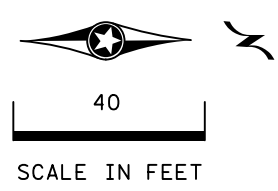


PLOTTED/REVISED: 26-JAN-2023

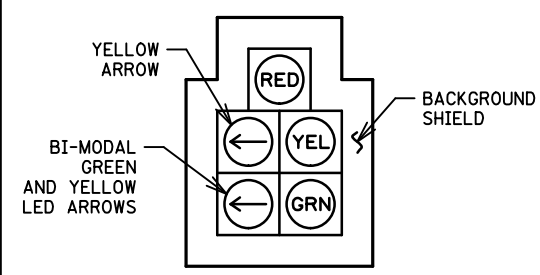
DISTRICT #: Metro
PLOT NAME: 6
PATH & FILENAME: Projects\DM_R05\20\00000\Traffic\Signals\6_32_125

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1	2-6x6	11 & 41
D1-2	2-6x6	-4 & 26
D2-1, D2-2	6x6	178
D3-1	2-6x6	13 & 43
D3-2	2-6x6	-2 & 28
D4-1	6x6	120
D4-3	2-6x6	0 & 15
D5-1	2-6x6	5 & 20
D5-2	2-6x6	35 & 50
D6-1, D6-2	6x6	171
D7-1	2-6x6	15 & 45
D7-2	2-6x6	0 & 30
D8-1, D8-2	6x6	174
D8-3	2-6x6	-1 & 14

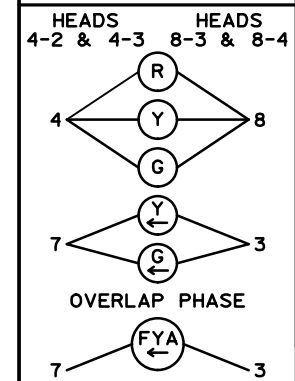
-ALL LOOP DETECTORS ARE PVC
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



5 SECTION FYA CLUSTER HEAD DETAIL



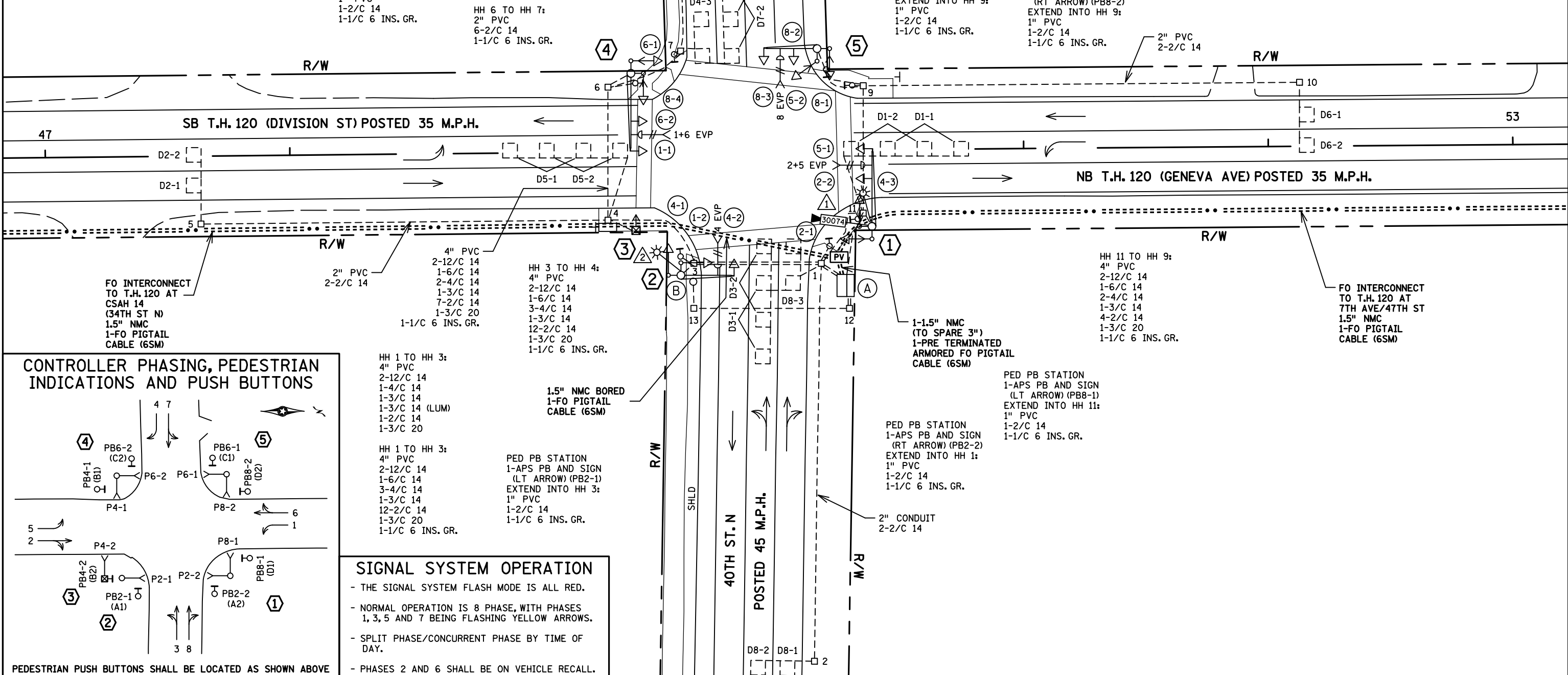
SIGNAL HEAD PHASING



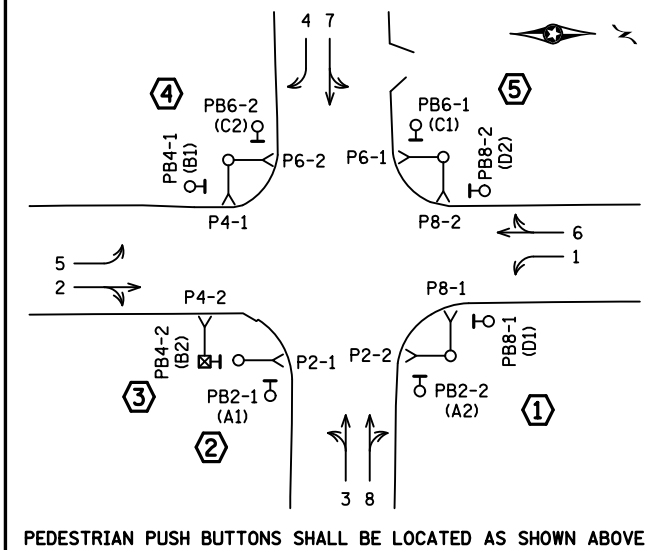
SIGNAL HEAD CHART

FACE	R	Y	FYA	G	Y	G
1-1, 1-2	○	○	○	○		
2-1, 2-2	○	○	○	○		
4-1	○	○	○	○	○	○
4-2, 4-3	○	○	○	○	○	○
5-1, 5-2	○	○	○	○		
6-1, 6-2	○	○	○	○		
8-1, 8-2	○	○	○	○		
8-3, 8-4	○	○	○	○	○	○

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS ARE BLACK POLYCARBONITE WITH BACKGROUND SHIELDS
-FYA DENOTES FLASHING YELLOW ARROW



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.
- SPLIT PHASE/CONCURRENT PHASE BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

BY	DATE	REVISIONS	SYSTEM ID: 1735676	T.E.	S.A.P. NO.	DRAWN BY:GDS	CKD BY:GBB	DATE:05-03-18
SJK	1/26/23	AS-BUILT PLAN SP6227-83	METER ADDRESS: 2160 GENEVA AVE. N.		CERTIFIED BY _____			LIC. NO. 19863 DATE: 06-06-18
			OLD SYSTEM ID: 21440		STATE PROJ.NO. 6227-83 (T.H.120)			SHEET NO. 63 OF 89 SHEETS

INTERSECTION LAYOUT
REVISE SIGNAL SYSTEM I
T.H.120 AT C.S.A.H. 25 (CO RD "B") /40TH ST. N.
IN NORTH ST. PAUL AND OAKDALE,
RAMSEY AND WASHINGTON COUNTIES

DISTRICT #: Metro
 PLOT NAME: 6
 PATH & FILENAME: Projects\DM罗斯\20\0000\Traffic\Signals\6.32.125

PLOTTED/REVISED: 26-JAN-2023

④ PA85 POLE FOUNDATION
 TYPE PA85-A-30
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 1-ANGLE MOUNT SIGNAL WITH
 CLUSTER ADAPTER AT 270 DEG
 2-ANGLE MOUNT C.D. PED HEADS
 AT 180 AND 270 DEG
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 1+6)
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
 3" PVC TO HH 6:
 2-12/C 14
 1-6/C 14
 2-4/C 14
 1-3/C 14
 1-3/C 20
 1-1/C 6 INS. GR.

③ PEDESTAL FOUNDATION
 10' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT C.D. PED HEAD AT 180 DEG
 1-APS PB AND SIGN (RT ARROW) (PB4-2)
 3" PVC TO HH 4:
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

② PA85 POLE FOUNDATION
 TYPE PA85-A-20-X25-6 (X AT 225 DEG)
 1-ANGLE MOUNT SIGNAL WITH CLUSTER
 ADAPTER OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS AT 180 AND 270 DEG
 1-ANGLE MOUNT C.D. PED HEAD AT 270 DEG
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 4)
 1-R10-X12 SIGN ADJACENT TO HEAD (4-2)
 LED LUMINAIRE
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
 3" PVC TO HH 3:
 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.

