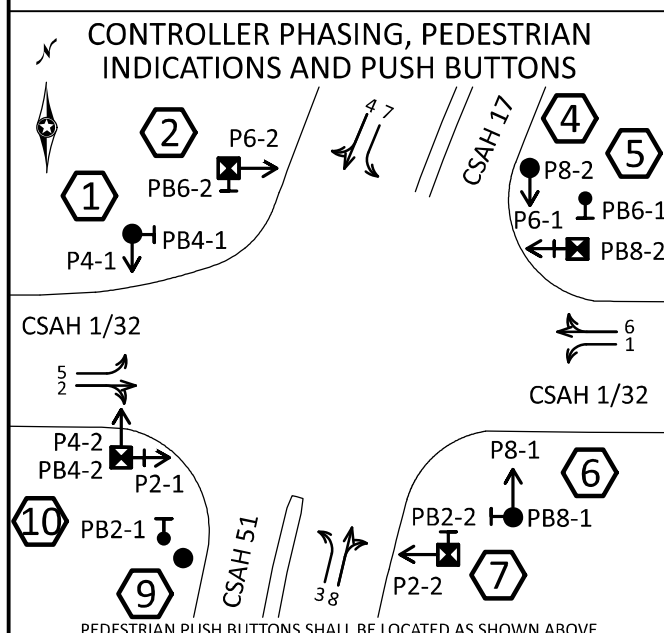
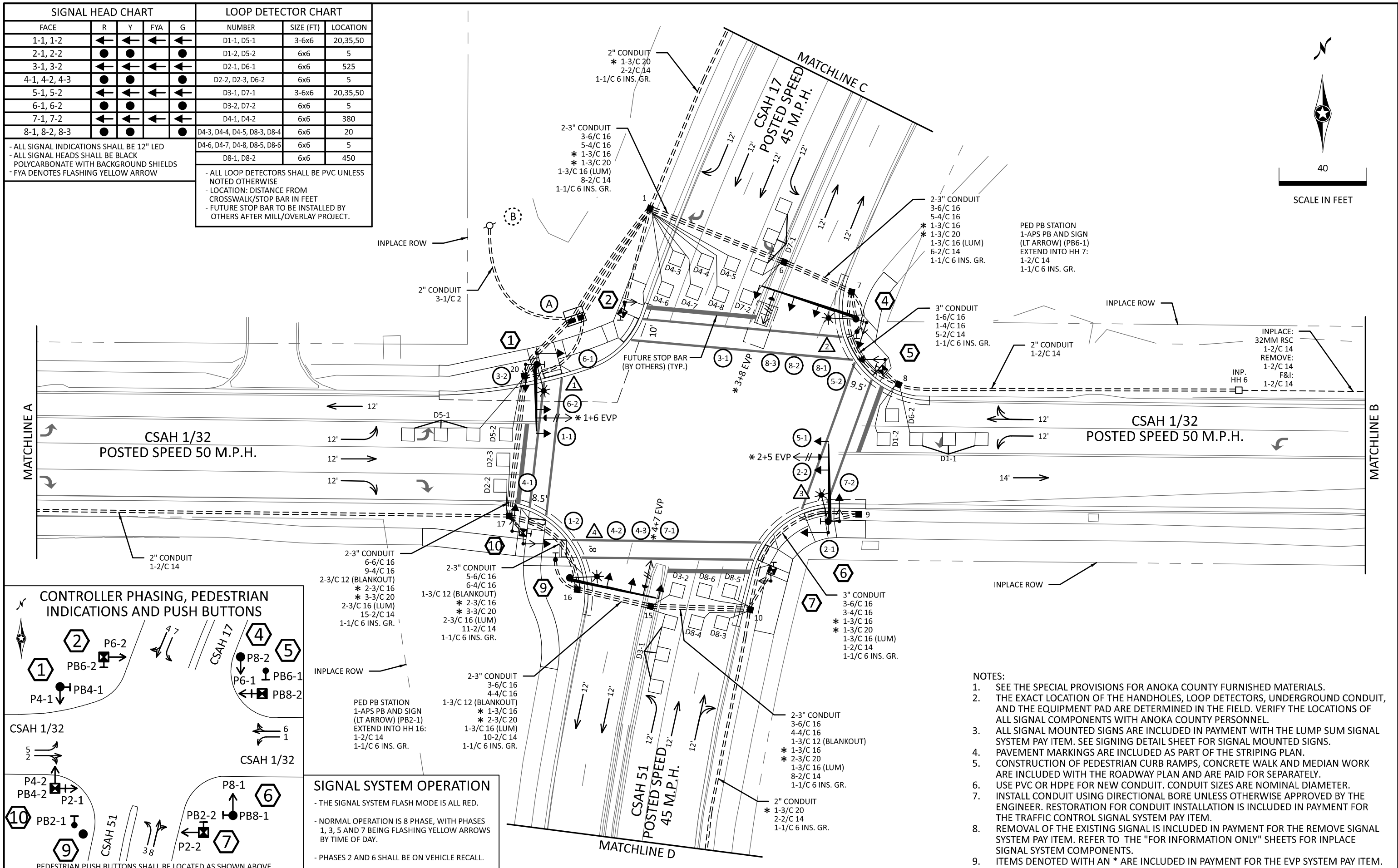


