

PLAN SYMBOLS

- STATE LINE.
- COUNTY LINE.
- TOWNSHIP OR RANGE LINE.
- SECTION LINE.
- QUARTER LINE.
- SIXTEENTH LINE.
- RIGHT-OF-WAY LINE.
- PRESENT RIGHT-OF-WAY LINE.
- CONTROL OF ACCESS LINE.
- PROPERTY LINE (Except Land Lines).
- VACATED PLATTED PROPERTY.
- CORPORATE OR CITY LIMITS.

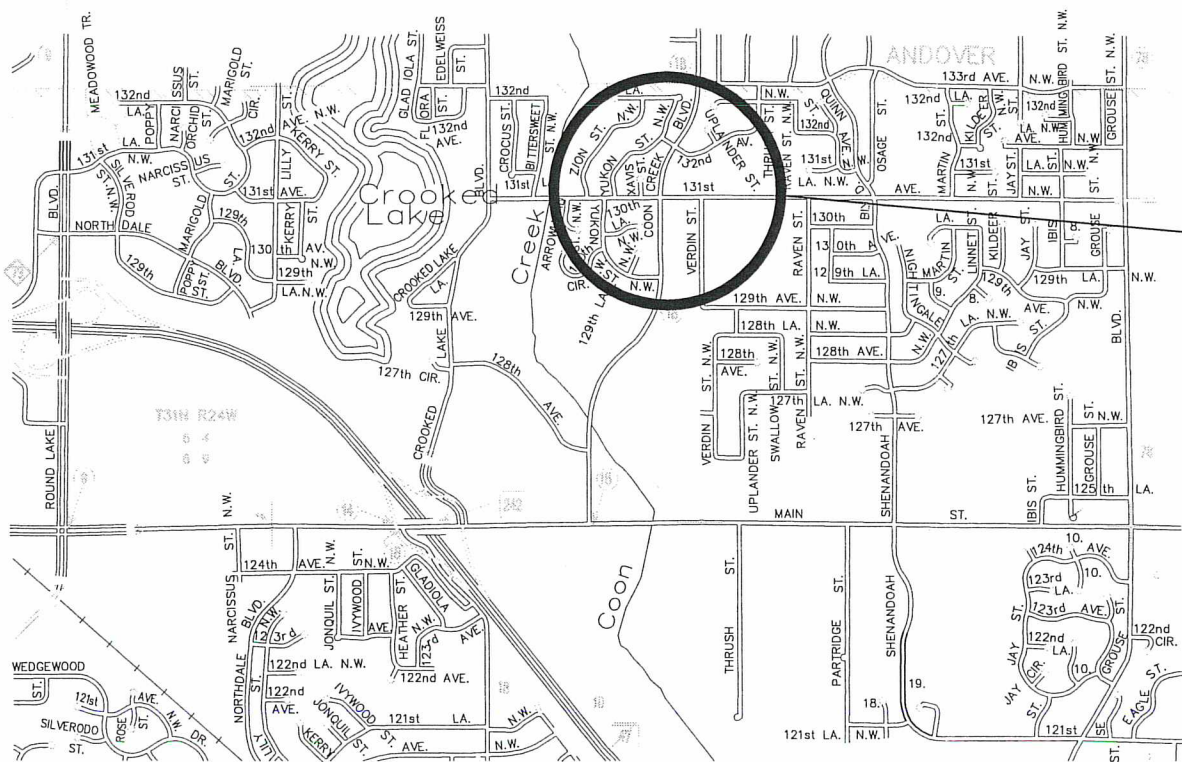
- TRUNK HIGHWAY CENTER LINE.
- RETAINING WALL.
- RAILROAD.
- RAILROAD RIGHT-OF-WAY LINE.
- RIVER OR CREEK.
- DRY RUN.
- DRAINAGE DITCH.
- DRAIN TILE.
- CULVERT.
- DROP INLET.
- GUARD RAIL.
- BARBED WIRE FENCE.
- WOVEN WIRE FENCE.
- CHAIN LINK FENCE.
- WOODEN FENCE.
- STONE WALL OR FENCE.
- HEDGE.
- RAILROAD CROSSING SIGN.
- RAILROAD CROSSING BELL.
- ELECTRIC WARNING SIGN.
- CROSSING GATE.
- MEANDER CORNER.

- SPRINGS.
- MARSH.
- TIMBER ORCHARD BRUSH NURSERY.
- CATCH BASIN.
- FIRE HYDRANT.
- CATTLE GUARD.
- OVERPASS (Highway Over).
- UNDERPASS (Highway Under).
- BRIDGE.

- BUILDING (One Story Frame).
- F-FRAME C-CONCRETE S-STONE T-TILE B-BRICK ST-STUCCO
- IRON PIPE OR ROD.
- MONUMENT (STONE, CONCRETE, OR METAL).
- WOODEN HUB.
- GRAVEL PIT.
- SAND PIT.
- BORROW PIT.
- ROCK QUARRY.

- UTILITY SYMBOLS**
- POWER POLE LINE.
- TELEPHONE OR TELEGRAPH POLE LINE.
- JOINT TELEPHONE AND POWER ON POWER POLES.
- JOINT TELEPHONE AND POWER ON TELEPHONE POLES.
- ANCHOR.
- STEEL TOWER.
- STREET LIGHT.
- PEDESTAL (TELEPHONE CABLE TERMINAL).
- GAS MAIN.
- WATER MAIN.
- CONDUIT.
- TELEPHONE CABLE IN CONDUIT.
- ELECTRIC CABLE IN CONDUIT.
- TELEPHONE MANHOLE.
- ELECTRIC MANHOLE.
- BURIED COMMUNICATION CABLE.
- BURIED TELEPHONE CABLE.
- BURIED ELECTRIC CABLE.
- SEWER, (SANITARY).
- SEWER, (STORM).
- SEWER MANHOLE.
- HANDHOLE.
- CATCH BASIN.

MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY, MINNESOTA
CITY OF COON RAPIDS
CONSTRUCTION PLAN FOR: ONE (1) FULL-TRAFFIC-ACTUATED
TRAFFIC CONTROL SIGNAL SYSTEM
CSAH 18 (COON CREEK BOULEVARD NW) AT 131ST AVENUE NW
STATE AID PROJECT NO. 02-618-026
STATE AID PROJECT NO. 114-140-01



TRAFFIC SIGNAL SYSTEM
 CSAH 18 (COON CREEK BOULEVARD NW)
 AT 131ST AVENUE NW
 S.A.P. 02-618-026
 S.A.P. 114-140-01

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" (CURRENT EDITION).

THE EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBEROPTIC, ELECTRIC, CABLE TV AND PIPE LINES ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL BEFORE COMMENCING EXCAVATION.

GOPHER STATE ONE CALL SYSTEM - 1-800-252-1166



PROJECT LOCATION
 ANOKA COUNTY
 METRO DISTRICT

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "D". THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 3802, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

STATEMENT OF ESTIMATED QUANTITIES					
ITEM NUMBER	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	PARTICIPATION	
				S.A.P. 02-618-026	S.A.P. 114-140-01
2565.511	FULL-TRAFFIC-ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM	SIG.SYS.	1	0.5	0.5
2565.601	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1	0	1

SCALE
 INDEX MAP 500'
 GENERAL LAYOUT 20'

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", SHALL GOVERN.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DETAILS AND STANDARD PLATES
3	CABINET DETAILS
4	SIGNING/SIDEWALK/EVP DETAILS
5	INTERSECTION LAYOUT
6	FIELD WIRING DIAGRAM
7	UTILITIES

THIS PLAN CONTAINS 7 SHEETS.