⑤ PA85 POLE FOUNDATION
 TYPE PA85-A-20
 1-ANGLE MOUNT SIGNAL WITH CLUSTER
 ADAPTER OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 2-ANGLE MOUNT SIGNALS AT 180 AND 270 DEG
 2-ANGLE MOUNT C.D. PED HEADS
 AT 180 AND 270 DEG
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 8)
 1-R10-X12 SIGN ADJACENT TO HEAD (8-3)
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
 3" PVC TO HH 9:
 2-12/C 14
 1-6/C 14
 1-3/C 14
 1-3/C 20
 1-1/C 6 INS. GR.

① PA85 POLE FOUNDATION
 TYPE PA85-A-30-X6-350/CAM 400 EXTENSION
 (MOUNTED AT 350 DEG)
 1-VIDEO CAMERA WITH MOUNT
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 1-ANGLE MOUNT SIGNAL WITH
 CLUSTER ADAPTER AT 270 DEG
 2-ANGLE MOUNT C.D. PED HEADS
 AT 180 AND 270 DEG
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 2+5)
 LED LUMINAIRE
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
 3" PVC TO HH 11:
 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.
 1-7/16" GROUNDING BRAID
 TO GROUND ROD IN HH 11
 1-COM CABLE (CAT 5E)

Ⓐ EQUIPMENT PAD
 SERVICE CABINET (SSB)
 CONTROLLER AND CABINET
 4" PVC TO HH 1:
 2-12/C 14
 1-6/C 14
 3-4/C 14
 1-3/C 14
 12-2/C 14
 1-3/C 20
 1-1/C 6 INS. GR.
 4" PVC TO HH 1:
 2-12/C 14
 1-4/C 14
 1-3/C 14
 7-2/C 14
 1-3/C 20
 4" CONDUIT TO HH 11:
 4-12/C #14
 2-6/C #14
 4-4/C #14
 2-3/C #14
 7-2/C #14
 2-3/C #20
 1-1/C #6 INS. GR.
 1-COM CABLE (CAT 5E)
 1-2" AND 1-3" PVC STUBBED OUT (CAPPED BOTH ENDS)
 CONTROLLER CABINET TO
 PULL VAULT:
 1-1.5" NMC (TO SPARE 3")
 1-PRE TERMINATED ARMORED
 FO PIGTAIL CABLE (6SM)
 3/4" PVC STUBBED OUT (FOR TELEPHONE LINE)
 CONTROLLER CABINET TO SERVICE CABINET:
 2" PVC
 2-1/C 6
 1-1/C 6 INS. GR.
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" PVC FOR FUTURE USE)
 1-6PR 19
 SERVICE CABINET TO HH 12:
 2" PVC
 3-1/C 2
 SERVICE CABINET TO HH 11:
 2" PVC
 2-3/C 14 (LUM)
 HH 11 TO HH 1:
 2" PVC
 1-3/C 14 (LUM)

Ⓑ INPLACE SOP-WOOD POLE
 (BY XCEL ENERGY)
 2" RSC RISER, WEATHERHEAD
 AND 2" RSC TO HH 13 AND 12:
 3-1/C 2

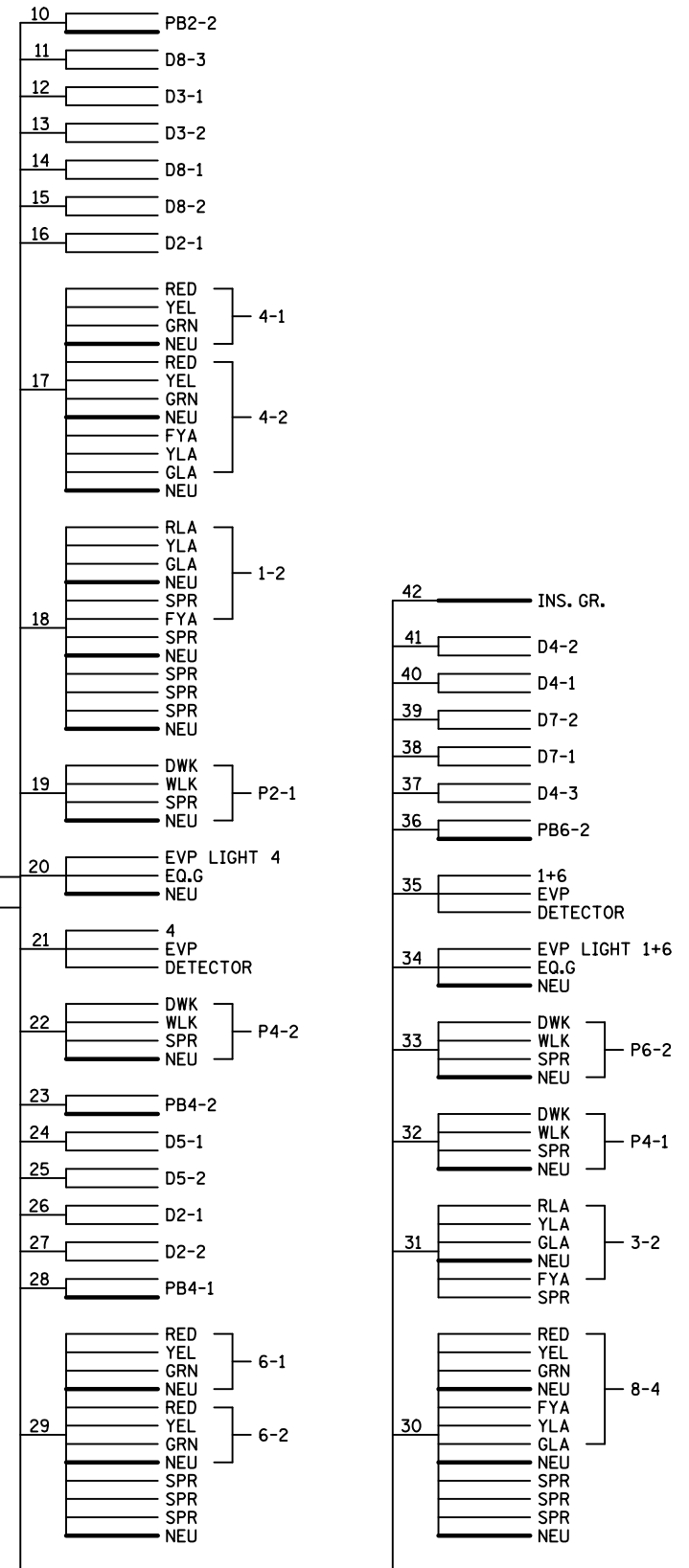
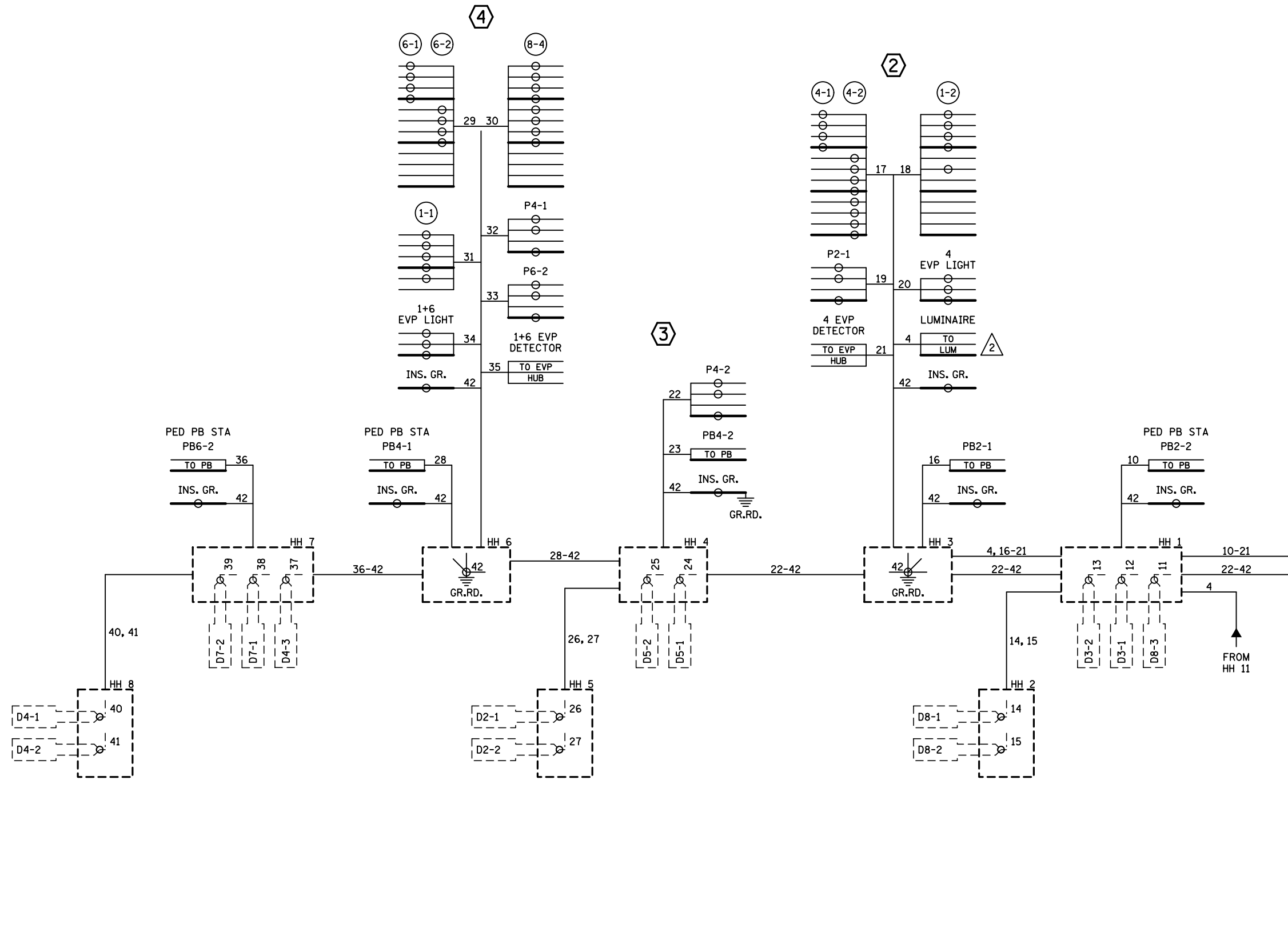
BY	DATE	REVISIONS	SYSTEM ID: 1735676	T.E.	S.A.P. NO.	DRAWN BY:GDS	CKD BY:GBB	DATE:05-03-18
SJK	1/26/23	AS-BUILT PLAN SP6227-83	METER ADDRESS: 2160 GENEVA AVE. N.		CERTIFIED BY _____	LIC. NO. 19863		DATE: 06-06-18
			OLD SYSTEM ID: 21440		STATE PROJ.NO. 6227-83 (T.H.120)			SHEET NO. 64 OF 89 SHEETS

INTERSECTION NOTES
 REVISE SIGNAL SYSTEM I
 T.H.120 AT C.S.A.H. 25 (CO RD "B") /40TH ST. N.
 IN NORTH ST. PAUL AND OAKDALE,
 RAMSEY AND WASHINGTON COUNTIES

PLOTTED/REVISED: 26-JAN-2023

DISTRICT #: Metro
PLOT NAME: 6
PATH & FILENAME: Projects\DM_ROS\20\000001Traffic\Signals\6.32.1(25)

CONTROLLER CABINET



NOTES:
 1. SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET (NO BATTERIES).
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.

