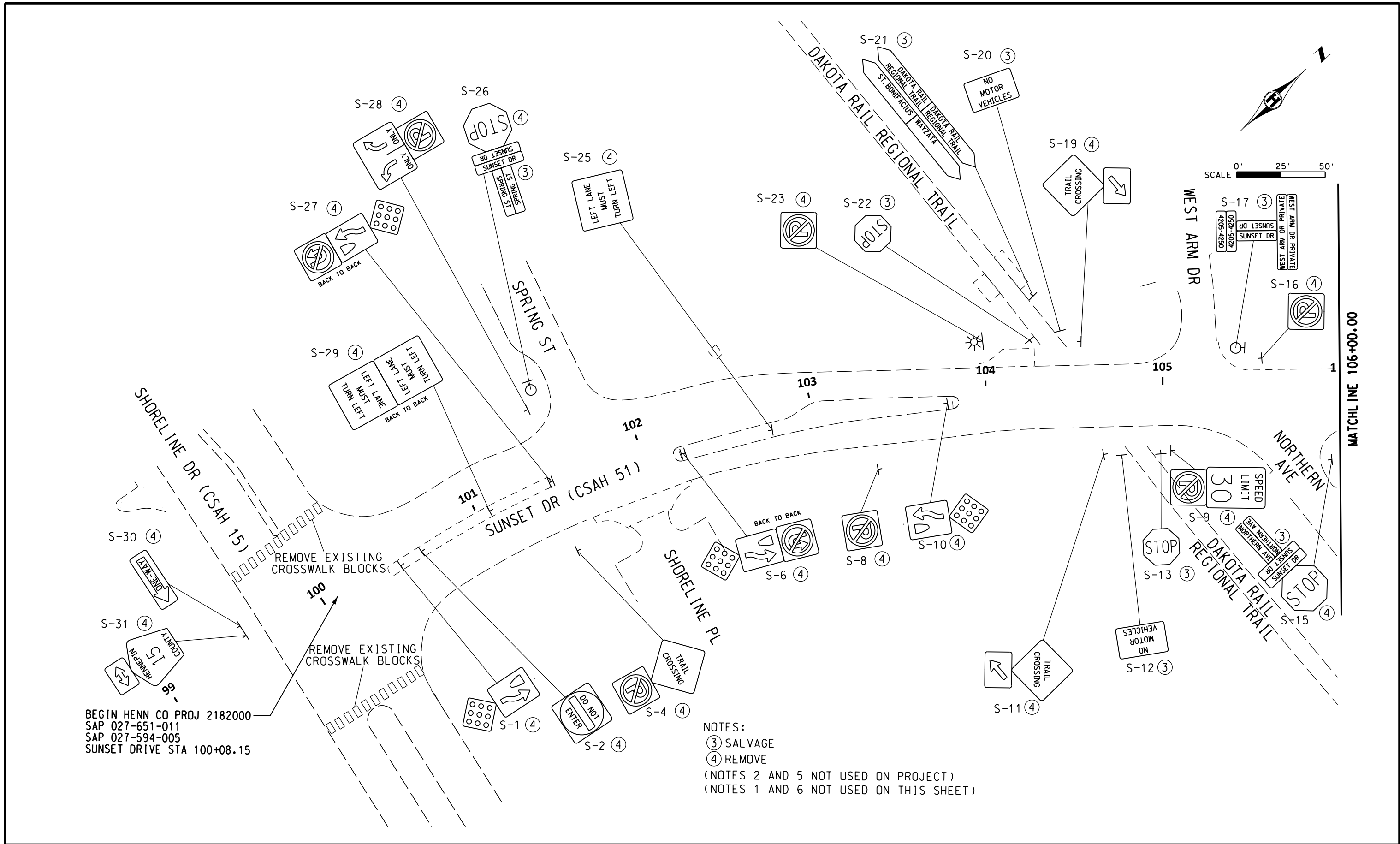
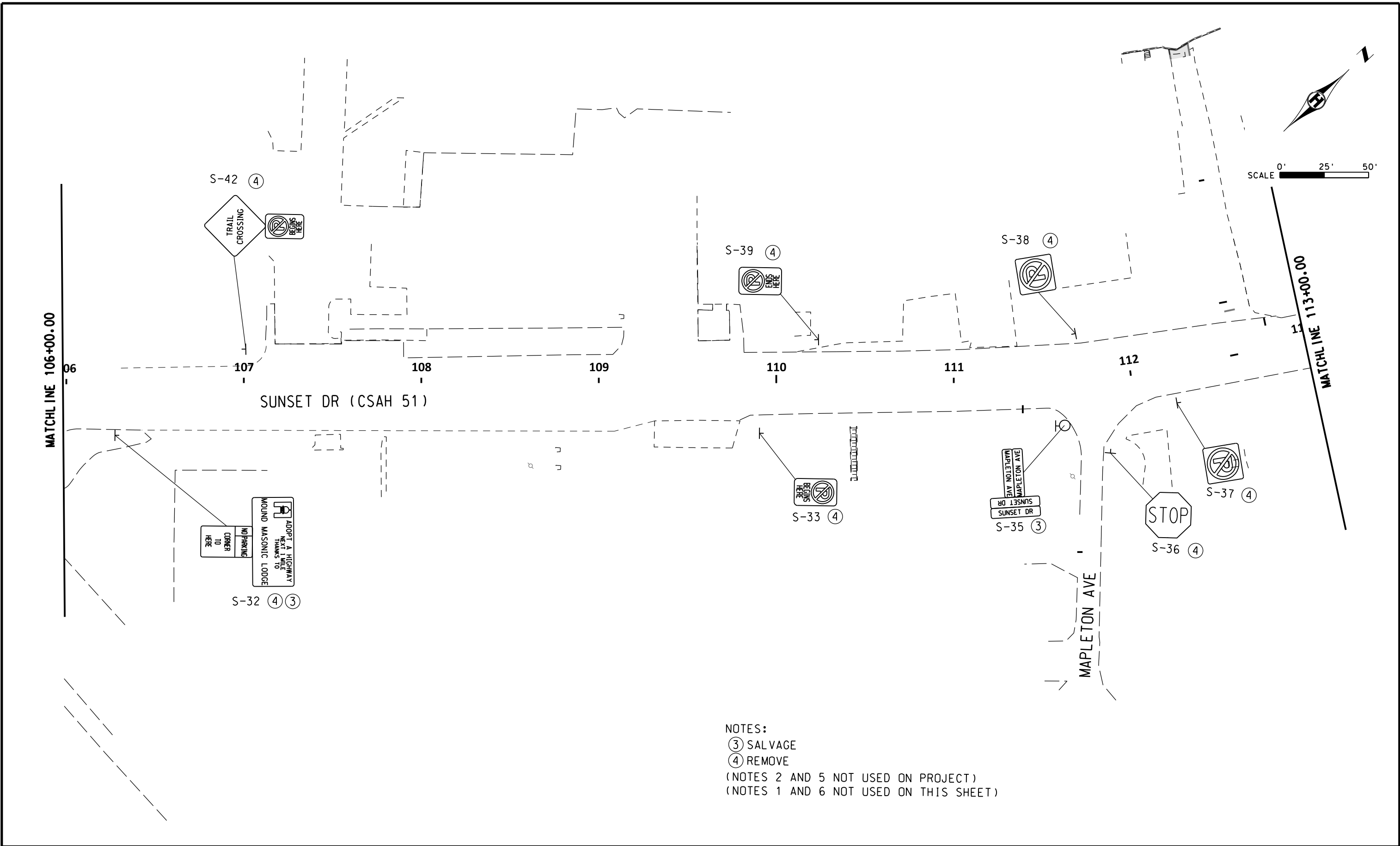




BEGIN HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DRIVE STA 100+08.15

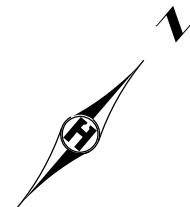
NOTES:
③ SALVAGE
④ REMOVE
(NOTES 2 AND 5 NOT USED ON PROJECT)
(NOTES 1 AND 6 NOT USED ON THIS SHEET)

	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.			DESIGN BY:	<u>A. CHALUPSKY</u>	INPLACE SIGNING PLAN SHEET		SHEET
				CAD BY:	<u>A. CHALUPSKY</u>			
				CHECKED BY:	<u>R. ALLERS</u>			
				LAST REVISION:	<u> </u>			
	RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	45896	//			CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		217 329
		LICENSE NO.	DATE					



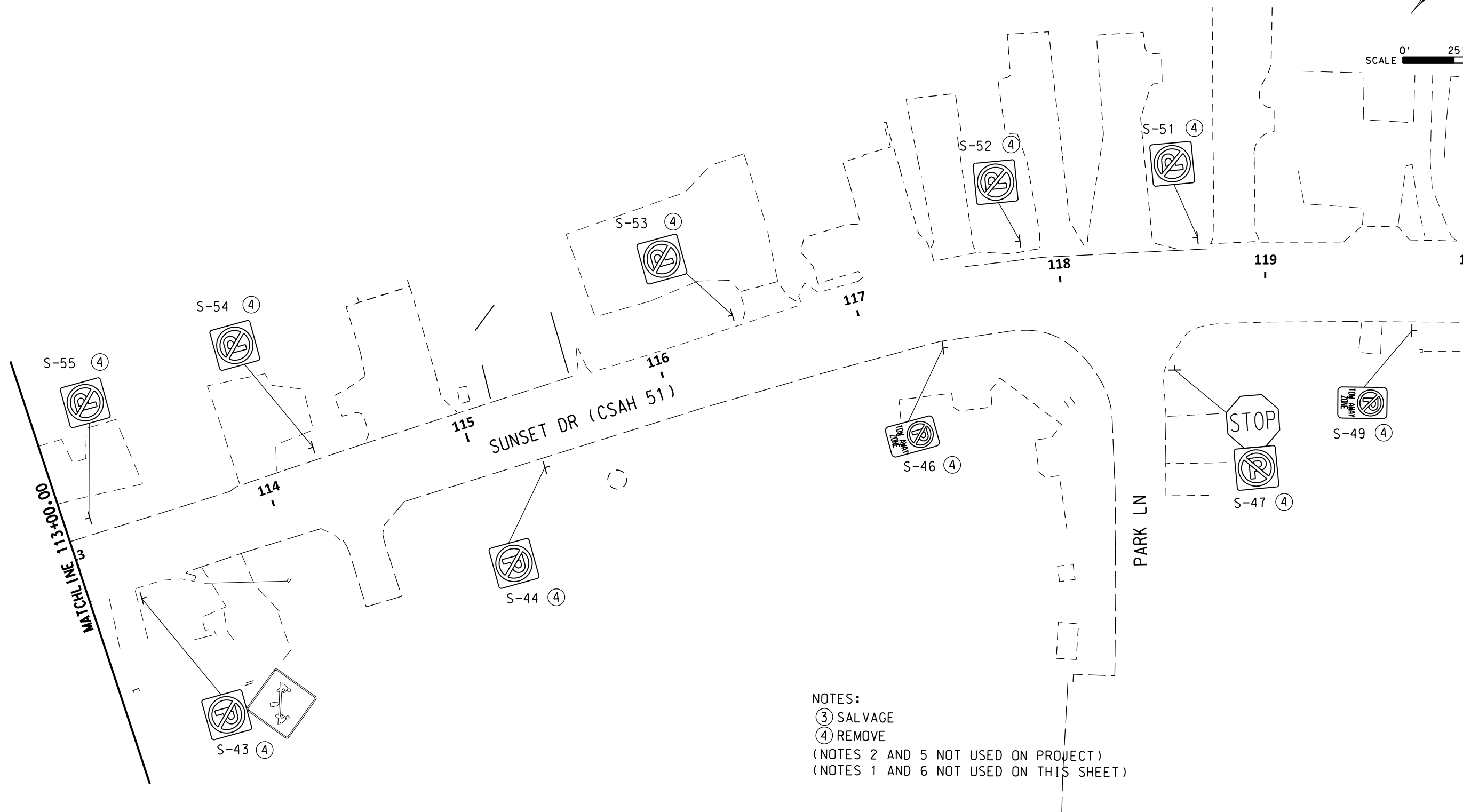
NOTES:
③ SALVAGE
④ REMOVE
(NOTES 2 AND 5 NOT USED ON PROJECT)
(NOTES 1 AND 6 NOT USED ON THIS SHEET)

	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.			DESIGN BY: <u>A. CHALUPSKY</u>	INPLACE SIGNING PLAN SHEET		SHEET
				CAD BY: <u>A. CHALUPSKY</u>			
	RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	45896	//	CHECKED BY: <u>R. ALLERS</u>	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		218 329
		LICENSE NO.	DATE	LAST REVISION: <u> </u> / <u> </u> / <u> </u>			



SCALE 0' 25' 50'

MATCHLINE 120+00.00



NOTES:
③ SALVAGE
④ REMOVE
(NOTES 2 AND 5 NOT USED ON PROJECT)
(NOTES 1 AND 6 NOT USED ON THIS SHEET)



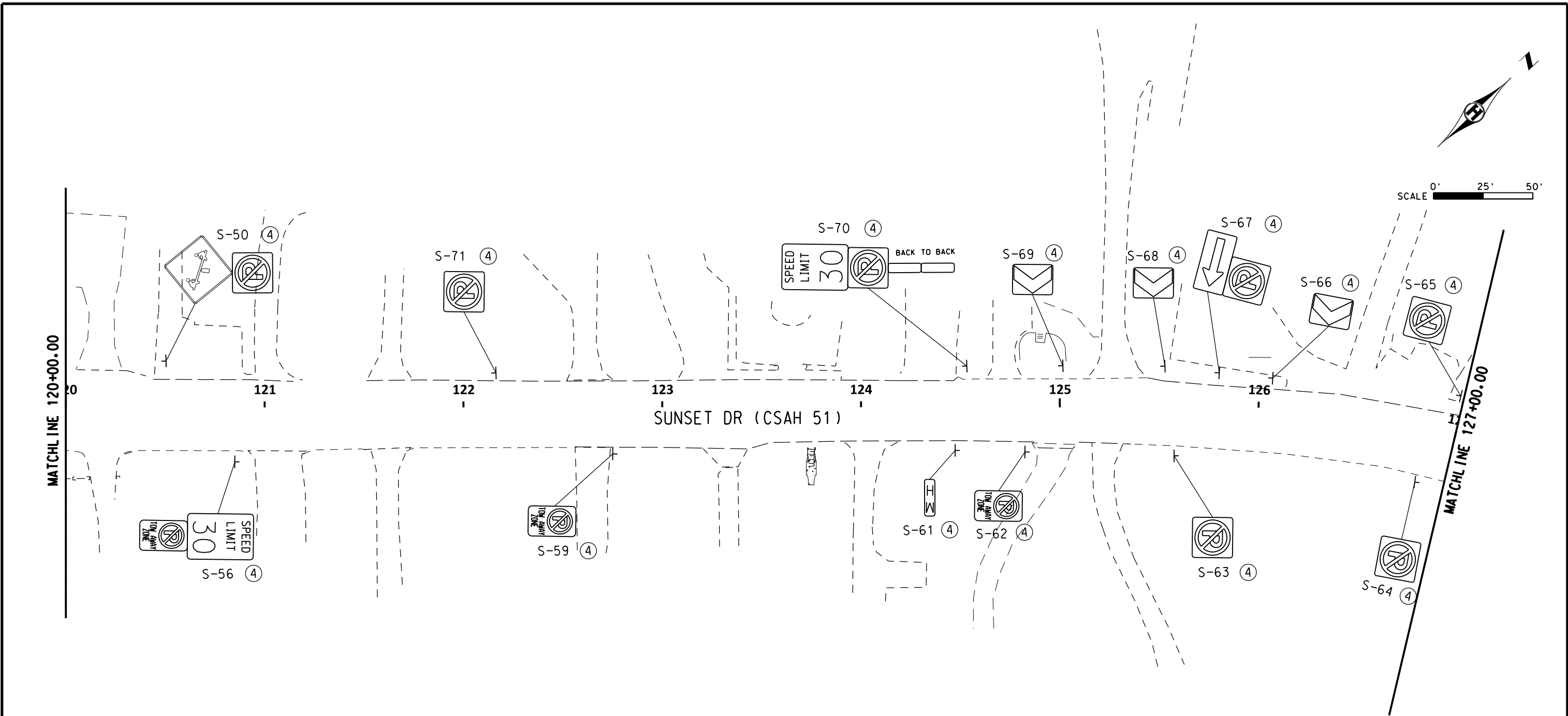
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	45896	//
	LICENSE NO.	DATE

DESIGN BY:	A. CHALUPSKY
CAD BY:	A. CHALUPSKY
CHECKED BY:	R. ALLERS
LAST REVISION:	//

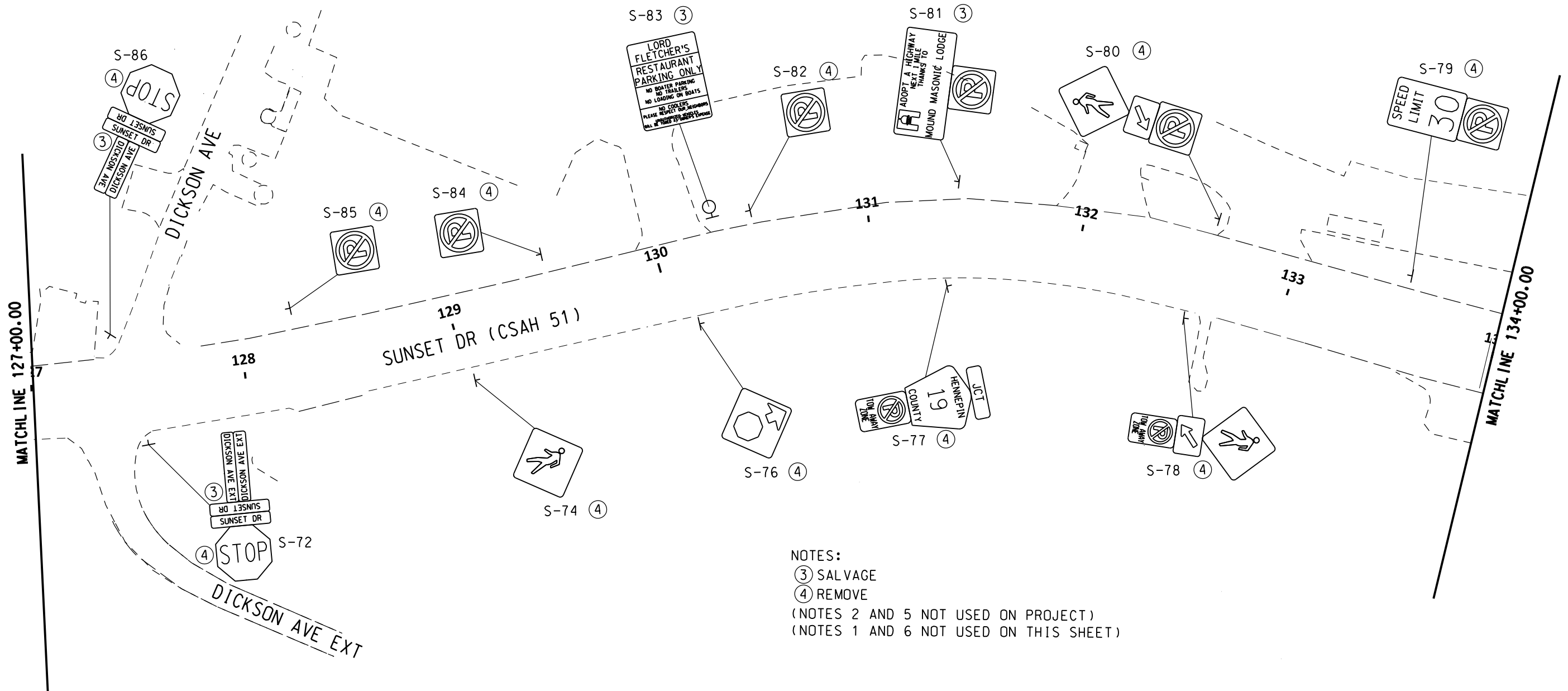
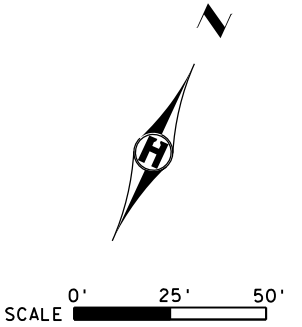
INPLACE SIGNING PLAN SHEET	
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	

SHEET
219
329



NOTES:
③ SALVAGE
④ REMOVE
(NOTES 2 AND 5 NOT USED ON PROJECT)
(NOTES 1 AND 6 NOT USED ON THIS SHEET)

	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. _____ RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER			DESIGN BY: <u>A. CHALUPSKY</u> CAD BY: <u>A. CHALUPSKY</u> CHECKED BY: <u>R. ALLERS</u> LAST REVISION: <u> </u>		INPLACE SIGNING PLAN SHEET		SHEET	
						CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		220 329	



NOTES:
③ SALVAGE
④ REMOVE
(NOTES 2 AND 5 NOT USED ON PROJECT)
(NOTES 1 AND 6 NOT USED ON THIS SHEET)



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	45896	//
LICENSE NO.		DATE

DESIGN BY:	A. CHALUPSKY
CAD BY:	A. CHALUPSKY
CHECKED BY:	R. ALLERS
LAST REVISION:	//

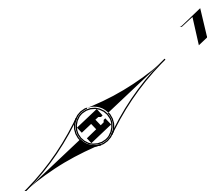
INPLACE SIGNING PLAN SHEET

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

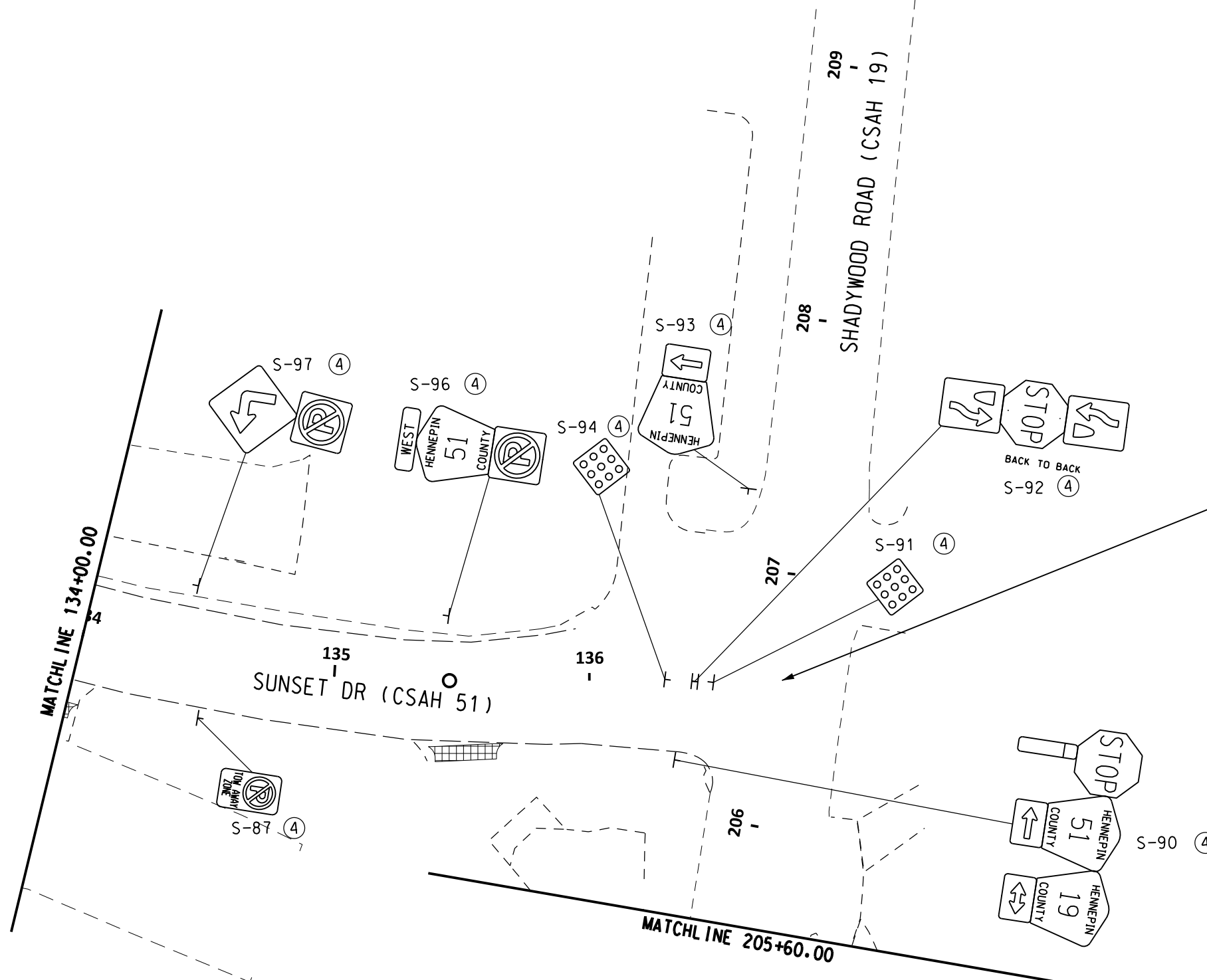
SHEET

221
329

END HENN CO PROJ 2182000
SAP 027-619-029
SHADYWOOD RD 209+61.80



SCALE 0' 25' 50'



END HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DR STA 136+75.38 =
SHADYWOOD RD STA 206+58.03

NOTES:
③ SALVAGE
④ REMOVE
(NOTES 2 AND 5 NOT USED ON PROJECT)
(NOTES 1 AND 6 NOT USED ON THIS SHEET)



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896
LICENSE NO.

