

CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

IN CO-OPERATION WITH MICHIGAN DEPARTMENT OF TRANSPORTATION AND FEDERAL HIGHWAY ADMINISTRATION FEDERAL AID URBAN PROJECT NO. MICHIGAN M 2000 (171) CONTROL SECTION MU 82400 JOB NO. 17661 A

F.H.W.A. REGION	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MCH				
STREET	CITY	COUNTY	TWP	SHEET NO.	TOTAL SHEETS

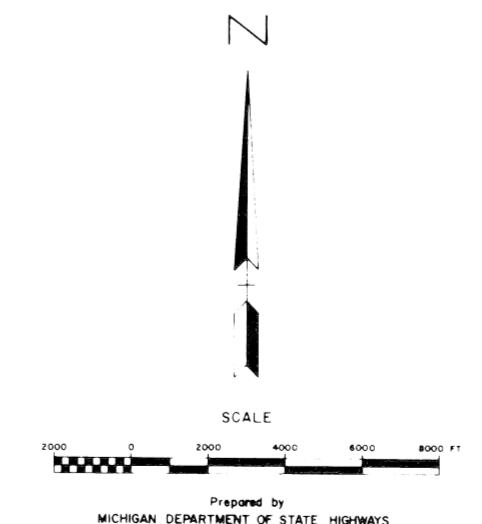
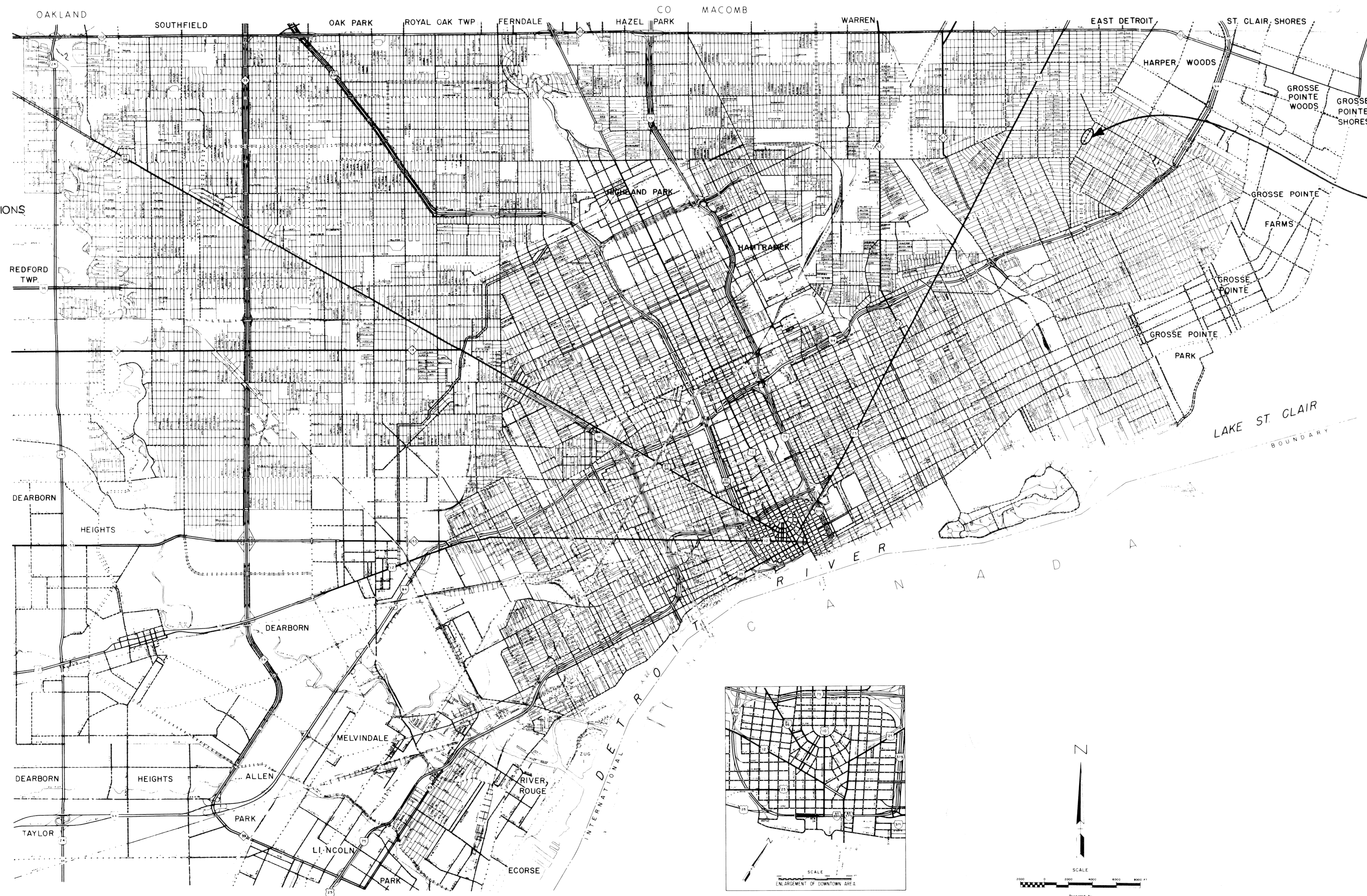
ADT: 14,425
DESIGN SPEED: 30 MPH

ENGINEERING
PRINT UNIT
MAY 21 1985
DEPT. OF TRANSPORTATION

KELLY ROAD WIDENING
GRAYTON TO N. OF SEYMOUR

- INDEX OF SHEETS**
- 2 TYPICAL CROSS-SECTIONS
 - 3 ALIGNMENT AND REMOVAL-UTILITIES
 - 4 PLAN AND PROFILE
 - 5-7 SPECIAL STANDARDS AND DETAILS
 - 8 QUANTITY SHEET
 - 9-25 STREET LIGHTING ALTERATIONS

- STANDARD PLANS**
- II - 28 G II - 43 D
 - II - 29 D II - 45 D
 - II - 39 H IV - 84 D
 - II - 40 E V - 100 A
 - II - 41 D VI - 125 F
 - II - 42 D VII - 150 G



ITEM NO. 17661 A

CONTRACT FOR G, DS, R, & UTILITIES

LOCAL AUTHORITY APPROVAL
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

APPROVED BY [Signature] 4/26/85
ASSISTANT CITY ENGINEER DATE

APPROVED BY [Signature] 4-26-85
DIRECTOR DATE

PREPARED UNDER SUPERVISION OF
[Signature] 26185
REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO.

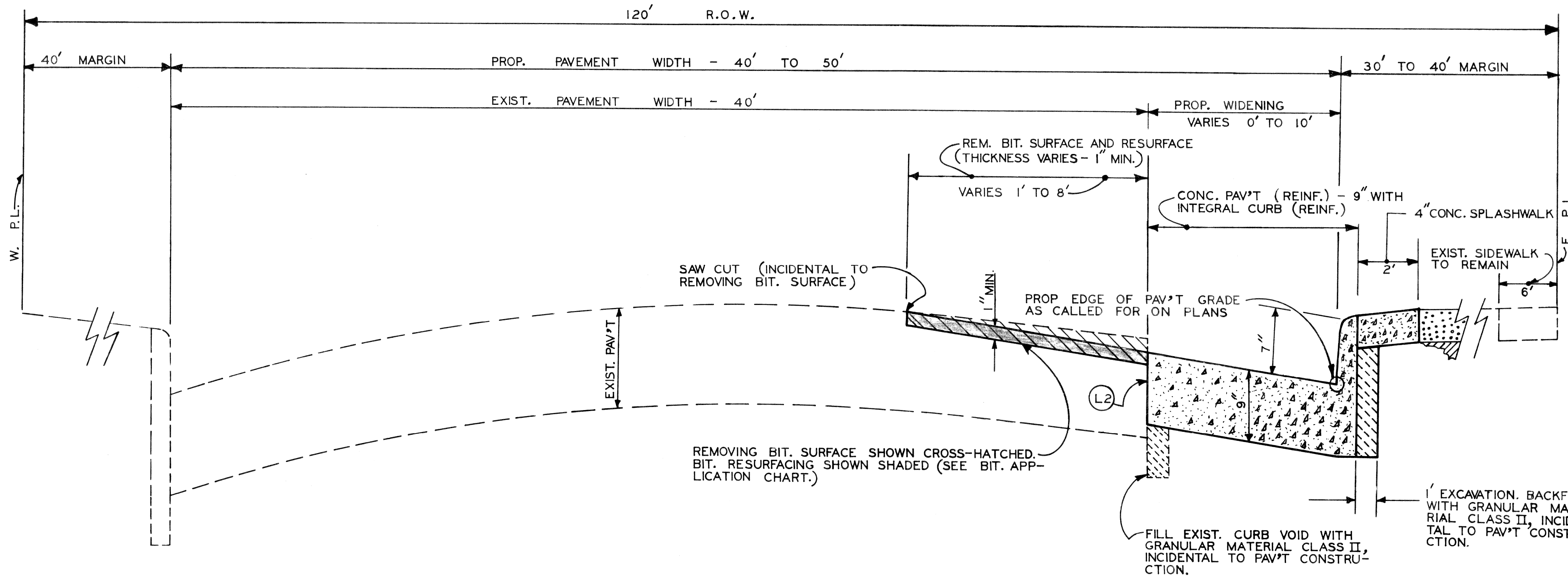
CITY OF DETROIT
ORGANIZATION

DETROIT, MICHIGAN
ADDRESS

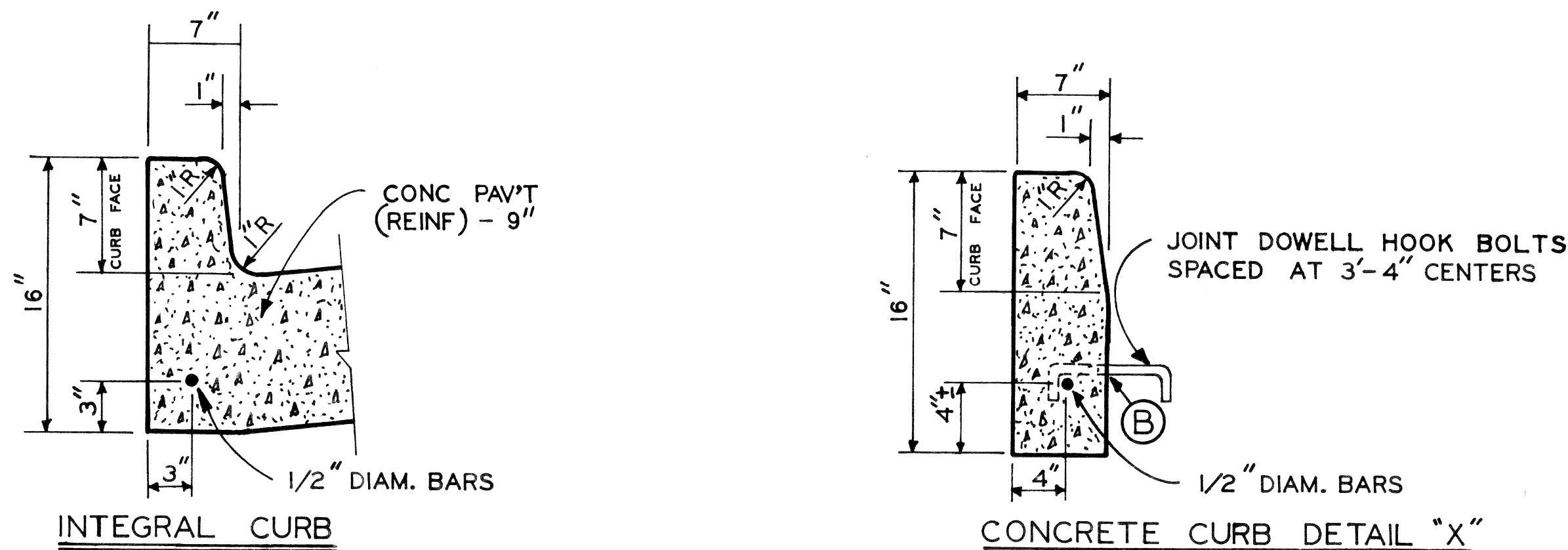
(SEAL)

FILE NO.	STATE PROJECT	FEDERAL PROJECT	SHEET
MU 82400			1 OF 25

CONTROL SECTION MU 82400 JOB NO. 17661 A M 2000 (171) ITEM 17661A



TYPICAL CROSS-SECTION - KELLY ROAD WIDENING - GRAYTON TO NORTH OF SEYMOUR



(ALL SECTIONS NOT TO SCALE)

BITUMINOUS APPLICATION CHART			
ITEM	RATE OF APPLICATION	ESTIMATED THICKNESS	ASPHALT PENETRATION
BITUMINOUS MIXTURE NO. 1100 L, 20 AA	130 LBS/S.Y.	1 1/4 INCH	85 - 100
BITUMINOUS MIXTURE NO. 1100 T, 20 AA	120 LBS/S.Y.	1 INCH	85 - 100
BITUMINOUS BOND COAT 0-0.10 GAL/SQ. YARD TO RIGID BASES AND 0-0.05 GAL/SQ. YARD TACK COAT BETWEEN LAYERS.			

EARTHWORK LEGEND

- GRANULAR MATERIAL CLASS II (INCIDENTAL).
- SELECTED EXCAVATED MATERIAL (INCIDENTAL TO PAVING COSTS).
- CLASS "A" SODDING WITH 3" TOPSOIL SURFACE.

JOINT LEGEND

- LONGITUDINAL BULKHEAD JOINT, ACCORDING TO M.D.O.T. STANDARD DRAWING II-41 D
- LONGITUDINAL BULKHEAD JOINT, ACCORDING TO M.D.O.T. STANDARD DRAWING II-41 D

ESTIMATED QUANTITIES FOR USE AT THE DISCRETION OF THE ENGINEER - KELLY ROAD WIDENING

REMOVING PAVEMENT (REPAIR)	5 SQ. YARDS.
CONC. PAVEMENT REPAIR, 9" NONREINF.	5 SQ. YARDS.
SUBGRADE UNDERCUTTING, TYPE II	10 CU. YARDS.
4" CONC. SIDEWALK	180 SQ. FEET.
REMOVING SIDEWALK	20 SQ. YARDS.
CLEANING EXISTING STORM DRAINAGE STRUCTURES	3 EACH.
SEWER CLEANOUT	150 LIN. FEET.
CEMENT	3 TONS.
CONC. CURB, DETAIL "X"	35 LIN. FEET.
CLASS "A" SODDING	25 SQ. YARDS.
TOPSOIL SURFACE 3"	25 SQ. YARDS.
WATER	1 UNIT
12" SEWER (C-76-III) TRENCH DETAIL 8	25 LIN. FEET.
CATCH BASIN "L"	1 EACH.
12" SEWER TRAP	1 EACH.
REMOVING DRAINAGE STRUCTURES	1 EACH.

MISCELLANEOUS QUANTITIES

MOBILIZATION	1 LUMP SUM.
MINOR TRAFFIC DEVICES	1 LUMP SUM.

GENERAL NOTES

- ① THE PROPOSED CURB SHALL BE INTEGRAL CURB (SEE DETAIL THIS SHEET) WITH CONC. CURB DETAIL "X" AS AN ALTERNATE. REGARDLESS OF CONSTRUCTION METHOD, THE PROP. CURB SHALL BE PAID FOR AS CONC. PAVEMENT (REINF.)-9" WITH INTEGRAL CURB (REINF.).
- ② SIDEWALK SHALL SLOPE AT 3/8" PER FOOT UNLESS THE ENGINEER DETERMINES OTHERWISE TO MEET EXISTING CONDITIONS. THE ENGINEER WILL CHOOSE WITHIN THESE LIMITS: 1/4" PER FOOT MIN. TO 3/4" PER FOOT MAX..
- ③ SODDED AREAS SHALL SLOPE FROM 1/4" PER FOOT MIN. TO 1" PER FOOT MAX..
- ④ BACKFILL, IF REQUIRED UNDER PROPOSED PAVEMENT AND SIDEWALK, SHALL BE GRANULAR MATERIAL CLASS II (INCIDENTAL TO PROP. PAVEMENT AND/OR SIDEWALK CONSTRUCTION.).
- ⑤ IT IS ESTIMATED THAT APPROXIMATELY 643 CU.-YD. OF EARTH EXCAVATION IS NEEDED FOR THIS PROJECT. (INCIDENTAL TO CONC. PAV'T. CONSTRUCTION - QUANTITY PROVIDED FOR INFORMATIONAL PURPOSES ONLY.)

COORD.	DESCRIPTION	DRN	CK'D	AP'D	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

DESIGNED BY	W.B.
DRAWN BY	E.O.
TRACED BY	
CHECKED BY	

APPROVED:

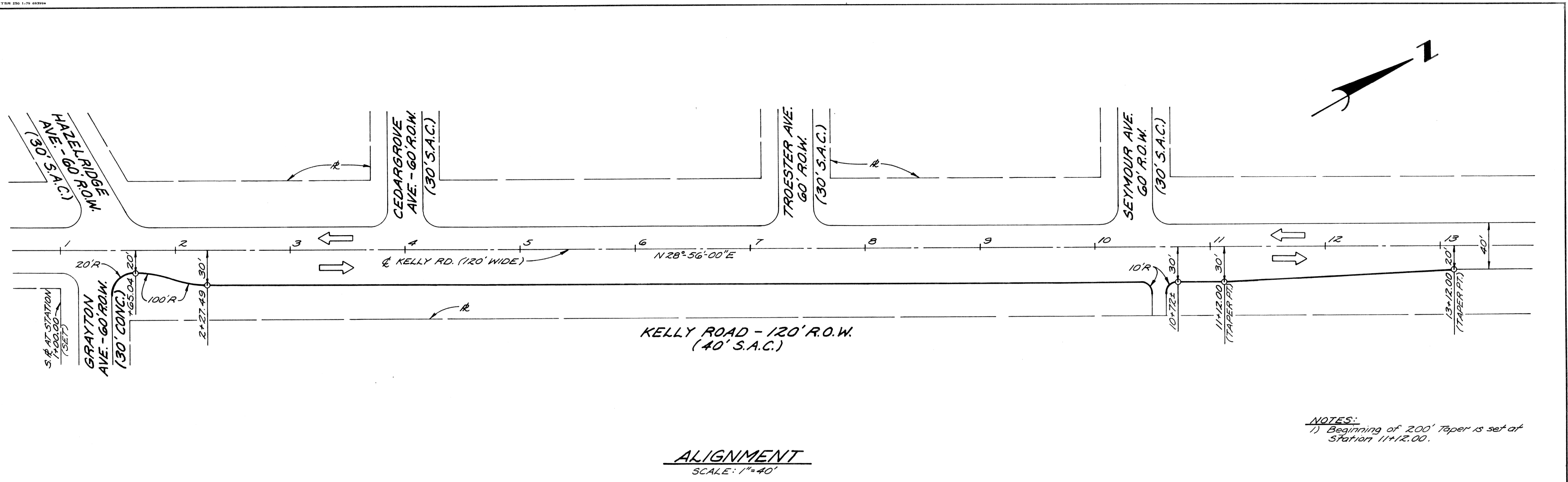
 ENGINEER OF STREETS

 HIGHWAY ENGINEER

CITY OF DETROIT
 CITY ENGINEERING
 BUREAUS OF STREETS AND HIGHWAYS

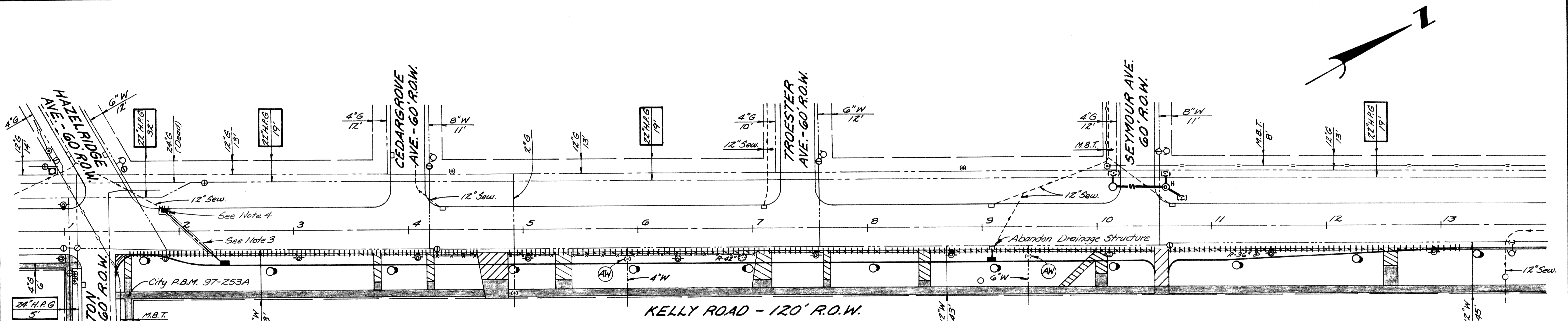
**KELLY ROAD WIDENING
 GRAYTON TO NORTH OF SEYMOUR
 TYPICAL CROSS - SECTIONS**

SHEET	2	OF	25	SHEETS
CONTRACT NO.	17661 A			
ASSIGNMENT NO.				
DATE	MAY, 1984			



ALIGNMENT
SCALE: 1"=40'

NOTES:
1) Beginning of 200' Taper is set of Station 11+12.00.



- REMOVAL LEGEND**
- REMOVING PAVEMENT
 - REMOVING SIDEWALK
 - EXISTING SIDEWALK OR DRIVEWAY TO REMAIN
 - REMOVING CURB
 - REMOVING TREE
 - REMOVING STUMP
 - ADJUSTING WATER SHUTOFF
 - EXISTING PEDESTRIAN CHAIN AND POSTS (TO BE MOVED)

REMOVAL - UTILITIES
SCALE: 1"=40'

- NOTES:**
- For Utility Legend, See Sp. No. 7.
 - Locations of existing utility lines are based on the best available records and are not guaranteed for accuracy.
 - Removing Pavement (Repair). Replace with 2 1/4" Bit Surface on Concrete Pav't. Repair, 9" Nonreinforced. Curb replacement shall be incidental to Concrete Pavement Repair, 9" Non-reinforced.
 - Remove existing 18" Catch Basin and replace with Catch Basin "B" with Trap. See Sp. No. 5.

CALL MISS DIG
48 HOURS PRIOR TO
CONSTRUCTION 647-7344

DESIGNED BY	W.B.
DRAWN BY	W.B.
TRACED BY	
CHECKED BY	E.O.

APPROVED:

 CITY ENGINEER
 BUREAU OF STREETS AND HIGHWAYS

KELLY ROAD WIDENING
GRAYTON TO NORTH OF SEYMOUR
ALIGNMENT AND REMOVAL - UTILITIES

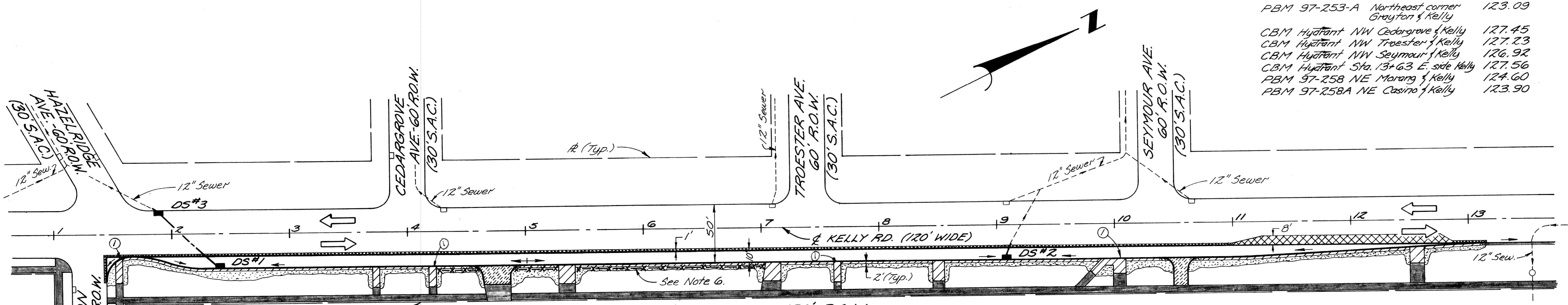
SHEET	3	OF	25	SHEETS
CONTRACT NO.	17661A			
ASSIGNMENT NO.				
DATE	MAY, 1984			

SCALE	HORIZONTAL	BOOK	NO.	PG.	LEVEL	DATE
	VERTICAL					

BEFORE STARTING CONSTRUCTION, CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.

NOTE - FOR SYMBOLS (A) ETC. SEE STANDARD DETAIL DRAWING NO. C-4175

BENCH MARKS	ELEV
PBM 97-253-A Northeast corner Grayton & Kelly	123.09
CBM Hydrant NW Cedargrove & Kelly	127.45
CBM Hydrant NW Troester & Kelly	127.23
CBM Hydrant NW Seymour & Kelly	126.92
CBM Hydrant Sta. 13+63 E. side Kelly	127.56
PBM 97-258 NE Marang & Kelly	124.60
PBM 97-258A NE Casino & Kelly	123.90



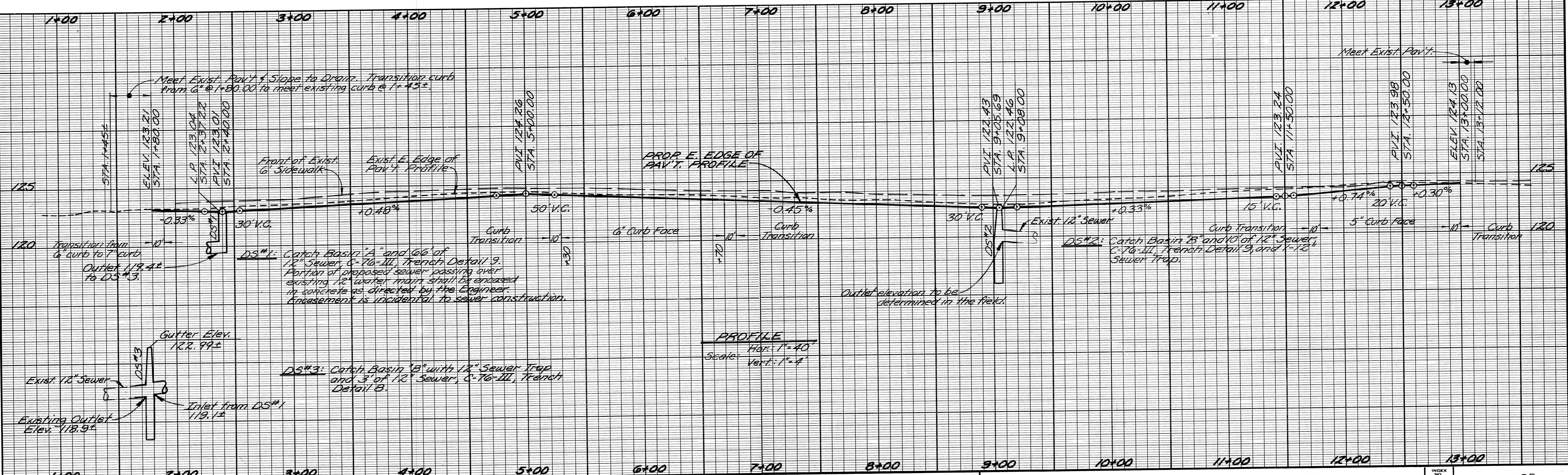
KELLY ROAD - 120' R.O.W. (40' S.A.C.)

