

INTERCONNECT NOTES:

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY BOTH (*) AND BY EITHER F & I (ITEMS TO BE FURNISHED & INSTALLED BY CONTRACTOR) OR BY "REMOVE" (ITEMS TO BE REMOVED & DISPOSED OF BY CONTRACTOR).
- SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING LABOR AND MATERIALS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN EACH INPLACE TRAFFIC SIGNAL CONTROLLER CABINET AS PART OF THE "TRAFFIC CONTROL INTERCONNECT "C" PAY ITEM.

| PVC LOOP DETECTORS | | | |
|--------------------|------------|-----------|----------|
| NUMBER | SIZE (FT.) | LOCATION | FUNCTION |
| D2-1 | 6x6 | 180' | 1 |
| D2-2 | 6x6 | 180' | 1 |
| D4-1 | 6x6 | 120' | 3,8 |
| D4-2 | 2-6x6 | 0' & 15' | 7 |
| D4-3 | 2-6x6 | 0' & 15' | 7 |
| D5-1 | 2-6x6 | 20' & 50' | 5,8,11 |
| D5-2 | 2-6x6 | 5' & 35' | 5,8,11 |
| D5-3 | 6x10 | 30' | 3,12 |
| D6-1 | 6x6 | 180' | 1 |
| D6-2 | 6x6 | 180' | 1 |
| D8-1 | 6x6 | 120' | 3,8 |
| D8-2 | 2-6x10 | 0' & 15' | 7 |

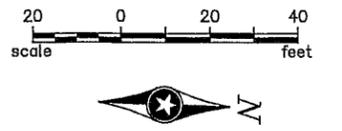
LOOP DETECTORS FUNCTIONS:

- CALL AND EXTEND
- EXTEND ONLY
- DELAYED CALL ONLY
- CARRY OVER (STRETCH)
- OPERATE DURING PHASE 2 CLEARANCE ONLY
- OPERATE DURING PHASE 5 ONLY

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

3 PA85 POLE FOUNDATION
 TYPE PA85-A-20-D30-9 (DAVIT AT 270 DEG)
 LUMINAIRE-COBRAHEAD LED
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (#8)
 ONE WAY EVP MOUNTING HARDWARE AND HUB AT 15' FROM END OF MAST ARM
 EXTEND INTO H.H.3:
 3"R.S.C.
 2-12/c#14
 1-3/c#14
 2-2/c#14
 1-3/c#20
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

A CONTROLLER AND CABINET
 EQUIPMENT PAD FOUNDATION
 BATTERY BACK-UP SIGNAL SERVICE CABINET BETWEEN CONTROLLER CABINET AND SERVICE CABINET;
 METERED SIGNAL SERVICE
 1 1/4"R.S.C.
 3-1/c#6
 CONTROLLER CABINET TO H.H.1:
 4"R.S.C.
 3-12/c#14
 1-3/c#14
 8-2/c#14
 1-3/c#20
 1-1/c#20 (GRD)
 4"R.S.C.
 2-12/c#14
 1-6/c#14
 1-3/c#14
 7-2/c#14
 1-3/c#20
 4"R.S.C.
 4"R.S.C.
 2-12/c#14
 1-3/c#14
 2-2/c#14
 1-3/c#20
 1-1/c#6 (GRD)
 4"R.S.C.
 4"R.S.C.
 2-12/c#14
 1-3/c#14
 4-2/c#14
 1-3/c#20
 2"R.S.C.
 2"R.S.C.
 1-2/c#14
 2"R.S.C.
 2"R.S.C.
 (*) 1-12 SM FO CABLE-INPLACE (REMOVE)
 (*) 1-12 SM FIBER-OPTIC CABLE-F & I



SERVICE CABINET TO H.H.1:
 1 1/4"R.S.C.
 UNMETERED STREET LIGHT SERVICE
 1-3/c#14 (LUM)
 SERVICE CABINET TO H.H.10:
 1 1/4"R.S.C.
 UNMETERED STREET LIGHT SERVICE
 2-3/c#14 (LUM)
 SERVICE CABINET TO H.H.13:
 2" CONDUIT
 3-1/c#2
 STUB OUT 1"R.S.C. FROM CONTROLLER CABINET TO WEST (FOR FUTURE PHONE LINE BY OTHERS)
 STUB OUT 3"R.S.C. FROM CONTROLLER CABINET TO EAST (THREAD AND CAP-FOR FUTURE USE)

