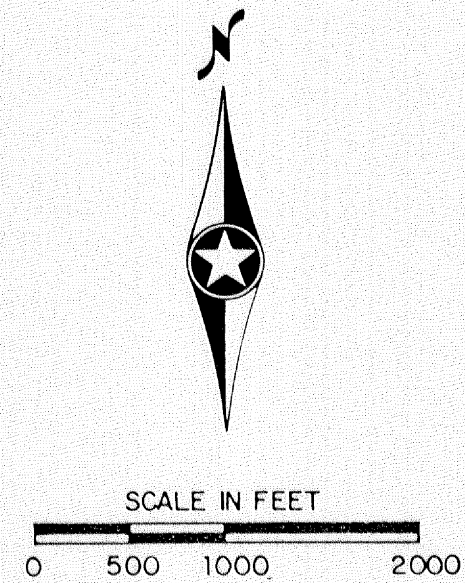


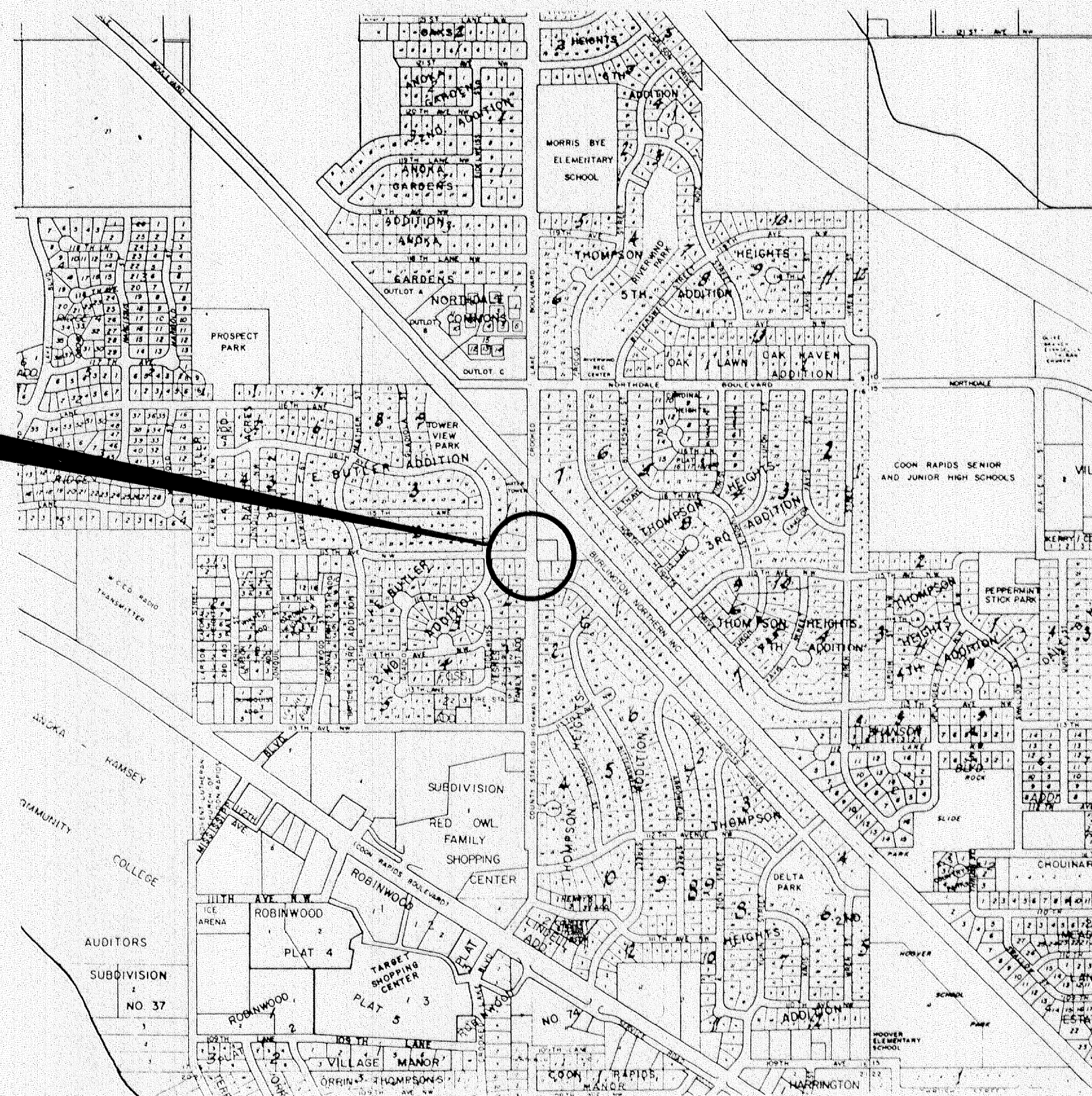
ANOKA COUNTY MINNESOTA

CONSTRUCTION PLANS FOR TRAFFIC SIGNAL SYSTEM

C.S.A.H. 18 (CROOKED LAKE BLVD.) AT 115th AVE N.W.



PROJECT LOCATION



COON RAPIDS, MINNESOTA

GOVERNING SPECIFICATIONS

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", INCLUDING ALL SUPPLEMENTS, SHALL GOVERN.

