

SEE SIGNAL SHEET SGL19 FOR GENERAL  
NOTES AND DETAILED POLE NOTES

**SIGNAL SYSTEM OPERATIONS:**

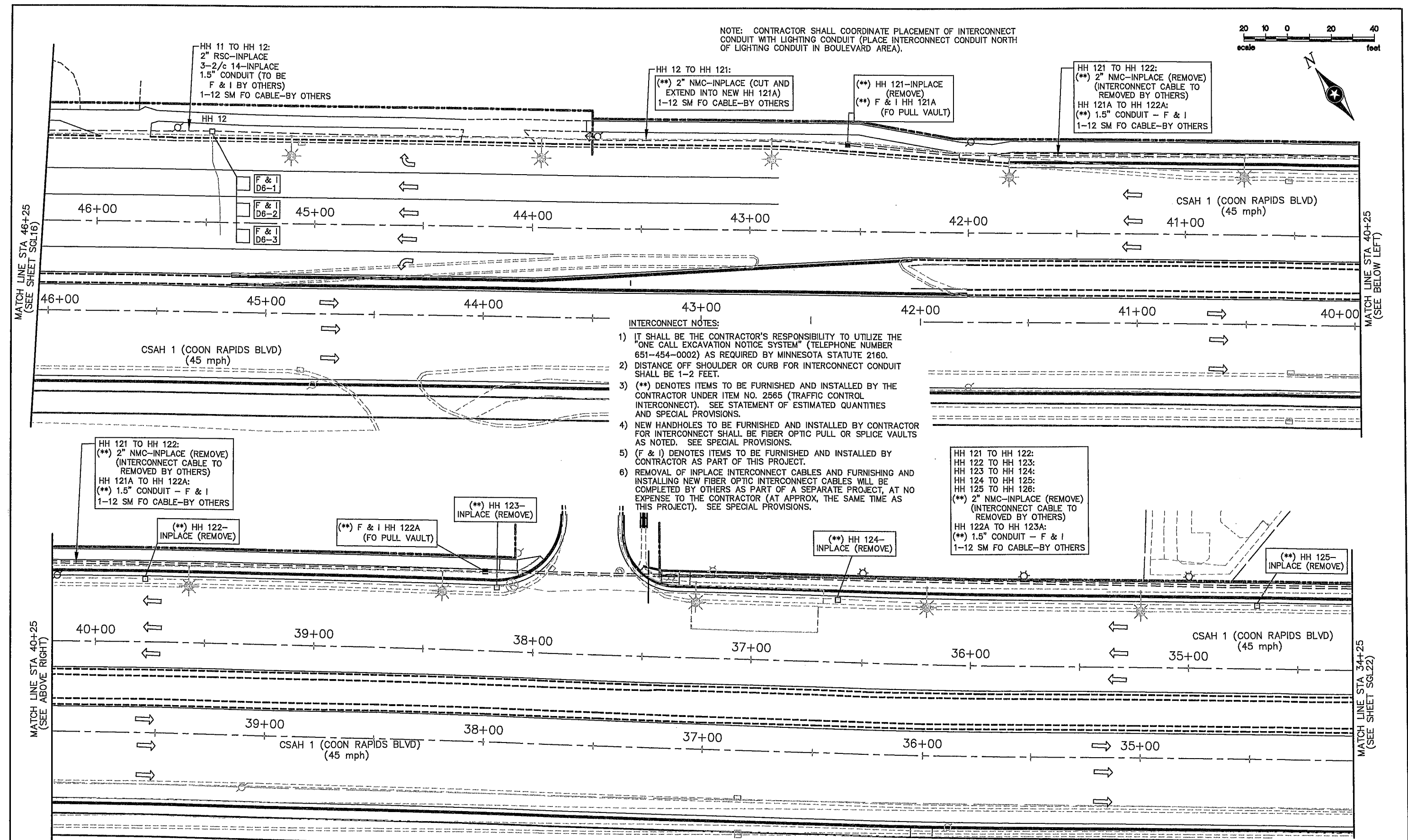
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1, 3, 5, 7 BEING FLASHING YELLOW ARROWS (BY TIME OF DAY).
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

**CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS**

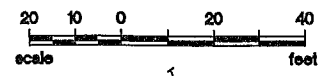
**F & I LED SIGNAL HEADS**  
ALL SIGNAL INDICATIONS SHALL BE 12"

SIGNAL HEAD	R	Y	FYA	G
1-1, 1-2	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	●	●	●	●
4-1, 4-2	●	●	●	●
5-1, 5-2	●	●	●	●
6-1, 6-2, 6-3, 6-4	●	●	●	●
7-1, 7-2, 7-3	●	●	●	●
8-1, 8-2	●	●	●	●

FYA = FLASHING YELLOW ARROW.



