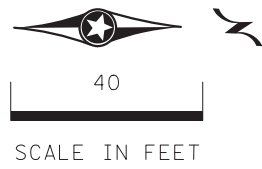


PLOTTED/REVISED: 27-SEP-2022

PLOT NAME: north ramp layout
FILENAME: Projects\DM_ROS\036\0000\Traffic\Signal\22_148\FAIRVIEW N RAMP-4341683\Perd\ngVT 4341683_sgl.dgn

VIDEO DETECTION			
NO.	CAMERA	LOCATION	PHASE
V-1	360 DEG.	1 LUM EXTENSION	ALL
V-2	360 DEG.	3 LUM EXTENSION	ALL

VIDEO DETECTION CAMERAS AND MOUNTING HARDWARE ARE STATE FURNISHED.



NOTES:

- SEE THE SPECIAL PROVISIONS FOR DEPARTMENT FURNISHED MATERIALS.
- THE EXACT LOCATION OF THE UNDERGROUND CONDUIT AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH MNDOT PERSONNEL. CONDUITS UNDER ROADWAYS TYPICALLY REQUIRE BORING.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH THE POWER COMPANY.
- ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR SIGNAL MOUNTED SIGNS.
- PAVEMENT MARKINGS ARE INCLUDED AS PART OF THE STRIPING PLAN.
- CONSTRUCTION OF PEDESTRIAN CURB RAMPS ARE INCLUDED AS PART OF THE ROADWAY PLAN. SEE THE INTERSECTION DETAILS, INCLUDED WITH THE ROADWAY PLAN, FOR INFORMATION.
- USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
- ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
- ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.
- REMOVAL OF THE EXISTING SIGNAL IS INCLUDED IN PAYMENT FOR THE LUMP SUM SIGNAL SYSTEM PAY ITEM. REFER TO THE "EXISTING SIGNAL PLAN" SHEETS FOR INPLACE SIGNAL SYSTEM COMPONENTS.

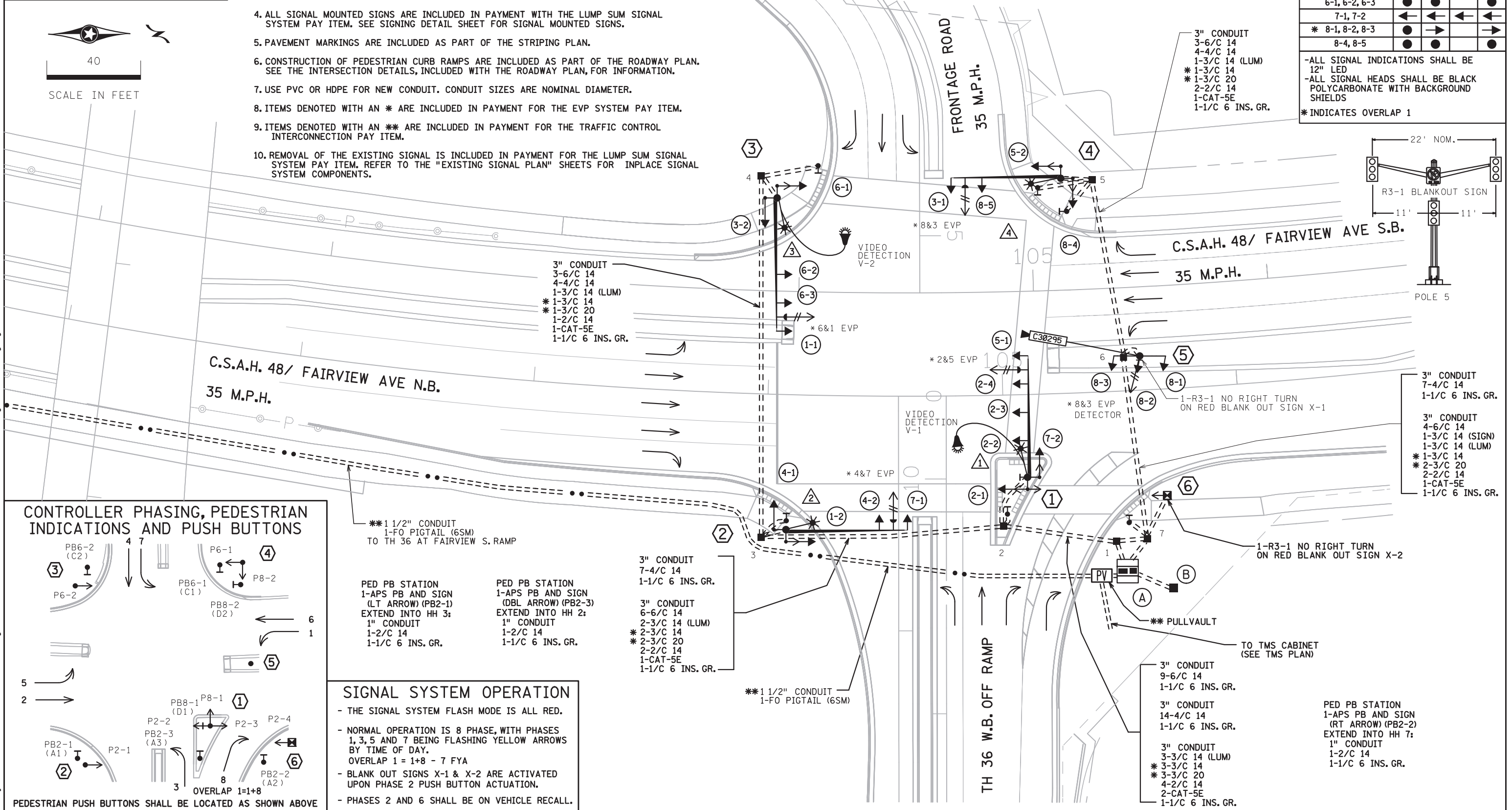
PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB6-2)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