//
DATE

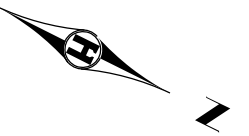
DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: //

INPLACE SIGNING PLAN SHEET

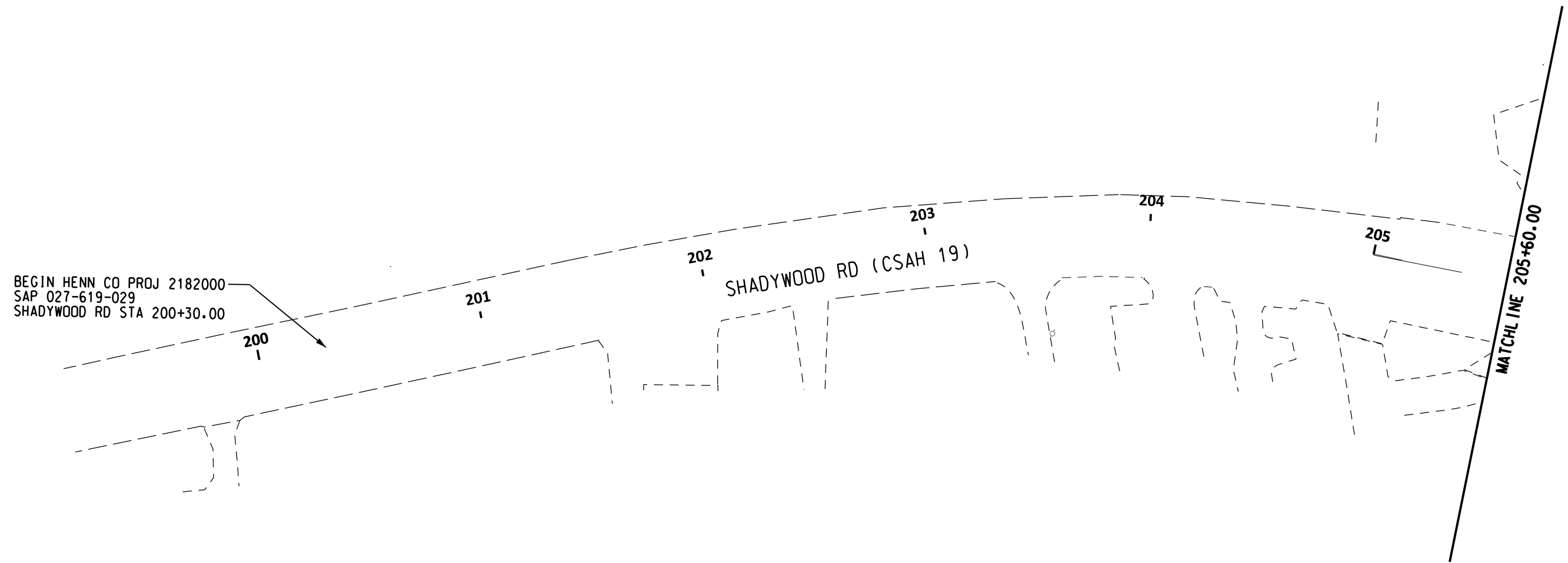
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

222
329



SCALE 0' 25' 50'



NOTES:

- ③ SALVAGE
- ④ REMOVE

(NOTES 2 AND 5 NOT USED ON PROJECT)

(NOTES 1 AND 6 NOT USED ON THIS SHEET)



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

/ /

DATE

DESIGN BY:

A. CHALUPSKY

CAD BY:

A. CHALUPSKY

CHECKED BY:

R. ALLERS

LAST REVISION:

/ /

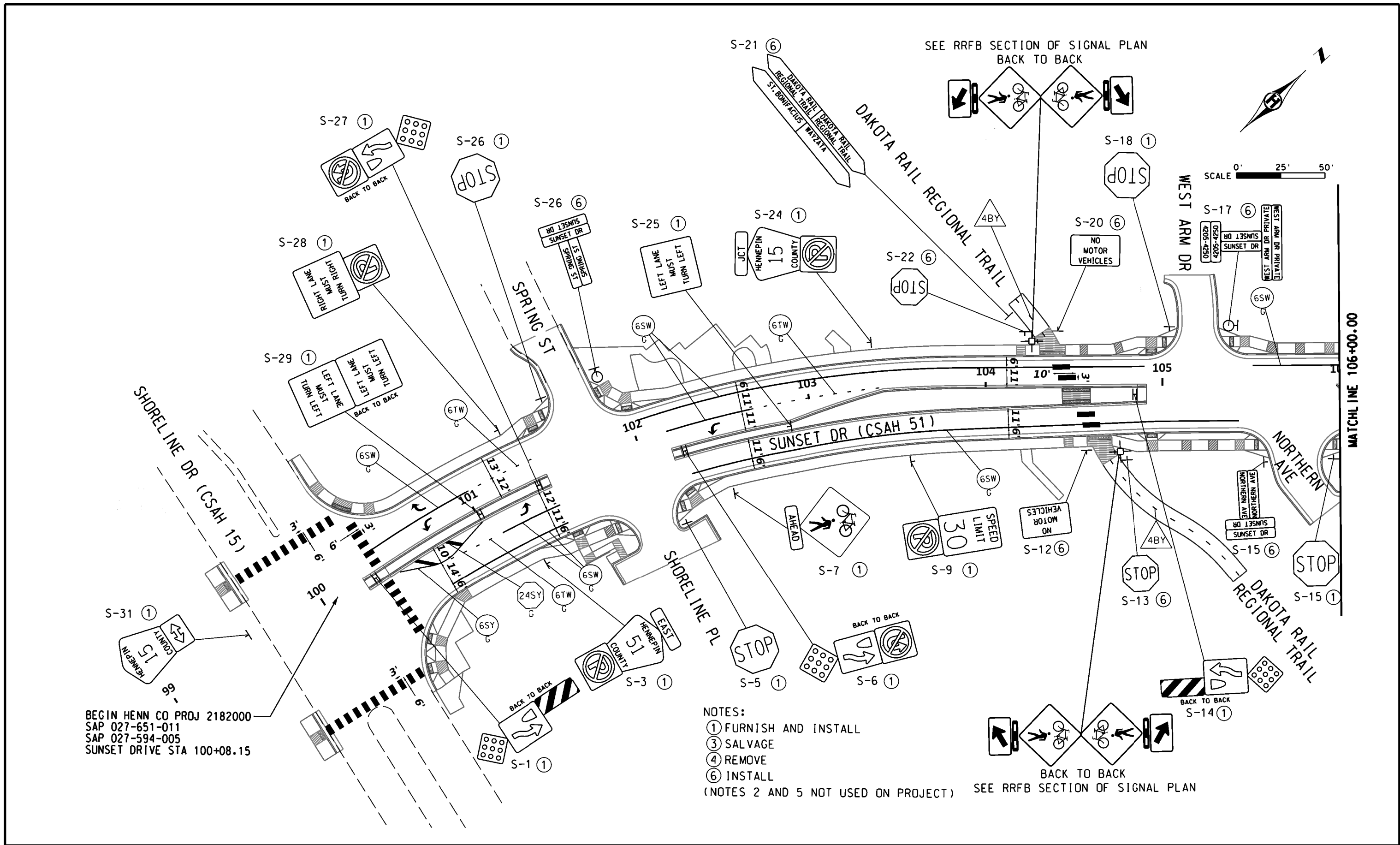
INPLACE SIGNING PLAN SHEET

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

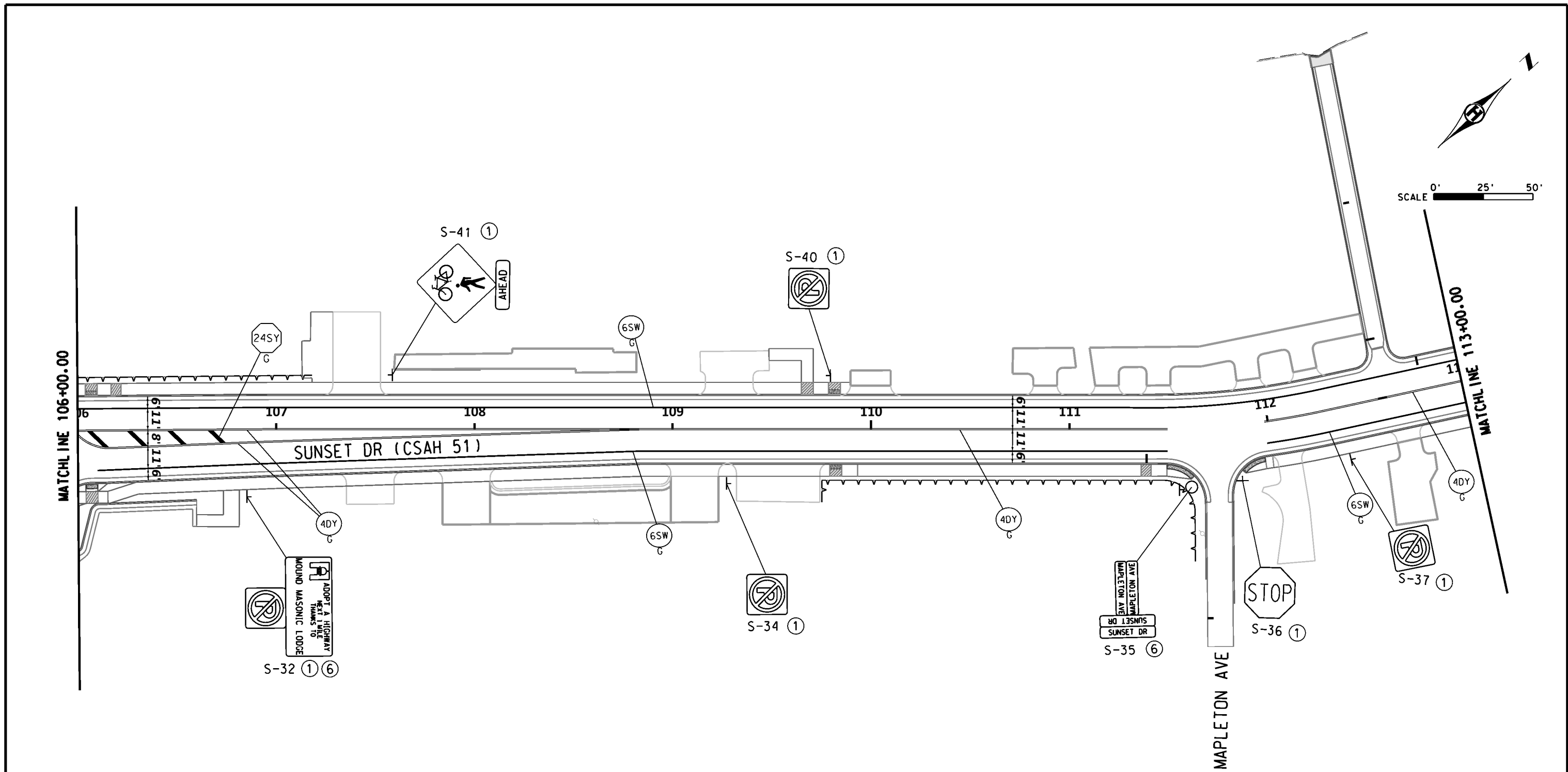
223

329



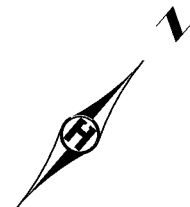
NOTES:
 ① FURNISH AND INSTALL
 ③ SALVAGE
 ④ REMOVE
 ⑥ INSTALL
 (NOTES 2 AND 5 NOT USED ON PROJECT) SEE RRFB SECTION OF SIGNAL PLAN

	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.			DESIGN BY: <u>A. CHALUPSKY</u>	PERMANENT SIGNING AND STRIPING PLAN SHEET		SHEET
	<u>RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER</u>	<u>45896</u>	<u> / / </u>	CAD BY: <u>A. CHALUPSKY</u>	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		224 329
		LICENSE NO.	DATE	CHECKED BY: <u>R. ALLERS</u>			
				LAST REVISION: <u> / / </u>			

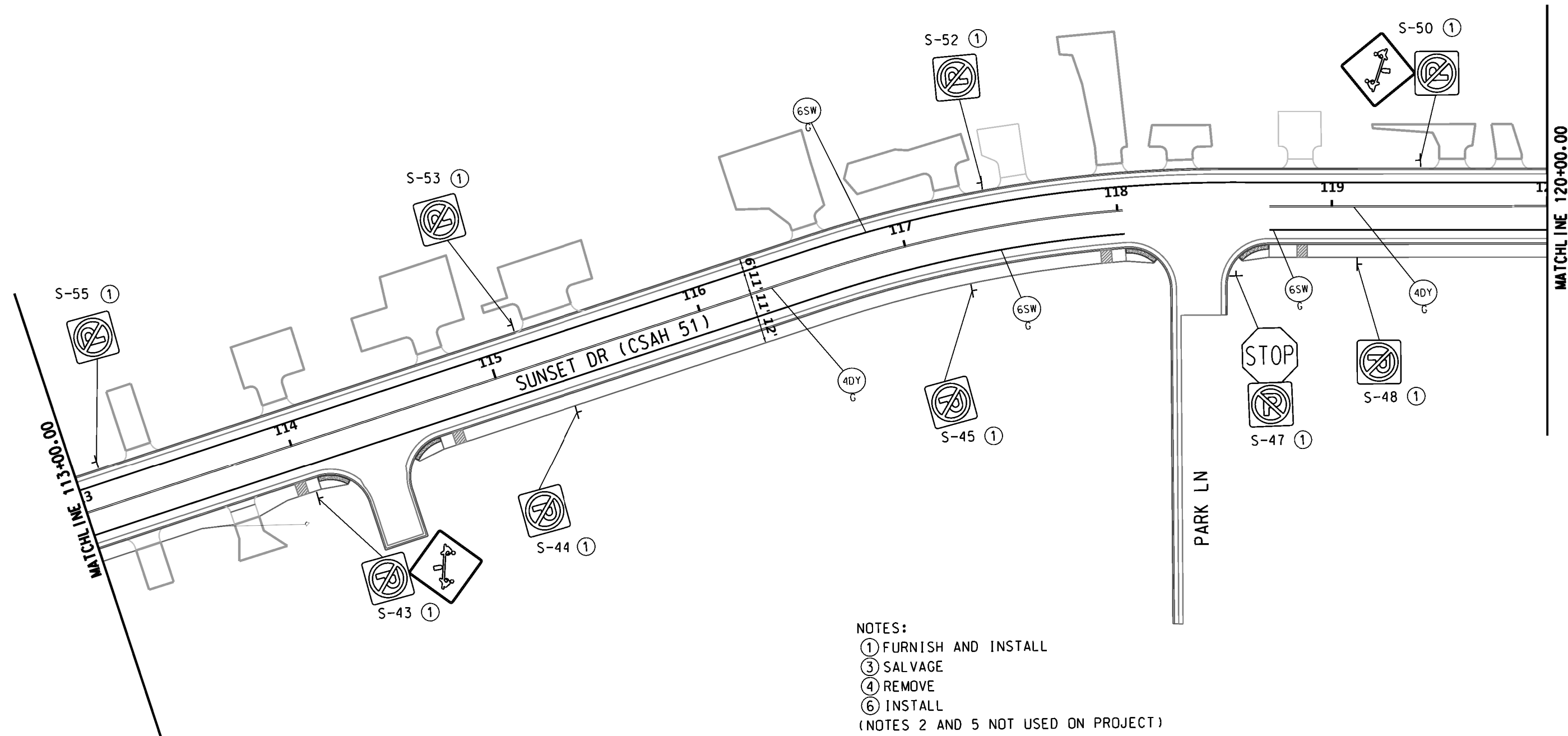


NOTES:
 ① FURNISH AND INSTALL
 ③ SALVAGE
 ④ REMOVE
 ⑥ INSTALL
 (NOTES 2 AND 5 NOT USED ON PROJECT)

	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. RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER 45896 // DATE	DESIGN BY: <u>A. CHALUPSKY</u> CAD BY: <u>A. CHALUPSKY</u> CHECKED BY: <u>R. ALLERS</u> LAST REVISION: <u> </u>	PERMANENT SIGNING AND STRIPING PLAN SHEET CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	SHEET 225 / 329



SCALE 0' 25' 50'



NOTES:
① FURNISH AND INSTALL
③ SALVAGE
④ REMOVE
⑥ INSTALL
(NOTES 2 AND 5 NOT USED ON PROJECT)



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896
LICENSE NO.

DATE

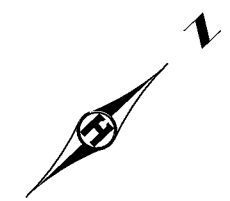
DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / /

PERMANENT SIGNING AND STRIPING PLAN SHEET

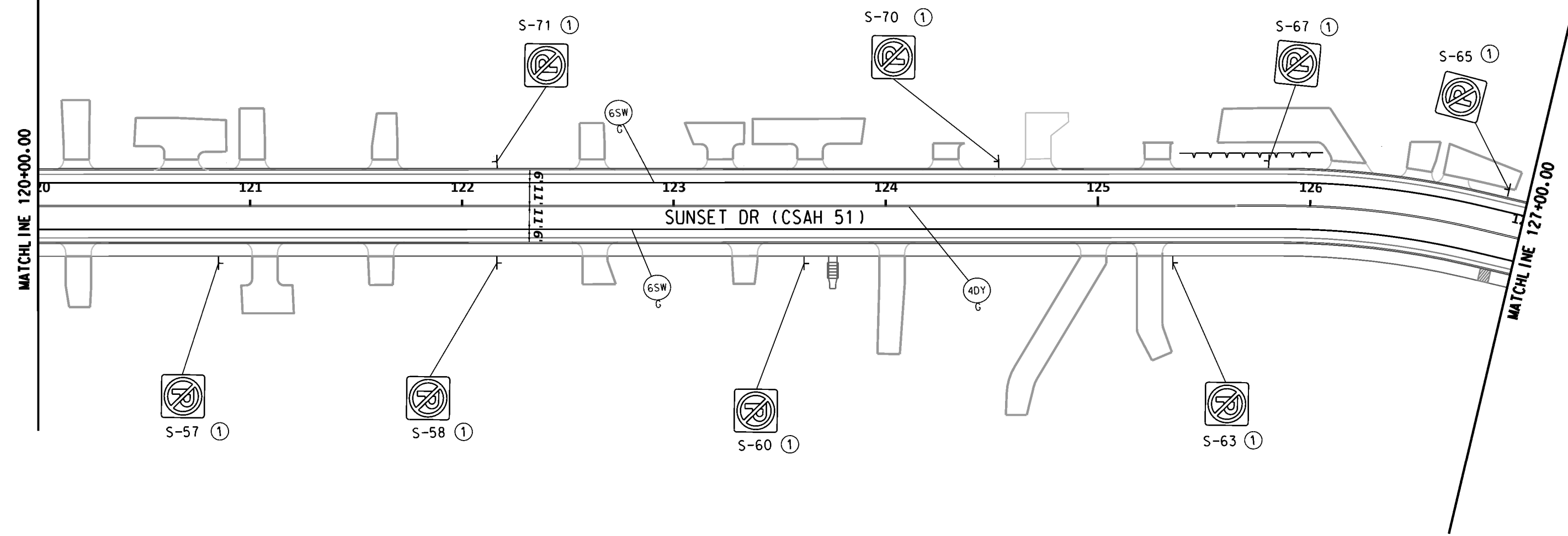
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

226
329

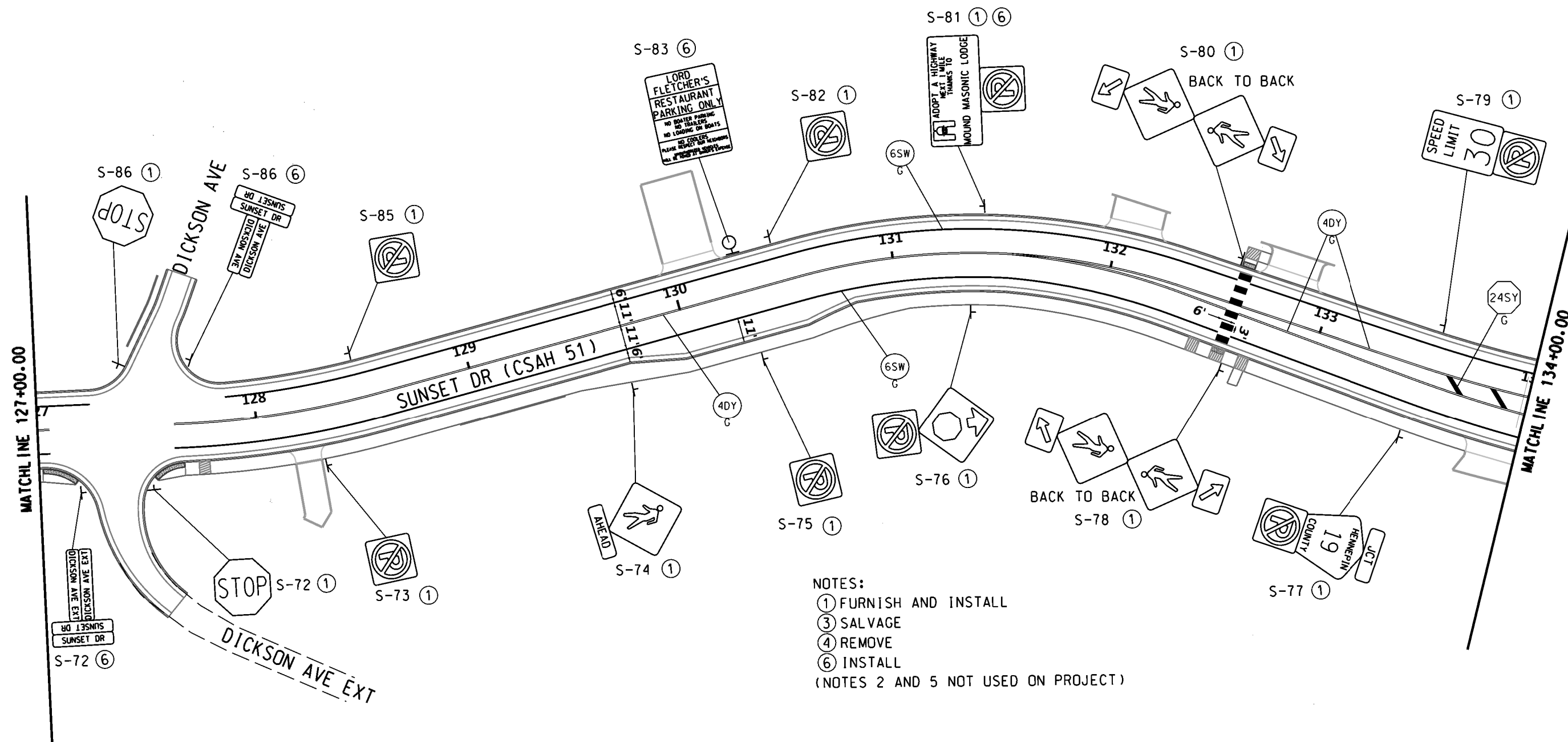
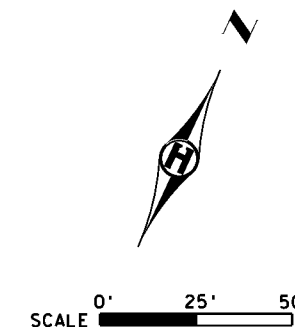