INDEX OF SHEETS

- 1 TITLE SHEET
- 2 INTERSECTION LAYOUT
- 3 FIELD WIRING DIAGRAM
- 4 UTILITIES
- 5 DETAILS

Recommended for Approval _____
 Recommended for Approval _____ CITY ENGINEER
 Recommended for Approval _____ COUNTY ENGINEER
 Recommended for Approval _____ DISTRICT STATE AID ENGINEER
 Recommended for Approval _____ DIRECTOR, TRAFFIC ENGINEERING
 APPROVED _____ DIRECTOR OFFICE OF STATE AID

ESTIMATED QUANTITIES

PROJECT NO.	ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
	2565.511	FULL TRAFFIC ACTUATED TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	1

"ELECTRICAL ENGINEER CERTIFICATION"
 I hereby certify that this plan 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.

Date: _____ Reg.No. _____

SURVEY:	CHECKED BY:	NO.	DATE	REVISIONS
DESIGN: M.K.				
DRAWN: M.K.				

I HEREBY CERTIFY THAT THIS PLAN 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.
 DATE: _____ REG. NO. 9089

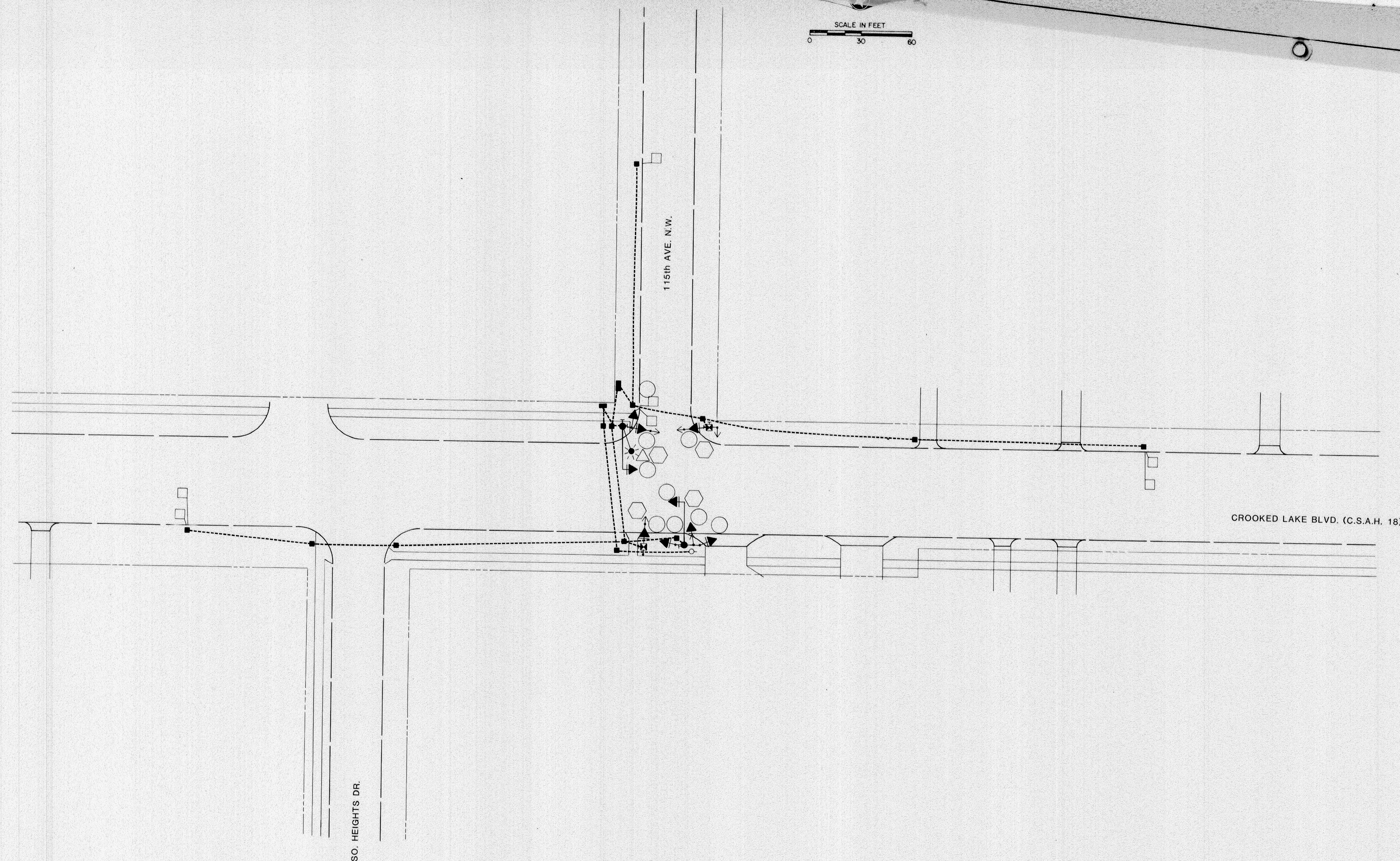
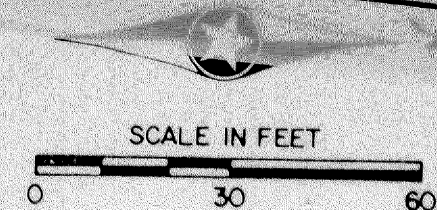


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 Saint Paul, Minnesota • Chippewa Falls, Wisconsin

SIGNAL SYSTEM
TITLE SHEET
 CROOKED LAKE BLVD. (C.S.A.H. 18) AT 115th AVE. N.W.

