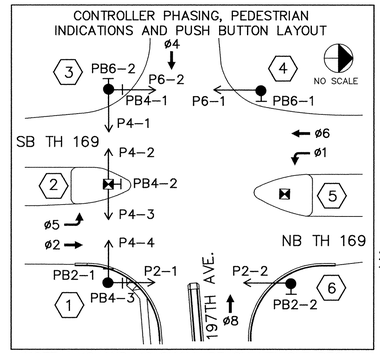
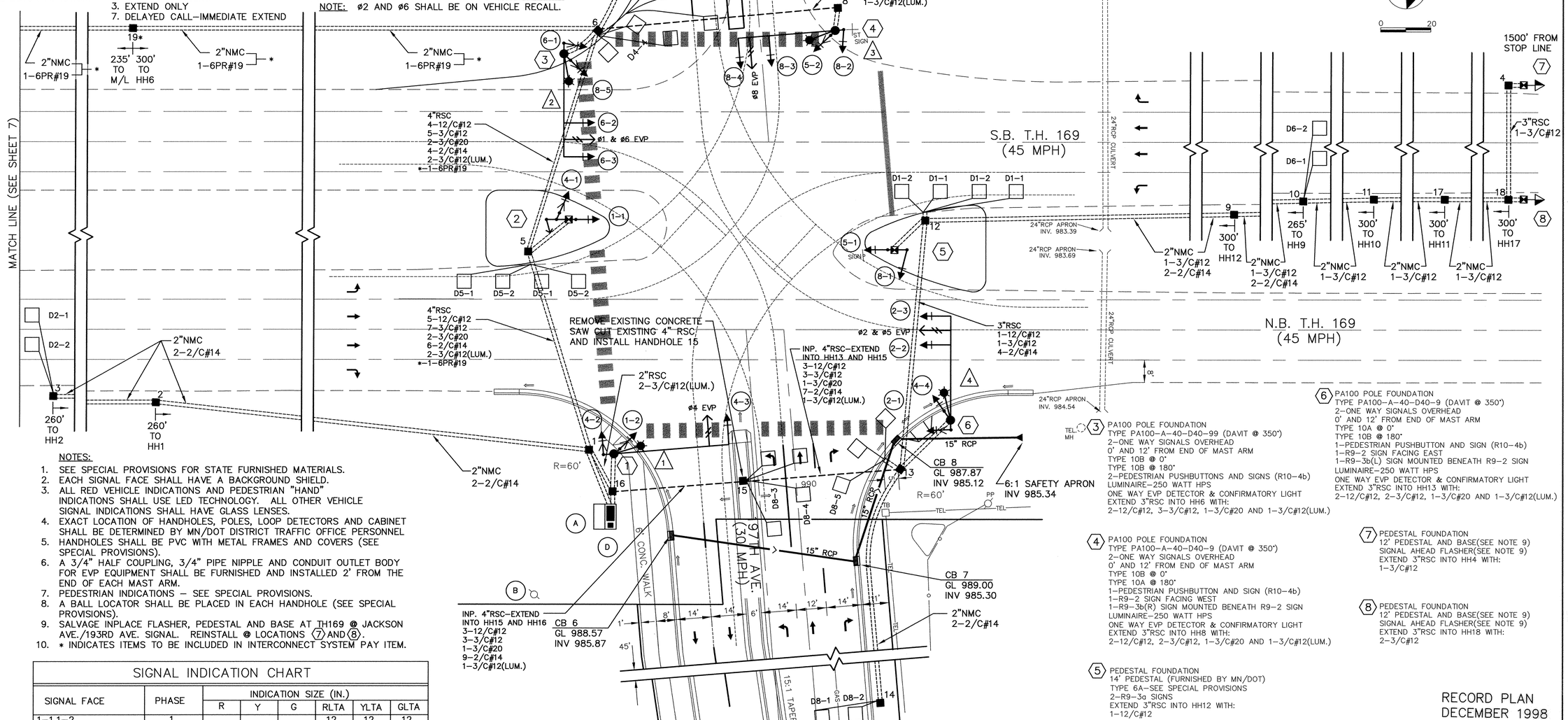
LOOP DETECTORS

