

PVC LOOP DETECTORS				
NUMBER	SIZE (FT.)	LOCATION	FUNCTION	STATUS
D1-1	2-6x6	10' & 40'	1	1
D1-2	2-6x6	-5' & 25'	1	2
D2-1, D2-2	6x6	475'	1	INPLACE
D3-1	2-6x6	15' & 45'	1	INPLACE
D3-2	2-6x6	0' & 30'	1	INPLACE
D4-1	6x6	250'	3,8	INPLACE
D4-2, D8-2	2-6x6	5' & 20'	7	INPLACE
D4-3, D8-3	2-6x6	5' & 20'	1	INPLACE
D5-1	2-6x6	10' & 40'	1	1
D5-2	2-6x6	-5' & 25'	1	2
D6-1, D6-2	6x6	475'	1	INPLACE
D7-1	2-6x6	15' & 45'	1	INPLACE
D7-2	2-6x6	0' & 30'	1	INPLACE
D8-1	6x6	120'	3,8	INPLACE

LOOP DETECTORS FUNCTIONS:

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

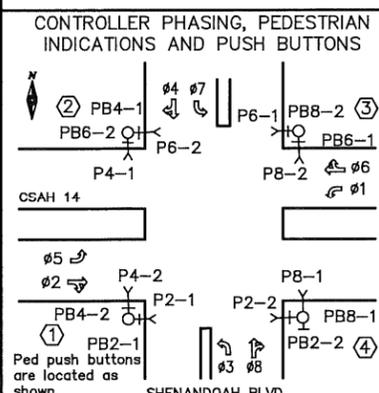
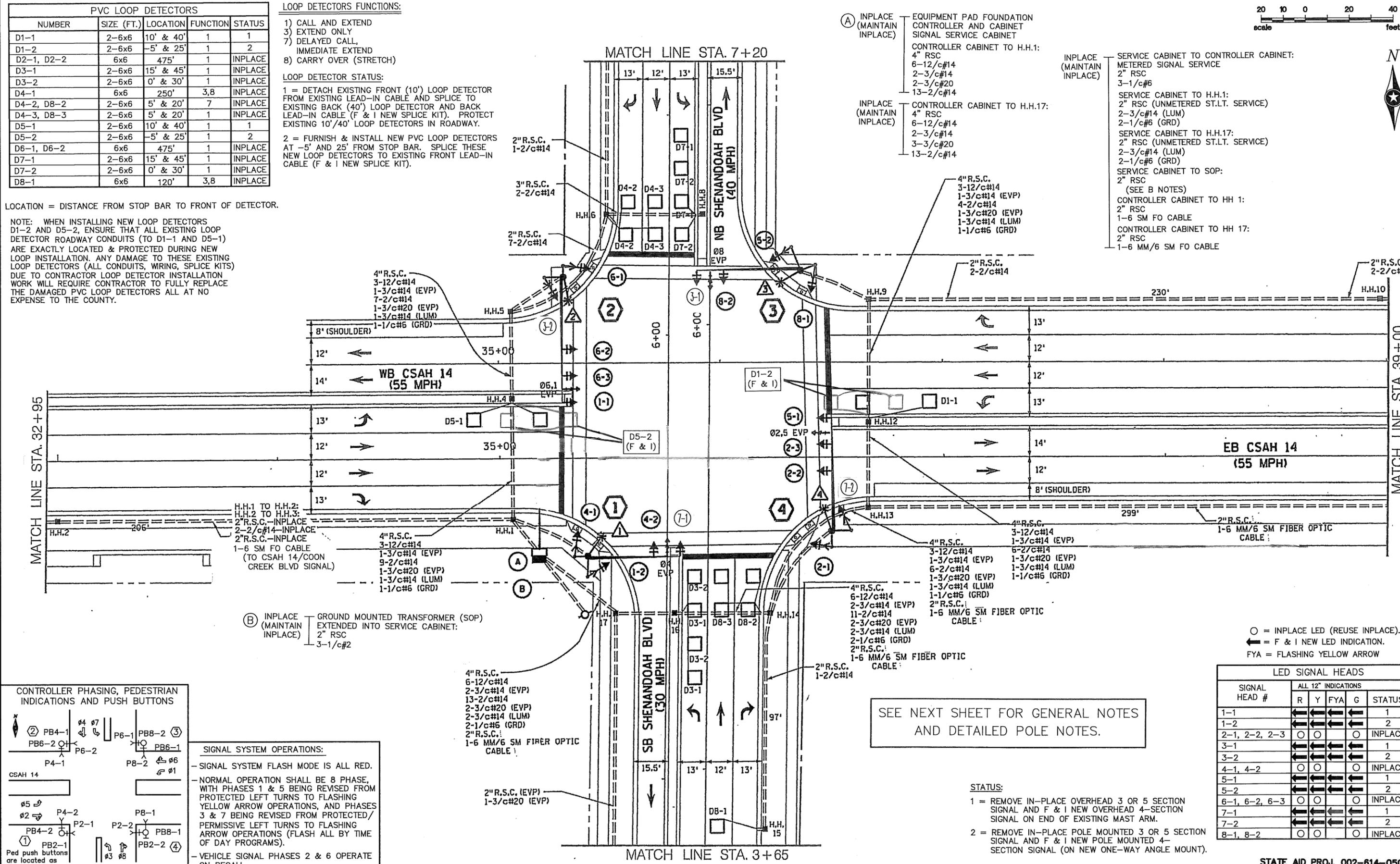
LOOP DETECTOR STATUS:

1 = DETACH EXISTING FRONT (10') LOOP DETECTOR FROM EXISTING LEAD-IN CABLE AND SPLICE TO EXISTING BACK (40') LOOP DETECTOR AND BACK LEAD-IN CABLE (F & 1 NEW SPLICE KIT). PROTECT EXISTING 10'/40' LOOP DETECTORS IN ROADWAY.

2 = FURNISH & INSTALL NEW PVC LOOP DETECTORS AT -5' AND 25' FROM STOP BAR. SPLICE THESE NEW LOOP DETECTORS TO EXISTING FRONT LEAD-IN CABLE (F & 1 NEW SPLICE KIT).

LOCATION = DISTANCE FROM STOP BAR TO FRONT OF DETECTOR.

NOTE: WHEN INSTALLING NEW LOOP DETECTORS D1-2 AND D5-2, ENSURE THAT ALL EXISTING LOOP DETECTOR ROADWAY CONDUITS (TO D1-1 AND D5-1) ARE EXACTLY LOCATED & PROTECTED DURING NEW LOOP INSTALLATION. ANY DAMAGE TO THESE EXISTING LOOP DETECTORS (ALL CONDUITS, WIRING, SPLICE KITS) DUE TO CONTRACTOR LOOP DETECTOR INSTALLATION WORK WILL REQUIRE CONTRACTOR TO FULLY REPLACE THE DAMAGED PVC LOOP DETECTORS ALL AT NO EXPENSE TO THE COUNTY.



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION SHALL BE 8 PHASE, WITH PHASES 1 & 5 BEING REVISED FROM PROTECTED LEFT TURNS TO FLASHING YELLOW ARROW OPERATIONS, AND PHASES 3 & 7 BEING REVISED FROM PROTECTED/PERMISSIVE LEFT TURNS TO FLASHING ARROW OPERATIONS (FLASH ALL BY TIME OF DAY PROGRAMS).
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

SEE NEXT SHEET FOR GENERAL NOTES AND DETAILED POLE NOTES.

STATUS:

- 1 = REMOVE IN-PLACE OVERHEAD 3 OR 5 SECTION SIGNAL AND F & I NEW OVERHEAD 4-SECTION SIGNAL ON END OF EXISTING MAST ARM.
- 2 = REMOVE IN-PLACE POLE MOUNTED 3 OR 5 SECTION SIGNAL AND F & I NEW POLE MOUNTED 4-SECTION SIGNAL (ON NEW ONE-WAY ANGLE MOUNT).

○ = INPLACE LED (REUSE INPLACE).
 ← = F & I NEW LED INDICATION.
 FYA = FLASHING YELLOW ARROW

LED SIGNAL HEADS					
SIGNAL HEAD #	ALL 12" INDICATIONS				STATUS
	R	Y	FYA	G	
1-1	←	←	←	←	1
1-2	←	←	←	←	2
2-1, 2-2, 2-3	○	○	○	○	INPLACE
3-1	←	←	←	←	1
3-2	←	←	←	←	2
4-1, 4-2	○	○	○	○	INPLACE
5-1	←	←	←	←	1
5-2	←	←	←	←	2
6-1, 6-2, 6-3	○	○	○	○	INPLACE
7-1	←	←	←	←	1
7-2	←	←	←	←	2
8-1, 8-2	○	○	○	○	INPLACE

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

John M. Gray
 Name: John M. Gray, PE
 Lic. No. 22457
 Date: August 21, 2020

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

ANOKA COUNTY
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM 'G'
INTERSECTION LAYOUT
 CSAH 14 (MAIN STREET) AT SHENANDOAH BOULEVARD