DESIGN ENGINEER: 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 3/20/07 LIC. NO. 22457

SIGNAL DESIGN ENGINEER: I HEREBY CERTIFY THAT THESE SIGNAL PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, THAT THIS PLAN CONFORMS TO THE MMUTCD (EXCEPT WHERE A VARIANCE HAS BEEN GRANTED), AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 3/20/07 LIC. NO. 22457

APPROVED [Signature] DATE 3/2/07
 ANOKA COUNTY ENGINEER

APPROVED [Signature] DATE 3-21-07
 CITY OF COON RAPIDS ENGINEER

APPROVED _____ DATE _____

APPROVED _____ DATE _____

APPROVED [Signature] DATE 3-29-07
 METRO DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

APPROVED [Signature] DATE 3-29-07
 APPROVED FOR STATE AID FUNDING; STATE AID ENGINEER

GEOMETRICS DESIGN DESCRIPTION

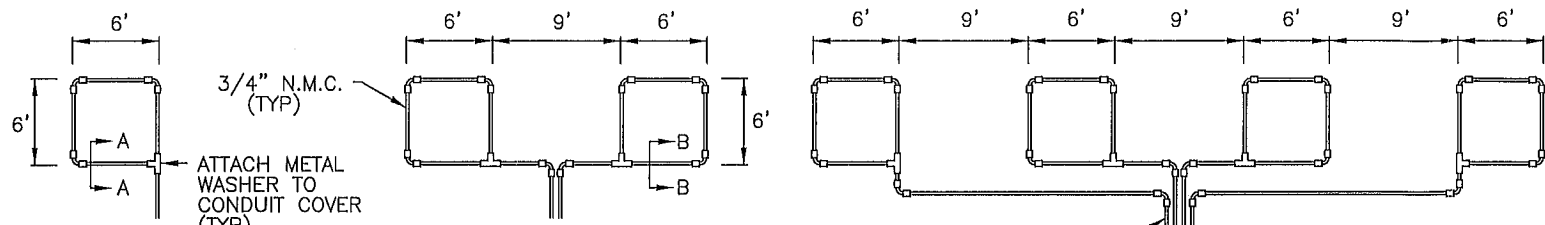
	CSAH 18	131ST AVE NW
POSTED SPEED	45 MPH	30 MPH
EXISTING A.D.T. (2007)	14,000	1,750
PROJECTED A.D.T. (2027)	20,800	2,600
FUNCTIONAL CLASSIFICATION	ARTERIAL/HIGH	COLLECTOR/HIGH
NO. OF TRAFFIC LANES	4	2
NO. OF PARKING LANES	0	0

ANOKA COUNTY, MINNESOTA
 CITY OF COON RAPIDS



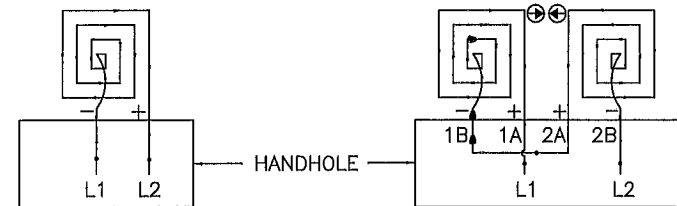
PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

FULL-TRAFFIC-ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM CSAH 18 AT 131ST AVENUE NW	FILE NO. A-ANOKC0704
STATE AID PROJ. NO. 02-618-026 STATE AID PROJ. NO. 114-140-01	1 7



3/4" N.M.C. (TYP)
ATTACH METAL WASHER TO CONDUIT COVER (TYP)

LOOP RETURN CONDUITS MAY BE PLACED IN COMMON TRENCH (TYP)

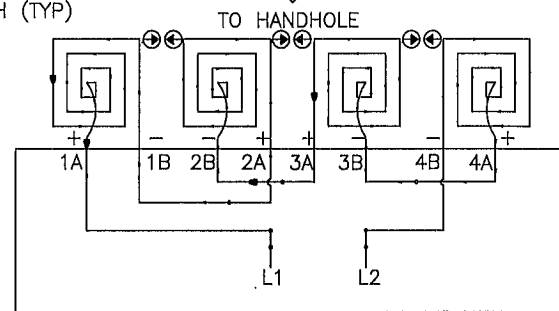


LOOP DETECTOR DETAIL 'A'
(LOOP PHASING FOR SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

L1 TO 1A
1B TO 2A
2B TO L2

LOOP DETECTOR DETAIL 'B'
(LOOP PHASING FOR SERIES CONNECTION)

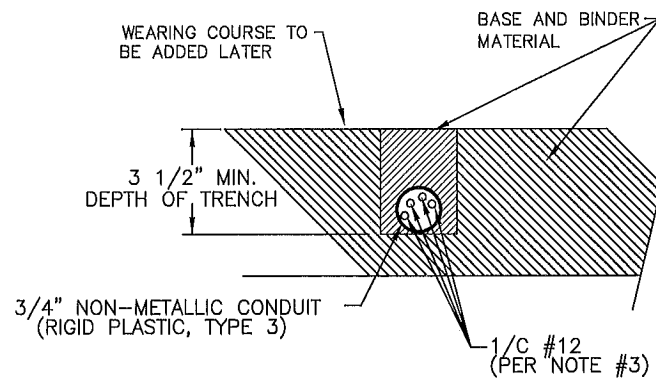


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:

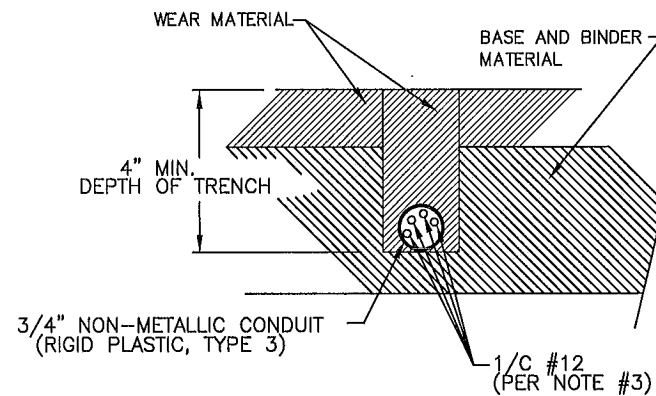
L1 TO 1A 3B TO 4A
1B TO 2A 4B TO L2
2B TO 3A

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE. ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE (1A, 1B, ECT)

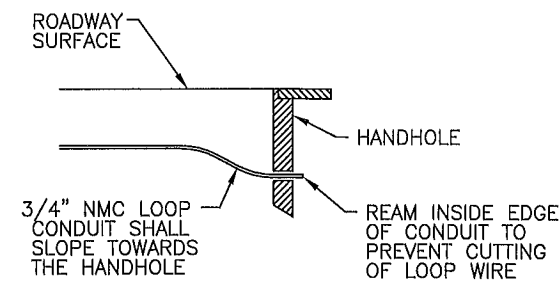
LOOP DETECTOR DETAIL 'C'
(LOOP PHASING FOR SERIES CONNECTION)



SECTION A-A
DETAIL FOR LOOP INSTALLATION IN NEW ROADWAY



SECTION B-B
DETAIL FOR LOOP INSTALLATION IN EXISTING ROADWAY



DRAINAGE DETAIL

LOOP DETECTOR WIRING

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

TRAFFIC SIGNAL STANDARD PLATES	
THESE TRAFFIC SIGNAL STANDARD PLATES AS APPROVED BY FHWA SHALL APPLY:	
PLATE NO.	DESCRIPTION
* 7035 M	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
* 7036 F	PEDESTRIAN CURB RAMP FOR THE HANDICAPPED
* 7100 H	CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V)
* 8110 D	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
* 8111 D	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
* 8112 D	PEDESTAL FOUNDATION
* 8114 A	PVC HANDHOLE/PULLBOX
* 8115 D	PEDESTRIAN PUSH BUTTON INSTALLATION
* 8118 C	SERVICE EQUIPMENT AND POLE-TRAFFIC CONTROL SIGNALS
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 L	PA85 POLE FOUNDATION
* 8121 E	TRANSFORMER BASE AND POLE BASE PLATE
* 8122 D	PEDESTAL AND PEDESTAL BASE
* 8123 E	POLE AND MAST ARM
* 8124 E	MAST ARM SIGNAL HEAD MOUNTS
* 8126 G	PA90 AND PA100 POLE FOUNDATION

