

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## ANOKA COUNTY

### CONSTRUCTION PLAN FOR TRAFFIC CONTROL SIGNAL SYSTEM

LOCATED ON **CSAH 14 (MAIN STREET) AT NORTHDALÉ BOULEVARD**

COUNTY PROJ. NO. 92-07-14

#### PLANS SYMBOLS

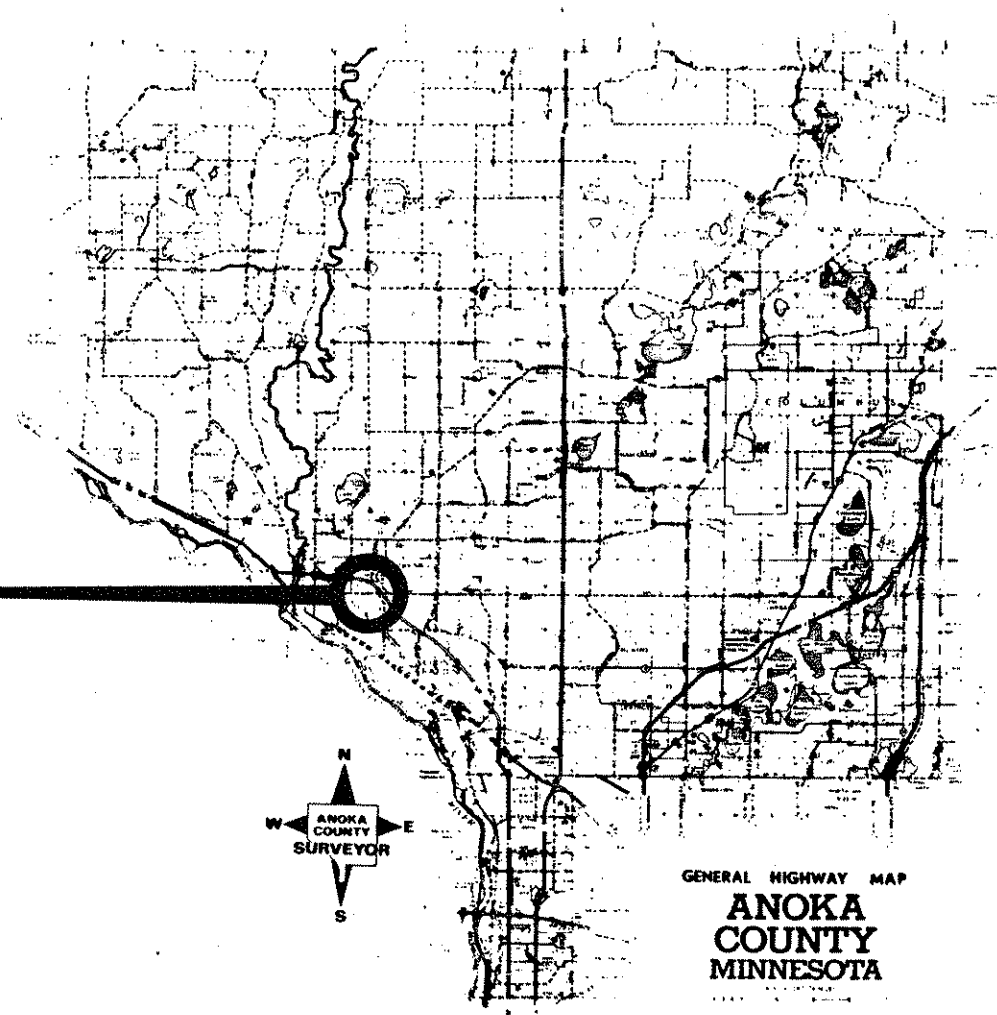
- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (EACH LINE LINE)
- HATCHED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETAINING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- DRAIN TILE
- CULVERT
- DEEP HOLE
- GUARD RAIL
- BARBED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SHOW FENCE
- 3" HEDGE
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING BELL
- ELECTRIC WARNING SIGN
- CROSSING GATE
- WEATHER CORNER
- SPRINGS
- MARSH
- TIMBER
- ORCHARD
- BRUSH
- NUSSERY
- CATCH BASIN
- FIRE HYDRANT
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F FRAME
- S STONE
- B BRICK
- C CONCRETE
- T TILE
- S STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE CONCRETE OR METAL)
- WOODEN HUB
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY
- SLOPE EASEMENT

#### UTILITIES SYMBOLS

- POWER POLE LINE
- TELEPHONE OR TELEGRAPH POLE LINE
- 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 TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- AERIAL TELEPHONE CABLE
- BURIED CABLE ON STAKE
- BURIED MANHOLE

#### PROJECT LOCATION

**CSAH 14 (MAIN STREET)  
 AT NORTHDALÉ BLVD  
 C.P. 92-07-14**



ESTIMATED QUANTITIES				
ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	FINAL QUANTITIES
0565.601	TEMPORARY TRAFFIC SIGNAL SYSTEM	LUMP SUM	1	
2105.523	COMMON BORROW (LV)	CUBIC YARD	125	
2521.511	BITUMINOUS WALK	SQ.FT.	550	
0575.605	ROADSIDE SEEDING	SQ.YD.	75	

#### GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION (AS AMENDED BY THE JANUARY 2, 1991 SUPPLEMENTAL SPECIFICATIONS) SHALL GOVERN.

#### INDEX

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

THIS PLAN CONTAINS 6 SHEETS

#### DESIGN DESIGNATION

K18 20 N/A  
 R Value N/A  
 ADT (1990) = 16,665  
 Proj. ADT (2010) = 28,330  
 Proj. HCADT (2010) = 2,125  
 Soil Factor 50%  
9 Ton Design  
 Shoulder Width 3 FT.  
 FUNCTIONAL CLASSIFICATION LOW DENSITY ARTERIAL  
 NO. OF TRAFFIC LANES 4  
 NO. OF PARKING LANES 0  
 Design Speed 55 MPH  
 Based on STOPPING Sight Distance  
 Height of eye 3.5' Height of object 0.5'  
 Design Speed not achieved at:  
 STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH  
 STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH

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 9/18/92 REG. NO. 20943 ENGR. Thomas A. Anderson

DESIGN SQUAD JOHN M GRAY (SEH)

Recommended for Approval William R. Ottensmeyer 10/11/1992  
 City of Coon Rapids

