

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 (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	----
DRAIN INLET	----
GUARD RAIL	----
BARBED WIRE FENCE	----
WOVEN WIRE FENCE	----
CHAIN LINK FENCE	----
RAILROAD SNOW 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	----
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	----

UTILITIES SYMBOLS

POWER POLE LINE	----
TELEPHONE OR TELEGRAPH POLE LINE	----
JOINT TELEPHONE AND POWER ON POWER POLES	----
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	----
SEWER, (SANITARY OR STORM)	----
SEWER MANHOLE	----

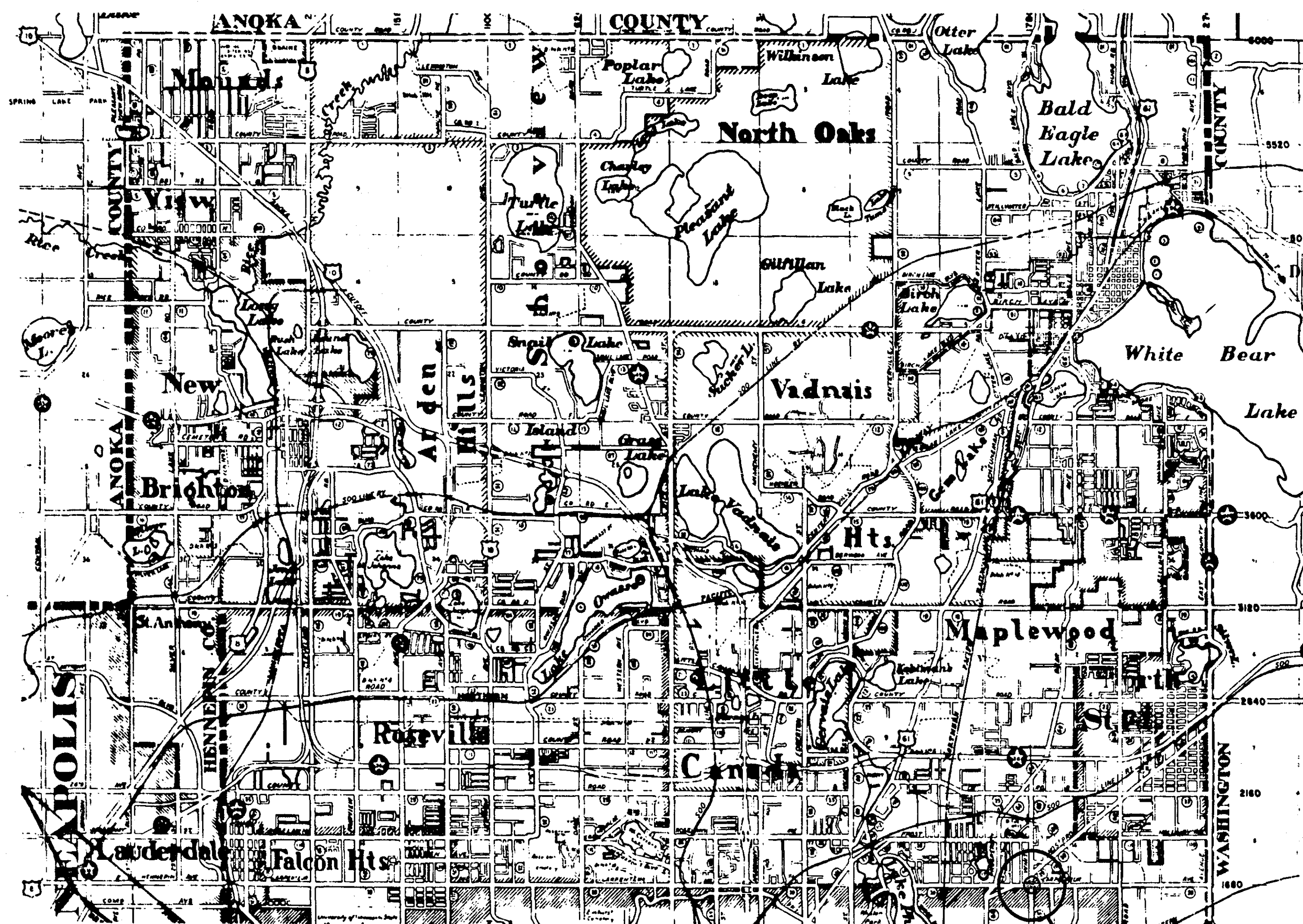


PIT DATA

PIT NO.	Located in
PIT NO.	Dead Mtn
PIT NO.	Located in
PIT NO.	Dead Mtn

THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JANUARY 1, 1968 SHALL GOVERN.

OFFICE OF COUNTY ENGINEER RAMSEY COUNTY PLAN OF TRAFFIC CONTROL SYSTEM FOR THE INTERSECTION OF LARPENTEUR AVE. & WHITE BEAR AVE.



CITY OF ST. PAUL

CO. PROJ. NO. 68-65-30

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2 & 3	DETAILS
4	INTERSECTION LAYOUT
5	FIELD WIRING DIAGRAM

DESIGNED BY Wm. V. L. Schmitt DATE 2/19/69
DIRECTOR OF SAFETY

RECOMMENDED FOR APPROVAL Donald R. Galla DATE 5/1/69
COUNTY ENGINEER

APPROVED Thomas R. Payne DATE 5-5-69
CHAIRMAN OF THE RAMSEY COUNTY BOARD

APPROVED _____ DATE _____
MAYOR, CITY OF ST. PAUL

APPROVED John G. Linnell DATE 5-15-69
MAYOR, VILLAGE OF MAPLEWOOD

MINNESOTA STATE HIGHWAY DEPARTMENT

RECOMMENDED FOR APPROVAL C. C. Linnell DATE 9-9-69

RECOMMENDED FOR APPROVAL John G. Linnell DATE 5-29-69
DISTRICT STATE AID ENGINEER

APPROVAL Carl M. Linnell DATE 9-9-69
STATE AID ENGINEER

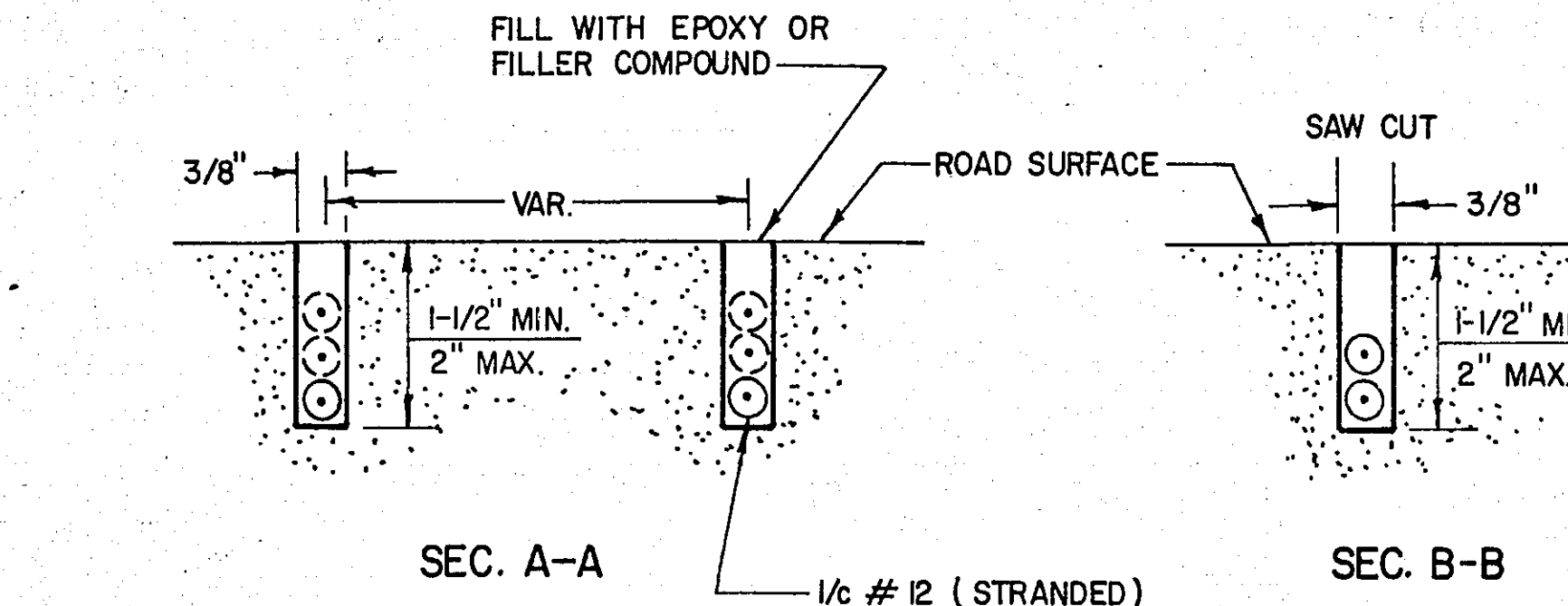
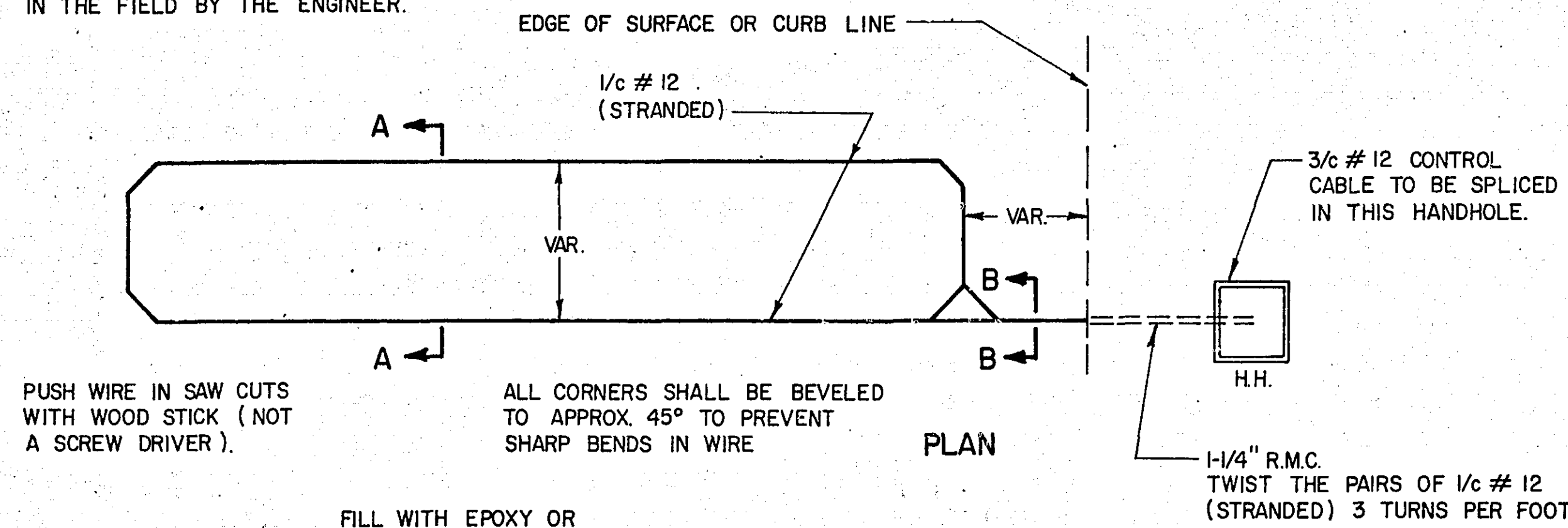
CO. PROJ. NO. 68-65-30