S.A.P. 02-618-19

FILE NO.: 86102
 DATE: 2/6/87
 1 / 5



SURVEY	CHECKED BY:	NO.	DATE	REVISIONS
DESIGN: M.C.				
DRAWN:				

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A ONLY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE: _____ REG. NO. 9089



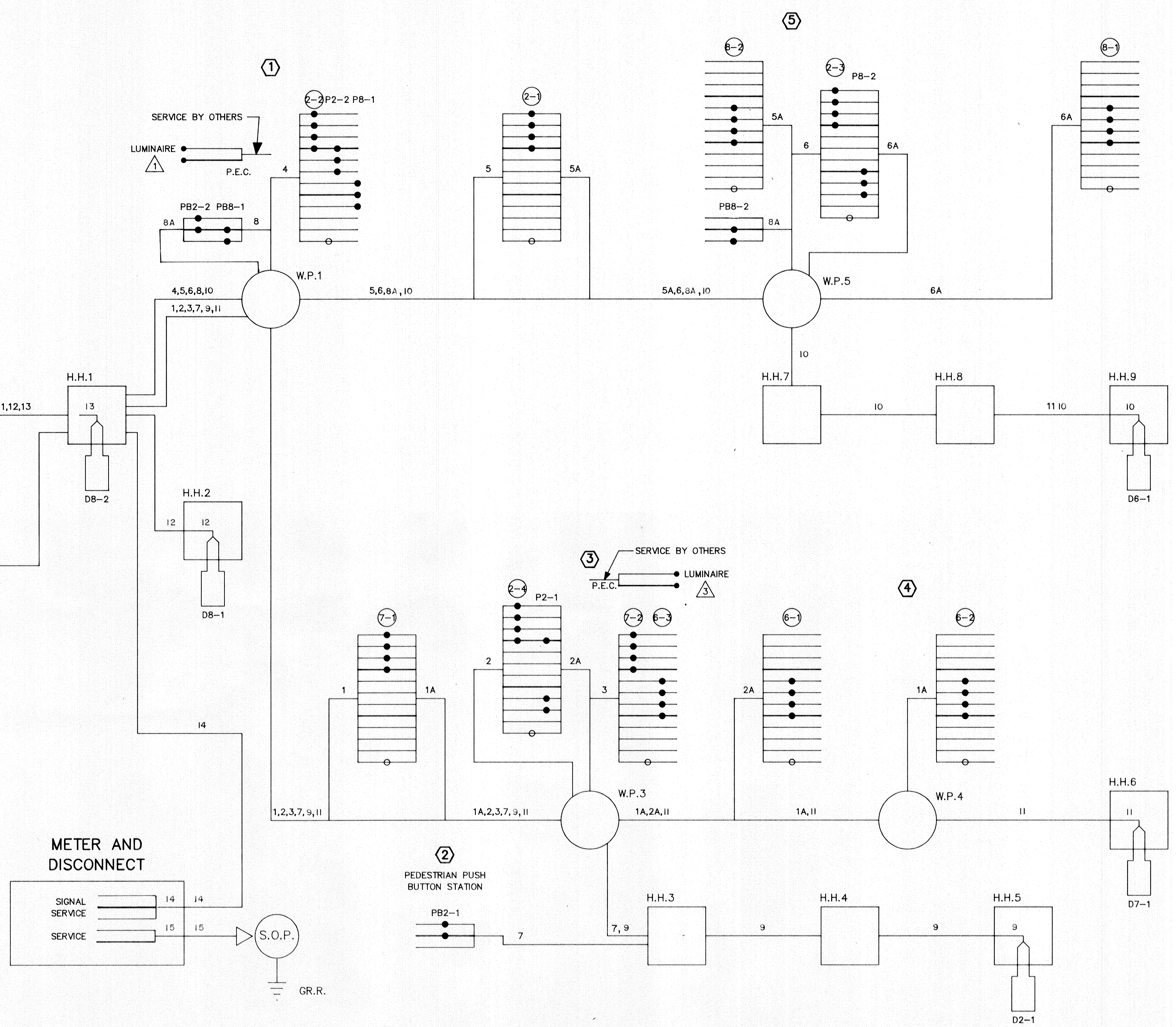
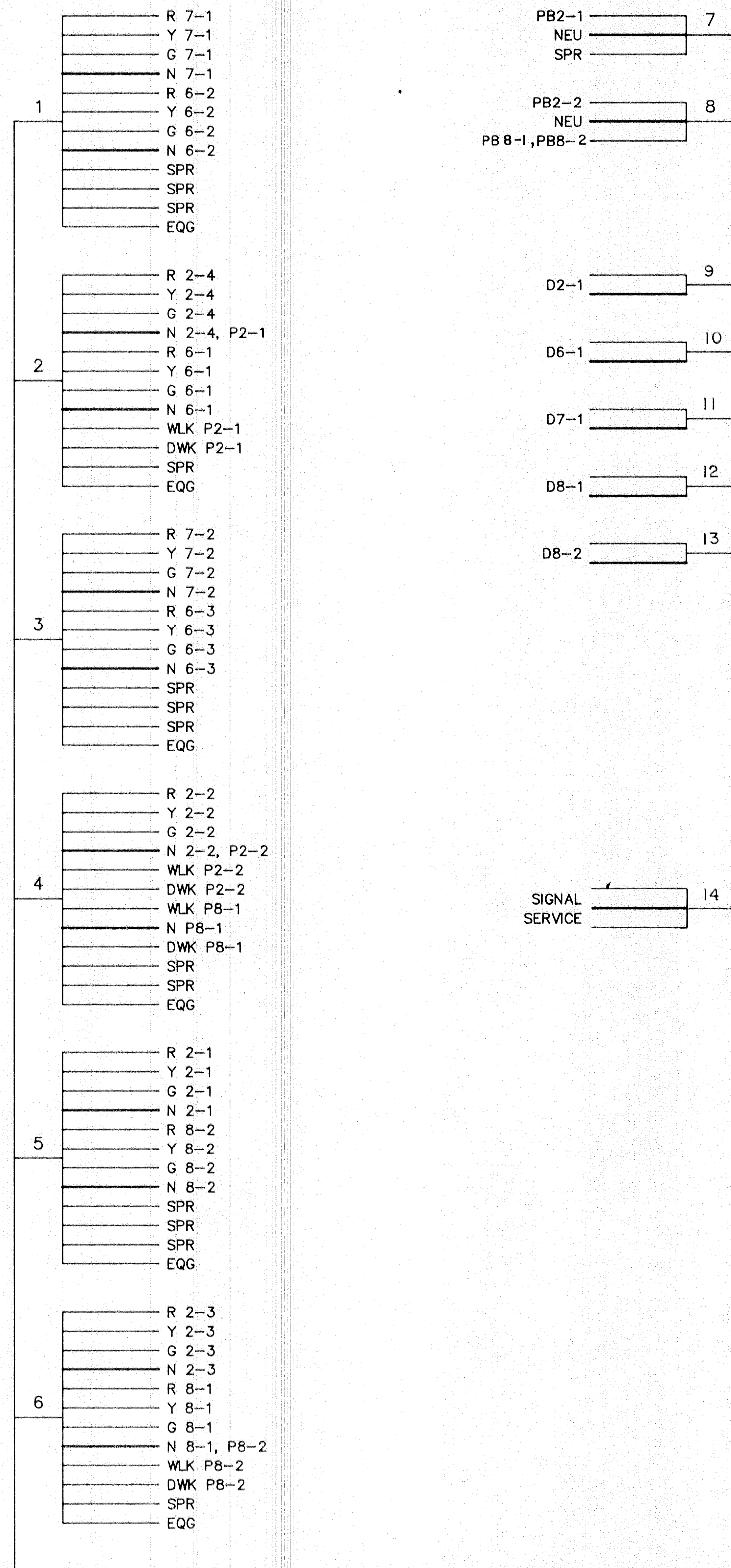
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**SIGNAL SYSTEM
 INTERSECTION LAYOUT**
 CROOKED LAKE BLVD. (C.S.A.H. 18) AT 115th AVE. N.W.