PED PB STATION
1-APS PB AND SIGN
(LT ARROW) (PB6-1)
EXTEND INTO HH 5:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

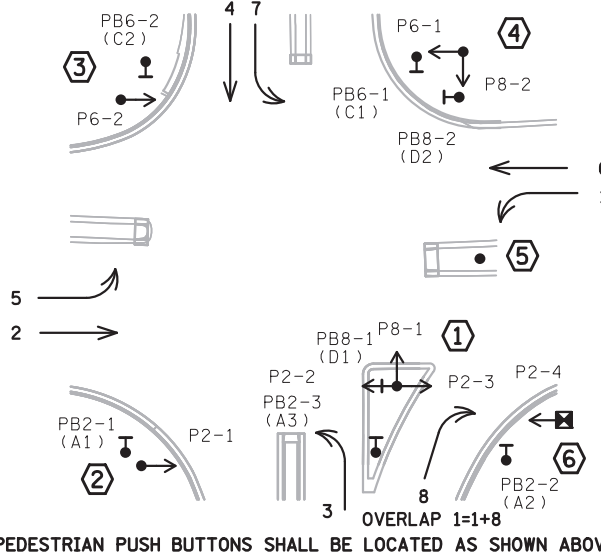
PED PB STATION
1-APS PB AND SIGN
(RT ARROW) (PB8-2)
EXTEND INTO HH 5:
1" CONDUIT
1-2/C 14
1-1/C 6 INS. GR.

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

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
* INDICATES OVERLAP 1



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
OVERLAP 1 = 1+8 - 7 FYA
- BLANK OUT SIGNS X-1 & X-2 ARE ACTIVATED UPON PHASE 2 PUSH BUTTON ACTUATION.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

BY	DATE	REVISIONS	SYSTEM ID: 4341683	T.E. 48022	TRAFFIC CONTROL SIGNAL SYSTEM B INTERSECTION LAYOUT	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 9/27/22
			METER ADDRESS: FAIRVIEW AVE		T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) N. RAMP IN ROSEVILLE, RAMSEY COUNTY	CERTIFIED BY: <i>Gregory Ken</i>	LIC. NO. 26829		DATE: 9/27/22
			OLD SYSTEM ID: 1735293			STATE PROJ. NO. 6212-181 (T.H.36) SHEET NO. SS15 OF SS32 SHEETS			

PLOTTED/REVISED: 27-SEP-2022

PLOT NAME: north ramp Intersection notes
FILENAME: Projects\DM_FOS\036\0000\Traffic\Signals\22_148\FAIRVIEW N RAMP-4341683\Perd\ng\T 4341683_sgl.dgn

