MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING, AGG.BASE, BITUMINOUS SURFACING, STORM SEWER, CURB & GUTTER, MILL & OVERLAY AND SIGNAL SYSTEM

SAP 002-614-040
SAP 103-020-018
SAP 114-020-052 LOCATED ON CSAH 14 BETWEEN CSAH 7 AND CSAH 9

SAP 103-111-005 LOCATED ON 9TH AVE AT CSAH 14

SAP 114-121-015 LOCATED ON ROUND LAKE BLVD BETWEEN 430 FT SOUTH OF CSAH 14 AND CSAH 14

STATE AID PROJ. NO. 002-614-040, 103-020-018, 114-020-052

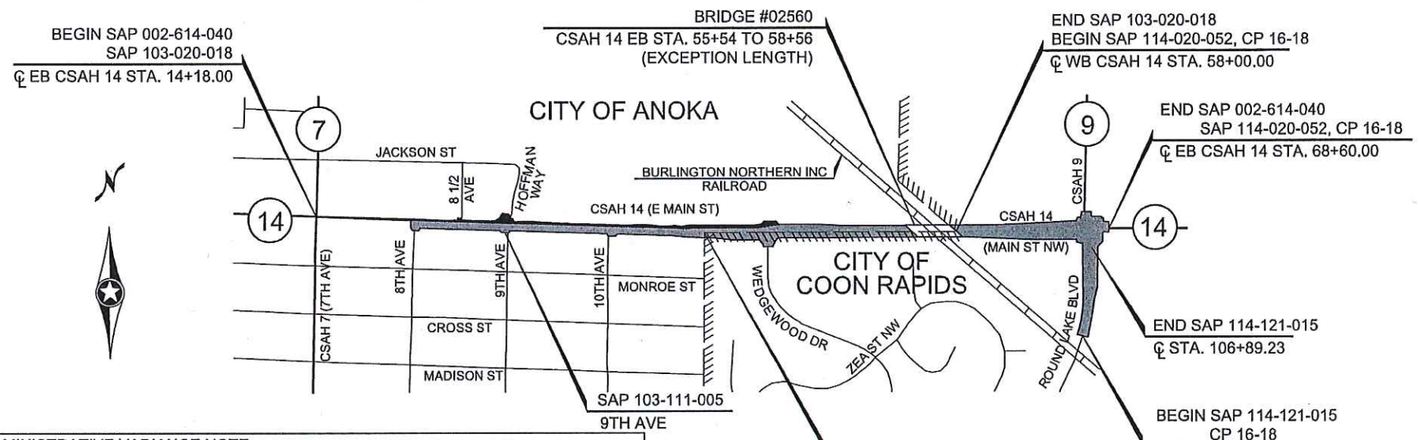
CSAH 14

GROSS LENGTH	5442.00 FEET	1.031 MILES
BRIDGES-LENGTH	302.00 FEET	0.057 MILES
EXCEPTIONS-LENGTH	302.00 FEET	0.057 MILES
NET LENGTH	5140.00 FEET	0.974 MILES

STATE AID PROJ. NO. 114-121-015

ROUND LAKE BLVD

GROSS LENGTH	429.79 FEET	0.081 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	429.79 FEET	0.081 MILES



ADMINISTRATIVE VARIANCE NOTE:

THIS PROJECT HAS BEEN GRANTED AN ADMINISTRATIVE VARIANCE FROM MINNESOTA RULE 8820.9936. THE VARIANCE PERMITS NO CURB REACTION DISTANCE IN LIEU OF THE REQUIRED 2 FEET, ALONG CSAH 14 FROM 8TH AVE TO APPROXIMATELY 500 FEET WEST OF WEDGEWOOD DR. THE VARIANCE WAS APPROVED BY THE STATE AID ENGINEER ON JULY 05, 2017.

DESIGN DESIGNATION (CSAH 14)

ESAL 20	1,697,417	FUNCTIONAL CLASSIFICATION	A MINOR EXPANDER
R VALUE	50	NO. OF TRAFFIC LANES 4	NO. OF PARKING LANES 0
ADT (2017)	14891	DESIGN SPEED 35 MPH	(FROM STA. 14+18 TO STA. 44+11)
PROJ. ADT (2037)	16827	DESIGN SPEED 45 MPH	(FROM STA. 44+11 TO STA. 68+60)
PROJ. HCADT (2037)	993	STOPPING SIGHT DISTANCE BASED ON:	
SOIL FACTOR	NA	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 2.0'
10 TON DESIGN		DESIGN SPEED NOT ACHIEVED AT :	
		STA. ____ TO STA. ____	MPH ____

DESIGN DESIGNATION (9TH AVE)

ESAL 20	259,224	FUNCTIONAL CLASSIFICATION	LOCAL COLLECTOR
R VALUE	20	NO. OF TRAFFIC LANES 2	NO. OF PARKING LANES 0
ADT (2017)	1976	DESIGN SPEED 30 MPH	
PROJ. ADT (2037)	2965	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2037)	175	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 2.0'
SOIL FACTOR	NA	DESIGN SPEED NOT ACHIEVED AT :	
9 TON DESIGN		STA. ____ TO STA. ____	MPH ____

DESIGN DESIGNATION (ROUND LAKE BLVD)

ESAL 20	1,625,596	FUNCTIONAL CLASSIFICATION	URBAN COLLECTOR
R VALUE	40	NO. OF TRAFFIC LANES 2	NO. OF PARKING LANES 0
ADT (2017)	14259	DESIGN SPEED 40 MPH	
PROJ. ADT (2037)	16115	STOPPING SIGHT DISTANCE BASED ON:	
PROJ. HCADT (2037)	951	HEIGHT OF EYE 3.5'	HEIGHT OF OBJECT 2.0'
SOIL FACTOR	NA	DESIGN SPEED NOT ACHIEVED AT :	
9 TON DESIGN		STA. ____ TO STA. ____	MPH ____

PLAN SYMBOLS

COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT OF WAY LINE
SLOPE EASEMENT
EXISTING RIGHT OF WAY
PROPERTY LINE
CORPORATE OR CITY LIMITS
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY
RIVER OR CREEK
DRAINAGE DITCH
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
WOOD FENCE
STONE WALL OR FENCE
HEDGE
LOWLAND
TIMBER
ORCHARD
BRUSH
NURSERY
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) 1-S-F
F-FRAME C-CONCRETE
S-STONE T-TILE
B-BRICK ST-STUCCO
RAILROAD CROSSING BELL
RAILROAD CROSSING GATE
MANHOLE M.H.
CATCH BASIN C.B.
FIRE HYDRANT
CAST IRON MONUMENT
IRON PIN
GRAVEL PIT G
SAND PIT S
BORROW PIT B
ROCK QUARRY Q

UTILITY SYMBOLS

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

SCALES

PLAN 0' 100'
PROFILE HORIZONTAL 0' 100'
VERTICAL 0' 10'
X-SECTIONS HORIZONTAL 0' 10'
VERTICAL 0' 10'
INDEX MAP 0' 1000'

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.

UTILITY QUALITY LEVEL NOTE

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "D". THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

INDEX

THIS PLAN CONTAINS 159 SHEETS

APPROVED _____ ANOKA COUNTY ENGINEER DATE 7/5/17

APPROVED _____ CITY OF ANOKA ENGINEER DATE 7/6/17

APPROVED _____ CITY OF COON RAPIDS ENGINEER DATE 7/6/17

_____ DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY DATE 7/6/17

FOR _____ APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER DATE 7/6/17

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TSH.dgn 07/05/2017 12:55:23 PM

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: ELIZABETH MARKOSE
SIGNATURE: _____
DATE: 07/05/17 LICENSE NO. 49118

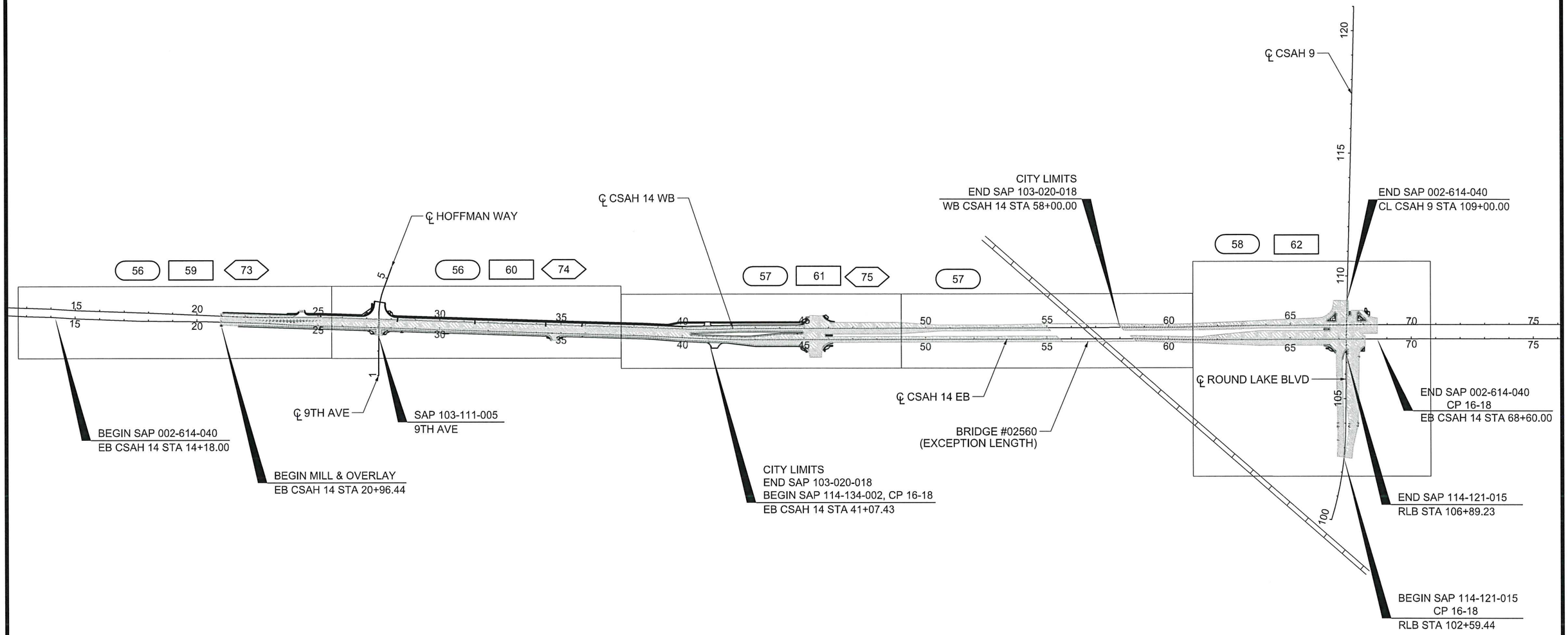
DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TITLE SHEET

Sheet 1 of 159 Sheets



N

0 400
SCALE IN FEET

LEGEND

XXX	INPLACE TOPOGRAPHY AND REMOVAL PLAN SHEET NUMBER
XXX	CONSTRUCTION PLAN SHEET NUMBER
XXX	STORM DRAINAGE PLAN SHEET NUMBER

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_GL_P1.dgn 07/06/2017 6:39:13 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

GENERAL LAYOUT

Sheet 2 of 159 Sheets

STATEMENT OF ESTIMATED QUANTITIES
SAP 002-614-040, SAP 103-020-018, SAP 103-111-005, SAP 114-020-052, SAP 114-121-015, CP 2017-049

TAB	NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT ESTIMATED QUANTITES	PARTICIPATING STATE AID FUNDS					NON-PARTICIPATING STATE AID FUNDS	
						ANOKA COUNTY 002-614-040 ROADWAY ESTIMATED QUANTITIES	CITY OF ANOKA 103-020-018 ROADWAY ESTIMATED QUANTITIES	CITY OF ANOKA 103-111-005 ROADWAY ESTIMATED QUANTITIES	CITY OF COON RAPIDS 114-020-052 ROADWAY ESTIMATED QUANTITIES	CITY OF COON RAPIDS 114-121-015 ROADWAY ESTIMATED QUANTITIES	DRAINAGE ESTIMATED QUANTITIES	CITY OF ANOKA CP 2017-049 ROADWAY ESTIMATED QUANTITIES
		2013.601	SURVEY EQUIPMENT	LUMP SUM	1	1						
		2021.501	MOBILIZATION	LUMP SUM	1	0.695	0.127	0.026	0.006	0.028	0.013	0.105
		2031.501	FIELD OFFICE TYPE D	EACH	1	0.695	0.127	0.026	0.006	0.028	0.013	0.105
A	(1)	2101.502	CLEARING	TREE	16	16						
A	(1)	2101.507	GRUBBING	TREE	16	16						
B	(2)	2102.502	PAVEMENT MARKING REMOVAL	LIN FT	11780	11780						
C	(3),(4)	2104.501	REMOVE SEWER PIPE (STORM)	LIN FT	130	130						
D	(3)	2104.501	REMOVE CURB AND GUTTER	LIN FT	6171	6051				120		
D	(3),(5)	2104.501	REMOVE BITUMINOUS CURB	LIN FT	278	253	25					
D	(3),(6)	2104.503	REMOVE CONCRETE SIDEWALK	SQ FT	4523	3783	740					
D	(3)	2104.503	REMOVE CONCRETE MEDIAN	SQ FT	5545	5545						
E	(3)	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	168	168						
D,E	(3)	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	1941	1920				21		
	(3),(6)	2104.509	REMOVE LIGHTING UNIT	EACH	8		8					
C	(3)	2104.509	REMOVE MANHOLE OR CATCH BASIN	EACH	13	13						
C	(3)	2104.509	REMOVE CASTING	EACH	58	52				6		
G	(3)	2104.509	REMOVE SIGN TYPE C	EACH	76	76						
G	(3)	2104.509	REMOVE SIGN TYPE D	EACH	2	2						
	(3)	2104.509	REMOVE SIGNAL SYSTEM	EACH	1	1						
F	(3)	2104.509	REMOVE MAIL BOX SUPPORT	EACH	5	5						
D,E	(7)	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	1247	1207				40		
D,E	(7)	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	6795	6660				135		
G	(8)	2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	4	4						
		2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	1						
E,J		2105.501	COMMON EXCAVATION (P)	CU YD	1695	1695						
J		2105.507	SUBGRADE EXCAVATION (P)	CU YD	1436	1436						
J		2105.522	SELECT GRANULAR BORROW (CV)	CU YD	101	101						
		2130.501	WATER	M GALLON	30	30						
H		2211.501	AGGREGATE BASE CLASS 5	TON	188	188						
H		2211.503	AGGREGATE BASE CLASS 5 (P)	CU YD	418	418						
D		2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	12258	12258						
D		2232.501	MILL BITUMINOUS SURFACE (3.0")	SQ YD	26550	23481				3069		
L		2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	3586	3279				307		
L		2360.501	TYPE SP 9.5 WEARING COURSE MIX (3,B)	TON	5973	5444				529		
L		2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	423	423						
L		2360.505	TYPE SP 12.5 BITUMINOUS MIXTURE FOR PATCHING	TON	307	299				8		
M		2503.541	12" RC PIPE SEWER DES 3006 CLASS V	LIN FT	80						80	
M		2503.541	15" RC PIPE SEWER DES 3006 CLASS V	LIN FT	141						141	
	(6),(16)	2504.601	IRRIGATION SYSTEM	LUMP SUM	1							1
C		2504.602	RELOCATE HYDRANT & VALVE	EACH	1	1						
C		2504.602	ADJUST VALVE BOX	EACH	8	8						
M		2506.501	CONST. DRAINAGE STRUCTURE DESIGN G	LIN FT	35.8						35.8	
M		2506.501	CONST. DRAINAGE STRUCTURE DES 48-4020	LIN FT	2.9						2.9	
M		2506.501	CONST. DRAINAGE STRUCTURE DES 54-4020	LIN FT	3.4						3.4	
C		2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	31	31						
C,M		2506.516	CASTING ASSEMBLY	EACH	54	34				6	14	
C	(9)	2506.523	ADJUST FRAME & RING CASTING	EACH	23	23						
M		2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	4	4						
M		2506.602	CONNECT INTO EXISTING STORM SEWER	EACH	11	11						
N	(10),(11)	2521.501	4" CONCRETE WALK	SQ FT	17924	7469	8935					1520
N	(10)	2521.501	6" CONCRETE WALK	SQ FT	3657	3477	180					

NOTES:

(1) CLEARING AND GRUBBING SHALL BE STAKED IN FIELD BY THE ENGINEER.
(2) FOR TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION STAGING.
(3) ALL REMOVAL ITEMS SHALL BE DISPOSED OFF-SITE. NO DISPOSAL SHALL BE ALLOWED WITHIN THE ROADWAY RIGHT-OF-WAY OR EASEMENTS.
(4) INCLUDES ALL TYPES OF PIPES.
(5) QUANTITY FROM CITY OF ANOKA'S PATCHING AFTER UTILITY IMPROVEMENTS
(6) SEE CITY OF ANOKA PLAN SHEETS 132-143 FOR LOCATIONS/DETAILS.
(7) PAYMENT FOR SAWING BITUMINOUS WILL ONLY BE MADE WHEN THE CUT IS MADE WITH A SAW. NO PAYMENT SHALL BE MADE FOR CUTS MADE BY A MILLING MACHINE OR RECLAIMER.
(8) SALVAGE TO: ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKES BLVD NW, ANDOVER, MN.
(9) INCLUDES BOTH STORM AND SANITARY MANHOLES.
(10) INCLUDES QUANTITY FOR CURB & GUTTER AND SIDEWALK RESTORATION AFTER CITY OF ANOKA'S UTILITY IMPROVEMENTS.
(11) REMOVAL OF APPROX. 2000 SF CLASS 5 AGGREGATE FROM TEMPORARY SIDEWALK/MEDIAN REPAIR AFTER CITY OF ANOKA'S UTILITY IMPROVEMENTS, SHALL BE INCIDENTAL.
(12) B618 C&G UNDER SAP 114-121-015 SHALL HAND PLACED.
(13) INSTALL RELOCATED MAILBOXES.
(14) REPLACE LUMINAIRES FOR SIGNAL SYSTEMS B & C.
(15) FOR THE ELECTRICAL SYSTEM. SEE SPECIAL PROVISIONS SECTION 025450 OF CITY OF ANOKA SPECIFICATIONS, FOR THE REQUIRED INSTALLATION METHOD.
(16) FOR THE IRRIGATION SYSTEM. CONDUIT SHALL BE DIRECTIONAL DRILLED.
(17) FOR THE IRRIGATION SYSTEM. CONDUIT SHALL BE DIRECTIONAL DRILLED OR BORED.

NO	DATE	BY	CKD	APPR	REVISION
1	07/19/2017	EJM	GMP	EJM	ADDED ITEMS 2545.523 3" NON-METALLIC CONDUIT & 2550.603 2" BORED CONDUIT, AND NOTES 15 - 17.

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/20/2017 9:08:22 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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/20/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

STATEMENT OF ESTIMATED QUANTITIES

Sheet 3 of 159 Sheets

STATEMENT OF ESTIMATED QUANTITIES

SAP 002-614-040, SAP 103-020-018, SAP 103-111-005, SAP 114-020-052, SAP 114-121-015, CP 2017-049

TAB	NOTE	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL PROJECT ESTIMATED QUANTITES	PARTICIPATING STATE AID FUNDS					NON-PARTICIPATING STATE AID FUNDS	
						ANOKA COUNTY 002-614-040 ROADWAY ESTIMATED QUANTITIES	CITY OF ANOKA 103-020-018 ROADWAY ESTIMATED QUANTITIES	CITY OF ANOKA 103-111-005 ROADWAY ESTIMATED QUANTITIES	CITY OF COON RAPIDS 114-020-052 ROADWAY ESTIMATED QUANTITIES	CITY OF COON RAPIDS 114-121-015 ROADWAY ESTIMATED QUANTITIES	DRAINAGE ESTIMATED QUANTITIES	CITY OF ANOKA CP 2017-049 ROADWAY ESTIMATED QUANTITIES
N		2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	39	39						
N		2531.501	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	4078	2074	1964		40			
N	(12)	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	138	18				120		
N		2531.501	CONCRETE CURB & GUTTER DESIGN B618 (MOD)	LIN FT	975	975						
N	(10)	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	899	436	255		169	14		25
		2531.501	CONCRETE CURB & GUTTER DESIGN B624 (MOD)	LIN FT	346	346						
N		2531.618	TRUNCATED DOMES	SQ FT	320	296	24					
F	(13)	2540.602	INSTALL MAIL BOX	EACH	7	7						
F		2540.602	MAIL BOX SUPPORT	EACH	4	4						
Q	(14)	2545.513	LUMINAIRE (LED)	EACH	6				2	4		
	(15)	2545.523	2" NON-METALLIC CONDUIT	LIN FT	5010		5010					
	(6),(16)	2545.523	3" NON-METALLIC CONDUIT	LIN FT	335							335
	(15)	2545.523	5" NON-METALLIC CONDUIT	LIN FT	14616							14616
Q		2545.541	SERVICE CABINET	EACH	1	0.25	0.50	0.25				
	(6)	2545.551	JUNCTION BOX	EACH	23		23					
	(6)	2545.602	ELECTRICAL VAULT MANHOLE	EACH	4							4
	(6)	2545.602	INSTALL HANDHOLE	EACH	1							1
	(6)	2545.602	INSTALL LIGHT FOUNDATION	EACH	20		20					
	(6)	2550.603	REMOVE CONDUIT	LIN FT	1800		1800					
	(6),(17)	2550.603	2" BORED CONDUIT	LIN FT	805							805
		2563.601	TRAFFIC CONTROL (STAGE 1)	LUMP SUM	1	0.695	0.127	0.026	0.006	0.028	0.013	0.105
		2563.601	TRAFFIC CONTROL (STAGE 2)	LUMP SUM	1	0.695	0.127	0.026	0.006	0.028	0.013	0.105
		2563.601	TRAFFIC CONTROL (STAGE 3)	LUMP SUM	1	0.695	0.127	0.026	0.006	0.028	0.013	0.105
		2563.601	TRAFFIC CONTROL (STAGE 4)	LUMP SUM	1	0.695	0.127	0.026	0.006	0.028	0.013	0.105
B	(2)	2563.602	RAISED PAVEMENT MARKER TEMPORARY	EACH	574	574						
		2563.610	POLICE OFFICER	HOUR	40	40						
B	(2)	2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	UNIT DAY	68	68						
P		2564.531	SIGN PANELS TYPE C	SQ FT	563	563						
P		2564.537	INSTALL SIGN TYPE SPECIAL	EACH	4	4						
Q		2565.511	TRAFFIC CONTROL SIGNAL SYSTEM A	SYSTEM	1	0.25	0.50	0.25				
Q		2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1		0.50	0.50				
Q		2565.514	TRAFFIC CONTROL INTERCONNECT	LUMP SUM	1	1						
Q		2565.616	REVISE SIGNAL SYSTEM B	SYSTEM	1	1						
Q		2565.616	REVISE SIGNAL SYSTEM C	SYSTEM	1	1						
Q		2565.616	TEMPORARY SIGNAL SYSTEM B	SYSTEM	1	0.882			0.118			
Q		2565.616	TEMPORARY SIGNAL SYSTEM C	SYSTEM	1	0.882				0.118		
O		2573.530	STORM DRAIN INLET PROTECTION	EACH	48	48						
		2573.550	EROSION CONTROL SUPERVISOR	LUMP SUM	1	1						
O		2574.508	FERTILIZER TYPE 2	POUND	43	43						
O		2575.505	SODDING TYPE SALT TOLERANT	SQ YD	2143	2143						
B	(2)	2581.501	REMOVABLE PREFORM PAVEMENT MARKING TAPE	LIN FT	9280	9280						
B	(2)	2581.618	REMOVABLE PREFORMED PAVEMENT MESSAGE TAPE	SQ FT	844	844						
R		2582.501	PAVEMENT MESSAGE PERFORM THERMOPLASTIC	SQ FT	428	428						
B	(2)	2582.502	4" SOLID LINE PAINT	LIN FT	25044	25044						
B	(2)	2582.502	4" BROKEN LINE PAINT	LIN FT	1000	1000						
B	(2)	2582.502	4" DOUBLE SOLID LINE PAINT	LIN FT	1770	1770						
R		2582.502	4" SOLID LINE EPOXY	LIN FT	26465	26465						
R		2582.502	4" BROKEN LINE EPOXY	LIN FT	2502	2502						
R		2582.502	4" DOUBLE SOLID LINE EPOXY	LIN FT	3430	3430						
R		2582.502	24" SOLID LINE PREFORM THERMOPLASTIC	LIN FT	956	956						
R		2582.503	CROSSWALK PREFORM THERMOPLASTIC	SQ FT	3616	3616						

NOTES:

(1) CLEARING AND GRUBBING SHALL BE STAKED IN FIELD BY THE ENGINEER.
(2) FOR TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION STAGING.
(3) ALL REMOVAL ITEMS SHALL BE DISPOSED OFF-SITE. NO DISPOSAL SHALL BE ALLOWED WITHIN THE ROADWAY RIGHT-OF-WAY OR EASEMENTS.
(4) INCLUDES ALL TYPES OF PIPES.
(5) QUANTITY FROM CITY OF ANOKA'S PATCHING AFTER UTILITY IMPROVEMENTS
(6) SEE CITY OF ANOKA PLAN SHEETS 132-143 FOR LOCATIONS/DETAILS.
(7) PAYMENT FOR SAWING BITUMINOUS WILL ONLY BE MADE WHEN THE CUT IS MADE WITH A SAW. NO PAYMENT SHALL BE MADE FOR CUTS MADE BY A MILLING MACHINE OR RECLAIMER.
(8) SALVAGE TO: ANOKA COUNTY HIGHWAY DEPT, 1440 BUNKER LAKES BLVD NW, ANDOVER, MN.
(9) INCLUDES BOTH STORM AND SANITARY MANHOLES.
(10) INCLUDES QUANTITY FOR CURB & GUTTER AND SIDEWALK RESTORATION AFTER CITY OF ANOKA'S UTILITY IMPROVEMENTS.
(11) REMOVAL OF APPROX. 2000 SF CLASS 5 AGGREGATE FROM TEMPORARY SIDEWALK/MEDIAN REPAIR AFTER CITY OF ANOKA'S UTILITY IMPROVEMENTS, SHALL BE INCIDENTAL.
(12) B618 C&G UNDER SAP 114-121-015 SHALL HAND PLACED.
(13) INSTALL RELOCATED MAILBOXES.
(14) REPLACE LUMINAIRES FOR SIGNAL SYSTEMS B & C.
(15) FOR THE ELECTRICAL SYSTEM. SEE SPECIAL PROVISIONS SECTION 025450 OF CITY OF ANOKA SPECIFICATIONS, FOR THE REQUIRED INSTALLATION METHOD.
(16) FOR THE IRRIGATION SYSTEM. CONDUIT SHALL BE DIRECTIONAL DRILLED.
(17) FOR THE IRRIGATION SYSTEM. CONDUIT SHALL BE DIRECTIONAL DRILLED OR BORED.

NO	DATE	BY	CKD	APPR	REVISION
1	07/14/2017	EJM	GMP	EJM	ADDED ITEMS 2545.523 3" NON-METALLIC CONDUIT & 2550.603 2" BORED CONDUIT, AND NOTES 15 - 17.

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/20/2017 9:08:28 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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/20/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

STATEMENT OF ESTIMATED QUANTITIES

1. TOP OF THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE LAYER.

2. BOTTOM OF THE SUBBASE GRADE SHALL BE DEFINED AS THE BOTTOM OF THE 1' SUBGRADE EXCAVATION.

3. SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL GRANULAR AND FINER GRAINED SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, PEAT, MUCK, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL.

4. SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B2

5. ALL TOPSOIL STRIPPING WILL BE CONSIDERED TO BE COMMON EXCAVATION.

6. TOPSOIL SHALL BE DEFINED AS EXISTING SOILS WHICH MEET MN/DOT SPEC. 3877 THAT WOULD BE SUITABLE FOR REUSE.

7. SELECT GRANULAR MATERIAL SHALL BE USED TO BACK FILL THE EMBANKMENT UNDER THE NEW ROADWAY CORE, UP TO THE TOP OF THE GRADING SUBGRADE.

8. SLOPE DRESSING ON THE PROJECT IS DEFINED AS THE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.

9. UNSUITABLE SOILS ARE DEFINED AS SOILS WHICH DO NOT MEET OR ARE NOT MANUFACTURED TO MEET ANY OF THE ABOVE DEFINED CATEGORIES, AND ARE THEREFORE NOT REUSABLE AS STRUCTURAL BACKFILL OR EMBANKMENT WITHIN THE ROADWAY CORE.

10. SUITABLE GRADING MATERIAL OBTAINED FROM COMMON EXCAVATION NOT MEETING THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B1, SHALL BE USED OUTSIDE THE ROADWAY CORE ON THE PROJECT AS APPROVED BY THE ENGINEER.

11. UNSUITABLE MATERIALS ARE TOPSOILS, PAVEMENT OR CONCRETE DEBRIS, PEAT, MUCK AND ORGANIC OR OTHER UNSTABLE SOILS.

12. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE THE RIGHT-OF-WAY IN ACCORDANCE WITH SPEC. 2104.3C3.

13. REGULAR EMBANKMENT SHALL BE DEFINED AS ALL GRADING MATERIALS THAT ARE APPROPRIATE FOR REUSE ON THE PROJECT BUT THAT MAY NOT MEET THE REQUIREMENTS OF SUITABLE GRADING MATERIALS. REGULAR EMBANKMENT MAY CONSIST OF GRADING SOILS NOT MEETING GRANULAR SPECIFICATIONS AND THEREFORE NOT SUITABLE FOR REUSE UNDER ROAD CORE.

14. WHERE CONNECTING TO THE INPLACE ROADWAYS AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:20 TAPER TO THE BOTTOM OF THE RECOMMENED SUBGRADE EXCAVATION.

15. WHERE MATCHING INTO INPLACE CROSSROADS, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1:20 TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.

16. WHERE WIDENING ADJACENT TO EXISTING PAVEMENT, CUT VERTICALLY TO THE BOTTOM OF THE CLASS 5 AGGREGATE BASE AND THEN AT A 1V:1/2H SLOPE TO THE BOTTOM OF THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION (AS SHOWN ON THE TYPICAL SECTIONS AND THE CROSS SECTIONS). BACKFILL PROMPTLY TO AVOID UNDERMINING THE EXISTING PAVEMENT.

17. CONTRACTOR SHALL PROVIDE A FULL DEPTH SAWCUT WHERE PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT TO ENSURE A UNIFORM JOINT. IF NO ITEM FOR THIS WORK IS SPECIFICALLY CALLED OUT FOR, THEN THE WORK SHALL BE INCIDENTAL WITH NO DIRECT COMPENSATION.

18. CONTRACTOR SHALL PROVIDE A UNIFORM BITUMINOUS TACK COAT BETWEEN ALL BITUMINOUS LAYERS AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON EXISTING PAVEMENT IN ACCORDANCE WITH SPEC. 2357.

19. STRIP ALL TOPSOIL AND INPLACE SLOPE DRESSING WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. FOR ESTIMATING PURPOSES, THE DEPTH OF TOPSOIL AVAILABLE IS CONSIDERED TO BE 4 INCHES. CONTRACTOR TO VERIFY PRIOR TO PLACING BID.

20. EMBANKMENT QUANTITIES SHOWN ON THE EARTHWORK TABULATION REPRESENT ALL EARTHWORK QUANTITIES BELOW THE PROPOSED GRADING GRADE OF ALL PERMANENT ROADWAYS. QUANTITIES REQUIRED ABOVE THE GRADING GRADE ARE PROVIDED IN DETAIL ON THE BITUMINOUS SUMMARY TAB.

21. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE AS DEPICTED ON THE CROSS SECTIONS. THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.

22. DITCH BOTTOMS, TOE OF FILL, CUT RUNOUTS AND THE TOP EDGE OF THE BACKSLOPES SHALL BE ROUNDED REGARDLESS OF THE SECTION USED ON THE CROSS SECTION SHEETS.

23. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER.

24. UNSUITABLE SOILS NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT AND DISPOSED OFF IN ACCORDANCE WITH MN/DOT SPECIFICATIONS.

25. INPLACE BITUMINOUS PAVEMENT RANGES FROM 6" TO 8" THICK. (AVERAGE 7") FOR INFORMATION ONLY, CONTRACTOR MAY VERIFY PAVEMENT DEPTH PRIOR TO PLACING BID. NO WARRANTY IS MADE OR IMPLIED WITH THIS INFORMATION.

26. AGGREGATE BASE MATERIAL SHALL MEET THE REQUIREMENTS OF MN/DOT SPEC. 3138, CLASS 5.

27. COMPACTION OF AGGREGATE BASE SHOULD BE IN ACCORDANCE WITH MN/DOT "MODIFIED PENETRATION INDEX METHOD". COMPACTION OF SELECT GRANULAR MATERIAL SHOULD BE IN ACCORDANCE WITH MN/DOT "SPECIFIED DENSITY METHOD".

28. COMPACTION OF ALL BASE AND BINDER ROADWAY BITUMINOUS MIXTURES SHALL BE BY THE "SPECIFIED DENSITY METHOD". COMPACTION OF WEAR ROADWAY BITUMINOUS MIXTURES SHALL BE BY THE "ORDINARY COMPACTION METHOD". COMPACTION OF BITUMINOUS PATCHING 1 - 2 FT FROM GUTTER LIP SHALL BE BY THE "ORDINARY COMPACTION METHOD". COMPACTION OF DRIVEWAYS SHALL BE BY THE "ORDINARY COMPACTION METHOD".

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:31:52 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

SOILS AND CONSTRUCTION NOTES

Sheet 5 of 159 Sheets

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

STANDARD PLATES

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE (5 SHEETS)
3006G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)
3007E	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3145G	CONCRETE PIPE OR PRECAST BOX CULVERT TIES
4006L	MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H
4010H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS)
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) – CASTING NO. 715 AND 716
4180J	MANHOLE OR CATCH BASIN STEP
7038A	DETECTABLE WARNING SURFACE TRUNCATED DOMES
7100H	CONCRETE CURB AND GUTTER (DESIGN B and DESIGN V)
7111J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER)
7113A	CONCRETE APPROACH NOSE DETAIL
8000J	CHANNELIZERS
8110E	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
8118D	SERVICE EQUIPMENT & POLE TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8121H	TRANSFORMER BASE AND POLE BASE PLATE (PA85, PA90 AND PA100) (2 SHEETS)
8123G	POLE AND MAST ARM - LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY (FOR ALL POLE TYPES) (2 SHEETS)
8126L	POLE FOUNDATION (PA90 AND PA100)

SEE SHEET 98 FOR ADDITIONAL TRAFFIC SIGNAL STANDARD PLATES.

INDEX OF TABULATION CHARTS

BASIS OF QUANTITIES

SPEC NO	DESCRIPTION	RATE
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD / LIFT
2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE	115 LBS / SQ YD / IN
2360.502	TYPE SP 9.5 NON-WEARING COURSE MIXTURE	115 LBS / SQ YD / IN
2574.508	FERTILIZER TYPE 2	400 LBS / ACRE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:31:53 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

STANDARD PLATES, INDEX OF TABS & BASIS OF QUANTITIES

Sheet 6 of 159 Sheets

CLEARING & GRUBBING SPEC (2101) — A

ALIGNMENT	STATION	OFFSET LWB		CLEARING	GRUBBING
		LEFT	RIGHT	(TREE)	(TREE)
CSAH 14 WB	24+00	-17.0		1	1
CSAH 14 WB	26+85	-36.0		1	1
CSAH 14 WB	28+53	-26.0		1	1
CSAH 14 WB	41+91 - 44+80	-40.0		13	13
			TOTAL	16	16

GENERAL NOTES:
TREES WITHIN THE CONSTRUCTION LIMITS WILL BE DESIGNATED FOR REMOVAL BY THE ENGINEER.
REMOVAL OF MISCELLANEOUS SHRUBS AND LANDSCAPING SHALL BE CONSIDERED INCIDENTAL

EXISTING STORM SEWER, SANITARY SEWER, GATE VALVES & ANOKA POWER — C

ALIGNMENT	STATION	OFFSET		REMOVE			ADJUST		RELOCATE	RECONSTRUCT	F & I	NOTES
				REMOVE CASTING	MANHOLE OR CATCH BASIN	STORM SEWER PIPE	MANHOLE	GATE VALVE BOX	HYDRANT	MANHOLE OR CATCH BASIN	CASTING ASSEMBLY	
		LEFT	RIGHT	EACH	EACH	LIN FT	EACH	EACH	EACH	LIN FT	EACH	
CSAH 14 EB												
	21+02		13	1	1	8						[1]
	21+26		32	1						0.8	1	[1]
	21+43		1	1						0.4	1	[2],[3]
	21+48		21					1				
	21+53		32	1						1.2	1	[1]
	24+25	-3		1						0.4	1	[2],[3]
	25+10		11	1	1	8						
	25+12	-3					1					[3]
	27+15		10	1	1	8						
	27+41		30					1				
	27+50	-2		1			1			1.5	1	[2],[3]
	27+52		5	1			1			1.0	1	[2],[3]
	27+85		10	1	1	8						
	28+45		11	1	1	8						
	30+14	-11		1			1			0.7	1	[2],[4]
	32+83	-10		1			1			0.7	1	[2],[4]
	34+39		10	1	1	8						
	34+55		11					1				
	34+59		3					1				
	34+66		15				1					[5]
	35+54	-9		1			1			1.1	1	[2],[4]
	35+87		11	1	1	8						
	38+39	-10					1					[2],[4]
	40+15		10				1					[5]
	41+04	-19					1					[2],[4]
	44+72	-25		1	1	8						
	44+75		25	1						0.8	1	
	45+65	-1		1			1			1.1	1	[2],[3]
	45+76		5				1					[5]
	46+45		5				1					[5]
	50+69		13	1						0.9	1	
	50+69	-14		1						0.6	1	
	63+80		25	1						0.7	1	
	63+80	-37										
	66+44		25				1					
	66+45	-31		1						2.0	1	[1]
	66+85		52	1							1	[1]
			SUBTOTAL	24	8	64	14	4		13.9	16	

EXISTING STORM SEWER, SANITARY SEWER, GATE VALVES & ANOKA POWER — C

ALIGNMENT	STATION	OFFSET		REMOVE			ADJUST		RELOCATE	RECONSTRUCT	F & I	NOTES
				REMOVE CASTING	MANHOLE OR CATCH BASIN	STORM SEWER PIPE	MANHOLE	GATE VALVE BOX	HYDRANT	MANHOLE OR CATCH BASIN	CASTING ASSEMBLY	
		LEFT	RIGHT	EACH	EACH	LIN FT	EACH	EACH	EACH	LIN FT	EACH	
CSAH 14 WB												
	21+89	-2						1				
	22+07		6	1			1			0.9	1	[2],[4]
	24+22	-27										
	24+44		9	1			1			0.6	1	[2],[4]
	24+68	-9							1			
	24+69		3					1				
	25+11	-7		1	1	8						
	27+16		7					1				
	27+40	-1						1				
	27+50		13	1			1			0.8	1	[2],[4]
	28+26		8	1			1			1.5	1	
	28+27	-4		1	1	17	1					
	28+45		7				1			1.7	1	
	28+45	-13		1	1	20						
	28+46	-6		1	1	13						
	31+45		7	1			1			0.8	1	
	34+37		7	1			1			0.9	1	
	35+85		4	1			1			0.7	1	[2],[3]
	35+87	-6		1	1	8						
	44+72		13	1						0.9	1	[1]
	44+76	-14		1						1.6	1	[1]
	45+90		25	1						0.6	1	[1]
	45+98	-33		1						0.3	1	[1]
	50+68		13	1						1.1	1	[1]
	50+69		25									[1]
	50+70	-13		1						1.1	1	[1]
	63+78	-22		1						0.9	1	[1]
	63+79		13	1							1	[1]
	65+94	-30		1						0.9	1	[1]
	66+43		13	1						2.0	1	[1]
			SUBTOTAL	22	5	66	9	4	1	17.3	18	
ROUND LAKE BLVD												
	103+94	-35		1							1	[1]
	103+95		13	1							1	[1]
	103+95		51	1							1	[1]
	106+76		54	1							1	[1]
	106+85		4	1							1	[1]
	106+91	-46		1							1	[1]
			SUBTOTAL	6							6	
			TOTAL	52	13	130	23	8	1	31	40	

NOTES:
[1] USE NEENAH R-3067-L WITH ESS BROTHERS 3067-27 ADAPTER PLATE. SEE ADAPTER PLATE DETAIL ON SHEET 16
[2] USE 7" CASTING NO. 700-7 AND NO. 716 COVER CASTINGS PER STANDARD PLATES 4101 AND 4110 RESPECTIVELY.
[3] STORM MANHOLE
[4] SANITARY MANHOLE
[5] ANOKA POWER MANHOLE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:31:56 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TABULATIONS

Sheet 7 of 159 Sheets

REMOVALS, SAWING AND MILLING — D

ALIGNMENT	STATION TO STATION	REMOVE (SPEC. 2104)					SAWING (SPEC. 2104)		MILLING (SPEC. 2232)		NOTES
		CONC. CURB & GUTTER [1]	BIT. CURB [2]	CONC. WALK	CONC. MEDIAN	BIT. PAVEMENT	BIT. PAVEMENT	CONC. PAVEMENT	BIT. SURFACE (3")	BIT. SURFACE (2")	
		LIN FT	LIN FT	SQ FT	SQ FT	SQ YD	LIN FT	LIN FT	SQ YD	SQ YD	
CSAH 14 EB											
	15+00 - 20+96			220							
	20+96 - 27+50	585		992		72	601	534	1930		
	27+50 - 34+75	550	139	316		91	705	173	1991		[3]
	34+75 - 40+38	494	60			95	568	2	1607		
	40+38 - 46+26	989	34	237	4156	143	1059	29	2737		[3],[4]
	46+26 - 55+67									2412	
	58+43 - 66+47									3696	
	66+47 - 68+10	82		213	133	15	103	53	1452		[4]
	SUBTOTAL	**2700**	**233**	**1978**	**4289**	**416**	**3036**	**791**	**9717**	**6108**	
CSAH 14 WB											
	15+00 - 20+96		25	150							
	20+96 - 24+32	327		451		86	343	270	938		
	24+32 - 27+50	356		1826		374	347	9	1247		
	27+50 34+75	745				590	745	2	2539		[3]
	34+75 - 40+14	471	20			281	498		1765		[3]
	40+14 - 46+26	1021		48		114	1159	14	2215		
	46+26 - 55+00									3302	
	58+00 - 66+47									2848	
	66+47 - 68+60	311		70	1256	38	377	43	1991		[4]
	SUBTOTAL	**3231**	**45**	**2545**	**1256**	**1483**	**3469**	**338**	**10695**	**6150**	
ROUND LAKE BLVD											
RLB NB	100+29 - 106+83	65				11	74	26	1932		[5]
RLB SB	100+44 - 106+82	55				10	61	14	1137		[5]
	SUBTOTAL	**120**				**21**	**135**	**40**	**3069**		
	TOTAL	**6051**	**278**	**4523**	**5545**	**1920**	**6640**	**1169**	**23481**	**12258**	

NOTES:
[1] DOES NOT INCLUDE QUANTITY REMOVED AS PART OF CITY OF ANOKA UTILITY IMPROVEMENTS.
[2] QUANTITY FROM CURB PATCHING AFTER CITY OF ANOKA UTILITY IMPROVEMENTS.
[3] SEE DRIVEWAY REMOVAL TAB FOR ADDITIONAL REMOVAL QUANTITIES.
[4] CONCRETE APPROACH NOSE REMOVAL INCIDENTAL
[5] CONC. CURB AND GUTTER REMOVAL LOCATIONS SHALL BE STAKED IN FIELD BY CITY OF COON RAPIDS' ENGINEER.

DRIVEWAY REMOVALS — E

ALIGNMENT / ADDRESS	STATION TO STATION		CONC. DRIVEWAY PAVEMENT	BIT. PAVEMENT (1)	SAWING (SPEC. 2104) BIT. PAVEMENT	SAWING (SPEC. 2104) CONC. PAVEMENT
			(SQ YD)	(CU YD)	(LIN FT)	(LIN FT)
CSAH 14 EB						
#904	30+13	- 30+39	11			25
#3990	41+09	- 41+62	95			53
		SUBTOTAL	**106**			**78**
CSAH 14 WB						
#2100	34+45	- 34+99	31			
#1101	40+84	- 41+22	31	5	20	
		SUBTOTAL	**62**	**5**	**20**	
		TOTAL	**168**	**5**	**20**	**78**

GENERAL NOTES:
SEE MAINLINE REMOVALS TAB FOR ADDITIONAL REMOVAL QUANTITIES.

NOTES:
(1) INCLUDED AS COMMON EXCAVATION QUANTITY

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:32:01 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth M
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TABULATIONS

Sheet 8 of 159 Sheets

MAIL BOX — F

STATION	LOCATION			REMOVE MAIL BOX SUPPORT	MAIL BOX SUPPORT	INSTALL MAIL BOX	NOTES
	ALIGN	OFFSET	ADDRESS	EACH	EACH	EACH	
SAP 002-614-040							
30+02	CSAH 14 EB	14 RT	904	1	1	1	
31+12	CSAH 14 EB	13 RT	928	1	1	1	
32+05	CSAH 14 EB	15 RT	936			1	
33+06	CSAH 14 EB	14 LT	944	1	1	1	
34+10	CSAH 14 EB	15 LT	954			1	
35+30	CSAH 14 EB	14 LT	1000	1	1	1	
36+84	CSAH 14 EB	15 RT	1016	1		1	(1)
			TOTAL	5	4	7	

NOTES:

(1) REMOVE ABANDONED MAIL BOX SUPPORT. PLACE SUPPORT IN YARD AREA FOR PROPERTY OWNER TO SALVAGE. THE CONTRACTOR SHALL DISPOSE OFF UNWANTED SALVAGED SUPPORTS AT NO ADDITIONAL COST

GENERAL NOTES:

THE CONTRACTOR IS REPONSIBLE FOR COORDINATING TEMPORARY MAIL BOX RELOCATION WITH POST OFFICE SUPERVISOR.

AGGREGATE — H

ALIGNMENT	STATION TO STATION	DESCRIPTION	MAINLINE AGGREGATE BASE CLASS 5 (1)	CURB / PED REPLACEMENT - DRIVEWAYS AGGREGATE BASE CLASS 5
			CU YD	TONS
CSAH 14 EB				
	20+96 - 24+32	SHLDR CURB REPLACEMENT		10
	24+32 - 27+37	SHLDR CURB REPLACEMENT		12
	27+06 27+33	PED REPLACEMENT		3
	27+62 - 34+42	SHLDR CURB REPLACEMENT		28
	27+66 27+93	PED REPLACEMENT		3
	34+86 - 40+38	SHLDR CURB REPLACEMENT		20
	34+89 35+07	PED REPLACEMENT		3
	40+38 - 45+00	MED CURB REPLACMENT		17
	40+38 - 45+17	SHLDR CURB REPLACEMENT		18
	44+88 45+15	PED REPLACEMENT		3
	45+91 - 46+18	SHLDR CURB REPLACEMENT		1
	45+91 - 46+16	MED CURB REPLACMENT		2
	66+47 - 66+66	MED CURB REPLACMENT		3
	67+20 - 67+38	MED CURB REPLACMENT		2
	67+87 - 68+04	SHLDR CURB REPLACEMENT		1
	67+91 - 68+07	PED REPLACEMENT		3
		SUBTOTAL		129
CSAH 14 WB				
	24+03 - 24+32	WB MAINLINE WIDENING	23	
	24+32 - 27+50	WB MAINLINE WIDENING	106	
	27+07 27+26	PED REPLACEMENT		3
	27+50 - 34+75	WB MAINLINE WIDENING	181	
	27+83 28+07	PED REPLACEMENT		3
	34+75 - 40+14	WB MAINLINE WIDENING	108	
	40+14 - 45+17	SHLDR CURB REPLACEMENT		12
	40+36 - 45+00	MED CURB REPLACMENT		17
	44+95 45+15	PED REPLACEMENT		3
	45+75 - 46+25	SHLDR CURB REPLACEMENT		2
	45+81 46+03	PED REPLACEMENT		3
	66+48 - 66+92	PORKCHOP CURB REPLACMENT		5
	67+38 - 67+52	MED CURB REPLACMENT		2
	67+73 - 68+17	PORKCHOP CURB REPLACMENT		5
	68+03 - 68+17	SHLDR CURB REPLACEMENT		1
	68+05 - 68+19	PED REPLACEMENT		3
		SUBTOTAL	418	59
		TOTAL	418	188

NOTES:

(1) PLAN QUANTITY.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:32:06 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TABULATIONS

Sheet 9 of 159 Sheets

BITUMINOUS SUMMARY — L

ALIGNMENT	STATION TO STATION	LOCATION	2360 TYPE SP 9.5 WEAR (3,B) (TON)	2360 TYPE SP 12.5 NON-WEAR (3,B) [3.0"] (TON)	2360 TYPE SP 12.5 BIT PATCH MIX (3,B) [6.0"] (TON)	BITUMINOUS TACK COAT (GALLON)	NOTES
CSAH 14 EB							
	20+96 - 21+06	SHLDR CURB			1		(1)
	20+96 - 24+32	ML	160			93	(2)
	21+70 - 24+32	SHLDR CURB			20		(1)
	24+32 - 27+37	SHLDR CURB			28		(1)
	24+32 - 27+50	ML	159			92	(2)
	27+50 - 34+75	ML	343			199	(2)
	27+62 - 34+42	SHLDR CURB			60		(1)
	34+75 - 40+38	ML	277			161	(2)
	34+86 - 40+38	SHLDR CURB			44		(1)
	40+35 - 45+00	MED			18		(1)
	40+38 - 46+26	ML	472			274	(2)
	40+38 - 45+17	SHLDR CURB			28		(1)
	46+26 - 55+67	ML	277			121	(3)
	45+86 - 46+16	MED			1		(1)
	45+91 - 46+18	SHLDR CURB			1		(1)
	58+42 - 66+47	ML	425			185	(3)
	66+47 - 68+10	ML	250			145	(2)
	66+39 - 66+66	MED			7		(1)
	66+39 - 66+89	SHLDR CURB			5		(1)
	67+22 - 67+37	MED			1		(1)
	67+87 - 68+10	SHLDR CURB			1		(1)
		SUBTOTAL	2363		215	1270	
CSAH 14 WB							
	21+05 - 24+32	ML	162	22		141	(2)
	24+32 - 27+50	ML	215	101		187	(2)
	27+50 - 34+75	ML	438	174		381	(2)
	34+75 - 40+14	ML	304	103		265	(2)
	40+14 - 46+25	ML	382	23		222	(2)
	40+35 - 45+00	MED			18		(1)
	46+25 - 55+15	ML	380			165	(3)
	45+75 - 46+25				4		(1)
	57+85 - 66+47	ML	328			142	(3)
	66+47 - 68+60	ML	343		46	199	(2), (4)
	67+38 - 67+52	MED			2		(1)
	67+73 - 68+17	MED			5		(1)
	68+02 - 68+17	SHLDR CURB			1		(1)
		SUBTOTAL	2552	423	76	1702	
ROUND LAKE BLVD							
RLB NB	100+29 - 106+89	ML	333		4	193	(2)
RLB SB	100+44 - 106+89	ML	196		4	114	(2)
		SUBTOTAL	529		8	307	
		TOTAL	5444	423	299	3279	

NOTES:
(1) QUANTITY FOR PATCHING ALONG CURB REPLACEMENT. HAND PLACED AND TAMP COMPACTED IN THREE 2" LIFTS.
(2) 3" MILL AND OVERLAY SECTION
(3) 2" MILL AND OVERLAY SECTION
(4) INCLUDES QUANTITY FOR 4" PATCHING AT PORK CHOP ISLAND

TURF ESTABLISHMENT AND EROSION CONTROL — O

LOCATION			STORM DRAIN INLET PROTECTION	SODDING TYPE SALT TOLERANT	FERTILIZER TYPE 2
ALIGNMENT	STATION TO STATION	OFFSET LT \ RT	EACH	SQ YD	POUND
CSAH 14 EB					
	21+01	10' RT	1		
	21+06 - 21+67	RT		20	
	21+24	29' RT	1		
	21+51	29' RT	1		
	25+10	11' RT	1		
	27+06 - 27+33	RT		11	0.24
	27+18	9' RT	1		
	27+66 - 27+98	RT		11	0.22
	27+83	10' RT	1		
	28+45	11' RT	1		
	29+60 - 34+45	RT		124	2.56
	34+40	10' RT	1		
	34+90 - 45+16	RT		310	6.4
	35+87	10' RT	1		
	44+72	25' LT	1		
	44+74	25' RT	1		
	45+26	273' RT	1		
	45+72	273' RT	1		
	45+73	59' RT	1		
	45+87 - 46+20	RT		39	0.81
	50+69	13' RT	1		
	50+69	14' LT	1		
	63+80	37' LT	1		
	63+80	25' RT	1		
	66+44	37' LT	1		
	66+44	25' RT	1		
	66+85	52' RT	1		
	67+35	59' RT	1		
	67+85	68' RT	1		
	68+77	25' RT	1		
		SUBTOTAL	24	515	10
CSAH 14 WB					
	23+68 - 24+22	LT		24	0.5
	24+22	25' LT	1		
	24+45 - 27+30	LT		136	2.8
	25+10	10' LT	1		
	27+74 - 45+20	LT		1393	28.79
	27+88	300' LT	1		
	27+94	142' LT	1		
	28+26	10' LT	1		
	29+00	10' LT	1		
	31+45	10' LT	1		
	34+38	10' LT	1		
	35+86	10' LT	1		
	44+72	13' RT	1		
	44+76	14' LT	1		
	45+75 - 46+25	LT		57	1.18
	45+89	25' RT	1		
	45+98	32' LT	1		
	50+68	13' LT	1		
	50+68	13' RT	1		
	63+78	21' LT	1		
	63+78	13' RT	1		
	65+94	30' LT	1		
	66+43	13' RT	1		
	66+77	92' LT	1		
	68+77	26' LT	1		
		SUBTOTAL	21	1610	33
ROUND LAKE BLVD					
	104+95	51' RT	1	7	0.14
	104+95	13' RT	1		
	104+95	35' LT	1	11	0.22
		SUBTOTAL	3	18	0.36
		TOTAL	48	2143	43

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:32:09 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TABULATIONS

Sheet 10 of 159 Sheets

CONCRETE

ALIGNMENT	STA	TO	STA	LOC.	CONC. CURB & GUTTER DES. B424	CONC. CURB & GUTTER DES. B612 [1]	CONC. CURB & GUTTER DES. B618	HAND PLACED B618 CURB & GUTTER	CONC. CURB & GUTTER DES. B618 MOD	CONC. CURB & GUTTER DES. B624	CONC. CURB & GUTTER DES. B624 MOD	4" CONC. WALK	6" CONC. WALK	CONC. APPROACH NOSE DES 7113 [2]	TRUNCATED DOME	N NOTES
					(LIN FT)	(LIN FT)	(LIN FT)	(LIN FT)	(LIN FT)	(LIN FT)	(LIN FT)	(SQ FT)	(SQ FT)	(SQ FT)	(SQ FT)	
CSAH 14 EB																
	15+00	-	20+95	SHLDR								50				
	20+95	-	21+70	SHLDR						10		80	180		24	
	21+70	-	24+32	SHLDR		262						351				
	24+32		27+37	SHLDR		313						373				
	27+07	-	27+34	PED RAMP									250		24	
	27+66	-	27+93	PED RAMP									241		24	
	27+62	-	34+43	SHLDR		716						746				
	34+43	-	34+59	PED RAMP									84		8	
	34+90	-	35+07	PED RAMP									80		8	
	34+86	-	40+38	SHLDR		630						300				
	40+35			NOSE										28		
	40+38	-	45+05	MED					465							
	40+38	-	45+17	SHLDR		80				337		50				
	41+00	-	41+76	DRWY		70										
	40+39	-	44+90	MED								4496				
	44+88	-	45+15	PED RAMP									289		24	
	44+95			NOSE										40		
	45+96			NOSE										40		
	45+86	-	46+16	MED							30					
	45+91	-	46+18	SHLDR						28						
	46+02	-	46+15	MED								66				
	66+47	-	66+58	MED								145				
	66+47	-	66+65	MED							49					
	66+63			NOSE										40		
	67+20	-	67+38	MED			18									
	67+30			NOSE										40		
	67+25		67+34	MED					50			32				
	67+87	-	68+04	SHLDR	23											
	67+91		68+07	PED RAMP									148		24	
				SUBTOTAL	**23**	**2071**	**18**		**515**	**375**	**79**	**6689**	**1272**	**188**	**136**	
CSAH 14 WB																
	15+00	-	21+05	SHLDR						25		570				
	21+05	-	24+22	SHLDR		326						826	52		8	
	24+43	-	27+29	SHLDR		336						1419	225		36	
	24+47	-	24+61	PED RAMP												
	24+61	-	27+07	SHLDR												
	26+98	-	27+20	PED RAMP												
	27+81	-	28+07	PED RAMP									263		28	
	27+72	-	34+75	SHLDR		738										
	28+07	-	34+75	SHLDR								3344				
	34+75	-	40+36	SHLDR		607										
	34+75	-	40+93	SHLDR								3131				
	40+36	-	45+05	MED					460							
	40+36	-	45+17	SHLDR						442						
	41+15	-	44+94	SHLDR								1900				
	44+95	-	45+15	PED RAMP									229		24	
	45+82	-	46+03	PED RAMP									198		24	
	45+75	-	46+25	SHLDR						57						
	66+48	-	66+92	PORK CHOP							112					[3]
	66+53	-	66+88	PORK CHOP									474		24	
	66+87			PORK CHOP										46		
	67+38	-	67+52	MED							40					
	67+43		67+48	MED								45				
	67+45			PORK CHOP										40		
	67+73	-	68+17	PORK CHOP							115					[3]
	67+79			PORK CHOP										18		
	67+79		68+08	PORK CHOP									523		24	
	68+02	-	68+17	SHLDR	16										16	
	68+05		68+19	PORK CHOP									101			
	68+08			PORK CHOP										28		
				SUBTOTAL	**16**	**2007**			**460**	**524**	**267**	**11235**	**2065**	**132**	**184**	
ROUND LAKE BLVD																
RLB NB	100+29	-	106+83					65								
RLB SB	100+44	-	106+82					55								
				SUBTOTAL				**120**								
				TOTAL	**39**	**4078**	**18**	**120**	**975**	**899**	**346**	**17924**	**3337**	**320**	**320**	

NOTES:
[1] SEE MISCELLANEOUS DETAILS ON SHEET 16 FOR B612 GUTTER TRANSITIONS AT CATCHBASIN CASTINGS.
[2] PAID FOR AS 6" CONCRETE WALK

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:32:14 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TABULATIONS

Sheet 11 of 159 Sheets

GENERAL NOTES:

ALL UTILITY WORK SHOWN ON THIS SHEET SHALL BE DONE BY OTHERS UNLESS NOTED.

ALL RELOCATES AND ADJUSTMENTS SUBJECT TO ANOKA COUNTY AND/OR CITY OF ANOKA/CITY OF COON RAPID'S RIGHT OF WAY POSSESSION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

UTILITY CONTACTS — AA

GOPHER STATE ONE CALL
FIELD UTILITY LOCATE REQUEST
http://www.gopherstateonecall.org
TEL: 651–454-0002 OR
TEL: 1-800-252-1166

CITY OF ANOKA
2015 FIRST AVE N
ANOKA, MN 55303
CONTACT: GREG GEIGER
TEL: 763-576-2903

CITY OF COON RAPIDS
11155 ROBINSON DR
COON RAPIDS, MN 55433
CONTACT: MARK HANSEN
TEL: 763-767-6465
CONTACT: JIM BOSER
TEL: 763-447-5596

CENTERPOINT ENERGY
700 WEST LINDEN AVE
PO BOX 1165
MINNEAPOLIS, MN 55440-1165
CONTACT: STEVE GUHANICK
TEL: 612-321-5421

UTILITY CONTACTS — AA

CENTURYLINK
425 MONROE ST
ANOKA, MN 55303
CONTACT: DAVID HAEDTKE
TEL:

COMCAST CABLE
2611 FAIRVIEW AVE
ROSEVILLE, MN 55113
CONTACT: DOUG ZAHN
TEL: 651-493-5316

CONNEXUS ENERGY
5363 260TH LN N
WYOMING, MN 55096
CONTACT: MAT RAUSCHENDORFER
TEL: 763-323-4259

GREAT RIVER ENERGY
12300 ELM CREEK BLVD
MAPLE GROVE, MN 55369
CONTACT: MICHELLE MACMILLAN
TEL: 763-445-5984

ZAYO FIBER SOLUTIONS
2300 BERKSHIRE LN N, SUITE 4
PLYMOUTH, MN 55441
CONTACT: STEVE SENGER
TEL: 952-230-9660

ANOKA MUNICIPAL — BB

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	REMARKS
14EB	15+31 - 44+94	15 TO 36	P-BUR	LEAVE
14EB	21+08	18	HANDHOLE	LEAVE
14EB	24+61	15	HANDHOLE	LEAVE
14EB	27+20	16	P-BUR CROSS	LEAVE
14EB	27+25	16	HANDHOLE	RELOCATE
14EB	27+68	28	HANDHOLE	LEAVE
14EB	27+85	21	POWER POLE	LEAVE
14EB	27+85	21 TO -69	OHP	RELOCATE
14EB	31+04	15	MANHOLE	LEAVE
14EB	34+66	15	MANHOLE	LEAVE
14EB	40+14	10	MANHOLE	LEAVE
14EB	41+77	55	LIGHT POLE	LEAVE
14EB	41+78	18	HANDHOLE	LEAVE
14EB	42+60	26	LIGHT POLE	LEAVE
14EB	44+23	31	LIGHT POLE	LEAVE
14EB	44+53	33	P-BUR CROSS	LEAVE
14EB	44+94	36	P-BUR CROSS	LEAVE
14EB	45+79	51	HANDHOLE	LEAVE
14EB	45+76 - 49+23	5 TO 9	P-BUR	LEAVE
14EB	46+08	-18	HANDHOLE	LEAVE
14EB	46+12	20	HANDHOLE	LEAVE
14EB	46+12 - 63+54	21 TO 150	P-BUR	LEAVE
14EB	47+44	19	LIGHT POLE	LEAVE
14EB	48+02	16	HANDHOLE	LEAVE
14EB	49+90	19	HANDHOLE	LEAVE
14EB	51+91	16	HANDHOLE	LEAVE
14EB	53+88	16	HANDHOLE	LEAVE
14WB	14+87 - 24+35	-15	P-BUR	LEAVE
14WB	24+35 - 36+23	-10	P-BUR	RELOCATE
14WB	18+56	-18	LIGHT POLE	REMOVE
14WB	18+66	-14	HANDHOLE	LEAVE
14WB	21+48	-22	LIGHT POLE	REMOVE
14WB	24+07	-19	LIGHT POLE	REMOVE
14WB	24+19	-166	POWER POLE	LEAVE
14WB	24+19	-14	P-BUR CROSS	LEAVE
14WB	27+12	-15	LIGHT POLE	REMOVE
14WB	27+25	-25	SPLICE BOX	RELOCATE
14WB	27+81	-35	POWER POLE	RELOCATE
14WB	27+84	-28	HANDHOLE	RELOCATE
14WB	30+91	-15	LIGHT POLE	REMOVE
14WB	36+23	-10	SPLICE BOX	RELOCATE
14WB	34+71	-13	LIGHT POLE	REMOVE
14WB	30+91	-10	SPLICE BOX	RELOCATE
14WB	37+70	-15	LIGHT POLE	REMOVE
14WB	40+71	-18	LIGHT POLE	REMOVE
14WB	40+71	-15	SPLICE BOX	RELOCATE
14WB	41+77 - 44+75	-17 TO -25	P-BUR	LEAVE
14WB	41+80	-19	LIGHT POLE	REMOVE
14WB	43+41	-18	LIGHT POLE	REMOVE
14WB	44+75	-25	HANDHOLE	ADJUST
14WB	45+04	-41	HANDHOLE	ADJUST
14WB	45+90	-49	OHP	LEAVE
14WB	45+91	-46	P-BUR CROSS	LEAVE
14WB	46+17	-31	HANDHOLE	LEAVE
14WB	46+72	-30	LIGHT POLE	LEAVE
14WB	47+58	-28	HANDHOLE	LEAVE
14WB	49+23	-25	HANDHOLE	LEAVE

SANITARY SEWER — CC

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	NOTES
CSAH 14 WB	19+53	9 RT	MANHOLE	ADJUST
CSAH 14 WB	19+53 - 24+32	9 RT TO 14 RT	10" VCP	LEAVE
CSAH 14 WB	19+76 - 22+08	9 RT TO 6 RT	10" VCP	LEAVE
CSAH 14 WB	19+76	9 RT	MANHOLE	ADJUST
CSAH 14 WB	22+08	6 RT	MANHOLE	ADJUST
CSAH 14 WB	22+08 - 24+43	6 RT TO 9 RT	10" VCP	LEAVE
CSAH 14 WB	24+32 - 24+34	14 RT TO 54 LT	10" VCP	LEAVE
CSAH 14 WB	24+43	9 RT	MANHOLE	ADJUST
CSAH 14 WB	24+43	9 RT TO 55 LT	10" VCP	LEAVE
CSAH 14 WB	24+43 - 27+50	13 RT	10" VCP	LEAVE
CSAH 14 WB	27+50	13 RT	MANHOLE	ADJUST
CSAH 14 WB	27+50 - 30+14	13 RT TO 23 RT	10" VCP	LEAVE
CSAH 14 WB	30+14	23 RT	MANHOLE	ADJUST
CSAH 14 WB	30+14 - 38+40	23 RT TO 24 RT	10" VCP	LEAVE
CSAH 14 WB	32+84	24 RT	MANHOLE	ADJUST
CSAH 14 WB	35+54	25 RT	MANHOLE	ADJUST
CSAH 14 WB	38+40 - 38+44	24 RT TO 69 RT	10" VCP	LEAVE
CSAH 14 WB	38+44	69 RT	MANHOLE	ADJUST
CSAH 14 WB	38+40 - 41+04	24 RT TO 19 RT	10" VCP	LEAVE
CSAH 14 WB	41+04	19 RT	MANHOLE	ADJUST
CSAH 14 WB	41+04 - 45+64	19 RT TO 46 RT	10" VCP	LEAVE
CSAH 14 WB	45+64	46 RT	MANHOLE	ADJUST

WATERMAIN — DD

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	NOTES
CSAH 14 WB	19+42 - 21+89	2 LT	8" DIP	LEAVE
CSAH 14 WB	20+53	17 LT	WSO	LEAVE
CSAH 14 WB	21+03	16 LT	WSO	LEAVE
CSAH 14 WB	21+49	45 RT	GATE VALVE	ADJUST
CSAH 14 WB	21+89	2 LT	GATE VALVE	ADJUST
CSAH 14 WB	21+89 - 24+69	2 LT TO 2 RT	8" DIP	LEAVE
CSAH 14 WB	22+75	19 LT	WSO	LEAVE
CSAH 14 WB	23+62	43 RT	WSO	LEAVE
CSAH 14 WB	23+69	16 LT	WSO	LEAVE
CSAH 14 WB	24+69	2 RT	GATE VALVE	ADJUST
CSAH 14 WB	24+69	10 LT	HYDRANT	RELOCATE
CSAH 14 WB	24+69 - 27+16	2 RT TO 7 RT	8" DIP	LEAVE
CSAH 14 WB	25+04	13 LT	GATE VALVE	LEAVE
CSAH 14 WB	25+04	13 LT	WSO	LEAVE
CSAH 14 WB	25+30	55 RT	WSO	LEAVE
CSAH 14 WB	27+16	7 RT	GATE VALVE	ADJUST
CSAH 14 WB	27+26	50 LT	GATE VALVE	LEAVE
CSAH 14 WB	27+26	50 LT	HYDRANT	LEAVE
CSAH 14 WB	27+16 - 27+40	7 RT TO 1 LT	8" DIP	LEAVE
CSAH 14 WB	27+40	1 LT	GATE VALVE	ADJUST
CSAH 14 EB	27+41	30 RT	GATE VALVE	ADJUST
CSAH 14 EB	27+41 - 34+59	2 RT TO 3 RT	8" DIP	LEAVE
CSAH 14 EB	27+71	18 RT	WSO	LEAVE
CSAH 14 EB	34+55	11 RT	GATE VALVE	ADJUST
CSAH 14 EB	34+59	3 RT	GATE VALVE	ADJUST
CSAH 14 EB	34+59 - 41+18	3 RT TO 9 LT	8" DIP	LEAVE
CSAH 14 EB	35+43	18 RT	WSO	LEAVE
CSAH 14 EB	36+12	16 RT	WSO	LEAVE
CSAH 14 EB	36+76	18 RT	WSO	LEAVE
CSAH 14 EB	41+02	21 RT	HYDRANT	LEAVE
CSAH 14 EB	41+04	21 RT	GATE VALVE	LEAVE
CSAH 14 EB	45+16	75 RT	HYDRANT	LEAVE
CSAH 14 EB	45+18	75 RT	GATE VALVE	LEAVE
CSAH 14 EB	45+18 - 45+80	75 RT	8" DIP	LEAVE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:32:21 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TABULATIONS

Sheet 12 of 159 Sheets

CENTERPOINT — EE

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	REMARKS
CSAH 14 WB	13+94 - 24+41	-14 TO -15	4" PLASTIC	LEAVE
CSAH 14 WB	24+41 - 28+41	-14 TO -15	4" PLASTIC	RELOCATE
CSAH 14 WB	18+75 - 24+41	-13 TO -9	2" STEEL	LEAVE
CSAH 14 WB	24+41 - 27+15	-13 TO -9	2" STEEL	RELOCATE
CSAH 14 WB	28+41 - 38+50	-9 TO -25	8" STEEL	RELOCATE
CSAH 14 WB	38+50 - 44+47	-9 TO -25	8" STEEL	LEAVE
CSAH 14 WB	16+11	-15	GAS CROSS	LEAVE
CSAH 14 WB	16+43	-16	GAS CROSS	LEAVE
CSAH 14 WB	17+19	-15	GAS CROSS	LEAVE
CSAH 14 WB	18+24	-14	GAS CROSS	LEAVE
CSAH 14 WB	19+99	-15	GAS CROSS	LEAVE
CSAH 14 WB	20+13	-16	GAS CROSS	LEAVE
CSAH 14 WB	20+91	-15	GAS CROSS	LEAVE
CSAH 14 WB	22+46	-16	GAS CROSS	LEAVE
CSAH 14 WB	23+18	-12	GAS CROSS	LEAVE
CSAH 14 WB	24+42	-11	GAS CROSS	LEAVE
CSAH 14 WB	25+75	-9	GAS CROSS	RELOCATE
CSAH 14 WB	26+72	-9	GAS CROSS	RELOCATE
CSAH 14 WB	31+79	-18	GAS CROSS	RELOCATE
CSAH 14 WB	31+79	-28	GATE VALVE	LEAVE
CSAH 14 WB	38+72	-13	GATE VALVE	ADJUST
CSAH 14 WB	41+46	-36	GATE VALVE	ADJUST
CSAH 14 WB	41+46	-36	GAS CROSS	LEAVE
CSAH 14 WB	43+52	-29	GATE VALVE	ADJUST
CSAH 14 WB	44+02	-36	GAS VP	ADJUST
CSAH 14 WB	44+04	-33	GAS VP	ADJUST
CSAH 14 WB	44+06	-36	GAS VP	ADJUST
CSAH 14 WB	44+06 - 44+27	-36	8" STEEL	LEAVE
CSAH 14 WB	44+27 - 44+71	-36	16" STEEL	LEAVE
CSAH 14 WB	44+47	-25	GATE VALVE	ADJUST
CSAH 14 WB	44+49	-27	GATE VALVE	ADJUST
CSAH 14 WB	44+50	-24	GATE VALVE	ADJUST
CSAH 14 WB	44+49 - 44+83	-18	2" PLASTIC	LEAVE
CSAH 14 WB	44+83	-18	GAS CROSS	LEAVE
CSAH 14 WB	44+47 - 68+36	-25 TO -39	16" STEEL	LEAVE
CSAH 14 WB	44+85	-26	GATE VALVE	ADJUST
CSAH 14 WB	44+87	-31	GATE VALVE	ADJUST
CSAH 14 WB	44+88	-24	GATE VALVE	ADJUST
CSAH 14 WB	66+99	-37	GATE VALVE	ADJUST
CSAH 14 WB	68+36 - 75+30	-39	ABANDONED	LEAVE
CSAH 14 EB	27+31 - 41+46	11 TO 16	2" STEEL	LEAVE
CSAH 14 EB	27+31	11	GAS CROSS	LEAVE
CSAH 14 EB	29+65	13	GAS CROSS	LEAVE
CSAH 14 EB	31+39	13	GAS CROSS	LEAVE
CSAH 14 EB	31+63	12	GAS CROSS	LEAVE
CSAH 14 EB	32+74	12	GAS CROSS	LEAVE
CSAH 14 EB	34+44	12	GAS CROSS	LEAVE
CSAH 14 EB	35+46	22	GATE VALVE	LEAVE
CSAH 14 EB	41+46	16	GAS CROSS	LEAVE

CENTURYLINK — FF

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	REMARKS
CSAH 14 EB	34+86	2	MANHOLE	ADJUST
CSAH 14 EB	42+65	-8	ABANDONED MH	REMOVE (1)
CSAH 14 EB	45+95 - 74+72	45	T-BUR	LEAVE
CSAH 14 EB	45+95	45	MANHOLE	LEAVE
CSAH 14 EB	45+95	45	T-BUR CROSS	LEAVE
CSAH 14 EB	67+01	-13	MANHOLE	ADJUST
CSAH 14 WB	66+54	41	T-BUR CROSS	LEAVE
CSAH 14 WB	68+01 - 71+71	-84 TO -30	T-BUR	LEAVE

NOTE:
(1) CENTURYLINK SHALL REMOVE THE ABANDONED 12'X6'X7' MANHOLE.
THE CONTRACTOR SHALL BACK FILL THE AREA WITH SELECT GRANULAR.

COMCAST — GG

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	REMARKS
CSAH 14 WB	24+46	-30 TO -170	F/O, TV-BUR	LEAVE
CSAH 14 WB	24+46	-30	SPLICE BOX	LEAVE
CSAH 14 WB	24+46 - 27+07	-30 TO -21	F/O	LEAVE
CSAH 14 WB	24+63	-21	SPLICE BOX	LEAVE
CSAH 14 WB	27+07	-22	SPLICE BOX	RELOCATE
CSAH 14 WB	27+07	-21 TO 150	F/O CROSS	RELOCATE
CSAH 14 WB	24+51 - 27+09	-25 TO -19	TV-BUR	RELOCATE
CSAH 14 WB	27+09	-19	TV-BUR CROSS	RELOCATE

ZAYO FIBER SOLUTIONS — JJ

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	REMARKS
CSAH 14 WB	24+48 - 70+51	-34 TO -32	FIBER OPTIC	LEAVE
CSAH 14 WB	24+63	-22 TO -170	F/O CAB	LEAVE
CSAH 14 WB	27+08	-24	SPLICE BOX	RELOCATE
CSAH 14 WB	68+44	-37	F/O CAB	LEAVE

CONNEXUS — HH

ALIGNMENT	STATION TO STATION	OFFSET	INPLACE ITEM	REMARKS
CSAH 14 EB	60+36	18	HANDHOLE	LEAVE
CSAH 14 EB	60+36 - 66+61	18 TO 38	P-BUR	LEAVE
CSAH 14 EB	62+05	20	HANDHOLE	LEAVE
CSAH 14 EB	63+30	26	HANDHOLE	LEAVE
CSAH 14 EB	65+10	28	HANDHOLE	LEAVE
CSAH 14 EB	65+96	39	P-BUR CROSS	LEAVE
CSAH 14 EB	66+04	41	P-BUR CROSS	LEAVE
CSAH 14 EB	66+14	62	P-BUR CROSS	LEAVE
CSAH 14 EB	64+88 - 75+30	115 TO 40	P-BUR CROSS	LEAVE
CSAH 14 EB	65+26 - 67+96	122 TO 56	P-BUR	LEAVE
CSAH 14 EB	67+32	62	HANDHOLE	LEAVE
CSAH 14 EB	67+50	-40	MANHOLE	ADJUST
CSAH 14 EB	67+60	40	MANHOLE	ADJUST
CSAH 14 EB	67+95	56	HANDHOLE	LEAVE
CSAH 14 EB	67+96	56	P-BUR CROSS	LEAVE
CSAH 14 EB	68+19	-17	HANDHOLE	LEAVE
CSAH 14 WB	65+96 - 66+60	-38 TO -57	P-BUR	LEAVE
CSAH 14 WB	66+60	-57	HANDHOLE	LEAVE
CSAH 14 WB	66+80	-37	HANDHOLE	LEAVE
CSAH 14 WB	67+46	-51	HANDHOLE	LEAVE
CSAH 14 WB	67+88	-33	HANDHOLE	ADJUST
CSAH 14 WB	68+26	-63	HANDHOLE	LEAVE
CSAH 14 WB	66+03 - 75+31	-44 TO -31	P-BUR	LEAVE
CSAH 14 WB	66+13 - 68+04	-40 TO -37	P-BUR	LEAVE
CSAH 9 CL	102+54	-36	LIGHT POLE	LEAVE
CSAH 9 CL	102+80	39	LIGHT POLE	LEAVE
CSAH 9 CL	103+68	-39	LIGHT POLE	LEAVE
CSAH 9 CL	103+86	54	HANDHOLE	LEAVE
CSAH 9 CL	103+91 - 106+86	55 TO 63	P-BUR	LEAVE
CSAH 9 CL	105+38	58	HANDHOLE	LEAVE
CSAH 9 CL	105+49	-45	LIGHT POLE	LEAVE
CSAH 9 CL	106+33	60	LIGHT POLE	LEAVE
CSAH 9 CL	108+40 - 110+96	71 TO 81	P-BUR	LEAVE
CSAH 9 CL	108+55 - 112+12	-74 TO -69	P-BUR	LEAVE
CSAH 9 CL	108+98	64	LIGHT POLE	LEAVE

GENERAL NOTES:

ALL UTILITY WORK SHOWN ON THIS SHEET SHALL BE DONE BY OTHERS UNLESS NOTED.

ALL RELOCATES AND ADJUSTMENTS SUBJECT TO ANOKA COUNTY AND/OR CITY OF ANOKA/CITY OF COON RAPID'S RIGHT OF WAY POSSESSION.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:32:27 PM

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: ELIZABETH MARKOSE
SIGNATURE: Eliz@lMarkose
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TABULATIONS

Sheet 13 of 159 Sheets

EARTHWORK TABULATION (CSAH 14) — J

STATION	EXCAVATION TOTALS		EMBANKMENT TOTALS (CV)		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	SELECT GRANULAR (CU YD)	SUBGRADE (CU YD)
20+00.00					
20+50.00	7	7			7
21+00.00	6	7		1	7
21+39.00	5	6		1	6
21+70.00	4	5			5
22+00.00	6	7			7
22+38.00	10	11		1	11
22+58.00	5	6		1	6
22+75.00	4	5		1	5
23+00.00	6	7			7
23+40.00	10	12			12
23+47.00	2	2			2
23+65.00	5	5			5
24+00.00	10	11	1	1	11
24+15.00	7	8	1		8
24+32.00	14	19			19
24+50.00	17	20			20
25+00.00	33	34	2	1	34
25+50.00	28	30	2	2	30
26+00.00	30	30	2	1	30
26+50.00	32	30	2		30
27+00.00	43	34	3		34
27+20.00	29	22	1		22
27+50.00	53	60	1		60
27+90.00	58	73	1		73
28+00.00	12	9	1		9
28+16.00	15	12	1		12
28+50.00	21	21	2	4	21
29+00.00	29	30	5	15	30
29+50.00	32	30	6	18	30
30+00.00	34	30	6	13	30
30+50.00	34	30	6	9	30
31+00.00	33	30	5	6	30
31+50.00	33	30	3	2	30
32+00.00	32	30	4		30
32+50.00	32	30	4		30
33+00.00	33	30	4		30
33+50.00	35	30	4		30
34+00.00	31	26	3		26
34+50.00	34	26	3	1	26
35+00.00	42	30	5	2	30
35+50.00	37	30	5	6	30
36+00.00	35	30	6	16	30
36+50.00	39	30	9	24	30
37+00.00	39	30	8	19	30
37+50.00	37	30	5	6	30

EARTHWORK TABULATION (CSAH 14) — J

STATION	EXCAVATION TOTALS		EMBANKMENT TOTALS (CV)		
	COMMON (CU YD)	SUBGRADE (CU YD)	TOPSOIL (CU YD)	SELECT GRANULAR (CU YD)	SUBGRADE (CU YD)
38+00.00	36	30	4	2	30
38+50.00	35	31	6	8	31
39+00.00	33	31	7	8	31
39+50.00	31	23	10	6	23
40+00.00	39	24	13	6	24
40+50.00	49	32	11	3	32
41+00.00	46	31	8	6	31
41+50.00	45	30	9	13	30
42+00.00	48	28	11	21	28
42+50.00	48	27	11	24	27
43+00.00	45	28	10	21	28
43+50.00	39	27	9	16	27
44+00.00	36	27	10	13	27
44+50.00	35	23	6	8	23
45+00.00	32	19	2	2	19
TOTAL	**1690**	**1436**	**238**	**308**	**1436**

GENERAL NOTES:

SEE SOILS AND CONSTRUCTION NOTES FOR MATERIAL DEFINITIONS AND ADDITIONAL INFORMATION.

140% - 150% SHRINKAGE FACTOR USED FROM EXCAVATED VOLUME (EV) TO COMPACTED VOLUME (CV).
130% SWELL FACTOR USED FROM COMPACTED VOLUME (CV) TO LOOSE VOLUME (LV).
SHRINKAGE AND SWELL FACTORS ARE ASSUMED VALUES, USED ONLY FOR THE PURPOSE OF ESTIMATED QUANTITIES. IT SHALL BE UNDERSTOOD THAT NO WARRANTY IS MADE OR IMPLIED AS TO THE ACCURACY, SUFFICIENCY, OR RELIABILITY OF SHRINKAGE AND SWELL FACTORS.

ALL MATERIAL NOT USED ON THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT LIMITS WITH NO DIRECT PAYMENT THEREFORE. THE MATERIAL QUANTITY IS BASED ON ESTIMATED QUANTITIES. DISPOSAL SHALL BE IN ACCORDANCE WITH SPEC. 2105

THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER BEFORE HAULING MATERIAL OFF SITE.

EARTHWORK BALANCE NOTES:

① 1' SUBGRADE TREATMENT EXCAVATION PAID FOR AS SUBGRADE EXCAVATION. IT IS ASSUMED THAT SUBGRADE EXCAVATION AND SUITABLE MATERIALS FROM COMMON EXCAVATION MEET THE REQUIREMENTS OF SELECT GRANULAR BORROW.

② INCLUDES QUANTIY FOR BACKFILLING CENTURYLINK VAULT (12'X6'X7') REMOVAL AREA AT CSAH 14 EB STATION 42+65.

③ SELECT GRANULAR MATERIAL MEETING THE REQUIREMENTS OF MN/DOT SPEC. 3149.2B2 SHALL BE USED TO BACKFILL COMMON EXCAVATION AND CENTURYLINK VAULT (12'X6'X7') REMOVAL AREAS.

EARTHWORK SUMMARY — K

EXCAVATION (CU YD)	EMBANKMENT (CU YD)	EXCESS / BORROW (CU YD)
COMMON EXCAVATION 1690 (EV) → TOPSOIL 598 (EV) → (598 / 1.40) = 427 (CV)	TOPSOIL 238 (CV)	TOPSOIL (427 - 238) * 1.30 = 246 (EXCESS) (LV)
COMMON EXCAVATION 1690 (EV) → SUITABLE 1092 (EV) → (1092 + 1439) / 1.50 = 1685 (CV)	SELECT GRANULAR ② 327 (CV)	SELECT GRANULAR ③ ((327+1436) - 1685) * 1.30 = 101 (BORROW) (LV)
SUBGRADE EXCAVATION ① 1436 (EV)	SUBGRADE BACKFILL 1436 (CV)	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TAB.dgn 07/05/2017 2:32:33 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

EARTHWORK TABULATIONS

Sheet 14 of 159 Sheets

GENERAL NOTES:

- ALL CROSS SLOPES ARE EXPRESSED AS A PERCENT

- UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE OF THE MAINLINE.

- UNLESS OTHERWISE SPECIFIED, CLASS 5 AGGREGATE WILL EXTEND 1' BEYOND BACK OF CURB.

- 4.0" TOPSOIL & SOD ON ALL DISTURBED AREAS

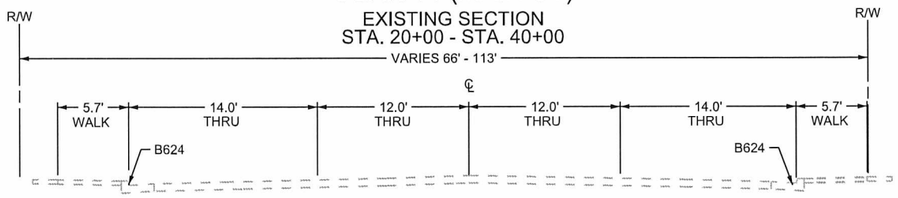
- ALL STATIONING BASED ON EB CSAH 14 ALIGNMENT UNLESS OTHERWISE NOTED

- UNLESS OTHERWISE SPECIFIED CLASS 5 AGGREGATE WILL EXTEND 6" BEYOND THE EDGE OF CONC. WALK

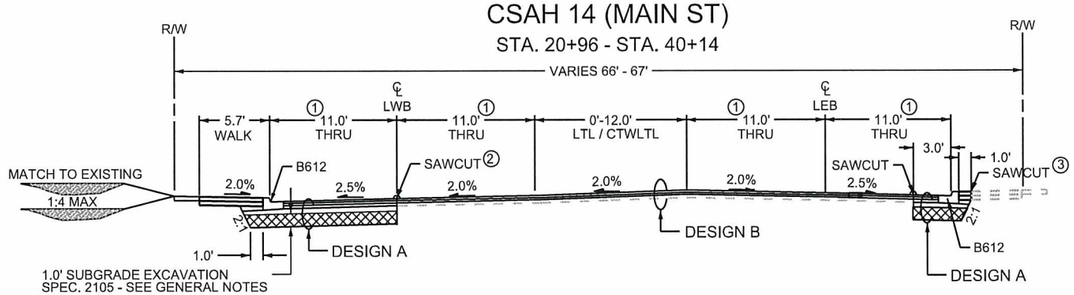
- SIDEWALK CROSS SLOPE SHALL BE 2% MAX AT DRIVEWAYS

- 1.0' SUBGRADE EXCAVATION SHALL BE THE BLENDING OF THE EXISTING SUBGRADE AS TO UNIFY THE SOILS AT LEAST 1.0' BENEATH THE GRADING GRADE.
PAID FOR AS 2105.507 - (SUBGRADE EXCAVATION)

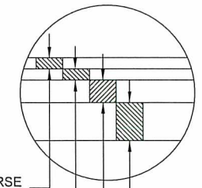
CSAH 14 (MAIN ST)
EXISTING SECTION
STA. 20+00 - STA. 40+00



CSAH 14 (MAIN ST)
STA. 20+96 - STA. 40+14

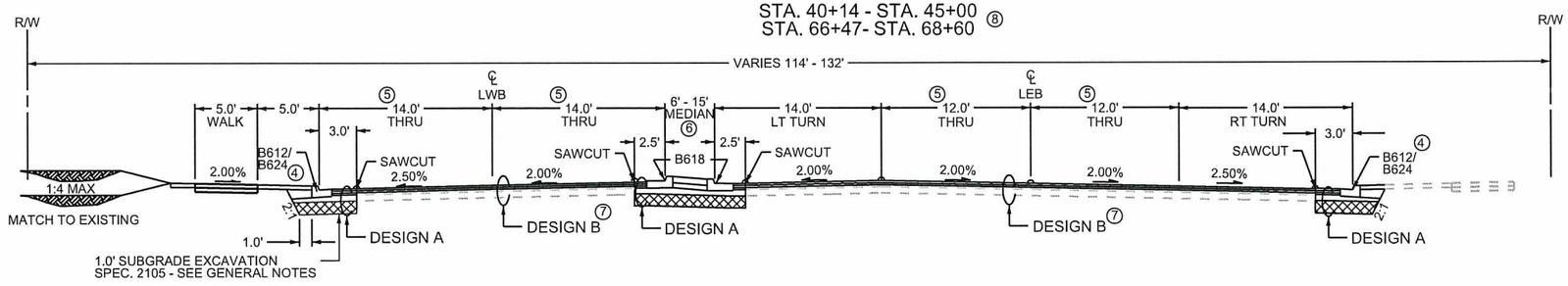


CSAH 14
DESIGN A

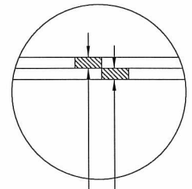


1.5" TYPE SP 9.5 WEARING COURSE MIXTURE (3,B) SPWEA340B
1.5" TYPE SP 9.5 WEARING COURSE MIXTURE (3,B) SPWEA340B
3.0" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (3,B) SPNWB330B
6.0" AGGREGATE BASE, CLASS 5 (MNDOT SPEC. 2211)

CSAH 14 (MAIN ST)
STA. 40+14 - STA. 45+00 ⑧
STA. 66+47- STA. 68+60 ⑧

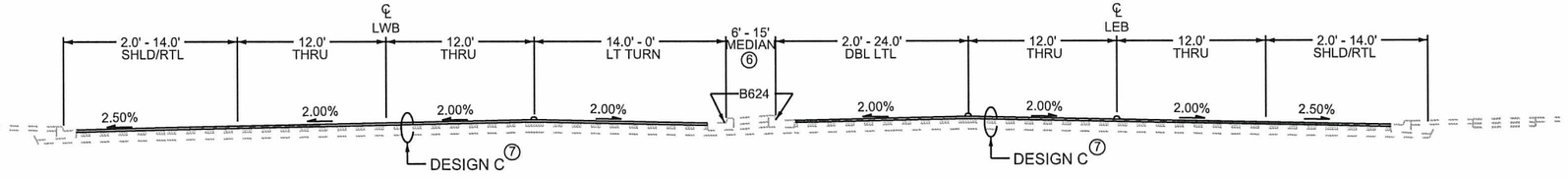


DESIGN B
(3" MILL & OVERLAY)

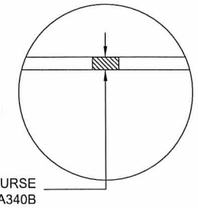


1.5" TYPE SP 9.5 WEARING COURSE MIXTURE (3,B) SPWEA340B
1.5" TYPE SP 9.5 WEARING COURSE MIXTURE (3,B) SPWEA340B

CSAH 14 (MAIN ST)
STA. 45+86 - STA. 55+67
STA. 58+42 - STA. 66+47 ⑧

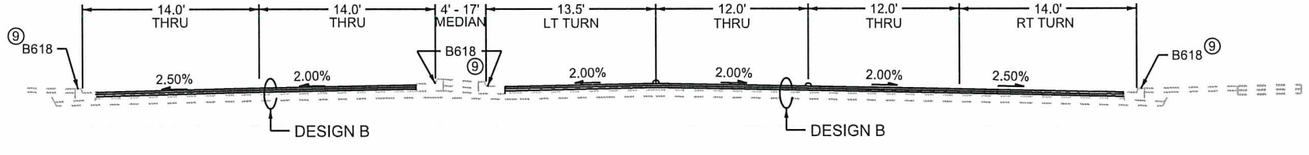


DESIGN C
(2" MILL & OVERLAY)



2.0" TYPE SP 9.5 WEARING COURSE MIXTURE (3,B) SPWEA340B

ROUND LAKE BLVD
RLB STA. 102+59 - STA. 106+89 ⑧



NOTES:

① TRANSITION THROUGH LANE WIDTHS TO 11' FROM EB STA. 22+57 AND WB STA. 22+37.

② SAWCUT 1' FROM EXISTING GUTTER LIP FOR WB STA. 21+05 TO 24+04, AND ALONG WB CENTERLINE FOR STA. 24+04 TO 40+14.

③ SAWCUT CONCRETE SIDEWALK AT LOCATIONS WHERE SIDEWALK ABUTS BACK OF CURB.

④ TRANSITION B612 TO B624 FROM EB STA. 41+88 FOR EB LANE & WB STA. 40+83 FOR WB LANE.

⑤ TRANSITION THROUGH LANE WIDTHS TO 14'/12' FROM EB STA. 38+85 AND WB STA. 40+14.

⑥ CENTER MEDIAN REPLACEMENT BETWEEN EB STA. 45+86 AND 46+26.

⑦ 3" MILL & OVERLAY SHALL EXTEND TO EB STA. 46+26.

⑧ SEE CONSTRUCTION PLAN FOR TURN LANE LOCATIONS.

⑨ SPOT C&G REPLACEMENT SHALL BE LOCATED IN THE FIELD BY CITY ENGINEER. SAWCUT BITUMINOUS PAVEMENT 2 FT FROM GUTTER LIP.

NO	DATE	BY	CKD	APPR	REVISION
NAME: P:\02-614-40\Plan\0261440_TYP.dgn					07/06/2017 6:39:15 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: ELIZABETH MARKOSE
SIGNATURE:
DATE: 07/06/17 LICENSE NO. 49118

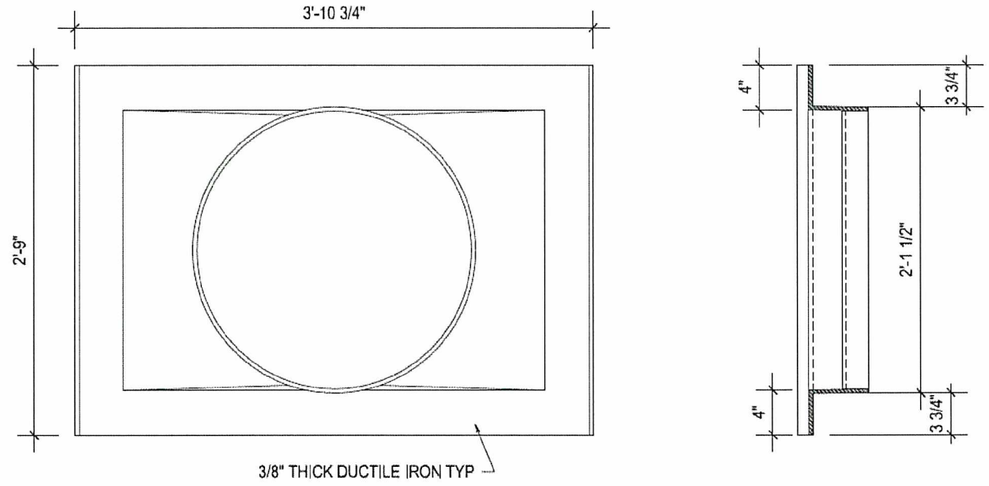
DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

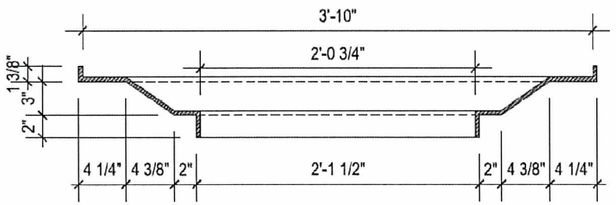
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

TYPICAL SECTIONS

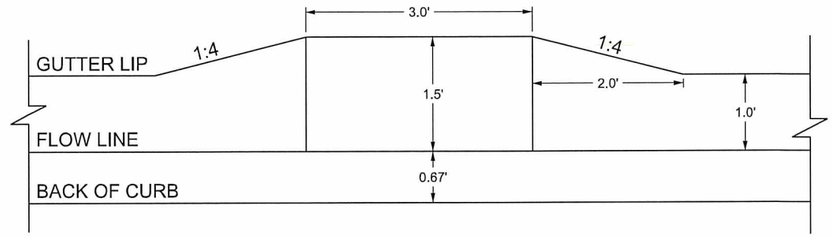
Sheet 15 of 159 Sheets





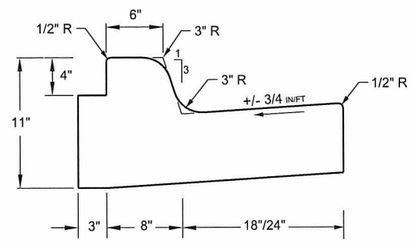
3067-27 ADAPTER PLATE BY ESS BROTHERS & SONS. INC.

NOT TO SCALE



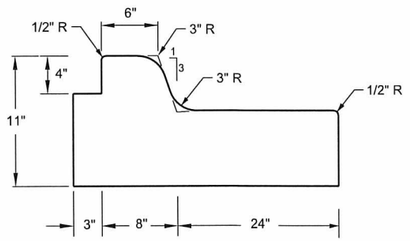
B612 GUTTER TRANSITION AROUND CASTINGS

NOT TO SCALE



MODIFIED B618/B624 CURB & GUTTER
FOR MEDIAN
(NO VARIANCES ALLOWED)

NOT TO SCALE



MODIFIED B624 CURB & GUTTER
FOR PORK CHOP ISLAND
AT CSAH 14/CSAH 9
(NO VARIANCES ALLOWED)

NOT TO SCALE

1 OF 1

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_TYP.dgn 06/30/2017 1:15:56 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

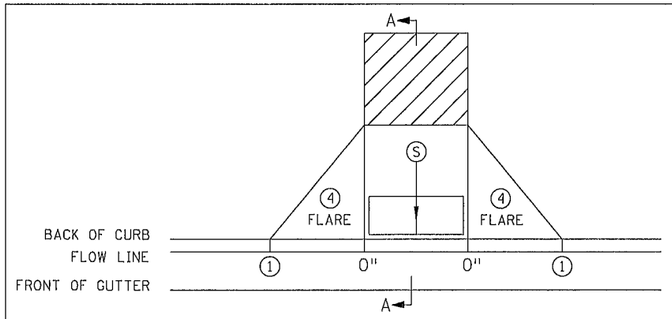
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

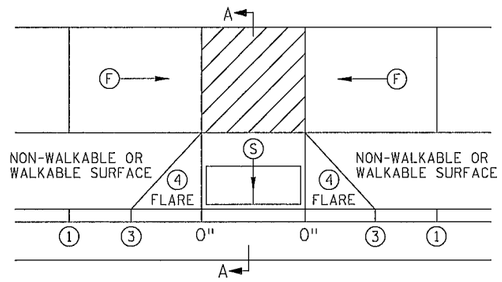
SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

MISCELLANEOUS DETAILS

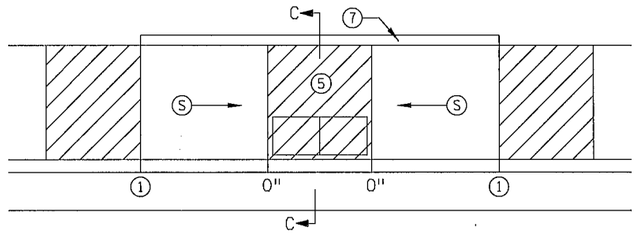
Sheet 16 of 159 Sheets



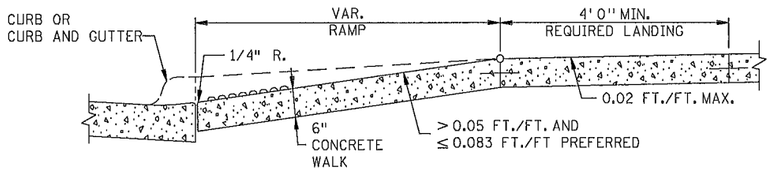
PERPENDICULAR



TIERED PERPENDICULAR

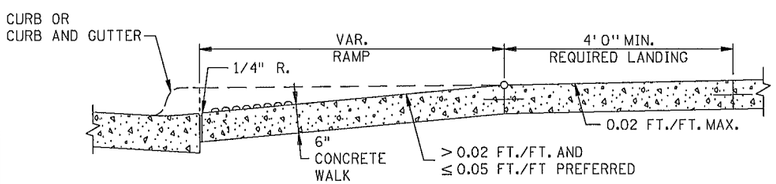


PARALLEL



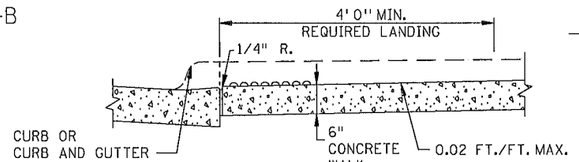
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



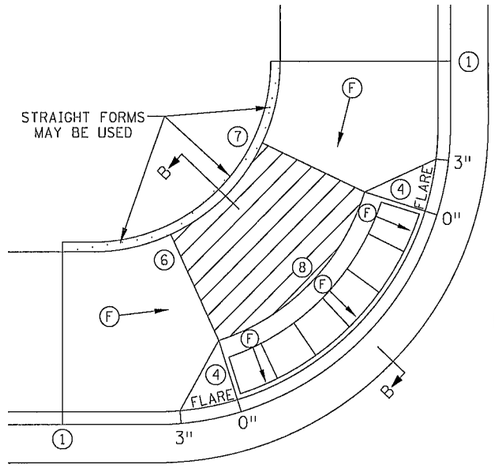
SECTION B-B

FAN

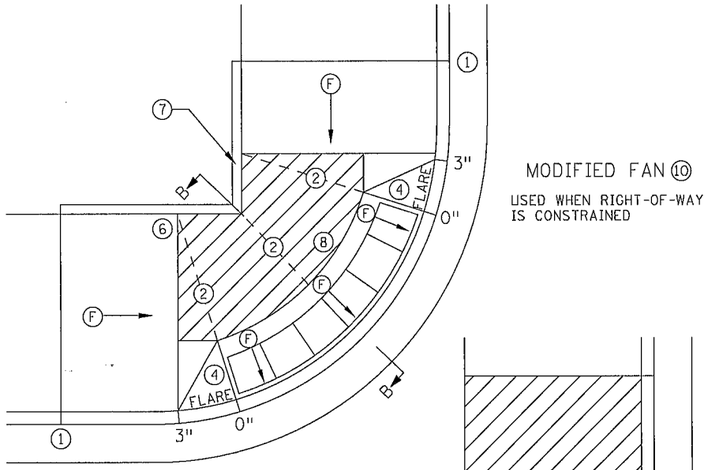


SECTION C-C

PARALLEL/DEPRESSED CORNER

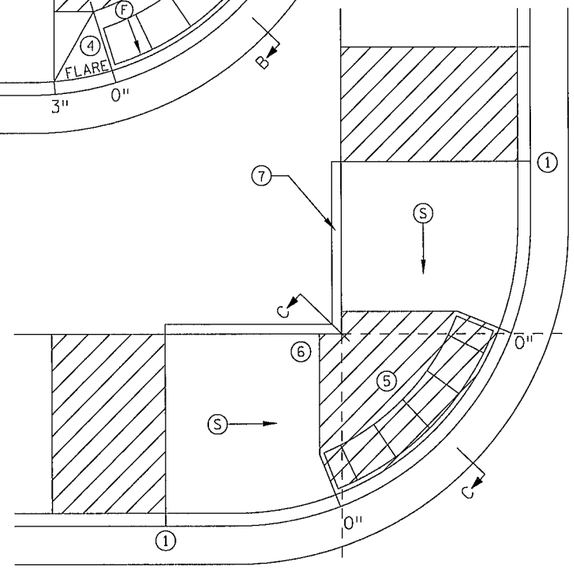


FAN⑩

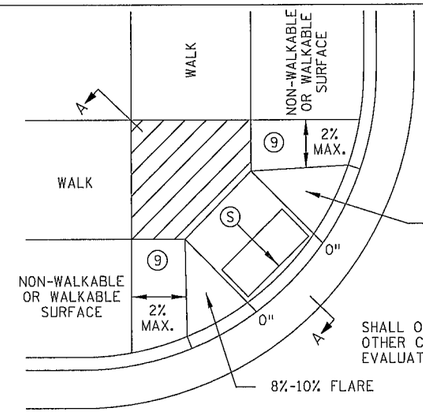


MODIFIED FAN ⑩

USED WHEN RIGHT-OF-WAY IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN ⑥ BELOW.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

① MATCH FULL HEIGHT CURB.
② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑧ A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
⑨ PAVE FULL WALK WIDTH.
⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

1 OF 6

SAP 002-614-040

SAP 103-020-018, SAP 103-111-005, CP 2017-049

SAP 114-020-052, SAP 114-121-015, CP 16-18

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

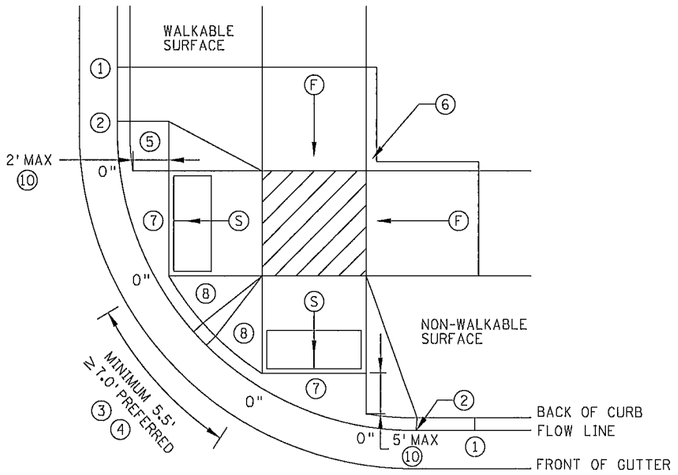
STANDARD PLAN 5-297.250

17 OF 159

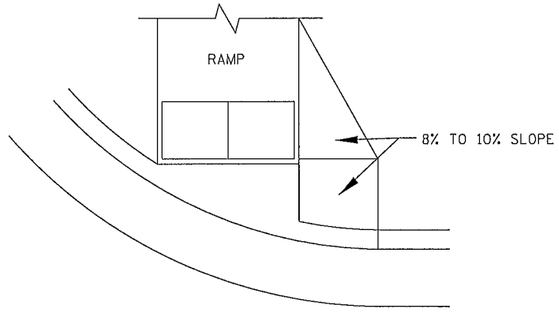
PLOTTED/REVISED: 06/30/2017

DISTRICT #:
USER NAME: ejmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\PedRamps\s250_1_spn.dgn

FILE NAME: s250_1_spn.dgn



COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V-CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

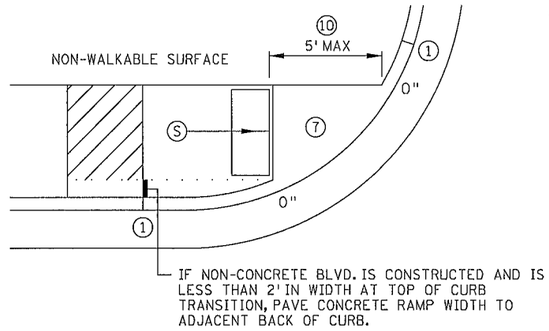
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

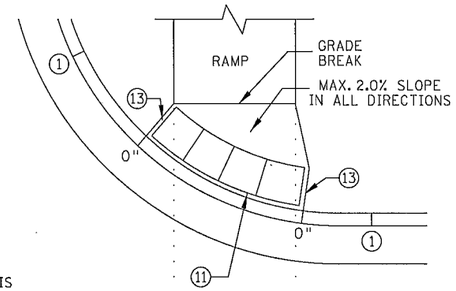
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

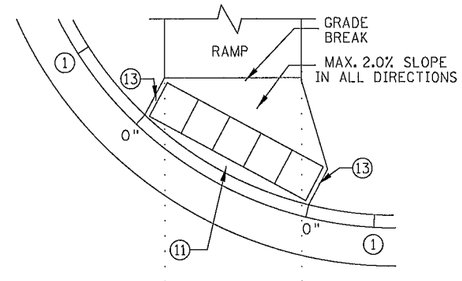
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

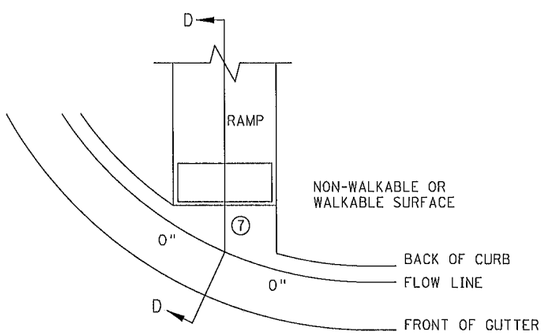


STANDARD ONE-WAY DIRECTIONAL ⑨

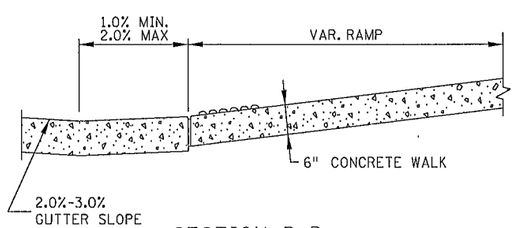


ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

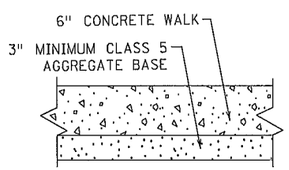




CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X" CURB HEIGHT

REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 1-23-2017

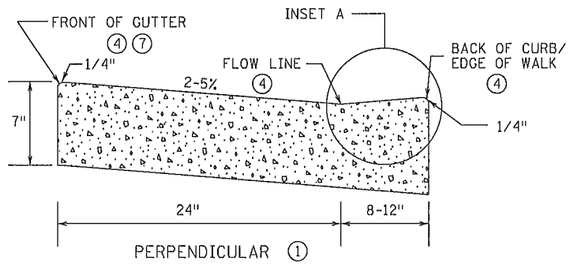
PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250

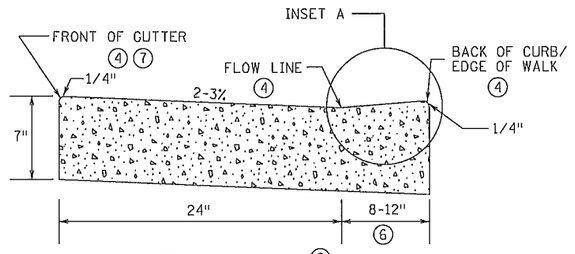
PLOTTED/REVISED: 06/30/2017

DISTRICT #:
USER NAME: ejmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD PlansPedRamps\s250_1_spn.dgn

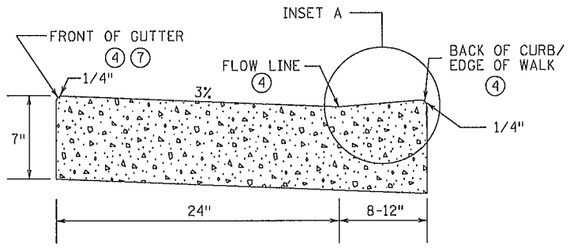
FILE NAME: s250_1_spn.dgn



PERPENDICULAR ①

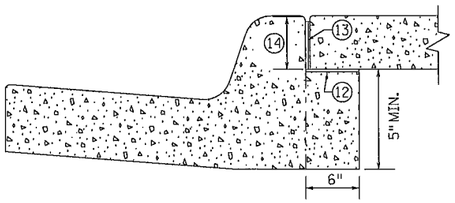


NON PERPENDICULAR ②



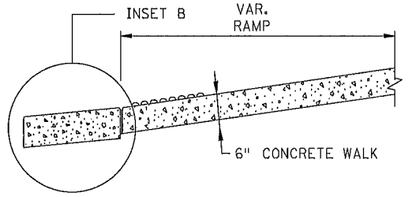
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

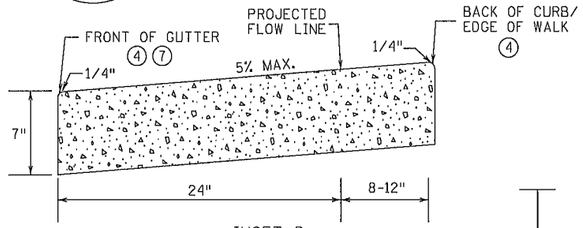
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



OPTIONAL SILL CURB WHEN SIDEWALK
IS AT BACK OF CURB

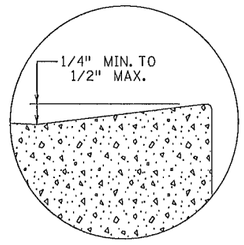
CONCRETE SILL TO BE USED ONLY WHEN
SPECIFIED IN THE PLAN.



