

SIGNAL HEAD CHART

FACE	R	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	○	○	○

-ALL SIGNAL INDICATIONS ARE 12" LED
 -ALL SIGNAL HEADS HAVE BACKGROUND SHIELDS

(B) SOP-WOOD POLE (BY XCEL ENERGY)
 2" RSC RISER AND WEATHERHEAD
 EXTEND INTO HH 14:
 2" RSC
 3-1/C #2

LOOP DETECTOR CHART

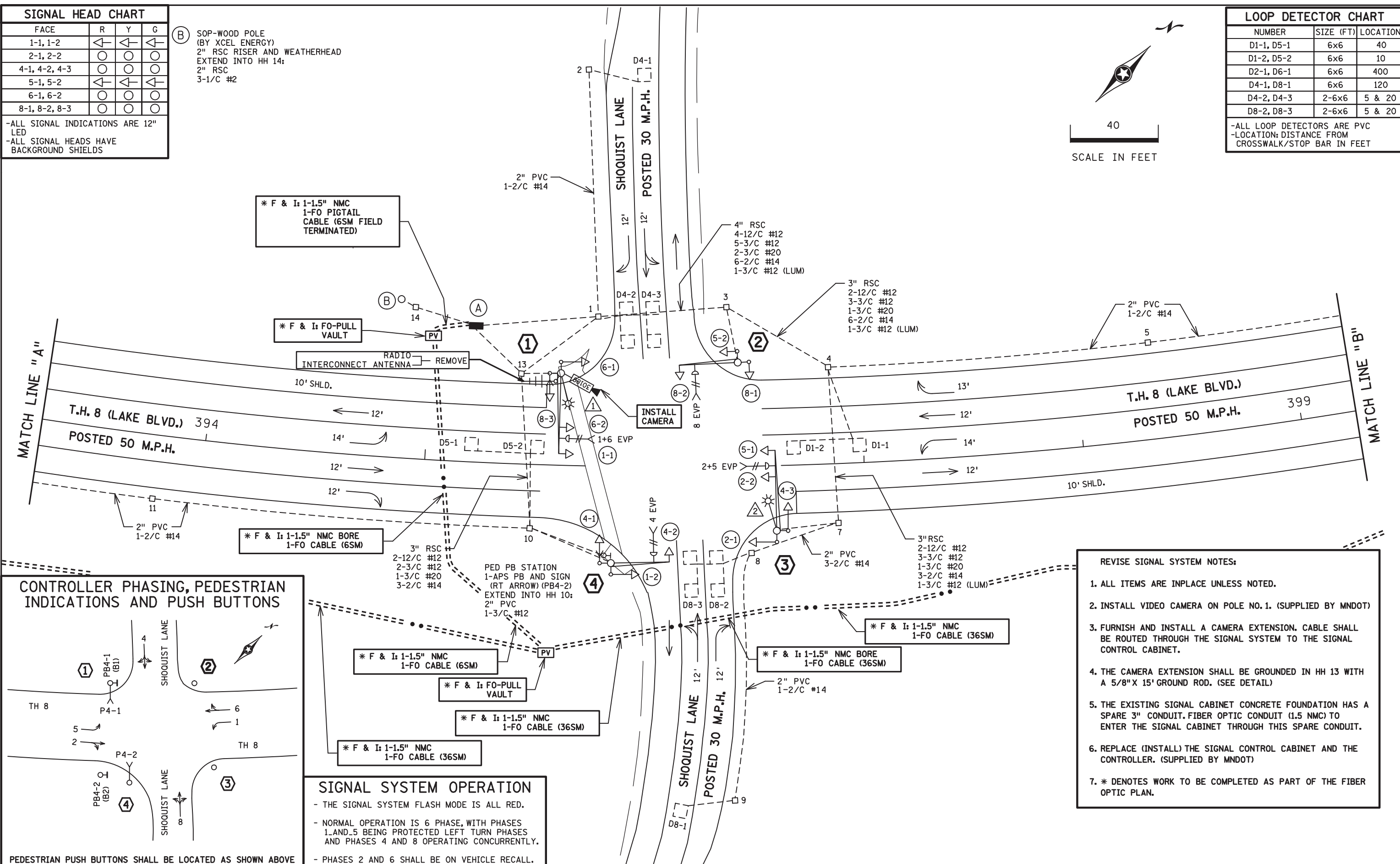
NUMBER	SIZE (FT)	LOCATION
D1-1, D5-1	6x6	40
D1-2, D5-2	6x6	10
D2-1, D6-1	6x6	400
D4-1, D8-1	6x6	120
D4-2, D4-3	2-6x6	5 & 20
D8-2, D8-3	2-6x6	5 & 20

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

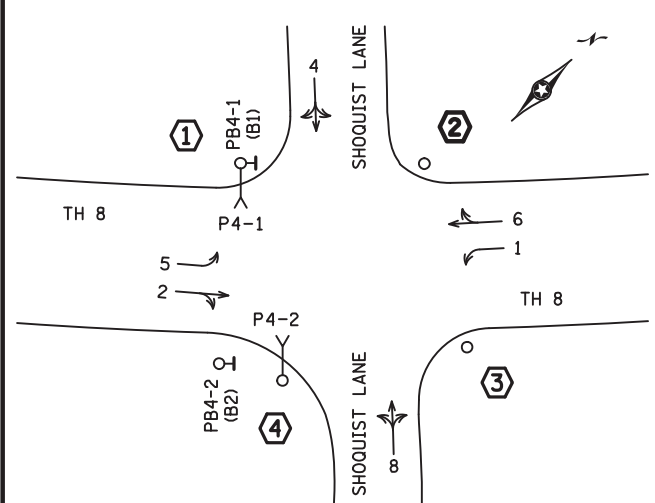


PLOTTED/REVISED: 23-APR-2020

DISTRICT #: Metro
 I/PLOT NAME: SS22-LAYOUT 21954
 PATH & FILENAME: Projects\DM_Ros\008\0000\Traffic\Signal\21954\T21954_sgl.dgn



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES AND PHASES 4 AND 8 OPERATING CONCURRENTLY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

