

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR _____ MILL BITUMINOUS SURFACE, BITUMINOUS SURFACING, PAVEMENT MARKINGS

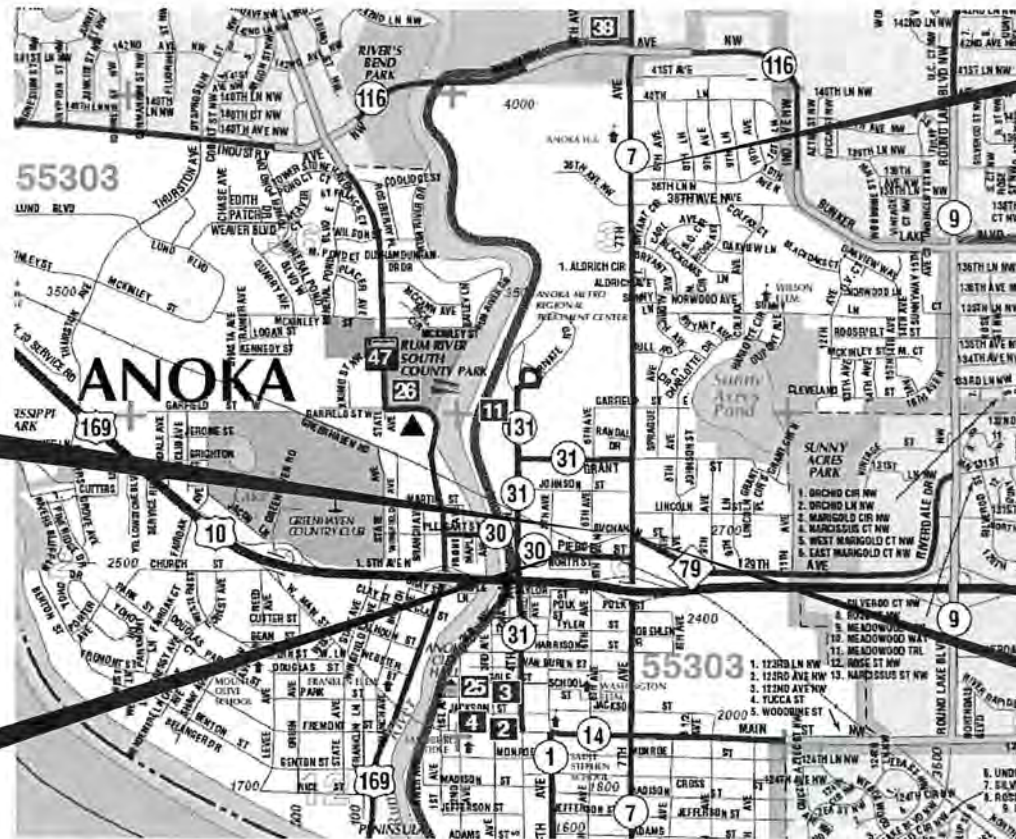
LOCATED ON CSAH 7 BETWEEN BUCHANAN ST. AND 600' NORTH OF 38TH LN

CSAH 7

GROSS LENGTH 6580.00 FEET 1.246 MILES
 EXCEPTIONS-LENGTH 0.00 FEET 0.000 MILES
 NET LENGTH 6580.00 FEET 1.246 MILES

BUCHANAN ST

GROSS LENGTH 510 FEET 0.096 MILES



BEGIN ANOKA 2021-177
 BUCHANAN ST. STA 0+00

END ANOKA 2021-177
 BUCHANAN ST. STA 5+10

END SAP 002-607-026
 CSAH 7, STA: 76+20.00

BEGIN SAP 002-607-026
 CSAH 7, STA: 10+40.00

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

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THIS PLAN CONTAINS 30 SHEETS

Approved  1-26, 2021
 ANOKA COUNTY ENGINEER

Approved  2-3, 2021
 CITY OF ANOKA ENGINEER

PROJECT LOCATION



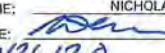
CITY OF ANOKA
 ANOKA COUNTY
 MN/DOT TRANSPORTATION DISTRICT - METRO
 SECTION 10,11
 TOWNSHIP 31 NORTH
 RANGE 24 WEST

DATE _____
 DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY
 DATE _____
 STATE AID ENGINEER:
 APPROVED FOR STATE AID FUNDING

DESIGN DESIGNATION (CSAH 7)

ESAL 20	2,372,000	FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
R VALUE	N/A	NO. OF TRAFFIC LANES	4
ADT (2021)	16,800	NO. OF PARKING LANES	0
PROJ. ADT (2041)	22,900	DESIGN SPEED	35 MPH LINCOLN TO GARFIELD
PROJ. HCADT (2041)	2.8%	DESIGN SPEED	40 MPH GARFIELD TO 38TH AVE
SOIL FACTOR	N/A	DESIGN SPEED	45 MPH 38TH AVE TO END
10 TON DESIGN		STOPPING SIGHT DISTANCE BASED ON:	
		HEIGHT OF EYE	3.5'
		HEIGHT OF OBJECT	2.0'
		DESIGN SPEED NOT ACHIEVED AT:	
		STA. _____ TO STA. _____	MPH _____

NO	DATE	BY	CHKD	APPR	REVISION	01/20/2021	7:00:08 AM
1	1/19/2021	JCF			CHANGED ADT YEARS		

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: NICHOLAS J. DOBDA
 SIGNATURE: 
 DATE: 1/26/20 LICENSE NO. 49046

DRAWN BY JCF DATE 10/28/20
 DESIGN BY JCF DATE 10/28/20
 CHECKED BY NJD DATE 11/29/20



ANOKA COUNTY
 HIGHWAY DEPT.

ANOKA COUNTY SAP 002-607-026
 CITY OF ANOKA 2021-177

TITLE SHEET
 Sheet 1 of 30 Sheets

STATEMENT OF ESTIMATED QUANTITIES							
NOTE	ITEM	CODE	ITEM DESCRIPTION	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED	ANOKA COUNTY SAP 002-607-026 ROADWAY EST QTYS	CITY OF ANOKA 2021-177 BUCHANAN ST. EST QTYS
1,2	2021.501	00010	MOBILIZATION	LUMP SUM	1	0.964	0.036
3	2232.504	00040	MILL BITUMINOUS SURFACE (1.5")	SQ YD	38108	36390	1718
	2357.506	00010	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1906	1820	86
4	2360.509	10100	TYPE SP 9.5 BIT MIXTURE FOR PATCHING	TON	40	40	
	2360.509	14500	TYPE SP 9.5 WEARING COURSE MIXTURE (4,E)	TON	3286	3138	148
5, 15	2550.602	10000	LOOP DETECTOR DESIGN NMC (6'X6')	EACH	12	8	4
	2563.601	00001	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1	0.964	0.036
6	2563.601	00010	TRAFFIC CONTROL	LUMP SUM	1	0.964	0.036
7	2563.610	00011	FLAGGER	HOUR	40	40	
8	2563.610	00020	POLICE OFFICER	HOUR	20	20	
9	2563.613	01100	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	40	40	
10	2573.502	00110	STORM DRAIN INLET PRODUCTION	EACH	31	31	
11	2581.503	00010	REMOVABLE PREFORM PAVEMENT MARKING TAPE	LIN FT	845	845	
12	2582.503	10204	4" BROKEN LINE PAINT	LIN FT	3916	3916	
13, 14	2582.503	30104	4" SOLID LINE MULTI COMP	LIN FT	14424	14424	
13, 14	2582.503	30304	4" BROKEN LINE MULTI COMP	LIN FT	2664	2664	
13, 14, 15	2582.503	30404	4" DBLE SOLID LINE MULTI COMP	LIN FT	6482	6322	160
14	2582.518	04000	PAVT MSSG PREF THERMO	SQ FT	48	48	
14	2582.518	08000	CROSSWALK PREF THERMO	SQ FT	1314	1314	
14	2582.603	79000	PAVEMENT MARKING SPECIAL	LIN FT	230	230	


CONSTRUCTION NOTES	
1	CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNERS 48 HOURS BEFORE STARTING OPERATIONS.
2	CONTRACTOR IS RESPONSIBLE FOR CONTACTING METRO TRANSIT BUS SERVICE 7 DAYS BEFORE STARTING OPERATIONS.
3	MILLING MUST NOT EXCEED 1.5" AND WILL BE STRICTLY MONITORED TO PRESERVE INPLACE SIGNAL LOOPS ON 7TH AVE. DETAIL MILLING AROUND MANHOLES, CATCH BASINS, GATE VALVES, AND ALONG CURB LINE IS INCIDENTAL TO THIS ITEM.
4	BITUMINOUS PATCHING OF DEEP OR WIDE CRACKS / VOIDS FOLLOWING MILLING, PATCHING TO BE FLUSH WITH MILLING. PATCHING TO TAKE PLACE PRIOR TO PAVING WEAR COURSE AT THE DISCRETION AND DIRECTION OF THE ENGINEER.
5	LOOP REPLACEMENT REQUIRED AT THE 7TH AVE / BUCHANAN STREET SIGNAL. 8 LEFT TURN LANE LOOPS TO BE REPLACED ON 7TH AVE PAID FOR BY ANOKA COUNTY. 4 LOOPS ON BUCHANAN ST WEST TO BE REPLACED, PAID FOR BY CITY OF ANOKA. ALL LOOP REPLACEMENTS TO TAKE PLACE PRIOR TO PAVING WEAR COURSE. FINAL PLACEMENT OF LOOPS TO BE APPROVED BY ANOKA COUNTY. 7TH AVE EXISTING SIGNAL PLANS ARE INCLUDED AT THE END OF THIS PLAN SET.
6	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO, AND BE INSTALLED IN ACCORDANCE WITH, THE MOST CURRENT REVISION OF THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE INPLACE WHENEVER PAVEMENT MARKINGS ARE NOT PRESENT.
7	ITEM TO BE USED FOR TRAFFIC CONTROL DURING MILLING AND PAVING OPERATIONS.
8	ITEM TO BE USED FOR TRAFFIC MANAGEMENT AT SIGNALIZED INTERSECTIONS DURING MILLING AND PAVING OPERATIONS.
9	2 MESSAGE BOARDS, ONE ON EACH END OF PROJECT, WILL BE INSTALLED 10 DAYS PRIOR TO ANY CONSTRUCTION; MESSAGE BOARDS TO REMAIN UP FOR DURATION OF PROJECT. REFERENCE STRIPING PLAN FOR DETAILS.
10	INSTALL STORM DRAIN INLET PROTECTION IN CATCH BASINS WITHIN MILLING AREA PRIOR TO MILLING OPERATIONS.
11	TEMPORARY YELLOW CENTERLINE SKIPS AND WHITE LANE DESIGNATION SKIPS TO BE APPLIED EVERY 50' AS SOON AS POSSIBLE ON NEWLY PAVED SURFACE; SKIPS MUST BE INPLACE BEFORE OPENING TO TRAFFIC AND BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE TEMPORARY PAVEMENT MARKINGS PRIOR TO FINAL MULTI COMP STRIPING.
12	USED FOR LANE MARKINGS ON MILLED SURFACE.
13	FINAL STRIPING ON NEW BITUMINOUS.
14	FINAL STRIPING AND PAVEMENT MARKINGS SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
15	160' OF NEW DBL YELLOW CENTERLINE FOR CITY OF ANOKA, WEST LEG OF BUCHANAN ST TO BE ESTABLISHED. LOCATION TO BE ESTABLISHED BY ANOKA COUNTY ENGINEER ONSITE WITH OVERSITE BY ANOKA COUNTY TRAFFIC DEPARTMENT FOR PROPER LOOP PLACEMENT AND SIGNAL HEAD ALIGNMENT. THIS TO BE DETERMINED PRIOR TO LOOP REPLACEMENT.

TABULATIONS										
ANOKA COUNTY							CITY OF ANOKA			
MILL BITUMINOUS PAVEMENT 1.5"	BITUMINOUS MATERIAL FOR TACK COAT	TYPE SP 9.5 WEARING COURSE MIX (4,E)	TYPE SP 9.5 BIT MIXTURE FOR PATCHING	STORM DRAIN INLET PROTECTION	REMOVABLE PREFORM MARKING TAPE	LOOP DETECTOR DESIGN NMC (6'X6')	LOOP DETECTOR DESIGN NMC (6'X6')	MILL BITUMINOUS PAVEMENT 1.5"	BITUMINOUS MATERIAL FOR TACK COAT	TYPE SP 9.5 WEARING COURSE MIX (4,E)
SQ YD	GAL	TON	TON	EACH	LIN FT	EACH	EACH	SQ YD	GAL	TON
36390	1820	3138	40	31	1053	8	4	1718	86	148

NOTE: SEE "STAGING QUANTITIES TABULATION" PLAN SHEETS 17 & 18 FOR TEMPORARY TRAFFIC CONTROL SIGNS AND TEMPORARY PAVEMENT MARKING TABULATION.
NOTE: SEE "PAVEMENT MARKING TABULATION" PLAN SHEET 19 FOR PERMANENT PAVEMENT MARKING QUANTITIES.

BASIS OF QUANTITIES			
ITEM NUMBER	DESCRIPTION	UNIT	RATE
2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	0.05 GAL / SQ YD
2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (4,E)	TON	115LBS X SQ YDS X IN / 2000
2581.503	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	LIN FT	PROJECT LENGTH / 50 X 2'
2582.518	PAVT MSSG PREF THERMO	SQ FT	NUMBER OF ARROWS X 16 SQ FT EACH = SQ FT
2582.518	CROSSWALK PREF THERMO	SQ FT	NUMBER OF BARS X 18 SQ FT EACH = SQ FT
2582.603	PAVEMENT MARKING SPECIAL	LIN FT	LENGTH OF 24" WIDE STOP BARS / HASH MARKS

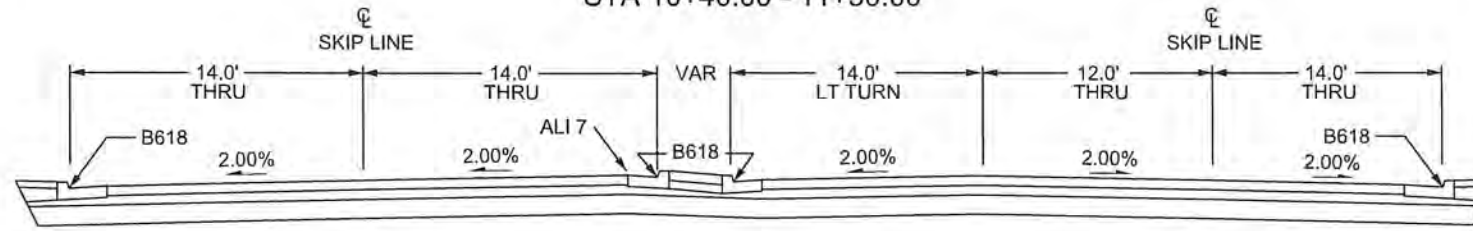
MNDOT STANDARD PLATES	
PLATE NUMBER	DESCRIPTION
8000J	CHANNELIZERS (3 SHEETS)

1	1/19/2021	JCF			ADDED STANDARD PLATE TAB	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: NICHOLAS J. DOBDA SIGNATURE: <i>[Signature]</i> DATE: 1/26/21 LICENSE NO. 49046	DRAWN BY: JCF DATE: 10/28/20 DESIGN BY: JCF DATE: 10/28/20 CHECKED BY: NJD DATE: 11/20/20	 ANOKA COUNTY HIGHWAY DEPT.	ANOKA COUNTY SAP 002-607-026 CITY OF ANOKA 2021-177	STATEMENT OF ESTIMATED QUANTITIES, TABS / NOTES AND BASIS OF QUANTITIES Sheet 2 of 30 Sheets
NO	DATE	BY	CKD	APPR	REVISION					
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JCFoster

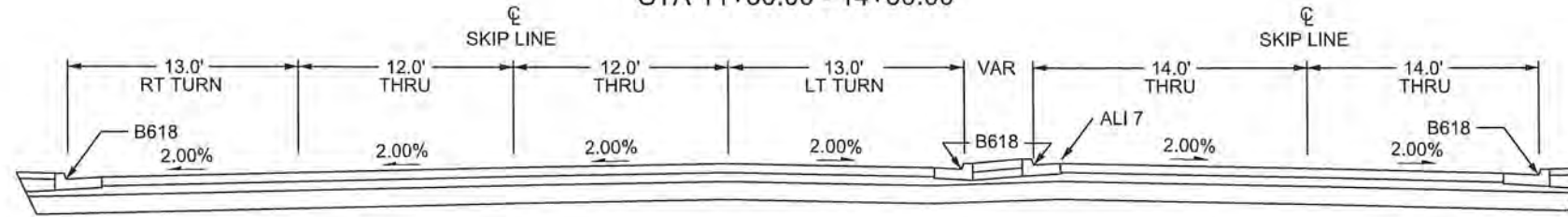
CSAH 7 - 7TH AVE

(EXISTING) SECTION
STA 10+40.00 - 11+50.00



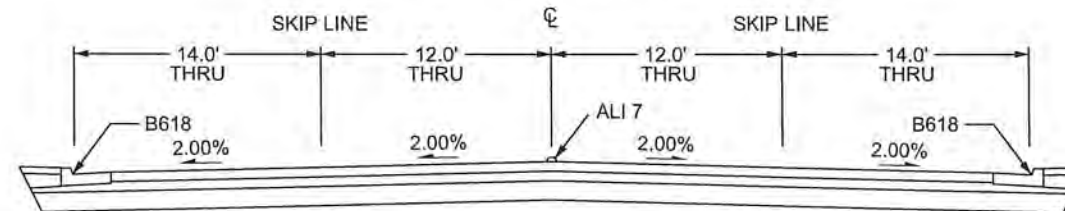
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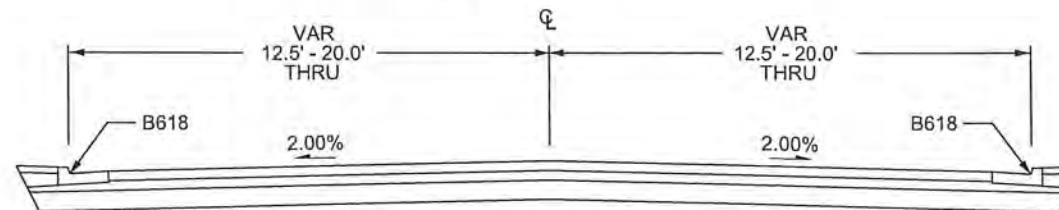
CSAH 7 - 7TH AVE

(EXISTING) SECTION
STA 14+60.00 - 76+20.00



BUCHANAN ST. WEST

CITY STREET (EXISTING) SECTION
STA 0+00 - 5+10



NO	DATE	BY	CHKD	APPR	REVISION	01/08/2021	8:21:10 AM

NAME: P:\002-607-026\Plan\OVERLAY PLAN 12_21_2020\002607026_TP.dgn

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PRINT NAME: NICHOLAS J. DOBDA

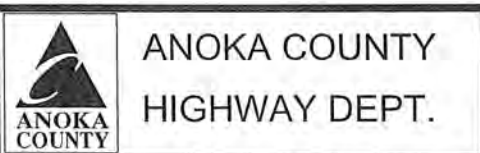
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DATE: 1/26/21 LICENSE NO. 49046

DRAWN BY: JCF DATE: 10/29/20

DESIGN BY: JCF DATE: 10/28/20

CHECKED BY: NJD DATE: 11/20/20



ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

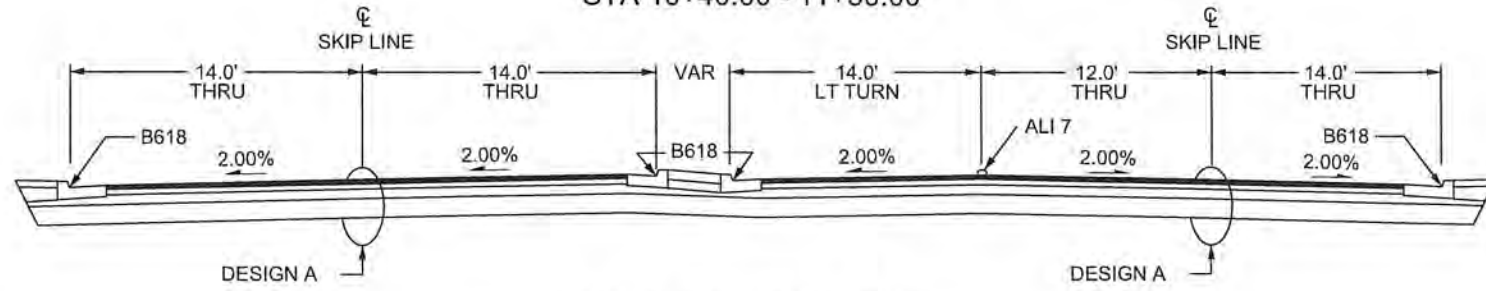
EXISTING
TYPICAL SECTIONS

Sheet 3 of 30 Sheets

JCFoster

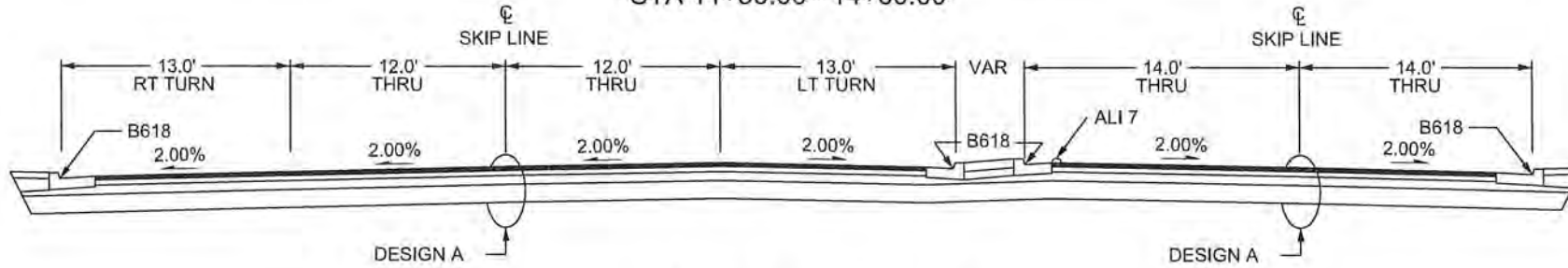
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(PROPOSED) SECTION
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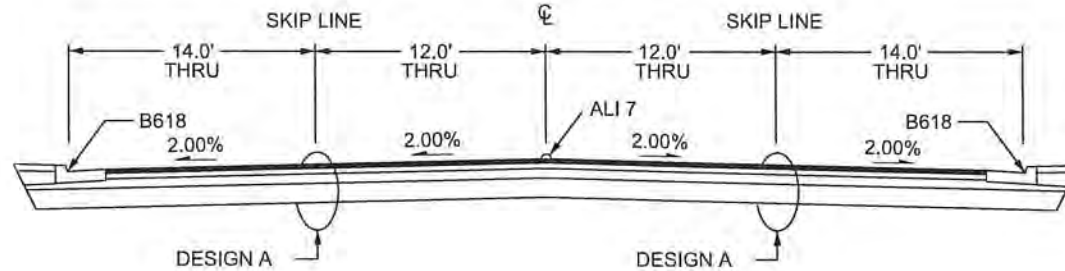
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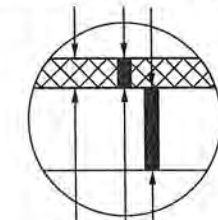
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(PROPOSED) SECTION
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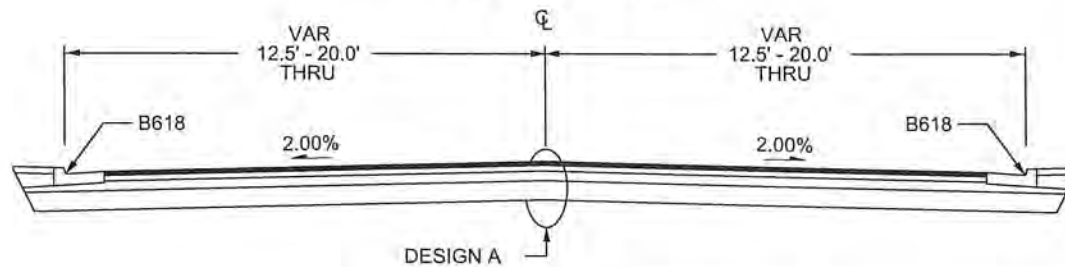
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DESIGN A MILL / OVERLAY