STATE AID PROJ. 002-614-050
 FILE NO. ANOKC 153781
41
55

7281

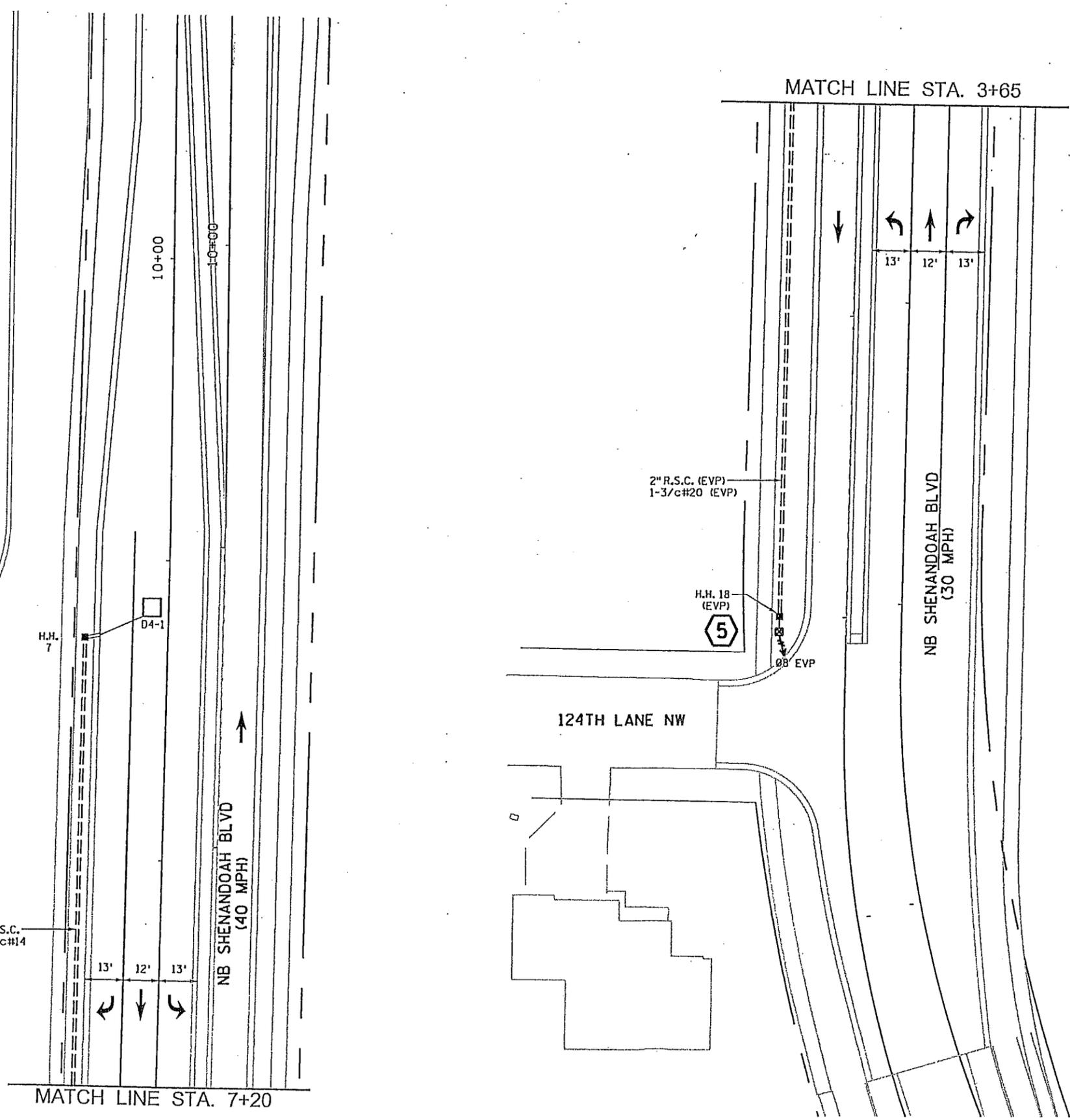
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S:\AE\Anoka\102287\5-dsgn\51-cadd\Civil\plans\102.sp.dgn Signal System A Int



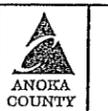
- 5 PEDESTAL FOUNDATION (EVP)
- 10' PEDESTAL POLE (INCLUDES BASE/EVP)
- ONE WAY EVP DETECTOR - MOUNT ON TOP OF PEDESTAL POLE (08/EVP)
- EXTEND INTO H.H. 18:
- 2" R.S.C. (EVP)
- 1-3/c#20 (EVP)

DESIGN TEAM			
DRAWN BY:	MTT		
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.

Certified By: *John M. Gray* Lic. No. 22457
 Licensed Professional Engineer
 Printed Name: JOHN M. GRAY, PE Date: 1/20/2010

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 ST. PAUL, MN 55110



ANOKA COUNTY, MN.
CSAH 14
 S.P. NO. 02-614-32 CTB
 S.P. NO. 114-020-042 (C.S.A.H. 14)
 S.P. NO. 114-129-008 (SHENANDOAH BLVD.)