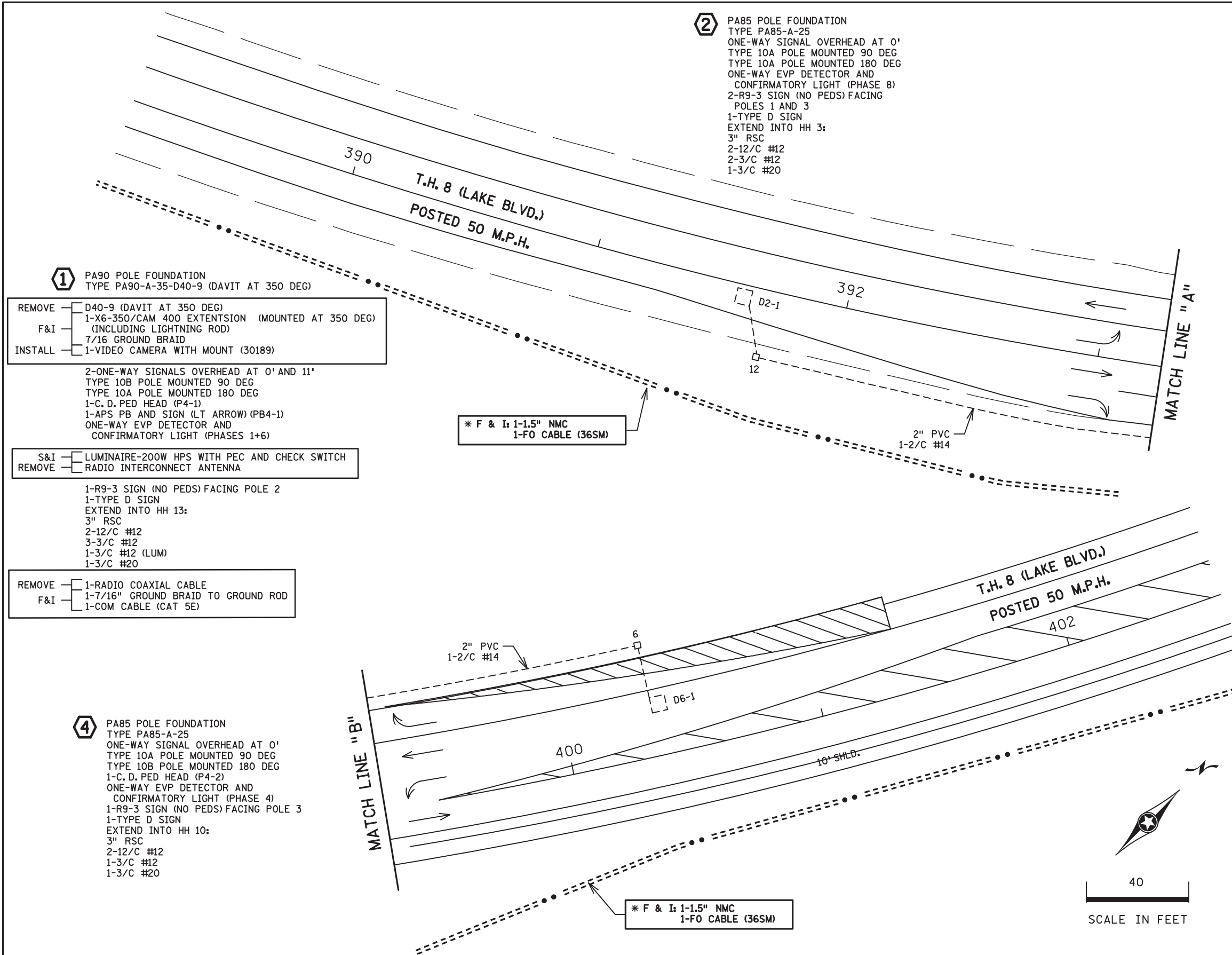
- REVISE SIGNAL SYSTEM NOTES:**
1. ALL ITEMS ARE INPLACE UNLESS NOTED.
 2. INSTALL VIDEO CAMERA ON POLE NO. 1. (SUPPLIED BY MNDOT)
 3. FURNISH AND INSTALL A CAMERA EXTENSION. CABLE SHALL BE ROUTED THROUGH THE SIGNAL SYSTEM TO THE SIGNAL CONTROL CABINET.
 4. THE CAMERA EXTENSION SHALL BE GROUNDED IN HH 13 WITH A 5/8" X 15' GROUND ROD. (SEE DETAIL)
 5. THE EXISTING SIGNAL CABINET CONCRETE FOUNDATION HAS A SPARE 3" CONDUIT. FIBER OPTIC CONDUIT (1.5 NMC) TO ENTER THE SIGNAL CABINET THROUGH THIS SPARE CONDUIT.
 6. REPLACE (INSTALL) THE SIGNAL CONTROL CABINET AND THE CONTROLLER. (SUPPLIED BY MNDOT)
 7. * DENOTES WORK TO BE COMPLETED AS PART OF THE FIBER OPTIC PLAN.

BY	DATE	REVISIONS	SYSTEM ID: 1735994	T.E. 22532	S.A.P. NO.	DRAWN BY: BAM	CKD BY: GAK	DATE: 4-9-20
			METER ADDRESS: 116010 LAKE BLVD.		CERTIFIED BY: <i>Gregory Kim</i>		LIC. NO. 26829	DATE: 4/9/20
			OLD SYSTEM ID: 21954		STATE PROJ. NO. 1301-126 (T.H.8)		SHEET NO. SS22 OF SS42 SHEETS	

**INTERSECTION LAYOUT
 REVISE SIGNAL SYSTEM F
 TH 8 (LAKE BLVD) AT SHOQUIST LANE
 IN CHISAGO CITY, CHISAGO COUNTY**

PLOTTED/REVISED: 23-APR-2020

DISTRICT #: Metro
I/PLOT NAME: SS23_NOTES 21954
PATH & FILENAME: Projects\DM罗斯008\00007Traffic\Signals\21954\T21954_sgl.dgn



2 PA85 POLE FOUNDATION
 TYPE PA85-A-25
 ONE-WAY SIGNAL OVERHEAD AT 0'
 TYPE 10A POLE MOUNTED 90 DEG
 TYPE 10A POLE MOUNTED 180 DEG
 ONE-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 8)
 2-R9-3 SIGN (NO PEDS) FACING
 POLES 1 AND 3
 1-TYPE D SIGN
 EXTEND INTO HH 3:
 3" RSC
 2-12/C #12
 2-3/C #12
 1-3/C #20

1 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)

REMOVE — D40-9 (DAVIT AT 350 DEG)
 F&I — 1-X6-350/CAM 400 EXTENSION (MOUNTED AT 350 DEG)
 (INCLUDING LIGHTNING ROD)
 7/16 GROUND BRAID
 INSTALL — 1-VIDEO CAMERA WITH MOUNT (30189)

2-ONE-WAY SIGNALS OVERHEAD AT 0' AND 11'
 TYPE 10B POLE MOUNTED 90 DEG
 TYPE 10A POLE MOUNTED 180 DEG
 1-C. D. PED HEAD (P4-1)
 1-APS PB AND SIGN (LT ARROW) (PB4-1)
 ONE-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 1+6)

S&I — LUMINAIRE-200W HPS WITH PEC AND CHECK SWITCH
 REMOVE — RADIO INTERCONNECT ANTENNA

1-R9-3 SIGN (NO PEDS) FACING POLE 2
 1-TYPE D SIGN
 EXTEND INTO HH 13:
 3" RSC
 2-12/C #12
 3-3/C #12
 1-3/C #12 (LUM)
 1-3/C #20

REMOVE — 1-RADIO COAXIAL CABLE
 F&I — 1-7/16" GROUND BRAID TO GROUND ROD
 1-COM CABLE (CAT 5E)

4 PA85 POLE FOUNDATION
 TYPE PA85-A-25
 ONE-WAY SIGNAL OVERHEAD AT 0'
 TYPE 10A POLE MOUNTED 90 DEG
 TYPE 10B POLE MOUNTED 180 DEG
 1-C. D. PED HEAD (P4-2)
 ONE-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 4)
 1-R9-3 SIGN (NO PEDS) FACING POLE 3
 1-TYPE D SIGN
 EXTEND INTO HH 10:
 3" RSC
 2-12/C #12
 1-3/C #12
 1-3/C #20

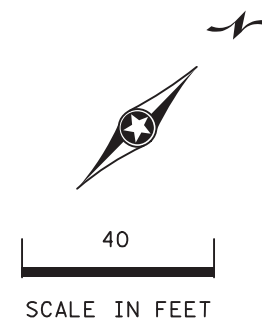
- REVISE SIGNAL SYSTEM NOTES:
- ALL ITEMS ARE INPLACE UNLESS NOTED.
 - INSTALL VIDEO CAMERA ON POLE NO. 1. (SUPPLIED BY MNDOT)
 - FURNISH AND INSTALL A CAMERA EXTENSION. CABLE SHALL BE ROUTED THROUGH THE SIGNAL SYSTEM TO THE SIGNAL CONTROL CABINET.
 - THE CAMERA EXTENSION SHALL BE GROUNDED IN HH 13 WITH A 5/8" X 15' GROUND ROD. (SEE DETAIL)
 - THE EXISTING SIGNAL CABINET CONCRETE FOUNDATION HAS A SPARE 3" CONDUIT. FIBER OPTIC CONDUIT (1.5 NMC) TO ENTER THE SIGNAL CABINET THROUGH THIS SPARE CONDUIT.
 - REPLACE (INSTALL) THE SIGNAL CONTROL CABINET AND THE CONTROLLER. (SUPPLIED BY MNDOT)
 - * DENOTES WORK TO BE COMPLETED AS PART OF THE FIBER OPTIC PLAN.