Recommended for Approval Laurel K. Lund 10/7/1992  
 Anoka County Engineer

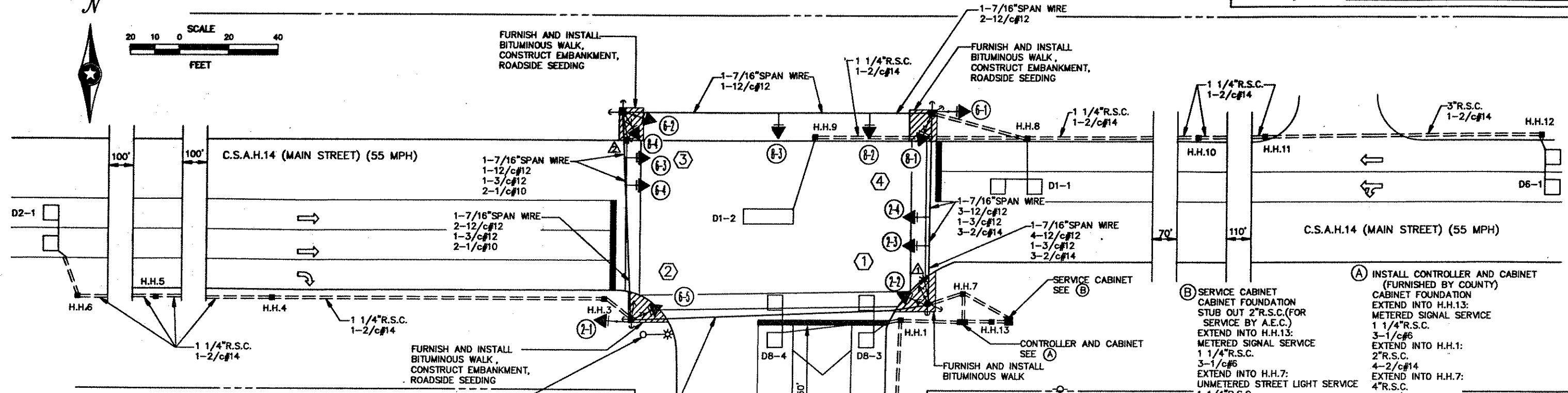
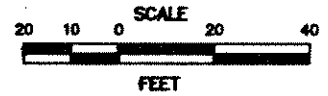
Recommended for Approval \_\_\_\_\_ 19\_\_\_\_  
 DISTRICT STATE AID ENGINEER

Recommended for Approval \_\_\_\_\_ 19\_\_\_\_  
 STATE AID PLANS AND SPECS ENGINEER

Approved \_\_\_\_\_ 19\_\_\_\_  
 STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 APPROVED \_\_\_\_\_  
 DIVISION ADMINISTRATOR DATE

SCALES  
 PLAN N.A.  
 PROFILE N.A.  
 INDEX MAP 2.66 MI  
 GENERAL LAYOUT 20 FEET



- NOTES:**
- LOCATION OF CONTROLLER CABINET, SERVICE CABINET, WOOD POLES, LOOP DETECTORS AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
  - EACH SIGNAL FACE SHALL HAVE BACKGROUND SHIELD.
  - EACH PEDESTRIAN INDICATION SHALL BE 12"x12".
  - EACH LUMINAIRE SHALL INCLUDE PHOTOELECTRIC CELL.
  - SEE SPECIAL PROVISIONS AND DETAILS FOR ANOKA COUNTY SERVICE CABINET INFORMATION.
  - SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
  - LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) IN 1" N.M.C. SEE SPECIAL PROVISIONS AND DETAILS.
  - EACH HANDHOLE SHALL BE CONCRETE HANDHOLE WITH A TYPE "C" COVER PER Mn/DOT STANDARD PLATE NO.8117F.
  - SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING WOOD POLE SCREW ANCHORS.
  - SEE DETAILS FOR WOOD POLE, SPAN WIRE MOUNTING AND PEDESTRIAN PUSH BUTTON DETAILS.

- ② INSTALL 45' WOOD POLE-CLASS 2 (FURNISHED BY COUNTY)**  
 2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS  
 TYPE 10A-WOOD POLE MOUNTED (2-1)  
 TYPE 10B-WOOD POLE MOUNTED (6-5,P2-1)  
 TYPE 30A-WOOD POLE MOUNTED (P8-4)  
 2-PEDESTRIAN PUSH BUTTONS  
 INSTALL PEDESTRIAN INSTRUCTION SIGNS (FURNISHED BY COUNTY)  
 METAL JUNCTION BOX  
 3"R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
 3-12/c#12  
 2-3/c#12  
 1-2/c#14  
 EXTEND INTO H.H.3:  
 1 1/4"R.S.C. RISER BELOW JUNCTION BOX  
 1-2/c#14
- ③ INSTALL 45' WOOD POLE-CLASS 2 (FURNISHED BY COUNTY)**  
 2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS  
 TYPE 10A-WOOD POLE MOUNTED (6-2)  
 TYPE 10B-WOOD POLE MOUNTED (8-4,P8-3)  
 LUMINAIRE-200 WATT H.P.S. AND 15' MAST ARM  
 1-PEDESTRIAN PUSH BUTTON  
 INSTALL PEDESTRIAN INSTRUCTION SIGN (FURNISHED BY COUNTY)  
 R10-12 SIGN PANEL (24"x30")-ADJACENT TO (6-3)  
 METAL JUNCTION BOX  
 2"R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
 2-12/c#12  
 1-3/c#12

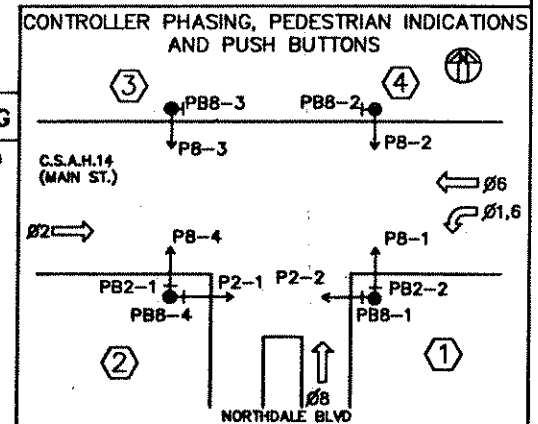
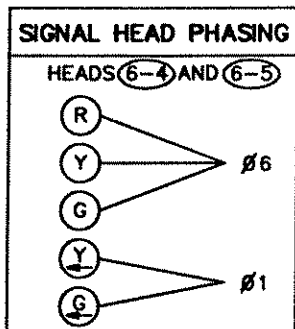
- FUNCTIONS:**
- CALL AND EXTEND
  - CALL ONLY
  - EXTEND ONLY
  - CALL ONLY DENSITY
  - DELAYED CALL ONLY
  - DELAYED CALL ONLY DENSITY
  - DELAYED CALL-IMMEDIATE EXTEND
  - CARRY OVER (STRETCH)
  - ADVISORY DETECTOR
  - SAMPLING DETECTOR
  - CALL DURING PHASE 6 CLEARANCE ONLY
  - EXTEND DURING PHASE 1 ONLY

