

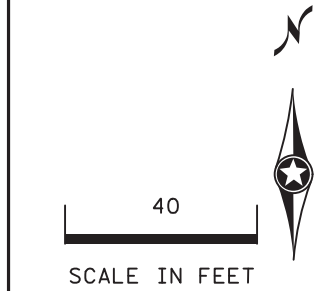
PVC LOOP DETECTORS

NUMBER	SIZE	LOCATION	NOTE
D2-1,2-2	6 X 6	400	INPLACE
D6-1,6-2	6 X 6	400	INPLACE

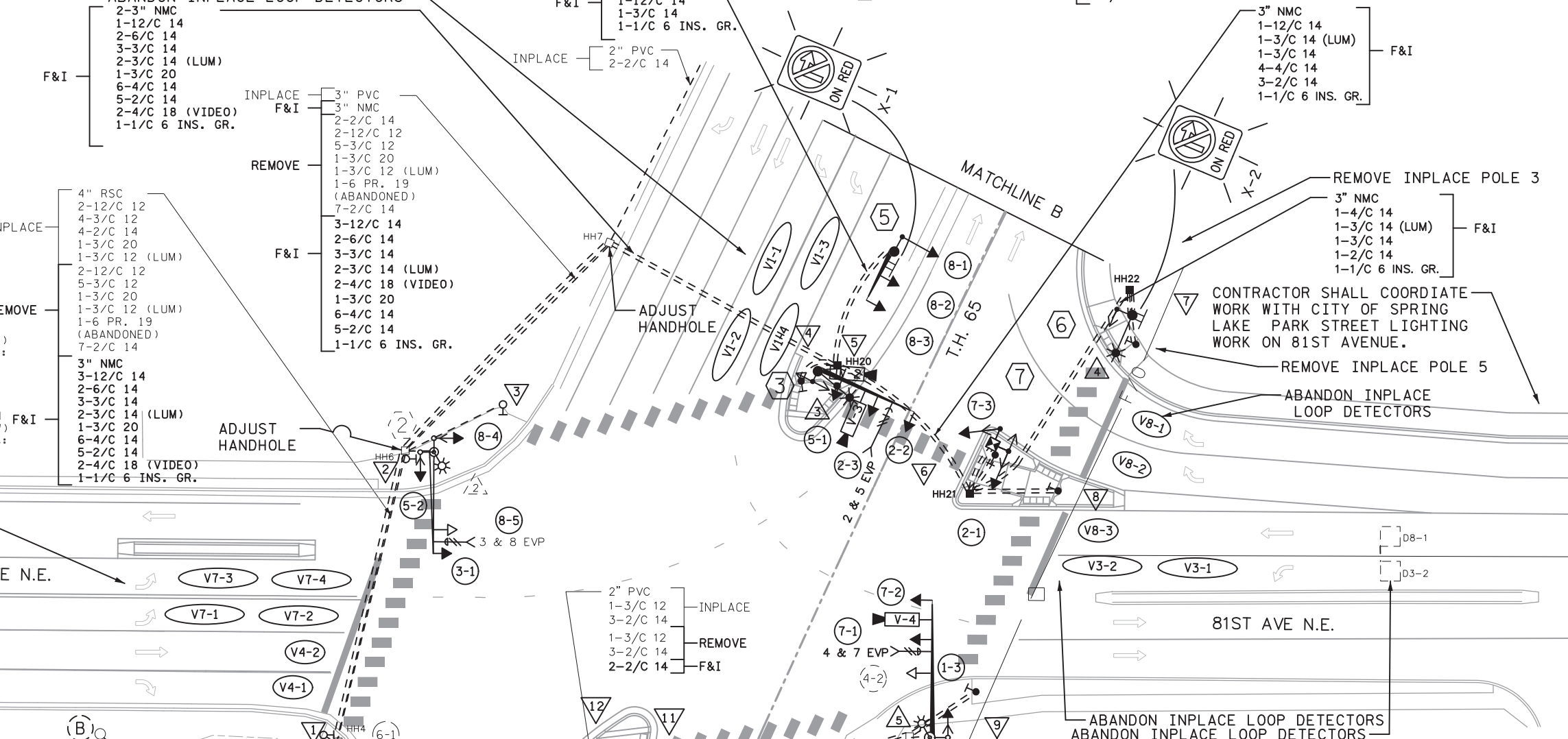
VIDEO DETECTOR CHART

DESIGNATION	DETECTOR	MOUNT	LOCATION	NOTE
V1-2,V1-4	V-1	MASTARM	5	F&I
V1-1,V1-3	V-1	MASTARM	35	F&I
V3-2	V-2	LUM. POLE	5	F&I
V3-1	V-2	LUM. POLE	35	F&I
V4-1,V4-2	V-4	MASTARM	5	F&I
V5-2	V-3	MASTARM	5	F&I
V5-1	V-3	MASTARM	35	F&I
V7-2,V7-4	V-4	MASTARM	5	F&I
V7-1,V7-3	V-4	MASTARM	35	F&I
V8-1,V8-2	V-2	LUM. POLE	5	F&I
V8-3	V-2	LUM. POLE	5	F&I

ALL DISTANCES ARE MEASURED FROM CROSSWALKS OR STOP BARS

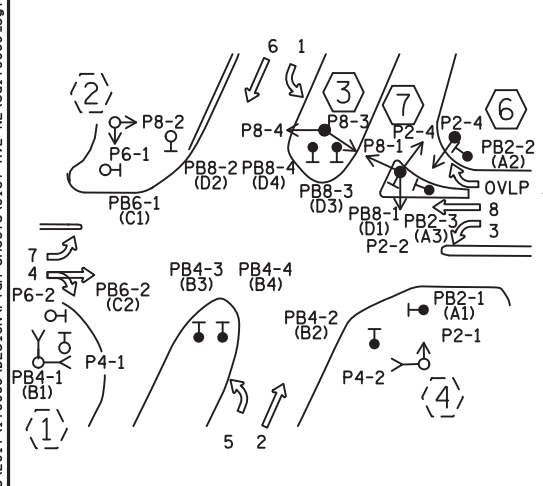


- 4 PED PB STATION 1-APS PB AND SIGN (PB8-4) (LT ARROW) EXTEND INTO HH 20: 1" CONDUIT 1-2/C 14
- 5 PED PB STATION 1-APS PB AND SIGN (PB8-3) (RT ARROW) EXTEND INTO HH 20: 1" CONDUIT 1-2/C 14
- 6 PED PB STATION 1-APS PB AND SIGN (PB8-1) (LT ARROW) EXTEND INTO HH 21: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.
- 7 PED PB STATION 1-APS PB AND SIGN (PB2-2) (RT ARROW) EXTEND INTO HH 22: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.
- 8 PED PB STATION 1-APS PB AND SIGN (PB2-3) (RT AND LT ARROW) EXTEND INTO HH 21: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.



T.E. 12314
SYSTEM ID: 1735536
OLD SYSTEM ID: 21164

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



1 PED PB STATION 1-APS PB AND SIGN (PB6-2) FROM INPL. PED STATION EXTEND INTO HH 4: 1" CONDUIT 1-2/C 14

INPLACE 1 1/2" PVC 1-FO CABLE (65M)

INPLACE 1 1/2" HDPE 1-FO CABLE (36SM)

13 PED PB STATION 1-APS PB AND SIGN (PB4-1) FROM INPL. PED STATION EXTEND INTO HH 19: 1" CONDUIT 1-2/C 14

INPLACE 1-6PR 19 INTERCONNECT TO OSBORNE RD (ABANDONED)

SIGNAL SYSTEM OPERATION

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

INPLACE 3" RSC 2-12/C 12 3-3/C 12 4-2/C 14 1-3/C 20 1-4/C 18 (VIDEO) 1-6/C 14 4-2/C 14 2-4/C 12

REMOVE 4-3/C 12 5-2/C 14

F&I 1-4/C 18 1-6/C 14 4-2/C 14 2-4/C 12

INPLACE 3" RSC 2-12/C 12 2-3/C 12 2-2/C 14 1-3/C 20 3-3/C 12 2-2/C 14 1-6/C 14 2-4/C 12 2-2/C 14

REMOVE 4-3/C 12 5-2/C 14

F&I 1-4/C 18 1-6/C 14 4-2/C 14 2-4/C 12

INPLACE 3" RSC 2-12/C 12 2-3/C 12 2-2/C 14 1-3/C 20 3-3/C 12 2-2/C 14 1-6/C 14 2-4/C 12 2-2/C 14

REMOVE 4-3/C 12 5-2/C 14

F&I 1-4/C 18 1-6/C 14 4-2/C 14 2-4/C 12

INPLACE 3" RSC 2-12/C 12 2-3/C 12 2-2/C 14 1-3/C 20 3-3/C 12 2-2/C 14 1-6/C 14 2-4/C 12 2-2/C 14

REMOVE 4-3/C 12 5-2/C 14

F&I 1-4/C 18 1-6/C 14 4-2/C 14 2-4/C 12

INPLACE 2" PVC 1-3/C 12 3-2/C 14 1-3/C 12 3-2/C 14 2-2/C 14

REMOVE 1-3/C 12 3-2/C 14

F&I 2-2/C 14

INPLACE 2" PVC 2-2/C 14

INPLACE 2" PVC 2-2/C 14

INPLACE 1 1/2" HDPE 1-FO CABLE (36SM)