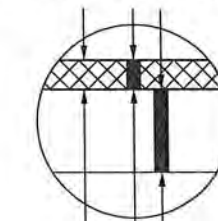
1.5" BITUMINOUS MILL
1.5" BITUMINOUS WEAR SP 9.5 (SPWEA440E) OVERLAY
REMAINING BITUMINOUS

BUCHANAN ST. WEST CITY STREET (PROPOSED) SECTION STA 0+00 - 5+10



NOTE: ALL CONSTRUCTION TO TAKE PLACE BETWEEN THE CURBLINES

DESIGN A MILL / OVERLAY



1.5" BITUMINOUS MILL
1.5" BITUMINOUS WEAR SP 9.5 (SPWEA440E) OVERLAY
REMAINING BITUMINOUS

NO	DATE	BY	CHKD	APPR	REVISION	01/08/2021	8:21:58 AM
NAME: P:\002-607-026\Plan\OVERLAY PLAN 12_21_2020\002607026_TP.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: NICHOLAS J. DOBDA
SIGNATURE: *[Signature]*
DATE: 1/26/21 LICENSE NO. 49046

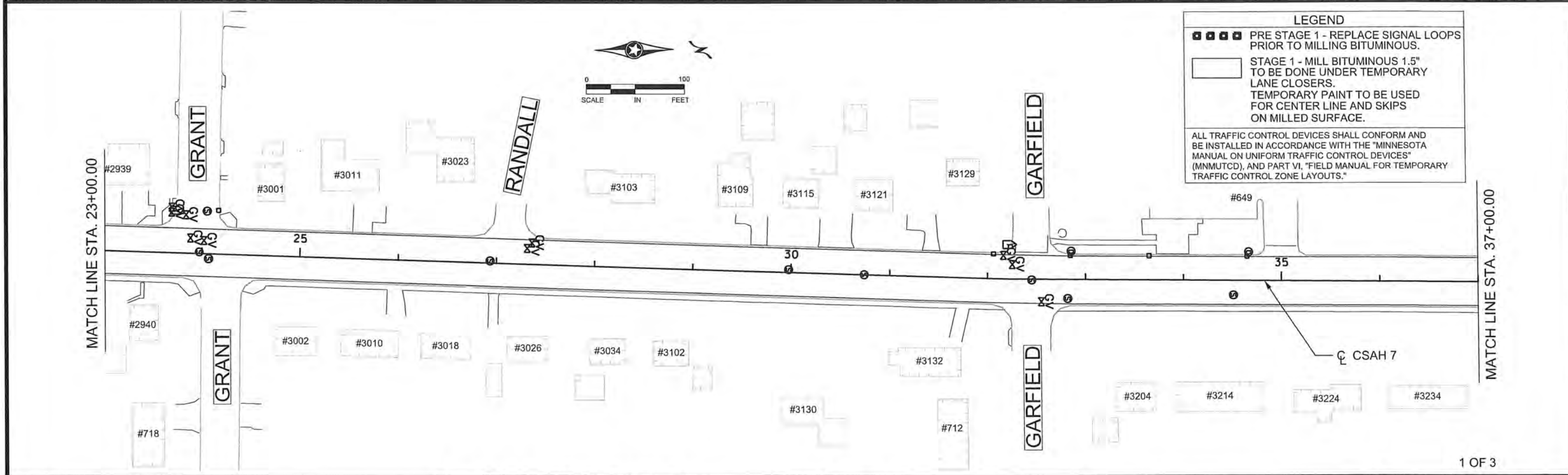
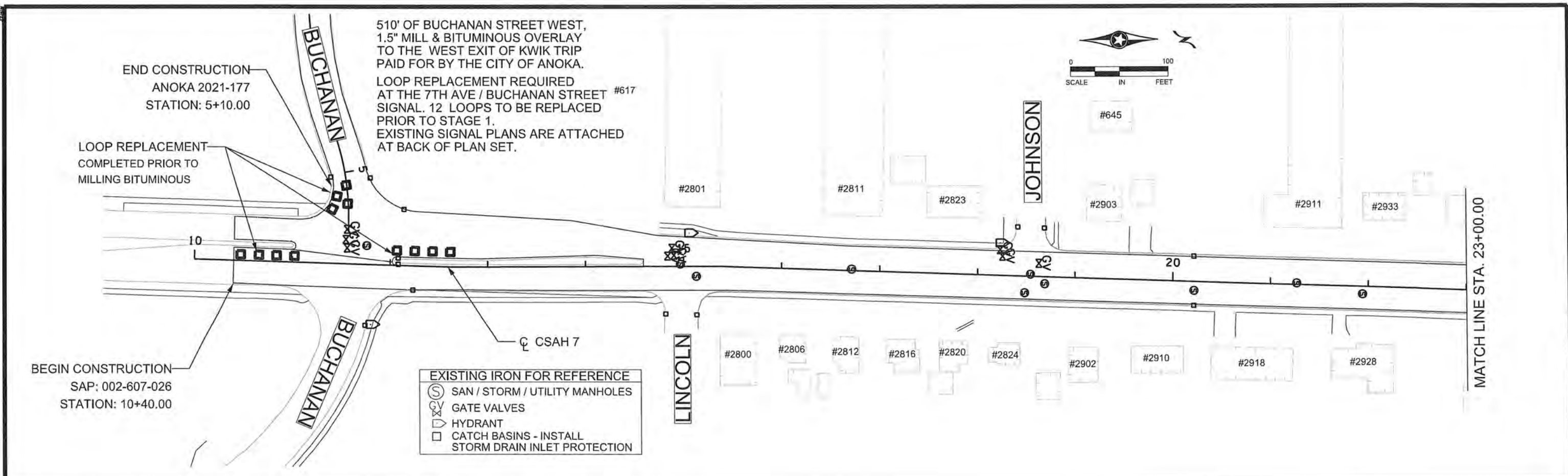
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CHECKED BY: NJD DATE: 11/20/20

ANOKA COUNTY
HIGHWAY DEPT.

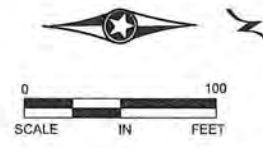
ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

PROPOSED
TYPICAL SECTIONS

Sheet 4 of 30 Sheets



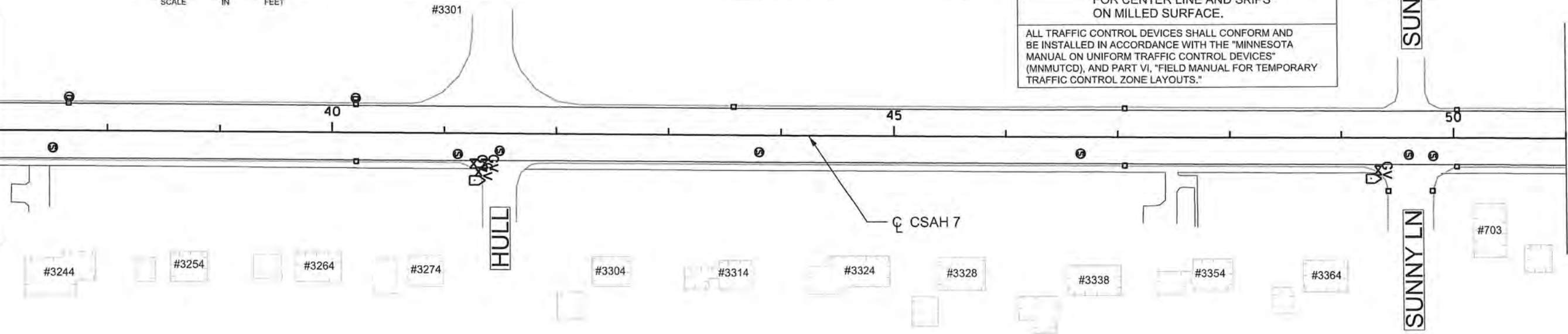
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: NICHOLAS J. DOBDA SIGNATURE: <i>N. Dobda</i> DATE: 1/26/21 LICENSE NO. 49046					DRAWN BY: JCF DATE: 10/28/20 DESIGN BY: JCF DATE: 10/28/20 CHECKED BY: NJD DATE: 11/20/20		ANOKA COUNTY HIGHWAY DEPT.		ANOKA COUNTY SAP 002-607-026 CITY OF ANOKA 2021-177		CONSTRUCTION STAGE 1 STA 10+00.00 TO 37+00.00 Sheet 5 of 30 Sheets	
NO	DATE	BY	CKD	APPR	REVISION	NAME: P:\002-607-026\Plan\OVERLAY PLAN 12_21_2020\002607026_CS1_1.dgn 01/08/2021 8:24:22 AM						



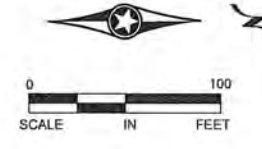
- EXISTING IRON FOR REFERENCE**
- SAN / STORM / UTILITY MANHOLES
 - GATE VALVES
 - HYDRANT
 - CATCH BASINS - INSTALL STORM DRAIN INLET PROTECTION

- LEGEND**
- PRE STAGE 1 - REPLACE SIGNAL LOOPS PRIOR TO MILLING BITUMINOUS.
 - STAGE 1 - MILL BITUMINOUS 1.5" TO BE DONE UNDER TEMPORARY LANE CLOSERS. TEMPORARY PAINT TO BE USED FOR CENTER LINE AND SKIPS ON MILLED SURFACE.
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

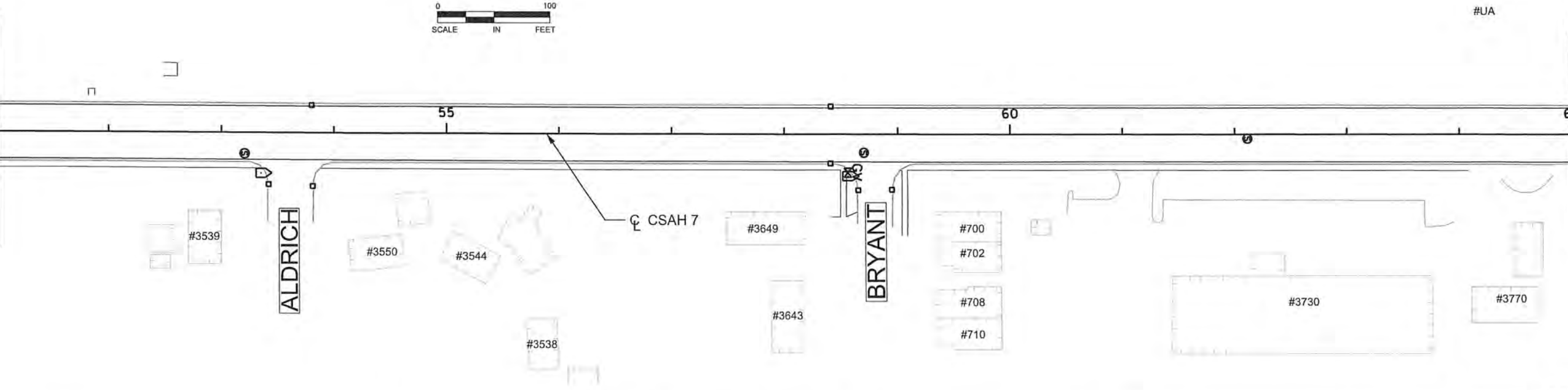
MATCH LINE STA. 37+00.00



MATCH LINE STA. 51+00.00



MATCH LINE STA. 51+00.00



MATCH LINE STA. 65+00.00

NO	DATE	BY	CKD	APPR	REVISION

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

PRINT NAME: NICHOLAS J. DOBDA

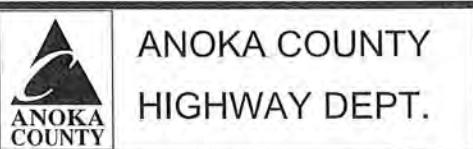
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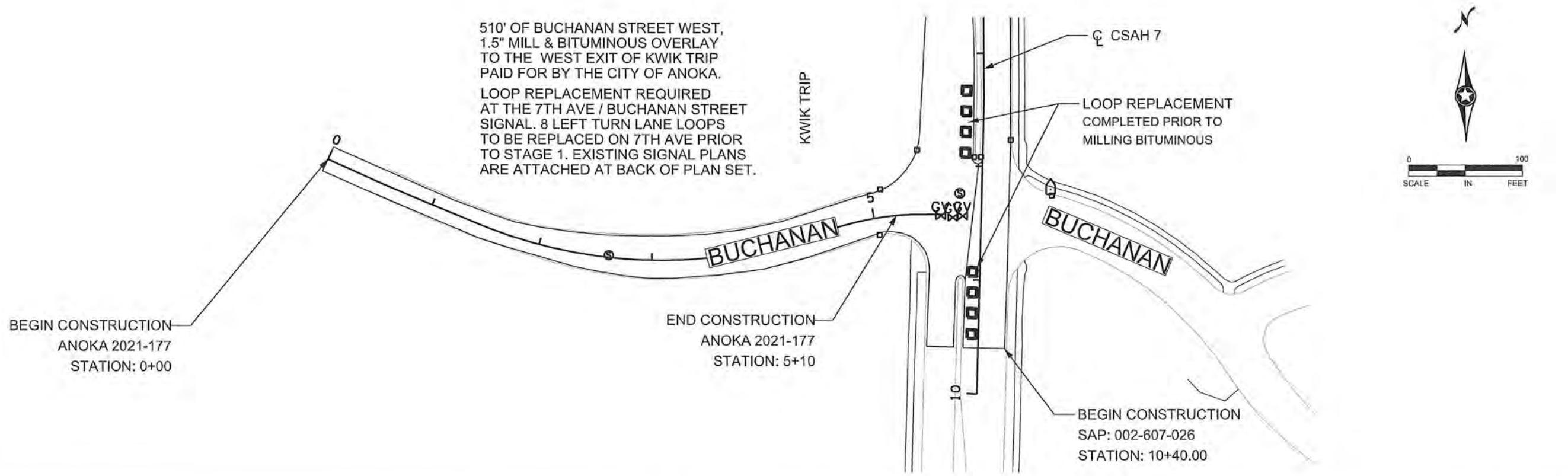
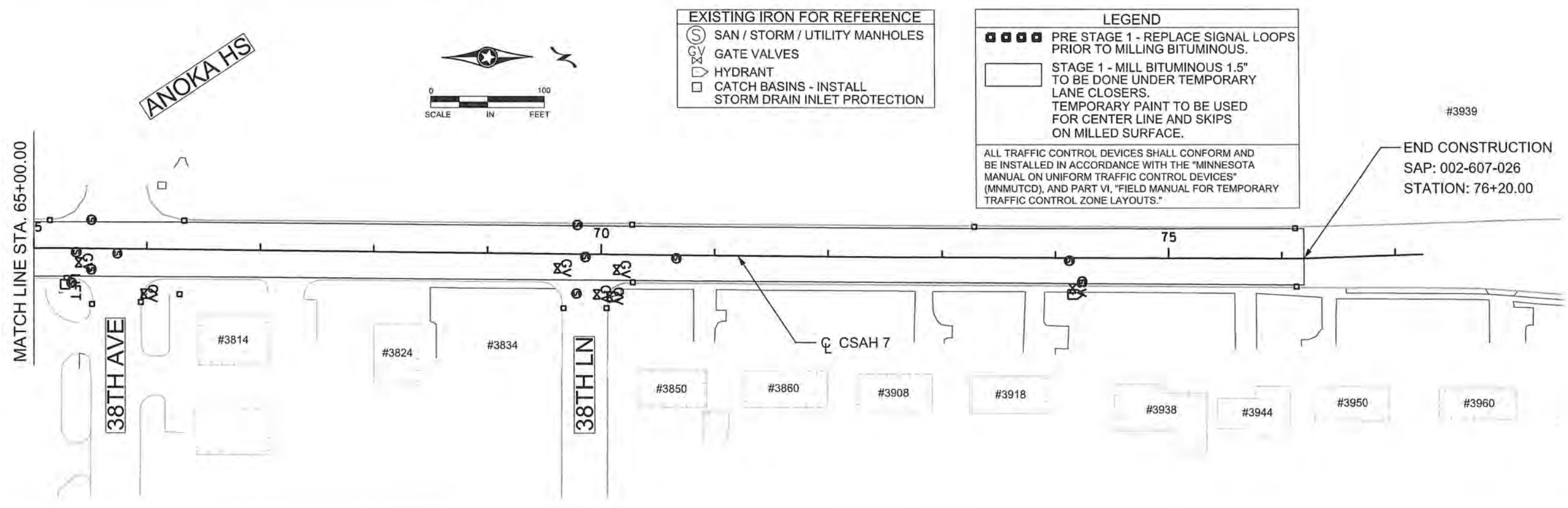
DESIGN BY: JCF DATE: 10/28/20

CHECKED BY: NJD DATE: 11/20/20



ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

CONSTRUCTION STAGE 1
STA 37+00.00 TO 65+00.00
Sheet 6 of 30 Sheets



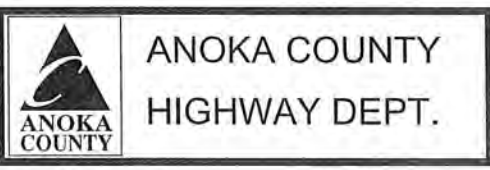
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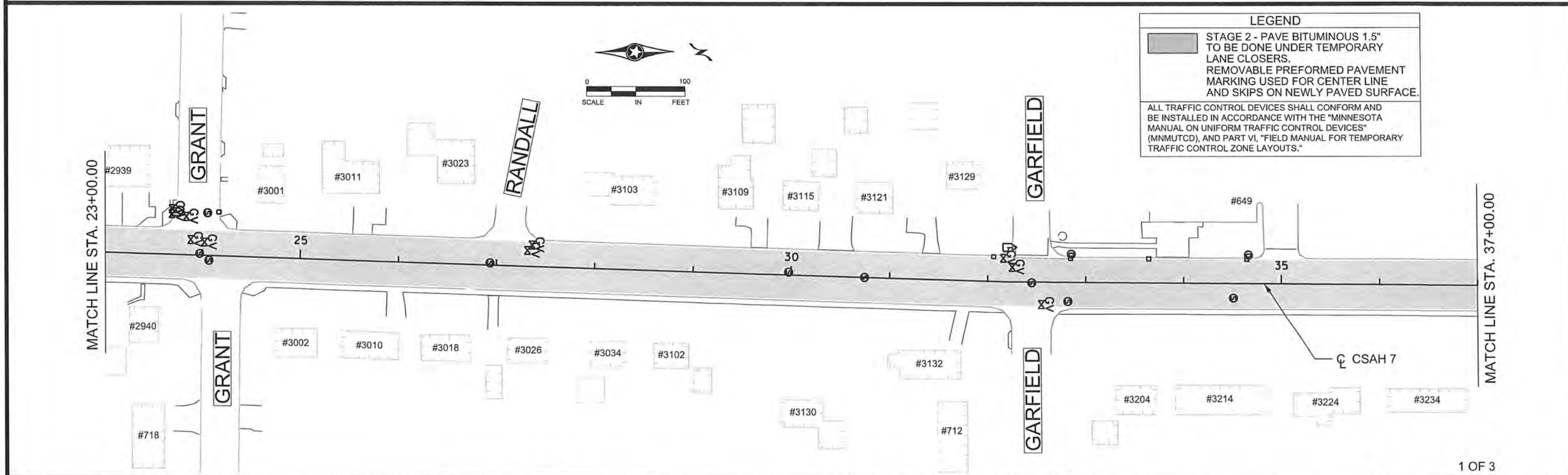
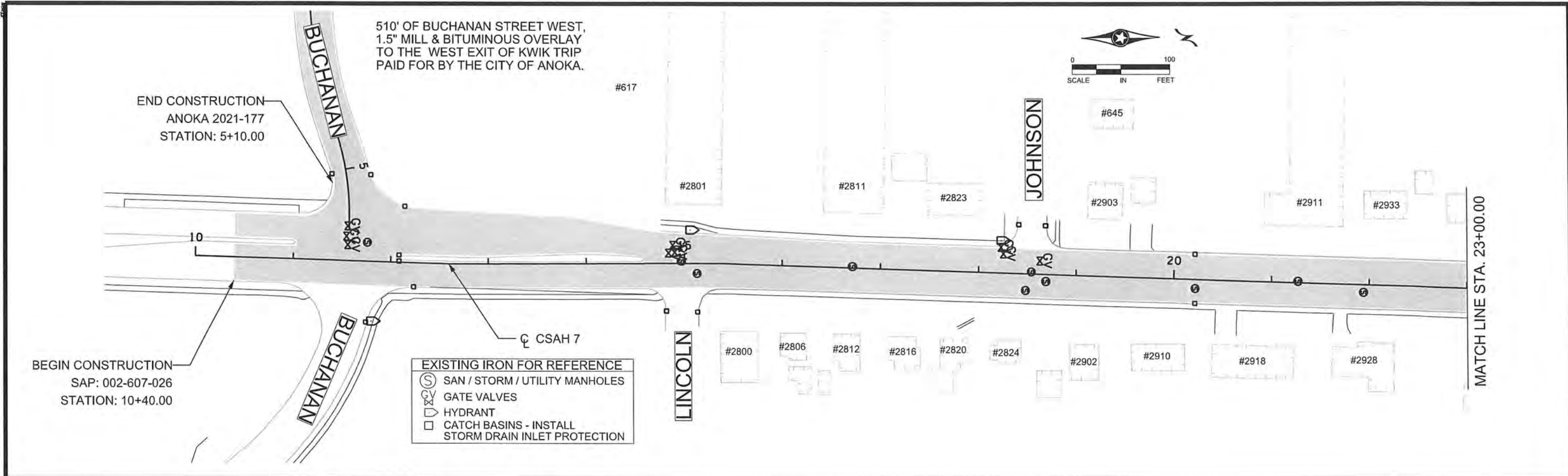
PRINT NAME: NICHOLAS J. DOBDA
 SIGNATURE: *N. Dobda*
 DATE: 1/26/21 LICENSE NO. 49046

