

PLOTTED/REVISED: 1-MAR-2024

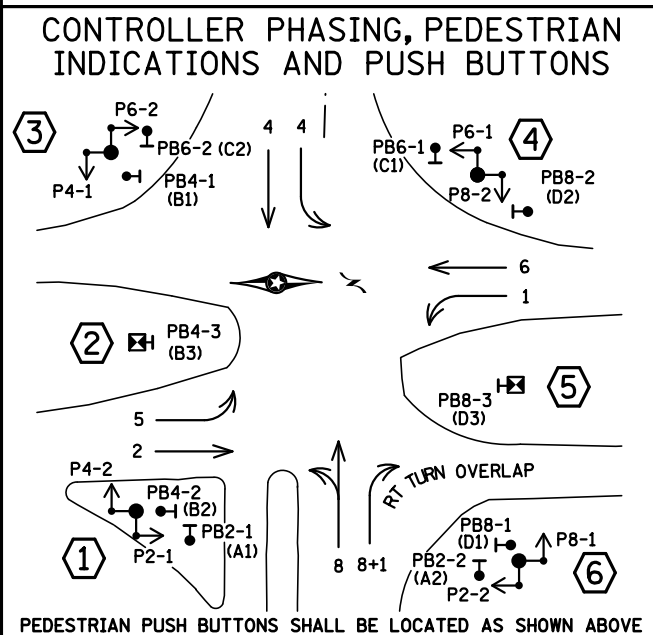
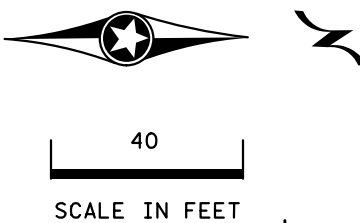
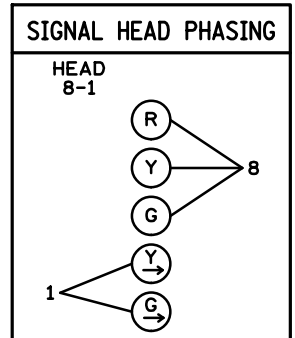
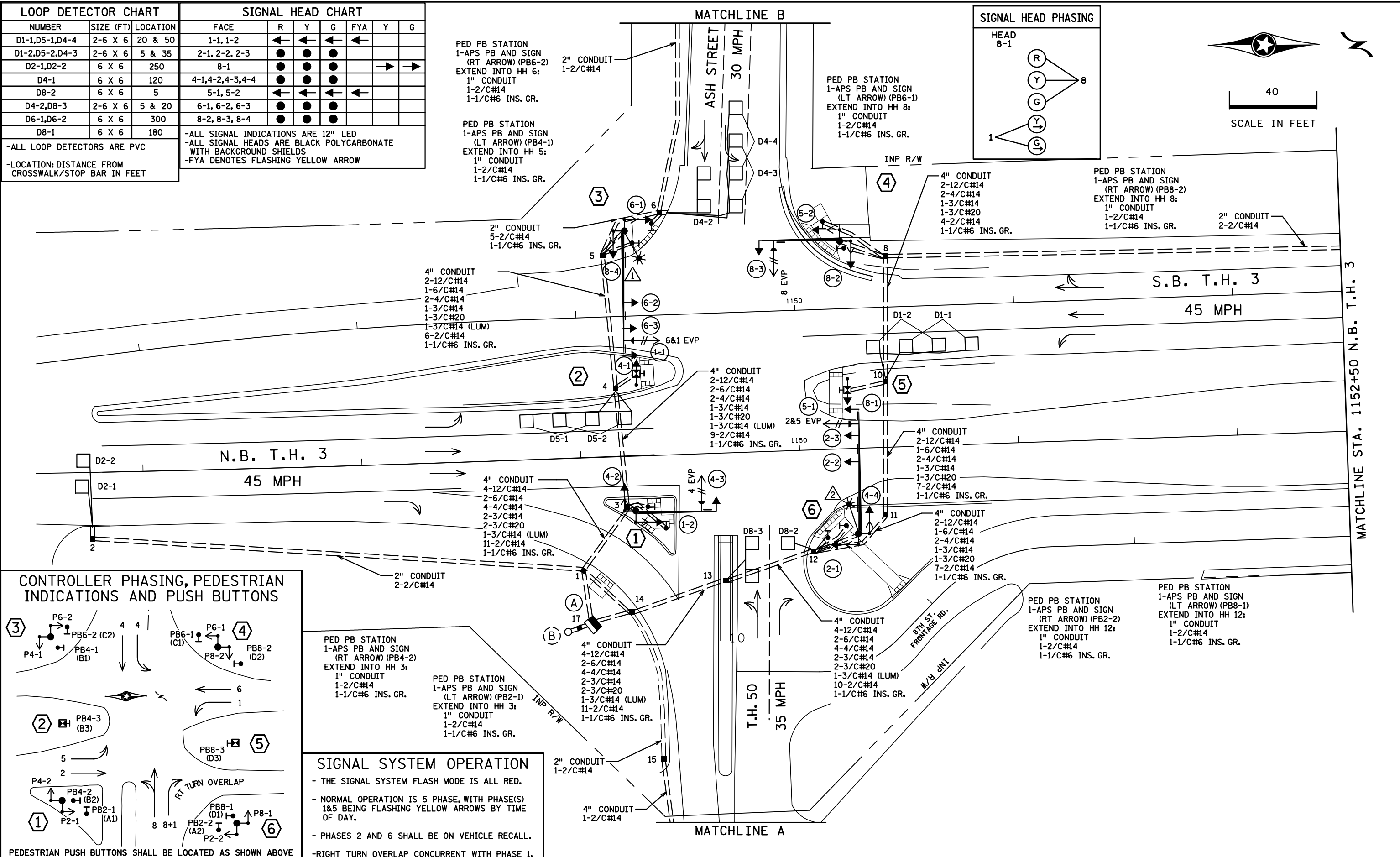
I/PLOT NAME: SignalLayout  
PATH & FILENAME: Projects\DM\_R0S\Non\_Project\Traffic\Signal\Staff\klemme\T20049\_sgl.dgn

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1,D5-1,D4-4	2-6 X 6	20 & 50
D1-2,D5-2,D4-3	2-6 X 6	5 & 35
D2-1,D2-2	6 X 6	250
D4-1	6 X 6	120
D8-2	6 X 6	5
D4-2,D8-3	2-6 X 6	5 & 20
D6-1,D6-2	6 X 6	300
D8-1	6 X 6	180

SIGNAL HEAD CHART								
FACE	R	Y	G	FYA	Y	G		
1-1, 1-2	←	←	←	←				
2-1, 2-2, 2-3	●	●	●					
8-1	●	●	●		→	→		
4-1,4-2,4-3,4-4	●	●	●					
5-1, 5-2	←	←	←	←				
6-1, 6-2, 6-3	●	●	●					
8-2, 8-3, 8-4	●	●	●					

-ALL LOOP DETECTORS ARE PVC  
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

-ALL SIGNAL INDICATIONS ARE 12" LED  
-ALL SIGNAL HEADS ARE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS  
-FYA DENOTES FLASHING YELLOW ARROW



**PED PB STATION**  
1-APS PB AND SIGN (RT ARROW) (PB4-2)  
EXTEND INTO HH 3:  
1" CONDUIT  
1-2/C#14  
1-1/C#6 INS. GR.

**PED PB STATION**  
1-APS PB AND SIGN (LT ARROW) (PB2-1)  
EXTEND INTO HH 3:  
1" CONDUIT  
1-2/C#14  
1-1/C#6 INS. GR.

**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 5 PHASE, WITH PHASE(S) 1&5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.
- RIGHT TURN OVERLAP CONCURRENT WITH PHASE 1.

