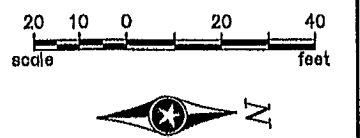


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1730



- NOTES:**
- LOCATION OF FOUNDATIONS, LOOP DETECTORS, AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - SEE SPECIAL PROVISIONS FOR HAND FURNISHED MATERIALS.
 - NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE, AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM THE END OF EACH MAST ARM (FOR EVP).
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION (CONNEXUS). SEE SPECIAL PROVISIONS.
 - 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 C").
 - EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION FILLED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
 - ALL VEHICLE AND PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED.
 - EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
 - SEE DETAILS, SPECIAL PROVISIONS, AND STATEMENT OF ESTIMATED QUANTITIES REGARDING BATTERY BACK-UP SIGNAL SERVICE CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
 - LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.

F & I N.M.C. LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x8	20' & 50'	1
D1-2	2-6x8	5' & 35'	1
D2-1	6x8	250'	1
D2-2	6x8	250'	1
D5-1	2-6x8	20' & 50'	1
D5-2	2-6x8	5' & 35'	1
D6-1	6x8	250'	1
D6-2	6x8	250'	1
D8-1	6x8	120'	3,8
D8-2	6x8	120'	3,8
D8-3	2-6x8	0' & 15'	7
D8-4	2-6x8	0' & 15'	1

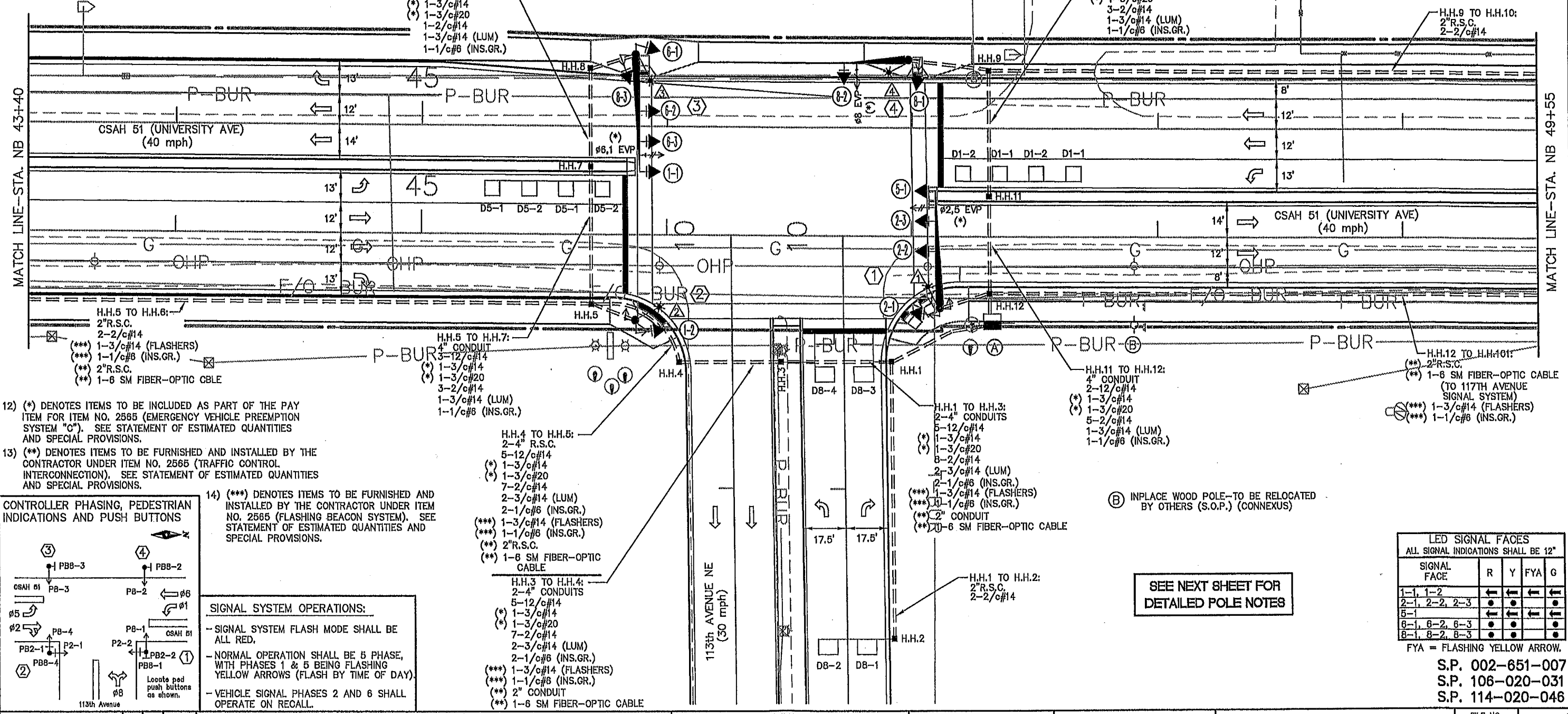
- LOOP DETECTORS FUNCTIONS:**
- CALL AND EXTEND
 - EXTEND ONLY
 - DELAYED CALL, IMMEDIATE EXTEND
 - CARRY OVER (STRETCH)

