

PLOTTED/REVISED: 9-JAN-2023

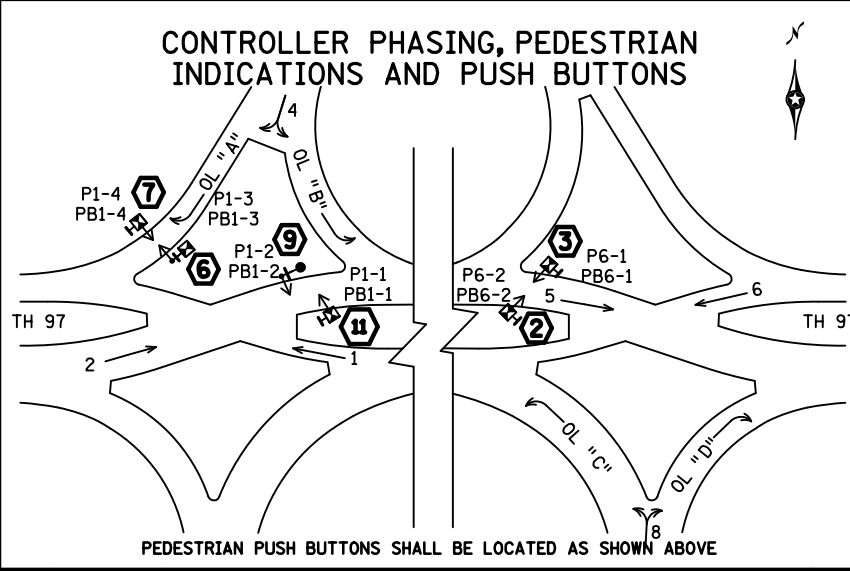
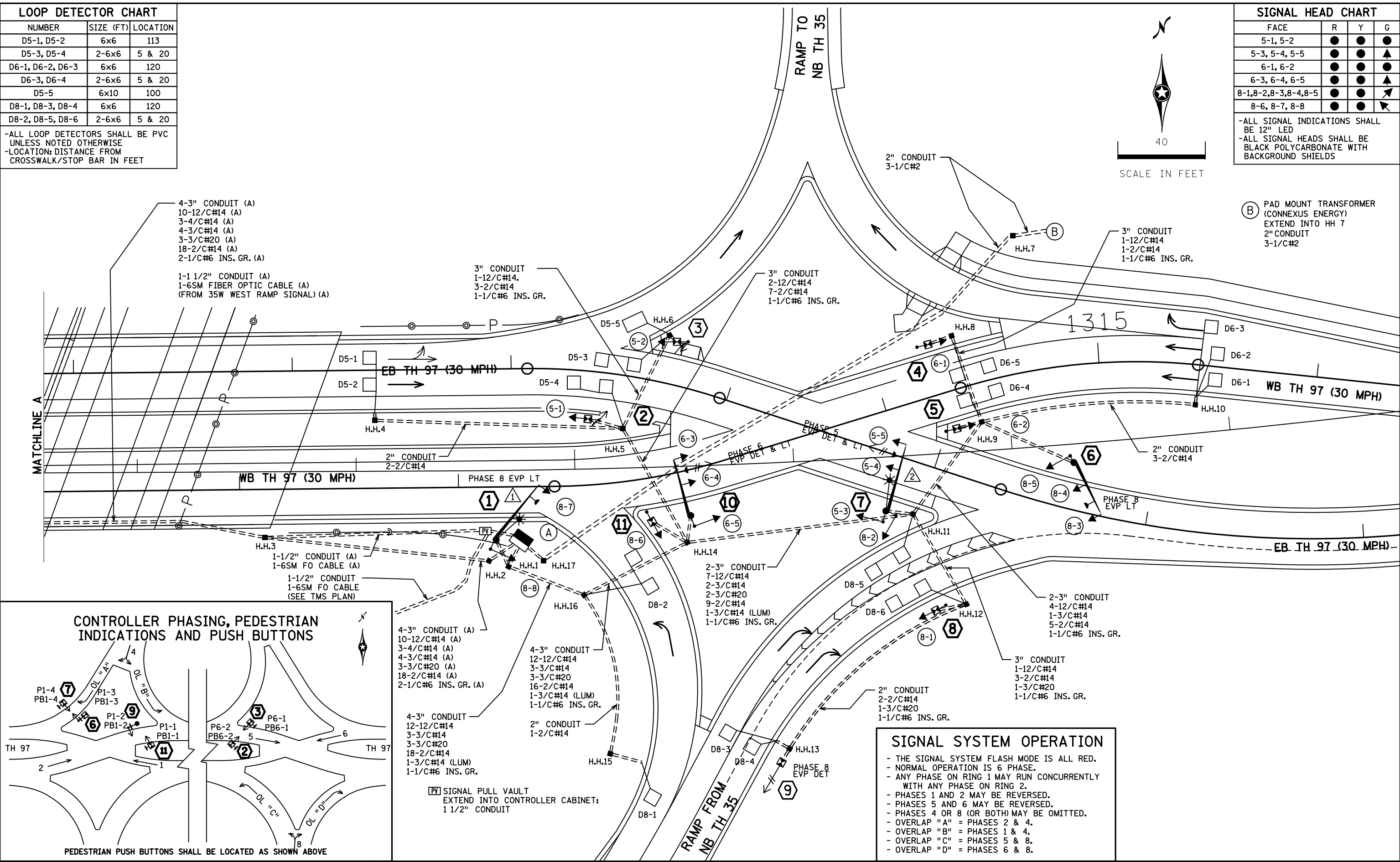
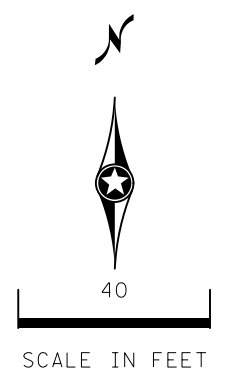
DISTRICT \*: Metro  
I/PLOT NAME: Intersection layout  
FILENAME: Projects\DM\_FOS\035\0000\Traffic\Signals\I406 TH35 @ 97 EAST RAMP DDI 2423270\2423270\_Sgl.dgn

