

**SIGNAL HEAD CHART**

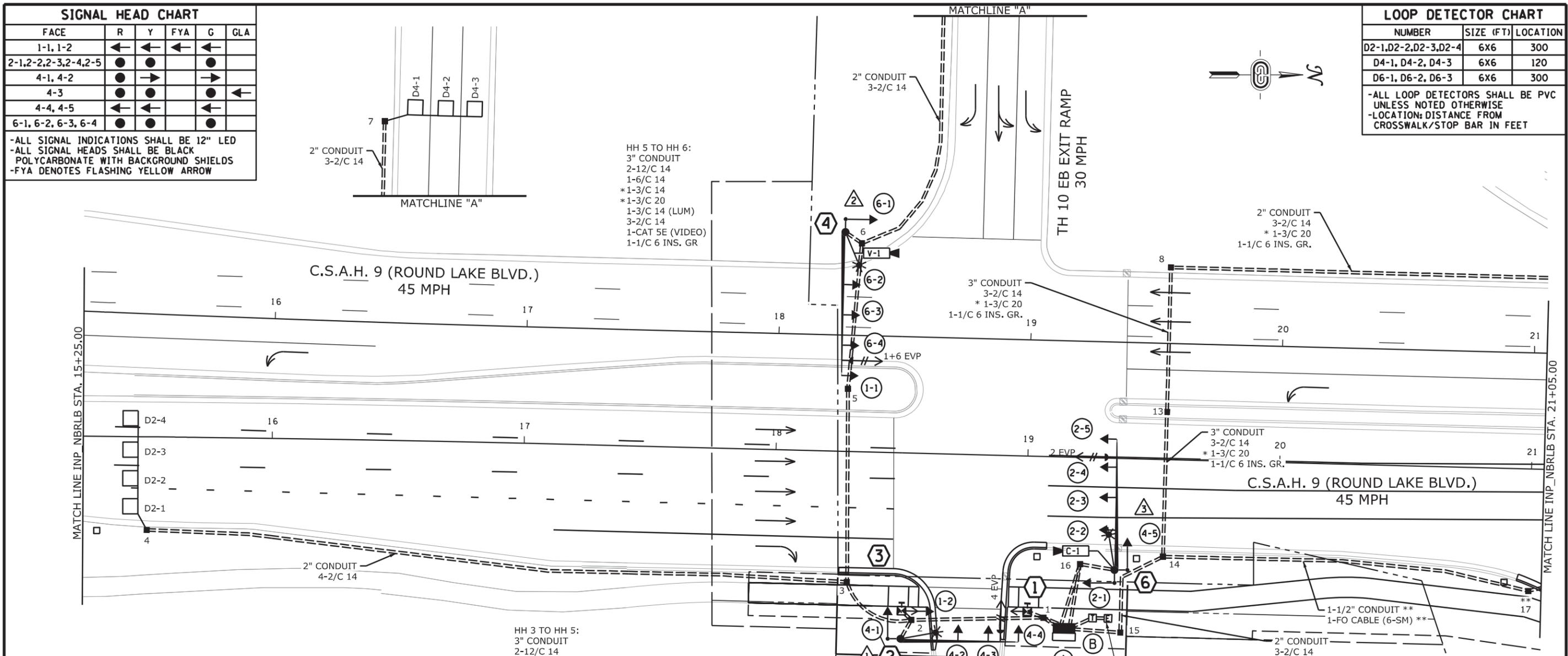
FACE	R	Y	FYA	G	GLA
1-1, 1-2	←	←	←	←	
2-1, 2-2, 2-3, 2-4, 2-5	●	●	●	●	
4-1, 4-2	●	→		→	
4-3	●	●		●	←
4-4, 4-5	←	←	←	←	
6-1, 6-2, 6-3, 6-4	●	●		●	

-ALL SIGNAL INDICATIONS SHALL BE 12" LED  
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS  
 -FYA DENOTES FLASHING YELLOW ARROW

