS SHALL BE STAMPED AS STORM SEWER OR SANITARY SEWER.						

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COUNTY PROJECT 15-13-08

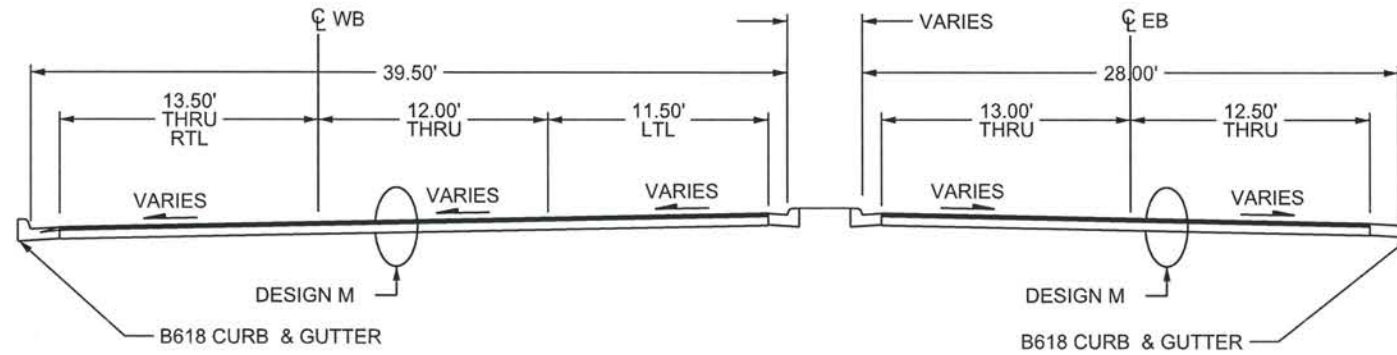
TABLATIONS

Sheet 3 of 18 Sheets

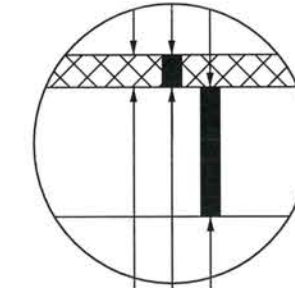
mjohn

OSBORNE ROAD (CSAH 8) TYPICAL MAINLINE WITH LEFT TURN LANE

11+30 - 13+70



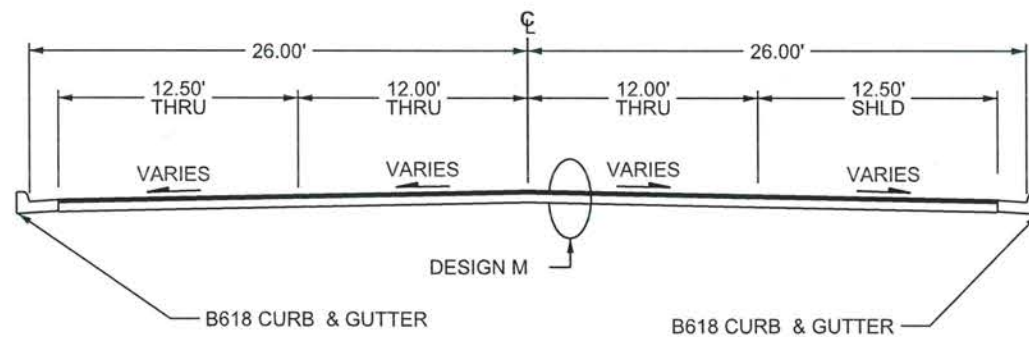
DESIGN M MILL SECTION



2.0" MILL BITUMINOUS
 2.0" BITUMINOUS WEAR (SPWEB440E)
 REMAINING BITUMINOUS

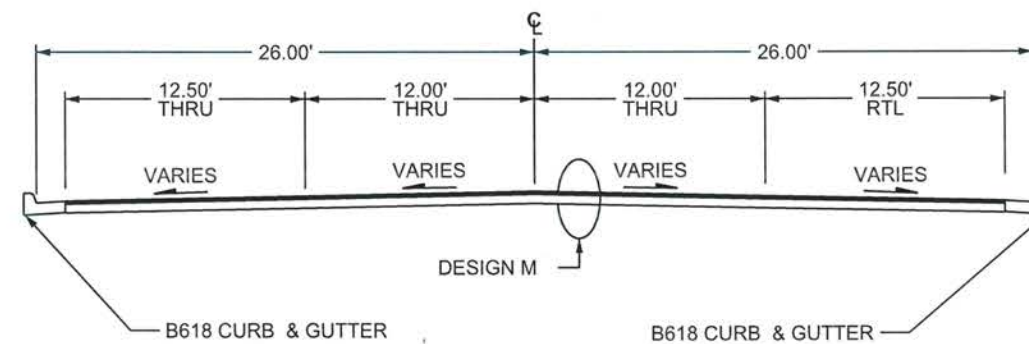
OSBORNE ROAD (CSAH 8) TYPICAL MAINLINE

13+70 - 21+80



OSBORNE ROAD (CSAH 8) TYPICAL MAINLINE WITH RIGHT TURN LANE

21+80 - 23+77



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
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ANOKA COUNTY
 HIGHWAY DEPT.

COUNTY PROJECT 15-13-08

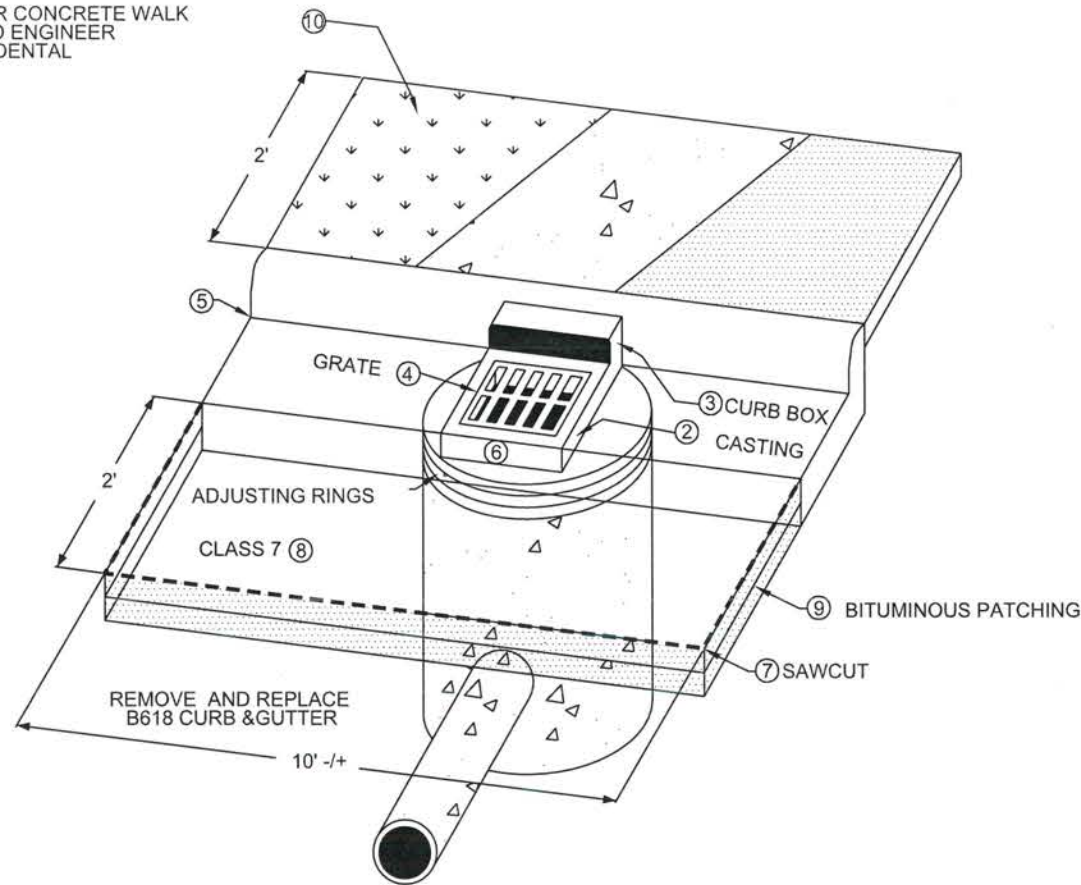
TYPICAL SECTIONS
 Sheet 4 of 18 Sheets

mjohn

CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)