BY	DATE	REVISIONS	SYSTEM ID: 1734954 (20049)	T.E. 6477	S.A.P. NO.	DRAWN BY: MAS	CKD BY: CDB	DATE: 3/1/17
SJK	5/24/19	OPERATION PLAN	METER ADDRESS: 1001 T.H. 3		CERTIFIED BY: <i>Michael P. Sulinsky</i>	LIC. NO. 19863	DATE: 3/1/17	
EMK	2/29/24	MNDOT SIG OPS REDLINES FOR PH4 LOOPS	MASTER ID:	T.E.	STATE PROJ. NO. 1920-41 (T.H.3)		SHEET NO. SS2 OF SS6 SHEETS	

**INTERSECTION LAYOUT**  
T.H. 3 AT T.H. 50/C.R. 74 (ASH STREET)  
IN FARMINGTON, DAKOTA COUNTY

PLOTTED/REVISED: 1-MAR-2024

IPLOT NAME: MatchLine  
PATH & FILENAME: Projects\DM\_Ros\Non-Project\Traffic\Signals\Staff\Klemme\T20049\_sgl.dgn

① PA90 POLE FOUNDATION  
 TYPE PA90-A-35  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-ANGLE MOUNT SIGNALS AT 90° AND 180°  
 2-ANGLE MOUNT C.D. PED HEADS  
 AT 90° AND 180°  
 1-ONE WAY EVP DETECTOR AND  
 CONFIRMATORY LIGHT (PHASE 4)  
 1-TYPE D SIGN (D-1 MN 3)  
 EXTEND INTO HH 3:  
 3" CONDUIT  
 2-12/C#14  
 2-4/C#14  
 1-3/C#14  
 1-3/C#20  
 1-1/C#6 INS. GR.

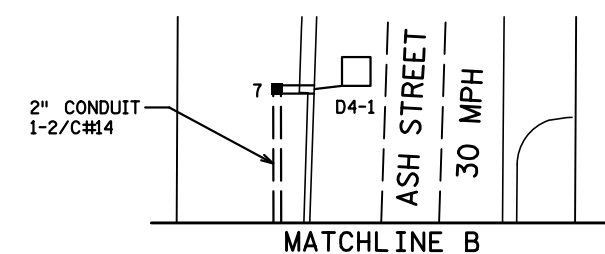
② PEDESTAL FOUNDATION  
 13' PEDESTAL POLE PLUS BASE-TYPE 5A  
 (ALL ALUMINUM BRACKETING COMPONENTS)  
 1-APS PB AND SIGN (DOUBLE ARROW)(PB4-3)  
 EXTEND INTO HH 4:  
 3" CONDUIT  
 1-6/C#14  
 1-2/C#14  
 2-1/C#6 INS. GR.

③ PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350°)  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS OVERHEAD  
 AT 11' AND 23'  
 2-ANGLE MOUNT SIGNALS AT 90° AND 180°  
 2-ANGLE MOUNT C.D. PED HEADS  
 AT 90° AND 180°  
 1-ONE WAY EVP DETECTOR AND  
 CONFIRMATORY LIGHT (PHASES 6&1)  
 LUMINAIRE - LED  
 1-R10-X12 SIGN ADJACENT TO HEAD 1-1  
 2-TYPE D SIGN (D-2 EAST MN 50) (D-3 ASH ST/220TH ST)  
 EXTEND INTO HH 5:  
 3" CONDUIT  
 2-12/C#14  
 1-6/C#14  
 2-4/C#14  
 1-3/C#14 (LUM)  
 1-3/C#14  
 1-3/C#20  
 1-1/C#6 INS. GR.

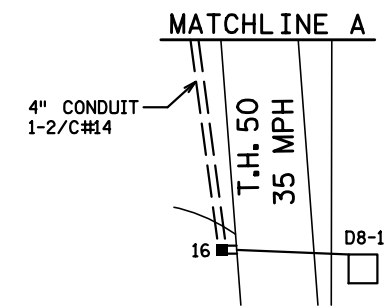
④ PA90 POLE FOUNDATION  
 TYPE PA90-A-35  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-ANGLE MOUNT SIGNALS AT 90° AND 180°  
 2-ANGLE MOUNT C.D. PED HEADS  
 AT 90° AND 180°  
 1-ONE WAY EVP DETECTOR AND  
 CONFIRMATORY LIGHT (PHASE 8)  
 1-TYPE D SIGN (D-4 MN 3)  
 EXTEND INTO HH 8:  
 3" CONDUIT  
 2-12/C#14  
 2-4/C#14  
 1-3/C#14  
 1-3/C#20  
 1-1/C#6 INS. GR.

Ⓐ EQUIPMENT PAD  
 CONTROLLER, CELLULAR MODEM  
 AND CABINET  
 SERVICE EQUIPMENT (PAD MOUNTED)  
 CABINET TO HH 1:  
 2-4" CONDUITS  
 4-12/C#14  
 2-6/C#14  
 4-4/C#14  
 2-3/C#14  
 2-3/C#20  
 13-2/C#14  
 1-1/C#6 INS. GR.  
 CABINET TO HH 14:  
 2-4" CONDUITS  
 4-12/C#12  
 2-6/C#14  
 4-4/C#14  
 2-3/C#14  
 2-3/C#20  
 11-2/C#14  
 1-1/C#6 INS. GR.

⑤ PEDESTAL FOUNDATION  
 13' PEDESTAL POLE PLUS BASE-TYPE 5A  
 (ALL ALUMINUM BRACKETING COMPONENTS)  
 1-APS PB AND SIGN (DBL ARROW)(PB8-3)  
 EXTEND INTO HH 10:  
 3" CONDUIT  
 1-6/C#14  
 1-2/C#14  
 2-1/C#6 INS. GR.

