

PVC LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	10' & 40'	1	1
D1-2	2-6x6	-5' & 25'	1	2
D2-1	6x6	300'	1	INPLACE
D2-2	6x6	300'	1	INPLACE
D3-1	2-6x6	5' & 35'	1	INPLACE
D3-2	2-6x6	-5' & 20'	1	INPLACE
D4-1	6x6	120'	3,8	INPLACE
D4-2	6x6	120'	3,8	INPLACE
D4-3	2-6x6	AS SHOWN	1	INPLACE
D4-3	6x6	10'	1	F & I
D5-1	2-6x6	20' & 50'	1	3
D5-2	2-6x6	5' & 35'	1	3
D6-1	6x6	300'	1	INPLACE
D6-2	6x6	300'	1	INPLACE
D7-1	2-6x6	5' & 35'	1	INPLACE
D7-2	2-6x6	-5' & 20'	1	INPLACE
D8-1	6x6	120'	3,8	INPLACE
D8-2	2-6x6	AS SHOWN	7	INPLACE
D8-2	6x6	15'	7	F & I
D8-3	2-6x6	AS SHOWN	1	INPLACE

NOTE: WHEN INSTALLING NEW LOOP DETECTORS D1-2 AND D5-1, ENSURE THAT ALL EXISTING LOOP DETECTOR ROADWAY CONDUITS (TO D1-1 AND D5-2) ARE EXACTLY LOCATED & PROTECTED DURING NEW LOOP INSTALLATION. ANY DAMAGE TO THESE EXISTING LOOP DETECTORS (ALL CONDUITS, WIRING, SPLICE KITS) DUE TO CONTRACTOR LOOP DETECTOR INSTALLATION WORK WILL REQUIRE THE CONTRACTOR TO FULLY REPLACE THE DAMAGED PVC LOOP DETECTORS ALL AT NO EXPENSE TO THE COUNTY.

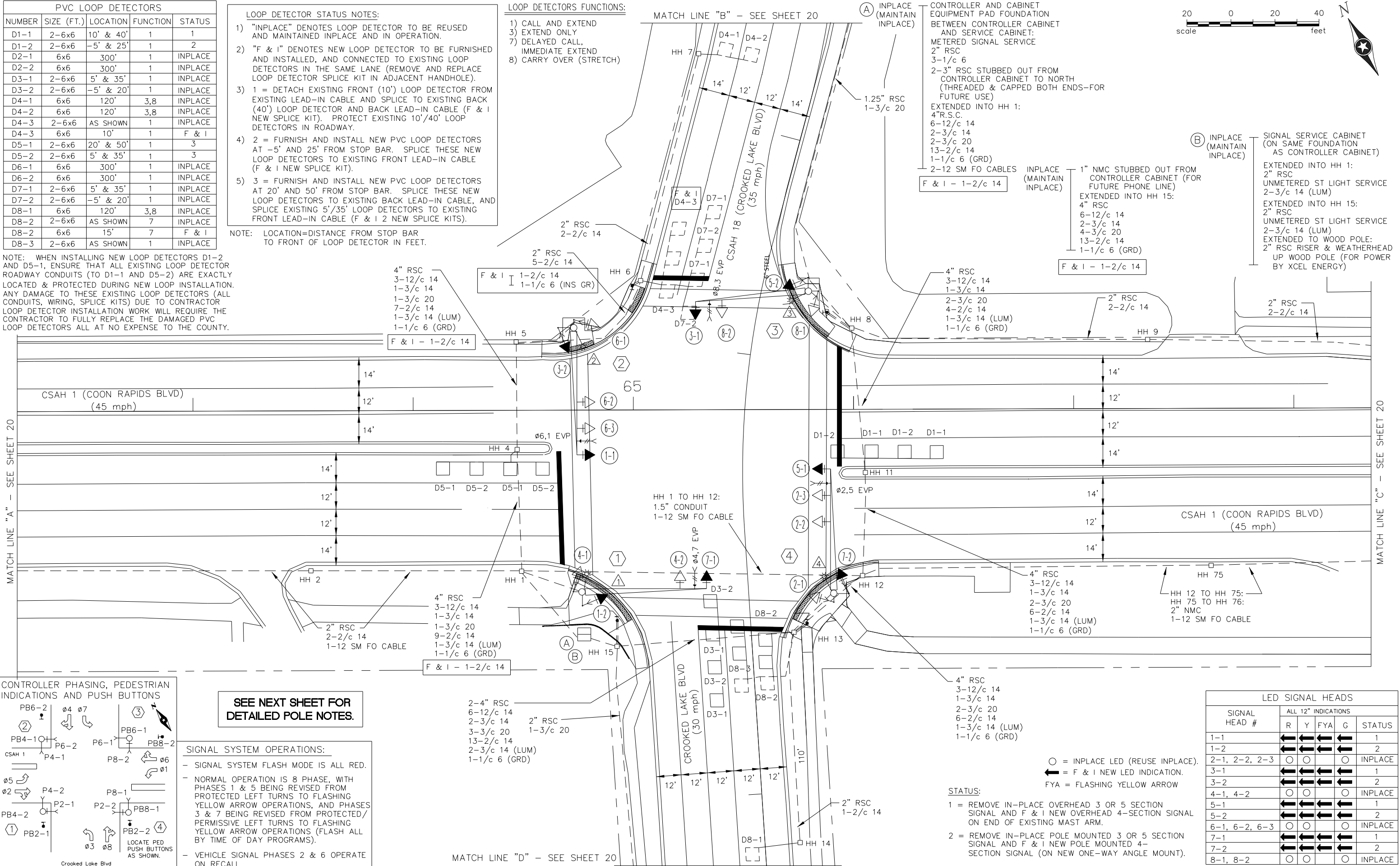
LOOP DETECTOR STATUS NOTES:

- "INPLACE" DENOTES LOOP DETECTOR TO BE REUSED AND MAINTAINED INPLACE AND IN OPERATION.
- "F & I" DENOTES NEW LOOP DETECTOR TO BE FURNISHED AND INSTALLED, AND CONNECTED TO EXISTING LOOP DETECTORS IN THE SAME LANE (REMOVE AND REPLACE LOOP DETECTOR SPLICE KIT IN ADJACENT HANDHOLE).
- 1 = DETACH EXISTING FRONT (10') LOOP DETECTOR FROM EXISTING LEAD-IN CABLE AND SPLICE TO EXISTING BACK (40') LOOP DETECTOR AND BACK LEAD-IN CABLE (F & I NEW SPLICE KIT). PROTECT EXISTING 10'/40' LOOP DETECTORS IN ROADWAY.
- 2 = FURNISH AND INSTALL NEW PVC LOOP DETECTORS AT -5' AND 25' FROM STOP BAR. SPLICE THESE NEW LOOP DETECTORS TO EXISTING FRONT LEAD-IN CABLE (F & I NEW SPLICE KIT).
- 3 = FURNISH AND INSTALL NEW PVC LOOP DETECTORS AT 20' AND 50' FROM STOP BAR. SPLICE THESE NEW LOOP DETECTORS TO EXISTING BACK LEAD-IN CABLE, AND SPLICE EXISTING 5'/35' LOOP DETECTORS TO EXISTING FRONT LEAD-IN CABLE (F & I 2 NEW SPLICE KITS).

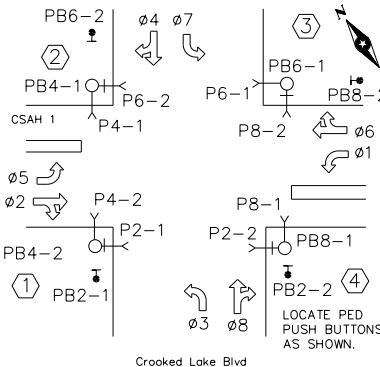
NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR IN FEET.

LOOP DETECTORS FUNCTIONS:

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL, IMMEDIATE EXTEND
- CARRY OVER (STRETCH)



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



SEE NEXT SHEET FOR DETAILED POLE NOTES.

SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1 & 5 BEING REVISED FROM PROTECTED LEFT TURNS TO FLASHING YELLOW ARROW OPERATIONS, AND PHASES 3 & 7 BEING REVISED FROM PROTECTED/PERMISSIVE LEFT TURNS TO FLASHING YELLOW ARROW OPERATIONS (FLASH ALL BY TIME OF DAY PROGRAMS).
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

LED SIGNAL HEADS					
SIGNAL HEAD #	ALL 12" INDICATIONS				STATUS
	R	Y	FYA	G	
1-1	←	←	←	←	1
1-2	←	←	←	←	2
2-1, 2-2, 2-3	○	○		○	INPLACE
3-1	←	←	←	←	1
3-2	←	←	←	←	2
4-1, 4-2	○	○		○	INPLACE
5-1	←	←	←	←	1
5-2	←	←	←	←	2
6-1, 6-2, 6-3	○	○		○	INPLACE
7-1	←	←	←	←	1
7-2	←	←	←	←	2
8-1, 8-2	○	○		○	INPLACE

- = INPLACE LED (REUSE INPLACE).
← = F & I NEW LED INDICATION.
FYA = FLASHING YELLOW ARROW

STATUS:

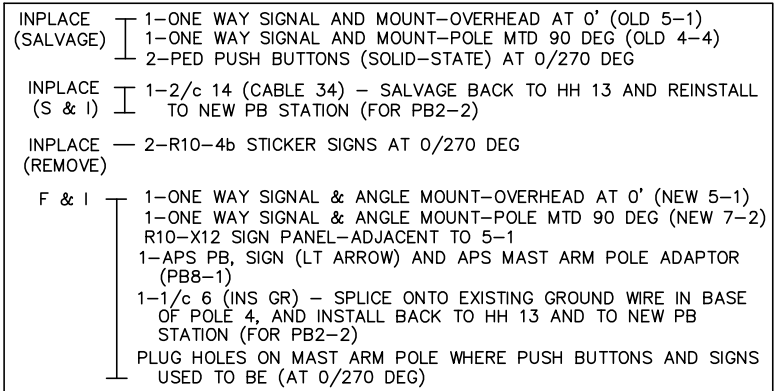
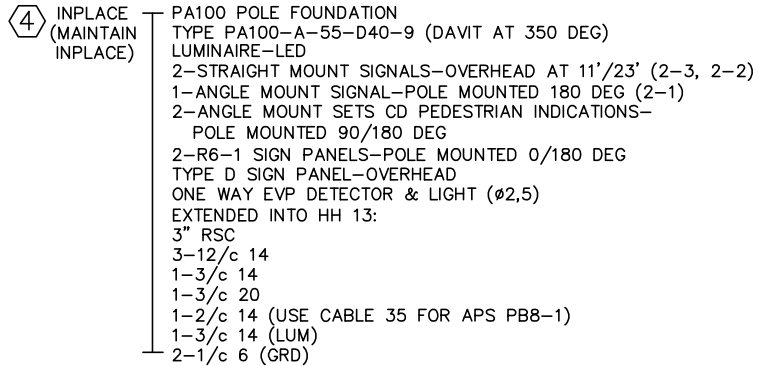
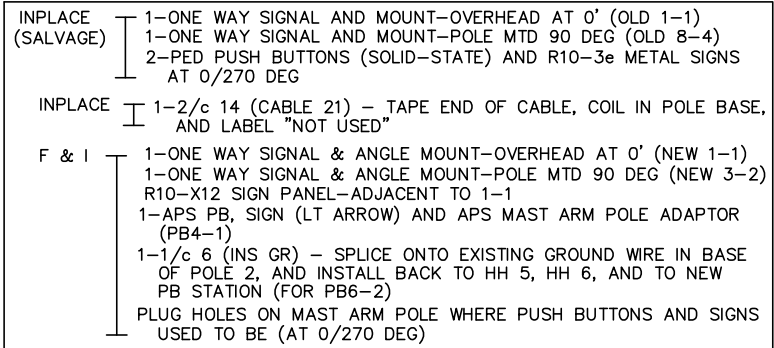
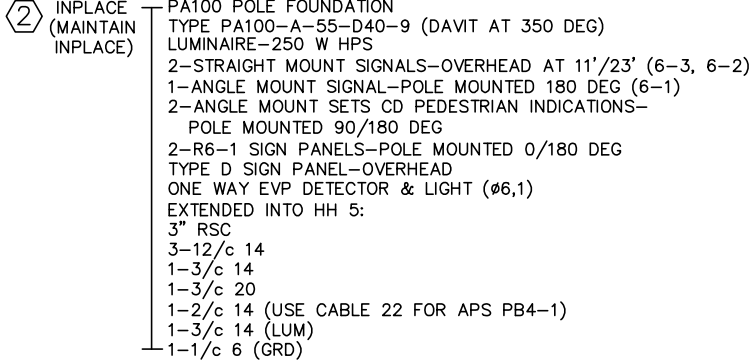
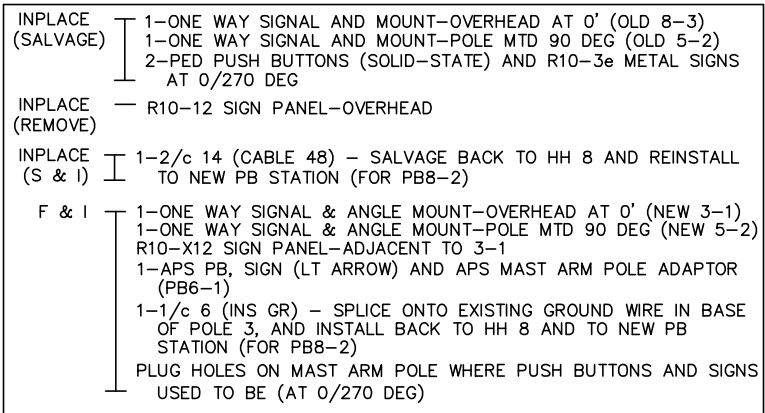
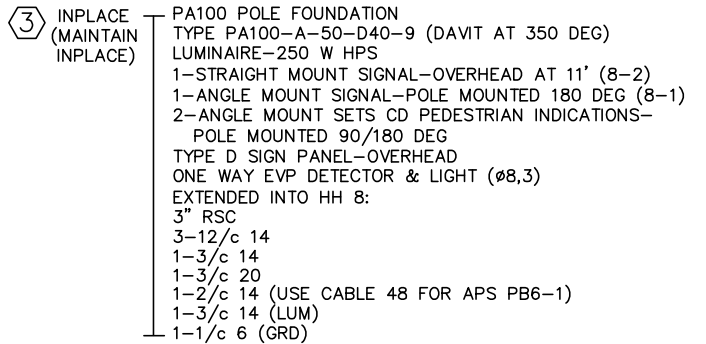
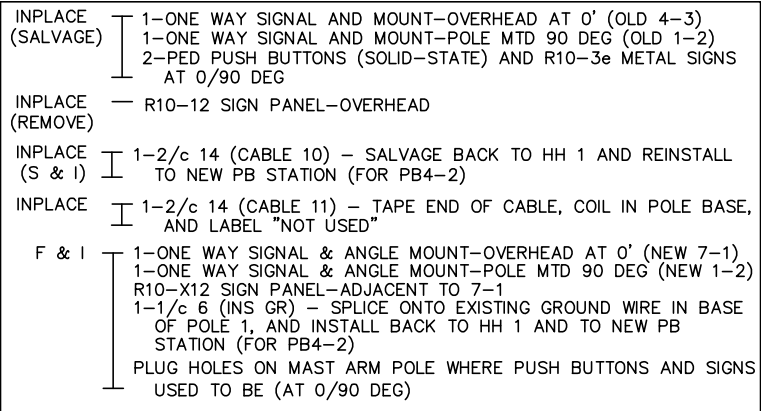
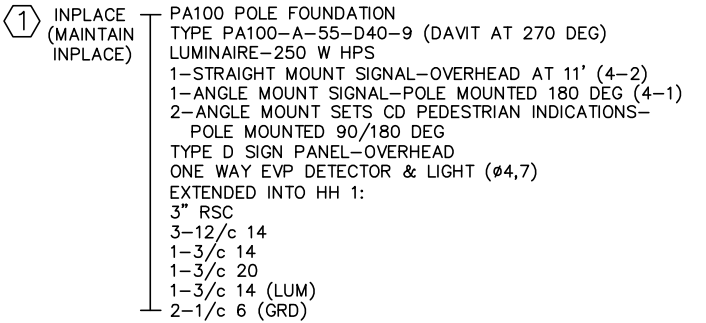
- REMOVE IN-PLACE OVERHEAD 3 OR 5 SECTION SIGNAL AND F & I NEW OVERHEAD 4-SECTION SIGNAL ON END OF EXISTING MAST ARM.
- REMOVE IN-PLACE POLE MOUNTED 3 OR 5 SECTION SIGNAL AND F & I NEW POLE MOUNTED 4-SECTION SIGNAL (ON NEW ONE-WAY ANGLE MOUNT).

