

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)	_____
F-FRAME C-CONCRETE	_____
S-STONE T-TILE	_____
B-BRICK ST-STUCCO	_____
RAILROAD CROSSING BELL	_____
RAILROAD CROSSING GATE	_____
MANHOLE	_____
CATCH BASIN	_____
FIRE HYDRANT	_____
CAST IRON MONUMENT	_____
IRON PIN	_____
GRAVEL PIT	_____
SAND PIT	_____
BORROW PIT	_____
ROCK QUARRY	_____

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	_____
WATERMAIN	_____
TELEPHONE CABLE IN CONDUIT	_____
ELECTRIC CABLE IN CONDUIT	_____
TELEPHONE MANHOLE	_____
ELECTRIC MANHOLE	_____
BURIED TELEPHONE CABLE	_____
BURIED ELECTRIC CABLE	_____
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'



PROJECT LOCATION  
 CITY OF ANOKA  
 ANOKA COUNTY  
 MN/DOT TRANSPORTATION DISTRICT - METRO  
 SECTIONS 6 & 31  
 TOWNSHIPS 31 & 32 NORTH  
 RANGE 24 WEST

# MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR \_\_\_\_\_ MILL AND OVERLAY, BITUMINOUS SURFACING, DRAINAGE REPAIR, AND CURB & GUTTER \_\_\_\_\_

LOCATED ON 4TH AVENUE (CSAH 31) BETWEEN MAIN STREET AND TURNAROUND FOR ANOKA COUNTY WORKHOUSE

LOCATED ON GRANT STREET BETWEEN 4TH AVENUE (CSAH 31) AND 7TH AVENUE (CSAH 7)  
CSAH 31

GROSS LENGTH 7155.43 FEET 1.355 MILES  
 EXCEPTIONS (BRIDGE & NON-MILL AREA)-LENGTH 1165.00 FEET 0.221 MILES  
 NET LENGTH 5990.43 FEET 1.134 MILES

GRANT STREET  
 GROSS LENGTH 1843.49 FEET 0.349 MILES  
 EXCEPTION-LENGTH 0.00 FEET 0.000 MILES  
 NET LENGTH 1843.49 FEET 0.349 MILES

END C.P. 16-24-31

CSAH 31 / 131 (4TH AVE) STA : 81+75

BEGIN C.P. 16-20-131

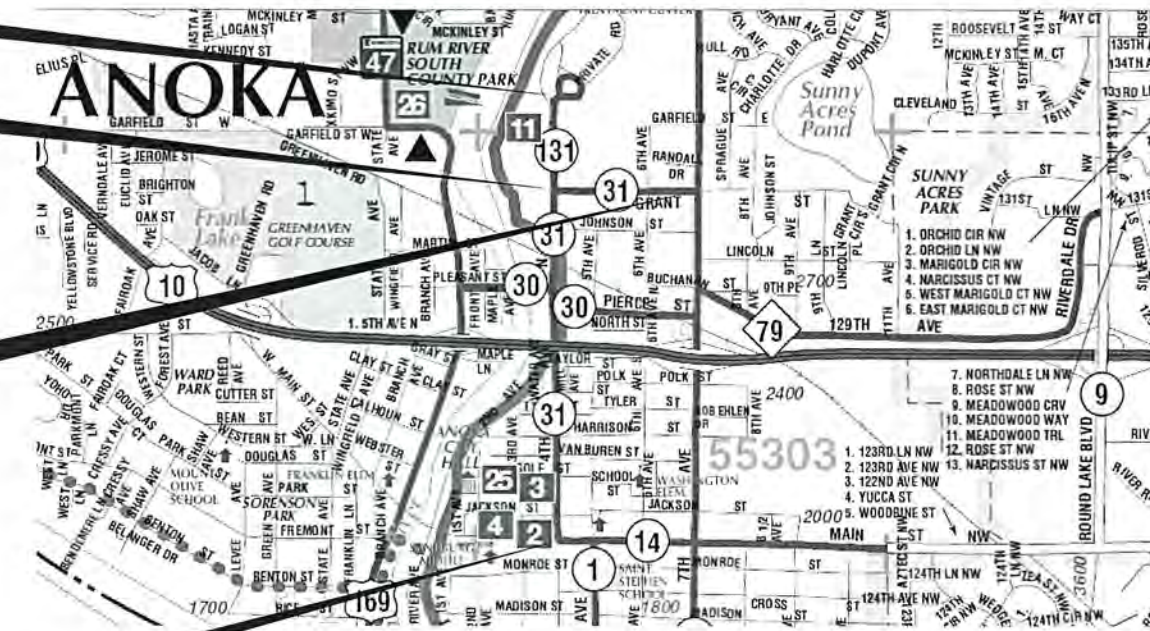
CSAH 31 (GRANT ST) STA : 10+10

END C.P. 16-20-131

CSAH 31 (GRANT ST) STA : 28+53

BEGIN C.P. 16-24-31

CSAH 31 / 131 (4TH AVE) STA : 10+19



GOVERNING SPECIFICATIONS

THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MNMUTCD), AND PART VI, "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS."

INDEX


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2	STATEMENT OF ESTIMATED QUANTITIES
3	TABLATIONS
4 - 5	TYPICAL SECTIONS
6	DETAILS
7 - 10	CONSTRUCTION PLAN
11	PERMANENT MARKING TABULATION
12 - 14	TEMPORARY SIGNING, PERMANENT SIGNING AND STRIPING
15	TRAFFIC CONTROL QUANTITY
16	SIGNING & STRIPING DETAILS
17 - 21	ORIGINAL SIGNAL PLANS

THIS PLAN CONTAINS 21 SHEETS

Approved  4/11/2016  
 ANOKA COUNTY ENGINEER


NO	DATE	BY	CKD	APPR	REVISION	04/07/2016	2:43:56 PM

NAME: P:\14-01-00\CSAH\_31\_(Main-Grant)\Base\PROPOSED\TITLE.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: MATTHEW J. JOHN  
 SIGNATURE:   
 DATE: 4/8/2016 LICENSE NO. 51839

DRAWN BY: SRK DATE: 03/29/2016  
 DESIGN BY: SRK DATE: 03/29/2016  
 CHECKED BY: MJJ DATE: 03/30/2016

ANOKA COUNTY  
 HIGHWAY DEPT.



COUNTY PROJECT 16-24-31  
16-20-131

TITLE SHEET  
 Sheet 1 of 21 Sheets

STATEMENT OF ESTIMATED QUANTITIES				
ITEM NO.	ITEM	NOTES	UNIT	TOTAL PROJECT QUANTITIES ESTIMATED
2021.501	MOBILIZATION		LUMP SUM	1
2104.501	REMOVE CURB AND GUTTER		LIN FT	2485
2104.503	REMOVE CONCRETE WALK	14	SQ FT	5862
2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT		SQ FT	2173
2104.505	REMOVE BITUMINOUS PAVEMENT	15	SQ YD	1573
2104.509	REMOVE CASTING		EACH	46
2104.509	REMOVE DRAINAGE STRUCTURE		EACH	21
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	104
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN FT	3544
2105.501	COMMON EXCAVATION		CU YD	227
2211.501	AGGREGATE BASE CLASS 5	3	TON	329
2232.501	MILL BITUMINOUS SURFACE (2.0")	1	SQ YD	31001
2232.604	MILL BITUMINOUS PAVEMENT (SPECIAL)	2	SQ YD	1865
2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GAL	1550
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (3,B)	17	TON	236
2360.501	TYPE SP 12.5 WEARING COURSE MIXTURE (4,E)		TON	3693
2360.505	TYPE SP 12.5 BIT MIXTURE FOR PATCHING	3	TON	181
2501.515	18" RC PIPE APRON		EACH	1
2503.541	12" RC PIPE SEWER DES 3006 CL V		LIN FT	241
2503.541	18" RC PIPE SEWER DES 3006 CL V		LIN FT	56
2503.602	CONNECT TO EXISTING STORM SEWER		EACH	1
2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	10, 19	LIN FT	44
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN G	10, 19	EACH	7
2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	10, 19	EACH	3
2506.516	CASTING ASSEMBLY	4	EACH	46
2506.602	GROUT CATCH BASIN OR MANHOLE	12	EACH	15
2511.501	RANDOM RIPRAP CLASS II		CU YD	6
2521.501	4" CONCRETE WALK		SQ FT	362
2521.501	6" CONCRETE WALK	14	SQ FT	6433
2531.501	CONCRETE CURB AND GUTTER DESIGN B618		LIN FT	448
2531.501	CONCRETE CURB AND GUTTER DESIGN B624		LIN FT	1960
2531.604	6" CONCRETE VALLEY GUTTER		SQ YD	105
2531.618	TRUNCATED DOMES	13	SQ FT	440
2550.602	LOOP DETECTOR DESIGN NMC	18	EACH	2
2563.601	TRAFFIC CONTROL	8	LUMP SUM	1
2563.613	PORTABLE CHANGEABLE MESSAGE SIGN	9	UNIT DAY	14
2573.502	SILT FENCE, TYPE MS		LIN FT	170
2573.530	STORM DRAIN INLET PROTECTION	5	EACH	37
2574.525	COMMON TOPSOIL BORROW (LV)	11	CU YD	219
2575.505	SODDING TYPE SALT TOLERANT	11	SQ YD	536
2575.523	EROSION CONTROL BLANKETS CATEGORY 0	11	SQ YD	1450
2581.501	REMOVABLE PREFORMED PAVEMENT MARKING TAPE	6	LIN FT	720
2582.501	PAVT MSSG PREF THERMO	7, 16	SQ FT	1866
2582.502	4" SOLID LINE EPOXY	7, 16	LIN FT	9908
2582.502	4" BROKEN LINE EPOXY	7, 16	LIN FT	1000
2582.502	4" DBLE SOLID LINE EPOXY	7, 16	LIN FT	1895

CONSTRUCTION NOTES	
1	DETAIL MILLING AROUND MANHOLES, CATCH BASINS, AND GATE VALVES IS INCIDENTAL TO THIS ITEM.
2	TO BE USED FOR JOINT MATCHING AT EXISTING STREET APPROACHES AND/OR DETAIL MILLING ALONG FACE OF CONCRETE CURB AND GUTTER. DETAIL MILLING AROUND MANHOLES, CATCH BASINS, AND GATE VALVES IS INCIDENTAL TO THIS ITEM.
3	ITEM FOR PATCHING ALONG NEW CURB AND AROUND STORM AND SANITARY SEWER STRUCTURE REPAIR AREAS.
4	ITEM INCLUDES FULL REPLACEMENT OF CASTING ADJUSTMENT RINGS.
5	ALL DRAINAGE STRUCTURES AFFECTED BY THIS PROJECT MUST HAVE INLET PROTECTION.
6	CENTERLINE AND LANE DESIGNATION SKIPS TO BE APPLIED AS SOON AS POSSIBLE ON EACH NEW LIFT OF PAVEMENT; SKIPS MUST BE APPLIED BEFORE THE CONTRACTOR LEAVES FOR THE DAY. CONTRACTOR IS TO REMOVE PRIOR TO FINAL PAINT STRIPING.
7	FINAL STRIPING SHALL BE INSTALLED WITHIN 72 HOURS OF COMPLETION OF MAINLINE WEAR COURSE PAVING.
8	ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". DO NOT PASS, PASS WITH CARE, NO CENTER STRIPE, AND STOP HERE ON RED SIGNS SHALL BE IN PLACE WHENEVER PERMANENT PAVEMENT MARKINGS ARE NOT PRESENT.
9	2 MESSAGE BOARDS, ONE ON THE EACH END OF PROJECT WILL BE INSTALLED 7 DAYS PRIOR TO ANY CONSTRUCTION; REFERENCE STRIPING PLAN FOR DETAILS.
10	CONNECTIONS TO EXISTING STORM SEWER ARE INCIDENTAL.
11	ITEM FOR TURF ESTABLISHMENT ALONG CURB REPLACEMENT, AROUND PEDESTRIAN RAMP REPLACEMENT, AND AT OTHER DISTURBED AREAS AS DIRECTED BY THE ENGINEER.
12	ITEM INCLUDES GROUTING OF INVERTS, DOGHOUSES, RINGS, AND CASTINGS AS REQUIRED (SEE DRAINAGE TAB, PAGE 3).
13	QUANTITY REFLECTS ASSUMED AREA OF 8 SQ FT PER PEDESTRIAN RAMP REPLACEMENT. ACTUAL TRUNCATED DOME LAYOUTS WILL BE DETERMINED BY THE ENGINEER.
14	QUANTITY REFLECTS ASSUMED AREA OF 100 SQ FT PER PEDESTRIAN RAMP REPLACEMENT. ACTUAL SIZES AND SHAPES WILL BE DETERMINED BY THE ENGINEER.
15	ITEM USED ALONG CURB REPLACEMENT, AROUND STORM AND SANITARY SEWER STRUCTURE REPAIR AREAS, AND AT LOCATIONS IDENTIFIED IN THE PLAN.
16	INCLUDES ANY THERMOPLASTIC STOP BARS, GORE AREA HATCHING, CROSSWALKS, LANE DESIGNATION ARROWS, AND PAVEMENT MESSAGES.
17	ITEM FOR STREET APPROACHES.
18	FULL LOOP REPLACEMENT REQUIRED. CONTRACTOR SHALL CONTACT ANOKA COUNTY TO DETERMINE PLACEMENT. SIGNAL PLANS ARE LOCATED AT THE END OF THIS PLAN.
19	PAY HEIGHT IS MEASURED FROM INVERT OF OUTLET PIPE TO TOP OF PRECAST CONCRETE STRUCTURE PLUS AN ALLOWANCE OF 0.70 FEET FOR THE DEPTH OF THE CONCRETE BASE, REGARDLESS OF ITS ACTUAL THICKNESS. CONCRETE ADJUSTMENT RINGS ARE INCIDENTAL.