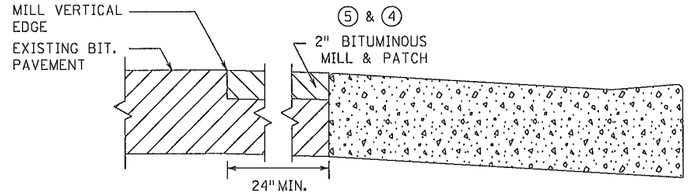


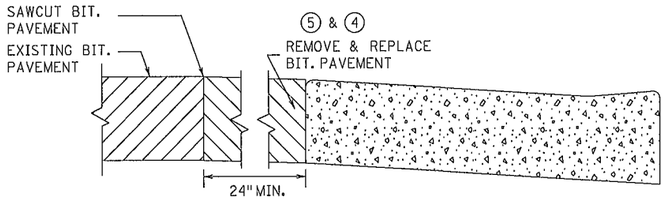
INSET B

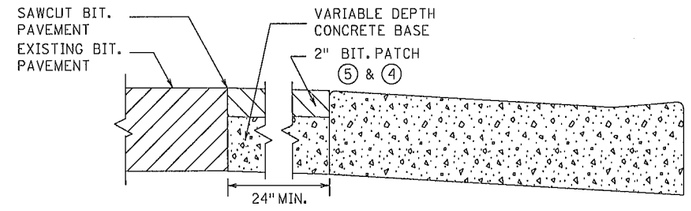
OUTFLOW GUTTER ⑧

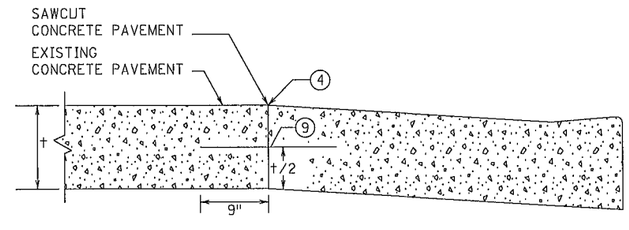


INSET A





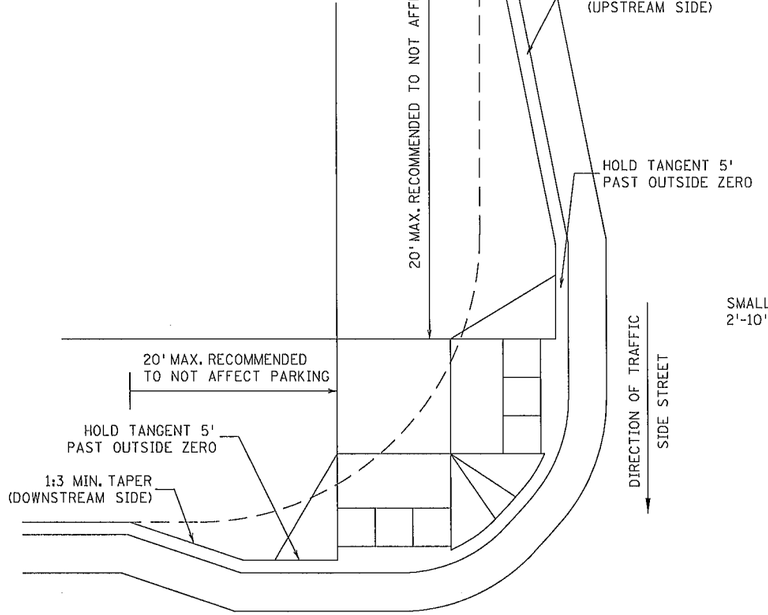




ONLY ALLOWED PER ENGINEER'S APPROVAL

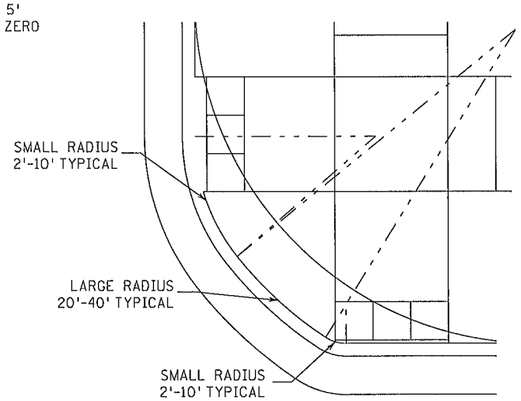
PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪

DIRECTION OF TRAFFIC
MAIN STREET



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.

NO PONDING SHALL BE PRESENT IN THE PAR.

ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.

① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.

② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.

③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.

④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".

⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.

⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.

⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.

⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS.

⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1' MINIMUM FROM ALL JOINTS.

⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.

⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.

⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

SAP 002-614-040, SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

REVISED:

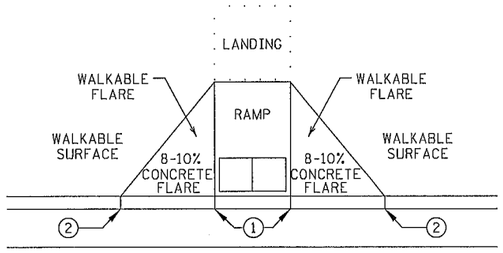
APPROVED: 1-23-2017

STATE DESIGN ENGINEER

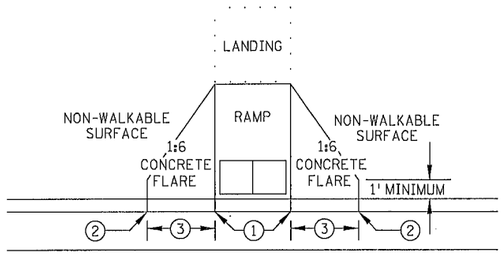
PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250

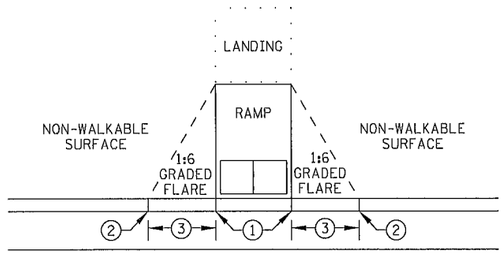
PLOTTED/REVISED: 06/30/2017
DISTRICT #:
USER NAME: e.fmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\PedRamps\s250_1_spn.dgn
FILE NAME: s250_1_spn.dgn



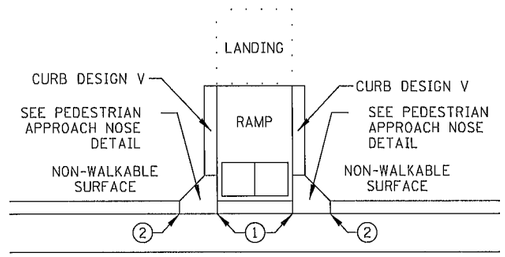
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

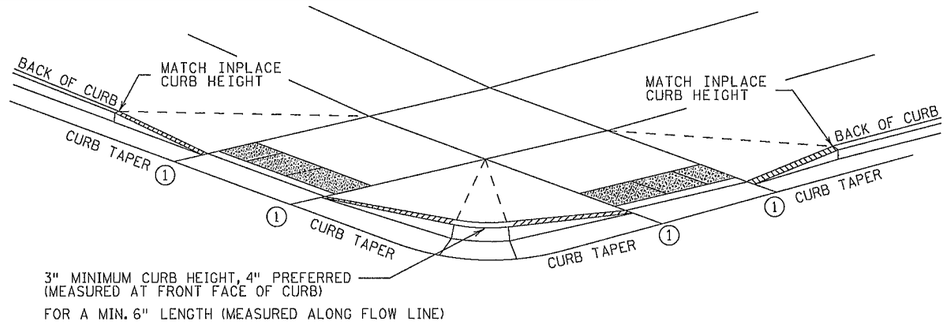


GRADED FLARES

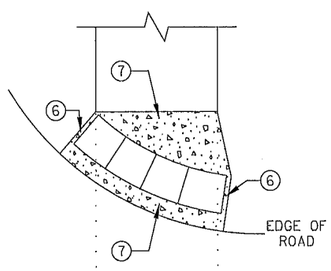


RETURNED CURB ⑤

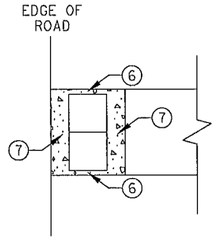
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

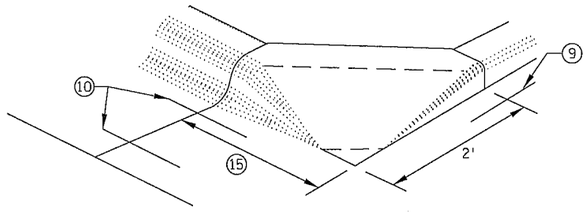


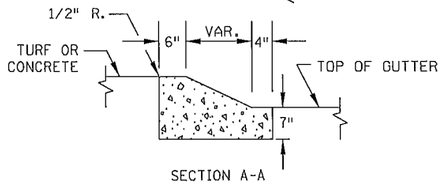
RADIAL DETECTABLE WARNING



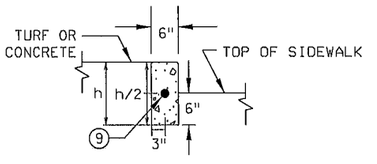
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

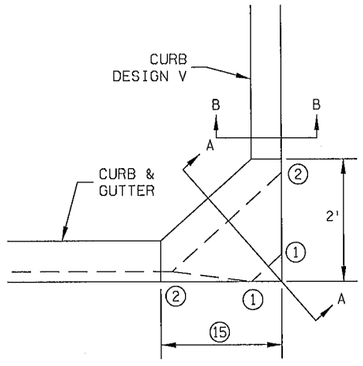




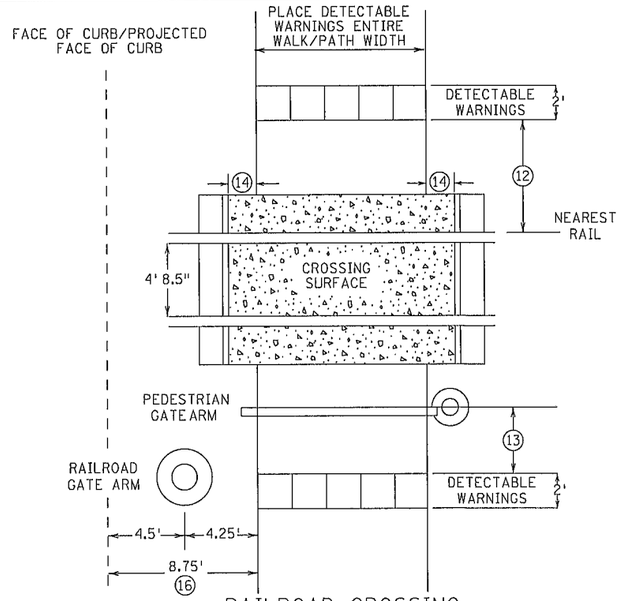
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

PLOTTED/REVISED: 06/30/2017

DISTRICT #:
USER NAME: e.lmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\PedRamps\s250_l_spn.dgn

FILE NAME: s250_l_spn.dgn

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

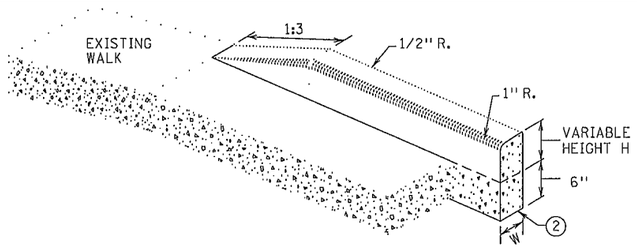
REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

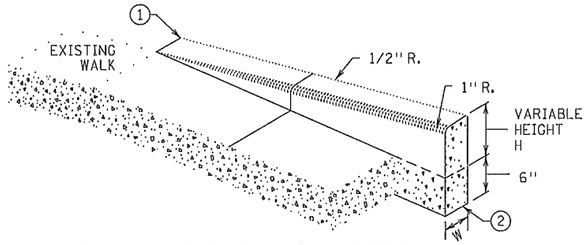
PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250



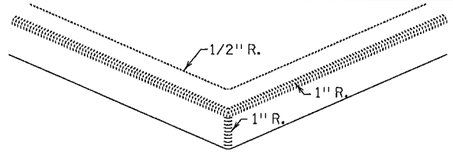
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS

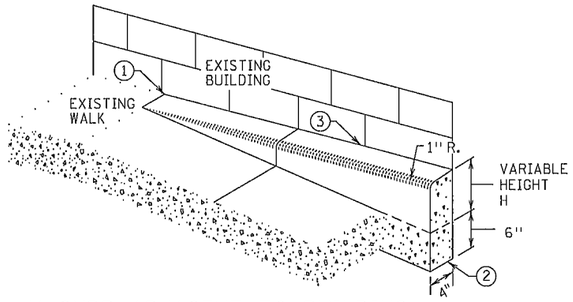


V CURB ADJACENT TO LANDSCAPE

CURB OUTSIDE SIDEWALK LIMITS

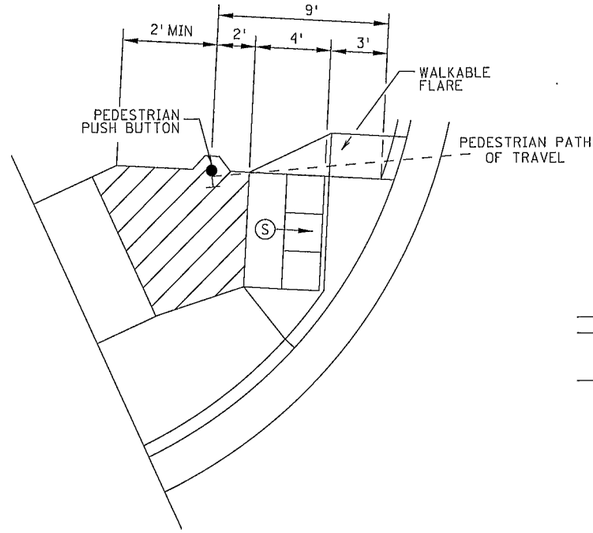


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING OR BARRIER

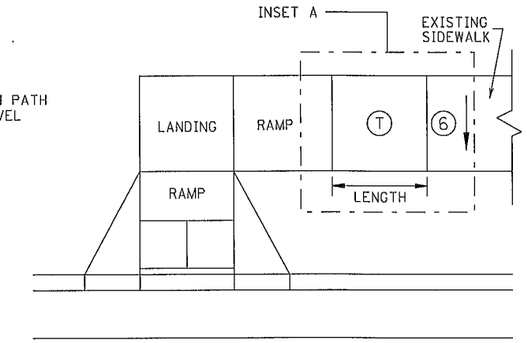
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≥6"	6"

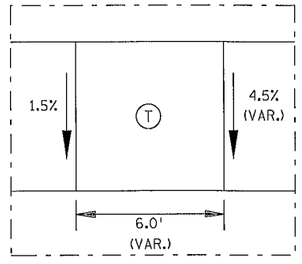


SEMI-DIRECTIONAL RAMP (3,4,9)

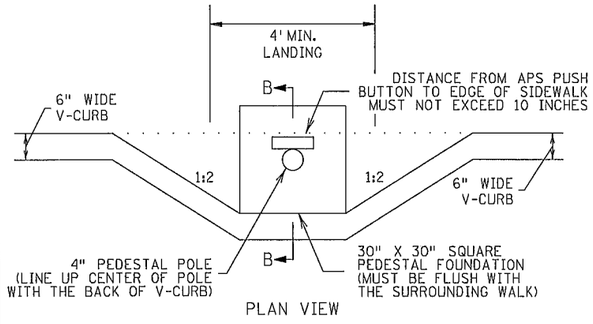
3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB

PRIMARILY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)

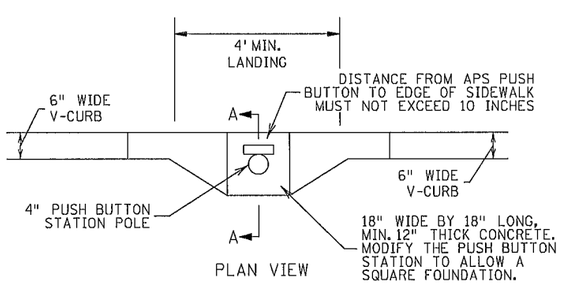




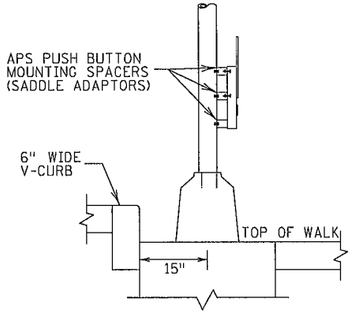
TRANSITION PANEL ④⑤



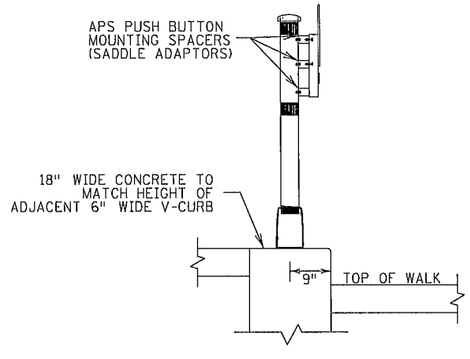
PLAN VIEW



PLAN VIEW



SECTION B-B



SECTION A-A

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)

PUSH BUTTON STATION (V-CURB)

NOTES:

A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.

ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.

WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.

V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.

V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.

(1) END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

(2) ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

(3) EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

(4) THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.

(5) TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).

(6) EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

(T) TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

PLOTTED/REVISED: 06/30/2017

DISTRICT #:
USER NAME: ejmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\Ped Ramps\s250_1_sp.dgn

FILE NAME: s250_1_sp.dgn

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

MINNESOTA DEPARTMENT OF TRANSPORTATION

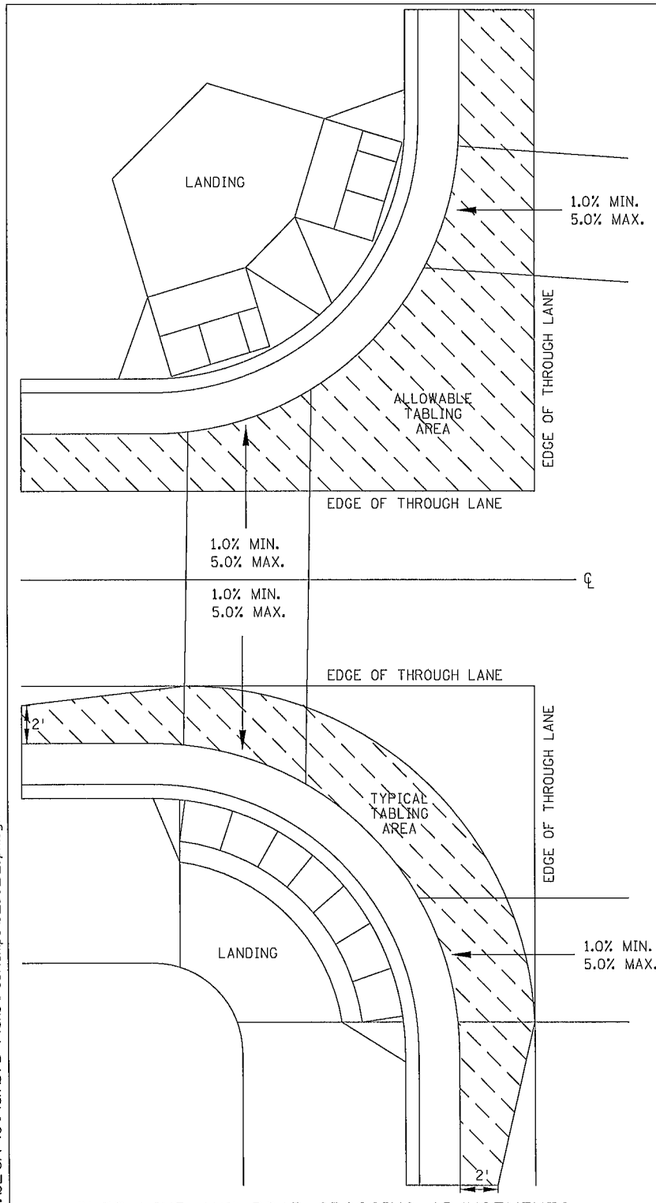
REVISED:

STATE DESIGN ENGINEER

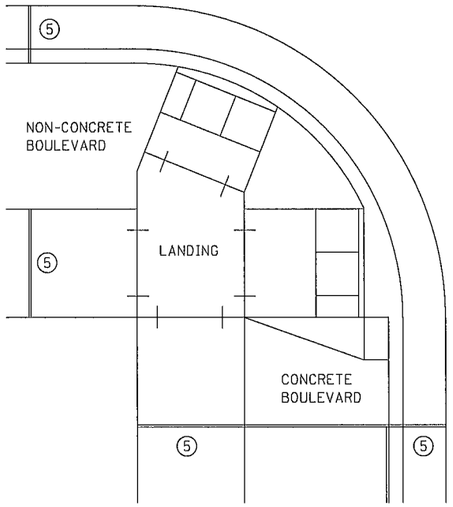
APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

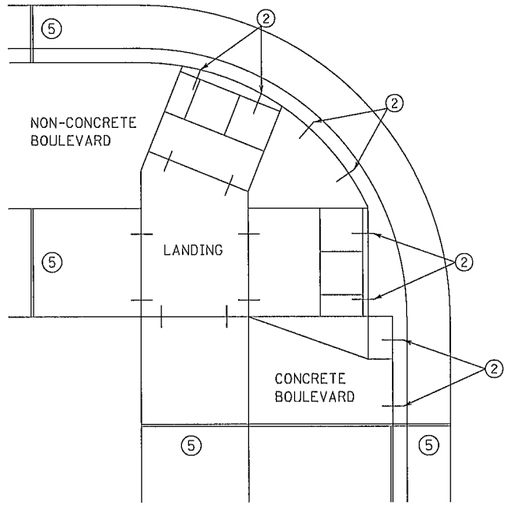
STANDARD PLAN 5-297.250



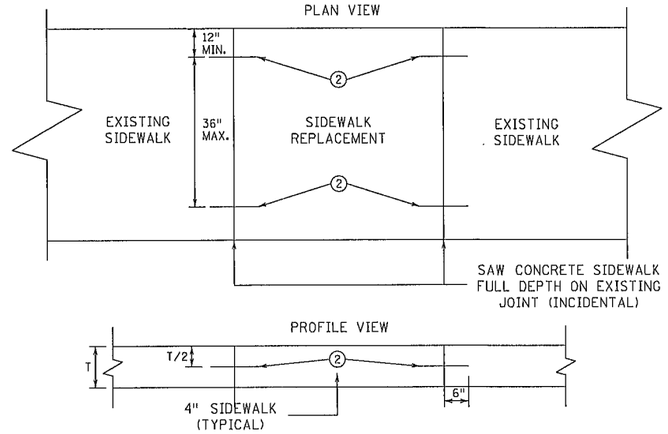
CURB LINE AND ROAD CROSSING ADJUSTMENTS



EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS

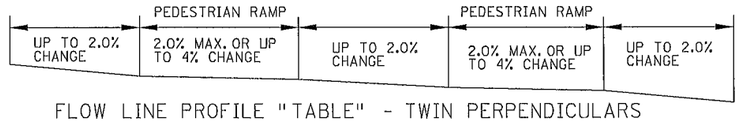


OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④

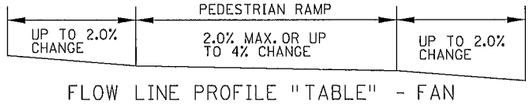


OPTIONAL SIDEWALK REINFORCEMENT

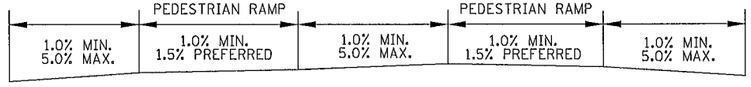
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



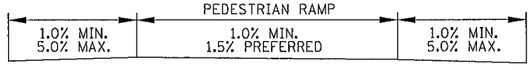
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



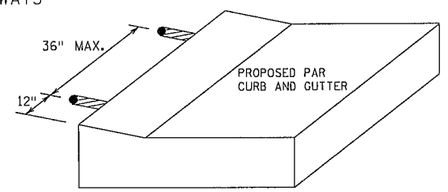
FLOW LINE PROFILE "TABLE" - FAN

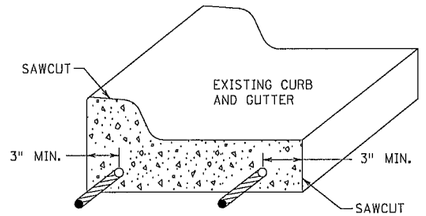


FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS



FLOW LINE PROFILE RAISE - FAN

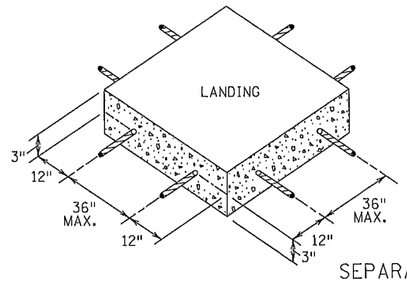


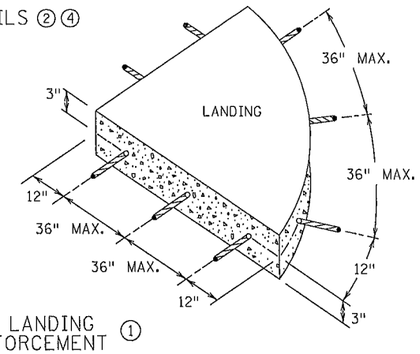


FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER REINFORCEMENT ③

OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④





SEPARATE LANDING POUR REINFORCEMENT ①

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
3) 5.0% RECOMMENDED MAX. FLOW LINE
4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS.

② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.

③ DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.

④ THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.

⑤ 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005
CP 2017-049
SAP 114-020-052, SAP 114-121-015
CP 16-18

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

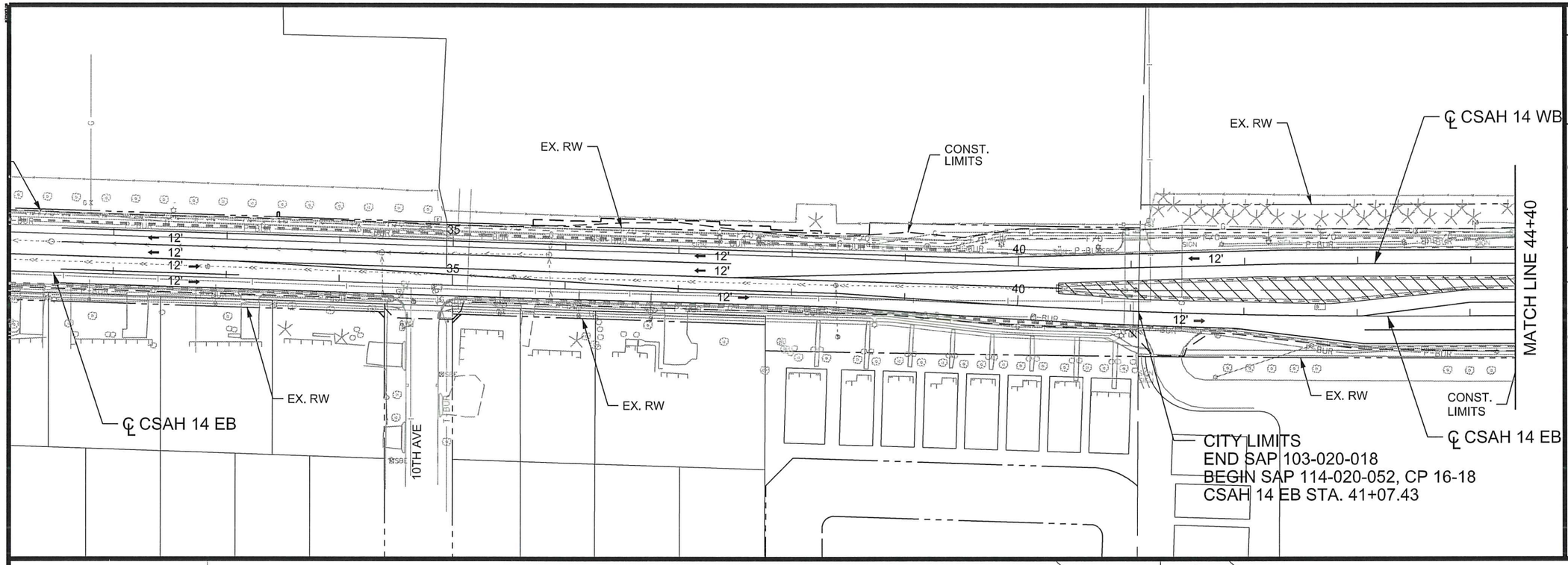
APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250

PLOTTED/REVISED: 06/30/2017
DISTRICT #:
USER NAME: ejmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\PedRamps\s250_J_spndgn
FILE NAME: s250_J_spndgn



LEGEND

CONSTRUCTION AREA

TRAFFIC FLOW IN THIS STAGE

STAGING NOTES

CONSTRUCTION NOTES:

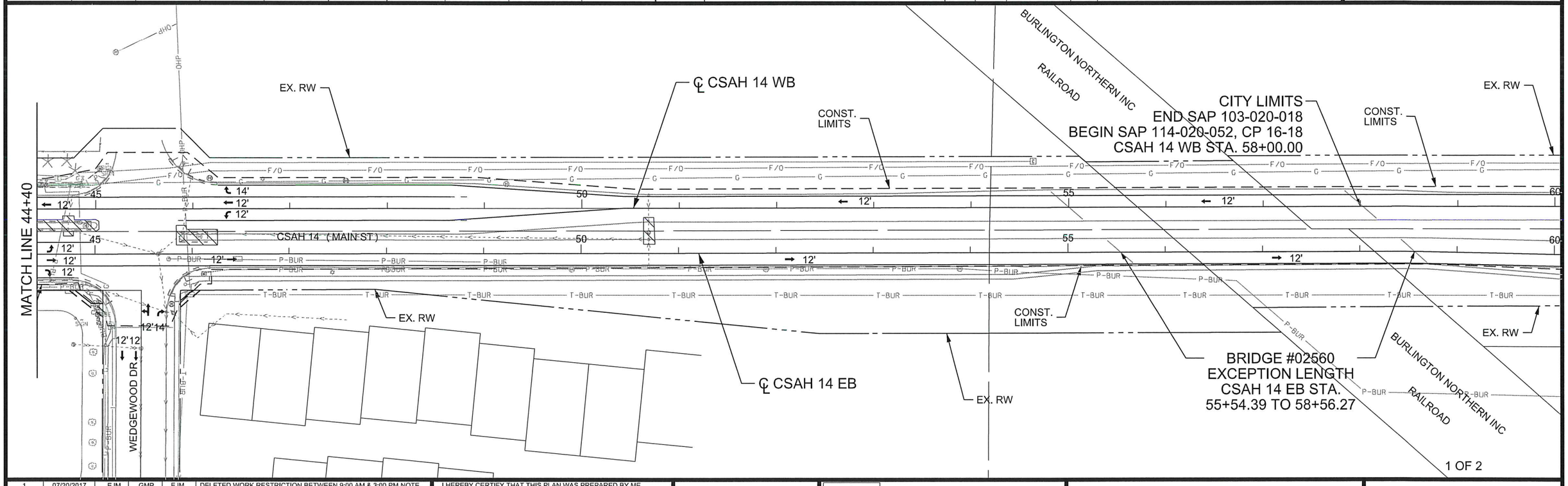
REPLACE CURB AND GUTTER, CASTINGS AND CENTER MEDIAN TO THE EXTENT SHOWN IN PLAN. NARROW LANES TO SINGLE LANES IN THE CONSTRUCTION AREA.

TRAFFIC NOTES:

SIGNAL AT WEDGEWOOD DR TO BE PLACED IN FLASHING MODE DURING OFF-PEAK WORKING HOURS.

N

0 100
SCALE IN FEET



1 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	07/20/2017	EJM	GMP	EJM	DELETED WORK RESTRICTION BETWEEN 9:00 AM & 3:00 PM NOTE.

NAME: P:\02-614-40\Plan\0261440_STG1_P2.dgn 07/20/2017 8:55:03 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/20/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 1

STA 31+00.00 TO 60+00.00

Sheet 23 of 159 Sheets

END MILL & OVERLAY
CSAH 9 STA. 109+00.00

℄ CSAH 9

CSAH 9 (ROUND LAKE BLVD)

EX. RW

CONST. LIMITS

EX. RW

℄ CSAH 14 WB

EX. RW

CONST. LIMITS

EX. RW

℄ CSAH 14 EB

END SAP 114-121-015
RLB STA. 106+89.23

END SAP 002-614-040
SAP 114-020-052, CP 16-18
CSAH 14 EB STA. 68+60.00

℄ RLB

EX. RW

EX. RW

CONST. LIMITS

ROUND LAKE BLVD

BEGIN SAP 114-121-015, CP 16-18
RLB STA. 102+59.44

LEGEND

CONSTRUCTION AREA

TRAFFIC FLOW IN THIS STAGE

STAGING NOTES

CONSTRUCTION NOTES:

RECONSTRUCT MEDIAN NOSES AND CATCHBASINS, AND REPLACE CASTINGS TO THE EXTENT SHOWN IN PLAN.

TRAFFIC NOTES:

SIGNAL AT CSAH 9 TO BE PLACED IN FLASHING MODE DURING OFF-PEAK WORKING HOURS.

N

0 100
SCALE IN FEET

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION
1	07/20/2017	EJM	GMP	EJM	DELETED WORK RESTRICTION BETWEEN 9:00 AM & 3:00 PM NOTE.

NAME: P:\02-614-40\Plan\0261440_STG1_P3.dgn 07/20/2017 8:55:05 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/20/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

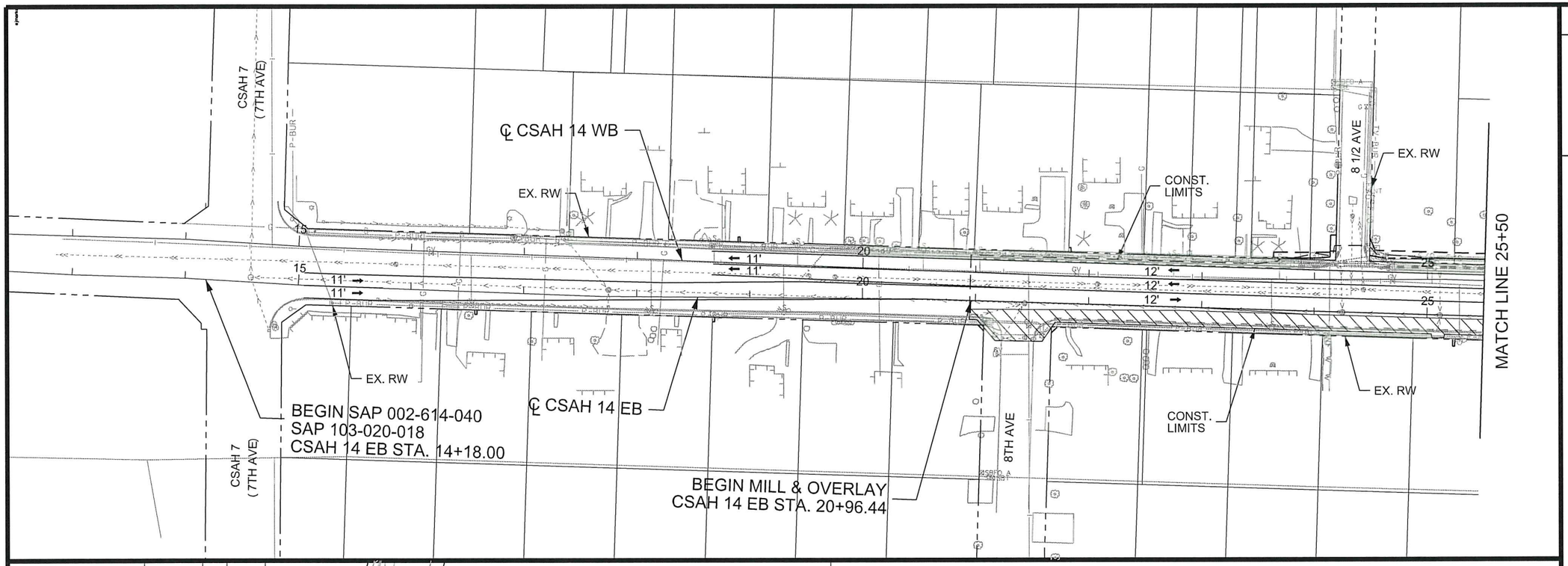
ANOKA COUNTY HIGHWAY DEPT.

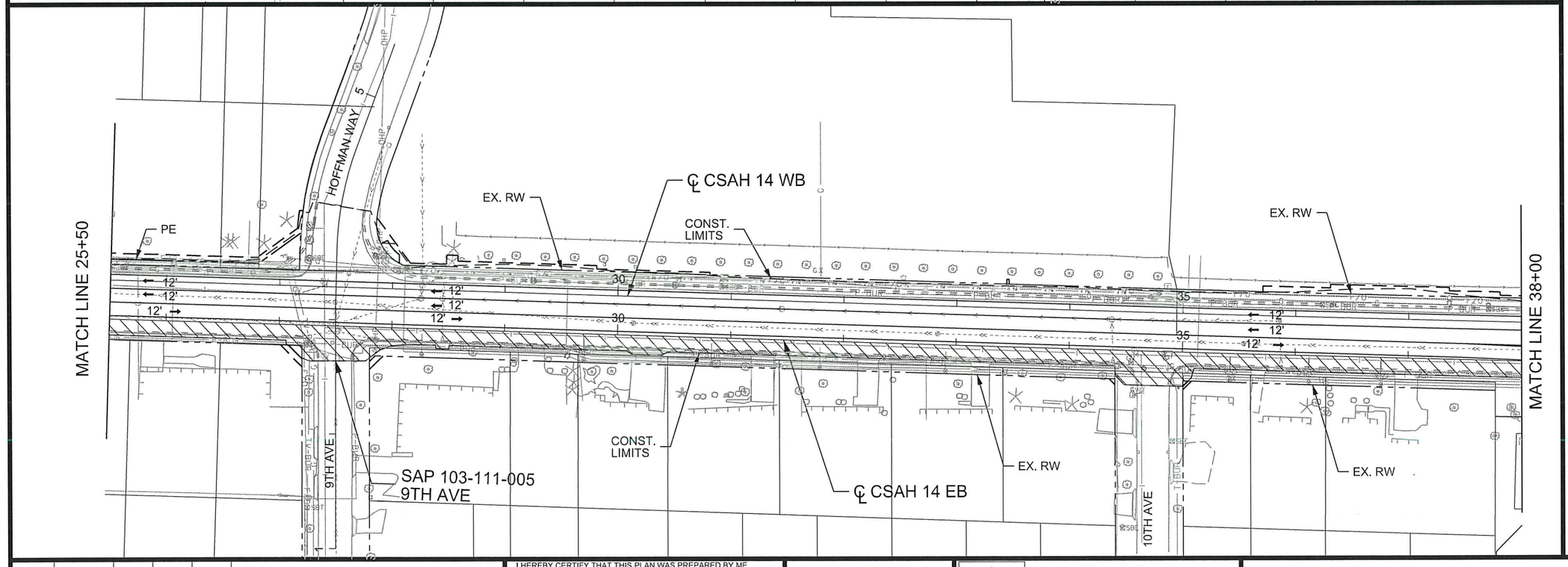
SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 1

STA 60+00.00 TO 74+00.00

Sheet 24 of 159 Sheets





LEGEND

CONSTRUCTION AREA

TRAFFIC FLOW IN THIS STAGE

STAGING NOTES

CONSTRUCTION NOTES:

CONSTRUCT EASTBOUND CURB AND GUTTER, SIGNAL AT 9TH AVE AND STORM SEWER.

TRAFFIC NOTES:

WESTBOUND TRAFFIC SHALL REMAIN ON WB LANES BETWEEN 7TH AVE AND WEDGEWOOD DR. EASTBOUND LANES SHALL BE NARROWED TO ONE LANE IN CONSTRUCTION AREA.

N

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_STG2_P1.dgn 07/06/2017 7:34:43 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: ELIZABETH MARKOSE

SIGNATURE: Eliz Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

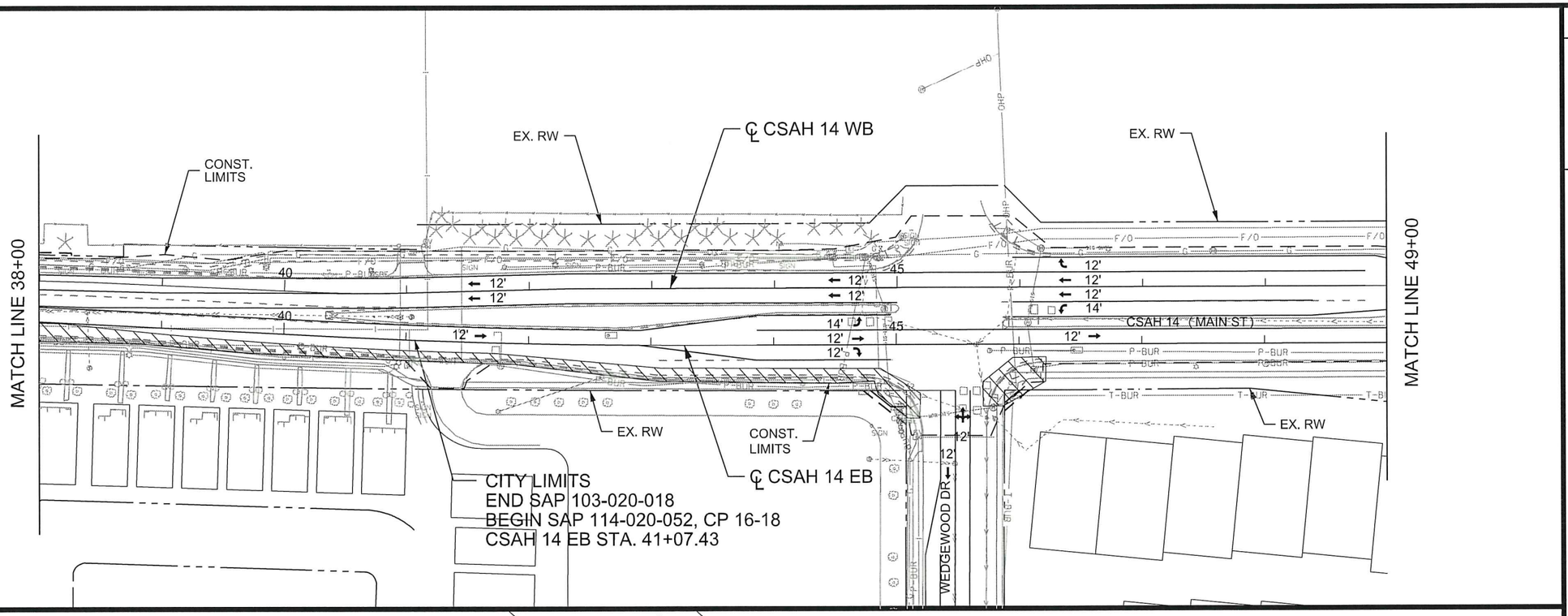
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 2

STA 15+00.00 TO 38+00.00

Sheet 25 of 159 Sheets



LEGEND

CONSTRUCTION AREA

TRAFFIC FLOW IN THIS STAGE

STAGING NOTES

CONSTRUCTION NOTES:

REPLACE EASTBOUND CURB AND GUTTER, CASTINGS AND PEDESTRIAN CURB RAMP.

TRAFFIC NOTES:

WESTBOUND TRAFFIC SHALL REMAIN ON WB LANES BETWEEN 7TH AVE AND WEDGEWOOD DR. EASTBOUND LANES SHALL BE NARROWED TO ONE LANE IN CONSTRUCTION AREA.

N

0 100
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_STG2_P2.dgn 07/06/2017 7:34:44 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: ELIZABETH MARKOSE

SIGNATURE:

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 2
STA 38+00.00 TO 61+00.00

Sheet 26 of 159 Sheets

END MILL & OVERLAY
CSAH 9 STA. 109+00.00

℄ CSAH 9

CSAH 9 (ROUND LAKE BLVD)

EX. RW

CONST. LIMITS

MATCH LINE 61+00

℄ CSAH 14 WB

EX. RW

CONST. LIMITS

EX. RW

EX. RW

℄ CSAH 14 EB

END SAP 114-121-015
RLB STA. 106+89.23

END SAP 002-614-040
SAP 114-020-052, CP 16-18
CSAH 14 EB STA. 68+60.00

℄ RLB

EX. RW

EX. RW

CONST. LIMITS

ROUND LAKE BLVD

BEGIN SAP 114-121-015, CP 16-18
RLB STA. 102+59.44

LEGEND

CONSTRUCTION AREA

TRAFFIC FLOW IN THIS STAGE

STAGING NOTES

CONSTRUCTION NOTES:

ISLAND AND PEDESTRIAN CURB RAMP SHALL BE CONSTRUCTED.

TRAFFIC NOTES:

SIGNAL AT CSAH 9 TO BE PLACED IN FLASHING MODE DURING OFF-PEAK WORKING HOURS.

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION
1	07/20/2017	EJM	GMP	EJM	DELETED WORK RESTRICTION BETWEEN 9:00 AM & 3:00 PM NOTE.

NAME: P:\02-614-40\Plan\0261440_STG2_P3.dgn 07/20/2017 8:55:07 AM

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

PRINT NAME: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/20/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

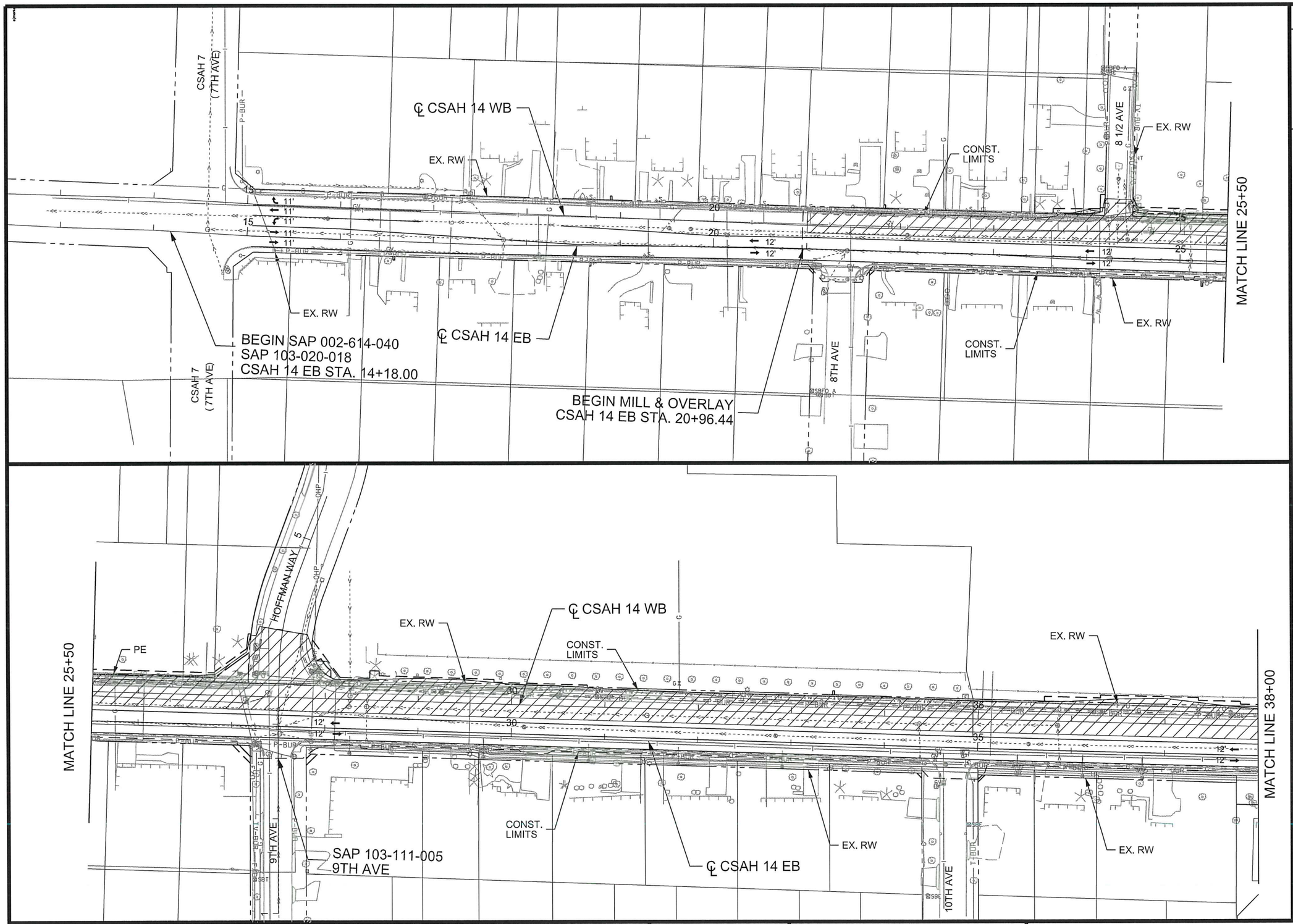
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 2
STA 61+00.00 TO 74+00.00

Sheet 27 of 159 Sheets



LEGEND

CONSTRUCTION AREA

TRAFFIC FLOW IN THIS STAGE

STAGING NOTES

CONSTRUCTION NOTES:

WIDEN WESTBOUND LANE, CONSTRUCT SIGNAL AT HOFFMAN WAY AND STORM SEWER.

TRAFFIC NOTES:

SHIFT TRAFFIC TO EASTBOUND SIDE AND MAINTAIN TWO-WAY TRAFFIC. WIDEN WESTBOUND LANE, CONSTRUCT SIGNAL AT HOFFMAN WAY, AND STORM SEWER.

N

0 100
SCALE IN FEET

1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_STG3_P1.dgn 07/06/2017 7:34:48 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: ELIZABETH MARKOSE

SIGNATURE: [signature]

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY	EJM	DATE	06-29-17
DESIGN BY	EJM	DATE	05-15-17
CHECKED BY	GMP	DATE	06-29-17

ANOKA COUNTY

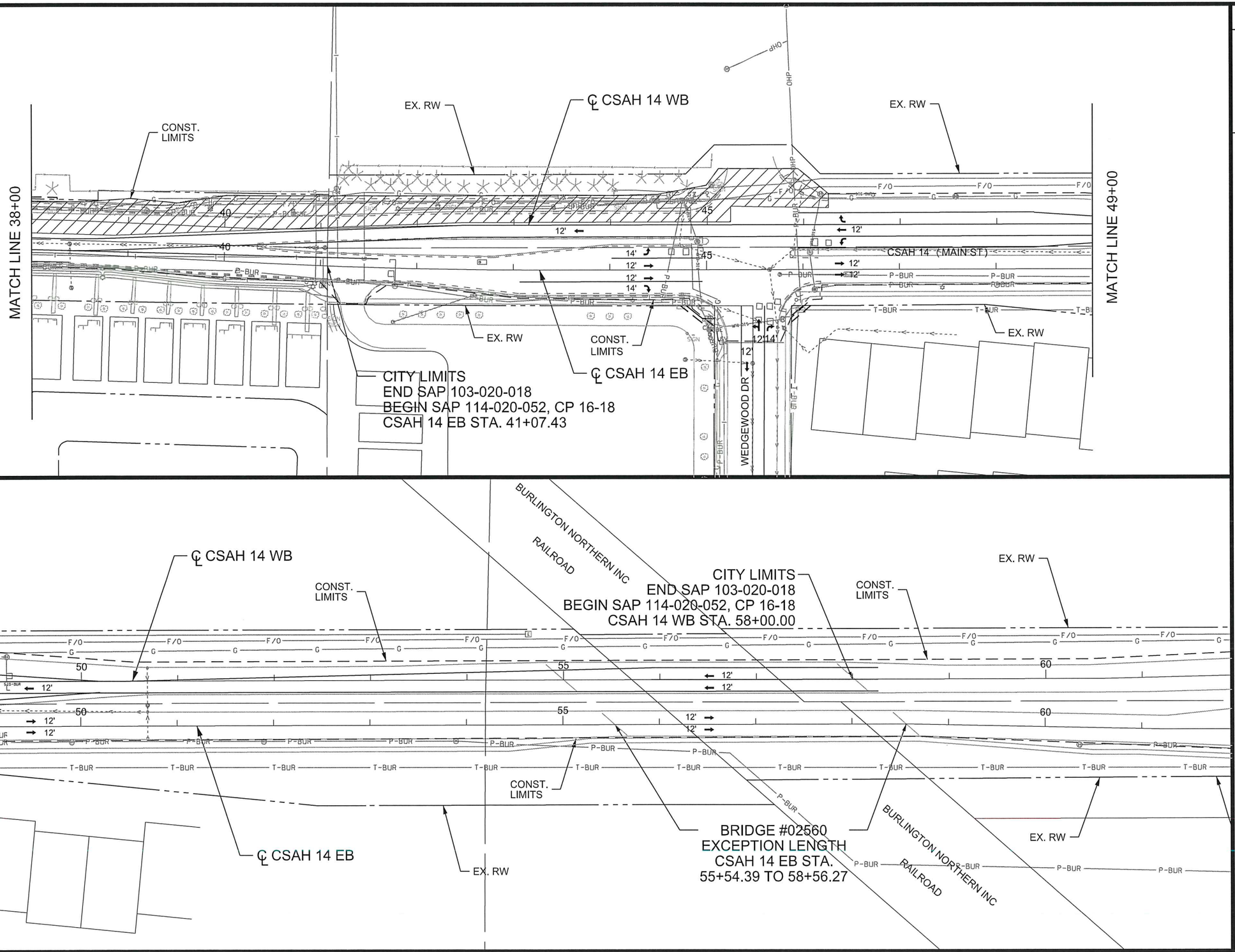
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 3

STA 15+00.00 TO 38+00.00

Sheet 28 of 159 Sheets



LEGEND

CONSTRUCTION AREA

TRAFFIC FLOW IN THIS STAGE

STAGING NOTES

CONSTRUCTION NOTES:

WIDEN AND CONSTRUCT CONC. WALK, CURB & GUTTER AND PEDESTRIAN CURB RAMP ALONG WESTBOUND LANE.

TRAFFIC NOTES:

WIDEN AND CONSTRUCT CONC. WALK, CURB & GUTTER AND PEDESTRIAN CURB RAMP ALONG WESTBOUND LANE.

2 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_STG3_P2.dgn 07/06/2017 7:34:49 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY	EJM	DATE	06-29-17
DESIGN BY	EJM	DATE	05-15-17
CHECKED BY	GMP	DATE	06-29-17

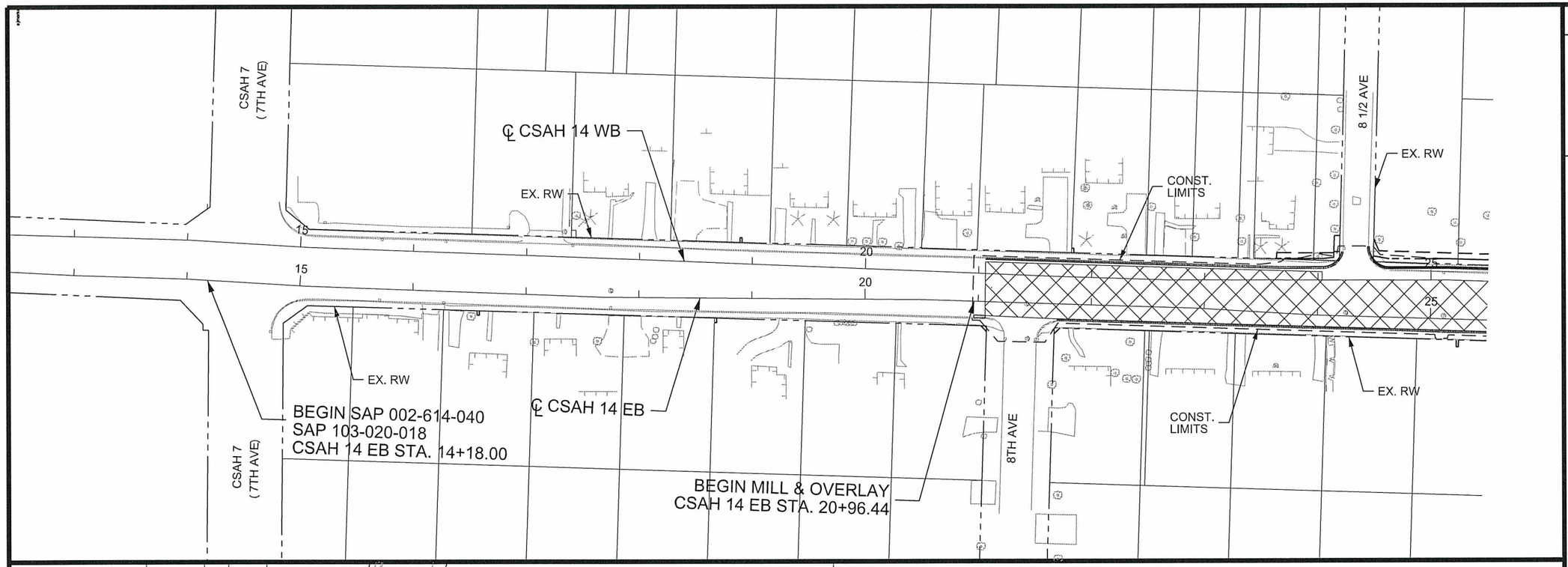
ANOKA COUNTY HIGHWAY DEPT.

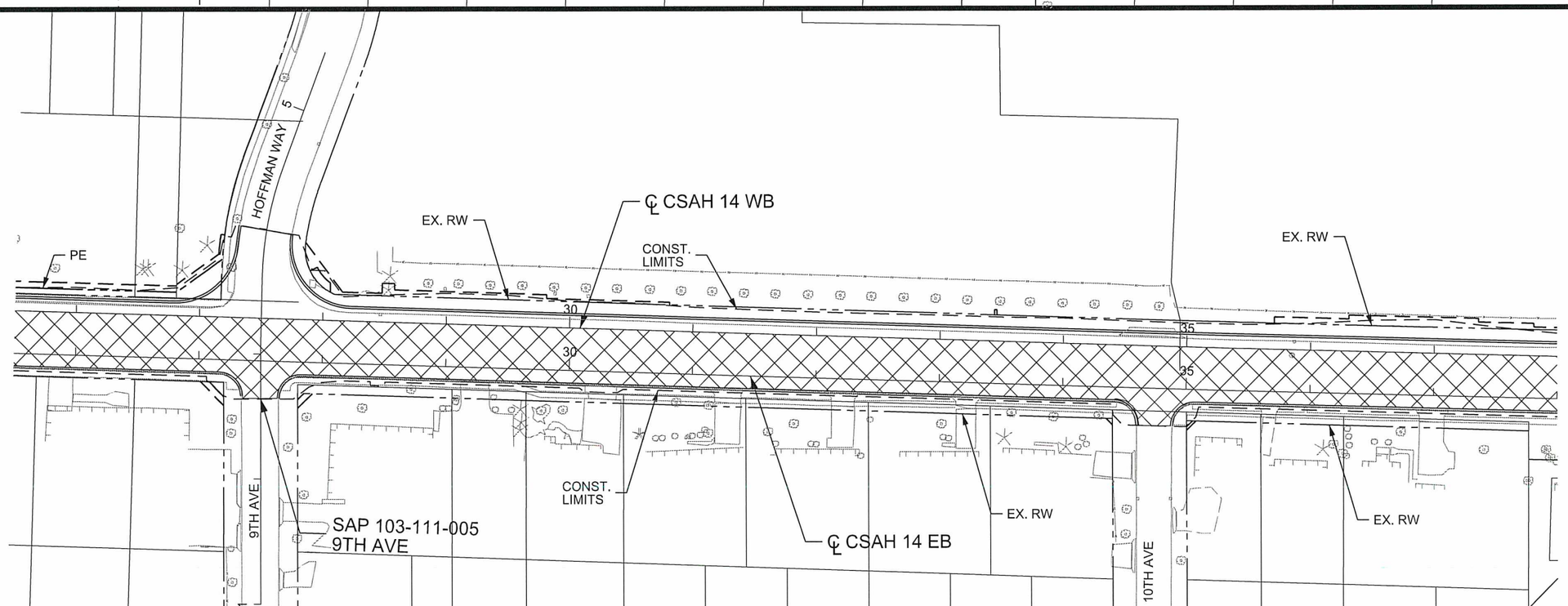
SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 3

STA 38+00.00 TO 62+00.00

Sheet 29 of 159 Sheets





LEGEND

MILL & OVERLAY UNDER TRAFFIC

N

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_STG4_P1.dgn 07/06/2017 7:34:51 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: ELIZABETH MARKOSE

SIGNATURE: [signature]

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

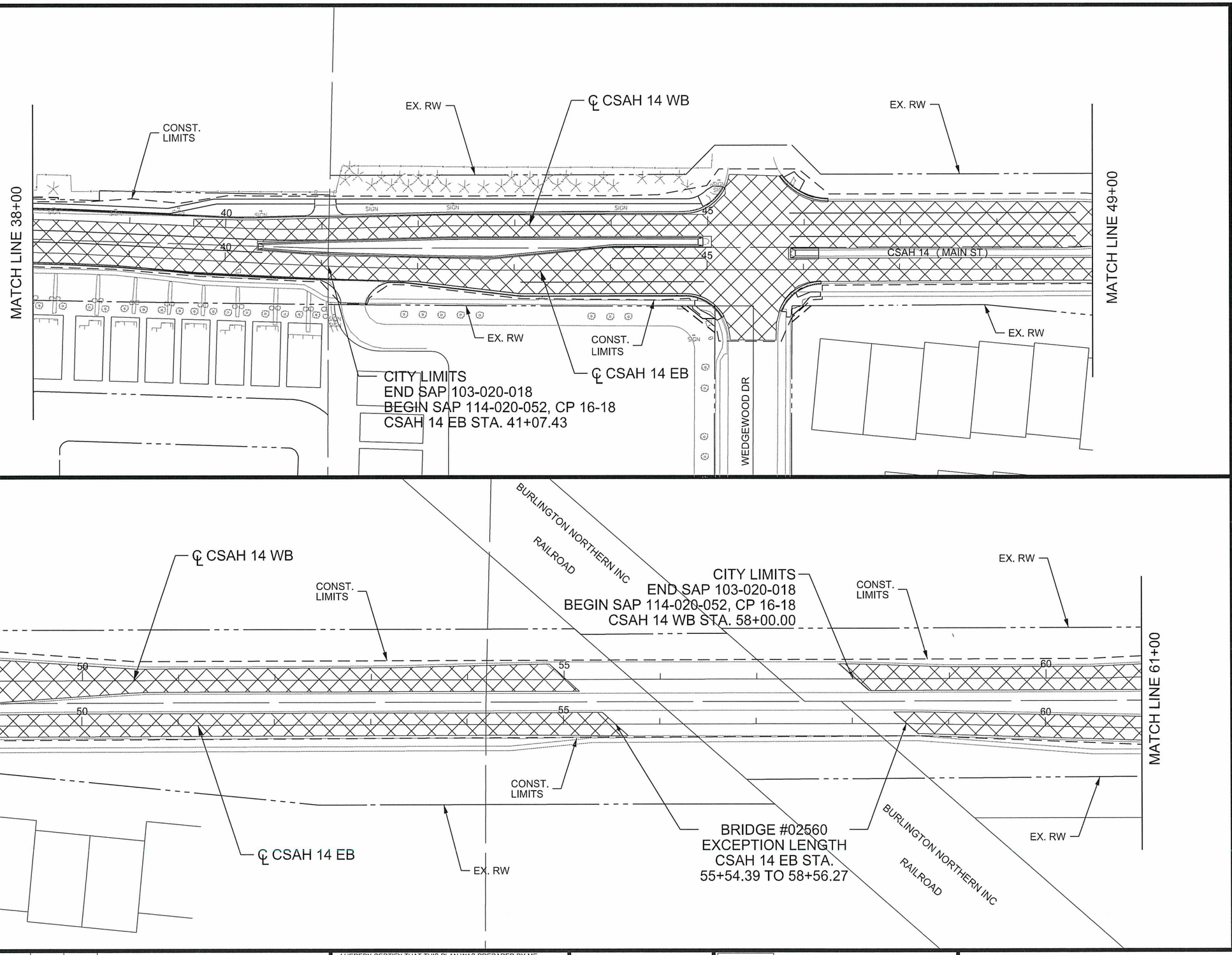
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 4

STA 15+00.00 TO 38+00.00

Sheet 30 of 159 Sheets



LEGEND

MILL & OVERLAY UNDER TRAFFIC

STAGING NOTES

CONSTRUCTION NOTES:

MILL AND OVERLAY SHALL BE DONE BETWEEN 7:00 PM AND 6:00 AM UNDER TRAFFIC.

N

0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_STG4_P2.dgn 07/06/2017 7:34:53 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY	EJM	DATE	06-29-17
DESIGN BY	EJM	DATE	05-15-17
CHECKED BY	GMP	DATE	06-29-17

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 4

STA 38+00.00 TO 61+00.00

Sheet 31 of 159 Sheets

END MILL & OVERLAY
CSAH 9 STA. 109+00.00

℄ CSAH 9

CSAH 9 (ROUND LAKE BLVD)

EX. RW

CONST. LIMITS

MATCH LINE 61+00

65

65

EX. RW

CONST. LIMITS

END SAP 114-121-015
RLB STA. 106+89.23

EX. RW

℄ CSAH 14 WB

70

70

EX. RW

℄ CSAH 14 EB

END SAP 002-614-040
SAP 114-020-052, CP 16-18
CSAH 14 EB STA. 68+60.00

105

℄ RLB

EX. RW

EX. RW

CONST. LIMITS

ROUND LAKE BLVD

BEGIN SAP 114-121-015, CP 16-18
RLB STA. 102+59.44

100

LEGEND

MILL & OVERLAY UNDER TRAFFIC

STAGING NOTES

CONSTRUCTION NOTES:

MILL AND OVERLAY SHALL BE DONE BETWEEN 7:00 PM AND 6:00 AM UNDER TRAFFIC.

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_STG4_P3.dgn 07/06/2017 7:34:55 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION STAGE 4

STA 61+00.00 TO 74+00.00

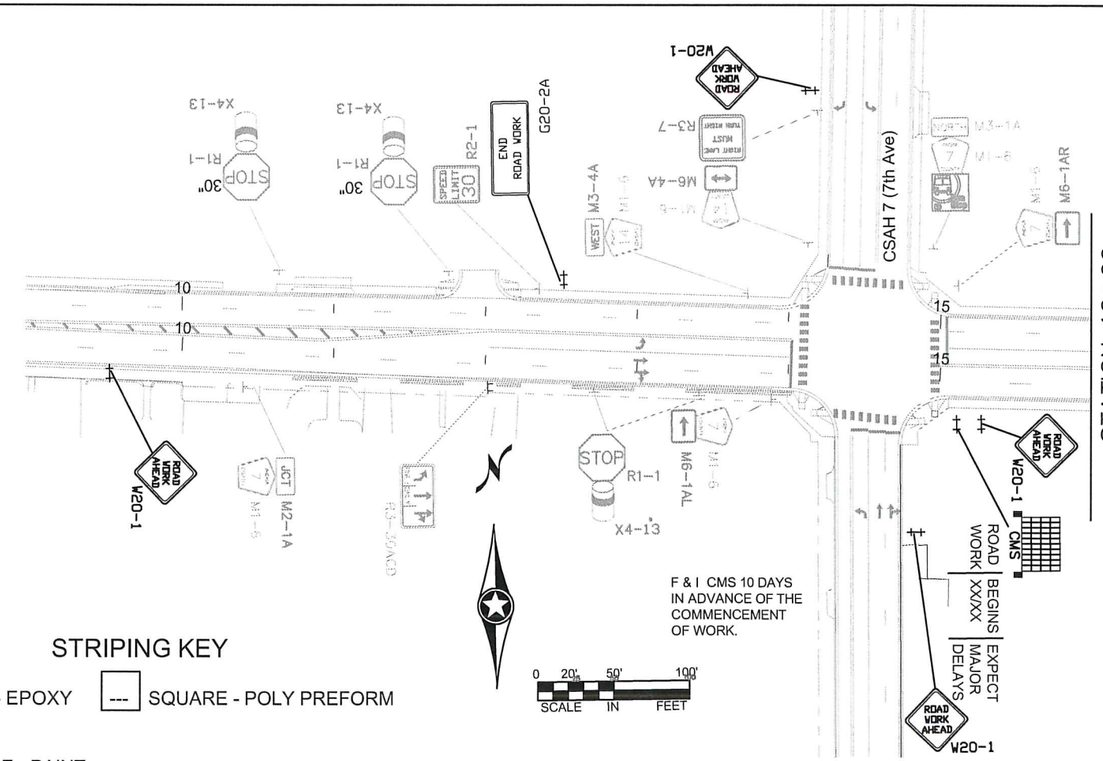
Sheet 32 of 159 Sheets

STAGE 1 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF TEN 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.
3. THE INTERSECTION OF CSAH 14 AND 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 81+00.
6. LANE TAPE SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 97+00 & STA 102+59 AND STA 108+00 & STA 110+10.
7. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+20.
8. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
9. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 34+00 AND 66+62.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 37+30 & 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+59 & 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+59 & 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS-FILED MANUAL OF THE SAME MANUAL.

STAGE 1 CONSTRUCTION NOTES:

1. REPLACE CURB AND GUTTER, CASTINGS AND CENTER MEDIAN TO THE EXTENT SHOWN IN PLAN.
2. RECONSTRUCT MEDIAN NOSES AND CATCH BASINS, REPLACE CASTINGS TO THE EXTENT SHOWN IN PLAN.
3. NARROW LANES TO SINGLE LANES IN THE CONSTRUCTION AREA.



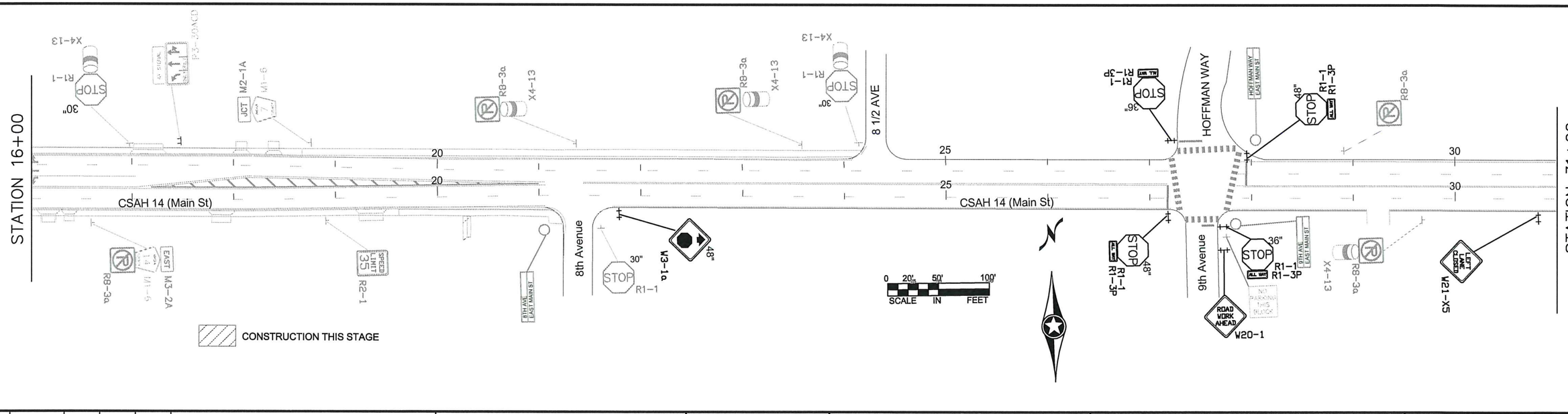
STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 1.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 1

Sheet 33 of 159 Sheets

STRIPING KEY

CIRCLE - EPOXY

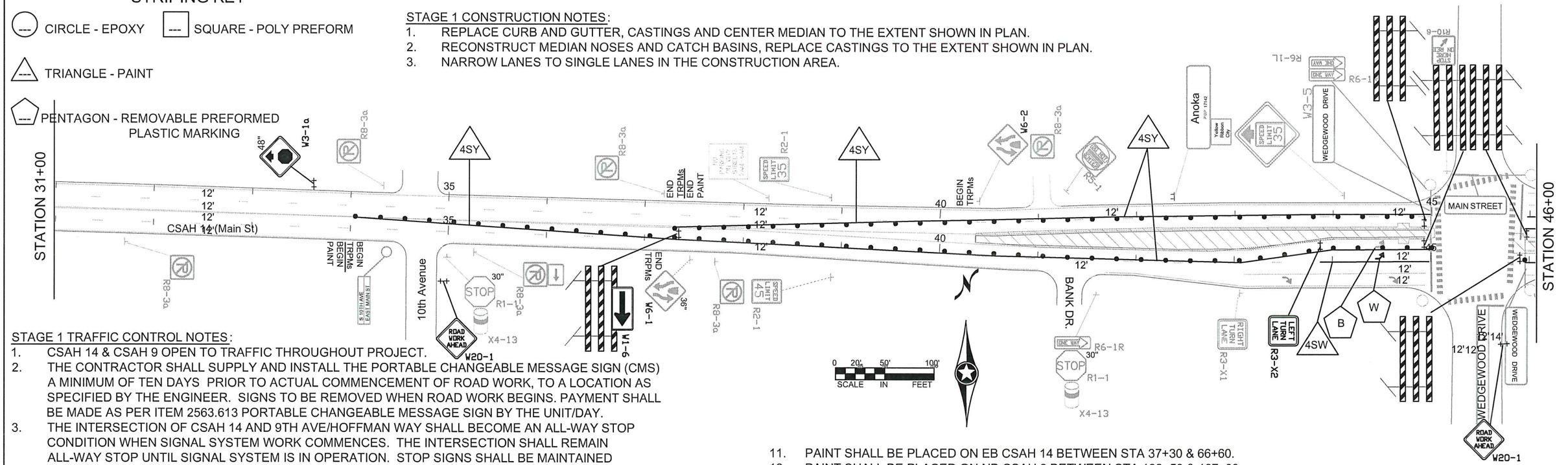
SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

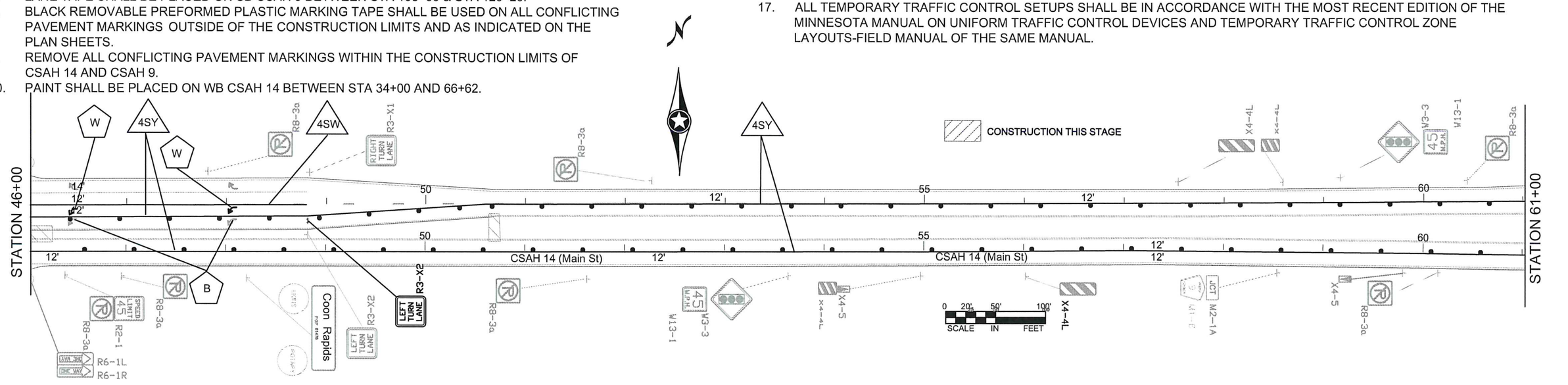
STAGE 1 CONSTRUCTION NOTES:

1. REPLACE CURB AND GUTTER, CASTINGS AND CENTER MEDIAN TO THE EXTENT SHOWN IN PLAN.
2. RECONSTRUCT MEDIAN NOSES AND CATCH BASINS, REPLACE CASTINGS TO THE EXTENT SHOWN IN PLAN.
3. NARROW LANES TO SINGLE LANES IN THE CONSTRUCTION AREA.



STAGE 1 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF TEN 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.
3. THE INTERSECTION OF CSAH 14 AND 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 81+00.
6. LANE TAPE SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 97+00 & STA 102+59 AND STA 108+00 & STA 110+10.
7. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+20.
8. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
9. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 34+00 AND 66+62.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 37+30 & 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+59 & 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+59 & 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS-FIELD MANUAL OF THE SAME MANUAL.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 1.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 1

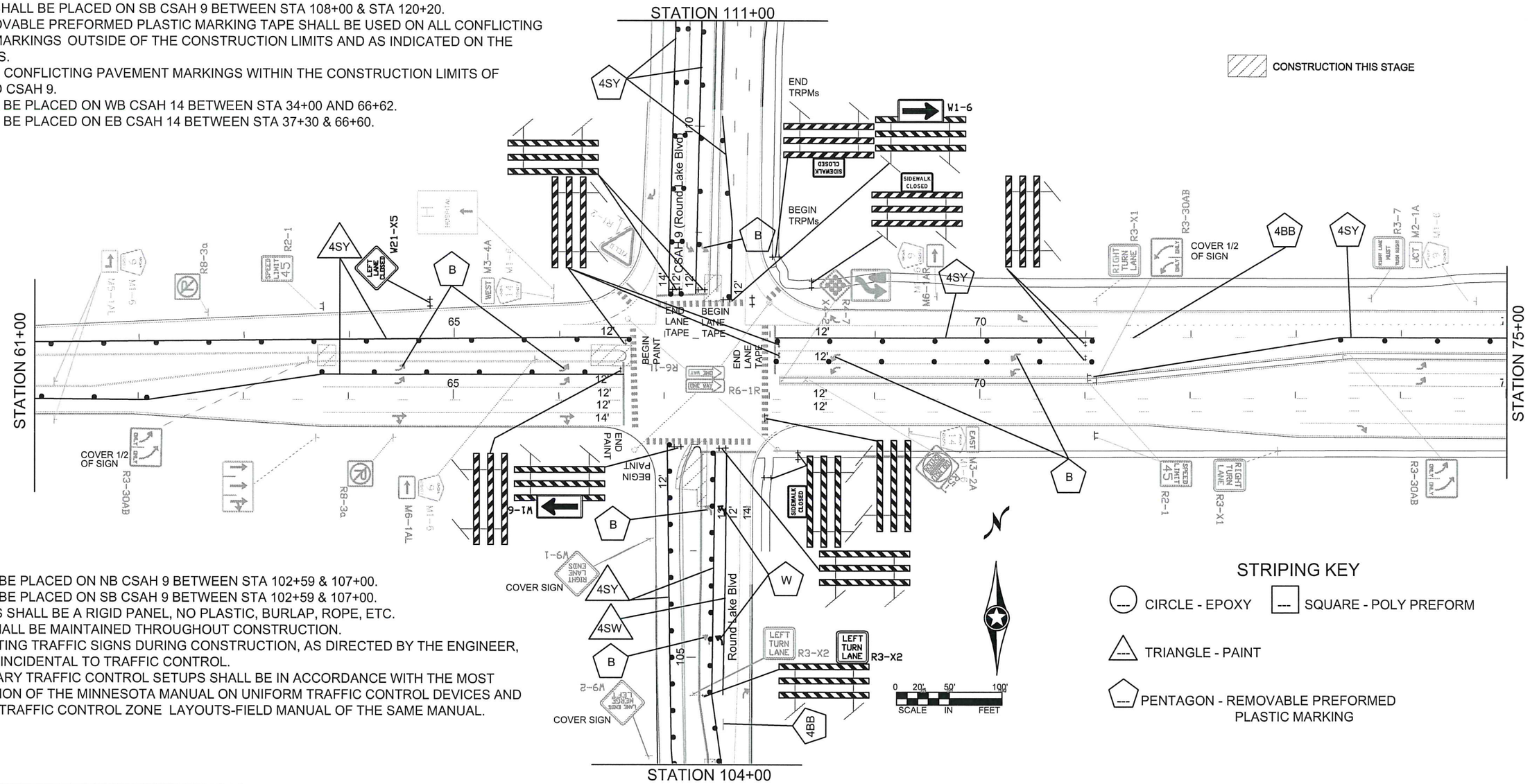
Sheet 34 of 159 Sheets

STAGE 1 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF TEN 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.
3. THE INTERSECTION OF CSAH 14 AND 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 81+00.
6. LANE TAPE SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 97+00 & STA 102+59 AND STA 108+00 & STA 110+10.
7. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+20.
8. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
9. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 34+00 AND 66+62.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 37+30 & 66+60.

STAGE 1 CONSTRUCTION NOTES:

1. REPLACE CURB AND GUTTER, CASTINGS AND CENTER MEDIAN TO THE EXTENT SHOWN IN PLAN.
2. RECONSTRUCT MEDIAN NOSES AND CATCH BASINS, REPLACE CASTINGS TO THE EXTENT SHOWN IN PLAN.
3. NARROW LANES TO SINGLE LANES IN THE CONSTRUCTION AREA.



12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+59 & 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+59 & 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS-FIELD MANUAL OF THE SAME MANUAL.

STRIPING KEY

- CIRCLE - EPOXY
- SQUARE - POLY PREFORM
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 1.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/2017

DESIGN BY DATE

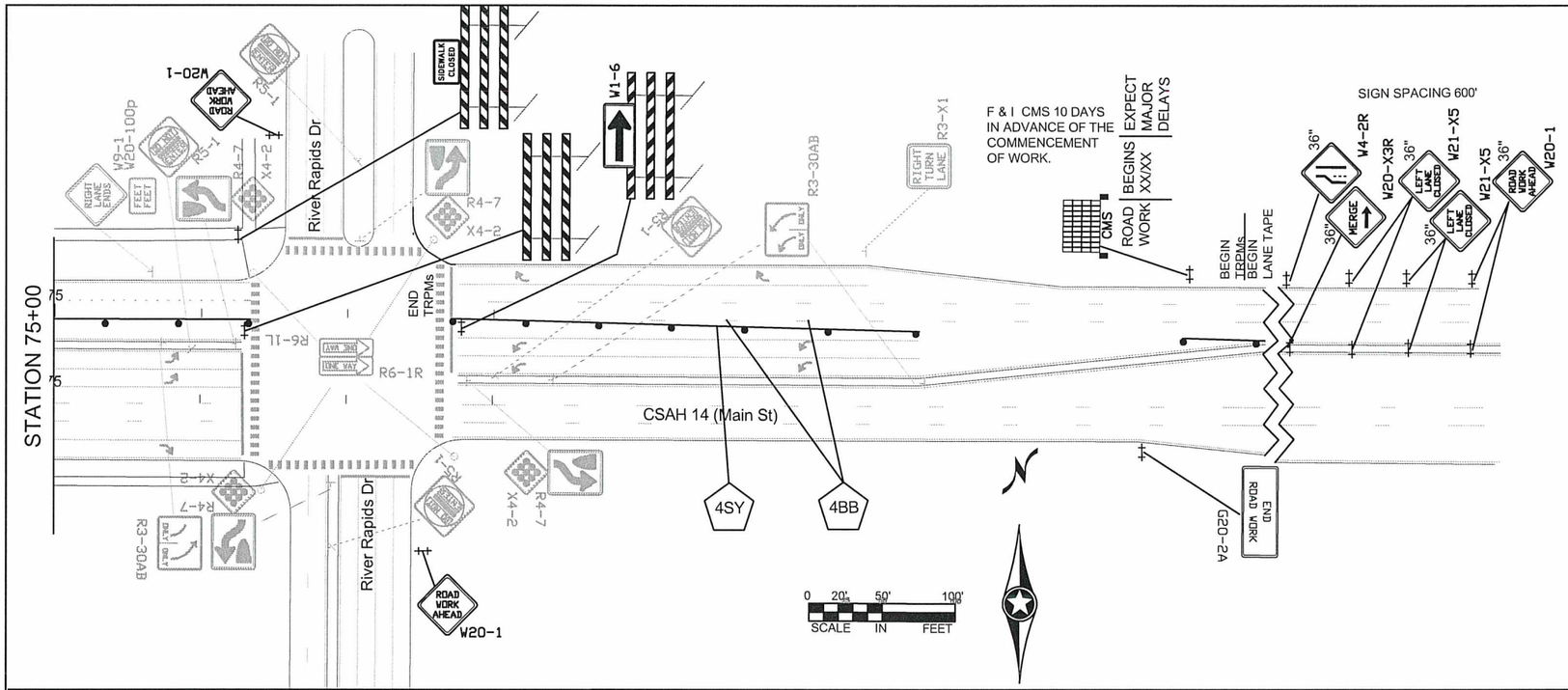
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 1

Sheet 35 of 159 Sheets



STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

CONSTRUCTION THIS STAGE

STAGE 1 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF TEN 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.
3. THE INTERSECTION OF CSAH 14 AND 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 81+00.
6. LANE TAPE SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 97+00 & STA 102+59 AND STA 108+00 & STA 110+10.
7. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+20.
8. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
9. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 34+00 AND 66+62.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 37+30 & 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+59 & 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+59 & 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS-FILED MANUAL OF THE SAME MANUAL.

STAGE 1 CONSTRUCTION NOTES:

1. REPLACE CURB AND GUTTER, CASTINGS AND CENTER MEDIAN TO THE EXTENT SHOWN IN PLAN.
2. RECONSTRUCT MEDIAN NOSES AND CATCH BASINS, REPLACE CASTINGS TO THE EXTENT SHOWN IN PLAN.
3. NARROW LANES TO SINGLE LANES IN THE CONSTRUCTION AREA.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 1.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

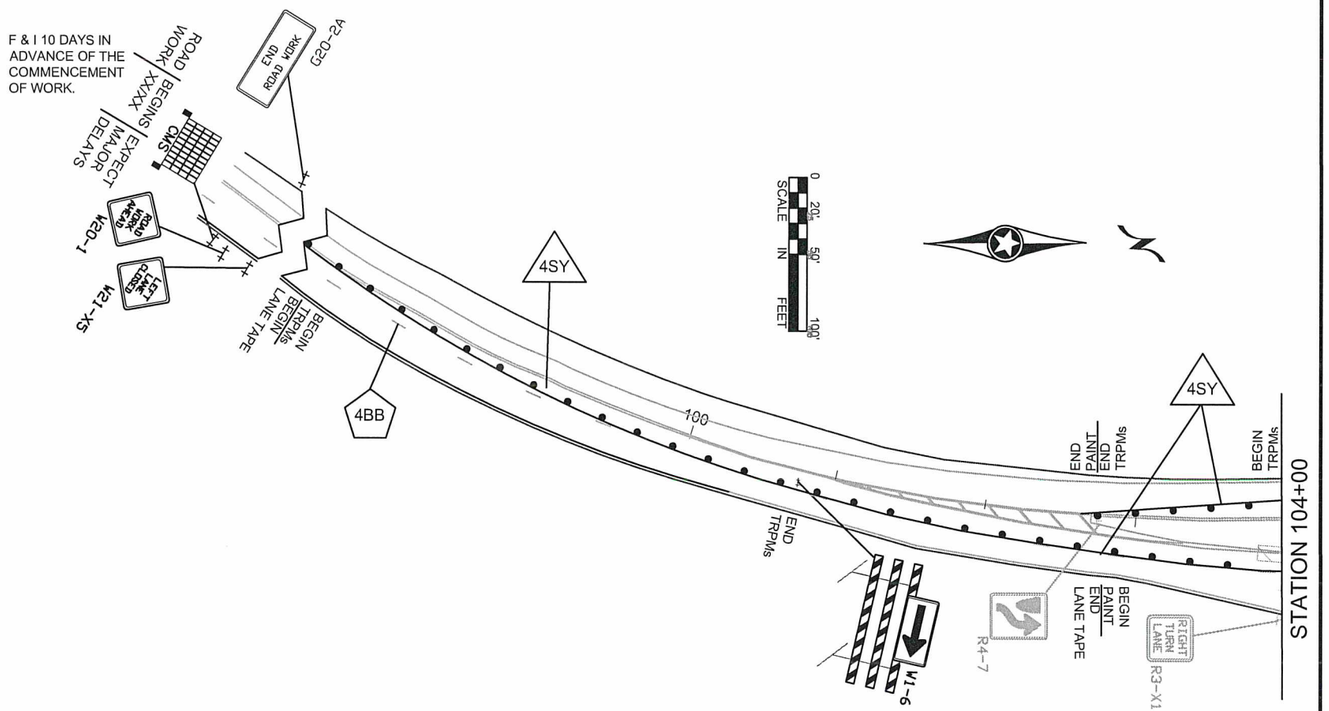
DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

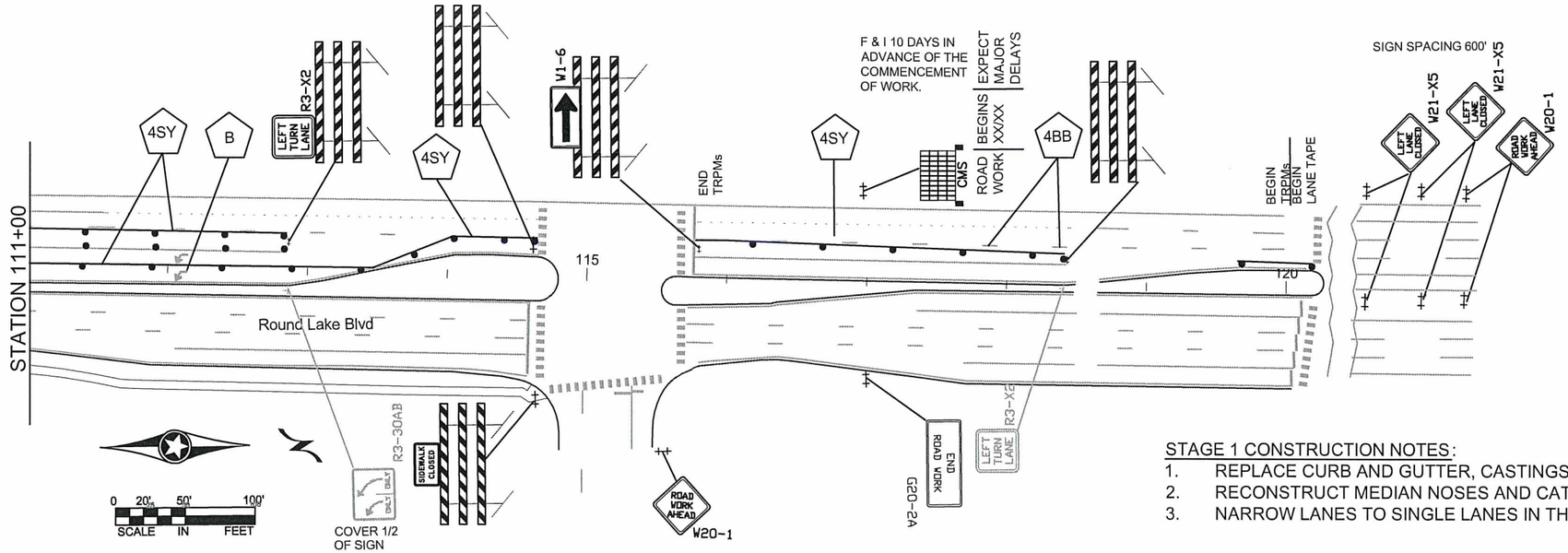
SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 1



STAGE 1 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) A MINIMUM OF TEN 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.
3. THE INTERSECTION OF CSAH 14 AND 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 81+00.
6. LANE TAPE SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 97+00 & STA 102+59 AND STA 108+00 & STA 110+10.
7. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+20.
8. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
9. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 34+00 AND 66+62.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 37+30 & 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+59 & 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+59 & 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS-FILED MANUAL OF THE SAME MANUAL.



CONSTRUCTION THIS STAGE

STRIPING KEY

- CIRCLE - EPOXY
- SQUARE - POLY PREFORM
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

STAGE 1 CONSTRUCTION NOTES:

1. REPLACE CURB AND GUTTER, CASTINGS AND CENTER MEDIAN TO THE EXTENT SHOWN IN PLAN.
2. RECONSTRUCT MEDIAN NOSES AND CATCH BASINS, REPLACE CASTINGS TO THE EXTENT SHOWN IN PLAN.
3. NARROW LANES TO SINGLE LANES IN THE CONSTRUCTION AREA.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 1.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 1

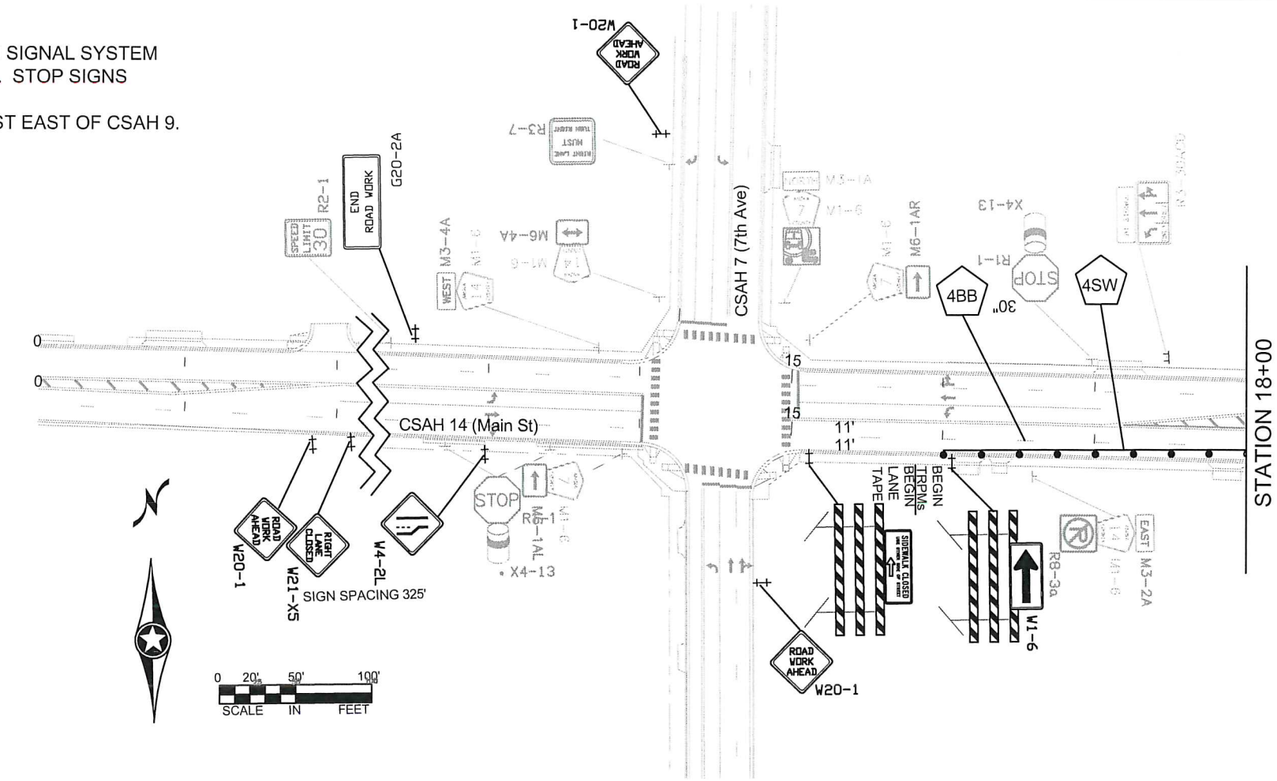
Sheet 37 of 159 Sheets

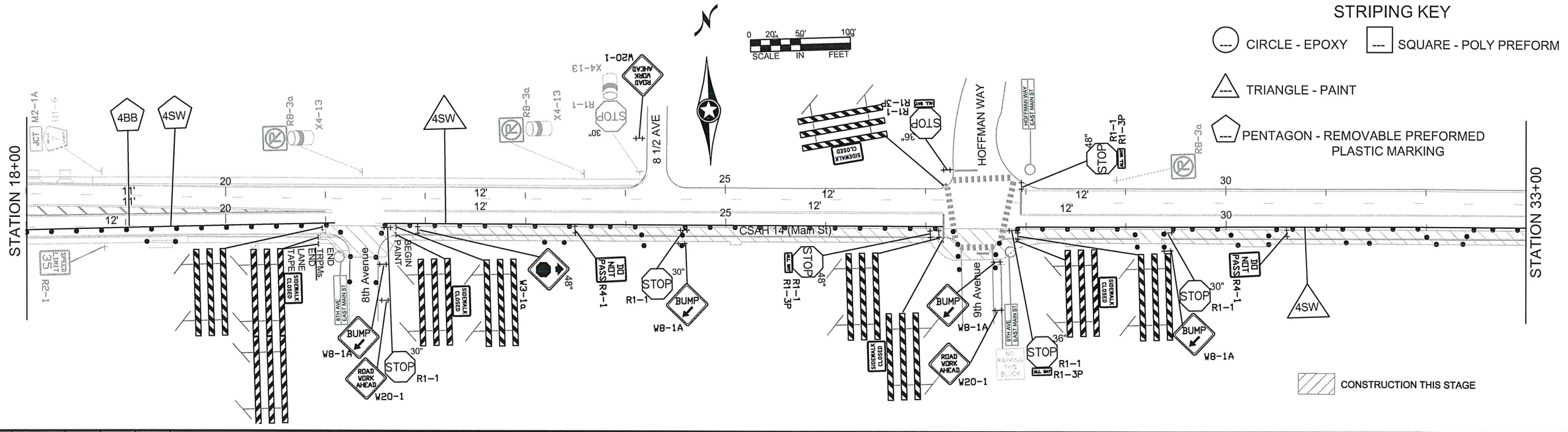
STAGE 2 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTION OF CSAH 14 AT 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. EB TRAFFIC TO BE MOVED TO ONE LANE TRAVELING IN THE INSIDE LANE STARTING JUST EAST OF CSAH 7 TO JUST EAST OF CSAH 9.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
6. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA16+00 & STA 21+00 AND STA 68+00 & 71+00.
7. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 76+40.
8. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+00.
9. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 43+50 & STA 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+60 & STA 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+00 & STA 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL OF THE SAME MANUAL.

STAGE 2 CONSTRUCTION NOTES:

1. WESTBOUND TRAFFIC SHALL REMAIN ON WB LANES BETWEEN 7TH AVE AND WEDGEWOOD DR. LANES SHALL BE NARROWED TO ONE LANE IN CONSTRUCTION AREA.
2. CONSTRUCT EASTBOUND CURB AND GUTTER, CASTINGS, PEDESTRIAN CURB RAMP, ISLAND, STORM SEWER.
3. SIGNAL AT 9TH AVE.





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

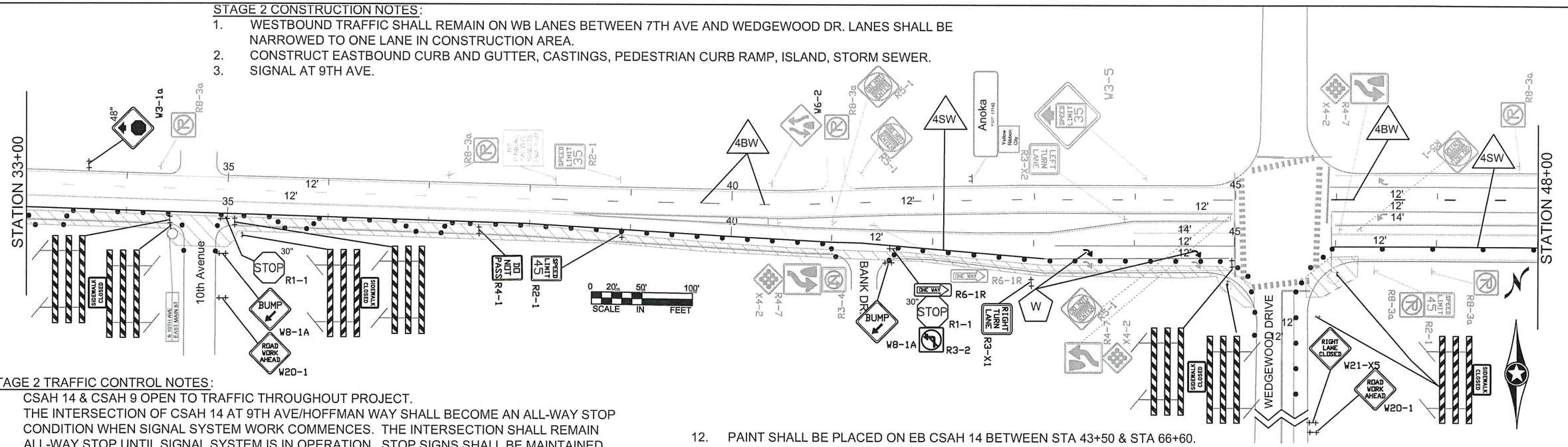
SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 2

Sheet 38 of 159 Sheets

STAGE 2 CONSTRUCTION NOTES:

1. WESTBOUND TRAFFIC SHALL REMAIN ON WB LANES BETWEEN 7TH AVE AND WEDGEWOOD DR. LANES SHALL BE NARROWED TO ONE LANE IN CONSTRUCTION AREA.
2. CONSTRUCT EASTBOUND CURB AND GUTTER, CASTINGS, PEDESTRIAN CURB RAMP, ISLAND, STORM SEWER.
3. SIGNAL AT 9TH AVE.



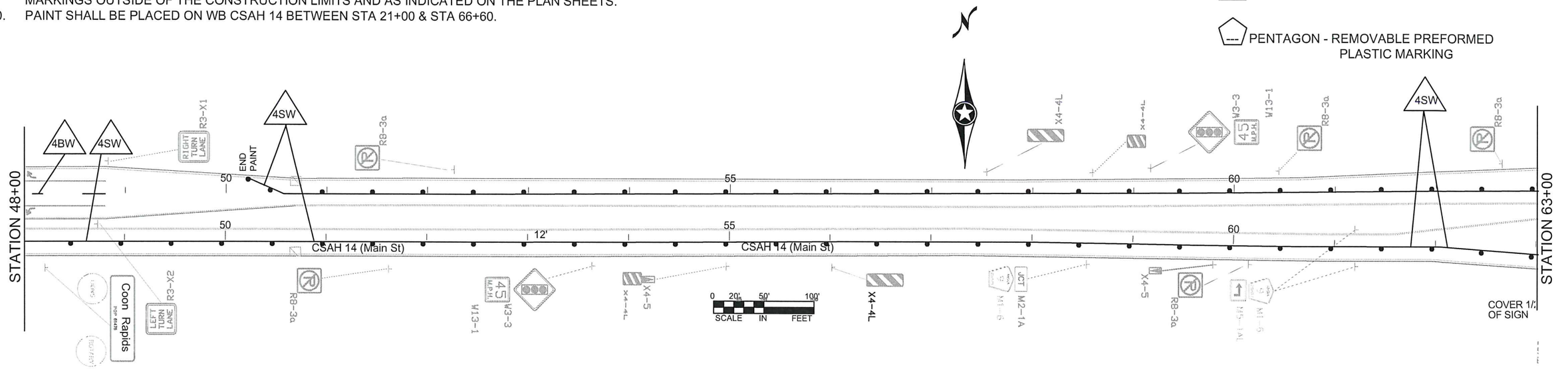
CONSTRUCTION THIS STAGE

STAGE 2 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTION OF CSAH 14 AT 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. EB TRAFFIC TO BE MOVED TO ONE LANE TRAVELING IN THE INSIDE LANE STARTING JUST EAST OF CSAH 7 TO JUST EAST OF CSAH 9.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
6. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA16+00 & STA 21+00 AND STA 68+00 & 71+00.
7. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 76+40.
8. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+00.
9. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60.
12. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 43+50 & STA 66+60.
13. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+60 & STA 107+00.
14. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+00 & STA 107+00.
15. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
16. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
17. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
18. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FILED MANUAL OF THE SAME MANUAL.

STRIPING KEY

- CIRCLE - EPOXY
- SQUARE - POLY PREFORM
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 7/20/17 REG. NO. 20235

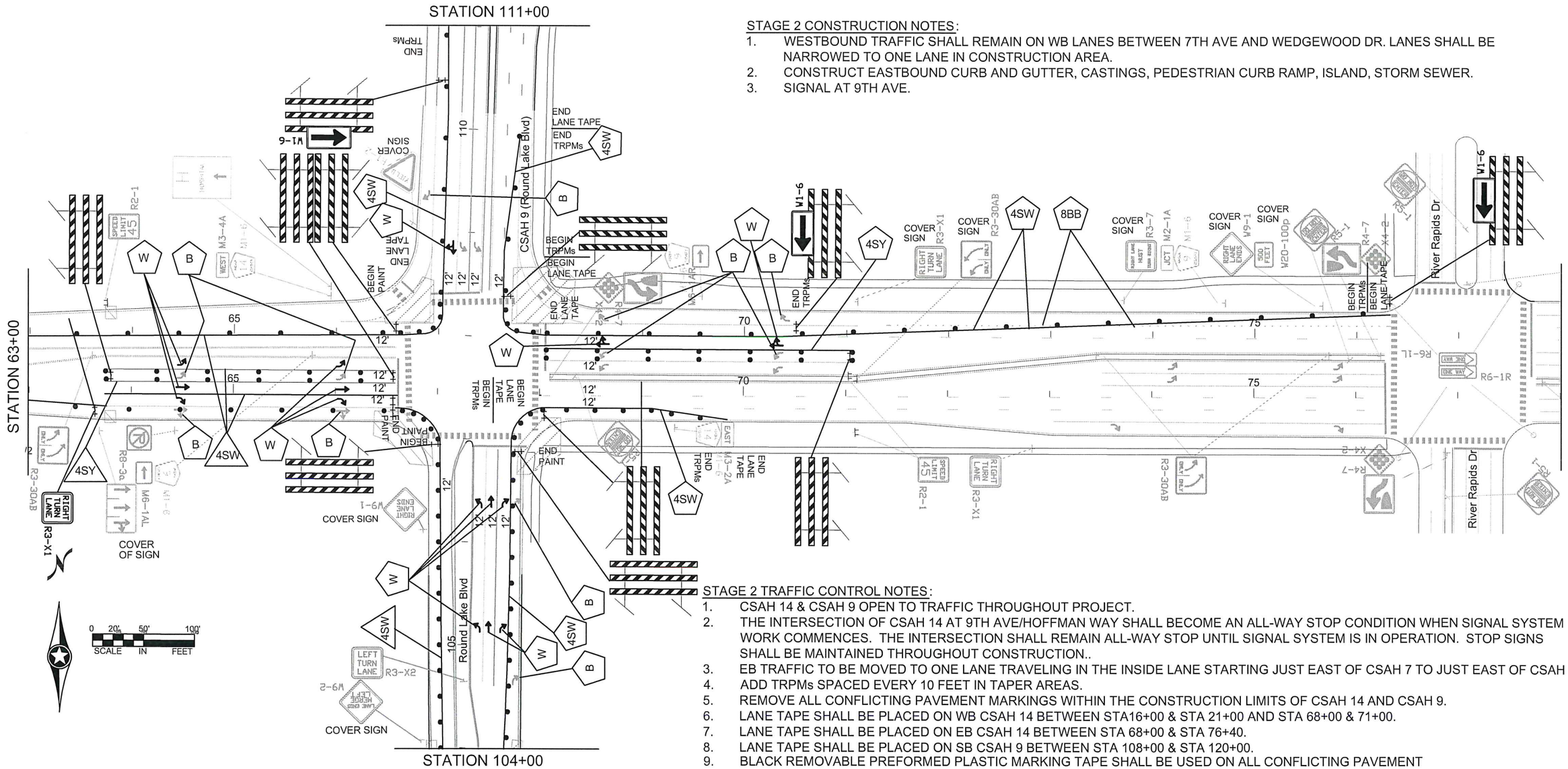
DRAWN BY TMV DATE 06/03/17
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 2

Sheet 39 of 159 Sheets



STAGE 2 CONSTRUCTION NOTES:

1. WESTBOUND TRAFFIC SHALL REMAIN ON WB LANES BETWEEN 7TH AVE AND WEDGEWOOD DR. LANES SHALL BE NARROWED TO ONE LANE IN CONSTRUCTION AREA.
2. CONSTRUCT EASTBOUND CURB AND GUTTER, CASTINGS, PEDESTRIAN CURB RAMP, ISLAND, STORM SEWER.
3. SIGNAL AT 9TH AVE.

