

PLAN SYMBOLS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT-OF-WAY LINE
- EXISTING RIGHT-OF-WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (Except Land Lines)
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS

- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT-OF-WAY LINE
- DRAINAGE DITCH
- DRAIN TILE
- CULVERT
- DROP INLET
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- WOODEN FENCE
- CATCH BASIN
- FIRE HYDRANT
- BRIDGE
- BUILDING
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)

UTILITY SYMBOLS

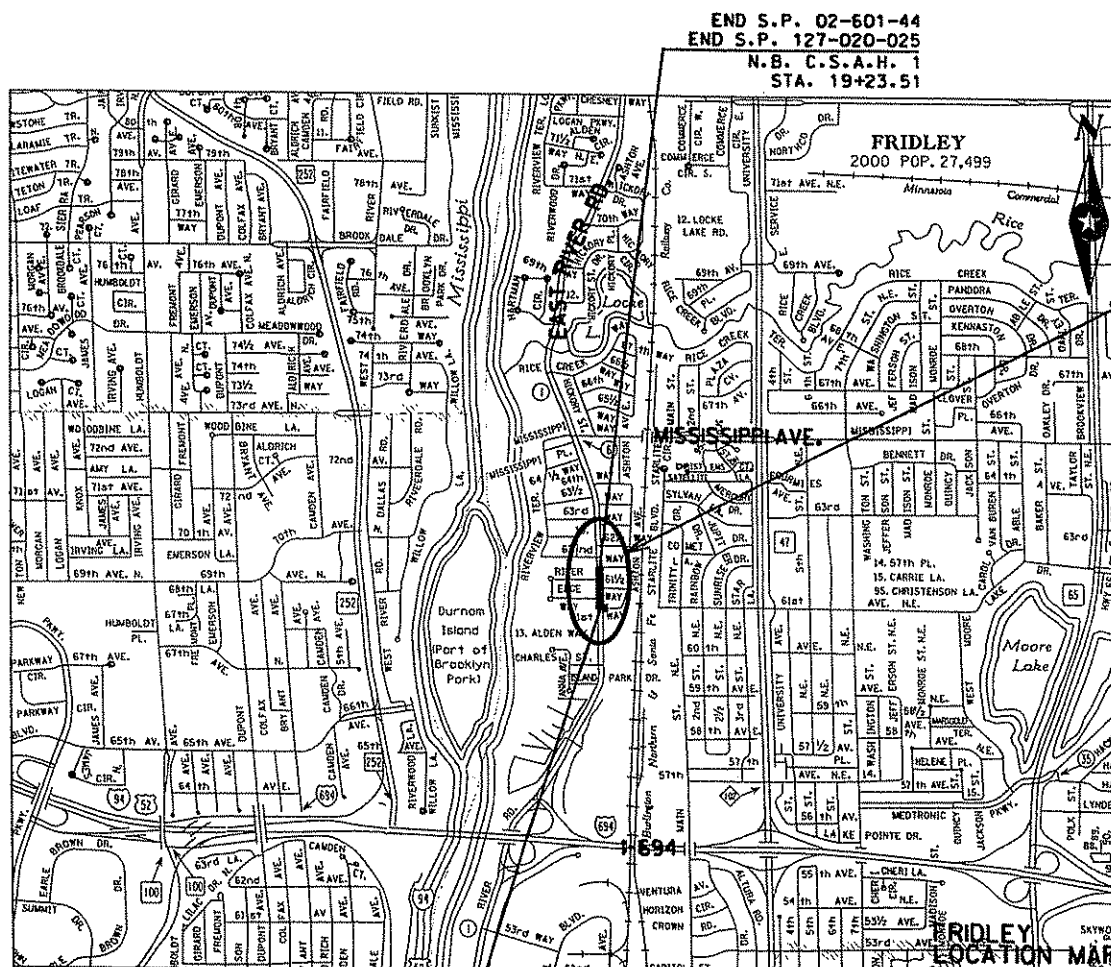
- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- JOINT TELEPHONE AND POWER ON POWER POLES ON TELEPHONE POLES
- ANCHOR
- STEEL TOWER
- STREET LIGHT
- PEDESTAL (TELEPHONE CABLE TERMINAL)
- GAS MAIN
- WATER MAIN
- CONDUIT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEVISION CABLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- SEWER, (SANITARY)
- SEWER, (STORM)
- SEWER MANHOLE
- HANDHOLE
- CATCH BASIN

MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY HIGHWAY DEPARTMENT
CITY OF FRIDLEY, MN

CONSTRUCTION PLAN FOR: GRADING, BITUMINOUS PAVEMENT, DRAINAGE, CURB AND GUTTER, SIGNING, PAVEMENT MARKING, TRAFFIC SIGNAL SYSTEM

S.P. NO. 02-601-44, S.P. 127-020-025

LOCATED ON C.S.A.H. 1 (EAST RIVER ROAD); FROM APPX. 4000' NORTH OF INTERSTATE 694 TO APPX. 950' SOUTH OF C.S.A.H. 6 (MISSISSIPPI AVENUE).



GOVERNING SPECIFICATIONS
 THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION' AS AMENDED BY 'SUPPLEMENTAL SPECIFICATIONS', SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE 'MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MN MUTCD) AND PART VI, 'FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.'

SCALES

CONSTRUCTION PLAN	50'
SIGNAL PLAN	20'
X-SECTION	10'
	HORIZ.
	VERT.

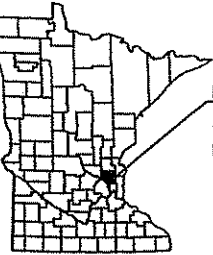
PROJECT LOCATION

DESIGN DESIGNATION

BASED ON: STOPPING SIGHT DISTANCE
 HEIGHT OF EYE: 3.5 FT. HEIGHT OF OBJECT: 2.0 FT.

S.P. 02-601-44- EAST RIVER ROAD (C.S.A.H. 1)	
GROSS LENGTH	490 FT. 0.093 MILES
BRIDGE LENGTH	0 FT. 0.000 MILES
EXCEPTION LENGTH	0 FT. 0.000 MILES
NET LENGTH	490 FT. 0.093 MILES

FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
NO. OF TRAFFIC LANES	4
NO. OF PARKING LANES	0
STRUCTURAL DESIGN	10 TON
R VALUE	XX
ESALS	XXX,XXX
EXISTING ADT (2009)	22,900
20 YEAR PROJECTED ADT (2029)	30,800
% HCADT IN PM	XX
DESIGN SPEED	XX MPH



BEGIN S.P. 02-601-44
 BEGIN S.P. 127-020-025
 N.B. C.S.A.H. 1
 STA. 14+33.65

ANOKA COUNTY
 S.P. 02-601-44 (C.S.A.H. 1)
 STATE FUNDS
 METRO DISTRICT

PROJECT LOCATION
 ANOKA COUNTY
 Mn/DOT TRANSPORTATION DISTRICT - METRO
 SECTION 15
 TOWNSHIP 30 NORTH
 RANGE 24 WEST

NOTES:
 THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "D". THIS 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 EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBER OPTIC, PIPELINES, ELECTRIC, AND CABLE TV ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL BEFORE COMMENTING EXCAVATION.

PLAN REVISIONS

DATE	SHEET NO.	APPROVED BY

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES, AND STANDARD PLATES INDEX
3	EARTHWORK SUMMARY & TABULATION, AND QUANTITY TABULATIONS
4	TOPOGRAPHY, EXISTING UTILITIES, AND REMOVAL PLAN
5	CONSTRUCTION PLAN AND DETAILS
6-12	SIGNING PLAN
13-16	PAVEMENT MARKING PLAN
17-23	TRAFFIC SIGNAL PLANS
24-25	CROSS SECTIONS

THIS PLAN CONTAINS 25 SHEETS

ANOKA COUNTY HIGHWAY DEPARTMENT
 1440 BURKER LANE BLVD N.W.
 ANDOVER, MN 55304
 PHONE: (763) 862-4200
 FAX: (763) 862-4201

DESIGN ENGINEER: 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.

Heather Redetzke NAME: HEATHER L. REDETZKE
 DATE 8/13/2009 LIC. NO. 44267

SIGNAL DESIGN ENGINEER: I HEREBY CERTIFY THAT THESE SIGNAL PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, THAT THIS PLAN CONFORMS TO THE CURRENT MUTCD (EXCEPT WHERE A VARIANCE HAS BEEN GRANTED), AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

John M. Gray NAME: JOHN M. GRAY
 DATE 8/13/2009 LIC. NO. 22457

APPROVED *[Signature]* FRIDLEY CITY ENGINEER DATE 8/18/09

APPROVED *[Signature]* ANOKA COUNTY ENGINEER DATE 8/18/09

[Signature] DATE 8/19/09

[Signature] DATE 8/19/09
 STATE AID ENGINEER: APPROVED FOR STATE AID FUNDING

STATEMENT OF ESTIMATED QUANTITIES

TAB	ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY	S.P. 02-601-44	S.P. 127-020-025	NON-PARTICIPATING
					ANOKA COUNTY	CITY OF FRIDLEY	CITY OF FRIDLEY
				ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
	2102.501	PAVEMENT MARKING REMOVAL	SQ FT	914	738	104	72
	2102.502	PAVEMENT MARKING REMOVAL	LIN FT	1,200	1,200		
B	2104.501	REMOVE CURB AND GUTTER	LIN FT	954	856		98
B	2104.503	REMOVE CONCRETE MEDIAN	SQ FT	2,398	2398		
B	2104.503	REMOVE CONCRETE WALK	SQ FT	255		91	164
B	2104.503	REMOVE BITUMINOUS WALK	SQ FT	263		156	107
B	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	787	693		94
	2104.509	REMOVE SIGNAL SYSTEM	EACH	1	0.5	0.25	0.25
C	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	23		5	18
C	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	1,139	1010	10	119
G	2104.523	SALVAGE SIGN TYPE C	EACH	34	34		
G	2104.523	SALVAGE SIGN TYPE SPECIAL	EACH	5	5		
	2104.601	HAUL SALVAGED MATERIAL	LUMP SUM	1	0.5	0.25	0.25
A	2105.501	COMMON EXCAVATION	CU YD	244	244		
D	2211.503	AGGREGATE BASE (CV) CLASS 5	CU YD	142	130		12
E	2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	120	116		4
E	2360.502	TYPE SP 12.5 NON WEAR COURSE MIX (3,B)	TON	99	96		3
	2504.602	ADJUST VALVE BOX - WATER	EACH	1	1		
F	2521.501	4" CONCRETE WALK	SQ FT	1,987	1,431	343	213
F	2531.501	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	980	980		
F	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	101	101		
F	2531.618	TRUNCATED DOMES	SQ FT	64	32	16	16
	2563.601	TRAFFIC CONTROL	LUMP SUM	1.00	0.56	0.22	0.22
G	2564.531	SIGN PANELS TYPE C	SQ FT	218	179	23	16
G	2564.552	HAZARD MARKER X4-2	EACH	2	2		
G	2564.602	INTERNALLY LIT SIGN TYPE D	EACH	4		① 3	1
	2565.511	TRAFFIC CONTROL SIGNAL SYSTEM	SIGNAL SYSTEM	1	0.5	0.25	0.25
	2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1		0.75	0.25
	2582.501	PAVEMENT MESSAGE (LT ARROW) PREF THERMOPLASTIC	EACH	5	5		
	2582.501	PAVEMENT MESSAGE (RT ARROW) PREF THERMOPLASTIC	EACH	5	2	2	1
	2582.501	PAVEMENT MESSAGE (LT-THRU ARROW) PREF THERMOPLASTIC	EACH	3		2	1
	2582.502	4" SOLID LINE WHITE-PAINT	LIN FT	3,730	3110	200	420
	2582.502	4" BROKEN LINE WHITE-PAINT	LIN FT	420	420		
	2582.502	4" SOLID LINE YELLOW-PAINT	LIN FT	2,020	2020		
	2582.502	4" DOUBLE SOLID LINE YELLOW-PAINT	LIN FT	340		200	140
	2582.502	24" STOP LINE WHITE-PREF THERMOPLASTIC	LIN FT	166	98	31	37
	2582.503	CROSSWALK MARKING-PREF THERMOPLASTIC	SQ FT	918	558	180	180

The following Standard Plates, approved by the FEDERAL HIGHWAY ADMINISTRATION, shall apply on this project.

MN/DOT STANDARD PLATES INDEX	
PLATE NUMBER	NAME OF STANDARD PLATE
7036F	PEDESTRIAN CURB RAMP FOR THE HANDICAPPED
7100H	CONCRETE CURB & GUTTER (DESIGN B & V)
8000I	STANDARD BARRICADES
8114A	PVC HANDHOLE/PULLBOX
8118D	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
8119C	GROUND MOUNTED CABINET FOUNDATION
8120N	PA85 POLE FOUNDATION
8121F	TRANSFORMER BASE AND POLE BASE PLATE
8123F	POLE AND MAST ARM
8126I	PA90 AND PA100 POLE FOUNDATION

BASIS OF ESTIMATED QUANTITIES	
ITEM	BASIS
BITUMINOUS PAVEMENT	113 LBS/SY/INCH
BIT. MATERIAL FOR TACKCOAT	0.05 GAL/SY

TABULATION INDEX		
TAB	SHEET NO.	DESCRIPTION
A	3	EARTHWORK
B	3	MISCELLANEOUS REMOVALS
C	3	PAVEMENT SAWCUTS
D	3	AGGREGATE BASE
E	3	BITUMINOUS PAVEMENT
F	3	CONCRETE ITEMS
G	6	SIGNING

NOTES:

- ① LANDSCAPING

DESIGN TEAM				
DRAWN BY:	MTI			
DESIGNER:	TJD			
CHECKED BY:	TJD			
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.
 Certified By: *Heather L. Redetzke* Lic. No. 44267
 Printed Name: HEATHER L. REDETZKE Date: 8/13/2009



PHONE: 1651490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110
 FILE NO. 107650



ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44, S.P. 127-020-025

ESTIMATED QUANTITIES & STANDARD PLATES INDEX

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8/7/2009

TAB

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A EARTHWORK		
STATION TO STATION	EXCAVATION	EMBANKMENT
	COMMON	1' COMPACTION SUBCUT
	CUYD	CUYD
14+34.00 TO 15+00.00	19	6
15+00.00 TO 16+00.00	49	20
16+00.00 TO 16+85.00	41	18
16+85.00 TO 16+90.00	1	1
16+90.00 TO 17+50.00	5	0
17+50.00 TO 17+55.00	2	1
17+55.00 TO 18+00.00	42	16
18+00.00 TO 19+23.00	85	27
	244	89

EARTHWORK BALANCE

EXCAVATION --> 244 CY-EV

REQUIRED EMBANKMENT --> 1' COMPACTION SUBCUT = 89 CY-CV

BALANCE --> AVAILABLE GRADING MATERIAL = 244 CY-EV / 1.20 = 203 CY-CV (1)
BALANCE = 203 CY-CV AVAILABLE - 89 CY-CV REQUIRED = 114 CY-CV EXCESS (2)

NOTES:

- (1) EXCAVATION MATERIALS ARE ESTIMATED TO HAVE A COMPACTION FACTOR OF 1.20.
- (2) EXCESS MATERIAL BECOMES PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT LIMITS.

B MISCELLANEOUS REMOVALS						
ALIGNMENT/STATION	LOCATION	REMOVE CURB AND GUTTER	REMOVE CONCRETE MEDIAN	REMOVE CONCRETE WALK	REMOVE BITUMINOUS WALK	REMOVE BITUMINOUS PAVEMENT
		LIN FT	SQ FT	SQ FT	SQ FT	SQ YD
N.B. C.S.A.H. 1						
12+31 - 12+46	28' RT - 52' RT				156	
13+04 - 13+27	24' RT - 40' RT			91		
14+34 - 16+88	13.0' LT - 24.9' LT	255	728			
14+34 - 16+88	17.1' LT - 28.6' LT	255				
14+34 - 19+24	LT					693
17+52 - 19+24	24.3' LT - 24.7' LT	174	1670			
17+52 - 19+24	28.9' LT	172				
SCHOOL DRIVEWAY						
0+47 - 1+35	LT	98		126		94
1+08 - 1+22	38' RT - 52' RT				107	
1+18 - 1+25	50' RT - 60' RT			38		
PROJECT TOTALS		954	2,398	255	263	787

C PAVEMENT SAWCUTS			
ALIGNMENT/STATION	LOCATION	SAWING BIT PAVEMENT (FULL DEPTH)	SAWING CONCRETE PAVEMENT (FULL DEPTH)
		LIN FT	LIN FT
N.B. C.S.A.H. 1			
12+35 - 12+43	52' RT - 53' RT	10	
13+23 - 13+27	24' RT - 29' RT		5
14+34	10.0' LT - 30.0' LT	20	
14+33 - 19+24	10.0' LT - 22.0' LT	490	
14+33 - 19+24	30.0' LT - 32.0' LT	490	
19+24	22.0' LT - 32.0' LT	10	
SCHOOL DRIVEWAY			
0+47 - 1+35	17' LT - 47' LT	111	10
1+08 - 1+09	40' RT - 48' RT	8	
1+18 - 1+25	57' RT - 60' RT		8
PROJECT TOTALS		1139	23

D AGGREGATE BASE			
STATION	LOCATION	DESCRIPTION	AGGREGATE BASE (CVCLASS 5)
			CU YD
N.B. C.S.A.H. 1			
14+34 - 16+87	LT	UNDER EXISTING MEDIAN	43
14+34 - 19+24	LT	UNDER PROPOSED MEDIAN	31
17+51 - 19+24	LT	UNDER EXISTING MEDIAN	56
SCHOOL DRIVEWAY			
0+47 - 1+35	LT	UNDER PROPOSED CONCRETE	12
PROJECT TOTALS			142

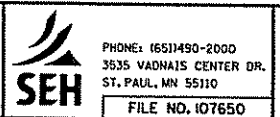
E BITUMINOUS PAVEMENT			
STATION	LOCATION	TYPE SP 12.5 WEARING COURSE MIX (3,C) (SPWEB330C)	TYPE SP 12.5 NON WEAR COURSE MIX (3,B) (SPNWB330B)
		TON	TON
N.B. C.S.A.H. 1			
14+33 - 19+24	LT	116	96
SCHOOL DRIVEWAY			
0+47 - 1+35	LT	4	3
PROJECT TOTALS		120	99

F CONCRETE ITEMS					
STATION	LOCATION	4' CONCRETE WALK	CONCRETE CURB AND GUTTER DESIGN B612	CONCRETE CURB AND GUTTER DESIGN B618	TRUNCATED DOMES
		SQ FT	LIN FT	LIN FT	SQ FT
N.B. C.S.A.H. 1					
12+20 - 12+51	RT	343			16
13+01 - 13+27	RT	290			16
14+34 - 19+24	LT	490	980		
SCHOOL DRIVEWAY					
0+47 - 1+35	LT	651		101	16
1+07 - 1+25	RT	213			16
PROJECT TOTALS		1,987	980	101	64

DESIGN TEAM				
DRAWN BY: M.T.				
DESIGNER: T.J.D.				
CHECKED BY: T.J.D.				
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.

Certified By: *Heather Redetzke*
 Licensed Professional Engineer
 No. 44267
 Printed Name: HEATHER L. REDETZKE Date: 8/7/2009



ANOKA COUNTY, MN.
 C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44, S.P. 127-020-025

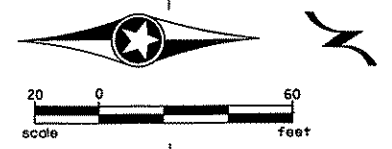
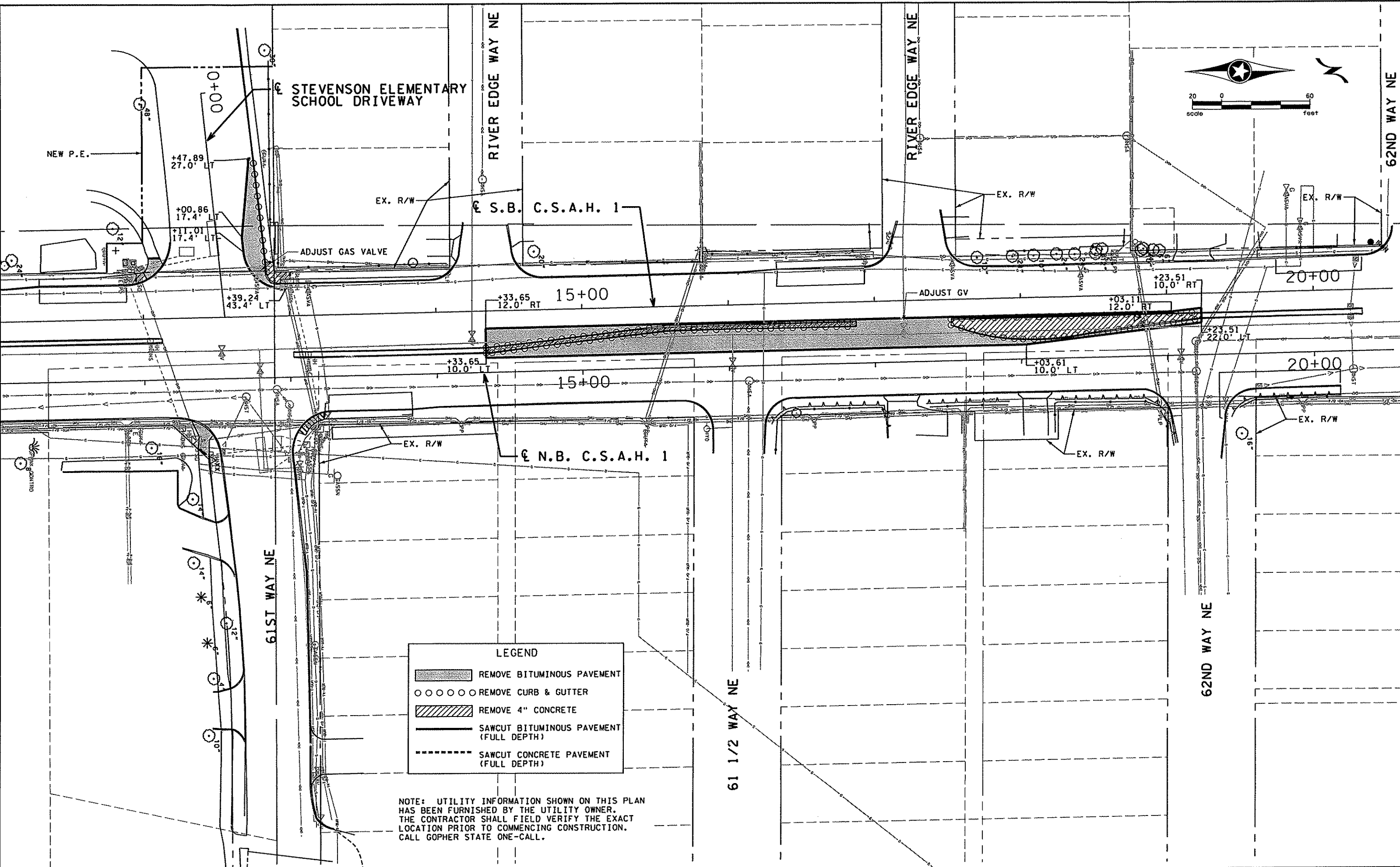
QUANTITY TABULATIONS

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LEGEND

	REMOVE BITUMINOUS PAVEMENT
	REMOVE CURB & GUTTER
	REMOVE 4" CONCRETE
	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)
	SAWCUT CONCRETE PAVEMENT (FULL DEPTH)

NOTE: UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN FURNISHED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION PRIOR TO COMMENCING CONSTRUCTION. CALL GOPHER STATE ONE-CALL.

DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	TJD		
CHECKED BY:	TJD		
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.