BASIS OF PLANNED QUANTITIES		
2211.501	AGGREGATE BASE CLASS 5	1.8 TON / CU YD
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	0.05 GAL / SQ YD
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,E) SPWEB440E	115 LBS / SQ YD / INCH

MNDOT STANDARD PLATES	
PLATE NUMBER	DESCRIPTION
4002F	MANHOLE OR CATCH BASIN (MASONRY FIELD CONSTRUCTION) - DESIGN
4006L	MANHOLE OR CATCH BASIN PRECAST-DESIGNS G & H
4020J	MANHOLE OR CATCH BASIN FOR USE WITH OR WITHOUT TRAFFIC LOADS
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4110F	COVER CASTING FOR MANHOLE
7035N	CONCRETE WALK
7038A	DETECTABLE WARNING SURFACE
7100H	CONCRETE CURB AND GUTTER

STORM DRAINAGE TAB											
NUMBER	TYPE	ACTION	NEW CASTING	FURNISH AND INSTALL CASTING ASSEMBLY	REMOVE DRAINAGE STRUCTURE	H (EACH)	G (EACH)	48-4020 (LN FT)	12" RCP (CL V) LIN FT	18" RCP (CL V) LIN FT	GROUT (EACH)
102	MH/STORM	GROUT									RINGS
104	MH/STORM	RE-RING	A-7D	1							
106	CB	GROUT									RINGS
107	CB	GROUT									RINGS
109	MH/STORM	RECONSTRUCT	A-7D	1	1			5.4			
110	MH/STORM	RE-RING	A-7D	1							
111	MH/SAN	RE-RING	A-7D	1							
112	MH/STORM	RECONSTRUCT	A-7D	1	1		1				
113	MH/STORM	RECONSTRUCT	A-7D	1	1		1				
114	CB	RECONSTRUCT	R-3250-DVSP	1	1	1					
115	CB	GROUT									RINGS
116	MH/SAN	RE-RING	A-7D	1							
118	MH/SAN	RE-RING	A-7D	1							
121	CB	GROUT									RINGS
122	CB	GROUT									RINGS
123	MH/STORM	RE-RING	A-7D	1							
127	CB	GROUT									RINGS
129	MH/SAN	RE-RING	A-7D	1							
130	MH/SAN	RE-RING	A-7D	1							
132	CB	RE-RING	R-3250-DVSP	1							
133	MH/STORM	GROUT									RINGS
134	CB	RE-RING	R-3250-DVSP	1							
135	CB	GROUT									RINGS
143	MH/STORM	GROUT									RINGS
149	CB	RE-RING	R-3250-DVSP	1							
150	CB	RE-RING	R-3250-DVSP	1							
151	MH/STORM	RE-RING	R-3250-DVSP	1							
152	MH/SAN	RE-RING	A-7D	1							
153	MH/STORM	RE-RING	A-7D	1							
154	MH/STORM	RE-RING	A-7D	1							
156	CB	RECONSTRUCT	R-3250-DVSP	1	1		1			26.0	
157	CB	RECONSTRUCT	R-3250-DVSP	1	1	1				30.0	
159	CB	RECONSTRUCT	R-3250-DVSP	1	1			2.8	29.0		
160	CB	RECONSTRUCT	R-3250-DVSP	1	1			2.9	34.0		
161	CB	RECONSTRUCT	R-3250-DVSP	1	1			3.4	60.0		
162	CB	RECONSTRUCT	R-3250-DVSP	1	1			3.7	72.0		
163	CB	RECONSTRUCT	R-3250-DVSP	1	1			2.9	46.0		
164	CB	RECONSTRUCT	R-3250-DVSP	1	1			3.3			
165	CB	RECONSTRUCT	R-3250-DVSP	1	1			3.3			
167	CB	RECONSTRUCT	R-3250-DVSP	1	1		1				
168	CB	RECONSTRUCT	R-3250-DVSP	1	1			3.7			
171	MH/STORM	GROUT									RINGS
172	MH/SAN	RE-RING	A-7D	1							
173	MH/STORM	GROUT									RINGS
174	MH/STORM	RE-RING	A-7D	1							
175	MH/SAN	RE-RING	A-7D	1							
176	MH/SAN	RE-RING	A-7D	1							
177	MH/STORM	RE-RING	A-7D	1							
178	CB	RECONSTRUCT	R-3250-DVSP	1	1		1				
179	CB	RECONSTRUCT	R-3250-DVSP	1	1			5.3			
181	MH/SAN	RE-RING	A-7D	1							
186	CB	GROUT									RINGS
187	MH/STORM	RE-RING	A-7D	1							
188	CB	RECONSTRUCT	R-3250-DVSP	1	1	1					
190	MH/STORM	RE-RING	A-7D	1							
191	MH/SAN	RECONSTRUCT	A-7D	1	1			7.0			
192	MH/STORM	RE-RING	A-7D	1							
193	CB	RECONSTRUCT	R-3250-DVSP	1	1		1				
213	CB	GROUT									RINGS
215	APRON	REPLACE									
217	CB	RECONSTRUCT	R-2571-E	1	1		1				
218	CB	GROUT									RINGS
<b>TOTALS:</b>				46	21	3	7	44	241.00	56.0	15

CASTING ASSEMBLIES SUMMARY					
ASSEMBLY	RING OR FRAME CASTING	COVER OR GRATE CASTING	CURB BOX	QUANTITY	DESCRIPTION
A-7D	700-7	716		24	STD. PLATE: 4101, 4110
NEENAH*	R-3250-DVSP	V	YES	21	
NEENAH*	R-2571-E	F		1	
*OR APPROVED EQUAL					
ALL MANHOLE COVERS SHOULD BE LABELED AS STORM OR SANITARY					

COMMON EXCAVATION AT DITCH RE-GRADES (STA 59+10, STA 70+25 - 71+50)			
DESC.	SQ FT	THICKNESS (FT)	CU YDS
STA 59+10	1970	1.0	73
STA 70+25 - 71+50	4170	1.0	154
<b>TOTALS:</b>			<b>227</b>

NO	DATE	BY	CKD	APPR	REVISION	04/07/2016	2:43:08 PM
NAME: P:\14-01-00\CSAH_31_(Main-Grant)\Base\PROPOSED\PLAN.dgn							

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA  
 PRINT NAME: MATTHEW J. JOHN  
 SIGNATURE: *[Signature]*  
 DATE: 4/8/2016 LICENSE NO. 51639

DRAWN BY: SRK DATE 03/30/2016  
 DESIGN BY: SRK DATE 03/30/2016  
 CHECKED BY: MJJ DATE 03/31/2016



ANOKA COUNTY  
 HIGHWAY DEPT.

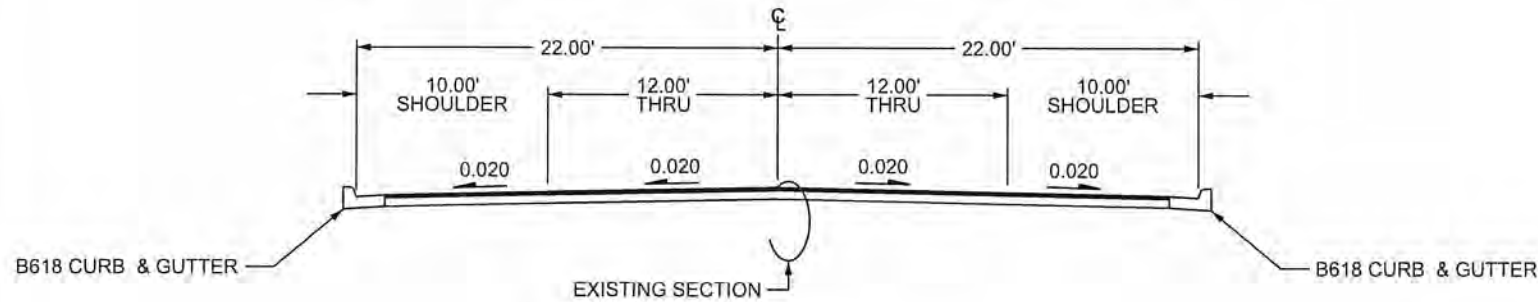
COUNTY PROJECT 16-24-31  
 16-20-131

TABULATIONS  
 Sheet 3 of 21 Sheets

**4TH AVE (CSAH 31)**

EXISTING ROAD

10+19 - 34+35  
35+85 - 38+60

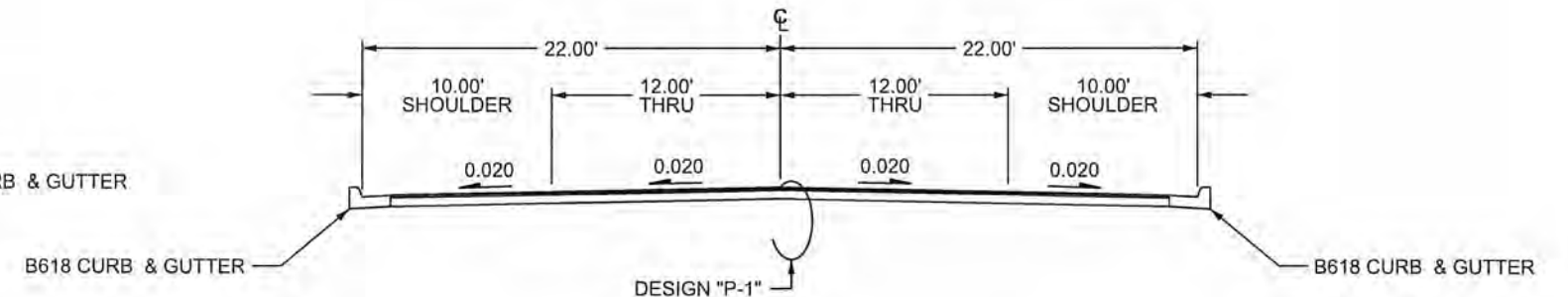


EXISTING SECTION

**4TH AVE (CSAH 31)**

PROPOSED ROAD

10+19 - 34+35  
35+85 - 38+60

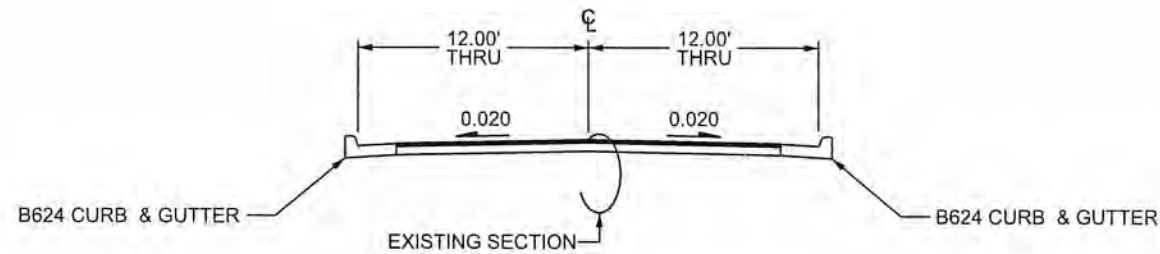


DESIGN "P-1"

**4TH AVE (CSAH 31)**

EXISTING ROAD

55+00 - 81+75

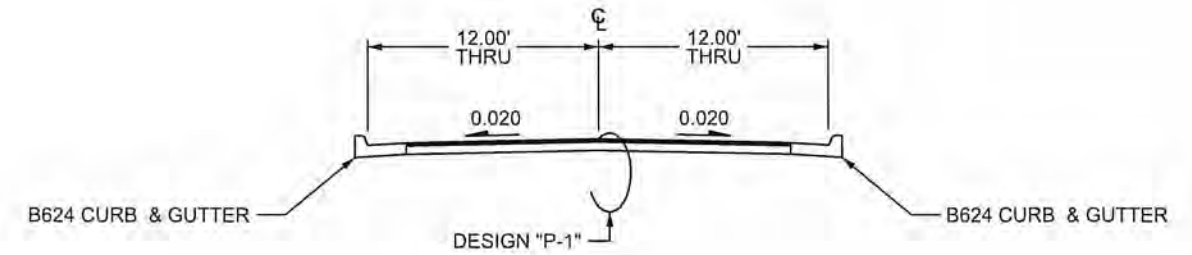


EXISTING SECTION

**4TH AVE (CSAH 31)**

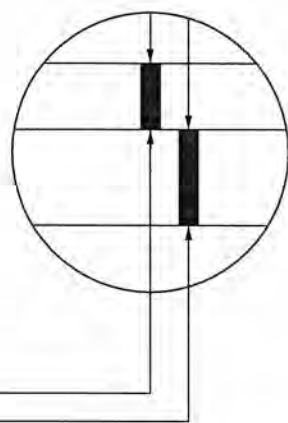
PROPOSED ROAD

55+00 - 81+75



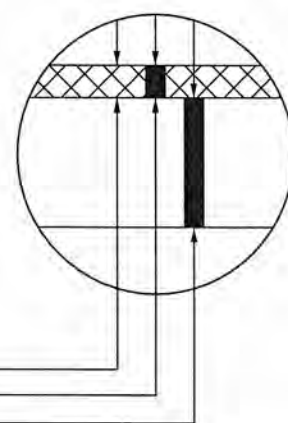
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**EXISTING SECTION**



5" BITUMINOUS  
EXISTING BASE

**DESIGN "P-1"  
MILL SECTION**



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

NOTE: NO MILLING OR PAVING BETWEEN STA 34+35 - 35+85 AND STA 38+60 - 48+75.

NO	DATE	BY	CKD	APPR	REVISION
	04/07/2016				2:49:22 PM

NAME: P:\14-01-00\CSAH\_31\_(Main-Grant)\Base\PROPOSED\TYPICALS.dgn

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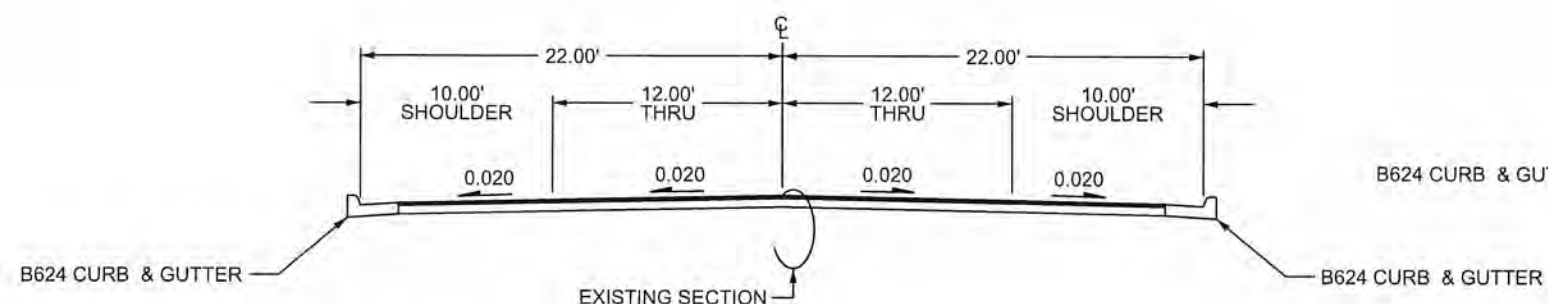


**ANOKA COUNTY  
HIGHWAY DEPT.**

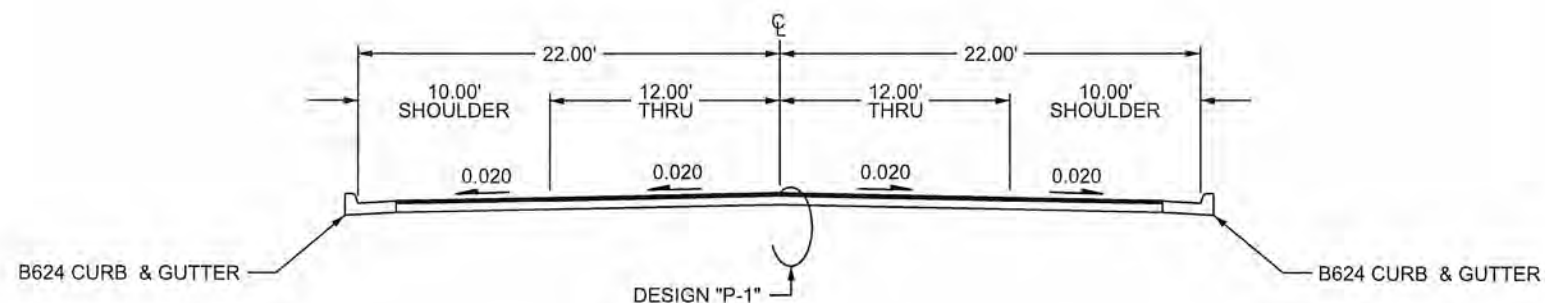
COUNTY PROJECT 16-24-31  
16-20-131

TYPICAL SECTIONS  
Sheet 4 of 21 Sheets

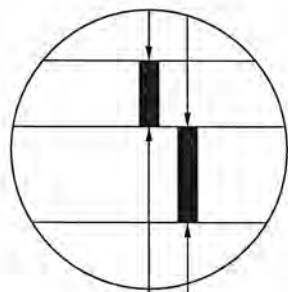
**GRANT ST (CSAH 31)**  
EXISTING ROAD  
10+10 - 28+53