NOTE: CONTRACTOR SHALL COORDINATE PLACEMENT OF INTERCONNECT CONDUIT WITH LIGHTING CONDUIT (PLACE INTERCONNECT CONDUIT NORTH OF LIGHTING CONDUIT IN BOULEVARD AREA).



- 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) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
  - 3) (\*\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
  - 4) NEW HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR INTERCONNECT SHALL BE FIBER OPTIC PULL OR SPLICE VAULTS AS NOTED. SEE SPECIAL PROVISIONS.
  - 5) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
  - 6) REMOVAL OF INPLACE INTERCONNECT CABLES AND FURNISHING AND INSTALLING NEW FIBER OPTIC INTERCONNECT CABLES WILL BE COMPLETED BY OTHERS AS PART OF A SEPARATE PROJECT, AT NO EXPENSE TO THE CONTRACTOR (AT APPROX. THE SAME TIME AS THIS PROJECT). SEE SPECIAL PROVISIONS.

MATCH LINE STA 46+25  
(SEE SHEET SGL16)

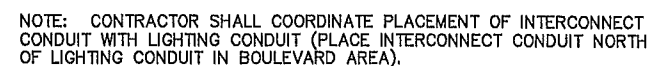
MATCH LINE STA 40+25  
(SEE BELOW LEFT)

MATCH LINE STA 40+25  
(SEE ABOVE RIGHT)

MATCH LINE STA 34+25  
(SEE SHEET SGL22)



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: April 22, 2019		Name: John M. Gray, PE		Lic. No. 22457		SEH		PHONE: (651) 490-2000 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110		ANOKA COUNTY, MINNESOTA CITY OF COON RAPIDS		TRAFFIC SIGNAL SYSTEM "A" AND INTERCONNECT CSAH 1 (COON RAPIDS BLVD) AT EGRET BOULEVARD NW		FILE NO. ANOKC 148053		142		SIGNAL SHEET SGL18 OF SGL35		285	
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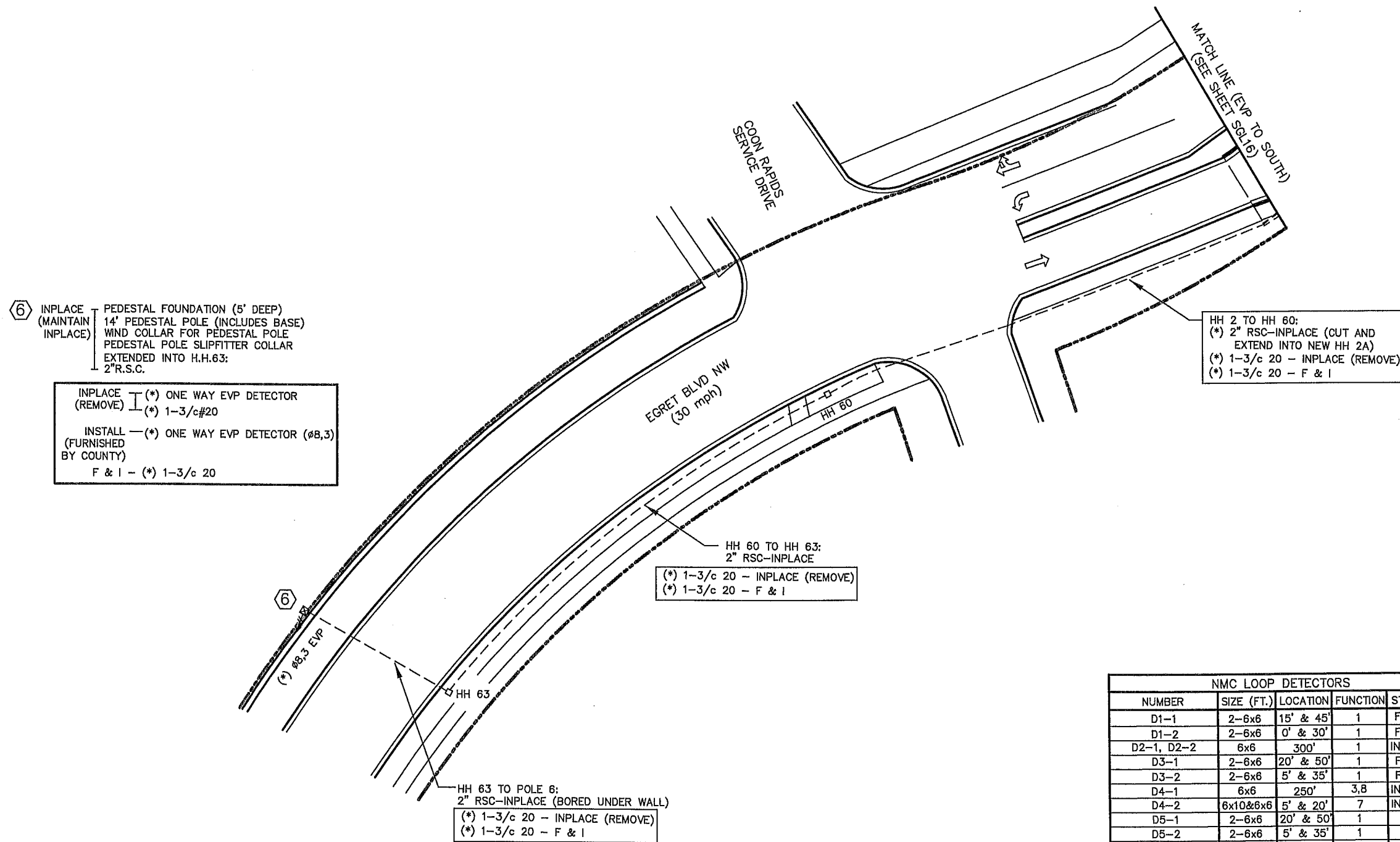
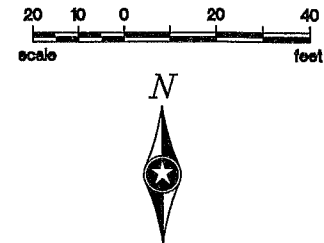
SAP 002-601-050  
SAP 114-020-054