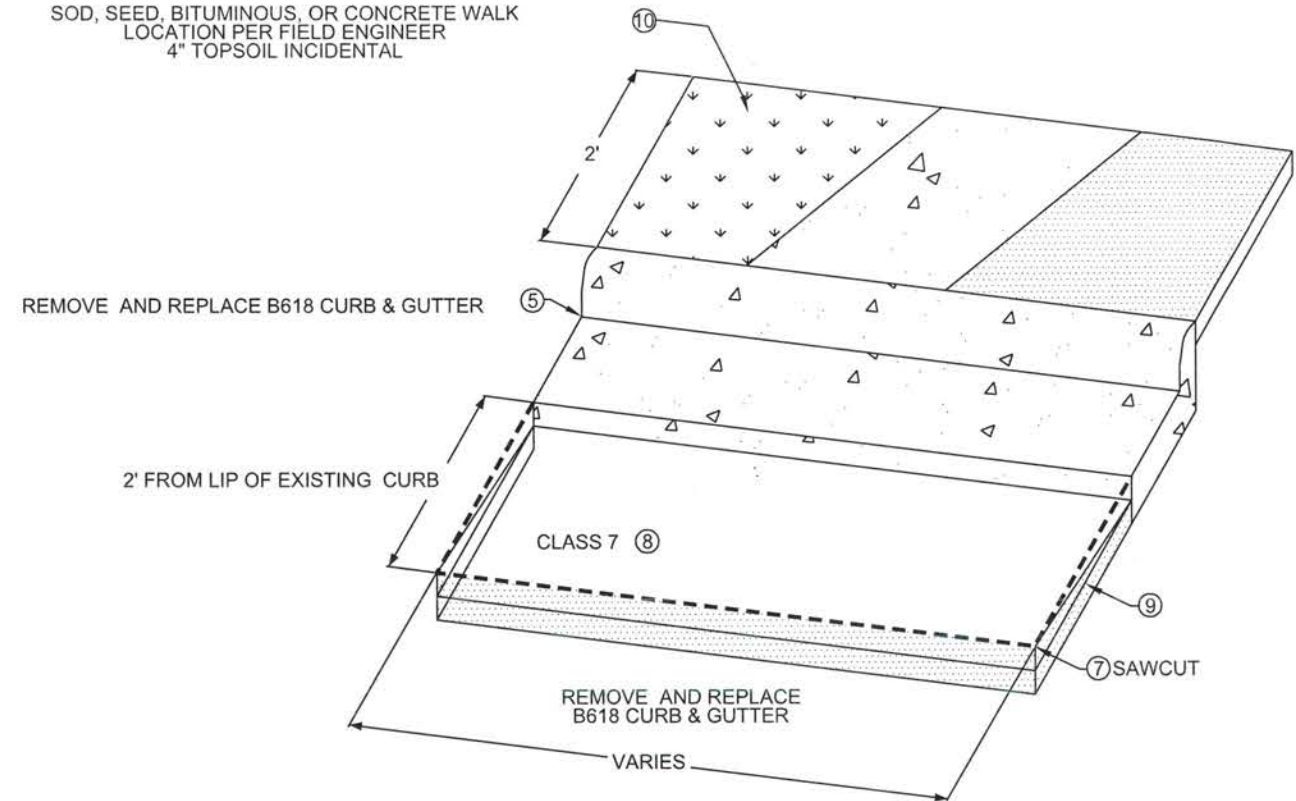
SOD, SEED, BITUMINOUS, OR CONCRETE WALK
LOCATION PER FIELD ENGINEER
4" TOPSOIL INCIDENTAL



NEW CURB DETAIL

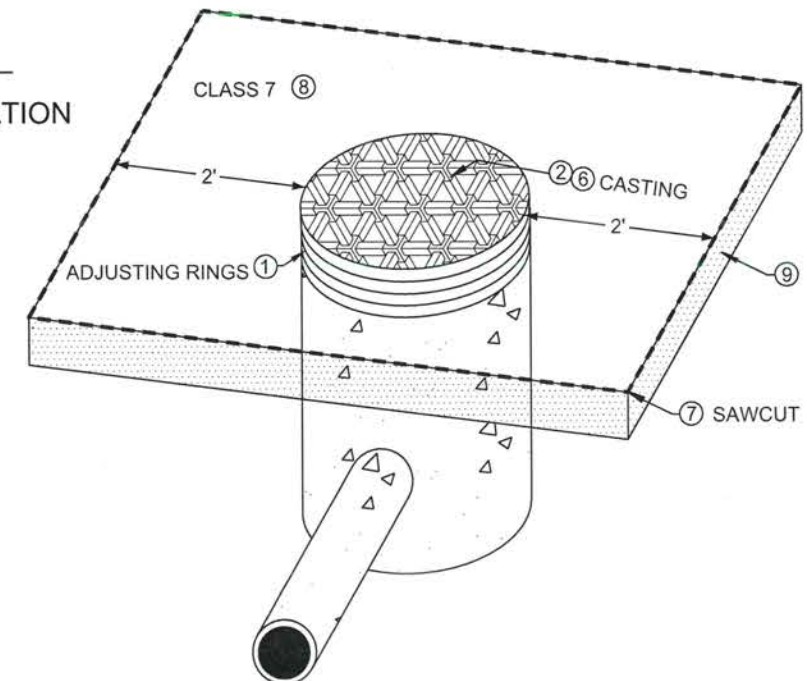
SEE PLAN FOR LOCATION

SOD, SEED, BITUMINOUS, OR CONCRETE WALK
LOCATION PER FIELD ENGINEER
4" TOPSOIL INCIDENTAL



MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION
(PAGE 3)



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 7100G
- 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

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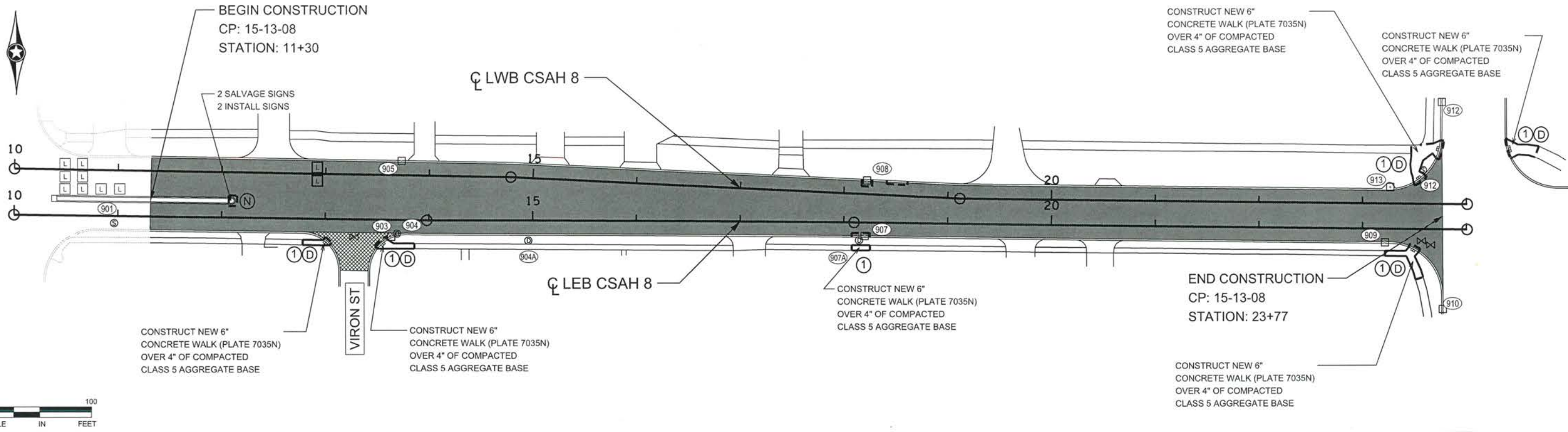


ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 15-13-08

DETAILS
Sheet 5 of 18 Sheets

mjohn



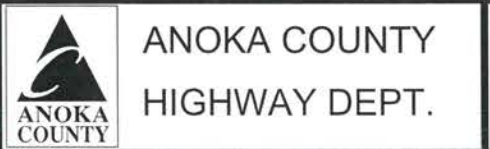
LEGEND			
(N)	REMOVE AND REPLACE NOSE	⊙	STORM MANHOLE
(D)	TRUNCATED DOMES	□	CATCH BASIN
(1)	6" CONCRETE WALK (REMOVE AND REPLACE)	⊙	SANITARY MANHOLE
---	SAWCUT / CURB REPLACEMENT	⊞	APRX. LOOP LOCATION
		⊞	ADJUST GATE VALVE
		■	MAINLINE MILL AREA
		■	STREET APPROACH MILL SPECIAL

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COUNTY PROJECT 15-13-08

CONSTRUCTION PLAN
 STA 11+30 TO 23+77
 Sheet 6 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 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 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.

