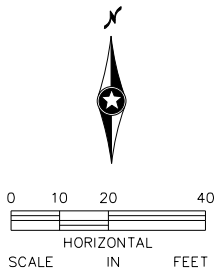


PLOTTED/REVISED: 12-AUG-2019

IPLLOT NAME: layout  
PATH & FILENAME: Projects\DM\_R05\05\0000\Traffic\Signals\20740 (Co Rd B2)\T20740AL.sgl.dgn

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2, 1-3	←	←	←	←
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	←	←	←	←
4-1, 4-2, 4-3	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	←	←	←	←
8-1, 8-2	●	●	●	●

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

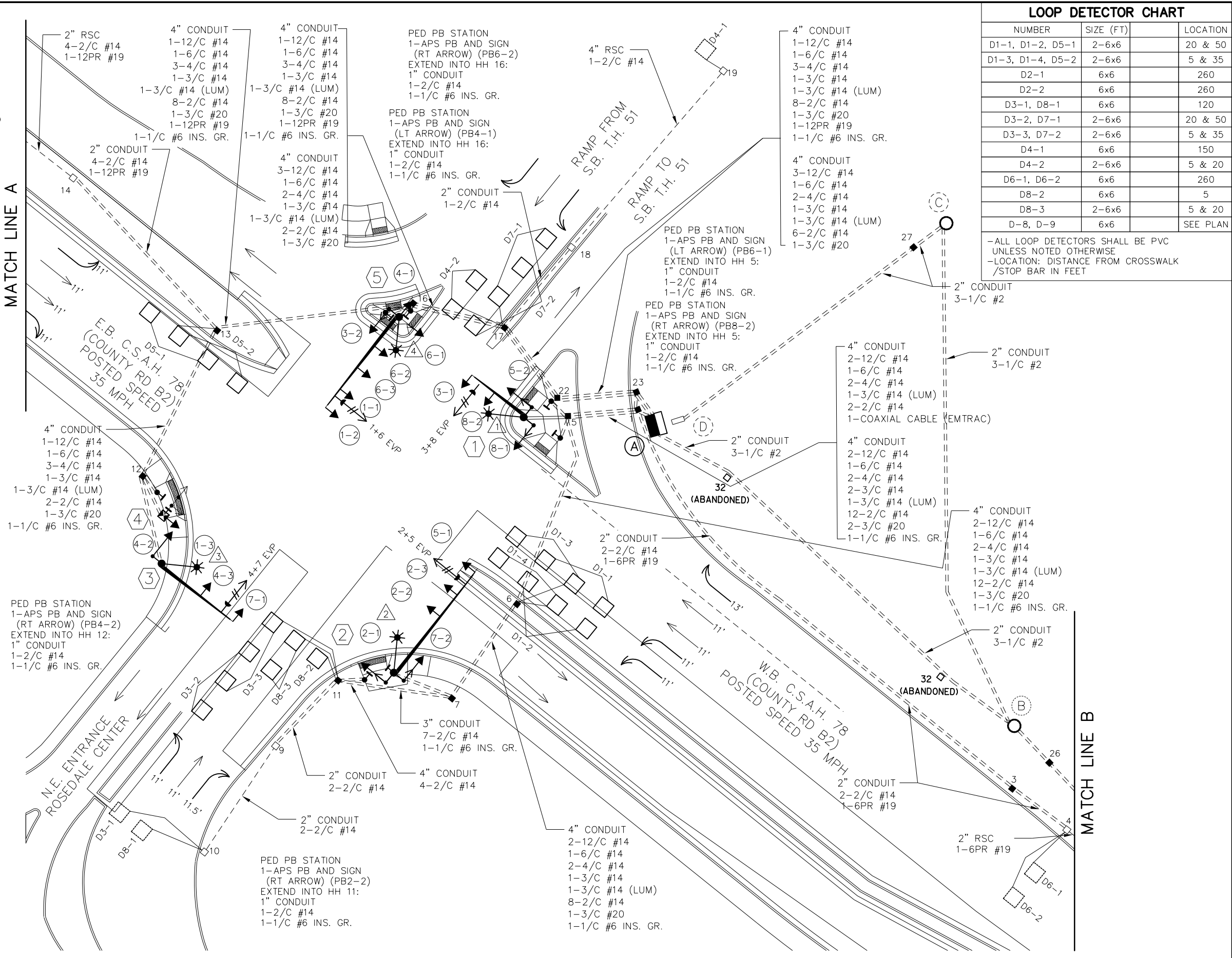
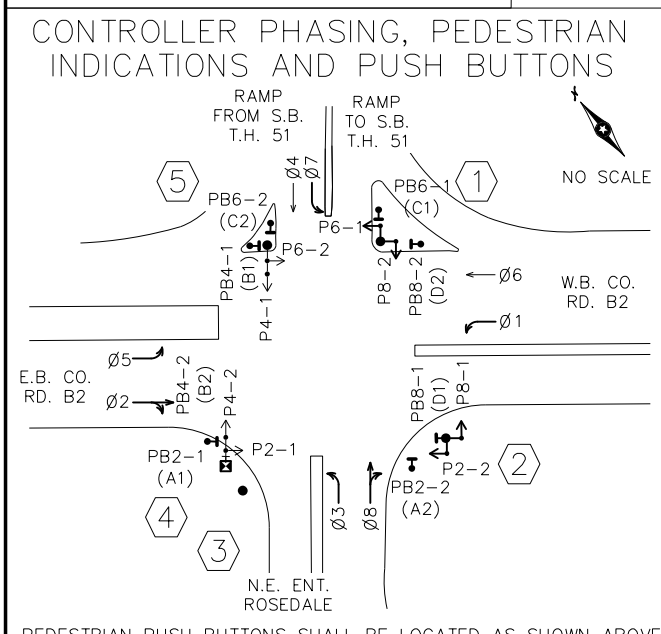


LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D1-2, D5-1	2-6x6	20 & 50
D1-3, D1-4, D5-2	2-6x6	5 & 35
D2-1	6x6	260
D2-2	6x6	260
D3-1, D8-1	6x6	120
D3-2, D7-1	2-6x6	20 & 50
D3-3, D7-2	2-6x6	5 & 35
D4-1	6x6	150
D4-2	2-6x6	5 & 20
D6-1, D6-2	6x6	260
D8-2	6x6	5
D8-3	2-6x6	5 & 20
D-8, D-9	6x6	SEE PLAN

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE  
 -LOCATION: DISTANCE FROM CROSSWALK /STOP BAR IN FEET

**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASE(S) 1, 3, 5, & 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.



BY	DATE	REVISIONS
SJK	02/14/19	OPERATION PLAN
J3T	AUG 9 19	SHOW ABANDONED HAND HOLES

SYSTEM ID: 1935918 T.E. 1519  
 METER ADDRESS: 2411 SNELLING AVE N  
 OLD SYSTEM ID: 20740

**INTERSECTION LAYOUT**  
**TH 51 AT CO. RD. B2**  
**IN ROSEVILLE, RAMSEY COUNTY**

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ.NO. 6216-140 (T.H.51)		SHEET NO. 1 OF 4 SHEETS	

PLOTTED/REVISED: 12-AUG-2019

I/PLOT NAME: match lines pole notes  
PATH & FILENAME: Projects\DM\_Rosville\Signals\20740 (Co Rd B2)\T20740A1.sjldgn

INTERSECTION NOTES

- ① PA85 POLE FOUNDATION  
TYPE PA85-A-25-D40-9 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 3+8)  
TSP RECEIVER ANTENNA (EMTRAC)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-R10-X12 SIGN ADJACENT TO HEAD (3-1)  
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)  
3" CONDUIT TO HH 5:  
2-12/C #14  
1-6/C #14  
2-4/C #14  
1-3/C #14  
1-3/C #14 (LUM)  
1-3/C #20  
1-COAXIAL CABLE (EMTRAC)  
1-1/C #6 INS. GR.

- ② PA100 POLE FOUNDATION  
TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 22'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-APS PB AND SIGN (LT ARROW)(PB8-1)  
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)  
1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)  
1-TYPE D SIGN (D-4) (SEE SIGN DETAILS)  
3" CONDUIT TO HH 7:  
2-12/C #14  
1-6/C #14  
2-4/C #14  
1-3/C #14  
1-3/C #14 (LUM)  
1-2/C #14  
1-3/C #20  
1-1/C #6 INS. GR.