LOOP DETECTORS			
NUMBER	SIZE (FT)	LOCATION	FUNCTION
D1-1	2-6x6	20'	7,8,11
D1-2	6x20	60'	3,12
D2-1	2-6x6	405'	1
D6-1	2-6x6	405'	1
D8-1	6x12	120'	3,8
D8-2	6x12	120'	3,8
D8-3	2-6x6	5'	7
D8-4	2-6x6	5'	1

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

- ① INSTALL 45' WOOD POLE-CLASS 2 (FURNISHED BY COUNTY)**  
 2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS  
 TYPE 10B-WOOD POLE MOUNTED (2-2,P2-2)  
 TYPE 30A-WOOD POLE MOUNTED (P8-1)  
 LUMINAIRE-200 WATT H.P.S. AND 15' MAST ARM  
 2-PEDESTRIAN PUSH BUTTONS  
 INSTALL PEDESTRIAN INSTRUCTION SIGNS (FURNISHED BY COUNTY)  
 METAL JUNCTION BOX  
 2"R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
 1-12/c#12  
 EXTEND INTO H.H.7:  
 2"R.S.C. RISER BELOW JUNCTION BOX  
 2-12/c#12  
 1-3/c#12  
 EXTEND INTO H.H.7:  
 3"R.S.C. RISER AND WEATHERHEAD  
 3-12/c#12  
 1-3/c#12  
 3-2/c#14  
 2-1/c#10  
 3"R.S.C. RISER AND WEATHERHEAD  
 3-12/c#12  
 3-3/c#12  
 3-2/c#14  
 1-2/c#14  
 2-1/c#10
- ④ INSTALL 45' WOOD POLE-CLASS 2 (FURNISHED BY COUNTY)**  
 2-DOWN GUYS, GUY GUARDS AND SCREW ANCHORS  
 TYPE 10B-WOOD POLE MOUNTED (8-1,P8-2)  
 TYPE 10A-WOOD POLE MOUNTED (6-1)  
 1-PEDESTRIAN PUSH BUTTON  
 INSTALL PEDESTRIAN INSTRUCTION SIGN (FURNISHED BY COUNTY)  
 METAL JUNCTION BOX  
 3"R.S.C. RISER AND WEATHERHEAD ABOVE JUNCTION BOX  
 3-12/c#12  
 1-3/c#12  
 3-2/c#14  
 EXTEND INTO H.H.8:  
 1 1/4"R.S.C. RISER BELOW JUNCTION BOX  
 3-2/c#14

SIGNAL INDICATIONS						
FACE	PHASE	FLASH	SIGNAL FACES (SIZE IN INCHES)			
			R	Y	G	YLTA
2-1	2	R	12	12	12	
2-2	2	R	12	12	12	
2-3	2	R	12	12	12	
2-4	2	R	12	12	12	
6-1	6	R	12	12	12	
6-2	6	R	12	12	12	
6-3	6	R	12	12	12	
6-4	6 & 1	R	12	12	12	12
6-5	6 & 1	R	12	12	12	12
8-1	B	R	12	12	12	
8-2	B	R	12	12	12	
8-3	B	R	12	12	12	
8-4	B	R	12	12	12	



**"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.  
*Robert A. Egan*  
 Date: 9/18/92 Reg. No. 5859

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.  
*Thomas A. Schwandt*  
 Date: 9/18/92 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 CITY OF COON RAPIDS

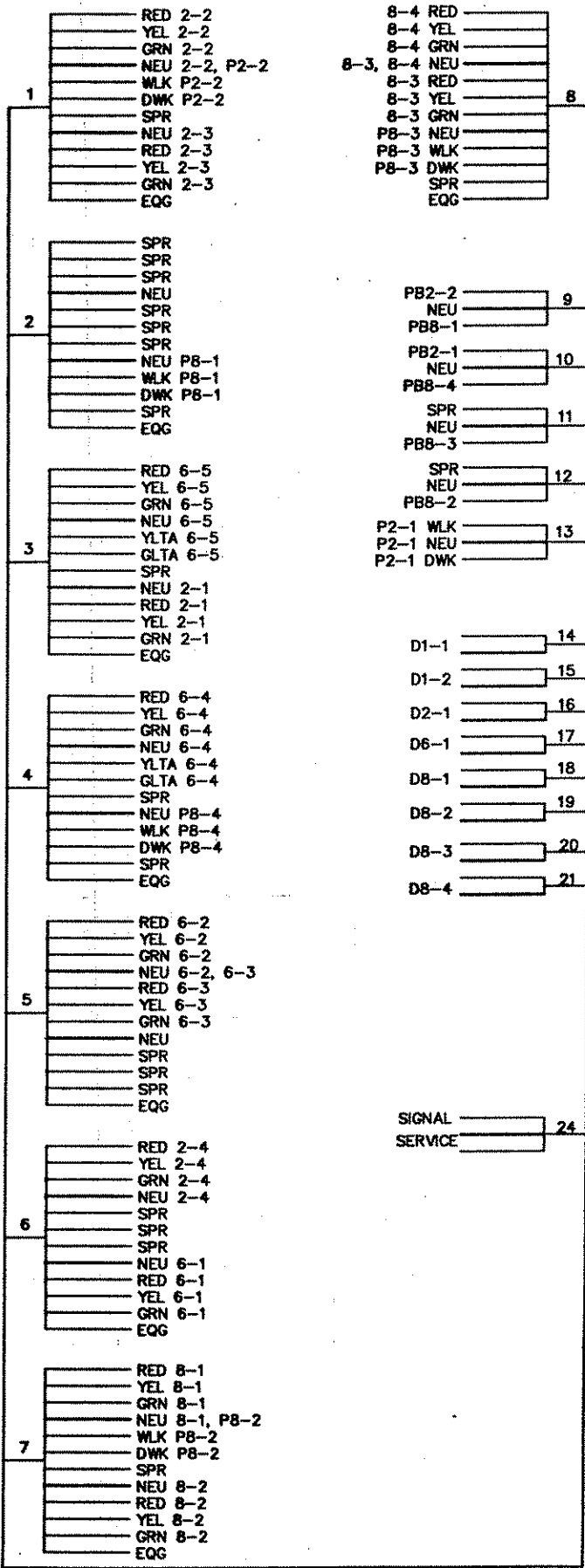
**TRAFFIC SIGNAL SYSTEM**  
 INTERSECTION LAYOUT  
 CSAH 14 (MAIN STREET) AT NORTHDAL BOULEVARD