**GRANT ST (CSAH 31)**  
PROPOSED ROAD  
10+10 - 28+53

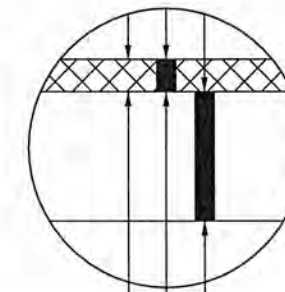


**EXISTING SECTION**



5" BITUMINOUS  
EXISTING BASE

**DESIGN "P-1"  
MILL SECTION**



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

NO	DATE	BY	CKD	APPR	REVISION	04/07/2016	2:49:30 PM

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**HIGHWAY DEPT.**

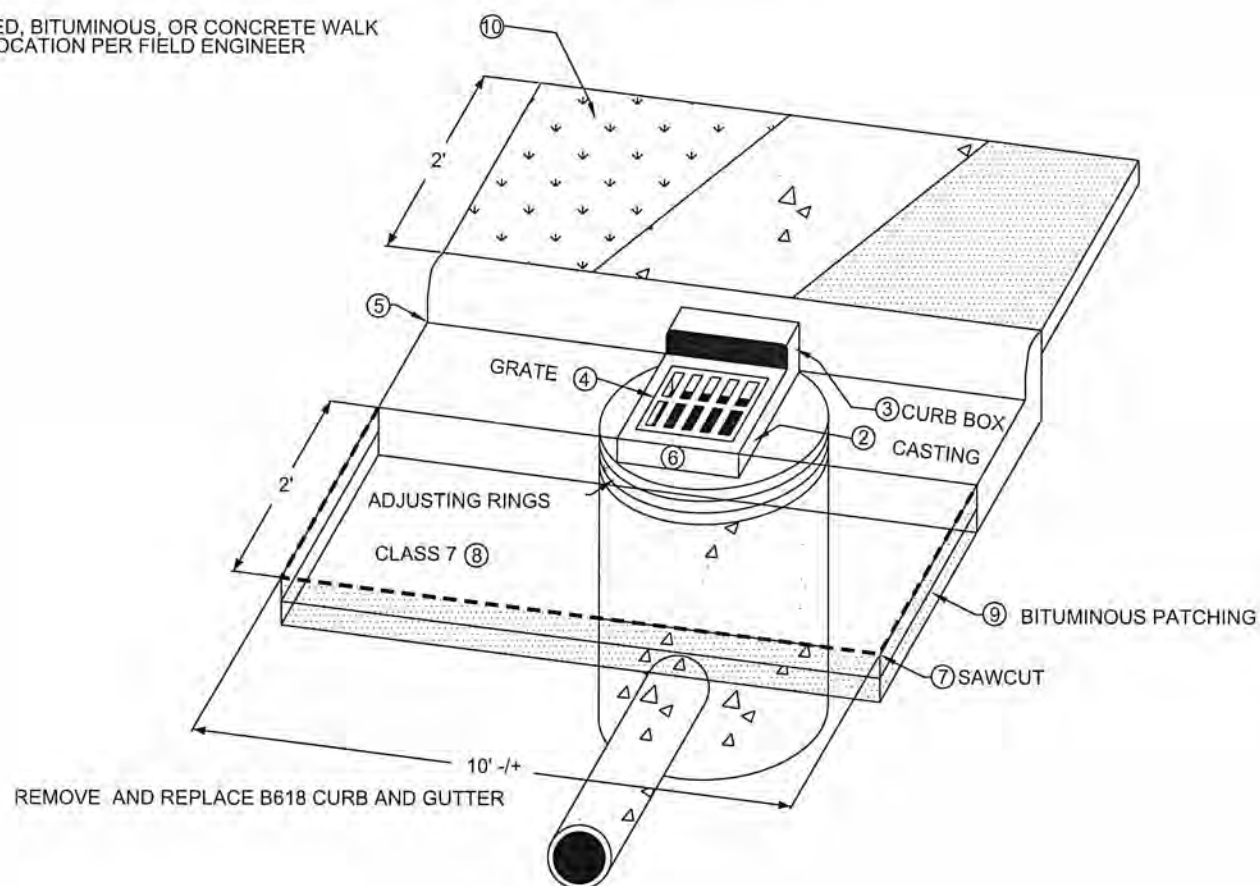
COUNTY PROJECT 16-24-31  
16-20-131

TYPICAL SECTIONS  
Sheet 5 of 21 Sheets

### CATCH BASIN DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 3)

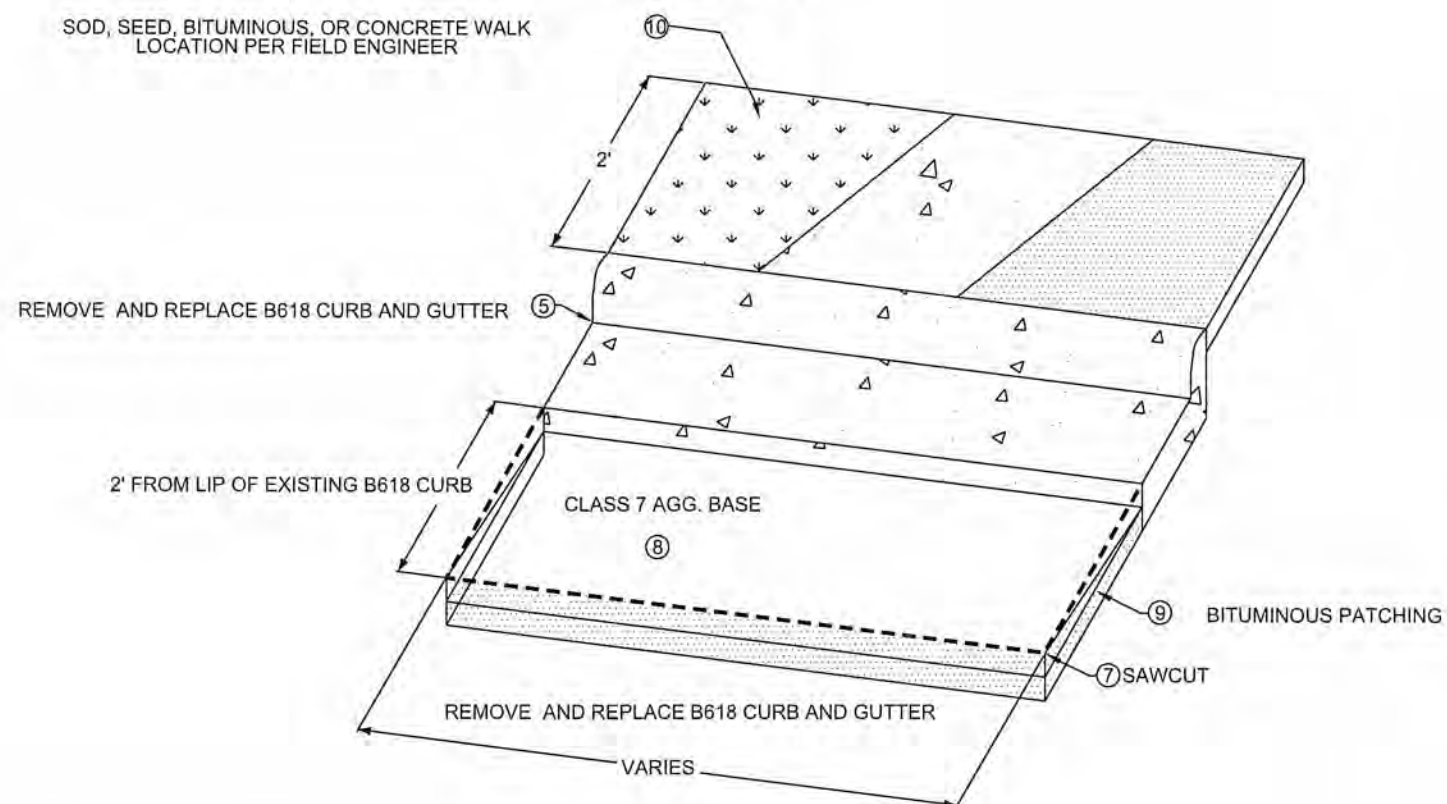
SOD, SEED, BITUMINOUS, OR CONCRETE WALK  
LOCATION PER FIELD ENGINEER



### NEW CURB DETAIL

SEE PLAN FOR LOCATION  
(PAGES 7 - 10)

SOD, SEED, BITUMINOUS, OR CONCRETE WALK  
LOCATION PER FIELD ENGINEER



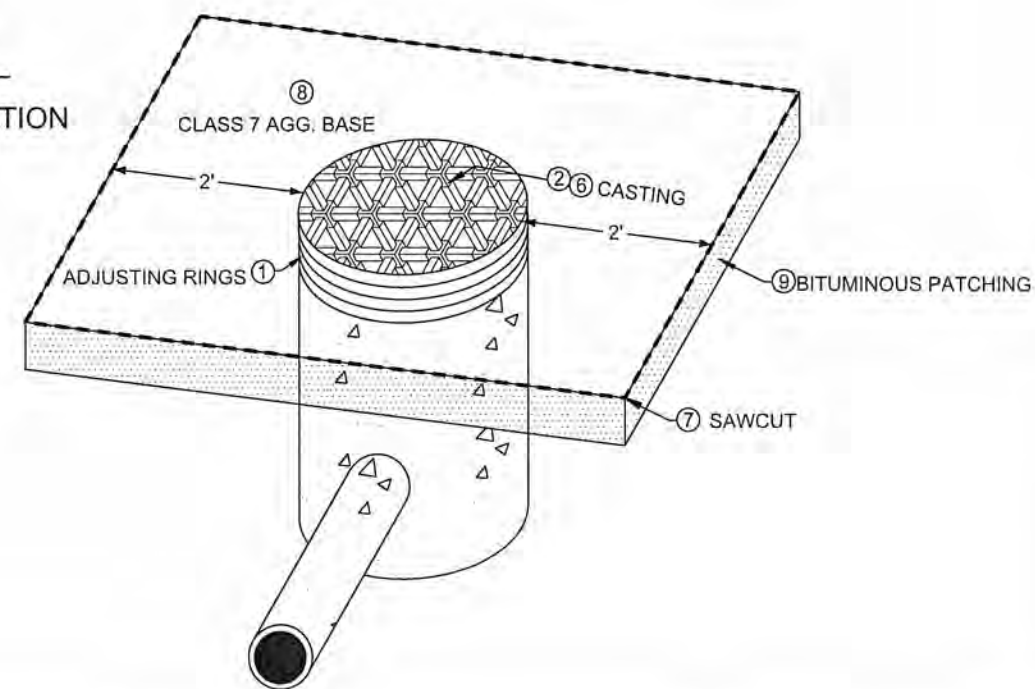
### NOTES

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

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

### MANHOLE DETAIL

SEE STRUCTURE TAB FOR LOCATION  
(PAGE 3)



NO	DATE	BY	CKD	APPR	REVISION	DATE	TIME
	04/07/2016						2:50:39 PM

NAME: P:114-01-00\CSAH\_31\_(Main-Grant)\Base\PROPOSED\DETAILS.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
PRINT NAME: MATTHEW J. JOHN  
SIGNATURE: *[Signature]*  
DATE: 4/8/2016 LICENSE NO: 51639

DRAWN BY: SRK DATE: 03/30/2016  
DESIGN BY: SRK DATE: 03/30/2016  
CHECKED BY: MJJ DATE: 03/31/2016

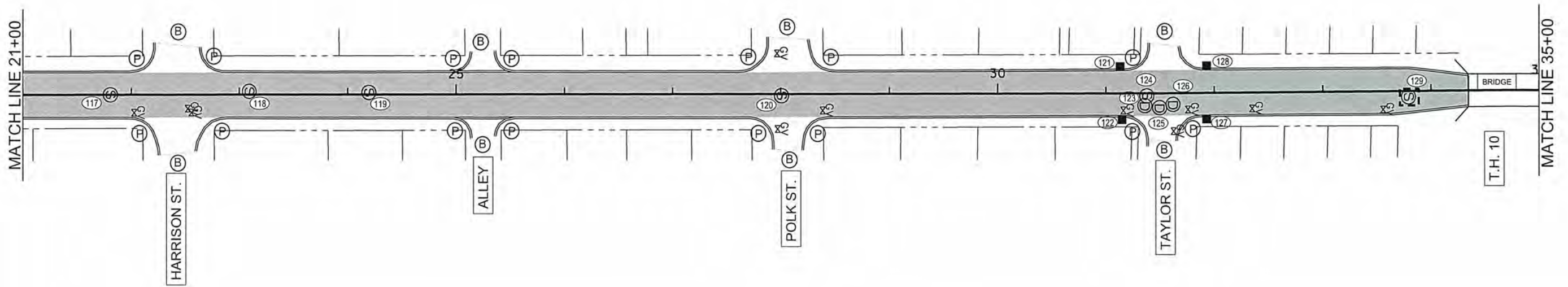
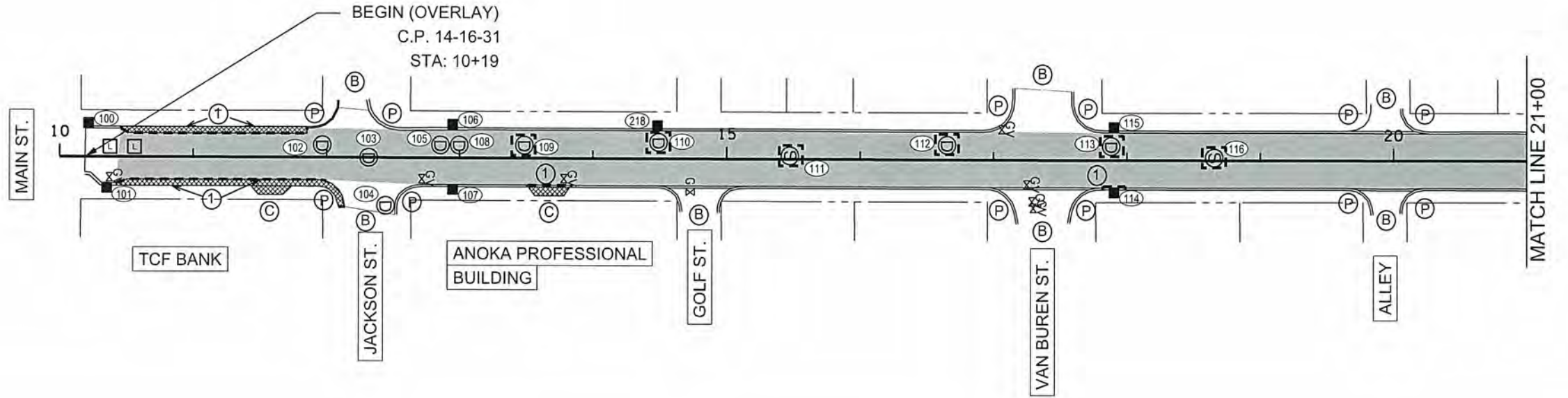


ANOKA COUNTY  
HIGHWAY DEPT.

