

PLOTTED/REVISED: 3-JAN-2023

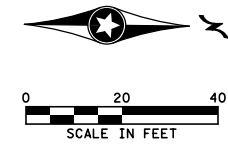
DISTRICT *: Metro
 PLOT NAME: layout
 FILENAME: Projects\DM_FOS\036\0000\Traffic\Signals\6.82_Manning_Ave_North_Ramp-4036588\T_4036588_sgl.dgn

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D6-1, D6-2	6x6	300

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

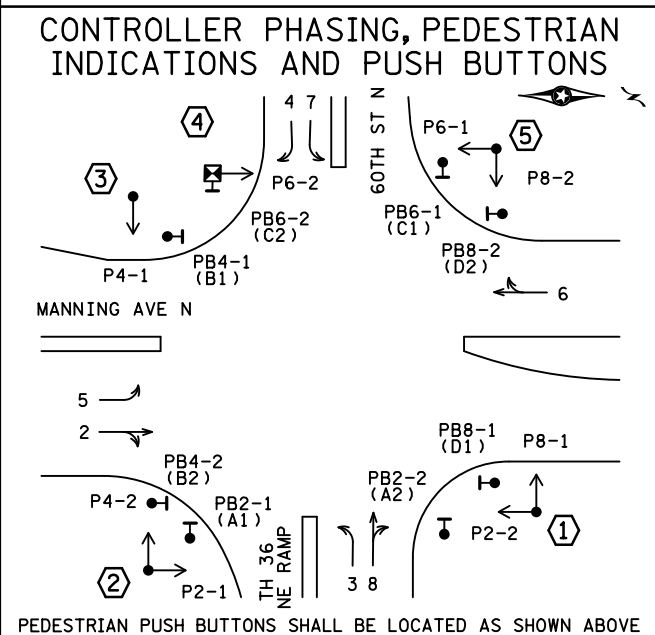
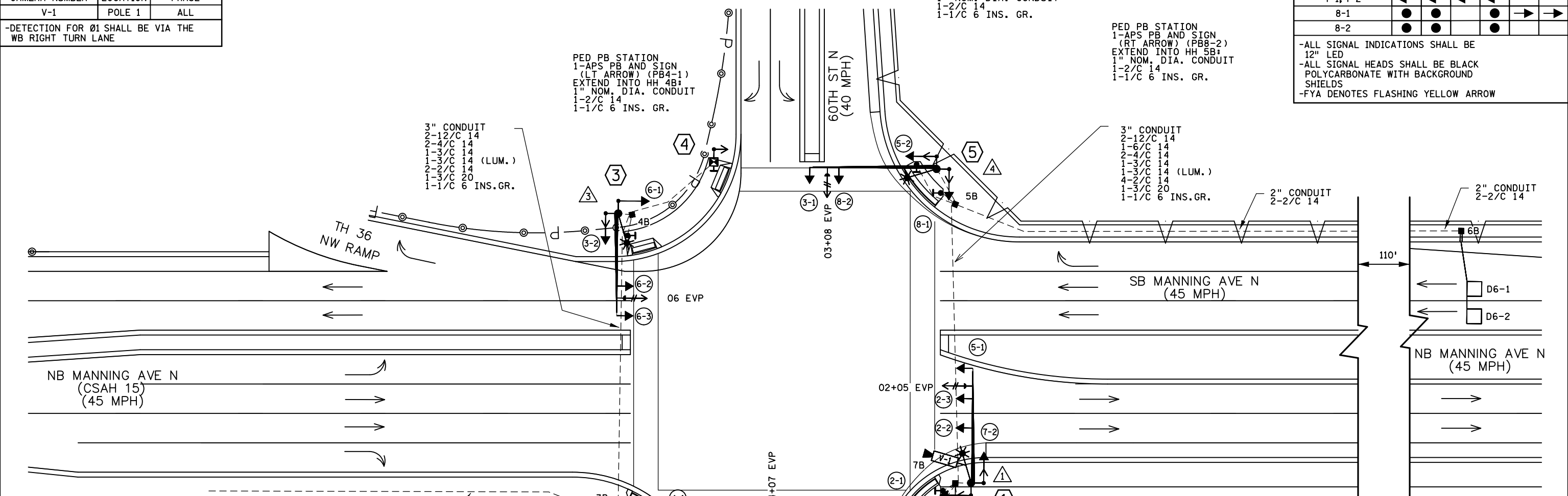
VIDEO DETECTION CHART		
CAMERA NUMBER	LOCATION	PHASE
V-1	POLE 1	ALL

