

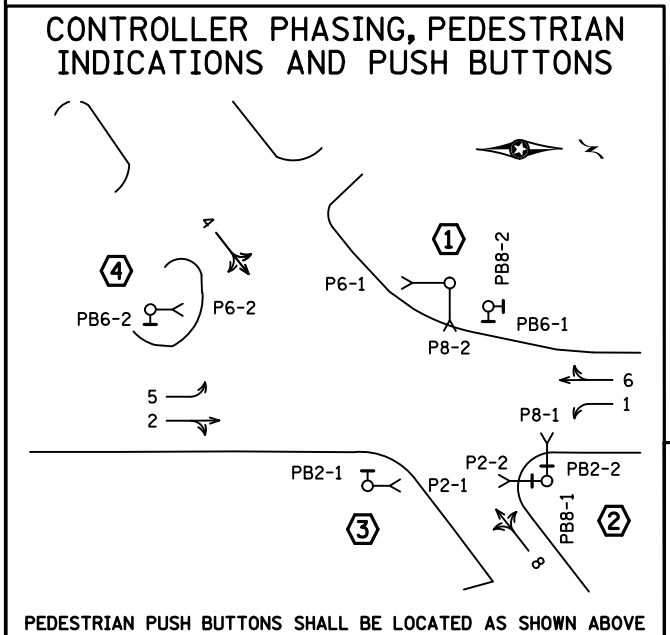
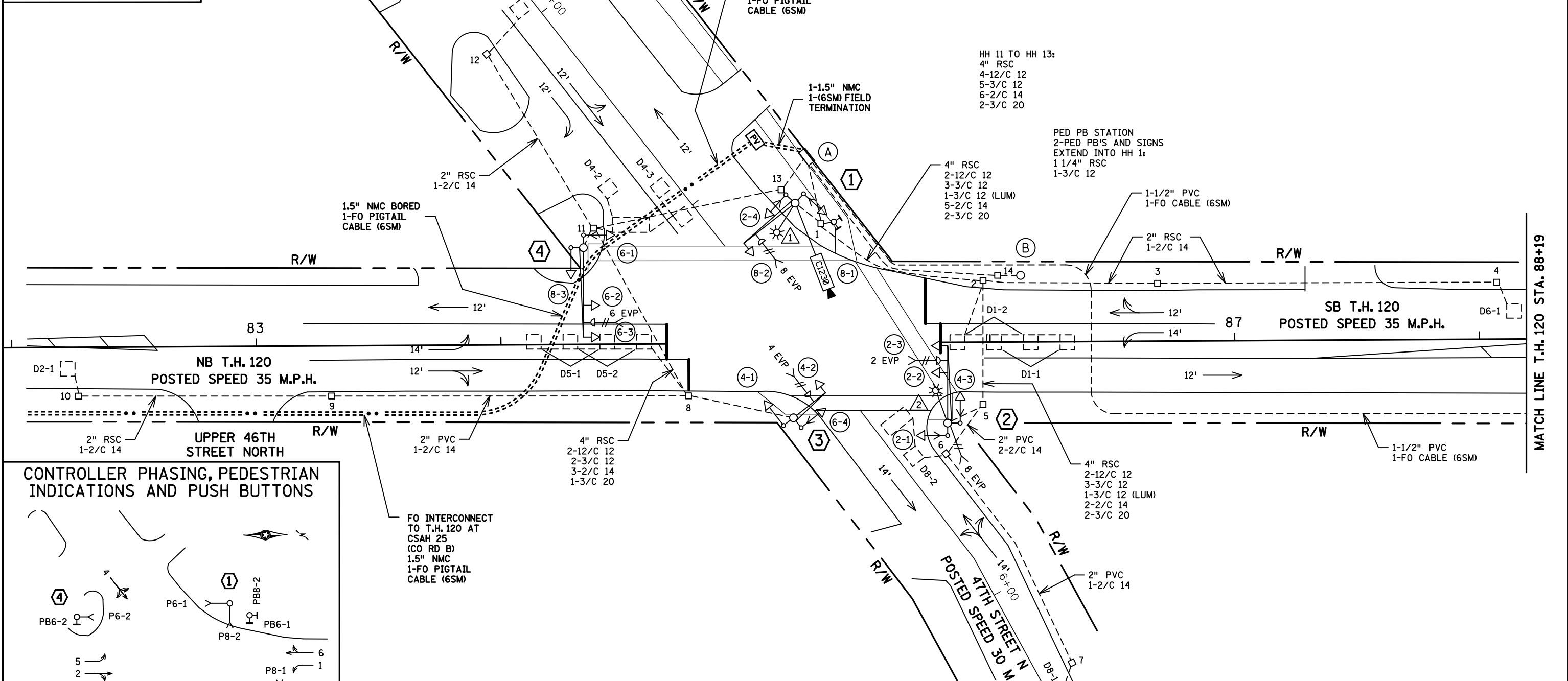
DISTRICT #: Metro
 IPLOT NAME: layout
 PATH & FILENAME: Projects\DM_ROS\20\0000\Traffic\Signal\6.99_7TH AVE E&S\last47TH ST N-1736474\T1736474_sgl.dgn PLOTTED/REVISED: 25-APR-2023

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D5-1	2-6x6	20 & 50
D1-2, D5-2	2-6x6	5 & 35
D2-1, D6-1	6x6	250
D4-1, D8-1	6x6	120
D4-2	6x15	5
D4-2, D8-2	6x6	20
D8-2	6x12	5

-ALL LOOP DETECTORS ARE PVC
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

SIGNAL HEAD PHASING		SIGNAL HEAD CHART					
HEADS	HEADS	FACE	R	Y	G	Y	G
2-3 & 2-4	6-3 & 6-4	2-1, 2-2	○	○	○		
		2-3, 2-4	○	○	○	←	←
		4-1, 4-2, 4-3	○	○	○		
		6-1, 6-2	○	○	○		
		6-3, 6-4	○	○	○	←	←
		8-1, 8-2, 8-3	○	○	○		

