

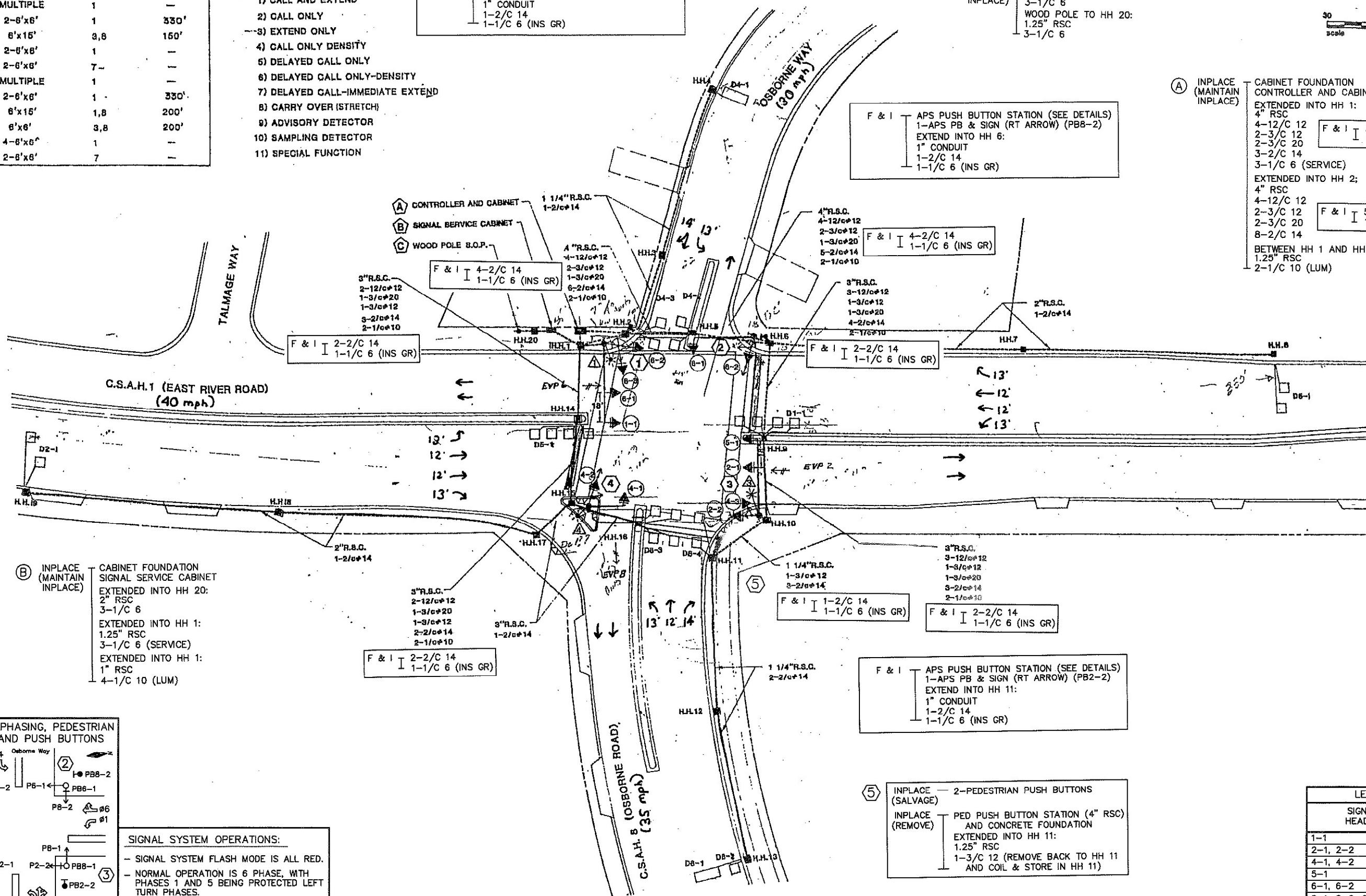
LOOP DETECTORS			
NUMBER	SIZE	FUNCTION	DISTANCE
D1-1	MULTIPLE	1	—
D2-1	2-6'x6'	1	330'
D4-1	6'x15'	9,8	150'
D4-2	2-6'x6'	1	—
D4-3	2-6'x6'	7	—
D5-1	MULTIPLE	1	—
D6-1	2-6'x6'	1	330'
D8-1	6'x15'	1,8	200'
D8-2	6'x6'	3,8	200'
D8-3	4-6'x6'	1	—
D8-4	2-6'x6'	7	—

