

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB4-1)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (LT ARROW) (PB6-2)
EXTEND INTO HH 4:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB2-1)
EXTEND INTO HH 6:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS GR)

N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	4-6x6	AS SHOWN	1
D2-1	2-6x6	300'	1
D4-1	2-6x6	100'	3
D4-2	2-6x6	0' & 15'	7
D4-3	2-6x6	0' & 15'	1
D5-1	4-6x6	AS SHOWN	1
D6-1	2-6x6	400'	1
D8-1	6x18	100'	3
D8-2	2-6x6	AS SHOWN	7
D8-3	2-6x6	AS SHOWN	1

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

FUNCTIONS:
1 = CALL AND EXTEND
3 = EXTEND ONLY
7 = DELAYED CALL, IMMEDIATE EXTEND

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (LT ARROW) (PB2-2)
EXTEND INTO HH 1:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB8-1)
EXTEND INTO HH 1:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (RT ARROW) (PB6-1)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS GR)

F & I APS PUSH BUTTON STATION (SEE DETAILS)
1-APS PB & SIGN (LT ARROW) (PB8-2)
EXTEND INTO HH 3:
1" CONDUIT
1-2/C 14
1-1/C 6 (INS GR)

(B) CABINET FOUNDATION
SIGNAL SERVICE CABINET
EXTENDED INTO H.H.9:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
3-1/c#5
EXTENDED INTO H.H.9 AND TO SOP:
1 1/4" R.S.C.
3-1/c#5
EXTENDED INTO H.H.4:
UNMETERED STREET LIGHT SERVICE
1 1/4" R.S.C.
4-1/c#10 (LUM)

3" R.S.C.
2-12/c#12
3-3/c#12
3-2/c#14
2-1/c#10 (LUM)
1-3/c#12
1-3/c#20

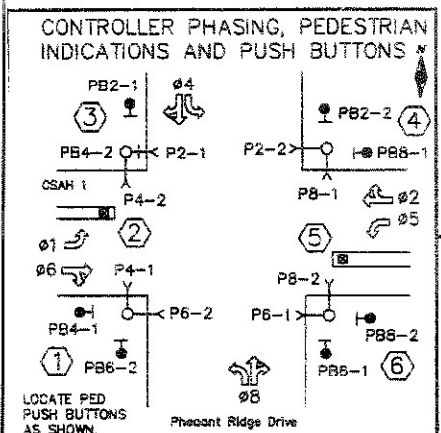
1 1/4" R.S.C.
3-2/c#14

F & I 2-2/C 14
1-1/C 6 (INS GR)

1 1/4" R.S.C.
1-2/c#14

MATCH LINE "E" (INTERCONNECT)
(TO CSAH 1/ROUND LAKE BLVD SIGNAL SYSTEM)

MATCH LINE "F" (INTERCONNECT)
(TO CSAH 1/MISSISSIPPI BLVD SIGNAL SYSTEM)



SIGNAL SYSTEM OPERATIONS:
- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE, WITH PHASES 1 AND 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

(A) CABINET FOUNDATION
CONTROLLER AND CABINET
EXTENDED INTO H.H.8:
METERED SIGNAL SERVICE
1 1/4" R.S.C.
3-1/c#5
CONTROLLER CABINET TO H.H.4:
3-3" R.S.C.
7-12/c#12
12-3/c#12
10-2/c#14
4-3/c#12
5-3/c#20
2-12 SM FO CABLES

F & I 8-2/C 14
2-1/C 6 (INS GR)

2-3" R.S.C.
3-12/c#12
6-3/c#12
5-2/c#14
2-1/c#10 (LUM)
2-3/c#12
3-3/c#20

F & I 4-2/C 14
1-1/C 6 (INS GR)

H.H.3 TO H.H.4:
1.5" CONDUIT
1-12 SM FO CABLE

3" R.S.C.
3-12/c#12
4-3/c#12
2-2/c#14
1-3/c#12
2-3/c#20

F & I 2-2/C 14
1-1/C 6 (INS GR)

(7) INPLACE — 2-PEDESTRIAN PUSH BUTTONS (SALVAGE)
INPLACE (REMOVE) PED PUSH BUTTON STATION (4" RSC) AND CONCRETE FOUNDATION
EXTENDED INTO HH 3:
1.25" RSC
2-3/C 12 (REMOVE BACK THROUGH HH 3 TO POLE 6—CABLE 12—AND STORE CABLE 12 IN BASE OF POLE 6)

LED SIGNAL FACES			
SIGNAL FACE	ALL 12"		
	R	Y	G
1-1	←	←	←
2-1, 2-2	○	○	○
4-1, 4-2, 4-3, 4-4	○	○	○
5-1	←	←	←
6-1, 6-2	○	○	○
8-1, 8-2, 8-3	○	○	○

○ ← = INPLACE LED INDICATION, REUSE INPLACE.