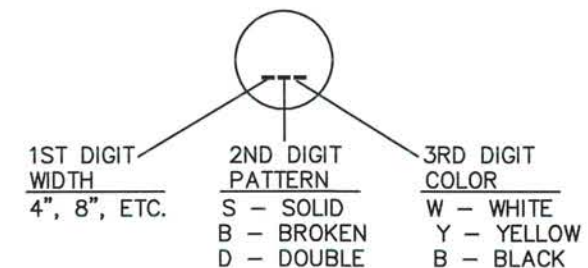
PERMANENT MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	3090
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	370
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	258
4" DOUBLE LINE YELLOW - EPOXY PAINT	LIN FT	1560
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	326
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	58
3' X 6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	468
PAVEMENT MESSAGE (RT ARROW) - PREFORMED THERMOPLASTIC	EACH	2
PAVEMENT MESSAGE (LT ARROW) - PREFORMED THERMOPLASTIC	EACH	1
PAVEMENT MESSAGE (THRU ARROW) - PREFORMED THERMOPLASTIC	EACH	1
PAVEMENT MESSAGE (THRU/RT ARROW) - PREFORMED THERMOPLASTIC	EACH	1

SYMBOLS & MATERIALS LEGEND

- CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC
- ↩ PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY

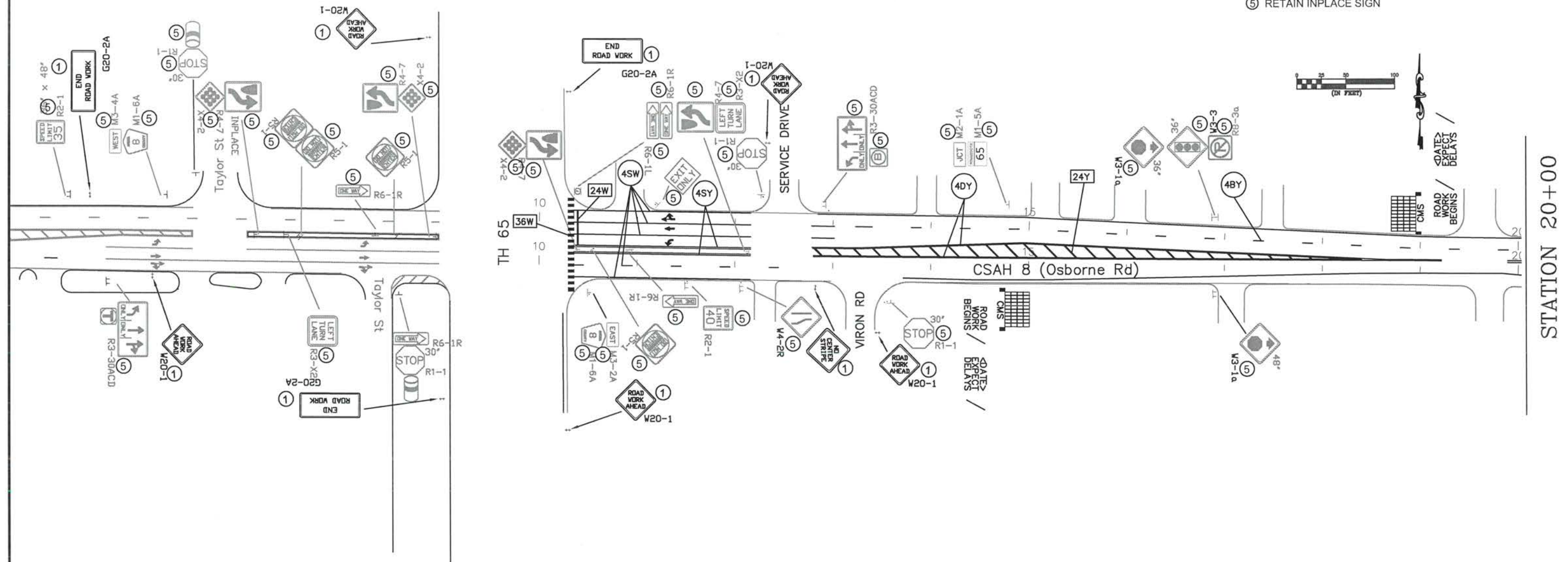
- CIRCLE - EPOXY
- SQUARE PREFORMED THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



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

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>Matthew J. John</i> DATE: 4/2/15 LICENSE NO. 51639					DRAWN BY: RLB DATE: 2/14/14 DESIGN BY: RLB DATE: 2/14/14 CHECKED BY: JR DATE: 2/14/14	ANOKA COUNTY HIGHWAY DEPT.	STATE PROJECT NO. _____ STATE AID PROJECT NO. _____ STATE AID PROJECT NO. _____ COUNTY PROJECT NO. 15-13-08	PERMANENT MARKING TABULATION Sheet 7 of 18 Sheets								
<table border="1"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>BY</th> <th>CKD</th> <th>APPR</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO	DATE	BY	CKD	APPR	REVISION							NAME: P:\13-01-00\CSAH 18\Baset\TRAFFIC\Perm pvmt mrkg guide notes_guidelines.dwg			
NO	DATE	BY	CKD	APPR	REVISION											

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



STATION 20+00

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".
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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ANOKA COUNTY
 HIGHWAY DEPT.

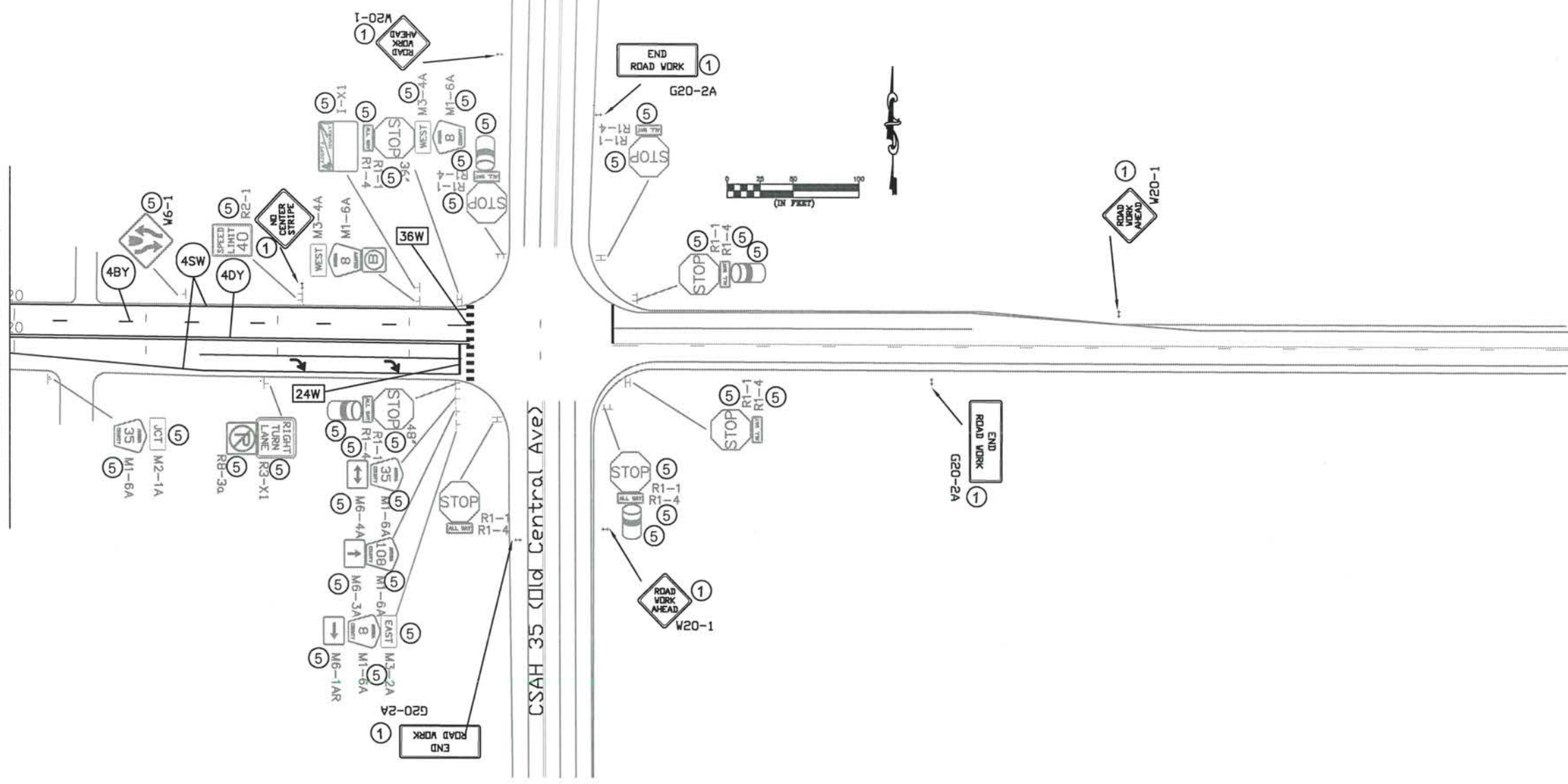
STATE PROJECT NO. _____
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TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING

Sheet 8 of 18 Sheets

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TEMPORARY SIGNING,
 PERMANENT SIGNING
 AND STRIPING
 Sheet 9 of 18 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT TO PAVEMENT (8885) FT.
					No. POST	
W8-12	48" x 48"	16.00		2	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'
G20-2A	48" x 24"	8.00		6	2	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		
	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		

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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

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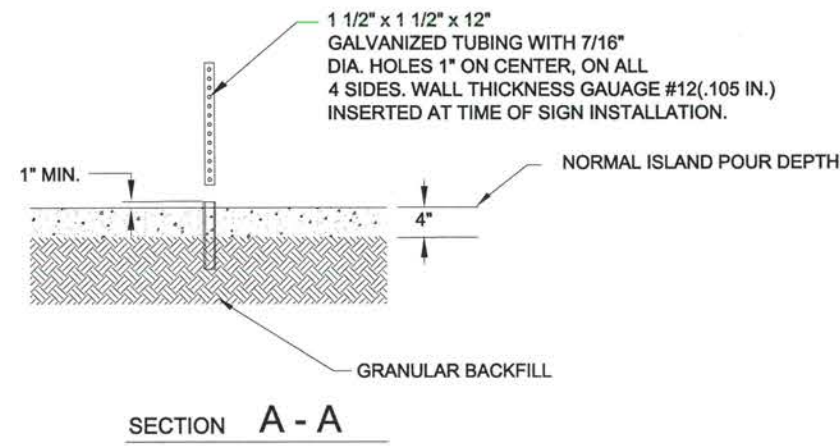
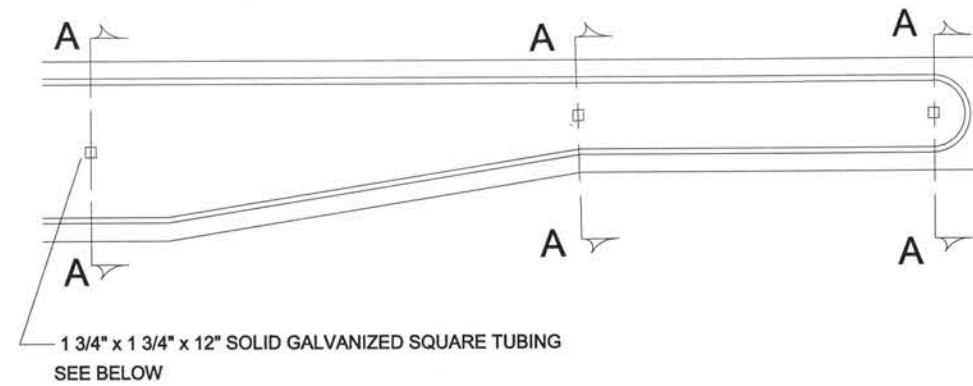
NAME: P:\02-617-19\base\Traffic\Curves from CSAH 18 to CSAH 22.dwg

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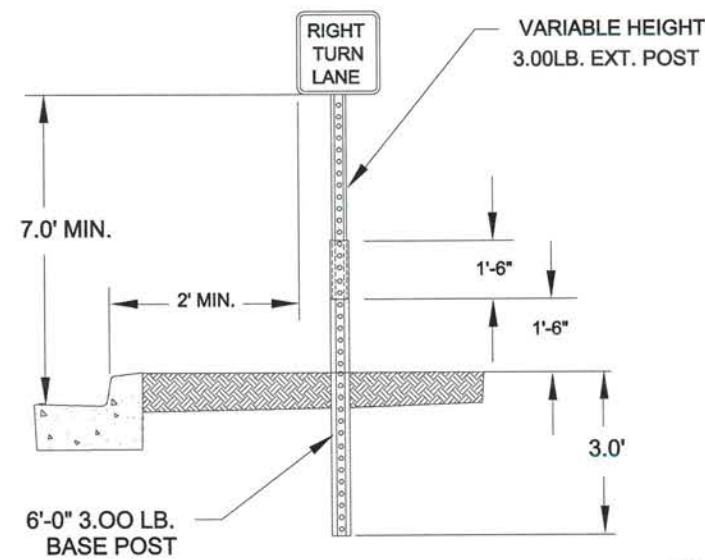
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ANOKA COUNTY HIGHWAY DEPT.

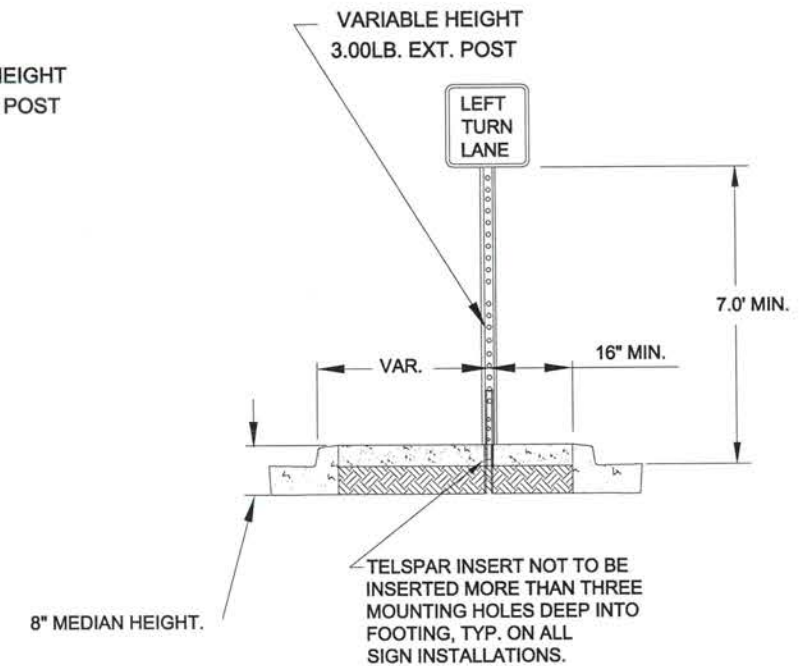
STATE PROJECT NO. _____
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 COUNTY PROJECT NO. 15-13-08



GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL



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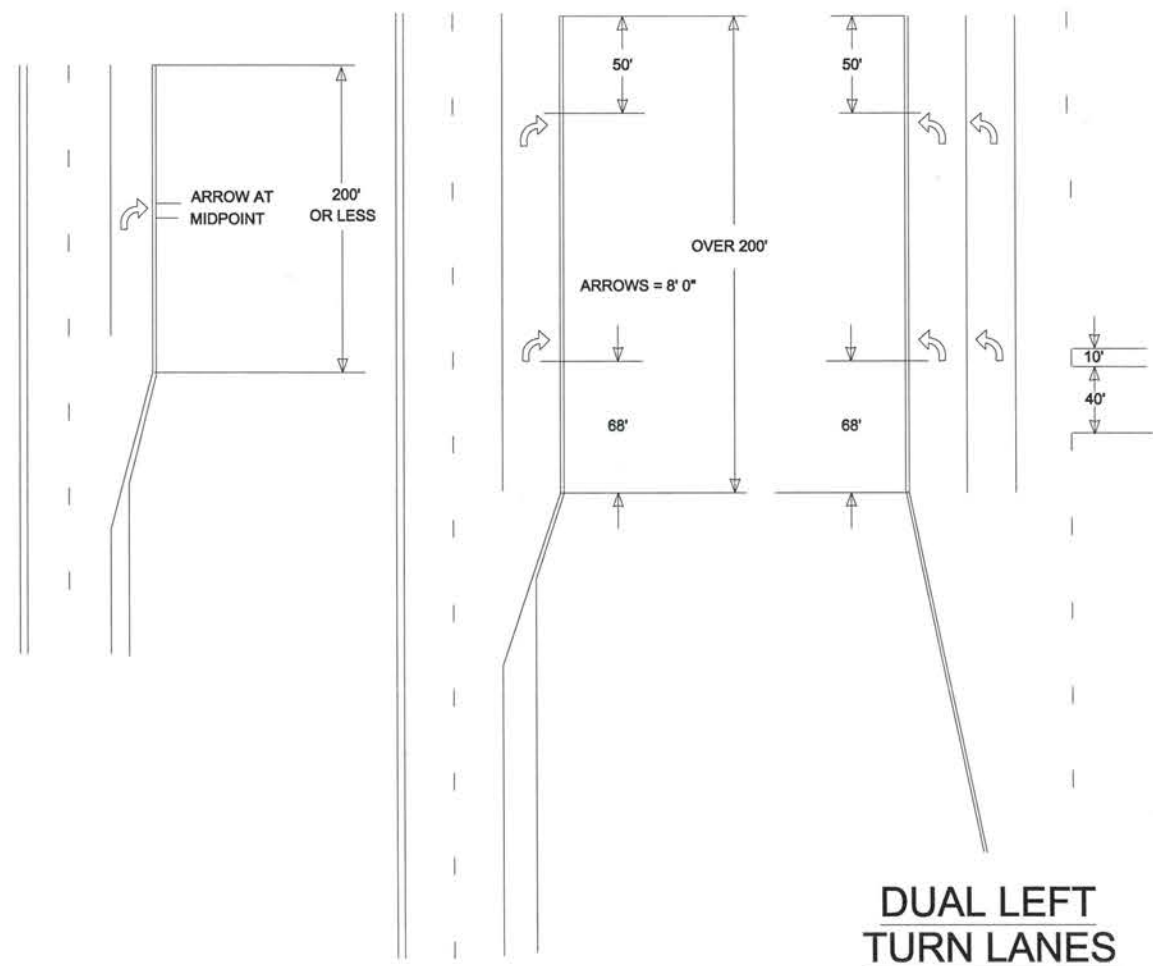
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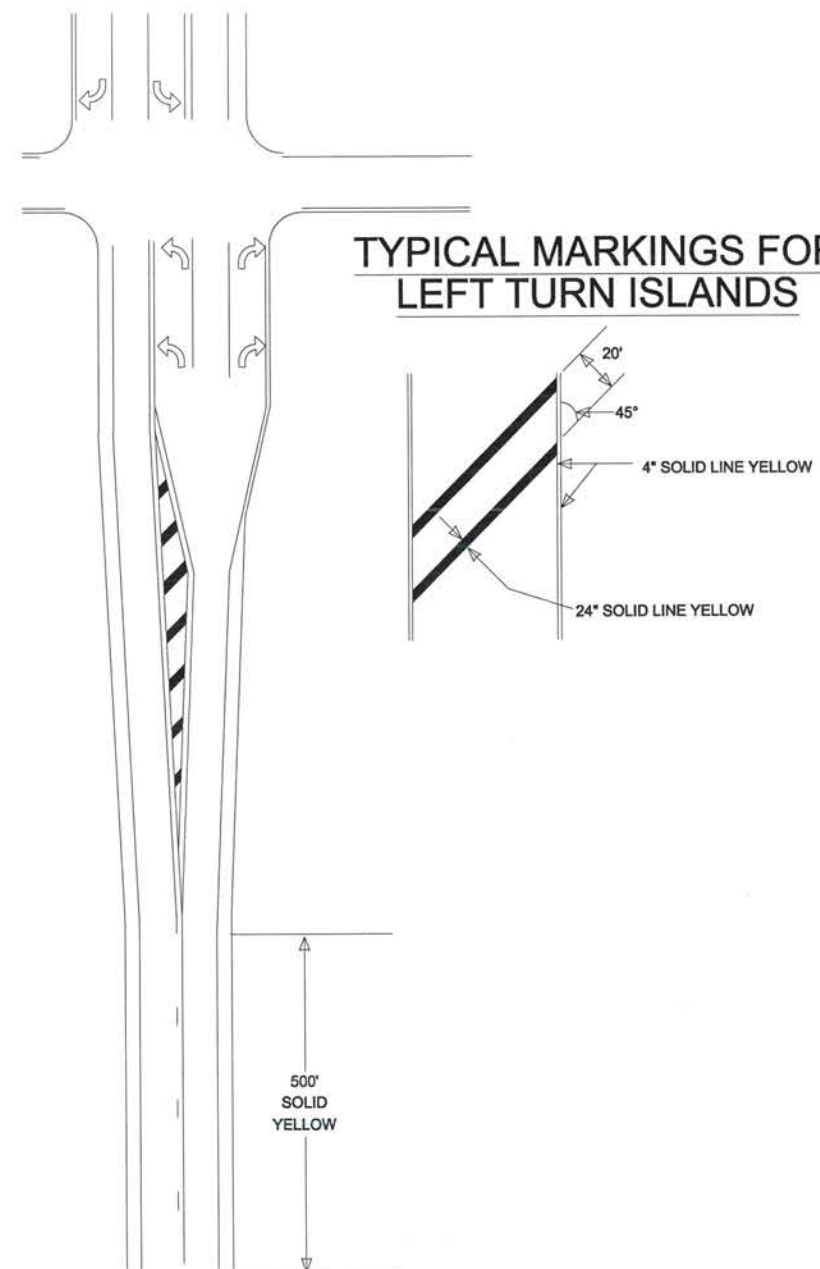
SIGNING & STRIPING
DETAILS
 Sheet 11 of 18 Sheets

NO	DATE	BY	CKD	APPR	REVISION

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



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**ANOKA COUNTY
HIGHWAY DEPT.**

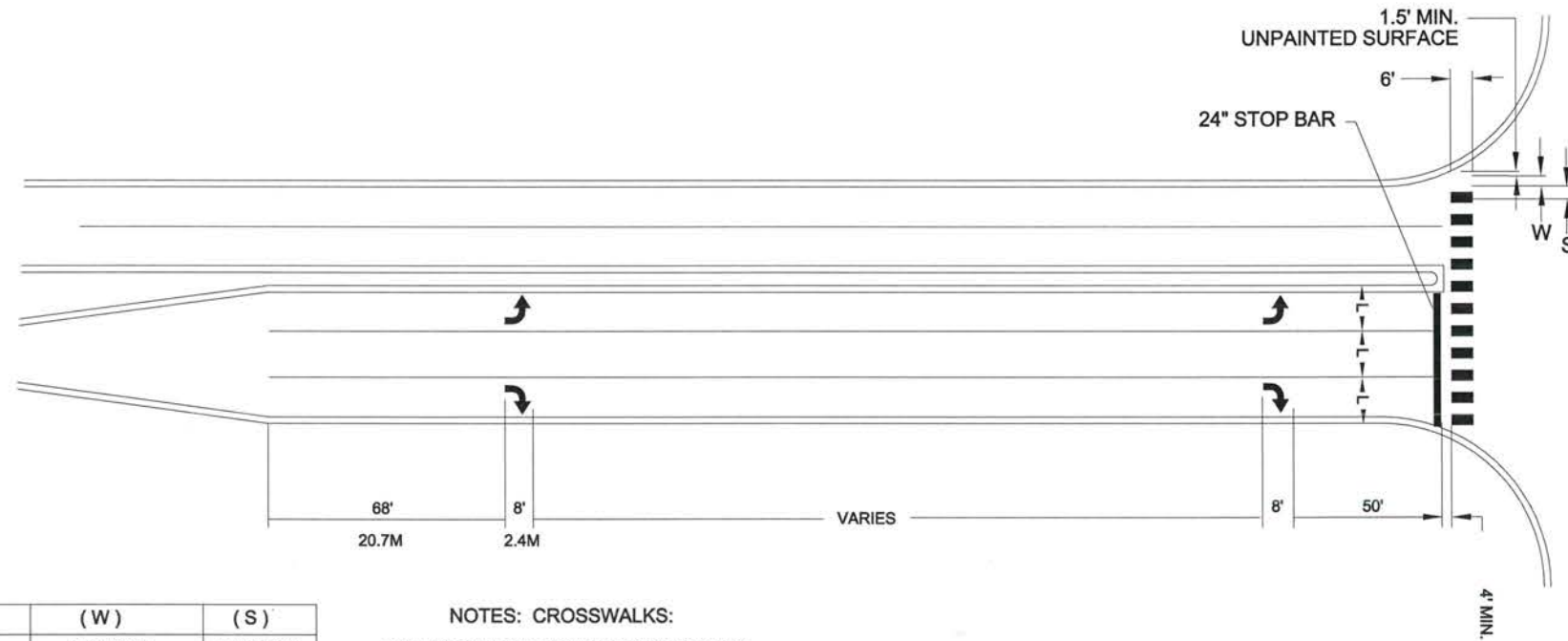
STATE PROJECT NO. _____
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COUNTY PROJECT NO. 15-13-08