* - APPLIES TO THIS PROJECT

CONDUCTOR COLOR CODE

R	RED
O	ORANGE
BL	BLUE
WH	WHITE
R/BLK	RED WITH BLACK TRACER
O/BLK	ORANGE WITH BLACK TRACER
BL/BLK	BLUE WITH BLACK TRACER
WH/BLK	WHITE WITH BLACK TRACER
BLK	BLACK
BLK/WH	BLACK WITH WHITE TRACER
G/BLK	GREEN WITH BLACK TRACER
G	GREEN

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQUIP. NO's	⊙
SIGNAL BASE NO.	①
SIGNAL FACE NO.	⊖
LUMINAIRE NO.	⊕
CONTROLLER AND CABINET	⊠
CONTROLLER AND CABINET - IN PLACE	⊡
HANDHOLE	⊞
HANDHOLE - IN PLACE	⊟
RIGID STEEL CONDUIT (RSC)	—
RIGID STEEL CONDUIT (RSC) - IN PLACE	—
SIGNAL FACE WITH BACKGROUND SHIELD	→
SIGNAL FACE W/O BACKGROUND SHIELD	→
SIGNAL FACE - IN PLACE	→
PEDESTRIAN INDICATORS	→
PEDESTRIAN INDICATORS - IN PLACE	→
PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE	⊙
PEDESTRIAN PUSH BUTTON STATION	⊙
TRAFFIC SIGNAL PEDESTAL	⊙
TRAFFIC SIGNAL PEDESTAL - INPLACE	⊙
TRAFFIC SIGNAL POLE AND MAST ARM	⊙
TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE	⊙
STREET LIGHT POLE AND LUMINAIRE	⊙
STREET LIGHT POLE AND LUMINAIRE - IN PLACE	⊙
MAST ARM AND LUMINAIRE	⊙
MAST ARM AND LUMINAIRE - INPLACE	⊙
WOOD POLE	⊙
WOOD POLE - IN PLACE	⊙
SOURCE OF POWER	⊙
RAILROAD SIGNAL - IN PLACE	⊙
RIGHT OF WAY LINE	—
CENTERLINE	—
EDGE OF ROADWAY	—
SHOULDERLINE	—
CURB LINE	—
STOP BAR	—
EMERGENCY VEHICLE PREEMPTION DETECTOR	—

ABBREVIATIONS

3-1(EG)	SIGNAL HEAD PHASE "3" - NO "1"	P2-1(EG)	PED INDICATION PHASE "2" - NO. "1"
BR. GR.	BARE GROUND	PB	PUSH BUTTON
CH. SW.	CHECK SWITCH	PB2-1(EG)	PUSH BUTTON PHASE "2" - NO. "1"
CLR	CLEAR	PEC	PHOTOELECTRIC CELL
D2-1(EG)	DETECTOR PHASE "2" - NO. "1"	PED	PEDESTRIAN
DWK	DON'T WALK	R	RED
EQG	EQUIPMENT GROUND	R&S	REMOVE AND SALVAGE
EVP	EMERGENCY VEHICLE PRE-EMPTION	RLTA	RED LEFT TURN ARROW
F&I	FURNISH AND INSTALL	RRTA	RED RIGHT TURN ARROW
FL	FLASH/FLASHING	RSC	RIGID STEEL CONDUIT
G	GREEN	SOP	SOURCE OF POWER
GLTA	GREEN LEFT TURN ARROW	SPR	SPARE
GRN	GREEN	ST. LHT	STREET LIGHT
GR. R	GROUND ROD	STA	STATION
GRTA	GREEN RIGHT TURN ARROW	SW	SWITCH
GTHA	GREEN THRU ARROW	SWD	SWITCHED
HH	HANDHOLE	S&R	SALVAGE AND REINSTALL
HPS	HIGH PRESSURE SODIUM	TDW	TELEPHONE DROP WIRE
JB	JUNCTION BOX	WLK	WALK
LUM	LUMINAIRE	YEL	YELLOW
NEU	NEUTRAL	YLTA	YELLOW LEFT TURN ARROW
NMC	NONMETALLIC CONDUIT	YRTA	YELLOW RIGHT TURN ARROW
		YTHA	YELLOW THRU ARROW