STAGE 2 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTION OF CSAH 14 AT 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION..
3. EB TRAFFIC TO BE MOVED TO ONE LANE TRAVELING IN THE INSIDE LANE STARTING JUST EAST OF CSAH 7 TO JUST EAST OF CSAH 9.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
6. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA16+00 & STA 21+00 AND STA 68+00 & 71+00.
7. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 76+40.
8. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+00.
9. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 43+50 & STA 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+60 & STA 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+00 & STA 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FILED MANUAL OF THE SAME MANUAL.

STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

CONSTRUCTION THIS STAGE

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

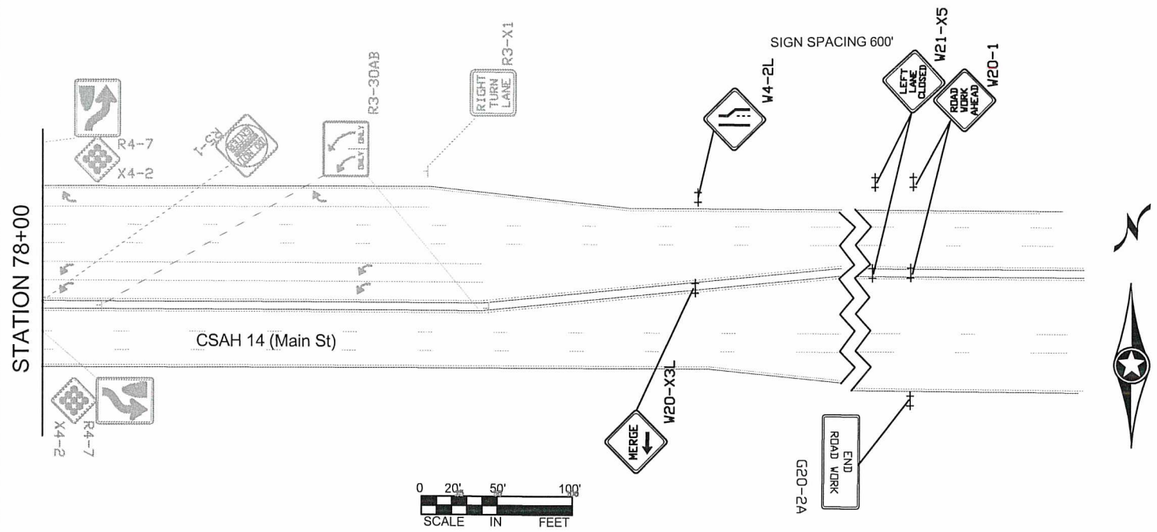
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 2

Sheet 40 of 159 Sheets



STRIPING KEY

--- CIRCLE - EPOXY --- SQUARE - POLY PREFORM

--- TRIANGLE - PAINT

--- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

CONSTRUCTION THIS STAGE

STAGE 2 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTION OF CSAH 14 AT 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. EB TRAFFIC TO BE MOVED TO ONE LANE TRAVELING IN THE INSIDE LANE STARTING JUST EAST OF CSAH 7 TO JUST EAST OF CSAH 9.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
6. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA16+00 & STA 21+00 AND STA 68+00 & 71+00.
7. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 76+40.
8. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+00.
9. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 43+50 & STA 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+60 & STA 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+00 & STA 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FILED MANUAL OF THE SAME MANUAL..

STAGE 2 CONSTRUCTION NOTES:

1. WESTBOUND TRAFFIC SHALL REMAIN ON WB LANES BETWEEN 7TH AVE AND WEDGEWOOD DR. LANES SHALL BE NARROWED TO ONE LANE IN CONSTRUCTION AREA.
2. CONSTRUCT EASTBOUND CURB AND GUTTER, CASTINGS, PEDESTRIAN CURB RAMP, ISLAND, STORM SEWER.
3. SIGNAL AT 9TH AVE..

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/20/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

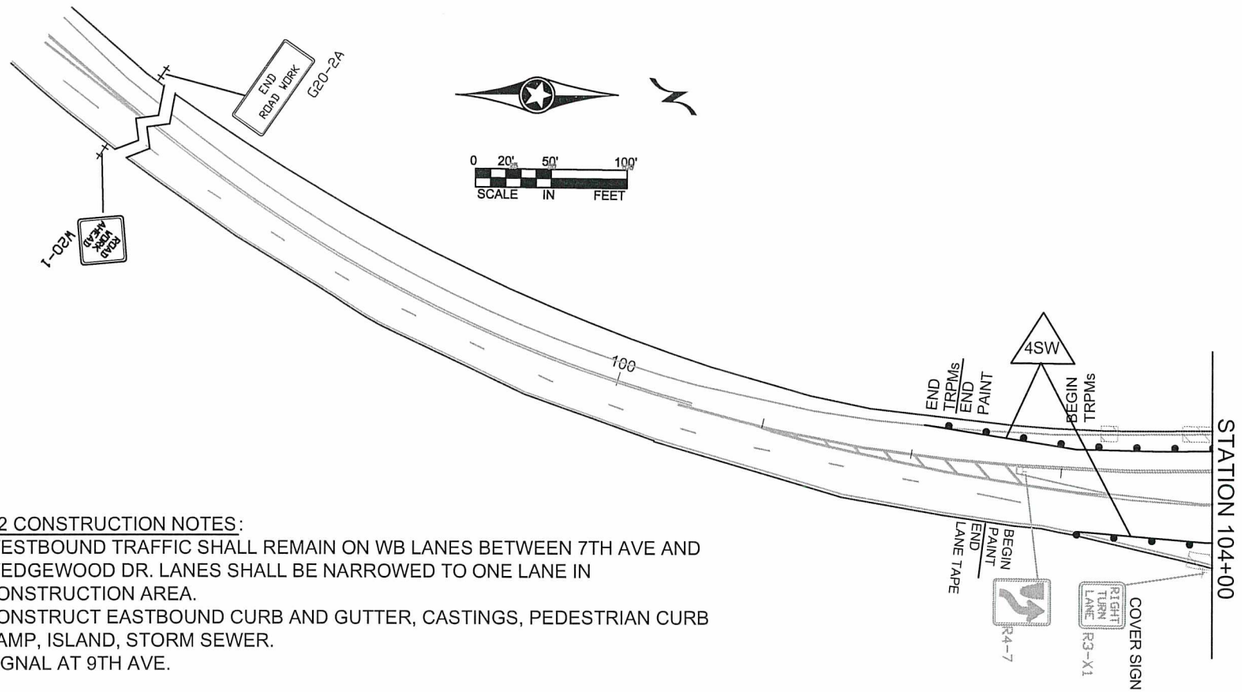
DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 2

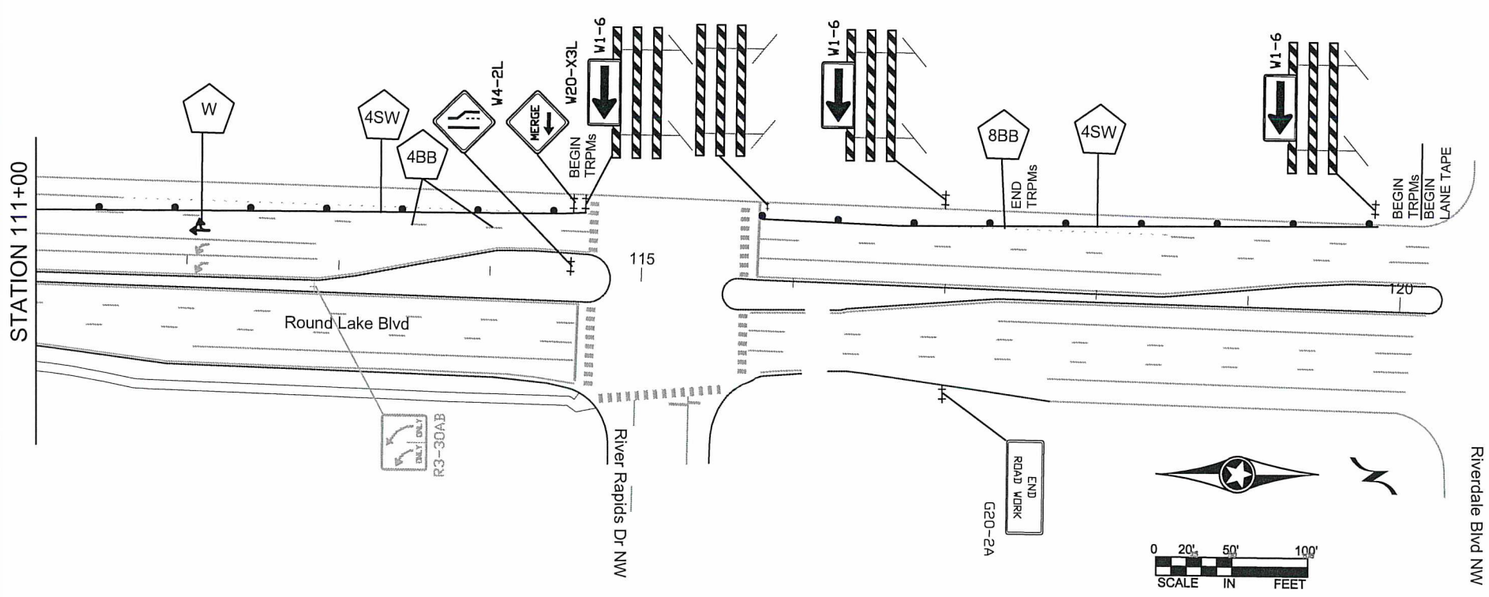


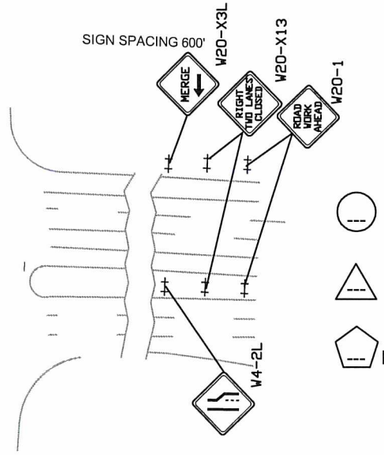
STAGE 2 CONSTRUCTION NOTES:

1. WESTBOUND TRAFFIC SHALL REMAIN ON WB LANES BETWEEN 7TH AVE AND WEDGEWOOD DR. LANES SHALL BE NARROWED TO ONE LANE IN CONSTRUCTION AREA.
2. CONSTRUCT EASTBOUND CURB AND GUTTER, CASTINGS, PEDESTRIAN CURB RAMP, ISLAND, STORM SEWER.
3. SIGNAL AT 9TH AVE.

STAGE 2 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTION OF CSAH 14 AT 9TH AVE/HOFFMAN WAY SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTION SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEM IS IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. EB TRAFFIC TO BE MOVED TO ONE LANE TRAVELING IN THE INSIDE LANE STARTING JUST EAST OF CSAH 7 TO JUST EAST OF CSAH 9.
4. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
5. REMOVE ALL CONFLICTING PAVEMENT MARKINGS WITHIN THE CONSTRUCTION LIMITS OF CSAH 14 AND CSAH 9.
6. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA16+00 & STA 21+00 AND STA 68+00 & 71+00.
7. LANE TAPE SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 68+00 & STA 76+40.
8. LANE TAPE SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 108+00 & STA 120+00.
9. BLACK REMOVABLE PREFORMED PLASTIC MARKING TAPE SHALL BE USED ON ALL CONFLICTING PAVEMENT MARKINGS OUTSIDE OF THE CONSTRUCTION LIMITS AND AS INDICATED ON THE PLAN SHEETS.
10. PAINT SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60.
11. PAINT SHALL BE PLACED ON EB CSAH 14 BETWEEN STA 43+50 & STA 66+60.
12. PAINT SHALL BE PLACED ON NB CSAH 9 BETWEEN STA 102+60 & STA 107+00.
13. PAINT SHALL BE PLACED ON SB CSAH 9 BETWEEN STA 102+00 & STA 107+00.
14. SIGN COVERS SHALL BE A RIGID PANEL, NO PLASTIC, BURLAP, ROPE, ETC.
15. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. FOR RELOCATING TRAFFIC SIGNS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
17. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FILED MANUAL OF THE SAME MANUAL.





CONSTRUCTION THIS STAGE

STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/26/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

CHECKED BY DATE

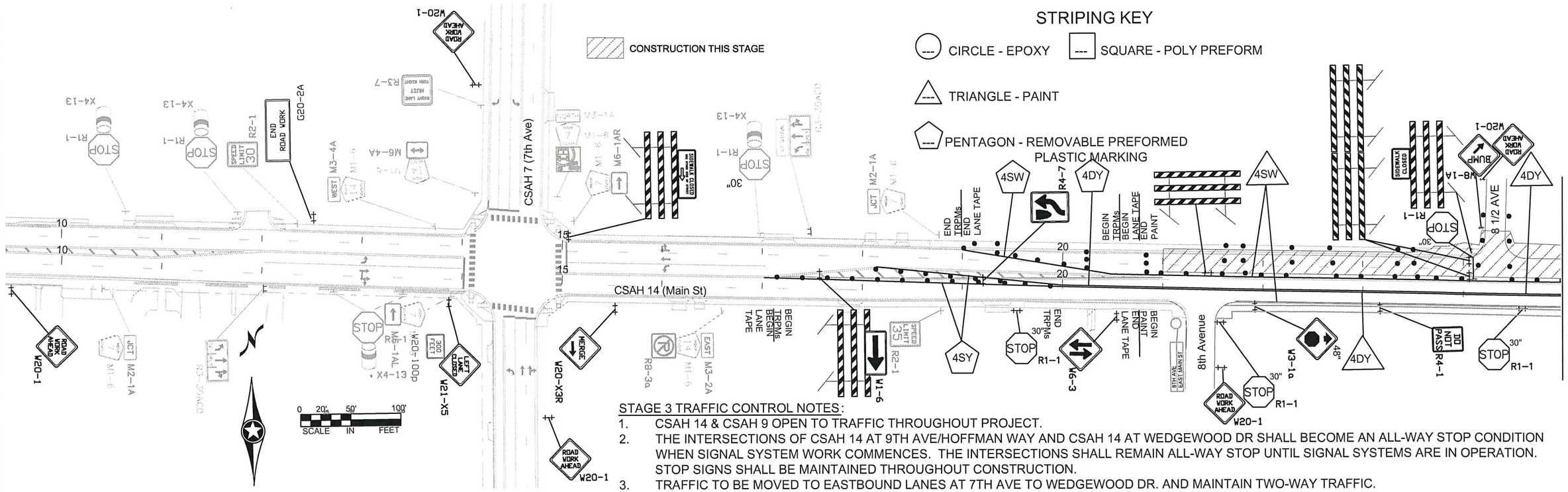
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 2

Sheet 42 of 159 Sheets



STAGE 3 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTIONS OF CSAH 14 AT 9TH AVE/HOFFMAN WAY AND CSAH 14 AT WEDGEWOOD DR SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTIONS SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEMS ARE IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. TRAFFIC TO BE MOVED TO EASTBOUND LANES AT 7TH AVE TO WEDGEWOOD DR. AND MAINTAIN TWO-WAY TRAFFIC.
4. ACCESS SHALL BE MAINTAINED TO ALL STREETS & DRIVEWAYS IN CONSTRUCTION AREA.
5. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
6. REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
7. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 17+00 & STA 21+00 AND EB BETWEEN STA 19+00 & STA 21+00.
8. PAINT FOR TRAFFFIC CONTROL SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60 AND EB BETWEEN STA 21+00 & STA 66+60.
9. PERMANENT SIGNING & STRIPING SHALL BE PLACED OUTSIDE OF CONSTRUCTION LIMITS WHEN AREA(S) IS NOT AFFECTED BY CONSTRUCTION ACTIVITIES.
10. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
11. FOR RELOCATING TRAFFIC SINGS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
12. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON
13. UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL OF THE SAME MANUAL.

STAGE 3 CONSTRUCTION NOTES:

1. SHIFT TRAFFIC TO EASTBOUND SIDE AND MAINTAIN TWO-WAY TRAFFIC.
2. WIDEN WESTBOUND LANE, CONSTRUCT SIGNAL AT HOFFMAN WAY AND STORM SEWER.
3. CONSTRUCT CONCRETE WALK, CURB AND GUTTER AND PEDESTRIAN CURB RAMPS ALONG WESTBOUND LANE..

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 3.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

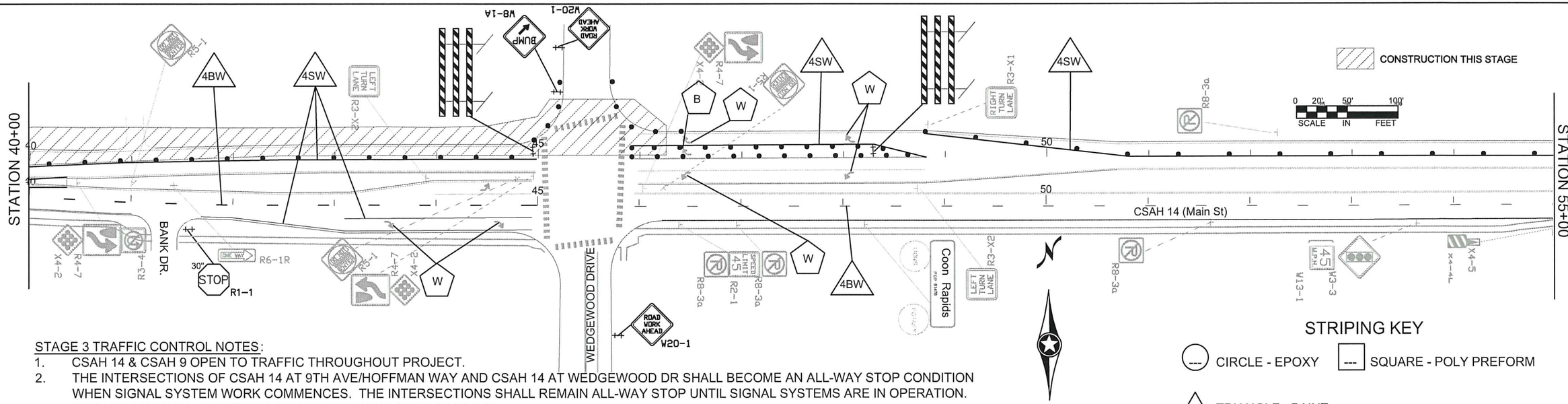
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 3

Sheet 43 of 159 Sheets



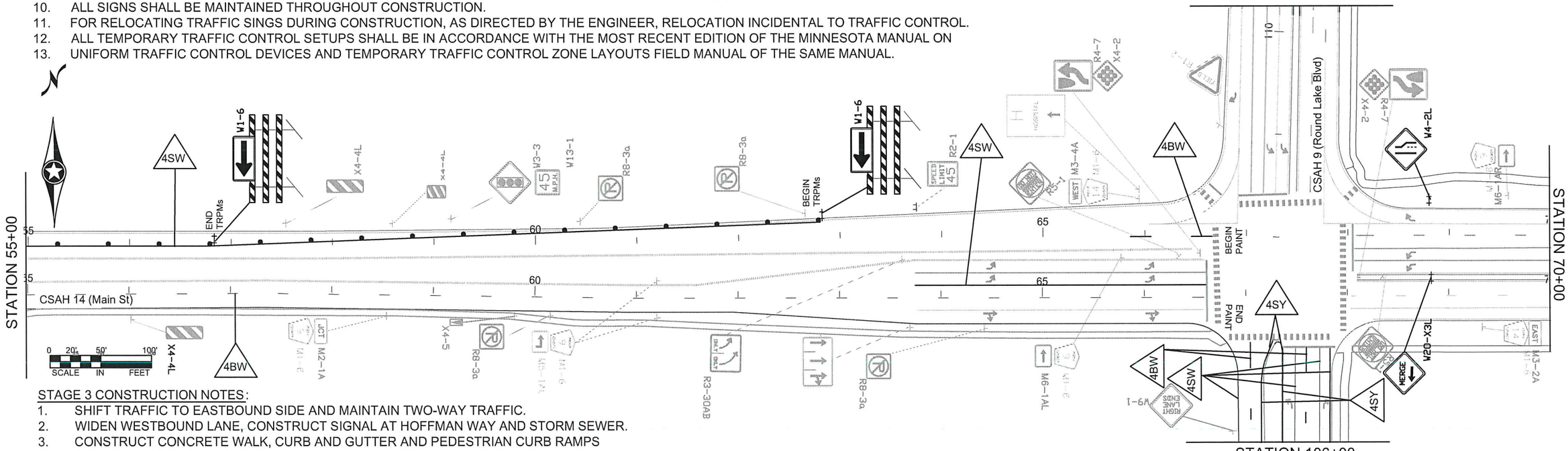
STAGE 3 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTIONS OF CSAH 14 AT 9TH AVE/HOFFMAN WAY AND CSAH 14 AT WEDGEWOOD DR SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTIONS SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEMS ARE IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. TRAFFIC TO BE MOVED TO EASTBOUND LANES AT 7TH AVE TO WEDGEWOOD DR. AND MAINTAIN TWO-WAY TRAFFIC.
4. ACCESS SHALL BE MAINTAINED TO ALL STREETS & DRIVEWAYS IN CONSTRUCTION AREA.
5. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
6. REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
7. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 17+00 & STA 21+00 AND EB BETWEEN STA 19+00 & STA 21+00.
8. PAINT FOR TRAFFFIC CONTROL SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60 AND EB BETWEEN STA 21+00 & STA 66+60.
9. PERMANENT SIGNING & STRIPING SHALL BE PLACED OUTSIDE OF CONSTRUCTION LIMITS WHEN AREA(S) IS NOT AFFECTED BY CONSTRUCTION ACTIVITIES.
10. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
11. FOR RELOCATING TRAFFIC SINGS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
12. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON
13. UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL OF THE SAME MANUAL.

STRIPING KEY

- CIRCLE - EPOXY
- SQUARE - POLY PREFORM
- TRIANGLE - PAINT
- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

STATION 110+25



STAGE 3 CONSTRUCTION NOTES:

1. SHIFT TRAFFIC TO EASTBOUND SIDE AND MAINTAIN TWO-WAY TRAFFIC.
2. WIDEN WESTBOUND LANE, CONSTRUCT SIGNAL AT HOFFMAN WAY AND STORM SEWER.
3. CONSTRUCT CONCRETE WALK, CURB AND GUTTER AND PEDESTRIAN CURB RAMPS ALONG WESTBOUND LANE..

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

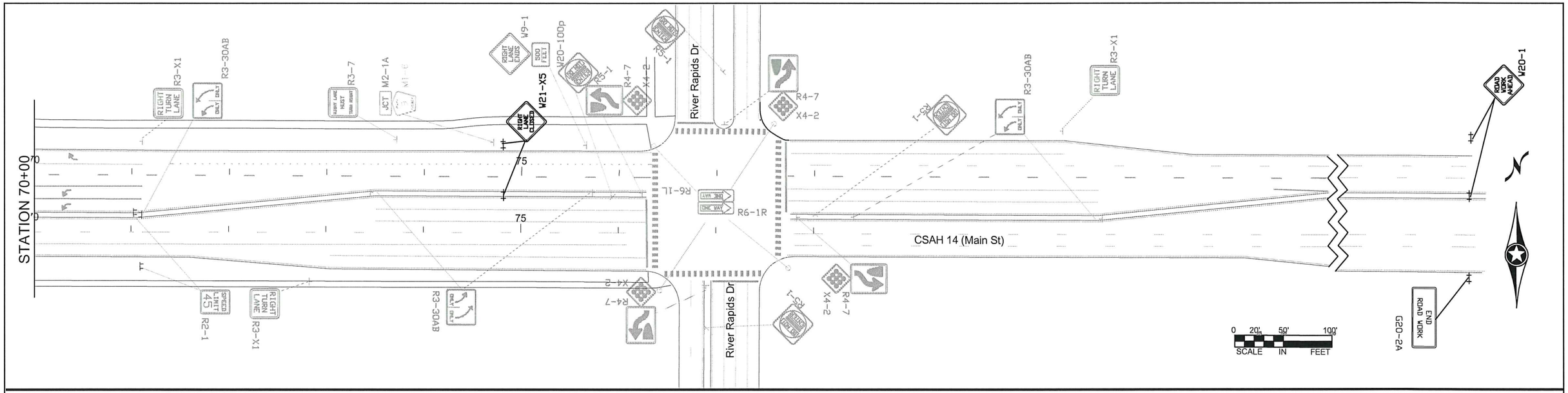
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 3

Sheet 44 of 159 Sheets



STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

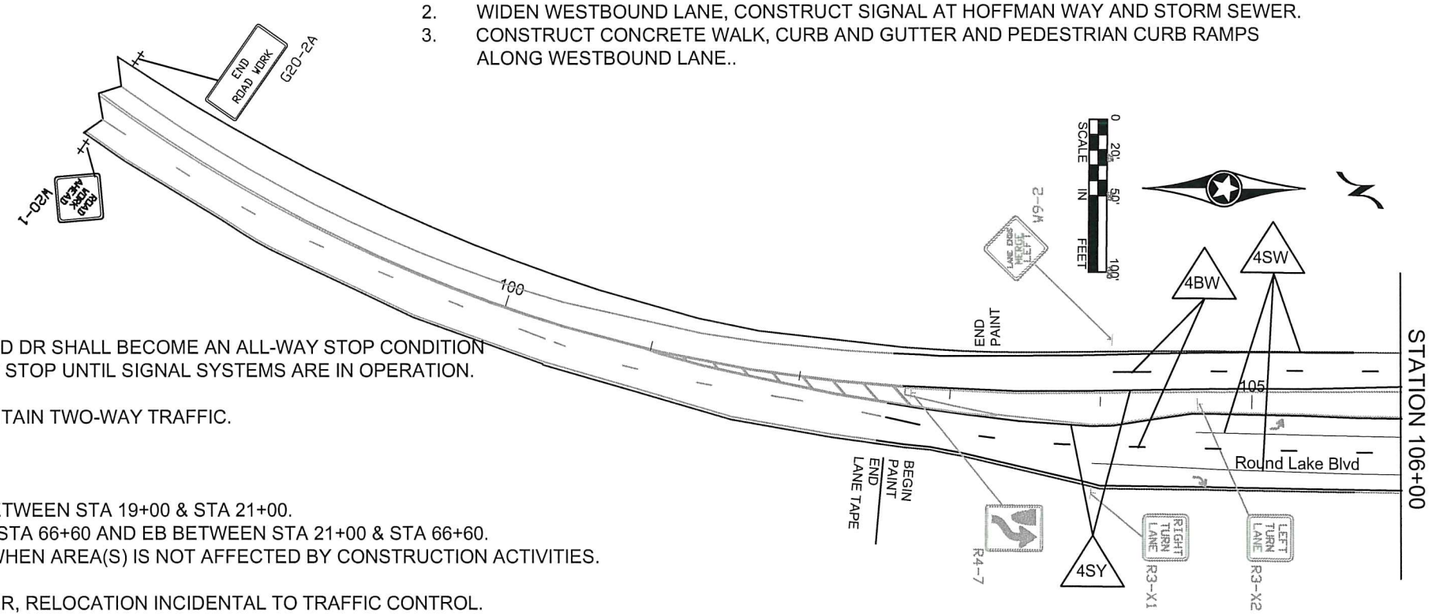
TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

CONSTRUCTION THIS STAGE

STAGE 3 CONSTRUCTION NOTES:

1. SHIFT TRAFFIC TO EASTBOUND SIDE AND MAINTAIN TWO-WAY TRAFFIC.
2. WIDEN WESTBOUND LANE, CONSTRUCT SIGNAL AT HOFFMAN WAY AND STORM SEWER.
3. CONSTRUCT CONCRETE WALK, CURB AND GUTTER AND PEDESTRIAN CURB RAMPS ALONG WESTBOUND LANE..



STAGE 3 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTIONS OF CSAH 14 AT 9TH AVE/HOFFMAN WAY AND CSAH 14 AT WEDGEWOOD DR SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTIONS SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEMS ARE IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. TRAFFIC TO BE MOVED TO EASTBOUND LANES AT 7TH AVE TO WEDGEWOOD DR. AND MAINTAIN TWO-WAY TRAFFIC.
4. ACCESS SHALL BE MAINTAINED TO ALL STREETS & DRIVEWAYS IN CONSTRUCTION AREA.
5. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
6. REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
7. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 17+00 & STA 21+00 AND EB BETWEEN STA 19+00 & STA 21+00.
8. PAINT FOR TRAFFFIC CONTROL SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60 AND EB BETWEEN STA 21+00 & STA 66+60.
9. PERMANENT SIGNING & STRIPING SHALL BE PLACED OUTSIDE OF CONSTRUCTION LIMITS WHEN AREA(S) IS NOT AFFECTED BY CONSTRUCTION ACTIVITIES.
10. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
11. FOR RELOCATING TRAFFIC SINGS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
12. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON
13. UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL OF THE SAME MANUAL.

STAGE 3 CONSTRUCTION NOTES:

1. SHIFT TRAFFIC TO EASTBOUND SIDE AND MAINTAIN TWO-WAY TRAFFIC.
2. WIDEN WESTBOUND LANE, CONSTRUCT SIGNAL AT HOFFMAN WAY AND STORM SEWER.
3. CONSTRUCT CONCRETE WALK, CURB AND GUTTER AND PEDESTRIAN CURB RAMPS ALONG WESTBOUND LANE..

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

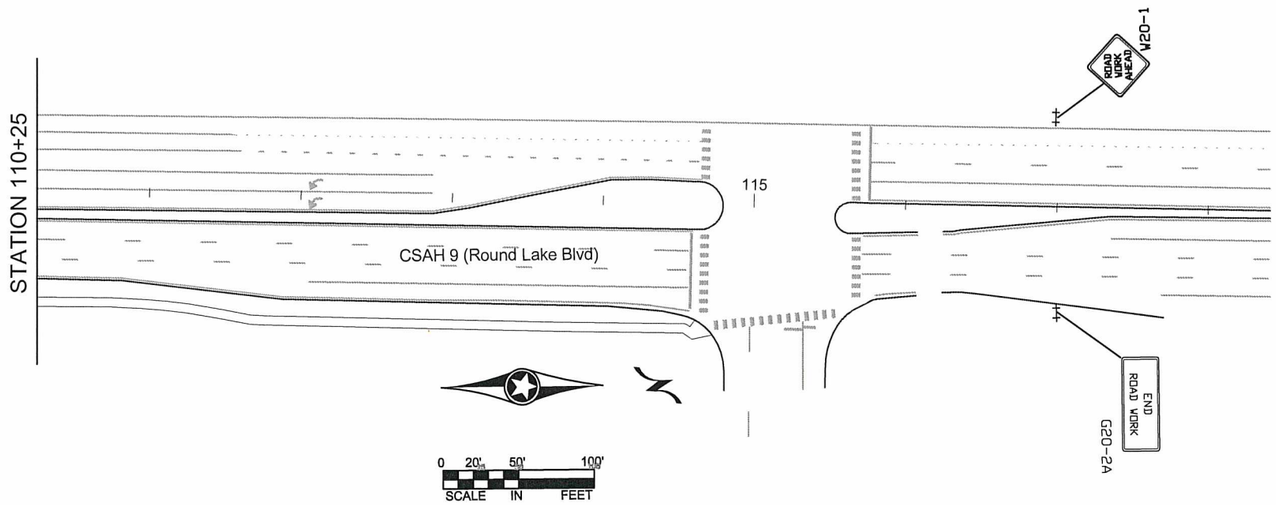
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 3

Sheet 45 of 159 Sheets



STAGE 3 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. THE INTERSECTIONS OF CSAH 14 AT 9TH AVE/HOFFMAN WAY AND CSAH 14 AT WEDGEWOOD DR SHALL BECOME AN ALL-WAY STOP CONDITION WHEN SIGNAL SYSTEM WORK COMMENCES. THE INTERSECTIONS SHALL REMAIN ALL-WAY STOP UNTIL SIGNAL SYSTEMS ARE IN OPERATION. STOP SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
3. TRAFFIC TO BE MOVED TO EASTBOUND LANES AT 7TH AVE TO WEDGEWOOD DR. AND MAINTAIN TWO-WAY TRAFFIC.
4. ACCESS SHALL BE MAINTAINED TO ALL STREETS & DRIVEWAYS IN CONSTRUCTION AREA.
5. ADD TRPMs SPACED EVERY 10 FEET IN TAPER AREAS.
6. REMOVE ALL CONFLICTING PAVEMENT MARKINGS.
7. LANE TAPE SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 17+00 & STA 21+00 AND EB BETWEEN STA 19+00 & STA 21+00.
8. PAINT FOR TRAFFFIC CONTROL SHALL BE PLACED ON WB CSAH 14 BETWEEN STA 21+00 & STA 66+60 AND EB BETWEEN STA 21+00 & STA 66+60.
9. PERMANENT SIGNING & STRIPING SHALL BE PLACED OUTSIDE OF CONSTRUCTION LIMITS WHEN AREA(S) IS NOT AFFECTED BY CONSTRUCTION ACTIVITIES.
10. ALL SIGNS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
11. FOR RELOCATING TRAFFIC SINGS DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER, RELOCATION INCIDENTAL TO TRAFFIC CONTROL.
12. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON
13. UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS FIELD MANUAL OF THE SAME MANUAL.

STRIPING KEY

--- CIRCLE - EPOXY

--- SQUARE - POLY PREFORM

--- TRIANGLE - PAINT

--- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

CONSTRUCTION THIS STAGE

STAGE 3 CONSTRUCTION NOTES:

1. SHIFT TRAFFIC TO EASTBOUND SIDE AND MAINTAIN TWO-WAY TRAFFIC.
2. WIDEN WESTBOUND LANE, CONSTRUCT SIGNAL AT HOFFMAN WAY AND STORM SEWER.
3. CONSTRUCT CONCRETE WALK, CURB AND GUTTER AND PEDESTRIAN CURB RAMPS ALONG WESTBOUND LANE..

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 2.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

CHECKED BY DATE

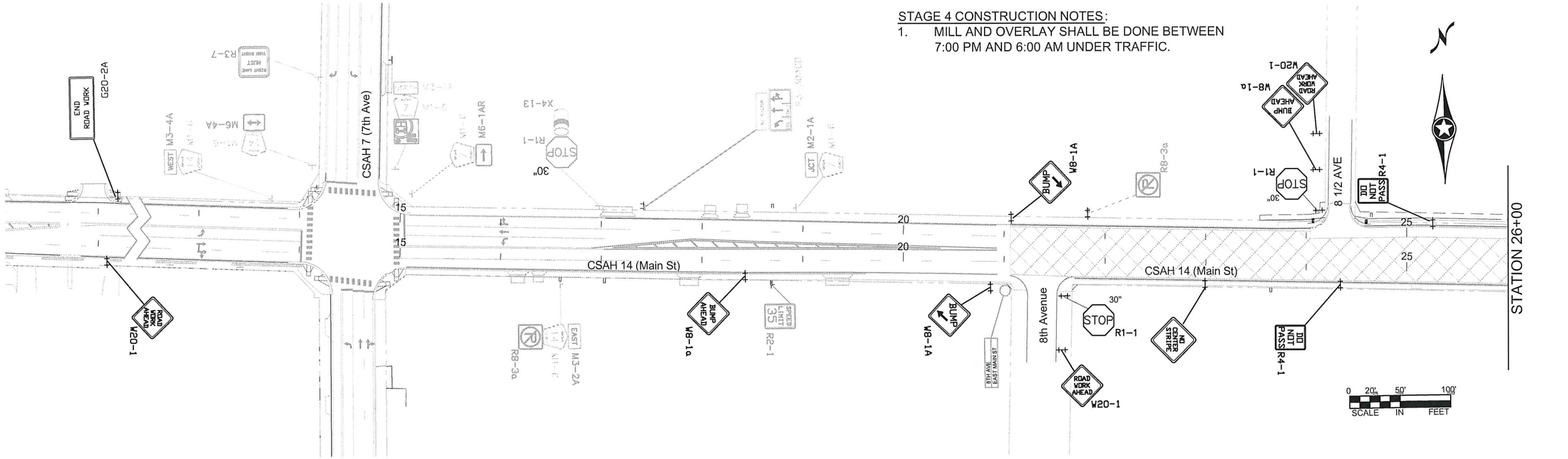
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 3

STAGE 4 CONSTRUCTION NOTES:

1. MILL AND OVERLAY SHALL BE DONE BETWEEN 7:00 PM AND 6:00 AM UNDER TRAFFIC.

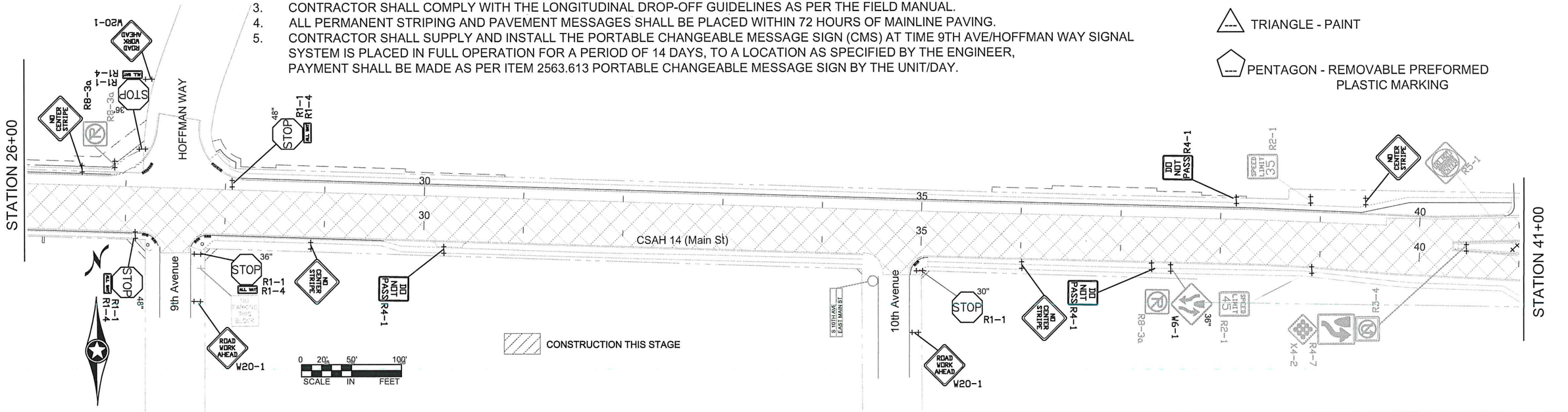


STAGE 4 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, FIELD MANUAL OF THE SAME MANUAL.
3. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
4. ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
5. CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) AT TIME 9TH AVE/HOFFMAN WAY SIGNAL SYSTEM IS PLACED IN FULL OPERATION FOR A PERIOD OF 14 DAYS, TO A LOCATION AS SPECIFIED BY THE ENGINEER, PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.

STRIPING KEY

--- CIRCLE - EPOXY
--- SQUARE - POLY PREFORM
--- TRIANGLE - PAINT
--- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 4.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/6/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 4

Sheet 47 of 159 Sheets

STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

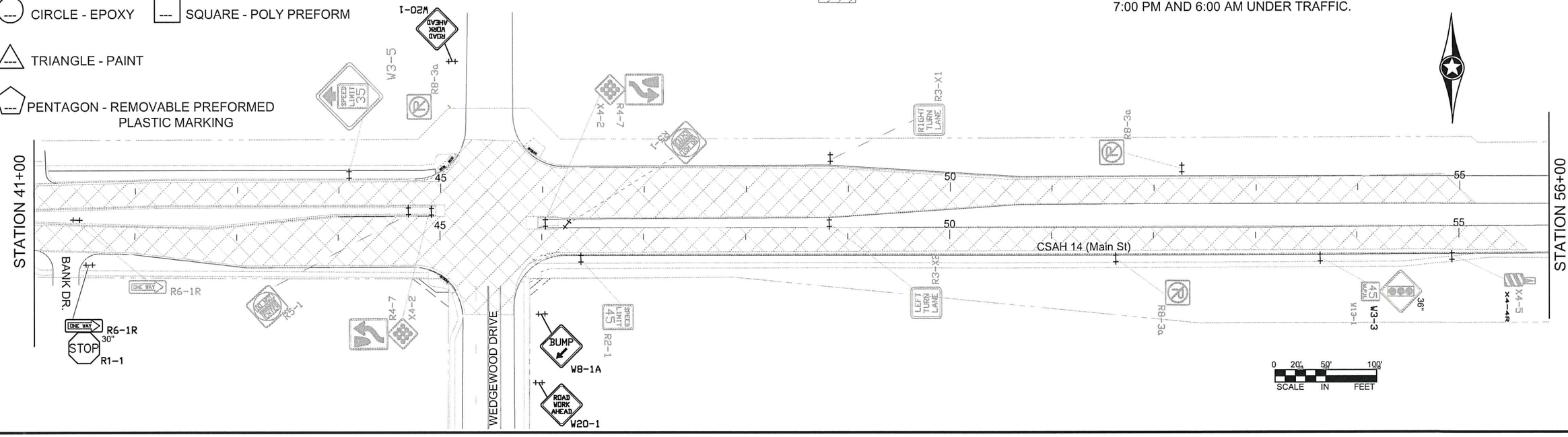
TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

CONSTRUCTION THIS STAGE

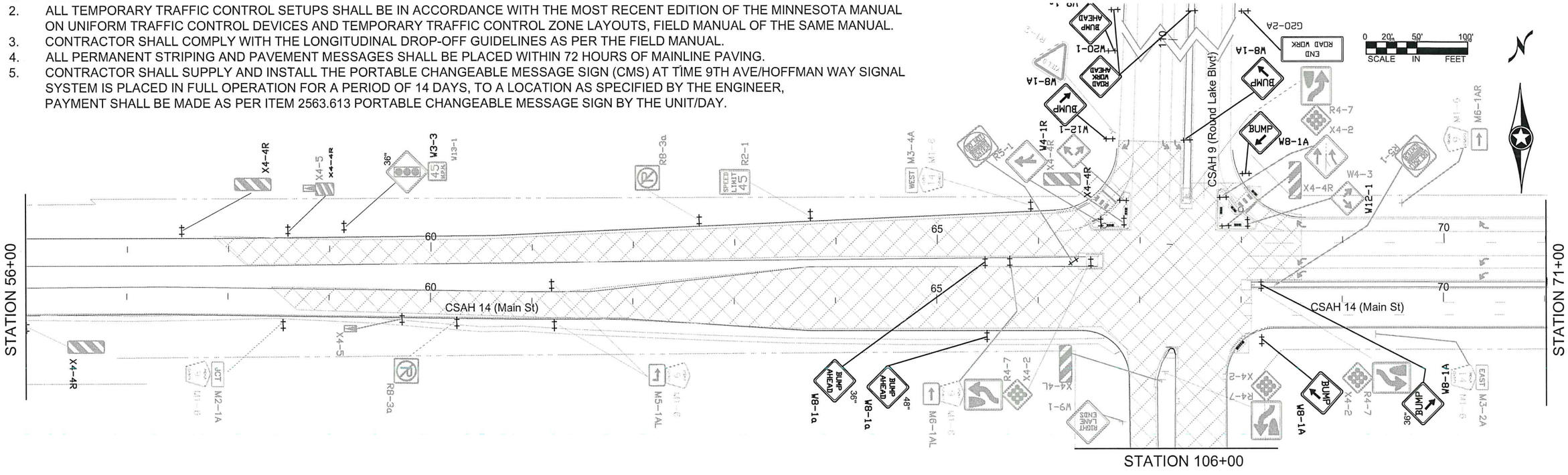
STAGE 4 CONSTRUCTION NOTES:

1. MILL AND OVERLAY SHALL BE DONE BETWEEN 7:00 PM AND 6:00 AM UNDER TRAFFIC.



STAGE 4 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, FIELD MANUAL OF THE SAME MANUAL.
3. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
4. ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
5. CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) AT TIME 9TH AVE/HOFFMAN WAY SIGNAL SYSTEM IS PLACED IN FULL OPERATION FOR A PERIOD OF 14 DAYS, TO A LOCATION AS SPECIFIED BY THE ENGINEER, PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Stage 4.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/6/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17

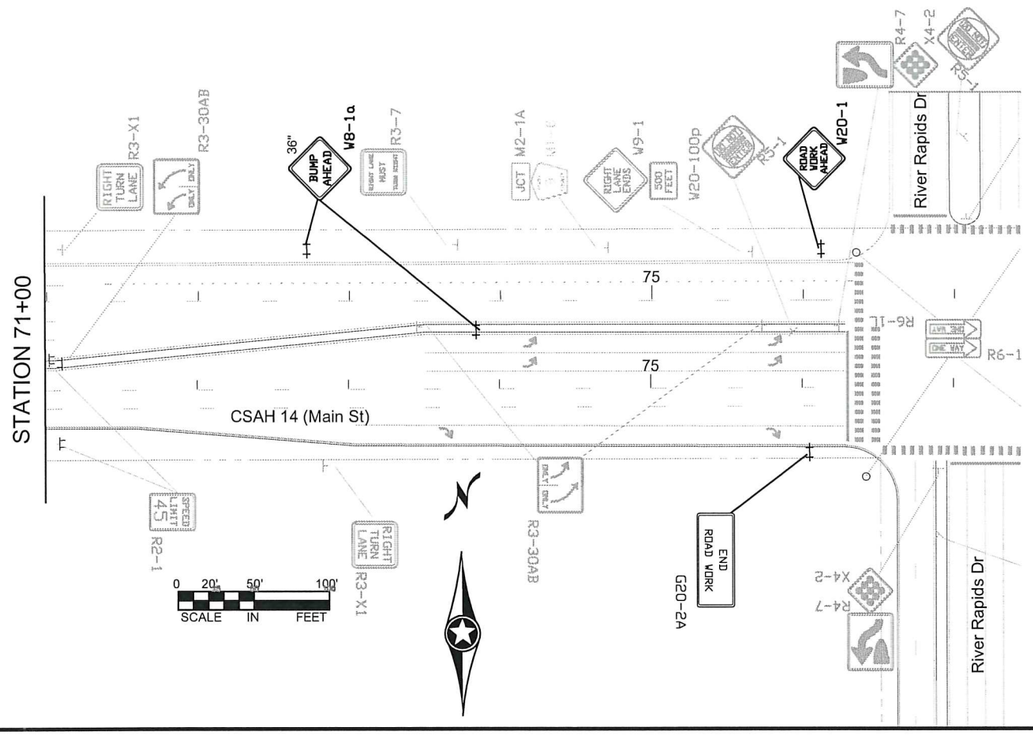
DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL
STAGE 4

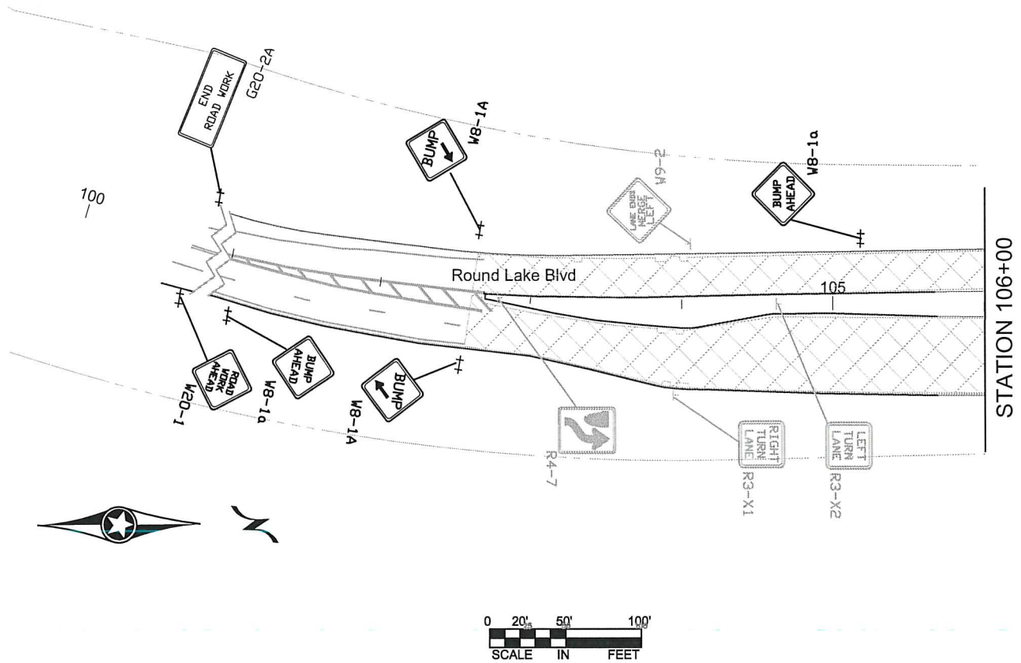


STAGE 4 CONSTRUCTION NOTES:

1. MILL AND OVERLAY SHALL BE DONE BETWEEN 7:00 PM AND 6:00 AM UNDER TRAFFIC.

STAGE 4 TRAFFIC CONTROL NOTES:

1. CSAH 14 & CSAH 9 OPEN TO TRAFFIC THROUGHOUT PROJECT.
2. ALL TEMPORARY TRAFFIC CONTROL SETUPS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, FIELD MANUAL OF THE SAME MANUAL.
3. CONTRACTOR SHALL COMPLY WITH THE LONGITUDINAL DROP-OFF GUIDELINES AS PER THE FIELD MANUAL.
4. ALL PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
5. CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) AT TIME 9TH AVE/HOFFMAN WAY SIGNAL SYSTEM IS PLACED IN FULL OPERATION FOR A PERIOD OF 14 DAYS, TO A LOCATION AS SPECIFIED BY THE ENGINEER, PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.



STRIPING KEY

CIRCLE - EPOXY

SQUARE - POLY PREFORM

CONSTRUCTION THIS STAGE

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

NO	DATE	BY	CKD	APPR	REVISION
NAME:	P:\002-614-040\Base\Traffic\Stage 4.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 7/11/17 REG. NO. 20235

DRAWN BY TMV DATE 06/03/17
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

TRAFFIC CONTROL STAGE 4

Sheet 49 of 159 Sheets

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1A	QTY. STG. 2B	QTY. STG. 3	QTY. STG. 4
R6-1R	36" X 12"	ONE WAY	0	1	2	1
R1-1	30" X 30"	STOP	0	5	7	4
	36" X 36"		2	2	2	2
	48" X 48"		2	2	2	2
R1-3P	18" X 6"	ALL WAY	4	4	4	4
R3-2	36" x 36"		0	1	0	0
R2-1	30" x 36"	SPEED LIMIT 35	0	0	1	0
R2-1	30" x 36"	SPEED LIMIT 45	0	1	1	0
R3-7	30" x 30"	LEFT TURN LANE	3	0	0	0
R3-7	30" x 30"	RIGHT TURN LANE	0	2	0	0
R4-1	24" x 30"	DO NOT PASS	0	3	5	5
R4-7	24" x 30"		0	0	2	0
W3-1a	48" x 48"		2	2	2	0
W4-2L	36" x 36"		0	1	0	0
	48" x 48"		0	3	1	0
~~W4-2R~~	36" x 36"		1	0	0	0
	48" x 48"		0	0	0	0
W6-3	48" x 48"		0	0	2	0
W8-1A	48" x 48"	BUMP	0	6	3	8
W8-1A	48" x 48"	BUMP	0	0	0	2
W8-1a	36" x 36"	BUMP AHEAD	0	0	0	3
	48" x 48"		0	0	0	6
W8-12	48" x 48"	NO CENTER STRIPE	0	0	0	5
W20-1	36" x 36"	ROAD WORK AHEAD	2	2	2	1
	48" x 48"		13	11	12	10

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2	QTY. STG. 3	QTY. STG. 4
W20-X3L	36" x 36"	MERGE	0	1	0	0
	48" x 48"		0	2	1	0
W20-X3L	36" x 36"	MERGE	1	0	0	0
	48" x 48"		0	0	1	0
W20-X3L	48" x 48"	RIGHT TWO LANES CLOSED	0	2	0	0
W21-X5	48" x 48"	RIGHT LANE CLOSED	0	1	2	0
W21-X5	36" x36"	LEFT LANE CLOSED	4	2	0	0
	48" x 48"		7	0	1	0
W20-100p	42" x 18"	300 FEET	0	0	1	0
TYPE III	8 FOOT		3	13	8	0
R3-7	30" x 30"	LEFT TURN LANE	1	0	0	0
TYPE III	8 FOOT		17	5	0	0
W1-6	48" X 24"		0	7	2	0
TYPE III	8 FOOT					
W1-6	48" X 24"		6	0	1	0
TYPE III	8 FOOT					
R9-9	48" X 24"	SIDEWALK CLOSED	5	3	0	0
TYPE III	8 FOOT					
R9-11	48" X 24"	SIDEWALK CLOSED	0	6	2	0
TYPE III	8 FOOT					
FLASHER						
R9-11	48" X 24"	SIDEWALK CLOSED	0	1	1	0
TYPE III	8 FOOT					

M.U.T.C.D. CODE	SIZE	INSERT	QTY. STG. 1	QTY. STG. 2B	QTY. STG. 3	QTY. STG. 4
R9-11	48" X 24"	SIDEWALK CLOSED	0	0	1	0
TYPE III	8 FOOT					
G20-2A	48" X 24"	END ROAD WORK	4	4	4	4
REFLECTORIZED REBOUNDABLE DRUM			290	375	190	0
CMS sign to be installed a minimum of ten days prior to actual commencement of road work. Signs to be removed when road work begins.		CMS	4	0	0	2

B TEMPORARY PAVEMENT MARKING TABULATION

PAVEMENT MARKING REMOVAL 4" SOLID WHITE PAINT	LIN FT	4560
PAVEMENT MARKING REMOVAL 4" SOLID YELLOW PAINT	LIN FT	7220
TEMPORARY RAISED PAVEMENT MARKER	EACH	574
REMOVABLE PREFORM MARKING 4" WHITE	LIN FT	3540
REMOVABLE PREFORM MARKING 4" YELLOW	LIN FT	5120
REMOVABLE PREFORM MARKING 4" DOUBLE YELLOW	LIN FT	100
REMOVABLE PREFORM MARKING 4" BROKEN BLACK	LIN FT	430
REMOVABLE PREFORM MARKING 8" BROKEN BLACK	LIN FT	90
REMOVABLE PREFORM MARKING LEFT ARROW BLACK	SQ FT	278
REMOVABLE PREFORM MARKING RIGHT ARROW BLACK	SQ FT	120
REMOVABLE PREFORM MARKING THRU/RIGHT ARROW BLACK	SQ FT	53
REMOVABLE PREFORM MARKING LEFT ARROW WHITE	SQ FT	135
REMOVABLE PREFORM MARKING RIGHT ARROW WHITE	SQ FT	150
REMOVABLE PREFORM MARKING THRU/RIGHT ARROW WHITE	SQ FT	84
REMOVABLE PREFORM MARKING THRU ARROW WHITE	SQ FT	24
4" BROKEN LINE WHITE - PAINT	LIN FT	1000
4" SOLID LINE WHITE - PAINT	LIN FT	17417
4" SOLID LINE YELLOW - PAINT	LIN FT	7627
4" SOLID DOUBLE LINE YELLOW - PAINT	LIN FT	1770
PORTABLE CHANGEABLE MESSAGE SIGN	UDAY	68

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

NAME: P:\002-614-040\Base\Traffic\STAGE QTY.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/6/17 REG. NO. 20235

DRAWN BY TMV DATE 6/09/17

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

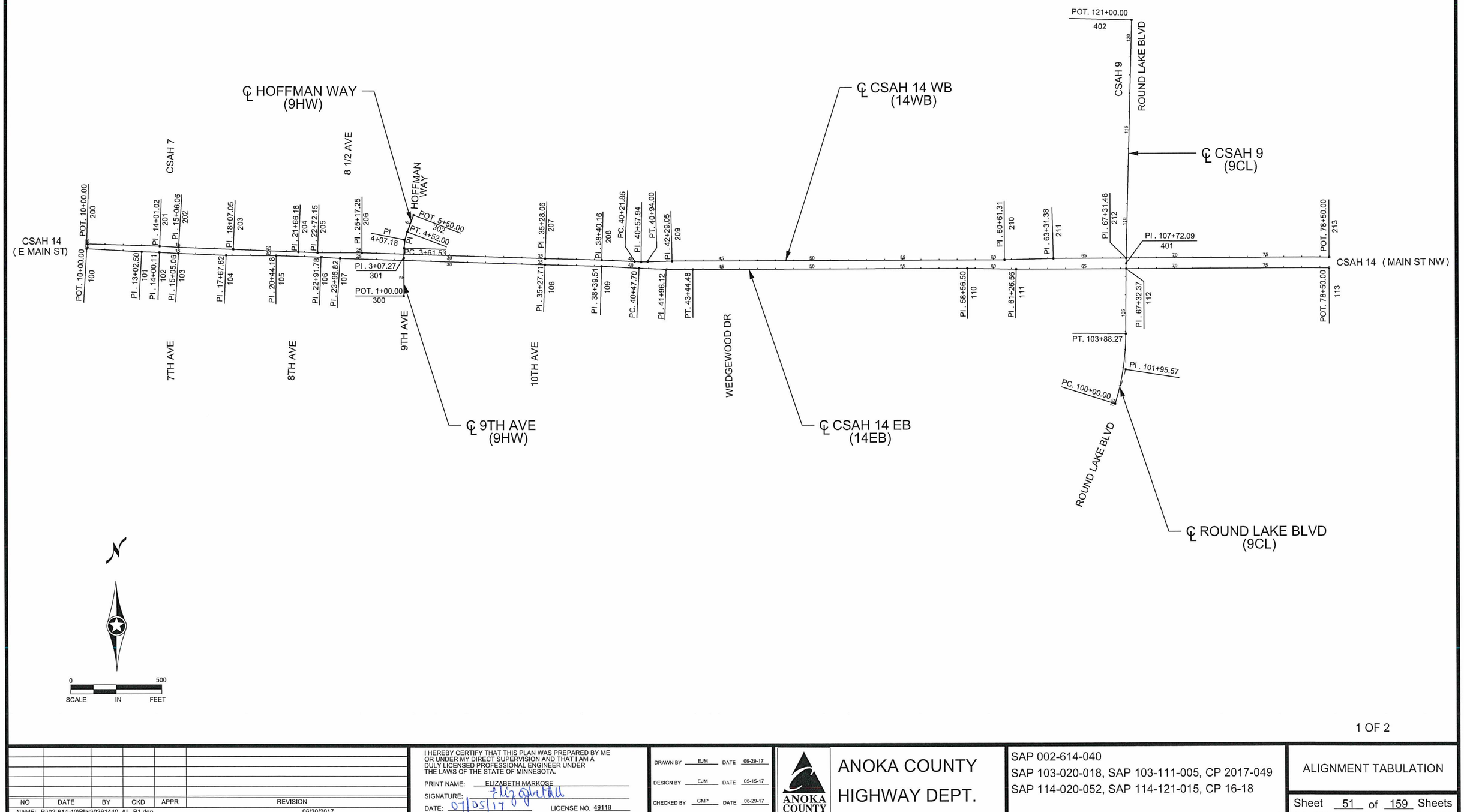
ANOKA COUNTY

HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

STAGING
SIGN QUANTITIES

Sheet 50 of 159 Sheets



1 OF 2

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_AL_P1.dgn 06/30/2017

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

ALIGNMENT TABULATION

Sheet 51 of 159 Sheets

ALIGNMENT TABULATION

℄ CSAH 14 EB <14EB>

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
100	POT	10+00.000						470,710.1219	159,257.7737	
101	POT	13+02.504						471,012.1269	159,240.4062	
102	POT	14+00.108						471,109.6806	159,237.2824	
103	POT	15+05.059						471,214.4395	159,230.9289	
104	POT	17+67.625						471,476.8217	159,221.1132	
105	POT	20+44.178						471,753.3638	159,218.6716	
106	POT	22+91.780						472,000.8388	159,210.7471	
107	POT	23+96.822						472,105.6890	159,204.3881	
108	POT	35+27.712						473,235.9993	159,168.1937	
109	POT	38+39.507						473,547.6756	159,159.5888	
	PC	40+47.695						473,755.6054	159,149.2212	S 87° 08' 43.89" E
14EB-1	PI	41+96.119	2° 58' 03.31" LT	0° 59' 59.73"	5,730.000'	148.423'	296.781'	473,903.8447	159,141.8298	PI
	CC							474,040.9558	164,872.1116	
	PT	43+44.476						474,052.2679	159,142.1228	N 89° 53' 12.79" E
110	POT	58+56.498						475,564.2874	159,145.1078	
111	POT	61+26.565						475,834.2987	159,139.6409	
112	POT	67+32.372						476,440.1042	159,140.8369	
113	POT	78+50.000						477,557.7303	159,143.1135	

ALIGNMENT TABULATION

℄ CSAH 14 WB <14WB>

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
200	POT	10+00.000						470,710.4422	159,284.0840	
201	POT	14+01.017						471,111.2542	159,271.2494	
202	POT	15+06.060						471,216.1044	159,264.8904	
203	POT	18+07.046						471,516.8796	159,253.6384	
204	POT	21+66.184						471,875.7100	159,238.7662	
205	POT	22+72.146						471,981.6171	159,235.3749	
206	POT	25+17.246						472,226.7157	159,234.5300	
207	POT	35+28.060						473,237.0125	159,202.1787	
208	POT	38+40.158						473,548.9915	159,193.5654	
	PC	40+21.849						473,730.4974	159,185.3822	S 87° 25' 06.80" E
14WB-1	PI	40+57.941	3° 58' 03.31" LT	5° 29' 55.09"	1,042.000'	36.092'	72.156'	473,766.5531	159,183.7566	PI
	CC							473,777.4285	160,226.3248	
	PT	40+94.004						473,802.6349	159,184.6297	N 88° 36' 49.88" E
209	POT	42+29.053						473,937.6441	159,187.8966	
210	POT	60+61.309						475,769.8968	159,191.5138	
211	POT	63+31.376						476,039.8844	159,198.0469	
212	POT	67+31.481						476,439.9881	159,198.8367	
213	POT	78+50.000						477,558.5053	159,201.1152	

ALIGNMENT TABULATION

℄ CSAH 9/ROUND LAKE BLVD <9CL>

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
	PC	100+00.000						476,376.9077	158,403.8821	N 17° 25' 46.51" E
9CL-1	PI	101+95.567	16° 58' 43.27" LT	4° 22' 22.54"	1,310.239'	195.567'	388.268'	476,435.4867	158,590.4701	PI
	CC							475,126.8276	158,796.3425	
	PT	103+88.268						476,437.0257	158,786.0314	N 0° 27' 03.24" E
401	POT	107+72.086						476,440.0462	159,169.8368	
402	POT	121+00.000						476,474.6997	160,497.2991	

ALIGNMENT TABULATION

℄ 9TH AVE/HOFFMAN WAY <9HW>

POINT NUMBER	POINT	STATION	CIRCULAR CURVE DATA					COORDINATES		AZIMUTH
			DELTA	DEGREE	RADIUS	TANGENT	LENGTH	E	N	
300	POT	1+00.000						472,457.9360	158,998.5651	
301	POT	3+07.274						472,458.7347	159,205.8375	
	PC	3+61.526						472,460.3071	159,260.0669	N 1° 39' 39.02" E
9HW-1	PI	4+07.182	19° 00' 00.00" RT	21° 00' 01.95"	272.830'	45.656'	90.474'	472,461.6304	159,305.7038	PI
	CC							472,733.0225	159,252.1594	
	PT	4+52.000						472,477.7395	159,348.4235	N 20° 39' 39.02" E
302	POT	5+50.000						472,512.3173	159,440.1207	

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_AL_P1.dgn 06/30/2017 1:16:24 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

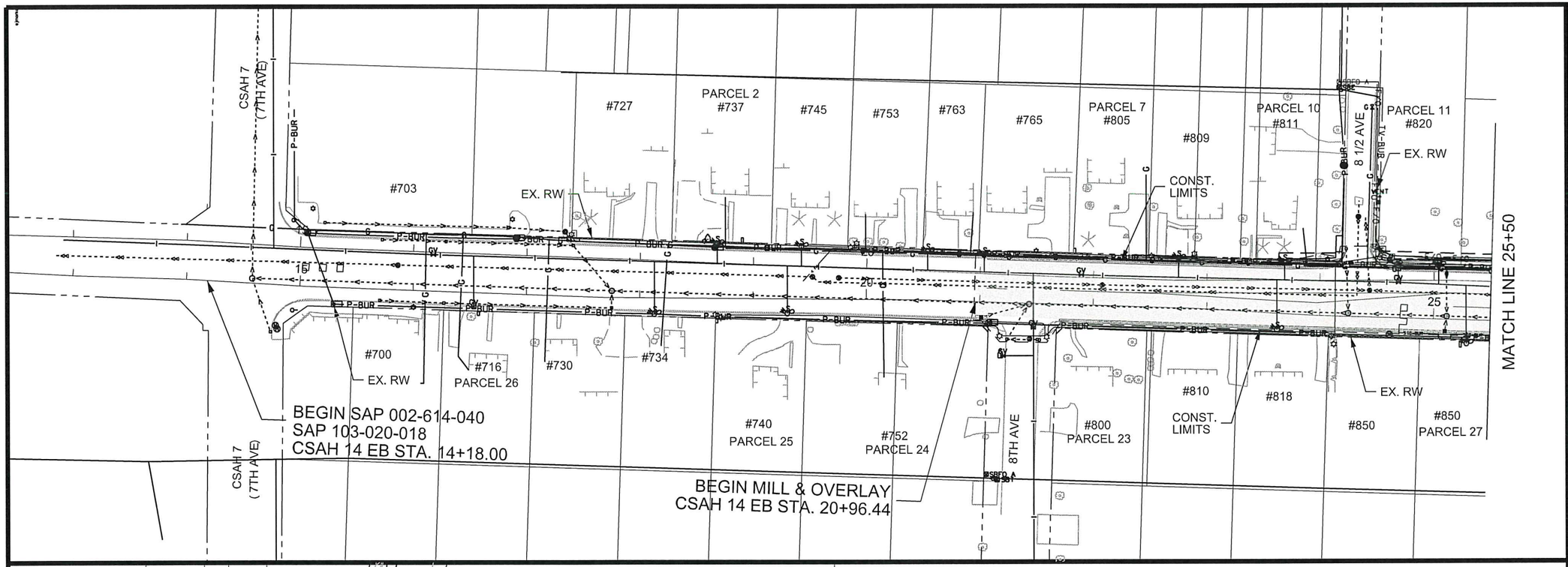
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

ALIGNMENT TABULATION

Sheet 52 of 159 Sheets



LEGEND

- CENTERPOINT ENERGY
- COMCAST CABLE / ZAYO FIBER
- ANOKA MUNICIPAL UTILITY/ CONNEXUS ENERGY
- CENTURYLINK
- TRAFFIC SIGNAL
- EXISTING STORM SEWER
- EXISTING SAN SEWER
- EXISTING WATER MAIN
- PROPOSED STORM DRAIN
- EXISTING R/W
- PROPOSED R/W
- EXISTING ROADWAY MILL & OVERLAY

SCALE 0 100 IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_UT_P1.dgn 07/06/2017 7:34:57 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY	EJM	DATE	06-29-17
DESIGN BY	EJM	DATE	05-15-17
CHECKED BY	GMP	DATE	06-29-17

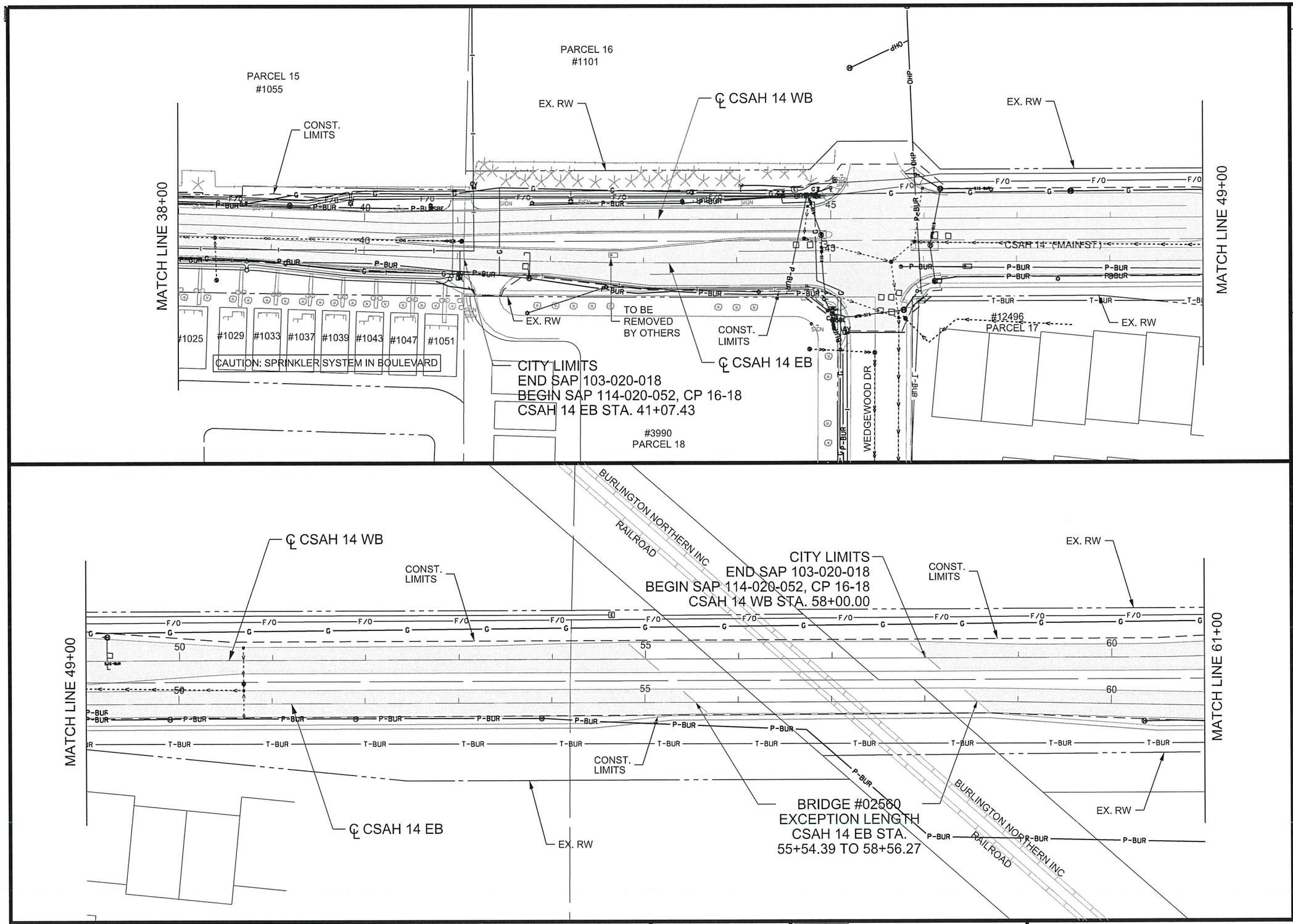
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INPLACE UTILITY PLAN

STA BEGIN TO 38+00

Sheet 53 of 159 Sheets



LEGEND

- CENTERPOINT ENERGY
- COMCAST CABLE / ZAYO FIBER
- ANOKA MUNICIPAL UTILITY/ CONNEXUS ENERGY
- CENTURYLINK
- TRAFFIC SIGNAL
- EXISTING STORM SEWER
- EXISTING SAN SEWER
- EXISTING WATER MAIN
- PROPOSED STORM DRAIN
- EXISTING R/W
- PROPOSED R/W
- EXISTING ROADWAY MILL & OVERLAY

N

0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_UT_P2.dgn 07/06/2017 7:34:59 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INPLACE UTILITY PLAN

STA 38+00.00 TO 61+00.00

Sheet 54 of 159 Sheets

END MILL & OVERLAY
CSAH 9 STA. 109+00.00

℄ CSAH 9

CSAH 9 (ROUND LAKE BLVD)

EX. RW

CONST. LIMITS

MATCH LINE 61+00

EX. RW

℄ CSAH 14 WB

EX. RW

CONST. LIMITS

EX. RW

℄ CSAH 14 EB

END SAP 114-121-015
RLB STA. 106+89.23

END SAP 002-614-040
SAP 114-020-052, CP 16-18
CSAH 14 EB STA. 68+60.00

℄ RLB

EX. RW

EX. RW

CONST. LIMITS

ROUND LAKE BLVD

BEGIN SAP 114-121-015, CP 16-18
RLB STA. 102+59.44

65

70

105

100

LEGEND

G	CENTERPOINT ENERGY
TV-BUR / F/O	COMCAST CABLE / ZAYO FIBER
P-BUR / OHP	CONNEXUS ENERGY/ GREAT RIVER ENERGY
T-BUR / OHU	CENTURYLINK
SIG-BUR	TRAFFIC SIGNAL
	EXISTING STORM SEWER
	EXISTING SAN SEWER
	EXISTING WATER MAIN
	PROPOSED STORM DRAIN
	EXISTING R/W
	PROPOSED R/W
	EXISTING ROADWAY MILL & OVERLAY

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_UT_P3.dgn 06/30/2017 1:16:30 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/05/17 LICENSE NO. 49118

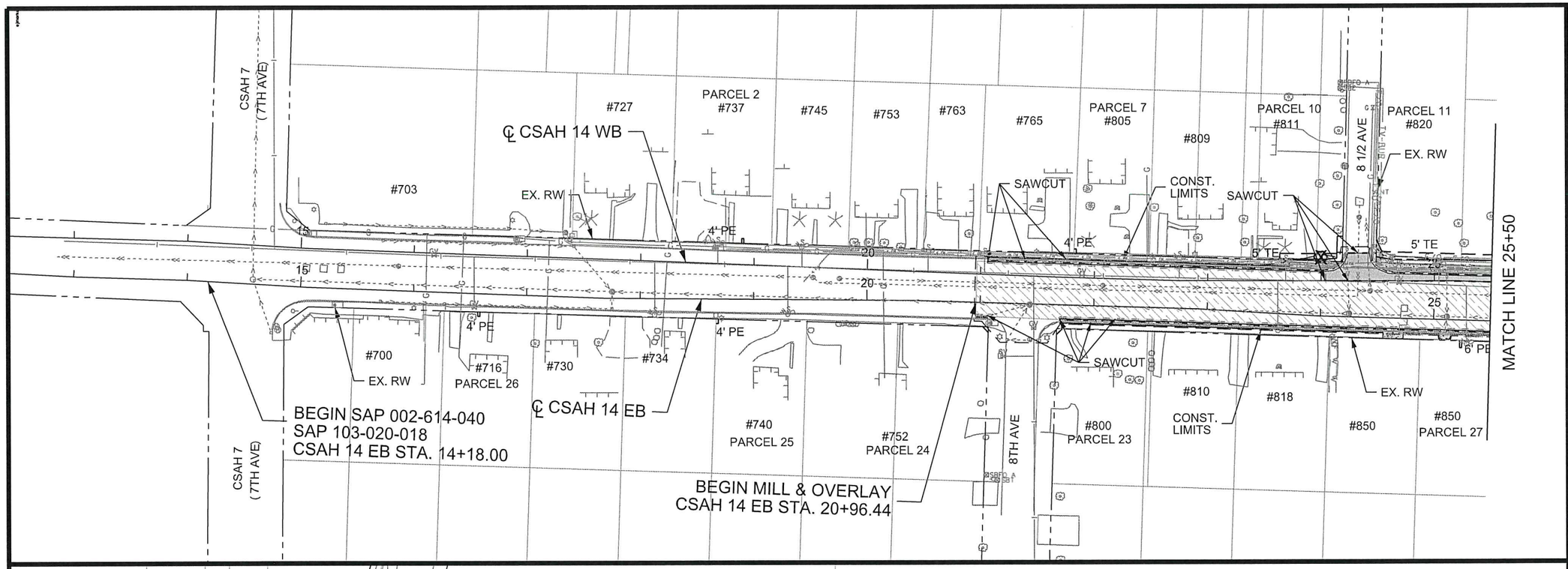
DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INPLACE UTILITY PLAN
STA 61+00.00 TO 68+60.00

Sheet 55 of 159 Sheets



LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE WALK/DRIVEWAY
- MILL AND OVERLAY BITUMINOUS PAVEMENT
- REMOVE CURB AND GUTTER
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS 98 - 131 FOR TRAFFIC SIGNAL REMOVALS.

REFER TO LIGHTING PLANS 132 - 143 FOR ADDITIONAL SIDEWALK, CURB & GUTTER AND LIGHTING UNIT REMOVALS.

THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

ALL MANHOLES AND CATCH BASINS WILL BE PAID FOR AS "REMOVE MANHOLE OR CATCH BASIN" ITEM 2104.509 CALLED OUT IN REMOVAL PLANS AS MH AND CB. FOR INFORMATION PURPOSES ONLY.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.

ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE SALVAGED BY THE CONTRACTOR.

N

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_RM_P1.dgn 07/06/2017 7:35:01 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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

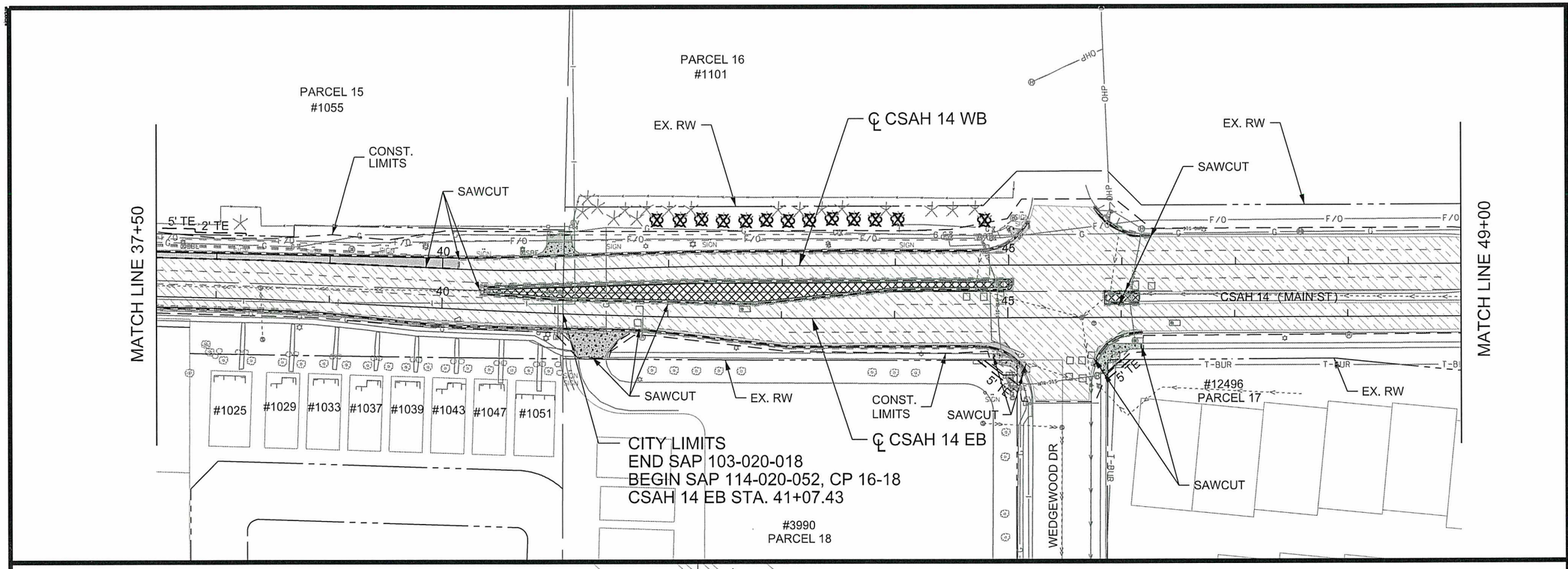
ANOKA COUNTY HIGHWAY DEPT.

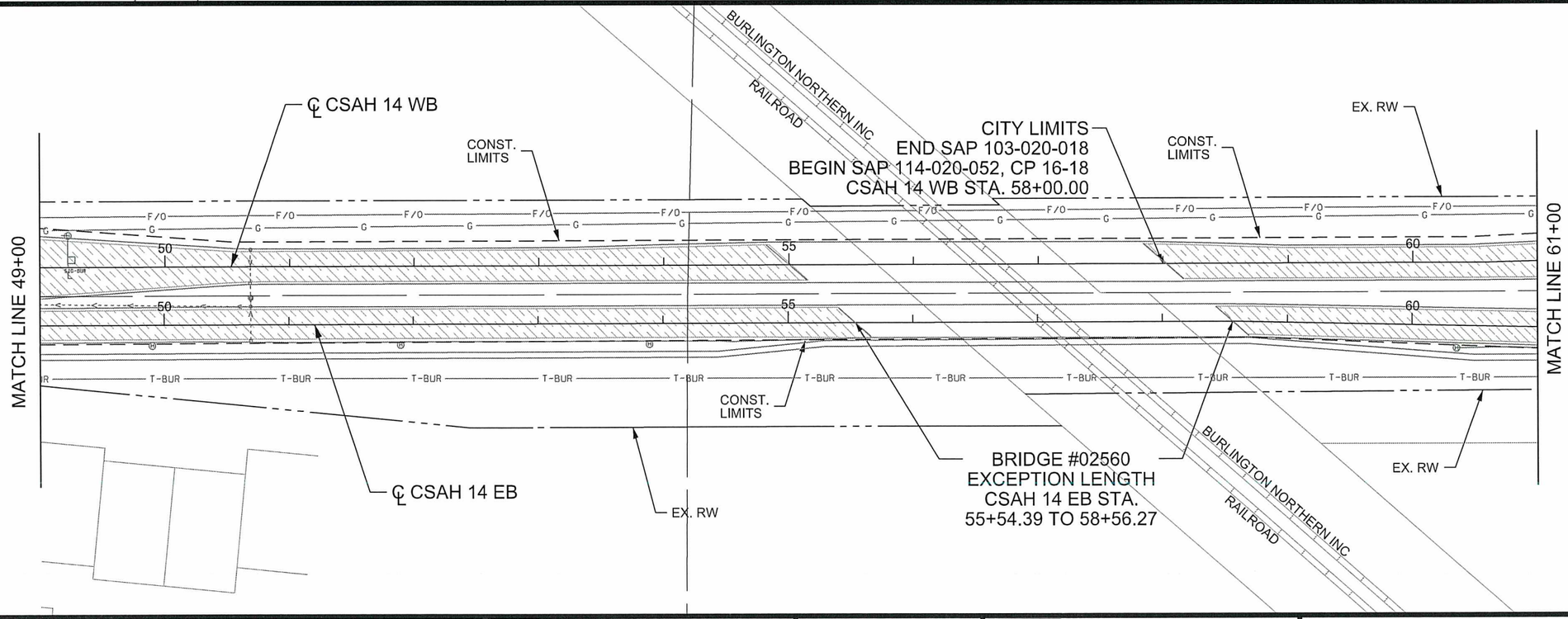
SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

REMOVAL PLAN

STA BEGIN TO 37+50.00

Sheet 56 of 159 Sheets





LEGEND

- REMOVE BITUMINOUS PAVEMENT
- MILL AND OVERLAY BITUMINOUS PAVEMENT
- REMOVE CONCRETE WALK/DRIVEWAY
- REMOVE CONCRETE MEDIAN
- REMOVE CURB AND GUTTER
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS 98 - 131 FOR TRAFFIC SIGNAL REMOVALS.

REFER TO LIGHTING PLANS 132 - 143 FOR ADDITIONAL SIDEWALK, CURB & GUTTER AND LIGHTING UNIT REMOVALS.

THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

ALL MANHOLES AND CATCH BASINS WILL BE PAID FOR AS "REMOVE MANHOLE OR CATCH BASIN" ITEM 2104.509 CALLED OUT IN REMOVAL PLANS AS MH AND CB. FOR INFORMATION PURPOSES ONLY.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.

ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE SALVAGED BY THE CONTRACTOR.

N

0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_RM_P2.dgn 07/06/2017 7:35:03 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: ELIZABETH MARKOSE

SIGNATURE: Eliz@Markose

DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

REMOVAL PLAN

STA 37+50.00 TO 61+00.00

Sheet 57 of 159 Sheets

END MILL & OVERLAY
CSAH 9 STA. 109+00.00

℄ CSAH 9

CSAH 9 (ROUND LAKE BLVD)

SAWCUT

EX. RW

CONST. LIMITS

MATCH LINE 61+00

℄ CSAH 14 WB

℄ CSAH 14 EB

END SAP 002-614-040
SAP 114-020-052, CP 16-18
CSAH 14 EB STA. 68+60.00

END SAP 114-121-015
RLB STA. 106+89.23

℄ RLB

SAWCUT

EX. RW

CONST. LIMITS

ROUND LAKE BLVD

BEGIN SAP 114-121-015, CP 16-18
RLB STA. 102+59.44

LEGEND

- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE WALK
- REMOVE CONCRETE MEDIAN
- MILL AND OVERLAY BITUMINOUS PAVEMENT
- REMOVE CURB AND GUTTER
- TREE REMOVAL BY EACH
- SAWING BITUMINOUS PAVEMENT
- CONSTRUCTION LIMIT
- TEMPORARY EASEMENT
- PERMANENT EASEMENT

REMOVAL NOTES

REFER TO TRAFFIC SIGNAL PLANS 98 - 131 FOR TRAFFIC SIGNAL REMOVALS.

REFER TO LIGHTING PLANS 132 - 143 FOR ADDITIONAL SIDEWALK, CURB & GUTTER AND LIGHTING UNIT REMOVALS.

THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING AS DIRECTED AND MARKED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL OTHERWISE PROTECT ALL EXISTING TREES NOT SPECIFICALLY MARKED FOR REMOVAL.

ALL MANHOLES AND CATCH BASINS WILL BE PAID FOR AS "REMOVE MANHOLE OR CATCH BASIN" ITEM 2104.509 CALLED OUT IN REMOVAL PLANS AS MH AND CB. FOR INFORMATION PURPOSES ONLY.

ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS AS REQUIRED. SEE IN PLACE UTILITY TABULATION FOR MORE INFORMATION.

ALL ROADWAY SIGNS WITHIN THE CONSTRUCTION LIMITS AND CONFLICTING SIGNS SHALL BE SALVAGED BY THE CONTRACTOR.

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_RM_P3.dgn 06/30/2017 1:16:37 PM

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: ELIZABETH MARKOSE
SIGNATURE: [signature]
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

REMOVAL PLAN
STA 61+00.00 TO 68+60.00

Sheet 58 of 159 Sheets

CSAH 7 (7TH AVE)

#703

#727

PARCEL 2 #737

#745

#753

#763

#765

PARCEL 7 #805

#809

PARCEL 10 #811

8 1/2 AVE

PARCEL 11 #820

℄ CSAH 14 WB

EX. RW

CONST. LIMITS

15 5' CONC. WALK
11' THRU LANE
11' THRU LANE
15 11' LTL
11' THRU LANE
11' THRU LANE

20

20

4' PE

4' PE

5' TE

5' TE

+05.8

+71.9

+75.4

+17.3

14'
12'
12'
14'

1:35

1:35

1:10

25

2%

6' PE

+70.3

+36.9

+97.0

+17.0

MATCH LINE 25+50

#700

#716

PARCEL 26

#730

#734

#740 PARCEL 25

#752 PARCEL 24

#800 PARCEL 23

#810

#818

#850

#850 PARCEL 27

EX. RW

EX. RW

EX. RW

BEGIN SAP 002-614-040
SAP 103-020-018
CSAH 14 EB STA. 14+18.00

℄ CSAH 14 EB

8TH AVE

BEGIN MILL & OVERLAY
CSAH 14 EB STA. 20+96.44

CSAH 7 (7TH AVE)

CSAH 14

TRAFFIC

880

870

EXISTING GROUND
AT CSAH 14 WB CL

BEGIN MILL & OVERLAY
CSAH 14 EB STA. 20+96.44

BEGIN WIDENING
CSAH 14 WB STA. 23+75.35

878.70 878.75 878.77 878.69 878.43 878.18 877.89 877.50 877.18 876.86 876.28 875.75 875.17 874.73 874.32 873.93 873.41 872.98 872.57 872.11 872.17 872.24

15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00

CONSTRUCTION NOTES:

- (A) 4" CONCRETE WALK
- (D) B612 CURB & GUTTER
- (E) B618 CURB & GUTTER
- (F) B624 CURB & GUTTER
- (G) PEDESTRIAN CURB RAMP AND TRUNCATED DOME
- (J) PERMANENT EASEMENT
- (L) 6" CONCRETE WALK

MILL AND OVERLAY BITUMINOUS PAVEMENT

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SEE SHEET 63 FOR INTERSECTION DETAILS.

N

0 100
SCALE IN FEET

1 OF 4

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_PP1.dgn 07/05/2017 2:36:07 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

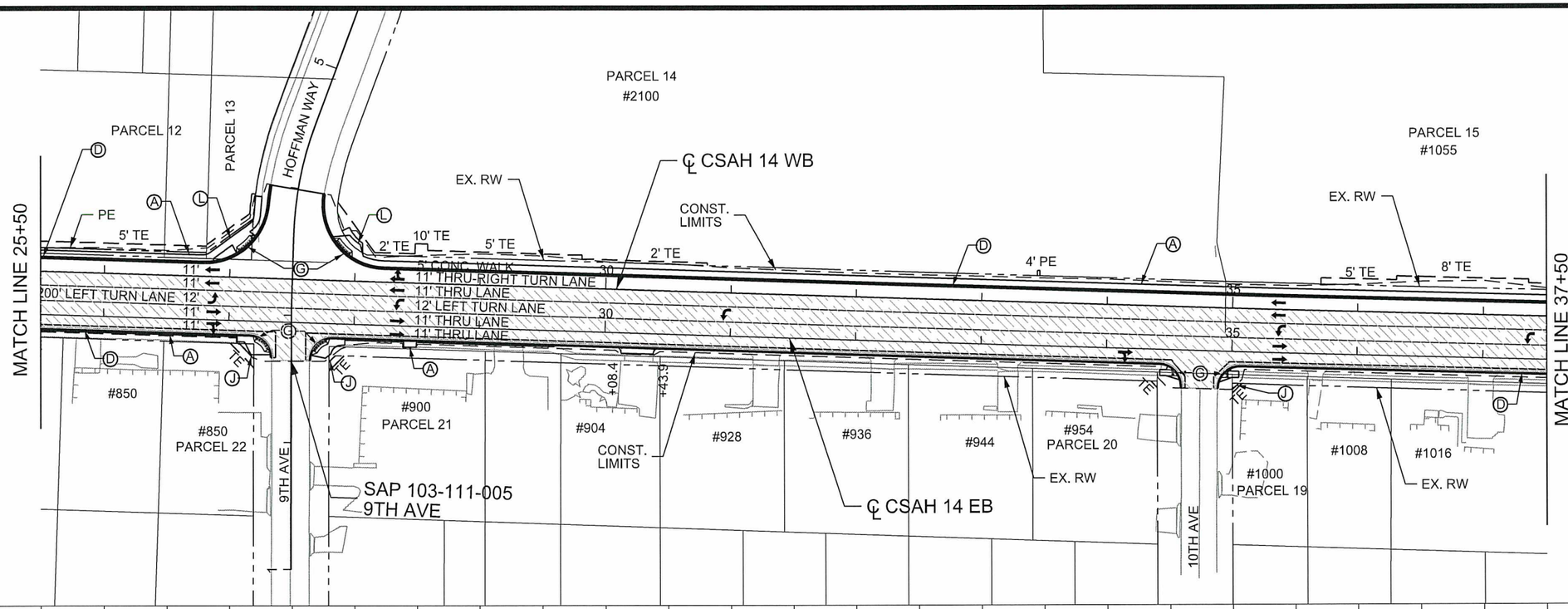
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION PLAN &PROFILE
CSAH 14

STA BEGIN TO 25+50

Sheet 59 of 159 Sheets



CONSTRUCTION NOTES:

- (A) 4" CONCRETE WALK
- (D) B612 CURB & GUTTER
- (G) PEDESTRIAN CURB RAMP AND TRUNCATED DOME
- (J) PERMANENT EASEMENT
- (L) 6" CONCRETE WALK

MILL AND OVERLAY BITUMINOUS PAVEMENT

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SEE SHEETS 64 - 66 FOR INTERSECTION DETAILS.

N

0 100
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_PP2.dgn 06/30/2017 1:16:40 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth M

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

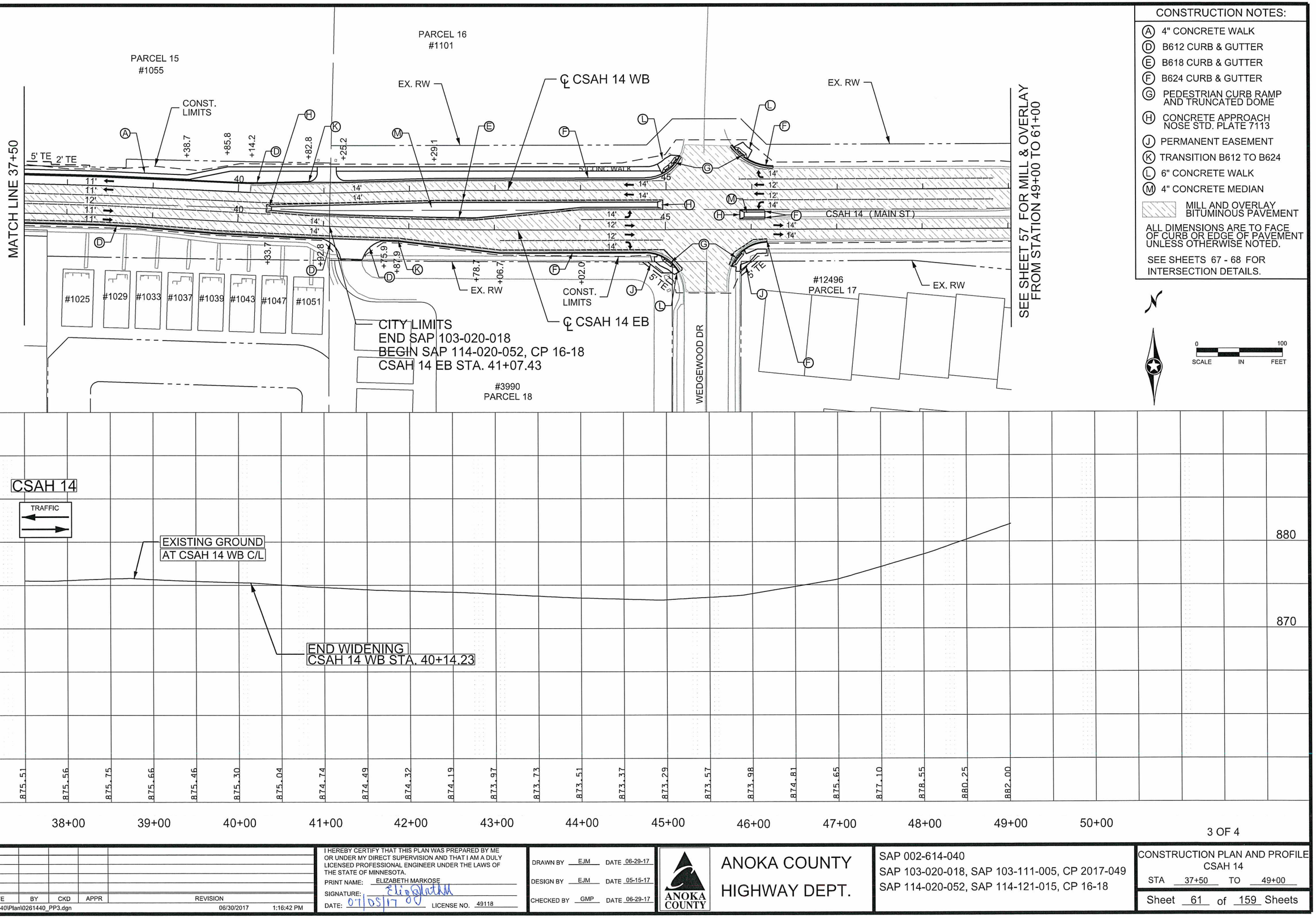
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION PLAN &PROFILE
CSAH 14
STA 25+50 TO 37+50

Sheet 60 of 159 Sheets



3 OF 4

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_PP3.dgn 06/30/2017 1:16:42 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

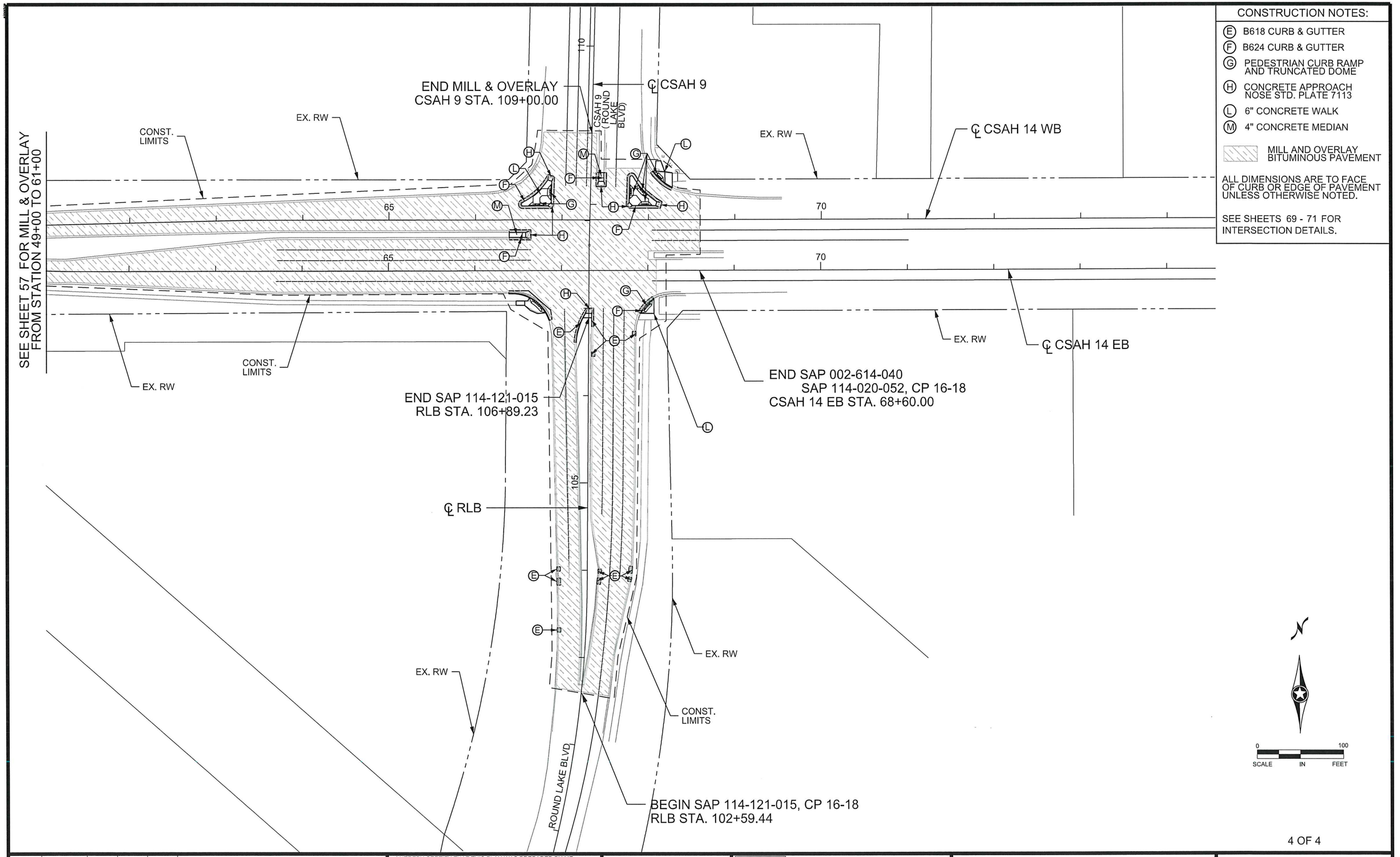
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION PLAN AND PROFILE
CSAH 14
STA 37+50 TO 49+00

Sheet 61 of 159 Sheets



CONSTRUCTION NOTES:

- (E) B618 CURB & GUTTER
- (F) B624 CURB & GUTTER
- (G) PEDESTRIAN CURB RAMP AND TRUNCATED DOME
- (H) CONCRETE APPROACH NOSE STD. PLATE 7113
- (L) 6" CONCRETE WALK
- (M) 4" CONCRETE MEDIAN

MILL AND OVERLAY BITUMINOUS PAVEMENT

ALL DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

SEE SHEETS 69 - 71 FOR INTERSECTION DETAILS.

4 OF 4

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_PP4.dgn 06/30/2017 1:16:43 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

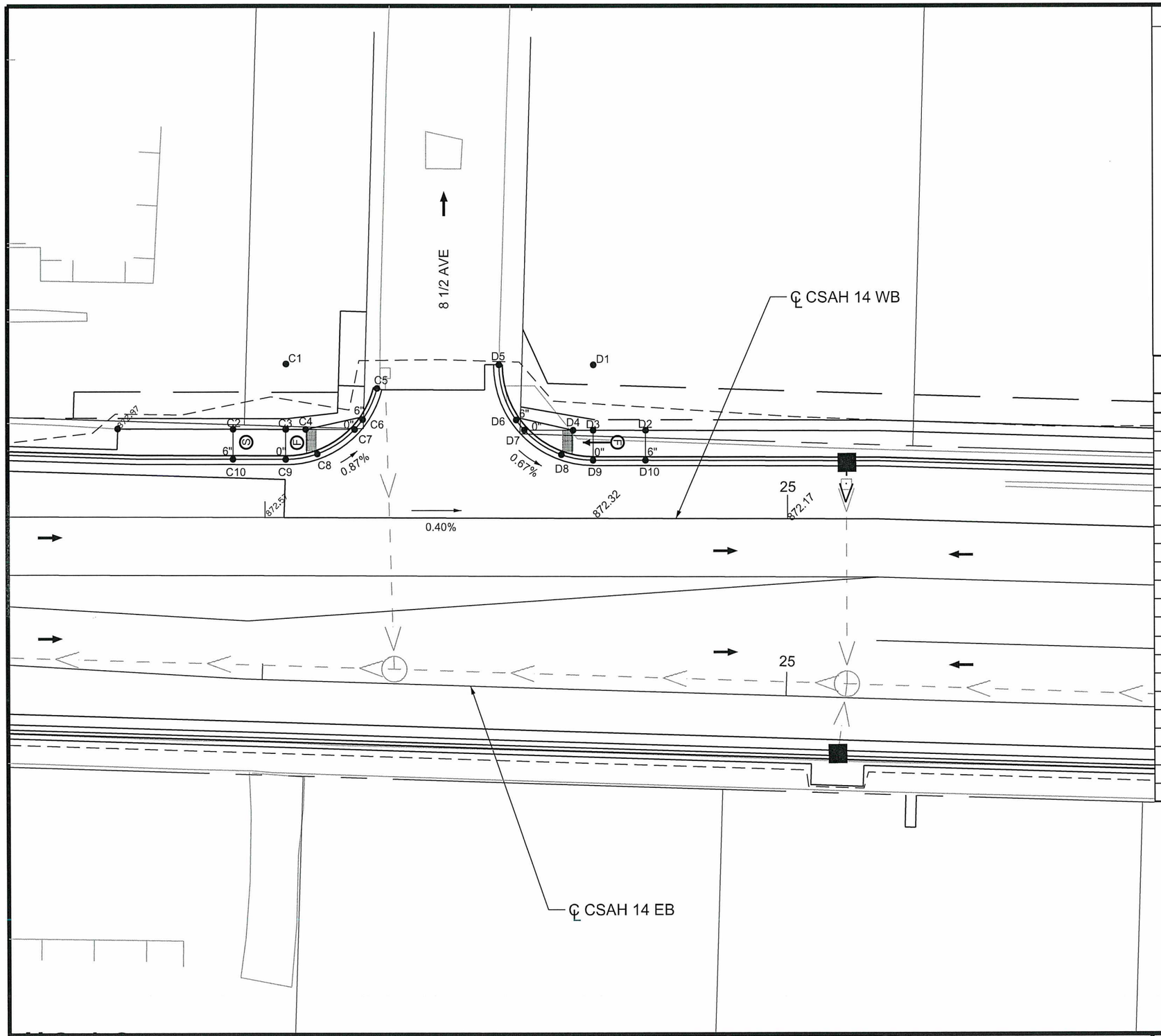
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CONSTRUCTION PLAN AND PROFILE

STA 61+00.00 TO END

Sheet 62 of 159 Sheets



LEGEND

- XXX • — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW

8 1/2 AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
C1	WB CSAH 14	24+03.90	29.00 LT	----	18' RADIUS POINT
C2	WB CSAH 14	23+93.90	16.67 LT	872.92	BACK OF WALK
C3	WB CSAH 14	24+03.90	16.67 LT	872.20	BACK OF WALK
C4	WB CSAH 14	24+07.68	16.67 LT	872.16	BACK OF WALK
C5	WB CSAH 14	24+21.31	24.44 LT	871.89	MATCH POINT
C6	WB CSAH 14	24+18.56	18.56 LT	871.95	BACK OF WALK
C7	WB CSAH 14	24+17.01	16.67' LT	871.97	BACK OF CURB
C8	WB CSAH 14	24+09.82	12.04' LT	872.04	BACK OF CURB
C9	WB CSAH 14	24+03.90	11.00 LT	872.10	END OF RADIUS
C10	WB CSAH 14	23+93.90	11.00 LT	872.82	BACK OF CURB
D1	WB CSAH 14	24+62.63	29.00 LT	----	18' RADIUS POINT
D2	WB CSAH 14	24+72.63	16.67 LT	872.57	BACK OF WALK
D3	WB CSAH 14	24+62.63	16.67 LT	872.11	BACK OF WALK
D4	WB CSAH 14	24+58.83	16.67 LT	872.11	BACK OF WALK
D5	WB CSAH 14	24+44.63	28.98 LT	872.20	MATCH POINT
D6	WB CSAH 14	24+47.96	18.56 LT	872.13	BACK OF WALK
D7	WB CSAH 14	24+49.51	16.67 LT	872.11	BACK OF CURB
D8	WB CSAH 14	24+56.60	12.04 LT	872.05	BACK OF CURB
D9	WB CSAH 14	24+62.63	11.00 LT	872.00	END OF RADIUS
D10	WB CSAH 14	24+72.63	11.00 LT	872.46	BACK OF CURB

N

SCALE 0 IN 20 FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P2.dgn 06/30/2017 1:16:47 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

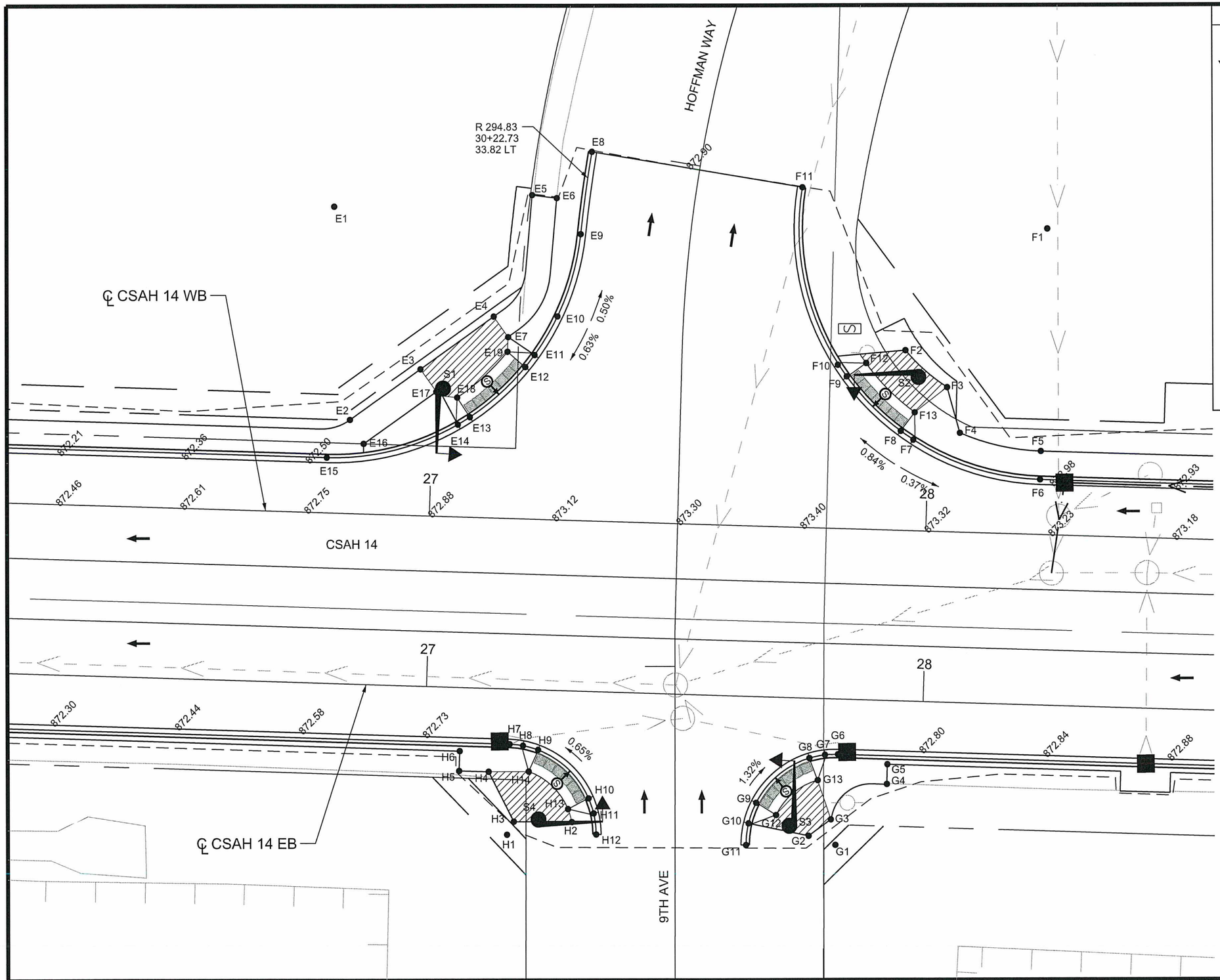
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
8½ AVE
STA 23+49.76 TO 25+40.88

Sheet 63 of 159 Sheets



LEGEND

- PROPOSED SIGNAL POLE
- PROPOSED SIGNAL CABINET
- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0% BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW

SEE SHEET 65 FOR CONTROL POINT INFORMATION.