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- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
- 3) (\*\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 4) NEW HANDHOLES TO BE FURNISHED AND INSTALLED BY CONTRACTOR FOR INTERCONNECT SHALL BE FIBER OPTIC PULL OR SPLICE VAULTS AS NOTED. SEE SPECIAL PROVISIONS.
- 5) (F & I) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR AS PART OF THIS PROJECT.
- 6) REMOVAL OF INPLACE INTERCONNECT CABLES AND FURNISHING AND INSTALLING NEW FIBER OPTIC INTERCONNECT CABLES WILL BE COMPLETED BY OTHERS AS PART OF A SEPARATE PROJECT, AT NO EXPENSE TO THE CONTRACTOR (AT APPROX. THE SAME TIME AS THIS PROJECT). SEE SPECIAL PROVISIONS.

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NMC LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	15' & 45'	1	F & I
D1-2	2-6x6	0' & 30'	1	F & I
D2-1, D2-2	6x6	300'	1	INPLACE
D3-1	2-6x6	20' & 50'	1	F & I
D3-2	2-6x6	5' & 35'	1	F & I
D4-1	6x6	250'	3,8	INPLACE
D4-2	6x10&6x6	5' & 20'	7	INPLACE
D5-1	2-6x6	20' & 50'	1	2
D5-2	2-6x6	5' & 35'	1	1
D6-1, D6-2, D6-3	6x6	300'	1	F & I
D7-1	2-6x6	20' & 50'	1	2
D7-2	2-6x6	20' & 50'	1	2
D7-3	2-6x6	5' & 35'	1	1
D7-4	2-6x6	5' & 35'	1	1
D8-1	6x6	120'	3,8	F & I
D8-2	2-6x6	5' & 20'	7	F & I
D8-3	2-6x6	5' & 20'	1	F & I
D-1, D-2, D-3	6x6	50'	COUNT	F & I
D-4, D-5, D-6	6x6	50'	COUNT	INPLACE

LOOP DETECTORS FUNCTIONS:

- 1) CALL AND EXTEND
- 3) EXTEND ONLY
- 7) DELAYED CALL, IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)

LOOP DETECTOR STATUS:

1 = DETACH EXISTING FRONT (5') LOOP DETECTOR FROM EXISTING LEAD-IN CABLE AND SPLICE TO EXISTING BACK (35') LOOP DETECTOR AND FRONT LEAD-IN CABLE (F & I NEW SPLICE KIT). PROTECT EXISTING 5'/35' LOOP DETECTORS IN ROADWAY.

2 = FURNISH & INSTALL NEW PVC LOOP DETECTORS AT 20' AND 50' FROM STOP BAR. SPLICE THESE NEW LOOP DETECTORS TO EXISTING BACK LEAD-IN CABLE (F & I NEW SPLICE KIT).

LOCATION = DISTANCE FROM STOP BAR TO FRONT OF DETECTOR.