3 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)
 2-ONE-WAY SIGNALS OVERHEAD AT 0' AND 11'
 TYPE 10A POLE MOUNTED 90 DEG
 TYPE 10A POLE MOUNTED 180 DEG
 ONE-WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASES 2+5)
 LUMINAIRE-200W HPS WITH PEC AND CHECK SWITCH
 2-R9-3 SIGN (NO PEDS) FACING POLES 2 AND 4
 1-TYPE D SIGN
 EXTEND INTO HH 7:
 3" RSC
 2-12/C #12
 3-3/C #12
 1-3/C #12 (LUM)
 1-3/C #20

A EQUIPMENT PAD SERVICE CABINET
 REPLACE (INSTALL) — CONTROLLER AND CABINET
 4" RSC TO HH 13:
 4-12/C #12
 5-3/C #12
 2-3/C #20
 3-2/C #14
 4" RSC TO HH 1:
 4-12/C #12
 5-3/C #12
 2-3/C #20
 9-2/C #14

REMOVE — 1-RADIO COAXIAL CABLE
 F&I — 1-COM CABLE (CAT 5E)
 1-2" AND 1-3" RSC STUBBED OUT
 (THREADED AND CAPPED BOTH ENDS)
 LOAD CENTER TO CABINET:
 1 1/4" RSC
 2-1/C #6
 1-1/C #6 BR. GR.
 METER TO HH 14:
 2" RSC
 3-1/C #2
 LOAD CENTER TO HH 13:
 2" RSC
 2-3/C #12 (LUM)
 HH 13 TO HH 1:
 2" RSC
 1-3/C #12 (LUM)

* F&I — CONTROLLER CABINET TO PULL VAULT
 1-1.5" NMC
 1-FO PIGTAIL (6SM FIELD TERMINATED)

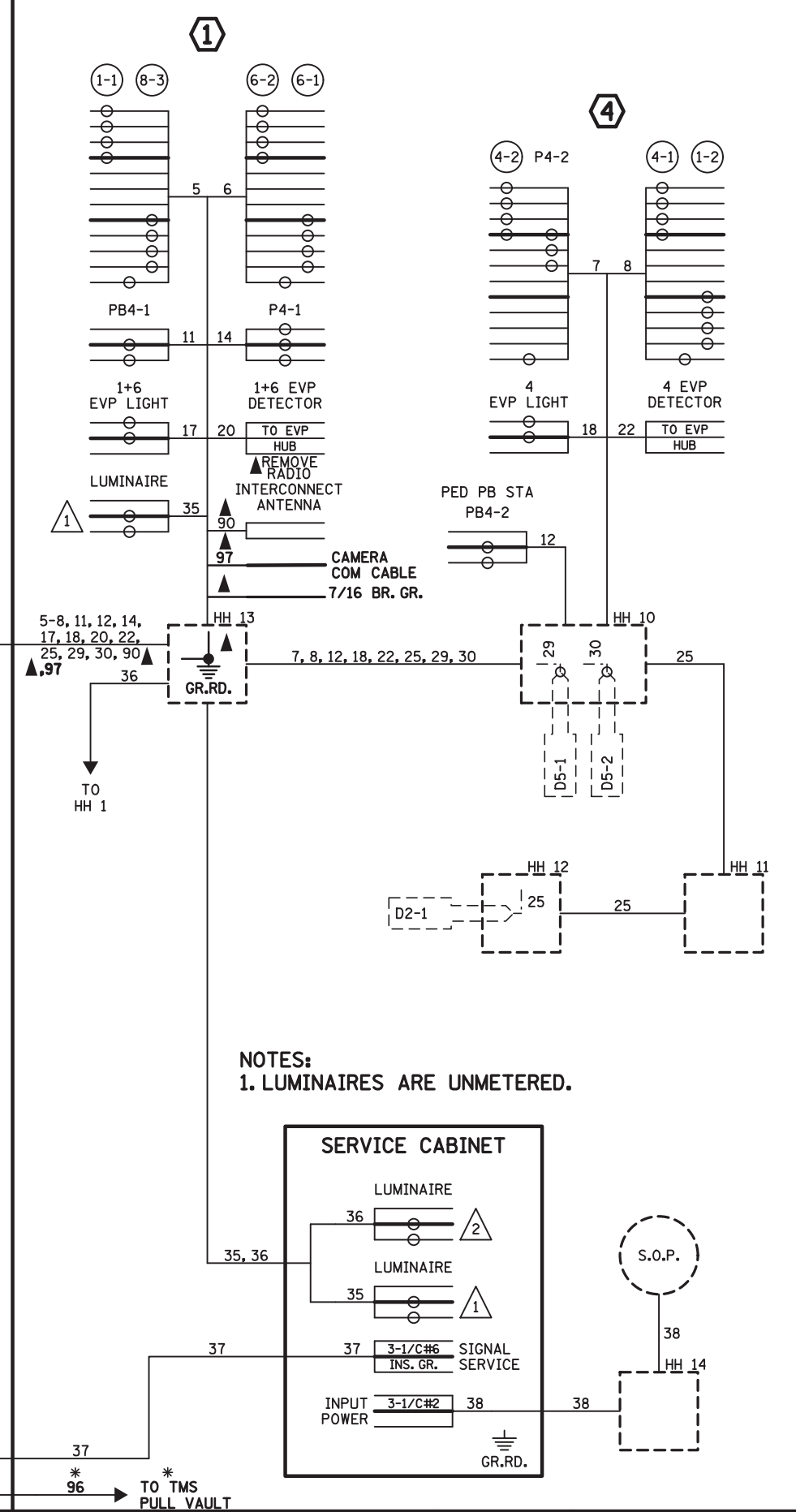
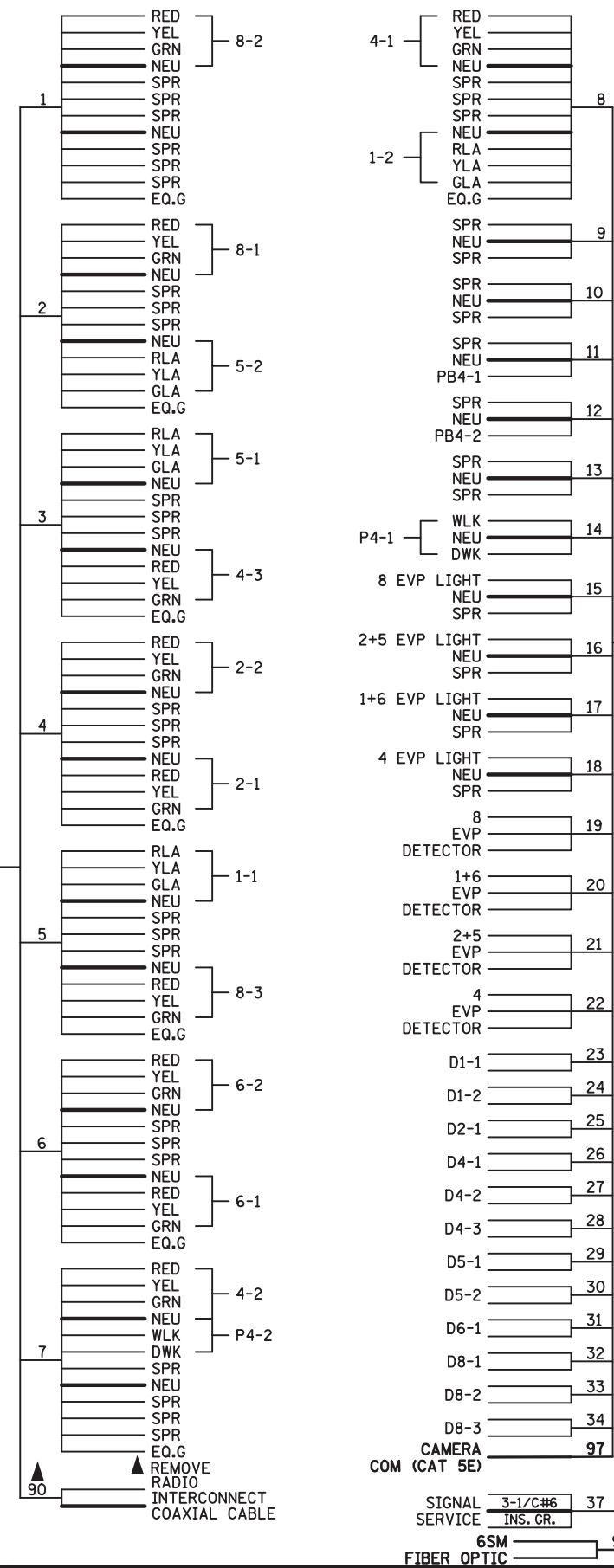