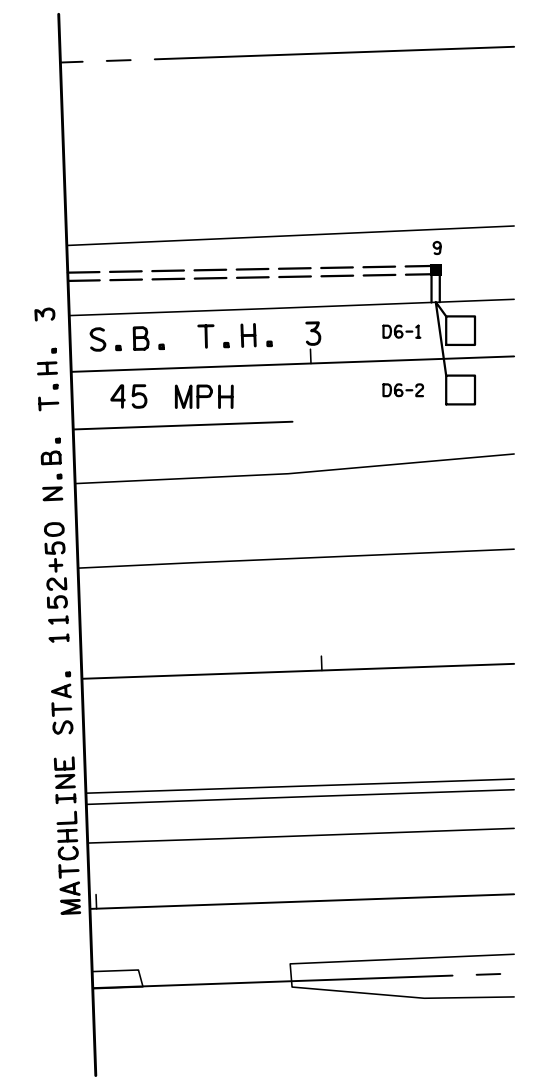


⑥ PA100 POLE FOUNDATION  
 TYPE PA100-A-55-D40-9 (DAVIT AT 350°)  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS OVERHEAD  
 AT 11' AND 23'  
 2-ANGLE MOUNT SIGNALS AT 90° AND 180°  
 2-ANGLE MOUNT C.D. PED HEADS  
 AT 90° AND 180°  
 1-ONE WAY EVP DETECTOR AND  
 CONFIRMATORY LIGHT (PHASES 2&5)  
 LUMINAIRE - LED  
 1-R10-X12 HEAD SIGN ADJACENT TO HEAD 5-1  
 2-TYPE D SIGN (D-5 EAST MN 50) (D-6 ASH ST/220TH ST)  
 EXTEND INTO HH 12:  
 3" CONDUIT  
 2-12/C#14  
 1-6/C#14  
 2-4/C#14  
 1-3/C#14 (LUM)  
 1-3/C#14  
 1-3/C#20  
 1-1/C#6 INS. GR.



STUB OUTS (THREAD AND CAP BOTH ENDS)  
 1-3" CONDUIT  
 2-2" CONDUIT  
 1-1-1/2" CONDUIT (FUTURE USE)  
 CONTROLLER CABINET TO SERVICE CABINET:  
 2" CONDUIT  
 2-1/C#6  
 1-1/C#6 INS. GR.  
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):  
 2" CONDUIT  
 1-6 PR.#19  
 SERVICE CABINET TO HH 17:  
 2" CONDUIT  
 3-1/C#2  
 SERVICE CABINET TO HH 14:  
 2" CONDUIT  
 2-3/C#14 (LUM)  
 HH 14 TO HH 1:  
 2" CONDUIT  
 1-3/C#14 (LUM)

Ⓑ 45 FOOT WOOD POLE  
 2" CONDUIT, RISER AND WEATHERHEAD  
 TO HH 17 WITH 3-1/C#2

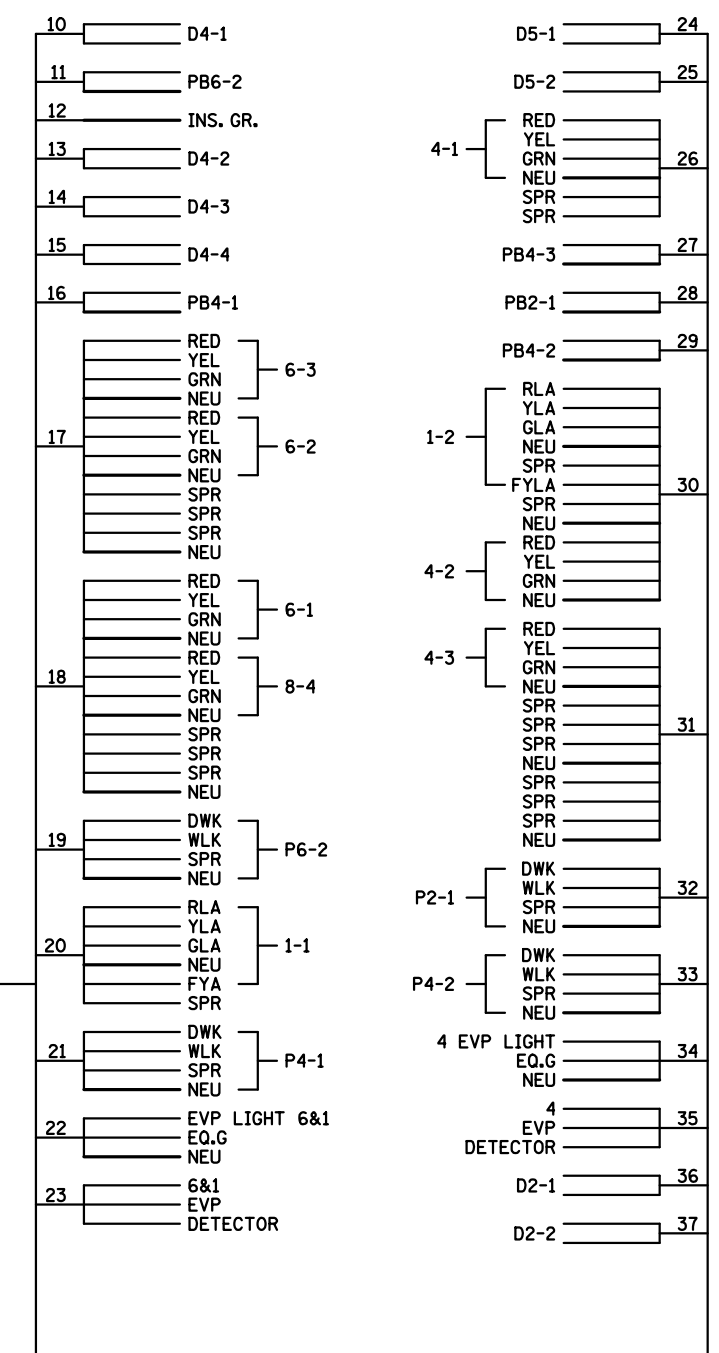
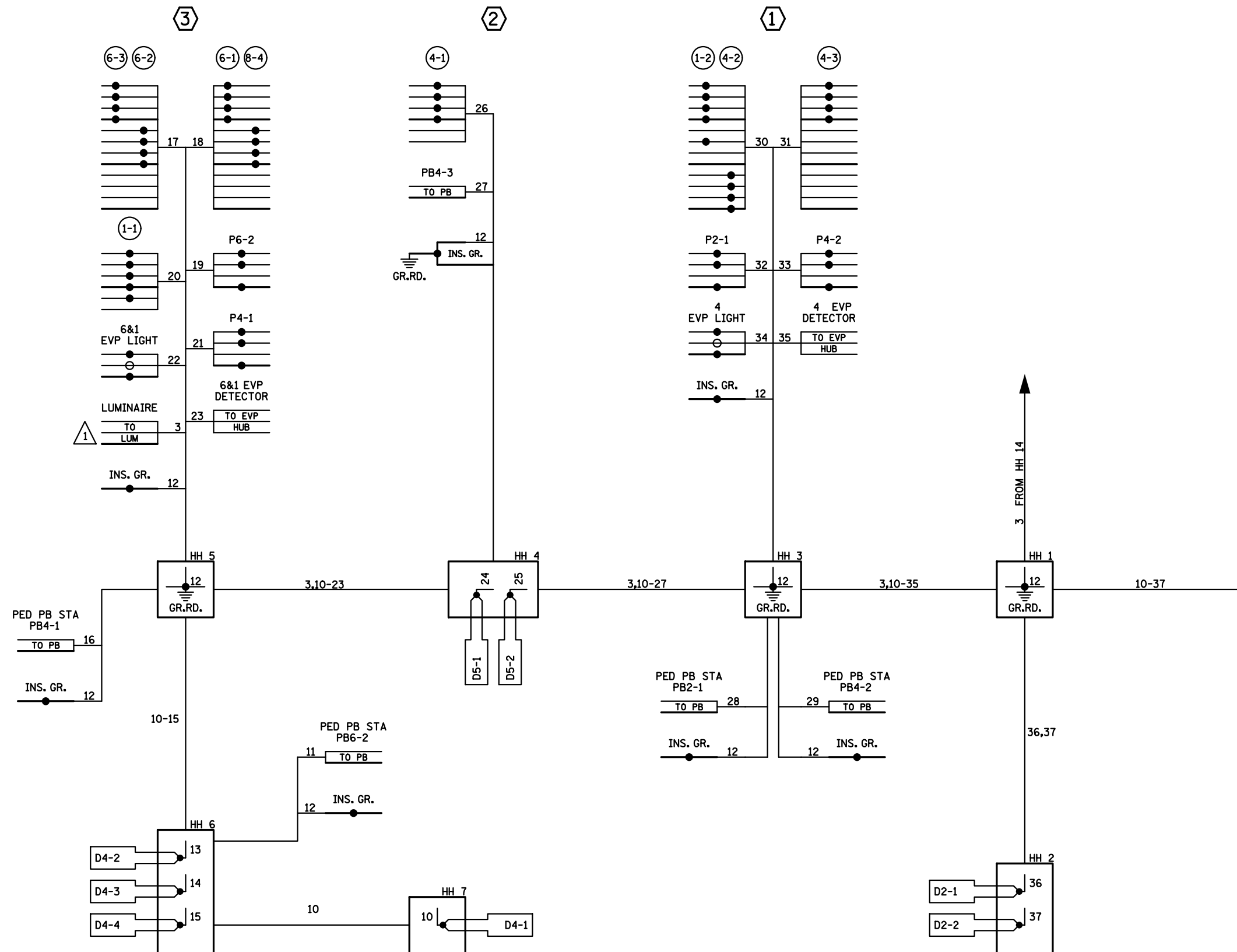