- (A) INSTALL CONTROLLER AND CABINET (FURNISHED BY COUNTY)**
- EQUIPMENT PAD FOUNDATION
BBU SIGNAL SERVICE CABINET
BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
METERED SIGNAL SERVICE
- CONTROLLER CABINET TO H.H.1:
4" R.S.C.
3-12/c#14
9-2/c#14
1-1/c#6 (INS.GR.)
1-1/c#6 (INS.GR.)
- CONTROLLER CABINET TO H.H.12:
4" R.S.C.
3-12/c#14
1-3/c#14
1-3/c#20
2-2/c#14
1-1/c#6 (INS.GR.)
1-1/c#6 (INS.GR.)
- SERVICE CABINET TO H.H.1:
2" R.S.C.
UNMETERED STREET LIGHT/FLASHER SERVICE
2-3/c#14 (LUM)
1-3/c#14 (FLASHERS)
- SERVICE CABINET TO H.H.12:
2" R.S.C.
UNMETERED STREET LIGHT/FLASHER SERVICE
2-3/c#14 (LUM)
1-3/c#14 (FLASHERS)
- CONTROLLER CABINET TO H.H.1:
4" R.S.C.
3-12/c#14
1-3/c#14
1-3/c#20
3-2/c#14
1-1/c#6 (INS.GR.)
- CONTROLLER CABINET TO H.H.12:
4" R.S.C.
2-12/c#14
1-3/c#14
1-3/c#20
5-2/c#14
1-1/c#6 (INS.GR.)

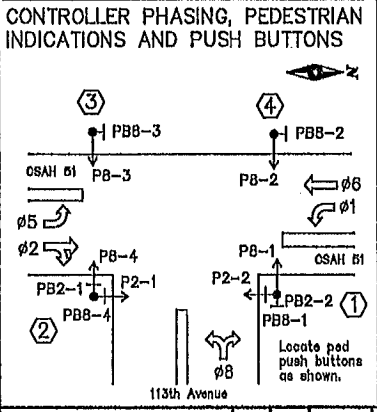
- CONTROLLER CABINET TO H.H.1:
(**) 2" R.S.C.
(**) 1-6 SM/6 MM FO CABLE
- CONTROLLER CABINET TO H.H.12:
(**) 2" R.S.C.
(**) 1-6 SM/6 MM FO CABLE

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

CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 25' OF 1-2/c#14 IN HANDHOLE 1 AS SHOWN ON FIELD WIRING DIAGRAM (FOR FUTURE PUSH BUTTON INSTALLATION BY OTHERS).



- (*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM "C"). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.



- (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (FLASHING BEACON SYSTEM). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- SIGNAL SYSTEM OPERATIONS:**
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
 - NORMAL OPERATION SHALL BE 5 PHASE, WITH PHASES 1 & 5 BEING FLASHING YELLOW ARROWS (FLASH BY TIME OF DAY).
 - VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

(B) INPLACE WOOD POLE--TO BE RELOCATED BY OTHERS (S.O.P.) (CONNEXUS)

LED SIGNAL FACES
ALL SIGNAL INDICATIONS SHALL BE 12"

SIGNAL FACE	R	Y	FYA	G
1-1, 1-2	●	●	●	●
2-1, 2-2, 2-3	●	●	●	●
5-1	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●
6-1, 6-2, 6-3	●	●	●	●

FYA = FLASHING YELLOW ARROW.