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D5-1, D5-2	6x6	113
D5-3, D5-4	2-6x6	5 & 20
D6-1, D6-2, D6-3	6x6	120
D6-3, D6-4	2-6x6	5 & 20
D5-5	6x10	100
D8-1, D8-3, D8-4	6x6	120
D8-2, D8-5, D8-6	2-6x6	5 & 20

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

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

-ALL SIGNAL INDICATIONS SHALL BE 12" LED  
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS



**SIGNAL SYSTEM OPERATION**

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE.
- ANY PHASE ON RING 1 MAY RUN CONCURRENTLY WITH ANY PHASE ON RING 2.
- PHASES 1 AND 2 MAY BE REVERSED.
- PHASES 5 AND 6 MAY BE REVERSED.
- PHASES 4 OR 8 (OR BOTH) MAY BE OMITTED.
- OVERLAP "A" = PHASES 2 & 4.
- OVERLAP "B" = PHASES 1 & 4.
- OVERLAP "C" = PHASES 5 & 8.
- OVERLAP "D" = PHASES 6 & 8.

BY	DATE	REVISIONS
SJK	1/10/23	AS-BUILT PLAN SP 8280-47

SYSTEM ID: 2423270 T.E.  
METER ADDRESS: HWY 97 @ 35  
OLD SYSTEM ID:

**INTERSECTION LAYOUT**  
TH 35 AT TH 97 EAST DDI  
IN COLUMBUS TWP. ANOKA COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO. 8280-47 (T.H.35)		SHEET NO. 1 OF 4 SHEETS	

PLOTTED/REVISED: 9-JAN-2023

DISTRICT \*: Metro  
 PLOT NAME: pole notes  
 FILENAME: Projects\DM\_FROSO35\00000\Traffic\Signals\1406 TH35 @ 97 EAST RAMP DDI 2423270\2423270\_Sgl.dgn

① PA85 POLE FOUNDATION  
 TYPE PA-85-A-25-D40-9  
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT) AT 10 DEG  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-ANGLE MOUNT SIGNAL AT 180 DEG  
 1-EVP CONFIRMATORY LIGHT (PHASE 8)  
 1-R3-5L SIGN MOUNTED ADJACENT TO SIGNAL HEAD 8-7  
 EXTEND INTO HH 1:  
 3" CONDUIT  
 1-12/C#14  
 1-3/C#14  
 1-3/C#14 (LUM)  
 1-1/C#6 INS. GR.

② PEDESTAL FOUNDATION  
 13' SIGNAL POLE PLUS PEDESTAL BASE  
 1-STRAIGHT MOUNT SIGNAL AT 270 DEG  
 1-STRAIGHT MOUNT CD PED IND AT 45 DEG  
 1-APS PB AND SIGN (RT ARROW) (PB6-2)  
 WITH APS PUSH BUTTON MOUNTING SPACERS  
 EXTEND INTO HH 5:  
 3" CONDUIT  
 1-12/C#14  
 1-2/C#14  
 1-1/C#6 INS. GR.

③ PEDESTAL FOUNDATION  
 13' SIGNAL POLE PLUS PEDESTAL BASE  
 1-STRAIGHT MOUNT SIGNAL AT 90 DEG  
 1-STRAIGHT MOUNT CD PED IND AT 0 DEG  
 1-APS PB AND SIGN (LT ARROW) (PB6-1)  
 WITH APS PUSH BUTTON MOUNTING SPACERS  
 EXTEND INTO HH 6:  
 3" CONDUIT  
 1-12/C#14  
 1-2/C#14  
 1-1/C#6 INS. GR.

④ PEDESTAL FOUNDATION  
 13' SIGNAL POLE PLUS PEDESTAL BASE  
 1-STRAIGHT MOUNT SIGNAL AT 270 DEG  
 EXTEND INTO HH 8:  
 3" CONDUIT  
 1-12/C#14  
 1-1/C#6 INS. GR.