BY	DATE	REVISIONS	SYSTEM ID: 1735994	T.E. 22532	S.A.P. NO.	DRAWN BY: BAM	CKD BY: GAK	DATE: 4-9-20
			METER ADDRESS: 116010 LAKE BLVD.		CERTIFIED BY: <i>Gregory Ken</i>	LIC. NO. 26829	DATE: 4/9/20	
			OLD SYSTEM ID: 21954		STATE PROJ. NO. 1301-126 (T.H.8)		SHEET NO. SS23 OF SS42 SHEETS	

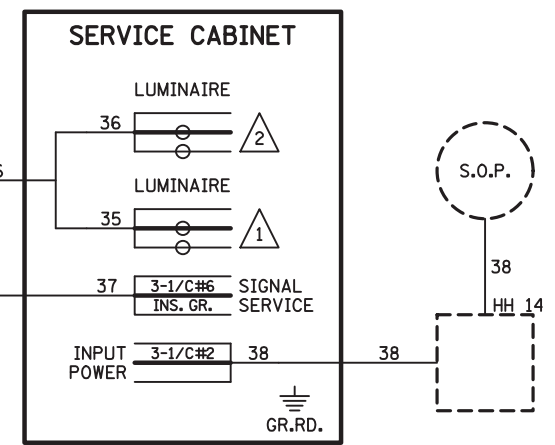
PLOTTED/REVISED: 13-APR-2020

DISTRICT #: Metro
I/PLOT NAME: WIRE 21954
PATH & FILENAME: Projects\DM_Ros\008\0000\Traffic\Signals\21954\T21954.sgl.dgn

CONTROLLER CABINET



NOTES:
1. LUMINAIRES ARE UNMETERED.



CONDUCTOR COLOR CODING

R	R OR O
O	WH OR YEL
BL	BLK OR BL
WH	
R/BLK	R
O/BLK	WH
BL/BLK	BLK
WH/BLK	
BLK	2-1/C#2 BLK
BLK/WH	2-1/C#6
G/BLK	2-1/C#10 WH
G	
	2/C#14 BLK
	CLR

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

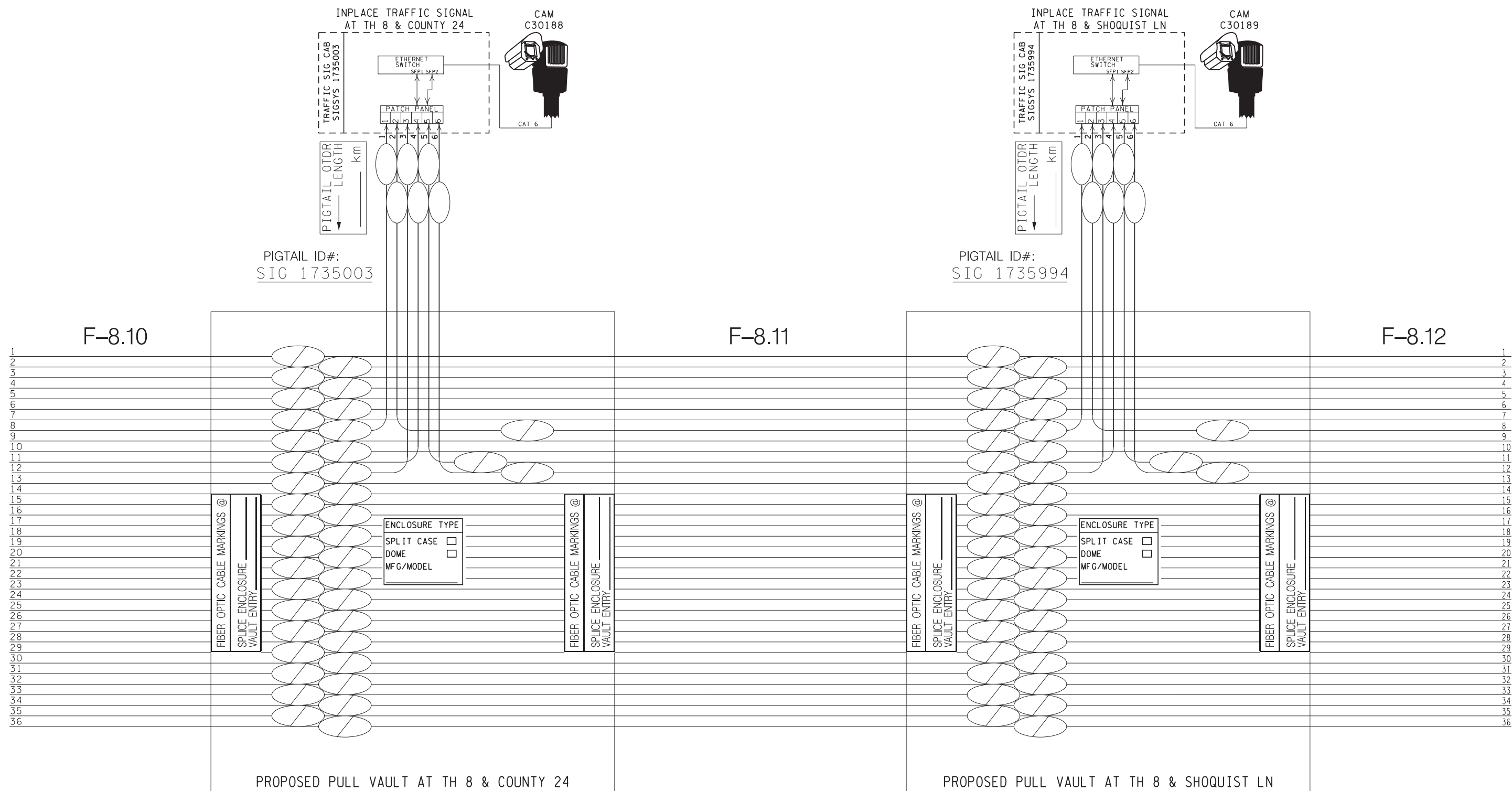
▲ DENOTES REVISE SIGNAL SYSTEM PAY ITEM WORK. ALL OTHER ITEMS SHOWN ARE INPLACE.
* DENOTES WORK TO BE COMPLETED AS PART OF THE FIBER OPTIC PLAN.