DRAWN BY: JCF DATE: 10/28/20
 DESIGN BY: JCF DATE: 10/28/20
 CHECKED BY: NJD DATE: 11/20/20

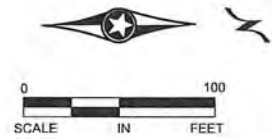


ANOKA COUNTY SAP 002-607-026
 CITY OF ANOKA 2021-177

CONSTRUCTION - STAGE 1
 STA 65+00.00 TO 76+00.00
 &
 CITY PORTION, BUCHANAN ST. WEST
 Sheet 7 of 30 Sheets



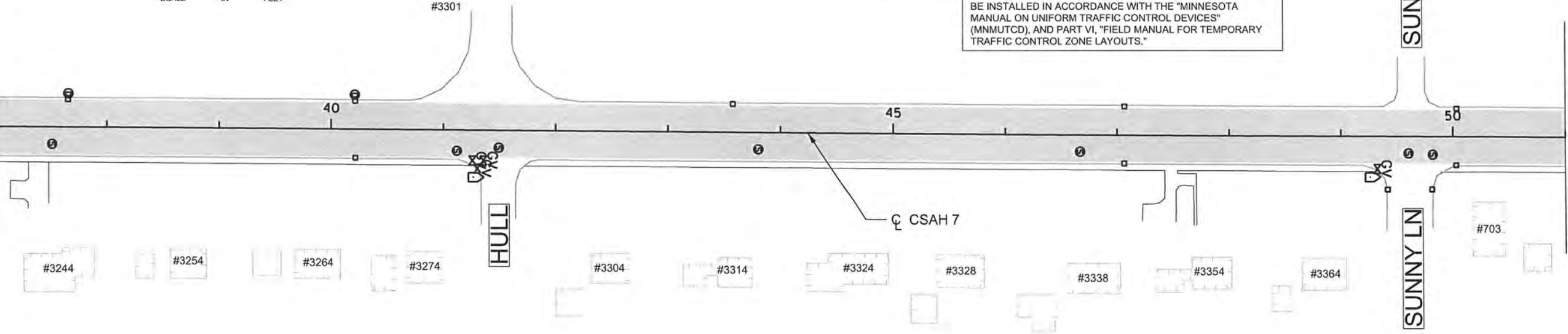
NO. DATE BY CKD APPR REVISION NAME: P:\002-607-026\Plan\OVERLAY PLAN 12_21_2020\002607026_CS2_1.dgn 01/08/2021 8:29:17 AM					I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINT NAME: NICHOLAS J. DOBDA SIGNATURE: <i>NJD</i> DATE: 1/26/21 LICENSE NO. 49046		DRAWN BY: JCF DATE: 10/28/20 DESIGN BY: JCF DATE: 10/28/20 CHECKED BY: NJD DATE: 11/20/20		ANOKA COUNTY HIGHWAY DEPT.		ANOKA COUNTY SAP 002-607-026 CITY OF ANOKA 2021-177		CONSTRUCTION STAGE 2 STA 10+00.00 TO 37+00.00 Sheet 8 of 30 Sheets	
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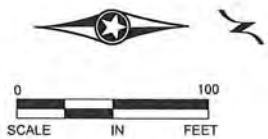
- EXISTING IRON FOR REFERENCE**
- ⊙ SAN / STORM / UTILITY MANHOLES
 - ⊗ GATE VALVES
 - ⊕ HYDRANT
 - CATCH BASINS - INSTALL STORM DRAIN INLET PROTECTION

- LEGEND**
- ▭ STAGE 2 - PAVE BITUMINOUS 1.5" TO BE DONE UNDER TEMPORARY LANE CLOSERS.
 - ▭ REMOVABLE PREFORMED PAVEMENT MARKING USED FOR CENTER LINE AND SKIPS ON NEWLY PAVED SURFACE.
- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

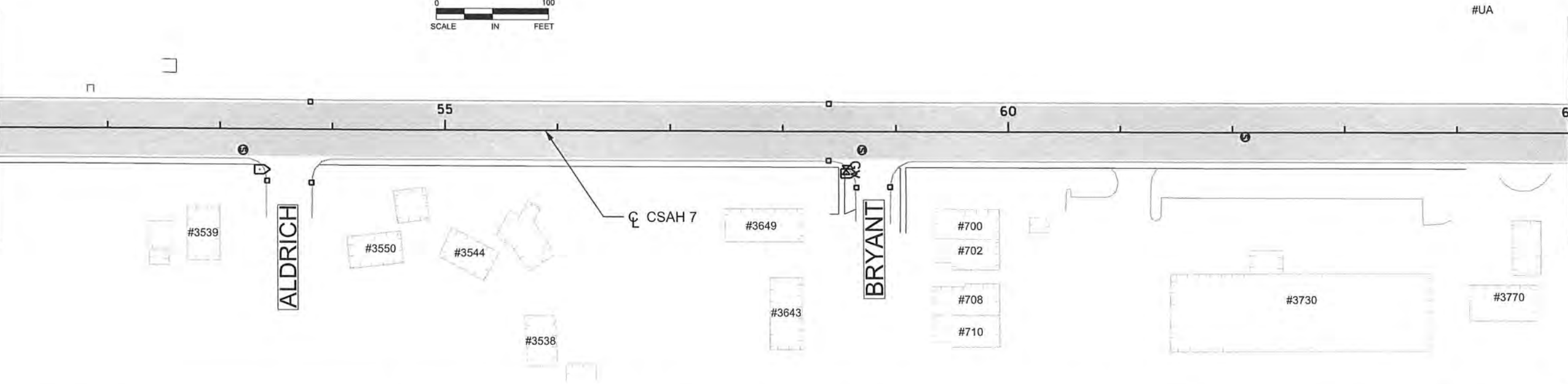
MATCH LINE STA. 37+00.00



MATCH LINE STA. 51+00.00



MATCH LINE STA. 51+00.00



MATCH LINE STA. 65+00.00

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-607-026\Plan\OVERLAY PLAN 12_21_2020\002607026_CS2_2.dgn 01/08/2021 8:32:45 AM

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

PRINT NAME: NICHOLAS J. DOBDA

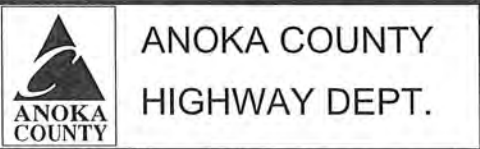
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DATE: 1/26/21 LICENSE NO. 49046

DRAWN BY: JCF DATE: 10/28/20

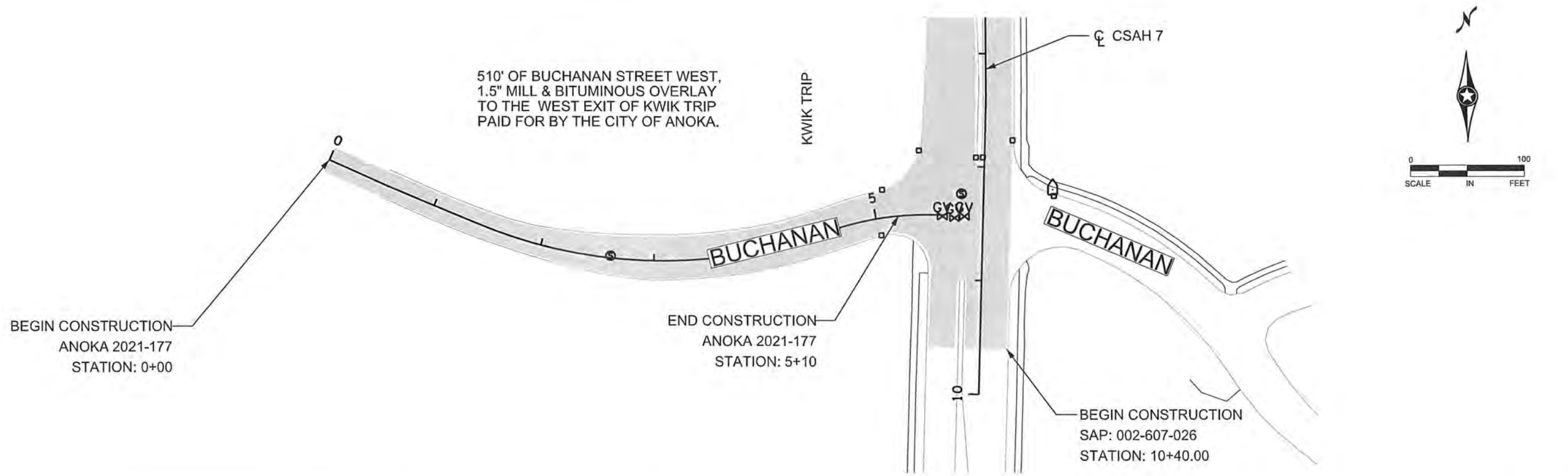
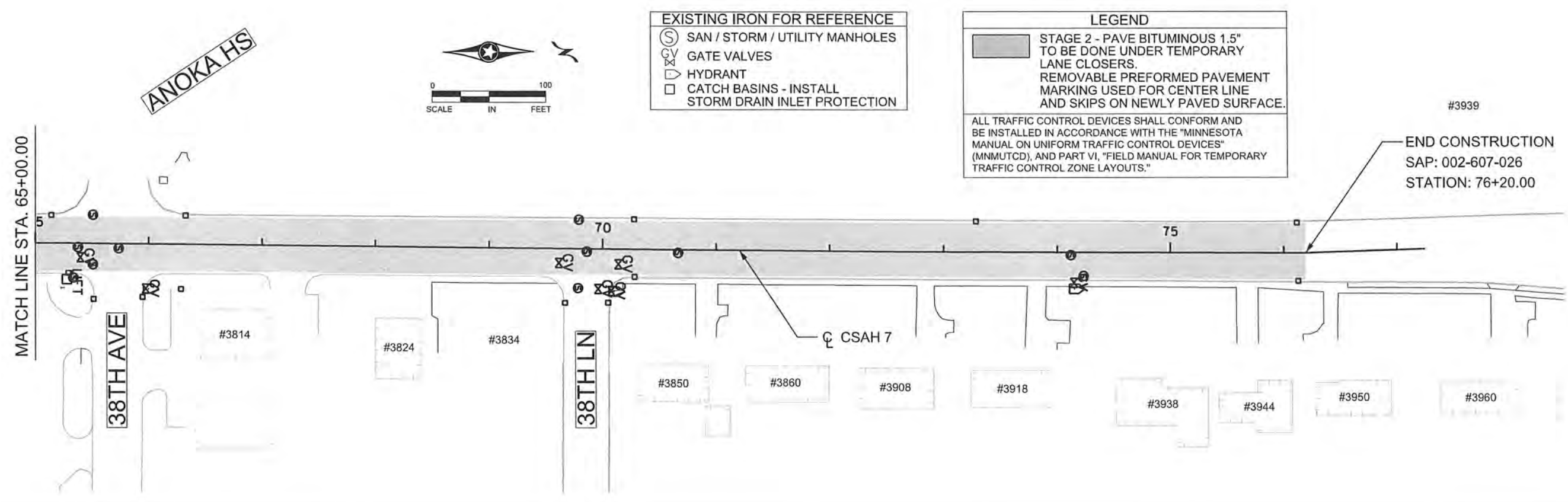
DESIGN BY: JCF DATE: 10/28/20

CHECKED BY: NJD DATE: 11/20/20



ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

CONSTRUCTION STAGE 2
STA 37+00.00 TO 65+00.00
Sheet 9 of 30 Sheets



NO	DATE	BY	CHKD	APPR	REVISION

NAME: P:\002-607-026\Plan\OVERLAY PLAN 12_21_2020\002607026_CS2_3.dgn 01/08/2021 8:36:28 AM

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

PRINT NAME: NICHOLAS J. DOBDA

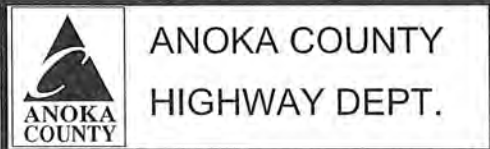
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DATE: 1/26/21 LICENSE NO. 45046

DRAWN BY: JCF DATE: 10/28/20

DESIGN BY: JCF DATE: 10/28/20

CHECKED BY: NJD DATE: 11/20/20



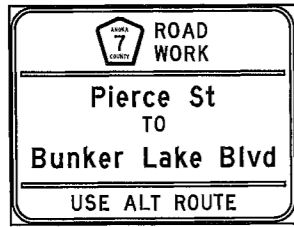
ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

CONSTRUCTION STAGE 2
STA 65+00.00 TO 76+00.00
&
CITY PORTION, BUCHANAN ST. WEST

Sheet 10 of 30 Sheets

NOTES:

- 35 MPH: SOUTH PROJECT LIMIT TO 300' N OF GARFIELD ST
- 40 MPH: 300' N OF GARFIELD ST TO 650' N OF 38TH AVE
- 45 MPH: 650' N OF 38TH AVE TO BUNKER LAKE BLVD
- ALL LANE CLOSURES FOR CONSTRUCTION DURING THIS STAGE 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".
- FOR LOOP REPLACEMENT AT THE INTERSECTION WITH BUCHANAN ST., USE LAYOUT 33 OF THE MN TEMPORARY TRAFFIC CONTROL FIELD MANUAL.
- CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.



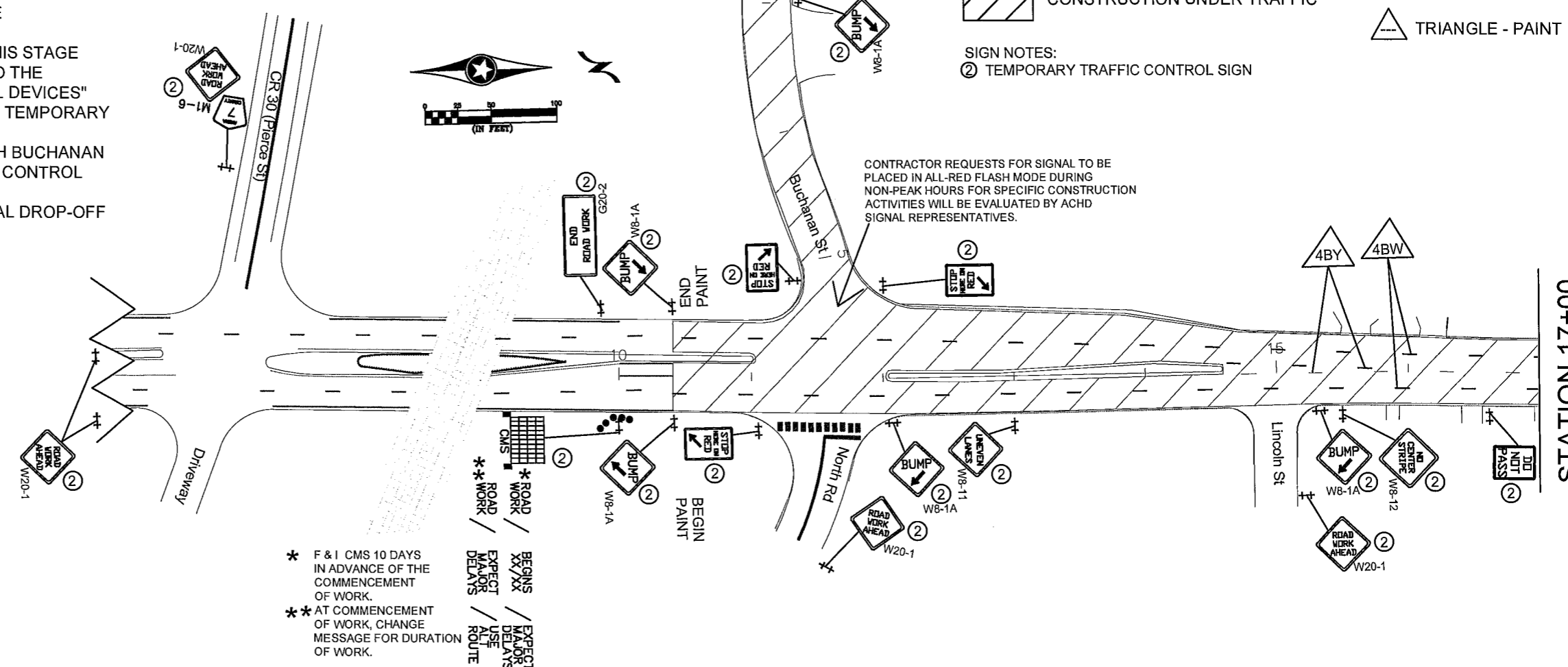
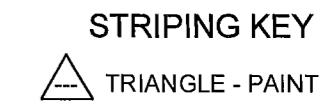
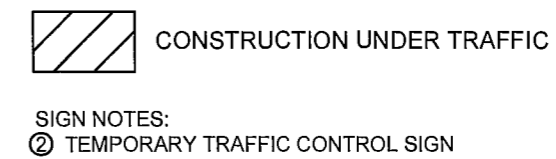
PLACE SIGN ON EB TH 10 IN ADVANCE OF EXIT RAMP

PLACE SIGN ON WB TH 10 IN ADVANCE OF EXIT RAMP

- * F & I CMS 10 DAYS IN ADVANCE OF THE COMMENCEMENT OF WORK.
- ** AT COMMENCEMENT OF WORK, CHANGE MESSAGE FOR DURATION OF WORK.

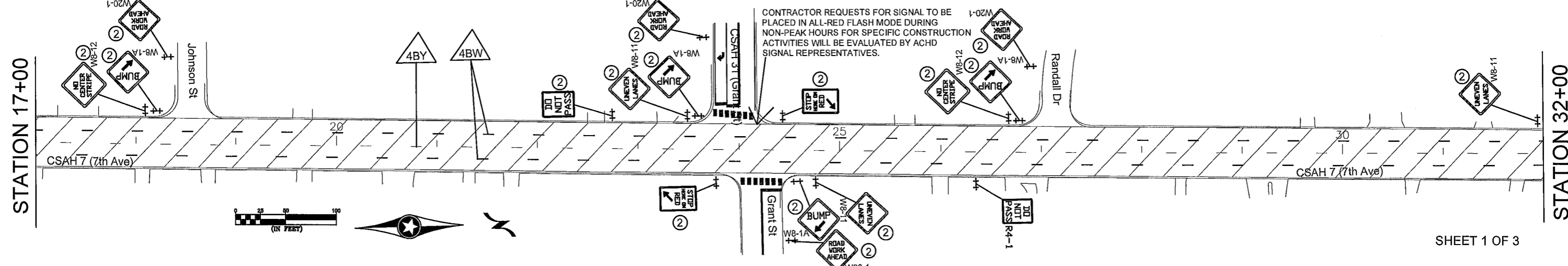
**WORK / ROAD WORK / BEGINS MAJOR DELAYS / EXPECT MAJOR DELAYS / **WORK / ROAD WORK / BEGINS MAJOR DELAYS / EXPECT MAJOR DELAYS / **WORK / ROAD WORK / BEGINS MAJOR DELAYS / EXPECT MAJOR DELAYS

STATION 3+11

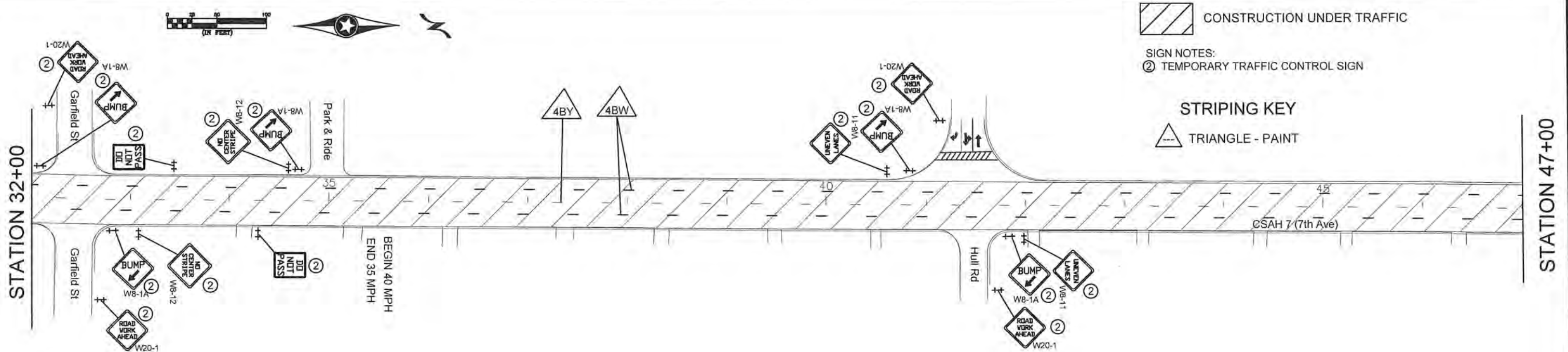


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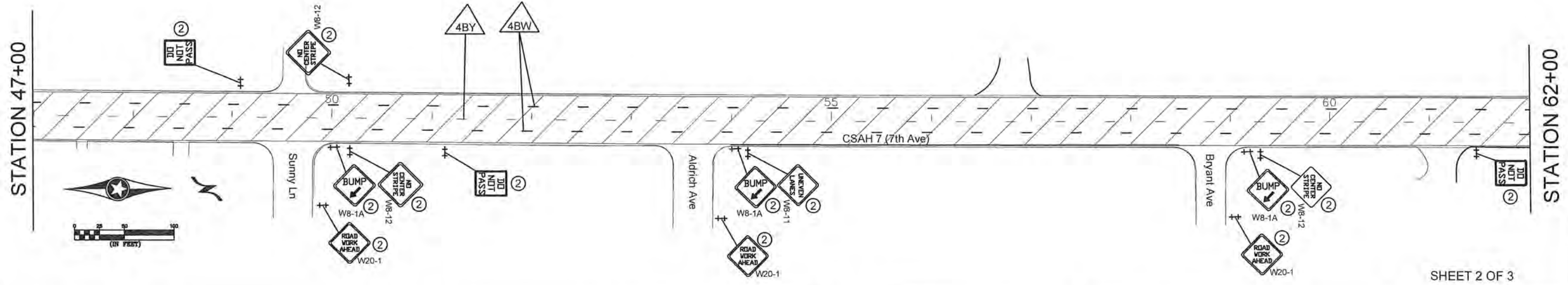
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- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
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- ANY REQUIRED SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.



