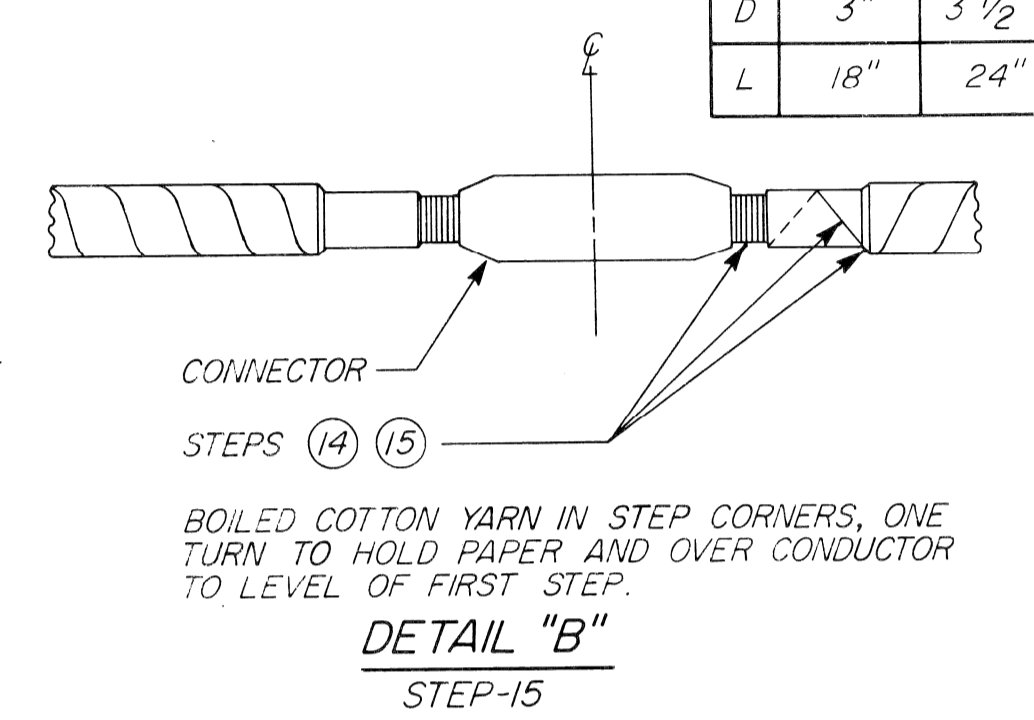
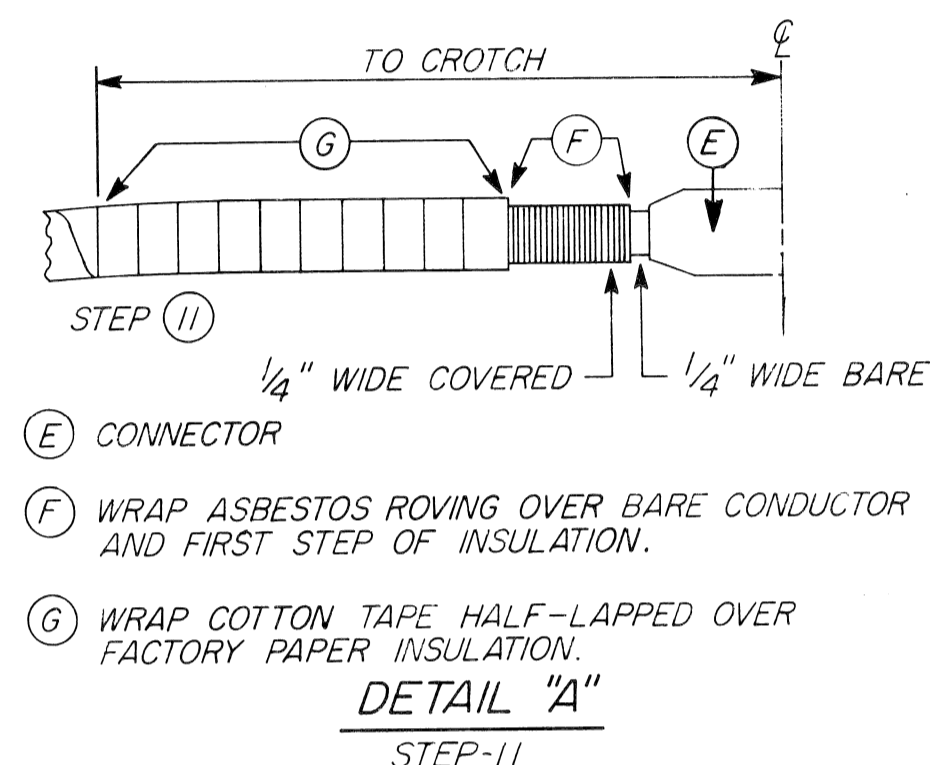


DIMENSIONS

	# 2	#2/0	#4/0	350 MCM
A	7 1/2"	9 1/2"	9 1/2"	10 1/2"
B	1"	1"	1 1/4"	1 1/4"
D	3"	3 1/2"	3 1/2"	4"
L	18"	24"	24"	24"



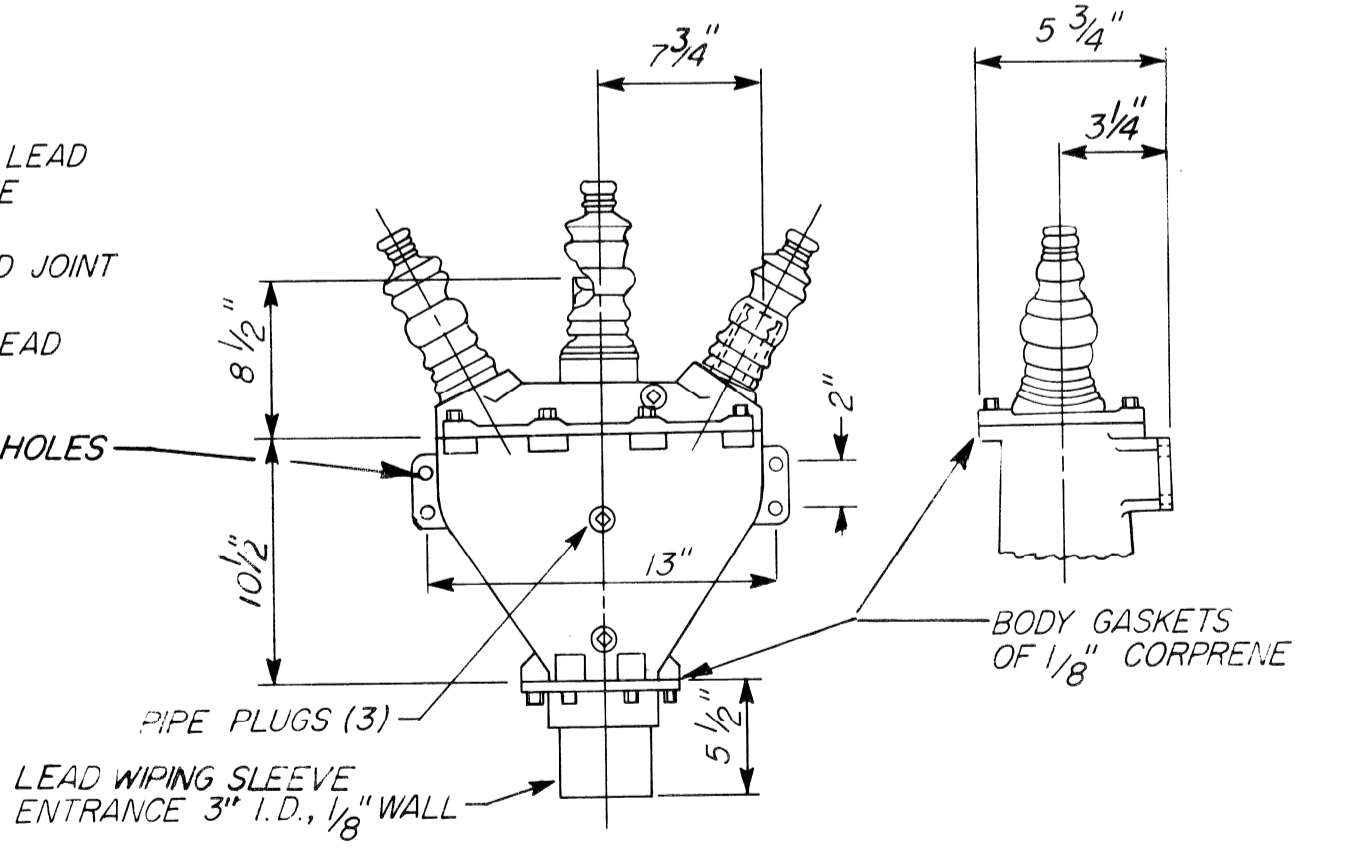
STATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS:

ATWTR.	MCRDY
BL	MTRSE
BUTZL	PAL PK
CNFLD.	PHLP
CONNR.	PORTER
CUSTER	STNTN.
GRNFD.	STONE
HUDSN.	TRNTY
J CAMP	TRBLY
JOY RD	TURNR
LA BEL.	VERMR.
LTHRF	WALTN.
LUDIN.	WARRN
MAPL.	WD TER

INSTRUCTIONS FOR 3/C 5.0 & 7.0KV. P.&L. BELTED CABLE JOINTS

1. TRAIN CABLE. DO NOT BEND TO RADIUS LESS THAN THE FOLLOWING SPECIFIED MINIMUM: #2 AND #2/0-16", #4/0-17", 350 MCM-20".
2. ESTABLISH CENTERLINE OF JOINT. CUT CABLES THRU CENTERLINE.
3. CLEAN AND GAMBLE OUTSIDE OF SLEEVE FOR 2" AT BELL ENDS. SLIDE SLEEVE OVER CABLE.
4. CREASE LEAD SHEATHS THE SPECIFIED DISTANCE FROM CABLE END (DIM A) CLEAN AND PROTECT SURFACES OF SHEATH WITH STEARINE WHERE WIPES ARE TO BE MADE.
5. REMOVE SHEATH TO CREASE, TEAR SO AS TO GIVE THE SHEATH A NATURAL BELL.
6. REMOVE ALL BINDER TAPES TO 1" FROM END OF SHEATH.
7. REMOVE FILLERS FROM CROTCH, CUTTING WITH KNIFE DIRECTED AWAY FROM INSULATION.
8. TEST FILLER FOR MOISTURE (IN PARAFFIN AT 250°F).
9. STEP INSULATION BY USE OF GILLING TWINE. FOR THE SINGLE STEP REMOVE HALF OF FACTORY INSULATION THICKNESS.
10. REMOVE INSULATION FROM CONDUCTOR FOR THE CONNECTOR BY CUTTING SQUARE WITHOUT NICKING CONDUCTOR.
11. PUT CONNECTORS IN PLACE WITH SPLIT OPENINGS TURNED UPWARD. COVER BARE CONDUCTOR AND FIRST STEPS WITH ASBESTOS ROVING COVER PAPER INSULATION WITH HALF-LAPPED COTTON TAPE. SEE DETAIL "A".
12. SWEAT CONNECTORS IN PLACE. REMOVE ANY SHARP EDGES OF THE CONNECTOR OR SOLDER. REMOVE COTTON TAPE AND ASBESTOS ROVING BEING CAREFUL TO KEEP METAL PARTICLES OFF OF CONDUCTOR AND PAPER INSULATION.
13. APPLY 6 WRAPS OF 1" BLACK V.C. TAPE OVER THE FACTORY BELT ON EACH END OF SPLICE.
14. APPLY STRANDED COTTON YARN BOILED IN PETROLATUM TO FILL IN BETWEEN INSULATION AND CONNECTOR TO LEVEL OF FIRST STEP.
15. ALSO APPLY BOILED COTTON YARN OVER STEPS TO HOLD PAPER TAPE IN PLACE WHILE APPLYING V.C. INSULATION. SEE DETAIL "B".
16. APPLY V.C. TAPE HALF-LAPPED TO EACH CONDUCTOR. BUILDING UP TO A THICKNESS OF 1/4" OVER THE CONNECTOR, TAPERING ENDS AS SHOWN AND HAND WIPING THIN COATING OF PETROLATUM BETWEEN LAYERS OF V.C. TAPE.
17. INSTALL 1/2" DIA. SPACER ROLL OF 1" BLACK V.C. TAPE IN CENTER OF CONDUCTOR.
18. INSTALL BINDER BELT OF 1" BLACK V.C. TAPE APPROX. 10 LAYERS (USE 3 YD. ROLL) TIE IN PLACE WITH COTTON TAPE.
19. PULL UP AND CENTER SLEEVE. WIPE SLEEVE TO CABLE SHEATHS. DO NOT USE STEARINE FOR COOLING AT THIS STAGE.
20. FILL JOINT WITH COMPOUND AT 250°F. COOL FOR 45 MINUTES, REFILL, AND COOL FOR 15 MINUTES. REPEAT REFILLS TWICE IF NECESSARY.
21. WHILE JOINT IS COOLING, ATTACH BONDING CONNECTION, FIREPROOF CABLE AND ATTACH CABLE TAGS.
22. SEAL FILLING HOLES AND FINISH FIREPROOFING.
23. APPLY 1" WIDE TAPE NEOPRENE COVERING OVER SLEEVE.

5000 & 7500V 3/C DISC. POTHEAD
N.T.S.



ASSEMBLED POTHEAD

- NOTES:
1. SEE SPECIFICATIONS OR P.L.C., WHERE REQUIRED, FOR MATERIAL SPECIFICATIONS.
 2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT MATERIAL IS SUITABLE FOR APPLICATION AS SHOWN ON THE DRAWINGS.

NOTE:
DIMENSIONS APPLY TO BOTH 250A. & 500A. POTHEADS
POTHEADS FURNISHED SHALL INCLUDE ENTRANCE SLEEVE & CAPS.

DATE	DESCRIPTION	CHKD. BY	CITY OF DETROIT	E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION	DRAWN BY CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	FILE NO. 51-0581
		23		5000V. & 7000V. BELTED P&L CABLE JOINT, AND 5000V. & 7000V. POTHEAD CABLE SPLICE DETAILS	CHECKED BY	16580 WYOMING DETROIT, MICH. 48221	SHEET NO. E440F 6/8
					APPROVED BY	DRWG. NO. 44 OF 66	DATE JAN.-84
						FILE NO. CEA 1064	JAN.-84

M 2000 (224) C.S. MU 82 400 JOB N° 07472A

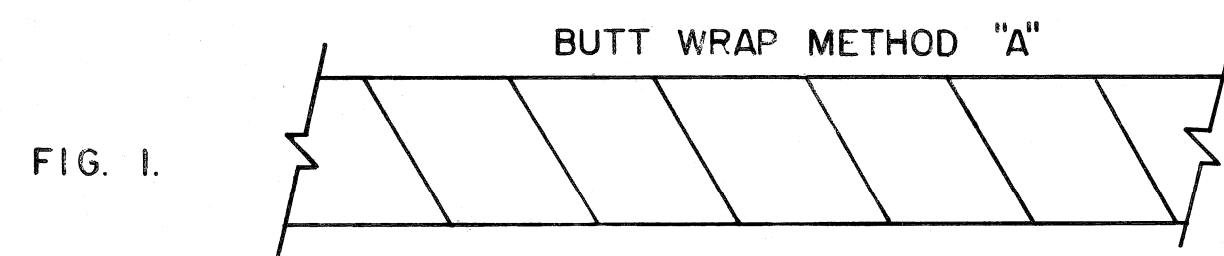


FIGURE 1.
FELTED ASBESTOS INITIAL WRAP BUTT WRAP.

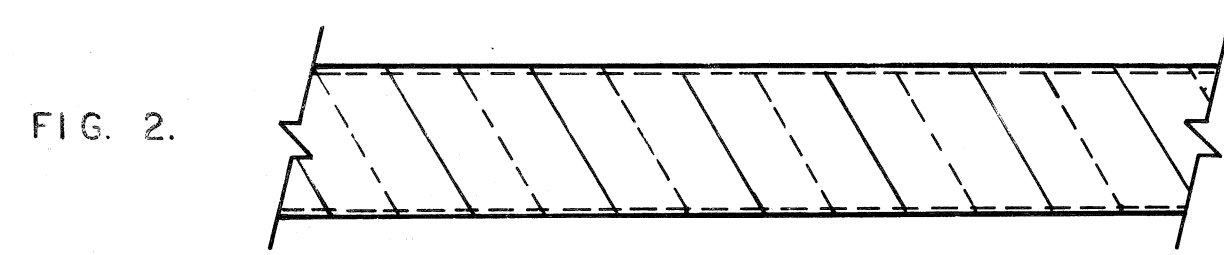


FIGURE 2.
SECOND WRAP FLAME RETARDANT ELASTOMER OFFSET BUTT WRAP.

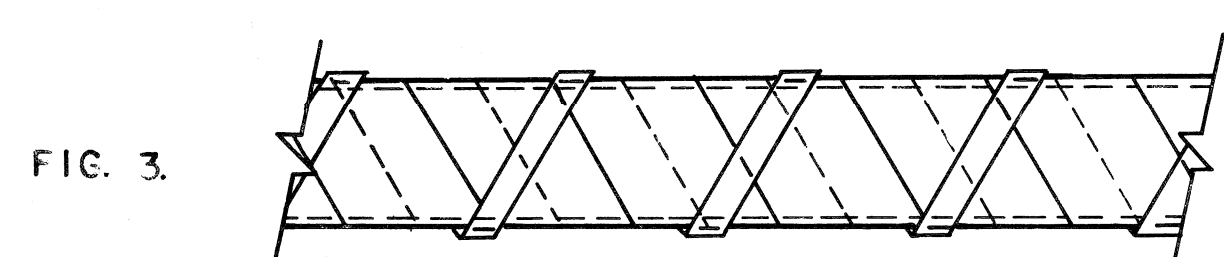


FIGURE 3.
RANDOM WRAP OUTER LAYER WITH A PRESSURE SENSITIVE FIBERGLASS ADHESIVE TAPE TO PREVENT UNRAVELLING.

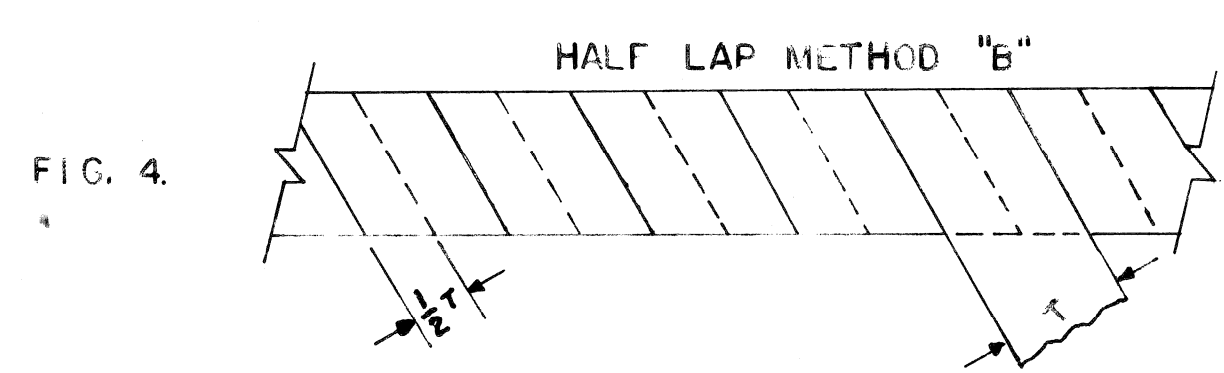
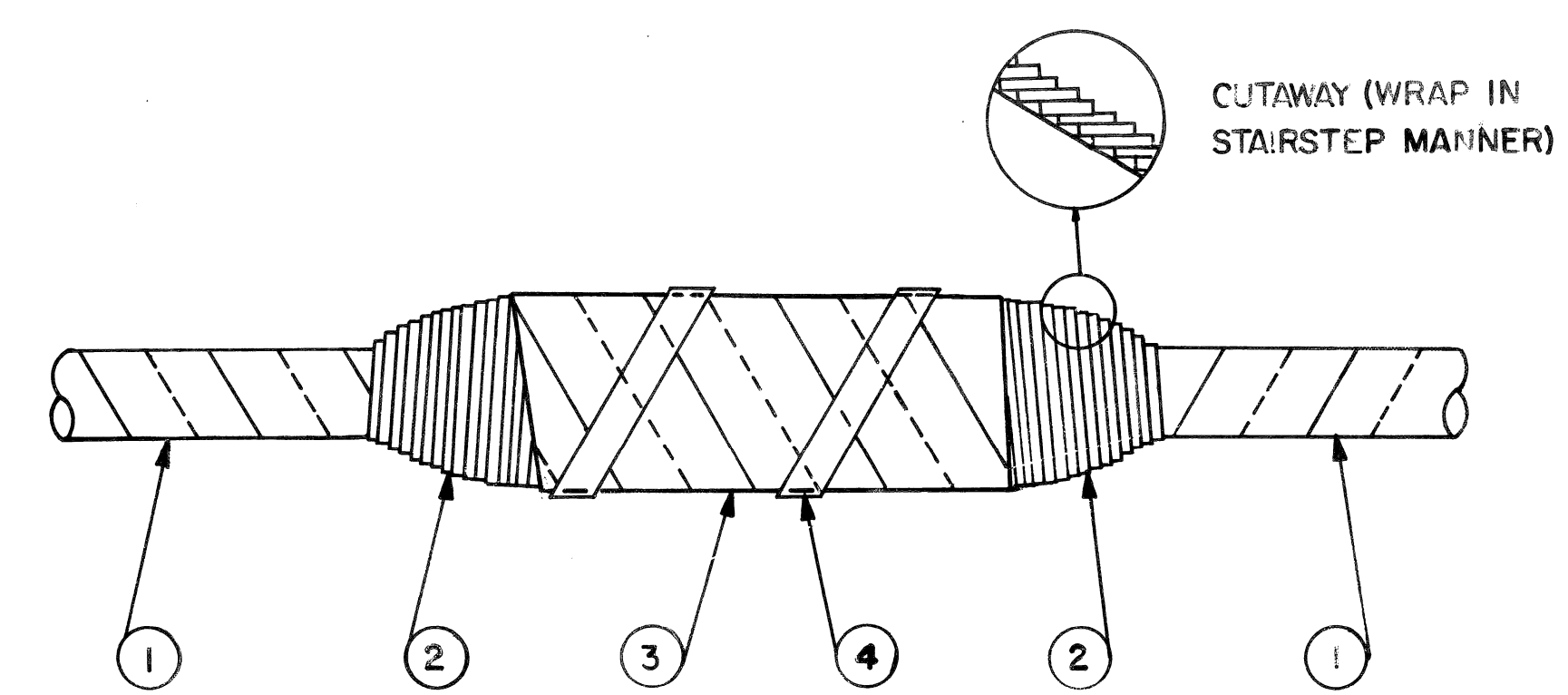


FIGURE 4.
ONE WRAP FLAME RETARDANT ELASTOMER 1/2 OVERLAPPED RANDOM WRAP WITH PRESSURE SENSITIVE FIBERGLASS ADHESIVE TAPE.



- ① WRAP CABLE WITH 3" WIDE TAPE METHOD "A" OR "B".
- ② WRAP WIPE WITH 1 1/2" WIDE ELASTOMER TAPE AS SHOWN (SPLIT 3" TAPE WITH SKINNING KNIFE FOR THIS STEP).
- ③ WRAP SPLICE SLEEVE WITH 3" WIDE TAPE THE SAME AS IN #1 ABOVE.
- ④ RANDOM WRAP FIBERGLASS TAPE TO HOLD IN PLACE.

NOTE: WRAP CABLE ON BOTH SIDES OF SPLICE FIRST. NEXT WRAP BOTH WIPES AND THEN COVER THE SPLICE SLEEVE.

NOTE. ELASTOMER TAPE TO BE APPLIED WITH SMOOTH SIDE ON CABLE (ROUGH OR FABRIC SIDE OUT).

APPROXIMATE QUANTITIES REQUIRED PER MANHOLE

METHOD "A"
5 ROLLS 3" X 15'-0" FELTED ASBESTOS TAPE
4 ROLLS 3" X 20'-0" ELASTOMER TAPE
1 ROLL FIBERGLASS TAPE

METHOD "B"
8 ROLLS 3" X 20'-0" ELASTOMER TAPE (FLAME RETARDANT)
1 ROLL FIBERGLASS TAPE

REVISIONS	DATE	DESCRIPTION	CHG BY	CITY OF DETROIT	E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION P.L.D. DETAILS CABLE FIREPROOFING	DRAWN BY	CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	FILE NO.	51-0581						
						24	CHECKED BY			cp	SHEET NO.	E45 OF 66					
							APPROVED BY			[Signature]	DATE	JAN-84	DRWG. NO.	45 OF 66	FILE NO.	CEA 1064	
																DATE	JAN-84

DATE	DESCRIPTION	DRAWN BY	ITEM NO.	CONDUCTOR	SYNTHETIC RUBBER	IMPREG-NATED PAPER	POLYETHYLENE	POLYVINYL-CHLORIDE	SHIELD OVER INSULATED CONDUCTOR	TAPE OVER INSULATED CONDUCTORS/PAPER BELT	IMPREG-NATED PAPER BELT	JACKET	LEAD SHEATH	COVERING OVER LEAD	STEEL TAPE ARMOR	COVERING OVER STEEL TAPE	COVERING OVER CONDUCTOR
			1	#2-#6 AWG H.D. UNCOATED SOLID COPPER A.S.T.M. B1													0.047 INCH BLACK NEOPRENE
			2	#7/0-#2/0 AWG M.H.D. UNCOATED 7/5 STR. COPPER A.S.T.M. B2, B8													0.063 INCH NEO PRENE
			3	#6 AWG H.D. UNCOATED SOLID COPPER A.S.T.M. B1													0.032 INCH BLACK POLYETHYLENE
			4	#2 AWG H.D. UNCOATED SOLID COPPER A.S.T.M. B1													0.047 INCH BLACK POLYETHYLENE
			5	#4/0-#2/0 AWG M.H.D. UNCOATED 7/5 STR. COPPER A.S.T.M. B2, B8													0.063 INCH BLACK POLYETHYLENE

ALL MULTIPLE STREET LIGHTING, TRAFFIC SIGNAL SECONDARY AND SPECIAL EVENT CABLES INSTALLED IN CONDUIT SHALL BE AS PER THE FOLLOWING: CONDUCTORS COATED, STRANDED COPPER CONDUCTOR PER ASTM B-8 AND B-189. INSULATION: MEETS OR EXCEEDS ALL REQUIREMENTS OF INTERIM STANDARD #1 TO IPCEA S-68-516 NEMA WC 8 (MARCH 1971) FOR ETHYLENE PROPYLENE RUBBER INSULATION AND ASTM D 2802-70 AND UL STANDARD 44. JACKET: EXCEEDS ALL REQUIREMENTS OF IPCEA S-19-81, (5TH EDITION) SECTION 4.13.8^a FOR HEAVY DUTY CHLOROSULFONATED-POLYETHYLENE LISTED BY UNDERWRITERS LABORATORIES, INC. AS TYPE RHH OR RHW.

NOTE: PRIOR TO PLACING ORDER FOR PURCHASE OF THIS CABLE, A SAMPLE LENGTH OF CABLE MUST FIRST BE SUBMITTED TO B.L.D. FOR THEIR APPROVAL OF INSULATION AND JACKET CHARACTERISTICS.

USE	VOLT RATING	ITEM NO.	CONDUCTOR	SYNTHETIC RUBBER	IMPREG-NATED PAPER	POLYETHYLENE	POLYVINYL-CHLORIDE	SHIELD OVER INSULATED CONDUCTOR	TAPE OVER INSULATED CONDUCTORS/PAPER BELT	IMPREG-NATED PAPER BELT	JACKET	LEAD SHEATH	COVERING OVER LEAD	STEEL TAPE ARMOR	COVERING OVER STEEL TAPE	COVERING OVER CONDUCTOR
SPECIAL EVENT FEEDER	2000 V	6	#8 AWG 1/C UNCOATED SOFT 7/5 STR. COPPER A.S.T.M. B8				0.062 INCH 75°C BLACK OR WHITE AS PER FIGURE 8 NOT IMPRINTED			0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
MULT. ST. LTG.	2000 V	7	2/C #8 AWG UNCOATED 7/5 STR. COPPER A.S.T.M. B8				0.062 INCH 75°C BLACK OR WHITE AS PER FIGURE 8 CONSTRUCTION			0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
TRAFFIC SIG. SECONDARY	2000 V	8	3/C 350MCM UNCOATED SOFT COPPER A.E.C.							0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
RECEPTACLE, BRACKET & LAMP POST WIRE	600 V	9	#8 AWG 1/C UNCOATED SOFT 7/5 STR. COPPER A.S.T.M. B8				0.062 INCH 75°C BLACK OR WHITE AS PER FIGURE 8 NOT IMPRINTED			0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
2/C AERIAL SERVICE	600 V	10	2/C #8 AWG UNCOATED 7/5 STR. COPPER A.S.T.M. B8				0.062 INCH 75°C BLACK OR WHITE AS PER FIGURE 8 CONSTRUCTION			0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
DISTRIBUTION CABLES	5000 V BELTED	11	3/C 350MCM UNCOATED SOFT COPPER A.E.C.							0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000 V BELTED	12	3/C #2 AWG UNCOATED SOFT COPPER A.E.C.							0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000 V BELTED	13	3/C #2 AWG UNCOATED SOFT COPPER A.E.C.							0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000 V BELTED	14	3/C 350MCM UNCOATED SOFT COPPER A.E.C.							0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000 V BELTED	15	3/C #1 AWG UNCOATED SOFT COPPER A.E.C.							0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
SERIES ST. LTG. CABLE, IN DUCT	7000 V BELTED	16	3/C #2 AWG UNCOATED SOFT COPPER A.E.C.							0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7500 V	17	1/2 #1 AWG UNCOATED SOFT COPPER ASTM B3				0.047 INCH HIGH MOLECULAR NATURAL OVER CONDUCTOR			0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
SERIES ST. LTG. CABLE DIRECT BURIAL	7500 V	18	1/2 #1 AWG UNCOATED SOFT COPPER ASTM B3				0.047 INCH HIGH MOLECULAR NATURAL OVER CONDUCTOR			0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.085 INCH COPPER BEARING LEAD	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	24000V SHIELDED	19	3/C 500MCM UNCOATED SOFT COPPER A.E.C.							0.230 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.100 INCH COPPER BEARING LEAD	0.110 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
TRANSMISSION CABLES	24000V SHIELDED	20	3/C 350MCM UNCOATED SOFT COPPER A.E.C.							0.230 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.100 INCH COPPER BEARING LEAD	0.110 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	24000V SHIELDED	21	3/CH 2/0 AWG UNCOATED SOFT COPPER A.E.C.							0.245 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.100 INCH COPPER BEARING LEAD	0.110 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
MULTI-CONDUCTOR SIGNAL CABLE, IN DUCT		22	#14 AWG UNCOATED COPPER NO. 25 CONDUCTORS AS REQD. ASTM B3							0.063 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.063 INCH COPPER BEARING LEAD	0.063 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
MULTI-CONDUCTOR SIGNAL CABLE, AERIAL		23	#14 AWG UNCOATED COPPER NO. 25 CONDUCTORS AS REQD. ASTM B3							0.063 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100°C		0.063 INCH COPPER BEARING LEAD	0.063 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
B/C SERIES ST. LTG. IN DUCT	7500 V	24	8/CH 8 AWG TANNED COPPER ASTM B 33							0.094 INCH BELT OF OIL SATURATED PAPER OVERALL 0.115 INCH COPPER BEARING LEAD BENEATH OVERALL.		0.063 INCH COPPER BEARING LEAD	0.063 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
OVERHEAD FLEXIBLE TRAINER WIRE (UNSHIELDED)		25	1/CH 2 AWG, B LARBER, SOFT, CLASS G OR H STRANDING TINNED COPPER ASTM B173							0.094 INCH BELT OF OIL SATURATED PAPER OVERALL 0.115 INCH COPPER BEARING LEAD BENEATH OVERALL.		0.063 INCH COPPER BEARING LEAD	0.063 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			

ACCORDING TO SPECIFICATIONS

* CARBON BLACK PAPER TAPE OVER CONDUCTOR
 ** BINDER TAPE OVER SHIELDED INSULATED CONDUCTORS AND FILLERS TO BE UNDER TAPE INTERCALATED WITH PAPER TAPE OR (2) METALLIZED PAPER TAPES

DATE	DESCRIPTION	DRAWN BY	25	CITY OF DETROIT	E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	PUBLIC LIGHTING COMMISSION	FILE NO. 51-0581
					CABLE & WIRE SPECIFICATIONS, DETAILS	16580 WYOMING DETROIT, MICH. 48221			CITY OF DETROIT	SHEET NO. 46 OF 66
						DATE: JAN. 84	DRWG. NO. 46 OF 66	APPROVED BY		DATE: JAN. 84

1. DISTRIBUTION AND TRANSMISSION CABLES

ALL TRANSMISSION CABLES, (24 K.V., ITEMS 11-16 INCLUSIVE) ARE FOR CIRCUITS WITH GROUNDED NEUTRAL, AND SHALL CONFORM STRICTLY WITH THE LATEST REVISION OF THE A. E. I. C. "SPECIFICATION FOR IMPREGNATED PAPER INSULATED, LEAD COVERED SOLID TYPE CABLE", 9TH EDITION, DATED APRIL, 1954, AND CONSTRUCTION OPTIONS AS NOTED IN SHEET 1.

ALL DISTRIBUTION CABLES, (7.5 K.V., ITEMS 19-21 INCLUSIVE) ARE FOR CIRCUITS WITH UNGROUNDED NEUTRAL AND SHALL ALSO CONFORM WITH THE ABOVE SPECIFICATION, WITH CONSTRUCTION OPTIONS AS NOTED IN TABLE 1.

2. OVERHEAD LINE WIRE

OVERHEAD LINE WIRE SHALL BE IN ACCORDANCE WITH LATEST REVISION OF ASA C8.34 (NEOPRENE COVERING) OR THE LATEST REVISION OF ASA C8.35 (POLYETHYLENE COVERING).

3. 8/C, #8 AWG, STREET LIGHTING CABLE, 7500 V.

THIS IS A SPECIAL CONSTRUCTION AND SHALL BE MADE STRICTLY IN ACCORDANCE WITH THE DESCRIPTION IN TABLE 1.

4. OTHER RUBBER OR THERMOPLASTIC INSULATED CABLES, LEADED & NON-LEADED

WIRE SIZE, INSULATION TYPE AND NOMINAL THICKNESSES, OTHER CONSTRUCTION FEATURES SHALL BE AS SHOWN IN TABLE 1, AND APPLICABLE REFERENCE SPECIFICATIONS SHOWN BELOW:

INSULATIONS

THE MINIMUM INSULATION THICKNESS OF ANY OF THESE CABLES SHALL BE LESS THAN 90% OF THE NOMINAL THICKNESS SHOWN ON TABLE 1.

THE PHYSICAL AND AGING PROPERTIES OF THERMOPLASTIC AND RUBBER INSULATIONS SHALL BE AS FOLLOWS:

CONDUCTORS

ALL CONDUCTORS SHALL BE COPPER, COMPLYING WITH THE LATEST REVISIONS OF ASTM SPECIFICATIONS, AS FOLLOWS:

- SOFT OR ANNEALED, BARE COPPER WIRE ASTM B3
- MEDIUM HARD DRAWN COPPER WIRE ASTM B2
- HARD DRAWN COPPER WIRE ASTM B1
- CONCENTRIC-LAY-STRAINED COPPER CONDUCTORS, HARD, MEDIUM HARD OR SOFT, COATED OR UNCOATED, AS REQUIRED. ASTM B8
- ROPE-LAY-STRAINED, SOFT, COPPER CONDUCTORS, COATED OR UNCOATED, AS REQUIRED ASTM B173
- SOFT, SOLID COPPER CONDUCTORS, TINNED ASTM B33
- SOFT, SOLID COPPER CONDUCTORS, LEAD OR LEAD ALLOY COATED ASTM B189

JACKETS

THE MINIMUM JACKET THICKNESS SHALL NOT BE LESS THAN 80% OF THE NOMINAL THICKNESS SHOWN ON TABLE 1.

		POLYVINYL-CHLORIDE 60°C	POLYVINYL-CHLORIDE 75°	HIGH MOLECULAR WEIGHT NATURAL POLYETHYLENE	SYNTHETIC RUBBER 75°C HEAT & MOISTURE RESISTANT	OZONE RESISTING BUTYL RUBBER
ORIGINAL	TENSILE STRENGTH PSI	2300, MIN.	2300, MIN.	1400, MIN.	700, MIN.	600, MIN.
	ELONGATION AT RUPTURE, PERCENT	250, MIN.	250, MIN.	350, MIN.	300, MIN. AND 1/2" SET. MAX.	350, MIN. AND 1/2" SET. MAX.
AIR OVEN TEST, TIME & TEMP. AS NOTED	TENSILE STRENGTH % OF ORIGINAL	65, MIN. 168 HRS., 100±1°C	120, MAX. 80, MIN. 168 HRS., 120±1°C	75, MIN. 48 HRS., 100±1°C	—	60, MIN. 168 HRS., 100±1°C
	ELONGATION % OF ORIGINAL	* 65, MIN. 168 HRS., 100±1°C	** 75, MIN. 168 HRS., 120±1°C	75, MIN. 48 HRS., 100±1°C	—	60, MIN. 168 HRS., 100±1°C
OXYGEN PRESSURE TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80±1°C	—
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80±1°C	—
AIR PRESSURE HEAT TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127±1°C	50, MIN. 40 HRS., 127±1°C
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127±1°C	50, MIN. 40 HRS., 127±1°C
HEAT DISTORTION 121±1°C	% OF ORIGINAL	50, MAX.	25, MAX.	—	—	—
OIL IMMERSION 4 HRS., 70±1°C	TENSILE STRENGTH % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
	ELONGATION, % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
HEAT SHOCK 121±1°C	—	NO CRACKS	NO CRACKS	—	—	—
COLD BEND	—	NO CRACKS -30±1°C	NO CRACKS -30±1°C	NO CRACKS -55±1°C	—	—
INSULATION RESISTANCE CONSTANT AT 15.6°C	—	1,000 MIN.	2,000 MIN.	50,000 MIN.	4,000 MIN.	20,000 MIN.
FLAME RESISTING PROPERTIES	—	SECT. 6.5 IPCEA S-61-402	SECT. 6.5 IPCEA S-61-402	—	—	—
ACCELERATED WATER ABSORPTION REQUIREMENT	ELECTRIC-METHOD	DIELECTRIC CONSTANT, 1 DAY	10, MAX.	10, MAX.	—	5, MAX.
		% CAPACITANCE INCREASE	1-14 DAYS -10, MAX. 7-14 DAYS -5, MAX.	1-14 DAYS -4.0 MAX. 7-14 DAYS -2.0 MAX.	—	1-14 DAYS 10.0 MAX. 7-14 DAYS 4.0, MAX.
	OR GRAMIMETRIC METHOD	TEMP.	50±1°C	75±1°C	—	75±1°C
TEST IN ACCORDANCE WITH LATEST REVISION OF	—	IPCEA S-61-402 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-61-402	IPCEA S-61-402	IPCEA S-19-81 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-19-81

FOR #6 AWG AND LARGER, USING BUFFED DIE-CUT SPECIMENS, THE FOLLOWING VALUES SHALL APPLY:
 * ELONGATION AFTER AIR OVEN TEST 45% MIN.
 ** ELONGATION AFTER AIR OVEN TEST 50% MIN.
 * OR ** TENSILE STRENGTH AFTER OIL IMMERSION 80% MIN.
 * OR ** ELONGATION AFTER OIL IMMERSION 60% MIN.

		NEOPRENE BLACK, HEAVY DUTY	NEOPRENE BLACK GENERAL PURPOSE	POLYVINYL-CHLORIDE, BLACK	HEAT & LIGHT STABILIZED BLACK POLYETHYLENE COVERG OVER LEAD SHEATH
ORIGINAL	TENSILE STRENGTH PSI	1800, MIN.	1500, MIN.	1500, MIN.	1400, MIN.
	ELONGATION AT RUPTURE, %	300, MIN. 3/8" MAX. SET	250, MIN. 3/8" MAX. SET	100, MIN.	350, MIN.
AIR OVEN TEST TIME & TEMP. AS NOTED	TENSILE STRENGTH, % OF ORIGINAL	—	—	85, MIN. 120 HRS., 100±1°C	75, MIN.
	ELONGATION % OF ORIGINAL	—	—	60, MIN. 120 HRS., 100±1°C	75, MIN.
OXYGEN PRESSURE TEST 168 HRS. 80±1°C	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	—	—
	ELONGATION % OF ORIGINAL	50, MIN.	50, MIN.	—	—
AIR PRESSURE HEAT TEST 20 HRS. 127±1°C	TENSILE STRENGTH, % OF ORIGINAL	50, MIN.	50, MIN.	—	—
	ELONGATION, % OF ORIGINAL	50, MIN.	50, MIN.	—	—
OIL IMMERSION TEST, TIME & TEMP. AS NOTED	TENSILE STRENGTH, % OF ORIGINAL	60, MIN. 18 HRS. 121±1°C	60, MIN. 18 HRS. 121±1°C	60, MIN. 4 HRS. 70±1°C	—
	ELONGATION % OF ORIGINAL	60, MIN. 18 HRS. 121±1°C	60, MIN. 18 HRS. 121±1°C	60, MIN. 4 HRS. 70±1°C	—
HEAT DISTORTION, PERCENT OF UNAGED VALUE	—	—	—	50, MAX. 121±1°C	25, MAX. 90±1°C
HEAT SHOCK 121±1°C	—	—	—	NO CRACKS	—
COLD BEND TEST -35±1°C	—	—	—	NO CRACKS	NO CRACKS
ENVIRONMENTAL CRACKING	—	—	—	—	NO CRACKS
LIGHT ABSORPTIVITY	—	—	—	—	24,000, MIN.
TEST IN ACCORDANCE WITH LATEST REVISION OF	—	IPCEA S-19-81	IPCEA S-19-81	IPCEA S-61-402	IPCEA INTERIM REVISION #1 PUB. S-64-401 SEPT. 1959

DATE	DESCRIPTION	CHKD. BY	26	CITY OF DETROIT	E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION	DRAWN BY CEA	CHECKED BY	APPROVED BY	DATE	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH 48221	DRAWING NO. 47 OF 66	FILE NO. CEA 1064	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	FILE NO. 51-0581
														SHEET NO. E47 OF 66
														DATE JAN.-84

CERTIFIED TEST REPORTS

SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR THE VARIOUS ITEMS OF WIRE AND CABLE SHOWN ON SHEET 1 SHALL CONTAIN THE FOLLOWING TEST RESULTS:

ITEMS 1 - 5 INCLUSIVE - OVERHEAD LINE WIRE

- 1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH AND ELONGATION TESTS.
2. COVERING THICKNESS, PHYSICAL AND AGING TESTS.
3. WEIGHT OF FINISHED WIRE.

ALL TESTS IN ACCORDANCE WITH THE LATEST REVISION OF ASA 8.34(NEOPRENE COVERING) OR ASA 8.35 (POLYETHYLENE COVERING.)

ITEMS 6 - 10 INCLUSIVE

- 1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH AND ELONGATION TESTS IN ACCORDANCE WITH THE LATEST REVISIONS OF ASTM B8, B 33 OR B 189.
2. THE PHYSICAL AND OTHER TESTS FOR THE SPECIFIED INSULATION SHOWN ON SHEET-2.
3. INSULATION THICKNESS MEASUREMENTS.
4. THE ALTERNATING-CURRENT VOLTAGE TEST IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-61-402.
5. INSULATION RESISTANCE TEST. INSULATION RESISTANCE CONSTANT AS SHOWN ON SHEET-2.
6. (CABLE ITEM 8 ONLY) MINIMUM, MAXIMUM AND AVERAGE LEAD THICKNESS MEASUREMENTS. SHALL ALSO BE INCLUDED.
7. (CABLE ITEM 10 ONLY) A RIP TEST SHALL ALSO BE INCLUDED AS FOLLOWS:

A SIX-FOOT SAMPLE OF THE COMPLETED 2 CONDUCTOR WIRE WITH CLEANLY CUT ENDS SHALL BE SUBJECTED TO A TEMPERATURE OF -10°F. FOR ONE HOUR. WHILE STILL COLD, THE TWO INSULATED CONDUCTORS SHALL BE SEPARATED AT ONE END FOR A DISTANCE OF APPROXIMATELY 3 INCHES AND THEN SHALL BE TORN APART WITH A STEADY PULL AT A RATE OF 33 INCHES IN ONE SECOND OR LESS. THERE SHALL BE NO DAMAGE TO THE INSULATION.

ITEMS 11 - 16 INCLUSIVE - DISTRIBUTION CABLES UNDER 10 KV RATING

- 1. CONDUCTOR RESISTANCE.
2. SHEATH THICKNESS MEASUREMENTS.
3. HIGH VOLTAGE TEST.
4. MECHANICAL INTEGRITY TEST.
5. BENDING TEST.
6. SPARK TEST ON COVERING OVER LEAD SHEATH ON EACH LENGTH IF COVERING IS SPECIFIED.

ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID TYPE IMPREGNATED-PAPER-INSULATED LEAD COVERED CABLE SPECIFICATIONS", PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 17 - 18 INCLUSIVE - SERIES STREET LIGHTING CABLE

- 1. CONDUCTOR RESISTANCE AND CONTINUITY, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. THE PHYSICAL AND OTHER TESTS FOR HIGH MOLECULAR WEIGHT POLYETHYLENE INSULATION AS SHOWN ON SHEET-2.
3. THE PHYSICAL AND OTHER TESTS FOR 60°C. POLYVINYL-CHLORIDE INSULATION AS SHOWN ON SHEET-2.
4. THE FOLLOWING TESTS SHALL ALSO BE MADE AND REPORTED:

HIGH VOLTAGE TEST - AFTER NOT LESS THAN SIX (6) HOURS IMMERSION IN WATER AT 60°F. AND WHILE STILL IMMersed, EACH REEL OF INSULATED CABLE WITHOUT LEAD, SHALL WITHSTAND A 60 CYCLE POTENTIAL OF 30,000 VOLTS FOR A PERIOD OF FIVE (5) MINUTES.

INSULATION RESISTANCE TEST - THE INSULATION RESISTANCE SHALL NOT BE LESS THAN 25,500 MEGOHMS PER THOUSAND FEET AT 60°F. THIS TEST SHALL BE CONDUCTED UPON COMPLETION OF THE HIGH VOLTAGE TEST.

SHORT-TIME DIELECTRIC STRENGTH TEST - A TEN (10) FT. SAMPLE OF THE FINISHED CABLE WITH ONLY THE LEAD REMOVED, AFTER TWELVE (12) HOURS SUBMERSION IN WATER AND WHILE STILL IMMersed, SHALL WITHSTAND A VOLTAGE TEST OF 60,000 VOLTS 60 CYCLE A.C. FOR FIVE (5) MINUTES. ON COMPLETION OF THIS TEST, THE VOLTAGE WILL BE GRADUALLY RAISED IN ACCORDANCE WITH I. P. C. E. A. SPECIFICATIONS, UNTIL THE INSULATION IS PUNCTURED. THIS VOLTAGE SHALL BE RECORDED AND SHALL BE NOT LESS THAN 72,000 VOLTS.

EXTERNAL CORONA TEST - THIS TEST SHALL BE CONDUCTED ON ONE (1) SAMPLE PER 10,000 FT. OF COMPLETED CABLE EIGHTEEN (18) INCHES LONG WITH ONLY THE LEAD SHEATH REMOVED, AFTER WHICH IT SHALL BE WIPED WITH A CLEAN DRY CLOTH. THESE SAMPLES SHALL BE BENT AND MAINTAINED IN A "U-SHAPE" HAVING A BENDING DIAMETER EQUAL TO FIVE TIMES THE INSULATED CABLE DIAMETER. THE BENT SAMPLES SHALL THEN BE PLACED IN A VERTICAL POSITION ON A FLAT METALLIC GROUNDED PLATE AND 60 CYCLE AC VOLTAGE SHALL BE GRADUALLY APPLIED WITH A CORONA-LEVEL TEST APPARATUS OF THE FILTER-CIRCUIT TYPE, MAINTAINING SUFFICIENT AMPLIFICATION TO INDICATE THE EXISTENCE OF CORONA DISCHARGE. THIS VOLTAGE SHALL BE RAISED UNTIL CORONA IS INDICATED, AND SHALL NOT BE LESS THAN 8,200 VOLTS RMS.

THE VOLTAGE SHALL THAN BE RAISED TO 25,000 VOLTS AND MAINTAINED FOR SIX (6) HOURS WITHOUT FAILURE OF THE INSULATION. THE VOLTAGE SHALL THEN BE RAISED IN 10% STEPS AT TEN (10) MINUTE INTERVALS UNTIL FAILURE OF THE INSULATION OR FLASHOVER OCCURS.

THESE VOLTAGES SHALL BE RECORDED AND REPORTED.

INTERNAL-CORONA LEVEL-EACH LENGTH OF COMPLETED CABLE SHALL BE TESTED IN ACCORDANCE WITH SECTION 6.13 OF THE LATEST REVISION OF I.P.C.E.A. STANDARD S-61-402, EXCEPT THAT THE MINIMUM CORONA LEVEL SHALL BE 8,200 VOLTS.

ITEMS 19 - 21 INCLUSIVE - TRANSMISSION CABLES.

- 1. CONDUCTOR RESISTANCE.
2. SHEATH THICKNESS MEASUREMENT.
3. HIGH VOLTAGE TEST.
4. MECHANICAL INTEGRITY TEST.
5. BENDING TEST.
6. IONIZATION TEST.
7. HIGH VOLTAGE - TIME TEST) ONE TEST PER ORDER OR
8. DIELECTRIC POWER TEST) THERE IS A QUANTITY LIMITATION OF
9. POWER FACTOR TEST) 25,000 FT. ON THESE TESTS PER AEC
10. SPARK TEST ON COVERING OVER LEAD SHEATH ON EACH LENGTH.

ALL TESTS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF "SOLID-TYPE IMPREGNATED-PAPER-INSULATED LEAD-COVERED CABLE SPECIFICATION," PUBLISHED BY THE ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

ITEMS 22 - 23 INCLUSIVE - MULTI-CONDUCTOR TRAFFIC SIGNAL CABLE

- 1. INDIVIDUAL CONDUCTOR RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B3.
2. INSULATION THICKNESS MEASUREMENTS.
3. INSULATION PHYSICAL AND OTHER TESTS FOR 60°C. POLYVINYLCHLORIDE AS SHOWN ON SHEET-2.
4. ALTERNATING CURRENT VOLTAGE TEST.
5. INSULATION RESISTANCE TEST. INSULATION RESISTANCE CONSTANT IS SHOWN ON SHEET-2.
6. (CABLE ITEM 23 ONLY)
a. POLYVINYL CHLORIDE JACKET PHYSICAL AND OTHER TESTS SHOWN ON SHEET-2.
b. JACKET THICKNESS MEASUREMENTS.
7. (CABLE ITEM 22 ONLY), LEAD SHEATH THICKNESS MEASUREMENTS.

TESTS NO. 4-7 INCLUSIVE, SHALL BE MADE IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-61-402, EXCEPT THAT THE INSULATION RESISTANCE CONSTANT SHALL BE 1000 AT 15.6°C.