S. A. P. 62-630-13

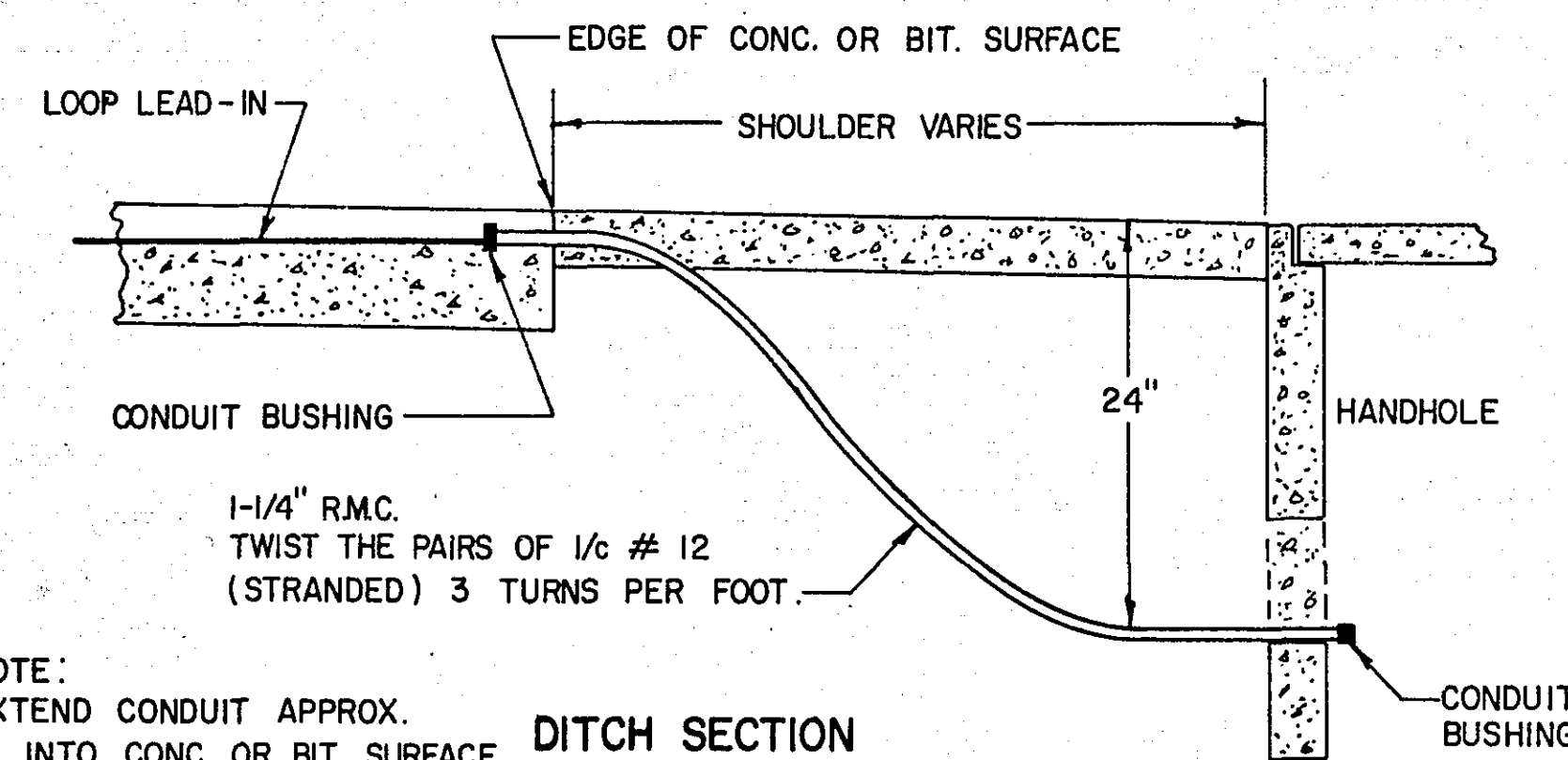
Sheet No. 1 of 5 Sheets

LOOP DETECTION INSTALLATION DETAIL NO. 2

NOTE: NUMBER OF TURNS &
SIZE OF LOOP SHALL BE DETERMINED
IN THE FIELD BY THE ENGINEER.

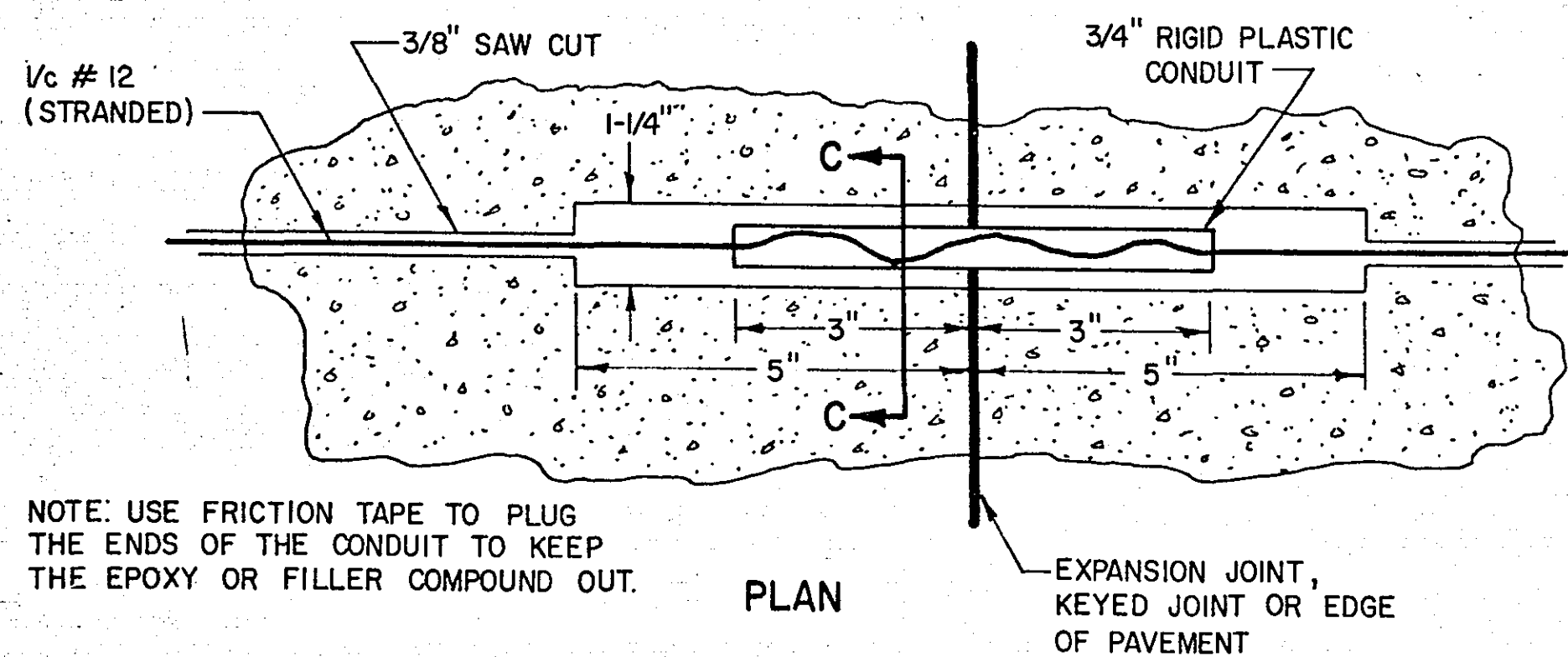


NOTE: THE CONDUCTORS SHALL BE SINGLE-CONDUCTOR # 12 (STRANDED) INSULATED WITH FILLED CHEMICALLY CROSS-LINKED POLYETHYLENE AND SHALL BEAR THE U.L. LISTING LABELS FOR TYPE R.H.W. AND TYPE R.H.H.