Certified By: *Heather L. Redetzke*
 Licensed Professional Engineer Lic. No. 44267
 Printed Name: HEATHER L. REDETZKE Date: 8/26/2009

SEH
 PHONE: 16511490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110
 FILE NO. 107650



ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44, S.P. 127-020-025

**TOPOGRAPHY, EXISTING UTILITIES,
 AND REMOVAL PLAN**

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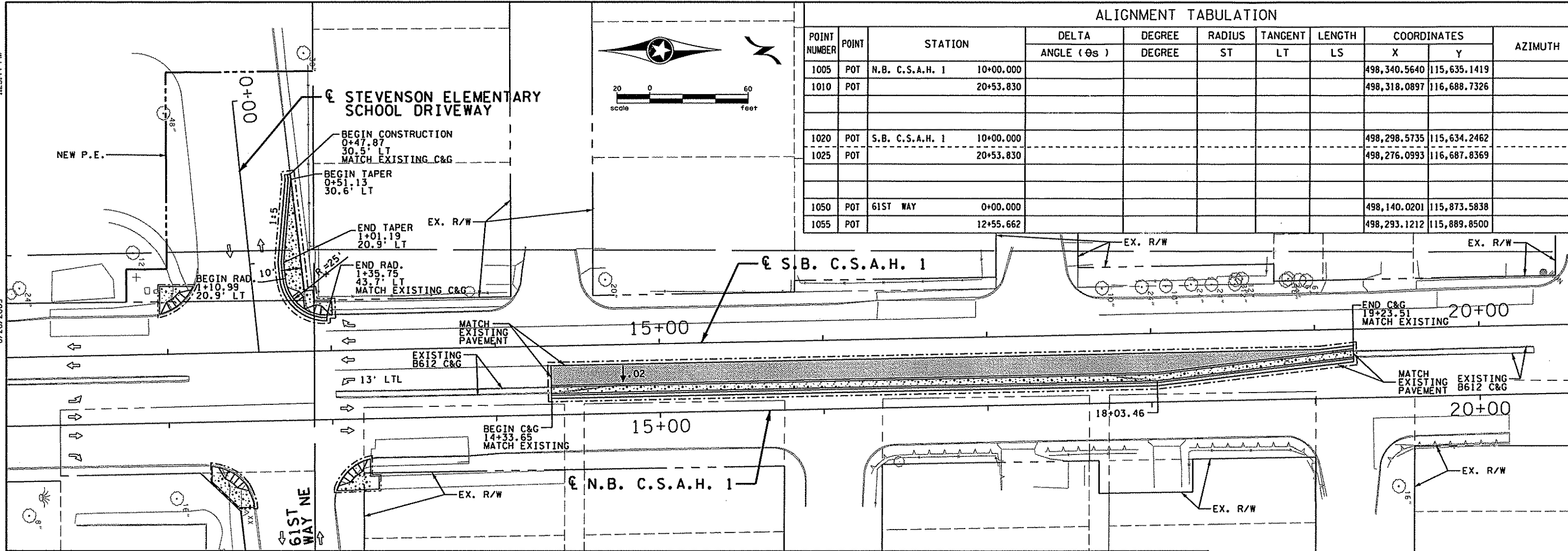
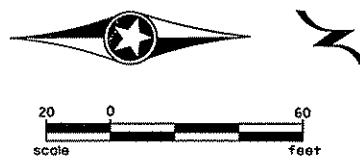
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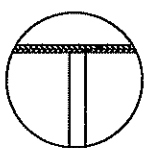
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ALIGNMENT TABULATION

POINT NUMBER	POINT	STATION	DELTA	DEGREE	RADIUS	TANGENT	LENGTH	COORDINATES		AZIMUTH
			ANGLE (θs)	DEGREE	ST	LT	LS	X	Y	
1005	POT	N.B. C.S.A.H. 1	10+00.000					498,340.5640	115,635.1419	
1010	POT		20+53.830					498,318.0897	116,688.7326	
1020	POT	S.B. C.S.A.H. 1	10+00.000					498,298.5735	115,634.2462	
1025	POT		20+53.830					498,276.0993	116,687.8369	
1050	POT	61ST WAY	0+00.000					498,140.0201	115,873.5838	
1055	POT		12+55.662					498,293.1212	115,889.8500	



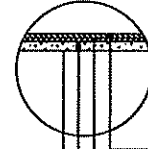
INSET A



3" TYPE SP 12.5 WEARING COURSE (3,C)
(SPWEB330C) MNDOT SPEC. 2360

2.5" TYPE SP 12.5 NON-WEARING COURSE (3,B)
(SPNWB330B) MNDOT SPEC. 2360

INSET B

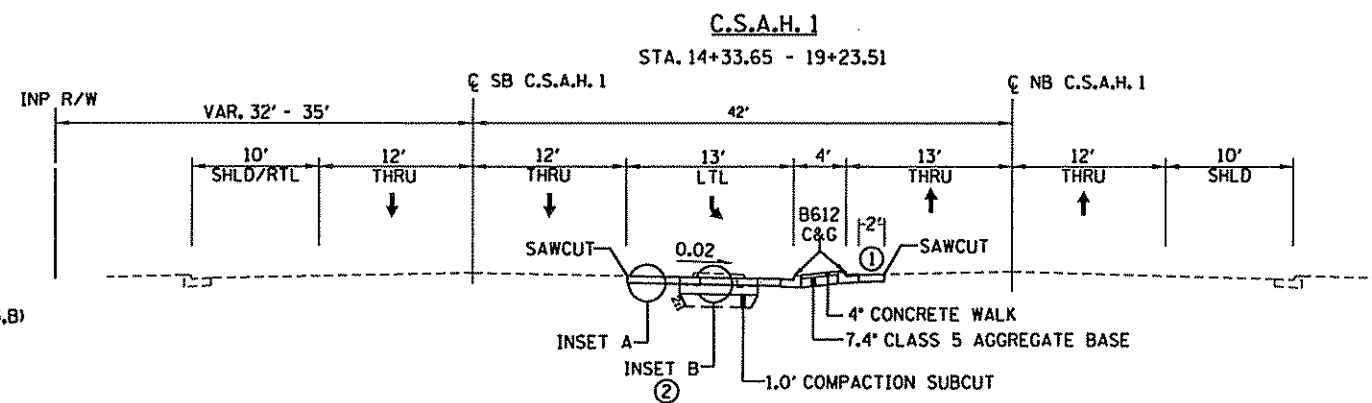


3" TYPE SP 12.5 WEARING COURSE (3,C)
(SPWEB330C) MNDOT SPEC. 2360

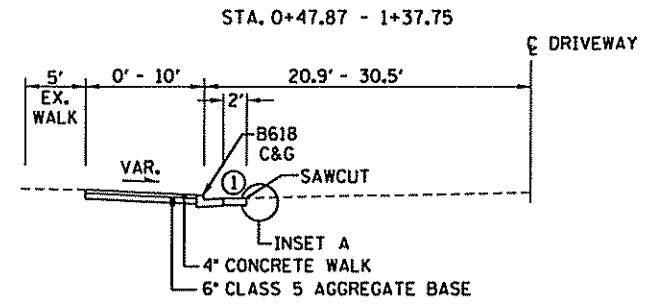
2.5" TYPE SP 12.5 NON-WEARING COURSE (3,B)
(SPNWB330B) MNDOT SPEC. 2360

9" AGGREGATE BASE, CLASS 5
MNDOT SPEC. 2211

GRADING GRADE



STEVENSON ELEMENTARY SCHOOL DRIVEWAY



LEGEND

- TRAFFIC FLOW
- PROPOSED BITUMINOUS PAVEMENT
- PROPOSED 4" CONCRETE WALK
- CONSTRUCTION LIMITS

- NOTES:
- MATCH EXISTING ROADWAY CROSS SLOPE.
 - USE WHERE EXISTING CONCRETE MEDIAN IS LOCATED.
- GENERAL NOTES:
- ALL CROSS SLOPES ARE IN FT/FT.
- MAXIMUM ROLLOVER 0.07 FT/FT.
- THE GRADING GRADE CROSS SLOPES SHALL BE THE SAME AS THE FINISHED SURFACE.

NOTES:

PRIOR TO CONSTRUCTION OF C&G, CONTRACTOR SHALL VERIFY THE C&G FLOW LINE FROM NOSE TO H.P. (STA. 14+33.65 TO 16+00) TO ENSURE POSITIVE FLOW.

DESIGN TEAM				REVISIONS			
DRAWN BY:	MIT			NO.	BY	DATE	
DESIGNER:	TJD						
CHECKED BY:	TJD						

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.

Certified By: *Heather Redetzke* Lic. No. 44267
Printed Name: HEATHER L. REDETZKE Date: 8/26/2009

PHONE: (651)450-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110
FILE NO. 107650

ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
S.P. 02-601-44, S.P. 127-020-025

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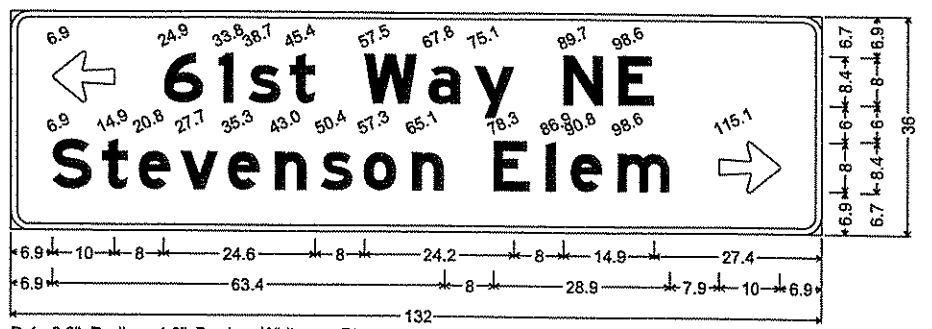
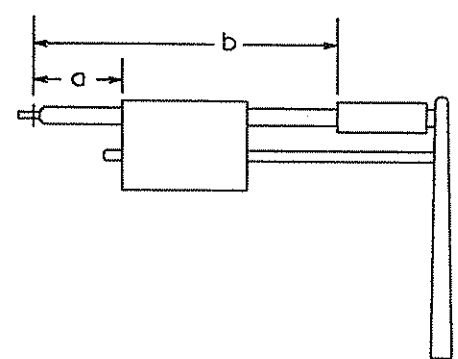
8/17/2009

SIGN TAB

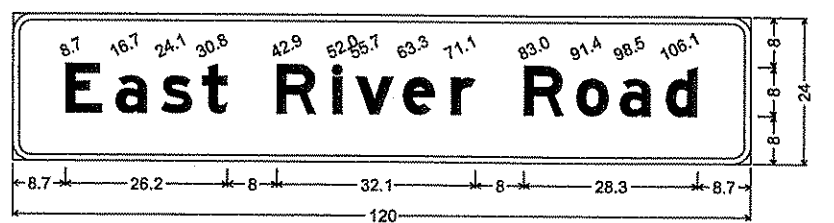
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SIGN PANELS TYPE C

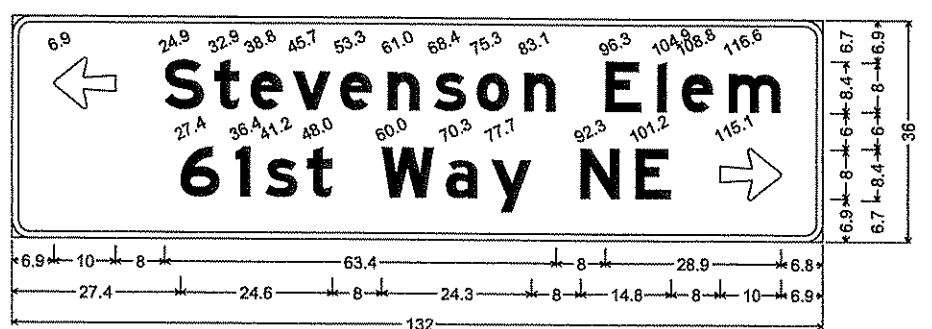
SIGN NO.	QUANTITY	POSTS			MTG HT. (FT) (1)	PANELS			CODE NO.	PANEL LEGEND
		NO. & TYPE	KNEE BRACES QUANTITY	LENGTH (FT)		SIZE (IN.)	UNIT AREA (SQ FT)	TOTAL AREA (SQ FT)		
C-1	3	2-U	-	14.0	7	30 x 30	6.25	18.75	R1-1	STOP
C-2	1	2-U	-	14.0	7	36 x 12	3.00	9.00	R6-1R	ONE WAY (RIGHT)
C-3	1	2-U	-	15.0	7	36 x 48	12.00	12.00	R2-1	SPEED LIMIT 40
C-4	1	2-U	-	13.0	7	36 x 48	12.00	12.00	R2-1	SPEED LIMIT 40
C-5	1	2-U	-	13.0	7	36 x 30	7.50	7.50	R3-30DA	LEFT/THRU AND RIGHT
						18 x 18	2.25	2.25	R8-3a	NO PARKING (SYMBOL)
C-6	3	1-U	-	13.0	7	30 x 30	6.25	18.75	R3-X1	RIGHT TURN LANE
C-7	3	1-U	-	13.0	7	30 x 30	6.25	18.75	R3-X2	LEFT TURN LANE
C-8	2	1-U	-	13.0	7	24 x 30	5.00	10.00	R4-7	KEEP RIGHT
C-9	6	1-U	-	13.0	7	30 x 30	6.25	37.50	R5-1	DO NOT ENTER
C-10	4	2-U	-	12.0	7	48 x 18	6.00	24.00	R6-1R	ONE WAY (RIGHT)
C-11	2	1-U	-	12.0	7	18 x 18	2.25	4.50	R8-3a	NO PARKING (SYMBOL)
	2	①	-	-	-	36 x 12	3.00	6.00	R6-1L	ONE WAY (LEFT)
	2	②	-	-	-	36 x 12	3.00	6.00	R6-1R	ONE WAY (RIGHT)
	2	③	-	-	-	36 x 48	12.00	24.00	R10-12	LEFT TURN YIELD ON GREEN
TOTAL								218.50		



D-1; 3.0" Radius, 1.0" Border, White on Blue;
Arrow 3 - 10.0" 180°; [61st Way NE] E Mod; [Stevenson Elem] E Mod; Arrow 3 - 10.0" 0°;



D-2, D-4; 3.0" Radius, 1.0" Border, White on Green;
[East River Road] E Mod;



D-3; 3.0" Radius, 1.0" Border, White on Blue;
Arrow 3 - 10.0" 180°; [Stevenson Elem] E Mod; [61st Way NE] E Mod; Arrow 3 - 10.0" 0°;

MAST ARM MOUNTED SIGNS SIGN PANELS - TYPE D (INTERNALLY ILLUMINATED)

SIGN PANEL	PANEL SIZE (IN.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	POLE NO.	a	b
D-1	132 x 36	1	-	-	1	28'	-
D-2	120 x 24	1	-	-	2	-	8'
D-3	132 x 36	1	-	-	4	28'	-
D-4	120 x 24	1	-	-	5	-	8'
TOTAL		4					

SALVAGE AND INSTALL SIGN - TYPE C

SIGN NO.	QUANTITY	NO. OF POSTS & TYPE	PANEL SIZE (IN.)	PANEL LEGEND
③	1	-	18 x 18	MTC (SYMBOL)
④	1	1-U	18 x 18	MISSISSIPPI RIVER TRAIL CORRIDOR

NOTE: ③ = MOUNT BELOW NEW SIGN C-3 ON SAME POST.
④ = THIS INSTALLATION INCLUDES BACK-TO-BACK SIGN PANELS ON SAME POST (SALVAGE AND INSTALL SIGNS AND POST).

SALVAGE SIGN TYPE SPECIAL (DELINEATORS)

SIGN NO.	QUANTITY	NO. OF POSTS & TYPE	CODE NO.	TYPE
X-100	4	BELOW C-105, C-106	X4-2	HAZARD MARKER
C-112	1	1-U	-	AC SIGNAL MARKER
TOTAL	5			

DELINEATORS & MARKERS

SIGN NO.	TYPE	NO. REQ.	LOCATION
X-101	X4-2	2	BELOW C-8

SPECIFIC NOTES:

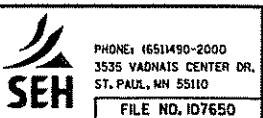
- (1) MOUNTING HEIGHT IS MINIMUM. SEE SHEET 8 FOR TYPICAL MOUNTING.
- (2) MOUNT IN CONCRETE. SEE SHEET 12 FOR TYPICAL INSTALLATION.
- (3) ① = MOUNT SIGN PANEL ON TRAFFIC SIGNAL MAST ARM POLE.
- (4) ② = MOUNT SIGN PANEL ON TRAFFIC SIGNAL MAST ARMS 2 AND 5 (1' FROM LEFT END OF MAST ARM - ADJACENT TO OVERHEAD SIGNAL).
- (5) ⑤ = SIGN PANEL MOUNTED ON WOOD POLE.

GENERAL NOTES:

- POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
- SEE SHEETS 10 - 11 FOR STRUCTURAL DETAILS.
- SEE MN/DOT STANDARD SIGNS MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.
- COLOR FOR ALL NEW TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER (WITH BLUE BACKGROUND FOR SIGNS D-1 AND D-3, AND GREEN BACKGROUND FOR SIGNS D-2 AND D-4 FULLY REFLECTORIZED).
- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 7/06/07), AND SPECIAL PROVISIONS.
- SALVAGING AND INSTALLATION OF SIGN NO. ③ AND ④ SHALL BE INCLUDED IN THE PAY ITEM FOR SIGN PANELS TYPE C.
- SEE STANDARD SIGNS MANUAL FOR ARROW DETAILS.
- SIGN PANELS D-1, D-2, D-3, AND D-4 SHALL BE INTERNALLY ILLUMINATED STREET NAME SIGN PANELS. SEE DETAILS IN SPECIAL PROVISIONS.
- FURNISHING AND INSTALLING INTERNALLY ILLUMINATED SIGNS SHALL BE MEASURED AND PAID FOR SEPARATELY UNDER ITEM NO. 2564 (INTERNALLY LIT SIGN TYPE D). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

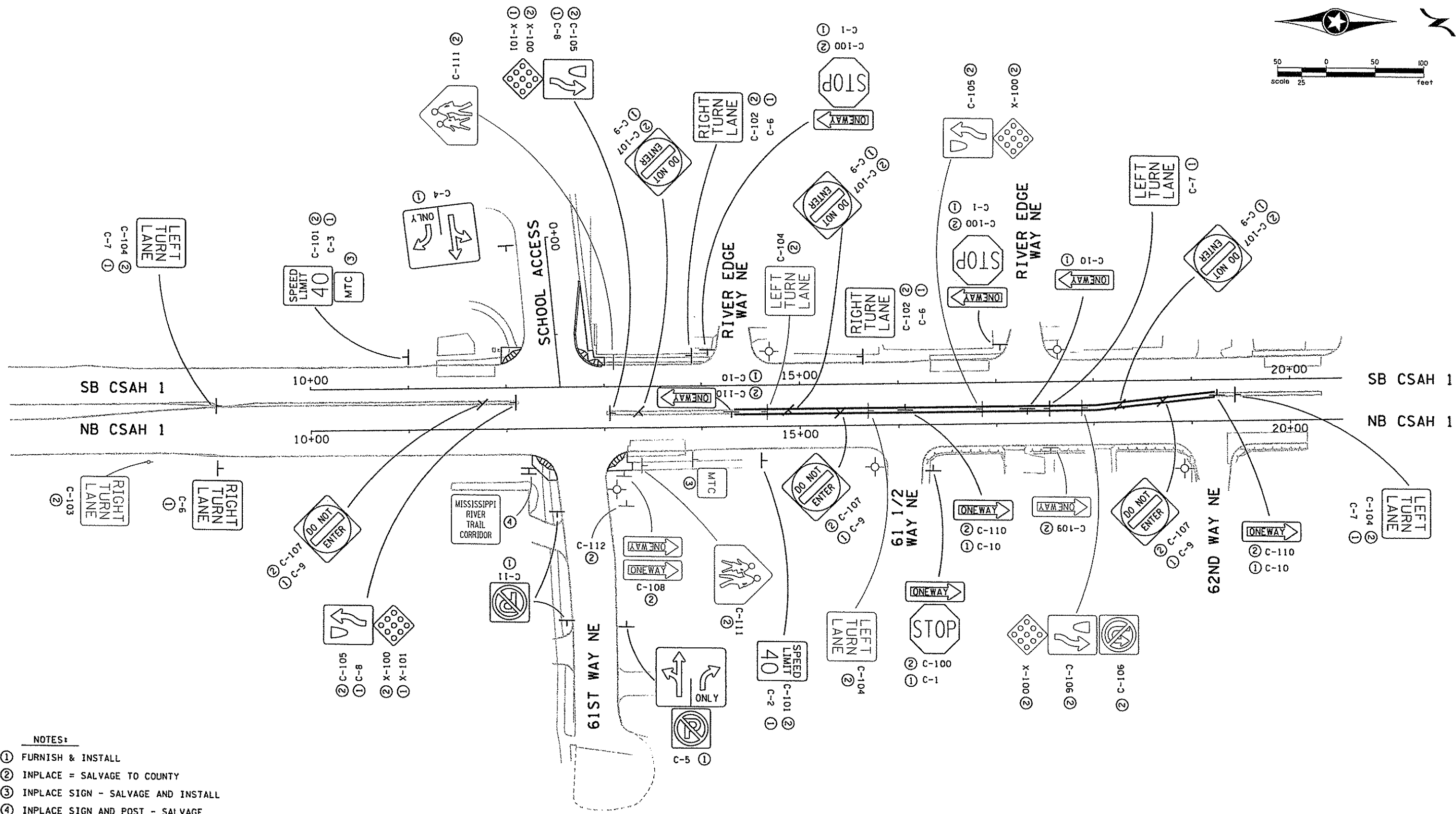
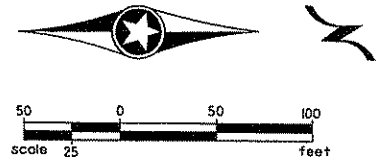
DESIGN TEAM	NO.	BY	DATE	REVISIONS
DRAWN BY: CIE/BDY				
DESIGNER: KLE				
CHECKED BY: JMG				

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.
Certified By: *John M. Gray* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 8/17/2009



ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
S.P. 02-601-44, S.P. 127-020-025

SIGNING TABULATIONS



- NOTES:**
- ① FURNISH & INSTALL
 - ② INPLACE = SALVAGE TO COUNTY
 - ③ INPLACE SIGN - SALVAGE AND INSTALL
 - ④ INPLACE SIGN AND POST - SALVAGE AND INSTALL
 - ⊙ INPLACE STREET NAME SIGN AND POST - MAINTAIN OR RELOCATE AS REQUIRED.