SCALE 0' 25' 50'



NOTES:
① FURNISH AND INSTALL
③ SALVAGE
④ REMOVE
⑥ INSTALL
(NOTES 2 AND 5 NOT USED ON PROJECT)

	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.			DESIGN BY: <u>A. CHALUPSKY</u> CAD BY: <u>A. CHALUPSKY</u> CHECKED BY: <u>R. ALLERS</u> LAST REVISION: <u> </u>	PERMANENT SIGNING AND STRIPING PLAN SHEET		SHEET NO. <u>227</u> OF <u>329</u>
	RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	45896	//		CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		



NOTES:
① FURNISH AND INSTALL
③ SALVAGE
④ REMOVE
⑥ INSTALL
(NOTES 2 AND 5 NOT USED ON PROJECT)



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER
45896
//
DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: //

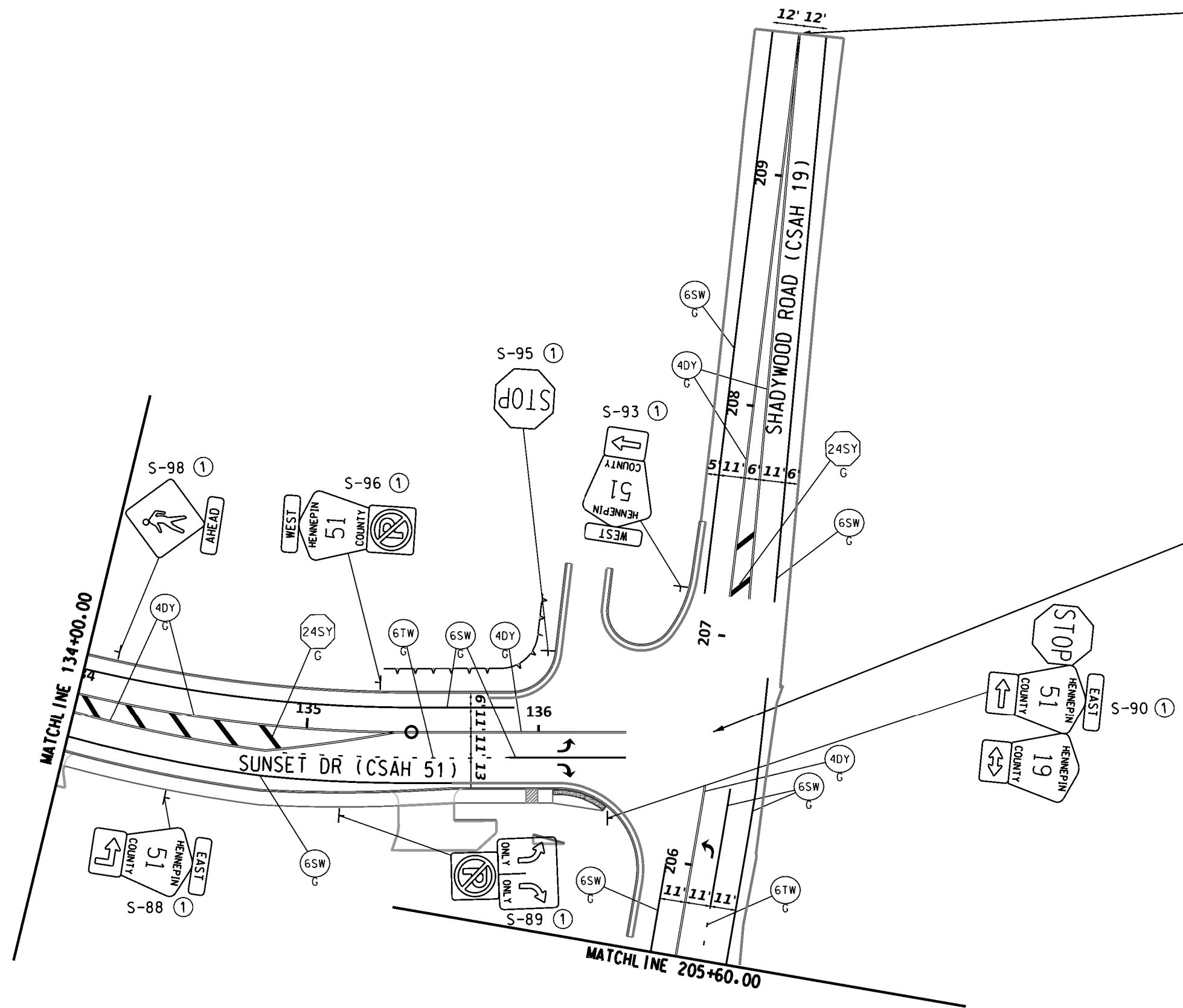
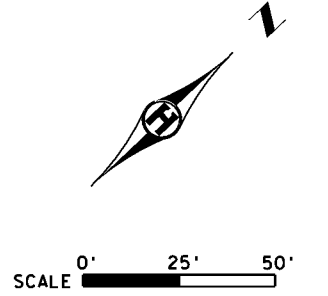
PERMANENT SIGNING AND STRIPING PLAN SHEET

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

228
329

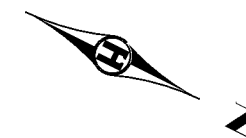
END HENN CO PROJ 2182000
SAP 027-619-029
SHADYWOOD RD 209+61.80



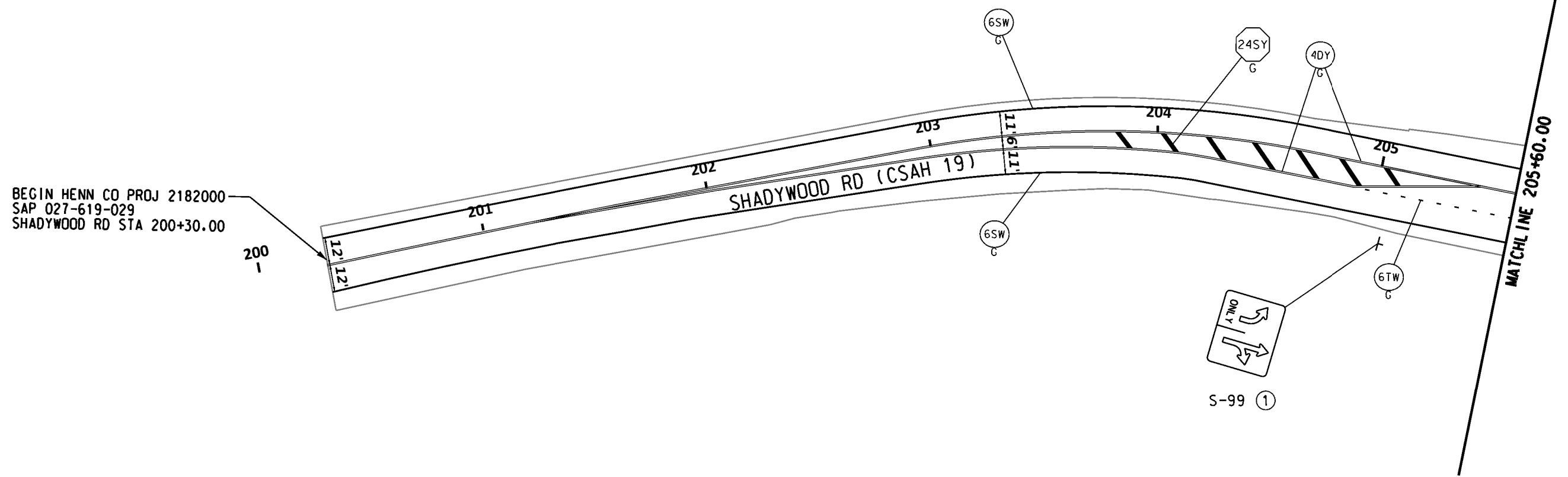
END HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DR STA 136+75.38 =
SHADYWOOD RD STA 206+58.03

- NOTES:
- ① FURNISH AND INSTALL
 - ③ SALVAGE
 - ④ REMOVE
 - ⑥ INSTALL
- (NOTES 2 AND 5 NOT USED ON PROJECT)

	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.			DESIGN BY: <u>A. CHALUPSKY</u>	PERMANENT SIGNING AND STRIPING PLAN SHEET		SHEET	
				CAD BY: <u>A. CHALUPSKY</u>	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		229	
	RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	45896	//	CHECKED BY: <u>R. ALLERS</u>				
		LICENSE NO.	DATE	LAST REVISION: <u> </u>				



SCALE 0' 25' 50'



NOTES:
① FURNISH AND INSTALL
③ SALVAGE
④ REMOVE
⑥ INSTALL
(NOTES 2 AND 5 NOT USED ON PROJECT)



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER
45896
//
DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: //

PERMANENT SIGNING- AND STRIPING PLAN SHEET
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET
230
329

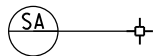
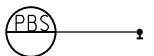
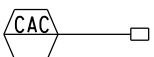
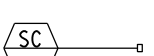
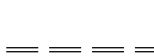
COLOR CODING OF CONDUCTORS

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
BLK/R	BLACK WITH RED TRACER
WH/R	WHITE WITH RED TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN
Y	YELLOW

ABBREVIATIONS
WIRING DIAGRAM LEGEND

•	DENOTES TAP OF CABLED CONDUCTOR OR PARALLELING OF CABLED CONDUCTORS WITH TAPS AS INDICATED BY THE WIRING DIAGRAM
Ø	PHASE
2-1	SIGNAL PHASE AND FACE NUMBER
RED	RED
YEL	YELLOW
GRN	GREEN
RLTA	RED LEFT TURN ARROW
YLTA	YELLOW LEFT TURN ARROW
FYLTa	FLASHING YELLOW LEFT TURN ARROW
GLTA	GREEN LEFT TURN ARROW
RRTA	RED RIGHT TURN ARROW
YRTA	YELLOW RIGHT TURN ARROW
FYRTA	FLASHING YELLOW RIGHT TURN ARROW
GRTA	GREEN RIGHT TURN ARROW
DW	DON'T WALK
W	WALK
NEU	NEUTRAL
SPARE	SPARE CONDUCTOR
EQG	EQUIPMENT GROUND
○	EQUIPMENT GROUND CONNECTION
PB	PUSH BUTTON
IND	INDICATOR
EVP	EMERGENCY VEHICLE PREEMPTION
PED OR P	PEDESTRIAN INDICATION
APS	ACCESSIBLE PEDESTRIAN SIGNAL
LUM	LUMINAIRE
CAC	CONTROLLER AND CABINET
SC	SERVICE CABINET
SOP	SOURCE OF POWER
HH	HANDHOLE
MA	MAST ARM
FYEL	FLASHING YELLOW
TMC	TRAFFIC MANAGEMENT CAMERA
_____	NEUTRAL CONDUCTOR

SIGNAL PLAN LAYOUT LEGEND

	SIGNAL ASSEMBLY PEDESTAL MOUNT
	APS PUSH BUTTON STATION
	INPLACE CONTROLLER AND CABINET
	INPLACE SERVICE CABINET WITH METER AND DISCONNECT
	INPLACE HANDHOLE
	INPLACE MAST ARM SIGNAL POLE OR INPLACE SIGNAL ASSEMBLY PEDESTAL MOUNT
	SIGNAL FACE WITH BACKGROUND SHIELD
	PEDESTRIAN INDICATION
	2-1 SIGNAL PHASE AND FACE NUMBER
	SIGNAL SYSTEM RIGID STEEL CONDUIT (RSC)
	INPLACE CONDUIT

INDEX

SHEET NO.	DESCRIPTION
231	SIGNAL INDEX AND LEGEND
232 - 233	SIGNAL PLAN DETAILS
234	SIGNAL NOTES AND TABULATIONS
235	SIGNAL PLAN LAYOUT
236	SIGNAL WIRING
237 - 238	SIGNAL RECORD DRAWINGS
239	RRFB INDEX
240 - 243	RRFB DETAILS
244	RRFB PLAN LAYOUT
245	RRFB WIRING DIAGRAM

TRAFFIC SIGNAL CABLES		
NOTES	TYPE	USAGE
	6/C #14	VEHICULAR INDICATIONS
	4/C #14	PEDESTRIAN INDICATIONS
	2/C #14 (SHLD)	PEDESTRIAN PUSH BUTTONS



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.

	45896	/ /
RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	LICENSE NO.	DATE

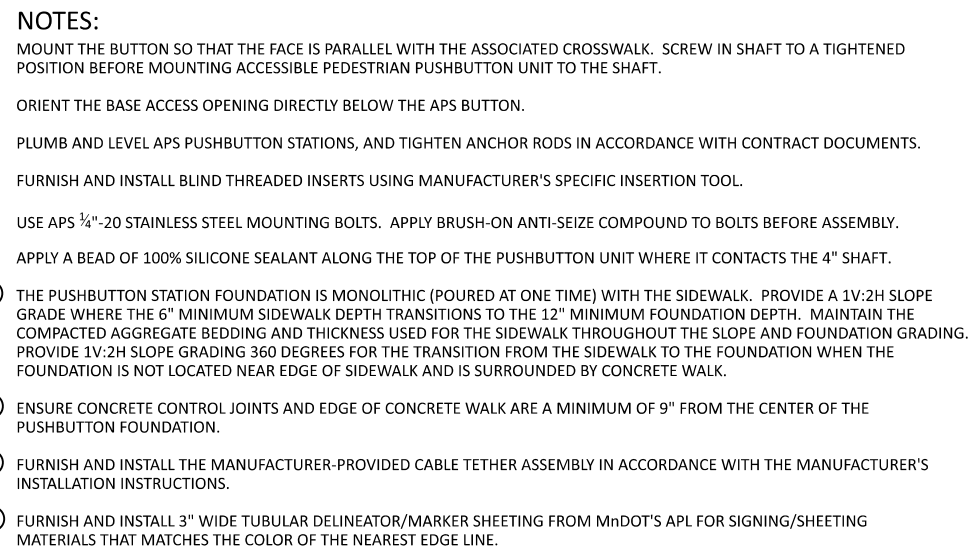
DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / /

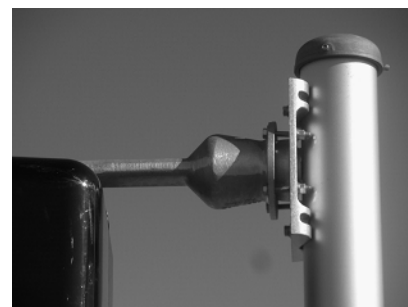
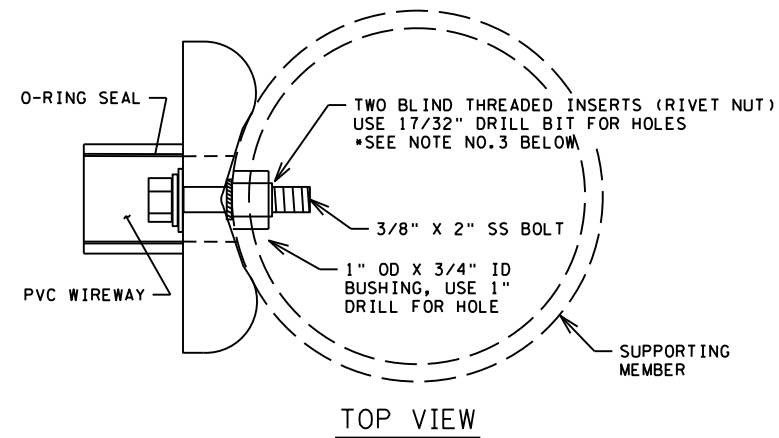
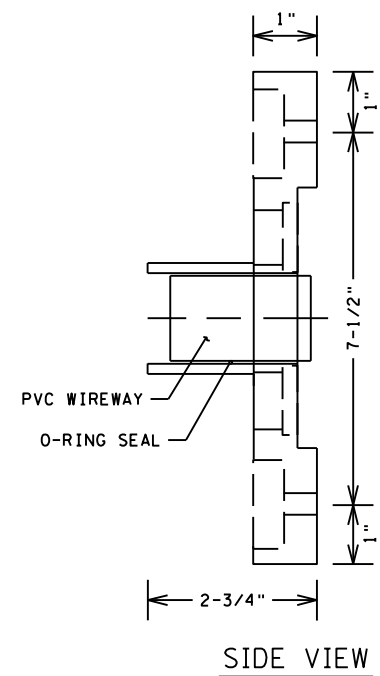
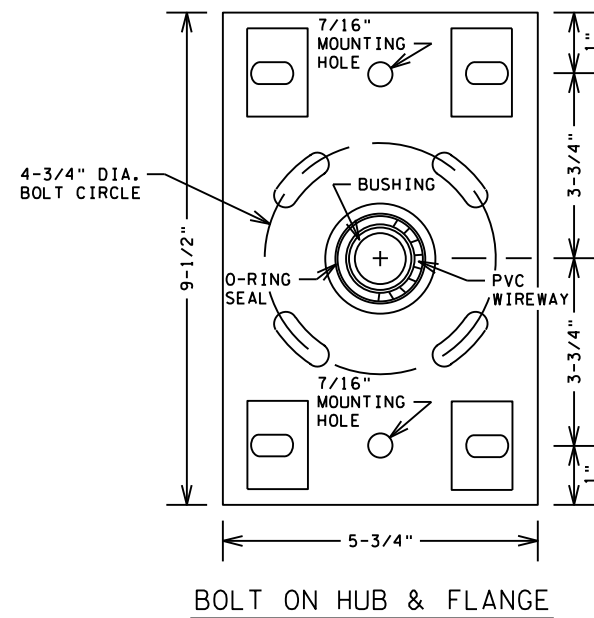
SIGNAL INDEX AND LEGEND

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

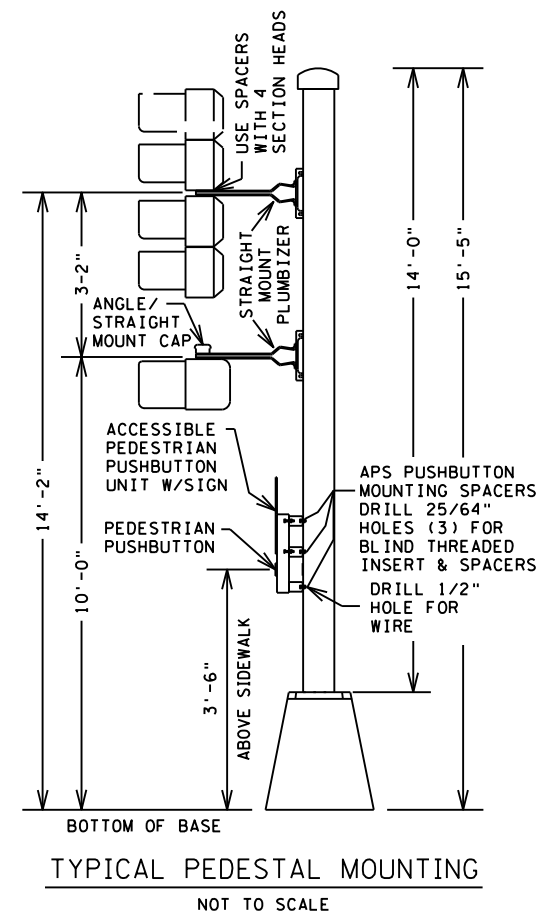
SHEET

231
329





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



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER
 45896
 LICENSE NO. DATE

DESIGN BY: A. CHALUPSKY
 CAD BY: A. CHALUPSKY
 CHECKED BY: R. ALLERS
 LAST REVISION: / /

SIGNAL PLAN DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

233
 329

NOTES:

1. REMOVE EXISTING PUSH BUTTON STATIONS FOR PB2-1 AND PB2-2. REMOVE EXISTING SIGNAL PEDESTAL SA-1 (INCLUDING FOUNDATIONS).
REMOVE WIRING FOR PB2-1, PB2-2, PB8-1, PB8-2, P2-1, P8-2, AND SIGNAL HEAD 1-2. REMOVE HANDHOLE 5 AND CONDUIT FROM HANDHOLE 4 TO HANDHOLE 5.
REMOVE LOOP DETECTOR WIRING. REMOVE CONDUIT FROM HANDHOLE TO PUSH BUTTON STATION FOR PB2-2 AND REMOVE CONDUIT FROM HANDHOLE TO
PUSH BUTTON STATION FOR PB 2-1. REMOVE CONDUIT FROM HANDHOLE TO EXISTING PEDESTAL.
2. SALVAGE AND INSTALL PUSH BUTTONS PB2-1, PB2-2 AND PB8-1 ON NEW PUSH BUTTON STATIONS. SALVAGE AND INSTALL PUSH BUTTON PB8-2 ON NEW PEDESTAL SA-1 USING MOUNTING SPACERS.
SALVAGE AND INSTALL PEDESTRIAN INDICATIONS P2-1 AND P8-2 ON NEW PEDESTAL SA-1. SALVAGE AND INSTALL SIGNAL HEAD 1-2 ON NEW PEDESTAL SA-1.
3. FURNISH AND INSTALL NEW SIGNAL PEDESTAL INCLUDING FOUNDATION AS SHOWN IN THE PLAN.
4. FURNISH AND INSTALL NEW WIRING AS SHOWN IN THE PLAN. ALL NEW WIRING SHALL BE A CONTINUOUS RUN FROM THE CONTROLLER CABINET TO THE DEVICE.
NO SPLICES ARE ALLOWED. NEW WIRING WILL BE PULLED THROUGH EXISTING AND NEW CONDUIT.
5. FURNISH AND INSTALL NEW CONDUIT AS SHOWN IN THE PLAN.
6. ADJUST HANDHOLES TO NEW SIDEWALK ELEVATIONS.
7. THE CONTRACTOR SHALL PREFORM ALL WORK, FURNISH, INSTALL, AND MAKE OPERATIONAL ALL SIGNAL ITEMS.