BY	DATE	REVISIONS	SYSTEM ID: 20049	T.E. 6477	S.A.P. NO.	DRAWN BY: MAS	CKD BY: CDB	DATE: 3/1/17
SJK	5/24/19	OPERATION PLAN	METER ADDRESS: 1001 T.H. 3		CERTIFIED BY: <i>Michael P. Lubinsky</i>	LIC. NO. 19863	DATE: 3/1/17	
			MASTER ID:	T.E.	STATE PROJ. NO. 1920-41 (T.H.3)		SHEET NO. SS3 OF SS6 SHEETS	

POLE NOTES AND MATCHLINES  
 T.H. 3 AT T.H. 50/C.R. 74 (ASH STREET)  
 IN FARMINGTON, DAKOTA COUNTY

IPLOT NAME: WiringDiagram\_lof2  
 PATH & FILENAME: Projects\DM\_RosNon\_Project\TrafficSignals\Staff\klemme\T20049\_sgl.dgn  
 PLOTTED/REVISED: 1-MAR-2024

## CONTROLLER CABINET



**GENERAL NOTES:**

- SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (NO BATTERIES).
- FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.

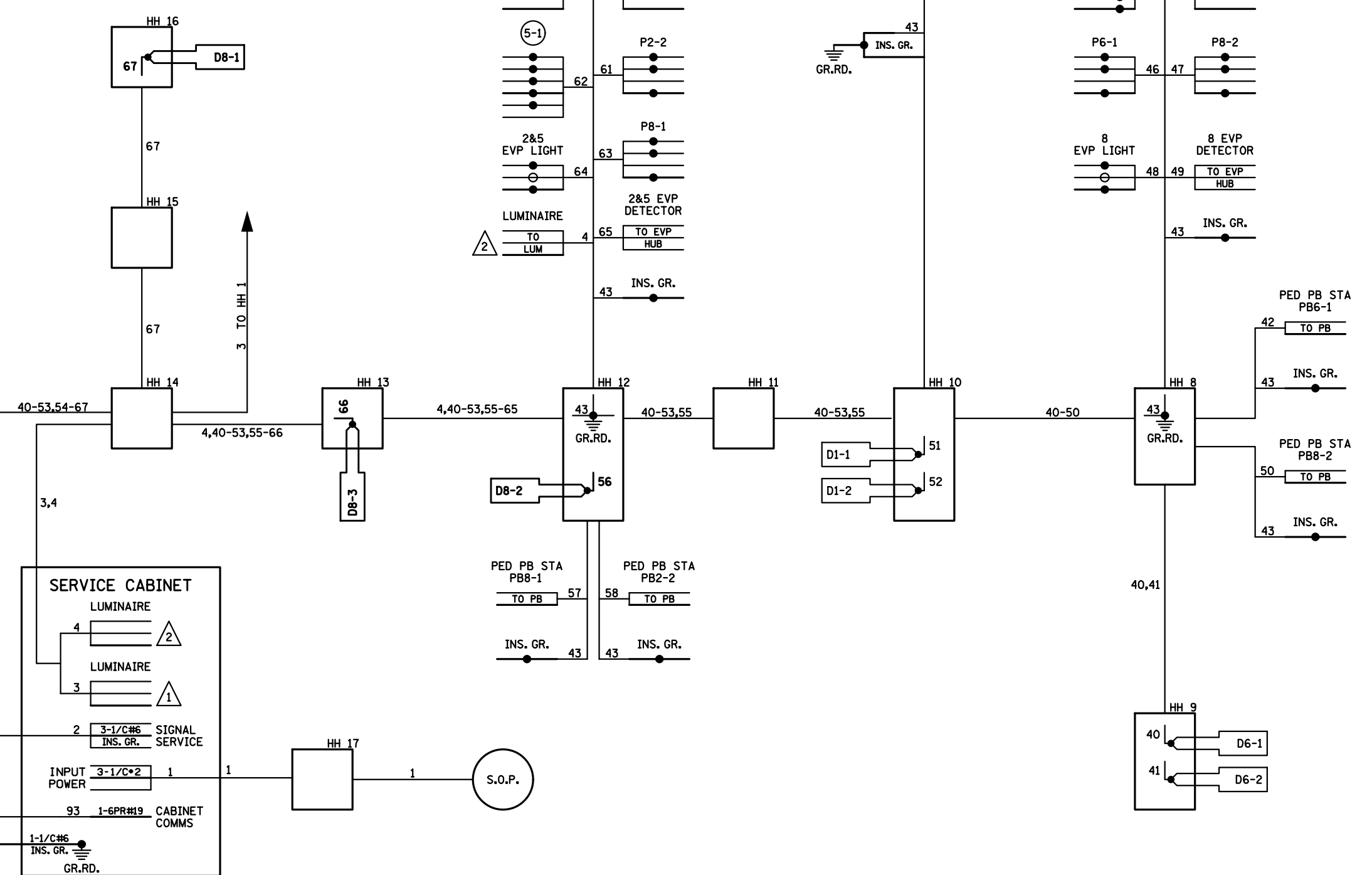
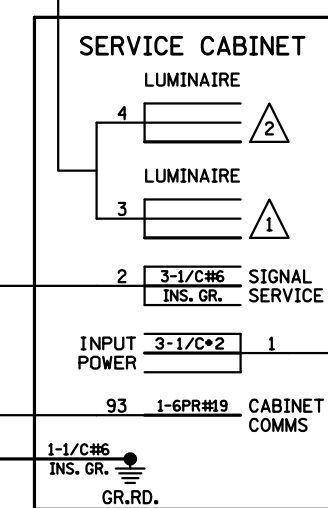
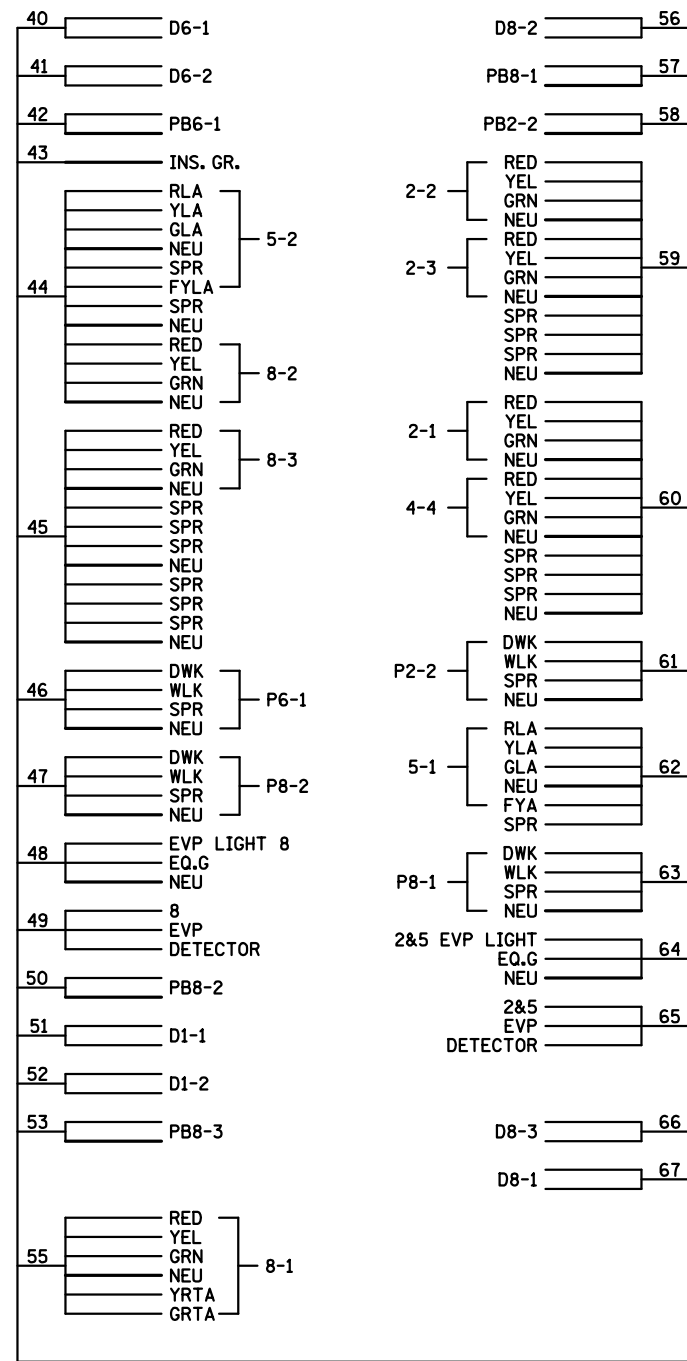
BY	DATE	REVISIONS	SYSTEM ID: 1734954 (20049)	T.E. 6477	S.A.P. NO.	DRAWN BY: MAS	CKD BY: CDB	DATE: 8/20/16
SJK	5/24/19	OPERATION PLAN	METER ADDRESS: 1001 T.H. 3		CERTIFIED BY: <i>Michael P. Sulinsky</i>	LIC. NO. 19863	DATE: 3/1/17	