SIGNING & STRIPING
DETAILS

Sheet 12 of 18 Sheets

NO	DATE	BY	CKD	APPR	REVISION

MARKINGS FOR PEDESTRIAN CROSSWALKS



(L)	(W)	(S)
WIDTH OF INSIDE LANE	WIDTH OF PAINTED AREAS	WIDTH OF SPACE
9'	2.0'	2.5'
10'	2.5'	2.5'
11'	2.5'	3.0'
12'	3.0'	3.0'
13'	3.0'	3.5'

NOTES: CROSSWALKS:

- 1.) PAINTED AREAS ARE TO BE CENTERED ON CENTER AND LANE LINES, EVEN IF INTERSECTION IS NOT ALIGNED.
- 2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGR.
- 3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.
- 4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.
- 5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

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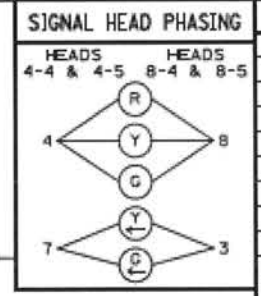
Sheet 13 of 18 Sheets

NO	DATE	BY	CKD	APPR	REVISION

mjohn

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	50 & 20
D1-2	2-6x6	5 & 35
D2-1, D2-2	6x6	475
D3-1	6x6	37 & 52
D3-2	6x6	7 & 22
D4-1, D4-2	6x6	123
D4-3, D4-4	2-6x6	3 & 13
D5-1, D5-2	2-6x6	20 & 50
D5-3, D5-4	2-6x6	0 & 35
D6-1, D6-2	6x6	475
D7-1	2-6x6	20 & 50
D7-2	2-6x6	5 & 35
D8-1, D8-2	6x6	250
D8-3, D8-4	6x6	10
D8-3, D8-4	6x6	25

ALL LOOP DETECTORS SHALL BE NMC UNLESS NOTED OTHERWISE
LOCATION DISTANCE FROM CROSSWALK /STOP BAR IN FEET

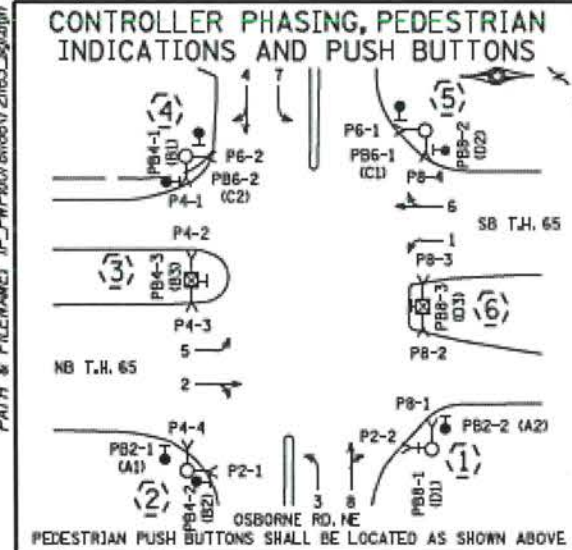


SIGNAL FACE CHART					
FACE	R	Y	G	Y	G
1-1, 1-2	←	←	←		
2-1, 2-2, 2-3	○	○	○		
4-1, 4-2, 4-3	○	○	○		
4-4, 4-5	○	○	○	←	←
5-1, 5-2, 5-3	←	←	←		
6-1, 6-2, 6-3	○	○	○		
8-1, 8-2, 8-3	○	○	○		
8-4, 8-5	○	○	○	←	←

ALL SIGNAL INDICATIONS ARE 12" LED
ALL SIGNAL FACES HAVE A BACKGROUND SHIELD
ALL SIGNAL HEADS ARE BLACK POLYCARBONITE

MATCH LINE NB T.H. 65 262+30

MATCH LINE SB T.H. 65 268+40



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASE(S) 3 AND 7 BEING PROTECTED/PERMISSIVE LEFT TURN PHASE(S), WITH PHASE(S) 1 AND 5 BEING PROTECTED LEFT TURN PHASE(S).
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

NOTES

- THE EXACT LOCATION OF HANDHOLES, PUSH BUTTON STATIONS, PEDESTAL POLES AND LOOP DETECTORS SHALL BE VERIFIED IN THE FIELD BY MN/DOT TRAFFIC OPERATIONS PERSONNEL.
- (ITEMS DENOTED WITH AN ← SHALL BE PAID FOR UNDER *THE REVISE SIGNAL SYSTEM PAY ITEM.
- ALL ITEMS ARE IN PLACE UNLESS NOTED.

① INDICATES ADJUST HANDHOLE ←

BY	DATE	REVISIONS	SYSTEM ID: 21163	T.E.	S.A.P. NO.	DRAWN BY: SJK	CKD BY: CDB	DATE: 12/06/13
			METER ADDRESS: 1101 OSBORNE RD NE		CERTIFIED BY: <i>Michael P. Schuch</i>			L.I.C. NO. 19863 DATE: 1/14/14
			MASTER ID:	T.E.	REVISE SIGNAL SYSTEM "H" INTERSECTION LAYOUT		STATE PROJ. NO. 0207-100 (T.H.65) SHEET NO. SS38 OF SS47 SHEETS	
				TH 65 AT CSAH 8 (OSBORNE RD NE) SPRING LAKE PARK/FRIDLEY, ANOKA COUNTY				

NO. DATE BY CKD APPR REVISION 03/23/2015 7:48:47 AM

NAME: P:\15-01-00\CSAH_08\TH65-OldCentral\Base\PROPOSED\TEMPLATE_PLAN.dgn

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DESIGN BY: KPR DATE: 02/17/2015
CHECKED BY: MJJ DATE: 02/17/2015