SIGNAL INDICATIONS AND MOUNTING									
SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS					PLUMBIZER MOUNTING ANGLE. SEE DETAIL
				12" INDICATIONS				PED	
				RED	YEL	FYEL	GRN		
SA-1		PEDESTAL MOUNT	1,6	←	←	←	←		STRAIGHT MOUNT PLUMBIZER
		PEDESTAL MOUNT	2					***	STRAIGHT MOUNT PLUMBIZER
		PEDESTAL MOUNT	8					***	STRAIGHT MOUNT PLUMBIZER

*** INTERNATIONAL SYMBOLS IN A DUAL FACE SINGLE HOUSING WITH PEDESTRIAN COUNTDOWN TIMER.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

/ /

DATE

DESIGN BY: A. CHALUPSKY

CAD BY: A. CHALUPSKY

CHECKED BY: R. ALLERS

LAST REVISION: / /

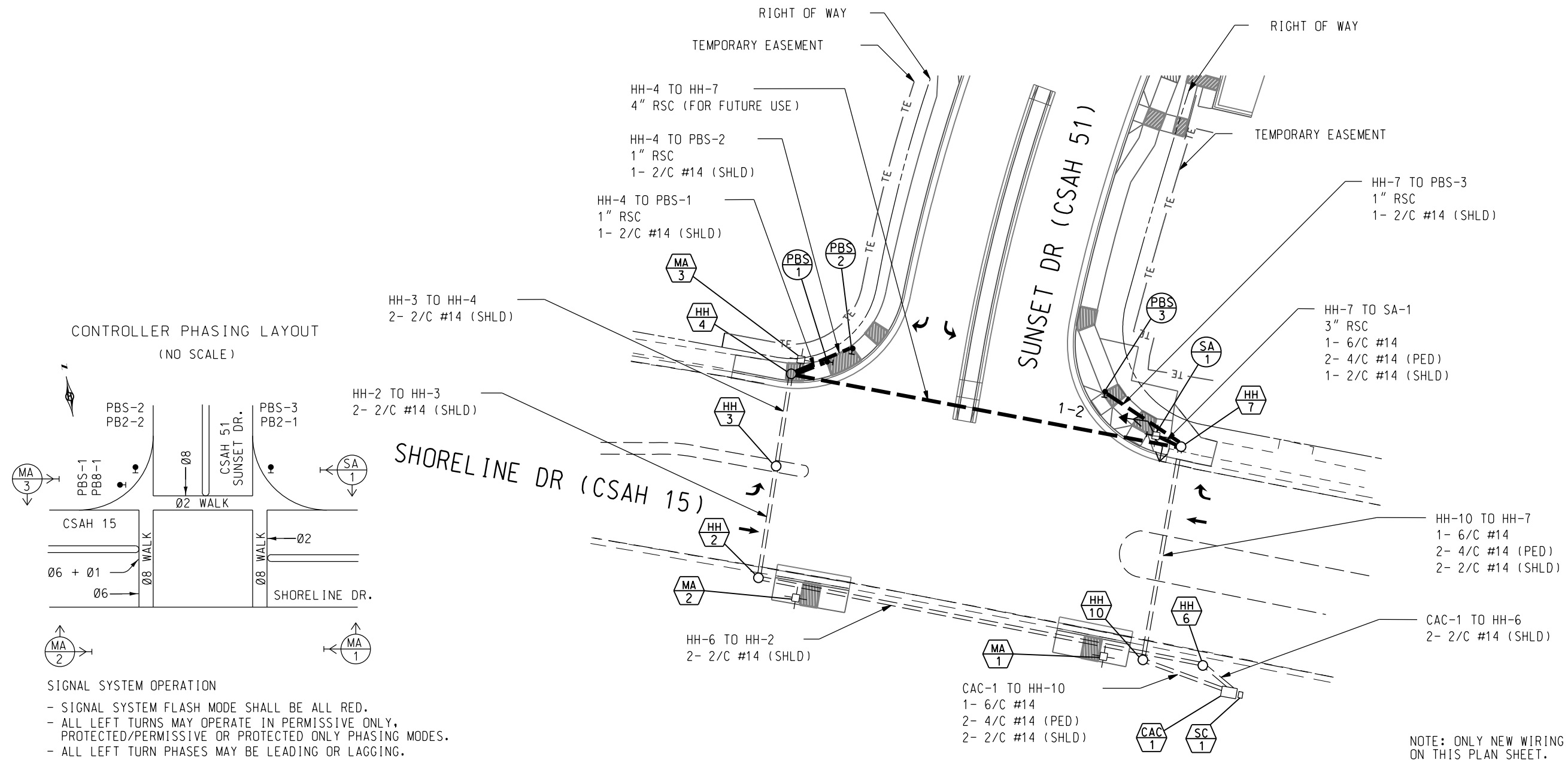
SIGNAL NOTES AND TABULATIONS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

234

329



HENNEPIN COUNTY SIGNAL ID: 8031700



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER 45896 / / LICENSE NO. DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / /

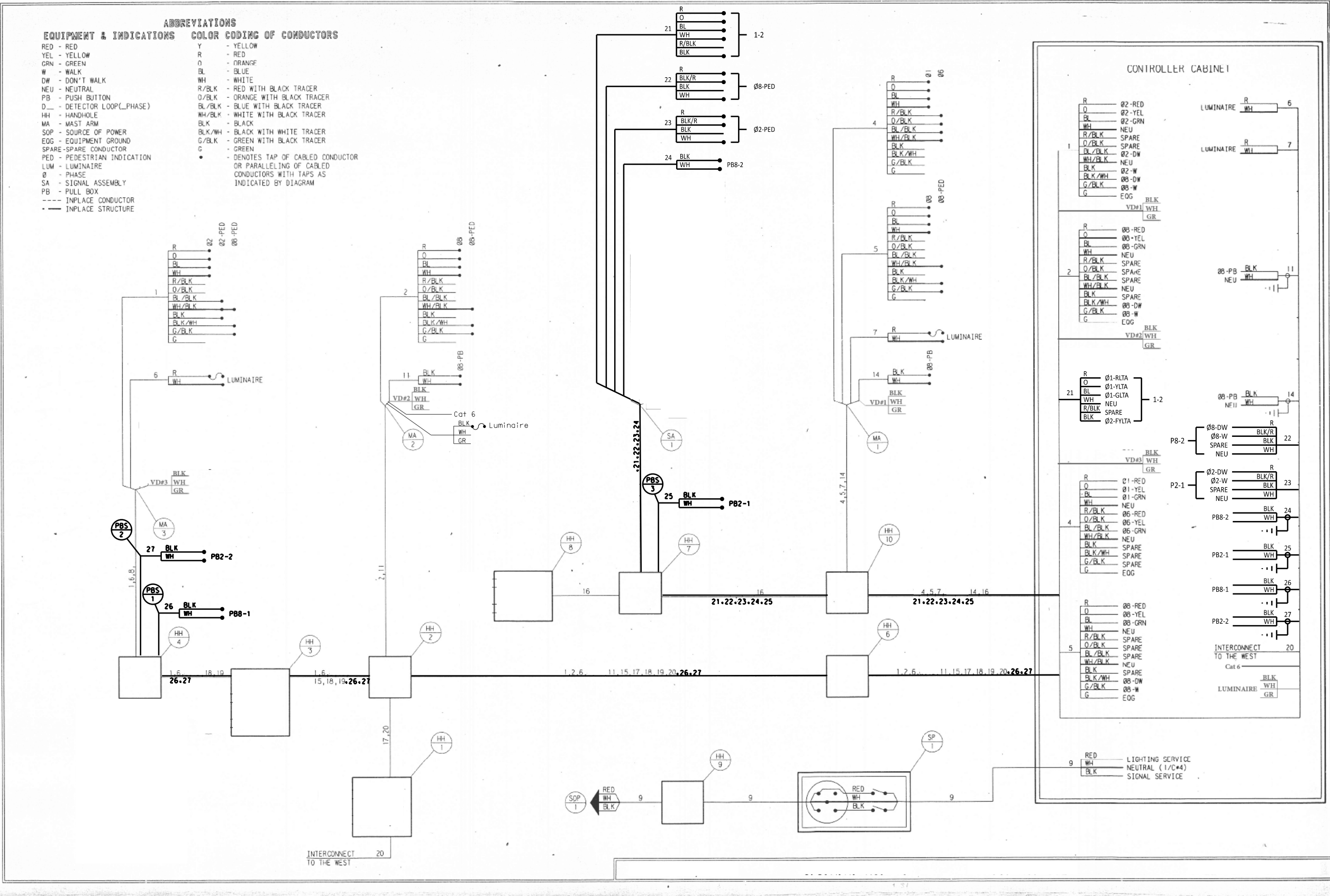
SIGNAL PLAN LAYOUT

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

235
329

WIRING ADDITIONS WITH THIS PROJECT ARE SHOWN IN BOLD



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

DATE

DESIGN BY:

A. CHALUPSKY

CAD BY:

A. CHALUPSKY

CHECKED BY:

R. ALLERS

LAST REVISION:

/ /

SIGNAL WIRING

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

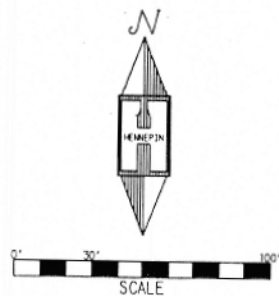
SHEET

236

329

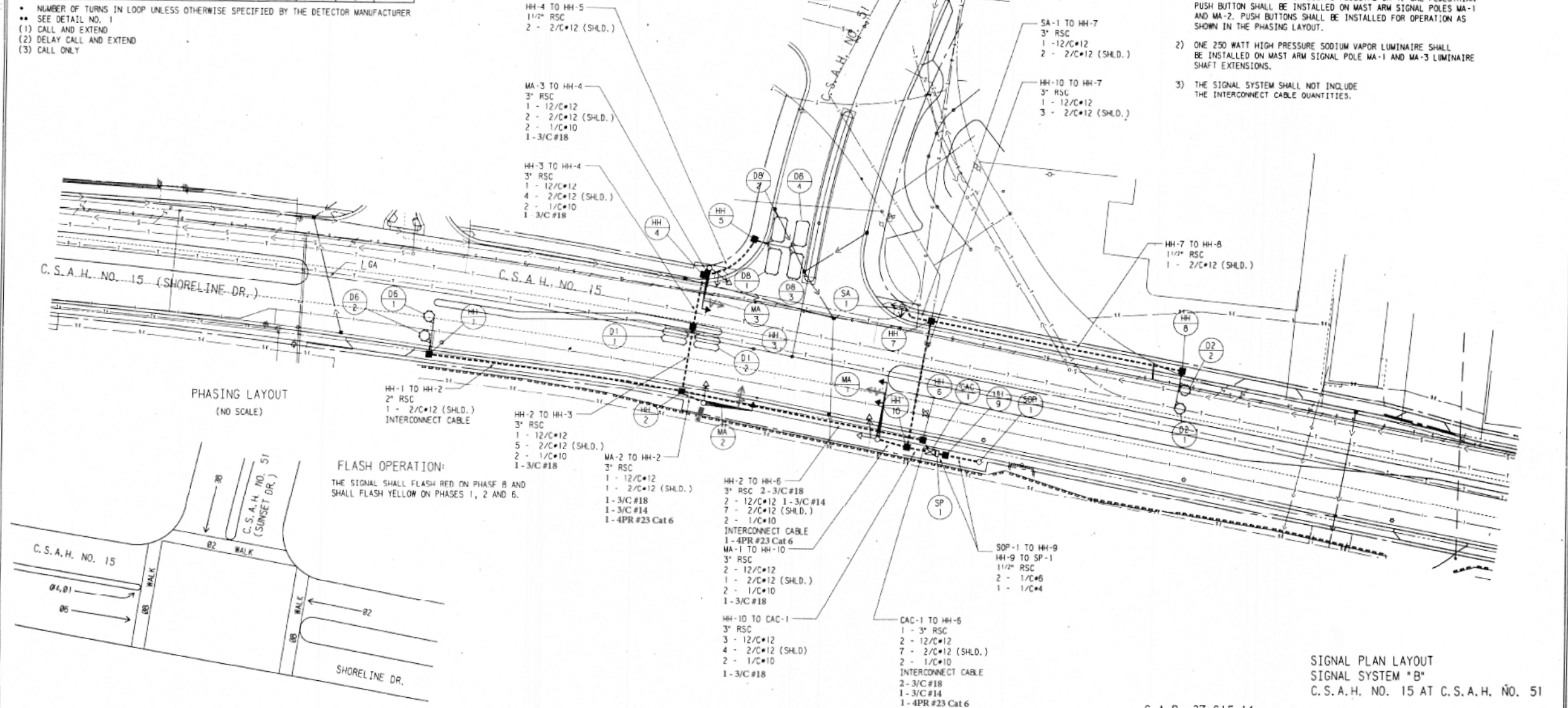
SIGNAL STRUCTURE AND COMPONENT LOCATION BOX				
NO.	LOCATION	NO.	LOCATION	
HH-1	E LA 102 + 35 - 38' RT.	HH-9	E LA 105 + 60 - 40' RT.	
HH-2	E LA 103 + 92 - 34' RT.	HH-10	E LA 105 + 35 - 40' RT.	
HH-3	E LA 103 + 92 - 6' LT.			
HH-4	E LA 103 + 92 - 38' LT.			
HH-5	E LA 104 + 18 - 65' LT.	SOP-1	E LA 105 + 79 - 40' RT.	
HH-6	E LA 105 + 43 - 34' RT.			
HH-7	E LA 105 + 34 - 38' LT.	CAC-1	E LA 105 + 48 - 40' RT.	
HH-8	E LA 105 + 90 - 38' LT.	SP-1	EAST END OF CAC-1 FOUNDATION	
LOCATION				
MA-1	LA 105+16 - 39' RT. A/W ARM TO LA 105+16 - E (35' MAST ARM)			
MA-2	LA 104+08 - 39' RT. A/W ARM TO LA 104+38 - 39' RT. (30' MAST ARM)			
MA-3	LA 103+95 - 43' LT. A/W ARM TO LA 103+95 - E (25' MAST ARM)			
SA-1	LA 105+15 - 43' LT. (10' PEDESTAL)			
NO.	LOCATION	LOOP SIZE	NO. OF TURNS	DETECTOR FUNCTION
D1-1	EAST EDGE LA 103+90 NORTH EDGE 2' LT.	8'x15'	2	(1)
D1-2	EAST EDGE LA 104+10 NORTH EDGE 2' LT.	8'x15'	2	(1)
D2-1	WEST EDGE LA 106+90 SOUTH EDGE 12' LT.	6'x6'	3	(1)
D2-2	WEST EDGE LA 106+91 SOUTH EDGE 24' LT.	6'x6'	3	(1)
D6-1	EAST EDGE LA 102+35 NORTH EDGE 24' RT.	6'x6'	3	(1)
D6-2	EAST EDGE LA 102+34 NORTH EDGE 12' RT.	6'x6'	3	(1)
D8-1	EAST EDGE LA 104+36 SOUTH EDGE 47' LT.	8'x15'	2	(2)
D8-2	EAST EDGE LA 104+36 SOUTH EDGE 67' LT.	8'x15'	2	(2)
D8-3	EAST EDGE LA 104+50 SOUTH EDGE 47' LT.	8'x15'	2	(1)
D8-4	EAST EDGE LA 104+50 SOUTH EDGE 67' LT.	8'x15'	2	(1)

- NUMBER OF TURNS IN LOOP UNLESS OTHERWISE SPECIFIED BY THE DETECTOR MANUFACTURER
• SEE DETAIL NO. 1
(1) CALL AND EXTEND
(2) DELAY CALL AND EXTEND
(3) CALL ONLY



SIGNAL INDICATION AND BRACKETING											
SIG. POLE NO.	SIGNAL FACE	MOUNT	SIG. #	INDICATION SIZE AND TYPE						WALK	WALK
				RED	YEL	GRN	RED	YEL	GRN		
MA-1	MAST ARM (END)	16	12	12	12	12	12	12	12		
MA-1	MAST ARM (MID)	6	12	12	12	12	12	12	12		
MA-1	POLE MOUNT	6	12	12	12	12	12	12	12	9"	9"
MA-1	POLE MOUNT	8	12	12	12	12	12	12	12	9"	9"
MA-2	MAST ARM (END)	8	12	12	12	12	12	12	12		
MA-2	POLE MOUNT	8	12	12	12	12	12	12	12	9"	9"
MA-3	MAST ARM (END)	2	12	12	12	12	12	12	12		
MA-3	POLE MOUNT	2	12	12	12	12	12	12	12	9"	9"
MA-3	POLE MOUNT	8	12	12	12	12	12	12	12	9"	9"
SA-1	PEDESTAL MOUNT	2								9"	9"
SA-1	PEDESTAL MOUNT	8								9"	9"
SA-1	PEDESTAL Mount	16	12	12	12	12	12	12	12	9"	9"

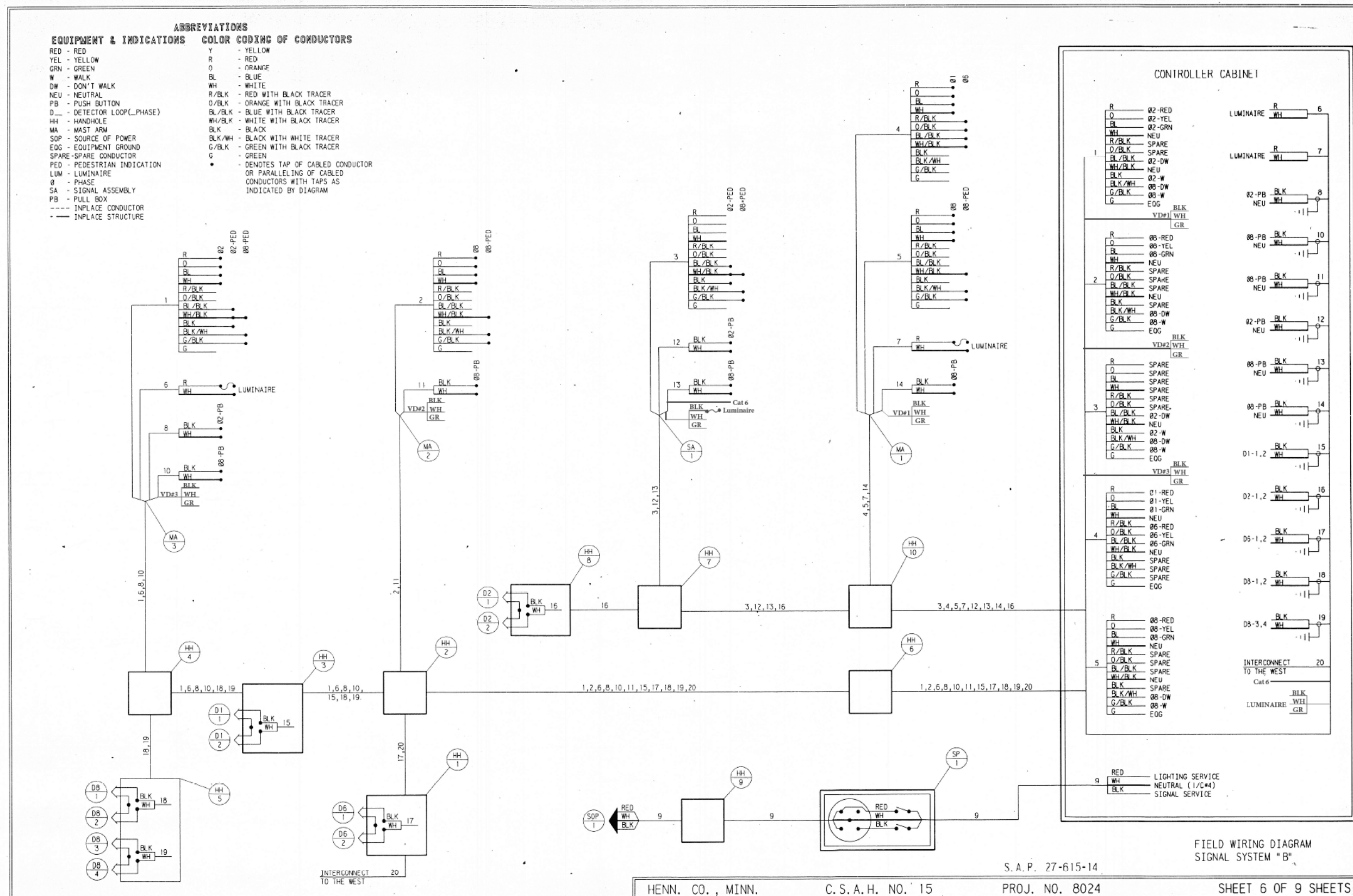
- NOTES:
- 1) TWO PEDESTRIAN PUSH BUTTONS SHALL BE INSTALLED ON MAST ARM SIGNAL POLE MA-3 AND ON SIGNAL PEDESTAL SA-1. ONE PEDESTRIAN PUSH BUTTON SHALL BE INSTALLED ON MAST ARM SIGNAL POLES MA-1 AND MA-2. PUSH BUTTONS SHALL BE INSTALLED FOR OPERATION AS SHOWN IN THE PHASING LAYOUT.
 - 2) ONE 250 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE SHALL BE INSTALLED ON MAST ARM SIGNAL POLE MA-1 AND MA-3 LUMINAIRE SHAFT EXTENSIONS.
 - 3) THE SIGNAL SYSTEM SHALL NOT INCLUDE THE INTERCONNECT CABLE QUANTITIES.



FLASH OPERATION:
THE SIGNAL SHALL FLASH RED ON PHASE 8 AND SHALL FLASH YELLOW ON PHASES 1, 2 AND 6.

SIGNAL PLAN LAYOUT
SIGNAL SYSTEM "B"
C.S.A.H. NO. 15 AT C.S.A.H. NO. 51

FOR INFORMATION ONLY



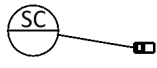
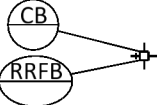
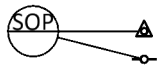
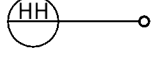
COLOR CODING OF CONDUCTORS

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
BLK	BLACK
G	GREEN
Y	YELLOW
B	BROWN
R/BLK	RED WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER

ABBREVIATIONS
WIRING DIAGRAM LEGEND

•	DENOTES TAP OF CABLED CONDUCTOR OR PARALLELING OF CABLED CONDUCTORS WITH TAPS AS INDICATED BY THE WIRING DIAGRAM
NEU	NEUTRAL
EQG	EQUIPMENT GROUND
○	EQUIPMENT GROUND CONNECTION
PB	PUSH BUTTON
CB	CONTROLL BOX
SC	SERVICE CABINET
SOP	SOURCE OF POWER
HH	HANDHOLE
RRFB	RECTANGULAR RAPID FLASHING BEACON
—	NEUTRAL CONDUCTOR

RRFB PLAN LAYOUT LEGEND

	SERVICE CABINET WITH METER AND DISCONNECT ON ONE CONCRETE PAD
	RECTANGULAR RAPID FLASHING BEACON (RRFB) WITH MOUNTED CONTROL BOX (CB) AND PEDESTRIAN PUSH BUTTON AS REQUIRED
	SOURCE OF POWER PAD MOUNTED POLE MOUNTED
	PVC HANDHOLE WITH METAL COVER
	RRFB SYSTEM RIGID STEEL CONDUIT (RSC)

NOTES:

- 1.) THE CONTRACTOR SHALL PLACE COMMON BACK FILL AND RESTORE ALL DISTURBED TURF, CONCRETE OR BITUMINOUS WALK, ETC. TO IT'S ORIGINAL CONDITION OR BETTER.
- 2.) THE CONTRACTOR SHALL COORDINATE THE PEDESTRIAN RAMP WORK WITH THE CONSTRUCTION OF THE RRFB FOUNDATION WORK AND SERVICE CABINET PAD.
- 3.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE CONNECTION OF POWER TO THE PEDESTRIAN CROSSWALK FLASHER SYSTEM WITH THE POWER COMPANY. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY EQUIPMENT TO SUPPLY POWER TO THE SYSTEM.
- 4.) THE CITY SHALL BE BILLED FOR ALL PEDESTRIAN CROSSWALK FLASHER SYSTEM POWER COSTS AND THE CITY SHALL PAY THOSE COSTS DIRECTLY TO THE POWER COMPANY. HENNEPIN COUNTY SHALL NOT BE BILLED. THE CONTRACTOR SHALL WORK WITH THE CITY AND THE POWER COMPANY TO ESTABLISH METER ADDRESS AND BILLING INFORMATION.
- 5.) THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
- 6.) THE LOCATIONS OF THE HANDHOLE, FOUNDATIONS, CONCRETE PAD, AND CONDUIT SHOWN IN THE PLAN ARE APPROXIMATE. EXACT LOCATIONS SHALL BE COORDINATED WITH ALL UTILITIES AND VERIFIED IN THE FIELD BY THE ENGINEER.
- 7.) ALL CONDUIT RUNS ACROSS EXISTING ROADWAY PAVEMENT THAT REMAINS SHALL BE DIRECTIONAL BORED. NO OPEN CUTTING IS ALLOWED ON EXSISTING PAVEMENT. CONDUIT SHALL BE BURIED 24 INCHES TO 36 INCHES UNDER EXISTING SURFACES.
- 8.) ALL WORK AS DETAILED IN NOTES 1 - 7 SHALL BE AS DIRECTED BY AND TO THE SATISFACTION OF THE ENGINEER AND ALL COSTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PEDESTRIAN CROSSWALK FLASHER SYSTEM (SYSTEM).

FLASHER SYSTEM QUANTITIES				Z
ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL	NOTES
2565	PEDESTRIAN CROSSWALK FLASHER SYSTEM	SYSTEM	1	(1)

(1) SEE SPECIAL PROVISIONS.