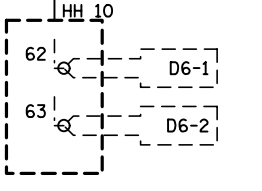
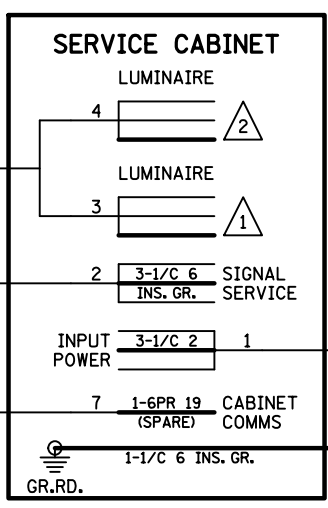
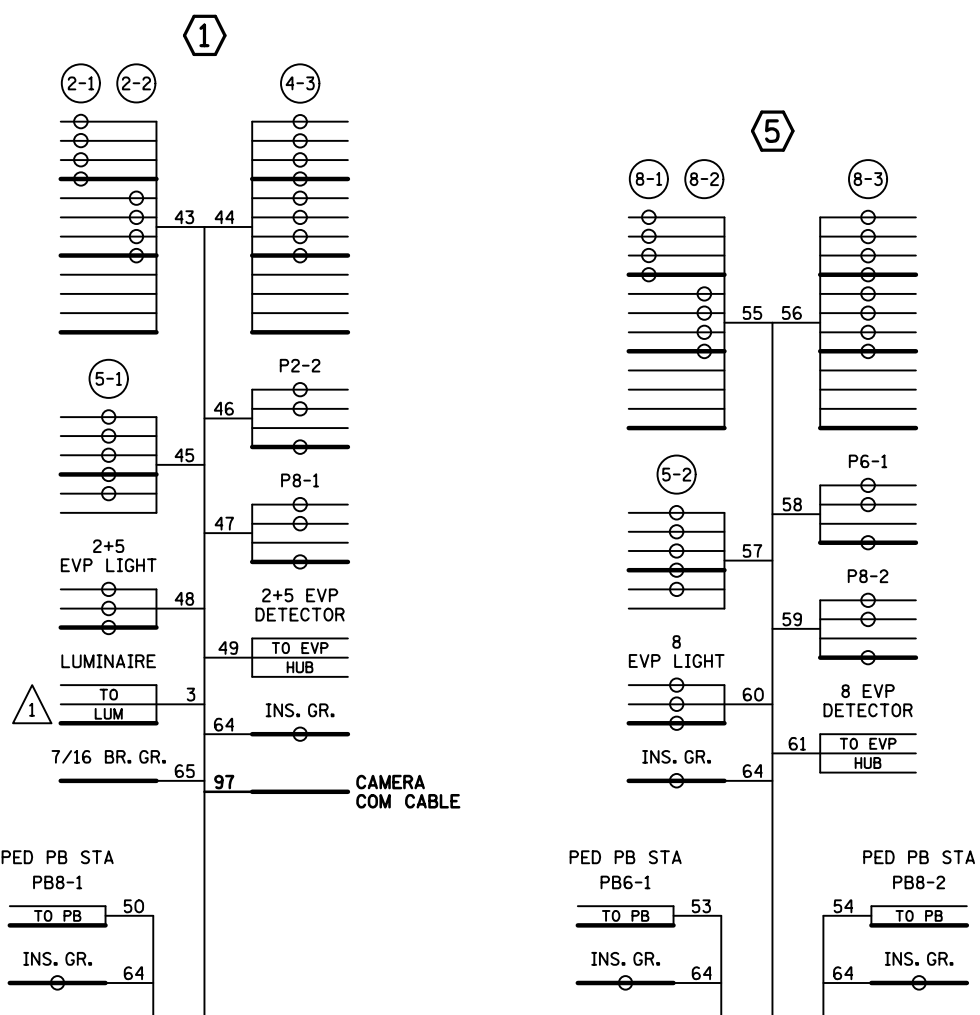
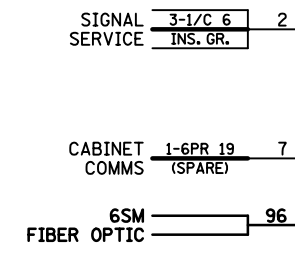
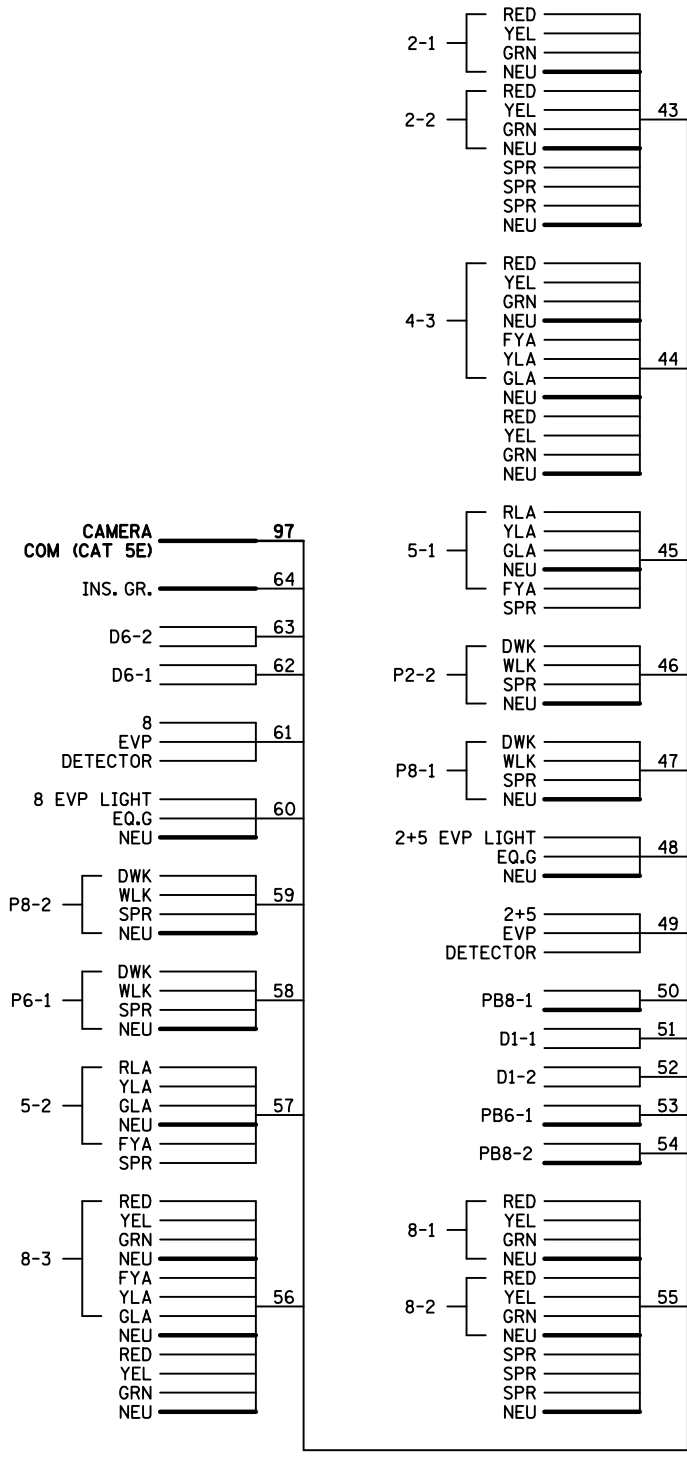
BY	DATE	REVISIONS	SYSTEM ID: 1735676	T.E.	S.A.P. NO.	DRAWN BY:GDS	CKD BY:GBB	DATE:05-03-18
SJK	1/26/23	AS-BUILT PLAN SP6227-83	METER ADDRESS: 2160 GENEVA AVE. N.		CERTIFIED BY _____			LIC. NO. 19863 DATE: 06-06-18
			OLD SYSTEM ID: 21440		STATE PROJ.NO. 6227-83 (T.H.120)			SHEET NO. 65 OF 89 SHEETS

FIELD WIRING DIAGRAM (1 OF 2)
 REVISE SIGNAL SYSTEM I
 T.H.120 AT C.S.A.H. 25 (CO RD "B") /40TH ST. N.
 IN NORTH ST. PAUL AND OAKDALE,
 RAMSEY AND WASHINGTON COUNTIES

PLOTTED/REVISED: 26-JAN-2023

DISTRICT #: Metro
 IPLOT NAME: 6
 PATH & FILENAME: Projects\DM罗斯\20\0000\Traffic\Signal\6.32.1(25)

CONTROLLER CABINET



- NOTES:
 1. SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET (NO BATTERIES).
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.