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: JOSEPH J. MACPHERSON, P.E. SIGNATURE: _____ DATE: _____ LICENSE NO. 46732					DRAWN BY: TMV DATE: 10/27/20 DESIGN BY: TMV DATE: 10/27/20 CHECKED BY: _____ DATE: _____		ANOKA COUNTY HIGHWAY DEPT.	ANOKA COUNTY SAP 002-607-026 CITY OF ANOKA 2021-177	TRAFFIC CONTROL PLAN STAGE 1 - MILLING Sheet 11 of 30 Sheets
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- NOTES:
- 35 MPH: SOUTH PROJECT LIMIT TO 300' N OF GARFIELD ST
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 - 45 MPH: 650' N OF 38TH AVE TO BUNKER LAKE BLVD
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SHEET 2 OF 3

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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *Joseph J. MacPherson*


DATE: 1-26-24 LICENSE NO. 48732

DRAWN BY: TMV DATE: 10/27/20

DESIGN BY: TMV DATE: 10/27/20

CHECKED BY: DATE:

ANOKA COUNTY
HIGHWAY DEPT.



ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

TRAFFIC CONTROL PLAN
STAGE 1 - MILLING

Sheet 12 of 30 Sheets

STRIPING KEY

△ TRIANGLE - PAINT



CONSTRUCTION UNDER TRAFFIC

SIGN NOTES:

② TEMPORARY TRAFFIC CONTROL SIGN

- * F & I CMS 10 DAYS IN ADVANCE OF THE COMMENCEMENT OF WORK.
- ** AT COMMENCEMENT OF WORK, CHANGE MESSAGE FOR DURATION OF WORK.

EXPECT MAJOR DELAYS / USE ALTERNATE ROUTE

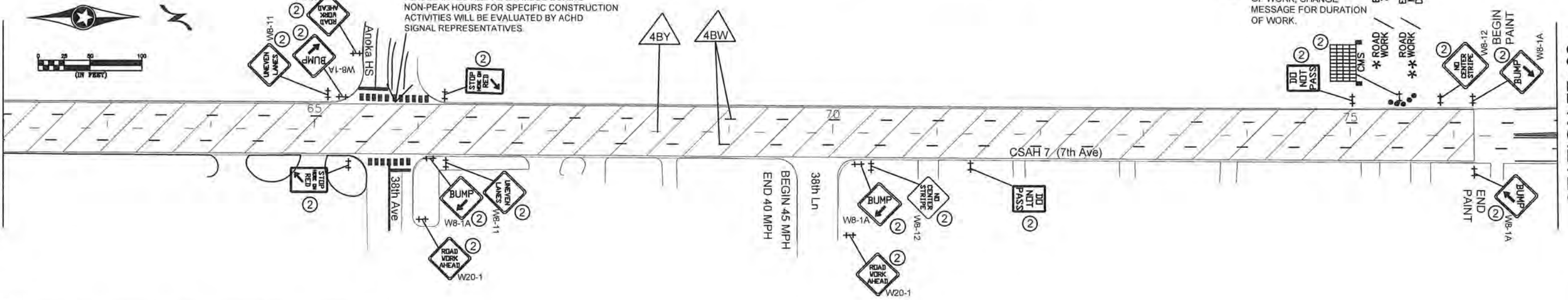
BEGINS ROAD WORK / EXPECT MAJOR DELAYS / USE ALTERNATE ROUTE

ROAD WORK / ROAD WORK

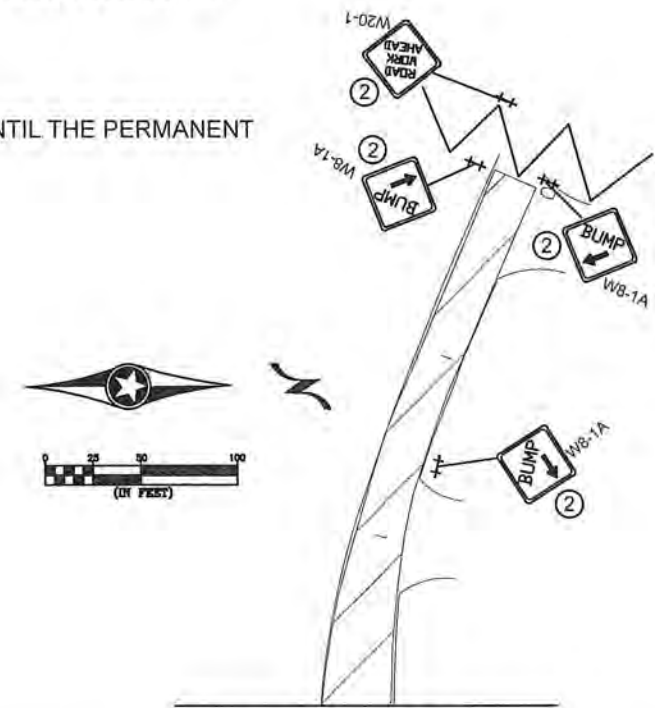
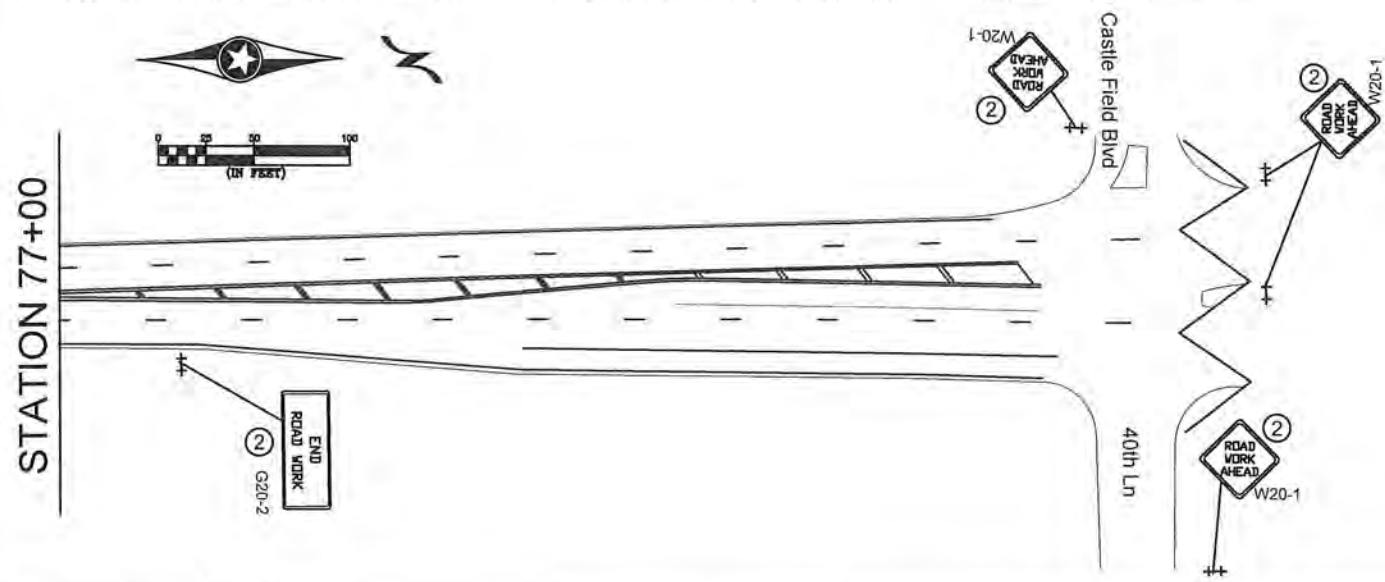
END PAINT

STATION 62+00

STATION 77+00



- NOTES:**
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STATION 3+11

SHEET 3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-607-026\Base\Traffic\TC Milling.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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 1-26-24 LICENSE NO: 46732

DRAWN BY: TMV DATE: 10/27/20

DESIGN BY: TMV DATE: 10/27/20

CHECKED BY: _____ DATE: _____

ANOKA COUNTY
HIGHWAY DEPT.

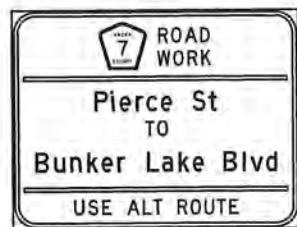
ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

TRAFFIC CONTROL PLAN
STAGE 1 - MILLING

Sheet 13 of 30 Sheets

NOTES:

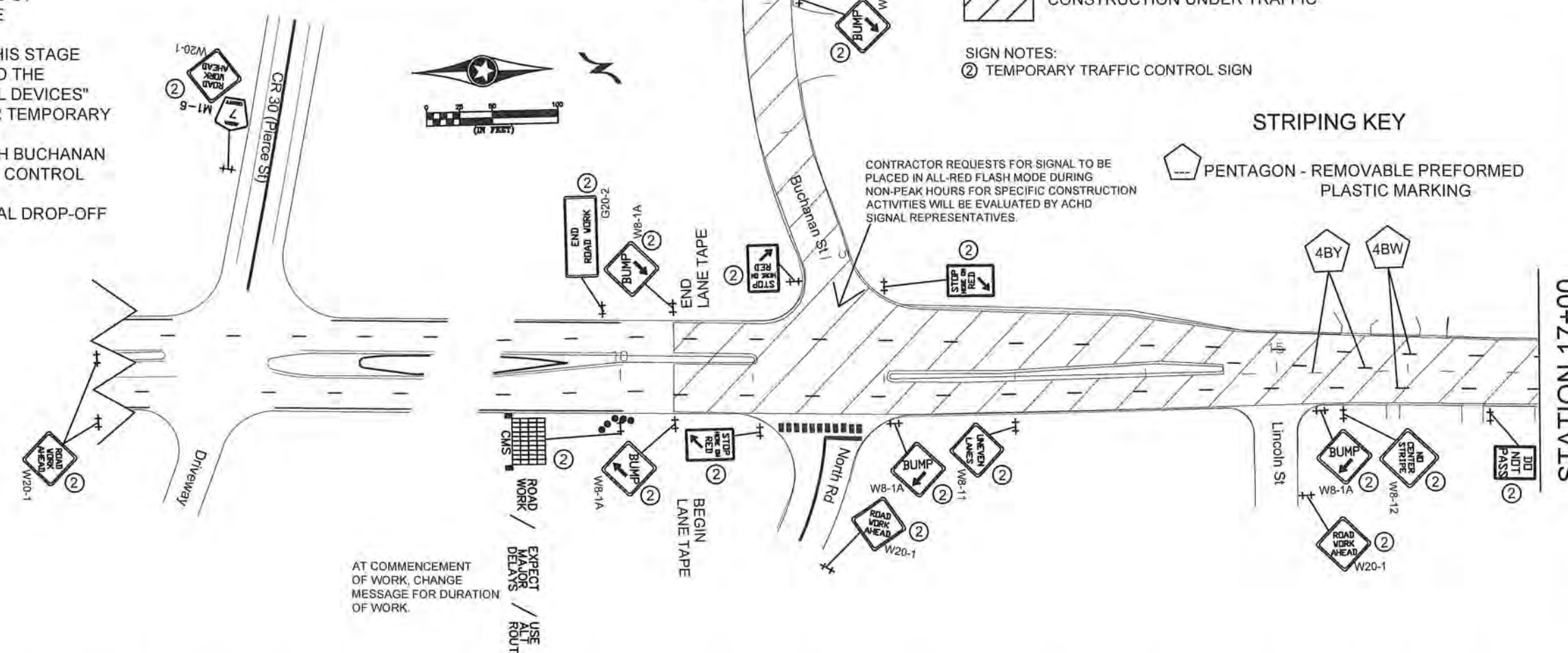
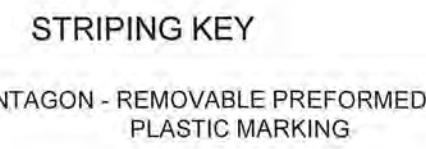
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PLACE SIGN ON EB TH 10 IN ADVANCE OF EXIT RAMP

PLACE SIGN ON WB TH 10 IN ADVANCE OF EXIT RAMP

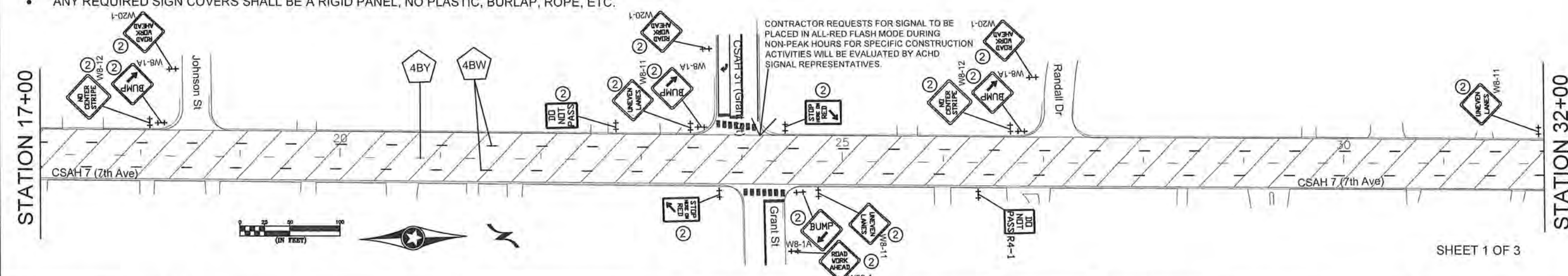
STATION 3+11



AT COMMENCEMENT OF WORK, CHANGE MESSAGE FOR DURATION OF WORK.

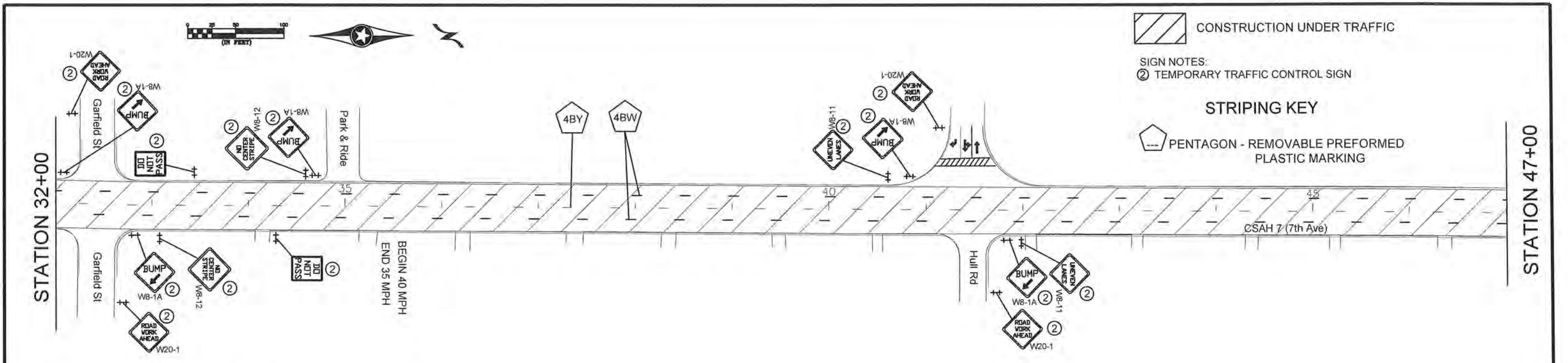
NOTES (cont.):

- CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) TO A LOCATION AS SPECIFIED BY THE ENGINEER. SIGNS TO REMAIN IN PLACE DURING THE DURATION OF WORK. PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.
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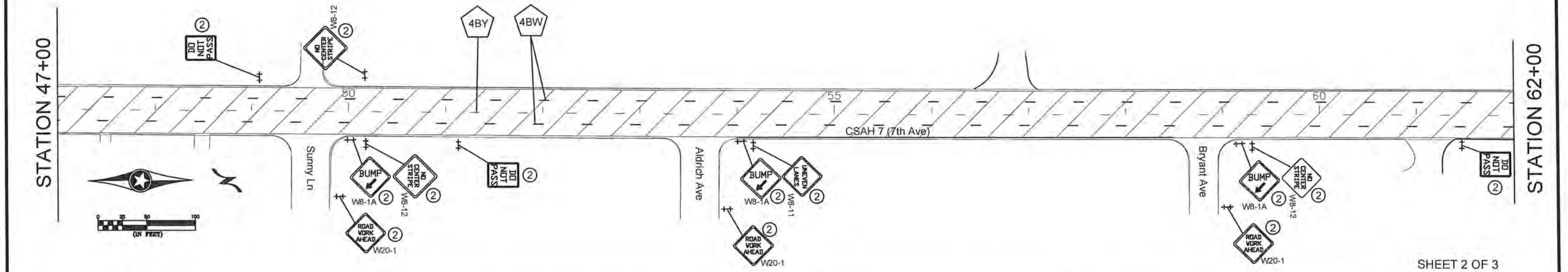


SHEET 1 OF 3

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: JOSEPH J. MACPHERSON, P.E. SIGNATURE: <i>[Signature]</i> DATE: 1-26-24 LICENSE NO. 48732					DRAWN BY: TMV DATE: 10/27/20 DESIGN BY: TMV DATE: 10/27/20 CHECKED BY: DATE:		ANOKA COUNTY HIGHWAY DEPT.		ANOKA COUNTY SAP 002-607-026 CITY OF ANOKA 2021-177		TRAFFIC CONTROL PLAN STAGE 2 - PAVING Sheet 14 of 30 Sheets	
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- NOTES:
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 - 40 MPH: 300' N OF GARFIELD ST TO 650' N OF 38TH AVE
 - 45 MPH: 650' N OF 38TH AVE TO BUNKER LAKE BLVD
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SHEET 2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:002-607-026\BaseTrafficTC Paving.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: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 1-26-21 LICENSE NO. 48732

DRAWN BY: TMV DATE: 10/27/20

DESIGN BY: TMV DATE: 10/27/20

CHECKED BY: DATE:

ANOKA COUNTY
HIGHWAY DEPT.

ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

TRAFFIC CONTROL PLAN
PAVING OPERATION

Sheet 15 of 30 Sheets

STRIPING KEY

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

CONSTRUCTION UNDER TRAFFIC

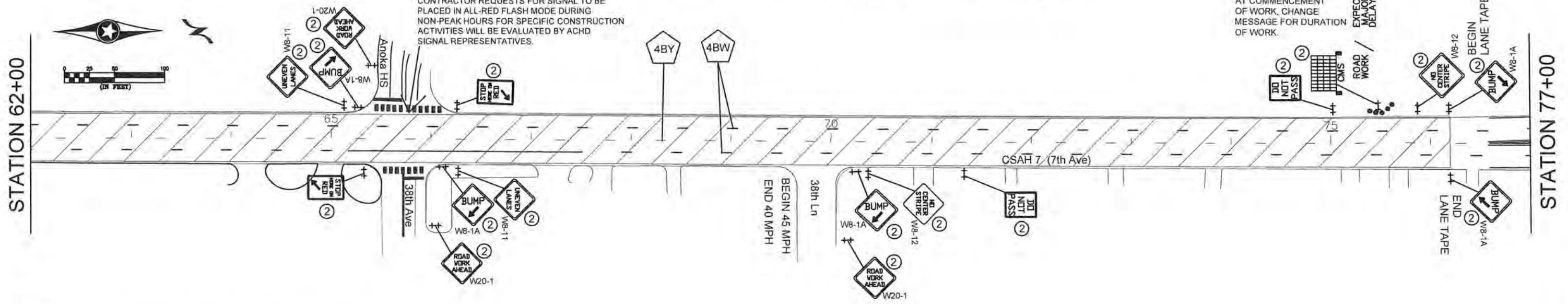
SIGN NOTES:
 ② TEMPORARY TRAFFIC CONTROL SIGN

CONTRACTOR REQUESTS FOR SIGNAL TO BE PLACED IN ALL-RED FLASH MODE DURING NON-PEAK HOURS FOR SPECIFIC CONSTRUCTION ACTIVITIES WILL BE EVALUATED BY ACHD SIGNAL REPRESENTATIVES.

AT COMMENCEMENT OF WORK, CHANGE MESSAGE FOR DURATION OF WORK.
 EXPECT MAJOR DELAYS
 USE ALI ROUTE
 ROAD WORK

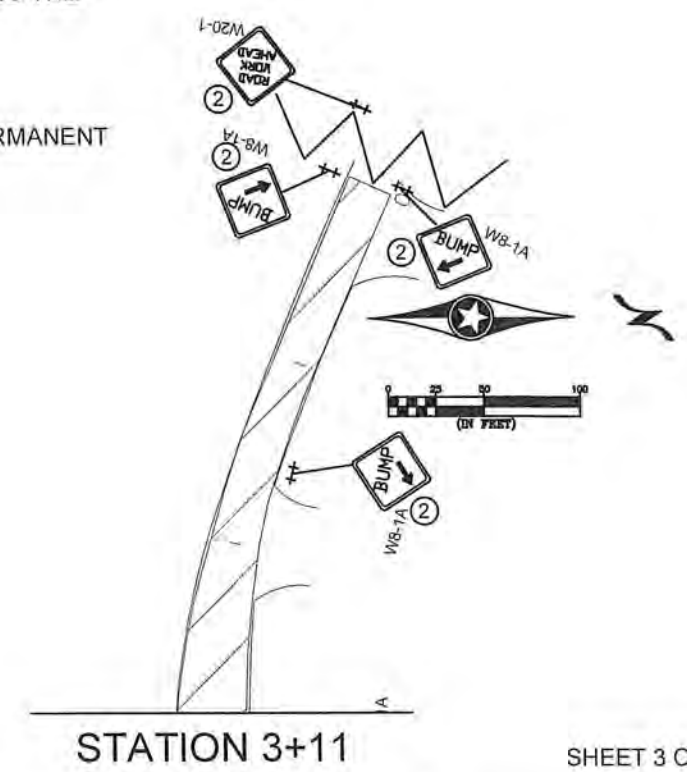
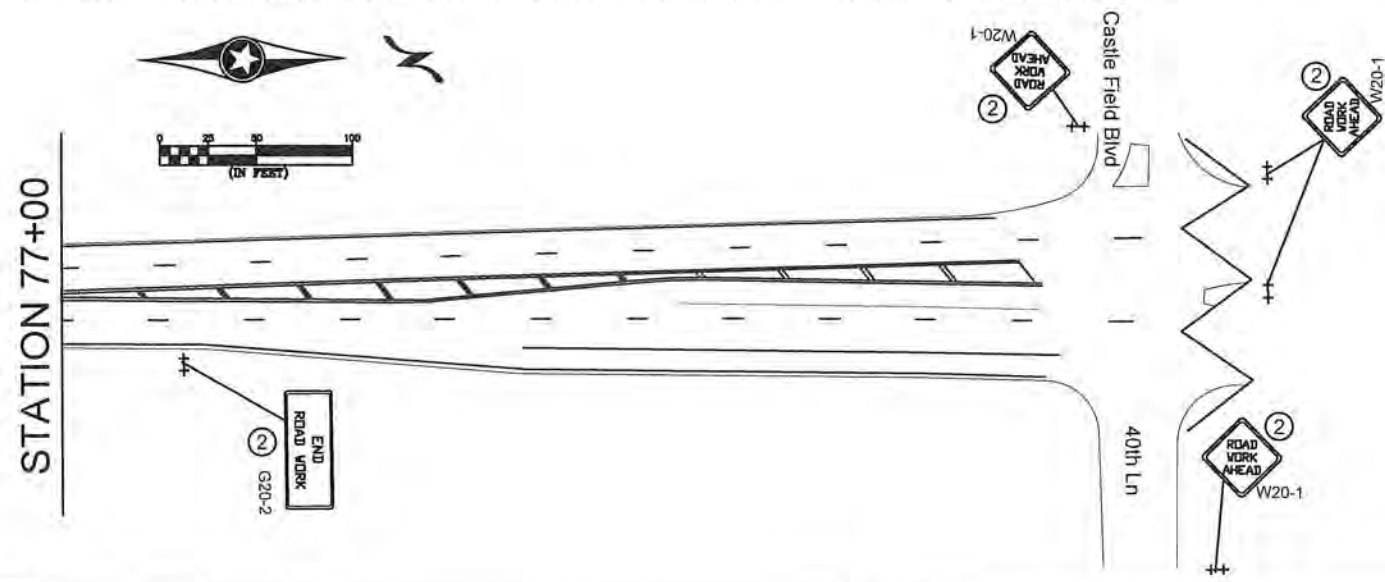
STATION 62+00

STATION 77+00



NOTES:

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- FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
- ALL EXISTING SIGNING SHALL REMAIN IN PLACE DURING CONSTRUCTION. ANY 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.
- ANY REQUIRED SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.