COUNTY PROJECT 16-24-31  
16-20-131

DETAILS  
Sheet 6 of 21 Sheets

LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(1)	CURB REPLACEMENT
(P)	PED RAMP
- - -	SAWCUT
[ ]	APRX. LOOP LOCATION
- - - ->	EX. STORM SEWER
[Hatched Box]	MAINLINE MILL AREA
[White Box]	STREET APPROACH MILL AREA
[Cross-hatched Box]	BIT. / CONC. / S-WALK REMOVAL
- - - - -	EXISTING R / W



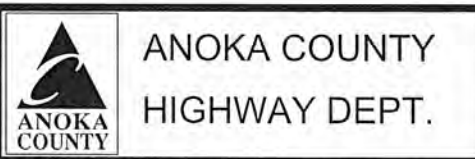
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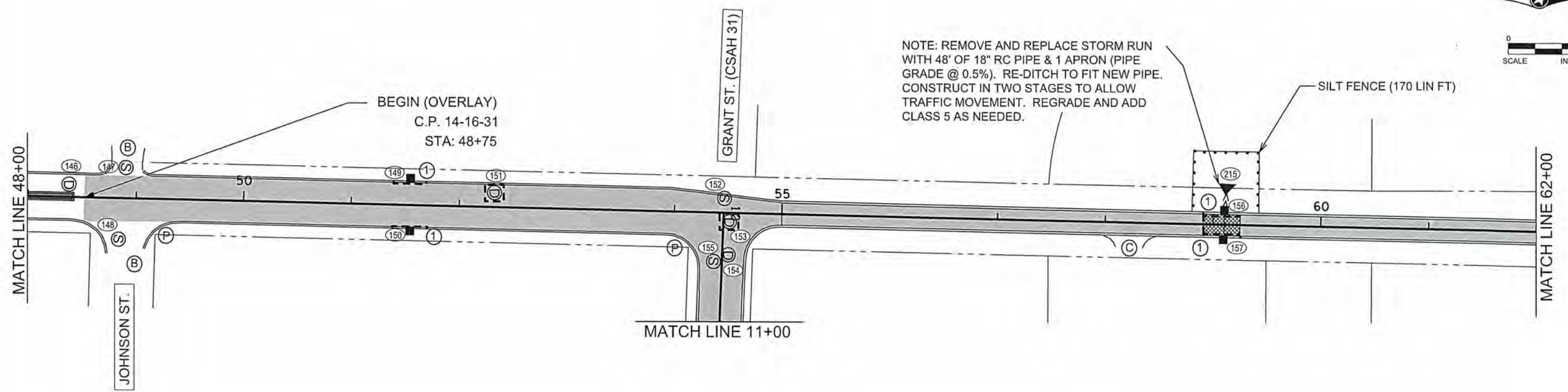
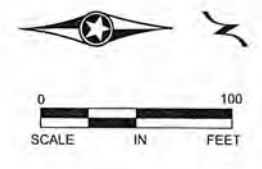
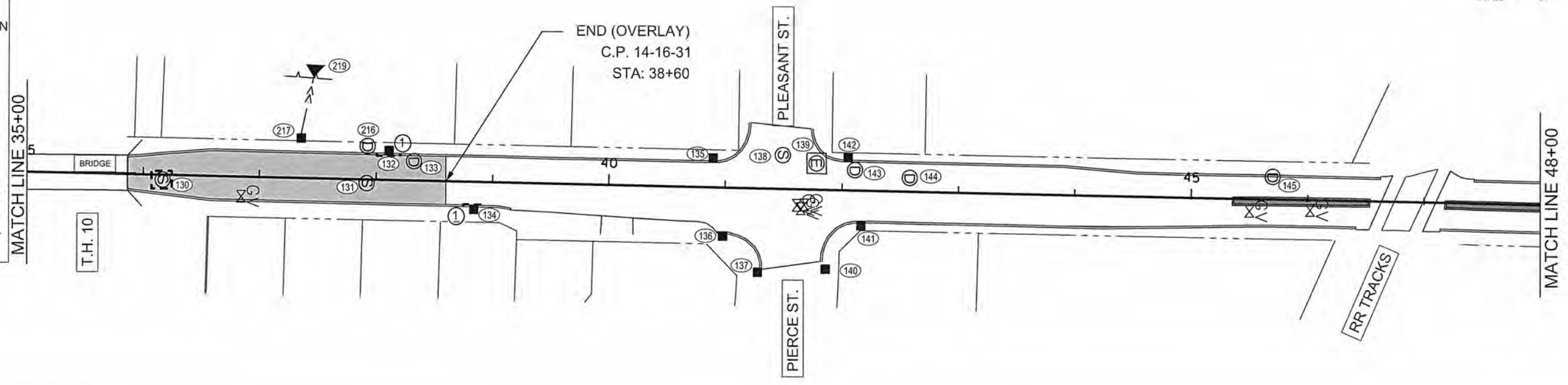
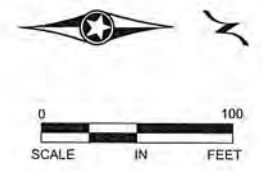


ANOKA COUNTY  
 HIGHWAY DEPT.

COUNTY PROJECT 16-24-31  
 16-20-131

CONSTRUCTION PLAN  
 STA 10+19.10 TO 35+00.00  
 Sheet 7 of 21 Sheets

LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(1)	CURB REPLACEMENT
(P)	PED RAMP
- - -	SAWCUT
[ ]	APRX. LOOP LOCATION
- - -	EX. STORM SEWER
[ ]	MAINLINE MILL AREA
[ ]	STREET APPROACH MILL AREA
[ ]	BIT. / CONC. / S-WALK REMOVAL
- - -	EXISTING R / W



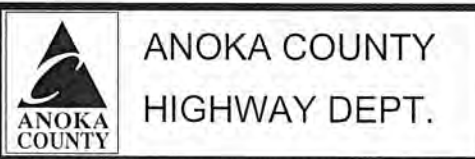
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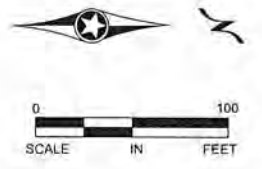
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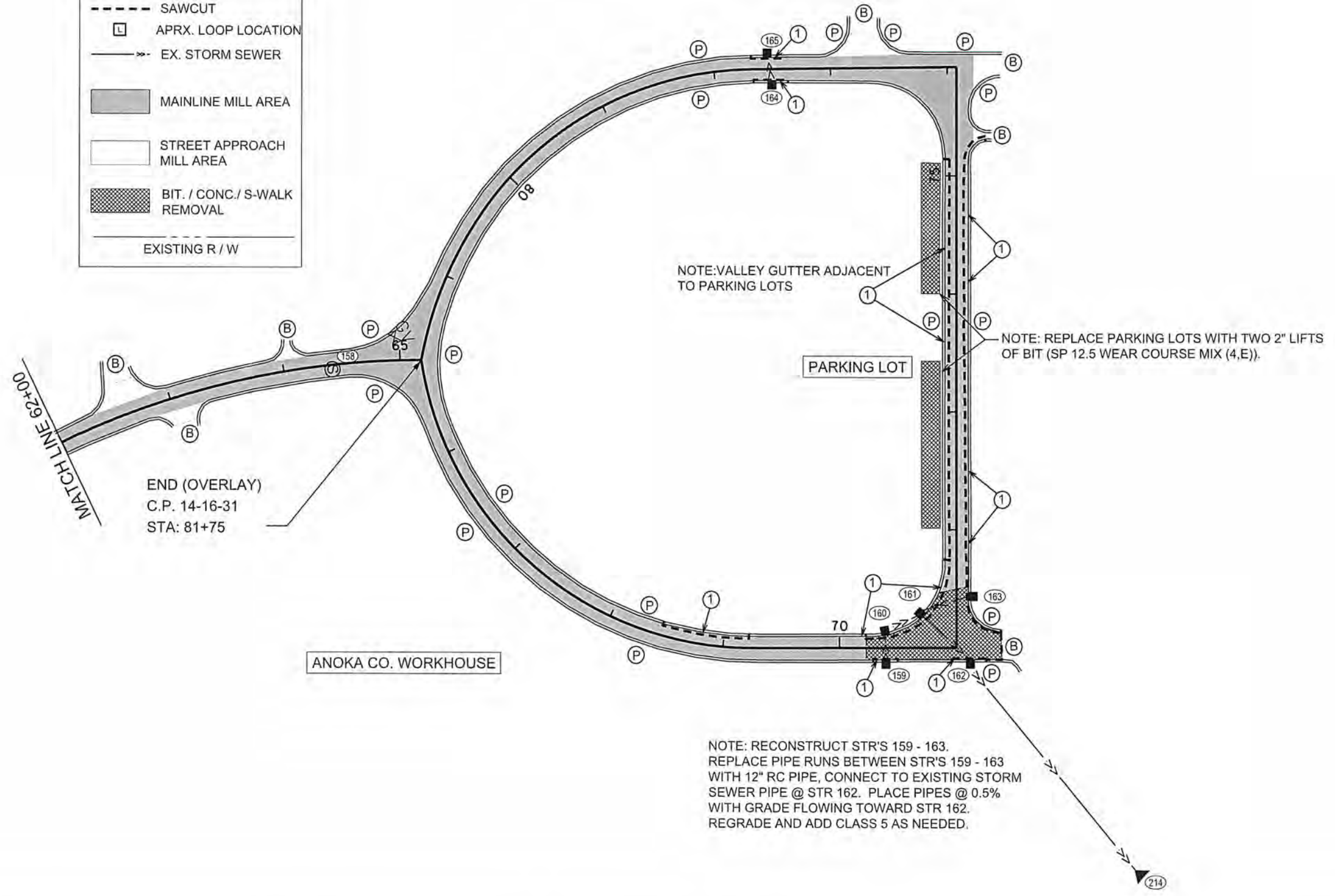
COUNTY PROJECT 16-24-31  
 16-20-131

CONSTRUCTION PLAN  
 STA 35+00.00 TO 62+00.00  
 Sheet 8 of 21 Sheets





LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(1)	CURB REPLACEMENT
(P)	PED RAMP
- - -	SAWCUT
[ ]	APRX. LOOP LOCATION
- - - - -	EX. STORM SEWER
[Shaded Area]	MAINLINE MILL AREA
[White Area]	STREET APPROACH MILL AREA
[Hatched Area]	BIT. / CONC. / S-WALK REMOVAL
- - - - -	EXISTING R / W



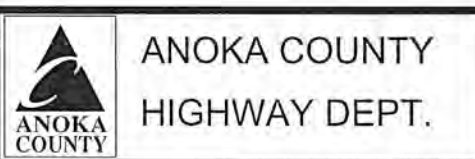
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	04/07/2016				

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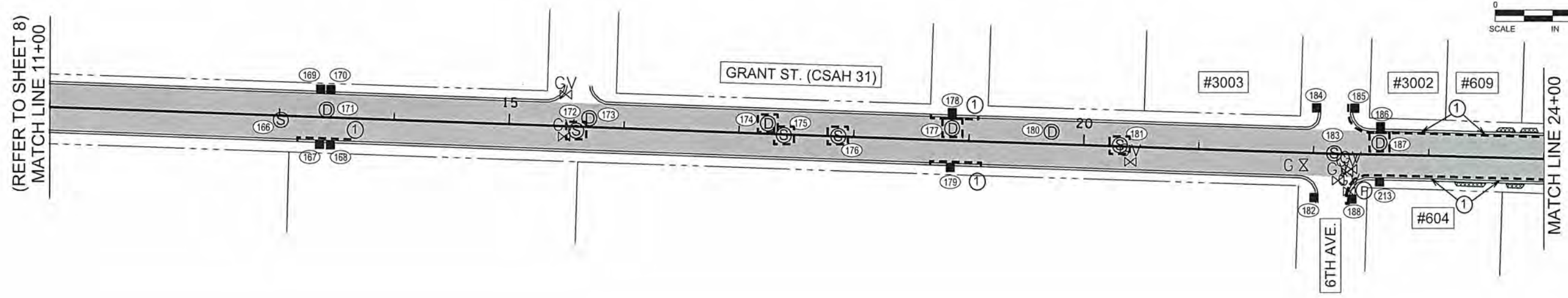
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CHECKED BY: MJJ DATE: 03/31/2016



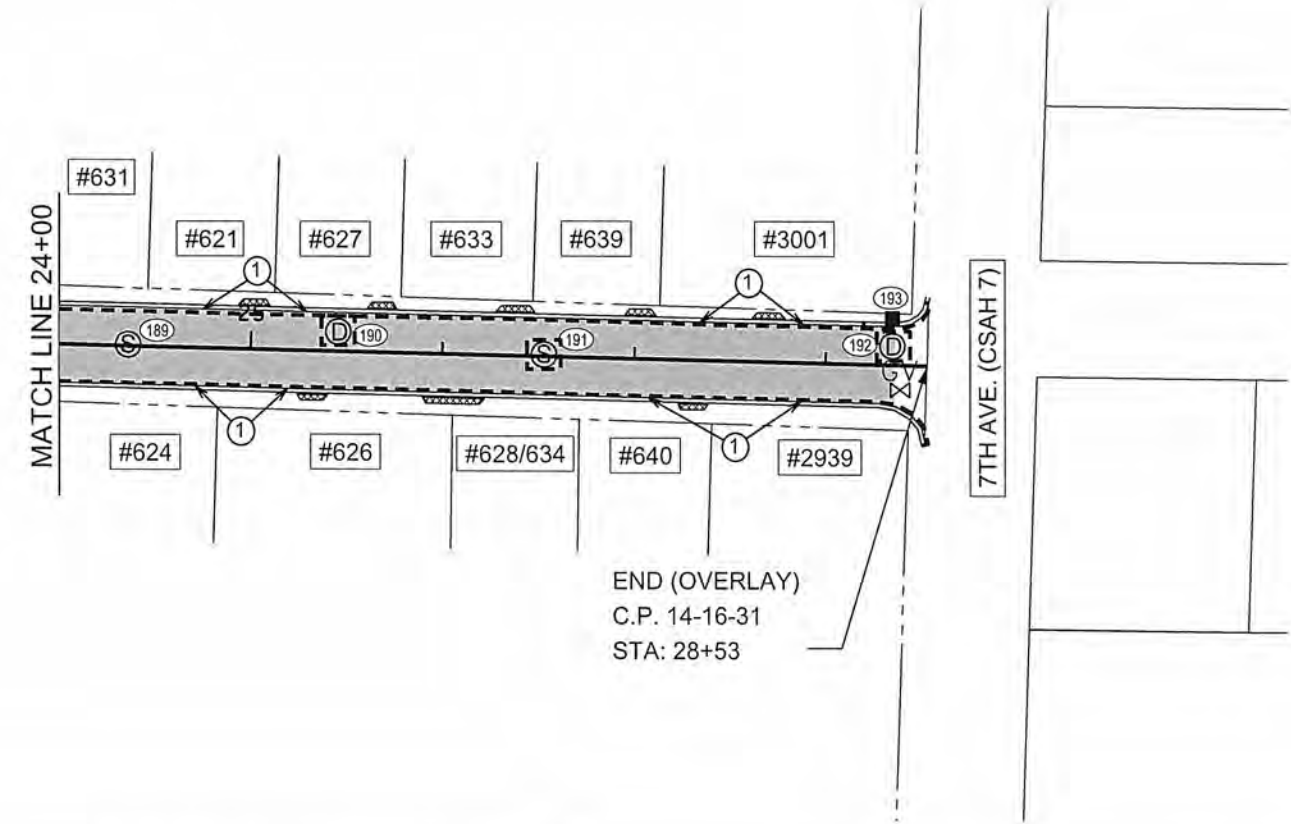
COUNTY PROJECT 16-24-31  
16-20-131

CONSTRUCTION PLAN  
STA 62+00.00 TO 81+75.00  
Sheet 9 of 21 Sheets

THE HOMESTEAD AT ANOKA



LEGEND	
(B)	BITUMINOUS
(C)	CONCRETE
(1)	CURB REPLACEMENT
(P)	PED RAMP
- - -	SAWCUT
□	APRX. LOOP LOCATION
- - - - -	EX. STORM SEWER
[Solid Grey]	MAINLINE MILL AREA
[White]	STREET APPROACH MILL AREA
[Hatched]	BIT. / CONC. / S-WALK REMOVAL
- - - - -	EXISTING R / W



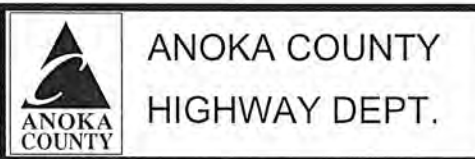
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ANOKA COUNTY  
 HIGHWAY DEPT.

