

**GENERAL NOTES**

1. SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
2. THE EXACT LOCATION OF HANDHOLES, POLES, PEDESTALS, PEDESTRIAN PUSH BUTTON STATIONS, LOOP DETECTORS, AND EQUIPMENT PAD SHALL BE VERIFIED IN THE FIELD BY COUNTY PERSONNEL.
3. ALL LOOP DETECTORS SHALL BE PERFORMED RIGID PVC LOOP DETECTORS.
4. THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.

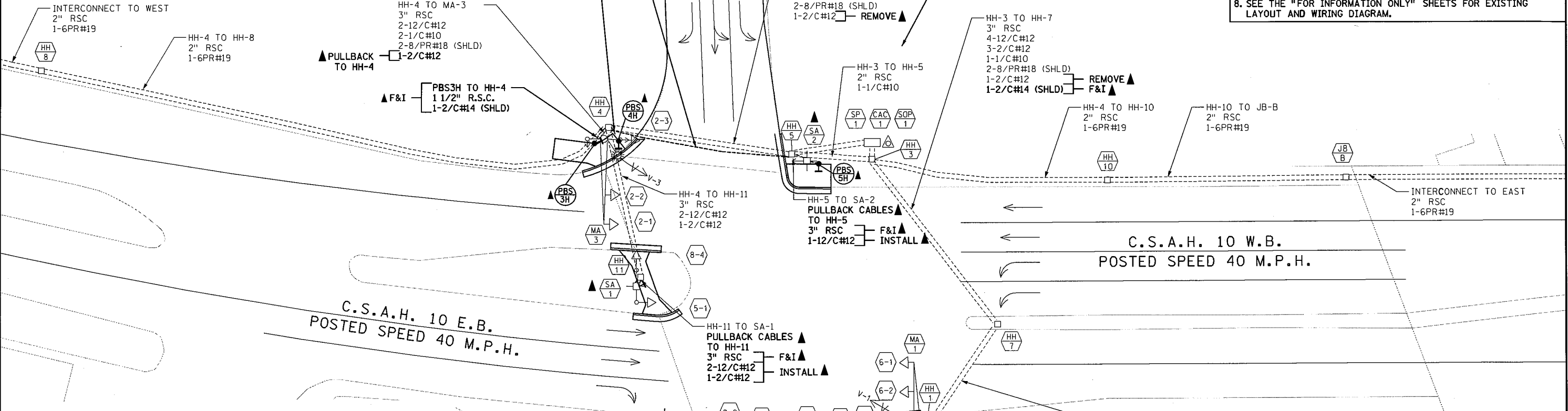
**REVISE SIGNAL SYSTEM:**

THE T.H. 494 RAMPS ARE BEING RECONSTRUCTED. THE EXISTING VEHICLE DETECTION IS VIDEO. NO LOOP DETECTION WILL BE REPLACED.

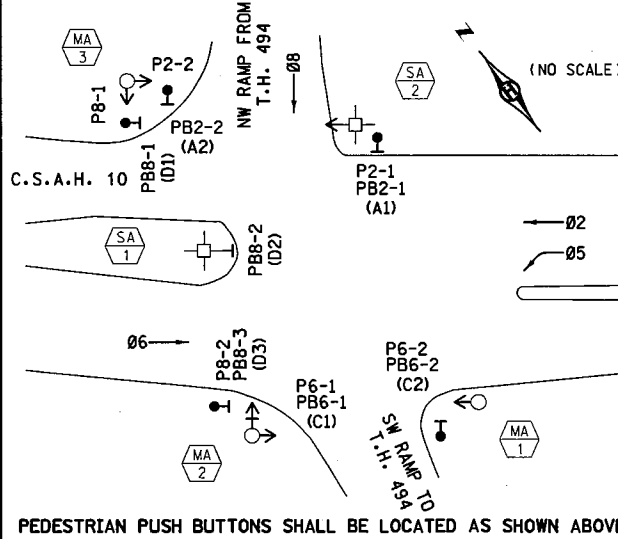
PED CROSSING WILL BE ALLOWED ON THREE LEGS OF THE INTERSECTION. ADA COMPLIANT PED RAMPS AND PUSHBUTTON STATIONS WILL BE CONSTRUCTED.