PLAN LEGEND

- Existing Sidewalk or Driveway to remain
- Conc. Pav't. (Reinf.) - 9" with Integral Curb (Reinf.)
- 4" Concrete Sidewalk
- 6" Concrete Sidewalk
- Concrete Pavement - Nonreinforced - 8" (Driveway)
- Removing Bituminous Surface & Resurface
- Sidewalk Ramp - Type 1
- Drainage Direction Arrow
- Class "A" Sodding with 3" Topsoil Surface
- x-x-x New location of existing pedestrian chain and posts.

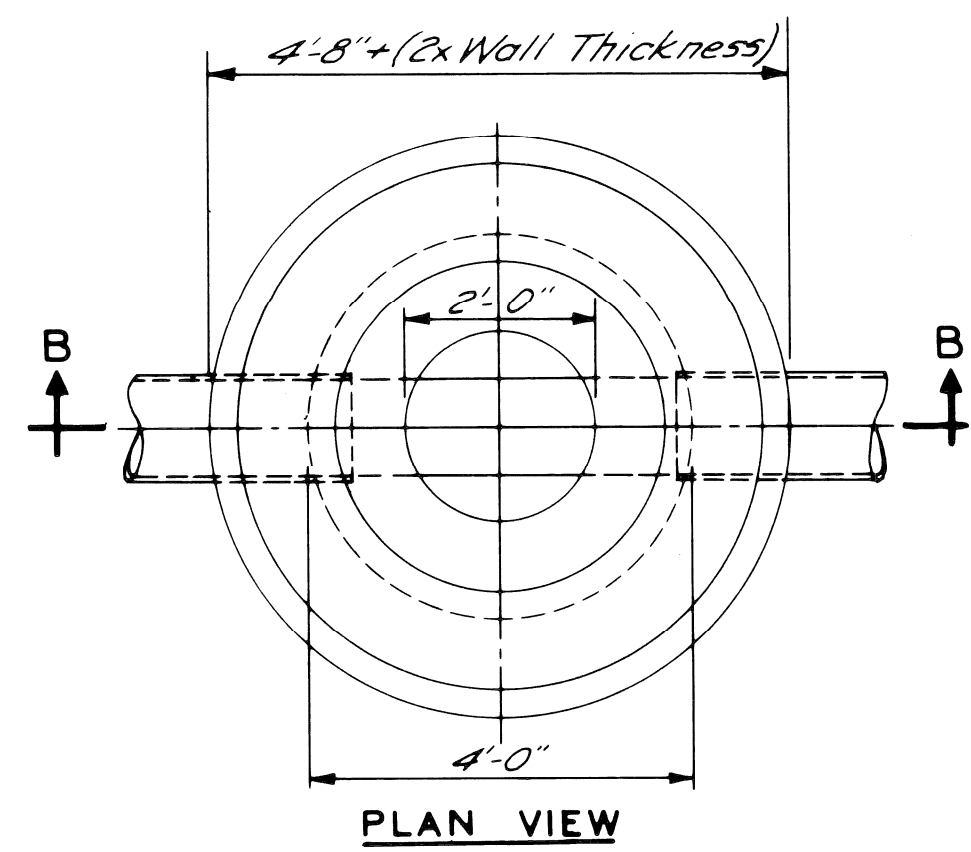
PLAN SCALE: 1"=40'

- NOTES:**
- 1) For Alignment, See Sheet No. 3.
 - 2) For Utility Legend & Symbols, See Sheet No. 7.
 - 3) For Driveway Details, See Sheet No. 7.
 - 4) Removal and replacement of existing sidewalks is to be made to existing joints as shown.
 - 5) An additional quantity of Bituminous Mat'l. has been estimated for use by the Engineer to patch areas of the existing Kelly Road pavement.
 - 6) Move chain to back of proposed 2' splashwalk. (Paid for as "Moving Pedestrian Chain and Posts".)

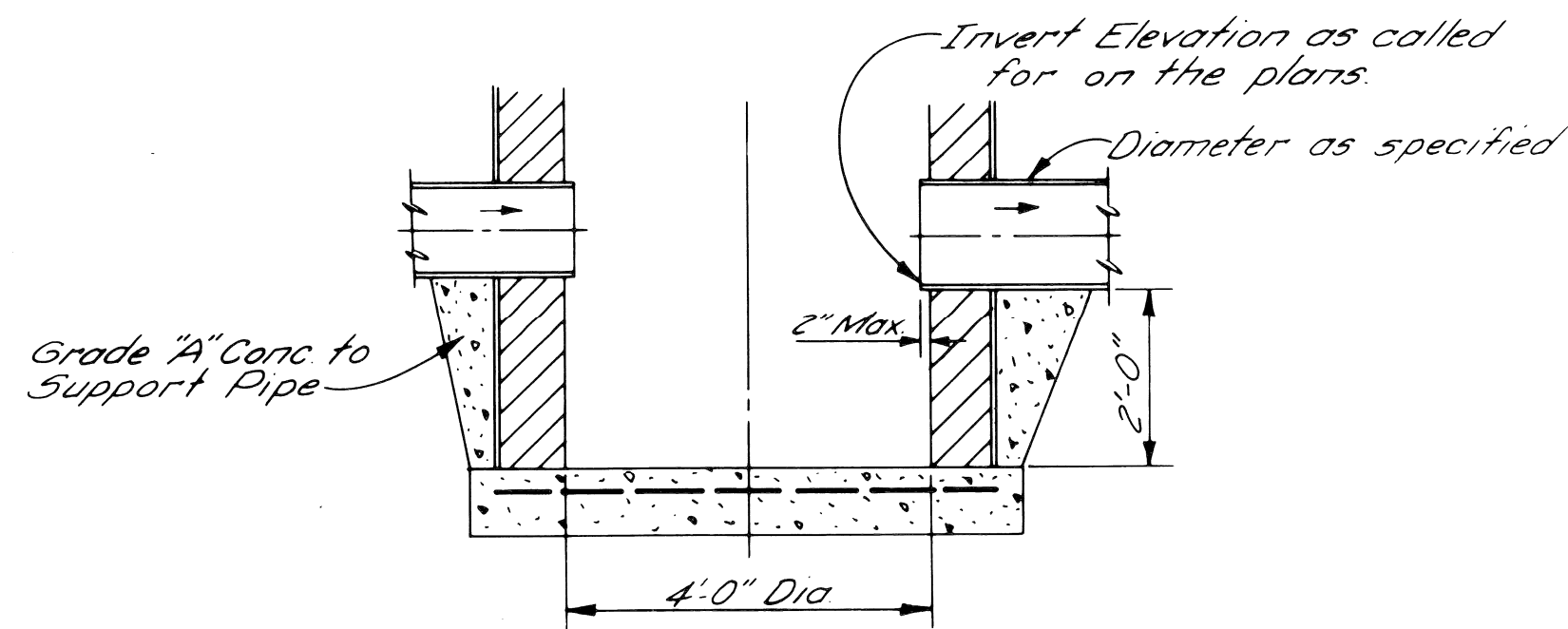
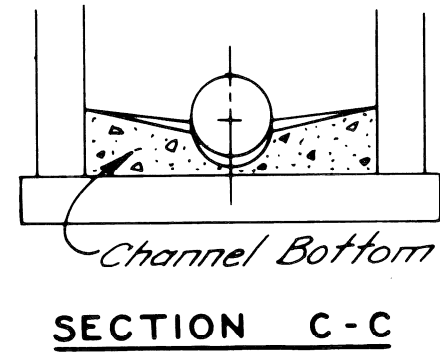


PROFILE Scale: Hor: 1"=40' Vert: 1"=4'

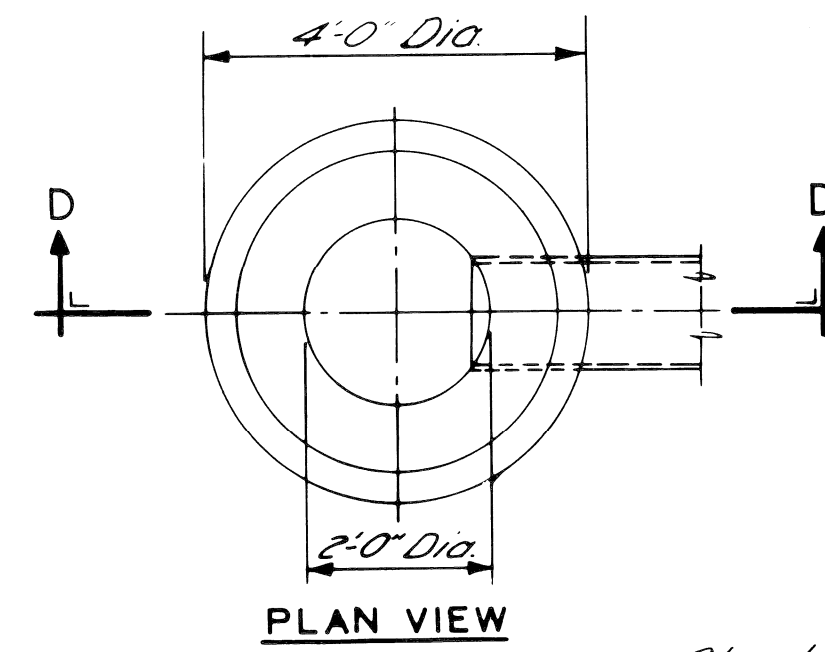
<p>PLAN BY: W.B. E.O. CHECKED BY: APPROVED: <i>William S. Talley</i> ENGINEER OF STREETS</p>		<p>CITY OF DETROIT CITY ENGINEERING BUREAUS OF STREETS AND HIGHWAYS</p>	<p>KELLY ROAD WIDENING GRAYTON TO NORTH OF SEYMOUR PLAN AND PROFILE</p>	<p>INDEX NO. SHEET 4 OF 25 SHEETS CONTRACT NO. 17661A ASSIGNMENT NO. DATE MAY, 1984</p>
<p>ESTIMATE: W.B. E.O. HIGHWAY ENGINEER</p>				



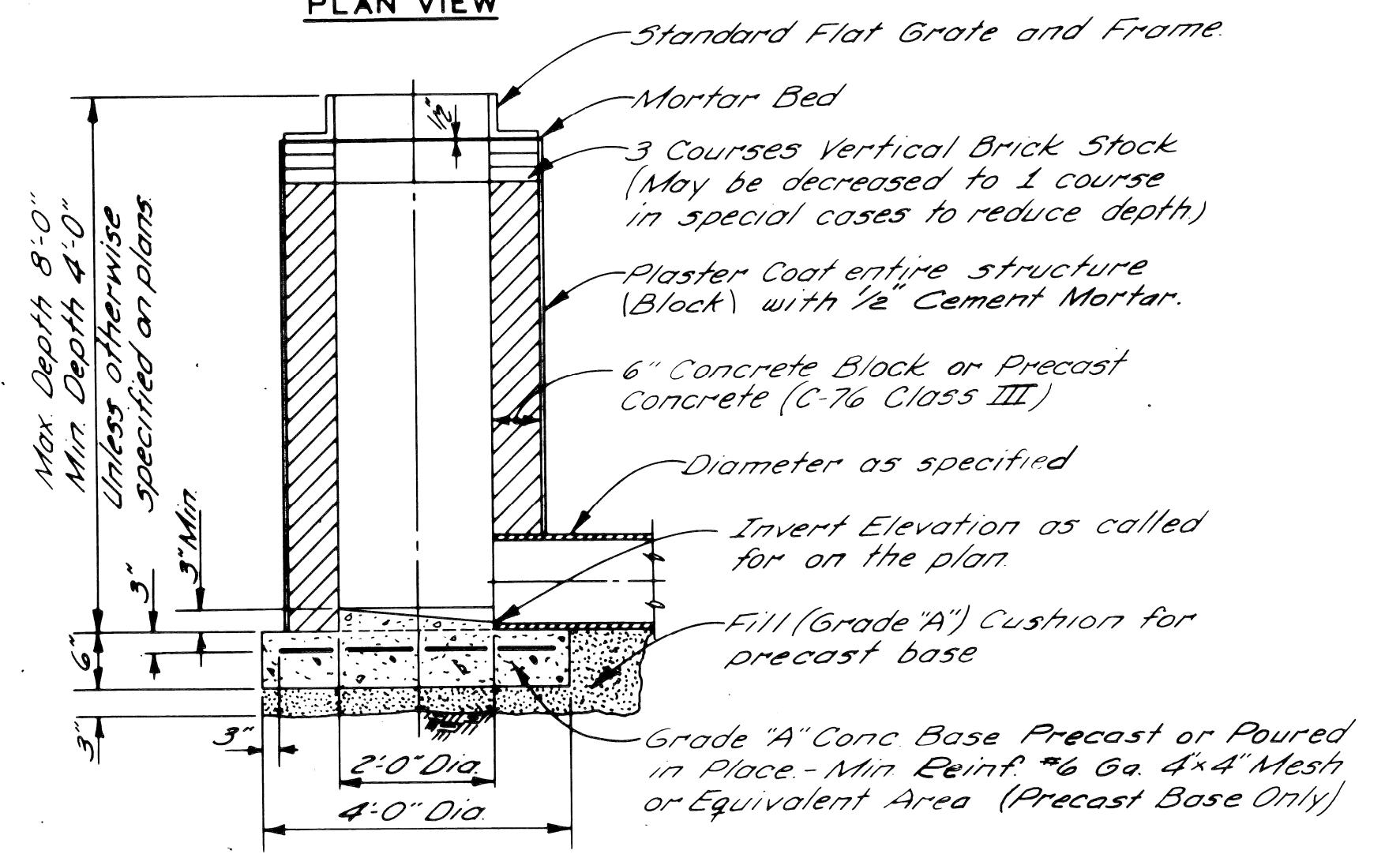
NOTE "A"
 Wall thickness shall be 8" from the top of structure to a depth of 15 feet. Below 15 feet the thickness of wall shall be 12".



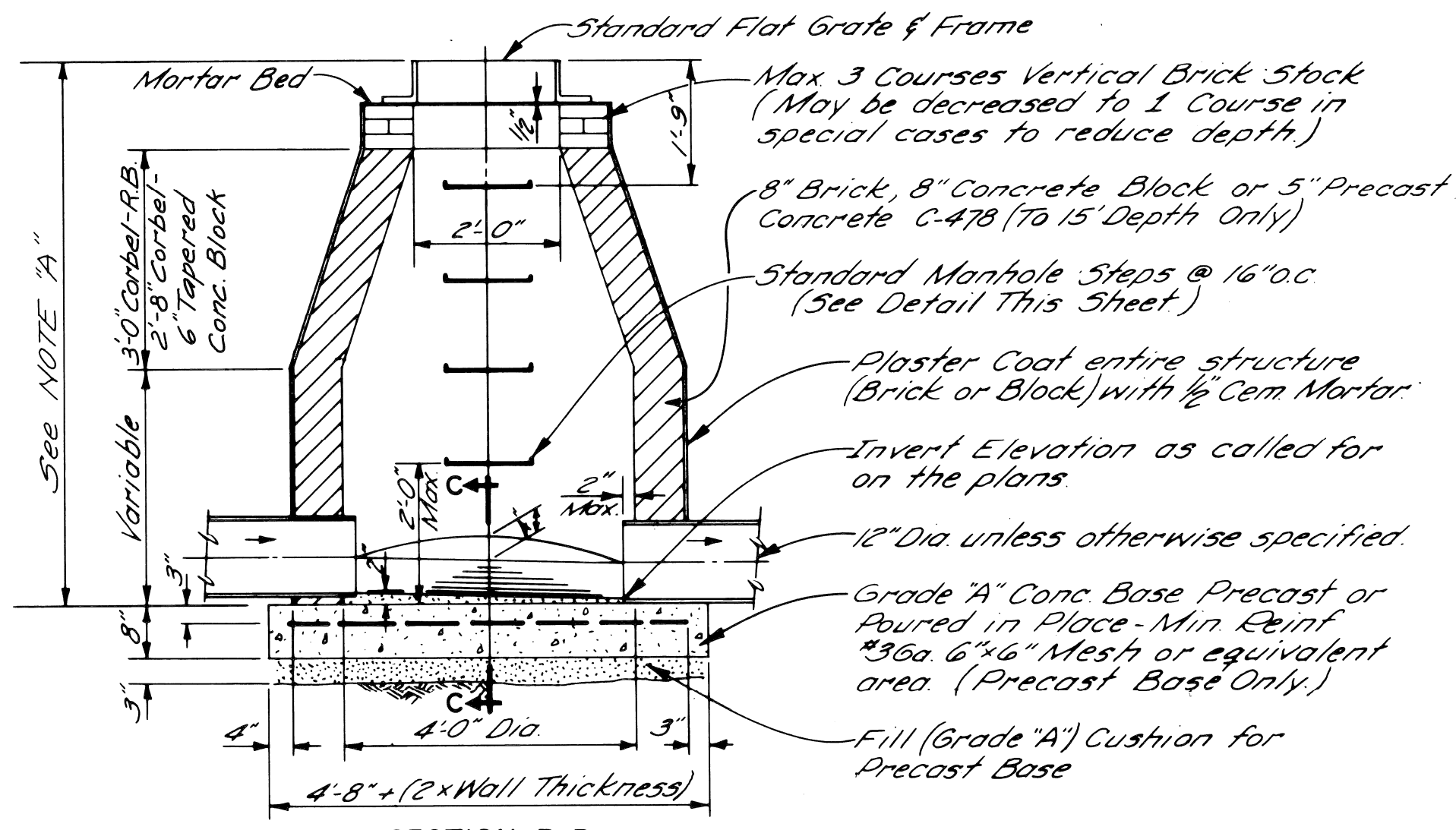
DETAIL OF SUMP FOR CATCH BASIN "B"
 NO SCALE



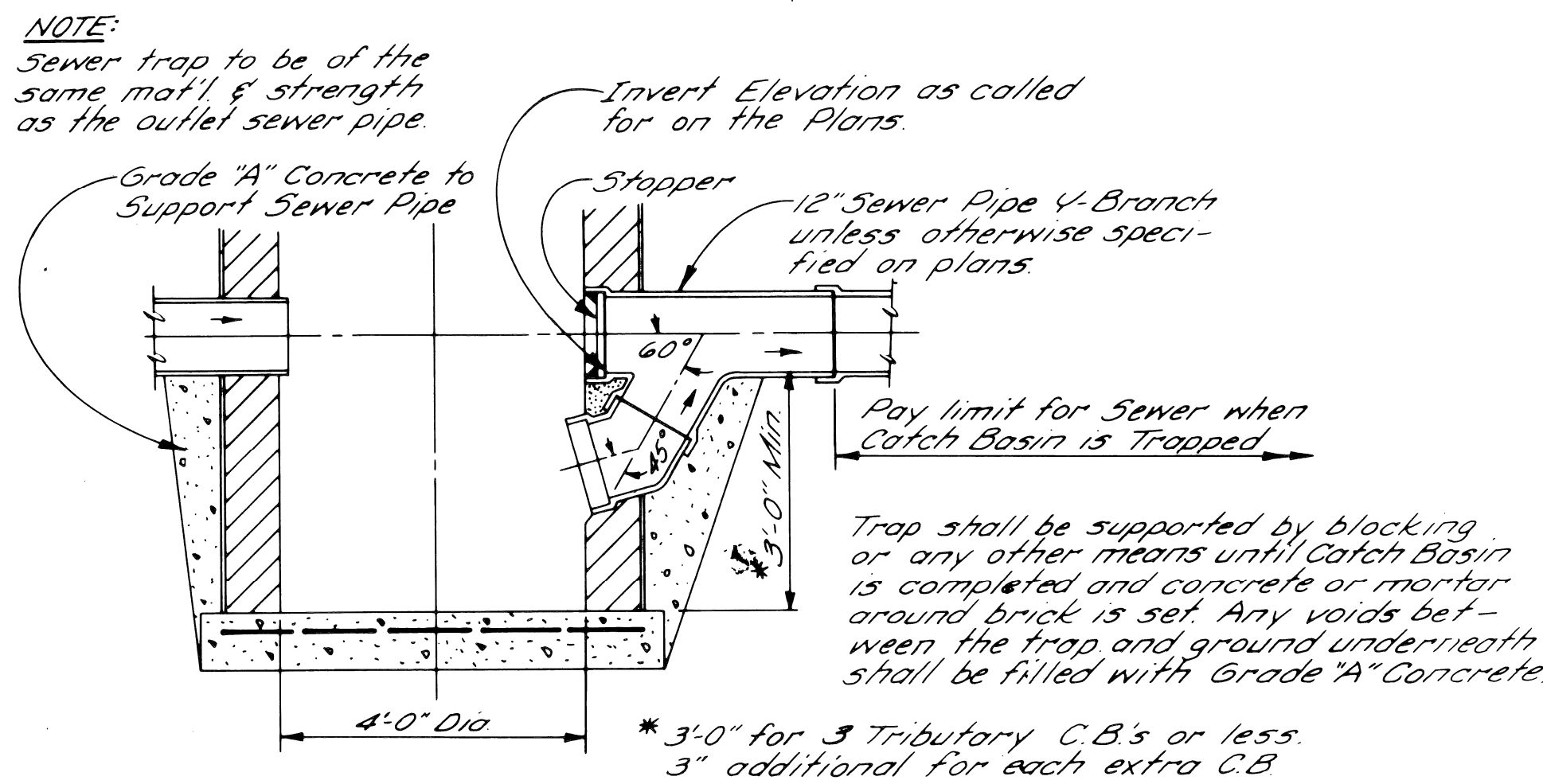
NOTE:
 Catch Basin "A" will be used only when outletting to a Catch Basin "B"



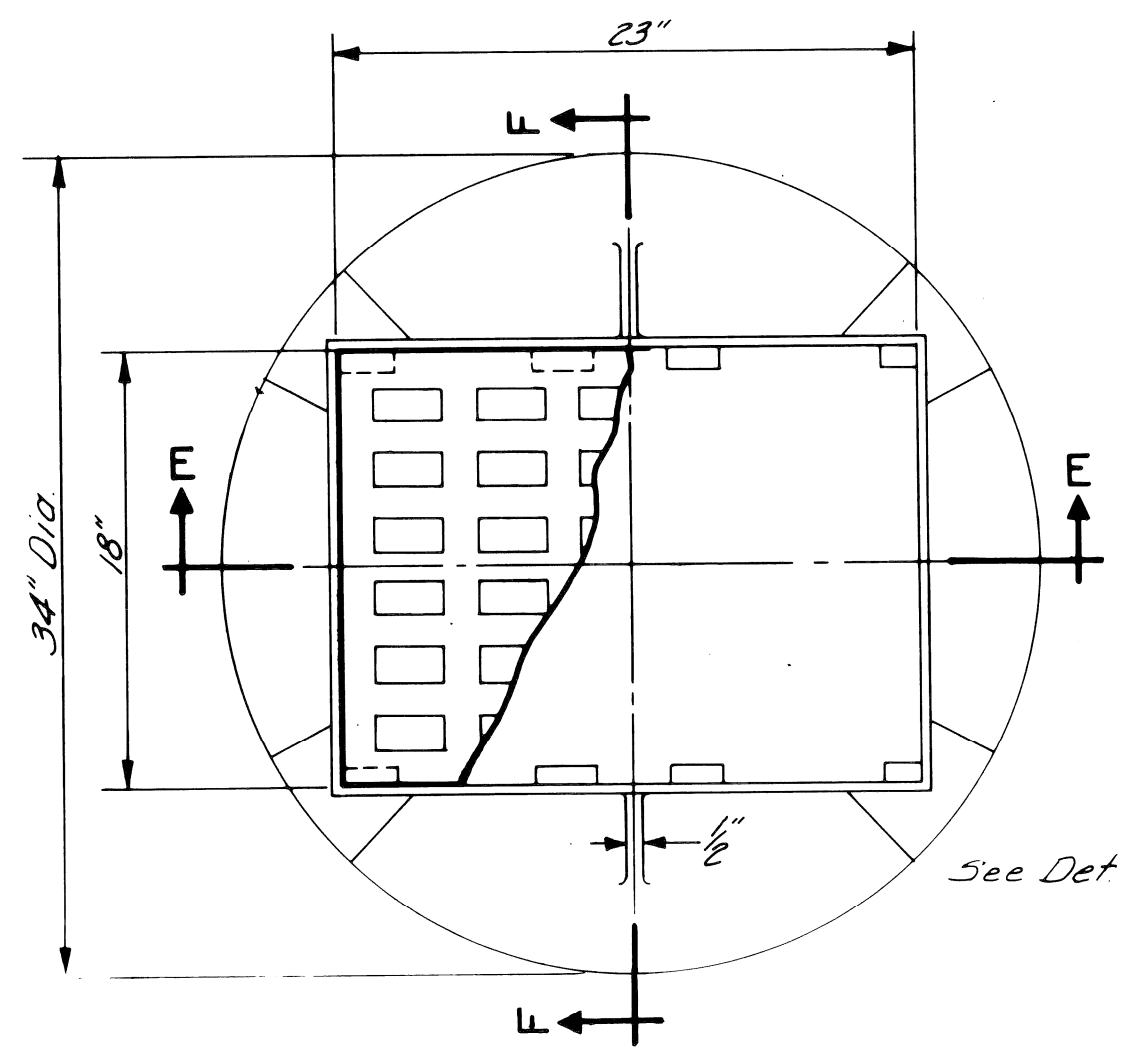
CATCH BASIN "A"
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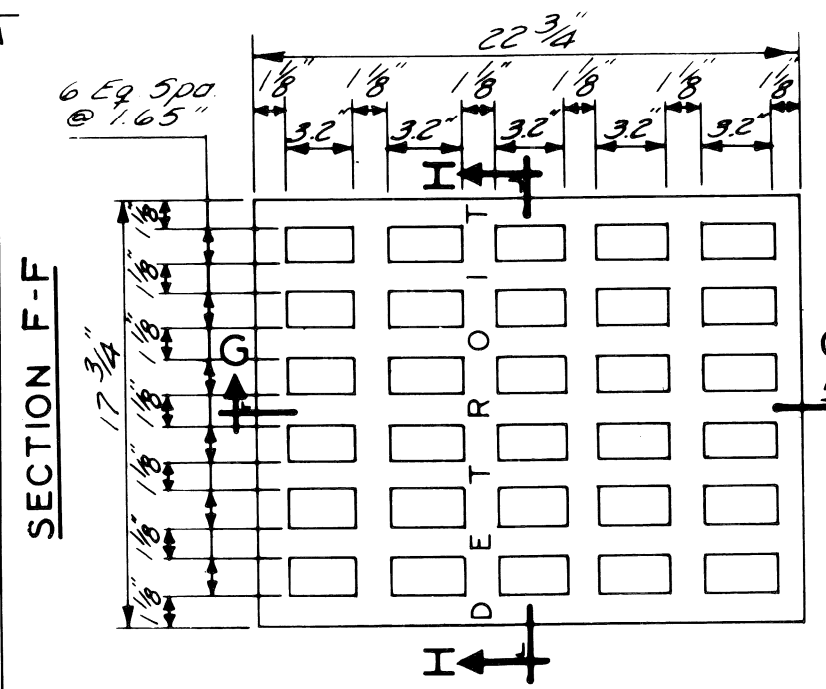
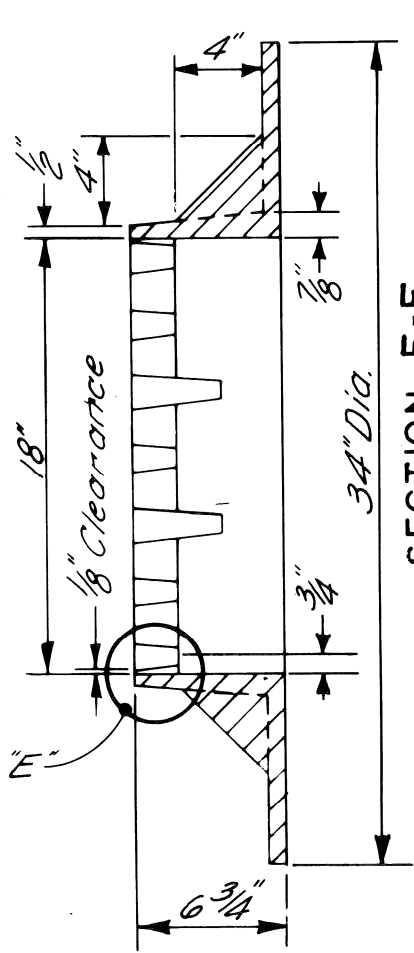
CATCH BASIN "B"
 NO SCALE



