

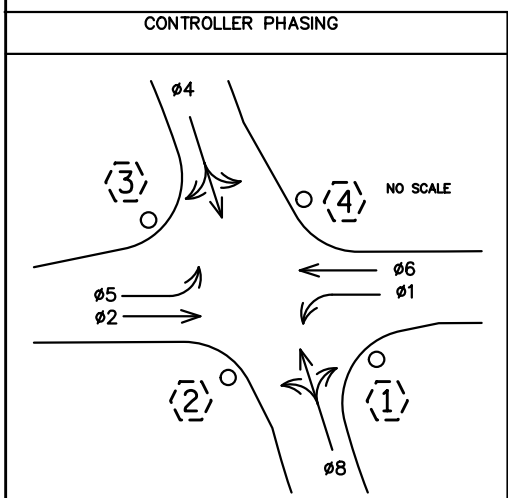
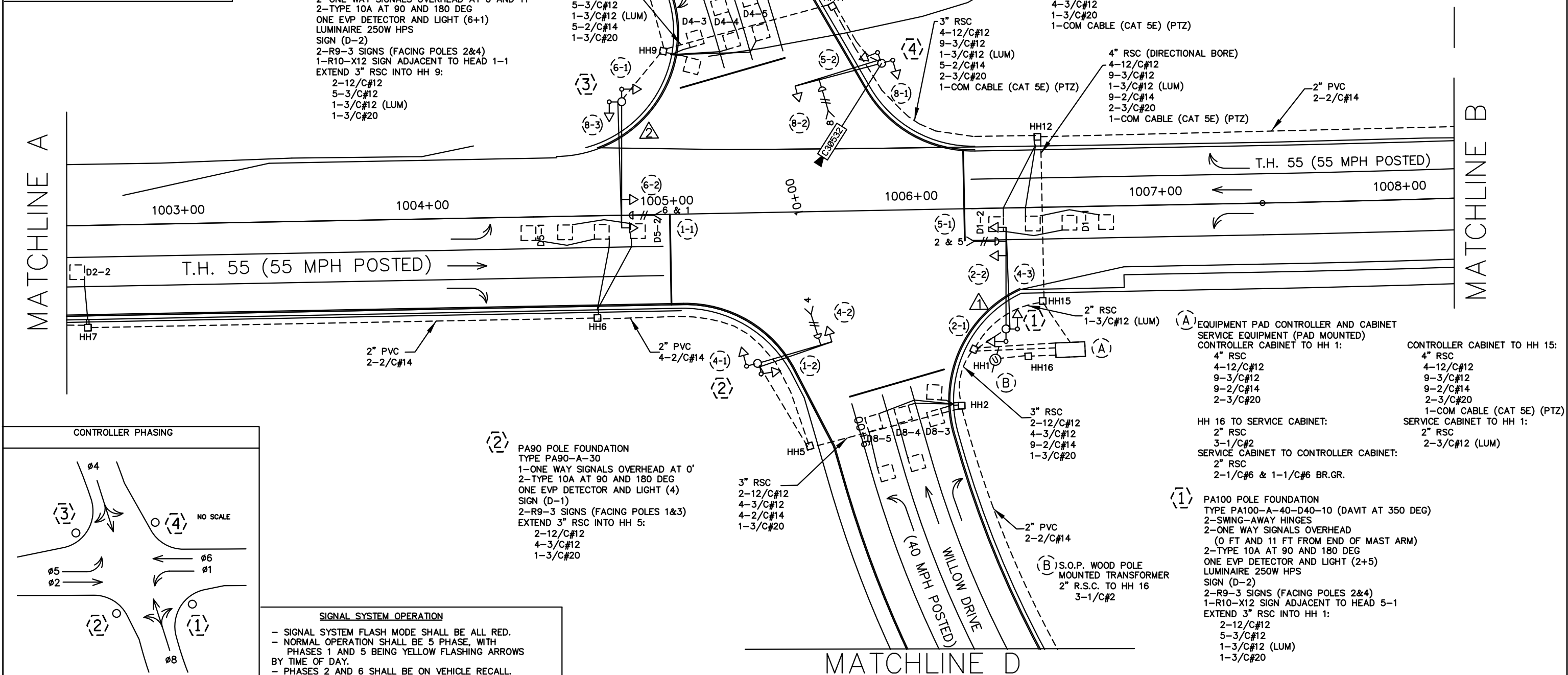
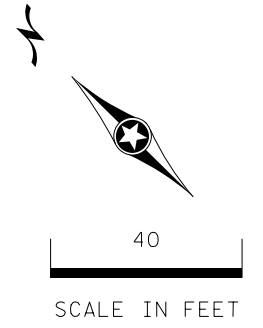
PLOT NAME: T22485A\_SGL  
 PATH & FILENAME: Projects\DM\_FOS\05500000\Traffic\Signal\73J TH55 @ WILLOW DRIVE\_T736310\PENDING\T22485A\_SGL.dwg PLOTTED/REVISED: 28-NOV-2023

PVC DETECTOR CHART		
DESIGNATION	SIZE(FT)	LOCATION*
D1-1	2-6x6	20', 50'
D1-2	2-6x6	5', 35'
D2-1	6x6	475'
D2-2	6x6	240'
D4-1, D4-2	6x6	250'
D4-3	2-6x6	5', 15'
D4-4, D4-5	2-6x6	10', 25'
D5-1	2-6x6	20', 50'
D5-2	2-6x6	5', 35'
D6-1	6x6	475'
D6-2	6x6	240'
D8-1, D8-2	6x6	250'
D8-3	2-6x6	5', 15'
D8-4, D8-5	2-6x6	10', 25'

\*LOCATION = DISTANCE FROM STOPLINE OR CROSS WALK

SIGNAL HEAD CHART					
FACE	R	Y	G	FYA	
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 FACES HAVE A BACKGROUND SHIELD.  
 - ALL SIGNAL INDICATIONS ARE LED.  
 - ALL SIGNAL INDICATIONS ARE 12".  
 - FYA DENOTES FLASHING YELLOW ARROW

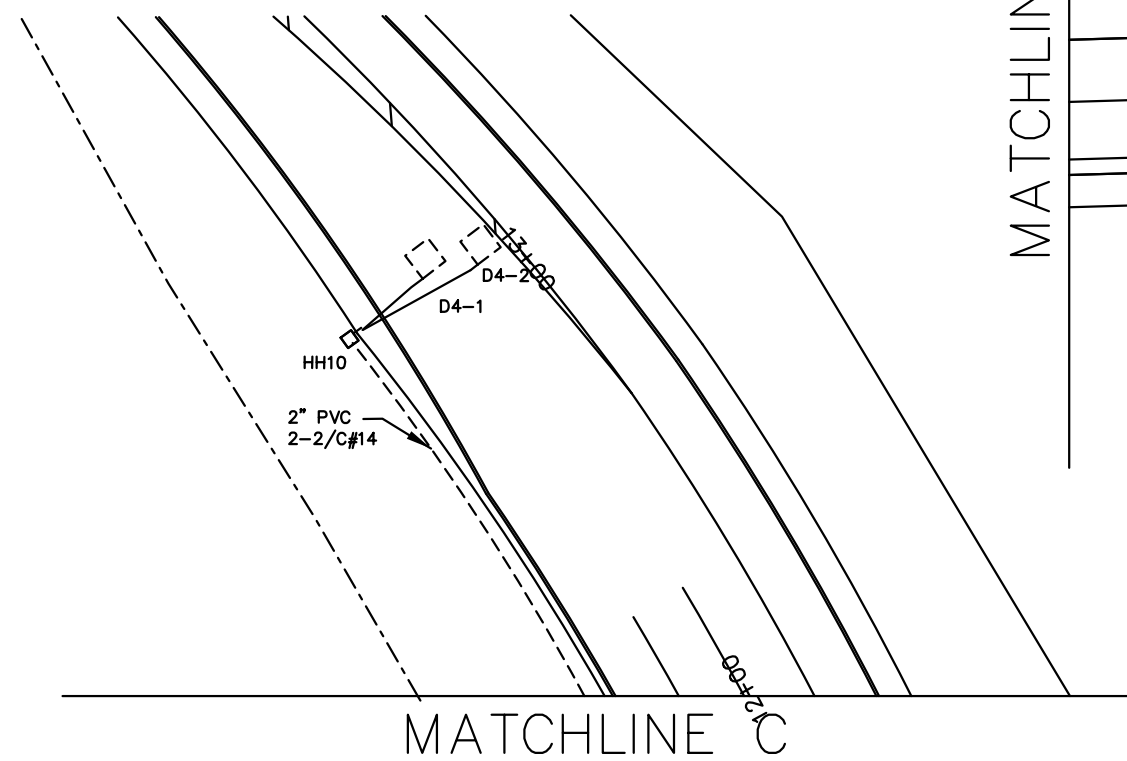
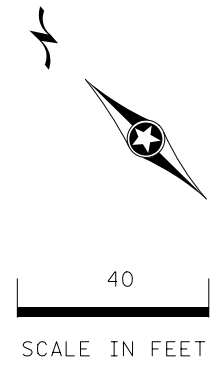