S.A.P. 02-618-19

FILE NO.: 86102	2
DATE:	5

CONTROLLER CABINET



SURVEY:	CHECKED BY:	NO.	DATE	REVISIONS
DESIGN: M.K.	G.V.W.		3/12/87	For Anoka County Review
DRAWN: C.D.				

I HEREBY CERTIFY THAT THIS PLAN 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.

DATE: 3/12/87 REG. NO. 9089

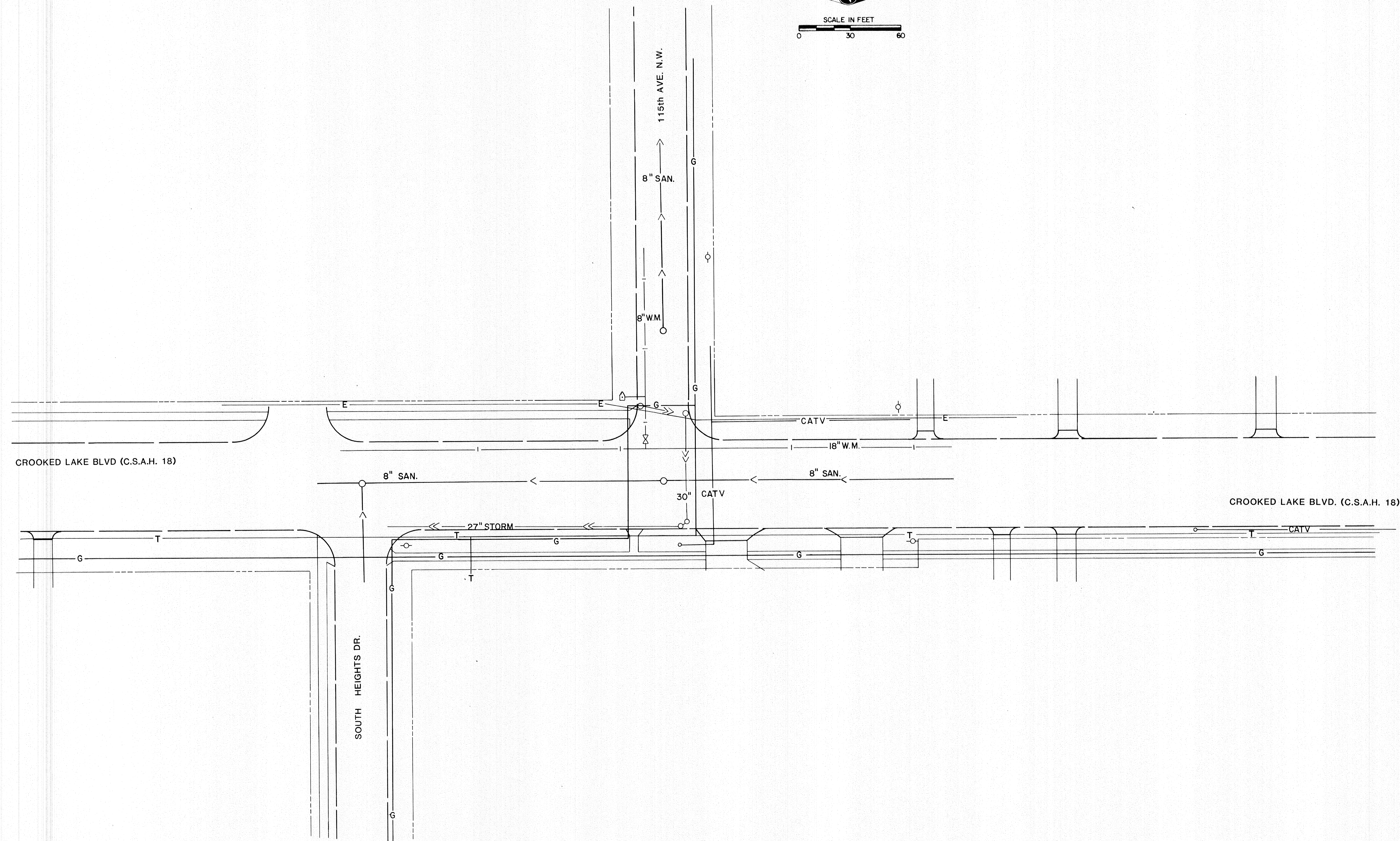
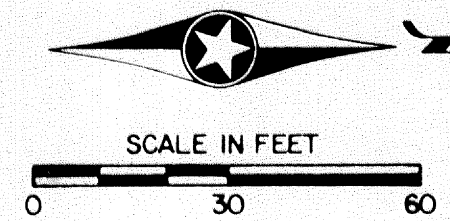


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SIGNAL SYSTEM
 FIELD WIRING DIAGRAM
 CROOKED LAKE BLVD. (C.S.A.H. 18) AT 115th AVE. N.W.

S.A.P. 02-618-19

FILE NO.:	3
86 102	
86 103	
DATE:	5
2/20/87	



SURVEY:	CHECKED BY:	NO.	DATE	REVISIONS
DESIGN: MK.	G.V.W.		3/12/87	Per Anoka County Review
DRAWN: G.N.				

I HEREBY CERTIFY THAT THIS PLAN 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.

DATE: _____ REG. NO. 9089



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SIGNAL SYSTEM UTILITIES
 CROOKED LAKE BLVD. (C.S.A.H. 18) AT 115th AVE. N.W.

S.A.P. 02-618-19

FILE NO.: 86102	4 5
DATE: 2/20/87	

LEGEND OF SYMBOLS

CONTROLLER AND SERVICE EQPT. NO'S.	
SIGNAL BASE NO.	
SIGNAL FACE NO.	
LUMINAIRE NO.	
CONTROLLER AND CABINET	
CONTROLLER AND CABINET-IN PLACE	
HANDHOLE	
HANDHOLE-IN PLACE	
RIGID STEEL CONDUIT (R.S.C.)	
RIGID STEEL CONDUIT (R.S.C.)-IN PLACE	
SIGNAL FACE WITH BACKGROUND SHIELD	
SIGNAL FACE W/O BACKGROUND SHIELD	
SIGNAL FACE-IN PLACE	
PEDESTRIAN INDICATIONS	
PEDESTRIAN INDICATIONS-IN PLACE	
PEDESTRIAN PUSH BUTTON ON PEDESTAL OR POLE	
PEDESTRIAN PUSH BUTTON STATION	
TRAFFIC SIGNAL PEDESTAL	
TRAFFIC SIGNAL PEDESTAL-IN PLACE	
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-IN PLACE	
WOOD POLE	
WOOD POLE-IN PLACE	
SOURCE OF POWER	
RAILROAD SIGNAL-IN PLACE	
RIGHT OF WAY LINE	
CENTER LINE	
EDGE OF ROADWAY	
SHOULDER LINE	
CURB LINE	
STOP BAR	
CROSSWALK	