FILE NO. 92219  
 DATE 9/18/92

CONTROLLER CABINET

Fed. Project No. \_\_\_\_\_

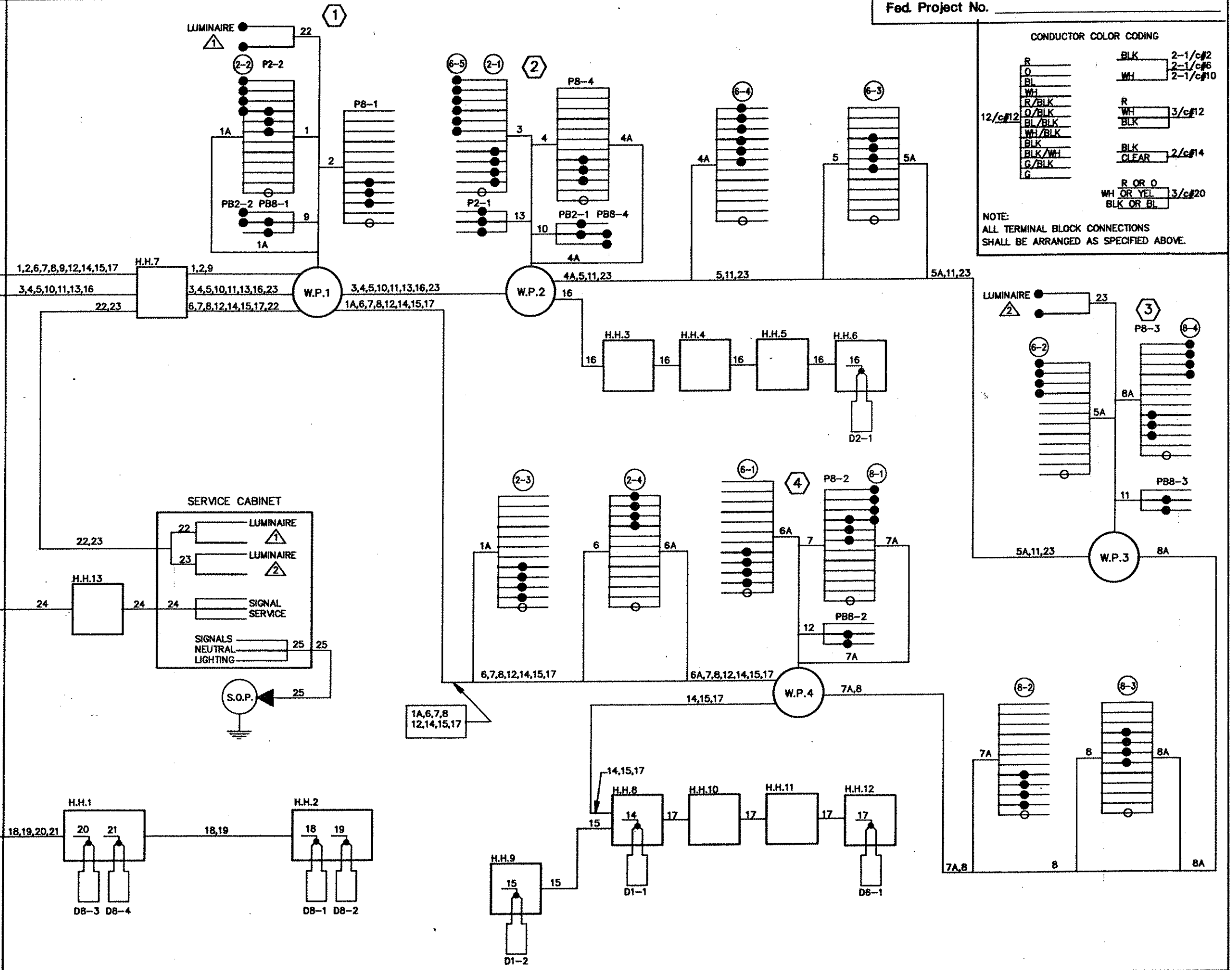
BASE OVERLAY (REV. 10)

CONDUCTOR COLOR CODING

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

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



NO.	BY	DATE	REVISIONS

**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.  
*Robert A. Egan*  
Date: 9/18/92 Reg. No. 5859

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.  
*Thomas A. Johnson*  
Date: 9/18/92 Reg. No. 20943

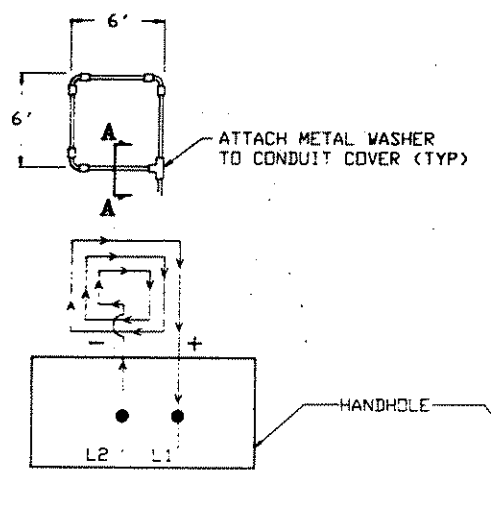


**ANOKA COUNTY, MINNESOTA**  
CITY OF COON RAPIDS

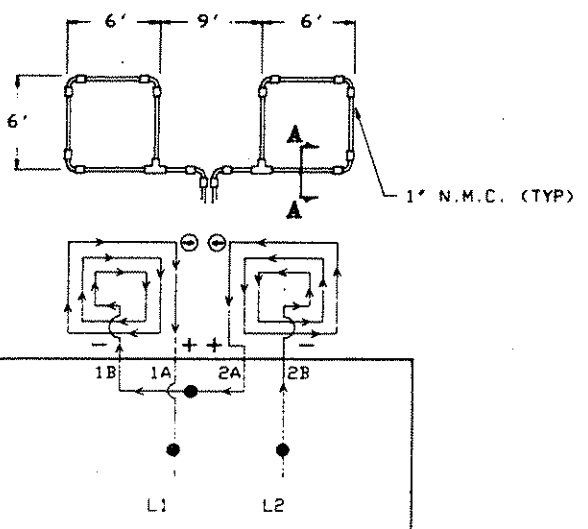
**TRAFFIC SIGNAL SYSTEM**  
FIELD WIRING DIAGRAM  
CSAH 14 (MAIN STREET) AT NORTHDALÉ BOULEVARD