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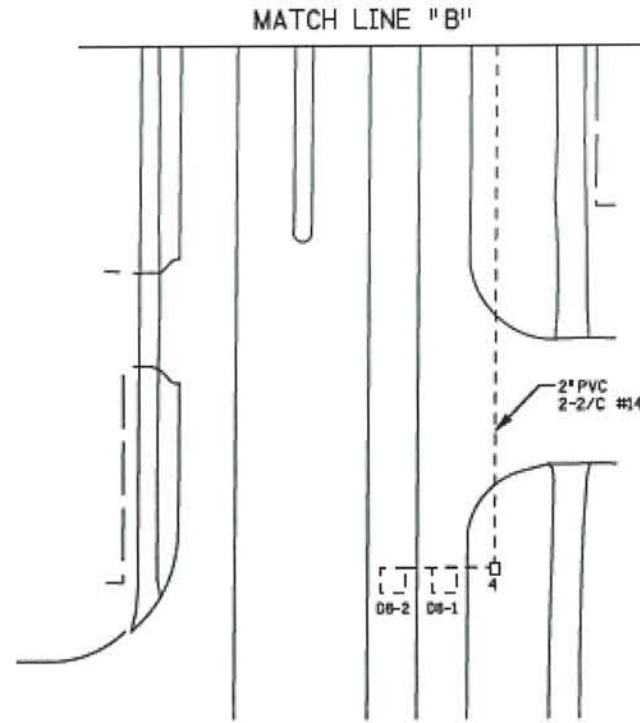
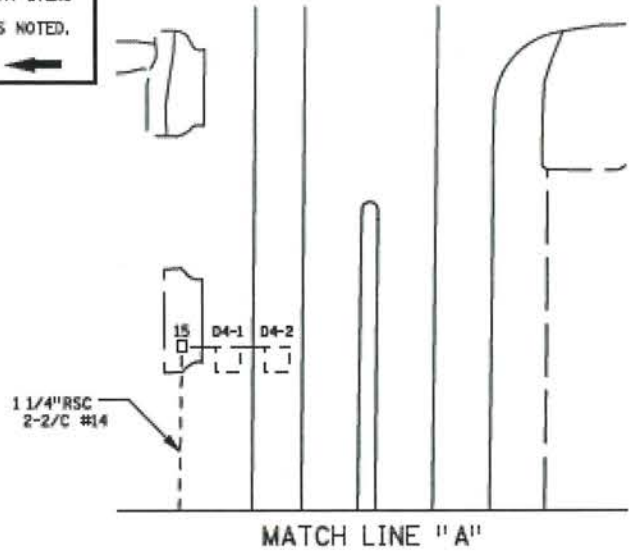
COUNTY PROJECT 15-13-08

ORIGINAL SIGNAL PLANS
Sheet 14 of 18 Sheets

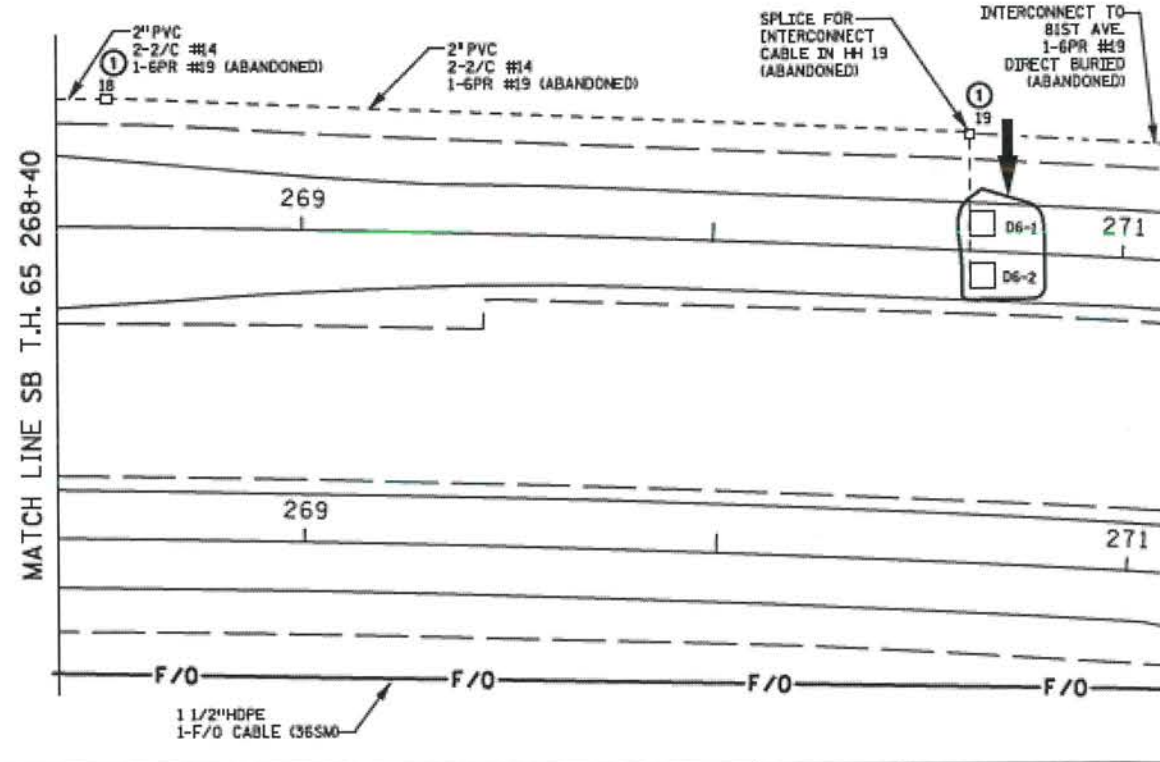
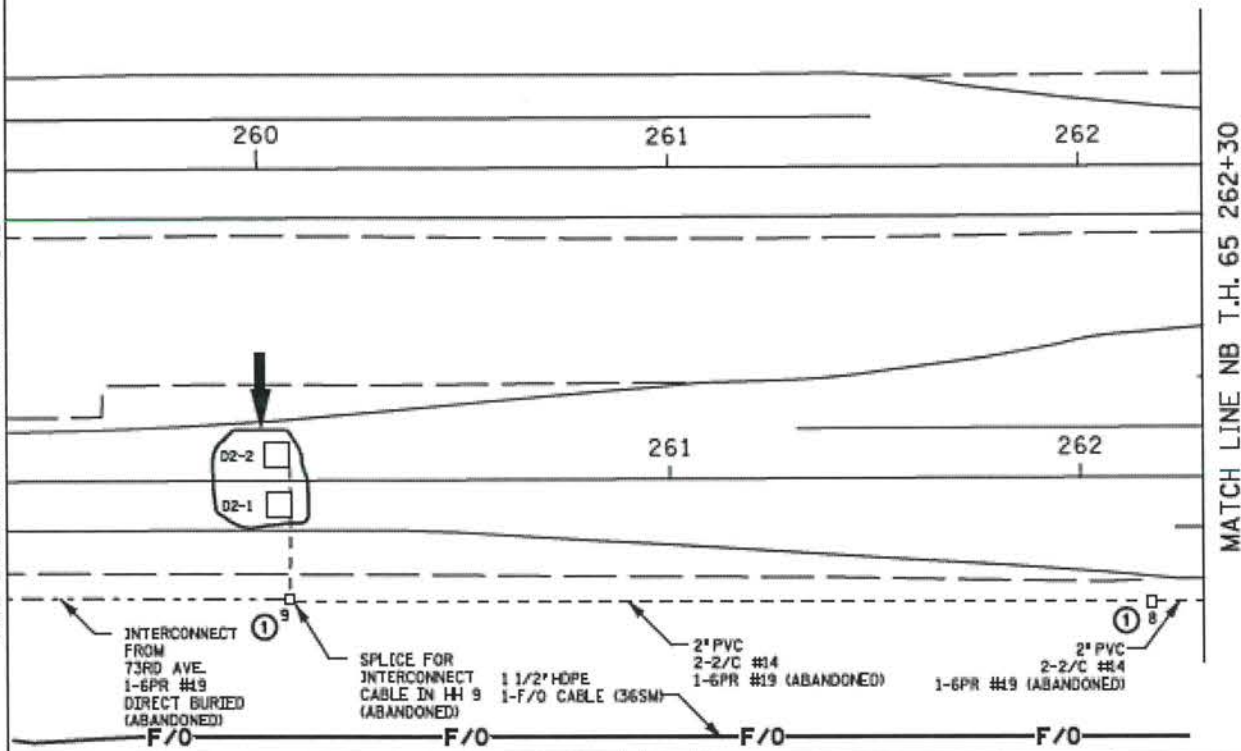
mjohn

PLOTTED/REVISED: 3/17/2014

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DISTRICT: METRO
PLOT NAME: MATCH LINES
PATH & FILENAME: IP_FWP-007819672163_spl.dgn



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			METER ADDRESS: 1101 OSBORNE RD NE		CERTIFIED BY: <i>Michael P. Salway</i>		LIC. NO. 19863	DATE: 1/14/14
			MASTER ID:		STATE PROJ. NO. 0207-100 (T.H.65)		SHEET NO. SS39 OF SS47 SHEETS	