ITEM 24 - B/C SERIES STREET LIGHTING CABLE

- 1. CONDUCTOR CONTINUITY AND RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-33.
2. LEAD SHEATH THICKNESS MEASUREMENTS.
3. A HIGH VOLTAGE TEST CONSISTING OF 22,500 VOLTS, 60 CYCLES AC, FOR A DURATION OF 5 MINUTES, BETWEEN CONDUCTORS AND FROM EACH CONDUCTOR TO THE LEAD SHEATH.

ITEM 25 - FLEXIBLE OVERHEAD TRAINER WIRE

- 1. CONDUCTOR RESISTANCE, TENSILE STRENGTH AND ELONGATION IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-173.
2. INSULATION PHYSICAL AND OTHER TESTS SHOWN ON SHEET-2.
3. ADDITIONAL INSULATION TESTS IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-19 - 81 AS FOLLOWS:
a. ALTERNATING-CURRENT VOLTAGE TEST.
b. INSULATION RESISTANCE TEST.
c. DIRECT-CURRENT VOLTAGE TEST.
d. CORONA LEVEL TEST.
e. SHORT-TIME DIELECTRIC STRENGTH TEST.
f. COLD-BENDING AND LONG-TIME DIELECTRIC STRENGTH TEST.
g. CAPACITY AND POWER FACTOR TEST.
h. OZONE RESISTANCE TEST.
4. PHYSICAL AND OTHER TESTS ON THE NEOPRENE JACKET (GENERAL PURPOSE OR HEAVY DUTY), AS SHOWN ON SHEET-2.
5. JACKET THICKNESS MEASUREMENTS.

ITEM 26 - SUPERVISORY CONTROL CABLE(MULTI-CONDUCTOR)

- 1. CONDUCTOR RESISTANCE, TENSILE STRENGTH AND ELONGATION, IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-3.
2. INSULATION PHYSICAL FOR 60°C. PVC INSULATION AND OTHER TESTS SHOWN ON SHEET 2.
3. INSULATION RESISTANCE TESTS.
4. VOLTAGE TESTS PER IPCEAS-61-402.
5. INSULATION THICKNESS.
6. LEAD SHEATH THICKNESS.
7. THICKNESS OF COVERING OVER LEAD SHEATH.
8. SPARK TEST ON COVER OVER LEAD SHEATH ON EACH LENGTH.

MULTI-PAIR COMMUNICATION CABLES (Maximum Mutual Capacitance = 90 nf per mile) (ALSO FOR TRAFFIC SIGNAL CHRONOPLAN.) AND SUPERVISORY

Table with 9 columns: ITEM NO., USE AND RATING, CONDUCTOR, INSULATION (b), TAPE OVER INSULATED CONDUCTORS, INNER BELT, SHIELD OVER TAPE OR BELT, JACKET OR SHEATH, COVERING OVER SHEATH. Rows include items 27, 28, 29, and 30.

TEST REPORTS

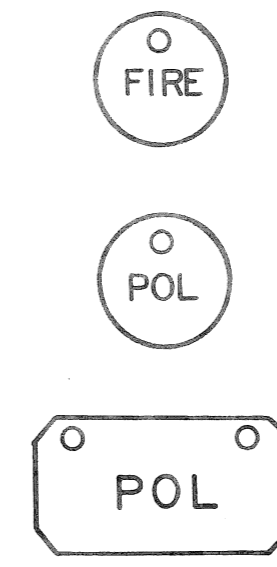
SHIPMENTS OF WIRE AND CABLE SHALL NOT BE CONSIDERED COMPLETE UNTIL CERTIFIED TEST REPORTS ARE RECEIVED AND APPROVED. TEST REPORTS FOR THE VARIOUS ITEMS ABOVE SHALL SHOW COMPLIANCE WITH CITED SPECIFICATIONS, LISTING TEST RESULTS, AS WELL AS THE FOLLOWING TESTS:

- 1. CONDUCTOR RESISTANCE OF EACH LENGTH OF EACH CONDUCTOR IN OHMS PER 1000 FT.
2. CERTIFICATION OF MUTUAL CAPACITANCE OF ALL CABLES AND OF NON-INJURIOUS EFFECT OF FLOODING COMPOUND ON ITEM 27.
(a) FIGURE 8" CONSTRUCTION MESSENGER SHALL BE 7 STRAND EHS GALVANIZED, CLASS A, 1/4-IN. NOMINAL DIAM (ASTM A 475) AND SHALL BE FULL FLOODED.
(b) COLOR CODED PER FEDERAL SPECIFICATION J-C-III.
(c) NOMINAL THICKNESS, INCHES.

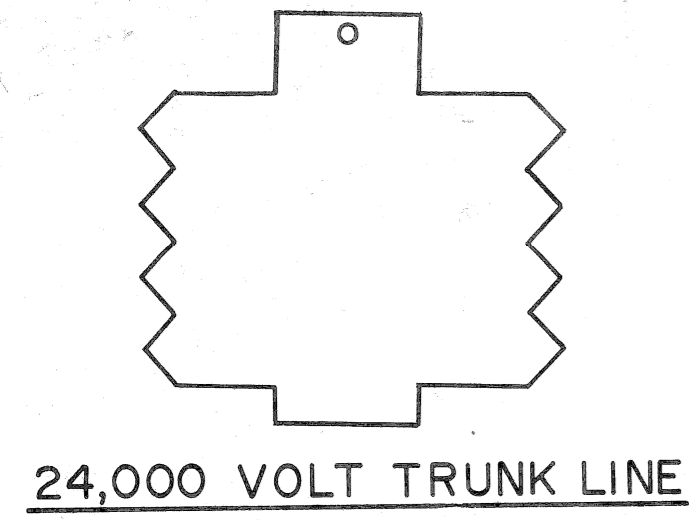
Form containing project details: CITY OF DETROIT, E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION, CABLE & WIRE SPECIFICATIONS, DETAILS. Includes drawing number 48 OF 66, date JAN-84, and file number 51-0581.

SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS

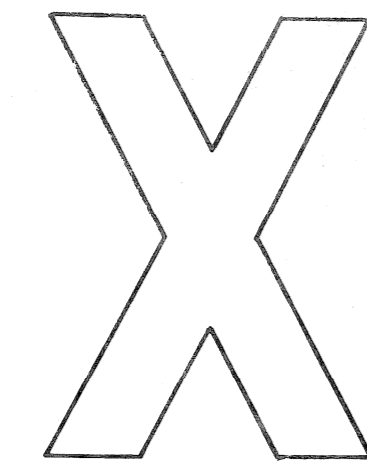
- B.I.
- BUTZL.
- CNFLD.
- CONNR
- CUSTR
- GRNFD.
- HUDSN.
- J. CAMP.
- JOY RD.
- LA BEL
- LTHRP.
- LUDDN.
- MAPLE
- MCRDY.
- MTRSE
- PAL. PK.
- PHILP.
- PORTR
- RUSSL.
- STNTN.
- STONE
- TRNTY.
- TWNSD
- TURNR.
- VERNR.
- WALTN.
- WARRN.
- WD. TER.



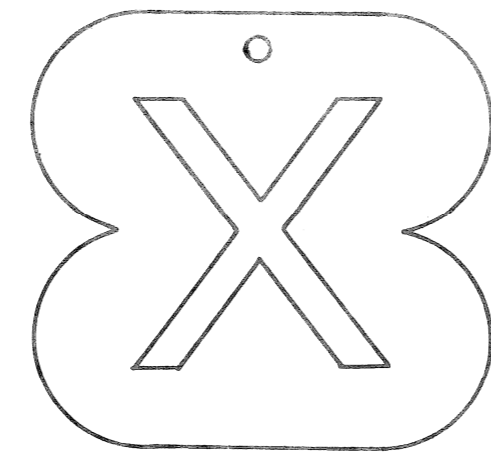
COMMUNICATION



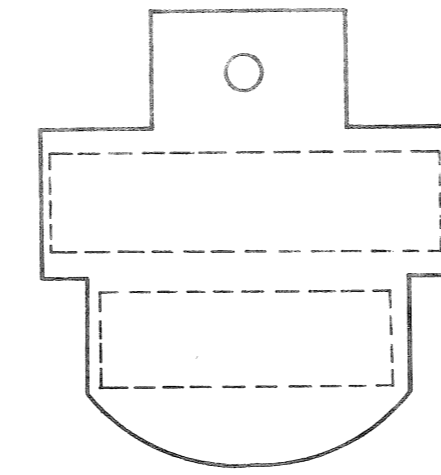
24,000 VOLT TRUNK LINE



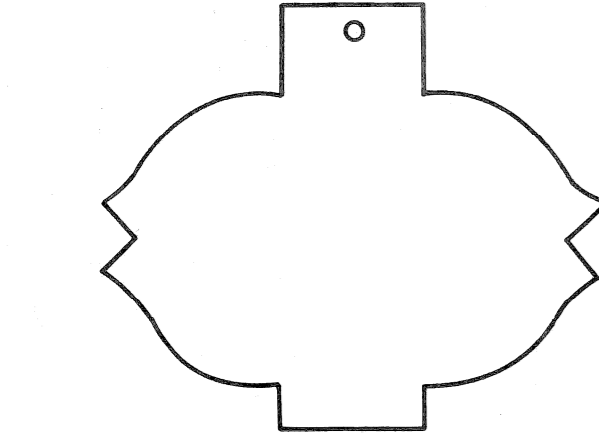
O. H. LINE PHASE TAG



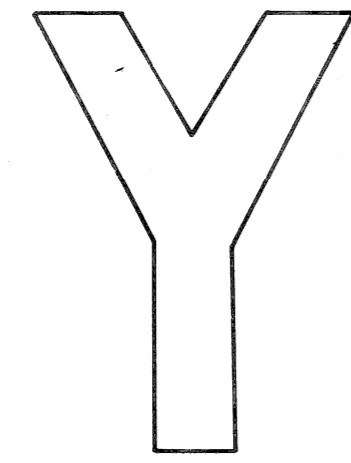
O. H. LINE OR POTHEAD PHASE TAG



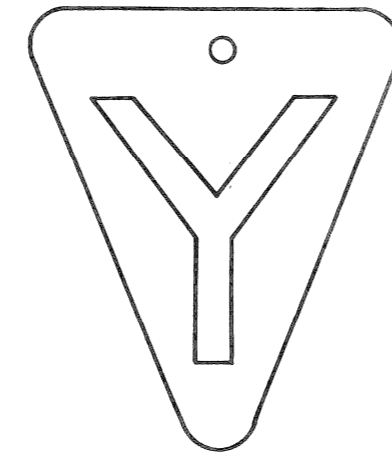
MULTIPLE STREET LIGHTING ALL VOLTAGES



24,000 VOLT FEEDER



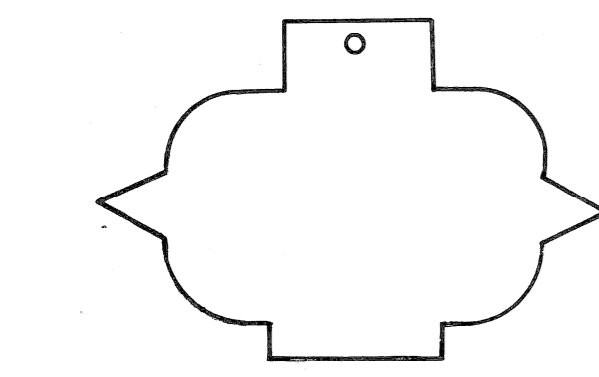
O. H. LINE PHASE TAG



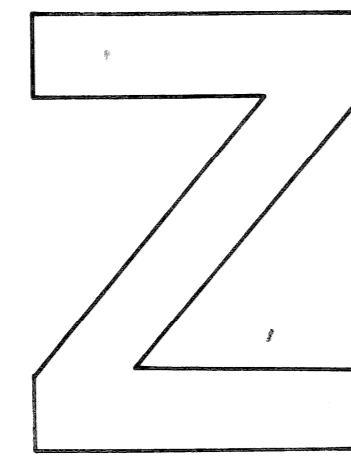
O. H. LINE OR POTHEAD PHASE TAG



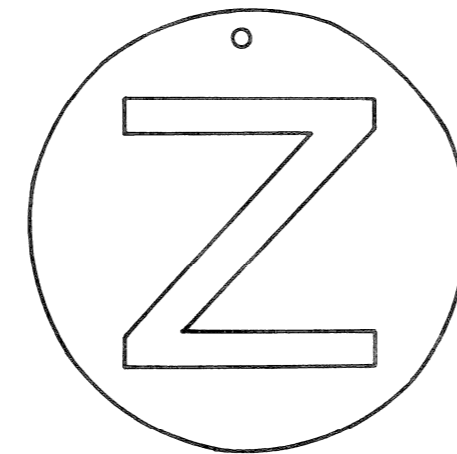
MULTIPLE INC. LTG.



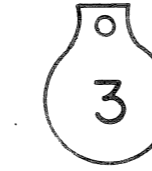
13200 VOLT FEEDER



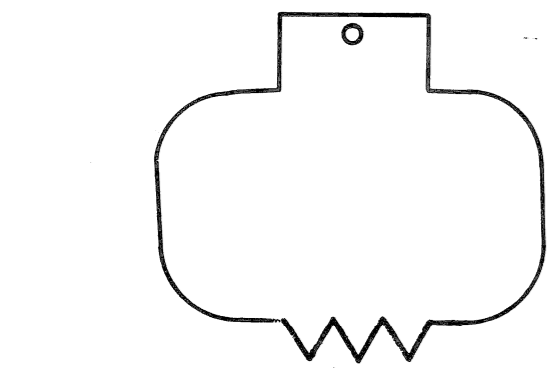
O. H. LINE PHASE TAG



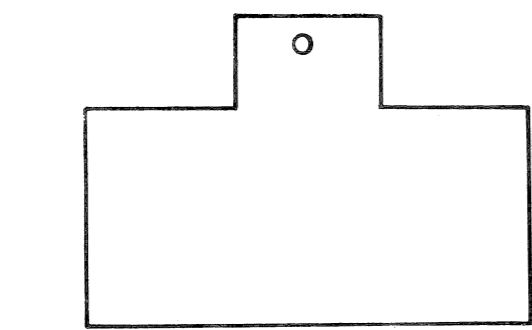
O. H. LINE OR POTHEAD PHASE TAG



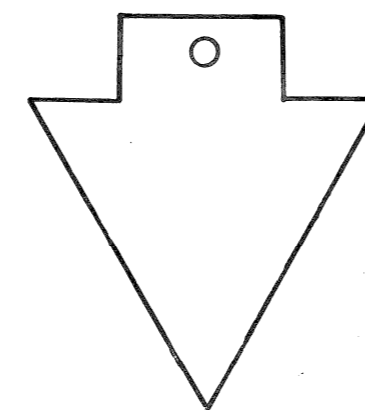
TRAFFIC SIGNALS



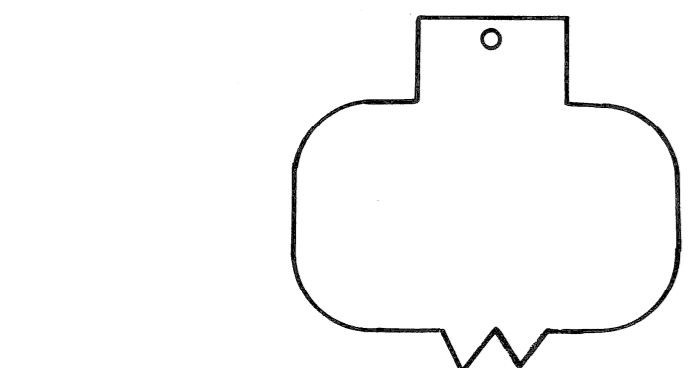
7200 VOLT FEEDER



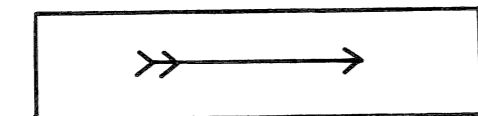
SUPERVISORY CONTROL



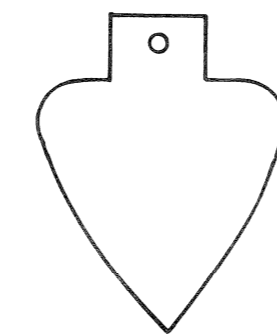
DEAD CABLE



4800 & 5500 VOLT FEEDER

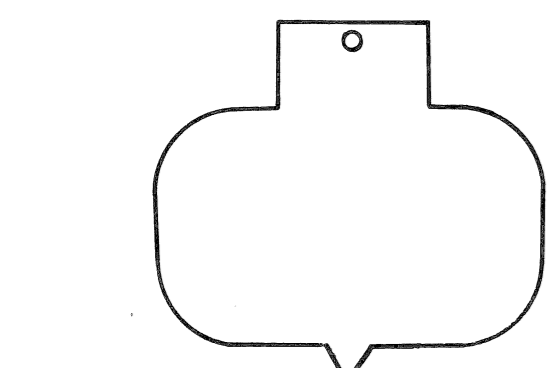


CIRCUIT DIRECTION

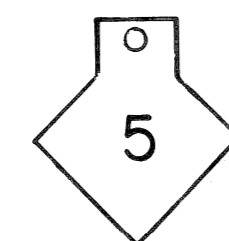


8 COND. CABLE

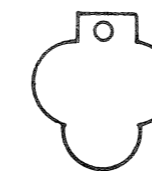
SECONDARY POWER TO SAFETY ISLANDS & TRAFFIC SIGNALS



2400 VOLT FEEDER

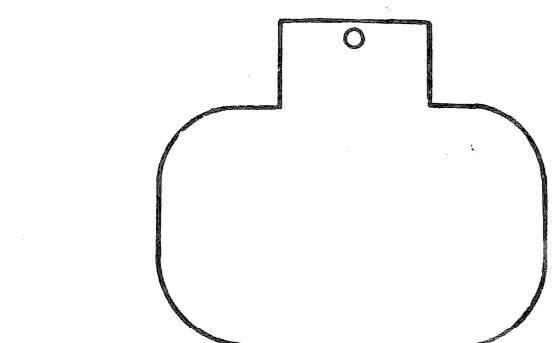


ST. LTG. COND. NO. (FROM 8/C CABLE)

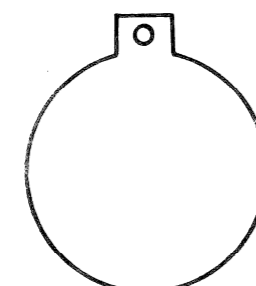


TRAFFIC SIGNAL CHRONOLIZER

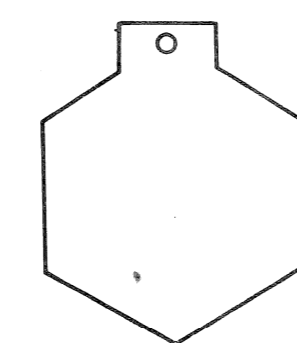
IDENTIFICATION TAGS MATERIAL LEAD



MISCELLANEOUS



ST. LTG. CIRC. NUMBER



MULTIPLE LTG. CONTROL

NOTE:

LEAD CABLE IDENTIFICATION TAGS WILL BE FURNISHED TO CONTRACTOR BY P.L.D. CABLE TAG MARKINGS SUCH AS SUBSTATION OR CABLE MARKINGS WILL BE AS SHOWN ON PLANS OR WILL BE FURNISHED BY P.L.D.

DATE	DESCRIPTION	CHKD. BY

CITY OF DETROIT

E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION

CABLE TAGS DETAILS

DRAWN CEA
CHECKED
APPROVED
DATE JAN.-84

PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH., 48221

DRWG. NO. 49 OF 66 FILE NO. CEA 1064

CHECKED BY
APPROVED

PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT

208

FILE NO. 51-0581
SHEET NO. E49 OF 66
DATE JAN.-84

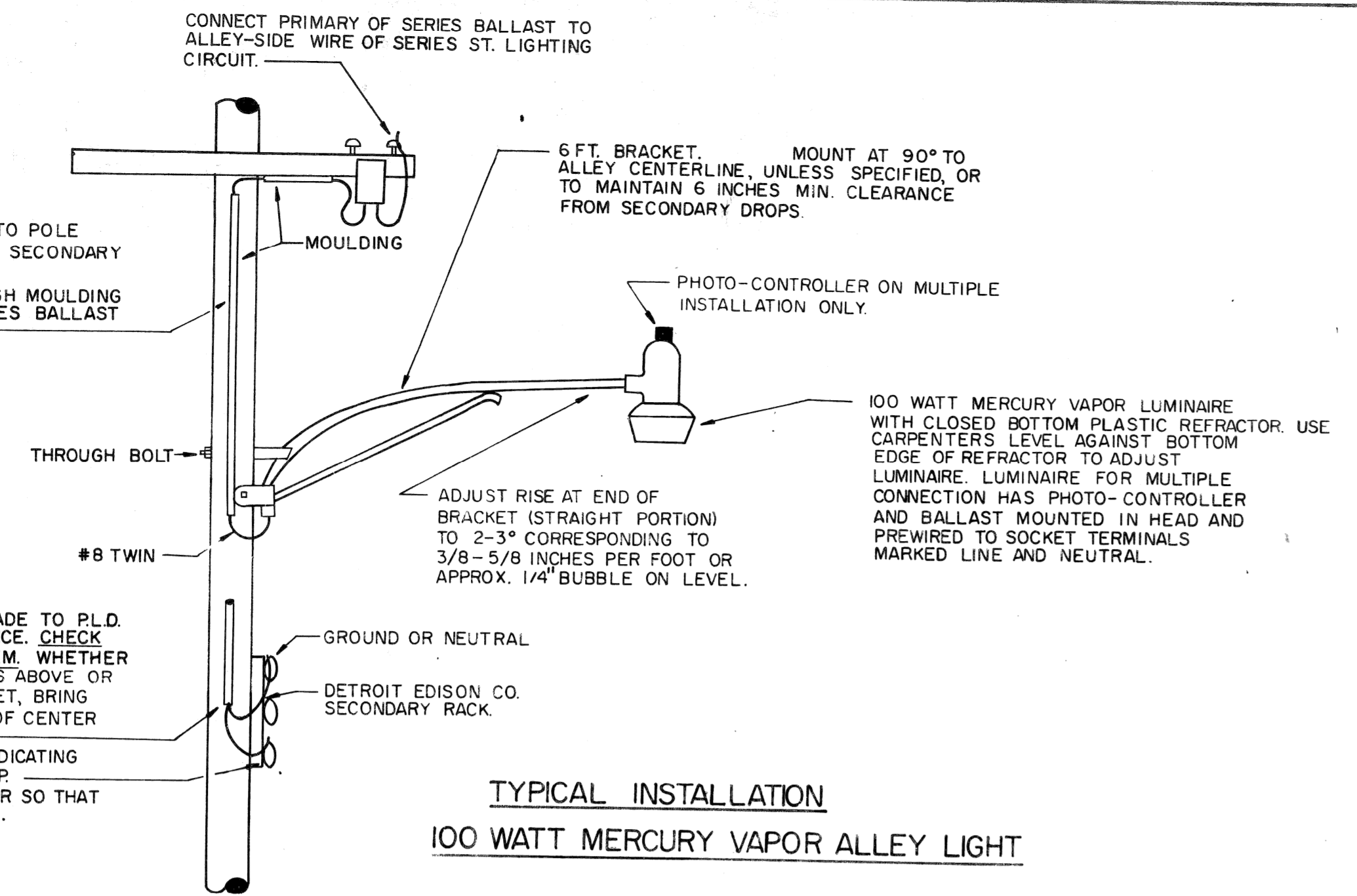
CONNECT PRIMARY OF SERIES BALLAST TO ALLEY-SIDE WIRE OF SERIES ST. LIGHTING CIRCUIT.

SERIES CONNECTION

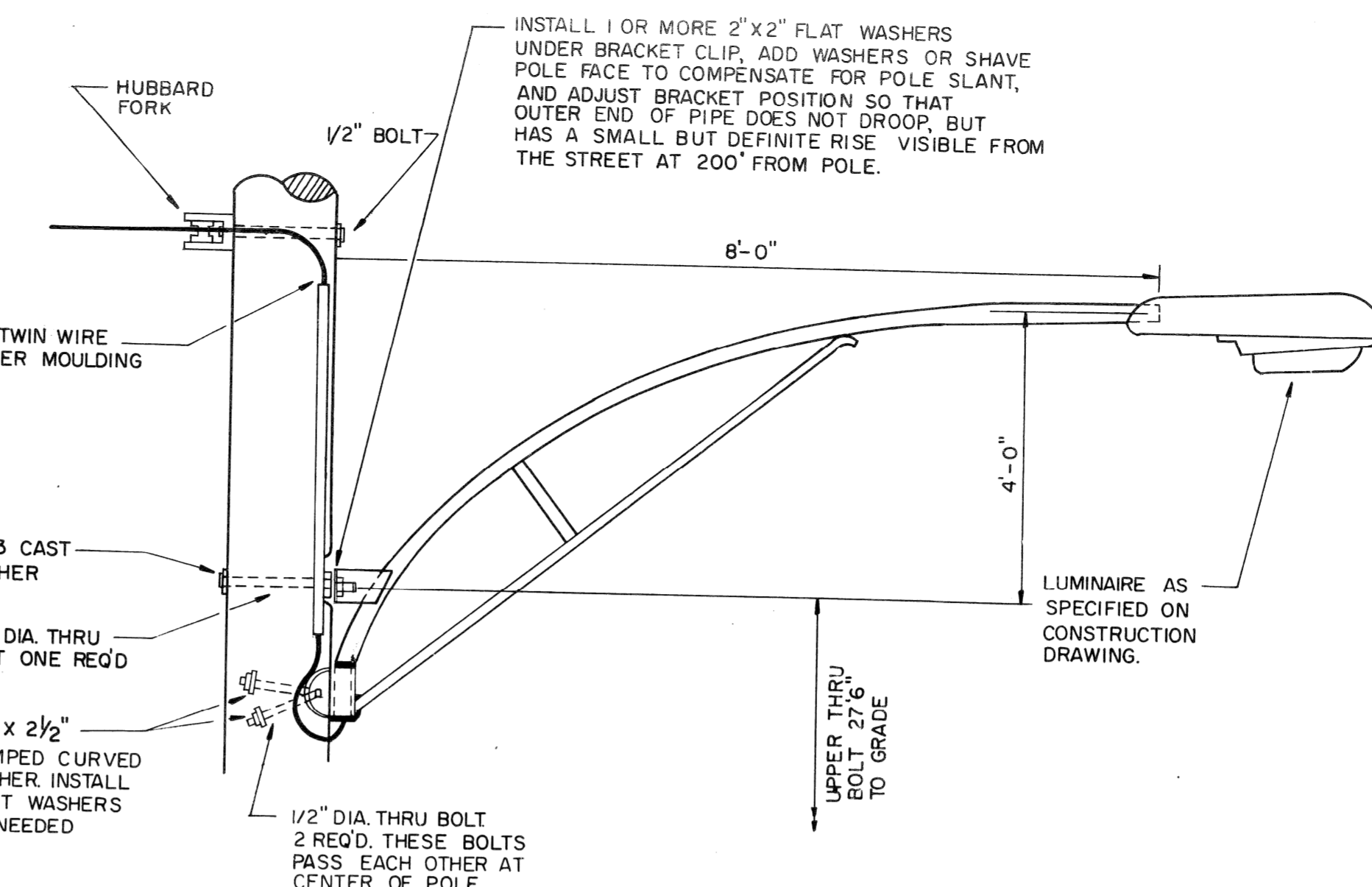
FASTEN MOULDING TO POLE ON SAME SIDE AS EDISON SECONDARY SERVICE DROPS. BRING #8 TWIN UP THROUGH MOULDING FOR CONNECTION TO SERIES BALLAST SECONDARIES

MULTIPLE CONNECTION

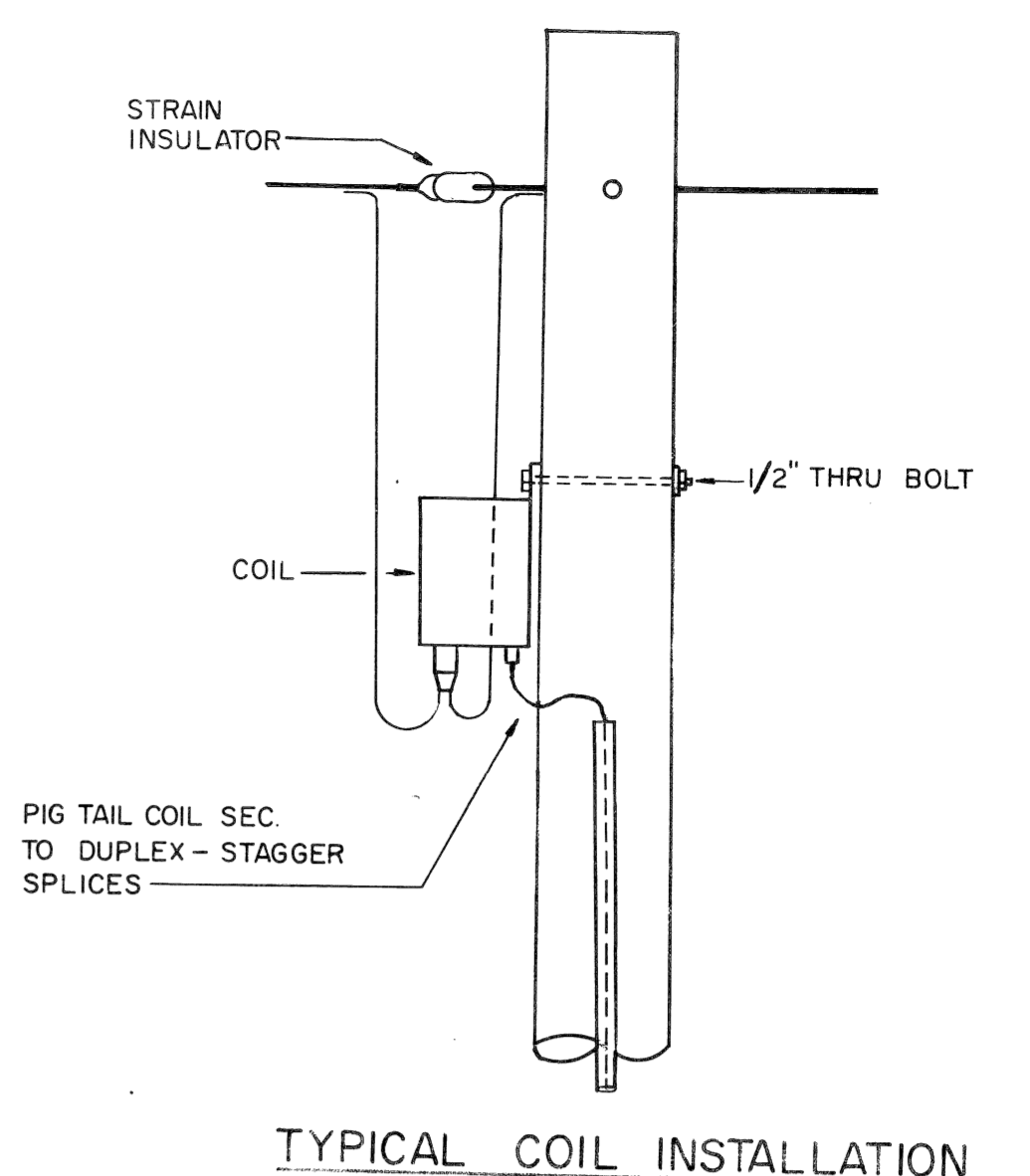
THIS CONNECTION TO BE MADE TO P.L.D. OR D.E. CO. 120 VOLT SERVICE. CHECK VOLTAGE OF 4-WIRE SYSTEM, WHETHER D.E. CO. SECONDARY RACK IS ABOVE OR BELOW ST. LIGHTING BRACKET, BRING MOULDING TO ELEVATION OF CENTER CONDUCTOR. INSTALL 10 AMP OLTAGE INDICATING TUBULAR-FUSE IN HOT-TAP. ROTATE PHOTO-CONTROLLER SO THAT CELL WINDOW FACES NORTH.



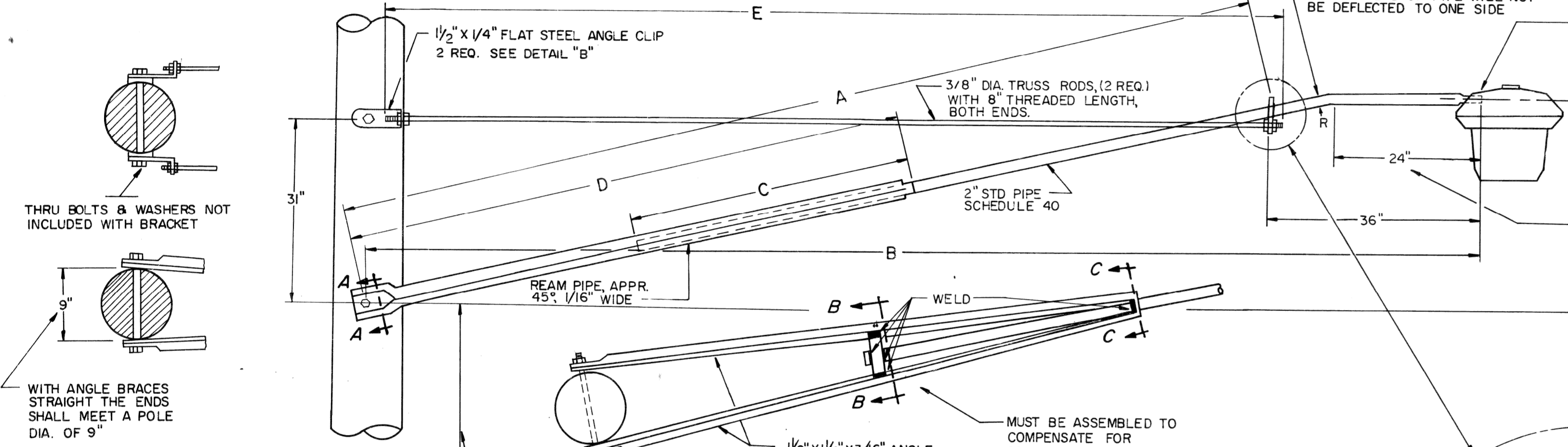
**TYPICAL INSTALLATION
100 WATT MERCURY VAPOR ALLEY LIGHT**



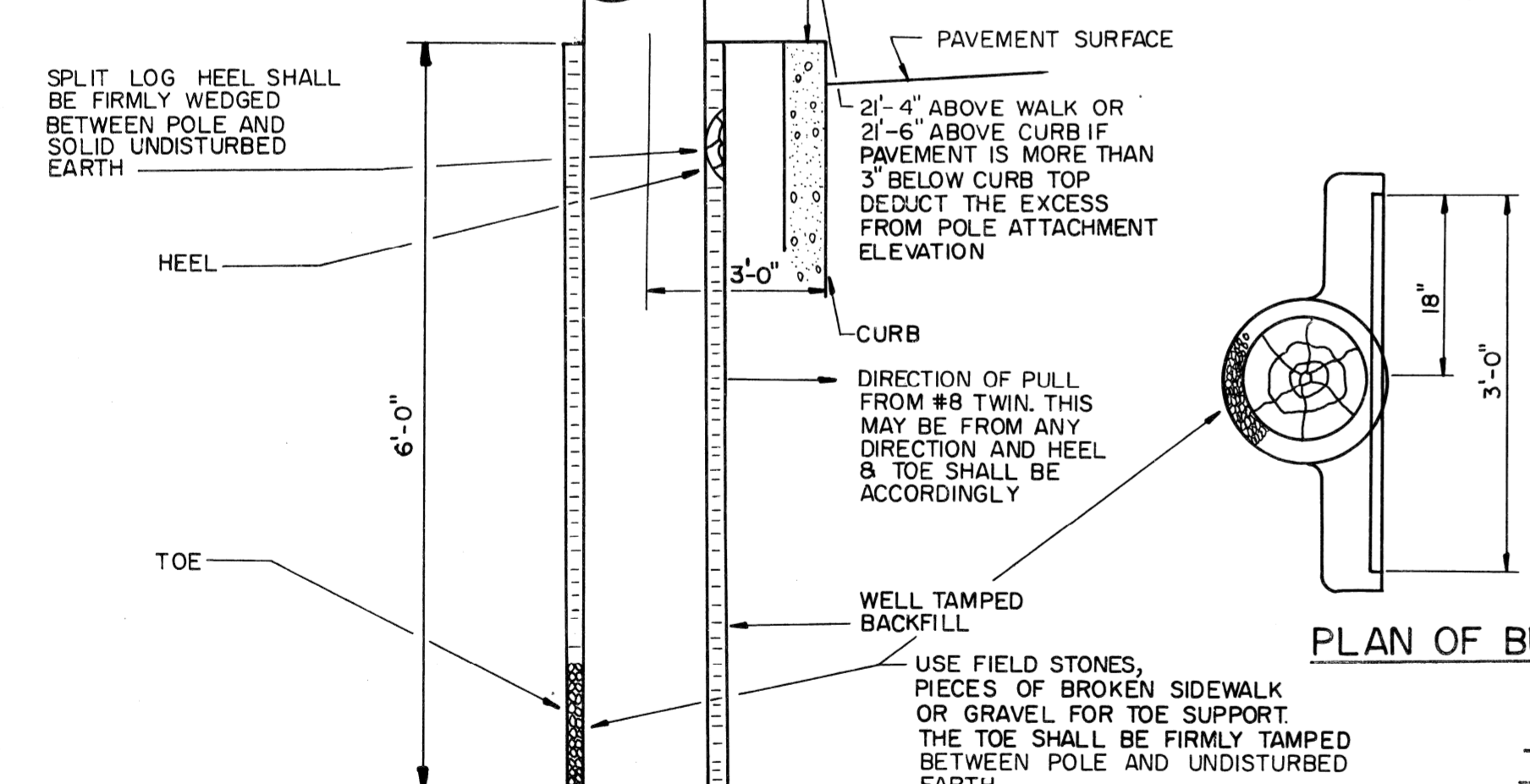
**8' UPSWEEP STREET LIGHTING BRACKET ARM AND LUMINAIRE
FOR MAIN STREET LIGHTING**



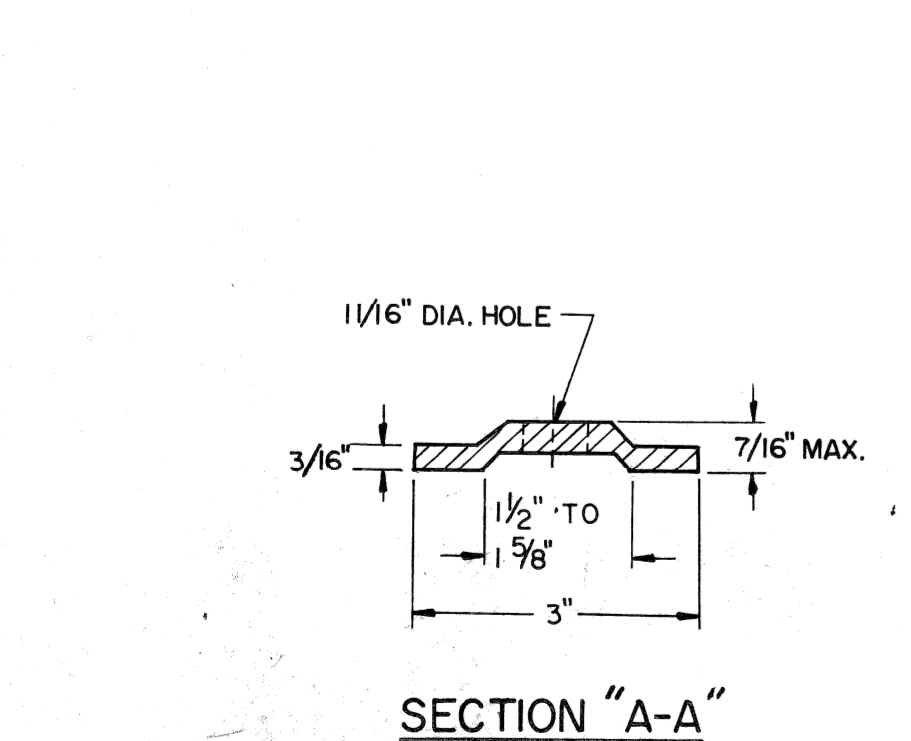
TYPICAL COIL INSTALLATION



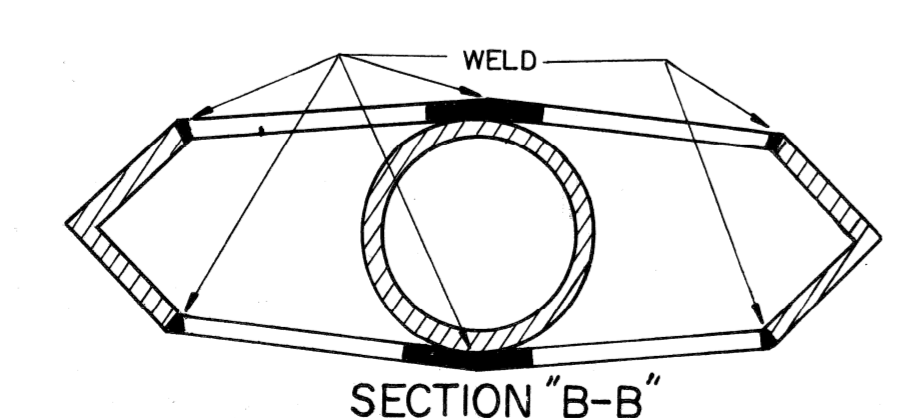
**TYPICAL INSTALLATION - RESIDENTIAL LIGHTING
BRACKET ARM AND LUMINAIRE**



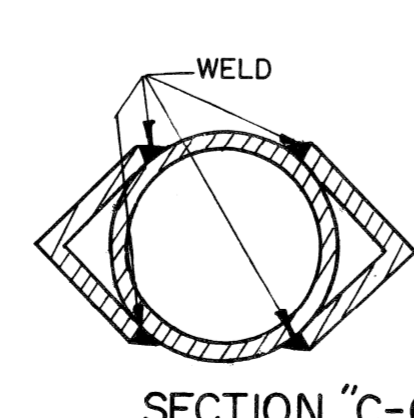
PLAN OF BUTT



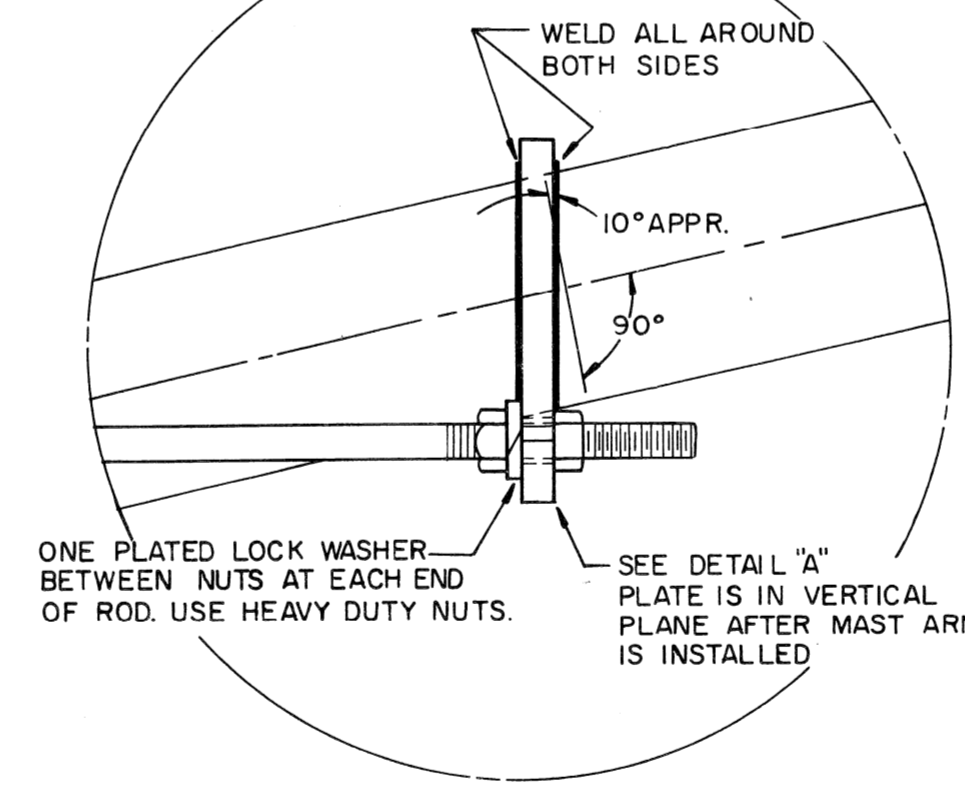
SECTION "A-A"



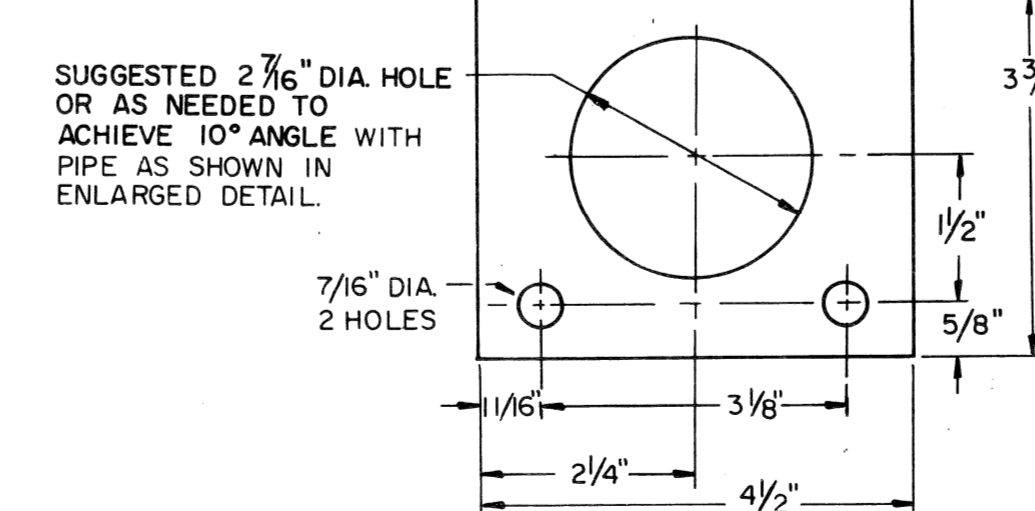
SECTION "B-B"



SECTION "C-C"

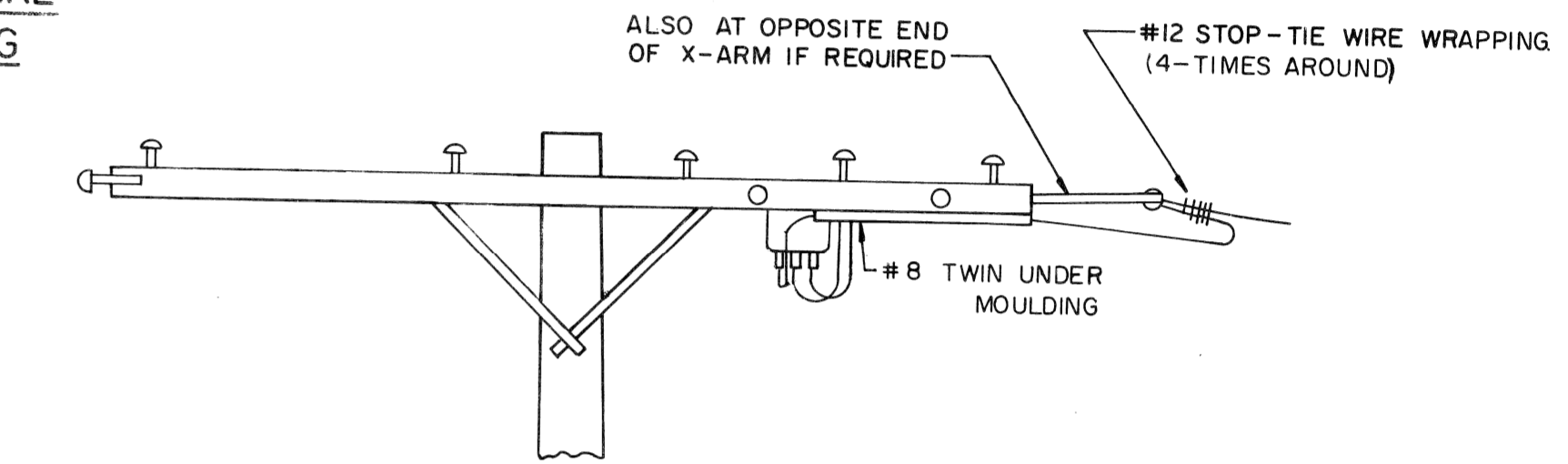


DETAIL "A"

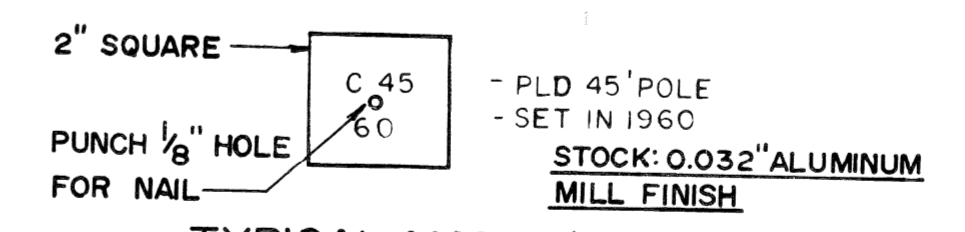


DETAIL "B"

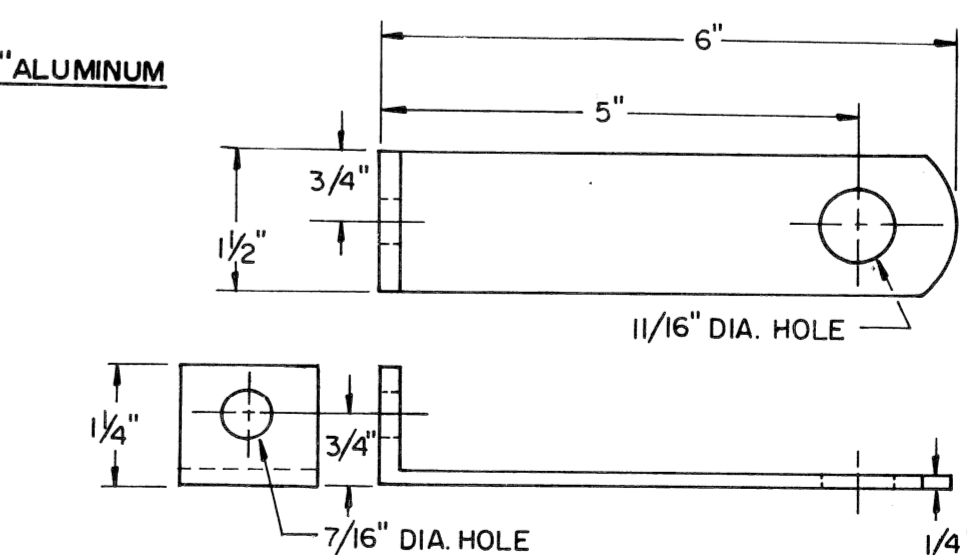
DIMENSIONS					ROD LENGTH
A	B	C	D	E	
13'-4"	16'-0"	4'-8"	9'-6"	13'-3"	
17'-3"	20'-0"	6'-0"	10'-0"	17'-3"	



**END OF ARM CONSTRUCTION FOR STREET LIGHTING
AT TRANSFORMER OR CABLE POLES**



**TYPICAL MARKING
WOOD POLE TAGS**



DETAIL "B"