S.A.P. 02-618-026
S.A.P. 114-140-01

S:\NEVA\ANOKA\CORCOMMON SIGNALS\CSAH_18-131ST\DETBOARD.DWG

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

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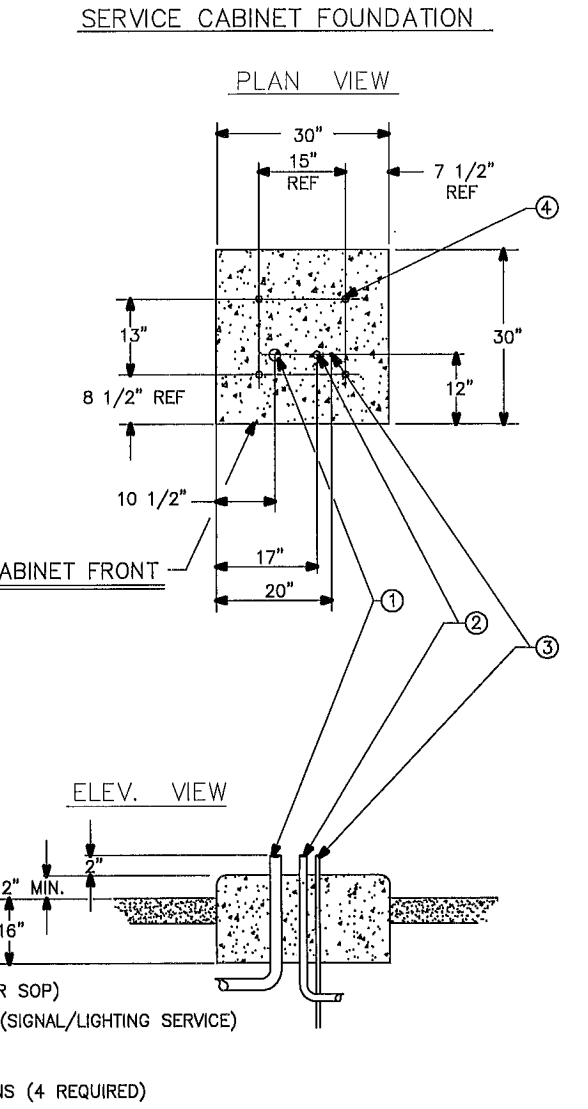
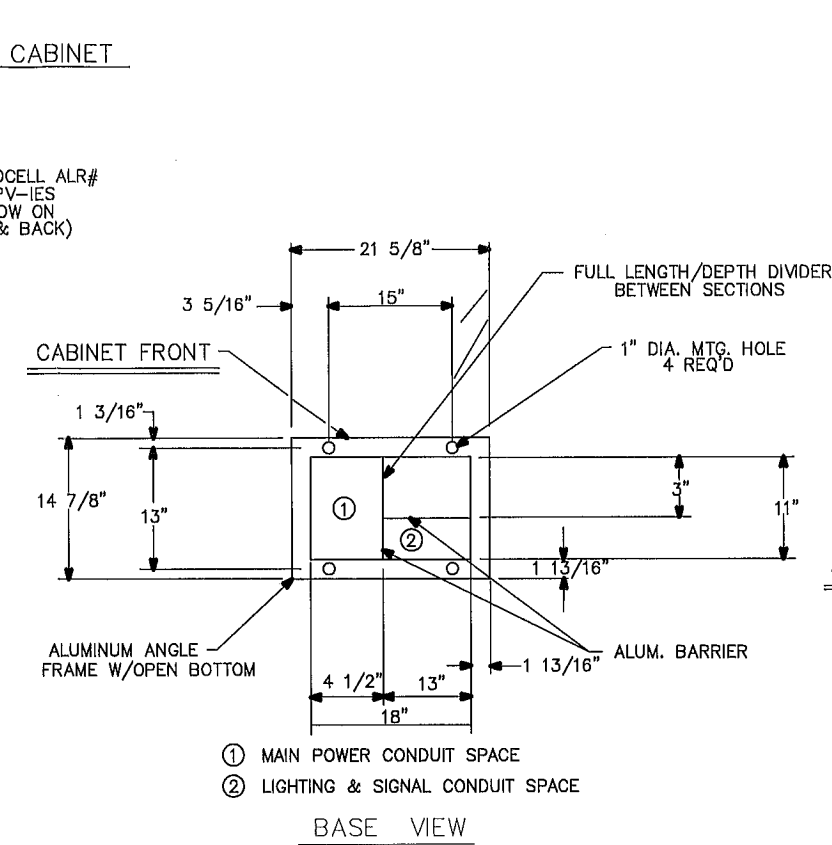
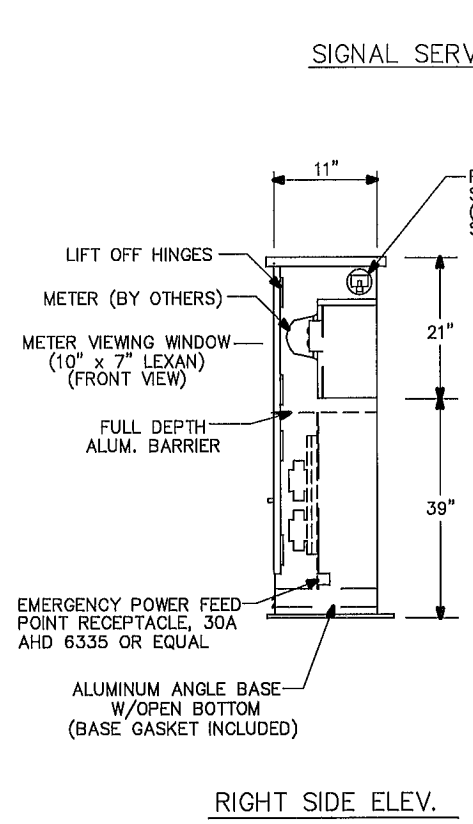
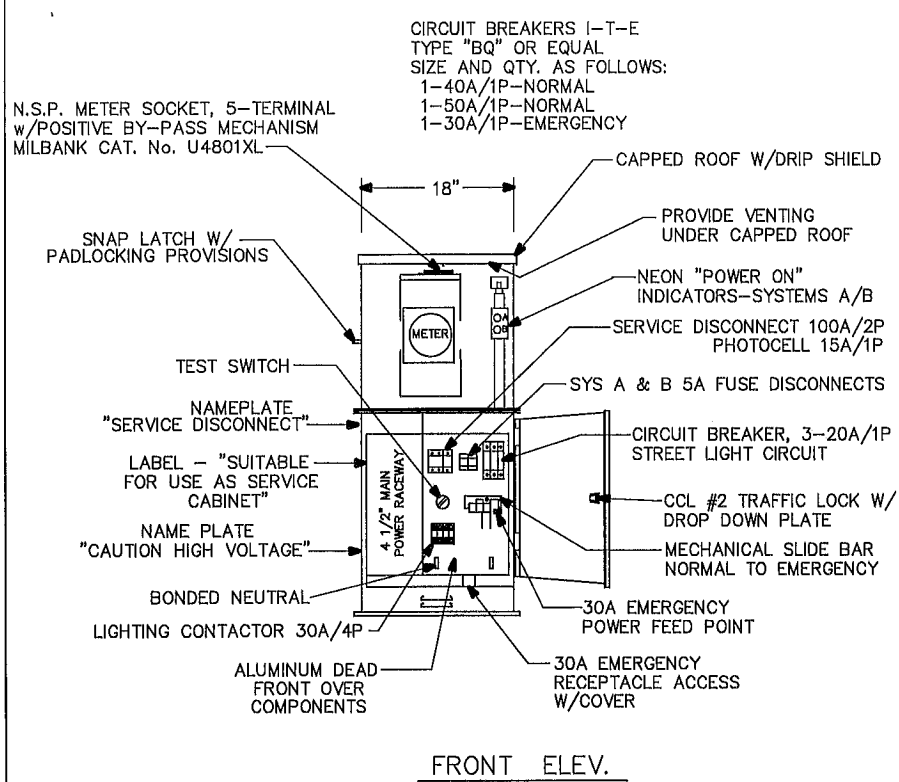
 Name: John M. Gray, PE
 Lic. No. 22457
 Date: March 20, 2007

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

ANOKA COUNTY
CITY OF COON RAPIDS

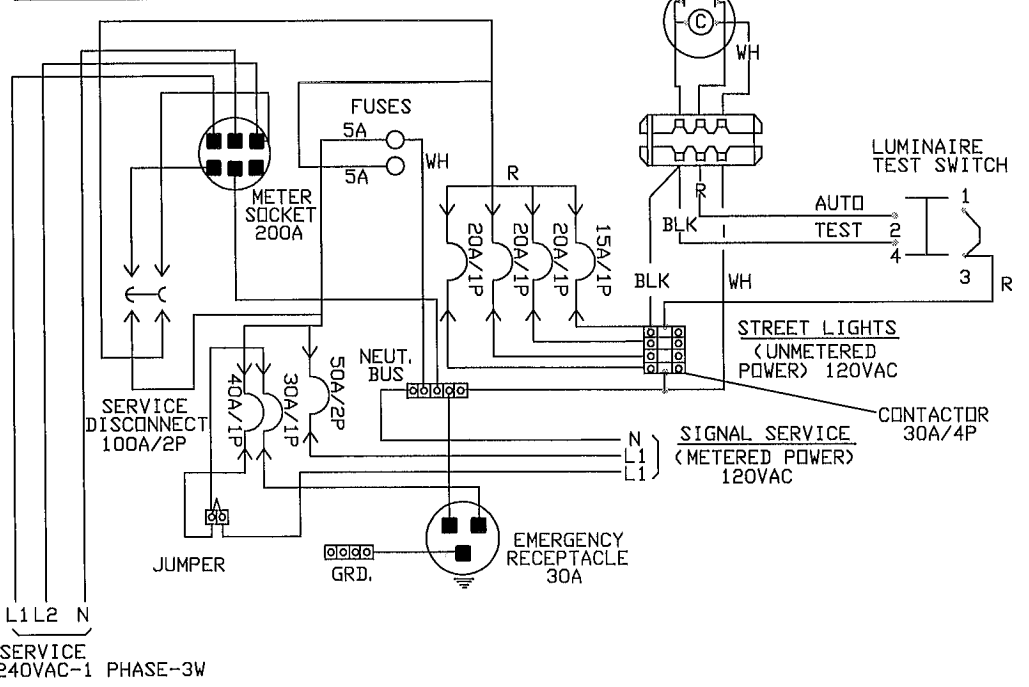
TRAFFIC SIGNAL SYSTEM
DETAILS + STANDARD PLATES
 CSAH 18 (COON CREEK BLVD NW) AT 131ST AVE NW

FILE NO.	AANOKC0704.00	2
DATE	03/20/07	7

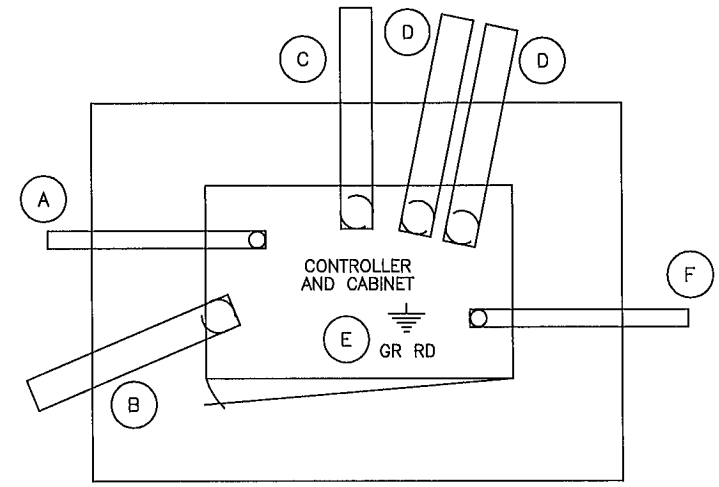


CONSTRUCTION NOTES
 SIGNAL SERVICE CABINET WILL BE FURNISHED BY COUNTY FOR INSTALLATION BY CONTRACTOR.
 SERVICE CABINET DETAIL IS BEING PROVIDED FOR INFORMATION ONLY.
 CONTRACTOR SHALL FURNISH AND INSTALL NEW ANCHOR BOLTS, NUTS, AND WASHERS.