BY	DATE	REVISIONS

SYSTEM ID: 1735994 T.E. 22532
METER ADDRESS: 116010 LAKE BLVD.
OLD SYSTEM ID: 21954

FIELD WIRING DIAGRAM
REVISE SIGNAL SYSTEM F
TH 8 (LAKE BLVD) AT SHOQUIST LANE
IN CHISAGO CITY, CHISAGO COUNTY

S.A.P. NO. _____ DRAWN BY: BAM CKD BY: GAK DATE: 4-9-20
CERTIFIED BY: *Gregory Ken* LIC. NO. 26829 DATE: 4/9/20
STATE PROJ. NO. 1301-126 (T.H.8) SHEET NO. SS24 OF SS42 SHEETS



REV. NO.	DATE: / /
REV. NO.	DATE: / /

CERTIFIED BY *Michael P. Manly* LIC.NO. 43957 APR 9 2020

PLOTTED/REVISED: 7/23/2015

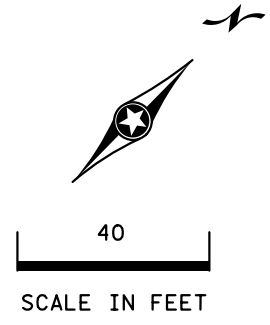
SIGNAL HEAD CHART			
FACE	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2	○	○	○
4-1, 4-2, 4-3	○	○	○
5-1, 5-2	←	←	←
6-1, 6-2	○	○	○
8-1, 8-2, 8-3	○	○	○

-ALL SIGNAL INDICATIONS ARE 12" LED
-ALL SIGNAL HEADS HAVE BACKGROUND SHIELDS

1 PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)
2-ONE-WAY SIGNALS OVERHEAD AT 0' AND 11'
TYPE 10B POLE MOUNTED 90 DEG
TYPE 10A POLE MOUNTED 180 DEG
1-C. D. PED HEAD (P4-1)
1-APS PB AND SIGN (LT ARROW) (PB4-1)
ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
LUMINAIRE-200W HPS WITH PEC AND CHECK SWITCH
RADIO INTERCONNECT ANTENNA
1-R9-3 SIGN (NO PEDS) FACING POLE 2
1-TYPE D SIGN
EXTEND INTO HH 13:
3" RSC
2-12/C #12
3-3/C #12
1-3/C #12 (LUM)
1-3/C #20
1-RADIO COAXIAL CABLE

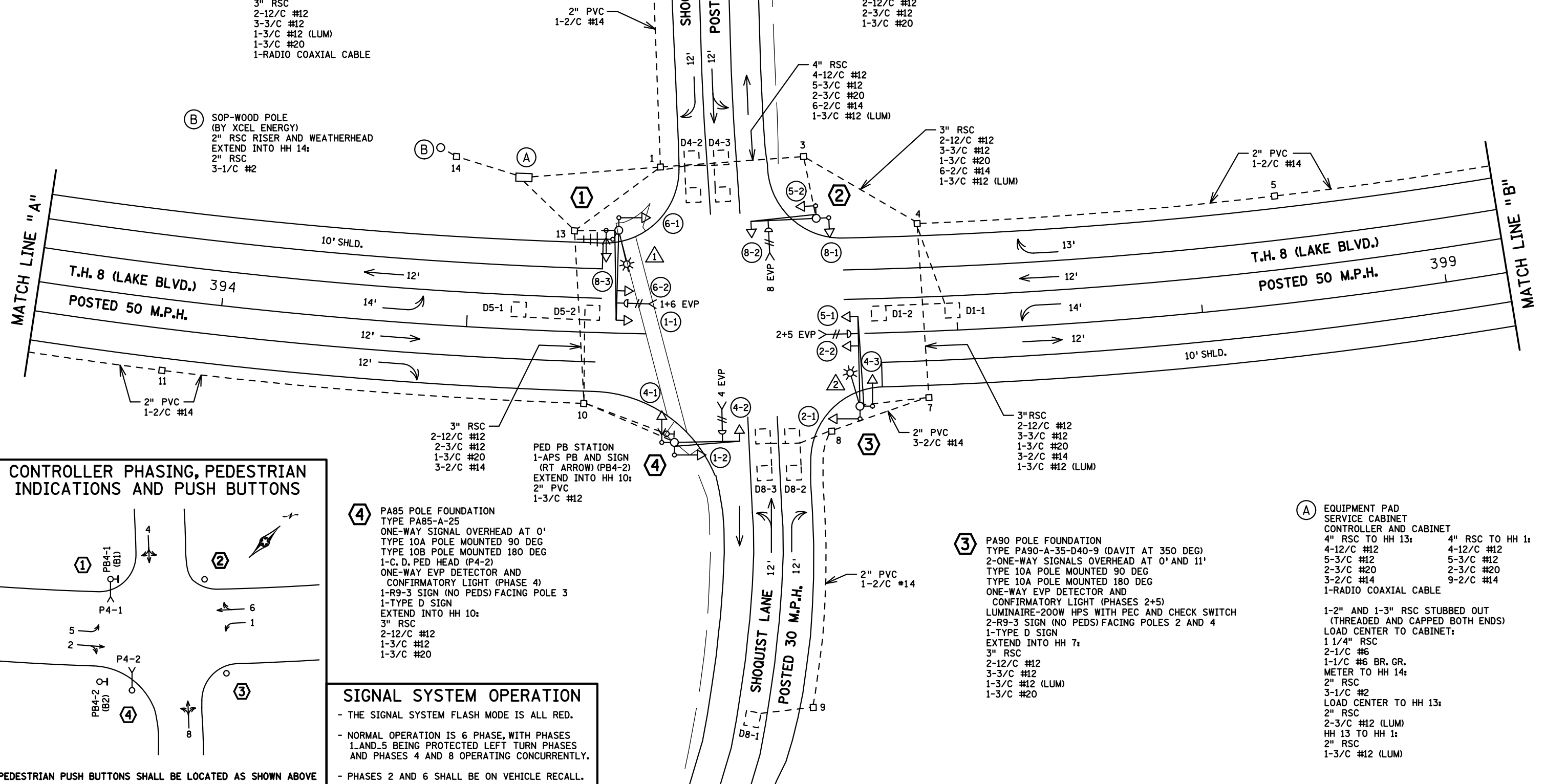
B SOP-WOOD POLE (BY XCEL ENERGY)
2" RSC RISER AND WEATHERHEAD
EXTEND INTO HH 14:
2" RSC
3-1/C #2

2 PA85 POLE FOUNDATION
TYPE PA85-A-25
ONE-WAY SIGNAL OVERHEAD AT 0'
TYPE 10A POLE MOUNTED 90 DEG
TYPE 10A POLE MOUNTED 180 DEG
ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 8)
2-R9-3 SIGN (NO PEDS) FACING POLES 1 AND 3
1-TYPE D SIGN
EXTEND INTO HH 3:
3" RSC
2-12/C #12
2-3/C #12
1-3/C #20

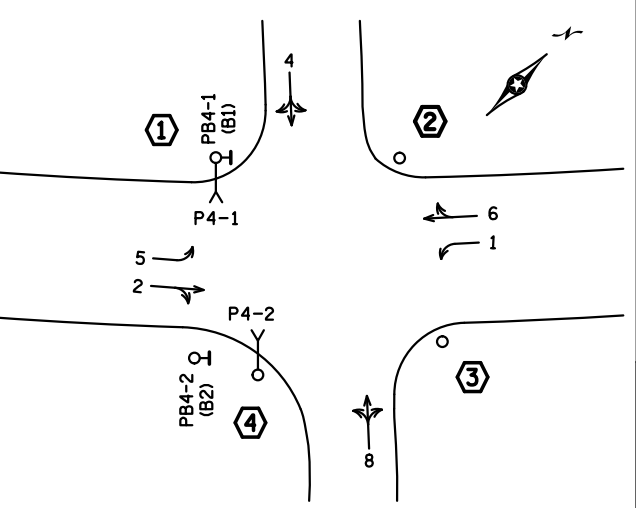


LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D5-1	6x6	40
D1-2, D5-2	6x6	10
D2-1, D6-1	6x6	400
D4-1, D8-1	6x6	120
D4-2, D4-3	2-6x6	5 & 20
D8-2, D8-3	2-6x6	5 & 20

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



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



4 PA85 POLE FOUNDATION
TYPE PA85-A-25
ONE-WAY SIGNAL OVERHEAD AT 0'
TYPE 10A POLE MOUNTED 90 DEG
TYPE 10B POLE MOUNTED 180 DEG
1-C. D. PED HEAD (P4-2)
ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 4)
1-R9-3 SIGN (NO PEDS) FACING POLE 3
1-TYPE D SIGN
EXTEND INTO HH 10:
3" RSC
2-12/C #12
1-3/C #12
1-3/C #20