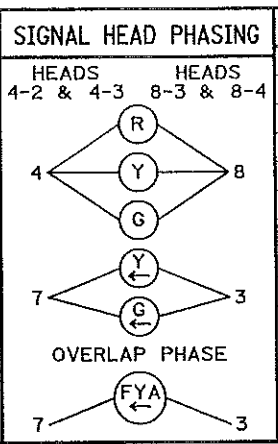
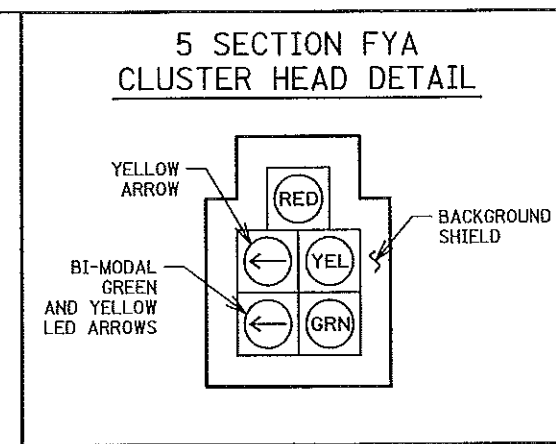
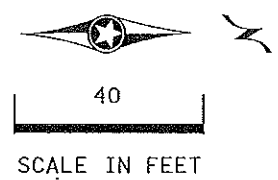
BY	DATE	REVISIONS	SYSTEM ID: 1735676	T.E.	FIELD WIRING DIAGRAM (2 OF 2)	S.A.P. NO.	DRAWN BY:GDS	CKD BY:GGB	DATE:05-03-18
SJK	1/26/23	AS-BUILT PLAN SP6227-83	METER ADDRESS: 2160 GENEVA AVE. N.		REVISE SIGNAL SYSTEM I	CERTIFIED BY _____			LIC. NO. 19863 DATE: 06-06-18
			OLD SYSTEM ID: 21440		T.H.120 AT C.S.A.H. 25 (CO RD "B") /40TH ST. N.	STATE PROJ.NO. 6227-83 (T.H.120)			SHEET NO. 66 OF 89 SHEETS

PLOTTED/REVISED: 12/16/2015

DISTRICT #: METRO
PLOT NAME: layout
PATH & FILENAME: IP_PWP-d07B4599T21440.sgl.dgn

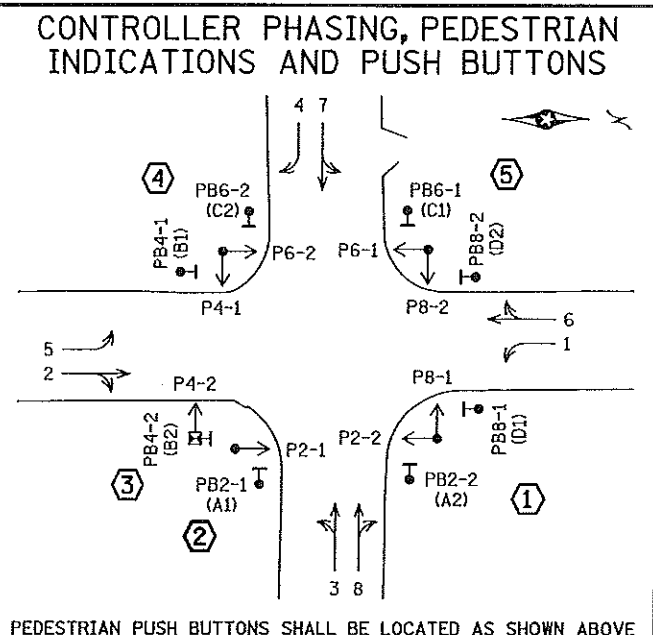
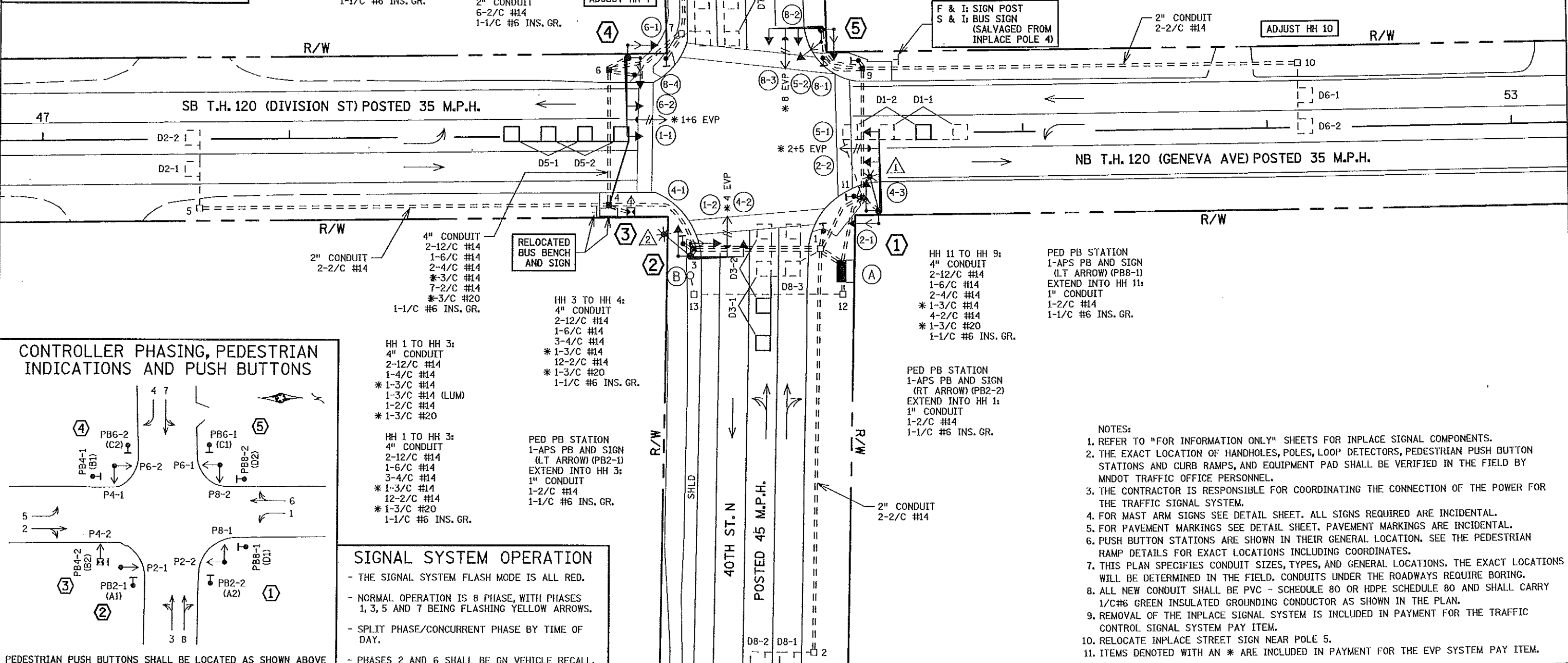
LOOP DETECTOR CHART			
NUMBER	SIZE (FT)	LOCATION	STATUS
D1-1	2-6x6	11 & 41	INPLACE
D1-2	6x6	-4	INPLACE
D1-2	6x6	26	F & I
D2-1, D2-2	6x6	178	INPLACE
D3-1, D3-2	6x6	13 & -2	INPLACE
D3-1, D3-2	6x6	43 & 28	F & I
D4-1, D4-2	6x6	85	INPLACE
D4-3	2-6x6	0 & 15	INPLACE
D5-1	6x6	20 & 50	F & I
D5-2	6x6	5 & 35	F & I
D6-1, D6-2	6x6	171	INPLACE
D7-1, D7-2	6x6	15 & 0	INPLACE
D7-1, D7-2	6x6	45 & 30	F & I
D8-1, D8-2	6x6	174	INPLACE
D8-3	2-6x6	-1 & 14	INPLACE

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



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

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS ARE BLACK POLYCARBONITE 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 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS.
- SPLIT PHASE/CONCURRENT PHASE BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:
- REFER TO "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL COMPONENTS.
 - THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS, PEDESTRIAN PUSH BUTTON STATIONS AND CURB RAMPS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
 - FOR MAST ARM SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCIDENTAL.
 - FOR PAVEMENT MARKINGS SEE DETAIL SHEET. PAVEMENT MARKINGS ARE INCIDENTAL.
 - PUSH BUTTON STATIONS ARE SHOWN IN THEIR GENERAL LOCATION. SEE THE PEDESTRIAN RAMP DETAILS FOR EXACT LOCATIONS INCLUDING COORDINATES.
 - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
 - ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND SHALL CARRY 1/C#6 GREEN INSULATED GROUNDING CONDUCTOR AS SHOWN IN THE PLAN.
 - REMOVAL OF THE INPLACE SIGNAL SYSTEM IS INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL SIGNAL SYSTEM PAY ITEM.
 - RELOCATE INPLACE STREET SIGN NEAR POLE 5.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

PLOTTED/REVISED: 12/16/2015

DISTRICT #: METRO
 IPLOT NAME: Intersection notes
 PATH & FILENAME: IP_PWP-dot-07-04599-T-21440_sgl.dgn

④ PA85 POLE FOUNDATION
 TYPE PA85-A-30
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 1-ANGLE MOUNT SIGNAL WITH CLUSTER ADAPTER AT 270 DEG
 2-ANGLE MOUNT C. D. PED HEADS AT 180 AND 270 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (D-2) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 6:
 2-12/C #14
 1-6/C #14
 2-4/C #14
 * 1-3/C #14
 * 1-3/C #20
 1-1/C #6 INS. GR.