DATE	DESCRIPTION	CHKD. BY

CITY OF DETROIT

E. GRAND BLVD. AT E. JEFFERSON AVE.
RECONSTRUCTION

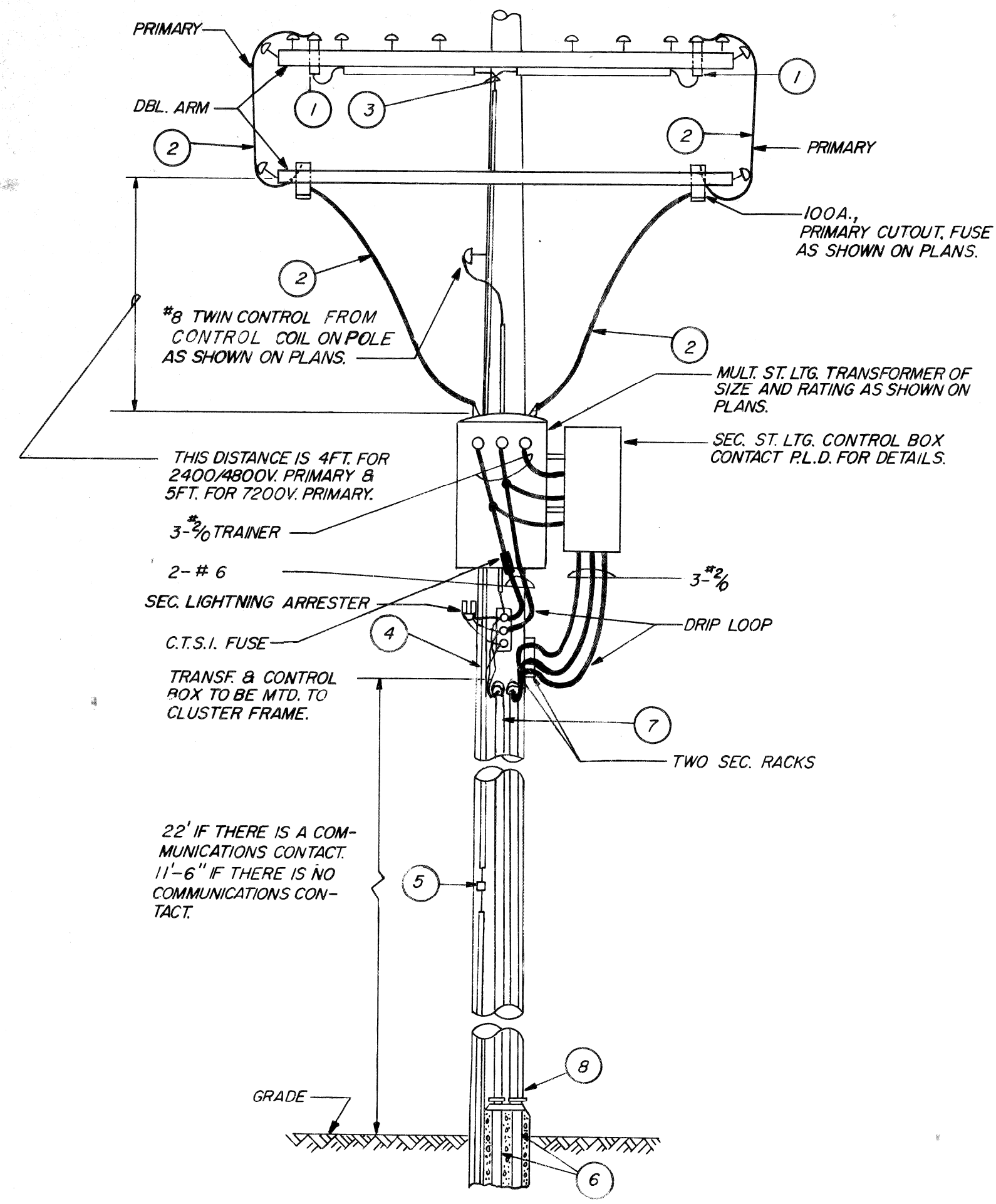
MISCELLANEOUS OVERHEAD
DETAILS

DRAWN BY CEA
CHECKED BY
APPROVED BY
DATE JAN.-84

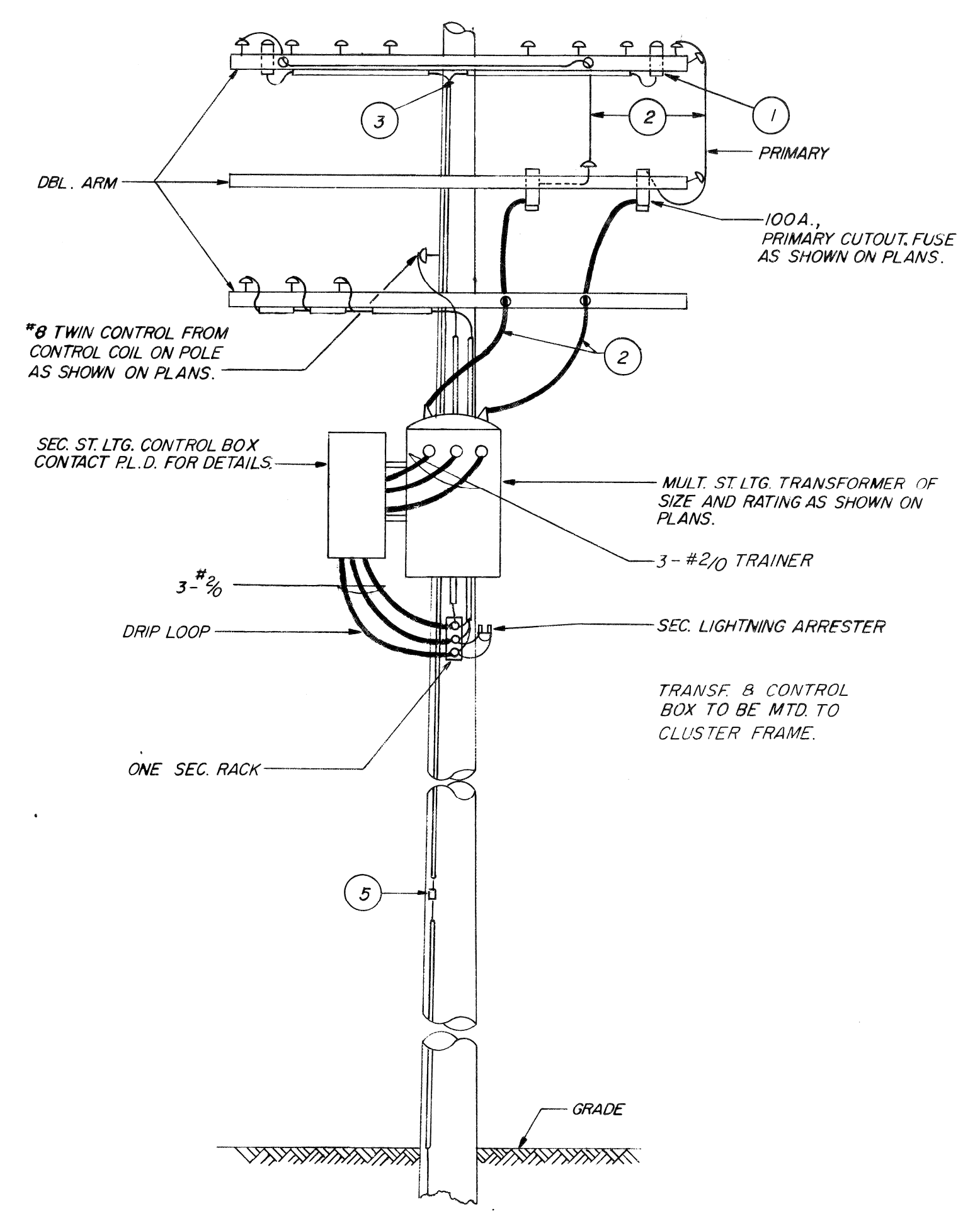
PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
DRAWG. NO. 50 OF 66
FILE NO. CEA 1064

PUBLIC LIGHTING
COMMISSION
CITY OF DETROIT

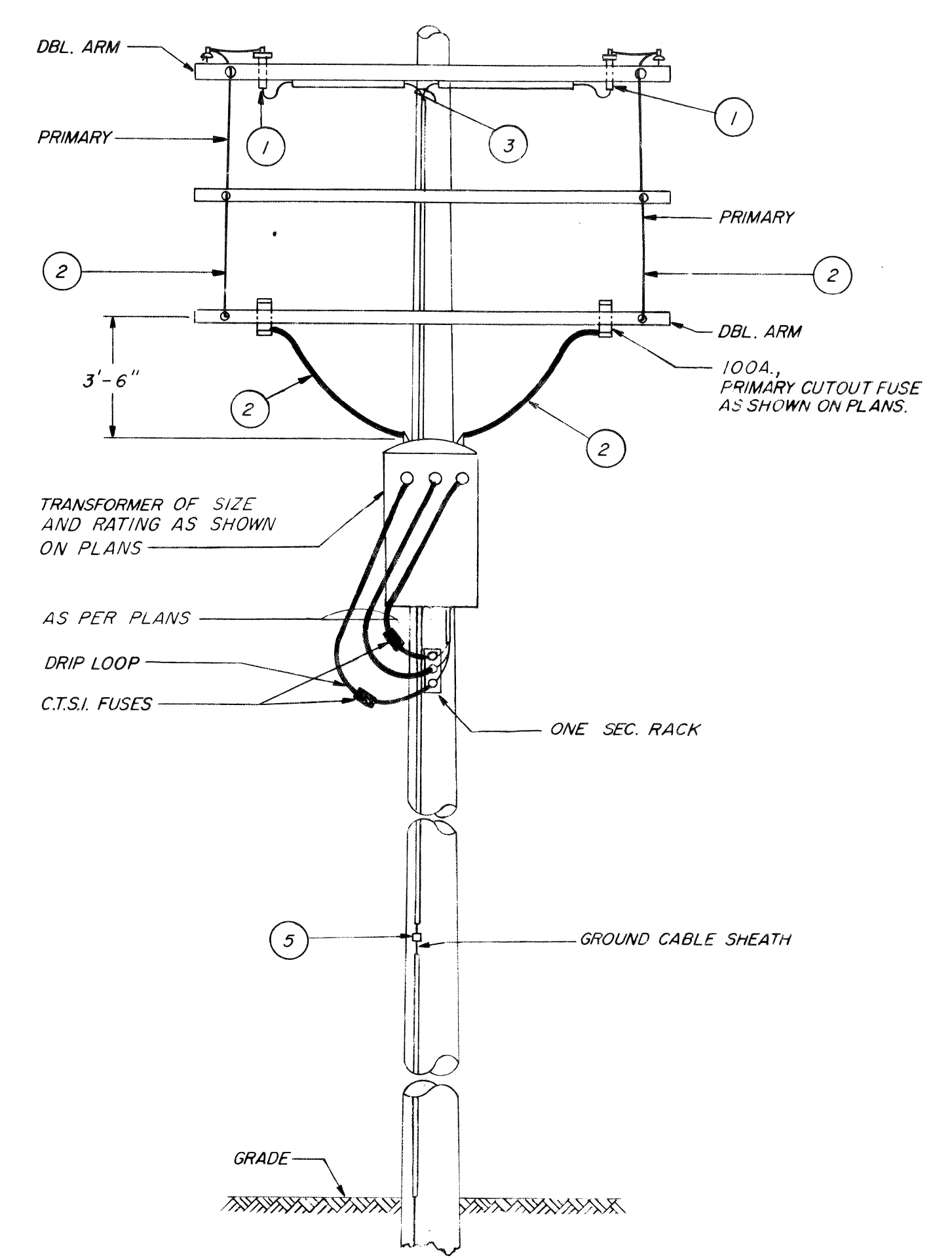
FILE NO. 51-0581
SHEET NO. E50 OF 66
DATE JAN.-84



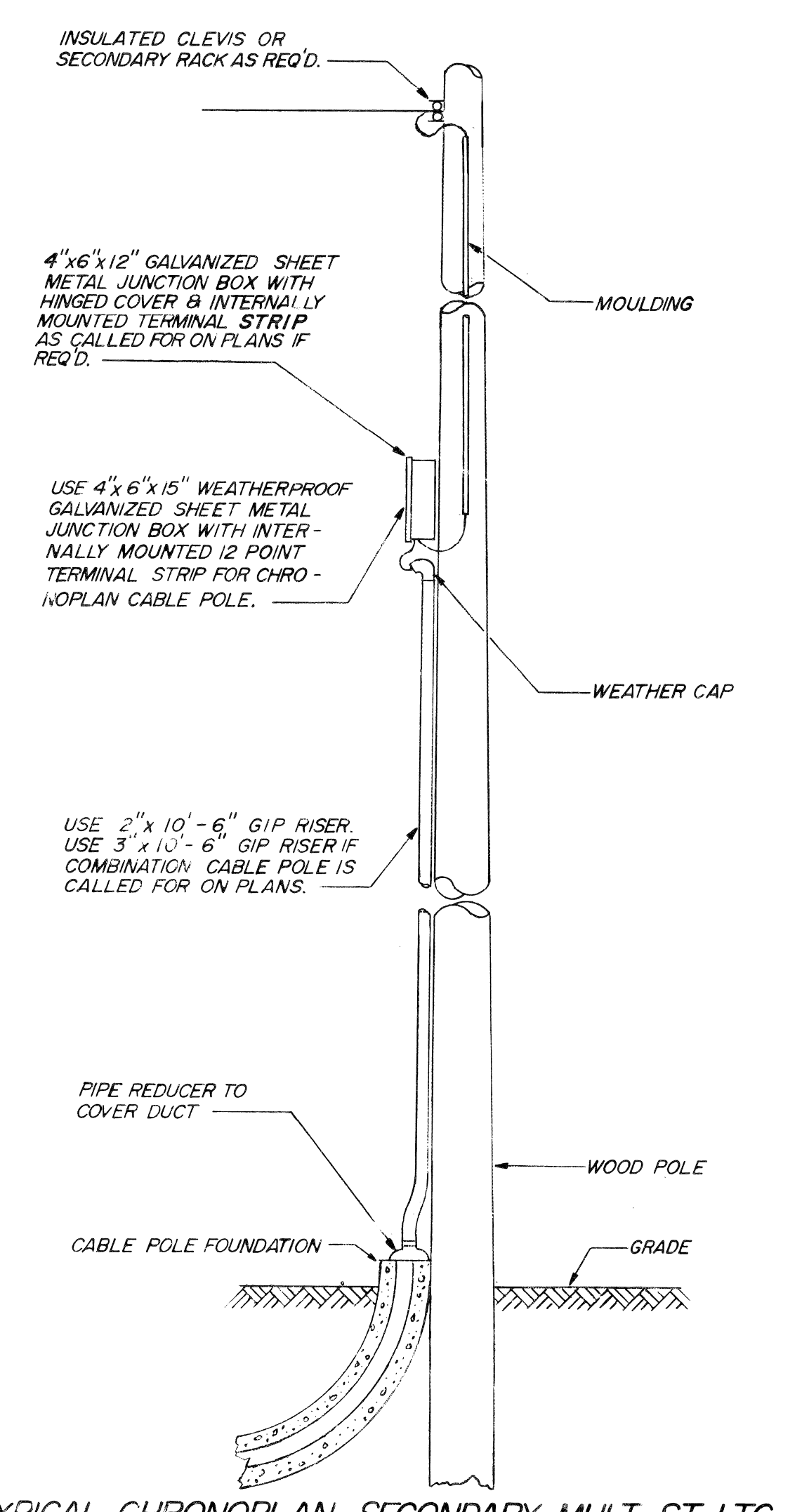
COMB TRANSF POLE & ST. LTG. & SEC. CABLE POLE
DETAIL "A"
 N. T. S.



MULT. ST. LTG. TRANSFORMER POLE
DETAIL "B"
 N. T. S.



TRANSFORMER POLE DETAIL
DETAIL "C"
 N. T. S.

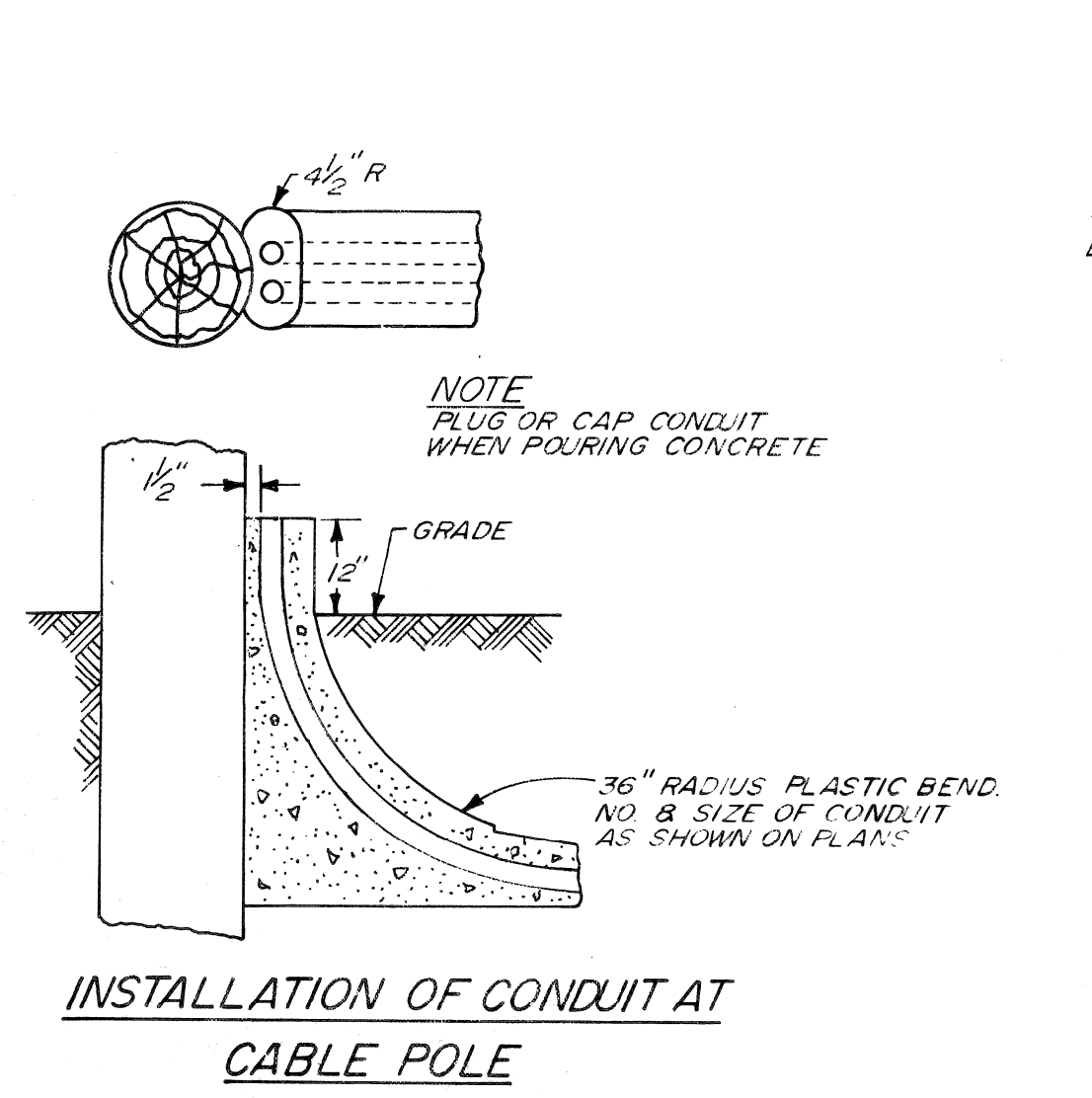


TYPICAL CHRONOPLAN, SECONDARY, MULT. ST. LTG. & TRAFFIC SIGNAL CABLE DETAIL
DETAIL "D"
 N. T. S.

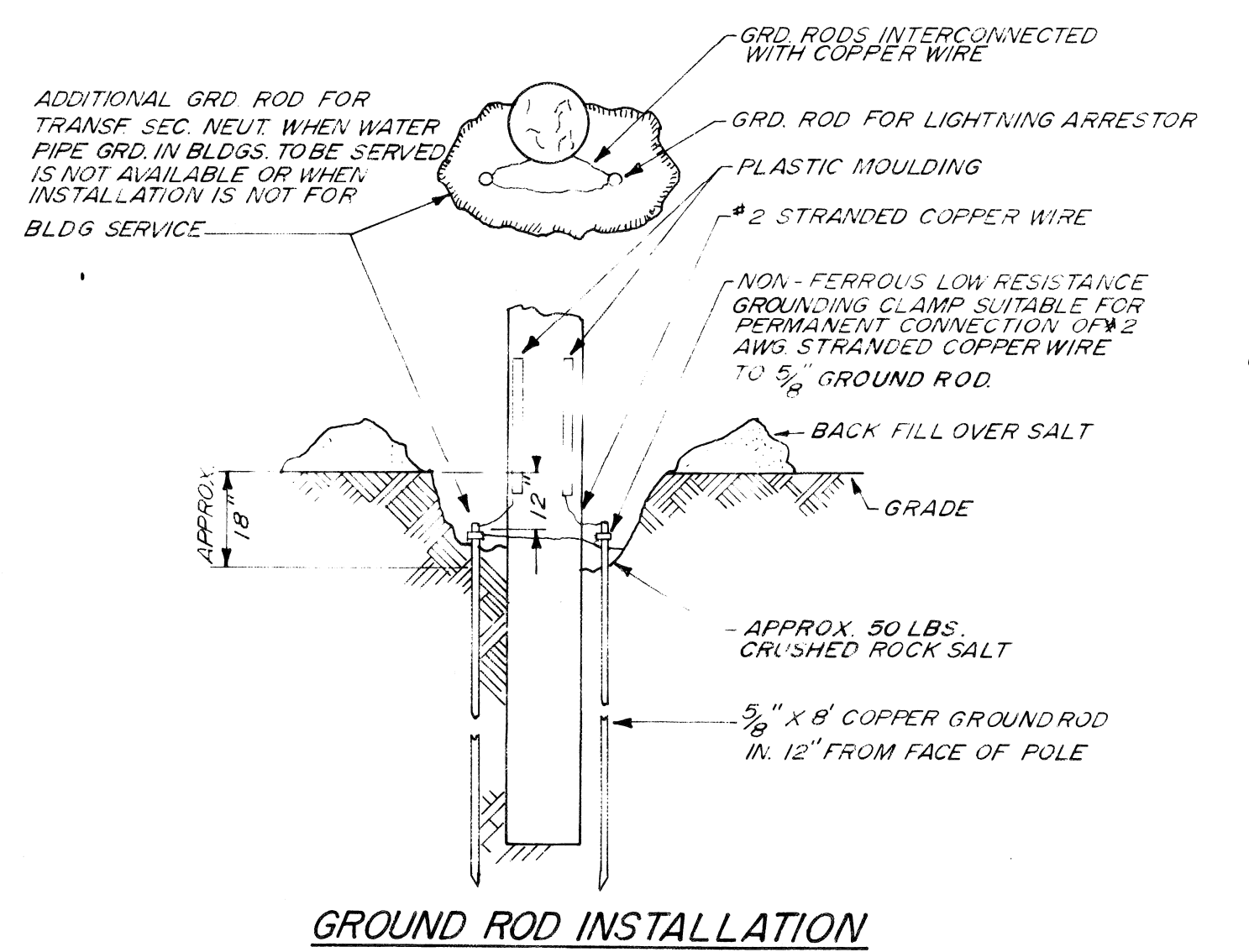
NOTE:
 FOR ALL CABLE POLES INSTALL 2-5/8" x 8'-0" GROUND RODS AS SHOWN ON GROUND ROD INSTALLATION AND CONNECT GROUND RODS WITH #2 COPPER WIRE TO IRON PIPE RISER WITH SUITABLE GROUND CLAMP.

DETAIL ITEMS	
1	LIGHTNING ARRESTER-SIZE AND TYPE AS REQUIRED
2	#6 OVERHEAD TRAINING WIRE, (NEOPRENE COVERED, WEATHERPROOF)
3	#2 GROUND WIRE UNDER MOULDING
4	WEATHERHEAD
5	FOUR SCREW CONNECTOR
6	36" RADIUS PLASTIC BEND, NO. & SIZE OF CONDUIT AS SHOWN ON PLANS.
7	3" GIP RISER
8	3" x 4" REDUCER ADAPTER

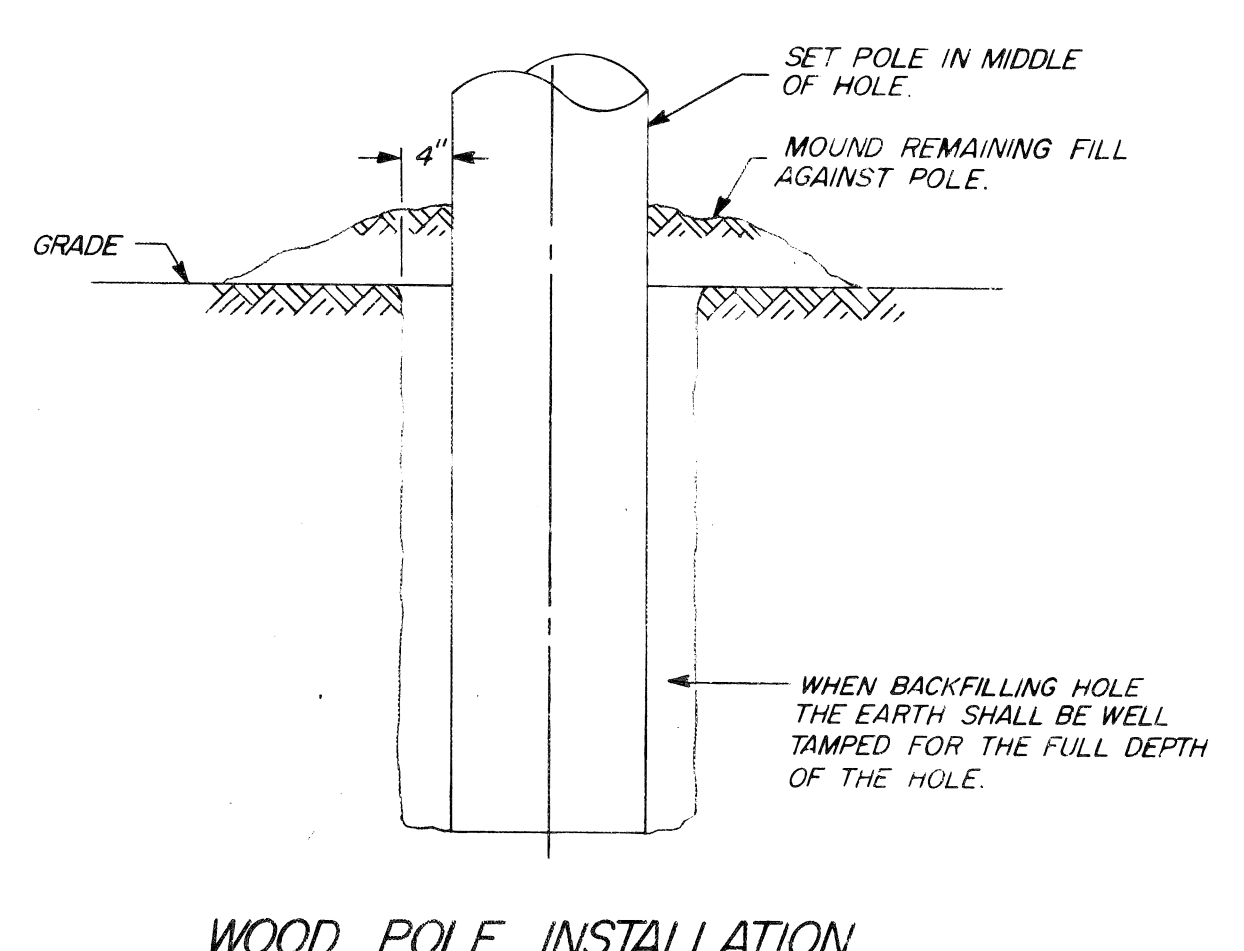
2" SQUARE
 PUNCH 1/8" HOLE FOR NAIL
 C.45
 60
 -PLD 45' POLE -SET IN 1960 (TYP)
 USE 1/4" STEEL STAMP FOR LET TERING
 PIN SET MARK 7'-0" ABOVE GRADE
TYPICAL MARKING WOOD POLE TAGS
 STOCK: 0.032" ALUMINUM MILL FINISH



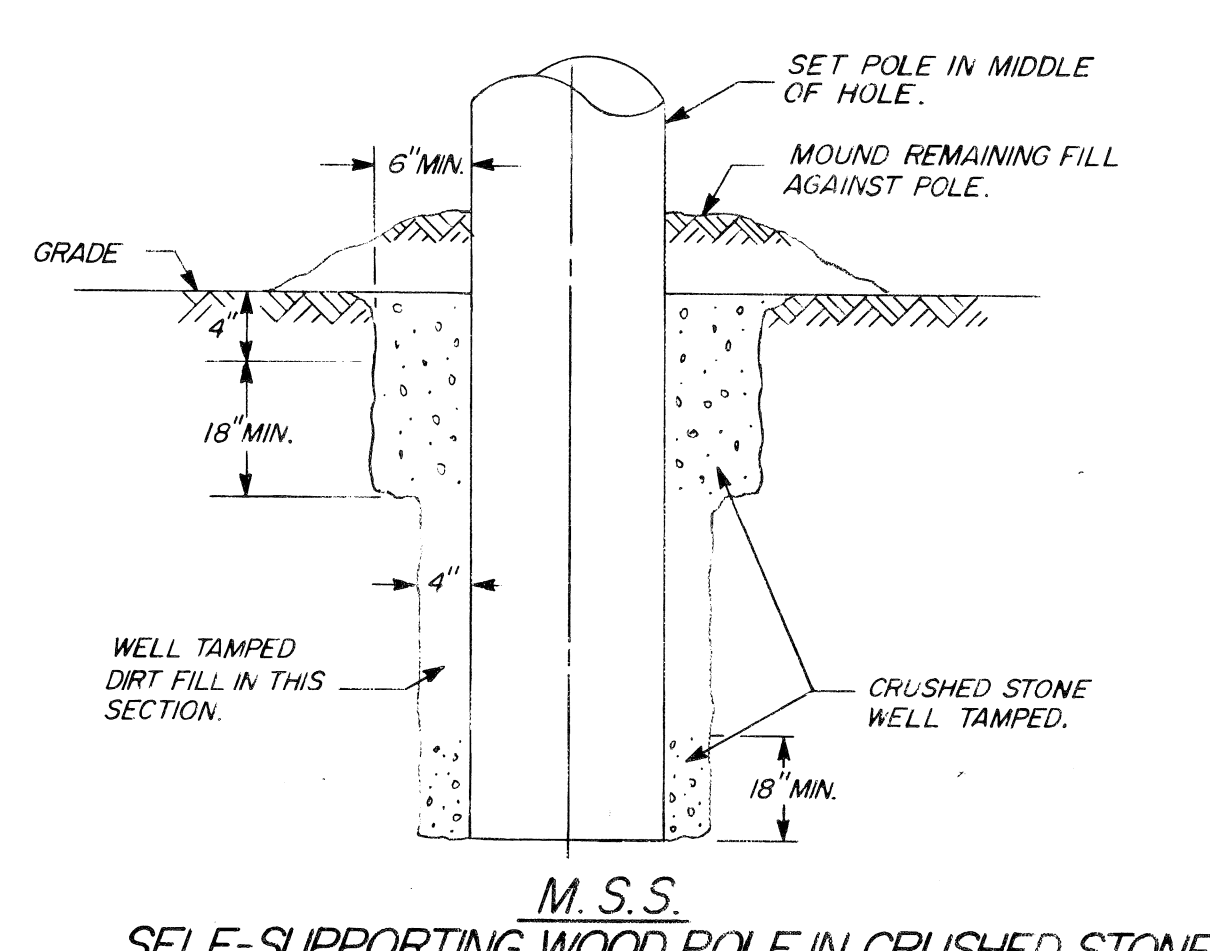
INSTALLATION OF CONDUIT AT CABLE POLE



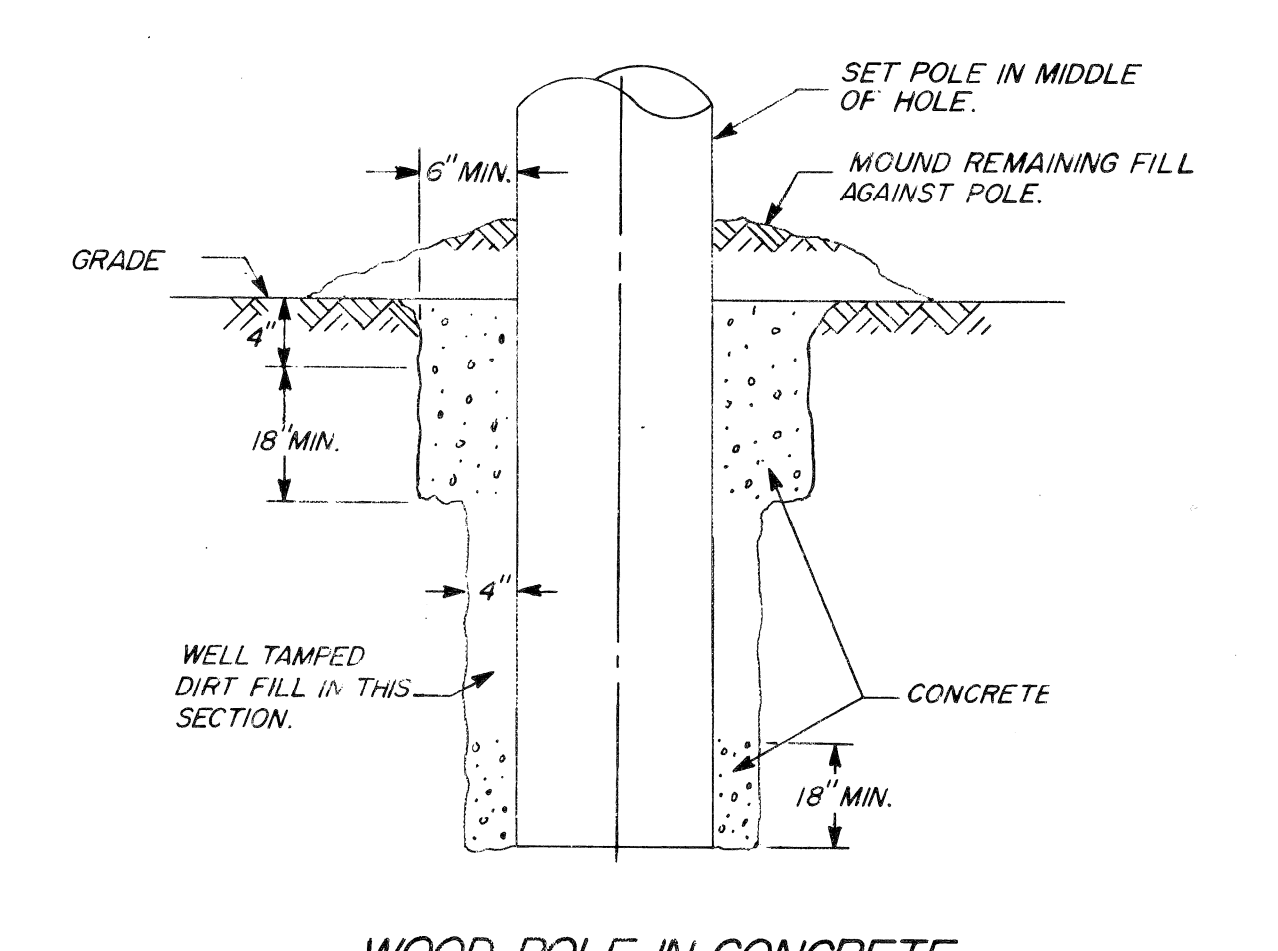
GROUND ROD INSTALLATION



WOOD POLE INSTALLATION
 N. T. S.



M.S.S. SELF-SUPPORTING WOOD POLE IN CRUSHED STONE
 N. T. S.



WOOD POLE IN CONCRETE
 N. T. S.

DATE	DESCRIPTION	CHKD BY

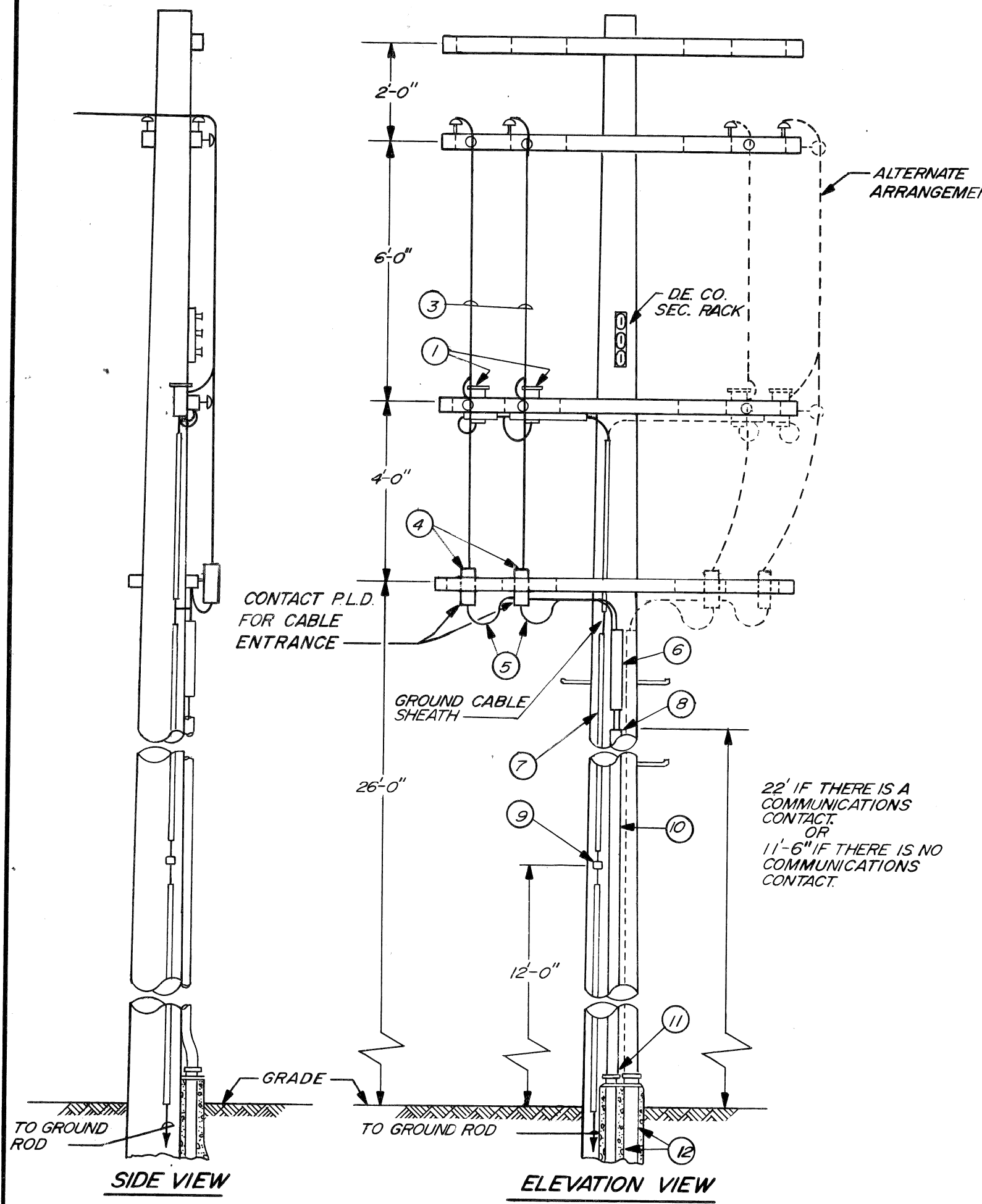
CITY OF DETROIT

E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION
240/480V. TRANSFORMER POLES & MISC. CABLE POLE DETAILS

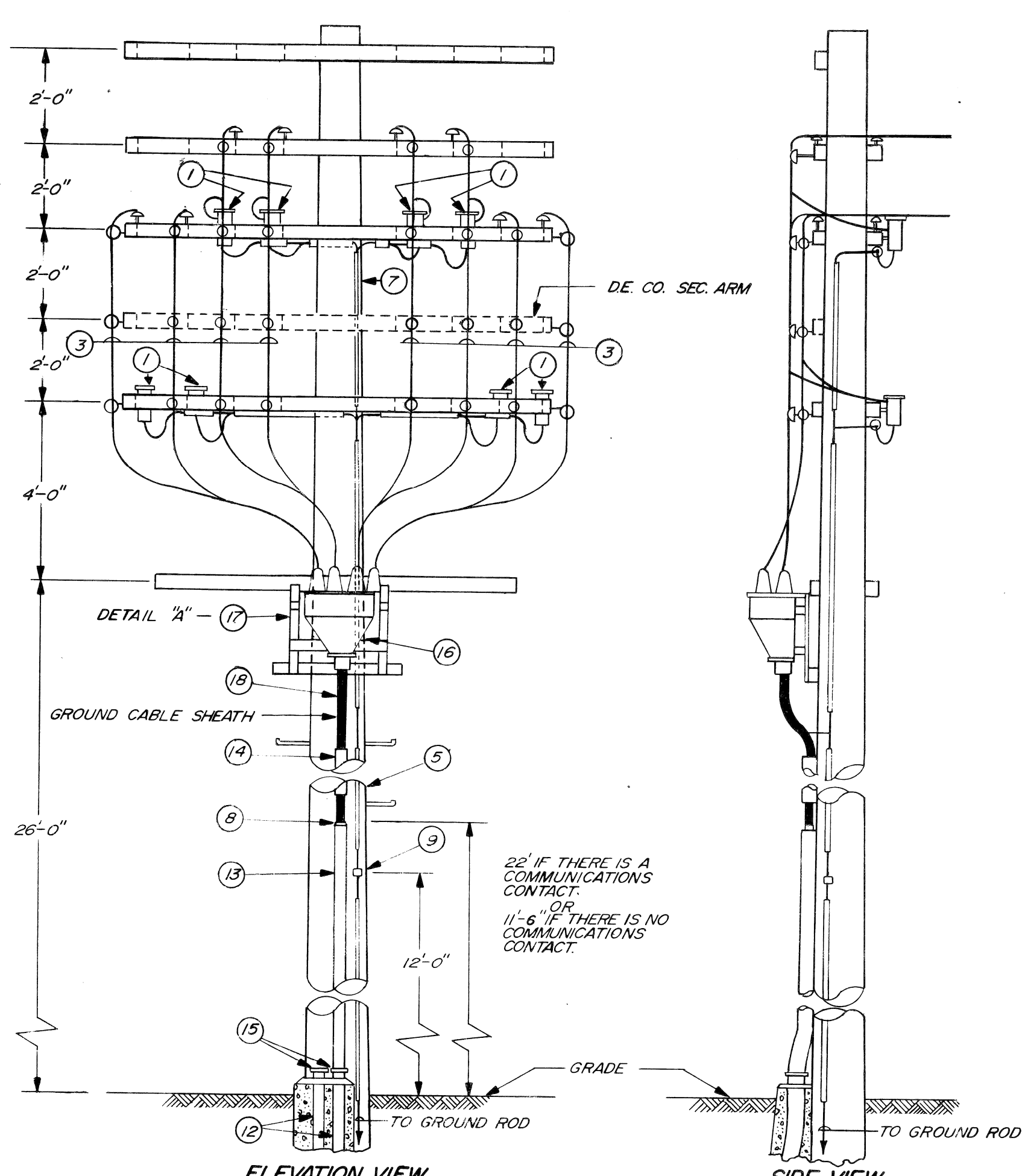
DRAWN: C.E.A.
 CHECKED: C.E.A.
 APPROVED: C.E.A.
 DATE: JAN-84
 PLAN PREPARED BY: CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
 16580 WYOMING DETROIT, MICH. 48221
 DRWG NO.: 51 OF 66
 FILE NO.: CEA 1064

PUBLIC LIGHTING COMMISSION
 CITY OF DETROIT

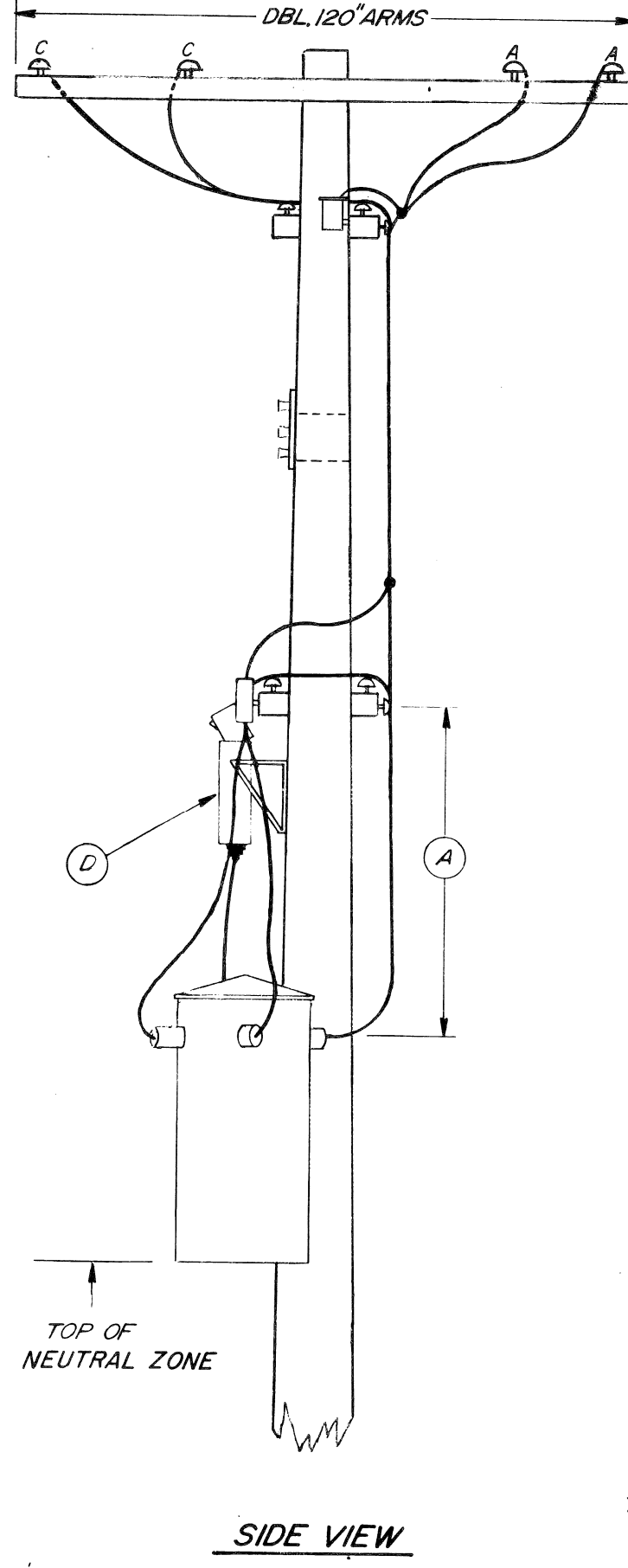
FILE NO: 51-0581
 SHEET NO: 51 OF 66
 DATE: JAN-84



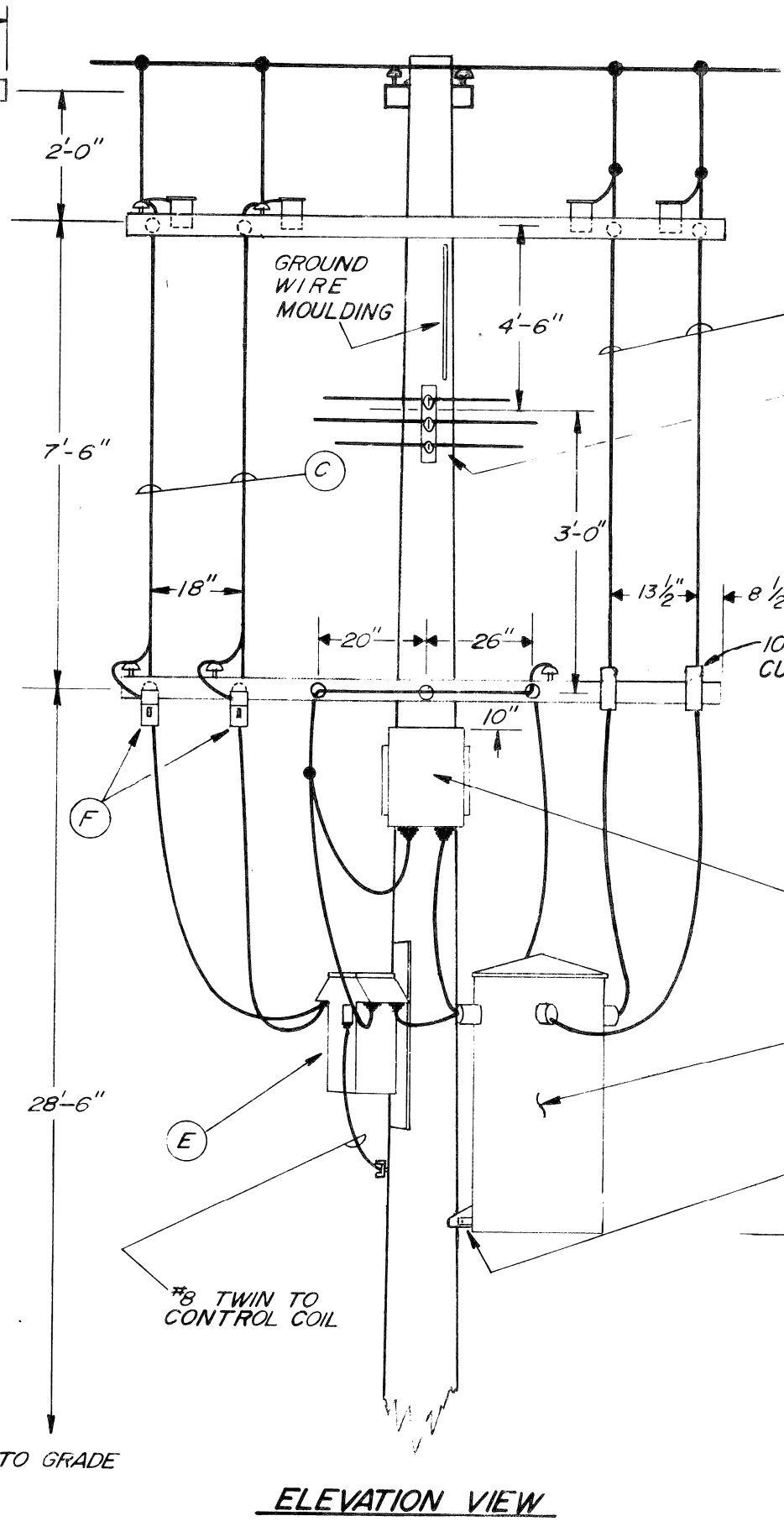
SERIES STREET LIGHTING CABLE POLE
N.T.S.