SIGNAL HEAD CHART				LOOP DETECTOR CHART				
FACE	R	Y	FYA	G	NUMBER	SIZE (FT)	LOCATION	
1-1, 1-2	←	←	←	←	D1-1, D5-1	3-6x6	20,35,50	
2-1, 2-2	●	●	●	●	D1-2, D5-2	6x6	5	
3-1, 3-2	←	←	←	←	D2-1, D6-1	6x6	525	
4-1, 4-2, 4-3	●	●	●	●	D2-2, D2-3, D6-2	6x6	5	
5-1, 5-2	←	←	←	←	D3-1, D7-1	3-6x6	20,35,50	
6-1, 6-2	●	●	●	●	D3-2, D7-2	6x6	5	
7-1, 7-2	←	←	←	←	D4-1, D4-2	6x6	380	
8-1, 8-2, 8-3	●	●	●	●	D4-3, D4-4, D4-5, D8-3, D8-4	6x6	20	
- ALL SIGNAL INDICATIONS SHALL BE 12" LED - ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS - FYA DENOTES FLASHING YELLOW ARROW				D4-6, D4-7, D4-8, D8-5, D8-6			6x6	5
				D8-1, D8-2			6x6	450
				- ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE - LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET - FUTURE STOP BAR TO BE INSTALLED BY OTHERS AFTER MILL/OVERLAY PROJECT.				