INPLACE 3" RSC 2-12/C 12 2-3/C 12 1-3/C 20 3-3/C 12 3-3/C 12 2-2/C 14 1-6/C 14 2-4/C 12 2-2/C 14

REMOVE 1-6/C 14 2-4/C 12 2-2/C 14

F&I 1-4/C 18 (VIDEO) 2-4/C 12 2-2/C 14

INPLACE 3" RSC 2-12/C 12 2-3/C 12 1-3/C 20 3-3/C 12 3-3/C 12 2-2/C 14 1-6/C 14 2-4/C 12 2-2/C 14

REMOVE 1-6/C 14 2-4/C 12 2-2/C 14

F&I 1-4/C 18 (VIDEO) 2-4/C 12 2-2/C 14

INPLACE 3" RSC 2-12/C 12 2-3/C 12 1-3/C 20 3-3/C 12 3-3/C 12 2-2/C 14 1-6/C 14 2-4/C 12 2-2/C 14

REMOVE 1-6/C 14 2-4/C 12 2-2/C 14

F&I 1-4/C 18 (VIDEO) 2-4/C 12 2-2/C 14

INPLACE 3" RSC 2-12/C 12 2-3/C 12 1-3/C 20 3-3/C 12 3-3/C 12 2-2/C 14 1-6/C 14 2-4/C 12 2-2/C 14

REMOVE 1-6/C 14 2-4/C 12 2-2/C 14

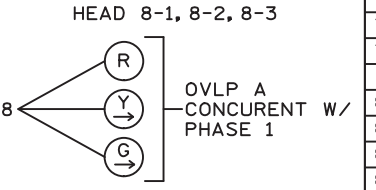
F&I 1-4/C 18 (VIDEO) 2-4/C 12 2-2/C 14

LED SIGNAL FACES

ALL INDICATIONS ARE 12 IN.

FACE	R LED	Y LED	G LED	RLTA LED	YLTA LED	YRTA LED	FYA LED	GLTA LED	GRTA LED
1-1				←	←	←	←	←	←
1-2				←	←	←	←	←	←
1-3				←	←	←	←	←	←
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				←	←	←	←	←	←
7-3				←	←	←	←	←	←
8-1	●						→	→	→
8-2	●						→	→	→
8-3	●						→	→	→
8-4	●	●	●						
8-5	○	○	○						

SIGNAL HEAD PHASING



12:30:39 PM 2/21/2019 2:47:03 PM

NO	DATE	DWN	CKD	REVISIONS



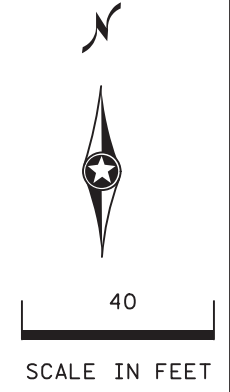
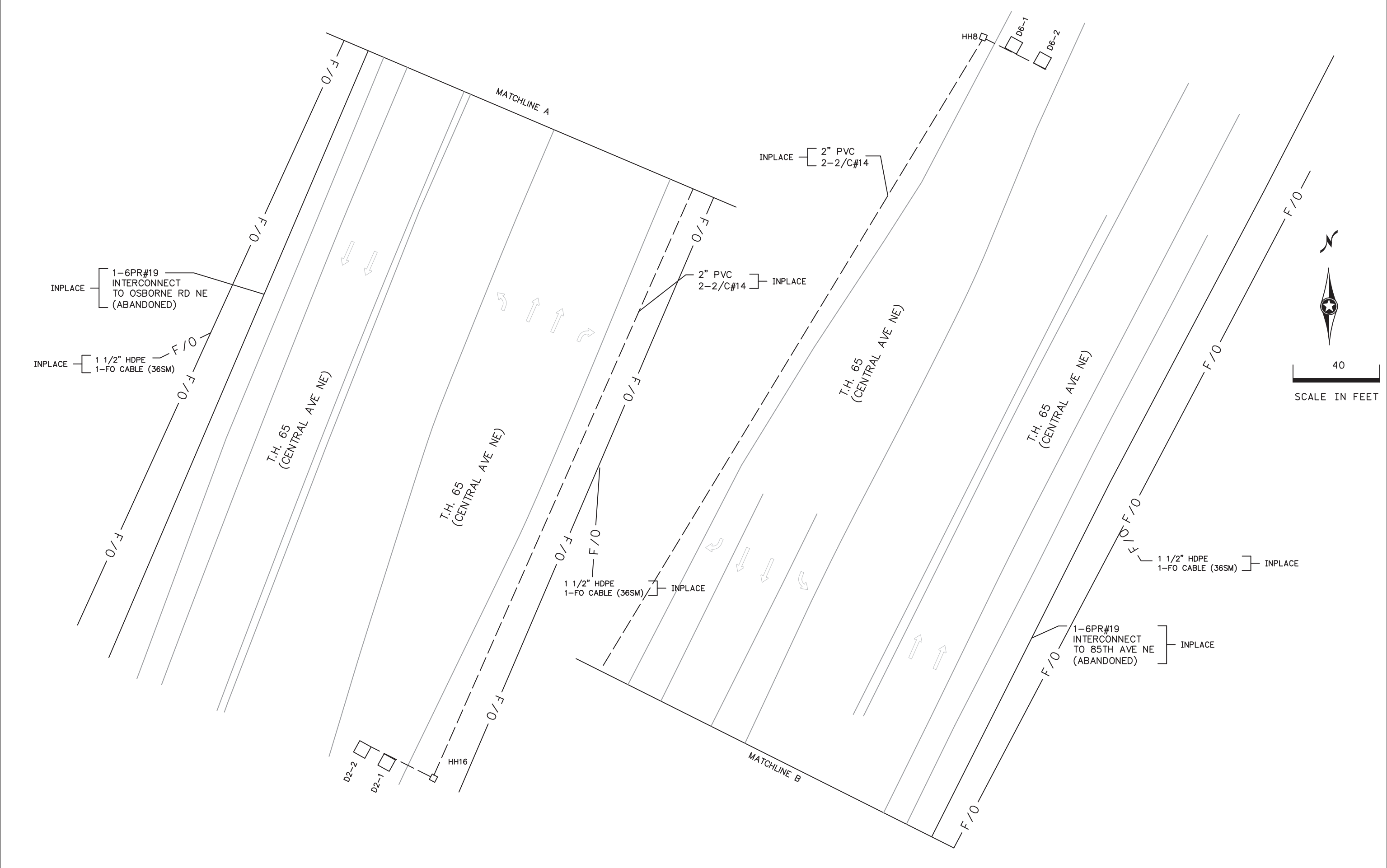
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MICHAEL P MCCURDY
SIGNATURE: *Michael P. McCurdy*
DATE: 02/21/19 LICENSE #: 45902

REVISE SIGNAL SYSTEM A LAYOUT
SP 0207-124 (TH 65)

TH 65/81ST AVE-SPRING LAKE PARK HY-VEE
SHEET NO. 79 OF 89 SHEETS

12:30:46 PM
 2/2/2019
 ..\P\Projects\2017\170068\DESIGN\Plan Sheets\81ST AVE NE\cd170068_sgl111.dgn



NO	DATE	DWN	CKD	REVISIONS



I HEREBY CERTIFY THAT THIS SHEET 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: MICHAEL P MCCURDY
 SIGNATURE: *Michael P. McCurdy*
 DATE: 02/21/19 LICENSE #: 45902

REVISE SIGNAL SYSTEM A LAYOUT
 SP 0207-124 (TH 65)

TH 65/81ST AVE-SPRING LAKE PARK HY-VEE
 SHEET NO. 80 OF 89 SHEETS

- (A) INPLACE EQUIPMENT PAD
- REMOVE SERVICE CABINET
- INSTALL CONTROLLER AND CABINET
- F&I CONTROLLER AND CABINET (MNDOT PROVIDED)
- F&I CORE DRILL
- INPLACE 3" NMC TO HH 4
- 4" RSC TO HH 4:
- 2-12/C 12
- 5-3/C 12
- 5-2/C 14
- 1-3/C 20
- REMOVE 2-12/C 12
- 5-3/C 12
- 10-2/C 14
- 1-3/C 20
- 1-6 PR. 19 (ABANDONED)
- F&I 3" NMC TO HH 4
- 4-12/C 14
- 2-6/C 14
- 3-3/C 14
- 2-3/C 14 (LUM)
- 1-3/C 20
- 5-4/C 14
- 5-2/C 14
- 2-4/C 18 (VIDEO)
- 1-1/C 6 INS. GR.
- 4" RSC TO HH 19:
- 4-12/C 12
- 11-3/C 12
- 7-2/C 14
- 2-3/C 20
- INPLACE 1-6 PR. 19 (ABANDONED)
- 1-3/C 14 (CAMERA POWER)
- 1-COM CABLE
- 1-COAXIAL CABLE
- F&I 3-6/C 14
- 4-2/C 14
- 2-4/C 18 (VIDEO)
- 2-4/C 12
- 1-12/C 12
- REMOVE 1-3/C 12
- 3-2/C 14
- INPLACE 2" RSC TO HH 1:
- REMOVE 2-2/C 14
- 3/4" PVC STUBBED OUT AND CAPPED FOR TELEPHONE LINE
- INPLACE TO TMS VAULT
- 1 1/2" PVC INSIDE 3" RSC STUBOUT:
- 1-6SM FIBER OPTIC
- INPLACE SERVICE CABINET TO CONTROLLER CABINET:
- 2" RSC
- 2-1/C 6
- 1-1/C 6 INS. GR.
- INPLACE SERVICE CABINET TO HH 4:
- 2" RSC
- 2-3/C 12 (LUM)
- REMOVE 1-3/C 12 (LUM)
- F&I 2-3/C 12 (LUM)
- INPLACE SERVICE CABINET TO HH 3:
- 2" RSC
- 3-1/C 2
- HH4 TO HH 19:
- 2" RSC
- 2-3/C 12 (LUM)

NOTES:

* INSTALL SALVAGED SIGNAL HEAD OR PEDESTRIAN HEAD TO NEW PLUMBIZER BRACKETING.