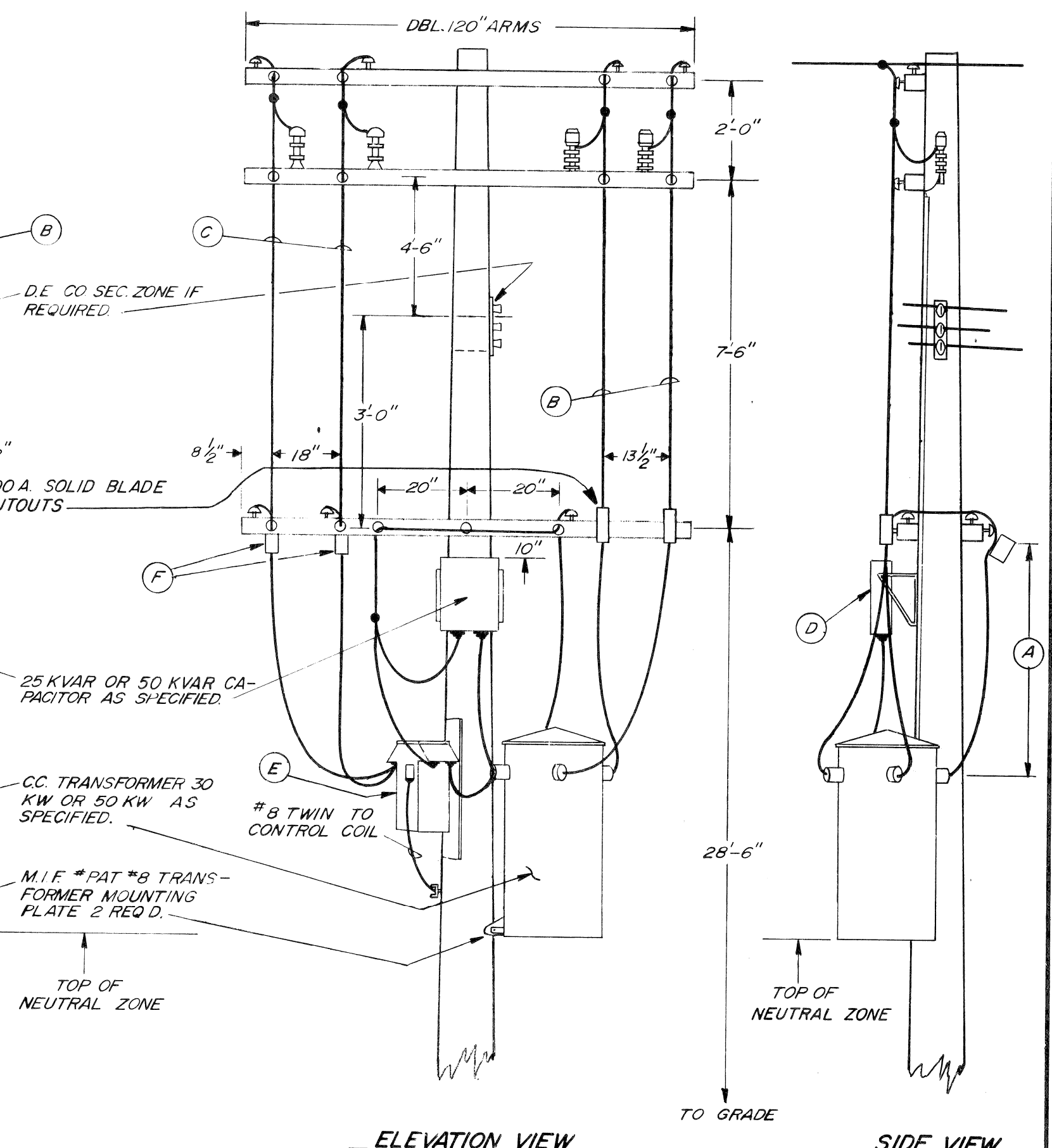
TYPICAL 8/C STREET LIGHTING CABLE POLE
N.T.S.



SIDE VIEW



ELEVATION VIEW



ELEVATION VIEW

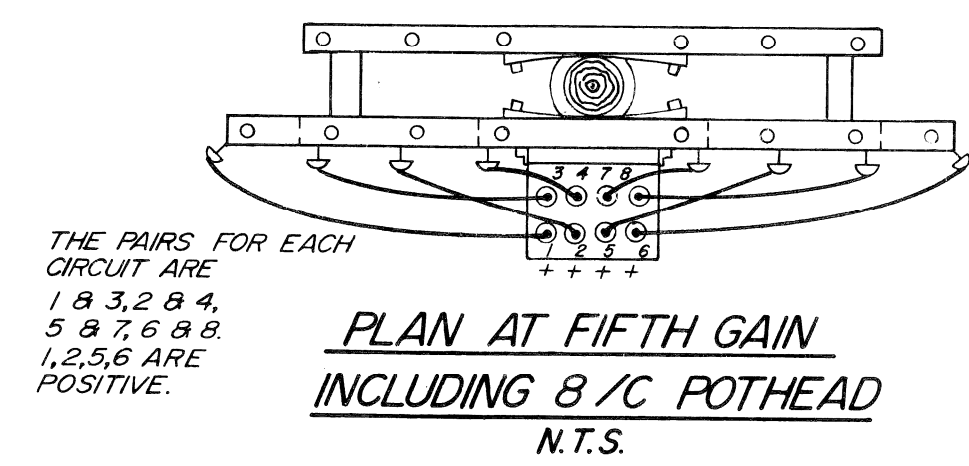
SIDE VIEW

NOTE: ADJUST CONTACTS EQUIPMENT AND TRAINER TO EXISTING POLE CONFIGURATION.

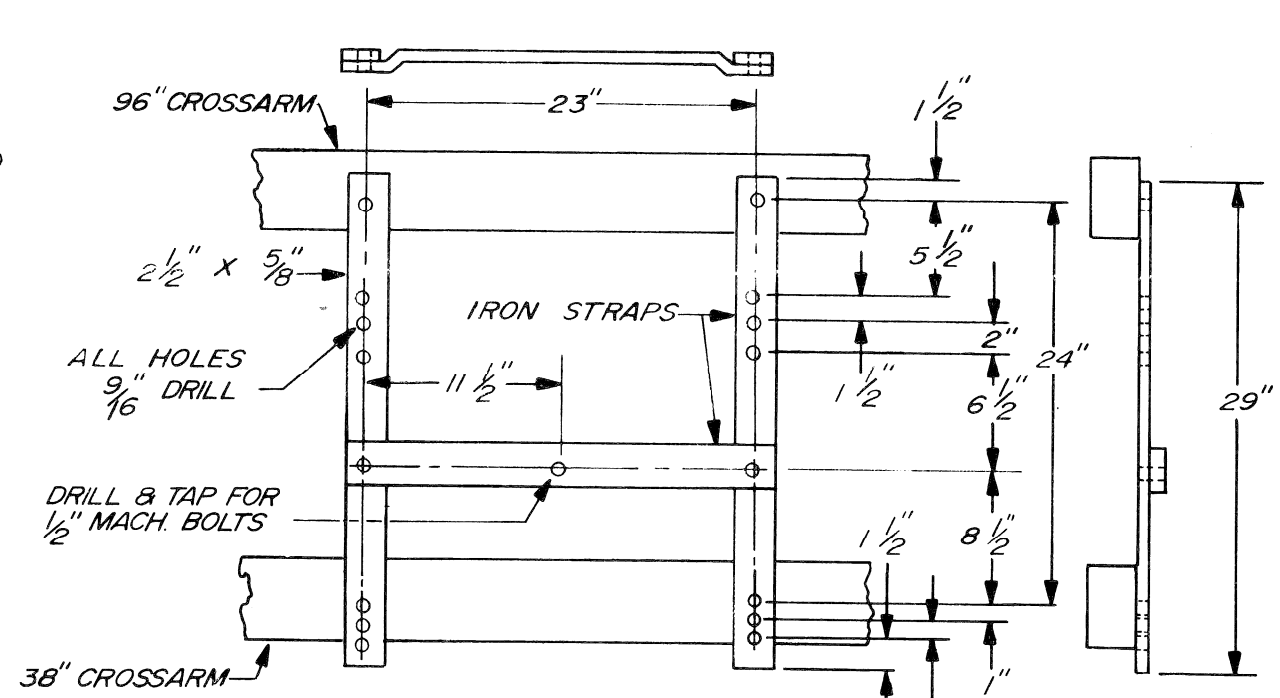
CONSTANT CURRENT ST. LTG. REGULATOR POLE BUCK ARM INSTALLATION

CONSTANT CURRENT ST. LTG. REGULATOR POLE LINE ARM INSTALLATION

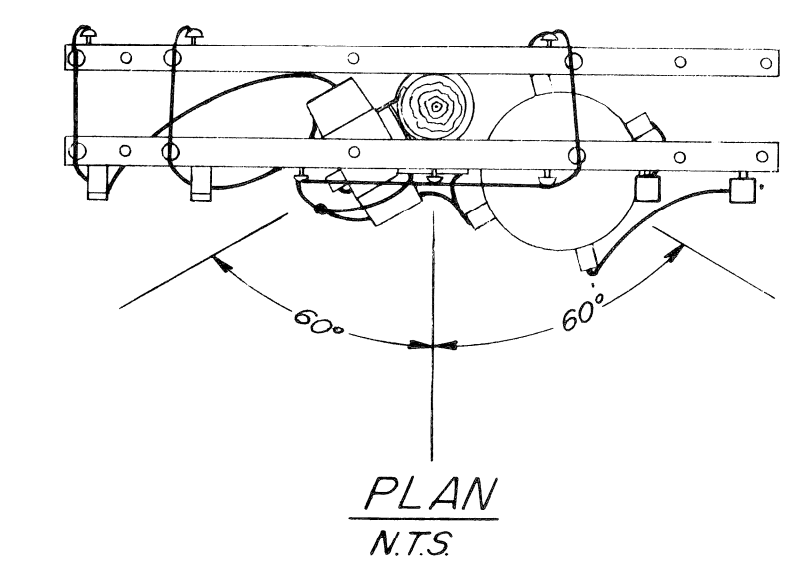
DETAIL ITEM	
1	LIGHTNING ARRESTER
2	#6 OVERHEAD TRAINING WIRE (NEOPRENE COVERED WEATHERPROOF)
3	#8 OVERHEAD FLEXIBLE TRAINING WIRE (ITEM 25 OF CABLE SPEC)
4	100A SOLID BLADE CUTOUT
5	1/2" #8 L.C. CABLE
6	3" SPLIT-DUCT ABOVE G.I.P. TO 8" BELOW CROSSARM
7	#2 GROUND WIRE UNDER Moulding
8	LEAD WEATHERCAP & GALV. BUSHING
9	FOUR SCREW CONNECTOR
10	2 1/2" G.I.P. RISER
11	2 1/2" x 4" REDUCER ADAPTER
12	36" RADIUS PLASTIC BEND, NO. & SIZE OF CONDUIT AS SHOWN ON PLANS
13	3" G.I.P. RISER
14	4" SPLIT DUCT
15	3" x 4" REDUCER ADAPTER
16	8/C POTHEAD
17	8/C POTHEAD MOUNTING BRACKET (SEE DETAIL "A")
18	8/C L.C. CABLE



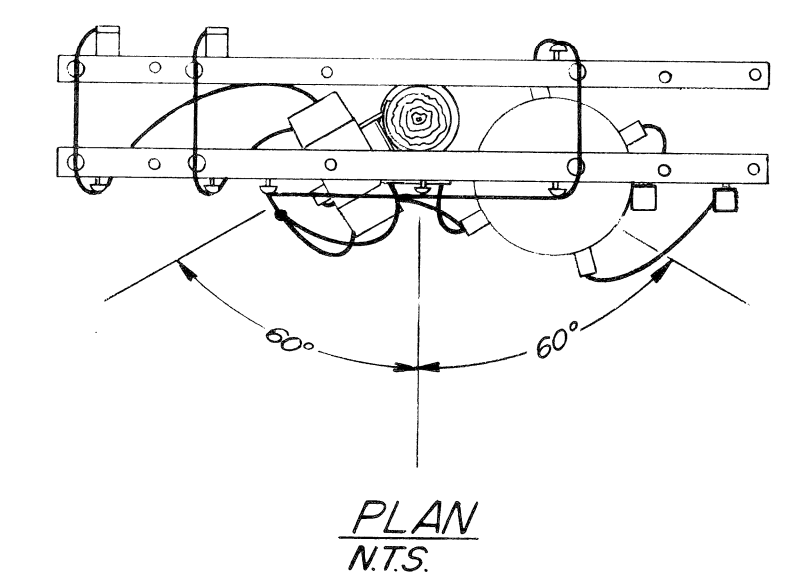
PLAN AT FIFTH ARM INCLUDING 8/C POTHEAD
N.T.S.



BRACKET FOR 8/C POLE TYPE POTHEAD DETAIL "A"

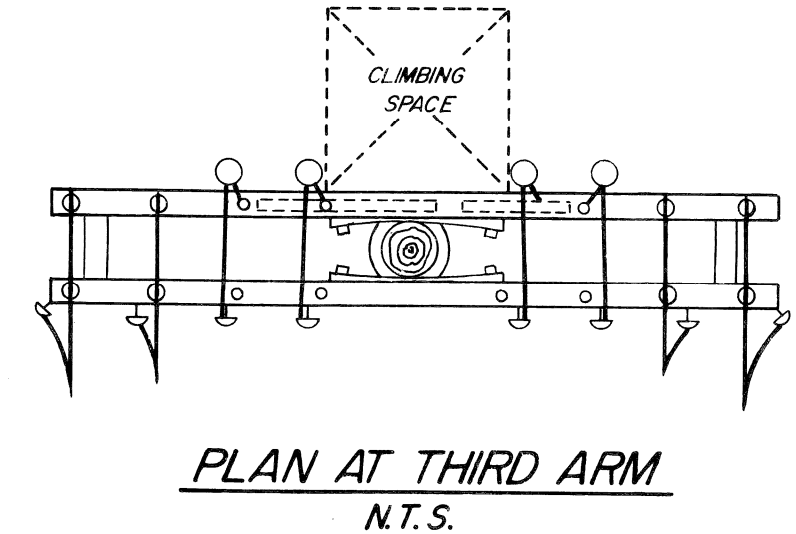


PLAN N.T.S.

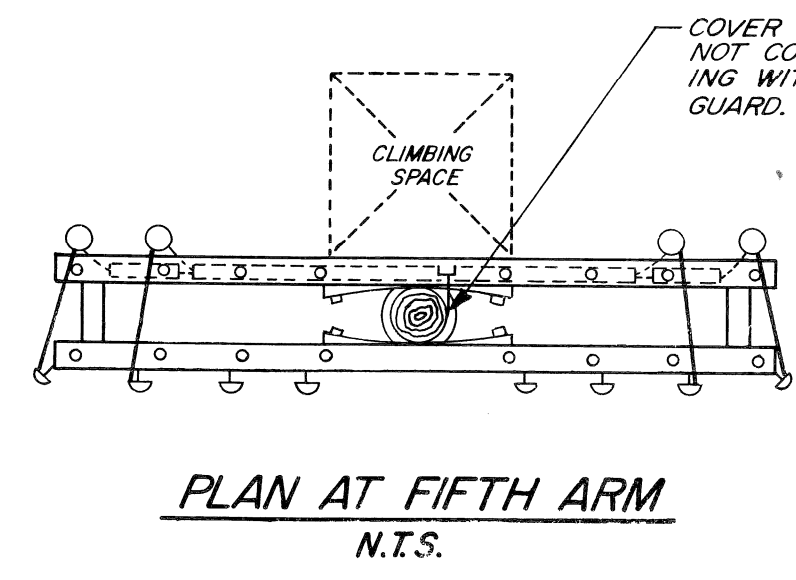


PLAN N.T.S.

- NOTES:**
- SEE P.L.D. DETAILS FOR GROUND ROD AND CONDUIT INSTALLATION.
 - INSTALL STEPS ON POLE FROM 8'-0" ABOVE GROUND TO 48" BELOW POTHEAD ARM.
 - INSTALL BRASS TAG ON EACH PH. CAP & P.H. BODY. TAGS TO BE STAMPED WITH THE FOLLOWING INFORMATION: STREET LIGHTING CIRCUIT NUMBER & "PLUS" TO INDICATE POSITIVE LEAD.
 - THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR THE APPLICATION AS SHOWN ON THE DRAWINGS.

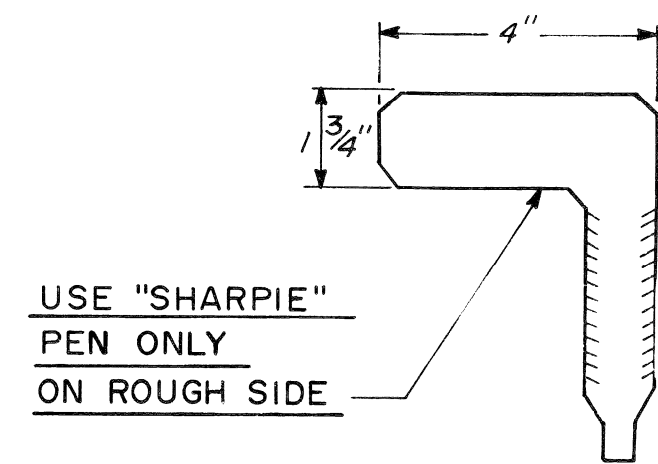


PLAN AT THIRD ARM
N.T.S.



PLAN AT FIFTH ARM
N.T.S.

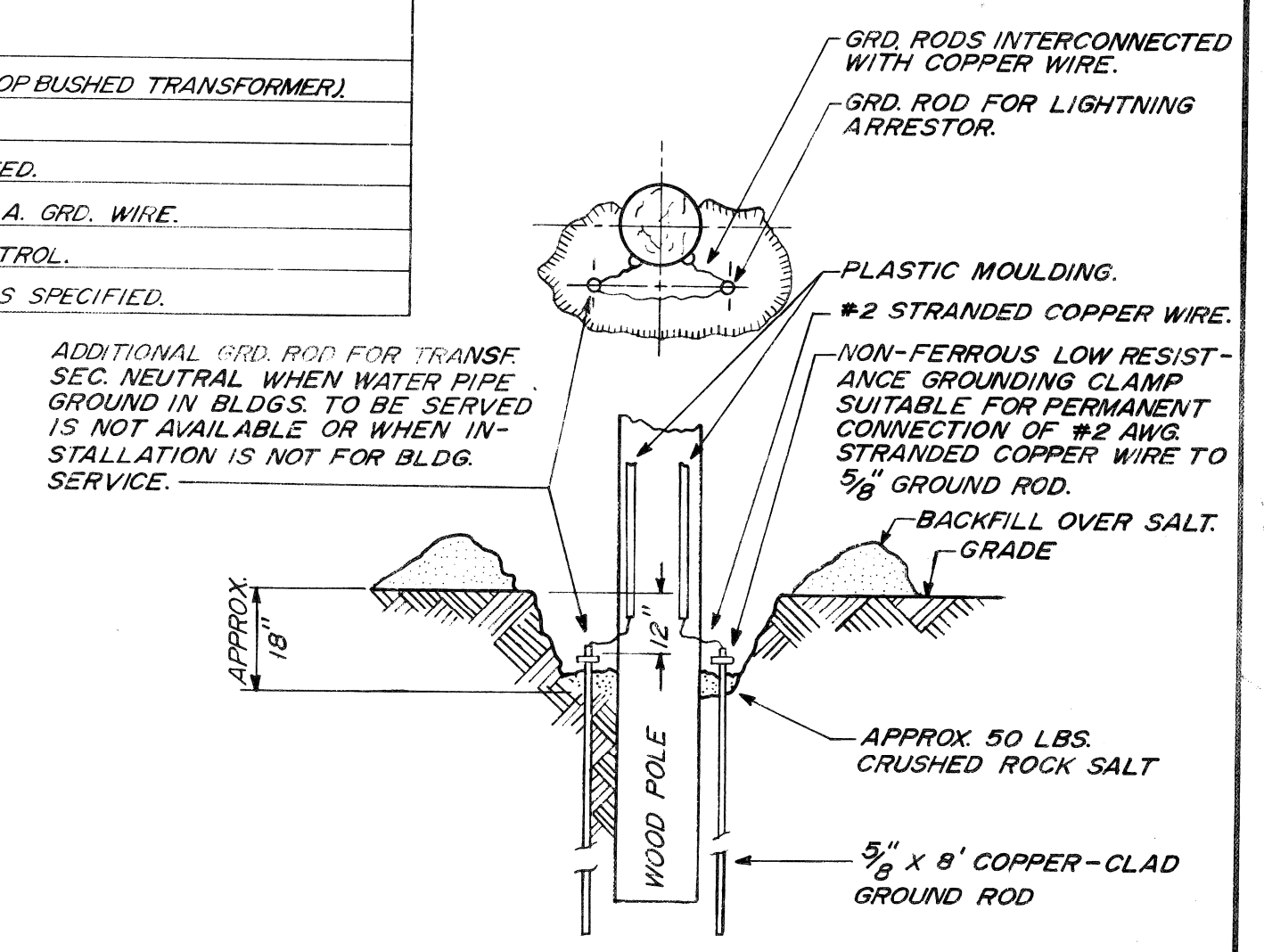
DETAIL ITEM	
A	TOP THRU BOLT, 5'-0" TO ARM (5'-6" FOR TOP-BUSHED TRANSFORMER).
B	#8 HYGRADE FROM POTHEAD CAPS.
C	ALL TRAINERS #6 W/P EXCEPT AS NOTED.
D	CAPACITOR CASE CONNECT TO P.H. L.A. GND. WIRE.
E	SOUTH BEND OIL SWITCH 20 AMP. CONTROL.
F	100 AMP ENCLOSED CUTOUTS. FUSE AS SPECIFIED.



USE "SHARPIE" PEN ONLY ON ROUGH SIDE

WRITTEN INFORMATION SHOULD INCLUDE CIRCUIT NUMBER, PHASE (A1, B3, ETC.) VOLTAGE PRESENT (480/960, 120, 480/277, 6.6 SERIES), ETC., ADDITIONAL INFORMATION AS REQUIRED.

CABLE MARKING TAG (PLASTIC)
SERIES ST. LTG. N.T.S.



GROUND ROD INSTALLATION
N.T.S.

DATE	DESCRIPTION	CHKD. BY

CITY OF DETROIT

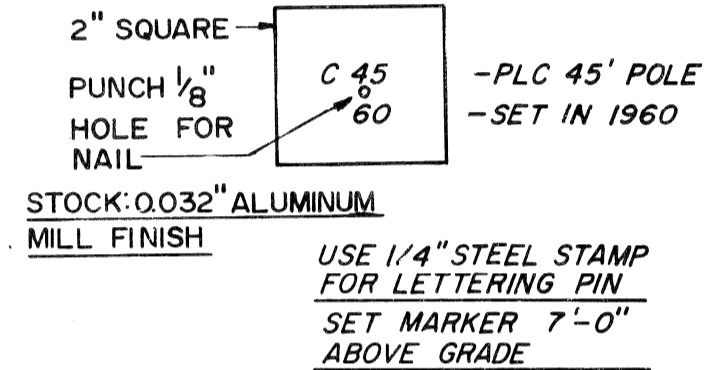
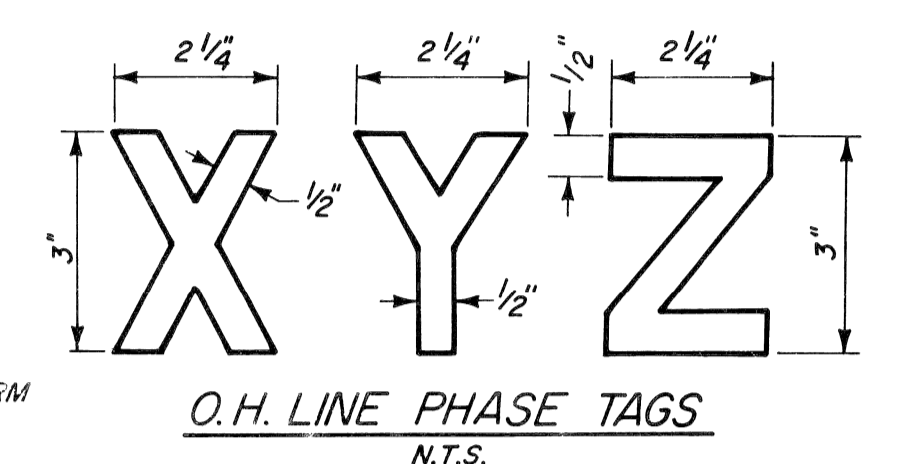
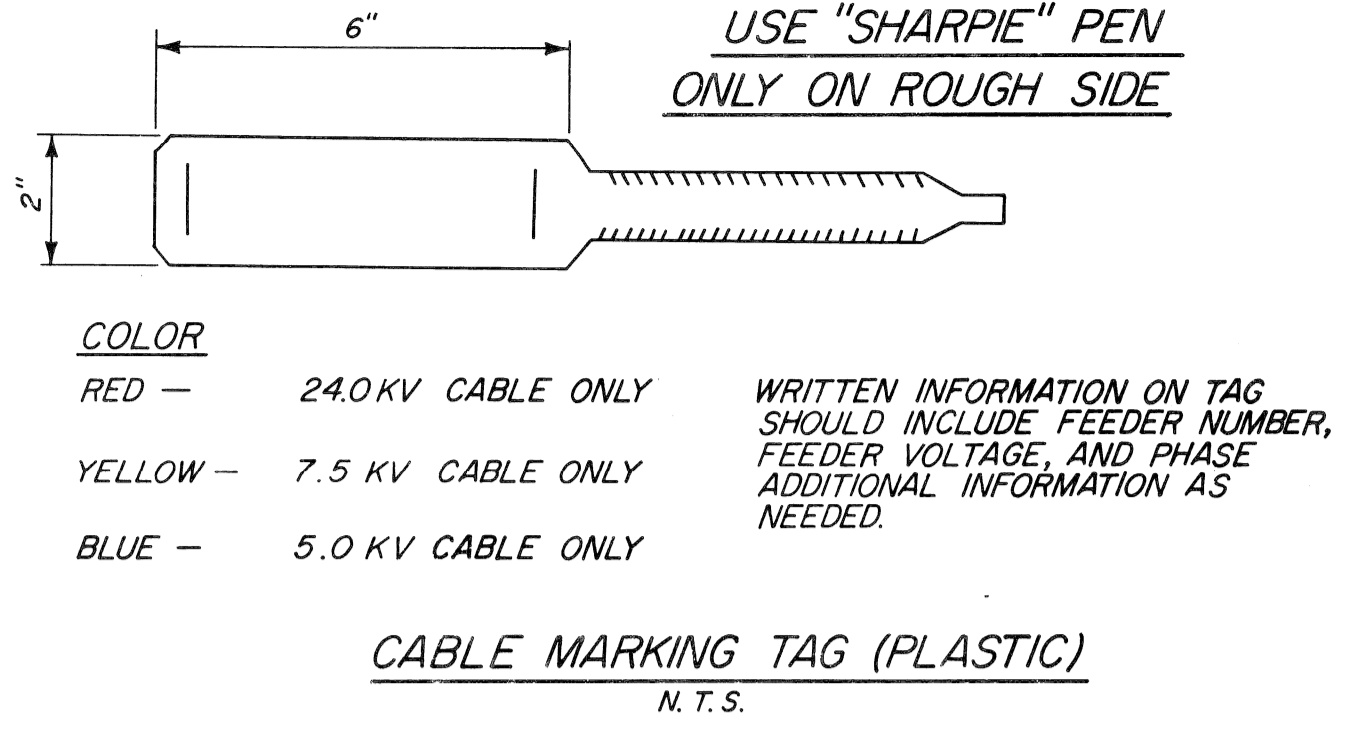
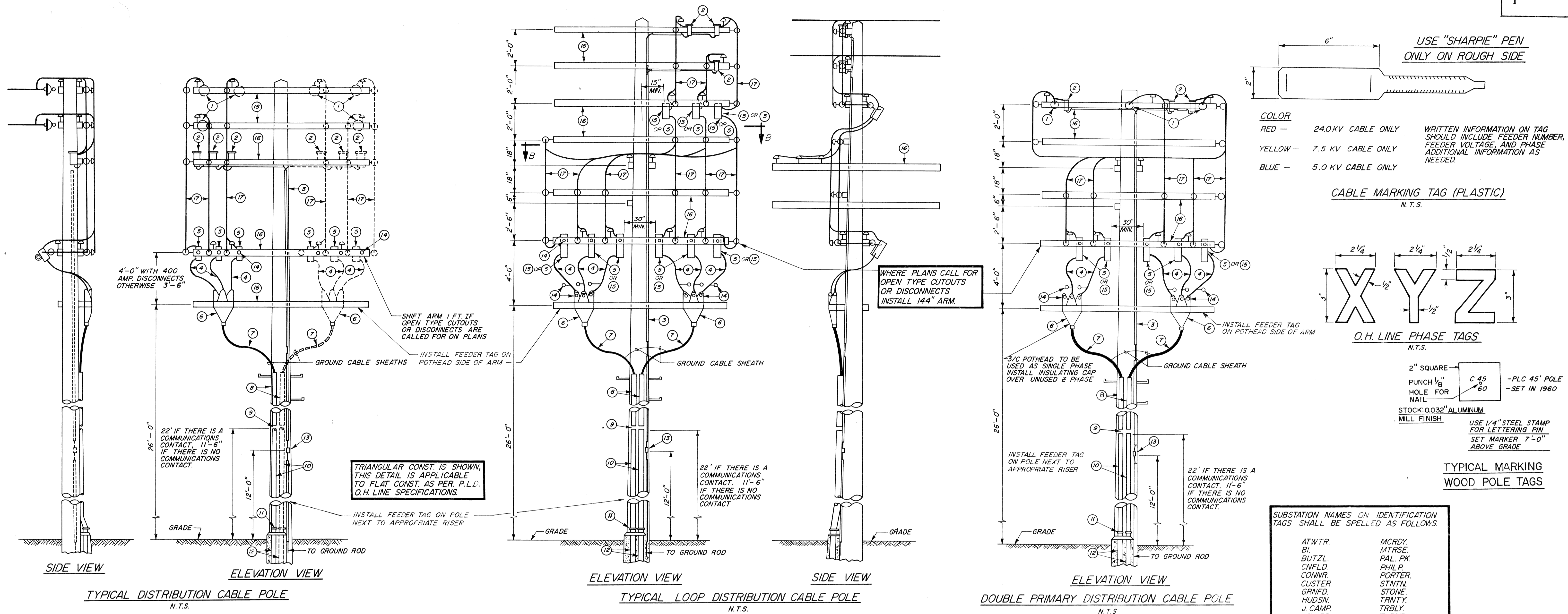
E. GRAND BLVD. AT E. JEFFERSON AVE.
RECONSTRUCTION
SERIES ST. LTG. CABLE POLE; 8/C ST. LTG. CABLE POLE;
& CONSTANT CURRENT ST. LTG. REGULATOR POLES
DETAILS

DRAWN BY CEA	FILE NO. 52 0P 66
CHECKED BY M	DATE JAN - 84
APPROVED BY M	FILE NO. CEA 1064

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221

DRAWN BY
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

FILE NO.	51-0581
SHEET NO.	E52 OF 66
DATE	JAN - 84



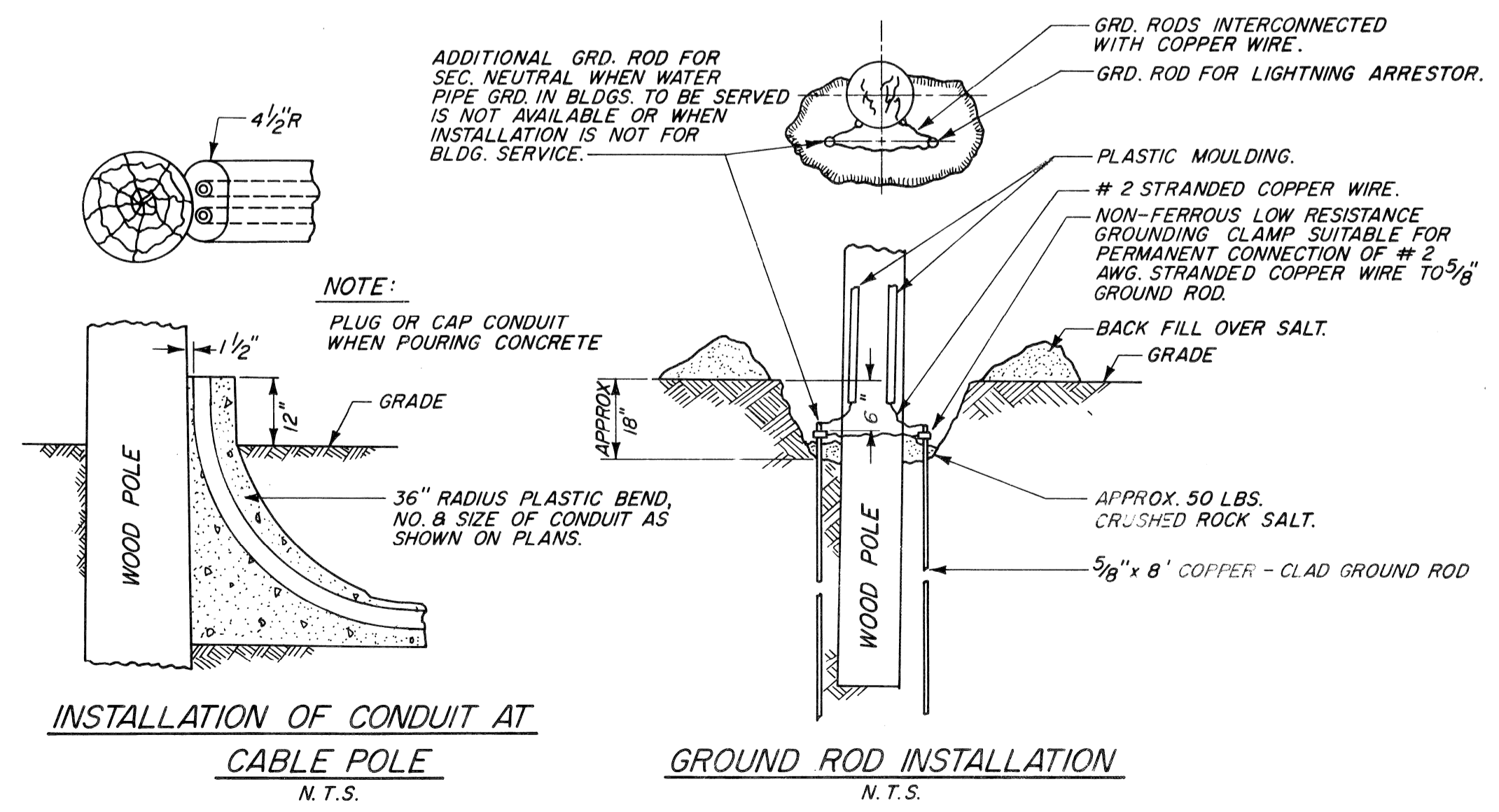
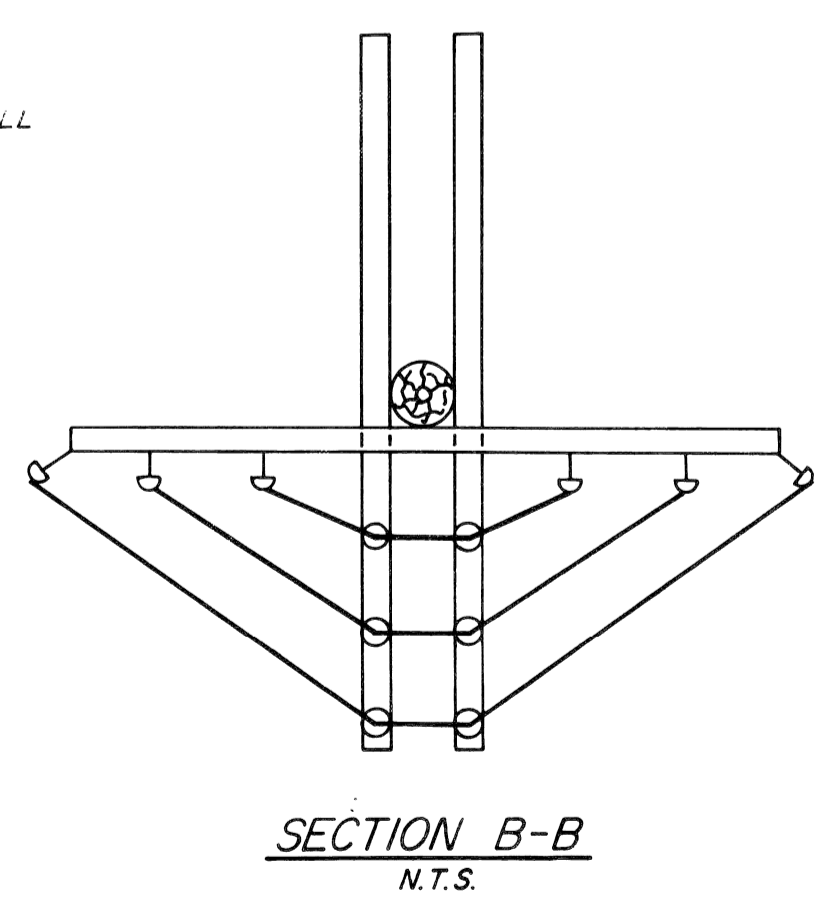
STATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS.

ATWTR.	MCRDY.
BI.	MTRSE.
BUTZL.	PAL. PK.
CNFLD.	PHIL P.
CONWR.	PORTER.
CUSTER.	STANT.
GRNFD.	STONE.
HUDSN.	TRNTY.
J. CAMP.	TRBL.
JOY RD.	TURNR.
L.A. BEL.	VERNIR.
LTHR.P.	WALTN.
LUDDN.	WARRN.
MAPLE.	WD. TER.

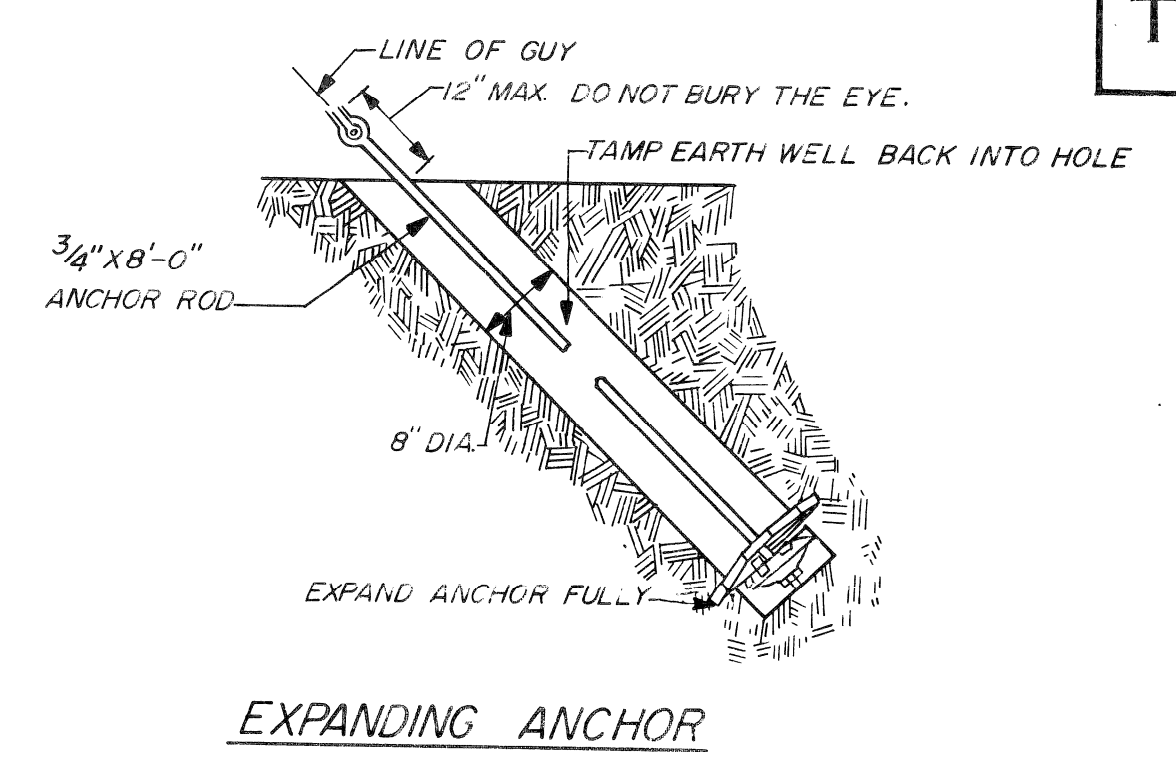
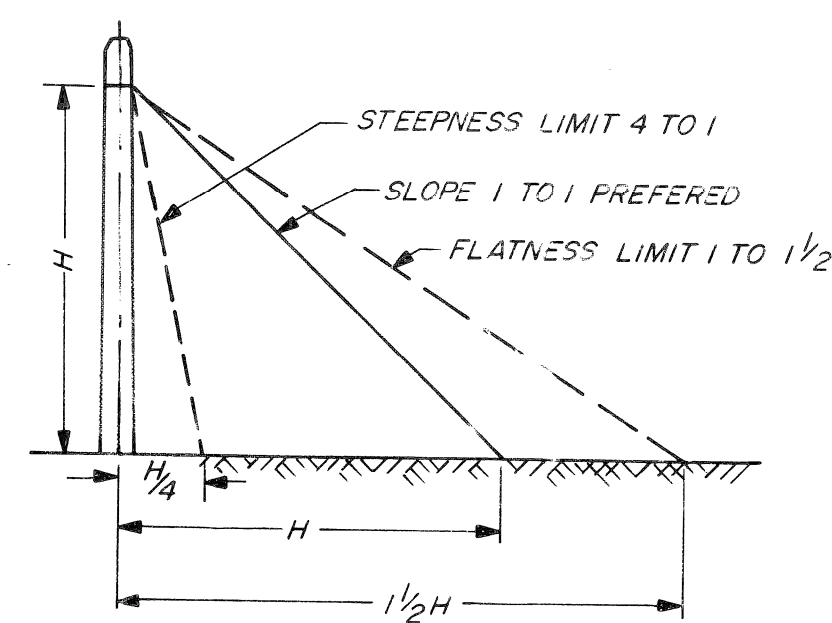
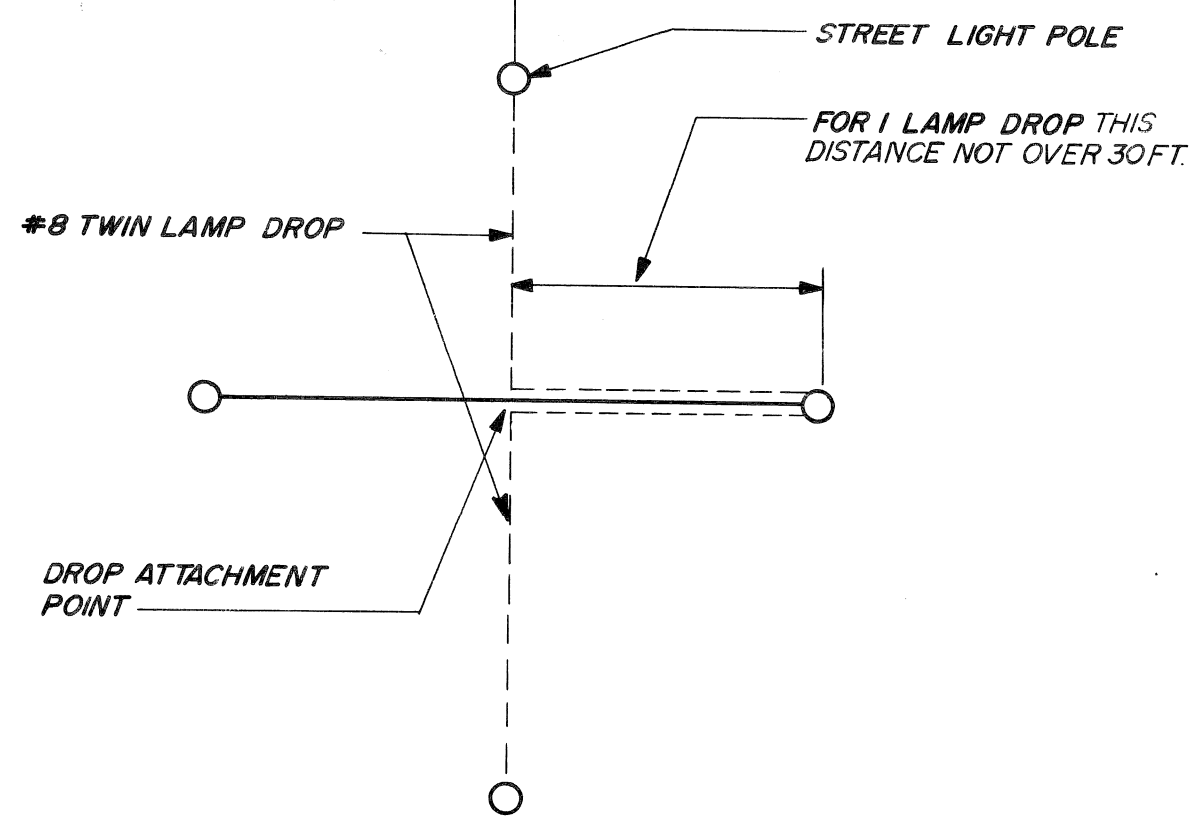
DETAIL ITEMS

1	SUSPENSION INSULATOR
2	LIGHTNING ARRESTER - RATING AND TYPE AS REQUIRED
3	#2 GROUND WIRE UNDER MOULDING
4	HIGH VOLTAGE FLEXIBLE TRAINING WIRE 3/4 AWG EXCEPT AS OTHERWISE NOTED
* 5	PRIMARY SOLID BLADE DISCONNECT
6	3/8 POTHEAD, 500AMP, FLAT DIVERGENT
7	L.C. CABLE
8	4\"/>

NOTE: IF URD CABLE IS USED THEN URD CABLE POLES, SPLICES, TERMINATIONS, SPECIFICATION SHALL BE USED. SEE P.L.D.