DESIGN TEAM			
DRAWN BY:	CIF/BDY		
DESIGNER:	KLE		
CHECKED BY:	JMG		
NO.	BY	DATE	REVISIONS

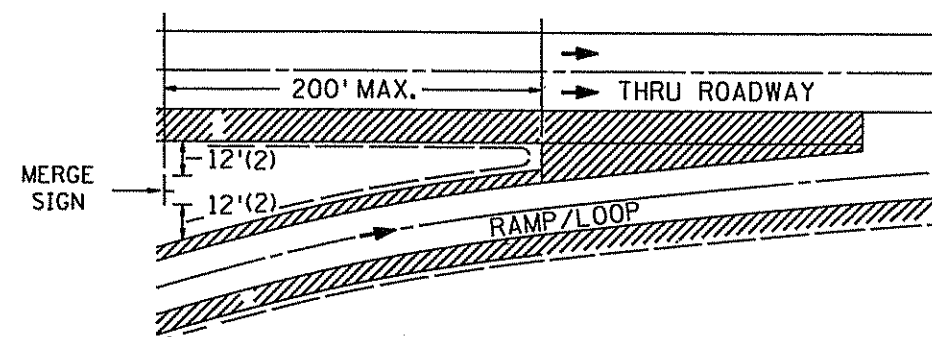
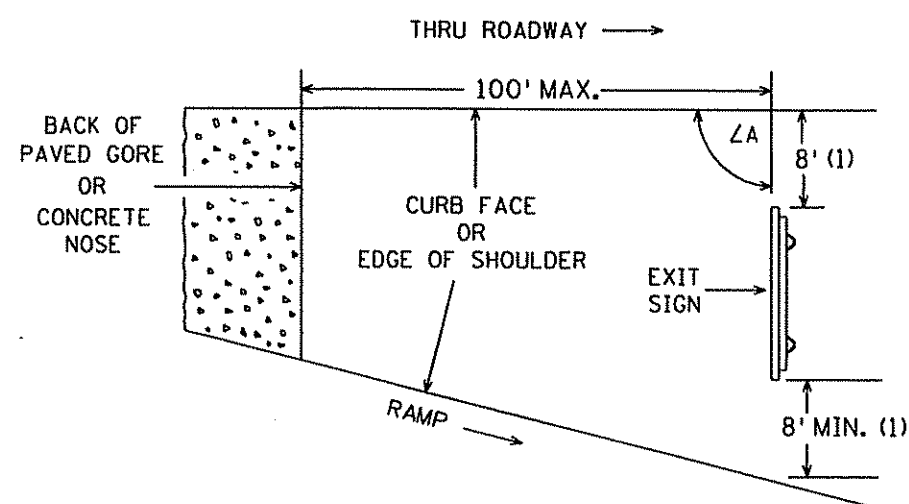
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By: *[Signature]* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 8/7/2009

SEH
 PHONE: 651-490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110
 FILE NO. 107650

ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44, S.P. 127-020-025

SIGNING PLAN

GORE PLACEMENT

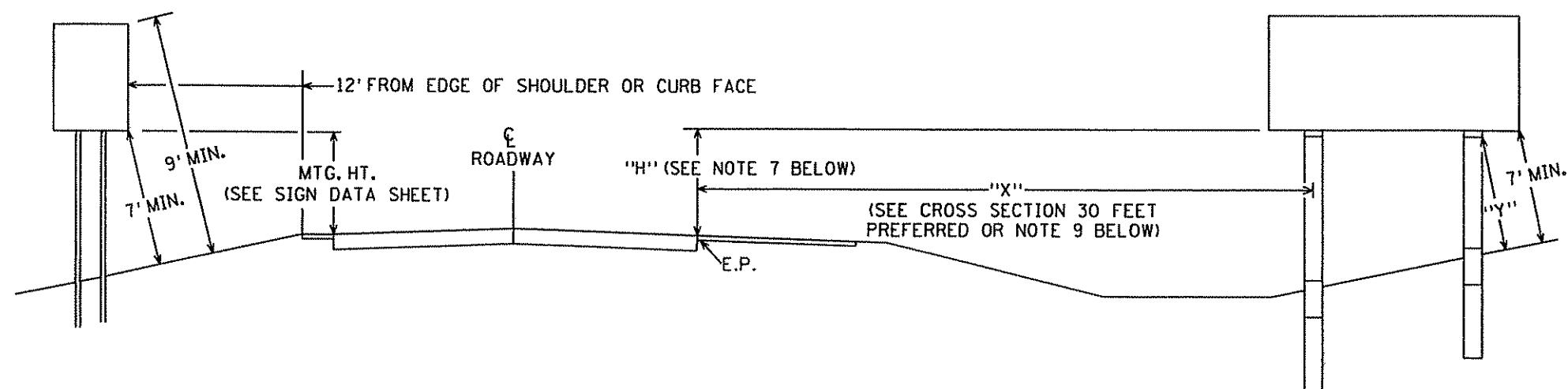
SPECIFIC NOTES:

(1) EXIT SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER WHO WILL CONSULT WITH THE STATE SIGNING ENGINEER.

(2) MERGE SIGNS

IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER WHO WILL CONSULT WITH THE STATE SIGNING ENGINEER.

ROADSIDE PLACEMENT

ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE C
MINOR GUIDE SIGNS - TYPE D

MAJOR GUIDE SIGN - TYPE A

NOTES:

- IF A SECONDARY SIGN IS MOUNTED BELOW A MAJOR SIGN, THE MAJOR SIGN SHALL BE AT LEAST 8' ABOVE THE PAVEMENT EDGE AND THE SECONDARY SIGN AT LEAST 5'.
- ALL ROUTE MARKERS, WARNING AND REGULATORY SIGNS SHALL BE AT LEAST 7' ABOVE PAVEMENT EDGE.
- SIGN FACES SHALL BE VERTICAL.
- OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
- TO AVOID SPECULAR GLARE, $\angle A$ SHALL BE APPROXIMATELY 93° FOR SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF PAVEMENT AND APPROXIMATELY 92° FOR SIGNS LOCATED 30' OR MORE FROM EDGE OF PAVEMENT. THIS APPLIES TO SIGNS TYPE A, C, & D AND INCLUDES SIGNS IN THE GORE.
- "Y" IS THE PERPENDICULAR DISTANCE FROM THE GROUND LINE TO THE FRICTION FUSE ON THE POST. THIS DISTANCE SHALL BE AT LEAST 7'.
- WHERE "X" IS LESS THAN 30', "H" SHALL BE $7' \pm 6''$. WHERE "X" IS 30' OR GREATER, MINIMUM AND PREFERRED "H" IS 5'.
- LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND OR LEFT SIDE INSTALLATION.
- WHEN A TYPE A SIGN IS INSTALLED DIRECTLY BEHIND TRAFFIC BARRIER, THE LEFT EDGE OF THE SIGN PANEL SHALL BE LOCATED A MINIMUM OF 4 FEET BEHIND THE FACE OF THE TRAFFIC BARRIER.

SIGN PLACEMENT

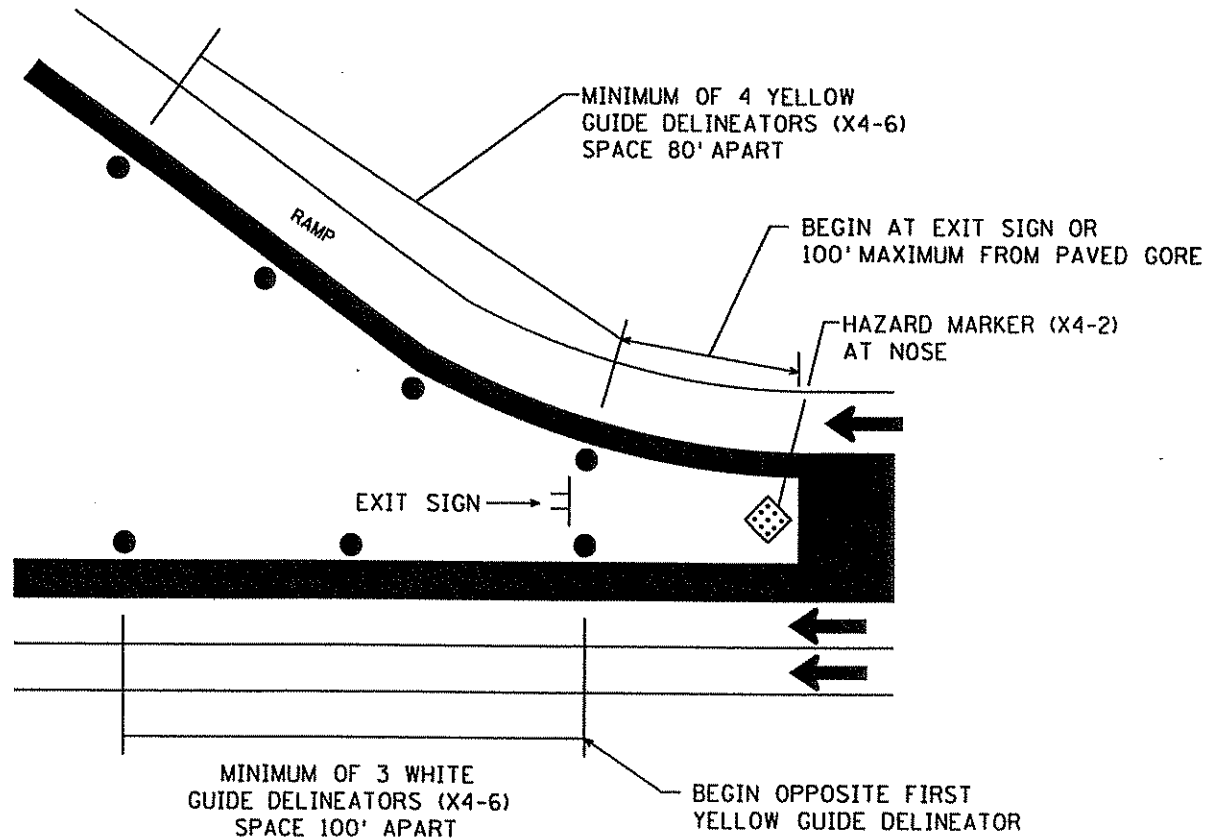
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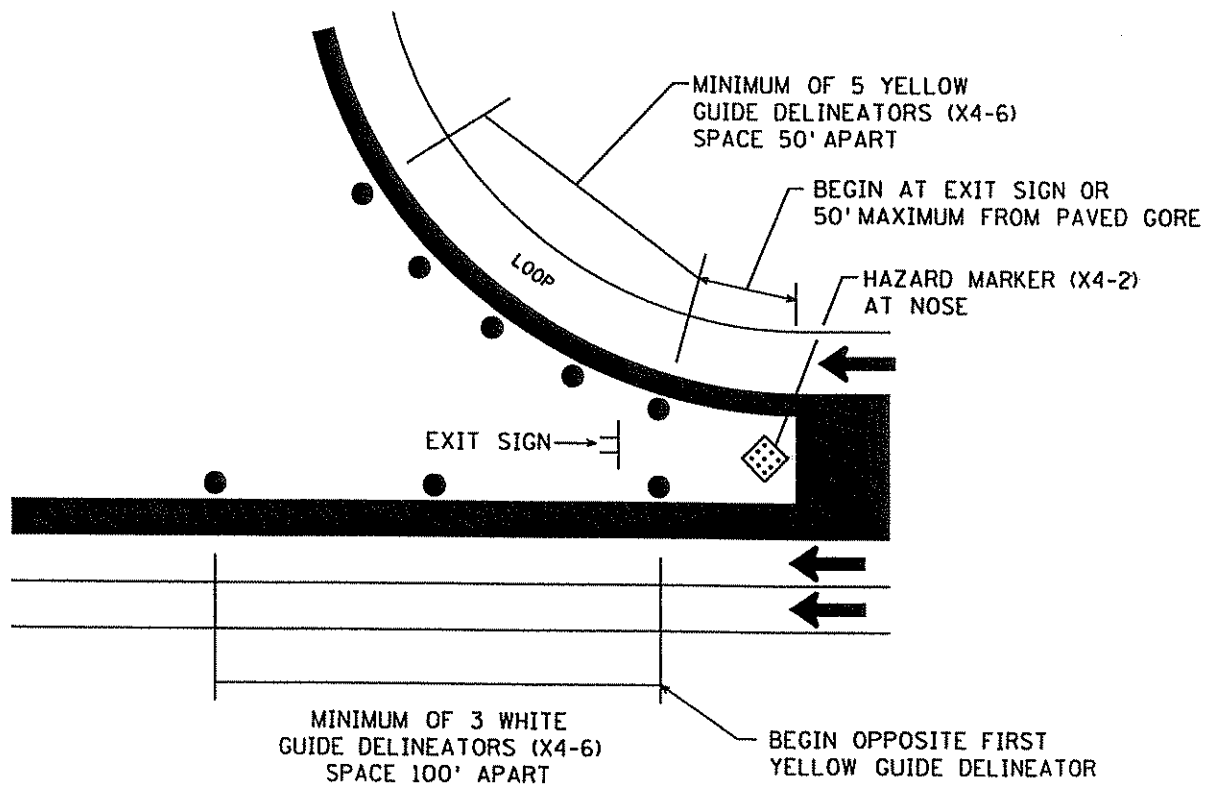
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DT 1-2

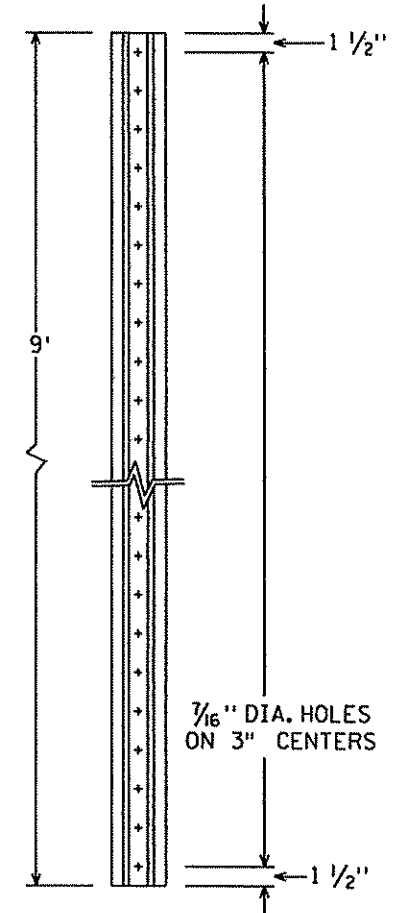
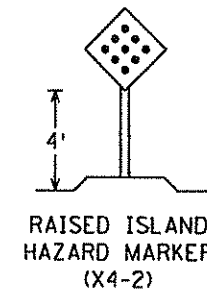
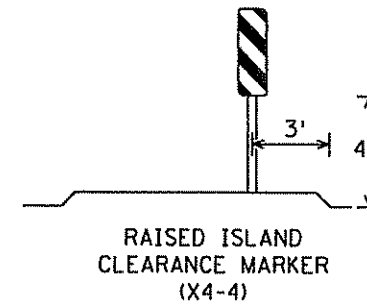
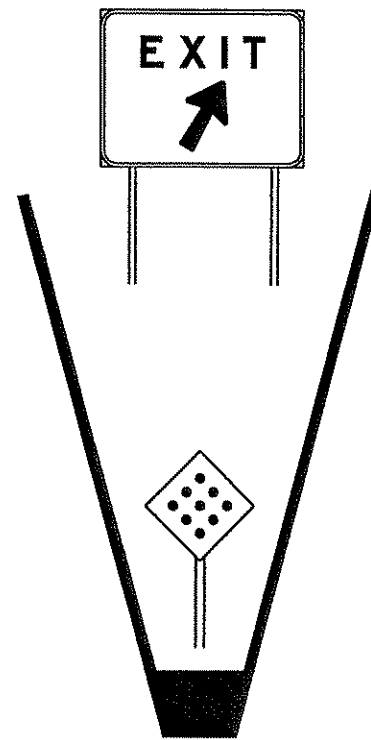
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PLAN A RAMP DELINEATION

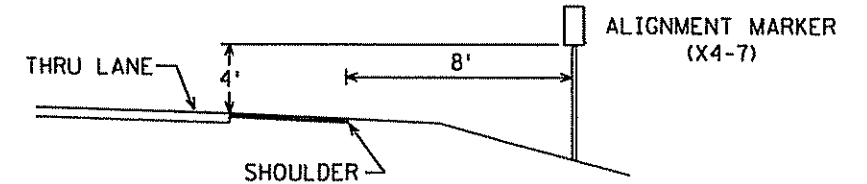
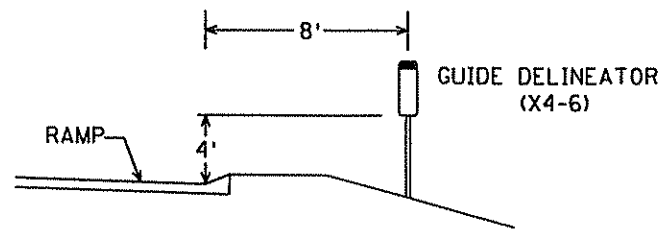
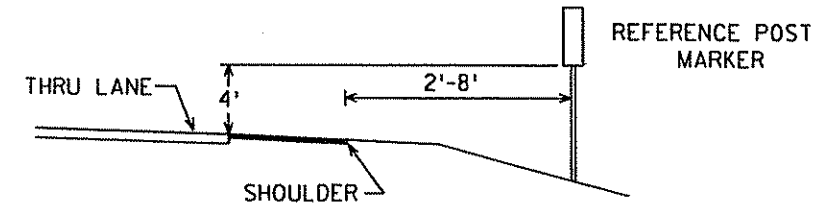
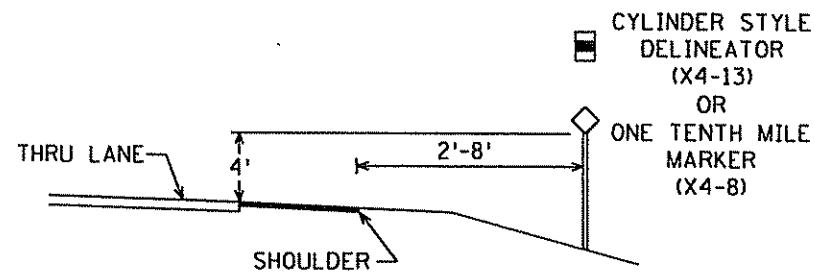


PLAN B LOOP DELINEATION



MN/DOT 3401 NORMAL WEIGHT= 2 LB./FT.

DELINEATOR POST



TYPICAL PLACEMENT

DELINEATORS AND MARKERS

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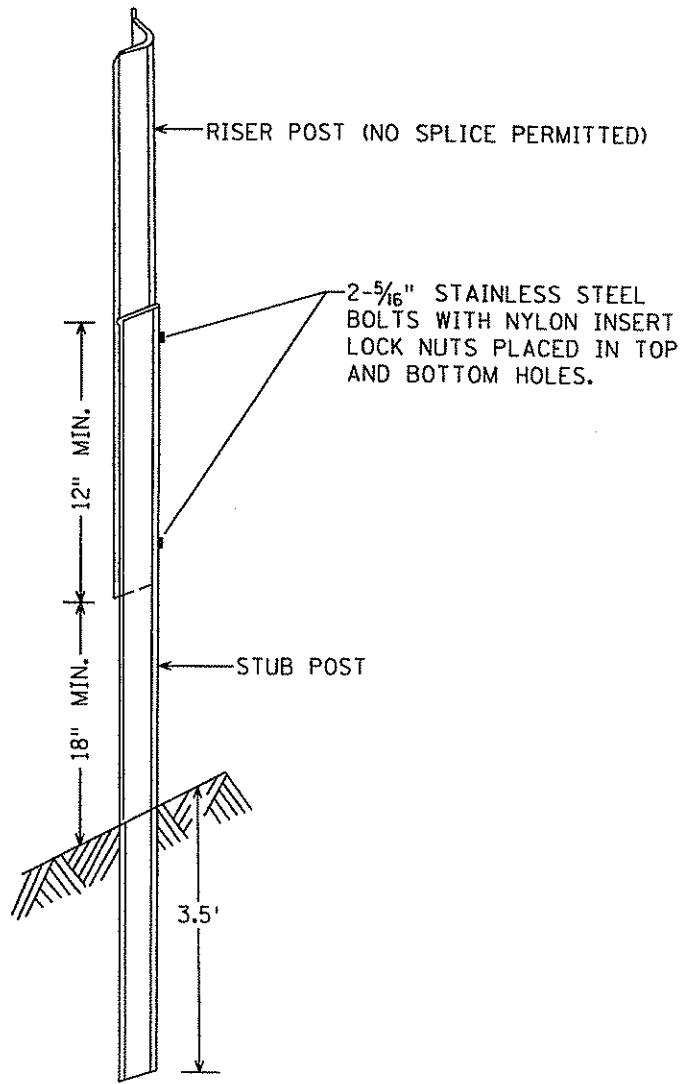
8/7/2009

hclausen

DT 3-5

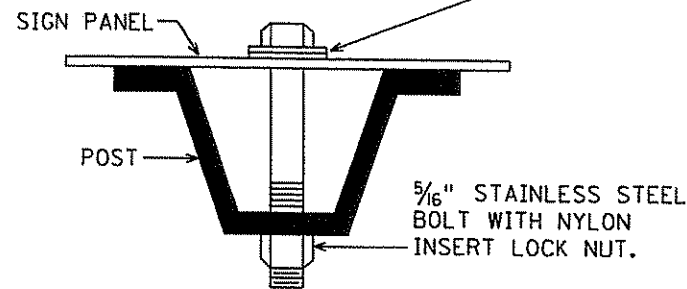
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TYPE C & D POST

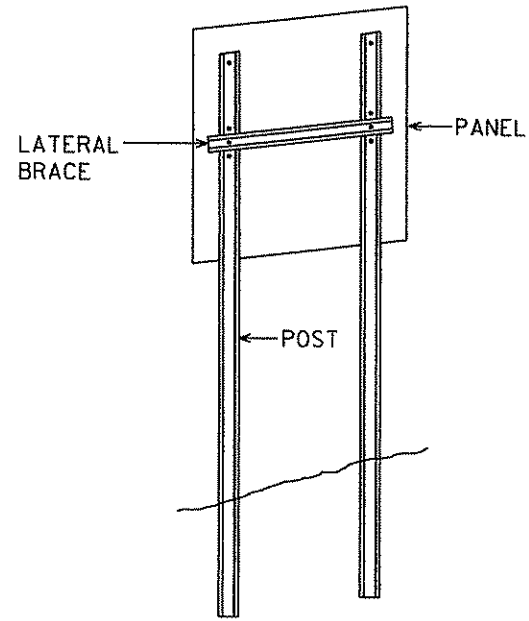


U POST SPLICE

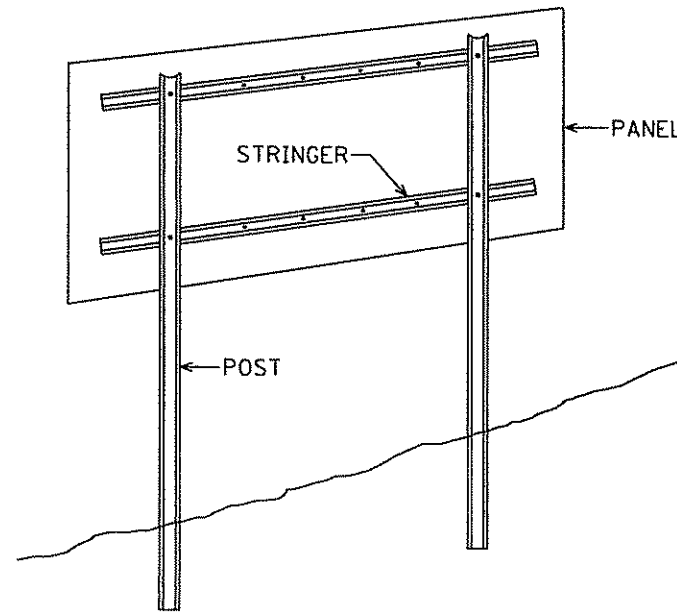
STAINLESS STEEL WASHER AND NYLON WASHER
(T=1/32" MIN., I.D.=3/8" MAX., O.D.=7/8" MAX.)