- FUNCTIONS:**
- 1) CALL AND EXTEND
 - 2) CALL ONLY
 - 3) EXTEND ONLY
 - 4) CALL ONLY DENSITY
 - 5) DELAYED CALL ONLY
 - 6) DELAYED CALL ONLY-DENSITY
 - 7) DELAYED CALL-IMMEDIATE EXTEND
 - 8) CARRY OVER (STRETCH)
 - 9) ADVISORY DETECTOR
 - 10) SAMPLING DETECTOR
 - 11) SPECIAL FUNCTION

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

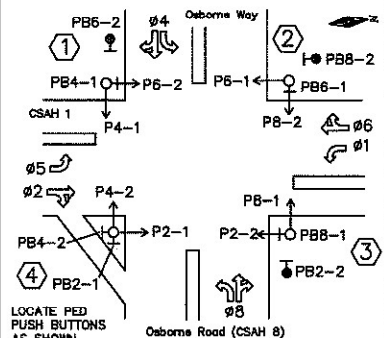
© INPLACE (MAINTAIN INPLACE)
WOOD POLE (SOP)
1.25" RSC RISER AND WEATHERHEAD
3-1/C 6
WOOD POLE TO HH 20:
1.25" RSC
3-1/C 6

Ⓐ INPLACE (MAINTAIN INPLACE)
CABINET FOUNDATION
CONTROLLER AND CABINET
EXTENDED INTO HH 1:
4" RSC
4-12/C 12
2-3/C 12
2-3/C 20
3-2/C 14
3-1/C 6 (SERVICE)
EXTENDED INTO HH 2:
4" RSC
4-12/C 12
2-3/C 12
2-3/C 20
8-2/C 14
BETWEEN HH 1 AND HH 2:
1.25" RSC
2-1/C 10 (LUM)



Ⓑ INPLACE (MAINTAIN INPLACE)
CABINET FOUNDATION
SIGNAL SERVICE CABINET
EXTENDED INTO HH 20:
2" RSC
3-1/C 6
EXTENDED INTO HH 1:
1.25" RSC
3-1/C 6 (SERVICE)
EXTENDED INTO HH 1:
1" RSC
4-1/C 10 (LUM)

CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



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.

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

COUNTY PROJECT 22-20-01

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

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

ANOKA COUNTY
CITY OF FRIDLEY

REVISE SIGNAL SYSTEM 'G'
INTERSECTION LAYOUT
CSAH 1 (EAST RIVER ROAD)
AT CSAH 8 (OSBORNE RD) / OSBORNE WAY

FILE NO.
ANOKC 122928
SIGNAL SHEET
26 OF 35

63N
94

REVISE SIGNAL SYSTEM G 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 2, 6, AND 10 TO FINISHED SURROUNDING SIDEWALK, MEDIAN, OR BOULEVARD GRADE AFTER ALL WORK IS COMPLETED (HH 10 HAS METAL FRAME/COVER-REUSE).
 - REMOVE INPLACE CONCRETE FRAME AND COVER (HH 2, 6) 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 G). 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.
- 11) CONTRACTOR SHALL MAINTAIN AND REUSE EXISTING PEDESTRIAN SIGNAL HOUSINGS AND VISORS, SHALL REMOVE INPLACE LED HAND/WALKING PERSON INDICATIONS, AND SHALL FURNISH AND INSTALL NEW COUNTDOWN TIMER LED "HAND/WALKING PERSON" INDICATIONS IN THEIR PLACE FOR ALL 8 PED SIGNALS (INCIDENTAL TO REVISE SIGNAL SYSTEM G PAY ITEM).