-DETECTION FOR Ø1 SHALL BE VIA THE WB RIGHT TURN LANE



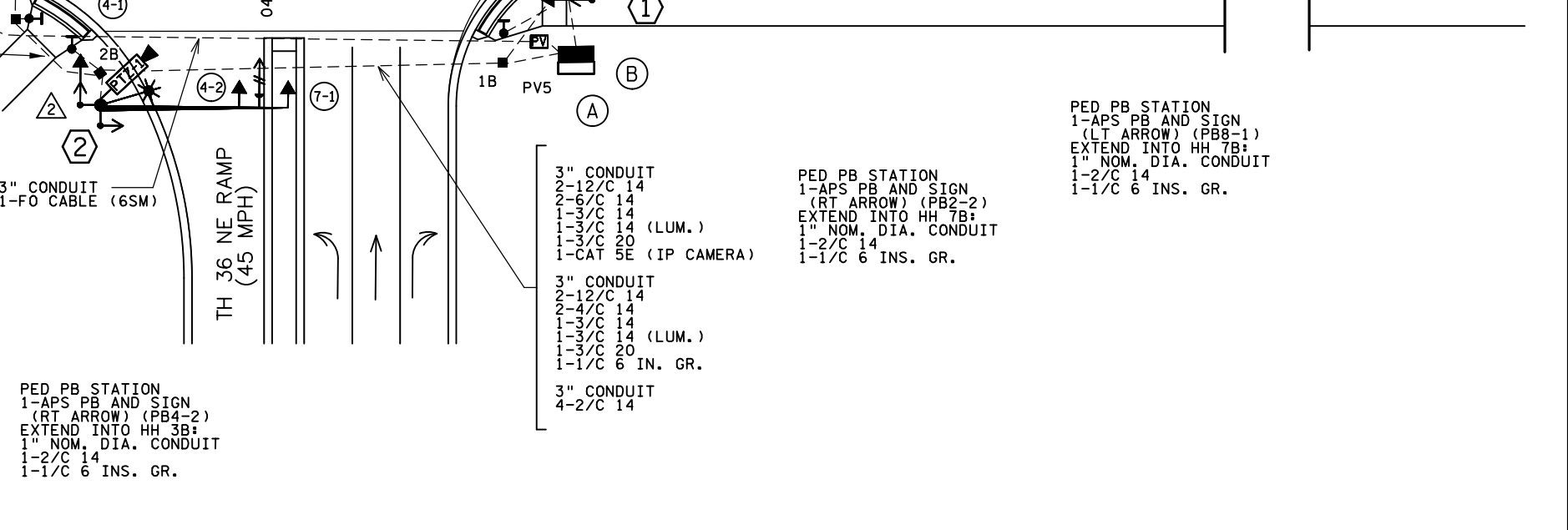
SIGNAL HEAD CHART							
FACE	R	Y	FYA	G	Y	G	
2-1, 2-2, 2-3	●	●		●			
3-1, 3-2	←	←	←	←			
4-1, 4-2	●	●		●			
5-1, 5-2	←	←	←	←			
6-1, 6-2	●	●		●			
6-3	●	↑		↑			
7-1, 7-2	←	←	←	←			
8-1	●	●		●	→	→	
8-2	●	●		●			

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



SIGNAL SYSTEM OPERATION

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



BY: SJK	DATE: 12/30/22	REVISIONS: AS-BUILT PLAN SP 8204-74	SYSTEM ID: 4036588	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
			METER ADDRESS: 6075 MANNING AVE N		CERTIFIED BY: _____	LIC. NO. _____		DATE: _____
			OLD SYSTEM ID:		STATE PROJ.NO. 8204-74 (T.H.36) SHEET NO. 1 OF 4 SHEETS			

INTERSECTION NOTES

① PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 23'
 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)
 1-VIDEO DETECTION CAMERA (V-1) (STATE FURNISHED) INSTALL ON LUM. EXTENSION
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 2-TYPE D SIGNS (D-5, D-7) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 7B:
 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-CAT 5E (VIDEO DET.)
 1-1/C 6 INS. GR.