TRAFFIC SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
 CSAH 14 (MAIN ST) AT SHENANDOAH BLVD

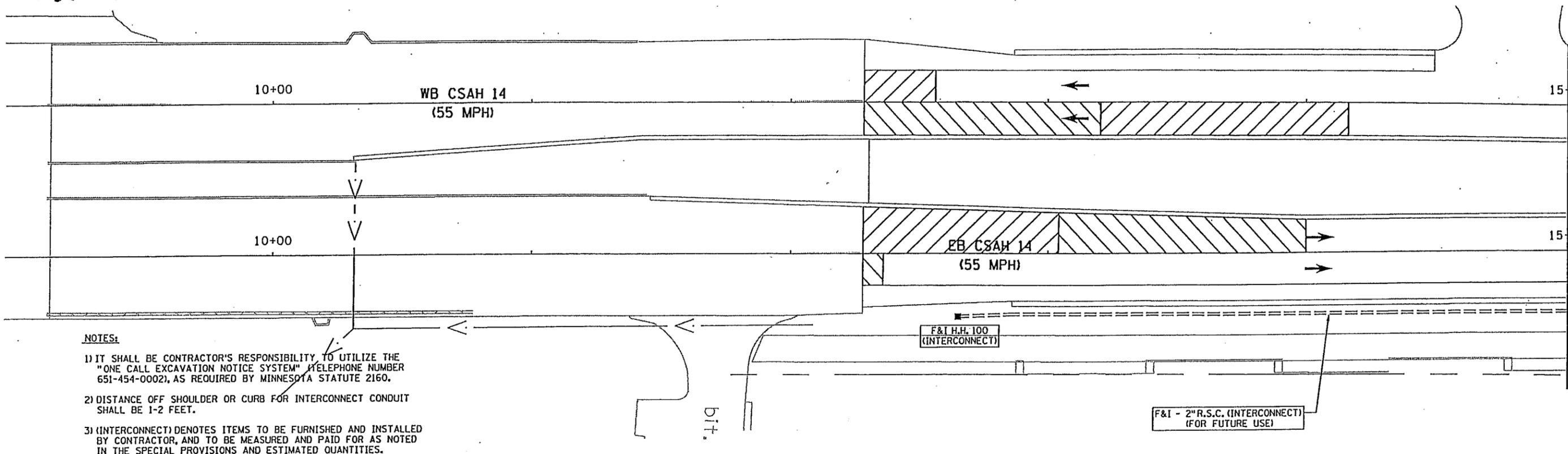
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OF 5G32	

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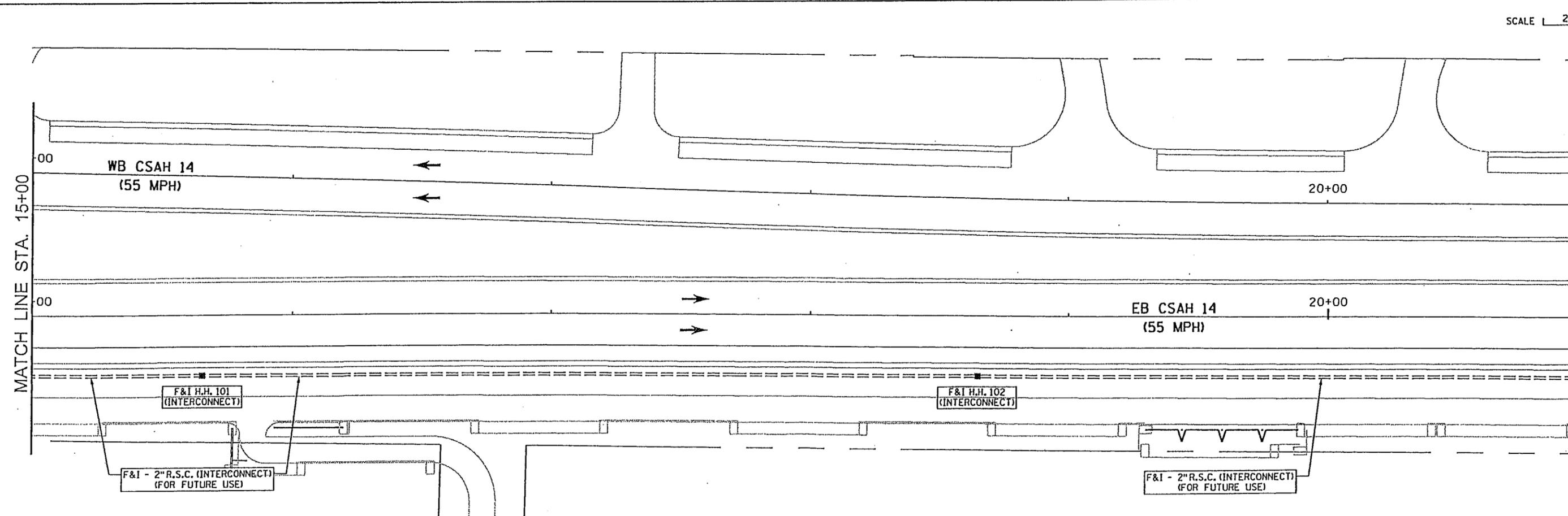
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Interconnect 1