⑤ PEDESTAL FOUNDATION  
 13' SIGNAL POLE PLUS PEDESTAL BASE  
 1-STRAIGHT MOUNT SIGNAL AT 90 DEG  
 EXTEND INTO HH 9:  
 3" CONDUIT  
 1-12/C#14  
 1-1/C#6 INS. GR.

⑥ PA85 POLE FOUNDATION  
 TYPE PA-85-A-25  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 15'  
 1-ANGLE MOUNT SIGNAL AT 180 DEG  
 1-EVP CONFIRMATORY LIGHT (PHASE 8)  
 2-R3-5R SIGNS MOUNTED ADJACENT TO SIGNAL HEADS 8-3, 8-4  
 EXTEND INTO HH 9:  
 3" CONDUIT  
 2-12/C#14  
 1-3/C#14  
 1-1/C#6 INS. GR.

⑦ PA90 POLE FOUNDATION  
 TYPE PA-90-A-30-D40-9  
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT) AT 0 DEG  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'  
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
 1-EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 5)  
 2-R3-5A SIGNS MOUNTED ADJACENT TO SIGNAL HEADS 5-4, 5-5  
 EXTEND INTO HH 11:  
 3" CONDUIT  
 2-12/C#14  
 1-3/C#14  
 1-3/C#20  
 1-3/C#14 (LUM)  
 1-1/C#6 INS. GR.

⑧ PEDESTAL FOUNDATION  
 13' SIGNAL POLE PLUS PEDESTAL BASE  
 1-STRAIGHT MOUNT SIGNAL AT 270 DEG  
 EXTEND INTO HH 12:  
 3" CONDUIT  
 1-12/C#14  
 1-1/C#6 INS. GR.

⑨ PEDESTAL FOUNDATION  
 10' SIGNAL POLE PLUS PEDESTAL BASE  
 1-EVP DETECTOR (PHASE 8) MOUNTED ON TOP OF POLE  
 EXTEND INTO HH 13:  
 2" CONDUIT  
 1-3/C#20  
 1-1/C#6 INS. GR.

⑩ PA85 POLE FOUNDATION  
 TYPE PA-85-A-25  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'  
 1-ANGLE MOUNT SIGNAL AT 180 DEG  
 1-EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)  
 2-R3-5A SIGNS MOUNTED ADJACENT TO SIGNAL HEADS 6-3, 6-4  
 EXTEND INTO HH 14:  
 3" CONDUIT  
 2-12/C#14  
 1-3/C#14  
 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)

CONTROLLER CABINET TO HH1:  
 3" CONDUIT 3" CONDUIT  
 3-12/C#14 3-12/C#14  
 2-3/C#14 7-2/C#14  
 1-3/C#20  
 2-2/C#14  
 1-1/C#6 INS. GR.

3" CONDUIT 3" CONDUIT  
 3-12/C#14 4-12/C#14  
 1-3/C#14 1-3/C#14  
 2-3/C#20 5-2/C#14  
 4-2/C#14

CONTROLLER CABINET TO HH2:  
 3" CONDUIT 3" CONDUIT  
 2-12/C#14 3-12/C#14  
 5-2/C#14 1-4/C#14  
 1-1/C#6 INS. GR. 1-3/C#14  
 2-2/C#14  
 1-1/C#6 INS. GR.

3" CONDUIT 3" CONDUIT  
 3-12/C#14 2-12/C#14  
 1-4/C#14 1-4/C#14  
 2-3/C#14 1-3/C#14  
 1-3/C#20 2-3/C#20  
 2-2/C#14 6-2/C#14

CONTROLLER CABINET TO SIGNAL PULL VAULT:  
 1 1/2" CONDUIT  
 1-6SM FIBER OPTIC CABLE  
 1-1/C#14 (TRACER)

CONTROLLER CABINET TO SERVICE CABINET:  
 2" CONDUIT  
 3-1/C#6

CONTROLLER CABINET TO SERVICE CABINET:  
 2" CONDUIT  
 1-6PR.#19 (COMMS)

3" CONDUIT STUBBED OUT FROM  
 CONTROLLER CABINET (CAPPED BOTH ENDS)

2" CONDUIT STUBBED OUT FROM  
 CONTROLLER CABINET (CAPPED BOTH ENDS)

1-1/2" CONDUIT STUBBED OUT FROM  
 CONTROLLER CABINET FOR FUTURE SIGNAL  
 INTERCONNECT TO HORNSBY ST (CAPPED BOTH ENDS)

SERVICE CABINET TO HH17:  
 2" CONDUIT  
 3-1/C#2

SERVICE CABINET TO HH1:  
 2" CONDUIT  
 2-3/C#14 (LUM)

SERVICE CABINET TO GROUND (8FT MIN FROM CABINET)  
 1" CONDUIT  
 1-1/C#6 INS. GR.