**SIGNAL SYSTEM OPERATION**

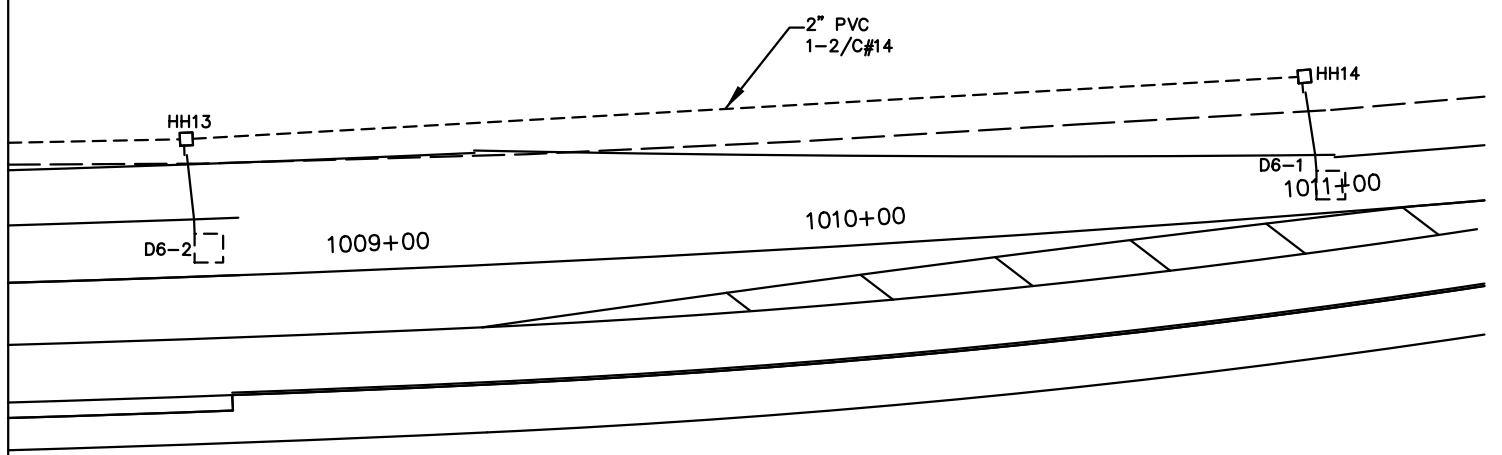
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASES 1 AND 5 BEING YELLOW FLASHING ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

BY	DATE	REVISIONS	SYSTEM ID: 1736310	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
BAM	06-21-11	PLAN UPDATES	METER ADDRESS: 4399 WILLOW DRIVE		CERTIFIED BY	LICENSED PROFESSIONAL ENGINEER	LIC. NO.	DATE:
EJA	10-06-14	AS-BUILT OF SP 2722-81	MASTER ID: 22485	T.E.	STATE PROJ.NO.	(T.H.55)	SHEET NO.	1 OF 3 SHEETS
HJC	11-24-23	REDLINES FOR FYA RETROFIT PROJECT						

I/PLOT NAME: T22485A\_SGL  
 PATH & FILENAME: Projects\DM\_POS\055\0000\Traffic\Signals\73J TH55 @ WILLOW DRIVE 1736310\PENDING\T22485A\_SGL.dwg PLOTTED/REVISED: 28-NOV-2023

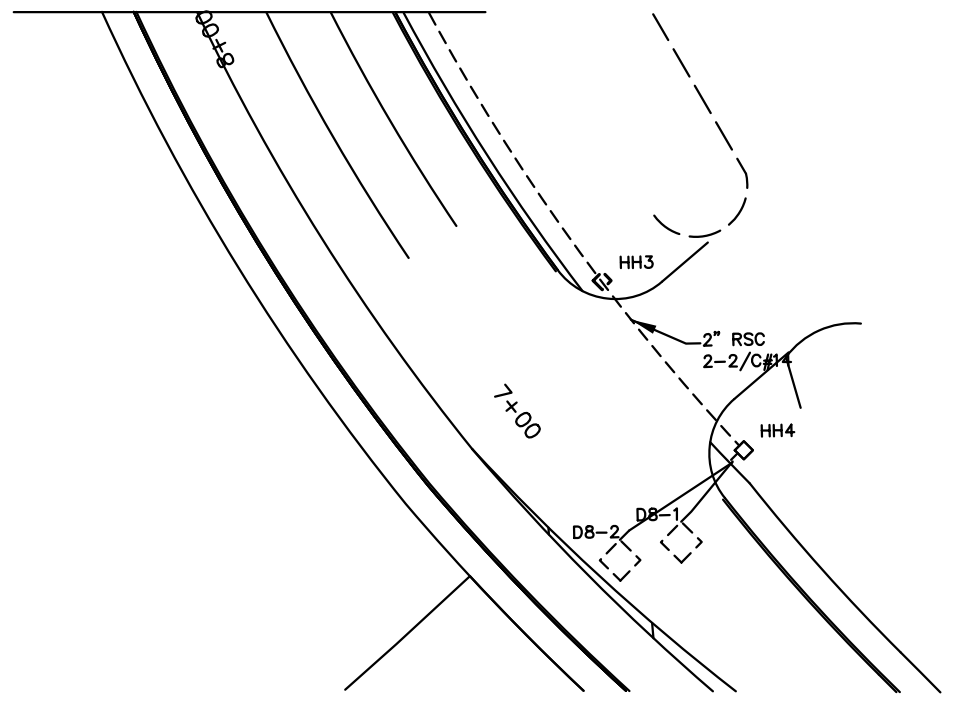


MATCHLINE B

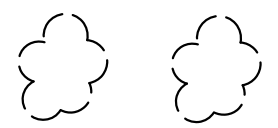
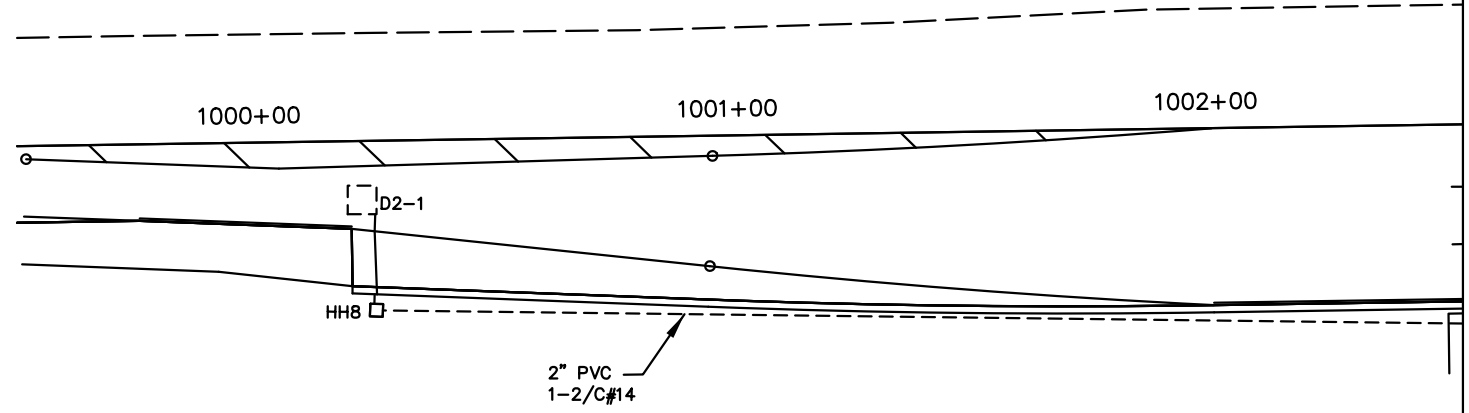