N

SCALE 0 20 IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P3.dgn 07/05/2017 2:36:20 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
9TH AVE/HOFFMAN WAY
STA 26+14.40 TO 28+57.92

SIGNAL CONTROL POINTS

POINT NO.	DESCRIPTION	X	Y
S1	SIGNAL POLE	472412.1711	159254.1045
S2	SIGNAL POLE	472507.9441	159256.2151
S3	SIGNAL POLE	472481.6443	159166.8363
S4	SIGNAL POLE	472431.1031	159168.1861

HOFFMAN WAY POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
E1	WB CSAH 14	26+78.97	61.00' LT	----	50' RADIUS POINT
E2	WB CSAH 14	26+83.43	18.67 LT	873.14	BACK OF WALK
E3	WB CSAH 14	26+97.33	29.19 LT	873.16	BACK OF WALK
E4	WB CSAH 14	27+11.76	40.12 LT	873.22	BACK OF WALK
E5	WB CSAH 14	27+18.79	64.54 LT	873.29	WALK MATCH POINT
E6	WB CSAH 14	27+23.77	64.09 LT	873.20	WALK MATCH POINT
E7	WB CSAH 14	27+14.78	36.14 LT	873.11	FRONT OF WALK
E8	WB CSAH 14	27+30.58	73.52 LT	872.65	FLOW LINE MP
E9	WB CSAH 14	27+28.82	57.06 LT	872.73	FLOW LINE
E10	WB CSAH 14	27+24.61	40.57 LT	872.82	FLOW LINE BREAK PT
E11	WB CSAH 14	27+20.21	32.73 LT	872.76	FLOW LINE
E12	WB CSAH 14	27+18.41	30.27 LT	872.74	FLOW LINE B. RAMP
E13	WB CSAH 14	27+07.55	19.97 LT	872.65	FLOW LINE B. RAMP
E14	WB CSAH 14	27+05.15	18.40 LT	872.63	FLOW LINE
E15	WB CSAH 14	26+78.97	11.00 LT	872.46	FLOW LINE B. RAD
E16	WB CSAH 14	26+86.37	14.00 LT	873.04	FRONT OF WALK
E17	WB CSAH 14	27+00.65	24.81 LT	873.06	FRONT OF WALK
E18	WB CSAH 14	27+04.87	23.79 LT	872.97	TOP OF RAMP
E19	WB CSAH 14	27+14.74	33.22 LT	873.06	TOP OF RAMP
F1	WB CSAH 14	28+22.74	61.00' LT	----	50' RADIUS POINT
F2	WB CSAH 14	27+94.84	35.93 LT	873.36	BACK OF WALK
F3	WB CSAH 14	28+03.47	28.83 LT	873.48	BACK OF WALK
F4	WB CSAH 14	28+06.32	19.82 LT	873.60	BACK OF WALK
F5	WB CSAH 14	28+22.74	16.67 LT	873.63	BACK OF WALK E.RAD
F6	WB CSAH 14	28+22.74	11.00 LT	872.93	FLOW LINE E.RAD
F7	WB CSAH 14	27+96.93	18.18 LT	873.03	FLOW LINE
F8	WB CSAH 14	27+94.36	19.83 LT	873.00	FLOW LINE B.RAMP
F9	WB CSAH 14	27+83.30	30.27 LT	872.87	FLOW LINE B.RAMP
F10	WB CSAH 14	27+81.50	32.72 LT	872.84	FLOW LINE
F11	WB CSAH 14	27+73.19	67.73 LT	872.54	FLOW LINE B. RAD
F12	WB CSAH 14	27+87.04	33.15 LT	873.19	TOP OF RAMP
F13	WB CSAH 14	27+97.07	23.62 LT	873.32	TOP OF RAMP

9TH AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
G1	EB CSAH 14	27+83.15	29.00' RT	----	18' RADIUS POINT
G2	EB CSAH 14	27+77.72	27.38 RT	873.40	BACK OF WALK
G3	EB CSAH 14	27+82.09	23.97 RT	873.29	BACK OF WALK
G4	EB CSAH 14	27+93.15	16.67 RT	873.37	WALK MATCH POINT
G5	EB CSAH 14	27+93.15	12.67 RT	873.13	WALK MATCH POINT
G6	EB CSAH 14	27+83.15	11.00 RT	872.72	FLOW LINE E. RAD
G7	EB CSAH 14	27+80.54	11.19 RT	872.76	FLOW LINE
G8	EB CSAH 14	27+77.46	11.92 RT	872.80	FLOW LINE B. RAMP
G9	EB CSAH 14	27+66.97	21.13 RT	873.00	FLOW LINE B. RAMP
G10	EB CSAH 14	27+65.55	25.23 RT	873.04	FLOW LINE
G11	EB CSAH 14	27+65.16	29.56 RT	873.10	FLOW LINE B. RAD
G12	EB CSAH 14	27+71.04	23.43 RT	873.32	TOP OF RAMP
G13	EB CSAH 14	27+79.25	16.25 RT	873.12	TOP OF RAMP
H1	EB CSAH 14	27+16.98	29.00' RT	----	18' RADIUS POINT
H2	EB CSAH 14	27+29.98	26.08 RT	873.31	BACK OF WALK
H3	EB CSAH 14	27+18.26	26.35 RT	873.54	BACK OF WALK
H4	EB CSAH 14	27+12.93	16.61 RT	873.35	BACK OF WALK
H5	EB CSAH 14	27+06.98	16.61 RT	873.45	WALK MATCH POINT
H6	EB CSAH 14	27+06.98	12.67 RT	873.20	WALK MATCH POINT
H7	EB CSAH 14	27+16.98	11.00 RT	872.83	FLOW LINE B. RAD
H8	EB CSAH 14	27+19.71	11.21 RT	872.85	FLOW LINE
H9	EB CSAH 14	27+22.77	11.96 RT	872.87	FLOW LINE B. RAMP
H10	EB CSAH 14	27+33.23	21.26 RT	872.96	FLOW LINE B. RAMP
H11	EB CSAH 14	27+34.33	24.21 RT	872.98	FLOW LINE
H12	EB CSAH 14	27+34.97	28.38 RT	873.01	FLOW LINE E. RAD
H13	EB CSAH 14	27+29.12	23.51 RT	873.28	TOP OF RAMP
H14	EB CSAH 14	27+21.01	16.29 RT	873.19	TOP OF RAMP

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P3.dgn 06/30/2017 1:16:51 PM

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: ELIZABETH MARKOSE

SIGNATURE: ElizGMarkose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 05-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

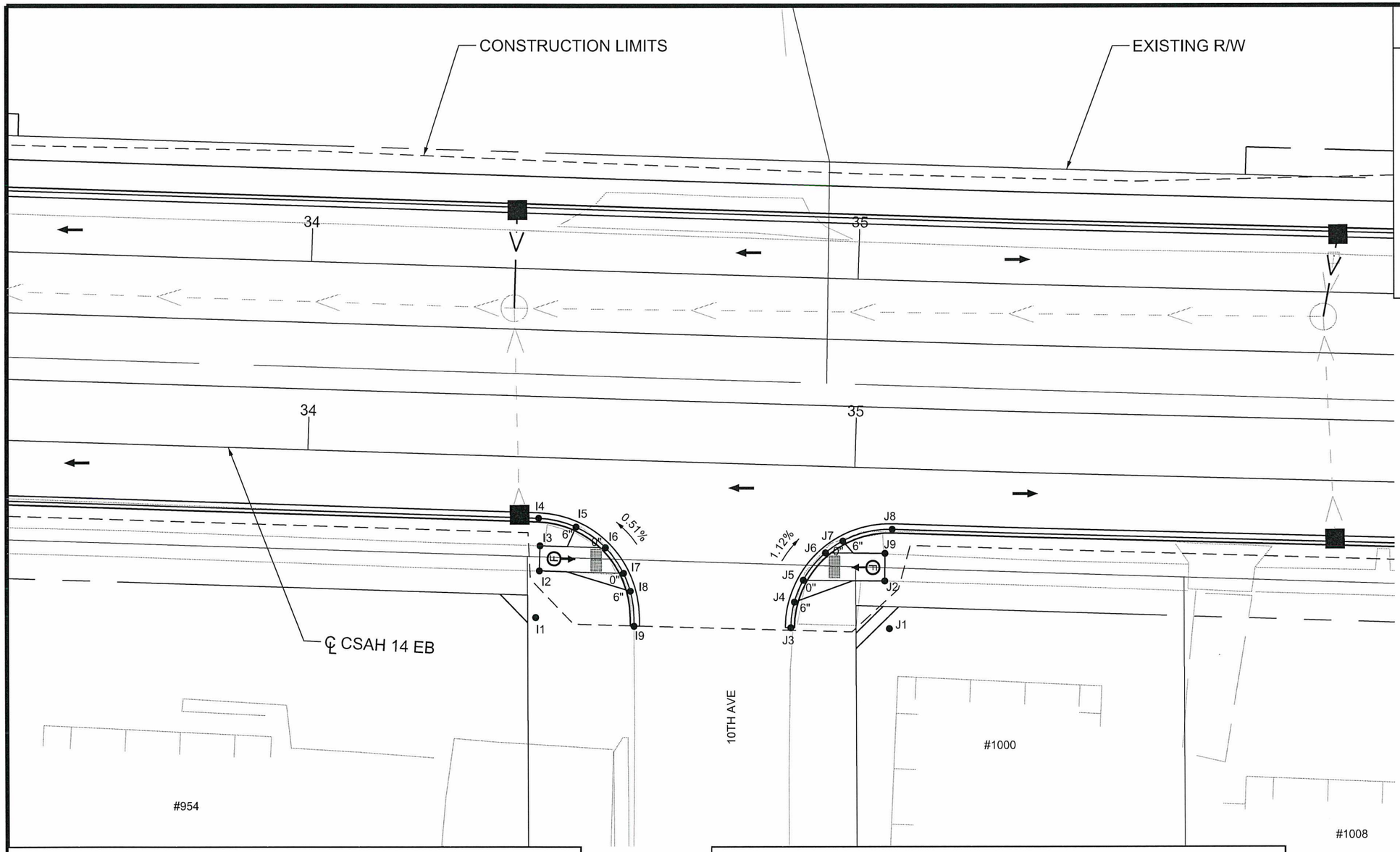
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
9TH AVE/HOFFMAN WAY

Sheet 65 of 159 Sheets



LEGEND

- XXX • — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- X" — CURB HEIGHT
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
- DRAINAGE FLOW ARROW

10TH AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
I1	EB CSAH 14	34+42.49	29.00 RT	----	18' RADIUS POINT
I2	EB CSAH 14	34+42.92	20.54 RT	875.56	WALK MATCH POINT
I3	EB CSAH 14	34+42.91	15.98 RT	875.43	WALK MATCH POINT
I4	EB CSAH 14	34+42.49	11.00 RT	874.86	END OF RADIUS
I5	EB CSAH 14	34+49.40	12.38 RT	874.90	FLOW LINE
I6	EB CSAH 14	34+54.90	15.96 RT	874.93	FLOW LINE
I7	EB CSAH 14	34+58.34	20.47 RT	874.96	FLOW LINE
I8	EB CSAH 14	34+59.69	23.67 RT	874.98	FLOW LINE
I9	EB CSAH 14	34+60.55	30.00 RT	875.01	CURB MATCH POINT

10TH AVE POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
J1	EB CSAH 14	35+07.14	29.00 RT	----	18' RADIUS POINT
J2	EB CSAH 14	35+06.06	35+06.06	875.38	WALK MATCH POINT
J3	EB CSAH 14	34+89.15	29.38 RT	875.14	CURB MATCH POINT
J4	EB CSAH 14	34+89.66	24.74 RT	875.09	FLOW LINE
J5	EB CSAH 14	34+91.17	20.70 RT	875.04	FLOW LINE
J6	EB CSAH 14	34+95.10	15.62 RT	874.97	FLOW LINE
J7	EB CSAH 14	34+98.19	13.39 RT	874.92	FLOW LINE
J8	EB CSAH 14	35+07.14	11.00 RT	874.82	END OF RADIUS
J9	EB CSAH 14	35+05.95	15.39 RT	875.20	WALK MATCH POINT

N

0 20
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P5.dgn 06/30/2017 1:16:56 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

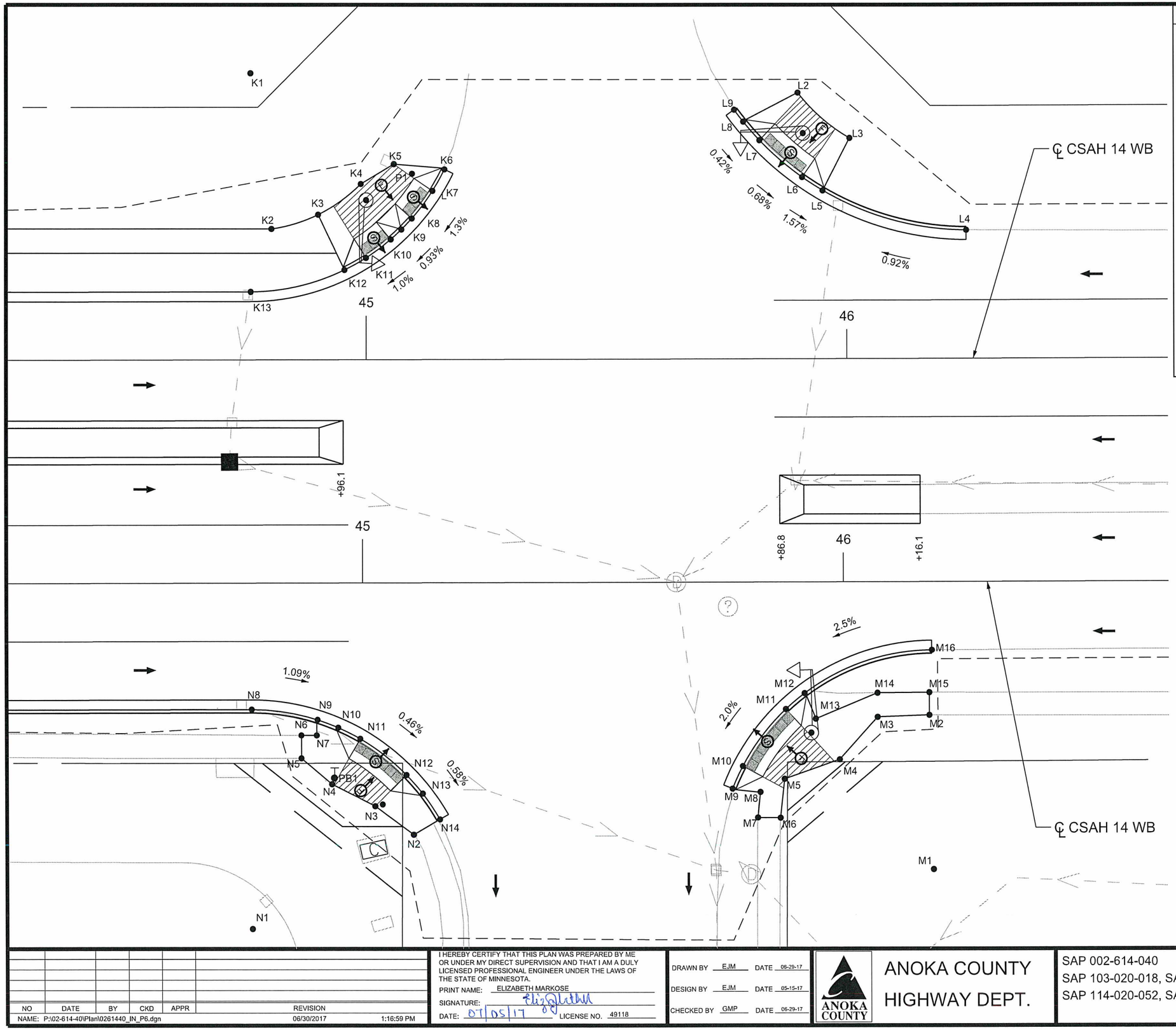
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
10TH AVE
STA 33+23.25 TO 35+93.68

Sheet 66 of 159 Sheets



LEGEND

- INPLACE SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- EXISTING CABINETS (SCALE TO SIZE)
- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW

SEE SHEET 68 FOR CONTROL POINT INFORMATION.

N

0 20
SCALE IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P6.dgn 06/30/2017 1:16:59 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
WEDGEWOOD DR
STA 44+26.71 TO 46+67.38

Sheet 67 of 159 Sheets

WEDGEWOOD DR POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
K1	WB CSAH 14	44+76.00	59.00 LT	----	45' RADIUS POINT
K2	WB CSAH 14	44+80.32	26.90 LT	873.48	BACK OF WALK
K3	WB CSAH 14	44+90.05	29.82 LT	873.59	BACK OF WALK
K4	WB CSAH 14	44+98.93	36.12 LT	873.66	BACK OF WALK
K5	WB CSAH 14	45+05.81	40.18 LT	873.59	BACK OF WALK
K6	WB CSAH 14	45+16.36	39.09 LT	873.29	CURB MATCH POINT
K7	WB CSAH 14	45+13.85	34.66 LT	873.25	FLOW LINE
K8	WB CSAH 14	45+09.54	29.00 LT	873.15	FLOW LINE
K9	WB CSAH 14	45+07.37	26.74 LT	873.12	FLOW LINE
K10	WB CSAH 14	45+05.14	24.71 LT	873.09	FLOW LINE
K11	WB CSAH 14	44+99.97	20.91 LT	873.02	FLOW LINE
K12	WB CSAH 14	44+95.52	18.46 LT	872.97	FLOW LINE
K13	WB CSAH 14	44+76.00	14.00 LT	872.67	END OF RADIUS
L1	WB CSAH 14	46+25.35	86.39 LT	----	60' RADIUS POINT
L2	WB CSAH 14	45+89.95	54.76 LT	874.08	BACK OF WALK
L3	WB CSAH 14	46+00.70	45.37 LT	873.99	BACK OF WALK
L4	WB CSAH 14	46+24.98	26.39 LT	873.48	FLOW LINE
L5	WB CSAH 14	45+95.07	34.59 LT	873.37	FLOW LINE
L6	WB CSAH 14	45+90.81	37.33 LT	873.46	FLOW LINE
L7	WB CSAH 14	45+81.96	44.95 LT	873.54	FLOW LINE
L8	WB CSAH 14	45+78.61	48.76 LT	873.56	FLOW LINE
L9	WB CSAH 14	45+76.72	51.24 LT	873.58	CURB MATCH POINT

PUSH BUTTON STATION

POINT NO.	DESCRIPTION	X	Y
PB1	SW QUAD	474201.8333	159102.3428

WEDGEWOOD DR POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
M1	EB CSAH 14	46+18.57	59.06 RT	----	45' RADIUS POINT
M2	EB CSAH 14	46+17.81	27.43 RT	874.38	WALK MATCH POINT
M3	EB CSAH 14	46+07.01	27.79 RT	873.63	BACK OF WALK
M4	EB CSAH 14	45+99.07	36.48 RT	873.40	BACK OF WALK
M5	EB CSAH 14	45+87.59	40.44 RT	873.16	BACK OF WALK
M6	EB CSAH 14	45+86.71	48.43 RT	873.30	WALK MATCH POINT
M7	EB CSAH 14	45+81.98	48.38 RT	873.13	WALK MATCH POINT
M8	EB CSAH 14	45+82.52	43.14 RT	873.03	FRONT OF WALK
M9	EB CSAH 14	45+76.76	42.44 RT	872.37	END OF RADIUS
M10	EB CSAH 14	45+78.90	37.83 RT	872.59	FLOW LINE
M11	EB CSAH 14	45+87.90	26.13 RT	872.90	FLOW LINE
M12	EB CSAH 14	45+91.81	22.88 RT	873.00	FLOW LINE
M13	EB CSAH 14	45+94.11	28.12 RT	873.25	FRONT OF WALK
M14	EB CSAH 14	46+07.00	22.86 RT	873.61	FRONT OF WALK
M15	EB CSAH 14	46+17.82	22.77 RT	874.36	WALK MATCH POINT
M16	EB CSAH 14	46+18.38	14.06 RT	873.64	END OF RADIUS
N1	EB CSAH 14	44+76.84	71.00 RT	----	45' RADIUS POINT
N2	EB CSAH 14	45+10.41	51.73 RT	872.60	WALK MATCH POINT
N3	EB CSAH 14	45+02.42	45.87 RT	872.62	BACK OF WALK
N4	EB CSAH 14	44+93.48	41.34 RT	872.73	BACK OF WALK
N5	EB CSAH 14	44+87.13	36.01 RT	872.85	WALK MATCH POINT
N6	EB CSAH 14	44+87.14	31.31 RT	872.75	WALK MATCH POINT
N7	EB CSAH 14	44+90.32	31.32 RT	872.68	FRONT OF WALK
N8	EB CSAH 14	44+76.84	26.00 RT	872.39	END OF RADIUS
N9	EB CSAH 14	44+90.53	28.13 RT	872.29	FLOW LINE
N10	EB CSAH 14	44+94.81	29.74 RT	872.24	FLOW LINE
N11	EB CSAH 14	44+99.39	32.06 RT	872.23	FLOW LINE
N12	EB CSAH 14	45+08.94	39.46 RT	872.17	FLOW LINE
N13	EB CSAH 14	45+12.29	43.29 RT	872.14	FLOW LINE
N14	EB CSAH 14	45+15.87	48.59 RT	872.11	END OF RADIUS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P6.dgn 06/30/2017 1:17:00 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

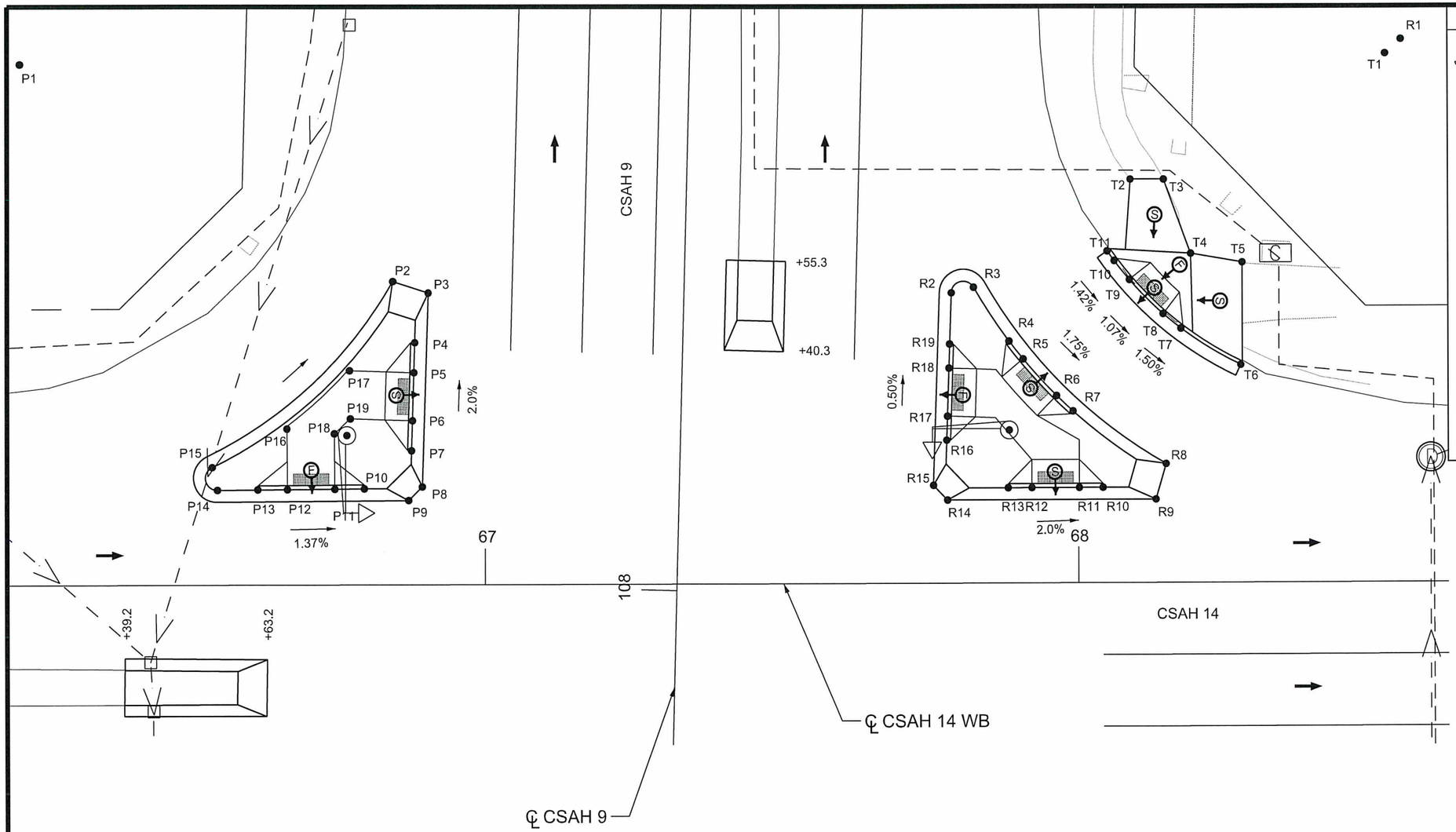
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
WEDGEWOOD DR

Sheet 68 of 159 Sheets



LEGEND

- INPLACE SIGNAL POLE
- C — EXISTING CABINETS (SCALE TO SIZE)
- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW

SEE SHEET 70 FOR CONTROL POINT INFORMATION.

N

SCALE 0 20 IN FEET

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P8.dgn 06/30/2017 1:17:05 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
CSAH 9
STA 66+19.55 TO 68+62.54

Sheet 69 of 159 Sheets

ROUND LAKE BLVD POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
P1	WB CSAH 14	66+21.78	66+21.78	----	74.54' RADIUS POINT
P2	WB CSAH 14	66+84.54	50.52 LT	875.51	ISLAND NOSE LIP
P3	WB CSAH 14	66+90.51	48.61 LT	875.55	ISLAND NOSE LIP
P4	WB CSAH 14	66+88.24	40.34 LT	875.69	FLOW LINE
P5	WB CSAH 14	66+88.07	35.35 LT	875.92	FLOW LINE
P6	WB CSAH 14	66+87.81	27.35 LT	876.08	FLOW LINE
P7	WB CSAH 14	66+87.64	22.35 LT	876.19	FLOW LINE
P8	WB CSAH 14	66+89.45	16.33 LT	876.33	ISLAND NOSE LIP
P9	WB CSAH 14	66+87.14	14.09 LT	876.46	ISLAND NOSE LIP
P10	WB CSAH 14	66+79.64	16.03 LT	876.57	FLOW LINE
P11	WB CSAH 14	66+74.64	15.99 LT	876.63	FLOW LINE
P12	WB CSAH 14	66+66.64	15.93 LT	876.74	FLOW LINE
P13	WB CSAH 14	66+61.64	15.90 LT	876.81	FLOW LINE
P14	WB CSAH 15	66+54.82	15.85 LT	876.9	FLOW LINE
P15	WB CSAH 16	66+53.94	19.65 LT	876.65	FLOW LINE
P16	WB CSAH 17	66+66.56	26.04 LT	876.71	PED LANDING
P17	WB CSAH 18	66+77.17	35.71 LT	876.42	PED LANDING
P18	WB CSAH 19	66+74.57	25.22 LT	876.62	PED LANDING
P19	WB CSAH 20	66+77.29	27.70 LT	876.57	PED LANDING

ROUND LAKE BLVD POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
R1	WB CSAH 14	68+54.68	90.54 LT	----	83.75' RADIUS POINT
R2	WB CSAH 14	67+78.75	67+78.75	874.80	FLOW LINE
R3	WB CSAH 14	67+82.48	49.29 LT	874.71	FLOW LINE
R4	WB CSAH 14	67+88.42	40.30 LT	874.61	FLOW LINE
R5	WB CSAH 14	67+90.78	37.34 LT	874.57	FLOW LINE
R6	WB CSAH 14	67+96.41	31.23 LT	874.43	FLOW LINE
R7	WB CSAH 14	67+99.17	28.64 LT	874.37	FLOW LINE
R8	WB CSAH 14	68+14.86	19.84 LT	874.08	ISLAND NOSE LIP
R9	WB CSAH 14	68+13.13	13.91 LT	874.16	ISLAND NOSE LIP
R10	WB CSAH 14	68+04.17	15.91 LT	874.40	FLOW LINE
R11	WB CSAH 14	68+00.17	15.91 LT	874.51	FLOW LINE
R12	WB CSAH 14	67+92.17	15.90 LT	874.67	FLOW LINE
R13	WB CSAH 14	67+88.17	15.90 LT	874.79	FLOW LINE
R14	WB CSAH 15	67+77.99	13.90 LT	875.03	ISLAND NOSE LIP
R15	WB CSAH 16	67+75.63	16.34 LT	875.03	ISLAND NOSE LIP
R16	WB CSAH 17	67+77.89	23.86 LT	874.98	FLOW LINE
R17	WB CSAH 18	67+78.03	27.85 LT	874.95	FLOW LINE
R18	WB CSAH 19	67+78.31	35.85 LT	874.91	FLOW LINE
R19	WB CSAH 20	67+78.45	39.85 LT	874.88	FLOW LINE

ROUND LAKE BLVD POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
T1	WB CSAH 14	68+52.04	88.17 LT	----	57.39' RADIUS POINT
T2	WB CSAH 14	68+08.96	67.21 LT	874.57	WALK MATCH POINT
T3	WB CSAH 14	68+14.61	67.20 LT	874.68	WALK MATCH POINT
T4	WB CSAH 14	68+19.14	54.81 LT	874.18	BACK OF WALK
T5	WB CSAH 14	68+27.81	53.33 LT	873.92	WALK MATCH POINT
T6	WB CSAH 14	68+27.51	36.28 LT	873.43	WALK MATCH POINT
T7	WB CSAH 14	68+17.47	42.36 LT	873.62	CURB MATCH POINT
T8	WB CSAH 14	68+14.47	44.78 LT	873.68	FLOW LINE
T9	WB CSAH 14	68+08.76	50.48 LT	873.77	FLOW LINE
T10	WB CSAH 14	68+06.20	53.64 LT	873.79	FLOW LINE
T11	WB CSAH 14	68+05.02	55.25 LT	873.8	CURB MATCH POINT

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P8.dgn 06/30/2017 1:17:05 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

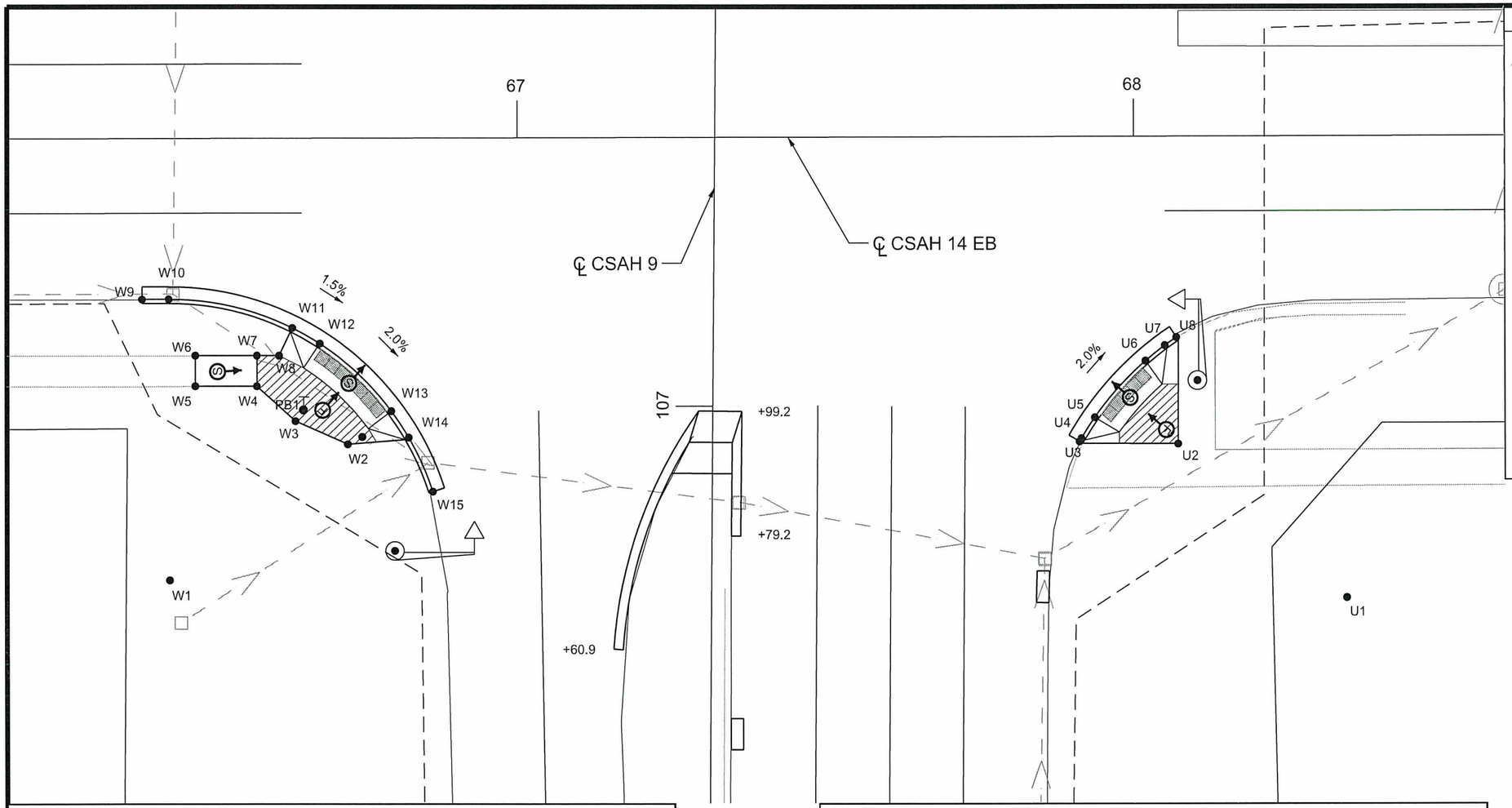
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
CSAH 9

Sheet 70 of 159 Sheets



LEGEND

- INPLACE SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- XXX — CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- X" — CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- (S) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) — INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW

ROUND LAKE BLVD POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
W1	EB CSAH 14	66+43.46	70.77 RT	----	45' RADIUS POINT
W2	EB CSAH 14	66+72.32	49.03 RT	876.91	BACK OF WALK
W3	EB CSAH 14	66+63.87	45.31 RT	877.09	BACK OF WALK
W4	EB CSAH 14	66+57.63	39.72 RT	877.18	BACK OF WALK
W5	EB CSAH 14	66+47.63	39.70 RT	877.48	WALK MATCH POINT
W6	EB CSAH 14	66+47.64	34.79 RT	877.55	WALK MATCH POINT
W7	EB CSAH 14	66+57.64	34.81 RT	877.18	FRONT OF WALK
W8	EB CSAH 14	66+61.23	34.82 RT	877.11	FRONT OF WALK
W9	EB CSAH 14	66+39.05	25.78 RT	877.08	CURB MATCH POINT
W10	EB CSAH 14	66+43.34	25.77 RT	877.03	FLOW LINE
W11	EB CSAH 14	66+63.36	30.41 RT	876.78	FLOW LINE
W12	EB CSAH 14	66+67.81	32.92 RT	876.7	FLOW LINE
W13	EB CSAH 14	66+79.45	43.75 RT	876.36	FLOW LINE
W14	EB CSAH 14	66+82.26	47.97 RT	876.25	FLOW LINE
W15	EB CSAH 14	66+86.19	56.64 RT	876.06	CURB MATCH POINT
W16	EB CSAH 14	66+65.14	43.53 RT		PUSH BUTTON

ROUND LAKE BLVD POINTS

POINT	ALIGNMENT	STATION	OFFSET	ELEVATION	DESCRIPTION
U1	EB CSAH 14	68+34.32	74.00 RT	----	50' RADIUS POINT
U2	EB CSAH 14	68+07.08	49.27 RT	874.65	WALK MATCH POINT
U3	EB CSAH 14	67+91.10	48.86 RT	874.60	CURB MATCH POINT
U4	EB CSAH 14	67+91.39	48.37 RT	874.52	FLOW LINE
U5	EB CSAH 14	67+93.57	45.02 RT	874.50	FLOW LINE
U6	EB CSAH 14	68+01.83	35.99 RT	874.23	FLOW LINE
U7	EB CSAH 14	68+04.97	33.52 RT	874.17	FLOW LINE
U8	EB CSAH 14	68+06.85	32.22 RT	874.11	CURB MATCH POINT

PUSH BUTTON STATION

POINT NO.	DESCRIPTION	X	Y
PB1	SW QUAD	476372.9615	159097.1764

N

SCALE 0 20 IN FEET

9 OF 9

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_IN_P10.dgn 06/30/2017 1:17:10 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

INTERSECTION DETAILS
CSAH 9
STA 66+17.34 TO 68+59.71

Sheet 71 of 159 Sheets

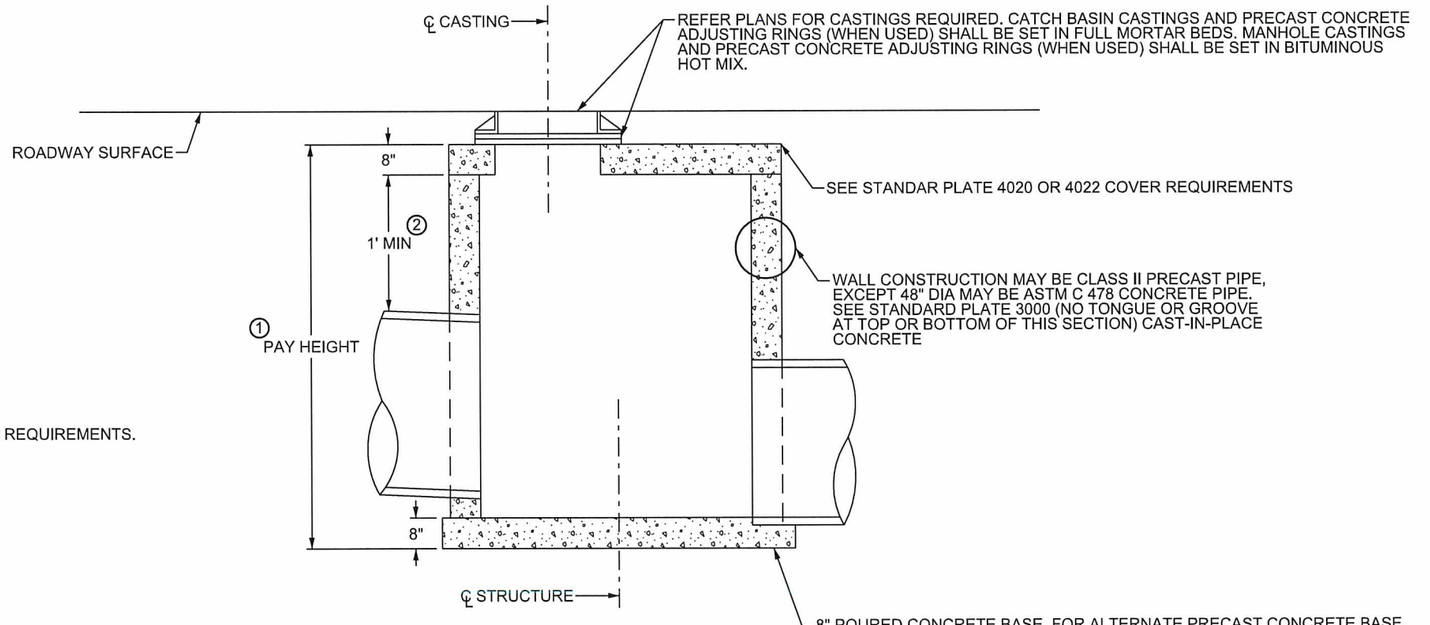
DRAINAGE TABULATION

M

STRUCTURE NO.		CENTER OF CASTING LOCATION			DRAINAGE STRUCTURES						TOP OF CASTING ELEV.	OUTLET ELEV.	DOWN-STREAM INLET ELEV.	SLOPE %	12" RCP CL V	15" RCP CL V	CONNECT INTO EXISTING DRAINAGE STRUCTURE	CONNECT INTO EXISTING STORM SEWER	NOTES
FLOWS FROM	FLOWS TO	ALIGN.	STATION	OFFSET			G	48-4020	54-4020	CASTING ASSEMBLY TYPE									
							LIN FT	LIN FT	LIN FT						LIN FT	LIN FT	EACH	EACH	
CB114	MH115	14EB	21+01.48	13.00 RT	CB	G	3.0			R-3067-L	875.16	871.66	871.23	1.00	8			1	(1)
CB124	MH125	14EB	25+10.19	10.50 RT	CB	G	3.4			R-3067-L	871.54	867.67	867.54	0.98	8			1	(1)
CB127	MH125	14WB	25+11.05	-10.68 LT	CB	G	3.0			R-3067-L	871.80	868.29	867.87	1.00	8			1	(2)
CB128	MH130	14EB	27+15.00	10.50 RT	CB	G	3.4			R-3067-L	872.73	868.85	868.50	0.94	8			1	(1)
CB131	MH130	14EB	27+85.00	10.50 RT	CB	G	3.5			R-3067-L	872.74	868.79	868.47	0.95	8			1	(1)
CB132	MH134	14WB	28+27.70	-10.50 LT	CB	54-4020			3.4	R-3067-L	872.84	868.95	868.81	0.75		18	1	1	(1), (2)
CB137	CB132	14WB	29+00.00	-10.50 LT	CB	G	2.8			R-3067-L	872.74	869.49	868.95	0.75		72			
CB138	MH135	14EB	28+45.20	10.50 RT	CB	G	2.9			R-3067-L	872.62	869.25	868.88	0.99	8			1	(1)
CB146	MH145	14WB	31+44.60	-10.50 LT	CB	G	2.8			R-3067-L	873.60	870.35	870.18	1.00		18	1		
CB147	MH148	14EB	34+39.00	10.50 RT	CB	G	3.0			R-3067-L	874.75	871.29	870.91	1.02	8			1	(1)
CB149	MH148	14WB	34+37.29	-10.50 LT	CB	G	2.8			R-3067-L	874.63	871.38	871.20	1.00		18	1		
CB150	MH151	14EB	35+88.00	10.50 RT	CB	G	2.4			R-3067-L	874.54	871.59	871.19	1.00	8			1	(1)
CB152	MH151	14WB	35+87.44	-10.50 LT	CB	G	2.8			R-3067-L	874.50	871.25	871.10	1.00		15	1		
CB203	MH205	14EB	44+72.43	-25.25 LT	CB	48-4020		2.9		R-3067-L	872.86	869.46			16			2	(1), (2)
						TOTAL	35.8	2.9	3.4	14					80	141	4	11	

NOTES:
(1) DO NOT DISTURB EXISTING PIPE.
(2) TIE INTO INPLACE PIPE AFTER REMOVING EXISTING CATCH BASIN.

GENERAL NOTE:
ELEVATIONS SHALL BE VERIFIED IN FIELD.
ADJUSTING RINGS SHALL BE INCIDENTAL TO DRAINAGE STRUCTURES. SEE BELOW FOR DETAILS.



NOTES:

① REFER TO TAB 'M' FOR HEIGHT AND DIAMETER REQUIREMENTS.

② 1 FT MINIMUM FOR PRECAST

GENERAL NOTES:

EQUIVALENT STEEL AREA IN WIRE MESH PER STANDARD PLATE 3000 MAY BE USED.

REINFORCEMENT AS PER SPEC 3301, GRADE 60

DRAINAGE STRUCTURE DESIGN 4020

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_DR_P1.dgn 07/05/2017 2:36:43 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

DRAINAGE TABULATION

Sheet 72 of 159 Sheets

LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- INPLACE MANHOLE
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- SURFACE FLOW ARROW

CSAH 7 (77TH AVE)

℄ CSAH 14 WB

℄ CSAH 14 EB

#703 #700 #716 PARCEL 26 #727 #730 #734 PARCEL 2 #737 #740 PARCEL 25 #745 #752 PARCEL 24 #753 #763 #765 PARCEL 7 #805 #800 PARCEL 23 #809 #810 #811 PARCEL 10 #818 #820 PARCEL 11 #850 PARCEL 27

EX. RW

CONST. LIMITS

8 1/2 AVE

8TH AVE

MATCH LINE 25+50

BEGIN SAP 002-614-040
SAP 103-020-018
CSAH 14 EB STA. 14+18.00

BEGIN MILL & OVERLAY
CSAH 14 EB STA. 20+96.44

SCALE 0 100 IN FEET

CB114 875.16 MH115 875.23

871.66 871.23

CB127 871.80 MH125 872.32 CB124 871.54

868.29 867.87 867.67

8' 12" RCP @ 1.00% 868.21

EXISTING GROUND AT CSAH 14 EB C/L

EX11 873.21

MH115 875.23

MH123 872.58 MH125 872.32

24" RCP @ 0.30%

24" RCP @ 0.20%

18" RCP @ 0.37%

864.93 866.58 866.90

875 865

878.90 878.93 878.90 878.77 878.51 878.18 877.92 877.63 877.26 876.82 876.40 875.95 875.46 875.05 874.60 874.12 873.63 873.12 872.63 872.43 872.33 872.39

15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_DR_P1.dgn 06/30/2017 1:17:16 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

DRAINAGE PLAN &PROFILE
CSAH 14
STA BEGIN TO 25+50

Sheet 73 of 159 Sheets

LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- INPLACE MANHOLE
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- SURFACE FLOW ARROW

PARCEL 12 | PARCEL 13 | HOFFMAN WAY | PARCEL 14 #2100 | PARCEL 15 #1055

MATCH LINE 25+50 | MATCH LINE 38+50

PE | 5' TE | 10' TE | 2' TE | 5' TE | 4' PE | 5' TE | 8' TE | 5' TE | 2' TE

EX. RW | CONST. LIMITS | ℄ CSAH 14 WB | EX. RW

#850 | #850 PARCEL 22 | #900 PARCEL 21 | #904 | #928 | #936 | #944 | #954 PARCEL 20 | #1000 PARCEL 19 | #1008 | #1016 | #1025

9TH AVE | 10TH AVE

SAP 103-111-005
9TH AVE

CONST. LIMITS | ℄ CSAH 14 EB | EX. RW | EX. RW

SCALE 0 100 IN FEET

MH134 873.28 | CB132 872.84 | CB137 872.74
868.81 | 868.95 | 869.49
18' 15" RCP @ 0.75%
72' 15" RCP @ 0.75%

CB146 873.60 | MH145 874.03
870.35 | 870.17
18' 15" RCP @ 1.00%

CB149 874.63 | MH148 875.23 | CB147 874.75
871.38 | 871.29
18' 15" RCP @ 1.00%
871.20

CB152 874.50 | MH151 874.84 | CB150 874.54
871.25 | 871.59
871.10
15' 15" RCP @ 1.00%

EXISTING GROUND AT CSAH 14 WB C/L

MH129 873.32 | MH134 873.28 | MH135 873.12 | MH145 874.03 | MH148 875.23 | MH151 874.84

18" RCP @ 0.51%
868.12
18" RCP @ 0.47%
868.49
868.69
15" RCP @ 0.47%
868.60
15" RCP @ 0.25%
869.44
15" RCP @ 0.31%
870.36
15" RCP @ 0.30%
870.81

872.24 | 872.34 | 872.61 | 872.88 | 873.30 | 873.32 | 873.18 | 873.12 | 873.13 | 873.28 | 873.45 | 873.69 | 873.91 | 874.11 | 874.33 | 874.56 | 874.76 | 874.91 | 875.03 | 875.03 | 874.95 | 874.86 | 875.21 | 875.51 | 875.51 | 875.56 | 875.75

875 | 865

26+00 | 27+00 | 28+00 | 29+00 | 30+00 | 31+00 | 32+00 | 33+00 | 34+00 | 35+00 | 36+00 | 37+00 | 38+00

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_DR_P2.dgn 06/30/2017 1:17:18 PM

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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth
DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

DRAINAGE PLAN &PROFILE
CSAH 14
STA 25+50 TO 38+50

Sheet 74 of 159 Sheets

LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- INPLACE MANHOLE
- INPLACE STORM SEWER
- SURFACE FLOW ARROW

PARCEL 15
#1055

PARCEL 16
#1101

MATCH LINE 38+50

CONST. LIMITS

EX. RW

℄ CSAH 14 WB

EX. RW

CSAH 14 (MAIN ST)

1029 #1033 #1037 #1039 #1043 #1047 #1051

EX. RW

CONST. LIMITS

℄ CSAH 14 EB

CITY LIMITS
END SAP 103-020-018
BEGIN SAP 114-020-052, CP 16-18
CSAH 14 EB STA. 41+07.43

#3990
PARCEL 18

WEDGEWOOD DR

#12496
PARCEL 17

EX. RW

N

0 100
SCALE IN FEET

EXISTING GROUND
AT CSAH 14 WB C/L

CB201 872.73
CB202 873.02
CB203 872.86
MH206 873.54
870.00
869.62
869.46
869.15

875.75 875.66 875.46 875.30 875.04 874.74 874.49 874.32 874.19 873.97 873.73 873.51 873.37 873.29 873.57 873.98 874.81 875.65 877.10 878.55 880.25 882.00 883.70 885.39 887.10 888.87 890.62

875
865

39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_DR_P3.dgn 08/30/2017 1:17:19 PM

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: ELIZABETH MARKOSE

SIGNATURE: Eliz Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

DRAINAGE PLAN &PROFILE
CSAH 14
STA 38+50 TO 51+50

Sheet 75 of 159 Sheets

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

PROJECT LOCATION AND GENERAL INFORMATION

THE PROJECT IS LOCATED ON CSAH 14 BETWEEN CSAH 7 AND CSAH 9 IN CITIES OF ANOKA AND COON RAPIDS. THE PROJECT LIES WITHIN LOWER RUM RIVER WMO AND COON CREEK WATERSHED DISTRICT, THE BOUNDARY OF WHICH CONCIDES WITH CITIES' BOUNDARIES IN THE PROJECT AREA .

IMPROVEMENTS WITH THIS PROJECT INCLUDES WIDENING OF WESTBOUND LANE TO INCLUDE A CENTER LEFT TURN LANE BETWEEN 8 1/2 AVE AND 500 FT EAST OF 10TH AVE, REPLACEMENT OF TRAFFIC SIGNAL AND STORM SEWER WORK. THE RUNOFF WILL DRAIN TO STORM SEWER SYSTEM.

THIS PROJECT WILL IMPACT 4.80 ACRES OF SOILS AND CREATE POTENTIAL FOR SEDIMENT DISCHARGE FROM THE SITE.

TRAINING REQUIREMENTS

THE CONTRACTOR SHALL ENSURE COMPLIANCE WITH THE TRAINING REQUIRED IN PART 111.A.2 OF THE GENERAL STORM WATER PERMIT FOR CONSTRUCTION ACTIVITY.

THE INDIVIDUALS TRAINED AND THE TRAINING RECEIVED SHALL BE RECORDED IN THE SWPPP BEFORE THE START OF CONSTRUCTION OR AS SOON AS PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED.

LONG TERM OPERATION AND MAINTENANCE

THE STREETS DIVISION OF CITIES OF ANOKA AND COON RAPIDS SHALL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF PERMANENT STORM WATER MANAGEMENT.

RECEIVING SURFACE WATERS, DISCHARGE TO IMPAIRED WATERS & SPECIAL WATERS

THE FOLLOWING TABLE IDENTIFIES ALL SURFACE WATERS WITHIN 1 MILE OF THE PROJECT BOUNDARY, WHICH WILL RECEIVE STORM WATER RUNOFF FROM THE CONSTRUCTION SITE, DURING AND AFTER CONSTRUCTION.

RECEIVING SURFACE WATERS		
NAME OF WATER BODY	SPECIAL WATER	IMPAIRED WATER
RUM RIVER	NO	NO
COON CREEK	NO	NO

STORM WATER FROM A DISCHARGE POINT ON THE PROJECT WHICH FLOWS TO A SURFACE WATER IDENTIFIED AS IMPAIRED AND/OR SPECIAL MUST INCLUDE THE FOLLOWING ADDITIONAL BMP REQUIREMENTS:

1) ALL EXPOSED SOILS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

2) DITCH BOTTOMS ULTIMATELY DRAIN INTO PUBLIC STORM DRAINAGE SYSTEM. STABILIZATION TO PREVENT EROSION IS REQUIRED WITHIN 24 HOURS OF GRADING OF ALL DITCH BOTTOMS.

DISTURBED AREA

TOTAL PROJECT AREA DISTURBED : 10.23 ACRES
EXISTING IMPERVIOUS AREA : 9.53 ACRES
PROPOSED IMPERVIOUS AREA : 9.88 ACRES
EXISTING PERVIOUS AREA : 0.70 ACRES
PROPOSED PERVIOUS AREA : 0.35 ACRES

CONSTRUCTION PHASING

SILT FENCE AND/OR OTHER SUITABLE PERIMETER BMPS AS PROVIDED IN THE PLANS WILL BE INSTALLED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY. CONSTRUCTION WILL BE REQUIRED TO BE PHASED SO THAT ALL DOWN GRADIENT SEDIMENT CONTROL MEASURES ARE INSTALLED PRIOR TO OR IN CONJUNCTION WITH ANY SOIL DISTURBING ACTIVITIES.

WHEN TOPSOIL IS DISTURBED, THE TOPSOIL SHALL BE STRIPPED AND STOCKPILED IN SOIL BERMS AT THE TOE OF THE STRIPPED SLOPES ALONG THE PROJECT LIMITS. TEMPORARY VEGETATION WILL BE ESTABLISHED ON THE STOCKPILED TOPSOIL BERMS WITH SEED MIXTURE 150, TYPE 1 FERTILIZER, AND DISK ANCHORING TYPE 1 MULCH. STOCKPILED TOPSOIL BERMS SHALL NOT BE PLACED IN ANY STORM WATER CONVEYANCES.

AFTER STRIPPING THE TOPSOIL THE EXPOSED SOIL SHALL BE STABILIZED WITH DISK ANCHORED TYPE 1 MULCH WITHIN 14 DAYS OF ROUGH GRADING.

TEMPORARY SEDIMENT BASIN

THIS ROAD CONSTRUCTION PROJECT AS DESIGNED DOES NOT MEET ANY OF THE TEMPORARY SEDIMENT BASIN DISTURBED AREA THRESHOLD REQUIREMENTS AND TEMPORARY SEDIMENT BASIN WILL NOT BE REQUIRED.

PERMANENT STORM WATER MANAGEMENT SYSTEM

ALL STORM WATER MUST BE DISCHARGED IN A MANNER THAT DOES NOT CAUSE NUISANCE CONDITIONS, EROSION IN RECEIVING WATERS OR ON DOWNSLOPE PROPERTIES, OR INUNDATION IN WETLANDS CAUSING A SIGNIFICANT ADVERSE IMPACT TO THE WETLAND.

THIS ROAD CONSTRUCTION PROJECT HAS 1.1 ACRE INCREASE IN IMPERVIOUS AREA.

EROSION PREVENTION PRACTICES

ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION, BUT IN NO CASE LATER THAN 14 DAYS AFTER ROUGH GRADING. FOR ALL AREAS WHERE DISTURBED SOILS DRAIN TO AN IMPAIRED OR SPECIAL WATERS, THE EXPOSED SOIL MUST BE STABLIZED NO LATER THAN 24 HOURS OF GRADING. SEE THE IMPAIRED & SPECIAL WATERS SECTION OF THIS SWPPP FOR ADDITIONAL BMP REQUIREMENTS FOR DISTURBED AREAS THAT DRAIN TO A SPECIAL OR IMPAIRED WATER.

THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABLITIZATION OF THE LAST 200 FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER.

PIPE CULVERT OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER. THIS WILL INCLUDE DRAINAGE DITCHES THAT DRAIN WATER FROM ANY PORTION OF THE CONSTRUCTION SITE.

POLLUTION PREVENTION MEASURES

THE CONTRACTOR SHALL IMPLEMENT THE POLLUTION PREVENTION MANAGEMENT MEASURES AS DIRECTED IN THE NPDES PERMIT PART IV.F AS PERTAINING TO SOLID WASTE, HAZARDOUS MATERIALS, EXTERNAL TRUCK WASHING, AND CONCRETE WASHOUT ONSITE.

THESE MANAGEMENT MEASURE FOR POLLUTION PREVENTION SHALL BE STRICTLY ENFORCED.

PROJECT CONTACTS			
DNR	NOT REQUIRED		
COE	NOT REQUIRED		
MPCA	NPDES	LAURAL MEZNER	218-316-3889
MPCA	EMERGENCY	STATE DUTY OFFICER	800-422-0798
ANOKA COUNTY DESIGN SWPPP PREPARATION	U OF MN DESIGN OF SWPPP EXPIRES 5/18	JEFF FOSTER	763-324-3126
ANOKA COUNTY PROJECT REPRESENTATIVE	U OF MN SITE MANAGEMENT EXPIRES 5/18	HARRY GRAMS	763-324-3114
EROSION CONTROL SUPERVISOR (CONTRACTOR)			

SEDIMENT CONTROL PRACTICES

TEMPORARY STOCKPILED TOPSOIL BERMS MUST INCLUDE PERIMETER BMPS AS PROVIDED IN THE PLAN AT LOCAITONS WHERE CONSTRUCTION STORM WATER DRAINS FROM THE PROJECT.

IN ORDER TO MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, THERE SHALL BE NO UNBROKEN SLOPE LENGTH OF GREATER THAT 75 FEET FOR SLOPES WITH A GRADE OF 1:3 OR STEEPER.

ALL STORM DRAIN INLETS MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL DISCHARGE TO THE INLET HAVE BEEN STABILIZED.

VEHICLE TRACKING OFF SEDIMENT FROM THE CONSTRUCTION SITE MUST BE MINIMIZED. STREET SWEEPING MUST BE USED IF SEDIMENT IS BEING TRACKED OFF THE CONSTRUCTION SITE.

LOCATION OF SWPPP REQUIREMENTS

REQUIREMENT	PLAN TITLE	PLAN LOCATION	MN/DOT SPECIFICATION	SPECIAL PROVISION
NPDES PERMIT COMPLIANCE			1701, 1702, &1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CERTIFIED PERSONNEL IN EROSION AND SEDIMENT CONTROL SITE MANAGEMENT	PROJECT CONTACTS		1506, 1717, & 2573	1716 (AIR, LAND & WATER) 1716 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
CHAIN OF RESPONSIBILITY			1506, 1717, & 2573	
PROJECT SCHEDULE / WEEKLY EROSION & SEDIMENT CONTROL SCHEDULE / COMPLETING INSPECTION / MAINTENANCE LOG			1717 & 2573	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
SWPPP PREPARATION				
SITE MAP / RECEIVING WATERS / DIRECTION OF FLOW	EROSION CONTROL PLAN	SHEETS 81 - 83	1717	
PROJECT SPECIFIC CONSTRUCTION STAGING	CONSTRUCTION STAGING PLAN	SHEETS 23 - 32	1717	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 1806 (DETERMINATION AND EXTENSION OF CONTRACT TIME)
TEMPORARY EROSION AND SEDIMENT CONTROL BMP LOCATIONS, INSTALLATION, TIMING OF INSTALLATION AND TYPE OF BMP	EROSION CONTROL PLAN, TABULATION CHARTS	SHEETS 10, 81, 82, 83	2573 & 2525	2575 (RAPID STABILIZATION SPECIFICATION)
ADDITIONAL TEMPORARY AND OR PERMANENT EROSION AND SEDIMENT CONTROL BMP'S NOT PROVIDED OR SHOWN IN THE PLAN	STORM WATER POLLUTION PREVENTION PLAN	SHEETS 76 - 77	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT) 2575 (RAPID STABILIZATION SPECIFICATION)
MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES, REMOVAL OF TRACKED SEDIMENT, REMOVAL OF DEVICES			1717 & 2573	1514 (MAINTENANCE DURING CONSTRUCTION) 1717 (LAND AIR & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
DEWATERING			2105.3B, & 2451.3C	DEWATERING MAY ALSO REQUIRE DNR PERMIT. NO DEWATERING IS ANTICIPATED FOR THIS PROJECT
FINAL STABILIZATION	TURF ESTABLISHMENT PLAN, TABULATION CHARTS	SHEETS 10, 81, 82, 83	1717, 2573, & 2575	1717 (AIR, LAND & WATER) 1717 (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT)
TEMPORARY EROSION AND SEDIMENT CONTROL DETAILS	EROSION CONTROL AND TURF ESTABLISHMENT PLANS	SHEETS 81 - 83	2575	2575 (RAPID STABILIZATION SPECIFICATION)
PERMANENT EROSION CONTROL DETAILS			2575	2575 (CONTROLLING EROSION AND ESTABLISHING VEGETATION)

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_SWPPP.dgn 07/06/2017 6:39:19 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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

STORM WATER POLLUTION PREVENTION PLAN

Sheet 76 of 159 Sheets

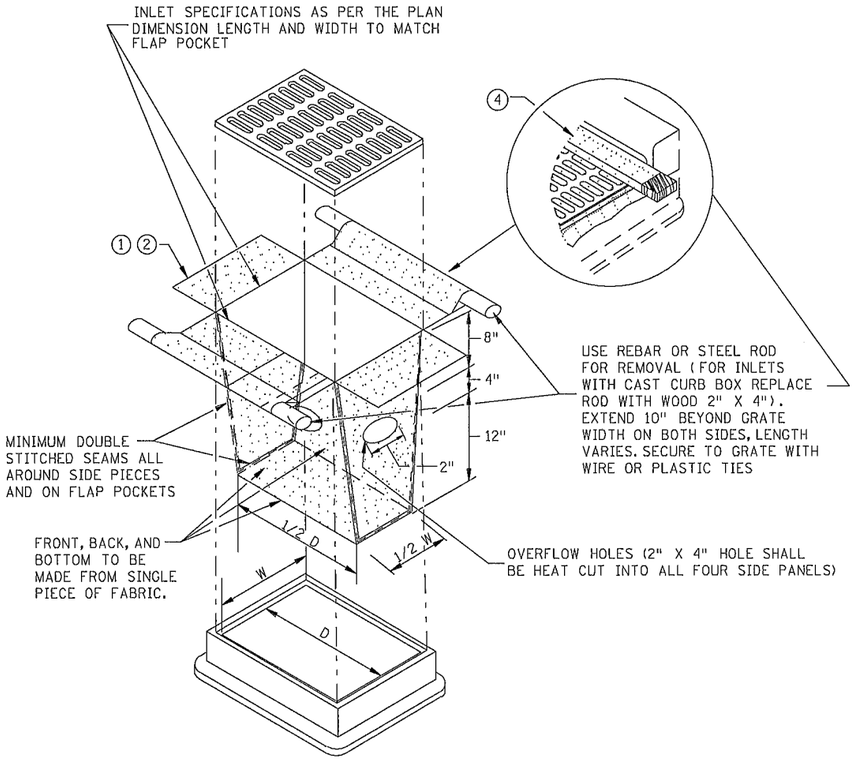
AMENDING THE SWPPP

THE SWPPP MUST BE AMENDED TO RECORD CHANGES OR MODIFICATIONS TO PERMANENT BMPS OR OTHER STORM WATER TREATMENT SYSTEMS AND REMOVALS OF TEMPORARY BMPS. CHANGES TO TEMPORARY BMPS MAY BE RECORDED IN THIS SHEET. INCLUDE A BRIEF DESCRIPTION OF THE PROBLEM, LOCATION, NATURE OF ALTERATION AND COMMENTS. THIS RECORD IS TO BE RETAINED FOR THREE YEARS AFTER PROJECT COMPLETION.

Date Reported	Staff	Plan Location (sheet)	Project Location (station)	Problem, solution, and notes

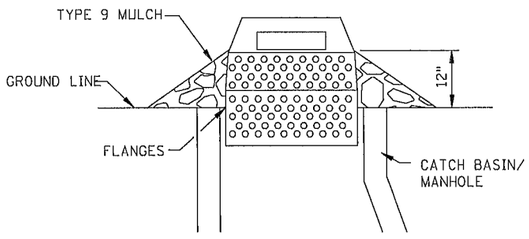
2 OF 2

PLOTTED/REVISED: 06/30/2017



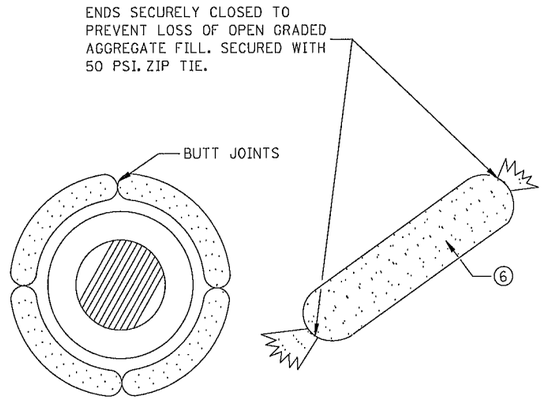
FILTER BAG INSERT ③

(CAN BE INSTALLED IN ANY INLET TYPE
WITH OR WITHOUT A CURB BOX)

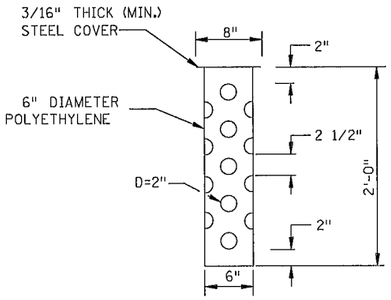


SEDIMENT CONTROL INLET HAT

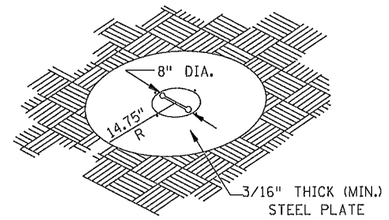
NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.



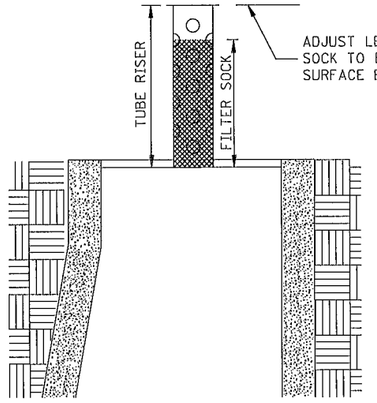
ROCK LOG/COMPOST LOG



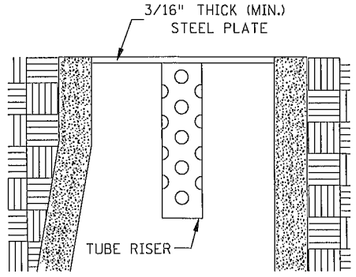
TUBE RISER



PERSPECTIVE VIEW

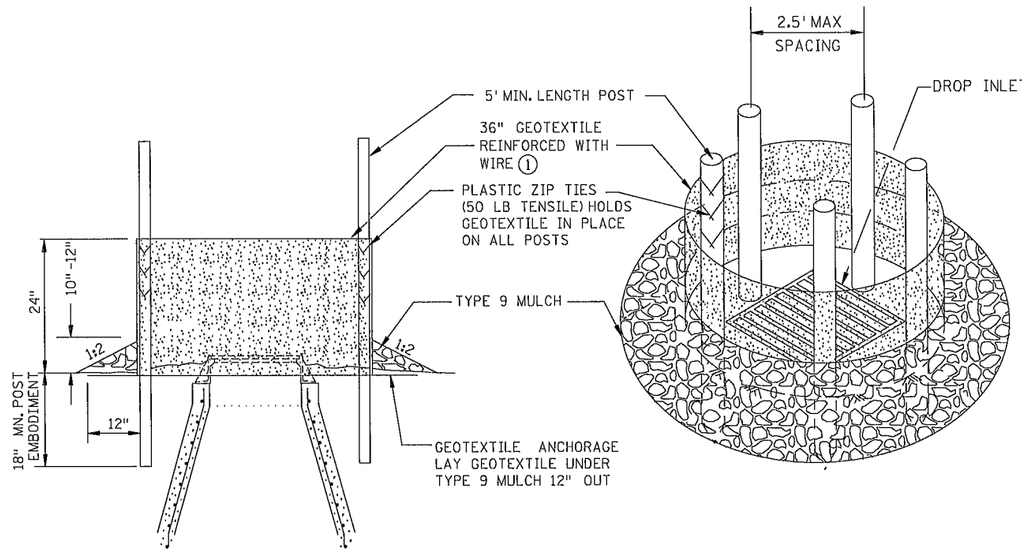


SECTION
(UP POSITION)



SECTION
(DOWN POSITION)

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS

NOTES:
SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.

② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

③ INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.

④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.

⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.

⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

DISTRICT *:
USER NAME: ejmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\EC\s404_1_spn.dgn
FILE NAME: s404_1_spn.dgn

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

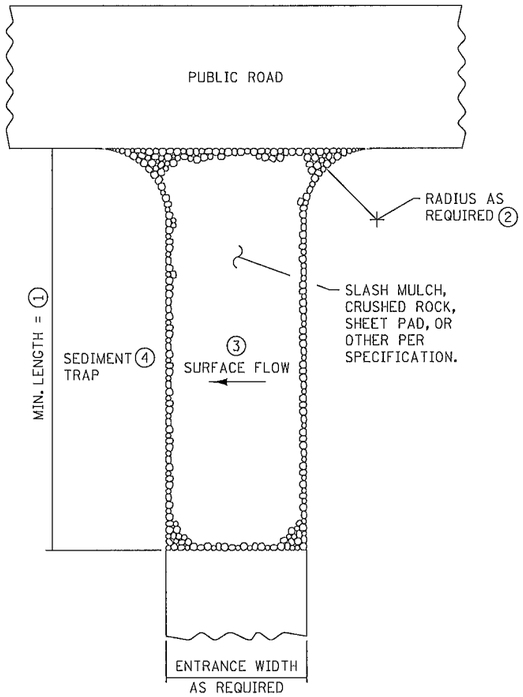
STATE DESIGN ENGINEER

APPROVED:
2-28-2017

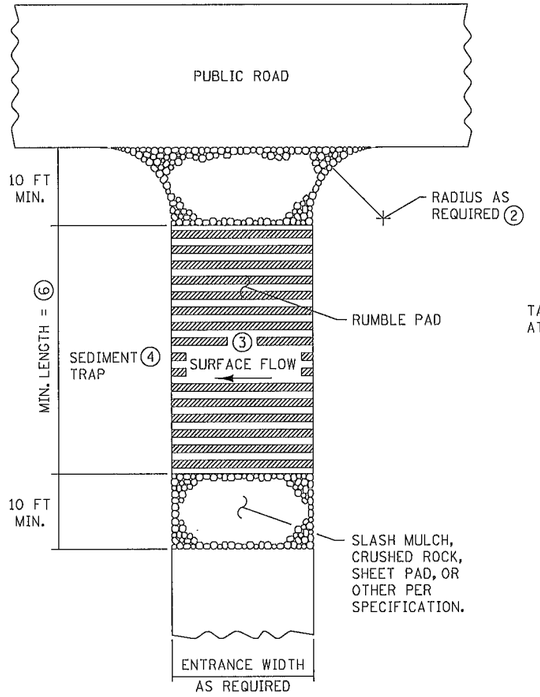
TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION

STANDARD PLAN 5-297.405

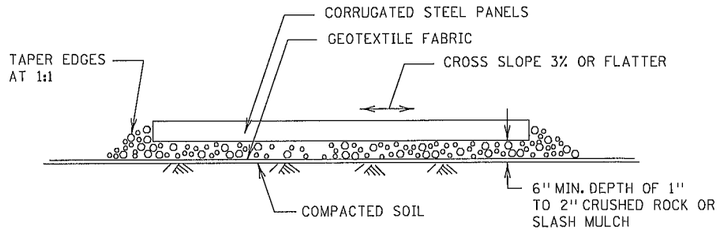
PLOTTED/REVISED: 06/30/2017
DISTRICT #:
USER NAME: ejmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\EC\s404_1_spn.dgn
FILE NAME: s404_1_spn.dgn



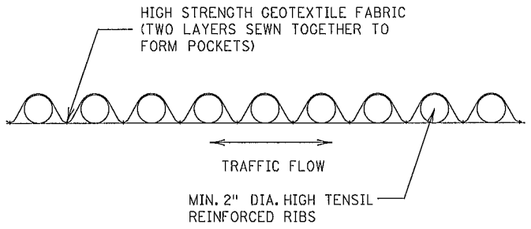
SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



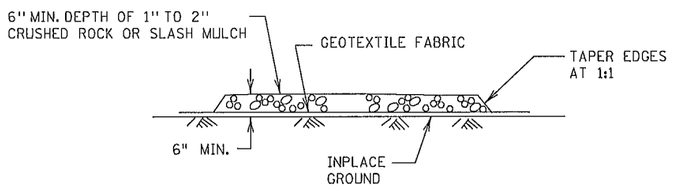
RUMBLE PAD CONSTRUCTION EXIT ⑤⑦



RUMBLE PAD



SHEET PAD



SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

(1) MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

(2) PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

(3) IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

(4) IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

(5) IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

(6) MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

(7) MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISION:

APPROVED: 2-28-2017
CHIEF ENVIRONMENTAL OFFICER

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

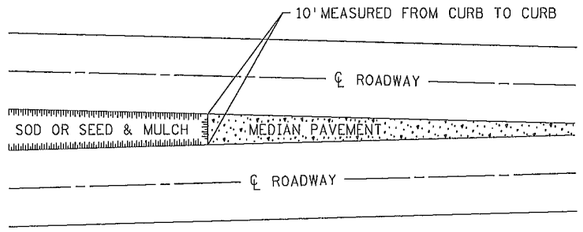
STATE DESIGN ENGINEER

APPROVED: 2-28-2017

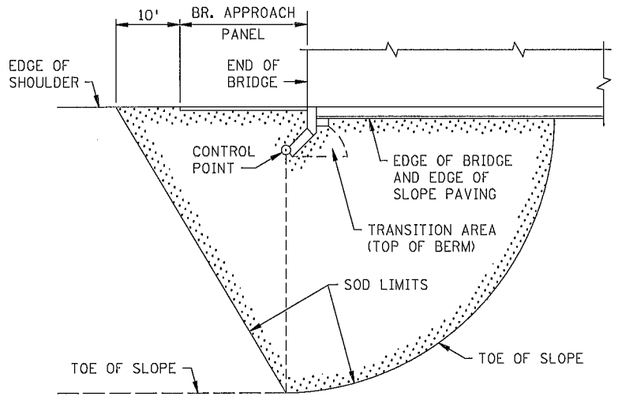
TEMPORARY SEDIMENT CONTROL
STABILIZED CONSTRUCTION EXIT

STANDARD PLAN 5-297.405

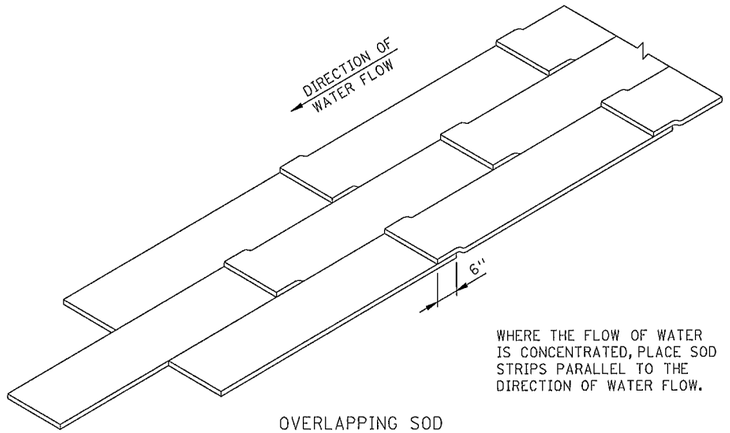
PLOTTED/REVISED: 06/30/2017
DISTRICT #:
USER NAME: ejmarkos
PATH & FILENAME: P:\02-614-40\Plan\STD Plans\EC\s404_l_spn.dgn
FILE NAME: s404_l_spn.dgn



SODDING LIMITS AT GORE AREA

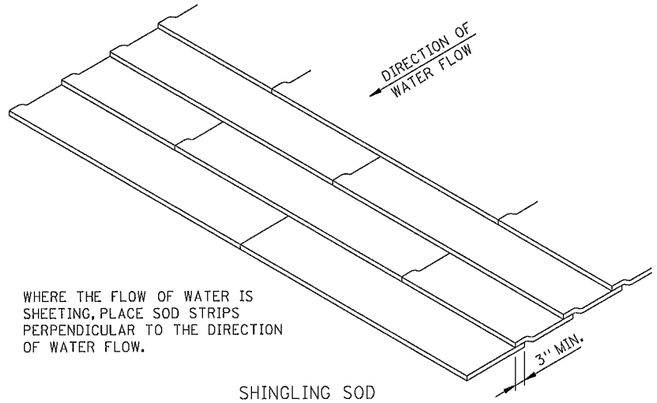


PLAN



WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.

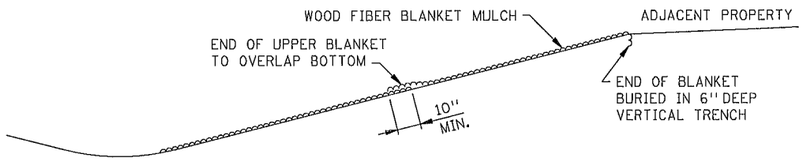
OVERLAPPING SOD



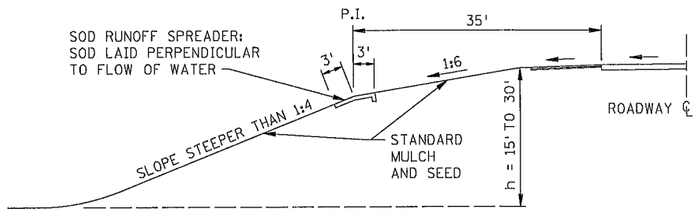
WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

SHINGLING SOD

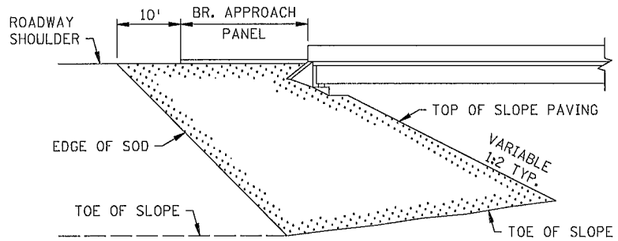
SPECIAL SOD PLACEMENT TECHNIQUES



WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE

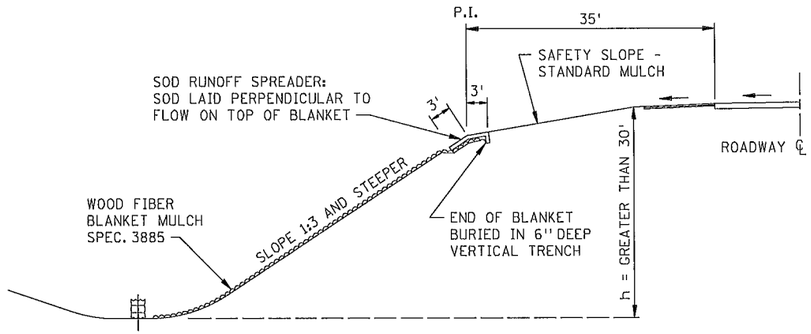


BROKEN-BACK SAFETY FILL SLOPE

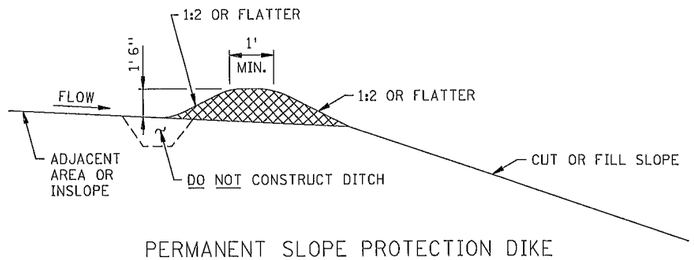


ELEVATION

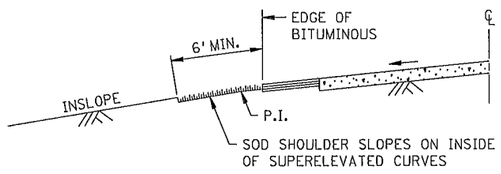
SODDING LIMITS AT BRIDGE APPROACH FILLS



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
(WHEN REQUIRED)



PERMANENT SLOPE PROTECTION DIKE



SODDING INSLOPES OF SUPERELEVATED CURVES

REVISION:
APPROVED: 8-6-2014
CHIEF ENVIRONMENTAL OFFICER

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

REVISED:

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

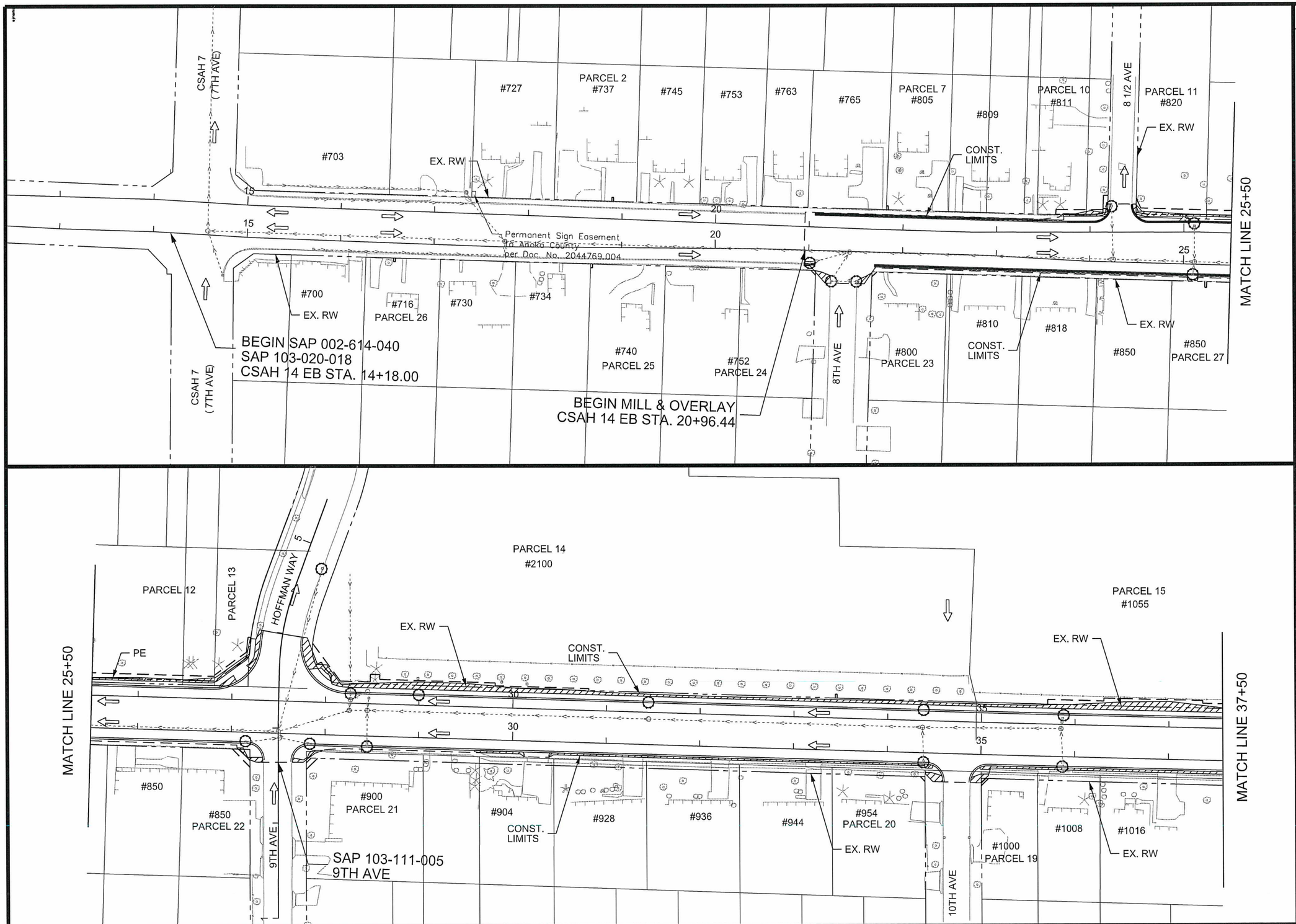
APPROVED: 8-6-2014

1 OF 1

PERMANENT SEDIMENT CONTROL
ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS

STANDARD PLAN 5-297.406

80 OF 159



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INLET PROTECTION
- SURFACE FLOW ARROW
- SODDING TYPE SALT RESISTANT

N

0 100
SCALE IN FEET

1 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_EC_P1.dgn 06/30/2017 1:17:30 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth Markose

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

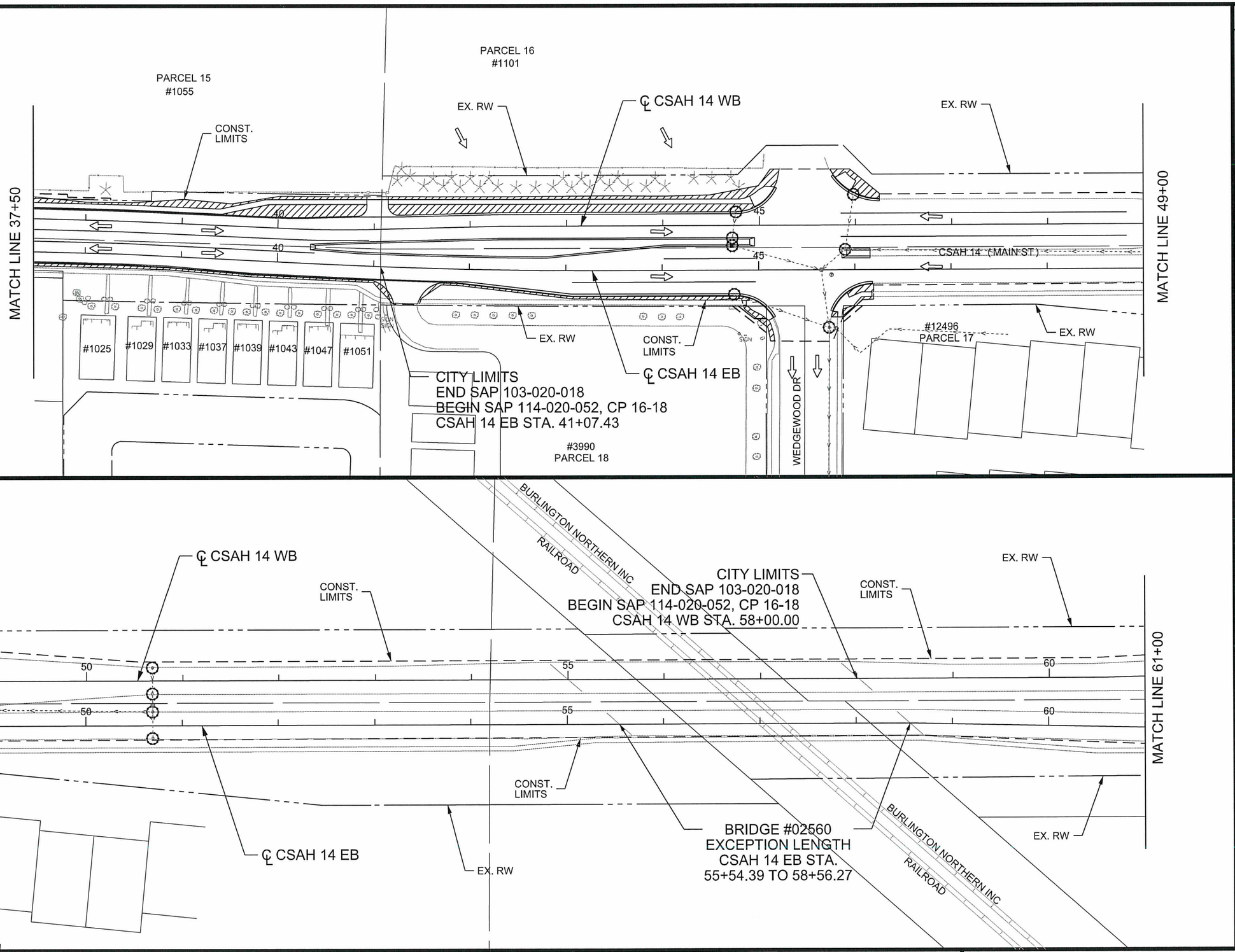
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

EROSION CONTROL & TURF ESTABLISHMENT PLAN

STA BEGIN TO 37+50.00

Sheet 81 of 159 Sheets



LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INLET PROTECTION
- SURFACE FLOW ARROW
- SODDING TYPE SALT RESISTANT

N

0 100
SCALE IN FEET

2 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_EC_P2.dgn 07/06/2017 8:08:15 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: ELIZABETH MARKOSE
SIGNATURE: Elizabeth Markose
DATE: 07/06/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

EROSION CONTROL & TURF ESTABLISHMENT PLAN
STA 37+50.00 TO 61+00.00

Sheet 82 of 159 Sheets

END MILL & OVERLAY
CSAH 9 STA. 109+00.00

℄ CSAH 9

CSAH 9 (ROUND LAKE BLVD)

EX. RW

CONST. LIMITS

EX. RW

℄ CSAH 14 WB

MATCH LINE 61+00

65

65

70

70

CONST. LIMITS

EX. RW

EX. RW

℄ CSAH 14 EB

END SAP 114-121-015
RLB STA. 106+89.23

END SAP 002-614-040
SAP 114-020-052, CP 16-18
CSAH 14 EB STA. 68+60.00

105

℄ RLB

EX. RW

EX. RW

CONST. LIMITS

ROUND LAKE BLVD

100

BEGIN SAP 114-121-015, CP 16-18
RLB STA. 102+59.44

LEGEND

- PROPOSED CATCH BASIN
- INPLACE CATCH BASIN
- PROPOSED MANHOLE
- INPLACE MANHOLE
- PROPOSED STORM SEWER
- INPLACE STORM SEWER
- INLET PROTECTION
- SURFACE FLOW ARROW
- SODDING TYPE SALT RESISTANT

N

0 100
SCALE IN FEET

3 OF 3

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_EC_P3.dgn 06/30/2017 1:17:33 PM

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: ELIZABETH MARKOSE

SIGNATURE: Elizabeth M

DATE: 07/05/17 LICENSE NO. 49118

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

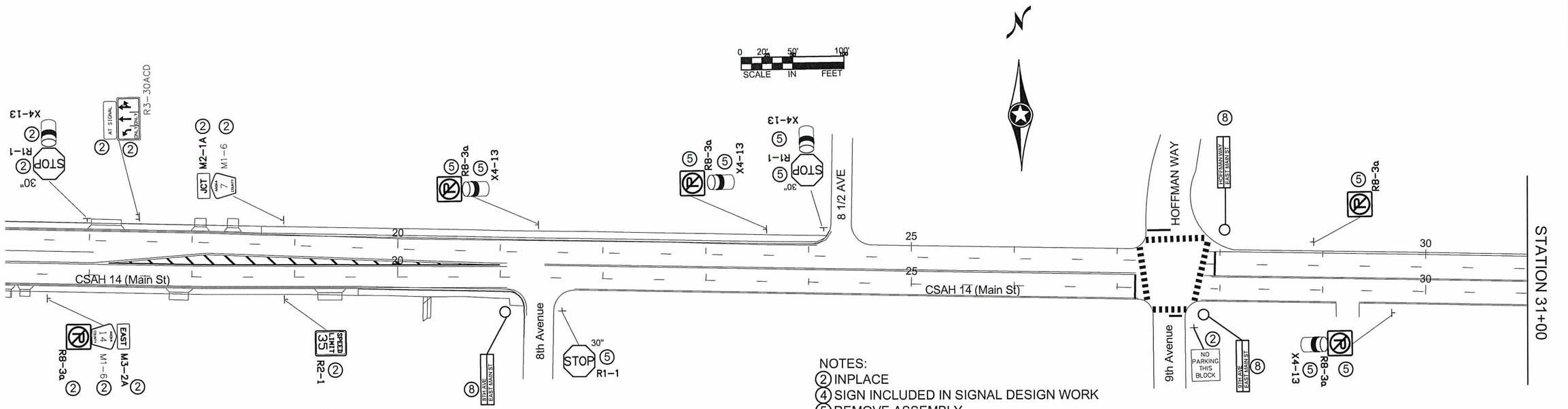
ANOKA COUNTY

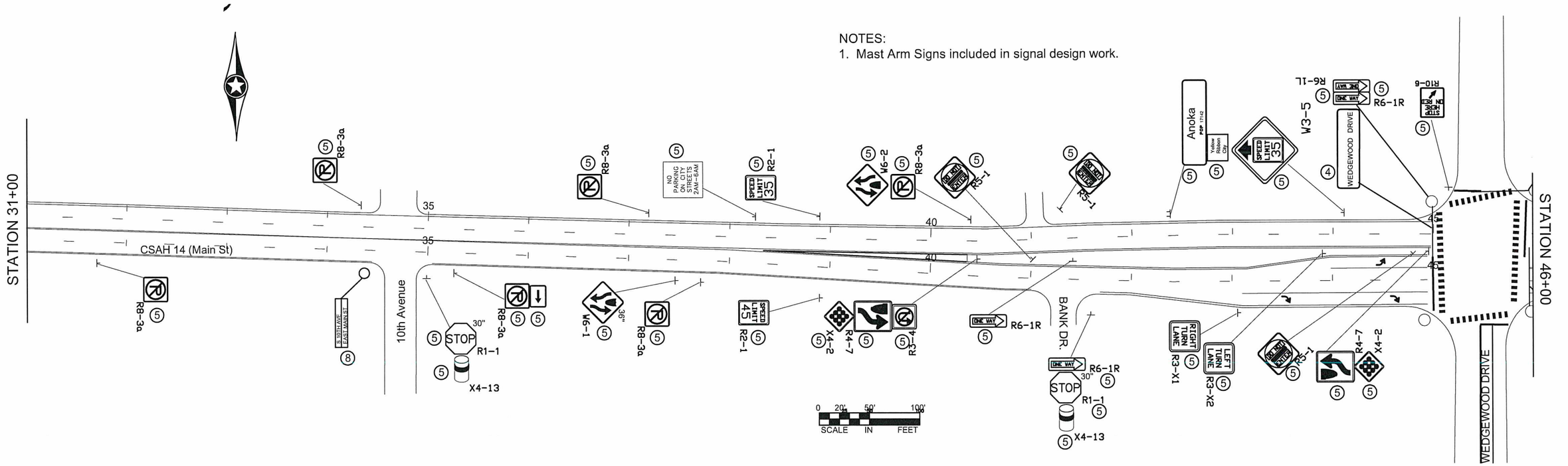
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

EROSION CONTROL & TURF ESTABLISHMENT PLAN
STA 61+00.00 TO 68+14.77

Sheet 83 of 159 Sheets





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Existing Signing &Striping.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY ____ DATE ____

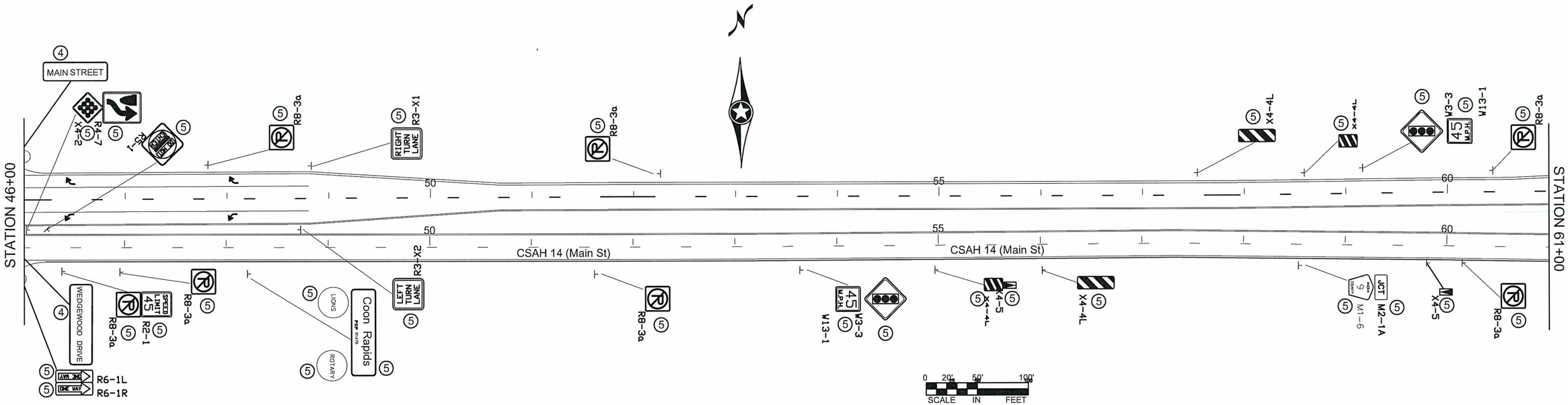
CHECKED BY ____ DATE ____

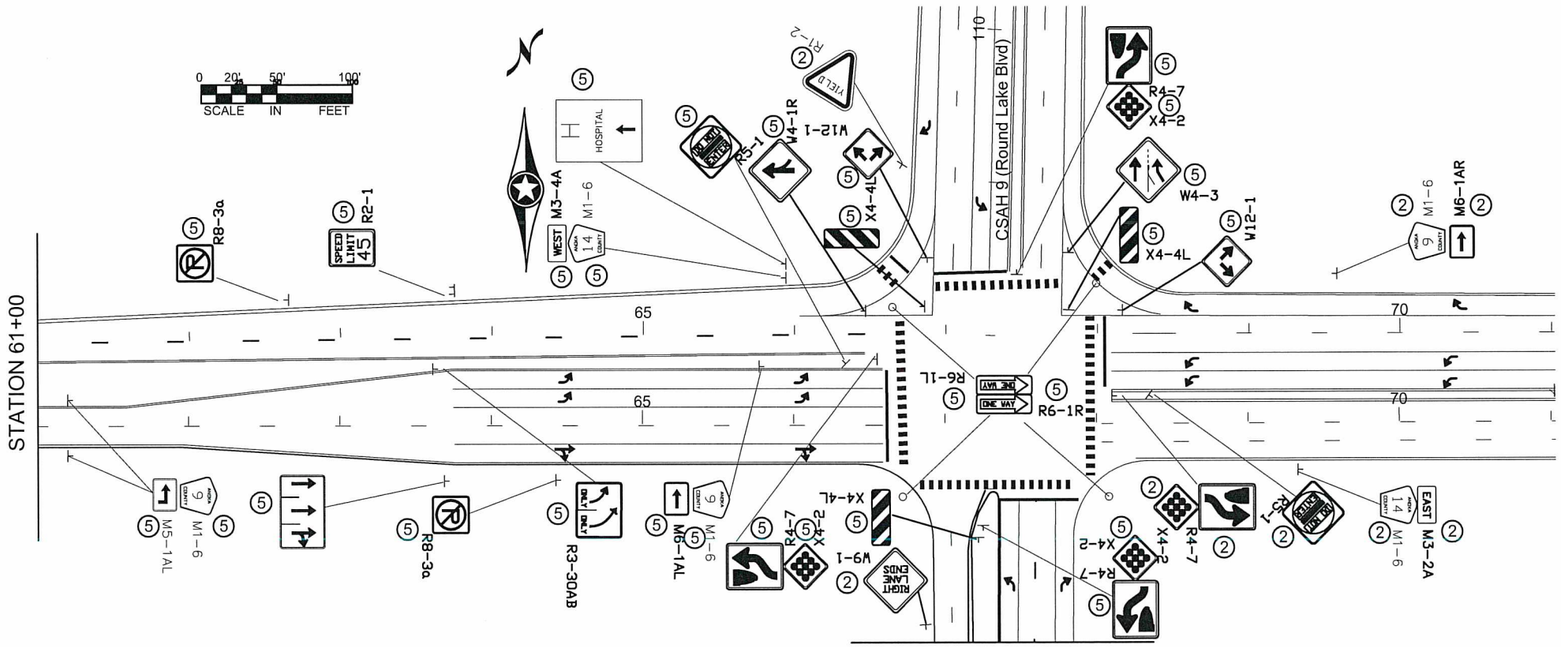
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

EXISTING SIGNING & STRIPING

Sheet 84 of 159 Sheets





NOTES:
(2) INPLACE
(4) SIGN INCLUDED IN SIGNAL DESIGN WORK
(5) REMOVE ASSEMBLY
(8) SALVAGE SIGN TYPE SPECIAL FOR RE-USE ON THIS PROJECT

NOTES:
1. Mast Arm Signs included in signal design work.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Existing Signing &Striping.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 7/5/17 REG. NO. 20235

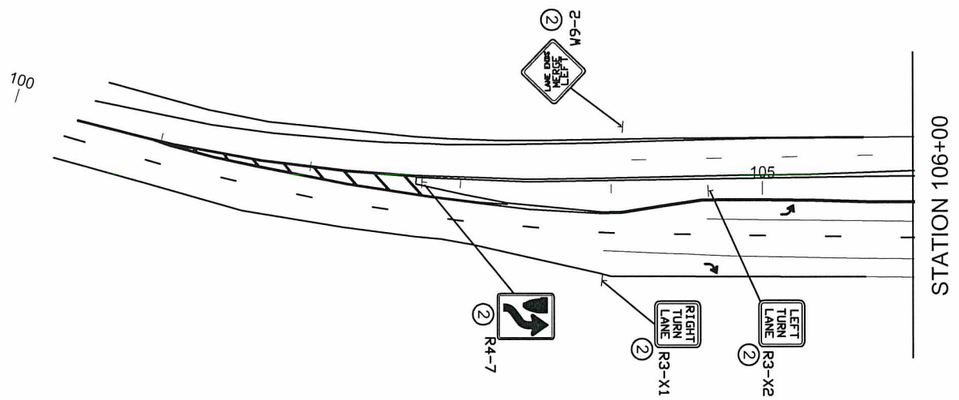
DRAWN BY TMV DATE 05/11/17
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

EXISTING SIGNING & STRIPING

Sheet 85 of 159 Sheets



NOTES:
(2) INPLACE
(4) SIGN INCLUDED IN SIGNAL DESIGN WORK
(5) REMOVE ASSEMBLY
(8) SALVAGE SIGN TYPE SPECIAL FOR RE-USE ON THIS PROJECT

NOTES:
1. Mast Arm Signs included in signal design work.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Existing Signing &Striping.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

EXISTING SIGNING & STRIPING

Sheet 86 of 159 Sheets

G EXISTING SIGN TAB

STATION	ADDRESS/ DESCRIPTION (NOTES)	REMOVE SIGN TYPE C	REMOVE SIGN TYPE D	SALVAGE SIGN TYPE SPECIAL (1)	INSTALL SIGN TYPE SPECIAL (1)	SIGN NUMBER	SIGN LEGEND
		EACH	EACH	EACH	EACH		
21+10	Rt			1	1		Street Sign
21+40	Lt	1				R8-3a	No Parking
						X4-13	Delineator
21+60	Rt	1				R1-1	30" STOP
23+60	Lt	1				R8-3a	No Parking
						X4-13	Delineator
24+00	Lt	1				R1-1	30" STOP
						X4-13	Delineator
27+80	Rt			1	1		Street Sign
28+00	Lt			1	1		Street Sign
28+90	Lt	1				R8-3a	No Parking
29+70	Rt	1				R8-3a	No Parking
						X4-13	Delineator
31+70	Rt	1				R8-3a	No Parking
34+40	Rt			1	1		Street Sign
34+70	Lt	1				R8-3a	No Parking
35+00	Rt	1				R1-1	30" STOP
						X4-13	Delineator
35+25	Rt	1				R8-3a	No Parking
							Arrow Plaque
37+20	Lt	1				R8-3a	No Parking
37+50	Rt	1				W6-1	Begin Island
37+70	Rt	1				R8-3a	No Parking
38+30	Lt	1					No Prkg Restrict
							Tree City
38+95	Lt	1				R2-1	Speed Limit
38+95	Rt	1				R-1	Speed Limit
40+50	Lt	1				W6-1	Begin Island
						R8-3a	No Parking
40+50	Median	1				R4-7	Keep Right
						X4-2	9 Button
						R3-4	No U Turn
41+00	Median	1				R5-1	Do Not Enter
41+30	Lt	1				R6-1R	One Way
41+50	Median	1				R6-1R	One Way
41+60	Rt	1				R6-1L	One Way
						R1-1	30" STOP
						X4-13	Delineator
42+40	Lt		1				City/Pop
							Yellow Ribbon
43+00	Rt	1				R3-X1	Right Turn Ln
43+95	Median	1				R3-X2	Left Turn Ln
44+20	Lt	1				W3-5	Sp Change Ahead
44+80	Median	1				R5-1	Do Not Enter
45+00	Median	1				R4-7	Keep Right
						X4-2	9 Button
45+00	Lt	1				R6-1R	One Way
45+00	Lt	1				R6-1R	One Way
45+20	Lt	1				R10-6	Stop Here
46+00	Rt	1				R6-1R	One Way
46+00	Rt	1				R6-1L	One Way
46+00	Median	1				R4-7	Keep Right
						X4-2	9 Button
46+20	Median	1				R5-1	Do Not Enter
46+40	Rt	1				R2-1	Speed Limit
						R8-3a	No Parking

G EXISTING SIGN TAB

STATION	ADDRESS/ DESCRIPTION (NOTES)	REMOVE SIGN TYPE C	REMOVE SIGN TYPE D	SALVAGE SIGN TYPE SPECIAL (1)	INSTALL SIGN TYPE SPECIAL (1)	SIGN NUMBER	SIGN LEGEND
		EACH	EACH	EACH	EACH		
47+00	Rt	1				R8-3a	No Parking
47+80	Lt	1				R8-3a	No Parking
48+20	Rt		1				City/Pop
							Lions
							Rotary
48+75	Median	1				R3-X2	Left Turn Ln
48+75	Lt	1				R3-X1	Right Turn Ln
51+60	Rt	1				R8-3a	No Parking
52+25	Lt	1				R8-3a	No Parking
53+60	Rt	1				W3-3	Signal Ahead
						W13-1	Advisory Speed
54+95	Rt	1				X4-4L	Object Marker
						X4-5	Plow Marker
56+00	Rt	1				X4-4L	Object Marker
57+50	Lt	1				X4-4L	Object Marker
56+60	Lt	1				X4-4L	Object Marker
56+60	Rt	1				M2-1A	Jct
						M1-6	9 Rte Mkr
59+15	Lt	1				W3-3	Signal Ahead
						W13-1	Advisory Speed
59+80	Rt	1				X4-5	Plow Marker
60+15	Rt	1				R8-3a	No Parking
60+45	Lt	1				R8-3a	No Parking
61+20	Median	1				M1-6	9 Rte Mkr
						M5-1AL	Directional Arrow
61+20	Rt	1				M1-6	9 Rte Mkr
						M5-1AL	Directional Arrow
62+70	Lt	1				R8-3a	No Parking
63+60	Median	1				R3-30AB	Lane Designation
63+60	Rt	1				R3-8CCA	Lane Designation
63+80	Lt	1				R2-1	Speed Limit
64+40	Rt	1				R8-3a	No Parking
65+75	Median	1				M1-6	9 Rte Mkr
						M6-1AL	Directional Arrow
65+95	Lt	1				M3-4A	WEST
						M1-6	14 Rte Mkr
65+95	Lt	1					Hospital
66+30	Median	1				R5-1	Do Not Enter
66+55	Median	1				R4-7	Keep Right
						X4-2	9 Button
66+50	Pork Chop	1				W4-1R	Merge from Right
66+90	Pork Chop	1				X4-4L	Object Marker
67+80	Pork Chop	1				X4-4L	Object Marker
68+20	Pork Chop	1				W12-1	Median Nose Arr
108+50	Pork Chop	1				W12-1	Median Nose Arr
108+50	Pork Chop	1				W4-3	Merge from Right
66+70	SW Sig Pole	1				R6-1R	One Way
66+70	SW Sig Pole	1				R6-1L	One Way
66+70	NW Sig Pole	1				R6-1R	One Way
66+70	NW Sig Pole	1				R6-1L	One Way
67+80	SE Sig Pole	1				R6-1L	One Way
67+80	SE Sig Pole	1				R6-1R	One Way
67+80	NE Sig Pole	1				R6-1L	One Way
67+80	NE Sig Pole	1				R6-1R	One Way
	TOTAL	76	2	4	4		

CONSTRUCTION NOTES:

1. SIGN TYPE SPECIAL ARE TO REMAIN VISIBLE AT ALL TIMES. SHALL BE PAID BY THE EACH, WHEN RELOCATION IS REQUIRED.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Existing Signing &Striping.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 01/2017

DESIGN BY DATE

CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

EXISTING SIGNING & STRIPING

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 $\frac{1}{4}$ INCH UNDER OR $\frac{1}{4}$ 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 APPLICAITON 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.