① X=553553.0509 Y=180391.1059
PA100 POLE FOUNDATION
INSTALL: TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG) (STATE FURNISHED)
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-360 DEG VIDEO DETECTION CAMERA (V-1) (STATE FURNISHED)
MOUNTED ON LUMINAIRE AT 2-4' FROM END
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (5-1)
3-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11', 23' AND 35'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
1-ANGLE MOUNT C. D. PED HEAD AT 90 DEG
2-ANGLE MOUNT C. D. PED HEADS AT 180 DEG
* 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2&5)
1-APS PB AND SIGN (LT ARROW) (PB8-1)
1-APS POLE MOUNTED ADAPTER
1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
2-TYPE D SIGN (SEE SIGN DETAILS)
3" CONDUIT INTO HH 2:
3-6/C 14
7-4/C 14
* 1-3/C 14
* 1-3/C 20
1-3/C 14 (LUM)
1-2/C 14
1-COM CABLE (CAT 5E) (VID DET)
1-1/C 6 INS. GR.

② X=553588.4999 Y=180291.8831
PA100 POLE FOUNDATION
INSTALL: TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG) (STATE FURNISHED)
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (7-1)
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
1-ANGLE MOUNT C. D. PED HEAD AT 90
* 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4&7)
1-REPEATER (STATE FURNISHED)
1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 3
1-R10-X12 SIGN ADJACENT TO HEAD (7-1)
2-TYPE D SIGN (SEE SIGN DETAILS)
3" CONDUIT INTO HH 3:
3-6/C 14
3-4/C 14
* 1-3/C 14
* 1-3/C 20
2-COM CABLE (CAT 5E) (VID DET)
1-3/C 14 (LUM)
1-1/C 6 INS. GR.

③ X=553448.8194 Y=180269.8977
PA100 POLE FOUNDATION
INSTALL: TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG) (STATE FURNISHED)
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-360 DEG VIDEO DETECTION CAMERA (V-2) (STATE FURNISHED)
MOUNTED ON LUMINAIRE AT 2-4' FROM END
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (1-1)
2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 23'
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
1-ANGLE MOUNT C. D. PED HEAD 180 DEG
* 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 6&1)
1-TYPE R9-3 SIGN (NO PEDS) FACING POLE 2
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
2-TYPE D SIGN (SEE SIGN DETAILS)
3" CONDUIT INTO HH 4:
3-6/C 14
4-4/C 14
* 1-3/C 14
* 1-3/C 20
1-3/C 14 (LUM)
1-COM CABLE (CAT 5E) (VID DET)
1-1/C 6 INS. GR.

④ X=553424.9354 Y=180388.6661
PA100 POLE FOUNDATION (SEE NOTE)
INSTALL: TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG) (STATE FURNISHED)
1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (3-1)
1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
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 8&3)
1-R10-X12 SIGN ADJACENT TO HEAD (3-1)
1-TYPE D SIGN (SEE SIGN DETAILS)
3" CONDUIT INTO HH 5:
3-6/C 14
4-4/C 14
* 1-3/C 14
* 1-3/C 20
1-3/C 14 (LUM)
1-1/C 6 INS. GR.

NOTE:
TOP OF CONCRETE FOUNDATION FOR POLE 4 ELEVATION OF 949.00 IS CRITICAL TO FIT WITH THE ADA PED RAMP DESIGN REQUIREMENTS. SEE INTERSECTION WALK DETAIL SHEET.

⑤ X=553495.6352 Y=180431.8431
PA85 POLE FOUNDATION
INSTALL: TYPE PA85-AHST-9.5/9.5-203 (TEE POLE) (STATE FURNISHED)
1-X400 CAMERA EXTENSION
1-PTZ VIDEO CAMERA (30295) (STATE FURNISHED)
2-ANGLE MOUNT SIGNALS OVERHEAD
1-STRAIGHT MOUNT SIGNAL AT 270 DEG
* 1-ONE WAY EVP DETECTOR (PHASE 8&3)
1-R3-1 BLANKOUT SIGN NO RIGHT TURN SYMBOL/WITH TEXT "ON RED"
3" CONDUIT TO HH 6:
1-6/C 14
3-4/C 14
1-3/C 14 (SIGN)
* 1-3/C 20
1-COM CABLE (CAT 5E) (VID DET)
1-7/16" GROUNDING BRAID (LIGHTING ROD TO GROUND ROD)
1-1/C 6 INS. GR.