SEH Project	173548	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	ANOKA COUNTY / CITY OF COON RAPIDS, MINNESOTA SAP 002-601-064	ADA/APS MODIFICATIONS REVISE SIGNAL SYSTEM - INTERSECTION LAYOUT CSAH 1 (COON RAPIDS BLVD) & CSAH 18 / CROOKED LAKE BLVD NW
Drawn By	JMG								
Designed By	JMG								
Checked By	JMG								

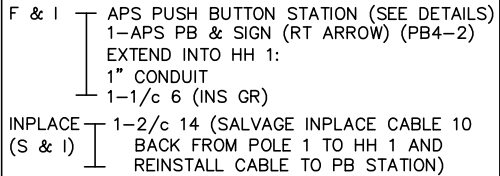
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REVISE SIGNAL SYSTEM NOTES:

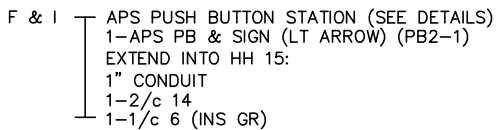
- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS BOXED IN AND NOTED OTHERWISE ON PLANS.
- 2) ALL HANDHOLES (PVC WITH METAL FRAMES AND COVERS) ARE INPLACE AND SHALL BE REUSED MAINTAINED INPLACE, EXCEPT AS FOLLOWS:
- ADJUST HANDHOLES 6, 8, 12, 13, AND 15 TO FINISHED SURROUNDING SIDEWALK OR BOULEVARD GRADE AFTER ALL WORK IS COMPLETED (REUSE EXISTING METAL FRAME & COVER).
 - ALL HANDHOLE ADJUSTMENT WORK WILL BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565 (REVISE SIGNAL SYSTEM). SEE DETAILS, SPECIAL PROVISIONS, AND STATEMENT OF ESTIMATED QUANTITIES.
- 3) LOCATION OF NEW LOOP DETECTORS AND PUSH BUTTON STATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 4) ALL CABLES AND CONDUCTORS, CONDUIT, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED OTHERWISE.
- 5) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) 12 AWG IN 3/4" NMC. LOOP DETECTORS IMPACTED BY EITHER CURB RAMP WORK OR RE-STRIPING WORK SHALL BE FURNISHED, INSTALLED & MADE OPERATIONAL BY CONTRACTOR TO SATISFACTION OF ENGINEER. SEE DETAILS & SPECIAL PROVISIONS.
- 6) CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING LOOP DETECTOR SPLICE KITS (FOR ANY LOOP DETECTOR BEING REPLACED OR MODIFIED AS PART OF THIS PROJECT) AND SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPLICE KITS IN THE ADJACENT HANDHOLE FOR THESE LOOP DETECTORS AS CALLED FOR IN THE SPECIAL PROVISIONS.
- 7) A SEPARATE PAY ITEM HAS BEEN ADDED (2565 – RIGID PVC LOOP DETECTOR 6' x 6') FOR BOTH MODIFICATION OF LOOP DETECTORS D1-2, D4-3, D5-1, AND D8-2 AS SHOWN AND FOR ANY ADDITIONAL REPLACEMENT OF LOOP DETECTORS (SHOULD ANY OTHER LOOP DETECTORS BE REQUIRED TO BE REPLACED BY THE CONTRACTOR DUE TO CURB RAMP/CURB AND GUTTER WORK, OR SIGNIFICANT STOP BAR RELOCATIONS) THAT CAUSES THE EXISTING LOOP DETECTOR TO BE DAMAGED OR NO LONGER IN AN OPTIMAL LOCATION FOR DETECTION. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT AND MAINTAIN EXISTING LOOP DETECTORS (INCLUDING LEAD-IN CONDUITS FROM HANDHOLE TO IN-PAVEMENT LOOP DETECTOR CONDUIT) AND SHALL NOTIFY THE ENGINEER IF THEY ANTICIPATE THAT A LOOP DETECTOR WILL BE DAMAGED DUE TO THEIR WORK. COUNTY WILL PROVIDE INITIAL LOCATION OF THE EXISTING LOOP DETECTORS FOR CONTRACTOR TO BE ABLE TO PLAN FOR WORKING AROUND THESE LOOP DETECTORS.
- ALL LOOP DETECTOR REPLACEMENT OR INSTALLATION WORK WILL BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565 (REVISE SIGNAL SYSTEM). SEE DETAILS, SPECIAL PROVISIONS, AND STATEMENT OF ESTIMATED QUANTITIES.
- 8) CONTRACTOR SHALL MAINTAIN A SIGNAL SYSTEM IN OPERATION AT THIS INTERSECTION AT ALL TIMES, UNLESS OTHERWISE APPROVED BY THE ENGINEER FOR THE SIGNAL SYSTEM TO BE PLACED INTO ALL-RED FLASH DURING NON-PEAK TRAFFIC PERIODS (FOR WORK THAT REQUIRES THE SIGNAL SYSTEM TO BE OUT OF OPERATION OR TO ACCOMMODATE ROAD WORK AT THE INTERSECTION).
- 9) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), DUE TO TRAFFIC SIGNAL OR ROAD WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- 10) F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
- 11) ALL VEHICULAR AND PEDESTRIAN SIGNAL HEADS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AND IN OPERATION AT ALL TIMES, UNLESS OTHERWISE NOTED IN THE PLANS FOR VEHICLE SIGNAL HEADS TO BE REMOVED AND REPLACED TO ACCOMMODATE FLASHING YELLOW ARROW WORK. (INCIDENTAL TO ITEM NO. 2565 – REVISE SIGNAL SYSTEM).
- 12) ALL NEW VEHICULAR SIGNAL HEADS SHALL HAVE BACKGROUND SHIELDS FURNISHED & INSTALLED BY CONTRACTOR. ALL INPLACE VEHICULAR SIGNAL HEADS BEING REUSED AS PART OF THE REVISE SIGNAL SYSTEM HAVE BACKGROUND SHIELDS (REUSE AND MAINTAIN INPLACE).
- ALL NEW VEHICULAR SIGNAL HOUSINGS, BACKGROUND SHIELDS AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- 13) SEE STATEMENT OF ESTIMATED QUANTITIES, SPECIAL PROVISIONS AND SIGN TABULATION PLANS REGARDING NEW OVERHEAD SIGN PANELS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR, AND FOR INPLACE R10-12 SIGN PANELS TO BE REMOVED BY THE CONTRACTOR (ALL TO BE MEASURED AND PAID FOR SEPARATELY FROM ITEM NO. 2565 – REVISE SIGNAL SYSTEM).



