

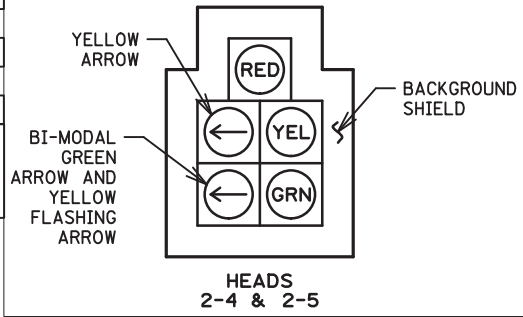
PLOTTED/REVISED: 30-APR-2021

DISTRICT #: Metro
PLOT NAME: T1735270sg11
FILENAME: Projects\DM_PROJ\035W\000\Traffic\Signals\5.25 1735270 (20576) 106th East Ramp\Pending\T1735270sg1.dgn

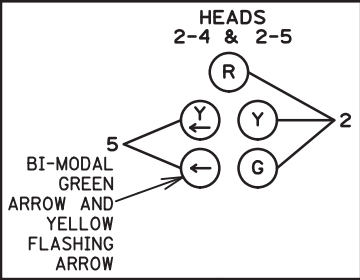
SIGNAL HEAD CHART						
FACE	R	Y	FYA	G	Y	G
2-4, 2-5	●	●	←	●	←	←
2-1, 2-2, 2-3	●	●		●		
8-1, 8-2	●	●		●		
8-3, 8-4	←	←		←		
6-1, 6-2	●	●		●		
6-3	↑	↑		↑		

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

5 SECTION FYA CLUSTER HEAD DETAIL



SIGNAL HEAD PHASING

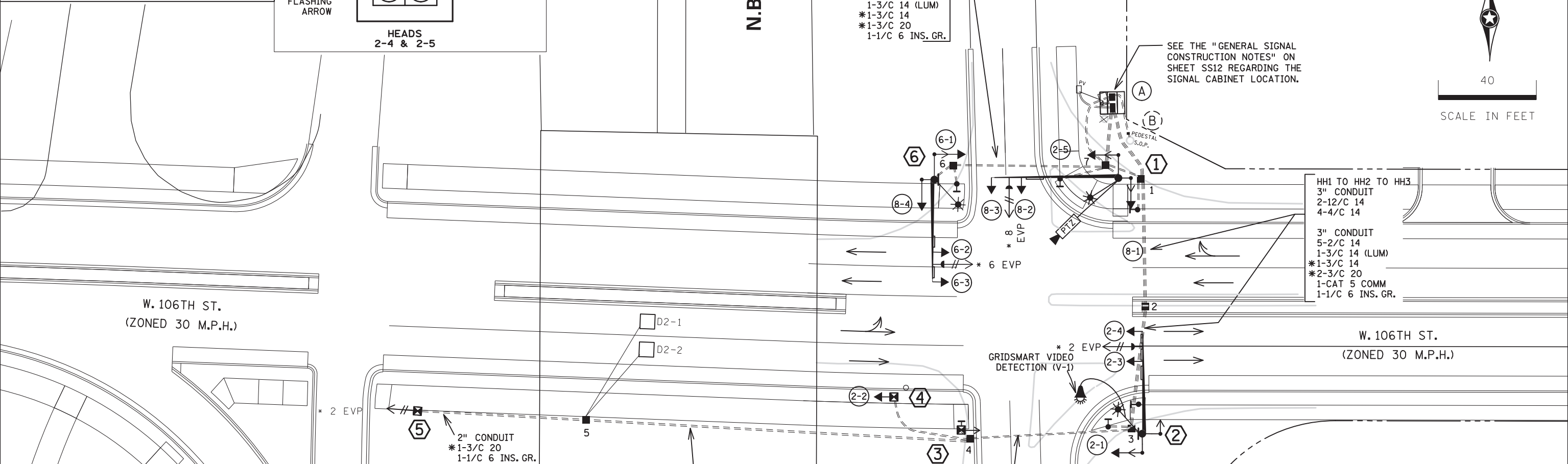
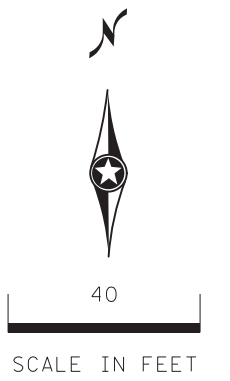