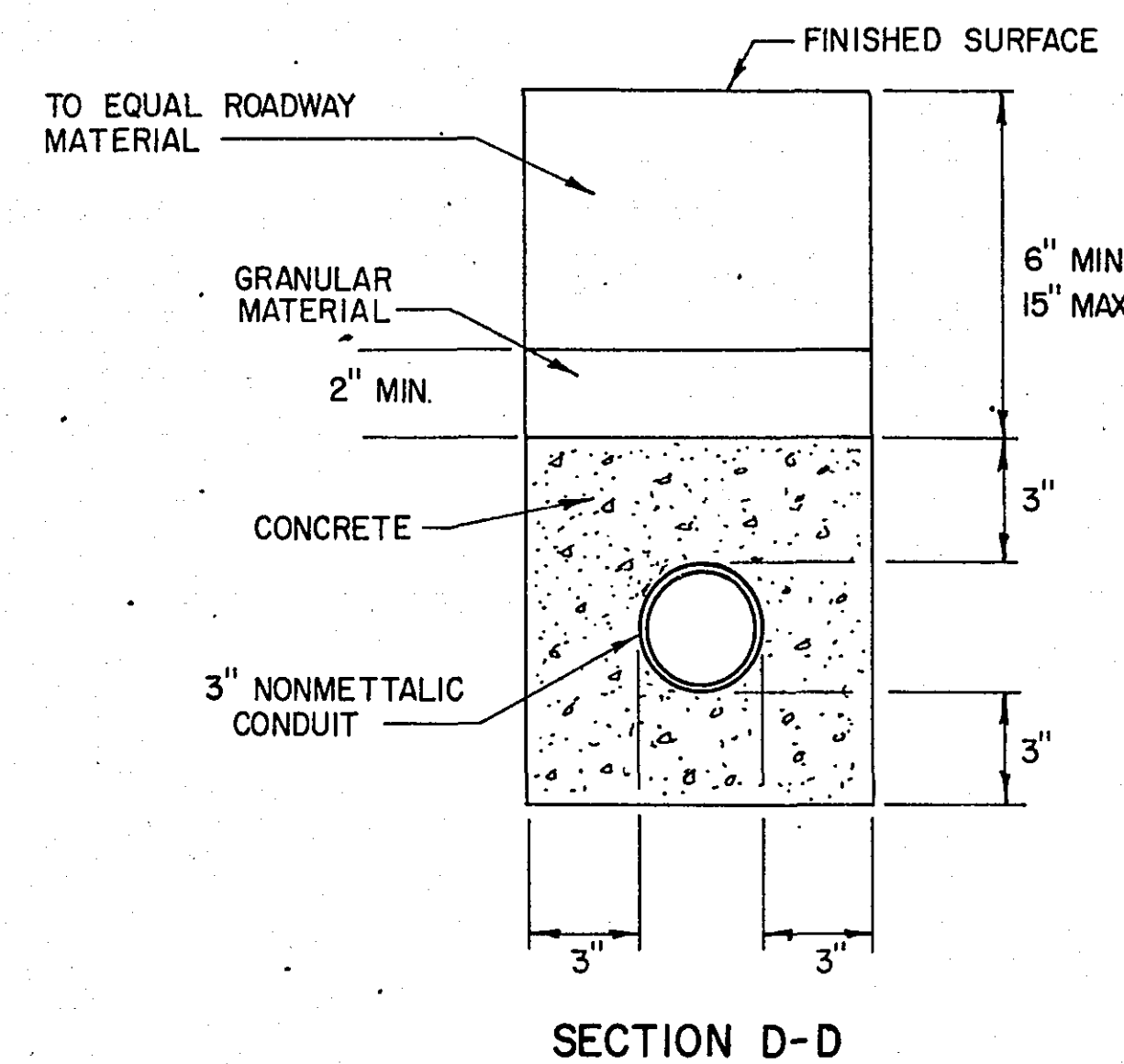
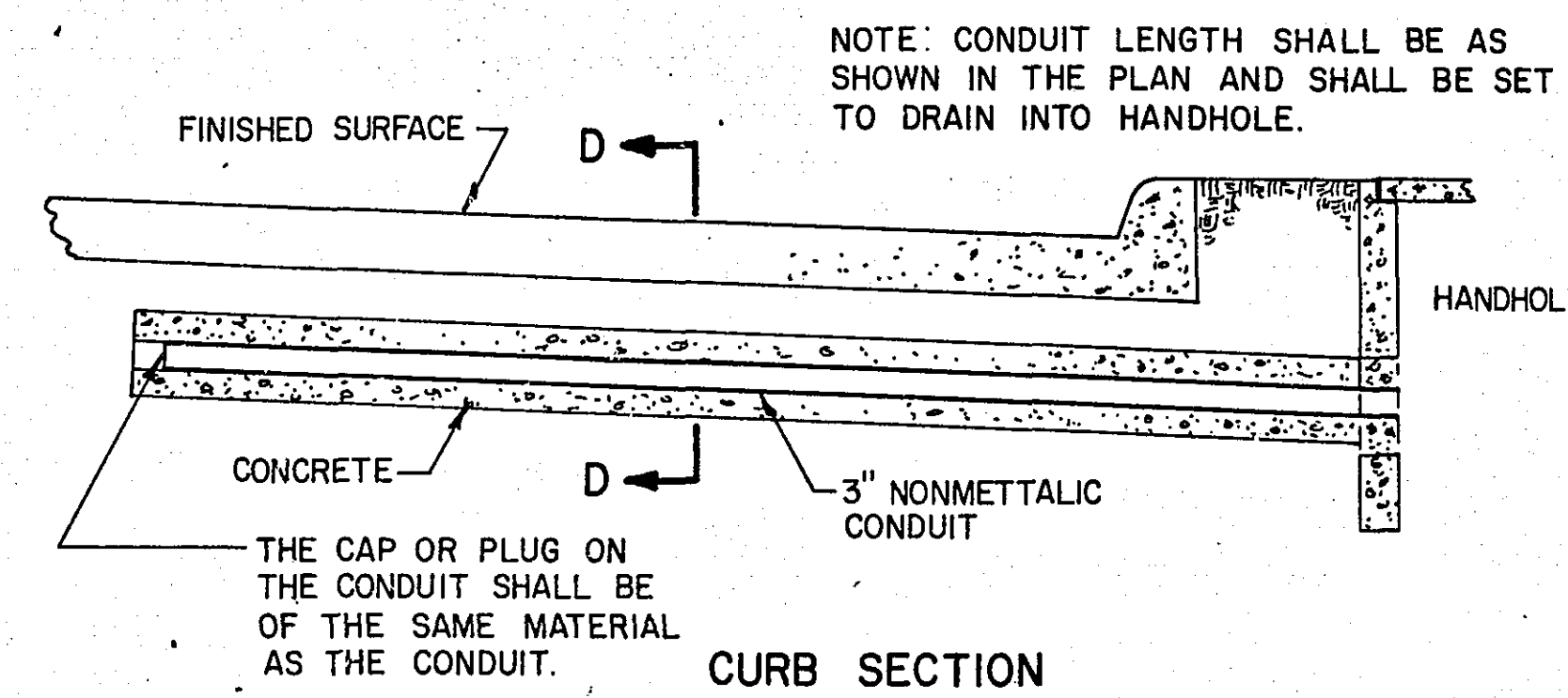
NOTE: EXTEND CONDUIT APPROX. 2' INTO CONC. OR BIT. SURFACE

NOTE: INSTALL LOOP WIRES AND SEAL THE END OF CONDUIT WITH DUCT SEAL AND FILL SAW CUT AND HOLE WITH EPOXY GROUT.

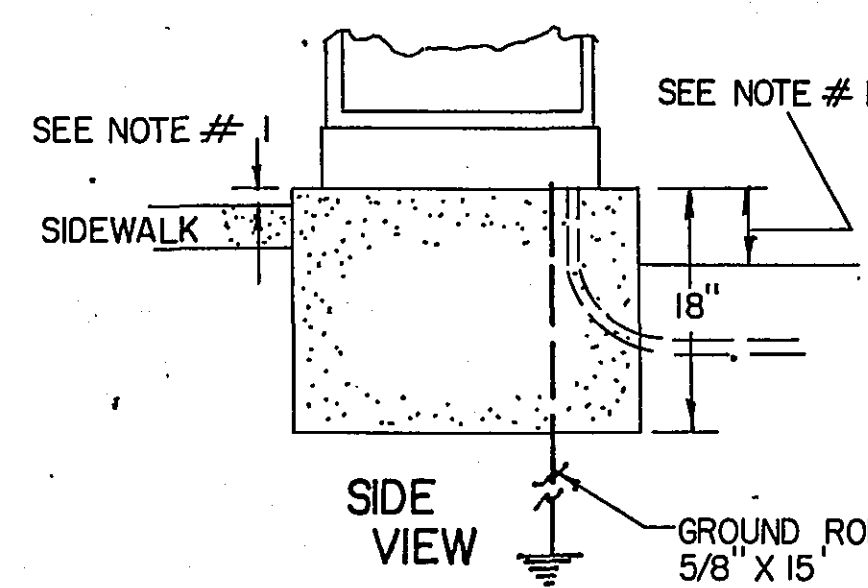


JOINT SLEEVE INSTALLATION FOR LOOP DETECTORS

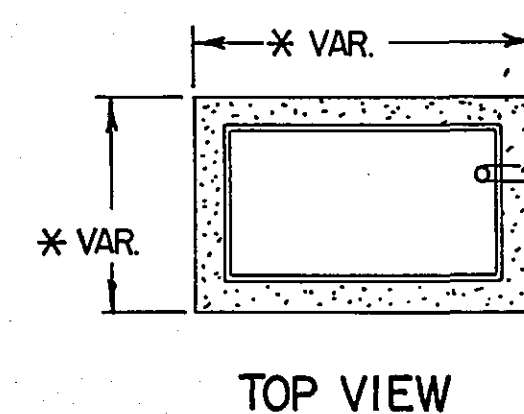
MAGNETIC VEHICLE DETECTOR INSTALLATION DETAIL NO. 4



NOTE #1 DISTANCE FROM GROUND LINE VARIABLE, FROM 1/4" IN THE SIDEWALK AREA TO 2" ABOVE ULTIMATE FINISHED GRADE IN THE SHOULDER OR BLVD. AREAS



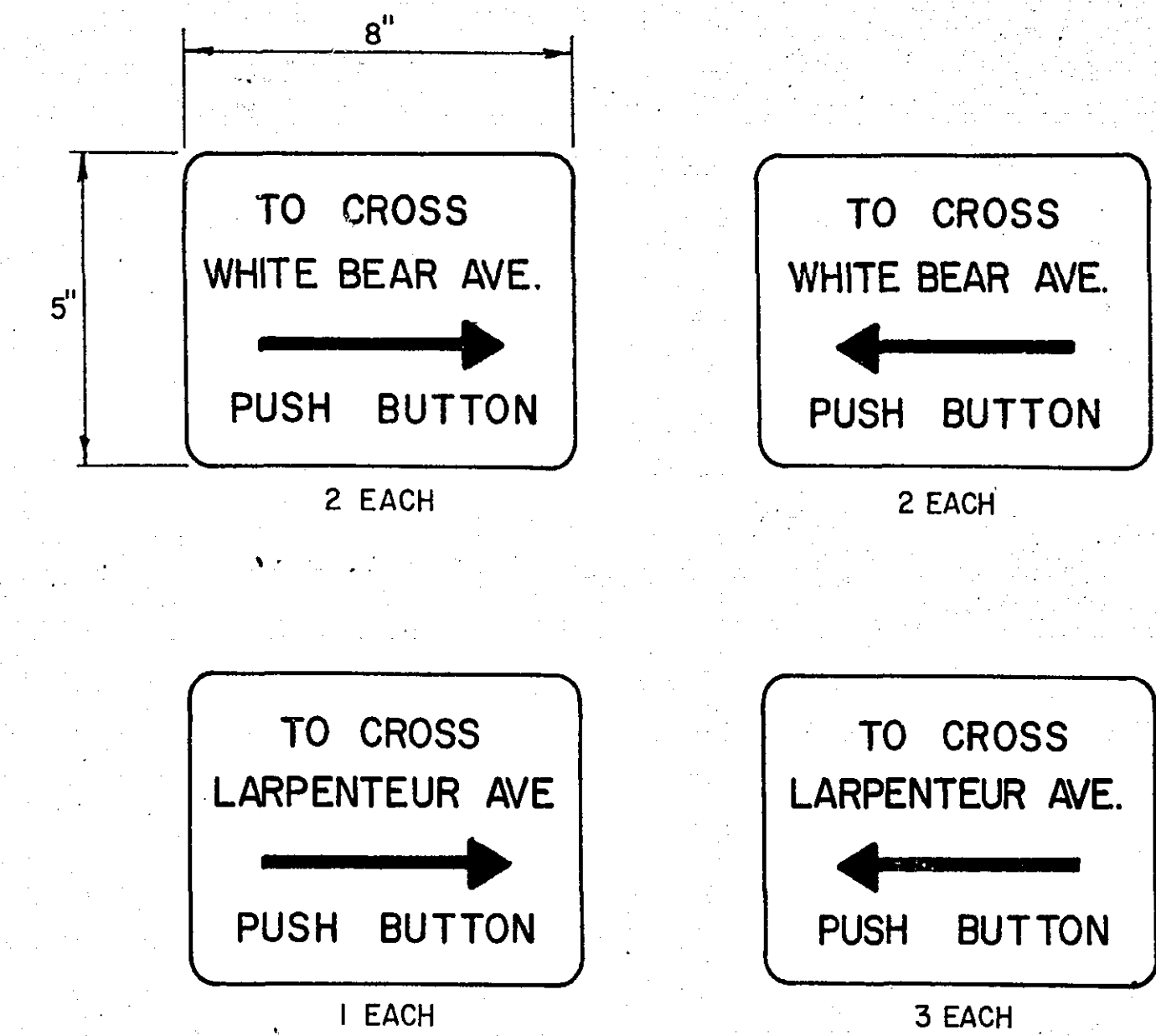
* FOUNDATION DIMENSION SHALL BE 6" GREATER THAN THE CABINET BASE TO BE INSTALLED