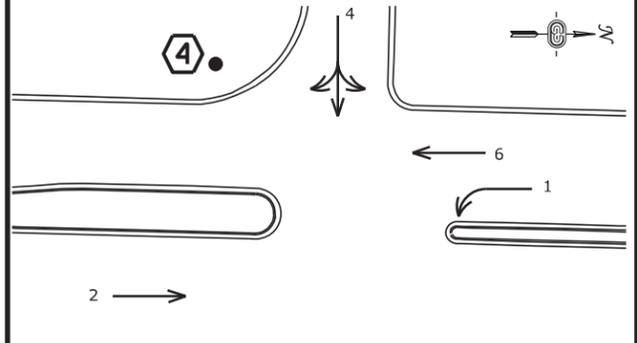
**LOOP DETECTOR CHART**

NUMBER	SIZE (FT)	LOCATION
D2-1, D2-2, D2-3, D2-4	6X6	300
D4-1, D4-2, D4-3	6X6	120
D6-1, D6-2, D6-3	6X6	300

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE  
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



**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 4 PHASE, WITH PHASE(S) 1 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID: 4035906 T.E. 23876  
 METER ADDRESS: 12921 ROUND LAKE BLVD  
 OLD SYSTEM ID: 1735929 (21854)

- NOTES:**
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
  - ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY MNDOT OFFICE PERSONNEL.
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM.
  - FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCLUDED IN SIGNAL SYSTEM "A" PAY ITEM.
  - FOR PAVEMENT MARKINGS SEE PAVEMENT MARKING PLANS.
  - FOR CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK SEE INTERSECTION DETAIL SHEETS.
  - THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD. CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
  - USE PVC OR HDPE FOR ALL NEW CONDUIT.
  - CONDUIT SIZES ARE NOMINAL DIAMETER.
  - ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE).
  - ITEMS DENOTED WITH AN \* ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM "A" PAY ITEM.
  - ITEMS DENOTED WITH AN \*\* ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT SYSTEM "A" PAY ITEM.

USER: km12thun  
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 FILE: S:\PROJECTS\TRANS\039\_MNDOT\T-005556\Design\SP021577\_RoundLakeBlvd\_TH10\Road\_Design\Sheets\cd021577\NOB\Bldgn 11 - Signal Plan Layout A  
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 PLOT DATE: 10/19/2020 9:27:42 AM

REV. NO.	DATE	BY	CHK	DESCRIPTION



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.