			MASTER ID:	T.E.	STATE PROJ. NO. 1920-41 (T.H.3) SHEET NO. SS4 OF SS6 SHEETS			

**WIRING DIAGRAM (1 OF 2)**  
 T.H. 3 AT T.H. 50/C.R. 74 (ASH STREET)  
 IN FARMINGTON, DAKOTA COUNTY

PLOTTED/REVISED: 1-MAR-2024

I/PLOT NAME: WiringDiagram\_Zof2  
PATH & FILENAME: Projects\DM\_Non\_Project\Traffic\Signal\Staff\klemme\T20049\_sgl.dgn

# CONTROLLER CABINET



BY	DATE	REVISIONS	SYSTEM ID: 1734954 (20049)	T.E. 6477	S.A.P. NO. 019-674-009 & 019-650-018	DRAWN BY: MAS	CKD BY: COB	DATE: 3/1/17
SJK	5/24/19	OPERATION PLAN	METER ADDRESS: 1001 T.H. 3		CERTIFIED BY: <i>Michael P. Lubinsky</i> LIC. NO. 19863 DATE: 3/1/17			
			MASTER ID:	T.E.	STATE PROJ. NO. 1920-41 (T.H.3) SHEET NO. SS5 OF SS6 SHEETS			

**LOOP DETECTORS**

NUMBER	SIZE (FEET)	LOCATION
D1-1	(2) 6'X6'	5' & 35'
D2-1	6'X6'	250'
D2-2	6'X6'	250'
D4-1	6'X6'	180'
D4-2	(3) 6'X6'	5'
D4-3	(2) 6'X6'	5'
D5-1	(2) 6'X6'	5' & 35'
D6-1	6'X6'	250'
D6-2	6'X6'	250'
D8-1	6'X6'	180'
D8-2	(2) 6'X6'	5' & 15'
D8-3	(2) 6'X6'	20 & 50'
D8-4	(2) 6'X6'	5' & 35'