STATION 3+11

SHEET 3 OF 3

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: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 1-26-25 LICENSE NO. 46732

DRAWN BY: TMV DATE: 10/27/20
 DESIGN BY: TMV DATE: 10/27/20
 CHECKED BY: DATE:



ANOKA COUNTY
HIGHWAY DEPT.

ANOKA COUNTY SAP 002-607-026
 CITY OF ANOKA 2021-177

TRAFFIC CONTROL PLAN
 PAVING OPERATION

Sheet 16 of 30 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS

M.U.T.C.D. CODE	SIZE	INSERT	STAGE 1 QTY	STAGE 2 QTY	M.U.T.C.D. CODE	SIZE	INSERT	STAGE 1 QTY	STAGE 2 QTY
FLASHER									
R1-1	48"		*	*	W20-X18	48" x 48"		AS NEEDED	AS NEEDED
R1-3P	18" X 6"		*	*	W4-2R	48" x 48"		AS NEEDED	AS NEEDED
R4-1	24" x 30"		10	10	W4-2R	48" x 48"		AS NEEDED	AS NEEDED
R10-6	24" x 36"		7	7	W20-X3R	48" x 48"		AS NEEDED	AS NEEDED
W3-1a	48" x 48"		*	*	W20-X3L	48" x 48"		AS NEEDED	AS NEEDED
W8-1A	48" x 48"		25	25	W21-X5	48" x 48"		AS NEEDED	AS NEEDED
W8-11	48" x 48"		9	9	W21-X5	48" x 48"		AS NEEDED	AS NEEDED
W8-12	48" x 48"		10	10	G20-X9	30" x 36"		AS NEEDED	AS NEEDED
M1-6	24" x 24"		1	1	G20-X9	30" x 36"		AS NEEDED	AS NEEDED
W20-1	48" x 48"		24	24	R3-2	24" x 24"		AS NEEDED	AS NEEDED
G20-2	36" x 18"		2	2	R11	48" x 30"		AS NEEDED	AS NEEDED
G20-X9	150" x 114"		2	2	TYPE III	8 FOOT		AS NEEDED	AS NEEDED
			2	2	TYPE III	8 FOOT		AS NEEDED	AS NEEDED
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. At commencement of work, signs to remain in place for the duration of work.					ARROWBOARD			AS NEEDED	AS NEEDED
					REFLECTORIZED REBOUNDABLE DRUM			AS NEEDED	AS NEEDED

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
1 4" BROKEN LINE WHITE - PAINT	LIN FT	2648
1 4" BROKEN LINE YELLOW - PAINT	LIN FT	1268
2 4" REMOVABLE PREFORMED THERMOPLASTIC (WHITE)	LIN FT	530
2 4" REMOVABLE PREFORMED THERMOPLASTIC (YELLOW)	LIN FT	315

1 10' STRIPE, 40' GAP
2 2' STRIPE, 50' GAP

* AS NEEDED FOR WHEN SIGNALS ARE IN ALL-WAY FLASH MODE

NOTES:

- 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.
- ALL TYPE III BARRICADES SHALL BE REFLECTORIZED ON BOTH SIDES. BARRICADE MARKINGS SHALL BE SLANTED IN ACCORDANCE WITH THE M.U.T.C.D.

NO	DATE	BY	CKD	APPR	REVISION

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 PRINT NAME: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE:
 DATE: 1-26-21 LICENSE NO. 46732

DRAWN BY: JMV DATE: 10/28/20
 DESIGN BY: DATE:
 CHECKED BY: DATE:

ANOKA COUNTY
 HIGHWAY DEPT.

ANOKA COUNTY SAP 002-607-026
 CITY OF ANOKA 2021-177

STAGING QUANTITIES
 Sheet 17 of 30 Sheets

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

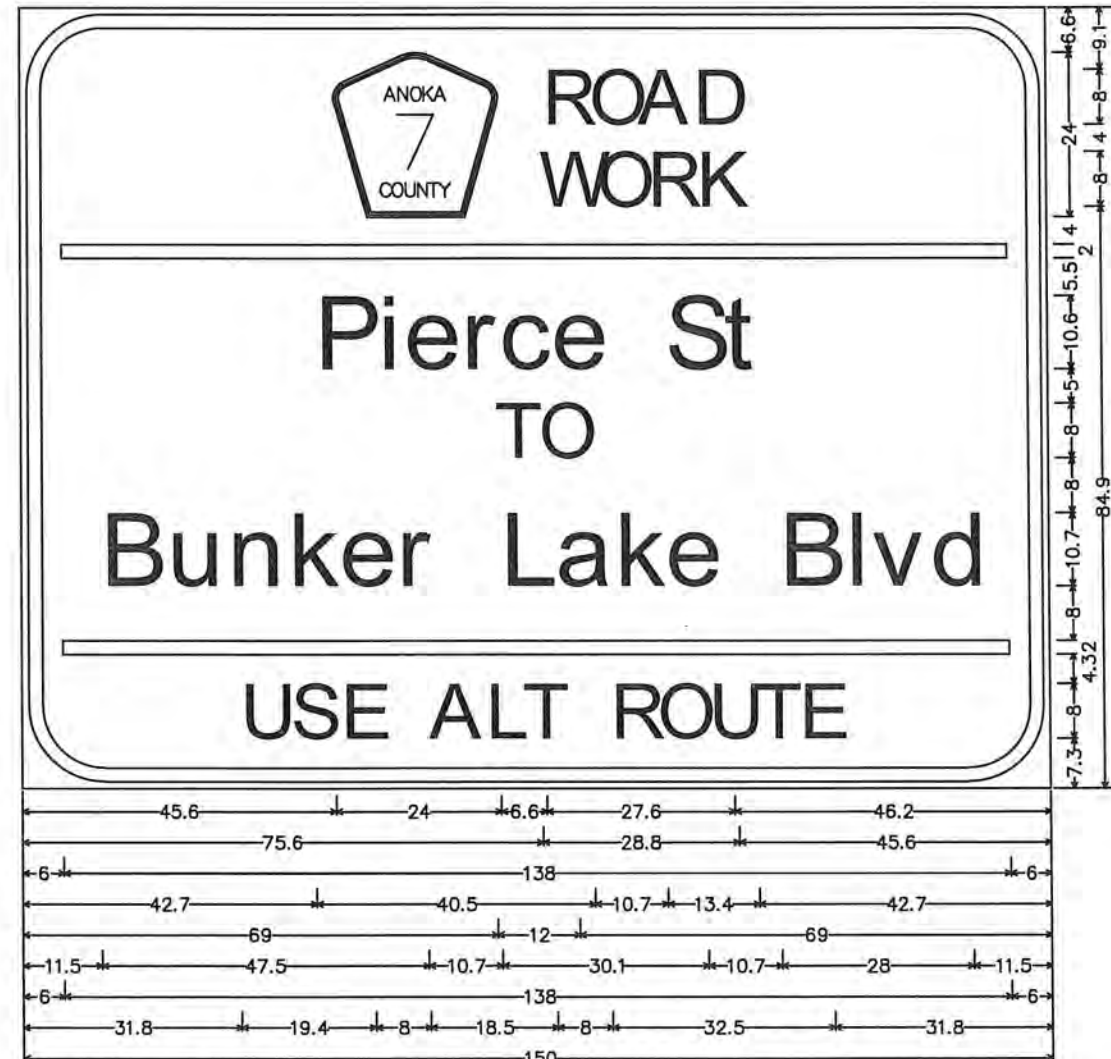
CMS sign to be installed a minimum of ten days prior to actual commencement of road work.

		R	O	A	D		
		W	O	R	K		

At commencement of work, change CMS sign message & remain in place or at a location designated by the Engineer during the duration of project.

		E	X	P	E	C	T
		M	A	J	O	R	
		D	E	L	A	Y	S

		U	S	E			
		A	L	T			
		R	O	U	T	E	



12.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
 Pentagonal County 7 M1-6; [ROAD] D; [WORK] D; [Pierce St] D; [TO] D; [Bunker Lake Blvd] D; [USE ALT ROUTE] D;

<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							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: JOSEPH J. MACPHERSON, P.E. SIGNATURE: <i>[Signature]</i> DATE: 1-26-21 LICENSE NO. 46732		DRAWN BY: TMV DATE: 10/28/20 DESIGN BY: _____ DATE: _____ CHECKED BY: _____ DATE: _____		ANOKA COUNTY HIGHWAY DEPT. ANOKA COUNTY SAP 002-607-026 CITY OF ANOKA 2021-177		STAGING QUANTITIES Sheet 18 of 30 Sheets	
NO	DATE	BY	CKD	APPR	REVISION																			

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.

MULTI COMPONENT (MULTI COMP):

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 MULTI COMP PAVEMENT MARKINGS.

THE MULTI COMP MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEANS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE MULTI COMP RESIN LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

A MULTI COMP RESIN LINE SHALL BE APPLIED WITH A MINIMUM THICKNESS OF 20 MILS (WET) AND 4" WIDE. GLASS BEADS SHALL BE APPLIED AT A MINIMUM RATE OF 25LBS POUNDS PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES FAHRENHEIT OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

PREFORMED THERMOPLASTIC:

THE PREFORMED THERMOPLASTIC MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS ON CLEAN AND DRY SURFACES. SEE SPECIAL PROVISIONS FOR PREFORMED THERMOPLASTIC MARKING SPECIFICATIONS.

PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50 DEGREES FARHENHEIT OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILD OR DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

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

1

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE - MULTI COMP	LIN FT	13704
4" BROKEN LINE WHITE - MULTI COMP	LIN FT	2664
4" SOLID LINE YELLOW - MULTI COMP	LIN FT	720
4" DOUBLE LINE YELLOW - MULTI COMP	LIN FT	6482
24" SOLID LINE WHITE - THERMOPLASTIC (PMS*)	LIN FT	214
24" SOLID LINE YELLOW - THERMOPLASTIC (PMS*)	LIN FT	16
3'x6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	1314
PAVEMENT MESSAGE (RT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	16
PAVEMENT MESSAGE (LT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	32

1 10' STRIPE, 40' GAP

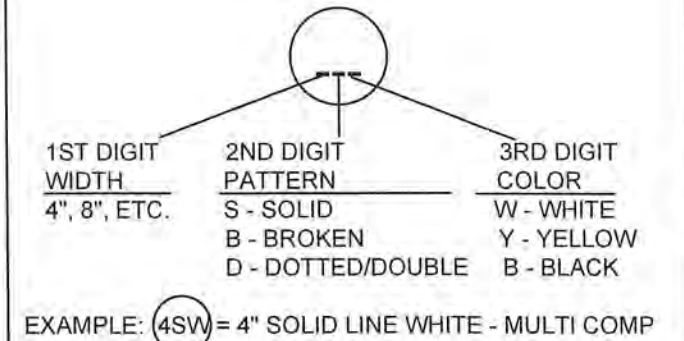
* PAVEMENT MARKING SPECIAL

SYMBOLS & MATERIALS LEGEND

- █ CROSSWALK BLOCK WHITE-POLY PREFORM
- ← PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

STRIPING KEY

- CIRCLE - MULTI COMP
- SQUARE - POLY PREFORM THERMOPLASTIC
- △ TRIANGLE - PAINT
- ⬠ PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-607-026\Base\Traffic\Perm Pvmt Mrkg Guide Notes.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: JOSEPH J. MACPHERSON, P.E.

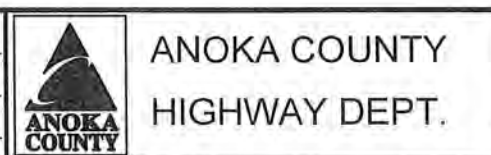
SIGNATURE: *[Signature]*

DATE: 1-26-21 REG. NO. 45732

DRAWN BY: TMV DATE: 05/17/20

DESIGNED BY: DATE:

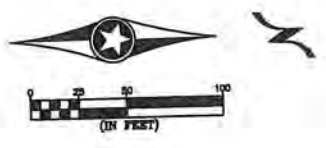
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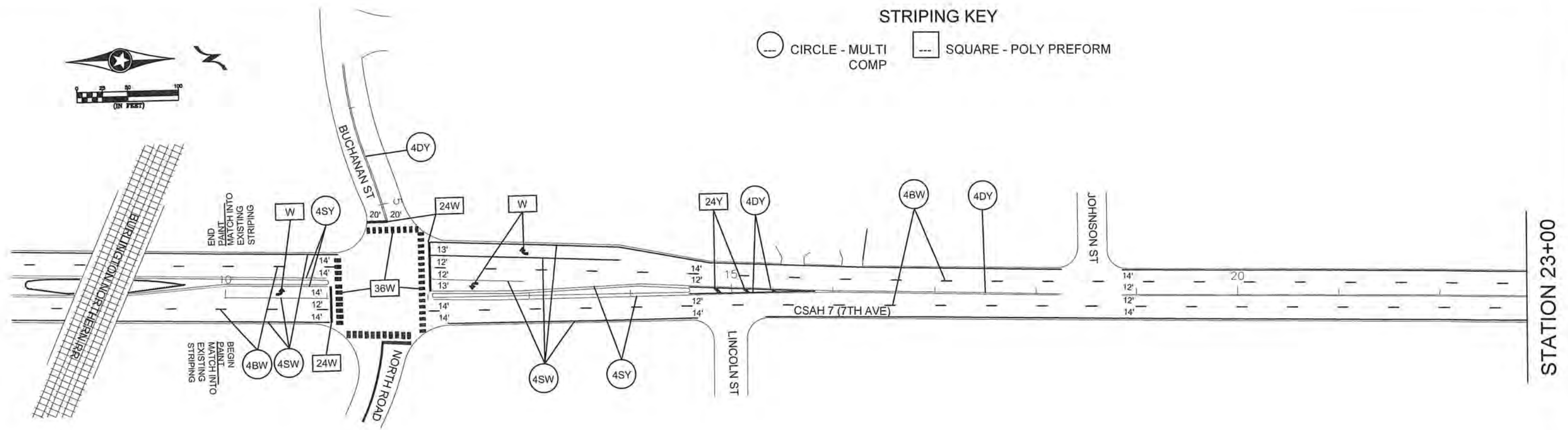
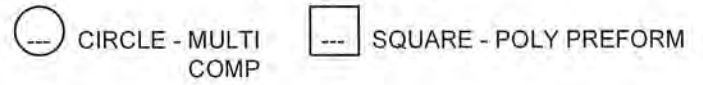
ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

PERMANENT MARKING TABULATION

Sheet 19 of 30 Sheets

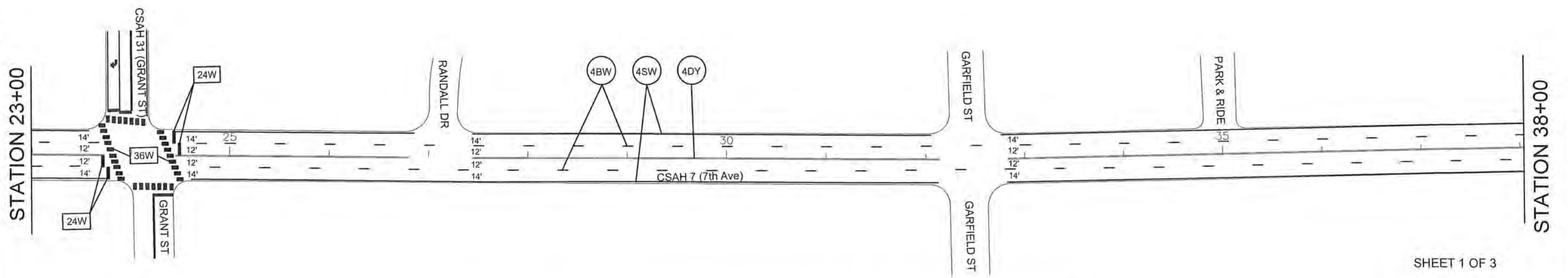
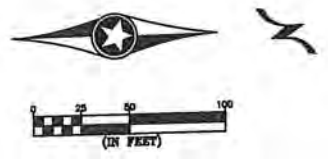


STRIPING KEY



NOTES:

- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
- 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.



SHEET 1 OF 3

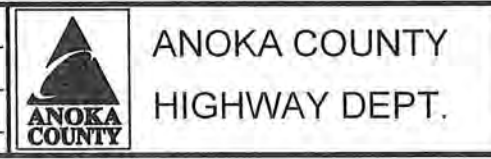
NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-607-026\Base\Traffic\Striping Plan.dwg

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PRINT NAME: JOSEPH J. MAGPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 1-26-21 LICENSE NO. 46732

DRAWN BY: TMV DATE: 09/16/20
 DESIGN BY: TMV DATE: 10/15/20
 CHECKED BY: TH DATE: 10/06/20



ANOKA COUNTY SAP 002-607-026
 CITY OF ANOKA 2021-177

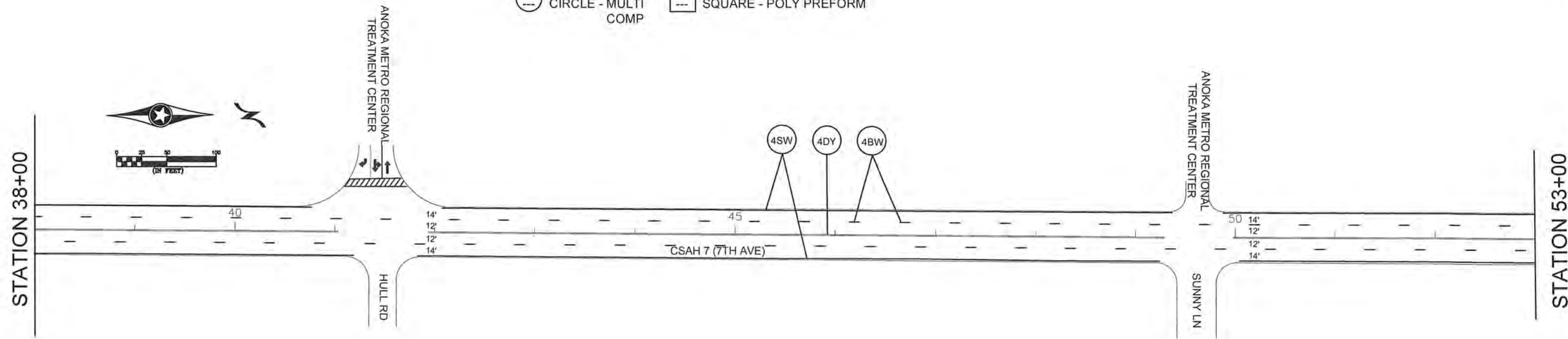
PERMANENT STRIPING PLAN
 Sheet 20 of 30 Sheets

STRIPING KEY



STATION 38+00

STATION 53+00

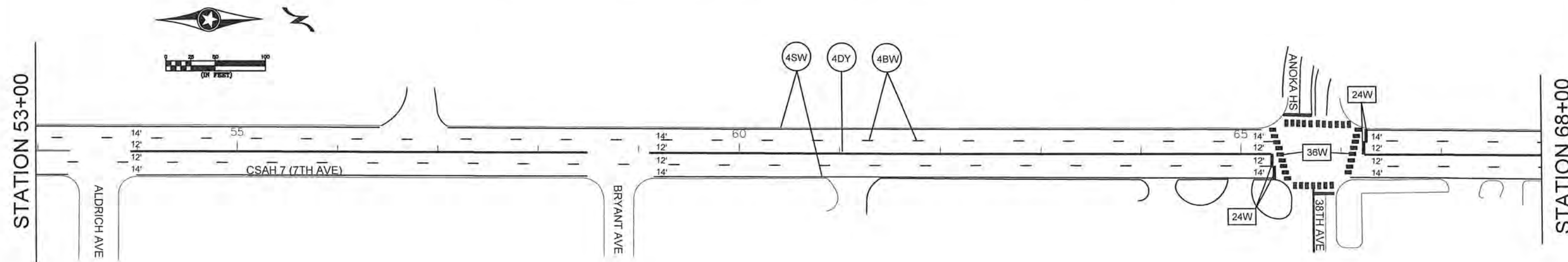


NOTES:

- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
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- ANY REQUIRED PERMANENT SIGNING SHALL BE INSTALLED THE SAME DAY AS PERMANENT STRIPING.

STATION 53+00

STATION 68+00



SHEET 2 OF 3

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\002-607-026\Base\Traffic\Striping Plan.dwg					

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PRINT NAME: JOSEPH J. MACPHERSON, P.E.

SIGNATURE: *[Signature]*

DATE: 1-20-21 LICENSE NO. 48732

DRAWN BY: TMV DATE: 09/16/20

DESIGN BY: TMV DATE: 10/15/20

CHECKED BY: TH DATE: 10/05/20



ANOKA COUNTY
HIGHWAY DEPT.