R PAVEMENT MARKING TABULATION

ITEM	UNIT	TOTAL QUANTITY
4" SOLID LINE WHITE -EPOXY PAINT	LIN FT	18605
4" BROKEN LINE WHITE - EPOXY PAINT	LIN FT	2502
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	7860
4" SOLID DOUBLE LINE YELLOW - EPOXY PAINT	LIN FT	3430
24" SOLID LINE YELLOW - PREFORMED THERMOPLASTIC	LIN FT	298
24" SOLID LINE WHITE - PREFORMED THERMOPLASTIC	LIN FT	658
3'x6' ZEBRA CROSSWALK - PREFORMED THERMOPLASTIC	SQ FT	3616
PAVEMENT MESSAGE (LFT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	300
PAVEMENT MESSAGE (RT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	75
PAVEMENT MESSAGE (THRU/RIGHT ARROW) - PREFORMED THERMOPLASTIC	SQ FT	53

SYMBOLS & MATERIALS LEGEND

CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

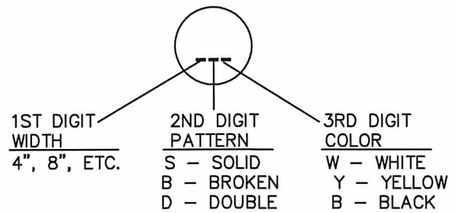
STRIPING KEY

(---) CIRCLE - EPOXY

[---] SQUARE PREFORMED THERMOPLASTIC


TRIANGLE - PAINT


PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



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

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Perm pvmt mrkg guide notes_guidelines.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

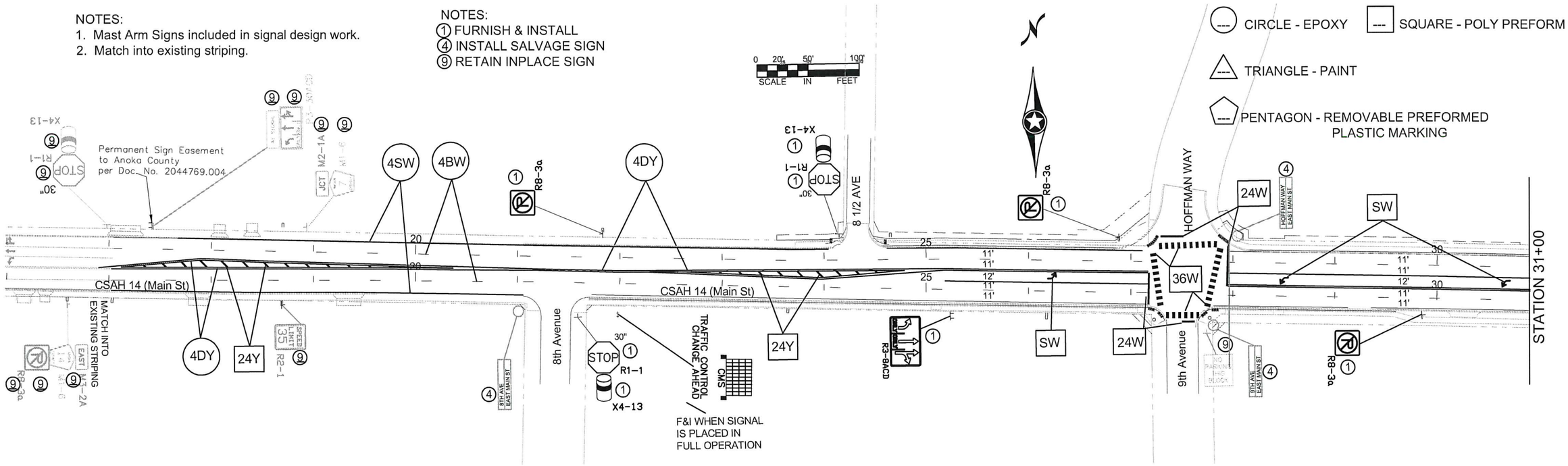
SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

PERMANENT MARKING TABULATION

NOTES:
1. Mast Arm Signs included in signal design work.
2. Match into existing striping.

NOTES:
① FURNISH & INSTALL
④ INSTALL SALVAGE SIGN
⑨ RETAIN INPLACE SIGN

STRIPING KEY
--- CIRCLE - EPOXY
--- SQUARE - POLY PREFORM
--- TRIANGLE - PAINT
--- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



TRAFFIC CONTROL NOTES:
1. ALL PED CROSSING PAVEMENT MARKINGS AND STOP BARS SHALL BE PLACED PRIOR TO SIGNAL SYSTEM PUT IN FULL OPERATION.
2. CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) AT TIME 9TH AVE/HOFFMAN WAY SIGNAL SYSTEM IS PLACED IN FULL OPERATION FOR A PERIOD OF 14 DAYS, TO A LOCATION AS SPECIFIED BY THE ENGINEER, PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Permanent Signing & Striping.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

PERMANENT SIGNING & STRIPING

Sheet 89 of 159 Sheets

TRAFFIC CONTROL NOTES:

1. ALL PED CROSSING PAVEMENT MARKINGS AND STOP BARS SHALL BE PLACED PRIOR TO SIGNAL SYSTEM PUT IN FULL OPERATION.
2. CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) AT TIME 9TH AVE/HOFFMAN WAY SIGNAL SYSTEM IS PLACED IN FULL OPERATION FOR A PERIOD OF 14 DAYS, TO A LOCATION AS SPECIFIED BY THE ENGINEER, PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.

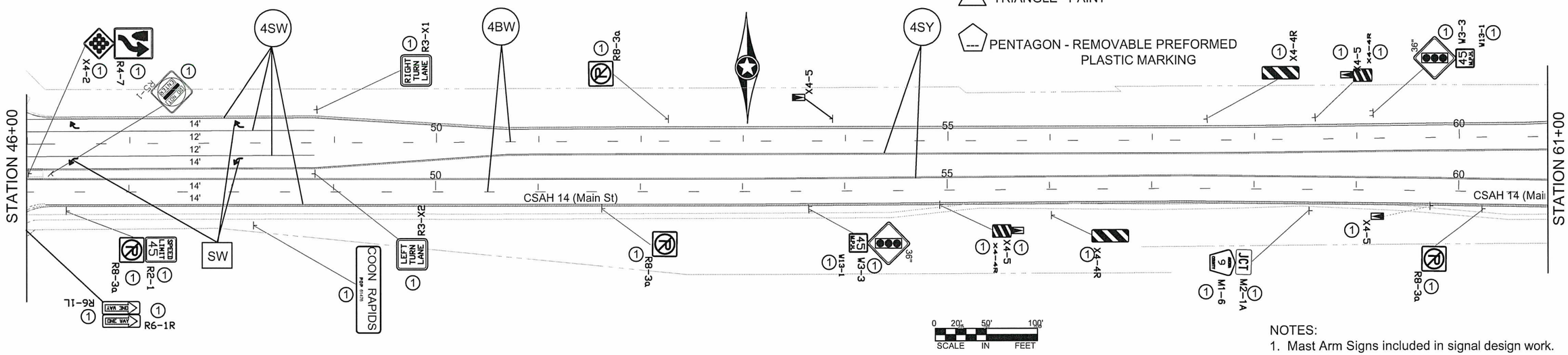
STRIPING KEY

CIRCLE - EPOXY

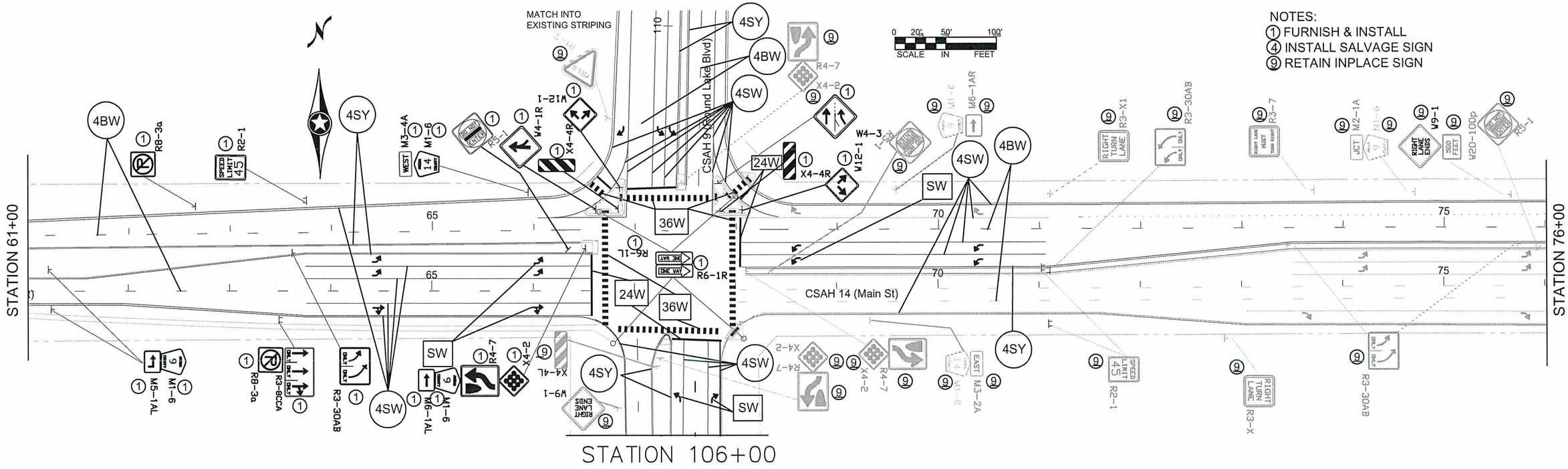
SQUARE - POLY PREFORM

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



NOTES:
1. Mast Arm Signs included in signal design work.
2. Match into existing striping.



NOTES:
① FURNISH & INSTALL
④ INSTALL SALVAGE SIGN
⑨ RETAIN INPLACE SIGN

NO	DATE	BY	CKD	APPR	REVISION
NAME:	P:\002-614-040\Base\Traffic\Permanent Signing & Striping.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY DATE

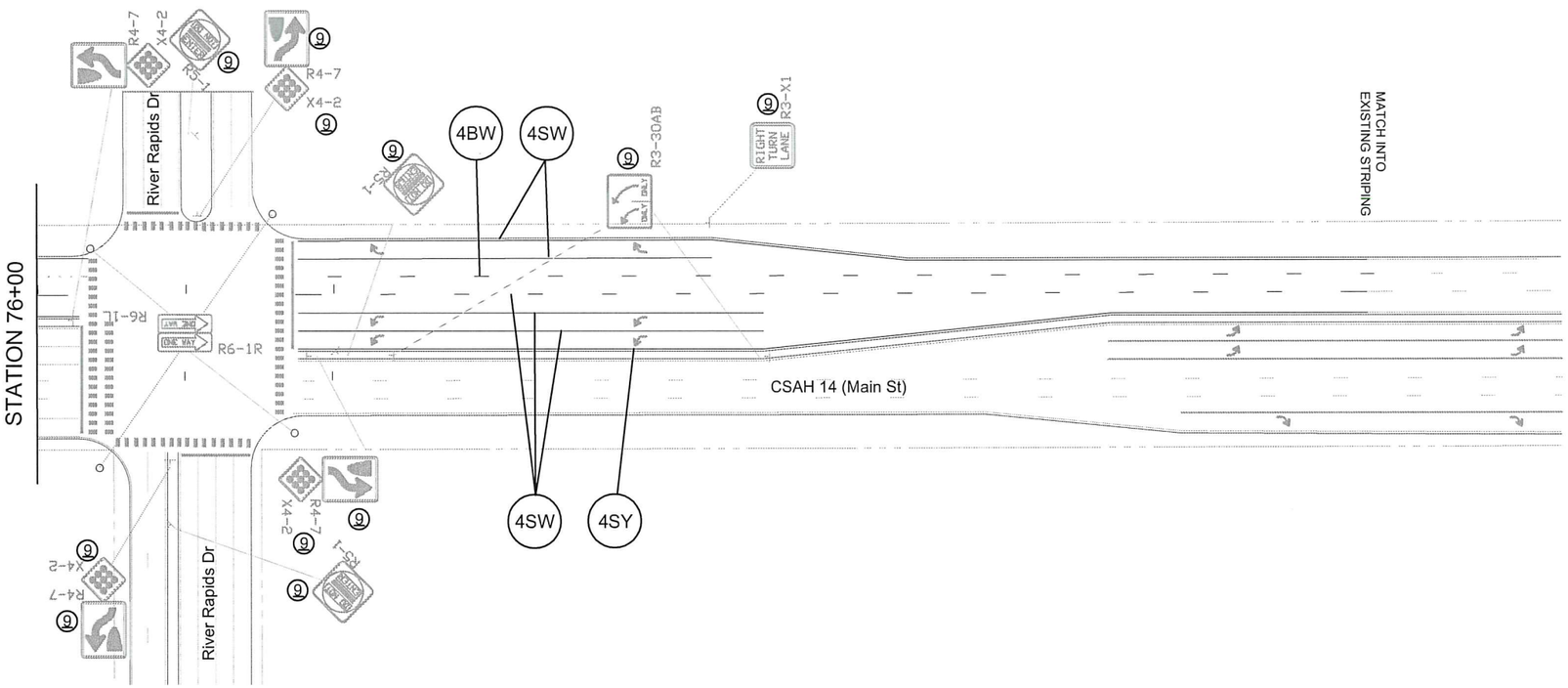
CHECKED BY DATE

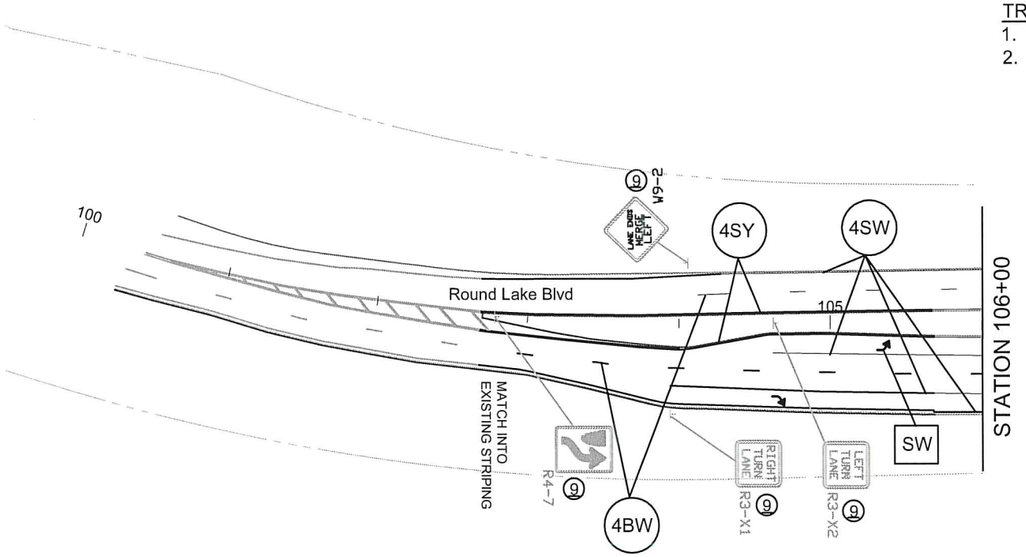
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

PERMANENT SIGNING & STRIPING

Sheet 90 of 159 Sheets





TRAFFIC CONTROL NOTES:

1. ALL PED CROSSING PAVEMENT MARKINGS AND STOP BARS SHALL BE PLACED PRIOR TO SIGNAL SYSTEM PUT IN FULL OPERATION.
2. CONTRACTOR SHALL SUPPLY AND INSTALL THE PORTABLE CHANGEABLE MESSAGE SIGN (CMS) AT TIME 9TH AVE/HOFFMAN WAY SIGNAL SYSTEM IS PLACED IN FULL OPERATION FOR A PERIOD OF 14 DAYS, TO A LOCATION AS SPECIFIED BY THE ENGINEER, PAYMENT SHALL BE MADE AS PER ITEM 2563.613 PORTABLE CHANGEABLE MESSAGE SIGN BY THE UNIT/DAY.

NOTES:
① FURNISH & INSTALL
④ INSTALL SALVAGE SIGN
⑨ RETAIN INPLACE SIGN

NOTES:
1. Mast Arm Signs included in signal design work.
2. Match into existing striping.

STRIPING KEY

--- CIRCLE - EPOXY
--- SQUARE - POLY PREFORM
--- TRIANGLE - PAINT
--- PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING

NO	DATE	BY	CKD	APPR	REVISION
NAME:	P:\002-614-040\Base\Traffic\Permanent Signing & Striping.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: DOUGLAS W. FISCHER, P.E.
SIGNATURE:
DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17
DESIGN BY DATE
CHECKED BY DATE

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

PERMANENT SIGNING & STRIPING

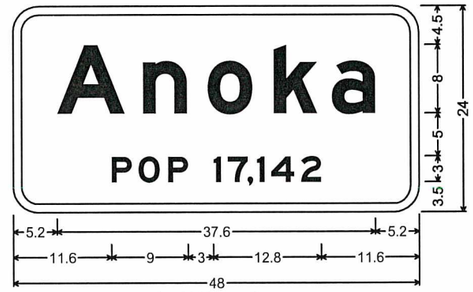
Sheet 91 of 159 Sheets

P

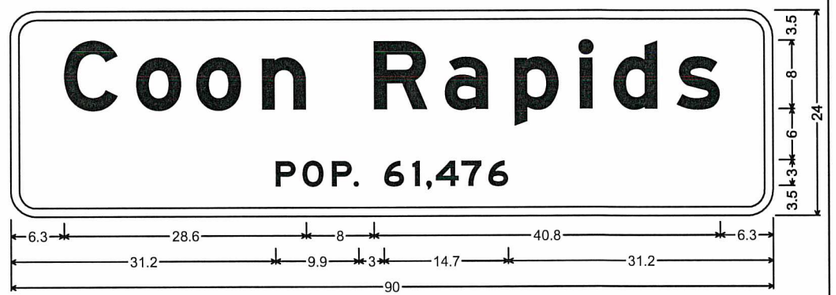
SIGN PANELS

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R6-1R	36" x 12"	ONE WAY	1	3.00	3.00	2	7.0'
R1-1	30" x 30"	STOP	4	6.25	25.00		
X4-13	4" diameter x 15"		4	0.42	1.68		
R2-1	30" X 36"	SPEED LIMIT 35	2	7.50	15.00	2	7.0'
R8-3a	30" X 30"	R	2	6.25	12.50		
R2-1	30" X 36"	SPEED LIMIT 45	3	7.50	22.50	2	7.0'
R8-3a	30" X 30"	R	2	6.25	12.50		
R3-X1	30" X 30"	RIGHT TURN LANE	2	6.25	12.50	2	7.0'
R3-X2	30" X 30"	LEFT TURN LANE	2	6.25	12.50	2	7.0'
R3-8ACD	48" X 30"	ONLY ONLY	2	10.00	20.00	2	7.0'
R3-8CCA	54" X 30"	ONLY ONLY ONLY	1	11.25	11.25	2	7.0'
R8-3a	30" X 30"	R	1	6.25	6.25	2	7.0'
R3-30AB	36" X 30"	ONLY ONLY	1	7.50	7.50	2	7.0'
R3-8ACC	54" X 30"	ONLY ONLY ONLY	1	11.25	11.25	2	7.0'
R3-9cP	30" X 12"	BEGIN CENTER LANE ONLY	2	2.50	5.00	2	7.0'
R3-9b	24" X 36"		2	6.00	12.00		
R3-30AB	30" X 12"	END CENTER LANE ONLY	2	2.50	5.00	2	7.0'
R3-30AB	24" X 36"		2	6.00	12.00		
R3-4	24" X 24"		1	4.00	4.00	2	7.0'
R4-7	24" X 30"		4	5.00	20.00	2	7.0'
X4-2	18" X 18"		4	2.25	9.00	2	7.0'
R5-1	36" X 36"	DO NOT ENTER	5	9.00	45.00	2	7.0'
R6-1R	36" X 12"	ONE WAY	3	3.00	9.00	2	7.0'
R6-1R	36" X 12"	ONE WAY	4	3.00	12.00	SIGNAL POST	7.0'
R5-1	36" X 12"	ONE WAY	2	3.00	6.00	2	7.0'
R6-1R	36" X 12"	ONE WAY	4	3.00	12.00	SIGNAL POST	7.0'

M.U.T.C.D. CODE	SIZE	INSERT	QUANTITY	SQ FT PANEL AREA	SQ FT TOTAL AREA	MOUNTING POST PER INSTALLATION	MOUNTING HEIGHT
R8-3a	30" X 30"	R	10	6.25	62.50	2	7.0'
R10-6	24" X 36"	STOP HERE ON RED	1	6.00	6.00	2	7.0'
W3-3	36" X 36"		2	9.00	18.00	2	7.0'
W13-1	24" X 24"	45 M.P.H.	2	4.00	8.00		
W3-5	48" X 48"	SPEED LIMIT 35	1	16.00	16.00	2	7.0'
R8-3a	30" X 30"	R	1	6.25	6.25		
W4-1R	36" X 36"		1	9.00	9.00	2	7.0'
W4-3	36" X 36"		1	9.00	9.00	2	7.0'
W6-1	36" X 36"		1	9.00	9.00	2	7.0'
W6-2	36" X 36"		1	9.00	9.00	2	7.0'
W12-1	24" X 24"		2	4.00	8.00	1	4.0'
I2-3	48" X 24"	Anoka POP 17,142	1	8.00	8.00	2	7.0'
I2-3	90" X 24"	Coon Rapids POP 61,476	1	15.00	15.00	2	7.0'
M2-1A	21" X 15"	JCT	1	2.19	2.19	2	7.0'
M1-6	24" X 24"	9	4	4.00	16.00		
M5-1AL	21" X 15"		2	2.19	4.38		
M6-1AL	21" X 15"		1	2.19	2.19		
M2-1A	24" X 12"	WEST	1	2.00	2.00	2	7.0'
M2-1A	24" X 24"	14	1	4.00	4.00		
X4-4R	18" X 36"		5	4.50	22.50	1	4.0'
X4-5	6" X 12"		1	0.50	0.50	1	4.0'
X4-5	6" X 12"		1	0.50	0.50		
X4-4R	12" X 12"		1	1.00	1.00	1	4.0'
PROJECT TOTAL			106		563.44		



3.0" Radius, 1.0" Border, White on Green;
[Anoka] E Mod; [POP 17,142] E Mod;



3.0" Radius, 1.0" Border, White on Green;
[Coon Rapids] E Mod; [POP. 61,476] E Mod;

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".
- LOCATIONS OF ALL PERMANENT STRIPING AND PAVEMENT MARKINGS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- ALL MAINLINE PERMANENT STRIPING AND PAVEMENT MESSAGES SHALL BE PLACED WITHIN 72 HOURS OF MAINLINE PAVING.
- SEE PERMANENT SIGN TABULATIONS FOR ADDITIONAL INFORMATION.
- ALL SEGMENT STRIPE LINES SHALL BE EPOXY. PERMANENT MESSAGES AND ARROWS SHALL BE PREFORMED THERMOPLASTIC.
- ALL SIGNS SHALL BE FURNISHED AND INSTALLED UNLESS OTHERWISE NOTED.

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Permanent Signing & Striping.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/6/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY DATE

CHECKED BY DATE

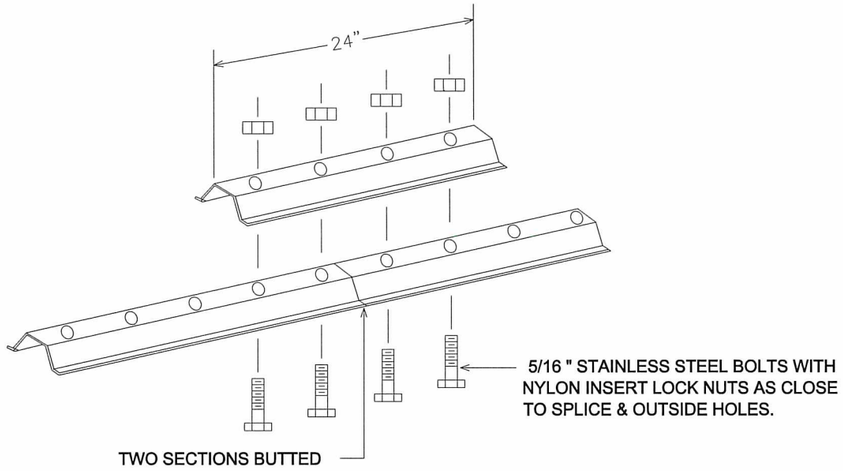
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

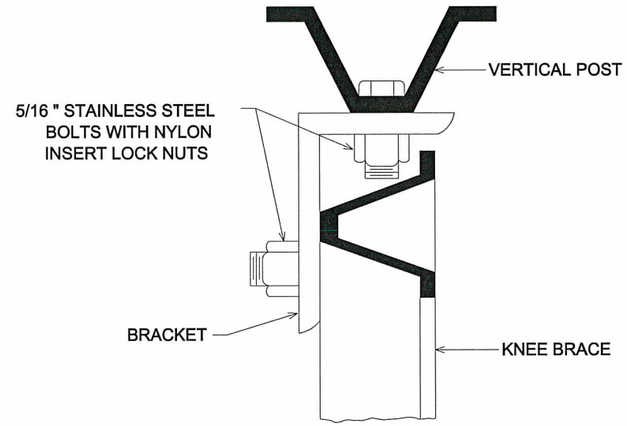
SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

PERMANENT SIGNING & STRIPING

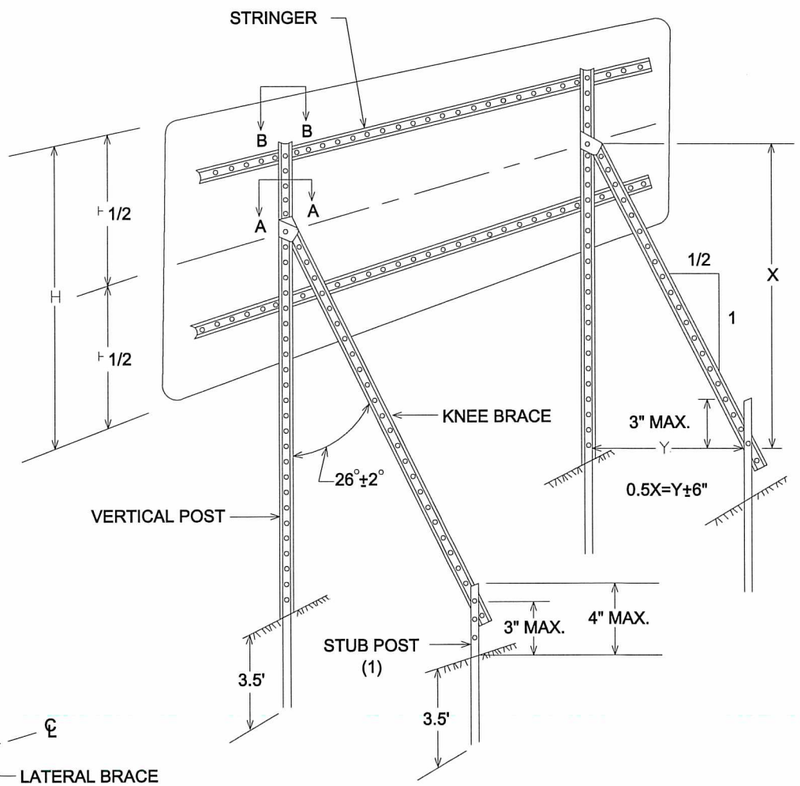
Sheet 92 of 159 Sheets



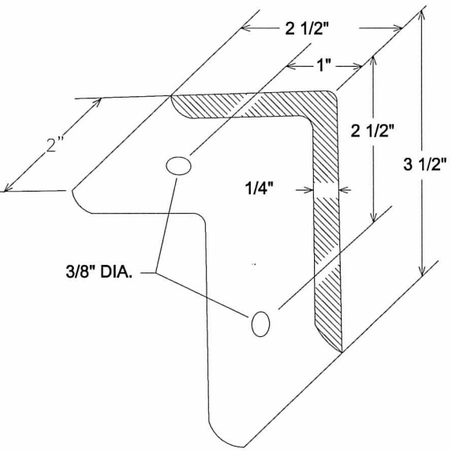
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

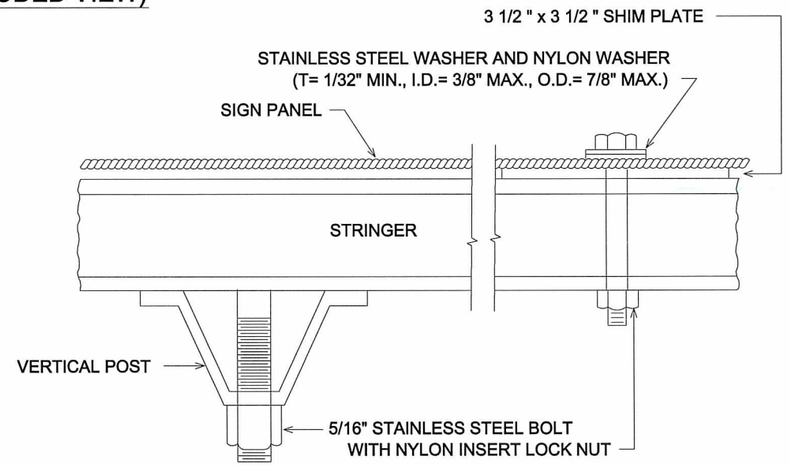


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

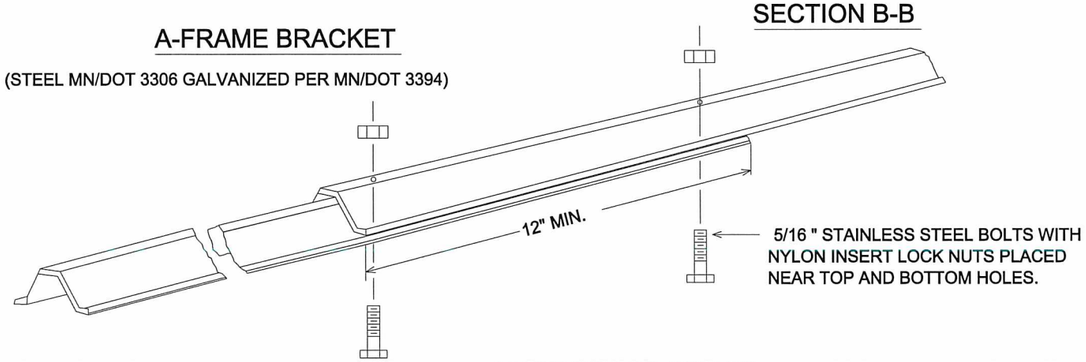


A-FRAME BRACKET

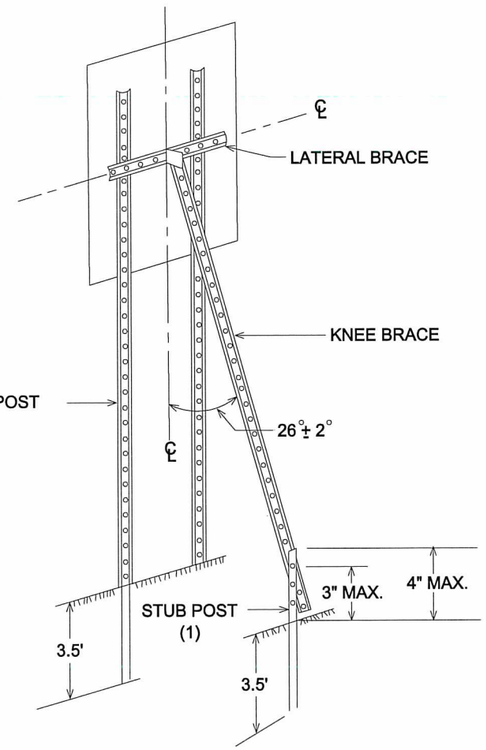
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



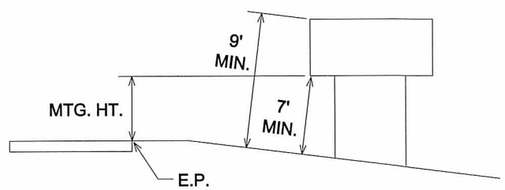
SECTION B-B



KNEE BRACE SPLICE



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



TYPICAL MOUNTING

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

TYPE C & D SIGN STRUCTURAL DETAILS

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Signing & Striping Details.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/18 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY DATE

CHECKED BY DATE

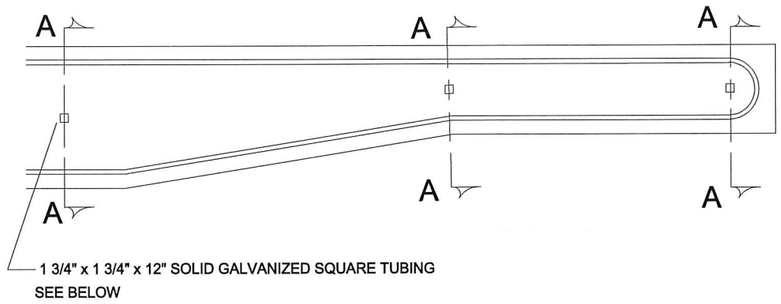
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

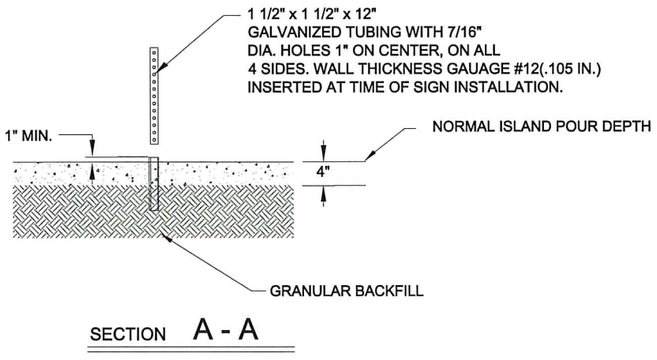
SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

SIGNING & STRIPING DETAILS

Sheet 93 of 159 Sheets

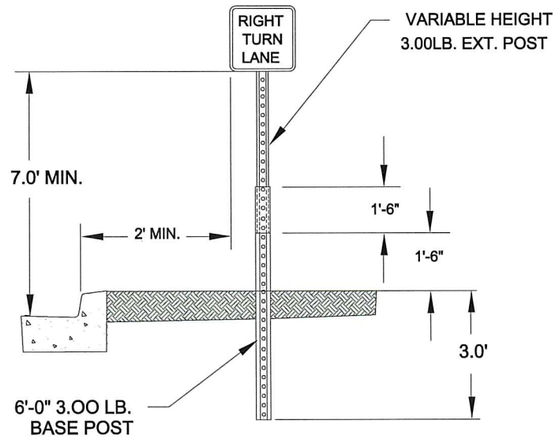


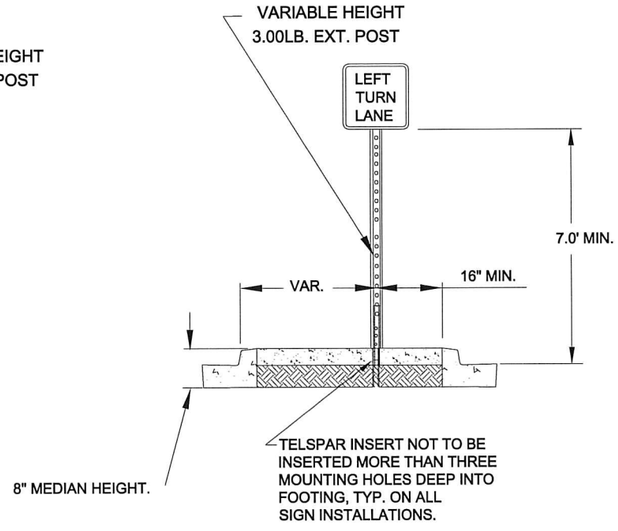
GROUND POST MOUNT SIGN
INSTALLATION TYPICAL



SECTION A - A

ISLAND MOUNT BREAK-AWAY SIGN
INSTALLATION TYPICAL





NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Signing & Striping Details.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

ANOKA COUNTY

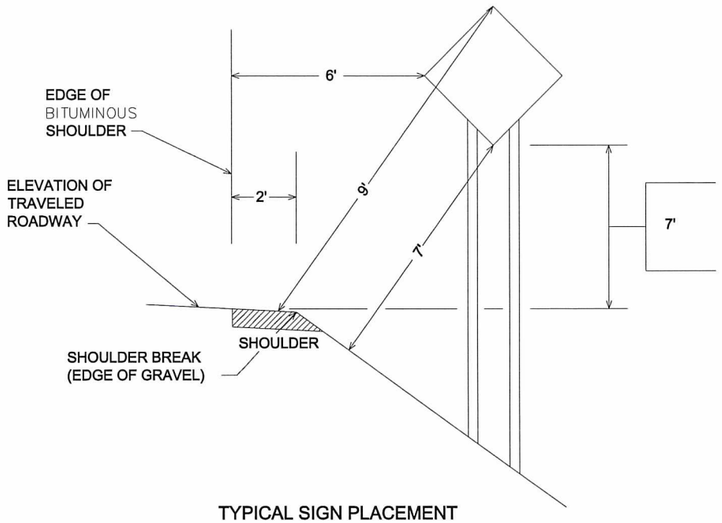
ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

SIGNING & STRIPING DETAILS

Sheet 94 of 159 Sheets

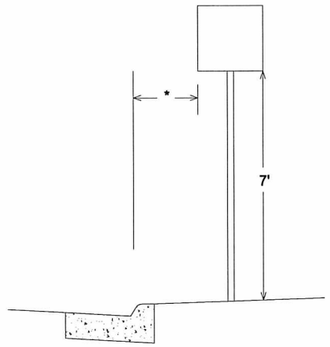
RURAL



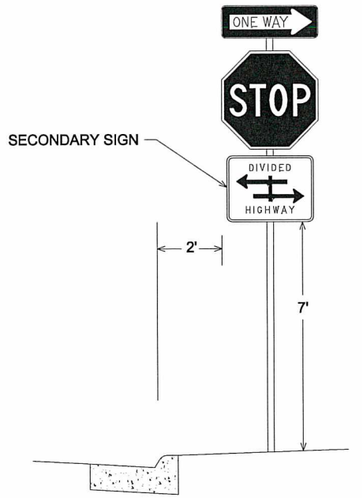
TYPICAL SIGN PLACEMENT

URBAN

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

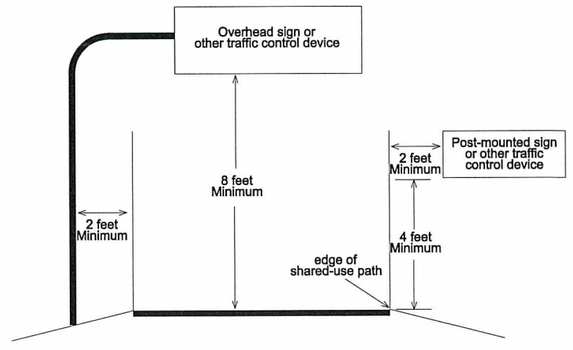


TYPICAL SIGN PLACEMENT



NOTE:

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



TYPICAL SIGN PLACEMENT
SHARED-USE PATH

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Signing & Striping Details.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

ANOKA COUNTY

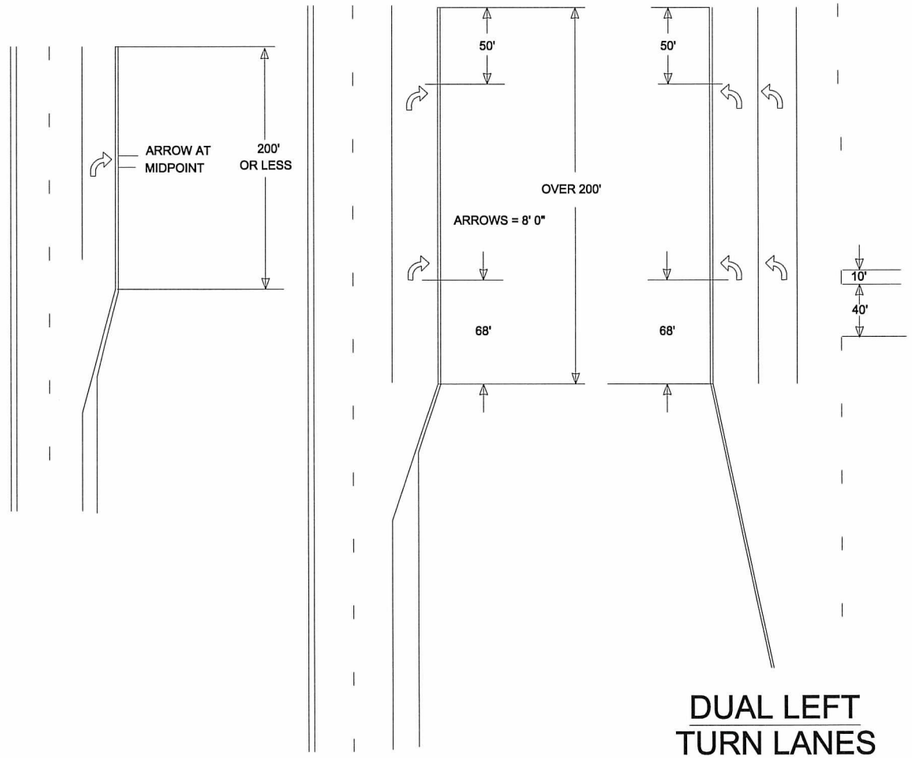
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

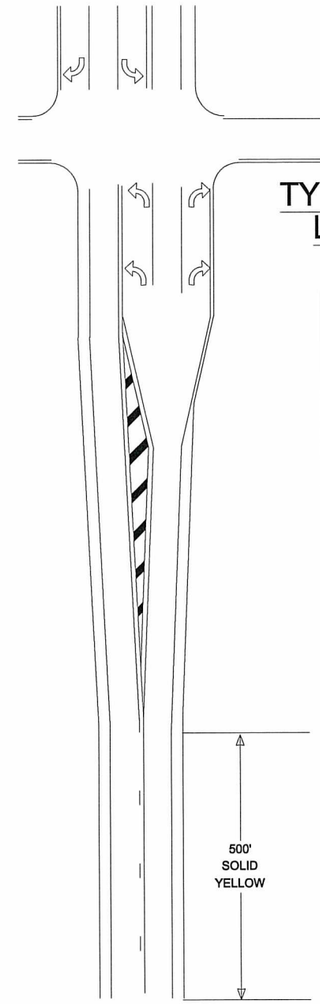
SIGNING & STRIPING DETAILS

Sheet 95 of 159 Sheets

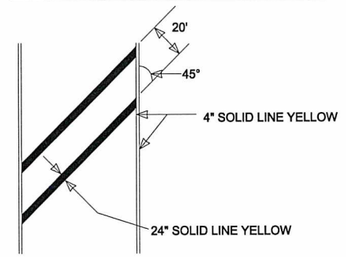
TYPICAL MESSAGE PLACEMENT FOR TURN LANES



DUAL LEFT TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Signing & Striping Details.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 5/15/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

ANOKA COUNTY

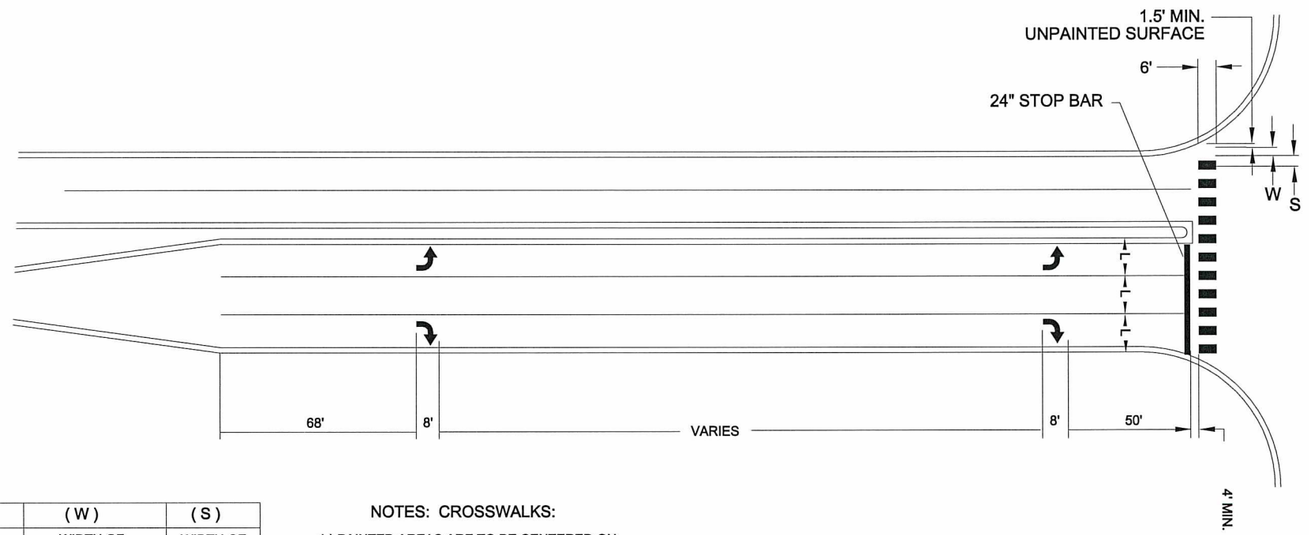
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

SIGNING & STRIPING DETAILS

Sheet 96 of 159 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.

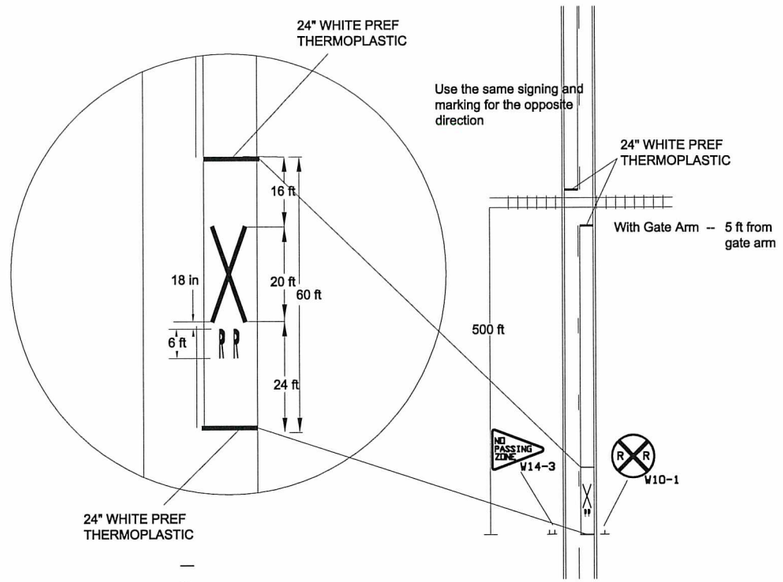
2.) LOCATION OF ZEBRA CROSSWALKS AND STOP BARS, SIGNAL LOOPS AND PED RAMPS ARE APPROXIMATE. FINAL LOCATIONS ARE TO BE DETERMINED AND FIELD VERFIED DURING CONSTRUCTION BY THE FIELD ENGR.

3.) ZEBRA CROSSWALKS ARE TO BE PARALLEL TO THE DRIVING LANE OR LANES. EVEN IF THE STREET IS ON AN ANGLE TO THE INTERSECTION.

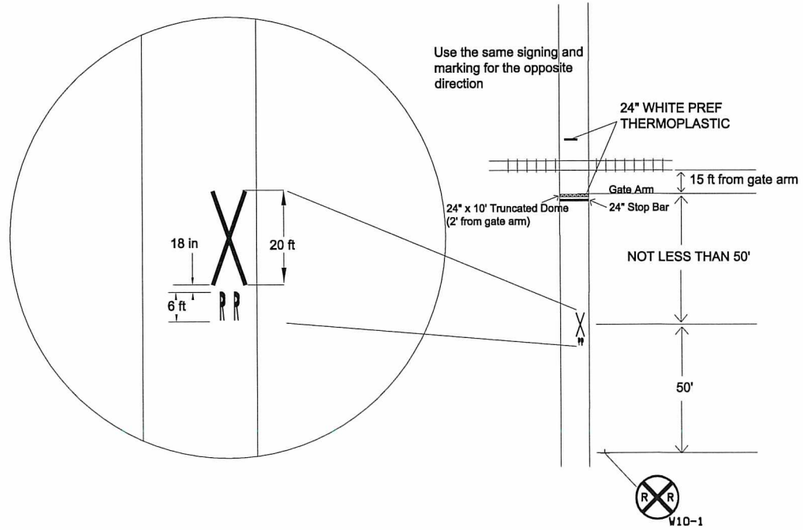
4.) A MIN. OF 1.5' (450mm) CLEAR DISTANCE MUST BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS AREA, IT MUST BE OMITTED.

5.) ON TWO LANE STREETS, USE SPACING SHOWN FOR AN 11' (3.3mm) INSIDE LANE.

RAILROAD CROSSING PAVEMENT MARKINGS



RAILROAD CROSSING PAVEMENT MARKINGS TRAIL GRADE CROSSING



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\002-614-040\Base\Traffic\Signing & Striping Details.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: DOUGLAS W. FISCHER, P.E.

SIGNATURE:

DATE: 7/5/17 REG. NO. 20235

DRAWN BY TMV DATE 05/11/17

DESIGN BY ____ DATE ____

CHECKED BY ____ DATE ____

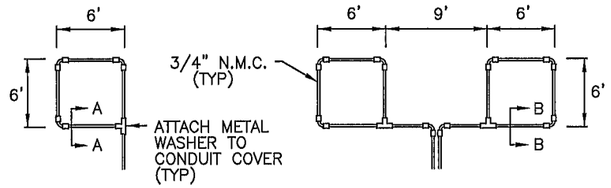
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018 SAP 103-111-005 CP 2017-049
SAP 114-020-052, SAP 114-121-015 CP 16-18

SIGNING & STRIPING DETAILS

Sheet 97 of 159 Sheets



LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

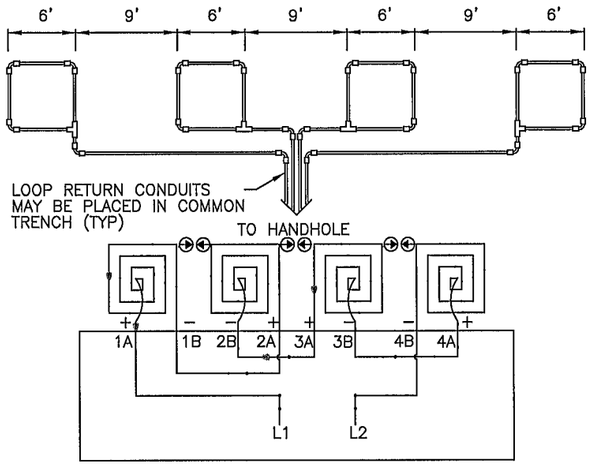
L1 TO 1A
1B TO 2A
2B TO L2

LOOP DETECTOR DETAIL 'A'

(LOOP PHASING FOR SINGLE CONNECTION)

LOOP DETECTOR DETAIL 'B'

(LOOP PHASING FOR SERIES CONNECTION)



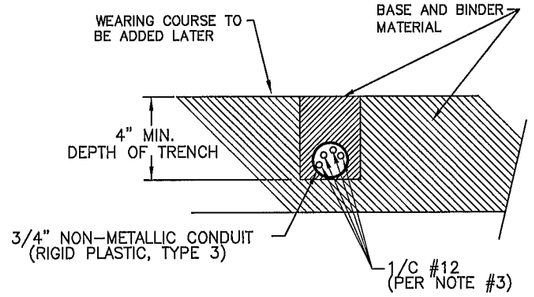
LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO 3A
3B TO 4A
4B TO L2

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)

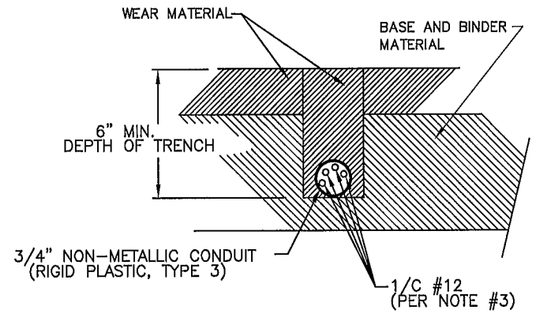
LOOP DETECTOR DETAIL 'C'

(LOOP PHASING FOR SERIES CONNECTION)



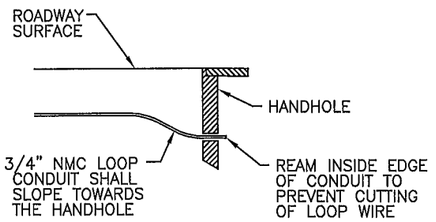
SECTION A-A

DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



SECTION B-B

DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's — (A)
SIGNAL BASE NO. — (1)
SIGNAL FACE NO. — (1)
LUMINAIRE NO. — (1)
CONTROLLER AND CABINET
CONTROLLER AND CABINET – IN PLACE
HANDHOLE
HANDHOLE – IN PLACE
RIGID STEEL CONDUIT (RSC)
RIGID STEEL CONDUIT (RSC) – IN PLACE
SIGNAL FACE WITH BACKGROUND SHIELD
SIGNAL FACE W/O BACKGROUND SHIELD
SIGNAL FACE – IN PLACE
PEDESTRIAN INDICATORS
PEDESTRIAN INDICATORS – IN PLACE
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE
PEDESTRIAN PUSH BUTTON STATION
TRAFFIC SIGNAL PEDESTAL
TRAFFIC SIGNAL PEDESTAL – INPLACE
TRAFFIC SIGNAL POLE AND MAST ARM
TRAFFIC SIGNAL POLE AND MAST ARM – IN PLACE
STREET LIGHT POLE AND LUMINAIRE
STREET LIGHT POLE AND LUMINAIRE – IN PLACE
MAST ARM AND LUMINAIRE
MAST ARM AND LUMINAIRE – INPLACE
WOOD POLE
WOOD POLE – IN PLACE
SOURCE OF POWER
RAILROAD SIGNAL – IN PLACE
RIGHT OF WAY LINE
CENTERLINE — 3
EDGE OF ROADWAY
SHOULDERLINE
CURB LINE
STOP BAR
EMERGENCY VEHICLE PREEMPTION DETECTOR

ABBREVIATIONS

3-1(EG)	SIGNAL HEAD PHASE "3" – NO "1"	P2-1(EG)	PED INDICATION PHASE "2" – NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" – NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" – NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

TABULATION OF SIGNAL QUANTITIES

Q

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATION				
				SAP 002-614-040	SAP 103-020-018	SAP 103-111-005	SAP 114-020-052	SAP 114-121-015
2104	REMOVE SIGNAL SYSTEM	EACH	1	1				
2545	LUMINAIRE (LED)	EACH	6				2	4
2545	SERVICE CABINET	EACH	1	0.25	0.50	0.25		
2565	TRAFFIC CONTROL SIGNAL SYSTEM "A"	SIG. SYS.	1	0.25	0.50	0.25		
2565	EMERGENCY VEHICLE PREEMPTION SYSTEM "A"	LS	1		0.50	0.50		
2565	TRAFFIC CONTROL INTERCONNECT	LS	1	1				
2565	REVISE SIGNAL SYSTEM "B"	SYSTEM	1	1				
2565	REVISE SIGNAL SYSTEM "C"	SYSTEM	1	1				
2565	TEMPORARY SIGNAL SYSTEM "B"	SYSTEM	1	0.882			0.118	
2565	TEMPORARY SIGNAL SYSTEM "C"	SYSTEM	1	0.882				0.118

TRAFFIC SIGNAL STANDARD PLATES

THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:

PLATE NO.	DESCRIPTION
* 8000 J	CHANNELIZERS, TYPE A, B, C (3 SHEETS)
* 8110 E	TRAFFIC SIGNAL BRACKETING (POLE MOUNTED)
* 8111 E	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED) (3 SHEETS)
* 8112 I	PEDESTAL FOUNDATION (FOR TRAFFIC CONTROL SIGNALS)
* 8118 D	SERVICE EQUIPMENT & POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8121 H	TRANSFORMER BASE & POLE BASE PLATE (2 SHEETS)
* 8122 F	PEDESTAL AND PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT) (2 SHEETS)
* 8123 G	POLE & MAST ARM-LUMINAIRES & TRAFFIC LIGHTS ASSEMBLY (2 SHEETS)
* 8126 L	POLE FOUNDATION (PA90 & PA100)
* 8129 A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)

* – APPLIES TO THIS PROJECT

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TRAFFIC SIGNAL SYSTEMS 'A-C'
DETAILS AND STANDARD PLATES
CSAH 14 (9TH AVE TO CSAH 9)

FILE NO. ANOKC 141213
SIGNAL SHEET 1 OF 34

98
159

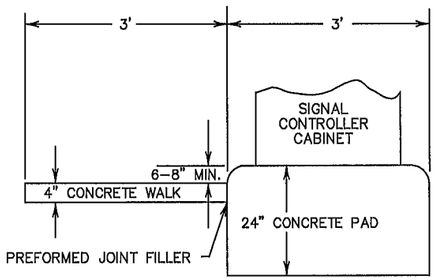
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

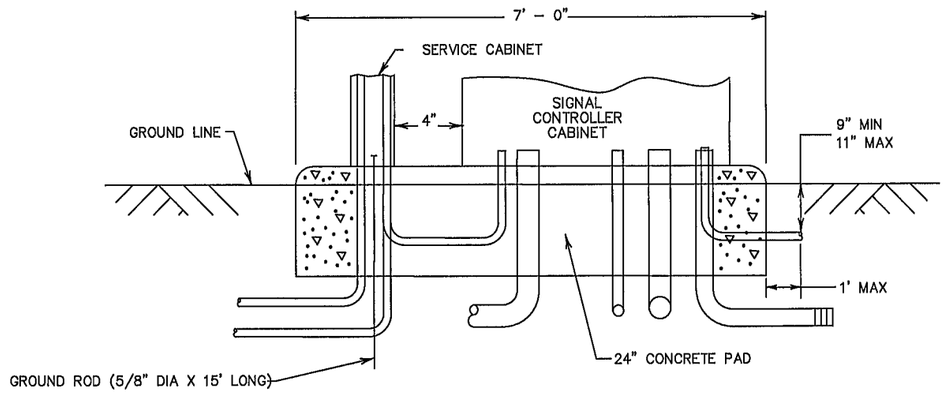
NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE NEW EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE OF THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3F52 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
9. CONTRACTOR SHALL PROVIDE MINIMUM 4-INCH CLEARANCE BETWEEN CONTROLLER AND SERVICE CABINETS ON THE EQUIPMENT PAD FOUNDATION AS SHOWN.

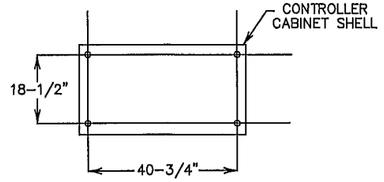
SIDE VIEW



FRONT VIEW

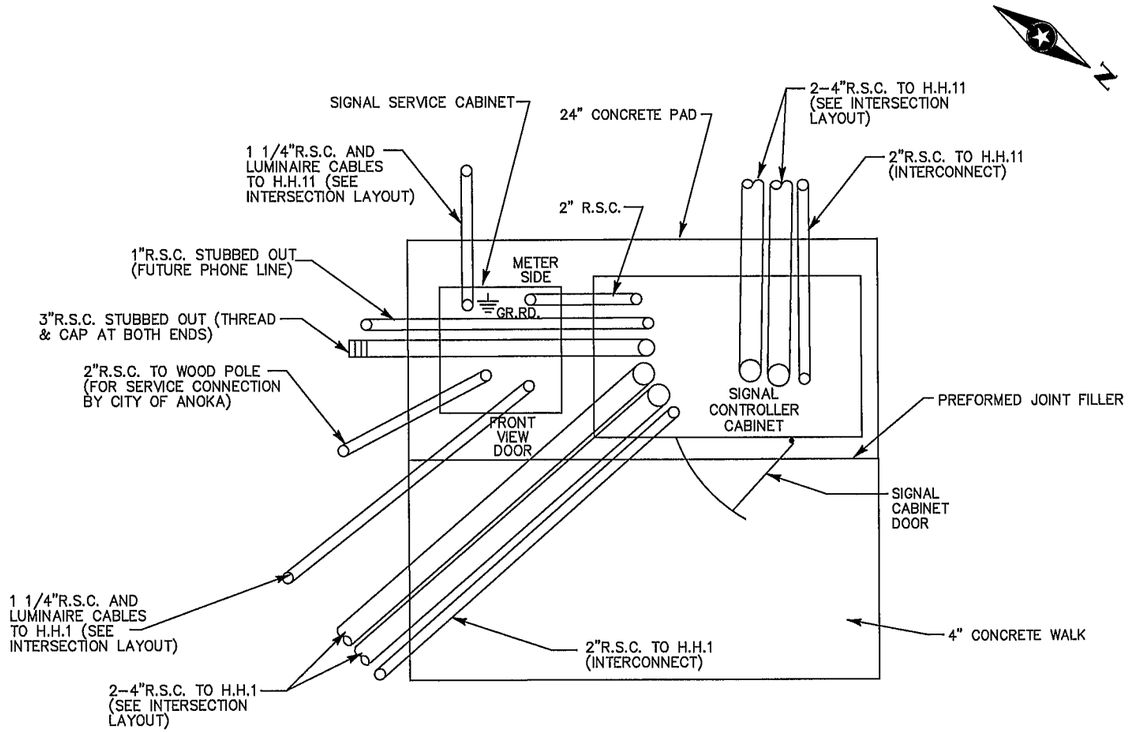


CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN



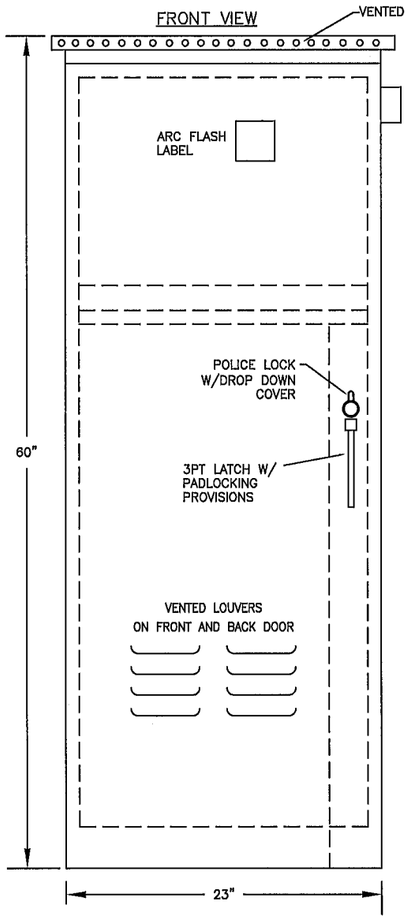
PLAN VIEW

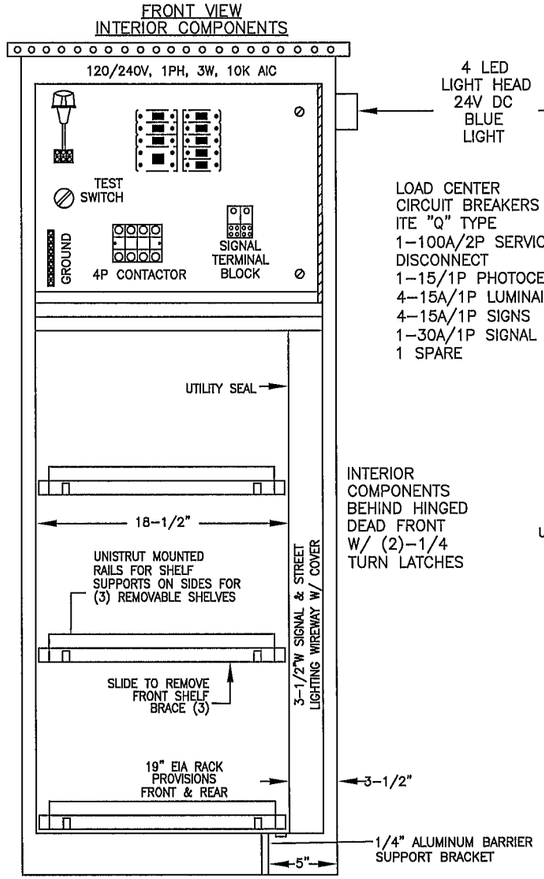
CSAH 14 AT 9TH AVE S/HOFFMAN WAY



S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN ANOKA, COON RAPIDS	TRAFFIC SIGNAL SYSTEM "A" EQUIPMENT PAD DETAILS CSAH 14 AT 9TH AVE S/HOFFMAN WAY	FILE NO. ANOKC 141213 SIGNAL SHEET 2 OF 34	99 159

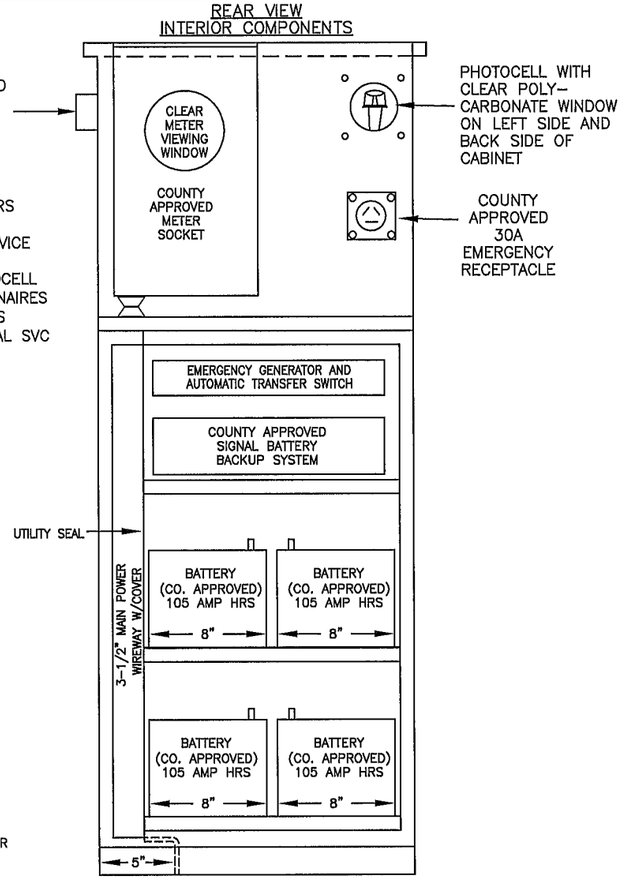


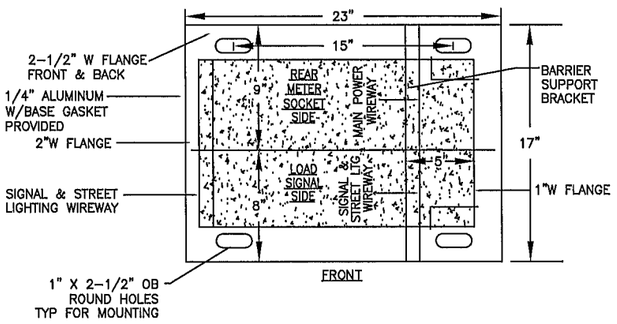


4 LED LIGHT HEAD 24V DC BLUE LIGHT

LOAD CENTER CIRCUIT BREAKERS ITE "Q" TYPE
1-100A/2P SERVICE DISCONNECT
1-15/1P PHOTOCELL
4-15A/1P LUMINAIRES
4-15A/1P SIGNS
1-30A/1P SIGNAL SVC
1 SPARE

INTERIOR COMPONENTS BEHIND HINGED DEAD FRONT W/ (2)-1/4 TURN LATCHES

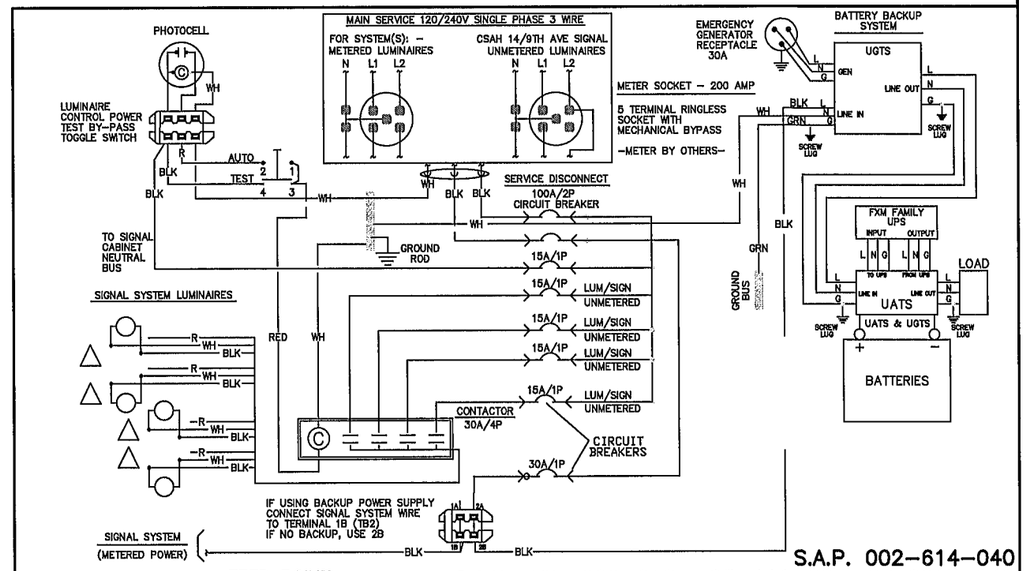




CABINET CONSTRUCTION

-NEMA 3R
-1/8" ALUMINUM 5052-H32
-ANODIZED 30 MINUTE CLEAR
-NEOPRENE GASKETED DOORS
-NON-CORRODING HARDWARE
-ETL LISTED IN ACCORDANCE W/UL508A

SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SEPARATE PAY ITEM FOR FURNISHING & INSTALLING NEW BATTERY BACK-UP SIGNAL SERVICE CABINET.



FEED POINT WIRING DIAGRAM

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

DRAWN BY: JMG	NO.	BY	DATE	REVISIONS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM				

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: June 12, 2017 Lic. No. 22457

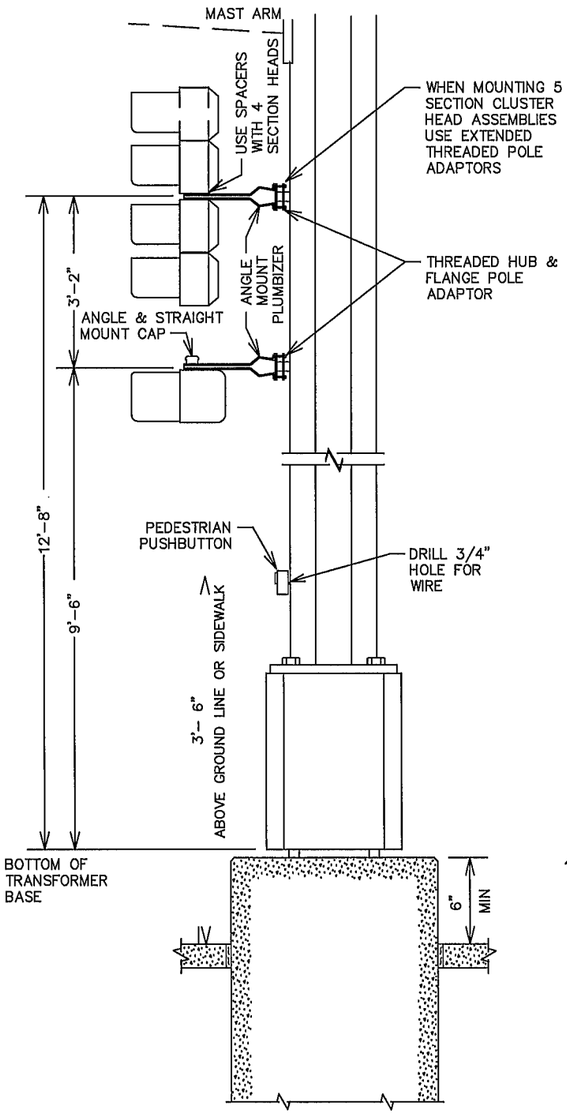
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TRAFFIC SIGNAL SYSTEM "A"
SIGNAL SERVICE CABINET DETAILS
CSAH 14 AT 9TH AVE S/HOFFMAN WAY

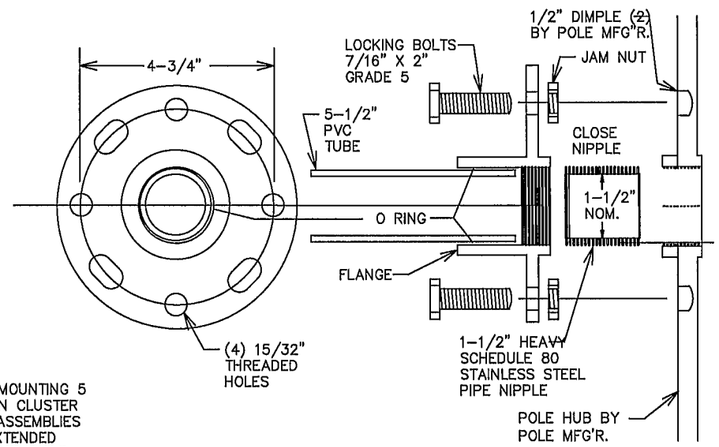
FILE NO. ANOKC 141213
SIGNAL SHEET 3 OF 34

100 / 159

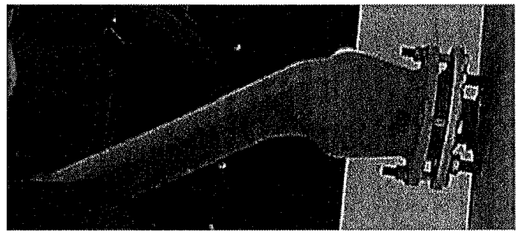


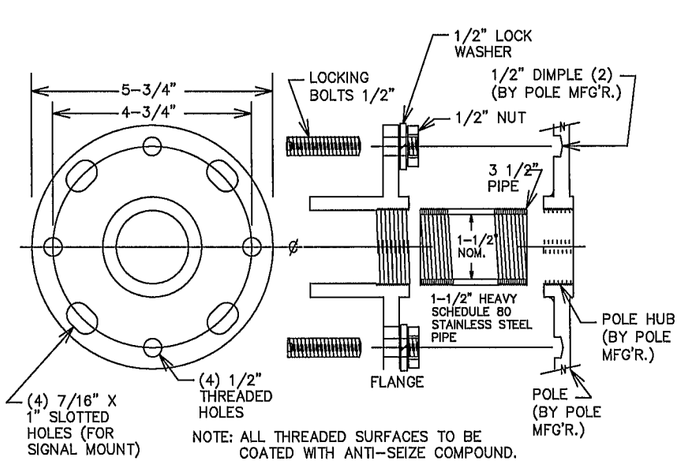
TYPICAL SIGNAL POLE MOUNTING

NOT TO SCALE



THREADED HUB AND FLANGE POLE ADAPTOR

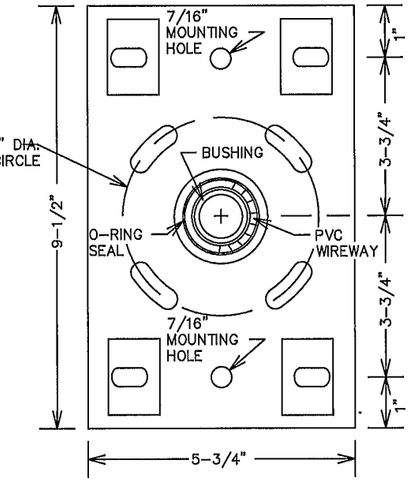




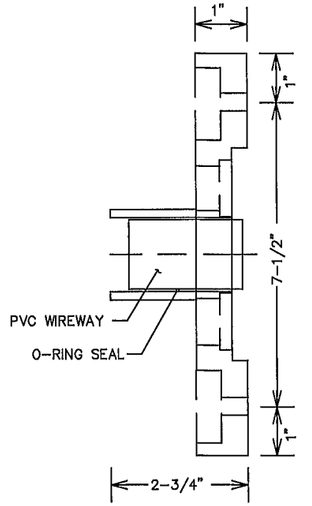
NOTE: ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.

EXTENDED THREADED POLE ADAPTER

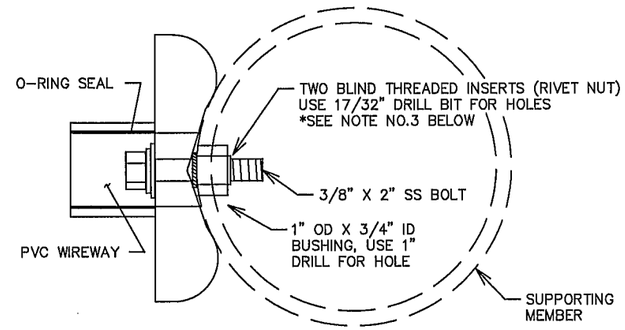
NOTES:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.
4. EXTENDED THREADED POLE ADAPTOR ONLY USED WITH 5 SECTION CLUSTER HEADS.



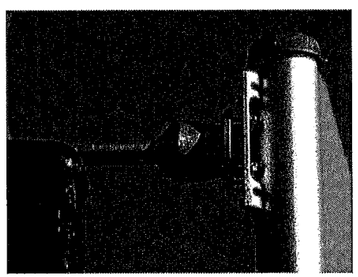
BOLT ON HUB & FLANGE



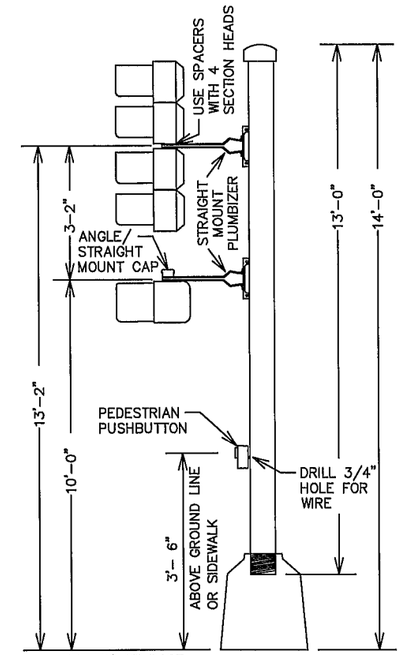
SIDE VIEW



TOP VIEW



NOTES:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSERTION TOOL. NO OTHER METHOD IS ACCEPTABLE.
4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



TYPICAL PEDESTAL MOUNTING

NOT TO SCALE

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457	SEH	PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN ANOKA, COON RAPIDS	TRAFFIC SIGNAL SYSTEMS 'A-C' ONE-WAY POLE MOUNT DETAILS CSAH 14 (9TH AVE TO CSAH 9)	FILE NO. ANOKC 141213 SIGNAL SHEET 4 OF 34	101 159

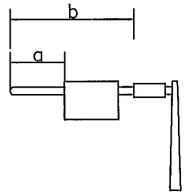
SIGNS FOR TRAFFIC SIGNAL SYSTEM										
SIGN PANELS TYPE C (SIGNALS) (FURNISH & INSTALL)										
SIGNAL SYSTEM	SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET		UNIT AREA (SQ FT)	NO. REQ.	PANEL LEGEND
						QUANTITY	SPACING (1)			
A	R10-X12	2,4	1'	–	42 x 48	2	---	14.00	2	Left Turn Yield on Flashing Yellow Arrow
B	R10-X12	2,4	1'	–	42 x 48	2	---	14.00	2	Left Turn Yield on Flashing Yellow Arrow
C	R10-X12	1,2,3,5	1'	–	42 x 48	2	---	14.00	4	Left Turn Yield on Flashing Yellow Arrow
TOTAL QUANTITIES								112.00	8	

SIGNS FOR TRAFFIC SIGNAL SYSTEM										
SIGN PANELS TYPE D (SIGNALS) (FURNISH & INSTALL)										
SIGNAL SYSTEM	SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET		UNIT AREA (SQ FT)	NO. REQ.	PANEL LEGEND
						QUANTITY	SPACING (1)			
A	D-1	1	24'	–	90 x 24	4	---	15.00	1	Main Street
A	D-2	2	–	24'	120 x 36	4	---	30.00	1	Hoffman Way w/LT Arrow, 9th Avenue w/RT Arrow
A	D-3	3	8'	–	90 x 24	4	---	15.00	1	Main Street
A	D-4	4	–	24'	120 x 36	4	---	30.00	1	9th Avenue w/LT Arrow, Hoffman Way w/RT Arrow
B	D-4	1	24'	–	90 x 24	4	---	15.00	1	Main Street
TOTAL QUANTITIES								105.00	5	

(1) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE 7/06/2007) FOR BRACKET SPACING REQUIREMENTS.

GENERAL SIGNING NOTES:

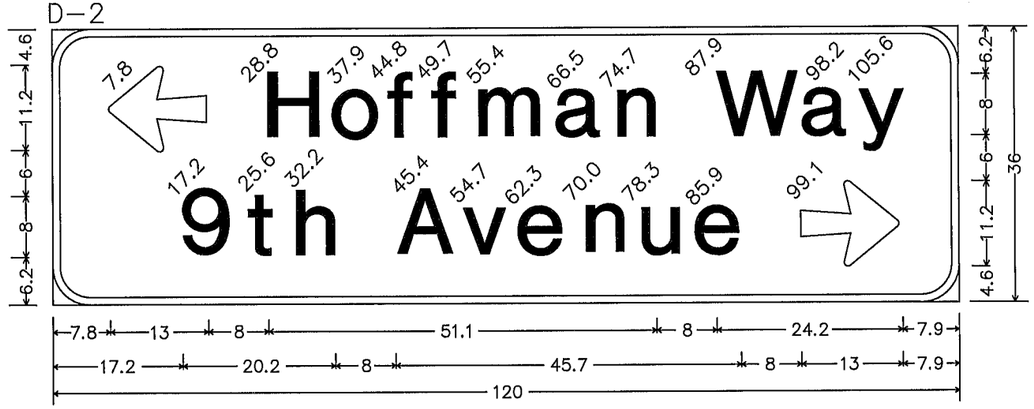
1) COLOR FOR ALL TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
2) CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
3) FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07), AND SPECIAL PROVISIONS.
4) SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS AND ARROW DETAILS.
5) FURNISHING AND INSTALLING NEW TYPE C AND TYPE D SIGNS SHALL BE INCLUDED AS PART OF BID ITEM FOR "TRAFFIC CONTROL SIGNAL SYSTEM A" AND "REVISE SIGNAL SYSTEMS B-C". SEE SPECIAL PROVISIONS.



D-1, D-3, D-5

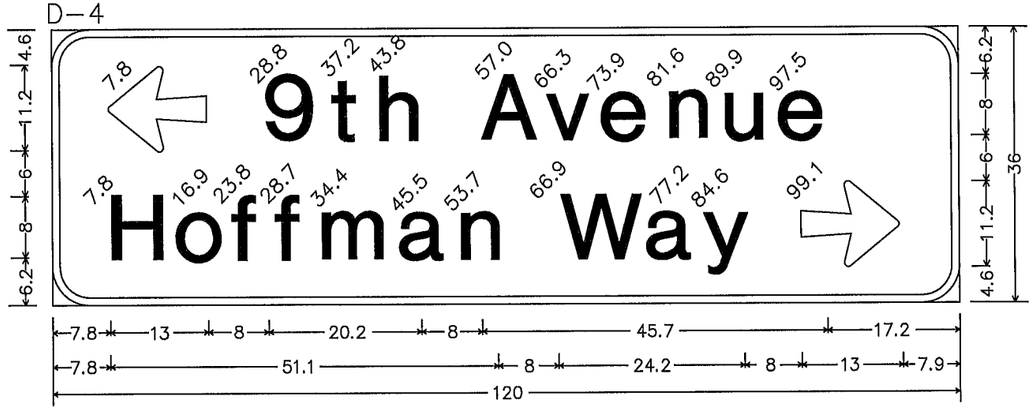
3.0" Radius, 1.0" Border, White on Green;
[Main Street] E Mod;

D-2



3.0" Radius, 1.0" Border, White on Green
Arrow 5 – 13.0" 180°, (Hoffman Way) E Mod.
(9th Avenue) E Mod., Arrow 5 – 13.0" 0°

D-4



3.0" Radius, 1.0" Border, White on Green
Arrow 5 – 13.0" 180°, (9th Avenue) E Mod.
(Hoffman Way) E Mod., Arrow 5 – 13.0" 0°

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN ANOKA, COON RAPIDS	TRAFFIC SIGNAL SYSTEMS 'A-C' SIGNAL SIGNING DETAILS CSAH 14 (9TH AVE TO CSAH 9)	FILE NO. ANOKC 141213 SIGNAL SHEET 5 OF 34 102 159

INSTALL VIDEO DETECTORS (FURNISHED BY COUNTY)

CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	CAMERA MOUNTED AT	MOUNTING HEIGHT
V2/5-1	EB CSAH 14	MAST ARM 3	ON MAST ARM	25'
V4-1	SB WEDGEWOOD DRIVE	POLE 3	ON LUMINAIRE EXTENSION	30'
V6/1-1	WB CSAH 14	MAST ARM 1	ON MAST ARM	25'
V8-1	NB WEDGEWOOD DRIVE	MAST ARM 2	ON MAST ARM	25'

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

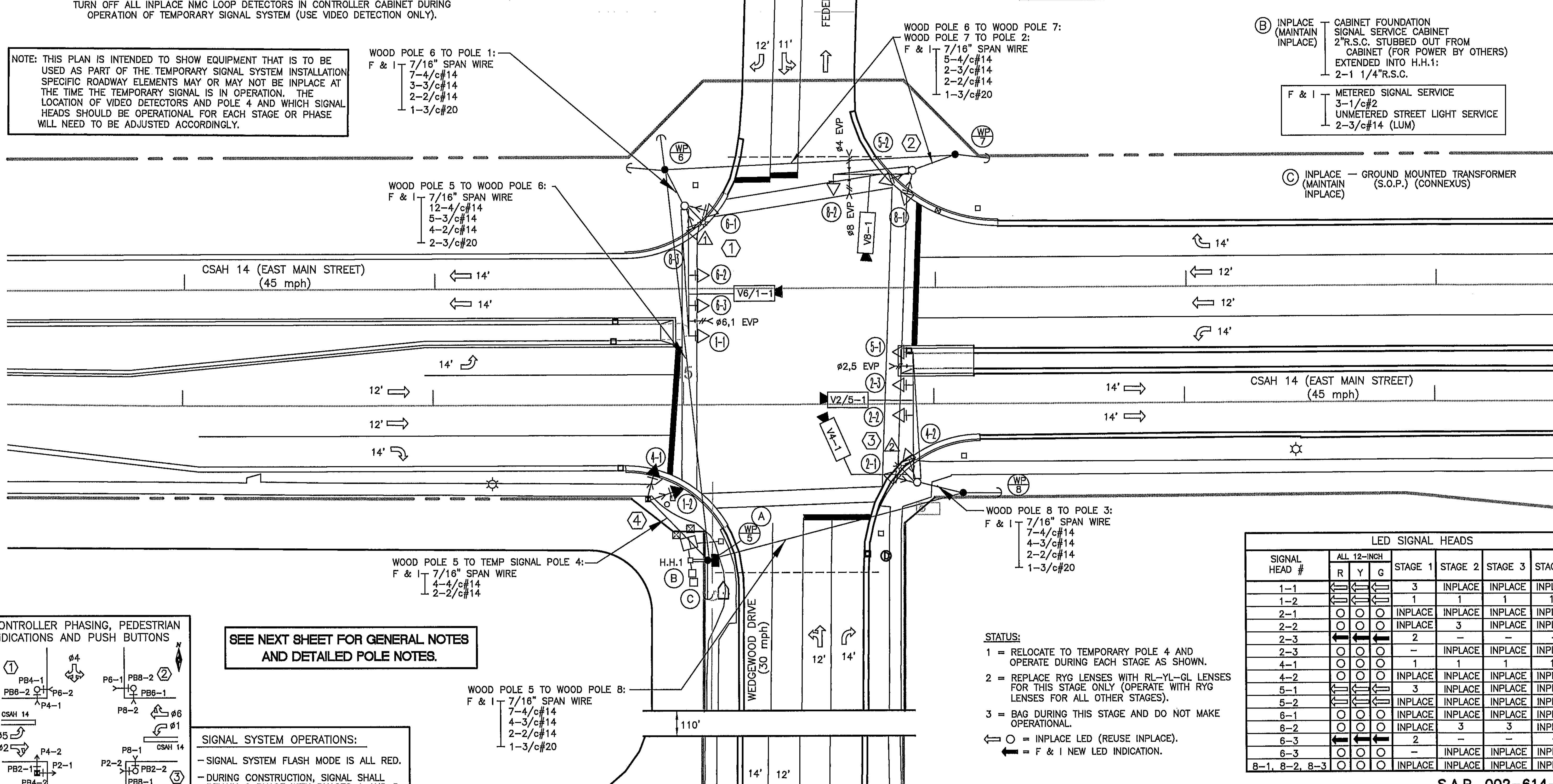
TURN OFF ALL INPLACE NMC LOOP DETECTORS IN CONTROLLER CABINET DURING OPERATION OF TEMPORARY SIGNAL SYSTEM (USE VIDEO DETECTION ONLY).

NOTE: THIS PLAN IS INTENDED TO SHOW EQUIPMENT THAT IS TO BE USED AS PART OF THE TEMPORARY SIGNAL SYSTEM INSTALLATION. SPECIFIC ROADWAY ELEMENTS MAY OR MAY NOT BE INPLACE AT THE TIME THE TEMPORARY SIGNAL IS IN OPERATION. THE LOCATION OF VIDEO DETECTORS AND POLE 4 AND WHICH SIGNAL HEADS SHOULD BE OPERATIONAL FOR EACH STAGE OR PHASE WILL NEED TO BE ADJUSTED ACCORDINGLY.

(A) INPLACE (S & I) — CONTROLLER AND CABINET (SALVAGE FROM CABINET FOUNDATION AND SECURELY ATTACH TO WOOD POLE 5)
INSTALL — VIDEO PROCESSOR, MONITOR, AND ALL REQUIRED VIDEO EQUIPMENT (FURNISHED BY COUNTY)
F & I — EXTEND FROM CABINET UP WOOD POLE 5: 2-3" CONDUITS, 23-4/c#14, 7-3/c#14, 8-2/c#14, 3-3/c#20, 3-1/c#2 (SERVICE)

(B) INPLACE (MAINTAIN INPLACE) — CABINET FOUNDATION, SIGNAL SERVICE CABINET, 2"R.S.C. STUBBED OUT FROM CABINET (FOR POWER BY OTHERS) EXTENDED INTO H.H.1: 2-1 1/4"R.S.C.
F & I — METERED SIGNAL SERVICE 3-1/c#2; UNMETERED STREET LIGHT SERVICE 2-3/c#14 (LUM)

(C) INPLACE (MAINTAIN INPLACE) — GROUND MOUNTED TRANSFORMER (S.O.P.) (CONNEXUS)



SEE NEXT SHEET FOR GENERAL NOTES AND DETAILED POLE NOTES.

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

ø4, ø6, ø1, ø5, ø2, ø8; PB4-1, PB6-2, P6-2, P4-1, P6-1, PB8-2, PB6-1, P8-2, P4-2, PB2-1, P2-1, PB4-2, P8-1, P2-2, PB2-2, PB8-1; CSAH 14; Wedgewood Drive; Locate ped push buttons as shown.

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- DURING CONSTRUCTION, SIGNAL SHALL REMAIN 6 PHASE WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

LED SIGNAL HEADS

SIGNAL HEAD #	R (ALL 12-INCH)	Y	G	STAGE 1	STAGE 2	STAGE 3	STAGE 4
1-1	⇦	⇦	⇦	3	INPLACE	INPLACE	INPLACE
1-2	⇦	⇦	⇦	1	1	1	1
2-1	O	O	O	INPLACE	INPLACE	INPLACE	INPLACE
2-2	O	O	O	INPLACE	3	INPLACE	INPLACE
2-3	⬅	⬅	⬅	2	–	–	–
2-3	O	O	O	–	INPLACE	INPLACE	INPLACE
4-1	O	O	O	1	1	1	1
4-2	O	O	O	INPLACE	INPLACE	INPLACE	INPLACE
5-1	⇦	⇦	⇦	3	INPLACE	INPLACE	INPLACE
5-2	⇦	⇦	⇦	INPLACE	INPLACE	INPLACE	INPLACE
6-1	O	O	O	INPLACE	INPLACE	INPLACE	INPLACE
6-2	O	O	O	INPLACE	3	3	INPLACE
6-3	⬅	⬅	⬅	2	–	–	–
6-3	O	O	O	–	INPLACE	INPLACE	INPLACE
8-1, 8-2, 8-3	O	O	O	INPLACE	INPLACE	INPLACE	INPLACE

STATUS:

1 = RELOCATE TO TEMPORARY POLE 4 AND OPERATE DURING EACH STAGE AS SHOWN.

2 = REPLACE RYG LENSES WITH RL-YL-GL LENSES FOR THIS STAGE ONLY (OPERATE WITH RYG LENSES FOR ALL OTHER STAGES).

3 = BAG DURING THIS STAGE AND DO NOT MAKE OPERATIONAL.

⇦ O = INPLACE LED (REUSE INPLACE).

⬅ = F & I NEW LED INDICATION.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TEMPORARY SIGNAL SYSTEM 'B' INTERSECTION LAYOUT CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213

SIGNAL SHEET 6 OF 34

NOTES:

1) ALL VEHICLE AND PEDESTRIAN SIGNAL HEADS ARE INPLACE AND SHALL BE REUSED AND MADE OPERATIONAL AS SHOWN.
2) ALL TRAFFIC SIGNAL MATERIALS AND ELECTRICAL EQUIPMENT TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR THE TEMPORARY SIGNAL SYSTEM SHALL BE APPROVED BY ENGINEER PRIOR TO INSTALLATION AT THE INTERSECTION. SEE SPECIAL PROVISIONS.
3) MOVEMENT/RELOCATION OF TEMPORARY POLE 4 AND VIDEO CAMERAS, AND ALL LABOR/MATERIALS NEEDED TO REVISE SIGNAL HEADS (LED ARROW LENSES, BAGGING HEADS, ETC.) SHALL BE INCLUDED IN THE PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM B". SEE SPECIAL PROVISIONS.
4) SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED BY COUNTY AND INSTALLED AND MADE OPERATIONAL BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM B").
5) (F & I) = ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR. (S & I) = ITEMS TO BE SALVAGED & INSTALLED BY CONTRACTOR.
6) CONTRACTOR SHALL BAG (AND MAKE IN-OPERATIONAL) ALL VEHICLE SIGNAL HEADS NOT IN USE DURING CONSTRUCTION.
7) CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE TURNED OFF DURING NON-PEAK TRAFFIC PERIODS (FOR SWITCHOVERS FROM EXISTING SIGNAL SYSTEM TO TEMPORARY SIGNAL SYSTEM, AND FROM TEMPORARY SIGNAL SYSTEM TO REVISED PERMANENT SIGNAL SYSTEM; AND ALSO WHEN MAST ARM POLE TRANSFORMER BASES ARE REPLACED BY CONTRACTOR AS PART OF REVISE SIGNAL SYSTEM WORK).
8) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL ITEMS OF THE EXISTING PERMANENT SIGNAL SYSTEM THAT WILL BE REUSED AS PART OF THE TEMPORARY SIGNAL SYSTEM AND SHALL REPLACE ITEMS DAMAGED DURING CONSTRUCTION WITH NEW ITEMS (AT NO EXPENSE TO THE COUNTY).
9) CONTRACTOR SHALL REMOVE ALL COMPONENTS OF TEMPORARY SIGNAL SYSTEM AFTER REVISED PERMANENT SIGNAL SYSTEM IS ABLE TO BE MADE OPERATIONAL.
10) LOCATION OF WOOD POLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

(1) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-50-X30-3 (DAVIT AT 0 DEG)
- LUMINAIRE-SHOEBOX
- 3-ONE WAY SIGNALS-OVERHEAD
- 2-TYPE 10B-POLE MOUNTED 0/270 DEG
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
- 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 32'
- ONE WAY EVP DETECTOR AND LIGHT AT 4'
- EXTENDED INTO H.H.7:
- 3"R.S.C.

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING WB TRAFFIC) (V6/1-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)

(2) INPLACE (MAINTAIN INPLACE)
- P90 POLE FOUNDATION
- TYPE P90-A-30
- ONE WAY SIGNAL-OVERHEAD AT 0'
- 2-TYPE 10B-POLE MOUNTED 0/270 DEG
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
- TYPE D SIGN PANEL-OVERHEAD AT 17'
- TWO WAY EVP DETECTOR AND TWO WAY LIGHT AT 4'
- EXTENDED INTO H.H.13:
- 3"R.S.C.

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING NB TRAFFIC) (V8-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)

(3) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-50-X30-3 (DAVIT AT 0 DEG)
- LUMINAIRE-SHOEBOX
- 3-ONE WAY SIGNALS-OVERHEAD
- 2-TYPE 10B-POLE MOUNTED 0/270 DEG
- 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
- 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 33'
- ONE WAY EVP DETECTOR AND LIGHT AT 4'
- EXTENDED INTO H.H.10:
- 3"R.S.C.

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING EB TRAFFIC) (V2/5-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)
- VIDEO CAMERA-LUMINAIRE MAST ARM MOUNTED (FACING SB TRAFFIC) (V4-1)
- MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON LUMINAIRE EXTENSION)

(4)
- INPLACE (REMOVE): PEDESTAL FOUNDATION; PEDESTAL POLE AND BASE
- INPLACE (S & I): 2-ONE WAY SIGNALS (1-2, 4-1); 2-SETS PEDESTRIAN INDICATIONS; 2-PEDESTRIAN PUSH BUTTONS
- F & I:
  - BARREL MOUNTED 15' PEDESTAL POLE
  - TYPE 2C BRACKETING
  - 2-PEDESTRIAN INSTRUCTION SIGNS (R10-4b)
  - 3/4" CONDUIT AND SLIPFITTER COLLAR ABOVE TOP OF PEDESTAL POLE (TO ACCEPT 7/16" SPAN WIRE INSTALLATION)
  - RUN 7/16" SPAN WIRE TO WOOD POLE 5

(WP 5) F & I
- 50' WOOD POLE-CLASS 2
- 2-SIDEWALK GUYS, GUY GUARDS, AND EXPANDING ANCHORS
- 2-3" CONDUIT RISERS AND WEATHERHEADS
- EXTEND 2-3" CONDUIT RISERS INTO CONTROLLER CABINET (SEE CABINET A NOTES)
- 23-4/c#14
- 7-3/c#14
- 8-2/c#14
- 3-3/c#20
- 3-1/c#2 (SERVICE)
- 2" CONDUIT RISER AND WEATHERHEAD
- EXTEND 2" CONDUIT RISER INTO H.H.1:
- 2-3/c#14 (LUM)
- 3-1/c#2 (SERVICE)

(WP 6) F & I
- 50' WOOD POLE-CLASS 2
- 2-DOWN GUYS, GUY GUARDS, AND SCREW ANCHORS

(WP 7) F & I
- 50' WOOD POLE-CLASS 2
- 1-DOWN GUY, GUY GUARD, AND SCREW ANCHOR

(WP 8) F & I
- 50' WOOD POLE-CLASS 2
- 1-DOWN GUY, GUY GUARD, AND SCREW ANCHOR

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

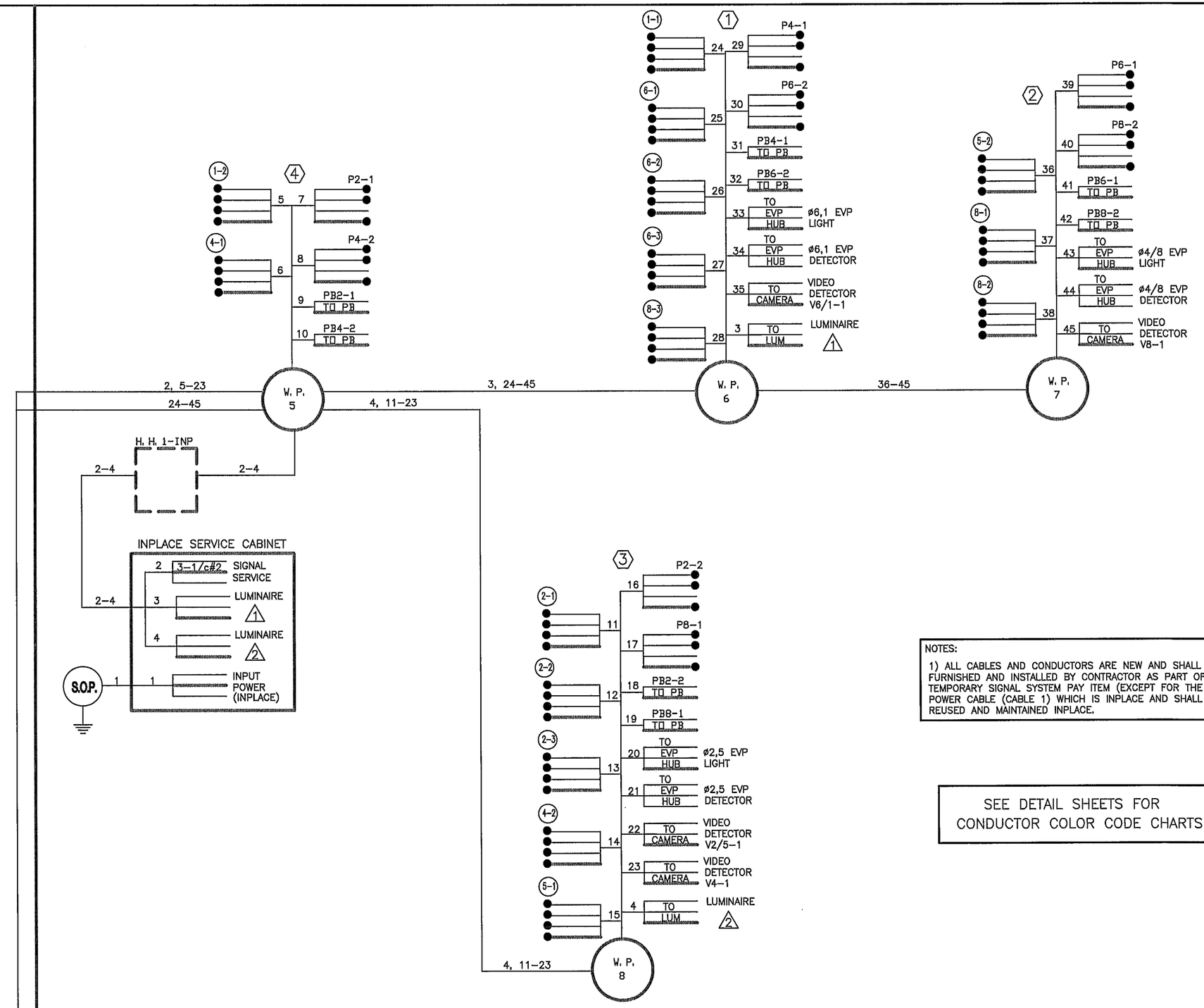
ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TEMPORARY SIGNAL SYSTEM 'B'
SIGNAL SYSTEM NOTES
CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213
SIGNAL SHEET 7 OF 34

CONTROLLER CABINET

2	SIGNAL SERVICE	
5	RLA 1-2, YLA 1-2, GLA 1-2, NEU 1-2	
6	RED 4-1, YEL 4-1, GRN 4-1, NEU 4-1	
7	DWK P2-1, WLK P2-1, SPR, NEU P2-1	
8	DWK P4-2, WLK P4-2, SPR, NEU P4-2	
9	PB2-1 NEU	
10	PB4-2 NEU	
11	RED 2-1, YEL 2-1, GRN 2-1, NEU 2-1	
12	RED 2-2, YEL 2-2, GRN 2-2, NEU 2-2	
13	RED 2-3, YEL 2-3, GRN 2-3, NEU 2-3	
14	RED 4-2, YEL 4-2, GRN 4-2, NEU 4-2	
15	RLA 5-1, YLA 5-1, GLA 5-1, NEU 5-1	
16	DWK P2-2, WLK P2-2, SPR, NEU P2-2	
17	DWK P8-1, WLK P8-1, SPR, NEU P8-1	
18	PB2-2 NEU	
19	PB8-1 NEU	
20	ø2,5 EVP LT, EQG, NEU	
21	ø2,5 EVP DETECTOR	
22	VIDEO DETECTOR V2/5-1	
23	VIDEO DETECTOR V4-1	
24	RLA 1-1, YLA 1-1, GLA 1-1, NEU 1-1	
25	RED 6-1, YEL 6-1, GRN 6-1, NEU 6-1	
26	RED 6-2, YEL 6-2, GRN 6-2, NEU 6-2	
27	RED 6-3, YEL 6-3, GRN 6-3, NEU 6-3	
28	RED 8-3, YEL 8-3, GRN 8-3, NEU 8-3	
29	DWK P4-1, WLK P4-1, SPR, NEU P4-1	
30	DWK P6-2, WLK P6-2, SPR, NEU P6-2	
31	PB4-1 NEU	
32	PB6-2 NEU	
33	ø6,1 EVP LT, EQG, NEU	
34	ø6,1 EVP DETECTOR	
35	VIDEO DETECTOR V6/1-1	
36	RLA 5-2, YLA 5-2, GLA 5-2, NEU 5-2	
37	RED 8-1, YEL 8-1, GRN 8-1, NEU 8-1	
38	RED 8-2, YEL 8-2, GRN 8-2, NEU 8-2	
39	DWK P6-1, WLK P6-1, SPR, NEU P6-1	
40	DWK P8-2, WLK P8-2, SPR, NEU P8-2	
41	PB6-1 NEU	
42	PB8-2 NEU	
43	ø4/8 EVP LT, EQG, NEU	
44	ø4/8 EVP DETECTOR	
45	VIDEO DETECTOR V8-1	



NOTES:

1) ALL CABLES AND CONDUCTORS ARE NEW AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THE TEMPORARY SIGNAL SYSTEM PAY ITEM (EXCEPT FOR THE POWER CABLE (CABLE 1) WHICH IS INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.

SEE DETAIL SHEETS FOR CONDUCTOR COLOR CODE CHARTS.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TEMPORARY SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213
SIGNAL SHEET 8 OF 34

INSTALL VIDEO DETECTORS (FURNISHED BY COUNTY)

CAMERA NO.	INTERSECTION APPROACH FACING	SIGNAL POLE (CAMERA) LOCATION	CAMERA MOUNTED AT	MOUNTING HEIGHT
V2/5–1	EB CSAH 14	MAST ARM 4	ON MAST ARM	25'
V4/7–1	SB CSAH 9	MAST ARM 1	ON MAST ARM	25'
V6/1–1	WB CSAH 14	MAST ARM 3	ON MAST ARM	25'
V8/3–1	NB ROUND LAKE BLVD	MAST ARM 5	ON MAST ARM	25'

NOTE: MOUNTING HEIGHT = APPROXIMATE HEIGHT ABOVE ADJACENT GROUND LINE.

TURN OFF ALL INPLACE NMC LOOP DETECTORS IN CONTROLLER CABINET DURING OPERATION OF TEMPORARY SIGNAL SYSTEM (USE VIDEO DETECTION ONLY).

NOTE: THIS PLAN IS INTENDED TO SHOW EQUIPMENT THAT IS TO BE USED AS PART OF THE TEMPORARY SIGNAL SYSTEM INSTALLATION. SPECIFIC ROADWAY ELEMENTS MAY OR MAY NOT BE INPLACE AT THE TIME THE TEMPORARY SIGNAL IS IN OPERATION. THE LOCATION OF VIDEO DETECTORS AND POLE 2 AND WHICH SIGNAL HEADS SHOULD BE OPERATIONAL FOR EACH STAGE OR PHASE WILL NEED TO BE ADJUSTED ACCORDINGLY.

20 10 0 20 40
15 5 SCALE IN FEET

N

STATUS:

1 = RELOCATE TO TEMPORARY POLE 2 AND OPERATE DURING EACH STAGE AS SHOWN.