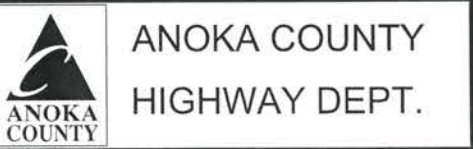
FOR REFERENCE PURPOSES ONLY

NO	DATE	BY	CKD	APPR	REVISION	TIME
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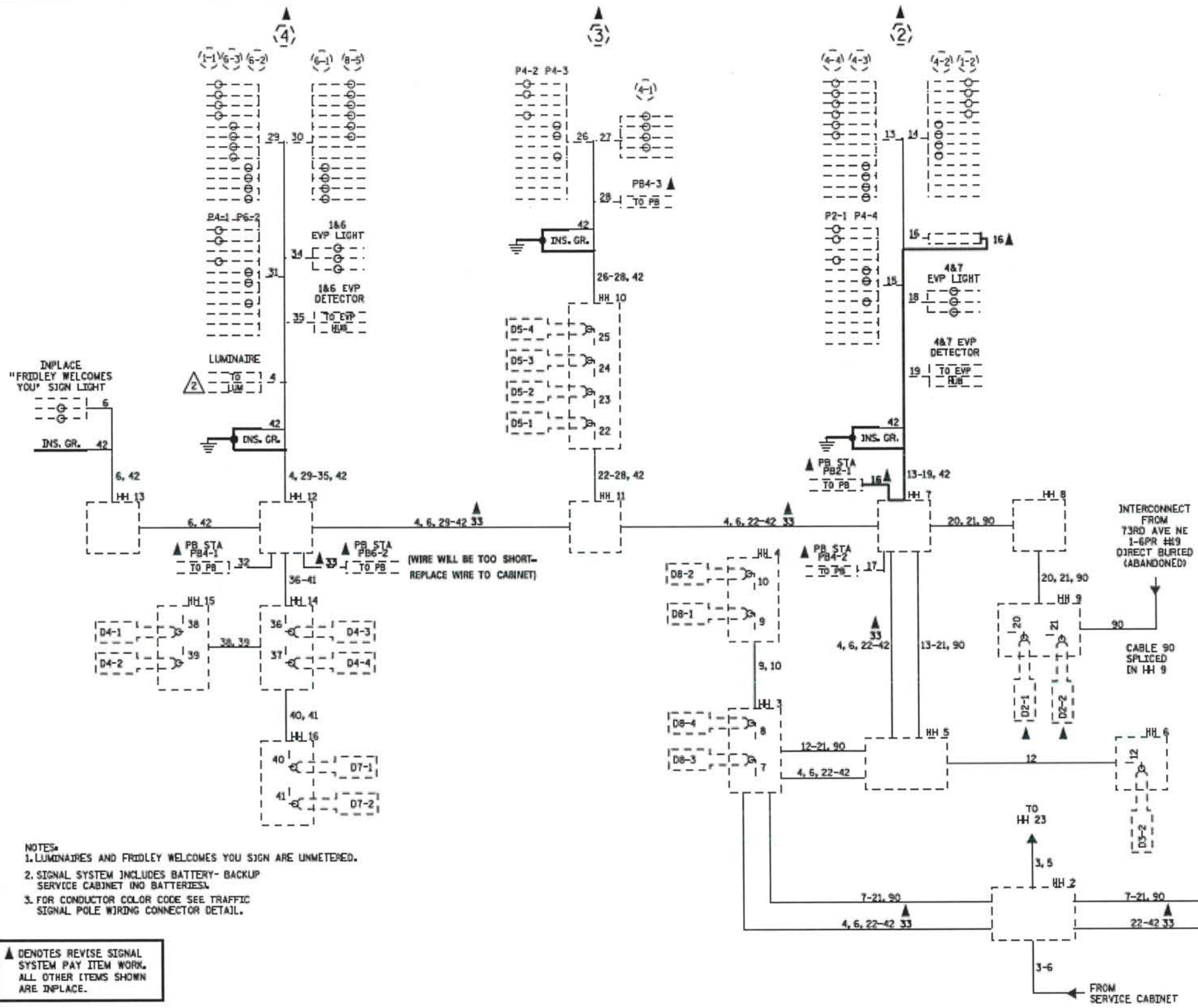


COUNTY PROJECT 15-13-08

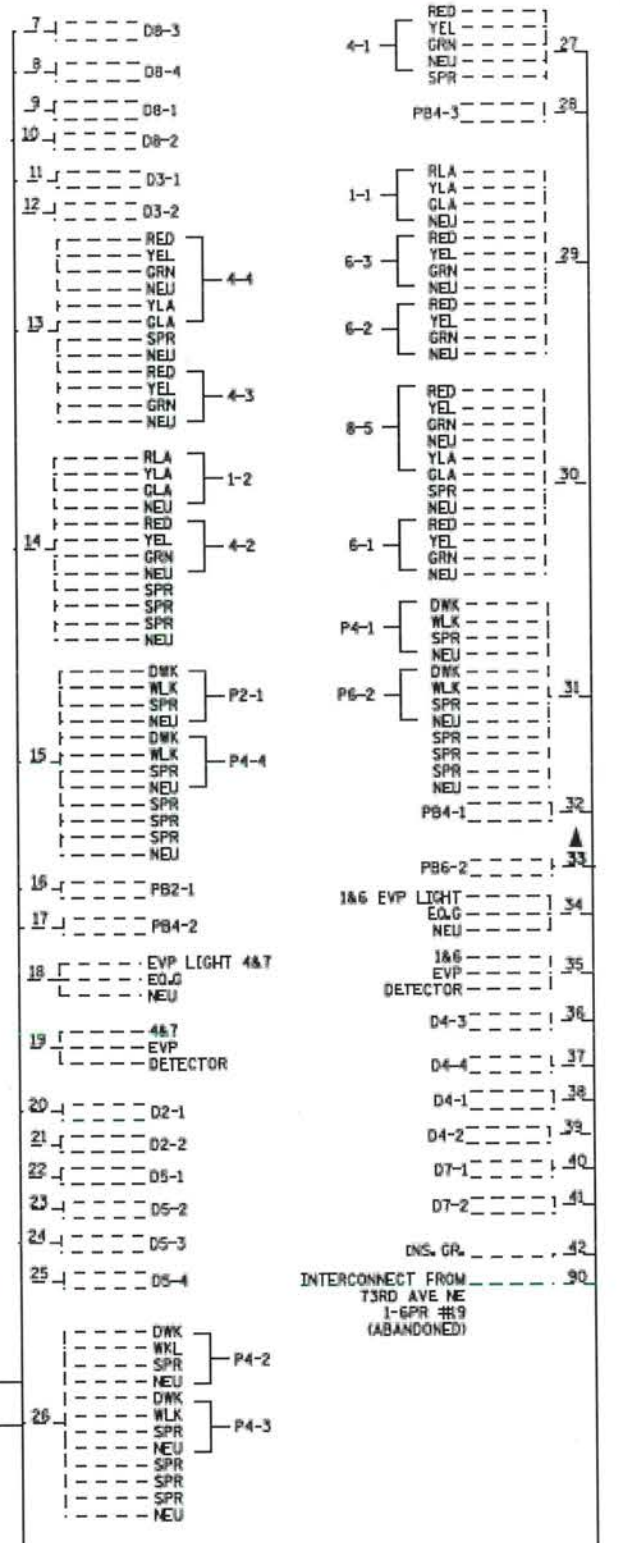
ORIGINAL SIGNAL PLANS
 Sheet 15 of 18 Sheets

PLOTTED/REVISED: 3/17/2014

DISTRICT #: METRO
PLOT NAME: WIRING DIAGRAM 1
PATH & FILENAME: IP_PWP007086GT2163_3.dgn



CONTROLLER CABINET



FOR REFERENCE PURPOSES ONLY

BY	DATE	REVISIONS	SYSTEM ID: 21163	T.E.	S.A.P. NO.	DRAWN BY: SJK	CKD BY: CDB	DATE: 12/06/13
			METER ADDRESS: 1101 OSBORNE RD NE		CERTIFIED BY: <i>Michael P. Schindler</i>		LIC. NO. 19863	DATE: 1/14/14
			MASTER ID:		STATE PROJ. NO. 0207-100 (T.H.65)		SHEET NO. SS41 OF SS47 SHEETS	

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: *Matthew J. John*
 DATE: 4/2/15 LICENSE NO. 51639

DRAWN BY: KPR DATE 02/17/2015
 DESIGN BY: KPR DATE 02/17/2015
 CHECKED BY: MJJ DATE 02/17/2015

ANOKA COUNTY
HIGHWAY DEPT.
 COUNTY PROJECT 15-13-08

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