-ALL SIGNAL INDICATIONS ARE 12" LED
 -ALL SIGNAL HEADS ARE BLACK WITH BACKGROUND SHIELDS

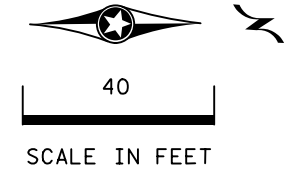
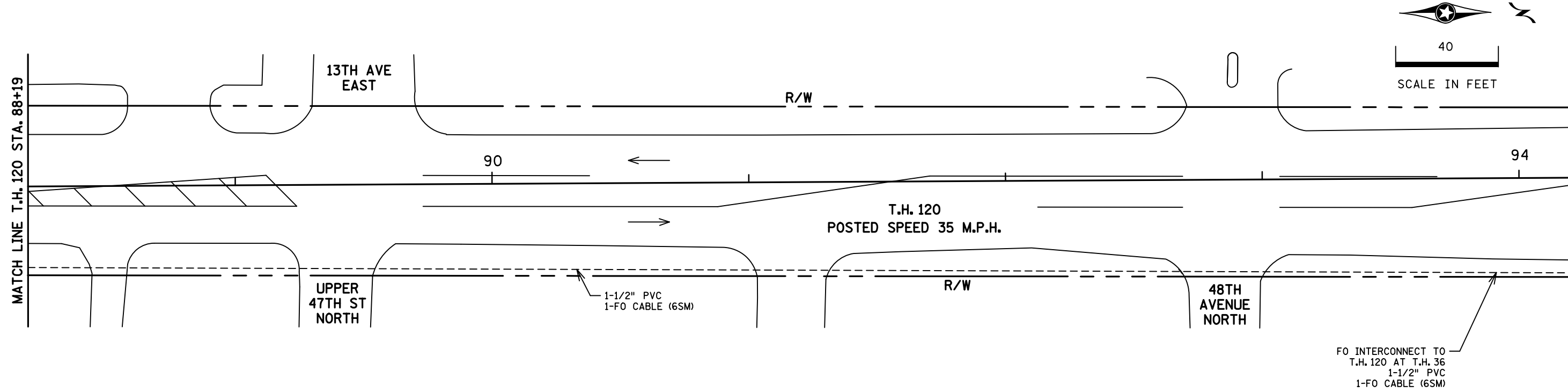


SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE		SYSTEM ID: 1736474 T.E. METER ADDRESS: 7TH / DIVISION ST SYSTEM OLD SYSTEM ID: 38301		INTERSECTION LAYOUT SIGNAL SYSTEM J T.H. 120 AT 7TH AVE. / 47TH ST. IN NORTH ST. PAUL, RAMSEY COUNTY		S.A.P. NO. CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER		DRAWN BY:GDS CKD BY:GDB DATE:05-03-18 LIC. NO. 19863 DATE: 06-06-18	
BY: SJK DATE: 4/25/23 REVISIONS: PTZ CAMERA UPGRADE SP 8825-890	STATE PROJ.NO. 6227-83 (T.H.120) SHEET NO. 67 OF 89 SHEETS								

DISTRICT #: Metro
 PLOT NAME: match lines
 PATH & FILENAME: Projects\DM罗斯\20\0000\Traffic\Signal\6.99_7TH AVE E&S\47TH ST N-1736474-T1736474.spl.dgn PLOTTED/REVISED: 25-APR-2023



④ PA90 POLE FOUNDATION
 TYPE PA90-A-35
 2-ONE-WAY SIGNALS OVERHEAD (0' AND 11' FROM THE END OF THE MAST ARM)
 ONE WAY SIGNAL MOUNTED AT 45 DEG
 ONE WAY SIGNAL MOUNTED AT 225 DEG
 1-PED HEAD MOUNTED AT 225 DEG
 1-PED PB AND SIGN
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
 1-R9-3 SIGN (NO PED) FACING POLE 3
 1-R10-12 SIGN ADJACENT TO HEAD (6-3)
 1-TYPE D SIGN
 EXTEND INTO HH 11:
 3" RSC
 2-12/C 12
 3-3/C 12
 1-3/C 20

① PA85 POLE FOUNDATION
 TYPE PA85-A-25-X6-350/CAM 400 AT 350 DEG
 ONE-WAY SIGNAL OVERHEAD
 2-ONE WAY SIGNALS MOUNTED AT 45 DEG AND 225 DEG
 2-PED HEADS MOUNTED AT 45 DEG AND 225 DEG
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
 1-PTZ CAMEA (C1230)
 LUMINAIRE-250W H.P.S.
 1-TYPE D SIGN
 EXTEND INTO HH 1:
 3" RSC
 2-12/C 12
 3-3/C 12
 1-3/C 12 (LUM)
 1-3/C 20
 1-7/16" GROUNDING BRAID TO GROUND ROD IN HH 1
 1-CAT5E (COMM)

Ⓐ EQUIPMENT PAD
 SERVICE CABINET
 CONTROLLER CABINET
 4" RSC TO HH 1:
 4-12/C 12
 5-3/C 12
 5-2/C 14
 3-3/C 20
 1-6PR 19 (ABANDONED)
 1-CAT5E (COMM)

CONTROLLER CABINET TO TMS VAULT
 LOCATED NEAR T.H. 36 AT T.H. 120
 1-3" RSC STUBBED OUT WITH 1 1/2" PVC INSIDE
 1-FIBER OPTIC CABLE (6SM)
 1-3" RSC STUBBED OUT FOR FUTURE USE