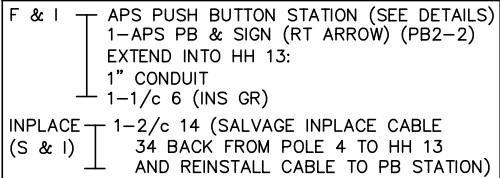
SW QUADRANT



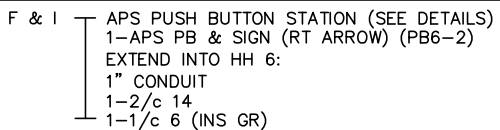
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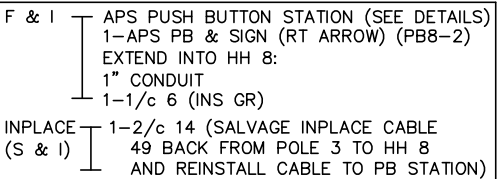
SE QUADRANT



NW QUADRANT



NE QUADRANT



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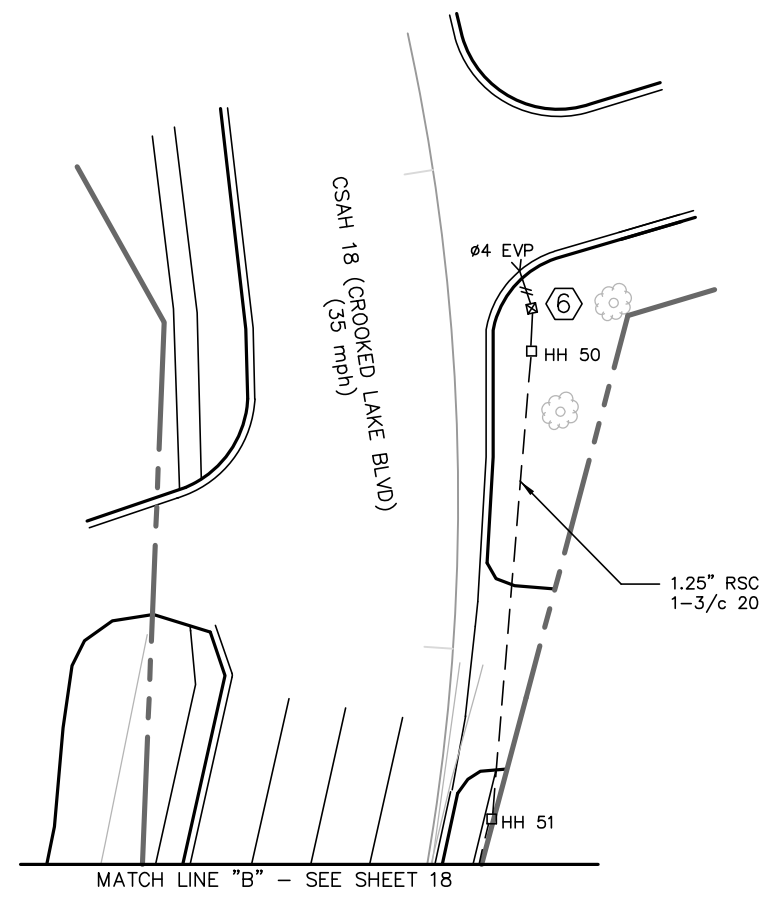
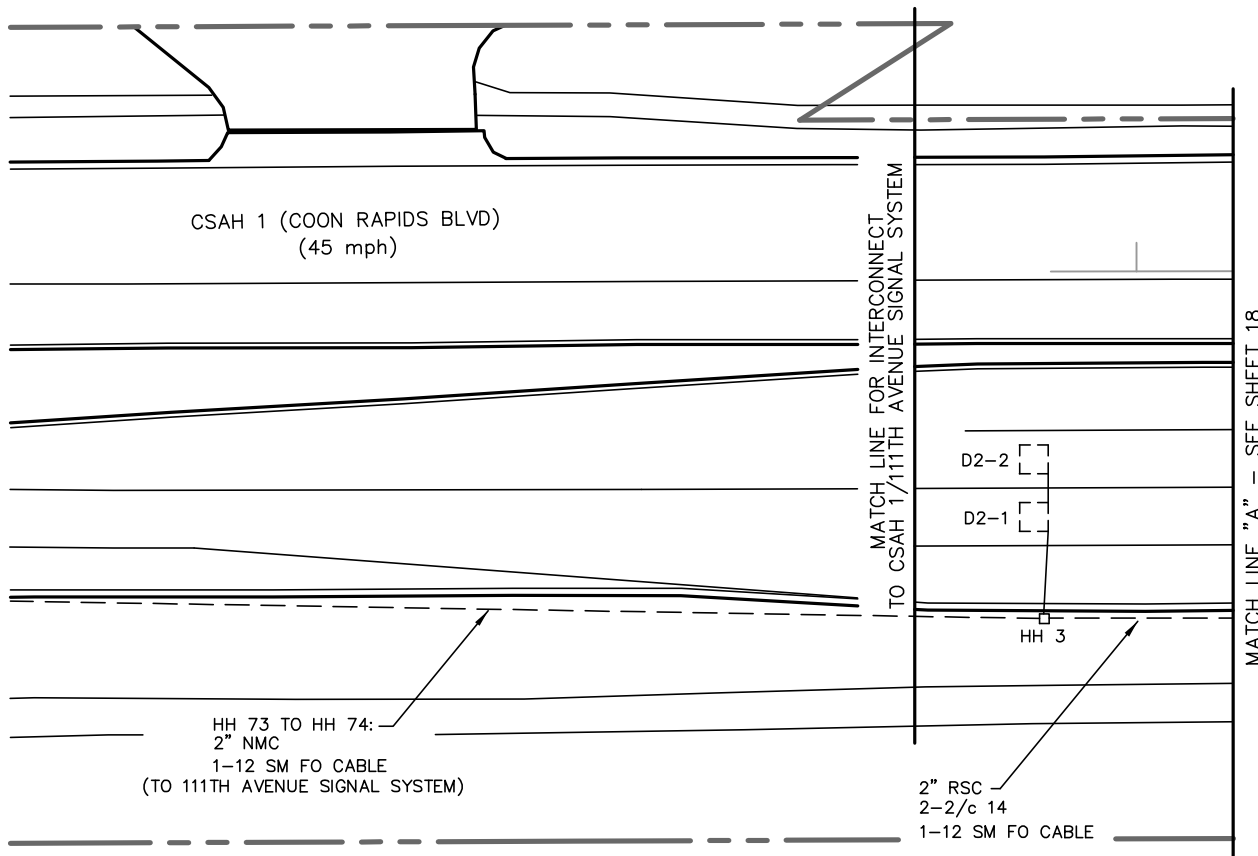
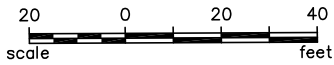