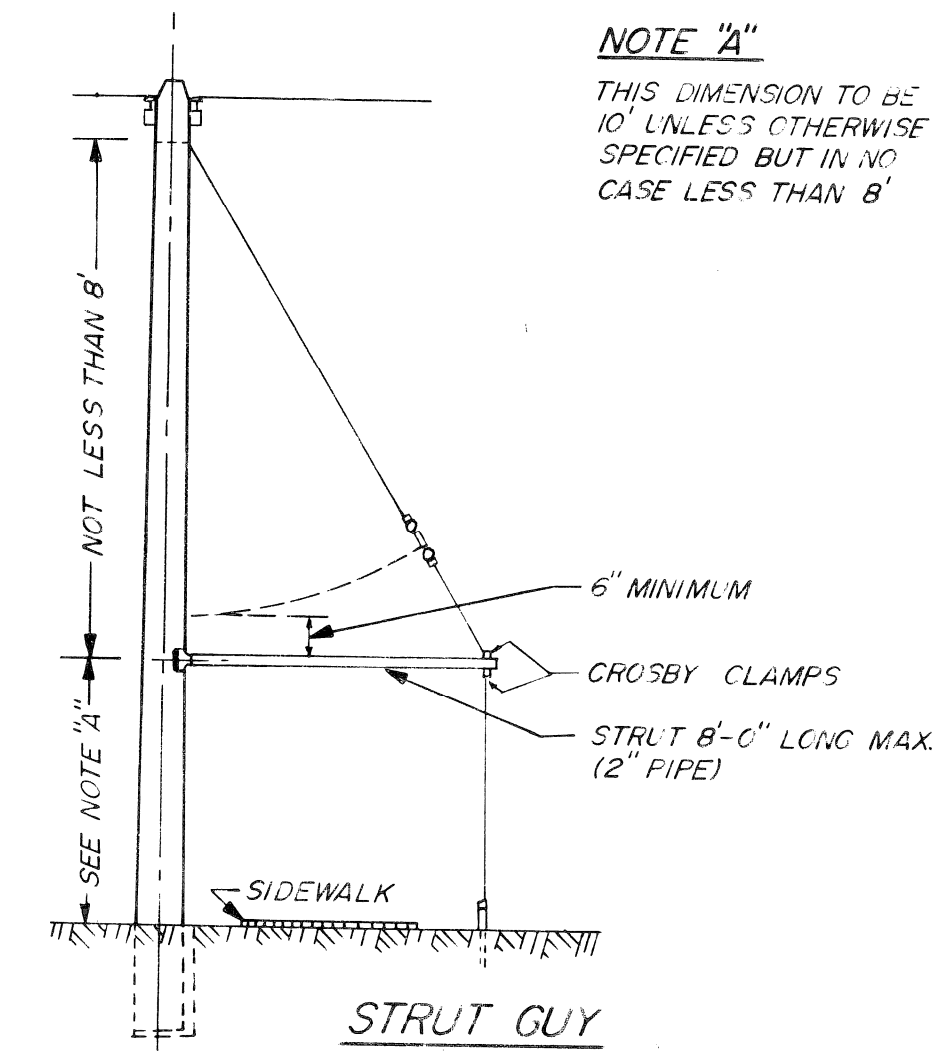
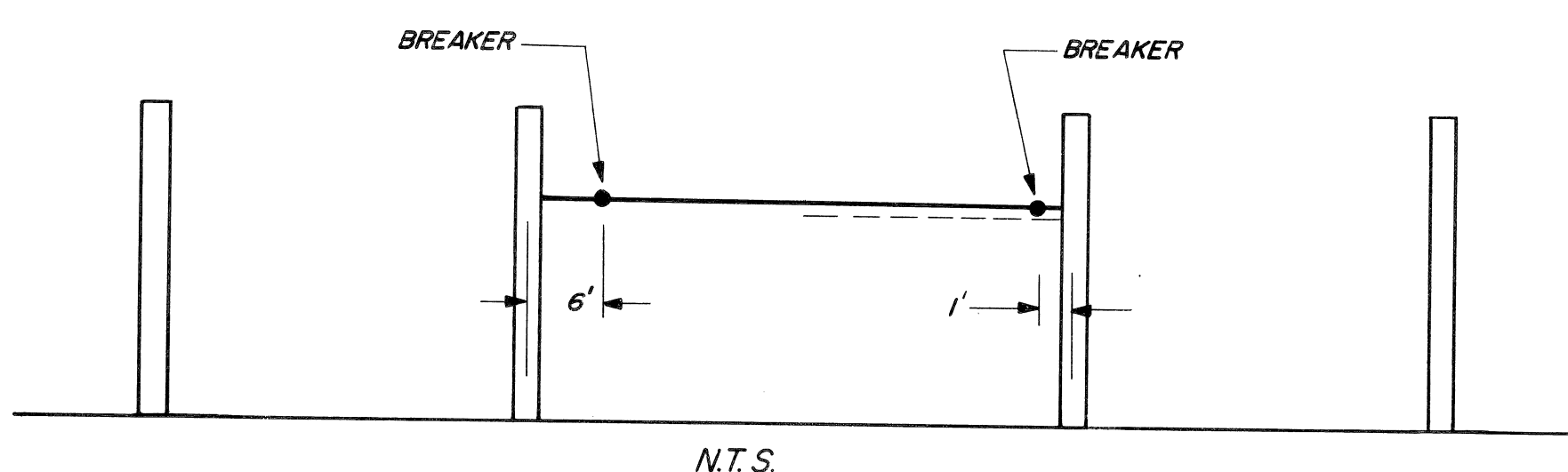


- KEEP ALL ELECTRICAL EQUIPMENT OUTSIDE OF THE 30\"/>



SLOPE LIMITS FOR ANCHOR GUYS

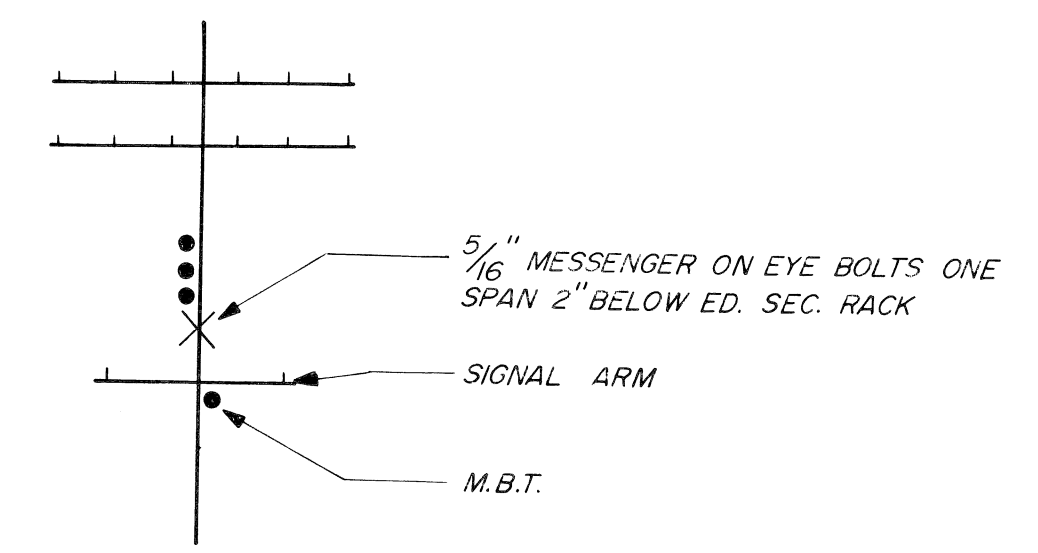
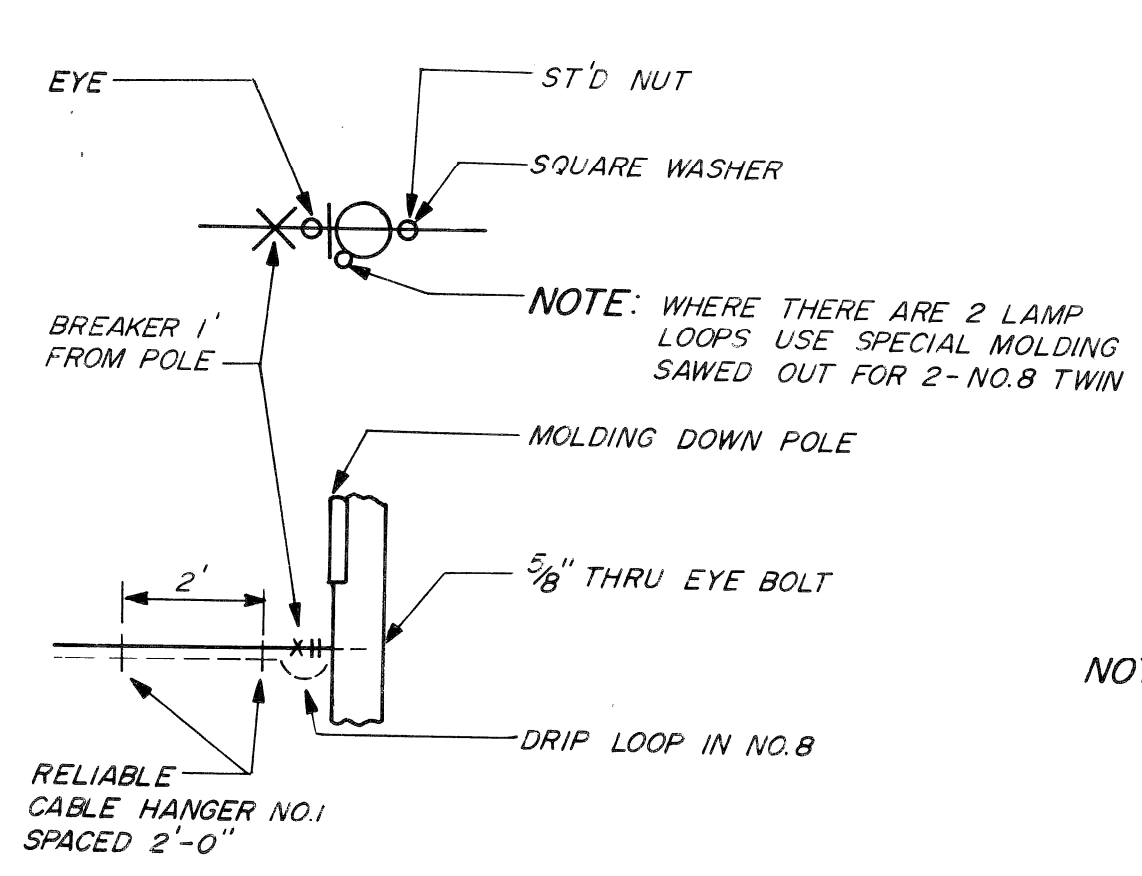
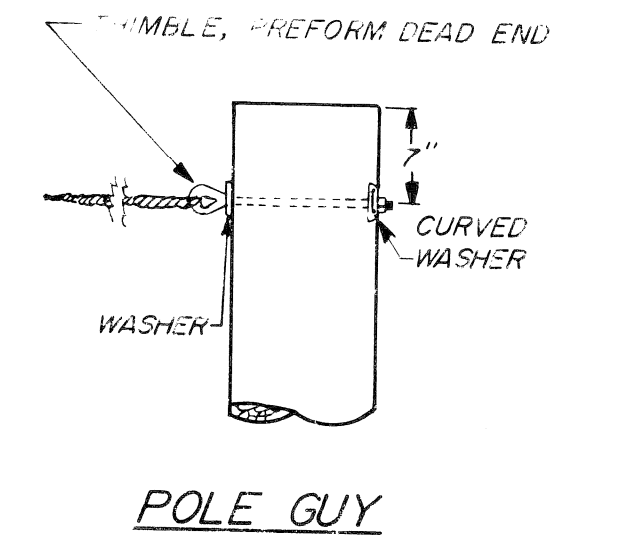
EXPANDING ANCHOR



NOTE "A"
THIS DIMENSION TO BE 10' UNLESS OTHERWISE SPECIFIED BUT IN NO CASE LESS THAN 8'

POLE HEIGHT	SETTING DEPTH
30'	6.0'
35'	6.0'
40'	6.0'
45'	6.5'
50'	7.0'
55'	7.5'
60'	8.0'

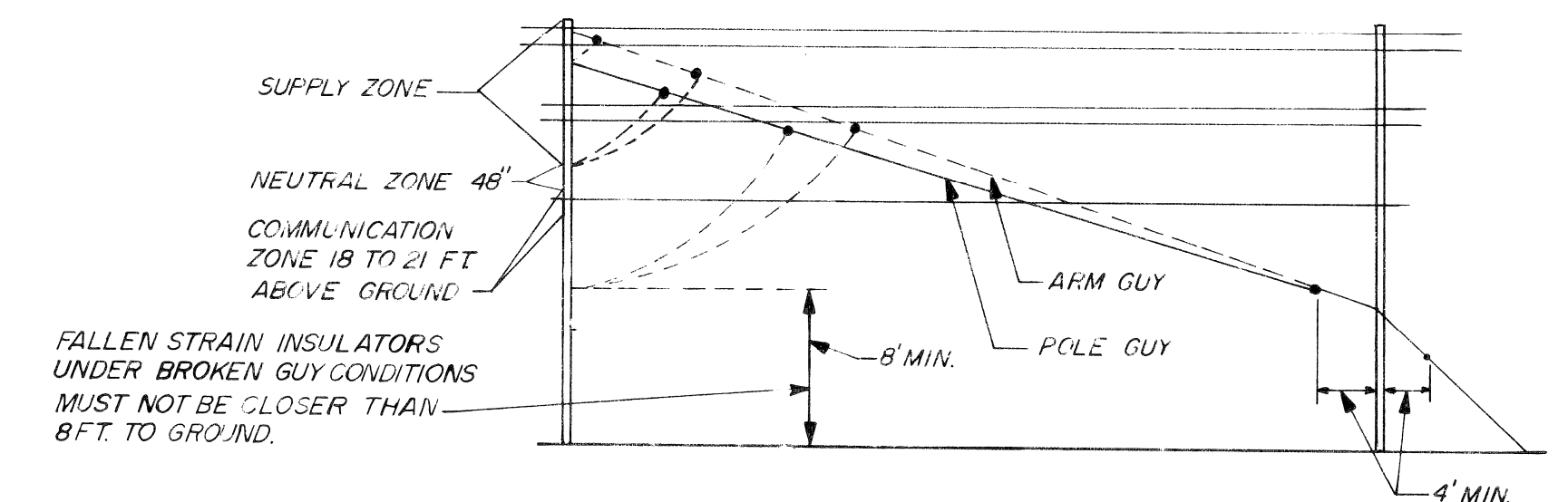
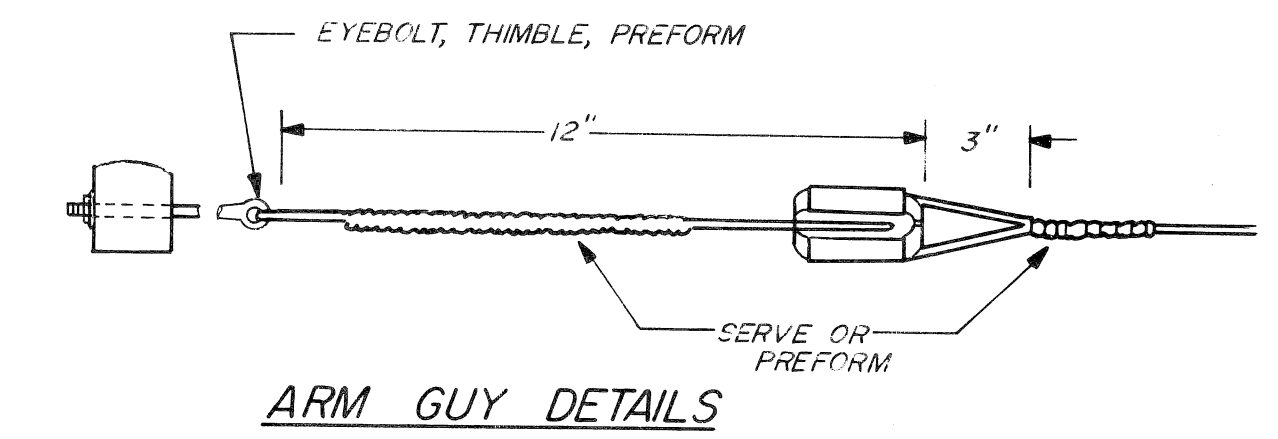
TYPICAL POLE SETTING DEPTH



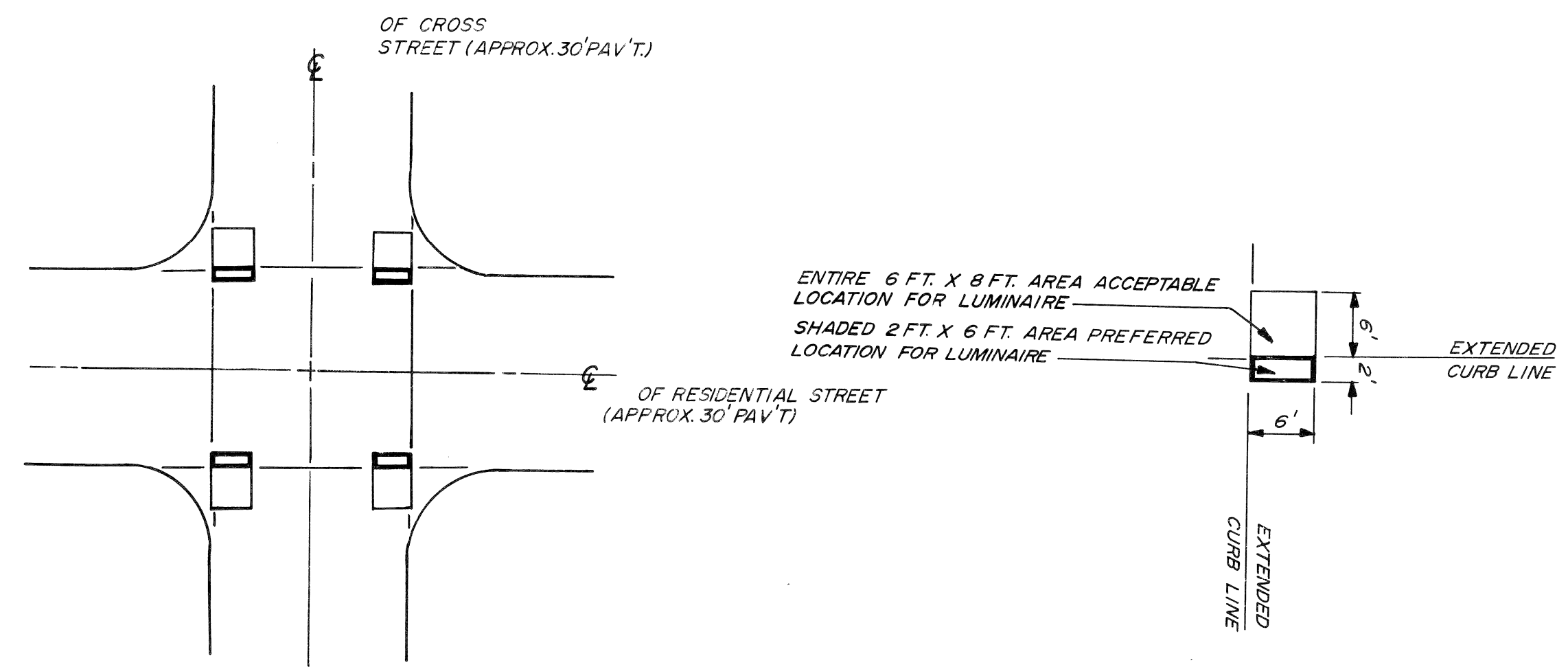
NOTE: INSTALL 5/8" MESSENGER SPAN FIRST WITH SAME SAG AS EDISON SEC THEN INSTALL NO.8 TWIN DROPS. IN THE CASES WHERE THERE IS A SINGLE DRCP AND THE ATTACHMENT POINT IS PULLED CUT AND UP READJUST SAG AT EYE BOLT.

(POLE DETAIL)

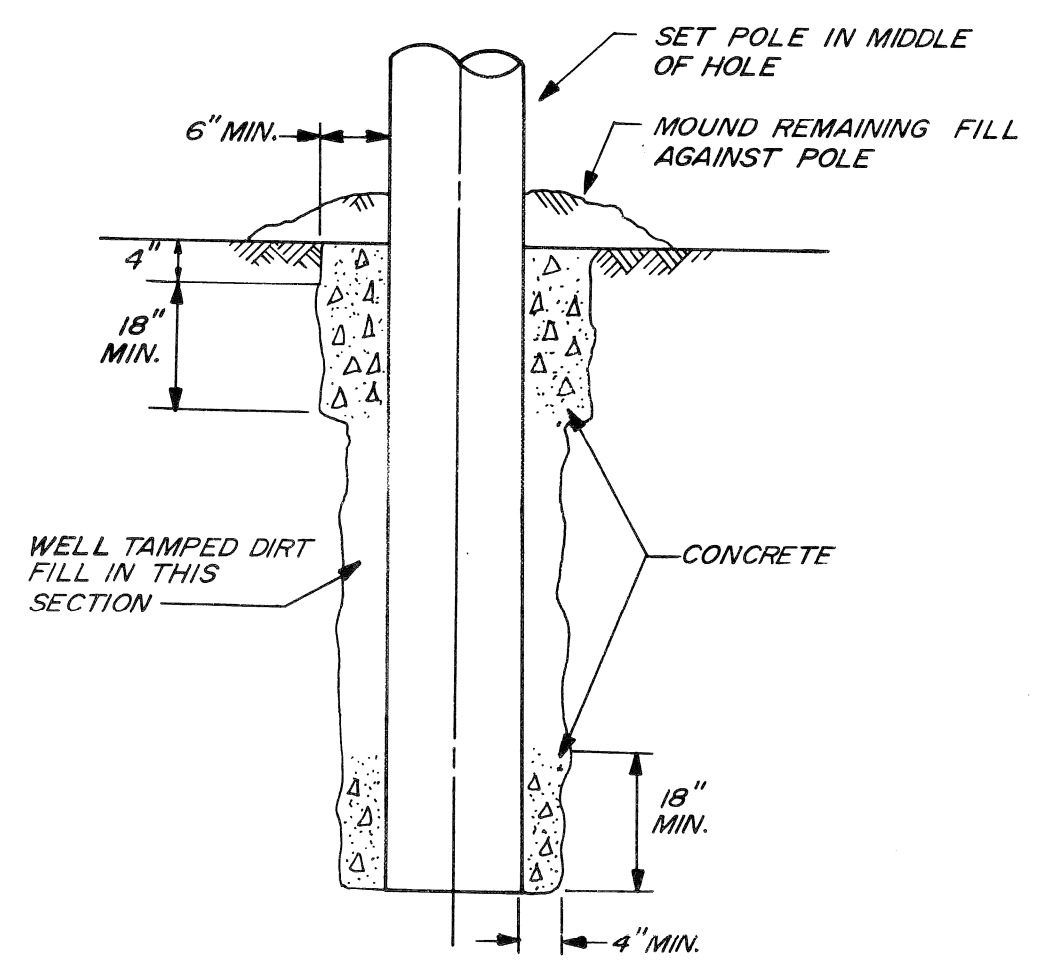
MESSENGER WIRE LAMP DROP SUPPORT: STANDARD INSTALLATION METHOD



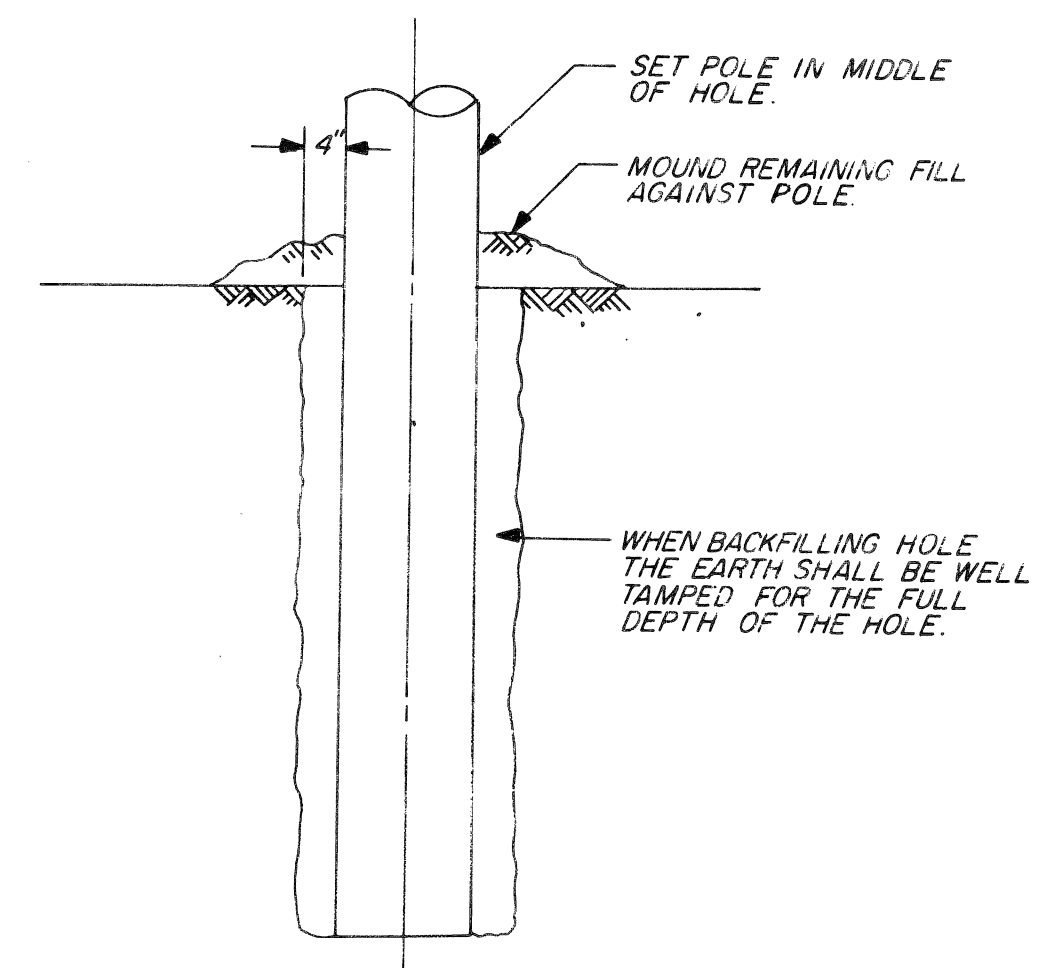
STRAIN INSULATOR POSITIONS IN GUY WIRES



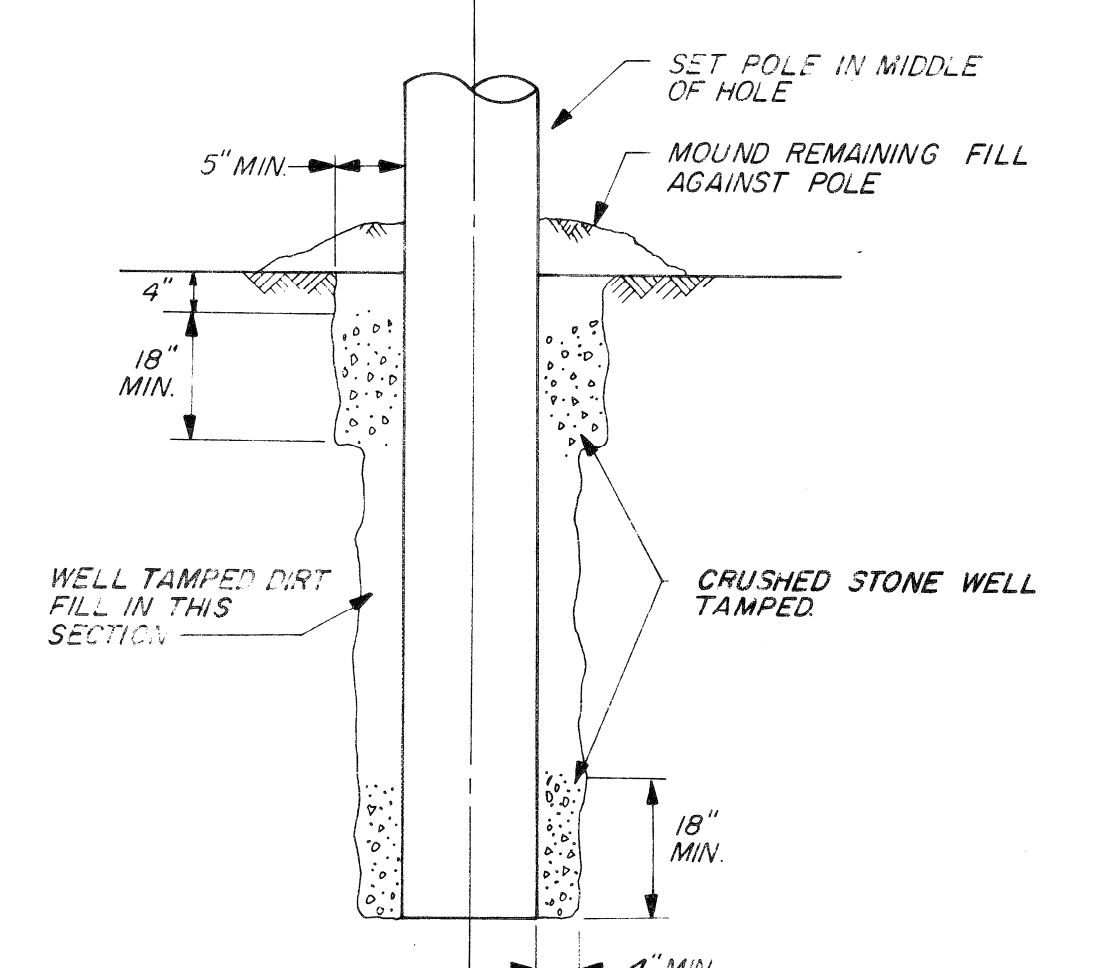
INSTALLATION OF RESIDENTIAL M.V. O.H. LUMINAIRE
N.T.S.



WOOD POLE IN CONCRETE
N.T.S.



WOOD POLE INSTALLATION
N.T.S.



M.S.S. SELF-SUPPORTING WOOD POLE IN CRUSHED STONE

DATE	DESCRIPTION	CHKD. BY

CITY OF DETROIT

E. GRAND BLVD. AT E. JEFFERSON AVE.
RECONSTRUCTION
MESSENGER WIRE INSTALLATION
& MISC. DETAILS.

DRAWN BY: CEA
CHECKED BY: [Signature]
APPROVED BY: [Signature]
DATE: JAN. - 84

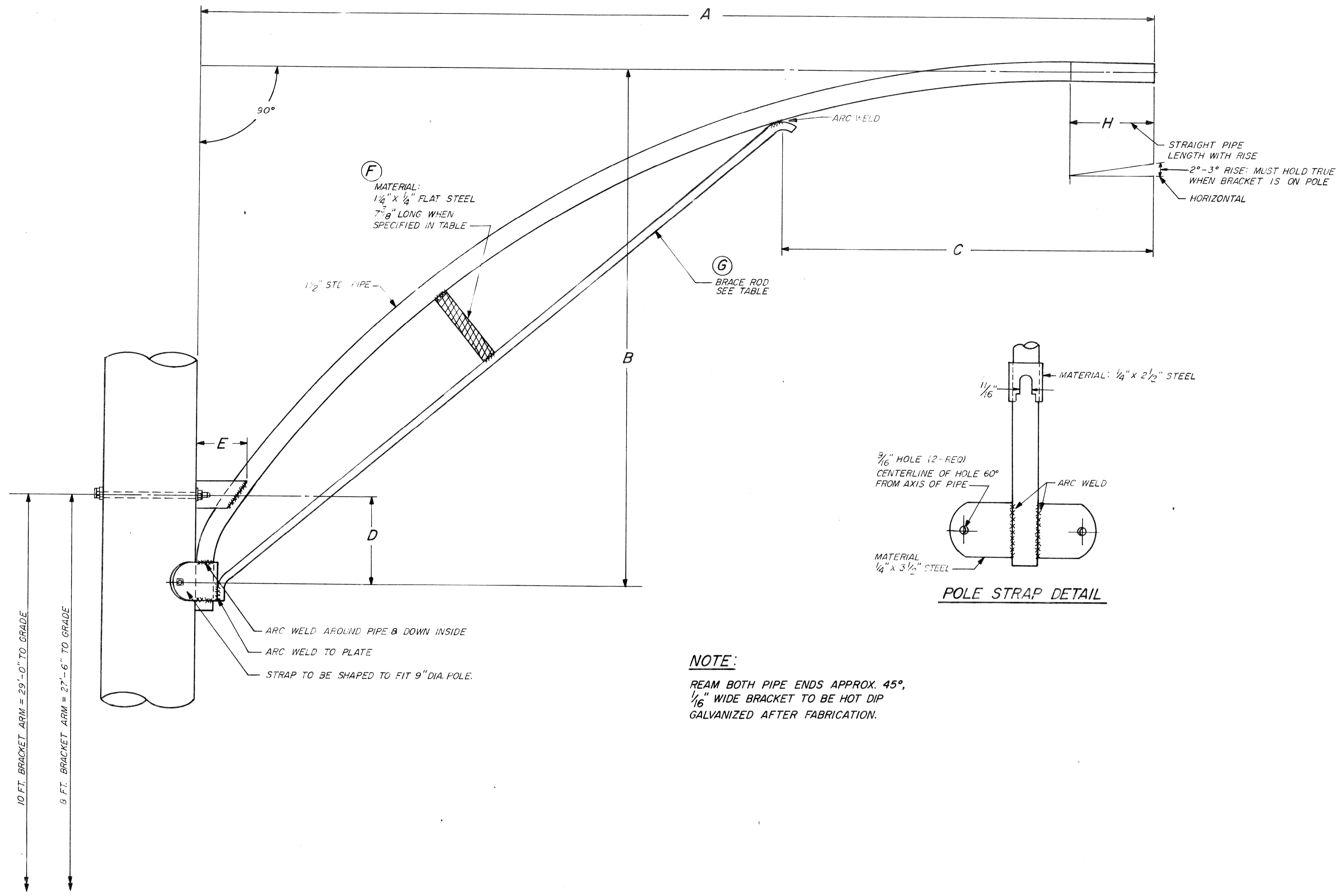
PLAN PREPARED BY:
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16590 WYOMING DETROIT, MICH. 48221

DATE: JAN. - 84
DRAWG. NO.: 54 OF 66
FILE NO.: CEA 1064

DRAWN BY: [Signature]
CHECKED BY: [Signature]
APPROVED BY: [Signature]

PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

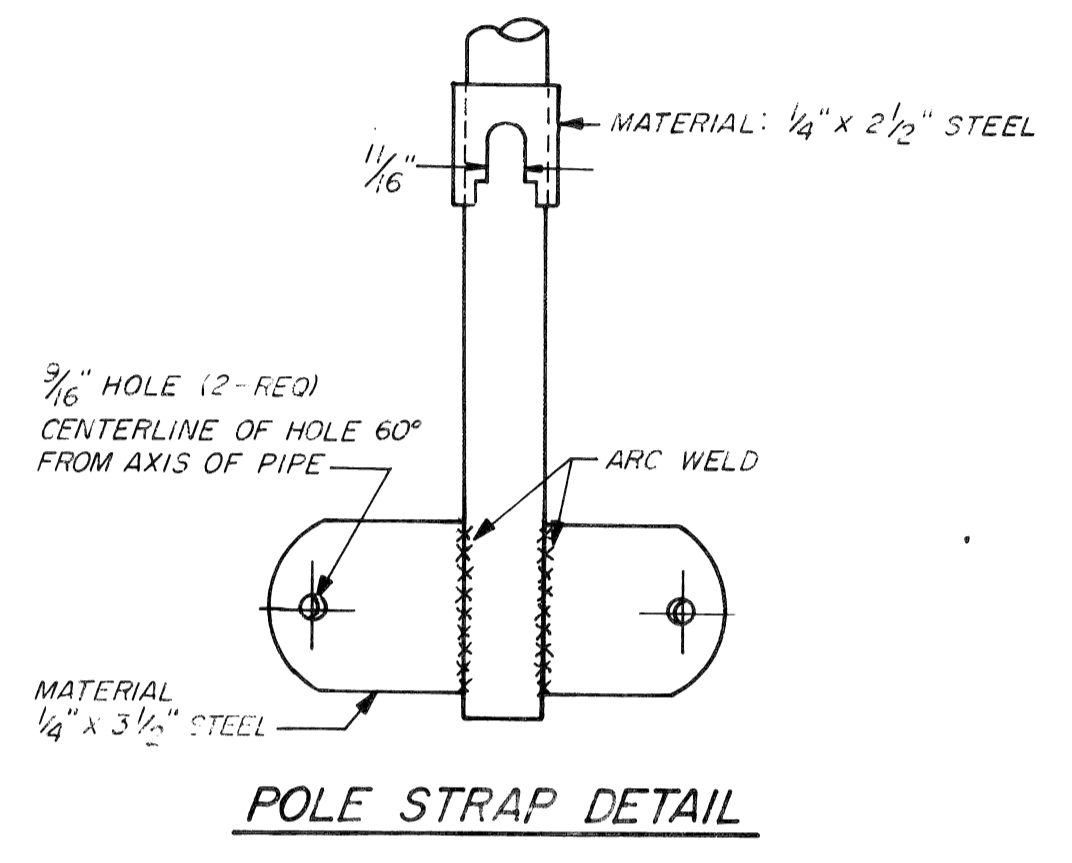
305
FILE NO. 51-0581
SHEET NO. 54 OF 66
DATE JAN. - 84



DIMENSION TABLE

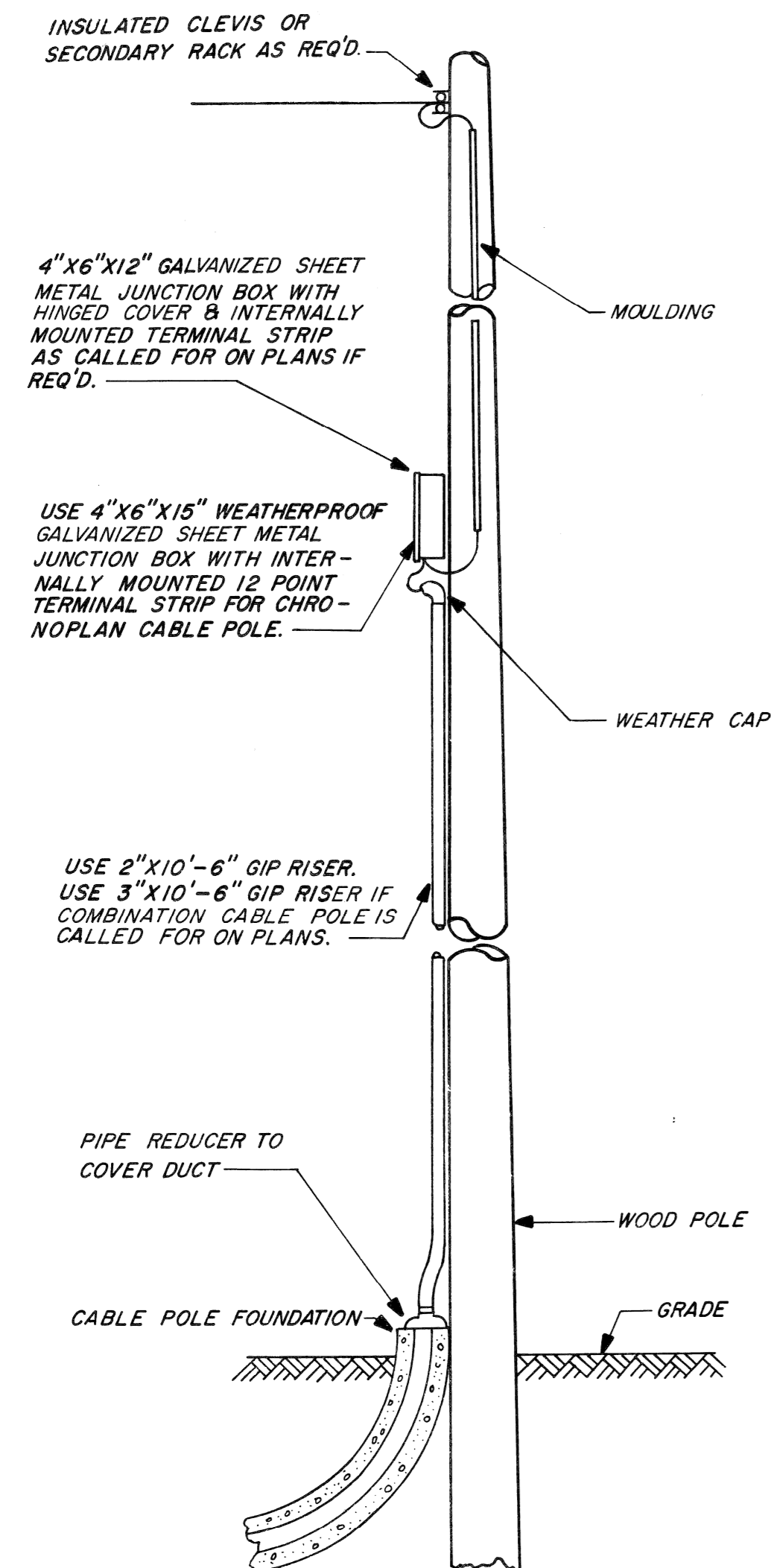
TYPE	A	B	C	D	E*	F	G	H		
6 FT.	6'-0"	2'-8"	2'-5"	8 ³ / ₄ "	5 1/2"	NO	NONE	1'-2"		
8 FT.	7'-8"	4'-0"	3'-0"	8 ³ / ₄ "	4 1/2"	YES	" SOLID	8"		
10 FT.	10'-2"	2'-9"	3'-6"	8 ⁷ / ₈ "	8"	NO	" SOLID	2'-0"		

* THIS DIMENSION IS APPROXIMATE

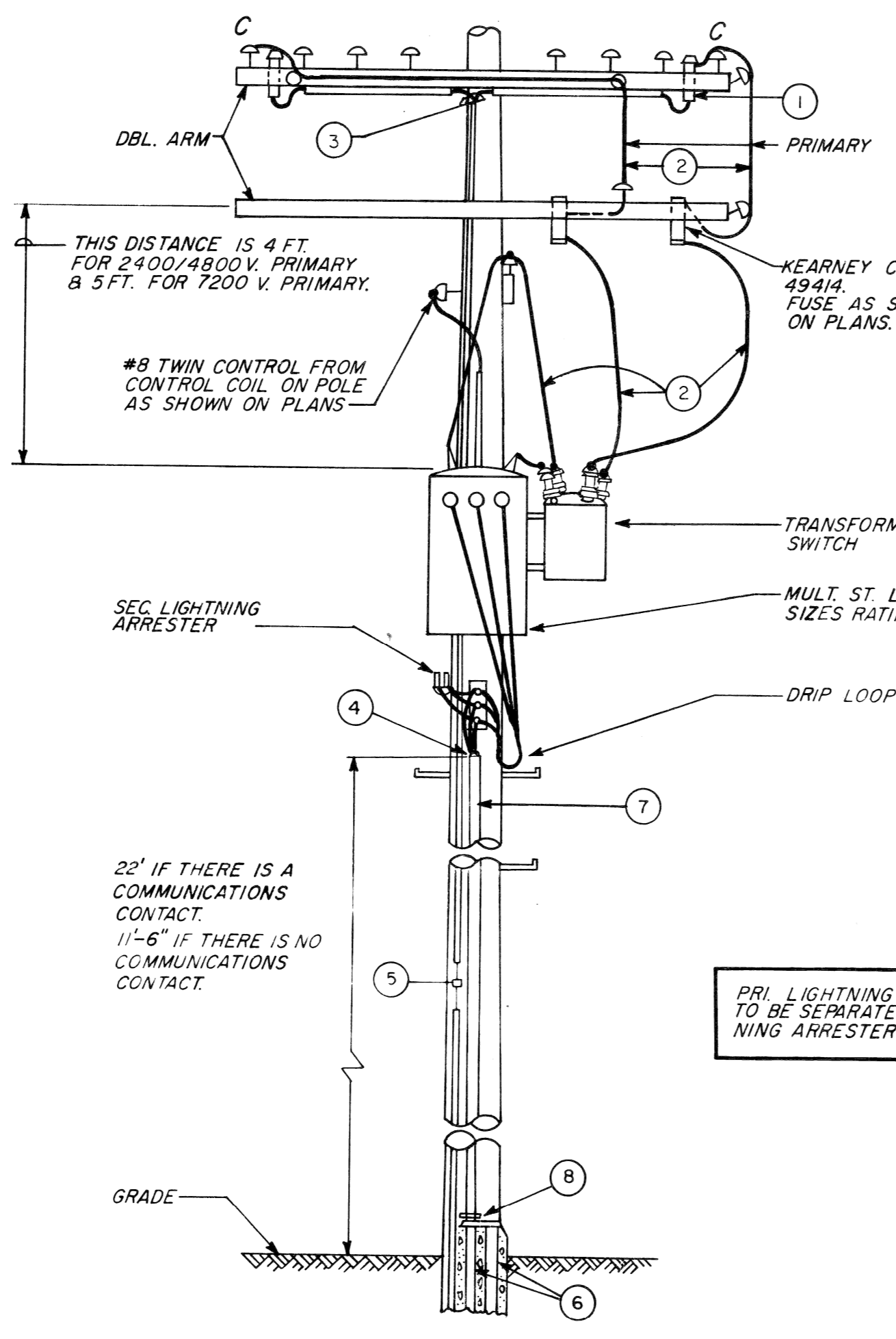


NOTE:
 REAM BOTH PIPE ENDS APPROX. 45°.
 1/16" WIDE BRACKET TO BE HOT DIP GALVANIZED AFTER FABRICATION.

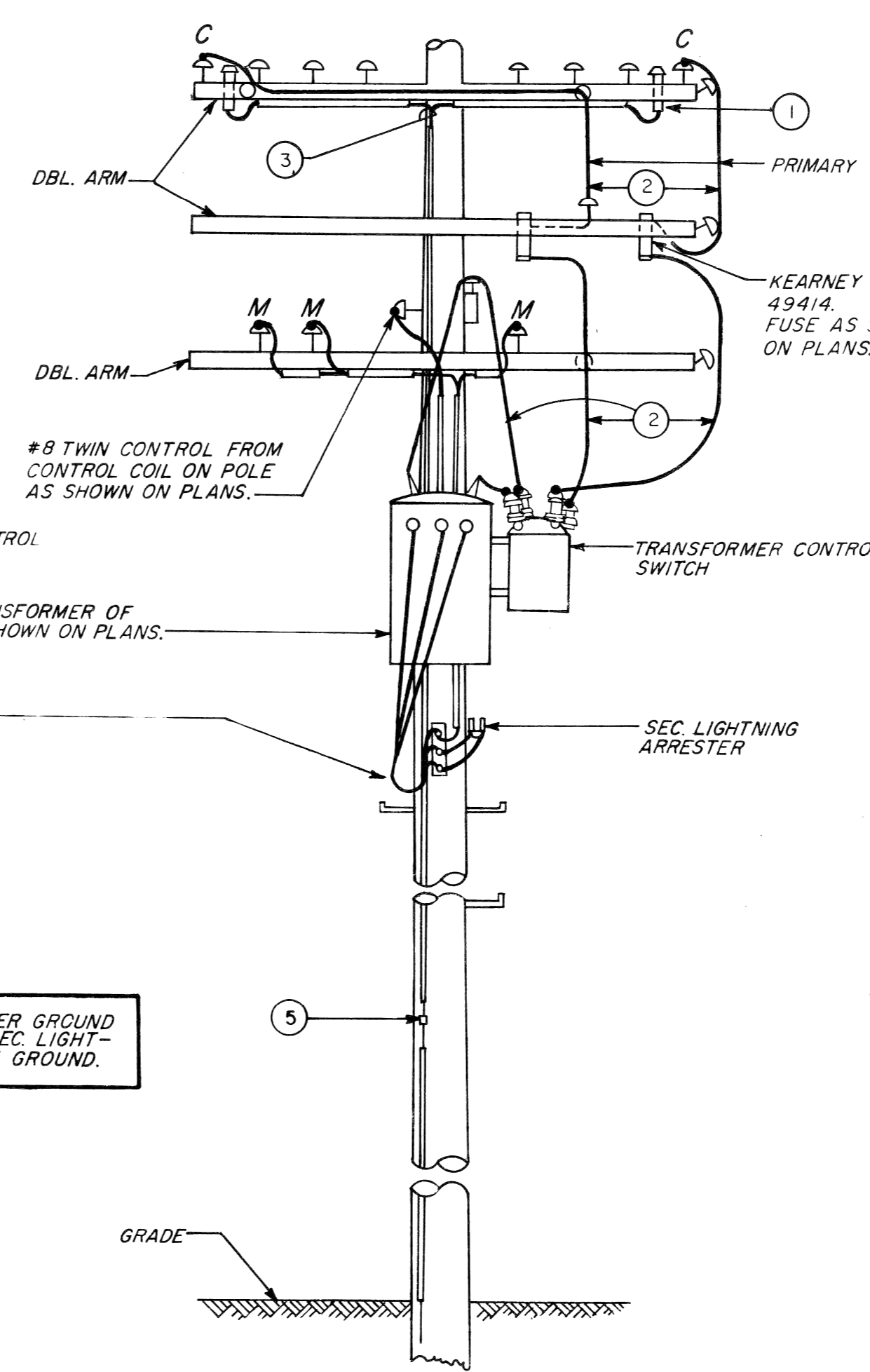
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">DATE</td><td style="width: 50%;">DRAWN BY</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	DATE	DRAWN BY																					CITY OF DETROIT	E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION STREET LTG. BRACKETS, UPSWEEP, MAIN STREET LTG. DETAILS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">DRAWN</td><td style="width: 50%;">CEA</td></tr> <tr><td>CHECKED</td><td> </td></tr> <tr><td>APPROVED</td><td> </td></tr> <tr><td>DATE</td><td>JAN.-84</td></tr> </table>	DRAWN	CEA	CHECKED		APPROVED		DATE	JAN.-84	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">PLAN PREPARED BY:</td><td style="width: 50%;">CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS</td></tr> <tr><td colspan="2" style="text-align: center;">16580 WYOMING DETROIT, MICH., 48221</td></tr> <tr><td>DRWG. NO.</td><td>55 OF 66</td></tr> <tr><td>FILE NO.</td><td>CEA 1064</td></tr> </table>	PLAN PREPARED BY:	CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	16580 WYOMING DETROIT, MICH., 48221		DRWG. NO.	55 OF 66	FILE NO.	CEA 1064	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50%;">FILE NO.</td><td style="width: 50%;">51-0581</td></tr> <tr><td>SHEET NO.</td><td>E55 OF 66</td></tr> <tr><td>DATE</td><td>JAN.-84</td></tr> </table>	FILE NO.	51-0581	SHEET NO.	E55 OF 66	DATE	JAN.-84
DATE	DRAWN BY																																																	
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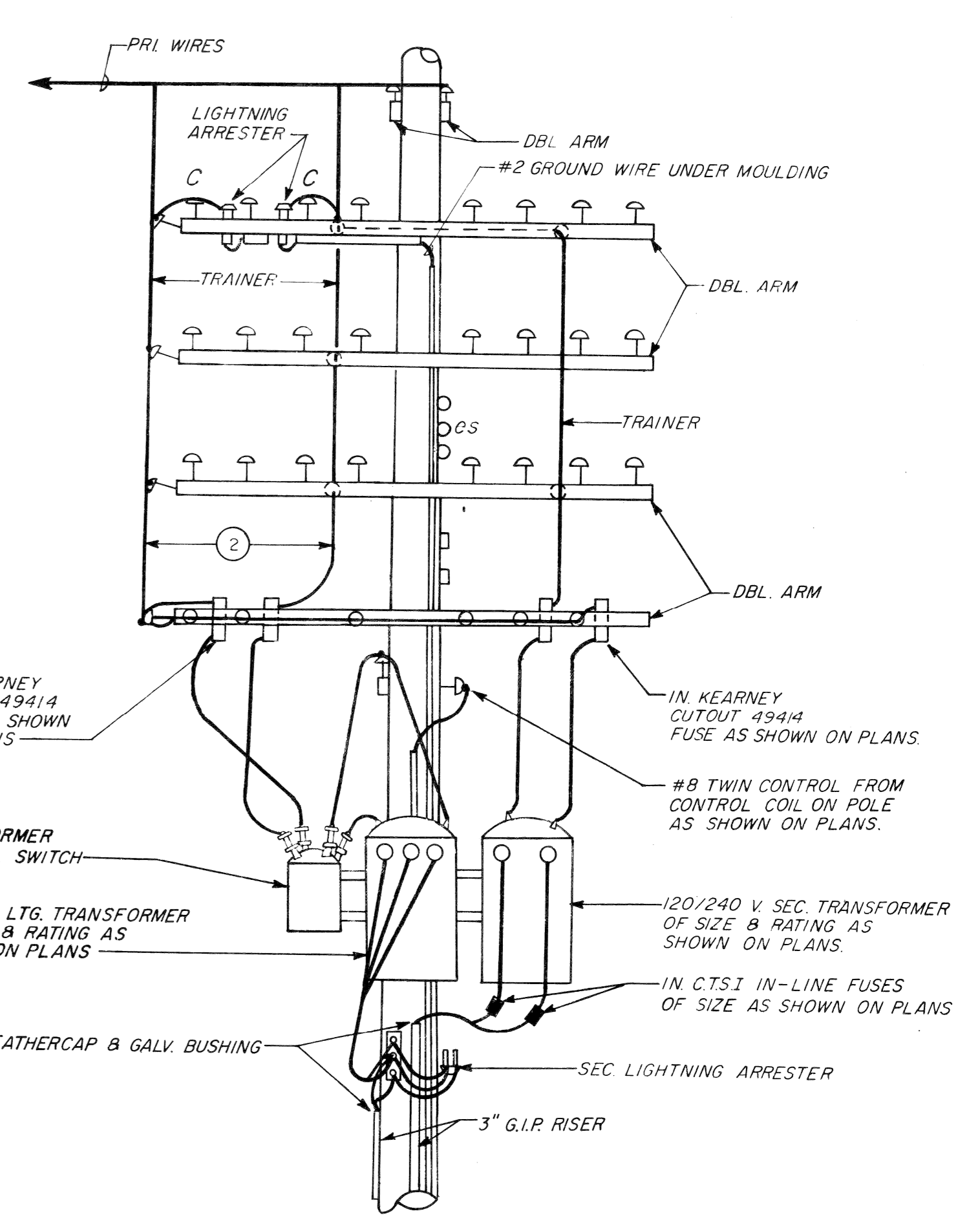
TYPICAL CHRONOPLAN, SECONDARY, MULT. ST. LTG. & TRAFFIC SIGNAL CABLE DETAIL
DETAIL "D"
 N.T.S.



COMB. MULT. ST. LTG. TRANSF. POLE & MULT. ST. LTG. CABLE POLE
DETAIL "A"
 N.T.S.



MULT. ST. LTG. TRANSFORMER POLE
DETAIL "B"
 N.T.S.



COMB. TRANSF. POLE, MULT. ST. LTG. TRANSF. POLE,
 MULT. ST. LTG. & SEC. CABLE POLE
 (CLUSTER MOUNT - TYR)
DETAIL "C"
 N.T.S.