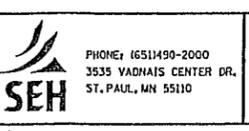
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DESIGNER:	JMG		
CHECKED BY:	JMG		
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Certified By: *John M. Gray* Lic. No. 22457
 Licensed Professional Engineer
 Printed Name: JOHN M. GRAY, PE Date: 1/20/2010



ANOKA COUNTY, MN.
CSAH 14
 S.P. NO. 02-614-32 CTB
 S.P. NO. 114-020-042 (C.S.A.H. 14)
 S.P. NO. 114-129-008 (SHENANDOAH BLVD.)

TRAFFIC SIGNAL INTERCONNECT INTERSECTION LAYOUT
 CSAH 14 (MAIN ST)
 (STA 9+00 TO STA 21+00)

FILE NO. 171
 102287
 SG9 OF 5632
 194

NOTES:

- 1) IT SHALL BE 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) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN THE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.

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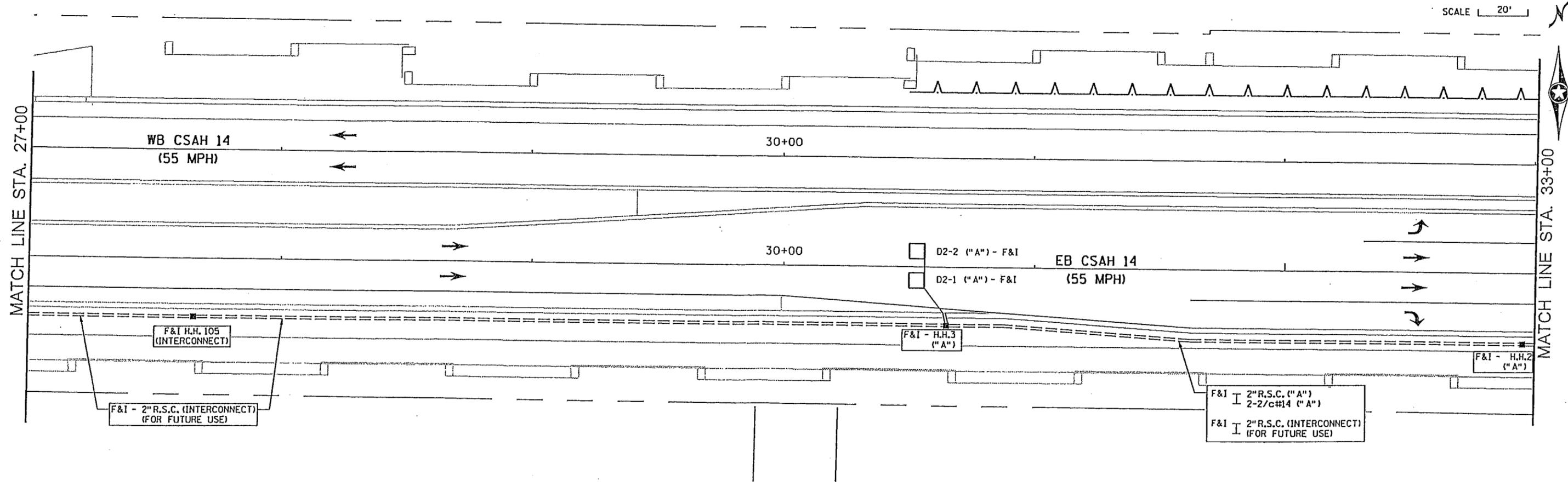
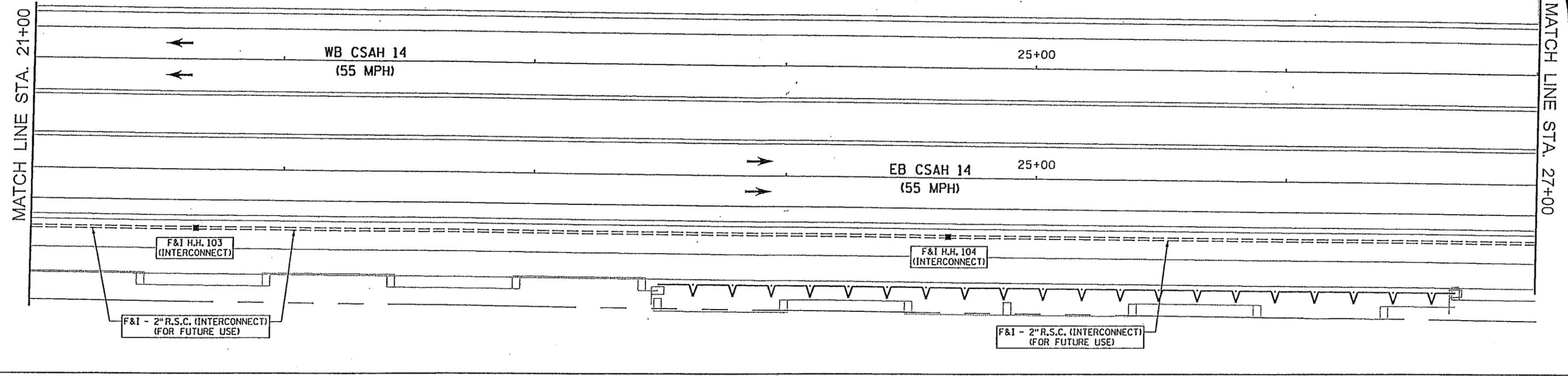
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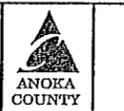
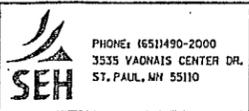