** PAINT EXISTING SIGNAL POLES, TRANSFORMER BASES, MAST ARMS, AND LUMINAIRE EXTENSIONS TO MATCH PROPOSED SIGNAL EQUIPMENT (SEE SPECIAL PROVISIONS).

- (B) INPLACE SOP WOOD POLE
- 2" PVC RISER, WEATHERHEAD TO HH 3:
- 3-1/C 2
- ** (1) INPLACE PA100 POLE FOUNDATION
- TYPE PA100-A-50-X6-350/CAM 400 AT 350 DEG
- 1-VIDEO CAMERA (C-1)
- 1-TYPE 10B AT 180 DEG
- SALVAGE 1-TYPE D STREET NAME SIGN OVERHEAD (SEE SPECIAL PROVISIONS)
- 2-ONE WAY SIGNALS OVERHEAD (11 FT, AND 23 FT FROM END OF MAST ARM)
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 6 & 1)
- 1-C.D. PED IND. AT 90 DEG
- REMOVE 50 FT MAST ARM
- F&I 55 FT MAST ARM
- 5 FT MAST ARM EXTENSION
- REMOVE LUMINAIRE HEAD - 250W HPS
- 1-TYPE 10B BRACKETING AT 90 DEG
- 1-ANGLE MOUNT SIGNAL AT 90 DEG
- 1-ANGLE MOUNT C.D. PED IND. AT 90 DEG
- 1-ANGLE MOUNT SIGNAL OVERHEAD (0 FT FROM END OF MAST ARM EXTENSION)
- F&I 1-STRAIGHT MOUNT SIGNAL OVERHEAD (10 FT FROM END OF MAST ARM EXTENSION)
- 1-VIDEO CAMERA (V-1), MOUNTING HARDWARE, AND VIDEO EXTENSION POLE AT 16' FROM END OF MAST ARM EXTENSION
- 1-LUMINAIRE HEAD - LED
- 1-SIGN R10-X12 "LEFT TURN YIELD ON FLASHING YELLOW ARROW" ADJACENT TO HEAD 1-2
- INSTALL 2-STRAIGHT MOUNT SIGNALS OVERHEAD (22 FT, AND 34 FT FROM END OF MAST ARM EXTENSION)
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 6 & 1)
- 1-TYPE D STREET NAME SIGN OVERHEAD (SEE SPECIAL PROVISIONS)
- EXTEND INTO HH 19:
- 3" RSC
- 2-12/C 12
- 4-3/C 12
- 1-3/C 12 (LUM)
- 1-3/C 20
- INPLACE 1-2/C 14
- 1-7/16" GROUNDING BRAID TO GROUND ROD IN H.H.19
- 1-3/C 14 (CAMERA POWER)
- 1-COM CABLE
- 1-COAXIAL CABLE
- 1-12/C 12
- F&I 2-6/C 14
- 1-4/C 18 (VIDEO)
- ** (2) INPLACE PA100 POLE FOUNDATION
- TYPE PA100-A-40 D40-9 (DAVIT AT 350 DEG)
- 2-ONE WAY SIGNALS OVERHEAD (0 FT AND 11 FT FROM END OF MAST ARM)
- TYPE 10B AT 180 DEG
- ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 3)
- SALVAGE 1-C.D. PED IND. AT 90 DEG
- 1-C.D. PED IND. AT 180 DEG
- REMOVE 1-ONE WAY SIGNAL OVERHEAD (0 FT FROM END OF MAST ARM)
- 2-TYPE 10B BRACKETING AT 90 AND 180 DEG
- 1-LUMINAIRE HEAD - 250W HPS
- F&I 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
- 2-ANGLE MOUNT C.D. PED IND. AT 90 AND 180 DEG*
- 1-ANGLE MOUNT SIGNAL OVERHEAD (0 FT FROM END OF MAST ARM)
- 1-LUMINAIRE HEAD - LED
- 1-SIGN R10-X12 "LEFT TURN YIELD ON FLASHING YELLOW ARROW" ADJACENT TO HEAD 3-1
- 1-EVP HEAD EXTENSION
- EXTEND INTO HH 6:
- 3" RSC
- 2-12/C 12
- 4-3/C 12
- 1-3/C 12 (LUM)
- 1-3/C 20
- 1-2/C 14
- 2-12/C 12
- INPLACE

- (3) REMOVE PA100 POLE FOUNDATION
- TYPE PA100-A-50 D40-9 (DAVIT AT 350 DEG)
- 3-ONE WAY SIGNALS OVERHEAD (0 FT, 11 FT AND 23 FT FROM END OF MAST ARM)
- 2-TYPE 10A AT 90 & 180 DEG
- SALVAGE 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
- 1-TYPE D STREET NAME SIGN OVERHEAD (SEE SPECIAL PROVISIONS)
- 3" RSC
- 2-12/C 12
- 4-3/C 12
- 1-3/C 12 (LUM)
- 1-3/C 20
- REMOVE 2-4/C 12 (TO INPLACE POLE 5 - FOR PED HEADS)
- (3) F&I PA90 POLE FOUNDATION
- TYPE PA90-A-30-D40-9 (DAVIT AT 350 DEG)
- 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0 FT FROM END OF MAST ARM
- 2-STRAIGHT MOUNT SIGNALS OVERHEAD (11 FT AND 23 FT FROM END OF MAST ARM)
- INSTALL 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2 & 5)
- 1-TYPE D STREET NAME SIGN OVERHEAD (SEE SPECIAL PROVISIONS)
- 1-LUMINAIRE HEAD - LED
- 1-VIDEO CAMERA (V-3), MOUNTING HARDWARE, AND VIDEO EXTENSION POLE AT 15 FT FROM END OF MAST ARM
- 1-VIDEO CAMERA (V-2) AND MOUNTING HARDWARE, MOUNTED ON LUMINAIRE EXTENSION
- 1-TWO WAY MOUNT C.D. PED IND. AT 90 DEG
- 1-SIGN R10-X12 "LEFT TURN YIELD ON FLASHING YELLOW ARROW" ADJACENT TO HEAD 5-1
- F&I EXTEND INTO HH 20:
- 3" NMC
- 1-12/C 14
- 1-6/C 14
- 2-4/C 14
- 1-3/C 14
- 1-3/C 14 (LUM)
- 1-3/C 20
- 2-4/C 18 (VIDEO)
- 1-1/C 6 INS. GR.
- ** (4) INPLACE PA90 POLE FOUNDATION
- TYPE PA90-A-30 D40-9 (DAVIT AT 350 DEG)
- 1-TYPE 10B AT 180 DEG
- REMOVE 1-ONE WAY SIGNAL OVERHEAD (11 FT FROM END OF MAST ARM)
- 1-ONE WAY SIGNAL OVERHEAD (0 FT FROM END OF MAST ARM)
- 1-C.D. PED IND. AT 90 DEG
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
- 1-TYPE D GUIDE SIGN OVERHEAD (SEE SPECIAL PROVISIONS)
- REMOVE 30 FT MAST ARM
- F&I 40 FT MAST ARM
- REMOVE LUMINAIRE HEAD - 250W HPS
- 1-TYPE 10B BRACKETING AT 90 DEG
- EXTEND INTO HH 14:
- 3" RSC
- 2-12/C 12
- 1-3/C 12
- INPLACE 1-3/C 12 (LUM)
- 1-3/C 20
- REMOVE 3-3/C 12
- 1-6/C 14
- 2-4/C 12
- 1-4/C 18 (VIDEO)
- 1-1/C 6 INS. GR.
- F&I 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0 FT FROM END OF MAST ARM
- 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11 FT FROM END OF MAST ARM
- 1-ANGLE MOUNT SIGNAL AT 90 DEG
- 1-ANGLE MOUNT C.D. PED IND. AT 90*
- LUMINAIRE HEAD - LED
- 1-VIDEO CAMERA (V-4) AND MOUNTING HARDWARE AT 8 FT FROM END OF MAST ARM
- 1-SIGN R10-X12 "LEFT TURN YIELD ON FLASHING YELLOW ARROW" ADJACENT TO HEAD 7-2
- INSTALL 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 23 FT FROM END OF MAST ARM
- 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4 & 7)
- 1-TYPE D GUIDE SIGN OVERHEAD (SEE SPECIAL PROVISIONS)

- (5) REMOVE PEDESTAL FOUNDATION
- TYPE 4B SIGNAL PEDESTAL (ALL ALUMINUM COMPONENTS)
- 2-CD PED IND AT 90 AND 180 DEG
- EXTEND INTO HH 12:
- 2" CONDUIT
- 2-4/C 12
- 1-1/C 6 INS. GR.
- (5) F&I PA85 POLE FOUNDATION
- TYPE PA85-A-15
- 1-ONE WAY SIGNALS OVERHEAD AT 0 FT FROM END OF MAST ARM
- 1-ONE WAY SIGNALS OVERHEAD AT 11 FT FROM END OF MAST ARM
- 1-ANGLE MOUNT SIGNAL AT 180 DEG
- "NO RIGHT TURN ON RED" BLANKOUT SIGN (X-1)
- EXTEND INTO HH 20:
- 3" NMC
- 1-12/C 14
- 1-6/C 14
- 1-3/C 14 (SIGN)
- 1-1/C 6 INS. GR.
- (6) F&I PA85 POLE FOUNDATION
- TYPE PA85-D40-9 (DAVIT AT 270 DEG)
- 1-ANGLE MOUNT C.D. PED IND. AT 0 DEG
- LUMINAIRE HEAD - LED
- "NO RIGHT TURN ON RED" BLANKOUT SIGN (X-2)
- EXTEND INTO HH 22:
- 3" NMC
- 1-4/C 14
- 1-3/C 14 (LUM)
- 1-3/C 14 (SIGN)
- 1-1/C 6 INS. GR.
- (7) F&I PEDESTAL POLE FOUNDATION
- 15' POLE PLUS BASE
- 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG
- 1-TWO WAY MOUNT C.D. PED IND. AT 180 DEG
- EXTEND INTO HH 21:
- 3" NMC
- 1-12/C 14
- 3-4/C 14
- 1-1/C 6 INS. GR.