SIGNAL SYSTEM OPERATION
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES AND PHASES 4 AND 8 OPERATING CONCURRENTLY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

3 PA90 POLE FOUNDATION
TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)
2-ONE-WAY SIGNALS OVERHEAD AT 0' AND 11'
TYPE 10A POLE MOUNTED 90 DEG
TYPE 10A POLE MOUNTED 180 DEG
ONE-WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 2+5)
LUMINAIRE-200W HPS WITH PEC AND CHECK SWITCH
2-R9-3 SIGN (NO PEDS) FACING POLES 2 AND 4
1-TYPE D SIGN
EXTEND INTO HH 7:
3" RSC
2-12/C #12
3-3/C #12
1-3/C #12 (LUM)
1-3/C #20

A EQUIPMENT PAD
SERVICE CABINET
CONTROLLER AND CABINET
4" RSC TO HH 13:
4-12/C #12
5-3/C #12
2-3/C #20
3-2/C #14
1-RADIO COAXIAL CABLE
1-2" AND 1-3" RSC STUBBED OUT (THREADED AND CAPPED BOTH ENDS)
LOAD CENTER TO CABINET:
1 1/4" RSC
2-1/C #6
1-1/C #6 BR. GR.
METER TO HH 14:
2" RSC
3-1/C #2
LOAD CENTER TO HH 13:
2" RSC
2-3/C #12 (LUM)
HH 13 TO HH 1:
2" RSC
1-3/C #12 (LUM)

PEDESTRIAN PUSH BUTTONS SHALL BE LOCATED AS SHOWN ABOVE

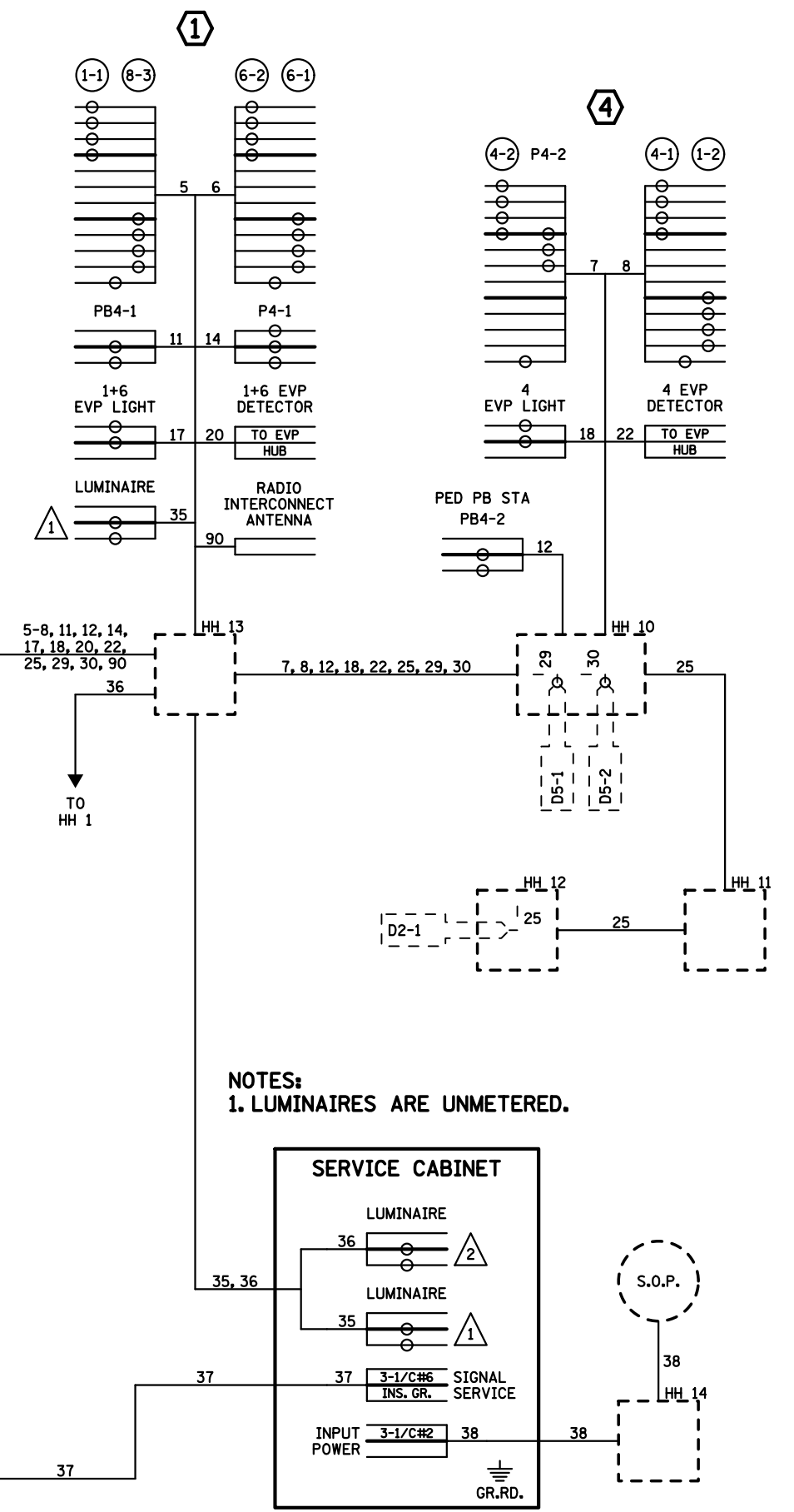
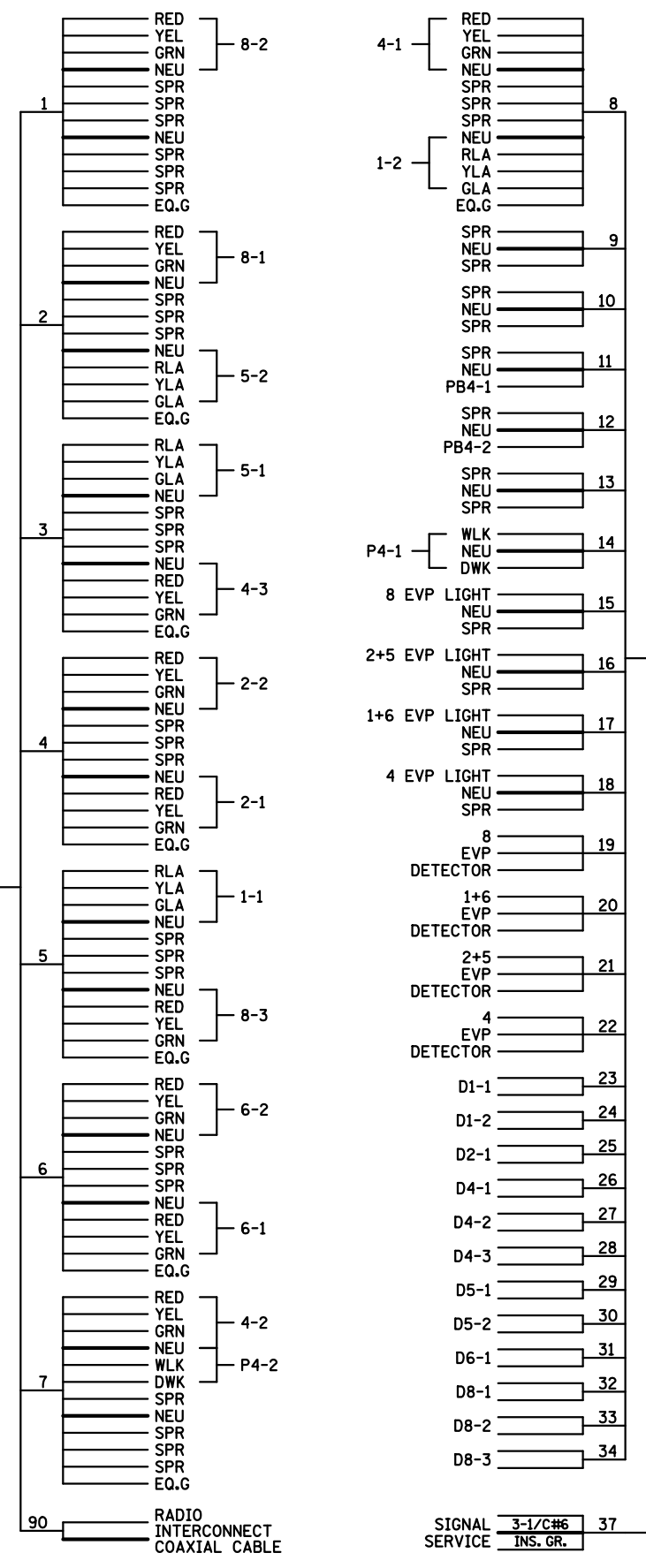
DISTRICT #: METRO
PLOT NAME: layout
PATH & FILENAME: IP_PWP-d079905T21954_sgl.dgn