ABBREVIATIONS

EQUIPMENT AND INDICATIONS

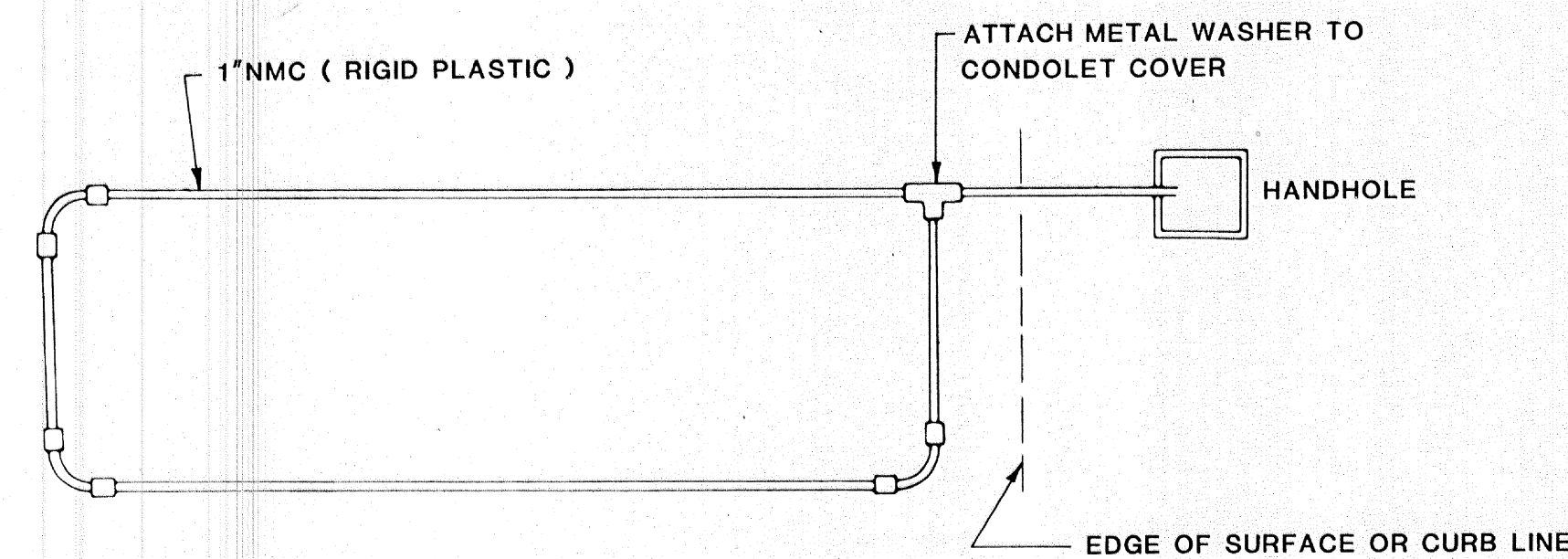
- R,RED-RED
- Y,YEL-YELLOW
- G,GRN-GREEN
- WLK-WALK
- NEU-NEUTRAL
- DWK-DON'T WALK
- LUM-LUMINAIRE
- DNL-DOWNLIGHT
- H.H.-HANDHOLE
- EQG-EQUIPMENT GROUND
- R.S.C.-RIGID STEEL CONDUIT
- GLTA-GREEN LEFT TURN ARROW
- YRTA-YELLOW RIGHT TURN ARROW
- D2-1(eg)-DETECTOR-PHASE"2"
- GR.R-GROUND ROD
- SER.-SERVICE
- P2-2 PEDESTRIAN INDICATIONS-PHASE"2"
- 2-1(eg)-SIGNAL HEADS-PHASE"2"
- SPR.-SPARE CONDUCTORS
- N.M.C.-NON METALLIC CONDUIT
- E.V.P.-EMERGENCY VEHICLE PRE-EMPTION
- J.B.-JUNCTION BOX
- W.P.-WOOD POLE
- P.E.C.-PHOTOELECTRIC CELL

CONDUCTOR COLOR CODE

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

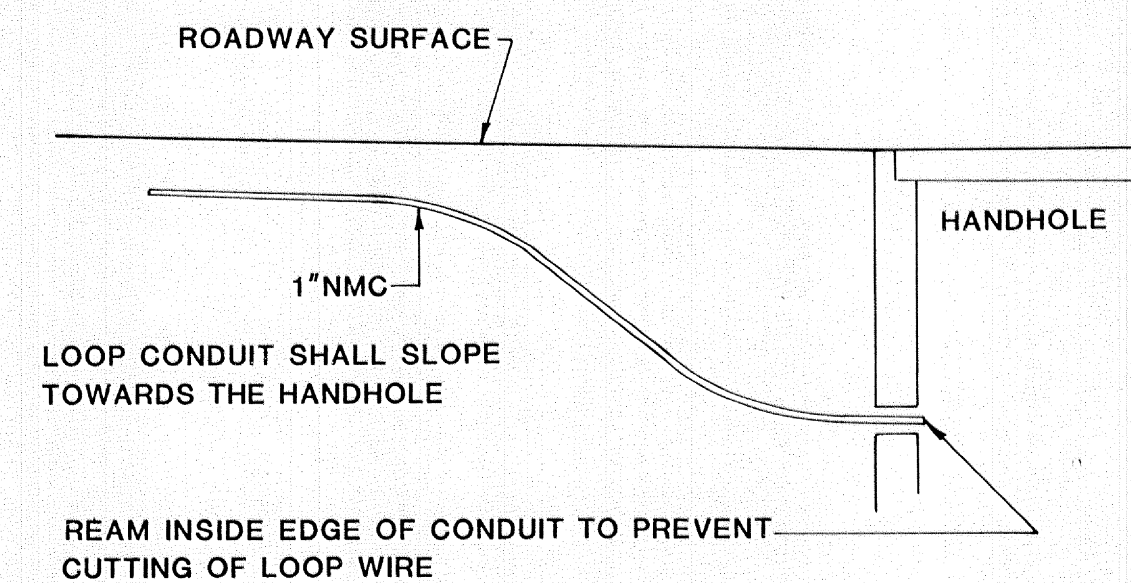
LOOP DETECTOR DETAIL "A"