MATCHLINE C

MATCHLINE D

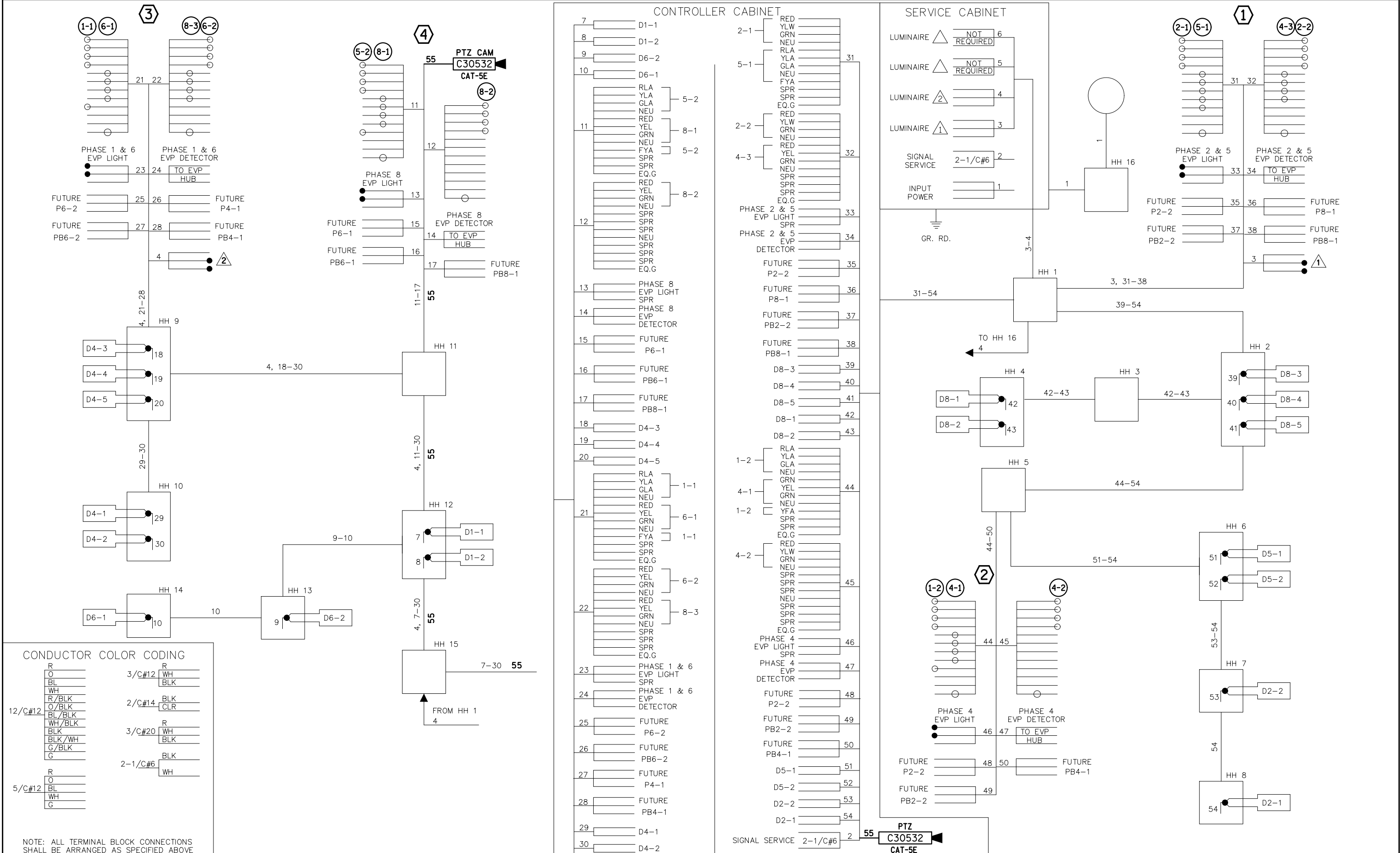


MATCHLINE A



BY	DATE	REVISIONS	SYSTEM ID: 1736310	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
BAM	06/21/11	PLAN UPDATES	METER ADDRESS: 4399 WILLOW DRIVE		CERTIFIED BY _____ LIC. NO. _____ DATE: _____			
EJA	10-06-14	AS-BUILT OF SP 2722-81	MASTER ID: 22485	T.E.	STATE PROJ. NO. (T.H.55) SHEET NO. 2 OF 3 SHEETS			
HJC	11-24-23	REDLINES FOR FYA RETROFIT PROJECT						

IPLOT NAME: T22485A\_SGL  
 PATH & FILENAME: Projects\DM\_POS\055\0000\Traffic\Signals\73J TH55 @ WILLOW DRIVE 1736310\PENDING\T22485A\_SGL.dgn PLOTTED/REVISED: 28-NOV-2023



BY	DATE	REVISIONS	SYSTEM ID: 1736310	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
BAM	06-21-11	PLAN UPDATES	METER ADDRESS: 4399 WILLOW DRIVE		CERTIFIED BY			
EJA	10-06-14	AS-BUILT OF SP 2722-81	MASTER ID: 22485	T.E.	LICENSED PROFESSIONAL ENGINEER			
HJC	11-24-23	REDLINES FOR FYA RETROFIT PROJECT			STATE PROJ. NO.	(T.H.55)	SHEET NO.	3 OF 3 SHEETS

PLOTTED/REVISED: 6-APR-2023

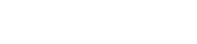
DISTRICT #: Metro  
PLOT NAME: sheet\_14  
FILENAME: Projects\DM\_FOS\055\0000\Traffic\Signals\T3J TH55 @ WILLOW DRIVE (736310)\PENDING\T22485A\_SGL.dgn

PVC DETECTOR CHART		
DESIGNATION	SIZE(FT)	LOCATION*
D1-1	2-6x6	20', 50'
D1-2	2-6x6	5', 35'
D2-1	6x6	475'
D2-2	6x6	240'
D4-1, D4-2	6x6	250'
D4-3	2-6x6	5', 15'
D4-4, D4-5	2-6x6	10', 25'
D5-1	2-6x6	20', 50'
D5-2	2-6x6	5', 35'
D6-1	6x6	475'
D6-2	6x6	240'
D8-1, D8-2	6x6	250'
D8-3	2-6x6	5', 15'
D8-4, D8-5	2-6x6	10', 25'

\*LOCATION = DISTANCE FROM STOPLINE OR CROSS WALK

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	○	○	○

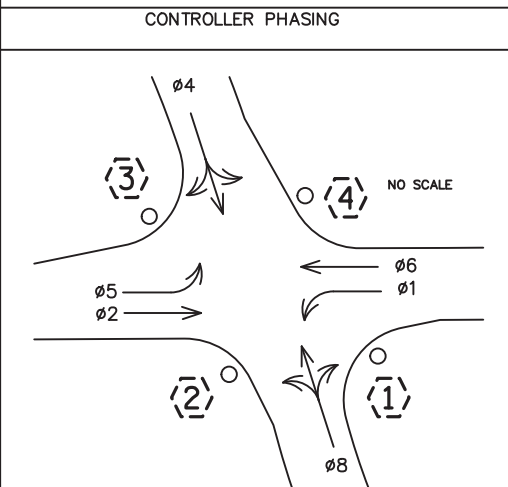
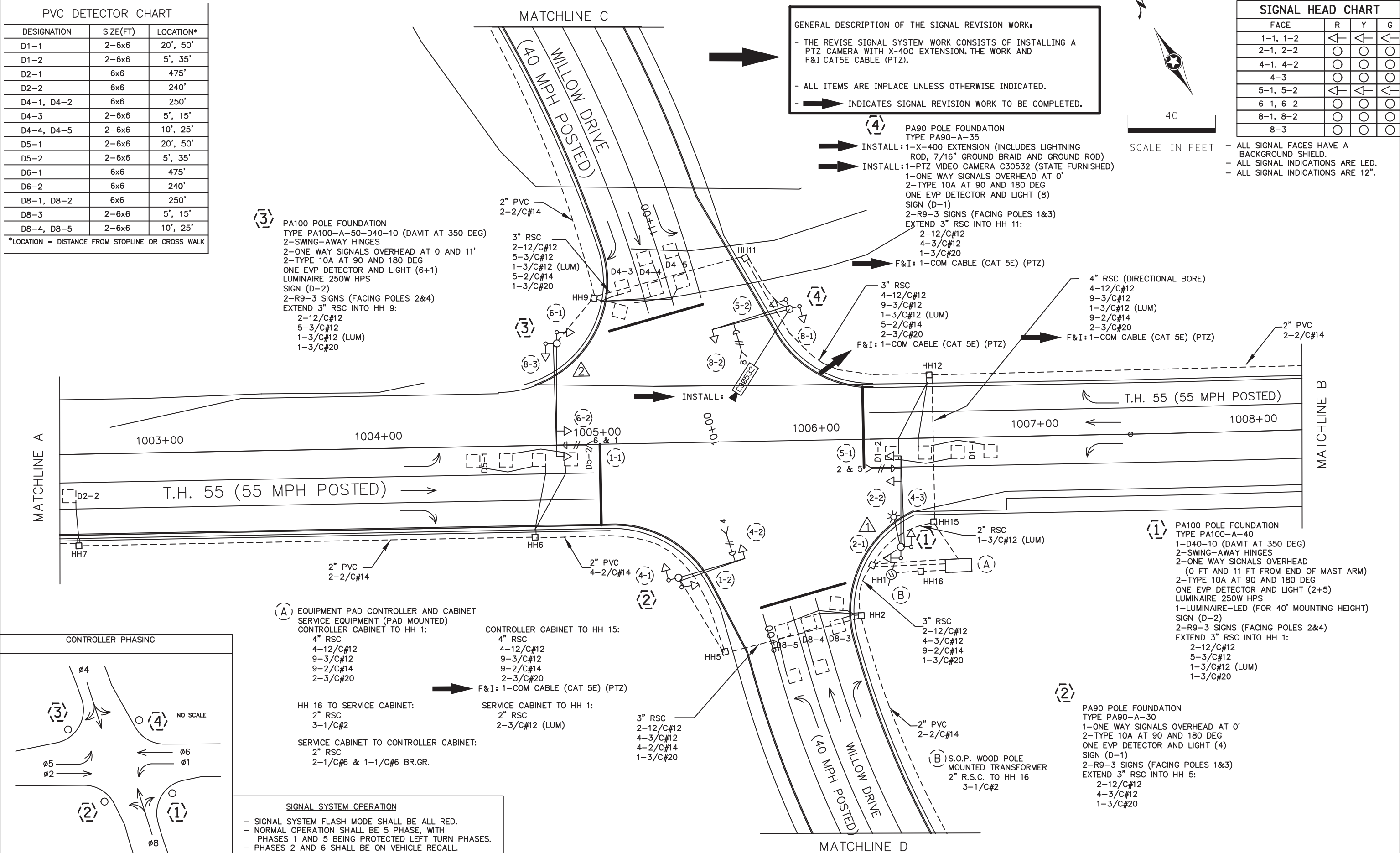
SCALE IN FEET



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

GENERAL DESCRIPTION OF THE SIGNAL REVISION WORK:

- THE REVISE SIGNAL SYSTEM WORK CONSISTS OF INSTALLING A PTZ CAMERA WITH X-400 EXTENSION. THE WORK AND F&I CAT5E CABLE (PTZ).
- ALL ITEMS ARE INPLACE UNLESS OTHERWISE INDICATED.
- INDICATES SIGNAL REVISION WORK TO BE COMPLETED.



