

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ BITUMINOUS RECLAMATION AND BITUMINOUS SURFACING
LOCATED ON C.R. #58 BETWEEN CSAH 78 AND CEDAR DR. / PALM ST.

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 13 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
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8	PERMANENT MARKING TABULATION
9-10	TEMPORARY SIGNING, PERMANENT SIGNING AND STRIPING
11-13	TRAFFIC CONTROL QUANTITY

END CP 17-22-58
C.R. #58 - STA: 11+76

BEGIN CP 17-22-58
C.R. #58 - STA: 63+20



PROJECT LOCATION



C.R. 58	
GROSS LENGTH	5144 FEET 0.97 MILES
EXCEPTIONS-LENGTH	10.00 FEET 0.002 MILES
NET LENGTH	5134 FEET 0.97 MILES
DESIGN SPEED	55 MPH
CURRENT ADT	1251

CITY OF ANDOVER
ANOKA COUNTY
MN/DOT TRANSPORTATION DISTRICT - METRO
SECTION 35
TOWNSHIP 32 NORTHWEST
RANGE 24 WEST

Approved: 4/2/17
ANOKA COUNTY ENGINEER

NO	DATE	BY	CKD	APPR	REVISION	TIME

NAME: P:\17-01-00\CSAH_58_(CSAH78-CEDAR_PALM)\Base\PROPOSED\PROPOSED.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: 3/15/2017
DATE: 3/15/2017 LICENSE NO. 51639

DRAWN BY: BFL DATE: 03/15/2017
DESIGN BY: BFL DATE: 03/15/2017
CHECKED BY: MJJ DATE: 03/15/2017

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 17-22-58

TITLE SHEET
Sheet 1 of 13 Sheets

STATEMENT OF ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2021.601	RAILROAD PROTECTIVE SERVICES	1	LUMP SUM	1
2104.501	REMOVE PIPE CULVERTS		LF	85
2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	2	SQ YD	128
2104.505	REMOVE BITUMINOUS PAVEMENT		SQ YD	407
2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	2	SQ YD	347
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LN FT	30
2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LN FT	330
2211.501	AGGREGATE BASE CLASS 5	3	TON	120
2215.501	FULL DEPTH RECLAMATION		SQ YD	13963
2221.501	SHOULDER BASE AGGREGATE CLASS 5	4	TON	642
2123.503	MOTOR GRADER	5	HOUR	20
2130.501	WATER		MGAL	100
2232.501	MILL BITUMINOUS SURFACE (2.0")	6	SQ YD	137
2331.607	HAUL BIT RECLAMATION (LV)	15	CY YD	150
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	1396
2360.501	TYPE 12.5 WEARING COARSE MIX (3,B)	2	TON	123
2360.501	TYPE 12.5 WEARING COARSE MIX (4,C)		TON	3893
2501.511	24" CP PIPE CULVERT (SMOOTH)		LF	80
2501.515	24" GS PIPE APRON		EACH	2
2531.507	6" CONCRETE DRIVEWAY PAVEMENT	2	SQ YD	347
2540.602	MAIL BOX SUPPORT	8	EACH	8
2563.601	TRAFFIC CONTROL	9,16	LUMP SUM	1
2573.502	SILT FENCE, TYPE MS	17	LN FT	120
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	10	UDAY	14
2574.609	COMMON TOPSOIL BORROW (LV)	11	CU YD	155
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	12	SQ YD	365
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	13	LN FT	428
2582.502	4" SOLID LINE EPOXY	14	LN FT	13642
2582.502	4" DBLE SOLID LINE EPOXY	14	LN FT	1104
2582.502	4" BROKEN LINE EPOXY	14	LN FT	820
2582.501	PAVT MSSG PERF THERMO	14	SQ FT	315

CONSTRUCTION NOTES

1	THE CONTRACTOR SHALL ESTABLISH AND COORDINATE RAILROAD PROTECTIVE SERVICES THROUGH THE AUTHORIZED RAILWAY OWNER (BNSF). PROTECTIVE SERVICES ARE REQUIRED WHENEVER WORKING WITHIN RAILROAD RIGHT OF WAY.
2	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
3	GRAVEL BASE FOR CONCRETE AND BITUMINOUS STREET APPROACHES AND DRIVEWAYS.
4	ITEM INCLUDES 10 TONS FOR EACH GRAVEL ENTRANCE AND GRAVEL STREET APPROACH.
5	ITEM USED TO MOVE EXCESSIVE RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT.
6	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT.
7	ITEM FOR BITUMINOUS DRIVEWAYS AND STREET APPROACHES.
8	MAILBOXES SHALL BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL POSTAL AUTHORITY. MAILBOX REMOVAL AND ALL MATERIALS NECESSARY FOR INSTALLATION ARE INCIDENTAL TO THIS ITEM.
9	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". DO NOT PASS, PASS WITH CARE NO CENTER STRIPE, AND STOP HERE WHEN FLASHING SIGNS MUST BE INPLACE WHENEVER PERMANENT MARKING ARE NOT PRESENT.
10	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT, SHALL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION. REFERENCE STRIPING PLAN FOR DETAILS.
11	ITEM USED AT THE ENGINEER'S DISCRETION FOR THE RESTORATION OF DISTURBED AREAS ALONG DRIVEWAY AND STREET APPROACHES.
12	TYPE 1 FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS AREA.
13	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT. SKIPS MUST BE INPLACE BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR SHALL REMOVE PRIOR TO FINAL PAINT STRIPING.
14	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
15	ITEM USED TO MATCH INTO RAILROAD GRADE CROSSING. ITEM INCLUDES HAULING, PLACEMENT, SHAPING, COMPACTING AND MAINTENANCE OF THE MATERIAL. EXCESS MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.
16	DETOUR IS INCIDENTAL TO TRAFFIC CONTROL.
17	ITEM USED AT CULVERT REPLACEMENT.

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 THICKNESS
2581	REMOVABLE PREFORM PAVEMENT MARKING TAPE	2' AT 50' INTERVALS

MNDOT STANDARD PLATES

PLATE NUMBER	DESCRIPTION
8000J	CHANNELIZERS (3 SHEETS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

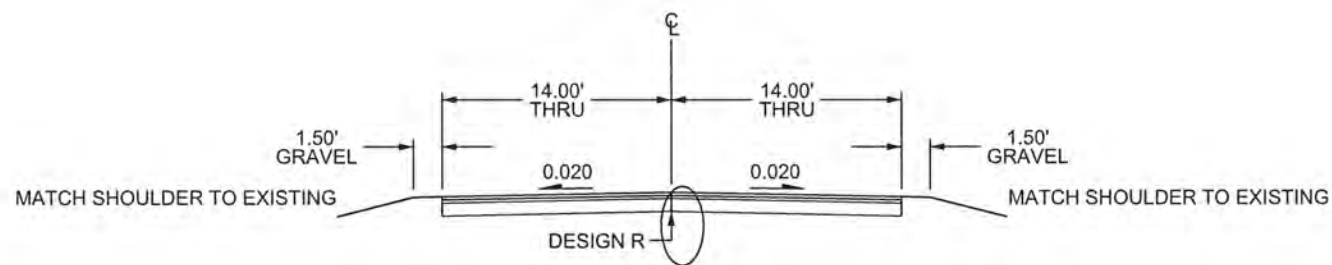
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C.R. 58 - 181st Ave NW

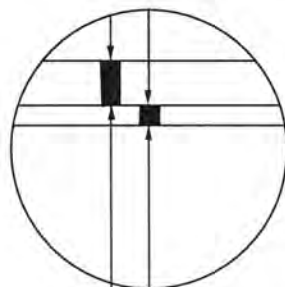
PROPOSED SECTION

11+76 TO 54+58

54+68 TO 63+20



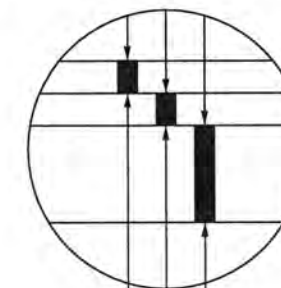
EXISTING SECTION



5.0" EXISTING BITUMINOUS
 2.0" BIT SAND BASE (NO AGGREGATE BASE)

FOR INFORMATIONAL PURPOSES ONLY
 CONTRACTOR SHALL FIELD VERIFY EXISTING SECTION

DESIGN R RECLAIM SECTION



2.0" BITUMINOUS WEAR(SPWEB440C)
 2.0" BITUMINOUS WEAR(SPWEB440C)
 RECLAIMED BITUMINOUS


NO	DATE	BY	CKD	APPR	REVISION	TIME
	03/15/2017					7:51:03 AM

NAME: P:\17-01-00\CSAH_58_(CSAH78-CEDAR_PALM)\Base\PROPOSED\PROPOSED.dgn

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**ANOKA COUNTY
HIGHWAY DEPT.**

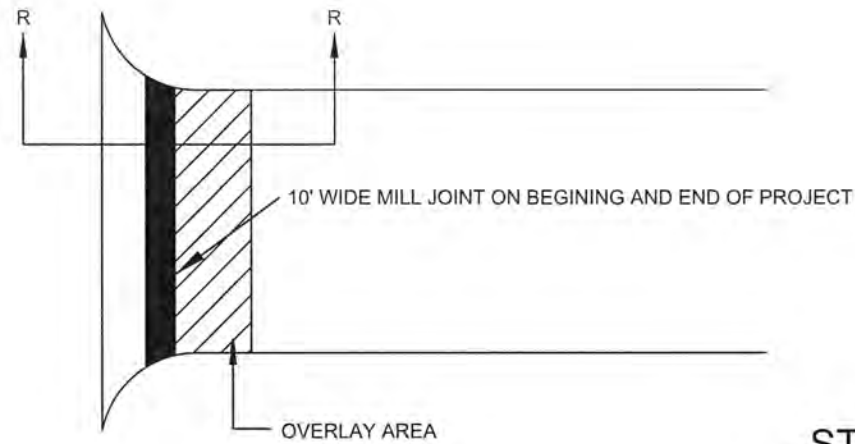
COUNTY PROJECT 17-22-58

TYPICAL SECTIONS
 Sheet 3 of 13 Sheets

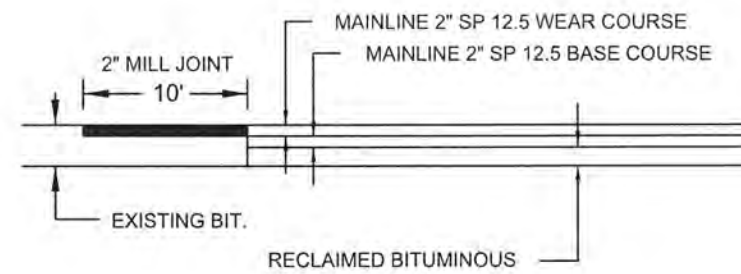
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MAINLINE JOINT DETAIL (RECLAIM)

PLAN VIEW



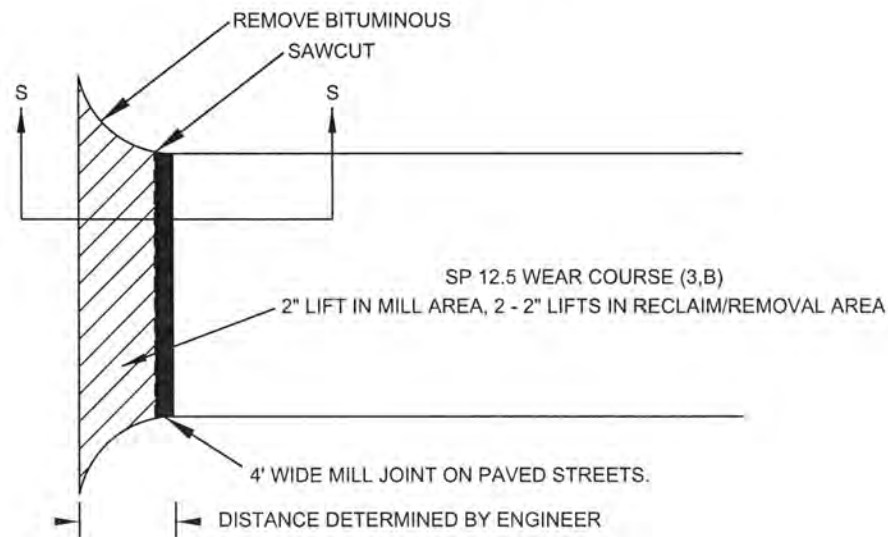
SECTION R - R



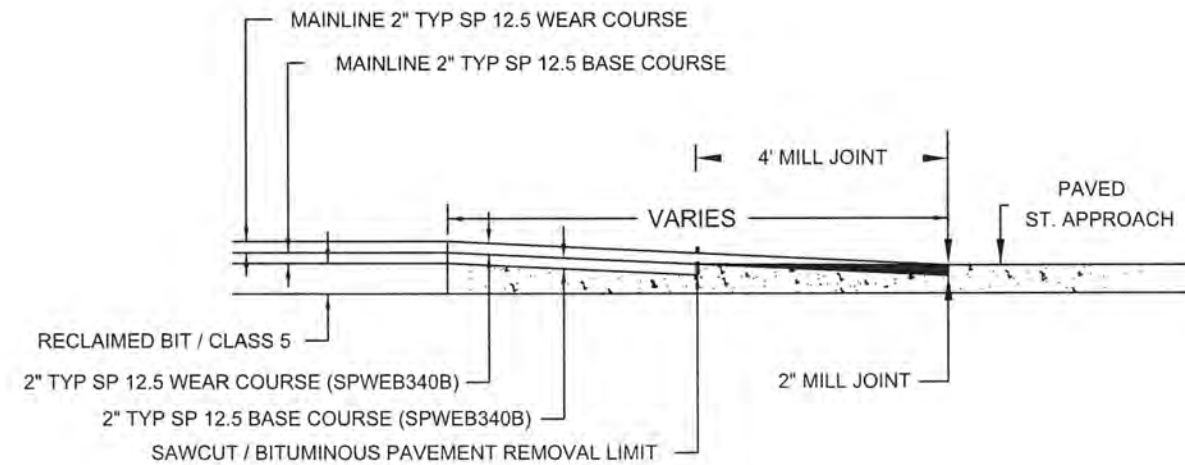
STREET APPROACH DETAIL

BITUMINOUS STREET

PLAN VIEW



SECTION S - S



NO	DATE	BY	CKD	APPR	REVISION	03/13/2017	3:01:08 PM
NAME: P:\17-01-00\CSAH_58_(CSAH78-CEDAR_PALM)\Base\PROPOSED\PROPOSED.dgn							

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**ANOKA COUNTY
HIGHWAY DEPT.**

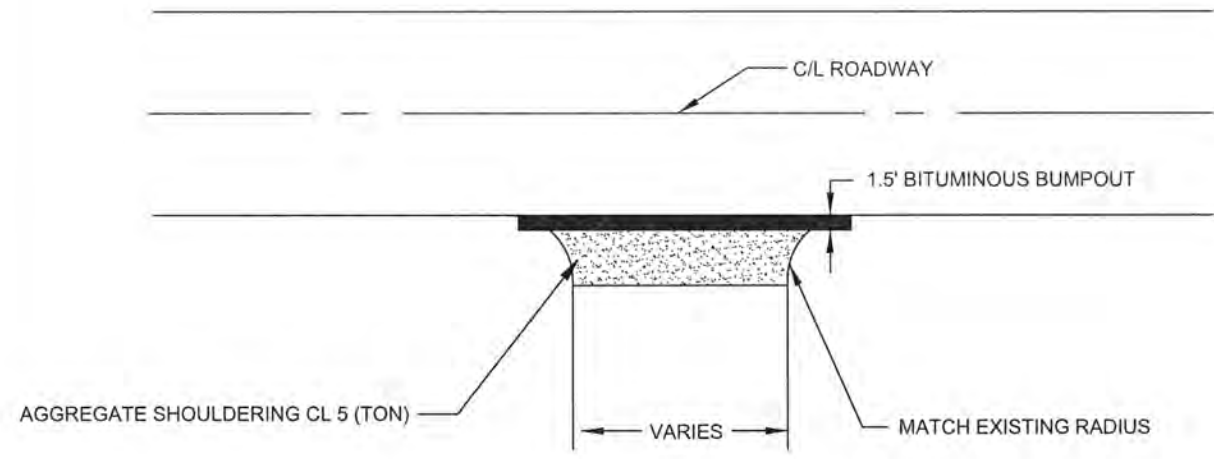
COUNTY PROJECT 17-22-58

DETAILS

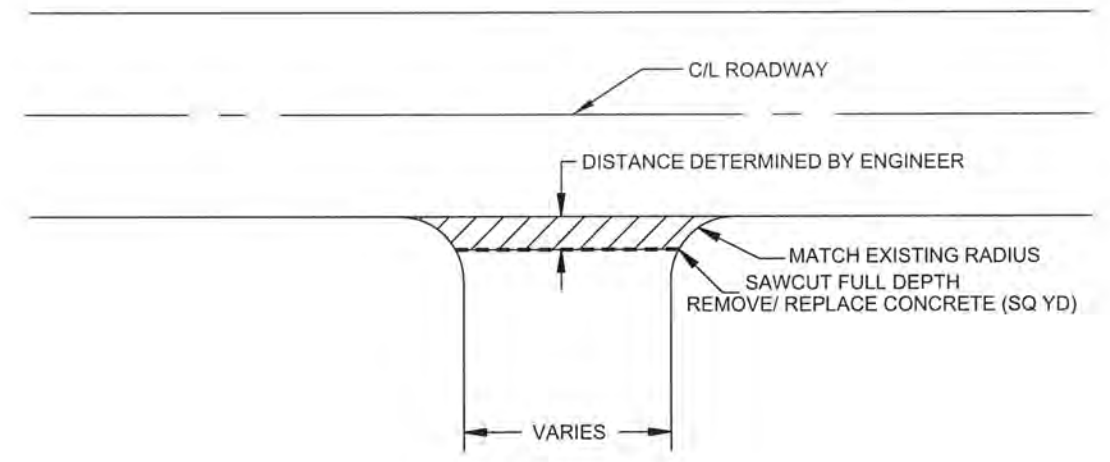
Sheet 4 of 13 Sheets

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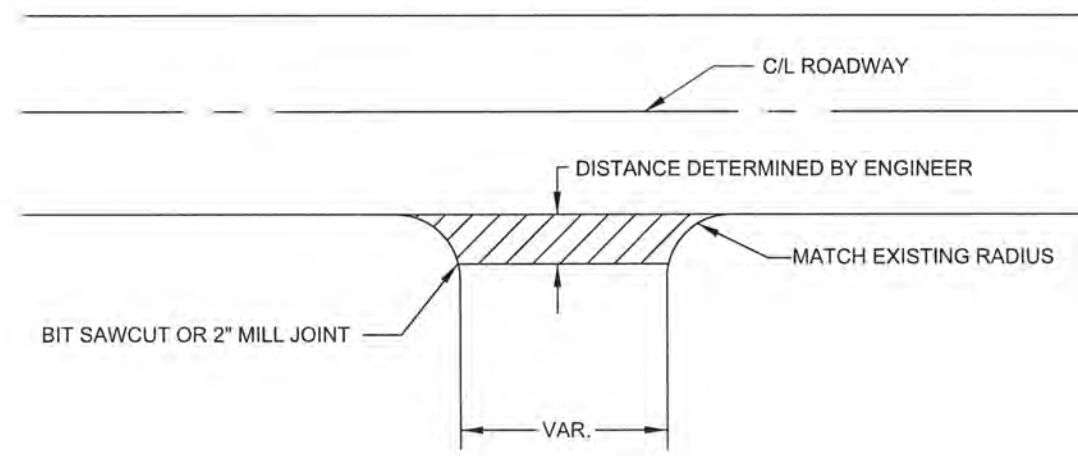
DRIVEWAY DETAIL GRAVEL / FIELD ENTRANCE



DRIVEWAY DETAIL CONCRETE DRIVEWAY



DRIVEWAY DETAIL BITUMINOUS DRIVEWAY PAVED DR. WAYS



DRIVEWAYS BUMPED OUT AND PAVED WITH MAINLINE PAID AS MAINLINE.
DRIVEWAYS PAVED IN DIFFERENT OPERATION FROM MAIN LINE PAVING PAID AS DRIVEWAY OR STREET APPROACH.