ANCHOR BOLTS SHALL BE SET ACCORDING TO MANUFACTURERS RECOMMENDATION

GROUND MOUNTED
CONTROLLER FOUNDATION

PEDESTRIAN INSTRUCTION SIGNS DETAIL NO. 3



ABBREVIATIONS

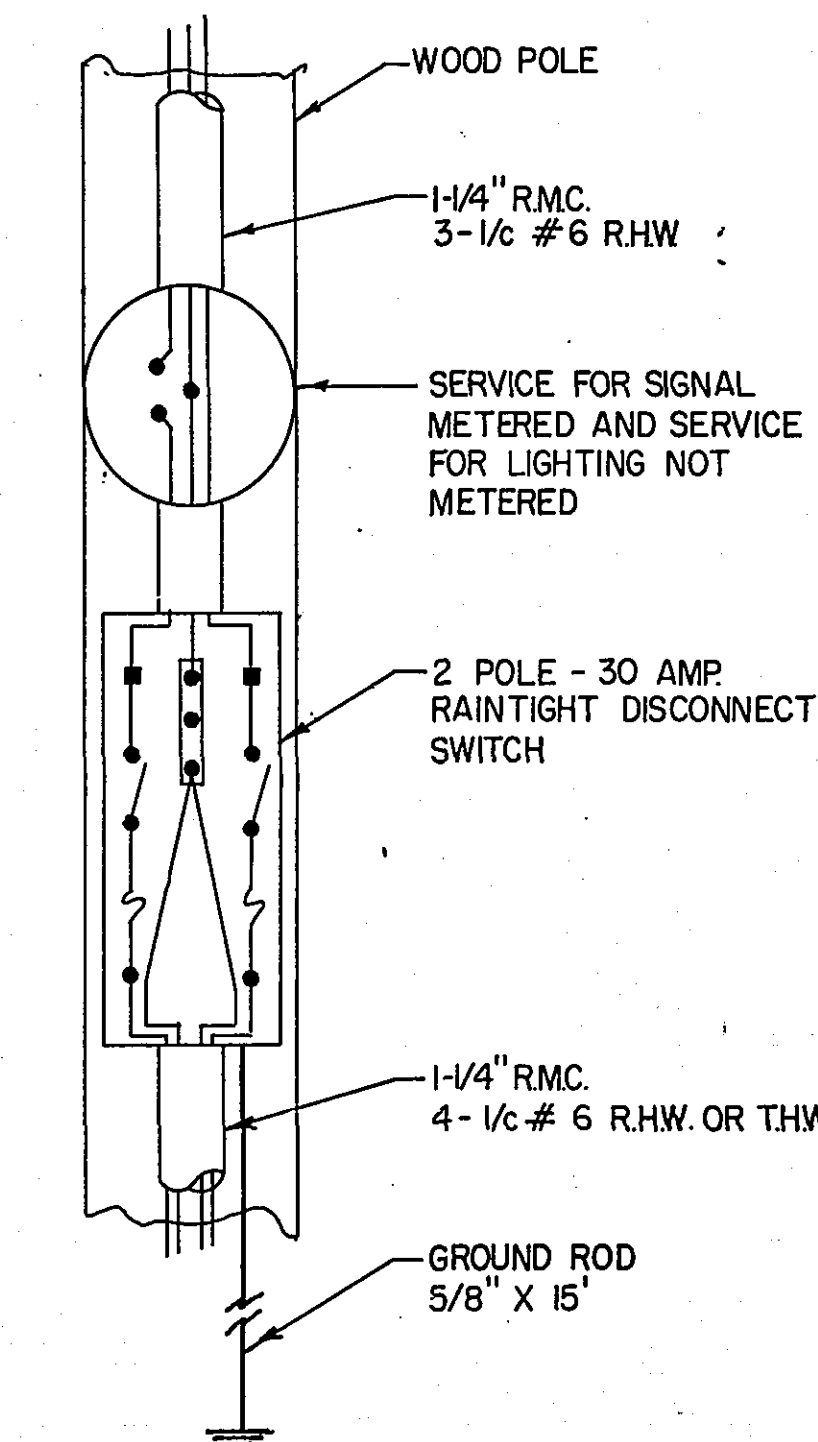
EQUIPMENT & INDICATIONS

RED - RED
YEL - YELLOW
GRN - GREEN
LTA - LEFT TURN ARROW
THA - THRU ARROW
RTA - RIGHT TURN ARROW
TRA - THRU AND RIGHT ARROW
WLK - WALK
NEU - NEUTRAL
DWK - DON'T WALK
SW - SWITCH
SWD - SWITCHED
LUM - LUMINAIRE
PAI(eg) - PEDESTRIAN INDICATION - "A" PHASE
PBB2(eg) - PUSH BUTTON - "B" PHASE
C3(eg) - SIGNAL HEAD - "C" PHASE
DA4(eg) - DETECTOR - "A" PHASE
H.H. - HANDHOLE
G.R.R. - GROUND ROD
SERV. - SERVICE

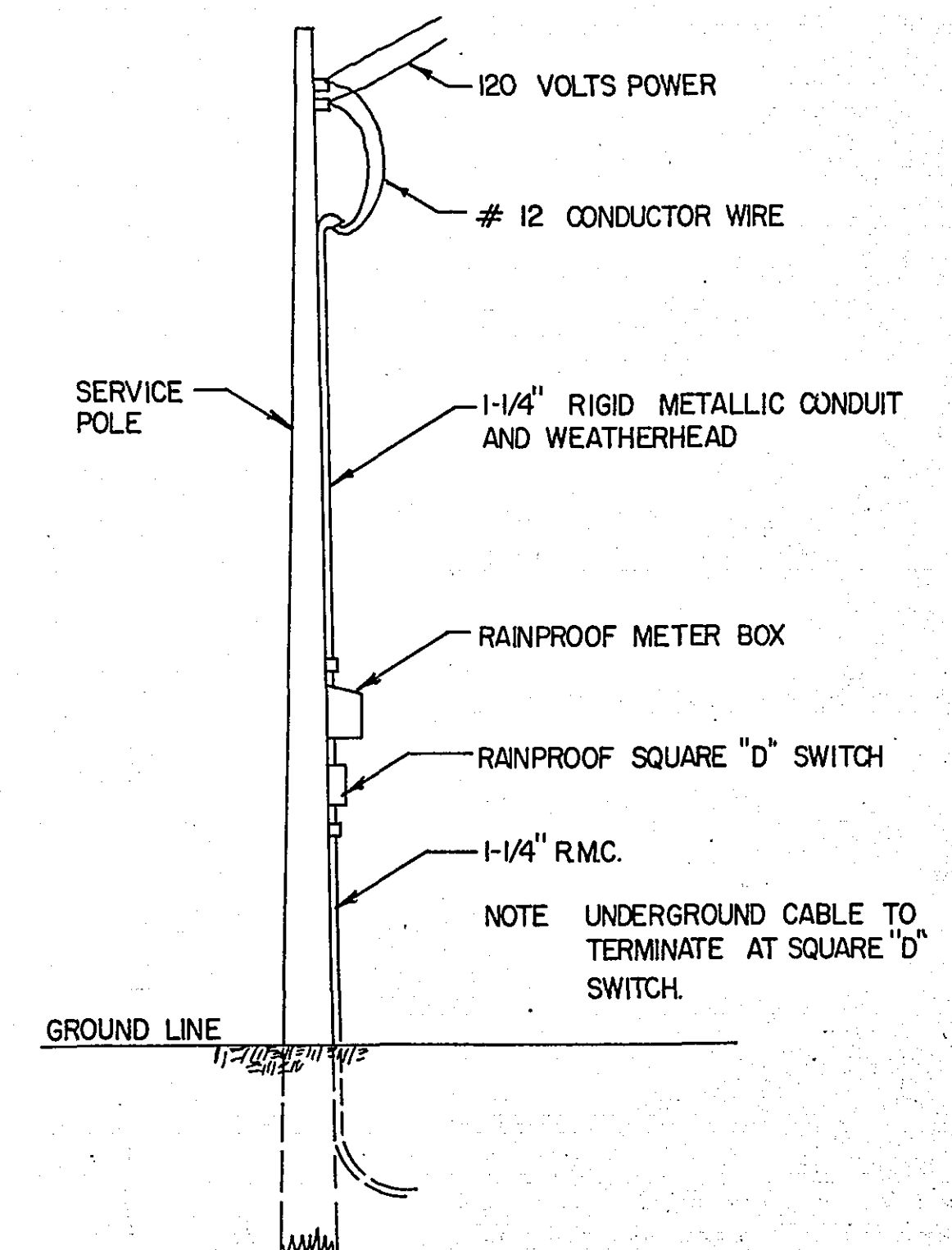
DNL - DOWNLIGHT
PEC - PHOTOELECTRIC CELL
ST. LHT. - STREET LIGHT
CH - CHECK
S.O.P. - SOURCE OF POWER
EQ. G. - EQUIPMENT GROUND
SPR - SPARE CONDUCTOR