(A) EQUIPMENT PAD CONTROLLER AND CABINET SERVICE EQUIPMENT (PAD MOUNTED) CONTROLLER CABINET TO HH 1:

4" RSC  
4-12/C#12  
9-3/C#12  
9-2/C#14  
2-3/C#20

CONTROLLER CABINET TO HH 15:

4" RSC  
4-12/C#12  
9-3/C#12  
9-2/C#14  
2-3/C#20

F&I: 1-COM CABLE (CAT 5E) (PTZ)

HH 16 TO SERVICE CABINET:

2" RSC  
3-1/C#2

SERVICE CABINET TO CONTROLLER CABINET:

2" RSC  
2-1/C#6 & 1-1/C#6 BR.GR.

SIGNAL SYSTEM OPERATION

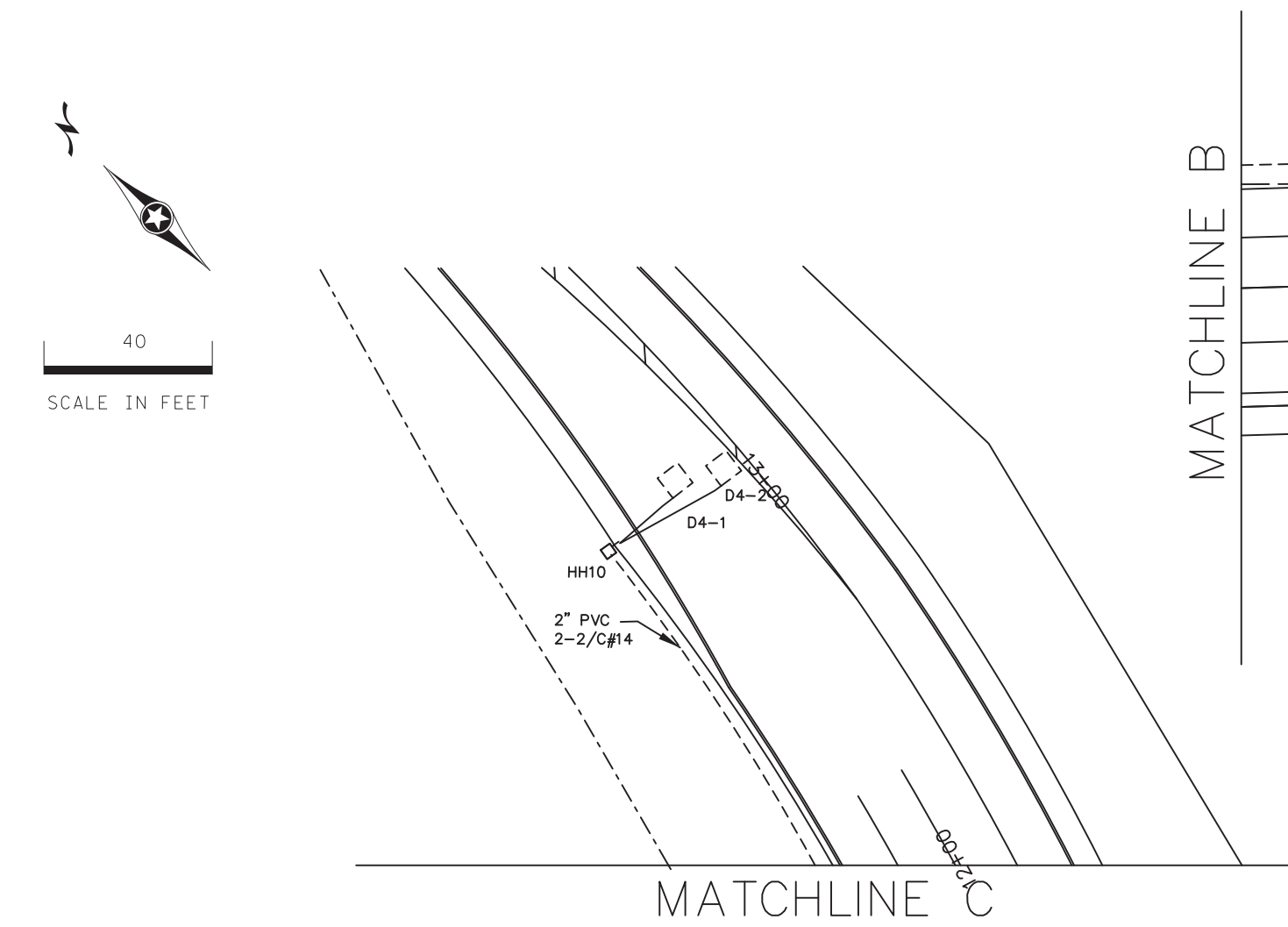
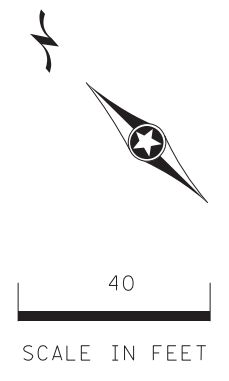
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

BY	DATE	REVISIONS	SYSTEM ID: 1736310	T.E. 92819	S.A.P. NO.	DRAWN BY: HRL	CKD BY: CDB	DATE: 03/31/23
			METER ADDRESS:		CERTIFIED BY:	LIC. NO. 26829	DATE: 04/04/23	
			OLD SYSTEM ID: 22485		STATE PROJ. NO. 8825-1025 (T.H. 999) SHEET NO. 14 OF 121 SHEETS			

REVISE SIGNAL SYSTEM "C"  
INTERSECTION LAYOUT  
TH 55 AT WILLOW DRIVE  
IN MEDINA, HENNEPIN COUNTY

PLOTTED/REVISED: 6-APR-2023

DISTRICT #: Metro  
PLOT NAME: sheet\_15  
FILENAME: Projects\DM\_PROS\055\0000\Traffic\Signal\TH55 @ WILLOW DRIVE 1736310\PEND\ING\T22485A\_SGL.dgn



BY	DATE	REVISIONS

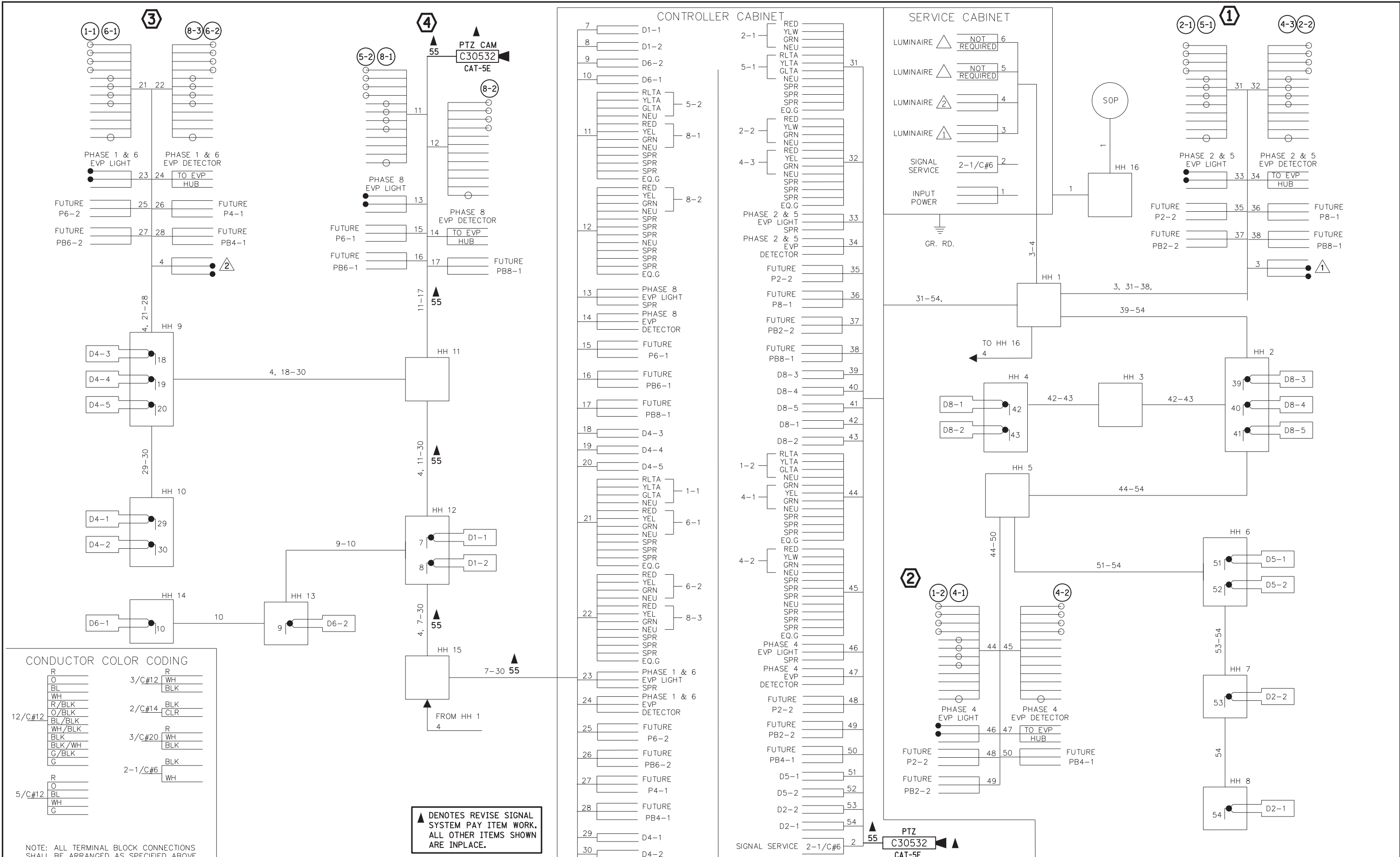
SYSTEM ID: 1736310 T.E. 92819  
 METER ADDRESS:  
 OLD SYSTEM ID: 22485