12:30:51 PM 2/20/19 \\p01s2017\1\T0068\DESIGN\Pln_Sheets\81ST_AVE_NE\cdlT0068_sgl112.dgn

NO	DATE	DWN	CKD	REVISIONS

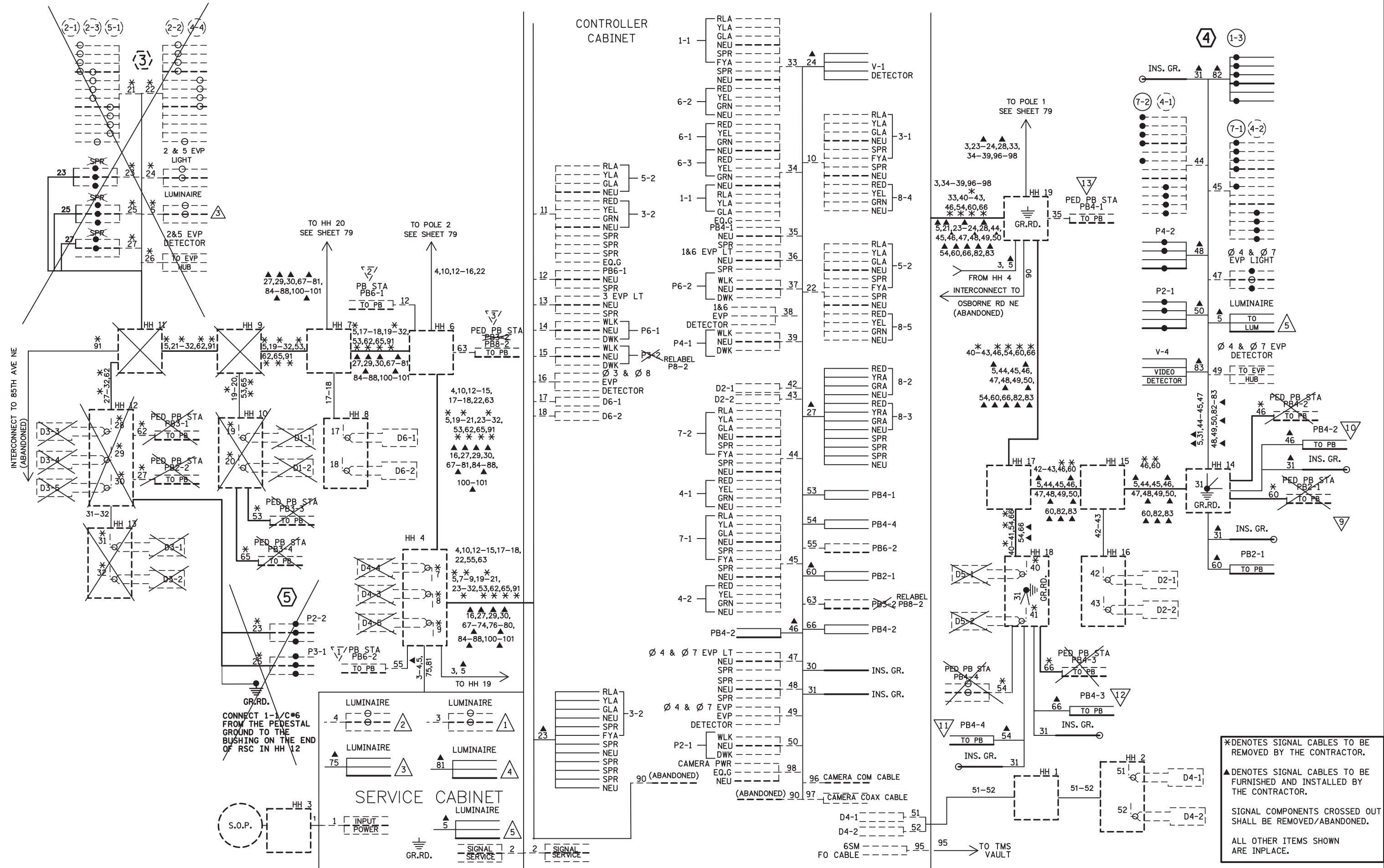


I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MICHAEL P MCCURDY
 SIGNATURE: *Michael P. McCurdy*
 DATE: 02/21/19 LICENSE #: 45902

REVISE SIGNAL SYSTEM A INTERSECTION NOTES
 SP 0207-124 (TH 65)

TH 65/81ST AVE-SPRING LAKE PARK HY-VEE
 SHEET NO. 81 OF 89 SHEETS



12:30:56 PM
2/27/2019 2:28:10 PM
C:\Users\mccurdy\Documents\2017\170068\DESIGN\VP\cn Sheets\81ST AVE NE\cd170068.sgl\113.dgn