2" CONDUIT STUBBED OUT FROM  
 SERVICE CABINET (CAPPED BOTH ENDS)

BY	DATE	REVISIONS
SJK	1/10/23	AS-BUILT PLAN SP 8280-47

SYSTEM ID: 2423270 T.E.  
 METER ADDRESS: HWY 97 @ 35  
 OLD SYSTEM ID:

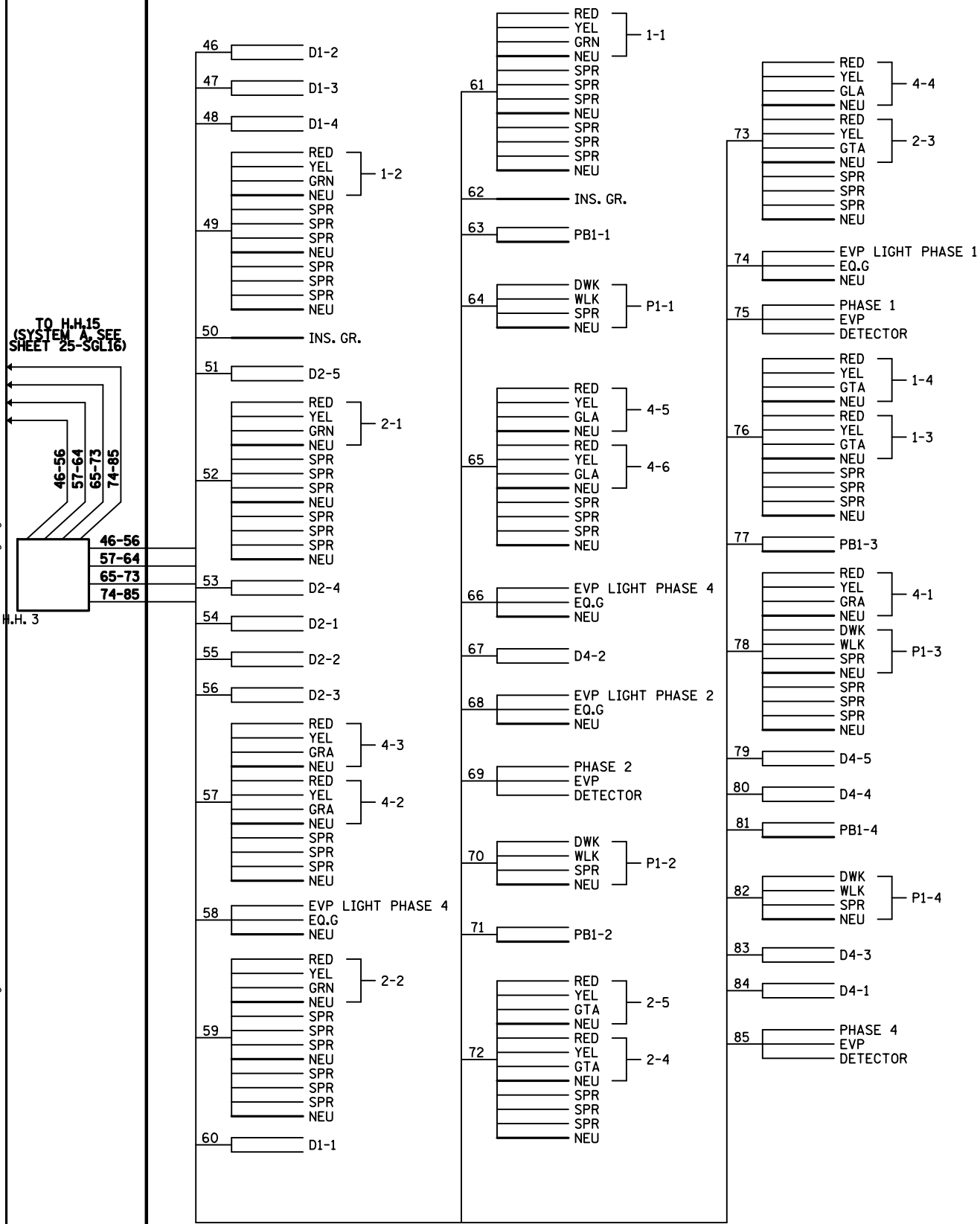
**POLE NOTES**  
**TH 35 AT TH 97 EAST DDI**  
**IN COLUMBUS TWP. ANOKA COUNTY**

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ.NO. 8280-47 (T.H.35)		SHEET NO. 2 OF	4 SHEETS