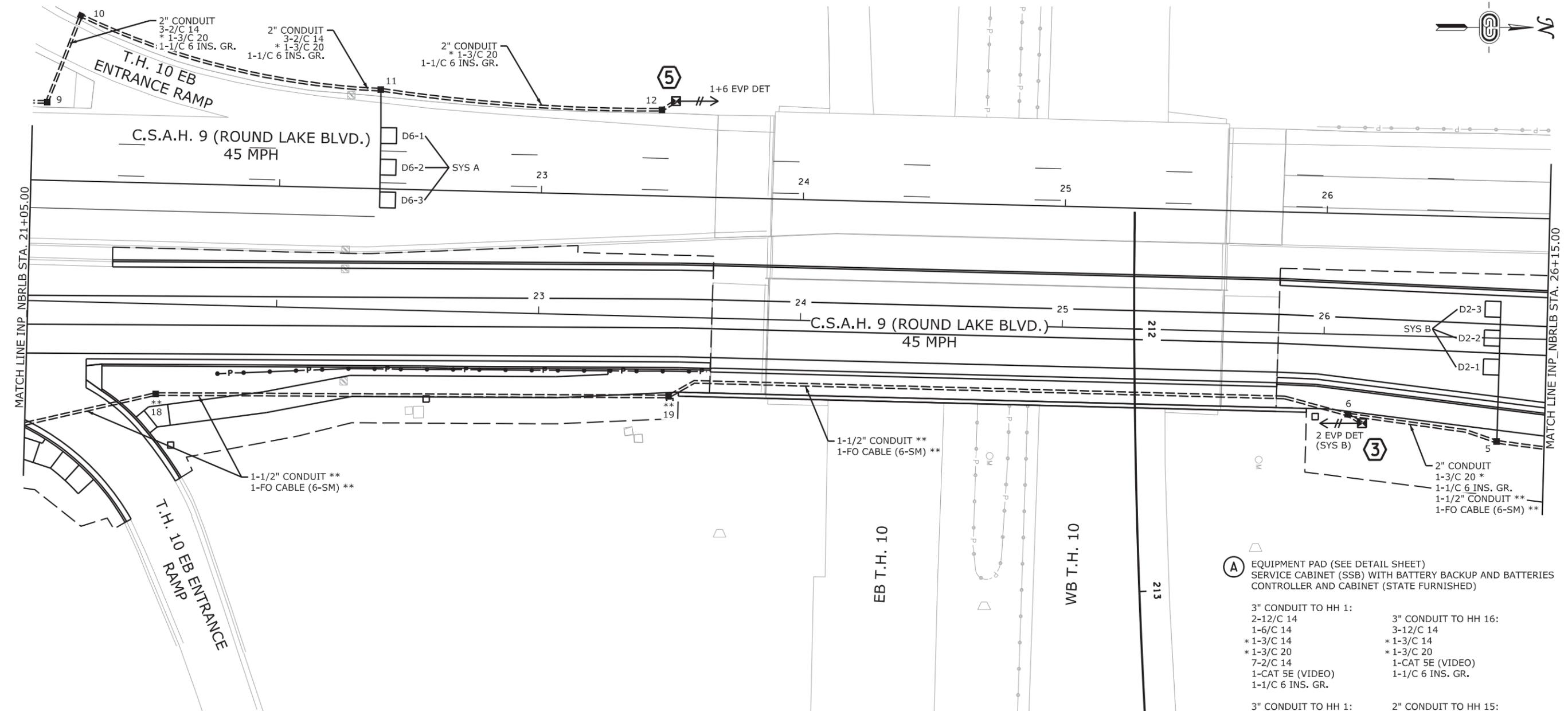
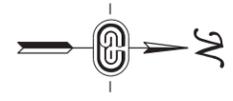
*Brian P. Vitek*  
 NAME: BRIAN P. VITEK LIC. NO. 40444 DATE: 10/19/2020

DESIGNED: BPV  
 DRAWN: BPV  
 CHECKED: KEM



TRAFFIC CONTROL SIGNAL SYSTEM A - SOUTH RAMP  
 INTERSECTION LAYOUT  
 S.A.P. 002-609-020, S.A.P. 114-020-056  
 S.P. 0215-77 (TH 10)

SHEET 159 OF 175  
 PLAN PAGE 10 of 26



- ① PEDESTAL FOUNDATION  
10' PEDESTAL POLE PLUS BASE  
1-STRAIGHT MOUNT C.D. PED HEAD  
AT 0 DEG  
1-APS PB AND SIGN (RT ARROW) (PB2-2)  
AND APS PB MOUNTING SPACERS  
3" CONDUIT TO HH 1:  
1-4/C 14  
1-2/C 14  
1-1/C 6 INS. GR.
- ② PA100 POLE FOUNDATION  
TYPE PA100-A-45-D40-9 DAVIT AT 350 DEG (STATE FURNISHED)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 11' AND 23'  
1-ANGLE MOUNT SIGNAL AT 180 DEG  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (PHASE 4)  
LUMINAIRE LED (FOR 40' MOUNTING HEIGHT)  
1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)  
3" CONDUIT TO HH 2:  
2-12/C 14  
\* 1-3/C 14  
\* 1-3/C 20  
1-3/C 14 (LUM)  
1-1/C 6 INS. GR.

- ③ PEDESTAL FOUNDATION  
15' PEDESTAL POLE PLUS BASE  
1-STRAIGHT MOUNT SIGNAL HEAD  
AT 0 DEG  
1-STRAIGHT MOUNT C.D. PED HEAD  
AT 0 DEG  
1-APS PB AND SIGN (LT ARROW) (PB2-1)  
AND APS PB MOUNTING SPACERS  
3" CONDUIT TO HH 2:  
1-12/C 14  
1-4/C 14  
1-2/C 14  
1-1/C 6 INS. GR.