- ③ PA90 POLE FOUNDATION  
TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 16.5'  
1-ANGLE MOUNT SIGNAL AT 180 DEG  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHTS (PHASES 4+7)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-R10-X12 SIGN ADJACENT TO HEAD (7-1)  
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)  
3" CONDUIT TO HH 12:  
1-12/C #14  
1-4/C #14  
1-3/C #14  
1-3/C #14 (LUM)  
1-3/C #20  
1-1/C #6 INS. GR.

- Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)  
SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES  
CONTROLLER AND CABINET (STATE FURNISHED)  
4" CONDUIT TO HH 23:  
1-12/C #14  
1-6/C #14  
3-4/C #14  
1-3/C #14  
8-2/C #14  
1-3/C #20  
1-12PR #19  
1-1/C #6 INS. GR.
- 4" CONDUIT TO HH 1:  
2-12/C #14  
1-6/C #14  
2-4/C #14  
2-2/C #14  
1-6PR #19  
1-COAXIAL CABLE (EMTRAC)
- 4" CONDUIT TO HH 23:  
3-12/C #14  
1-6/C #14  
2-4/C #14  
1-3/C #14  
6-2/C #14  
1-3/C #20
- 4" CONDUIT TO HH 1:  
2-12/C #14  
1-6/C #14  
2-4/C #14  
2-3/C #14  
12-2/C #14  
2-3/C #20  
1-1/C #6 INS. GR.

- ④ PEDESTAL FOUNDATION  
13' PEDESTAL POLE PLUS BASE  
1-STRAIGHT MOUNT SIGNAL AT 180 DEG  
2-STRAIGHT MOUNT C.D. PED HEADS AT 90 DEG  
1-APS PB AND SIGN (LT ARROW) (PB2-1)  
AND APS PB MOUNTING SPACERS  
3" CONDUIT TO HH 12:  
1-6/C #14  
2-4/C #14  
1-2/C #14  
1-1/C #6 INS. GR.

- ⑤ PA100 POLE FOUNDATION  
TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
3-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11', 22', AND 33'  
3-ANGLE MOUNT SIGNALS AT 90, 180 AND 270 DEG  
2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 270 DEG  
1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)  
LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)  
1-R10-X12 SIGN ADJACENT TO HEAD (1-2)  
1-TYPE D SIGN (D-5) (SEE SIGN DETAILS)  
1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)  
3" CONDUIT TO HH 16:  
3-12/C #14  
1-6/C #14  
2-4/C #14  
1-3/C #14  
1-3/C #14 (LUM)  
1-3/C #20  
1-1/C #6 INS. GR.