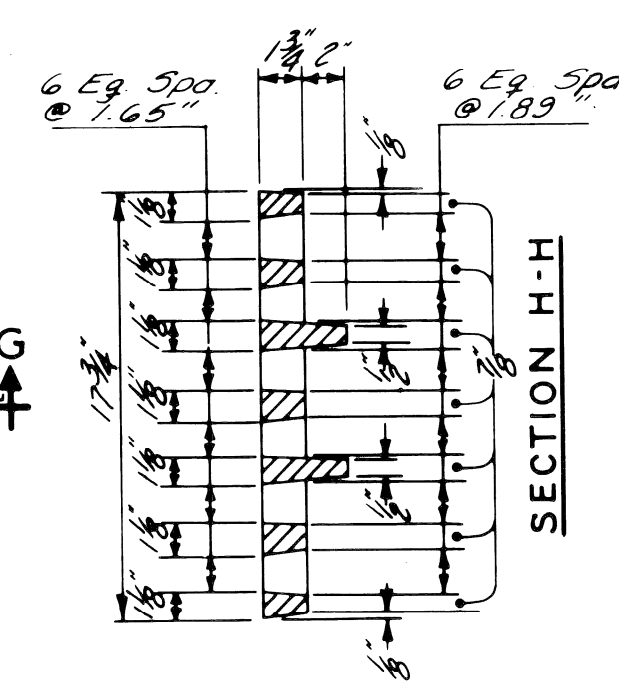
DETAIL OF TRAP FOR CATCH BASIN "B"
 NO SCALE



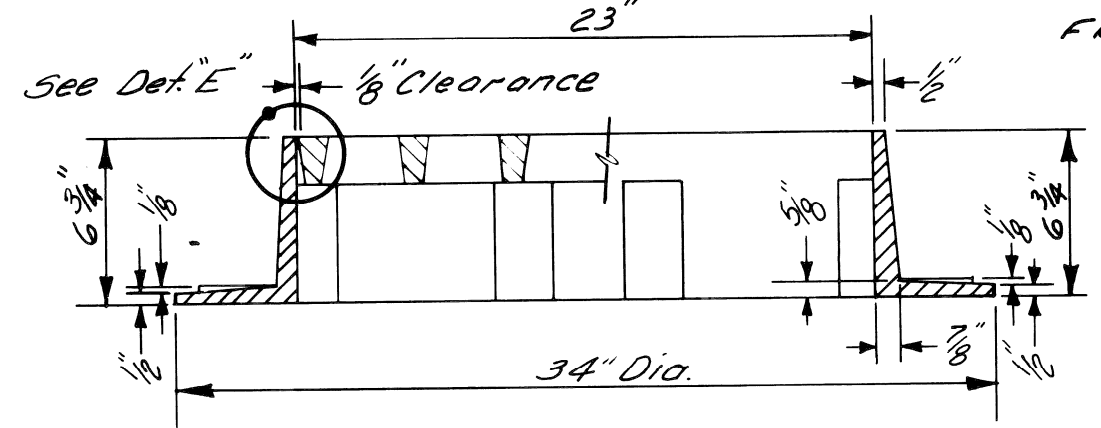
PLAN VIEW OF FRAME



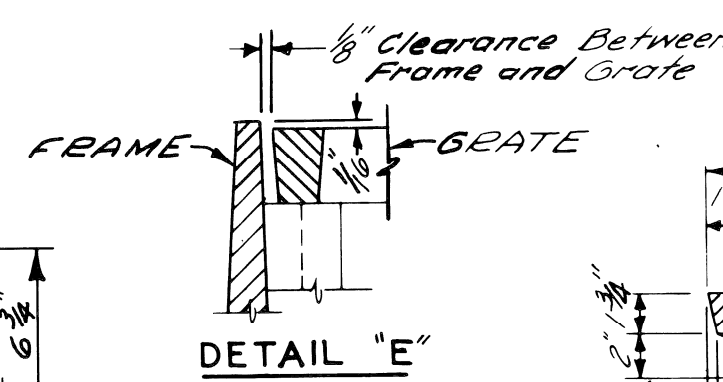
PLAN VIEW OF GRATE



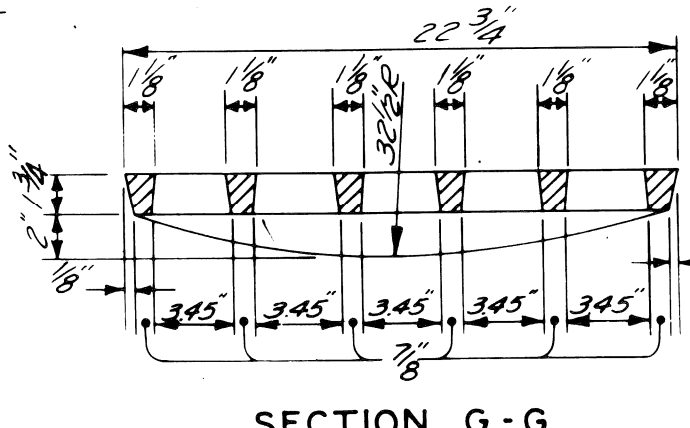
SECTION H-H



SECTION E-E



DETAIL "E"



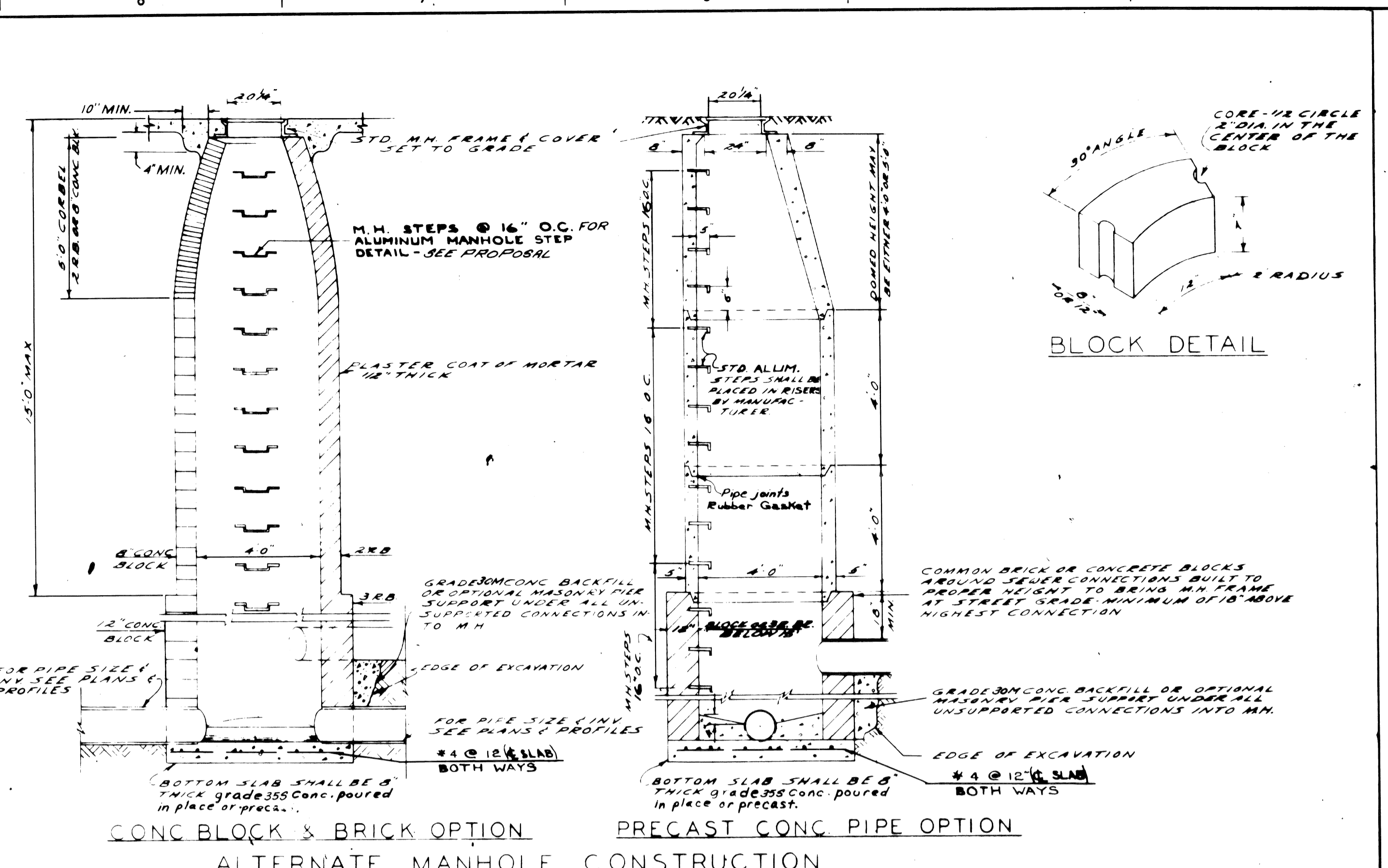
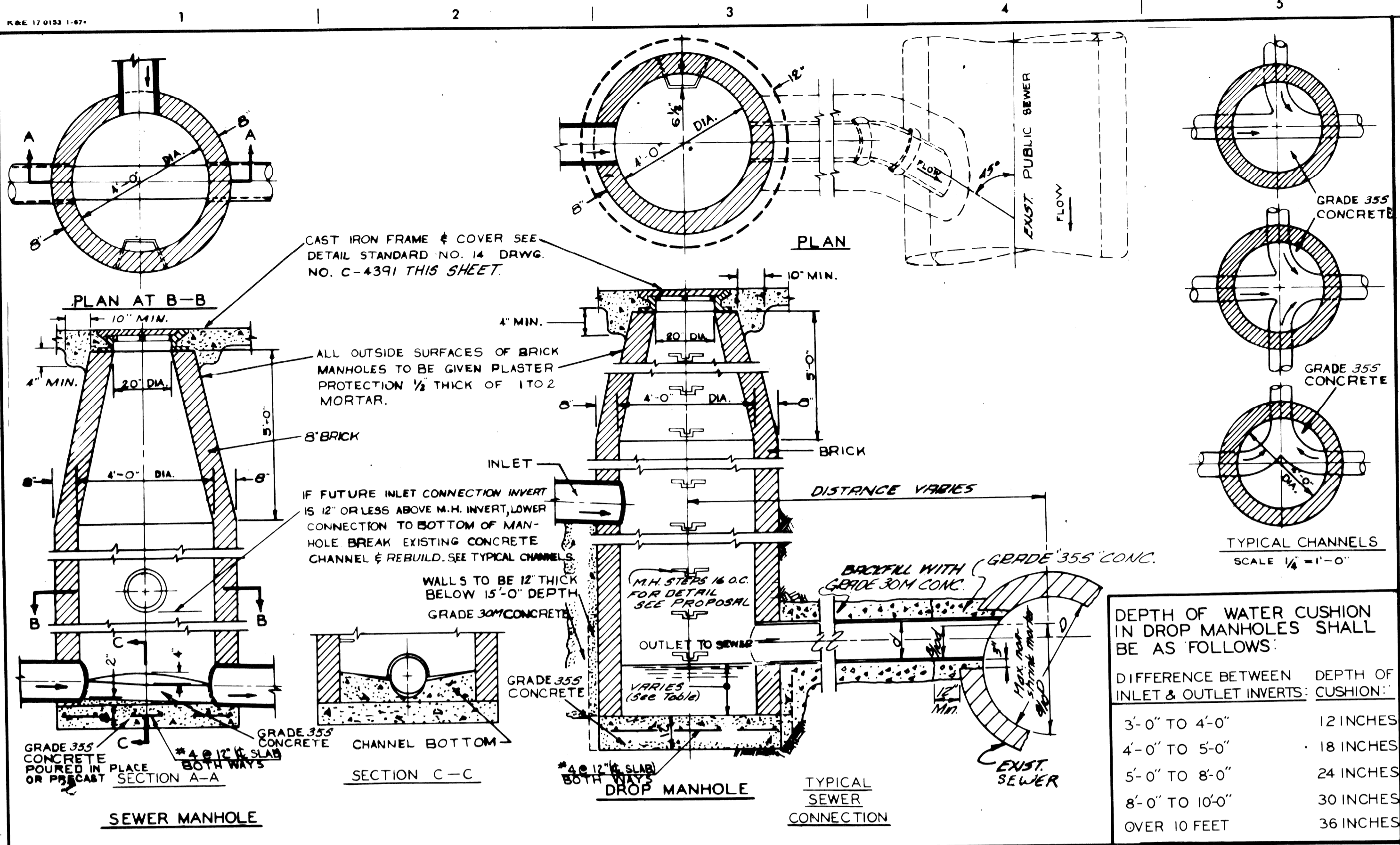
SECTION G-G

STANDARD FLAT GRATE AND FRAME
 NO SCALE

GENERAL NOTES

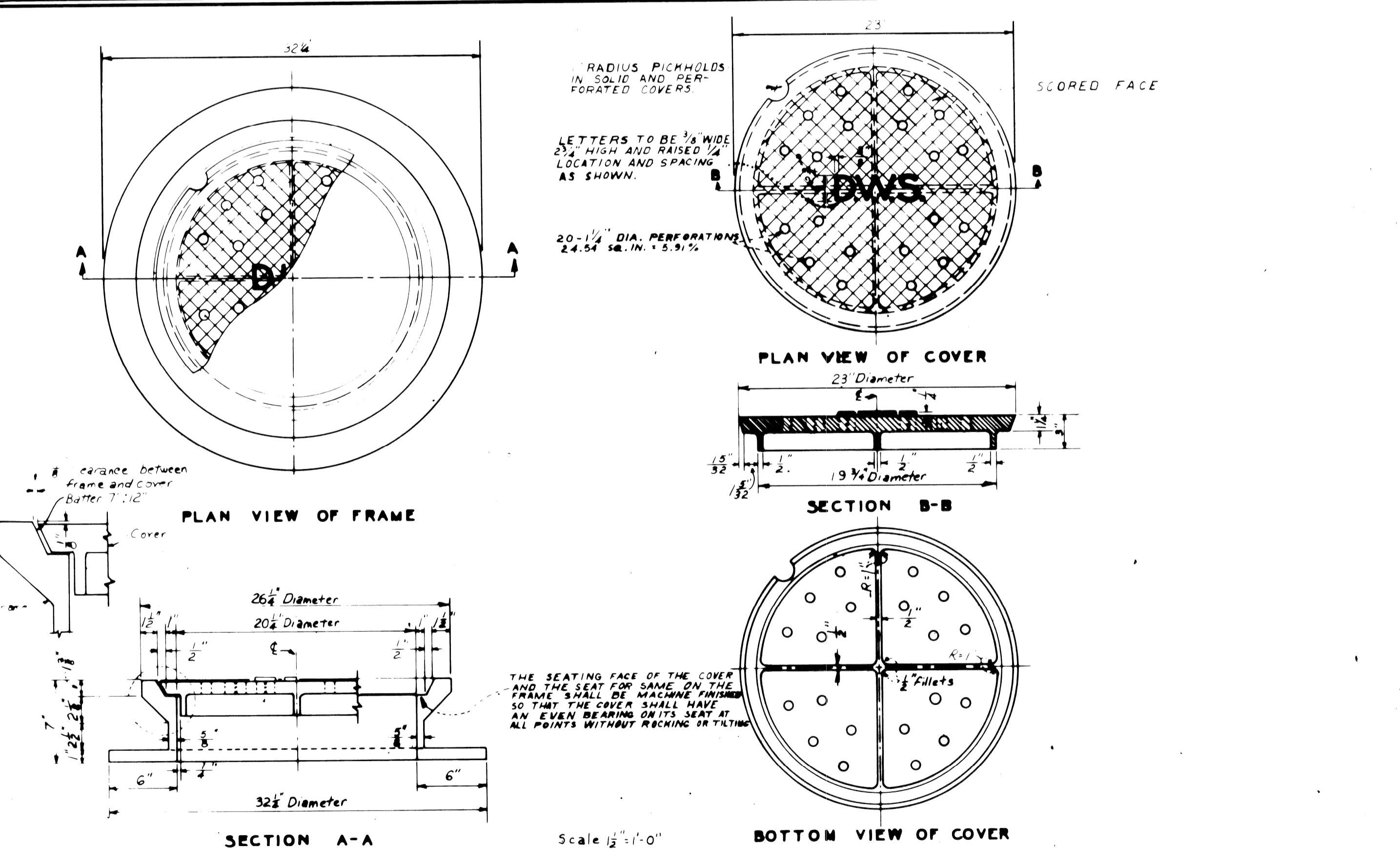
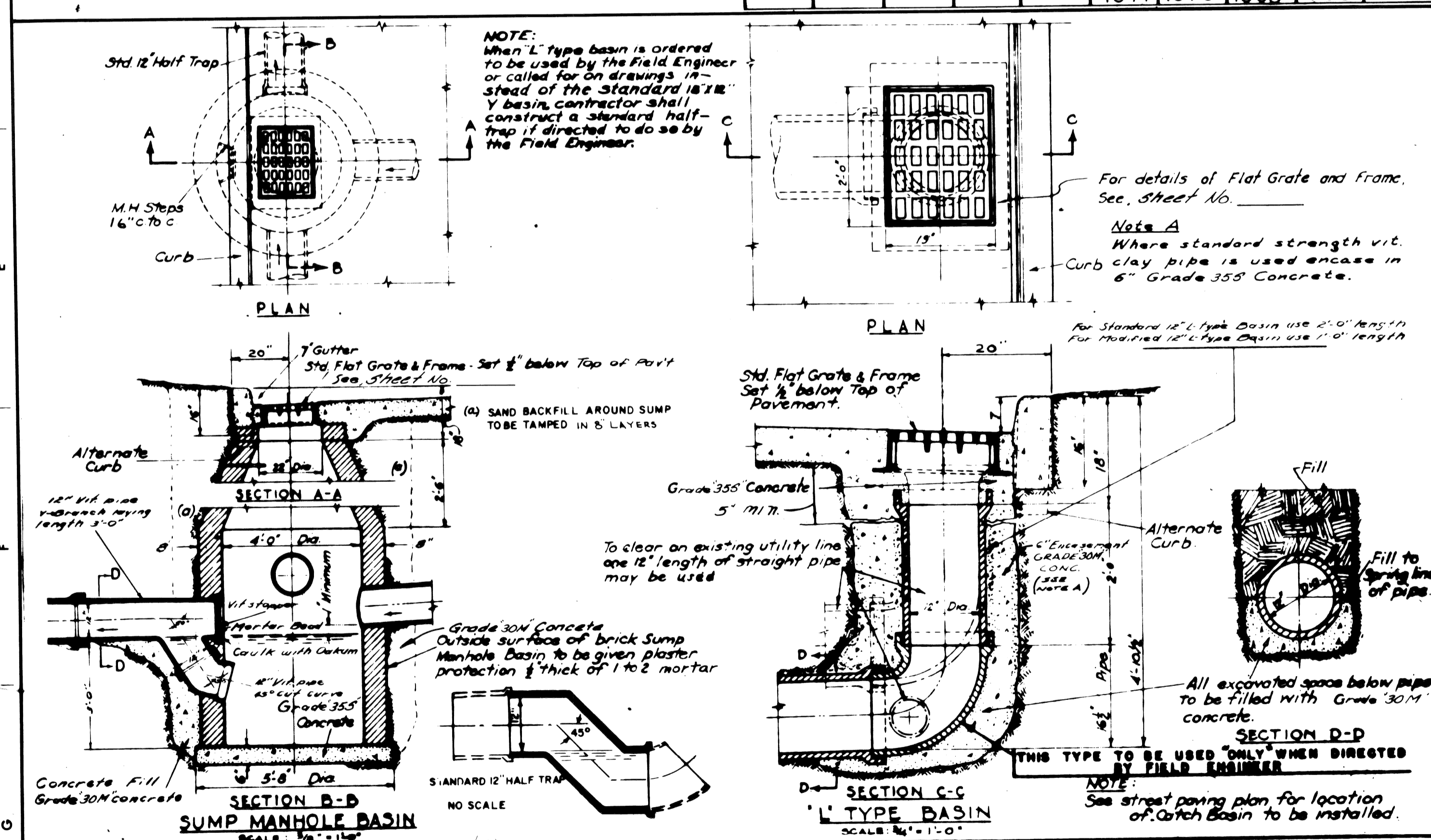
- The materials & workmanship shall be in accordance with the current Standard Specifications.
- Center of Catch Basin shall be 20 inches from back of curb.
- All sizes & flow lines of pipe, and elevations for top & bottom of structures shall be determined from the plans or construction requirements. The bell shall be removed from the first length of outlet pipe projecting through the wall of the structures. When any structure is constructed of precast concrete or concrete block, the top of the masonry shall be left sufficiently low to permit proper adjustment of cover to grade by the use of mortar or bricks as directed by the Engineer.
- A Trap, as detailed on this sheet, shall be placed where called for in the outlet sewer line of Catch Basins "B". This trap shall be set into the masonry wall as shown on the detail. The space between the faces of the wall & the trap shall be completely filled with cement, mortar or concrete, so as to hold Trap securely in place. The Traps will be paid for separately at the Contract Unit Price each, which price shall include the extra catch basin construction required and for furnishing and installing the trap.
- A plaster coat of mortar 1/2 inch in thickness shall be applied to the outer surface of the structure as shown. A 1/2 inch cement plaster coat shall be placed on the inside of all sumps.
- Contractor shall verify elevations of existing utilities to enable construction to indicated elevations shown on drawings. If necessary, invert elevations shown on the drawings may be altered in the field to clear existing utilities. Such alterations, upward or downward, shall be at no change in contract price.
- When precast concrete pipe sections are used for catch basins, either a section of the inlet and outlet pipes or an opening or eye for the inlet & outlet pipes shall be cast into the wall of the catch basin pipe when it is being manufactured. Eyes in precast pipe sections shall be furnished to accommodate a flexible joint connection such as Press-Wedge by Press Seal Gasket Corp or Res-Seal by Scales Mfg. Corp.
- Pay limit for sewers shall be inside faces of structures unless otherwise noted.