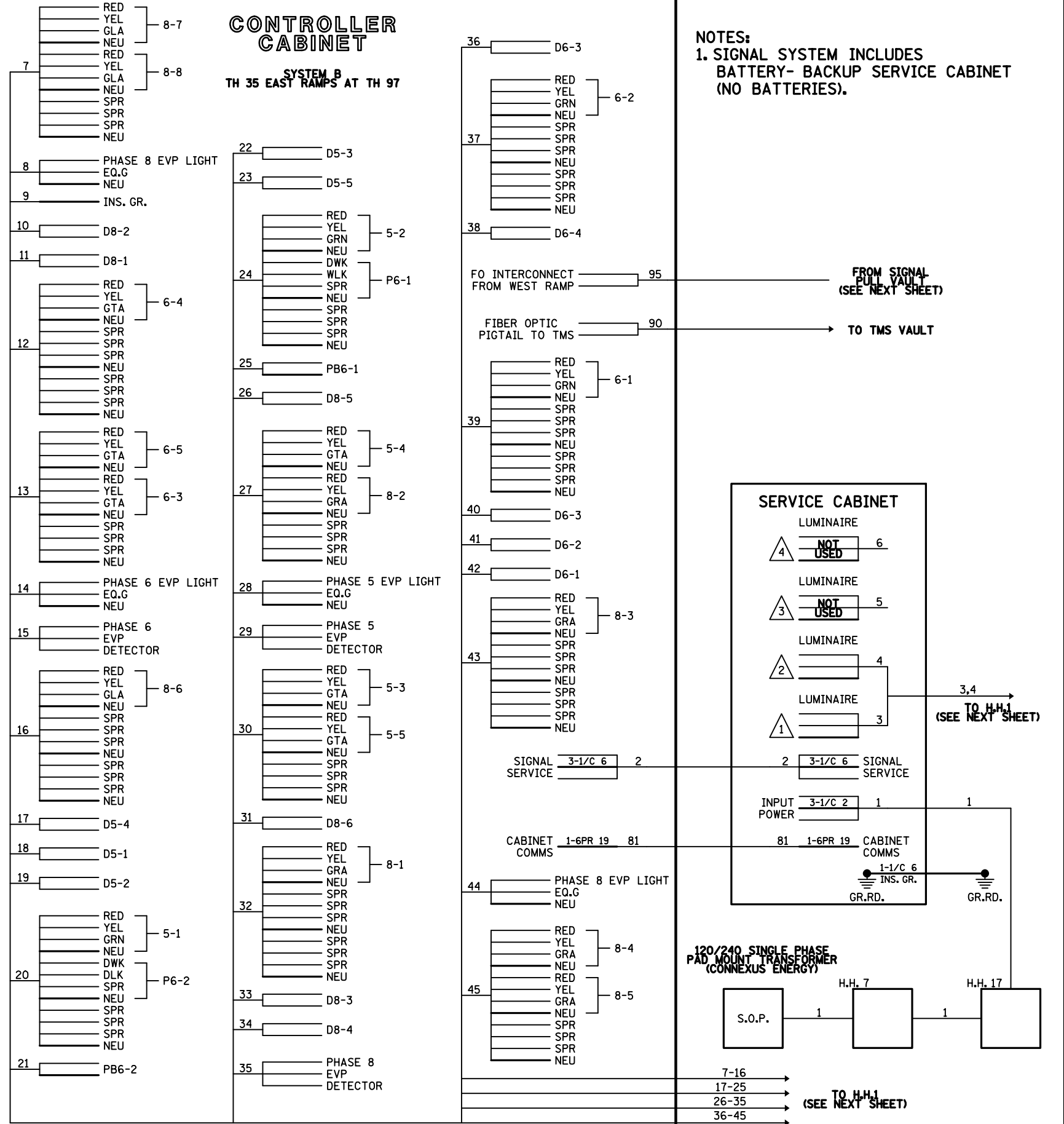
PLOTTED/REVISED: 9-JAN-2023

DISTRICT \*: Metro  
PROJECT NAME: Metro  
FILE NAME: Projects\DM\_FOS\035\0000\Traffic\Signals\1406 TH35 @ 97 EAST RAMP DDI 2423270\2423270\_Sgl.dgn

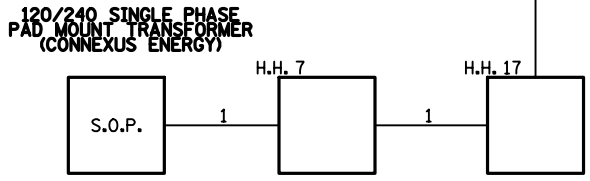
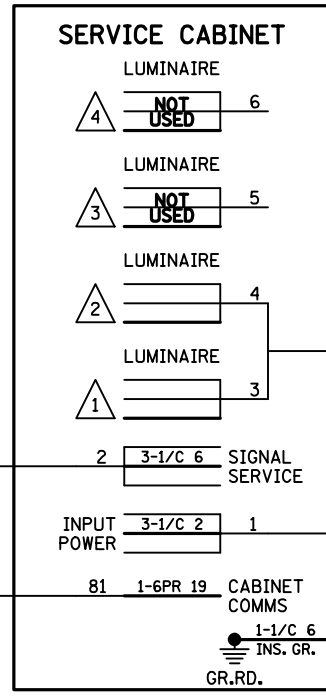
SYSTEM A  
TH 35 WEST RAMPS AT TH 97



CONTROLLER CABINET  
SYSTEM B  
TH 35 EAST RAMPS AT TH 97



NOTES:  
1. SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET (NO BATTERIES).