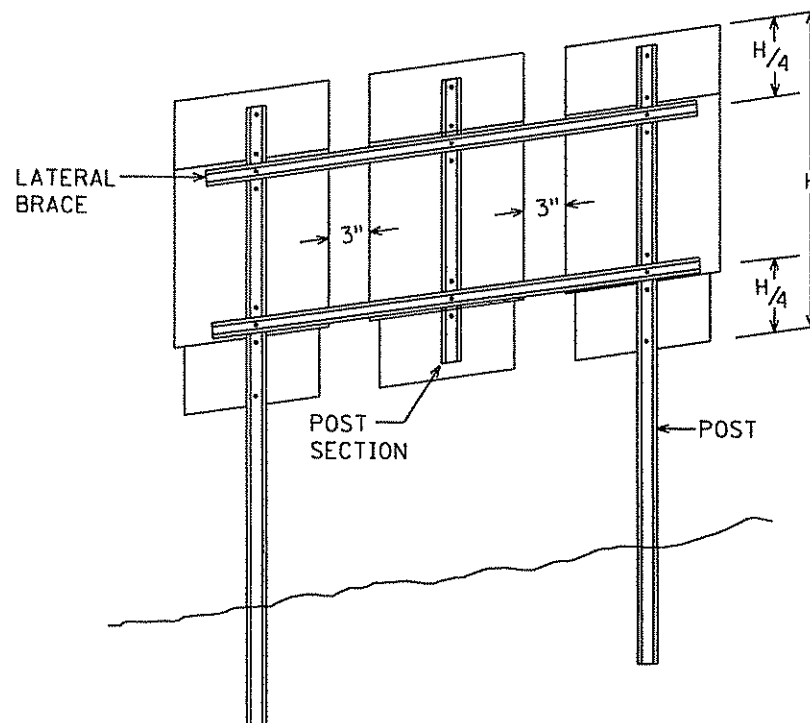
U POST MOUNTING
TYPE C SIGNS



TYPICAL TYPE C INSTALLATION



TYPICAL TYPE D INSTALLATION



MODIFIED TYPE C INSTALLATION

NOTES:

1. USE 3 LB/FT STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE D SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3 1/2'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.
12. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.
13. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

TYPE C & D SIGN STRUCTURAL DETAILS

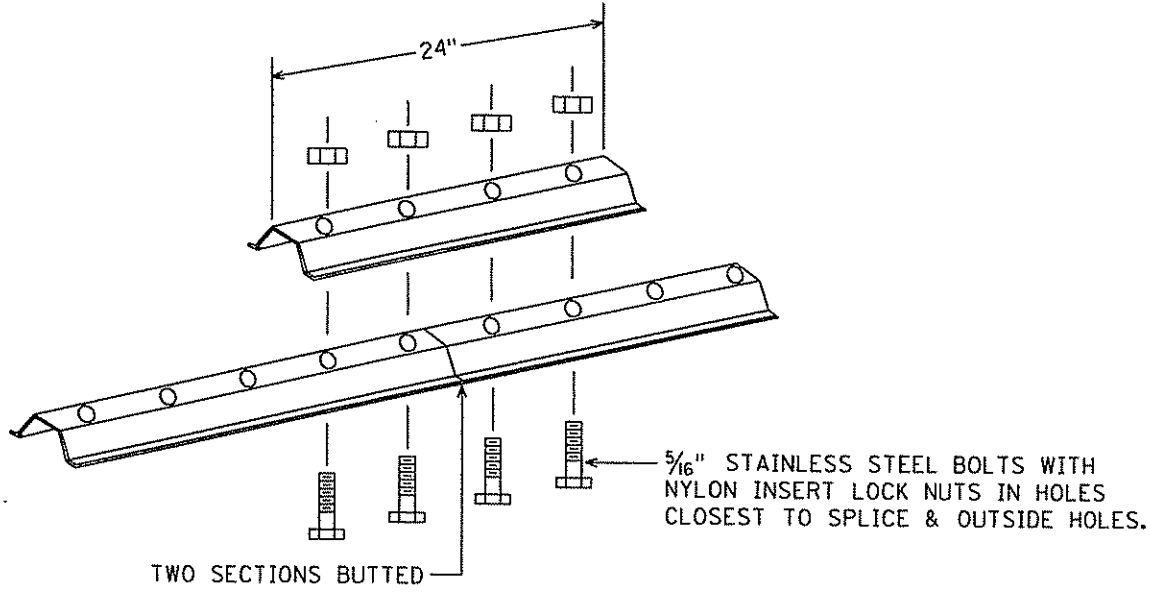
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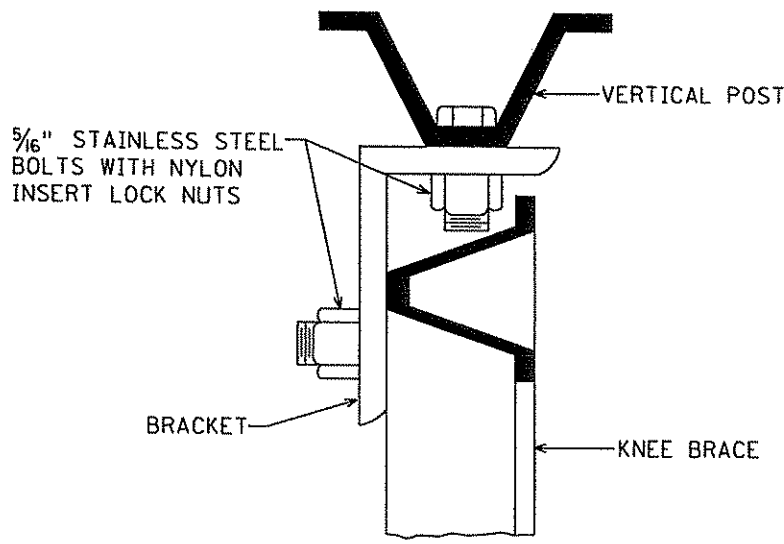
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DT 3-5

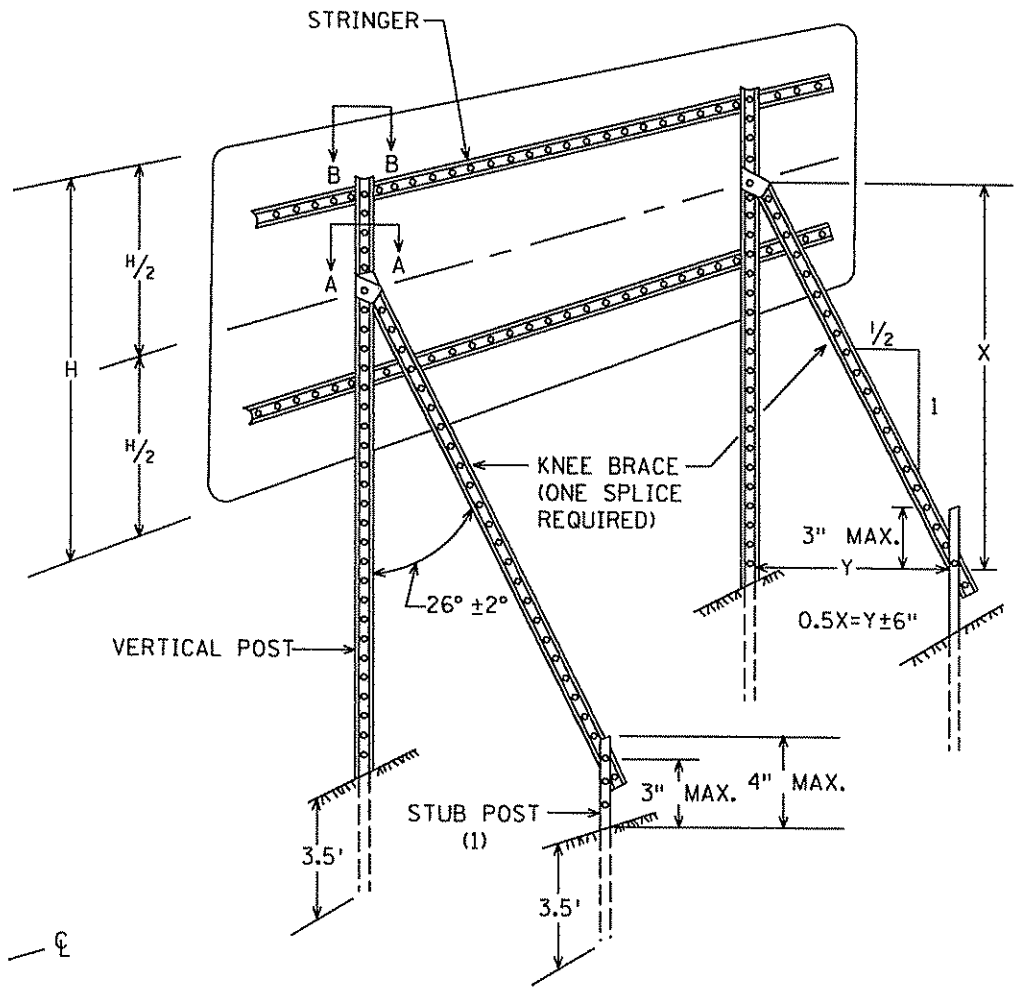
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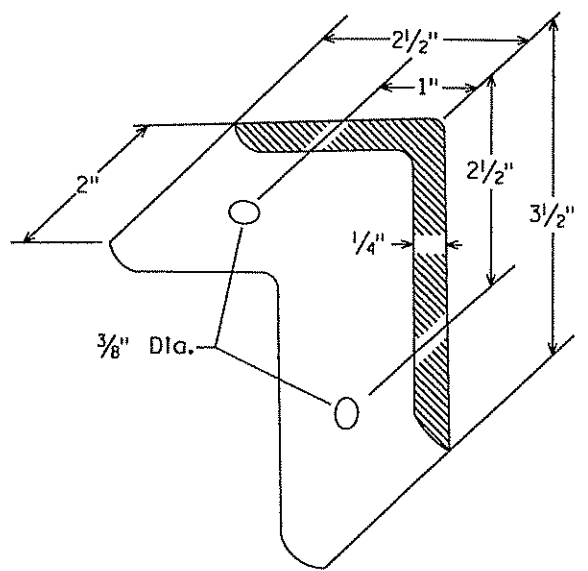
LATERAL BRACE OR STRINGER
SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

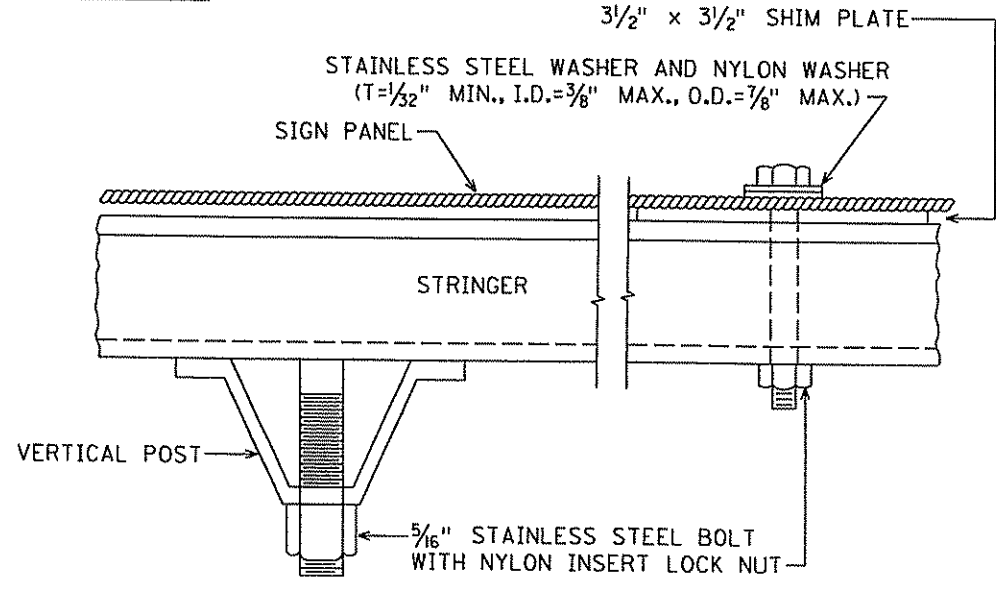


TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS

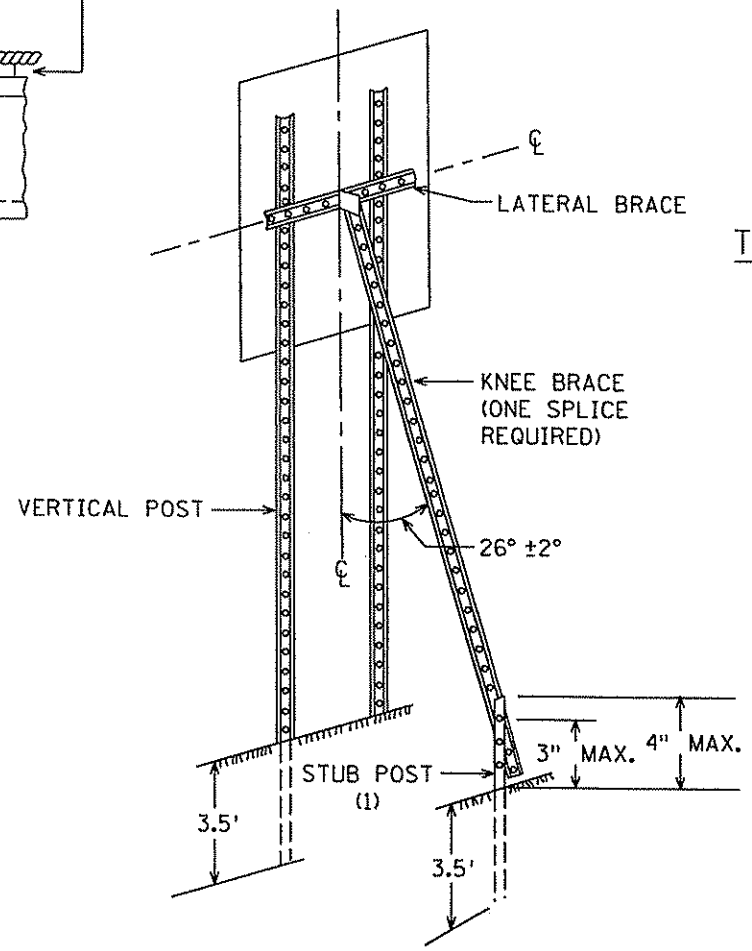


A-FRAME BRACKET

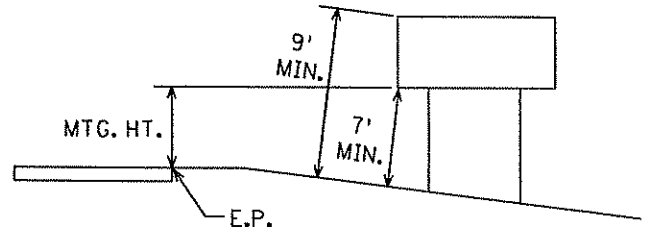
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



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



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY
RELATIVE TO VERTICAL POST. ATTACH STUB
POST AND KNEE BRACE BACK TO BACK.

TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 2 of 2

REVISED: 1-7-08

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8/7/2009
mlausen
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SEE TYPE C SIGNS
(SHEET 66).

VIEW A-A

2" I D GALV. SEAMLESS
STRUCTURAL STEEL
PIPE (MN/DOT 3362)

MEDIAN ISLAND
ON BRIDGE

PIPE SLEEVE
SEE BRIDGE PLAN

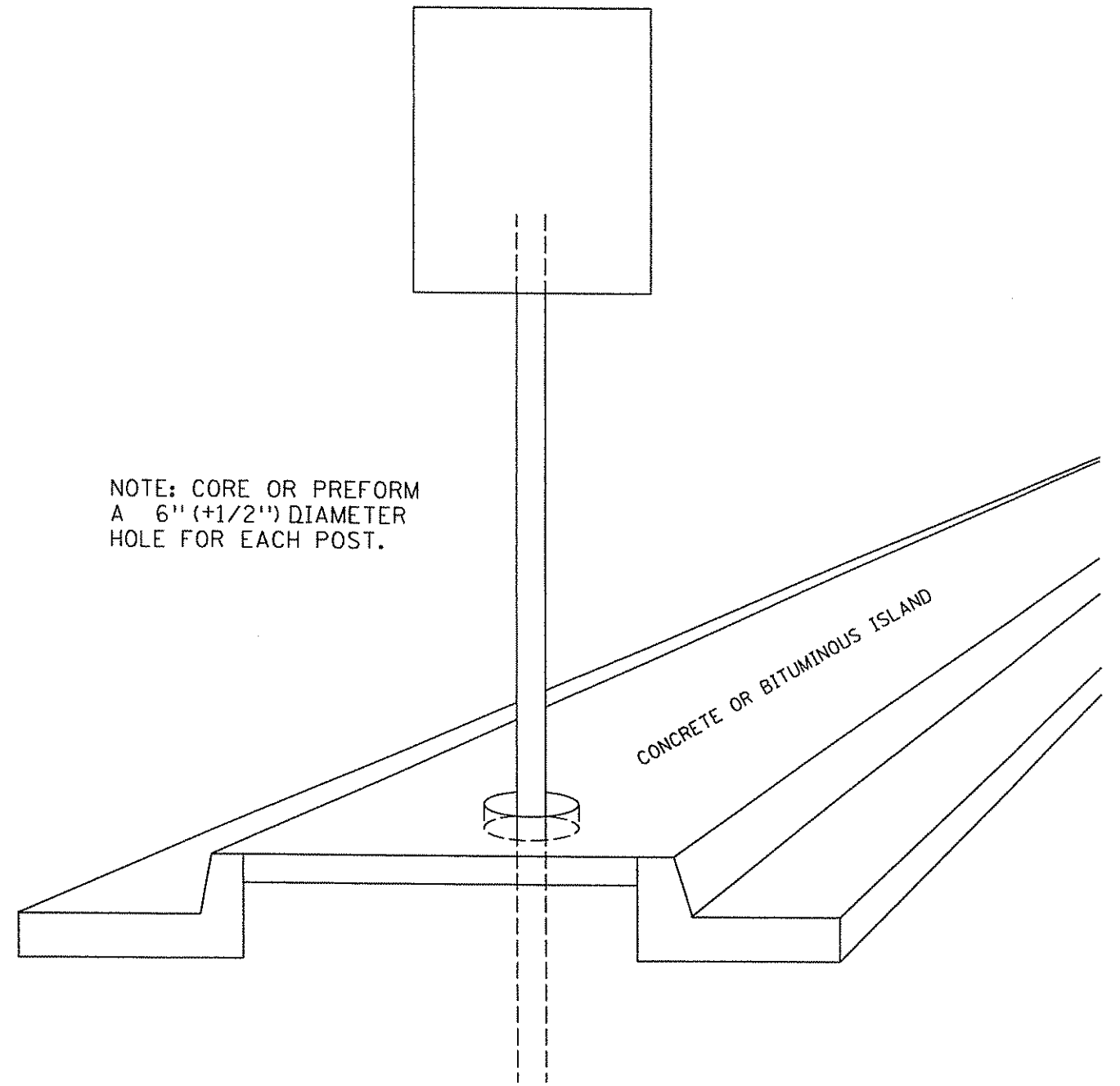
PIPE STOP

ELEVATION

NOTES:
FOR NOTES AND DETAILS NOT SHOWN, SEE
TYPE C & D SIGN DETAILS - SHEETS 53-55

TYPE C SIGNS MOUNTED ON
BRIDGE MEDIAN ISLAND

REVISED 9-20-00



FLANGED CHANNEL POST MOUNTED THROUGH SURFACED
MEDIAN OR SIDEWALK

REVISED 12-23-97

PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR 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.

PAINT:

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 TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

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

PAINT (CONTINUED):

GLASS BEADS SHALL BE APPLIED AT A RATE AS SPECIFIED IN THE SPECIAL PROVISIONS. THE "NO-TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE AS SPECIFIED IN THE SPECIAL PROVISIONS.




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

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





PREFORM THERMOPLASTIC APPLICATION:

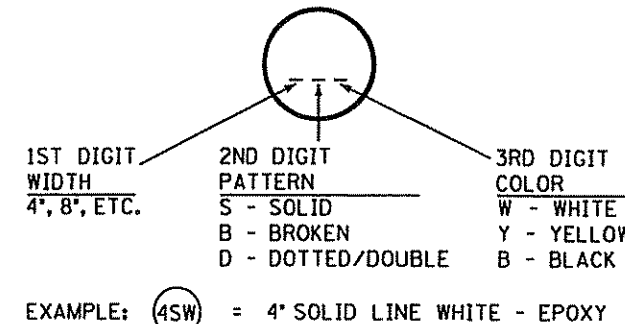
SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION REGARDING INSTALLATION PROCEDURES FOR PREFORM THERMOPLASTIC PAVEMENT MARKINGS.

SYMBOLS & MATERIALS LEGEND

-  CROSSWALK BLOCK WHITE PREFORM THERMOPLASTIC
-  PAVEMENT MESSAGE (LEFT ARROW) PREFORM THERMOPLASTIC
-  24" SOLID WHITE STOP BAR - PREFORM THERMOPLASTIC

STRIPING KEY

-  CIRCLE - EPOXY
-  SQUARE - PREFORM THERMOPLASTIC
-  TRIANGLE - PAINT
-  PENTAGON - REMOVEABLE PREFORMED PLASTIC MARKING



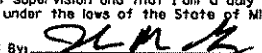
PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL QUANTITY
PAVEMENT MESSAGE (LEFT ARROW) - PREFORM THERMOPLASTIC	EACH	5
PAVEMENT MESSAGE (RIGHT ARROW) - PREFORM THERMOPLASTIC	EACH	5
PAVEMENT MESSAGE (LEFT-THRU ARROW) - PREFORM THERMOPLASTIC	EACH	3
24" STOP LINE WHITE - PREFORM THERMOPLASTIC	LIN FT	166
4" SOLID LINE WHITE - PAINT	LIN FT	3730
4" SOLID LINE YELLOW - PAINT	LIN FT	2020
4" DOUBLE SOLID LINE YELLOW - PAINT	LIN FT	340
4" BROKEN LINE WHITE - PAINT	LIN FT	420
CROSSWALK MARKING - PREFORM THERMOPLASTIC	SQ. FT.	918
PAVEMENT MARKING REMOVAL - PERMANENT (STOP BARS)	SQ. FT.	344
PAVEMENT MARKING REMOVAL - PERMANENT (ZEBRA CROSSWALK)	SQ. FT.	378
(1) PAVEMENT MARKING REMOVAL - PERMANENT (TURN ARROWS)	SQ. FT.	192
(2) PAVEMENT MARKING REMOVAL - PERMANENT (LANE LINES)	LIN FT	1200


- (1) INCLUDES REMOVAL OF SOUTHBOUND LEFT TURN ARROW AND TWO (2) SOUTHBOUND RIGHT TURN ARROWS.
- (2) INCLUDES REMOVAL OF 4" SOLID YELLOW MEDIAN EDGE LINE AND 4" SOLID WHITE TURN LANE LINE (NORTH OF 61ST WAY NE).