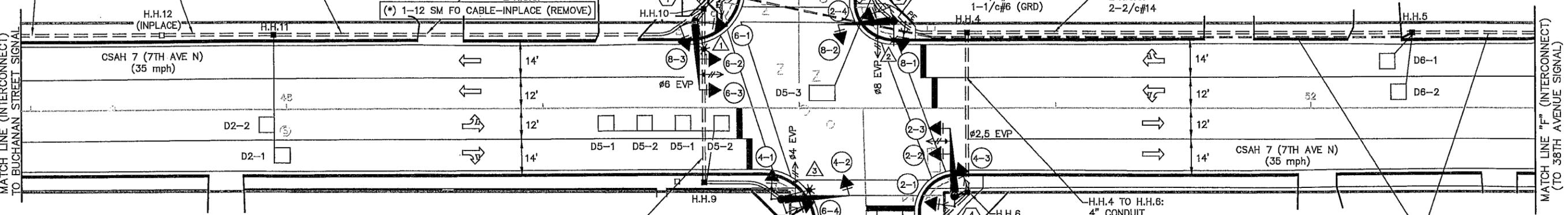
H.H.10 TO H.H.15 (BUCHANAN STREET):
 (*) 1.5" CONDUIT-F & I (BORE UNDER ALL DRIVEWAYS/ROADS/SIDEWALKS)
 (*) 1-12 SM FIBER-OPTIC CABLE-F & I (TO BUCHANAN STREET SIGNAL SYSTEM)

H.H.11 TO H.H.12:
 H.H.12 TO H.H.13:
 2"R.S.C. - INPLACE
 (*) 1-12 SM FO CABLE-INPLACE (REMOVE)

H.H.10 TO H.H.11:
 2"R.S.C.
 2-2/c#14
 2"R.S.C.
 (*) 1-12 SM FO CABLE-INPLACE (REMOVE)

H.H.3 TO H.H.4:
 4"R.S.C.
 2-12/c#14
 1-6/c#14
 1-3/c#14
 7-2/c#14
 1-3/c#20
 1-1/c#6 (GRD)
 H.H.4 TO H.H.5:
 2"R.S.C.
 2-2/c#14
 H.H.4 TO H.H.6:
 4" CONDUIT
 2-12/c#14
 1-6/c#14
 1-3/c#14
 5-2/c#14
 1-3/c#20
 1-1/c#6 (GRD)
 H.H.6 TO H.H.7:
 2"R.S.C.
 3-2/c#14
 H.H.7 TO H.H.8:
 2"R.S.C.
 1-2/c#14

(*) 1-12 SM FO CABLE-INPLACE (REMOVE)
 (*) 1-12 SM FIBER-OPTIC CABLE-F & I



2 PEDESTAL FOUNDATION
 10' PEDESTAL POLE (INCLUDES BASE, WIND COLLAR)
 2-STRAIGHT MOUNT C.D. PED INDICATIONS-POLE MOUNTED (FACING EAST/NORTH)
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
 EXTEND INTO H.H.1:
 3"R.S.C.
 1-12/c#14
 2-2/c#14
 1-1/c#6 (GRD)

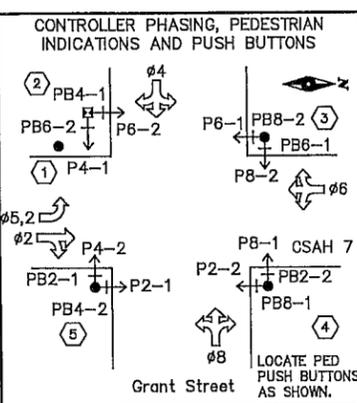
1 PA90 POLE FOUNDATION
 TYPE PA90-A-25-D30-9 (DAVIT AT 350 DEG)
 LUMINAIRE-COBRAHEAD LED
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/270 DEG
 R10-12 SIGN PANEL-ADJACENT TO 6-3
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (#8)
 ONE WAY EVP MOUNTING HARDWARE AND HUB AT 6' FROM END OF MAST ARM
 EXTEND INTO H.H.10:
 3"R.S.C.
 2-12/c#14
 1-3/c#14
 1-3/c#20
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

H.H.9 TO H.H.10:
 4" CONDUIT
 2-12/c#14
 1-3/c#14
 4-2/c#14
 1-3/c#20
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