⑥ X=553553.0540 Y=180451.1431
PEDESTAL FOUNDATION (DESIGN 8127- LIGHT FOUNDATION DESIGN E)
PEDESTAL POLE WITH BASE (APPROVED PRODUCT LIST)
1-C. D. PED HEAD (ON TOP) (P2-4)
1-R3-1 BLANKOUT SIGN NO RIGHT TURN SYMBOL/WITH TEXT "ON RED"
3" CONDUIT TO HH 7:
1-4/C 14
1-3/C 14 (SIGN)
2-1/C 6 INS. GR.

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

3" CONDUIT TO HH 1: 3" CONDUIT TO HH 7:
9-6/C 14 8-4/C 14
1-1/C 6 INS. GR. 1-1/C 6 INS. GR.
3" CONDUIT TO HH 1: 3" CONDUIT TO HH 7:
14-4/C 14 4-6/C 14
1-1/C 6 INS. GR. 2-3/C 14 (SIGN)
3" CONDUIT TO HH 1: * 1-3/C 14
* 3-3/C 14 * 2-3/C 20
* 3-3/C 20 3-2/C 14
4-2/C 14 1-CAT-5E
2-CAT-5E 1-1/C 6 INS. GR.
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 TH 36 AT FAIRVIEW AVE SOUTH RAMP
** 1-FO PIGTAIL (GSM)

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 S.O.P. (XCEL ENERGY)
2" CONDUIT
3-1/C 2

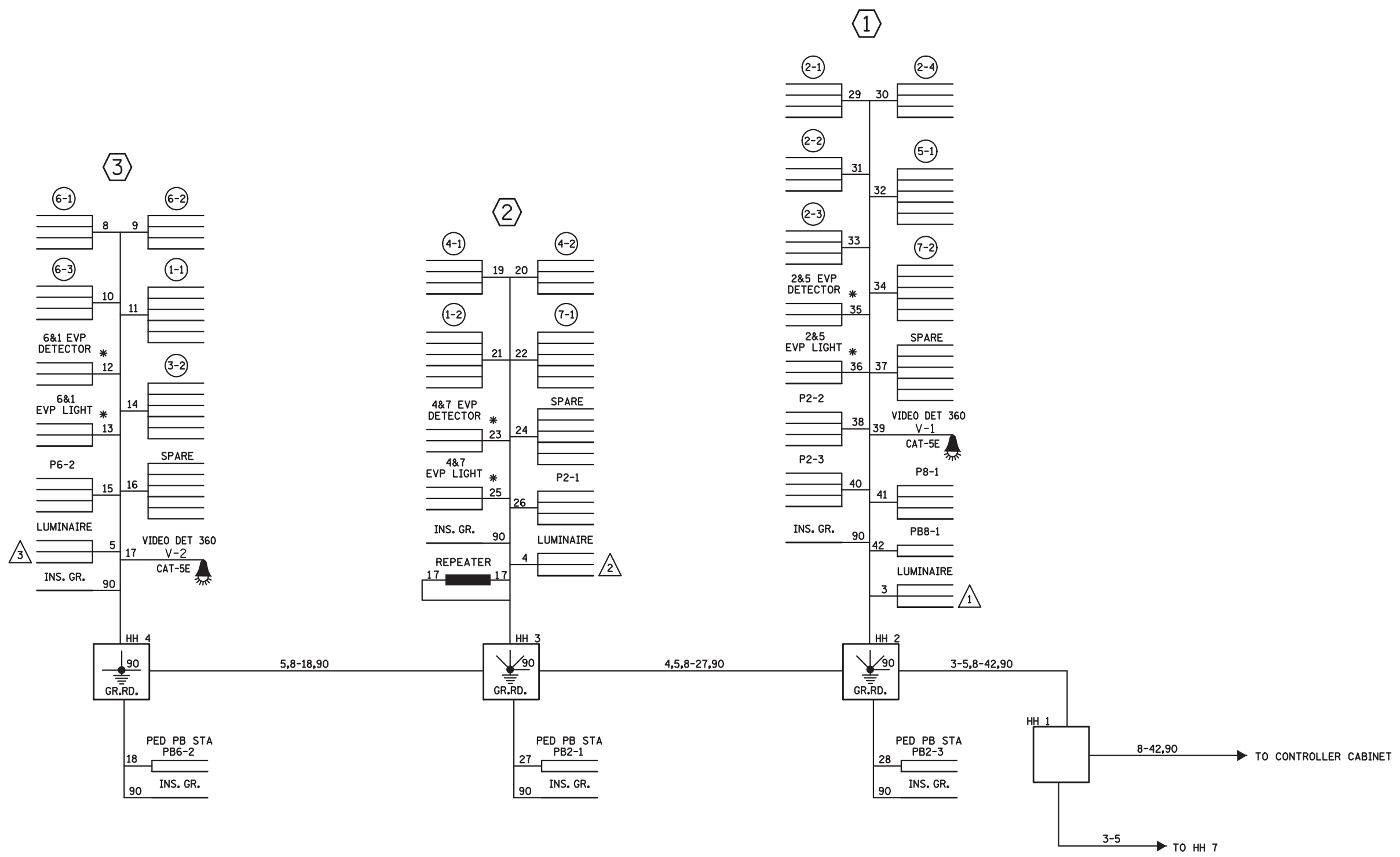
SERVICE CABINET TO HH 7:
2" CONDUIT
4-3/C 14 (LUM)