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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.
Date: May 9, 2022 Name: John M. Gray, PE Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "H"
INTERSECTION LAYOUT
CSAH 1 (COON RAPIDS BOULEVARD)
AT PHEASANT RIDGE DRIVE

FILE NO. 63R
ANOKC 122928
SIGNAL SHEET 29 OF 35
94

COUNTY PROJECT 22-19-01

REVISE SIGNAL SYSTEM H 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 ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT AS FOLLOWS:
- ADJUST HANDHOLES 1, 2, 3, 4, 5, 6, AND 14 TO FINISHED SURROUNDING SIDEWALK, MEDIAN, OR BOULEVARD GRADE AFTER ALL WORK IS COMPLETED.
 - REMOVE INPLACE CONCRETE FRAME AND COVER (HH 2, 3, 4, 5, 6, AND 14) AND INPLACE TYPE LD FRAME AND COVER (HH 1), AND FURNISH AND INSTALL NEW PVC METAL FRAME AND COVER ON EACH OF THESE HANDHOLES AFTER CONCRETE HANDHOLE BODY HAS BEEN ADJUSTED, SO THAT NEW COVER IS INSTALLED TO BE FLUSH WITH FINISHED SURROUNDING GRADE.
 - ALL HANDHOLE ADJUSTMENT WORK (INCLUDING FRAME & COVER REMOVAL AND REPLACEMENT) IS INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (REVISE SIGNAL SYSTEM H). SEE DETAILS AND SPECIAL PROVISIONS FOR FURTHER INFORMATION.
- 3) LOCATION OF NEW 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 MILL/OVERLAY 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 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 REPLACEMENT OF LOOP DETECTORS, SHOULD THESE LOOP DETECTORS BE REQUIRED TO BE REPLACED BY THE CONTRACTOR EITHER DUE TO MILL/OVERLAY OR CURB RAMP/CURB AND GUTTER WORK THAT CAUSES THE EXISTING LOOP DETECTOR TO BE DAMAGED. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT AND MAINTAIN THE 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 THESE LOOP DETECTORS FOR CONTRACTOR TO BE ABLE TO PLAN FOR WORKING AROUND THESE LOOP DETECTORS. SEE SPECIAL PROVISIONS.
- 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.

① P90 POLE FOUNDATION
TYPE P90-B-35
ONE WAY SIGNAL-OVERHEAD
TYPE 30A-POLE MOUNTED 90°
TYPE 10B-POLE MOUNTED 270°
~~2-PEDESTRIAN PUSH BUTTONS & SIGNS~~
DOWNLIGHT PEG-POLE MOUNTED
ONE WAY EVP DETECTOR AND LIGHT (#4)
EXTENDED INTO H.H.4:
3"R.S.C.
2-12/c#12
3-3/c#12
1-3/c#20

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 225/315 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 225/315 DEG (REMOVE)
F & I — PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 225/315 DEG)

② PEDESTAL FOUNDATION
PEDESTAL POLE, BASE & WIND COLLAR
TYPE 1A
R4-7 SIGN PANEL-POLE MOUNTED
EXTENDED INTO H.H.5:
3"R.S.C.
2-12/c#12
3-3/c#12

③ P90 POLE FOUNDATION
TYPE P90-A-35-D40-9 (DAVIT AT 350°)
LUMINAIRE-250 W HPS WITH PEC AND CH.SW.
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 45° & 315°
~~2-PEDESTRIAN PUSH BUTTONS & SIGNS~~
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#2,5)
EXTENDED INTO H.H.6:
3"R.S.C.
2-12/c#12
4-3/c#12
1-3/c#20
2-1/c#10 (LUM)

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 0/270 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 0/270 DEG (REMOVE)
F & I — 1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB4-2)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 0/270 DEG)
1-2/C 14

④ P90 POLE FOUNDATION
TYPE P90-B-35
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 45° & 315°
~~2-PEDESTRIAN PUSH BUTTONS & SIGNS~~
ONE WAY EVP DETECTOR AND LIGHT (#8)
ONE WAY EVP DETECTOR-POLE MOUNTED 180° (#4)
EXTENDED INTO H.H.1:
3"R.S.C.
2-12/c#12
4-3/c#12
2-3/c#20

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 225/315 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 225/315 DEG (REMOVE)
F & I — PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 225/315 DEG)