4 PA90 POLE FOUNDATION
 TYPE PA90-A-25
 1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 10'
 2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90/180 DEG
 2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
 TYPE D SIGN PANEL-OVERHEAD
 ONE WAY EVP DETECTOR AND CONFIRMATION LIGHT (#2,5)
 ONE WAY EVP MOUNTING HARDWARE AND HUB AT 6' FROM END OF MAST ARM
 EXTEND INTO H.H.6:
 3"R.S.C.
 2-12/c#14
 1-6/c#14
 1-3/c#14
 2-2/c#14
 1-3/c#20
 1-1/c#6 (GRD)

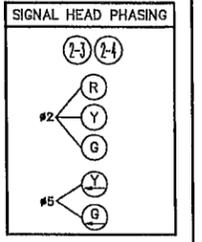
B INPLACE WOOD POLE (S.O.P.)
 (CITY OF ANOKA)
 2"R.S.C. RISER AND WEATHERHEAD
 3-1/c#2
 EXTEND INTO H.H.13:
 2"R.S.C.
 3-1/c#2

(*) 1.5" CONDUIT-F & I (BORE UNDER ALL DRIVEWAYS/ROADS)
 (*) 1-12 SM FIBER-OPTIC CABLE-F & I (TO 38TH AVENUE SIGNAL SYSTEM)



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASE 5 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.



| LED SIGNAL HEADS | | | | | |
|------------------|-------------------------------------|---|---|---|---|
| SIGNAL HEAD | ALL SIGNAL INDICATIONS SHALL BE 12" | | | | |
| | R | Y | G | Y | G |
| 2-1, 2-2 | ● | ● | ● | ● | ● |
| 2-3, 2-4 | ● | ● | ● | ← | ← |
| 4-1, 4-2, 4-3 | ● | ● | ● | ● | ● |
| 6-1, 6-2 | ● | ● | ● | ● | ● |
| 6-3, 6-4 | ● | ● | ● | ● | ● |
| 8-1, 8-2, 8-3 | ● | ● | ● | ● | ● |