② PA100 POLE FOUNDATION
 TYPE PA100-A-45-X6-350/CAM 400 EXTENSION (DAVIT AT 350 DEG)
 (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID AND GROUND ROD)
 1-PTZ CAMERA (STATE FURNISHED) WITH MOUNT
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4+7)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (7-1)
 1-R3-27 SIGN
 2-TYPE D SIGNS (D-1, D-8) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 2B:
 2-12/C 14
 2-4/C 14
 1-3/C 14
 1-3/C 14 (LUM)
 1-3/C 20
 1-CAT 5E (IP CAMERA)
 1-1/C 6 INS. GR.

③ PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 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 DEG
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R3-2 SIGN
 2-TYPE D SIGNS (D-4, D-9) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 4B:
 2-12/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.

④ PEDESTAL FOUNDATION
 10' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT C.D. PED HEAD AT 180 DEG
 1-APS PB AND SIGN (RT ARROW) (PB6-2) AND APS PB MOUNTING SPACERS
 3" CONDUIT TO HH 4B:
 1-4/C 14
 1-2/C 14
 2-1/C 6 INS. GR.

⑤ PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 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 3+8)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (3-1)
 2-TYPE D SIGNS (D-1, D-6) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 5B:
 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
 1-1/C 6 INS. GR.

(A) EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB)
 CONTROLLER AND CABINET (STATE FURNISHED)
 3" CONDUIT TO HH 7B: 3" CONDUIT TO HH 1B:
 2-12/C 14 2-12/C 14
 1-6/C 14 2-6/C 14
 2-4/C 14 1-3/C 14
 1-3/C 14 1-3/C 20
 1-3/C 20 1-CAT 5E (IP CAMERA)
 1-1/C 6 INS. GR. 3" CONDUIT TO HH 1B:
 3" CONDUIT TO HH 7B: 2-12/C 14
 2-12/C 14 2-4/C 14
 1-6/C 14 1-3/C 14
 2-4/C 14 1-3/C 20
 1-3/C 14 1-1/C 6 INS. GR.
 1-3/C 20
 1-CAT 5E (VIDEO DET.) 3" CONDUIT TO HH 1B:
 3" CONDUIT TO HH 7B: 4-2/C 14
 6-2/C 14
 1 1/2" CONDUIT TO PV 5:
 1-FO CABLE (6SM)

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 STUBBED OUT (FOR TELEPHONE LINE/FIBER)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" CONDUIT
 2-1/C 6
 1-1/C 6 INS. GR.
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" CONDUIT
 1-6PR 19
 SERVICE CABINET TO HH 1B:
 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 1B TO HH 7B:
 2" CONDUIT
 2-3/C 14 (LUM)