NO	DATE	BY	CKD	APPR	REVISION	03/13/2017	3:08:00 PM
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**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 17-22-58

mjohn

BEGIN CONSTRUCTION
CP: 17-22-58
STATION: 11+76



CL CR 58

REMOVE PIPE CULVERT
INSTALL 24" CP PIPE CULVERT (SMOOTH) & APRONS

#1550 (B)

#1508 (B)

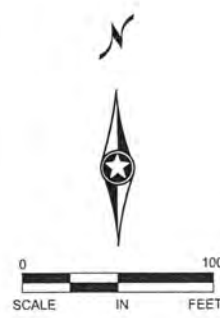
#1450

MATCH LINE 24+00

LEGEND

- (B) BITUMINOUS
- (C) CONCRETE
- (G) GRAVEL
- ⊕ CORE LOCATIONS
- SAWCUT
- █ MAINLINE RECLAIM AREA
- ▨ REMOVE & REPLACE PAVEMENT
- R/W

MATCH LINE 24+00



#1291 (G)

CL CR 58

#1211

#1157 (C)

MATCH LINE 39+00

50' RADIUS

40' RADIUS

30' RADIUS

20' RADIUS

#18046

BLUEBIRD ST. NW

#18047 (B)

#18046

XEON ST. NW

#18041 (B)

NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
						03/13/2017	3:01:14 PM

NAME: P:\17-01-00\CSAH_58_(CSAH78-CEDAR_PALM)\Base\PROPOSED\PROPOSED.dgn

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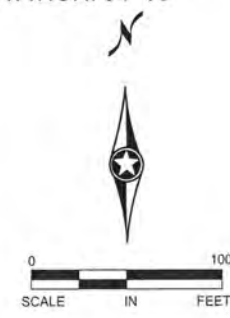
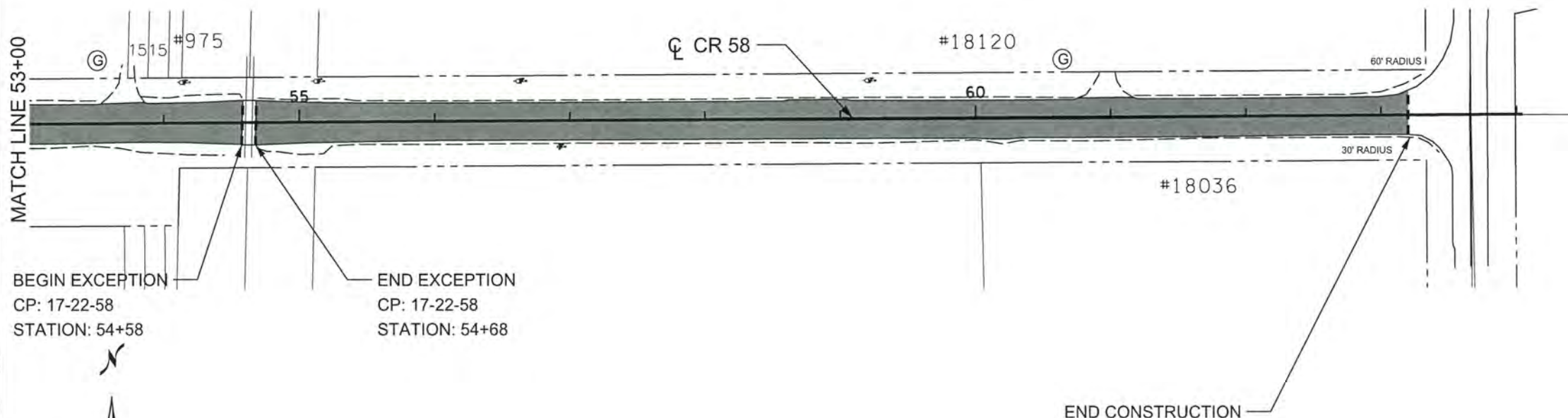
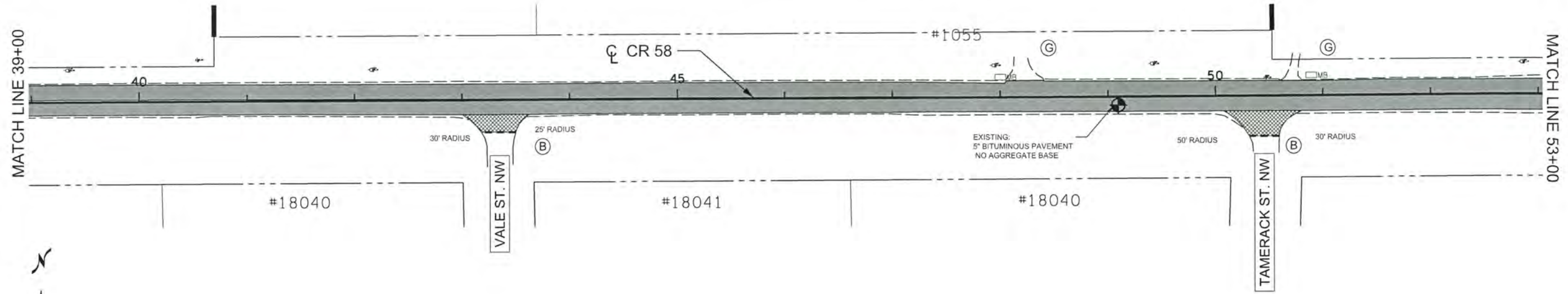
CHECKED BY: MJJ DATE: 03/13/2017

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 17-22-58

CONSTRUCTION PLAN
STA 00+00 TO 00+00
Sheet 6 of 13 Sheets

mjjohn

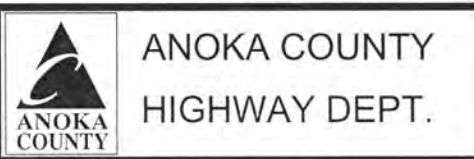


LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(G)	GRAVEL
(G) with star	CORE LOCATION
--- ---	SAWCUT
█	MAINLINE RECLAIM AREA
▨	REMOVE AND REPLACE PAVEMENT
— — — —	R/W

NO	DATE	BY	CKD	APPR	REVISION	03/13/2017	3:01:22 PM
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COUNTY PROJECT 17-22-58

CONSTRUCTION PLAN
 STA 00+00 TO 00+00
 Sheet 7 of 13 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 BEADS 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.

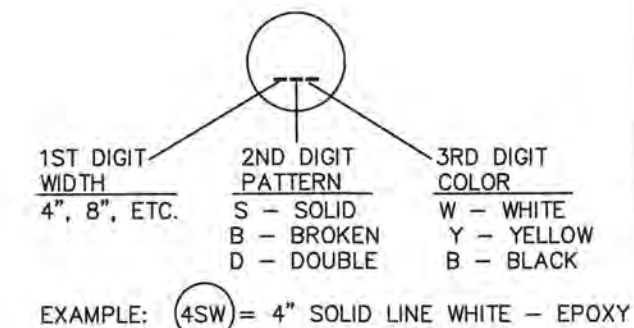
PERMANENT MARKING QUANTITIES		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	10192
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	0
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	3450
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	820
4" DOUBLE SOLID LINE YELLOW - EPOXY PAINT	LIN FT	1104
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	96
PAVEMENT MESSAGE (R x R CROSSING) - PREFORMED THERMOPLASTIC	SQ FT	123

SYMBOLS & MATERIALS LEGEND

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

STRIPING KEY

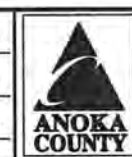
- CIRCLE - EPOXY
- SQUARE PREFORMED THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CHKD	APPR	REVISION

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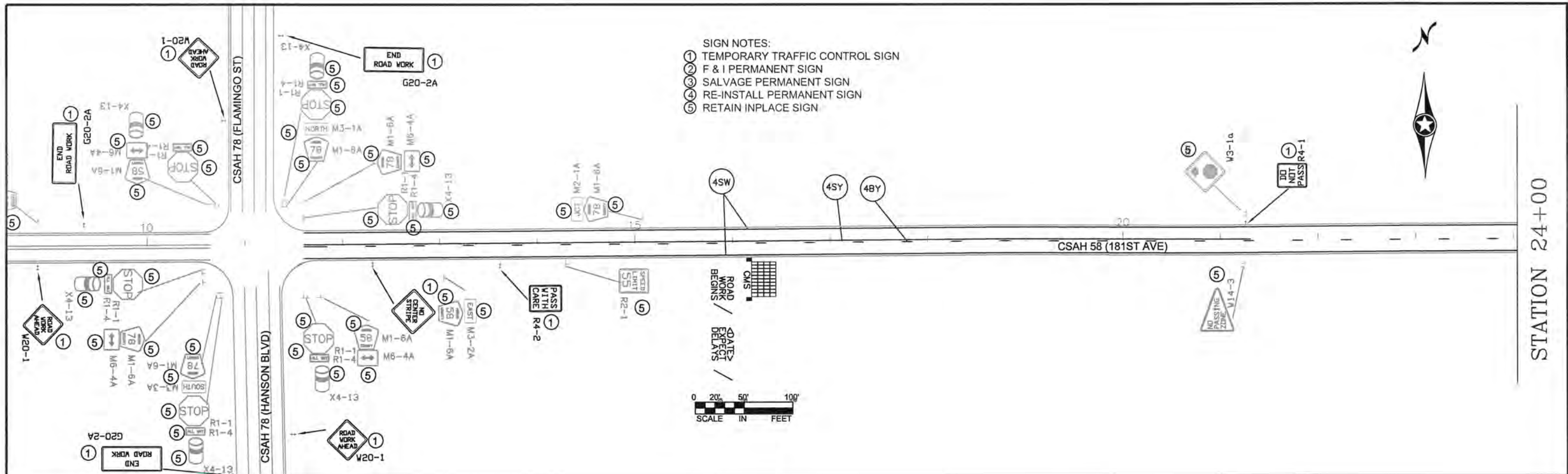
DRAWN BY: RLB DATE: 1/24/17
 DESIGN BY: RLB DATE: 1/24/17
 CHECKED BY: JR DATE: 1/24/17



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 17-22-58

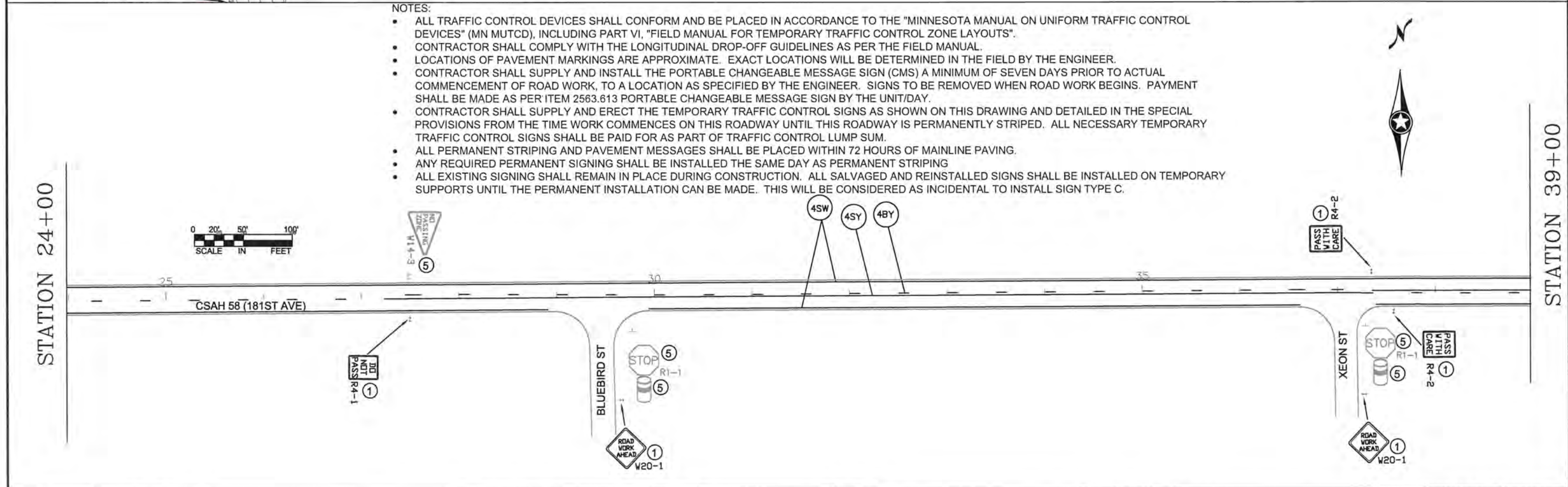
PERMANENT MARKING
TABULATION
 Sheet 8 of 13 Sheets



- 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

NOTES:

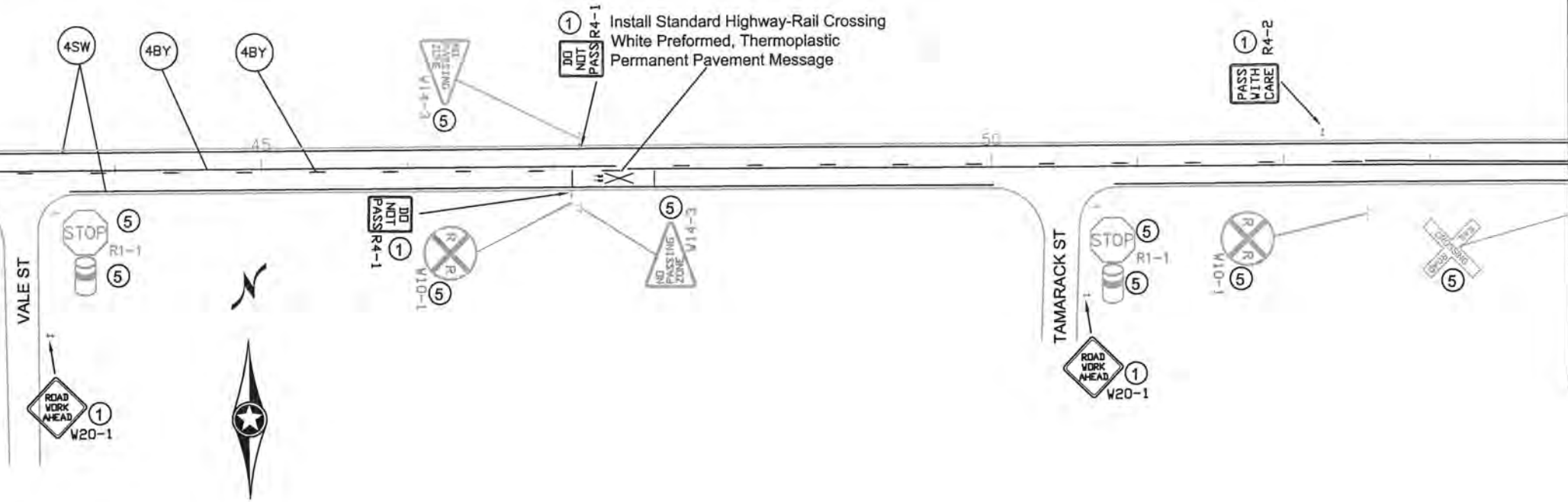
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- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL SUPPLY AND INSTALL THE 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.



<table border="1" style="width: 100%; border-collapse: collapse;"> <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> <p>NAME: P:\16-01-00\CR 60\base\Traffic\Signing_Striping.dwg</p>	NO	DATE	BY	CKD	APPR	REVISION							<p>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.</p> <p>PRINT NAME: MATTHEW J. JOHN</p> <p>SIGNATURE: <i>Matthew J. John</i></p> <p>DATE: 3/13/2017 REG. NO. 51639</p>	<p>DRAWN BY: RLB DATE: 1/10/17</p> <p>DESIGN BY: RLB DATE: 1/10/17</p> <p>CHECKED BY: JR DATE: 1/10/17</p>	<p style="text-align: center;">ANOKA COUNTY HIGHWAY DEPT.</p> <p>STATE PROJECT NO. _____</p> <p>STATE AID PROJECT NO. _____</p> <p>STATE AID PROJECT NO. _____</p> <p>COUNTY PROJECT NO. 17-22-58</p>	<p>TEMPORARY SIGNING, PERMANENT SIGNING AND STRIPING</p> <p>Sheet 9 of 13 Sheets</p>
NO	DATE	BY	CKD	APPR	REVISION											

STATION 39+00

- 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

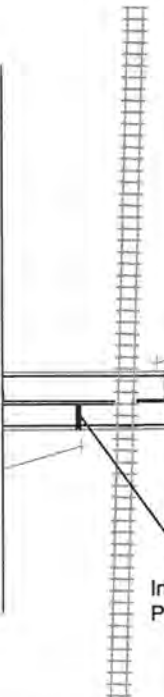


STATION 54+00

STATION 54+00

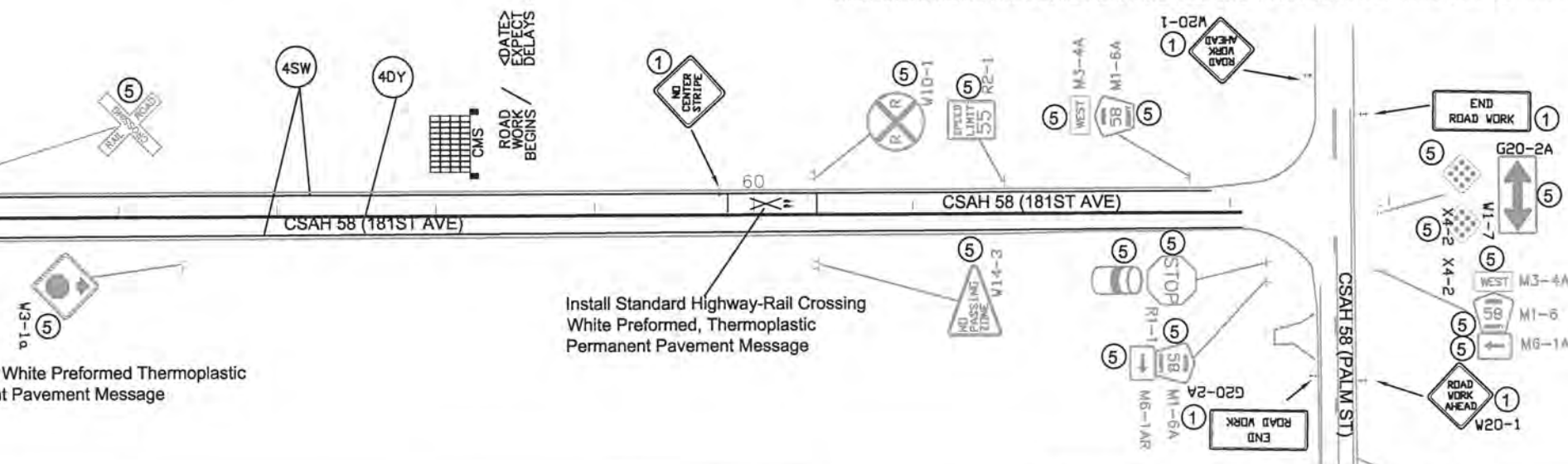
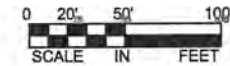
NOTES:

- 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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Install 24" White Preformed Thermoplastic Permanent Pavement Message

Install Standard Highway-Rail Crossing White Preformed, Thermoplastic Permanent Pavement Message



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PRINT NAME: MATTHEW J. JOHN

SIGNATURE: *[Signature]*

DATE: 3/13/2017 REG. NO. 51639

DRAWN BY: RLB DATE: 1/10/17

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ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

COUNTY PROJECT NO. 17-22-58

TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

Sheet 10 of 13 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT (TO PAVEMENT EDGE) FT.
					No. POST	
W8-12	48" x 48"	16.00		2	2	7.0'
R4-1	24" x 30"	5.00		4	1	7.0'
R4-2	24" x 30"	5.00		4	1	7.0'
G20-2A	48" x 24"	8.00		5	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 9)		
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".
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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

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.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 60\base\Traffic\Signing_Striping.dwg

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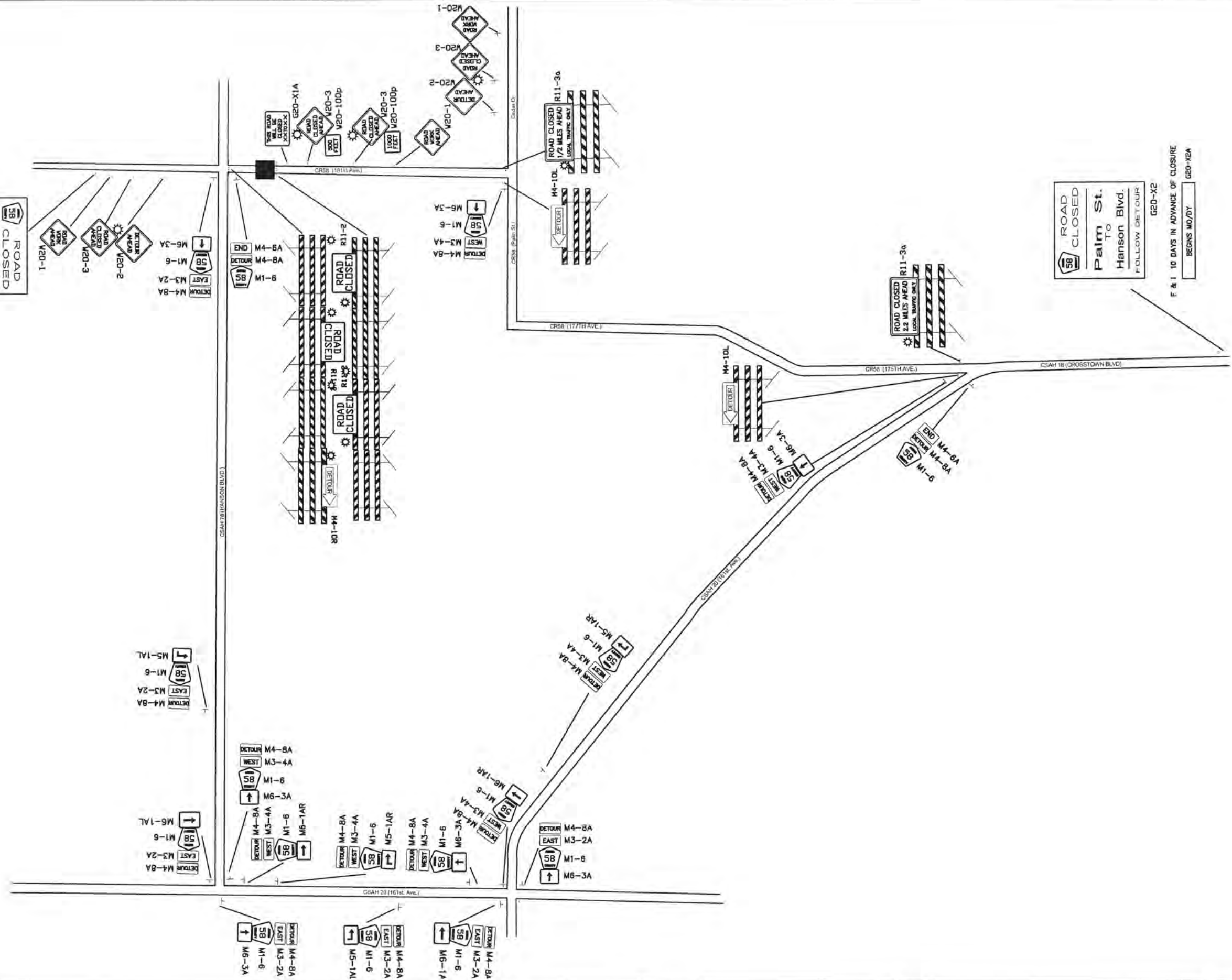
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 17-22-58