CONTROLLER CABINET TO PULL VAULT:
 1-1.5" NMC (IN SPARE 3")
 1-(6SM) FIELD TERMINATION
 3/4" PVC STUBBED OUT (FOR TELEPHONE LINE)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" RSC
 2-1/C 6
 1-1/C 6 INS. GR.
 SERVICE CABINET TO HH 14:
 2" RSC
 3-1/C 2
 SERVICE CABINET TO HH 1:
 2" RSC
 2-3/C 12 (LUM)
 SERVICE CABINET TO HH 13:
 2" RSC (EMPTY)

Ⓑ S.O.P. - WOOD POLE
 (BY NORTH ST. PAUL UTILITIES)
 2" RSC RISER WITH WEATHERHEAD
 3-1/C 2
 EXTEND INTO HH 14:
 2" RSC
 3-1/C 2

FO INTERCONNECT TO T.H. 120 AT T.H. 36
 1-1/2" PVC
 1-FO CABLE (6SM)

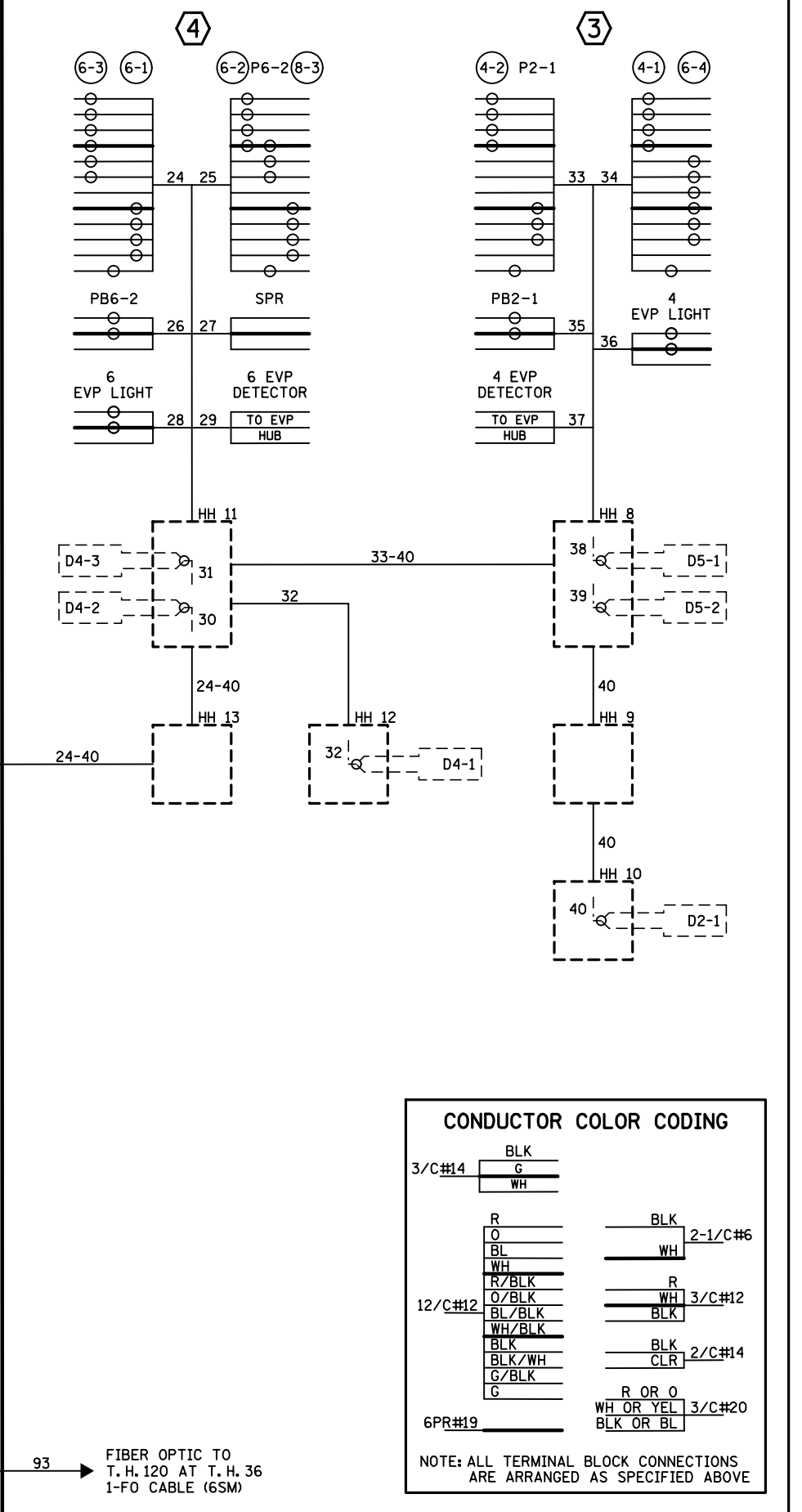
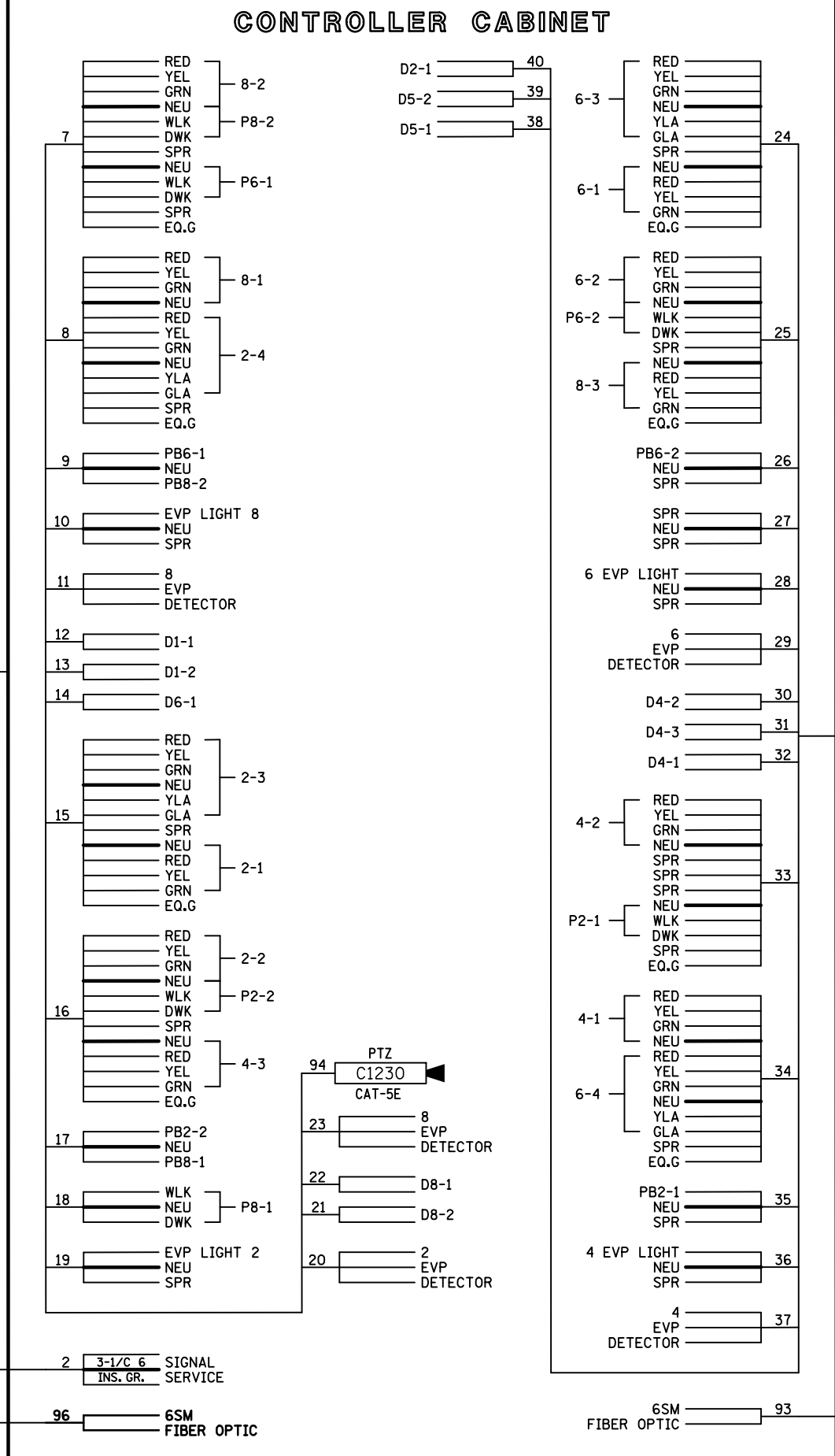
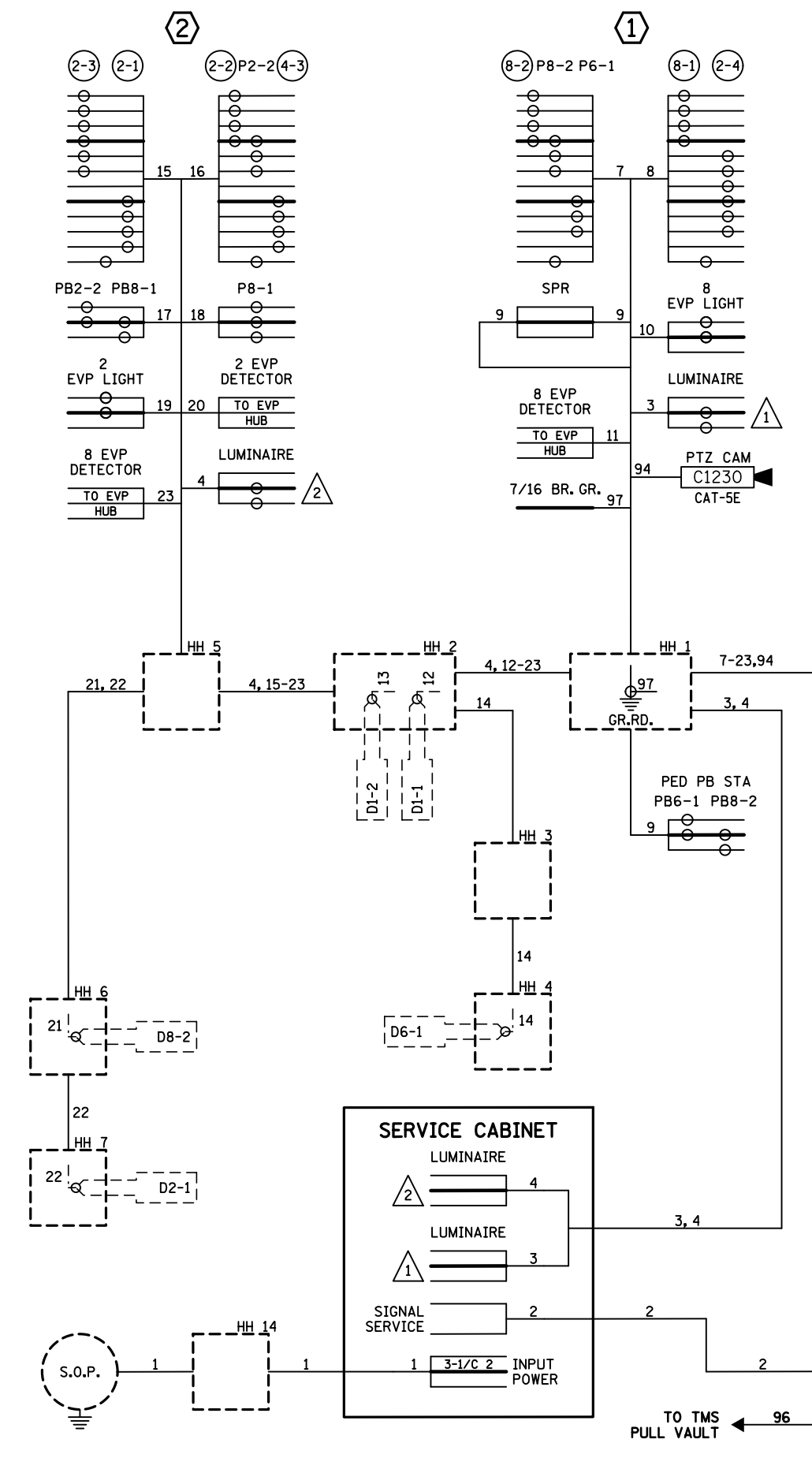
③ PA85 POLE FOUNDATION
 TYPE PA85-A-15
 ONE-WAY SIGNAL OVERHEAD
 2- ONE WAY SIGNALS MOUNTED AT 45 AND 225 DEG
 1-PED HEAD MOUNTED AT 45 DEG
 1-PED PB AND SIGN
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
 1-R9-3 SIGN (NO PED) FACING POLE 4
 1-TYPE D SIGN
 EXTEND INTO HH 8:
 3" RSC
 2-12/C 12
 2-3/C 12
 1-3/C 20