(B) SOP-GROUND MOUNTED TRANSFORMER (APPROX. LOCATION)
 2" CONDUIT INTO SERVICE CABINET:
 3-1/C 2

BY	DATE	REVISIONS
SJK	12/30/22	AS-BUILT PLAN SP 8204-74

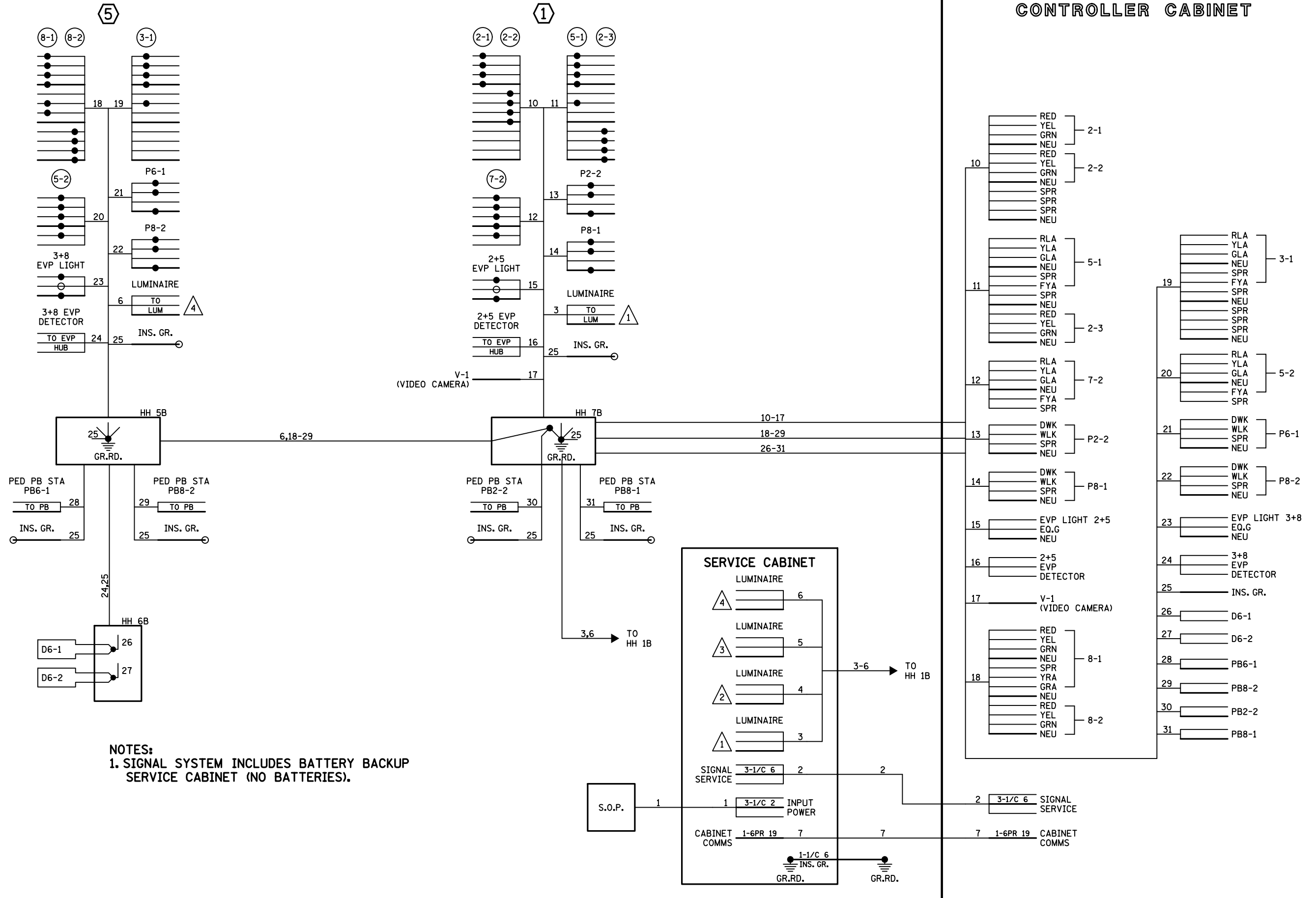
SYSTEM ID: 4036588 T.E.
 METER ADDRESS: 6075 MANNING AVE N
 OLD SYSTEM ID:

MATCH LINE/POLE NOTES
TH 36 AT MANNING AVE NORTH RAMP
IN LAKE ELMO, WASHINGTON COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO. 8204-74 (T.H.36)		SHEET NO. 2 OF	4 SHEETS

PLOTTED/REVISED: 3-JAN-2023

DISTRICT *: Metro
 IPLOT NAME: wiring diagram 1 of 2
 FILENAME: Projects\DM_FOS\036\0000\Traffic\Signals\6.82_Manning_Ave_North_Ramp-4036588\T_4036588_sgl.dgn



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

BY	DATE	REVISIONS
SJK	12/30/22	AS-BUILT PLAN SP 8204-74

SYSTEM ID: 4036588 T.E.
 METER ADDRESS: 6075 MANNING AVE N
 OLD SYSTEM ID:

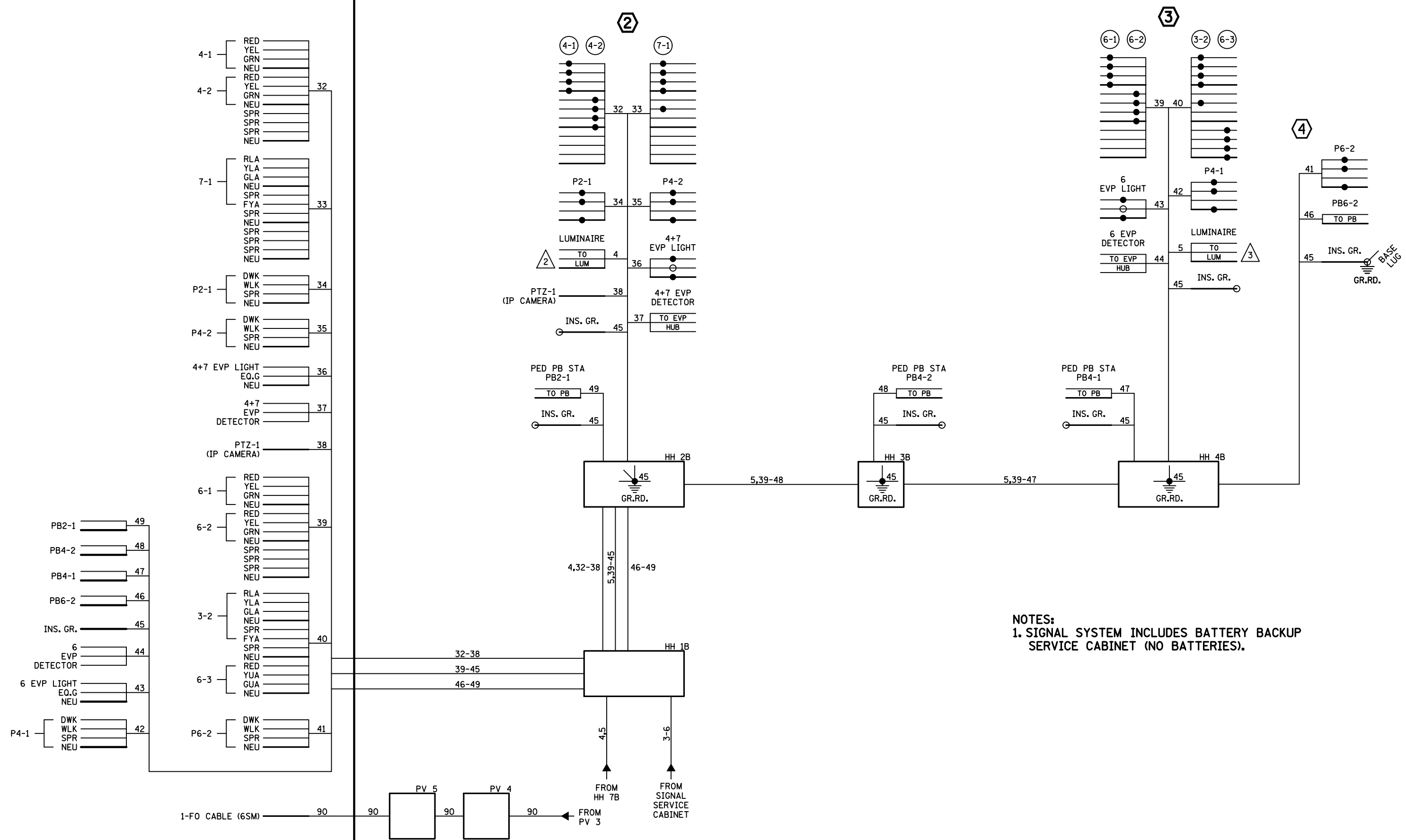
FIELD WIRING DIAGRAM 1 OF 2
TH 36 AT MANNING AVE NORTH RAMP
IN LAKE ELMO, WASHINGTON COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ.NO. 8204-74 (T.H.36)		SHEET NO. 3 OF 4 SHEETS	