COUNTY PROJECT 16-24-31  
 16-20-131

CONSTRUCTION PLAN  
 STA 10+10.00 TO 28+53.00  
 Sheet 10 of 21 Sheets

**PERMANENT PAVEMENT MARKING PLAN**  
NOTES AND GUIDELINES

**GENERAL INFORMATION:**

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. ANOKA COUNTY HIGHWAY DEPARTMENT WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS, ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

**EPOXY:**

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENT AND/OR LAITANCE ON LOW SPEED (SPEED LIMIT 35 MPH OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS. SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

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

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

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

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

**PREFORMED THERMOPLASTIC:**

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

**PAINT:**

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

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

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

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

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
24" WHITE THERMO- PLASTIC	SQ FT	354
3' X 6' THERMO- PLASTIC ZEBRA CROSSWALK	SQ FT	1512
4" SOLID LINE WHITE - EPOXY PAINT	LIN FT	7931
4" SOLID LINE YELLOW - EPOXY PAINT	LIN FT	1977
4" BROKEN LINE YELLOW - EPOXY PAINT	LIN FT	1000
4" DOUBLE LINE YELLOW - EPOXY PAINT	LIN FT	1895

**SYMBOLS & MATERIALS LEGEND**

CROSSWALK BLOCK WHITE PREFORMED THERMOPLASTIC

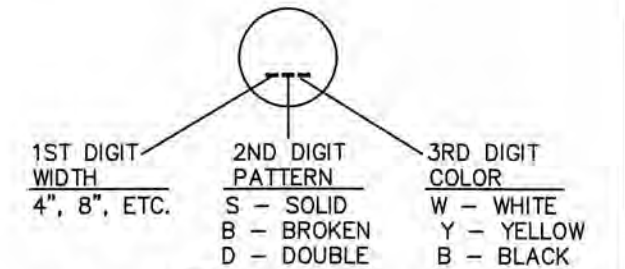
PAVEMENT MESSAGE (LEFT ARROW) PREFORMED THERMOPLASTIC

**STRIPING KEY**

CIRCLE - EPOXY SQUARE PREFORMED THERMOPLASTIC

TRIANGLE - PAINT

PENTAGON - REMOVABLE PREFORMED PLASTIC MARKING



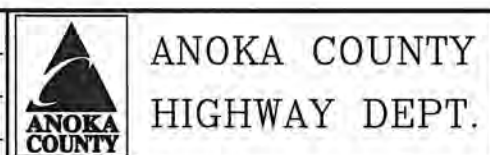
EXAMPLE: = 4" SOLID LINE WHITE - EPOXY

NO	DATE	BY	CKD	APPR	REVISION

NAME: P:\13-01-00\CSAH 18\Basel\TRAFFIC\Perm pvmt mrkg guide notes\_guidelines.dwg

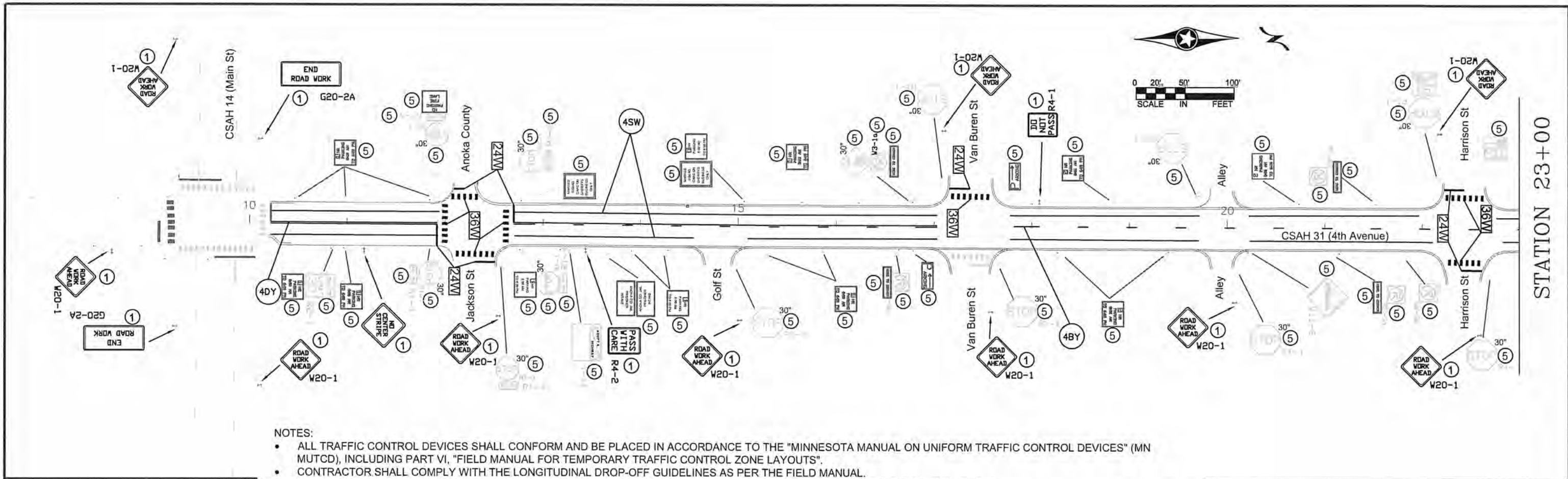
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 DATE: 4/8/2016 LICENSE NO. 51639

DRAWN BY: RLB DATE: 4-3-14  
 DESIGN BY: RLB DATE: 4-3-14  
 CHECKED BY: JR DATE: 4-3-14



STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 16-24-31

PERMANENT MARKING TABULATION  
 Sheet 11 of 21 Sheets

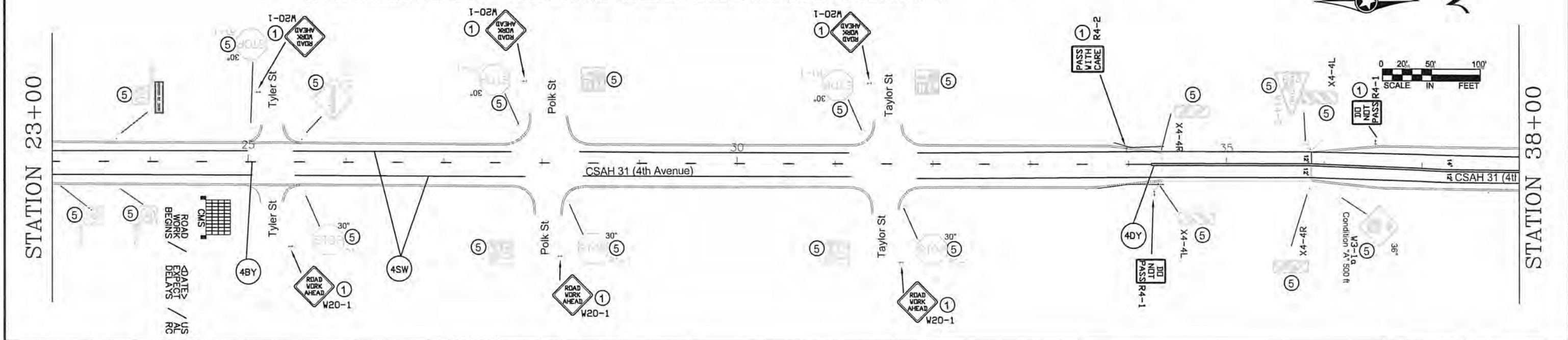


**NOTES:**

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

**SIGN NOTES:**

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



NO	DATE	BY	CKD	APPR	REVISION

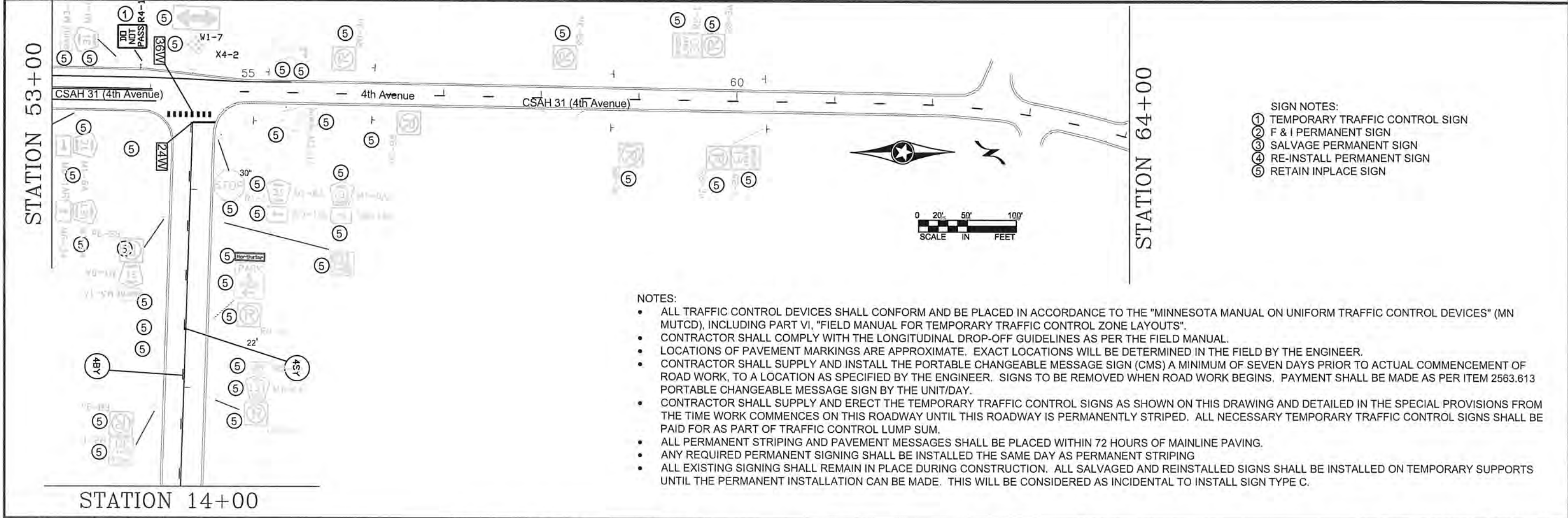
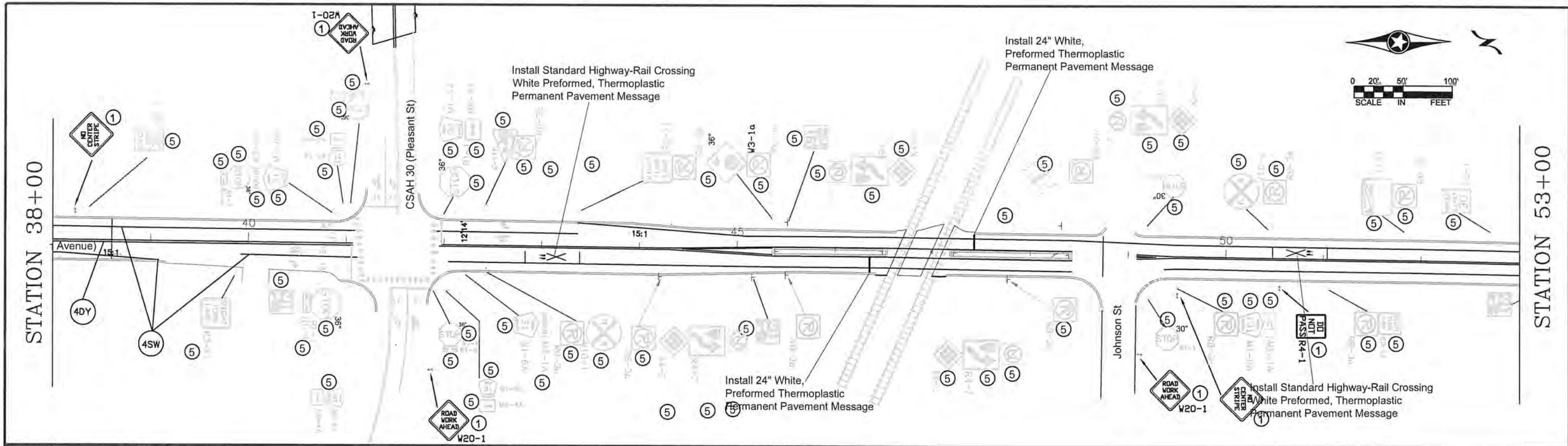
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 CHECKED BY: JR DATE: 4/1/14