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Date: April 22, 2019 Name: John M. Gray, PE Lic. No. 22457

SEH  
PHONE: (651) 480-2000  
3535 VADNAIS CENTER DR.  
ST. PAUL, MN 55110

ANOKA COUNTY,  
MINNESOTA  
CITY OF COON RAPIDS

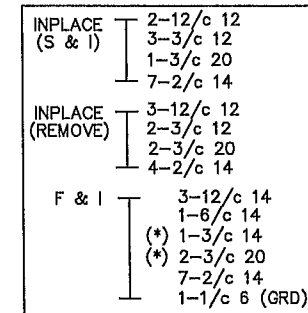
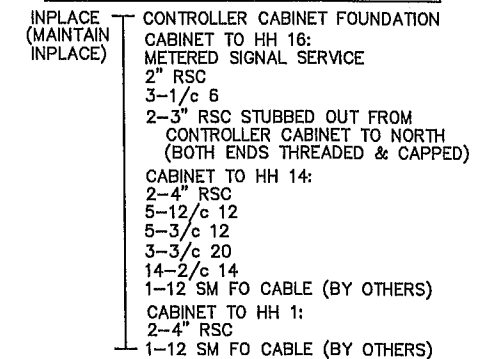
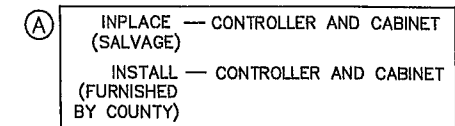
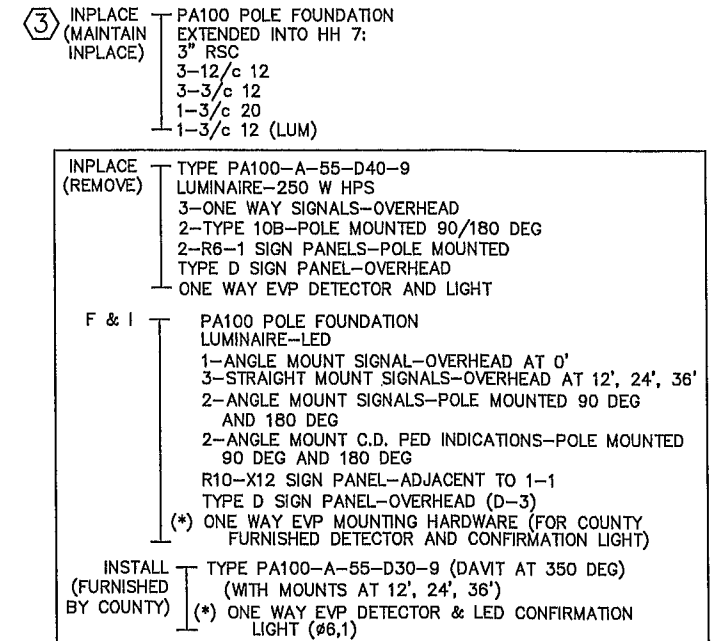
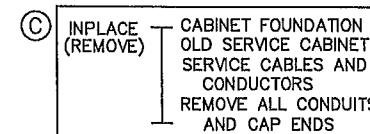