NO	DATE	DWN	CKD	REVISIONS



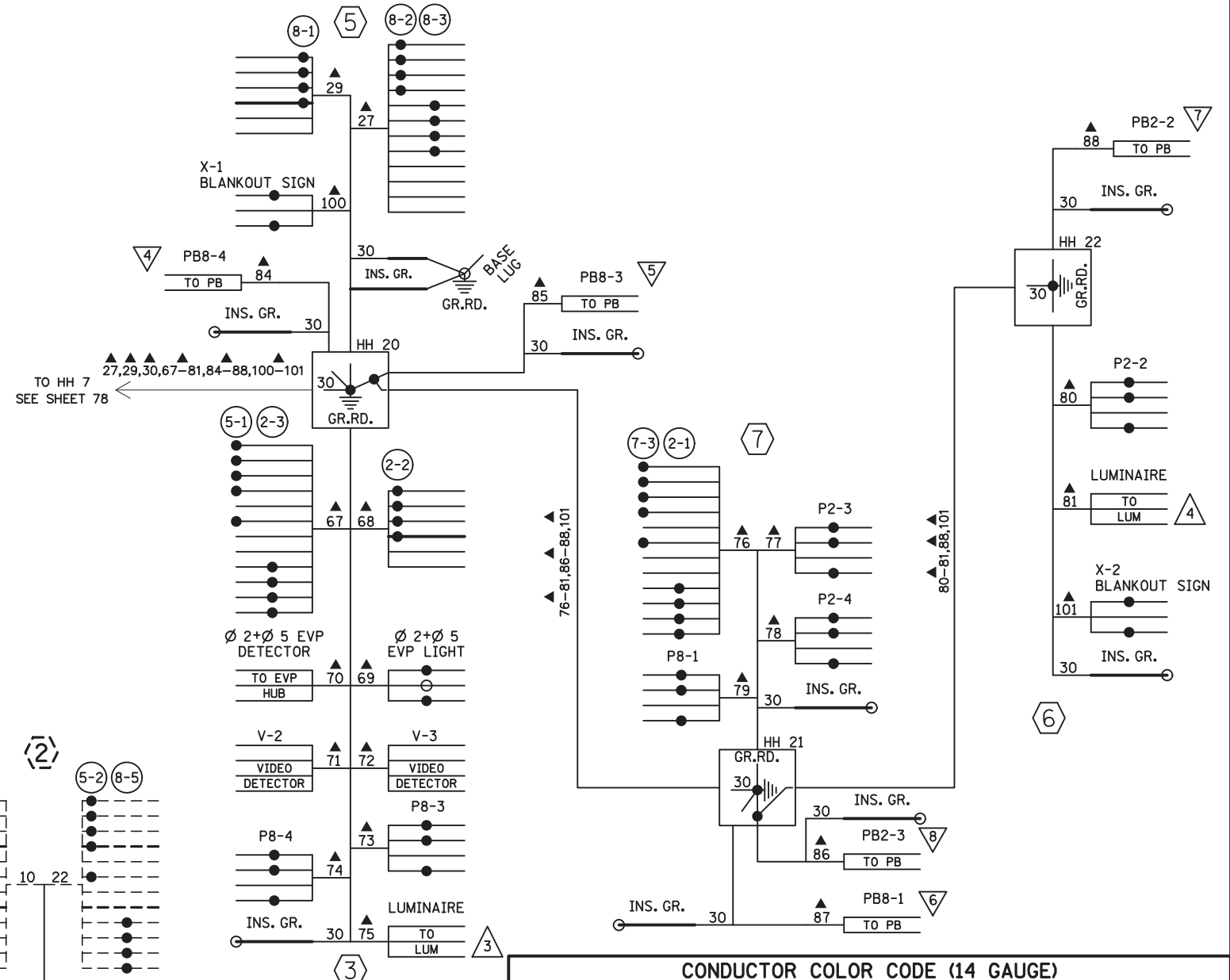
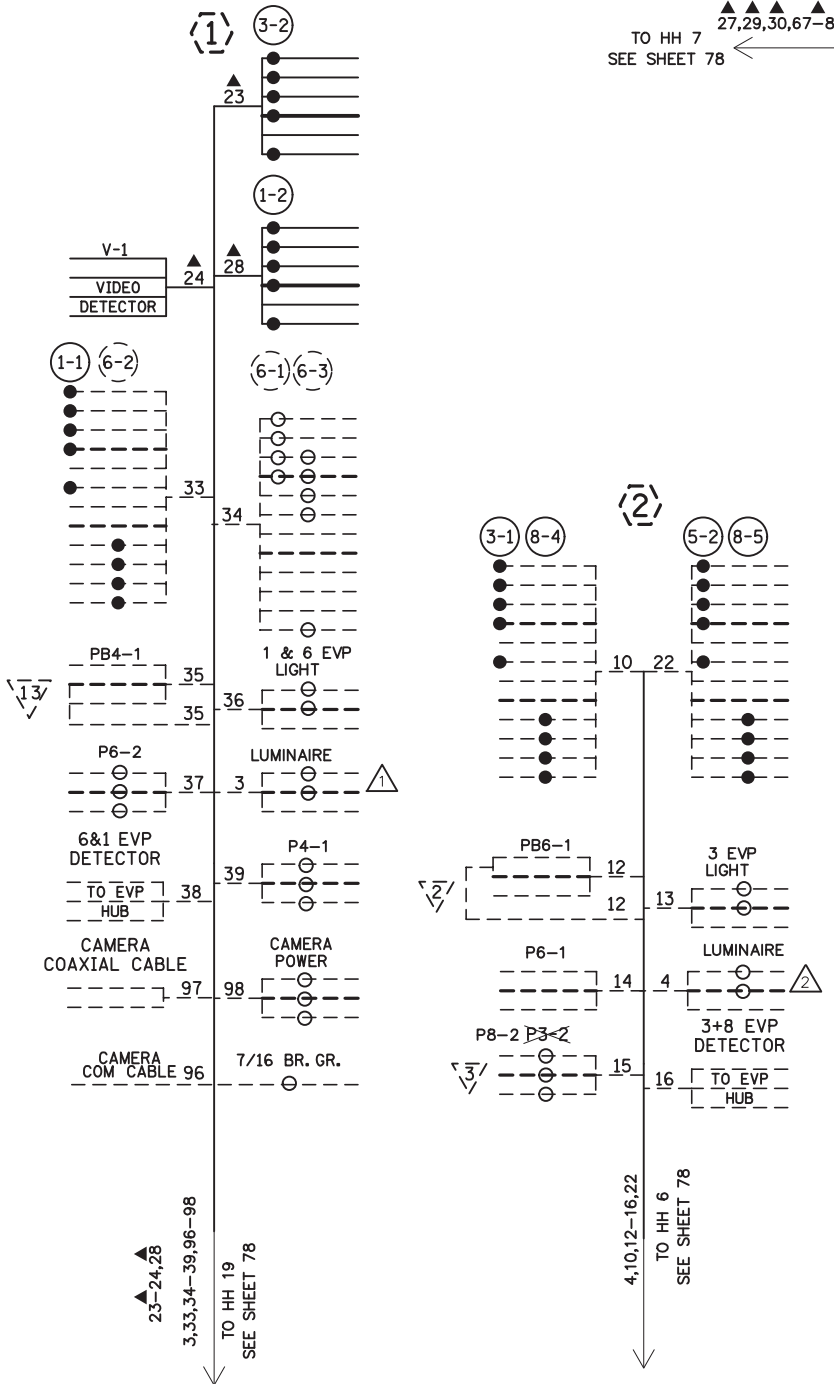
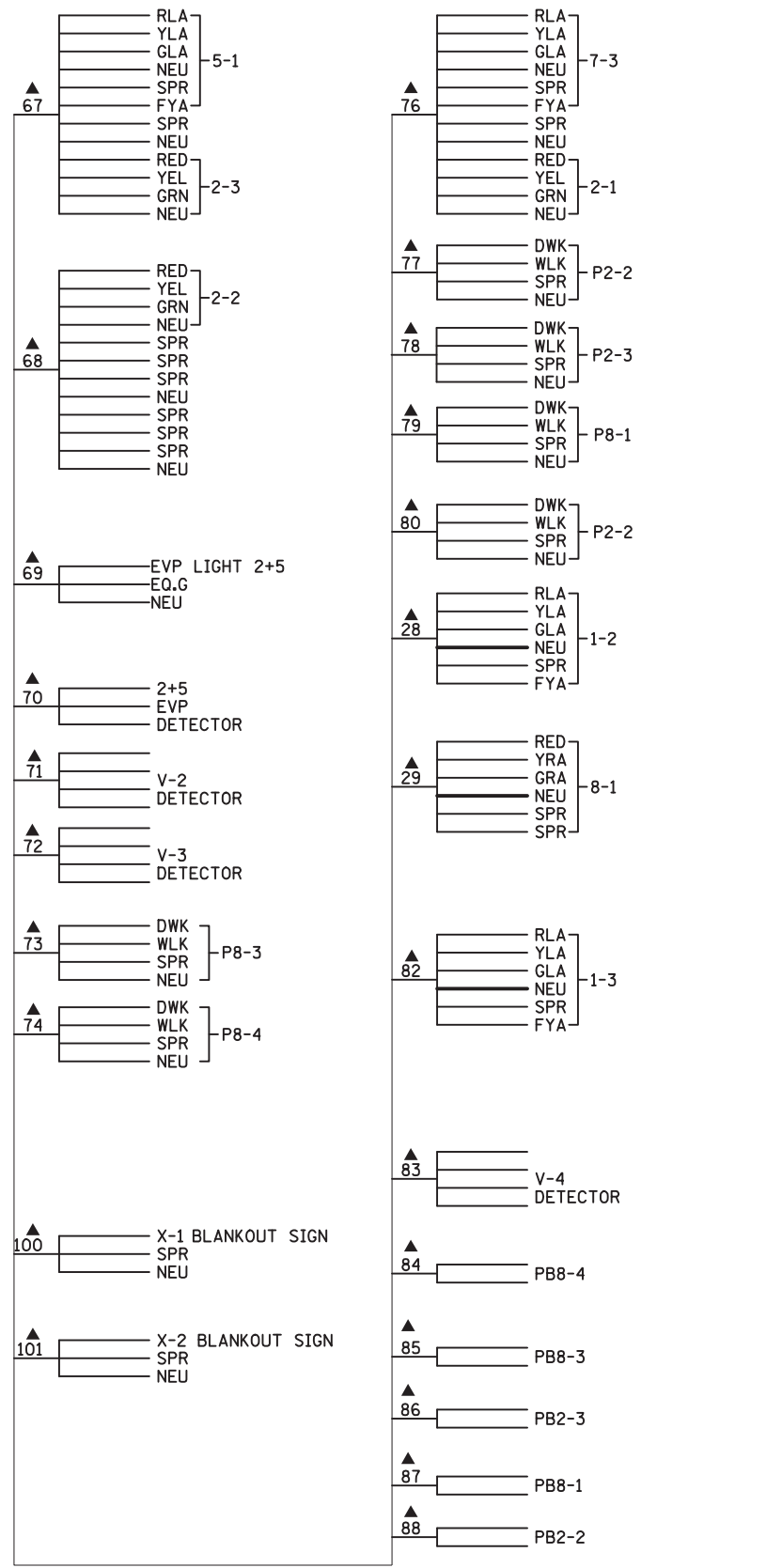
I HEREBY CERTIFY THAT THIS SHEET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: MICHAEL P MCCURDY
SIGNATURE: *Michael P. McCurdy*
DATE: 02/21/19 LICENSE #: 45902

REVISE SIGNAL SYSTEM A WIRING DIAGRAM
SP 0207-124 (TH 65)

TH 65/81ST AVE-SPRING LAKE PARK HY-VEE
SHEET NO. 82 OF 89 SHEETS

12:31:01 PM
 27/1/2019 9:48:32 AM
 C:\Users\jcd\OneDrive\Documents\Projects\2017\170068\DESIGN\VP\cn Sheets\83\1ST AVE NE\cd170068-sg114.dgn



CONDUCTOR COLOR CODE (14 GAUGE)

TO SIGNAL CABINET		TO DEVICE	
1/C#6	G	R	RED
6PR#19		BL	BLK
COXIAL CABLE (6SM)		WH	WH
3-1/C#2	INPUT POWER	BLK/R	RED/DWK
3-1/C#6	SIGNAL SERVICE	BLK	YEL/WLK
		WH	GRN/SPR
		G	NEU
		R	RED
		O	YEL
		BL	GRN
		WH	NEU
		R/BLK	YLA/FYA
		O/BLK	GLA
		BL/BLK	
		WH/BLK	
		BLK	
		BLK/WH	
		BLK/R	
		WH/R	
		R	RED
		BLK	BLK
		WH	WH
		G	G
		BLK	BLK
		G	G
		WH	WH
		BLK	BLK
		WH OR CLR	WH OR CLR
		R OR O	R OR O
		WH OR YEL	WH OR YEL
		BLK OR BL	BLK OR BL
		BLK	BLK
		WH OR CLR	WH OR CLR
		WH OR CLR	WH OR CLR

BASE OF POLE OR PEDESTAL

NOTE: ALL POLE CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

*DENOTES SIGNAL CABLES TO BE REMOVED BY THE CONTRACTOR.
 ▲ DENOTES SIGNAL CABLES TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
 SIGNAL COMPONENTS CROSSED OUT SHALL BE REMOVED/ABANDONED.
 ALL OTHER ITEMS SHOWN ARE IN PLACE.