BY	DATE	REVISIONS
SJK	1/10/23	AS-BUILT PLAN SP 8280-47

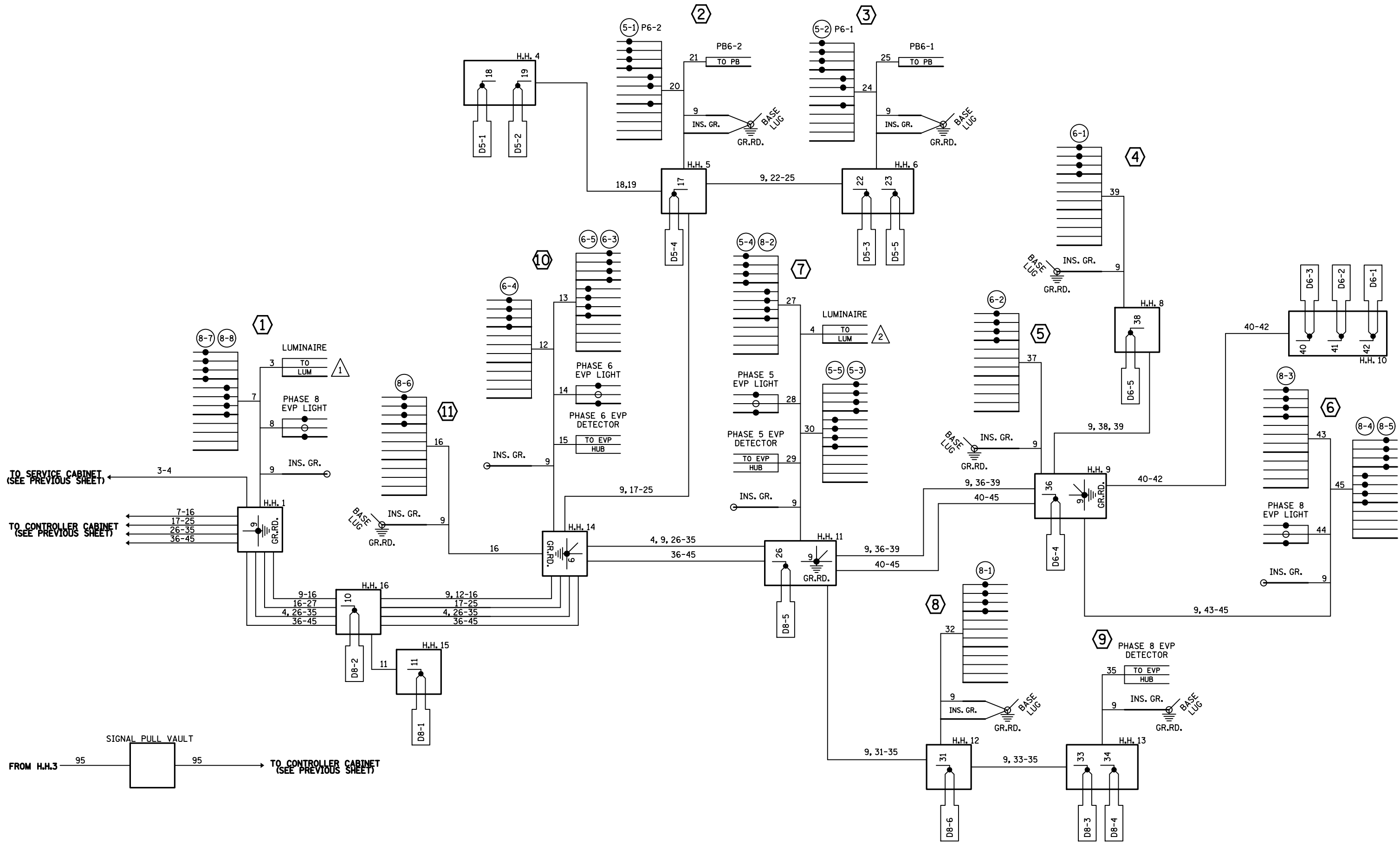
SYSTEM ID: 2423270 T.E.  
METER ADDRESS: HWY 97 @ 35  
OLD SYSTEM ID:

FIELD WIRING DIAGRAM 1 OF 2  
TH 35 AT TH 97 EAST DDI  
IN COLUMBUS TWP. ANOKA COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO. 8280-47 (T.H.35)		SHEET NO. 3 OF 4 SHEETS	

PLOTTED/REVISED: 9-JAN-2023

DISTRICT \*: Metro  
 IPLOT NAME: field wiring diagram 2 of 2  
 FILENAME: Projects\DM\_FOS\035\0000\Traffic\Signals\1406 TH35 @ 97 EAST RAMP DDI 2423270\2423270\_Sgl.dgn