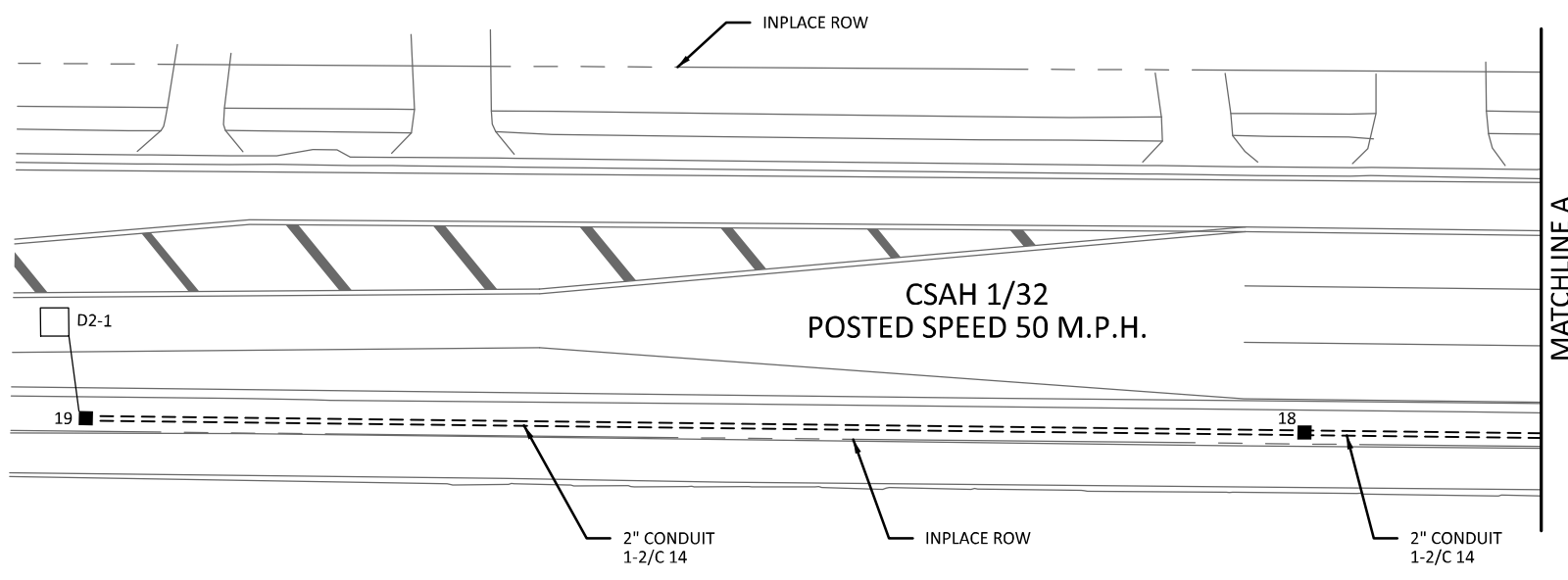
SIGNAL SYSTEM OPERATION

- 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.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:**
1. SEE THE SPECIAL PROVISIONS FOR ANOKA COUNTY FURNISHED MATERIALS.
 2. THE EXACT LOCATION OF THE HANDHOLES, LOOP DETECTORS, UNDERGROUND CONDUIT, AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH ANOKA COUNTY PERSONNEL.
 3. ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR SIGNAL MOUNTED SIGNS.
 4. PAVEMENT MARKINGS ARE INCLUDED AS PART OF THE STRIPING PLAN.
 5. CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK ARE INCLUDED WITH THE ROADWAY PLAN AND ARE PAID FOR SEPARATELY.
 6. USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
 7. INSTALL CONDUIT USING DIRECTIONAL BORE UNLESS OTHERWISE APPROVED BY THE ENGINEER. RESTORATION FOR CONDUIT INSTALLATION IS INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL SIGNAL SYSTEM PAY ITEM.
 8. REMOVAL OF THE EXISTING SIGNAL IS INCLUDED IN PAYMENT FOR THE REMOVE SIGNAL SYSTEM PAY ITEM. REFER TO THE "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL SYSTEM COMPONENTS.
 9. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

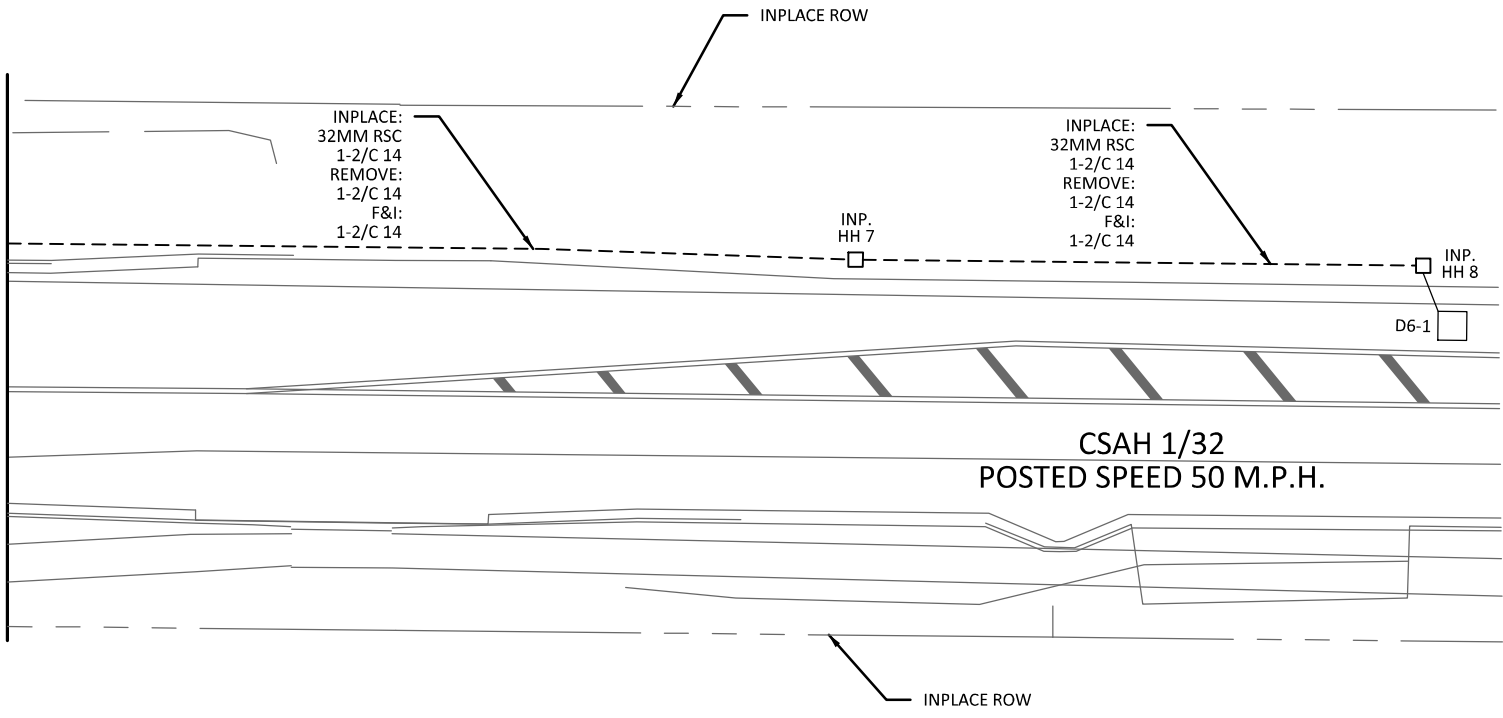
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12/12/2025