HH 7 TO HH 1:
2" CONDUIT
3-3/C 14 (LUM)

SERVICE CABINET TO EXTERNAL GR. RD.:
1" CONDUIT
1-1/C 6 INS. GR.

Ⓑ S.O.P. (XCEL ENERGY)
2" CONDUIT FROM SERVICE CONNECTION INTO SERVICE CABINET:
3-1/C 2

BY	DATE	REVISIONS	SYSTEM ID: 4341683	T.E. 48022	TRAFFIC CONTROL SIGNAL SYSTEM B INTERSECTION NOTES T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) N. RAMP IN ROSEVILLE, RAMSEY COUNTY	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 9/27/22
			METER ADDRESS: FAIRVIEW AVE			CERTIFIED BY 	LIC. NO. 26829		DATE: 9/27/22
			OLD SYSTEM ID: 1735293			STATE PROJ. NO. 6212-181 (T.H.36) SHEET NO. SS16 OF SS32 SHEETS			



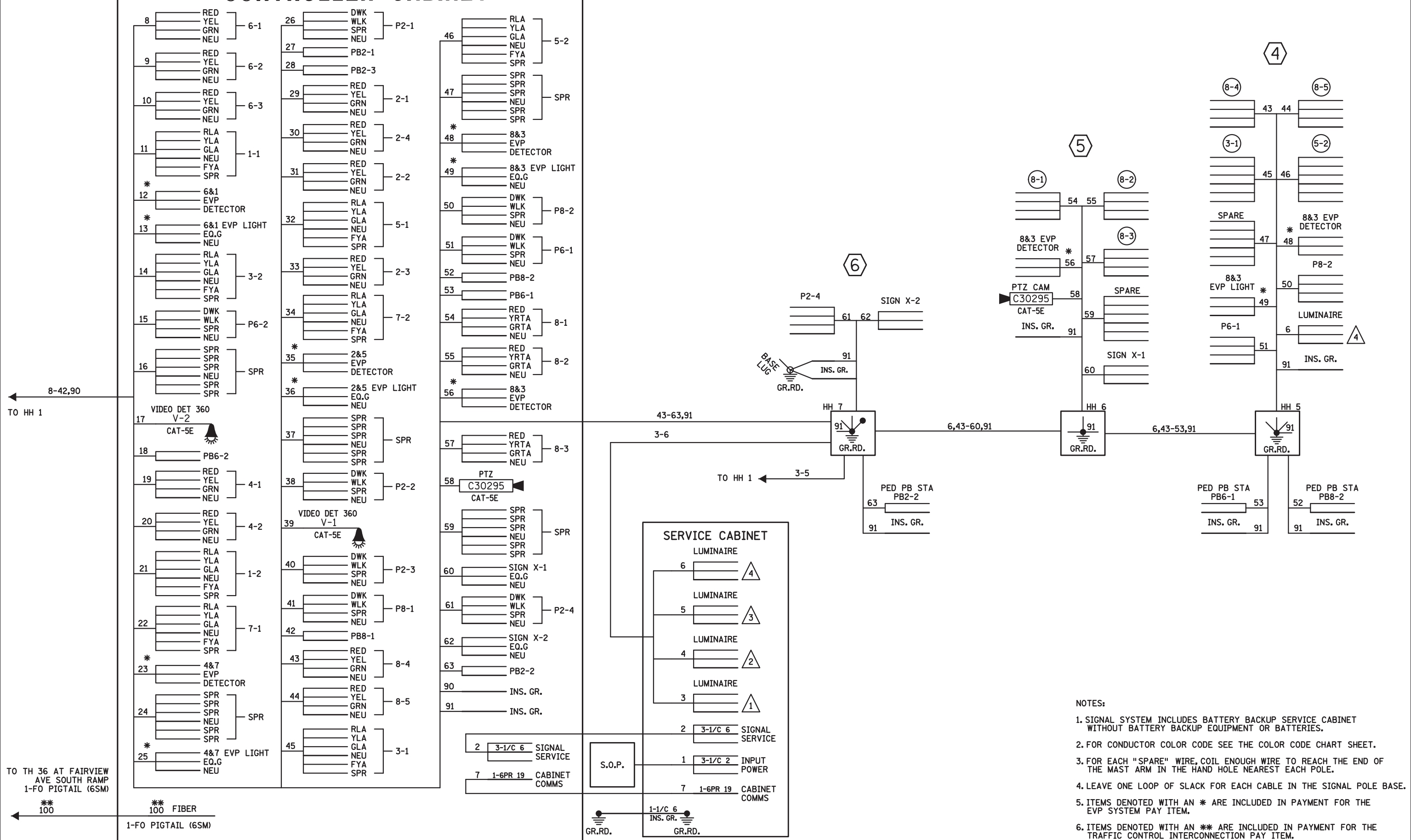
- NOTES:
1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITHOUT BATTERY BACKUP EQUIPMENT OR BATTERIES.
 2. FOR CONDUCTOR COLOR CODE SEE THE COLOR CODE CHART SHEET.
 3. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HAND HOLE NEAREST EACH POLE.
 4. LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE SIGNAL POLE BASE.
 5. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 6. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