PLOTTED/REVISED: 3-JAN-2023

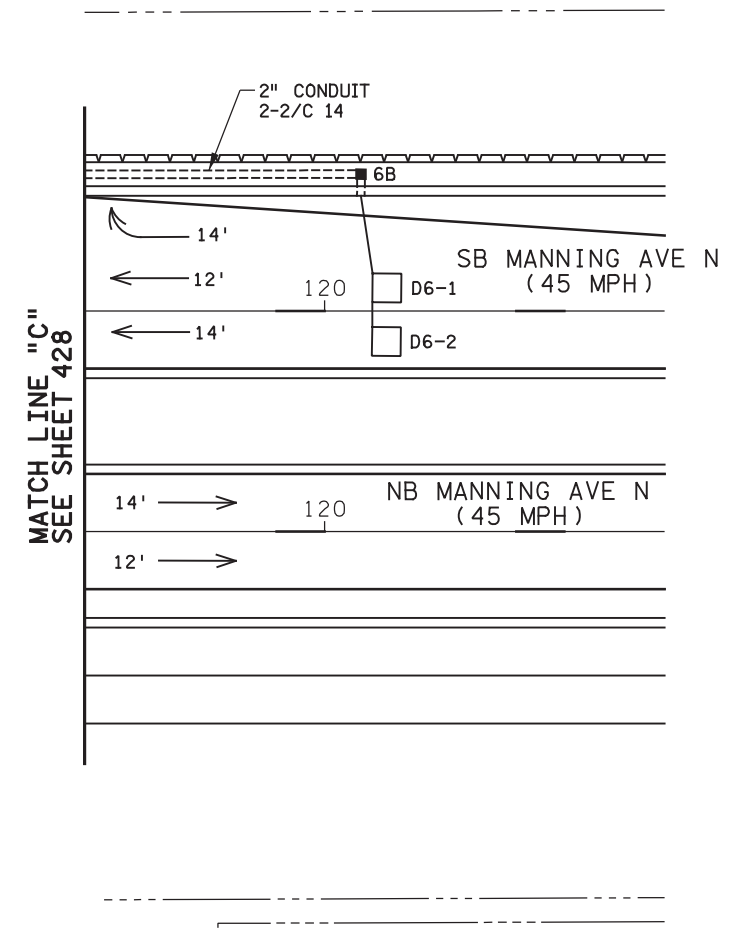
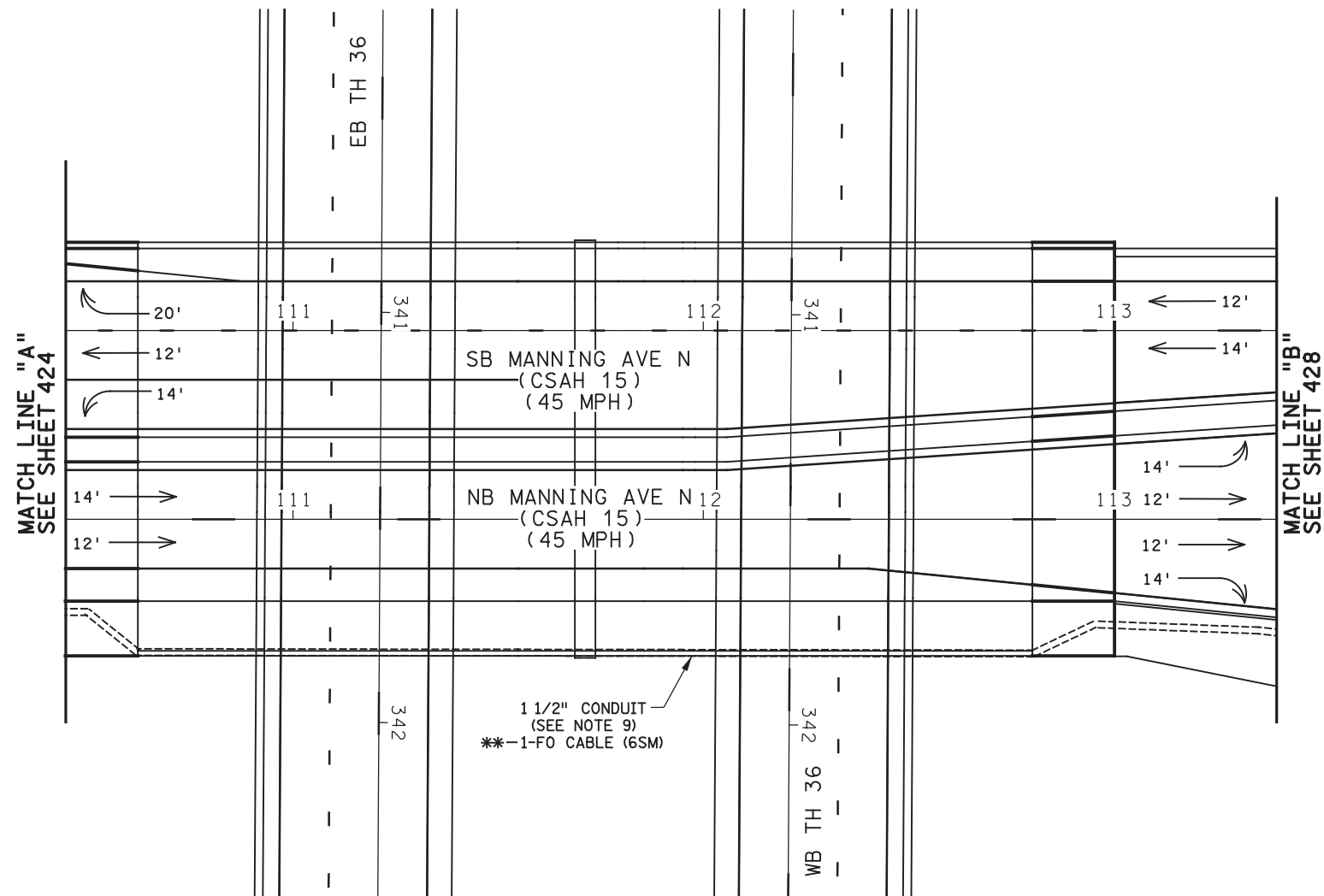
DISTRICT *: Metro
 IPLOT NAME: wiring diagram 2 of 2
 FILENAME: Projects\DM_FOS\03600000\Traffic\Signals\6.82_Manning Ave North Ramp-4036588\T 4036588_sgl.dgn