N.B. T.H. 35W

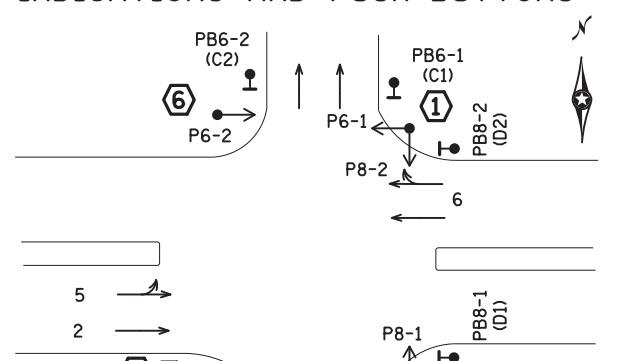
LOOP DETECTOR CHART

NUMBER	SIZE (FT)	LOCATION
D2-1, D2-2	2-6X6	120

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



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON SOFT RECALL.

- NOTES:**
1. THE EXISTING SIGNAL SYSTEM SHALL BE REMOVED, AND SOME OF THE STORM SEWER WORK MUST BE COMPLETED BEFORE THE PROPOSED SIGNAL SYSTEM CAN BE CONSTRUCTED. SEE THE SIGNAL SYNCHRONIZATION LAYOUT ON SHEET SS16.
 2. SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
 3. REFER TO THE "INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL COMPONENTS.
 4. ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY MNDOT OFFICE PERSONNEL.
 5. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 6. FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
 7. PAVEMENT MARKINGS ARE INCLUDED AS PART OF PAVEMENT MARKING SECTION OF THE PLAN.
 8. THE CONSTRUCTION OF PEDESTRIAN CURB RAMPS AND CONCRETE WALK ARE INCLUDED AS PART OF THE ROADWAY SECTION OF THE PLAN.
 9. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 10. USE PVC OR HDPE FOR ALL NEW CONDUIT.
 11. CONDUIT SIZES ARE NOMINAL DIAMETER.
 12. ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
 13. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

BY	DATE	REVISIONS

SYSTEM ID: 4078702 T.E. 26570
 METER ADDRESS: 880 W 106TH STREET
 OLD SYSTEM ID: 1735270

**INTERSECTION LAYOUT
 TRAFFIC CONTROL SIGNAL SYSTEM
 T.H. 35W AT W 106TH STREET (EAST RAMP)
 IN BLOOMINGTON, HENNEPIN COUNTY**

S.A.P. NO. 107-407-022
 DRAWN BY: RMV CKD BY: CDB DATE: 4/30/21
 CERTIFIED BY: *Michael P. Selinsky* LIC. NO. 19863 DATE: 5/3/21
 STATE PROJ. NO. 2782-358 (T.H.35W) SHEET NO. SS11 OF SS20 SHEETS

INTERSECTION NOTES

⑥ X=506661.0759, Y=223979.4130
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (6-3)
 1-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' (6-2)
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (6-1, 8-4)
 1-ANGLE MOUNT C. D. PED HEAD AT 180 DEG (P6-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 2-TYPE D SIGNS (D-3, D-4) (SEE SIGN DETAILS)

3" CONDUIT TO HH 6:
 2-12/C 14
 1-4/C 14
 1-6/C 14
 1-3/C 14 (LUM)
 * 1-3/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN (RT ARROW)(PB6-1)
 EXTEND INTO HH 6:
 1" NOM. DIA. CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN (LT ARROW)(PB6-1)
 EXTEND INTO HH 7:
 1" NOM. DIA. CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

① X=506736.1535, Y=223980.0498
 PA100 POLE FOUNDATION
 TYPE PA100-A-50-X6-350/CAM (AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (8-3)
 1-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' (8-2)
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (8-1, 2-5)
 2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG (P8-2, P6-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 3+8)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-PTZ VIDEO CAMERA W/MOUNT (STATE FURNISHED)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)

3" CONDUIT TO HH 7:
 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-CAT 5E (CAMERA)
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN (RT ARROW)(PB8-2)
 EXTEND INTO HH 1:
 1" NOM. DIA. CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

PED PB STATION
 1-APS PB AND SIGN (LT ARROW)(PB8-1)
 EXTEND INTO HH 3:
 1" NOM. DIA. CONDUIT
 1-2/C 14
 1-1/C 6 INS. GR.