COLOR CODING OF CONDUCTORS

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



METER AND DISCONNECT SWITCH

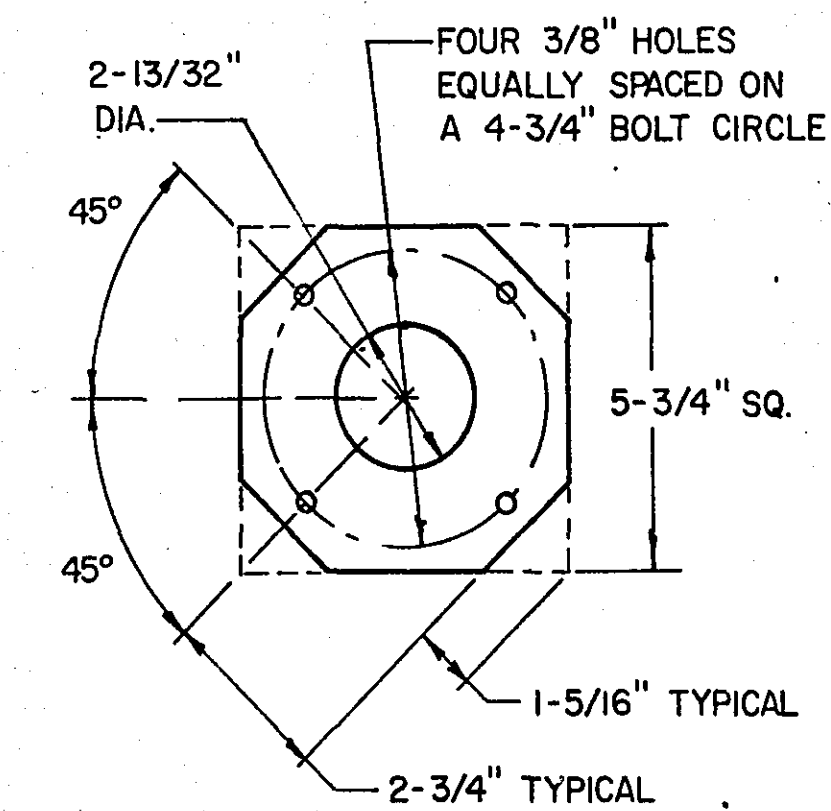
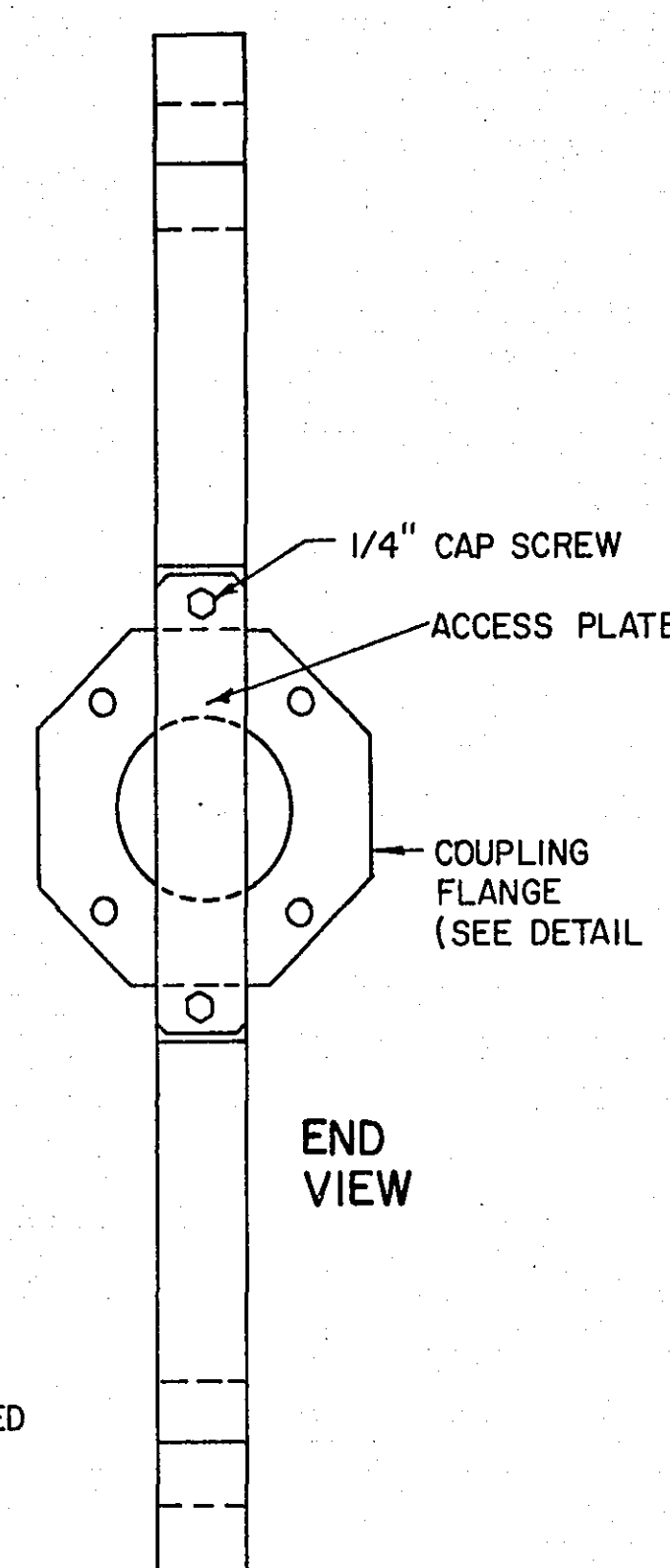


POLE
FOR POWER CONNECTION

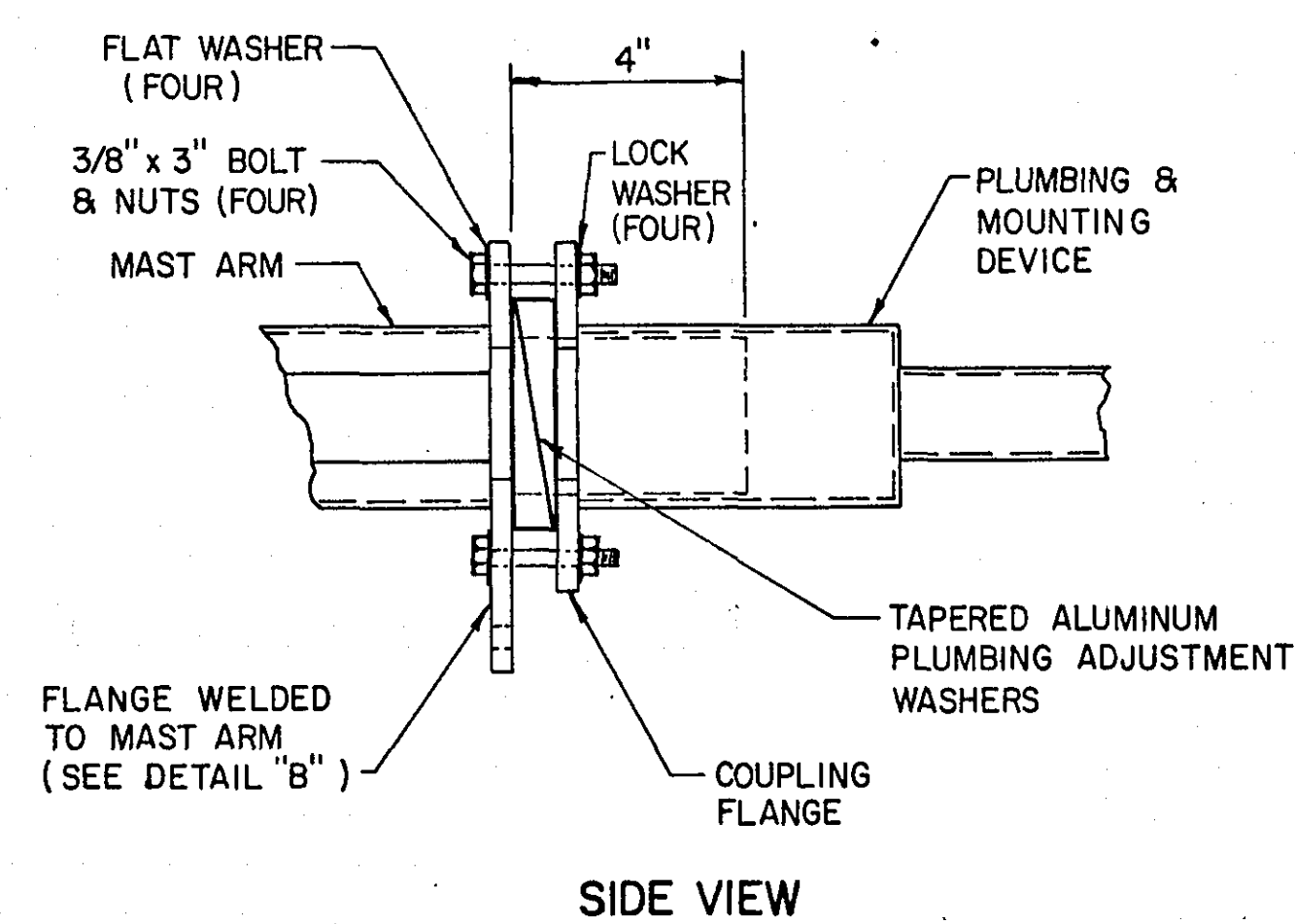
**TWO-WAY TRAFFIC SIGNAL
PLUMBING AND MOUNTING DEVICE**
SPECIFICATION REFERENCE M.H.D. 1703