REVISIONS LOCATED BY COORDINATES ON SHEET DESCRIPTION DATE BY APPROVED DATE	DESIGNED BY	APPROVED:	CITY OF DETROIT CITY ENGINEERS OFFICE	DETAILS OF STANDARD CATCH BASINS "A" & "B" AND FLAT GRATE & FRAME	SHEET 5 OF 25 SHEETS PROJECT No 17661A JOB NO. DATE MAY, 1984
	DRAWN BY	John Ericsson			
	TRACED BY	ENGINEER OF EXPRESSWAYS			
	CHECKED BY	HEAD CIVIL ENGINEER			
	M. POLITO	ENGINEER OF STREETS Allen E. Jorgensen ENGINEER OF EXPRESSWAYS W. B. Bannister HEAD CIVIL ENGINEER			



DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS - CITY ENGINEER'S OFFICE BUREAU OF DESIGN	DETAILS OF STANDARD SEWER & DROP MANHOLES
DRAWN BY	ENGINEER OF STREETS		
TRACED BY	ASST. CITY ENGINEER	BOOK NO.	PG.
DESCRIPTION	DATE	SCALE	DATE
REVISIONS		1971	1970

DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN	STD SEWER MANHOLES CONSTRUCTION ALTERNATES
DRAWN BY	ENGINEER OF STREETS		
TRACED BY	ASST. CITY ENGINEER	BOOK NO.	SCALE
DESCRIPTION	DATE	1971	1970



DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN	TYPICAL SUMP MANHOLE & 'L' TYPE CATCH BASINS
DRAWN BY	ENGINEER OF STREETS		
TRACED BY	ASST. CITY ENGINEER	BOOK NO.	SCALE
DESCRIPTION	DATE	1971	1970

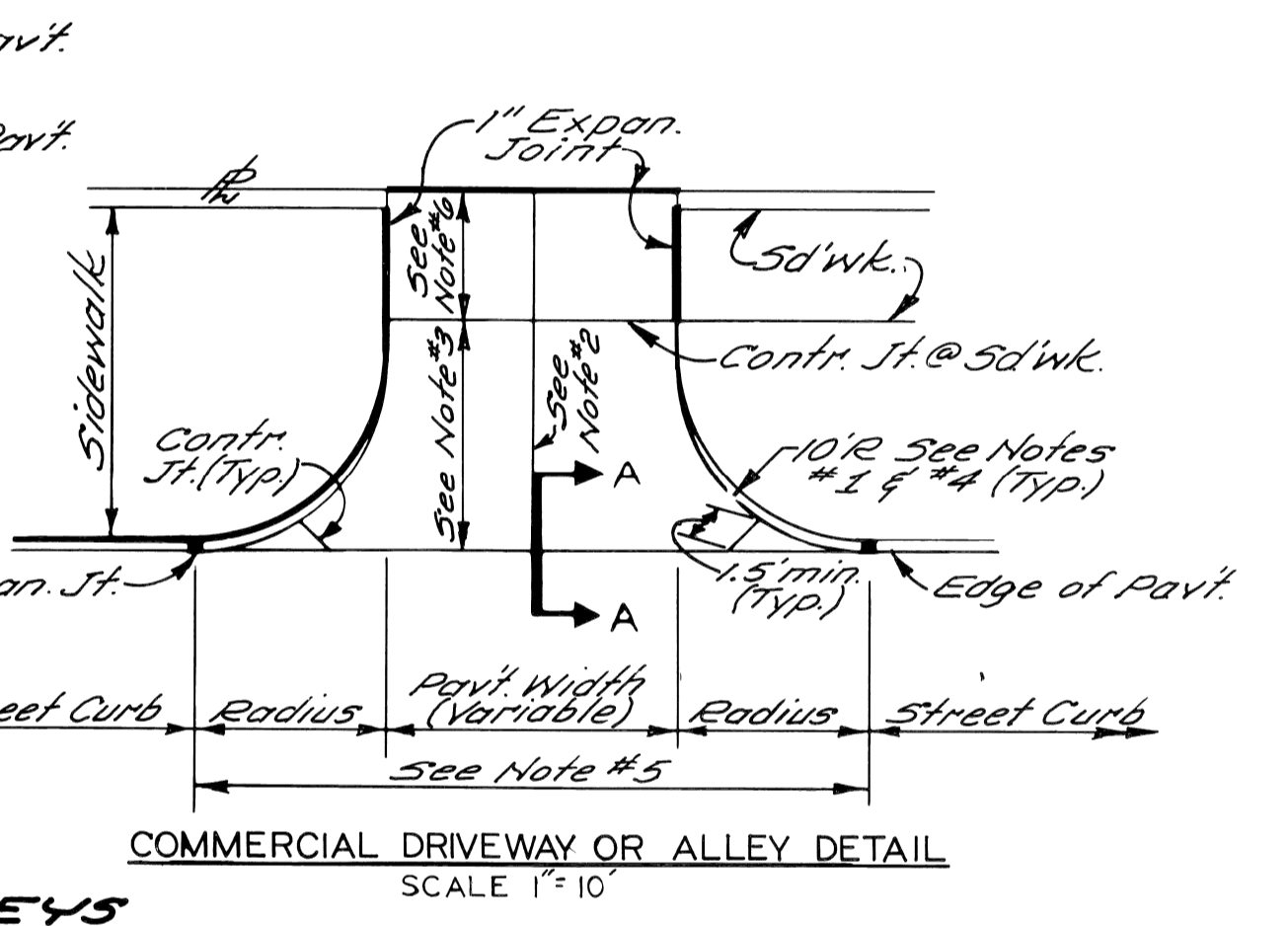
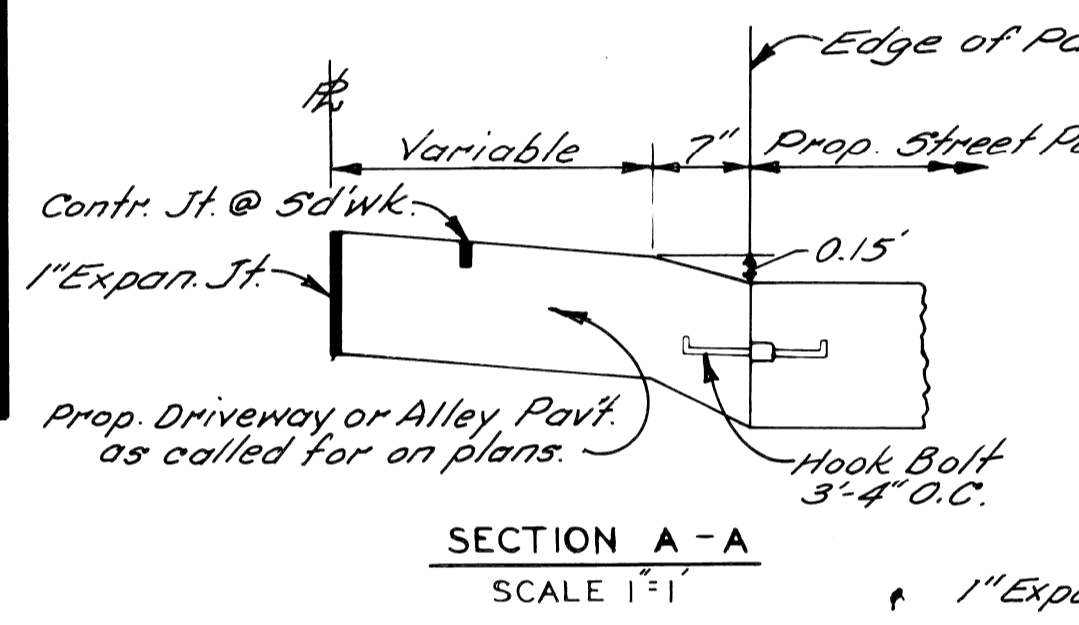
DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN	MANHOLE FRAME AND COVER
DRAWN BY	ENGINEER OF STREETS		
TRACED BY	ASST. CITY ENGINEER	BOOK NO.	SCALE
DESCRIPTION	DATE	1971	1970

CITY OF DETROIT CITY ENGINEERING DEPARTMENT		KELLY ROAD WIDENING GRAYTON TO N. OF SEYMOUR		SHEET 6 OF 25 SHEETS
DESIGNED BY		SPECIAL DETAILS		CONTRACT No. 17661A
DRAWN BY				ASSIG.
TRACED BY				DATE MAY, 1984
CHECKED BY				

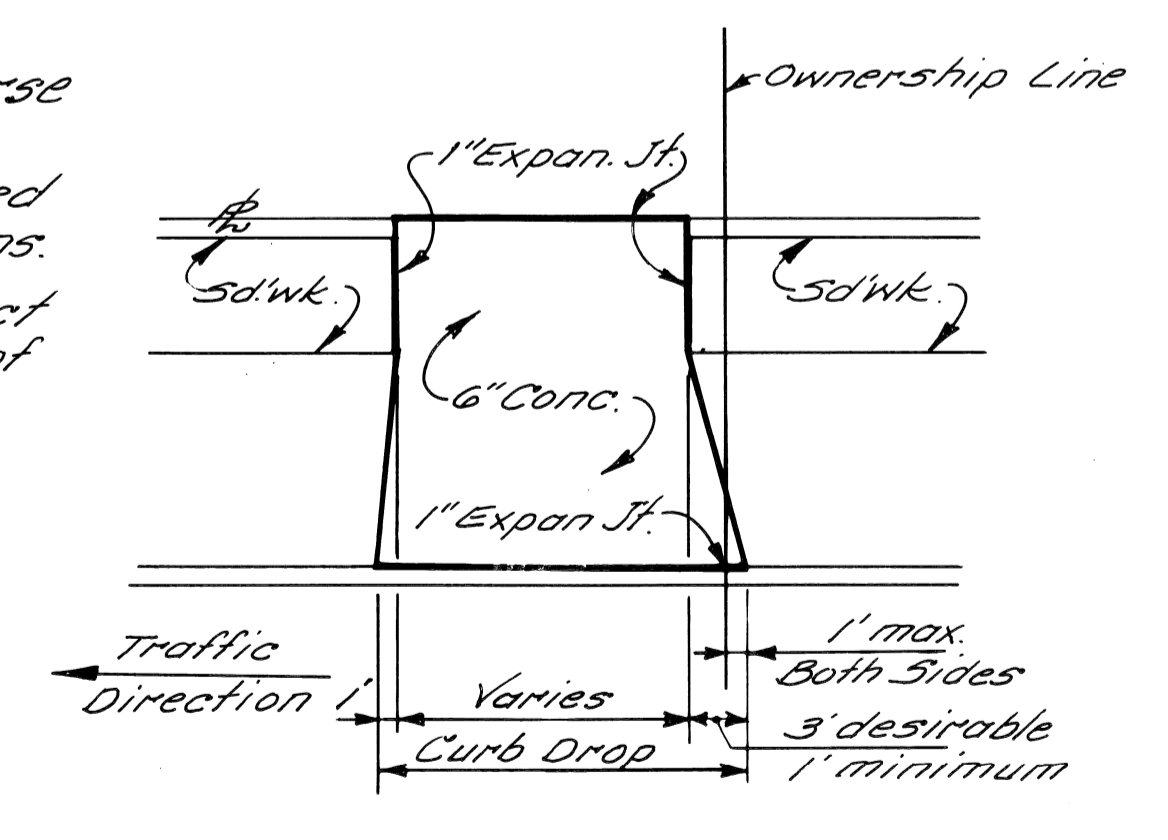
COLOR	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
BLACK	---	PROPERTY AND LOT LINES	○	SEWER MANHOLE	#	STREET SIGN POST
	---	PROPOSED CURB LINES AND HEADERS AT RETURNS	⊕	P.L.C. HANDHOLE ⊕ P.L.C. MANHOLE	□	LATCH BASIN
	---	EXISTING CURB LINES OR EDGE OF PAVEMENT	⊖	WATER MANHOLE OR GRATE	(W)	WATER METER
	---	PROPOSED CURB OR PAVING ON INTERSECTING STREET	⊕	GAS MANHOLE OR GRATE	(-)	WATER SHUT OFF
	---	PROPOSED SEWER TO CATCH BASINS	⊙	WESTERN UNION MANHOLE	(+)	GAS SHUT OFF
12' CR	---	EXISTING LATERAL SEWERS	⊕	MICHIGAN BELL MANHOLE	⊖	GAS DRIP
---	---	EXISTING PUBLIC SEWERS	⊕	EDISON STEAM MANHOLE	□	DRAIN OR VENT
---	---	EXISTING GAS LINES	⊕	EDISON ELECTRIC MANHOLE	(H)	GUY POLE
---	---	EXISTING WATER LINES	⊕	FIRE DEPT. MANHOLE	+	MAIL BOX
	---	ELEV. OF SEWER INVERT	⊕	POLICE DEPT. MANHOLE	⊖	AREAWAY OR COAL CHUTE
---	---	PROPOSED C.B. M.H. & INLET SEWER	III	D.S.R. MANHOLE	⊕	FLANK POLE
	---	ELEV.	⊕	FIRE DEPT. STANDARD HYDRANT	□	SPRINKLER BOX
	---	EXISTING C.B. M.H. & INLET SEWERS	⊕	FIRE DEPT. HIGH PRESSURE HYDRANT	⊖	DEAD MANHOLE
---	---	PROPOSED C.B. M.H. & INLET SEWERS ON INTERSECTING STREETS	⊕	FIRE DEPT. CALL BOX	⊖	TREE
	---		⊕	FIRE DEPT. CALL BOX	⊖	PLC & FD MANHOLE FILLED WITH SAND
	---		⊕	P.L.C. LIGHT POLE	⊖	TRACK DRAIN
	---		⊕	TELEPHONE POLE	+	TRAFFIC SIGN POST
	---		⊕	EDISON POLE	(2)	TRAFFIC SIGNAL LIGHT
	---		⊕	TRAFFIC CONTROL BOX	⊕	TRAFFIC SIGNAL ON LIGHT POST
	---		⊕		II	D.S.R. DANGER PLATE
	---		⊕		⊖	RR SIGNAL CONTROL BOX

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
---	DETROIT EDISON ELECTRIC CONDUIT	---	---
---	DETROIT EDISON STEAM CONDUIT	---	---
---	WESTERN UNION DUCTS	---	---
---	MICHIGAN BELL TELEPHONE DUCTS	---	---
---	P.L.C. CONDUITS	---	---
---	DETROIT FIRE OR POLICE DEPT. CONDUITS (P.L.C. COMMUNICATIONS)	---	---

CITY OF DETROIT		
DEPARTMENT OF PUBLIC WORKS		
CITY ENGINEER'S OFFICE		
BUREAU OF DESIGN		
PAVING		
DETAIL NO. 25		



- GENERAL NOTES**
COMMERCIAL DRIVEWAYS & ALLEYS
- Transition edge of driveway or alley from curb of the street to no curb at the end of the driveway or alley radius.
 - Where driveway or alley exceeds 15' in width a contraction joint shall be placed longitudinally along it.
 - When distance exceeds 15', a transverse contraction joint will be required.
 - Radius 10' unless otherwise directed by the Engineer, or as shown on plans.
 - All work & materials req'd to construct the driveway or alley between the end of returns will be paid for as "Concrete Pavement" of the specified thickness.
 - Minimum & Maximum Slopes of 1/4" / ft. & 3/4" / ft. shall be used in the sidewalk area.



CITY OF DETROIT CITY ENGINEERING			KELLY ROAD WIDENING GRAYTON TO N. OF SEYMOUR			SHEET 7 OF 25 SHEETS CONTRACT No. 17661A ASSIGNMENT No. A.O. DATE MAY, 1984	
DESIGNED BY	J.R.D.	APPROVED	ENGINEER OF EXPRESSWAYS			SPECIAL STANDARDS & SPECIAL DETAILS	
DRAWN BY							
CHECKED BY	NBI						

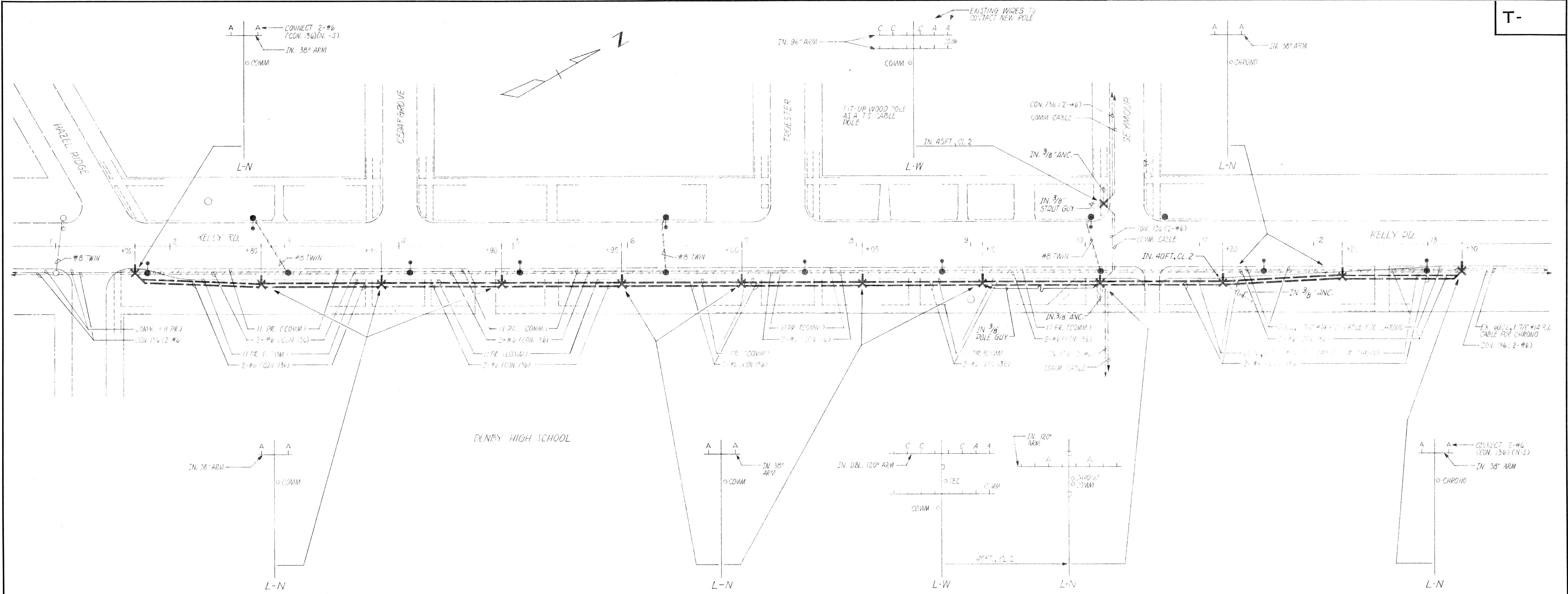
QUANTITY SHEET - E

ITEMS	AS PER PLANS													
	SHEET NO'S.		2	3	4									
	TOTALS	UNITS	TYPICAL CROSS-SECTIONS	ALIGNMENT REMOVAL - UTILITIES	PLAN - PROFILE									
REMOVING PAVEMENT	118	SQ. YD.		118										
REMOVING CURB	1,118	LIN.-FT.		1,118										
REMOVING SIDEWALK	479	SQ. YD.	20	459										
SUBGRADE UNDERCUTTING, TYPE II	10	CU. YD.	10											
REMOVING BITUMINOUS SURFACE	265	SQ. YD.			265									
ADJUSTING WATER SHUTOFFS	2	EACH		2										
BITUMINOUS SURFACING MIXTURE NO 1100L, 20AA	32	TON		2	30									
BITUMINOUS SURFACING MIXTURE NO 1100T, 20AA	31	TON		2	29									
CONC. PAV'T. (REINF.)-9" WITH INTEGRAL CURB (REINF.)	1,206	SQ. YD.			1,206									
CONC. PAV'T. - NONREINF. - 8"	88	SQ. YD.			88									
CEMENT	3	TON	3											
EXPANSION ANCHORED LANE TIES	1,167	LIN.-FT.			1,167									
REMOVING PAVEMENT (REPAIR)	47	SQ. YD.	5	42										
CONC. PAV'T. REPAIR, 9", NONREINF.	47	SQ. YD.	5	42										
12" SEWER, C-76-III, TRENCH DETAIL 8	28	LIN.-FT.	25		3									
12" SEWER, C 76 III, TRENCH DETAIL 9	76	LIN.-FT.			76									
12" SEWER TAP	1	EACH		1										
CLEANING EXISTING STORM DRAINAGE STRUCTURES*	3	EACH	3											
SEWER CLEANOUT *	150	LIN.-FT.	150											
CONC. CURB, DETAIL "X"	35	LIN.-FT.	35											
4" CONCRETE SIDEWALK	3,641	SQ. FT.	180		3,461									
6" CONCRETE SIDEWALK	48	SQ. FT.			48									
SIDEWALK RAMPS, TYPE I	84	SQ. FT.			84									
BARRICADE, TYPE II, LIGHTED, FURNISHED	75	EACH			75									
BARRICADE, TYPE II, LIGHTED, OPERATED	50	EACH			50									
BARRICADE, TYPE III, LIGHTED, FURNISHED	5	EACH			5									
BARRICADE, TYPE III, LIGHTED, OPERATED	3	EACH			3									
SIGN, TYPE B TEMPORARY	40	SQ. FT.			40									
CLASS "A" SODDING	579	SQ. YD.	25		554									
WATER	3	UNIT	1		2									
TOPSOIL SURFACE, 3"	579	SQ. YD.	25		554									
REMOVING TREES, 37" OR LARGER	1	EACH		1										
REMOVING STUMPS, 37" OR LARGER	1	EACH		1										
REMOVING DRAINAGE STRUCTURES	1	EACH		1										
ABANDONING DRAINAGE STRUCTURES	1	EACH		1										
CATCH BASIN "A"	1	EACH			1									
CATCH BASIN "B"	2	EACH			2									
CATCH BASIN "L"	1	EACH	1											
ADJUSTING DRAINAGE STRUCTURE COVERS	1	EACH		1										
RECONSTRUCTING DRAINAGE STRUCTURES	1	EACH		1										
12" SEWER TRAP	2	EACH			2									
RECONSTRUCT GATE WELL	1	EACH		1										
ADJUST GATE WELL COVER	1	EACH		1										
MOBILIZATION	1	L. SUM	1											
MOVING PEDESTRIAN CHAIN AND POSTS	1	L. SUM			1									
MINOR TRAFFIC DEVICES	1	L. SUM	1											

GENERAL INFORMATION SHEET

1. CALL MISS DIG (647-7344) 48 HRS. PRIOR TO ANY EXCAVATION FOR THE LOCATIONS OF UNDERGROUND UTILITIES.
2. CONTRACTOR TO NOTIFY MICH. CONS. GAS CO. AT WO-5-9000 IF PROTECTIVE COATED GAS MAIN IS EXPOSED OR DAMAGED.
3. A MINIMUM CLEARANCE OF 3'-6" HORIZONTAL & 1' VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED P.L.D. FACILITIES & EXISTING WATER FACILITIES.
4. CONTRACTOR SHALL NOTIFY SYSTEM OPERATING DIVISION OF THE P.L.D. 48 HRS. IN ADVANCE OF ANY WORK ON UNDERGROUND OR OVERHEAD TRANSMISSION, DISTRIBUTION, & ST. LTG. CIRCUITS. PHONE 224-0500
5. ALL EXISTING STREET LIGHTING, TRAFFIC SIGNAL, PRIMARY, TRANSMISSION ETC. CIRCUITS SHALL ALWAYS BE MAINTAINED IN AN OPERATIONAL CONDITION (EXCEPT WHERE OTHERWISE NOTED).
6. EXISTING O.H. & T.S. FACILITIES ARE NOT NECESSARILY SHOWN ON PLANS.
7. ALL OVERHEAD WIRES & UNDERGROUND CABLES SHALL CONSIST OF COPPER CONDUCTORS AS PER THE SPECIFICATIONS.
8. WHERE INSTALLATION OF NEW MANHOLES OVER EXISTING CONDUITS (TO ACCOMMODATE NEW & EXIST. CONDUITS) IS CALLED FOR ON PLANS, CONTRACTOR SHALL CAREFULLY & SO AS NOT TO DAMAGE EXIST. CABLES, REMOVE THE EXIST. CONDUITS & ENCASEMENT WITHIN MANHOLES. EXIST. CABLES SHALL BE EXTENDED & PROPERLY TRAINED, RACKED & SUPPORTED.
9. NEW CONDUITS BROKEN INTO EXISTING MANHOLES OR HANDHOLES SHALL NOT INTERFERE WITH RACKING AND/OR TRAINING OF CABLES. EXERCISE CAUTION INSTALLING NEW CABLES INTO EXIST. HOLES.
10. ALL CONDUITS NOT TERMINATING IN STRUCTURES SUCH AS MANHOLES, HANDHOLES OR FOUNDATIONS SHALL EXTEND 2FT. BEYOND PAVEMENT LIMIT (EXCEPT AS OTHERWISE INDICATED). ALL UNOCCUPIED CONDUITS SHALL BE PLUGGED.
11. WHERE ABANDONING OF U.G. CABLES IS CALLED FOR ON PLANS OR DIAGRAMS, CONTRACTOR SHALL CUT & REMOVE CABLES WITHIN MANHOLES & HANDHOLES.
12. UNDERGROUND CABLE QUANTITIES ARE ITEMIZED ON GENERAL PLANS. ALL CABLES SHALL BE TAGGED IN ALL MANHOLES & HANDHOLES. THIS INCLUDES EXIST. CABLES THAT ARE CONVERTED TO MULTIPLE, RECONNECTED TO OTHER CIRCUITS OR RENDERED DEAD.
13. ALL LUMINAIRES SHALL BE PROVIDED WITH 240V. INTERNAL BALLASTS (EXCEPT AS OTHERWISE NOTED).
14. THE CANDLEPOWER DISTRIBUTION FOR ALL MERCURY & SODIUM VAPOR ST. LTG. LUMINAIRES SHALL BE SEMI-CUTOFF, MEDIUM DISTRIBUTION OF TYPE AS INDICATED ON THE PLANS.
15. ALL NEW, SALVAGED & CONVERTED ST. LTG. STD'S. SHALL BE PAINTED.
16. ALL NEW & SALVAGED ST. LTG. STD'S. INSTALLED ON THIS CONTRACT & EXIST. ST. LTG. STD'S. CONVERTED OR RE-CONNECTED TO OTHER CIRCUITS SHALL BE STENCILLED OR RE-STENCILLED AS SHOWN ON PLANS. (STENCILLING & RESTENCILLING OF ST. LTG. STD'S. IS INCIDENTAL TO ST. LTG. STD.)
17. ALL TREE TRIMMING REQUIRED TO CLEAR NEW OR SALVAGED ST. LTG. & TRAFFIC SIGNAL STD'S. & O.H. LINES SHALL BE INCIDENTAL TO THE PAY-ITEM & NO EXTRA PAYMENT SHALL BE MADE.
18. WHERE TRIMMING OF TREES ON CITY PROPERTY IS CALLED FOR ON PLANS THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE RECREATION DEPT. OF THE CITY OF DETROIT AND SHALL HAVE SUCH WORK DONE BY A LICENSED TREE SERVICE CONTRACTOR. CALL MR. CRAIG GRANT AT 931-3950.
19. WHERE U.G. UTILITIES INTERFERE WITH THE INSTALLATION OF A NEW FOUNDATION, INSTALL THE SPECIAL FOUNDATION OF PARTICULAR DIMENSIONS AS INDICATED ON THE DETAIL DRWG. TO SUIT THE FIELD CONDITION. THERE WILL BE NO EXTRA PAYMENT FOR THE SPECIAL FOUNDATION. IT WILL BE PAID FOR AS A NORMAL FOUNDATION.
20. ALL NEW U.G.-FED ST. LTG. UNITS SHALL BE INSTALLED 2'-6" BACK OF CURB UNLESS OTHERWISE INDICATED ON PLANS.
21. BAND INSULATED CLEVIS TO ST. LTG. STD. SHAFT. BRING U.G. CABLES THRU TOP OF SHAFT WITH WEATHERCAP TO FIT SHAFT OPENING. STORE SHAFT CAP IN BASE OF STANDARD. CONNECTION OF O.H. WIRES TO U.G. CABLES SHALL BE MADE OUTSIDE OF SHAFT (INCIDENTAL TO INSTALLATION OF O.H. WIRES).
22. BAND SEC. RACK TO ST. LTG. STD. SHAFT. BRING U.G. CABLES THRU TOP OF SHAFT WITH WEATHERCAP TO FIT SHAFT OPENING. STORE SHAFT CAP IN BASE OF STD. CONNECTION OF O.H. WIRES TO U.G. CABLES SHALL BE MADE OUTSIDE OF SHAFT (INCIDENTAL TO INSTALLATION OF O.H. WIRES).
23. REMOVE WEATHERCAP & INSULATED CLEVIS OR SEC. RACK FROM ST. LTG. STD. SHAFT. MOUNT SHAFT CAP ON ST. LTG. STD. (INCIDENTAL TO REMOVAL OF O.H. WIRES).
24. FOR LOCATIONS OF P.L.D. INSTALLATIONS ON STRUCTURES SUCH AS CONDUITS, HANDHOLES, CONDUIT SLEEVES, GALVANIZED STEEL CONDUITS & ST. LTG. STD. ANCHOR BOLTS SEE STRUCTURE PLANS.
25. INSTALLATION OF ARMS FOR EQUIPMENT, CUTOUTS, POTHEADS, TRANSFORMERS, ETC. ARE NOT SHOWN ON NEW CABLE AND TRANSFORMER POLES. THEY SHALL BE INSTALLED AS PER THE DETAIL DRWG. REQUIREMENT AND SHALL BE INCIDENTAL TO THE FITTING-UP OF THE CABLE AND/OR TRANSFORMER POLE.
26. ALL TRANSFORMER POLES AND CABLE POLES SHALL BE FITTED UP WITH 120" ARMS (EXCEPT WHERE OTHERWISE NOTED).
27. ALL NEW ANCHOR GUYS SHALL BE INSTALLED ON A 1:1 RATIO OR AS NEARLY AS POSSIBLE (EXCEPT WHERE OTHERWISE NOTED. STRUT GUYS ARE EXCEPTED).
28. ALL POTHEADS ON PRIMARY DISTRIBUTION CABLE POLES SHALL BE FLAT DIVERGENT DISCONNECTING TYPE.
29. INSTALL WOOD POLES SO AS NOT TO INTERFERE WITH TRAFFIC OR FUTURE CONSTRUCTION STAGES.
30. CROSSARMS SHALL BE REMOVED AFTER ALL CONTACTS ARE REMOVED (INCIDENTAL TO REMOVAL OF OVERHEAD LINES).
31. WHERE REMOVAL OF LUMINAIRES IS CALLED FOR ON PLANS THE ASSOCIATED O.H. SERIES COIL SHALL BE REMOVED BY THE CONTRACTOR (REMOVE O.H. COIL IS INCIDENTAL TO REMOVE LUMINAIRE).
32. WHERE A P.L.D. WOOD POLE WITH OTHER UTILITY CONTACTS IS TO BE REMOVED THE P.L.D. INSPECTOR WILL INDICATE IF THE POLE IS IN FACT TO BE REMOVED.
33. ALL SALVAGED WOOD POLES SHALL BE POLES PREVIOUSLY INSTALLED NEW ON THIS CONTRACT.
34. ALL TRAFFIC STREET SIGNS SUCH AS "NO PARKING", "NO STANDING" ETC. SHALL BE TRANSFERRED FROM OLD ST. LTG. STD. TO NEW ST. LTG. STD. AT SAME LOCATION OR ON NEW STD. IN CLOSE PROXIMITY BY DEPT. OF TRANSPORTATION. (OR WOOD POLES)
35. PROPOSED T.S. SHALL BE PUT INTO OPERATION AT TIME OF REMOVAL OF EXISTING T.S. FACILITIES. CONTRACTOR SHALL NOTIFY THE P.L.D. INSPECTOR IF HE IS UNABLE TO MAINTAIN T.S. IN OPERABLE CONDITION AT ALL TIMES.
36. ALL TRAFFIC SIGNALS SHALL BE MOUNTED WITH NEW STANDARD TRAFFIC SIGNAL BRACKET & FITTINGS.
37. ALL TRAFFIC SIGNAL ITEMS AS CALLED FOR ON PLANS SHALL INCLUDE AS INCIDENTAL TO THE TRAFFIC SIGNAL ALL CABLES FROM THE CONTROLLER TO THE TRAFFIC SIGNALS & FOUNDATIONS AS INDICATED.
38. CONTRACTOR SHALL DELIVER WHERE REQUIRED TO THE PUBLIC LIGHTING DEPARTMENT THE T.S. CONTROLLER FOR TIMING. CONTRACTOR SHALL PICK-UP CONTROLLER FROM THE PUBLIC LIGHTING DEPARTMENT WHEN READY FOR INSTALLATION.
39. ALL SALVAGED TRAFFIC SIGNALS SHALL BE TRAFFIC SIGNALS PREVIOUSLY INSTALLED NEW ON THIS CONTRACT (EXCEPT AS OTHERWISE INDICATED).
40. FOR TRAFFIC SIGNAL SPAN WIRES USE 1/2" SIEMANS-MARTIN GRADE AS SPECIFICATION.
41. ALL TRAFFIC SIGNAL LAMPS SHALL BE PURCHASED FROM THE PUBLIC LIGHTING DEPARTMENT.
42. SEAL-END OF CABLE WHERE COILING UP OF CABLE IS CALLED FOR (CONTRACTOR SHALL RECEIVE PAYMENT FOR COILED-UP CABLES)
43. D.S.R. STREETCAR RAILS AND FOUNDATIONS (TRACKS) ARE SHOWN ON THE PLANS IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. EXACT LOCATIONS WITHIN THE STREETS & INTERSECTIONS ARE NOT KNOWN. SOME RAILS MAY HAVE BEEN REMOVED.
44. SIDEWALK RAMPS OF THE TYPE & LOCATION AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE CONSTRUCTED.
45. "CONDUIT REPAIR - UNDER PAVEMENT" AND "CONDUIT REPAIR UNDER SIDEWALK OR DIRT" SHALL INCLUDE LOCATING EXISTING P.L.D. CONDUIT BREAKDOWN OR RUPTURE AT A POINT LOCATED IN THE EXISTING CONDUIT INSTALLATION WHETHER A SINGLE CONDUIT OR MULTIPLE OF TWO OR MORE. THE WORK SHALL INCLUDE EXCAVATION AT THE POINT OF BREAKDOWN, CHIPPING & BREAKING AWAY THE CONCRETE ENCASEMENT, INSTALLING A CONDUIT SLEEVE TO REPLACE THE CUTAWAY OR REMOVED SECTION OF DEFECTIVE CONDUIT, GROUTING THE CONCRETE ENCASEMENT TO ITS ORIGINAL THICKNESS THEN BACKFILLING THE EARTH AND REPAIRING THE SIDEWALK OR PAVEMENT. EXERCISE CARE NOT TO DAMAGE EXISTING ENERGIZED CABLES. NOTE: NONE OF THIS WORK SHALL BE UNDERTAKEN UNTIL FIRST CONTACTING THE PROJECT ENGINEER.
46. INSTALL 600V, 1-6 PR. #16 I.M. SHIELDED CABLE FOR CHRONOPLAN 1'-0" BELOW D.E. CO. SECONDARY (EXCEPT WHERE OTHERWISE NOTED).
47. PAVEMENT, SIDEWALK, & CURB REMOVAL AND REPLACEMENT SHALL BE DONE ACCORDING TO CITY OF DETROIT SPECIFICATION.
48. T.S. JUNCTION BOX SHALL BE MOUNTED 2FT. (MAX) FROM SPAN WIRE T.S. NEAREST TO T.S. FEED SOURCE.
49. CONTRACTOR TO NOTIFY D.E. CO., MR. J. TYSON AT 237-9564 IF PROTECTIVE COATING OF ANY D.E. CO. HIGHVOLTAGE UNDERGROUND LINE IS EXPOSED OR DAMAGED.