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

② X=506745.9026, Y=223875.6778
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9
 ① (A 3/4" THREADED HALF COUPLING (FOR EVP MOUNTING), SHALL BE F&I 5' FROM THE END OF THE MAST ARM)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (2-4)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11' (2-3)
 1-ANGLE MOUNT SIGNAL AT 180 DEG (2-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-GRIDSMArt VIDEO DETECTION CAMERA (V-1) (STATE FURNISHED) MOUNTED ON LUMINAIRE AT 2-4' FROM END
 1-R10-X12 SIGN ADJACENT TO HEAD (2-4)
 1-D1-X1L "FRONTAGE ROAD" W/LEFT ARROW
 1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)

3" CONDUIT TO HH 3:
 2-12/C 14
 2-4/C 14
 1-3/C 14 (LUM)
 * 1-3/C 14
 * 1-3/C 20
 1-CAT 5 COMM
 1-1/C 6 INS. GR.

① MAST ARM FOR POLE NO. 2 HAS A NON-STANDARD EVP MOUNTING LOCATION TO AVOID CONFLICTS WITH MAST ARM SIGNING.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES
 CONTROLLER AND CABINET (STATE FURNISHED)

3" CONDUIT TO HH 7:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 * 1-3/C 20
 * 1-3/C 14
 1-CAT 5 COMM

3" CONDUIT TO HH 1:
 2-12/C 14
 2-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-CAT 5 COMM

3" CONDUIT TO HH 7:
 2-12/C 14
 1-6/C 14
 1-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 2-2/C 14
 1-1/C 6 INS. GR.

3" CONDUIT TO HH 1:
 6-2/C 14
 2-4/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD

2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)

1-1/2" CONDUIT TO TMS PULL VAULT:
 1-FO PIGTAIL (6-SM) (INPLACE - PULL BACK AND REINSTALL)
 (SEE "GENERAL SIGNAL CONSTRUCTION NOTE" NO. 3)

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

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

SERVICE CABINET TO PEDESTAL AT S.O.P. POLE:
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO HH 7:
 2" CONDUIT
 3-3/C 14 (LUM)

HH7 TO HH 1:
 2" CONDUIT
 1-3/C 14 (LUM)

SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)

Ⓑ S.O.P. (INPLACE POLE MOUNTED 120/240V TRANSFORMER)
 PEDESTAL AT BASE OF POLE (XCEL ENERGY)
 2" CONDUIT FROM PEDESTAL INTO SERVICE CABINET:
 3-1/C 2