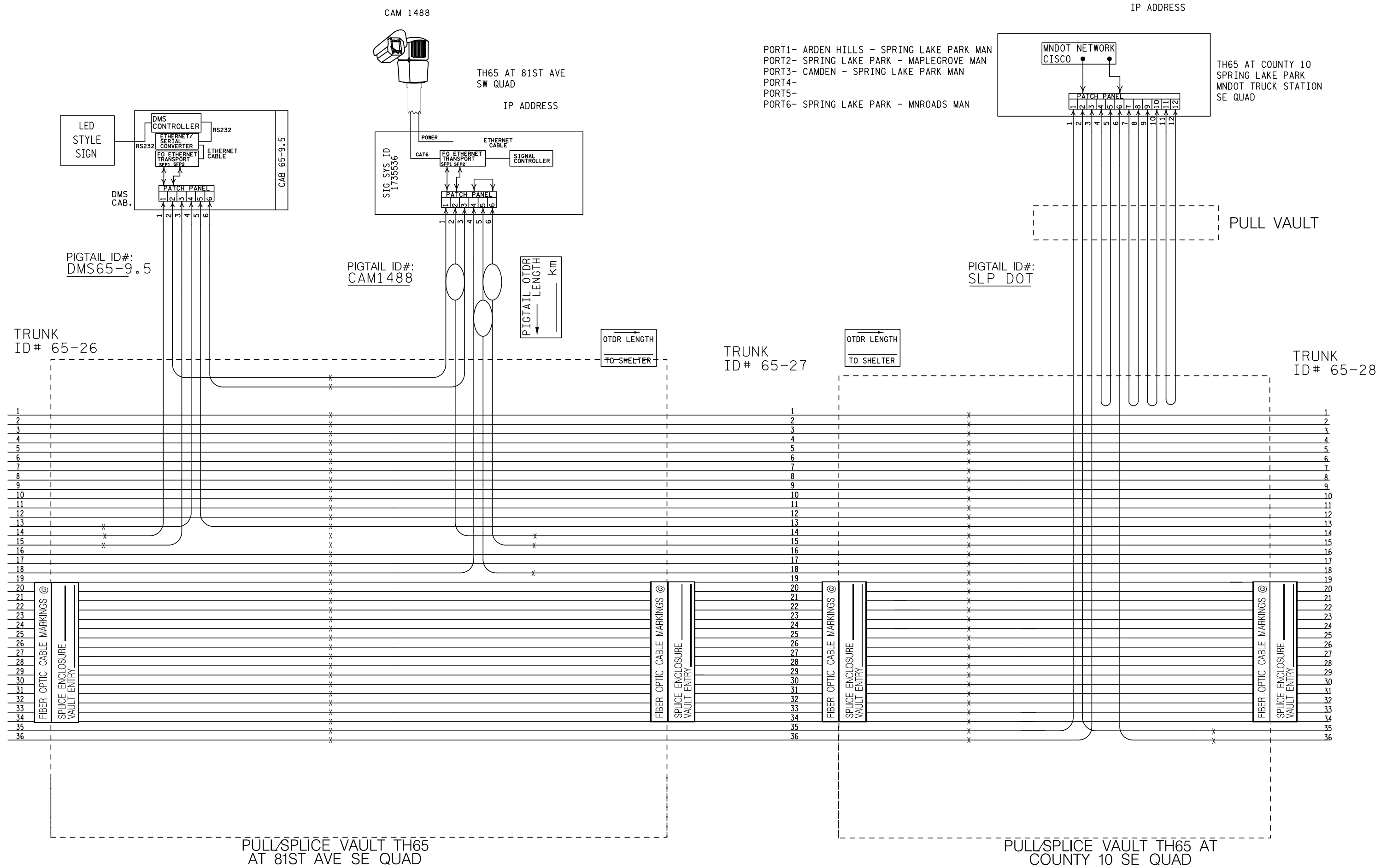
NO	DATE	DWN	CKD	REVISIONS



I HEREBY CERTIFY THAT THIS SHEET 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: MICHAEL P MCCURDY
 SIGNATURE: Michael P McCurdy
 DATE: 02/21/19 LICENSE #: 45902

REVISE SIGNAL SYSTEM A WIRING DIAGRAM
 SP 0207-124 (TH 65)



- PORT1- ARDEN HILLS - SPRING LAKE PARK MAN
- PORT2- SPRING LAKE PARK - MAPLEGROVE MAN
- PORT3- CAMDEN - SPRING LAKE PARK MAN
- PORT4-
- PORT5-
- PORT6- SPRING LAKE PARK - MNROADS MAN

TH65 AT COUNTY 10
 SPRING LAKE PARK
 MNDOT TRUCK STATION
 SE QUAD

PLOTTED/REVISED: 4-JAN-2019

I PLOT NAME: layout
PATH & FILENAME: Projects\DM_R05\065\0000\Traffic\Signal\2164_81st Ave_NE\NET2164_sgl.dgn

PVC LOOP DETECTORS		
NUMBER	SIZE	LOCATION
D1-1,5-1	6 X 6	40
D1-2,5-2	6 X 6	10
D2-1,2-2	6 X 6	400
D4-1,4-2	6 X 6	120
D4-4,4-5	6 X 6	10
D4-3	2-6 X 6	-5 & 10
D6-1,6-2	6 X 6	400
D3-1,3-2	6 X 6	120
D3-3	2-6 X 6	-20 & -5
D3-4,3-5	6 X 6	10

ALL DISTANCES ARE MEASURED FROM CROSSWALKS

(A) EQUIPMENT PAD
SERVICE CABINET
CONTROLLER AND CABINET
4" RSC TO HH 4: 4" RSC TO HH 19:
4-12/C#12 4-12/C#12
9-3/C#12 9-3/C#12
15-2/C#14 6-2/C#14
2-3/C#20 2-3/C#20
1-6 PR.#19(ABANDONED) 1-6 PR.#19(ABANDONED)
1-3/C#14 (CAMERA POWER)
1-COM CABLE
1-COAXIAL CABLE

2" RSC TO HH 1:
2-2/C#14
3/4" PVC STUBBED OUT AND CAPPED FOR TELEPHONE LINE
TO TMS VAULT
1 1/2" PVC INSIDE 3" RSC STUBOUT:
1-6SM FIBER OPTIC

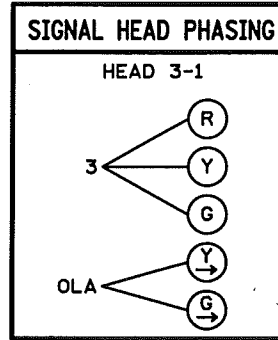
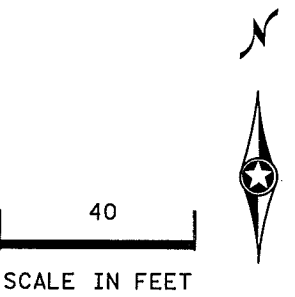
SERVICE CABINET TO CONTROLLER CABINET:
2" RSC
2-1/C#6
1-1/C#6 INS. GR.

SERVICE CABINET TO HH 4:
2" RSC
4-3/C#12 (LUM)
SERVICE CABINET TO HH 3:
2-3/C#12 (LUM)
2" RSC
3-1/C#2
HH4 TO HH 19:
2" RSC