FILE NO. 92219  
DATE 9/18/92

**LOOP DETECTOR DETAIL 'A'**  
 PLAN VIEW (NOT TO SCALE)  
 (LOOP PHASING FOR SINGLE CONNECTION)

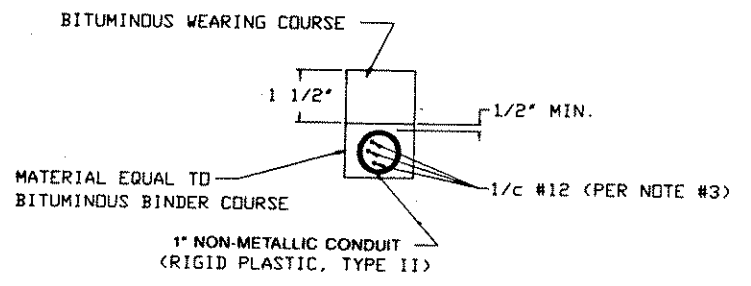


**LOOP DETECTOR DETAIL 'B'**  
 PLAN VIEW (NOT TO SCALE)  
 (LOOP PHASING FOR SERIES CONNECTION)

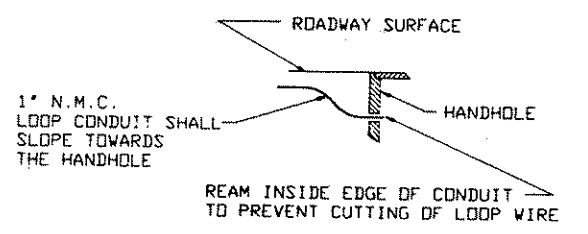


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED IN THE HANDHOLE AS FOLLOWS:  
 L1 TO 1A, 1B TO 2A, AND 2B TO L2.

**CROSS SECTION A-A**



**DRAINAGE DETAIL**



**LOOP DETECTOR WIRING**

- NOTES:**
- ALL CORNERS SHALL BE 90° CONDUIT BENDS
  - CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
  - LDDP DETECTOR WIRES SHALL BE # 12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
  - LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
  - N.M.C. DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
  - LDDPS 6'x6' THRU 6'x 10' SHALL HAVE (4) TURNS.
  - LOOPS 6' x 10' THRU 6' x 14' SHALL HAVE (3) TURNS.
  - LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.
  - A CLOSED CELL FOAM BACKER ROD SHALL BE FURNISHED AND INSTALLED WITH THE LAST TURN OF WIRE IN THE 1" N.M.C. LOOP ASSEMBLY.

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
* 8117 F	PRECAST CONCRETE HAND HOLE
* 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
8126 C	P-100 POLE FOUNDATION
8130 D	SAW CUT LOOP DETECTORS
* 0005 A	SPECIFICATION REFERENCE
3124 B	METAL APRON CONNECTION
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
7035 J	CONCRETE WALK AND CURB RETURNS AT ENTRANCES
7100 F	CONCRETE CURB AND GUTTERS

\* APPLIES TO THIS PROJECT

**ABBREVIATIONS**  
 EQUIPMENT AND INDICATIONS

- RED - RED
- YEL - YELLOW
- GRN - GREEN
- VLK - WALK
- NEU - NEUTRAL
- DWK - DON'T WALK
- LUM - LUMINAIRE
- DNL - DOWNLIGHT
- H.H. - HANDHOLE
- EDG - 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
- 2-1(eg) - SIGNAL HEADS-PHASE '2'
- SPR. - SPARE CONNECTORS
- 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

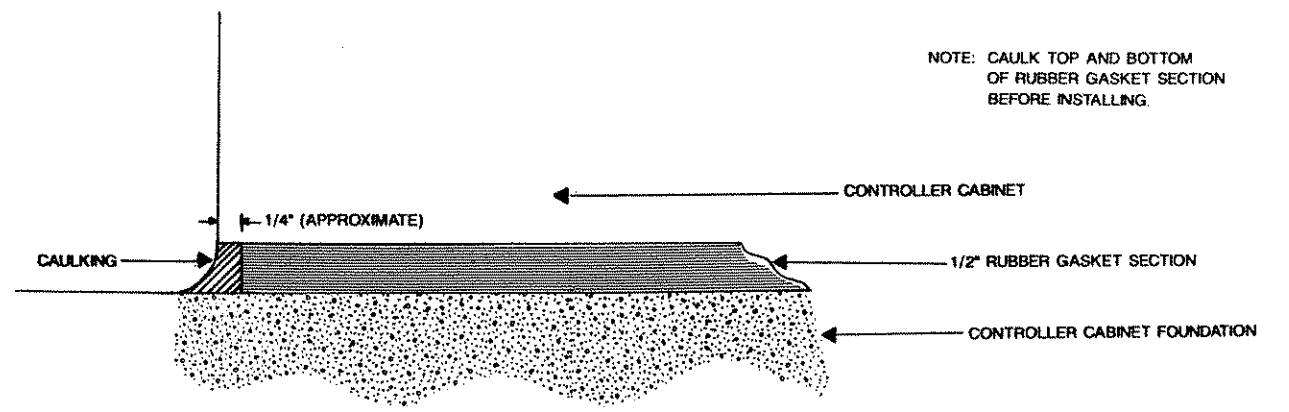
**LEGEND OF SYMBOLS**

- CONTROLLER AND SERVICE EQPT NOS. \_\_\_\_\_
- 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/D 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 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 \_\_\_\_\_
- CENTERLINE \_\_\_\_\_
- EDGE OF ROADWAY \_\_\_\_\_
- SHOULDERLINE \_\_\_\_\_
- CURB LINE \_\_\_\_\_
- STOP BAR \_\_\_\_\_