② PA90 POLE FOUNDATION
 TYPE PA90-A-30-D40-9 (DAVIT AT 350 DEG)
 2-ONE-WAY SIGNALS OVERHEAD (0' AND 11' FROM THE END OF THE MAST ARM)
 2-ONE WAY SIGNALS MOUNTED AT 45 AND 225 DEG
 ONE WAY SIGNAL MOUNTED AT 225 DEG
 2-PED HEADS MOUNTED AT 45 AND 225 DEG
 2-PED PB'S AND SIGNS
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
 ONE WAY EVP DETECTOR MOUNTED ON LUM EXTENSION (PHASE 8)
 LUMINAIRE-250W H.P.S.
 1-R10-12 SIGN ADJACENT TO HEAD (2-3)
 1-TYPE D SIGN
 EXTEND INTO HH 5:
 3" RSC
 2-12/C 12
 3-3/C 12
 1-3/C 12 (LUM)
 2-3/C 20

BY	DATE	REVISIONS	SYSTEM ID: 1736474	T.E.	S.A.P. NO.	DRAWN BY:GDS	CKD BY:GBB	DATE:05-03-18
SJK	4/25/23	PTZ CAMERA UPGRADE	METER ADDRESS: 7TH / DIVISION ST SYSTEM		CERTIFIED BY _____	LIC. NO. 19863	DATE: 06-06-18	
			OLD SYSTEM ID: 38301		STATE PROJ.NO. 6227-83 (T.H.120) SHEET NO. 68 OF 89 SHEETS			

**MATCH LINE LAYOUT AND NOTES
 SIGNAL SYSTEM J
 T.H. 120 AT 7TH AVE. / 47TH ST.
 IN NORTH ST. PAUL, RAMSEY COUNTY**

DISTRICT #: Metro
 IPLOT NAME: wiring diagram
 PATH & FILENAME: Projects\DM_POS\20\0000\Traffic\Signal\6.99_7TH AVE E&slash47TH ST N\736474\T36474.sgl.dgn PLOTTED/REVISED: 25-APR-2023



CONDUCTOR COLOR CODING	
3/C#14	BLK G WH
12/C#12	R O BL WH R/BLK O/BLK BL/BLK WH/BLK BLK BLK/WH G/BLK G
6PR#19	R OR O WH OR YEL BLK OR BL
2-1/C#6	BLK WH
3/C#12	R WH
2/C#14	BLK CLR
3/C#20	R OR O WH OR YEL BLK OR BL

NOTE: ALL TERMINAL BLOCK CONNECTIONS ARE ARRANGED AS SPECIFIED ABOVE

BY	DATE	REVISIONS	SYSTEM ID: 1736474	T.E.	S.A.P. NO.	DRAWN BY:GDS	CKD BY:GBB	DATE:05-03-18
SJK	4/25/23	PTZ CAMERA UPGRADE	METER ADDRESS: 7TH / DIVISION ST SYSTEM		CERTIFIED BY _____			LIC. NO. 19863 DATE: 06-06-18
			OLD SYSTEM ID: 38301		STATE PROJ.NO. 6227-83 (T.H.120)		SHEET NO. 69 OF 89 SHEETS	