2 = BAG DURING THIS STAGE AND DO NOT MAKE OPERATIONAL.

⇦ ○ = INPLACE LED (REUSE INPLACE).

LED SIGNAL HEADS						
SIGNAL HEAD #	ALL 12–INCH R	ALL 12–INCH Y	ALL 12–INCH G	STAGE 1	STAGE 2	STAGES 3/4
1–1	⇦	⇦	⇦	INPLACE	INPLACE	INPLACE
1–2	⇦	⇦	⇦	1	1	1
1–3	⇦	⇦	⇦	INPLACE	INPLACE	INPLACE
2–1, 2–3	○	○	○	INPLACE	INPLACE	INPLACE
2–2	○	○	○	INPLACE	2	INPLACE
2–4	○	○	○	1	1	1
3–1	⇦	⇦	⇦	2	INPLACE	INPLACE
3–2, 3–3	⇦	⇦	⇦	INPLACE	INPLACE	INPLACE
4–1, 4–4	○	○	○	INPLACE	INPLACE	INPLACE
4–2	○	○	○	INPLACE	2	INPLACE
4–3	○	○	○	2	INPLACE	INPLACE
5–1, 5–2, 5–3	⇦	⇦	⇦	INPLACE	INPLACE	INPLACE
6–1	○	○	○	INPLACE	INPLACE	INPLACE
6–2	○	○	○	INPLACE	2	INPLACE
6–3	○	○	○	2	INPLACE	INPLACE
7–1, 7–2, 7–3	⇦	⇦	⇦	INPLACE	INPLACE	INPLACE
8–1, 8–4	○	○	○	INPLACE	INPLACE	INPLACE
8–2	○	○	○	INPLACE	2	INPLACE
8–3	○	○	○	2	INPLACE	INPLACE

Ⓒ INPLACE — GROUND MOUNTED TRANSFORMER (S.O.P.) (CONNEXUS) (MAINTAIN INPLACE)

WOOD POLE 6 TO WOOD POLE 9:
WOOD POLE 9 TO POLE 5:
F & I — 7/16" SPAN WIRE
9–4/c#14
3–3/c#14
2–2/c#14
1–3/c#20

WOOD POLE 6 TO POLE 5:
F & I — 7/16" SPAN WIRE
8–4/c#14
3–3/c#14
2–2/c#14
1–3/c#20

CSAH 9 (ROUND LAKE BLVD) (45 mph)

CSAH 14 (MAIN STREET) (45 mph)

ROUND LAKE BLVD (45 mph)

14' 12' 12' 12' 14'

65 70

ø6,1 EVP V6/1–1

ø8,3 EVP V8/3–1

ø2,5 EVP V2/5–1

ø4,7 EVP V4/7–1

WP 9 WP 6 WP 8 WP 7

H.H.1

WOOD POLE 8 TO POLE 2:
F & I — 7/16" SPAN WIRE
3–4/c#14
2–2/c#14

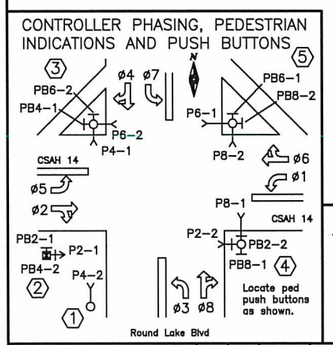
WOOD POLE 8 TO POLE 1:
F & I — 7/16" SPAN WIRE
6–4/c#14
3–3/c#14
1–3/c#20

WOOD POLE 7 TO WOOD POLE 8:
F & I — 7/16" SPAN WIRE
9–4/c#14
3–3/c#14
2–2/c#14
1–3/c#20

WOOD POLE 7 TO POLE 4:
F & I — 7/16" SPAN WIRE
9–4/c#14
3–3/c#14
2–2/c#14
1–3/c#20

WOOD POLE 6 TO WOOD POLE 7:
F & I — 7/16" SPAN WIRE
18–4/c#14
6–3/c#14
4–2/c#14
2–3/c#20

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- DURING CONSTRUCTION, SIGNAL SHALL REMAIN 8 PHASE, WITH PHASES 1, 3, 5, AND 7 BEING PROTECTED LEFT TURN PHASES.

SEE NEXT SHEETS FOR GENERAL NOTES, DETAILED POLE NOTES, AND CONTROLLER CABINET NOTES.

S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TEMPORARY SIGNAL SYSTEM 'C'
INTERSECTION LAYOUT
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 9 OF 34

106/159

NOTES:

1) ALL VEHICLE AND PEDESTRIAN SIGNAL HEADS ARE INPLACE AND SHALL BE REUSED AND MADE OPERATIONAL AS SHOWN.
2) ALL TRAFFIC SIGNAL MATERIALS AND ELECTRICAL EQUIPMENT TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR THE TEMPORARY SIGNAL SYSTEM SHALL BE APPROVED BY ENGINEER PRIOR TO INSTALLATION AT THE INTERSECTION. SEE SPECIAL PROVISIONS.
3) MOVEMENT/RELOCATION OF TEMPORARY POLE 2 AND VIDEO CAMERAS, AND ALL LABOR/MATERIALS NEEDED TO REVISE SIGNAL HEADS (BAGGING HEADS, ETC.) SHALL BE INCLUDED IN THE PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM C". SEE SPECIAL PROVISIONS.
4) SEE SPECIAL PROVISIONS REGARDING VIDEO DETECTION SYSTEM TO BE FURNISHED BY COUNTY AND INSTALLED AND MADE OPERATIONAL BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "TEMPORARY SIGNAL SYSTEM C").
5) (F & I) = ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR. (S & I) = ITEMS TO BE SALVAGED & INSTALLED BY CONTRACTOR.
6) CONTRACTOR SHALL BAG (AND MAKE IN-OPERATIONAL) ALL VEHICLE SIGNAL HEADS NOT IN USE DURING CONSTRUCTION.
7) CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE TURNED OFF DURING NON-PEAK TRAFFIC PERIODS (FOR SWITCHOVERS FROM EXISTING SIGNAL SYSTEM TO TEMPORARY SIGNAL SYSTEM, AND FROM TEMPORARY SIGNAL SYSTEM TO REVISED PERMANENT SIGNAL SYSTEM).
8) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL ITEMS OF THE EXISTING PERMANENT SIGNAL SYSTEM THAT WILL BE REUSED AS PART OF THE TEMPORARY SIGNAL SYSTEM AND SHALL REPLACE ITEMS DAMAGED DURING CONSTRUCTION WITH NEW ITEMS (AT NO EXPENSE TO THE COUNTY).
9) CONTRACTOR SHALL REMOVE ALL COMPONENTS OF TEMPORARY SIGNAL SYSTEM AFTER REVISED PERMANENT SIGNAL SYSTEM IS ABLE TO BE MADE OPERATIONAL.
10) LOCATION OF WOOD POLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

(1) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-55-X30-6 (DAVIT AT 350 DEG)
- LUMINAIRE-SHOEBOX
- 4-ONE WAY SIGNALS-OVERHEAD
- 1-TYPE 10B-POLE MOUNTED 270 DEG
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 42'
- ONE WAY EVP DETECTOR AND LIGHT AT 4'
- EXTENDED INTO H.H.8:
- 3"R.S.C.

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING SB TRAFFIC) (V4/7-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)

(2)
INPLACE (REMOVE)
- PEDESTAL FOUNDATION
- PEDESTAL POLE AND BASE

INPLACE (S & I)
- 2-ONE WAY SIGNALS (1-2, 2-4)
- 1-SET PEDESTRIAN INDICATIONS
- 2-PEDESTRIAN PUSH BUTTONS

F & I
- BARREL MOUNTED 15' PEDESTAL POLE
- TYPE 2B BRACKETING
- 2-PEDESTRIAN INSTRUCTION SIGNS (R10-4b)
- 3/4" CONDUIT AND SLIPFITTER COLLAR ABOVE TOP OF PEDESTAL POLE (TO ACCEPT 7/16" SPAN WIRE INSTALLATION)
- RUN 7/16" SPAN WIRE TO WOOD POLE 8

(3) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-50-X30-6 (DAVIT AT 350 DEG)
- LUMINAIRE-SHOEBOX
- 4-ONE WAY SIGNALS-OVERHEAD
- 1-TYPE 10A-POLE MOUNTED 180 DEG
- 2-TYPE 10B-POLE MOUNTED 90/270 DEG
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 35'
- ONE WAY EVP DETECTOR AND LIGHT AT 4'
- EXTENDED INTO H.H.18:
- 3"R.S.C.

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING WB TRAFFIC) (V6/1-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)

(4) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-55-X30-6 (DAVIT AT 350 DEG)
- 4-ONE WAY SIGNALS-OVERHEAD
- LUMINAIRE-SHOEBOX
- 1-TYPE 10A-POLE MOUNTED 180 DEG
- 2-TYPE 10B-POLE MOUNTED 90/270 DEG
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 40'
- ONE WAY EVP DETECTOR AND LIGHT AT 4'
- EXTENDED INTO H.H.5:
- 3"R.S.C.

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING EB TRAFFIC) (V2/5-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)

(5) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-55-X30-6 (DAVIT AT 350 DEG)
- 4-ONE WAY SIGNALS-OVERHEAD
- LUMINAIRE-SHOEBOX
- 2-TYPE 10B-POLE MOUNTED 90/270 DEG
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 38'
- ONE WAY EVP DETECTOR AND LIGHT AT 4'
- EXTENDED INTO H.H.16:
- 3"R.S.C.

F & I
- VIDEO CAMERA-MAST ARM MOUNTED (FACING NB TRAFFIC) (V8/3-1)
- 5-FOOT EXTENSION & MOUNTING HARDWARE FOR VIDEO CAMERA (FOR MOUNTING ON TRAFFIC SIGNAL MAST ARM)

(A) INPLACE (S & I)
- CONTROLLER AND CABINET (SALVAGE FROM CABINET FOUNDATION AND SECURELY ATTACH TO WOOD POLE 6)

INSTALL
- VIDEO PROCESSOR, MONITOR, AND ALL REQUIRED VIDEO EQUIPMENT (FURNISHED BY COUNTY)

F & I
- EXTEND FROM CABINET UP WOOD POLE 6:
- 2-4" CONDUITS
- 35-4/c#14
- 8-3/c#14
- 8-2/c#14
- 4-3/c#20
- 3-1/c#2 (SERVICE)

(B) INPLACE (MAINTAIN INPLACE)
- CABINET FOUNDATION
- SIGNAL SERVICE CABINET
- 2"R.S.C. STUBBED OUT FROM CABINET (FOR POWER BY OTHERS)
- EXTENDED INTO H.H.1:
- 2-1 1/4"R.S.C.

F & I
- METERED SIGNAL SERVICE
- 3-1/c#2
- UNMETERED STREET LIGHT SERVICE
- 4-3/c#14 (LUM)

(WP 6) F & I
- 50' WOOD POLE-CLASS 2
- 2-SIDEWALK GUYS, GUY GUARDS, AND EXPANDING ANCHORS
- 2-4" CONDUIT RISERS AND WEATHERHEADS
- EXTEND 2-4" CONDUIT RISERS INTO CONTROLLER CABINET (SEE CABINET A NOTES)
- 35-4/c#14
- 8-3/c#14
- 8-2/c#14
- 4-3/c#20
- 3-1/c#2 (SERVICE)
- 2" CONDUIT RISER AND WEATHERHEAD
- EXTEND 2" CONDUIT RISER INTO H.H.1:
- 4-3/c#14 (LUM)
- 3-1/c#2 (SERVICE)

(WP 7) F & I
- 50' WOOD POLE-CLASS 2
- 2-DOWN GUYS, GUY GUARDS, AND SCREW ANCHORS

(WP 8) F & I
- 50' WOOD POLE-CLASS 2
- 1-DOWN GUY, GUY GUARD, AND SCREW ANCHOR

(WP 9) F & I
- 50' WOOD POLE-CLASS 2
- 1-DOWN GUY, GUY GUARD, AND SCREW ANCHOR

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

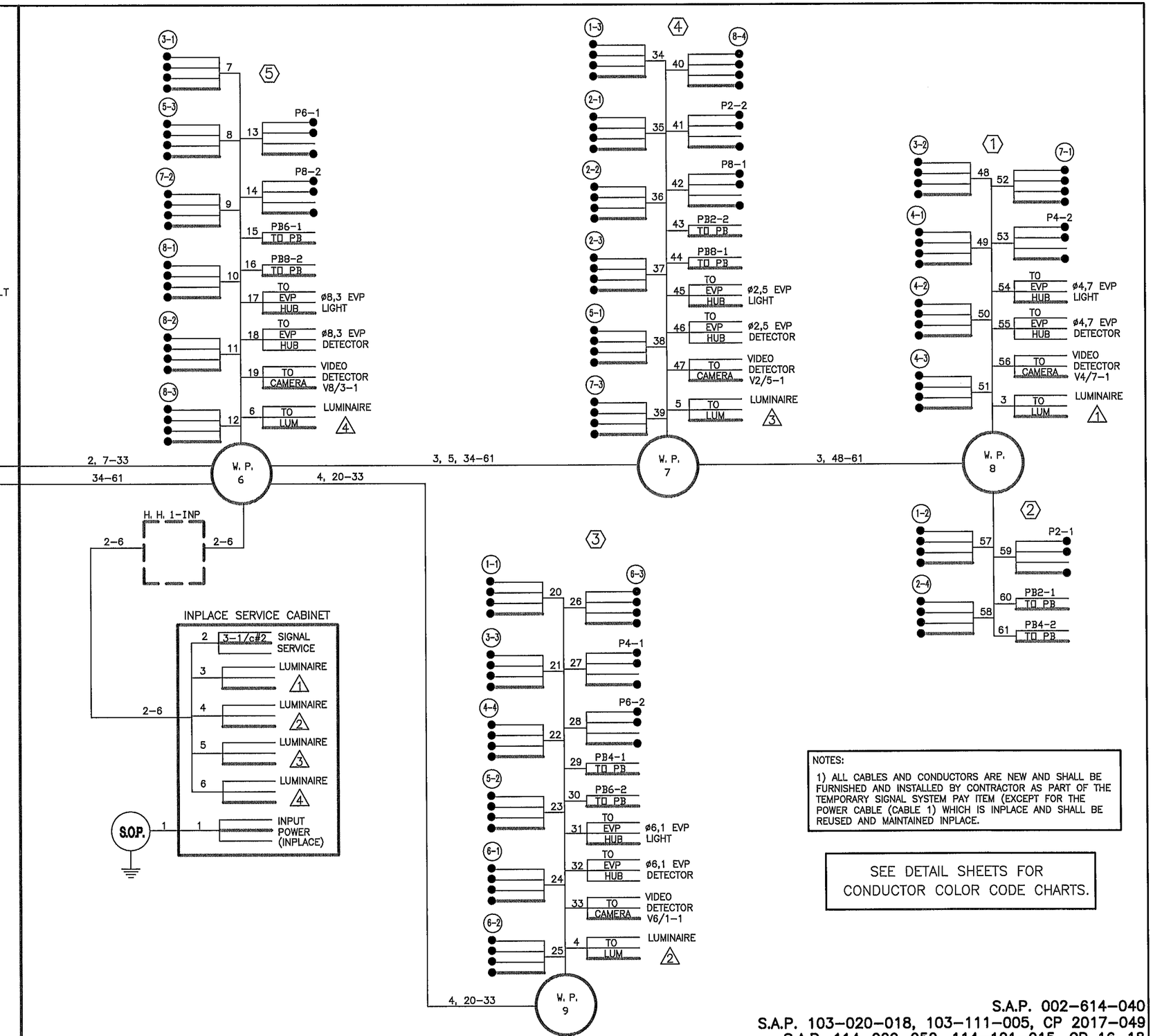
ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TEMPORARY SIGNAL SYSTEM 'C'
CSAH 9 MATCH LINE/POLE NOTES
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 10 OF 34

CONTROLLER CABINET

2	SIGNAL	
	SERVICE	
7	RLA 3-1	
	YLA 3-1	
	GLA 3-1	
	NEU 3-1	
8	RLA 5-3	
	YLA 5-3	
	GLA 5-3	
	NEU 5-3	
9	RLA 7-2	
	YLA 7-2	
	GLA 7-2	
	NEU 7-2	
10	RED 8-1	
	YEL 8-1	
	GRN 8-1	
	NEU 8-1	
11	RED 8-2	
	YEL 8-2	
	GRN 8-2	
	NEU 8-2	
12	RED 8-3	
	YEL 8-3	
	GRN 8-3	
	NEU 8-3	
13	DWK P6-1	
	WLK P6-1	
	SPR	
	NEU P6-1	
14	DWK P8-2	
	WLK P8-2	
	SPR	
	NEU P8-2	
15	PB6-1	
	NEU	
16	PB8-2	
	NEU	
17	ø8,3 EVP LT	
	EQG	
	NEU	
18	ø8,3	
	EVP	
	DETECTOR	
19	VIDEO	
	DETECTOR	
	V8/3-1	
20	RLA 1-1	
	YLA 1-1	
	GLA 1-1	
	NEU 1-1	
21	RLA 3-3	
	YLA 3-3	
	GLA 3-3	
	NEU 3-3	
22	RED 4-4	
	YEL 4-4	
	GRN 4-4	
	NEU 4-4	
23	RLA 5-2	
	YLA 5-2	
	GLA 5-2	
	NEU 5-2	
24	RED 6-1	
	YEL 6-1	
	GRN 6-1	
	NEU 6-1	
25	RED 6-2	
	YEL 6-2	
	GRN 6-2	
	NEU 6-2	
26	RED 6-3	
	YEL 6-3	
	GRN 6-3	
	NEU 6-3	
27	DWK P4-1	
	WLK P4-1	
	SPR	
	NEU P4-1	
28	DWK P6-2	
	WLK P6-2	
	SPR	
	NEU P6-2	
29	PB4-1	
	NEU	
30	PB6-2	
	NEU	
31	ø6,1 EVP LT	
	EQG	
	NEU	
32	ø6,1	
	EVP	
	DETECTOR	
33	VIDEO	
	DETECTOR	
	V6/1-1	
34	RLA 1-3	
	YLA 1-3	
	GLA 1-3	
	NEU 1-3	
35	RED 2-1	
	YEL 2-1	
	GRN 2-1	
	NEU 2-1	
36	RED 2-2	
	YEL 2-2	
	GRN 2-2	
	NEU 2-2	
37	RED 2-3	
	YEL 2-3	
	GRN 2-3	
	NEU 2-3	
38	RLA 5-1	
	YLA 5-1	
	GLA 5-1	
	NEU 5-1	
39	RLA 7-3	
	YLA 7-3	
	GLA 7-3	
	NEU 7-3	
40	RED 8-4	
	YEL 8-4	
	GRN 8-4	
	NEU 8-4	
41	DWK P2-2	
	WLK P2-2	
	SPR	
	NEU P2-2	
42	DWK P8-1	
	WLK P8-1	
	SPR	
	NEU P8-1	
43	PB2-2	
	NEU	
44	PB8-1	
	NEU	
45	ø2,5 EVP LT	
	EQG	
	NEU	
46	ø2,5	
	EVP	
	DETECTOR	
47	VIDEO	
	DETECTOR	
	V2/5-1	
48	RLA 3-2	
	YLA 3-2	
	GLA 3-2	
	NEU 3-2	
49	RED 4-1	
	YEL 4-1	
	GRN 4-1	
	NEU 4-1	
50	RED 4-2	
	YEL 4-2	
	GRN 4-2	
	NEU 4-2	
51	RED 4-3	
	YEL 4-3	
	GRN 4-3	
	NEU 4-3	
52	RLA 7-1	
	YLA 7-1	
	GLA 7-1	
	NEU 7-1	
53	DWK P4-2	
	WLK P4-2	
	SPR	
	NEU P4-2	
54	ø4,7 EVP LT	
	EQG	
	NEU	
55	ø4,7	
	EVP	
	DETECTOR	
56	VIDEO	
	DETECTOR	
	V4/7-1	
57	RLA 1-2	
	YLA 1-2	
	GLA 1-2	
	NEU 1-2	
58	RED 2-4	
	YEL 2-4	
	GRN 2-4	
	NEU 2-4	
59	DWK P2-1	
	WLK P2-1	
	SPR	
	NEU P2-1	
60	PB2-1	
	NEU	
61	PB4-2	
	NEU	



NOTES:

1) ALL CABLES AND CONDUCTORS ARE NEW AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THE TEMPORARY SIGNAL SYSTEM PAY ITEM (EXCEPT FOR THE POWER CABLE (CABLE 1) WHICH IS INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.

SEE DETAIL SHEETS FOR CONDUCTOR COLOR CODE CHARTS.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TEMPORARY SIGNAL SYSTEM "C"
FIELD WIRING DIAGRAM
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 11 OF 34

108/159

NOTES:

1) LOCATION OF FOUNDATIONS, LOOP DETECTORS, AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
3) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. SEE SPECIAL PROVISIONS.
4) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM END OF EACH MAST ARM (FOR EVP).
5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION (CITY OF ANOKA). SEE SPECIAL PROVISIONS.
6) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "TRAFFIC CONTROL SIGNAL SYSTEM A").
7) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION LED FILLED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
8) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
9) SEE DETAILS, SPECIAL PROVISIONS & STATEMENT OF ESTIMATED QUANTITIES REGARDING BATTERY BACK-UP SIGNAL SERVICE CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
10) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) #12 AWG IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
11) (*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM "A"). SEE STATEMENT OF ESTIMATED AND SPECIAL PROVISIONS.

F & I N.M.C. LOOP DETECTORS

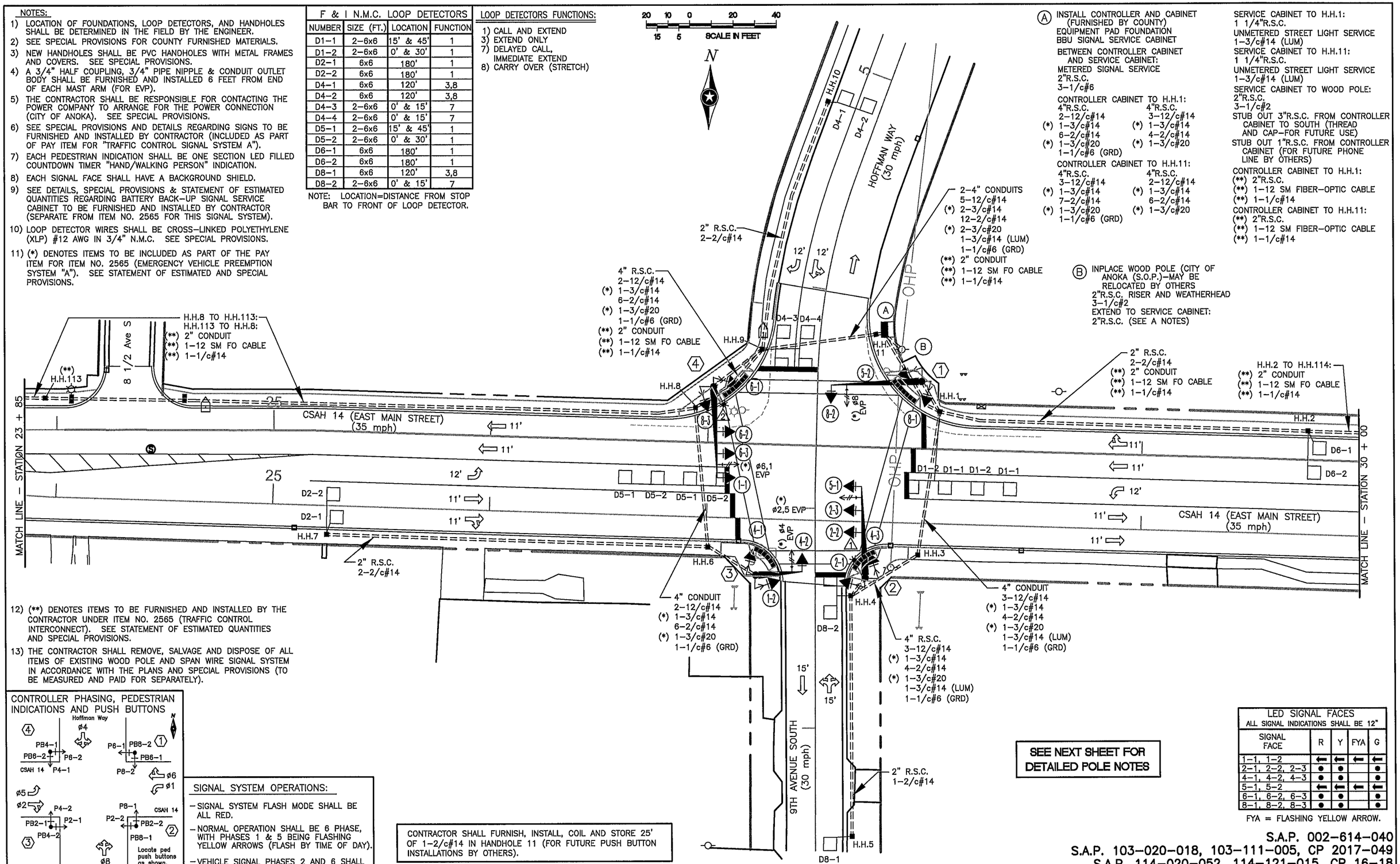
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	15' & 45'	1
D1-2	2-6x6	0' & 30'	1
D2-1	6x6	180'	1
D2-2	6x6	180'	1
D4-1	6x6	120'	3,8
D4-2	6x6	120'	3,8
D4-3	2-6x6	0' & 15'	7
D4-4	2-6x6	0' & 15'	7
D5-1	2-6x6	15' & 45'	1
D5-2	2-6x6	0' & 30'	1
D6-1	6x6	180'	1
D6-2	6x6	180'	1
D8-1	6x6	120'	3,8
D8-2	2-6x6	0' & 15'	7

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

LOOP DETECTORS FUNCTIONS:

1) CALL AND EXTEND
3) EXTEND ONLY
7) DELAYED CALL, IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)

SCALE IN FEET 20 10 0 20 40 / 15 5



12) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
13) THE CONTRACTOR SHALL REMOVE, SALVAGE AND DISPOSE OF ALL ITEMS OF EXISTING WOOD POLE AND SPAN WIRE SIGNAL SYSTEM IN ACCORDANCE WITH THE PLANS AND SPECIAL PROVISIONS (TO BE MEASURED AND PAID FOR SEPARATELY).

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING FLASHING YELLOW ARROWS (FLASH BY TIME OF DAY).
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 25' OF 1-2/c#14 IN HANDHOLE 11 (FOR FUTURE PUSH BUTTON INSTALLATIONS BY OTHERS).

LED SIGNAL FACES
ALL SIGNAL INDICATIONS SHALL BE 12"

SIGNAL FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	●	●		●
4-1, 4-2, 4-3	●	●		●
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	●	●		●
8-1, 8-2, 8-3	●	●		●

FYA = FLASHING YELLOW ARROW.

SEE NEXT SHEET FOR DETAILED POLE NOTES

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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

NO.	BY	DATE	REVISIONS

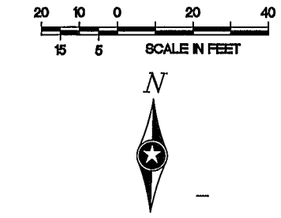
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Name: John M. Gray, PE
Date: June 12, 2017 Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

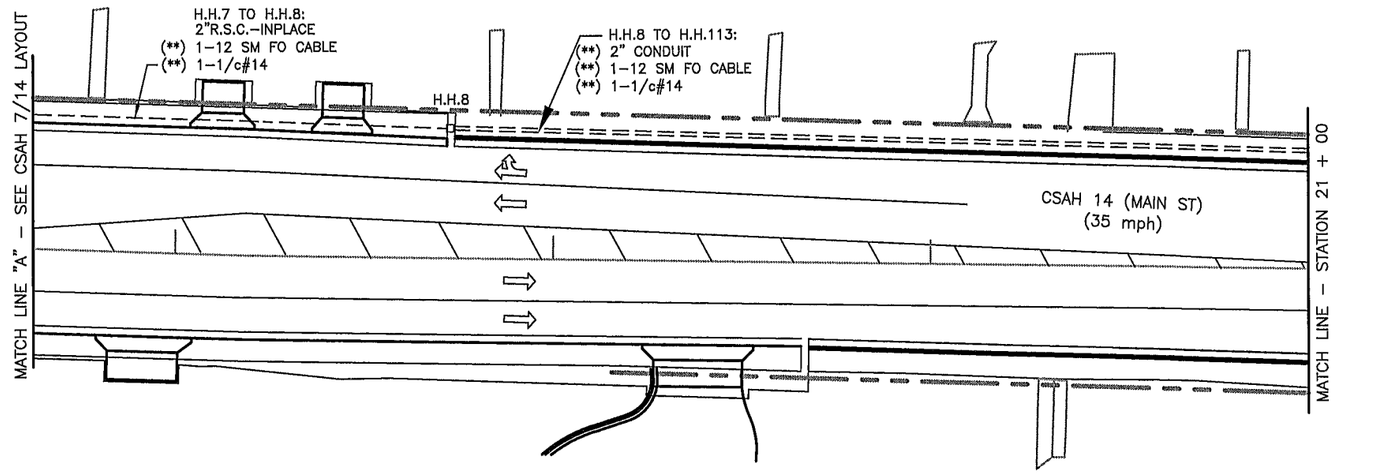
TRAFFIC SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
CSAH 14 AT 9TH AVE S/HOFFMAN WAY

FILE NO. ANOKC 141213
SIGNAL SHEET 12 OF 34



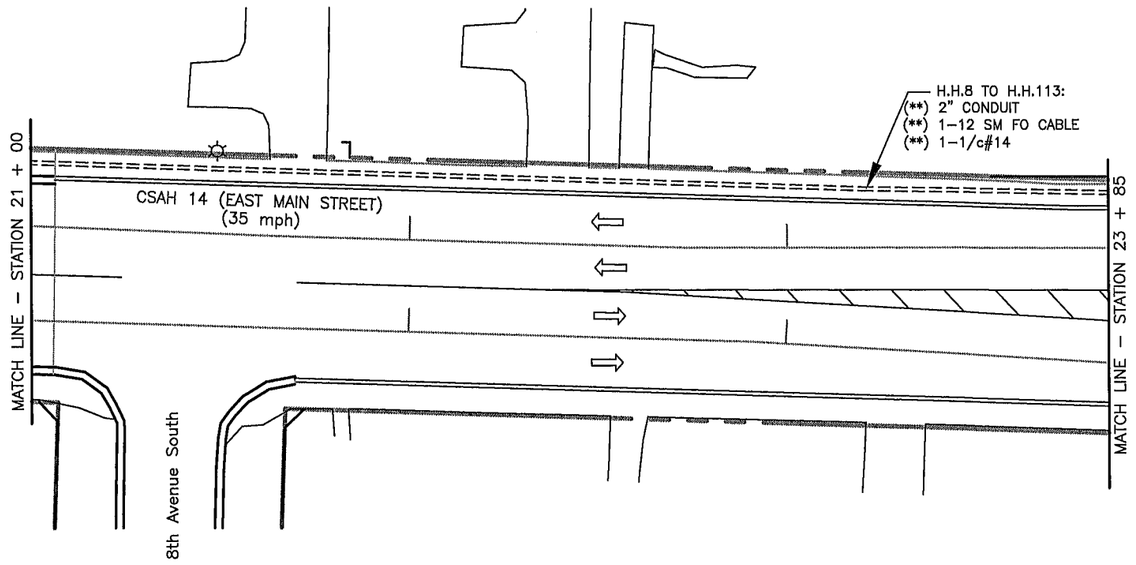
(1) PA100 POLE FOUNDATION
TYPE PA100-A-40
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
TYPE D SIGN PANEL-OVERHEAD (D-1)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (FURNISHED BY COUNTY (ø8)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO H.H.1:
3"R.S.C.
2-12/c#14
(*) 1-3/c#14
2-2/c#14
(*) 1-3/c#20
2-1/c#6 (GRD)

(2) PA100 POLE FOUNDATION
TYPE PA100-A-40-D30-9 (DAVIT AT 350 DEG)
LUMINAIRE-LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10' & 20'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 5-1
TYPE D SIGN PANEL-OVERHEAD (D-2)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (FURNISHED BY COUNTY (ø2,5)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO H.H.3:
3"R.S.C.
3-12/c#14
(*) 1-3/c#14
2-2/c#14
(*) 1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)



(3) PA90 POLE FOUNDATION
TYPE PA90-A-20
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
TYPE D SIGN PANEL-OVERHEAD (D-3)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (FURNISHED BY COUNTY (ø4)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO H.H.6:
3"R.S.C.
2-12/c#14
(*) 1-3/c#14
2-2/c#14
(*) 1-3/c#20
1-1/c#6 (GRD)

(4) PA100 POLE FOUNDATION
TYPE PA100-A-40-D30-9 (DAVIT AT 350 DEG)
LUMINAIRE-LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10' & 20'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 1-1
TYPE D SIGN PANEL-OVERHEAD (D-4)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (FURNISHED BY COUNTY (ø6,1)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO H.H.9:
3"R.S.C.
3-12/c#14
(*) 1-3/c#14
2-2/c#14
(*) 1-3/c#20
1-3/c#14 (LUM)
2-1/c#6 (GRD)



S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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

NO.	BY	DATE	REVISIONS

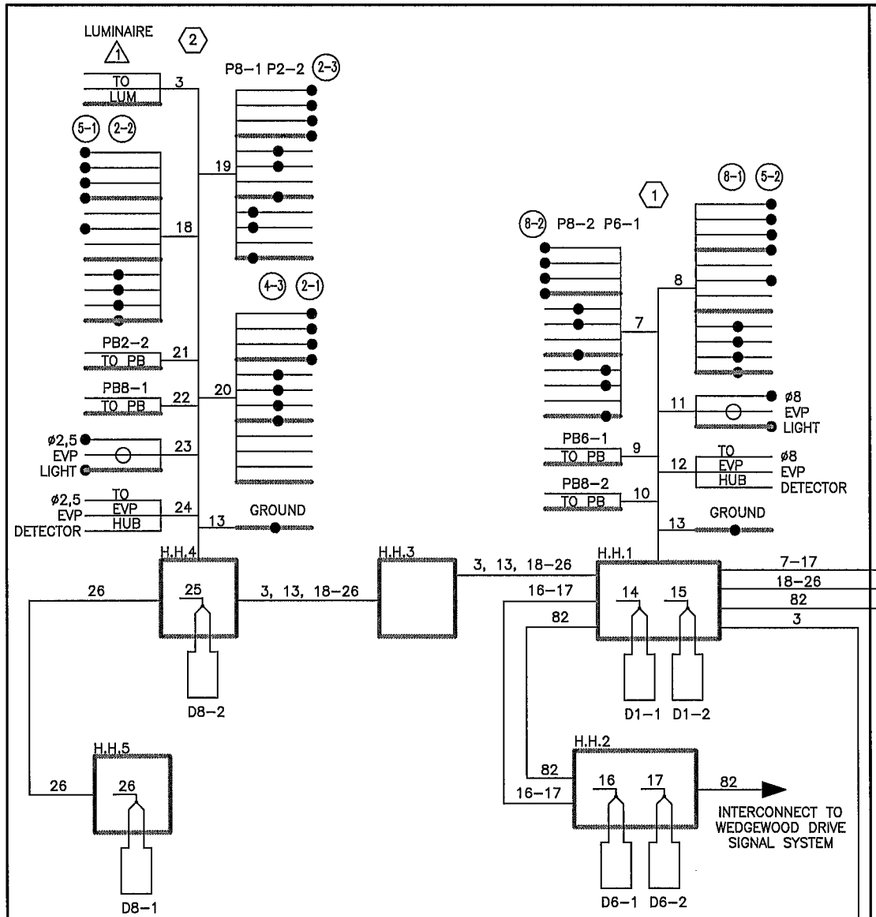
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Name: John M. Gray, PE
Date: June 12, 2017 Lic. No. 22457

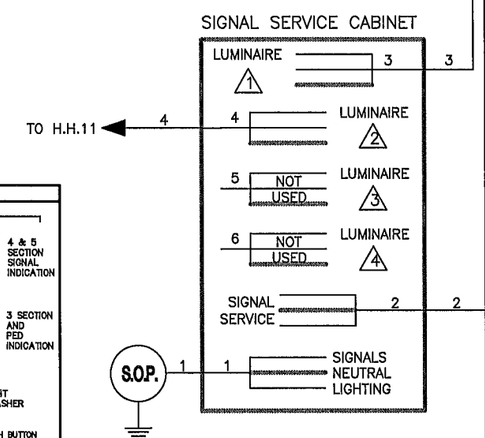
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

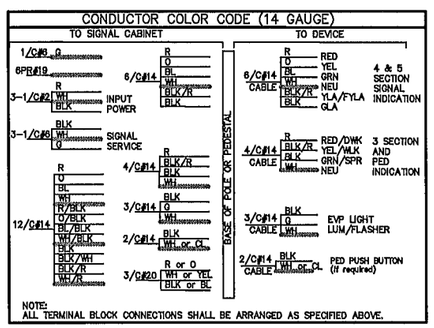
ANOKA COUNTY, MN
ANOKA, COON RAPIDS

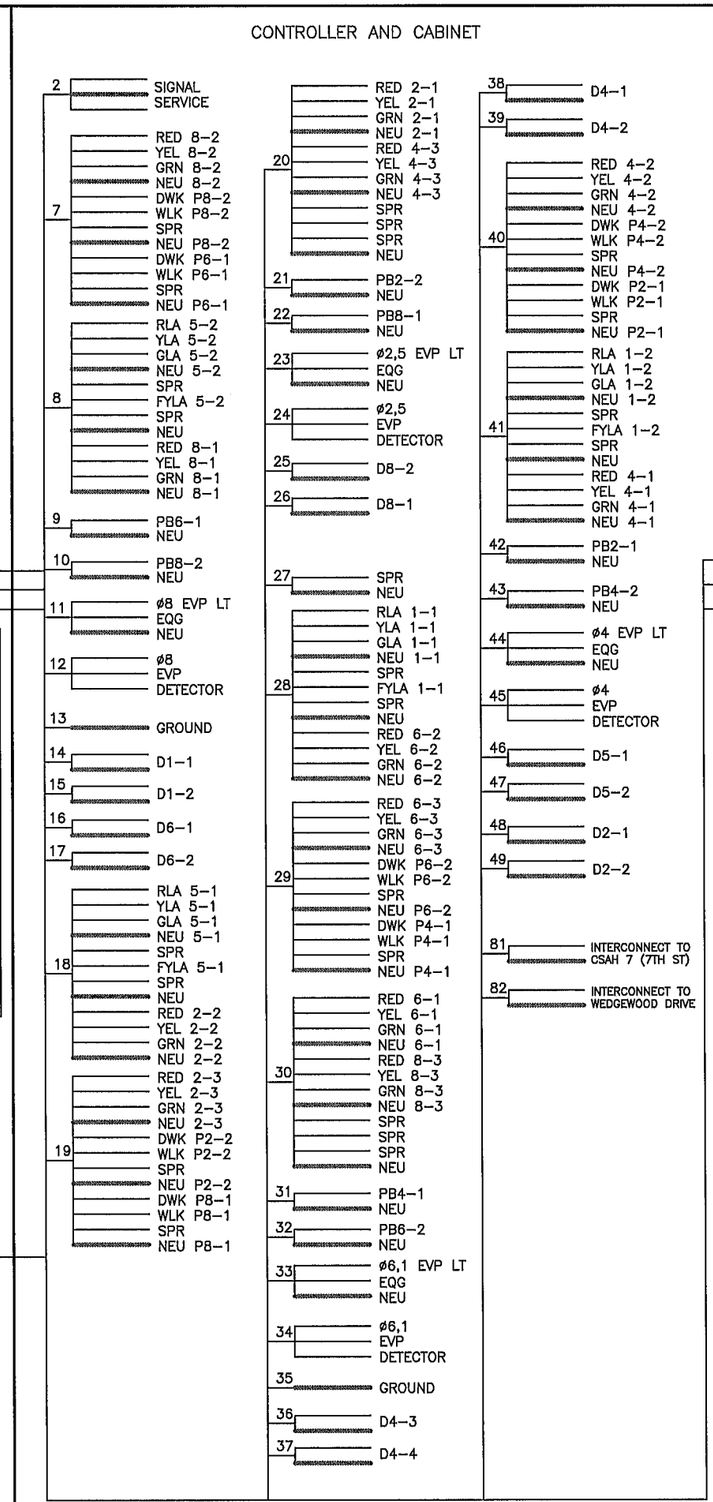
TRAFFIC SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
CSAH 14 AT 9TH AVE S/HOFFMAN WAY

FILE NO. ANOKC 141213
SIGNAL SHEET 13 OF 34





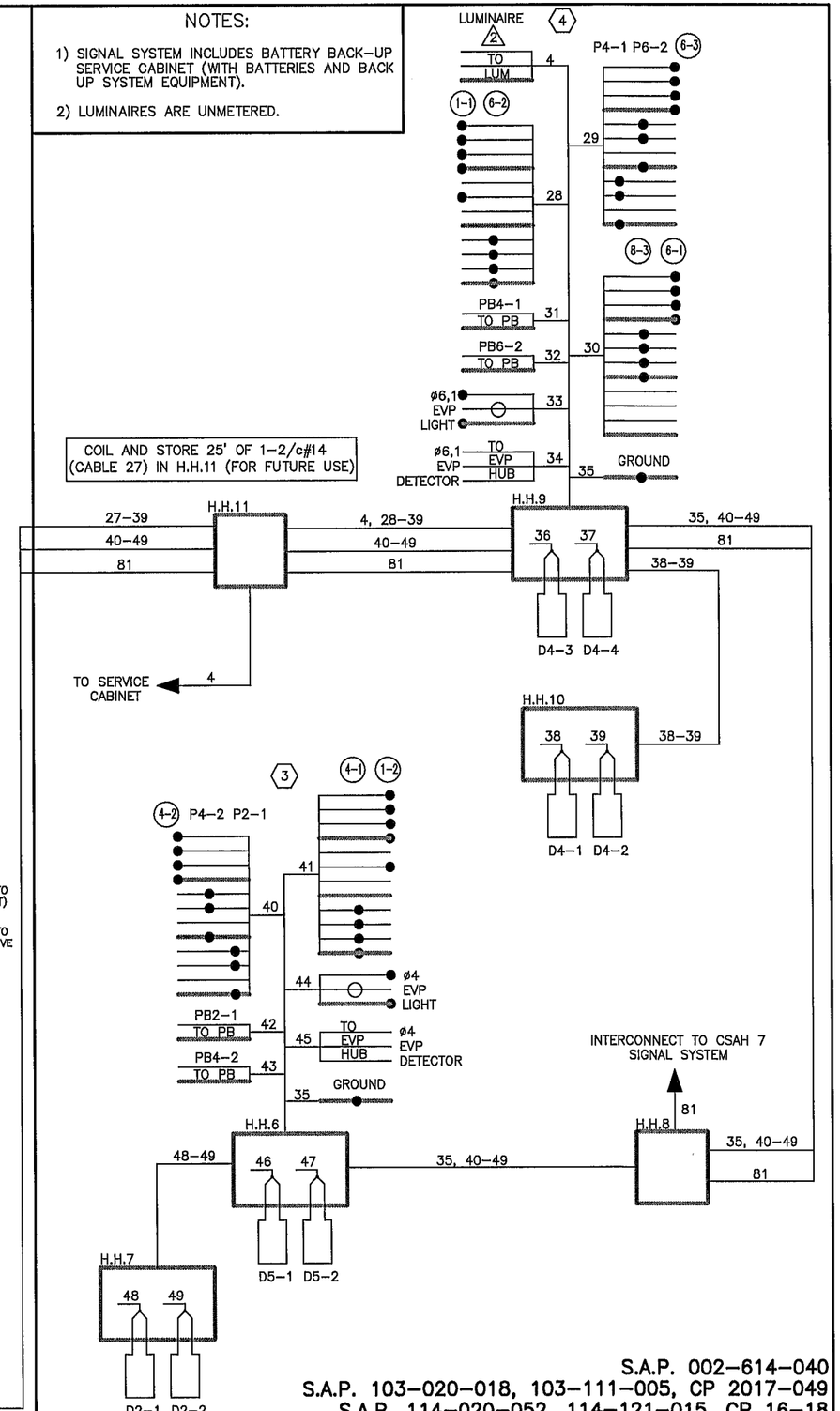




NOTES:

1) SIGNAL SYSTEM INCLUDES BATTERY BACK–UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).

2) LUMINAIRES ARE UNMETERED.



S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TRAFFIC SIGNAL SYSTEM "A"
FIELD WIRING DIAGRAM
CSAH 14 AT 9TH AVE S/HOFFMAN WAY

FILE NO. ANOKC 141213
SIGNAL SHEET 14 OF 34

111
159

NOTES:

1) LOOP DETECTOR WIRES ARE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C.
2) HANDHOLES ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
3) EACH SIGNAL FACE HAS BACKGROUND SHIELD.
4) EACH PEDESTRIAN INDICATION IS A ONE SECTION "FILLED" COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
5) ALL VEHICLE SIGNAL INDICATIONS AND ALL PEDESTRIAN SIGNAL INDICATIONS ARE LED.
6) 25 FEET OF SPARE 1-2/c#14 CABLE IS COILED AND STORED IN HANDHOLES 1 & 2 (FOR FUTURE APS SYSTEM INSTALLATION BY OTHERS).

INTERCONNECT NOTES:

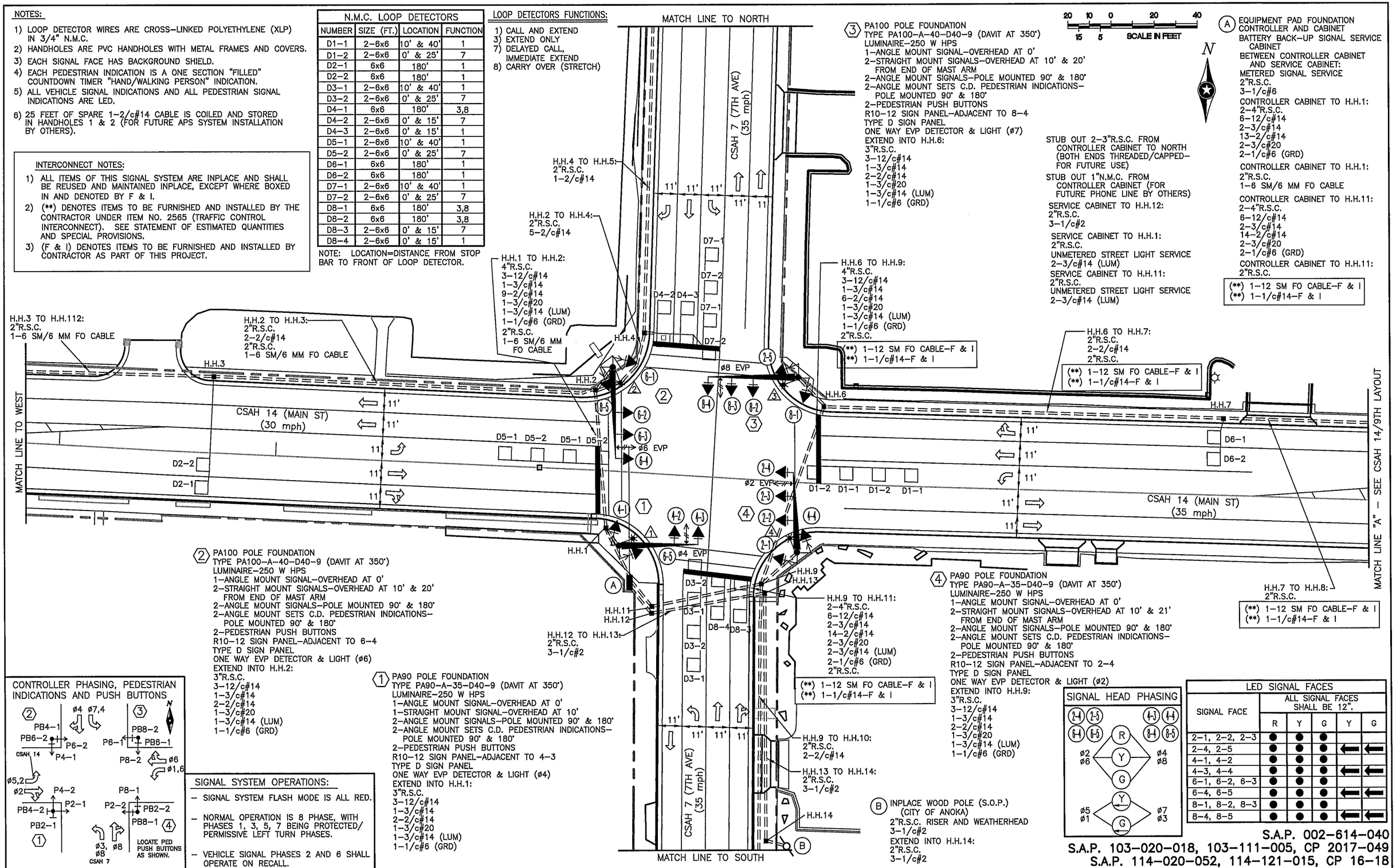
1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY F & I.
2) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL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

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	10' & 40'	1
D1-2	2-6x6	0' & 25'	7
D2-1	6x6	180'	1
D2-2	6x6	180'	1
D3-1	2-6x6	10' & 40'	1
D3-2	2-6x6	0' & 25'	7
D4-1	6x6	180'	3,8
D4-2	2-6x6	0' & 15'	7
D4-3	2-6x6	0' & 15'	1
D5-1	2-6x6	10' & 40'	1
D5-2	2-6x6	0' & 25'	7
D6-1	6x6	180'	1
D6-2	6x6	180'	1
D7-1	2-6x6	10' & 40'	1
D7-2	2-6x6	0' & 25'	7
D8-1	6x6	180'	3,8
D8-2	6x6	180'	3,8
D8-3	2-6x6	0' & 15'	7
D8-4	2-6x6	0' & 15'	1

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

LOOP DETECTORS FUNCTIONS:

1) CALL AND EXTEND
3) EXTEND ONLY
7) DELAYED CALL, IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)



(3) PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT AT 350°)
LUMINAIRE-250 W HPS
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10' & 20' FROM END OF MAST ARM
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180°
2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS
R10-12 SIGN PANEL-ADJACENT TO 8-4
TYPE D SIGN PANEL
ONE WAY EVP DETECTOR & LIGHT (ø7)
EXTEND INTO H.H.6:
3"R.S.C.
3-12/c#14
1-3/c#14
2-2/c#14
1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

STUB OUT 2-3"R.S.C. FROM CONTROLLER CABINET TO NORTH (BOTH ENDS THREADED/CAPPED-FOR FUTURE USE)
STUB OUT 1"N.M.C. FROM CONTROLLER CABINET (FOR FUTURE PHONE LINE BY OTHERS)
SERVICE CABINET TO H.H.12:
2"R.S.C.
3-1/c#2
SERVICE CABINET TO H.H.1:
2"R.S.C.
UNMETERED STREET LIGHT SERVICE
2-3/c#14 (LUM)
SERVICE CABINET TO H.H.11:
2"R.S.C.
UNMETERED STREET LIGHT SERVICE
2-3/c#14 (LUM)

(A) EQUIPMENT PAD FOUNDATION
CONTROLLER AND CABINET
BATTERY BACK-UP SIGNAL SERVICE CABINET
BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
METERED SIGNAL SERVICE
2"R.S.C.
3-1/c#6
CONTROLLER CABINET TO H.H.1:
2-4"R.S.C.
6-12/c#14
2-3/c#14
13-2/c#14
2-3/c#20
2-1/c#6 (GRD)
CONTROLLER CABINET TO H.H.1:
2"R.S.C.
1-6 SM/6 MM FO CABLE
CONTROLLER CABINET TO H.H.11:
2-4"R.S.C.
6-12/c#14
2-3/c#14
14-2/c#14
2-3/c#20
2-1/c#6 (GRD)
CONTROLLER CABINET TO H.H.11:
2"R.S.C.
(**) 1-12 SM FO CABLE-F & I
(**) 1-1/c#14-F & I

(2) PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT AT 350°)
LUMINAIRE-250 W HPS
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10' & 20' FROM END OF MAST ARM
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180°
2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS
R10-12 SIGN PANEL-ADJACENT TO 6-4
TYPE D SIGN PANEL
ONE WAY EVP DETECTOR & LIGHT (ø6)
EXTEND INTO H.H.2:
3"R.S.C.
3-12/c#14
1-3/c#14
2-2/c#14
1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

(1) PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 350°)
LUMINAIRE-250 W HPS
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 10'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180°
2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS
R10-12 SIGN PANEL-ADJACENT TO 4-3
TYPE D SIGN PANEL
ONE WAY EVP DETECTOR & LIGHT (ø4)
EXTEND INTO H.H.1:
3"R.S.C.
3-12/c#14
1-3/c#14
2-2/c#14
1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

(4) PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 350°)
LUMINAIRE-250 W HPS
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 10' & 21' FROM END OF MAST ARM
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180°
2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180°
2-PEDESTRIAN PUSH BUTTONS
R10-12 SIGN PANEL-ADJACENT TO 2-4
TYPE D SIGN PANEL
ONE WAY EVP DETECTOR & LIGHT (ø2)
EXTEND INTO H.H.9:
3"R.S.C.
3-12/c#14
1-3/c#14
2-2/c#14
1-3/c#20
1-3/c#14 (LUM)
1-1/c#6 (GRD)

(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.14:
2"R.S.C.
3-1/c#2

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

SIGNAL SYSTEM OPERATIONS:

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

SIGNAL HEAD PHASING

LED SIGNAL FACES					
SIGNAL FACE	ALL SIGNAL FACES SHALL BE 12".				
	R	Y	G	Y	G
2-1, 2-2, 2-3	●	●	●		
2-4, 2-5	●	●	●	⟵	⟵
4-1, 4-2	●	●	●		
4-3, 4-4	●	●	●	⟵	⟵
6-1, 6-2, 6-3	●	●	●		
6-4, 6-5	●	●	●	⟵	⟵
8-1, 8-2, 8-3	●	●	●		
8-4, 8-5	●	●	●	⟵	⟵

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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.
Name: John M. Gray, PE
Date: June 12, 2017 Lic. No. 22457

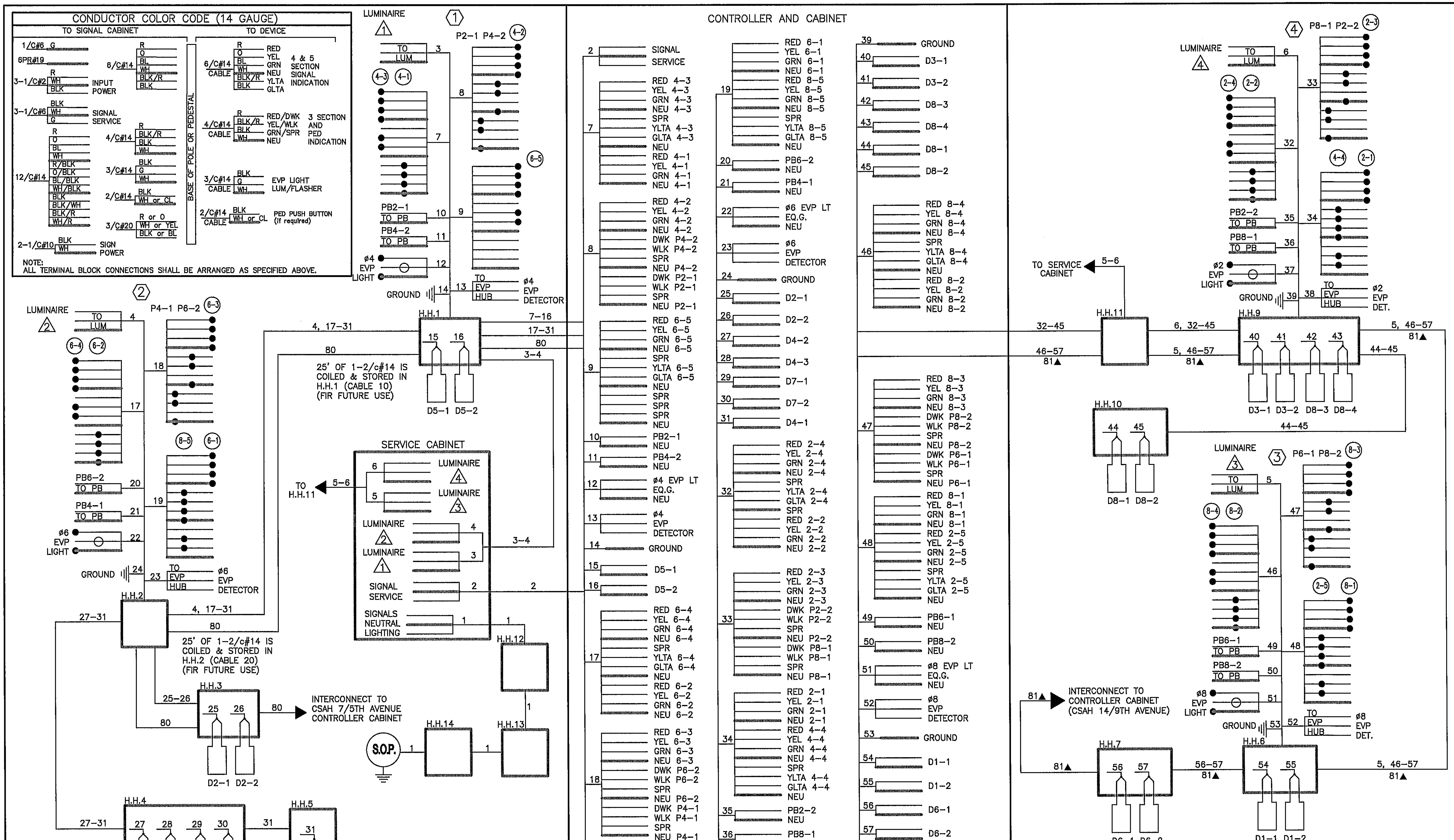
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TRAFFIC CONTROL INTERCONNECT
INTERSECTION LAYOUT
CSAH 14 AT CSAH 7 (7TH AVENUE)

FILE NO. ANOKC 141213
SIGNAL SHEET 15 OF 34

112/159



NOTES:

1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN, EXCEPT WHERE DENOTED BY ▲ (▲ = CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR).

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457

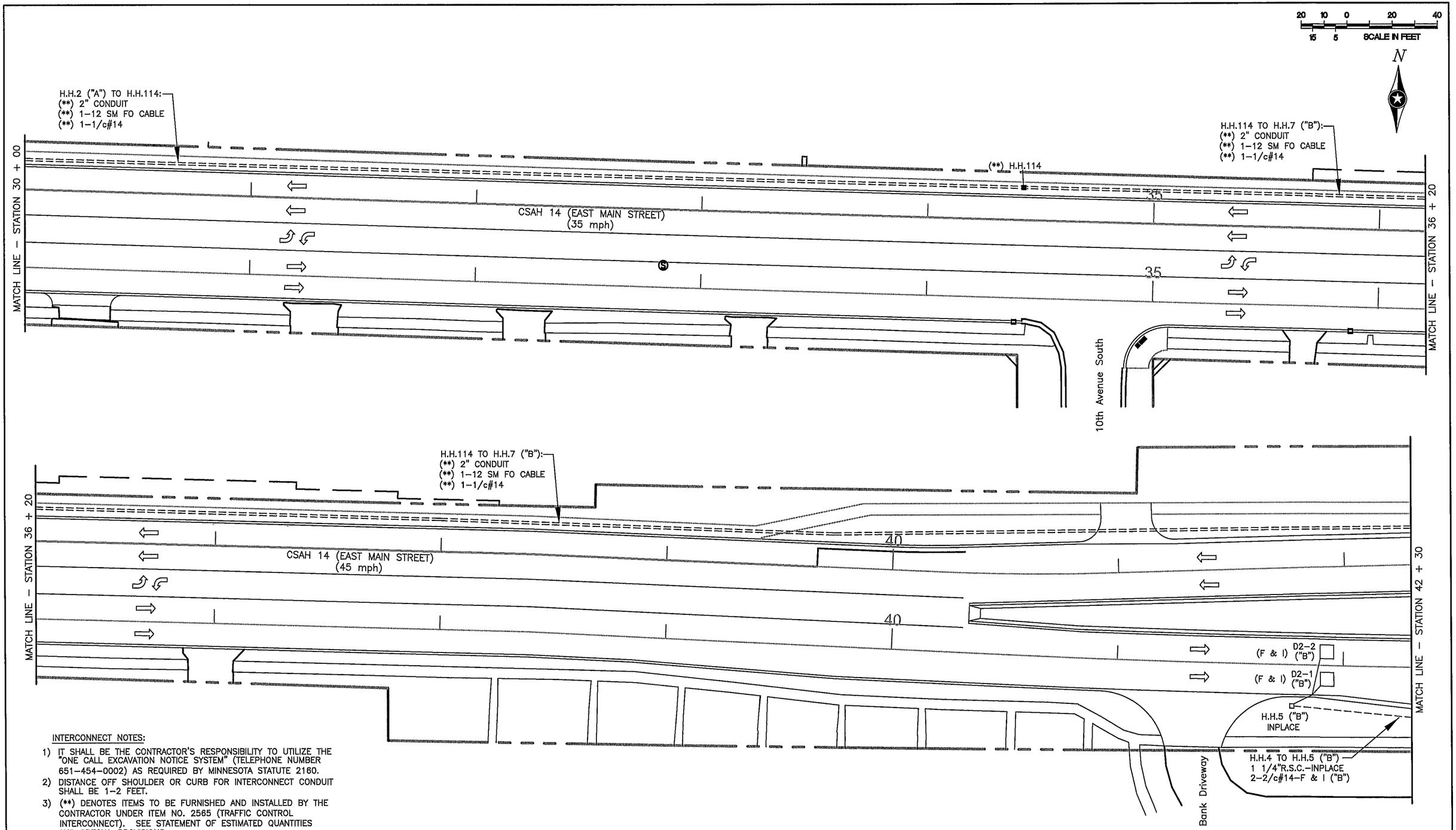
SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

TRAFFIC CONTROL INTERCONNECT FIELD WIRING DIAGRAM
CSAH 14 AT CSAH 7 (7TH AVENUE)

FILE NO. ANOKC 141213

SIGNAL SHEET 16 OF 34



INTERCONNECT NOTES:

1) 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.
2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
3) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
4) NEW HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. SEE SPECIAL PROVISIONS.
5) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
6) ITEMS DENOTED BY "B" SHALL BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (REVISE SIGNAL SYSTEM "B").

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

INTERCONNECT/REVISE SYSTEM 'B'
INTERSECTION LAYOUT
CSAH 14 (9TH AVE TO WEDGEWOOD DR)

FILE NO. ANOKC 141213
SIGNAL SHEET 17 OF 34

(B) INPLACE (MAINTAIN INPLACE)
- CABINET FOUNDATION
- SIGNAL SERVICE CABINET
- 2"R.S.C. STUBBED OUT FROM CABINET (FOR POWER BY OTHERS)
- EXTENDED INTO H.H.1:
- 2–1 1/4"R.S.C.

F & I
- METERED SIGNAL SERVICE
- 3–1/c#6
- UNMETERED STREET LIGHT SERVICE
- 2–3/c#14 (LUM)

(C) INPLACE (MAINTAIN INPLACE) — GROUND MOUNTED TRANSFORMER (S.O.P.) (CONNEXUS)

ALL CABLES AND CONDUCTORS FOR REVISE SIGNAL SYSTEM "B" SHALL BE NEW CABLES & CONDUCTORS (F & I BY CONTRACTOR) (REMOVE & DISPOSE OF ALL EXISTING CABLES AND CONDUCTORS).

SEE NEXT SHEET FOR GENERAL NOTES AND DETAILED POLE NOTES.

N.M.C. LOOP DETECTORS

NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1–1	2–6x6	15' & 45'	1	F & I
D1–2	2–6x6	0' & 30'	1	F & I
D2–1	6x6	300'	1	F & I
D2–2	6x6	300'	1	F & I
D4–1	6x6	180'	3,8	INPLACE
D4–2	6x6	180'	3,8	INPLACE
D4–3	2–6x6	0' & 15'	7	F & I
D4–4	2–6x6	0' & 15'	7	F & I
D5–1	2–6x6	15' & 45'	1	F & I
D5–2	2–6x6	0' & 30'	1	F & I
D6–1	6x6	300'	1	F & I
D6–2	6x6	300'	1	F & I
D8–1	6x6	180'	3,8	INPLACE
D8–2	6x6	180'	3,8	INPLACE
D8–3	2–6x6	0' & 15'	7	F & I
D8–4	2–6x6	0' & 15'	7	F & I

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

LOOP DETECTORS FUNCTIONS:
1) CALL AND EXTEND
3) EXTEND ONLY
7) DELAYED CALL, IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)

(A) INPLACE (SALVAGE) — CONTROLLER AND CABINET

INSTALL — CONTROLLER AND CABINET (FURNISHED BY COUNTY)

INPLACE (MAINTAIN INPLACE)
- CABINET FOUNDATION
- EXTENDED INTO H.H.1:
- METERED SIGNAL SERVICE
- 1 1/4"R.S.C.

F & I — 3–1/c#6

INPLACE (MAINTAIN INPLACE)
- EXTENDED INTO H.H.2:
- 2"R.S.C. (FOR INTERCONNECT)
- 3 1/2"R.S.C.

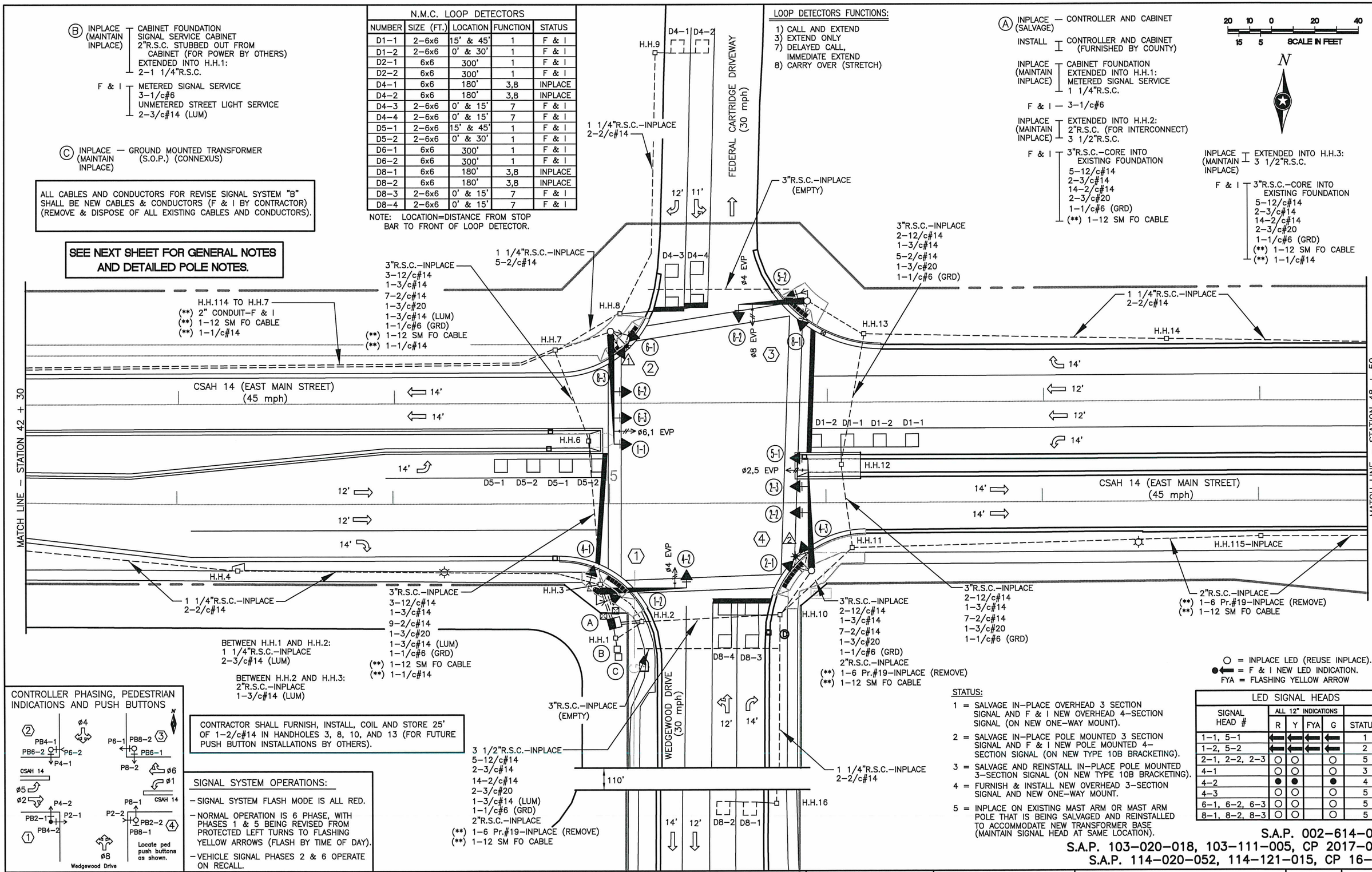
F & I
- 3"R.S.C.–CORE INTO EXISTING FOUNDATION
- 5–12/c#14
- 2–3/c#14
- 14–2/c#14
- 2–3/c#20
- 1–1/c#6 (GRD)
- (**) 1–12 SM FO CABLE

INPLACE (MAINTAIN INPLACE) — EXTENDED INTO H.H.3:
- 3 1/2"R.S.C.

F & I
- 3"R.S.C.–CORE INTO EXISTING FOUNDATION
- 5–12/c#14
- 2–3/c#14
- 14–2/c#14
- 2–3/c#20
- 1–1/c#6 (GRD)
- (**) 1–12 SM FO CABLE
- (**) 1–1/c#14

20 10 0 20 40
15 5 SCALE IN FEET

N



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 25' OF 1–2/c#14 IN HANDHOLES 3, 8, 10, AND 13 (FOR FUTURE PUSH BUTTON INSTALLATIONS BY OTHERS).

SIGNAL SYSTEM OPERATIONS:
- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 & 5 BEING REVISED FROM PROTECTED LEFT TURNS TO FLASHING YELLOW ARROWS (FLASH BY TIME OF DAY).
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

○ = INPLACE LED (REUSE INPLACE).
●⟵ = F & I NEW LED INDICATION.
FYA = FLASHING YELLOW ARROW

STATUS:
1 = SALVAGE IN–PLACE OVERHEAD 3 SECTION SIGNAL AND F & I NEW OVERHEAD 4–SECTION SIGNAL (ON NEW ONE–WAY MOUNT).
2 = SALVAGE IN–PLACE POLE MOUNTED 3 SECTION SIGNAL AND F & I NEW POLE MOUNTED 4–SECTION SIGNAL (ON NEW TYPE 10B BRACKETING).
3 = SALVAGE AND REINSTALL IN–PLACE POLE MOUNTED 3–SECTION SIGNAL (ON NEW TYPE 10B BRACKETING).
4 = FURNISH & INSTALL NEW OVERHEAD 3–SECTION SIGNAL AND NEW ONE–WAY MOUNT.
5 = INPLACE ON EXISTING MAST ARM OR MAST ARM POLE THAT IS BEING SALVAGED AND REINSTALLED TO ACCOMMODATE NEW TRANSFORMER BASE (MAINTAIN SIGNAL HEAD AT SAME LOCATION).

LED SIGNAL HEADS

SIGNAL HEAD #	ALL 12" INDICATIONS R	Y	FYA	G	STATUS
1–1, 5–1	⟵	⟵	⟵	⟵	1
1–2, 5–2	⟵	⟵	⟵	⟵	2
2–1, 2–2, 2–3	○	○		○	5
4–1	○	○		○	3
4–2	●	●		●	4
4–3	○	○		○	5
6–1, 6–2, 6–3	○	○		○	5
8–1, 8–2, 8–3	○	○		○	5

S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM "B"
INTERSECTION LAYOUT
CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213
SIGNAL SHEET 18 OF 34
115 / 159

NOTES:

1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
2) LOCATION OF NEW FOUNDATIONS AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
3) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING HANDHOLES IN THE VICINITY OF CONSTRUCTION; SHALL ADJUST HANDHOLES 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, AND 13 TO MATCH FINISHED SURROUNDING SIDEWALK/MEDIAN/BOULEVARD GRADE, SHALL REMOVE INPLACE CONCRETE OR TYPE LD COVERS FROM EACH OF THESE 11 HANDHOLES, AND SHALL FURNISH & INSTALL NEW PVC METAL FRAMES AND COVERS ON EACH OF THESE 11 HANDHOLES (INCIDENTAL). SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.
4) NEW LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY THE CONTRACTORS SHALL HAVE LOOP DETECTOR WIRES THAT SHALL BE CROSS-LINKED POLYETHYLENE (XLP) #12 AWG IN 3/4" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS FOR FURTHER INFORMATION.
5) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), EITHER DUE TO TRAFFIC SIGNAL REVISION WORK OR SIDEWALK/MEDIAN/ROAD CONSTRUCTION WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
6) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
7) ALL PEDESTRIAN SIGNAL HEADS ARE ONE-SECTION COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATIONS AND ARE INPLACE (REUSE AND MAKE OPERATIONAL AS SHOWN).
8) EACH NEW SIGNAL HEAD SHALL HAVE BACKGROUND SHIELD.
9) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM B").
10) F & I = NEW, FURNISH AND INSTALL.
    S & I = INPLACE, SALVAGE AND INSTALL.
11) CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAKING OPERATIONAL A NEW COUNTY FURNISHED CONTROLLER CABINET COMPLETE WITH NEW CONTROL EQUIPMENT ON THE INPLACE CABINET FOUNDATION & FOR SALVAGING THE EXISTING CONTROLLER AND CABINET TO THE COUNTY. SEE SPECIAL PROVISIONS (INCIDENTAL).
12) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
13) SEE TEMPORARY SIGNAL SYSTEM PLANS REGARDING MAINTAINING FULLY-ACTUATED OPERATION OF THIS SIGNAL SYSTEM DURING CONSTRUCTION AT ALL TIMES (TO BE MEASURED AND PAID FOR SEPARATELY).
14) ALL CABLES AND CONDUCTORS FOR REVISE SIGNAL SYSTEM "B" SHALL BE NEW CABLES & CONDUCTORS (F & I BY CONTRACTOR) (REMOVE & DISPOSE OF ALL EXISTING CABLES AND CONDUCTORS).

(1)
- INPLACE (SALVAGE) — ONE WAY SIGNAL-POLE MOUNTED (OLD 1-2)
- INPLACE (REMOVE)
  - PEDESTAL FOUNDATION
  - PEDESTAL POLE AND BASE
  - TYPE 2C BRACKETING
  - 3"R.S.C. TO H.H.3
  - 2-12/c#12
  - 1-3/c#12
- INPLACE (S & I)
  - 1-ONE WAY SIGNAL-POLE MOUNTED 180 DEG (4-1)
  - 2-SETS PEDESTRIAN INDICATIONS AT 90 DEG (P2-1) AND 180 DEG (P4-2)
  - 2-PEDESTRIAN PUSH BUTTONS AT 0 DEG (PB4-2) AND 270 DEG (PB2-1)
- F & I
  - PA100 POLE FOUNDATION (NEAR EXISTING FOUNDATION)
  - TYPE PA100-A-40 (MAST ARM, POLE, AND 26" BASE)
  - ONE WAY SIGNAL-OVERHEAD AT 0' (NEW 4-2, WITH NEW ONE-WAY ANGLE MOUNT)
  - 2-TYPE 10B BRACKETING-POLE MOUNTED 90/180 DEG
  - 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (NEW 1-2)
  - 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
  - TYPE D SIGN PANEL-OVERHEAD (D-5)
  - INSTALL ONE WAY EVP DETECTOR AND LED CONFIRMATION LIGHT (FURNISHED BY COUNTY) (ø4)
  - 3"R.S.C. INTO H.H.3
  - 2-12/c#14
  - 1-3/c#14
  - 2-2/c#14
  - 1-3/c#20
  - 2-1/c#6 (GRD)

(2) INPLACE (MAINTAIN INPLACE) — A100 POLE FOUNDATION (WITH 2" DIA ANCHOR RODS) EXTENDED INTO H.H.7:
- 3"R.S.C.
- INPLACE (SALVAGE) — ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 1-1)
  - LUMINAIRE-SHOEBOX
- INPLACE (REMOVE)
  - A100 TRANSFORMER BASE (20" HEIGHT)
  - 2-PEDESTRIAN INSTRUCTION SIGNS (STICKERS)
  - 3-12/c#12
  - 2-3/c#12
  - 1-3/c#20
  - 2-1/c#10 (LUM)
- INPLACE (S & I)
  - TYPE A100-A-50-X30-3 (DAVIT AT 0 DEG) (SALVAGE AND REINSTALL MAST ARM AND POLE ONTO EXISTING FOUNDATION AND ONTO NEW TRANSFORMER BASE)
  - 2-ONE WAY SIGNALS-OVERHEAD AT 12' & 24'
  - 2-TYPE 10B-POLE MOUNTED 0/270 DEG
  - 2-PEDESTRIAN PUSH BUTTONS
  - 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
  - TYPE D SIGN PANEL-OVERHEAD AT 32'
  - ONE WAY EVP DETECTOR AND LIGHT AT 4' (INSTALL ON NEW 3/4"R.S.C. EXTENSION AND RAISE ABOVE R10-X12 SIGN)
- F & I
  - PA100 TRANSFORMER BASE (26" HEIGHT, SIZED TO FIT EXISTING 2" FOUNDATION ANCHOR RODS AND A100 MAST ARM POLE)
  - 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 1-1)
  - LUMINAIRE-LED
  - 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
  - R10-X12 SIGN PANEL-ADJACENT TO 1-1
  - 3/4"R.S.C. EXTENSION AT 4' (FOR EVP)
  - 3-12/c#14
  - 1-3/c#14
  - 2-2/c#14
  - 1-3/c#20
  - 1-3/c#14 (LUM)
  - 1-1/c#6 (GRD)

(3) INPLACE (MAINTAIN INPLACE) — P90 POLE FOUNDATION (WITH 1 1/2" DIA. ANCHOR RODS) EXTENDED INTO H.H.13:
- 3"R.S.C.
- INPLACE (SALVAGE) — ONE WAY SIGNAL-POLE MOUNTED 0 DEG (OLD 5-2)
- INPLACE (REMOVE)
  - P90 TRANSFORMER BASE (20" HEIGHT)
  - TYPE 10B BRACKETING-POLE MOUNTED 0 DEG
  - 2-PEDESTRIAN INSTRUCTION SIGNS (STICKERS)
  - 2-12/c#12
  - 2-3/c#12
  - 1-3/c#20
  - 2-1/c#10
- INPLACE (S & I)
  - TYPE P90-A-30 (SALVAGE AND REINSTALL MAST ARM AND POLE ONTO EXISTING FOUNDATION AND ONTO NEW TRANSFORMER BASE)
  - ONE WAY SIGNAL-OVERHEAD AT 0'
  - 1-SET PEDESTRIAN INDICATIONS AT 90 DEG (P6-1)
  - TYPE 10B-POLE MOUNTED 270 DEG (8-1, P8-2)
  - 2-PEDESTRIAN PUSH BUTTONS
  - TYPE D SIGN PANEL-OVERHEAD AT 17'
  - TWO WAY EVP DETECTOR AND TWO WAY LIGHT AT 4' (REMOVE SOUTHBOUND FACING LIGHT AND REVISE TO BE ONE WAY EVP DETECTOR AND LIGHT FOR NORTHBOUND ONLY) (ø8)
- F & I
  - PA85/PA90 TRANSFORMER BASE (26" HEIGHT, SIZED TO FIT EXISTING 1 1/2" FOUNDATION ANCHOR RODS AND P90 MAST ARM POLE)
  - TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 5-2, P6-1)
  - 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (NEW 5-2)
  - CAP HUB ON 0 DEGREE SIDE OF MAST ARM POLE
  - 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
  - 2-12/c#14
  - 1-3/c#14
  - 2-2/c#14
  - 1-3/c#20
  - 1-1/c#6 (GRD)

(4) INPLACE (MAINTAIN INPLACE) — A100 POLE FOUNDATION (WITH 2" DIA ANCHOR RODS) EXTENDED INTO H.H.10:
- 3"R.S.C.
- INPLACE (SALVAGE) — ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 5-1)
  - LUMINAIRE-SHOEBOX
- INPLACE (REMOVE)
  - A100 TRANSFORMER BASE (20" HEIGHT)
  - 2-PEDESTRIAN INSTRUCTION SIGNS (STICKERS)
  - 3-12/c#12
  - 2-3/c#12
  - 1-3/c#20
  - 2-1/c#10 (LUM)
- INPLACE (S & I)
  - TYPE A100-A-50-X30-3 (DAVIT AT 0 DEG) (SALVAGE AND REINSTALL MAST ARM AND POLE ONTO EXISTING FOUNDATION AND ONTO NEW
  - 2-ONE WAY SIGNALS-OVERHEAD AT 13' & 25'
  - 2-TYPE 10B-POLE MOUNTED 0/270 DEG
  - 1-PEDESTRIAN PUSH BUTTON AT 270 DEG (PB8-1)
  - 1-PEDESTRIAN PUSH BUTTON (RELOCATE FROM 0 DEG TO 180 DEG SIDE OF POLE, AND CAP HOLES AT 0 DEG) (PB2-2)
  - 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
  - TYPE D SIGN PANEL-OVERHEAD AT 33'
  - ONE WAY EVP DETECTOR AND LIGHT AT 4' (INSTALL ON NEW 3/4"R.S.C. EXTENSION AND RAISE ABOVE R10-X12 SIGN)
- F & I
  - PA100 TRANSFORMER BASE (26" HEIGHT, SIZED TO FIT EXISTING 2" FOUNDATION ANCHOR RODS AND A100 MAST ARM POLE)
  - 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 5-1)
  - LUMINAIRE-LED
  - 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
  - R10-X12 SIGN PANEL-ADJACENT TO 5-1
  - 3/4"R.S.C. EXTENSION AT 4' (FOR EVP)
  - 3-12/c#14
  - 1-3/c#14
  - 2-2/c#14
  - 1-3/c#20
  - 1-3/c#14 (LUM)
  - 2-1/c#6 (GRD)

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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

NO.	BY	DATE	REVISIONS

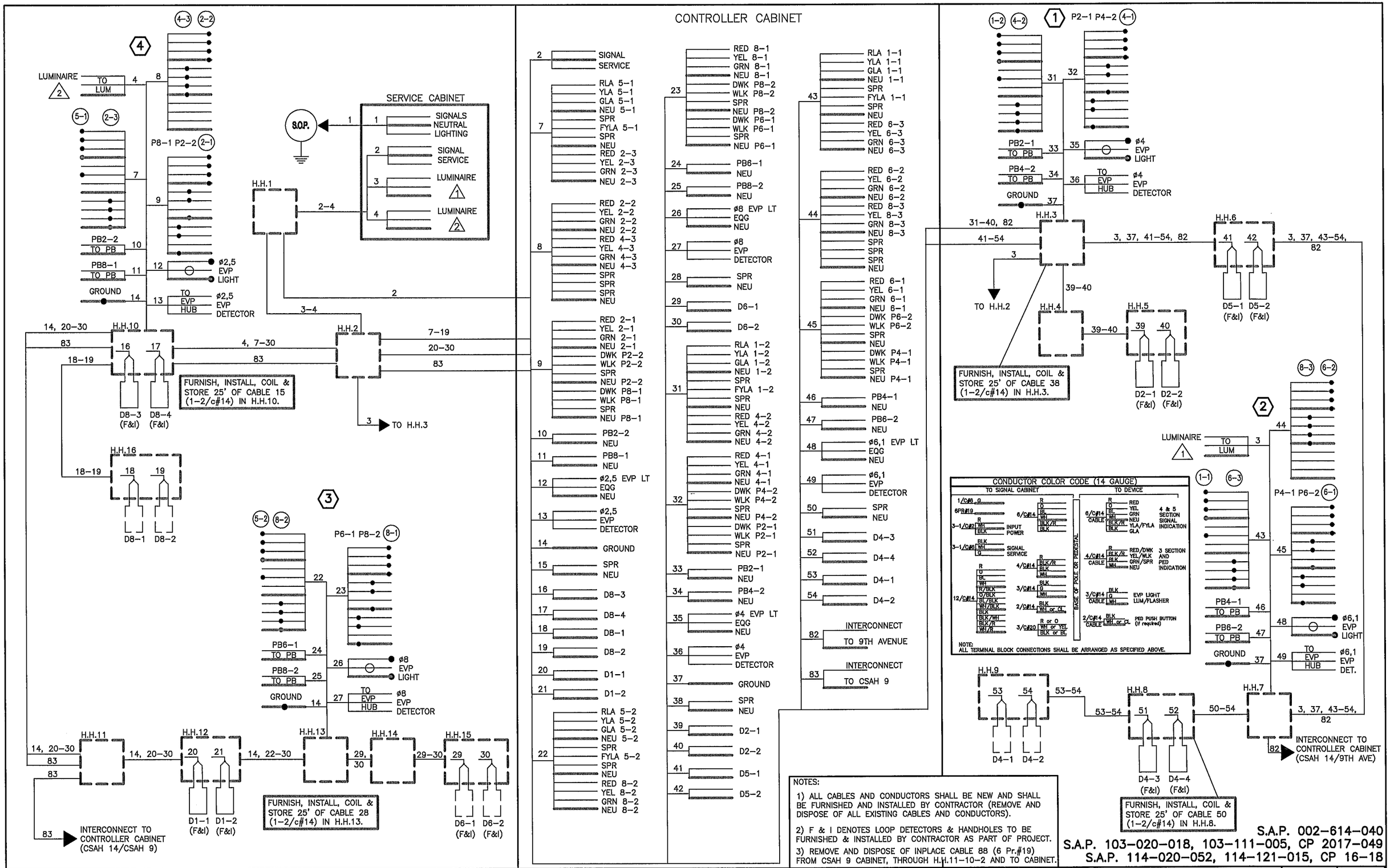
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM "B"
SIGNAL SYSTEM NOTES
CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213
SIGNAL SHEET 19 OF 34



NOTES:

1) ALL CABLES AND CONDUCTORS SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR (REMOVE AND DISPOSE OF ALL EXISTING CABLES AND CONDUCTORS).

2) F & I DENOTES LOOP DETECTORS & HANDHOLES TO BE FURNISHED & INSTALLED BY CONTRACTOR AS PART OF PROJECT.

3) REMOVE AND DISPOSE OF INPLACE CABLE 88 (6 Pr.#19) FROM CSAH 9 CABINET, THROUGH H.H.11–10–2 AND TO CABINET.

S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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

NO.	BY	DATE	REVISIONS

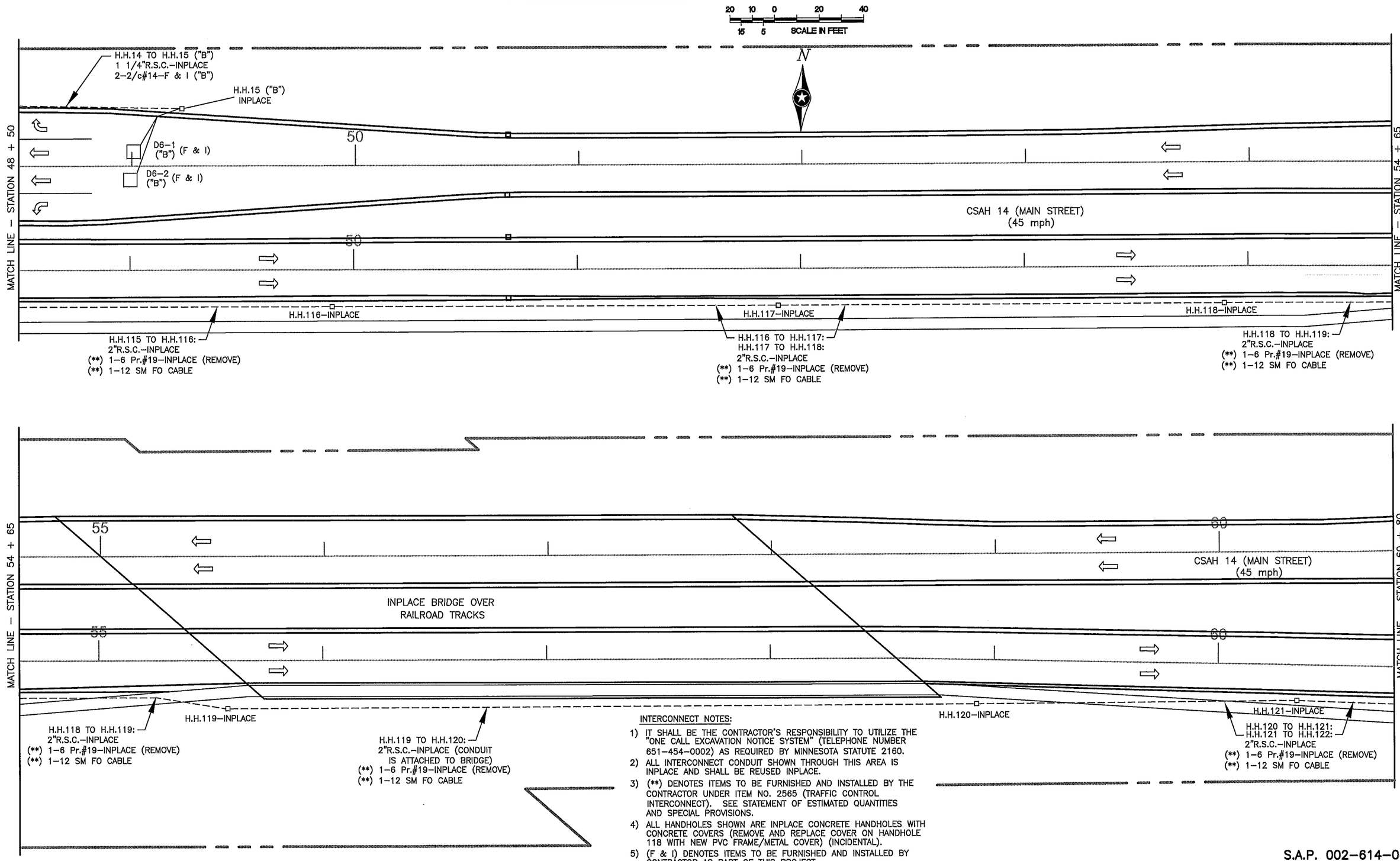
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM "B"
FIELD WIRING DIAGRAM
CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213
SIGNAL SHEET 20 OF 34



INTERCONNECT NOTES:

1) 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.
2) ALL INTERCONNECT CONDUIT SHOWN THROUGH THIS AREA IS INPLACE AND SHALL BE REUSED INPLACE.
3) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
4) ALL HANDHOLES SHOWN ARE INPLACE CONCRETE HANDHOLES WITH CONCRETE COVERS (REMOVE AND REPLACE COVER ON HANDHOLE 118 WITH NEW PVC FRAME/METAL COVER) (INCIDENTAL).
5) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
6) ITEMS DENOTED BY "B" SHALL BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (REVISE SIGNAL SYSTEM "B").

S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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

NO.	BY	DATE	REVISIONS

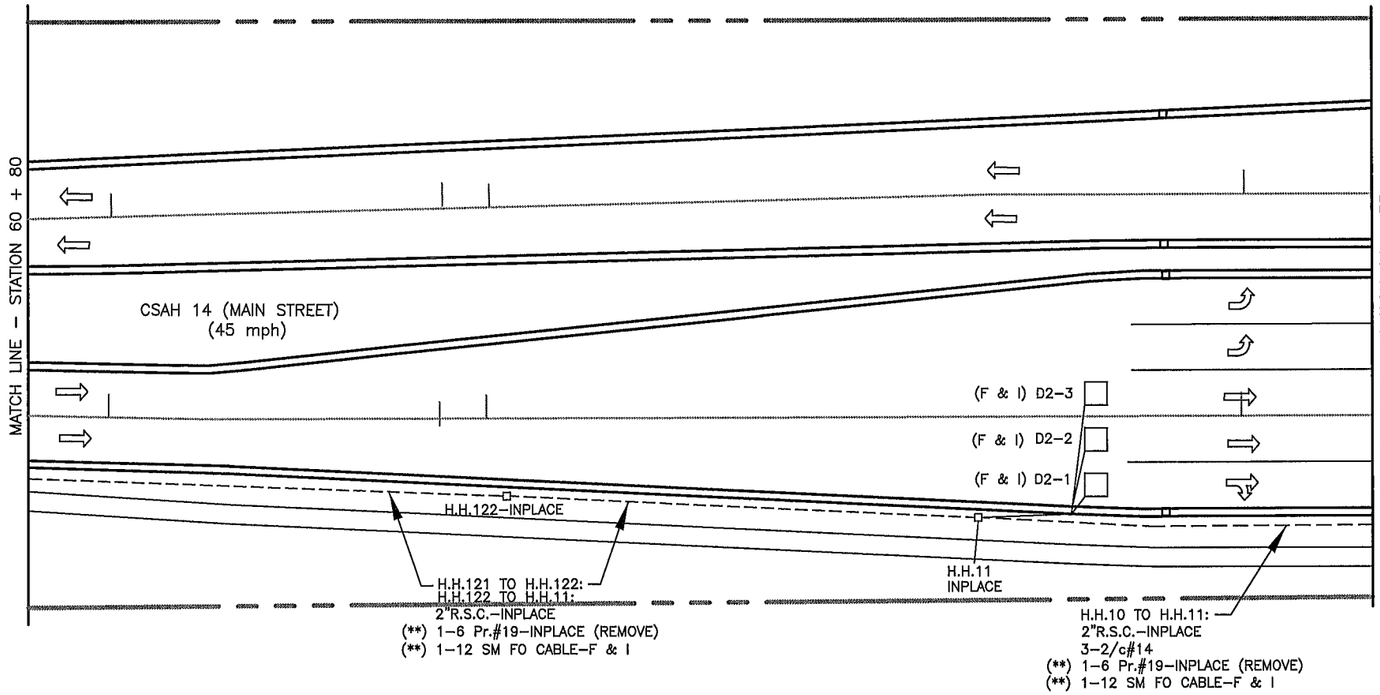
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

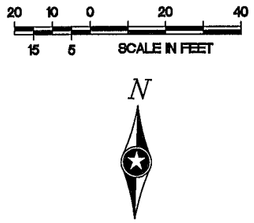
SEH
PHONE: (651) 490–2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

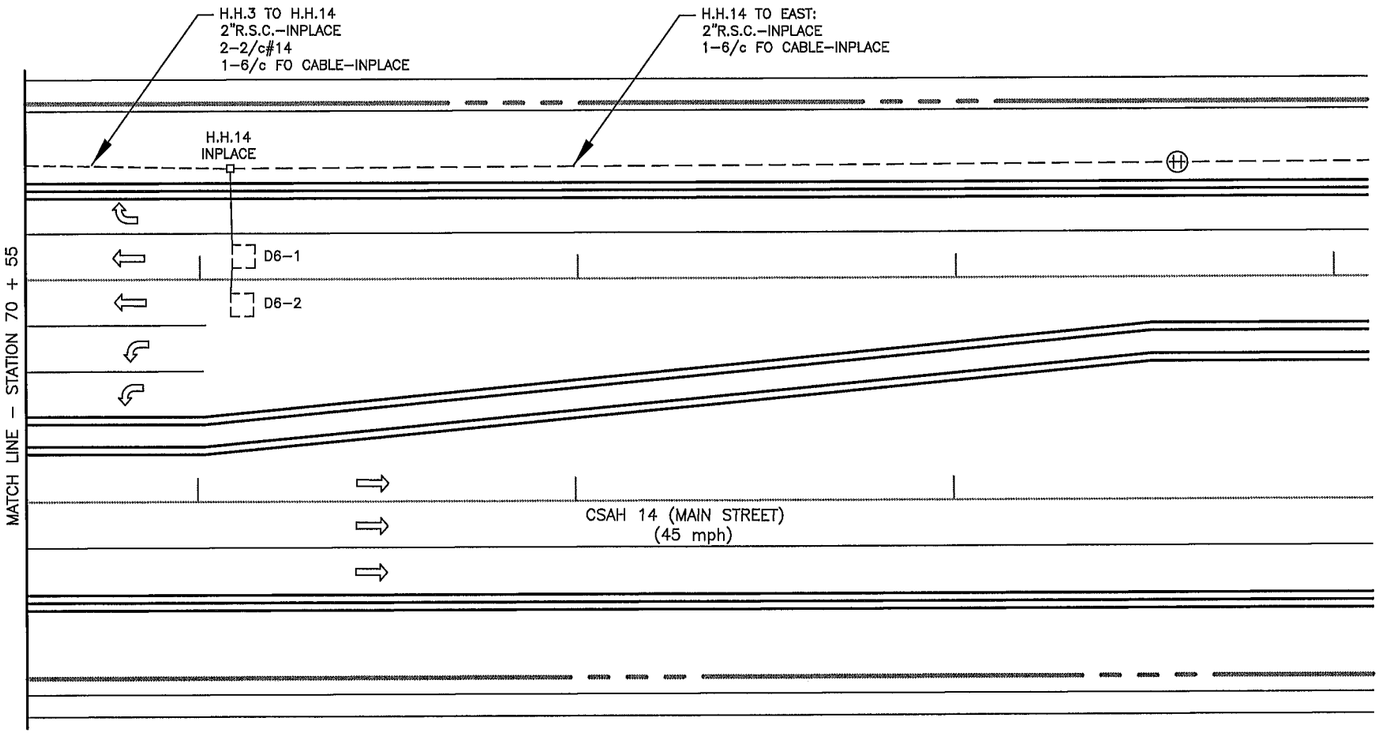
ANOKA COUNTY, MN
ANOKA, COON RAPIDS

INTERCONNECT/REVISE SYSTEM 'B'
INTERSECTION LAYOUT
CSAH 14 (WEDGEWOOD DR TO CSAH 9)

FILE NO. ANOKC 141213
SIGNAL SHEET 21 OF 34







SYSTEM "C" NOTES:

1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
2) LOCATION OF NEW FOUNDATIONS AND LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
3) CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING HANDHOLES IN THE VICINITY OF CONSTRUCTION; SHALL ADJUST HANDHOLES 1, 2, 3, 5, 6, 7, 8, 9, 16, 17, 18, 19, AND 22 TO MATCH FINISHED SURROUNDING SIDEWALK/MEDIAN/BOULEVARD GRADE; SHALL REMOVE INPLACE CONCRETE OR TYPE LD COVERS FROM HANDHOLES 1, 3, 5, 7, 8, 16, 17, 18, 19 AND 22, AND SHALL FURNISH AND INSTALL NEW PVC METAL FRAMES & COVERS ON EACH OF THESE 10 HANDHOLES (INCIDENTAL). SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.
4) NEW LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY THE CONTRACTORS SHALL HAVE LOOP DETECTOR WIRES THAT SHALL BE CROSS–LINKED POLYETHYLENE (XLP) #12 AWG IN 3/4" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS FOR FURTHER INFORMATION.
5) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), EITHER DUE TO TRAFFIC SIGNAL REVISION WORK OR SIDEWALK/MEDIAN/ROAD CONSTRUCTION WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
6) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
7) ALL PEDESTRIAN SIGNAL HEADS ARE ONE–SECTION COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATIONS AND ARE INPLACE (REUSE AND MAKE OPERATIONAL AS SHOWN).
8) EACH NEW SIGNAL HEAD SHALL HAVE BACKGROUND SHIELD.
9) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM C").
10) F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
11) CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAKING OPERATIONAL A NEW COUNTY FURNISHED CONTROLLER CABINET COMPLETE WITH NEW CONTROL EQUIPMENT ON THE INPLACE CABINET FOUNDATION & FOR SALVAGING THE EXISTING CONTROLLER AND CABINET TO THE COUNTY. SEE SPECIAL PROVISIONS (INCIDENTAL).
12) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
13) SEE TEMPORARY SIGNAL SYSTEM PLANS REGARDING MAINTAINING FULLY–ACTUATED OPERATION OF THIS SIGNAL SYSTEM DURING CONSTRUCTION AT ALL TIMES (TO BE MEASURED AND PAID FOR SEPARATELY).
14) ALL CABLES AND CONDUCTORS FOR REVISE SIGNAL SYSTEM "C" SHALL BE NEW CABLES & CONDUCTORS (F & I BY CONTRACTOR), EXCEPT FOR INTERCONNECT CABLES DENOTED AS BEING INPLACE AND REUSED INPLACE (REMOVE & DISPOSE OF ALL EXISTING CABLES AND CONDUCTORS).

STATUS:

1 = SALVAGE IN–PLACE OVERHEAD 3 SECTION SIGNAL AND F & I NEW OVERHEAD 4–SECTION SIGNAL (ON NEW ONE–WAY MOUNT).
2 = SALVAGE IN–PLACE OVERHEAD 3 SECTION SIGNALS AND F & I NEW OVERHEAD 4–SECTION SIGNALS (ON NEW 5' EXTENSION AND NEW 2–WAY MOUNT).
3 = SALVAGE IN–PLACE OVERHEAD 3 SECTION SIGNALS AND F & I NEW OVERHEAD 4–SECTION SIGNALS (ON NEW 2–WAY MOUNT).
4 = SALVAGE ONE IN–PLACE OVERHEAD 3 SECTION SIGNAL AND F & I NEW OVERHEAD 4–SECTION SIGNALS (ON NEW 2–WAY MOUNT).
5 = FURNISH & INSTALL NEW OVERHEAD 4–SECTION SIGNAL AND NEW STRAP–ON ONE WAY MOUNT.
6 = SALVAGE IN–PLACE OVERHEAD 3 SECTION SIGNAL AND INSTALL ON NEW STRAP–ON ONE WAY MOUNT.
7 = FURNISH & INSTALL NEW OVERHEAD 3–SECTION SIGNAL AND NEW STRAP–ON ONE–WAY MOUNT.
8 = SALVAGE IN–PLACE POLE MOUNTED 3 SECTION SIGNAL AND F & I NEW POLE MOUNTED 4–SECTION SIGNAL (ON NEW TYPE 10B BRACKETING).
9 = SALVAGE IN–PLACE POLE MOUNTED 3 SECTION SIGNAL AND INSTALL ON NEW ONE–WAY MOUNT.

○ = INPLACE LED (REUSE INPLACE).
●← = F & I NEW LED INDICATION.
FYA = FLASHING YELLOW ARROW

LED SIGNAL HEADS

SIGNAL HEAD #	ALL 12" INDICATIONS R	Y	FYA	G	STATUS
1–1, 5–3	←	←	←	←	2
1–2, 5–2	←	←	←	←	5
1–3, 5–1	←	←	←	←	3
1–4, 5–4	←	←	←	←	8
2–1	○	○		○	9
2–2	○	○		○	INPLACE
2–3	●	●		●	7
2–4, 2–5	○	○		○	6
3–1, 7–3	←	←	←	←	4
3–2, 7–2	←	←	←	←	1
3–3, 7–4	←	←	←	←	8
4–1, 4–2, 4–3, 4–4	○	○		○	INPLACE
6–1, 6–2, 6–3	○	○		○	INPLACE
7–1	←	←	←	←	1
8–1, 8–2, 8–3, 8–4	○	○		○	INPLACE

S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM "C"
CSAH 14 MATCH LINES/NOTES
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 22 OF 34

119
159

N.M.C. LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	15' & 45'	1	F & I
D1-2	2-6x6	0' & 30'	1	F & I
D1-3	2-6x6	15' & 45'	1	F & I
D1-4	2-6x6	0' & 30'	1	F & I
D2-1	6x6	300'	1	F & I
D2-2	6x6	300'	1	F & I
D2-3	6x6	300'	1	F & I
D3-1	2-6x6	15' & 45'	1	F & I
D3-2	2-6x6	0' & 30'	1	F & I
D4-1	6x6	330'	1	1
D4-2	6x6	330'	1	1
D4-3	6x6	330'	1	1
D4-4	2-6x6	5' & 20'	1	F & I
D4-5	2-6x6	5' & 20'	1	F & I
D5-1	2-6x6	15' & 45'	1	F & I
D5-2	2-6x6	0' & 30'	1	F & I
D5-3	2-6x6	15' & 45'	1	F & I
D5-4	2-6x6	0' & 30'	1	F & I
D6-1	6x6	300'	1	INPLACE
D6-2	6x6	300'	1	INPLACE
D7-1	2-6x6	15' & 45'	1	F & I
D7-2	2-6x6	0' & 30'	1	F & I
D7-3	2-6x6	15' & 45'	1	F & I
D7-4	2-6x6	0' & 30'	1	F & I
D8-1	6x6	300'	1	F & I
D8-2	6x6	300'	1	F & I
D8-3	2-6x6	5' & 20'	7	F & I
D8-4	2-6x6	5' & 20'	1	F & I
D8-5	2-6x6	5' & 20'	1	F & I

LOOP DETECTORS FUNCTIONS:

1) CALL AND EXTEND
7) DELAYED CALL, IMMEDIATE EXTEND

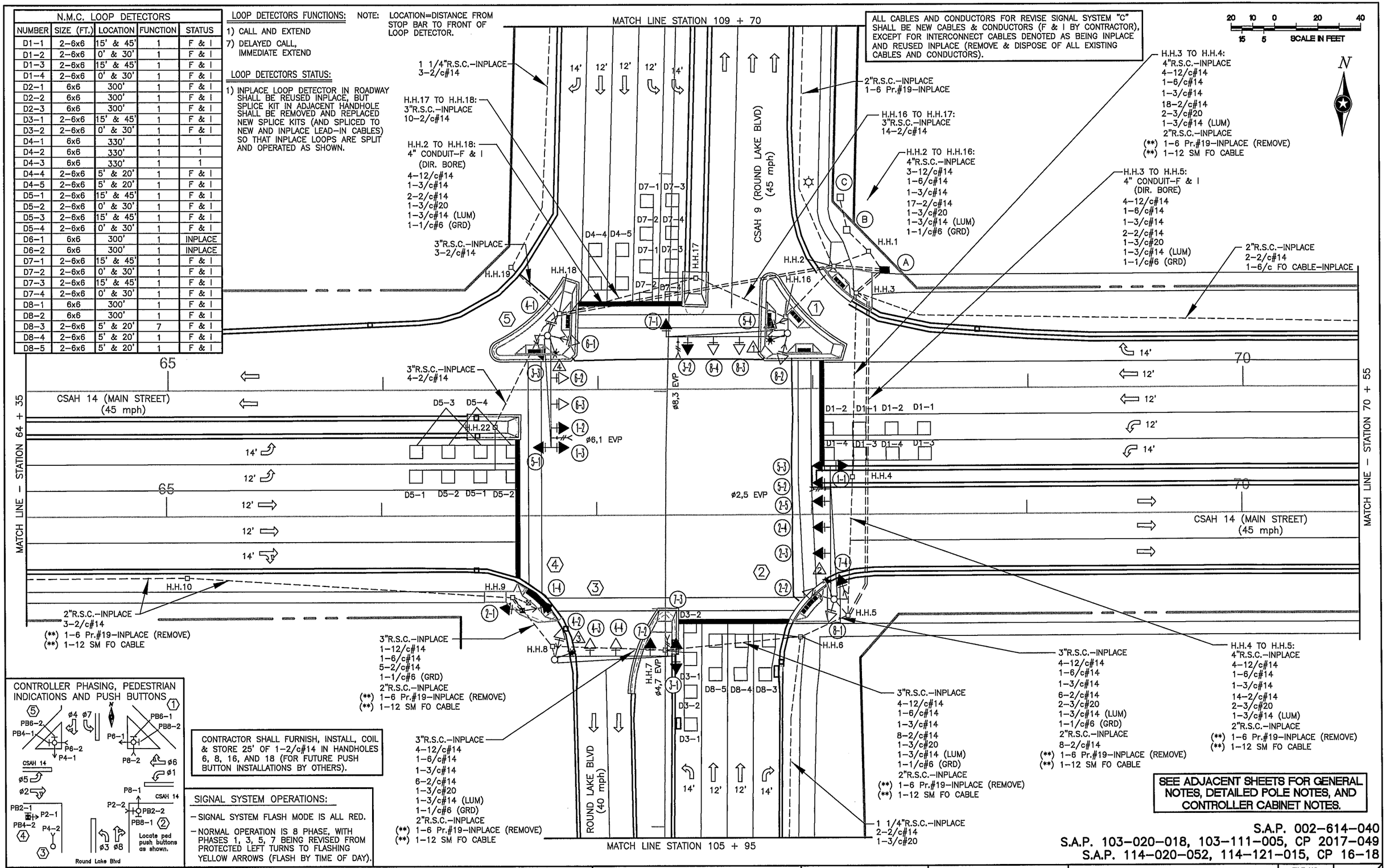
LOOP DETECTORS STATUS:

1) INPLACE LOOP DETECTOR IN ROADWAY SHALL BE REUSED INPLACE, BUT SPLICE KIT IN ADJACENT HANDHOLE SHALL BE REMOVED AND REPLACED NEW SPLICE KITS (AND SPLICED TO NEW AND INPLACE LEAD-IN CABLES) SO THAT INPLACE LOOPS ARE SPLIT AND OPERATED AS SHOWN.

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

ALL CABLES AND CONDUCTORS FOR REVISE SIGNAL SYSTEM "C" SHALL BE NEW CABLES & CONDUCTORS (F & I BY CONTRACTOR), EXCEPT FOR INTERCONNECT CABLES DENOTED AS BEING INPLACE AND REUSED INPLACE (REMOVE & DISPOSE OF ALL EXISTING CABLES AND CONDUCTORS).

SCALE IN FEET: 20 10 0 20 40 / 15 5



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

CONTRACTOR SHALL FURNISH, INSTALL, COIL & STORE 25' OF 1–2/c#14 IN HANDHOLES 6, 8, 16, AND 18 (FOR FUTURE PUSH BUTTON INSTALLATIONS BY OTHERS).