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

| NO. | BY | DATE | REVISIONS |
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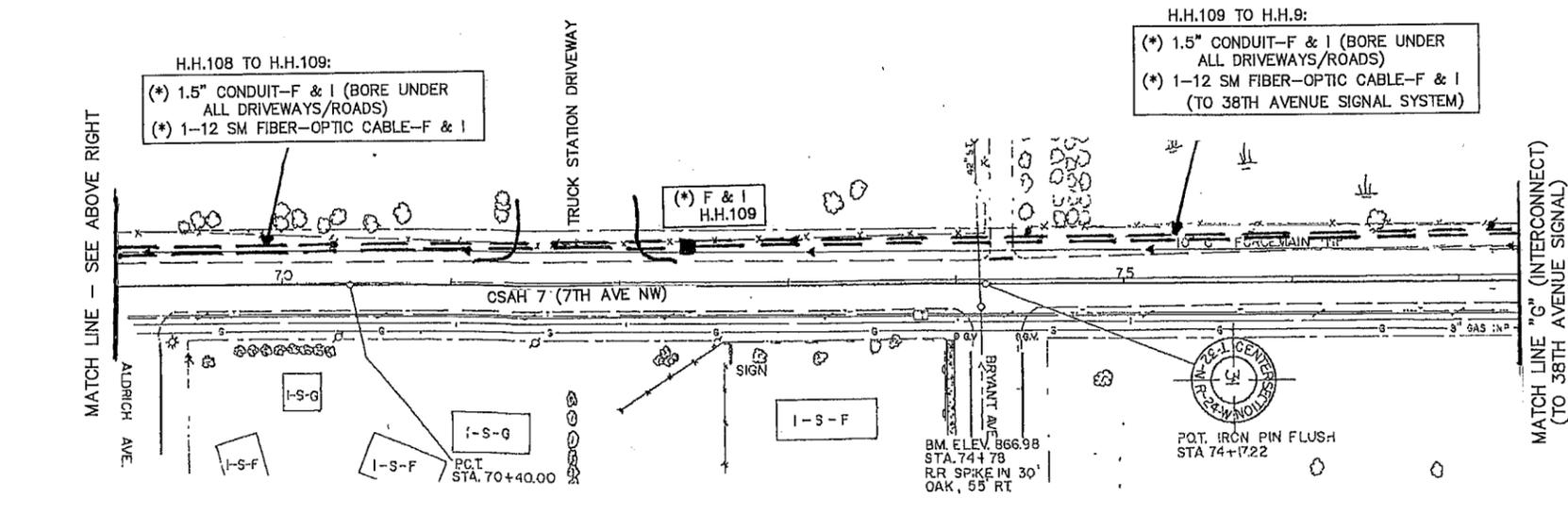
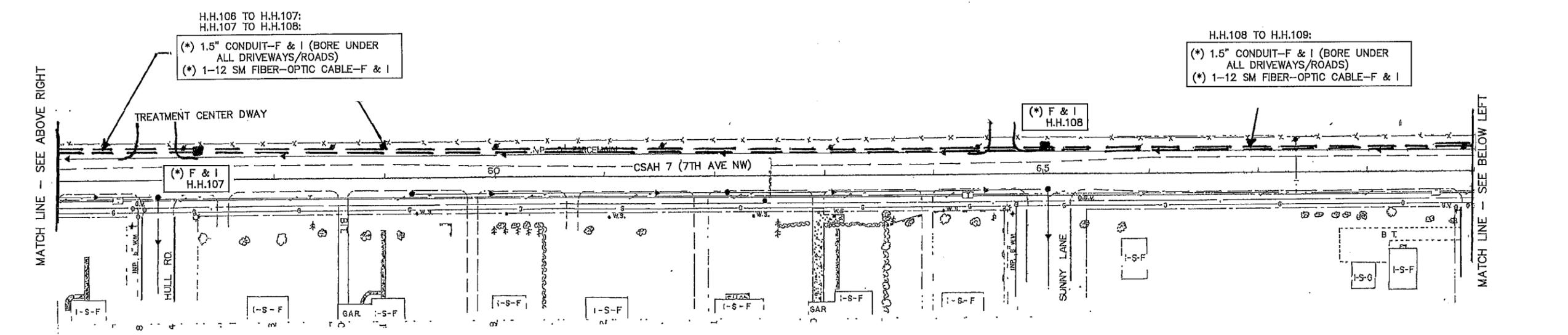
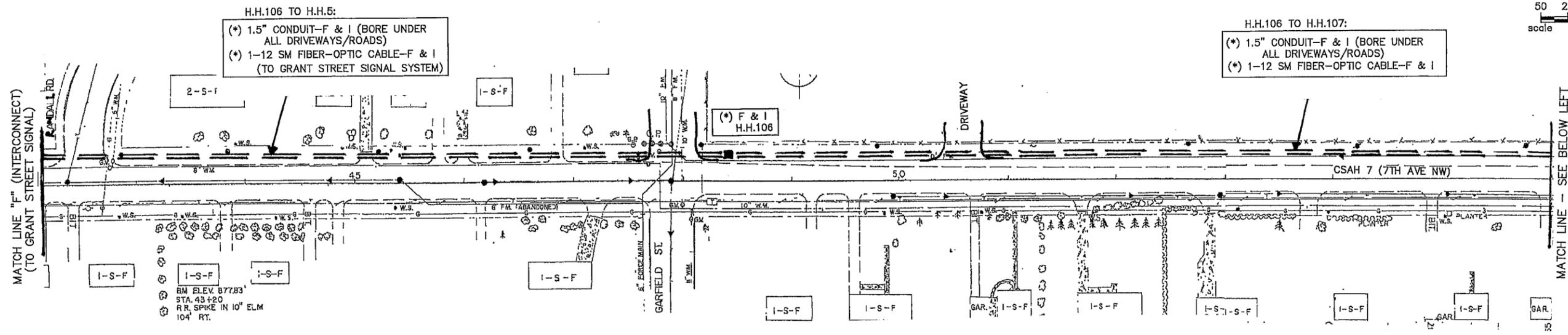
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 Date: July 6, 2018 Name: John M. Gray, PE Lic. No. 22457

SEH PHONE: (951) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY, MN
 CITY OF ANOKA
 SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT "C"
 INTERSECTION LAYOUT
 CSAH 7 (7TH AVENUE NW)
 AT CSAH 31-GRANT STREET

FILE NO. ANOKC 142312
 56
 115



INTERCONNECT NOTES:

- 1) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002) AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) NEW HANDHOLES 106-109 REQUIRED TO BE FURNISHED & INSTALLED BY CONTRACTOR AS PART OF PROJECT SHALL BE PRE-CAST POLYMER CONCRETE STRUCTURES (QUAZITE). SEE DETAILS/SPECIAL PROVISIONS.