**ANOKA COUNTY HIGHWAY DEPT.**

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 16-24-31

TEMPORARY SIGNING,  
 PERMANENT SIGNING  
 AND STRIPING  
 Sheet 12 of 21 Sheets

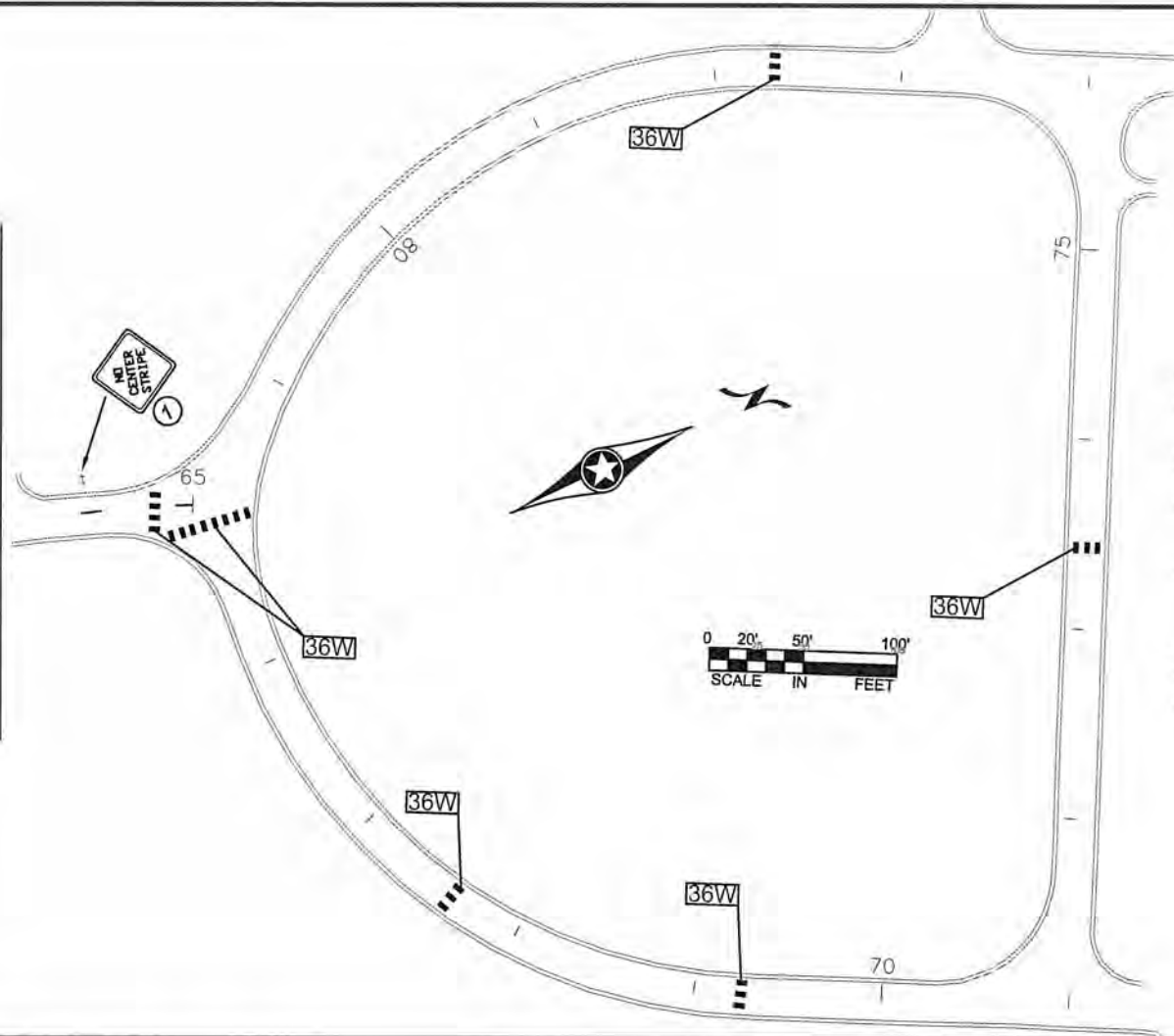


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NO	DATE	BY	CKD	APPR	REVISION				
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STATION 64+00

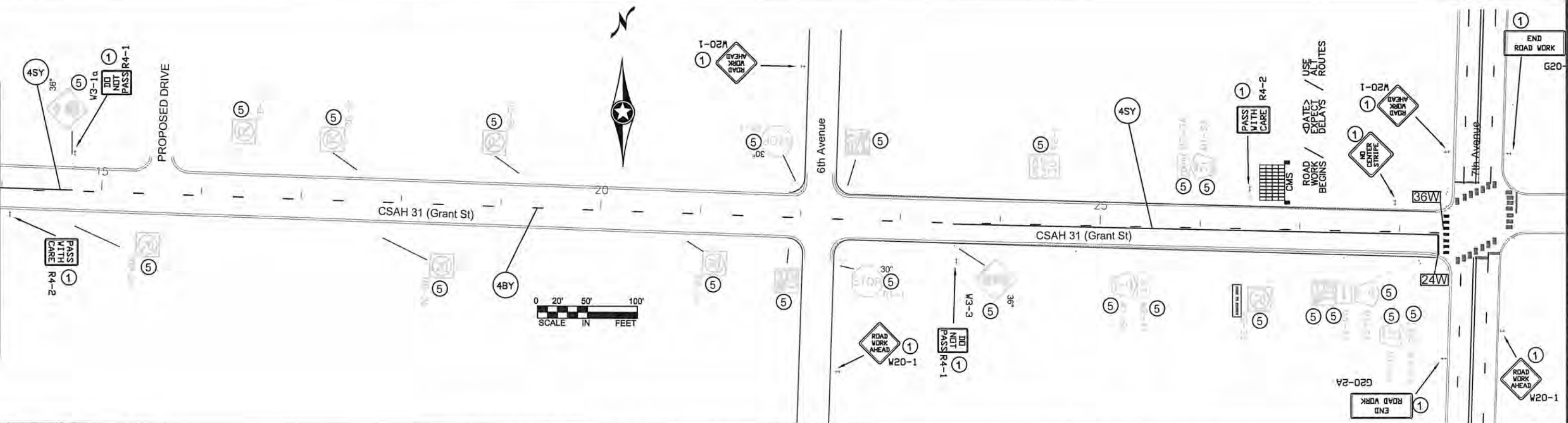


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  - ⑤ RETAIN INPLACE SIGN

NOTES:

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

STATION 14+00

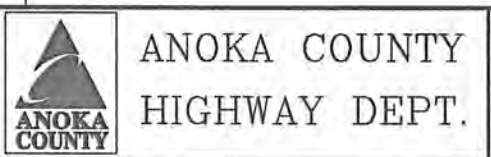


NO	DATE	BY	CKD	APPR	REVISION

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

PRINT NAME: MATTHEW J. JOHN  
 SIGNATURE: *Matthew J. John*  
 DATE: 4/8/2016 REG. NO. 51639

DRAWN BY: RLB DATE: 4/1/14  
 DESIGN BY: RLB DATE: 4/1/14  
 CHECKED BY: JR DATE: 4/1/14



STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 16-24-31

TEMPORARY SIGNING,  
 PERMANENT SIGNING  
 AND STRIPING

Sheet 14 of 21 Sheets

TEMPORARY TRAFFIC CONTROL SIGNS						
M.U.T.C.D. CODE	SIZE	PANEL AREA FT. <sup>2</sup>	INSERT	QUANTITY		MOUNTING HEIGHT TO PAVEMENT (SEE) FT.
				No.	POST	
W8-12	48" x 48"	16.00		5	2	7.0'
R4-1	24" x 30"	5.00		7	1	7.0'
R4-2	24" x 30"	5.00		4	1	7.0'
G20-2A	48" x 24"	8.00		4	2	7.0'
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-1A	48" x 48"	16.00		AS NEEDED		
W8-8	48" x 48"	16.00		AS NEEDED		
W8-9	48" x 48"	16.00		AS NEEDED		
	48" x 48"	16.00		AS NEEDED		
W8-11	48" x 48"	16.00		AS NEEDED		
W20-1	48" x 48"	16.00		AS NEEDED (ESTIMATED 23)		
CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.				2		

NOTES:

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

CHANGEABLE MESSAGE BOARD - MESSAGE SEQUENCE LAYOUT

		R	O	A	D		
		W	O	R	K		
		B	E	G	I	N	S

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

		U	S	E			
		A	L	T	.		
		R	O	U	T	E	S

CMS sign to be installed a minimum of seven days prior to actual commencement of road work. Signs to be removed when road work begins.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: MATTHEW J. JOHN  
 SIGNATURE:   
 DATE: 4/8/2016 REG. NO. 51639

DRAWN BY: RLB DATE: 1/7/14  
 DESIGN BY: RLB DATE: 1/7/14  
 CHECKED BY: JR DATE: 1/7/14

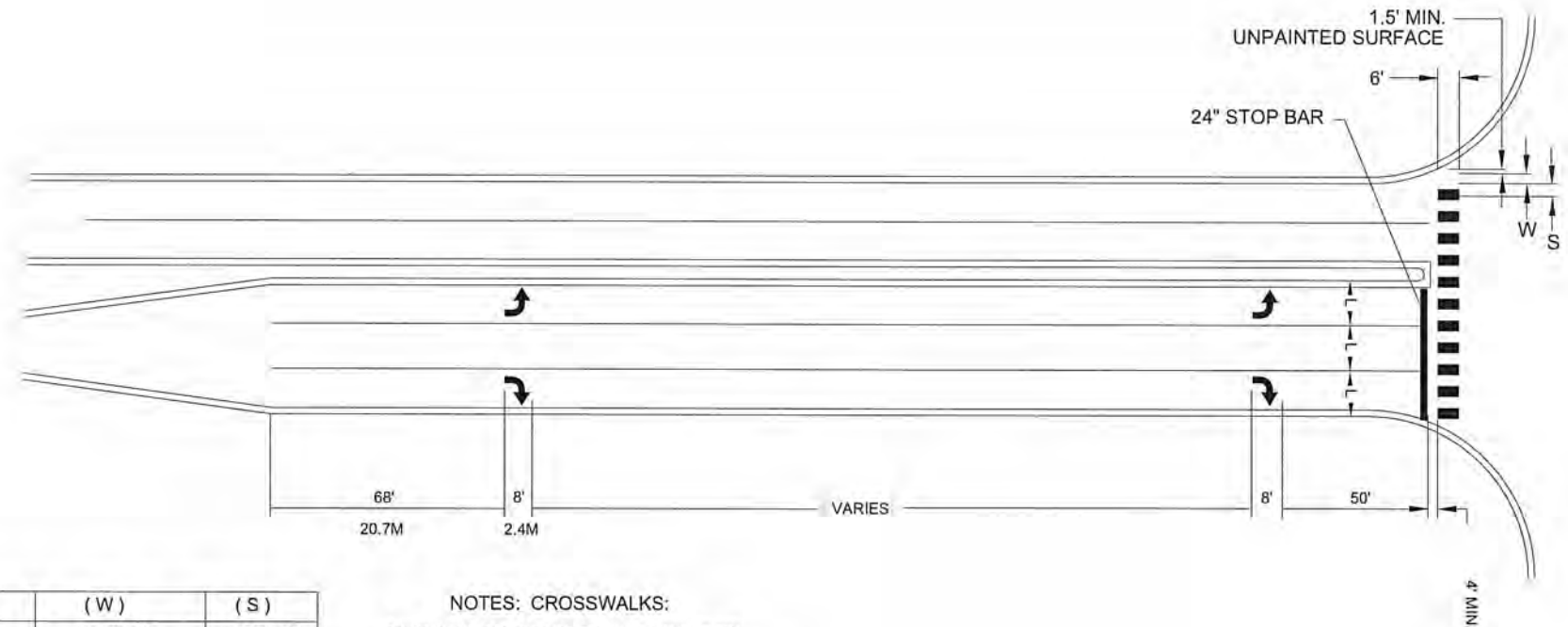


ANOKA COUNTY  
 HIGHWAY DEPT.

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 16-24-31

TRAFFIC CONTROL  
 QUANTITY  
 Sheet 15 of 21 Sheets

# MARKINGS FOR PEDESTRIAN CROSSWALKS



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

**NOTES: CROSSWALKS:**

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

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: MATTHEW J. JOHN  
 SIGNATURE: *[Signature]*  
 DATE: 4/8/2016 REG. NO. 51639

DRAWN BY: RLB DATE: 2/6/14  
 DESIGN BY: RLB DATE: 2/6/14  
 CHECKED BY: JR DATE: 2/6/14



**ANOKA COUNTY  
HIGHWAY DEPT.**

STATE PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 STATE AID PROJECT NO. \_\_\_\_\_  
 COUNTY PROJECT NO. 16-24-31

SIGNING & STRIPING  
DETAILS

Sheet 16 of 21 Sheets



7221

4 TYPE A-35-S35  
2-ONE WAY SIGNALS (OVERHEAD)  
\* REMOVE:  
TYPE 10C (POLE MOUNTED 270°)  
2-PED INDICATIONS  
1-PED PB AND SIGNS  
SALVAGE & REINSTALL:  
1-SIGNAL HEAD  
F & I:  
1-TYPE 10C BRACKET (POLE MOUNTED 270°)  
2-C.D. PED INDICATIONS  
ONE WAY EVP DETECTOR AND CONFIRMATORY  
LIGHT PHASE #2 + #5  
LUMINAIRE @ 355°  
SWING AWAY HINGES  
R10-12 SIGN  
REMOVE:  
3/4" R.S.C. INTO ADJACENT LIGHTING HANDHOLE  
4-1/C#10  
MAST ARM MOUNTED PARKING SIGN

3 TYPE A-20  
ONE WAY SIGNAL (OVERHEAD)  
\* REMOVE:  
TYPE 10C (POLE MOUNTED 270°)  
2-PED INDICATIONS  
1-PED PB AND SIGNS  
SALVAGE & REINSTALL:  
1-SIGNAL HEAD  
F & I:  
1-TYPE 10C BRACKET (POLE MOUNTED 270°)  
2-C.D. PED INDICATIONS  
ONE WAY EVP DETECTOR AND CONFIRMATORY  
LIGHT PHASE #B  
REMOVE:  
3/4" R.S.C. INTO ADJACENT LIGHTING HANDHOLE  
4-1/C#10  
MAST ARM MOUNTED PARKING SIGN

\* PED PB STATION (PB2-2)  
1-PED PB & SIGN (R10-3E)  
EXTEND INTO HH 9:  
2" R.S.C.  
1-2/C #14

\* PED PB STATION (PB8-1)  
1-PED PB & SIGN (R10-3E)  
EXTEND INTO HH 8:  
2" R.S.C.  
1-2/C #14

\* PED PB STATION (PB2-1)  
1-PED PB & SIGN (R10-3E)  
EXTEND INTO HH 1:  
2" R.S.C.  
1-2/C #14

\* PED PB STATION (PB4-2)  
1-PED PB & SIGN (R10-3E)  
EXTEND INTO HH 2:  
2" R.S.C.  
1-2/C #14

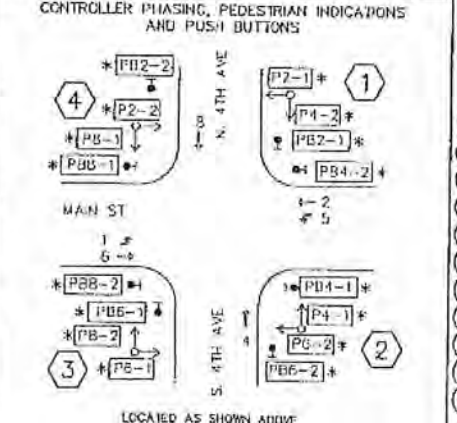
1 TYPE A-20  
ONE WAY SIGNAL (OVERHEAD)  
\* REMOVE:  
TYPE 10C (POLE MOUNTED 270°)  
2-PED INDICATIONS  
1-PED PB AND SIGNS  
SALVAGE & REINSTALL:  
1-SIGNAL HEAD  
F & I:  
1-TYPE 10C BRACKET (POLE MOUNTED 270°)  
2-C.D. PED INDICATIONS  
ONE WAY EVP DETECTOR AND CONFIRMATORY  
LIGHT PHASE #4  
REMOVE:  
3/4" R.S.C. INTO ADJACENT LIGHTING HANDHOLE  
4-1/C#10  
MAST ARM MOUNTED PARKING SIGN

ALL SIGNAL EQUIPMENT ON THIS SHEET IS  
IN PLACE AND SHALL REMAIN IN PLACE UNLESS  
OTHERWISE NOTED. A BOX AND ASTERISK (\*)  
DENOTES WORK TO BE COMPLETED BY  
CONTRACTOR.  
ITEMS DENOTED WITH A + ARE INCIDENTAL TO  
THE INTERCONNECT PAY ITEMS.