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

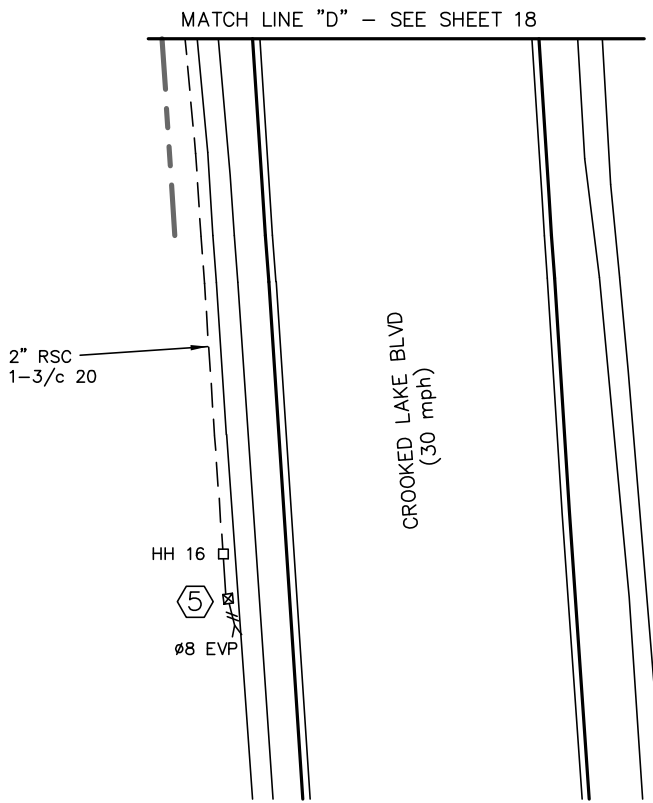
JOHN M. GRAY, PE
DATE 07-17-2023
LICENSE NO. 22457