FIELD WIRING DIAGRAM
SIGNAL SYSTEM J
T.H.120 AT 7TH AVE. / 47TH ST.
IN NORTH ST. PAUL, RAMSEY COUNTY

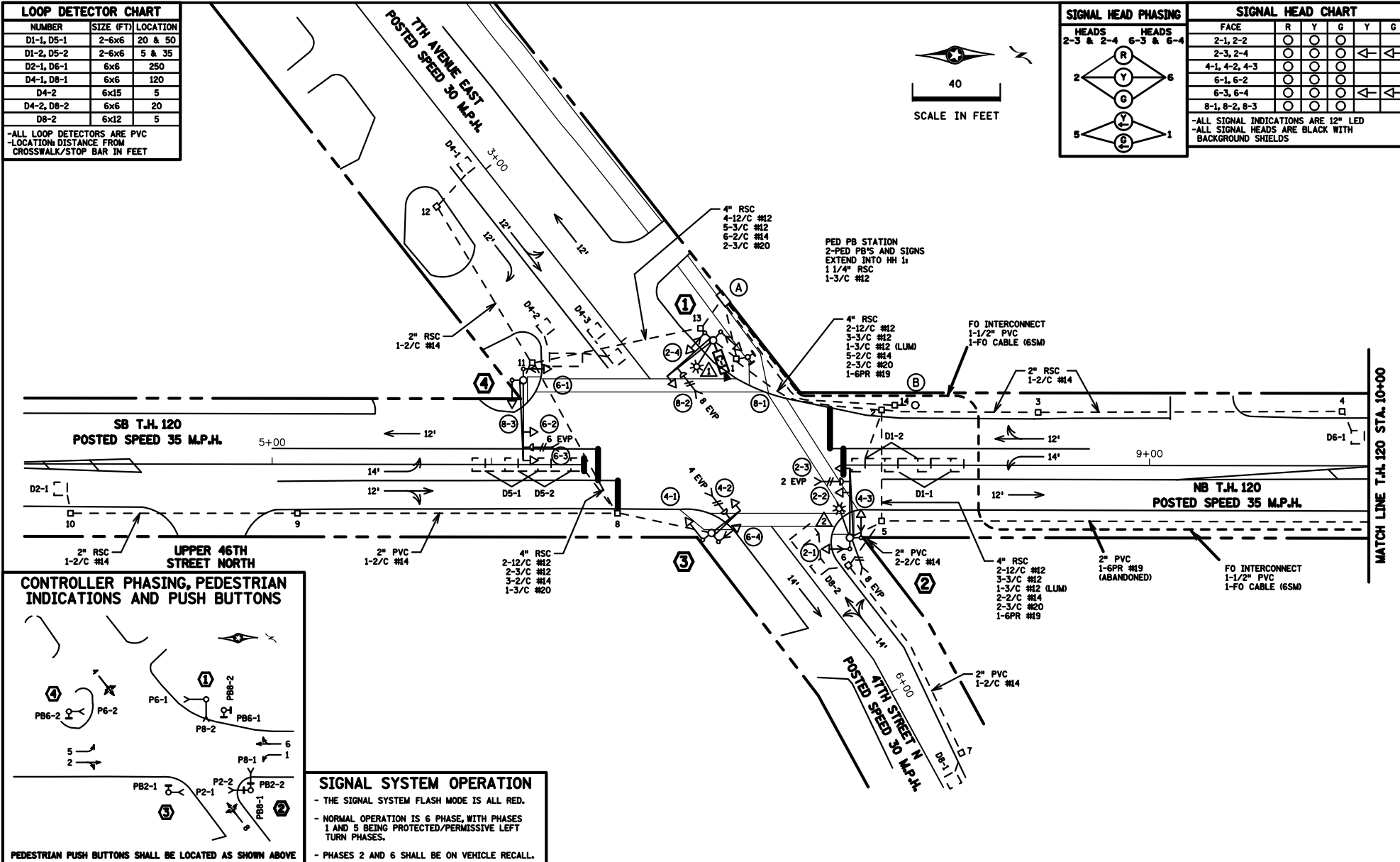
PLOTTED/REVISED: 6/19/2014

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D5-1	2-6x6	20 & 50
D1-2, D5-2	2-6x6	5 & 35
D2-1, D6-1	6x6	250
D4-1, D8-1	6x6	120
D4-2	6x15	5
D4-2, D8-2	6x6	20
D8-2	6x12	5

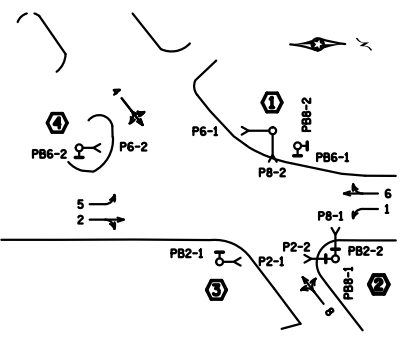
-ALL LOOP DETECTORS ARE PVC
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

SIGNAL HEAD PHASING				SIGNAL HEAD CHART					
HEADS		HEADS		FACE	R	Y	G	Y	G
2-3 & 2-4	6-3 & 6-4	2-1, 2-2	0	0	0	0	0	0	0
		2-3, 2-4	0	0	0	0	0	0	0
		4-1, 4-2, 4-3	0	0	0	0	0	0	0
		6-1, 6-2	0	0	0	0	0	0	0
		6-3, 6-4	0	0	0	0	0	0	0
		8-1, 8-2, 8-3	0	0	0	0	0	0	0

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS ARE BLACK WITH BACKGROUND SHIELDS



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



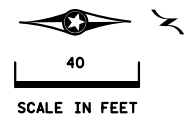
SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

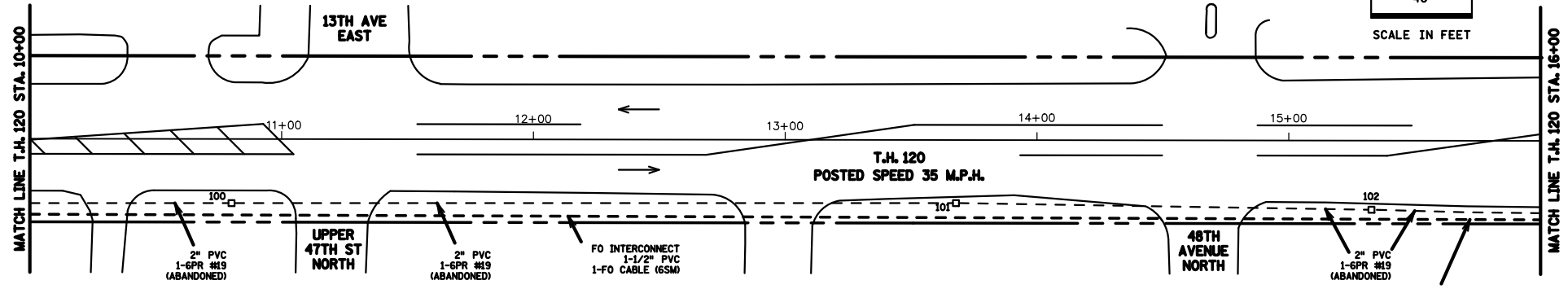
PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