4/24/18 PM
8/6/2009
striping tab
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DESIGN TEAM					
DRAWN BY: CIE/BDY					
DESIGNER: KLE					
CHECKED BY: JMG					
	NO.	BY	DATE	REVISIONS	

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By:  Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 8/6/2009



PHONE: 651/490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110
FILE NO. 107650



ANOKA COUNTY

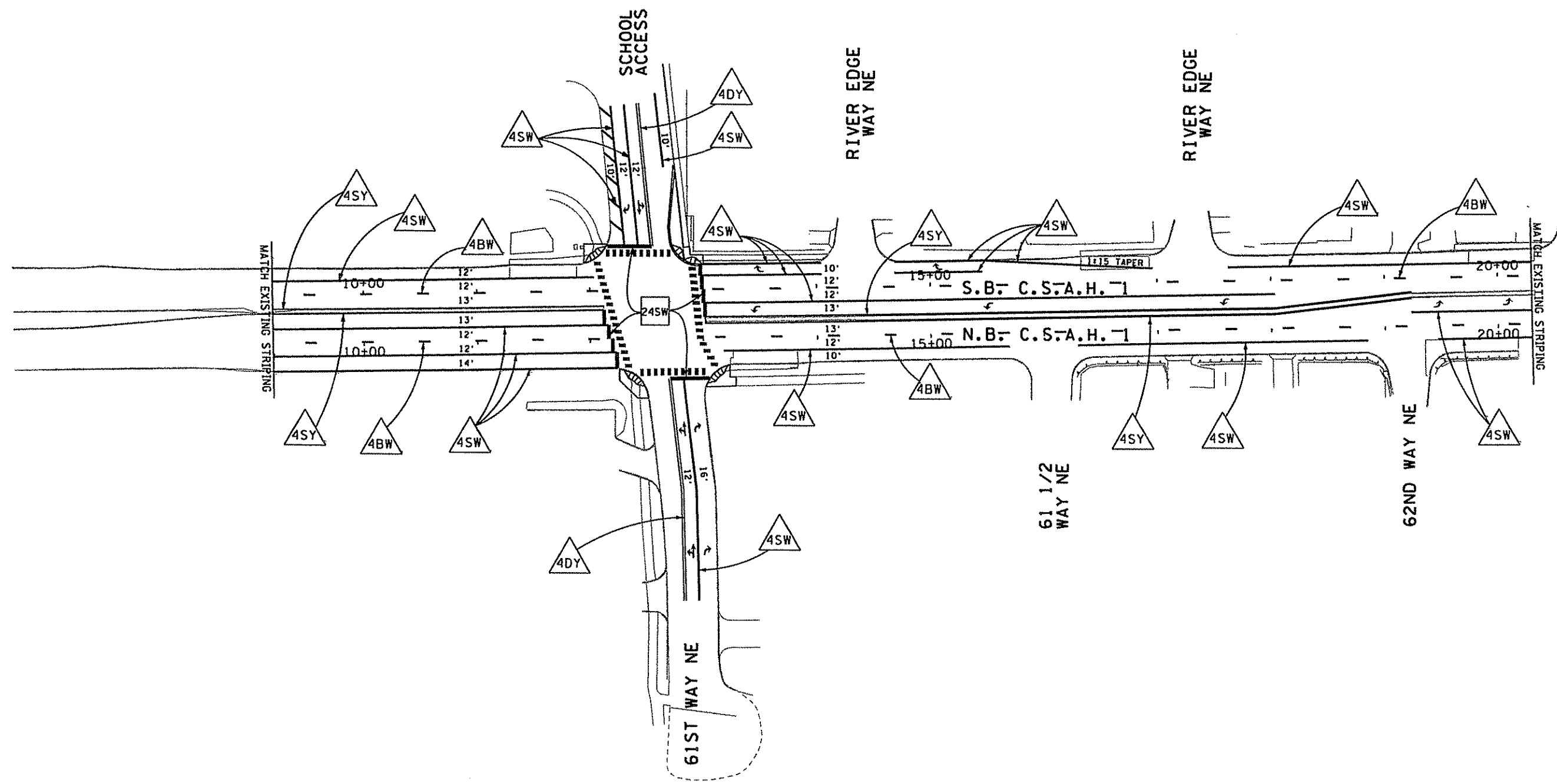
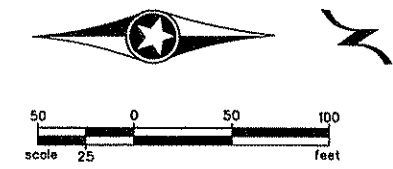
ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
S.P. 02-601-44, S.P. 127-020-025

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8/16/2009

striping plan

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DESIGN TEAM			
DRAWN BY:	CIE/BDY		
DESIGNER:	KLE		
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Certified By: *[Signature]* Lic. No. 22457
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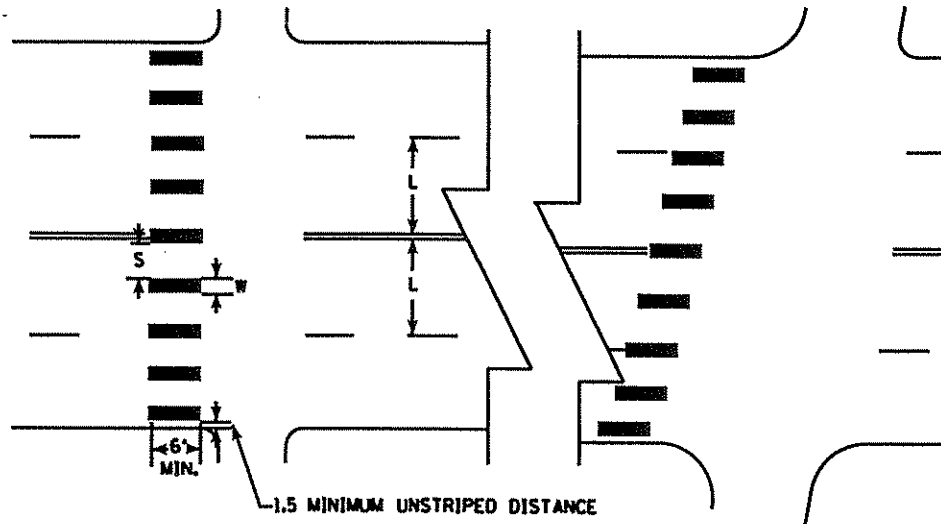
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 PHONE: 651-490-2000
 3535 VADNATS CENTER DR.
 ST. PAUL, MN 55110
 FILE NO. 107650

ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44, S.P. 127-020-025

STRIPING PLAN

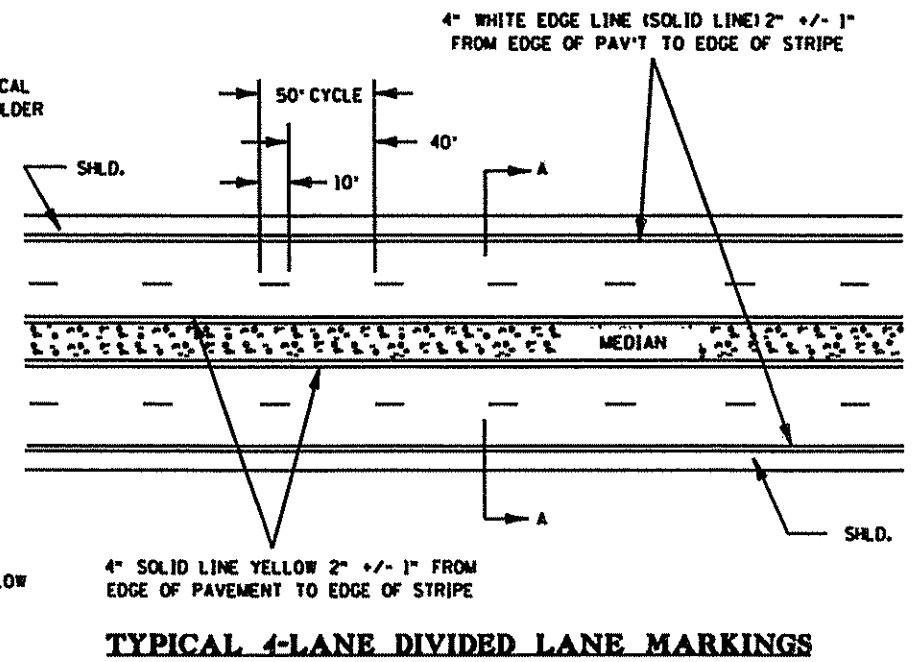
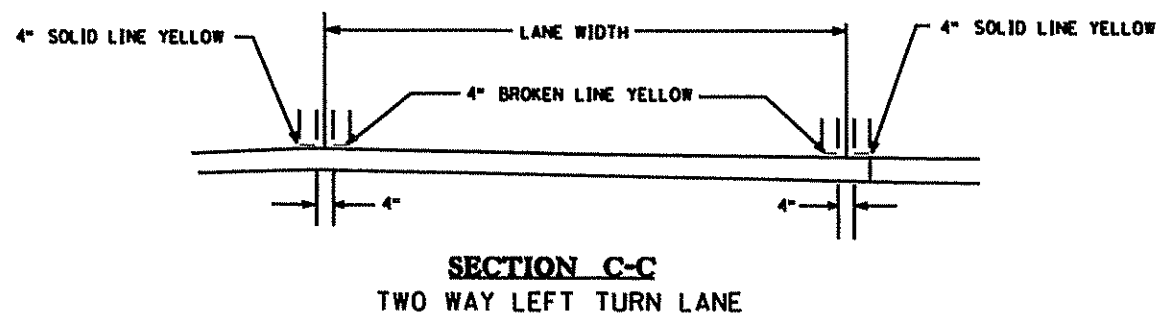
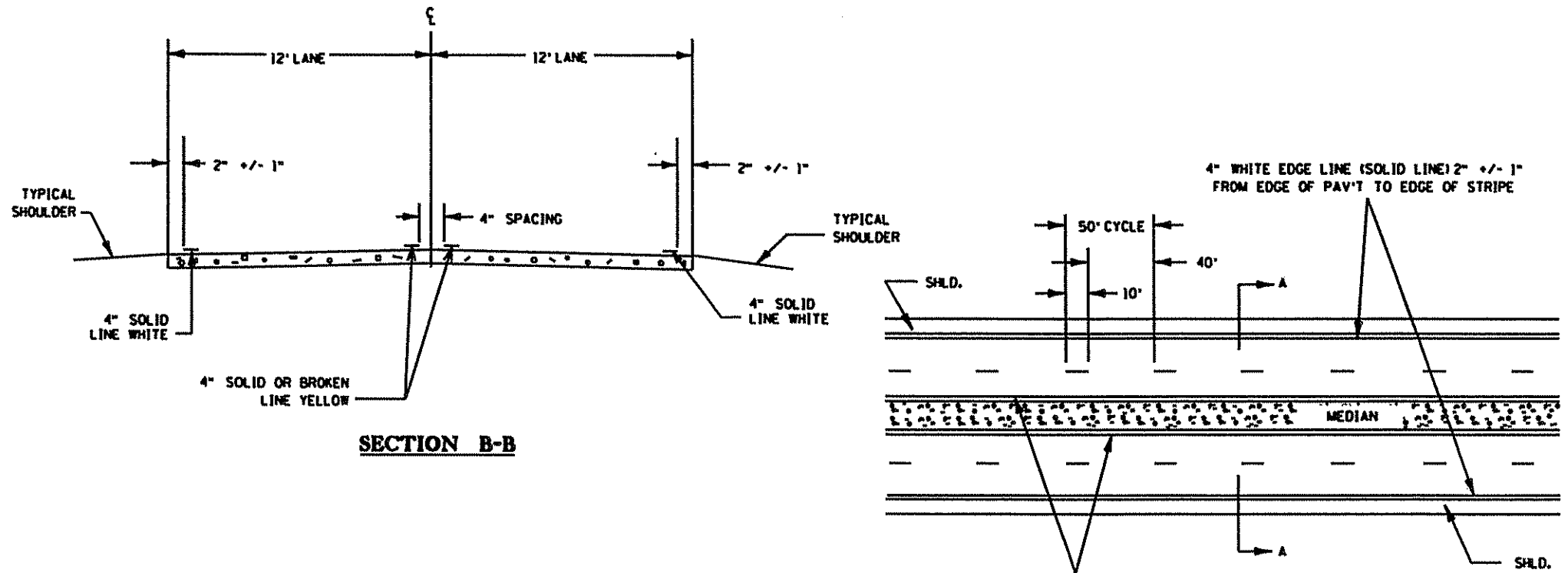
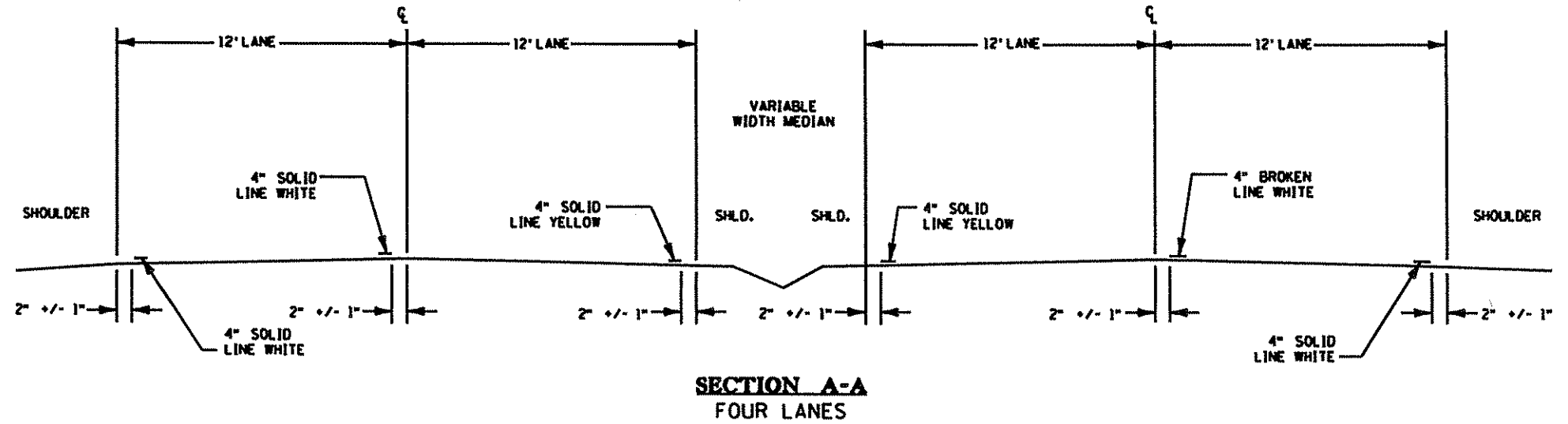
MARKINGS FOR PEDESTRIAN CROSSWALKS

(L) WIDTH OF INSIDE LANE	(W) WIDTH OF PAINTED AREA	(S) 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:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.



4/17/21 PM

8/6/2009

mtf-on

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striping dt 1-3

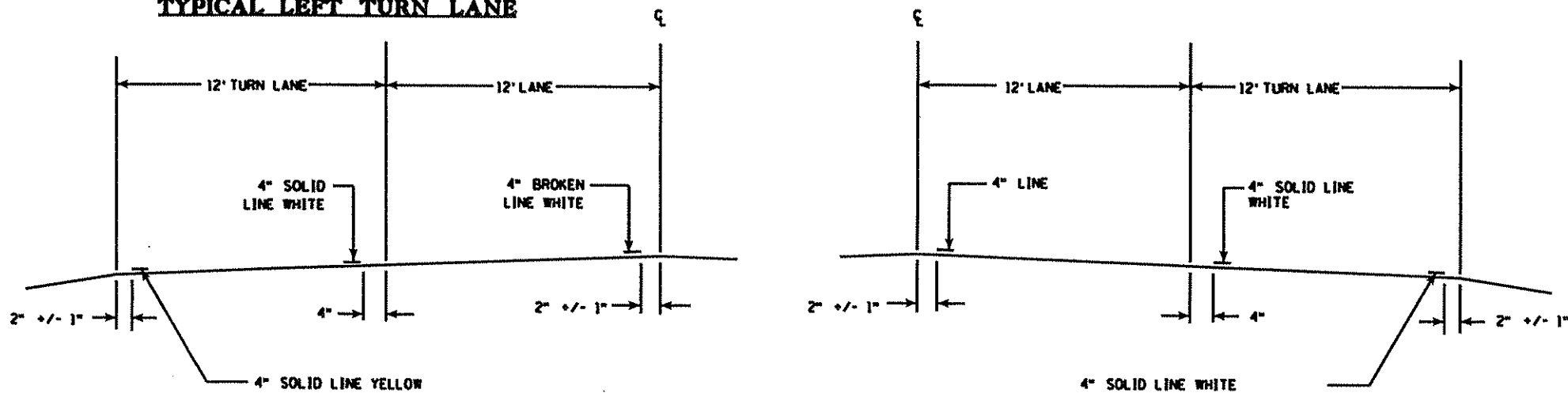
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8/6/2009

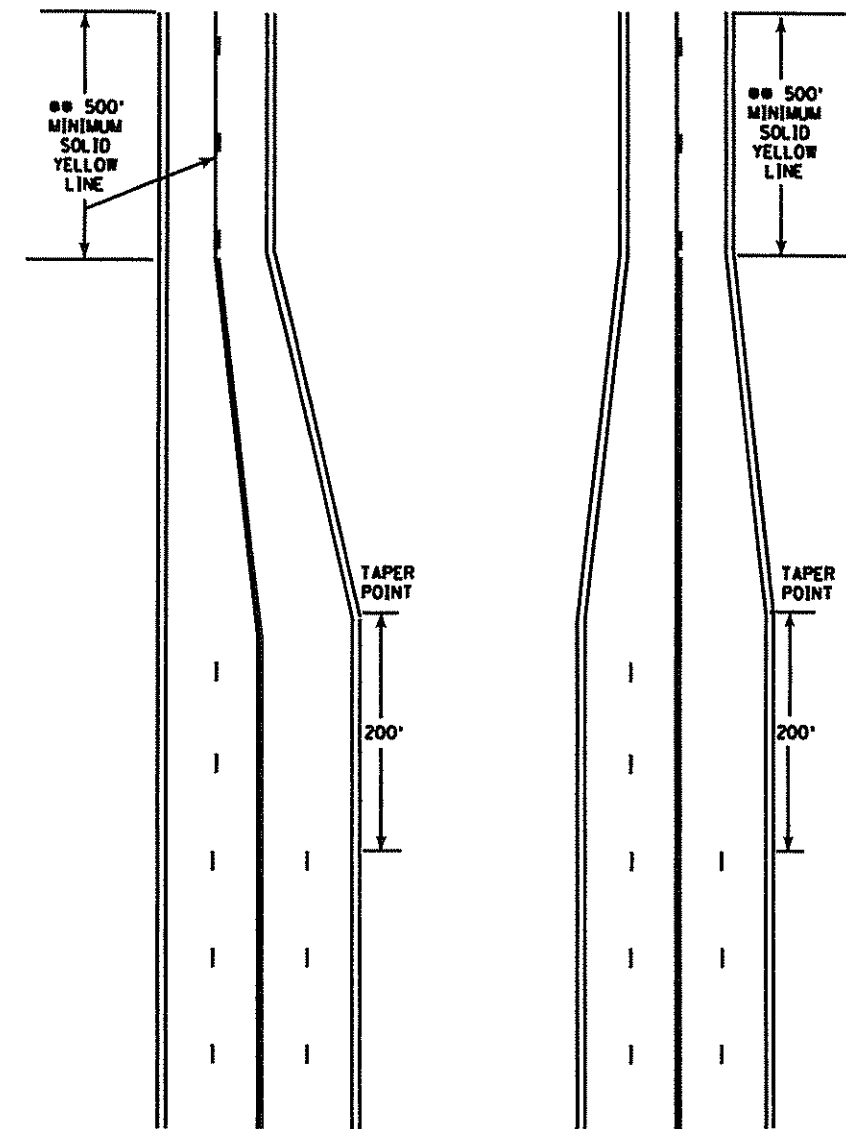
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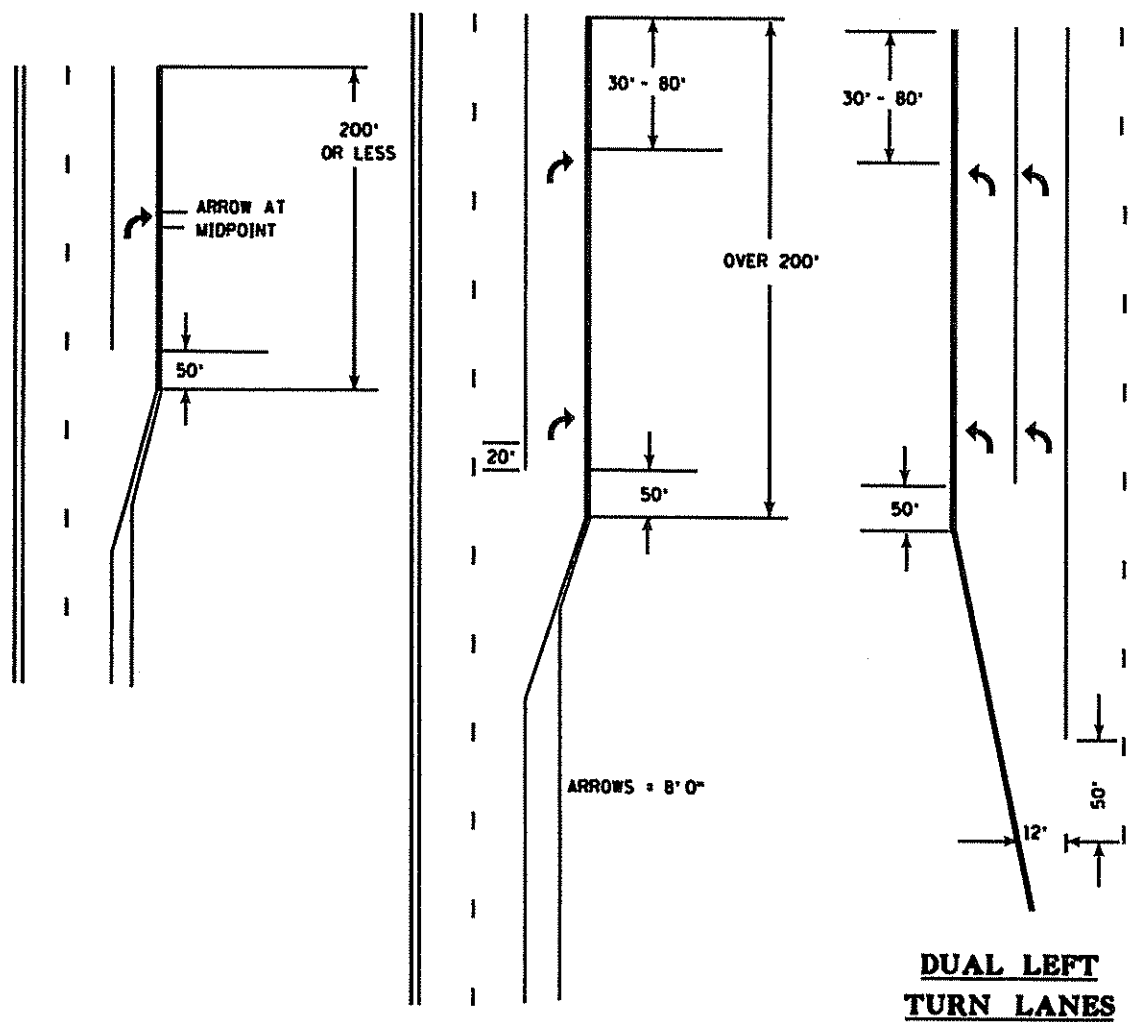
TYPICAL LEFT TURN LANE



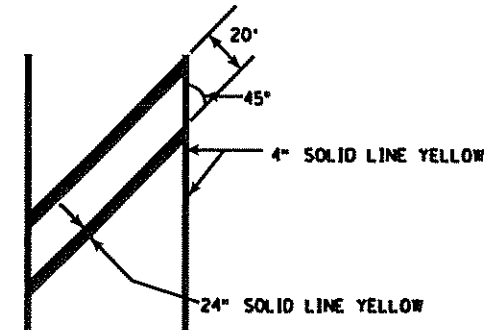
TYPICAL LANE REDUCTION TRANSITION



TYPICAL MESSAGE PLACEMENT FOR TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12\".

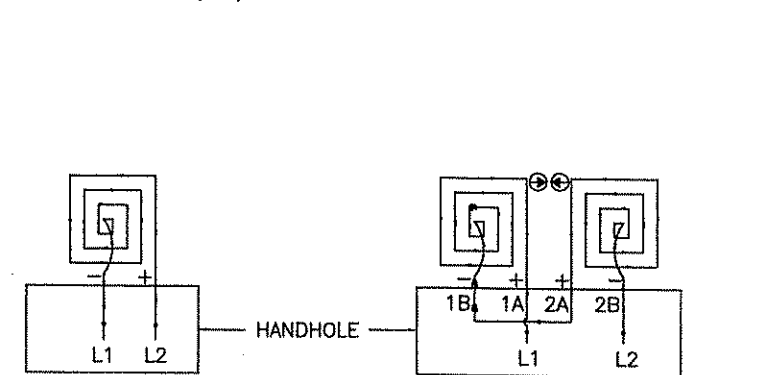
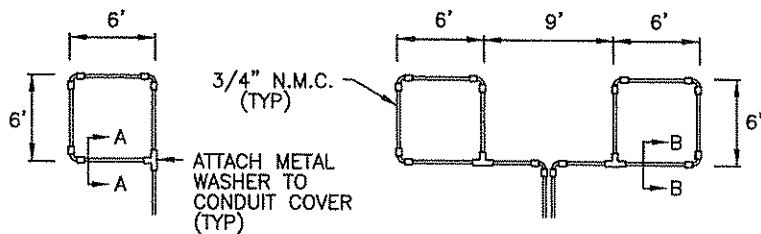
AT SPEEDS 40 MPH AND OVER THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.

* SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER OF ARROWS.

** IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS.....	500'
40-50 MPH SPEED LIMIT.....	650'
55 MPH SPEED LIMIT.....	800'

08/04/2009

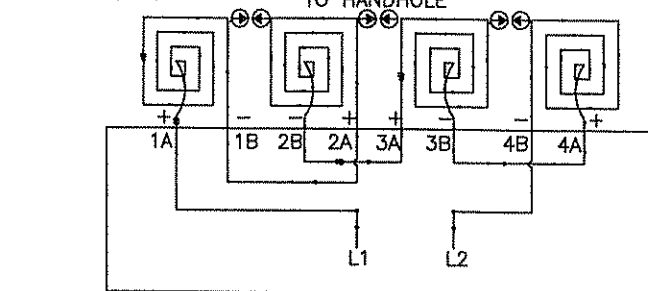
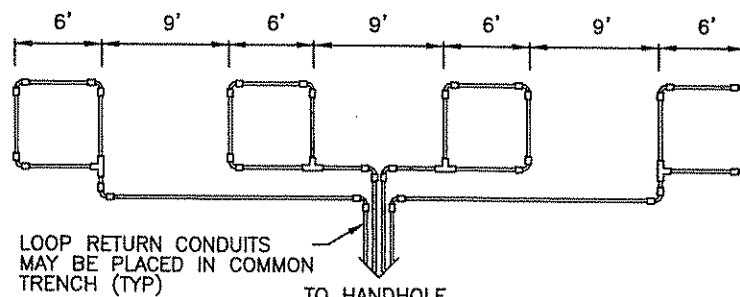


**LOOP DETECTOR
DETAIL 'A'**
(LOOP PHASING FOR
SINGLE CONNECTION)

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

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

**LOOP DETECTOR
DETAIL 'B'**
(LOOP PHASING FOR
SERIES CONNECTION)

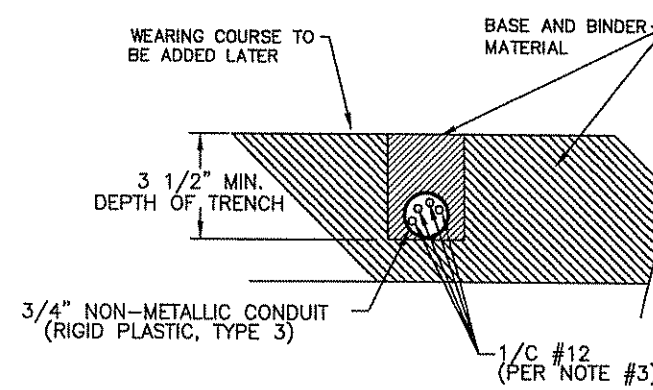


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

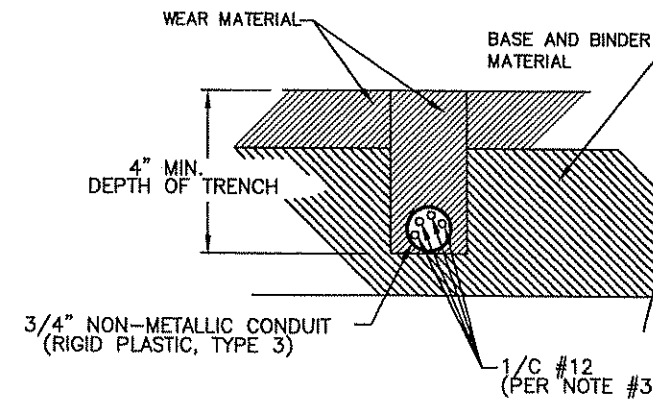
L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

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

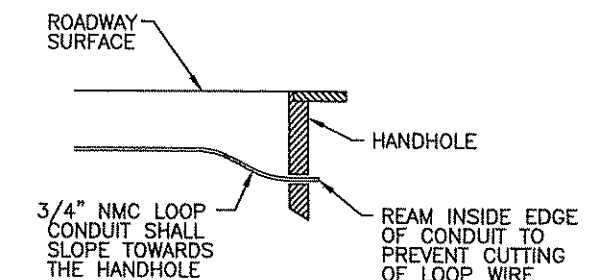
**LOOP DETECTOR
DETAIL 'C'**
(LOOP PHASING FOR
SERIES CONNECTION)



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.

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TRAFFIC SIGNAL STANDARD PLATES	
THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 D	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 E	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
* 8118 D	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
* 8120 N	PA85 POLE FOUNDATION
* 8121 F	TRANSFORMER BASE AND POLE BASE PLATE
8122 D	PEDESTAL AND PEDESTAL BASE
* 8123 F	POLE AND MAST ARM
* 8126 I	PA90 AND PA100 POLE FOUNDATION

* - APPLIES TO THIS PROJECT

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

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	Ⓐ
SIGNAL BASE NO.	Ⓢ
SIGNAL FACE NO.	Ⓣ
LUMINAIRE NO.	Ⓛ
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	— — — —
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

DESIGN TEAM			
NO.	BY	DATE	REVISIONS
1	JMG		
2	JMG		
3	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.

Certified By: *John M. Gray* Lic. No. 22457
 Printed Name: JOHN M. GRAY Date: 8/04/2009

SEH
 PHONE: (651)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110
 FILE NO. 107650

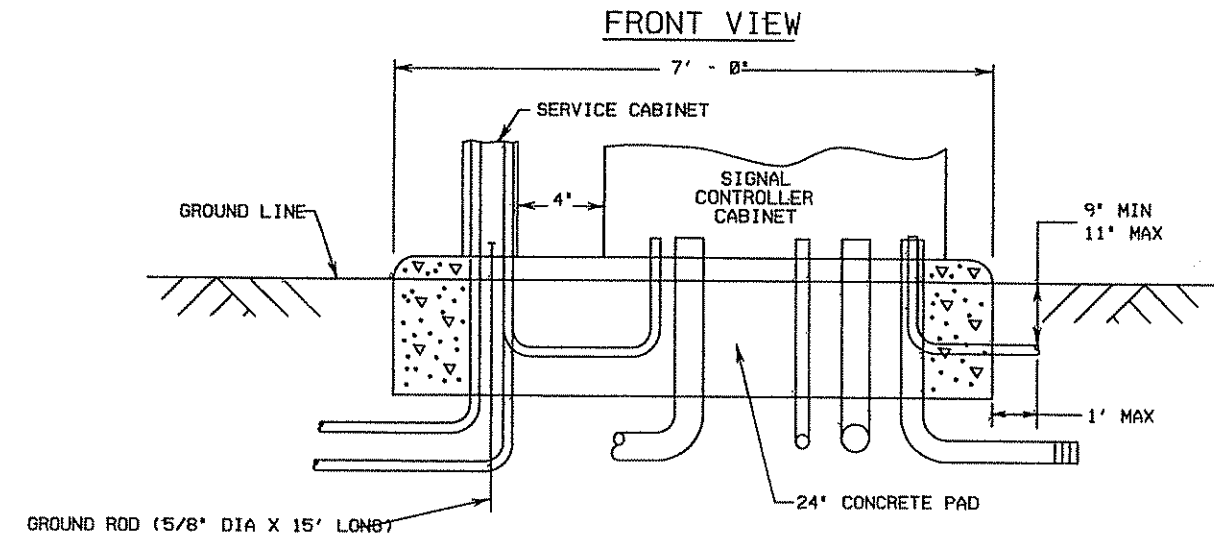
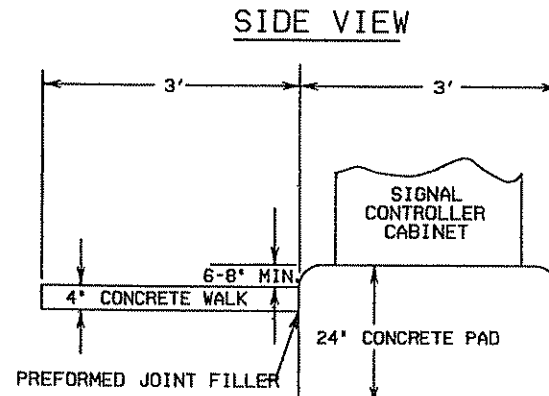
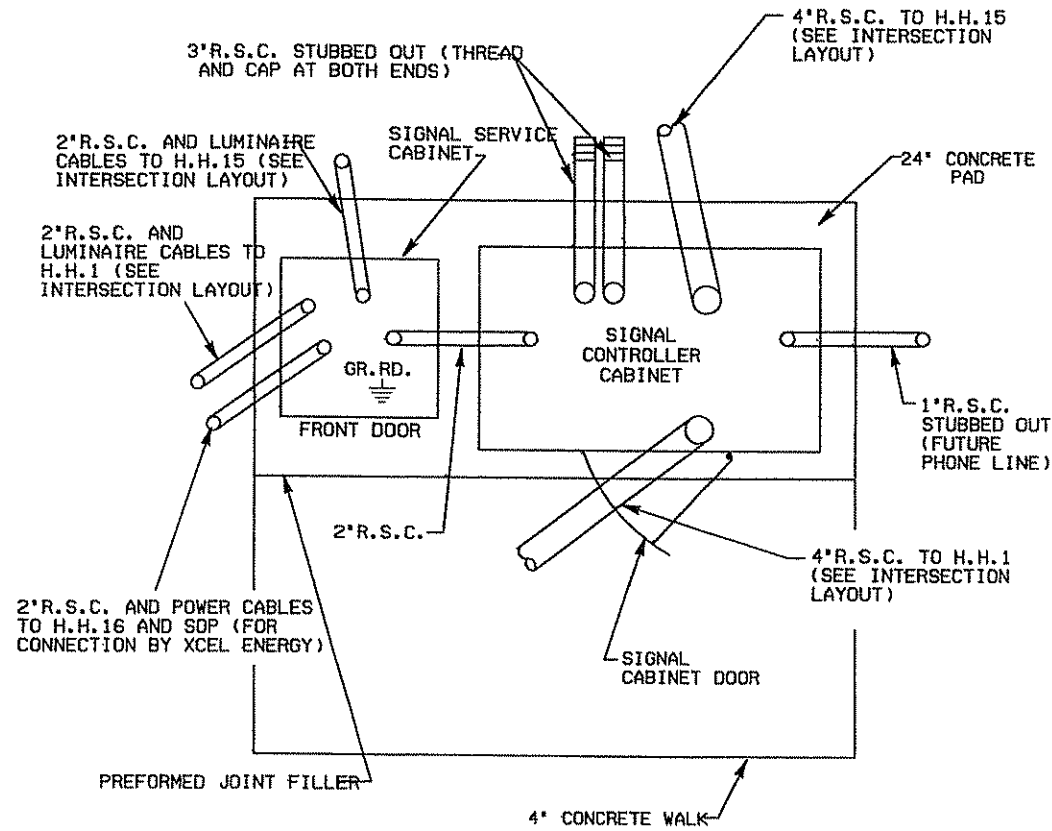
ANOKA COUNTY, MN.
 C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44 & 127-020-025

**TRAFFIC SIGNAL SYSTEM
 DETAILS & STANDARD PLATES
 CSAH 1 AT 61ST WAY NE**

TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

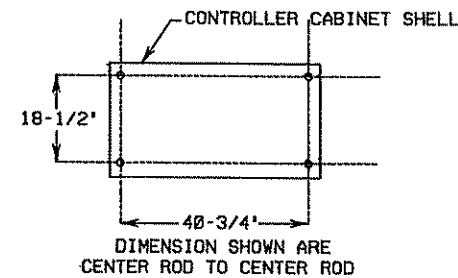
PLAN VIEW CSAH 1 AT 61ST WAY NE



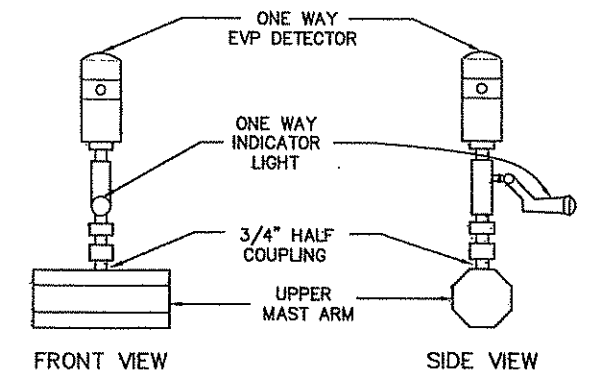
NOTES:

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 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 THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3A32 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.

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



EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



08/04/2009

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

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 Licensed Professional Engineer
 Printed Name: JOHN M. GRAY Date: 8/04/2009

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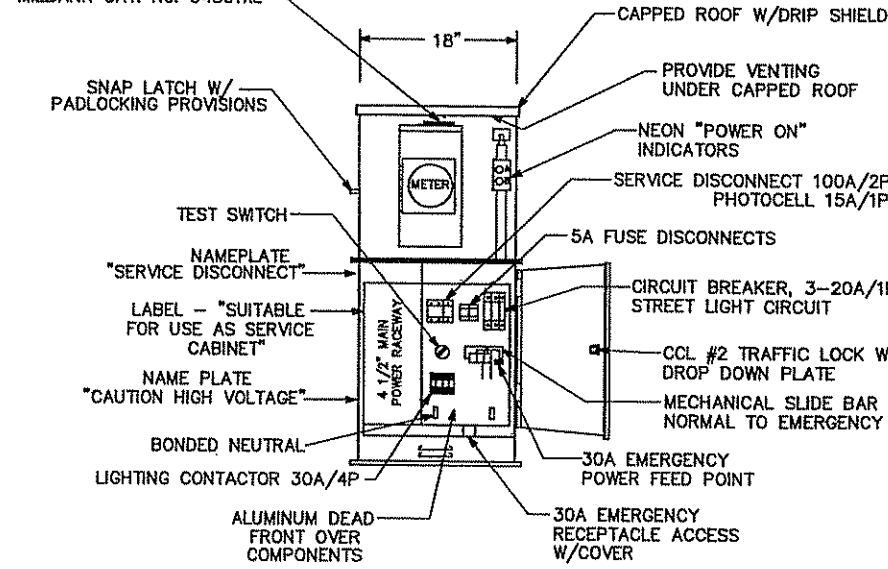
ANOKA COUNTY, MN.
 C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44 & 127-020-025

TRAFFIC SIGNAL SYSTEM
 EQUIPMENT PAD & EVP DETAILS
 CSAH 1 AT 61ST WAY NE

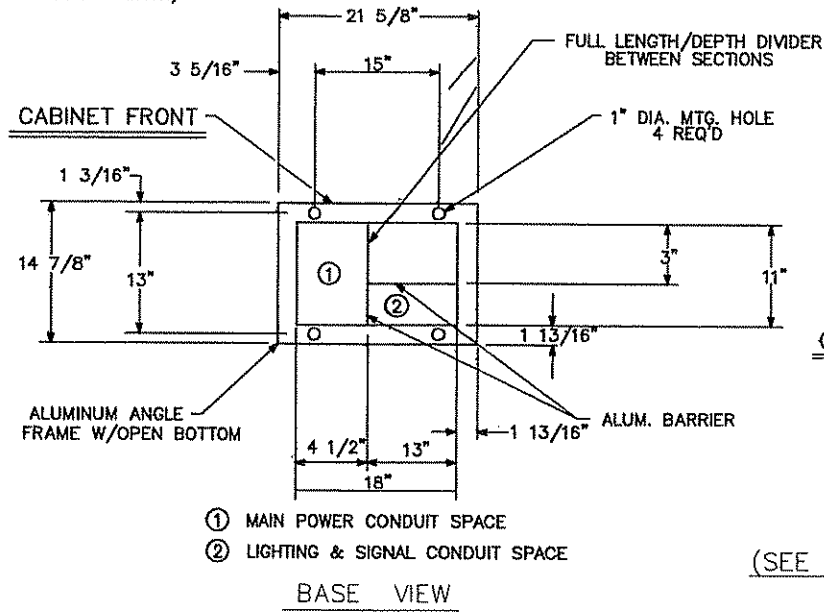
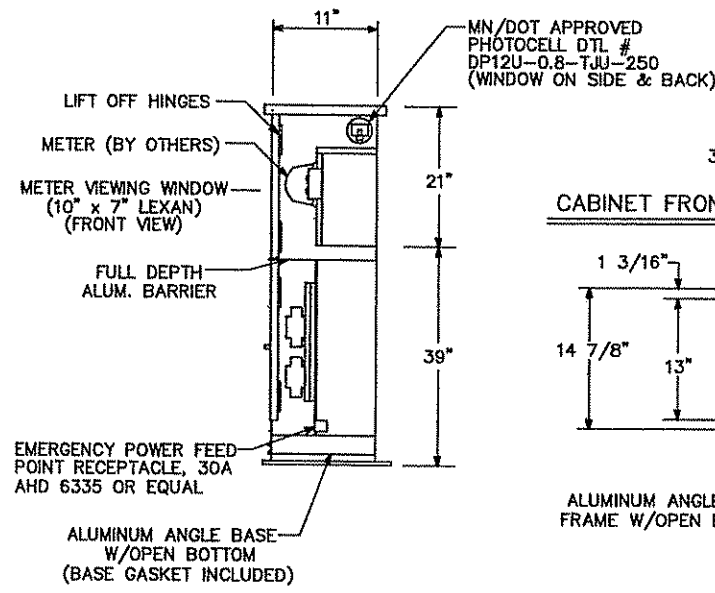
08/04/2009

N.S.P. METER SOCKET, 5-TERMINAL w/POSITIVE BY-PASS MECHANISM MILBANK CAT. No. U4801XL

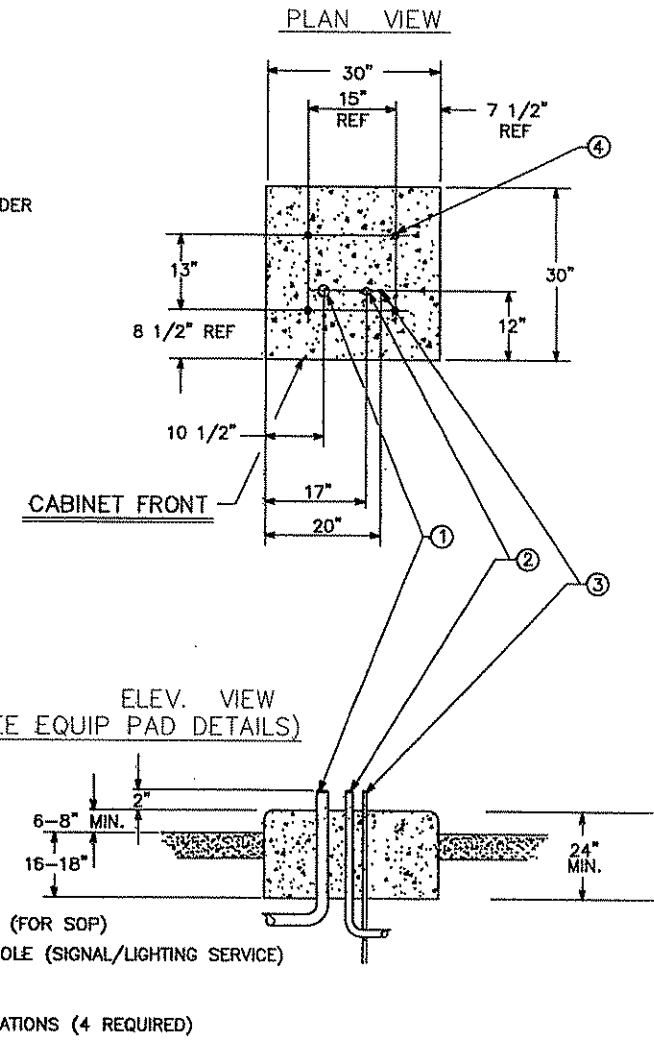
CIRCUIT BREAKERS I-T-E TYPE "BQ" OR EQUAL SIZE AND QTY. AS FOLLOWS:
1-40A/1P-NORMAL
1-50A/1P-NORMAL
1-30A/1P-EMERGENCY



SIGNAL SERVICE CABINET



SERVICE CABINET FOUNDATION

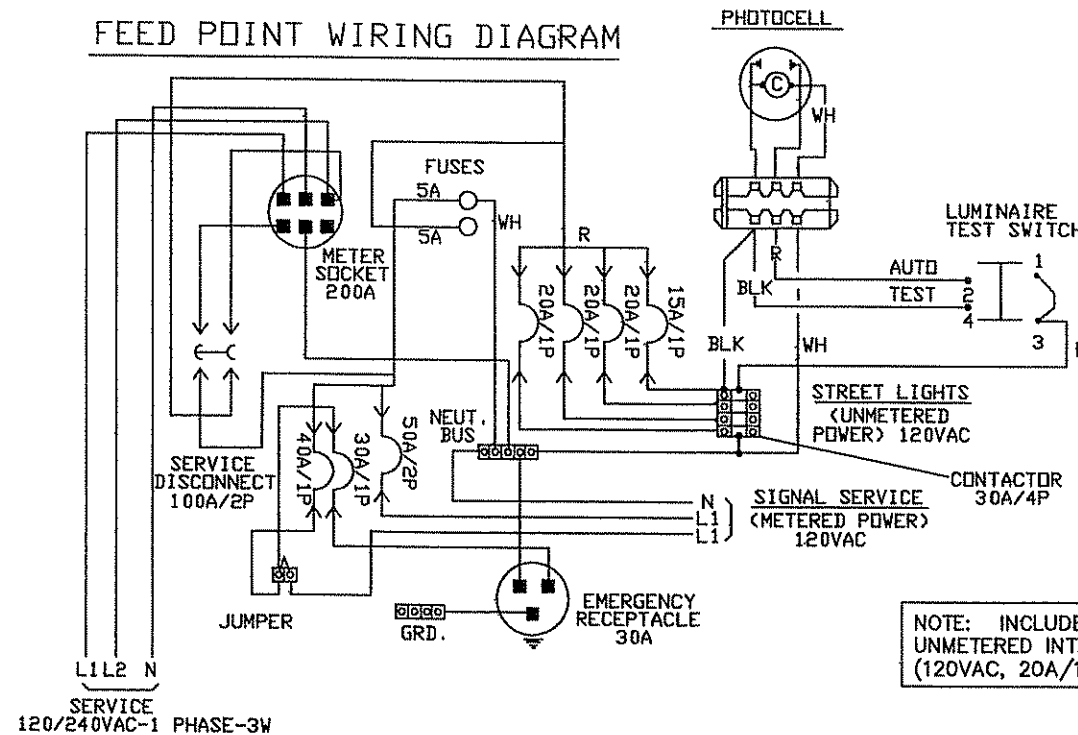


ALSO INCLUDE CIRCUIT BREAKER, 4-20A/1P FOR INTERNALLY ILLUMINATED SIGN CIRCUITS.

CONSTRUCTION NOTES

- ENCLOSURE SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE.
- DOORS TO BE NEOPRENE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON-CORRODING CONSTRUCTION.
- CABINET SHALL HAVE ANODIC COATING FOR ALL ALUMINUM SURFACES. SEE SPECIAL PROVISIONS.
- NEMA 3R ENCLOSURE SHALL BE "UL" APPROVED.
- CABINET SHALL HAVE BASE GASKETS INCLUDED.

FEED POINT WIRING DIAGRAM



NOTE: INCLUDE FOUR (4) CIRCUIT BREAKERS FOR UNMETERED INTERNALLY ILLUMINATED SIGN POWER (120VAC, 20A/1P).