FEED POINT WIRING DIAGRAM



- Ⓐ 2" R.S.C. FOR SERVICE CONNECTION (VIA HH 12)
- Ⓑ 4" R.S.C. TO HH 1
- Ⓒ 4" R.S.C. TO HH 11
- Ⓓ 3" R.S.C. STUBOUT, THREAD & CAP BOTH ENDS (FOR FUTURE USE).
- Ⓔ 5/8" DIA X 15' GROUND ROD
- Ⓕ 1"N.M.C.STUBOUT FOR FUTURE PHONE LINE (PHONE LINE BY OTHERS)



SEE INTERSECTION LAYOUT FOR CONDUIT & CABLE INFORMATION

TYPICAL CONTROLLER CABINET PAD LAYOUT
 NO SCALE

S.A.P. 02-618-026
 S.A.P. 114-140-01

S:\A\ANOKA\CAD\COMMON\SIGNALS\CSAH_18-131ST\DETBOARD.DWG

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DESIGNER: JMG				
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 Date: March 20, 2007 Name: John M. Gray, PE Llc. No. 22457

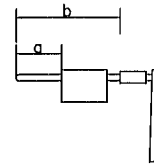
SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM
CABINET DETAILS
 CSAH 18 (COON CREEK BLVD NW) AT 131ST AVE NW

FILE NO. AANOKC0704.00	3
DATE 03/20/07	7

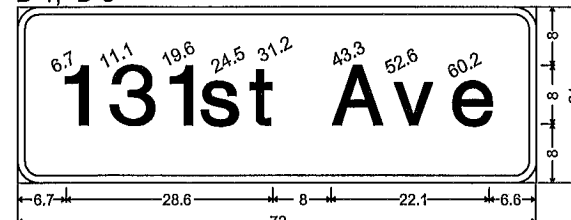
MAST ARM MOUNTED SIGNS								
SIGN PANELS - TYPE D								
SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	POLE NO.	a	b
D-1	72x24	1	3	-	12.00	1	-	18'
D-2	120x24	1	4	-	20.00	2	8'	-
D-3	72x24	1	3	-	12.00	3	-	18'
D-4	120x24	1	4	-	20.00	4	8'	-
TOTAL QUANTITIES		4			64.00			



(**)= SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS AND STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 8/22/05) FOR BRACKET SPACING REQUIREMENTS.

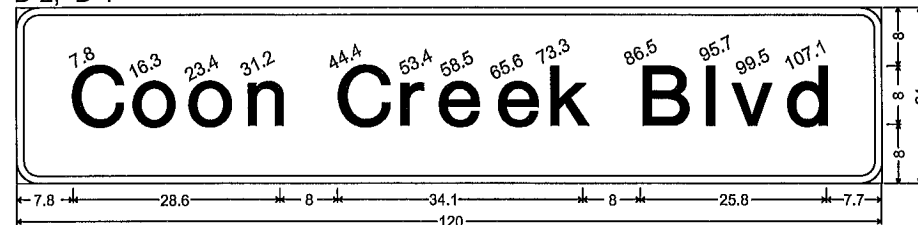
SIGNS FOR TRAFFIC SIGNAL SYSTEM										
SIGN PANELS - TYPE C										
SIGN PANEL	SIZE (in.)	NO. REQ.	NO. POSTS/STIFFENERS PER SIGN	BAND SPACING (**)	SQ. FT. PER SIGN	TOTAL AREA (SQ.FT.)	POLE NO.	a	b	
R10-12	36x48	2	2	-	12.00	24.00	1,3	1'	-	
W3-3	36x36	1	①	-	9.00	9.00	5	-	-	
TOTAL QUANTITIES		3				33.00				

D-1, D-3



3.0" Radius, 1.0" Border, White on Green;
[131st Ave] E Mod;

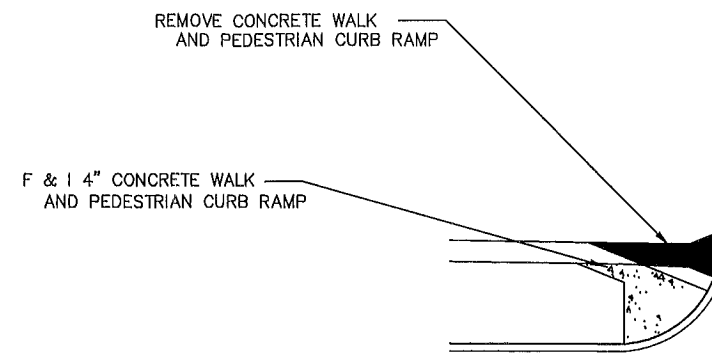
D-2, D-4



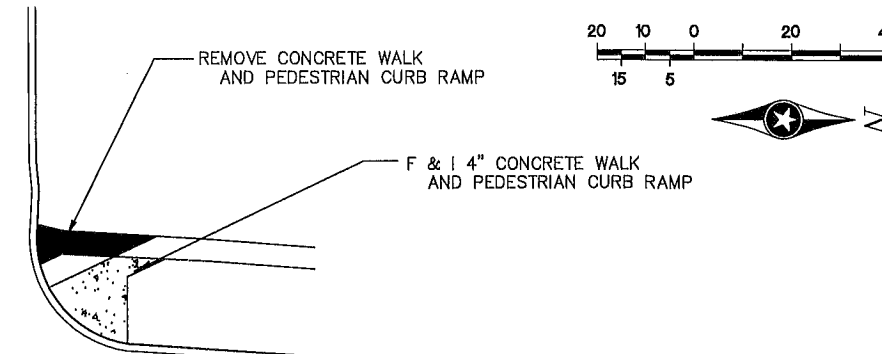
3.0" Radius, 1.0" Border, White on Green;
[Coon Creek Blvd] E Mod;

NOTES:

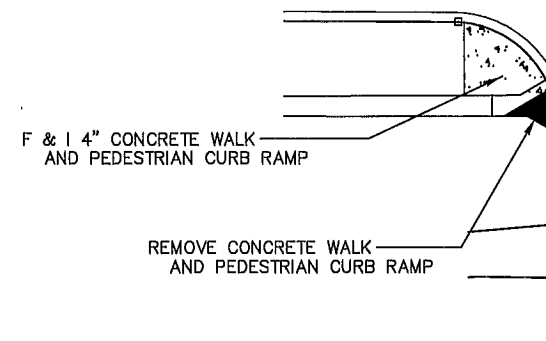
- COLOR FOR ALL TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
- FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE STANDARD SIGNS MANUAL, PAGE 105A (REVISION DATE: 8/22/05), AND SPECIAL PROVISIONS.
- SEE STANDARD SIGNS MANUAL FOR DETAILED DRAWINGS OF TYPE C SIGN PANELS.
- FURNISHING AND INSTALLING TYPE C AND D SIGNS SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 2565 (FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM) FOR THIS SIGNAL SYSTEM. SEE SPECIAL PROVISIONS.
- ALL NEW TYPE C AND D SIGN PANELS SHALL BE FABRICATED USING PRISMATIC RETROREFLECTIVE SHEETING. SEE SPECIAL PROVISIONS.
- ① = INSTALL SIGN PANEL ON TRAFFIC SIGNAL PEDESTAL POLE.