**REVISE SIGNAL SYSTEM NOTES:**

1. F&I PUSHBUTTONS STATIONS AND APS PUSHBUTTONS AS NOTED.
2. RELOCATE PEDESTAL SA-1, REMOVE EXISTING PUSHBUTTON (Ø 8).
3. RELOCATE PEDESTAL SA-2 FURTHER TO THE EAST, REMOVE EXISTING PUSHBUTTON (Ø 2).
4. REMOVE EXISTING PUSHBUTTONS ON MA-1, MA-2 AND MA-3.
5. REMOVE ALL EXISTING PEDESTRIAN INDICATIONS AND INSTALL COUNTDOWN PEDESTRIAN INDICATIONS.
6. ALL ITEMS ARE INPLACE UNLESS BOLDDED AND NOTED F&I OR REMOVE. ▲ DENOTES REVISE SIGNAL SYSTEM PAY ITEM WORK.
7. POLE, CABINET AND SERVICE NOTES ARE LOCATED ON THE FOLLOWING SHEET (SS51).
8. SEE THE "FOR INFORMATION ONLY" SHEETS FOR EXISTING LAYOUT AND WIRING DIAGRAM.



**CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS**



**SIGNAL SYSTEM OPERATION**

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- PHASES 2 AND 6 ARE ON RECALL.

NO	DATE	BY	CKD	APPR	REVISION
0	12/16/14	KAS	RJG	RJG	FINAL PLAN SUBMITTAL

I hereby certify that this plan, specification, or report 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: **KATIE SCHMIDT**

*Katie Schmidt*

Date: 12/16/14 License #: 47147

STATE AID PROJECT NO. 027-030-039

STATE PROJECT NO. 2785-330

COUNTY PROJECT NO.

CITY PROJECT NO.

DRAWN BY

DESIGNED BY

CHECKED BY

**ALLIANT ENGINEERING**

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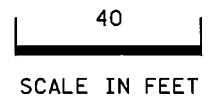
**SP 2785-330 (TH 494)**

REVISE SIGNAL SYSTEM "H"  
 INTERSECTION LAYOUT  
 C.S.A.H. 10 AT T.H. 494 WEST RAMPS

SHEET SS50 OF SS61

ID 1735848

METER ADDRESS:  
 C.S.A.H 10 AT T.H. 494 W. RAMPS  
 SYSTEM ID: 9020200



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INPLACE SIGNAL STRUCTURES			
NO.	REMARKS	NO.	REMARKS
▲ MA-1	REMOVE PED PUSHBUTTON REMOVE PED INDICATION F&I C.D. PED INDICATION		
▲ MA-2	REMOVE 2 PED PUSHBUTTONS F&I 1-APS PB (Ø 6) REMOVE 2 PED INDICATIONS F&I 2 C.D. PED INDICATIONS		
▲ MA-3	REMOVE 2 PED PUSHBUTTONS REMOVE 2 PED INDICATIONS F&I 2 C.D. PED INDICATIONS		
▲ SA-1	SALVAGE SIGNAL ASSEMBLY AND INSTALL ON NEW FOUNDATION AT LOCATION SHOWN ON PLAN REMOVE PED PUSHBUTTON F&I 1-APS PB (Ø 8)		
▲ SA-2	SALVAGE SIGNAL ASSEMBLY AND INSTALL ON NEW FOUNDATION AT LOCATION SHOWN ON PLAN REMOVE PED PUSHBUTTON REMOVE PED INDICATION F&I C.D. PED INDICATION		
▲ HH-11	ADJUST HANDHOLE TO BE FLUSH WITH NEW WALK		

\* ONLY INPLACE STRUCTURES TO BE MODIFIED ARE DETAILED.