DETAIL ITEMS	
①	LIGHTNING ARRESTER
②	OVERHEAD TRAINING WIRE
③	#2 GROUND WIRE UNDER MOULDING
④	LEAD WEATHERCAP & GALV. BUSHING
⑤	FOUR SCREW CONNECTOR
⑥	4" PLASTIC CONDUIT
⑦	3" G.I.P. RISER
⑧	3" X 4" REDUCER ADAPTER

NO.	DATE	DESCRIPTION	CHKD. BY

CITY OF DETROIT

E. GRAND BLVD. AT E. JEFFERSON AVE.
 RECONSTRUCTION
 (480/960V.)
 TRANSFORMER POLES & MISC.
 CABLE POLE DETAILS

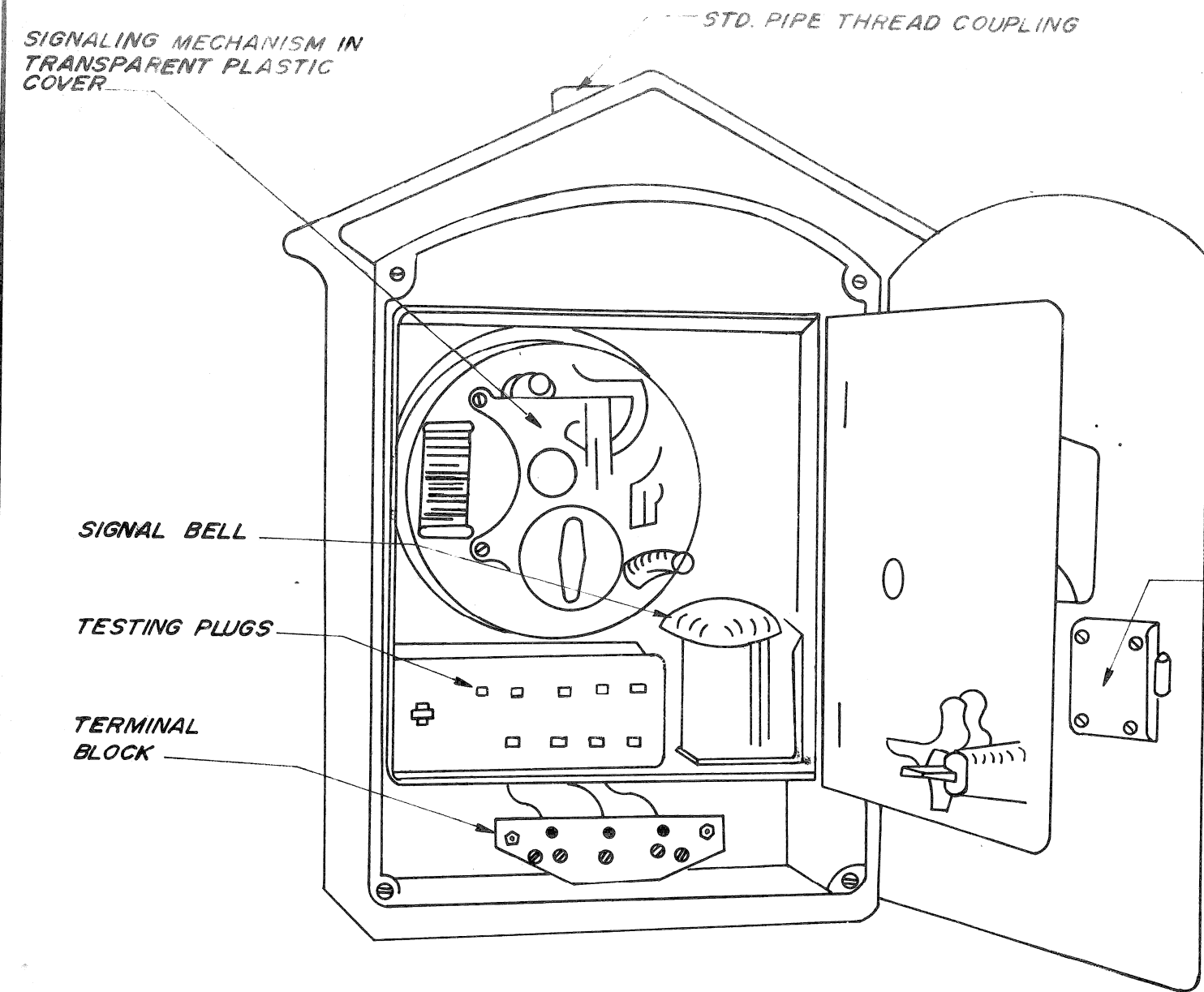
DRAWN BY CEA
 CHECKED BY
 APPROVED BY
 DATE JAN.-84

PLAN PREPARED BY
 CONSULTING ENGINEERING ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 16580 WYOMING DETROIT, MICH. 48221
 FILE NO. CEA 1064
 DRWG. NO. 56 OF 66

CHECKED BY
 APPROVED BY

PUBLIC LIGHTING
 COMMISSION
 CITY OF DETROIT

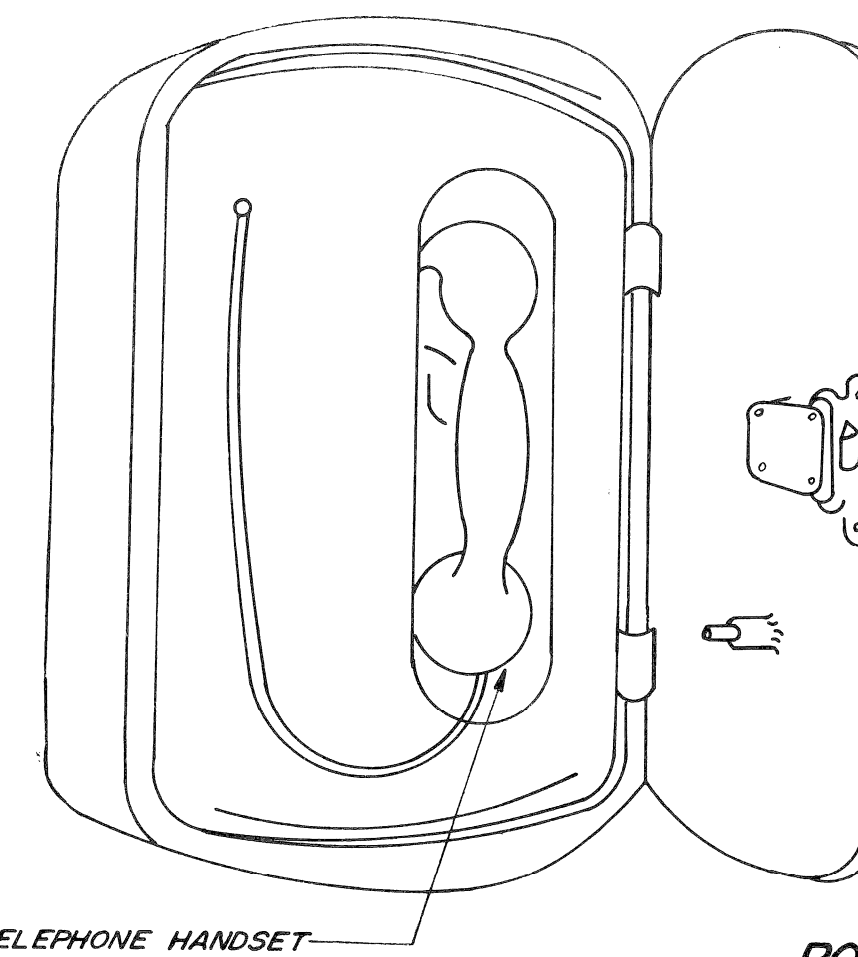
FILE NO. 51-0581
 SHEET NO. E56 OF 66
 DATE JAN.-84



FIRE ALARM CALL BOX - TYPE A
DETROIT FIRE DEPT. SYSTEM

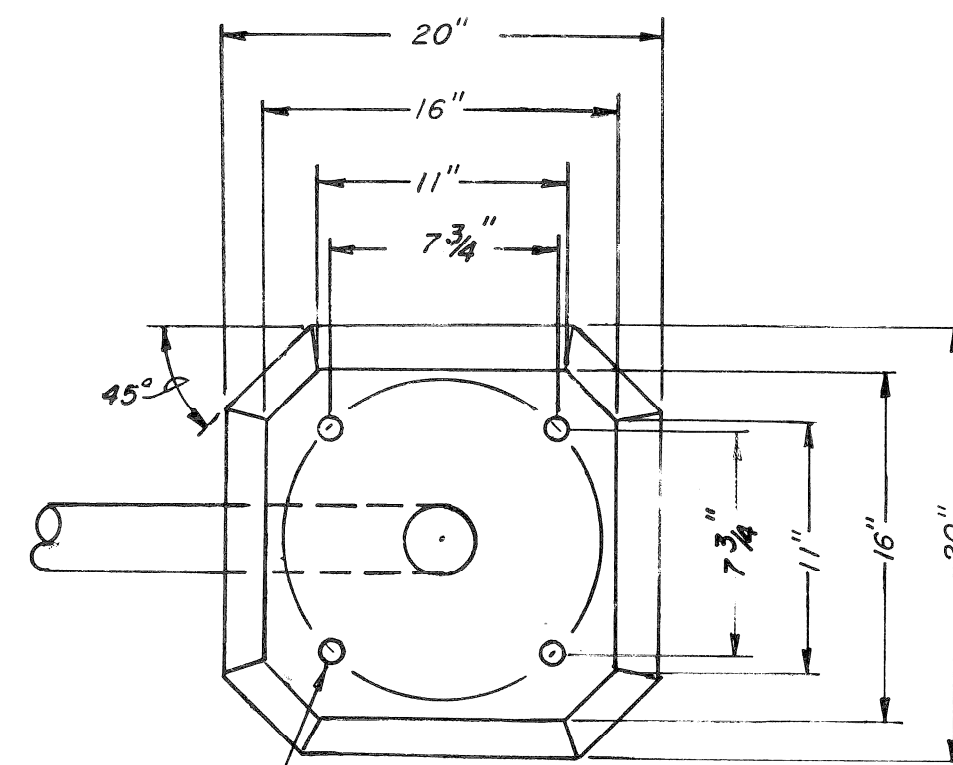
MUST BE KEYED TO PRESENT
DETROIT FIRE ALARM SYSTEM

APPROX. DIMENSIONS O.A.
17" HIGH 11" WIDE 5" DEEP



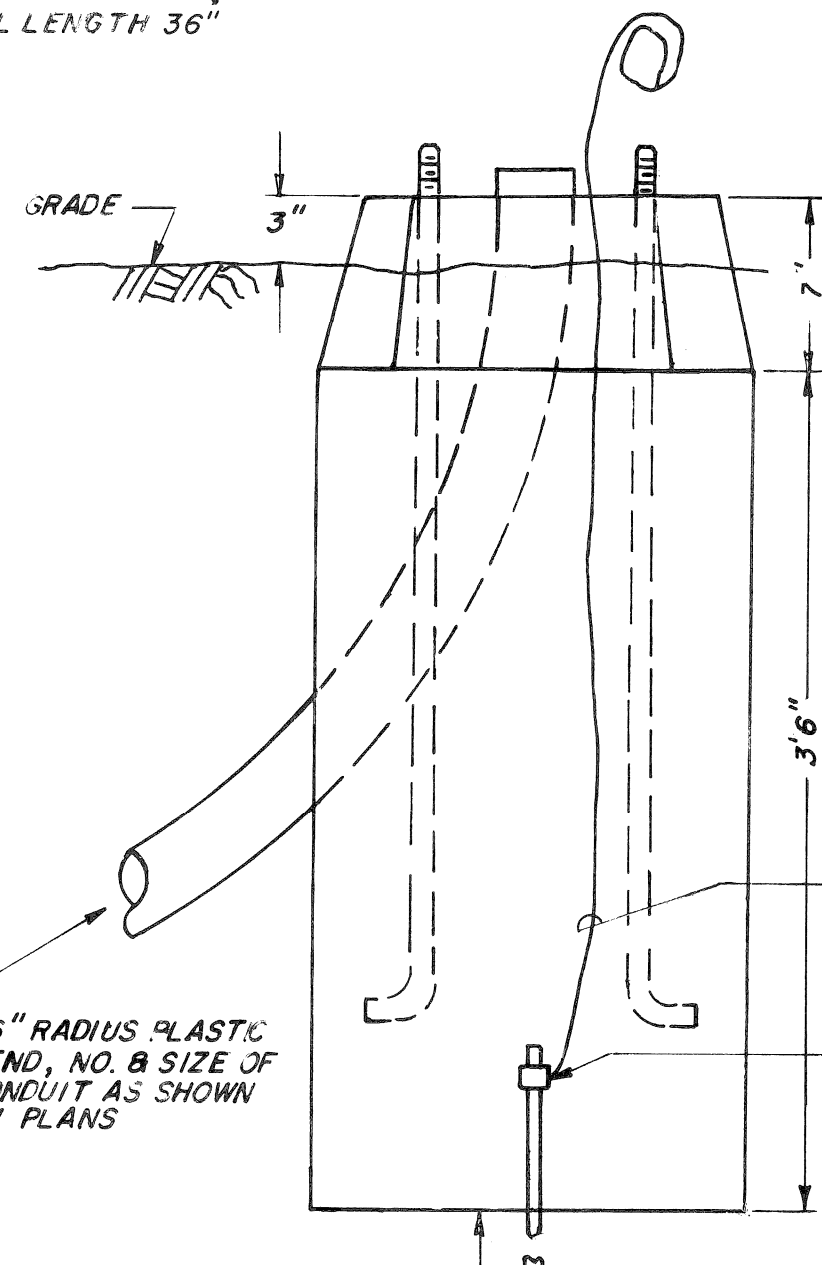
POLICE CALL BOX
DETROIT POLICE DEPT. SYSTEM

APPROX. DIMENSION O.A.
16" HIGH, 11" WIDE, 6" DEEP



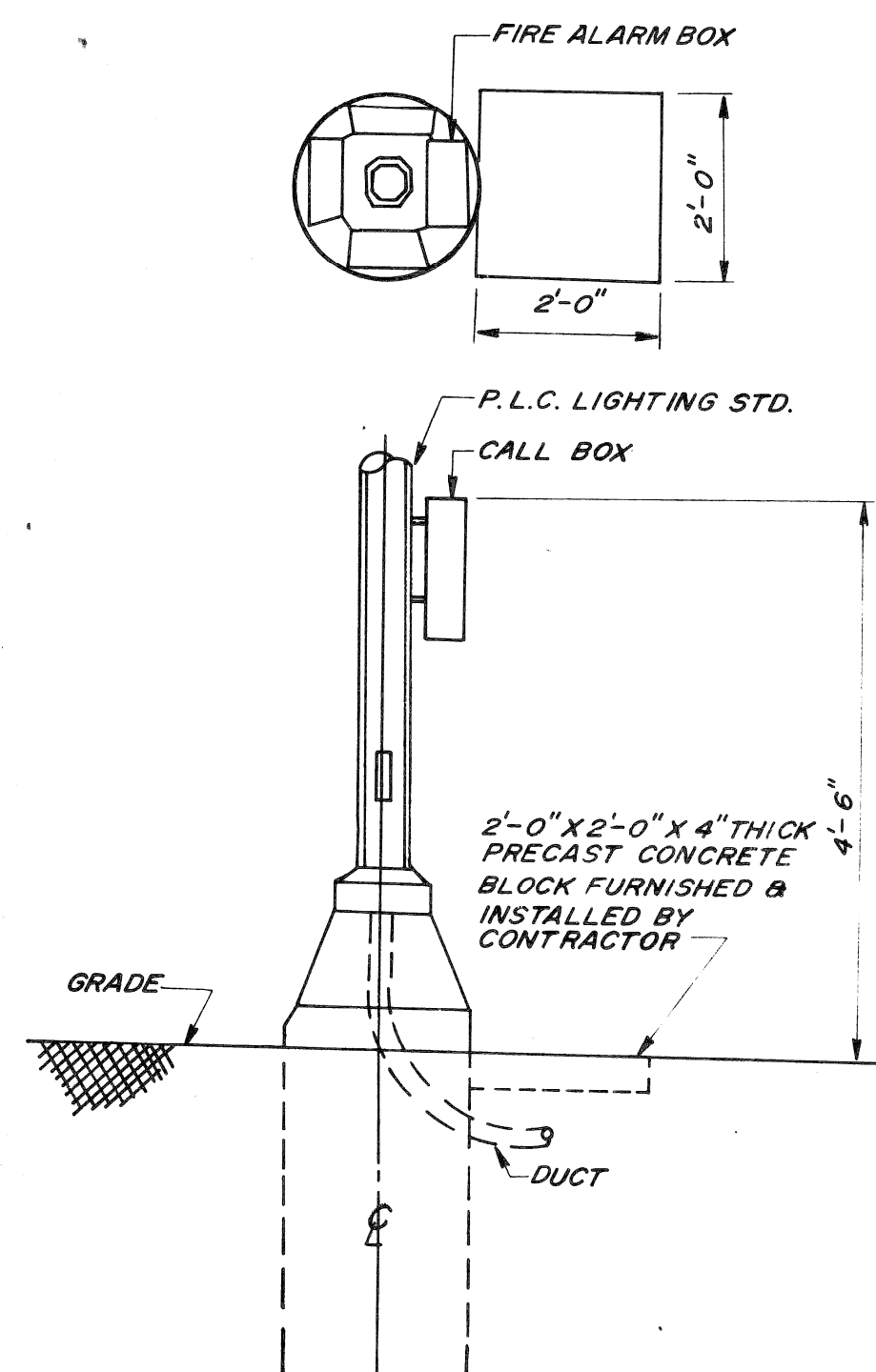
PLAN
N.T.S.

4-1" GALVANIZED BOLTS
ON 11" DIA. BOLT CIRCLE
EQUALLY SPACED, OVER-
ALL LENGTH 36"

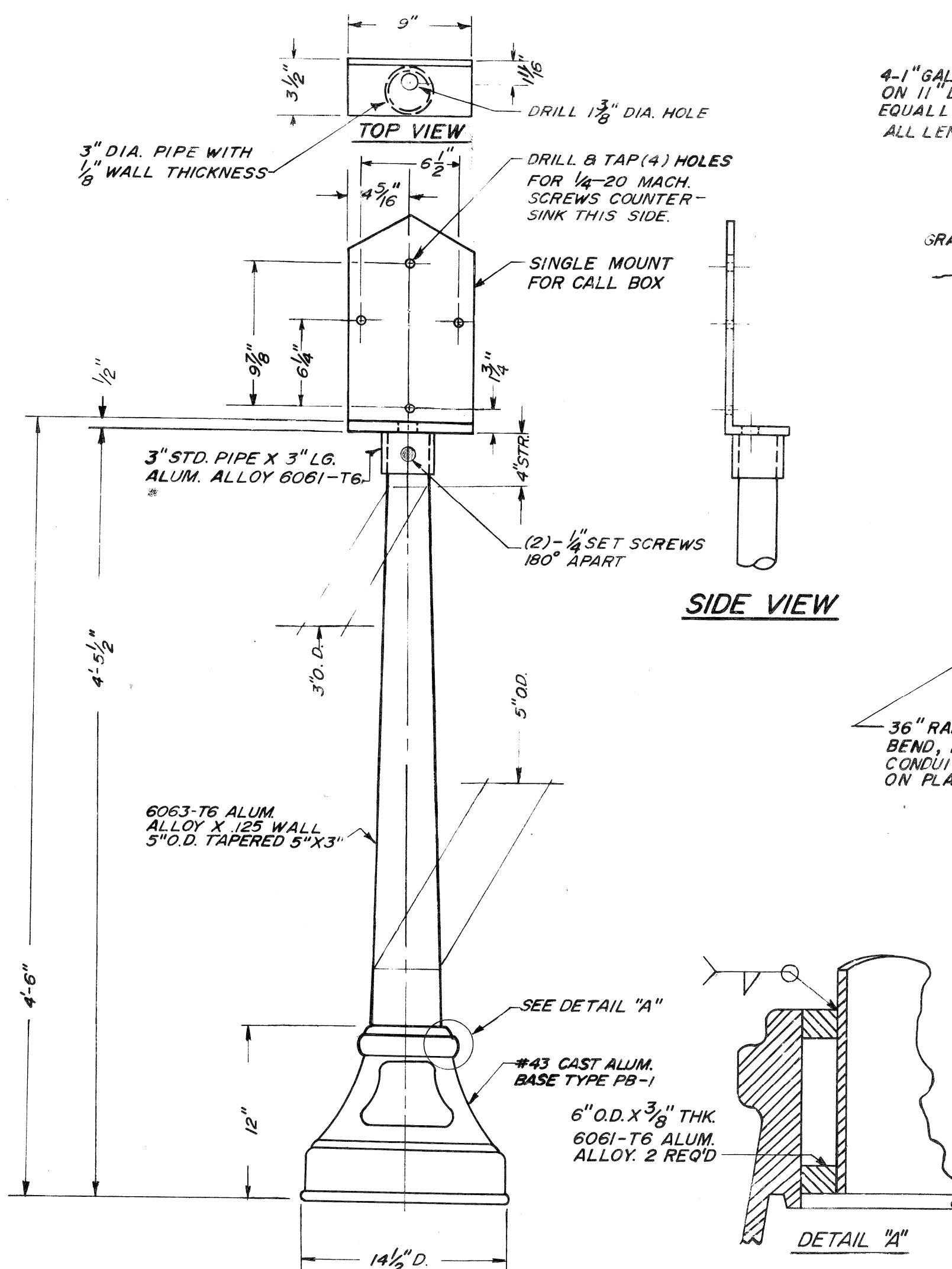


ELEVATION
N.T.S.
ALUMINUM CALL BOX PEDESTAL

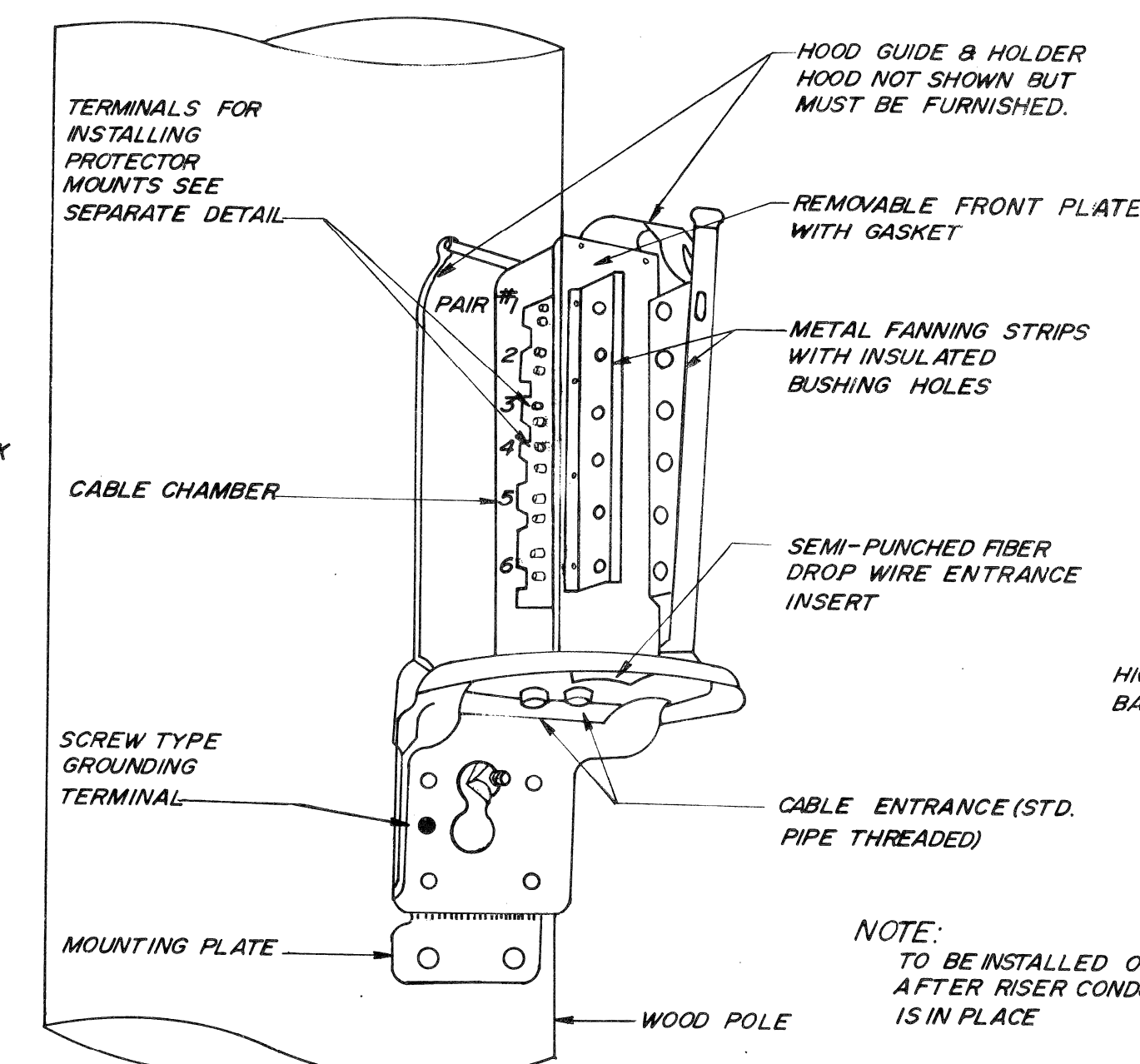
FDN. DETAILS



CALL BOX INSTALLATION ON LIGHTING STD.
N.T.S.



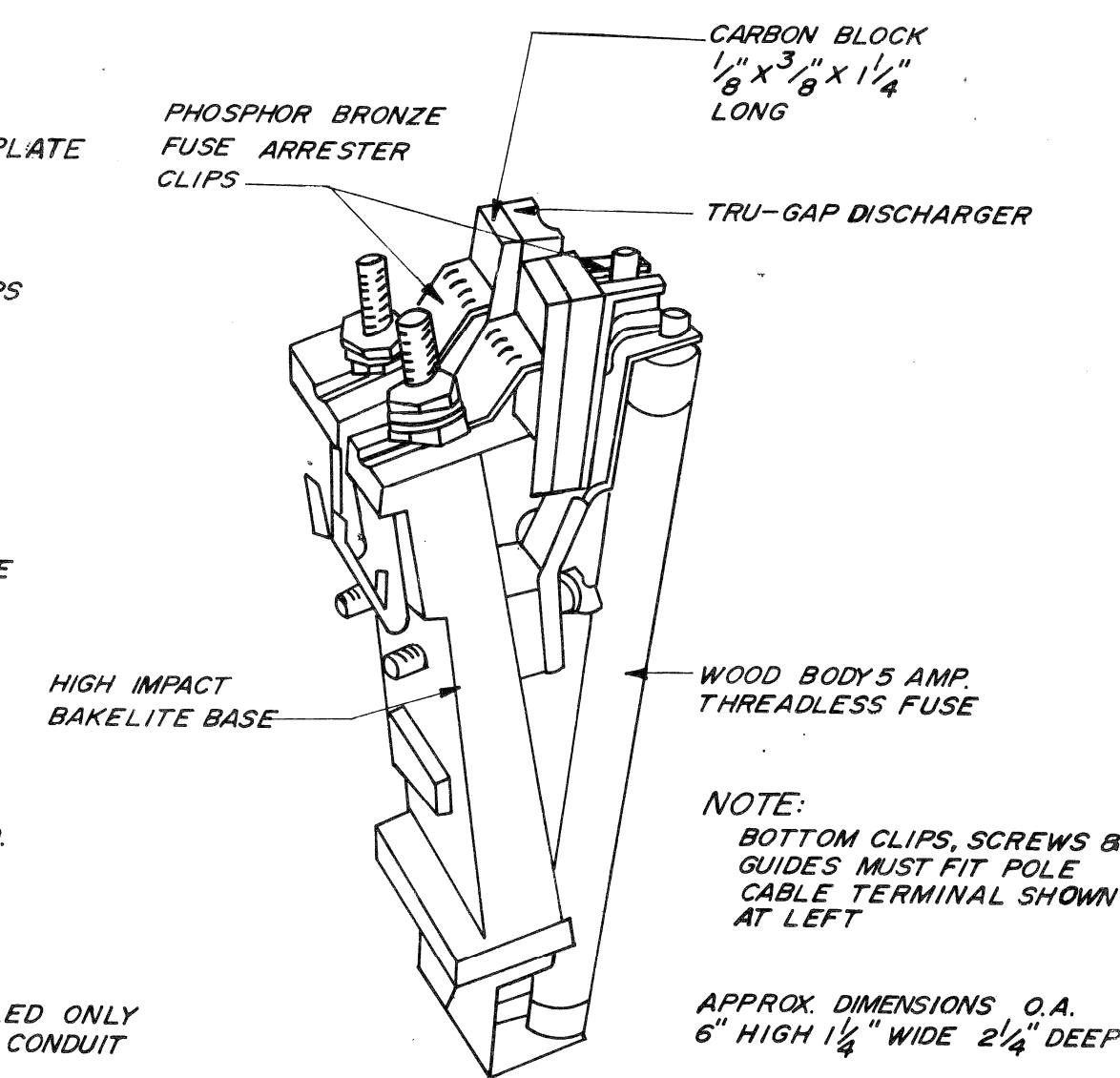
ELEVATION
CALL BOX PEDESTAL DETAILS
N.T.S.



POLE CABLE TERMINAL

NOTE:
TO BE INSTALLED ONLY
AFTER RISER CONDUIT
IS IN PLACE

APPROX. DIMENSIONS O.A.
6 PR - 12" HIGH, 9" DIA.
11 PR - 15" HIGH, 9" DIA.
16 PR - 19" HIGH, 9" DIA.



DUAL-GAP PROTECTOR MOUNT

NOTE:
BOTTOM CLIPS, SCREWS &
GUIDES MUST FIT POLE
CABLE TERMINAL SHOWN
AT LEFT

APPROX. DIMENSIONS O.A.
6" HIGH 1 1/2" WIDE 2 1/4" DEEP

DATE	DESCRIPTION	CHKD. BY

CITY OF DETROIT

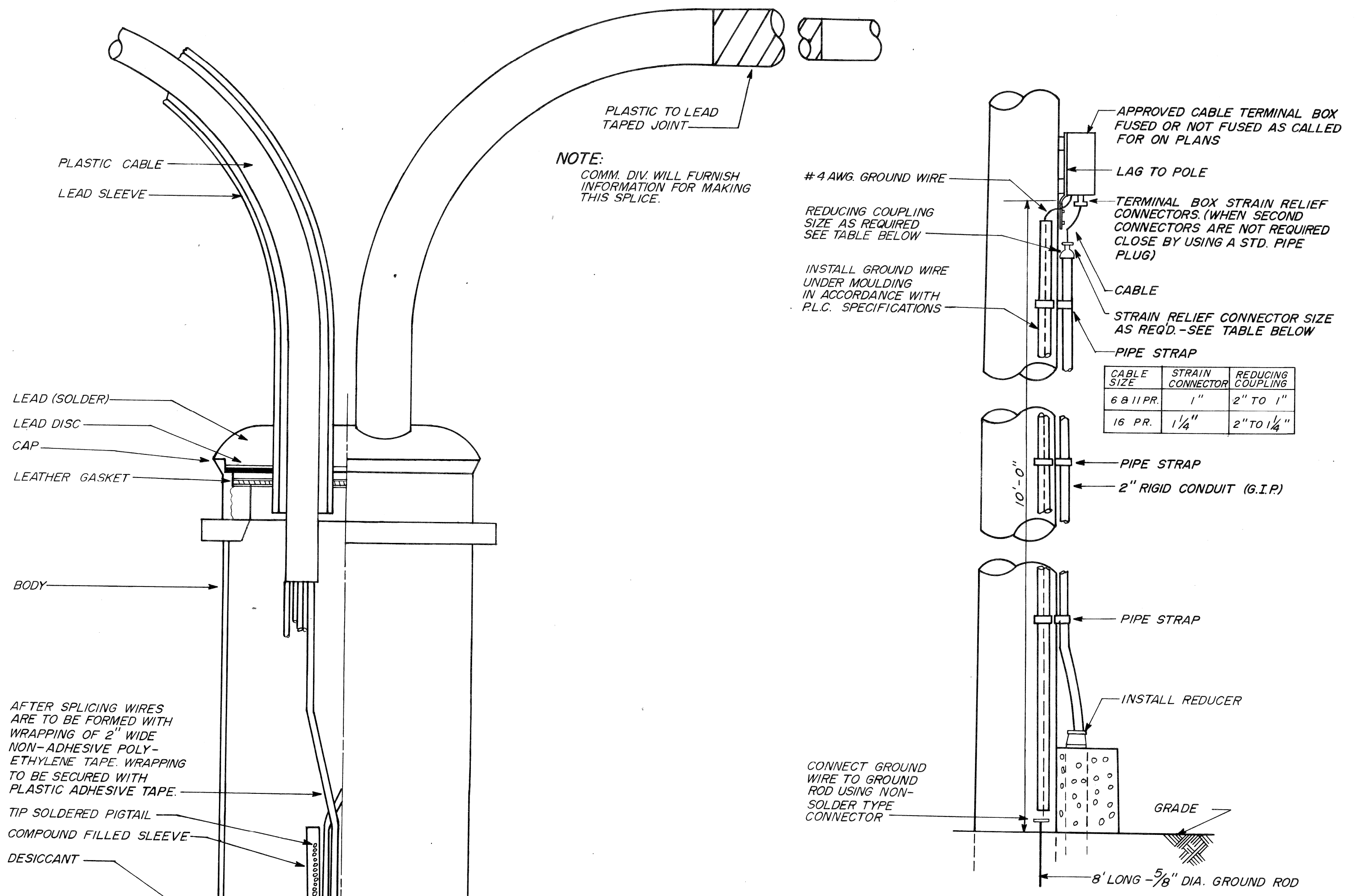
E. GRAND BLVD. AT E. JEFFERSON AVE.
RECONSTRUCTION
COMMUNICATION CALL BOXES
DETAILS

DRAWN CEA
CHECKED ep
APPROVED [Signature]
DATE: JAN. - 84

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
DRAWN NO. 57 OF 66
FILE NO. CEA 1064

DRAWN BY
CHECKED BY
APPROVED
PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT

FILE NO.
51-0581
SHEET NO.
E57 OF 66
DATE
JAN. - 84

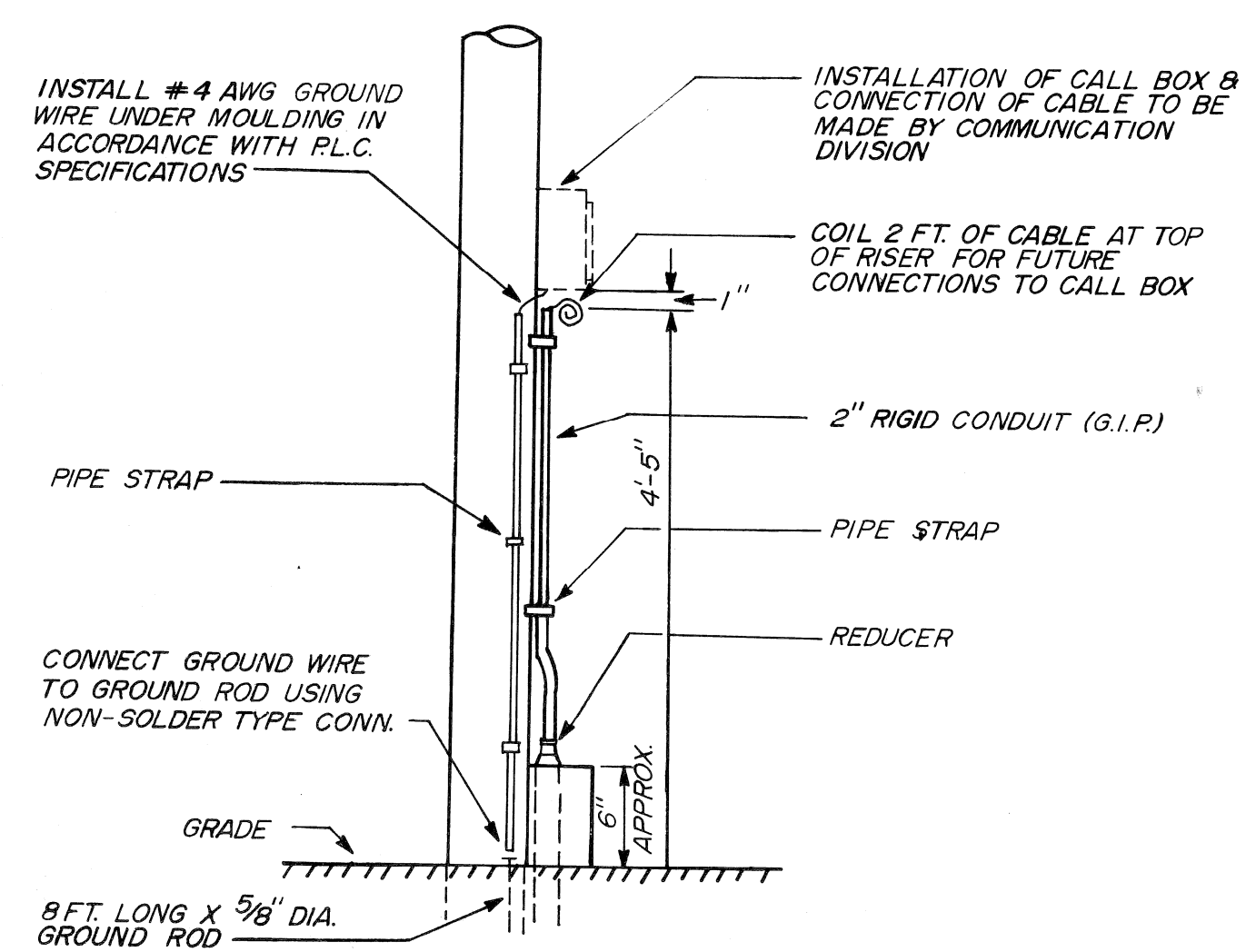


NOTE:
COMM. DIV. WILL FURNISH
INFORMATION FOR MAKING
THIS SPLICE.

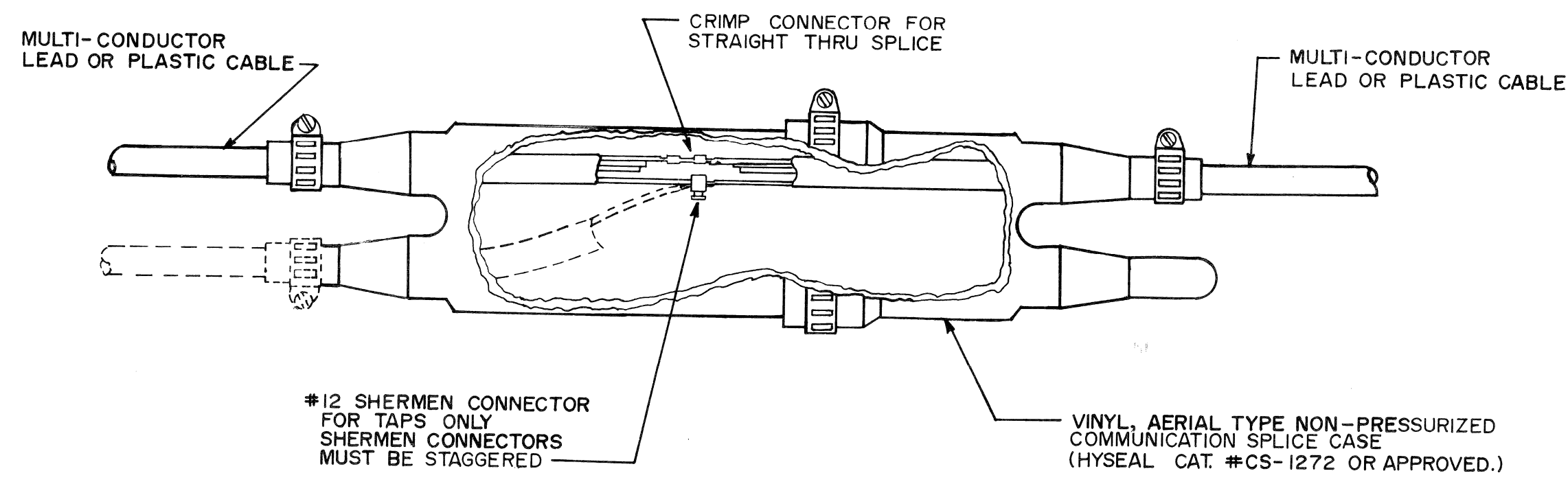
CHRONOPLAN CABLE SUPPORT
HOT DIPPED GALVANIZED

TESTHEAD DETAIL

**COMM. DIV.
CABLE POLE**



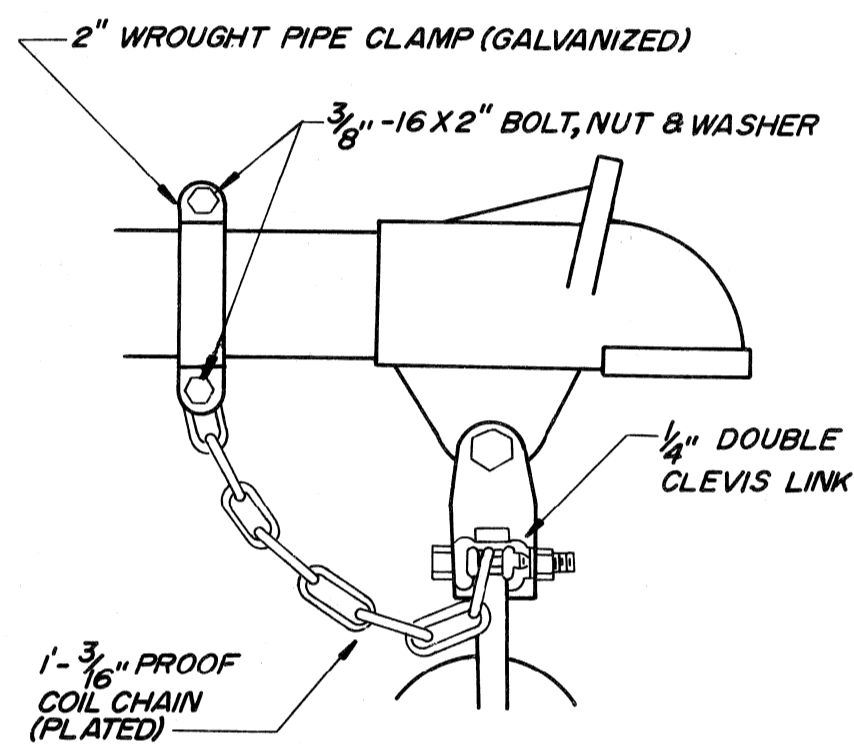
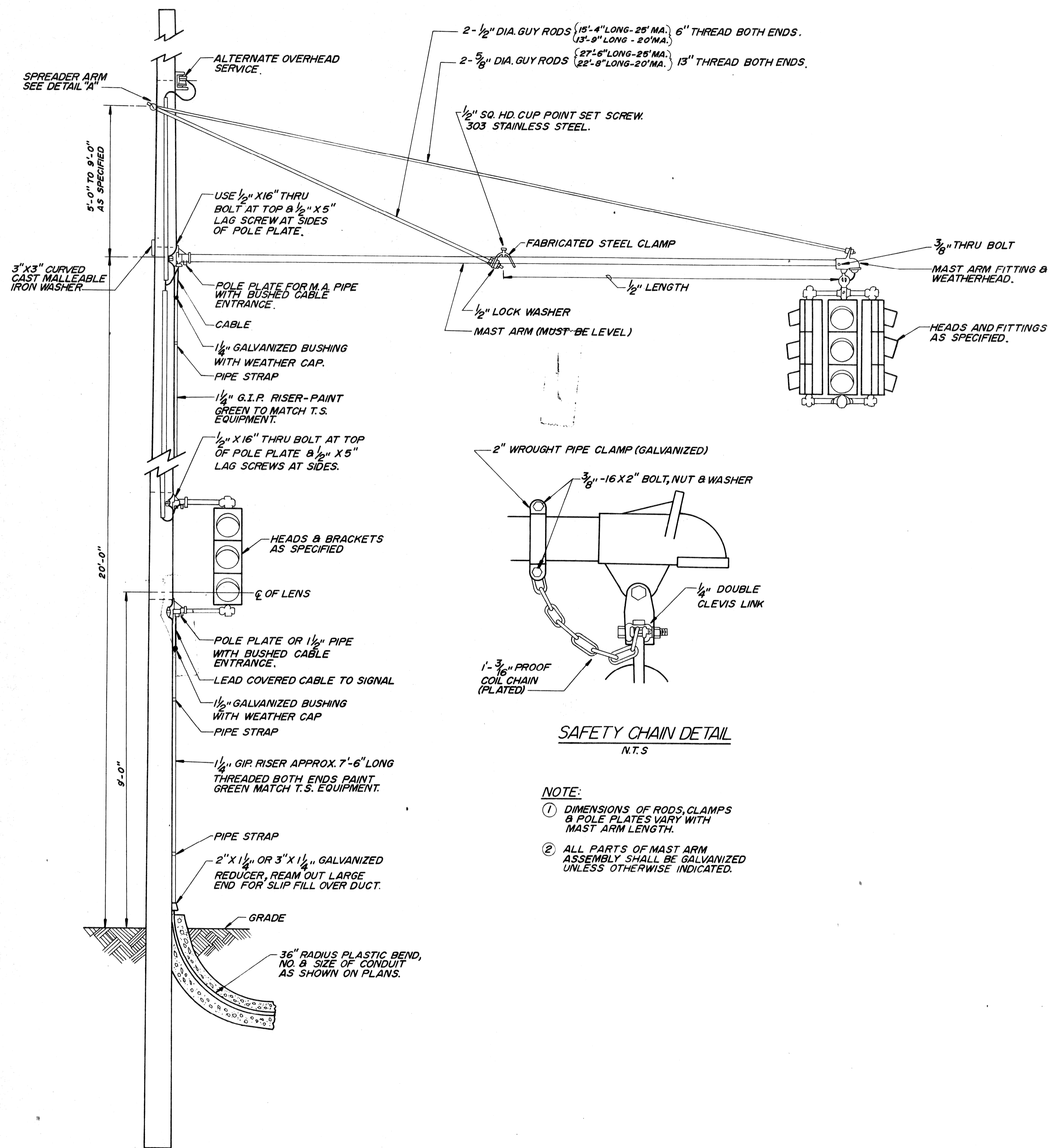
**COMMUNICATION CALL BOX
ON WOOD POLE**



SPLICE DETAILS - COMMUNICATION & SUPERVISORY CABLES
N.T.S.

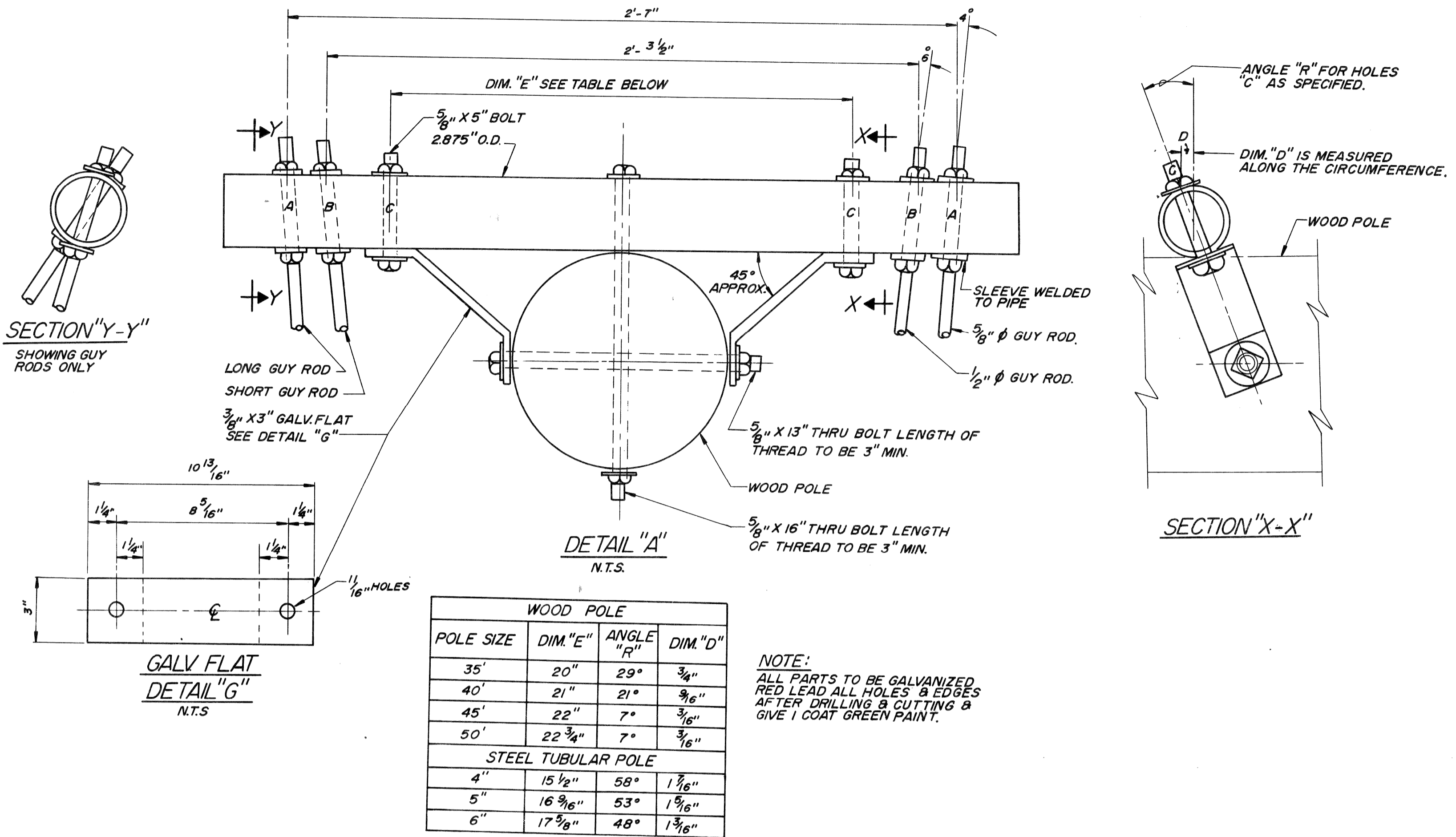
NOTE:
INDIVIDUAL CONNECTORS TO BE TAPED WITH
3 LAYERS OF APPROVED PLASTIC TAPE & OVERALL
ONE LAYER OF HALF-LAP APPROVED PLASTIC TAPE.

REVISIONS	DATE	DESCRIPTION	CHKD. BY	CITY OF DETROIT	E. GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION	DRAWN	CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221	CHECKED BY	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	FILE NO.	402	
							APPROVED					SHEET NO.	58 OF 66
							DATED				JAN.-84	DATE	JAN.-84
							DRWG. NO.				58 OF 66	FILE NO.	CEA 1064



NOTE:

- DIMENSIONS OF RODS, CLAMPS & POLE PLATES VARY WITH MAST ARM LENGTH.
- ALL PARTS OF MAST ARM ASSEMBLY SHALL BE GALVANIZED UNLESS OTHERWISE INDICATED.



NOTE:
ALL PARTS TO BE GALVANIZED RED LEAD ALL HOLES & EDGES AFTER DRILLING & CUTTING & GIVE 1 COAT GREEN PAINT.