DESIGN TEAM			
DRAWN BY:	MTI		
DESIGNER:	JMG		
CHECKED BY:	JMG		
	NO.	BY	DATE
			REVISIONS

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Certified By: *John M. Gray* Lic. No. 22457

Printed Name: JOHN M. GRAY, PE Date: 1/20/2010



ANOKA COUNTY, MN.
CSAH 14
S.P. NO. 02-614-32 CTB
S.P. NO. 114-020-042 (C.S.A.H. 14)
S.P. NO. 114-129-008 (SHENANDOAH BLVD.)

TRAFFIC SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
CSAH 14 (MAIN ST) AT
SHENANDOAH BLVD

FILE NO.	172
102287	
SG10	194
OF 5G32	

7281

NOTES:

- 1) IT SHALL BE 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) (INTERCONNECT) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY CONTRACTOR, AND TO BE MEASURED AND PAID FOR AS NOTED IN THE SPECIAL PROVISIONS AND ESTIMATED QUANTITIES.

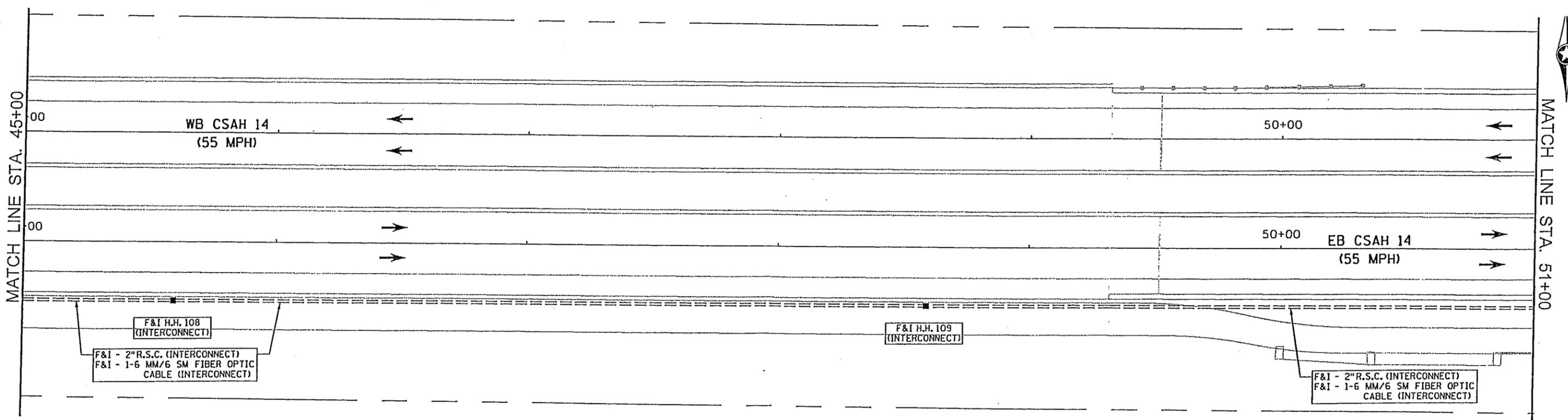
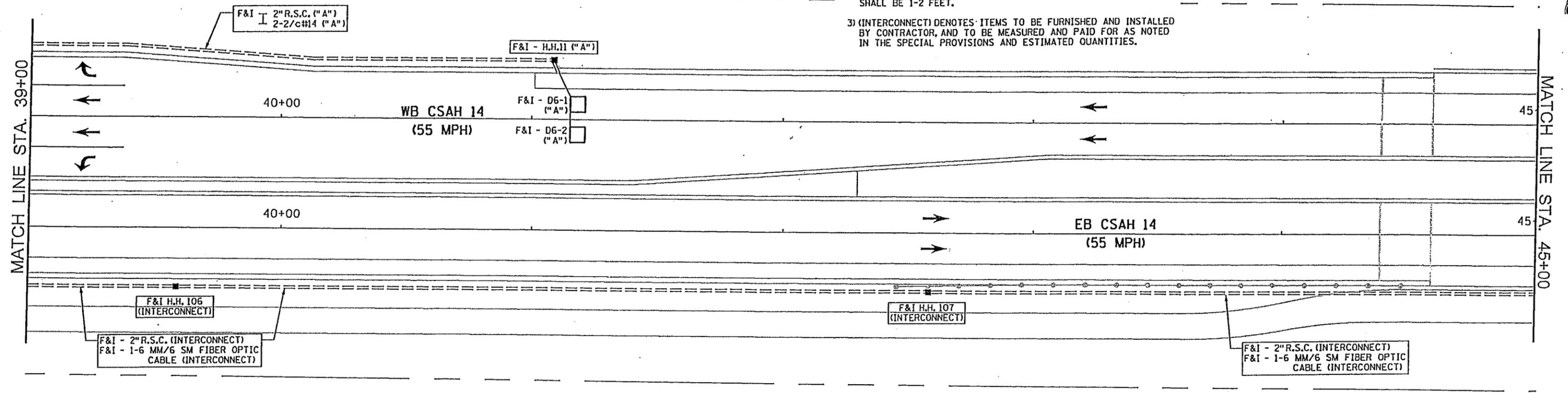
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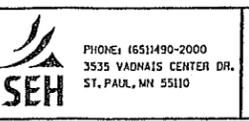
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DESIGN TEAM			
DRAWN BY:	MTT		
DESIGNER:	JMG		
CHECKED BY:	JMG		
NO.	BY	DATE	REVISIONS