REVISE SIGNAL SYSTEM "C"  
 MATCH LINES  
 TH 55 AT WILLOW DRIVE  
 IN MEDINA, HENNEPIN COUNTY

S.A.P. NO. \_\_\_\_\_ DRAWN BY: HRL CKD BY: CDB DATE: 03/31/23  
 CERTIFIED BY *Gregory Kern* LIC. NO. 26829 DATE: 04/04/23  
 STATE PROJ. NO. 8825-1025 (T.H.999) SHEET NO. 15 OF 121 SHEETS

PLOTTED/REVISED: 6-APR-2023

DISTRICT #: Metro  
PLOT NAME: street\_16  
FILENAME: Projects\DM\_PROS\055\0000\Traffic\Signals\73\TH55 @ WILLOW DRIVE 1736310\PEND\ING\T22485A\_SGL.dgn



**CONDUCTOR COLOR CODING**

R	3/C#12	R
O		WH
BL		BLK
WH	2/C#14	BLK
R/BLK		CLR
O/BLK		
BL/BLK	3/C#20	R
WH/BLK		WH
BLK/BLK		BLK
BLK/WH		BLK
G/BLK	2-1/C#6	BLK
G		WH
R	5/C#12	
O		
BL		
WH		
G		

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

▲ DENOTES REVISE SIGNAL SYSTEM PAY ITEM WORK. ALL OTHER ITEMS SHOWN ARE INPLACE.

BY	DATE	REVISIONS

SYSTEM ID: 1736310 T.E. 92819  
 METER ADDRESS:  
 OLD SYSTEM ID: 22485

**REVISE SIGNAL SYSTEM "C"  
 FIELD WIRING DIAGRAM  
 TH 55 AT WILLOW DRIVE  
 IN MEDINA, HENNEPIN COUNTY**

S.A.P. NO. \_\_\_\_\_ DRAWN BY: HRL CKD BY: CDB DATE: 03/31/23  
 CERTIFIED BY *Gregory Kern* LIC. NO. 26829 DATE: 04/04/23  
 STATE PROJ. NO. 8825-1025 (T.H. 999) SHEET NO. 16 OF 121 SHEETS

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$\$

DISTRICT #: \$@DISTRICT@  
I/PLOT NAME: \$\$\$@PLOT\$NAME@\$\$  
PATH & FILENAME: \$\$\$@PATH\$FILENAME@\$\$\$

PVC DETECTOR CHART

DESIGNATION	SIZE(FT)	LOCATION*
D1-1	2-6x6	20', 50'
D1-2	2-6x6	5', 35'
D2-1	6x6	475'
D2-2	6x6	240'
D4-1, D4-2	6x6	250'
D4-3	2-6x6	5', 15'
D4-4, D4-5	2-6x6	10', 25'
D5-1	2-6x6	20', 50'
D5-2	2-6x6	5', 35'
D6-1	6x6	475'
D6-2	6x6	240'
D8-1, D8-2	6x6	250'
D8-3	2-6x6	5', 15'
D8-4, D8-5	2-6x6	10', 25'

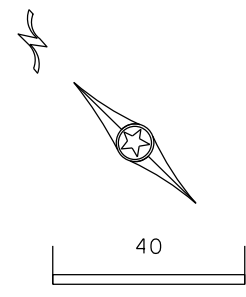
\*LOCATION = DISTANCE FROM STOPLINE OR CROSS WALK

SIGNAL HEAD CHART

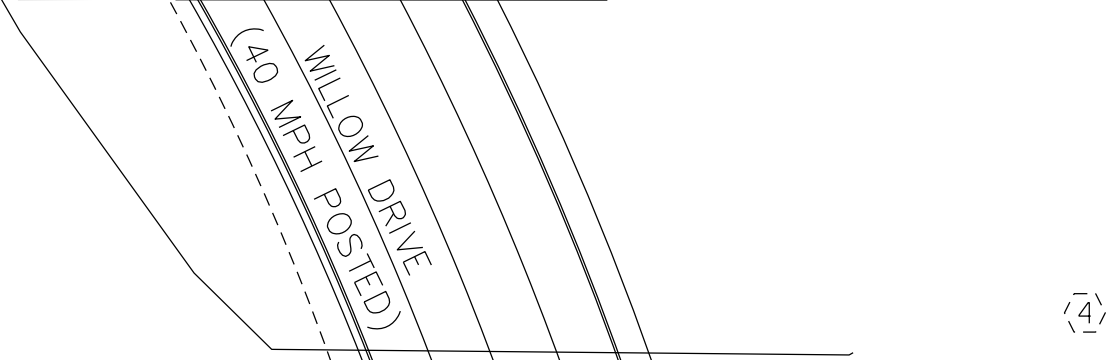
FACE	R	Y	G
1-1, 1-2	←	←	←
2-1, 2-2	○	○	○
4-1, 4-2	○	○	○
4-3	○	○	○
5-1, 5-2	←	←	←
6-1, 6-2	○	○	○
8-1, 8-2	○	○	○
8-3	○	○	○

SCALE IN FEET

ALL SIGNAL FACES HAVE A BACKGROUND SHIELD.  
ALL SIGNAL INDICATIONS ARE LED.  
ALL SIGNAL INDICATIONS ARE 12".



MATCHLINE C



(3) PA100 POLE FOUNDATION  
TYPE PA100-A-50-D40-10 (DAVIT AT 350 DEG)  
2-SWING-AWAY HINGES  
2-ONE WAY SIGNALS OVERHEAD AT 0 AND 11'  
2-TYPE 10A AT 90 AND 180 DEG  
ONE EVP DETECTOR AND LIGHT (6+1)  
LUMINAIRE 250W HPS  
SIGN (D-2)  
2-R9-3 SIGNS (FACING POLES 2&4)  
EXTEND 3" RSC INTO HH 9:  
2-12/C#12  
5-3/C#12  
1-3/C#12 (LUM)  
1-3/C#20

(4) PA90 POLE FOUNDATION  
TYPE PA90-A-35  
1-ONE WAY SIGNALS OVERHEAD AT 0'  
2-TYPE 10A AT 90 AND 180 DEG  
ONE EVP DETECTOR AND LIGHT (8)  
SIGN (D-1)  
2-R9-3 SIGNS (FACING POLES 1&3)  
EXTEND 3" RSC INTO HH 11:  
2-12/C#12  
4-3/C#12  
1-3/C#20

(4) 4" RSC (DIRECTIONAL BORE)  
4-12/C#12  
9-3/C#12  
1-3/C#12 (LUM)  
9-2/C#14  
2-3/C#20

(A) EQUIPMENT PAD CONTROLLER AND CABINET  
SERVICE EQUIPMENT (PAD MOUNTED)  
CONTROLLER CABINET TO HH 1:  
4" RSC  
4-12/C#12  
9-3/C#12  
9-2/C#14  
2-3/C#20  
HH 16 TO SERVICE CABINET:  
2" RSC  
3-1/C#2  
SERVICE CABINET TO CONTROLLER CABINET:  
2" RSC  
2-1/C#6 & 1-1/C#6 BR.GR.