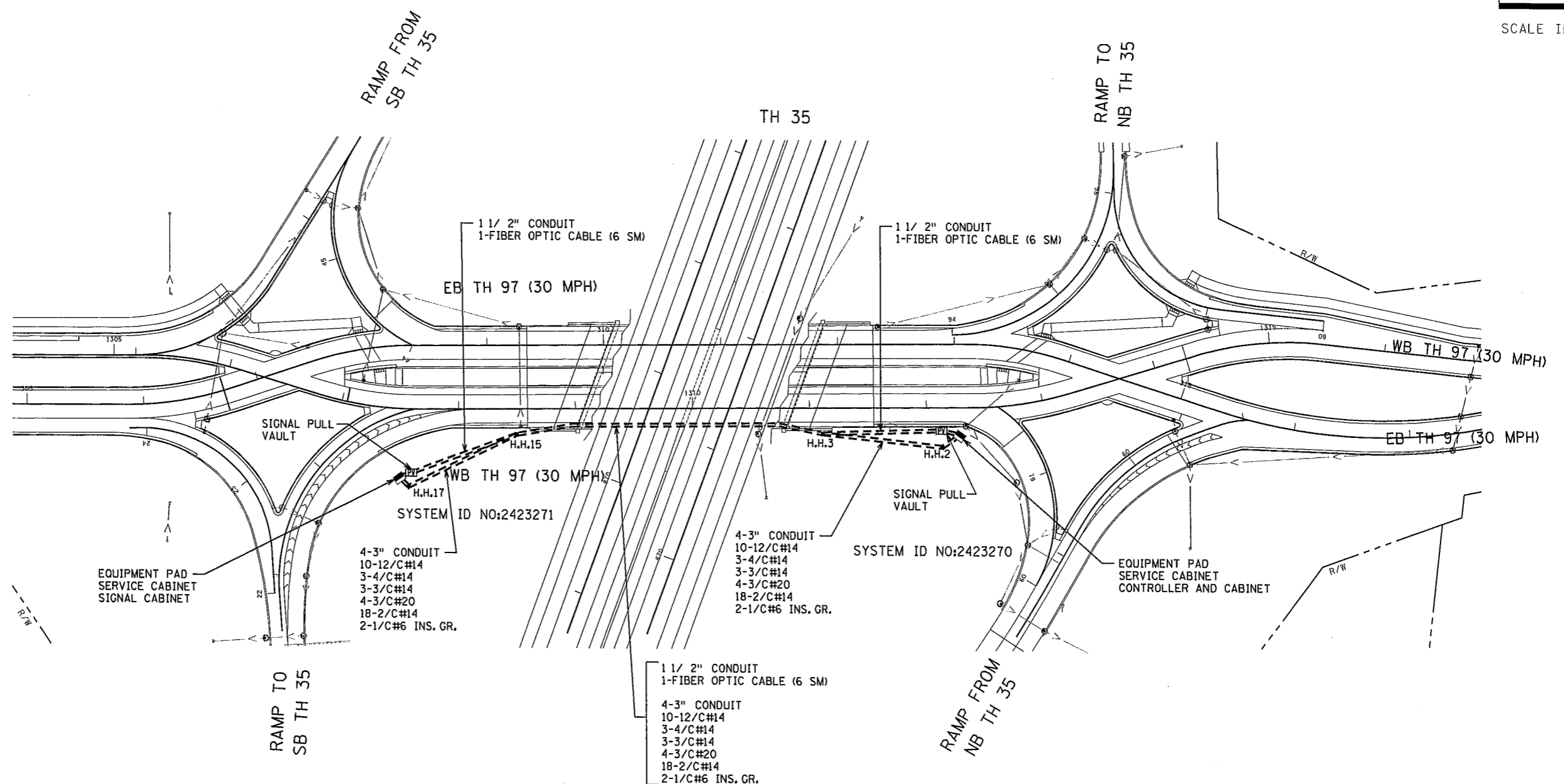


BY	DATE	REVISIONS
SJK	1/10/23	AS-BUILT PLAN SP 8280-47




SYSTEM ID: 2423270 T.E.  
 METER ADDRESS: HWY 97 @ 35  
 OLD SYSTEM ID:

**FIELD WIRING DIAGRAM 2 OF 2  
 TH 35 AT TH 97 EAST DDI  
 IN COLUMBUS TWP. ANOKA COUNTY**

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____		LIC. NO. _____ DATE: _____	
STATE PROJ. NO. 8280-47 (T.H.35)		SHEET NO. 4 OF 4 SHEETS	