LOCATION MEASURED FROM CROSS WALK OR STOPBAR

1 TYPE A100-A-40-D40-9 (DAVIT AT 350 DEG)  
 A100 POLE FOUNDATION  
 2-ONE WAY SIGNALS OVERHEAD  
 ONWAY EVP DETECTOR AND LIGHT(PHASES 1&6)  
 LUMINAIRE-200 WATT H.P.S.  
 W/P.E.C. & CHECK SWITCH  
 2-PED PBS AND SIGNS  
 EXTEND INTO HH 7:  
 3" I.M.C.  
 2-12/C#12  
 3-3/C#12  
 2-1/C#10 (LUM)  
 1-3/C#12 EVP LT  
 1-3/C#20 EVP DET

6 INPLACE  
 TYPE 2A  
 PEDESTAL POLE AND BASE  
 PEDESTAL FOUNDATION  
 TYPE 2A-POLE MOUNTED  
 1-PEDESTRIAN PUSH BUTTON AND SIGN  
 EXTEND INTO HH 6:  
 3"IMC  
 1-12/C#12  
 2-3/C#12

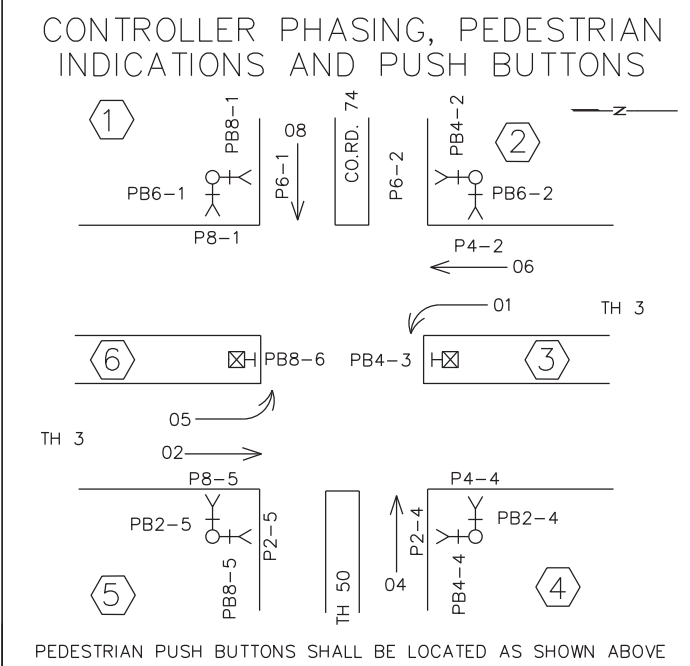
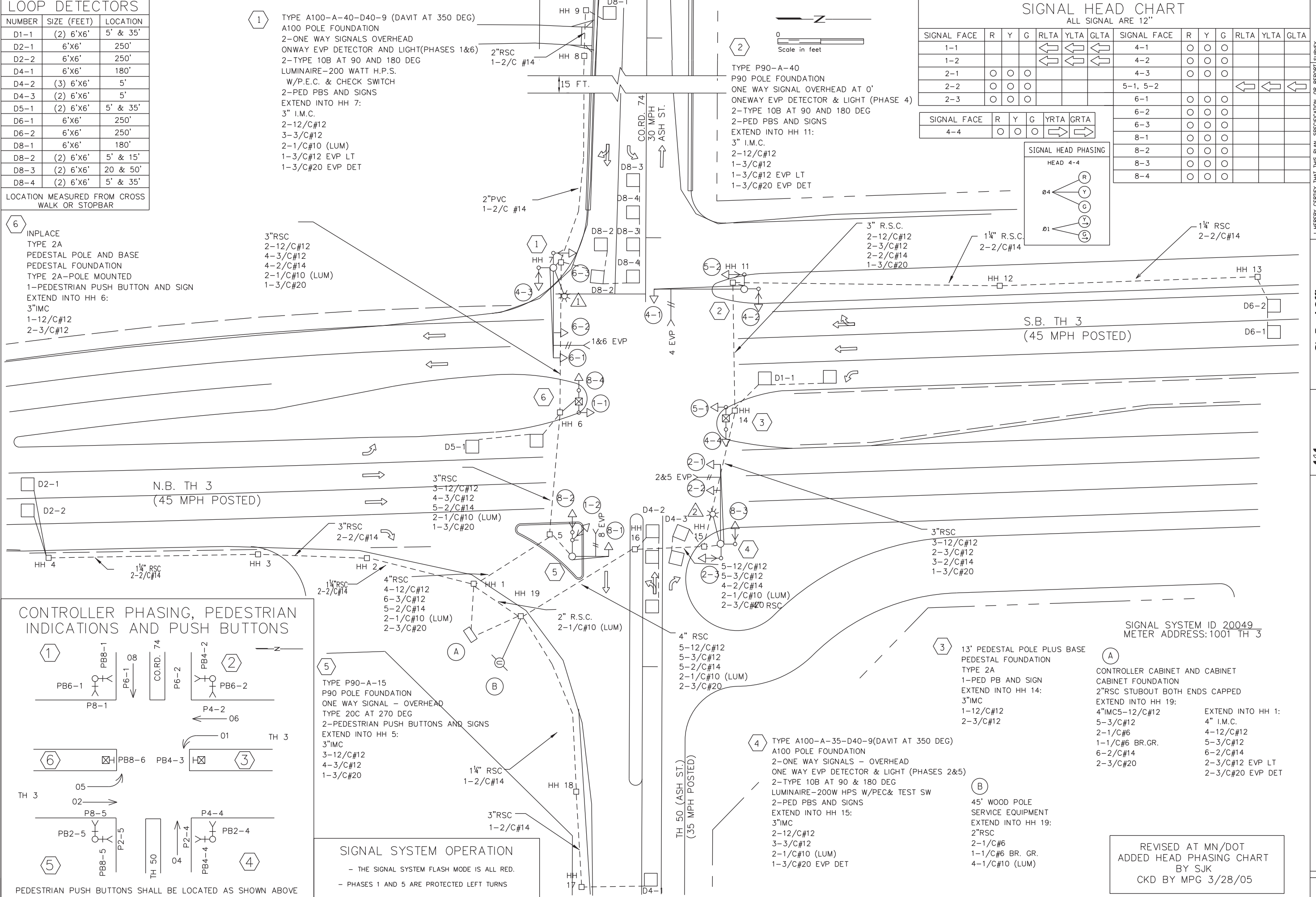
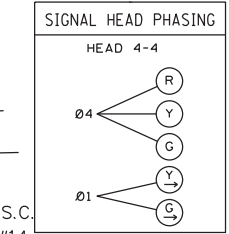
3"RSC  
 2-12/C#12  
 4-3/C#12  
 4-2/C#14  
 2-1/C#10 (LUM)  
 1-3/C#20

2 TYPE P90-A-40  
 P90 POLE FOUNDATION  
 ONE WAY SIGNAL OVERHEAD AT 0'  
 ONEWAY EVP DETECTOR & LIGHT (PHASE 4)  
 2-TYPE 10B AT 90 AND 180 DEG  
 2-PED PBS AND SIGNS  
 EXTEND INTO HH 11:  
 3" I.M.C.  
 2-12/C#12  
 1-3/C#12  
 1-3/C#12 EVP LT  
 1-3/C#20 EVP DET