DESIGNED BY: MBG	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. CERTIFIED BY: <i>[Signature]</i> LIC NO.: 56080 Licensed Professional Engineer PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/12/2025	Kimley»Horn <small>707 LUSTIS ST. SUITE 100 SANT PAUL, MINNESOTA 55114 PH: 651-845-4197 www.kimley-horn.com</small>	TRAFFIC SIGNAL PLANS INTERSECTION LAYOUT	SAP 002-632-022	SHEET NO. 53
DRAWN BY: MMD				SAP 062-601-018	
CHECKED BY: BKV				SAP 106-020-044	
NO.	DATE	DWN	CKD	REVISIONS	



MATCHLINE A

MATCHLINE B



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 CHECKED BY: **BKV**

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CERTIFIED BY: *[Signature]* LIC NO: 56080
PRINTED NAME: BRIAN K. VILJA, P.E. DATE: 12/12/2025

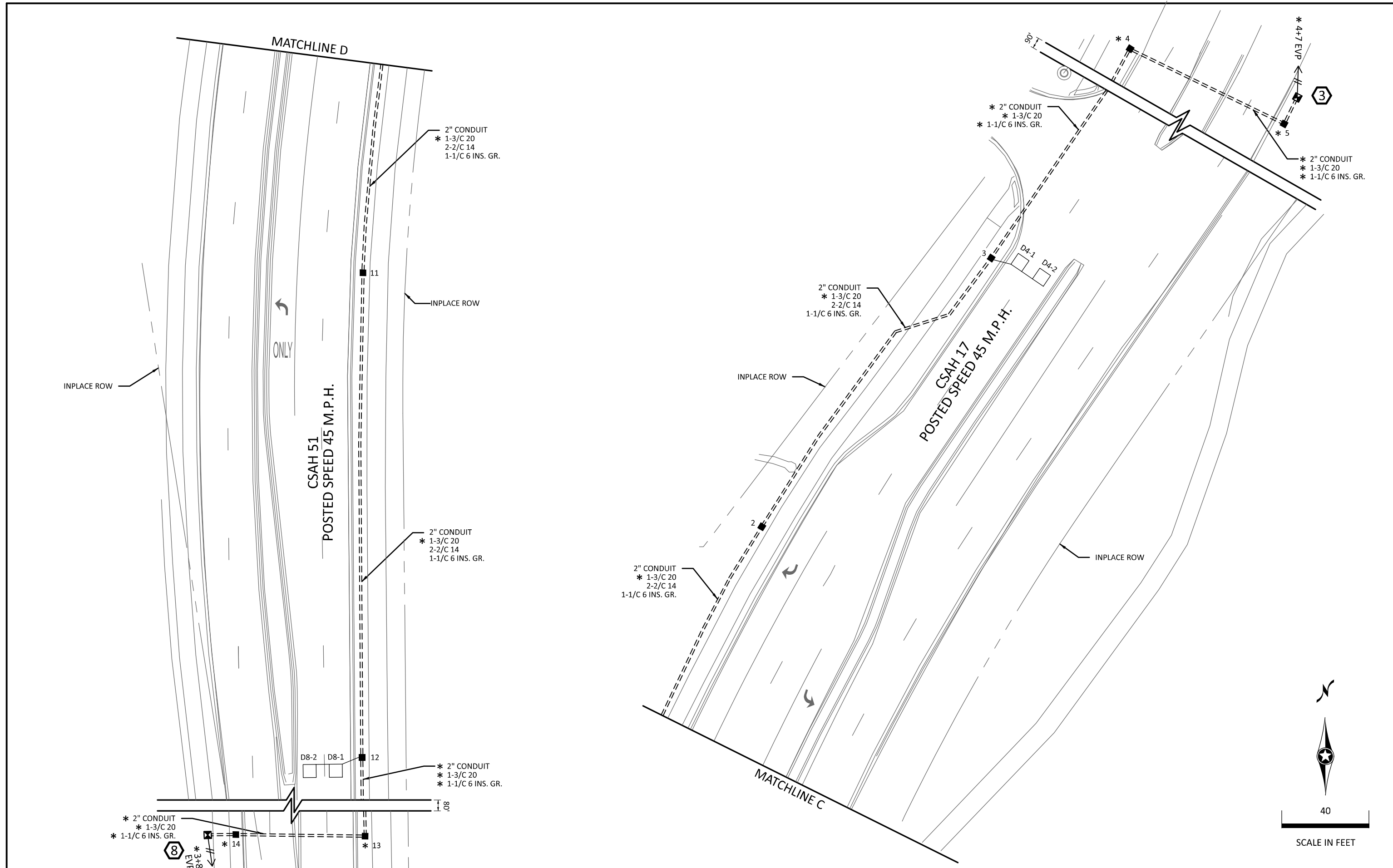


TRAFFIC SIGNAL PLANS
MATCHLINE LAYOUT

SAP 002-632-022
 SAP 062-601-018
 SAP 106-020-044

SHEET NO. 54
 TOTAL SHEETS 62

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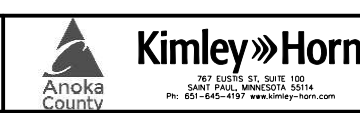


NO.	DATE	DWN	CKD	REVISIONS

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 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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.