BY: GDS	DATE: 07-23-15	REVISIONS: AS BUILT OF SP 1301-98	SYSTEM ID: 21954	T.E.	INTERSECTION LAYOUT TRAFFIC CONTROL SIGNAL SYSTEM T.H. 8 (LAKE BLVD.) AT SHOQUIST LANE IN CHISAGO CITY, CHISAGO COUNTY	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
			METER ADDRESS: 11610 LAKE BLVD.			CERTIFIED BY: _____	LIC. NO. _____	DATE: _____	
			MASTER ID:	T.E.		STATE PROJ. NO. (T.H. 8)	SHEET NO. 1 OF 3 SHEETS		

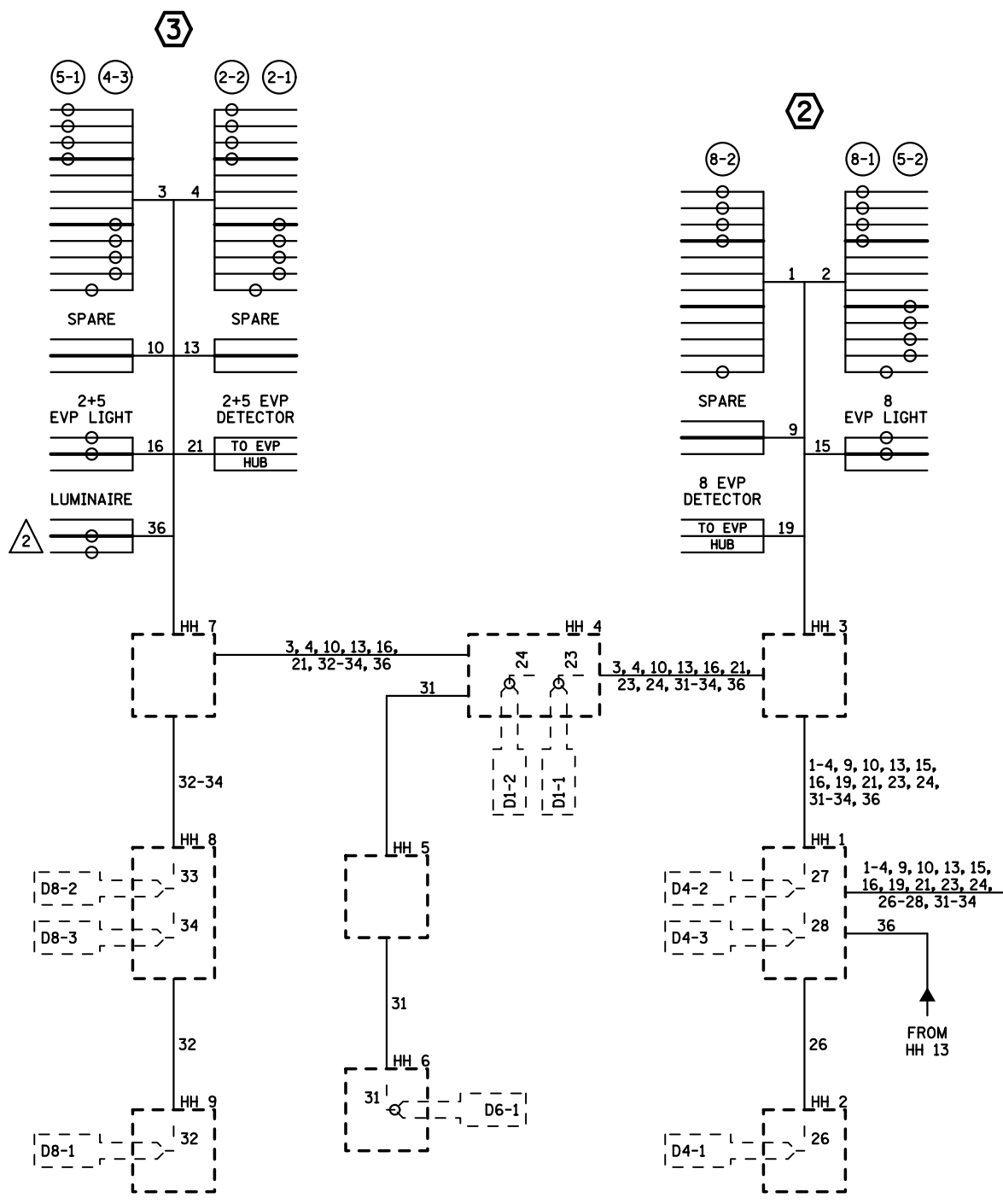
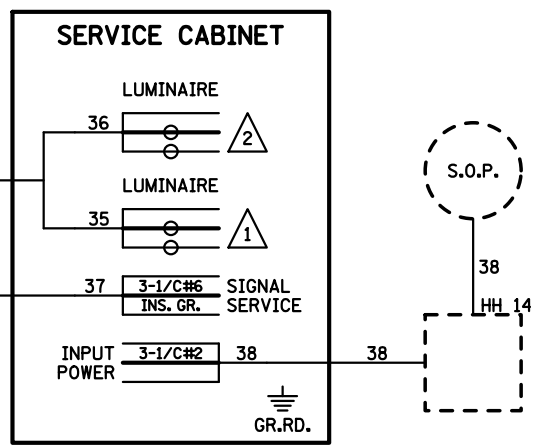
PLOTTED/REVISED: 7/23/2015

DISTRICT #: METRO
IPLOT NAME: wiring
PATH & FILENAME: IP_PWP-d0779905T21954_sgl.dgn

CONTROLLER CABINET



NOTES:
1. LUMINAIRES ARE UNMETERED.