TRAFFIC CONTROL QUANTITY
 Sheet 11 of 13 Sheets

F & I 10 DAYS IN ADVANCE OF CLOSURE
 BEGINS MO/DY G20-X2A

ROAD CLOSED
 Hanson Blvd.
 To
 Palm St.
 FOLLOW DETOUR
 G20-X2



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: MATTHEW J. JOHN
 SIGNATURE: *[Signature]*
 DATE: 3/13/2017 LICENSE NO. 51639

DRAWN BY: RLB DATE: 2/24/17
 DESIGN BY: RLB DATE: 2/24/17
 CHECKED BY: JR DATE: 2/24/17



ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 17-22-58

CR 58
 CULVERT DETOUR
 Sheet 12 of 13 Sheets

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
W20-1	48' X 48'		24
W20-2	48' X 48'		2
W20-3	48' X 48'		4
W20-100p	24' X 18'		1
W20-100p	24' X 18'		1
M4-10L	48' X 18'		SEE NOTE
TYPE III	8 FOOT		②
M4-10R	48' X 18'		SEE NOTE
TYPE III	8 FOOT		②
R11-3a	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			1
R11-3a	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			1
G20-X1A	60' X 48'		* 2

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
R11-2	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			1
R11-2	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			2
TYPE III	8 FOOT		SEE NOTE
FLASHER			②
TYPE III	8 FOOT		SEE NOTE
FLASHER			②
G20-X2	132' X 108'		1
G20-X2A			* 1

* SIGN TO BE INSTALLED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
G20-X2	132' X 108'		1
G20-X2A			* 1
M4-8A	24' X 12'		
M3-2A	24' X 12'		
M1-6	24' X 24'		
	21' X 15'		M5-1AL 2
			M6-1AR 0
			M5-1AR 0
			M6-3A 3
			M6-1AL 2
M4-8A	24' X 12'		
M3-4A	24' X 12'		
M1-6	24' X 24'		
	21' X 15'		M6-1AR 2
			M5-1AR 2
			M5-1AL 0
			M6-1AL 0
			M6-3A 4
M4-6A	24' X 12'		M4-6A 2
M4-8A	24' X 12'		M4-8A 2
M1-6	24' X 24'		M1-6 2

NOTES:

1. ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
2. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
3. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL, DATED JANUARY 2014.
4. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL, DATED JANUARY 2014.
5. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

NO	DATE	BY	CHKD	APPR	REVISION

NAME: T:\Traffic\dwg\CR 60 (Constance Blvd)\From Lake Netta Blvd to Lexington Av.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: MATTHEW J. JOHN
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 DATE: 3/13/2017 LICENSE NO. 51639

DRAWN BY: RLB DATE: 2/24/17
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ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 17-22-58

CR 58
CULVERT DETOUR
Sheet 13 of 13 Sheets

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR BITUMINOUS RECLAMATION, MILLING AND BITUMINOUS SURFACING

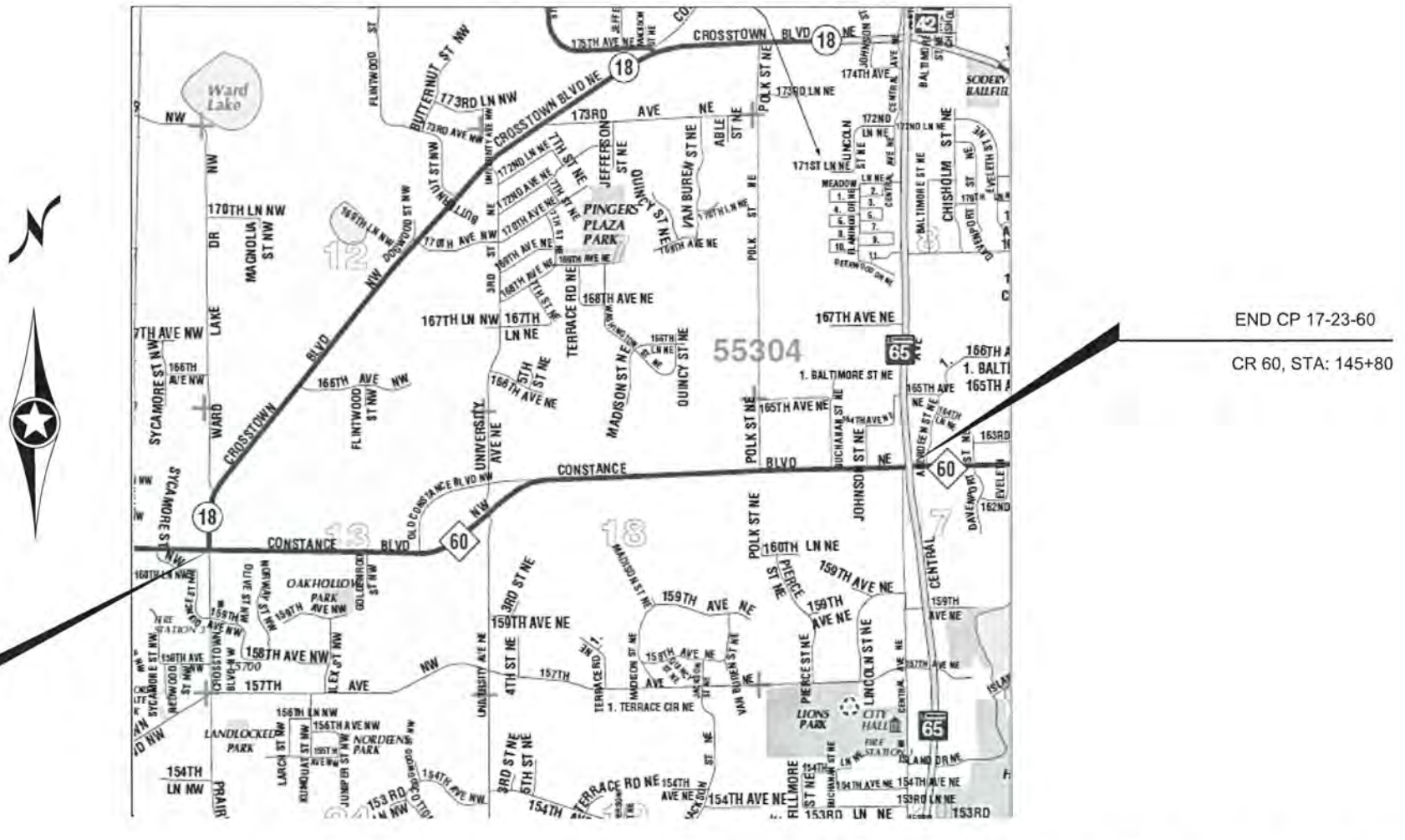
LOCATED ON CR 60 BETWEEN CSAH 18 AND TH 65

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 26 SHEETS

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TYPICAL SECTIONS
4-5	DETAILS
6-10	CONSTRUCTION PLAN
11-23	SIGNING AND STRIPING PLANS
24-26	ORIGINAL SIGNAL PLANS



BEGIN CP 17-23-60
CR 60, STA: 11+30

END CP 17-23-60
CR 60, STA: 145+80

PROJECT LOCATION



	<u>CR 60</u>		
GROSS LENGTH	13450 FEET	2.547 MILES	
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES	
NET LENGTH	13450 FEET	2.547 MILES	
DESIGN SPEED	55 MPH		
CURRENT ADT	3138		

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

Approved 4/7/2017
ANOKA COUNTY ENGINEER

STATEMENT OF ESTIMATED QUANTITIES				
ITEM NO.	ITEM	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE PIPE CULVERTS		LIN FT	120
2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	1	SQ YD	44
2104.505	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	1	SQ YD	550
2104.505	REMOVE BITUMINOUS PAVEMENT		SQ YD	1110
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	38
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	623
2105.601	TEMPORARY STREAM DIVERSION		LUMP SUM	1
2105.602	CONSTRUCT RIGHT TURN LANE (JOHNSON STREET) (P)	2	EACH	1
2105.602	CONSTRUCT RIGHT TURN LANE (POLK STREET) (P)	2	EACH	1
2123.503	MOTOR GRADER	3	HOUR	20
2123.509	DOZER	4	HOUR	20
2211.501	AGGREGATE BASE CLASS 5	5	TON	329
2215.501	FULL DEPTH RECLAMATION		SQ YD	49045
2221.501	SHOULDER BASE AGGREGATE CLASS 5	6	CU YD	1840
2232.501	MILL BITUMINOUS SURFACE (2.0")	7	SQ YD	385
2331.607	HAUL BIT PAVEMENT RECLAMATION(LV)	8	CU YD	250
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	1900
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,C)		TON	11155
2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,B)	9	TON	298
2360.505	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	10	TON	10
2501.511	66" RCP PIPE CULVERT CLASS V		LIN FT	96
2501.515	66" RCP PIPE APRON		EACH	2
2511.501	RANDOM RIPRAP CLASS III		CU YD	30
2511.515	GEOTEXTILE FILTER TYPE IV		SQ YD	135
2531.501	CONCRETE CURB AND GUTTER DESIGN B418		LIN FT	240
2540.602	MAIL BOX SUPPORT	11	EACH	20
2550.602	LOOP DETECTOR DESIGN NMC	12	EACH	5
2563.601	TRAFFIC CONTROL	13,14,15	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	15	UNIT DAY	14
2564.531	SIGN PANELS TYPE C		SQ FT	18.75
2573.502	SILT FENCE, TYPE MS		LIN FT	950
2573.505	FLOTATION SILT CURTAIN TYPE MOVING WATER		LIN FT	20
2574.525	COMMON TOPSOIL BORROW (LV)	17	CU YD	80
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	18	SQ YD	1400
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	19	LIN FT	1076
2582.502	PAVEMENT MESSAGES PREFORMED THERMO	20	SQ FT	276
2582.502	4" SOLID LINE EPOXY	20	LIN FT	510
2582.502	4" BROKEN LINE EPOXY	20	LIN FT	2040
2582.502	4" DOUBLE SOLID LINE EPOXY	20	LIN FT	3230

CONSTRUCTION NOTES	
1	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNER 48 HOURS BEFORE STARTING OPERATION.
2	ITEMS INCLUDED IN THE RIGHT TURN LANE BY THE EACH ARE: COMMON EXCAVATION, SELECT GRANULAR BORROW, TOPSOIL BORROW, AND AGGREGATE BASE CLASS 5.
3	ITEM USED TO MOVE EXCESS RECLAIM MATERIAL AT THE RECLAIM AREA LIMITS TO CREATE A SMOOTH TRANSITION BETWEEN THE PROPOSED AND EXISTING PAVEMENT.
4	ITEM USED TO GRADE DITCH LINE ADJACENT TO CONSTRUCTED TURN LINES. ITEM SHALL BE USED ONLY AS NECESSARY AS DIRECTED BY THE ENGINEER.
5	GRAVEL BASE FOR BITUMINOUS STREET AND DRIVEWAY APPROACHES, CULVERT PATCHES, AND CONCRETE DRIVEWAY APPROACHES.
6	ITEM INCLUDES 7 TONS FOR EACH GRAVEL ENTRANCE AND STREET APPROACH.
7	ITEM INCLUDES 2" DEEP MILL AT BEGINNING AND END OF PROJECT, AND ALL PAVED STREET APPROACHES; SEE DETAILS FOR DIMENSIONS.
8	ITEM USED AS DIRECTED BY THE ENGINEER FOR PROFILE CORRECTION. EXCESS MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.
9	ITEM FOR BITUMINOUS DRIVEWAY AND STREET APPROACHES. DRIVEWAY AND STREET APPROACHES SHALL BE PAVED AFTER MAINLINE PAVING AND BEFORE FINAL STRIPING
10	ITEM USED FOR CONSTRUCTION OF BITUMINOUS FLUMES.
11	MAILBOXES SHALL BE INSTALLED AT THE EXISTING MAILBOX LOCATION OR AS DIRECTED BY THE LOCAL POSTAL AUTHORITY. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE LOCAL POSTAL AUTHORITY. MAILBOX REMOVAL AND ALL MATERIALS NECESSARY FOR INSTALLATION ARE INCIDENTAL TO THIS ITEM.
12	LOOP REPLACEMENT REQUIRED ONLY IF DAMAGED DURING CONSTRUCTION OPERATIONS. ORIGINAL SIGNAL PLANS ARE INCLUDED AT THE END OF THIS PLAN FOR REFERENCE.
13	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS MUST BE IN PLACE WHENEVER MARKINGS ARE NOT PRESENT.
11	DETOUR IS INCIDENTAL TO TRAFFIC CONTROL.
12	DO NOT PASS, PASS WITH CARE AND NO CENTER STRIPE SIGNS TO BE INPLACE DURING MILLING, RECLAIMING OR PAVING OPERATIONS.
13	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
17	ITEM USED AT THE ENGINEER'S DISCRETION FOR THE RESTORATION OF THE DISTURBED AREAS ALONG DRIVEWAY AND STREET
18	TYPE I FERTILIZER AND TYPE 25-121 SEED ARE INCIDENTAL TO THIS ITEM.
19	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE APPLIED 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	
2211	AGGREGATE BASE CLASS 5 1.8 TON / CUYD
2357	BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL / SQ YD
2360	ALL BITUMINOUS PAVEMENT 115 LBS / SQYD / INCH
2581	REMOVABLE PREFORMED MARKING TAPE 2' AT 50' INTERVALS

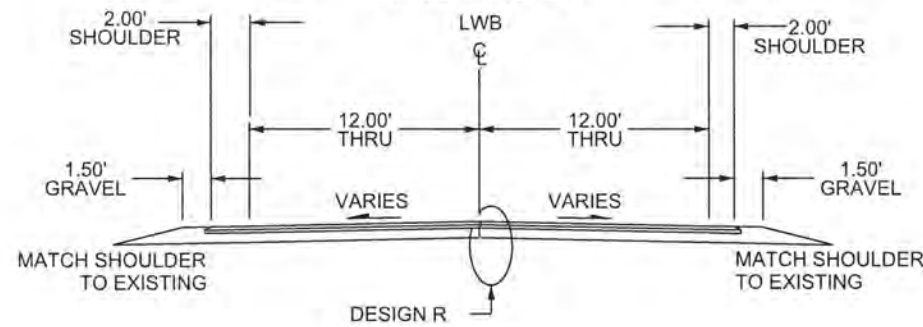
MNDOT STANDARD PLATES	
PLATE NUMBER	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006B	GASKET JOINT FOR REINFORCED CONCRETE PIPE (2 SHEETS)
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133D	RIP RAP AT RCP OUTLETS
8000J	CHANNELIZERS (3 SHEETS)
9350A	MAILBOX SUPPORT (SWING-AWAY TYPE)

MJJohn

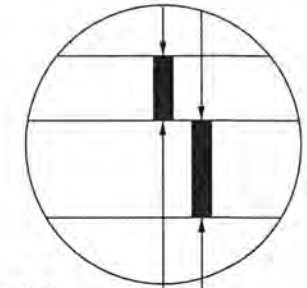
CR 60- Constance Boulevard

RECLAIM SECTION

11+30 - 42+15
81+78 - 145+80



EXISTING SECTION ENTIRE PROJECT



FOR INFORMATIONAL PURPOSES ONLY
CONTRACTOR SHALL FIELD VERIFY EXISTING SECTION

6" EXISTING BITUMINOUS
NO EXISTING BASE

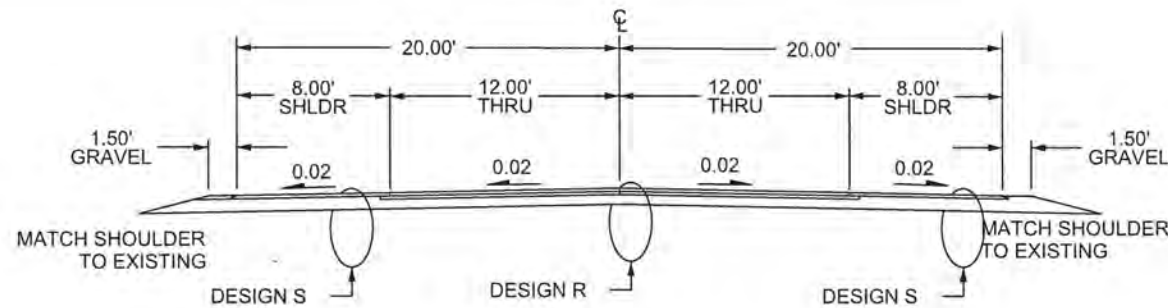
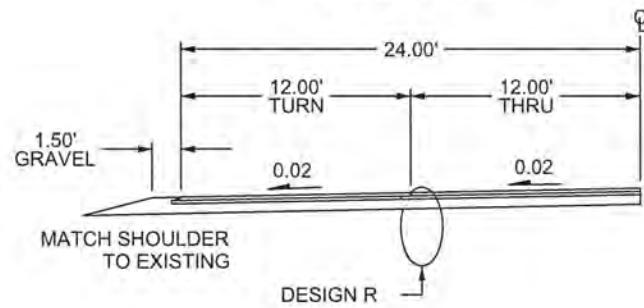
CR 60- Constance Boulevard

RECLAIM SECTION

42+15 - 81+78

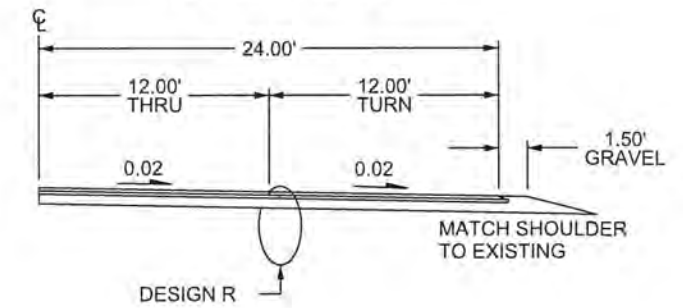
TURN LANE SECTION

50+00 - 55+50
65+28 - 71+24



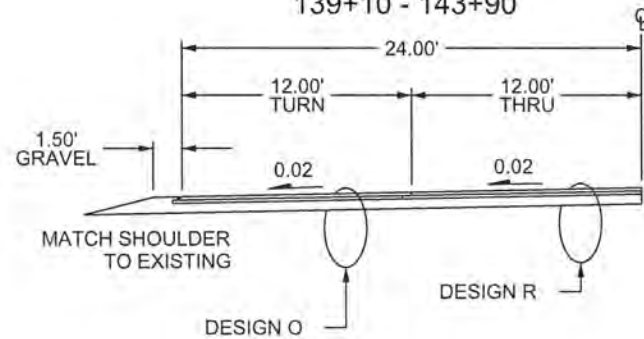
TURN LANE SECTION

60+92 - 66+82
141+00 - 145+80

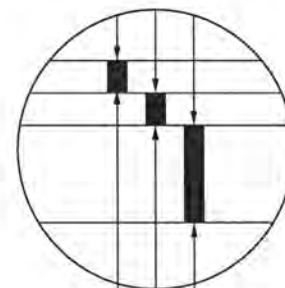


TURN LANE SECTION (NEW CONSTRUCTION)

119+10 - 123+90
139+10 - 143+90

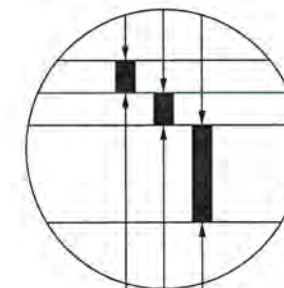


DESIGN O RT TURN LANE SECTION



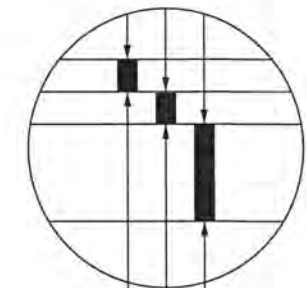
2.0" BITUMINOUS WEAR(SPWEB440C)
2.0" BITUMINOUS WEAR(SPWEB440C)
6.0" AGGREGATE BASE, CLASS 5

DESIGN S RECLAIM SECTION



2.5" BITUMINOUS WEAR(SPWEB440C)
1.5" AGGREGATE BASE CLASS 5
RECLAIMED BITUMINOUS

DESIGN R RECLAIM SECTION



2.0" BITUMINOUS WEAR(SPWEB440C)
2.0" BITUMINOUS WEAR(SPWEB440C)
RECLAIMED BITUMINOUS

NO	DATE	BY	CKD	APPR	REVISION		
						03/28/2017	9:21:37 AM

NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED.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: 3/28/2017 LICENSE NO. 51639

DRAWN BY: SAT DATE: 3-22-17
DESIGN BY: SAT DATE: 3-22-17
CHECKED BY: MJJ DATE: 3-22-17



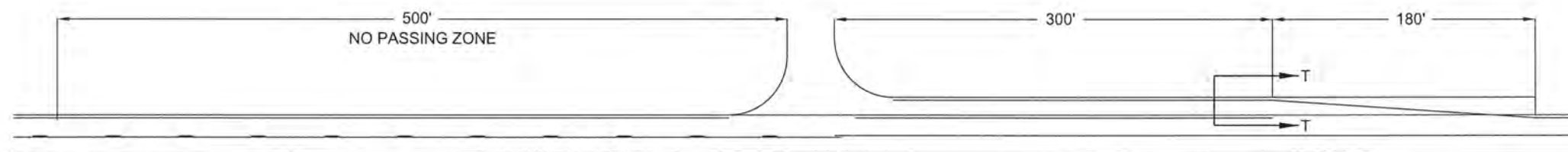
ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 17-23-60