CERTIFIED BY: *[Signature]* LIC NO: 56080
 PRINTED NAME: BRIAN K. VILJA, P.E. DATE: 12/12/2025



TRAFFIC SIGNAL PLANS
 MATCHLINE LAYOUT

SAP 002-632-022
 SAP 062-601-018
 SAP 106-020-044

SHEET NO. 55
 TOTAL SHEETS 62

① X=526096.46 Y=132508.85
 PA90 POLE FOUNDATION
 TYPE PA90-A-30-X6-300/CAM 350 (MOUNTED AT 350' DEG)
 (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID
 AND GROUND ROD)
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (1-1)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 10' (6-2)
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (3-2, 6-1)
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG (P4-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 1+6)
 1-APS PB AND SIGN (LT ARROW) (PB4-1) AND POLE
 MOUNTING ADAPTOR
 1-R10-X12 SIGN
 1-GUIDE SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 20:
 3-6/C 16
 3-4/C 16
 * 1-3/C 16
 * 1-3/C 20
 1-3/C 16 (LUM)
 1-2/C 14
 1-1/C 6 INS. GR.

② X=526135.70 Y=132532.53
 PEDESTAL FOUNDATION
 14' PEDESTAL POLE PLUS BASE (SIGNAL HEAD PEDESTAL POLE)
 1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG (P6-2)
 1-APS PB AND SIGN (RT ARROW) (PB6-2)
 AND APS PB MOUNTING SPACERS
 1-R10-15MR SIGN
 3" CONDUIT TO HH 1:
 1-4/C 16
 1-2/C 14
 2-1/C 6 INS. GR.

④ X=526242.94 Y=132529.63
 PA100 POLE FOUNDATION
 TYPE PA100-A-45-D30-9
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (3-1)
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 15' AND 27'
 (8-3, 8-2)
 1-ANGLE MOUNT SIGNAL AT 180 DEG (8-1)
 1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG (P8-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 3+8)
 1-R10-X12 SIGN
 1-GUIDE SIGN (D-2) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 7:
 2-6/C 16
 4-4/C 16
 * 1-3/C 16
 * 1-3/C 20
 1-3/C 16 (LUM)
 1-1/C 6 INS. GR.

⑤ X=526255.24 Y=132506.32
 PEDESTAL FOUNDATION
 14' PEDESTAL POLE PLUS BASE (SIGNAL HEAD PEDESTAL POLE)
 1-ANGLE MOUNT SIGNAL AT 90 DEG (5-2)
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG (P6-1)
 1-APS PB AND SIGN (RT ARROW) (PB8-2)
 AND APS PB MOUNTING SPACERS
 1-R10-15MR SIGN
 3" CONDUIT TO HH 8:
 1-6/C 16
 1-4/C 16
 1-2/C 14
 1-1/C 6 INS. GR.

⑩ X=526090.21 Y=132431.62
 PEDESTAL FOUNDATION
 14' PEDESTAL POLE PLUS BASE (SIGNAL HEAD PEDESTAL POLE)
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (1-2, 4-1)
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG
 (P2-1, P4-2)
 1-APS PB AND SIGN (RT ARROW) (PB4-2)
 AND APS PB MOUNTING SPACERS
 1-BLANKOUT SIGN (R10-15MR) (FACING WEST)
 (SEE SIGN DETAILS)
 3" CONDUIT TO HH 17:
 1-6/C 16
 3-4/C 16
 1-3/C 12 (BLANKOUT)
 1-2/C 14
 2-1/C 6 INS. GR.

⑨ X=526111.58 Y=132410.86
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-D30-9
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (7-1)
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' AND 23'
 (4-3, 4-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 4+7)
 1-R10-X12 SIGN
 1-GUIDE SIGN (D-2) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 16:
 2-6/C 16
 2-4/C 16
 * 1-3/C 16
 * 1-3/C 20
 1-3/C 16 (LUM)
 1-1/C 6 INS. GR.