⑤ PEDESTAL FOUNDATION
PEDESTAL POLE, BASE & WIND COLLAR
TYPE 1A
R4-7 SIGN PANEL-POLE MOUNTED
EXTENDED INTO H.H.2:
3"R.S.C.
1-12/c#12
3-3/c#12

⑥ P90 POLE FOUNDATION
TYPE P90-A-35-D40-9 (DAVIT AT 350°)
LUMINAIRE-250 W HPS WITH PEC AND CH.SW.
ONE WAY SIGNAL-OVERHEAD
2-TYPE 10B-POLE MOUNTED 90° & 270°
~~2-PEDESTRIAN PUSH BUTTONS & SIGNS~~
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR AND LIGHT (#6,1)
EXTENDED INTO H.H.3:
3"R.S.C.
6-12/c#12
5-3/c#12
1-3/c#20
2-1/c#10 (LUM)

INPLACE — 2-PEDESTRIAN PUSH BUTTONS AT 180/270 DEG (SALVAGE)
INPLACE — 2-R10-3e STICKER SIGNS AT 180/270 DEG (REMOVE)
F & I — PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 180/270 DEG)

COUNTY PROJECT 22-19-01

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO. BY DATE

REVISIONS

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.
Date: May 9, 2022 Name: John M Gray, PE Lic. No. 22457