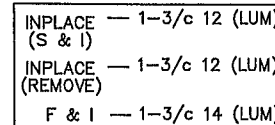
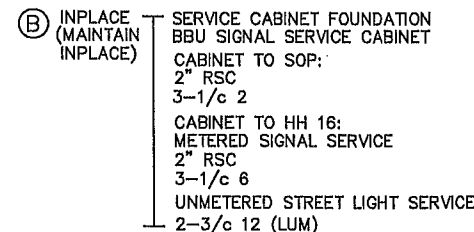
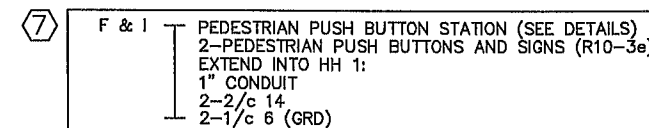
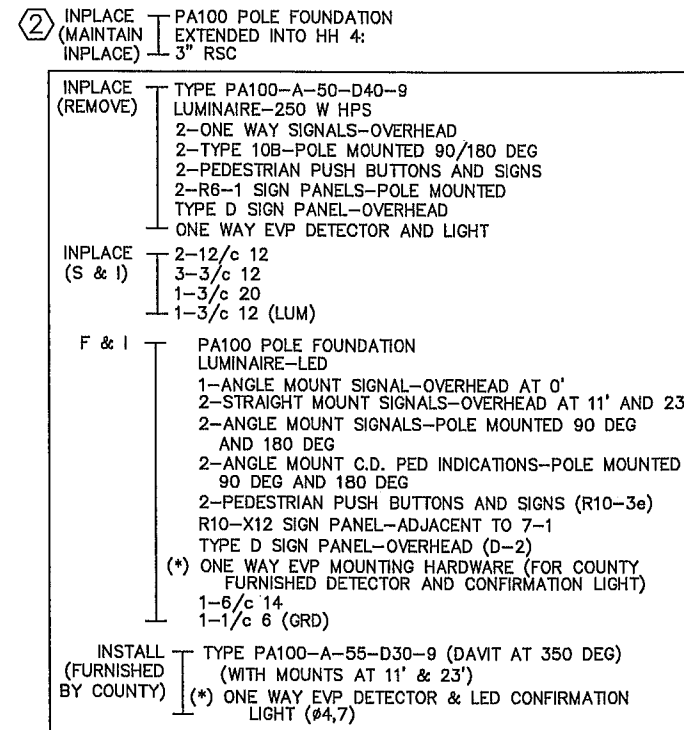
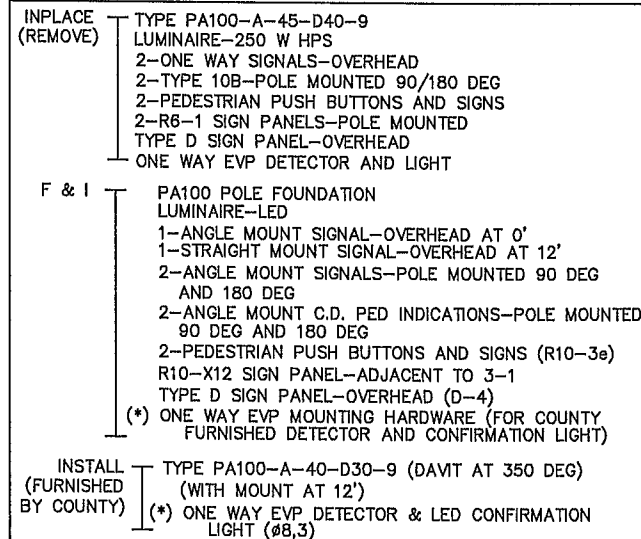
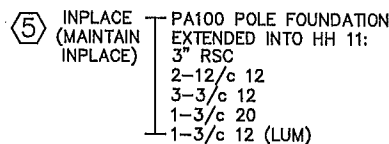
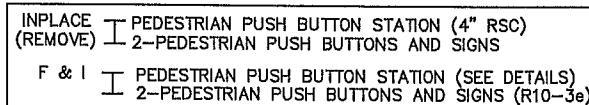
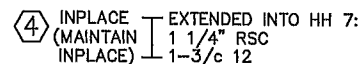
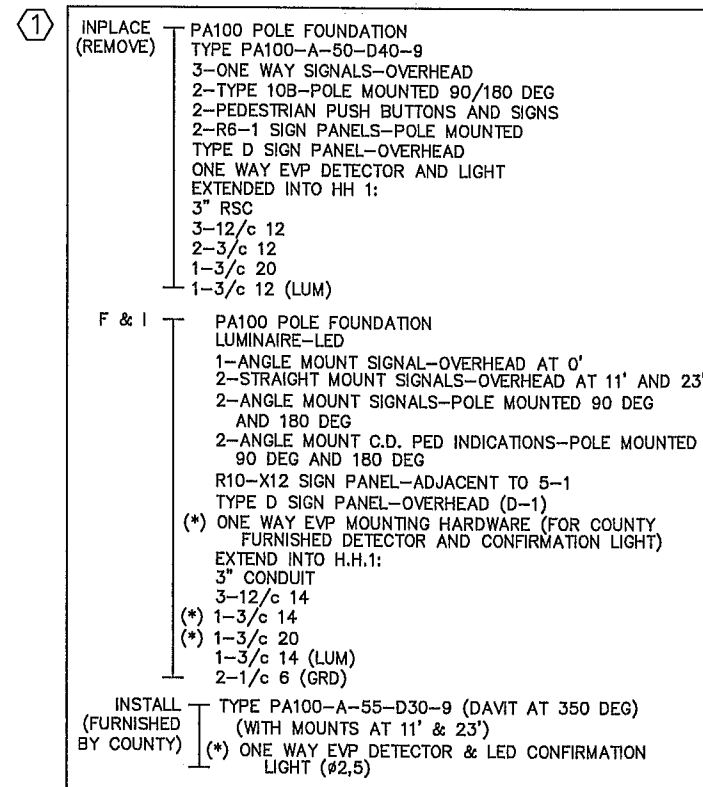
TRAFFIC SIGNAL SYSTEM "A"  
INTERSECTION LAYOUT  
CSAH 1 (COON RAPIDS BLVD)  
AT EGRET BOULEVARD NW