⑦ X=526204.52 Y=132414.45
 PEDESTAL FOUNDATION
 14' PEDESTAL POLE PLUS BASE (SIGNAL HEAD PEDESTAL POLE)
 1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG (P2-2)
 1-APS PB AND SIGN (RT ARROW) (PB2-2)
 AND APS PB MOUNTING SPACERS
 1-BLANKOUT SIGN (R10-15MR) (FACING SOUTH)
 (SEE SIGN DETAILS)
 3" CONDUIT TO HH 10:
 1-4/C 16
 1-3/C 12 (BLANKOUT)
 1-2/C 14
 2-1/C 6 INS. GR.

⑥ X=526230.21 Y=132436.77
 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D30-9
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (5-1)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12' (2-2)
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (7-2, 2-1)
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG (P8-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 2+5)
 1-APS PB AND SIGN (LT ARROW) (PB8-1) AND POLE
 MOUNTING ADAPTOR
 1-R10-X12 SIGN
 1-GUIDE SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 9:
 3-6/C 16
 3-4/C 16
 * 1-3/C 16
 * 1-3/C 20
 1-3/C 16 (LUM)
 1-2/C 14
 1-1/C 6 INS. GR.

③ X=526522.58 Y=133018.26
 * PEDESTAL FOUNDATION
 * 10' PEDESTAL POLE PLUS BASE (TYPE 4A PEDESTAL POLE)
 * 1-ONE WAY EVP DETECTOR (PHASES 4+7)
 * 2" CONDUIT TO HH 5:
 * 1-3/C 20
 * 2-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET WITH BATTERY BACKUP (SEE DETAIL SHEET)
 CONTROLLER AND CABINET (ANOKA COUNTY PROVIDED)
 2-3" CONDUIT TO HH 1:
 3-6/C 16
 6-4/C 16
 * 1-3/C 16
 * 2-3/C 20
 17-2/C 14
 1-1/C 6 INS. GR.
 2-3" CONDUIT TO HH 20:
 9-6/C 16
 12-4/C 16
 2-3/C 12 (BLANKOUT)
 * 3-3/C 16
 * 4-3/C 20
 18-2/C 14
 1-1/C 6 INS. GR.

⑧ X=526094.32 Y=131858.22
 * PEDESTAL FOUNDATION
 * 10' PEDESTAL POLE PLUS BASE (TYPE 4A PEDESTAL POLE)
 * 1-ONE WAY EVP DETECTOR (PHASES 3+8)
 * 2" CONDUIT TO HH 14:
 * 1-3/C 20
 * 2-1/C 6 INS. GR.

GROUND WIRE AND GROUND ROD - MIN 8' STUBBED OUT FROM PAD
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 CONTROLLER CABINET TO SERVICE CABINET:
 2-2" CONDUITS
 3-1/C 6
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" CONDUIT
 1-6PR 19
 SERVICE CABINET TO POLE MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2
 SERVICE CABINET TO HH 1:
 2" CONDUIT
 1-3/C 16 (LUM)
 SERVICE CABINET TO HH 20:
 2" CONDUIT
 3-3/C 16 (LUM)
 SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)

Ⓑ INPLACE SOP TRANSFORMER (XCEL)

NOTES:

1. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

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DRAWN BY: MMD	
CHECKED BY: BKV	