③ PEDESTAL FOUNDATION
 10' PEDESTAL POLE PLUS BASE
 1-STRAIGHT MOUNT C. D. PED HEAD AT 180 DEG
 1-APS PB AND SIGN (RT ARROW) (PB4-2)
 3" CONDUIT TO HH 4:
 1-4/C #14
 1-2/C #14
 1-1/C #6 INS. GR.

② PA85 POLE FOUNDATION
 TYPE PA85-A-20-X25-6 (X AT 225 DEG)
 1-ANGLE MOUNT SIGNAL WITH CLUSTER ADAPTER OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS AT 180 AND 270 DEG
 1-ANGLE MOUNT C. D. PED HEAD AT 270 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
 1-R10-X12 SIGN ADJACENT TO HEAD (4-2)
 LED LUMINAIRE
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 3:
 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.

⑤ PA85 POLE FOUNDATION
 TYPE PA85-A-20
 1-ANGLE MOUNT SIGNAL WITH CLUSTER ADAPTER OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 2-ANGLE MOUNT SIGNALS AT 180 AND 270 DEG
 2-ANGLE MOUNT C. D. PED HEADS AT 180 AND 270 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
 1-R10-X12 SIGN ADJACENT TO HEAD (8-3)
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 9:
 2-12/C #14
 1-6/C #14
 * 1-3/C #14
 * 1-3/C #20
 1-1/C #6 INS. GR.

① PA85 POLE FOUNDATION
 TYPE PA85-A-30-X6-350/CAM 400 EXTENSION (MOUNTED AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11'
 1-ANGLE MOUNT SIGNAL AT 180 DEG
 1-ANGLE MOUNT SIGNAL WITH CLUSTER ADAPTER AT 270 DEG
 2-ANGLE MOUNT C. D. PED HEADS AT 180 AND 270 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)
 LED LUMINAIRE
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 11:
 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.
 1-7/16" GROUNDING BRAID TO GROUND ROD IN HH 11

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB)
 CONTROLLER AND CABINET (STATE FURNISHED)
 4" CONDUIT TO HH 1: 4" CONDUIT TO HH 11:
 2-12/C #14 4-12/C #14
 1-6/C #14 2-6/C #14
 3-4/C #14 4-4/C #14
 * 1-3/C #14 * 2-3/C #14
 12-2/C #14 7-2/C #14
 * 1-3/C #20 * 2-3/C #20
 1-1/C #6 INS. GR. 1-1/C #6 INS. GR.
 4" CONDUIT TO HH 1:
 2-12/C #14
 1-4/C #14
 * 1-3/C #14
 7-2/C #14
 * 1-3/C #20

1-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 3/4" CONDUIT STUBBED OUT (FOR TELEPHONE LINE)
 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 (FOR FUTURE USE)
 1-6PR #19
 SERVICE CABINET TO HH 12:
 2" CONDUIT
 3-1/C #2
 SERVICE CABINET TO HH 11:
 2" CONDUIT
 2-3/C #14 (LUM)
 HH 11 TO HH 1:
 2" CONDUIT
 1-3/C #14 (LUM)

Ⓑ INPLACE SOP-WOOD POLE (BY XCEL ENERGY)
 2" RSC RISER, WEATHERHEAD AND 2" RSC TO HH 13 AND 12:

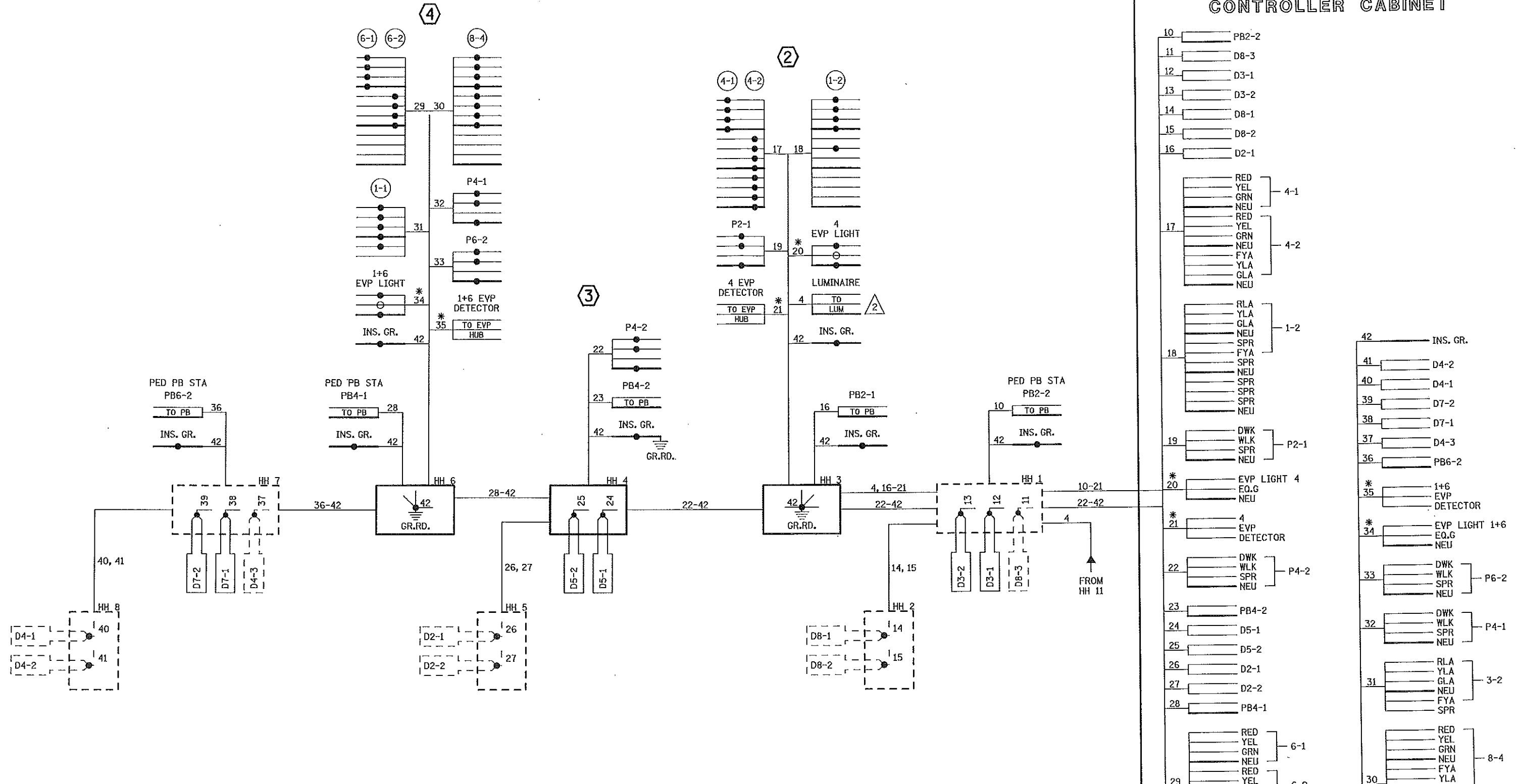
REMOVE: 3-1/C #2
 F & I: 3-1/C #2

BY	DATE	REVISIONS	SYSTEM ID: 21440	T.E. 6458	INTERSECTION NOTES	S.A.P. NO. 062-625-038, CP2016-03	DRAWN BY: GDS	CKD BY: EJA	DATE: 12-15-15
			METER ADDRESS: 2160 GENEVA AVE. N.		T.H. 120 AT C.S.A.H. 25 (CO RD "B") / 40TH ST. N.	CERTIFIED BY: <i>Michael P. Lubinsky</i>		LIC. NO. 19863	DATE: 12-16-15
			MASTER ID:	T.E.	IN NORTH ST PAUL AND OAKDALE, RAMSEY AND WASHINGTON COUNTIES	STATE PROJ. NO. 6227-74 (T.H.120)			SHEET NO. 15 OF 21 SHEETS