FILE NO.  
ANOKC 148053  
SIGNAL SHEET  
SGL17 OF SGL35

141  
285

# SYSTEM "A" NOTES:

- ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- LOCATION OF NEW HANDHOLES, LOOP DETECTORS, PUSH BUTTON STATION, AND FOUNDATION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING HANDHOLES IN THE VICINITY OF CONSTRUCTION; SHALL ADJUST HANDHOLES 1, 14, AND 15 (AND ALSO BOTH CONCRETE HANDHOLES ADJACENT TO NEW POLE 1) TO MATCH FINISHED SURROUNDING SIDEWALK/BOULEVARD GRADE; SHALL REMOVE THE EXISTING TYPE C CONCRETE FRAME AND COVER FROM THESE 5 EXISTING HANDHOLES AND SHALL FURNISH AND INSTALL A NEW PVC METAL FRAME AND COVER IN THEIR PLACE; SHALL REMOVE INPLACE HANDHOLES 2 AND 3; AND SHALL FURNISH AND INSTALL NEW HANDHOLES 2A AND 3A (PVC HANDHOLES WITH METAL FRAMES AND COVERS) (ALL INCIDENTAL). SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.
- SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY WILL BE FURNISHED AND INSTALLED 6 FEET FROM END OF EACH MAST ARM (FOR EVP).
- SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "TRAFFIC CONTROL SIGNAL SYSTEM A").
- EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION LED FILLED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
- EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- ALL LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AND OPERATIONAL, EXCEPT AS NOTED IN THE PLANS FOR NEW LOOP DETECTORS TO BE FURNISHED & INSTALLED BY THE CONTRACTOR. LOOP DETECTOR WIRES FOR NEW LOOP DETECTORS SHALL BE CROSS-LINKED POLY-ETHYLENE (XLP) 12 AWG IN 3/4" NMC (SEE SPECIAL PROVISIONS).
- (\*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM A). SEE STATEMENT OF ESTIMATED AND SPECIAL PROVISIONS.
- (\*\*) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, FOUNDATIONS, ETC.), EITHER DUE TO TRAFFIC SIGNAL REVISION WORK OR SIDEWALK/MEDIAN/ROAD CONSTRUCTION WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- CONTRACTOR SHALL MAINTAIN OPERATION OF A SIGNAL SYSTEM AT THIS INTERSECTION AT ALL TIMES - SEE TEMPORARY SIGNAL PLANS AND SPECIAL PROVISIONS.
- F & I = NEW, FURNISH AND INSTALL.  
S & I = INPLACE, SALVAGE AND INSTALL.
- ALL CONDUIT, CABLES AND CONDUCTORS, HANDHOLES, AND LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, EXCEPT WHERE BOXED IN AND DENOTED OTHERWISE.
- THE CONTRACTOR SHALL REMOVE, SALVAGE AND DISPOSE OF PORTIONS OF EXISTING PERMANENT SIGNAL SYSTEM IN ACCORDANCE WITH THE PLANS AND SPECIAL PROVISIONS (TO BE MEASURED AND PAID FOR SEPARATELY).
- SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION REGARDING FIBER OPTIC INTERCONNECT INSTALLATION WORK TO BE COMPLETED BY OTHERS AT NO EXPENSE TO CONTRACTOR, AT APPROXIMATELY THE SAME TIME AS THIS PROJECT.
- CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION AND WORK TO ACCOMMODATE OPERATION OF BOTH THE TEMPORARY SIGNAL SYSTEM AND THE NEW PERMANENT SIGNAL SYSTEM, INCLUDING ALL REQUIRED WORK AT POLE 1 (REMOVAL AND REPLACEMENT OF PA100 FOUNDATION, RELOCATION OF INPLACE MAST ARM AND POLE ONTO NEW FOUNDATION FOR TEMPORARY SIGNAL SYSTEM, AND REMOVAL OF INPLACE MAST ARM AND POLE FROM FOUNDATION WHEN NEW COUNTY FURNISHED MAST ARM AND POLE IS AVAILABLE FOR INSTALLATION BY THE CONTRACTOR) (INCIDENTAL TO BOTH THE NEW AND TEMPORARY SIGNAL SYSTEM PAY ITEMS).