TYPICAL SECTIONS
Sheet 3 of 26 Sheets

RIGHT TURN LANE

GENERAL LAYOUT PLAN VIEW



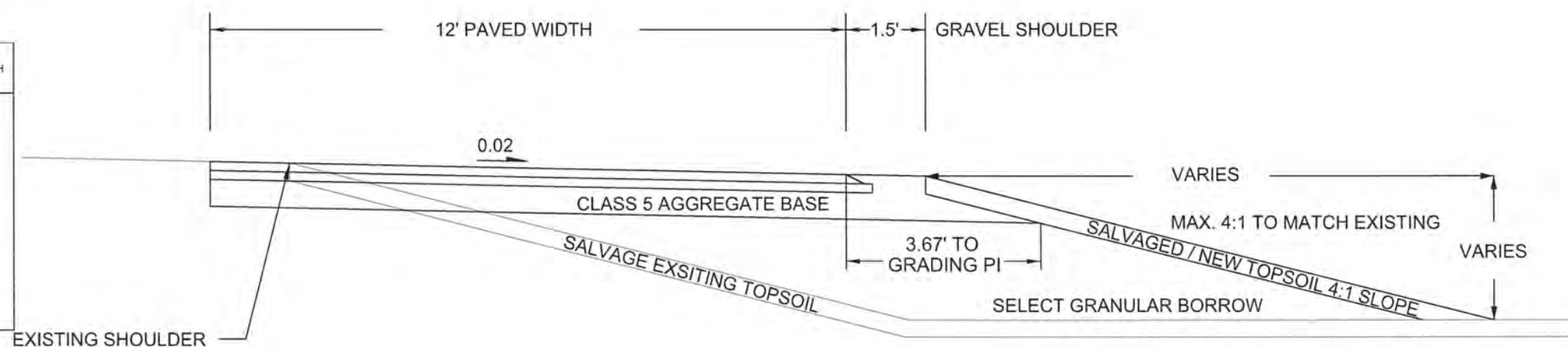
ESTIMATED AVERAGE DEPTH FOR RIGHT TURN LANE USING ELEVATION AT EDGE OF MAT, SHOULDER PI AND DITCH BOTTOM

POLK STREET				
STA	EM	SH PI	BOTTOM	
139+10	918.23	918.06	915.16	
140+00	918.10	917.84	915.04	
141+00	917.86	917.62	914.68	
142+00	916.74	916.61	913.88	
143+00	915.97	915.43	912.04	
TOTAL	4586.90	4585.56	4570.80	
AVERAGE	917.38	917.11	914.16	
AVERAGE DEPTH	3.22			
MINUS 0.5' (AGG. BASE)	2.72			

NEW RIGHT TURN LANE LOCATIONS TAB (BY THE EACH)								
STREET	STATION RANGE	RTL / BYPASS	PAVED WIDTH	LENGTH	COMMON EXCAVATION (CU YDS)	GRANULAR BORROW (CV) (CU YDS)	TOPSOIL BORROW (LV) (CU YDS)	CLASS 5 (TON)
POLK ST	119+10 - 123+90	LWB RTL	12	480	331	924	82	290
JOHNSON ST	139+10 - 140+45	LWB RTL	12	135	86	-	-	153
TOTALS:					417	924	82	443

RIGHT TURN LANE

SECTION T - T

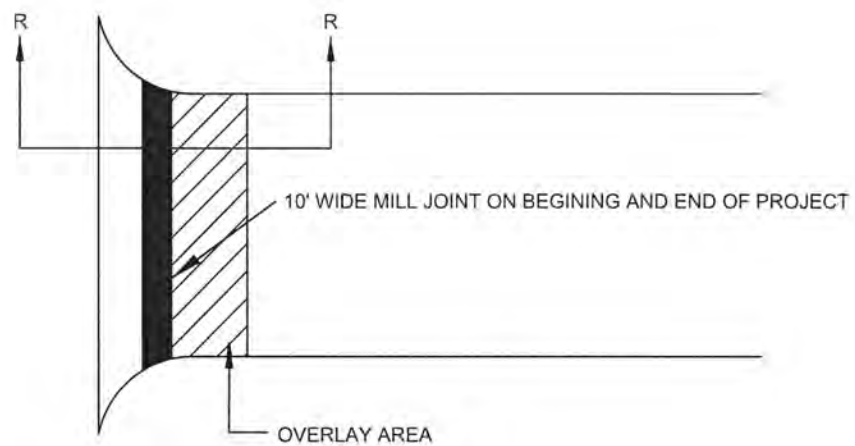


ESTIMATED AVERAGE DEPTH FOR BYPASSES USING ELEVATION AT EDGE OF MAT, SHOULDER PI AND DITCH BOTTOM

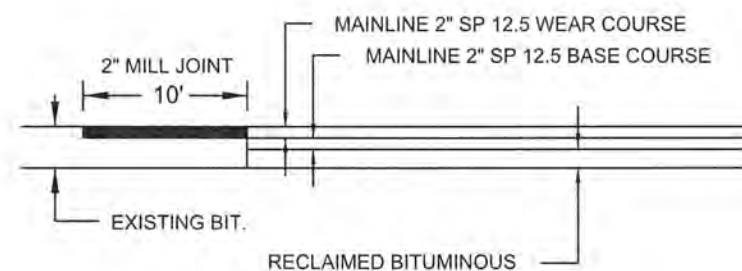
JOHNSON ST				
STA	EM	SH PI	BOTTOM	
119+10	918.23	918.06	915.16	
120+00	918.10	917.84	915.04	
121+00	917.86	917.62	914.68	
TOTAL	2754.19	2753.52	2744.88	
AVERAGE	550.84	550.70	548.98	
AVERAGE DEPTH	1.88			
MINUS 0.5' (AGG. BASE)	1.38			

MAINLINE JOINT DETAIL (RECLAIM)

PLAN VIEW

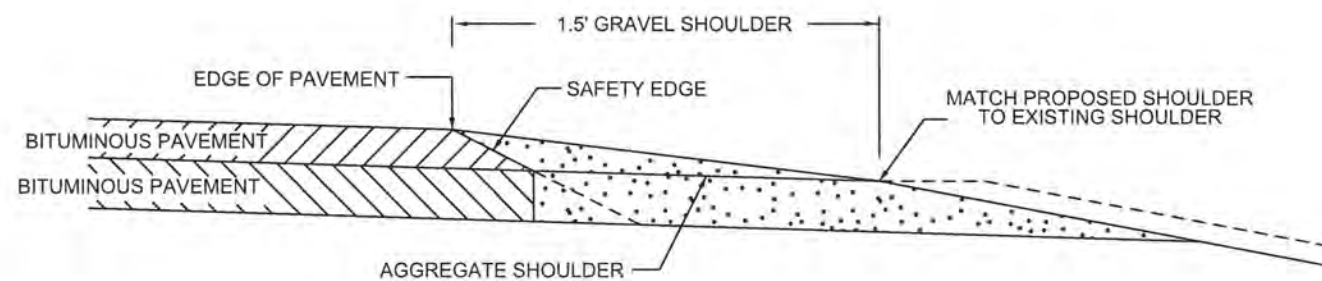


SECTION R - R



SHOULDER DETAIL

BITUMINOUS SAFETY EDGE
GRAVEL SHOULDER

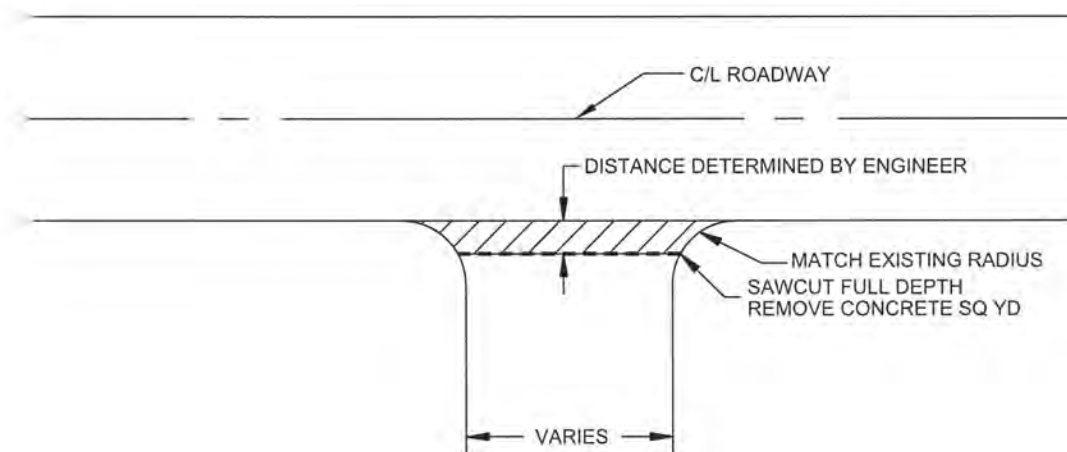


SAFETY EDGE TO BE USED IN ALL NON-CURB AREAS ON SHOULDER.

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

DRIVEWAY DETAIL

CONCRETE DRIVEWAY



NO	DATE	BY	CKD	APPR	REVISION		
						03/29/2017	9:54:58 AM

NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED (2).dgn

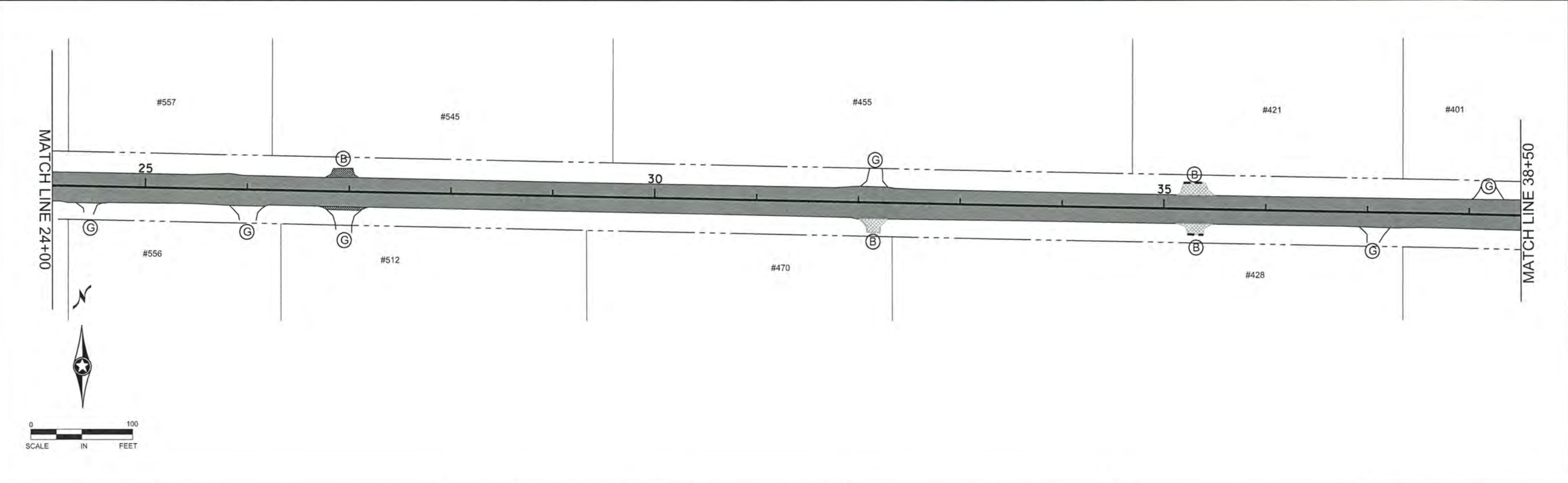
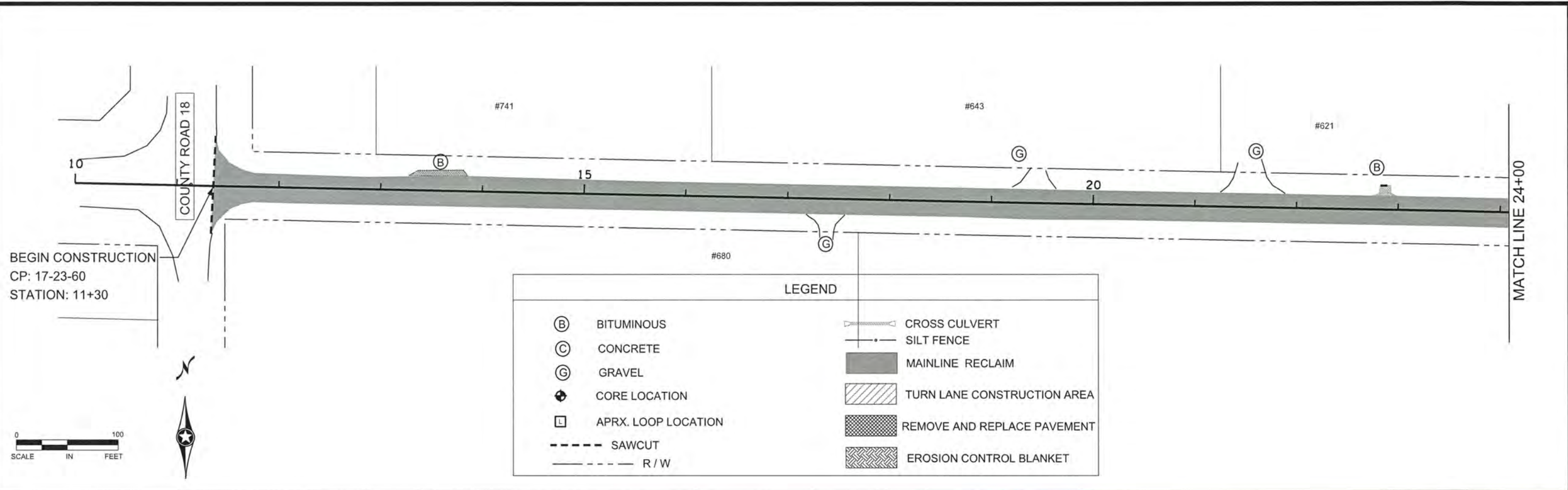
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MATTHEW J. JOHN
 SIGNATURE: *[Signature]*
 DATE: 3/28/2018 LICENSE NO. 51639

DRAWN BY SAT DATE 3-12-17
 DESIGN BY SAT DATE 3-12-17
 CHECKED BY MJJ DATE 3-12-17

ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 17-23-60

M.John



NO	DATE	BY	CKD	APPR	REVISION	03/28/2017	9:21:53 AM
NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED.dgn							

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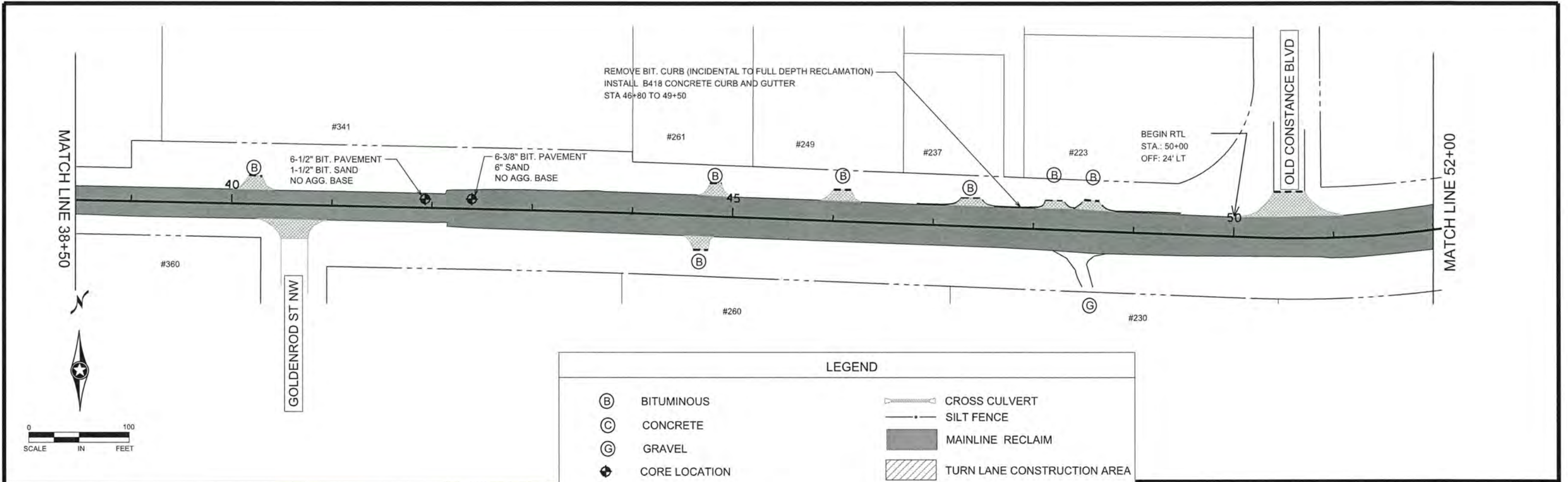


ANOKA COUNTY
 HIGHWAY DEPT.

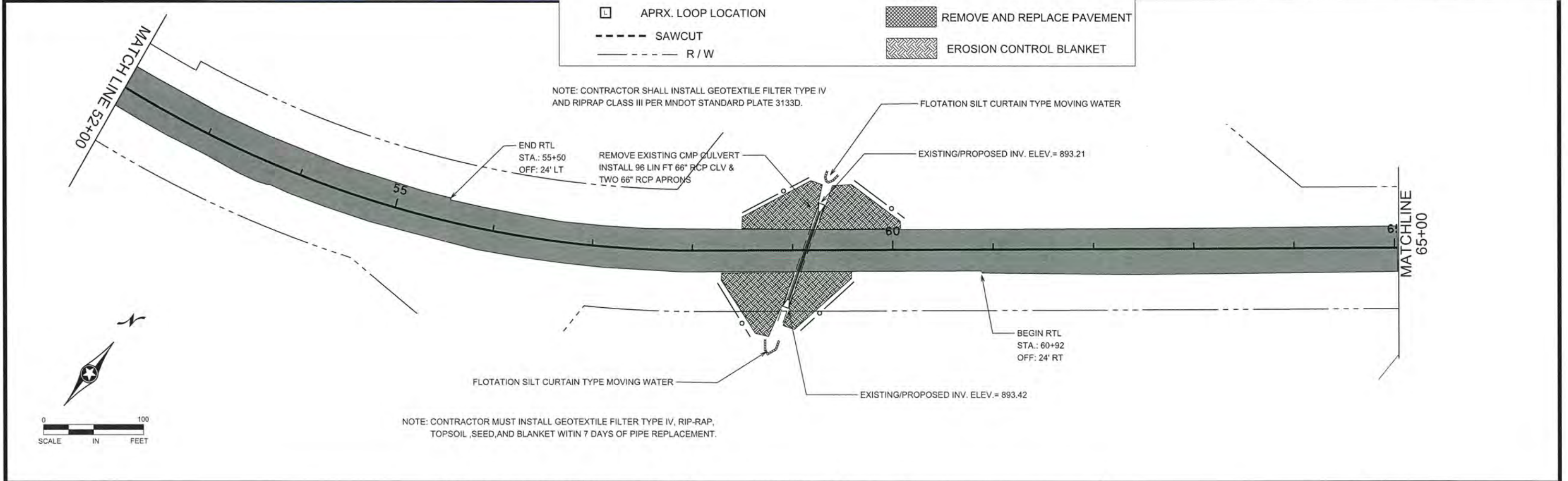
COUNTY PROJECT 17-23-60

CONSTRUCTION PLAN
 STA 11+30 TO 38+50
 Sheet 6 of 26 Sheets

M.John



LEGEND			
(B)	BITUMINOUS		CROSS CULVERT
(C)	CONCRETE		SILT FENCE
(G)	GRAVEL		MAINLINE RECLAIM
	CORE LOCATION		TURN LANE CONSTRUCTION AREA
	APRX. LOOP LOCATION		REMOVE AND REPLACE PAVEMENT
	SAWCUT		EROSION CONTROL BLANKET
	R / W		



NOTE: CONTRACTOR SHALL INSTALL GEOTEXTILE FILTER TYPE IV AND RIPRAP CLASS III PER MNDOT STANDARD PLATE 3133D.

NOTE: CONTRACTOR MUST INSTALL GEOTEXTILE FILTER TYPE IV, RIP-RAP, TOPSOIL, SEED, AND BLANKET WITHIN 7 DAYS OF PIPE REPLACEMENT.