**SIGNAL HEAD CHART**  
 ALL SIGNAL ARE 12"

SIGNAL FACE	R	Y	G	RLTA	YLTA	GLTA	SIGNAL FACE	R	Y	G	RLTA	YLTA	GLTA
1-1				←	←	←	4-1	○	○	○			
1-2				←	←	←	4-2	○	○	○			
2-1	○	○	○				4-3	○	○	○			
2-2	○	○	○				5-1, 5-2				←	←	←
2-3	○	○	○				6-1	○	○	○			
							6-2	○	○	○			
							6-3	○	○	○			
							8-1	○	○	○			
							8-2	○	○	○			
							8-3	○	○	○			
							8-4	○	○	○			

SIGNAL FACE	R	Y	G	YRTA	GRTA
4-4	○	○	○	→	→



5 TYPE P90-A-15  
 P90 POLE FOUNDATION  
 ONE WAY SIGNAL - OVERHEAD  
 TYPE 20C AT 270 DEG  
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS  
 EXTEND INTO HH 5:  
 3"IMC  
 3-12/C#12  
 4-3/C#12  
 1-3/C#20

**SIGNAL SYSTEM OPERATION**  
 - THE SIGNAL SYSTEM FLASH MODE IS ALL RED.  
 - PHASES 1 AND 5 ARE PROTECTED LEFT TURNS

3 13' PEDESTAL POLE PLUS BASE  
 PEDESTAL FOUNDATION  
 TYPE 2A  
 1-PED PB AND SIGN  
 EXTEND INTO HH 14:  
 3"IMC  
 1-12/C#12  
 2-3/C#12

A CONTROLLER CABINET AND CABINET  
 CABINET FOUNDATION  
 2"RSC STUBOUT BOTH ENDS CAPPED  
 EXTEND INTO HH 19:  
 4"IMC5-12/C#12  
 5-3/C#12  
 2-1/C#6  
 1-1/C#6 BR.GR.  
 6-2/C#14  
 2-3/C#20

EXTEND INTO HH 1:  
 4" I.M.C.  
 4-12/C#12  
 5-3/C#12  
 6-2/C#14  
 2-3/C#12 EVP LT  
 2-3/C#20 EVP DET

REVISED AT MN/DOT  
 ADDED HEAD PHASING CHART  
 BY SJK  
 CKD BY MPG 3/28/05

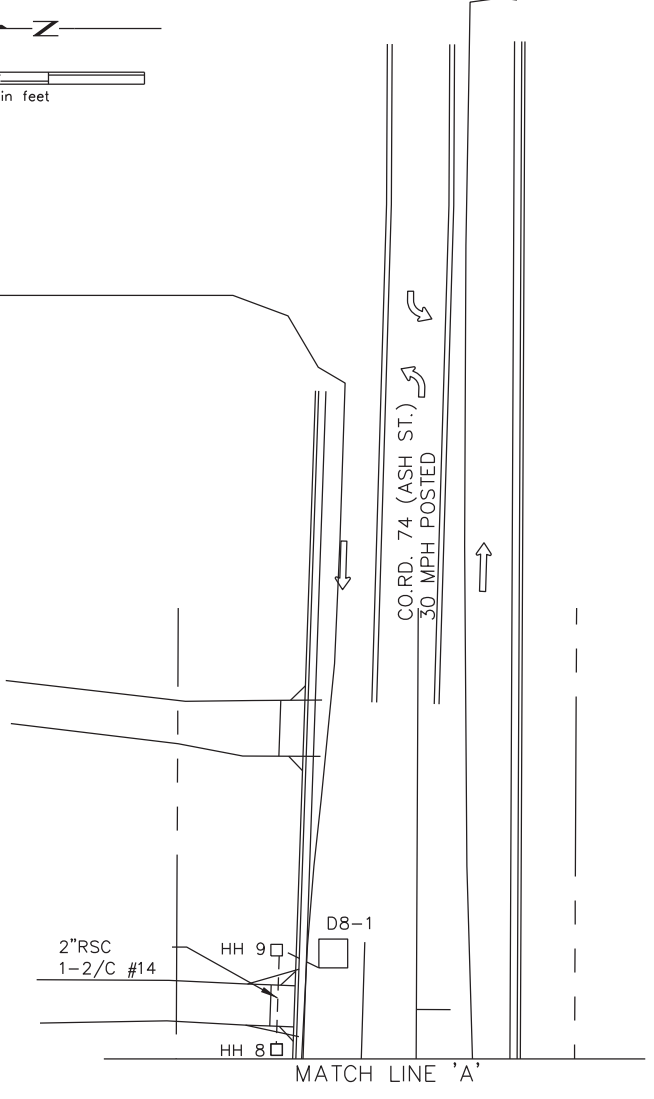
INTERSECTION LAYOUT  
 TH 3 AND TH 50/CO. RD. 74 (ASH ST.)

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT SURVEY  
 DRAWING, DESIGN, APPROVED, DATE  
 AND THAT I AM A DULY LICENSED  
 UNDER THE LAWS OF THE STATE OF  
 PRINT NAME: \_\_\_\_\_  
 SIGNATURE: \_\_\_\_\_  
 LIC. NO. \_\_\_\_\_  
 PROJ. NO. \_\_\_\_\_

St. Paul Office  
 2335 West Highway 36  
 St. Paul, MN 55113  
 Phone: 651-636-4600  
 Fax: 651-636-1311  
 © BONESTROO, ROSENE, ANDERLIK & ASSOCIATES, INC.

Bonestroo  
 Rosene  
 Andерlik &  
 Associates  
 Engineers & Architects  
 www.bonestroo.com

SHEET NUMBER



REVISED AT MN/DOT  
 ADDED HEAD PHASING CHART  
 BY SJK  
 CKD BY MPG 3/28/05

INTERSECTION LAYOUT  
 TH 3 AND TH 50/CO. RD. 74 (ASH ST.)