① INPLACE (MAINTAIN INPLACE) | A100 POLE FOUNDATION
TYPE A100-A-45-D40-9 (DAVIT AT 350 DEG)
LUMINAIRE-250 W HPS
2-ONE WAY SIGNALS-OVERHEAD (0', 12')
MID-MAST ARM MOUNT AT 24' (CAPPED)
TYPE 20C-POLE MOUNTED 270 DEG
"NO LEFT TURN ON RED ARROW" SIGN-OVERHEAD
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR & LIGHT-OVERHEAD (ø6,1)
EXTENDED INTO HH 1:
3" RSC
4-12/C 12
1-3/C 12
1-3/C 20
4-1/C 10 (LUM)

INPLACE (SALVAGE) | 2-LED PED INDICATIONS (LEAVE HOUSING/VISOR INPLACE)
2-PEDESTRIAN PUSH BUTTONS AT 0/270 DEG
INPLACE (REMOVE) | 2-R10-4b METAL SIGNS AT 0/270 DEG
F & I | 2-LED COUNTDOWN TIMER PED INDICATIONS (P4-1, P6-2)
1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB4-1)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 0/270 DEG)
1-2/C 14

③ INPLACE (MAINTAIN INPLACE) | A100 POLE FOUNDATION
TYPE A100-A-45-D40-9 (DAVIT AT 350 DEG)
LUMINAIRE-250 W HPS
2-ONE WAY SIGNALS-OVERHEAD (0', 18')
TYPE 20C-POLE MOUNTED 270 DEG
"NO LEFT TURN ON RED ARROW" SIGN-OVERHEAD
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR & LIGHT-OVERHEAD (ø2,5)
EXTENDED INTO HH 10:
3" RSC
3-12/C 12
1-3/C 20
2-1/C 10 (LUM)

INPLACE (SALVAGE) | 2-LED PED INDICATIONS (LEAVE HOUSING/VISOR INPLACE)
F & I | 2-LED COUNTDOWN TIMER PED INDICATIONS (P2-2, P8-1)
1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB8-1)
1-2/C 14

② INPLACE (MAINTAIN INPLACE) | A100 POLE FOUNDATION
TYPE A100-A-35
ONE WAY SIGNAL-OVERHEAD
TYPE 10C-POLE MOUNTED 270 DEG
R10-12 SIGN PANEL-ADJACENT TO 8-1
TYPE D SIGN PANEL-OVERHEAD
TWO WAY EVP LIGHT-OVERHEAD (ø4,8)
EXTENDED INTO HH 6:
3" RSC
3-12/C 12
1-3/C 12
1-3/C 20