PLAN VIEW
(NOT TO SCALE)



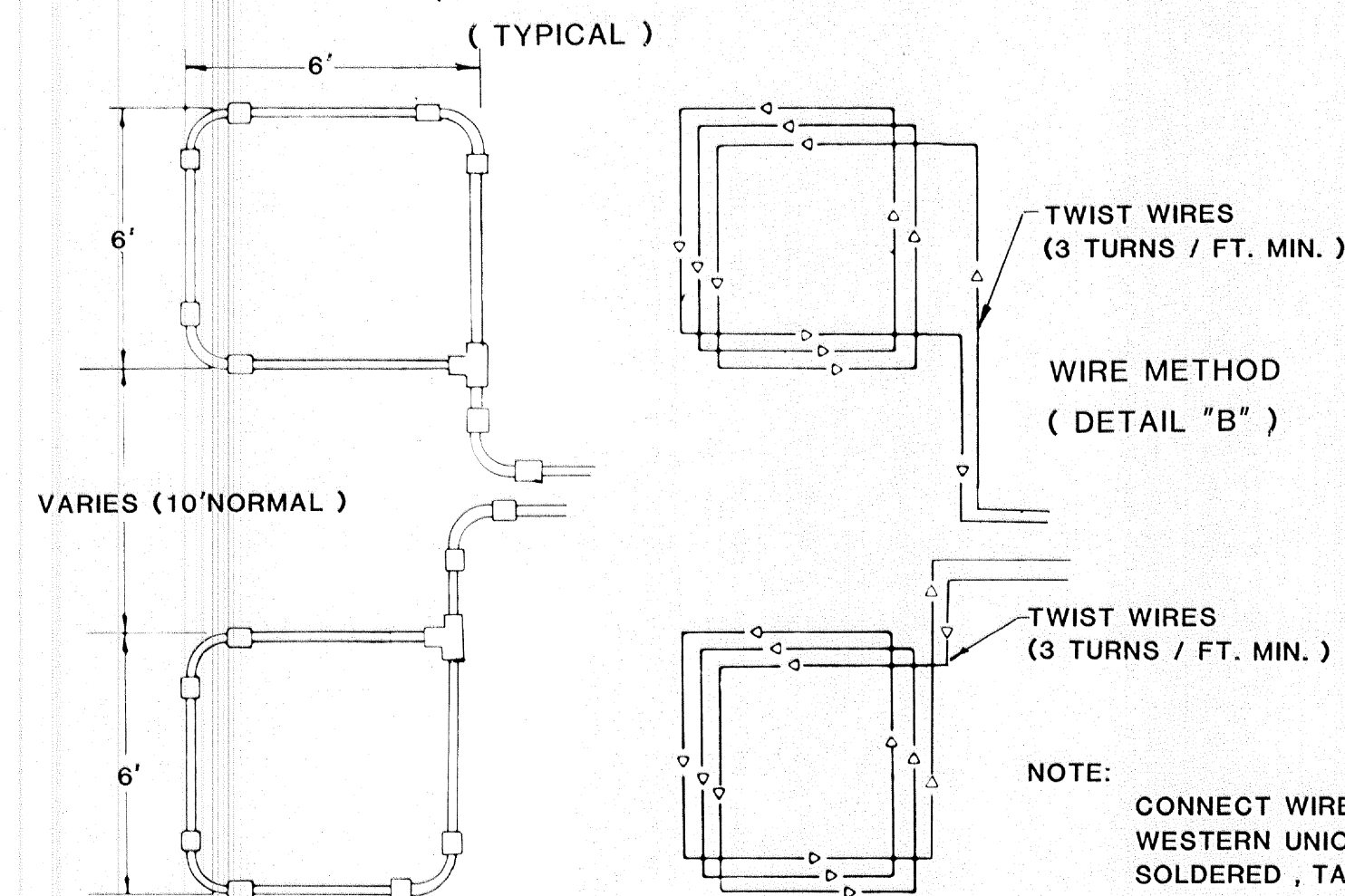
ALL CORNERS SHALL BE STANDARD 90° CONDUIT BENDS