SIGNAL STRUCTURE LOCATIONS			
NO.	LOCATION (1)	NO.	LOCATION (1)
▲ PBS 1H	(2)		
▲ PBS 2H	(2)		
▲ PBS 3H	(2)		
▲ PBS 4H	(2)		
▲ PBS 5H	(2)		
▲ SA-1	(2)		
▲ SA-2	(2)		

(1) TO THE CENTER OF THE HANDHOLE OR CONCRETE FOUNDATION.  
(2) SEE CONSTRUCTION INTERSECTION DETAIL FOR EXACT LOCATION.

VIDEO DETECTION CHART			
DESIGNATION	CAMERA	MOUNT	LOCATION
D2-1, D2-2	V-3	POLE	250'
D5-1	V-3	POLE	20' & 50'
D5-2	V-3	POLE	5' & 35'
D6-1, D6-2	V-1	POLE	250'
D8-1	V-2	POLE	120'
D8-2, D8-3	V-2	POLE	5 & 20

SIGNAL INDICATIONS AND BRACKETING									
SIG. POLE NO.	FACE NO.	SIGNAL FACE MOUNT	SIG. Ø	LED INDICATIONS				PED SYM.	BRACKET MOUNTING ANGLE, TYPE, AND STANDARD PLATE NO.
				RED	YEL	FYEL	GRN		
MA-1	6-1	MAST ARM (END)	6	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-1	6-2	MAST ARM (INSIDE)	6	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-1	6-3	POLE MOUNT	6	12"	12"		12"		
MA-1	PED	POLE MOUNT	8					C.D.	270° TYPE 20B PLT. 8110C
MA-1	8-3	POLE MOUNT	8	12"	12"		12"		
MA-2	8-1	MAST ARM (END)	8	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-2	5-2	POLE MOUNT	5	12" LTA	12" LTA		12" LTA		270° TYPE 10B PLT. 8110C
MA-2	8-2	POLE MOUNT	8	12"	12"		12"		0° TYPE 10B
MA-2	PED	POLE MOUNT	6					C.D.	
MA-2	PED	POLE MOUNT	8					C.D.	
MA-3	2-1	MAST ARM (END)	2	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-3	2-2	MAST ARM (INSIDE)	2	12"	12"		12"		ONE-WAY MNT./PLT. 8124D
MA-3	2-3	POLE MOUNT	2	12"	12"		12"		
MA-3	PED	POLE MOUNT	2					C.D.	270° I-TYPE 10B PLT. 8110C
MA-3	PED	POLE MOUNT	8					C.D.	90° I-TYPE 30A
SA-1	8-4	PEDESTAL MOUNT	8	12"	12"		12"		PLT. 8111B TYPE 2A
SA-1	5-1	PEDESTAL MOUNT	5	12" LTA	12" LTA		12" LTA		
SA-2	PED	PEDESTAL MOUNT	2					C.D.	TYPE 4A PLT. 8111B

\* PEDESTRIAN INDICATIONS SHALL BE INTERNATIONAL SYMBOLS.

ID 1735848

METER ADDRESS:  
C.S.A.H 10 AT T.H. 494 W. RAMPS  
SYSTEM ID: 9020200

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NO	DATE	BY	CHKD	APPR	REVISION
0	12/16/14	KAS	RJG	RJG	FINAL PLAN SUBMITTAL

I hereby certify that this plan, specification, or report 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: **KATIE SCHMIDT**  
*Katie Schmidt*  
Date: **12/16/14** License # **47147**

STATE AID PROJECT NO.  
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**SP 2785-330 (TH 494)**  
REVISE SIGNAL SYSTEM "H"  
TABULATIONS  
C.S.A.H. 10 AT T.H. 494 WEST RAMPS

SHEET  
SS51  
OF  
SS61



**SIGNAL AND COMPONENT LOCATION\***

NO.	LOCATION	NO.	LOCATION
HH1	114+18 - 29' RT	HH10	115+80 - 73' LT
HH2	113+24 - 34' RT	HH11	112+98 - 28' LT
HH3	113+83 - 79' LT	HH12	115+80 - 18' LT
HH4	112+73 - 90' LT	HH13	113+83 - 74' LT
HH5	113+58 - 84' LT	HH14	113+83 - 81' LT
HH6	113+47 - 235' LT	HH15	114+20 - 29' RT
HH7	114+40 - 16' LT	HH16	113+56 - 14' LT
HH8	110+10 - 82' LT	CAC-1	EQUIPMENT PAD
HH9	110+10 - 17' LT	SS-1	EQUIPMENT PAD