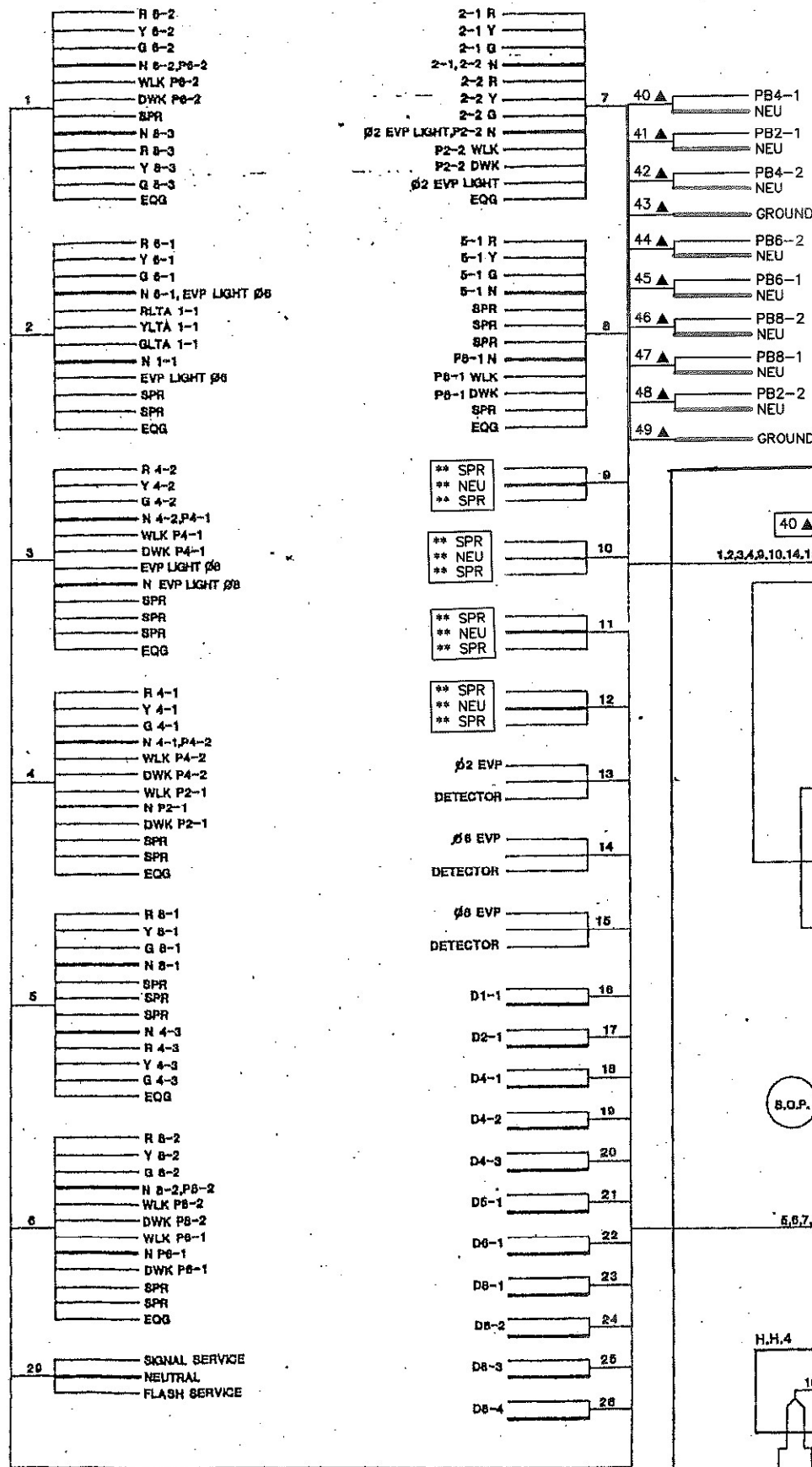
INPLACE (SALVAGE) | 2-LED PED INDICATIONS (LEAVE HOUSING/VISOR INPLACE)
2-PEDESTRIAN PUSH BUTTONS AT 0/270 DEG
INPLACE (REMOVE) | 2-R10-4b METAL SIGNS AT 0/270 DEG
F & I | 2-LED COUNTDOWN TIMER PED INDICATIONS (P6-1, P8-2)
1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR AT 270 DEG (PB6-1)
PLUG HOLES ON MAST ARM POLE WHERE PUSH BUTTONS USED TO BE (AT 0/270 DEG)
1-2/C 14

④ INPLACE (MAINTAIN INPLACE) | P80 POLE FOUNDATION
TYPE P80-A-20-D40-9 (DAVIT AT 225 DEG)
LUMINAIRE-250 W HPS
ONE WAY SIGNAL-OVERHEAD
TYPE 30A-POLE MOUNTED 180 DEG
TYPE 10B-POLE MOUNTED 270 DEG
R10-12 SIGN PANEL-ADJACENT TO 4-1
TYPE D SIGN PANEL-OVERHEAD
TWO WAY EVP DETECTOR & LIGHT-OVERHEAD (ø4,8)
EXTENDED INTO HH 15:
3" RSC
2-12/C 12
1-3/C 12
1-3/C 20
2-1/C 10 (LUM)