NO	DATE	BY	CKD	APPR	REVISION		
						03/28/2017	9:21:58 AM

NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED.dgn

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PRINT NAME: MATTHEW J JOHN

SIGNATURE: *Matthew J. John*

DATE: 3/28/2017 LICENSE NO. 51639

DRAWN BY: SAT DATE: 2-17-17

DESIGN BY: SAT DATE: 2-17-17

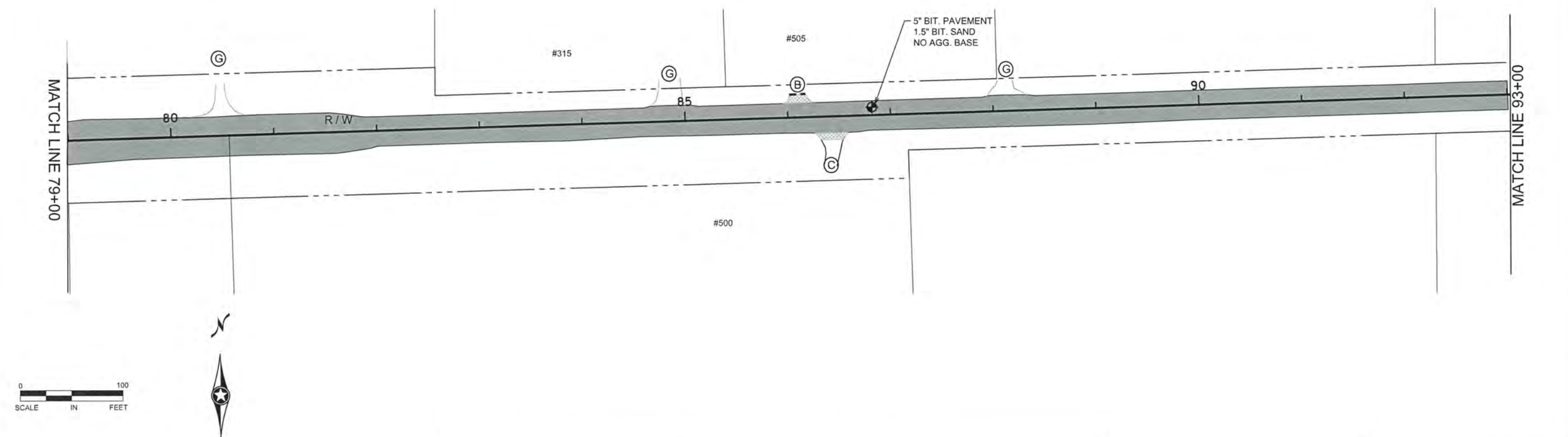
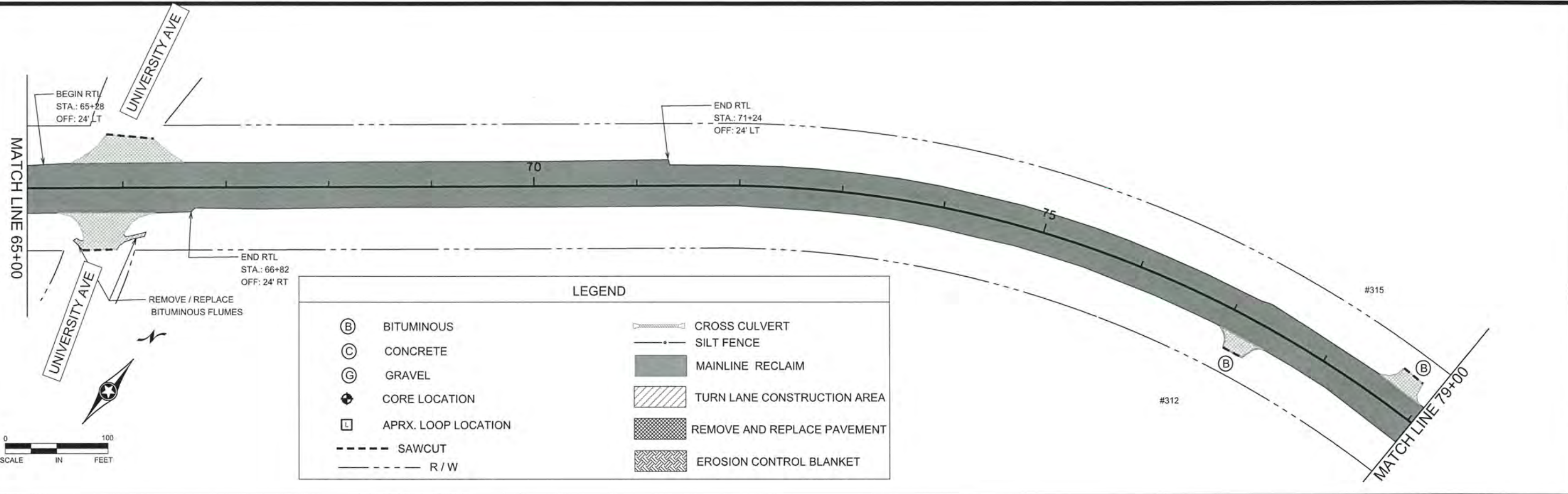
CHECKED BY: MJJ DATE: 2-17-17

ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 17-23-60

CONSTRUCTION PLAN
 STA 38+50 TO 65+00
 Sheet 7 of 26 Sheets

M.John



NO	DATE	BY	CKD	APPR	REVISION	03/28/2017	9:22:04 AM
NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED.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: 3/28/2017 LICENSE NO. 51639

DRAWN BY SAT DATE 3-22-17
 DESIGN BY SAT DATE 3-22-17
 CHECKED BY MJJ DATE 3-22-17

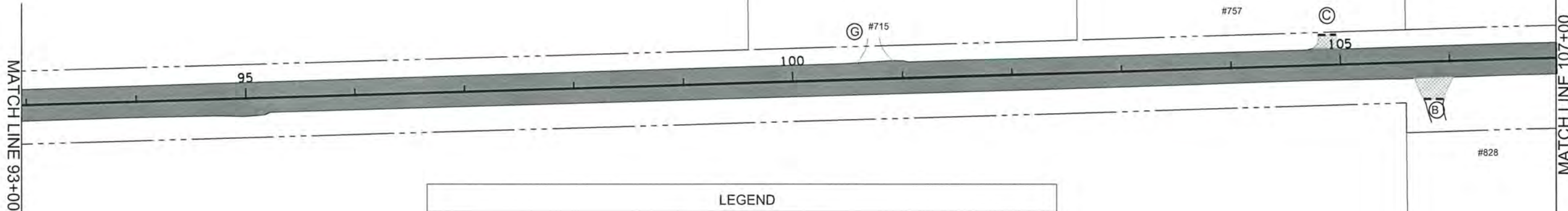


ANOKA COUNTY
 HIGHWAY DEPT.

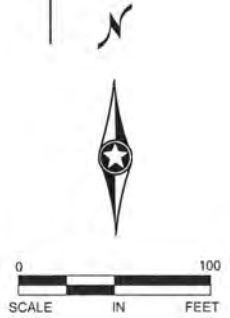
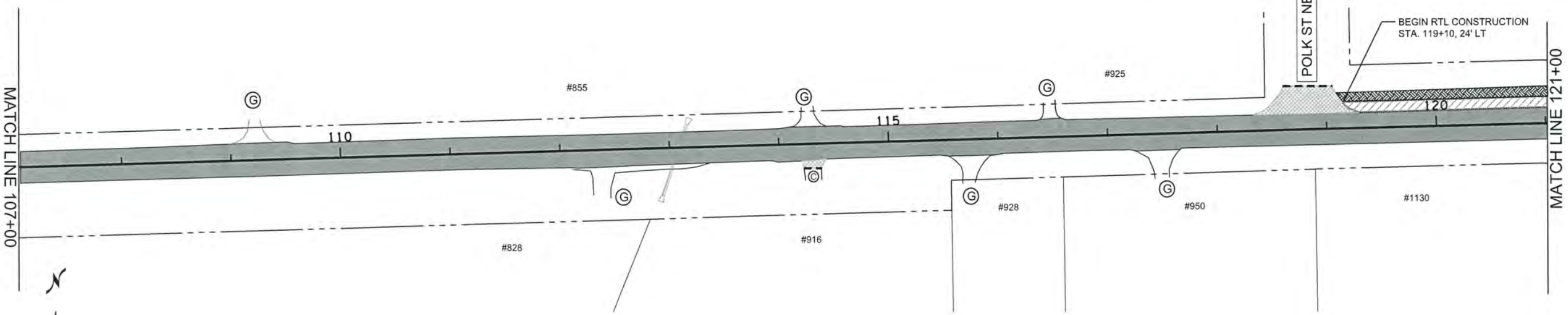
COUNTY PROJECT 17-23-60

CONSTRUCTION PLAN
 STA 65+00 TO 93+00
 Sheet 8 of 26 Sheets

M.John



LEGEND			
(B)	BITUMINOUS		CROSS CULVERT
(C)	CONCRETE		SILT FENCE
(G)	GRAVEL		MAINLINE RECLAIM
+	CORE LOCATION		TURN LANE CONSTRUCTION AREA
L	APRX. LOOP LOCATION		REMOVE AND REPLACE PAVEMENT
- - -	SAWCUT		EROSION CONTROL BLANKET
- - - -	R / W		



NO	DATE	BY	CKD	APPR	REVISION	03/28/2017	9:22:11 AM
NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED.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: *Matthew J. John*
 DATE: 3/28/2017 LICENSE NO. 51639

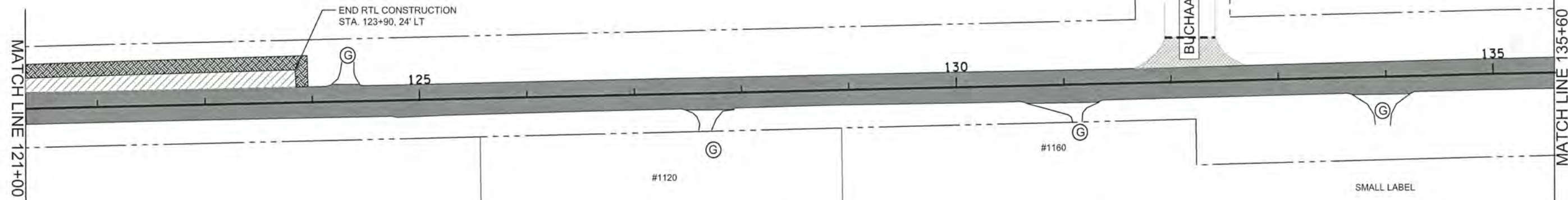
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ANOKA COUNTY HIGHWAY DEPT.

COUNTY PROJECT 17-23-60

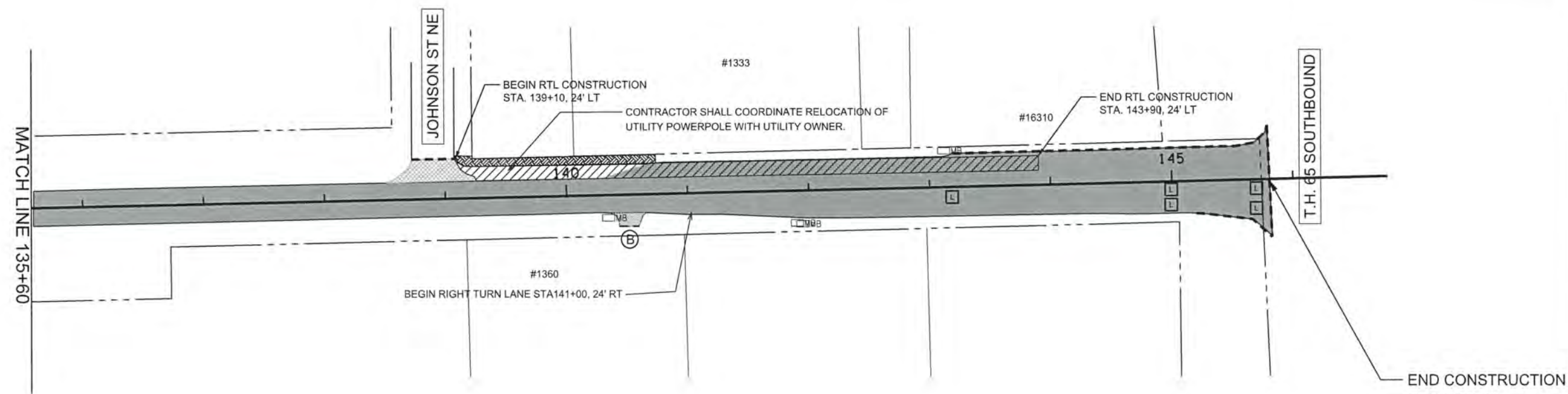
CONSTRUCTION PLAN
 STA 93+00 TO 121+00
 Sheet 9 of 26 Sheets

M. John



LEGEND

(B)	BITUMINOUS		CROSS CULVERT
(C)	CONCRETE		SILT FENCE
(G)	GRAVEL		MAINLINE RECLAIM
★	CORE LOCATION		TURN LANE CONSTRUCTION AREA
L	APRX. LOOP LOCATION		REMOVE AND REPLACE PAVEMENT
---	SAWCUT		EROSION CONTROL BLANKET
---	R / W		



END CONSTRUCTION
CP: 17-23-60
STATION: 145+80

NO	DATE	BY	CKD	APPR	REVISION	03/28/2017	9:22:16 AM
NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED.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: *Matthew J. John*
DATE: 3/28/2017 LICENSE NO. 51639

DRAWN BY: SAT DATE: 3-22-17
DESIGN BY: SAT DATE: 3-22-17
CHECKED BY: MJJ DATE: 3-22-17

**ANOKA COUNTY
HIGHWAY DEPT.**

COUNTY PROJECT 17-23-60

CONSTRUCTION PLAN

STA 121+00 TO 145+80

Sheet 10 of 26 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 BEADS 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	28210
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	SQ FT	48
3' X 6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	198
PAVEMENT MESSAGE (RIGHT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	30
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	5930
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	2040
4" DOUBLE SOLID LINE YELLOW - EPOXY PAINT	LIN FT	3230

SYMBOLS & MATERIALS LEGEND

 CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

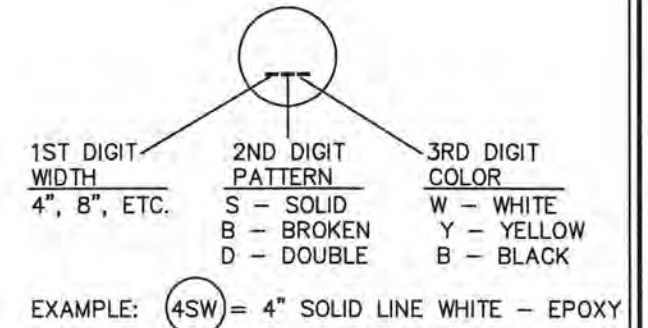
 PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

STRIPING KEY


 CIRCLE - EPOXY  SQUARE PREFORMED THERMOPLASTIC

 TRIANGLE - PAINT

 PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

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

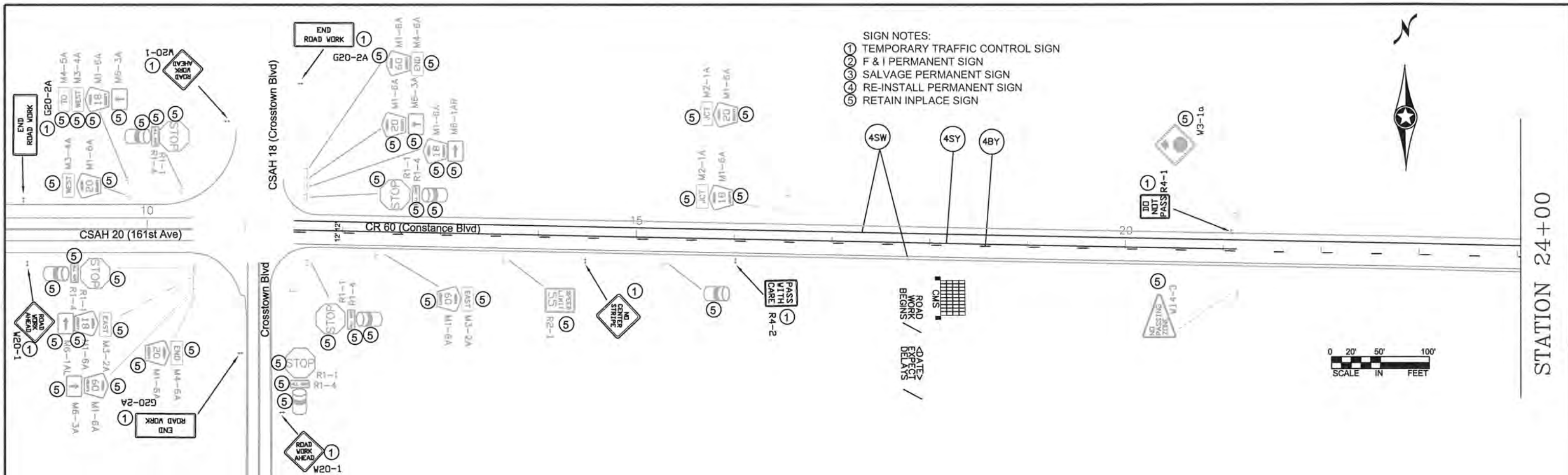
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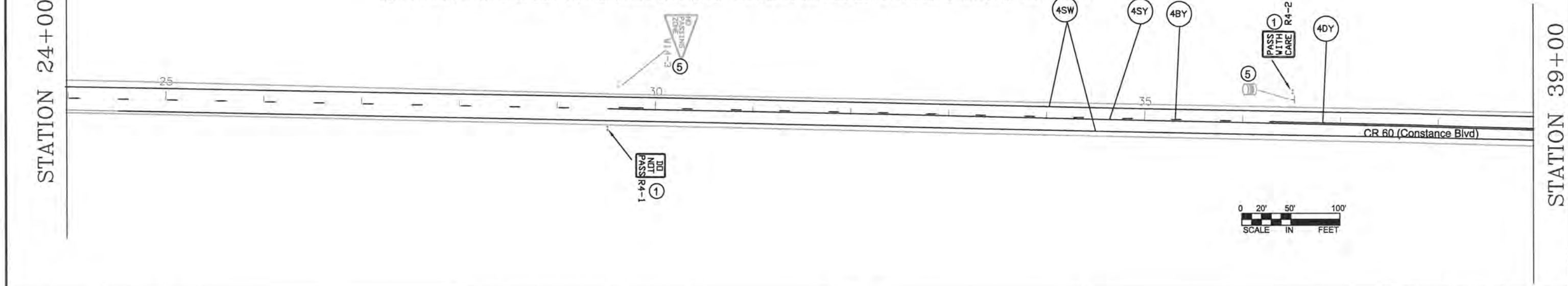
**ANOKA COUNTY
HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 17-23-60

**PERMANENT MARKING
TABULATION**



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



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 60\base\Traffic\Signing_Striping.dwg

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

PRINT NAME: MATTHEW J. JOHN

SIGNATURE: *[Signature]*

DATE: 3/28/2017 REG. NO. 51639

DRAWN BY: RLB DATE: 1/10/17

DESIGN BY: RLB DATE: 1/10/17

CHECKED BY: JR DATE: 1/10/17

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

STATE AID PROJECT NO. _____

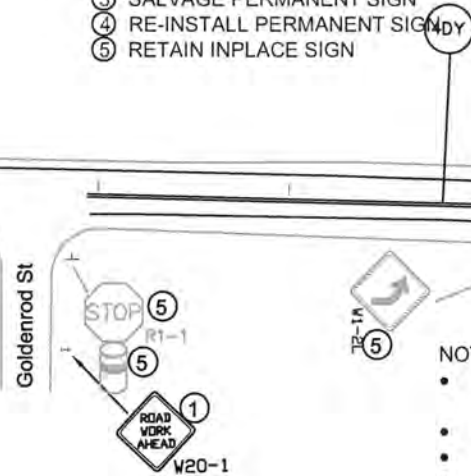
COUNTY PROJECT NO. 17-23-60

TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

Sheet 12 of 26 Sheets

STATION 39+00

- 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



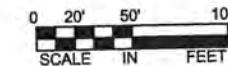
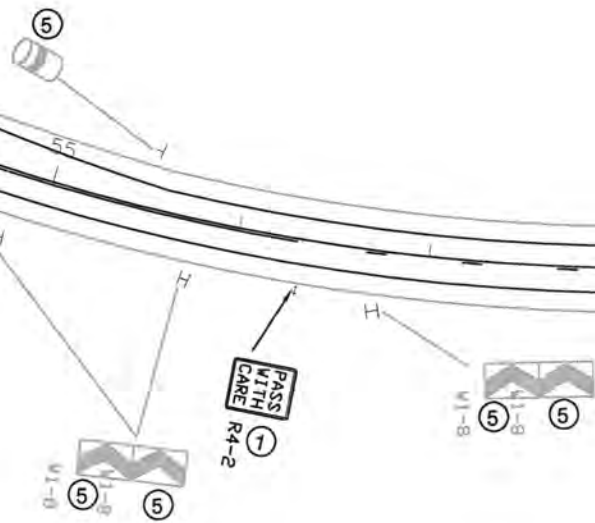
NOTES:

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STATION 54+00

STATION 54+00



STATION 69+00

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: MATTHEW J. JOHN

SIGNATURE: *Matthew J. John*

DATE: 3/28/2017 REG. NO. 51639

DRAWN BY: RLB DATE 1/10/17

DESIGN BY: RLB DATE 1/10/17

CHECKED BY: JR DATE 1/10/17

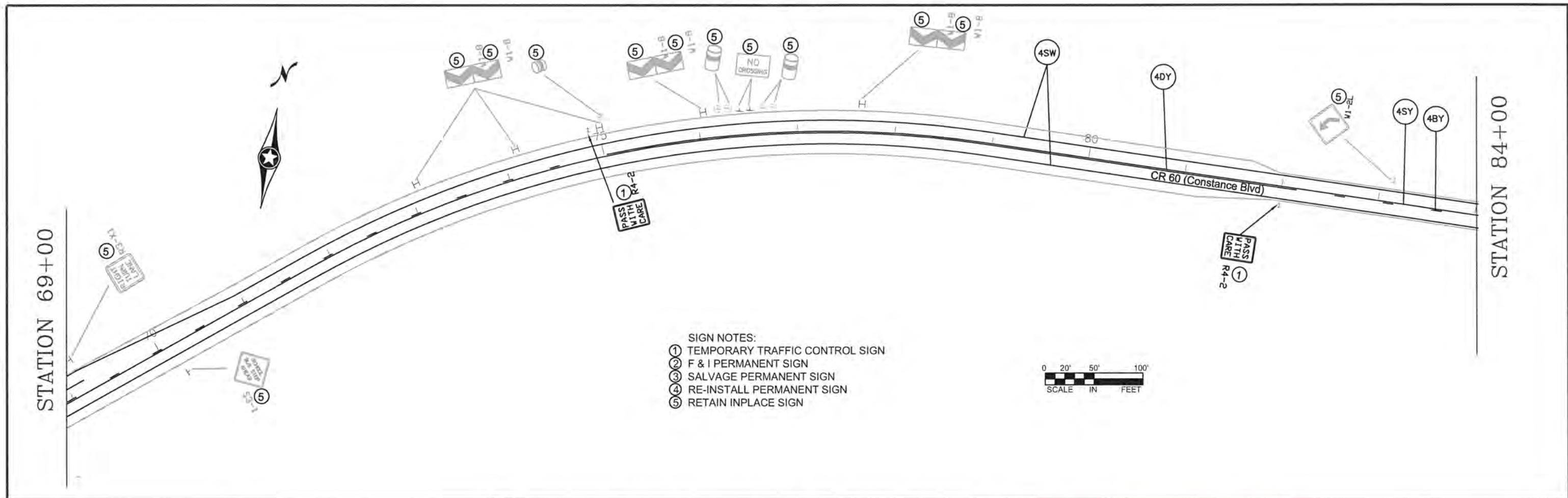


ANOKA COUNTY
HIGHWAY DEPT.