BY EJA	DATE 6-19-14	REVISIONS AS-BUILT OF SP 8204-66 CAMERA & FIBER	SYSTEM ID: 38301	T.E. 5693	INTERSECTION LAYOUT T.H. 120 AT 7TH AVE. / 4TH ST. IN NORTH ST. PAUL, RAMSEY COUNTY	S.A.P. NO.	DRAWN BY: GDS	CKD BY: EJA	DATE: 01-17-13
			METER ADDRESS: 7TH/DIVISION ST SYSTEM			CERTIFIED BY: <i>Michael P. [Signature]</i> <small>(LICENSED PROFESSIONAL ENGINEER)</small>	L.T.C. NO. 19863	DATE: 01-28-13	
			MASTER ID:	T.E.		STATE PROJ. NO. (T.H.36)	SHEET NO. 1 OF 3 SHEETS		

DISTRICT #: METRO
PILOT NAME: layout A
PATH & FILENAME: IP_LWP-20794560T_38301_sgl.dgn



PLOTTED/REVISED: 6/19/2014



- ④ PA90 POLE FOUNDATION
TYPE PA90-A-35
2-ONE-WAY SIGNALS OVERHEAD (0' AND 11' FROM THE END OF THE MAST ARM)
ONE WAY SIGNAL MOUNTED AT 45 DEG
ONE WAY SIGNAL MOUNTED AT 225 DEG
1-PED HEAD MOUNTED AT 225 DEG
1-PED PB AND SIGN
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
1-R9-3 SIGN (NO PED) FACING POLE 3
1-R10-12 SIGN ADJACENT TO HEAD (6-3)
1-TYPE D SIGN
EXTEND INTO HH 11:
3" RSC
2-12/C #12
3-3/C #12
1-3/C #20

- ① PA85 POLE FOUNDATION
TYPE PA85-A-25-X6-350/CAM 400 AT 350 DEG
ONE-WAY SIGNAL OVERHEAD
2-ONE WAY SIGNALS MOUNTED AT 45 DEG & 225 DEG
2-PED HEADS MOUNTED AT 45 DEG AND 225 DEG
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
VIDEO CAMERA WITH MOUNT
LUMINAIRE 250 WATT HPS
1-TYPE D SIGN
EXTEND INTO HH 11:
3" RSC
2-12/C #12
3-3/C #12
1-3/C #12 (LUM)
1-3/C #20
1-1/16" GROUNDING BRAID TO GROUND ROD IN HH 1
1-3/C #14 (CAMERA POWER)
1-COM CABLE
1-COAXIAL CABLE

- ③ PA85 POLE FOUNDATION
TYPE PA85-A-15
2-ONE-WAY SIGNAL OVERHEAD
2- ONE WAY SIGNALS MOUNTED AT 45 & 225 DEG
1-PED HEAD MOUNTED AT 45 DEG
1-PED PB AND SIGN
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
1-R9-3 SIGN (NO PED) FACING POLE 4
1-TYPE D SIGN
EXTEND INTO HH 8:
3" RSC
2-12/C #12
2-3/C #12
1-3/C #20

- ② PA90 POLE FOUNDATION
TYPE PA90-A-30-D40-9 (DAVIT AT 350 DEG)
2-ONE-WAY SIGNALS OVERHEAD (0' AND 11' FROM THE END OF THE MAST ARM)
2-ONE WAY SIGNALS MOUNTED AT 45 & 225 DEG
ONE WAY SIGNAL MOUNTED AT 225 DEG
2-PED HEADS MOUNTED AT 45 & 225 DEG
2-PED PB'S AND SIGNS
ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 2)
ONE WAY EVP DETECTOR MOUNTED ON LUM EXTENSION (PHASE 8)
LUMINAIRE-250W HPS
1-R10-12 SIGN ADJACENT TO HEAD (2-3)
1-TYPE D SIGN
EXTEND INTO HH 5:
3" RSC
2-12/C #12
3-3/C #12
1-3/C #12 (LUM)
2-3/C #20

- A EQUIPMENT PAD
SERVICE CABINET
CONTROLLER CABINET
4" RSC TO HH 11:
4-12/C #12
5-3/C #12
5-2/C #14
3-3/C #20
1-6PR #19 (ABANDONED)
1-3/C #14 (CAMERA POWER)
1-COM CABLE
1-COAXIAL CABLE

CONTROLLER CABINET TO TMS VAULT
LOCATED NEAR T.H. 36 AT T.H. 120
1-3" RSC STUBBED OUT WITH 1/2" PVC INSIDE
1-FIBER OPTIC CABLE (6SM)

1-3" RSC STUBBED OUT FOR FUTURE USE
3/4" PVC STUBBED OUT (FOR TELEPHONE LINE)

- B S.O.P. - WOOD POLE
(BY NORTH ST. PAUL UTILITIES)
2" RSC RISER WITH WEATHERHEAD
3-1/C #2
EXTEND INTO HH 14:
2" RSC
3-1/C #2

FO INTERCONNECT TO T.H. 120 AT T.H. 36
1-1/2" PVC
1-FO CABLE (6SM)