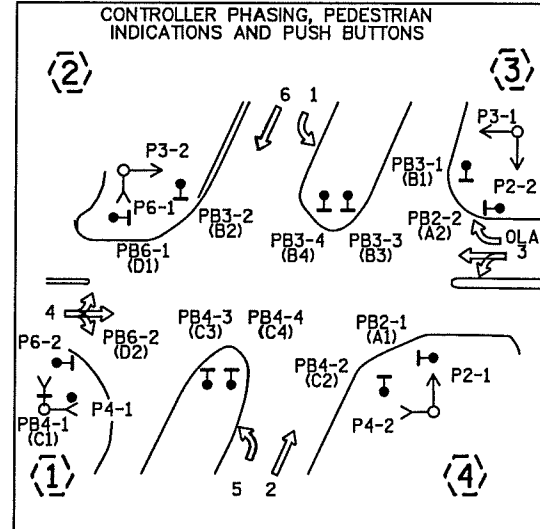
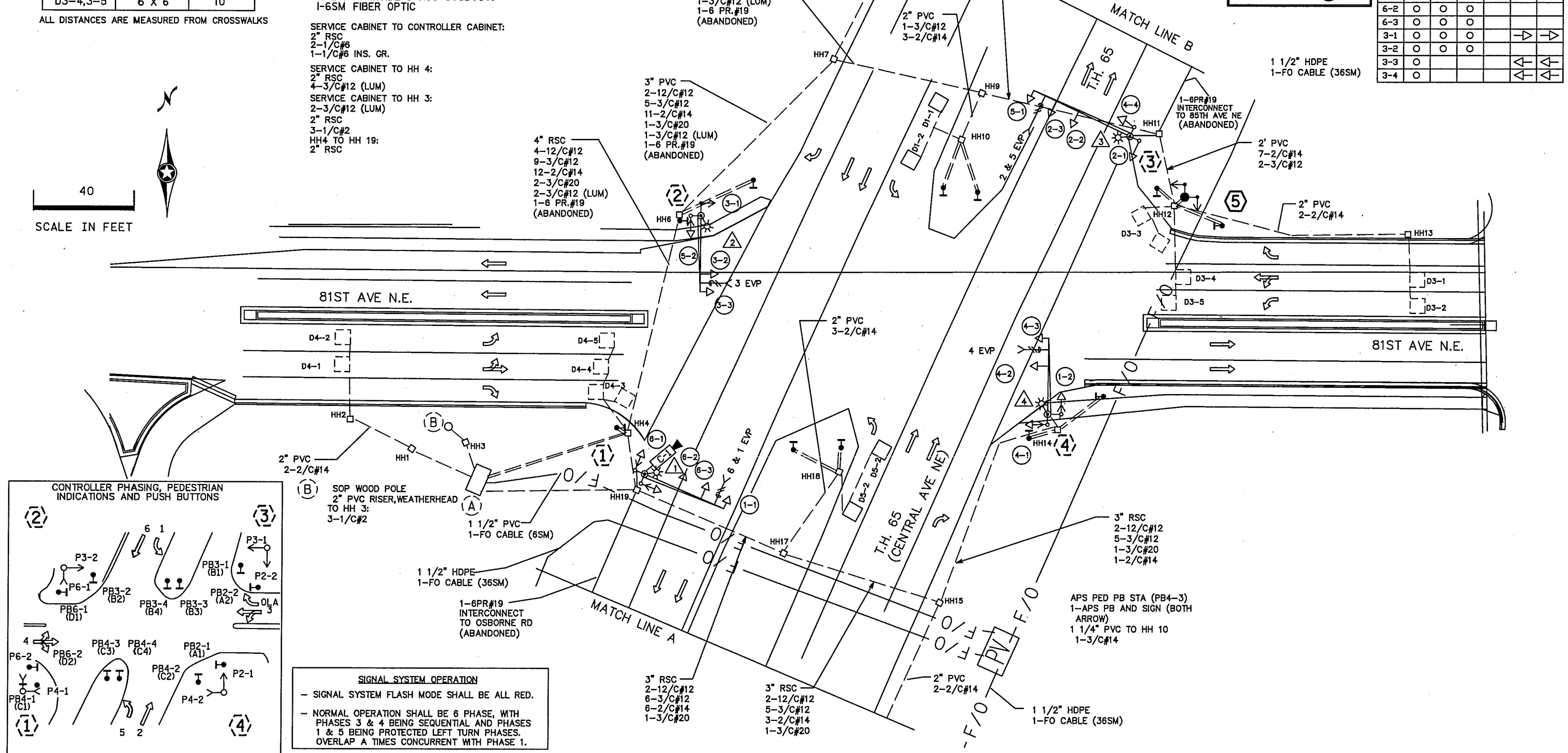
4" RSC
4-12/C#12
9-3/C#12
12-2/C#14
2-3/C#20
2-3/C#12 (LUM)
1-6 PR.#19
(ABANDONED)

3" PVC
2-12/C#12
5-3/C#12
11-2/C#14
1-3/C#20
1-3/C#12 (LUM)
1-6 PR.#19
(ABANDONED)

3" RSC
2-12/C#12
4-3/C#12
6-2/C#14
1-3/C#20
1-3/C#12 (LUM)
1-6 PR.#19
(ABANDONED)



LED SIGNAL FACES						
ALL INDICATIONS ARE 12 IN.						
FACE	R LED	Y LED	G LED	RLTA LED	YLTA LED	GLTA LED
1-1						
1-2						
2-1	O	O	O			
2-2	O	O	O			
2-3	O	O	O			
4-1	O	O	O			
4-2	O	O	O			
4-3	O					
4-4	O					
5-1						
5-2						
6-1	O	O	O			
6-2	O	O	O			
6-3	O	O	O			
3-1	O	O	O			
3-2	O	O	O			
3-3	O					
3-4	O					



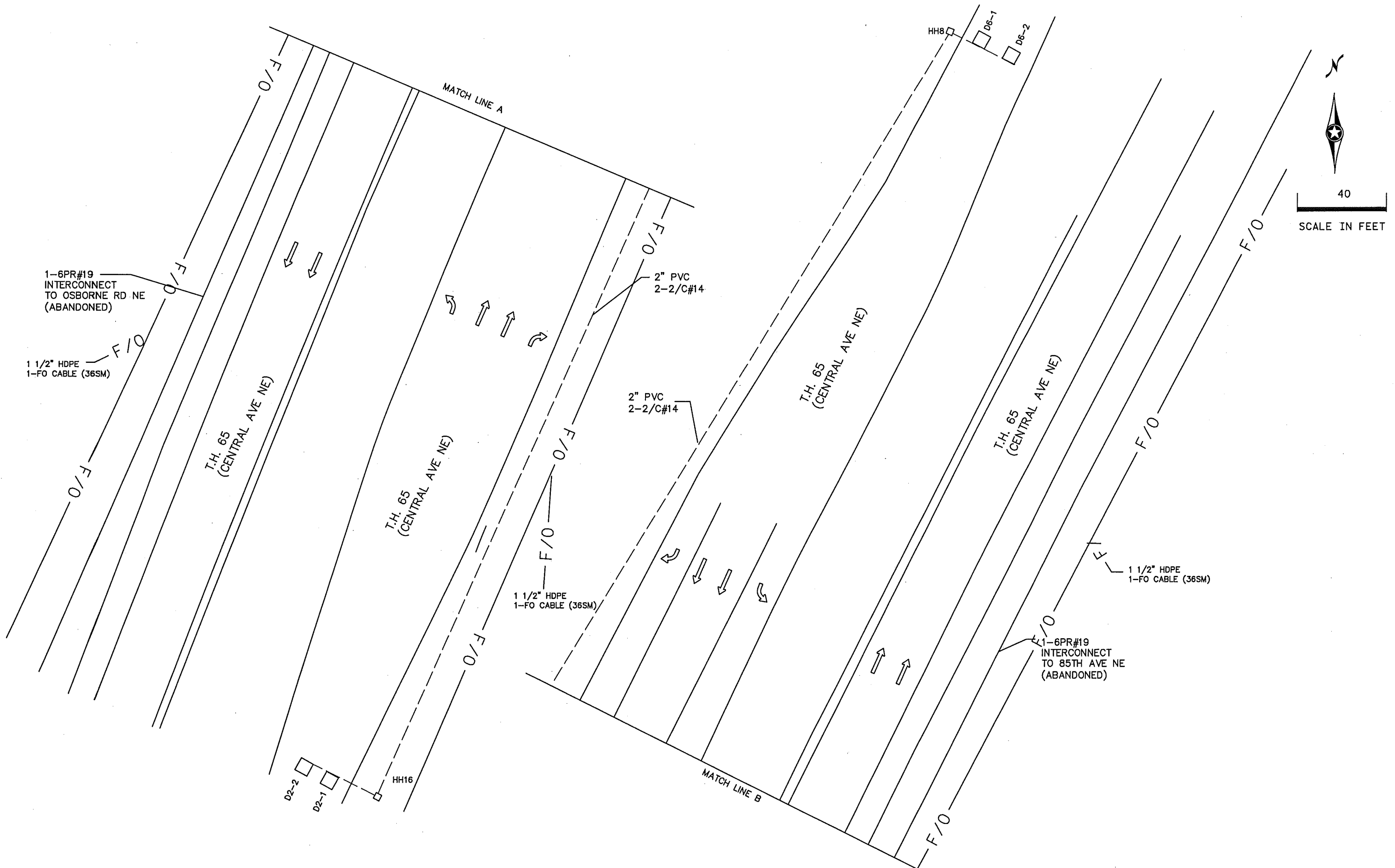
(B) SOP WOOD POLE
2" PVC RISER, WEATHERHEAD
TO HH 3:
3-1/C#2
1 1/2" PVC
1-FO CABLE (6SM)
1 1/2" HDPE
1-FO CABLE (36SM)
1-6PR#19
INTERCONNECT
TO OSBORNE RD
(ABANDONED)

SIGNAL SYSTEM OPERATION
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 3 & 4 BEING SEQUENTIAL AND PHASES 1 & 5 BEING PROTECTED LEFT TURN PHASES. OVERLAP A TIMES CONCURRENT WITH PHASE 1.