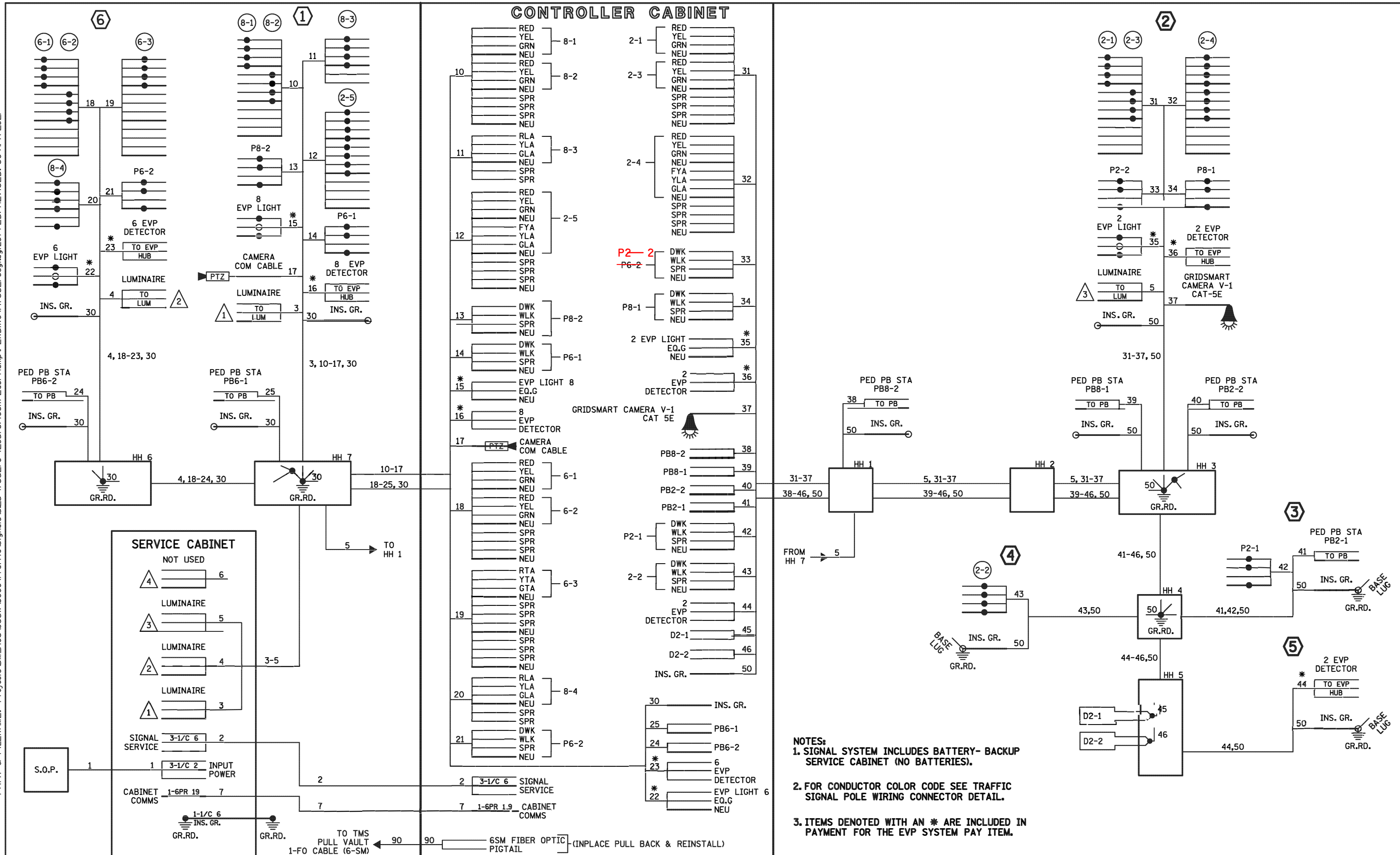
GENERAL SIGNAL CONSTRUCTION NOTES:

- ALL COMPONENTS OF THE EXISTING SIGNAL SHALL BE REMOVED BEFORE CONSTRUCTING THE NEW SIGNAL.
- THE PROPOSED SIGNAL CABINET WILL BE LOCATED AT THE SAME LOCATION OF THE EXISTING SIGNAL CABINET SO THAT THE EXISTING FIBER OPTIC PIGTAIL LENGTH WILL BE LONG ENOUGH TO BE INSTALLED INTO THE NEW CABINET. THERE IS NOT ANY AVAILABLE SLACK IN THE CABLE THAT CAN BE USED.
- PULL BACK EXISTING 6-SM FIBER FROM THE EXISTING SIGNAL CABINET TO THE EXISTING TMS PULL VAULT. F&I CONDUIT FROM THE EXISTING PULL VAULT TO THE NEW SIGNAL CABINET. REINSTALL THE 6-SM FIBER TO NEW SIGNAL CABINET. FIELD TERMINATE FIBER AND TEST (BOTH POWER METER AND OTDR). HANDLE THE FIBER OPTIC CABLE WITH CARE. DO NOT EXCEED THE BEND RADIUS OR DAMAGE THE CABLE IN ANY WAY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE CABLE.