DESIGNATION	PHASE	SIZE(FT.)	FUNCTION	DISTANCE FROM STOP LINE OR X-WALK
D1-1	1	2-6x6	1	15',45'
D1-2	1	2-6x6	1	0',30'
D2-1	2	1-6x6	1	525'
D2-2	2	1-6x6	1	525'
D4-1	4	1-6x6	3	150'
D4-2	4	2-6x6	1	5',35'
D4-3	4	2-6x6	7	0',15'
D4-4	4	2-6x6	7	-11',4'
D5-1	5	2-6x6	1	15',45'
D5-2	5	2-6x6	1	0',30'
D6-1	6	1-6x6	1	575'
D6-2	6	1-6x6	1	575'
D8-1	8	1-6x6	1	150'
D8-2	8	1-6x6	3	150'
D8-3	8	2-6x6	1	5',35'
D8-4	8	2-6x6	1	5',20'
D8-5	8	3-6x6	7	-11',4',19'

DETECTOR FUNCTION:
1. CALL AND EXTEND
3. EXTEND ONLY
7. DELAYED CALL-IMMEDIATE EXTEND



NOTE: ø2 AND ø6 SHALL BE ON VEHICLE RECALL.



NOTES:
1. SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
2. EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
3. ALL RED VEHICLE INDICATIONS AND PEDESTRIAN "HAND" INDICATIONS SHALL USE LED TECHNOLOGY. ALL OTHER VEHICLE SIGNAL INDICATIONS SHALL HAVE GLASS LENSES.
4. EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND CABINET SHALL BE DETERMINED BY MN/DOT DISTRICT TRAFFIC OFFICE PERSONNEL
5. HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS (SEE SPECIAL PROVISIONS).
6. A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EVP EQUIPMENT SHALL BE FURNISHED AND INSTALLED 2' FROM THE END OF EACH MAST ARM.
7. PEDESTRIAN INDICATIONS – SEE SPECIAL PROVISIONS.
8. A BALL LOCATOR SHALL BE PLACED IN EACH HANDHOLE (SEE SPECIAL PROVISIONS).
9. SALVAGE INPLACE FLASHER, PEDESTAL AND BASE AT TH169 @ JACKSON AVE./193RD AVE. SIGNAL. REINSTALL @ LOCATIONS (7) AND (8).
10. * INDICATES ITEMS TO BE INCLUDED IN INTERCONNECT SYSTEM PAY ITEM.

SIGNAL INDICATION CHART

SIGNAL FACE	PHASE	INDICATION SIZE (IN.)					
		R	Y	G	RLTA	YLTA	GLTA
1-1,1-2	1				12	12	12
2-1,2-2,2-3	2	12	12	12			
4-1,4-2,4-3,4-4	4	12	12	12			
5-1,5-2	5				12	12	12
6-1,6-2,6-3	6	12	12	12			
8-1,8-2,8-3,8-4,8-5	8	12	12	12			

(A) EQUIPMENT PAD (SEE DETAIL)
CONTROLLER & CABINET
EXTEND 4"RSC INTO HH1 WITH:
5-12/C#12, 7-3/C#12, 2-3/C#20, 8-2/C#14 AND 1-6PR#19(INTERCONNECT)
EXTEND 4"RSC INTO HH16 WITH:
5-12/C#12, 6-3/C#12, 2-3/C#20, AND 9-2/C#14
2-3"RSC STUB OUT OF CABINET(THREAD AND CAP BOTH ENDS)

(D) SIGNAL SERVICE CABINET
EXTEND 2"RSC INTO CONTROLLER CABINET WITH:
2-1/C#6 AND 1-1/C#6 INS.GR.
EXTEND 2" RSC INTO HH16 WITH:
4-3/C#12(LUM.)
2"RSC STUB OUT TO EAST(FOR POWER CABLE TO BE SUPPLIED BY ELK RIVER MUNICIPAL UTILITIES)

(B) SOP
ELK RIVER MUNICIPAL UTILITIES TRANSFORMER

(1) PA100 POLE FOUNDATION
TYPE PA100-A-45-D40-9 (DAVIT @ 350°)
1-ONE WAY SIGNAL OVERHEAD
TYPE 10B @ 0°
TYPE 10B @ 180°
2-PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
LUMINAIRE-250 WATT HPS @ 350°
ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT
EXTEND 3"RSC INTO HH16 WITH:
2-12/C#12, 3-3/C#12, 1-3/C#20 AND 1-3/C#12(LUM.)