SAP 002-601-050  
SAP 114-020-054

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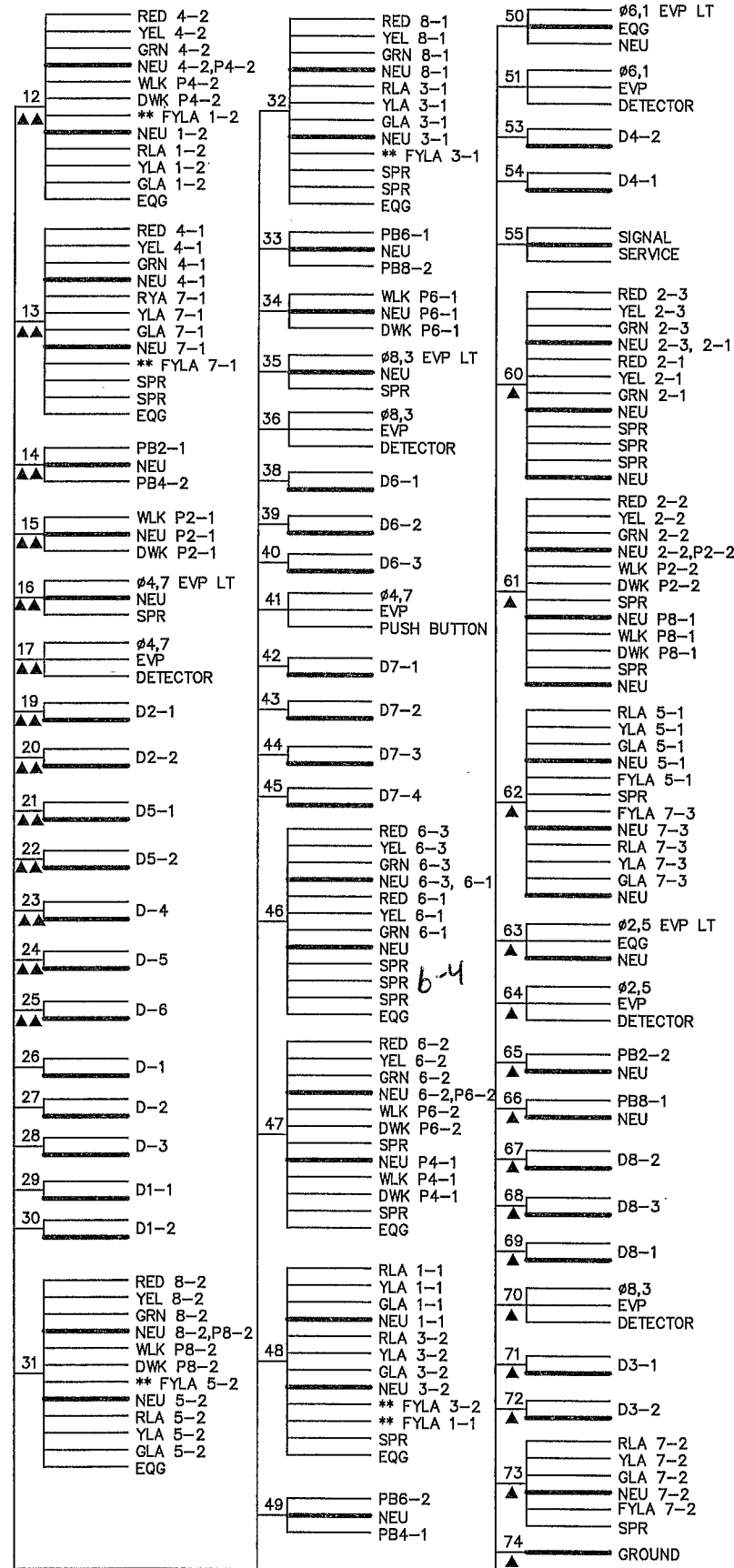
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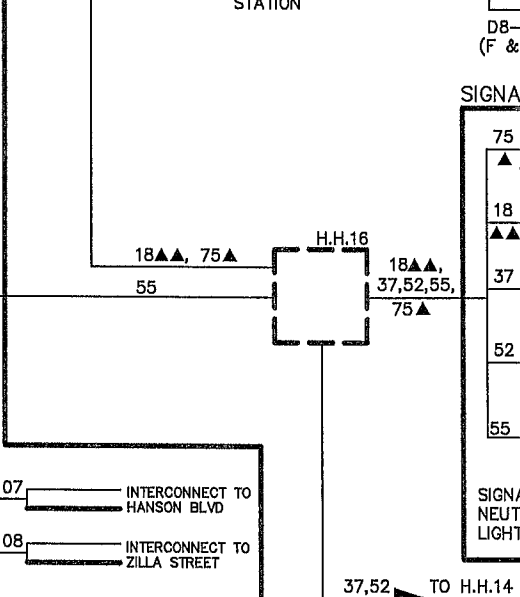
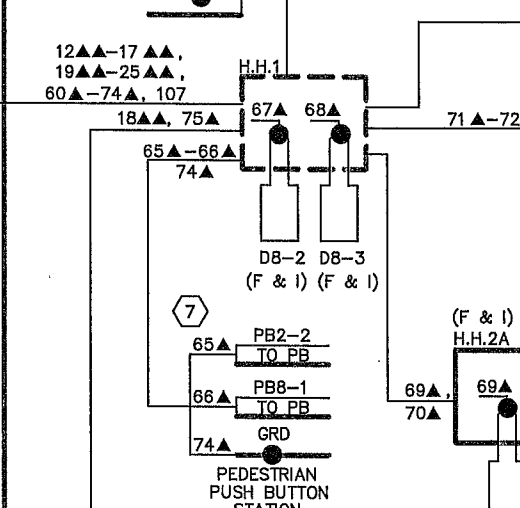
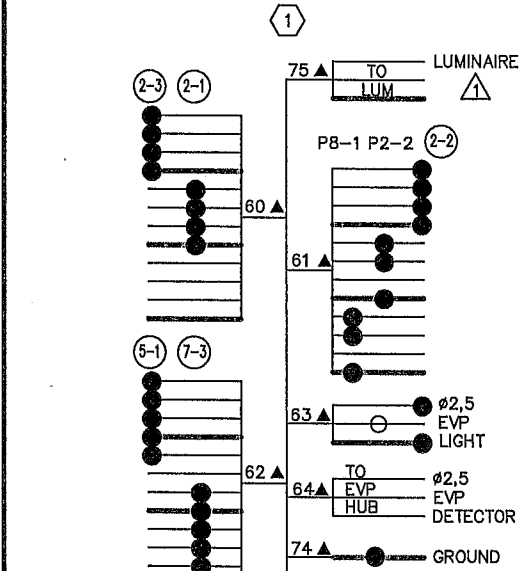
TRAFFIC SIGNAL SYSTEM "A"  
POLE, GENERAL AND CABINET NOTES  
CSAH 1 (COON RAPIDS BLVD)  
AT EGRET BOULEVARD NW