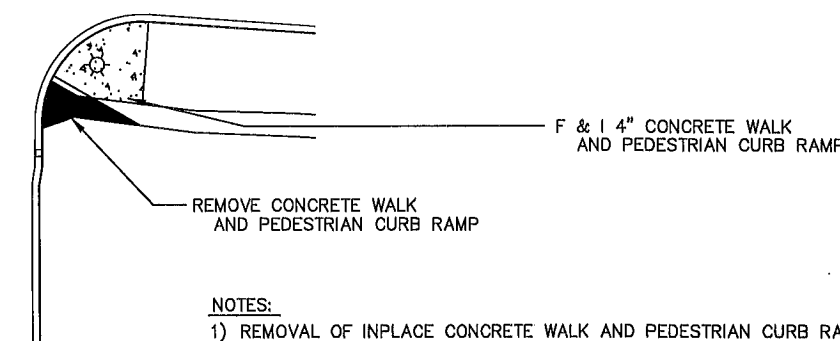
131st AVENUE NW



CSAH 18 (COON CREEK BLVD NW)



131st AVENUE NW

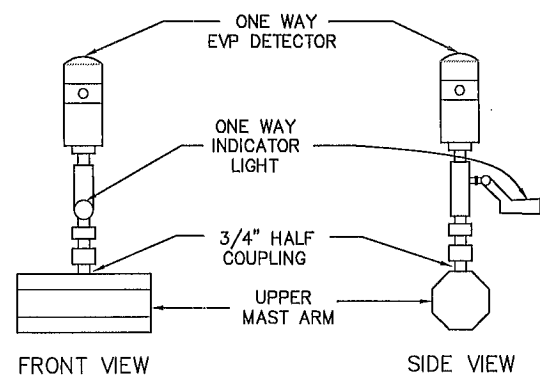


NOTES:

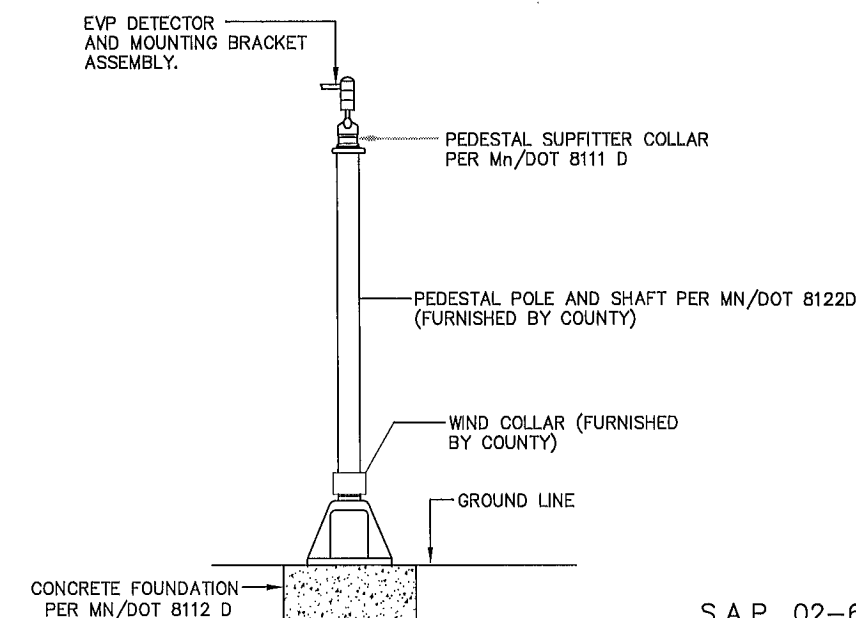
- REMOVAL OF INPLACE CONCRETE WALK AND PEDESTRIAN CURB RAMPS; REMOVAL AND REPLACEMENT OF EXISTING CONCRETE CURB AND GUTTER; AND FURNISHING AND INSTALLING NEW 4" CONCRETE WALK AND TRUNCATED DOME PEDESTRIAN CURB RAMPS; SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 2565 (FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM). SEE SPECIAL PROVISIONS.
- CONTRACTOR SHALL FURNISH AND INSTALL 4-INCH CONCRETE WALK SUCH THAT EACH TRAFFIC SIGNAL POLE HAS CONCRETE WALK FOR AT LEAST 4- FEET AROUND EACH FOUNDATION.

CONCRETE WALK AND PEDESTRIAN CURB RAMP WORK

EVP DETECTOR AND LIGHT MOUNTING DETAIL ON MAST ARM



PEDESTAL POLE MOUNTED EVP DETECTOR DETAIL



S.A.P. 02-618-026
S.A.P. 114-140-01

S:\VEVA\ANOKA\COUNTY SIGNALS\CSAH_18-131ST\DETBOARD.DWG

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.

 Name: John M. Gray, PE
 Date: March 20, 2007 Lta. No. 22457

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

ANOKA COUNTY
 CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM
 SIGNING/SIDEWALK/EVP DETAILS
 CSAH 18 (COON CREEK BLVD NW) AT 131ST AVE NW

FILE NO. AANOKC0704.00	4
DATE 03/20/07	7

NOTES:

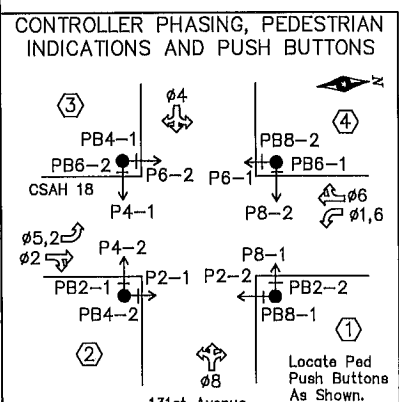
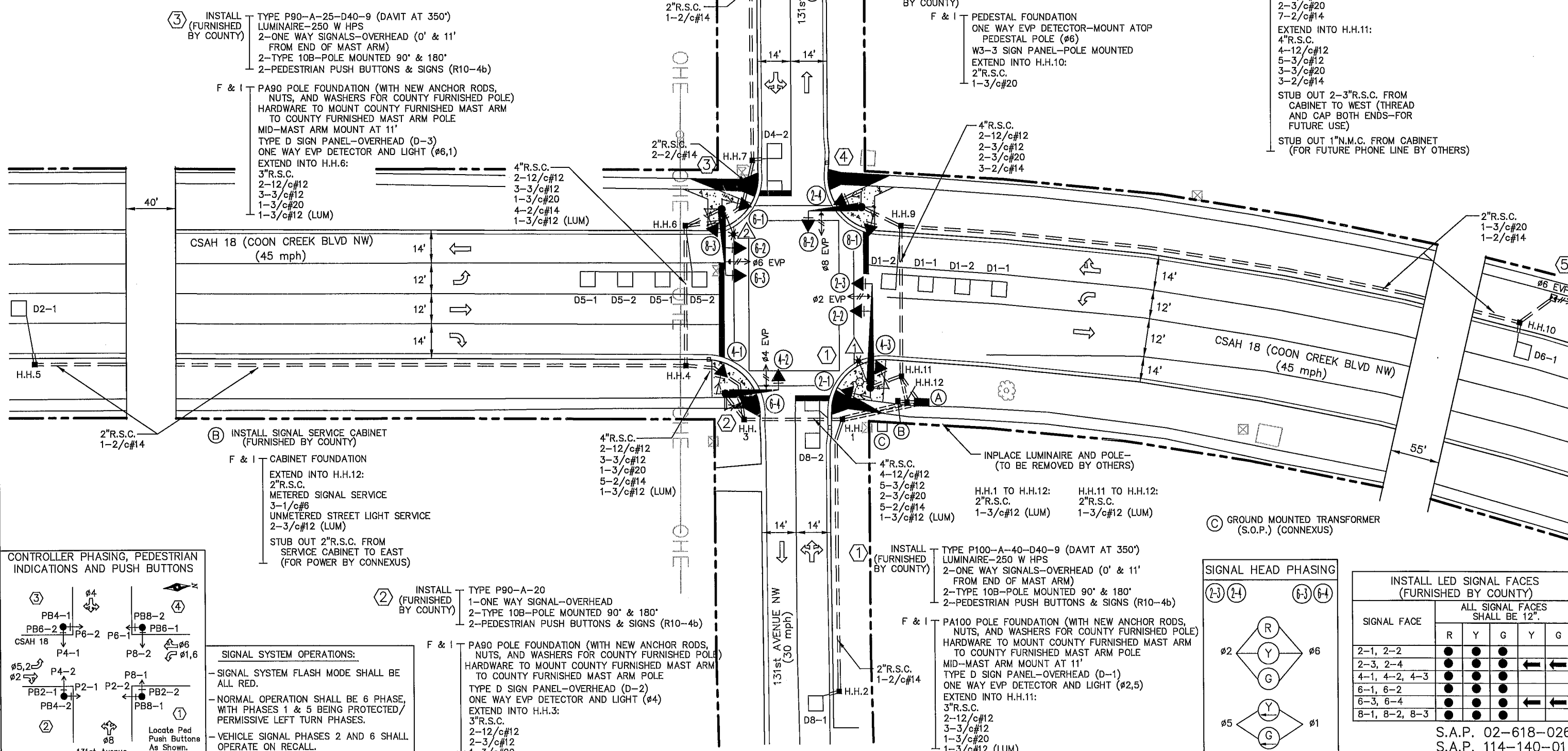
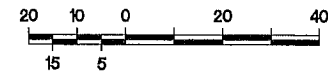
- 1) LOCATION OF POLES, CONTROLLER CABINET, SERVICE CABINET, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) SEE SPECIAL PROVISIONS REGARDING COUNTY FURNISHED MATERIALS.
- 3) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 4) NEW HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
- 5) EACH SIGNAL FACE WILL HAVE BACKGROUND SHIELD.
- 6) EACH PEDESTRIAN INDICATION WILL BE A ONE SECTION "FILLED" HAND/WALKING PERSON INDICATION.
- 7) ALL VEHICLE SIGNAL INDICATIONS, AND ALL PEDESTRIAN SIGNAL INDICATIONS WILL BE LED.
- 8) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS, CONCRETE WALK, AND PEDESTRIAN CURB RAMPS TO BE FURNISHED & INSTALLED BY CONTRACTOR (INCIDENTAL).