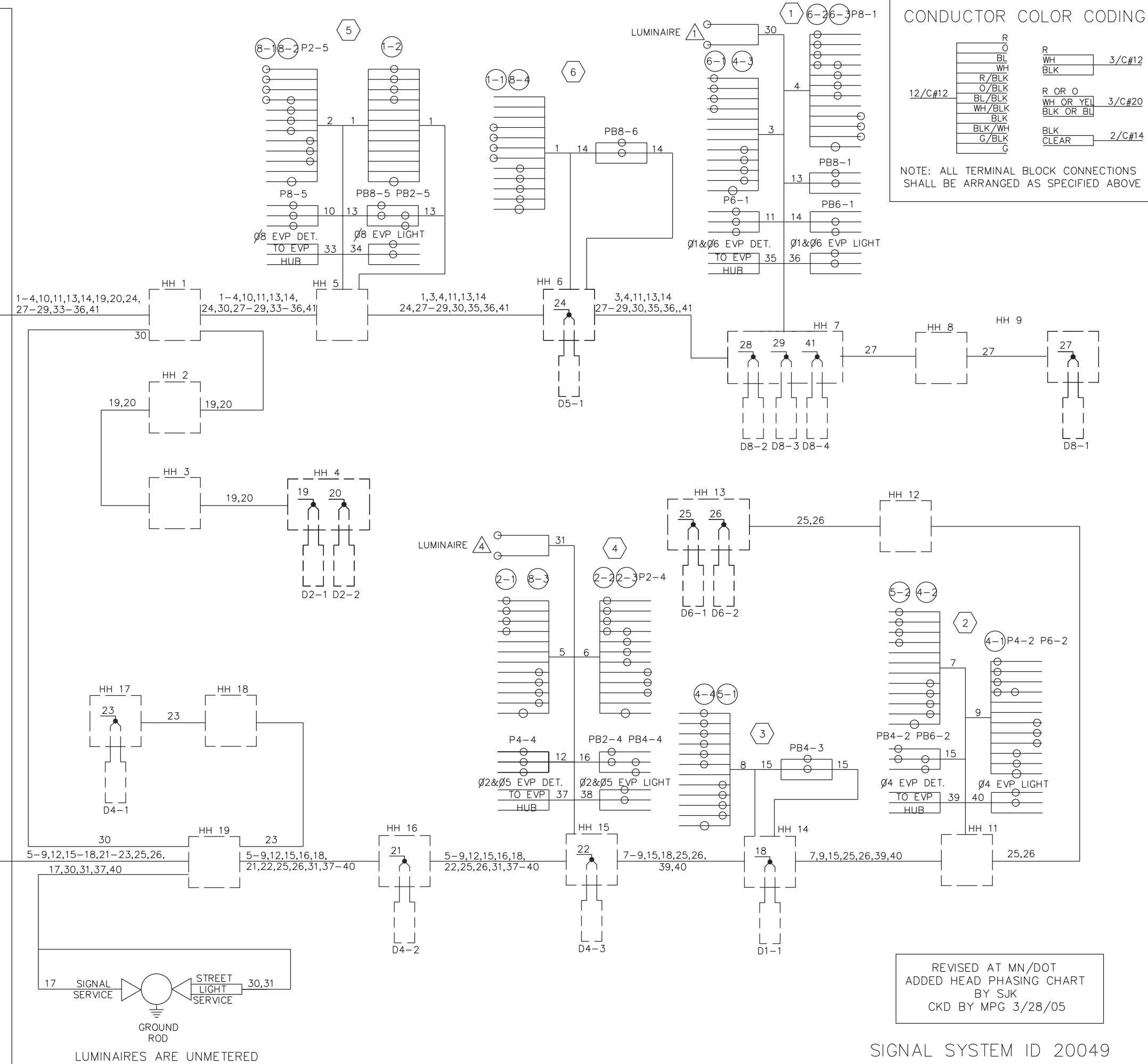
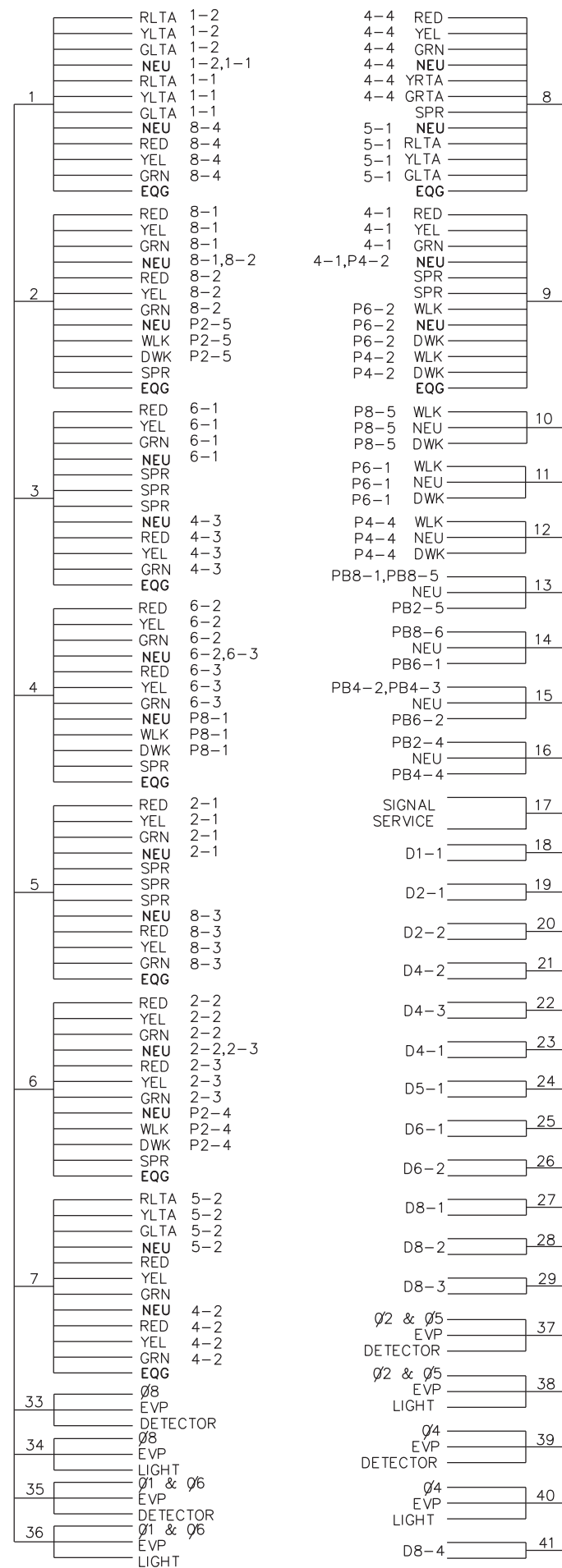
**St. Paul Office**  
 2335 West Highway 36  
 St. Paul, MN 55113  
 Phone: 651-636-4600  
 Fax: 651-636-1311

© BONESTROO, ROSEENE, ANDERLIK & ASSOCIATES, INC.

HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	SURVEY
PRINT NAME: _____	DRAWN
SIGNATURE: _____	DESIGNED
DATE: _____	APPROVED
LIC. NO. _____	DATE
PROJ. NO. _____	

SHEET NUMBER

# CONTROLLER CABINET



### CONDUCTOR COLOR CODING

R	3/C#12
BL	
WH	
BLK	
R OR O	3/C#20
BL/BLK	
WH/BLK	
BLK	
BLK/WH	
G/BLK	
G	2/C#14

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

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

PRINT NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

LIC. NO. \_\_\_\_\_

PROJ. NO. \_\_\_\_\_

**St. Paul Office**  
 2335 West Highway 36  
 St. Paul, MN 55113  
 Phone: 651-636-4600  
 Fax: 651-636-1311

**Bonestroo**  
 Rosene  
 Andierlik &  
 Associates  
 Engineers & Architects  
 www.bonestroo.com

WIRING DIAGRAM

TH 3 AND TH 50/CO. RD. 74 (ASH ST.)

REVISD AT MN/DOT  
 ADDED HEAD PHASING CHART  
 BY SJK  
 CKD BY MPG 3/28/05

SIGNAL SYSTEM ID 20049

SHEET NUMBER