ONE-WAY TRAFFIC SIGNAL PLUMBING AND MOUNTING DEVICE

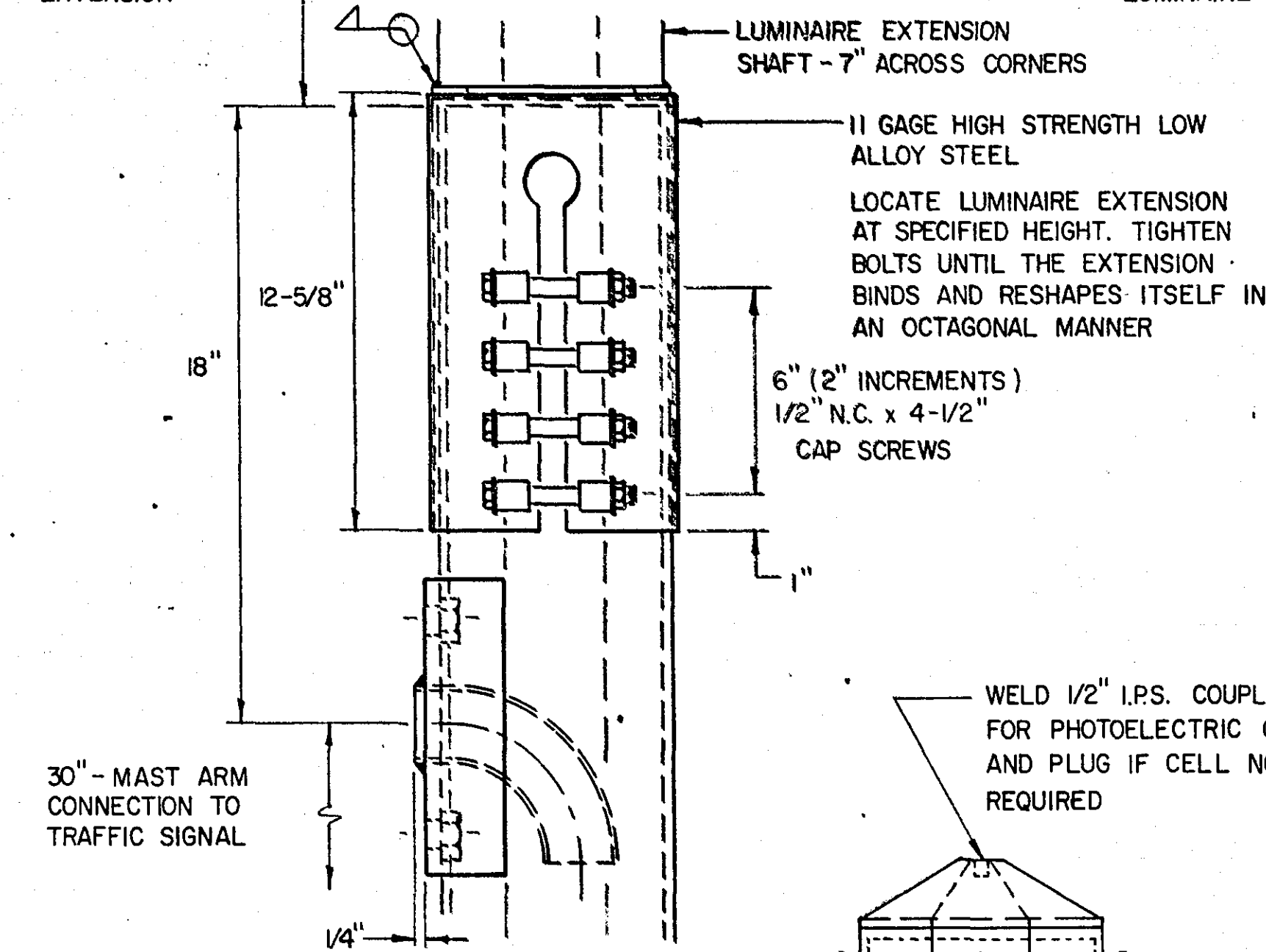
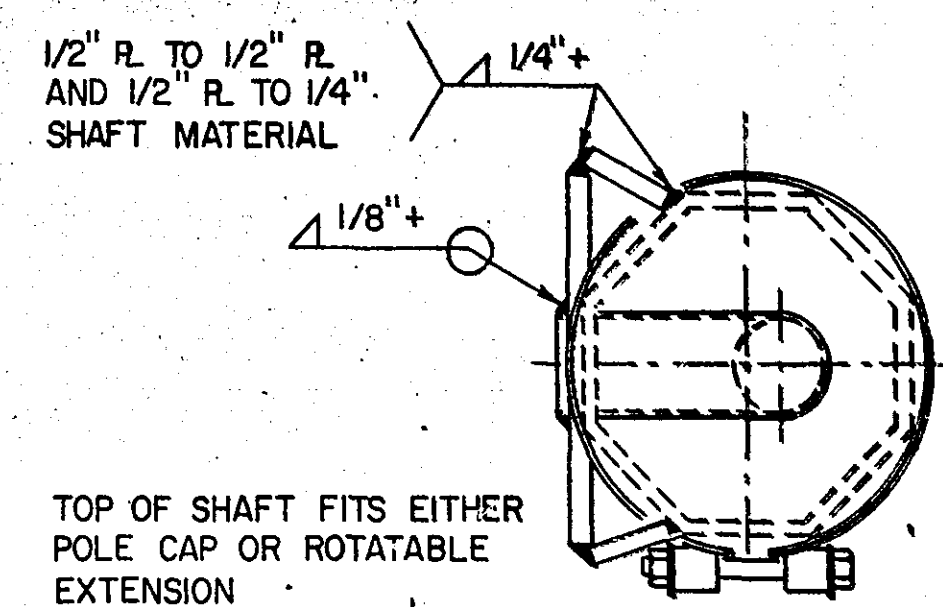
SPECIFICATION REFERENCE M.H.D. 1703



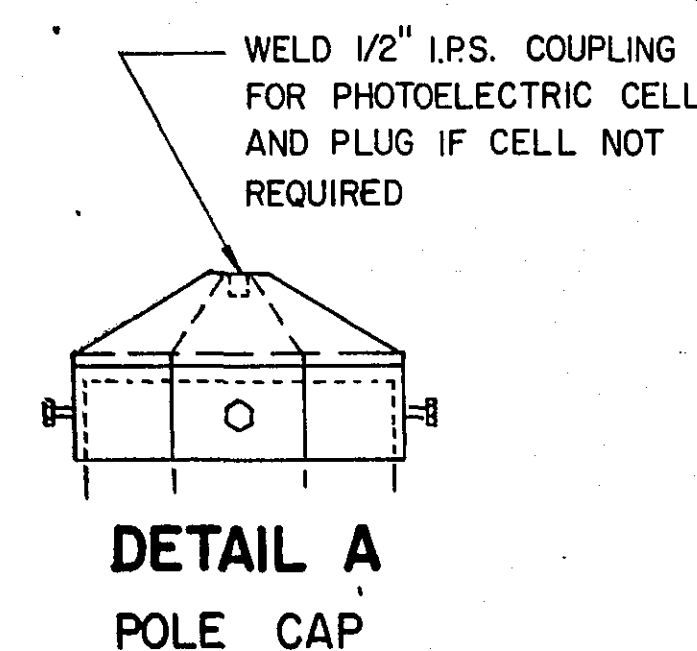
**COUPLING FLANGE
DETAIL**
(ONE-WAY AND TWO-WAY SIGNAL)



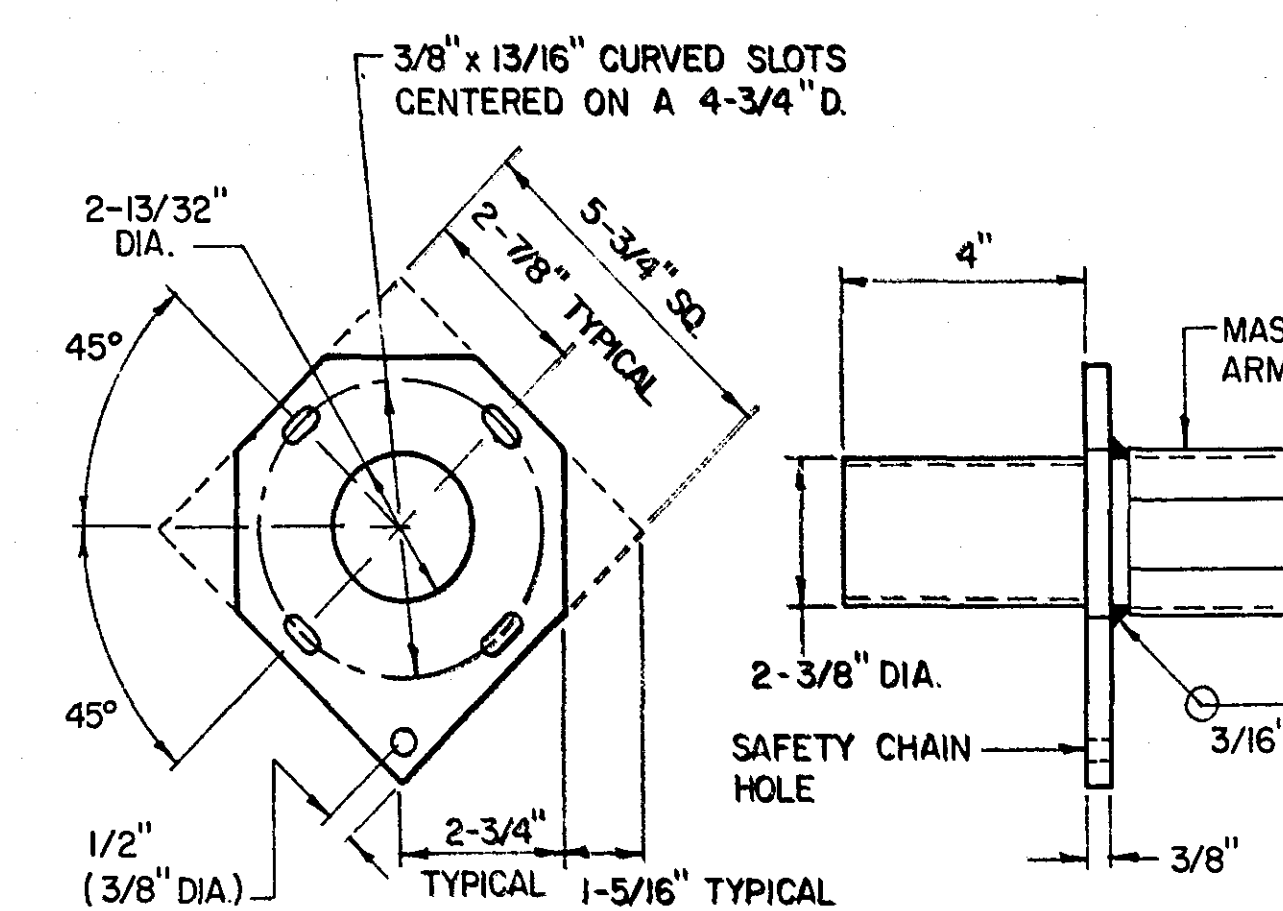
ASSEMBLY DETAIL
(ONE-WAY AND TWO-WAY SIGNAL)
SPECIFICATION REFERENCE M.H.D. 1703