- ④ PA100 POLE FOUNDATION  
TYPE PA100-A-55-D40-9 DAVIT AT 350 DEG (STATE FURNISHED)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
3-STRAIGHT MOUNT SIGNALS OVERHEAD  
AT 11', 23' AND 35'  
1-ANGLE MOUNT SIGNAL AT 180 DEG  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (PHASE 1+6)  
1-VIDEO DETECTION CAMERA (V-1)  
(STATE FURNISHED)  
LUMINAIRE LED (FOR 40' MOUNTING HEIGHT)  
1-R10-X12 SIGN ADJACENT TO HEAD (1-1)  
3" CONDUIT TO HH 6:  
2-12/C 14  
1-6/C 14  
\* 1-3/C 14  
\* 1-3/C 20  
1-3/C 14 (LUM)  
1-CAT 5E (VIDEO)  
1-1/C 6 INS. GR.

- ⑤ PEDESTAL FOUNDATION  
10' PEDESTAL POLE PLUS BASE  
1-ONE WAY EVP DETECTOR  
(PHASE 1+6)  
2" CONDUIT TO HH 12:  
\* 1-3/C 20  
1-1/C 6 INS. GR.

- ⑥ PA100 POLE FOUNDATION  
TYPE PA100-A-50-X350/CAM 400 EXTENSION  
DAVIT AT 350 DEG (STATE FURNISHED)  
1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
3-STRAIGHT MOUNT SIGNALS OVERHEAD  
AT 11', 23' AND 35'  
2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG  
1-ONE WAY EVP DETECTOR AND  
CONFIRMATORY LIGHT (PHASE 2)  
1-IP CAMERA (C-1) AND CAMERA MOUNT  
(STATE FURNISHED)  
MOUNTED ON CAM 400 EXTENSION  
LUMINAIRE LED (FOR 40' MOUNTING HEIGHT)  
3" CONDUIT TO HH 16:  
3-12/C 14  
\* 1-3/C 14  
\* 1-3/C 20  
1-3/C 14 (LUM)  
1-CAT 5E (VIDEO)  
1-1/C 6 INS. GR.

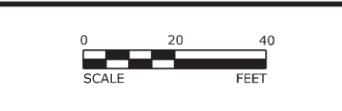
- Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)  
SERVICE CABINET (SSB) WITH BATTERY BACKUP AND BATTERIES  
CONTROLLER AND CABINET (STATE FURNISHED)
- 3" CONDUIT TO HH 1:  
2-12/C 14  
1-6/C 14  
\* 1-3/C 14  
\* 1-3/C 20  
7-2/C 14  
1-CAT 5E (VIDEO)  
1-1/C 6 INS. GR.
- 3" CONDUIT TO HH 16:  
3-12/C 14  
\* 1-3/C 14  
\* 1-3/C 20  
2-2/C 14
- GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD  
2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)  
1-1/2" CONDUIT TO TO HH 15:  
\*\* 1-FO PIGTAIL (6-SM)  
\*\* CONTROLLER CABINET TO SERVICE CABINET:  
2" CONDUIT  
3-1/C 6  
CONTROLLER CABINET TO SERVICE CABINET (COMMS):  
2" CONDUIT  
1-6PR 19
- SERVICE CABINET TO TO GROUND MOUNTED TRANSFORMER:  
2" CONDUIT  
3-1/C 2
- SERVICE CABINET TO HH 1:  
2-3/C 14 (LUM)  
SERVICE CABINET TO HH 16:  
1-3/C 14 (LUM)  
SERVICE CABINET TO EXTERNAL GR. RD:  
1" CONDUIT  
1-1/C 6 INS. GR.