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DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

| NO. | BY | DATE | REVISIONS |
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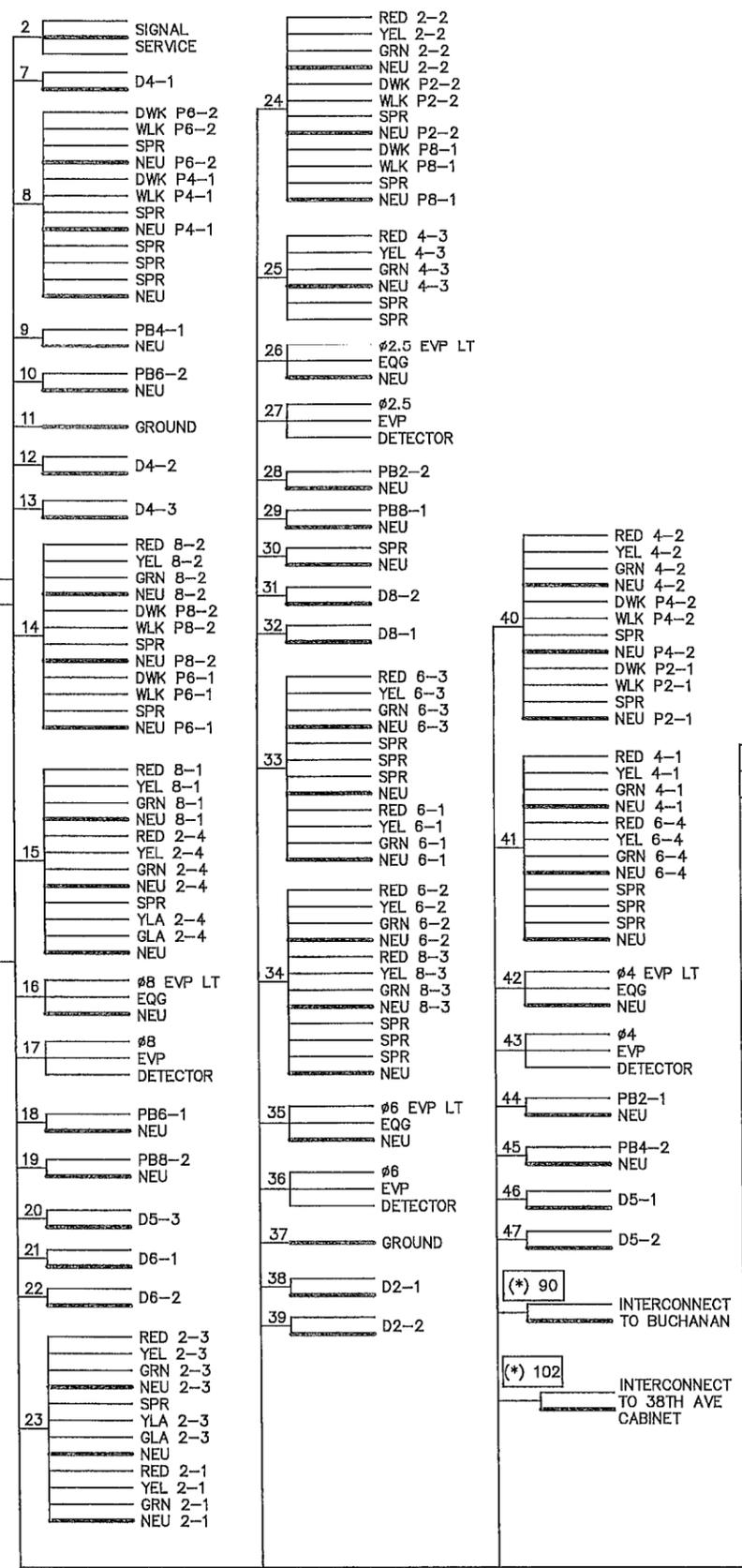