NO.	LOCATION	NO.	LOCATION
MA-1	114+11 - 23' RT ARM ARM TO 114+11 - C (30' ARM)		
MA-2	113+32 - 35' RT ARM ARM TO 113+63 - 39' RT (35' ARM)		
MA-3	112+84 - 78' LT ARM ARM TO 112+84 - C (40' ARM)		
SA-1	113+08 - 27' LT		
SA-2	113+81 - 78' LT		

NO.	LOCATION	LOOP SIZE	NO. OF TURNS	LOOP FUNCTION
D2-1	WEST EDGE AT 117+88 SOUTH EDGE 50' LT	8'x6'	3	(1)
D2-2	WEST EDGE AT 117+88 SOUTH EDGE 47' LT	8'x6'	3	
D5-1,2	WEST EDGE AT 114+41, 456 SOUTH EDGE 22' LT	8'x6'	3	(1)
D5-3,4	WEST EDGE AT 114+71, 488 SOUTH EDGE 22' LT	8'x6'	3	
D5-5,6	WEST EDGE AT 114+41, 488 SOUTH EDGE 34' LT	8'x6'	3	(1)
D5-7,8	WEST EDGE AT 114+71, 488 SOUTH EDGE 34' LT	8'x6'	3	
D6-1	EAST EDGE AT 110+08 SOUTH EDGE 4' LT	8'x6'	3	(1)
D6-2	EAST EDGE AT 110+08 NORTH EDGE 4' RT	8'x6'	3	
D6-3	EAST EDGE AT 113+47 SOUTH EDGE 85' LT	8'x6'	3	(1)
D6-4	EAST EDGE AT 113+44 SOUTH EDGE 100' LT	8'x6'	3	
D6-5	EAST EDGE AT 113+31 SOUTH EDGE 85' LT	8'x6'	3	(1)
D6-6	EAST EDGE AT 113+28 SOUTH EDGE 100' LT	8'x6'	3	
D6-7	EAST EDGE AT 113+09 SOUTH EDGE 82' LT	8'x6'	3	(3)
D6-8	EAST EDGE AT 113+12 SOUTH EDGE 97' LT	8'x6'	3	
D6-9	EAST EDGE AT 113+13 SOUTH EDGE AT 112' LT	8'x6'	3	
D6-10	EAST EDGE AT 113+38 SOUTH EDGE 242' LT	8'x6'	3	(2)
D6-11	EAST EDGE AT 113+23 SOUTH EDGE 242' LT	8'x6'	3	
D6-12	WEST EDGE AT 118+52 SOUTH EDGE 4' LT	8'x6'	3	(1)
D6-13	WEST EDGE AT 118+52 NORTH EDGE 4' RT	8'x6'	3	

REVISED 2010

ALL LOOP DETECTORS HAVE BEEN REMOVED BY MILLING OPERATIONS OR ABANDONED INPLACE AND ALL LOOP LEAD-IN CABLES HAVE BEEN REMOVED FOR CONDUIT CAPACITY OR ABANDONED INPLACE.