ANOKA COUNTY /
CITY OF COON RAPIDS,
MINNESOTA
SAP 002-601-064

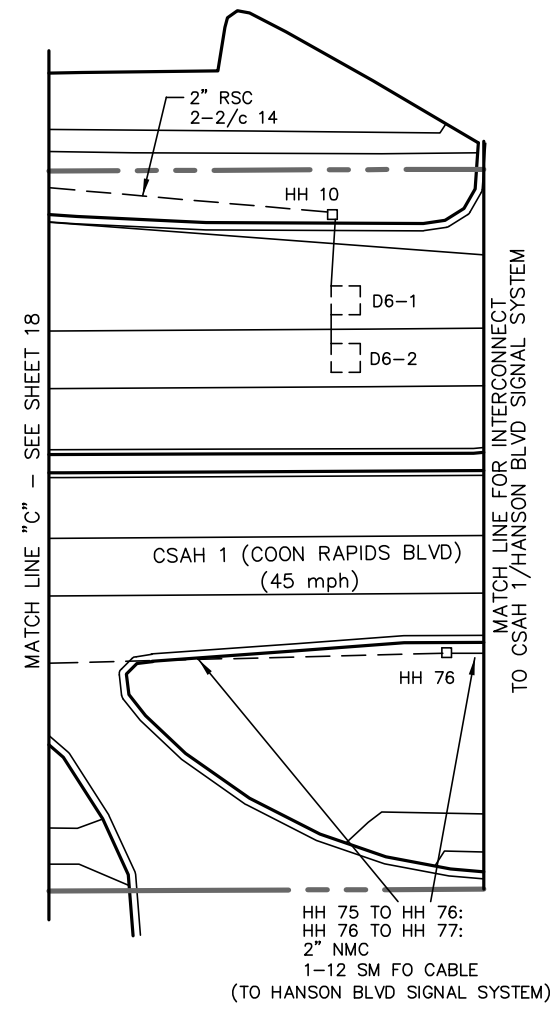
ADA/APS MODIFICATIONS
REVISE SIGNAL SYSTEM - POLE AND GENERAL NOTES
CSAH 1 (COON RAPIDS BLVD) &
CSAH 18 / CROOKED LAKE BLVD NW



6 INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
10' PEDESTAL POLE (INCLUDES BASE)
WIND COLLAR FOR PEDESTAL POLE
ONE WAY EVP DETECTOR-MOUNT
ON TOP OF PEDESTAL POLE) (Ø4,7)
EXTENDED INTO HH 50:
2" RSC
1-3/c 20



5 INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
10' PEDESTAL POLE (INCLUDES BASE)
WIND COLLAR FOR PEDESTAL POLE
ONE WAY EVP DETECTOR-MOUNT
ON TOP OF PEDESTAL POLE) (Ø8,3)
EXTENDED INTO HH 16:
2" RSC
1-3/c 20



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Drawn By	JMG						
Designed By	JMG						
Checked By	JMG						



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ANOKA COUNTY /
CITY OF COON RAPIDS,
MINNESOTA
SAP 002-601-064

ADA/APS MODIFICATIONS
REVISE SIGNAL SYSTEM - MATCH LINES
CSAH 1 (COON RAPIDS BLVD) &
CSAH 18 / CROOKED LAKE BLVD NW

- 1) ALL CABLES AND CONDUCTORS, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT AS OTHERWISE NOTED.
- 2) ▲ DENOTES NEW CABLES & CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
- 3) ▲▲ DENOTES INPLACE CABLES & CONDUCTORS TO BE SALVAGED FROM SIGNAL POLE BACK TO HANDHOLE(S) AND REINSTALLED TO NEW PUSH BUTTON STATION.
- 4) (**) DENOTES NEW LABELING/TERMINATIONS ON INPLACE CABLES/CONDUCTORS IN POLE BASE AND IN CONTROLLER CABINET.
- 5) (F & I) DENOTES NEW LOOP DETECTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (ADD NEW LOOPS TO INPLACE CABLES 16, 17, 25 40, 43, 44).
- 6) ALL GROUND WIRES ARE INPLACE AND SHALL BE REUSED AS SHOWN, EXCEPT AS FOLLOWS: FURNISH AND INSTALL NEW 1/C 6 INS GROUND WIRES FROM EACH POLE BASE AS SHOWN TO ADJACENT PUSH BUTTON STATIONS, EXCEPT FOR NEED TO FURNISH AND INSTALL NEW GROUND WIRE FROM CONTROLLER CABINET TO HH 15 AND PB STATION PB2-1.
- 7) ● DENOTES NEW TERMINATIONS ON INPLACE OR NEW CABLES AND CONDUCTORS.
● DENOTES INPLACE TERMINATIONS (REUSE INPLACE).