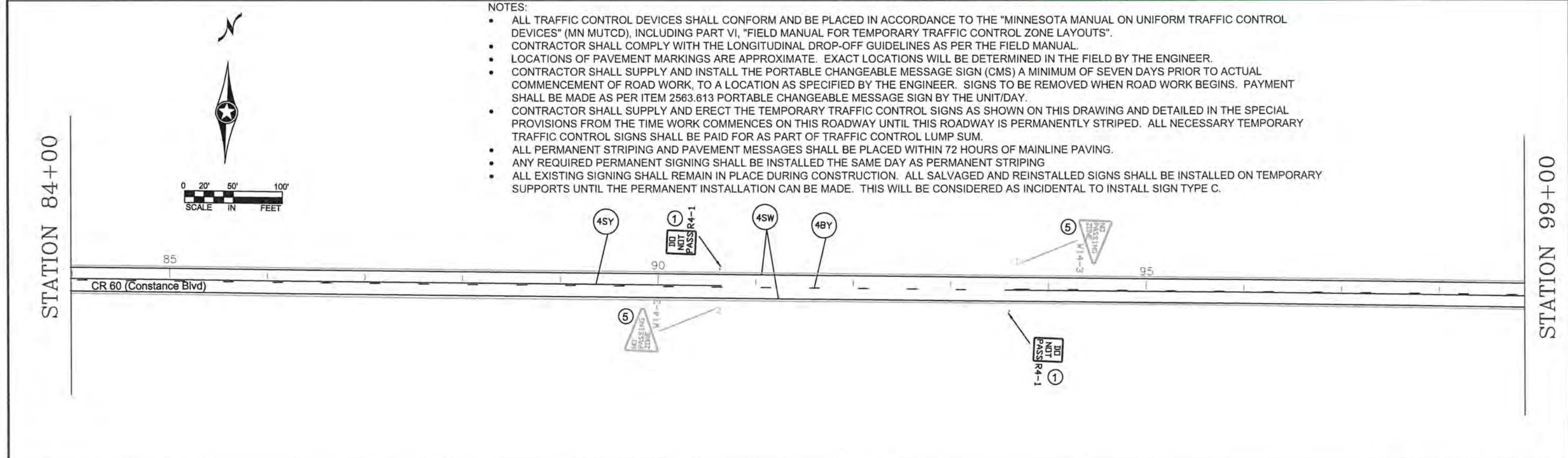
STATE PROJECT NO. _____
STATE AID PROJECT NO. _____
STATE AID PROJECT NO. _____
COUNTY PROJECT NO. 17-23-60

TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

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SIGN NOTES:
 ① TEMPORARY TRAFFIC CONTROL SIGN
 ② F & I PERMANENT SIGN
 ③ SALVAGE PERMANENT SIGN
 ④ RE-INSTALL PERMANENT SIGN
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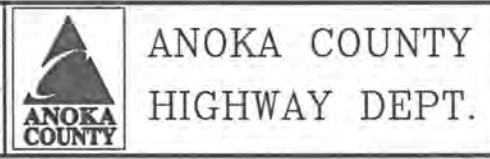
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NO	DATE	BY	CKD	APPR	REVISION

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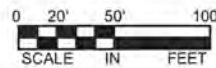
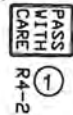
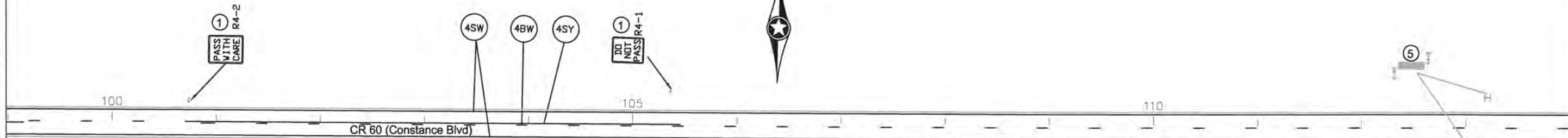


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TEMPORARY SIGNING,
 PERMANENT SIGNING
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STATION 99+00

STATION 114+00

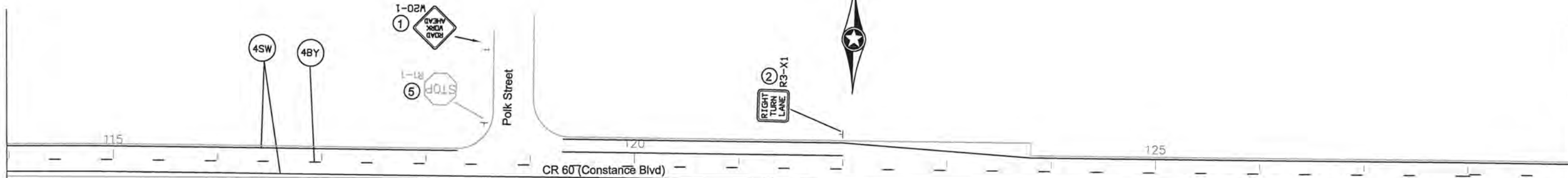


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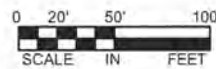
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STATION 114+00

STATION 129+00



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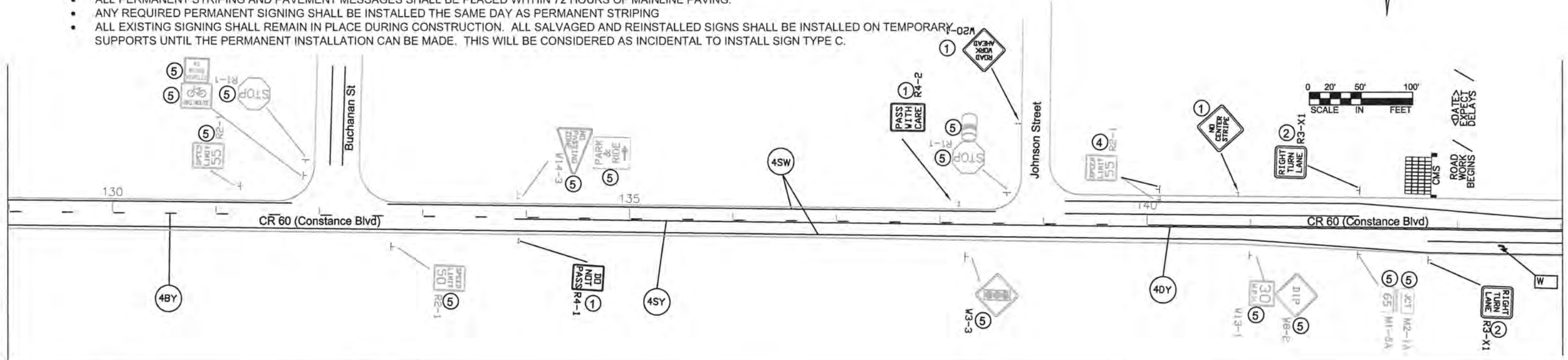
TEMPORARY SIGNING,
PERMANENT SIGNING
AND STRIPING

Sheet 15 of 26 Sheets

NOTES:

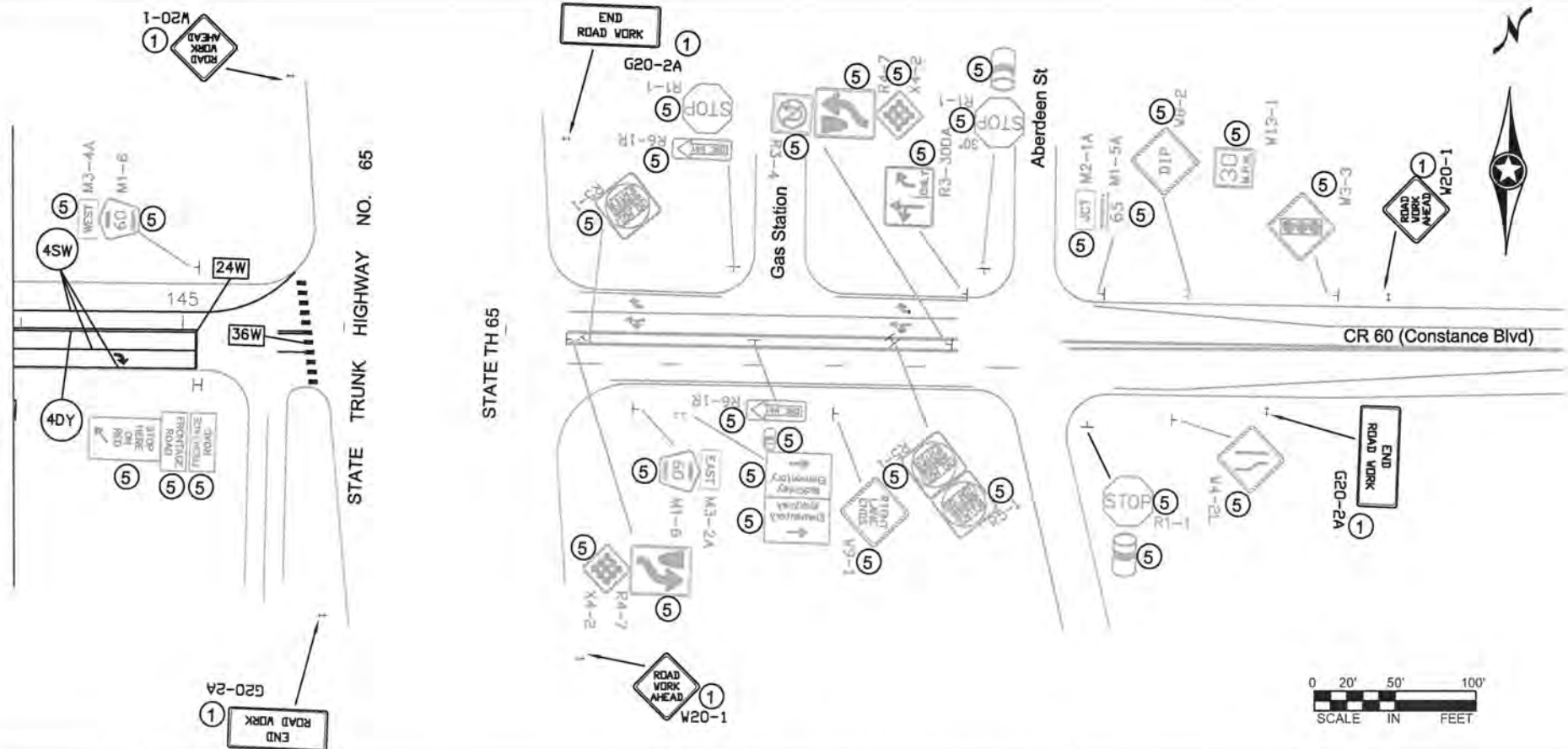
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STATION 129+00



STATION 144+00

STATION 144+00



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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\16-01-00\CR 60\base\Traffic\Signing_Striping.dwg

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TEMPORARY SIGNING,
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TEMPORARY TRAFFIC CONTROL SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. ²	INSERT	QUANTITY		MOUNTING HEIGHT (to pavement edge) FT.
					No. POST	
W8-12	48" x 48"	16.00		2	2	7.0'
R4-1	24" x 30"	5.00		8	1	7.0'
R4-2	24" x 30"	5.00		8	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 12)		
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

SIGN PANELS TYPE C							E
M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R3-X1	30" x 30"		3	6.25	18.75	1	7.0'

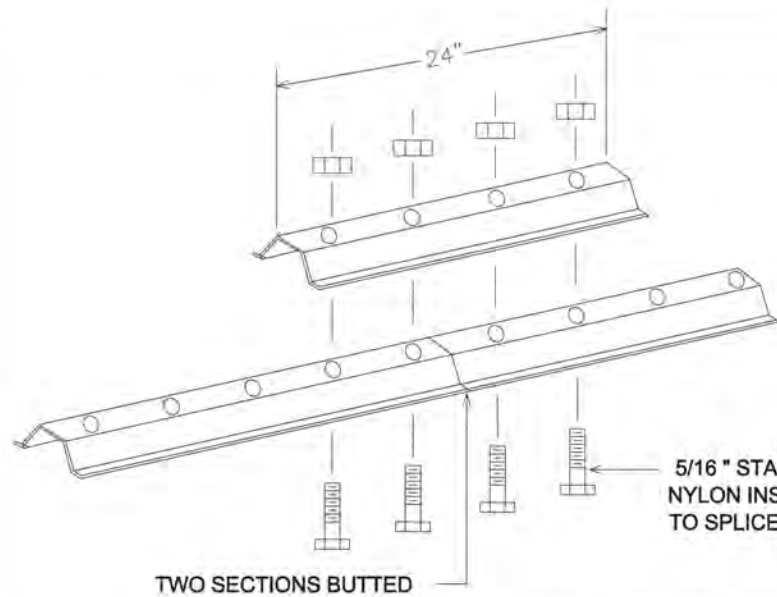
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CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

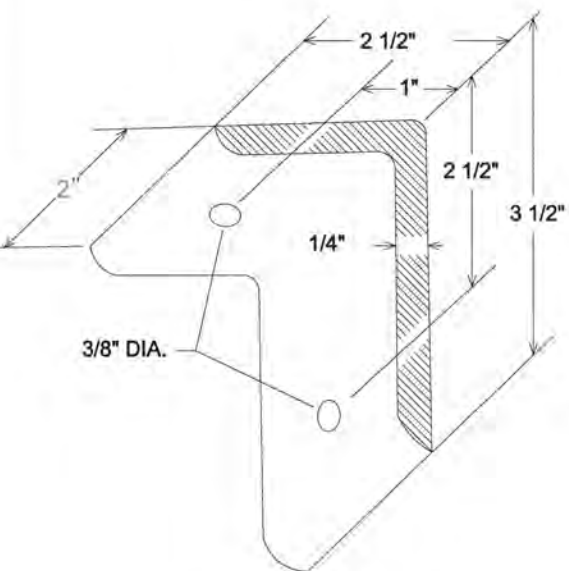
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		W	O	R	K		
		B	E	G	I	N	S

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

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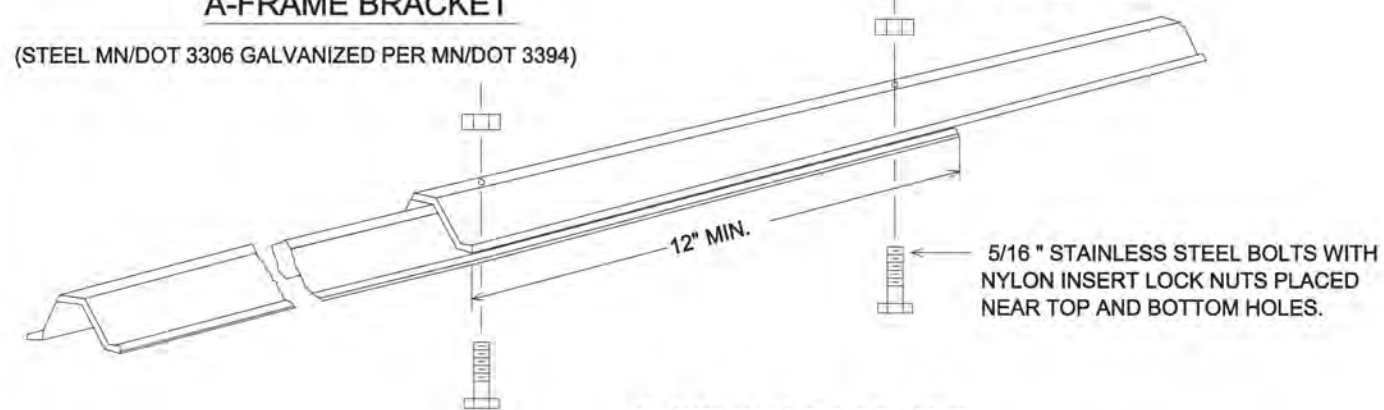


**LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)**

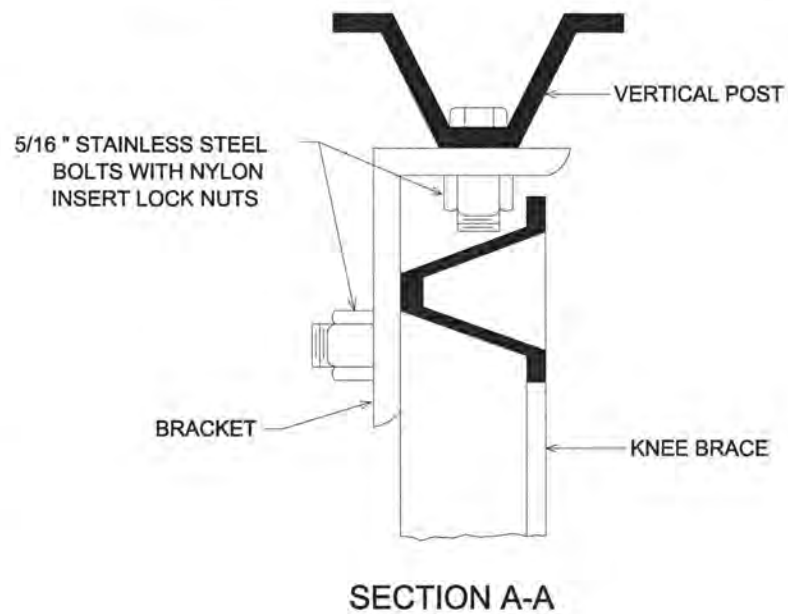


A-FRAME BRACKET

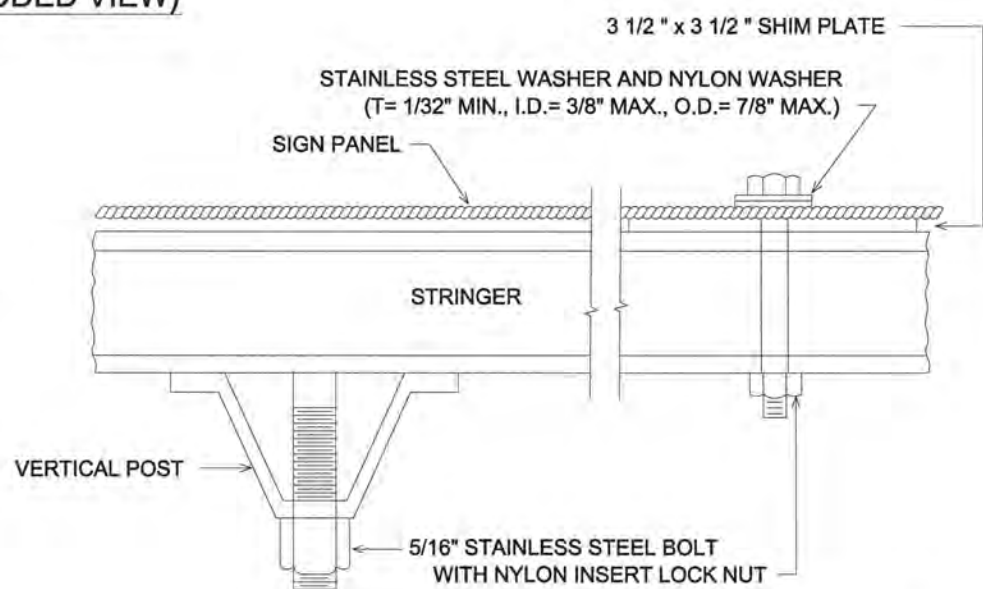
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