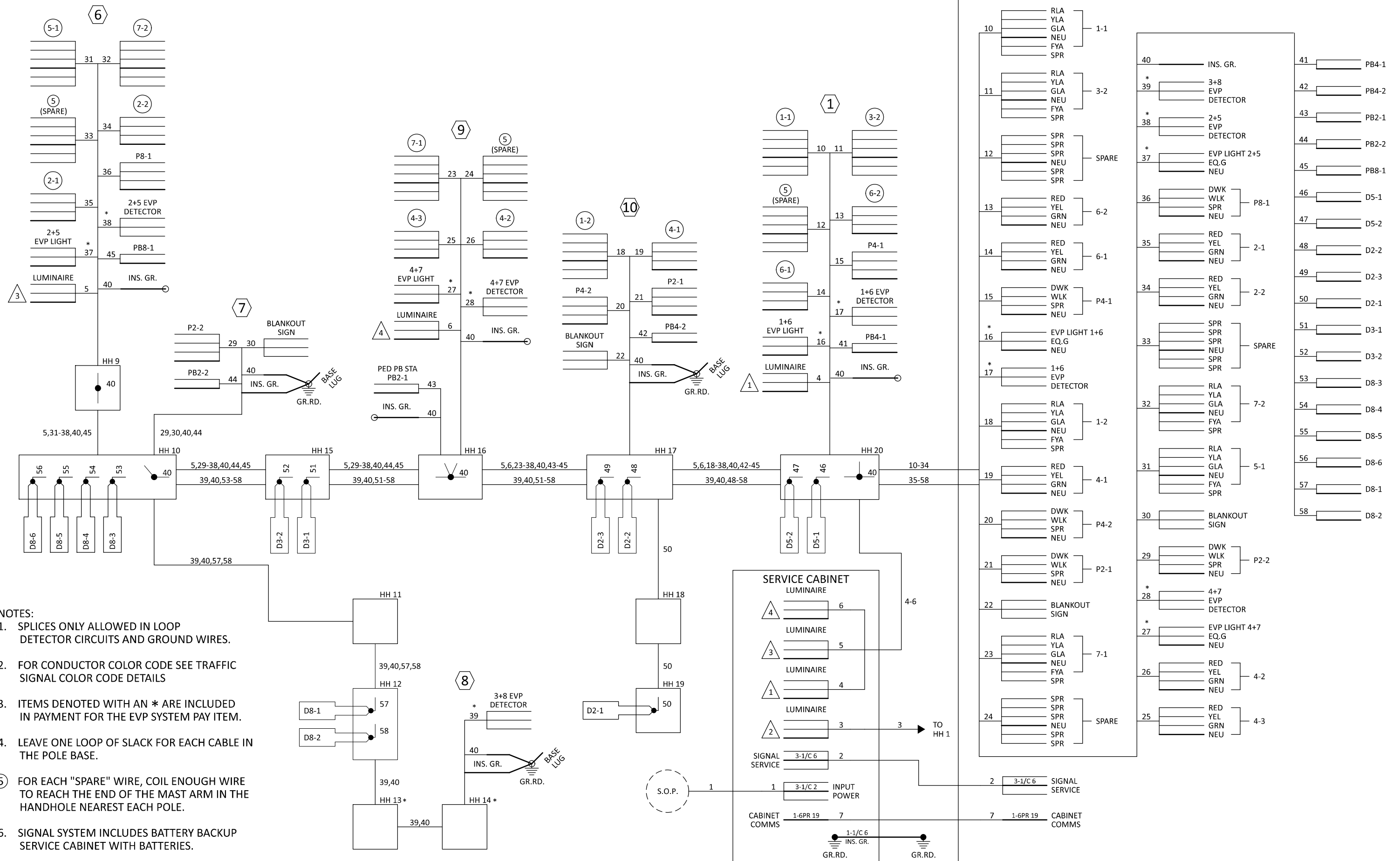


TRAFFIC SIGNAL PLANS
 INTERSECTION NOTES

SAP 002-632-022
 SAP 062-601-018
 SAP 106-020-044

SHEET NO.	56
TOTAL SHEETS	62

CONTROLLER CABINET



- NOTES:
1. SPLICES ONLY ALLOWED IN LOOP DETECTOR CIRCUITS AND GROUND WIRES.
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL COLOR CODE DETAILS
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 4. LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE POLE BASE.
 5. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HANDHOLE NEAREST EACH POLE.
 6. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITH BATTERIES.