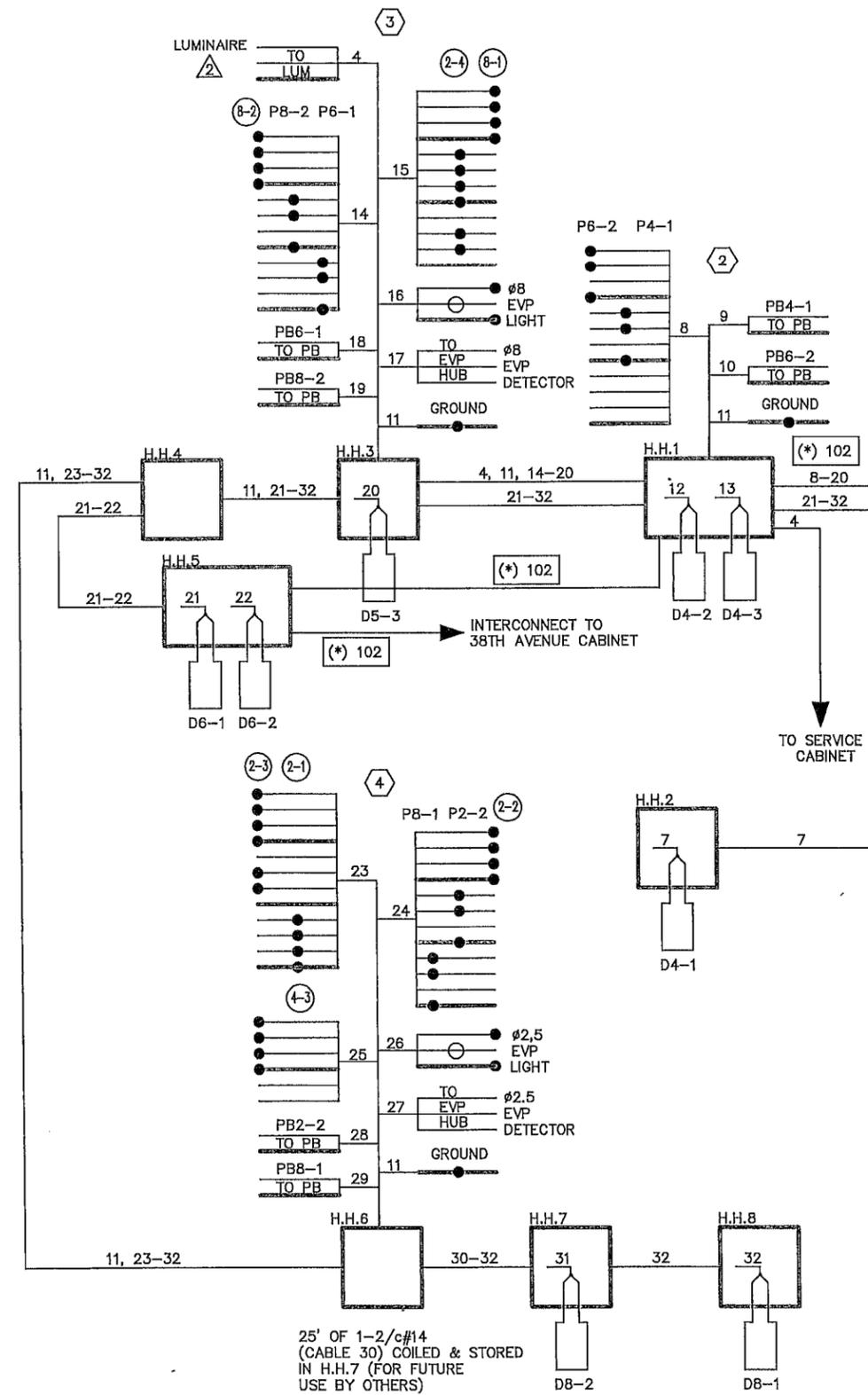
ANOKA COUNTY, MN
CITY OF ANOKA
 SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT 'C'
INTERSECTION LAYOUT
CSAH 7 (7TH AVENUE NW)
(GRANT STREET TO 38TH AVENUE)