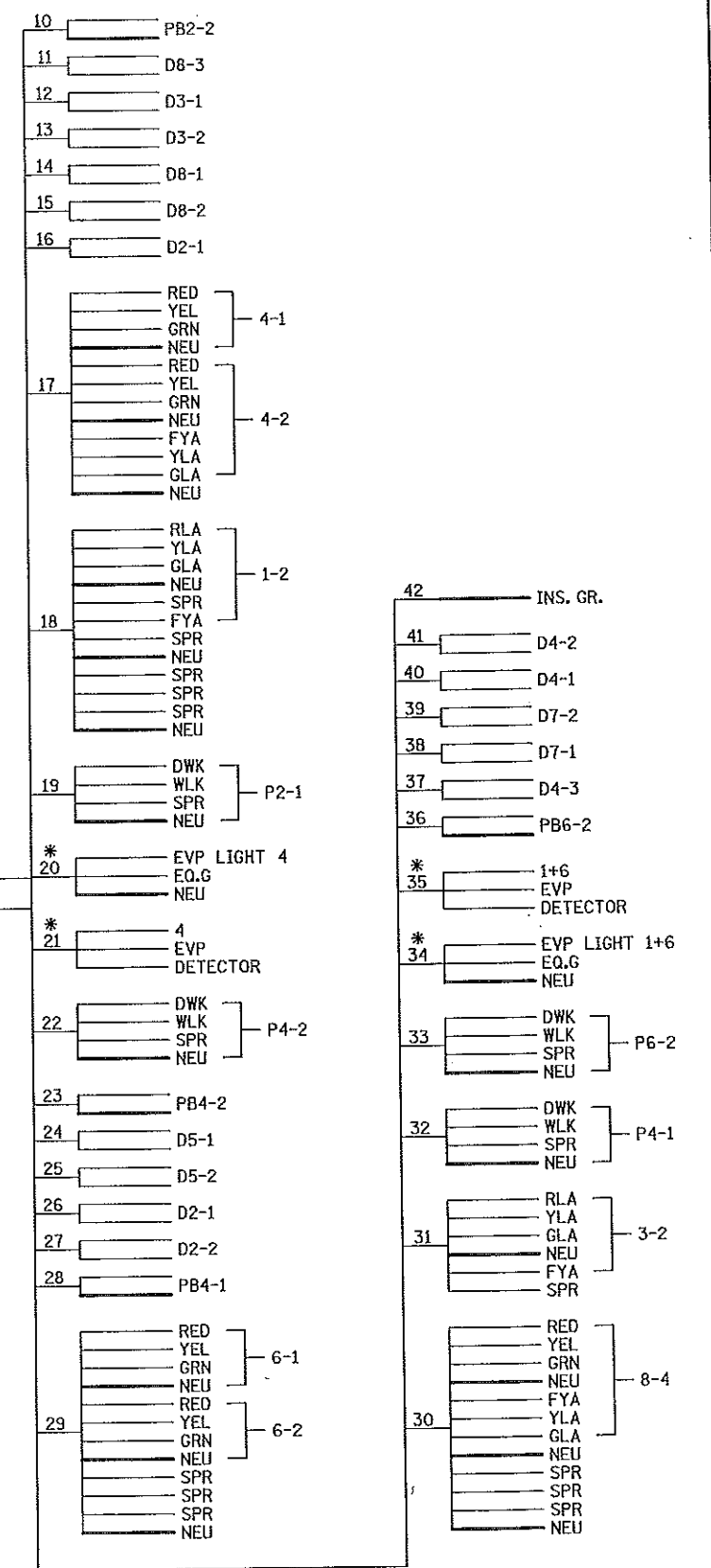
PLOTTED/REVISED: 12/16/2015

DISTRICT #: METRO
PLOT NAME: wiring 1
PATH & FILENAME: IP_PWP-d0784599\T21440_sgl.dgn

CONTROLLER CABINET

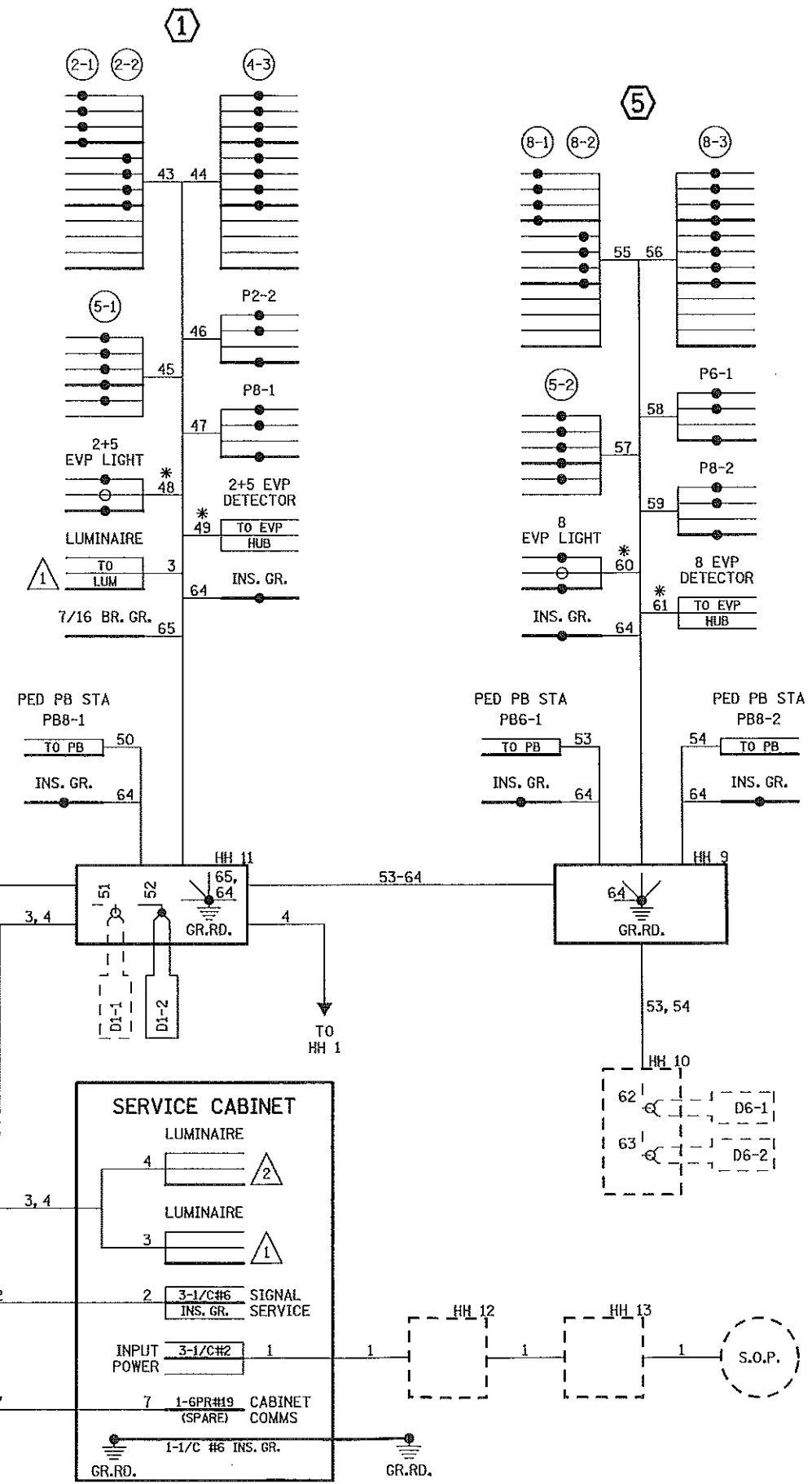
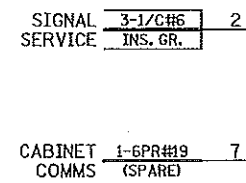
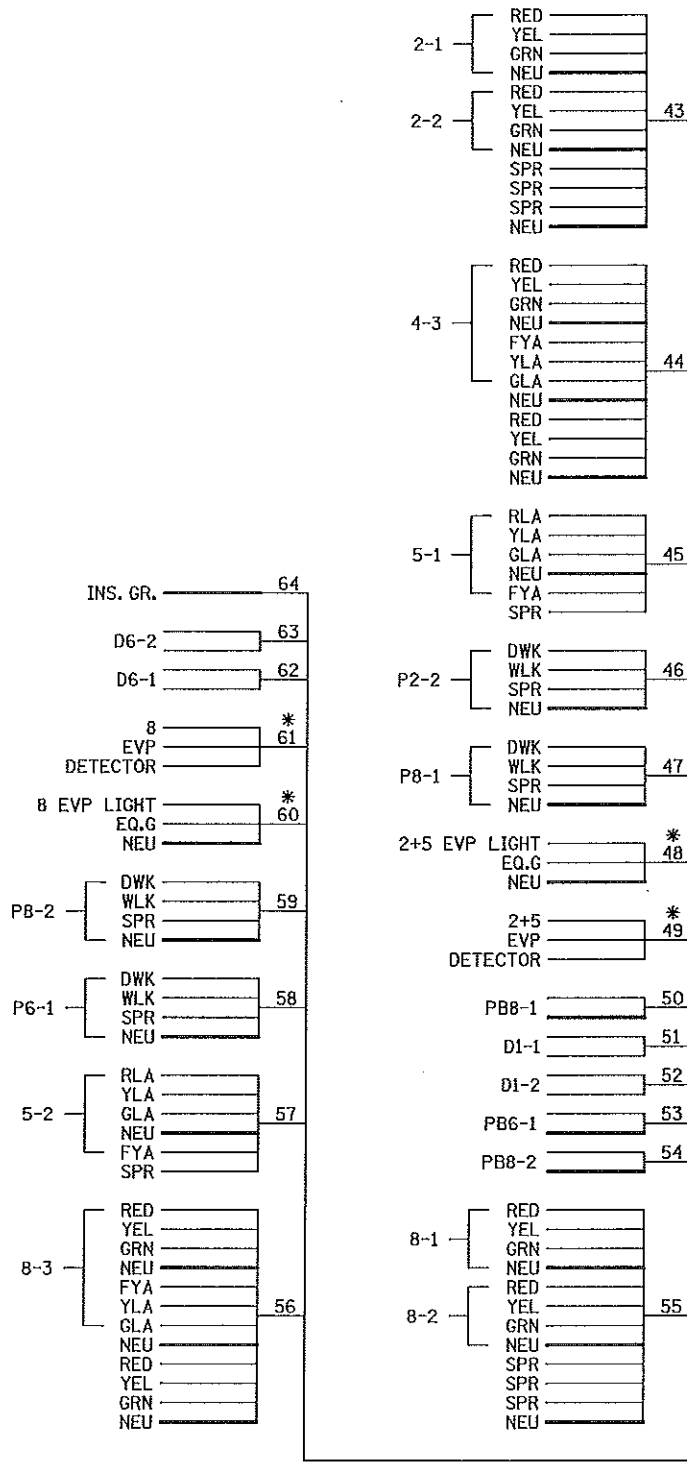


- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET (NO BATTERIES).
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.