	<p>KELLY RD. WIDENING GRAYTON TO NORTH OF SEYMOUR GENERAL INFORMATION & AREA MAP M 2000 (171)</p>	SHEET _____ OF _____ SHEETS JOB NO. _____ ASSIGNMENT NO. _____ DATE _____	<p>CITY OF DETROIT CITY ENGINEERING DEPARTMENT</p>	DRAWN <i>CLA</i> CHECKED <i>GA</i> APPROVED <i>GA</i> DATE 11-1983	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16590 WYOMING DETROIT, MICH. 48221 DRWG. NO. 2 OF 17 FILE NO. CEA 1085	DRAWN BY _____ CHECKED BY _____ APPROVED BY _____	<p>PUBLIC LIGHTING COMMISSION CITY OF DETROIT</p>	FILE NO. 48-0323 SHEET NO. 10 OF 25 DATE 11-1983
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PLAN
SCALE: 1" = 40'

NOTE:
1. ALL WOOD POLES SHALL BE SET 4'-0" BACK OF CURB (EXCEPT WHERE OTHERWISE INDICATED).

LIST OF MATERIAL ITEM	QUANTITIES
40 FT. CLASS 2 WOOD POLE	14 EACH
REMOVE O.H. ST. LIG. UNIT	10 EACH
REMOVE #8 TWIN	190 LIN. FT.
REMOVE 11 PR. (COMM)	840 LIN. FT.
REMOVE 600V. 17/0 #4 P.L. CABLE FOR CHRONO	720 LIN. FT.
REMOVE 2-#6 O.H. LINE	1155 LIN. FT.
4 FT. CLASS 4 WOOD POLE	10 EACH
45 FT. CLASS 2 WOOD POLE	2 EACH
400V. MERCURY VAPOR O.H. ST. LIG. UNIT WITH SERIES COIL	2 EACH
11 PR. (COMM)	850 EACH
600V. 17/0 #4 P.L. CABLE FOR CHRONO	330 EACH
2-#6 O.H. LINE	1465 EACH
FIT-UP WOOD POLE AT A T JUNCTION POLE	1 EACH
40 FT. CLASS 2 WOOD POLE	1 EACH

NO.	DATE	DESCRIPTION	CHKD. BY

**KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR**

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

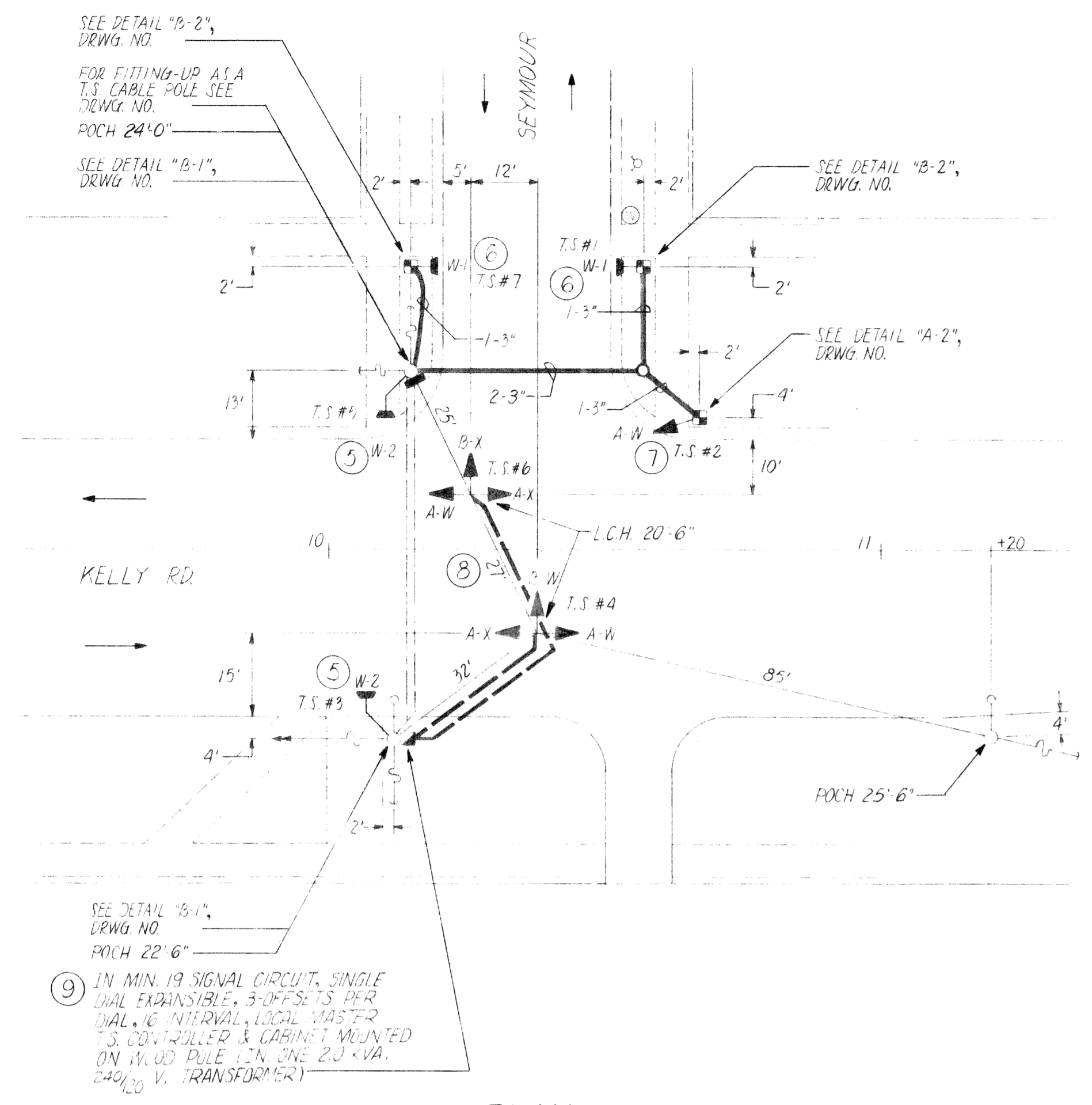
DRAWN C.E.A.
CHECKED <i>[Signature]</i>
APPROVED <i>[Signature]</i>
DATE 11-1983

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

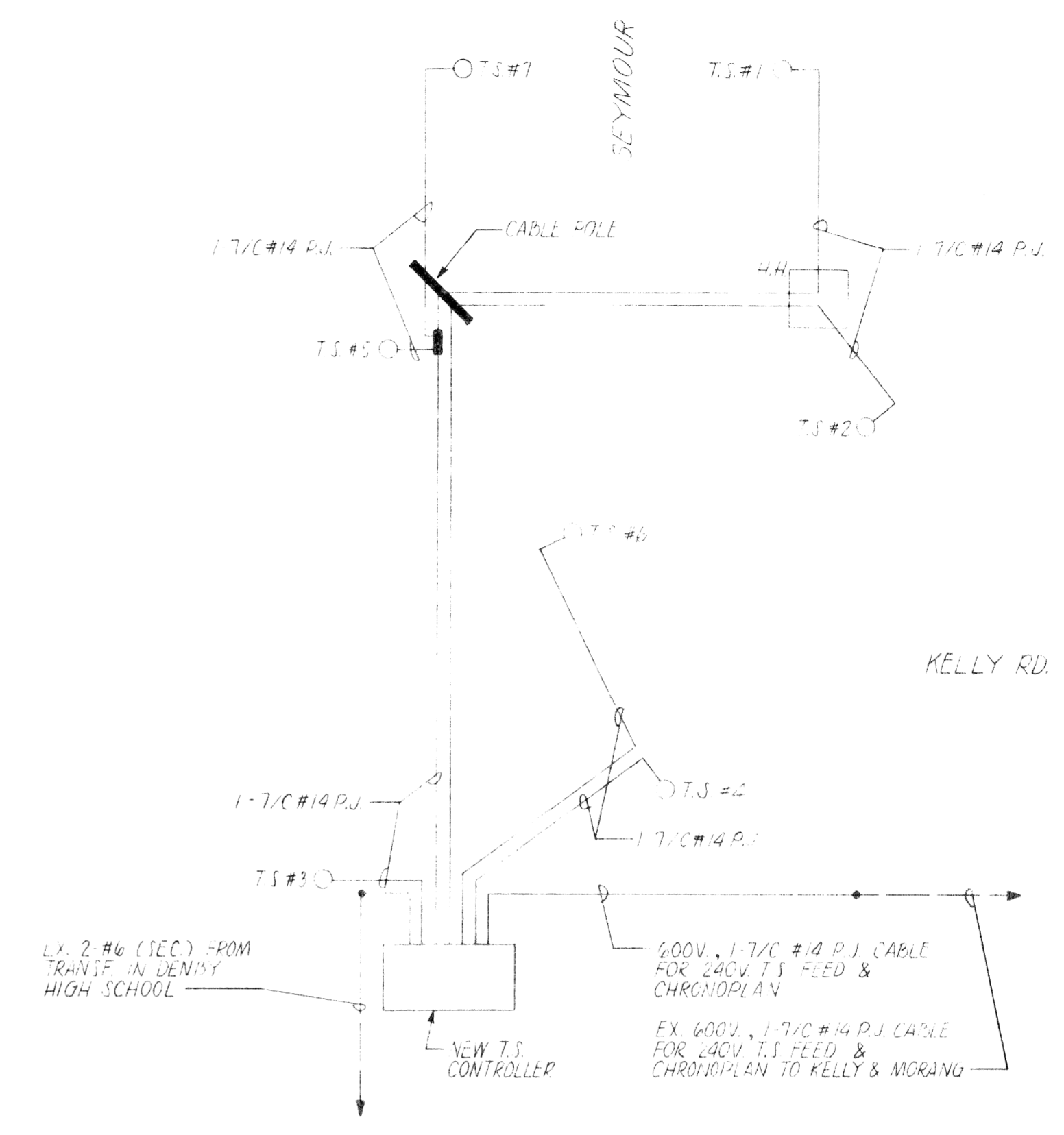
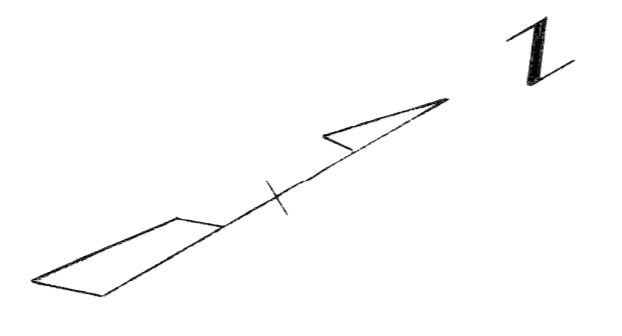
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APPROVED BY

**PUBLIC LIGHTING
COMMISSION**
CITY OF DETROIT

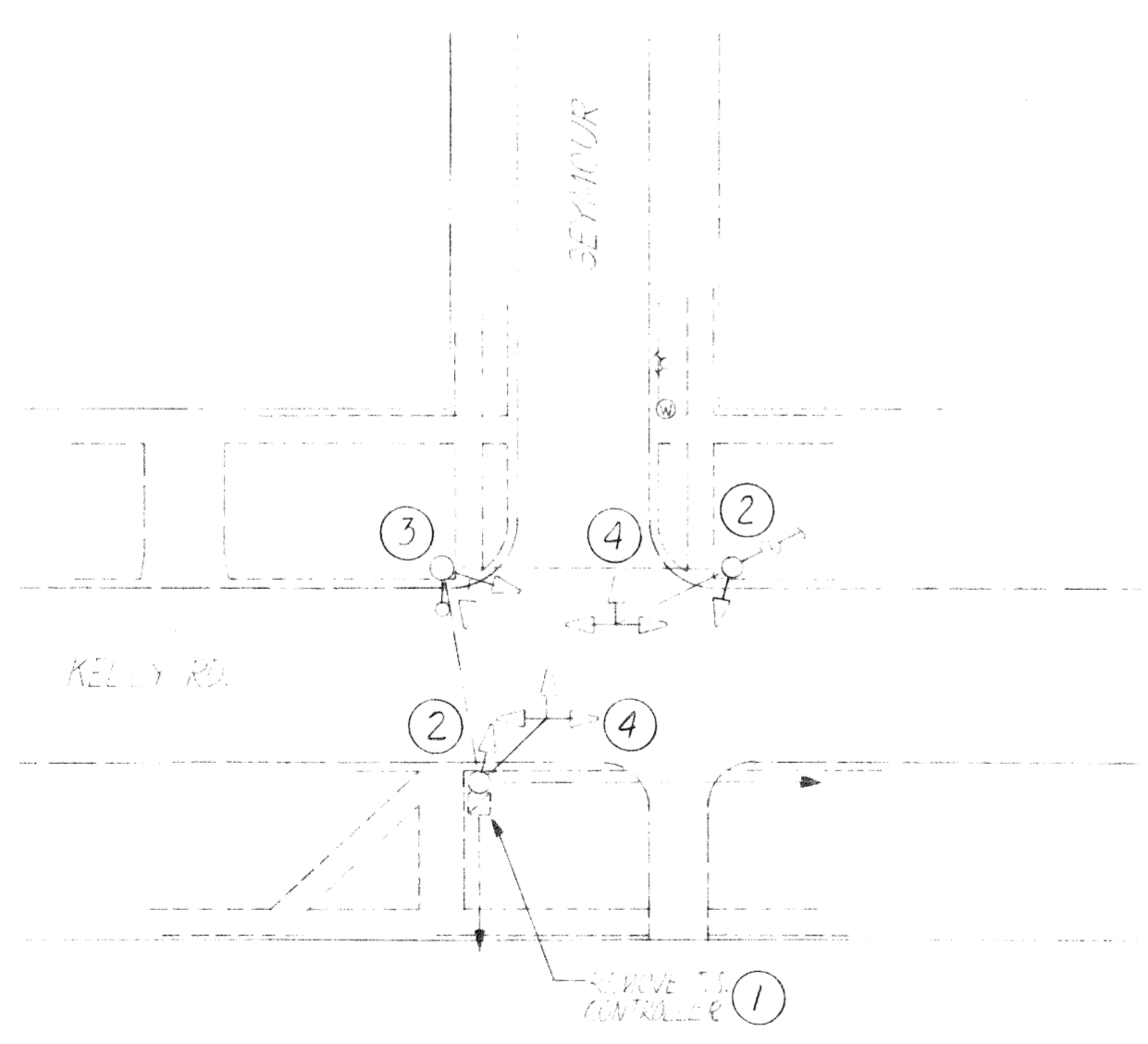
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SHEET NO. 11 OF 25
DATE 11-1983



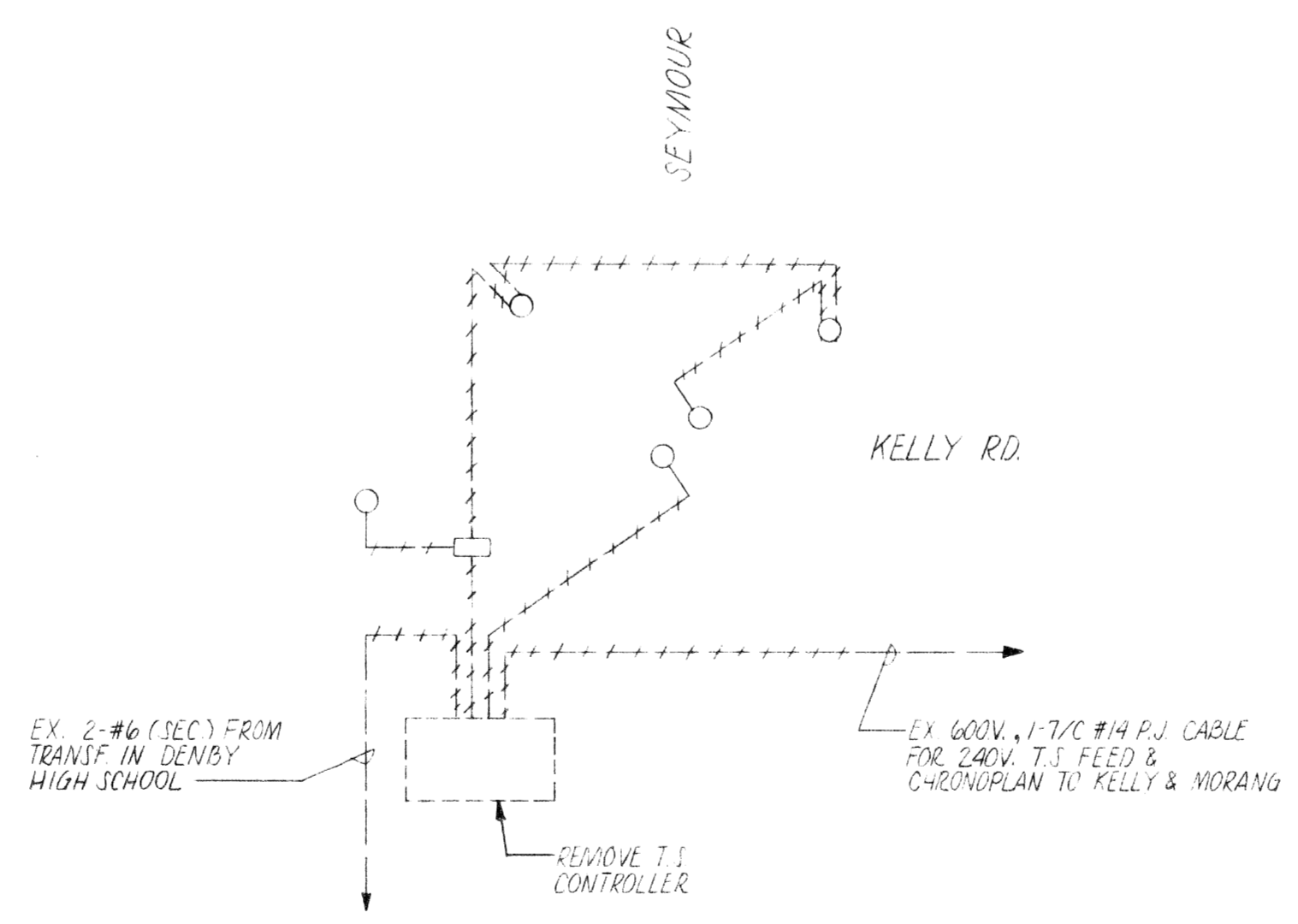
PLAN SCALE: 1" = 20'



WIRING DIAGRAM



T.S. REMOVAL SCALE: 1" = 40'



REMOVAL WIRING DIAGRAM

LIST OF MATERIAL		QUANTITIES
ITEM NO.	ITEM	
1	REMOVE T.S. CONTROLLER & CABINET	EACH
2	REMOVE 1-WAY BRACKET ARM T.S.	2 EACH
3	REMOVE 2-WAY BRACKET ARM T.S.	1 EACH
4	REMOVE 3-WAY MAST ARM T.S. & MAST ARM	2 EACH
5	1-WAY PEDESTRIAN BRACKET ARM T.S.	2 EACH
6	1-WAY PEDESTRIAN T.S. ON BFT. PEDESTAL ON NEW FUN.	2 EACH
7	1-WAY T.S. ON BFT. PEDESTAL ON NEW FUN.	1 EACH
8	TWO 3-WAY SPAN WIRE T.S. ON NEW SPAN WIRE	1 EACH
9	T.S. CONTROLLER & CABINET MOUNTED ON WOOD POLE	1 EACH
	1.5" ENCASED CONDUIT	52 LIN. FT.
	ROUND HANDHOLE	1 EACH
	2-3" ENGAGED CONDUIT	40 LIN. FT.