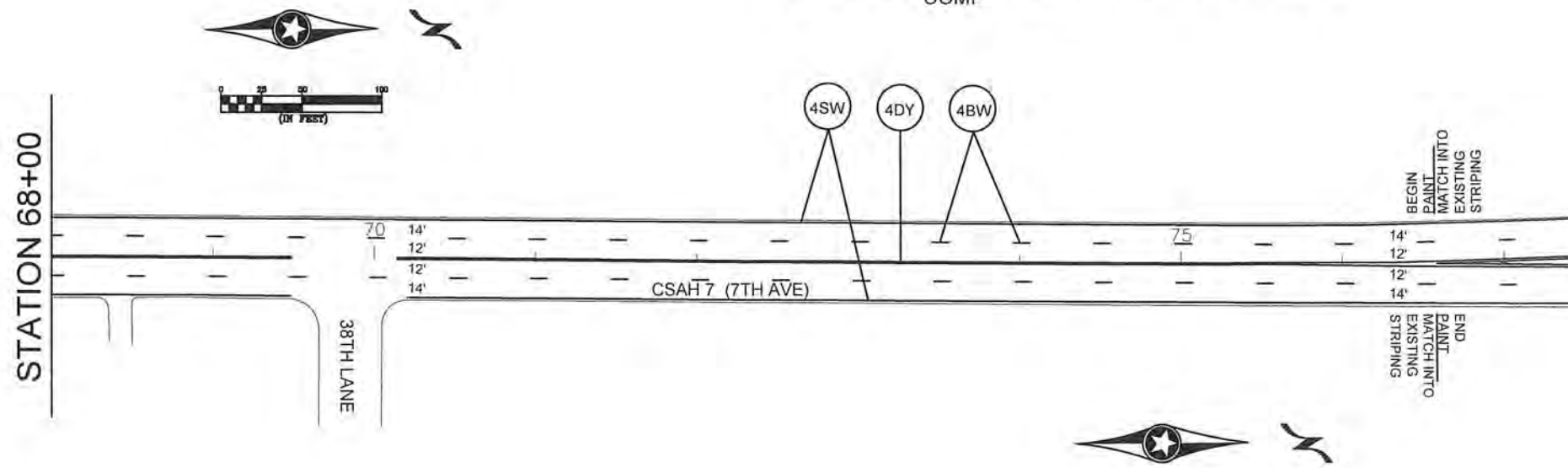
ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

PERMANENT STRIPING PLAN

Sheet 21 of 30 Sheets

STRIPING KEY

○ CIRCLE - MULTI COMP
 □ SQUARE - POLY PREFORM



NOTES:

- LOCATIONS OF PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ACCESS SHALL BE MAINTAINED TO ALL STREETS AND DRIVEWAYS IN CONSTRUCTION AREA.
- ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
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NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-607-026\BaseTraffic\Striping Plan.dwg

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CHECKED BY: TH DATE 10/06/20

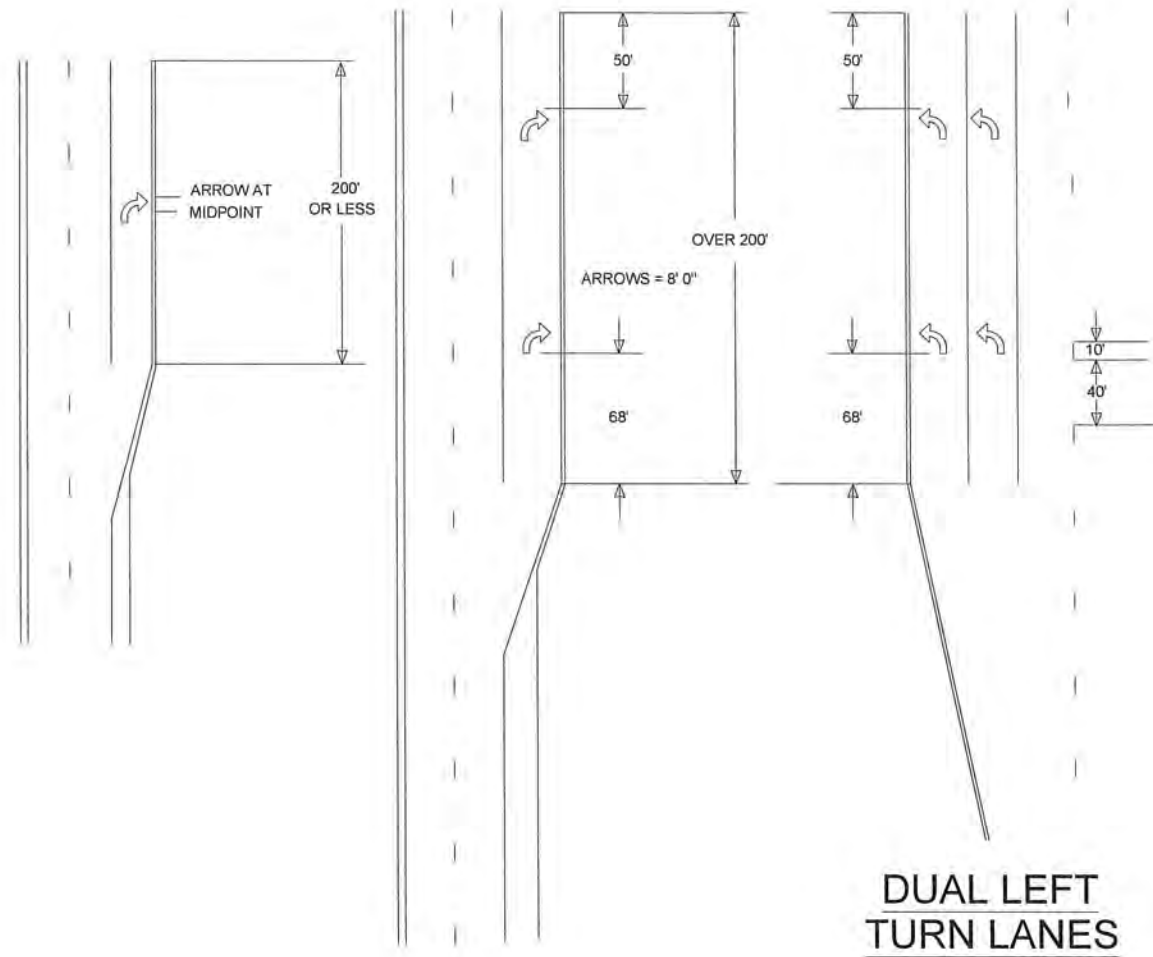
ANOKA COUNTY
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 CITY OF ANOKA 2021-177

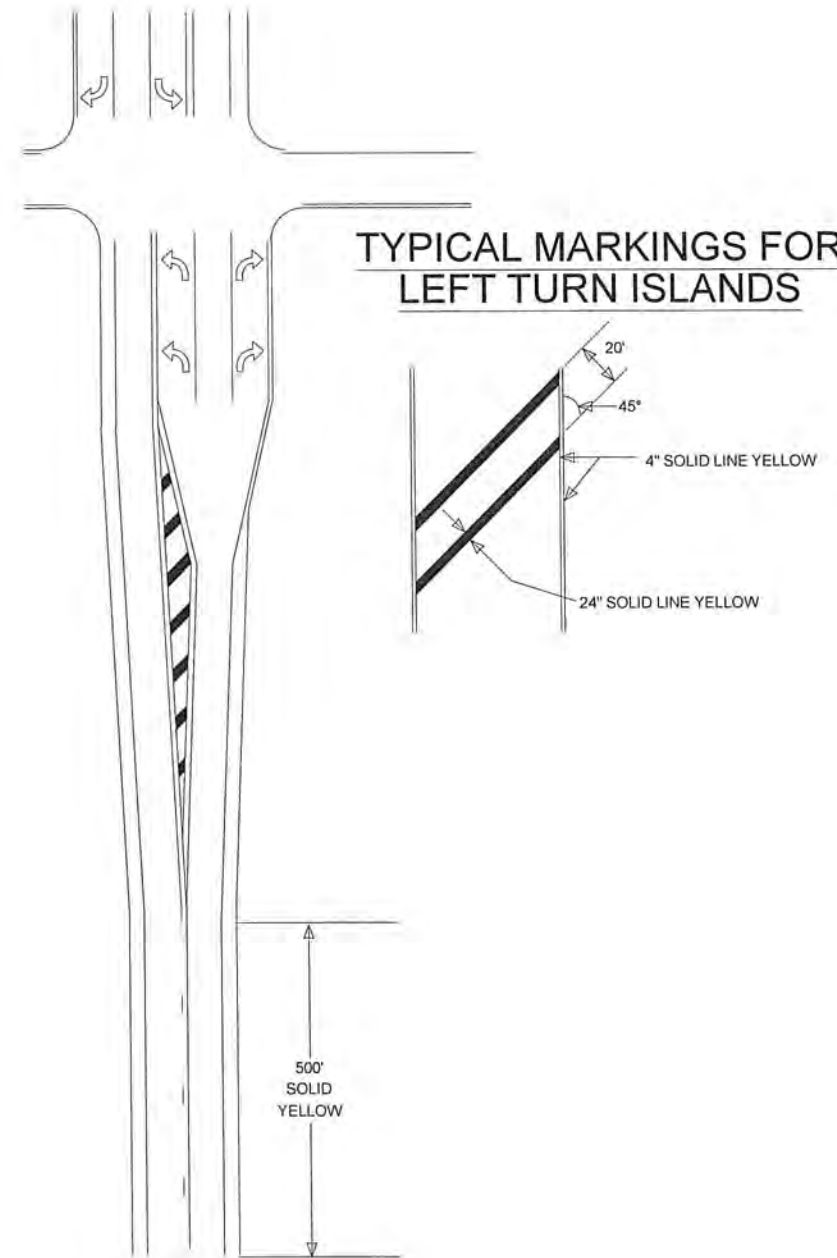
PERMANENT STRIPING PLAN

Sheet 22 of 30 Sheets

**TYPICAL MESSAGE PLACEMENT
FOR TURN LANES**



**TYPICAL MARKINGS FOR
LEFT TURN ISLANDS**



NO	DATE	BY	CKD	APPR	REVISION

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 PRINT NAME: JOSEPH J. MACPHERSON, P.E.
 SIGNATURE: *[Signature]*
 DATE: 1-26-21 LICENSE NO. 46732

DRAWN BY TMV DATE 09/30/20
 DESIGN BY TMV DATE 10/15/20
 CHECKED BY TH DATE 10/08/20

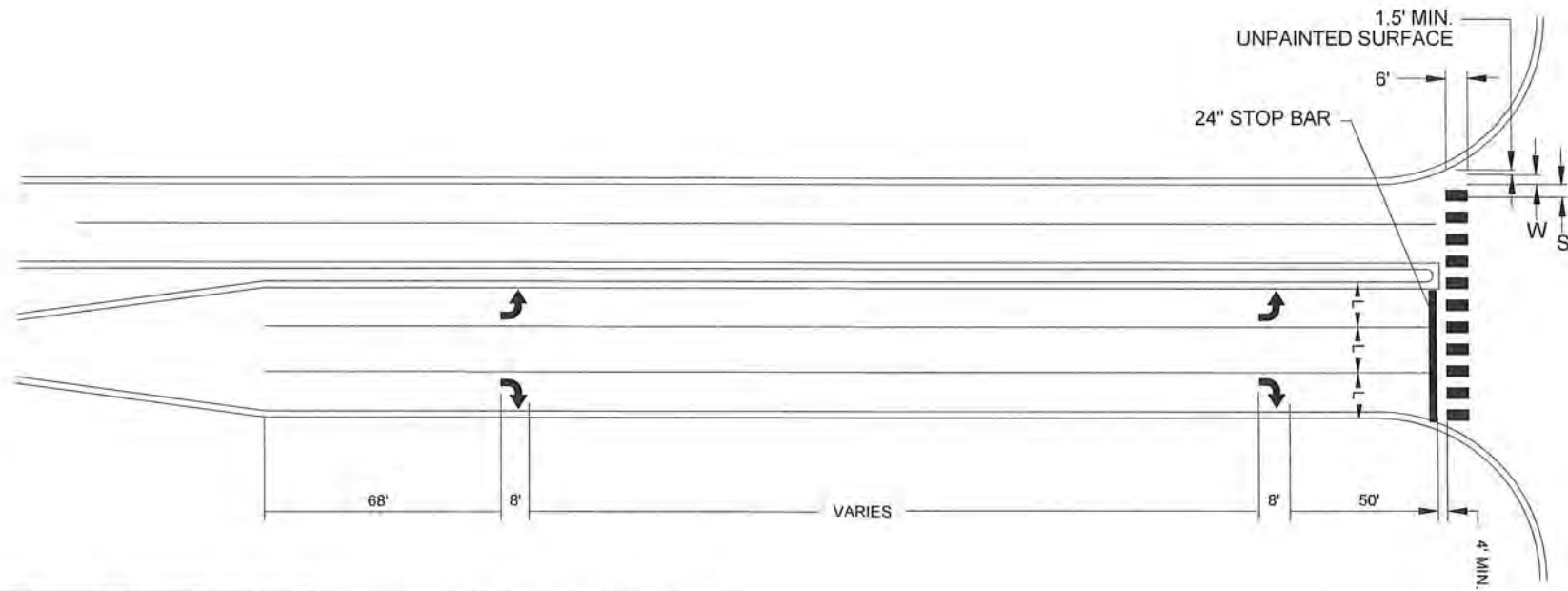


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ANOKA COUNTY SAP 002-607-026
 CITY OF ANOKA SAP 2021-177

**SIGNING & STRIPING
DETAILS**

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.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-607-026\CSAH 9\Base(Traffic)\Striping Detail

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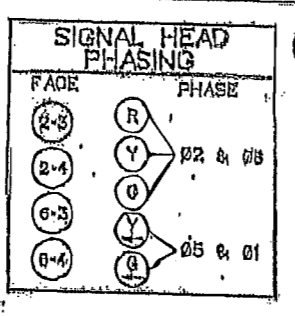
ANOKA COUNTY
HIGHWAY DEPT.

ANOKA COUNTY SAP 002-607-026
CITY OF ANOKA 2021-177

SIGNING & STRIPING
DETAILS

SIGNAL INDICATION CHART
ALL SIGNAL INDICATIONS SHALL BE 300 mm
ALL CIRCULAR & ARROW INDICATIONS SHALL BE LED

SIGNAL FACE	R	Y	G	RLTA	YLTA	DLTA
2-1,2-2	●	●	●			
2-3,2-4	●	●	●	←	←	←
4-1,4-2,4-3	●	●	●			
6-1,6-2	●	●	●			
6-3,6-4	●	●	●	←	←	←
8-1,8-2,8-3	●	●	●			



A CONTROLLER FOUNDATION - SEE DETAIL CONTROLLER & CABINET
EXTEND 103 mm RSC INTO HH-1 WITH:
3 - 12/C #12, 4 - 3/C #12, 10 - 2/C #14,
2 - 3/C #20
(*) 1-12 SM FO CABLE-INPLACE (REMOVE)
(*) 1-12 SM FIBER-OPTIC CABLE-F & I
EXTEND 103 mm RSC INTO HH-12 WITH:
3 - 12/C #12, 4 - 3/C #12, 4 - 2/C #14,
2 - 3/C #20
1-8 Pr.#19 (TO TH 10 RAMPS)
(*) 1-12 SM FIBER-OPTIC CABLE-F & I

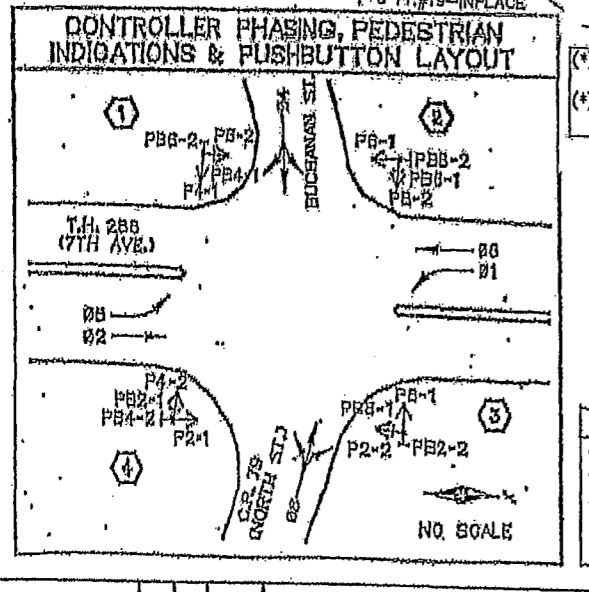
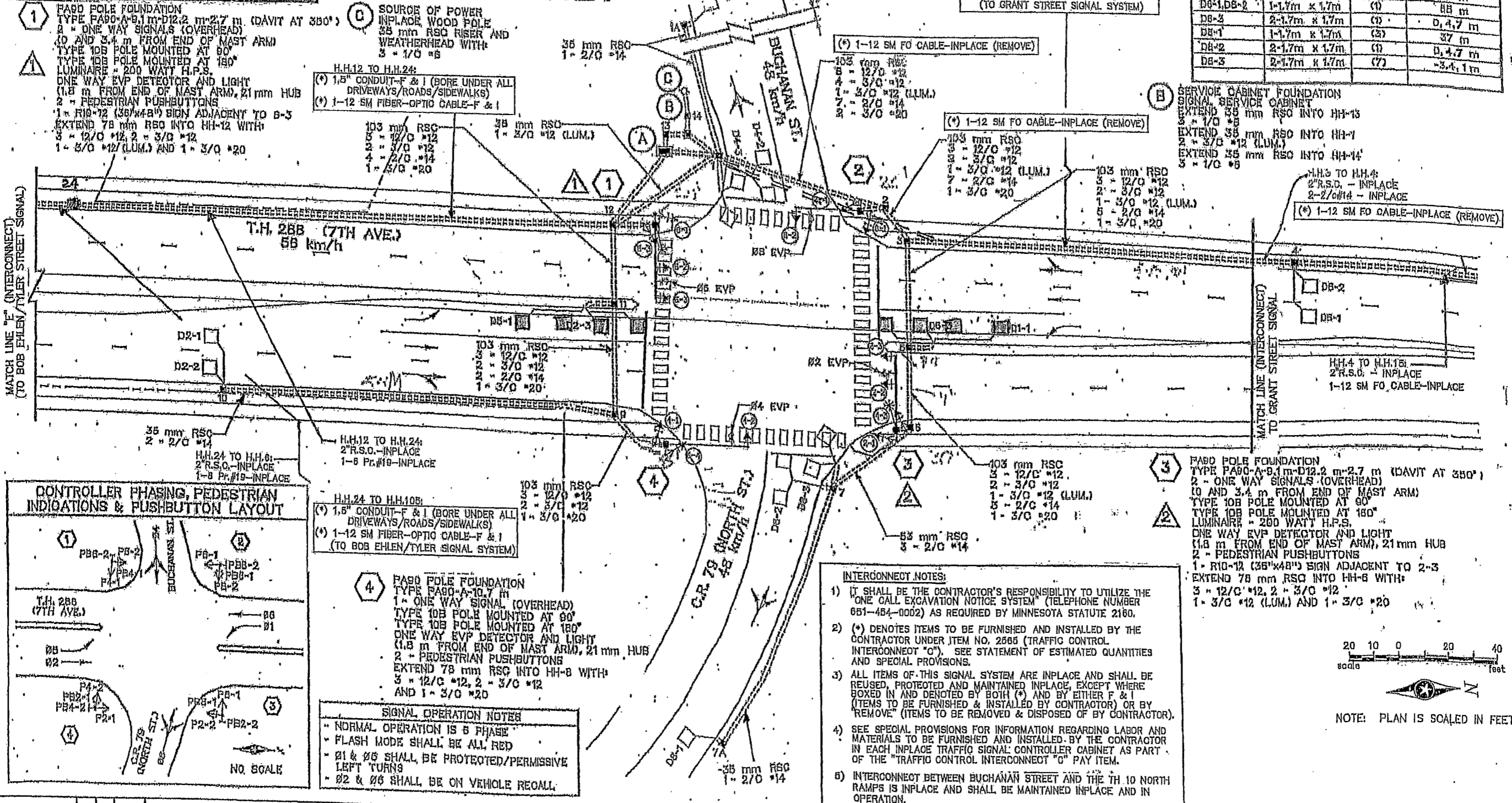
2 PABE POLE FOUNDATION
TYPE PABE-A-7.8 m
1 - ONE WAY SIGNAL (OVERHEAD)
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 180°
ONE WAY EVP DETECTOR AND LIGHT
(1.8 m FROM END OF MAST ARM, 21mm HUB
2 - PEDESTRIAN PUSHBUTTONS
EXTEND 78 mm RSC INTO HH-2 WITH:
3 - 12/C #12, 2 - 3/C #12
AND 1 - 3/C #20

FUNCTIONS:
(1) CALL AND EXTEND
(3) EXTEND ONLY
(7) DELAY CALL, IMMEDIATE EXTEND

H.H.10 TO H.H.15:
(*) 1.6" CONDUIT-F & I (BORE UNDER ALL DRIVEWAYS/ROADS/SIDEWALKS)
(*) 1-12 SM FIBER-OPTIC CABLE-F & I (TO GRANT STREET SIGNAL SYSTEM)

LOOP DETECTOR CHART

DESIGNATION	SIZE	FUNCTION	DISTANCE FROM STOP LINE
D1-1	1-1.7m x 1.7m	(7)	18 m
D2-1D2-2	1-1.7m x 1.7m	(1)	85 m
D2-3	2-1.7m x 1.7m	(1)	0, 4.7 m
D4-1	1-1.7m x 1.7m	(3)	27 m
D4-2	2-1.7m x 1.7m	(1)	0, 4.7 m
D4-3	2-1.7m x 1.7m	(7)	-3.4, 1 m
D8-1	1-1.7m x 1.7m	(7)	18 m
D8-1, D8-2	1-1.7m x 1.7m	(1)	88 m
D8-3	2-1.7m x 1.7m	(1)	0, 4.7 m
D8-4	1-1.7m x 1.7m	(3)	37 m
D8-2	2-1.7m x 1.7m	(1)	0, 4.7 m
D8-3	2-1.7m x 1.7m	(7)	-3.4, 1 m

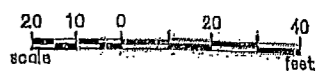


4 PABE POLE FOUNDATION
TYPE PABE-A-10.7 m
1 - ONE WAY SIGNAL (OVERHEAD)
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 180°
ONE WAY EVP DETECTOR AND LIGHT
(1.8 m FROM END OF MAST ARM, 21mm HUB
2 - PEDESTRIAN PUSHBUTTONS
EXTEND 78 mm RSC INTO HH-8 WITH:
3 - 12/C #12, 2 - 3/C #12
AND 1 - 3/C #20

SIGNAL OPERATION NOTES
- NORMAL OPERATION IS 6 PHASE
- FLASH MODE SHALL BE ALL RED
- 01 & 05 SHALL BE PROTECTED/PERMISSIVE LEFT TURNS
- 02 & 06 SHALL BE ON VEHICLE RECALL

INTERCONNECT NOTES:

- (1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-484-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2805 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY EITHER F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR) OR BY "REMOVE" (ITEMS TO BE REMOVED & DISPOSED OF BY CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "C" PAY ITEM.
- INTERCONNECT BETWEEN BUCHANAN STREET AND THE TH 10 NORTH RAMPS IS INPLACE AND SHALL BE MAINTAINED INPLACE AND IN OPERATION.



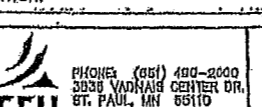
NOTE: PLAN IS SCALED IN FEET.

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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.