FILE NO.
 ANOKC 142312

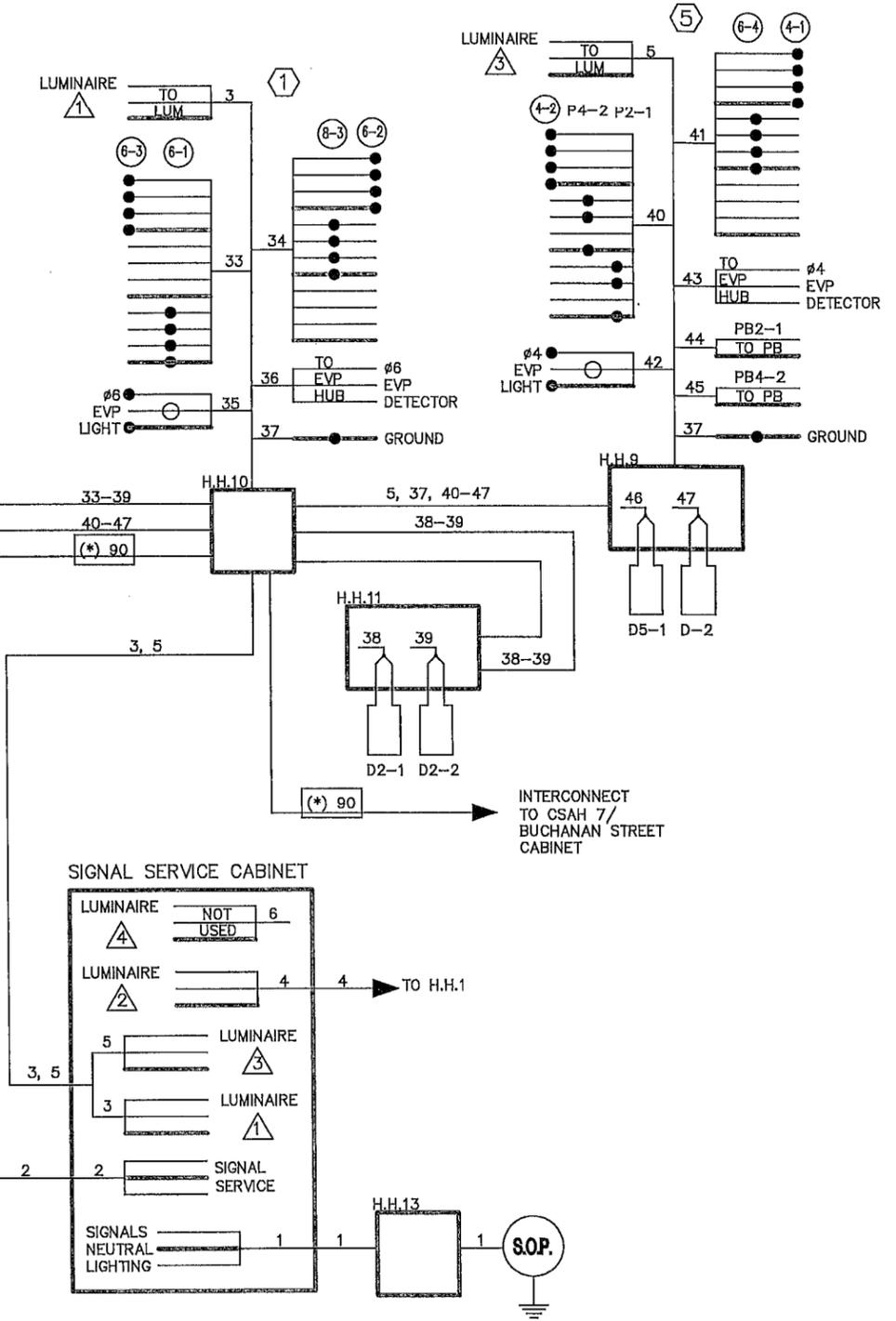
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115

CONTROLLER AND CABINET



INTERCONNECT NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED, PROTECTED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED BY (*) (INTERCONNECT ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR).
- 2) (*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 3) CONTRACTOR SHALL REMOVE AND DISPOSE OF INPLACE CABLE 90 (12 SM FIBER OPTIC CABLE) FROM THIS SIGNAL SYSTEM TO THE BUCHANAN STREET SIGNAL SYSTEM AS PART OF "TRAFFIC CONTROL INTERCONNECT C" PAY ITEM.



DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

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 ST. PAUL, MN 55110

ANOKA COUNTY, MN
CITY OF ANOKA
 SAP 002-030-010

TRAFFIC SIGNAL INTERCONNECT 'C'
FIELD WIRING DIAGRAM
CSAH 7 (7TH AVENUE NW)
AT CSAH 31-GRANT STREET

FILE NO. ANOKC 142312
 57
 115