CONTROLLER CABINET TO HH 15:  
4" RSC  
4-12/C#12  
9-3/C#12  
9-2/C#14  
2-3/C#20  
SERVICE CABINET TO HH 1:  
2" RSC  
2-3/C#12 (LUM)

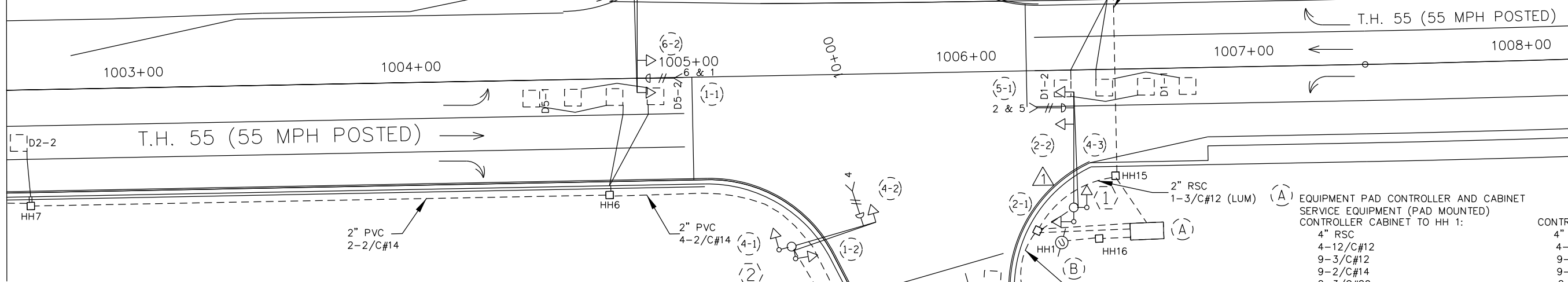
(2) PA90 POLE FOUNDATION  
TYPE PA90-A-30  
1-ONE WAY SIGNALS OVERHEAD AT 0'  
2-TYPE 10A AT 90 AND 180 DEG  
ONE EVP DETECTOR AND LIGHT (4)  
SIGN (D-1)  
2-R9-3 SIGNS (FACING POLES 1&3)  
EXTEND 3" RSC INTO HH 5:  
2-12/C#12  
4-3/C#12  
4-2/C#14  
1-3/C#20

(1) PA100 POLE FOUNDATION  
TYPE PA100-A-40-D40-10 (DAVIT AT 350 DEG)  
2-SWING-AWAY HINGES  
2-ONE WAY SIGNALS OVERHEAD  
(0 FT AND 11 FT FROM END OF MAST ARM)  
2-TYPE 10A AT 90 AND 180 DEG  
ONE EVP DETECTOR AND LIGHT (2+5)  
LUMINAIRE 250W HPS  
SIGN (D-2)  
2-R9-3 SIGNS (FACING POLES 2&4)  
EXTEND 3" RSC INTO HH 1:  
2-12/C#12  
5-3/C#12  
1-3/C#12 (LUM)  
1-3/C#20

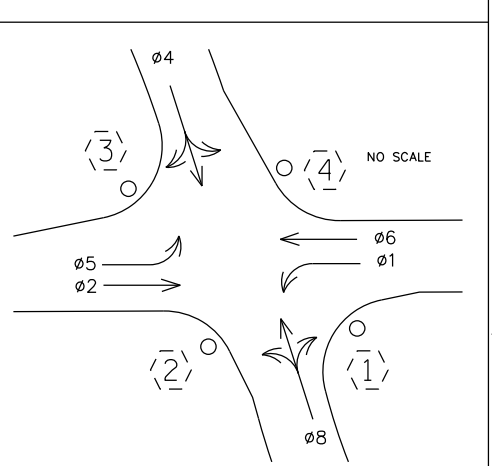
(B) S.O.P. WOOD POLE  
MOUNTED TRANSFORMER  
2" R.S.C. TO HH 16  
3-1/C#2

MATCHLINE A

MATCHLINE B



CONTROLLER PHASING



SIGNAL SYSTEM OPERATION

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

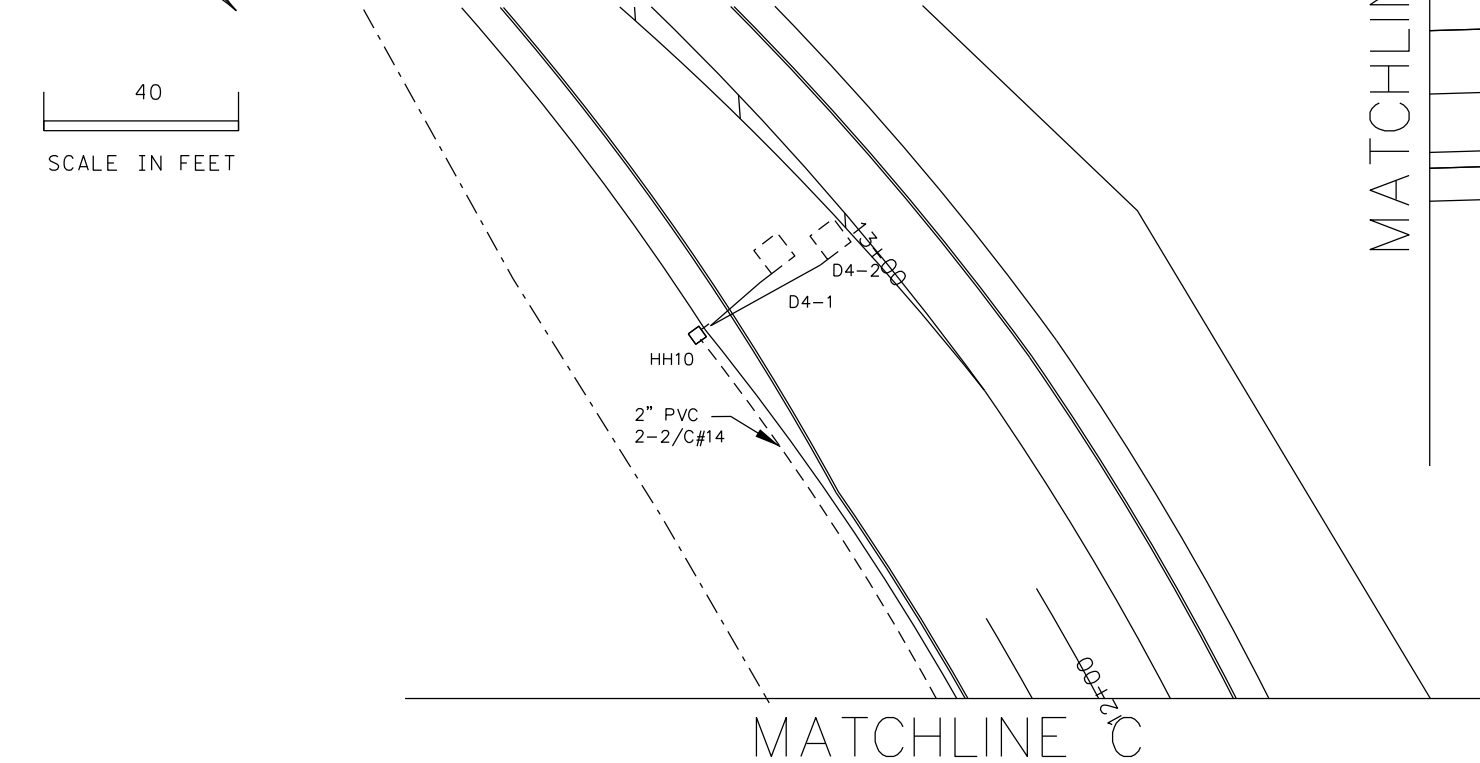
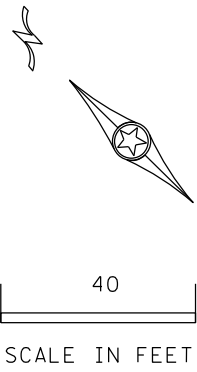
MATCHLINE D

BY	DATE	REVISIONS	SYSTEM ID: 22485	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
BAM	06-21-11	PLAN UPDATES	METER ADDRESS: 4399 WILLOW DRIVE		CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
EJA	10-06-14	AS-BUILT OF SP 2722-81	MASTER ID:	T.E.	STATE PROJ. NO.	(T.H. 55)	SHEET NO.	1 OF 3 SHEETS