(2) PEDESTAL FOUNDATION
14' PEDESTAL (FURNISHED BY MN/DOT)
TYPE 6D-SEE SPECIAL PROVISIONS
1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
EXTEND 3"RSC INTO HH5 WITH:
1-12/C#12 AND 2-3/C#12

(3) PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-99 (DAVIT @ 350°)
2-ONE WAY SIGNALS OVERHEAD
0' AND 12' FROM END OF MAST ARM
TYPE 10B @ 0°
TYPE 10B @ 180°
2-PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
LUMINAIRE-250 WATT HPS
ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT
EXTEND 3"RSC INTO HH6 WITH:
2-12/C#12, 3-3/C#12, 1-3/C#20 AND 1-3/C#12(LUM.)

(4) PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT @ 350°)
2-ONE WAY SIGNALS OVERHEAD
0' AND 12' FROM END OF MAST ARM
TYPE 10B @ 0°
TYPE 10A @ 180°
1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
1-R9-2 SIGN FACING WEST
1-R9-3b(R) SIGN MOUNTED BENEATH R9-2 SIGN
LUMINAIRE-250 WATT HPS
ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT
EXTEND 3"RSC INTO HH8 WITH:
2-12/C#12, 2-3/C#12, 1-3/C#20 AND 1-3/C#12(LUM.)

(5) PEDESTAL FOUNDATION
14' PEDESTAL (FURNISHED BY MN/DOT)
TYPE 6A-SEE SPECIAL PROVISIONS
2-R9-3a SIGNS
EXTEND 3"RSC INTO HH12 WITH:
1-12/C#12

(6) PA100 POLE FOUNDATION
TYPE PA100-A-40-D40-9 (DAVIT @ 350°)
2-ONE WAY SIGNALS OVERHEAD
0' AND 12' FROM END OF MAST ARM
TYPE 10A @ 0°
TYPE 10B @ 180°
1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
1-R9-2 SIGN FACING EAST
1-R9-3b(L) SIGN MOUNTED BENEATH R9-2 SIGN
LUMINAIRE-250 WATT HPS
ONE WAY EVP DETECTOR & CONFIRMATORY LIGHT
EXTEND 3"RSC INTO HH13 WITH:
2-12/C#12, 2-3/C#12, 1-3/C#20 AND 1-3/C#12(LUM.)

(7) PEDESTAL FOUNDATION
12' PEDESTAL AND BASE(SEE NOTE 9)
SIGNAL AHEAD FLASHER(SEE NOTE 9)
EXTEND 3"RSC INTO HH4 WITH:
1-3/C#12

(8) PEDESTAL FOUNDATION
12' PEDESTAL AND BASE(SEE NOTE 9)
SIGNAL AHEAD FLASHER(SEE NOTE 9)
EXTEND 3"RSC INTO HH18 WITH:
2-3/C#12

RECORD PLAN
DECEMBER 1998

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
George H. Stuempfig
DATE 5/12/97 REG.NO. 31849

MSA CONSULTING ENGINEERS
1326 ENERGY PARK DRIVE
ST. PAUL, MINNESOTA 55108
(612) 644-4389

REVISIONS	DATE	DESCRIPTION
	5/9/97	PER MNDOT REVIEW

DESIGNED
CHECKED
DRAWN
GRAPHIC SCALE 0 20
0 VERT. NA

CITY OF ELK RIVER
TRUNK HIGHWAY 169 AT 197TH AVENUE
S.A.P. 204-116-01
INTERSECTION LAYOUT

DATE DEC 1996 | SHEET 5 OF 9 SHEETS | PROJECT NO. 230-306

ER306SIG

Fri May 9 11:38:15 1997

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