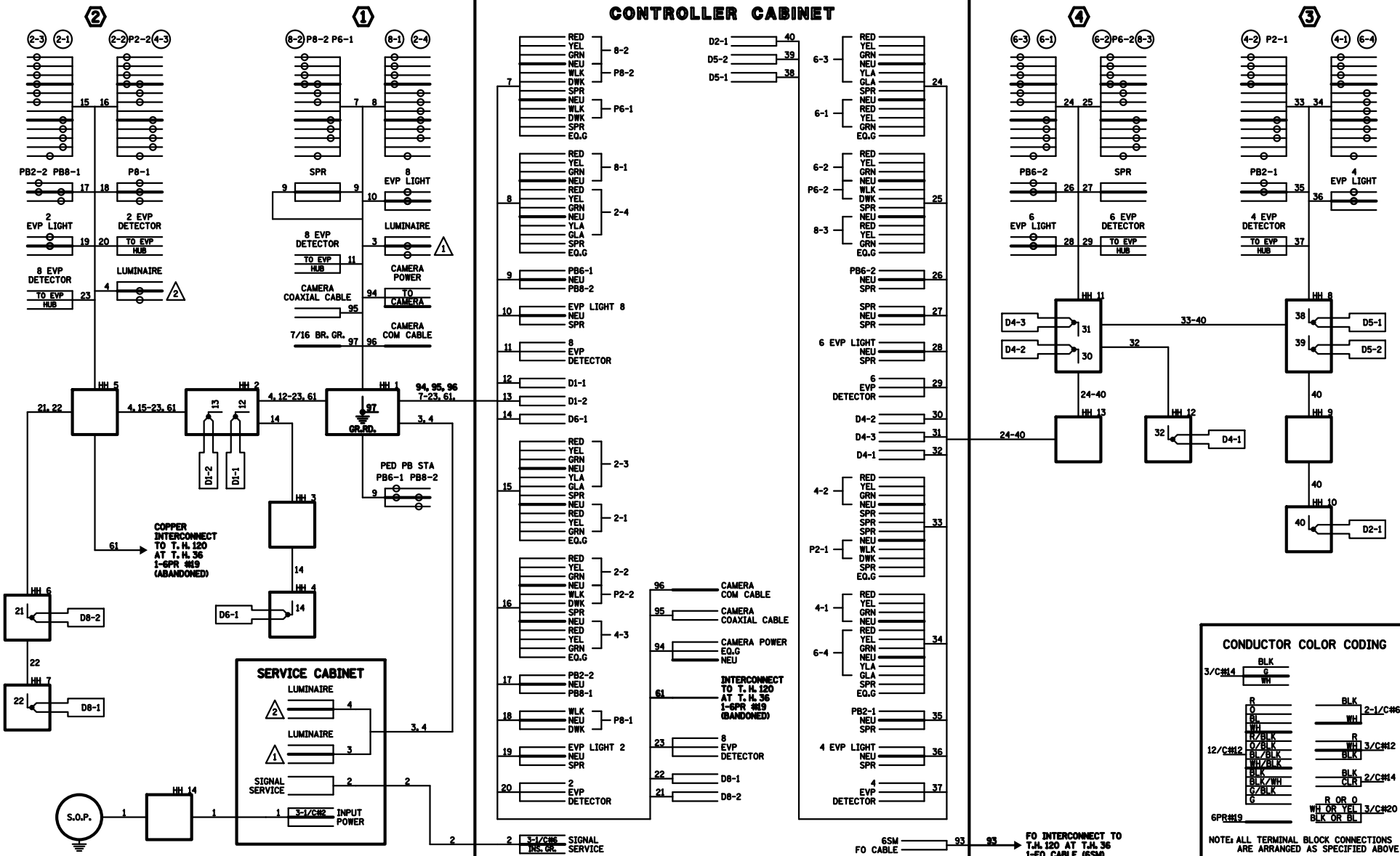
DISTRICT #: METRO
PILOT NAME: match lines & notes A
PATH & FILENAME: IP_PWP-d0794560T38301_sgl.dgn

BY	DATE	REVISIONS	SYSTEM ID:	T.E.
EJA	06-19-14	AS-BUILT OF SP 8204-66 CAMERA & FIBER	38301	6593
			METER ADDRESS: 7TH/DIVISION ST SYSTEM	
			MASTER ID:	T.E.

MATCH LINE LAYOUT AND NOTES
T.H. 120 AT 7TH AVE. / 47TH ST.
IN NORTH ST. PAUL, RAMSEY COUNTY

S.A.P. NO.	DRAWN BY: GDS	CKD BY: EJA	DATE: 01-17-13
CERTIFIED BY: <i>Richard P. Selinsky</i>	L.I.C. NO. 19863	DATE: 01-28-13	
STATE PROJ. NO. (T.H.36)		SHEET NO. 2 OF 3 SHEETS	

CONTROLLER CABINET



3/C#4	BLK		BLK
	W		WH
R	R		BLK
BL	O		WH
WH	W		BLK
R/BLK	O/BLK		WH
12/C#2	BL/BLK		BLK
	WH/BLK		WH
	BLK/WH		BLK
	G/BLK		WH
			BLK
6PR#9			R OR O
			WH OR YEL
			3/C#20

NOTE: ALL TERMINAL BLOCK CONNECTIONS ARE ARRANGED AS SPECIFIED ABOVE

DISTRICT #: METRO
PLOT NAME: wiring A
PATH & FILENAME: IP_FWP-JOT84580T.36301.sgi.dgn

BY	DATE	REVISIONS
AS-BUILT OF SP 8204-66		CAMERA & FIBER

SYSTEM ID: 38301	T.E. 5693
METER ADDRESS: 7TH/DIVISION ST SYSTEM	
MASTER ID:	T.E.

FIELD WIRING DIAGRAM
T.H. 120 AT 7TH AVE. / 47TH ST.
IN NORTH ST. PAUL, RAMSEY COUNTY

S.A.P. NO.	DRAWN BY:GDS	CKD BY:EJA	DATE:01-17-13
CERTIFIED BY: <i>Michael P. Schmidt</i>	L.I.C. NO. 19863	DATE: 01-28-13	
STATE PROJ. NO.	(T.H.36)	SHEET NO. 3 OF 3 SHEETS	