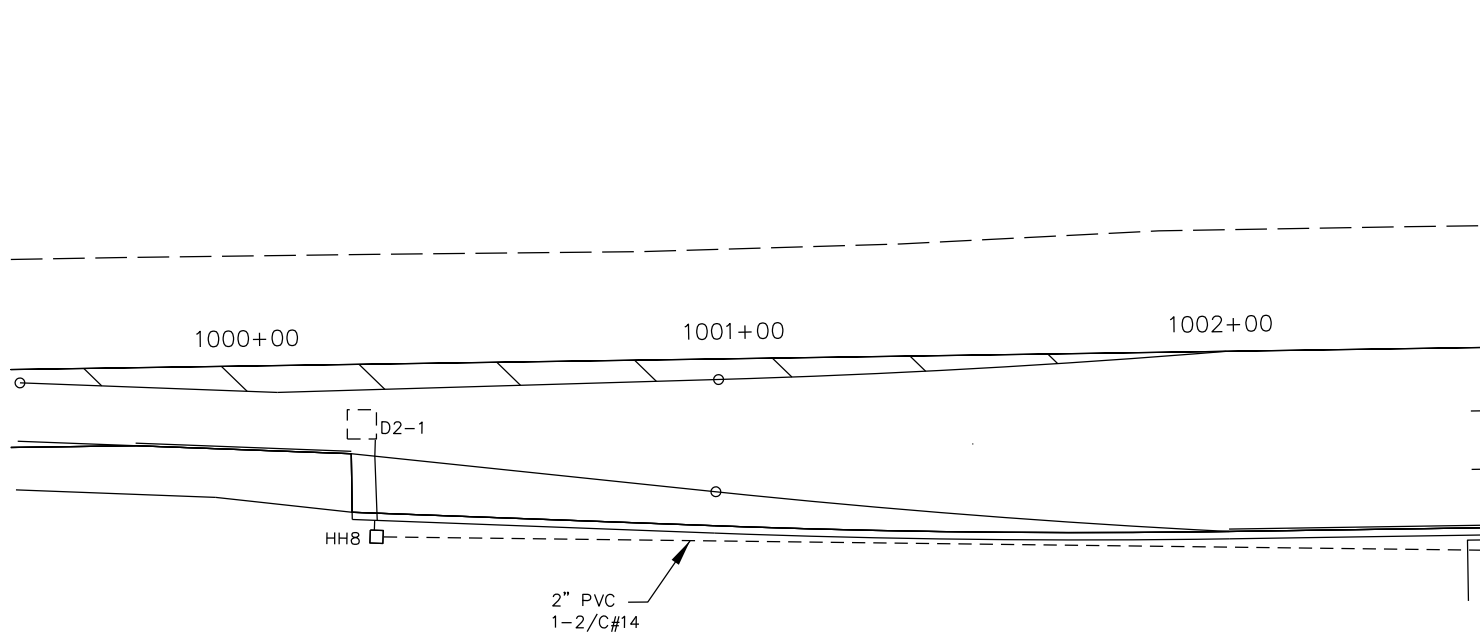
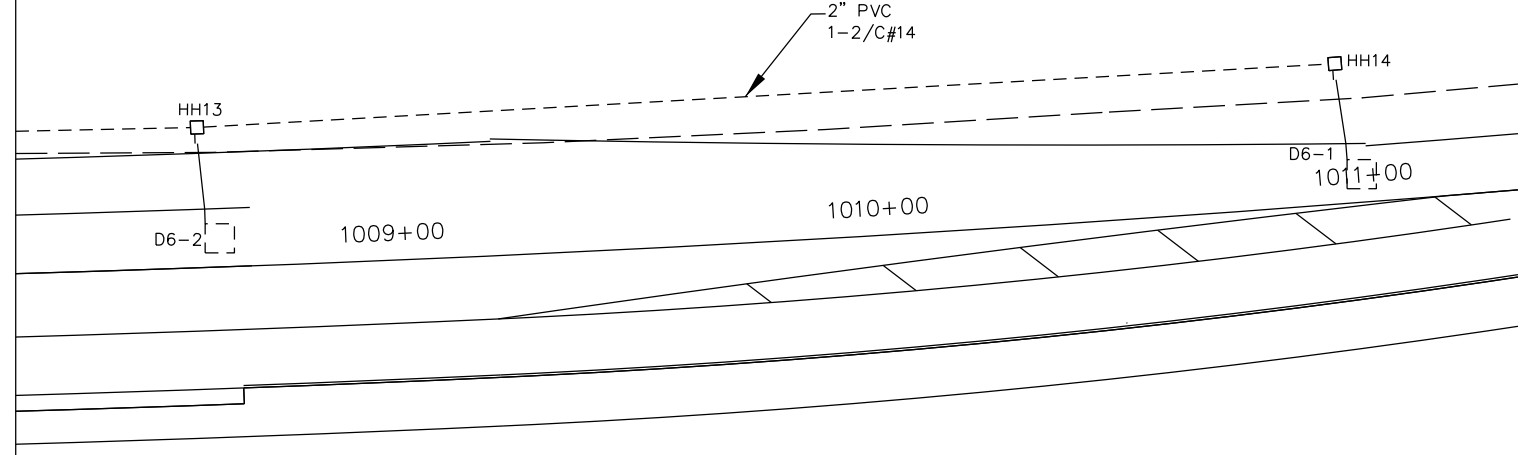
INTERSECTION LAYOUT  
TH 55 AT WILLOW DRIVE  
IN MEDINA, HENNEPIN COUNTY

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

DISTRICT #: \$\$\$@DISTRICT\$\$\$  
I/PLOT NAME: \$\$\$@I/PLOT\$NAME\$\$\$  
PATH & FILENAME: \$\$\$@PATH\$FILENAME\$\$\$

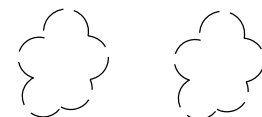
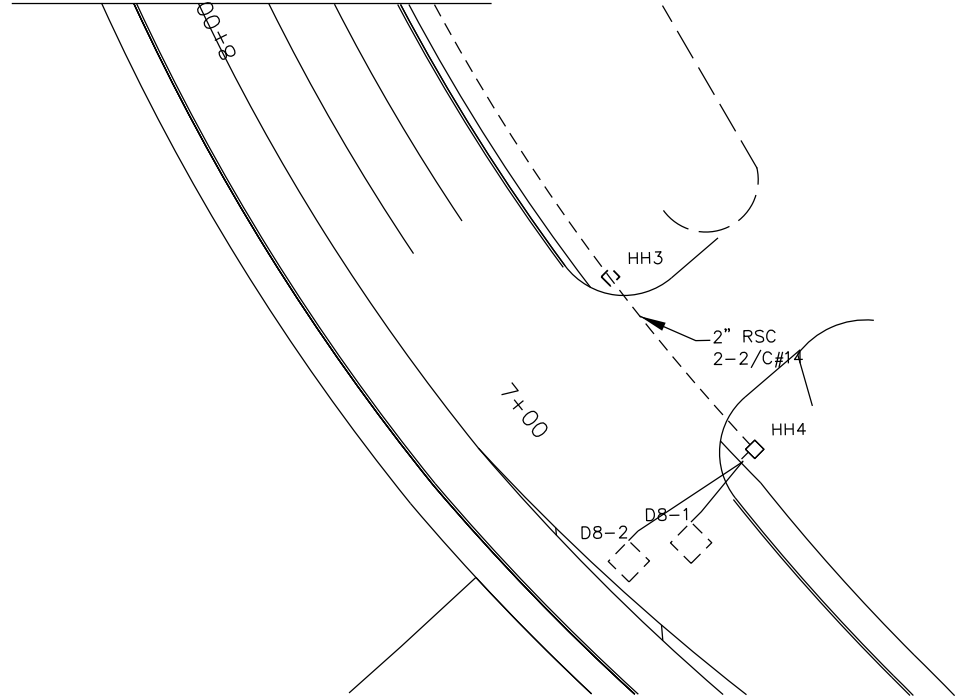


MATCHLINE B



MATCHLINE A

MATCHLINE D



BY	DATE	REVISIONS
BAM	06/21/11	PLAN UPDATES
EJA	10-06-14	AS-BUILT OF SP 2722-81

SYSTEM ID: 22485 T.E.  
 METER ADDRESS: 4399 WILLOW DRIVE  
 MASTER ID: T.E.