- Ⓑ SOP - GROUND MOUNTED  
TRANSFORMER (CONNEXUS ENERGY)  
2" CONDUIT INTO SERVICE CABINET:  
3-1/C 2

SYSTEM ID: 4035906 T.E. 23876  
METER ADDRESS: 12921 ROUND LAKE BLVD  
OLD SYSTEM ID: 1735929 (21854)

USER: mkahl  
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*Brian P. Vitek*  
 NAME: BRIAN P. VITEK LIC. NO. 40444 DATE: 11/05/2020

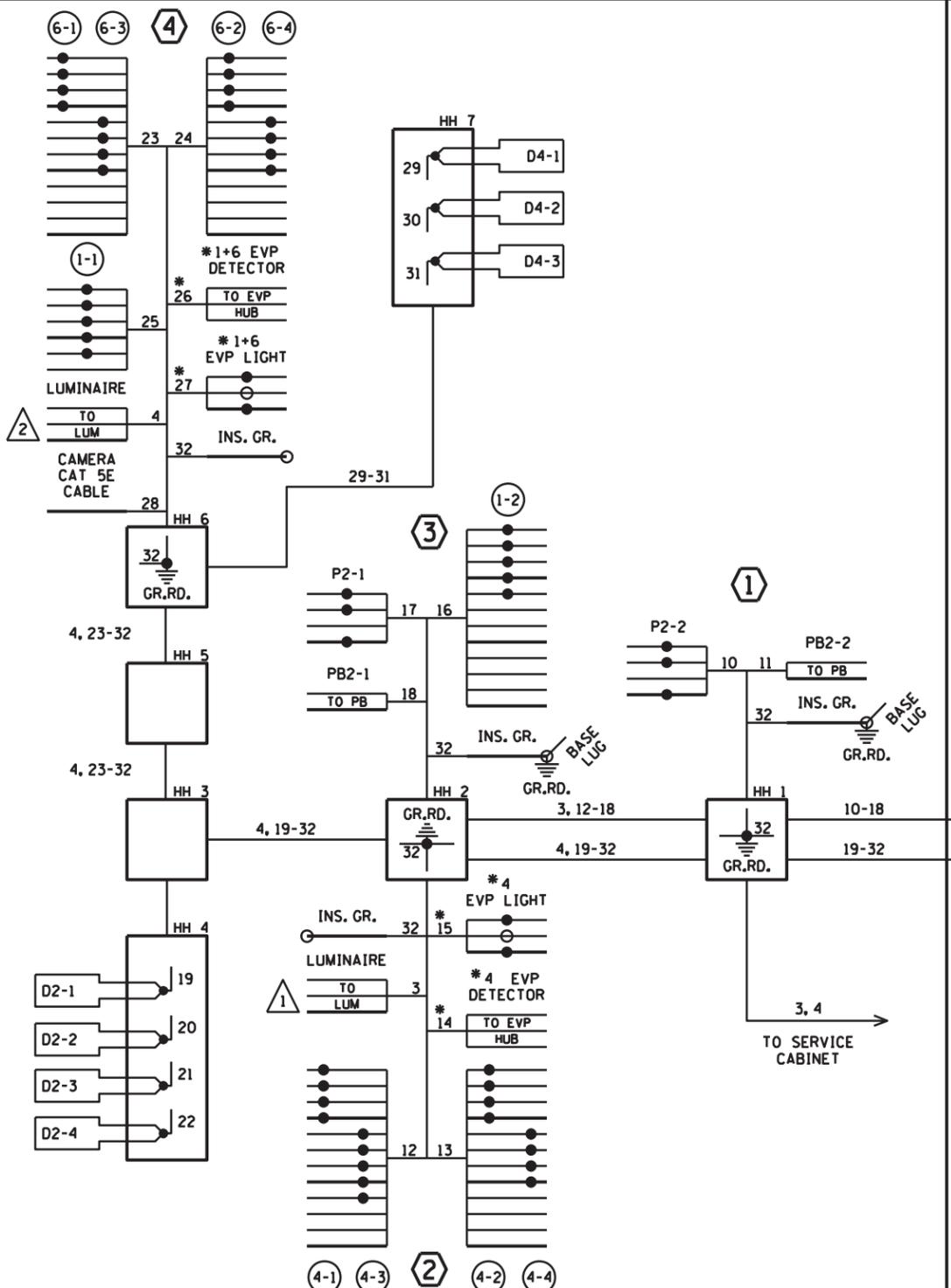
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BPV  
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BPV  
CHECKED  
KEM