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5, 7 BEING REVISED FROM PROTECTED LEFT TURNS TO FLASHING YELLOW ARROWS (FLASH BY TIME OF DAY).

SEE ADJACENT SHEETS FOR GENERAL NOTES, DETAILED POLE NOTES, AND CONTROLLER CABINET NOTES.

S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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

NO.	BY	DATE	REVISIONS

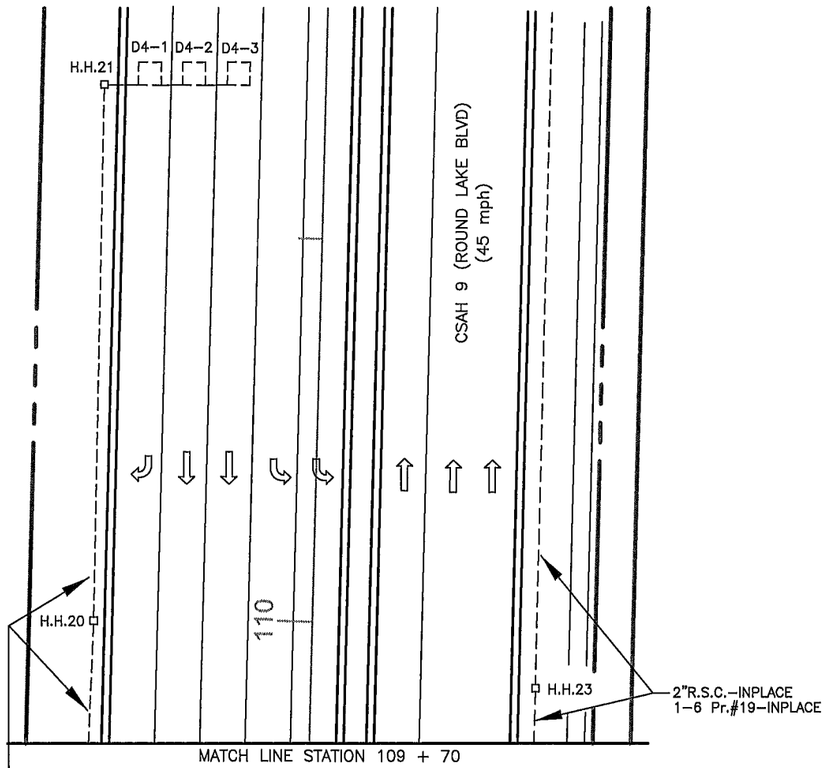
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Date: June 12, 2017 Name: John M. Gray, PE Lic. No. 22457

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

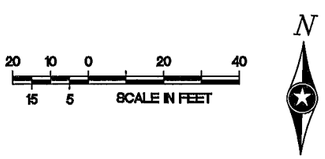
ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM "C"
INTERSECTION LAYOUT
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 23 OF 34
120 / 159



1 1/4"R.S.C.-INPLACE
3-2/c#14



(A) INPLACE (SALVAGE) — CONTROLLER AND CABINET

INSTALL
- CONTROLLER AND CABINET (FURNISHED BY COUNTY)

INPLACE (MAINTAIN INPLACE)
- CABINET FOUNDATION
- EXTENDED INTO H.H.1:
- METERED SIGNAL SERVICE
- 1 1/4"R.S.C.
- 3-1/c#6
- EXTENDED INTO H.H.2:
- 4"R.S.C.
- 1-6 Pr.#19

F & I
- 3-12/c#14
- 1-6/c#14
- 1-3/c#14
- 17-2/c#14
- 1-3/c#20
- 1-1/c#6 (GRD)
- 3"R.S.C.-CORE INTO EXISTING FOUNDATION
- 4-12/c#14
- 1-3/c#14
- 2-2/c#14
- 1-3/c#20

INPLACE (MAINTAIN INPLACE)
- EXTENDED INTO H.H.3:
- 4"R.S.C.
- 1-6/c FO CABLE

F & I
- 4-12/c#14
- 1-6/c#14
- 1-3/c#14
- 20-2/c#14
- 2-3/c#20
- (**) 1-6 Pr.#19-INPLACE (REMOVE)
- (**) 1-12 SM FO CABLE-F & I
- 3"R.S.C.-CORE INTO EXISTING FOUNDATION
- 4-12/c#14
- 1-6/c#14
- 1-3/c#14
- 2-2/c#14
- 1-3/c#20
- 1-1/c#6 (GRD)

(B) INPLACE (MAINTAIN INPLACE)
- CABINET FOUNDATION
- SIGNAL SERVICE CABINET
- 2"R.S.C. STUBBED OUT FROM CABINET (FOR POWER BY OTHERS)
- EXTENDED INTO H.H.1:
- 2-1 1/4"R.S.C.

F & I
- METERED SIGNAL SERVICE
- 3-1/c#6
- UNMETERED STREET LIGHT SERVICE
- 4-3/c#14 (LUM)

BETWEEN H.H.1 AND H.H.2:
- 2"R.S.C.-INPLACE
- 4-3/c#14 (LUM)-F & I

BETWEEN H.H.2 AND H.H.3:
- 2"R.S.C.-INPLACE
- 2-3/c#14 (LUM)-F & I

(1) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-55-X30-6 (DAVIT AT 350 DEG)
- 2-ONE WAY SIGNALS-OVERHEAD AT 22' & 34'
- 1-TYPE 10B-POLE MOUNTED 270 DEG
- 2-PEDESTRIAN PUSH BUTTONS
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 38'
- ONE WAY EVP DETECTOR AND LIGHT AT 4'
- EXTENDED INTO H.H.16:
- 3"R.S.C.

INPLACE (SALVAGE)
- 2-ONE WAY SIGNALS AND MOUNTS-OVERHEAD AT 0' (OLD 7-2) AND 10' (OLD 3-1)
- ONE WAY SIGNAL-POLE MOUNTED 90 DEG (OLD 5-3)
- LUMINAIRE-SHOEBOX

INPLACE (REMOVE)
- TYPE 10B BRACKETING-POLE MOUNTED 90 DEG
- 2-PEDESTRIAN INSTRUCTION SIGNS (STICKERS)
- 3-12/c#12
- 2-3/c#12
- 1-3/c#20
- 4-1/c#10 (LUM)

INPLACE (S & I)
- 1-SET PEDESTRIAN INDICATIONS AT 90 DEG (P6-1)

F & I
- 2-ONE WAY SIGNALS AND ONE WAY MOUNTS-OVERHEAD AT 0' (NEW 7-1) AND 10' (NEW 3-2)
- LUMINAIRE-LED
- TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 5-4, P6-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (NEW 5-4)
- 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
- R10-X12 SIGN PANEL-ADJACENT TO 3-2
- 3-12/c#14
- 1-6/c#14
- 1-3/c#14
- 2-2/c#14
- 1-3/c#20
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

(3) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-55-X30-6 (DAVIT AT 350 DEG)
- 2-ONE WAY SIGNALS-OVERHEAD AT 28' & 40'
- 1-TYPE 10B-POLE MOUNTED 270 DEG
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 42'
- EXTENDED INTO H.H.8:
- 3"R.S.C.

INPLACE (SALVAGE)
- ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 3-2)
- ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 12' (OLD 7-1)
- LUMINAIRE-SHOEBOX

INPLACE (REMOVE)
- 2-12/c#12
- 1-3/c#12
- 1-3/c#20
- 2-1/c#10 (LUM)

INPLACE (S & I)
- ONE WAY EVP DETECTOR AND LIGHT AT 4' (INSTALL ON NEW 3/4" R.S.C. EXTENSION AND RAISE ABOVE R10-X12 SIGN)

F & I
- 2-ONE WAY SIGNALS AND 2-WAY MOUNT-OVERHEAD AT 0' (NEW 3-1, 7-3)
- 1-ONE WAY SIGNAL AND STRAIGHT MOUNT-OVERHEAD AT 12' (NEW 7-2)
- LUMINAIRE-LED
- R10-X12 SIGN PANEL-ADJACENT TO 7-3
- 3/4"R.S.C. EXTENSION AT 4' (FOR EVP)
- 3-12/c#14
- 1-3/c#14
- 1-3/c#20
- 1-3/c#14 (LUM)
- 2-1/c#6 (GRD)

(4) INPLACE (SALVAGE) — ONE WAY SIGNAL-POLE MOUNTED (OLD 1-2)

INPLACE (REMOVE)
- PEDESTAL FOUNDATION
- PEDESTAL POLE AND BASE
- TYPE 2B BRACKETING
- 3"R.S.C. TO H.H.9
- 1-12/c#12
- 1-3/c#12

INPLACE (S & I)
- 1-ONE WAY SIGNAL-POLE MOUNTED (2-1)
- 1-SETS PEDESTRIAN INDICATIONS (P2-1)
- 2-PEDESTRIAN PUSH BUTTONS (NORTH-PB2-1, AND EAST-PB4-2)

F & I
- PEDESTAL FOUNDATION
- 14' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
- 3-ONE WAY STRAIGHT MOUNTS (FOR 1-4, 2-1, P2-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED (NEW 1-4)
- 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)

F & I
- 3"R.S.C. INTO H.H.9
- 1-12/c#14
- 1-6/c#14
- 2-2/c#14
- 1-1/c#6 (GRD)

(2) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-55-X30-6 (DAVIT AT 350 DEG)
- 1-TYPE 10A-POLE MOUNTED 180 DEG
- 1-TYPE 10B-POLE MOUNTED 270 DEG
- 2-PEDESTRIAN PUSH BUTTONS (180/270 DEG)
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 40'
- EXTENDED INTO H.H.5:
- 3"R.S.C.

INPLACE (SALVAGE)
- TWO WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 1-3, 5-1)
- ONE WAY SIGNAL-POLE MOUNTED 90 DEG (OLD 7-3)
- LUMINAIRE-SHOEBOX

INPLACE (REMOVE)
- TYPE 10B BRACKETING-POLE MOUNTED 90 DEG
- 1-PUSH BUTTON AT 0 DEG & 3-PED INSTRUCTION SIGNS (STICKERS)
- 3-12/c#12
- 1-5/c#12
- 2-3/c#12
- 1-3/c#20
- 4-1/c#10 (LUM)

INPLACE (S & I)
- 2-ONE WAY SIGNALS-OVERHEAD AT 11' (2-5) AND 23' (2-4)
- 1-SET PEDESTRIAN INDICATIONS AT 90 DEG (P8-1)
- ONE WAY EVP DETECTOR AND LIGHT AT 4' (INSTALL ON NEW 3/4" R.S.C. EXTENSION AND RAISE ABOVE R10-X12 SIGN)

F & I
- 5-FOOT EXTENSION FOR MAST ARM
- 2-ONE WAY SIGNALS AND 2-WAY MOUNT-OVERHEAD AT END OF EXTENSION (NEW 1-1, 5-3)
- 1-ONE WAY SIGNAL AND STRAP-ON MOUNT-OVERHEAD AT 3' (NEW 5-2)
- 2-STRAP-ON MID-MOUNTS-OVERHEAD AT 11' (2-5) AND 23' (2-4)
- 1-ONE WAY SIGNAL AND STRAP-ON MOUNT-OVERHEAD AT 35' (NEW 2-3)
- CAP MID-MOUNTS AT 16' AND 28' FROM END OF MAST ARM
- LUMINAIRE-LED
- TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 7-4, P8-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (NEW 7-4)
- 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
- CAP HOLE ON POLE WHERE PUSH BUTTON USED TO BE AT 0 DEG
- R10-X12 SIGN PANEL-ADJACENT TO 5-3
- 3/4"R.S.C. EXTENSION AT 4' (FOR EVP)
- 4-12/c#14
- 1-6/c#14
- 1-3/c#14
- 2-2/c#14
- 1-3/c#20
- 1-3/c#14 (LUM)
- 2-1/c#6 (GRD)

(5) INPLACE (MAINTAIN INPLACE)
- A100 POLE FOUNDATION
- TYPE A100-A-50-X30-6 (DAVIT AT 350 DEG)
- 2-ONE WAY SIGNALS-OVERHEAD AT 20' & 32'
- 1-TYPE 10A-POLE MOUNTED 180 DEG
- 1-TYPE 10B-POLE MOUNTED 270 DEG
- 2-PEDESTRIAN PUSH BUTTONS
- 2-R6-1 SIGNS-POLE MOUNTED 0/180 DEG
- TYPE D SIGN PANEL-OVERHEAD AT 35'
- EXTENDED INTO H.H.18:
- 3"R.S.C.

INPLACE (SALVAGE)
- TWO WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 1-1, 5-2)
- ONE WAY SIGNAL-POLE MOUNTED 90 DEG (OLD 3-3)
- LUMINAIRE-SHOEBOX

INPLACE (REMOVE)
- TYPE 10B BRACKETING-POLE MOUNTED 90 DEG
- 2-PEDESTRIAN INSTRUCTION SIGNS (STICKERS)
- 3-12/c#12
- 2-3/c#12
- 1-3/c#20
- 2-1/c#10 (LUM)

INPLACE (S & I)
- 1-SET PEDESTRIAN INDICATIONS AT 90 DEG (P4-1)
- ONE WAY EVP DETECTOR AND LIGHT AT 4' (INSTALL ON NEW 3/4" R.S.C. EXTENSION AND RAISE ABOVE R10-X12 SIGN)

F & I
- 2-ONE WAY SIGNALS AND 2-WAY MOUNT-OVERHEAD AT 0' (NEW 1-3, 5-1)
- 1-ONE WAY SIGNAL AND STRAP-ON MOUNT-OVERHEAD AT 10' (NEW 1-2)
- LUMINAIRE-LED
- TYPE 10B BRACKETING-POLE MOUNTED 90 DEG (FOR 3-3, P4-1)
- 1-ONE WAY SIGNAL-POLE MOUNTED 90 DEG (NEW 3-3)
- 2-PEDESTRIAN INSTRUCTION SIGNS (R10-3e)
- R10-X12 SIGN PANEL-ADJACENT TO 1-3
- 3/4"R.S.C. EXTENSION AT 4' (FOR EVP)
- 4-12/c#14
- 1-3/c#14
- 2-2/c#14
- 1-3/c#20
- 1-3/c#14 (LUM)
- 1-1/c#6 (GRD)

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

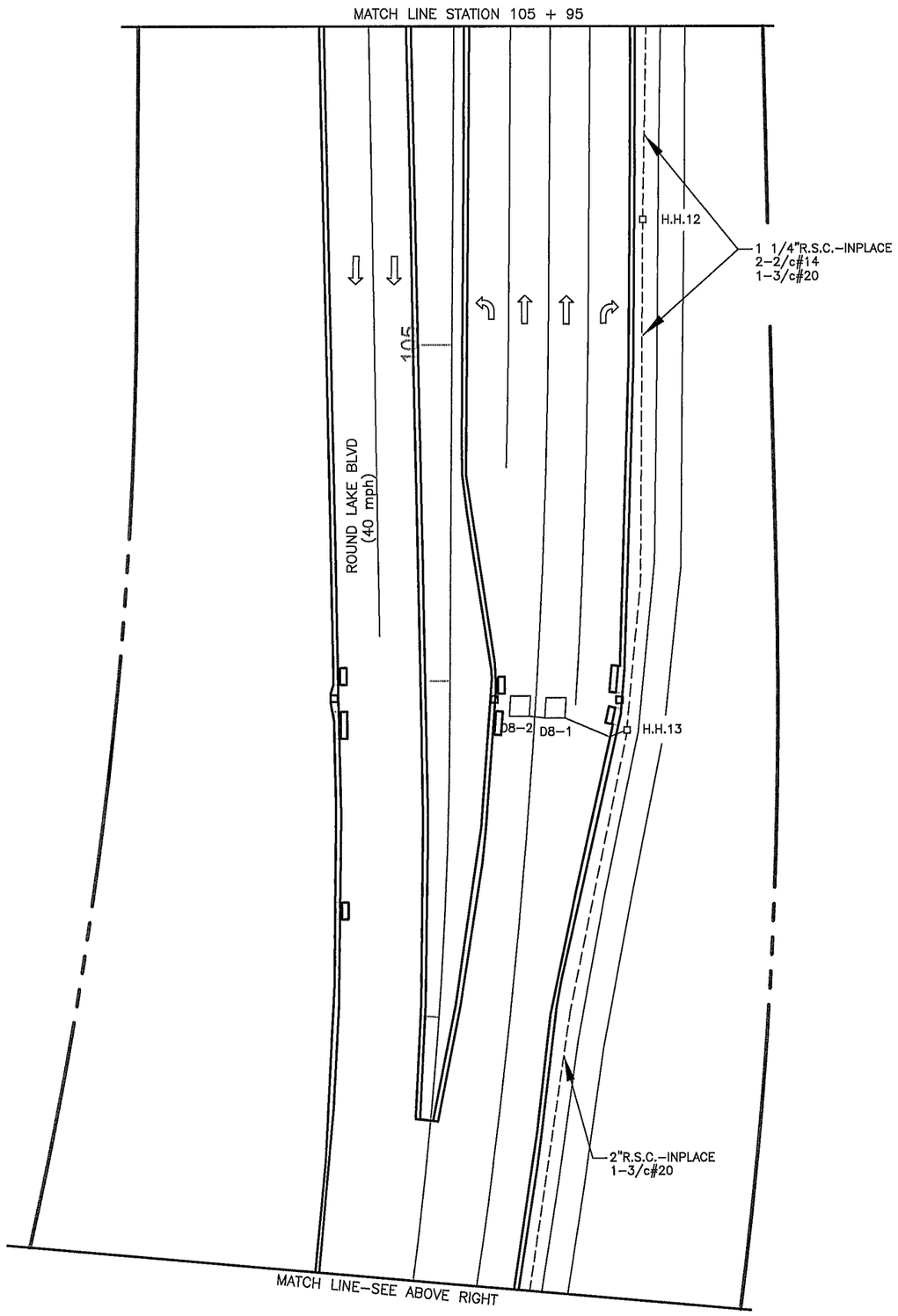
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

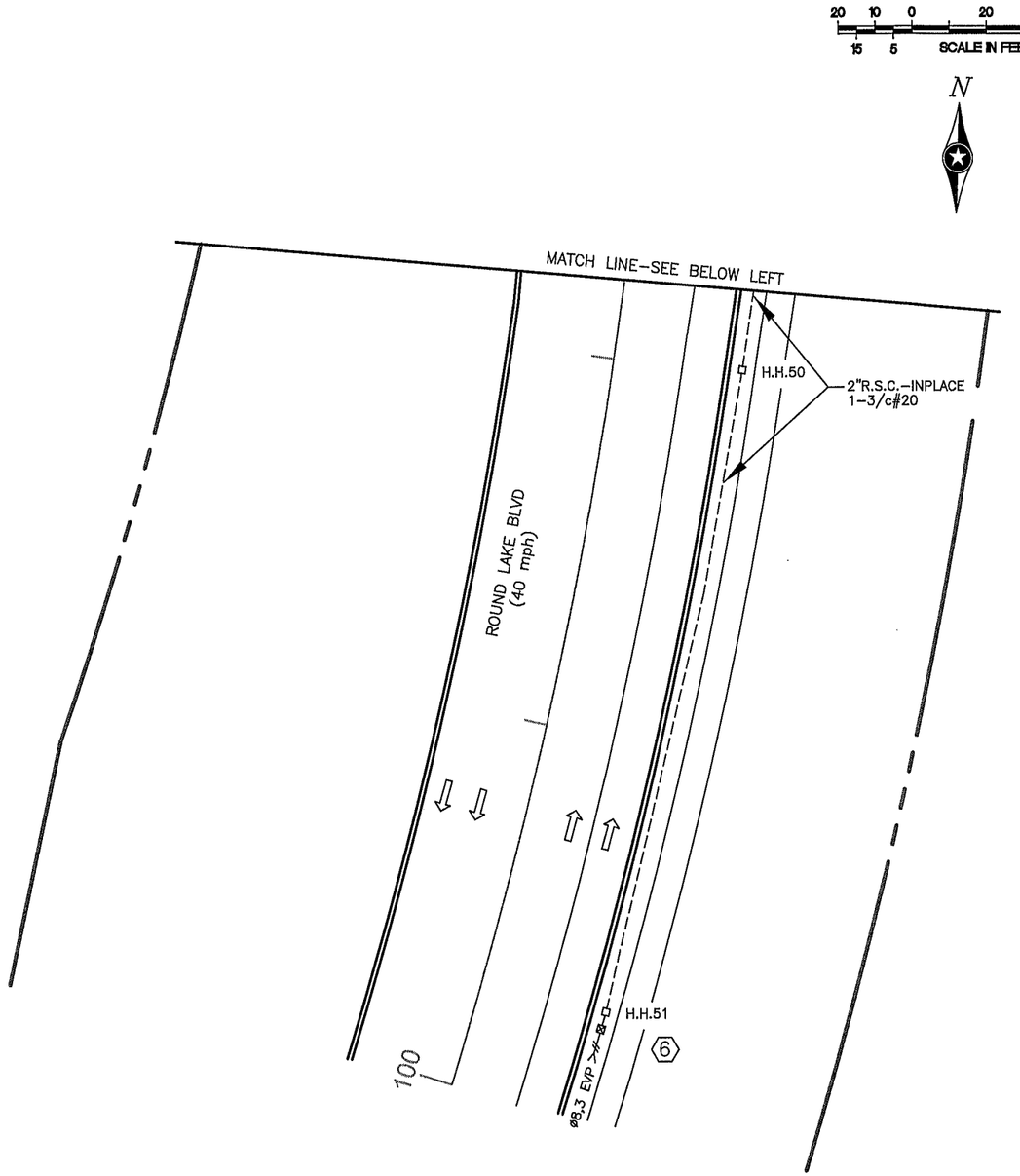
ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM 'C'
CSAH 9 MATCH LINE/POLE NOTES
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 24 OF 34

121/159





6 INPLACE (MAINTAIN INPLACE) — PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
ONE WAY EVP DETECTOR (ø8,3)–MOUNTED ATOP PEDESTAL POLE SLIPFITTER COLLAR EXTENDED INTO H.H.51:
2"R.S.C.
F & I — 1–3/c#20

S.A.P. 002–614–040
S.A.P. 103–020–018, 103–111–005, CP 2017–049
S.A.P. 114–020–052, 114–121–015, CP 16–18

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.
Name: John M. Gray, PE
Date: June 12, 2017 Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM 'C'
ROUND LAKE BOULEVARD MATCH LINES
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 25 OF 34

CONTROLLER CABINET

2: SIGNAL, SERVICE
7: RLA 3-2, YLA 3-2, GLA 3-2, NEU 3-2, SPR, FYLA 3-2, SPR, NEU, RED 8-3, YEL 8-3, GRN 8-3, NEU 8-3
8: RLA 5-4, YLA 5-4, GLA 5-4, NEU 5-4, SPR, FYLA 5-4, SPR, NEU, RED 8-4, YEL 8-4, GRN 8-4, NEU 8-4
9: RED 8-2, YEL 8-2, GRN 8-2, NEU 8-2, DWK P8-2, WLK P8-2, SPR, NEU P8-2, DWK P6-1, WLK P6-1, SPR, NEU P6-1
10: RLA 7-1, YLA 7-1, GRN 7-1, NEU 7-1, SPR, FYLA 7-1
11: PB6-1, NEU
12: PB8-2, NEU
13: ø8,3 EVP LT, EQG, NEU
14: ø8,3, EVP, DETECTOR
15: GROUND
16: SPR, NEU
17: D7-1
18: D7-2
19: D7-3
20: D7-4
21: RLA 1-2, YLA 1-2, GLA 1-2, NEU 1-2, FYLA 1-2, DWK P6-2, WLK P6-2, NEU P6-2, RED 6-2, YEL 6-2, GRN 6-2, NEU 6-2

22: RLA 1-3, YLA 1-3, GLA 1-3, NEU 1-3, SPR, FYLA 1-3, SPR, NEU, RED 6-1, YEL 6-1, GRN 6-1, NEU 6-1
23: RLA 3-3, YLA 3-3, GLA 3-3, NEU 3-3, SPR, FYLA 3-3, SPR, NEU, RED 6-3, YEL 6-3, GRN 6-3, NEU 6-3
24: RLA 5-1, YLA 5-1, GLA 5-1, NEU 5-1, FYLA 5-1, DWK P4-1, WLK P4-1, NEU P4-1, RED 4-1, YEL 4-1, GRN 4-1, NEU 4-1
25: PB4-1, NEU
26: PB6-2, NEU
27: ø6,1 EVP LT, EQG, NEU
28: ø6,1, EVP, DETECTOR
29: SPR, NEU
30: D4-4
31: D4-5
32: D4-1
33: D4-2
34: D4-3
35: D5-1
36: D5-2
37: D5-3
38: D5-4
39: D6-1
40: D6-2
41: D1-1
42: D1-2
43: D1-3
44: D1-4

45: RLA 5-2, YLA 5-2, GLA 5-2, NEU 5-2, FYLA 5-2, DWK P2-2, WLK P2-2, NEU P2-2, RED 2-3, YEL 2-3, GRN 2-3, NEU 2-3
46: RLA 5-3, YLA 5-3, GLA 5-3, NEU 5-3, SPR, FYLA 5-3, SPR, NEU, RED 2-2, YEL 2-2, GRN 2-2, NEU 2-2
47: RLA 7-4, YLA 7-4, GLA 7-4, NEU 7-4, SPR, FYLA 7-4, SPR, NEU, RED 2-4, YEL 2-4, GRN 2-4, NEU 2-4
48: RLA 1-1, YLA 1-1, GLA 1-1, NEU 1-1, FYLA 1-1, DWK P8-1, WLK P8-1, NEU P8-1, RED 8-1, YEL 8-1, GRN 8-1, NEU 8-1
49: RED 2-5, YEL 2-5, GRN 2-5, NEU 2-5, SPR, SPR
50: PB2-2, NEU
51: PB8-1, NEU
52: ø2,5 EVP LT, EQG, NEU
53: ø2,5, EVP, DETECTOR
54: GROUND
55: ø8,3, EVP, DETECTOR
56: SPR, NEU
57: D8-3
58: D8-4
59: D8-5
60: D8-1
61: D8-2

62: D3-1
63: D3-2
64: RLA 7-2, YLA 7-2, GLA 7-2, NEU 7-2, SPR, FYLA 7-2, SPR, NEU, RED 4-3, YEL 4-3, GRN 4-3, NEU 4-3
65: RLA 3-1, YLA 3-1, GLA 3-1, NEU 3-1, SPR, FYLA 3-1, SPR, NEU, RED 4-4, YEL 4-4, GRN 4-4, NEU 4-4
66: RLA 7-3, YLA 7-3, GLA 7-3, NEU 7-3, FYLA 7-3, DWK P4-2, WLK P4-2, NEU P4-2, RED 4-2, YEL 4-2, GRN 4-2, NEU 4-2
67: ø4,7 EVP LT, EQG, NEU
68: ø4,7, EVP, DETECTOR
69: SPR, NEU
70: RLA 1-4, YLA 1-4, GLA 1-4, NEU 1-4, SPR, FYLA 1-4, SPR, NEU, DWK P2-1, WLK P2-1, SPR, NEU P2-1
71: RED 2-1, YEL 2-1, GRN 2-1, NEU 2-1, SPR, SPR
72: PB2-1, NEU
73: PB4-2, NEU

74: D2-1
75: D2-2
76: D2-3
83: INTERCONNECT, TO WEDGEWOOD DR
89▲: INTERCONNECT, TO RIVERDALE
90▲: INTERCONNECT, TO RIVER RAPIDS

SERVICE CABINET

S.O.P. — 1
1: SIGNALS, NEUTRAL, LIGHTING
2: SIGNAL, SERVICE
3: LUMINAIRE 1
4: LUMINAIRE 2
5: LUMINAIRE 3
6: LUMINAIRE 4

H.H.1 — 2 — 2-6

3-6

H.H.2 — 7-20, 29-38; 21-28, 89▲; 6, 15A, 21-28

TO H.H.3 (SEE NEXT SHEET) 4-5

89▲ INTERCONNECT TO CONTROLLER CABINET (CSAH 9/RIVERDALE)

39-44, 55-76, 83, 90▲ / 45-54 TO H.H.3 (SEE NEXT SHEET)

FURNISH, INSTALL, COIL & STORE 25' OF CABLE 16 (1-2/c#14) IN H.H.16.

LUMINAIRE 1

TO LUM 3 — (3-2) (8-3) — 8 — 7 — (7-1) — 10 — 9 — P6-1 P8-2 (8-2)

PB6-1 TO PB 11

PB8-2 TO PB 12

GROUND 15

13: ø8,3 EVP LIGHT

14: TO ø8,3 EVP HUB DETECTOR

H.H.16 — 17-20, 29-38

LUMINAIRE 4

TO LUM 6 — (1-2) P6-2 (6-2) — 21 — (1-3) (6-1) — 22

PB4-1 TO PB 25

PB6-2 TO PB 26

GROUND 15A

27: ø6,1 EVP LIGHT

28: TO ø6,1 EVP HUB DETECTOR

(6-3) (3-3) — 23

(4-1) P4-1 (5-1) — 24

CONDUCTOR COLOR CODE (14 GAUGE)

TO SIGNAL CABINET		TO DEVICE	
1/C#6 G			
6PR#19			
6/C#14 CABLE	R, O, BL, WH, BLK/R, BLK	R, O, BL, WH, BLK/R, BLK	4 & 5 SECTION SIGNAL INDICATION
3-1/C#2 WH, BLK	INPUT POWER		
3-1/C#6 BLK, WH, G	SIGNAL SERVICE		
4/C#14 CABLE	R, BLK/R, BLK, WH	R, BLK/R, BLK, WH	3 SECTION AND PED INDICATION
12/C#14	R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, BLK/R, WH/R		
3/C#14 CABLE	BLK, G, WH	BLK, G, WH	EVP LIGHT LUM/FLASHER
2/C#14 CABLE	BLK, WH or CL	BLK, WH or CL	PED PUSH BUTTON (if required)
3/C#14	BLK		
2/C#14	WH or CL		
3/C#20	R or O, WH or YEL, BLK or BL		

BASE OF POLE OR PEDESTAL

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

NOTES:

1) ALL CABLES AND CONDUCTORS SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR (REMOVE AND DISPOSE OF ALL EXISTING CABLES AND CONDUCTORS), EXCEPT FOR INTERCONNECT CABLES NOTED OTHERWISE.

2) F & I DENOTES LOOP DETECTORS & HANDHOLES TO BE FURNISHED & INSTALLED BY CONTRACTOR AS PART OF PROJECT.

3) REMOVE AND DISPOSE OF INPLACE CABLE 88 (6 Pr.#19) FROM CSAH 14 CABINET, THROUGH H.H. 3-4-5-6-7-8-9-10-11 AND TO WEDGEWOOD DRIVE CABINET.

4) EXISTING INTERCONNECT CABLES 89 AND 90 SHALL BE REUSED AS SHOWN, AND ARE DENOTED BY ▲ .

H.H.17 — 17 18 19 20 — 29-38 — D7-1 (F&I) D7-2 (F&I) D7-3 (F&I) D7-4 (F&I)

H.H.22 — 35 36 37 38 — 35-38 — D5-1 (F&I) D5-2 (F&I) D5-3 (F&I) D5-4 (F&I)

H.H.21 — 32 33 34 — 32-34 — H.H.20 — 32-34 — H.H.19 — 35-38; 32-34 — H.H.18 — 30 31 — 29-38 — D4-1 D4-2 D4-3 — D4-4 (F&I) D4-5 (F&I)

FURNISH, INSTALL, COIL & STORE 25' OF CABLE 29 (1-2/c#14) IN H.H.18.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM 'C'
FIELD WIRING DIAGRAM
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 26 OF 34

123/159

NOTES:

1) ALL CABLES AND CONDUCTORS SHALL BE NEW AND SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR (REMOVE AND DISPOSE OF ALL EXISTING CABLES AND CONDUCTORS), EXCEPT FOR INTERCONNECT CABLES NOTED OTHERWISE.

2) F & I DENOTES LOOP DETECTORS & HANDHOLES TO BE FURNISHED & INSTALLED BY CONTRACTOR AS PART OF PROJECT.

3) REMOVE AND DISPOSE OF INPLACE CABLE 88 (6 Pr.#19) FROM CSAH 14 CABINET, THROUGH H.H. 3-4-5-6-7-8-9-10-11 AND TO WEDGEWOOD DRIVE CABINET.

4) EXISTING INTERCONNECT CABLES 89 AND 90 SHALL BE REUSED AS SHOWN, AND ARE DENOTED BY ▲ .

CONDUCTOR COLOR CODE (14 GAUGE)

TO SIGNAL CABINET

1/C#6 G
6PR#19
3-1/C#2 R WH BLK — INPUT POWER
3-1/C#6 BLK WH G — SIGNAL SERVICE
12/C#14 R O BL WH R/BLK O/BLK BL/BLK WH/BLK BLK BLK/WH BLK/R WH/R

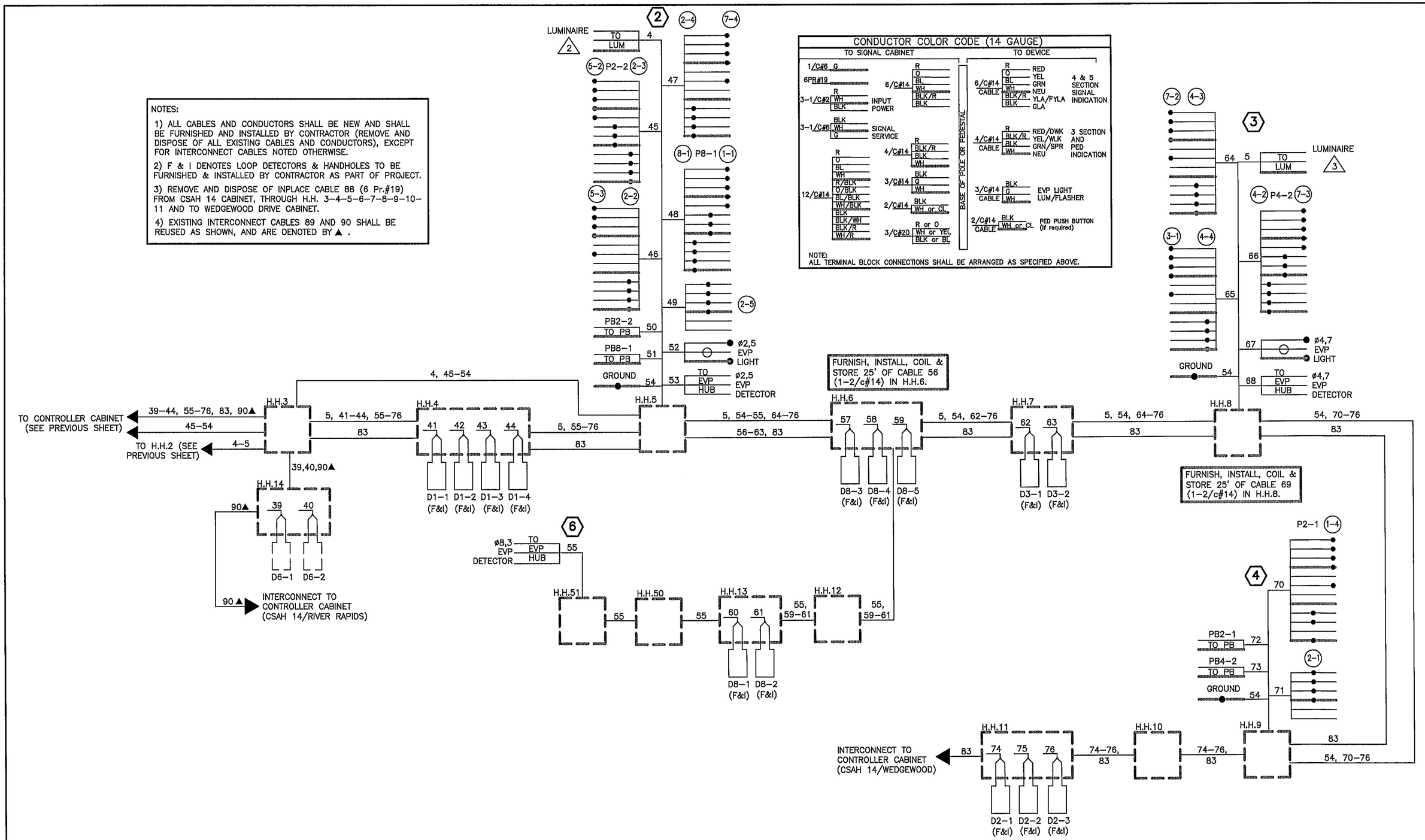
BASE OF POLE OR PEDESTAL

6/C#14 R O BL WH BLK/R BLK
4/C#14 R BLK/R BLK WH
3/C#14 BLK G WH
2/C#14 BLK WH or CL
3/C#20 R or O WH or YEL BLK or BL

TO DEVICE

6/C#14 CABLE R RED, O YEL, BL GRN, WH NEU, BLK/R YLA/FYLA, BLK GLA — 4 & 5 SECTION SIGNAL INDICATION
4/C#14 CABLE R RED/DWK, BLK/R YEL/WLK, BLK GRN/SPR, WH NEU — 3 SECTION AND PED INDICATION
3/C#14 CABLE BLK, G, WH — EVP LIGHT LUM/FLASHER
2/C#14 CABLE BLK, WH or CL — PED PUSH BUTTON (if required)

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



S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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: June 12, 2017
Name: John M. Gray, PE
Lic. No. 22457

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

REVISE SIGNAL SYSTEM 'C'
FIELD WIRING DIAGRAM
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213
SIGNAL SHEET 27 OF 34

NOTES:

1) ALL INPLACE BELOW GROUND CONDUIT AND HAND HOLES, EXCEPT HANDHOLE 1, SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE INDICATED IN PLAN. SEE SPECIAL PROVISIONS.

2) ALL INPLACE LOOP DETECTOR CABLES , CABLES FOR SIGNAL INDICATIONS A1, A2, A3, B1, B2, B3, AND CABLES FOR PEDESTRIAN INDICATIONS AND PUSH BUTTONS ON POLES (2) AND (3) SHALL BE REMOVED AND SALVAGED UNLESS INDICATED BY A * IN THE PLANS. SEE SPECIAL PROVISIONS.

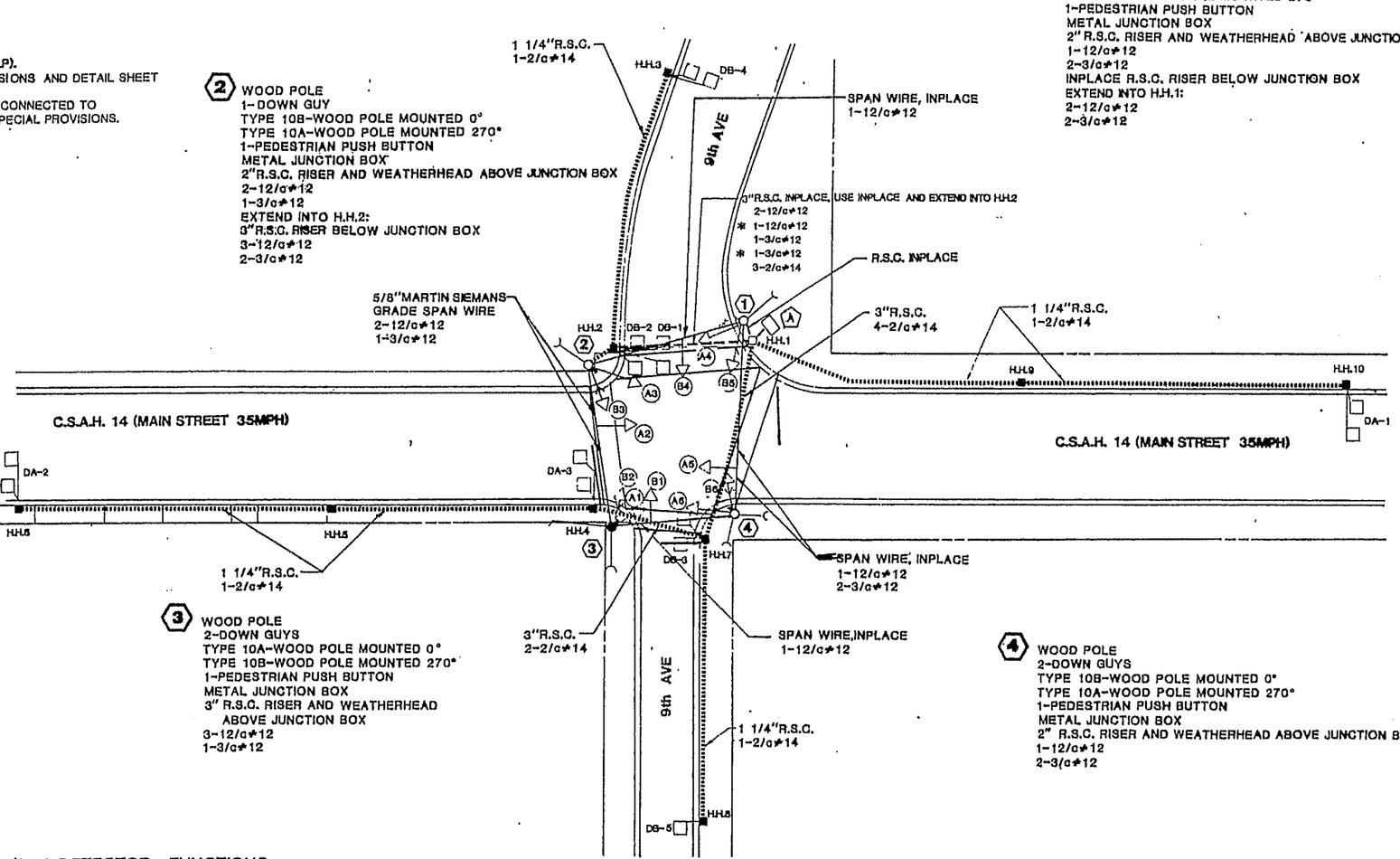
3) CABLES INDICATED BY A * IN THE PLAN ARE INPLACE AND SHALL BE PULLED BACK TO HANDHOLE 1, COILED, LABELED AND STORED TO THE SATISFACTION OF THE ENGINEER, SUCH THAT THEY MAY BE RECONNECTED TO THEIR ORIGINAL TERMINATION POINTS AT POLE (2) AS PART OF THE REVISED SYSTEM. THESE CABLES PROVIDE POWER TO SIGNAL INDICATIONS A3 AND B3 AND PEDESTRIAN INDICATION PB-3 AND SHALL NOT EXTEND PAST POLE (2) IN THE REVISED SYSTEM.

4) ALL OTHER EQUIPMENT IS INPLACE AND SHALL BE USED INPLACE AS PART OF THE REVISED SYSTEM.

5) LOOP DETECTORS SHALL BE CROSS LINKED POLYETHYLENE (XLP). LOOP WIRES SHALL BE INSTALLED IN 1" PVC. SEE SPECIAL PROVISIONS AND DETAIL SHEET

6) LOOP DETECTORS DA-1, DA-2, DB-1, DB-2 AND DB-3 SHALL BE CONNECTED TO INPLACE DETECTOR UNITS IN THE CONTROLLER CABINET. SEE SPECIAL PROVISIONS.

7) HANDHOLES 4,5, AND 6 SHALL BE TYPE LD.



(2) WOOD POLE
1-DOWN GUY
TYPE 10B-WOOD POLE MOUNTED 0°
TYPE 10A-WOOD POLE MOUNTED 270°
1-PEDESTRIAN PUSH BUTTON
METAL JUNCTION BOX
2"R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
2-12/c#12
1-3/c#12
EXTEND INTO H.H.2:
3"R.S.C. RISER BELOW JUNCTION BOX
3-12/c#12
2-3/c#12

(1) WOOD POLE
1-DOWN GUY
TYPE 10A-WOOD POLE MOUNTED 0°
TYPE 10B-WOOD POLE MOUNTED 270°
1-PEDESTRIAN PUSH BUTTON
METAL JUNCTION BOX
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
1-12/c#12
2-3/c#12
INPLACE R.S.C. RISER BELOW JUNCTION BOX
EXTEND INTO H.H.1:
2-12/c#12
2-3/c#12

(A) CONTROLLER AND CABINET
CABINET FOUNDATION
INPLACE R.S.C.
EXTEND INTO H.H.1:
5-12/c#12
4-3/c#12
8-2/c#14

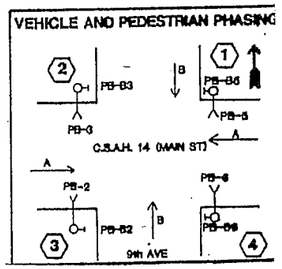
(3) WOOD POLE
2-DOWN GUYS
TYPE 10A-WOOD POLE MOUNTED 0°
TYPE 10B-WOOD POLE MOUNTED 270°
1-PEDESTRIAN PUSH BUTTON
METAL JUNCTION BOX
3" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
3-12/c#12
1-3/c#12

(4) WOOD POLE
2-DOWN GUYS
TYPE 10B-WOOD POLE MOUNTED 0°
TYPE 10A-WOOD POLE MOUNTED 270°
1-PEDESTRIAN PUSH BUTTON
METAL JUNCTION BOX
2" R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX
1-12/c#12
2-3/c#12

30 0 30 60
scale feet

SIGNAL INDICATIONS					
FACE	PHASE	FLASH	R	Y	G
A-1	A	Y	12	12	12
A-2	A	Y	12	12	12
A-3	A	Y	12	12	12
A-4	A	Y	12	12	12
A-5	A	Y	12	12	12
A-6	A	Y	12	12	12
B-1	B	R	12	12	12
B-2	B	R	12	12	12
B-3	B	R	12	12	12
B-4	B	R	12	12	12
B-5	B	R	12	12	12
B-6	B	R	12	12	12

VEHICLE AND PEDESTRIAN PHASING



LOOP DETECTORS			
NUMBER	SIZE	LOCATION	FUNCTION
DA-1	2-6'x6'	250'	1
DA-2	4-6'x6'	250'	1
DA-3	2-6'x6'	—	2
DB-1	2-6'x6'	—	7
DB-2	2-6'x6'	—	7
DB-3	2-6'x6'	—	7
DB-4	2-6'X8'	120'	3,8
DB-5	1-6'x6'	120'	3,8

NOTE: LOCATION=DISTANCE FROM DETECTOR TO STOP LINE.

LOOP DETECTOR FUNCTIONS:

1) CALL AND EXTEND
2) CALL ONLY
3) EXTEND ONLY
4) CALL ONLY DENSITY
5) DELAYED CALL ONLY
6) DELAYED CALL ONLY DENSITY
7) DELAYED CALL-IMMEDIATE EXTEND
8) CARRY OVER (STRETCH)
9) ADVISORY DETECTOR
10) SAMPLING DETECTOR
11) SPECIAL DETECTOR

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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

NO.	BY	DATE	REVISIONS

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

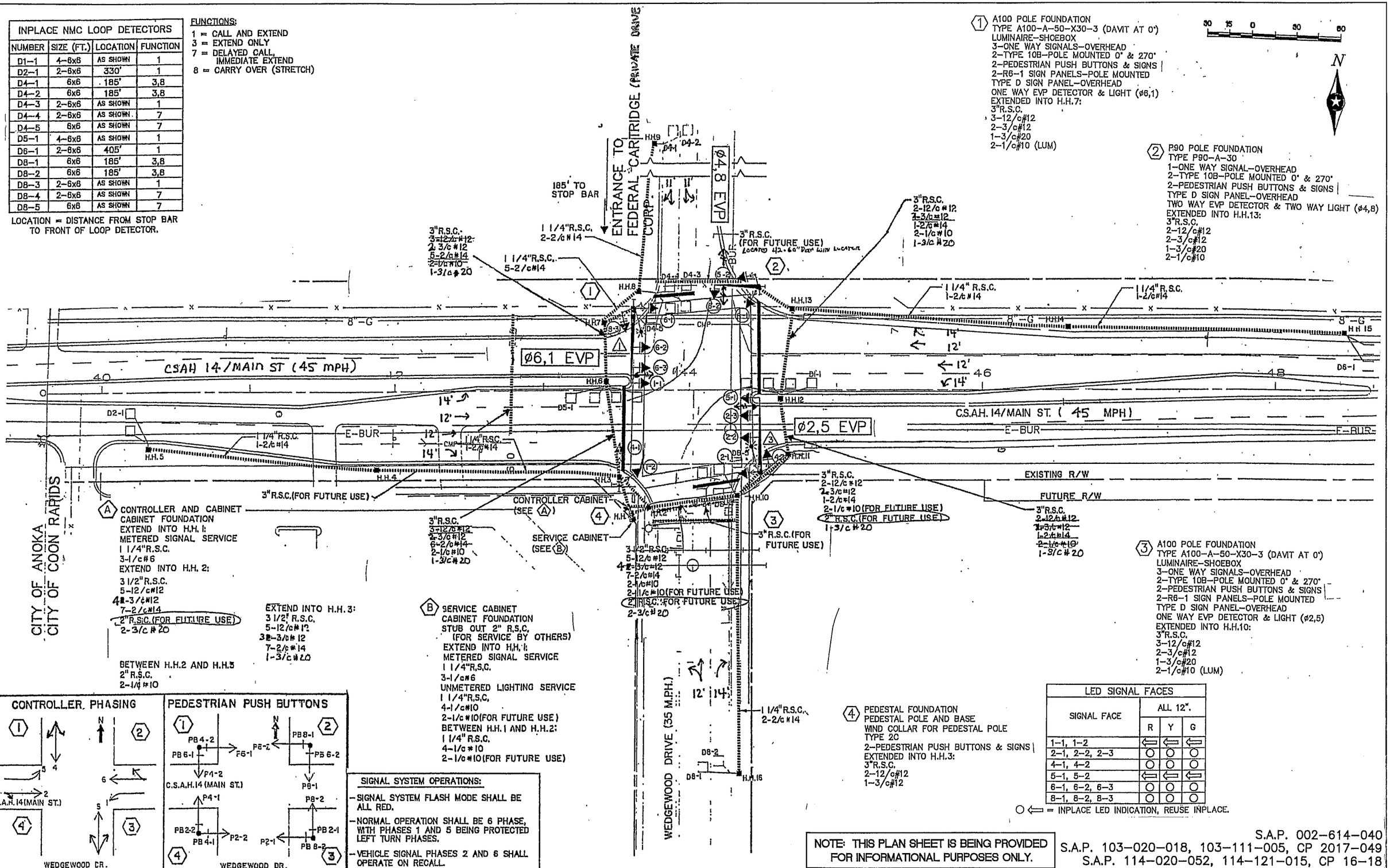
INPLACE SIGNAL SYSTEM "A"
FOR INFORMATION ONLY
CSAH 14 AT 9TH AVE S/HOFFMAN WAY

FILE NO. ANOKC 141213
SIGNAL SHEET 28 OF 34

INPLACE NMC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	4-6x6	AS SHOWN	1
D2-1	2-6x6	330'	1
D4-1	6x6	185'	3,8
D4-2	6x6	185'	3,8
D4-3	2-6x6	AS SHOWN	1
D4-4	2-6x6	AS SHOWN	7
D4-5	6x6	AS SHOWN	7
D5-1	4-6x6	AS SHOWN	1
D6-1	2-6x6	405'	1
D8-1	6x6	185'	3,8
D8-2	6x6	185'	3,8
D8-3	2-6x6	AS SHOWN	1
D8-4	2-6x6	AS SHOWN	7
D8-5	6x6	AS SHOWN	7

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

FUNCTIONS:
1 = CALL AND EXTEND
3 = EXTEND ONLY
7 = DELAYED CALL, IMMEDIATE EXTEND
8 = CARRY OVER (STRETCH)



(1) A100 POLE FOUNDATION
TYPE A100-A-50-X30-3 (DAVIT AT 0°)
LUMINAIRE-SHOEBOX
3-ONE WAY SIGNALS-OVERHEAD
2-TYPE 10B-POLE MOUNTED 0° & 270°
2-PEDESTRIAN PUSH BUTTONS & SIGNS
2-R6-1 SIGN PANELS-POLE MOUNTED
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR & LIGHT (ø6,1)
EXTENDED INTO H.H.7:
3"R.S.C.
3-12/c#12
2-3/c#12
1-3/c#20
2-1/c#10 (LUM)

(2) P90 POLE FOUNDATION
TYPE P90-A-30
1-ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 0° & 270°
2-PEDESTRIAN PUSH BUTTONS & SIGNS
TYPE D SIGN PANEL-OVERHEAD
TWO WAY EVP DETECTOR & TWO WAY LIGHT (ø4,8)
EXTENDED INTO H.H.13:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
2-1/c#10

(A) CONTROLLER AND CABINET FOUNDATION
EXTEND INTO H.H. 1:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
EXTEND INTO H.H. 2:
3 1/2"R.S.C.
5-12/c#12
4-3/c#12
7-2/c#14
2"R.S.C.(FOR FUTURE USE)
2-3/c#20

BETWEEN H.H.2 AND H.H.3
2"R.S.C.
2-1/c#10

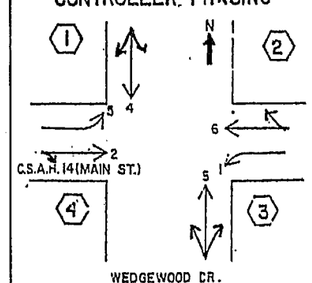
EXTEND INTO H.H.3:
3 1/2" R.S.C.
5-12/c#12
3-3/c#12
7-2/c#14
1-3/c#20

(B) SERVICE CABINET
CABINET FOUNDATION
STUB OUT 2" R.S.C.
(FOR SERVICE BY OTHERS)
EXTEND INTO H.H. 1:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
UNMETERED LIGHTING SERVICE
1 1/4"R.S.C.
4-1/c#10
2-1/c#10(FOR FUTURE USE)
BETWEEN H.H.1 AND H.H.2:
1 1/4" R.S.C.
4-1/c#10
2-1/c#10(FOR FUTURE USE)

(3) A100 POLE FOUNDATION
TYPE A100-A-50-X30-3 (DAVIT AT 0°)
LUMINAIRE-SHOEBOX
3-ONE WAY SIGNALS-OVERHEAD
2-TYPE 10B-POLE MOUNTED 0° & 270°
2-PEDESTRIAN PUSH BUTTONS & SIGNS
2-R6-1 SIGN PANELS-POLE MOUNTED
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR & LIGHT (ø2,5)
EXTENDED INTO H.H.10:
3"R.S.C.
3-12/c#12
2-3/c#12
1-3/c#20
2-1/c#10 (LUM)

(4) PEDESTAL FOUNDATION
PEDESTAL POLE AND BASE
WIND COLLAR FOR PEDESTAL POLE
TYPE 2C
2-PEDESTRIAN PUSH BUTTONS & SIGNS
EXTENDED INTO H.H.3:
3"R.S.C.
2-12/c#12
1-3/c#12

CONTROLLER PHASING



PEDESTRIAN PUSH BUTTONS

SIGNAL SYSTEM OPERATIONS:
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

LED SIGNAL FACES			
SIGNAL FACE	ALL 12".		
	R	Y	G
1-1, 1-2	⇦	⇦	⇦
2-1, 2-2, 2-3	○	○	○
4-1, 4-2	○	○	○
5-1, 5-2	⇦	⇦	⇦
6-1, 6-2, 6-3	○	○	○
8-1, 8-2, 8-3	○	○	○

○ ⇦ = INPLACE LED INDICATION, REUSE INPLACE.

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

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

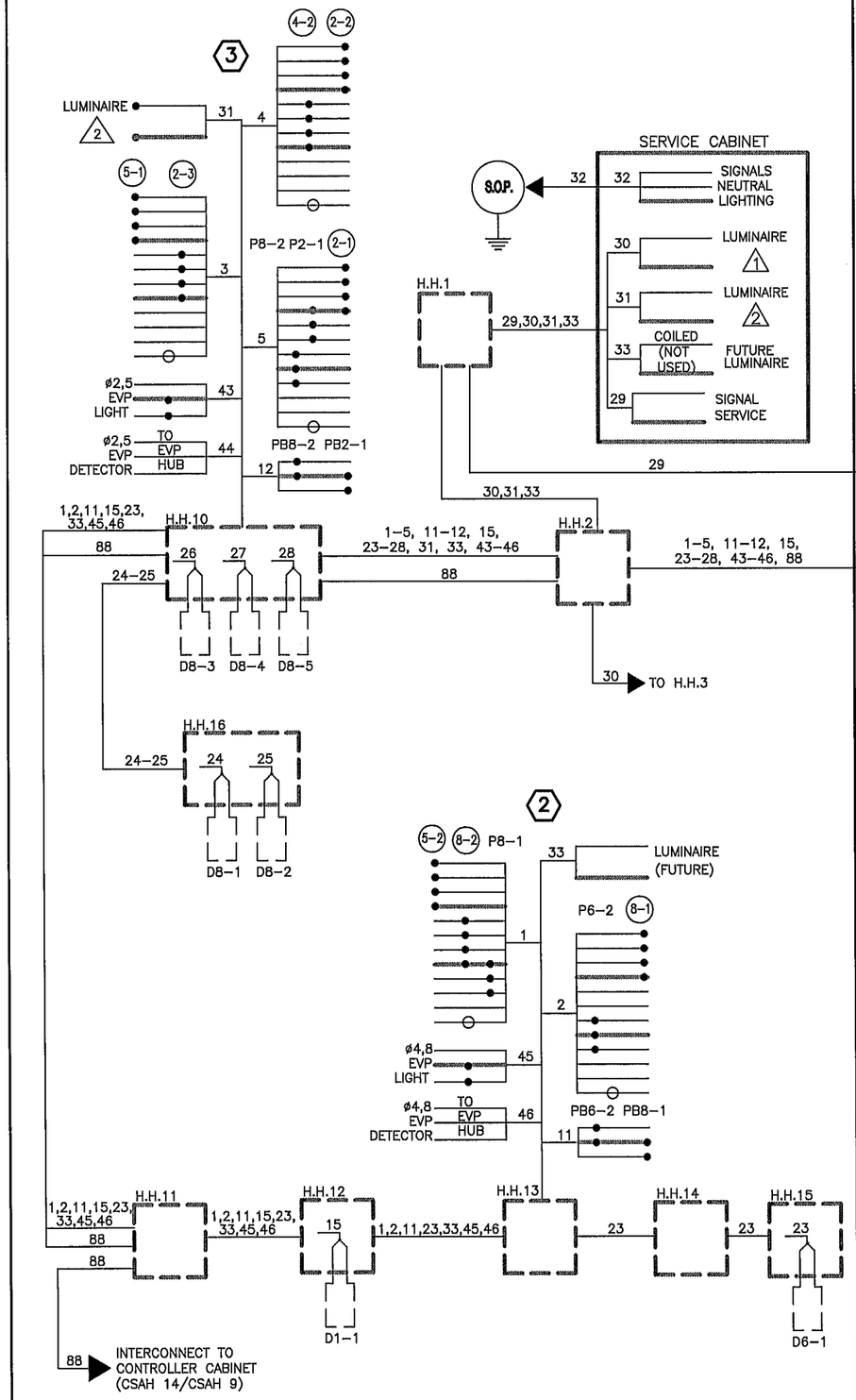
NO.	BY	DATE	REVISIONS

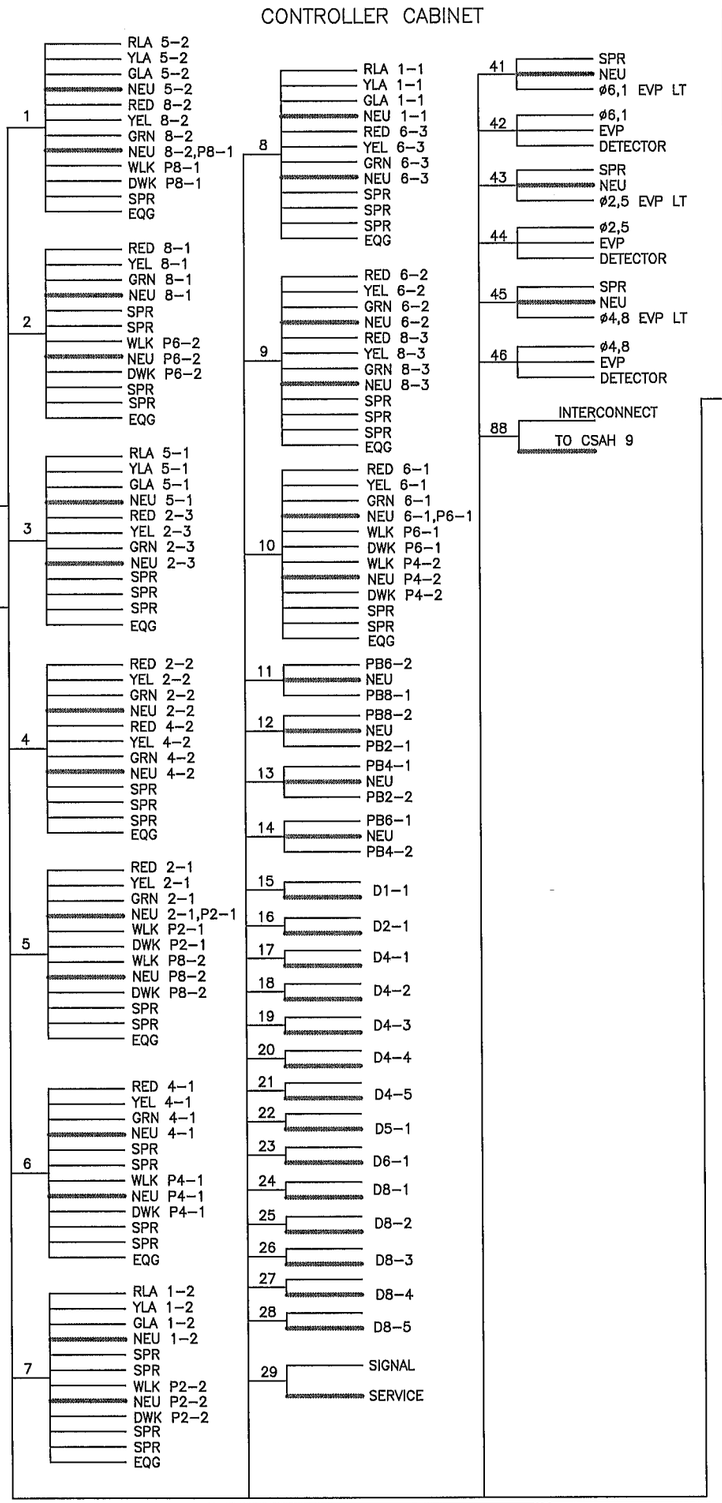
SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

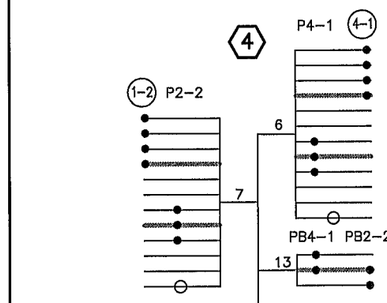
ANOKA COUNTY, MN
ANOKA, COON RAPIDS

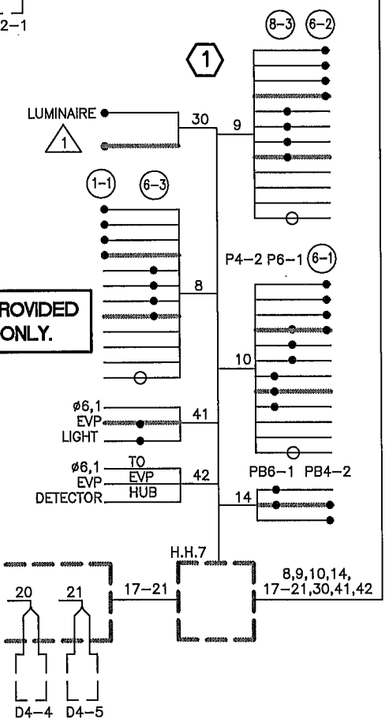
INPLACE SIGNAL SYSTEM 'B'
FOR INFORMATION ONLY
CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213
SIGNAL SHEET 29 OF 34









CONDUCTOR COLOR CODING

12/c#12	R, O, BL, WH, R/BLK, O/BLK, BL/BLK, WH/BLK, BLK, BLK/WH, G/BLK, G	2-1/c#6: BLK, WH
		3/c#12: R, WH, BLK
		2/c#14: BLK, CLEAR
		3/c#20: R OR O, WH OR YEL, BLK OR BL

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

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

INPLACE SIGNAL SYSTEM "B"
FOR INFORMATION ONLY
CSAH 14 AT WEDGEWOOD DRIVE

FILE NO. ANOKC 141213

SIGNAL SHEET 30 OF 34

INPLACE NMC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	4-6x6	AS SHOWN	1
D1-2	4-6x6	AS SHOWN	1
D2-1	3-6x6	330'	1
D3-1	4-6x6	AS SHOWN	1
D4-1	3-6x6	330'	1
D5-1	4-6x6	AS SHOWN	1
D5-2	4-6x6	AS SHOWN	1
D6-1	6x6	300'	1
D6-2	6x6	300'	1
D7-1	4-6x6	AS SHOWN	1
D7-2	4-6x6	AS SHOWN	1
D8-1	2-6x6	330'	1

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

FUNCTIONS:
1 = CALL AND EXTEND

Match Line A3

Round Lake Blvd. (45 mph) (CSAH 9)

EB Main St. (CSAH 14) (55 mph)

EB Main St. (CSAH 14) (45 mph-Est.)

Match Line A1

Match Line A2

Match Line A4

Round Lake Blvd (40 mph)

1¼" RSC 1-2/C#14

3" RSC 3-12/C#12 3-2/C#14 2-3/C#12 2-1/C#10

3" RSC 2-2/C#14

2" RSC 1-6PR#19

3" RSC 3-12/C#12 5-2/C#14 2-3/C#12 1-3/C#20 2-1/C#10

4" RSC 6-12/C#12 4-3/C#12 5-2/C#14 4-3/C#12 2-3/C#20 2-1/C#10

4" RSC 6-12/C#12 4-3/C#12 2-3/C#20 1-5/C#12 2-1/C#10 5-2/C#14 2" RSC 1-6PR#19 1-3/C#20

2" RSC 2-2/C#14 1-6/C FO CABLE

2" RSC 1-2/C#14 1-6 PR#19

3" RSC 1-12/C#12 1-3/C#12 1-2/C#14 2" RSC 1-6 PR#19

3" RSC 3-12/C#12 2-3/C#12 1-3/C#20 2-1/C#10 1-2/C#14 2" RSC 1-6 PR#19

3" RSC 3-12/C#12 2-3/C#12 1-3/C#20 2-1/C#10 2-2/C#14 2" RSC 1-6 PR#19

3" RSC 3-12/C#12 2-3/C#12 1-3/C#20 1-5/C#12 3-2/C#14 2-1/C#10 1-6PR#19 1-3/C#20

1¼" RSC 1-2/C#14 1-3/C#20

Ø1 & Ø6 EVP

Ø5 & Ø8 EVP

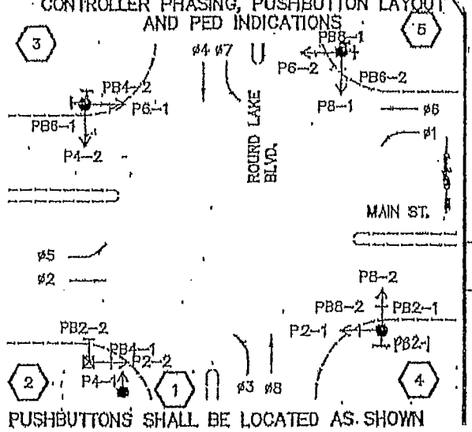
Ø2 & Ø5 EVP

Ø3 & Ø7 EVP

D1-1 D1-2 D3-1 D5-1 D5-2 D7-1 D7-2

21100

CONTROLLER PHASING, PUSHBUTTON LAYOUT AND PED INDICATIONS



PUSHBUTTONS SHALL BE LOCATED AS SHOWN

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED
- NORMAL OPERATION IS 8 PHASE WITH PHASES 1,3,5 & 7 BEING PROTECTED LEFT TURNS

LED SIGNAL FACES			
SIGNAL FACE	ALL 12".		
	R	Y	G
1-1, 1-2, 1-3	⇦	⇦	⇦
2-1, 2-2, 2-3, 2-4	○	○	○
3-1, 3-2, 3-3	⇦	⇦	⇦
4-1, 4-2, 4-3, 4-4	○	○	○
5-1, 5-2, 5-3	⇦	⇦	⇦
6-1, 6-2, 6-3	○	○	○
7-1, 7-2, 7-3	⇦	⇦	⇦
8-1, 8-2, 8-3, 8-4	○	○	○

○ ⇦ = INPLACE LED INDICATION, REUSE INPLACE.

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

DRAWN BY: JMG	NO.	BY	DATE	REVISIONS
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM				

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

ANOKA COUNTY, MN
ANOKA, COON RAPIDS

INPLACE SIGNAL SYSTEM "C"
FOR INFORMATION ONLY
CSAH 14 AT CSAH 9/ROUND LAKE BLVD

FILE NO. ANOKC 141213

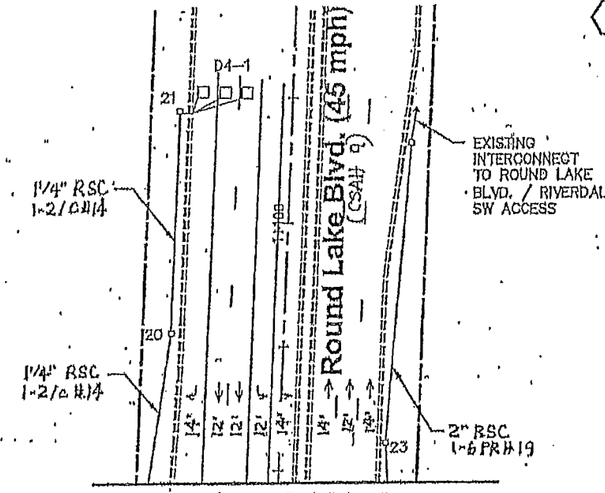
SIGNAL SHEET 31 OF 34

(1) TYPE A100-A-55-X30-6 (DAVIT AT 350')
TYPE A100 POLE FOUNDATION
SPECIAL LUMINAIRE – 250 W HPS
4-ONE WAY SIGNALS OVERHEAD
TYPE 10B POLE MOUNTED AT 270°
ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (#4 & #7)
EXTEND INTO HH 8:
3" RSC
2-12/C#12
2-1/C#10
1-3/C#12
1-3/C#20

(2) 10' PEDESTAL POLE AND BASE
PEDESTAL FOUNDATION
2 – PEDESTRIAN PUSH BUTTONS
TYPE 2B PEDESTAL MOUNTED
EXTEND INTO HH 9:
3" RSC
1-12/C#12
1-3/C#12

(3) TYPE A100-A-50'-X30-6 (DAVIT AT 350')
TYPE A100 POLE FOUNDATION
SPECIAL LUMINAIRE – 250W HPS
2 – PEDESTRIAN PUSHBUTTONS
ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (#1 & #6)
1-TWO WAY SIGNAL OVERHEAD
2-ONE WAY SIGNAL OVERHEAD
TYPE 10A POLE MOUNTED AT 180°
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 270°
EXTEND INTO HH 18:
3" RSC
3-12/C#12
2-1/C#10
1-3/C#12
1-3/C#20

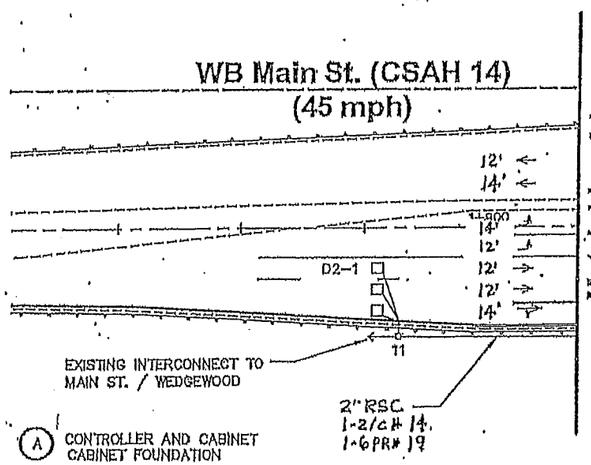
N



(4) TYPE A100-A-55-X30-6 (DAVIT AT 350')
TYPE A100 POLE FOUNDATION
SPECIAL LUMINAIRE – 250W HPS
3 – PEDESTRIAN PUSHBUTTONS
2 – ONE WAY SIGNALS OVERHEAD
1-TWO WAY SIGNAL OVERHEAD
LUMINARE – 250W HPS
TYPE 10A POLE MOUNTED AT 180°
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 270°
ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (#2 & #5)
EXTEND INTO HH 6:
3" RSC
3-12/C#12
4-1/C#10
1-3/C#12
1-3/C#12
1-3/C#20
1-5/C#12

40 0 40 80

(5) TYPE A100-A-55-X30-6 (DAVIT AT 350')
TYPE A100 POLE FOUNDATION
SPECIAL LUMINAIRE – 250W HPS
2 – PEDESTRIAN PUSHBUTTONS
4 – ONE WAY SIGNALS OVERHEAD
TYPE 10B POLE MOUNTED AT 90°
TYPE 10B POLE MOUNTED AT 270°
ONE WAY EVP DETECTOR AND
CONFIRMATORY LIGHT (#3 & #8)
EXTEND INTO HH 16:
3" RSC
3-12/C#12
4-1/C#10
1-3/C#12
1-3/C#12
1-3/C#20

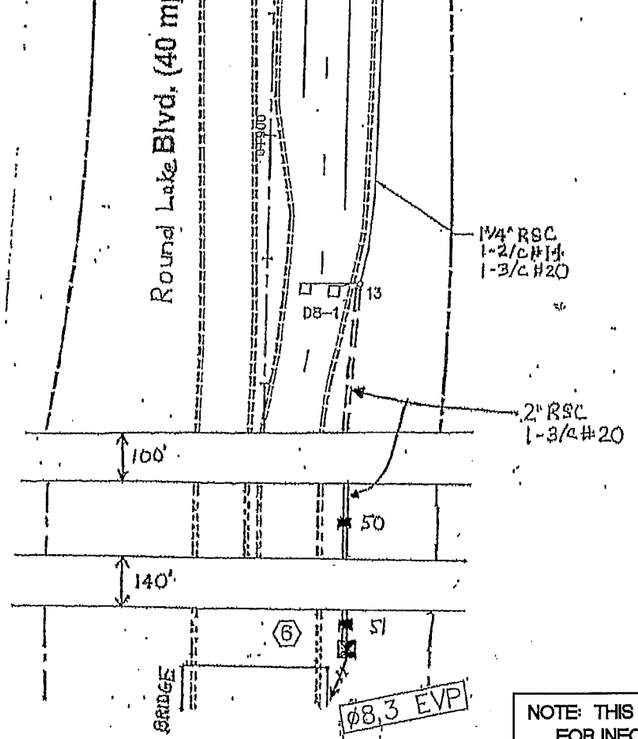


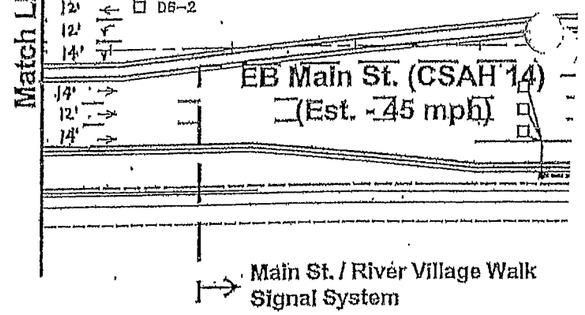
(A) CONTROLLER AND CABINET
CABINET FOUNDATION

EXTEND INTO HH 1:
METERED SIGNAL SERVICE
1¼" RSC
3-1/C #6
EXTEND INTO HH 2:
4" RSC
6-12/C#12
5-2/C#14
4-3/C#12
2-3/C#20
1-6 PR#19
EXTEND INTO HH 3:
4" RSC
6-12/C#12
8-2/C#14
4-3/C#12
2-3/C#20
1-5/C#12
1-6 PR#19
1-6/C FO CABLE
1-3/C#20

(B) SERVICE CABINET
CABINET FOUNDATION
2" RSC TO SERVICE

EXTEND INTO HH 1:
METERED SIGNAL SERVICE
1¼" RSC
3-1/C#6
UNMETERED STREET LIGHT SERVICE
1¼" RSC
4-1/C#10
HH 4 TO HH 2:
2" RSC
4-1/C#10
HH 2 TO HH 3:
2" RSC
2-1/C#10





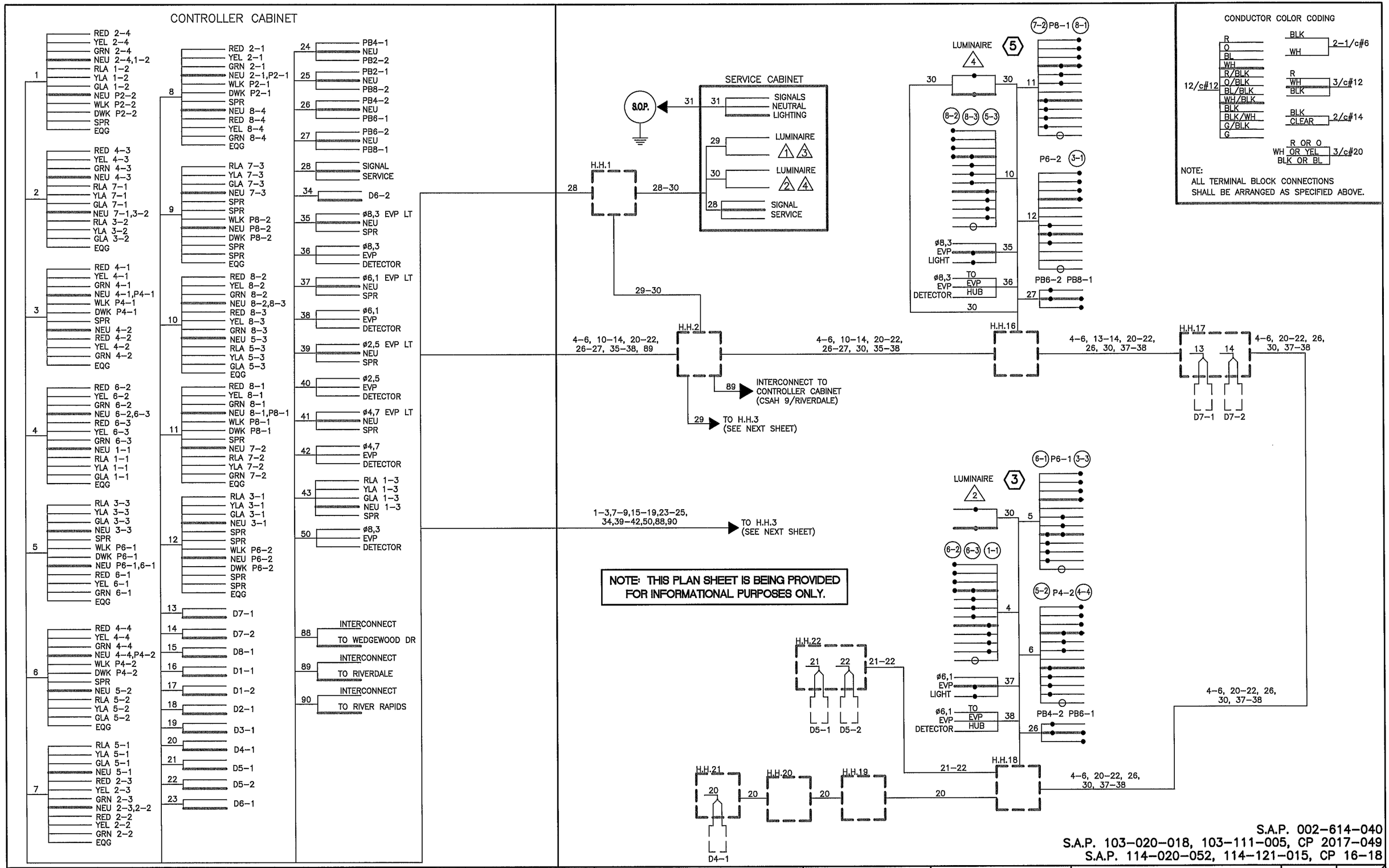
NOTE:
SCALE CHANGE.

(6) PEDESTAL FOUNDATION
10' PEDESTAL POLE (INCLUDES BASE)
ONE WAY EVP DETECTOR (ø8,3)-MOUNT ON
TOP OF POLE, FACING NORTHBOUND TRAFFIC
EXTEND INTO H.H.51:
2" R.S.C.

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

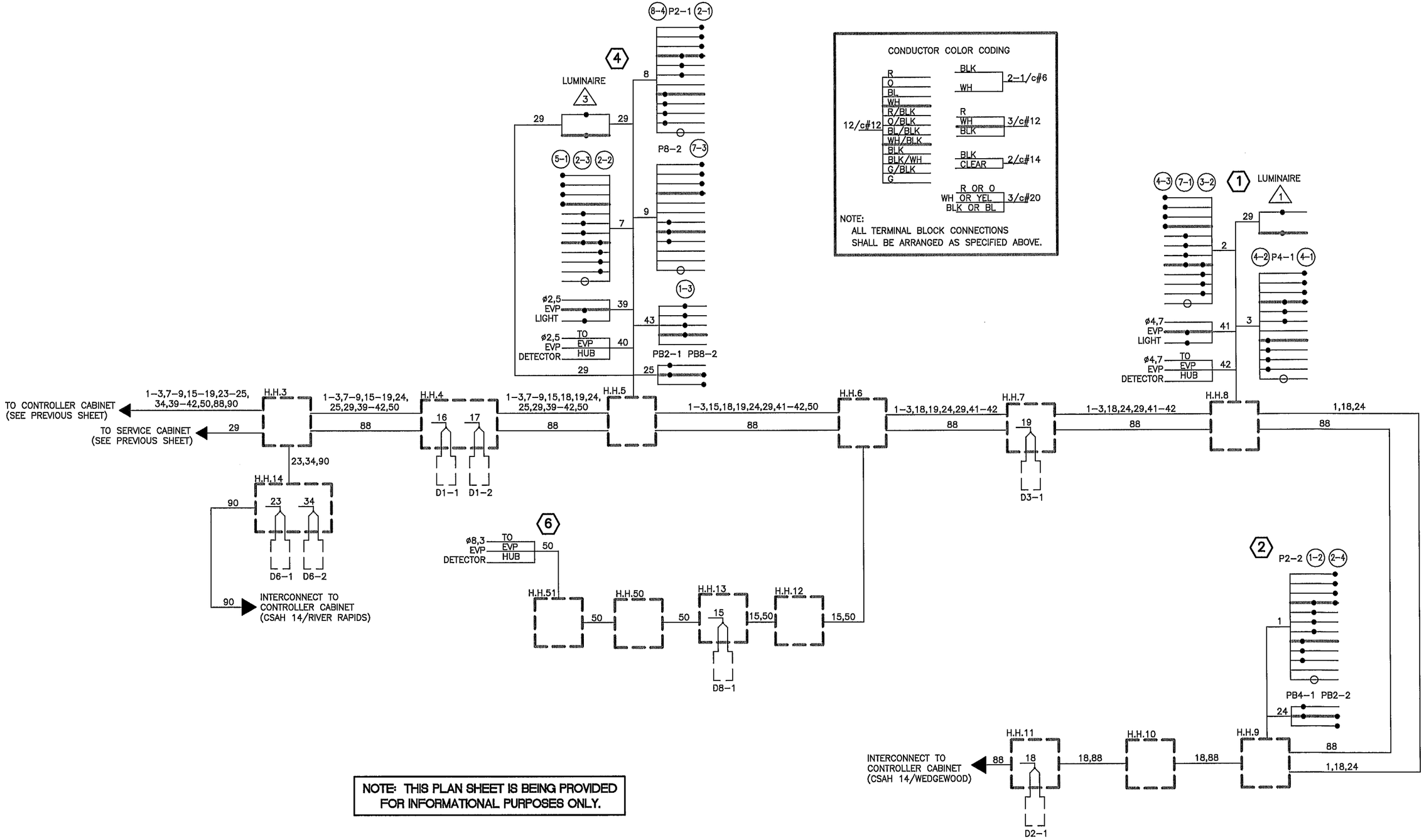
S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM	NO.	BY	DATE	REVISIONS	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN ANOKA, COON RAPIDS	INPLACE SIGNAL SYSTEM 'C' FOR INFORMATION ONLY CSAH 14 AT CSAH 9/ROUND LAKE BLVD	FILE NO. ANOKC 141213 SIGNAL SHEET 32 OF 34	129 159



S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

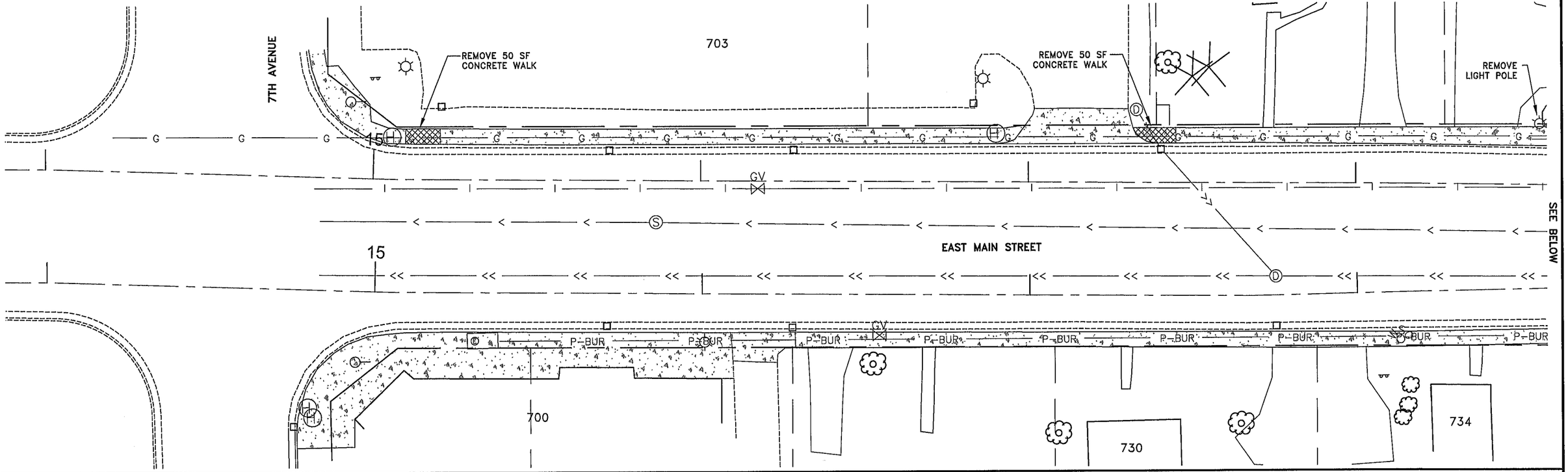
DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM	NO.	BY	DATE	REVISIONS	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN ANOKA, COON RAPIDS	INPLACE SIGNAL SYSTEM 'C' FOR INFORMATION ONLY CSAH 14 AT CSAH 9/ROUND LAKE BLVD	FILE NO. ANOKC 141213 SIGNAL SHEET 33 OF 34	130 159



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 002-614-040
S.A.P. 103-020-018, 103-111-005, CP 2017-049
S.A.P. 114-020-052, 114-121-015, CP 16-18

DRAWN BY: JMG DESIGNER: JMG CHECKED BY: JMG DESIGN TEAM	NO.	BY	DATE	REVISIONS	SEH PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110	ANOKA COUNTY, MN ANOKA, COON RAPIDS	INPLACE SIGNAL SYSTEM 'C' FOR INFORMATION ONLY CSAH 14 AT CSAH 9/ROUND LAKE BLVD	FILE NO. ANOKC 141213 SIGNAL SHEET 34 OF 34	131 159



GENERAL NOTES:

1. REMOVALS SHOWN ON SHEETS 132–135 ARE REMOVALS REQUIRED FOR ELECTRICAL CONDUIT CONSTRUCTION SHOWN ON SHEETS 136–141. SEE ANOKA COUNTY PLANS FOR OTHER PROJECT REMOVALS.
2. SEE SHEET 142 FOR PROJECT LEGEND.

S.A.P. 002-614-040
S.A.P. 103-020-018
S.A.P. 103-111-005
S.A.P. 114-020-052
S.A.P. 114-121-015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

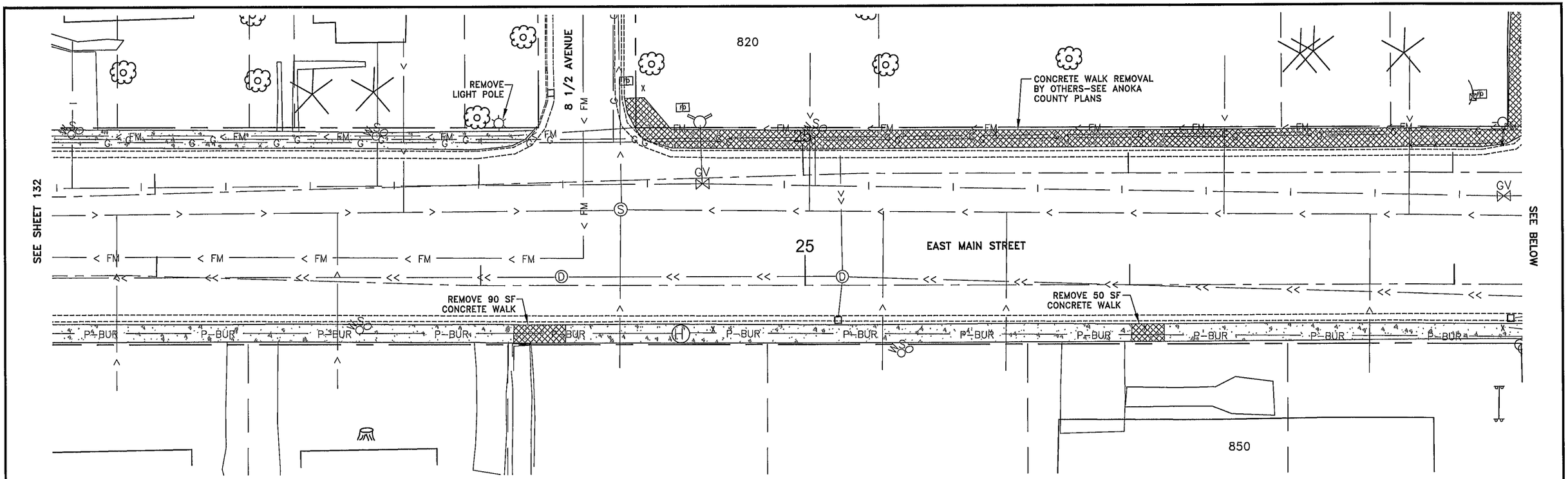
EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

EXISTING CONDITIONS AND REMOVALS PLAN
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 132 OF 159 SHEETS

AN625

Jun 30, 2017 - 9:46am
K:\ed_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT EXISTING CONDITIONS.dwg



GENERAL NOTES:

1. REMOVALS SHOWN ON SHEETS 132–135 ARE REMOVALS REQUIRED FOR ELECTRICAL CONDUIT CONSTRUCTION SHOWN ON SHEETS 136–141. SEE ANOKA COUNTY PLANS FOR OTHER PROJECT REMOVALS.
2. SEE SHEET 142 FOR PROJECT LEGEND.

N

SCALE 15 0 15 30 IN FEET

S.A.P. 002–614–040
S.A.P. 103–020–018
S.A.P. 103–111–005
S.A.P. 114–020–052
S.A.P. 114–121–015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW

I hereby certify that this plan, specification, or report 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 4/14/17 CRAIG J. JOCHUM, P.E. Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

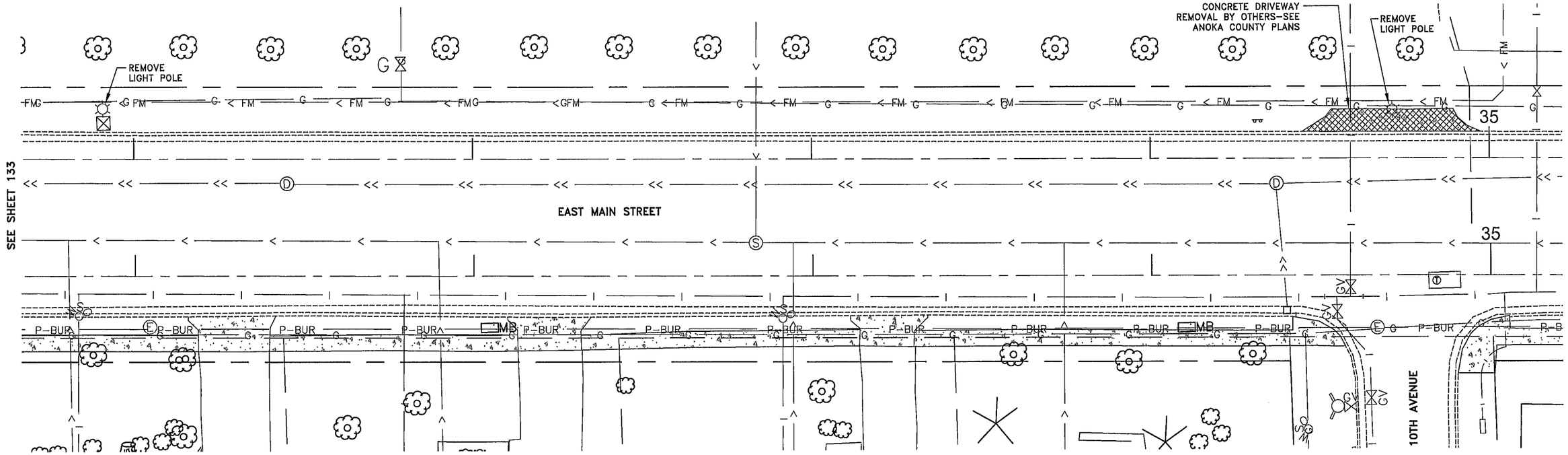
EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

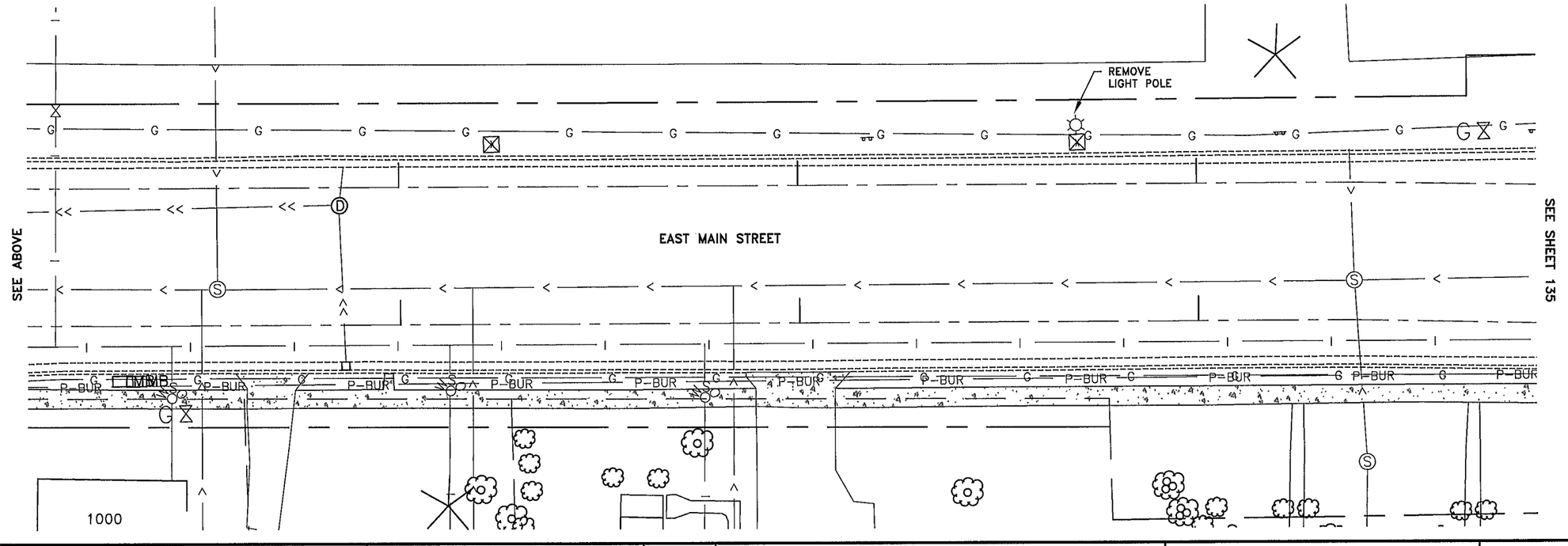
EXISTING CONDITIONS AND REMOVALS PLAN
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 133 OF 159 SHEETS

AN625

Jun 30, 2017 – 9:46am
K:\civil_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT EXISTING CONDITIONS.dwg





GENERAL NOTES:

1. REMOVALS SHOWN ON SHEETS 132–135 ARE REMOVALS REQUIRED FOR ELECTRICAL CONDUIT CONSTRUCTION SHOWN ON SHEETS 136–141. SEE ANOKA COUNTY PLANS FOR OTHER PROJECT REMOVALS.
2. SEE SHEET 142 FOR PROJECT LEGEND.

N

SCALE 15 0 15 30 IN FEET

S.A.P. 002–614–040
S.A.P. 103–020–018
S.A.P. 103–111–005
S.A.P. 114–020–052
S.A.P. 114–121–015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW

I hereby certify that this plan, specification, or report 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 4/14/17 CRAIG J. JOCHUM, P.E. Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

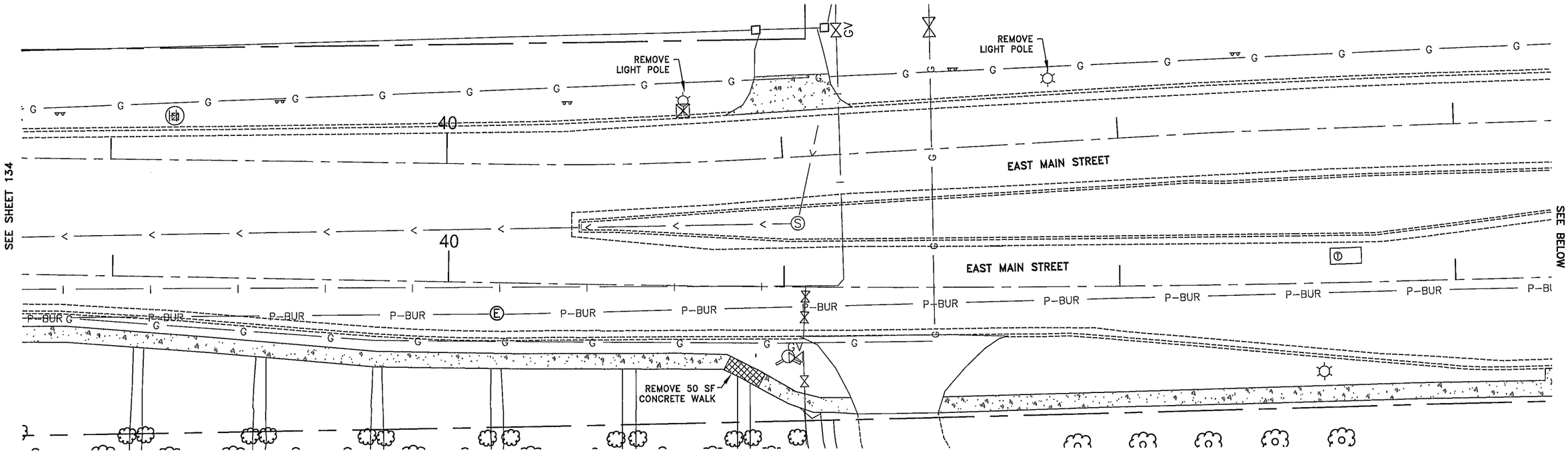
EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

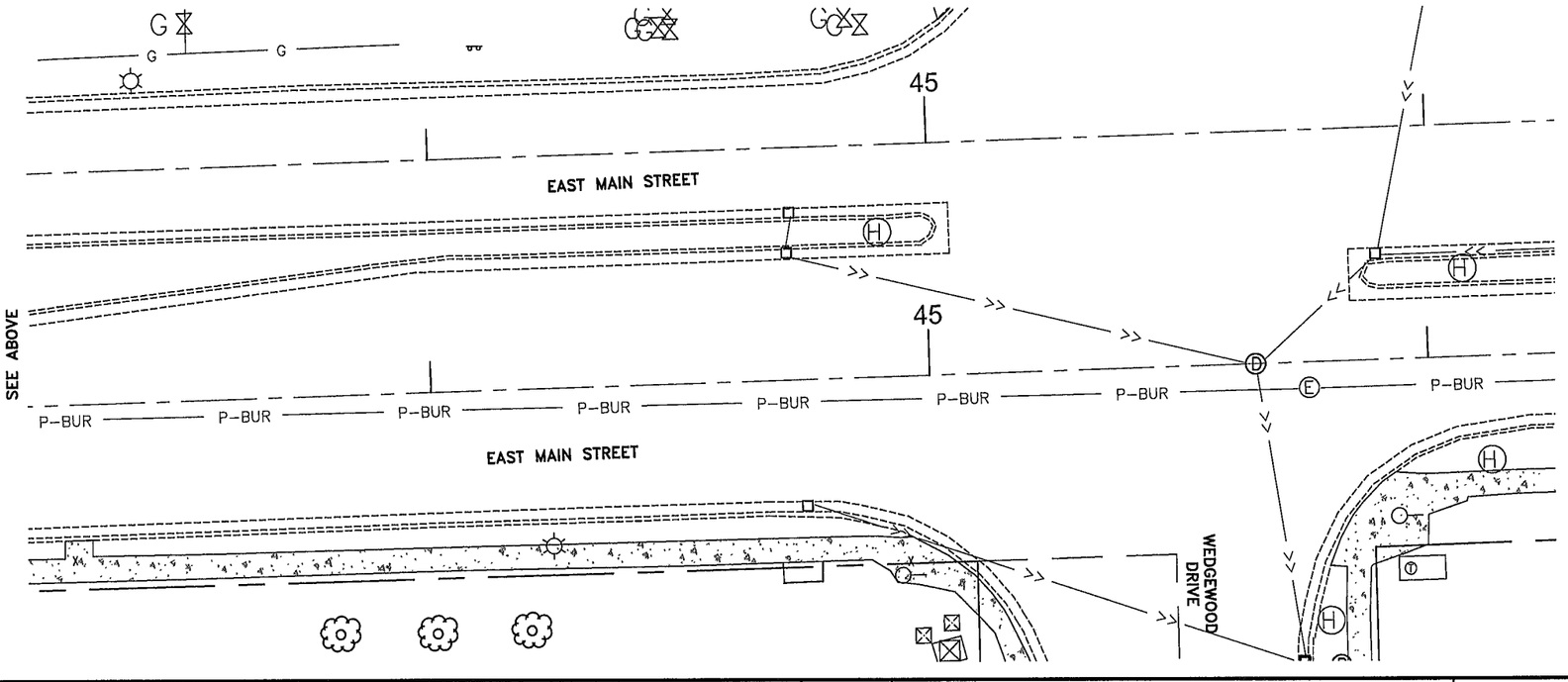
EXISTING CONDITIONS AND REMOVALS PLAN
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 134 OF 159 SHEETS

AN625

Jun 30, 2017 - 9:47am
K:\cad_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT EXISTING CONDITIONS.dwg





GENERAL NOTES:

1. REMOVALS SHOWN ON SHEETS 132–135 ARE REMOVALS REQUIRED FOR ELECTRICAL CONDUIT CONSTRUCTION SHOWN ON SHEETS 136–141. SEE ANOKA COUNTY PLANS FOR OTHER PROJECT REMOVALS.
2. SEE SHEET 142 FOR PROJECT LEGEND.

N

15 0 15 30
SCALE IN FEET

S.A.P. 002–614–040
S.A.P. 103–020–018
S.A.P. 103–111–005
S.A.P. 114–020–052
S.A.P. 114–121–015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

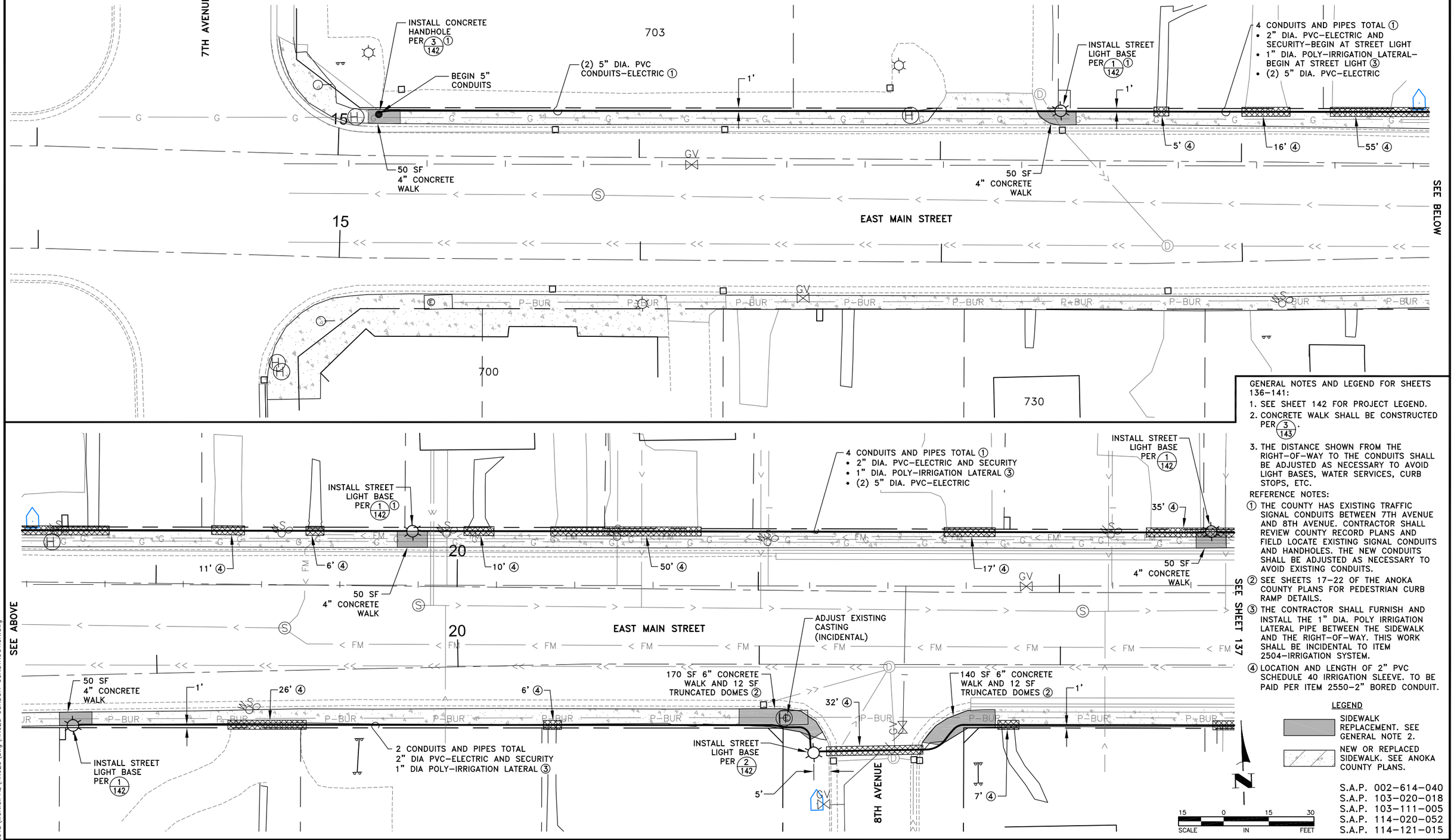
EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

EXISTING CONDITIONS AND REMOVALS PLAN
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 135 OF 159 SHEETS

AN625

Jun 30, 2017 - 9:47am
K:\Lead_Eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT EXISTING CONDITIONS.dwg



GENERAL NOTES AND LEGEND FOR SHEETS 136–141:

1. SEE SHEET 142 FOR PROJECT LEGEND.
2. CONCRETE WALK SHALL BE CONSTRUCTED PER 3/143.
3. THE DISTANCE SHOWN FROM THE RIGHT–OF–WAY TO THE CONDUITS SHALL BE ADJUSTED AS NECESSARY TO AVOID LIGHT BASES, WATER SERVICES, CURB STOPS, ETC.

REFERENCE NOTES:

① THE COUNTY HAS EXISTING TRAFFIC SIGNAL CONDUITS BETWEEN 7TH AVENUE AND 8TH AVENUE. CONTRACTOR SHALL REVIEW COUNTY RECORD PLANS AND FIELD LOCATE EXISTING SIGNAL CONDUITS AND HANDHOLES. THE NEW CONDUITS SHALL BE ADJUSTED AS NECESSARY TO AVOID EXISTING CONDUITS.

② SEE SHEETS 17–22 OF THE ANOKA COUNTY PLANS FOR PEDESTRIAN CURB RAMP DETAILS.

③ THE CONTRACTOR SHALL FURNISH AND INSTALL THE 1" DIA. POLY IRRIGATION LATERAL PIPE BETWEEN THE SIDEWALK AND THE RIGHT–OF–WAY. THIS WORK SHALL BE INCIDENTAL TO ITEM 2504–IRRIGATION SYSTEM.

④ LOCATION AND LENGTH OF 2" PVC SCHEDULE 40 IRRIGATION SLEEVE. TO BE PAID PER ITEM 2550–2" BORED CONDUIT.