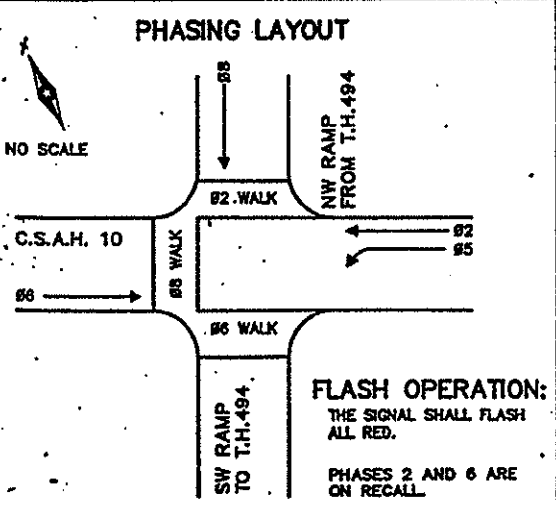
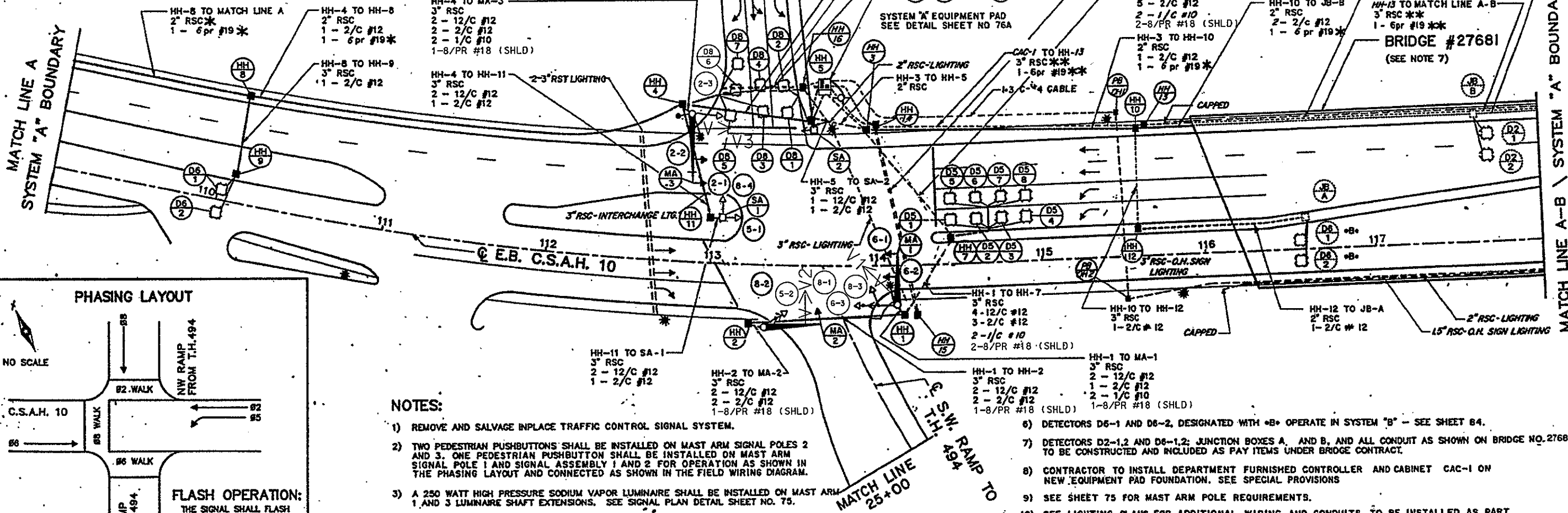
INSTALL ONE VIDEO DETECTION CAMERA WITH 1 - 8/PR #18 CABLE ON THE INPLACE LUMINAIRE DAVIT ARM OF MA-1 AND MA-3.

INSTALL ONE VIDEO DETECTION CAMERA WITH 1 - 8/PR #18 CABLE ON THE INPLACE MAST ARM OF MA-2.