TRAFFIC SIGNAL CABLES		
NOTES	TYPE	USAGE
	2/C #14	RRFB LIGHT
	8/C #18	RRFB PEDESTRIAN PUSH BUTTONS
	1/C # 3	INCOMING POWER
	1/C # 8	INCOMING POWER
	1/C # 6 GRN	EQUIPMENT GROUND

INDEX

SHEET NO.	DESCRIPTION
239	RRFB INDEX, LEGEND, AND NOTES
240 - 243	RRFB DETAILS
244	RRFB PLAN LAYOUT
245	RRFB WIRING DIAGRAM



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER
45896
LICENSE NO. / /
DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / /

RRFB INDEX

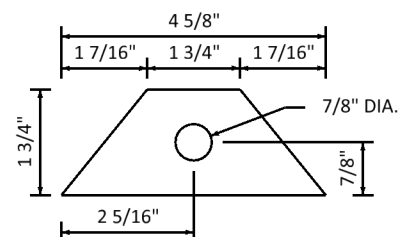
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

239
329

SIGNAL ASSEMBLY PEDESTAL MOUNT FOUNDATION
(NO SCALE)

SIGNAL ASSEMBLY PEDESTAL MOUNT FLAT WASHER TYPICAL
(NO SCALE)



Technical drawing of a signpost showing dimensions and components. The drawing is oriented vertically with the ground line at the bottom. The signpost has a base and a main vertical pole. A sign is mounted on the pole at a height of 3' 6" from the ground. Above the sign, there are two sign mounting brackets, each labeled "SIGN MOUNTING BRACKET". At the top of the pole, there is a universal mounting bracket labeled "UNIVERSAL MOUNTING BRACKET". The total height of the signpost is 16' 3". Other dimensions shown are 9' 2", 8' 8", and 7' from the ground to various horizontal lines on the pole.

POLE CAP
 CONTROL CABINET ENCLOSURE
 SHALL FIT ALL RRFB LIGHTS
 INSTALL ONLY ON RRFB-1
 COMBINED BICYCLE/PEDESTRIAN CROSSING
 W11-15 (36" X 36")
 BLACK ON FLUORESCENT YELLOW-GREEN
 DG3 SIGN SHEETING
 (MOUNTED BACK TO BACK AS
 INDICATED ON THE PLANS)
 RRFB (LED) (ONE-SIDED
 MOUNTED BACK TO BACK
 AS SHOWN ON THE PLANS)
 APPROX. 4" H X 24" W
 END MOUNTED LED, FACING IN
 THE DIRECTION OF PEDESTRIAN
 TRAVEL TO PROVIDE NOTICE TO
 THE PEDESTRIAN WHEN RRFB
 IS OPERATING.
 WARNING SIGN W16-7P (30" X 18")
 (LEFT IS SHOWN. SEE PLANS FOR L OR R)
 BLACK ON FLUORESCENT YELLOW-GREEN
 DG3 SIGN SHEETING
 (MOUNTED BACK TO BACK AS
 SHOWN ON THE PLANS)
 4.5" OUTSIDE DIAMETER
 15' SCHEDULE 80 ALUMINUM
 PEDESTAL POLE
 R10-25 SERIES SIGN (9" X 12")
 BLACK ON WHITE DG3 SIGN SHEETING
 * SOLID STATE OR APS PUSH BUTTON
 SEE SPECIAL PROVISIONS
 4" VAR. ALUMINUM PEDESTAL
 (PIPE THREADED ON BOTTOM END)
 PEDESTAL COLLAR
 PEDESTAL BASE
 CONCRETE FOUNDATION, SEE THE SIGNAL
 ASSEMBLY PEDESTAL MOUNT FOUNDATION
 FOR DETAILS
 TOP OF FINISHED CONCRETE
 WALK OR BITUMINOUS TRAIL

16' 3"
 9' 2"
 8' 8"
 7'
 3' 6"

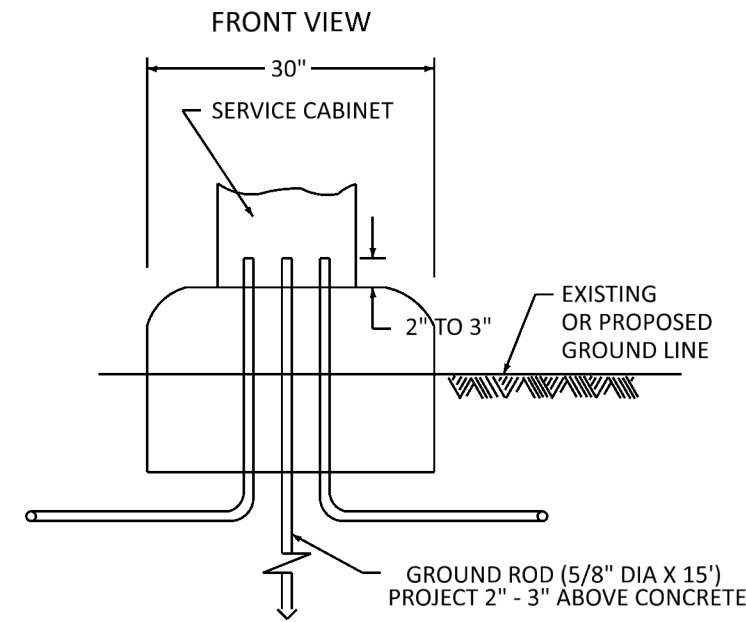
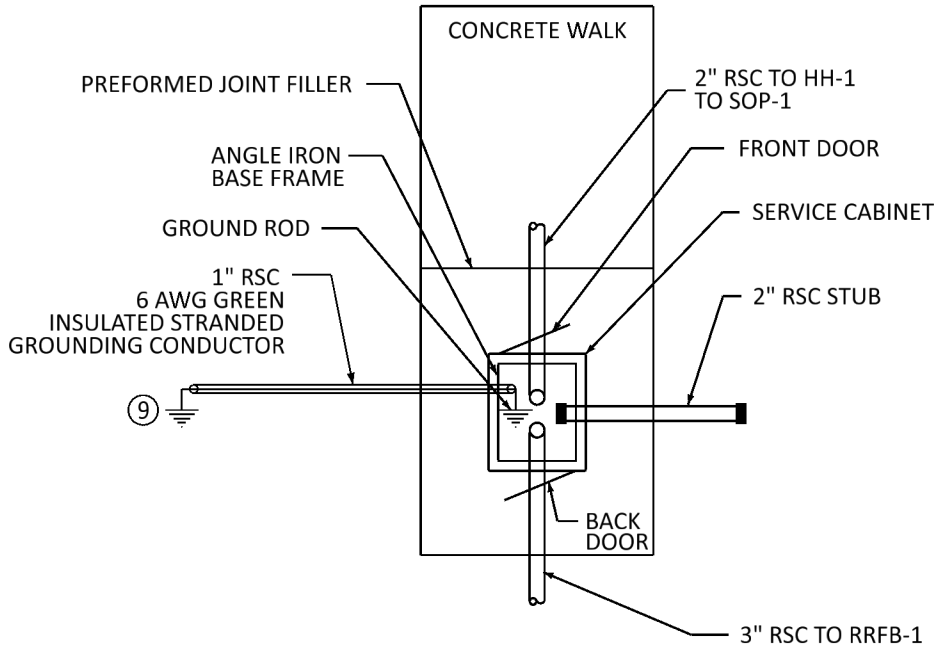


Hennepin

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / /

329

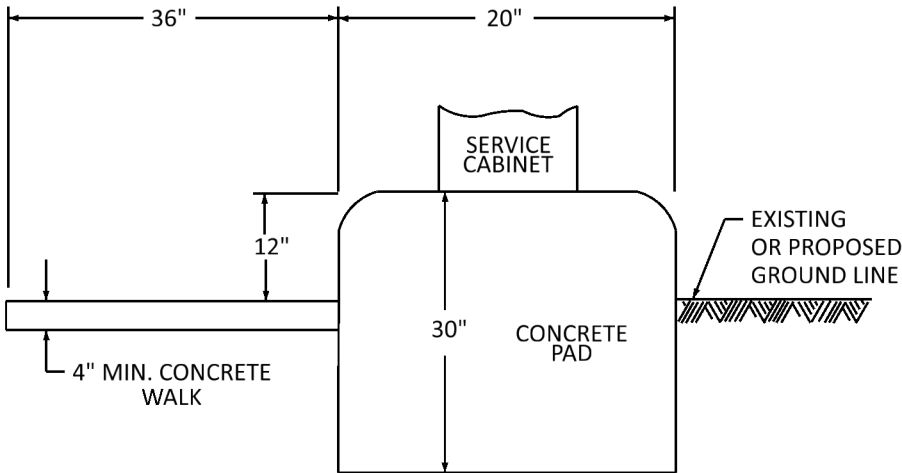
TYPICAL PAD WITH RRFB SERVICE CABINET
NOT TO SCALE FOR ILLUSTRATION ONLY
SEE RRFB PLAN LAYOUT FOR ADDITIONAL INFORMATION
PLAN VIEW



NOTES:

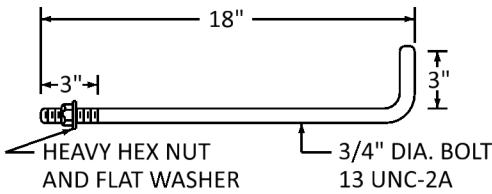
1. THE UPPER PART OF THE CONCRETE PAD SHALL BE BEVELED OR CHAMFERED IN A NEAT MANNER, AS DIRECTED BY THE ENGINEER.
2. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED AND THEN SEALED AFTER CABLES HAVE BEEN INSTALLED).
3. THE LOCATION OF CONDUITS WITHIN THE CONCRETE PAD SHALL BE 6" TO THE CENTER OF THE CONDUIT FROM THE INSIDE LIP OF THE MOUNTING FLANGE ON THE DOOR SIDE OF THE CABINET. THE CONDUITS SHALL PROJECT 2" TO 3" ABOVE THE CONCRETE. THE CONDUITS SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (EQUIPMENT, SUPPORTING MEMBERS, ETC.). FINAL CONDUIT LOCATIONS, AS DIRECTED BY THE ENGINEER.
4. A CONCRETE SIDEWALK SHALL BE ON THE FRONT DOOR SIDE OF THE SERVICE CABINET, AS DIRECTED BY THE ENGINEER.
5. THE CONCRETE PAD AND THE CONCRETE WALK SHALL BE CONCRETE MIX 3G52 OR EQUAL, AS DIRECTED BY THE ENGINEER.
6. THE CONCRETE PAD ELEVATION SHALL BE ADJUSTED TO MAINTAIN THE 12" CLEARANCE ABOVE THE EXISTING OR PROPOSED GROUND LINE, AS DIRECTED BY THE ENGINEER.
7. THREAD AND CAP BOTH ENDS OF ALL RSC STUBS. THE CAPS LOCATED WITHIN THE SERVICE CABINET SHALL BE PERMANENTLY MARKED WITH AN ARROW TO INDICATE THE DIRECTION OF THE RSC STUBS. NO RSC STUB SHALL BE TERMINATED UNDER ANY FORM OF PAVEMENT OR HARD SURFACE, AS DIRECTED BY THE ENGINEER.
8. ORIENT THE SERVICE CABINET SUCH THAT WHEN THE FRONT CABINET DOOR IS OPENED A PERSON WORKING IN THE CABINET HAS A CLEAR LINE OF SITE TO SEE THE RRFB AND SEE IN THE CABINET. THE SERVICE CABINET SHALL NOT BE ORIENTATED SUCH THAT A PERSON HAS THEIR BACK TO THE RRFB WHEN WORKING IN THE CABINET.
9. PLACE A GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH THE GROUNDING ELECTRODE SYSTEM DETAIL ON STANDARD PLATE 8106 SHEET 3 EXCEPT FURNISH AND INSTALL 10' GROUND ROD ELECTRODES, 6 AWG GREEN INSULATED COPPER CONDUCTOR, AND EXOTHERMIC WELDED CONNECTORS. IF A COUNTY RRFB HANDHOLE IS LOCATED AT LEAST 6' APART AND NO MORE THAN 10' APART FROM THE GROUND ROD LOCATED IN THE EQUIPMENT PAD, THE SUPPLEMENTAL GROUND ROD MAY BE PLACED IN THAT HANDHOLE. USE A 12' GROUND ROD IN THE HANDHOLE INSTEAD OF A 10' GROUND ROD AND PULL A GREEN INSULATED 6 AWG CONDUCTOR IN THE CONDUIT GOING TO THAT HANDHOLE. IF THE REQUIRED RRFB HANDHOLE GROUND ROD IS LOCATED WITHIN THE SPECIFIED DISTANCE MENTIONED, BOND THE GREEN INSULATED 6 AWG CONDUCTOR TO THAT GROUND ROD.

SIDE VIEW



TYPICAL ANCHOR ROD

RRFB SERVICE CABINET
(NO SCALE)



NOTES:

1. MATERIAL STEEL SHALL BE ASTM, A-36. 3/4" DIA. X 21" LONG BEFORE BENDING.
2. HOT DIP GALVANIZE FULL LENGTH. NUTS SHALL RUN FREE AFTER PLATING.
3. RODS TO BE SUPPLIED WITH GALVANIZED HEAVY HEX NUT AND FLAT WASHER, ASTM, A-563 ASSEMBLED AFTER ROD PLATING.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

//

DATE

DESIGN BY:

A. CHALUPSKY

CAD BY:

A. CHALUPSKY

CHECKED BY:

R. ALLERS

LAST REVISION:

//

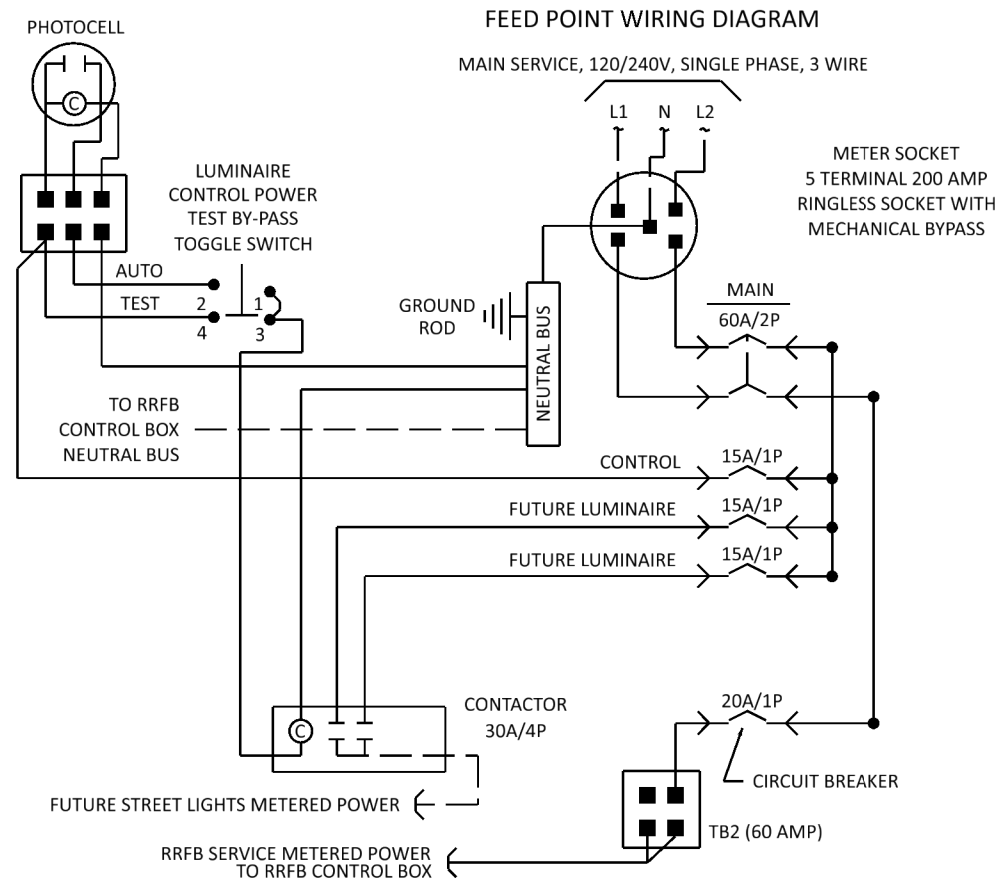
RRFB DETAILS

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

241

329



CONSTRUCTION NOTES

1. EACH SERVICE CABINET SHALL BE FABRICATED FROM 1/8" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE. AFTER FABRICATION, THE SERVICE CABINET, BOTH INSIDE AND OUTSIDE, SHALL BE PROTECTED WITH AN EXTERNAL THIRTY (30) MINUTE CLEAR ANODIZED FINISH.
2. ALL HINGES, HINGE PINS AND LOCKS SHALL BE OF NON-CORRODING CONSTRUCTION.
3. THE SERVICE CABINET DOORS SHALL BE ATTACHED TO THE ENCLOSURE WITH NON-CORRODING TAMPERPROOF CARRIAGE BOLTS AND SECURED WITH A STANDARD POLICE LOCK COMPLETE WITH A NUMBER 2 KEY AND SWING DOWN PLATE. PROVIDE ONE (1) KEY.
4. BOTH DOOR OPENINGS SHALL BE PROVIDED WITH A NEOPRENE GASKET TO FORM A COMPLETE SEAL WITH THE ENCLOSURE.
5. PROVIDE A 2" DIA. WEATHERPROOF AND VANDAL RESISTANT CLEAR PLASTIC PHOTOELECTRIC CONTROL VIEWING WINDOW. LOCATED IN THE TOP SECTION OF THE CABINET AND ON THE LEFT OR RIGHT SIDE OF THE CABINET, ORIENTED TO ELIMINATE INTERFERENCE BY MANMADE LIGHT SOURCES AND SHALL NORMALLY FACE NORTH OR EAST.
6. THE CIRCUIT BREAKERS SHALL BE 120/240 VOLT AC, 60 HZ, AND SHALL BE CLEARLY MARKED WITH THE "ON" AND "OFF" POSITIONS AND IDENTIFIED WITH THE LOAD WHICH IT IS CARRYING (E.G. "RRFB", "LUMINAIRE WITH NUMBER" OR "FUTURE"). ALL CIRCUIT BREAKERS SHALL BE CLEARLY MARKED IN A MANNER THAT WILL NOT DETERIORATE WITH MOISTURE OR AGE.
7. SHORT CIRCUIT RATING - 10,000 AIC SYMMETRICAL.
8. PROVIDE A PHOTOELECTRIC CONTROL CELL AND LUMINAIRE TEST SWITCH WITHIN THE CABINET.
9. PROVIDE CLEARANCE TO INSTALL OR REMOVE THE PHOTOELECTRIC CONTROL CELL.
10. ALL CONDUIT ENTERING THE FOUNDATION SHALL BE SEALED WITH AN APPROVED DUCT SEAL.
11. EACH SERVICE CABINET SHALL BE U.L. LISTED AND LABELED AS "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT" AND APPROVED FOR OUTDOOR USE.
12. EACH SERVICE CABINET SHALL BE WELDED TO THE BASE IN ACCORDANCE WITH U.L. STANDARDS.
13. A 1/2" THICK SOLID BUTYL RUBBER GASKET SHALL BE PROVIDED BETWEEN THE CONCRETE FOUNDATION AND THE SERVICE CABINET. THE GASKET SHALL CONSIST OF FOUR (4) STRIPS, SIZED TO FIT THE BASE INCLUDING CORNER HOLE/SLOTS TO ACCOMMODATE THE ANCHOR RODS. PROVIDE A 1/2" GAP FOR DRAINAGE.
14. THE 19" RACK IN THE BASE OF THE CABINET SHALL BE CONSTRUCTED TO TIA/EIA 3100 STANDARDS.
15. SEE THE EQUIPMENT PAD DETAIL SHEET FOR TYPICAL ANCHOR ROD DETAILS.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

//

DATE

DESIGN BY:

A. CHALUPSKY

CAD BY:

A. CHALUPSKY

CHECKED BY:

R. ALLERS

LAST REVISION:

//

RRFB DETAILS

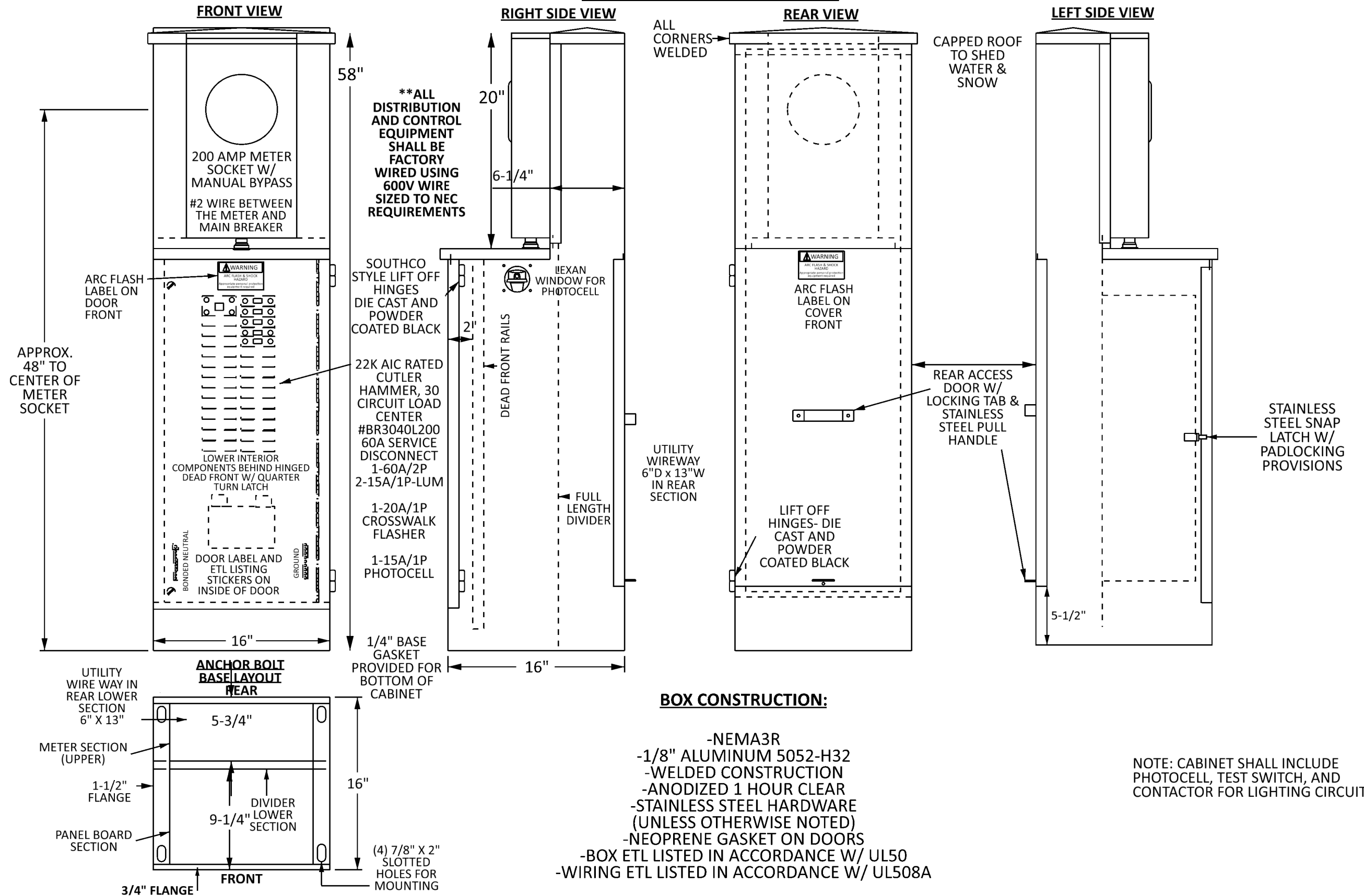
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

242

329

SERVICE CABINET - METERED



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896
LICENSE NO.