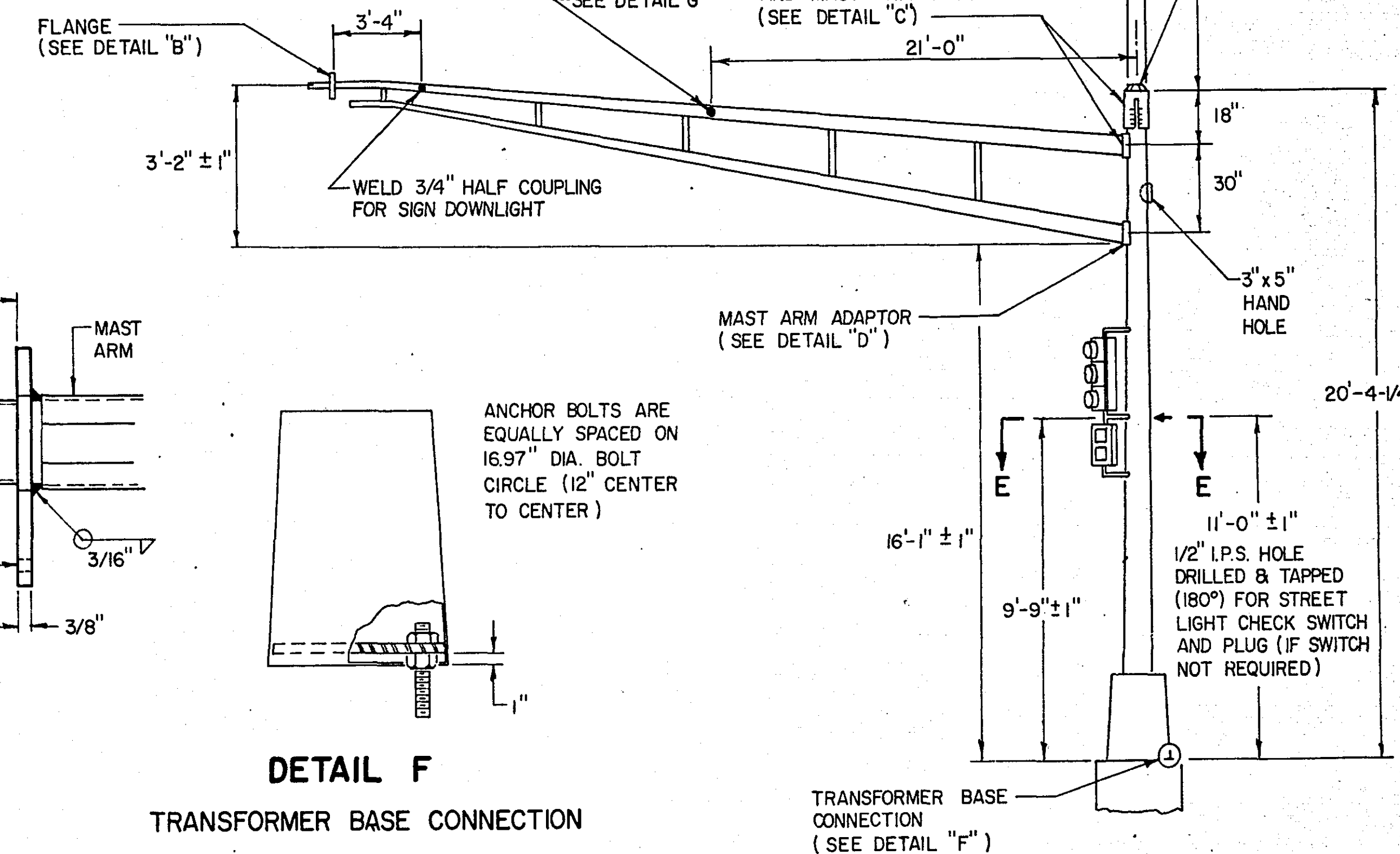
DETAIL C
ROTATABLE LUMINAIRE
EXTENSION AND MAST
ARM CONNECTION



DETAIL A
POLE CAP

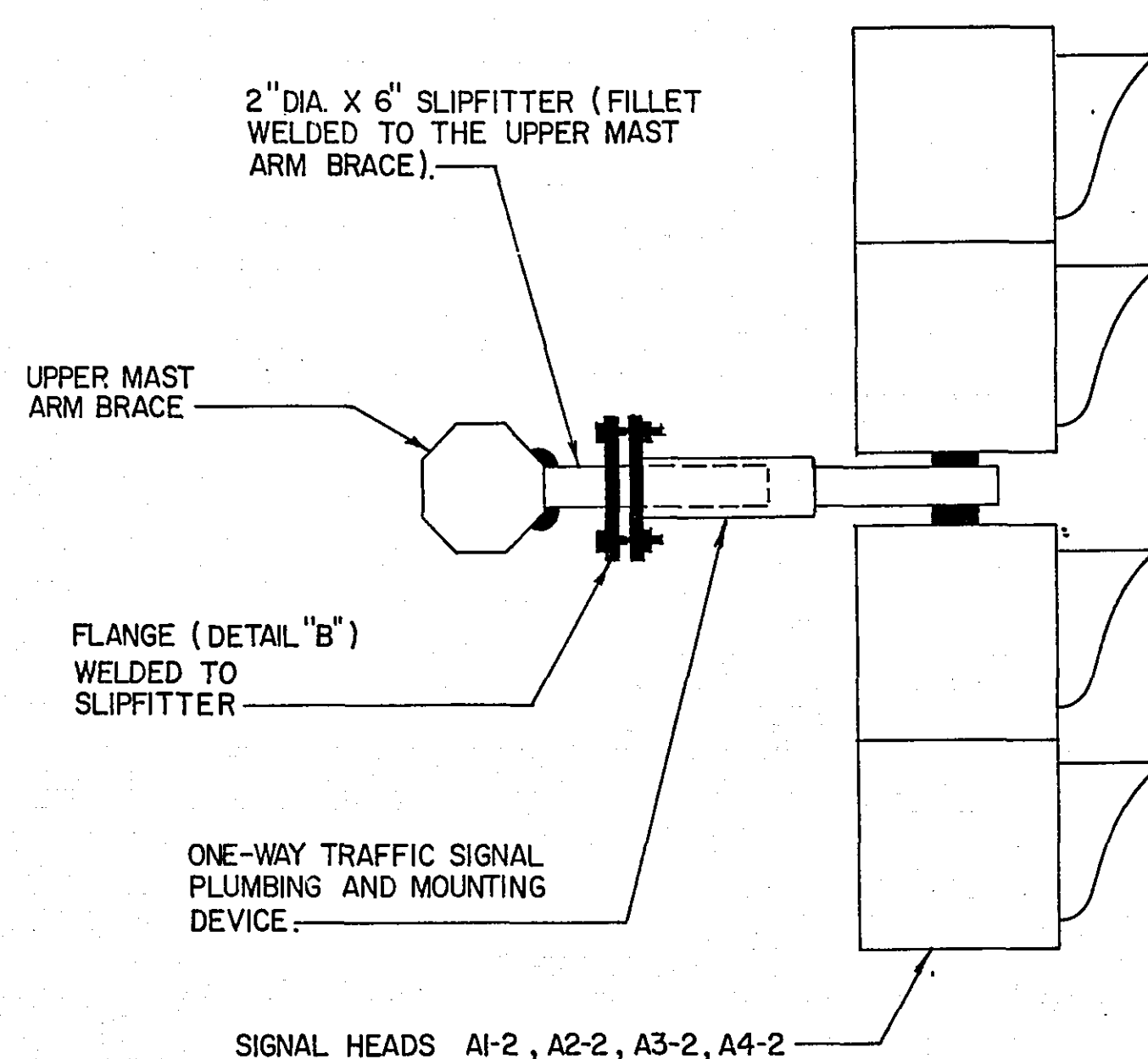


DETAIL
FLANGE

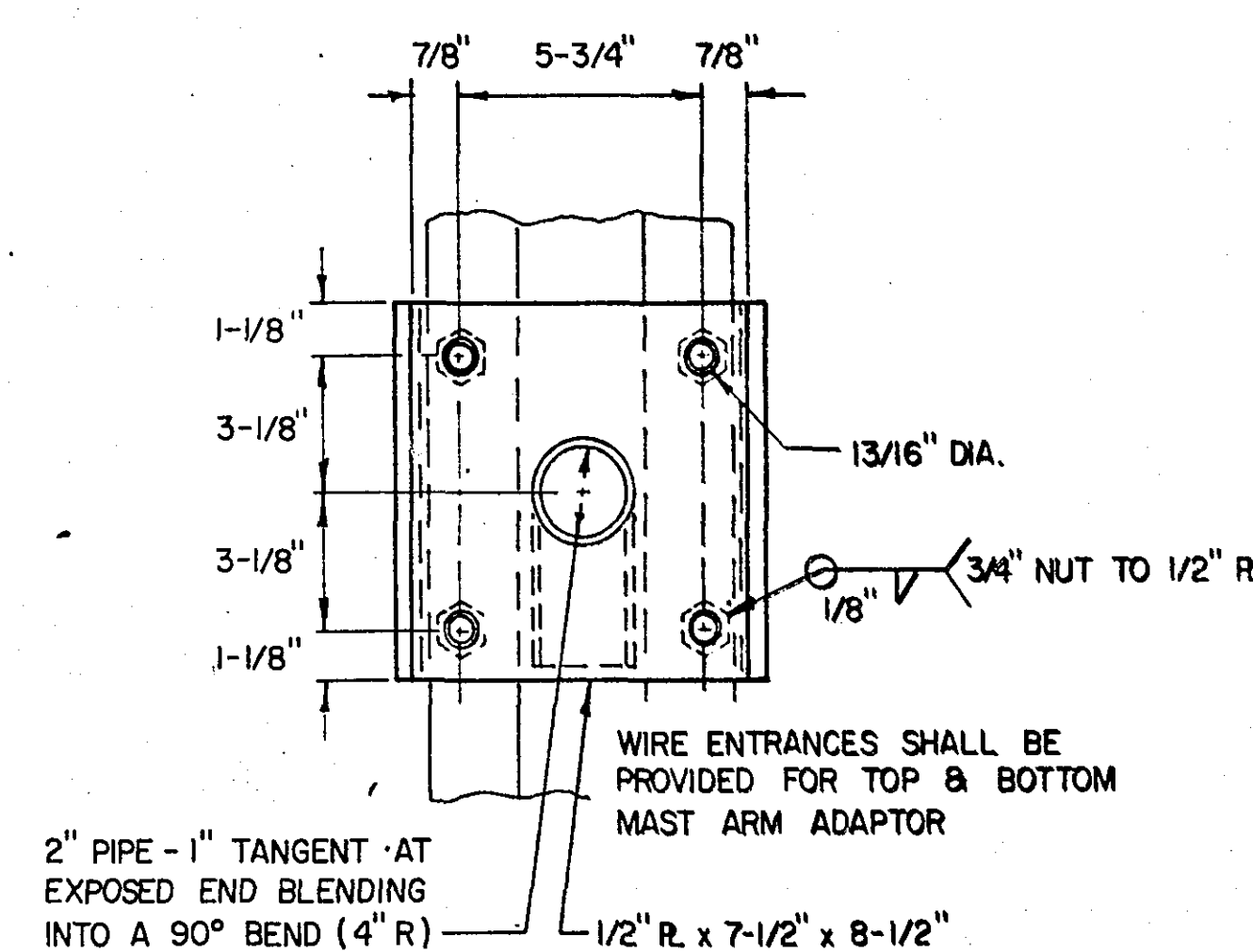


ELEVATION

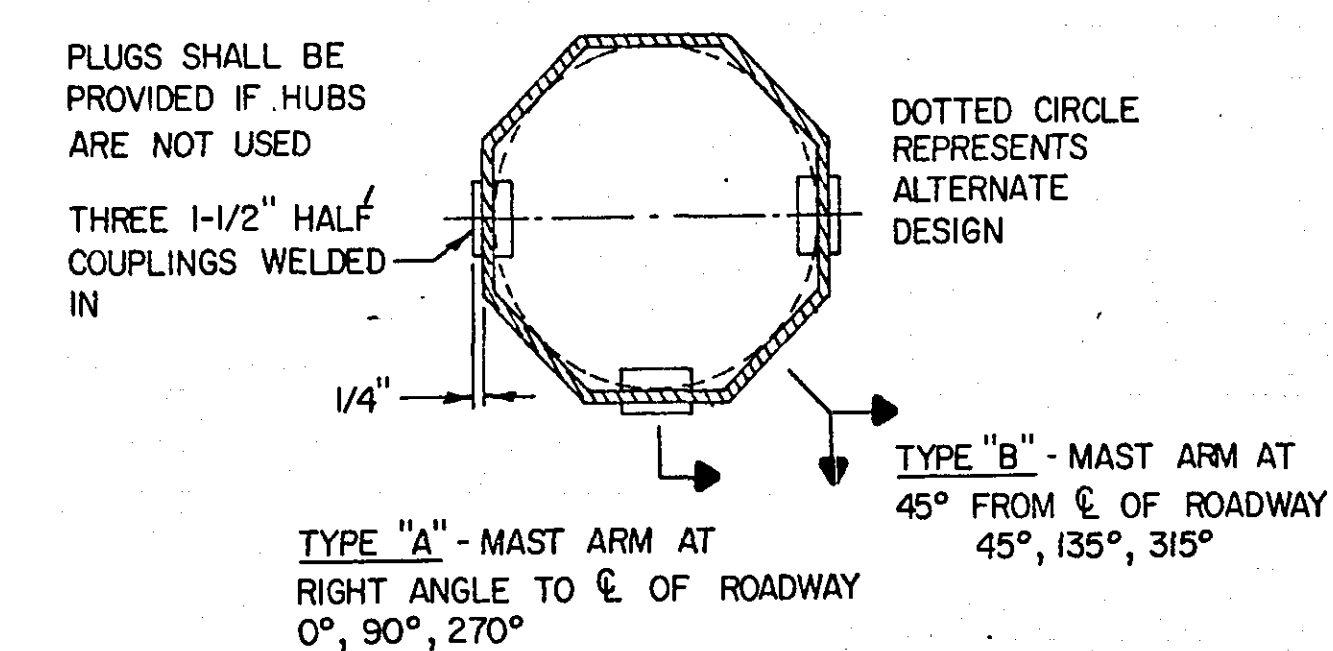
POLE AND MAST ARM



DETAIL "G"



DETAIL D
MAST ARM ADAPTOR



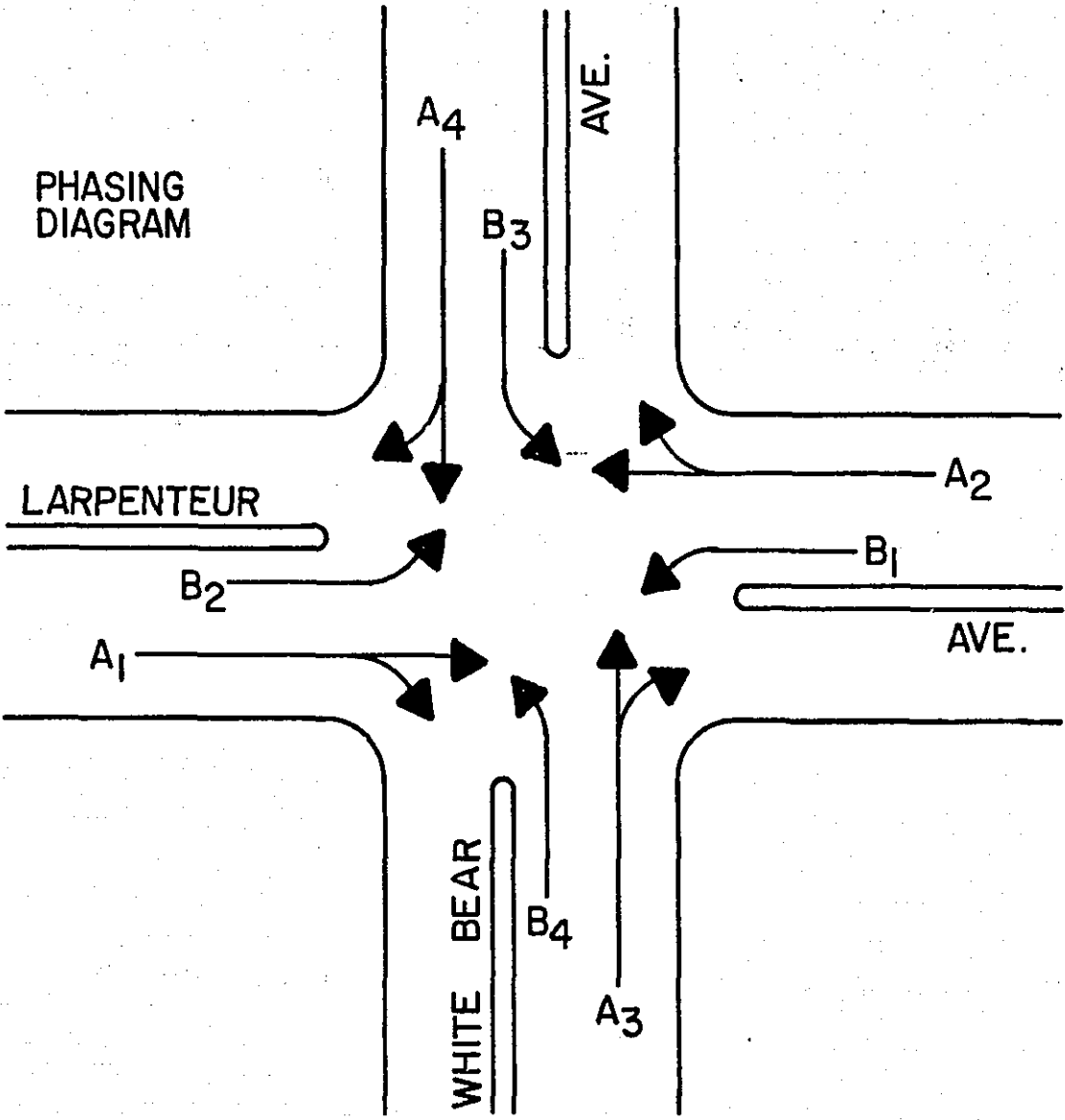
SECTION E-E
POLE-MOUNTED SIGNAL HUB

- NOTES:
- TYPE A-20-D30 OR 40-12 TYPE A-20-T30 OR 40-20
(1) (2) (3) (4) (1) (2) (3) (4)
1. LETTER TYPE INDICATES POLE MAST ARM POSITION WITH RESPECT TO THE Q OF ROADWAY.
 2. NUMBER FOLLOWING TYPE LETTER INDICATES SIGNAL MAST ARM LENGTH.
 3. SECOND LETTER INDICATES LUMINAIRE TRUSS -TYPE ARM EXTENSION OR DAVIT- TYPE ARM EXTENSION. SECOND LETTER FOLLOWED BY NUMBERS INDICATES LUMINAIRE MOUNTING HEIGHT.
 4. NUMBER FOLLOWING INDICATES LENGTH OF LUMINAIRE TRUSS ARM OR DAVIT ARM.