SEE NEXT SHEET FOR DETAILED POLE NOTES

S.P. 002-651-007
S.P. 106-020-031
S.P. 114-020-046

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

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.

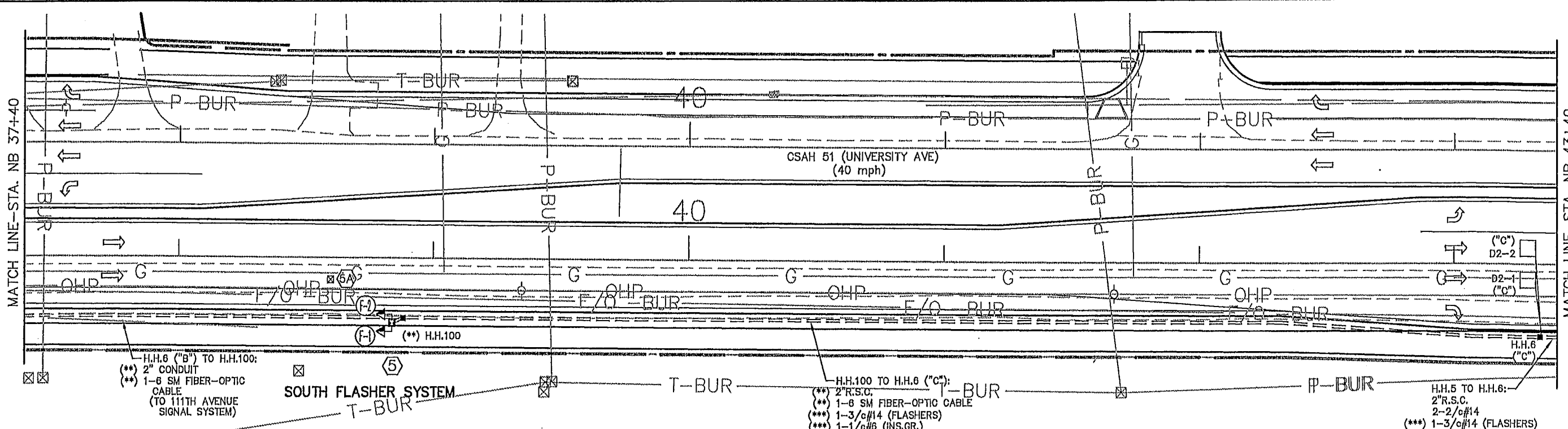
John M. Gray, PE
Name: John M. Gray, PE
L.A. No. 22457
Date: April 23, 2014

SEH
PHONE: (651) 490-2000
3635 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
CITIES OF BLAINE AND COON RAPIDS

TRAFFIC SIGNAL SYSTEM 'C'
INTERSECTION LAYOUT
CSAH 51 (UNIVERSITY AVE) AT 113TH AVENUE

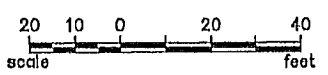
FILE NO. ANOKG 125457
SIGNAL SHEET 15 OF 39
232
381



H.H.6 ("B") TO H.H.100:
 (***) 2" CONDUIT
 (***) 1-6 SM FIBER-OPTIC CABLE
 (TO 111TH AVENUE SIGNAL SYSTEM)

H.H.100 TO H.H.6 ("C"):
 (***) 2" R.S.C.
 (***) 1-6 SM FIBER-OPTIC CABLE
 (***) 1-3/c#14 (FLASHERS)
 (***) 1-1/c#6 (INS.GR.)

H.H.5 TO H.H.6:
 2" R.S.C.
 2-2/c#14
 (***) 1-3/c#14 (FLASHERS)
 (***) 1-1/c#6 (INS.GR.)
 (***) 2" R.S.C.
 (***) 1-6 SM FIBER-OPTIC CABLE