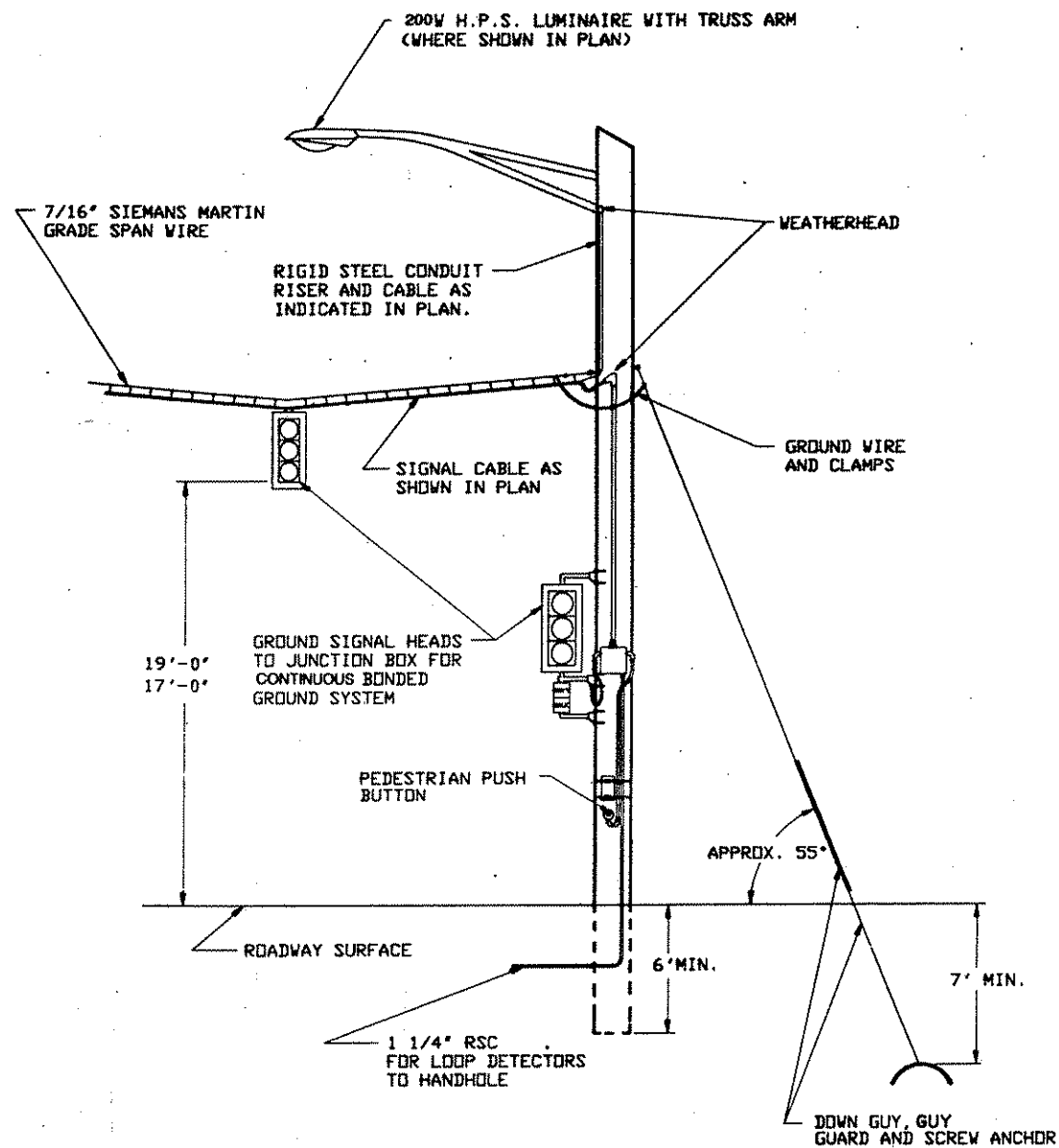
**CONDUCTOR COLOR CODE**

- R - RED
- O - DRANGE
- BL - BLUE
- WH - WHITE
- R/BLK - RED WITH BLACK TRACER
- O/BLK - DRANGE 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

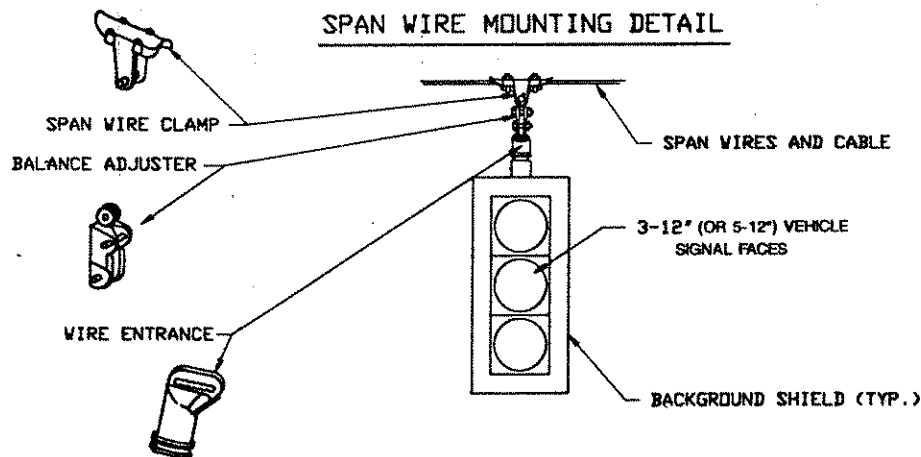
**CONTROLLER CABINET CAULKING DETAIL**



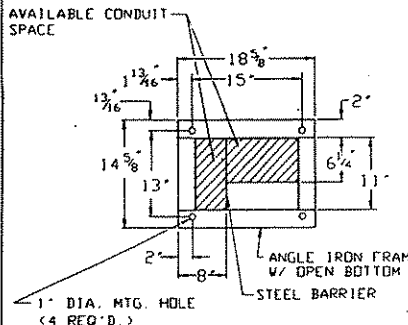
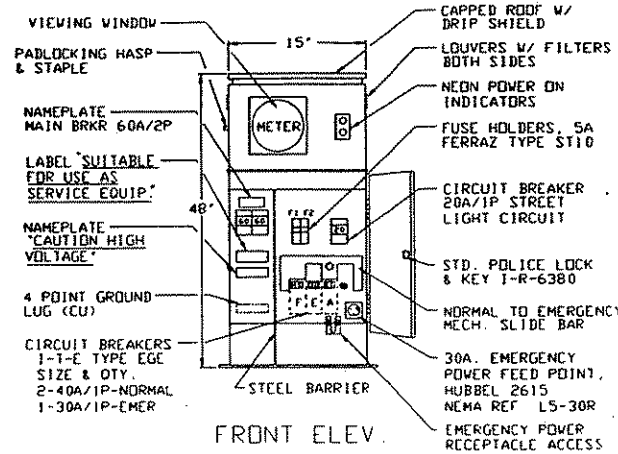
**TEMPORARY POLE DETAIL**