F & I NMC LOOP DETECTORS			
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	20' & 50'	1
D1-2	2-6x6	5' & 35'	3
D2-1	6x6	300'	1
D4-1	6x6	120'	2
D4-2	2-6x6	0' & 15'	3
D5-1	2-6x6	20' & 50'	1
D5-2	2-6x6	5' & 35'	3
D6-1	6x6	300'	1
D8-1	6x6	120'	2
D8-2	2-6x6	0' & 15'	3

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

LOOP DETECTORS FUNCTIONS:

- 1) CALL AND EXTEND
- 2) EXTEND ONLY
- 3) DELAYED CALL, IMMEDIATE EXTEND



SIGNAL SYSTEM OPERATIONS:

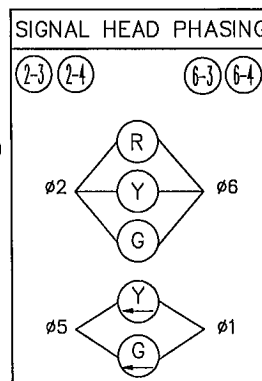
- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 6 PHASE, WITH PHASES 1 & 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

INSTALL (FURNISHED BY COUNTY)

TYPE P90-A-20
 1-ONE WAY SIGNAL-OVERHEAD
 2-TYPE 10B-POLE MOUNTED 90° & 180°
 2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-4b)

F & I

PA90 POLE FOUNDATION (WITH NEW ANCHOR RODS, NUTS, AND WASHERS FOR COUNTY FURNISHED POLE) HARDWARE TO MOUNT COUNTY FURNISHED MAST ARM TO COUNTY FURNISHED MAST ARM POLE
 MID-MAST ARM MOUNT AT 11'
 TYPE D SIGN PANEL-OVERHEAD (D-2)
 ONE WAY EVP DETECTOR AND LIGHT (#4)
 EXTEND INTO H.H.3:
 3"R.S.C.
 2-12/c#12
 2-3/c#12
 1-3/c#20



INSTALL LED SIGNAL FACES (FURNISHED BY COUNTY)

SIGNAL FACE	ALL SIGNAL FACES 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	●	●	●		

S.A.P. 02-618-026
 S.A.P. 114-140-01

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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 Name: John M. Gray, PE
 Lto. No. 22457
 Date: March 20, 2007

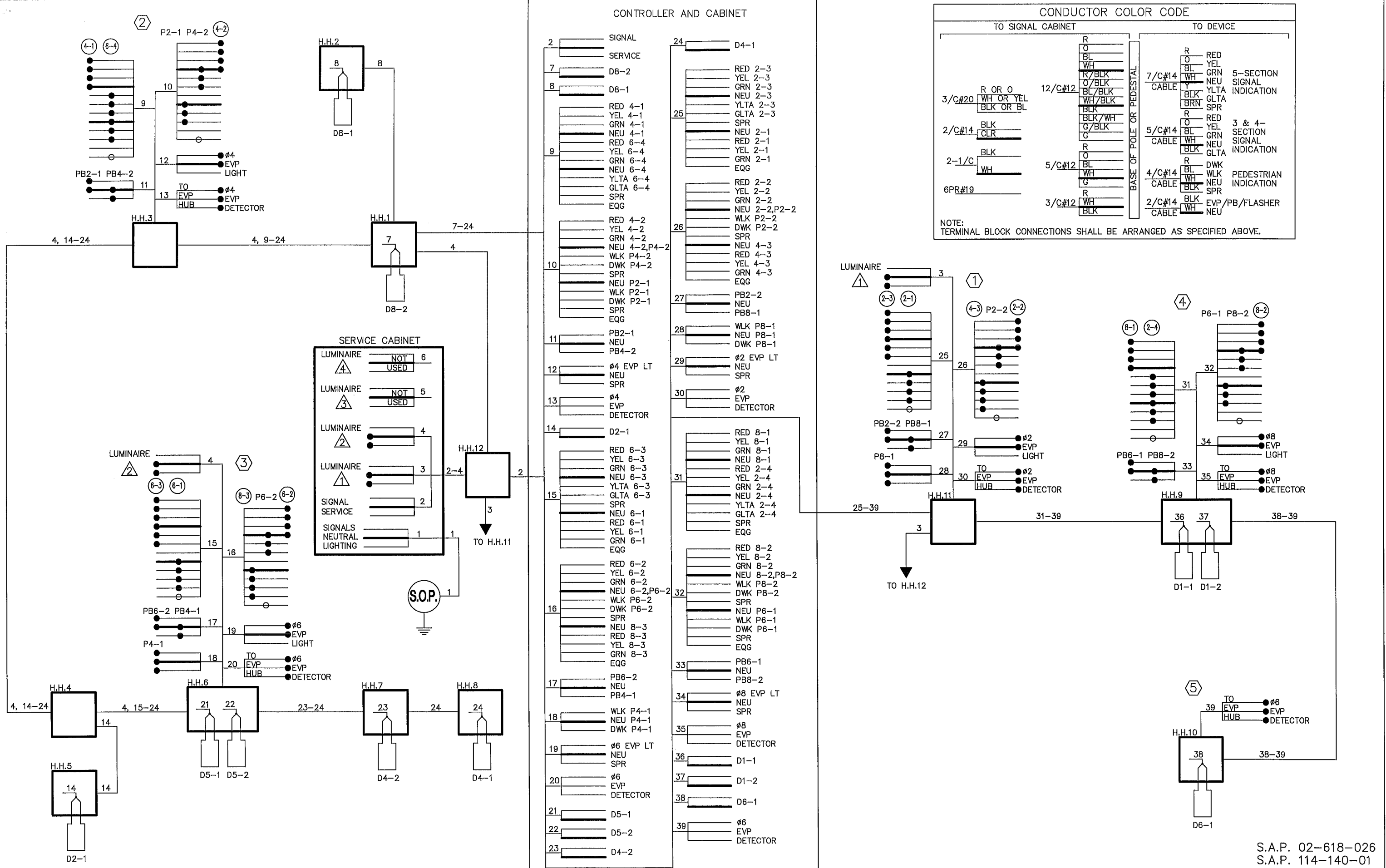
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ANOKA COUNTY
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
 CSAH 18 (COON CREEK BLVD NW) AT 131ST AVE NW