EXISTING SIGNAL FACES

SIGNAL FACE	ALL SIGNAL FACES SHALL BE 12"				
	R	Y	G	Y	G
1-1	●	●	●	●	●
2-1, 2-2	●	●	●	●	●
4-1, 4-2	●	●	●	●	●
5-1	●	●	●	●	●
6-1, 6-2	●	●	●	●	●
8-1, 8-2	●	●	●	●	●



LOOP DETECTORS

NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1	2-6x6	20' & 50'	1
D1-2	2-6x6	5' & 35'	1
D4-1	2-6x6	0' & 15'	1
D5-1	2-6x6	20' & 50'	1
D5-2	2-6x6	5' & 35'	1
D8-1	2-6x6	0' & 15'	1

LOCATION = DISTANCE FROM  
CROSSWALK/STOP BAR TO  
FRONT OF LOOP DETECTOR.  
LOOP DETECTOR FUNCTIONS:  
1=CALL AND EXTEND  
2=DELAYED CALL, IMMEDIATE EXTEND

NOTES (REVISION DATE 2-14-2012):

- THE EXACT LOCATION OF HANDHOLES, LOOP DETECTORS, PUSH BUTTON STATIONS, PUSH BUTTONS, AND PEDESTRIAN RAMPS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. HANDHOLES SHALL BE INSTALLED ENTIRELY WITHIN PAVERS OR CONCRETE SIDEWALK SURFACES.
- THE CONTRACTOR SHALL LOCATE AND VERIFY IN PLACE UTILITIES PRIOR TO COMMENCING WORK.
- EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION COUNTDOWN HAND/WALKING PERSON INDICATION. SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCIDENTAL).
- ALL VEHICLE SIGNAL INDICATIONS AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
- ALL PEDESTRIAN SIGNAL HOUSINGS AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- LOOP DETECTOR WIRE SHALL BE CROSS-LINKED POLYETHYLENE (XLPE) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- ALL CABLES AND HANDHOLES BETWEEN THE CABINET AND LOOP DETECTORS, EVP DETECTORS, AND TERMINAL BLOCKS SHALL BE REMOVED AND FURNISHED BY THE CONTRACTOR.
- ALL CONDUIT SHALL BE FURNISHED AND INSTALLED EXCEPT FOR CONDUIT WITHIN ONE (1) FOOT OF SIGNAL FOUNDATIONS AND CONDUIT BETWEEN THE CABINET AND SOURCE OF POWER. NEW CONDUIT TO FOUNDATIONS SHALL BE INTO THE IN PLACE CONDUIT WITHIN ONE (1) FOOT OF THE FOUNDATIONS.
- SEE SPECIAL PROVISIONS FOR RESTRICTIONS ON WHEN THE IN PLACE SIGNALS MAY BE TAKEN OUT OF SERVICE.
- TEN (10) FEET OF EACH CABLE SHALL BE COILED IN EACH HANDHOLE.
- ALL CONDUIT SHALL BE INSTALLED PRIOR TO THE BITUMINOUS, CONCRETE, OR PAVER INSTALLATION.
- NEW TERMINAL BLOCKS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH POLE BASE. SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL LABEL ALL CABLES AND CONDUCTORS IN THE TRANSFORMER BASES AND CABINET. SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL REMOVE AND FURNISH AND INSTALL MORTAR (GROUT) BETWEEN THE TRANSFORMER BASES OF THE MAST ARM POLE STANDARDS AND THE MAST ARM POLE CONCRETE FOUNDATIONS.

No.	Date	Revisions	App.
1	03/16/12	ADDENDUM #3	R.B.

DRAWING NAME  
EAST-MAINST\_TSIGPOS.dwg  
DESIGNED BY: RBC  
DRAWN BY: HMW  
CHECKED BY: DJC  
DATE: 02/14/2012  
PROJECT NO. 150300617

**Kimley-Horn and Associates, Inc.**  
3550 UNIVERSITY AVE. WEST, SUITE 2300  
ST. PAUL, MINNESOTA 55114  
TEL. NO. (651) 645-4131  
FAX. NO. (651) 645-5116

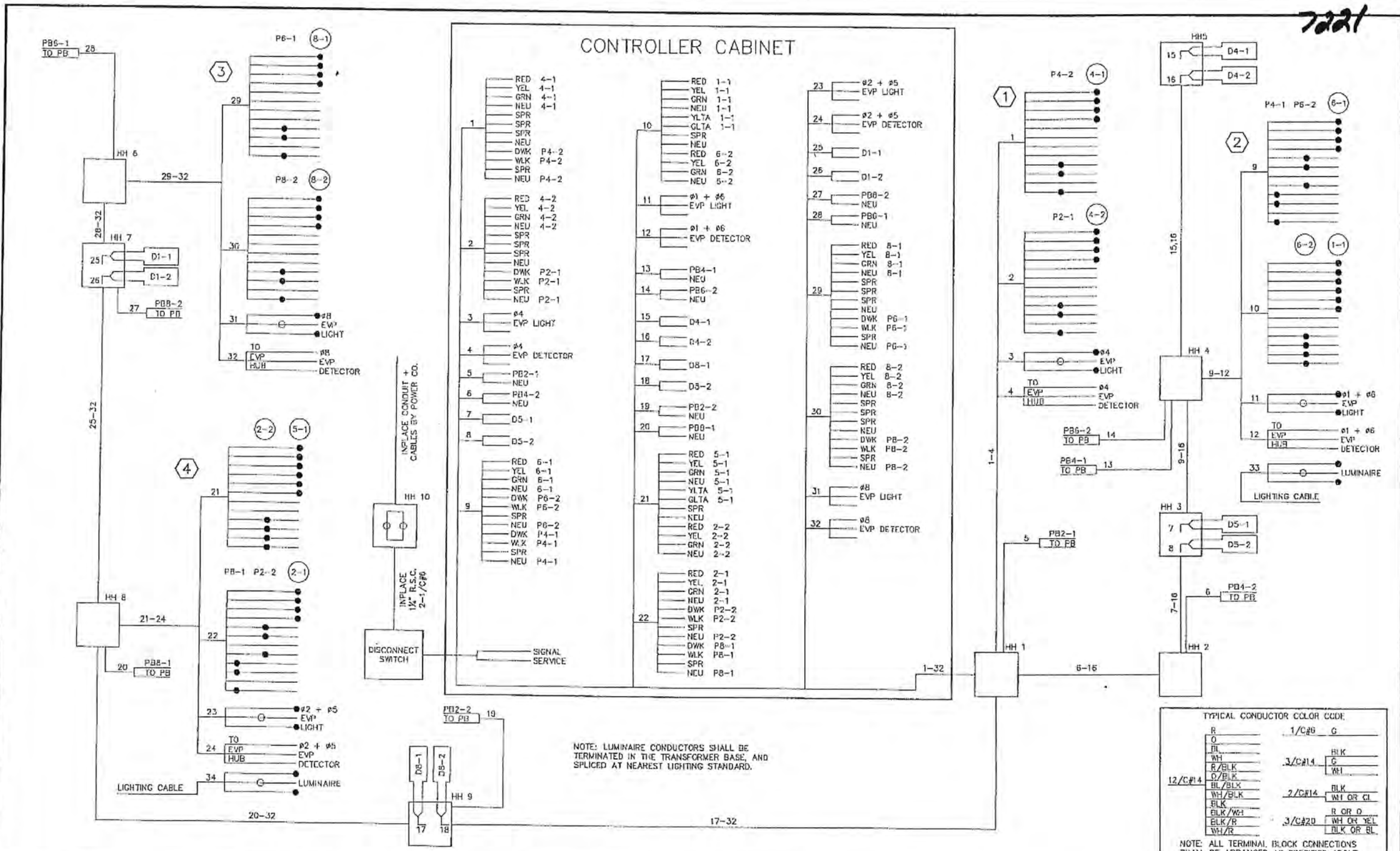
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Brandon J. Bourdon*  
BRANDON J. BOURDON, P.E.  
DATE: 02/14/2012, PR. LIC. NO. 43729

**CITY OF ANOKA**  
EAST MAIN STREET IMPROVEMENTS  
TRAFFIC SIGNAL SYSTEM  
INTERSECTION LAYOUT  
SYSTEM "C" - MAIN ST & FOURTH AVE

CITY PROJECT	2012-02	SHEET NO.	114
COUNTY PROJECT			193
S.A.P.	103-134-006,103-020-016		
S.P.			

FOR REFERENCE PURPOSES ONLY

K:\TWC\City\ANOKA\EA\MAIN\EA\MAIN\TSIGP06.dwg February 14, 2012 - 11:05am



FOR REFERENCE PURPOSES ONLY

No.	Date	Revisions

No.	Date	Revisions

**DRAWING NAME**  
EAST-MAIN-ST-TSIGP06.dwg

DESIGNED BY: RBC  
DRAWN BY: HMW  
CHECKED BY: DJC  
DATE: 02/14/2012  
PROJECT NO. 160300017

2200 UNIVERSITY AVE. WEST, SUITE 230W  
ST. PAUL, MINNESOTA 55114  
TEL. NO. (651) 645-4137  
FAX. NO. (651) 645-5116

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.

*Brandon J. Bourdon*  
BRANDON J. BOURDON, P.E.  
DATE: 02/14/2012 MN LIC. NO. 43709

**CITY OF ANOKA**  
EAST MAIN STREET IMPROVEMENTS

TRAFFIC SIGNAL SYSTEM  
WIRING DIAGRAM  
SYSTEM "C" - MAIN ST & FOURTH AVE

CITY PROJECT	2012-02	SHEET NO.	115
COUNTY PROJECT			
S.A.P. 103-134-006, 103-020-016			
S.P.			

193

NO	DATE	BY	CKD	APPR	REVISION	

NAME: P:\14-01-00\CSAH\_31\_(Main-Grant)\Base\PROPOSED\DETAILS.dgn

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

PRINT NAME: MATTHEW J. JOHN  
SIGNATURE: *Matthew J. John*  
DATE: 4/8/2016 LICENSE NO. 51639

DRAWN BY	SRK	DATE	03/30/2016
DESIGN BY	SRK	DATE	03/30/2016
CHECKED BY	MJJ	DATE	03/31/2016

**ANOKA COUNTY**  
HIGHWAY DEPT.

COUNTY PROJECT	16-24-31
	16-20-131

ORIGINAL SIGNAL PLANS

Sheet 18 of 21 Sheets

**NOTES:**

- 1) THE EXACT LOCATION OF HANDHOLES, FOUNDATIONS, AND LOOP DETECTORS SHALL BE DETERMINED IN FIELD BY 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 AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE LEFT END OF MAST ARMS 1 AND 4, AND 5 FEET FROM THE RIGHT END OF MAST ARMS 3 AND 5 (FOR E.V.P.).
- 5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION.
- 6) THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
- 7) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS, CURB RAMPS, AND SIDEWALK TO BE F & I BY CONTRACTOR.
- 8) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION "FIELD" COUNTDOWN TIMER HAND/WALKING PERSON INDICATION.
- 9) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
- 10) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
- 11) SEE DETAILS, SPECIAL PROVISIONS, AND 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).

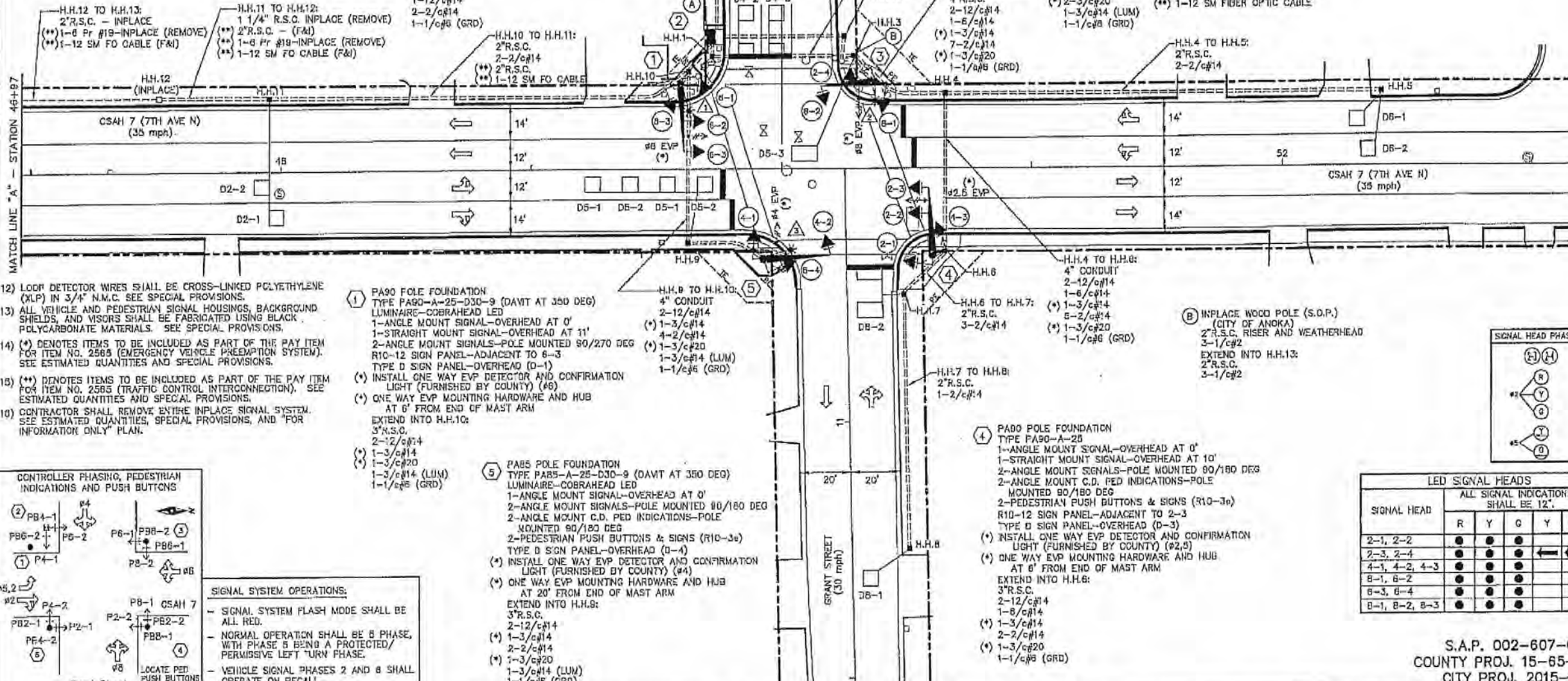
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D2-1	8x8	180'	1
D2-2	8x8	180'	1
D4-1	8x8	120'	3,8
D4-2	2-8x8	0' & 15'	7
D4-3	2-8x8	0' & 15'	7
D5-1	2-8x8	20' & 50'	5,8,11
D5-2	2-8x8	0' & 35'	5,8,11
D5-3	8x10	30'	3,12
DB-1	6x6	180'	1
DB-2	6x6	180'	1
DB-1	6x6	120'	3,8
DB-2	2-8x8	0' & 15'	7