BY	DATE	REVISIONS	SYSTEM ID: 1735536	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
SJK	01/07/19	OPERATIONAL PLAN	METER ADDRESS:		CERTIFIED BY	LIC. NO.		DATE:
			OLD SYSTEM ID: 21164		STATE PROJ. NO. 0207-100 (T.H.65) SHEET NO. SS44 OF SS47 SHEETS			

PLOTTED/REVISED: 4-JAN-2019

I/PLOT NAME: match lines
 PATH & FILENAME: Projects\DM_ROS\065\0000\Traffic\Signals\21164_81st Ave_NE\21164_sgl.dgn



BY	DATE	REVISIONS
SJK	01/07/19	OPERATIONAL PLAN

SYSTEM ID: 1735536 T.E.
 METER ADDRESS:
 OLD SYSTEM ID: 21164

MATCH LINES
T.H. 65 (CENTRAL AVE) AT 81TH AVE N.E.
IN SPRING LAKE PARK, ANOKA COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO. 0207-100 (T.H.65)		SHEET NO. SS45 OF SS47 SHEETS	

I/PLOT NAME: pole notes
 PATH & FILENAME: Projects\DM_R05\065\0000\TrafficSignals\21164_Bist Ave_NE\NET21164_sgl.dgn
 PLOTTED/REVISED: 4-JAN-2019

① PA100 POLE FOUNDATION
 TYPE PA100-A-50-X6-350/CAM 400 AT 350 DEG
 3-ONE WAY SIGNALS OVERHEAD (0 FT, 11 FT,
 AND 23 FT FROM END OF MAST ARM)
 TYPE 10B AT 90 DEG (1-CD PED IND)
 TYPE 10B AT 180 DEG (1-CD PED IND)
 1-APS PED PB AND SIGN (PB4-1) (LT ARROW)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 6 & 1)
 LUMINAIRE - 250W HPS
 1-VIDEO CAMERA (C-1)
 EXTEND INTO HH 19:
 3" RSC
 2-12/C#12
 4-3/C#12
 1-3/C#12 (LUM)
 1-3/C#20
 1-2/C#14
 1-7/16" GROUNDING BRAID
 TO GROUND ROD IN H.H.19
 1-3/c#14 (CAMERA POWER)
 1-COM CABLE
 1-COAXIAL CABLE

② PA100 POLE FOUNDATION
 TYPE PA100-A-40 D40-9 (DAVIT AT 350 DEG)
 2-ONE WAY SIGNALS OVERHEAD (0 FT AND 11 FT FROM
 END OF MAST ARM)
 TYPE 10B AT 90 DEG (1-CD PED IND)
 1-CD PED IND AT 270 DEG
 1-APS PED PB (PB6-1) (LT ARROW)
 TYPE 10A AT 180 DEG
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASE 3)
 LUMINAIRE - 250W HPS
 EXTEND INTO HH 6:
 3" RSC
 2-12/C#12
 4-3/C#12
 1-3/C#12 (LUM)
 1-3/C#20
 1-2/C#14

③ PA100 POLE FOUNDATION
 TYPE PA100-A-50 D40-9 (DAVIT AT 350 DEG)
 3-ONE WAY SIGNALS OVERHEAD (0 FT, 11 FT
 AND 23 FT FROM END OF MAST ARM)
 TYPE 10A AT 90 & 180 DEG
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 LUMINAIRE - 250W HPS
 EXTEND INTO HH 11:
 3" RSC
 2-12/C#12
 4-3/C#12
 1-3/C#12 (LUM)
 1-3/C#20
 2-4/C#12 (TO POLE 5 FOR PED HEADS)

⑤ PEDESTAL FOUNDATION
 TYPE 4B SIGNAL PEDESTAL
 (ALL ALUMINUM COMPONENTS)
 2-CD PED IND AT 90 AND 180 DEG
 EXTEND INTO HH 12:
 2" CONDUIT
 2-4/C #12
 1-1/C #6 INS. GR.

④ PA90 POLE FOUNDATION
 TYPE PA90-A-30 D40-9 (DAVIT AT 350 DEG)
 2-ONE WAY SIGNALS OVERHEAD (0 FT AND 11 FT
 FROM END OF MAST ARM)
 TYPE 10A AT 90 DEG
 TYPE 10B AT 180 DEG (1-CD PED IND)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
 1-CD PED IND AT 90 DEG
 1-APS PED PB AND SIGN (PB4-2) (RT ARROW)
 LUMINAIRE - 250W HPS
 EXTEND INTO HH 14:
 3" RSC
 2-12/C#12
 4-3/C#12
 1-3/C#12 (LUM)
 1-3/C#20

PED PB STATION
 1-APS PB AND SIGN
 (PB2-1) (LT ARROW)
 EXTEND INTO HH 14:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB2-2) (RT ARROW)
 EXTEND INTO HH 12:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB3-1) (LT ARROW)
 EXTEND INTO HH 12:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB3-2) (RT ARROW)
 EXTEND INTO HH 6:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB3-3) (DBL ARROW)
 SIGN (LT ARROW)
 EXTEND INTO HH 10:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB3-4) (DBL ARROW)
 EXTEND INTO HH 10:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB4-1) (LT ARROW)
 EXTEND INTO HH 19:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB4-2) (RT ARROW)
 EXTEND INTO HH 14:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB4-3) (DBL ARROW)
 EXTEND INTO HH 18:
 1" CONDUIT
 1-2/C#14

PED PB STATION
 1-APS PB AND SIGN
 (PB4-4) (DBL ARROW)
 EXTEND INTO HH 18:
 1" CONDUIT
 1-2/C#14

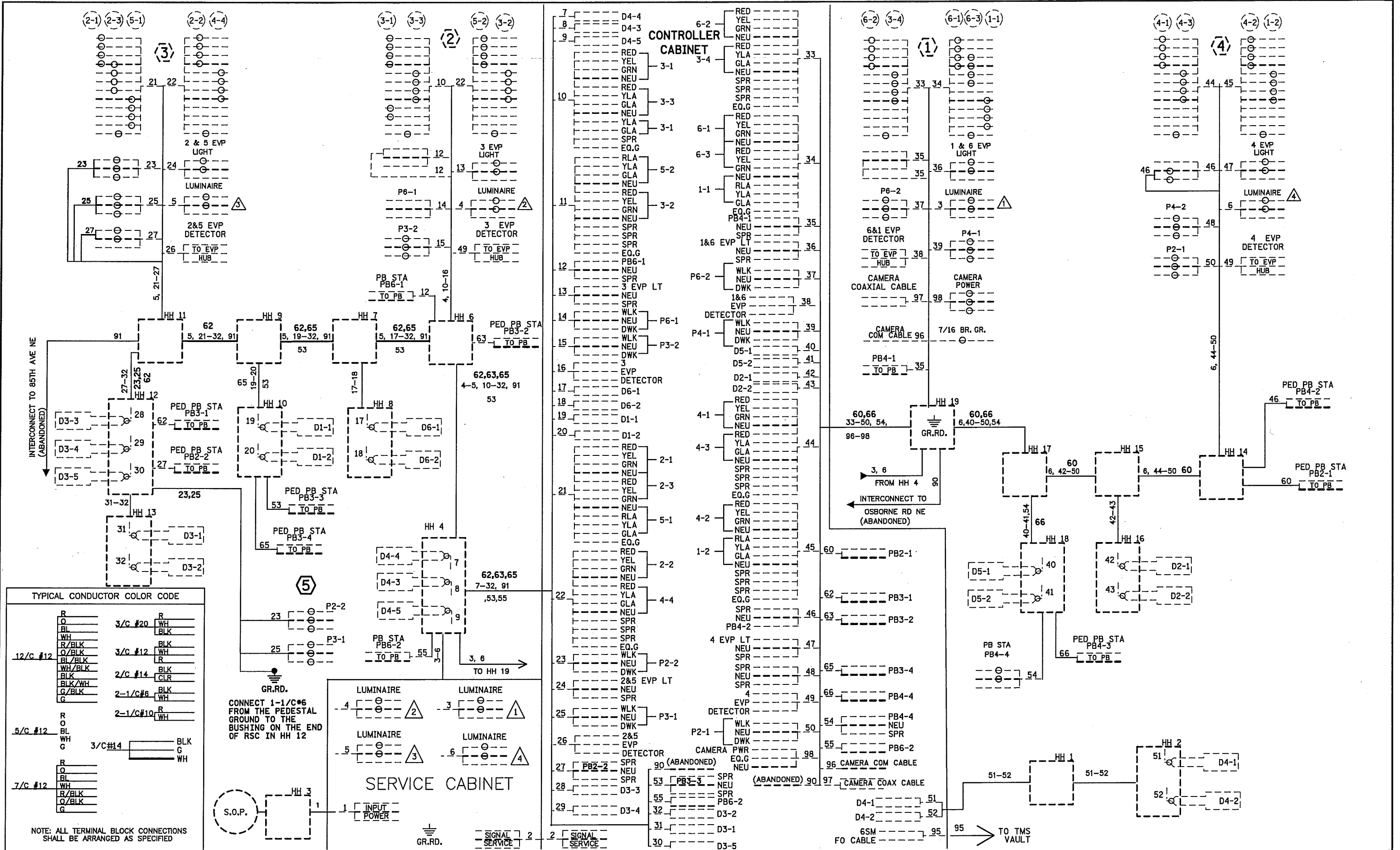
PED PB STATION
 1-APS PB (PB6-1)
 SIGN (LT ARROW)
 EXTEND INTO HH 6:
 1" CONDUIT
 1-2/C#14

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

BY	DATE	REVISIONS	SYSTEM ID: 1735536	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
SJK	01/07/19	OPERATIONAL PLAN	METER ADDRESS:		CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
			OLD SYSTEM ID: 21164		POLE NOTES T.H. 65 (CENTRAL AVE) AT 81TH AVE N.E. IN SPRING LAKE PARK, ANOKA COUNTY			
					STATE PROJ.NO. 0207-100 (T.H.65) SHEET NO. SS46 OF SS47 SHEETS			

PLOTTED/REVISED: 4-JAN-2019

IPLOT NAME: wiring diagram
PATH & FILENAME: Projects\DM罗斯065\0000\Traffic\Signals\21164_Blst Ave_NE\21164_sgl.dgn



BY	DATE	REVISIONS	SYSTEM ID: 1735536	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
SJK	01/07/19	OPERATIONAL PLAN	METER ADDRESS:		CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
			OLD SYSTEM ID: 21164		STATE PROJ.NO. 0207-100 (T.H.65) SHEET NO. SS47 OF SS47 SHEETS			

WIRING DIAGRAM
T.H. 65 (CENTRAL AVE) AT 81TH AVE N.E.
IN SPRING LAKE PARK, ANOKA COUNTY