DATE	DESCRIPTION	CHRG. BY

54

CITY OF DETROIT

E. GRAND BLVD. AT E. JEFFERSON AVE.
RECONSTRUCTION

T.S. BACK-BRACE TYPE MAST ARM
ASSEMBLY ON WOOD POLE

DRAWN BY CEA
CHECKED BY
APPROVED BY
DATE JAN.-84

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS

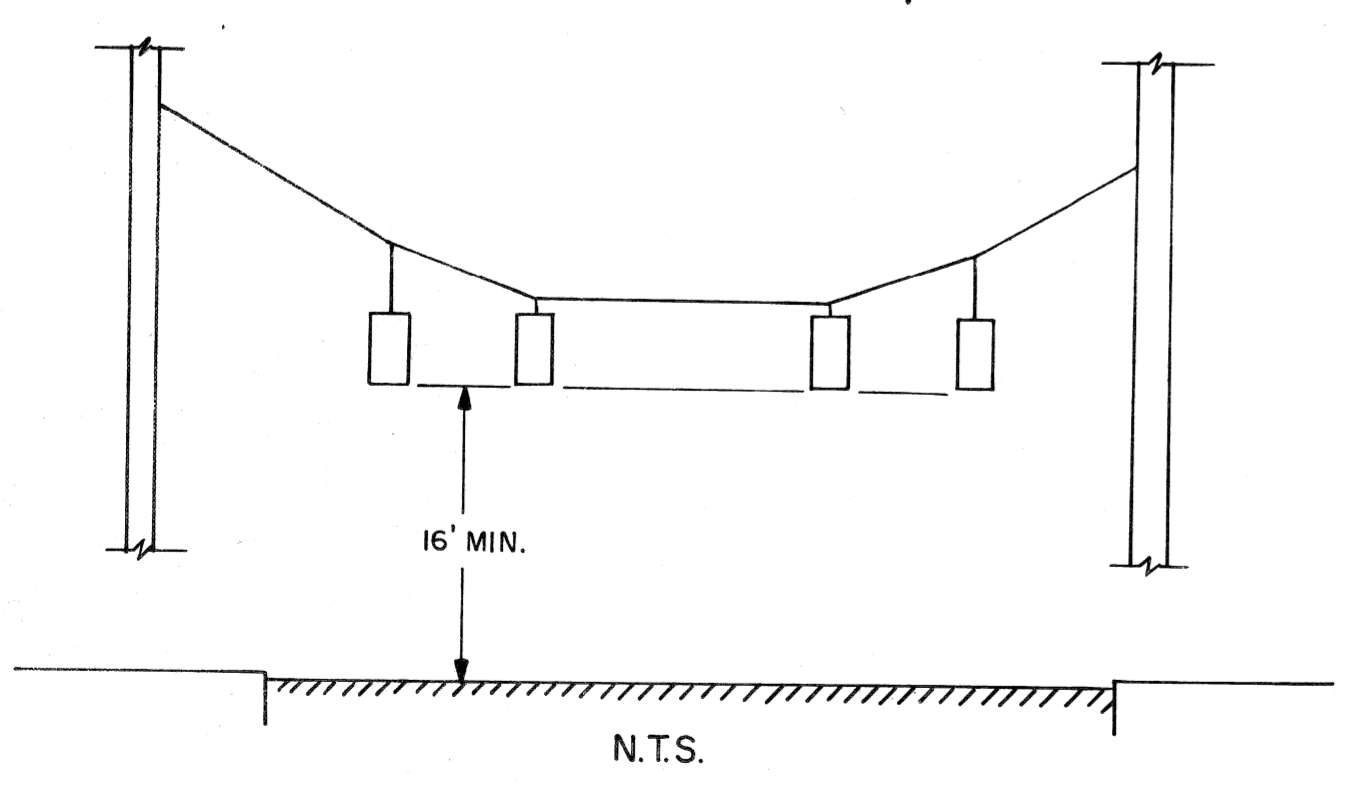
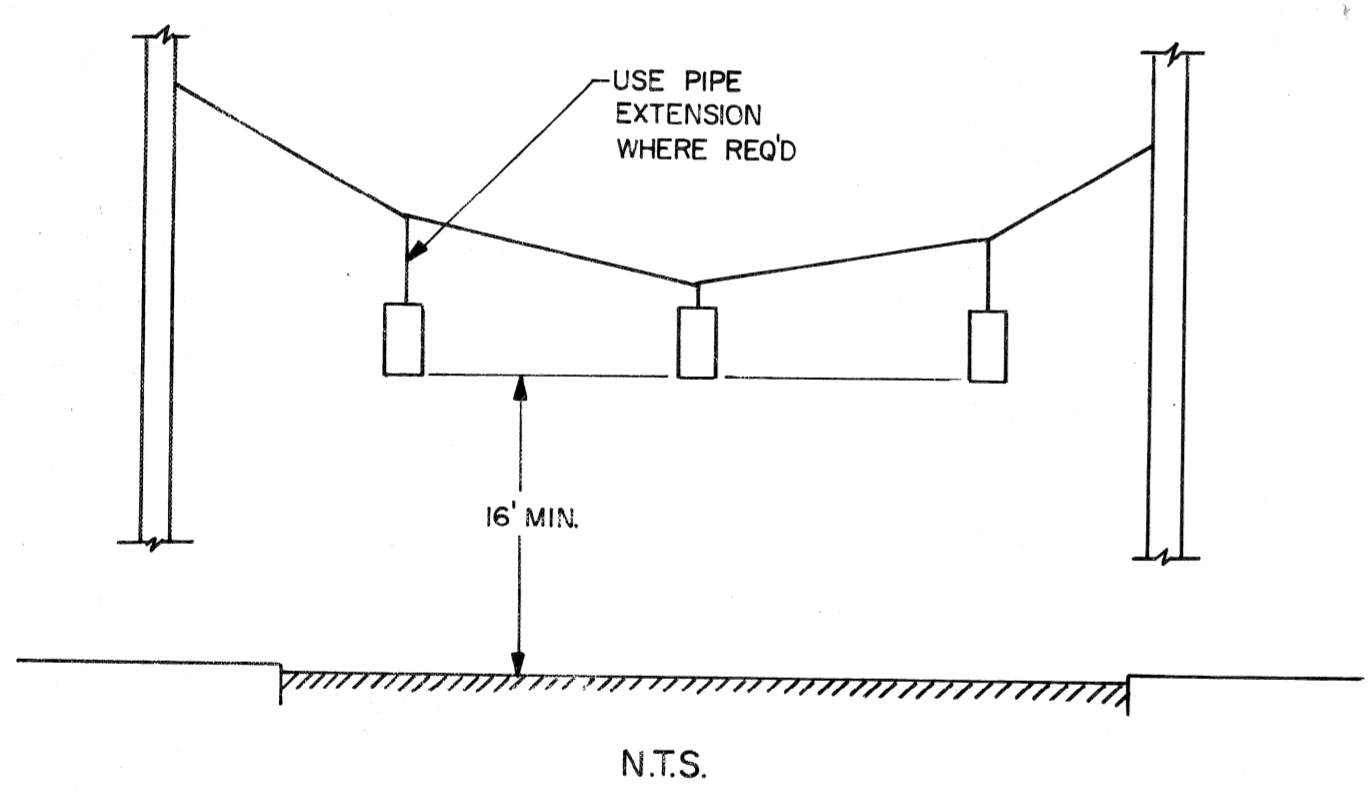
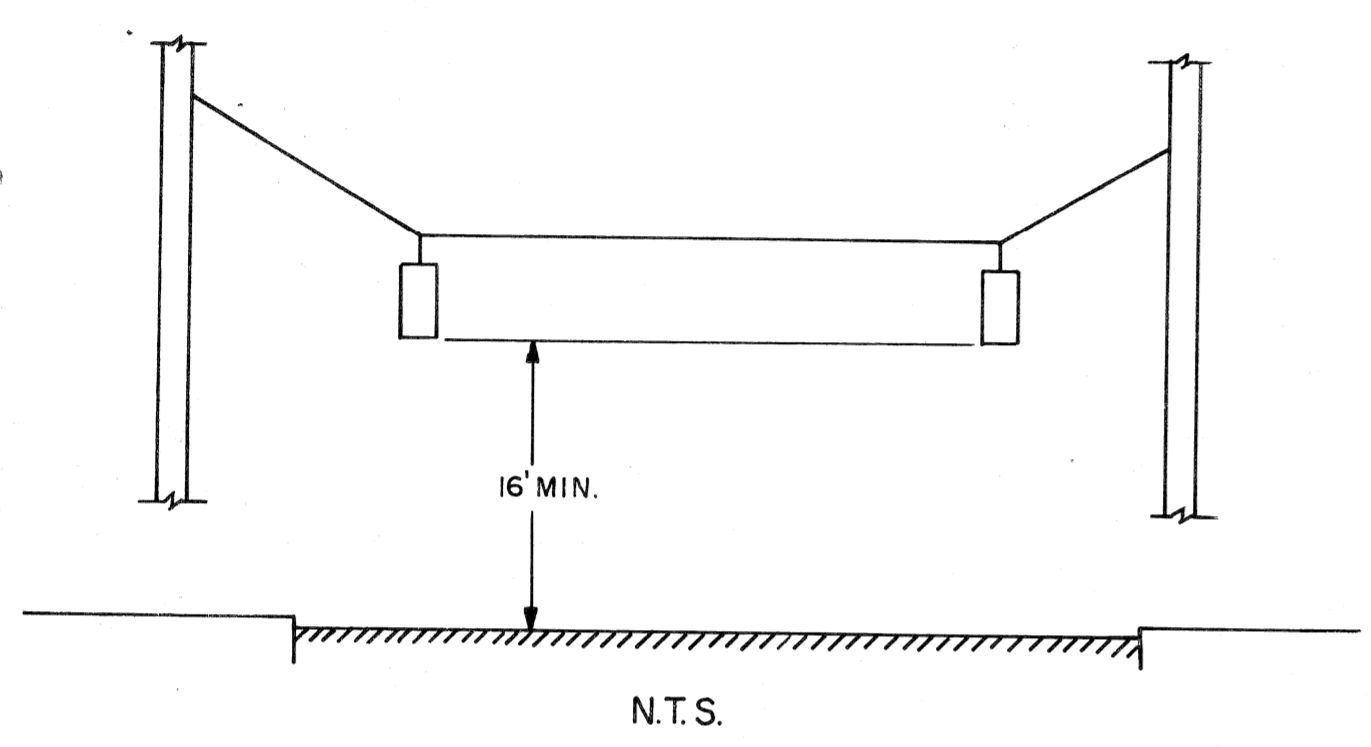
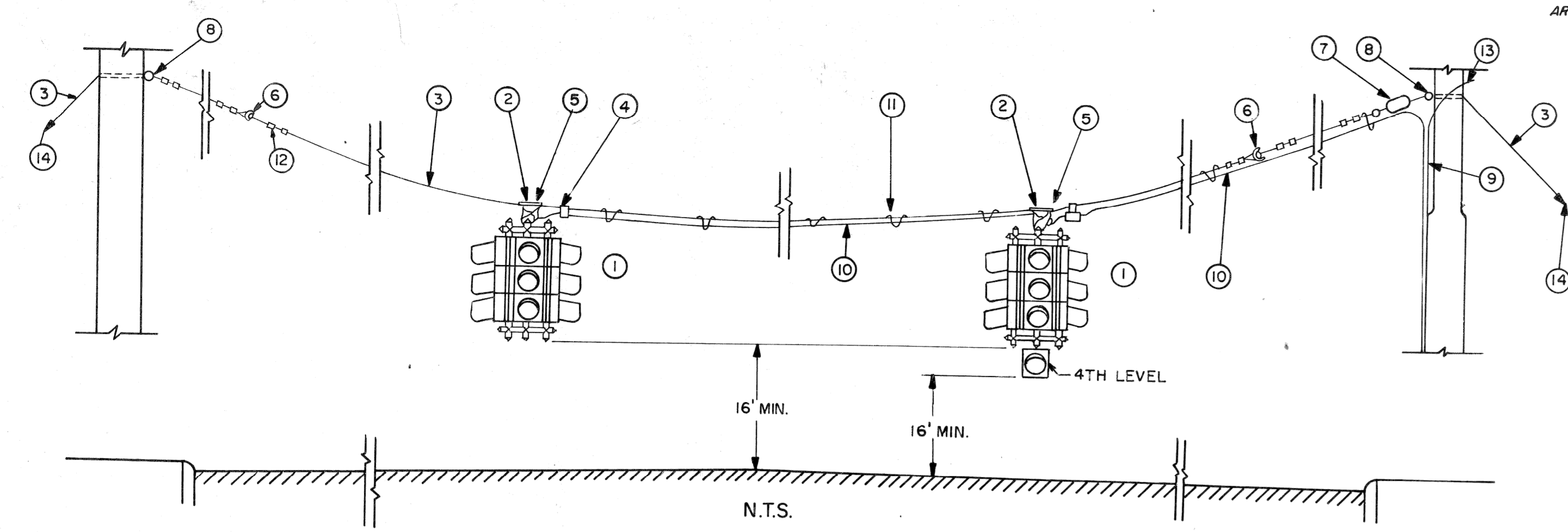
16580 WYOMING DETROIT, MICH. 48221

DRWG. NO. 59 OF 66
FILE NO. CEA 1064

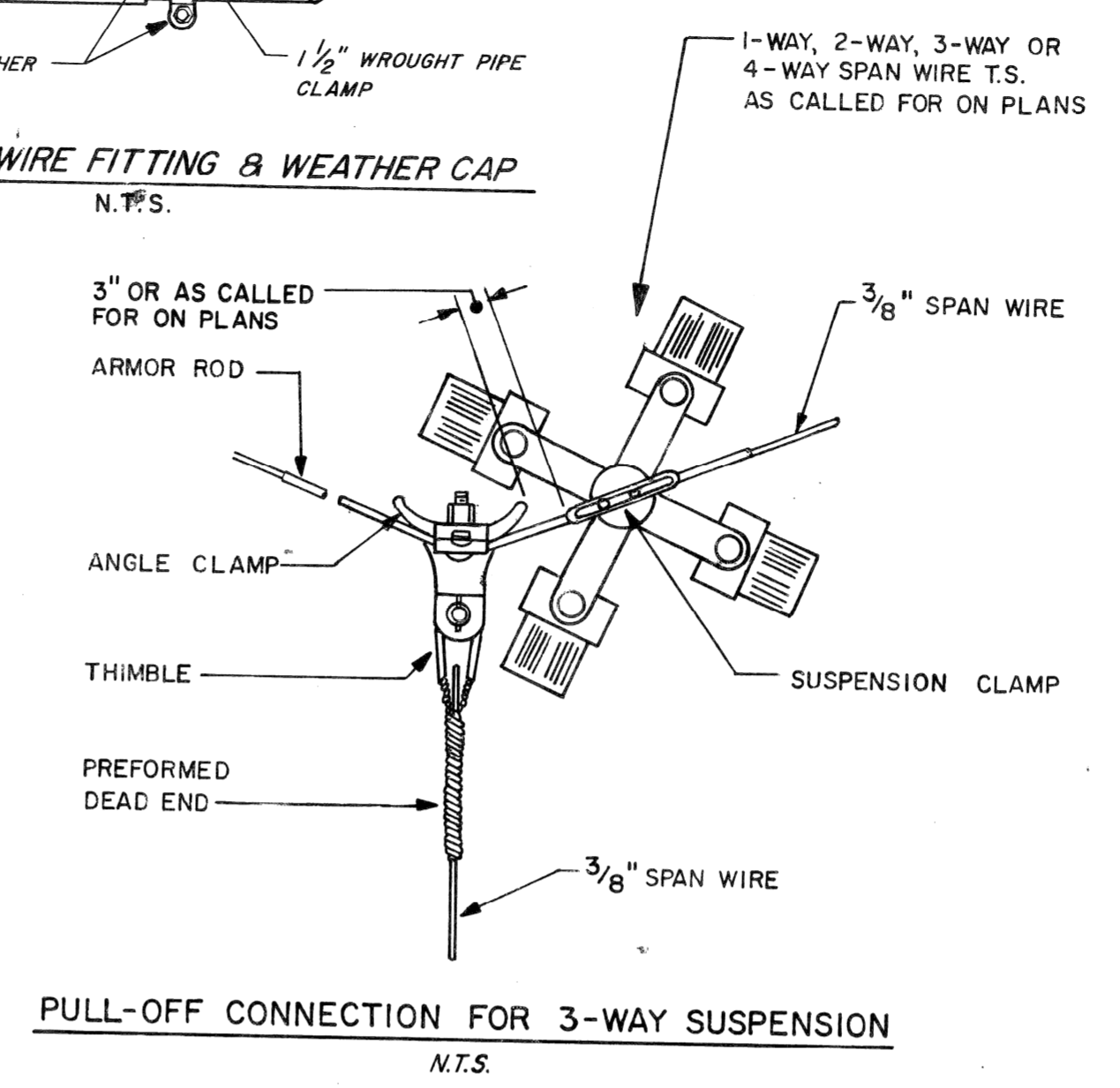
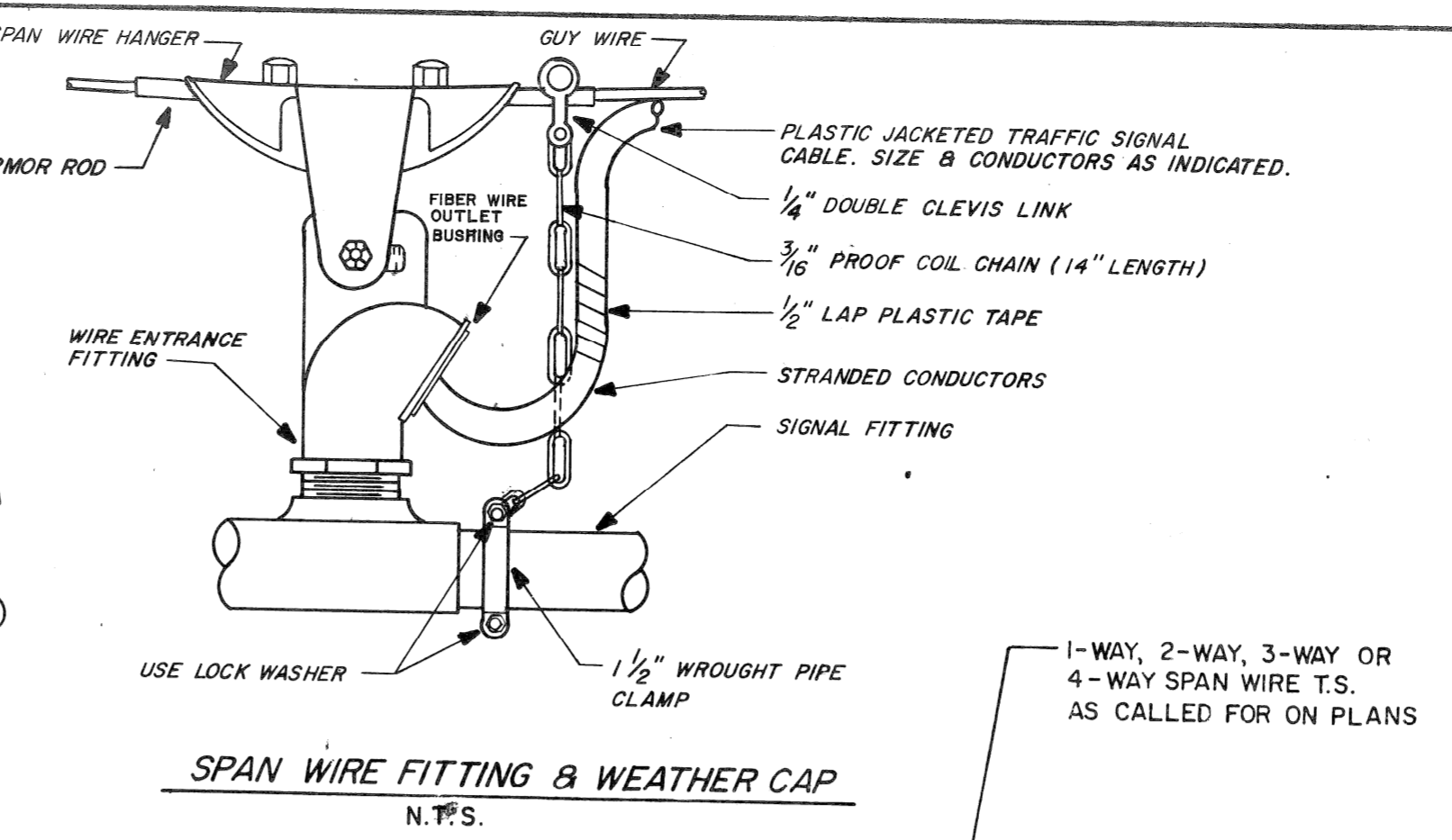
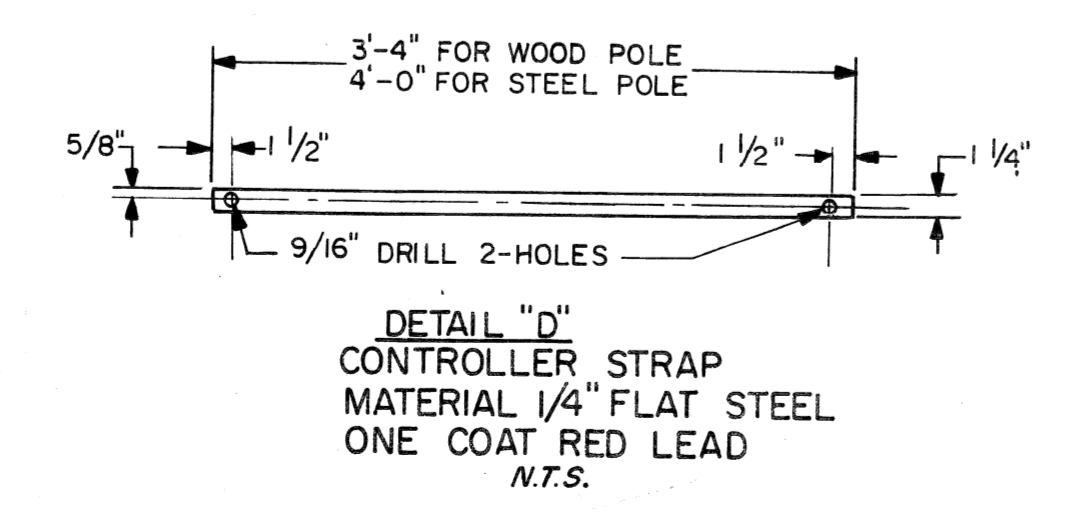
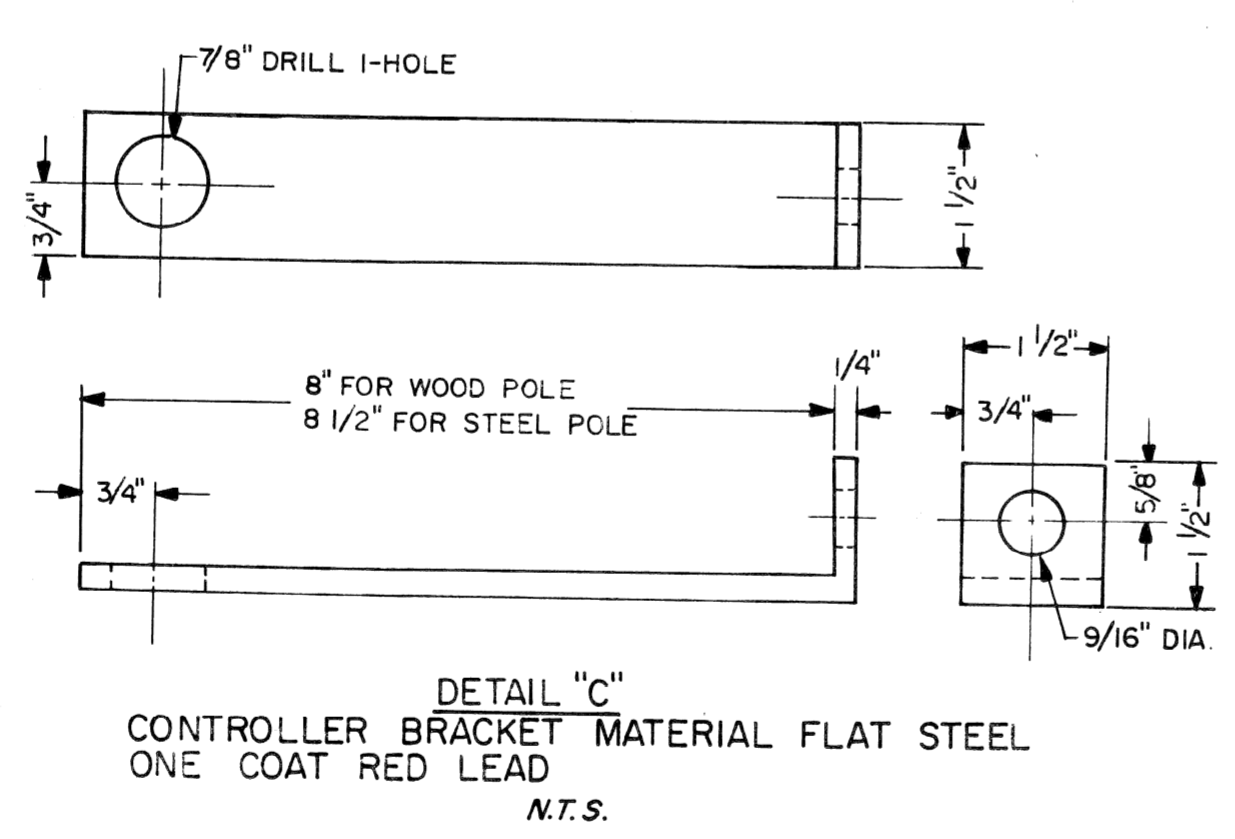
PUBLIC LIGHTING
COMMISSION
CITY OF DETROIT

505

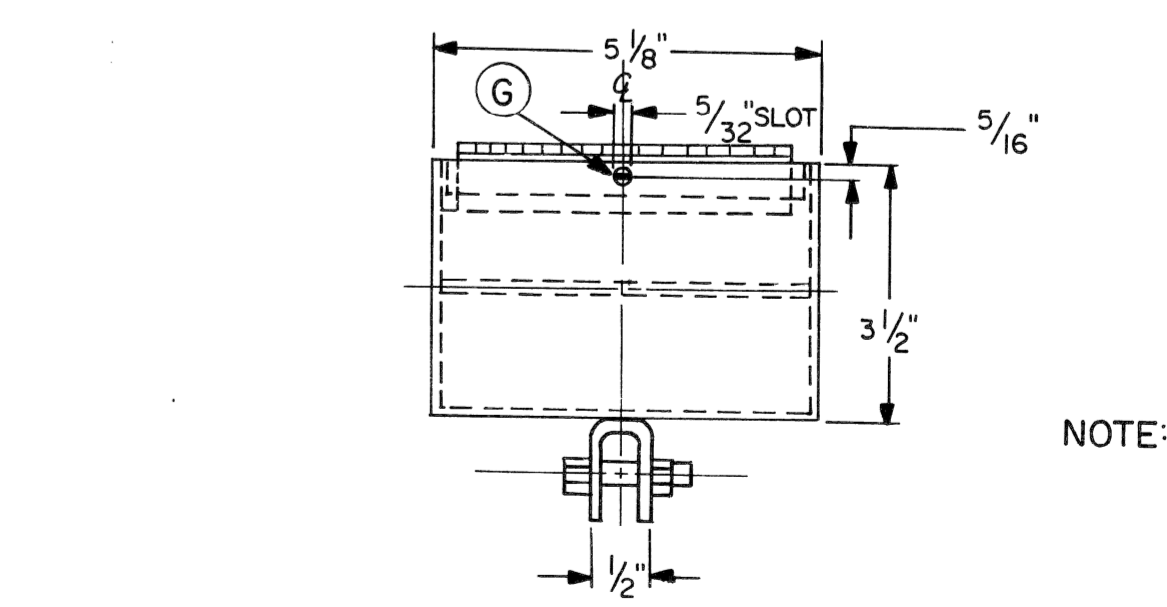
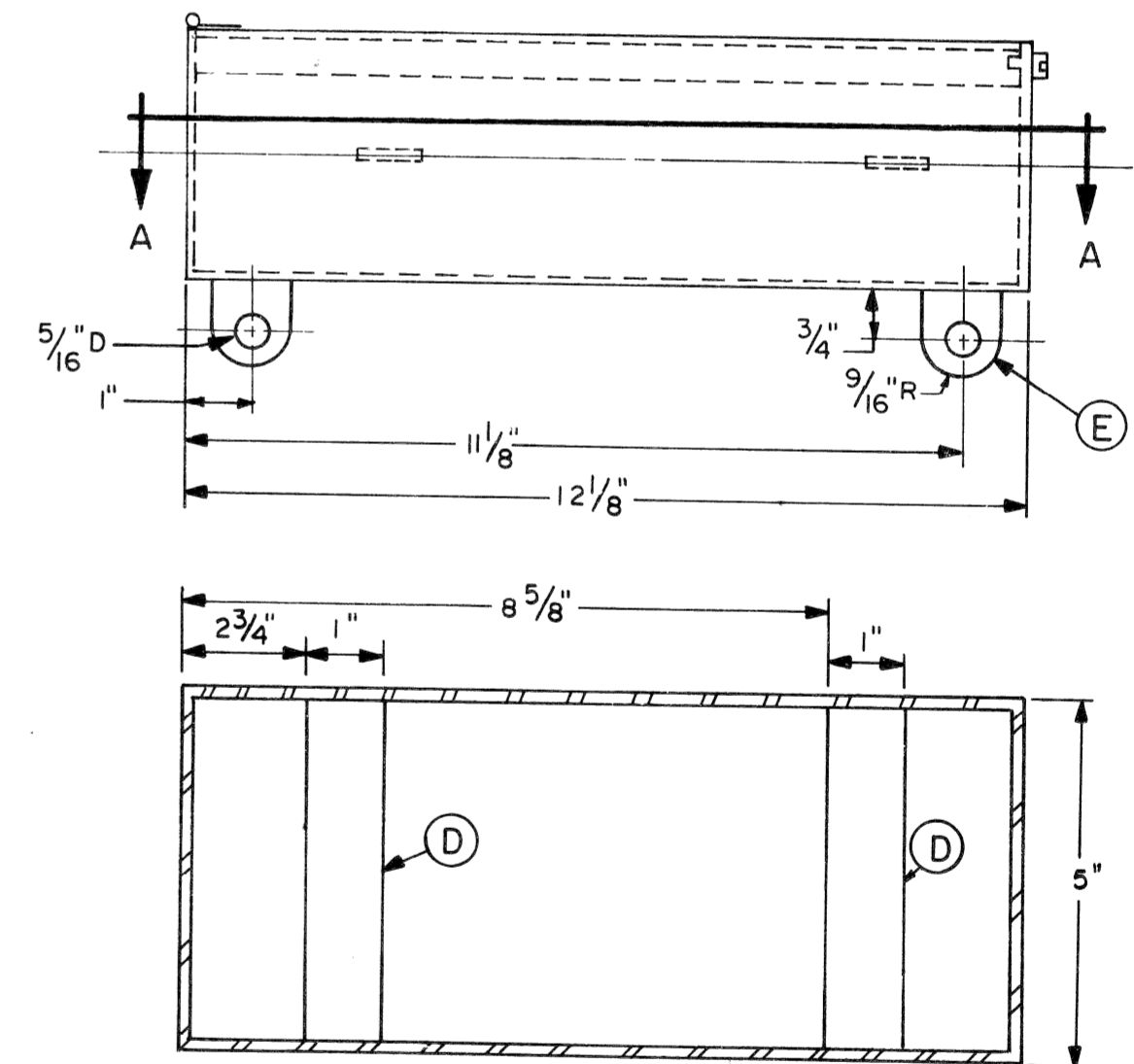
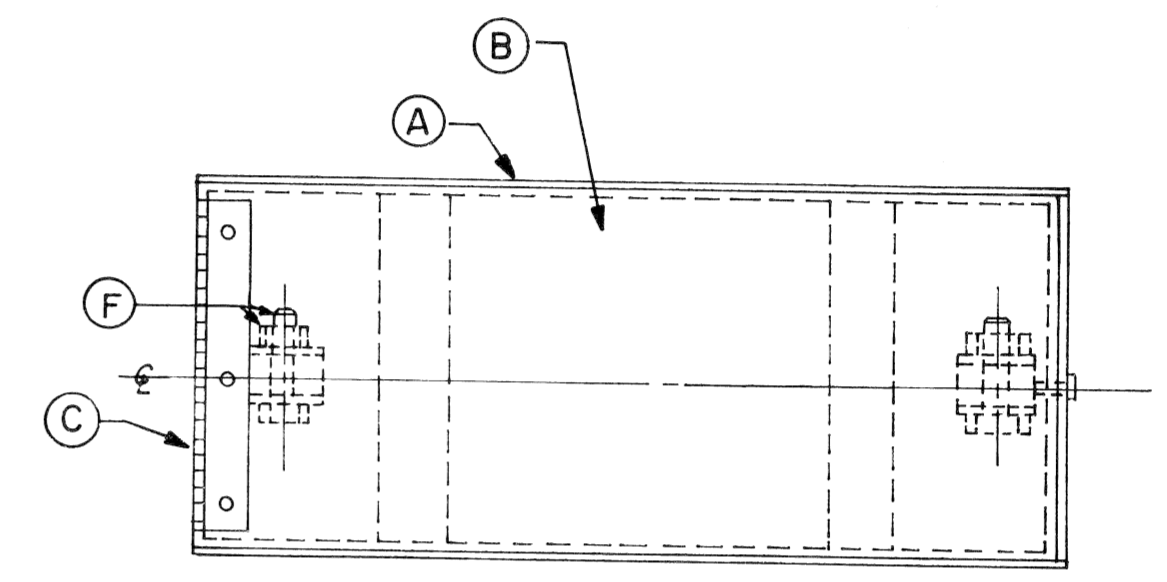
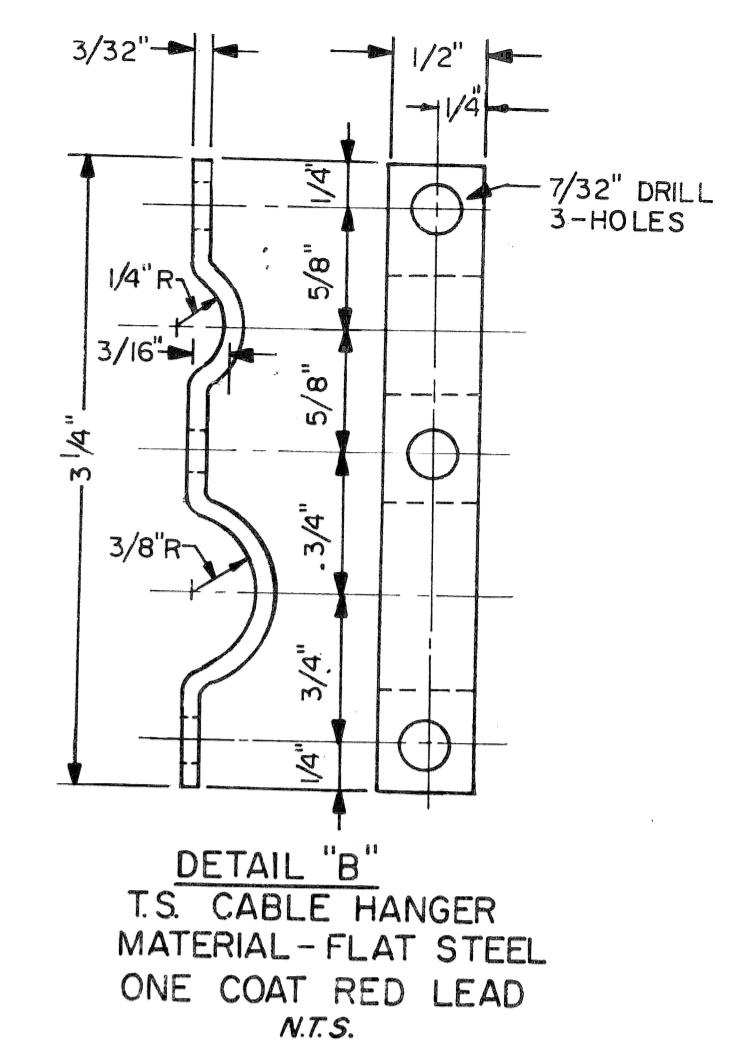
FILE NO. 51-0581
SHEET NO. 59 OF 66
DATE JAN.-84



NO.	ITEM
1	TRAFFIC SIGNAL AS REQUIRED ON GENERAL PLAN
2	SPAN WIRE HANGER
3	3/8" GUY WIRE (USE SIEMENS-MARTIN AS PER SPEC.)
4	CABLE HANGER DETAIL "B"
5	ARMOR ROD
6	STRAIN INSULATOR
7	3/4" X 18" TURNBUCKLE
8	3/4" EYEBOLT
9	SPLIT PLASTIC CONDUIT
10	#14 T.S. CABLE (AS SPECIFIED)
11	PREFORMED STEEL LASHING RODS OR CABLE HANGERS
12	WIRE ROPE CLIPS OR PREFORMED DEAD ENDS
13	2/C-#8 CABLE FOR SERVICE (WHEN REQ'D)
14	3/8" GUY, GUARD AND ANCHOR

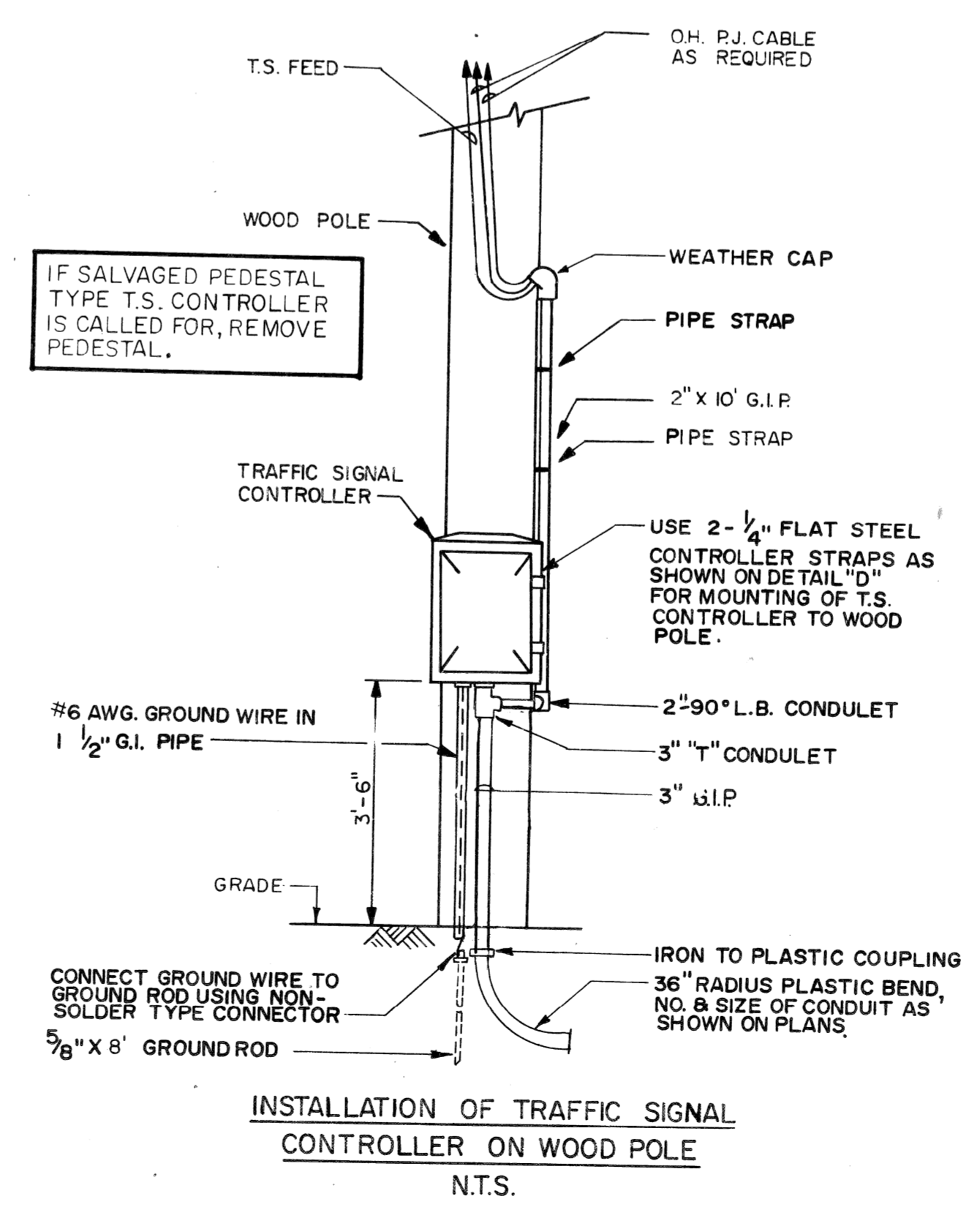


- MATERIALS FOR JUNCTION BOX**
- (A) BOX - #14 B&S ALUMINUM
 - (B) LID - #14 B&S ALUMINUM
 - (C) PIANO HINGE
 - (D) TERMINAL MOUNTING STRAPS - #10 B&S ALUMINUM
 - (E) MOUNTING LUGS - #8 B&S ALUMINUM
 - (F) 1/4" BOLT & NUT
 - (G) 1/8" SHEET METAL SCREW



NOTE: BOX TO BE OF WEATHER TIGHT CONSTRUCTION

ALUMINUM JUNCTION BOX FOR SPANWIRE MOUNTING. N.T.S.



IF SALVAGED PEDESTAL TYPE T.S. CONTROLLER IS CALLED FOR, REMOVE PEDESTAL.

DATE	DESCRIPTION	CHKD. BY

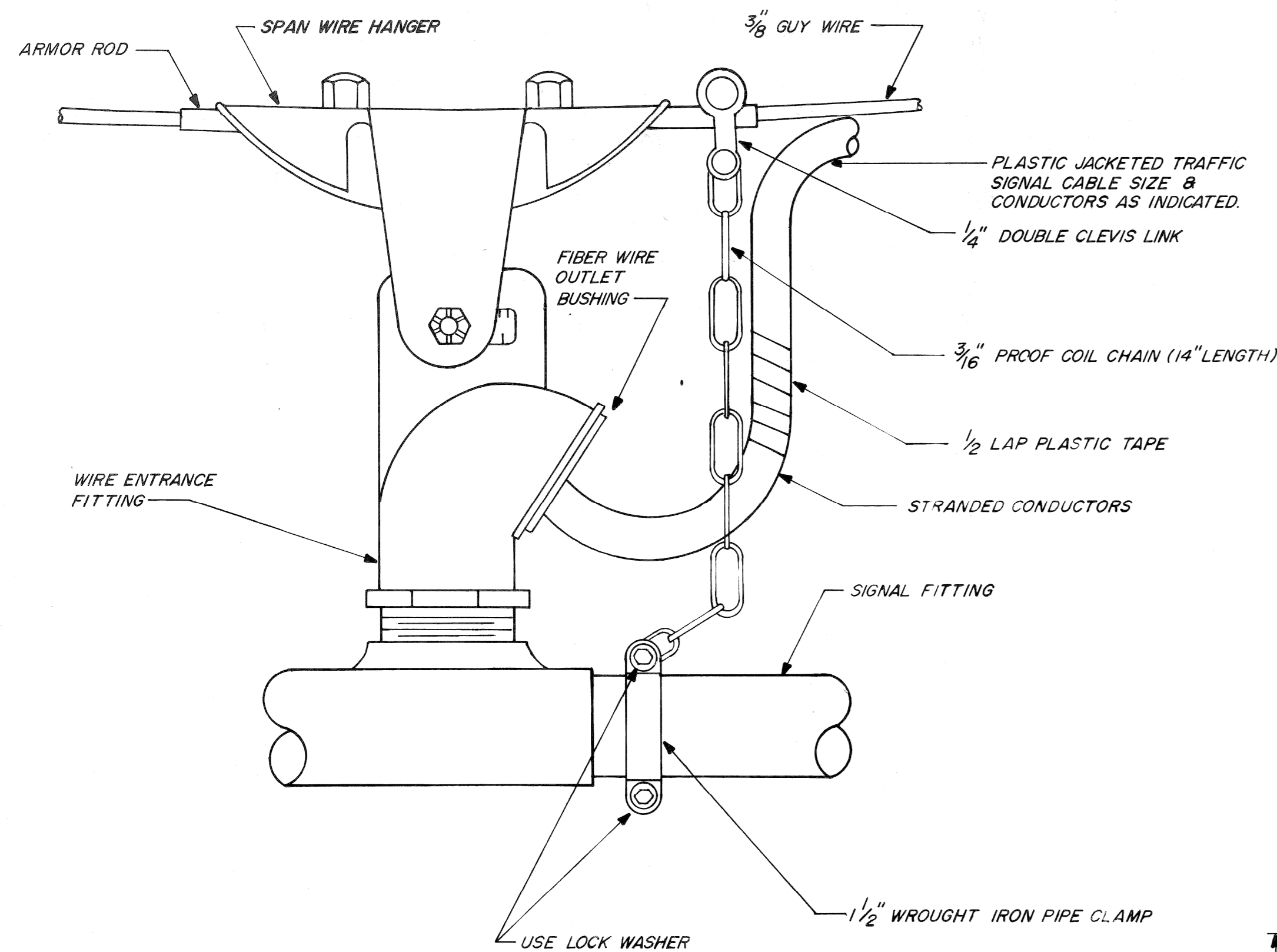
CITY OF DETROIT

E GRAND BLVD. AT E. JEFFERSON AVE. RECONSTRUCTION

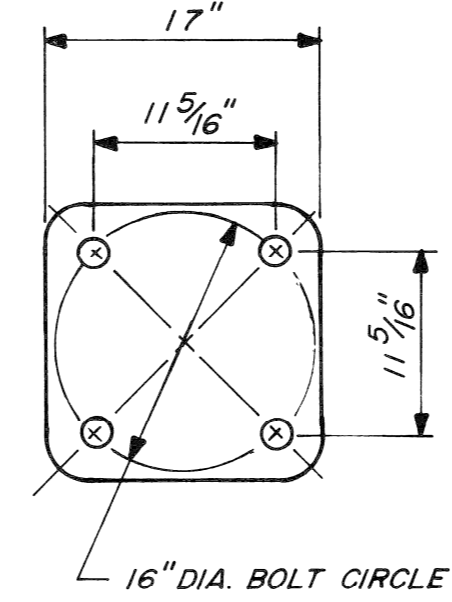
WOOD POLE T.S. SPAN WIRE INSTALLATION DETAILS

DRAWN BY CEA	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY ep	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY	FILE NO. CEA 1064
DATE JAN - 84	DRWG. NO. 60 OF 66

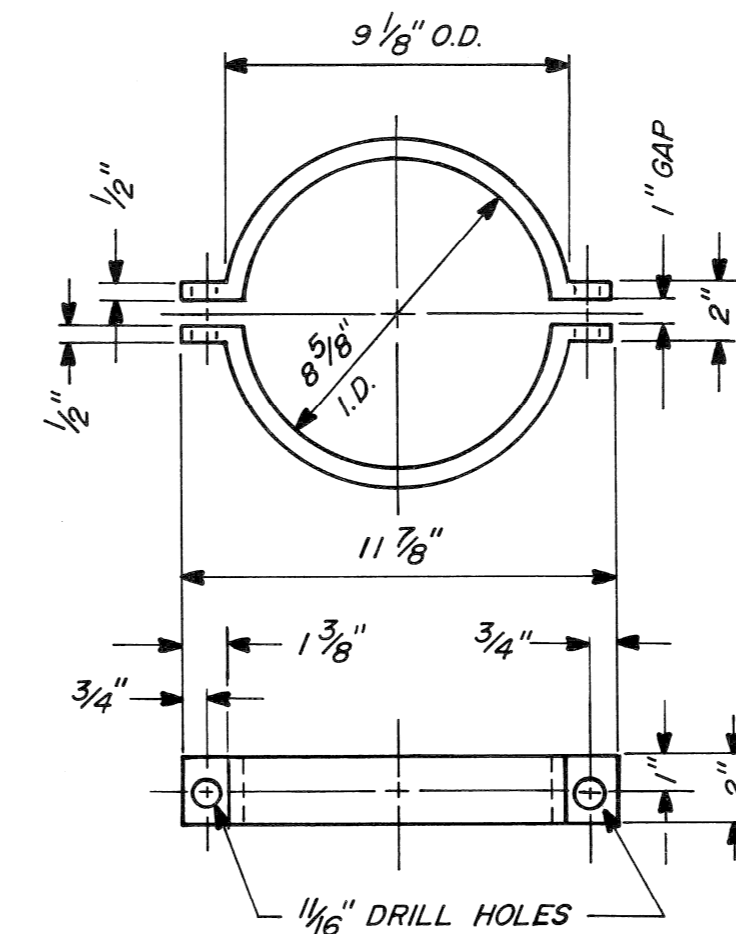
FILE NO. 51-0581	PUBLIC LIGHTING COMMISSION CITY OF DETROIT
SHEET NO. 60 OF 66	
DATE JAN. 84	



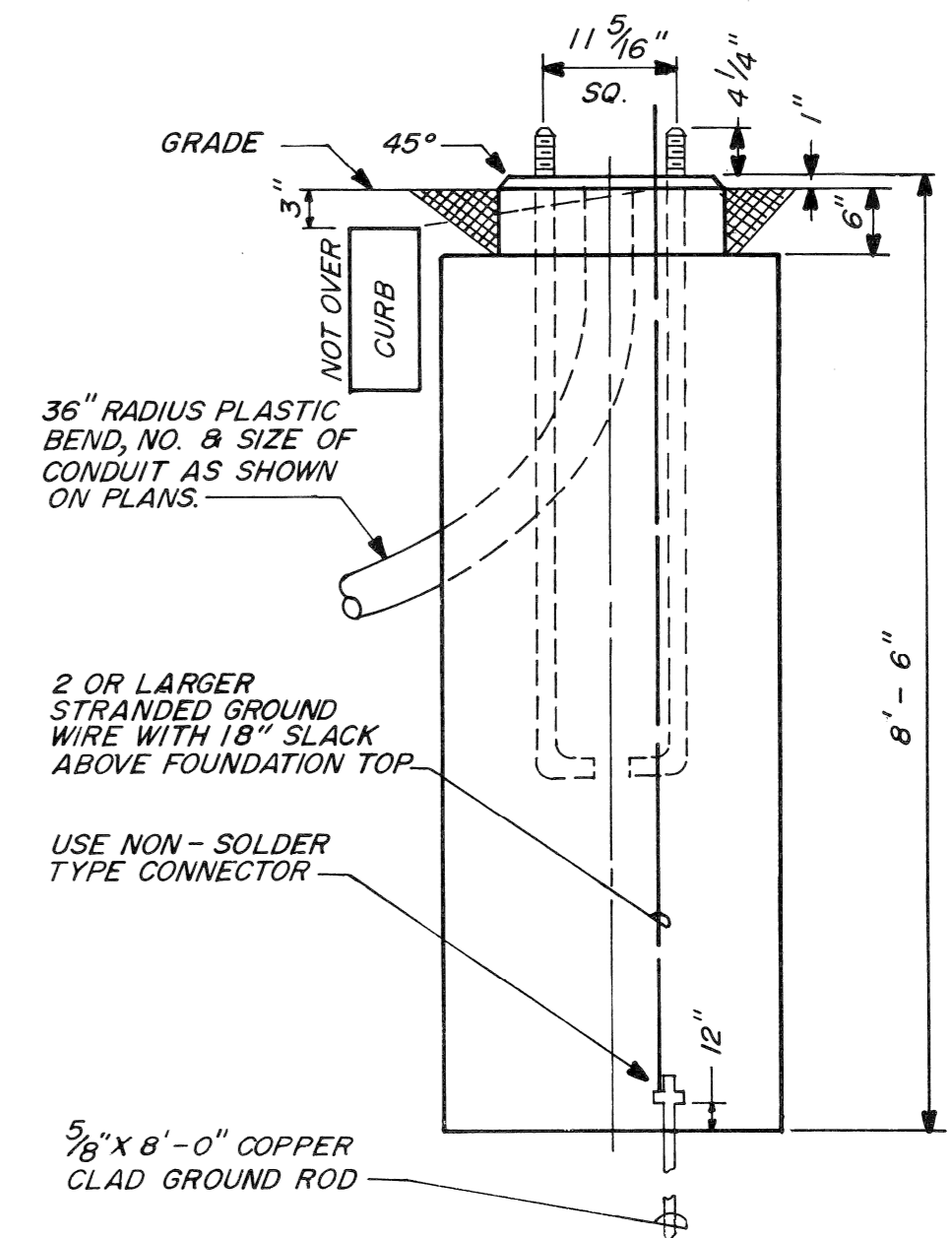
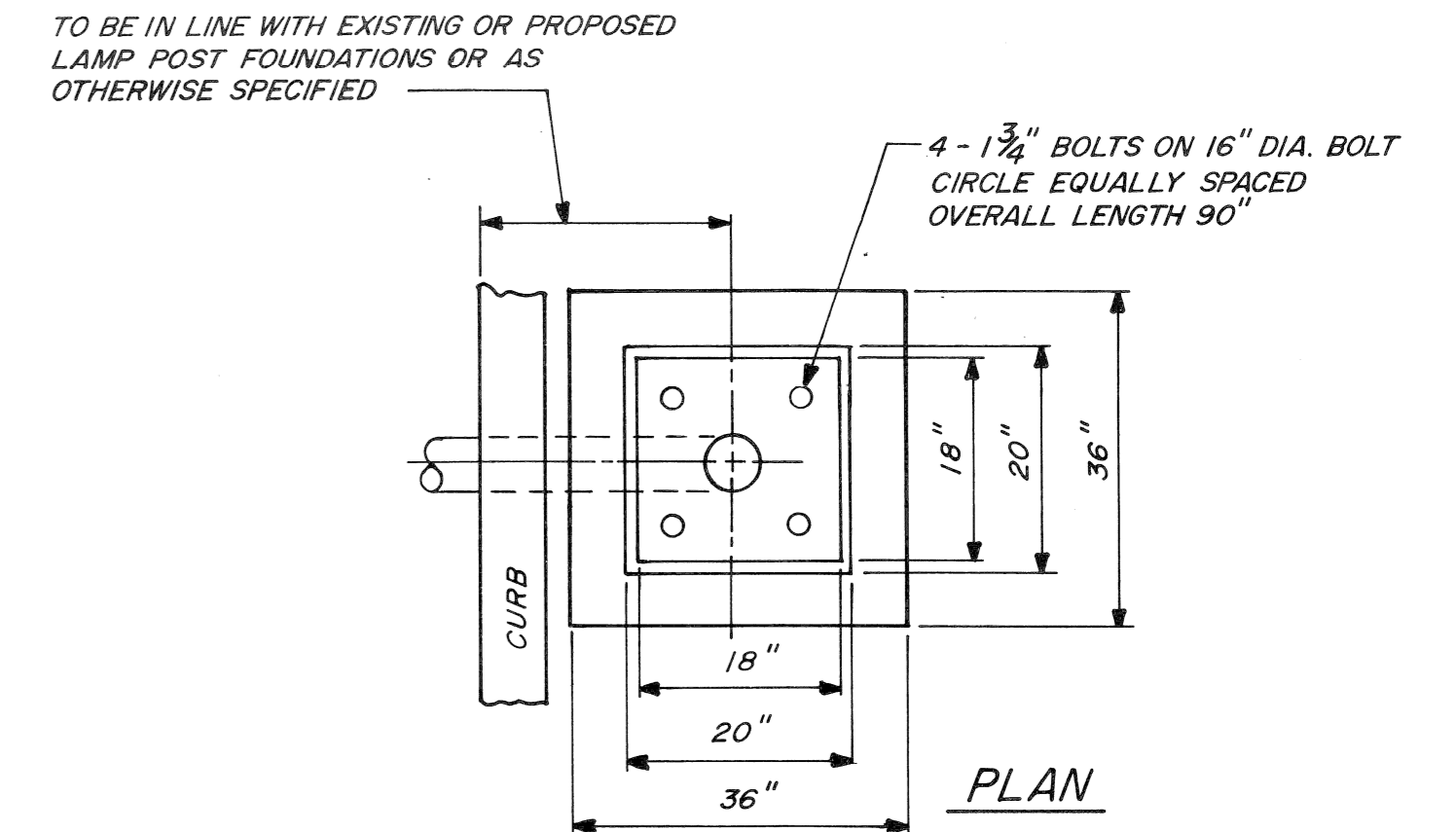
SPAN WIRE FITING & WEATHER CAP
N.T.S.