//
DATE

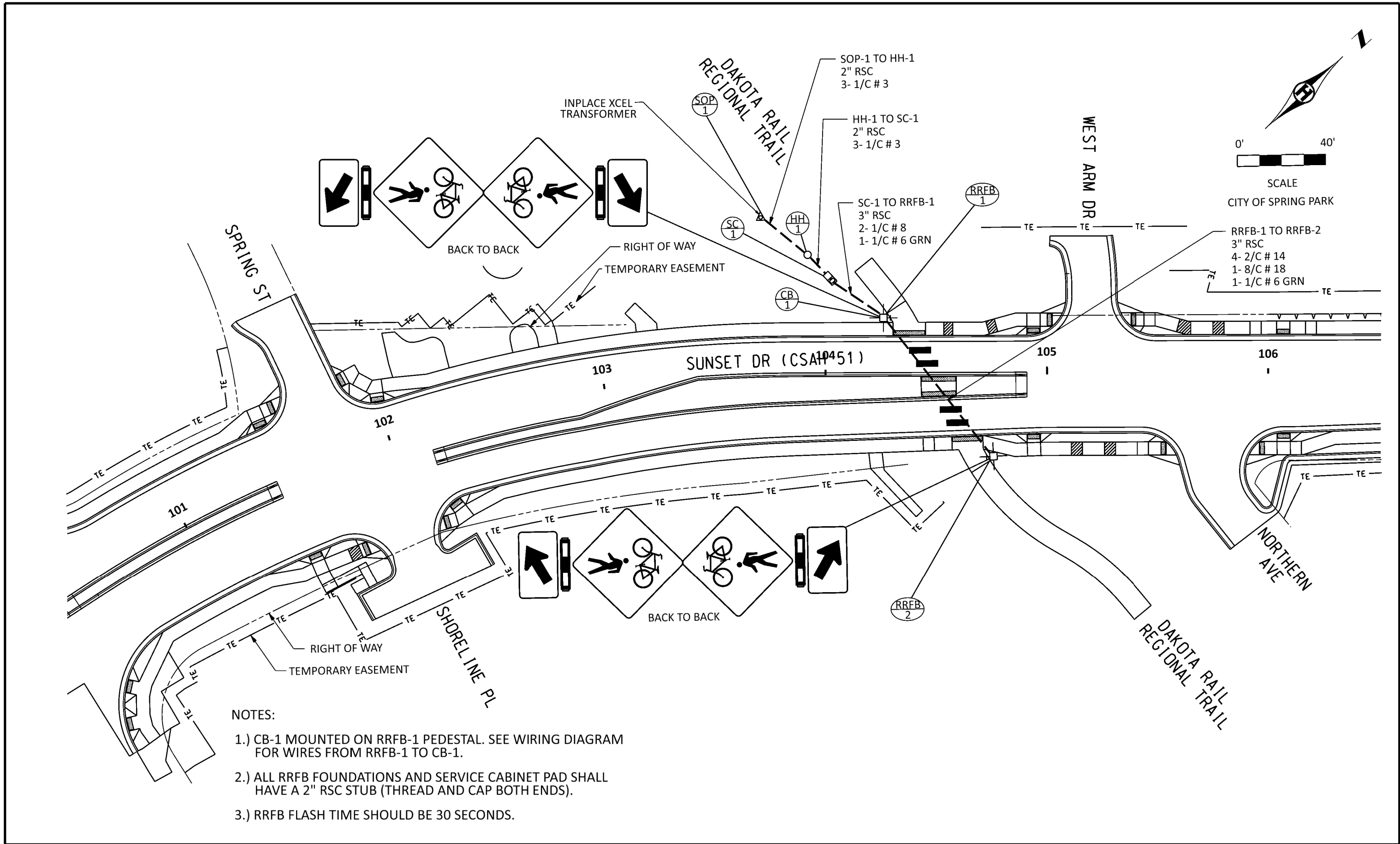
DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: //

RRFB DETAILS

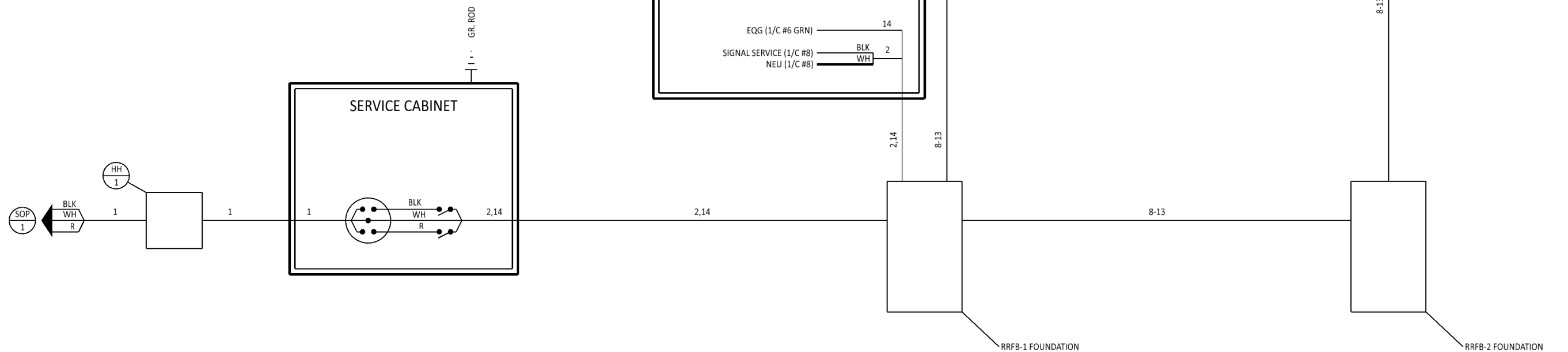
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

243
329



	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.			DESIGN BY: <u>A. CHALUPSKY</u>	RRFB PLAN LAYOUT		SHEET
	_____ RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER 45896 LICENSE NO. _____ DATE			CAD BY: <u>A. CHALUPSKY</u>	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		244 329
				CHECKED BY: <u>R. ALLERS</u>			
				LAST REVISION: <u> / / </u>			



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

//

DATE

DESIGN BY:

A. CHALUPSKY

CAD BY:

A. CHALUPSKY

CHECKED BY:

R. ALLERS

LAST REVISION:

//

RRFB WIRING DIAGRAM

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

245

329

LIGHTING PLAN LAYOUT LEGEND

 LIGHTING UNIT

 INPLACE LIGHTING UNIT

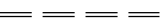
 PAD MOUNTED FD. PT. CABINET

 HANDHOLE

 2" NON-METALLIC CONDUIT (NMC)
HIGH DENSITY POLYETHYLENE (HDPE)

 INPLACE HANDHOLE

 INPLACE PAD MOUNTED FD. PT. CABINET

 INPLACE LIGHTING CONDUIT

 REMOVE INPLACE LIGHTING UNIT
REMOVE INPLACE LIGHT FOUNDATION

 F & I LIGHTING UNIT
F & I LIGHT FOUNDATION

 SOURCE OF POWER

 PAD MOUNTED

 POLE MOUNTED

LIGHTING TABULATION		SL
ITEM	UNIT	PROJECT TOTALS
REMOVE LIGHTING UNIT	EACH	12
REMOVE LIGHT FOUNDATION	EACH	12
REMOVE DIRECT BURIED LIGHTING CABLE	LIN FT	1089
LIGHTING SYSTEM	LUMP SUM	1

INDEX	
SHEET NO.	DESCRIPTION
246	LIGHTING INDEX AND LEGEND
247 - 249	LIGHTING DETAILS
250	INPLACE LIGHTING PLAN
251 - 256	LIGHTING PLAN
257	LIGHTING WIRING DIAGRAM
258	LIGHTING RECORD DRAWING



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896
LICENSE NO.

//
DATE

DESIGN BY: A. CHALUPSKY

CAD BY: A. CHALUPSKY

CHECKED BY: R. ALLERS

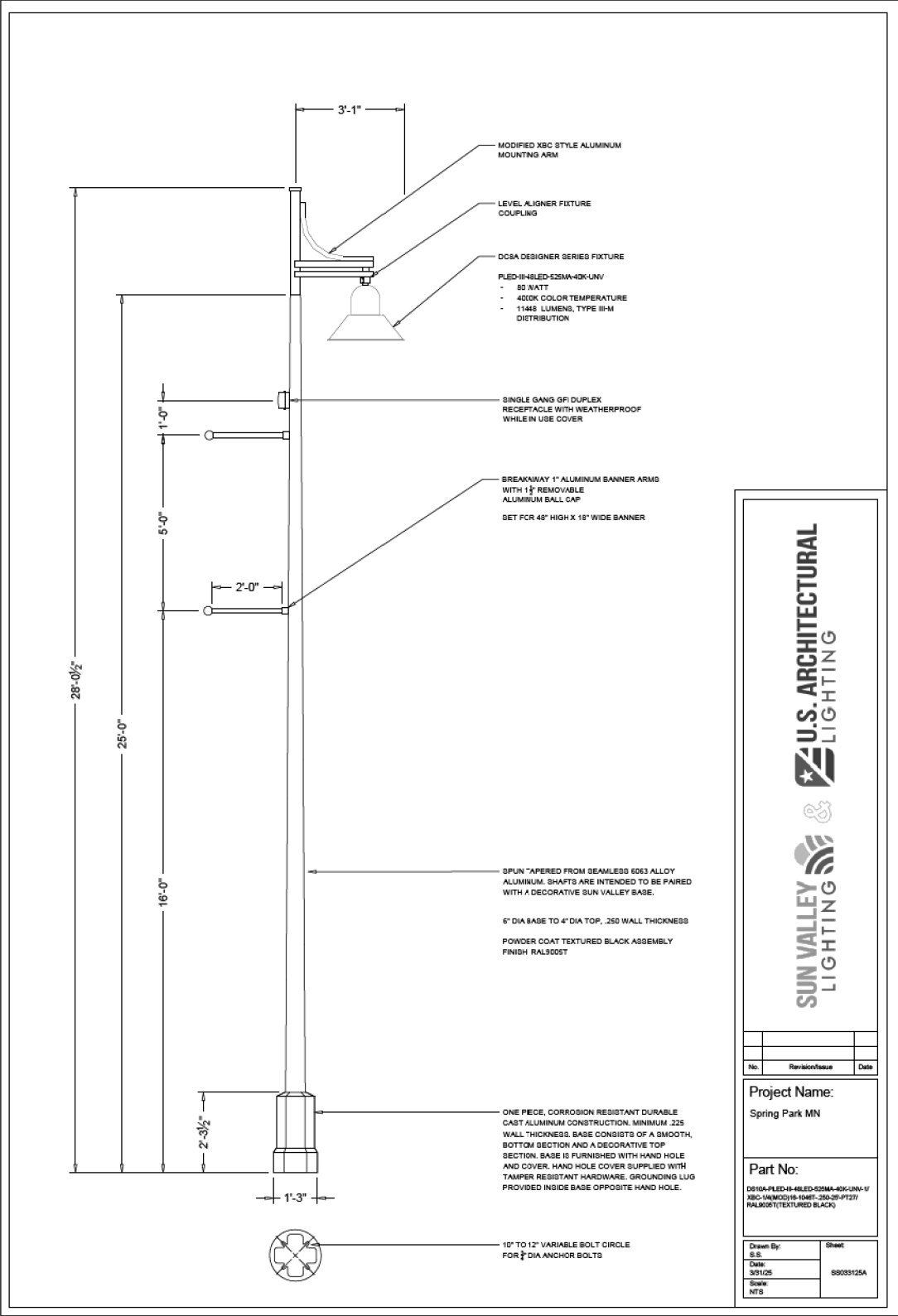
LAST REVISION: //

LIGHTING INDEX

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

246
329



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER
45896
//
DATE

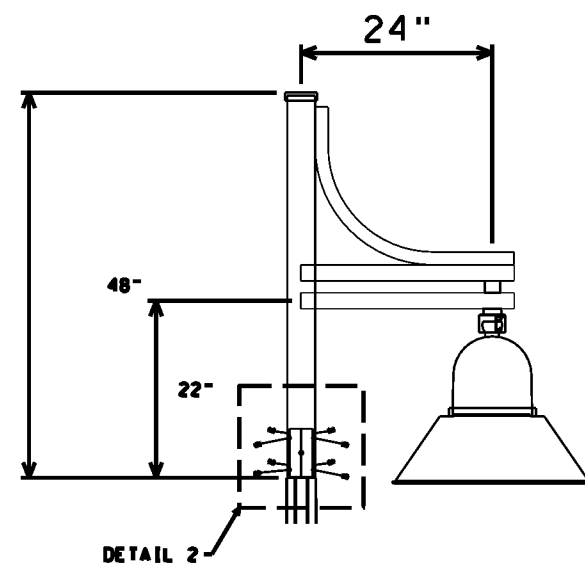
DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: //

LIGHTING DETAIL

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

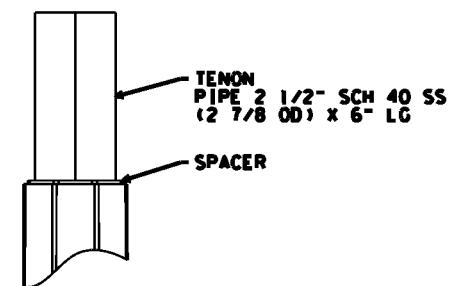
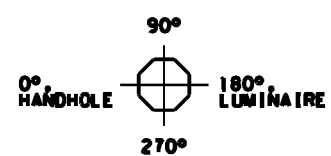
SHEET

247
329

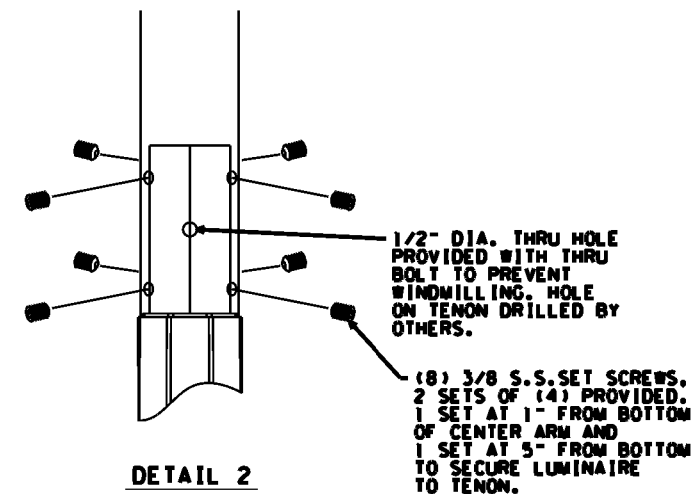


POST TOP ARM AND LUMINAIRE DETAIL

TYPICAL
(NOT TO SCALE)



DETAIL 1



DETAIL 2



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

//

DATE

DESIGN BY:

A. CHALUPSKY

CAD BY:

A. CHALUPSKY

CHECKED BY:

R. ALLERS

LAST REVISION:

//

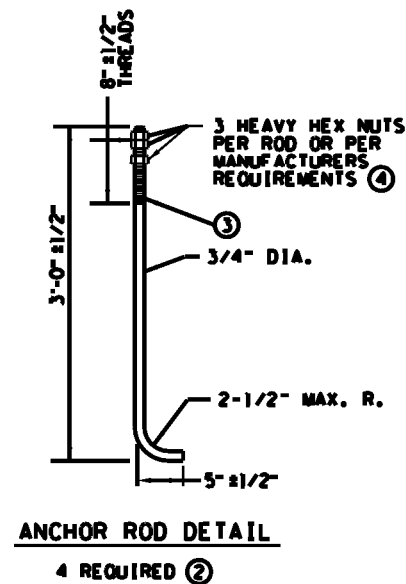
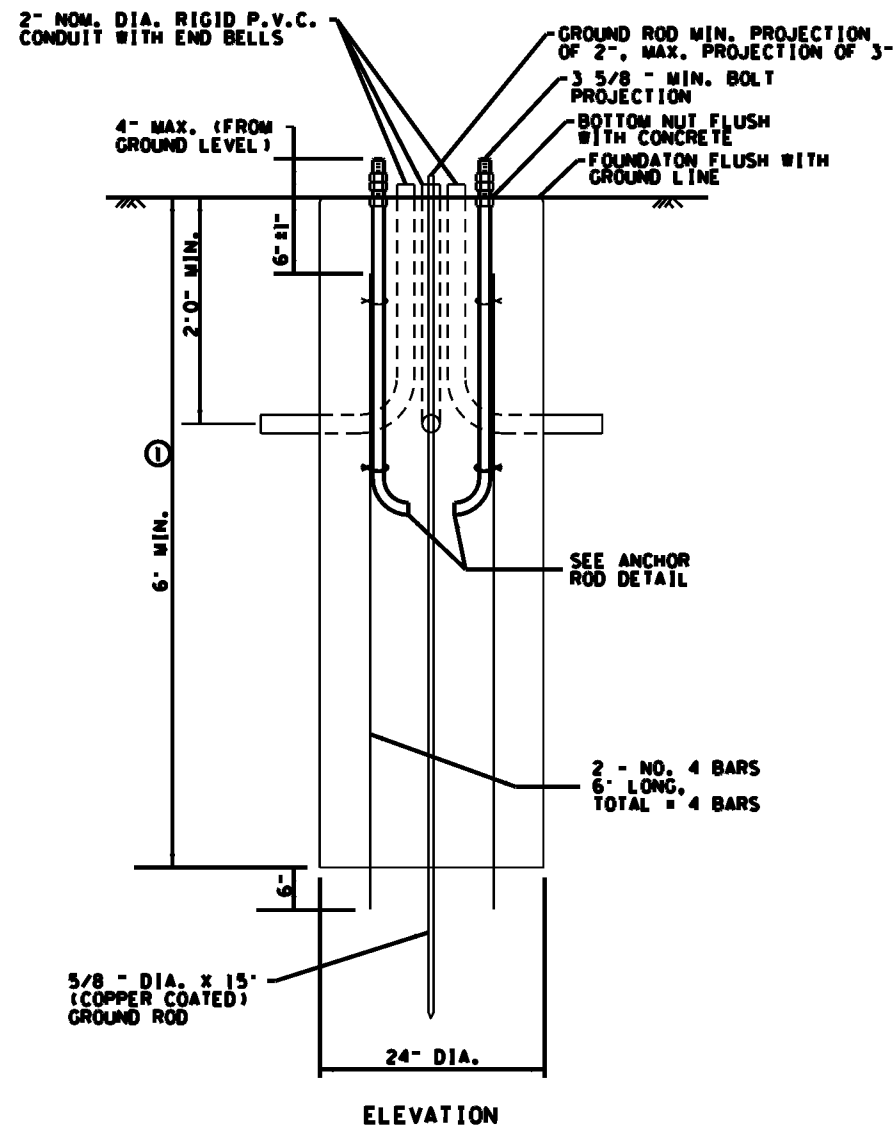
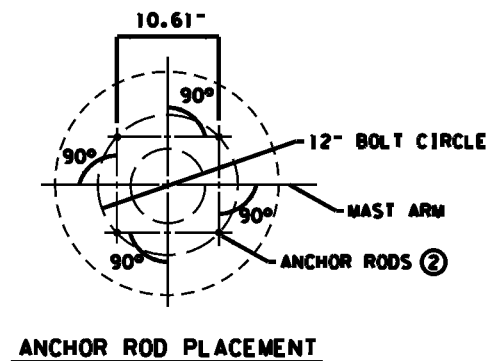
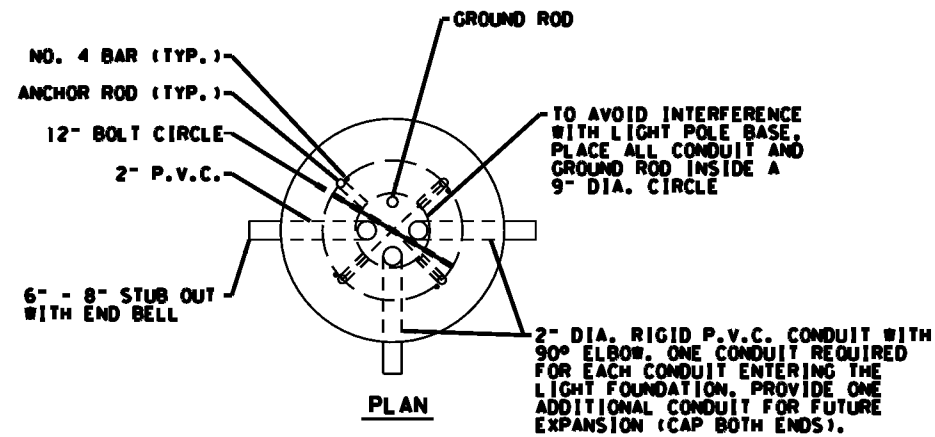
LIGHTING DETAIL

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

248

329



LIGHT FOUNDATION DESIGN E MODIFIED
CAST IN PLACE
(NOT TO SCALE)
USED WITH LIGHTING UNIT TYPE
SPECIAL 1

LIGHT FOUNDATION TO BE MODIFIED AS FOLLOWS:

1. BOLT CIRCLE MODIFIED TO MATCH POLE MANUFACTURERS SPECIFICATIONS.
2. VERIFY ANCHOR ROD REQUIREMENTS WITH POLE MANUFACTURER BEFORE POURING FOUNDATION. ANCHOR BOLTS SHALL BE PER MANUFACTURER SPECIFICATIONS.
3. CONCRETE FOR ALL FOUNDATIONS (LIGHT FOUNDATIONS) SHALL BE SMOOTH FLAT AND LEVEL. NO MORE THAN 0.25 INCHES OF VARIABILITY COMPENSATED BY STAINLESS STEEL SHIM WASHERS WILL BE ALLOWED.

NOTES:

CONCRETE SHALL BE MIX NO. 3G52.

FOUNDATIONS MAY BE CONSTRUCTED IN AUGURED HOLES UNLESS THE NATURAL SOILS WILL NOT STAND OPEN, IN WHICH CASE FORMING WILL BE REQUIRED. FORMING MAY BE INDICATED IN PLANS OR AS DIRECTED BY FIELD ENGINEER.

OPEN END OF CONDUITS SHALL BE SEALED WITH AN APPROVED SEALING COMPOUND.

RIGID P.V.C. CONDUIT PER SPEC. 3803 WITH BELL ENDS SHALL BE PROJECTED A MINIMUM 1/4" TO A MAXIMUM 1" ABOVE THE FOUNDATION BEFORE MORTAR IS PLACED AND SHALL BE THE SIZE AND NUMBER SHOWN IN THE PLAN.

A RIGID TEMPLATE SHALL BE PROVIDED FOR ANCHOR ROD AND CONDUIT PLACEMENT AND SHALL BE LEFT IN PLACE UNTIL THE CONCRETE HAS SET.

ANTI-SEIZE COMPOUND THAT MEETS MIL-PRF-907E SPEC. SHALL BE APPLIED WITH A BRUSH TO ALL THREADS.

ALL BACK FILLING AND EXCAVATION AROUND FOUNDATION MUST BE IN ACCORDANCE WITH 2451 AND 2545.3.

AN ALTERNATE PRECAST FOUNDATION MAY BE USED WITH THE ENGINEERS APPROVAL.