**SIGNAL INDICATION AND BRACKETING**

SIG. POLE NO.	SIGNAL FACE MOUNT	SIG. #	VEHICULAR INDICATION SIZE AND TYPE			PEDESTRIAN			BRACKET MOUNTING ANGLE TYPE AND STANDARD PLATE NO.
			CIRCULAR RED/YEL GRN	TURN ARROWS RED YEL GRN	DON'T WALK WALK	DON'T WALK WALK			
MA-1	MAST ARM (END)	6-1	12"	12"	12"				ONE-WAY MNT./PLT. #1240
MA-1	MAST ARM (INSIDE)	6-2	12"	12"	12"				ONE-WAY MNT./PLT. #1240
MA-1	POLE MOUNT	6-3	12"	12"	12"				270 PLATE #110C
MA-1	POLE MOUNT	6					12"	12"	TYPE 20B
MA-1	POLE MOUNT	6-3	12"	12"	12"				TYPE 20B
MA-2	MAST ARM (END)	6-1	12"	12"	12"				ONE-WAY MNT./PLT. #1240
MA-2	POLE MOUNT	6-2	12"	12"	12"	12" LTA	12" LTA	12" LTA	PLATE #110C
MA-2	POLE MOUNT	6-3	12"	12"	12"				270 TYPE 10B
MA-2	POLE MOUNT	6					12"	12"	TYPE 10B
MA-2	POLE MOUNT	6					12"	12"	TYPE 10B
MA-3	MAST ARM (END)	6-1	12"	12"	12"				ONE-WAY MNT./PLT. #1240
MA-3	MAST ARM (INSIDE)	6-2	12"	12"	12"				ONE-WAY MNT./PLT. #1240
MA-3	POLE MOUNT	2-3	12"	12"	12"				PLATE #110C
MA-3	POLE MOUNT	2					12"	12"	270 1-TYPE 10B
MA-3	POLE MOUNT	2					12"	12"	1-TYPE 30A
SA-1	PEDESTAL MOUNT	6-4	12"	12"	12"				PLATE #111B
SA-1	PEDESTAL MOUNT	5-1				12" LTA	12" LTA	12" LTA	TYPE 2A +
SA-1	PEDESTAL MOUNT	8					12"	12"	2 TYPE 4A
SA-1	PEDESTAL MOUNT	8					12"	12"	2 TYPE 4A
SA-2	PEDESTAL MOUNT	2					12"	12"	PLATE #111B TYPE 4A



**NOTES:**

- REMOVE AND SALVAGE INPLACE TRAFFIC CONTROL SIGNAL SYSTEM.
- TWO PEDESTRIAN PUSHBUTTONS SHALL BE INSTALLED ON MAST ARM SIGNAL POLE 2 AND 3. ONE PEDESTRIAN PUSHBUTTON SHALL BE INSTALLED ON MAST ARM SIGNAL POLE 1 AND SIGNAL ASSEMBLY 1 AND 2 FOR OPERATION AS SHOWN IN THE PHASING LAYOUT AND CONNECTED AS SHOWN IN THE FIELD WIRING DIAGRAM.
- A 250 WATT HIGH PRESSURE SODIUM VAPOR LUMINAIRE SHALL BE INSTALLED ON MAST ARM 1 AND 3 LUMINAIRE SHAFT EXTENSIONS. SEE SIGNAL PLAN DETAIL SHEET NO. 75.
- ALL NEW HANDHOLES SHALL BE PVC TYPE WITH METAL FRAMES AND COVERS.
- SEE TOPOGRAPHY AND CONSTRUCTION PLANS FOR LOCATIONS OF INPLACE UTILITIES.
- DETECTORS D6-1 AND D6-2, DESIGNATED WITH \*B\* OPERATE IN SYSTEM "B" - SEE SHEET 84.
- DETECTORS D2-1,2 AND D6-1,2; JUNCTION BOXES A, AND B, AND ALL CONDUIT AS SHOWN ON BRIDGE NO. 27681 TO BE CONSTRUCTED AND INCLUDED AS PAY ITEMS UNDER BRIDGE CONTRACT.
- CONTRACTOR TO INSTALL DEPARTMENT FURNISHED CONTROLLER AND CABINET CAC-1 ON NEW EQUIPMENT PAD FOUNDATION. SEE SPECIAL PROVISIONS
- SEE SHEET 75 FOR MAST ARM POLE REQUIREMENTS.
- SEE LIGHTING PLANS FOR ADDITIONAL WIRING AND CONDUITS TO BE INSTALLED AS PART OF SYSTEM "A" LIGHTING SYSTEM PAY ITEM.

MN/DOT System ID 21714

FOR INFORMATION ONLY