**SPAN WIRE MOUNTING DETAIL**

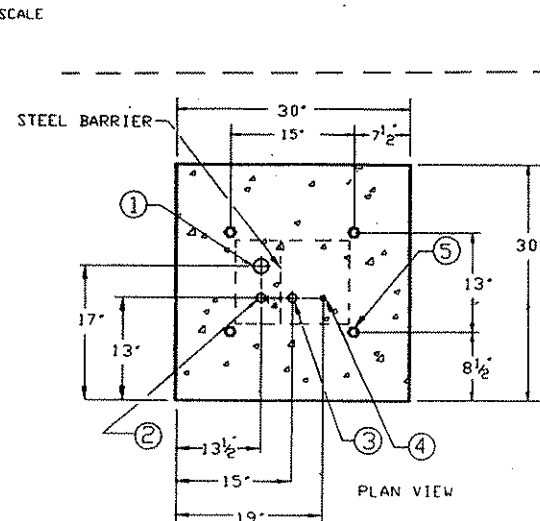


**SIGNAL SERVICE CABINET DETAIL**

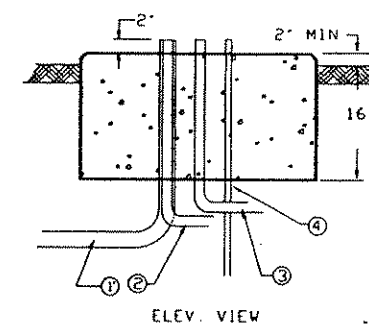


**CONSTRUCTION NOTES:**  
ENCLOSURE SHALL BE FABRICATED FROM #12 GA. ALL WELDED COLD ROLLED STEEL FOR OUTDOOR WEATHER PROOF SERVICE. DOORS TO BE GASKETED. ALL HINGES, PINS AND LOCKS TO BE OF NON-CORRODING CONSTRUCTION. CABINET TO BE PRIMED INSIDE AND OUT WITH RUST INHIBITING PRIMER. FINISH PER MN/DOT #3527.

**SIGNAL SERVICE CABINET**

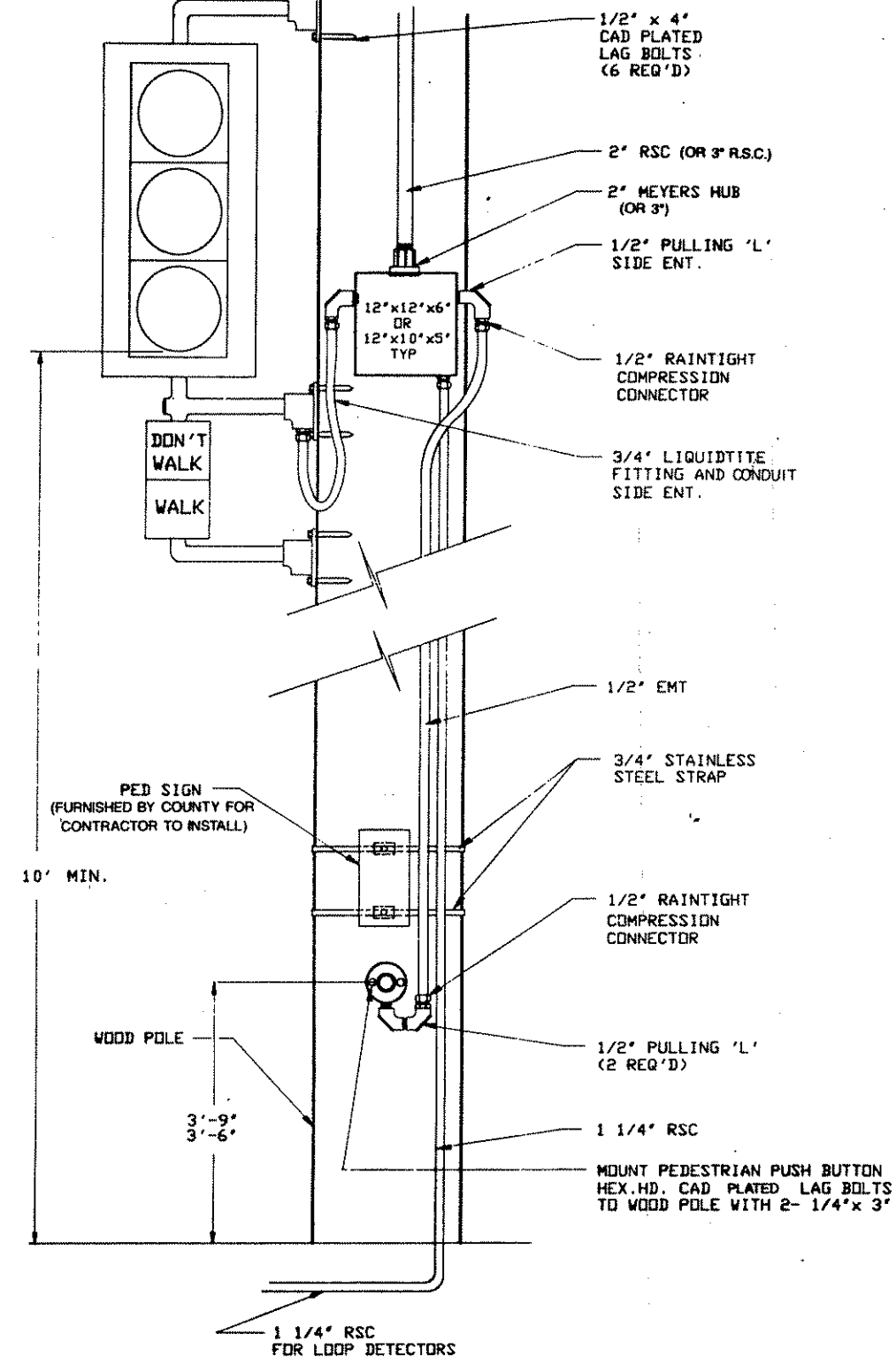


- LEGEND**
- ① 2" RSC FROM SOURCE OF POWER (VIA HANDHOLE)
  - ② 1 1/4" RSC TO HANDHOLE (STREET LIGHTING)
  - ③ 1 1/4" RSC TO CONTROLLER CABINET (VIA HANDHOLE) SEE PLANS FOR SPECIFIC ROUTING
  - ④ GROUNDING ROD
  - ⑤ ANCHOR BOLTS (4)