CONTROLLER CABINET



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

BY	DATE	REVISIONS	SYSTEM ID: 4036588	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
SJK	12/30/22	AS-BUILT PLAN SP 8204-74	METER ADDRESS: 6075 MANNING AVE N		CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
			OLD SYSTEM ID:		STATE PROJ.NO. 8204-74 (T.H.36) SHEET NO. 4 OF 4 SHEETS			



- NOTES:
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
 - ENSURE THE EXACT LOCATION OF THE HANDHOLES AND LOOP DETECTORS ARE VERIFIED IN THE FIELD BY MNDOT OFFICE PERSONNEL.
 - FOR PAVEMENT MARKINGS, SEE SIGNING AND PAVEMENT MARKING PLANS. FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE CONSTRUCTION PLANS.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 - USE PVC OR HDPE FOR ALL NEW CONDUIT.
 - CONDUIT SIZES ARE NOMINAL DIAMETER.
 - ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.
 - CONDUIT TO BE FURNISHED AND INSTALLED AS PART OF THE BRIDGE PAY ITEM (SEE BRIDGE PLANS).

10/23/03 AM
11/27/2020
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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report 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.
 Print Name: NATHAN A. POOLE
Nathan A. Poole
 Date 11/25/2020 License # 56071

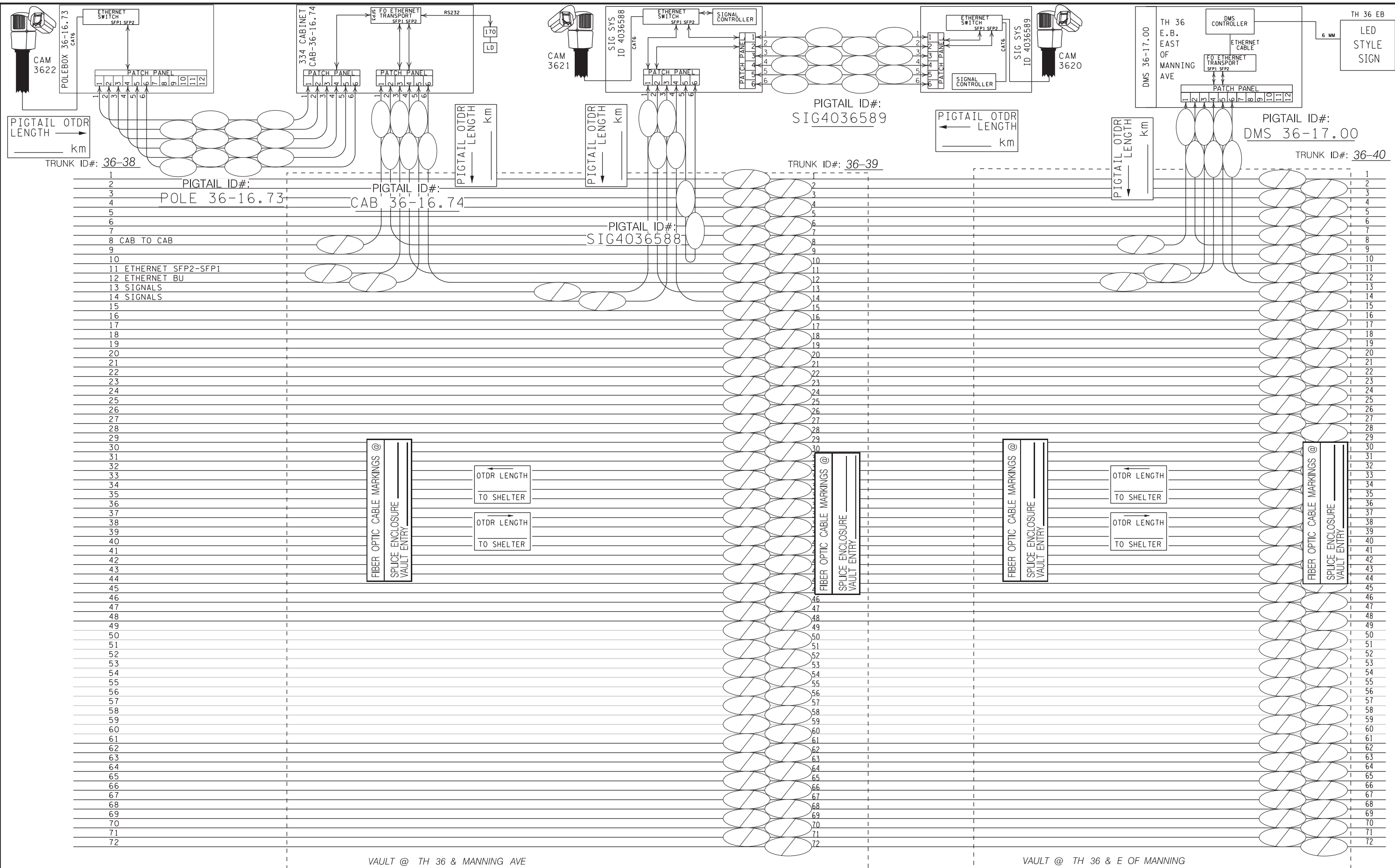
STATE PROJECT NO.
082-615-034
8204-74 (TH 36)
 STATE AID PROJECT NO.
169-020-011
 CITY OF LAKE ELMO
PROJECT NO. 2017.153

DRAWN BY
M. BRESSLER
 DESIGNED BY
M. BRESSLER
 CHECKED BY
N. POOLE
 COMM. NO. 10207



WASHINGTON COUNTY
 TRAFFIC SIGNAL PLANS
TH 36 & CSAH 15 N INTERCHANGE
 MATCH LINE LAYOUT
 MANNING AVE N AT TH 36 NE RAMP/60TH ST N (SYSTEM "B")

SHEET
432
OF
587



10:21:03 AM
 11/27/2020
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NO	DATE	BY	CKD	APPR	REVISION

I hereby certify that this plan, specification, or report 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.

Print Name: JACOB FOLKERINGA

Jacob Folkeringa

Date: 11/25/2020 License #: 50911

STATE PROJECT NO. 082-615-034
 8204-74 (TH 36)

STATE AID PROJECT NO. 169-020-011

CITY OF LAKE ELMO
 PROJECT NO. 2017.153

DRAWN BY K. HVIZDOS
 DESIGNED BY T. YOUNG
 CHECKED BY J. FOLKERINGA
 COMM. NO. 10207



WASHINGTON COUNTY
 TRAFFIC MANAGEMENT SYSTEM PLANS
TH 36 & CSAH 15 N INTERCHANGE
 COMMUNICATION SCHEMATICS

SHEET
402
OF
587