DISTRICT #: Metro
 I/PLOT NAME: T735270sgll2
 PATH & FILENAME: Projects\DM_R05\035W\0000\Traffic\Signal\5.25_1735270\106th East Ramp\ENDING\T735270sgll2\REVISED: 30-APR-2021

BY	DATE	REVISIONS	SYSTEM ID: 4078702	T.E. 26570	INTERSECTION NOTES TRAFFIC CONTROL SIGNAL SYSTEM T.H. 35W AT W 106TH STREET (EAST RAMP) IN BLOOMINGTON, HENNEPIN COUNTY	S.A.P. NO. 107-407-022	DRAWN BY: RMV	CKD BY: CDB	DATE: 12/1/20
			METER ADDRESS: 880 W 106TH STREET			CERTIFIED BY: <i>Michael P. Selinsky</i>	LIC. NO. 19863	DATE: 5/3/21	
			OLD SYSTEM ID: 1735270			STATE PROJ. NO. 2782-358 (T.H. 35W) SHEET NO. SS12 OF SS20 SHEETS			

DISTRICT #: Metro
 I/PLOT NAME: T1735270sgl/3
 PATH & FILENAME: Projects\DM_R05\035W\0000\Traffic\Signal\5.25 1735270 (2015/6) 106th East Ramp\Pending\T1735270sgl.dgn/REVISED: 30-APR-2021

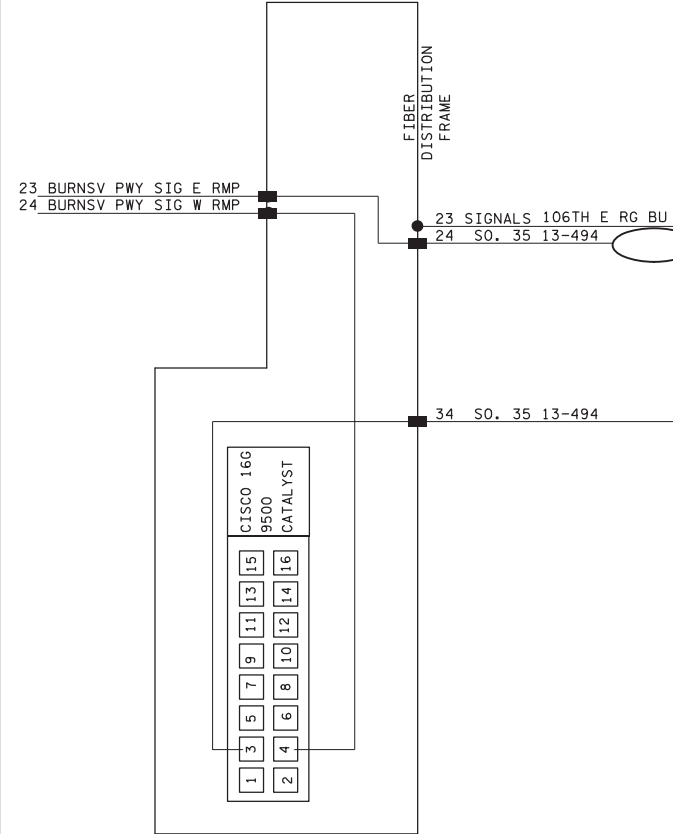


BY	DATE	REVISIONS	SYSTEM ID: 4078702 T.E. 26570	FIELD WIRING DIAGRAM TRAFFIC CONTROL SIGNAL SYSTEM T.H. 35W AT W 106TH STREET (EAST RAMP) IN BLOOMINGTON, HENNEPIN COUNTY	S.A.P. NO. 107-407-022	DRAWN BY: RMV CKD BY: CDB DATE: 12/1/20
			METER ADDRESS: 880 W. 106TH STREET		CERTIFIED BY: <i>Michael P. Suber</i> LICENSED PROFESSIONAL ENGINEER	LIC. NO. 19863 DATE: 5/3/21
			OLD SYSTEM ID: 1735270		STATE PROJ. NO. 2782-358 (T.H. 35W) SHEET NO. SS13 OF SS20 SHEETS	