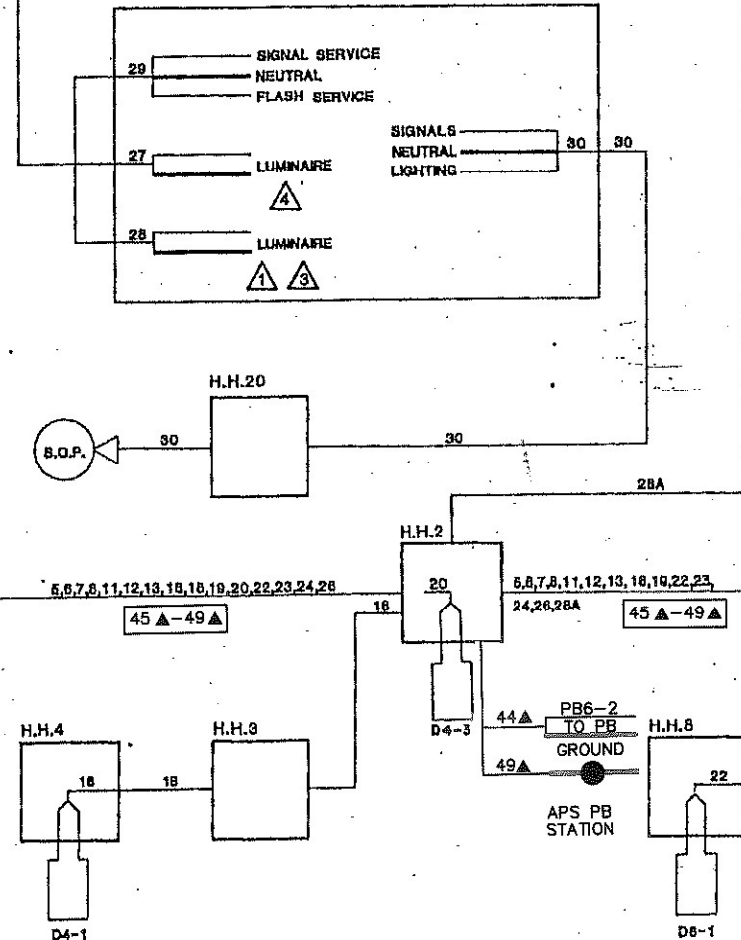
INPLACE (SALVAGE) | 2-LED PED INDICATIONS (LEAVE HOUSING/VISOR INPLACE)
2-PEDESTRIAN PUSH BUTTONS AT 90/180 DEG
INPLACE (REMOVE) | 2-R10-4b METAL SIGNS AT 90/180 DEG
F & I | 2-LED COUNTDOWN TIMER PED INDICATIONS (P2-1, P4-2)
1-APS PB, SIGN (RT ARROW) AND APS MAST ARM POLE ADAPTOR AT 90 DEG (PB2-1)
1-APS PB, SIGN (LT ARROW) AND APS MAST ARM POLE ADAPTOR AT 180 DEG (PB4-2)
2-2/C 14