LEGEND

SIDEWALK REPLACEMENT. SEE GENERAL NOTE 2.

NEW OR REPLACED SIDEWALK. SEE ANOKA COUNTY PLANS.

S.A.P. 002–614–040
S.A.P. 103–020–018
S.A.P. 103–111–005
S.A.P. 114–020–052
S.A.P. 114–121–015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW
7/18/17	IRRIGATION SYSTEM REVISIONS

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

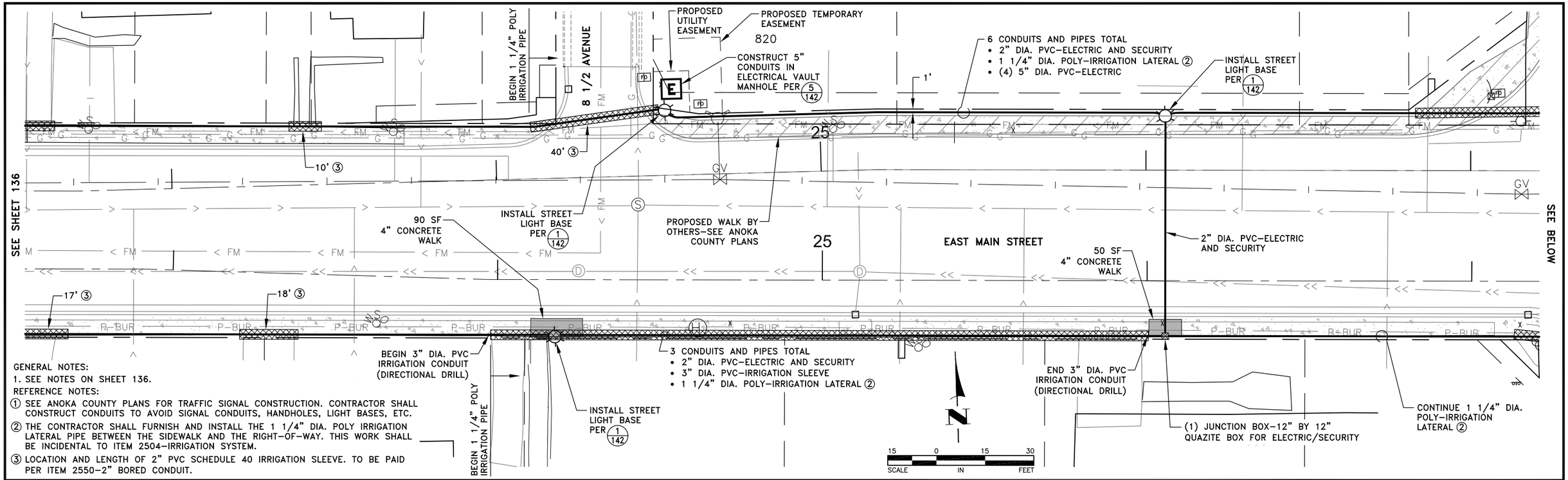
ELECTRICAL PLAN

EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 136 OF 159 SHEETS

AN625

Jul. 18, 2017 – 3:16pm
K:\cad_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT CONSTRUCTION.dwg



GENERAL NOTES:

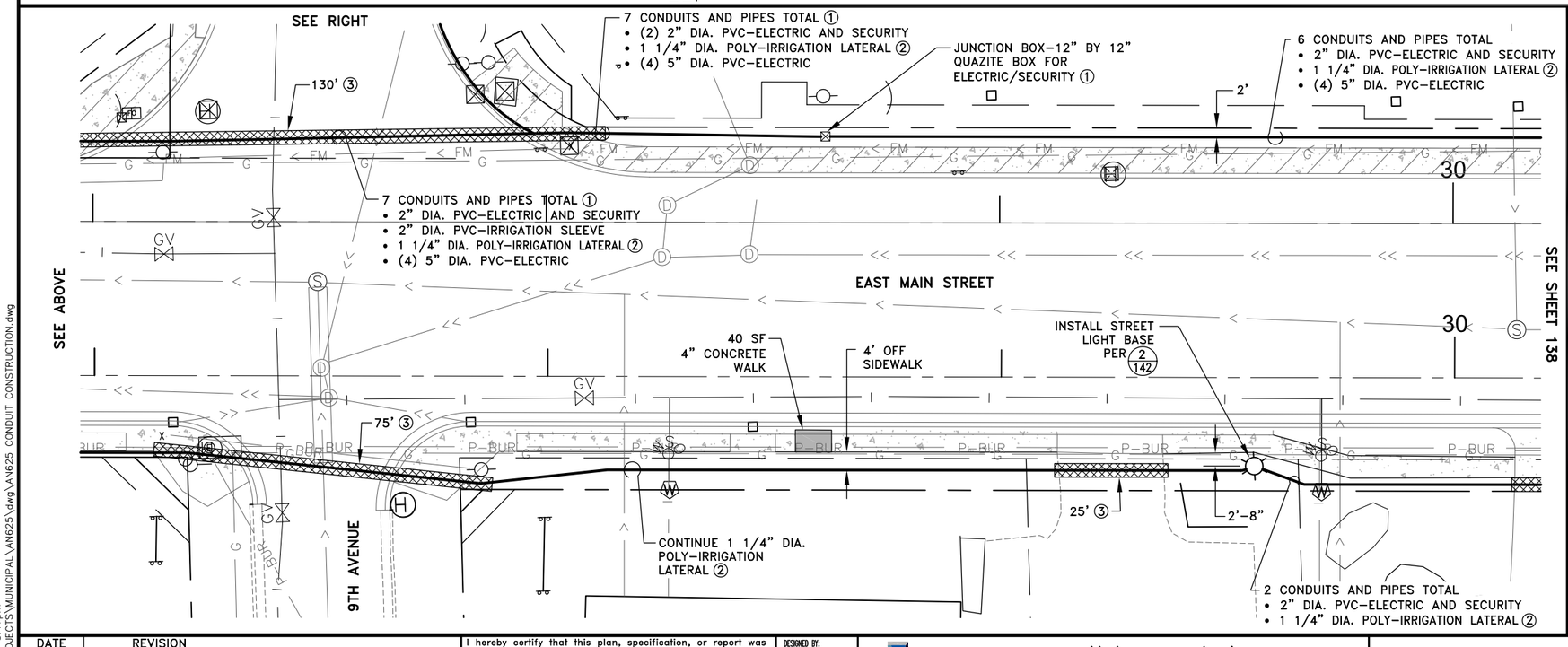
1. SEE NOTES ON SHEET 136.

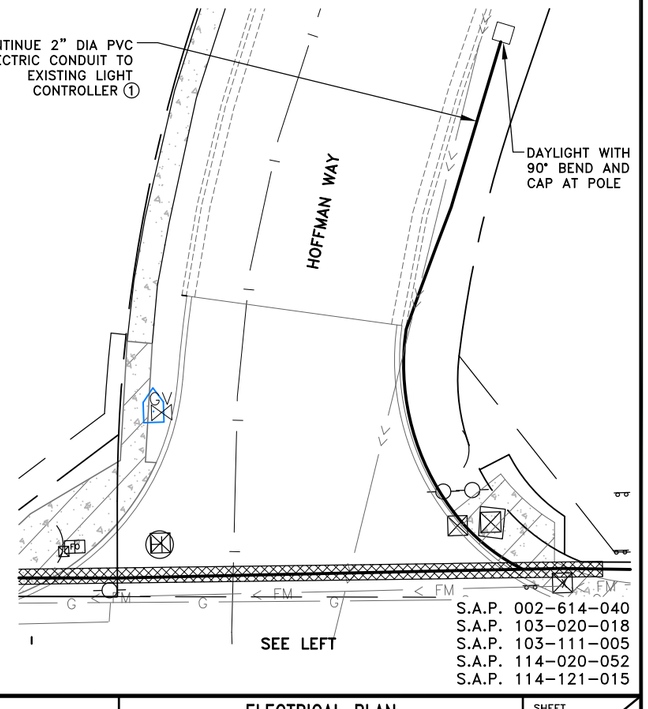
REFERENCE NOTES:

① SEE ANOKA COUNTY PLANS FOR TRAFFIC SIGNAL CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT CONDUITS TO AVOID SIGNAL CONDUITS, HANDHOLES, LIGHT BASES, ETC.

② THE CONTRACTOR SHALL FURNISH AND INSTALL THE 1 1/4" DIA. POLY IRRIGATION LATERAL PIPE BETWEEN THE SIDEWALK AND THE RIGHT-OF-WAY. THIS WORK SHALL BE INCIDENTAL TO ITEM 2504-IRRIGATION SYSTEM.

③ LOCATION AND LENGTH OF 2" PVC SCHEDULE 40 IRRIGATION SLEEVE. TO BE PAID PER ITEM 2550-2" BORED CONDUIT.





S.A.P. 002-614-040
S.A.P. 103-020-018
S.A.P. 103-111-005
S.A.P. 114-020-052
S.A.P. 114-121-015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW
7/18/17	IRRIGATION SYSTEM REVISIONS

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

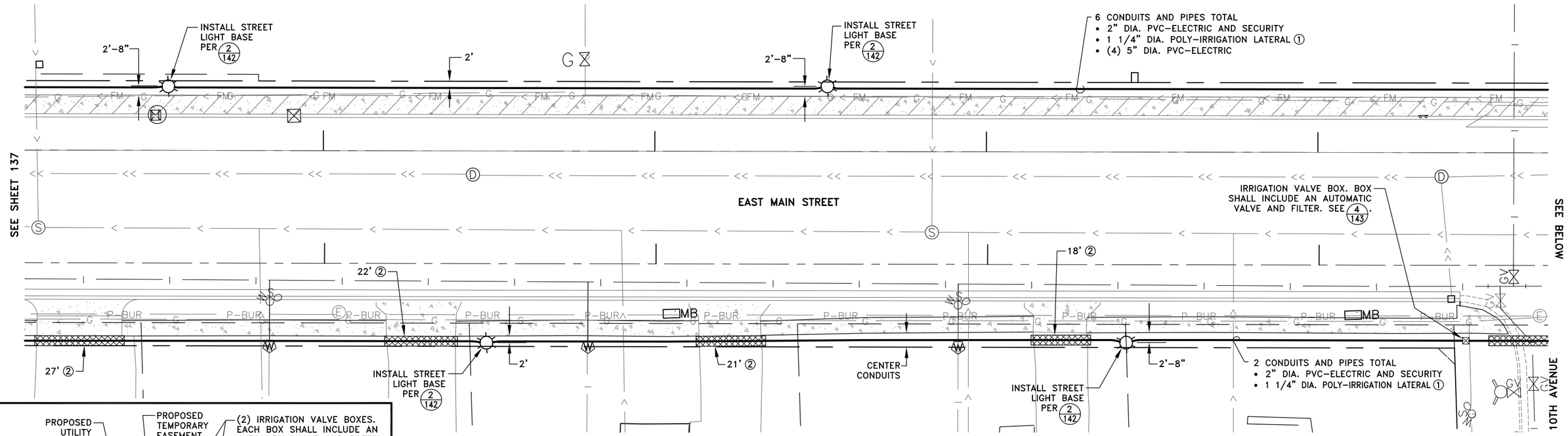
ELECTRICAL PLAN

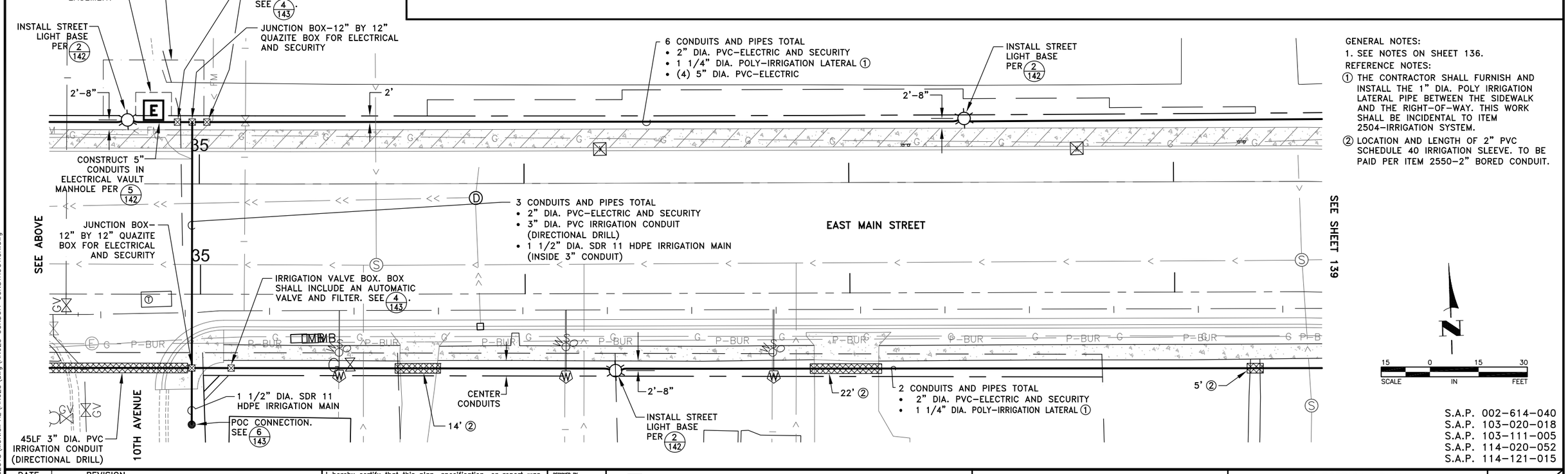
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 137 OF 159 SHEETS

AN625

Jul 18, 2017 - 3:17pm
K:\cad_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT CONSTRUCTION.dwg





GENERAL NOTES:

1. SEE NOTES ON SHEET 136.

REFERENCE NOTES:

① THE CONTRACTOR SHALL FURNISH AND INSTALL THE 1" DIA. POLY IRRIGATION LATERAL PIPE BETWEEN THE SIDEWALK AND THE RIGHT-OF-WAY. THIS WORK SHALL BE INCIDENTAL TO ITEM 2504-IRRIGATION SYSTEM.

② LOCATION AND LENGTH OF 2" PVC SCHEDULE 40 IRRIGATION SLEEVE. TO BE PAID PER ITEM 2550-2" BORED CONDUIT.

S.A.P. 002-614-040
S.A.P. 103-020-018
S.A.P. 103-111-005
S.A.P. 114-020-052
S.A.P. 114-121-015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW
7/18/17	IRRIGATION SYSTEM REVISIONS

I hereby certify that this plan, specification, or report 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 4/14/17 CRAIG J. JOCHUM, P.E. Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

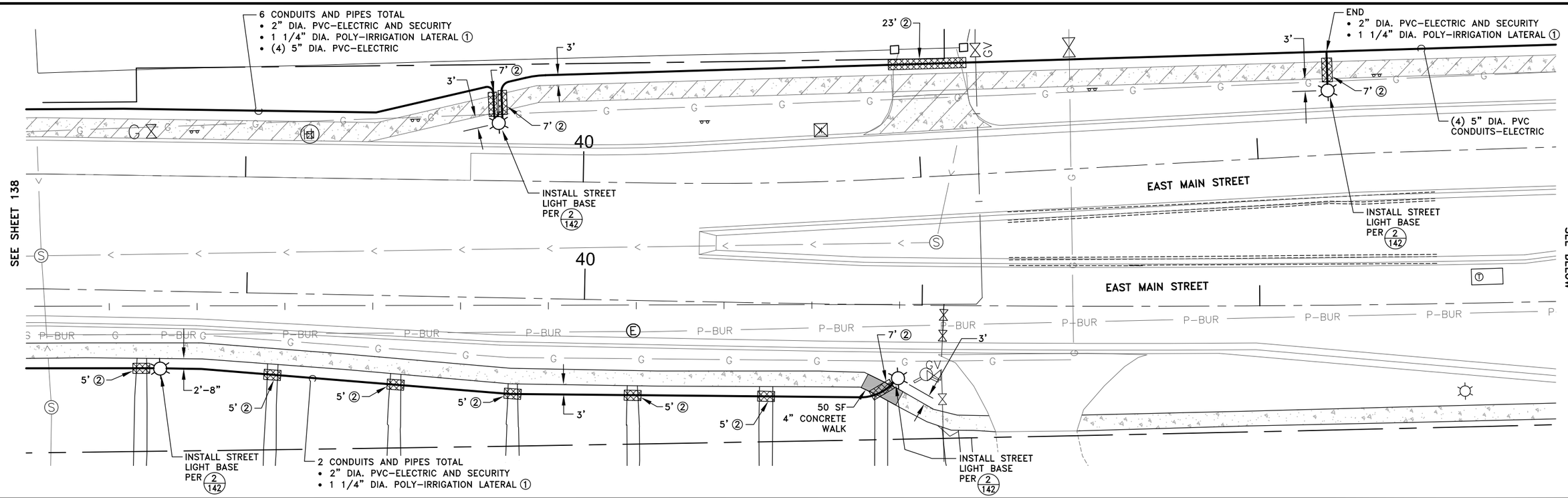
ELECTRICAL PLAN

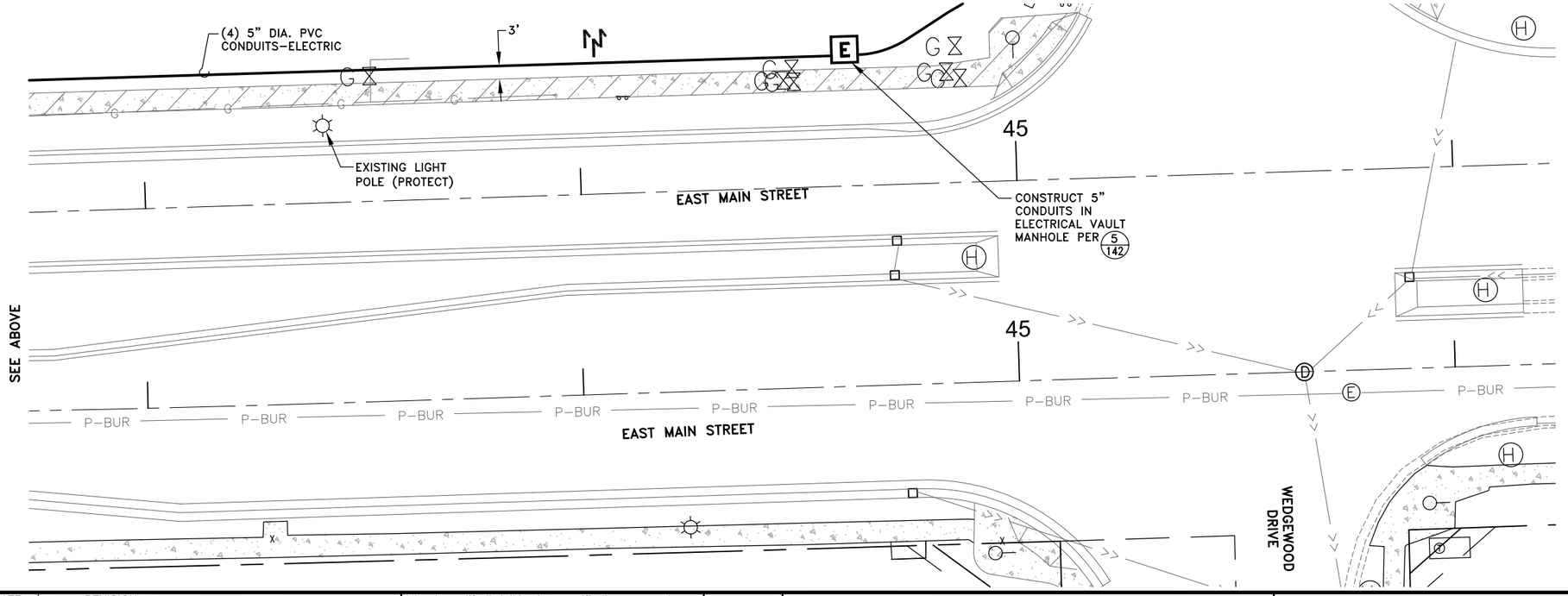
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 138 OF 159 SHEETS

AN625

Jul 18, 2017 - 3:17pm
K:\cad_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT CONSTRUCTION.dwg





GENERAL NOTES:

1. SEE NOTES ON SHEET 136.

REFERENCE NOTES:

① THE CONTRACTOR SHALL FURNISH AND INSTALL THE 1" DIA. POLY IRRIGATION LATERAL PIPE BETWEEN THE SIDEWALK AND THE RIGHT–OF–WAY. THIS WORK SHALL BE INCIDENTAL TO ITEM 2504–IRRIGATION SYSTEM.

② LOCATION AND LENGTH OF 2" PVC SCHEDULE 40 IRRIGATION SLEEVE. TO BE PAID PER ITEM 2550–2" BORED CONDUIT.

N

15 0 15 30
SCALE IN FEET

S.A.P. 002–614–040
S.A.P. 103–020–018
S.A.P. 103–111–005
S.A.P. 114–020–052
S.A.P. 114–121–015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW
7/18/17	IRRIGATION SYSTEM REVISIONS

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

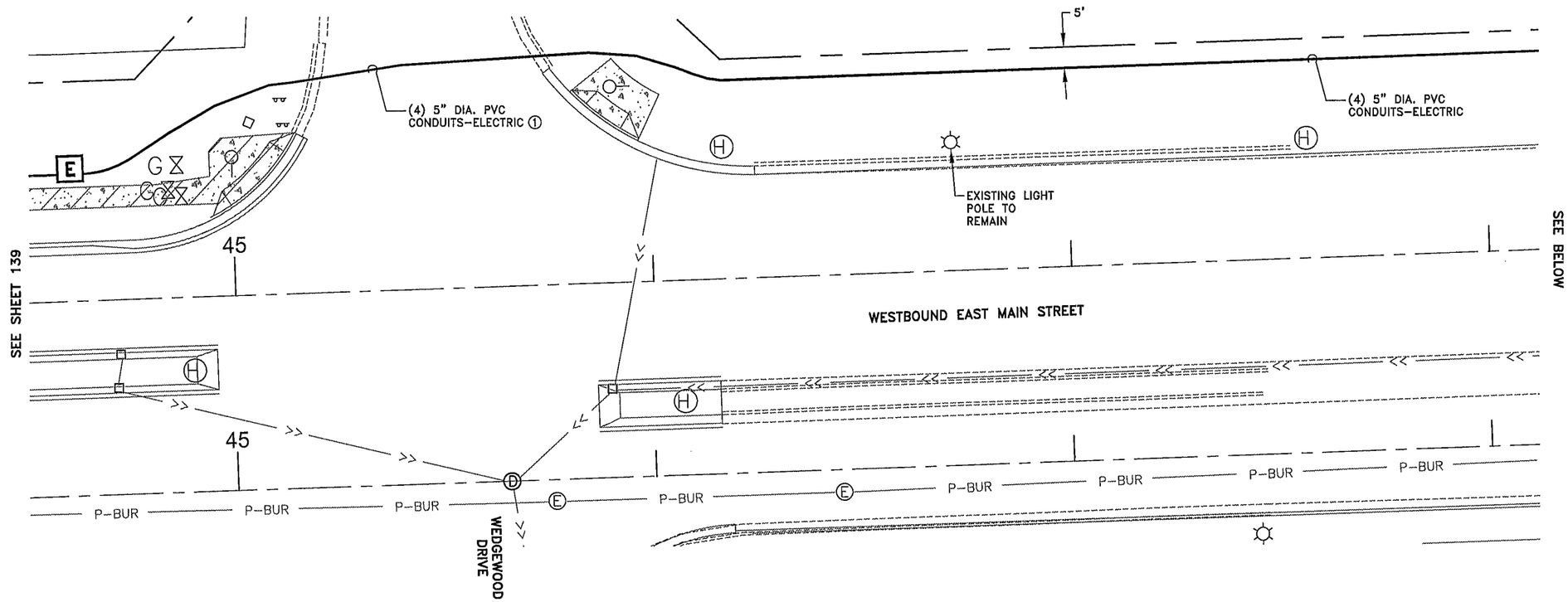
ELECTRICAL PLAN

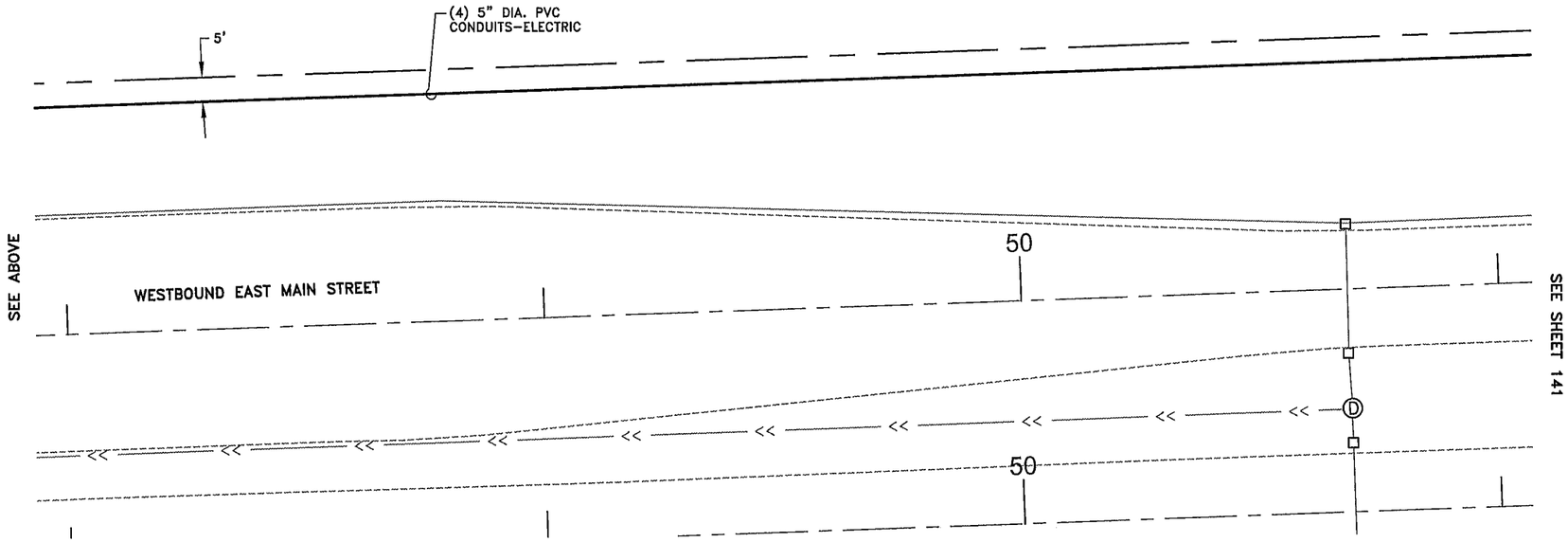
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 139 OF 159 SHEETS

AN625

Jul 18, 2017 – 3:17pm
K:\cad_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT CONSTRUCTION.dwg



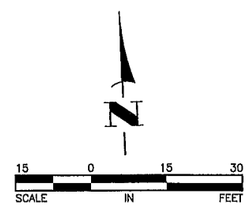


GENERAL NOTES:

1. SEE NOTES ON SHEET 136.

REFERENCE NOTES:

① THIS INTERSECTION HAS AN EXISTING TRAFFIC SIGNAL. CONTRACTOR SHALL REVIEW COUNTY RECORD PLANS AND FIELD LOCATE EXISTING SIGNAL CONDUITS AND HANDHOLES. THE NEW CONDUITS SHALL BE ADJUSTED AS NECESSARY TO AVOID EXISTING CONDUITS.



S.A.P. 002–614–040
S.A.P. 103–020–018
S.A.P. 103–111–005
S.A.P. 114–020–052
S.A.P. 114–121–015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW

I hereby certify that this plan, specification, or report 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 4/14/17 CRAIG J. JOCHUM, P.E. Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

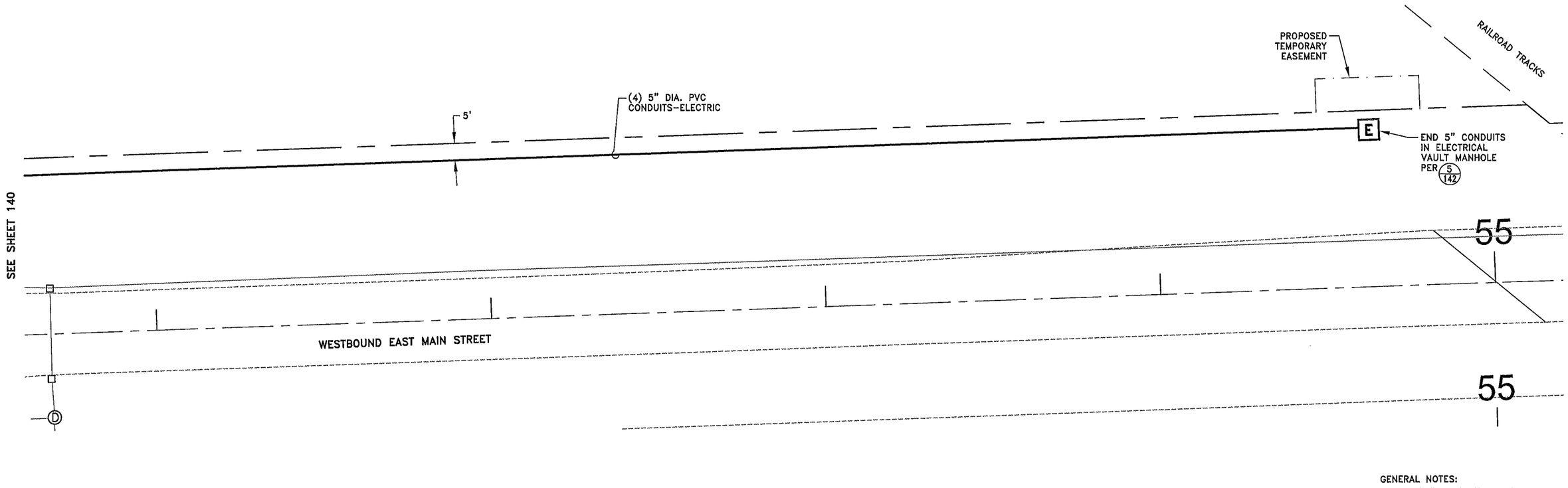
EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

ELECTRICAL PLAN

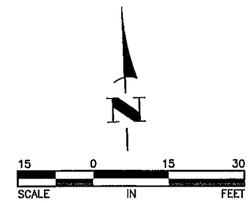
EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 140 OF 159 SHEETS

AN625



GENERAL NOTES:
1. SEE NOTES ON SHEET 136.



S.A.P. 002-614-040
S.A.P. 103-020-018
S.A.P. 103-111-005
S.A.P. 114-020-052
S.A.P. 114-121-015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

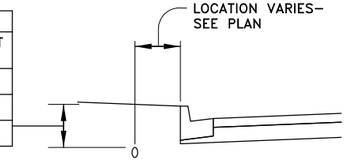
ELECTRICAL PLAN

EAST MAIN STREET
CITY OF ANOKA, MINNESOTA

SHEET 141 OF 159 SHEETS

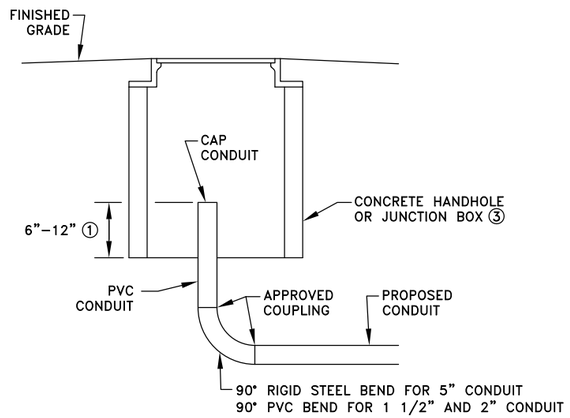
AN625

CONDUIT SIZE	MINIMUM BURY DEPTH ②		
	BOULEVARD AREAS	CROSSING A CITY STREET	CROSSING EAST MAIN STREET
2"	24"	48"	60"
3"	24"	48"	60"
5"	48"	48"	60"



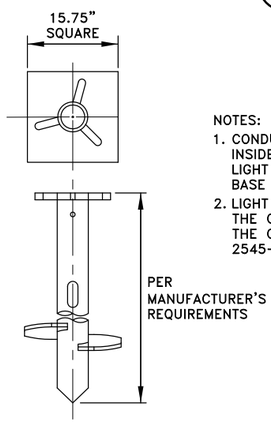
NOTES:
1. BACKFILL ALL TRENCH MATERIAL TO 100% MAXIMUM STANDARD PROCTOR DENSITY.
2. ALL CONDUITS FOR THE ELECTRICAL SYSTEM SHALL BE FURNISHED BY THE CITY OF ANOKA AND INSTALLED BY THE CONTRACTOR. THE 3" CONDUITS (SLEEVES) SHOWN ON THE PLANS FOR THE IRRIGATION SYSTEM WILL BE FURNISHED BY THE CITY OF ANOKA AND INSTALLED BY THE CONTRACTOR. ALL OTHER CONDUITS (SLEEVES) REQUIRED FOR THE IRRIGATION SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

1/142 TYPICAL CONDUIT LOCATION DETAIL



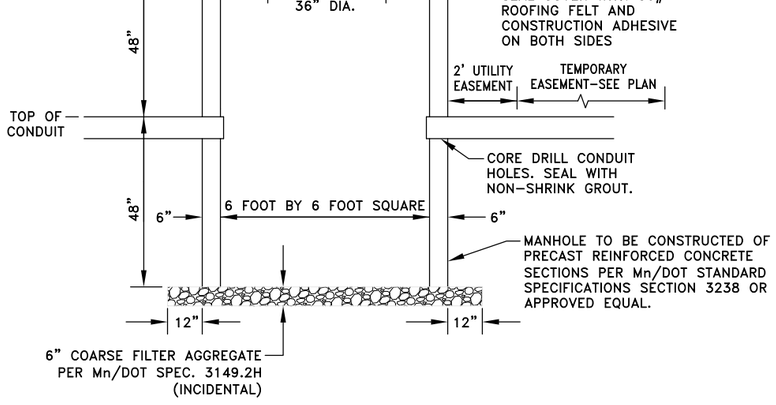
4/142 TYPICAL ELECTRICAL CONDUIT END AT CONCRETE HANDHOLES AND JUNCTION BOXES ④
NO SCALE

REFERENCE NOTES:
① TERMINATE AND CAP CONDUITS 6" ABOVE GRADE INSIDE JUNCTION BOXES AND 12" ABOVE GRADE INSIDE CONCRETE HANDHOLES.
② CONTRACTOR SHALL POTHOLE EXISTING UTILITIES AND ADJUST DEPTH IF NECESSARY.
③ JUNCTION BOXES FOR ALL ELECTRICAL CONDUITS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AND PAID PER ITEM 2545–JUNCTION BOX. JUNCTION BOXES SHALL BE 12"X12" QUAZITE® (HUBELL LENOIR CITY, INC.) OR APPROVED EQUAL.
④ ALL WORK REQUIRED TO TERMINATE CONDUITS INSIDE LIGHT BASES, JUNCTION BOXES AND HANDHOLES SHALL BE INCIDENTAL.



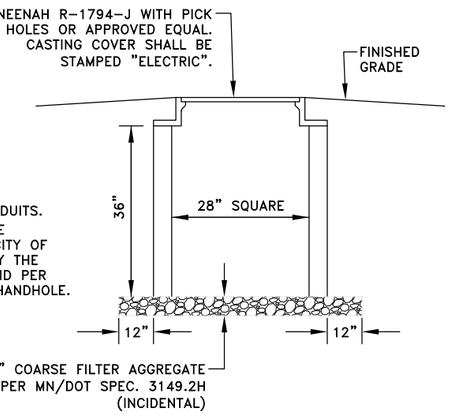
NOTES:
1. CONDUITS SHALL BE TERMINATED INSIDE AND TO THE TOP OF THE LIGHT BASE. SEE 1/143 AND 2/143 FOR BASE LAYOUT.
2. LIGHT BASES SHALL BE FURNISHED BY THE CITY OF ANOKA, INSTALLED BY THE CONTRACTOR AND PAID PER ITEM 2545–INSTALL LIGHT FOUNDATION.

2/142 DECORATIVE LIGHTING BASE ④
SCREW–IN TYPE



NOTE:
1. ELECTRICAL VAULT MANHOLES SHALL BE FURNISHED BY THE CITY OF ANOKA, INSTALLED BY THE CONTRACTOR AND PAID PER ITEM 2545–ELECTRICAL VAULT MANHOLE.

5/142 ELECTRICAL VAULT MANHOLE
NO SCALE



NOTES:
1. SEE DETAIL 4/142 FOR TERMINATION OF CONDUITS.
2. HANDHOLES SHALL BE FURNISHED BY THE CITY OF ANOKA, INSTALLED BY THE CONTRACTOR AND PAID PER ITEM 2545–INSTALL HANDHOLE.

3/142 CONCRETE HANDHOLE
NO SCALE

LEGEND FOR SHEETS 132 TO 141

- Ⓢ SANITARY SEWER MANHOLE
- Ⓓ STORM SEWER MANHOLE
- □ CATCH BASIN
- > SANITARY SEWER
- >> STORM SEWER
- I WATERMAIN
- < FM SANITARY SEWER FORCEMAIN
- P–BUR BURIED ELECTRIC CABLE
- G BURIED GAS MAIN
- HYDRANT
- W WATER SERVICE CURB STOPS
- GV WATERMAIN VALVE
- LIGHT BASE
- CONCRETE PAVEMENT
- 2/3 DETAIL NUMBER / SHEET NUMBER

S.A.P. 002–614–040
S.A.P. 103–020–018
S.A.P. 103–111–005
S.A.P. 114–020–052
S.A.P. 114–121–015

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW
7/18/17	REVISED DETAIL 1/142

I hereby certify that this plan, specification, or report 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.
CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

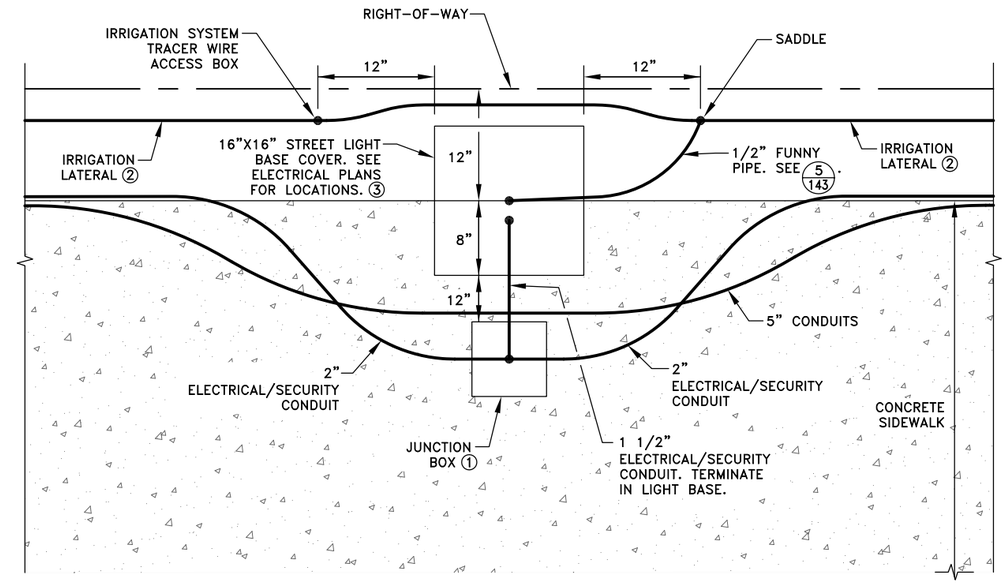
EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

ELECTRICAL DETAILS AND PROJECT LEGEND

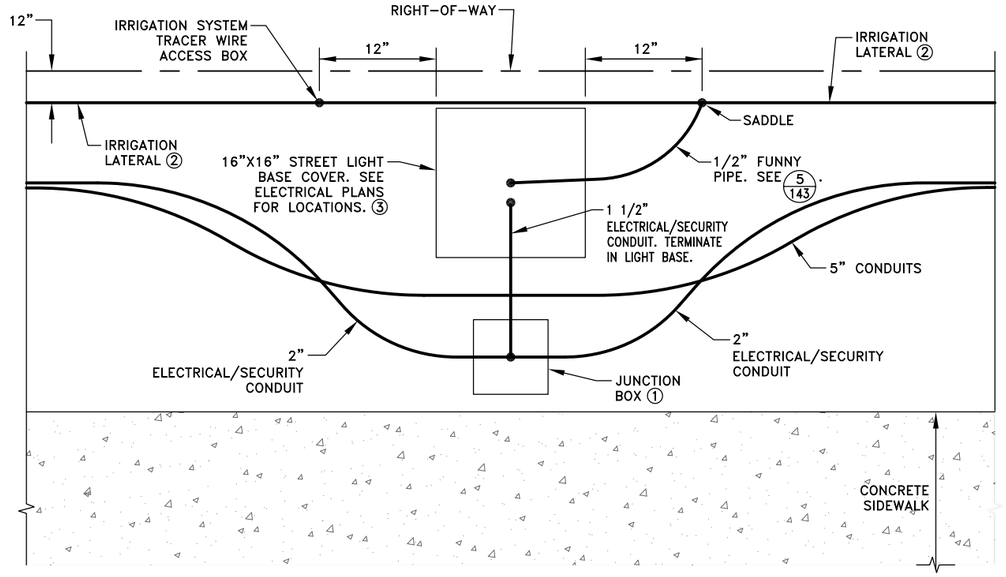
CITY OF ANOKA, MINNESOTA

SHEET 142 OF 159 SHEETS

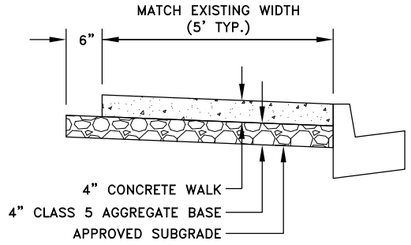
AN625



1/143 CONDUIT LAYOUT–STREET LIGHT IN SIDEWALK ④



2/143 CONDUIT LAYOUT–STREET LIGHT OUTSIDE SIDEWALK ④



3/143 SIDEWALK SECTION

N.T.S.

REFERENCE NOTES:

① JUNCTION BOXES FOR THE ELECTRICAL CONDUIT SHALL BE 12"X12" QUAZITE® (HUBBELL LENOIR CITY, INC.) OR APPROVED EQUAL. SEE 4/142 FOR TERMINATION DETAIL INSIDE BOX.

② IRRIGATION LATERALS SHALL BE 1" POLYETHYLENE PIPE WEST OF THE WEST RIGHT OF WAY OF 8 1/2 AVENUE AND 1 1/4" EAST OF THE WEST RIGHT OF WAY OF 8 1/2 AVENUE.

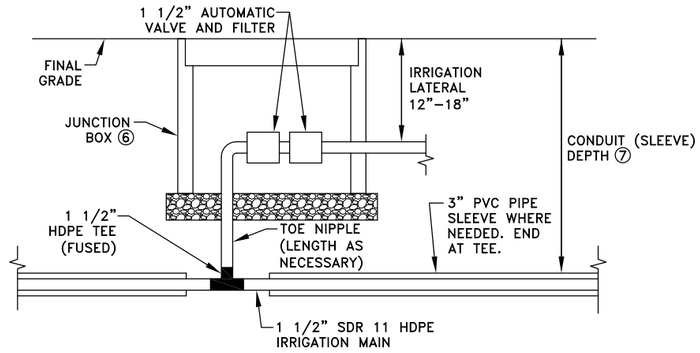
③ SEE 5/142 FOR A BASE DETAIL.

④ CONTRACTOR SHALL WORK WITH THE CITY AND COUNTY TO ESTABLISH THE MOST EFFICIENT AND FINAL LOCATION OF ALL CONDUITS AND BOXES. THE CONTRACTOR SHALL PROVIDE A DETAILED RECORD PLAN OF THE FINAL LOCATIONS OF ALL CONDUITS, IRRIGATION PIPES AND BOXES.

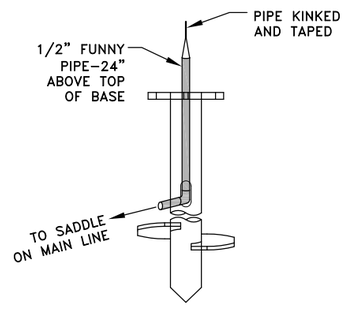
⑤ JUNCTION BOXES FOR THE IRRIGATION SYSTEM SHALL BE PER THE SPECIFICATIONS. SEE 4/143 FOR TERMINATION DETAIL INSIDE BOX. JUNCTION BOXES FOR THE IRRIGATION SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. JUNCTION BOXES FOR THE IRRIGATION SYSTEM SHALL BE INCIDENTAL.

⑥ SEE PROJECT SPECIFICATOINS FOR JUNCTION BOX REQUIREMENTS. JUNCTION BOXES FOR THE IRRIGATION SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. JUNCTION BOXES FOR THE IRRIGATION SYSTEM SHALL BE INCIDENTAL.

⑦ IRRIGATION CONDUITS (SLEEVES) SHALL HAVE A MINIMUM BURY DEPTH PER THE TABLE ON SHEET 142.

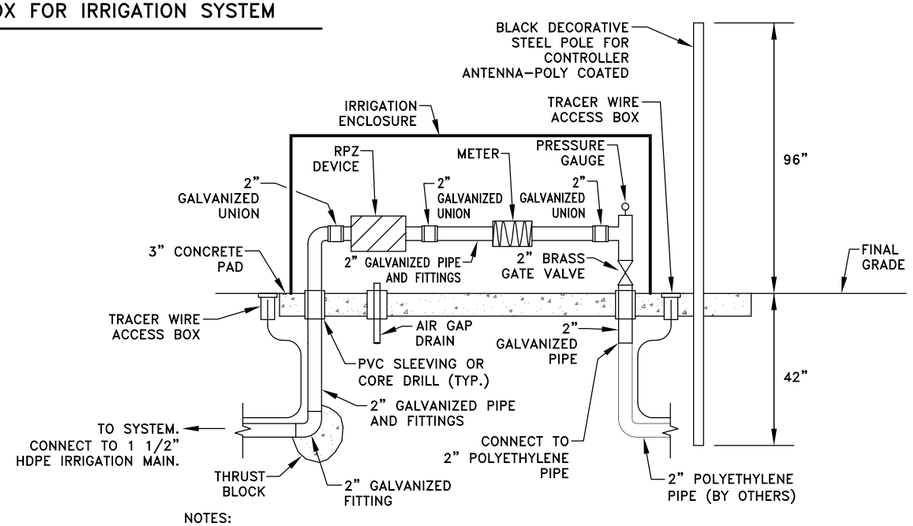


4/143 JUNCTION BOX FOR IRRIGATION SYSTEM



5/143 IRRIGATION PIPE AT LIGHTING BASE

SCREW–IN TYPE



NOTES:
1. CONTROLLER SHALL BE MOUNTED INSIDE IRRIGATION ENCLOSURE.
2. PROVIDE ELECTRICAL CONDUITS THROUGH CONCRETE PAD AS NEEDED FOR CONTROLLER ANTENNA AND CONTROL CABLE TO AUTOMATIC VALVES.

6/143 POC DETAIL

DATE	REVISION
6/9/17	PLAN REVISIONS PER COUNTY REVIEW
6/13/17	PLAN REVISIONS PER COUNTY REVIEW
6/30/17	PLAN REVISIONS PER MN/DOT REVIEW
7/18/17	IRRIGATION SYSTEM REVISIONS

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 4/14/17 Lic. No. 23461

DESIGNED BY: TAE
DRAWN BY: DMS
CHECKED BY: CJJ

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

EAST MAIN STREET
ELECTRICAL IMPROVEMENTS

ELECTRICAL DETAILS

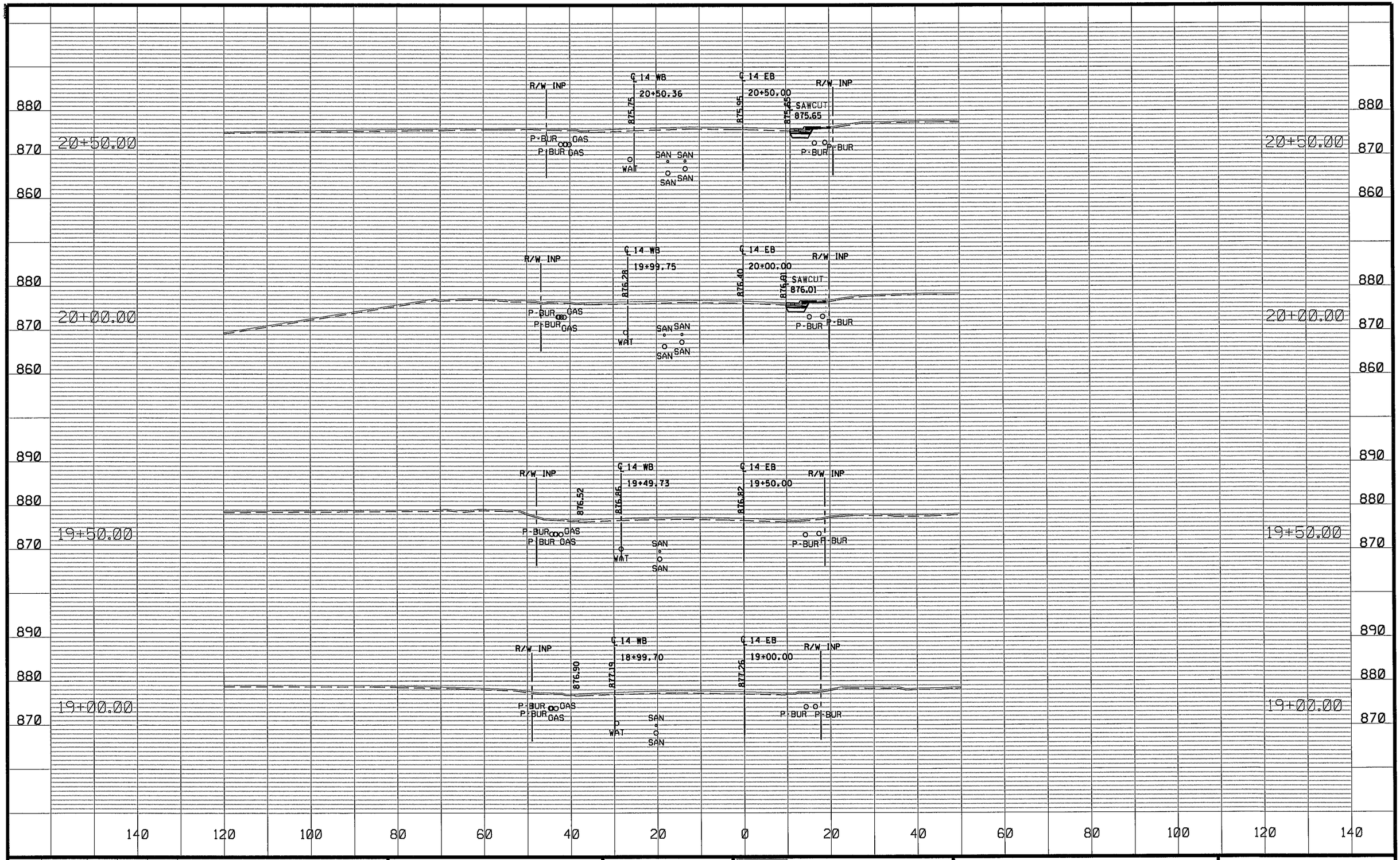
CITY OF ANOKA, MINNESOTA

SHEET 143 OF 159 SHEETS

S.A.P. 002-614-040
S.A.P. 103-020-018
S.A.P. 103-111-005
S.A.P. 114-020-052
S.A.P. 114-121-015

AN625

Jul 18, 2017 - 2:51pm
K:\cad_eng\PROJECTS\MUNICIPAL\AN625\dwg\AN625 CONDUIT DETAILS.dwg



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:35 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-16-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

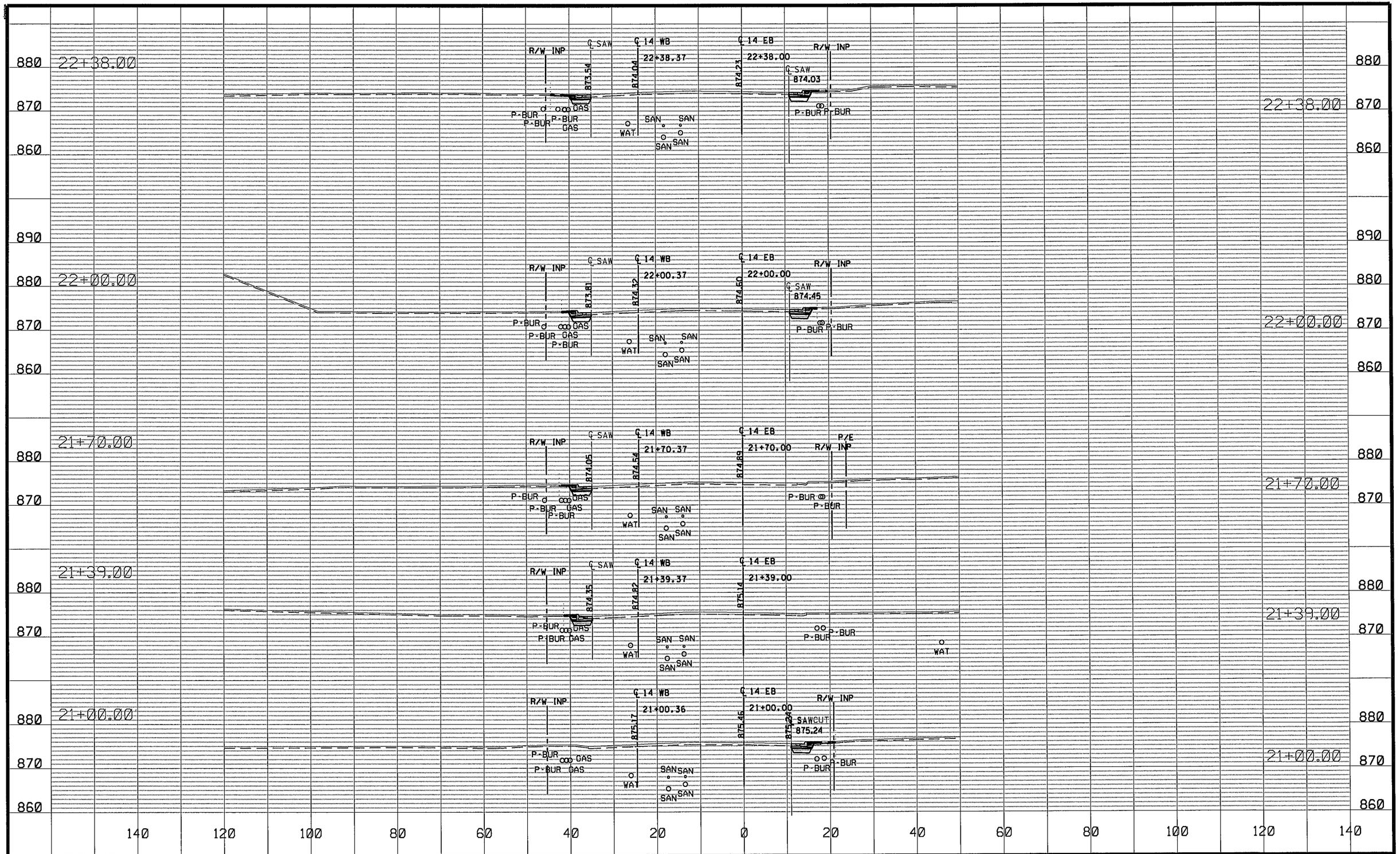
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 19+00.00 TO 20+50.00

Sheet 144 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:38 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

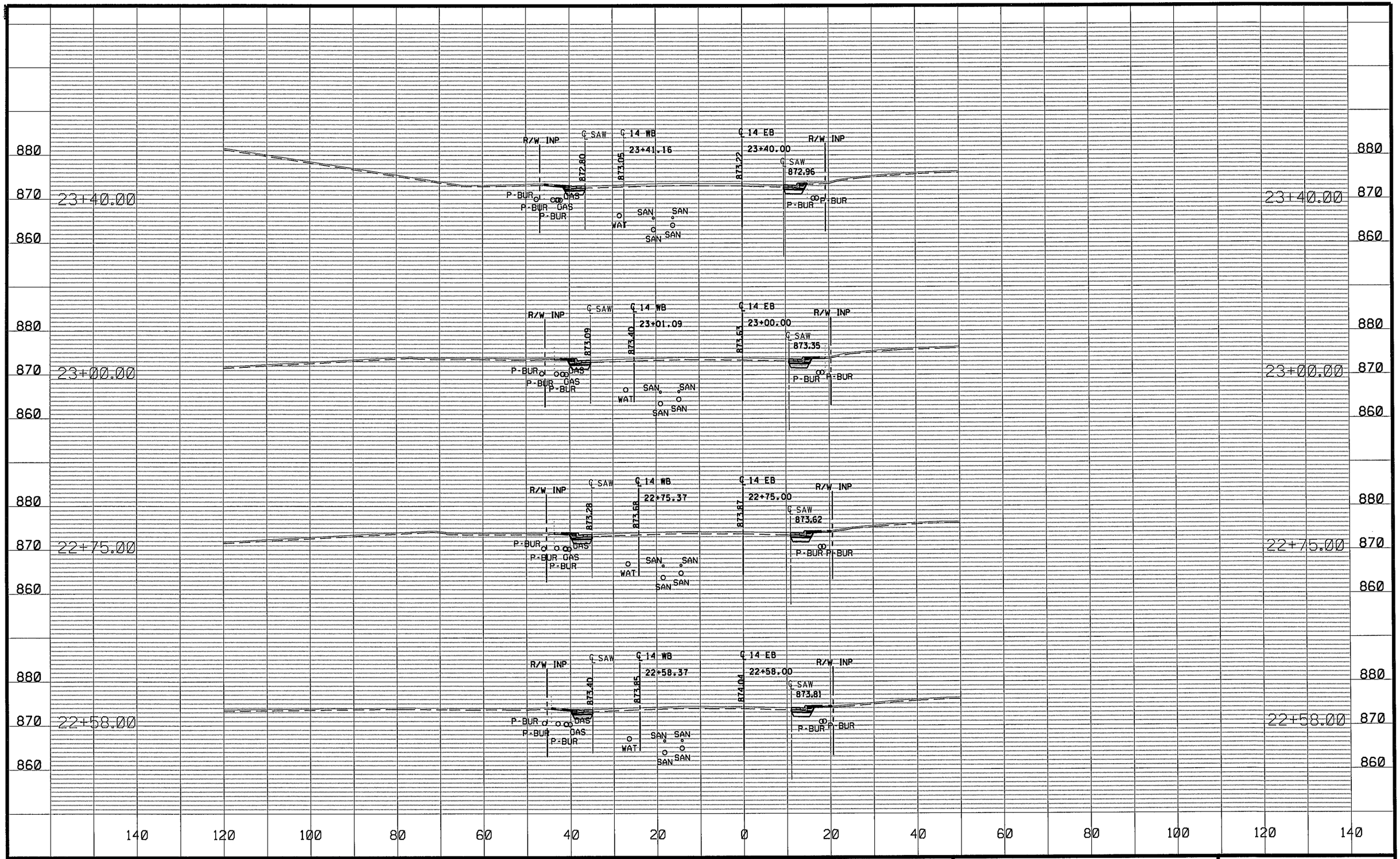
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 21+00.00 TO 22+38.00

Sheet 145 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 08/30/2017 1:17:36 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 06-16-17

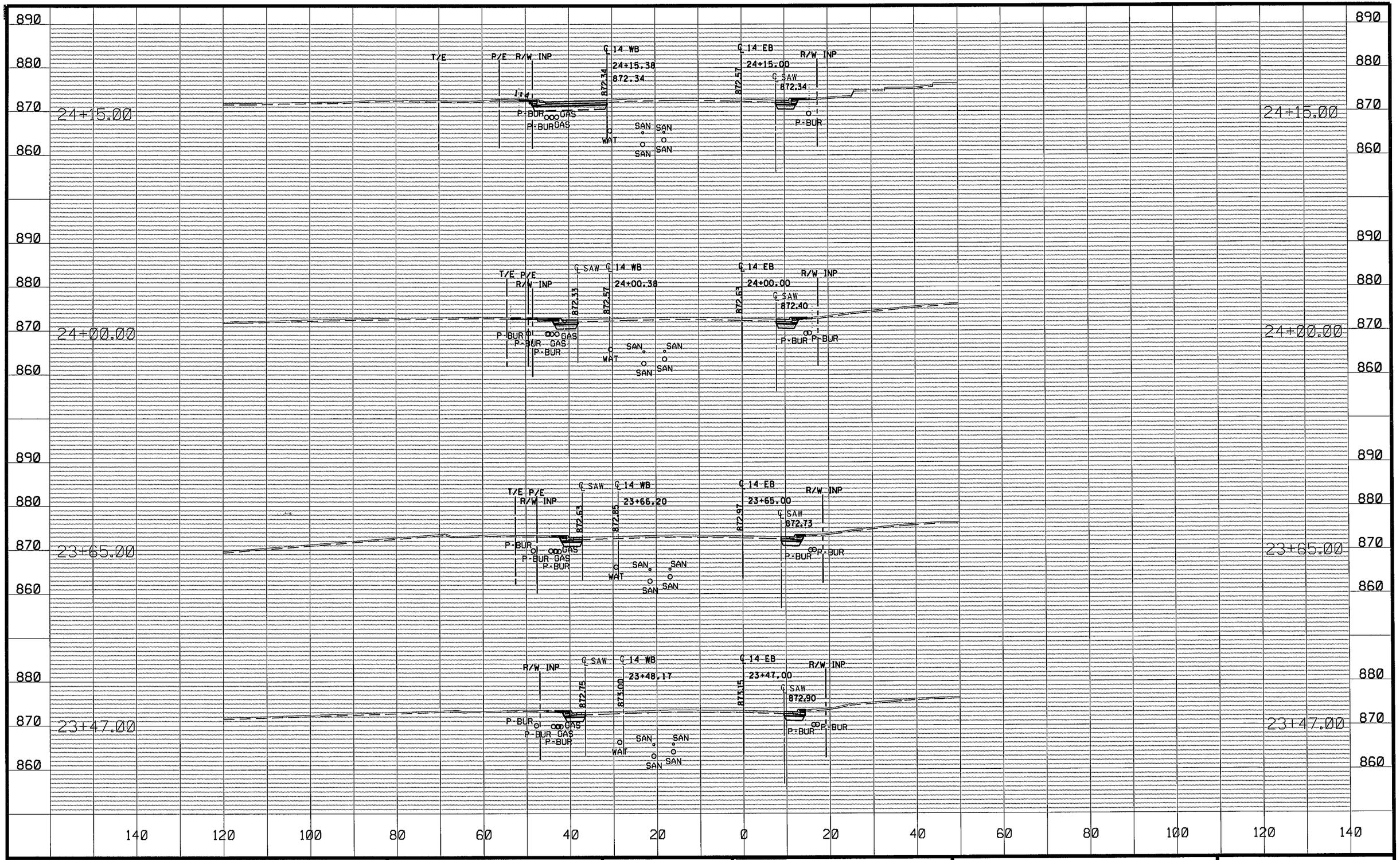
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 22+58.00 TO 23+40.00

Sheet 146 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:36 PM

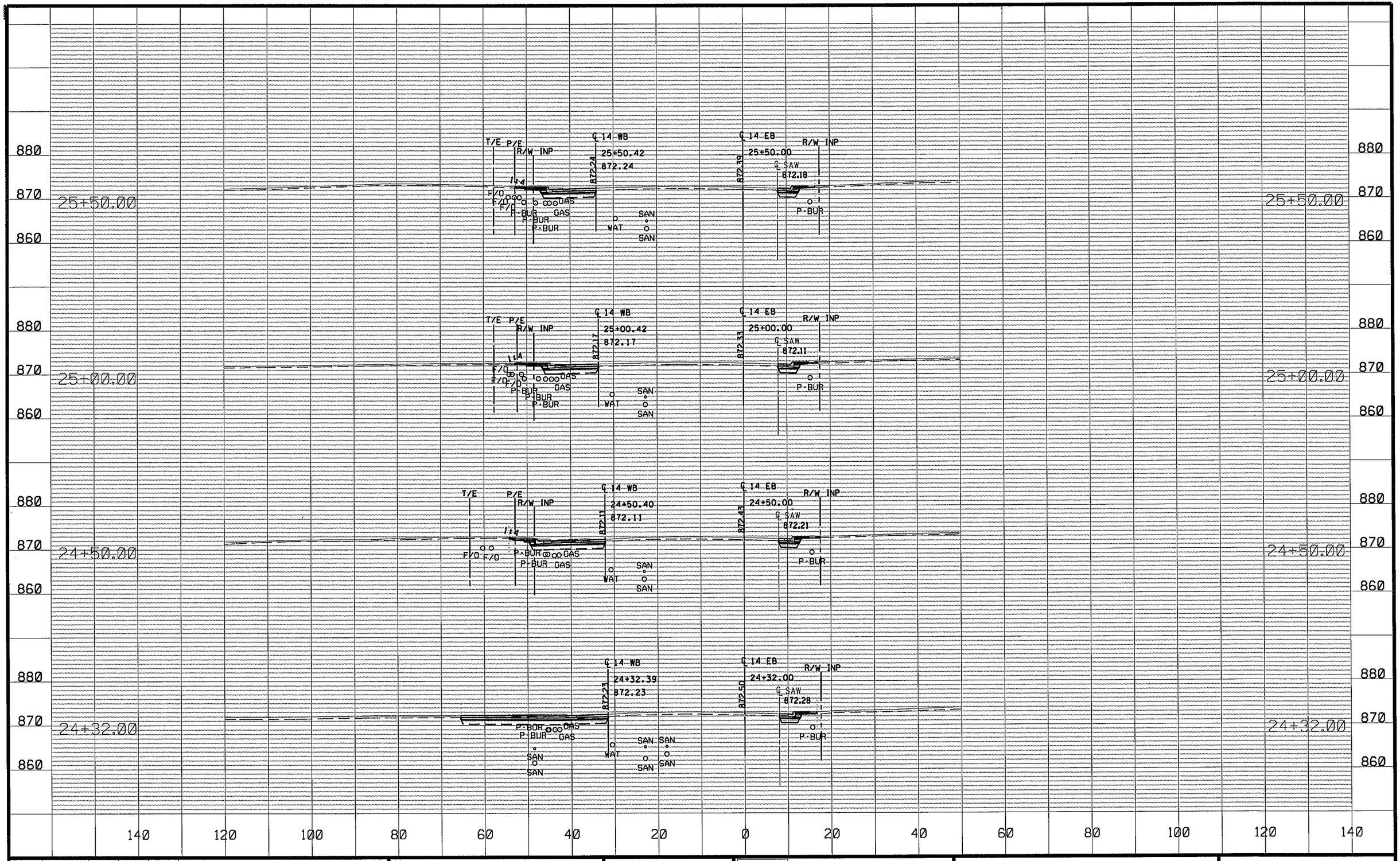
DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-16-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 23+47.00 TO 24+15.00

Sheet 147 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 08/30/2017 1:17:37 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

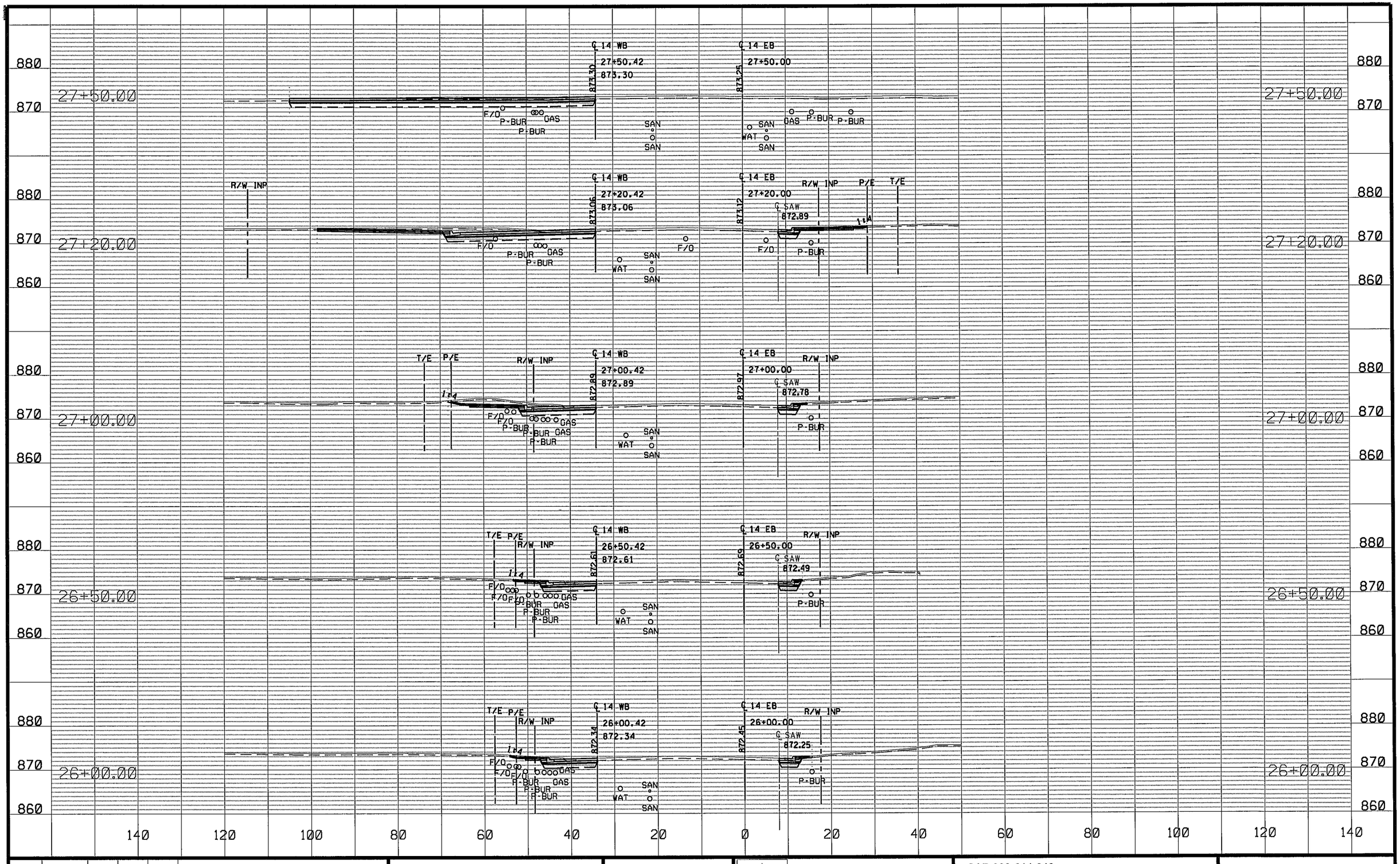
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 24+32.00 TO 25+50.00

Sheet 148 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:37 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

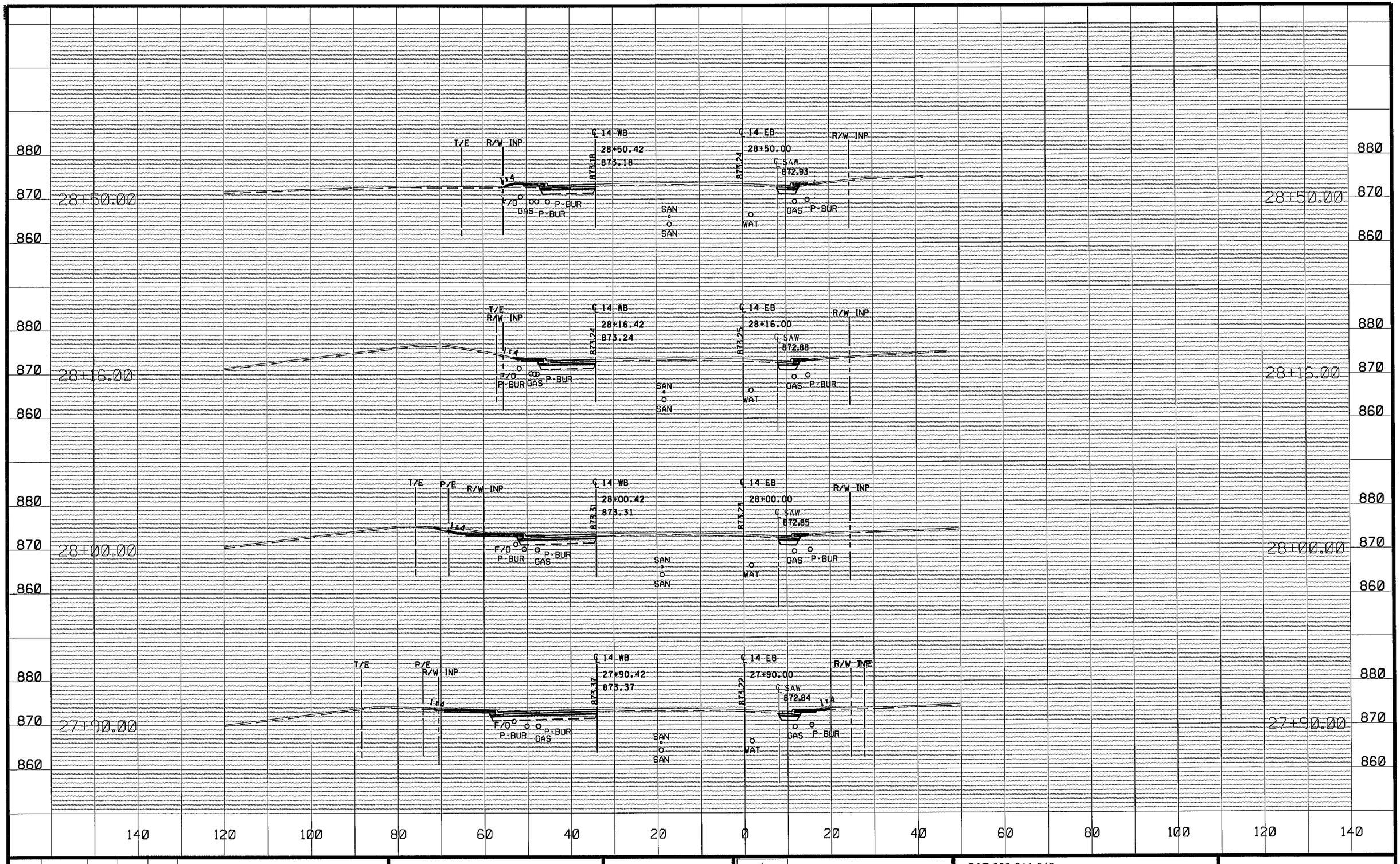
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 26+00.00 TO 27+50.00

Sheet 149 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:37 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

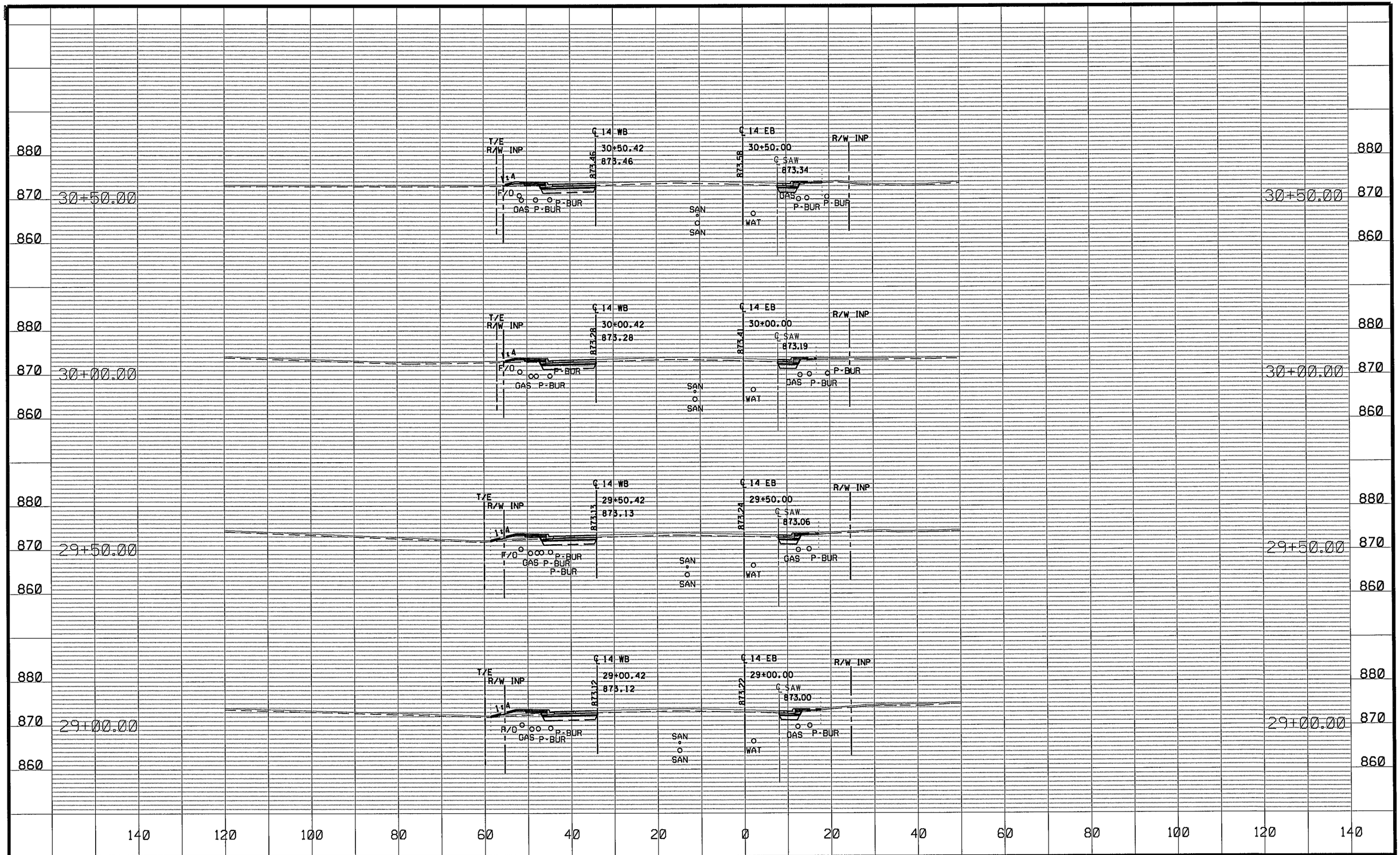
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 27+90.00 TO 28+50.00

Sheet 150 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:37 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

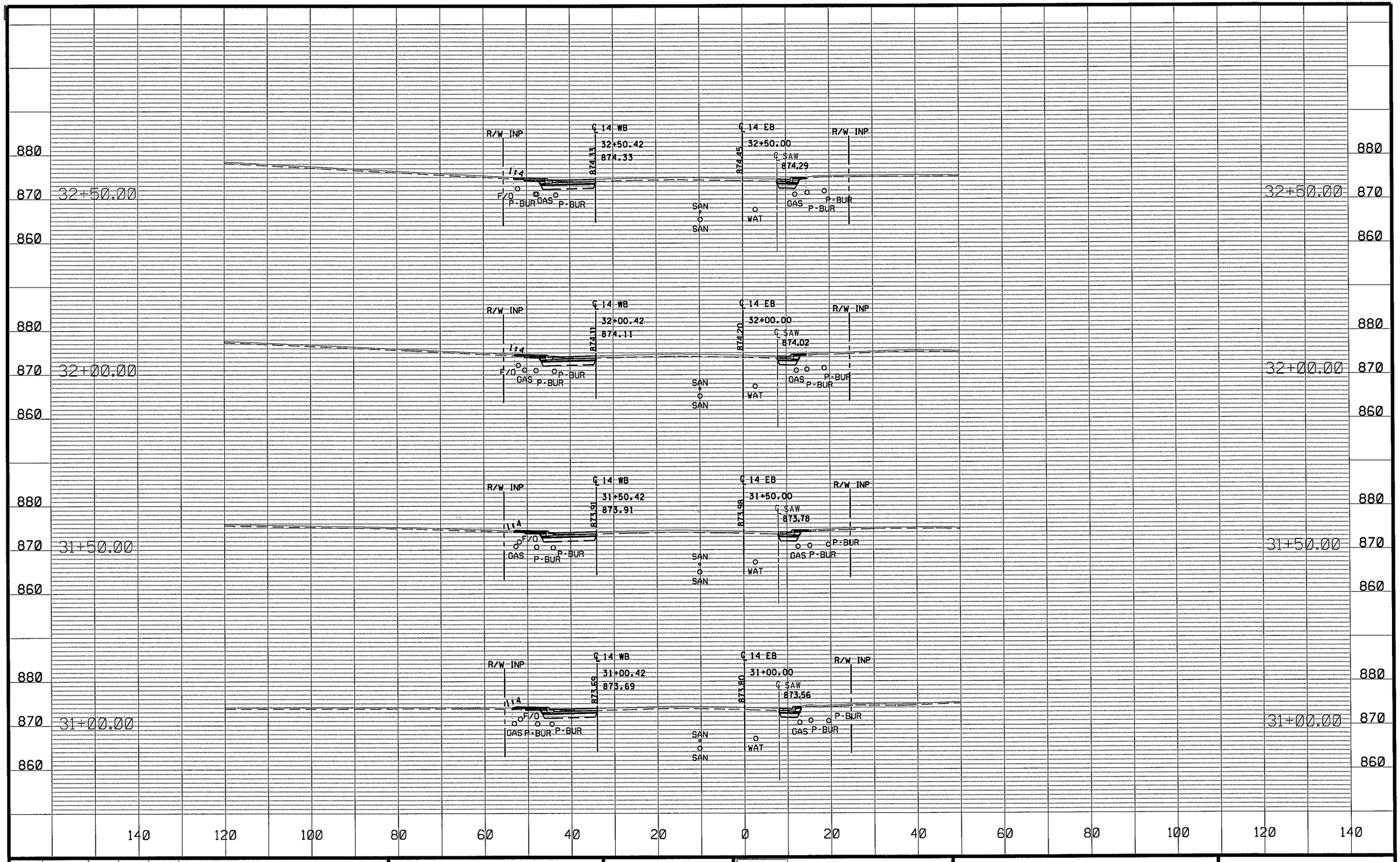
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 29+00.00 TO 30+50.00

Sheet 151 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:38 PM

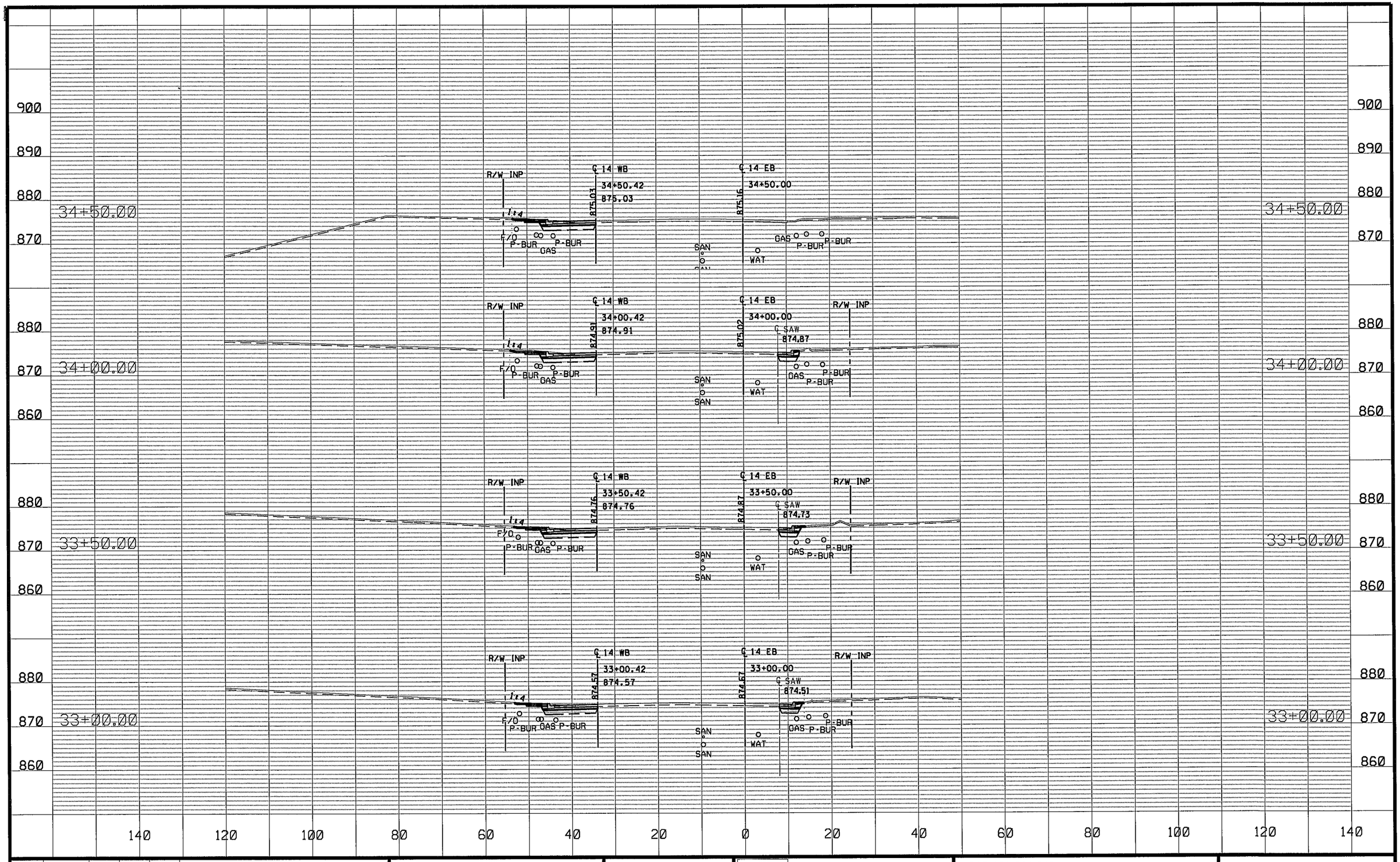
DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 31+00.00 TO 32+50.00

Sheet 152 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:38 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-16-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

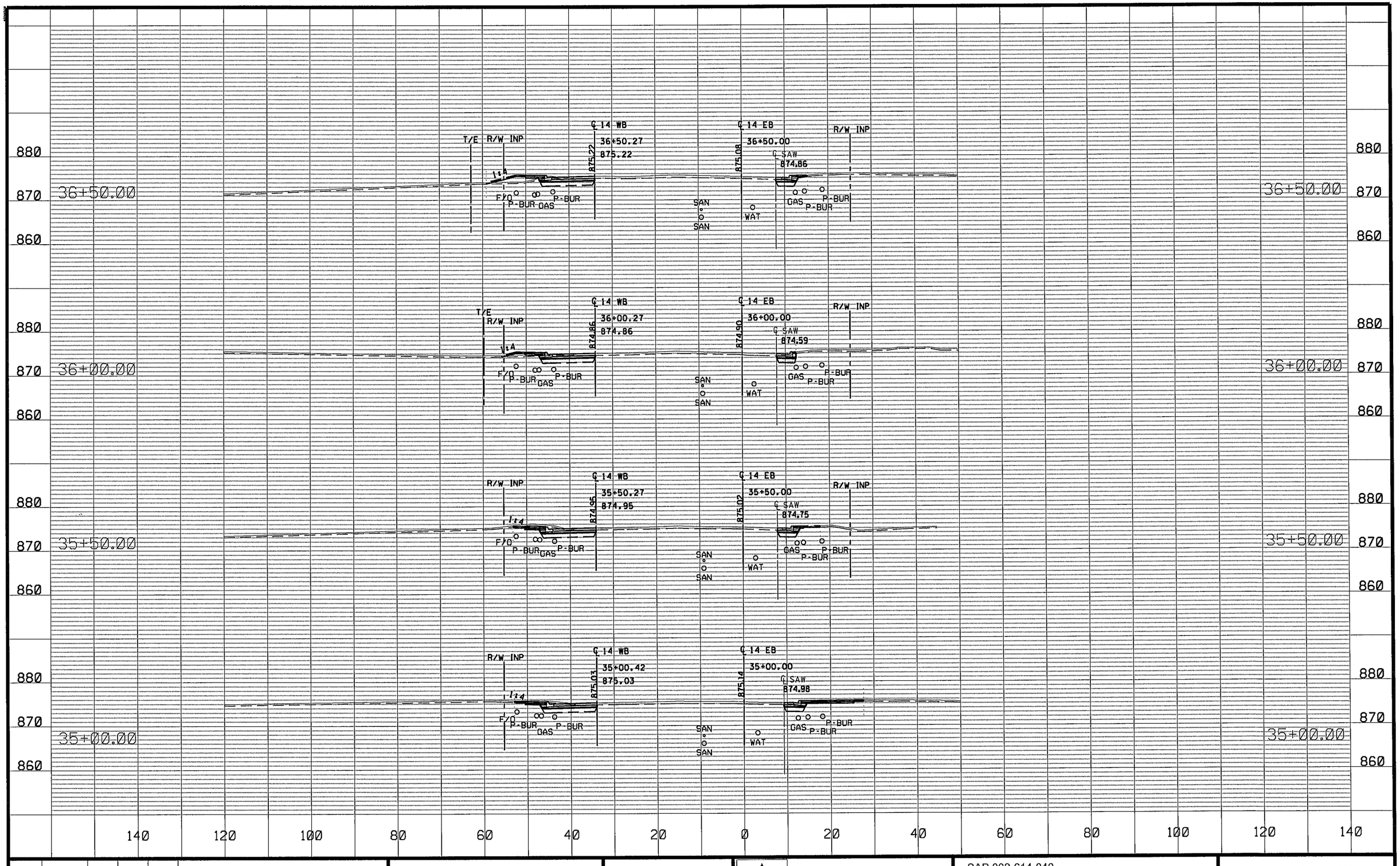
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 33+00.00 TO 34+50.00

Sheet 153 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 08/30/2017 1:17:38 PM

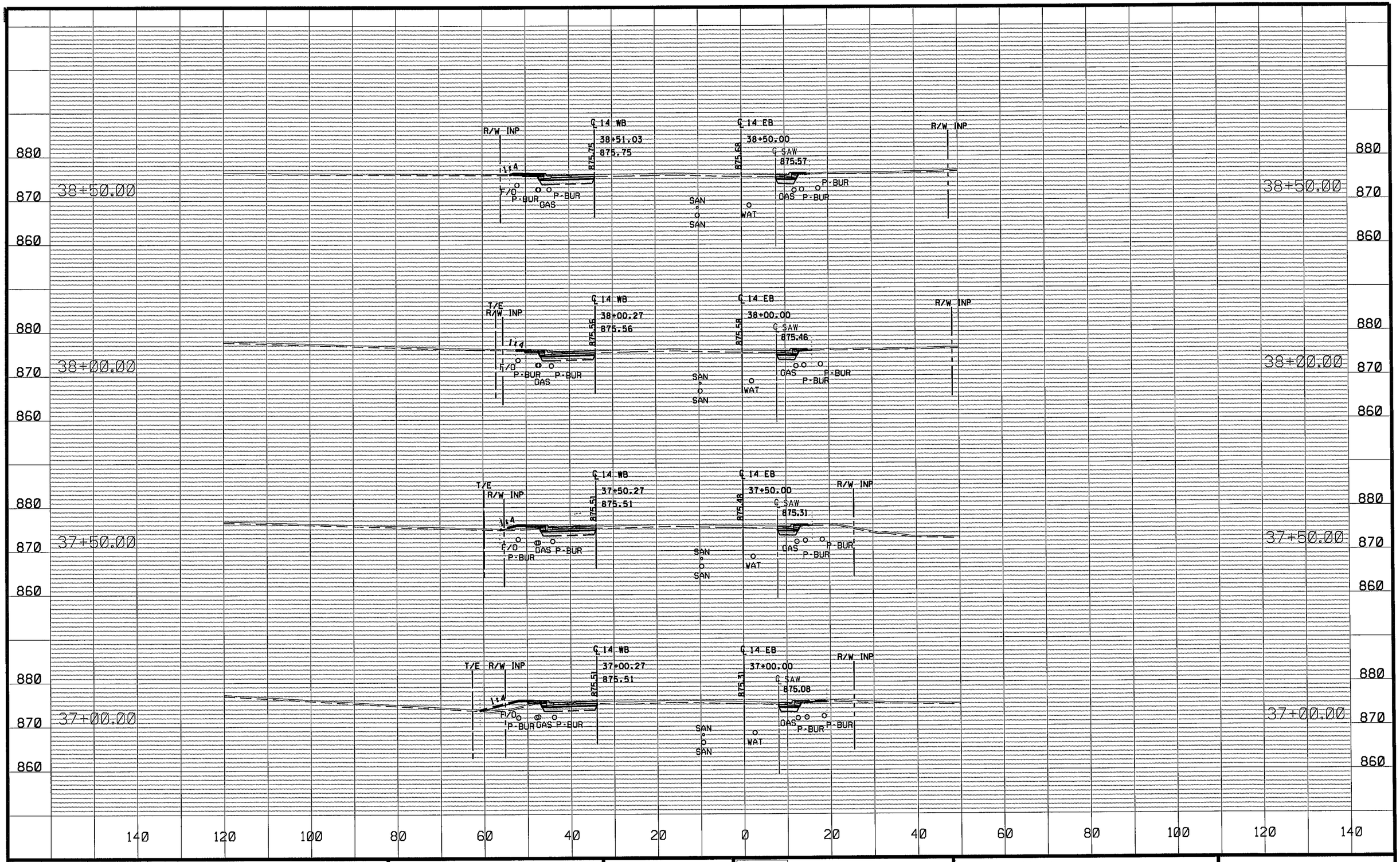
DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 35+00.00 TO 36+50.00

Sheet 154 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 08/30/2017 1:17:38 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 05-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

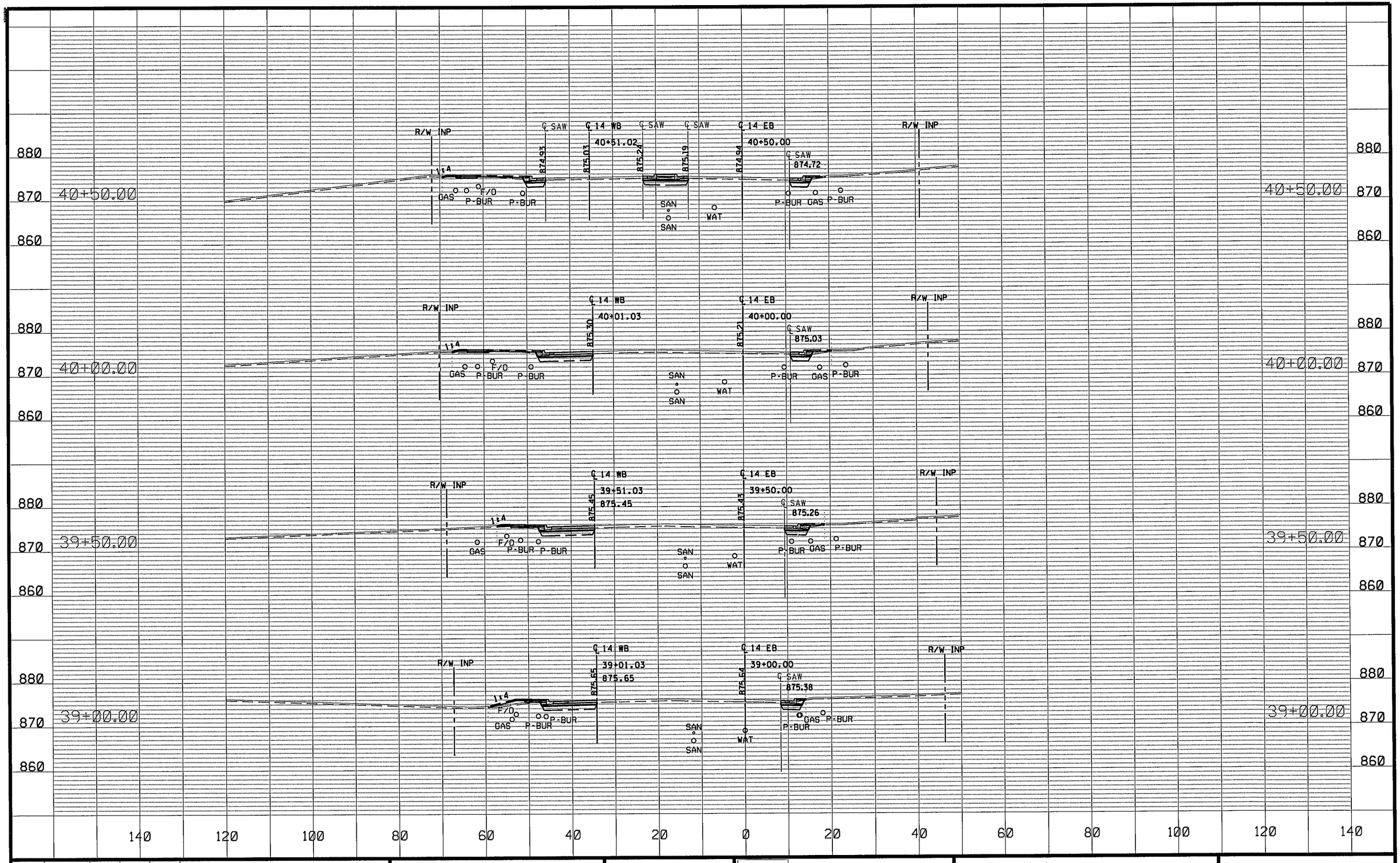
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 37+00.00 TO 38+50.00

Sheet 155 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:39 PM

DRAWN BY EJM DATE 06-29-17

DESIGN BY EJM DATE 06-15-17

CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY

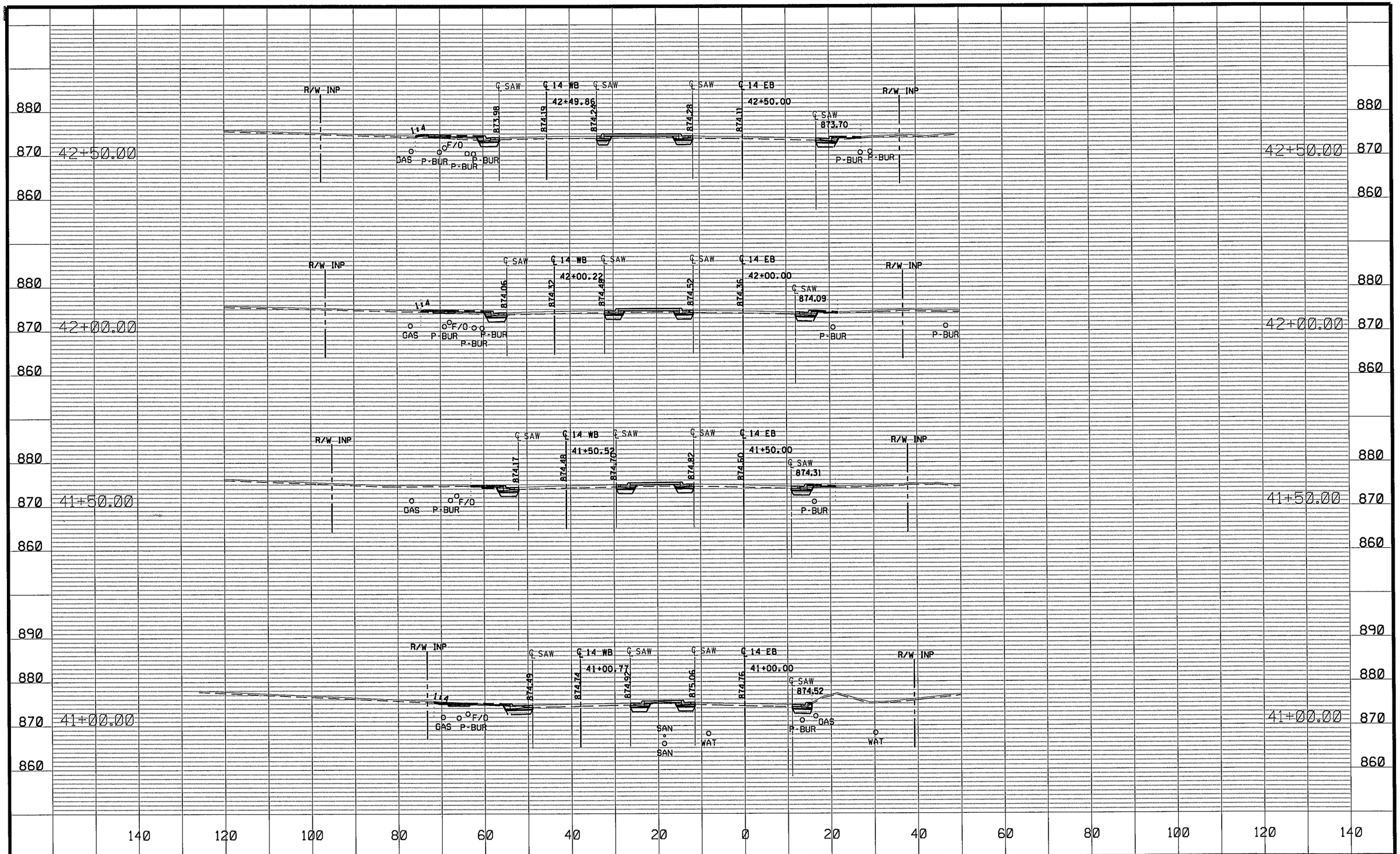
ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS

STA 39+00.00 TO 40+50.00

Sheet 156 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:39 PM

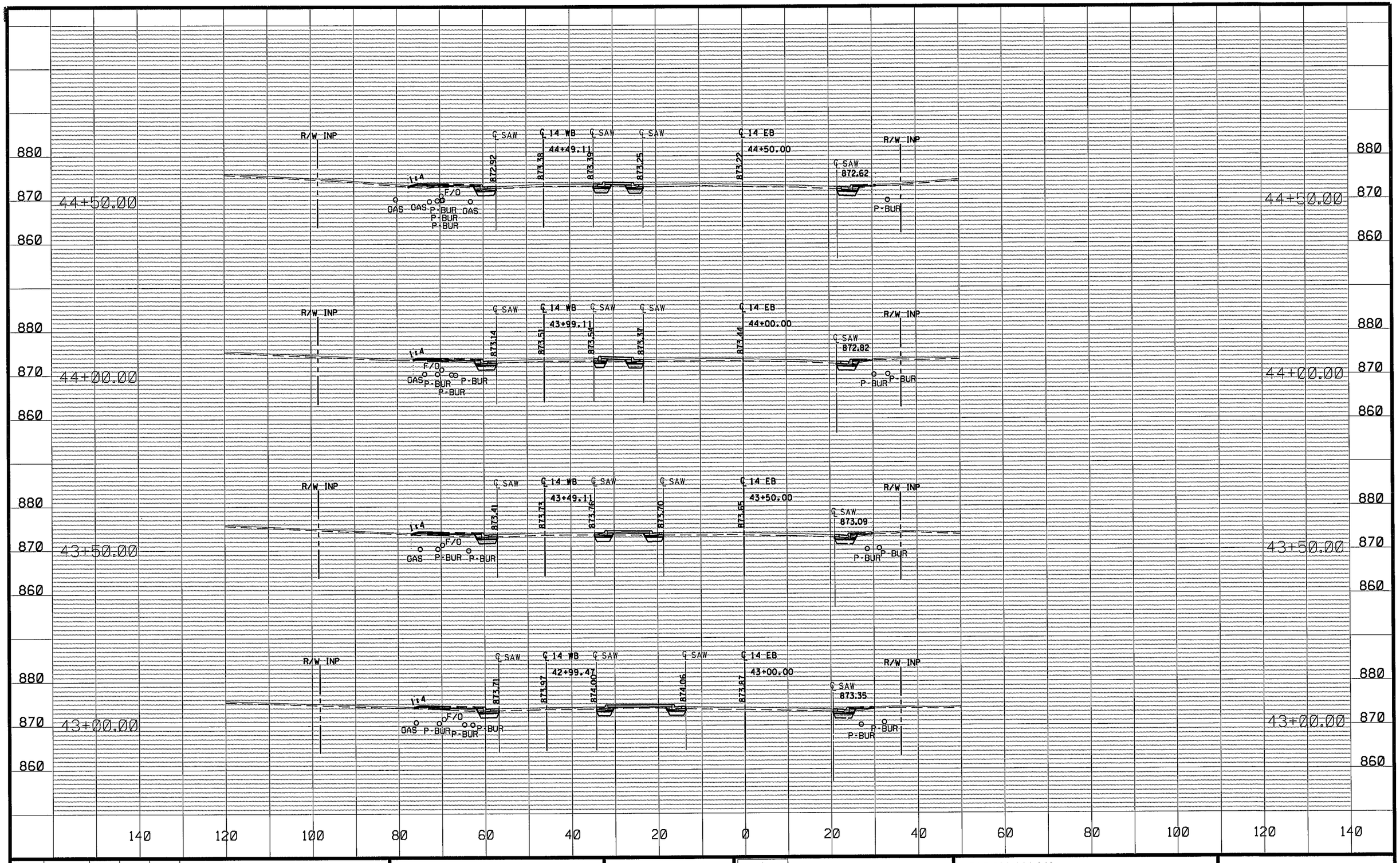
DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY
HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 41+00.00 TO 42+50.00

Sheet 157 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:39 PM

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

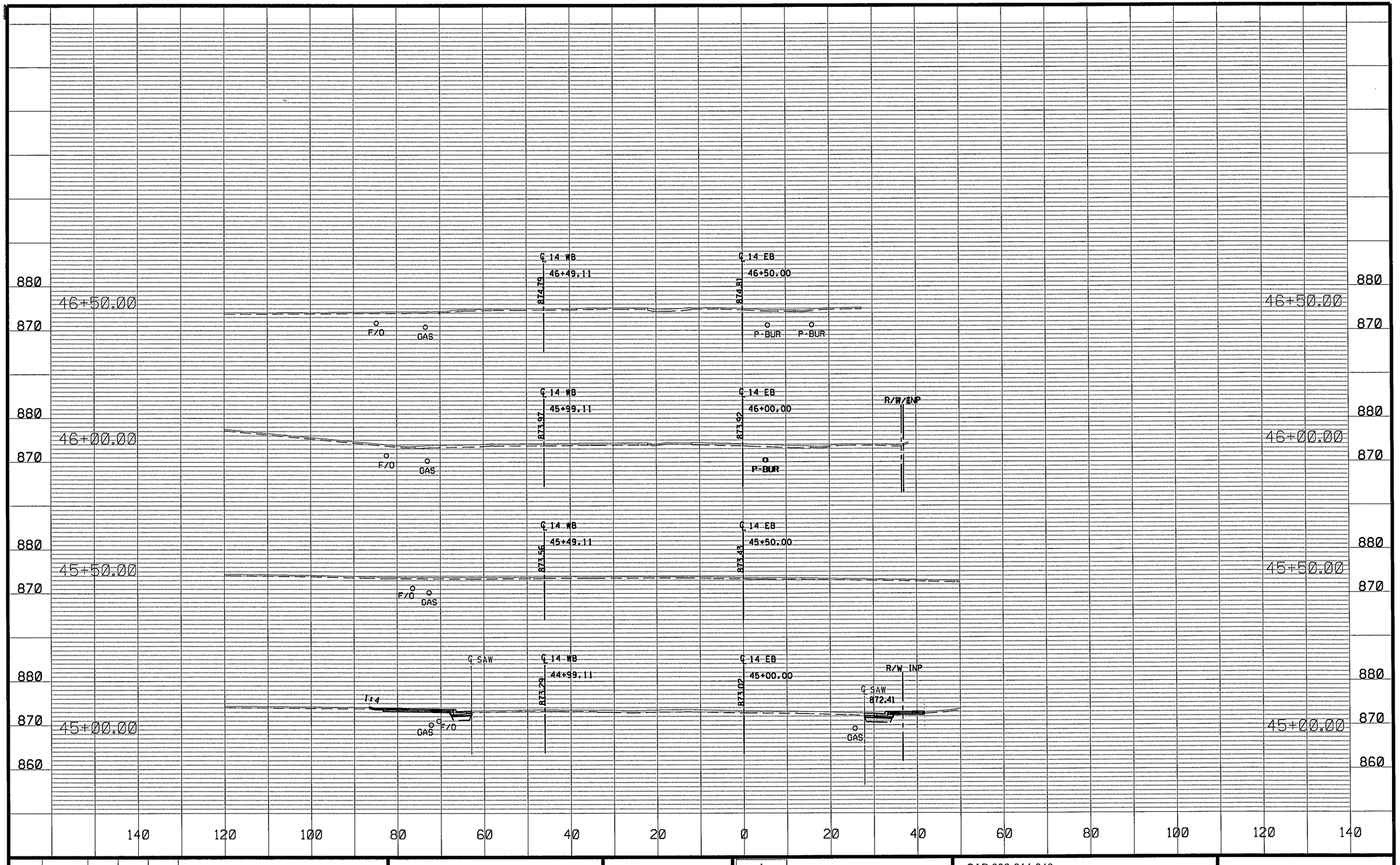
ANOKA COUNTY

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 43+00.00 TO 44+50.00

Sheet 158 of 159 Sheets



NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\02-614-40\Plan\0261440_XS.dgn 06/30/2017 1:17:39 PM

DRAWN BY EJM DATE 06-29-17
DESIGN BY EJM DATE 05-15-17
CHECKED BY GMP DATE 06-29-17

ANOKA COUNTY HIGHWAY DEPT.

SAP 002-614-040
SAP 103-020-018, SAP 103-111-005, CP 2017-049
SAP 114-020-052, SAP 114-121-015, CP 16-18

CROSS SECTIONS
STA 45+00.00 TO 46+50.00

Sheet 159 of 159 Sheets