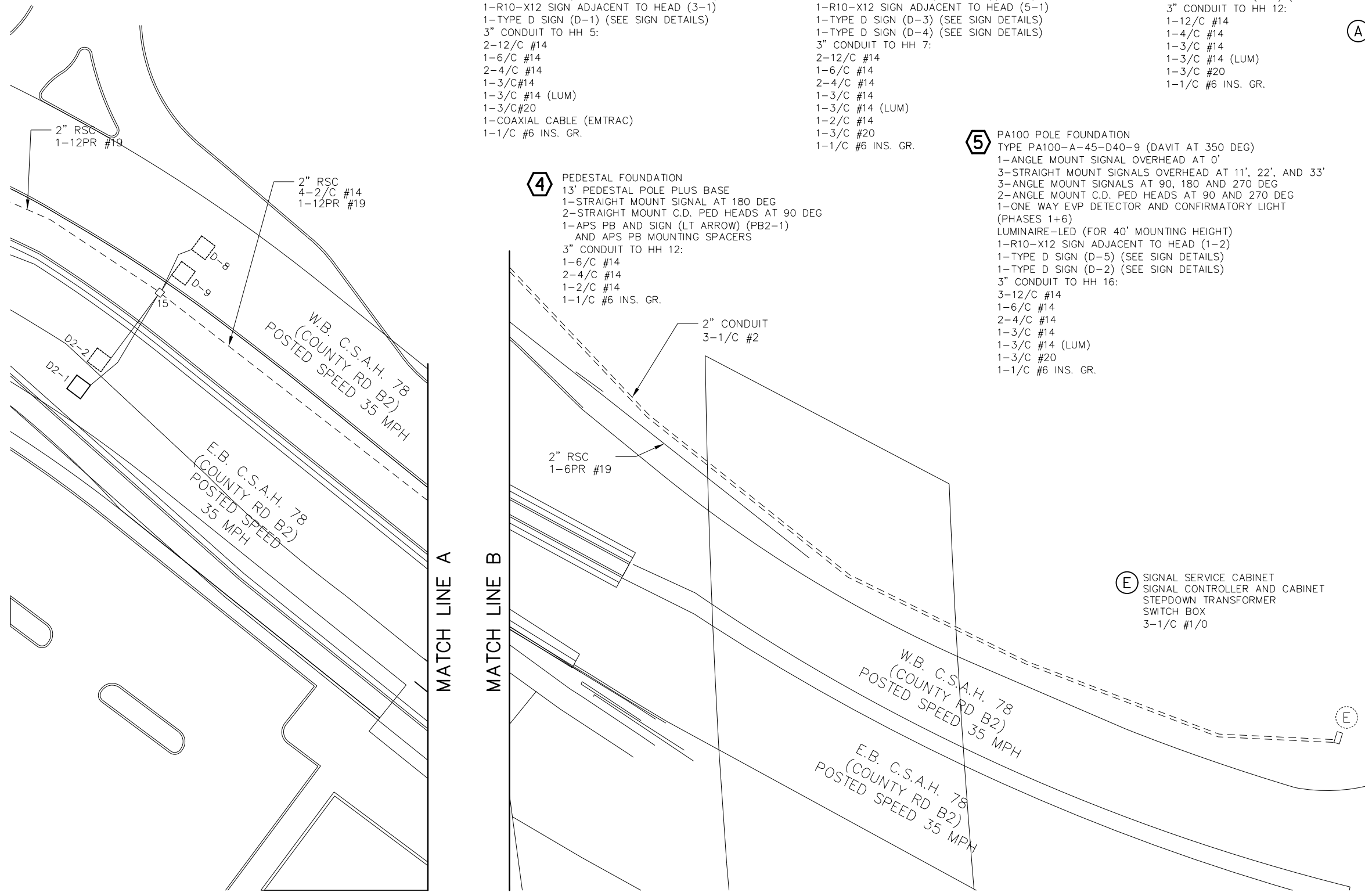
- GROUND WIRES AND GROUND ROD - MIN 8' OUT FROM PAD  
2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)  
3/4" CONDUIT STUBBED OUT (FOR TELEPHONE LINE)  
CONTROLLER CABINET TO SERVICE CABINET:  
2" CONDUIT  
2-1/C #6  
1-1/C INS.GR.  
CONTROLLER CABINET TO SERVICE CABINET (COMMS):  
2" CONDUIT  
1-6PR#19  
SERVICE CABINET TO HH 24:  
2" CONDUIT  
3-1/C #2  
SERVICE CABINET TO HH 23:  
2" CONDUIT  
4-3/C #14 (LUM)  
SERVICE CABINET TO EXTERNAL GR. RD.:  
1" CONDUIT  
1-1/C #6 INS. GR.  
(SEE EQUIPMENT PAD LAYOUT)  
HH 23 TO HH 1:  
2" CONDUIT  
2-3/C #14 (LUM)