FILE NO.  
ANOKC 148053  
SIGNAL SHEET  
SGL19 OF SGL35  
143  
285

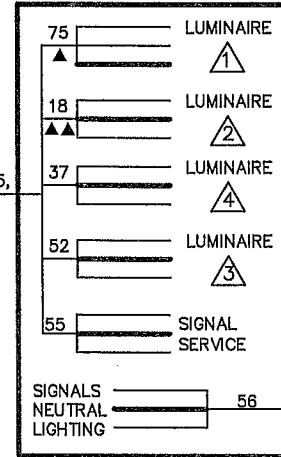
# CONTROLLER AND CABINET



26-36, 38-51,  
53-54, 108  
TO H.H.14 - SEE  
NEXT SHEET



## SIGNAL SERVICE CABINET



37,52 TO H.H.14 - SEE  
NEXT SHEET

## NOTES:

- 1) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).
- 2) LUMINAIRES ARE UNMETERED.
- 3) FIBER OPTIC CABLES 107 AND 108 ARE BEING FURNISHED AND INSTALLED BY OTHERS AT NO EXPENSE TO CONTRACTOR AS PART OF SEPARATE INTERCONNECT CONSTRUCTION PROJECT TO BE COMPLETED AT APPROXIMATELY THE SAME TIME AS THIS PROJECT.

## NOTES:

- 1) ALL CABLES AND CONDUCTORS ARE INPLACE AND SHALL BE REUSED INPLACE, EXCEPT WHERE DENOTED BY ▲ (▲ = NEW CABLES AND CONDUCTORS TO BE FURNISHED AND INSTALLED BY CONTRACTOR) OR BY ▲▲ (▲▲ = INPLACE CABLES AND CONDUCTORS TO BE SALVAGED AND REINSTALLED AS PART OF THIS PROJECT).
- 2) F & I DENOTES LOOP DETECTORS & HANDHOLES TO BE FURNISHED & INSTALLED BY CONTRACTOR AS PART OF PROJECT.
- 3) REMOVE AND DISPOSE OF INPLACE CABLES 1-11 AND 61 FROM CONTROLLER CABINET TO EACH HANDHOLE AS REQUIRED.
- 4) ● = NEW TERMINATIONS ON INPLACE OR NEW CABLES.
- 5) \*\* DENOTES NEW TERMINATIONS ON INPLACE CABLES IN CONTROLLER CABINET.

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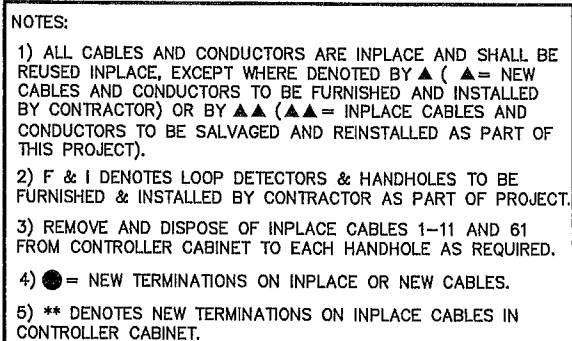
TRAFFIC SIGNAL SYSTEM "A"  
FIELD WIRING DIAGRAM  
CSAH 1 (COON RAPIDS BLVD)  
AT EGRET BOULEVARD NW

FILE NO.  
ANOKC 148053  
SIGNAL SHEET  
SGL20 OF SGL35

144  
285



- 1) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).
- 2) LUMINAIRES ARE UNMETERED.
- 3) FIBER OPTIC CABLES 107 AND 108 WILL BE FURNISHED AND INSTALLED BY OTHERS AT NO EXPENSE TO CONTRACTOR AS PART OF SEPARATE INTERCONNECT CONSTRUCTION PROJECT TO BE COMPLETED AT APPROXIMATELY THE SAME TIME AS THIS PROJECT.



145  
285