**LOOP DETECTORS FUNCTIONS:**

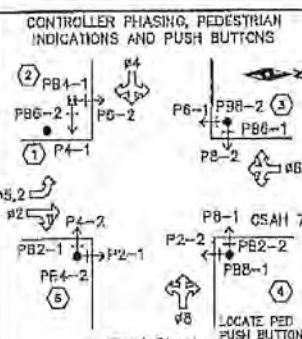
- 1) CALL AND EXTEND
- 2) EXTEND ONLY
- 3) DELAYED CALL ONLY
- 4) CARRY OVER (STRETCH)
- 5) OPERATE DURING PHASE 2 CLEARANCE ONLY
- 6) OPERATE DURING PHASE 3 ONLY

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

- 2) PEDESTAL FOUNDATION  
10' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)  
2-STRAIGHT MOUNT C.D. PED INDICATIONS- POLE MOUNTED (FACING EAST/NORTH)  
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)  
EXTEND INTO H.H.1:  
3" R.S.C.  
1-12/c#14  
2-2/c#14  
1-1/c#6 (GRD)



- 12) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 13) ALL VEHICLE AND PEDESTRIAN SIGNAL HOUSINGS, BACKGROUND SHIELDS, AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- 14) (\*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 15) (\*\*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 16) CONTRACTOR SHALL REMOVE ENTIRE INPLACE SIGNAL SYSTEM. SEE ESTIMATED QUANTITIES, SPECIAL PROVISIONS, AND "FOR INFORMATION ONLY" PLAN.



**SIGNAL SYSTEM OPERATIONS:**

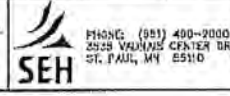
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASE 6 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 AND 8 SHALL OPERATE ON RECALL.

DRAWN BY: JMG  
DESIGNER: JMG  
CHECKED BY: JMG

NO.	BY	DATE

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.

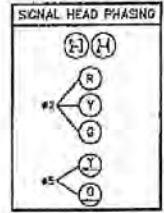
Signature: *[Signature]*  
Name: Jeta N. Gray PE  
Lic. No.: 22457



ANOKA COUNTY  
CITY OF ANOKA

TRAFFIC SIGNAL SYSTEM  
INTERSECTION LAYOUT  
CSAH 7 (7th AVE NORTH) AT  
GRANT STREET (CSAH 31)

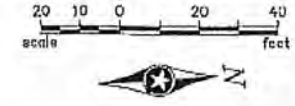
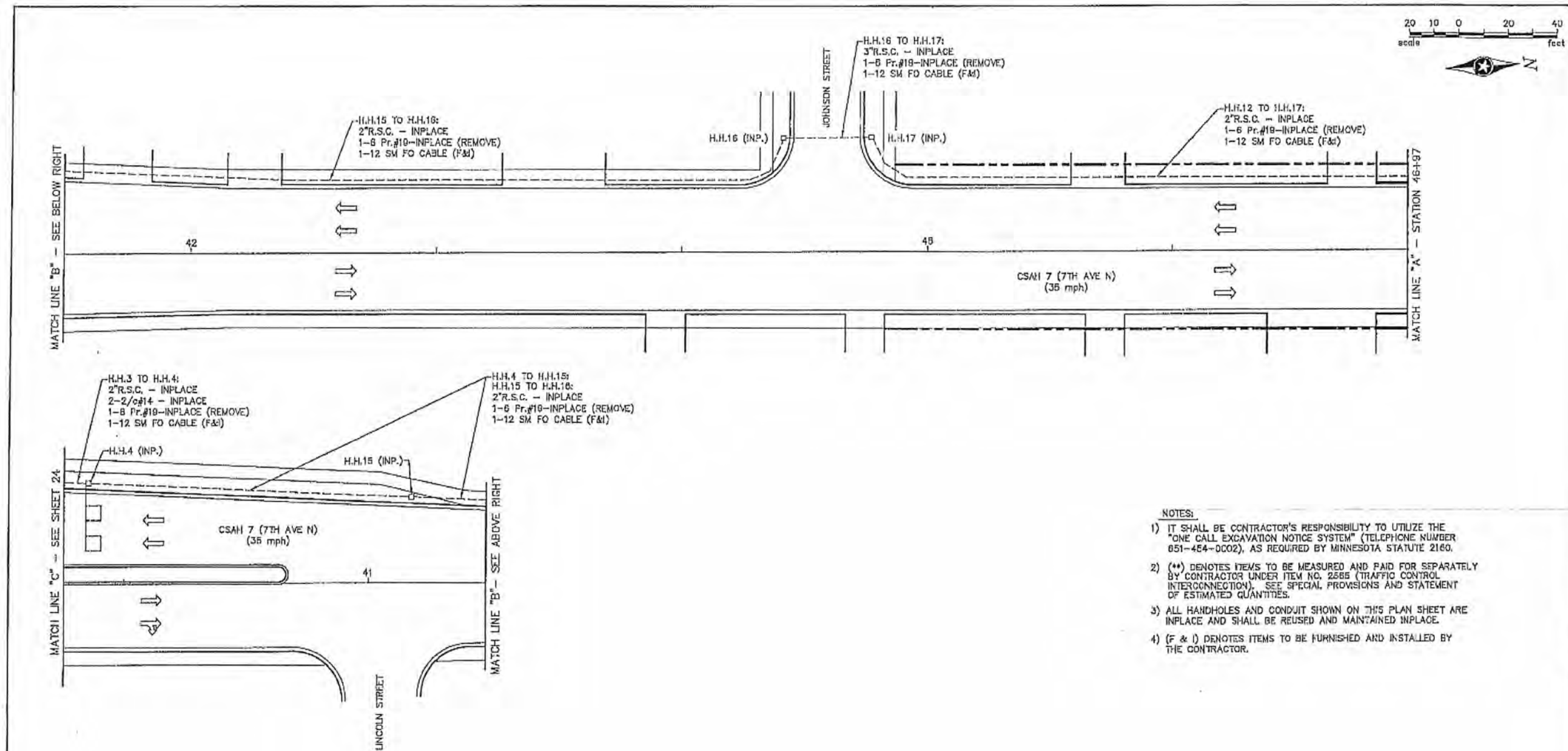
FILE NO. 22  
ANDOC 132413  
29



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

S.A.P. 002-607-023  
COUNTY PROJ. 15-65-07  
CITY PROJ. 2015-157

FOR REFERENCE PURPOSES ONLY



- NOTES:
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
  - 2) (\*\*) DENOTES ITEMS TO BE MEASURED AND PAID FOR SEPARATELY BY CONTRACTOR UNDER ITEM NO. 2585 (TRAFFIC CONTROL INTERCONNECTION). SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES.
  - 3) ALL HANDHOLES AND CONDUIT SHOWN ON THIS PLAN SHEET ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE.
  - 4) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

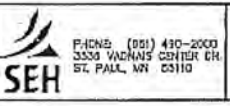
FOR REFERENCE PURPOSES ONLY

S.A.P. 002-607-023  
 COUNTY PROJ. 15-65-07  
 CITY PROJ. 2015-157

DRAWN BY: <u>CVG</u>	DESIGNER: <u>JMG</u>	CHECKED BY: <u>JMG</u>	
DESIGN TEAM	NO.	BY	DATE

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

*John M. Gray*  
 Name: John M. Gray PE  
 Date: January 29, 2016  
 Lic. No.: 22457



ANOKA COUNTY  
 CITY OF ANOKA

TRAFFIC CONTROL INTERCONNECTION  
 INTERSECTION LAYOUT  
 CSAH 7 (7th AVE NORTH)  
 (GRANT STREET TO BUCHANAN STREET)

FILE NO.	23
ANOKA 132413	29

NO.	DATE	BY	CKD	APPR	REVISION	04/07/2016	2:55:43 PM
NAME: P:\114-01-00\CSAH_31_(Main-Grant)\Base\PROPOSED\DETAILS.dgn							

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

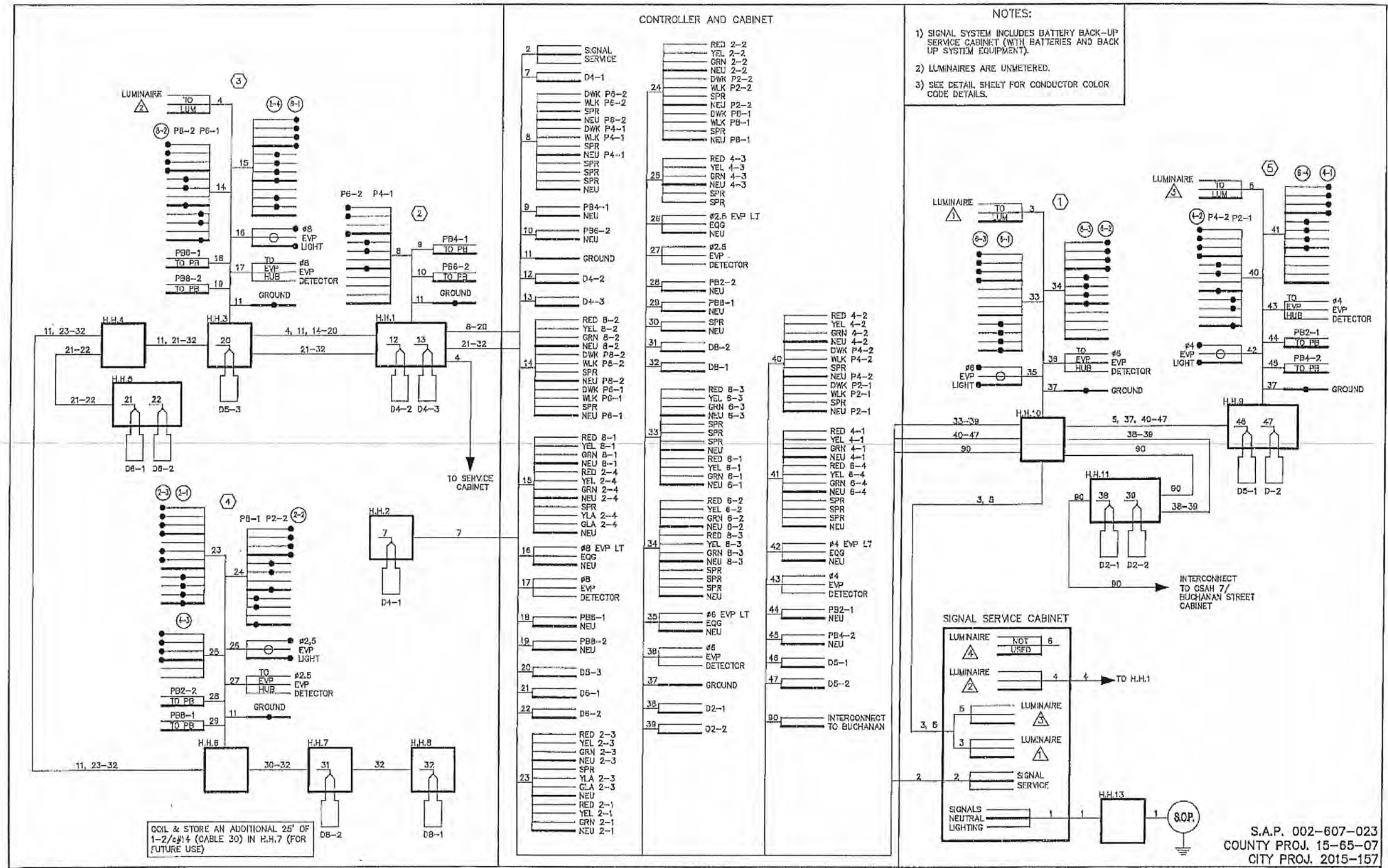
PRINT NAME: MATTHEW J. JOHN  
*Matthew J. John*  
 SIGNATURE:  
 DATE: 4/2/2016 LICENSE NO. 51639

DRAWN BY: SRK DATE: 03/30/2016  
 DESIGN BY: SRK DATE: 03/30/2016  
 CHECKED BY: MJJ DATE: 03/31/2016

ANOKA COUNTY  
 HIGHWAY DEPT.

COUNTY PROJECT 16-24-31  
16-20-131

ORIGINAL SIGNAL PLANS  
 Sheet 20 of 21 Sheets



DRAWN BY: JMG  
 DESIGNER: JMG  
 CHECKED BY: JMG  
 DESIGN TEAM: NO. BY DATE

REMARKS: COIL & STORE AN ADDITIONAL 25' OF 1-2/8" (CABLE 30) IN H.H.7 (FOR FUTURE USE)

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.  
 Signature: *John M. Gray*  
 Name: John M. Gray PE  
 License No.: 22457  
 Date: JANUARY 25, 2016



**ANOKA COUNTY**  
 CITY OF ANOKA

TRAFFIC SIGNAL SYSTEM  
 FIELD WIRING DIAGRAM  
 CSAH 7 (7th AVE NORTH) AT  
 GRANT STREET (CSAH 81)

S.A.P. 002-607-023  
 COUNTY PROJ. 15-65-07  
 CITY PROJ. 2015-157  
 FILE NO. ANOKD 132413  
 24  
 29

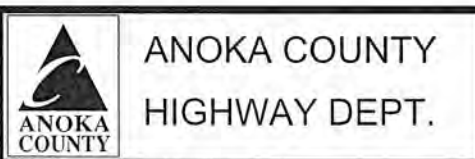
FOR REFERENCE PURPOSES ONLY

NO	DATE	BY	CKD	APPR	REVISION	TIME
	04/07/2016					2:58:09 PM

NAME: P:\14-01-00\CSAH\_31 (Main-Grant)\Base\PROPOSED\DETAILS.dgn

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: MATTHEW J. JOHN  
 SIGNATURE: *Matthew J. John*  
 DATE: 4/8/2016  
 LICENSE NO.: 51639

DRAWN BY: SRK DATE: 03/30/2016  
 DESIGN BY: SRK DATE: 03/30/2016  
 CHECKED BY: MJJ DATE: 03/31/2016



COUNTY PROJECT 16-24-31  
 16-20-131

ORIGINAL SIGNAL PLANS  
 Sheet 21 of 21 Sheets