BY	DATE	REVISIONS	SYSTEM ID: 21440	T.E. 6458	S.A.P. NO. 062-625-038 CP2016-03	DRAWN BY:GDS	CKD BY:EJA	DATE:12-15-15
			METER ADDRESS: 2160 GENEVA AVE. N. <td></td> <td>FIELD WIRING DIAGRAM (1 OF 2) TRAFFIC CONTROL SIGNAL SYSTEM T.H. 120 AT C.S.A.H. 25 (CO RD "B") /40TH ST. N. IN NORTH ST PAUL AND OAKDALE, RAMSEY AND WASHINGTON COUNTIES</td> <td>CERTIFIED BY: <i>Michael P. Lubinsky</i></td> <td>LIC. NO. 19863</td> <td>DATE: 12-16-15</td>		FIELD WIRING DIAGRAM (1 OF 2) TRAFFIC CONTROL SIGNAL SYSTEM T.H. 120 AT C.S.A.H. 25 (CO RD "B") /40TH ST. N. IN NORTH ST PAUL AND OAKDALE, RAMSEY AND WASHINGTON COUNTIES	CERTIFIED BY: <i>Michael P. Lubinsky</i>	LIC. NO. 19863	DATE: 12-16-15
			MASTER ID:	T.E.	STATE PROJ.NO. 6227-74 (T.H.120)	SHEET NO. 16 OF 21 SHEETS		

CONTROLLER CABINET



- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY-BACKUP SERVICE CABINET (NO BATTERIES).
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

DISTRICT #: METRO
 PLOT NAME: wiring 2
 PATH & FILENAME: IP_PWP-d0784599\T21440_sgl.dgn
 PLOTTED/REVISED: 12/16/2015

BY	DATE	REVISIONS	SYSTEM ID: 21440	T.E. 6458	FIELD WIRING DIAGRAM (2 OF 2) TRAFFIC CONTROL SIGNAL SYSTEM T.H. 120 AT C.S.A.H. 25 (CO RD "B") / 40TH ST. N. IN NORTH ST PAUL AND OAKDALE, RAMSEY AND WASHINGTON COUNTIES	S.A.P. NO. 062-625-038 CP2016-03	DRAWN BY: GDS	CKD BY: EJA	DATE: 12-15-15
			METER ADDRESS: 2160 GENEVA AVE. N.			CERTIFIED BY: <i>Michael P. Sulovsky</i> LICENSED PROFESSIONAL ENGINEER	LIC. NO. 19863	DATE: 12-16-15	
			MASTER ID:	T.E.		STATE PROJ. NO. 6227-74 (T.H.120)	SHEET NO. 17 OF 21 SHEETS		

LOOP DETECTOR CHART

NUMBER	SIZE (FT)	LOCATION	TYPE
D1-1, D5-1	2-6x6	20', 50'	PVC
D1-2	6x6	5'	PVC
D2-1, D2-2	6x6	180'	PVC
D4-1, D4-2	6x6	120'	PVC
D4-3, D4-4	2-6x6	5', 20'	PVC
D5-2	2-6x6	5', 35'	PVC
D6-1, D6-2	6x6	180'	PVC
D8-1, D8-2	6x6	180'	PVC
D8-3, D8-4	6x6	5', 20'	PVC

LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET.

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

-ALL SIGNAL INDICATIONS ARE 12" LEDS
-ALL SIGNAL FACES HAVE A BACKGROUND SHIELD

(3) P90 POLE FOUNDATION
TYPE P90-A-20
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90 & 180 DEG
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
R10-12 SIGN PANEL (36" x 48")
OVERHEAD (ADJACENT TO 6-2)
TYPE "D" SIGN PANEL (102" x 36")-OVERHEAD
EXTENDED INTO H.H.8:
3" RSC
2-12/C #12
2-3/C #12
1-3/C #12

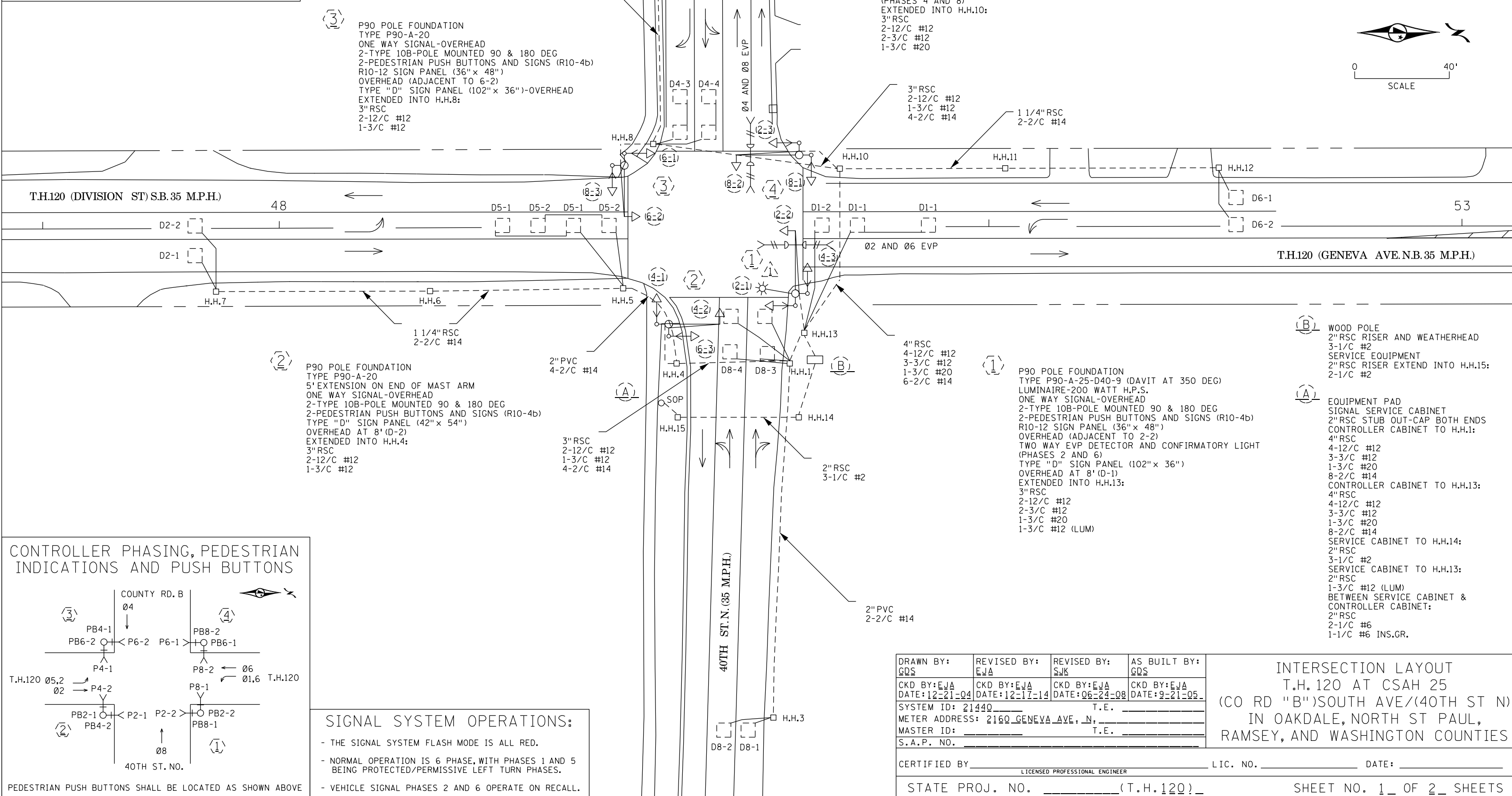
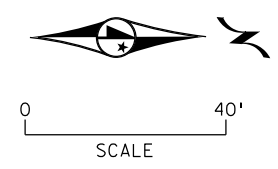
(4) P90 POLE FOUNDATION
TYPE P90-A-25
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90 & 180 DEG
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
TYPE "D" SIGN PANEL (42" x 54")-OVERHEAD
TWO WAY EVP DETECTOR AND CONFIRMATORY LIGHT
(PHASES 4 AND 8)
EXTENDED INTO H.H.10:
3" RSC
2-12/C #12
2-3/C #12
1-3/C #20

(2) P90 POLE FOUNDATION
TYPE P90-A-20
5' EXTENSION ON END OF MAST ARM
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90 & 180 DEG
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
TYPE "D" SIGN PANEL (42" x 54")
OVERHEAD AT 8' (D-2)
EXTENDED INTO H.H.4:
3" RSC
2-12/C #12
1-3/C #12

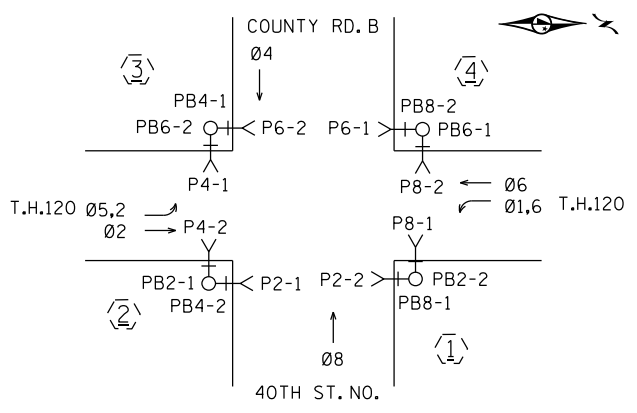
(1) P90 POLE FOUNDATION
TYPE P90-A-25-D40-9 (DAVIT AT 350 DEG)
LUMINAIRE-200 WATT H.P.S.
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90 & 180 DEG
2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
R10-12 SIGN PANEL (36" x 48")
OVERHEAD (ADJACENT TO 2-2)
TWO WAY EVP DETECTOR AND CONFIRMATORY LIGHT
(PHASES 2 AND 6)
TYPE "D" SIGN PANEL (102" x 36")
OVERHEAD AT 8' (D-1)
EXTENDED INTO H.H.13:
3" RSC
2-12/C #12
2-3/C #12
1-3/C #20
1-3/C #12 (LUM)

(B) WOOD POLE
2" RSC RISER AND WEATHERHEAD
3-1/C #2
SERVICE EQUIPMENT
2" RSC RISER EXTEND INTO H.H.15:
2-1/C #2

(A) EQUIPMENT PAD
SIGNAL SERVICE CABINET
2" RSC STUB OUT-CAP BOTH ENDS
CONTROLLER CABINET TO H.H.1:
4" RSC
4-12/C #12
3-3/C #12
1-3/C #20
8-2/C #14
CONTROLLER CABINET TO H.H.13:
4" RSC
4-12/C #12
3-3/C #12
1-3/C #20
1-3/C #20
8-2/C #14
SERVICE CABINET TO H.H.14:
2" RSC
3-1/C #2
SERVICE CABINET TO H.H.13:
2" RSC
1-3/C #12 (LUM)
BETWEEN SERVICE CABINET &
CONTROLLER CABINET:
2" RSC
2-1/C #6
1-1/C #6 INS.GR.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

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

DRAWN BY: GDS	REVISED BY: EJA	REVISED BY: SJK	AS BUILT BY: GDS
CKD BY: EJA DATE: 12-21-04	CKD BY: EJA DATE: 12-17-14	CKD BY: EJA DATE: 06-24-08	CKD BY: EJA DATE: 9-21-05
SYSTEM ID: 21440 T.E.			
METER ADDRESS: 2160 GENEVA AVE. N. T.E.			
MASTER ID: T.E.			
S.A.P. NO.			