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 Printed Name: JOHN M. GRAY, PE Date: 1/20/2010



ANOKA COUNTY, MN.
CSAH 14
 S.P. NO. 02-614-32 CTB
 S.P. NO. 114-020-042 (C.S.A.H. 14)
 S.P. NO. 114-129-008 (SHENANDOAH BLVD.)

TRAFFIC SIGNAL SYSTEM "A"
INTERSECTION LAYOUT
 CSAH 14 (MAIN ST) AT
 SHENANDOAH BLVD

FILE NO.	174
102287	
SG12	194
OF 5632	

NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- 2) ALL HANDHOLES ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS AND ARE INPLACE (REUSE AND MAINTAIN INPLACE).
- 3) ALL PEDESTRIAN SIGNAL HEADS ARE ONE-SECTION LED "HAND/WALKING PERSON" COUNTDOWN TIMER INDICATIONS AND ARE INPLACE (REUSE AND MAINTAIN INPLACE).
- 4) ALL LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AND OPERATIONAL, EXCEPT AS FOLLOWS: CONTRACTOR SHALL FURNISH AND INSTALL NEW LOOP DETECTORS D1-2 AND D5-2 IN PVC PER DETAILS INCLUDED ELSEWHERE IN THESE PLANS. LOOP DETECTOR WIRES FOR NEW LOOP DETECTORS SHALL BE CROSS-LINKED POLY-ETHYLENE (XLP) #12 AWG IN 3/4" NMC. SEE SPECIAL PROVISIONS.
- 5) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), DUE TO TRAFFIC SIGNAL REVISION WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- 6) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
- 7) ALL NEW VEHICULAR SIGNAL HEADS SHALL HAVE BACKGROUND SHIELDS FURNISHED & INSTALLED BY CONTRACTOR. ALL INPLACE VEHICULAR SIGNAL HEADS BEING REUSED AS PART OF REVISE SIGNAL SYSTEM "G" HAVE BACKGROUND SHIELDS (REUSE AND MAINTAIN INPLACE).
- 8) LOCATION OF NEW LOOP DETECTORS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 9) F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
- 10) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS TO BE INSTALLED AND MADE OPERATIONAL BY CONTRACTOR.
- 11) ALL NEW VEHICULAR SIGNAL HOUSINGS, BACKGROUND SHIELDS AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- 12) SEE SPECIAL PROVISIONS & DETAILS REGARDING NEW TYPE C SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (TO BE INCLUDED AS PART OF PAY ITEM FOR ITEM NO. 2565-REVISE SIGNAL SYSTEM G).
- 13) SEE SPECIAL PROVISIONS REGARDING WORK TO RAISE OVERHEAD SIGNAL HEADS ON MAST ARM 2 (INCLUDED AS PART OF PAY ITEM FOR ITEM NO. 2565-REVISE SIGNAL SYSTEM G).

① INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-40-D40-9 (DAVIT AT 350 DEG)
 LUMINAIRE-250 W HPS
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11' (4-2)
 1-ANGLE MOUNT SIGNAL-POLE MOUNTED 180 DEG (4-1)
 2-SETS CD PED SIGNALS (ANGLE MOUNTED) AT 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 TYPE D SIGN PANEL-OVERHEAD AT 20'
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (Ø4,7)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
 EXTENDED INTO H.H.1:
 3" RSC
 3-12/c#14
 1-3/c#14
 1-3/c#20
 2-2/c#14
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

INPLACE (REMOVE) ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (5-SECTION-OLD 4-3)
 ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 90 DEG (OLD 1-2)
 R10-12 SIGN PANEL-OVERHEAD
 F & I 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 7-1)
 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 90 DEG (NEW 1-2)
 R10-X12 SIGN PANEL-ADJACENT TO 7-1

③ INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 LUMINAIRE-250 W HPS
 1-STRAIGHT MOUNT SIGNAL-OVERHEAD AT 11' (8-2)
 1-ANGLE MOUNT SIGNAL-POLE MOUNTED 180 DEG (8-1)
 2-SETS CD PED SIGNALS (ANGLE MOUNTED) AT 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 TYPE D SIGN PANEL-OVERHEAD AT 20'
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (Ø8,3)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
 EXTENDED INTO H.H.9:
 3" RSC
 3-12/c#14
 1-3/c#14
 1-3/c#20
 2-2/c#14
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

INPLACE (REMOVE) ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (5-SECTION-OLD 8-3)
 ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 90 DEG (OLD 5-2)
 R10-12 SIGN PANEL-OVERHEAD
 F & I 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 3-1)
 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 90 DEG (NEW 5-2)
 R10-X12 SIGN PANEL-ADJACENT TO 3-1

② INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
 TYPE PA100-A-55-D40-9 (DAVIT AT 350 DEG)
 PA100 SWING-AWAY HINGES
 LUMINAIRE-250 W HPS
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
 1-ANGLE MOUNT SIGNAL-POLE MOUNTED 180 DEG (6-1)
 2-SETS CD PED SIGNALS (ANGLE MOUNTED) AT 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 TYPE D SIGN PANEL-OVERHEAD AT 28'
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (Ø6,1)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
 EXTENDED INTO H.H.5:
 3" RSC
 3-12/c#14
 1-3/c#14
 1-3/c#20
 1-2/c#14
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

INPLACE (REMOVE) ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 1-1)
 ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 90 DEG (OLD 8-4)
 F & I 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 1-1)
 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 90 DEG (NEW 3-2)
 R10-X12 SIGN PANEL-ADJACENT TO 1-1
 ADJUST MAST ARM/POLE SO THAT ALL OVERHEAD SIGNAL HEADS ARE 17 FEET ABOVE GROUND LINE TO BOTTOM OF BACKGROUND SHIELD (SEE SPECIAL PROVISIONS)

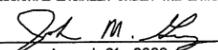
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 TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
 PA100 SWING-AWAY HINGES
 LUMINAIRE-250 W HPS
 2-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11' & 23'
 1-ANGLE MOUNT SIGNAL-POLE MOUNTED 180 DEG (2-1)
 2-SETS CD PED SIGNALS (ANGLE MOUNTED) AT 90/180 DEG
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)
 TYPE D SIGN PANEL-OVERHEAD AT 28'
 ONE WAY EVP DETECTOR AND LIGHT AT 6' (Ø2,5)
 2-R6-1 SIGN PANELS-POLE MOUNTED 0/180 DEG
 EXTENDED INTO H.H.14:
 3" RSC
 3-12/c#14
 1-3/c#14
 1-3/c#20
 1-2/c#14
 1-3/c#14 (LUM)
 1-1/c#6 (GRD)

INPLACE (REMOVE) ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 5-1)
 ONE WAY SIGNAL AND MOUNT-POLE MOUNTED 90 DEG (OLD 4-4)
 F & I 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 5-1)
 1-ONE WAY SIGNAL AND ANGLE MOUNT-POLE MOUNTED 90 DEG (NEW 7-2)
 R10-X12 SIGN PANEL-ADJACENT TO 5-1

2020PTA-BASE.DWG

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

NO.	BY	DATE	REVISIONS

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ANOKA COUNTY
CITY OF COON RAPIDS

REVISE SIGNAL SYSTEM "G"
POLE AND GENERAL NOTES
 CSAH 14 (MAIN STREET) AT SHENANDOAH BOULEVARD

FILE NO.
 ANOKC 153781