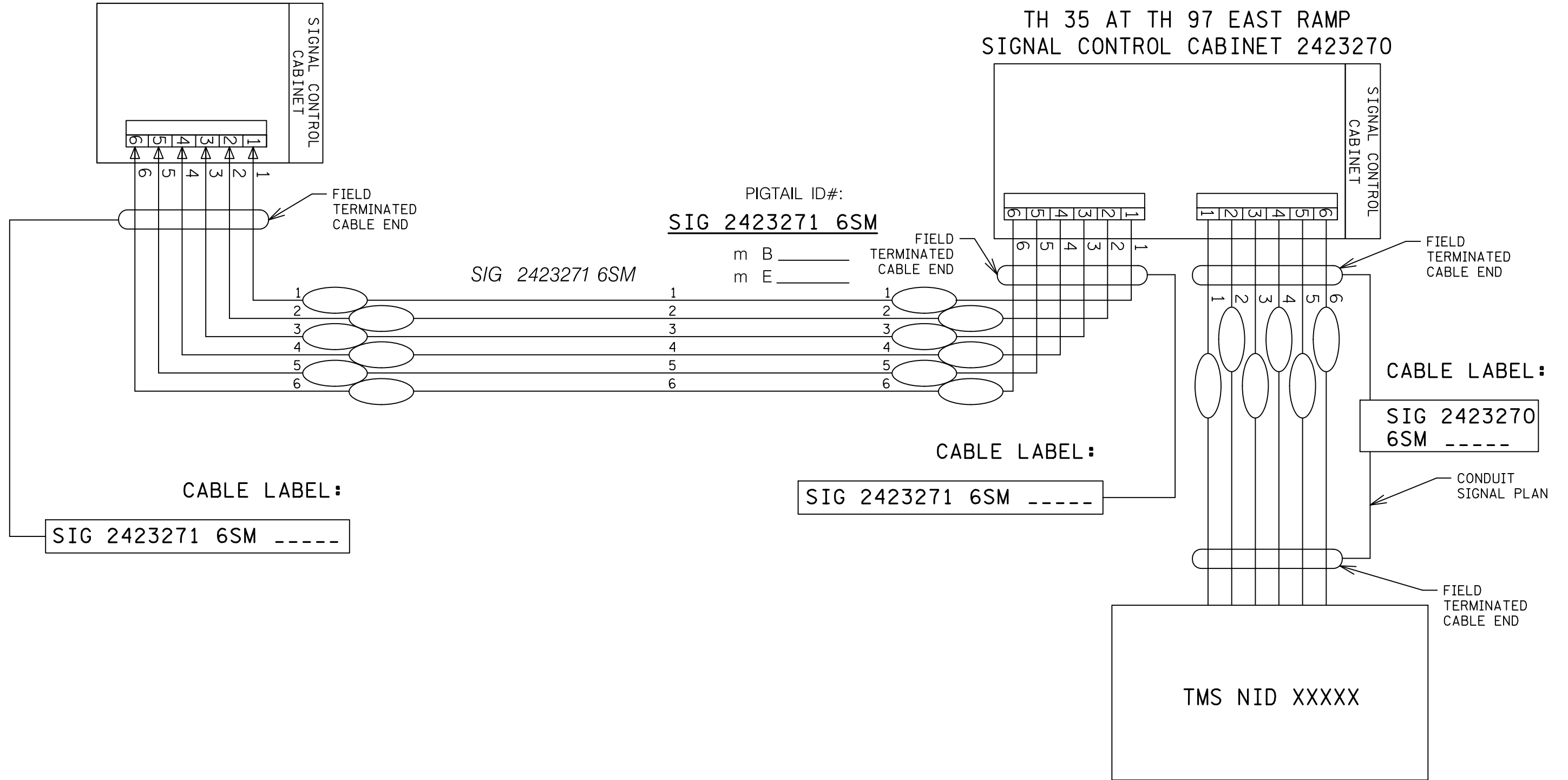
DATE: 11/30/2018  
 FILENAME: P:\TKDAN-35 DDI - Forest Lake\CADD\Sheets\Plan\cf828047\_sgl13.dgn

		DR: MTR	I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE: <i>Jing Li</i> PRINTED NAME: JING LI DATE: 11/30/2018 LIC. NO. 25992	MNDOT ACCEPTANCE		  	I-35 FOREST LAKE UBOL AND BRIDGES DESIGN BUILD PROJECT	INTERCONNECT LAYOUT TH 35 AT TH 97 IN COLUMBUS TWP, ANOKA COUNTY			
		DES: MTR		SIGNATURE: <i>Eric Embacher</i> SIGNATURE: 12/12/18 DATE:				STATE PROJECT NO. 8280-47 (TH 35)		Sheet No. 25-SGL13 OF 25-SGL23	
NO.	DATE	BY		DESCRIPTION OF REVISIONS	CHK: JL			DATE			

FIBER OPTIC SCHEMATIC  
(FOR SIGNAL COMMUNICATIONS)

TH 35 AT TH 97 WEST RAMP  
SIGNAL CONTROL CABINET 2423271

TH 35 AT TH 97 EAST RAMP  
SIGNAL CONTROL CABINET 2423270



PLOTTED/REVISED: 9-JAN-2023

DISTRICT \*: Metro  
PLOT NAME: Fiber schematic  
FILENAME: Projects\DM\_FROSO35\00000\Traffic\Sig\Signal\TH35 @ 97 EAST RAMP DDI 2423270\T2423270\_Sgl.dgn

BY	DATE	REVISIONS
SJK	1/10/23	AS-BUILT PLAN SP 8280-47

SYSTEM ID:	T.E.
METER ADDRESS:	
OLD SYSTEM ID:	

FIBER OPTIC SCHEMATIC  
TH 35 AT TH 97 DDI  
IN COLUMBUS TWP. ANOKA COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ.NO. 8280-47 (T.H.35)		SHEET NO. 1 OF	1 SHEETS