(1) DIMENSIONS SHOWN SHOULD PROVIDE FOR A DISTANCE OF 30' OR 40' FROM TRANSFORMER BASE BOTTOM TO TOP OF LUMINAIRE. DIMENSIONS MAY VARY AS SPECIFIED BY THE RAMSEY COUNTY HIGHWAY DEPT.

FOR LUMINAIRE, USE
TRUSS-TYPE ARM OR
DAVIT-TYPE ARM SHAFT
EXTENSION AS SPECIFIED

LEGEND OF SYMBOLS	
	CONTROLLER
	RIGID METALLIC CONDUIT (R.M.C.)
	MAST ARM & POLE
	SIGNAL FACE
	SIGNAL FACE WITH BACKGROUND SHIELD
	MAST ARM & LUMINAIRE
	PEDESTRIAN INDICATION
	HANDHOLE (PULLBOX) INPLACE
	RIGID METALLIC CONDUIT (R.M.C.) INPLACE
	SOURCE OF POWER (S.O.P.)



FACE	PHASE	FLASH	INDICATION SIZE					
			R	Y	G	←	↑	→
A1-1	A1	R	12"	12"	-	-	12"	12"
A1-2	A1	R	12"	12"	-	-	12"	12"
A3-1	A3	R	12"	12"	-	-	12"	12"
A3-2	A3	R	12"	12"	-	-	12"	12"
A2-1	A2	R	12"	12"	-	-	12"	12"
A2-2	A2	R	12"	12"	-	-	12"	12"
A4-1	A4	R	12"	12"	-	-	12"	12"
* B2-1	B2	R	12"	12"	-	12"	-	-
* B4-1	B4	R	12"	12"	-	12"	-	-
* B1-1	B1	R	12"	12"	-	12"	-	-
* B3-1	B3	R	12"	12"	-	12"	-	-

* SEE SPECIFICATIONS (SPECIAL SIGNAL FACES)