S:\A\EA VANDKC\107650\5-DWG\151-CADD\PLNSHTS\107650_S100DETAILS.DWG

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

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Certified By: *JMG* Lic. No. 22457
Printed Name: JOHN M. GRAY Date: 8/04/2009



PHONE: 651-490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110
FILE NO. 107650

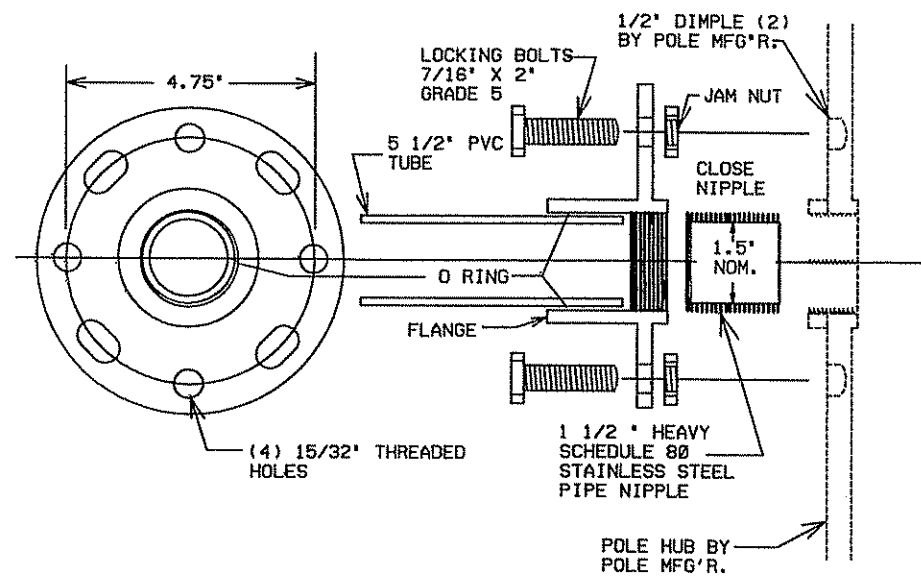


ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
S.P. 02-601-44 & 127-020-025

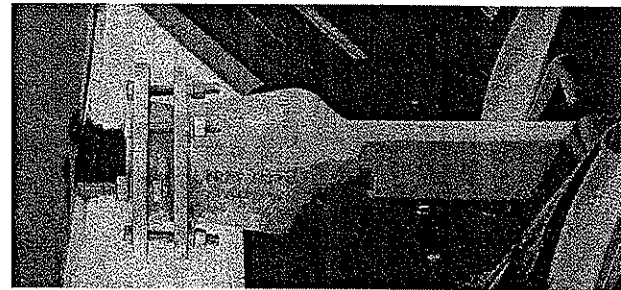
TRAFFIC SIGNAL SYSTEM
SERVICE CABINET DETAILS
CSAH 1 AT 61ST WAY NE

08/04/2009

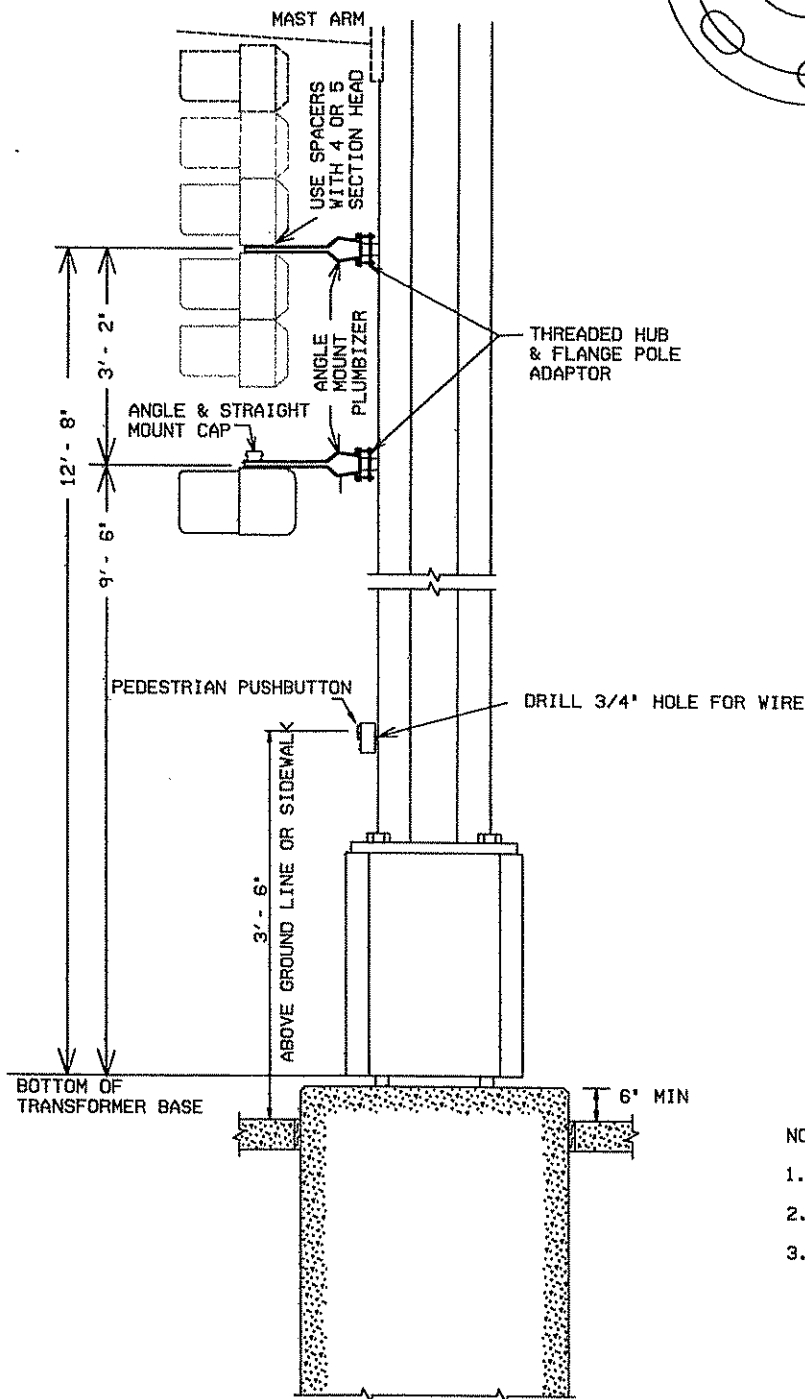
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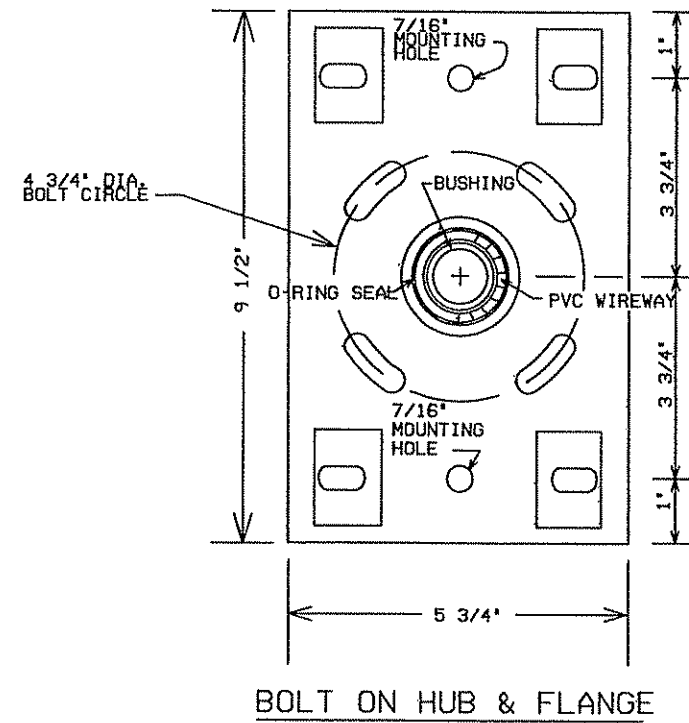
THREADED HUB AND FLANGE POLE ADAPTOR



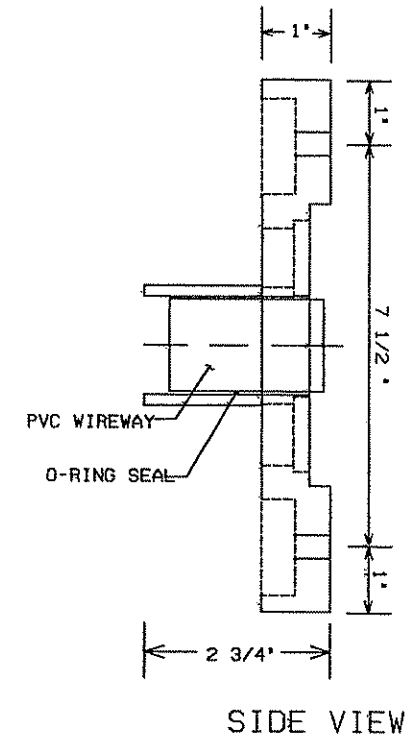
- NOTE:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
 3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.



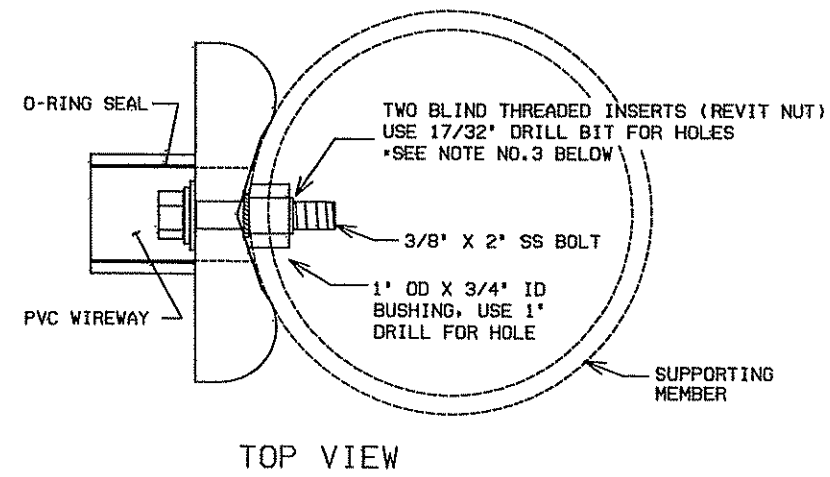
TYPICAL SIGNAL POLE MOUNTING
NOT TO SCALE



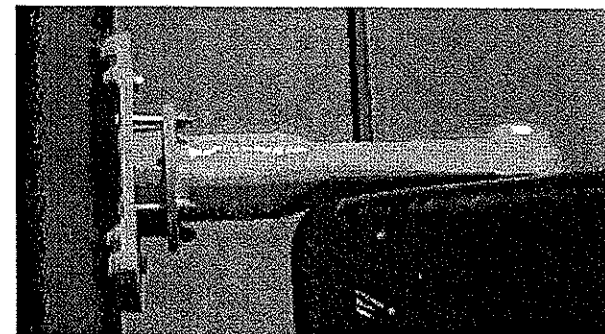
BOLT ON HUB & FLANGE



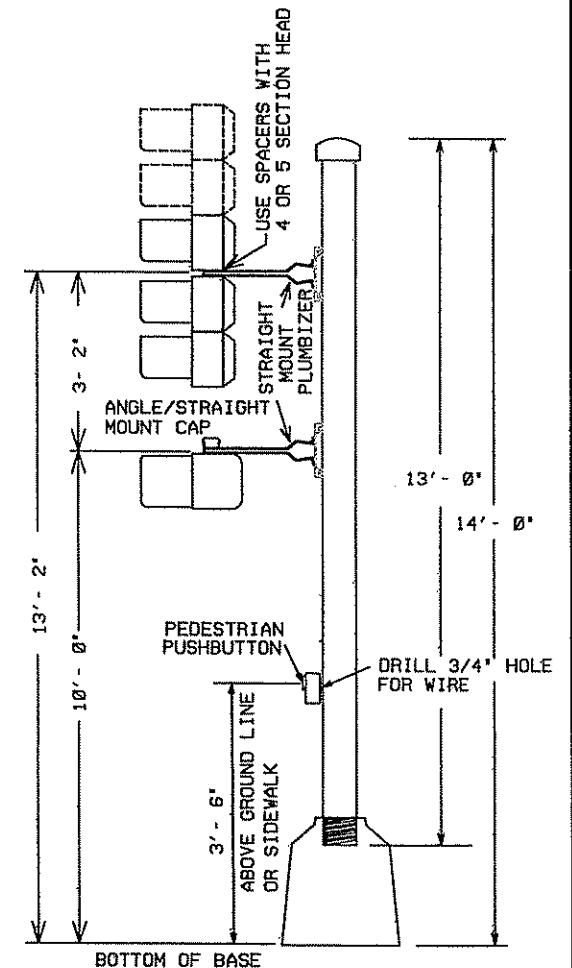
SIDE VIEW



TOP VIEW



- NOTE:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 & 5 SECTION POLY HEADS.
 3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSTALLED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
 4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



TYPICAL PEDESTAL MOUNTING
NOT TO SCALE

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

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SEH
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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110
 FILE NO. 107650



ANOKA COUNTY, MN.
 C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44 & 127-020-025

TRAFFIC SIGNAL SYSTEM
 POLE MOUNT DETAILS
 CSAH 1 AT 61ST WAY NE

SHEET
 20
 OF
 25

08/04/2009

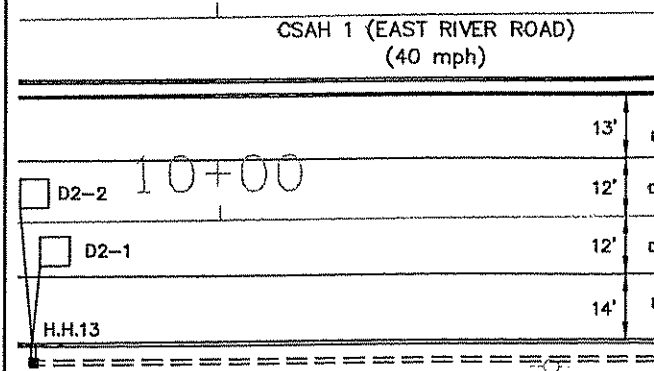
S:\AE\LANOKC\107650-5-DSGN\51-CADD\PLNS\107650_SIG.DWG

- 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) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
 - 4) NEW HANDHOLES 1, 2, 3, 5, 6, 10, 13, 16 AND 17 SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS. INPLACE CONCRETE HANDHOLES 7 AND 14 SHALL BE REUSED IN PLACE, BUT SHALL HAVE CONCRETE COVERS REMOVED AND REPLACED WITH NEW METAL FRAMES AND COVERS, WITH THESE HANDHOLES BEING ADJUSTED TO BE FLUSH WITH SURROUNDING GRADE. INPLACE CONCRETE HANDHOLES 4, 8, 9, 11, 12, AND 15 SHALL BE REMOVED AND REPLACED WITH NEW PVC HANDHOLES WITH METAL FRAMES AND COVERS IN THEIR PRESENT LOCATION (ADJUST HEIGHT AS REQUIRED). SEE SPECIAL PROVISIONS.
 - 5) EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
 - 6) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION "FILLED" COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
 - 7) ALL VEHICLE SIGNAL INDICATIONS AND ALL PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - 8) ALL MAST ARM POLE MOUNTED VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE MOUNTED USING ONE-WAY SIGNAL HEAD MOUNTS. SEE DETAILS & SPECIAL PROVISIONS.
 - 9) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
 - 10) ALL VEHICLE AND PEDESTRIAN SIGNAL HOUSINGS, BACKGROUND SHIELDS, AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
 - 11) (EVP) DENOTES ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR UNDER ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
 - 12) SEE DETAILS, SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SIGNS, CONCRETE WALK, PEDESTRIAN CURB RAMP, AND STRIPING TO BE F & I BY CONTRACTOR.
 - 13) SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING REMOVAL OF INPLACE WOOD POLE AND SPAN WIRE SIGNAL SYSTEM (TO BE MEASURED AND PAID FOR UNDER ITEM NO. 2104 (REMOVE SIGNAL SYSTEM)).

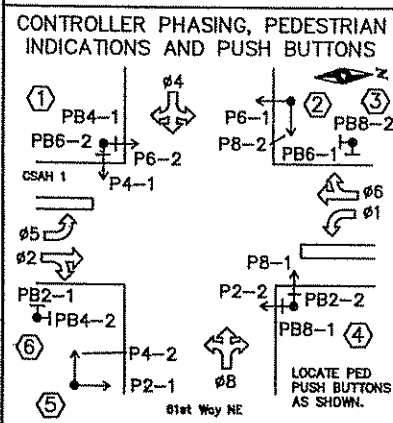
N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	6x6	40'	1
D1-2	6x6	10'	1
D2-1	6x6	250'	1
D2-2	6x6	250'	1
D4-1	6x6	120'	3,8
D4-2	2-6x16	0' & 15'	7
D4-3	2-6x6	20' & 50'	7
D4-4	2-6x6	5' & 35'	7
D5-1	6x6	40'	1
D5-2	6x6	10'	1
D6-1	6x6	250'	1
D6-2	6x6	250'	1
D8-1	6x6	120'	3,8
D8-2	2-6x10	0' & 15'	7
D8-3	2-6x6	20' & 50'	7
D8-4	2-6x6	5' & 35'	7

- LOOP DETECTORS FUNCTIONS:**
- 1) CALL AND EXTEND
 - 3) EXTEND ONLY
 - 7) DELAYED CALL, IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)

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

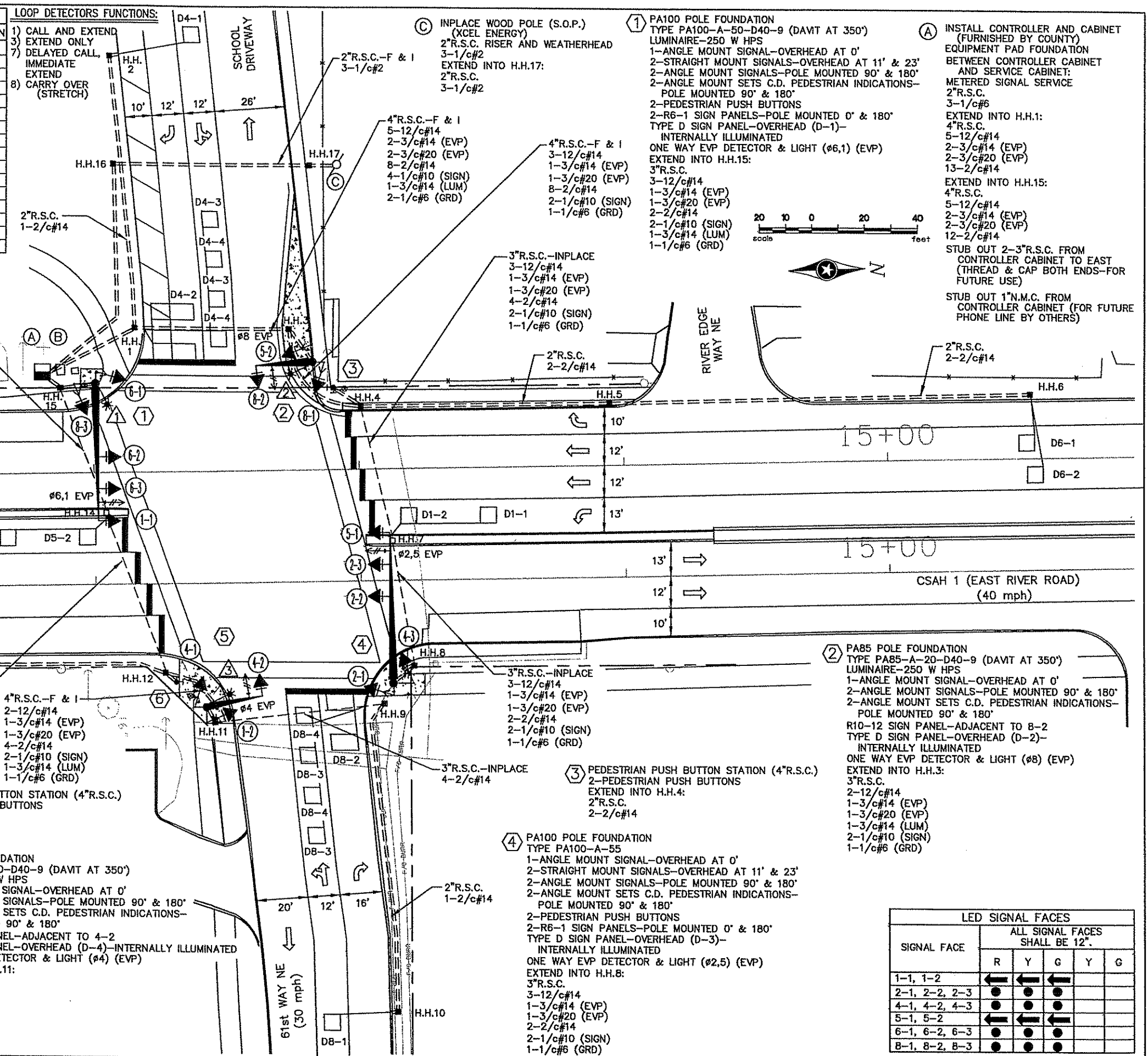


- 14) CONTRACTOR SHALL COIL AND STORE 25' OF 1-2/c#14 CABLE IN HANDHOLES 1 AND 12 (CABLES 10 AND 41) FOR FUTURE USE BY OTHERS.
- 15) NEW INTERNALLY ILLUMINATED STREET NAME SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR SHALL BE MEASURED AND PAID FOR SEPARATELY UNDER ITEM NO. 2564 (INTERNALLY LIT SIGNS-TYPE D). SEE ESTIMATED QUANTITIES & SPECIAL PROVISIONS.



- (B) SIGNAL SERVICE CABINET (ON SAME FOUNDATION AS CONTROLLER CABINET)**
 EXTEND INTO H.H.1:
 2"R.S.C.
 2-1/c#6 (GRD)
 UNMETERED SERVICE
 1-3/c#14 (LUM), 4-1/c#10 (SIGN)
 EXTEND INTO H.H.15:
 2"R.S.C.
 2-1/c#6 (GRD)
 UNMETERED SERVICE
 2-3/c#14 (LUM), 4-1/c#10 (SIGN)
 EXTEND INTO H.H.16:
 2"R.S.C.
 3-1/c#2
- SIGNAL SYSTEM OPERATIONS:**
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES.
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

- (6) PEDESTRIAN PUSH BUTTON STATION (4"R.S.C.)**
 2-PEDESTRIAN PUSH BUTTONS
 EXTEND INTO H.H.12:
 2"R.S.C.
 2-2/c#14
- (5) PA85 POLE FOUNDATION**
 TYPE PA85-A-20-D40-9 (DAVIT AT 350')
 LUMINAIRE-250 W HPS
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90° & 180'
 2-ANGLE MOUNT SETS C.D. PEDESTRIAN INDICATIONS-POLE MOUNTED 90° & 180'
 R10-12 SIGN PANEL-ADJACENT TO 4-2
 TYPE D SIGN PANEL-OVERHEAD (D-4)-INTERNALLY ILLUMINATED
 ONE WAY EVP DETECTOR & LIGHT (#4) (EVP)
 EXTEND INTO H.H.11:
 3"R.S.C.
 2-12/c#14
 1-3/c#14 (EVP)
 1-3/c#20 (EVP)
 8-2/c#14
 4-2/c#14
 2-1/c#10 (SIGN)
 2-1/c#10 (SIGN)
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

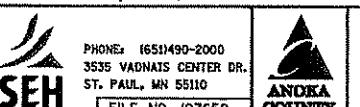


LED SIGNAL FACES					
SIGNAL FACE	ALL SIGNAL FACES SHALL BE 12"				
	R	Y	G	Y	G
1-1, 1-2	←	←	←		
2-1, 2-2, 2-3	●	●	●		
4-1, 4-2, 4-3	●	●	●		
5-1, 5-2	←	←	←		
6-1, 6-2, 6-3	●	●	●		
8-1, 8-2, 8-3	●	●	●		

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

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Certified By: *John M. Gray* Lico. No. 22457
 Printed Name: JOHN M. GRAY Date: 8/04/2009

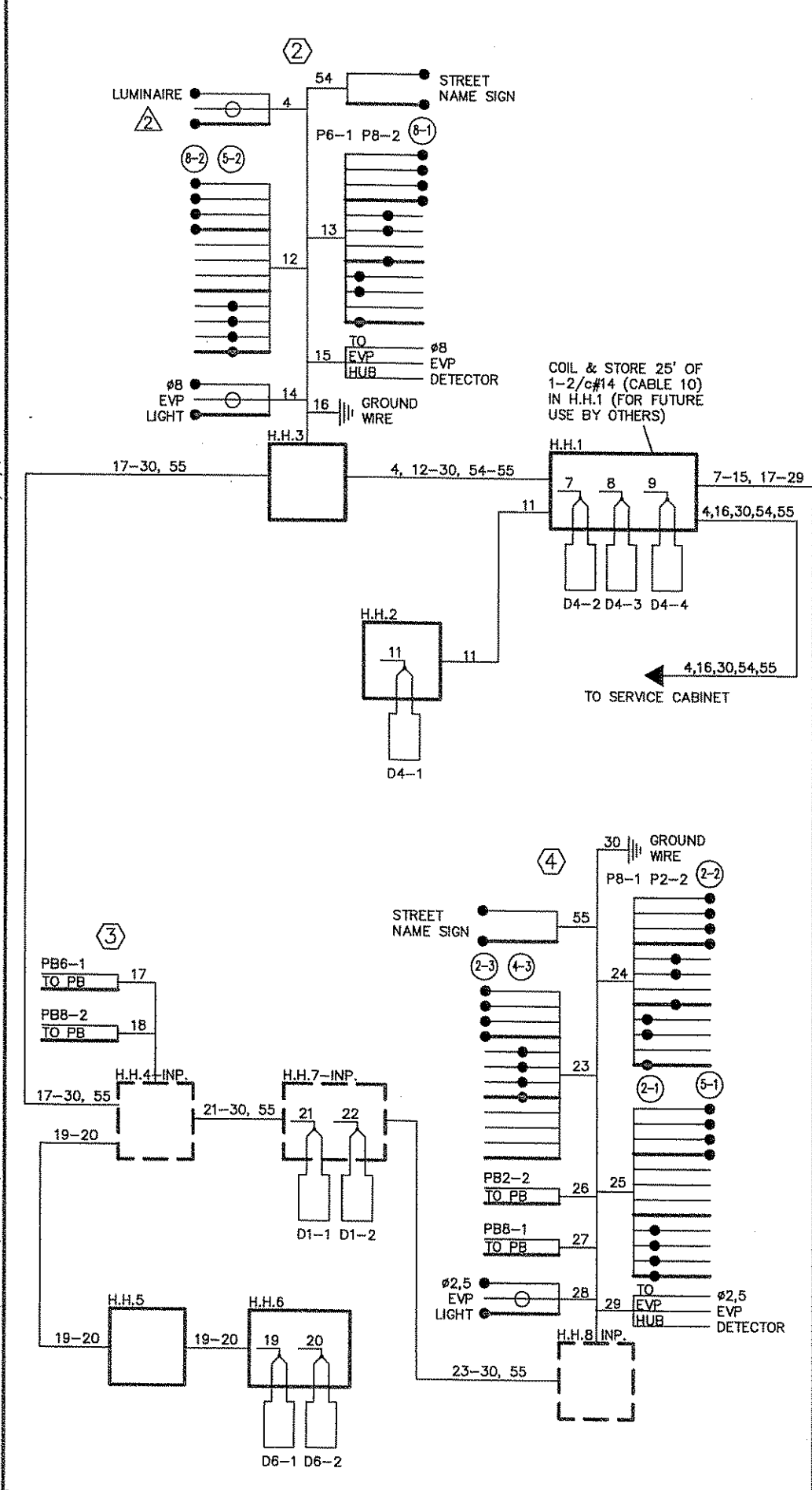


ANOKA COUNTY, MN.
 C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44 & 127-020-025