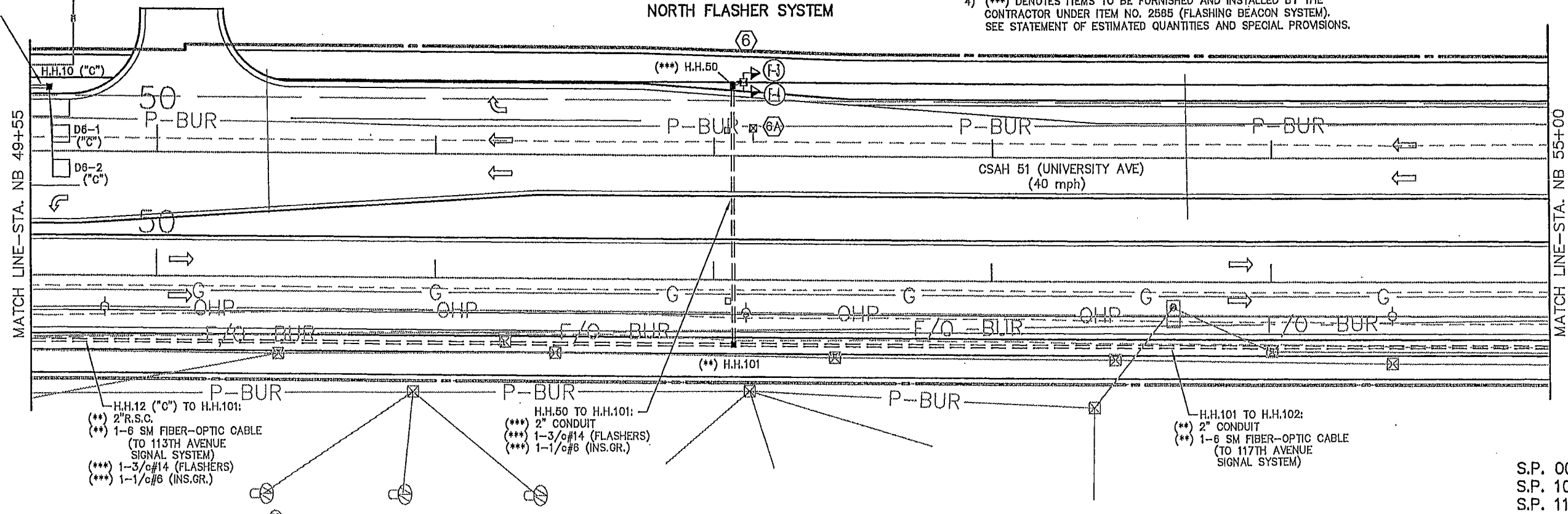


SEE NEXT SHEETS FOR
 FLASHER SYSTEM NOTES

INTERCONNECT AND SIGNAL/FLASHER 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 2180.
- 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. 2585 (TRAFFIC CONTROL INTERCONNECTION). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 4) (***) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2585 (FLASHING BEACON SYSTEM). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 5) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS PER MnDOT STANDARD PLATE NO. 8114.
- 6) ITEMS DENOTED BY "C" SHALL BE INCLUDED AS PART OF PAY ITEM FOR "TRAFFIC CONTROL SIGNAL SYSTEM C". SEE SPECIAL PROVISIONS.

H.H.9 TO H.H.10:
 2" R.S.C. ("C")
 2-2/c#14 ("C")



H.H.12 ("C") TO H.H.101:
 (***) 2" R.S.C.
 (***) 1-6 SM FIBER-OPTIC CABLE
 (TO 113TH AVENUE SIGNAL SYSTEM)
 (***) 1-3/c#14 (FLASHERS)
 (***) 1-1/c#6 (INS.GR.)

H.H.50 TO H.H.101:
 (***) 2" CONDUIT
 (***) 1-3/c#14 (FLASHERS)
 (***) 1-1/c#6 (INS.GR.)

H.H.101 TO H.H.102:
 (***) 2" CONDUIT
 (***) 1-6 SM FIBER-OPTIC CABLE
 (TO 117TH AVENUE SIGNAL SYSTEM)

S.P. 002-651-007
 S.P. 106-020-031
 S.P. 114-020-046

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.

John M. Gray
 Name: John M. Gray, PE
 Date: April 23, 2014
 Lto. No. 22457

ANOKA COUNTY
 CITIES OF BLAINE
 AND COON RAPIDS

SIGNAL SYSTEM 'C'/FLASHER SYSTEM
 INTERSECTION LAYOUT
 CSAH 51 (UNIVERSITY AVE)
 (111TH AVENUE TO 117TH AVENUE)

FILE NO.	ANOKC 12B457	231
SIGNAL SHEET	14 OF 39	301