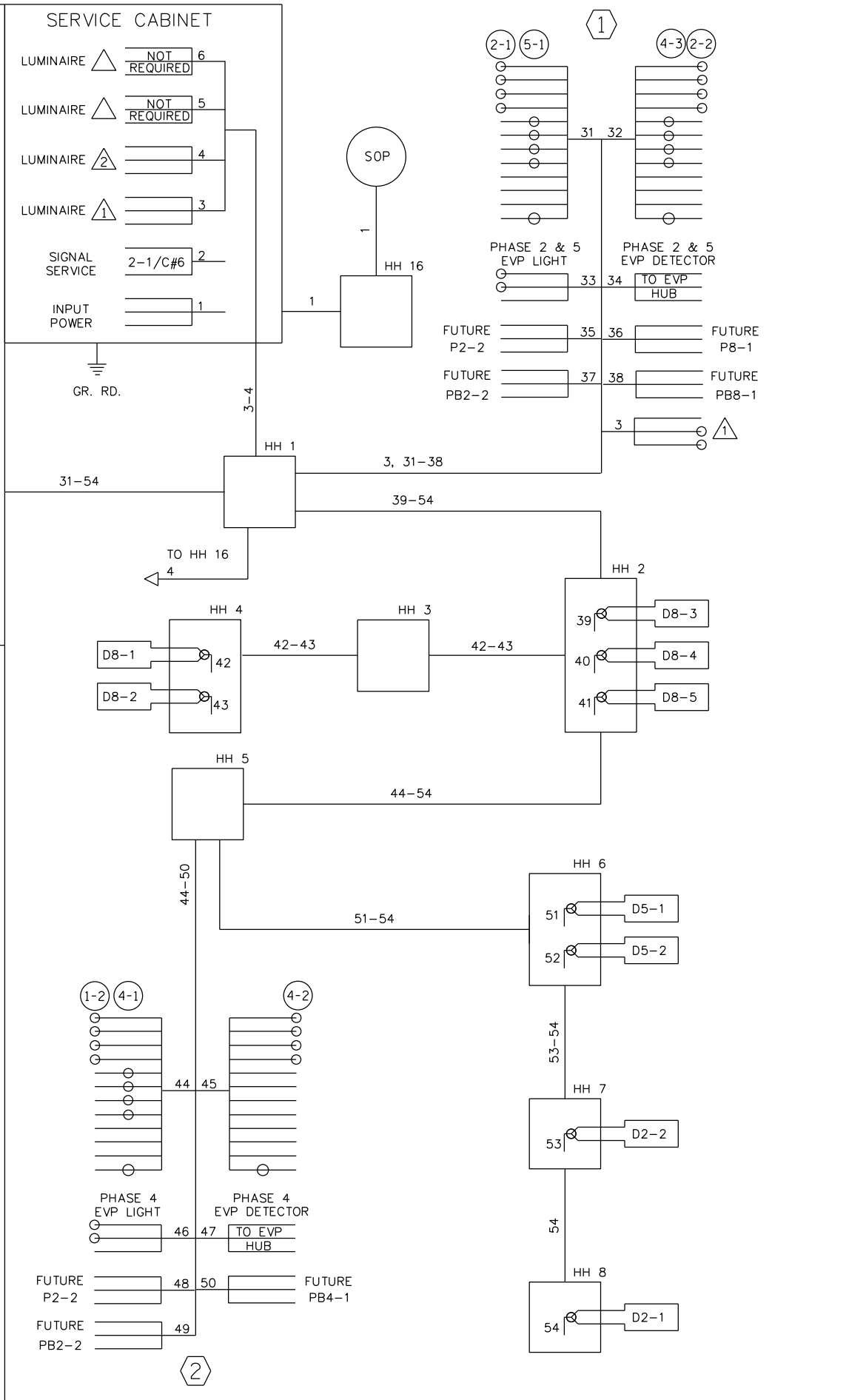
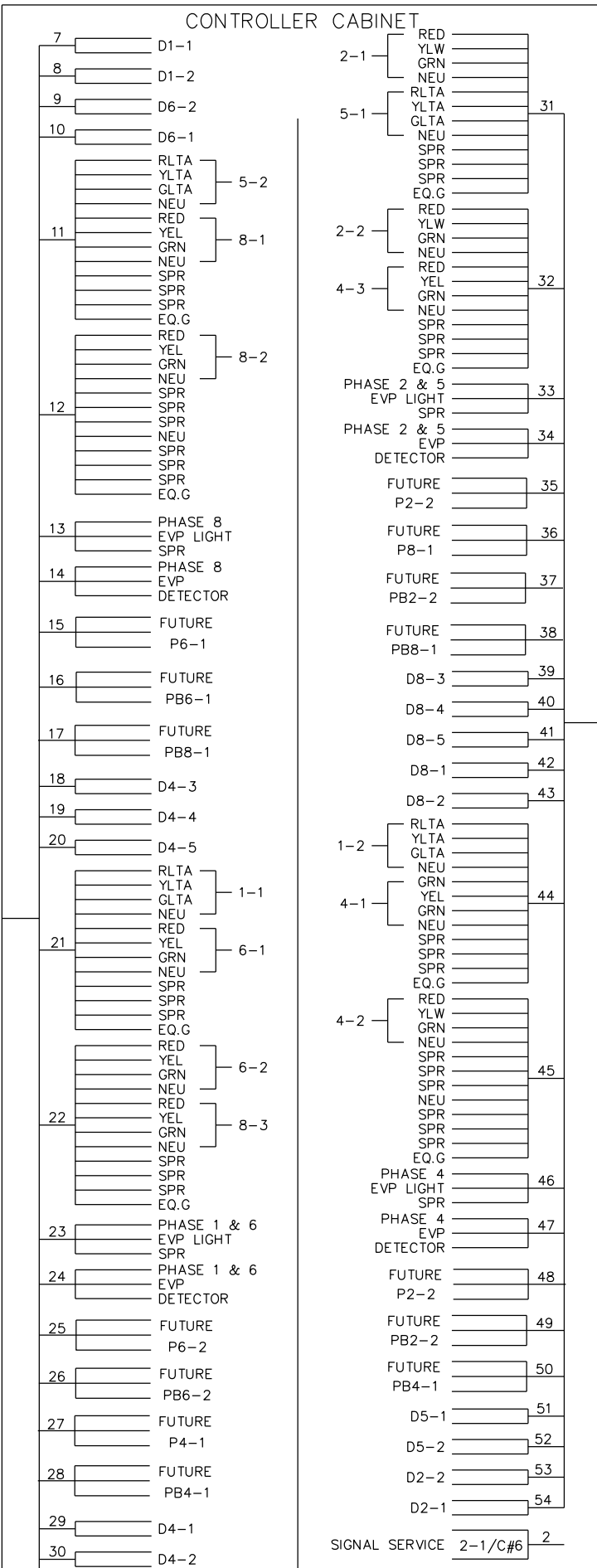
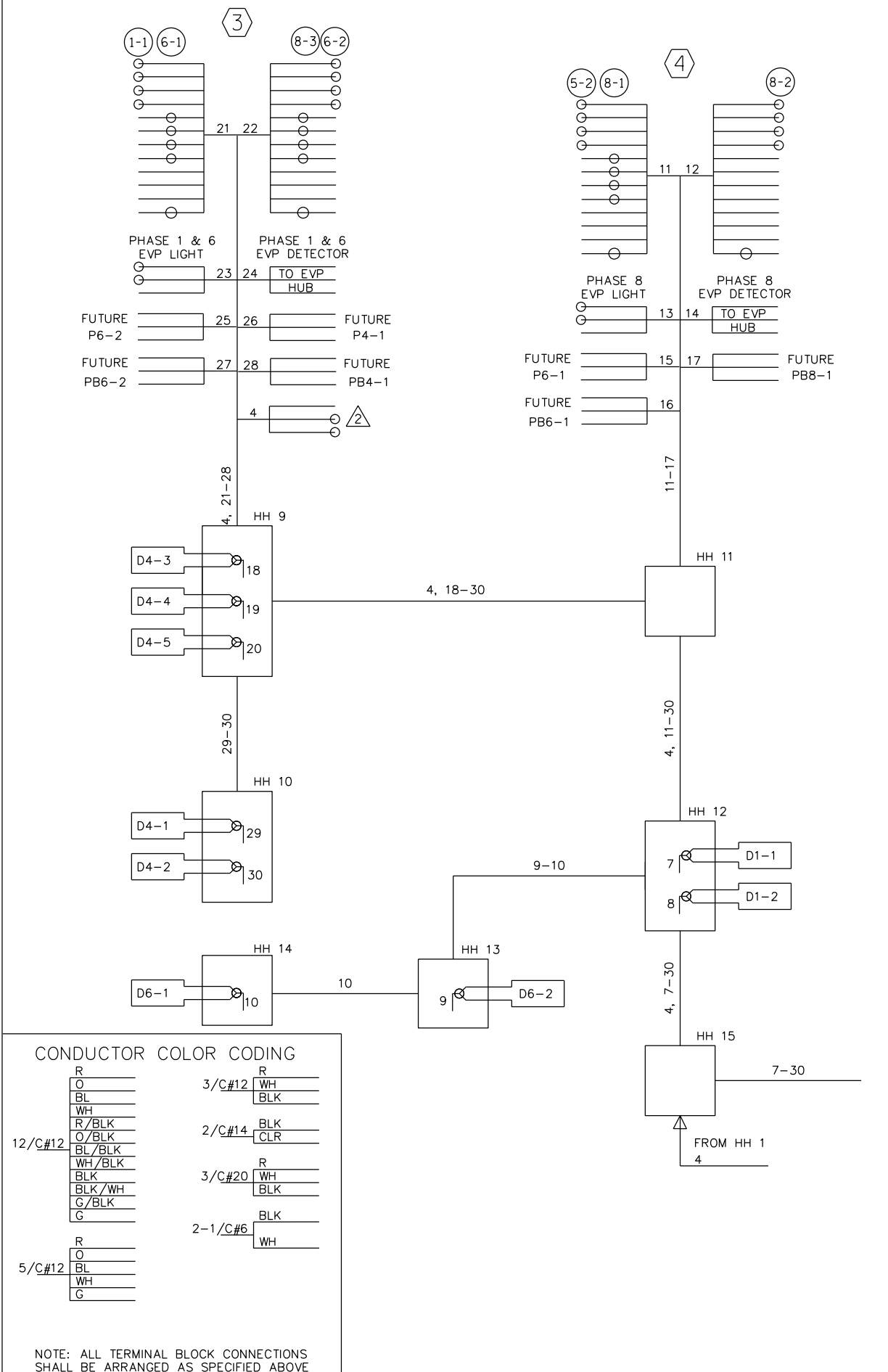
MATCH LINES  
 TH 55 AT WILLOW DRIVE  
 IN MEDINA, HENNEPIN COUNTY

S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
STATE PROJ. NO.	(T.H.55)	SHEET NO.	2 OF 3 SHEETS



PLOTTED/REVISED: \$\$\$@DATE\$\$\$

DISTRICT #: \$\$\$@DISTRICT\$\$\$  
PLOT NAME: \$\$\$@PLOT\$NAME\$\$\$  
PATH & FILENAME: \$\$\$@PATH\$FILENAME\$\$\$



**CONDUCTOR COLOR CODING**

R	R
O	3/C#12 WH
BL	BLK
WH	
R/BLK	2/C#14 BLK
O/BLK	CLR
BL/BLK	
WH/BLK	3/C#20 R
BLK	WH
BLK/WH	BLK
G/BLK	
G	2-1/C#6 BLK
	WH
R	
O	
BL	
WH	
G	

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

BY	DATE	REVISIONS	SYSTEM ID: 22485	T.E.	S.A.P. NO.	DRAWN BY:	CKD BY:	DATE:
BAM	06-21-11	PLAN UPDATES	METER ADDRESS: 4399 WILLOW DRIVE		CERTIFIED BY _____	LIC. NO. _____	DATE: _____	
EJA	10-06-14	AS-BUILT OF SP 2722-81	MASTER ID:	T.E.	STATE PROJ. NO.	(T.H.55)	SHEET NO.	3 OF 3 SHEETS

FIELD WIRING DIAGRAM  
TH 55 AT WILLOW DRIVE  
IN MEDINA, HENNEPIN COUNTY