INTERSECTION LAYOUT
T.H. 120 AT CSAH 25
(CO RD "B") SOUTH AVE/(40TH ST N)
IN OAKDALE, NORTH ST PAUL,
RAMSEY, AND WASHINGTON COUNTIES

CERTIFIED BY _____ LIC. NO. _____ DATE: _____
LICENSED PROFESSIONAL ENGINEER

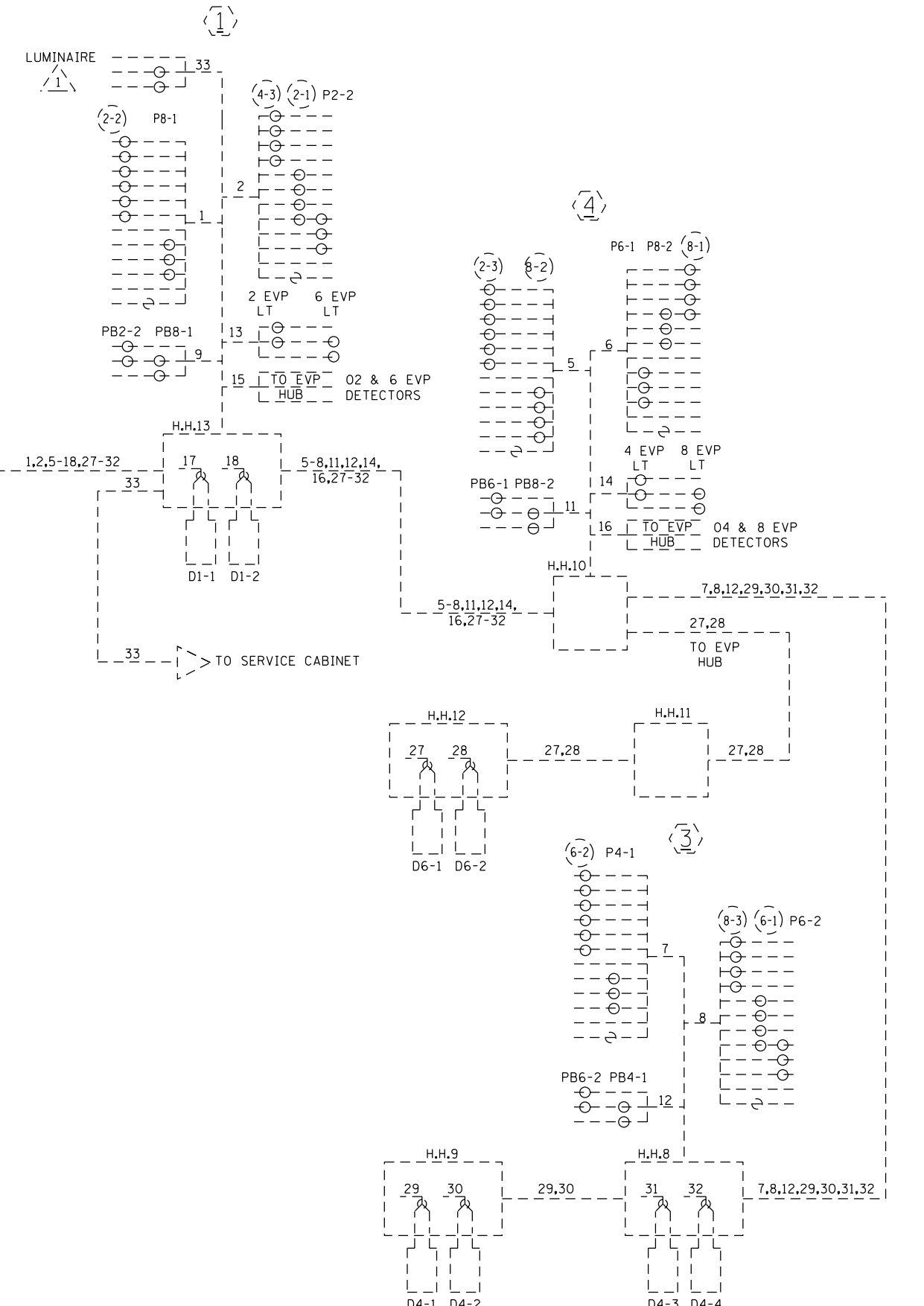
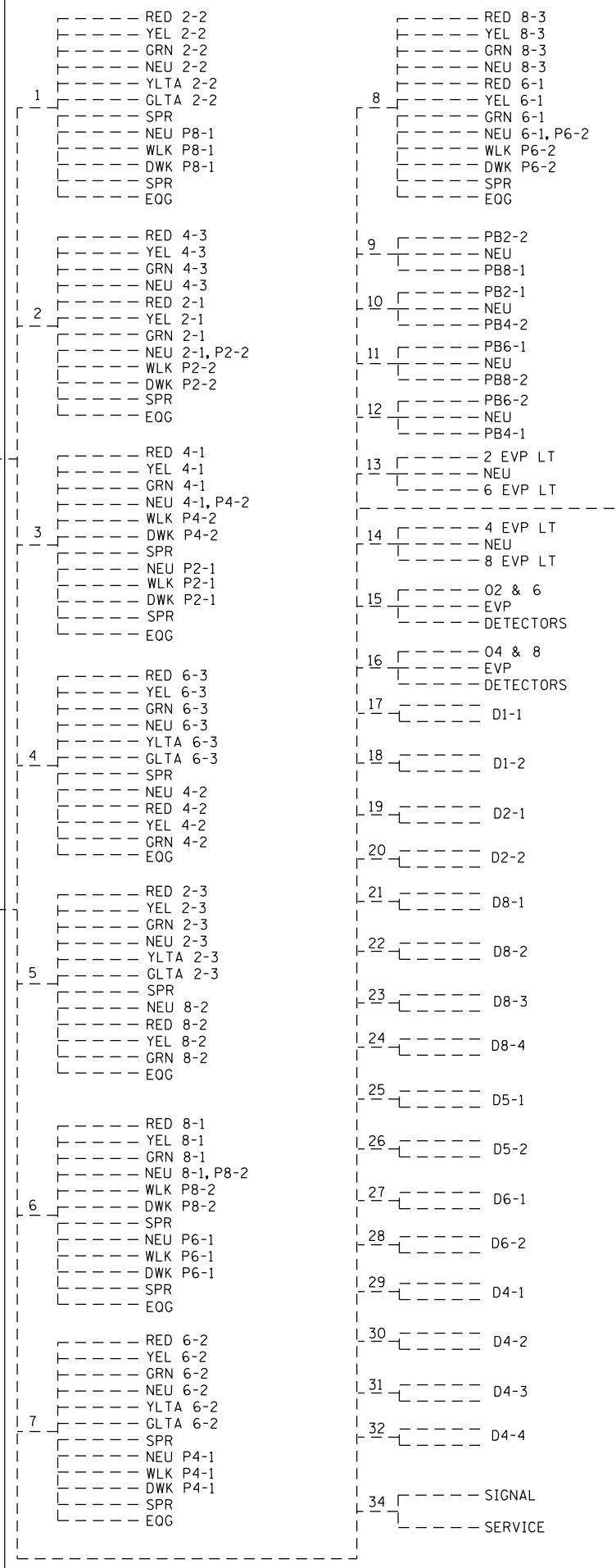
STATE PROJ. NO. _____ (T.H. 120) SHEET NO. 1 OF 2 SHEETS

CONDUCTOR COLOR CODING

R	BLK	2-1/c#6
O	WH	
BL		
WH		
R/BLK	R	
O/BLK	WH	3/c#12
BL/BLK	BLK	
WH/BLK		
BLK	BLK	2/c#14
BLK/WH	CLEAR	
G/BLK		
G		
R OR O	R OR O	3/c#20
WH OR YEL	WH OR YEL	
BLK OR BL	BLK OR BL	

NOTE:
ALL TERMINAL BLOCK CONNECTIONS
SHALL BE ARRANGED AS SPECIFIED ABOVE.

CONTROLLER CABINET



DRAWN BY: GDS	REVISED BY: EJA	REVISED BY: SJK	AS BUILT BY: GDS
CKD BY: EJA DATE: 12-21-04	CKD BY: EJA DATE: 12-17-14	CKD BY: EJA DATE: 06-24-08	CKD BY: EJA DATE: 9-21-05
SYSTEM ID: 21440 T.E.			
METER ADDRESS: 2160 GENEVA AVE., N. T.E.			
MASTER ID: T.E.			
S.A.P. NO.			

WIRING DIAGRAM
T.H. 120 AT CSAH 25
(CO RD "B") SOUTH AVE/(40TH ST N)
IN OAKDALE, NORTH ST PAUL,
RAMSEY, AND WASHINGTON COUNTIES

CERTIFIED BY _____ LIC. NO. _____ DATE: _____
LICENSED PROFESSIONAL ENGINEER