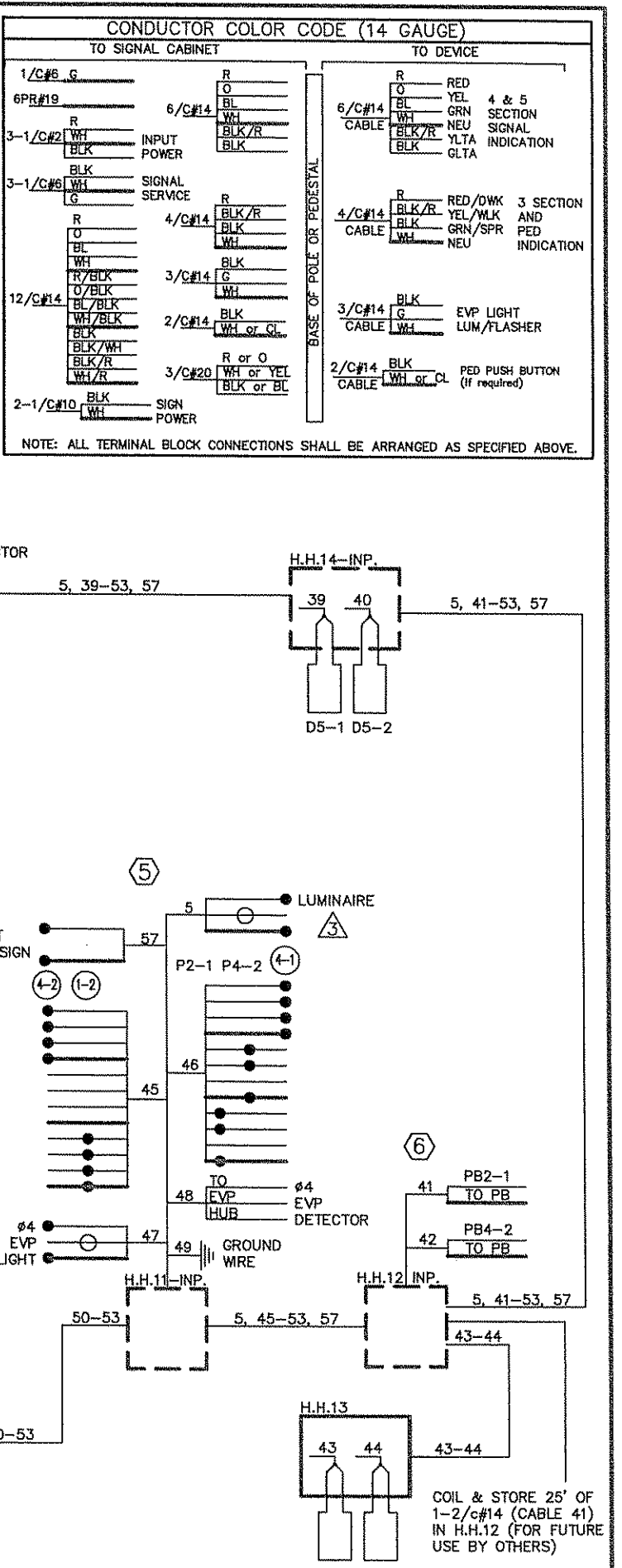
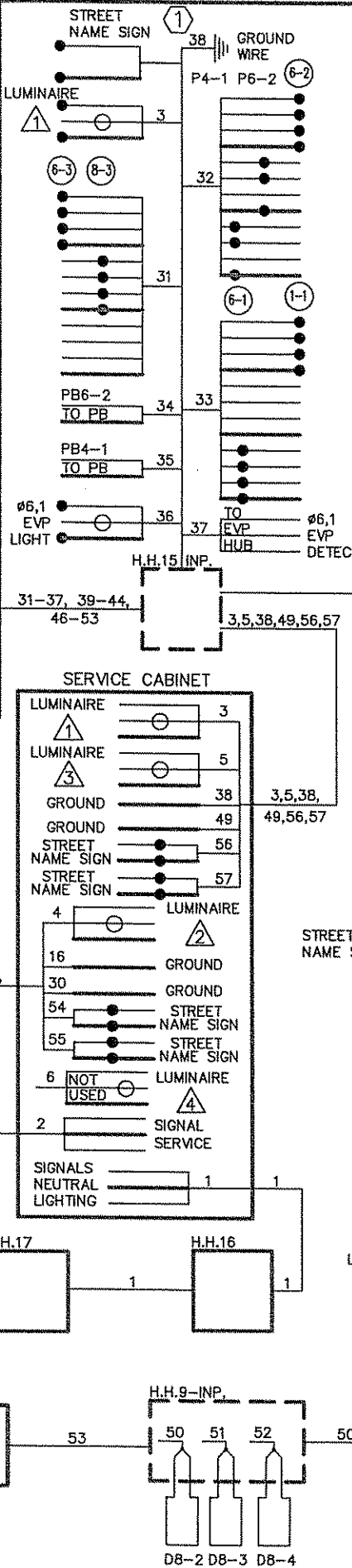
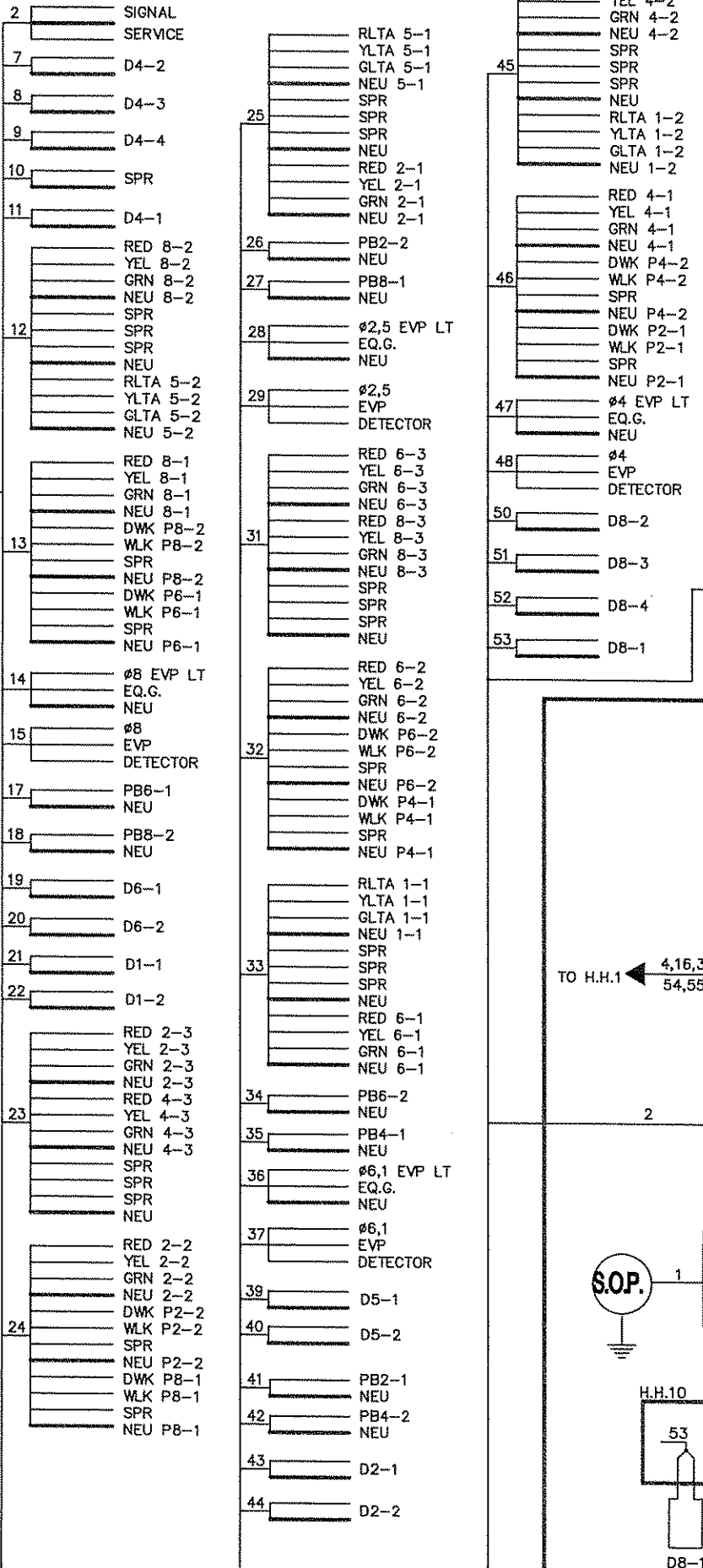
TRAFFIC SIGNAL SYSTEM
 INTERSECTION LAYOUT
 CSAH 1 AT 61ST WAY NE

SHEET 21 OF 25

S:\AE\VA\ANOKC\107650\5--DSGN\51-CADD\PLNSHTS\107650.SIG.DWG



CONTROLLER AND CABINET



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DESIGNER: JMG				
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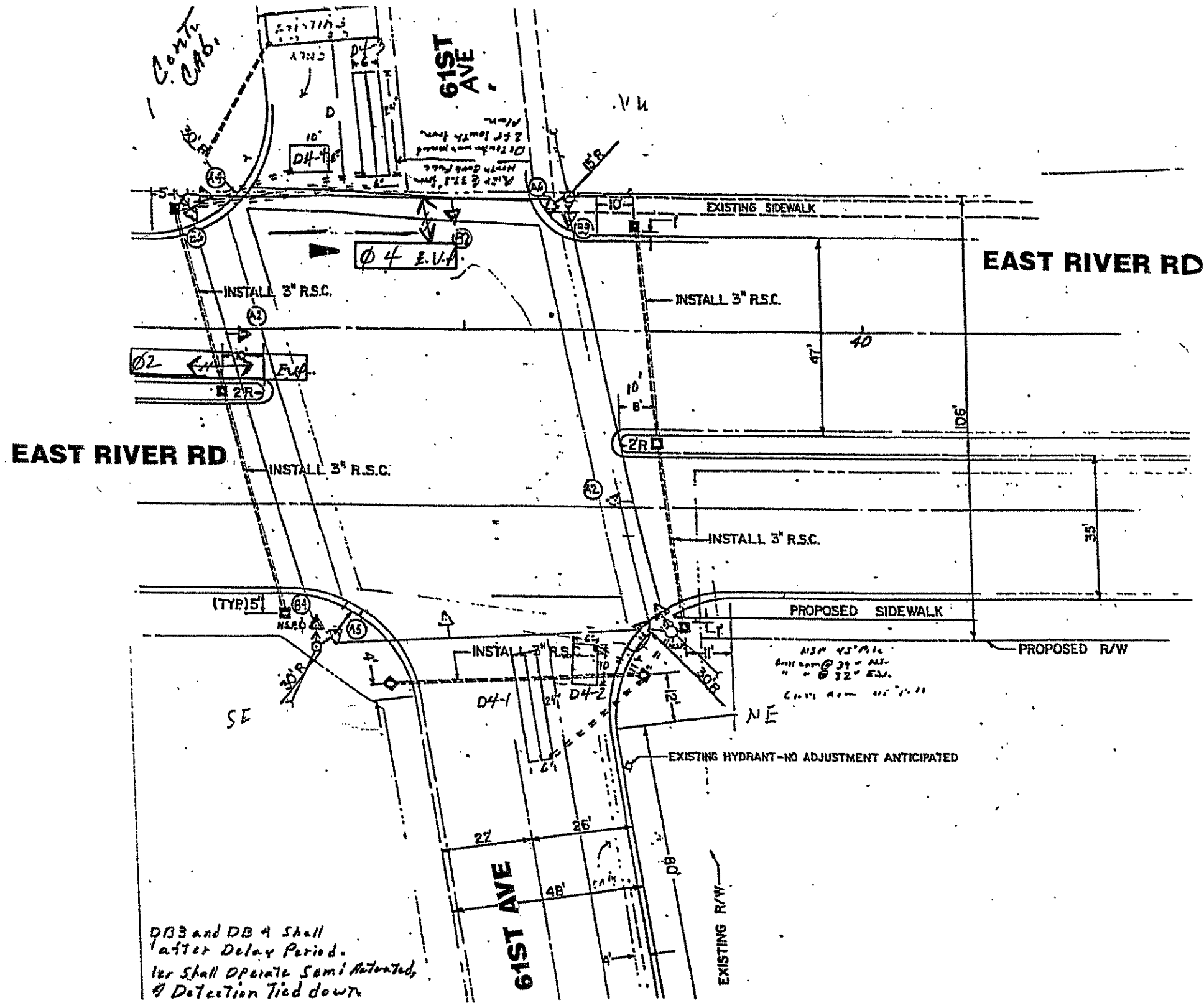
SEH PHONE: (851)490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110
 FILE NO. 107650

ANOKA COUNTY, MN.
 C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44 & 127-020-025

TRAFFIC SIGNAL SYSTEM
 FIELD WIRING DIAGRAM
 CSAH 1 AT 61ST WAY NE

08/04/2009

S:\AEVA\ANOKA\107650\5-DSDGN\51-CADD\PLNSHTS\107650_S10DETAILS.DWG



DB3 and DB 4 shall
 after Delay Period.
 1st shall operate semi-actuated,
 & Detection Tied down

NOTE: THIS PLAN SHEET IS BEING PROVIDED
 FOR INFORMATIONAL PURPOSES ONLY.

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DESIGNER:	JMG		
CHECKED BY:	JMG		
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ANOKA COUNTY
 ANOKA COUNTY, MN.
 C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44 & 127-020-025

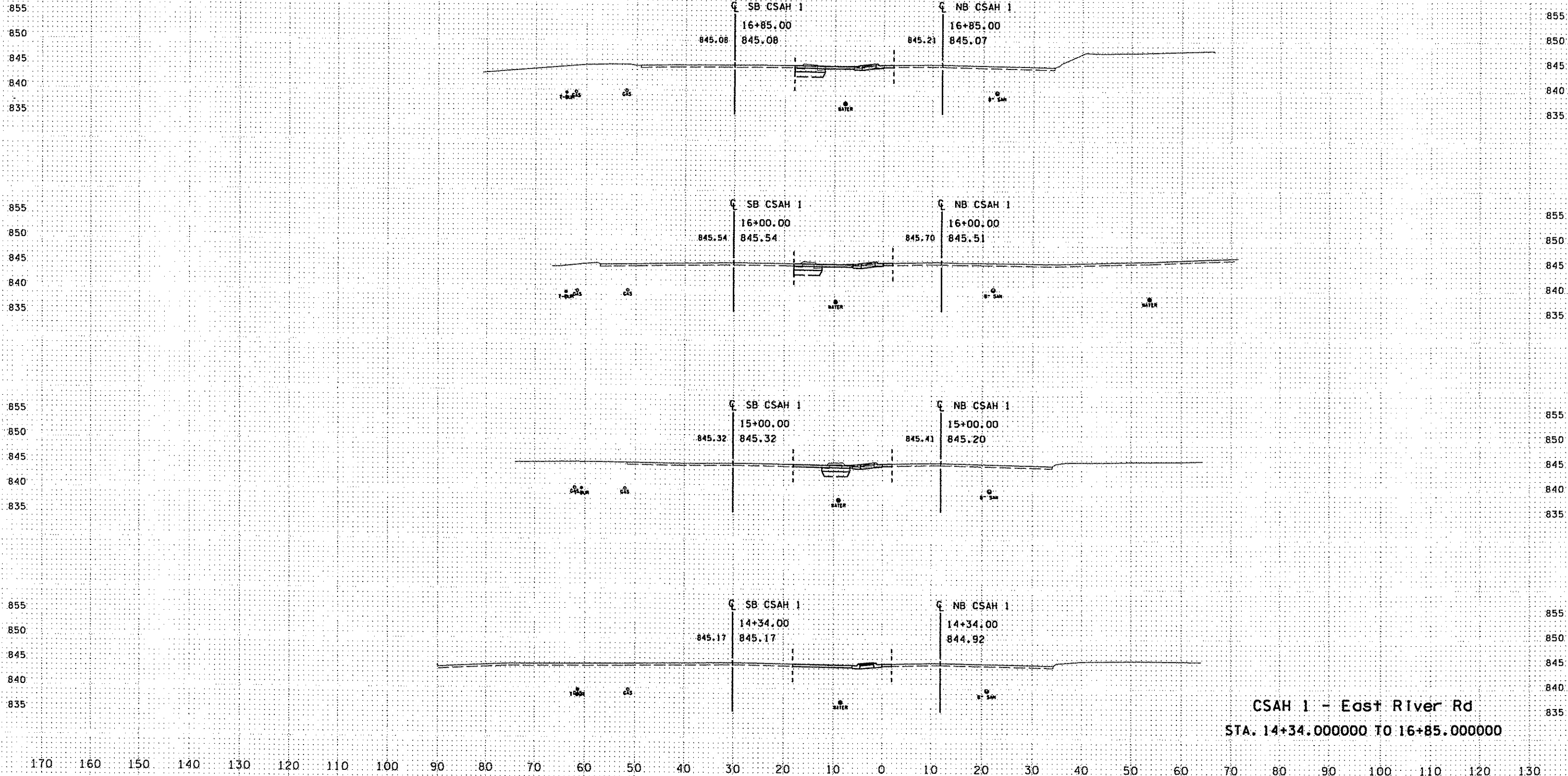
INPLACE SIGNAL SYSTEM
 "FOR INFORMATION ONLY"
 CSAH 1 AT 61ST WAY NE

4:17:53 PM

8/6/2009

S:\AE\A\Anoka\107650\5-dsgn\51-cadd\X-sections\csoh1_xshr.dgn

THE UTILITIES SHOWN ON THE CROSS SECTIONS ARE DEPICTED USING THE BEST AVAILABLE INFORMATION. FOR WATERMAIN DEPTHS, REFER TO THE WATERMAIN PLANS. FOR OVERHEAD FACILITIES, REFER TO THE INPLACE UTILITY PLANS.

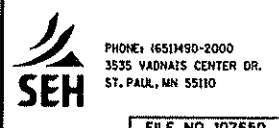


CSAH 1 - East River Rd
STA. 14+34.000000 TO 16+85.000000

DESIGN TEAM				
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DESIGNER:				
CHECKED BY:				
	NO.	BY	DATE	REVISIONS

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ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44, S.P. 127-020-025

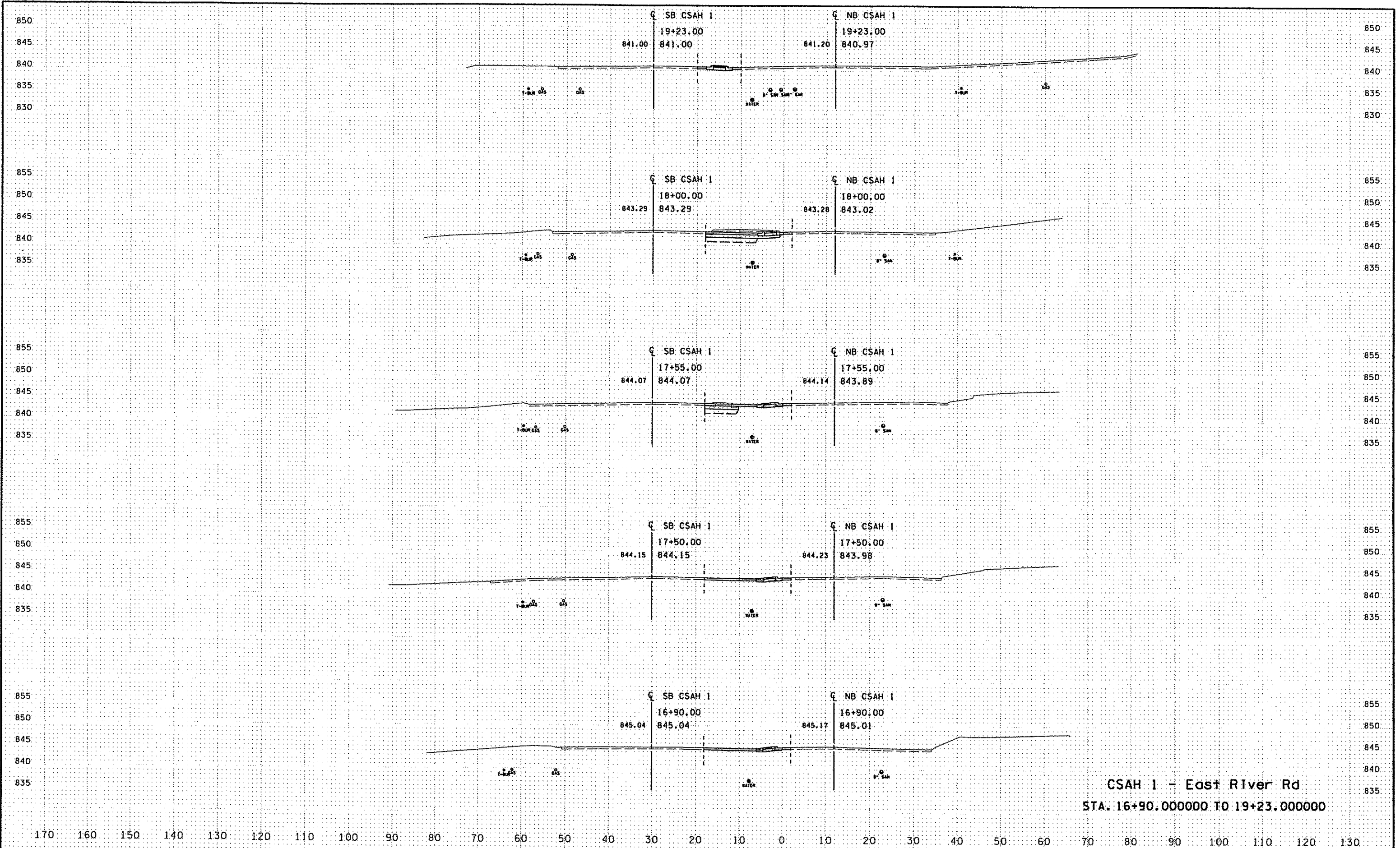
CROSS SECTIONS
 CSAH 1

SHEET 24 OF 25

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8/6/2009

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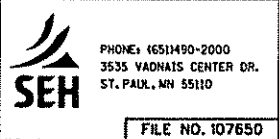


CSAH 1 - East River Rd
 STA. 16+90.00000 TO 19+23.00000

DESIGN TEAM			
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DESIGNER:			
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ANOKA COUNTY, MN.
C.S.A.H. 1 (EAST RIVER ROAD)
 S.P. 02-601-44, S.P. 127-020-025

CROSS SECTIONS
 CSAH 1

SHEET
25
 OF
25