**SERVICE CABINET FOUNDATION**

**PED BUTTON WIRING DETAIL**



NO.	BY	DATE	REVISIONS

**"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.  
*Robert A. Ellen*  
Date: 9/18/92 Reg. No. 5859

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.  
*Thomas A. Schwanitz*  
Date: 9/18/92 Reg. No. 20943

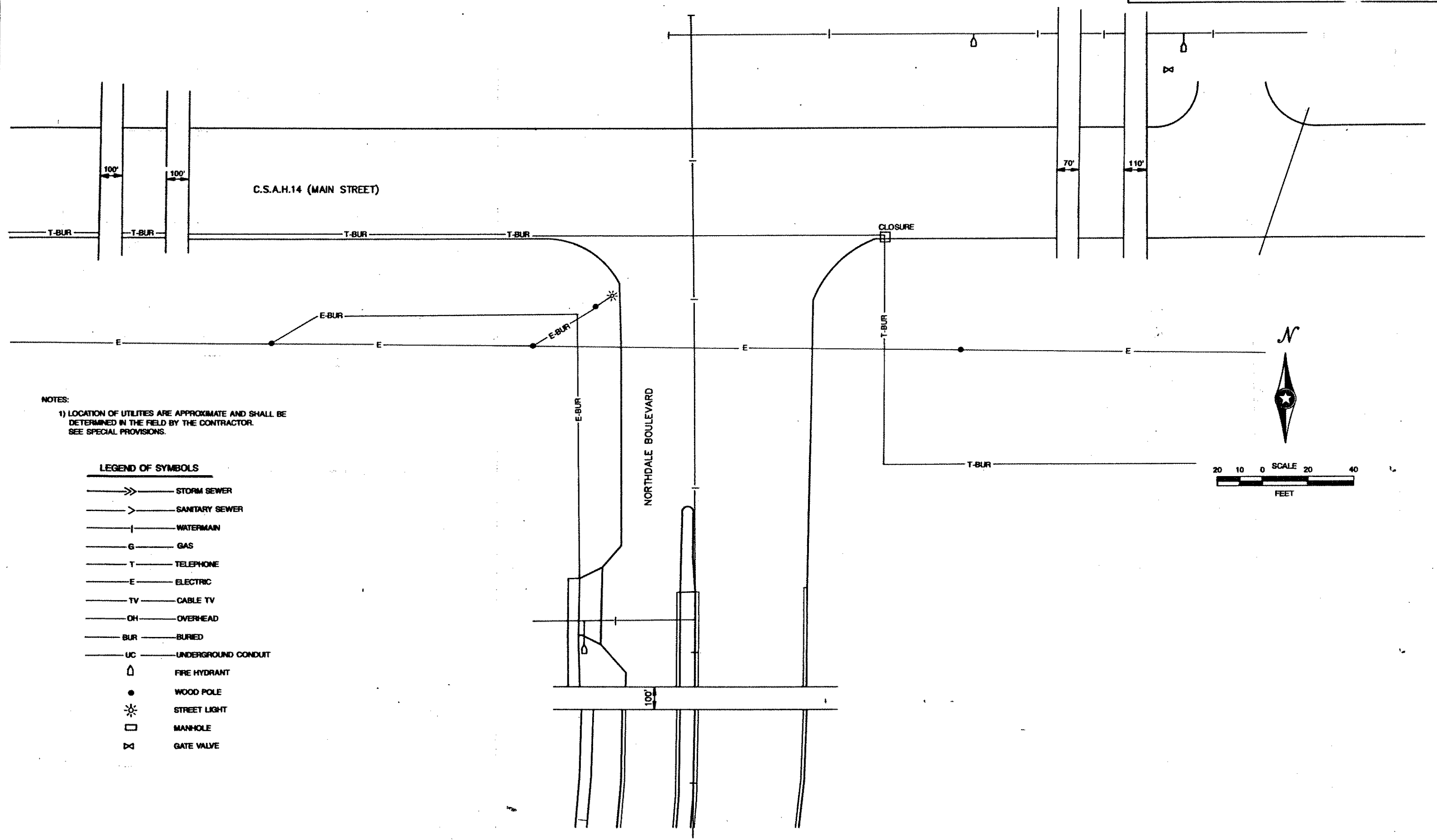


**ANOKA COUNTY, MINNESOTA**  
CITY OF COON RAPIDS  
S.A.P. \_\_\_\_\_ S.P. \_\_\_\_\_ C.P. 92-07-14

**TRAFFIC SIGNAL SYSTEM**  
DETAILS  
CSAH 14 (MAIN STREET) AT NORTHDALÉ BOULEVARD  
Sheet No. 5 of 6 Sheets

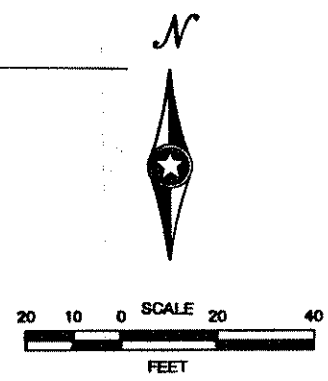
FILE NO. 92219  
DATE 9/18/92

BASE OVERLAY PLAN NO.



NOTES:  
 1) LOCATION OF UTILITIES ARE APPROXIMATE AND SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. SEE SPECIAL PROVISIONS.

- 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



NO.	BY	DATE	REVISIONS

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*Robert A. Ellis*  
 Date: 9/18/92 Reg. No. 5859

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.  
*Thomas A. Schwandt*  
 Date: 9/18/92 Reg. No. 20943



**ANOKA COUNTY, MINNESOTA**  
 CITY OF COON RAPIDS

**TRAFFIC SIGNAL SYSTEM**  
 UTILITIES  
 CSAH 14 (MAIN STREET) AT NORTHDALÉ BOULEVARD

FILE NO.  
92219  
 DATE  
9/18/92