FILE NO. AANOKC0704.00
 DATE: 03/20/07
5
7

S:\NEVA\COMMON\SIGNALS\CSAH_18-131ST\18131SIGBASE1.DWG



CONDUCTOR COLOR CODE

TO SIGNAL CABINET		TO DEVICE	
3/C#20	R OR O WH OR YEL BLK OR BL	12/C#12	R O BL WH R/BLK O/BLK BL/BLK WH/BLK BLK BLK/WH G/BLK G
2/C#14	BLK CLR	5/C#14	R O BL WH G CABLE
2-1/C	BLK WH	5/C#12	R O BL WH G CABLE
6PR#19		3/C#12	WH BLK CABLE

BASE OF POLE OR PEDESTAL		
7/C#14	R O BL WH Y BLK BRN	5-SECTION SIGNAL INDICATION
4/C#14	R O BL WH G CABLE	3 & 4-SECTION SIGNAL INDICATION
2/C#14	BLK WH CABLE	PEDESTRIAN INDICATION
	R O BL WH G CABLE	EVP/PB/FLASHER NEU

NOTE: TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

DESIGNED BY: JMG	NO.	BY	DATE	REVISIONS
CHECKED BY: JMG				
DESIGN TEAM				

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ANOKA COUNTY
CITY OF COON RAPIDS

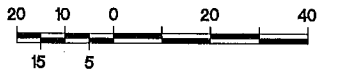
TRAFFIC SIGNAL SYSTEM
FIELD WIRING DIAGRAM
 CSAH 18 (COON CREEK BLVD NW) AT 131ST AVE NW

FILE NO. AANOKC0704.00	6
DATE 03/20/07	
	7

S.A.P. 02-618-026
 S.A.P. 114-140-01

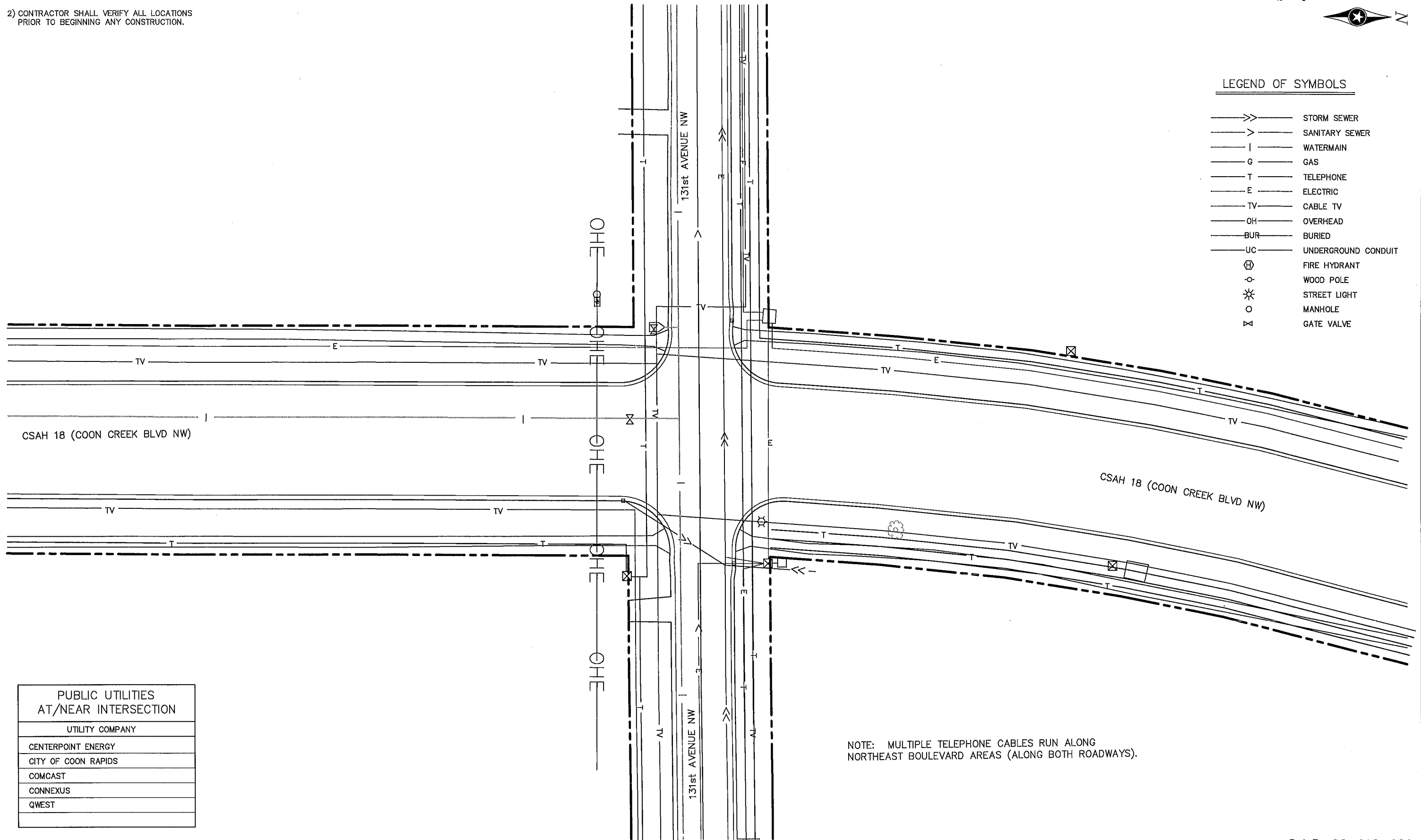
NOTES:

- 1) LOCATION OF UTILITIES ARE APPROXIMATE.
- 2) CONTRACTOR SHALL VERIFY ALL LOCATIONS PRIOR TO BEGINNING ANY CONSTRUCTION.



LEGEND OF SYMBOLS

- >>— STORM SEWER
- >— SANITARY SEWER
- |— WATERMAIN
- G— GAS
- T— TELEPHONE
- E— ELECTRIC
- TV— CABLE TV
- OH— OVERHEAD
- BUR— BURIED
- UC— UNDERGROUND CONDUIT
- ⊕ FIRE HYDRANT
- ⊙ WOOD POLE
- ⊛ STREET LIGHT
- MANHOLE
- ⊗ GATE VALVE



NOTE: MULTIPLE TELEPHONE CABLES RUN ALONG NORTHEAST BOULEVARD AREAS (ALONG BOTH ROADWAYS).

PUBLIC UTILITIES AT/NEAR INTERSECTION	
UTILITY COMPANY	
CENTERPOINT ENERGY	
CITY OF COON RAPIDS	
COMCAST	
CONNEXUS	
QWEST	

S.A.P. 02-618-026
S.A.P. 114-140-01

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CHECKED BY: JMG			
DESIGN TEAM	NO.	BY	DATE
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ANOKA COUNTY
CITY OF COON RAPIDS

TRAFFIC SIGNAL SYSTEM UTILITIES
CSAH 18 (COON CREEK BLVD NW) AT 131ST AVE NW

FILE NO. AANOKC0704.00	7
DATE 03/20/07	7