- Ⓔ SIGNAL SERVICE CABINET  
SIGNAL CONTROLLER AND CABINET  
STEPDOWN TRANSFORMER  
SWITCH BOX  
3-1/C #1/0

- Ⓑ ISOP-WOOD POLE (XCEL ENERGY)  
240/480 TRANSFORMER (BY OTHERS)  
2" RISER AND WEATHERHEAD TO HH 25

- Ⓒ SOP-WOOD POLE (XCEL ENERGY)  
240/480 TRANSFORMER (BY OTHERS)  
2" RISER AND WEATHERHEAD TO HH 27  
3-1/C #2

- Ⓓ LIGHTING CABINET  
3-1/C #1/0



BY	DATE	REVISIONS
SJK	02/14/19	OPERATION PLAN

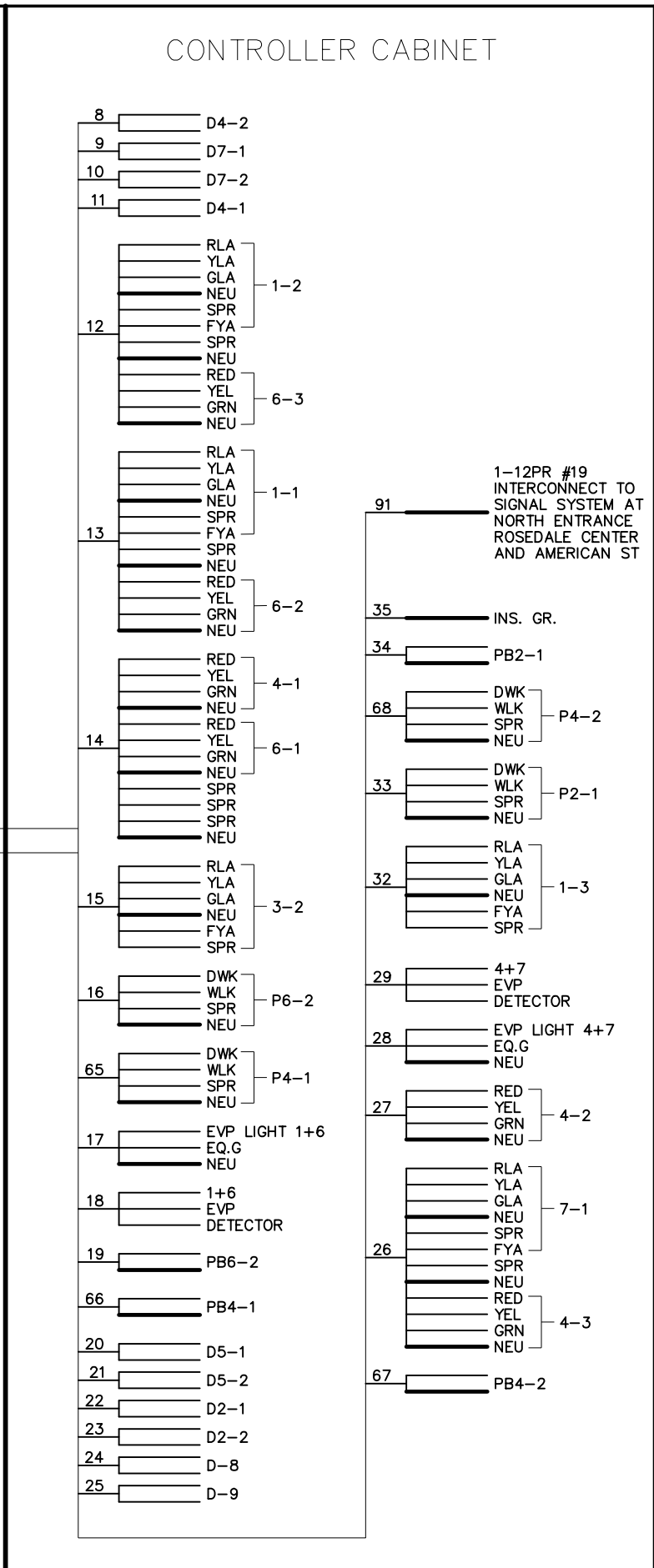
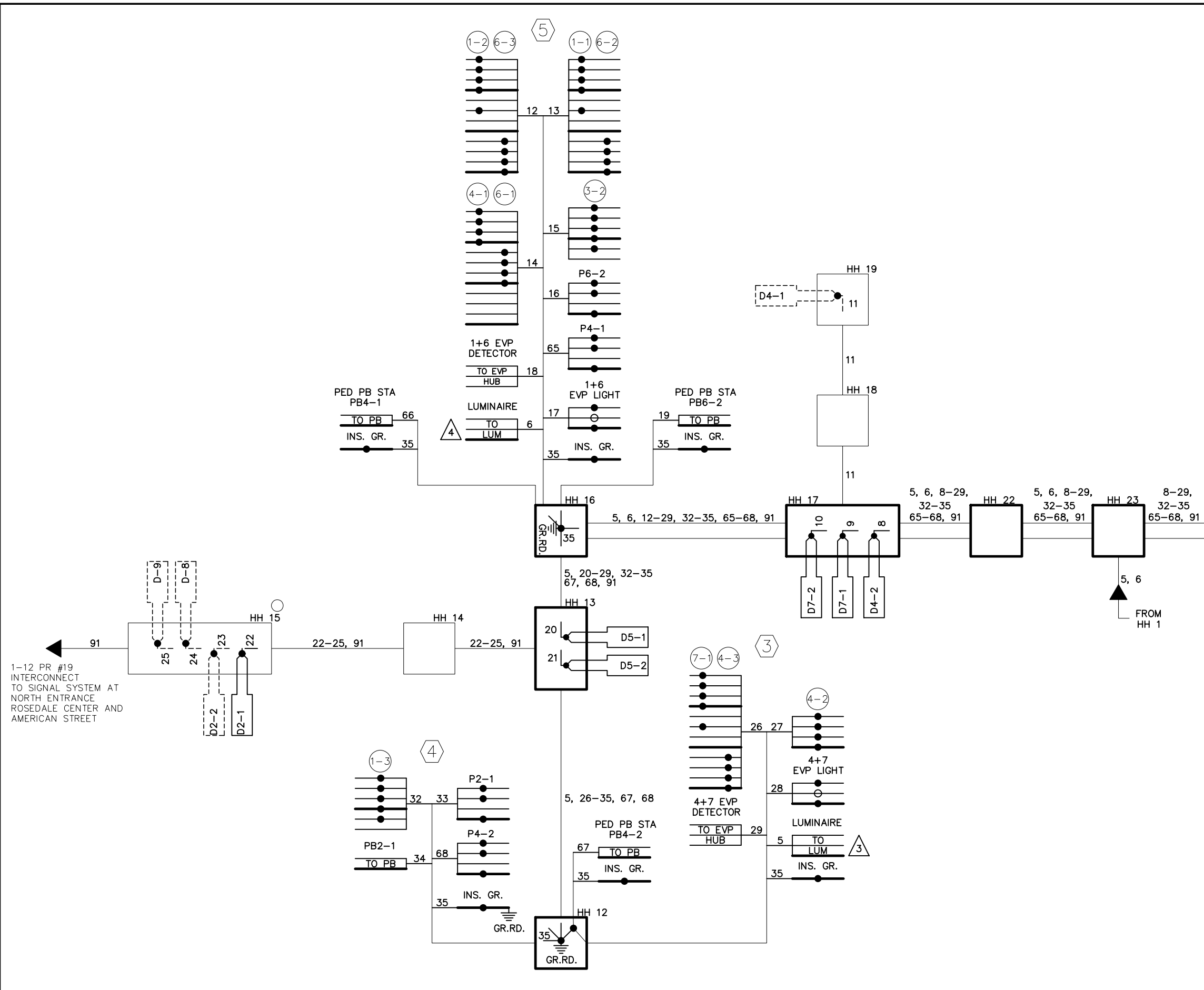
SYSTEM ID: 1935918 T.E. 1519  
METER ADDRESS: 2411 SNELLING AVE N  
OLD SYSTEM ID: 20740