CONDUCTOR COLOR CODING

R	OR	O
O	3/C#20	WH OR YEL
BL		BLK OR BL
WH		
R/BLK		R
O/BLK	3/C#12	WH
BL/BLK		BLK
WH/BLK		
BLK	2-1/C#2	BLK
BLK/WH	2-1/C#6	
G/BLK	2-1/C#10	WH
G		
12PR#19	2/C#14	BLK
		CLR

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

BY	DATE	REVISIONS
GDS	07-23-15	AS BUILT OF SP 1301-98

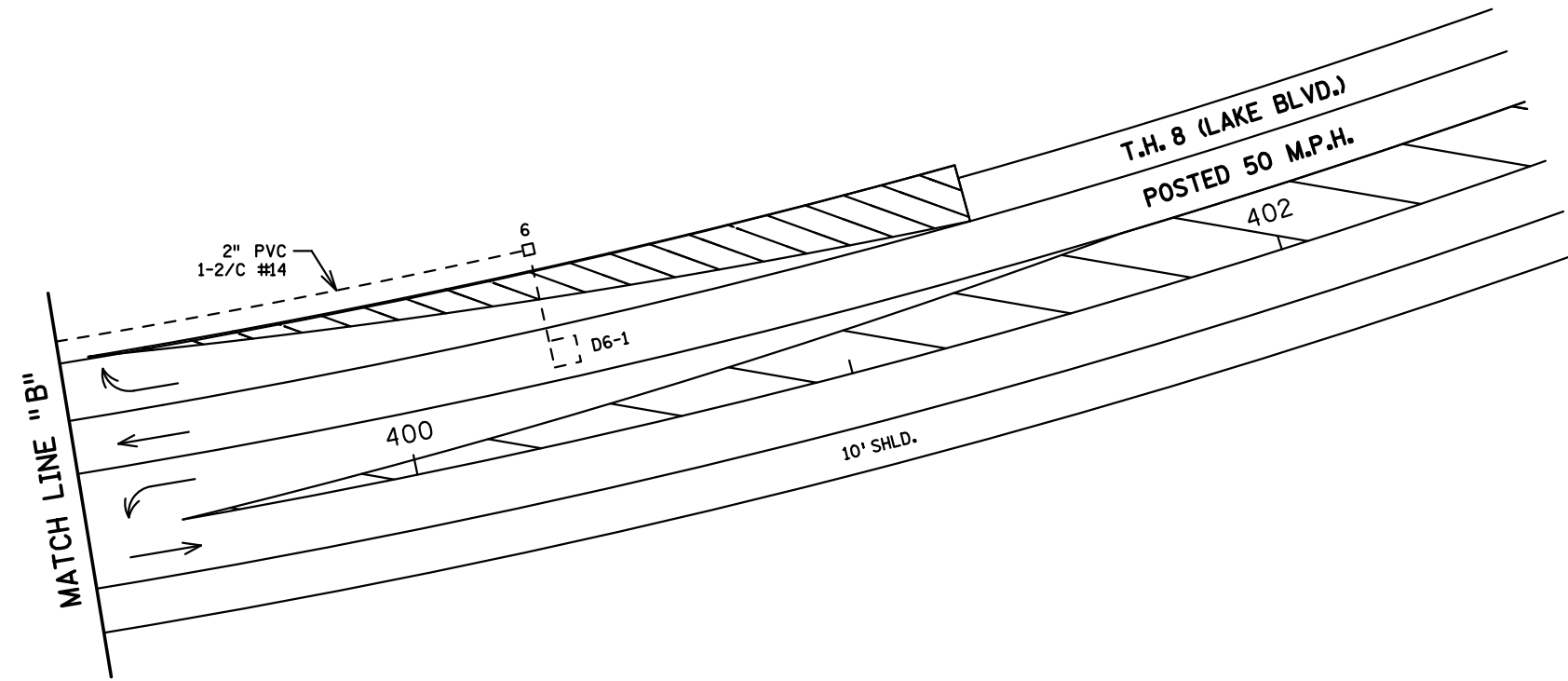
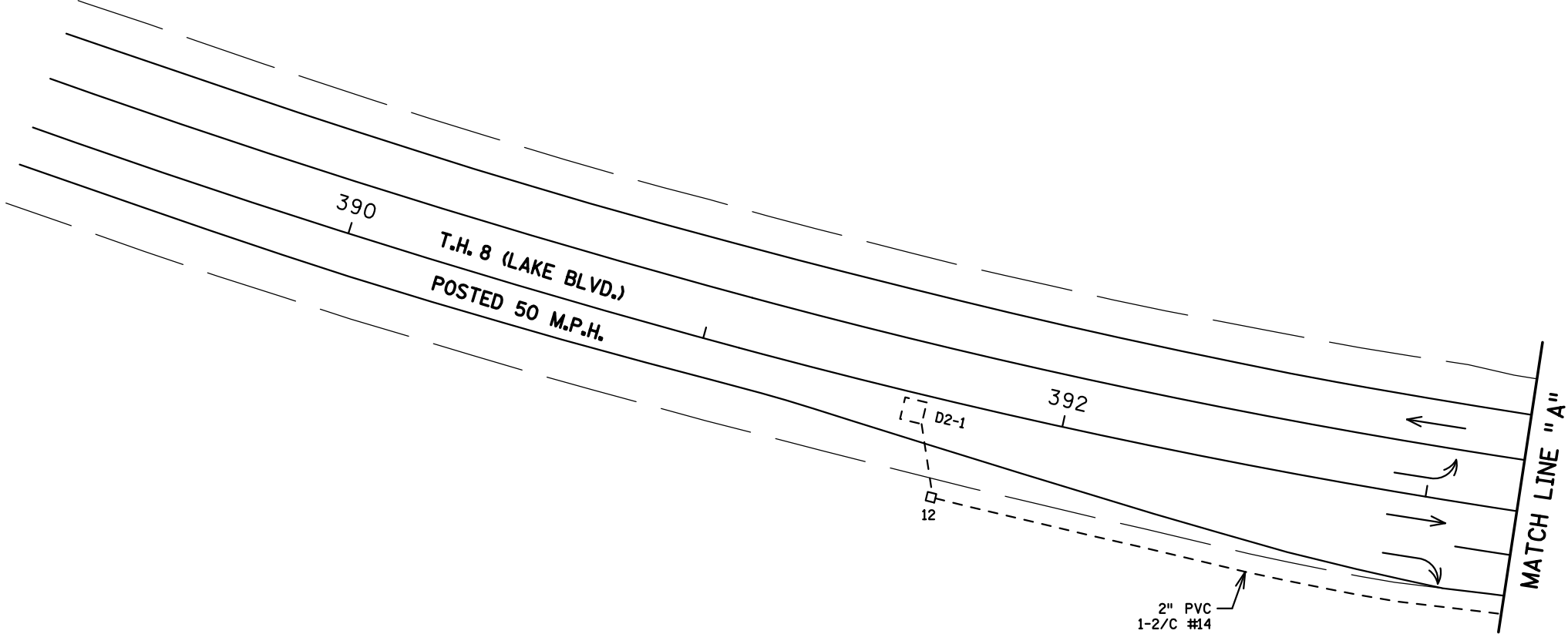
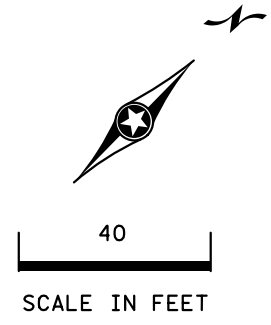
SYSTEM ID: 21954 T.E.
 METER ADDRESS: 11610 LAKE BLVD.
 MASTER ID: T.E.

FIELD WIRING DIAGRAM
TRAFFIC CONTROL SIGNAL SYSTEM
 T.H. 8 (LAKE BLVD.) AT SHOQUIST LANE
 IN CHISAGO CITY, CHISAGO COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LICENSED PROFESSIONAL ENGINEER		LIC. NO. _____ DATE: _____
STATE PROJ. NO.	(T.H. 8)	SHEET NO. 3 OF 3 SHEETS	

PLOTTED/REVISED: 7/23/2015

DISTRICT #: METRO
 IPLOT NAME: match lines
 PATH & FILENAME: IP_PWP:d0779905\T21954_sgl.dgn



BY	DATE	REVISIONS	SYSTEM ID: 21954	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
GDS	07-23-15	AS BUILT OF SP 1301-98	METER ADDRESS: 11610 LAKE BLVD.		CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
			MASTER ID:	T.E.	STATE PROJ. NO. (T.H.8)		SHEET NO. 2 OF 3 SHEETS	

**MATCH LINES LAYOUT
 TRAFFIC CONTROL SIGNAL SYSTEM
 T.H. 8 (LAKE BLVD.) AT SHOQUIST LANE
 IN CHISAGO CITY, CHISAGO COUNTY**