DRAINAGE DETAILS



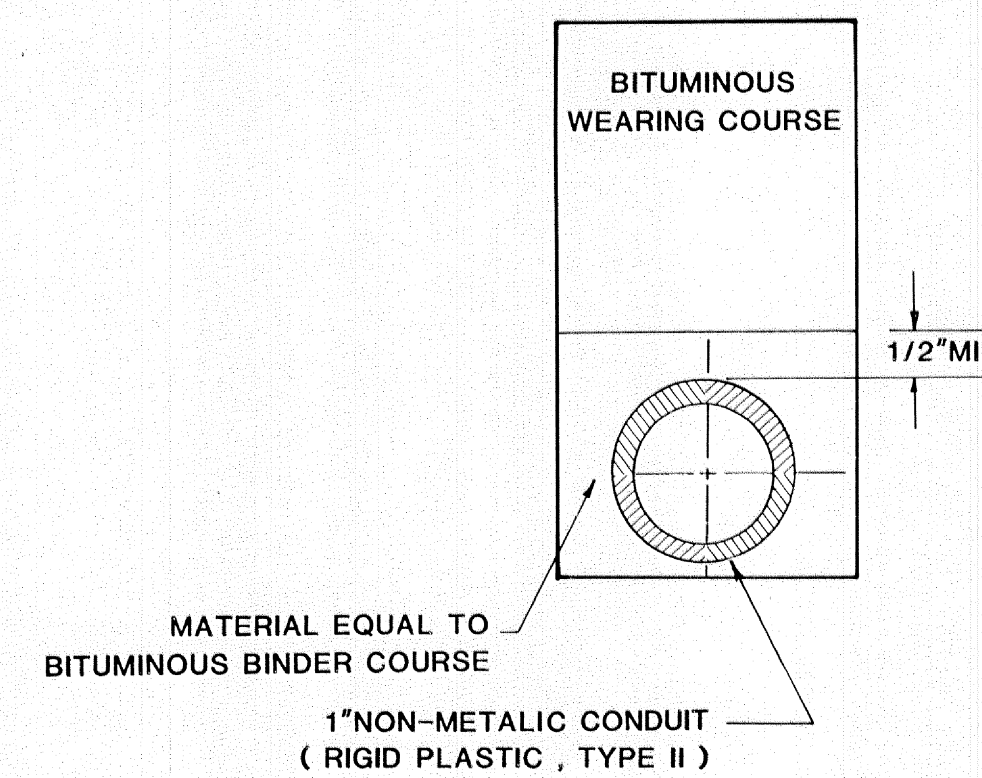
LOOP DETECTOR DETAIL "B"

PLAN VIEW
(NOT TO SCALE)
(TYPICAL)



CONDUITS MAY BE PLACED IN COMMON TRENCH.

NOTE: LOOP DETECTOR WIRES SHALL BE CROSS LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.



CONDUCTOR COLOR CODING

R	BLK	2-1/C#6
O	WH	2-1/C#10
BL	R	
WH	W	3/C#12
R/BLK	BLK	
O/BLK	BLK	
BL/BLK	CLEAR	2/C#14
WH/BLK		
BLK	R OR O	
BLK/WH	WH OR YEL	3/C#20
G/BLK	BLK OR BL	
G		

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

CONDUIT INSTALLATION DETAIL FOR LOOP DETECTOR

LOOP DETECTOR CONDUITS ARE TO BE INSTALLED IN 3" CUT TRENCHES AS SHOWN ON PLANS. INSTALL EACH COMPLETE DETECTOR ASSEMBLY WITH THE DETECTOR WIRE PULLED THROUGH THE COMPLETE ASSEMBLY TO HANDHOLE. WHERE APPROPRIATE, PLACE DETECTOR CONDUIT IN BITUMINOUS BINDER COURSE PRIOR TO PLACEMENT OF THE WEARING COURSE. THE DEPTH OF THE TRENCH AND THE RESULTANT PLACEMENT OF THE DETECTOR CONDUIT SHALL BE SUCH THAT THE ENTIRE DETECTOR ASSEMBLY DRAINS INTO THE HANDHOLE. BACKFILL AND COMPACT THE TRENCHES WITH MATERIAL EQUIVALENT TO THE MATERIAL REMOVED.

STANDARD PLATES

PLATE NO.	DESCRIPTION
* 8110 C	TRAFFIC SIGNAL BRACKETING - POLE MOUNTED
8111 B	TRAFFIC SIGNAL BRACKETING - PEDESTAL MOUNTED
8112 C	PEDESTAL FOUNDATION
8113 C	MAGNETIC VEHICLE DETECTOR INSTALLATION
* 8115 C	PEDESTRIAN PUSH BUTTON INSTALLATION
8116 C	STEEL GUARD POST
* 8117 E	PRECAST CONCRETE HANDHOLE
* 8118 C	SERVICE EQUIPMENT AND POLE
* 8119 C	GROUND MOUNTED CABINET FOUNDATION
8120 H	P-80 AND P-90 POLE FOUNDATION
8121 B	TRANSFORMER BASE WITH POLE BASE PLATE
8122 C	PEDESTAL AND PEDESTAL BASE
8123 B	POLE AND MAST ARM
8124 D	SIGNAL HEAD MOUNTS
8125 A	SWING-AWAY HINGE
8126 C	P-100 POLE FOUNDATION
* 8130 D	SAW CUT LOOP DETECTORS

* THESE STANDARD PLATES APPLY TO THIS PLAN

SURVEY:	CHECKED BY:	NO.	DATE	REVISIONS
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DRAWN: G.N.				

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**SIGNAL SYSTEM
DETAILS**

CROOKED LAKE BLVD. (C.S.A.H. 18) AT 115th AVE. N.W.

S.A.P. 02-618-19

FILE NO.:
86102
86103
DATE:
2/20/87