**MATCH LINES AND POLE NOTES  
TH 51 AT CO. RD. B2  
IN ROSEVILLE, RAMSEY COUNTY**

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ.NO. 6216-140 (T.H.51)		SHEET NO. 2 OF	4 SHEETS

PLOTTED/REVISED: 12-AUG-2019

I PLOT NAME: wiring diagram 1 of 2  
 PATH & FILENAME: Projects\DM\_R05\05\0000\Traffic\Signals\20740 (Co Rd B2)\T20740A1.sjldgn



BY	DATE	REVISIONS
SJK	02/14/19	OPERATION PLAN

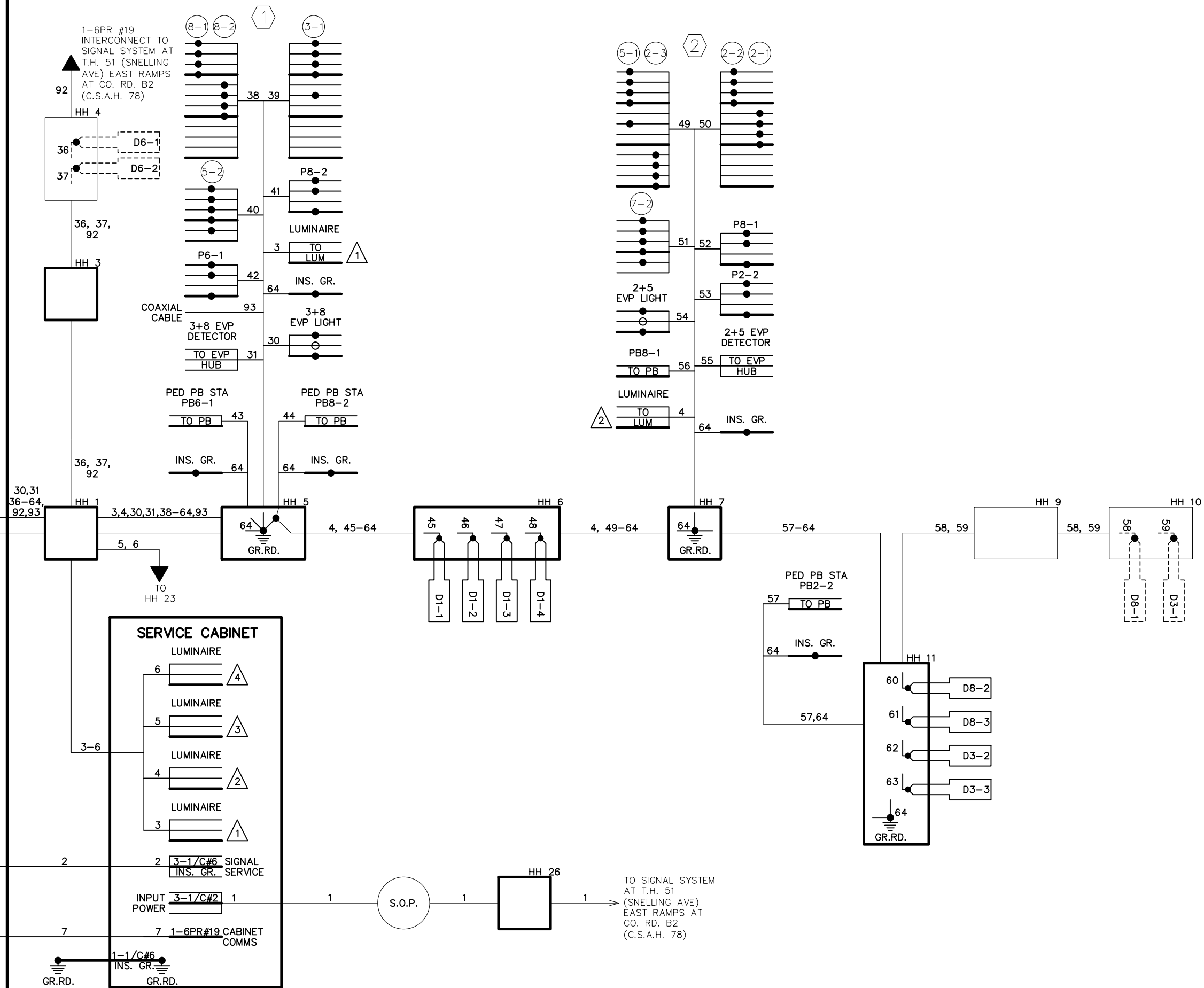
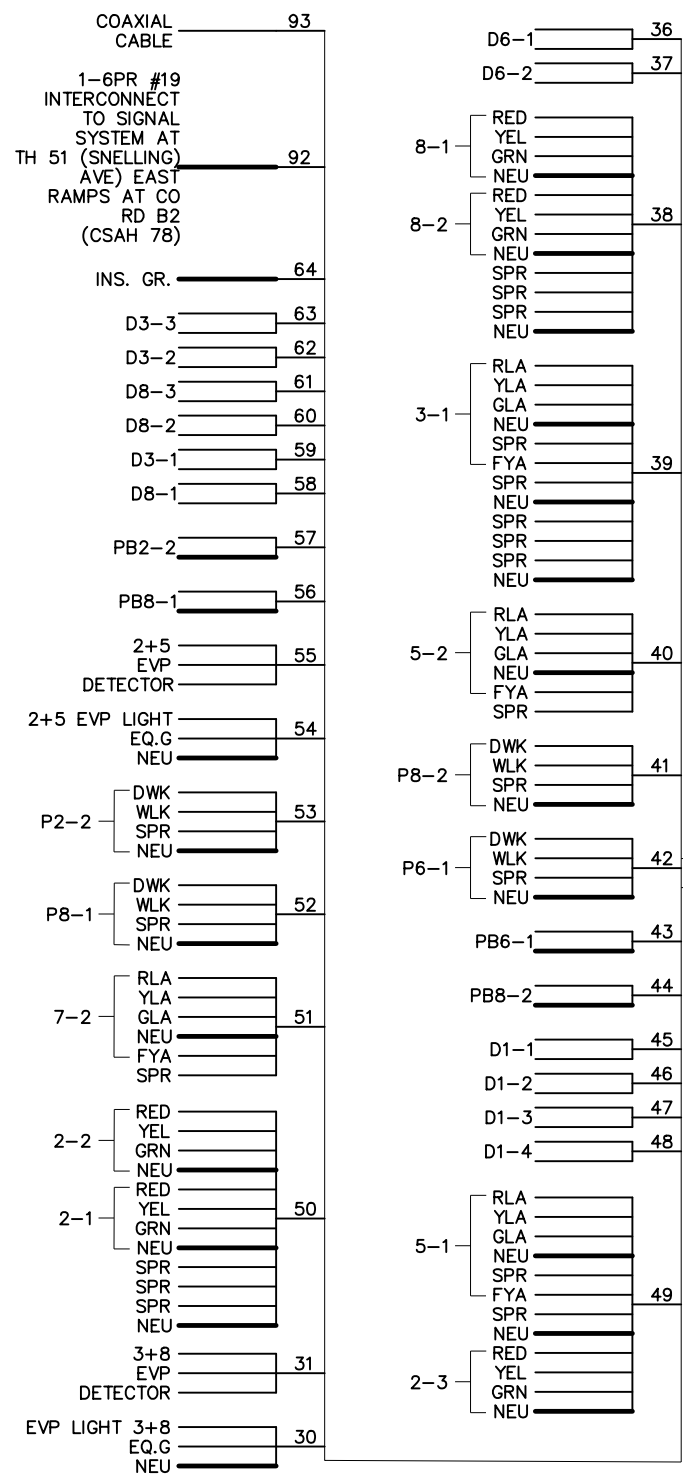
SYSTEM ID: 1935918 T.E. 1519  
 METER ADDRESS: 2411 SNELLING AVE N  
 OLD SYSTEM ID: 20740

**WIRING DIAGRAM 1 OF 2**  
**TH 51 AT CO. RD. B2**  
**IN ROSEVILLE, RAMSEY COUNTY**

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ.NO. 6216-140 (T.H.51)		SHEET NO. 3 OF	4 SHEETS

I/PLOT NAME: wiring diagram 2 of 2  
 PATH & FILENAME: Projects\DM罗斯05\00000\Traffic\Signals\20740 (Co Rd B2)\20740AL.sjldgn  
 PLOTTED/REVISED: 12-AUG-2019

# CONTROLLER CABINET



BY	DATE	REVISIONS
SJK	02/14/19	OPERATION PLAN

SYSTEM ID: 1935918 T.E. 1519  
 METER ADDRESS: 2411 SNELLING AVE N  
 OLD SYSTEM ID: 20740

## WIRING DIAGRAM 2 OF 2 TH 51 AT CO. RD. B2 IN ROSEVILLE, RAMSEY COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____ LIC. NO. _____ DATE: _____ <small>LICENSED PROFESSIONAL ENGINEER</small>			
STATE PROJ. NO. 6216-140 (T.H.51)		SHEET NO. 4 OF 4 SHEETS	