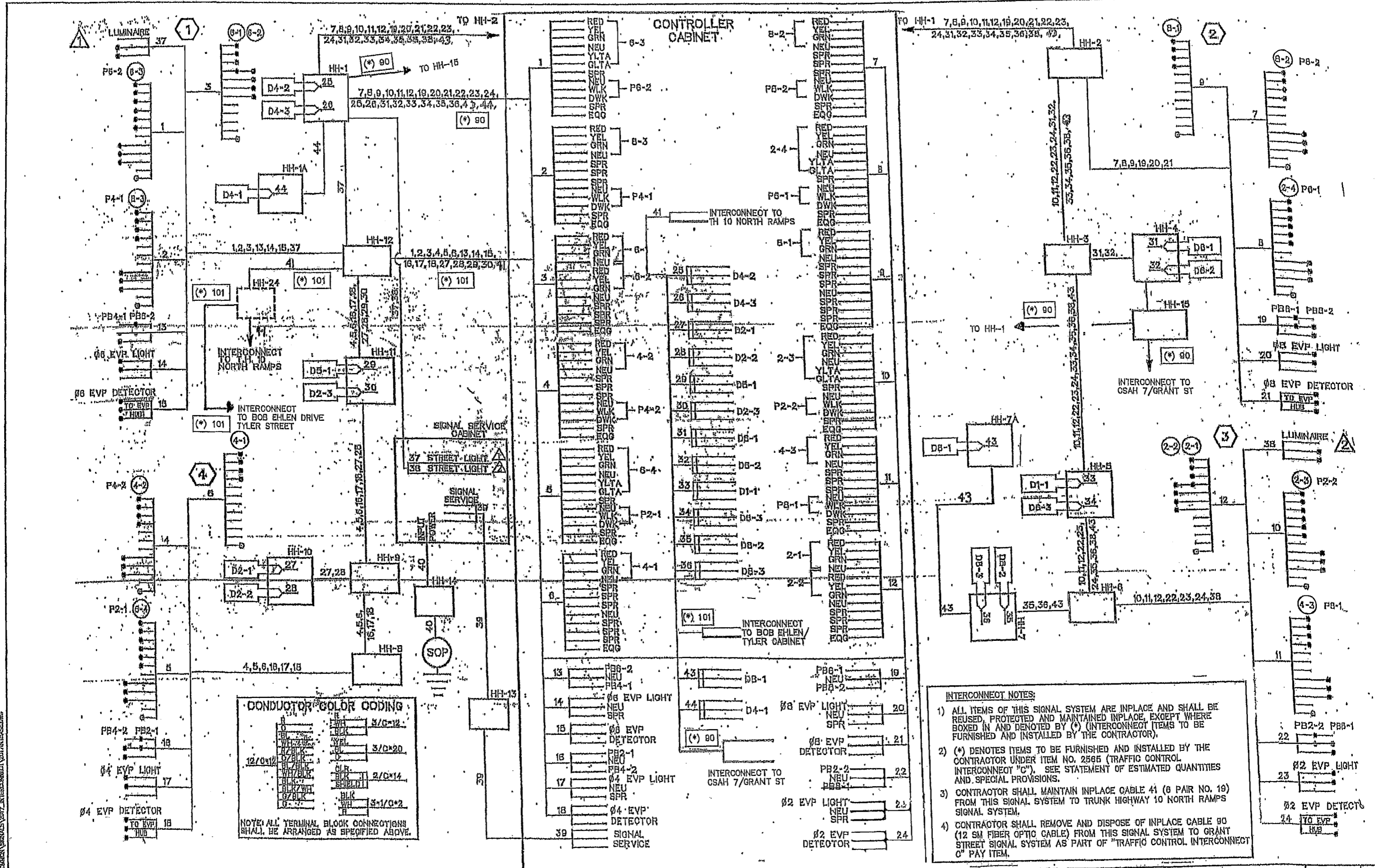
John M. Gray, PE
Date: July 9, 2018
Home: John M. Gray, PE
Lic. No. 22457



ANOKA COUNTY, MN
CITY OF ANOKA
SAP 002-080-010

TRAFFIC SIGNAL INTERCONNECT "C"
INTERSECTION LAYOUT
CSAH 7 (7TH AVENUE NW)
AT CO. RD. 79/BUCHANAN STREET

FILE NO. ANOKG 142312
25
30



CONDUCTOR COLOR CODING

0	WH	5/G-12
1	BLK	
2	WHT	
3	YEL	3/G-20
4	GRN	
5	BLK	
6	WHT	
7	BLK	
8	WHT	
9	BLK	
10	WHT	
11	BLK	
12	WHT	
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95	BLK	
96	WHT	
97	BLK	
98	WHT	
99	BLK	
100	WHT	

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

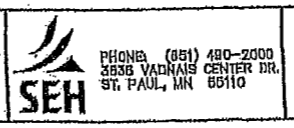
- INTERCONNECT NOTES:**
- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE IN PLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED IN PLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (*) (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
 - 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 3) CONTRACTOR SHALL MAINTAIN IN PLACE CABLE 41 (8 PAIR NO. 19) FROM THIS SIGNAL SYSTEM TO TRUNK HIGHWAY 10 NORTH RAMPS SIGNAL SYSTEM.
 - 4) CONTRACTOR SHALL REMOVE AND DISPOSE OF IN PLACE CABLE 90 (12 SM FIBER OPTIC CABLE) FROM THIS SIGNAL SYSTEM TO GRANT STREET SIGNAL SYSTEM AS PART OF "TRAFFIC CONTROL INTERCONNECT C" PAY ITEM.

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG
 DESIGN TEAM

NO.	BY	DATE	REVISIONS

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.

John M. Gray, PE
 Date: July 6, 2018
 Lic. No. 22497



ANOKA COUNTY, MN
 CITY OF ANOKA
 SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT "C"
 FIELD WIRING DIAGRAM
 CSAH 7 (7TH AVENUE NW)
 AT CO. RD. 79/BUCHANAN STREET

FILE NO.
 ANOKO 142312

INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "O"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY EITHER F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR) OR BY "REMOVE" (ITEMS TO BE REMOVED & DISPOSED OF BY CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "O" PAY ITEM.

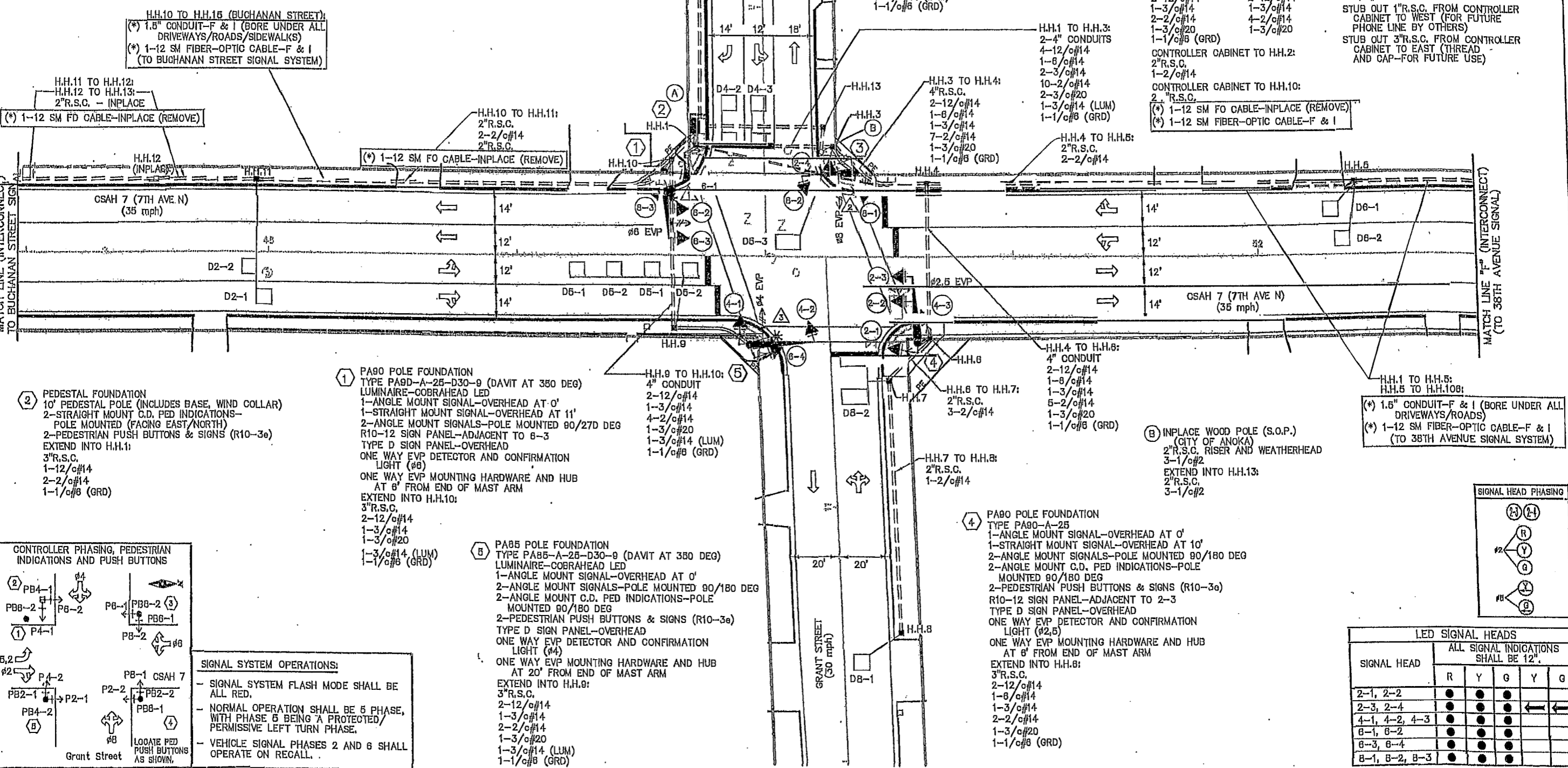
PVC LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D2-1	6x6	180'	1
D2-2	6x6	180'	1
D4-1	6x6	120'	3,5
D4-2	2-6x6	D & 15'	7
D4-3	2-6x6	0' & 15'	7
D5-1	2-6x6	20' & 50'	5,8,11
D5-2	2-6x6	5' & 35'	5,8,11
D5-3	6x10	30'	3,12
D6-1	6x6	180'	1
D6-2	6x6	180'	1
D8-1	6x6	120'	3,5
D8-2	2-6x10	0' & 15'	7

LOOP DETECTOR FUNCTIONS:

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL ONLY
- CARRY OVER (STRETCH)
- OPERATE DURING PHASE 2 CLEARANCE ONLY
- OPERATE DURING PHASE 6 ONLY

NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.



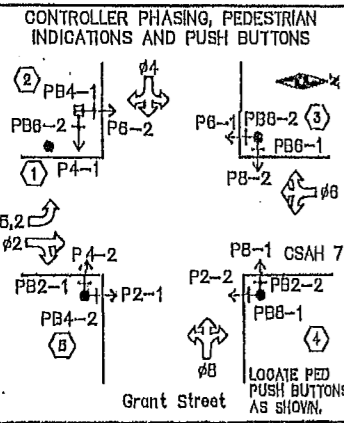
1) PA90 POLE FOUNDATION
 TYPE PA90-A-25-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-COBRAHEAD LED
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/27D DEG
 R10-12 SIGN PANEL-ADJACENT TO 6-3
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (#8)
 ONE WAY EVP MOUNTING HARDWARE AND HUB AT 6' FROM END OF MAST ARM
 EXTEND INTO H.H.10:
 3" R.S.C.,
 2-12/c#14,
 1-3/c#14,
 1-3/c#20,
 1-3/c#14 (LUM),
 1-1/c#8 (GRD)

2) PEDESTAL FOUNDATION
 10' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
 2-STRAIGHT MOUNT C.D. PED INDICATIONS-POLE MOUNTED (FACING EAST/NORTH)
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3a)
 EXTEND INTO H.H.1:
 3" R.S.C.,
 1-12/c#14,
 2-2/c#14,
 1-1/c#8 (GRD)

3) PA85 POLE FOUNDATION
 TYPE PA85-A-20-D30-9 (DAVIT AT 270 DEG)
 LUMINAIRE-COBRAHEAD LED
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3a)
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (#8)
 ONE WAY EVP MOUNTING HARDWARE AND HUB AT 16' FROM END OF MAST ARM
 EXTEND INTO H.H.3:
 3" R.S.C.,
 2-12/c#14,
 1-3/c#14,
 2-2/c#14,
 1-3/c#20,
 1-3/c#14 (LUM),
 1-1/c#8 (GRD)

4) PA90 POLE FOUNDATION
 TYPE PA90-A-25
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 10'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3a)
 R10-12 SIGN PANEL-ADJACENT TO 2-3
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (#2,5)
 ONE WAY EVP MOUNTING HARDWARE AND HUB AT 6' FROM END OF MAST ARM
 EXTEND INTO H.H.6:
 3" R.S.C.,
 2-12/c#14,
 1-8/c#14,
 1-3/c#14,
 2-2/c#14,
 1-3/c#20,
 1-1/c#8 (GRD)

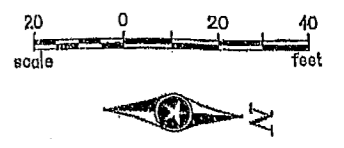
5) PA85 POLE FOUNDATION
 TYPE PA85-A-25-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-COBRAHEAD LED
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3a)
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (#4)
 ONE WAY EVP MOUNTING HARDWARE AND HUB AT 20' FROM END OF MAST ARM
 EXTEND INTO H.H.9:
 3" R.S.C.,
 2-12/c#14,
 1-3/c#14,
 2-2/c#14,
 1-3/c#20,
 1-3/c#14 (LUM),
 1-1/c#8 (GRD)



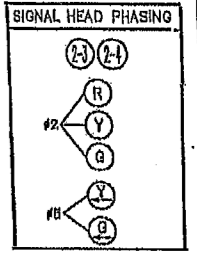
SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASE 5 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

A) CONTROLLER AND CABINET
 EQUIPMENT PAD FOUNDATION
 BATTERY BACK-UP SIGNAL SERVICE CABINET
 BETWEEN CONTROLLER CABINET AND SERVICE CABINET
 METERED SIGNAL SERVICE
 1 1/4" R.S.C.
 3-1/c#8
 CONTROLLER CABINET TO H.H.1:
 4" R.S.C.,
 3-12/c#14,
 1-3/c#14,
 8-2/c#14,
 1-3/c#20,
 1-1/c#8 (GRD)
 CONTROLLER CABINET TO H.H.10:
 4" R.S.C.,
 2-12/c#14,
 1-3/c#14,
 2-2/c#14,
 1-3/c#20,
 1-1/c#8 (GRD)
 CONTROLLER CABINET TO H.H.2:
 2" R.S.C.,
 1-2/c#14
 CONTROLLER CABINET TO H.H.10:
 2" R.S.C.,
 (*) 1-12 SM FO CABLE-INPLACE (REMOVE)
 (*) 1-12 SM FIBER-OPTIC CABLE-F & I



B) INPLACE WOOD POLE (S.O.P.)
 (CITY OF ANOKA)
 2" R.S.C. RISER AND WEATHERHEAD
 3-1/c#2
 EXTEND INTO H.H.13:
 2" R.S.C.,
 3-1/c#2



LED SIGNAL HEADS

ALL SIGNAL INDICATIONS SHALL BE 12".

SIGNAL HEAD	ALL SIGNAL INDICATIONS SHALL BE 12".				
	R	Y	G	Y	G
2-1, 2-2	●	●	●	●	●
2-3, 2-4	●	●	●	●	●
4-1, 4-2, 4-3	●	●	●	●	●
6-1, 6-2	●	●	●	●	●
8-3, 8-4	●	●	●	●	●
8-1, 8-2, 8-3	●	●	●	●	●

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

DESIGN TEAM: NO. BY DATE

REVISIONS

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.

John M. Gray, PE
 Home: 763-451-2247
 Lic. No. 22457

Date: July 8, 2018

SEH
 PHONE: (651) 490-2000
 3535 WADSWORTH CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MN
 CITY OF ANOKA
 SAP 002-030-010

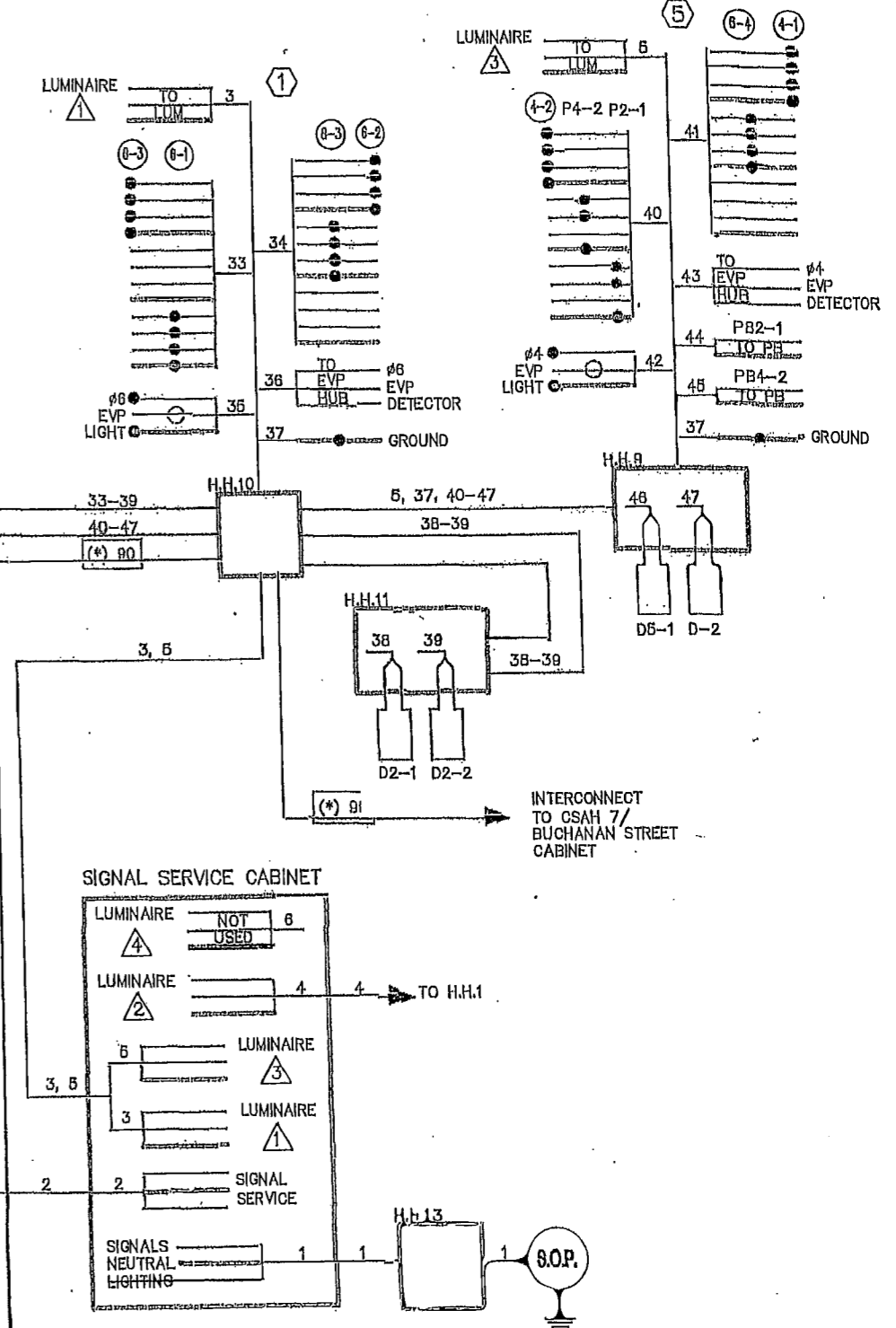
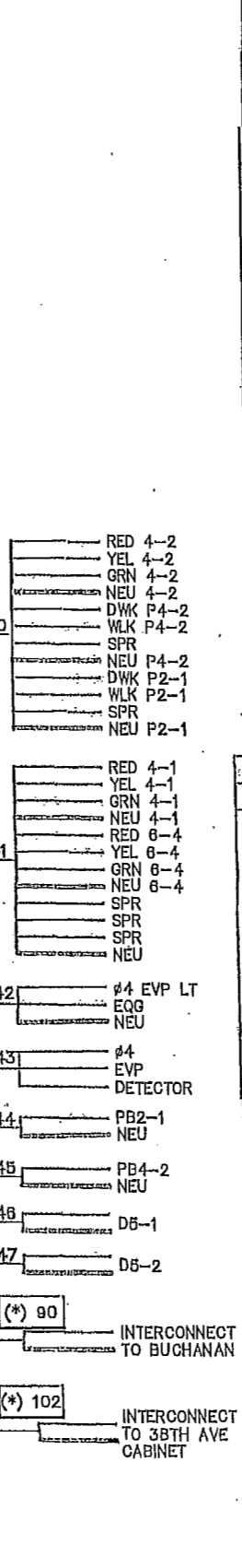
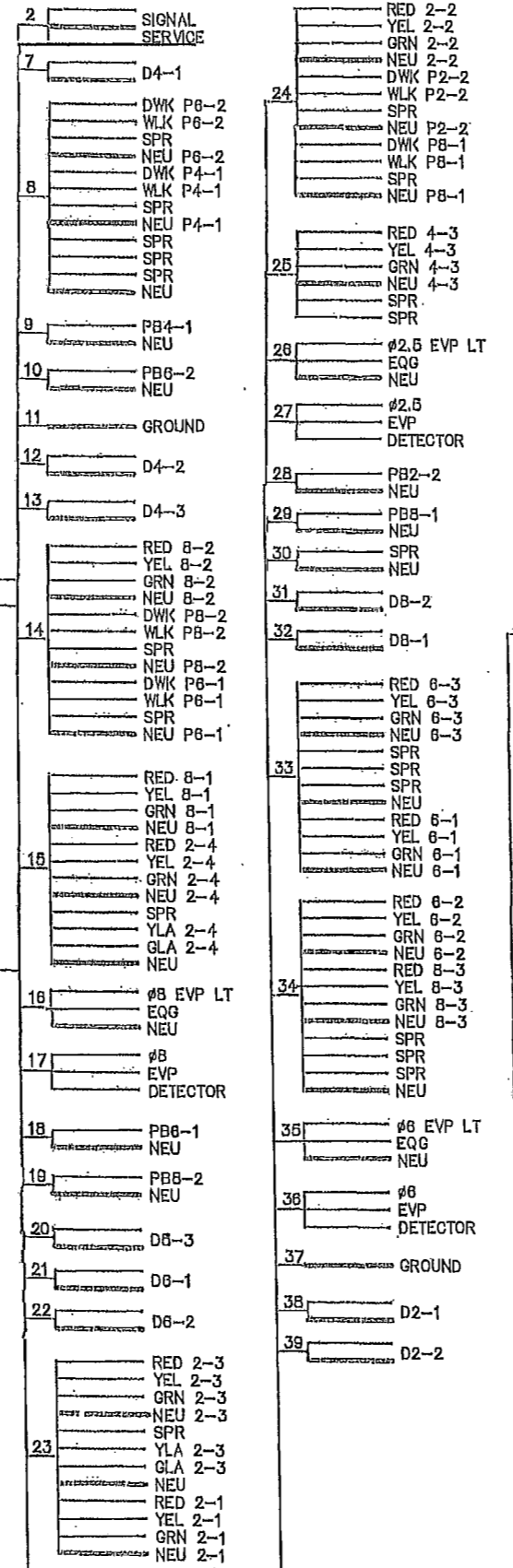
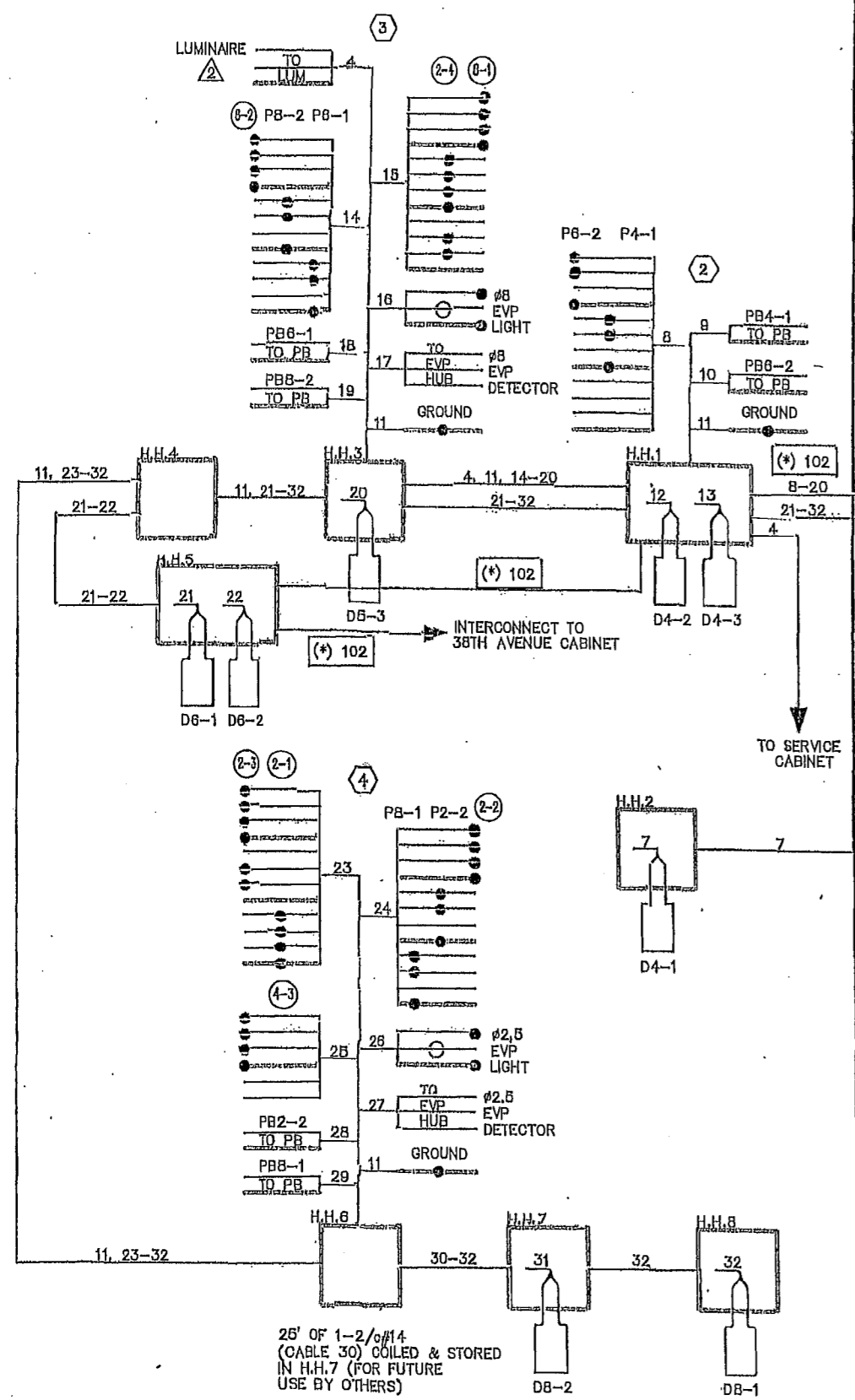
TRAFFIC SIGNAL INTERCONNECT 'C'
 INTERSECTION LAYOUT
 CSAH 7 (7TH AVENUE NW)
 AT CSAH 31-GRANT STREET