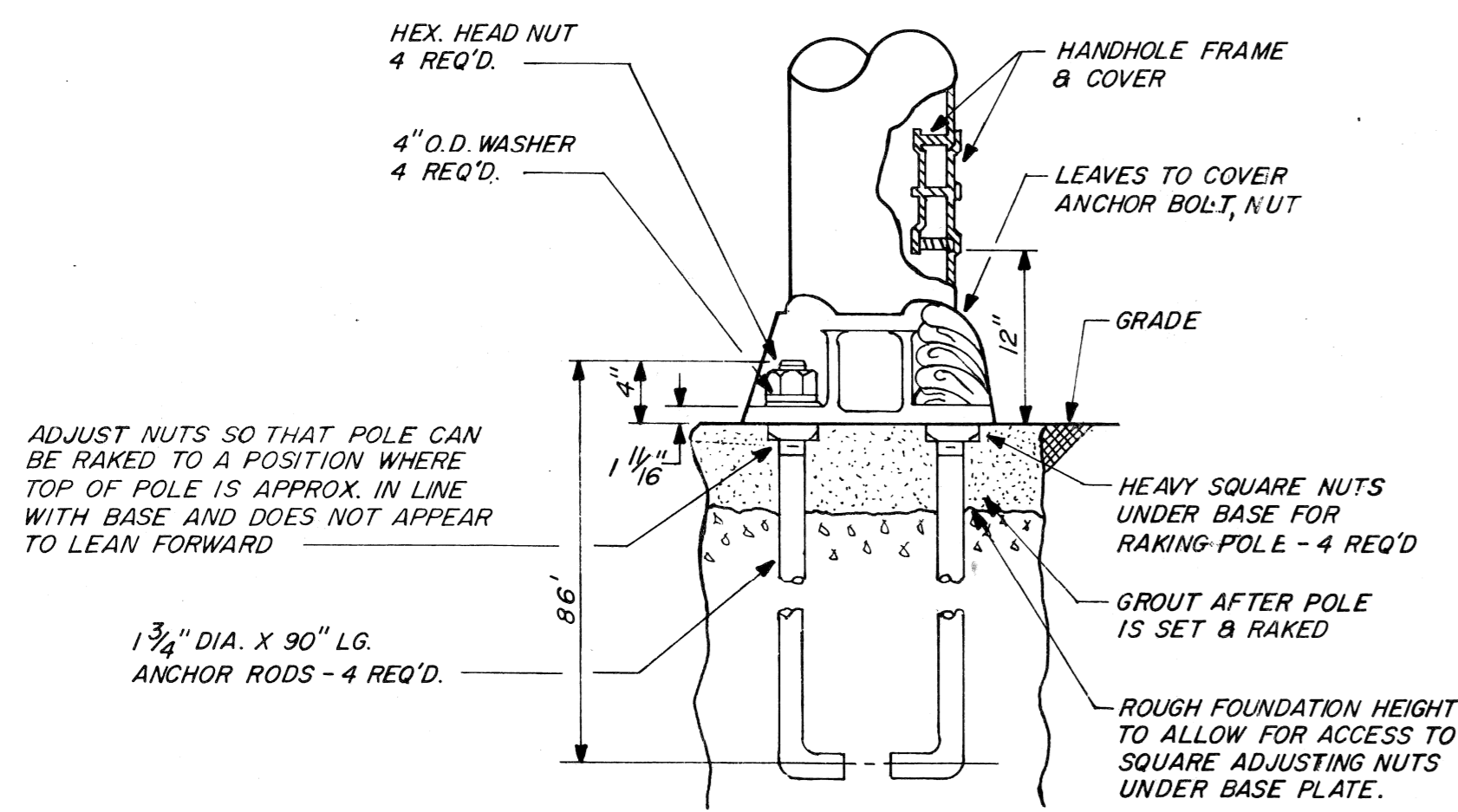
ANCHOR BOLT PLAN
N.T.S.



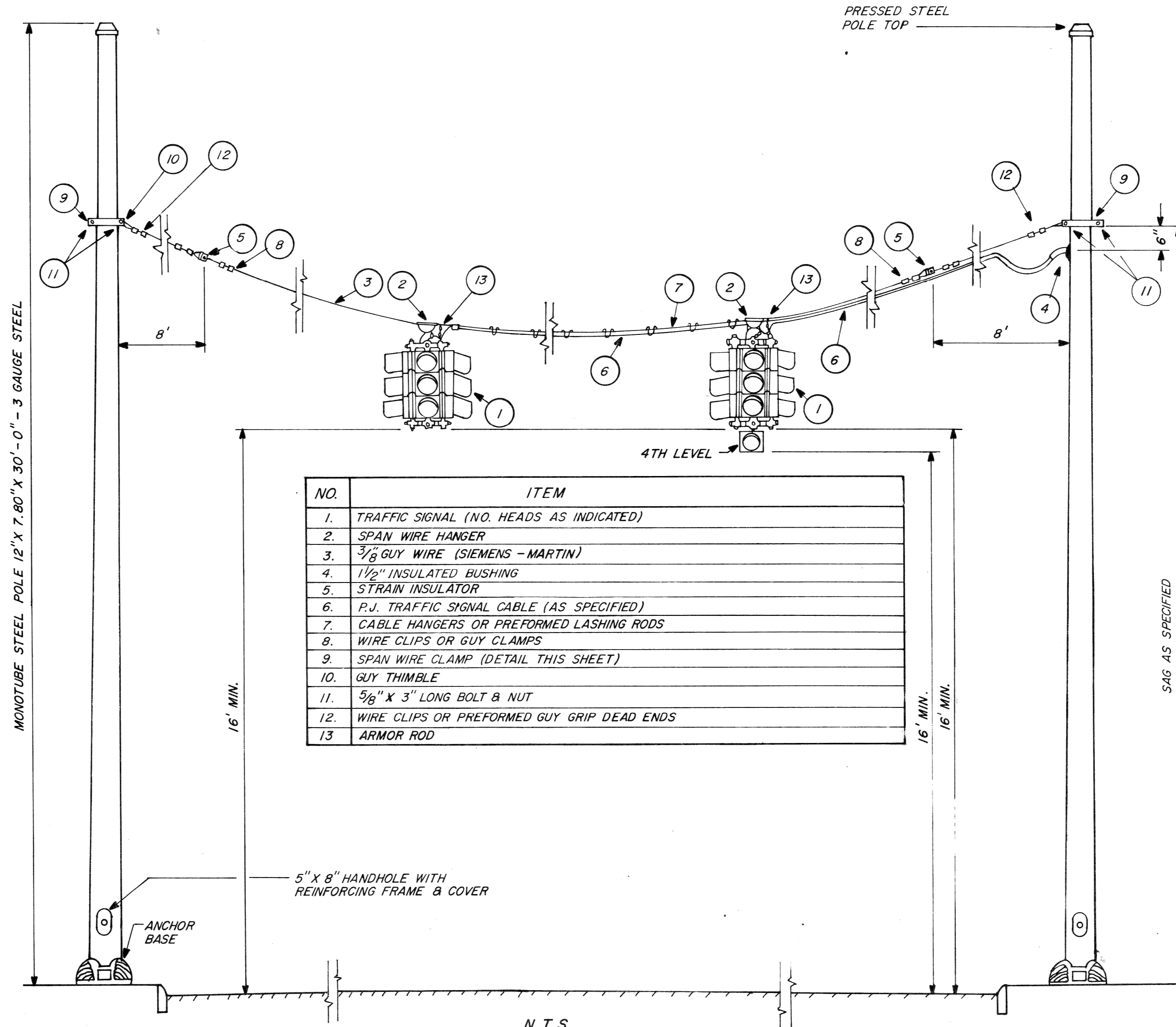
SPAN WIRE CLAMP
N.T.S.
MATERIAL: 1/2" X 2" GALVANIZED STEEL



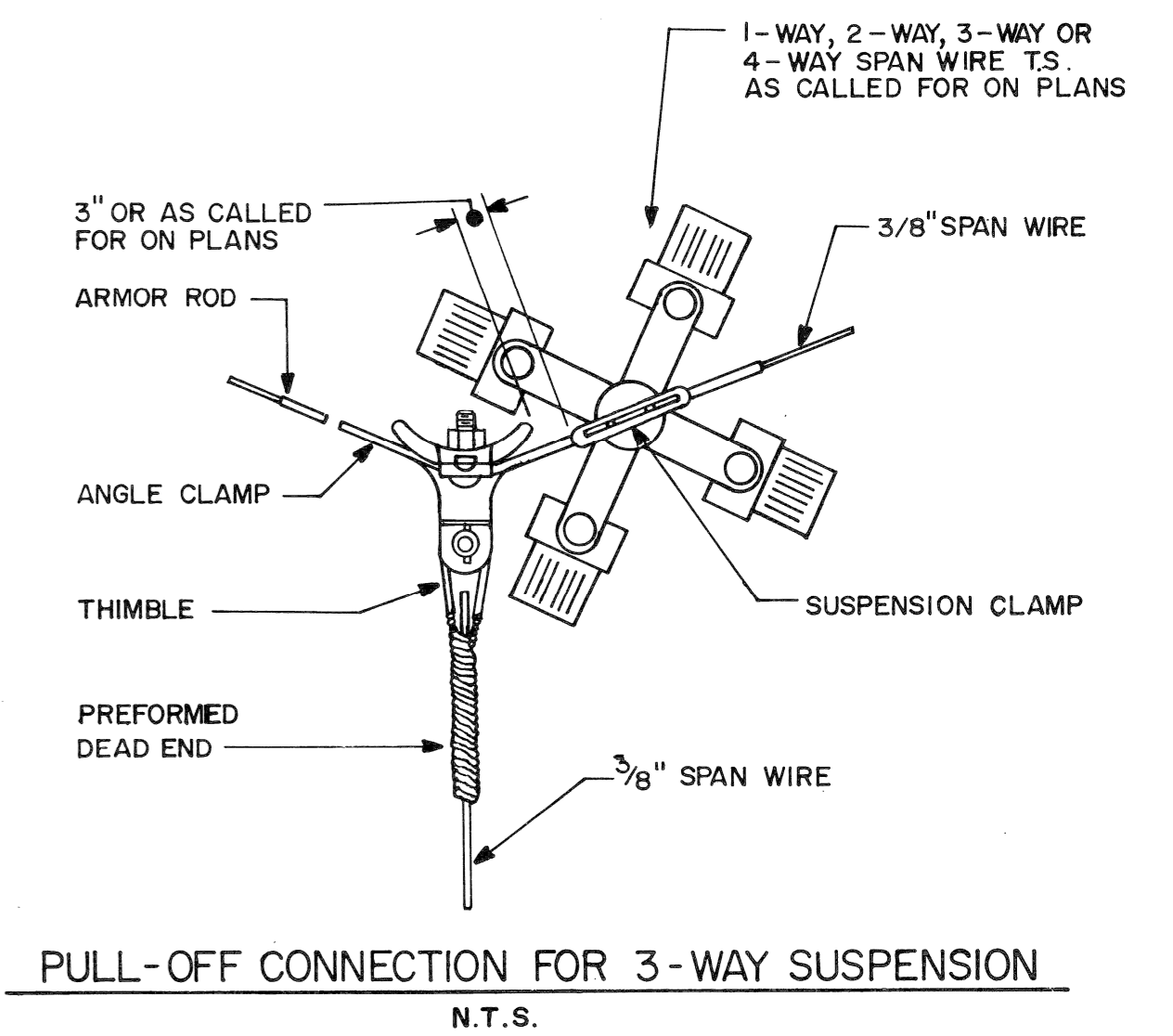
SPAN WIRE STEEL POLE FOUNDATION
N.T.S.



BOLT LAYOUT FOR SPAN-WIRE FOUNDATION
N.T.S.



NO.	ITEM
1.	TRAFFIC SIGNAL (NO. HEADS AS INDICATED)
2.	SPAN WIRE HANGER
3.	3/8" GUY WIRE (SIEMENS - MARTIN)
4.	1 1/2" INSULATED BUSHING
5.	STRAIN INSULATOR
6.	P.J. TRAFFIC SIGNAL CABLE (AS SPECIFIED)
7.	CABLE HANGERS OR PREFORMED LASHING RODS
8.	WIRE CLIPS OR GUY CLAMPS
9.	SPAN WIRE CLAMP (DETAIL THIS SHEET)
10.	GUY THIMBLE
11.	5/8" X 3" LONG BOLT & NUT
12.	WIRE CLIPS OR PREFORMED GUY GRIP DEAD ENDS
13.	ARMOR ROD



DATE	DESCRIPTION	CHKD. BY

CITY OF DETROIT

5" X 8" HANDHOLE WITH REINFORCING FRAME & COVER

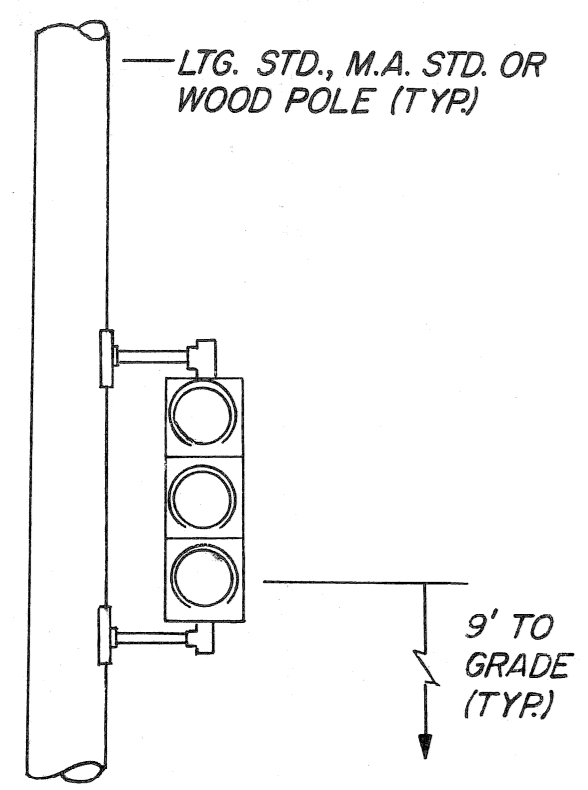
E. GRAND BLVD. AT E. JEFFERSON AVE.
RECONSTRUCTION
STEEL POLE SPAN WIRE
INSTALLATION DETAILS

DRAWN CEA
CHECKED [Signature]
APPROVED [Signature]
DATE JAN.-84

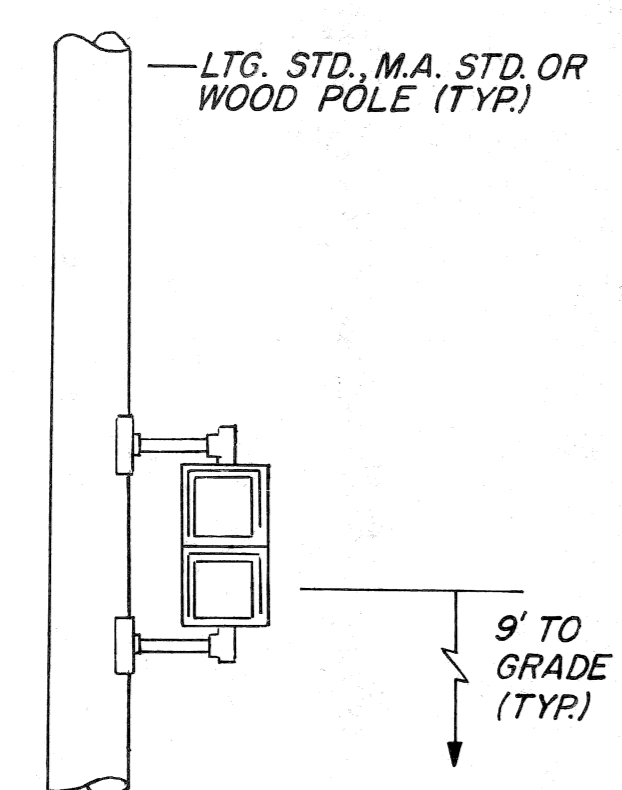
PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH., 48221
FILE NO. CEA 1064

PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT

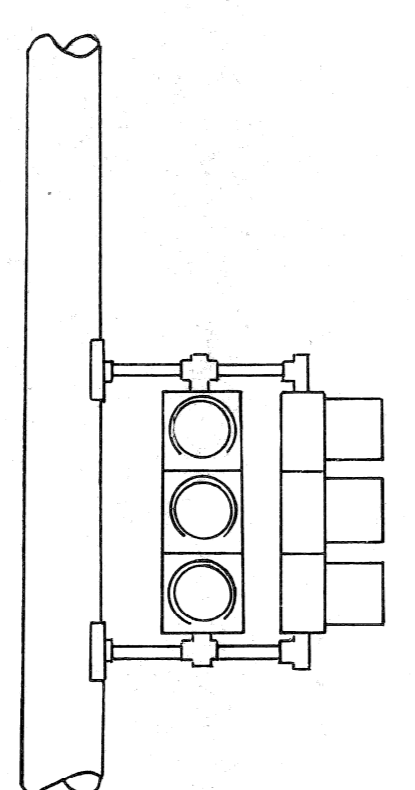
FILE NO. 51-0581
SHEET NO. 61 OF 66
DATE JAN-84



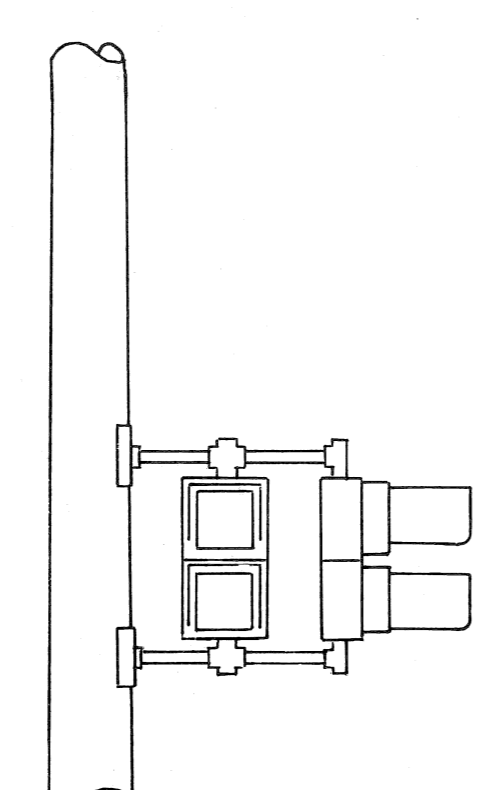
DETAIL "A-1"



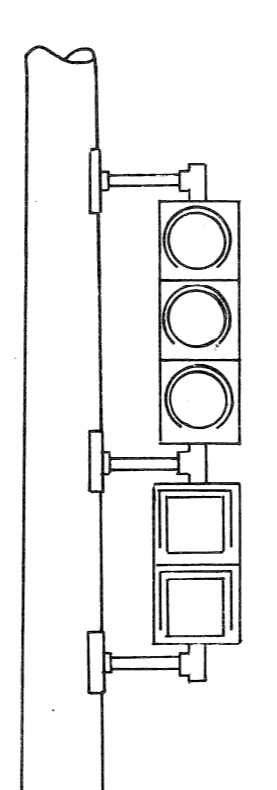
DETAIL "B-1"



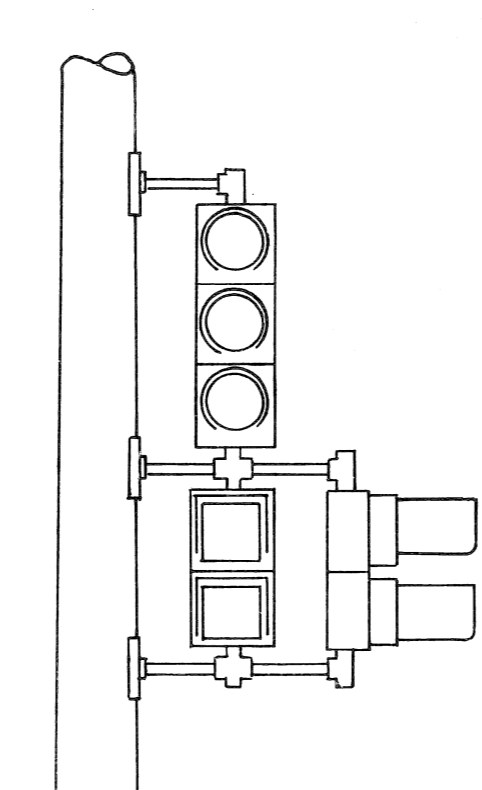
DETAIL "C-1"



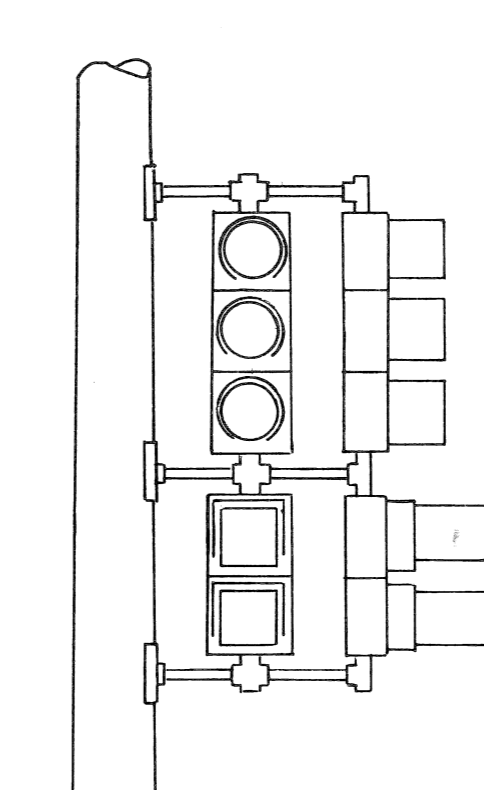
DETAIL "D-1"



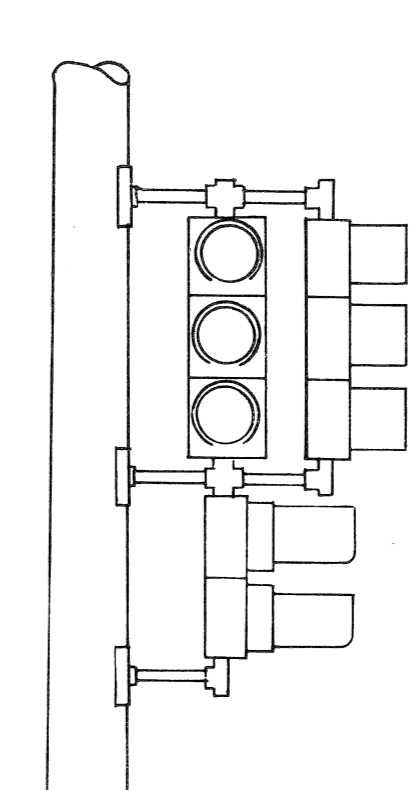
DETAIL "E-1"



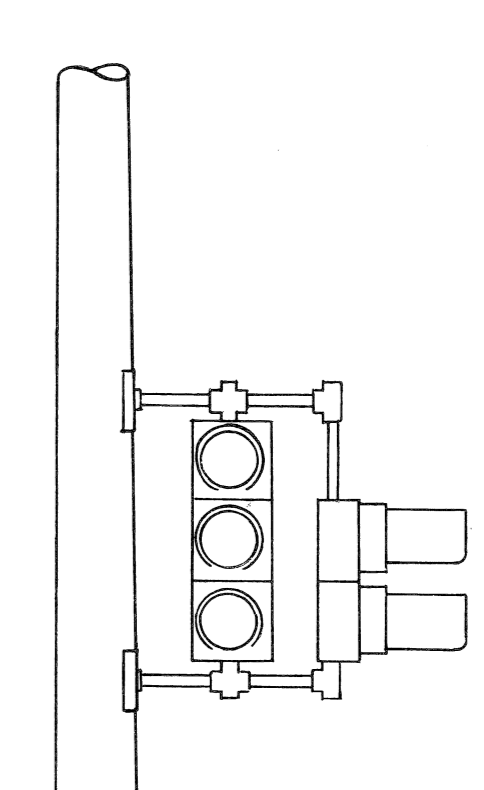
DETAIL "F-1"



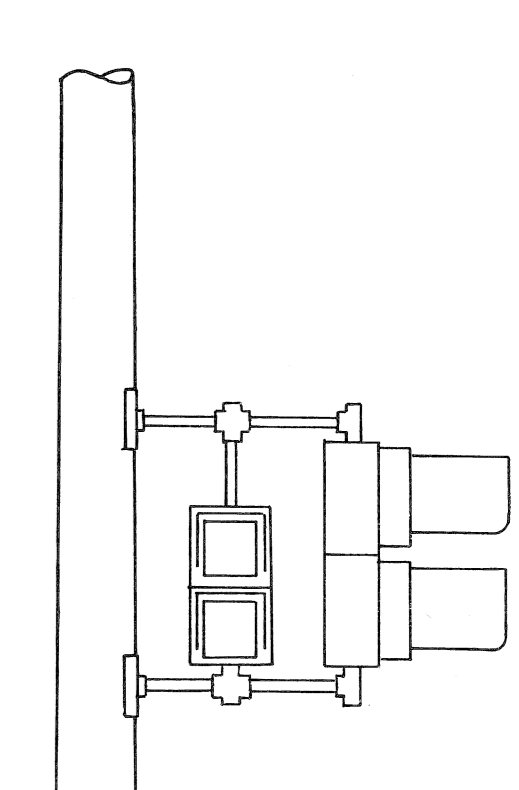
DETAIL "G-1"



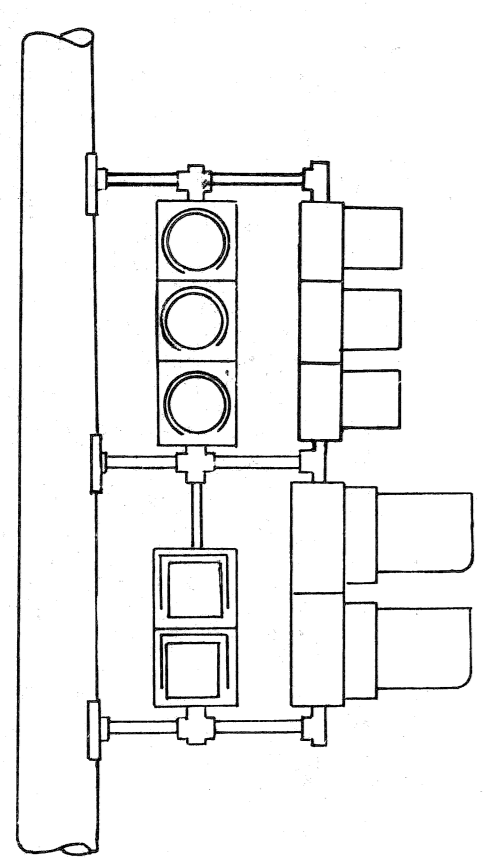
DETAIL "H-1"



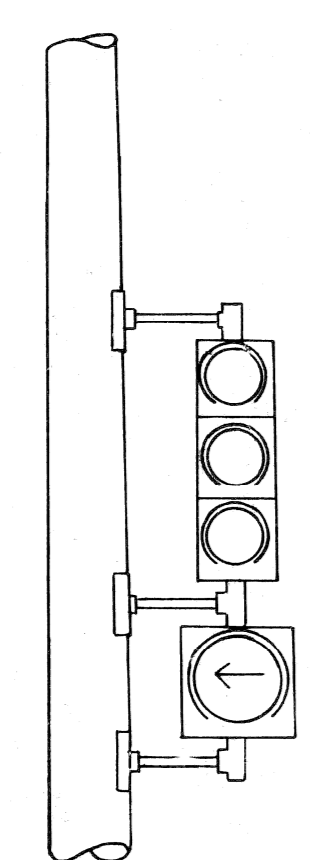
DETAIL "J-1"



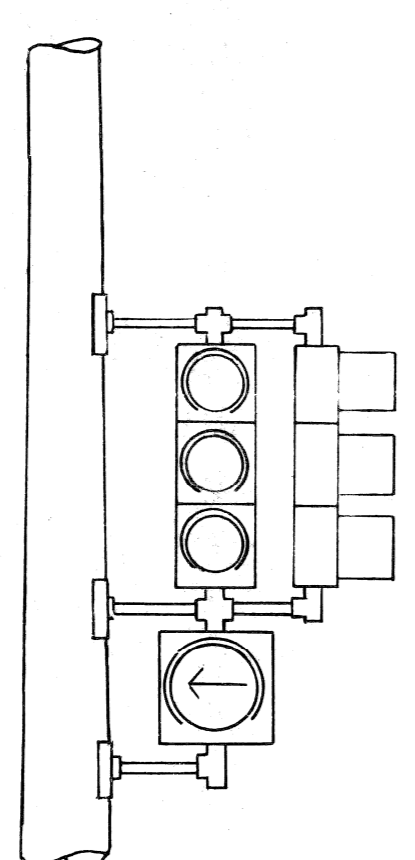
DETAIL "K-1"



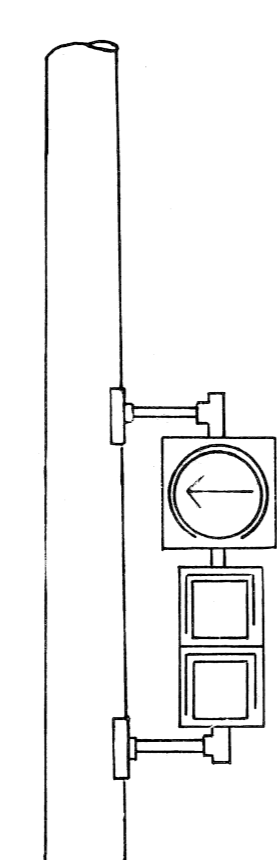
DETAIL "L-1"



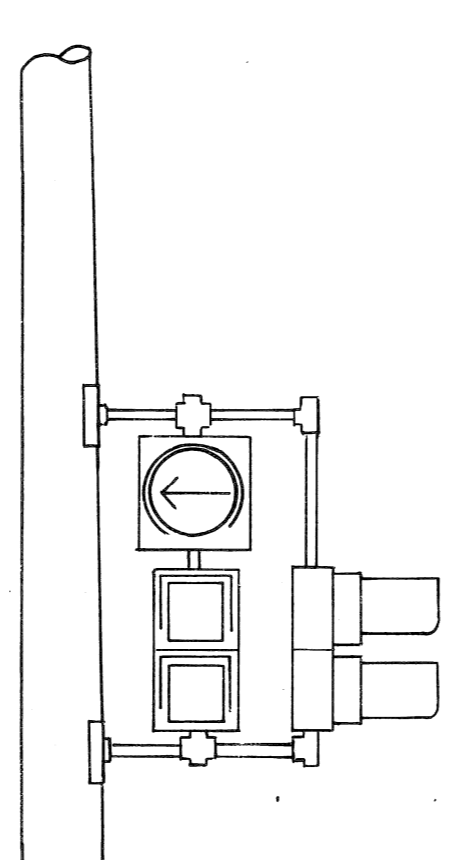
DETAIL "M-1"



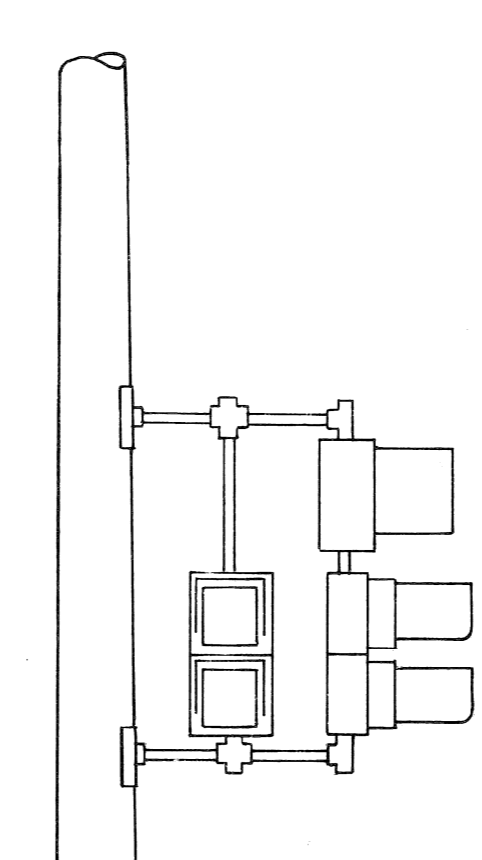
DETAIL "N-1"



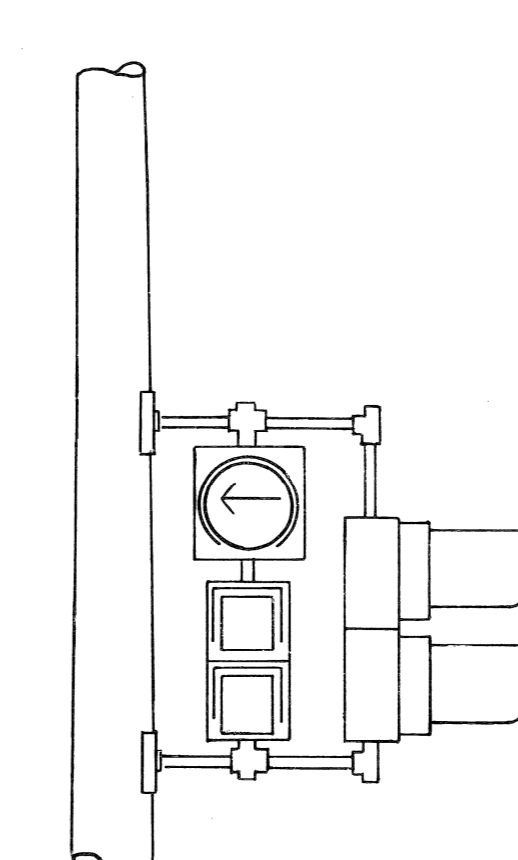
DETAIL "P-1"



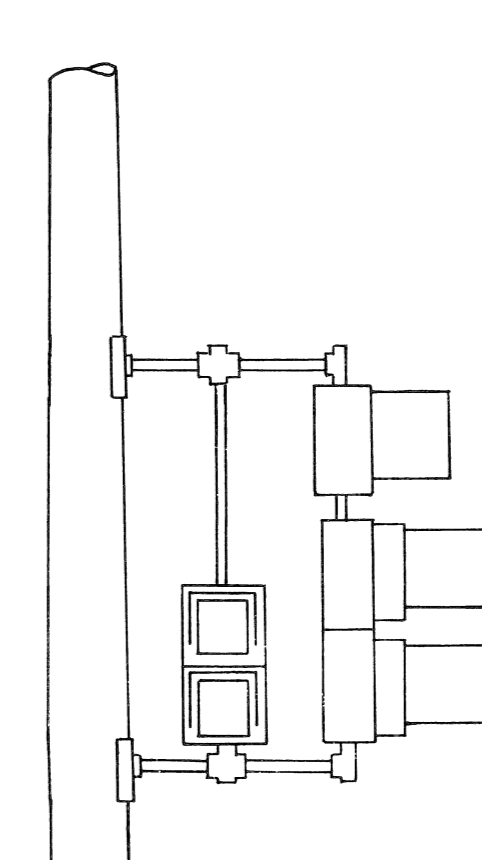
DETAIL "Q-1"



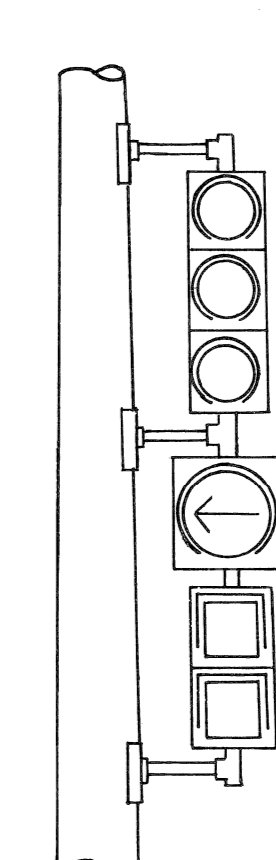
DETAIL "R-1"



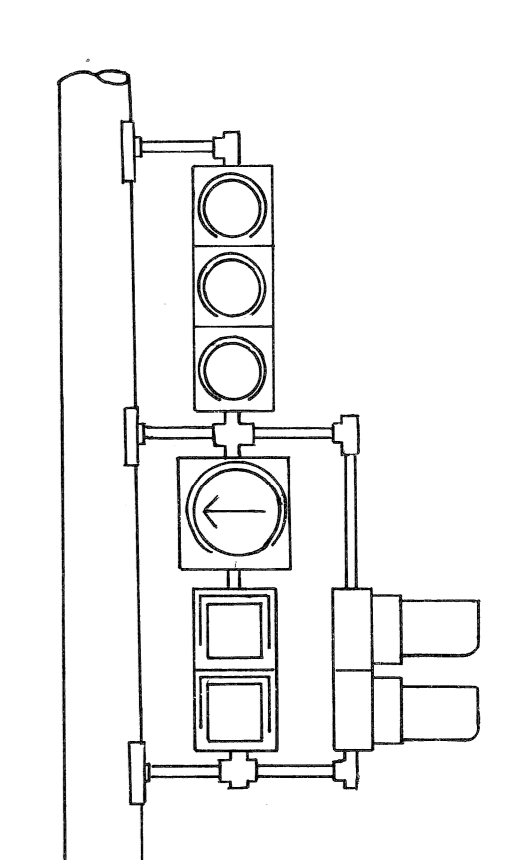
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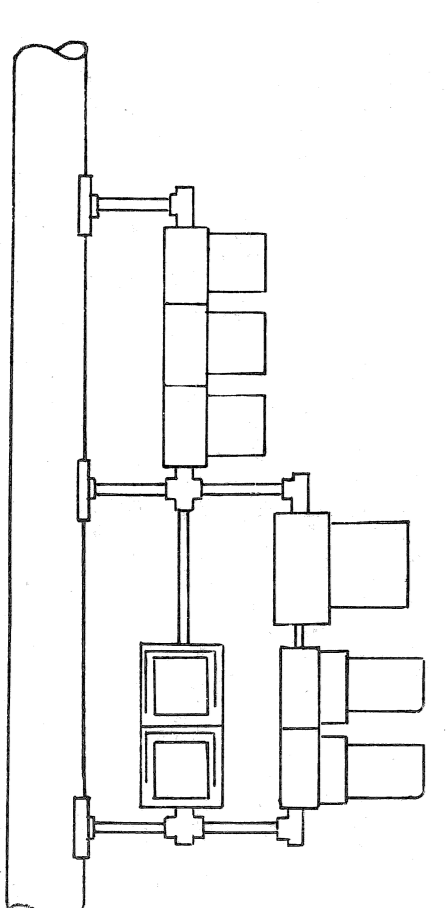
DETAIL "T-1"



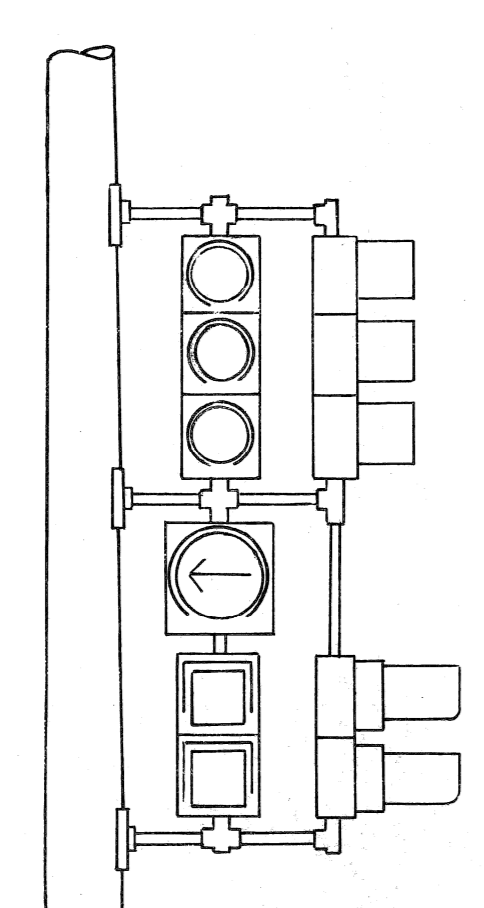
DETAIL "U-1"



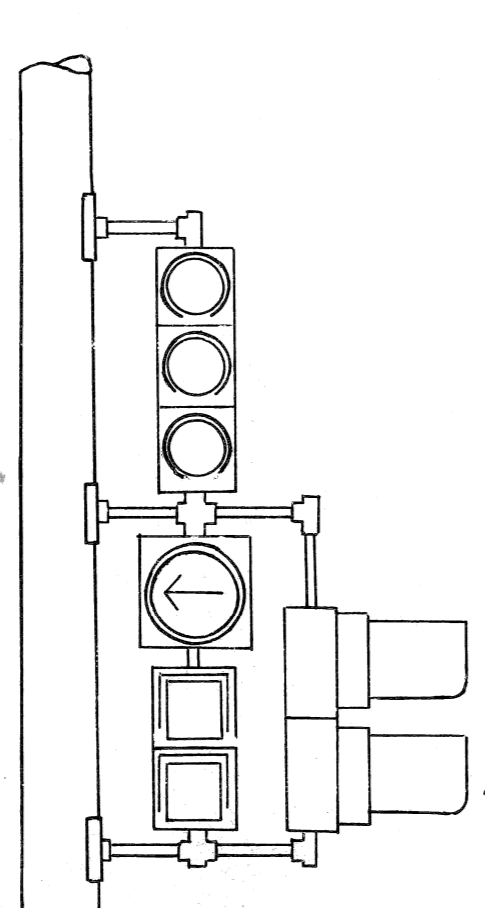
DETAIL "V-1"



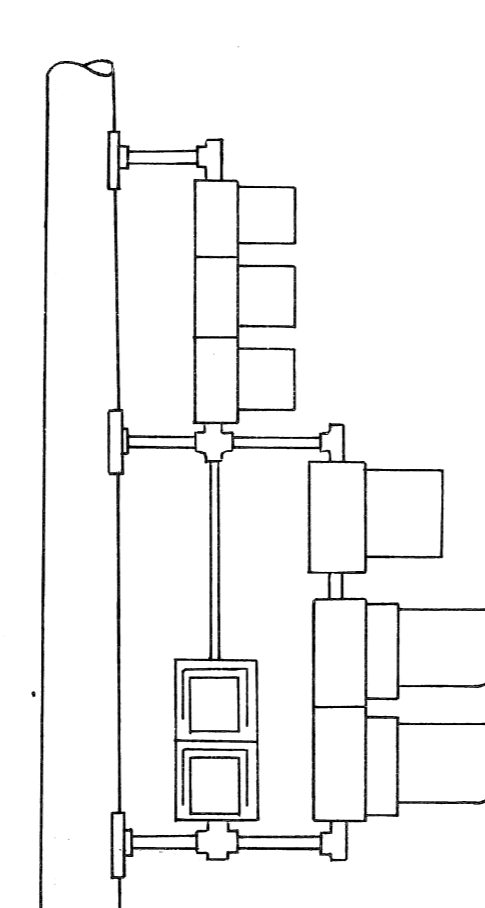
DETAIL "W-1"



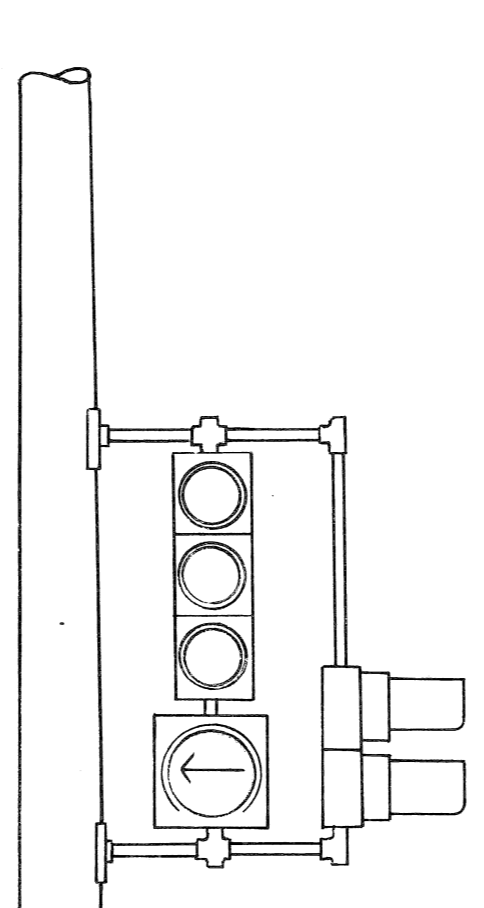
DETAIL "X-1"



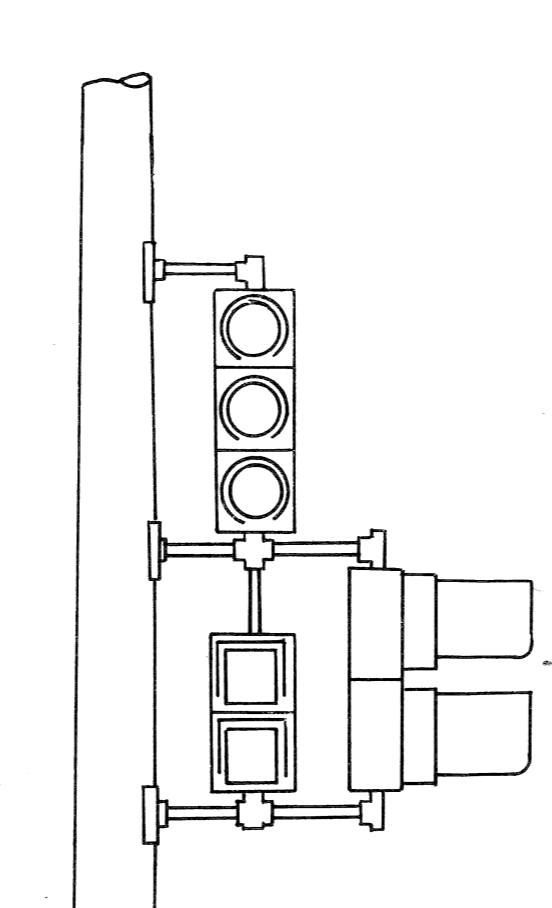
DETAIL "Y-1"



DETAIL "Z-1"



DETAIL "A-A-1"



DETAIL "B-B-1"

NOTE:
THE RELATIVE POSITION OF 2-WAY T.S. & PEDESTRIAN BRACKET ARM SIGNALS WITHIN THE BRACKET ASSEMBLY SHALL BE REVERSED (I.E. THE SIGNAL NEAREST THE POLE GOES TO THE OUTSIDE OF THE BRACKET ASSEMBLY & THE OUTSIDE SIGNAL GOES INBOARD OR NEAREST TO POLE) ACCORDING TO THE PLAN VIEW TO PROVIDE CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

NOTE:
PIPE ASSEMBLY SHALL BE OF SUCH LENGTH AND HEIGHT AS TO ACCOMMODATE TRAFFIC SIGNALS AND PEDESTRIAN SIGNALS FOR PROPER MAINTENANCE AND CLEAR VEHICULAR AND PEDESTRIAN VIEWING.

NO.	DATE	DESCRIPTION	CHECKED BY
58			

CITY OF DETROIT			
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E. GRAND BLVD. AT E. JEFFERSON AVE.
RECONSTRUCTION
T.S. BRACKET ARM
ASSEMBLY DETAILS

DRAWN	CEA	PLAN PREPARED BY:	CONSULTING ENGINEERING ASSOCIATES INC.
CHECKED			ENGINEERING CONSULTANTS
APPROVED			16580 WYOMING DETROIT, MICH. 48221
DATE	JAN.-84	DRWG. NO.	62 OF 66
		FILE NO.	CEA 1064

CHECKED BY		FILE NO.	51-0581
APPROVED BY		SHEET NO.	E62 OF 66
		DATE	JAN.-84

PUBLIC LIGHTING
COMMISSION
CITY OF DETROIT