- ① THE DEPTH OF THE FOUNDATION MAY VARY IN THE PLANS OR SPECIAL PROVISIONS.
- ② ANCHOR RODS, NUTS AND WASHERS PER SPEC. 3385, TYPE B, SHALL BE PLACED AT RIGHT ANGLES TO THE DIRECTION OF THE MAST ARM. GALVANIZE THE TOP 1 FT. OF THE ANCHOR ROD AND NUTS PER SPEC. 3392, AND PER POLE MANUFACTURERS REQUIREMENTS.
- ③ WRAP THREADS OF ANCHOR RODS ABOVE THE BOTTOM NUT WITH VINYL ELECTRICAL TAPE TO AVOID CONTAMINATION DURING CONCRETE POURING. WRAP THREADS OF ANCHOR RODS WITH 3 LAYERS OF VINYL ELECTRICAL TAPE 2" BELOW THE BOTTOM NUTS.
- ④ USE 1 HOLD DOWN WASHER AND 2 HEAVY HEX NUTS PER ROD FOR ALUMINUM POLE INSTALLATION.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

//

DATE

DESIGN BY: A. CHALUPSKY

CAD BY: A. CHALUPSKY

CHECKED BY: R. ALLERS

LAST REVISION: //

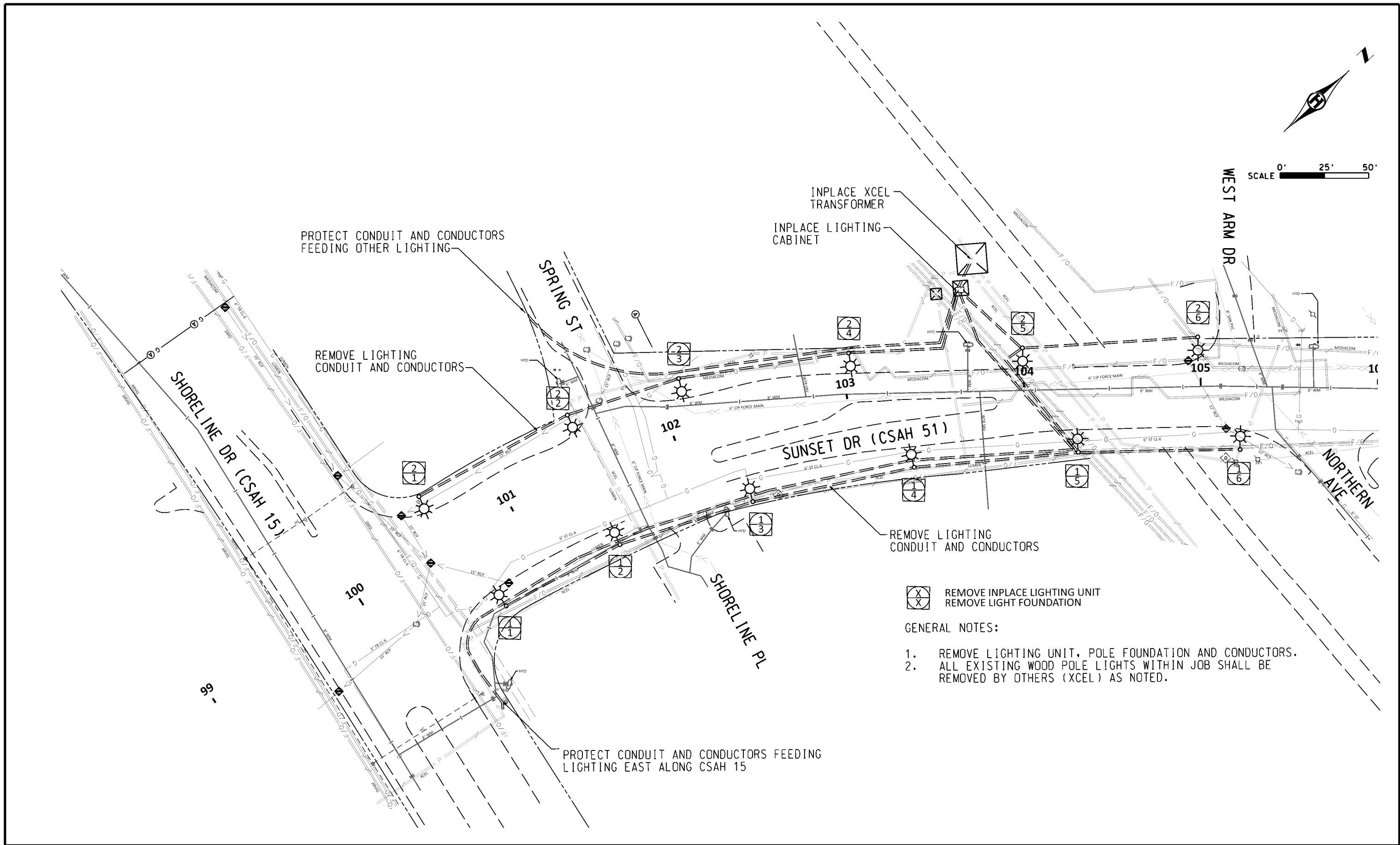
LIGHTING DETAIL

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

249

329

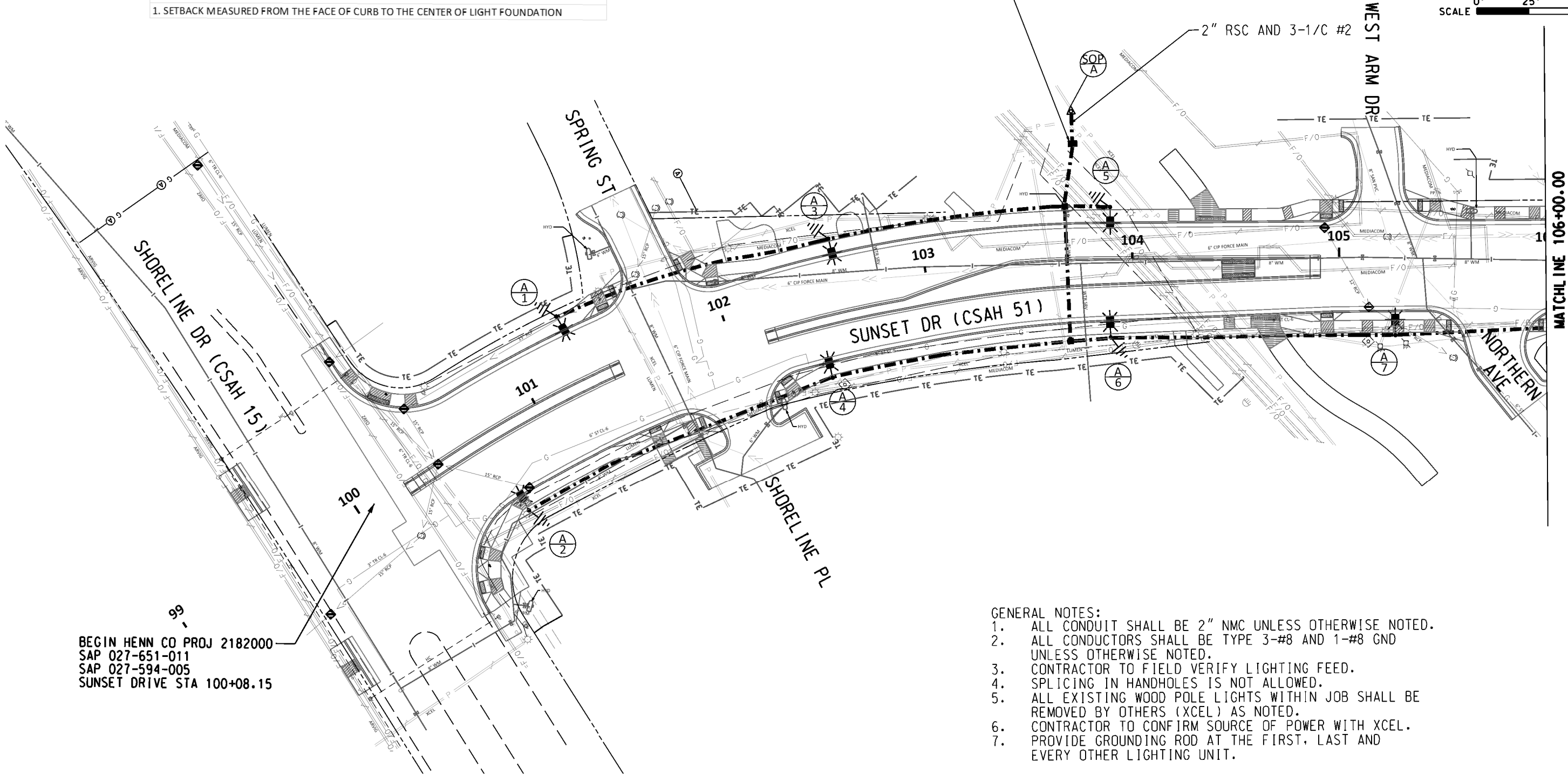
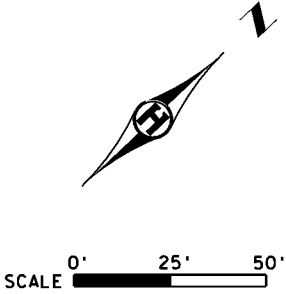


	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.			DESIGN BY: <u>A. CHALUPSKY</u>	INPLACE LIGHTING PLAN SHEET		SHEET
				CAD BY: <u>A. CHALUPSKY</u>	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005		250
	RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	45896	//	CHECKED BY: <u>R. ALLERS</u>			329
		LICENSE NO.	DATE	LAST REVISION: <u> </u>			

FEED POINT A								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
1	101+27	X		CSAH 51	SPECIAL 1	E MODIFIED	8'	1
2	100+70		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
3	102+57	X		CSAH 51	SPECIAL 1	E MODIFIED	8'	1
4	102+44		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
5	103+90	X		CSAH 51	SPECIAL 1	E MODIFIED	8'	1
6	103+89		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
7	105+27		X	CSAH 51	SPECIAL 1	E MODIFIED	12'	1

FEED POINT NOTES
1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION

FD. PT. A
SERVICE CABINET SECONDARY TYPE L1
120/240V (METERED) FEED POINT FP2
EQUIPMENT PAD B
2" RSC AND 3-1/C #2 TO SOP A



BEGIN HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DRIVE STA 100+08.15

- GENERAL NOTES:
- 1. ALL CONDUIT SHALL BE 2" NMC UNLESS OTHERWISE NOTED.
 - 2. ALL CONDUCTORS SHALL BE TYPE 3-#8 AND 1-#8 GND UNLESS OTHERWISE NOTED.
 - 3. CONTRACTOR TO FIELD VERIFY LIGHTING FEED.
 - 4. SPLICING IN HANDHOLES IS NOT ALLOWED.
 - 5. ALL EXISTING WOOD POLE LIGHTS WITHIN JOB SHALL BE REMOVED BY OTHERS (XCEL) AS NOTED.
 - 6. CONTRACTOR TO CONFIRM SOURCE OF POWER WITH XCEL.
 - 7. PROVIDE GROUNDING ROD AT THE FIRST, LAST AND EVERY OTHER LIGHTING UNIT.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION:

LIGHTING PLAN SHEET

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

251

329

FEED POINT A								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
8	106+30		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
9	107+63		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
10	109+28		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
11	111+52		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1

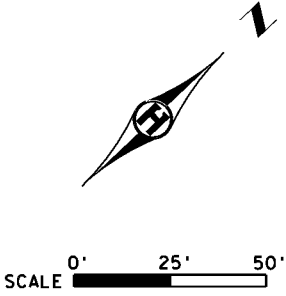
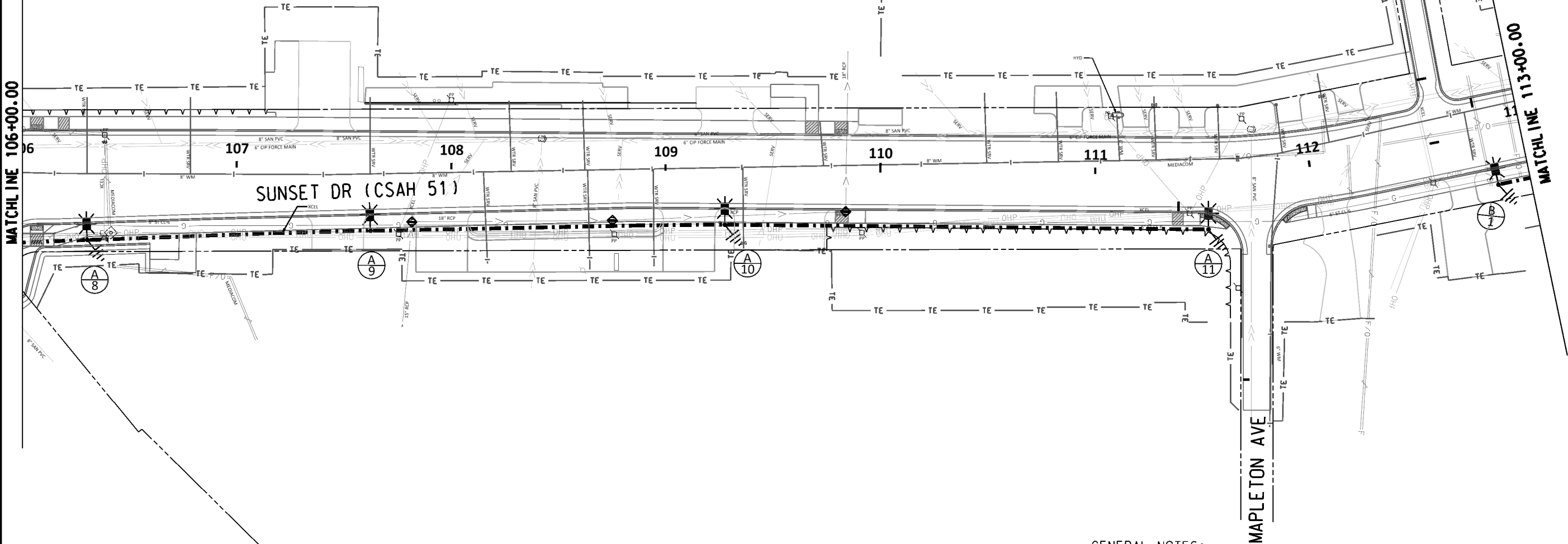
FEED POINT NOTES

1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION

FEED POINT B								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
1	112+85		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1

FEED POINT NOTES

1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION



- GENERAL NOTES:
- 1. ALL CONDUIT SHALL BE 2" NMC UNLESS OTHERWISE NOTED.
 - 2. ALL CONDUCTORS SHALL BE TYPE 3-#8 AND 1-#8 GND UNLESS OTHERWISE NOTED.
 - 3. CONTRACTOR TO FIELD VERIFY LIGHTING FEED.
 - 4. SPLICING IN HANDHOLES IS NOT ALLOWED.
 - 5. ALL EXISTING WOOD POLE LIGHTS WITHIN JOB SHALL BE REMOVED BY OTHERS (XCEL) AS NOTED.
 - 6. CONTRACTOR TO CONFIRM SOURCE OF POWER WITH XCEL.
 - 7. PROVIDE GROUNDING ROD AT THE FIRST, LAST AND EVERY OTHER LIGHTING UNIT.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER 45896 / / LICENSE NO. DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / /

LIGHTING PLAN SHEET

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

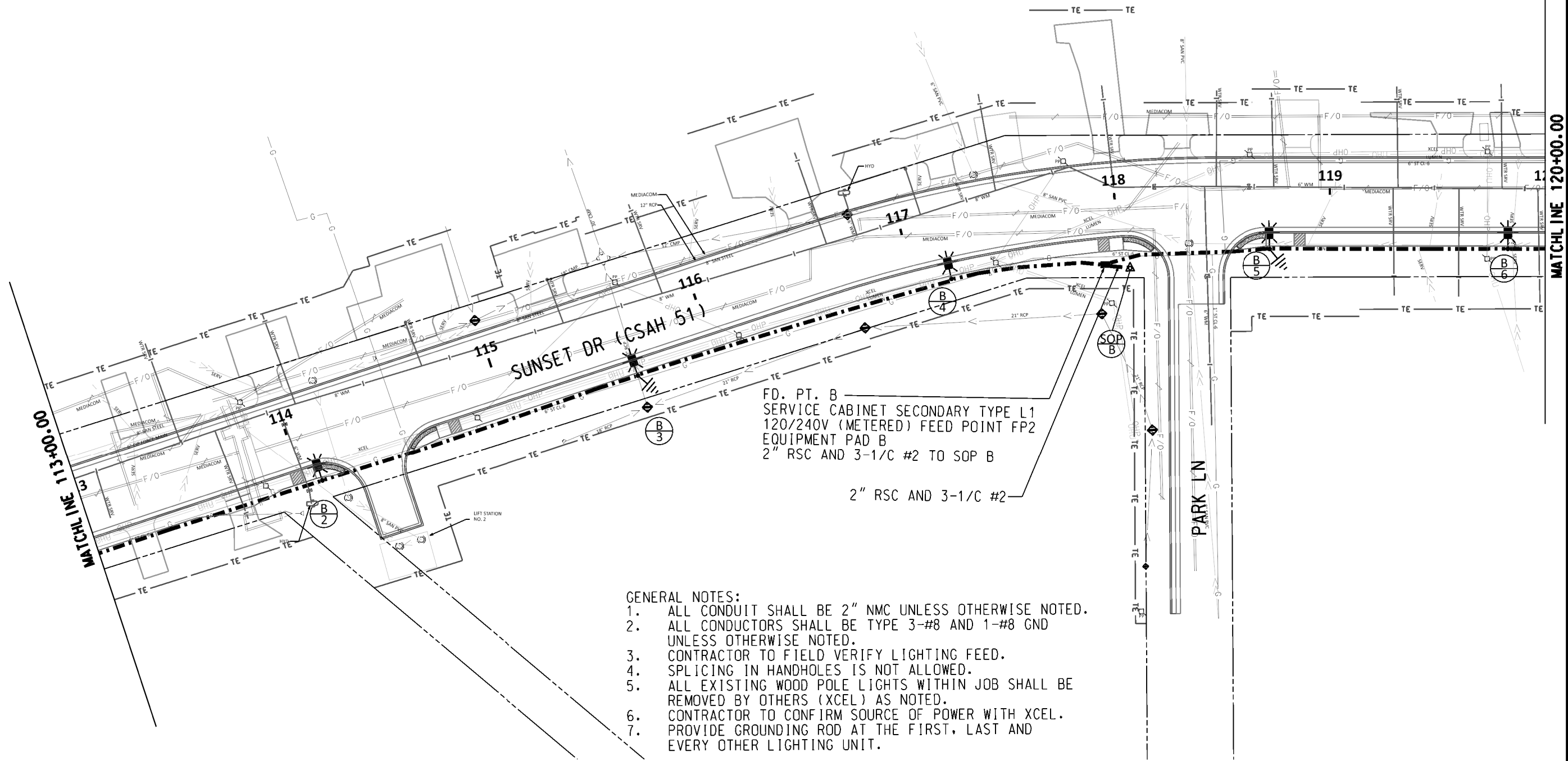
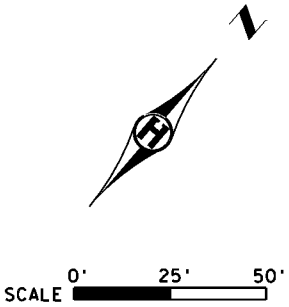
SHEET

252 / 329

FEED POINT B								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
2	114+09		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
3	115+63		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
4	117+18		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
5	118+72		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
6	119+82		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1

FEED POINT NOTES

1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION



- GENERAL NOTES:
1. ALL CONDUIT SHALL BE 2" NMC UNLESS OTHERWISE NOTED.
 2. ALL CONDUCTORS SHALL BE TYPE 3-#8 AND 1-#8 GND UNLESS OTHERWISE NOTED.
 3. CONTRACTOR TO FIELD VERIFY LIGHTING FEED.
 4. SPLICING IN HANDHOLES IS NOT ALLOWED.
 5. ALL EXISTING WOOD POLE LIGHTS WITHIN JOB SHALL BE REMOVED BY OTHERS (XCEL) AS NOTED.
 6. CONTRACTOR TO CONFIRM SOURCE OF POWER WITH XCEL.
 7. PROVIDE GROUNDING ROD AT THE FIRST, LAST AND EVERY OTHER LIGHTING UNIT.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER 45896 / / LICENSE NO. DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / / /

LIGHTING PLAN SHEET

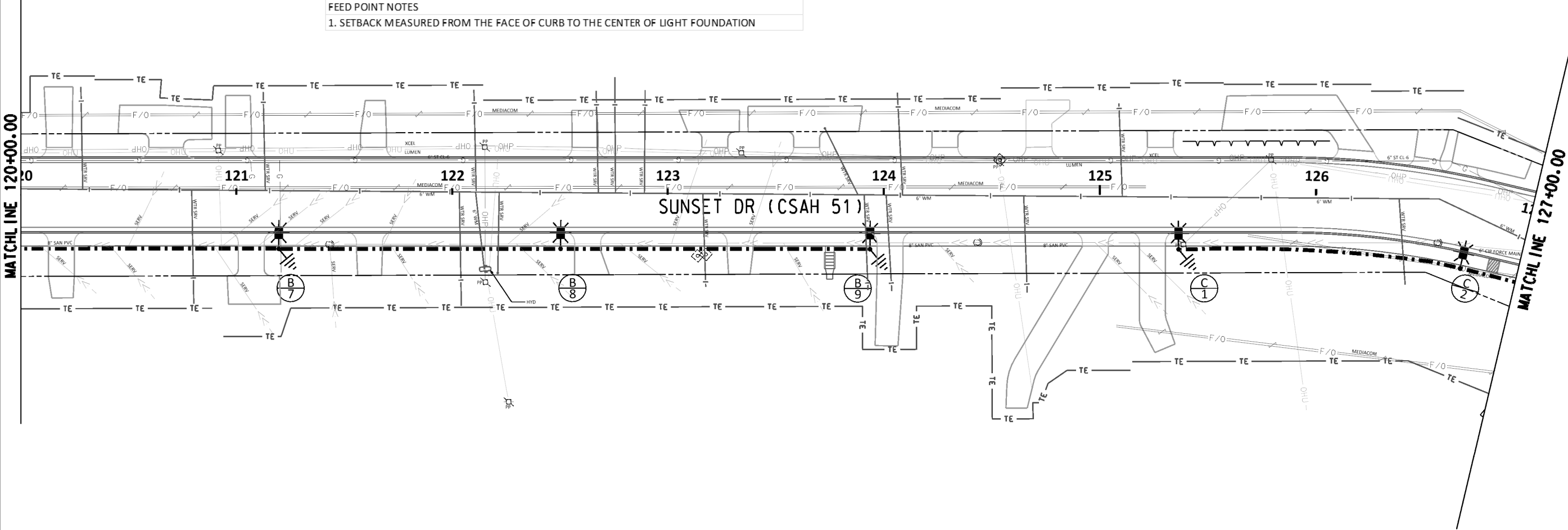
CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

253
329

FEED POINT B								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
7	121+20		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
8	122+50		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
9	123+94		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
FEED POINT NOTES								
1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION								

FEED POINT C								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
1	125+36		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
2	126+73		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
FEED POINT NOTES								
1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION								



- GENERAL NOTES:
1. ALL CONDUIT SHALL BE 2" NMC UNLESS OTHERWISE NOTED.
 2. ALL CONDUCTORS SHALL BE TYPE 3-#8 AND 1-#8 GND UNLESS OTHERWISE NOTED.
 3. CONTRACTOR TO FIELD VERIFY LIGHTING FEED.
 4. SPLICING IN HANDHOLES IS NOT ALLOWED.
 5. ALL EXISTING WOOD POLE LIGHTS WITHIN JOB SHALL BE REMOVED BY OTHERS (XCEL) AS NOTED.
 6. CONTRACTOR TO CONFIRM SOURCE OF POWER WITH XCEL.
 7. PROVIDE GROUNDING ROD AT THE FIRST, LAST AND EVERY OTHER LIGHTING UNIT.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER
45896
//
DATE

DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: //

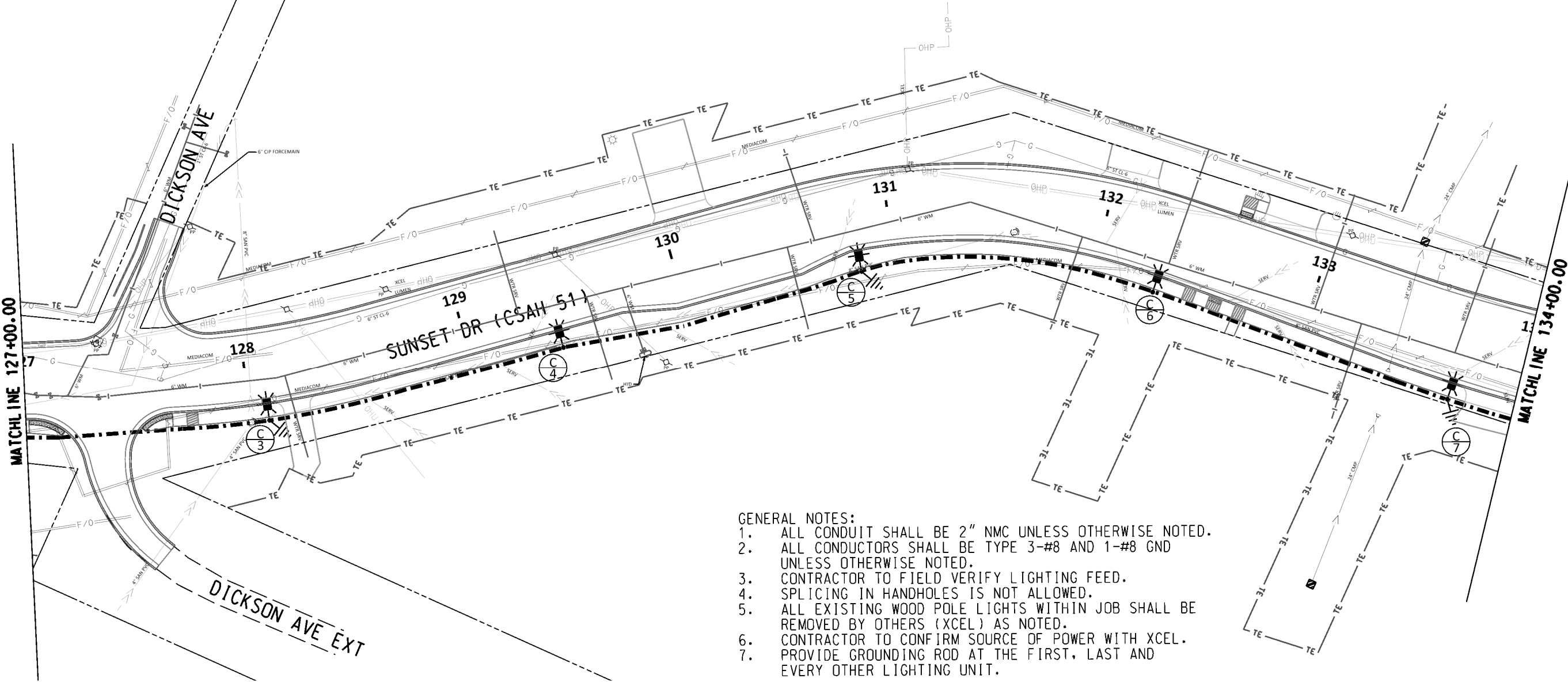
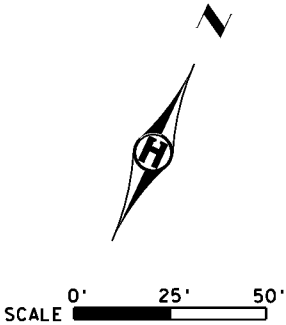
LIGHTING PLAN SHEET

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

254
329

FEED POINT C								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
3	128+08		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
4	129+42		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
5	130+84		X	CSAH 51	SPECIAL 1	E MODIFIED	10'	1
6	132+30		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
7	133+71		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
FEED POINT NOTES								
1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION								



- GENERAL NOTES:
1. ALL CONDUIT SHALL BE 2" NMC UNLESS OTHERWISE NOTED.
 2. ALL CONDUCTORS SHALL BE TYPE 3-#8 AND 1-#8 GND UNLESS OTHERWISE NOTED.
 3. CONTRACTOR TO FIELD VERIFY LIGHTING FEED.
 4. SPLICING IN HANDHOLES IS NOT ALLOWED.
 5. ALL EXISTING WOOD POLE LIGHTS WITHIN JOB SHALL BE REMOVED BY OTHERS (XCEL) AS NOTED.
 6. CONTRACTOR TO CONFIRM SOURCE OF POWER WITH XCEL.
 7. PROVIDE GROUNDING ROD AT THE FIRST, LAST AND EVERY OTHER LIGHTING UNIT.