FILE NO. ANOKA 142312

CONTROLLER AND CABINET

INTERCONNECT NOTES:

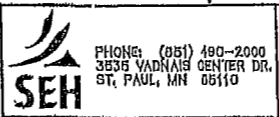
- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (*) (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"), SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) CONTRACTOR SHALL REMOVE AND DISPOSE OF INPLACE CABLE 90 (12 SM FIBER OPTIC CABLE) FROM THIS SIGNAL SYSTEM TO THE BUCHANAN STREET SIGNAL SYSTEM AS PART OF "TRAFFIC CONTROL INTERCONNECT C" PAY ITEM.



DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

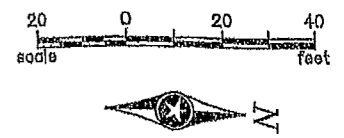
NO.	BY	DATE	REVISIONS

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.
 Name: John M. Gray, PE
 Date: July 9, 2018
 Lic. No. 22457



ANOKA COUNTY, MN
 CITY OF ANOKA
 8AP 002-030-010

TRAFFIC SIGNAL INTERCONNECT 'C'
 FIELD WIRING DIAGRAM
 CSAH 7 (7TH AVENUE NW)
 AT CSAH 31 GRANT STREET



INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 661-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2180.
- (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE IN PLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED IN PLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH IN PLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "C" PAY ITEM.

⑦ SCREW-IN FOUNDATION
14' PEDESTAL POLE (INCLUDES BASE)
WIND COLLAR FOR PEDESTAL POLE
TWO WAY EVP DETECTOR—MOUNT ON TOP OF PEDESTAL POLE (#4/8)
EXTEND INTO H.H.7:
2" R.S.C.
1-3/c#20

② PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
TYPE 1A
R3-2 AND "7 AM TO 8 AM" SIGN PANELS—
FACING EASTBOUND TRAFFIC
EXTENDED INTO H.H.9:
1 1/4" R.S.C.
1-12/c#12

③ PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
TYPE 1A
EXTENDED INTO H.H.11:
1 1/4" R.S.C.
1-12/c#12

④ PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
TYPE 1D
2—PEDESTRIAN PUSH BUTTONS & R10-4c
STICKER SIGNS
EXTENDED INTO H.H.11:
3" R.S.C.
2-12/c#12
8-3/c#14

① MAST ARM POLE FOUNDATION
TYPE A-20-D40-12 (DAVIT AT 350°)
LUMINAIRE-200 W HPS W/PEC & CHECK SWITCH
ONE WAY SIGNAL-OVERHEAD
TYPE 30A-POLE MOUNTED 0°
TYPE 10B-POLE MOUNTED 270°
2—PEDESTRIAN PUSH BUTTONS & R10-4c
STICKER SIGNS
ONE WAY EVP DETECTOR AND LIGHT (#2)
EXTENDED INTO H.H.9:
3" R.S.C.
2-12/c#12
6-3/c#14
4-1/c#8 (LUM)
1-3/c#20

H.H.8 TO H.H.9:
3" R.S.C.
1-12/c#12
6-3/c#14
1-2/c#14
4-1/c#8 (LUM)
1-3/c#20

H.H.10 TO H.H.11:
3" R.S.C.
1-12/c#12
8-3/c#14
4-2/c#14

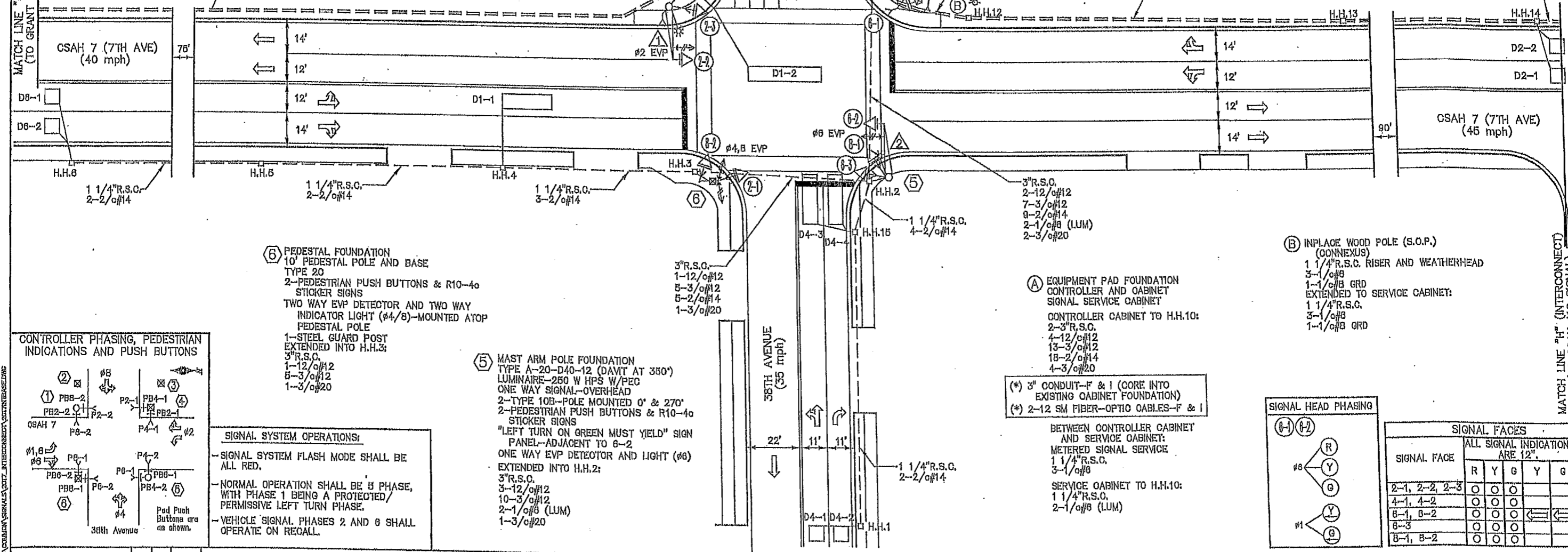
H.H.9 TO H.H.10:
(*) 1.5" CONDUIT-F & I (BORE UNDER ALL DRIVEWAYS/ROADS)
(*) 1-12 SM FIBER-OPTIC CABLE-F & I

H.H.10 TO H.H.11:
(*) 1.5" CONDUIT-F & I (BORE UNDER ALL DRIVEWAYS/ROADS)
(*) 1-12 SM FIBER-OPTIC CABLE-F & I (TO CSAH 116 SIGNAL SYSTEM)

H.H.12 TO H.H.13:
H.H.13 TO H.H.14:
1 1/4" R.S.C.
2-2/c#14

MATCH LINE "C" (INTERCONNECT) (TO GRANT STREET SIGNAL)

MATCH LINE "H" (INTERCONNECT) (TO CSAH 116 SIGNAL)



H.H.9 TO H.H.10:
(*) 1.5" CONDUIT-F & I (BORE UNDER ALL DRIVEWAYS/ROADS)
(*) 1-12 SM FIBER-OPTIC CABLE-F & I (TO GRANT STREET SIGNAL SYSTEM)

⑥ PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
TYPE 20
2—PEDESTRIAN PUSH BUTTONS & R10-4c
STICKER SIGNS
TWO WAY EVP DETECTOR AND TWO WAY INDICATOR LIGHT (#4/8)—MOUNTED ATOP PEDESTAL POLE
1—STEEL GUARD POST EXTENDED INTO H.H.3:
3" R.S.C.
1-12/c#12
6-3/c#14
1-3/c#20

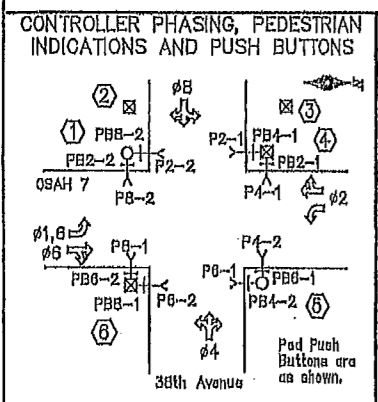
⑤ MAST ARM POLE FOUNDATION
TYPE A-20-D40-12 (DAVIT AT 350°)
LUMINAIRE-250 W HPS W/PEC
ONE WAY SIGNAL-OVERHEAD
2—TYPE 10B-POLE MOUNTED 0° & 270°
2—PEDESTRIAN PUSH BUTTONS & R10-4c
STICKER SIGNS
"LEFT TURN ON GREEN MUST YIELD" SIGN
PANEL-ADJACENT TO 6-2
ONE WAY EVP DETECTOR AND LIGHT (#6)
EXTENDED INTO H.H.2:
3" R.S.C.
3-12/c#12
10-3/c#12
2-1/c#8 (LUM)
1-3/c#20

① EQUIPMENT PAD FOUNDATION
CONTROLLER AND CABINET
SIGNAL SERVICE CABINET
CONTROLLER CABINET TO H.H.10:
2-3" R.S.C.
4-12/c#12
13-3/c#12
18-2/c#14
4-3/c#20

② IN PLACE WOOD POLE (S.O.P.) (CONNEXUS)
1 1/4" R.S.C. RISER AND WEATHERHEAD
3-1/c#8
1-1/c#8 GRD
EXTENDED TO SERVICE CABINET:
1 1/4" R.S.C.
3-1/c#8
1-1/c#8 GRD

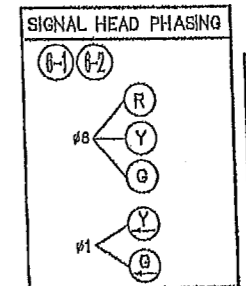
(*) 3" CONDUIT-F & I (CORE INTO EXISTING CABINET FOUNDATION)
(*) 2-12 SM FIBER-OPTIC CABLES-F & I

BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
3-1/c#8
SERVICE CABINET TO H.H.10:
1 1/4" R.S.C.
2-1/c#8 (LUM)



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 3 PHASE, WITH PHASE 1 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 AND 3 SHALL OPERATE ON RECALL.



SIGNAL FACES

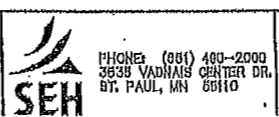
SIGNAL FACE	ALL SIGNAL INDICATIONS ARE 12"				
	R	Y	G	Y	G
2-1, 2-2, 2-3	○	○	○		
4-1, 4-2	○	○			
6-1, 6-2	○	○	○	←	←
8-3	○	○			
8-1, 8-2	○	○			

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

DESIGN TEAM	NO.	BY	DATE	REVISIONS

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.

Date: July 6, 2018 Name: John M. Gray, PE License No.: 22487

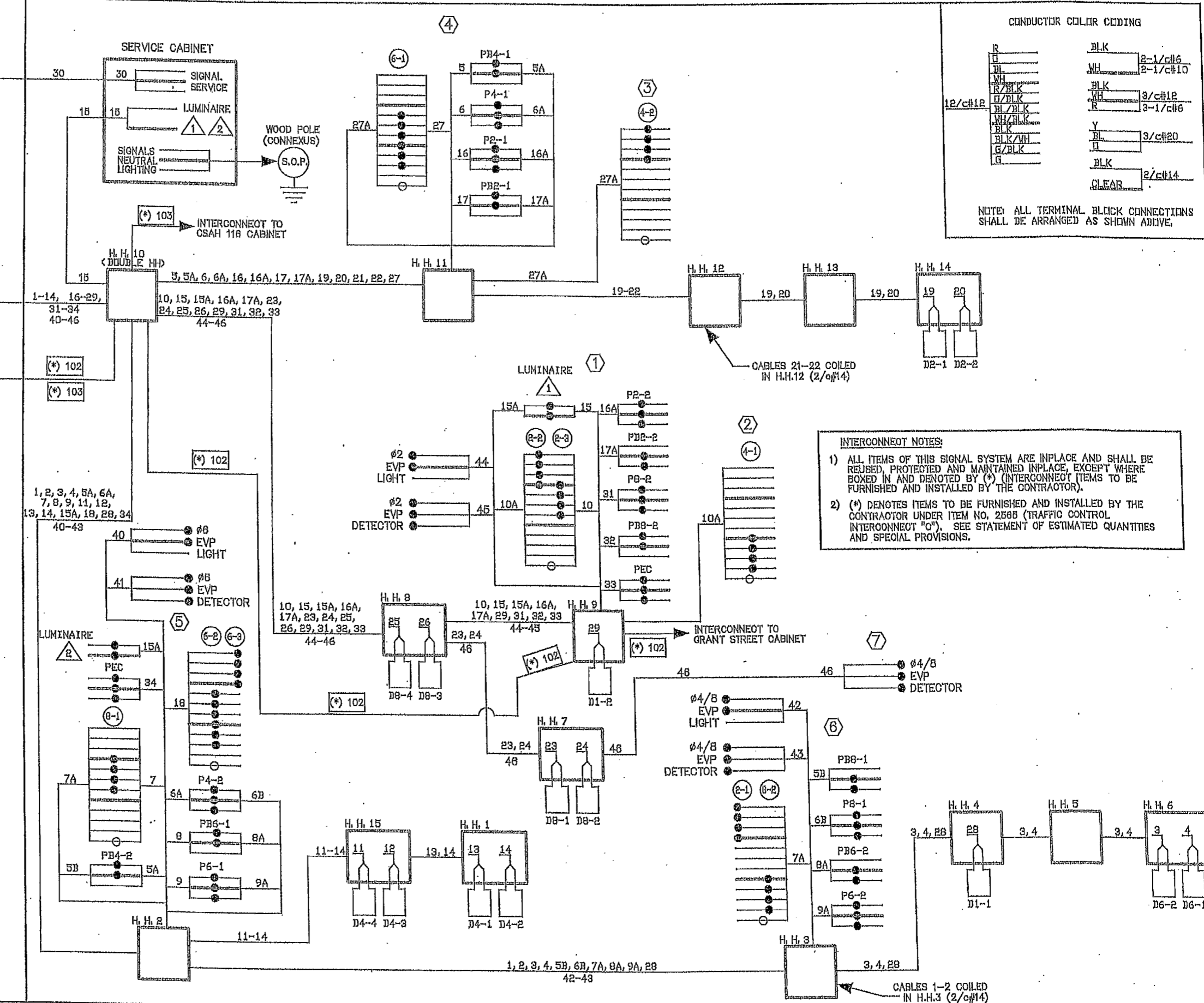
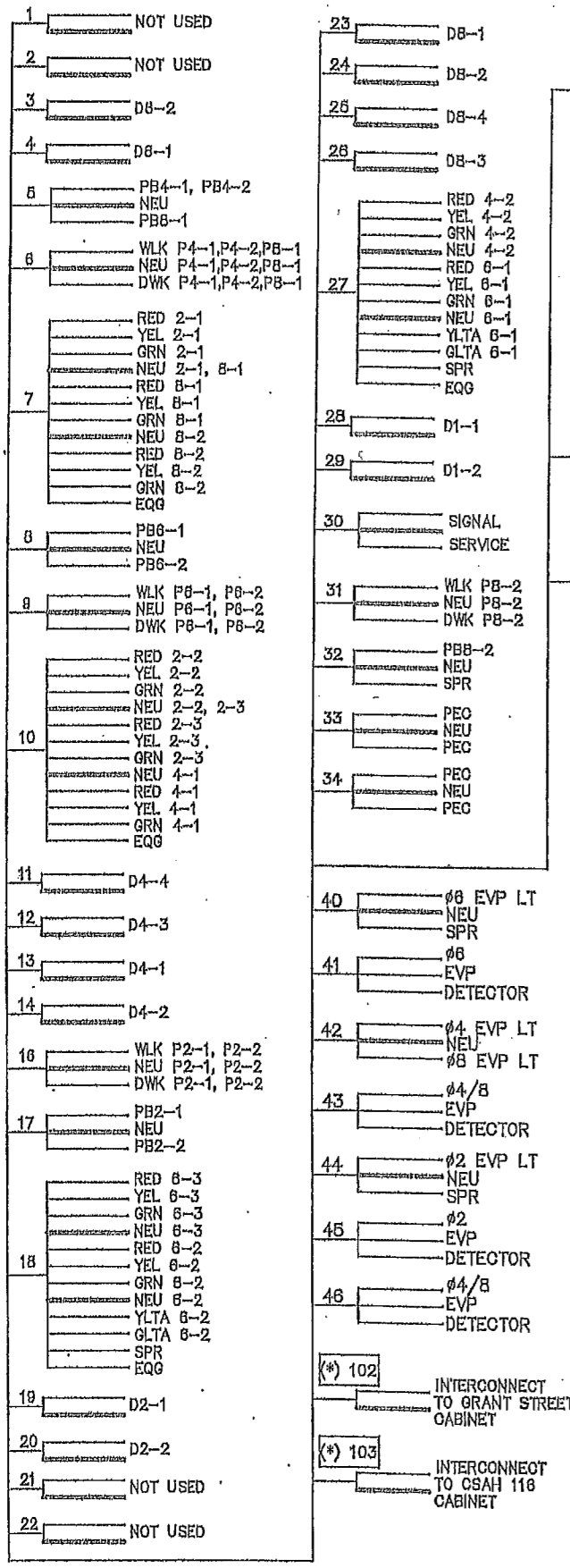


ANOKA COUNTY, MN
CITY OF ANOKA
SAP 002-080-010

TRAFFIC SIGNAL INTERCONNECT "C"
INTERSECTION LAYOUT
CSAH 7 (7TH AVENUE NW)
AT 38TH AVENUE/SCHOOL DRIVEWAY

FILE NO. ANOKA 142312
29
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CONTROLLER AND CABINET



CONDUCTOR COLOR CODING

R	BLK	2-1/c#6
H	WH	2-1/c#10
BL	BLK	3/c#12
R/BLK	WH	3/c#12
W/BLK	R	3-1/c#6
Y	BLK	3/c#20
BLK/WH	H	
G/BLK	BLK	2/c#14
G	CLEAR	

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SHOWN ABOVE.

INTERCONNECT NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (*) (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG
 DESIGN TEAM

NO.	BY	DATE	REVISIONS

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.

Date: July 8, 2018 Name: John M. Gray, PE Lic. No. 22257

SEH
 PHONE: (612) 490-2000
 3838 VANDER CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MN
 CITY OF ANOKA
 SAP 002-080-010

TRAFFIC SIGNAL INTERCONNECT "C"
 FIELD WIRING DIAGRAM
 CSAH 7 (7TH AVENUE NW)
 AT 84TH AVENUE/SCHOOL DRIVEWAY

FILE NO. ANOKO 142312
 30
 30