BY	DATE	REVISIONS	SYSTEM ID: 4341683	T.E. 48022	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 9/27/22
			METER ADDRESS: FAIRVIEW AVE		CERTIFIED BY: <i>Gregory Kern</i>			DATE: 9/27/22
			OLD SYSTEM ID: 1735293		STATE PROJ. NO. 6212-181 (T.H.36) SHEET NO. SS17 OF SS32 SHEETS			

PLOTTED/REVISED: 27-SEP-2022

PLOT NAME: north ramp wiring diagram 2 of 2
FILENAME: Projects\DM_POS\036\0000\Traffic\Signals\22-148\FAIRVIEW N RAMP-4341683\Pending\T 4341683_sgl.dgn

CONTROLLER CABINET

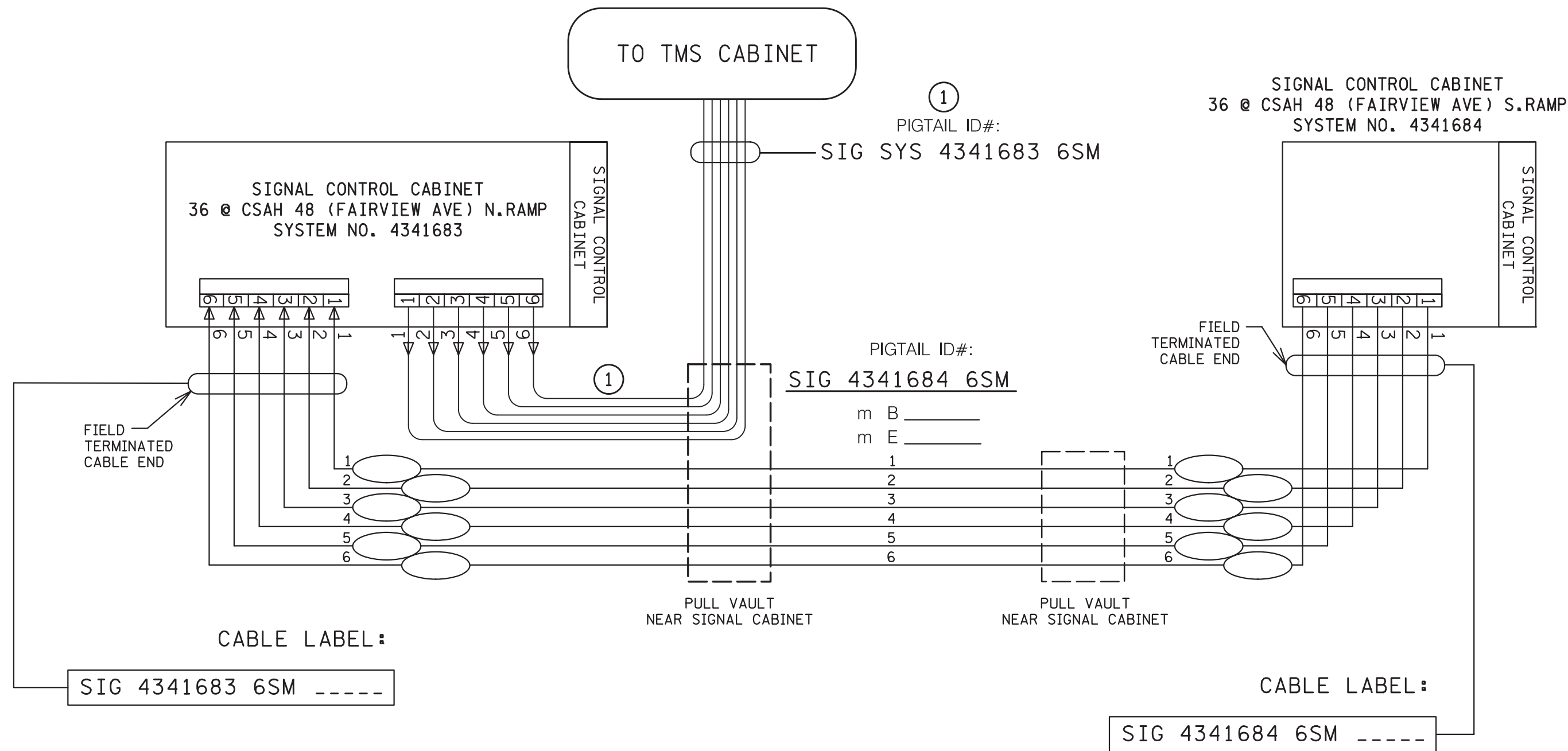


- NOTES:
1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITHOUT BATTERY BACKUP EQUIPMENT OR BATTERIES.
 2. FOR CONDUCTOR COLOR CODE SEE THE COLOR CODE CHART SHEET.
 3. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HAND HOLE NEAREST EACH POLE.
 4. LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE SIGNAL POLE BASE.
 5. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 6. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.

BY	DATE	REVISIONS	SYSTEM ID: 4341683	T.E. 48022	TRAFFIC CONTROL SIGNAL SYSTEM B	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 9/27/22