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12/12/2025

NO.	DATE	DWN	CKD	REVISIONS

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 CHECKED BY: **BKV**

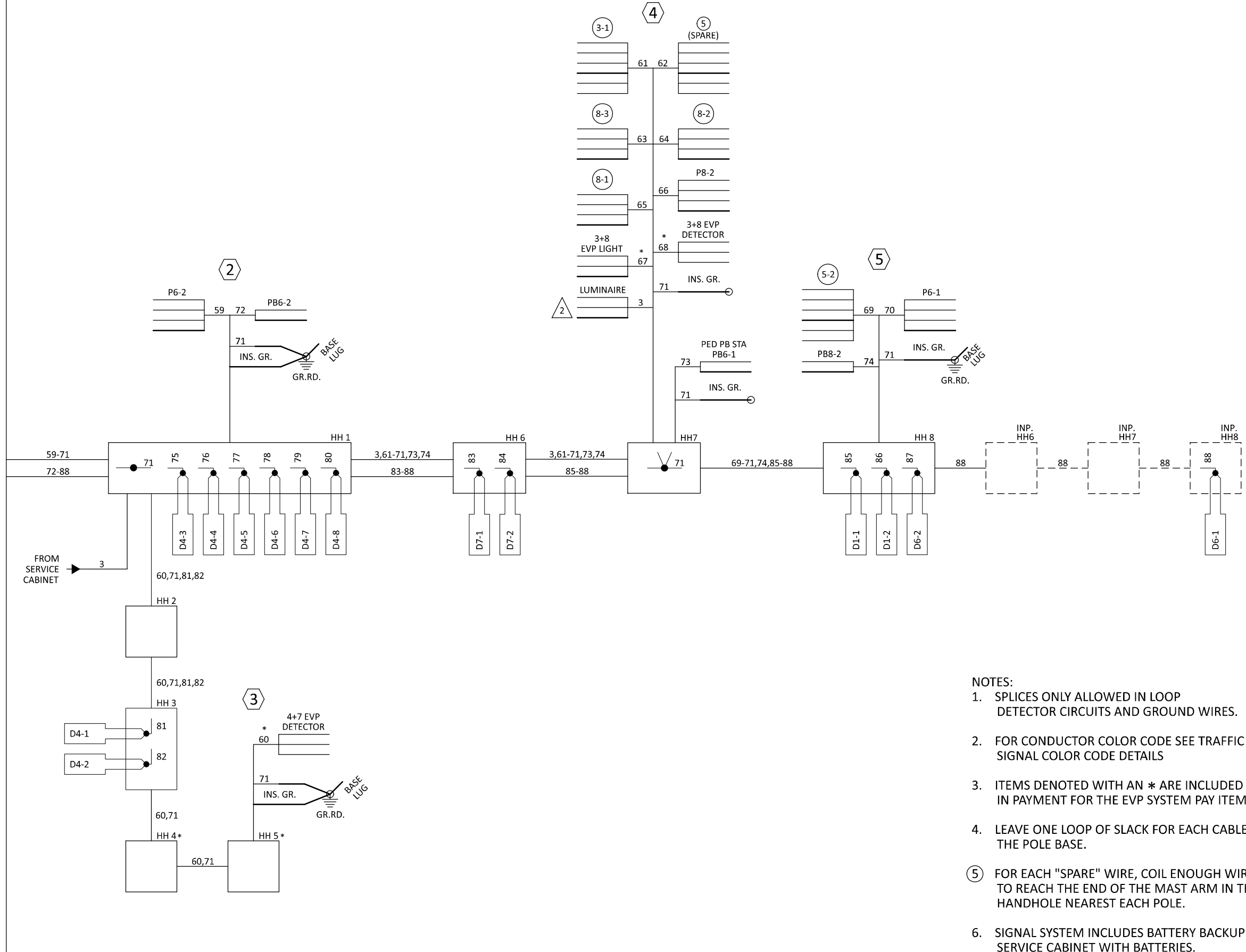
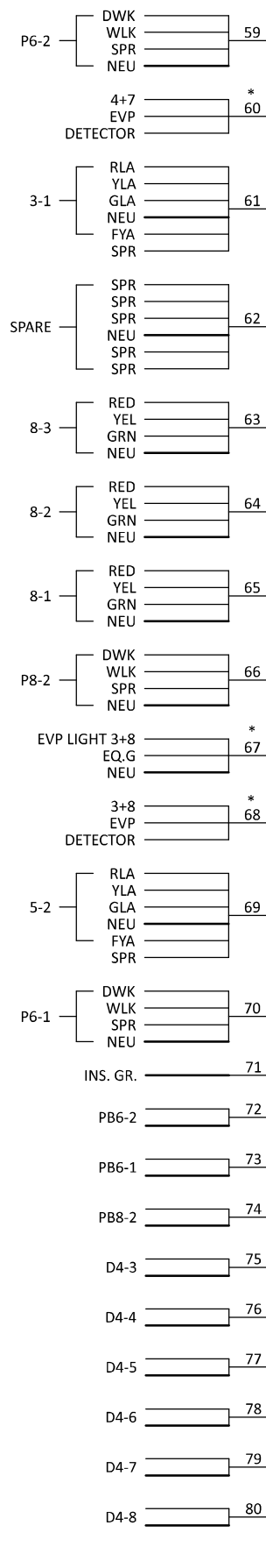
HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 CERTIFIED BY: *[Signature]* LIC NO.: 56080
 PRINTED NAME: BRIAN K. VILVA, P.E. DATE: 12/12/2025



TRAFFIC SIGNAL PLANS
 FIELD WIRING DIAGRAM (1 of 2)

SAP 002-632-022	SHEET NO. 57
SAP 062-601-018	TOTAL SHEETS 62
SAP 106-020-044	

CONTROLLER CABINET



- NOTES:**
1. SPLICES ONLY ALLOWED IN LOOP DETECTOR CIRCUITS AND GROUND WIRES.
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL COLOR CODE DETAILS
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 4. LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE POLE BASE.
 5. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HANDHOLE NEAREST EACH POLE.
 6. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITH BATTERIES.

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 CERTIFIED BY: *[Signature]* LIC NO: 56080
 LICENSED PROFESSIONAL ENGINEER
 PRINTED NAME: BRIAN K. VILVA, P.E. DATE: 12/12/2025



TRAFFIC SIGNAL PLANS
 FIELD WIRING DIAGRAM (2 of 2)

SAP 002-632-022
 SAP 062-601-018
 SAP 106-020-044

SHEET NO. 58
 TOTAL SHEETS 62