COUNTY PROJECT 22-20-01

CONTROLLER CABINET

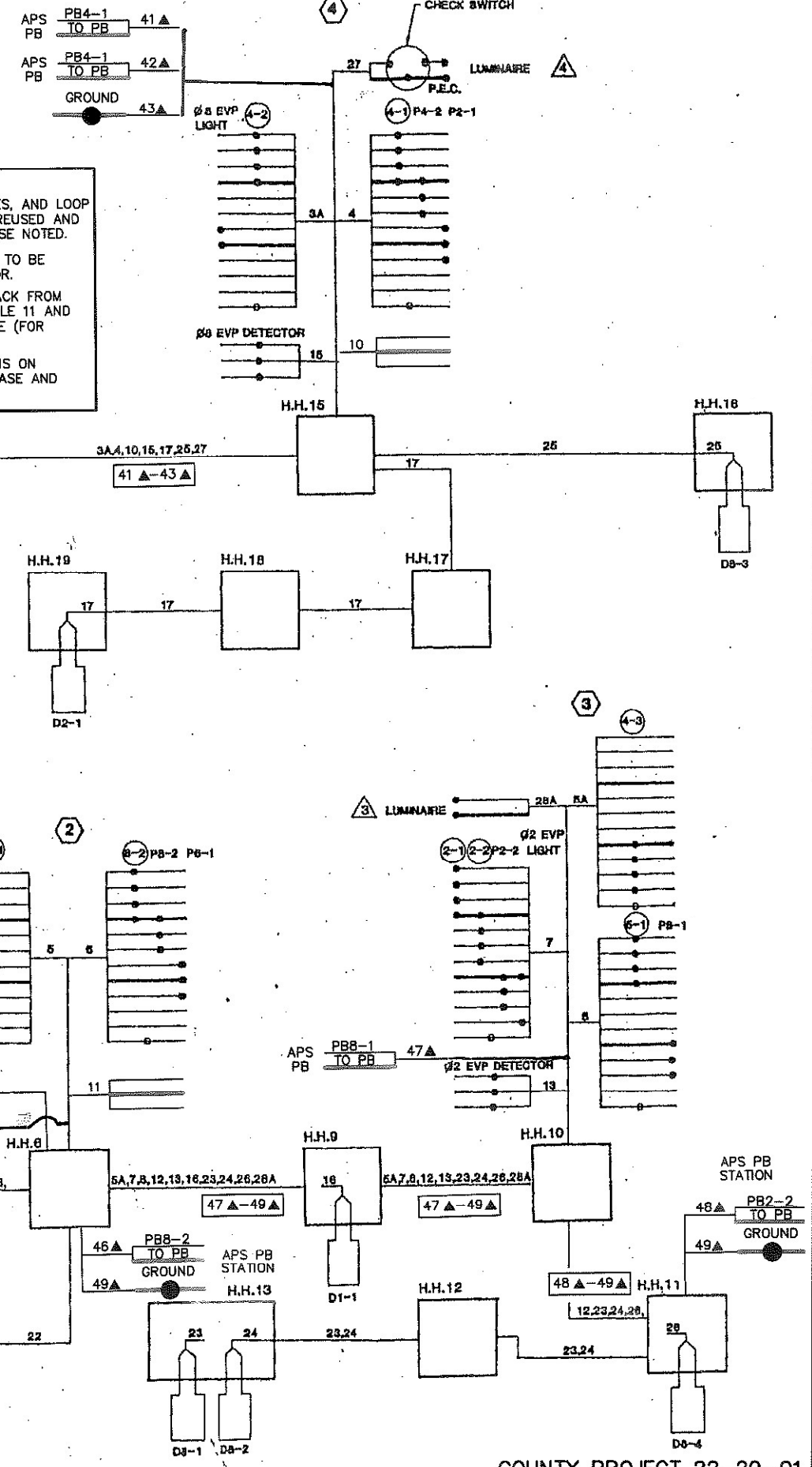


SIGNAL SERVICE CABINET



REVISE SIGNAL SYSTEM 'G' 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 5 TO HANDHOLE 11 AND SHALL COIL THIS CABLE IN THIS HANDHOLE (FOR FUTURE USE BY OTHERS).
- 4) (**) DENOTES NEW LABELING/TERMINATIONS ON INPLACE CABLES/CONDUCTORS IN POLE BASE AND IN CONTROLLER CABINET.



COUNTY PROJECT 22-20-01

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

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

ANOKA COUNTY CITY OF FRIDLEY

REVISE SIGNAL SYSTEM 'G' FIELD WIRING DIAGRAM CSAH 1 (EAST RIVER ROAD) AT CSAH 8 (OSBORNE RD) / OSBORNE WAY

FILE NO. 630 ANOKA 122928 SIGNAL SHEET 28 OF 35 94