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER 45896 / / LICENSE NO. DATE

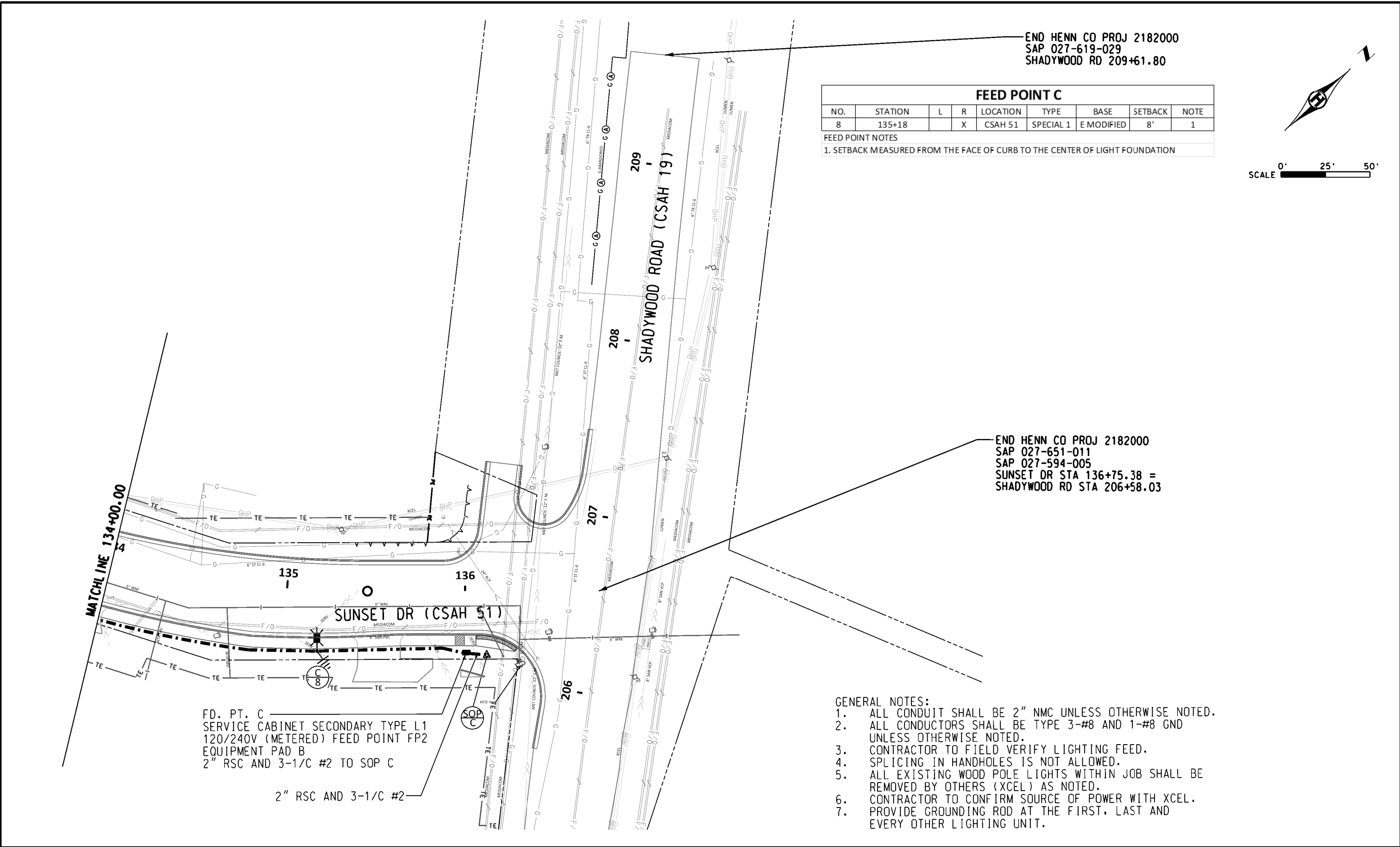
DESIGN BY: A. CHALUPSKY
CAD BY: A. CHALUPSKY
CHECKED BY: R. ALLERS
LAST REVISION: / /

LIGHTING PLAN SHEET

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

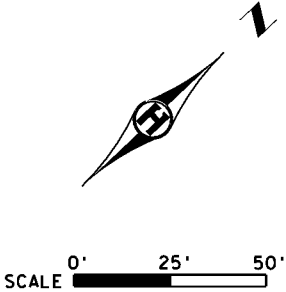
SHEET

255
329



END HENN CO PROJ 2182000
SAP 027-619-029
SHADYWOOD RD 209+61.80

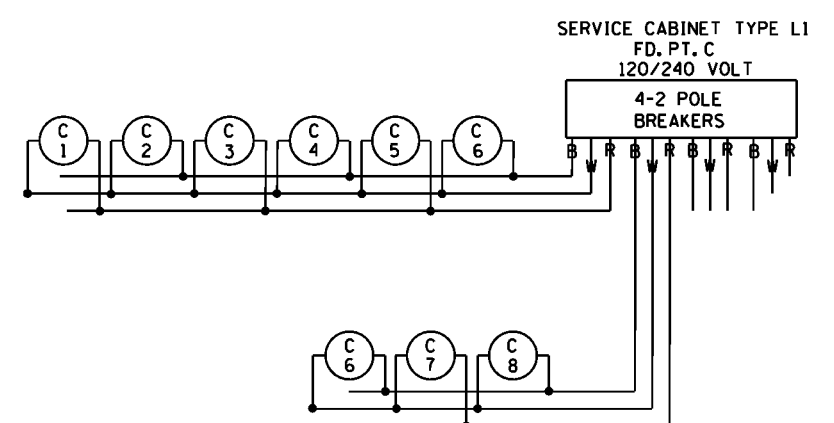
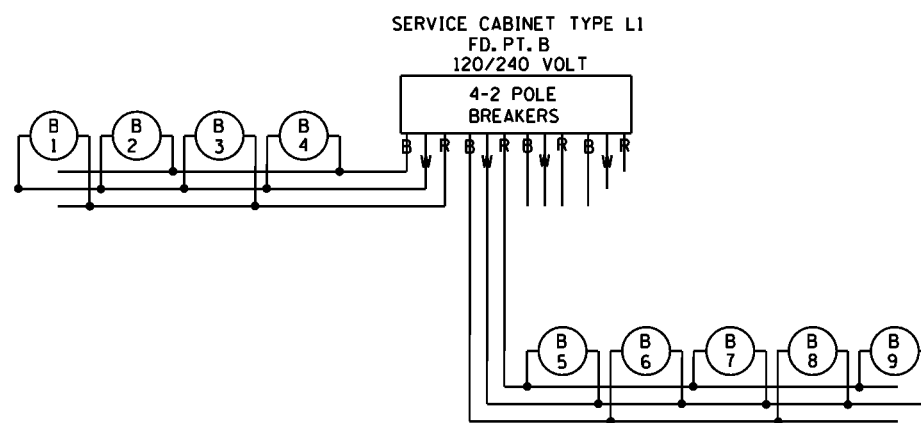
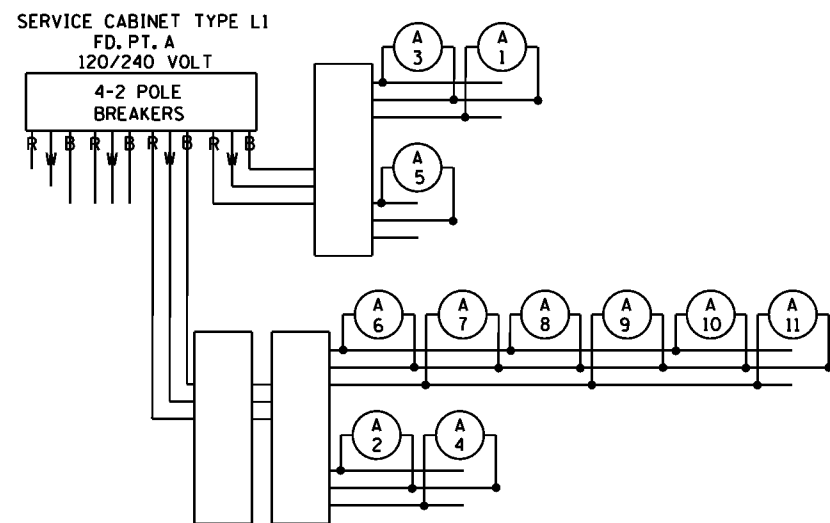
FEED POINT C								
NO.	STATION	L	R	LOCATION	TYPE	BASE	SETBACK	NOTE
8	135+18		X	CSAH 51	SPECIAL 1	E MODIFIED	8'	1
FEED POINT NOTES								
1. SETBACK MEASURED FROM THE FACE OF CURB TO THE CENTER OF LIGHT FOUNDATION								



END HENN CO PROJ 2182000
SAP 027-651-011
SAP 027-594-005
SUNSET DR STA 136+75.38 =
SHADYWOOD RD STA 206+58.03

- GENERAL NOTES:
1. ALL CONDUIT SHALL BE 2" NMC UNLESS OTHERWISE NOTED.
 2. ALL CONDUCTORS SHALL BE TYPE 3-#8 AND 1-#8 GND UNLESS OTHERWISE NOTED.
 3. CONTRACTOR TO FIELD VERIFY LIGHTING FEED.
 4. SPLICING IN HANDHOLES IS NOT ALLOWED.
 5. ALL EXISTING WOOD POLE LIGHTS WITHIN JOB SHALL BE REMOVED BY OTHERS (XCEL) AS NOTED.
 6. CONTRACTOR TO CONFIRM SOURCE OF POWER WITH XCEL.
 7. PROVIDE GROUNDING ROD AT THE FIRST, LAST AND EVERY OTHER LIGHTING UNIT.

	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.	45896 _____ RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER	// _____ DATE	DESIGN BY: <u>A. CHALUPSKY</u>	LIGHTING PLAN SHEET		SHEET
				CAD BY: <u>A. CHALUPSKY</u>	CSAH 51 / HENNEPIN COUNTY PROJECT 2182000 SAP 027-651-011, SAP 027-619-029, SAP 027-594-005	256 329	
CHECKED BY: <u>R. ALLERS</u>							
LAST REVISION: <u> </u>							



B AND R DENOTE CURRENT CARRYING CONDUCTORS
W DENOTES NEUTRAL CONDUCTOR
GROUND NOT SHOWN
CONDUCTORS ARE 1-C/*4 UNLESS OTHERWISE NOTED

LEGEND

X
XX

PROPOSED LIGHTING UNIT

—

PROPOSED CIRCUITRY

•

PROPOSED SPLICE

PROPOSED HANDHOLE



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.

RYAN ALLERS, LICENSED PROFESSIONAL ENGINEER

45896

LICENSE NO.

//

DATE

DESIGN BY:

A. CHALUPSKY

CAD BY:

A. CHALUPSKY

CHECKED BY:

R. ALLERS

LAST REVISION:

//

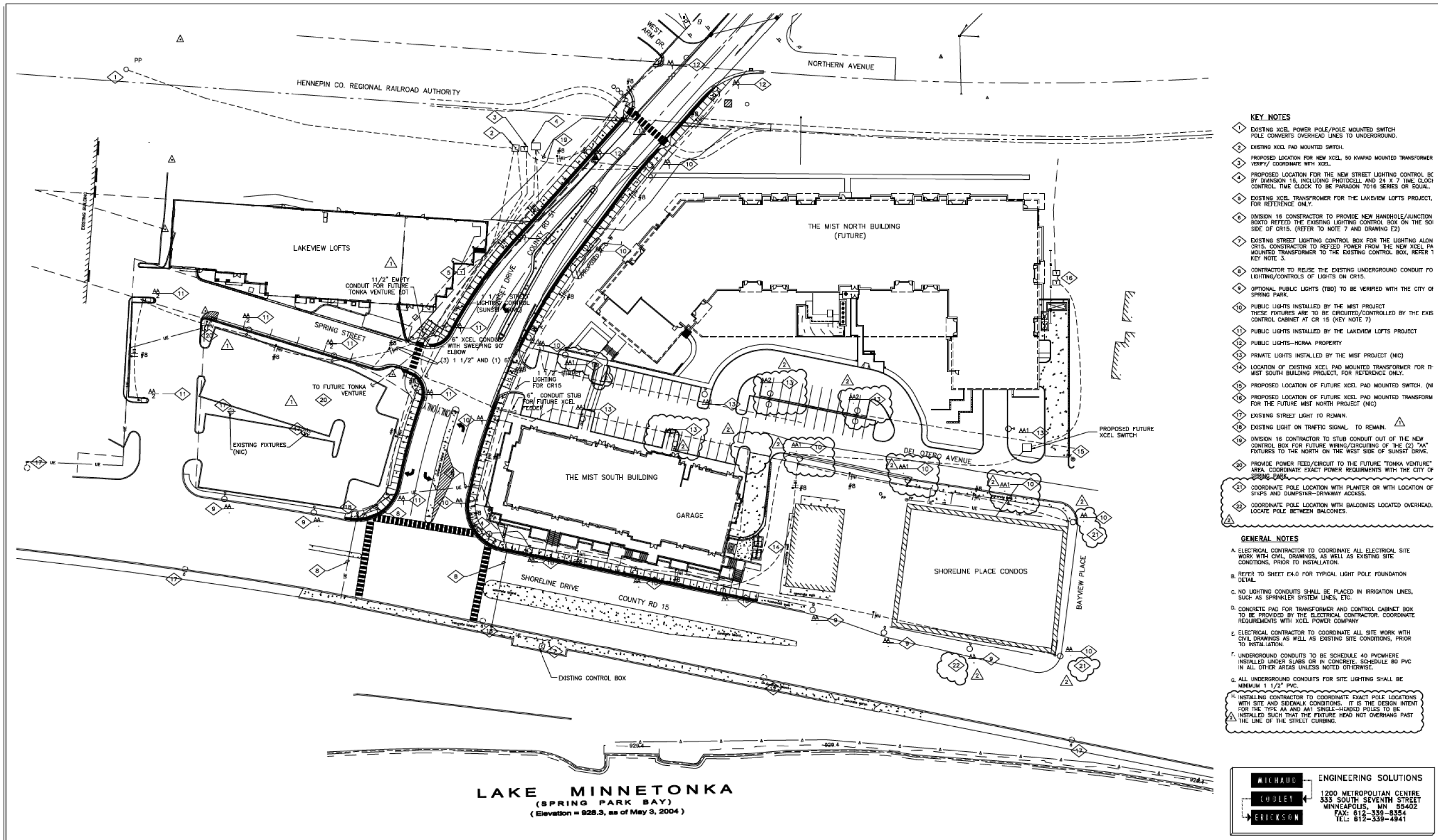
LIGHTING WIRING DIAGRAM

CSAH 51 / HENNEPIN COUNTY PROJECT 2182000
SAP 027-651-011, SAP 027-619-029, SAP 027-594-005

SHEET

257

329



- KEY NOTES**
- EXISTING XCEL POWER POLE/POLE MOUNTED SWITCH POLE CONVERTS OVERHEAD LINES TO UNDERGROUND.
 - EXISTING XCEL PAD MOUNTED SWITCH.
 - PROPOSED LOCATION FOR NEW XCEL 50 KW PAD MOUNTED TRANSFORMER VERIFY/ COORDINATE WITH XCEL.
 - PROPOSED LOCATION FOR THE NEW STREET LIGHTING CONTROL BOX BY DIVISION 16, INCLUDING PHOTOCELL AND 24 X 7 TIME CLOCK CONTROL. TIME CLOCK TO BE PARAGON 7016 SERIES OR EQUAL.
 - EXISTING XCEL TRANSFORMER FOR THE LAKEVIEW LOFTS PROJECT, FOR REFERENCE ONLY.
 - DIVISION 16 CONTRACTOR TO PROVIDE NEW HANDHOLE/JUNCTION BOX TO REFEED THE EXISTING LIGHTING CONTROL BOX ON THE SOI SIDE OF CR15. (REFER TO NOTE 7 AND DRAWING E2)
 - EXISTING STREET LIGHTING CONTROL BOX FOR THE LIGHTING ALON CR15. CONTRACTOR TO REFEED POWER FROM THE NEW XCEL PAD MOUNTED TRANSFORMER TO THE EXISTING CONTROL BOX. REFER 1 KEY NOTE 3.
 - CONTRACTOR TO REUSE THE EXISTING UNDERGROUND CONDUIT TO LIGHTING/CONTROLS OF LIGHTS ON CR15.
 - OPTIONAL PUBLIC LIGHTS (T80) TO BE VERIFIED WITH THE CITY OF SPRING PARK.
 - PUBLIC LIGHTS INSTALLED BY THE MIST PROJECT THESE FIXTURES ARE TO BE CIRCUITED/CONTROLLED BY THE EXIS CONTROL CABINET AT CR 15 (KEY NOTE 7)
 - PUBLIC LIGHTS INSTALLED BY THE LAKEVIEW LOFTS PROJECT
 - PUBLIC LIGHTS-HCMA PROPERTY
 - PRIVATE LIGHTS INSTALLED BY THE MIST PROJECT (NIC)
 - LOCATION OF EXISTING XCEL PAD MOUNTED TRANSFORMER FOR THE MIST SOUTH BUILDING PROJECT, FOR REFERENCE ONLY.
 - PROPOSED LOCATION OF FUTURE XCEL PAD MOUNTED SWITCH. (N)
 - PROPOSED LOCATION OF FUTURE XCEL PAD MOUNTED TRANSFORMER FOR THE FUTURE MIST NORTH PROJECT (NIC)
 - EXISTING STREET LIGHT TO REMAIN.
 - EXISTING LIGHT ON TRAFFIC SIGNAL TO REMAIN.
 - DIVISION 16 CONTRACTOR TO STUB CONDUIT OUT OF THE NEW CONTROL BOX FOR FUTURE WIRING/CIRCUITING OF THE (2) "AA" FIXTURES TO THE NORTH ON THE WEST SIDE OF SUNSET DRIVE.
 - PROVIDE POWER FEED/CIRCUIT TO THE FUTURE "TONKA VENTURE" AREA. COORDINATE EXACT POWER REQUIREMENTS WITH THE CITY OF SPRING PARK.
 - COORDINATE POLE LOCATION WITH PLANTER OR WITH LOCATION OF STEPS AND DUMPSTER-DRIVEWAY ACCESS.
 - COORDINATE POLE LOCATION WITH BALCONIES LOCATED OVERHEAD. LOCATE POLE BETWEEN BALCONIES.

- GENERAL NOTES**
- ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL SITE WORK WITH CIVIL, DRAWINGS, AS WELL AS EXISTING SITE CONDITIONS, PRIOR TO INSTALLATION.
 - REFER TO SHEET E4.0 FOR TYPICAL LIGHT POLE FOUNDATION DETAIL.
 - NO LIGHTING CONDUITS SHALL BE PLACED IN IRRIGATION LINES, SUCH AS SPRINKLER SYSTEM LINES, ETC.
 - CONCRETE PAD FOR TRANSFORMER AND CONTROL CABINET BOX TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. COORDINATE REQUIREMENTS WITH XCEL POWER COMPANY.
 - ELECTRICAL CONTRACTOR TO COORDINATE ALL SITE WORK WITH CIVIL DRAWINGS AS WELL AS EXISTING SITE CONDITIONS, PRIOR TO INSTALLATION.
 - UNDERGROUND CONDUITS TO BE SCHEDULE 40 PVC WHERE INSTALLED UNDER SLABS OR IN CONCRETE. SCHEDULE 80 PVC IN ALL OTHER AREAS UNLESS NOTED OTHERWISE.
 - ALL UNDERGROUND CONDUITS FOR SITE LIGHTING SHALL BE MINIMUM 1 1/2" PVC.
 - INSTALLING CONTRACTOR TO COORDINATE EXACT POLE LOCATIONS WITH SITE AND SIDEWALK CONDITIONS. IT IS THE DESIGN INTENT FOR THE TYPE AA AND AA1 SINGLE-HEADED POLES TO BE INSTALLED SUCH THAT THE FUTURE HEAD NOT OVERHANG PAST THE LINE OF THE STREET CURBING.

MICHAUD ENGINEERING SOLUTIONS
COOLEY
ERICKSON
 1200 METROPOLITAN CENTRE
 333 SOUTH SEVENTH STREET
 MINNEAPOLIS, MN 55402
 FAX: 612-339-8354
 TEL: 612-339-4941

Revisions	Date:	Description:	By:	Date:	Description:	By:
	11/11/05	Revisions	PTK			
	3/31/06	Revisions	GEL			

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a Licensed Professional Engineer under the laws of the State of Minnesota.
Todd A. Day
 Date: 11/11/05 Reg. No. 18588

Designed By: MJP
 Drawn By: PTK
 Checked By: TAD

Schoell & Madson, Inc.
 Engineering • Surveying • Planning
 10800 Wagona Boulevard, Suite 1
 Minneapolis, Minnesota 55305-6585
 phone (612) 546-7601 fax (612) 546-0065
 654 Third Street NW, Suite 100
 Elk River, Minnesota 55330-1409
 phone (763) 246-0108 fax (612) 546-0065

CITY OF SPRING PARK
 4349 Warren Ave.
 Spring Park, MN 55384-9711
 (952) 471-9051

Project Name/Location:	SUNSET DR. STREETSCAPE Spring Park, Minnesota	Date:	10/24/05
Sheet Title:	LIGHTING PLAN	Sheet:	E3

SMI Project Number: 10008-039