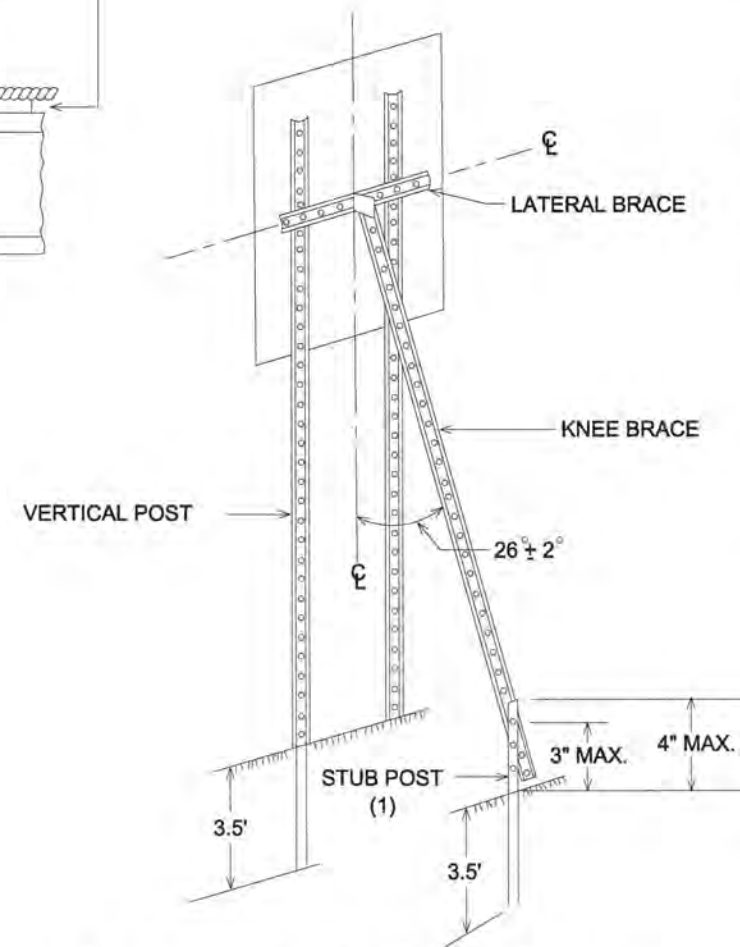
KNEE BRACE SPLICE



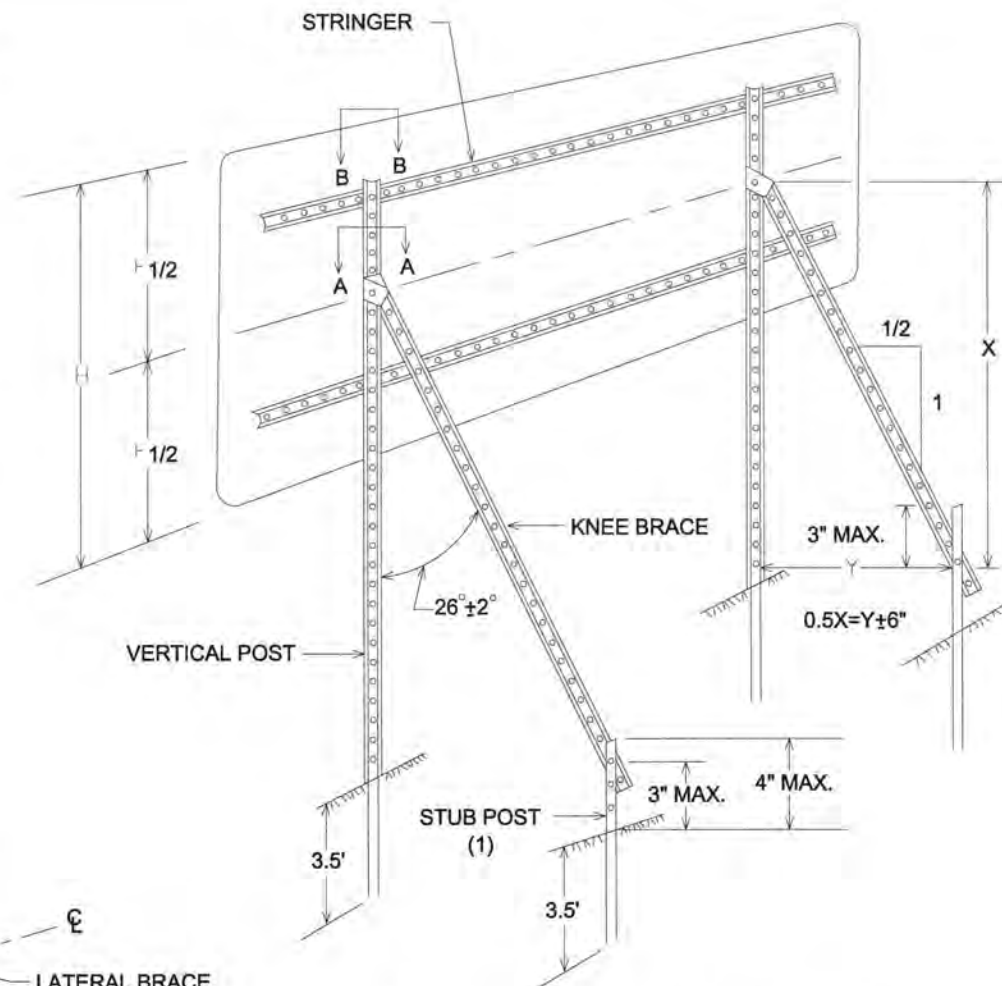
SECTION A-A



SECTION B-B



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



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



TYPICAL MOUNTING

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

**TYPE C & D SIGN
STRUCTURAL DETAILS**

NO	DATE	BY	CKD	APPR	REVISION

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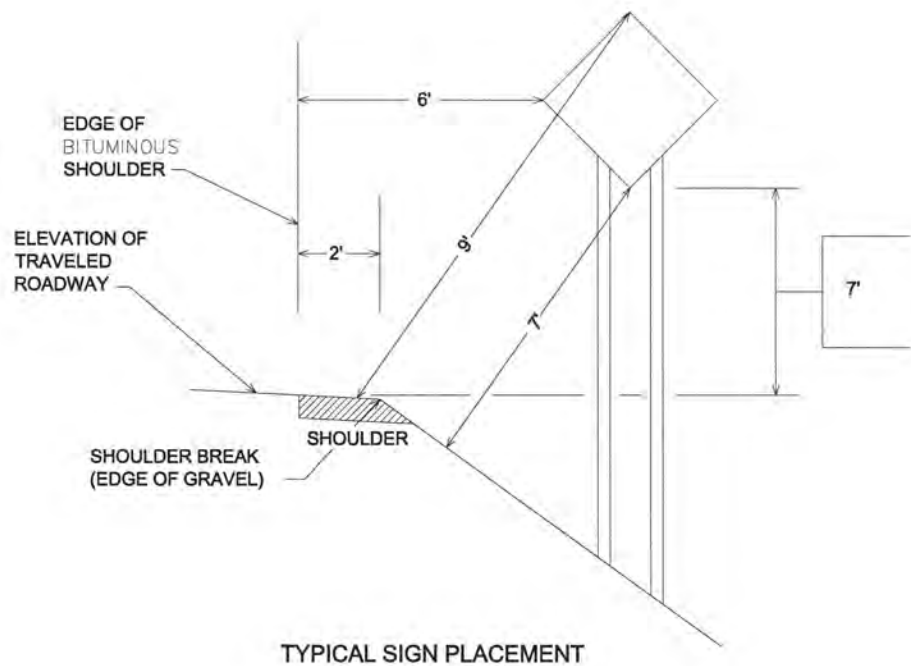


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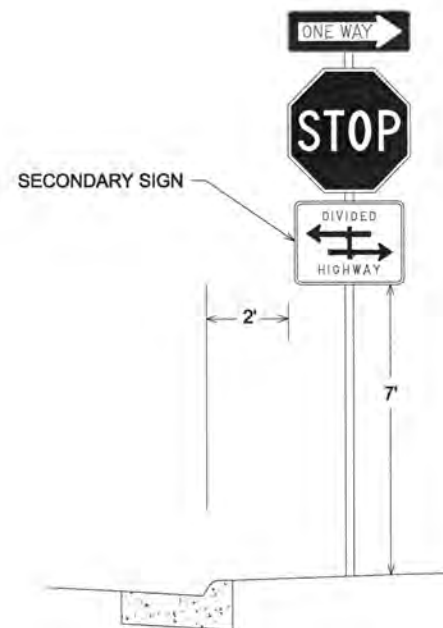
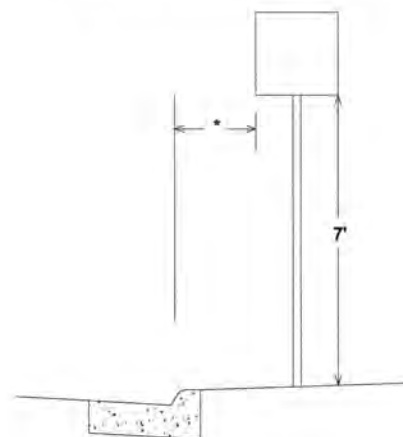
**SIGNING & STRIPING
DETAILS**

RURAL



URBAN

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



NOTE:

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

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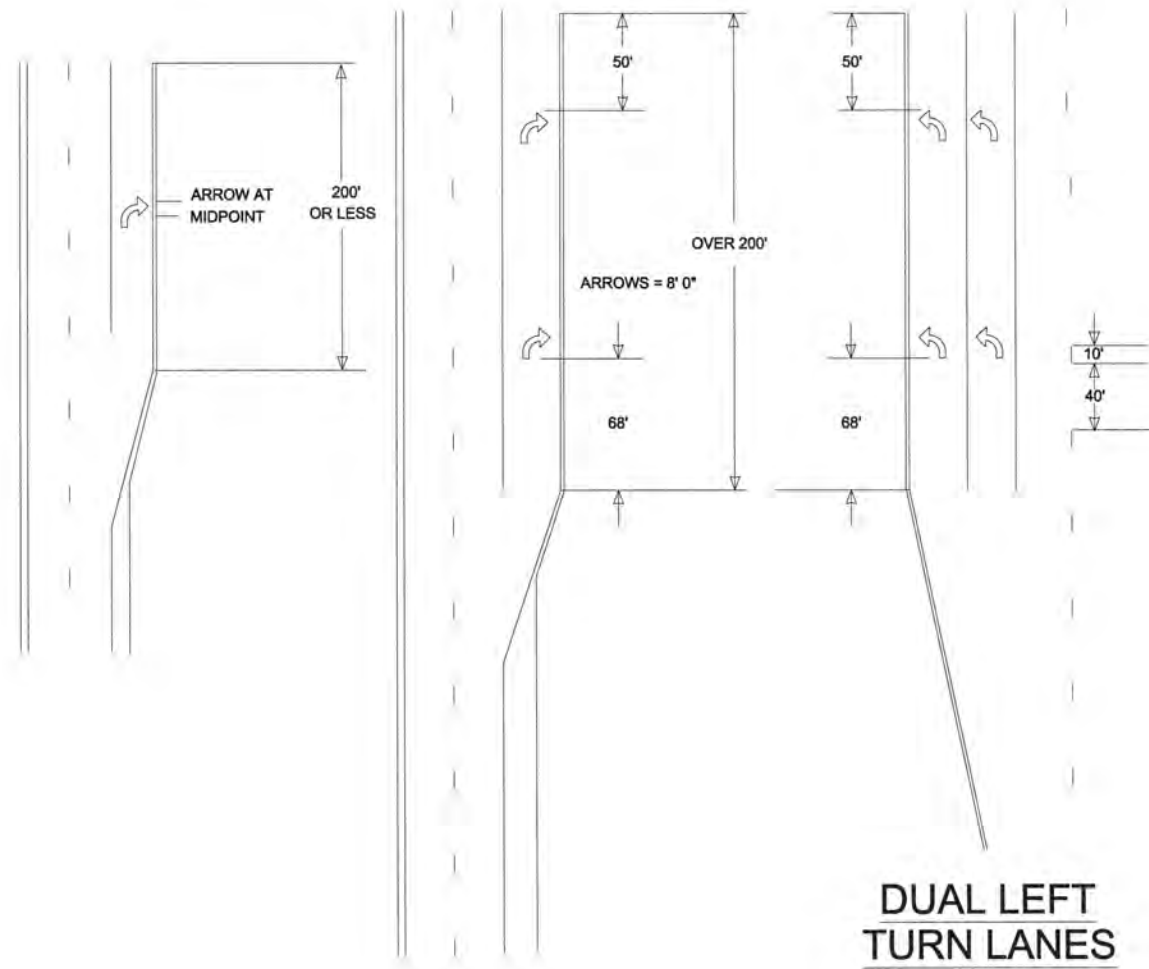
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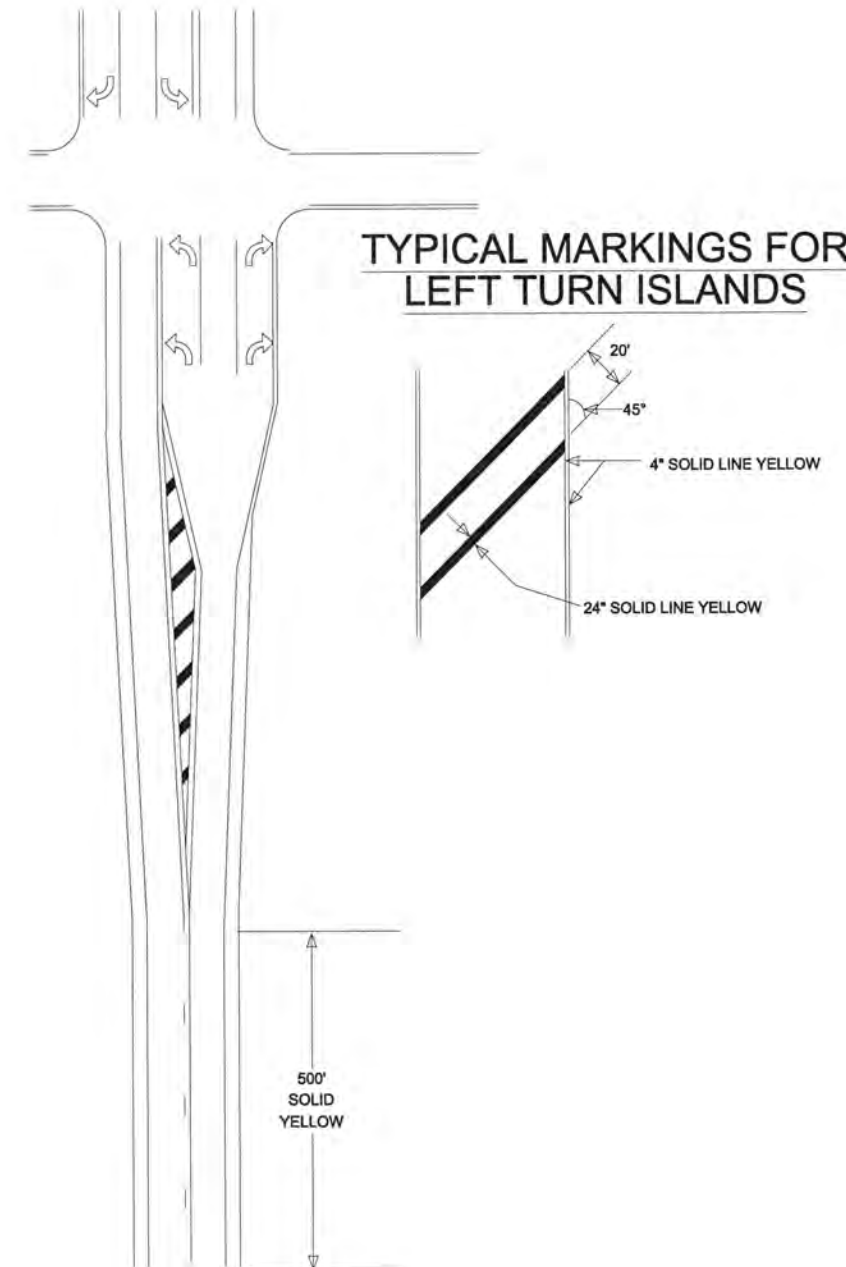
SIGNING & STRIPING
 DETAILS

NO	DATE	BY	CKD	APPR	REVISION

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



NO	DATE	BY	CKD	APPR	REVISION

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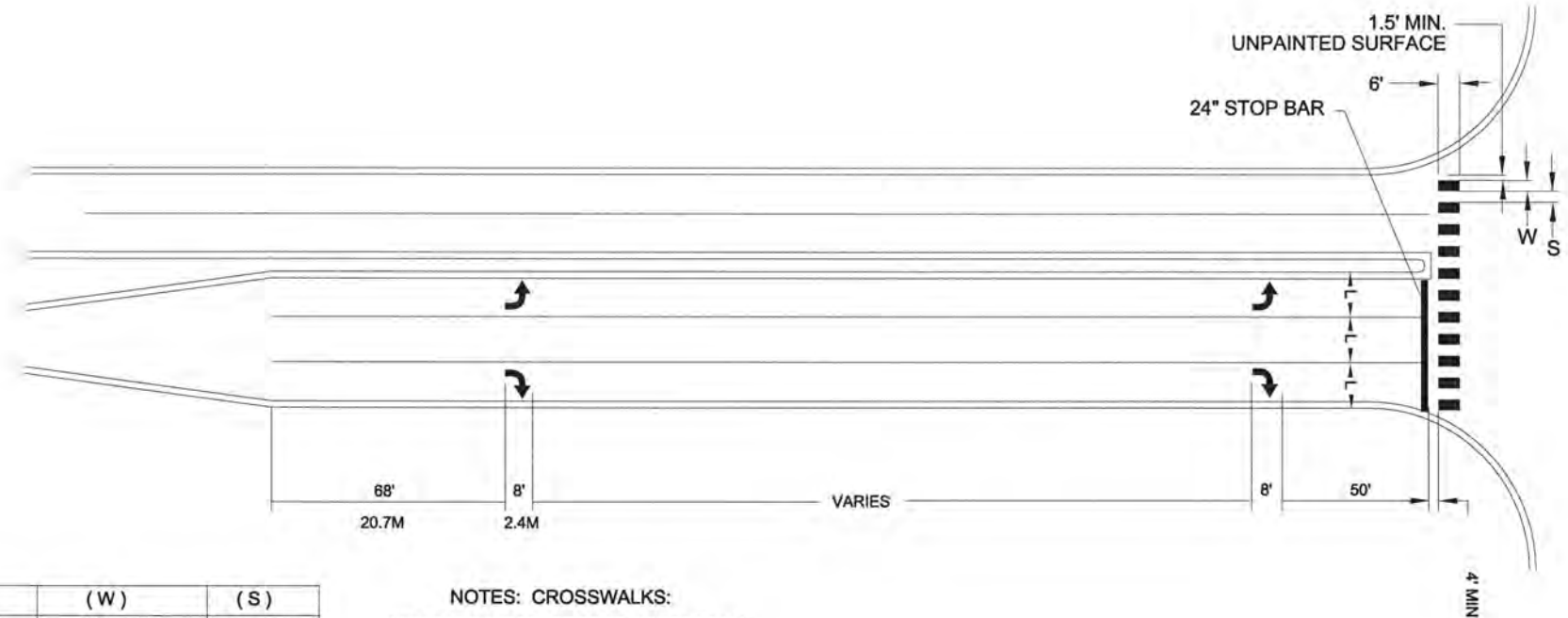
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SIGNING & STRIPING
DETAILS

Sheet 20 of 26 Sheets

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 RAMP 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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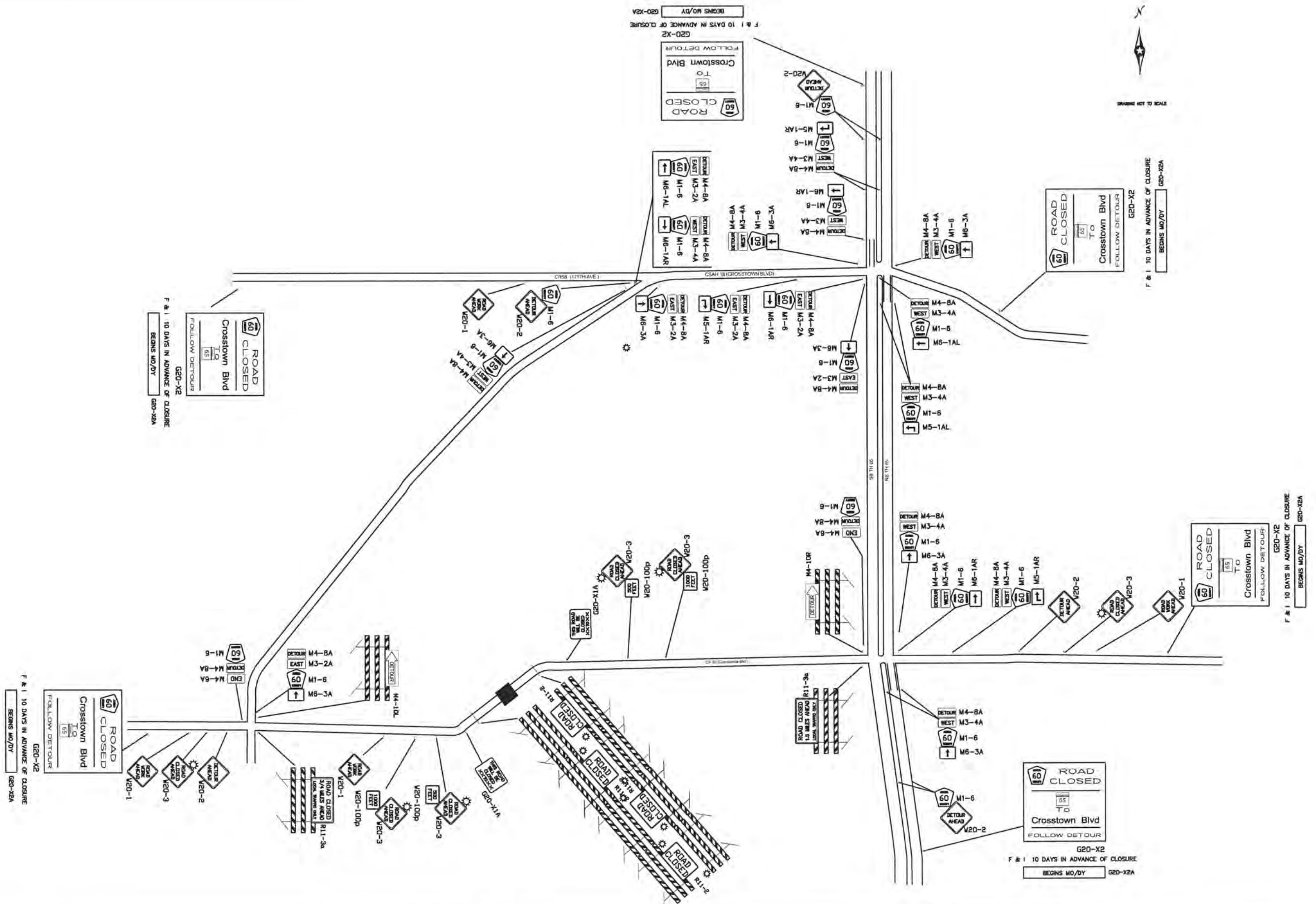


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 DETAILS

NO	DATE	BY	CKD	APPR	REVISION



NO	DATE	BY	CKD	APPR	REVISION

NAME: T:\Traffic\dwg\CR 60 (Constance Blvd)\From Lake Netta Blvd to Lexington Av.dwg

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PRINT NAME: MATTHEW J. JOHN

SIGNATURE: *Matthew J. John*

DATE: 3/28/2017 LICENSE NO. 51639

DRAWN BY: RLB DATE: 2/24/17

DESIGN BY: RLB DATE: 2/24/17

CHECKED BY: JR DATE: 2/24/17

ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

CITY PROJECT NO. _____

COUNTY PROJECT NO. 17-23-60

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
W20-1	48' X 48'		4
M1-6	24' X 24'		3
W20-2	48' X 48'		5
W20-3	48' X 48'		6
W20-100p	24' X 18'		2
W20-100p	24' X 18'		2
M4-10L	48' X 18'		SEE NOTE
TYPE III	8 FOOT		②
			1
M4-10R	48' X 18'		SEE NOTE
TYPE III	8 FOOT		②
			1
R11-3a	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			1
R11-3a	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			1
R11-2	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			2

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
R11-2	48' X 30'		SEE NOTE
TYPE III	8 FOOT		②
FLASHER			2
TYPE III	8 FOOT		SEE NOTE
FLASHER			②
			2
TYPE III	8 FOOT		SEE NOTE
FLASHER			②
			2
G20-X1A	60' X 48'		* 2
G20-X2	132' X 108'		4
G20-X2A			* 4
G20-X2	132' X 108'		2
G20-X2A			* 2

M. U. T. C. D. CODE	SIZE	INSERT	QUANTITY
M4-8A	24' X 12'		6
M3-2A	24' X 12'		6
M1-6	24' X 24'		6
	21' X 15'		M6-1AR 1
			M5-1AR 1
			M6-3A 3
			M6-1AL 1
M4-8A	24' X 12'		15
M3-4A	24' X 12'		15
M1-6	24' X 24'		15
	21' X 15'		M6-1AR 3
			M5-1AR 3
			M5-1AL 2
			M6-1AL 1
			M6-3A 6
M4-6A	24' X 12'		M4-6A 2
M4-8A	24' X 12'		M4-8A 2
M1-6	24' X 24'		M1-6 2

* SIGN TO BE INSTALLED A MINIMUM OF TEN DAYS PRIOR TO ACTUAL CLOSING DATE OF ROAD CLOSURE AND IMPLEMENTATION OF DETOUR SIGNING. SIGNS TO BE REMOVED AT TIME OF DETOUR INSTALLATION.