DATE	DESCRIPTION	CHKD. BY

**KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR**

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

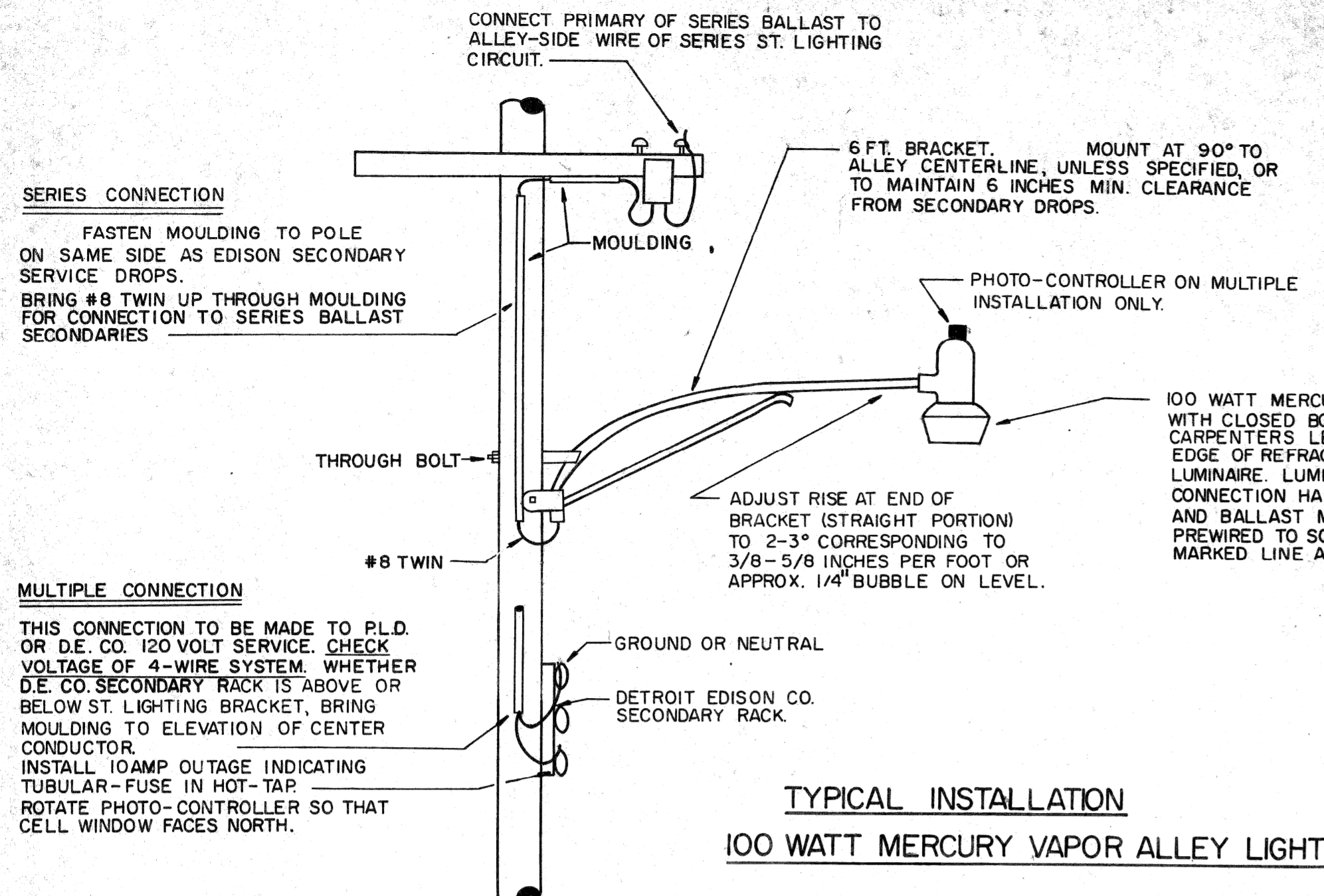
DRAWN C.E.A.
CHECKED
APPROVED
DATE 11 - 1983

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

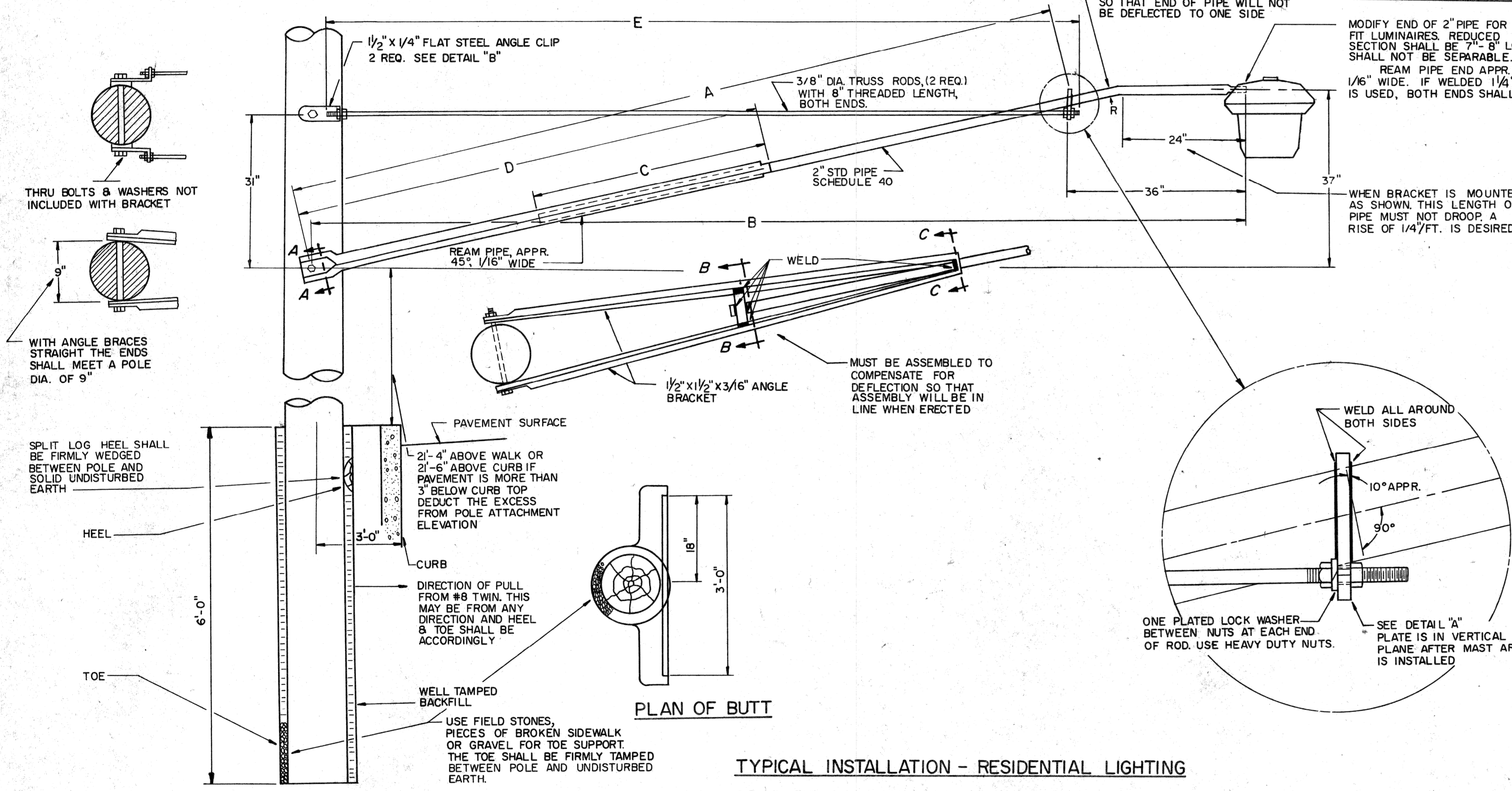
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**PUBLIC LIGHTING
COMMISSION
CITY OF DETROIT**

FILE NO. 48 - 0323
SHEET NO. 12 OF 25
DATE 11 - 1983

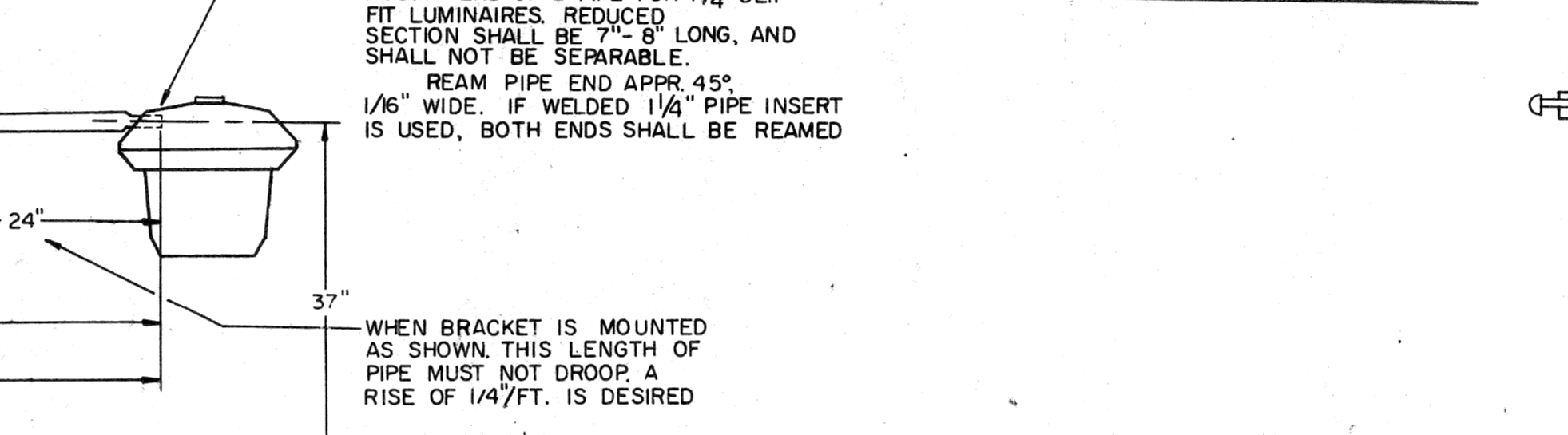


TYPICAL INSTALLATION
100 WATT MERCURY VAPOR ALLEY LIGHT

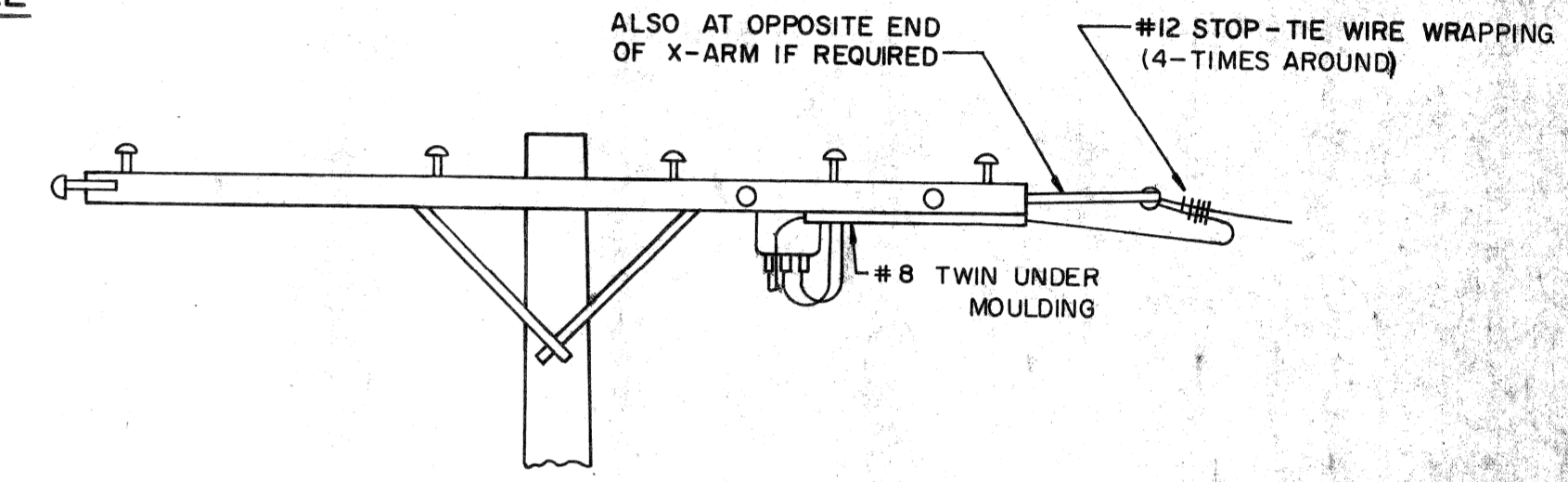


TYPICAL INSTALLATION - RESIDENTIAL LIGHTING
BRACKET ARM AND LUMINAIRE

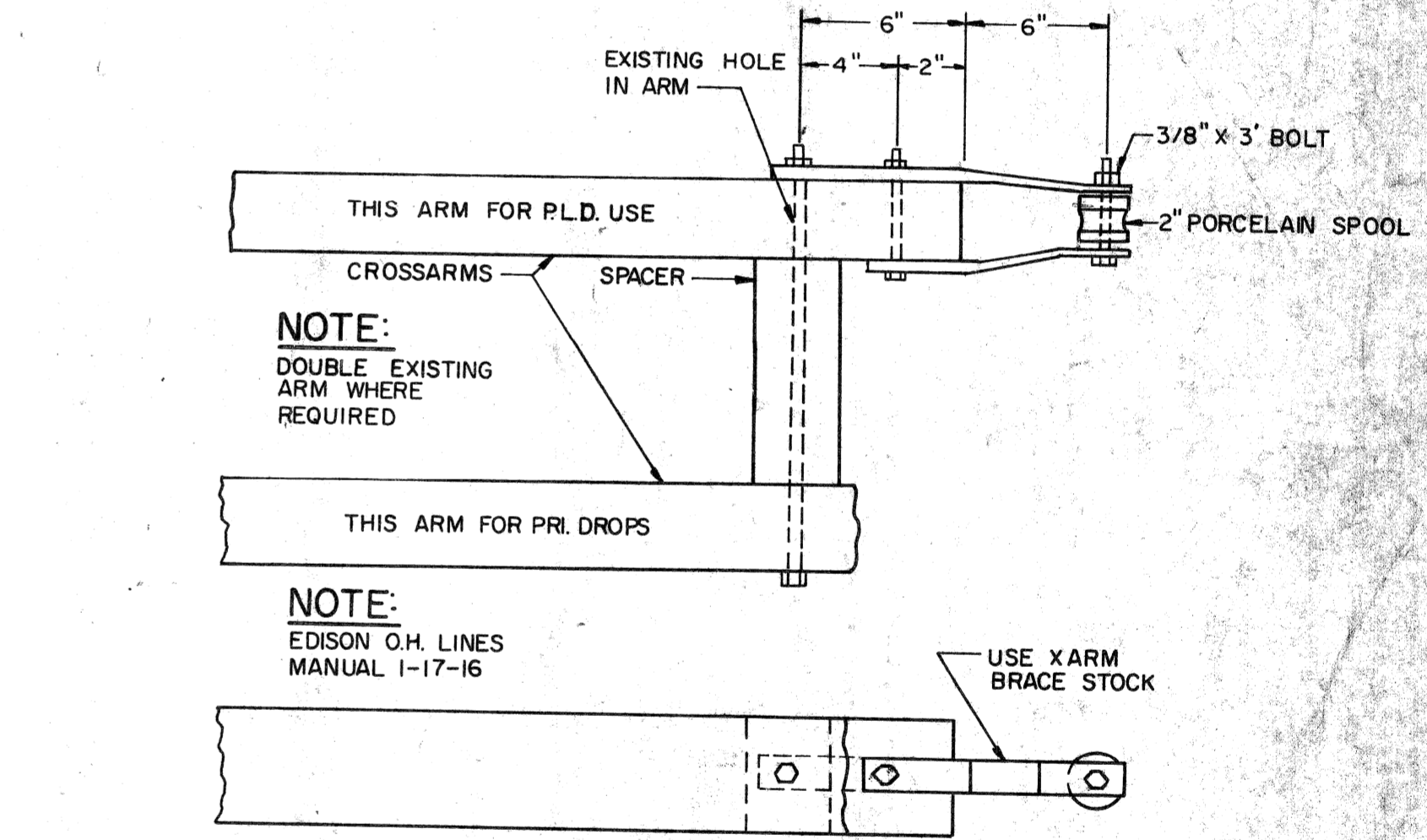
8' UPSWEEP STREET LIGHTING BRACKET ARM AND LUMINAIRE
FOR MAIN STREET LIGHTING



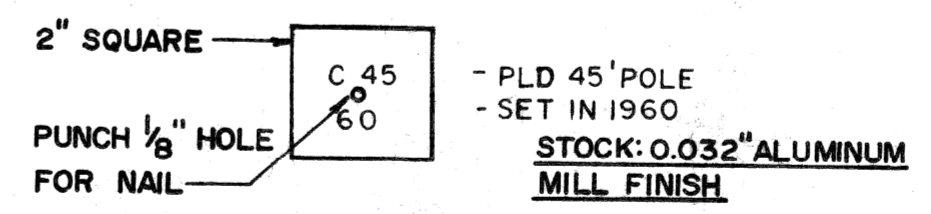
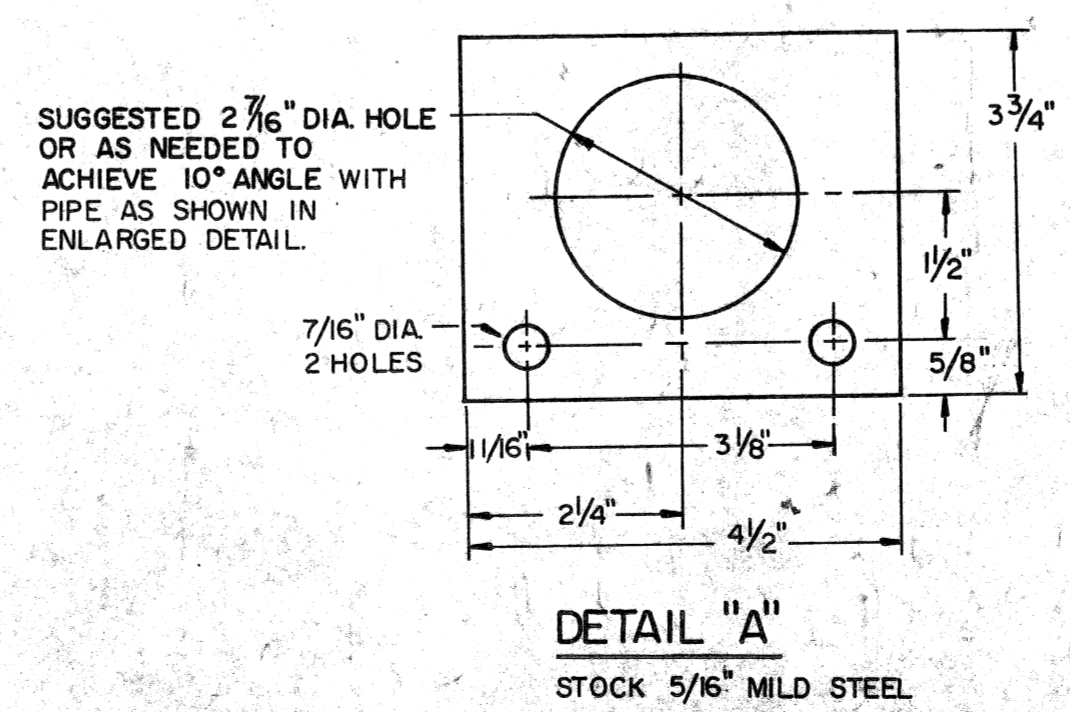
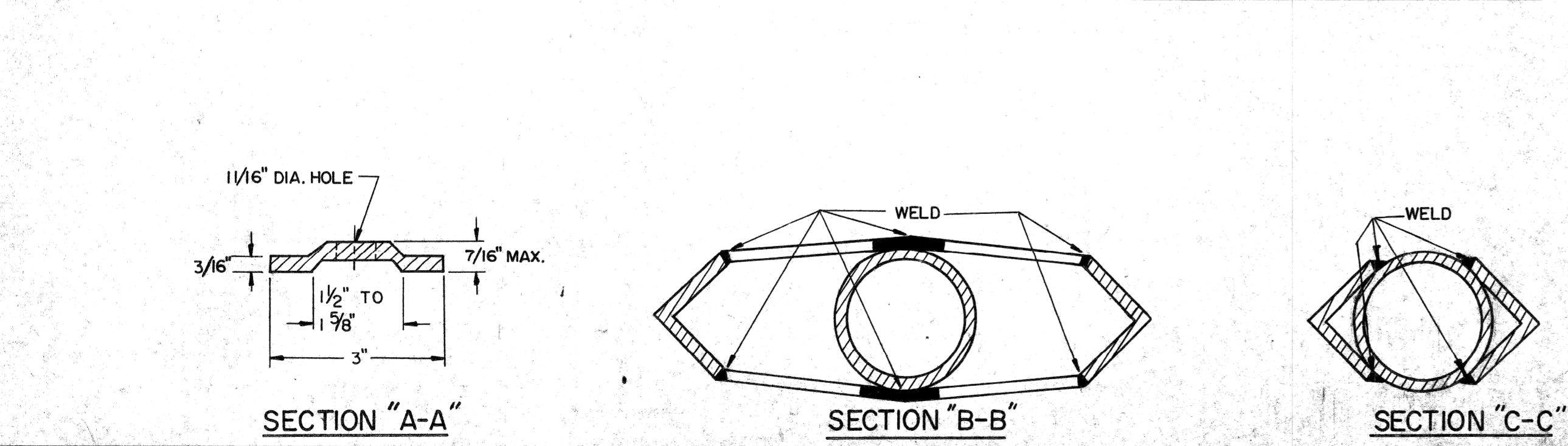
DIMENSIONS					ROD LENGTH
A	B	C	D	E	
13'-4"	16'-0"	48"	96"	13'-3"	
17'-3"	20'-0"	6'-0"	10'-0"	17'-3"	



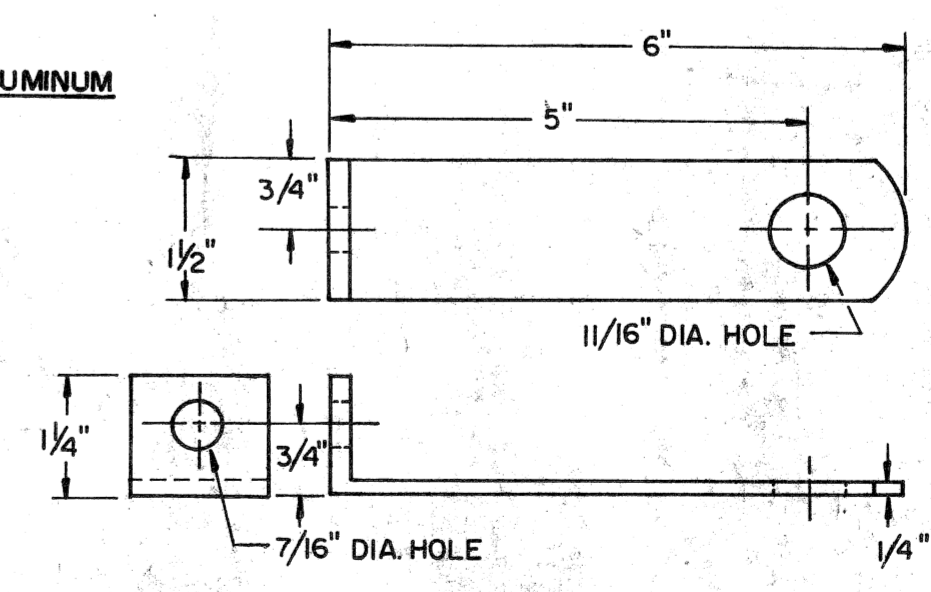
TYPICAL COIL INSTALLATION



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



TYPICAL MARKING
WOOD POLE TAGS



DETAIL "B"
2 REQ.

DATE	DESCRIPTION	CHKD. BY
		41

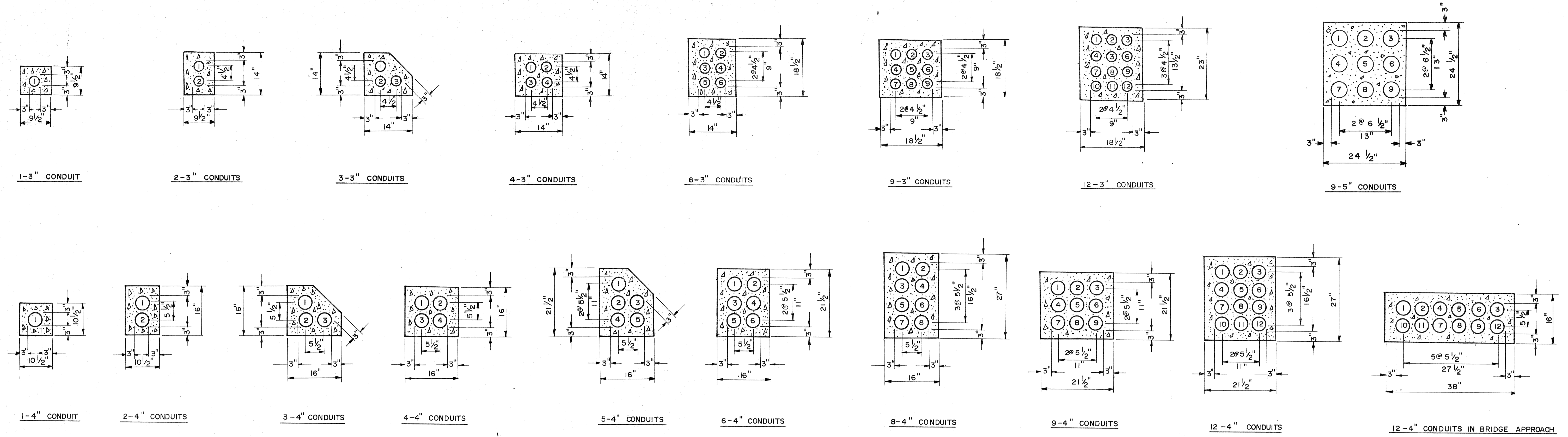
KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
MISCELLANEOUS OVERHEAD
DETAILS M 2000 (171)