			METER ADDRESS: FAIRVIEW AVE		FIELD WIRING DIAGRAM 2 OF 2	CERTIFIED BY <i>Gregory Kim</i>	LIC. NO. 26829		DATE: 9/27/22
			OLD SYSTEM ID: 1735293		T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) N. RAMP	STATE PROJ. NO. 6212-181 (T.H.36) SHEET NO. SS18 OF SS32 SHEETS			
					IN ROSEVILLE, RAMSEY COUNTY				

FIBER OPTIC SCHEMATIC
(FOR SIGNAL COMMUNICATIONS)

① THE PIGTAIL FROM TMS CABINET TO SIGNAL CABINET IS INCLUDED AS PART OF THE TMS PLAN.



PLOTTED/REVISED: 27-SEP-2022

I/PLOT NAME: fiber schematic testing sheet
PATH & FILENAME: Projects\DM罗斯036\6212181\Traffic\Signals\SP 6212181\Detail\isdgn

BY	DATE	REVISIONS	SYSTEM ID: 4341683, 4341684 T.E.	FIBER OPTIC SCHEMATIC TRAFFIC CONTROL SIGNAL SYSTEM T.H. 36 AT C.S.A.H. 48 (FAIRVIEW AVE) SOUTH AND NORTH RAMPS IN ROSEVILLE, RAMSEY COUNTY	S.A.P. NO. 062-648-023, 160-020-047	DRAWN BY: SJK	CKD BY: GAK	DATE: 09/27/22
			METER ADDRESS:		CERTIFIED BY: <i>Gregory Kim</i> LICENSED PROFESSIONAL ENGINEER	LIC. NO. 26829		DATE: 09/27/22
			OLD SYSTEM ID:		STATE PROJ. NO. 6212-181(T.H.36)	SHEET NO. SS10 OF SS32 SHEETS		