NOTES:

1. ALL BARRICADES SHALL BE PROPERLY WEIGHTED WITH SANDBAGS.
2. ALL BARRICADES SHALL HAVE REFLECTIVE MATERIAL ON BOTH SIDES.
3. ALL BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL, DATED JANUARY 2014.
4. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL, DATED JANUARY 2014.
5. ADDITIONS OR CHANGES TO THIS PLAN MAY BE MADE AS DETERMINED BY THE ENGINEER.

NO	DATE	BY	CHKD	APPR	REVISION

NAME: T:\Traffic\dwg\CR 60 (Constance Blvd)\from Lake Netta Blvd to Lexington Av.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: MATTHEW J. JOHN
 SIGNATURE:
 DATE: 3/28/2017 LICENSE NO. 51639

DRAWN BY: RLB DATE: 2/24/17
 DESIGN BY: RLB DATE: 2/24/17
 CHECKED BY: JR DATE: 2/24/17



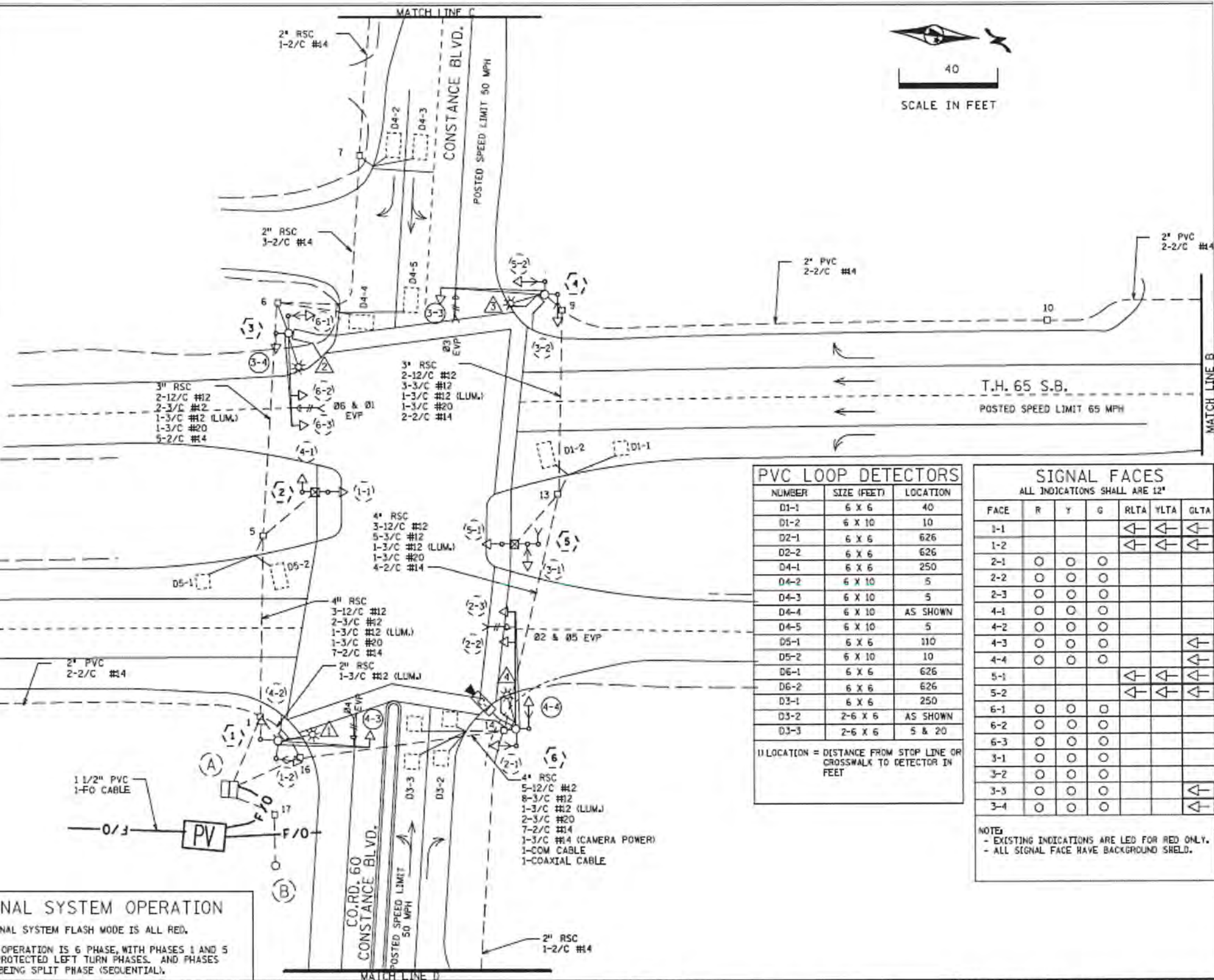
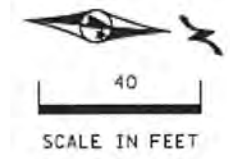
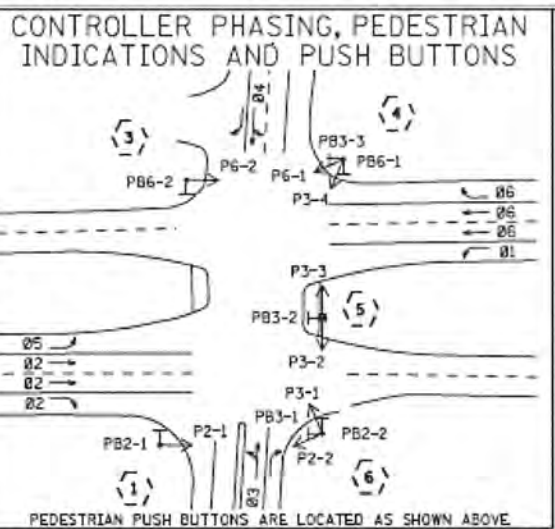
ANOKA COUNTY
 HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 17-23-60

CR 60
 CULVERT DETOUR
 Sheet 23 of 26 Sheets

PLOTTED/REVISED: 8/16/2013

SECTION 2 METRIC
IPLOT NAME: LAYOUT
PATH & FILENAME: IP_PWP-007/81325/AT2183A_SGLDGN



PVC LOOP DETECTORS		
NUMBER	SIZE (FEET)	LOCATION
D1-1	6 X 6	40
D1-2	6 X 10	10
D2-1	6 X 6	626
D2-2	6 X 6	626
D4-1	6 X 6	250
D4-2	6 X 10	5
D4-3	6 X 10	5
D4-4	6 X 10	AS SHOWN
D4-5	6 X 10	5
D5-1	6 X 6	110
D5-2	6 X 10	10
D6-1	6 X 6	626
D6-2	6 X 6	626
D3-1	6 X 6	250
D3-2	2-6 X 6	AS SHOWN
D3-3	2-6 X 6	5 & 20

1) LOCATION = DISTANCE FROM STOP LINE OR CROSSWALK TO DETECTOR IN FEET

SIGNAL FACES						
ALL INDICATIONS SHALL BE 12"						
FACE	R	Y	G	RLTA	YLTA	GLTA
1-1				←	←	←
1-2				←	←	←
2-1	○	○	○			
2-2	○	○	○			
2-3	○	○	○			
4-1	○	○	○			
4-2	○	○	○			
4-3	○	○	○			
4-4	○	○	○			
5-1				←	←	←
5-2				←	←	←
6-1	○	○	○			
6-2	○	○	○			
6-3	○	○	○			
3-1	○	○	○			
3-2	○	○	○			
3-3	○	○	○			
3-4	○	○	○			

NOTE:
- EXISTING INDICATIONS ARE LED FOR RED ONLY.
- ALL SIGNAL FACE HAVE BACKGROUND SHIELD.

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES, AND PHASES 3 & 4 BEING SPLIT PHASE (SEQUENTIAL).

BY	DATE	REVISIONS
		AS-BUILT PLAN SP 0207-94

SYSTEM ID: 21183 T.E.
METER ADDRESS: 16299 HIGHWAY 65
MASTER ID: T.E.

INTERSECTION LAYOUT
TH 65 AT CO. RD. 60 (CONSTANCE BLVD.)
HAM LAKE, ANOKA COUNTY

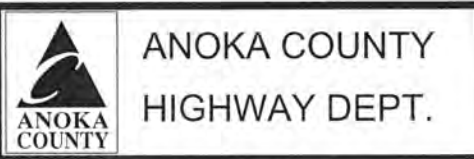
S.A.P. NO. _____ DRAWN BY: BAM CKD BY: CDB DATE: 05-23-11
CERTIFIED BY: *Michael P. Selway* L.I.C. NO. 19863 DATE: 05-23-11
STATE PROJ. NO. 0207-94 (T.H. 65) SHEET NO. SS68 OF SS88 SHEETS

FOR REFERENCE PURPOSES ONLY

NO	DATE	BY	CKD	APPR	REVISION	03/28/2017	9:55:01 AM
NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED (2).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: *Matthew J. John*
DATE: 3/28/2017 LICENSE NO. 51639

DRAWN BY: SAT DATE: 3-12-17
DESIGN BY: SAT DATE: 3-12-17
CHECKED BY: MJJ DATE: 3-12-17



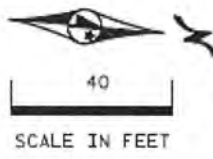
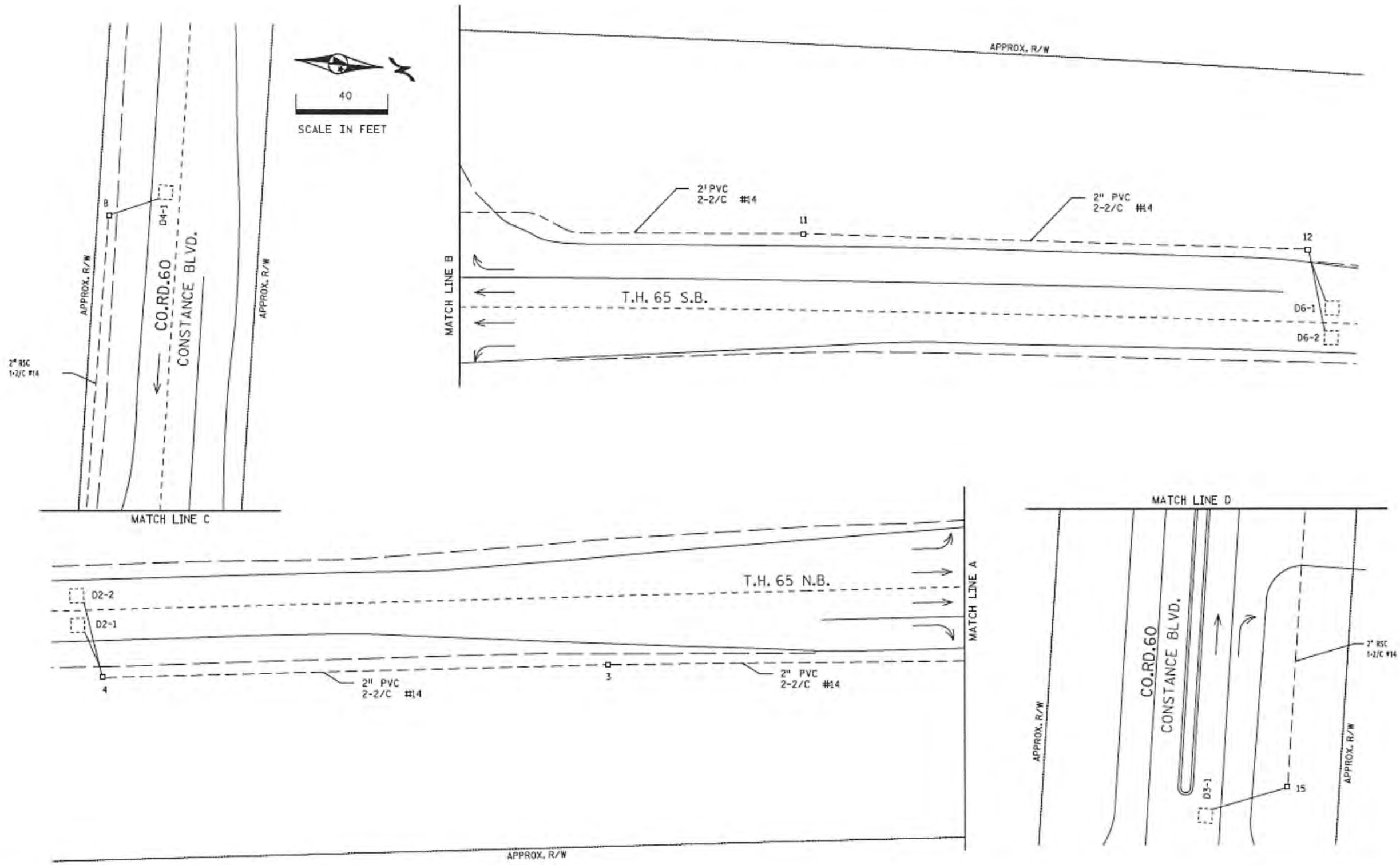
COUNTY PROJECT 17-23-60

ORIGINAL SIGNAL PLAN
Sheet 24 of 26 Sheets

dfrey

PLOTTED/REVISED: 8/6/2013

DISTRICT #: METRO
INPUT NAME: MATCH LINE
PATH & FILENAME: IP_FWP-0078132512183A_SGL.DGN



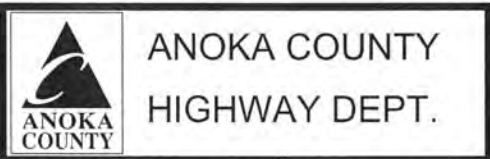
BY	DATE	REVISIONS	SYSTEM ID: 21183	T.E.	MATCH LINES	STATE PROJ. NO. 0207-94 (T.H. 65)	SHEET NO. SS69 OF SS88 SHEETS
		AS-BUILT PLAN SP 0207-94	METER ADDRESS: 16299 HIGHWAY 65		TH 65 AT CO.RD. 60 (CONSTANCE BLVD.) HAM LAKE, ANOKA COUNTY		
			MASTER ID:	T.E.			

FOR REFERENCE PURPOSES ONLY

NO	DATE	BY	CKD	APPR	REVISION	03/28/2017	9:54:30 AM
NAME: P:\17-01-00\CSAH_60_(CSAH18-TH65)\Base\PROPOSED\PROPOSED (2).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: 3/28/2017 LICENSE NO. 51639

DRAWN BY: SAT DATE 3-12-17
 DESIGN BY: SAT DATE 3-12-17
 CHECKED BY: M.JJ DATE 3-12-17

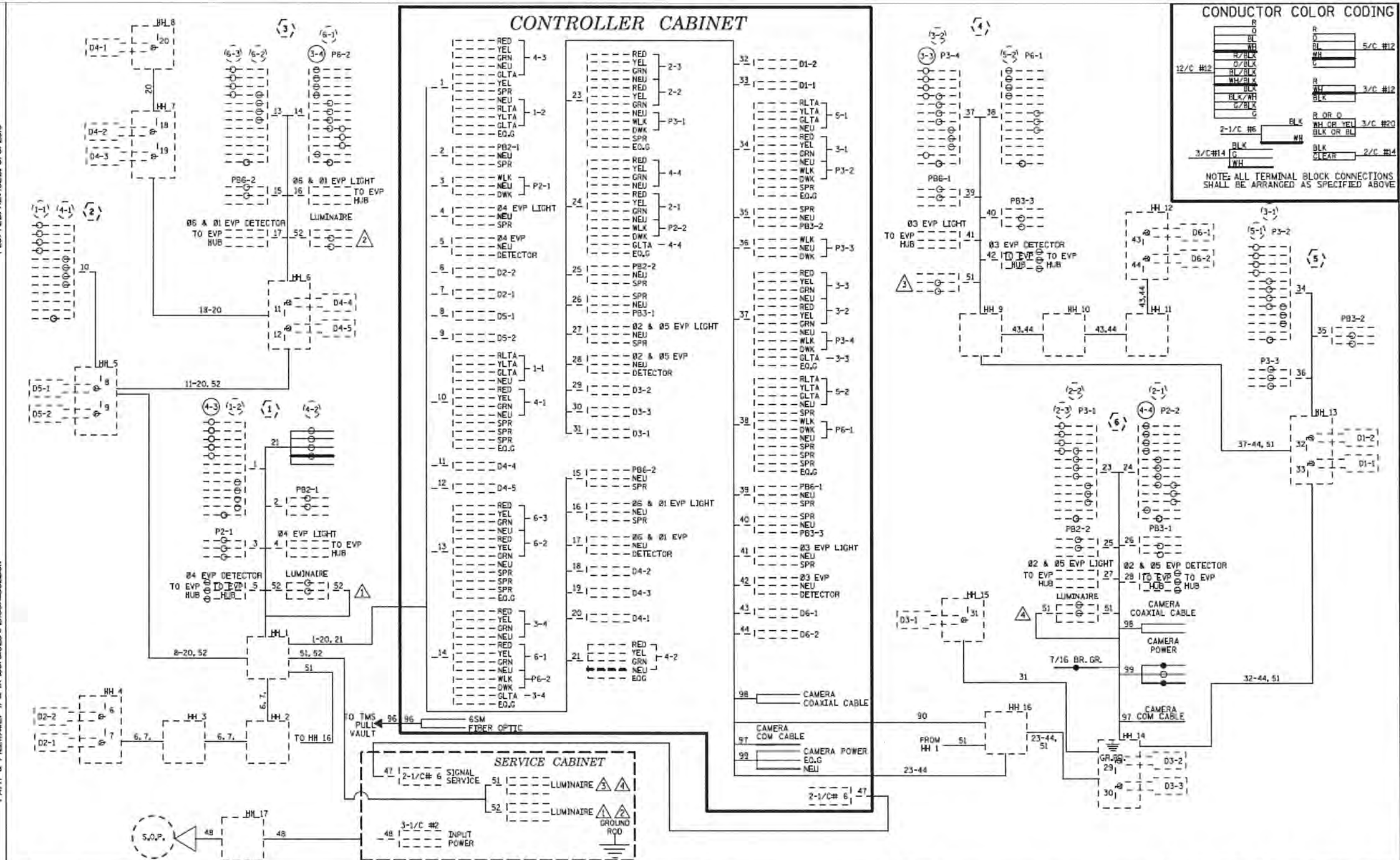


COUNTY PROJECT 17-23-60

ORIGINAL SIGNAL PLAN
 Sheet 25 of 26 Sheets

PLOTTED/REVISED 8/6/2013

DISTRICT #2 METRO
PLOT NAME, WIRE
PATH & FILENAME: IP-PWP-00781323V21083A_SGL.DGN



FOR REFERENCE PURPOSES ONLY

BY	DATE	REVISIONS	SYSTEM ID# 21183	T.E.	FIELD WIRING DIAGRAM	S.A.P. NO.	DRAWN BY: BAM	CKD BY: COB	DATE: 05-23-11
		AS-BUILT PLAN SP 0207-94	METER ADDRESS# 16299 HIGHWAY 65		TH 65 AT CO. RD. 60 (CONSTANCE BLVD.)	CERTIFIED BY: <i>Michael P. Salinsky</i>			LIC. NO. 19863
			MASTER ID:	T.E.	HAM LAKE, ANOKA COUNTY.				DATE: 05-23-11
						STATE PROJ. NO. 0207-94 (T.H.65) SHEET NO. SS71 OF SS88 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: 3/28/2017 LICENSE NO. 51639

DRAWN BY: SAT DATE 3-12-17
 DESIGN BY: SAT DATE 3-12-17
 CHECKED BY: MJJ DATE 3-12-17



ANOKA COUNTY
HIGHWAY DEPT.

COUNTY PROJECT 17-23-60

ORIGINAL SIGNAL PLAN
 Sheet 26 of 26 Sheets