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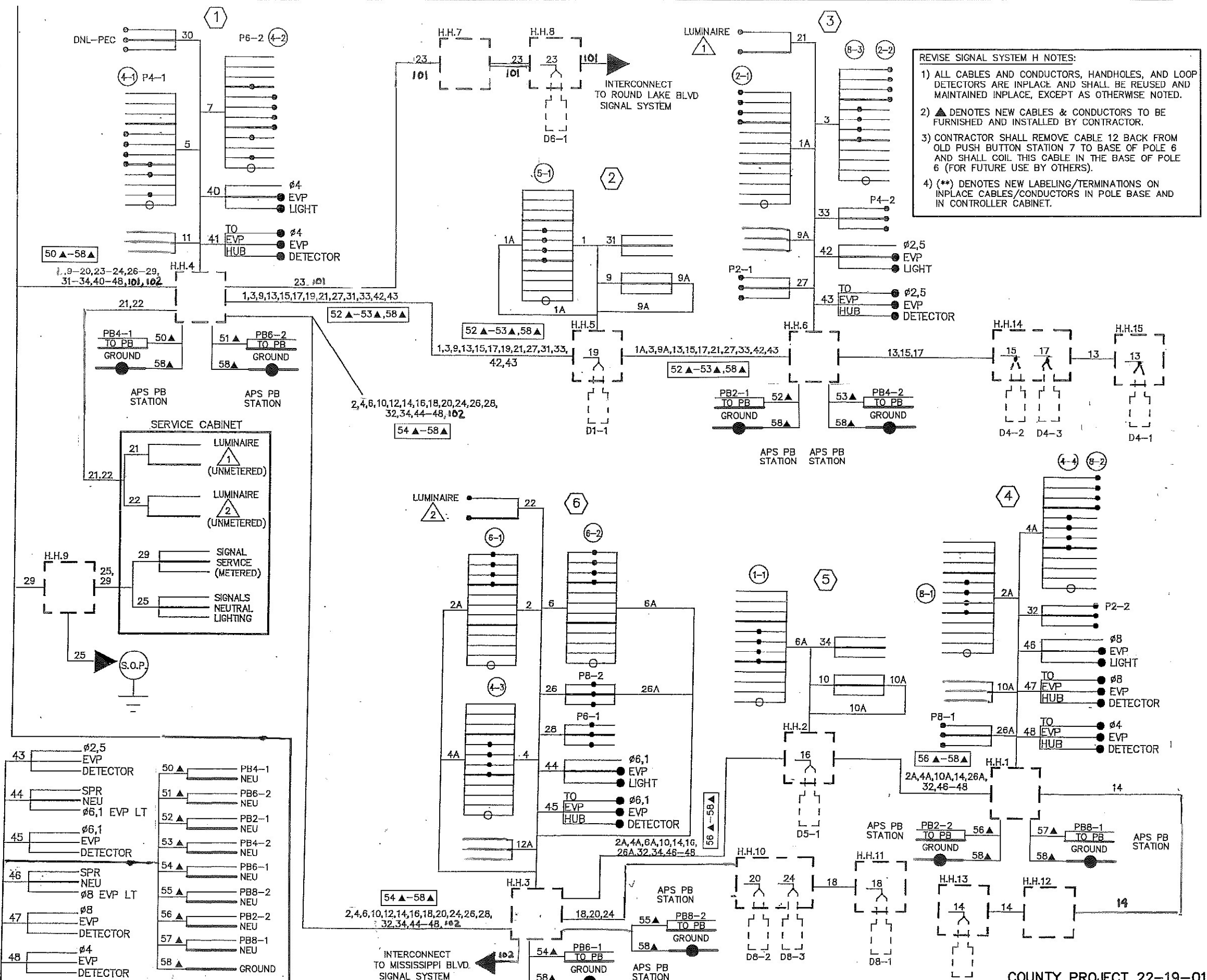
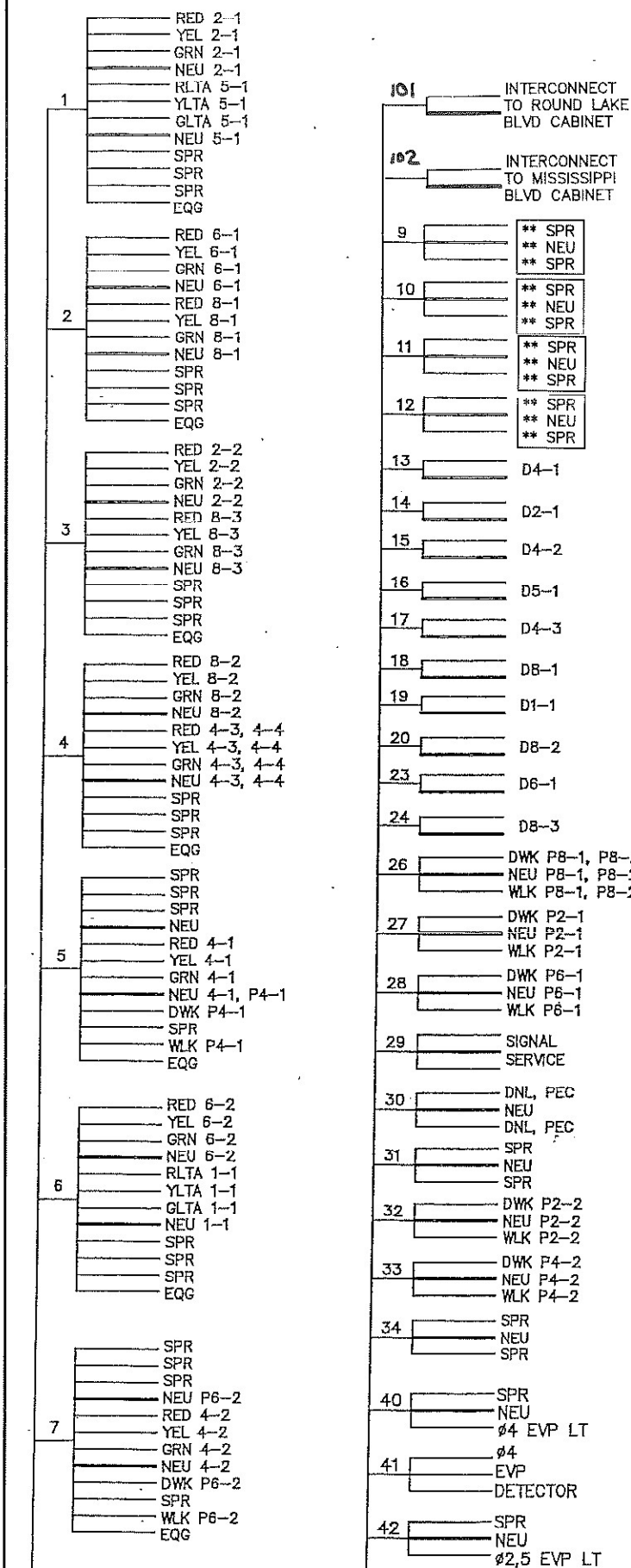
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CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "H"
SIGNAL SYSTEM NOTES
CSAH 1 (COON RAPIDS BOULEVARD)
AT PHEASANT RIDGE DRIVE

FILE NO.
ANOKC 122928
SIGNAL SHEET
30 OF 35

63S
94

CONTROLLER CABINET



- REVISE SIGNAL SYSTEM H NOTES:**
- 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) CONTRACTOR SHALL REMOVE CABLE 12 BACK FROM OLD PUSH BUTTON STATION 7 TO BASE OF POLE 6 AND SHALL COIL THIS CABLE IN THE BASE OF POLE 6 (FOR FUTURE USE BY OTHERS).
 - 4) (**) DENOTES NEW LABELING/TERMINATIONS ON INPLACE CABLES/CONDUCTORS IN POLE BASE AND IN CONTROLLER CABINET.