TRAFFIC CONTROL SIGNAL SYSTEM A - SOUTH RAMP  
 INTERSECTION NOTES / MATCHLINES PLAN PAGE 11 of 26  
 S.A.P. 002-609-020, S.A.P. 114-020-056  
 S.P. 0215-77 (TH 10)

SHEET  
160  
OF  
175

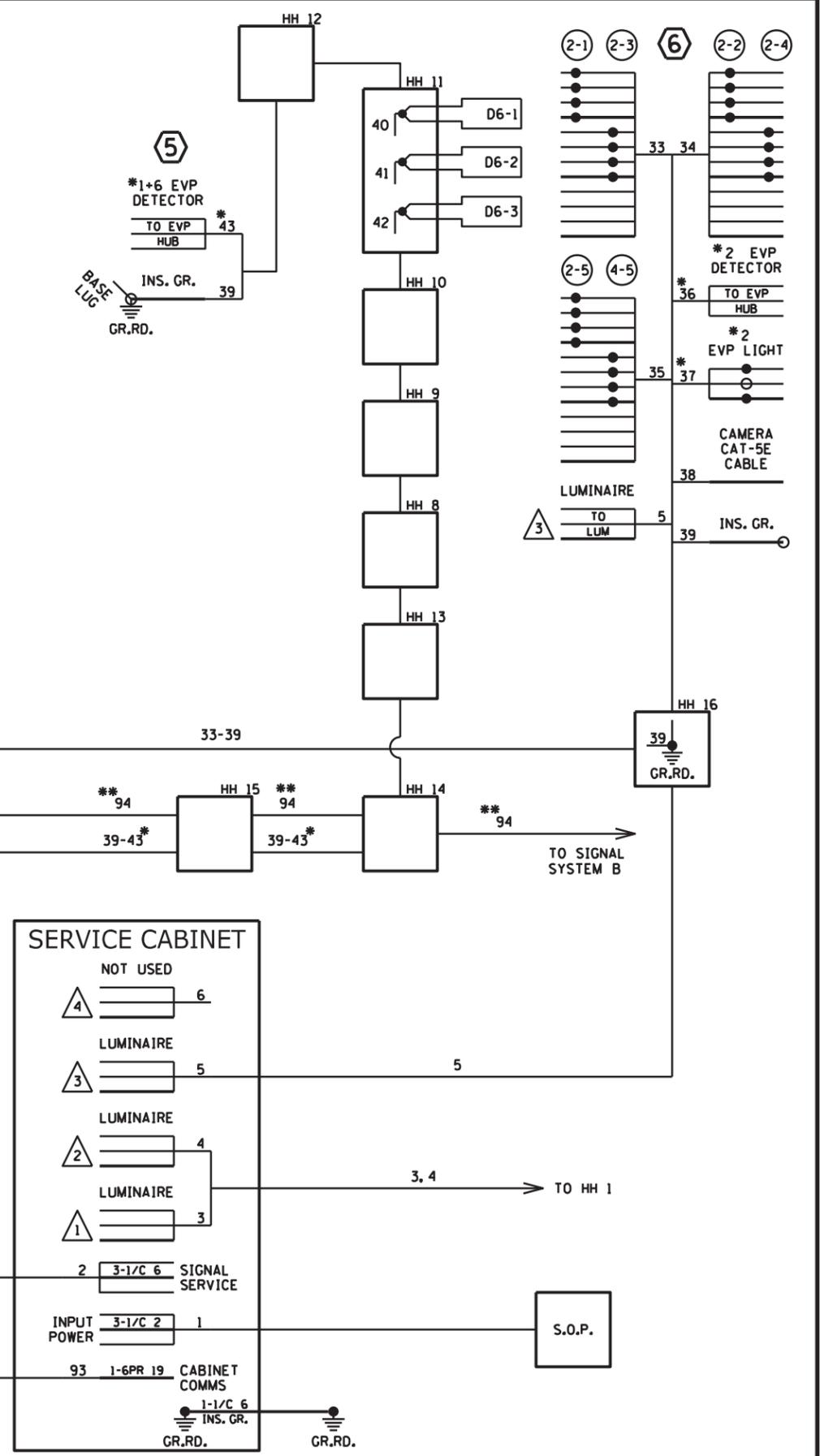
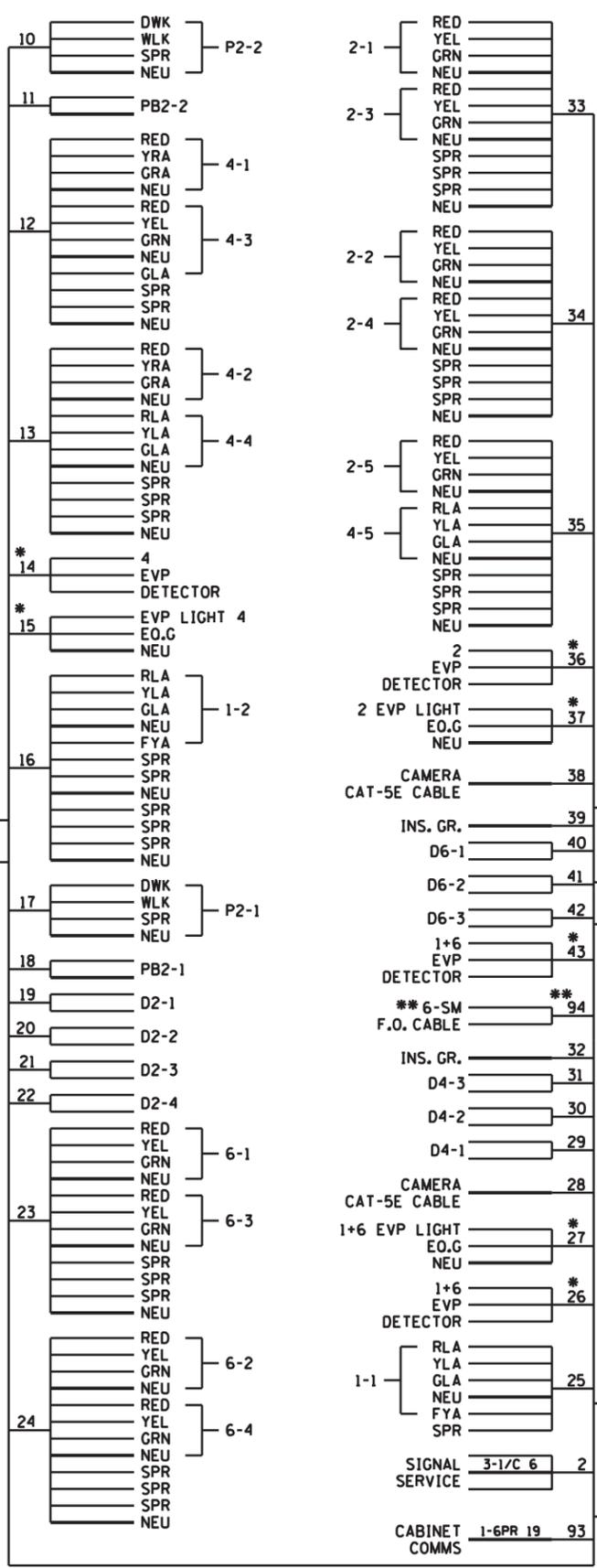
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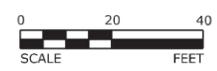
- NOTES:**
1. SIGNAL SYSTEM INCLUDES BATTERY- BACKUP SERVICE CABINET (WITH BATTERIES AND U.P.S.).
  2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL POLE WIRING CONNECTOR DETAIL.
  3. ITEMS DENOTED WITH AN \* ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM A PAY ITEM.
  4. ITEMS DENOTED WITH AN \*\* ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT SYSTEM A PAY ITEM.

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**CONTROLLER CABINET**



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 NAME: BRIAN P. VITEK LIC. NO. 40444 DATE: 11/05/2020

DESIGNED: BPV  
 DRAWN: BPV  
 CHECKED: KEM



TRAFFIC CONTROL SIGNAL SYSTEM A - SOUTH RAMP  
 FIELD WIRING DIAGRAM  
 S.A.P. 002-609-020, S.A.P. 114-020-056  
 S.P. 0215-77 (TH 10)

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