DISTRICT #: Metro
 PLOT NAME: TT735270sgll4
 PATH & FILENAME: Projects\DM_R0S\035W\0000\Traffic\SIGNALS\5.25 1735270\sigl.dwg PLOTTED/REVISED: 30-APR-2021

35W-13 - SHELTER @ T.H. 35W & T.H. 13
 (LOCATED AT THE S.E. LOOP)

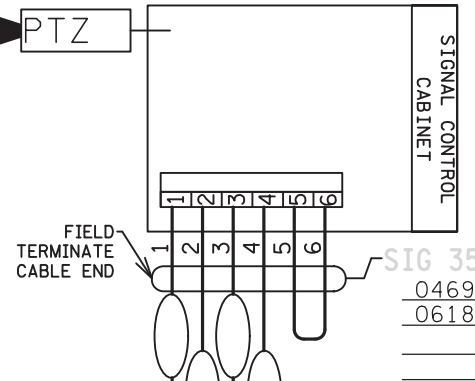
NOTE: FOR FULL SHELTER SCHEMATIC INFORMATION, SEE THE NEXT SHEET.



FIBER OPTIC CABLE MARKINGS @
 SHELTER FIBER RACK
 SHELTER ENTRY

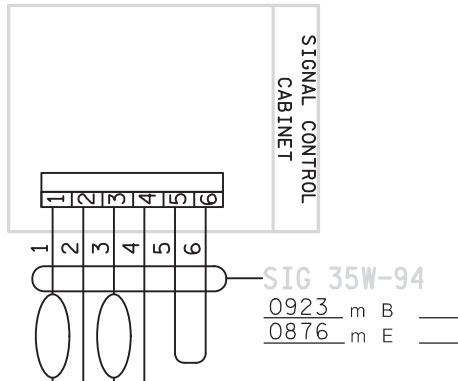
- F-35WU.17
PULL VAULT at TH 35TH 13 SHELTER
- F-35WU.17
VAULT at CLIFF RD (EAST)
- F-35WU.20
VAULT at NOR OF CLIFF RD (EAST)
- F-35WU.23
VAULT at BLACKDOG (EAST)
- F-35WU.26
VAULT at NORTH OF MN RIVER (EAST)
- F-35WU.29

SIGNAL CONTROL CABINET
 T.H. 35W @ 106th ST.
 SYSYTEM NO. 4029001(20141)



- F-35WU.35
VAULT at SOUTH SIDE 98TH (EAST)
- F-35WU.38
VAULT at 98TH (EAST)
- F-35WU.41
VAULT at SO OF 94TH (EAST)
- F-35WU.44

SIGNAL CONTROL CABINET
 T.H. 35W @ 94th ST.- EAST RAMP
 SYSYTEM NO. 1735273 (20579)



- F-35WU.47

VAULT AT
 106th AVE. (EAST)
 (SOUTH OF 106th)

PULL BACK EXISTING 6-SM FIBER FROM EXISTING SIGNAL CABINET. REINSTALL 6-SM FIBER TO NEW SIGNAL CABINET. FIELD TERMINATE FIBER AND TEST (BOTH POWER METER AND OTDR)

VAULT AT
 NORTH OF 94th (WEST)

BY	DATE	REVISIONS	SYSTEM ID:	T.E.	S.A.P. NO. 107-407-022	DRAWN BY:HRL	CKD BY:CDB	DATE:7/10/20
			METER ADDRESS:		CERTIFIED BY: <i>Michael P. Sulinsky</i>	LIC. NO. 19863	DATE: 5/3/21	
			OLD SYSTEM ID:		STATE PROJ.NO. 2782-358 (T.H.35W) SHEET NO. SS14 OF SS20 SHEETS			

FIBER OPTIC SCHEMATIC
 TRAFFIC CONTROL SIGNAL SYSTEM
 T.H. 35W AT W 106TH STREET (EAST RAMP)
 IN BLOOMINGTON, HENNEPIN COUNTY