SHEET	OF	SHEETS
JOB NO.		
ASSIGNMENT NO.		
DATE		

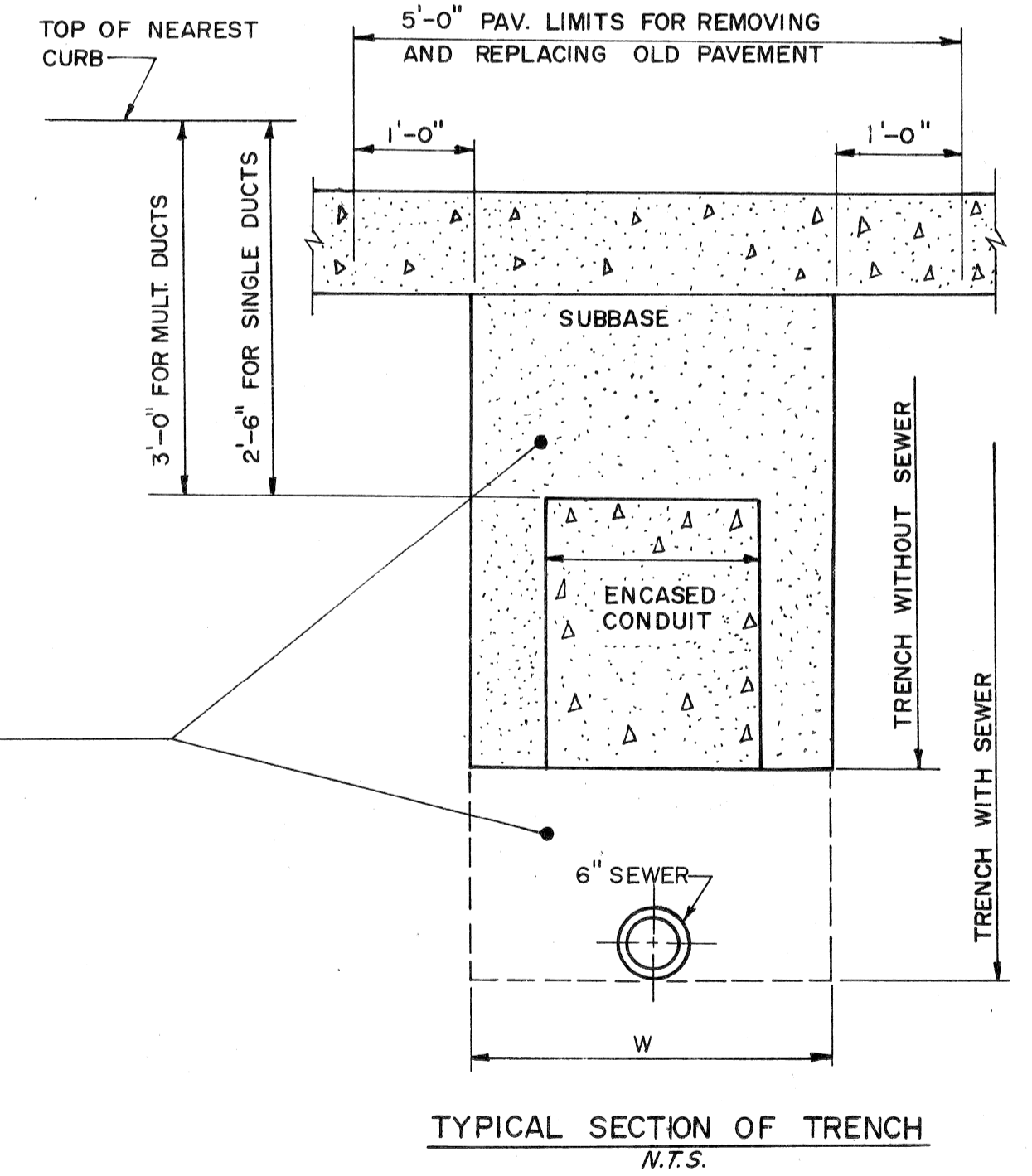
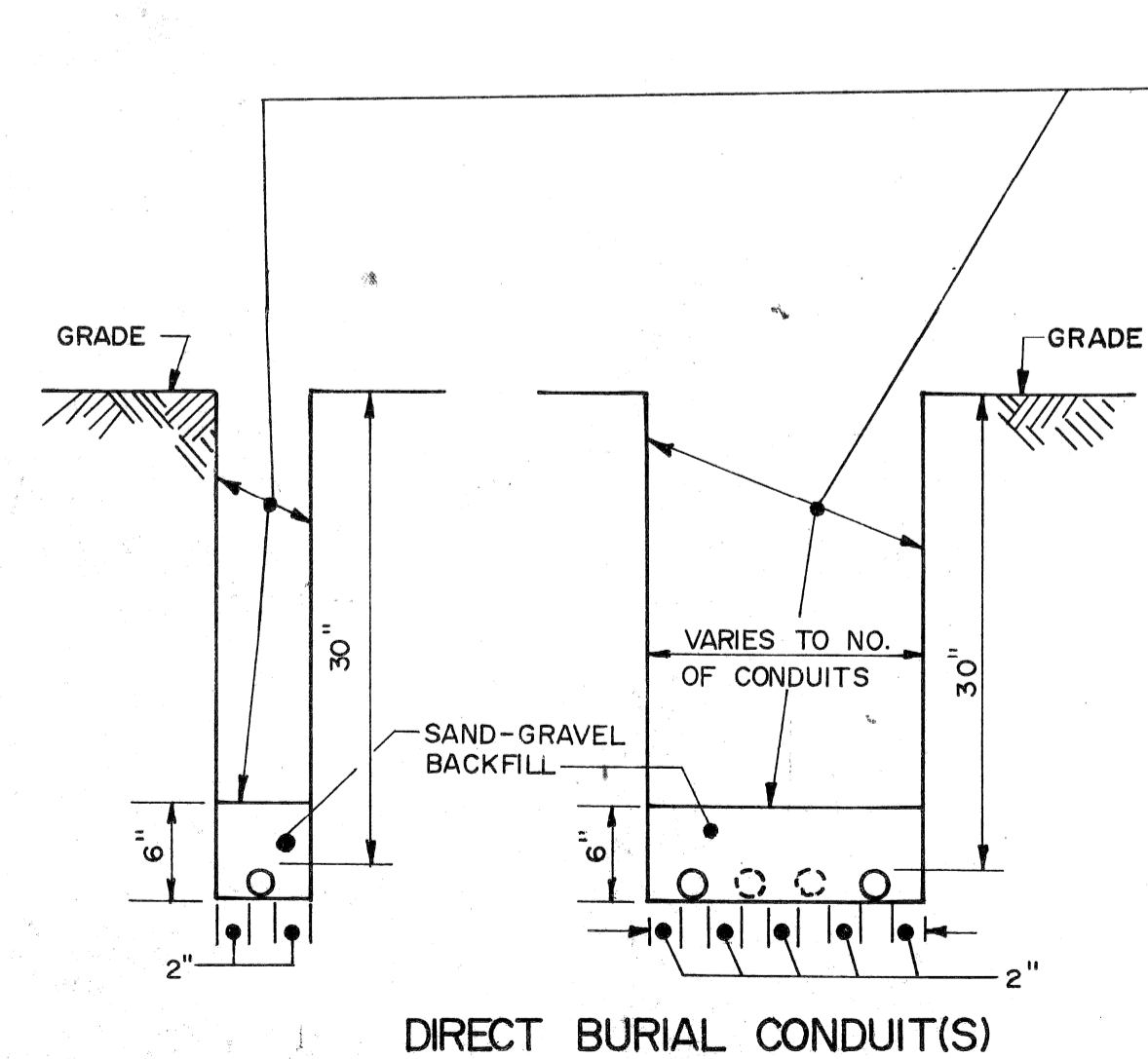
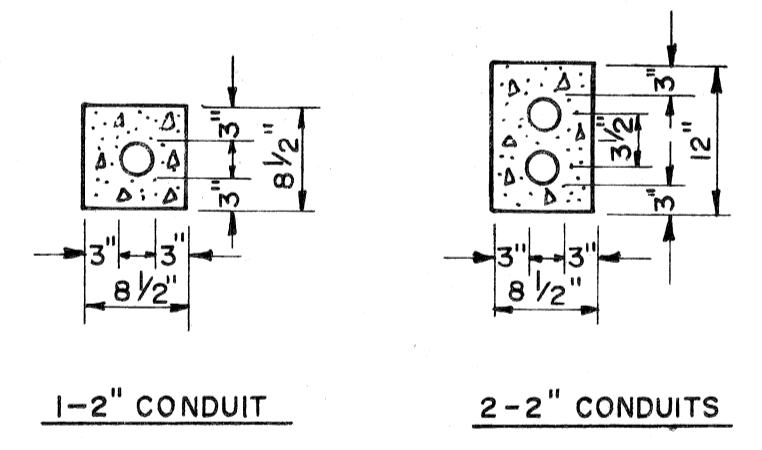
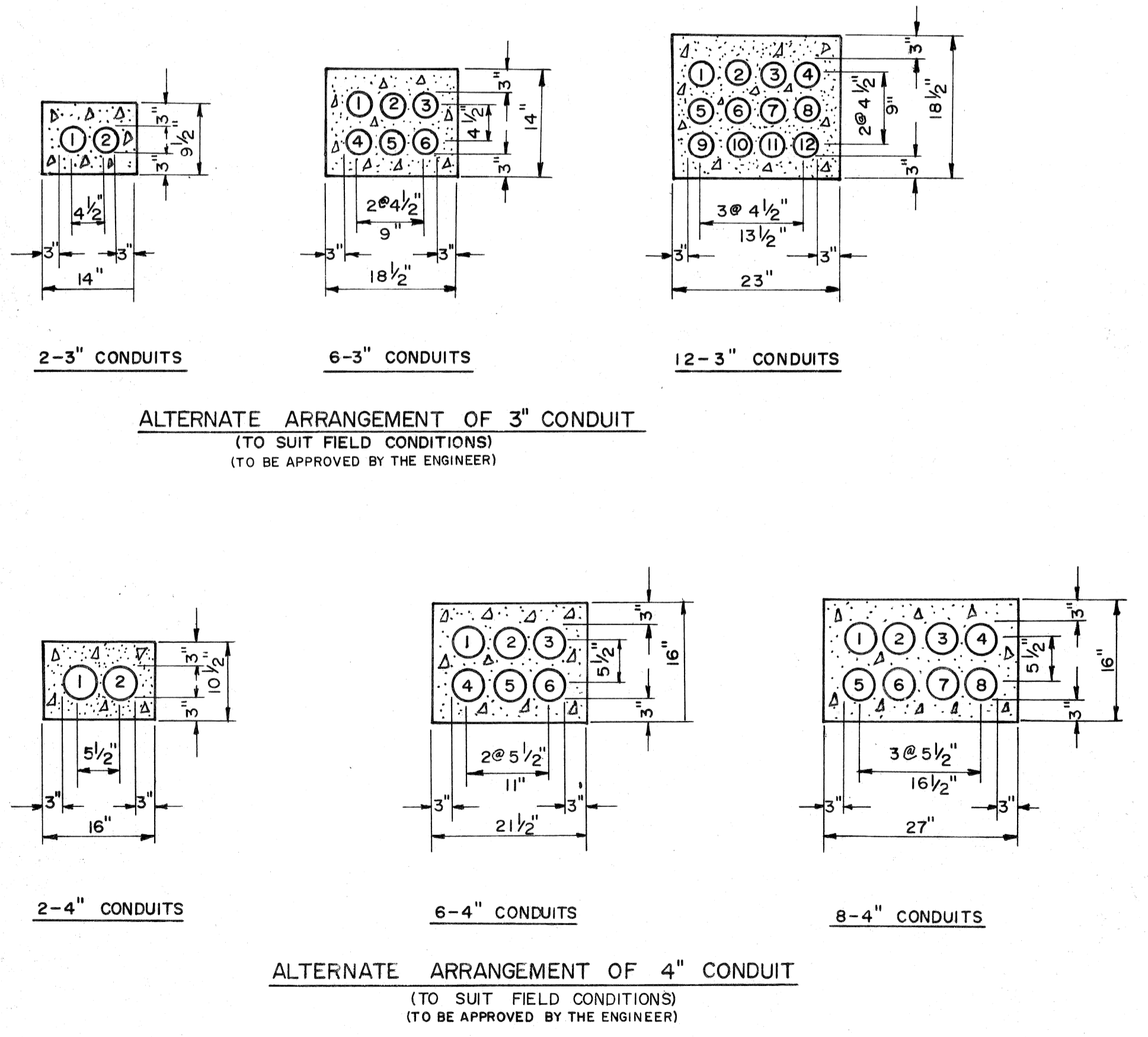
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN BY	CEA	PLAN PREPARED BY	CONSULTING ENGINEERING ASSOCIATES INC.
CHECKED BY	<i>[Signature]</i>	ENGINEERING CONSULTANTS	
APPROVED BY		16580 WYOMING	DETROIT, MICH. 48221
DATE	11 - 1983	DRWG NO.	5 OF 17
		FILE NO.	CEA 1085

PUBLIC LIGHTING COMMISSION	CITY OF DETROIT
FILE NO.	48-0323
SHEET NO.	13 OF 26
DATE	11 - 1983



CONCRETE ENCASED CONDUIT SECTIONS



BACK FILL WITH GRADE "A" MATERIAL ACCORDING TO CITY OF DETROIT SPECIFICATION

NOTE: PREFERRED TRENCH WIDTH "W" NOT WIDER THAN CONDUIT ENCASEMENT WIDTH "D"

DATE	DESCRIPTION	CHKD BY

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
 MISC. ENCASED CONDUIT SECTIONS
 DETAILS M2000(171)

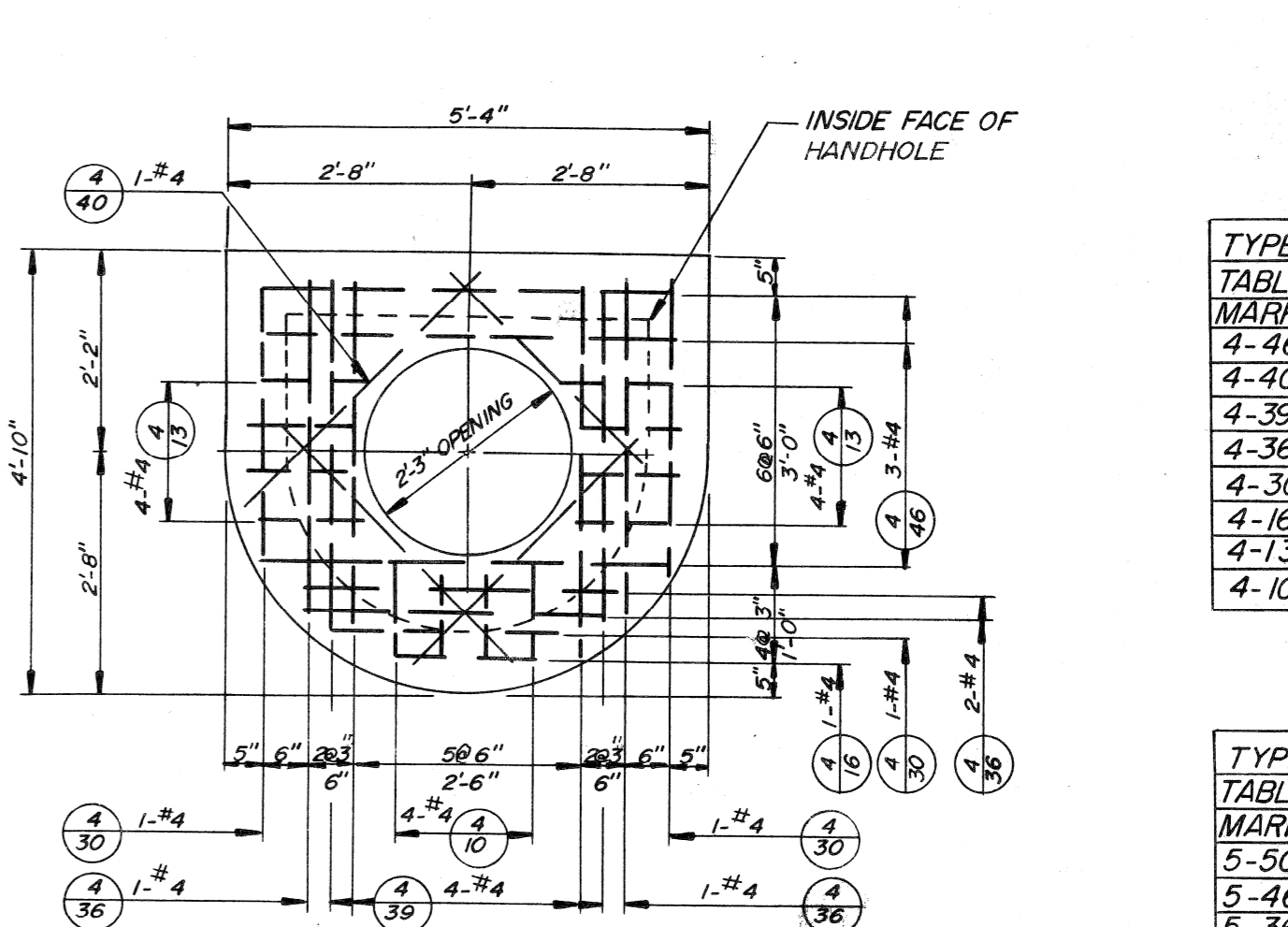
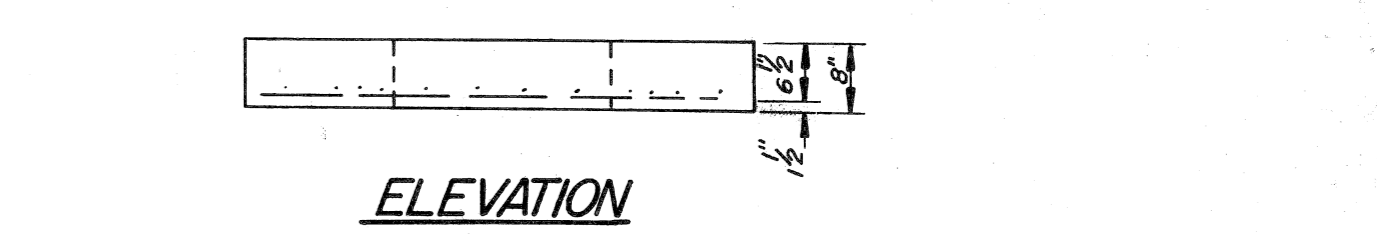
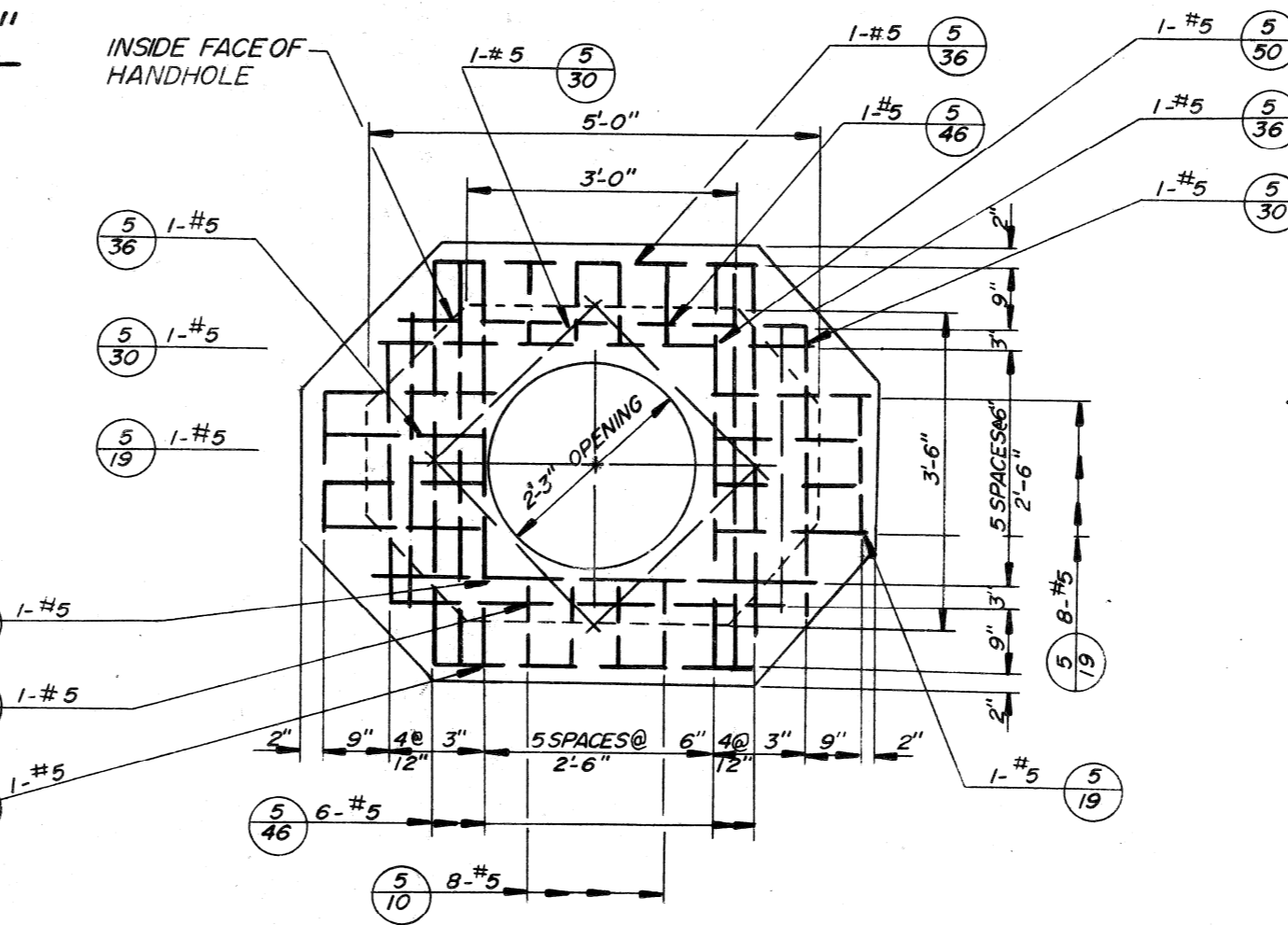
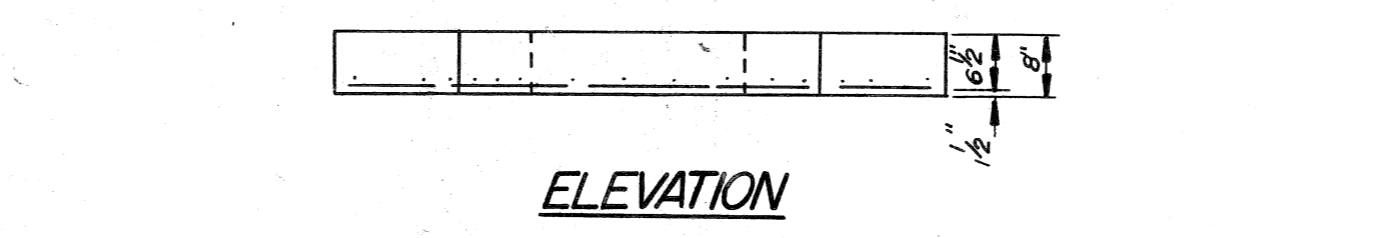
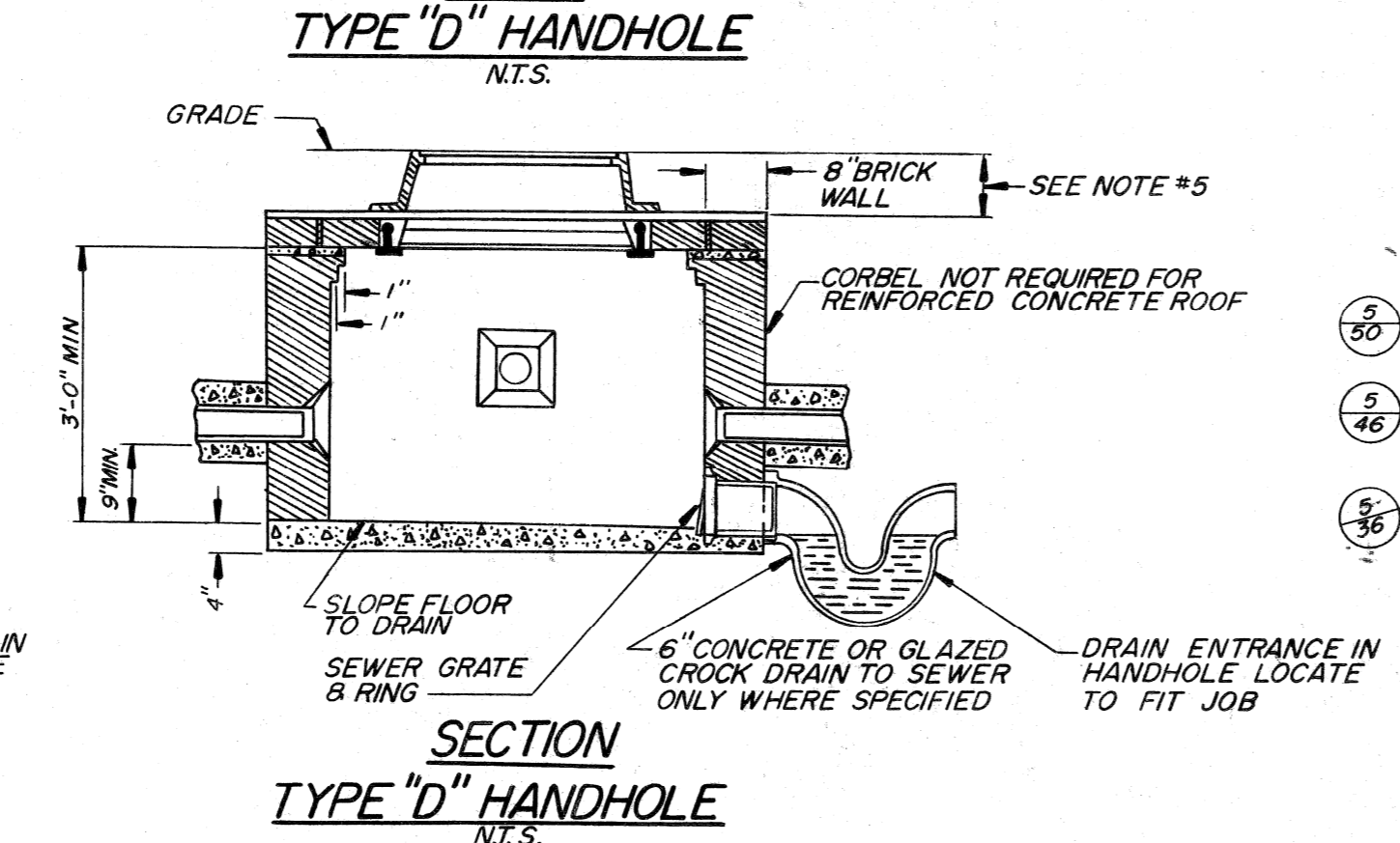
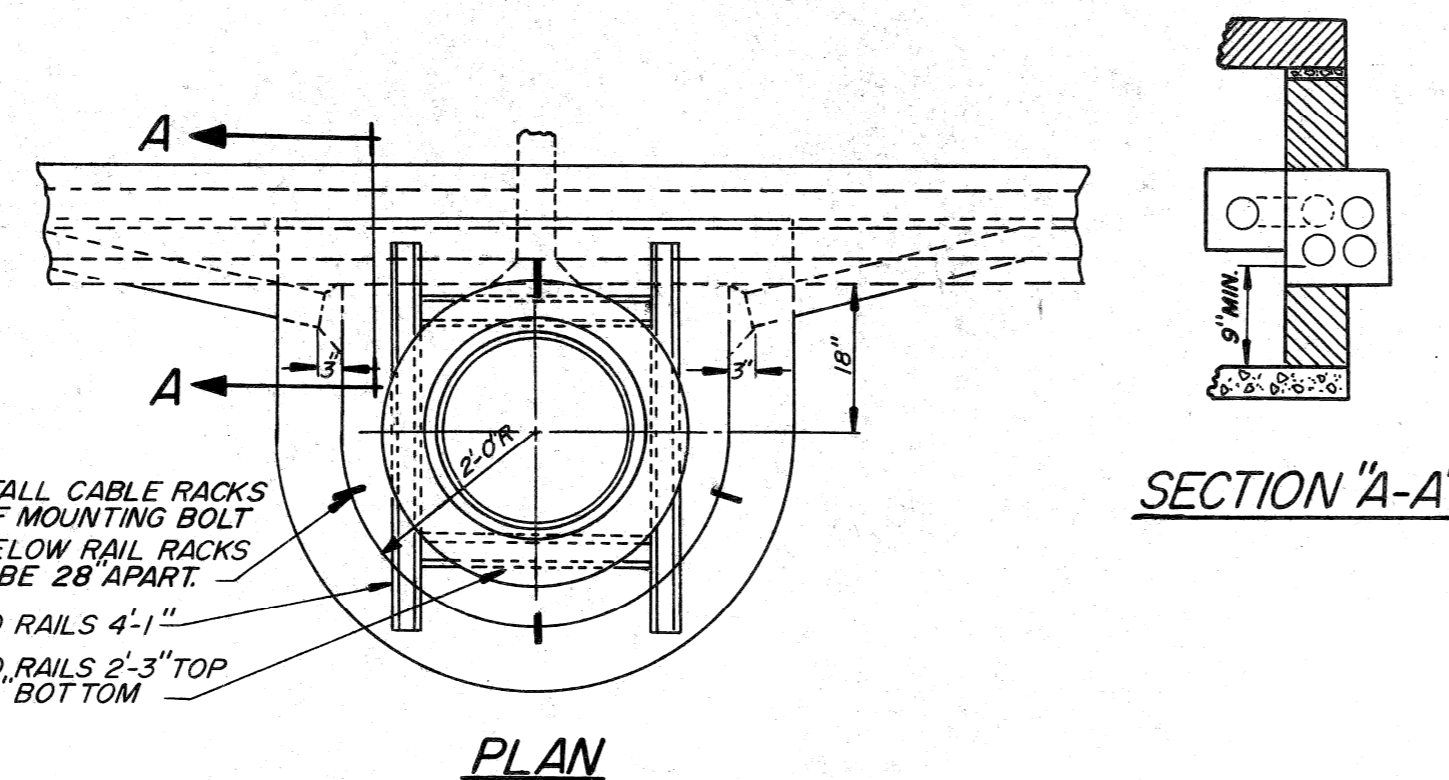
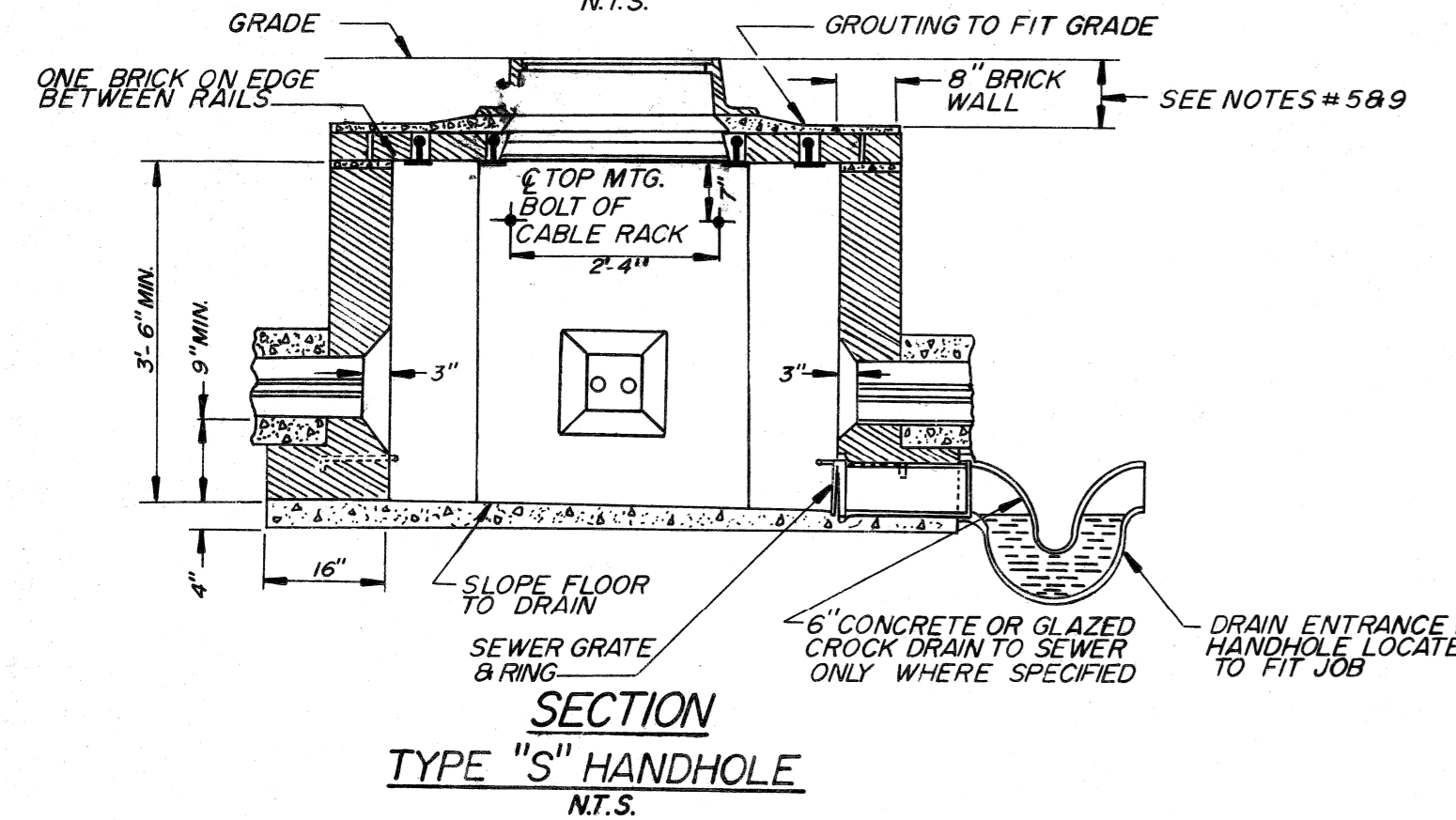
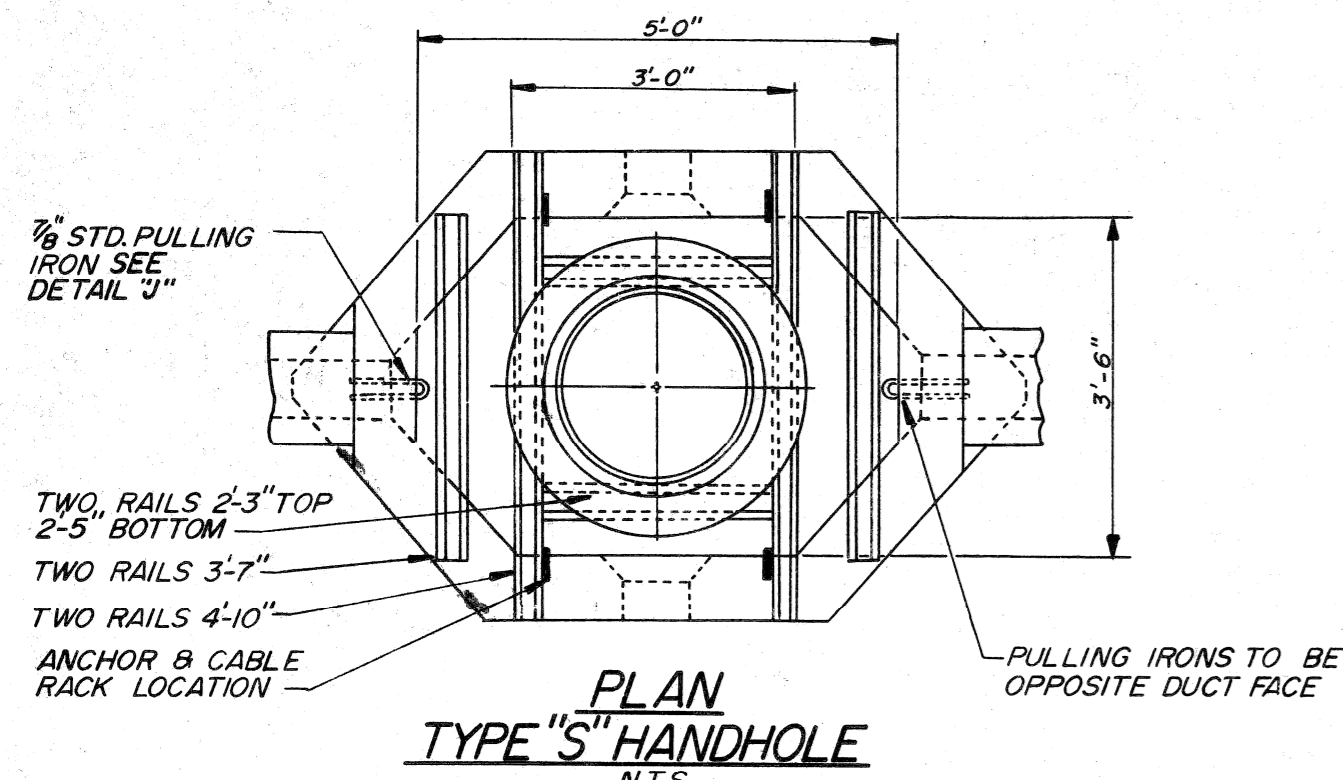
SHEET	OF	SHEETS
JOB NO.		
ASSIGNMENT NO.		
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CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT

DRAWN	CEA	PLAN PREPARED BY	CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED			
APPROVED			
DATE	11-1983	DRWG. NO.	6 OF 17
		FILE NO.	CEA 1085

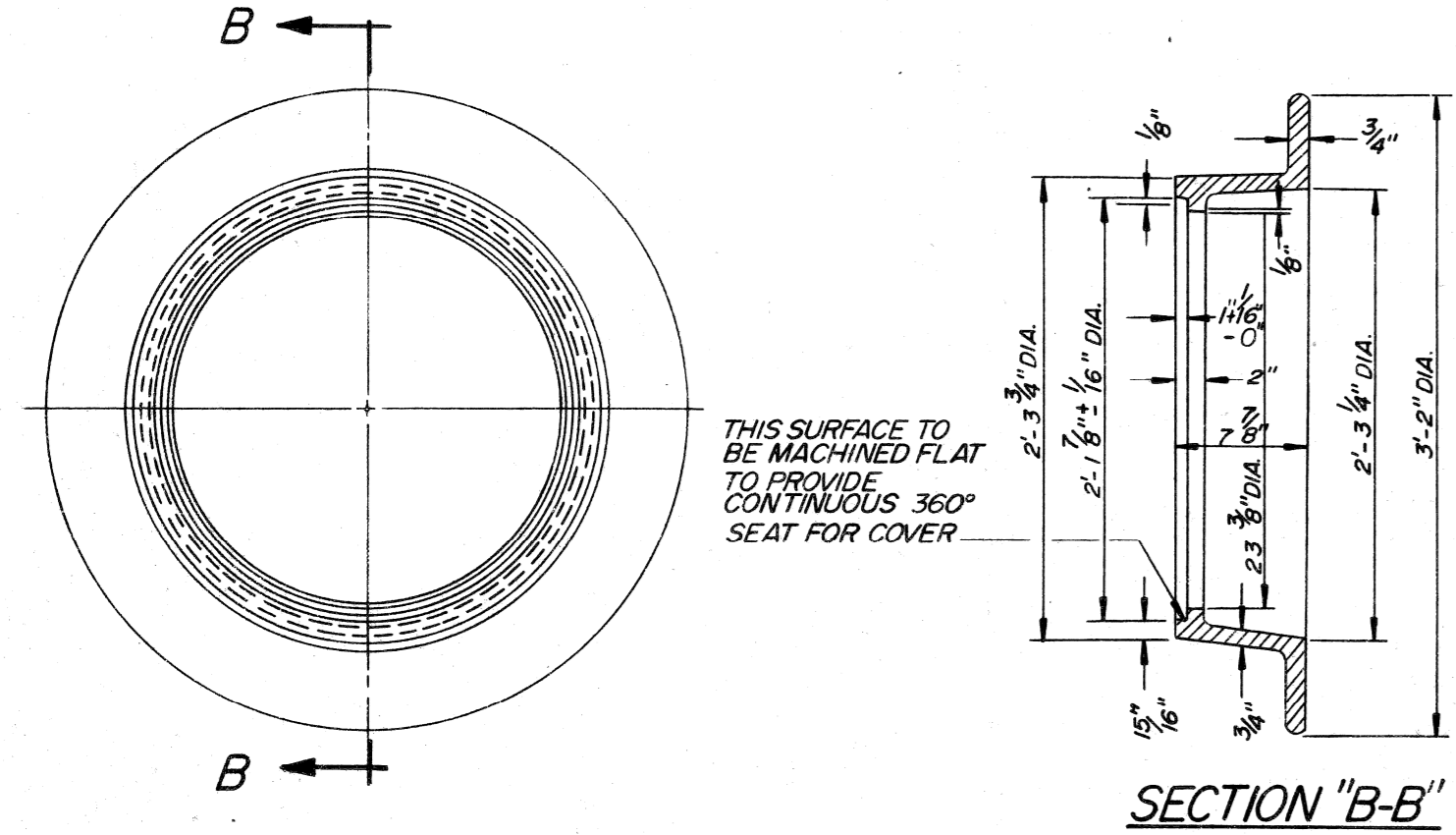
DRAWN BY		PUBLIC LIGHTING COMMISSION CITY OF DETROIT
CHECKED BY		
APPROVED BY		

FILE NO.	48-0323
SHEET NO.	14 OF 25
DATE	11-1983

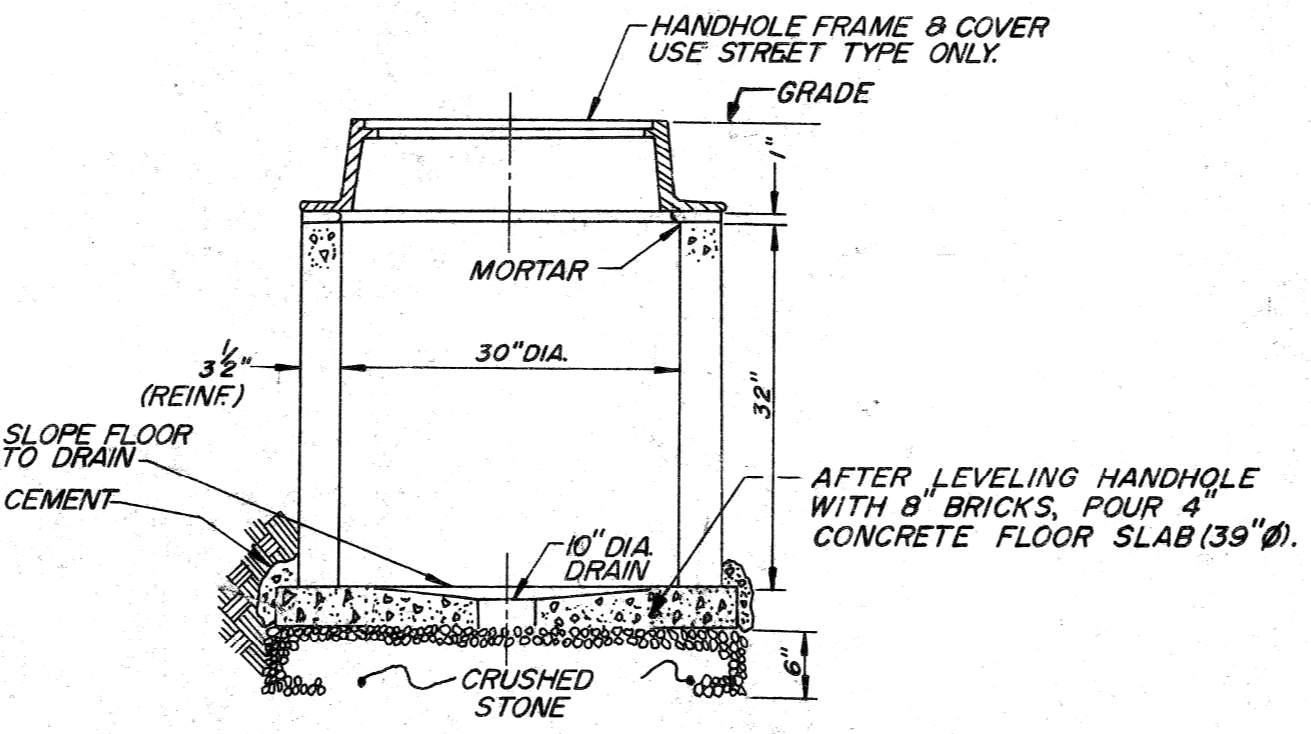
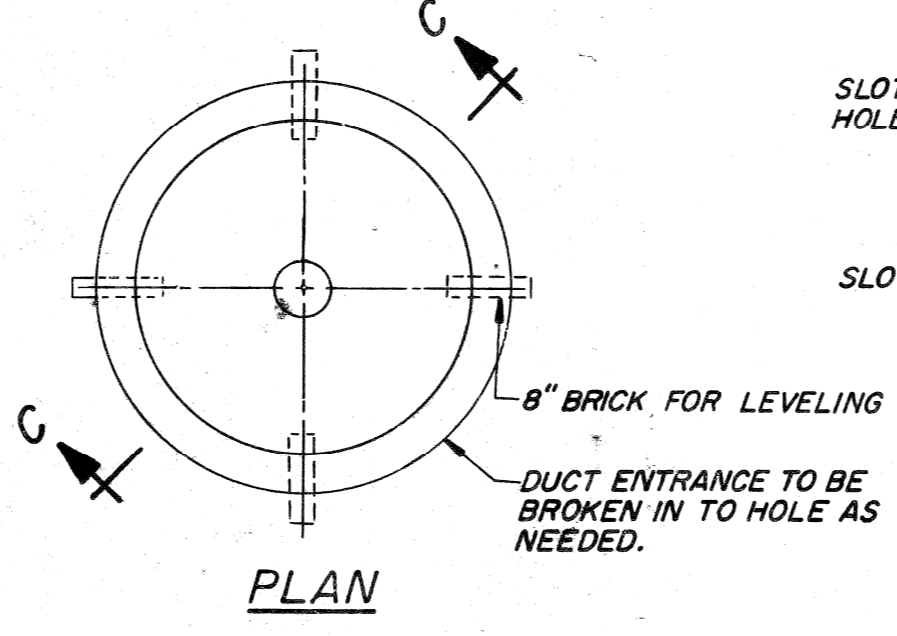


4-46	3	4'-6"
4-40	4	4'-0"
4-39	4	3'-9"
4-36	4	3'-6"
4-30	3	3'-0"
4-16	1	1'-8"
4-13	8	1'-5"
4-10	4	1'-2"

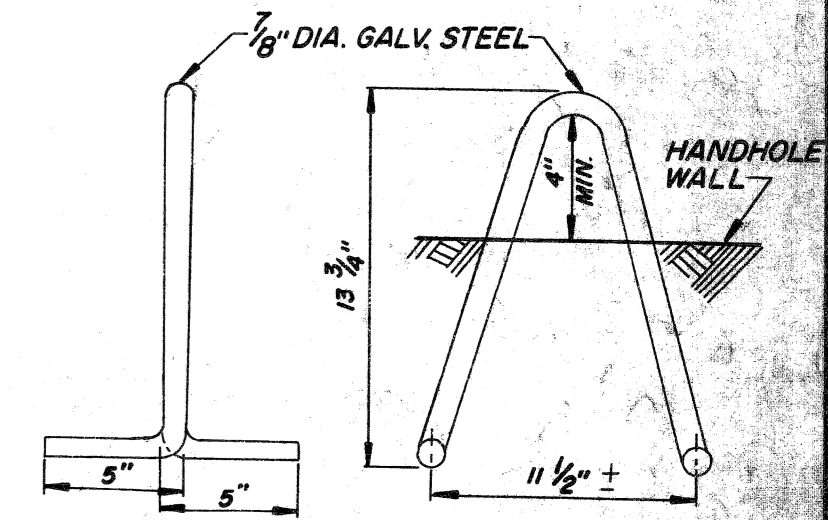
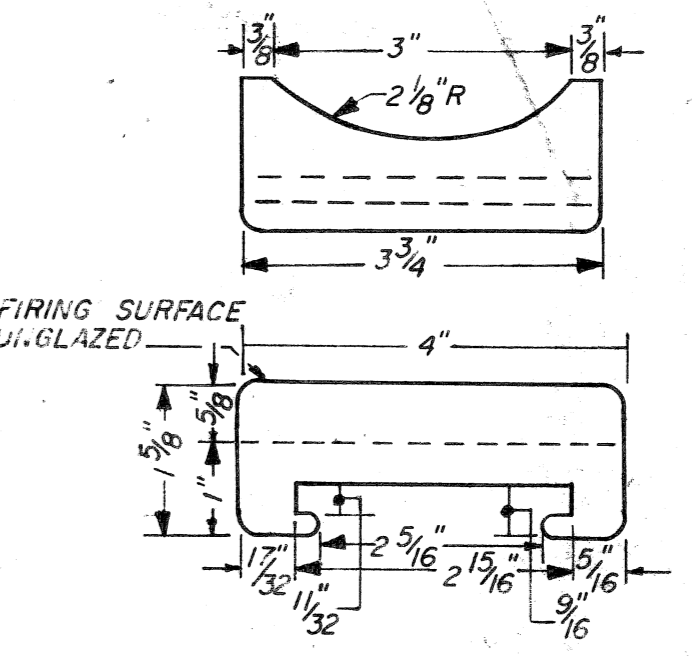
5-50	2	5'-0"
5-46	8	4'-6"
5-36	4	3'-6"
5-30	6	3'-0"
5-19	10	2'-1"
5-10	8	1'-2"



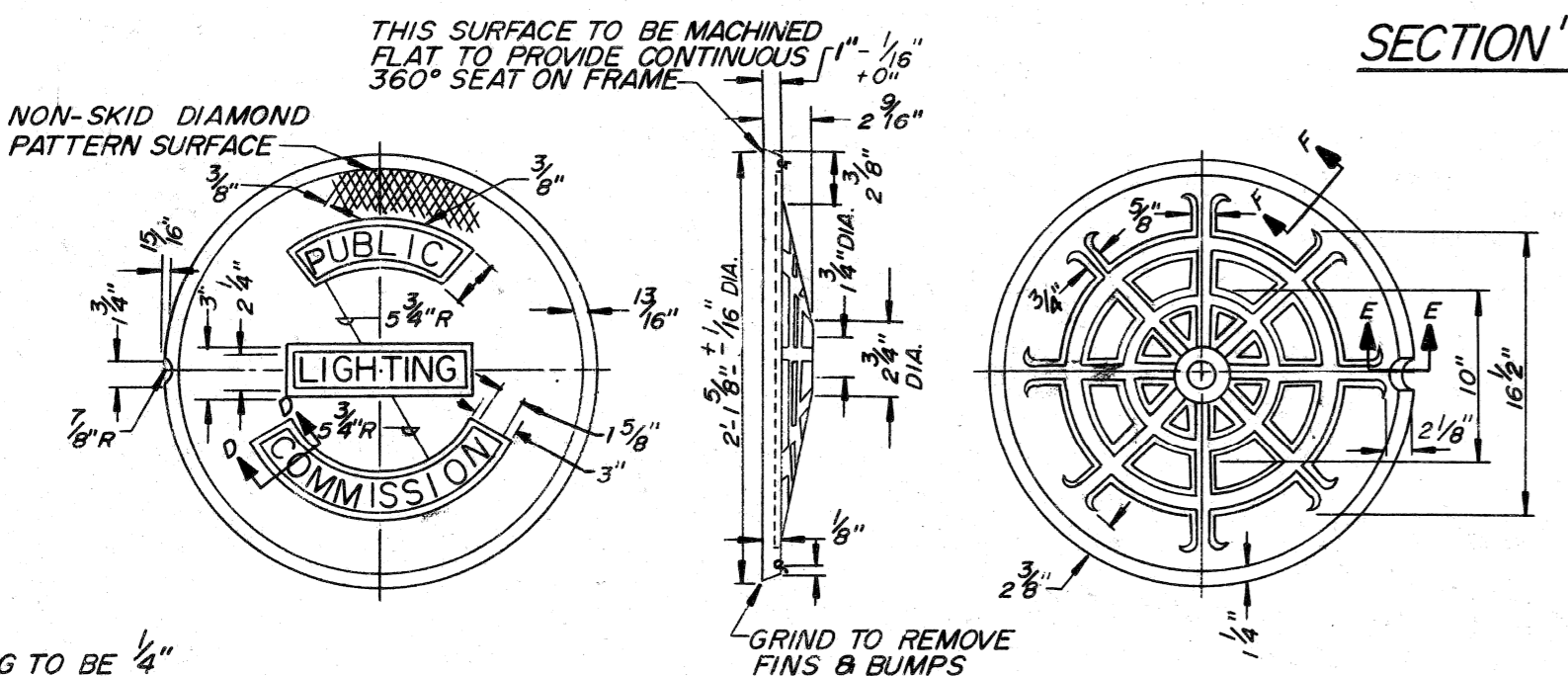
NOTE:
1. FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.
2. ALL FILLETS ARE 1/2" RADIUS, & ALL ROUNDS ARE 1/4" RADIUS



NOTE:
CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.
CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 53.
ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.
USE 1/2" GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.

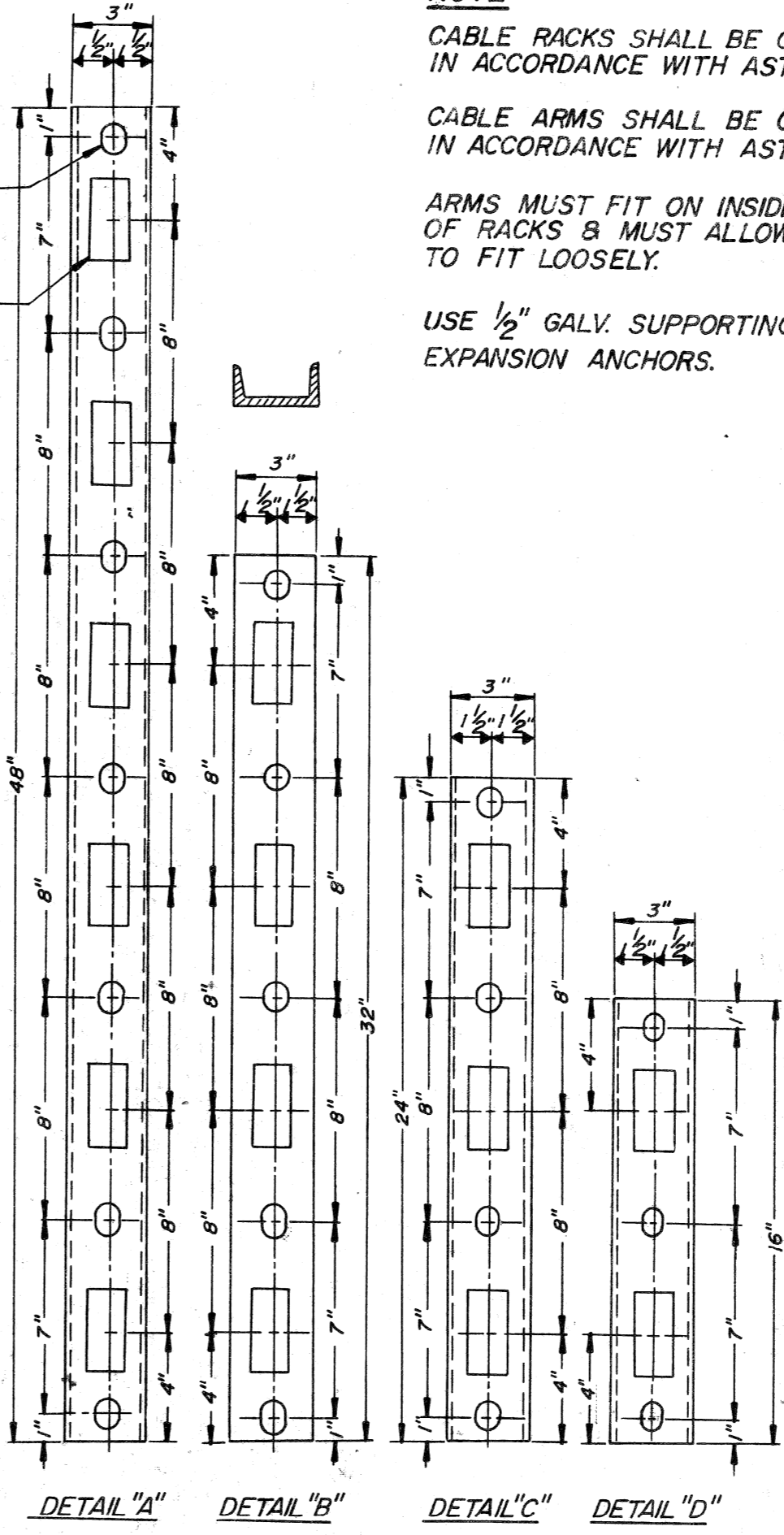


PLC. PATTERN NO. 1A
A.S.T.M. CLASS 20 OR 30 GRAY IRON
APPROX. WT. 251 LBS.
HANDHOLE FRAME

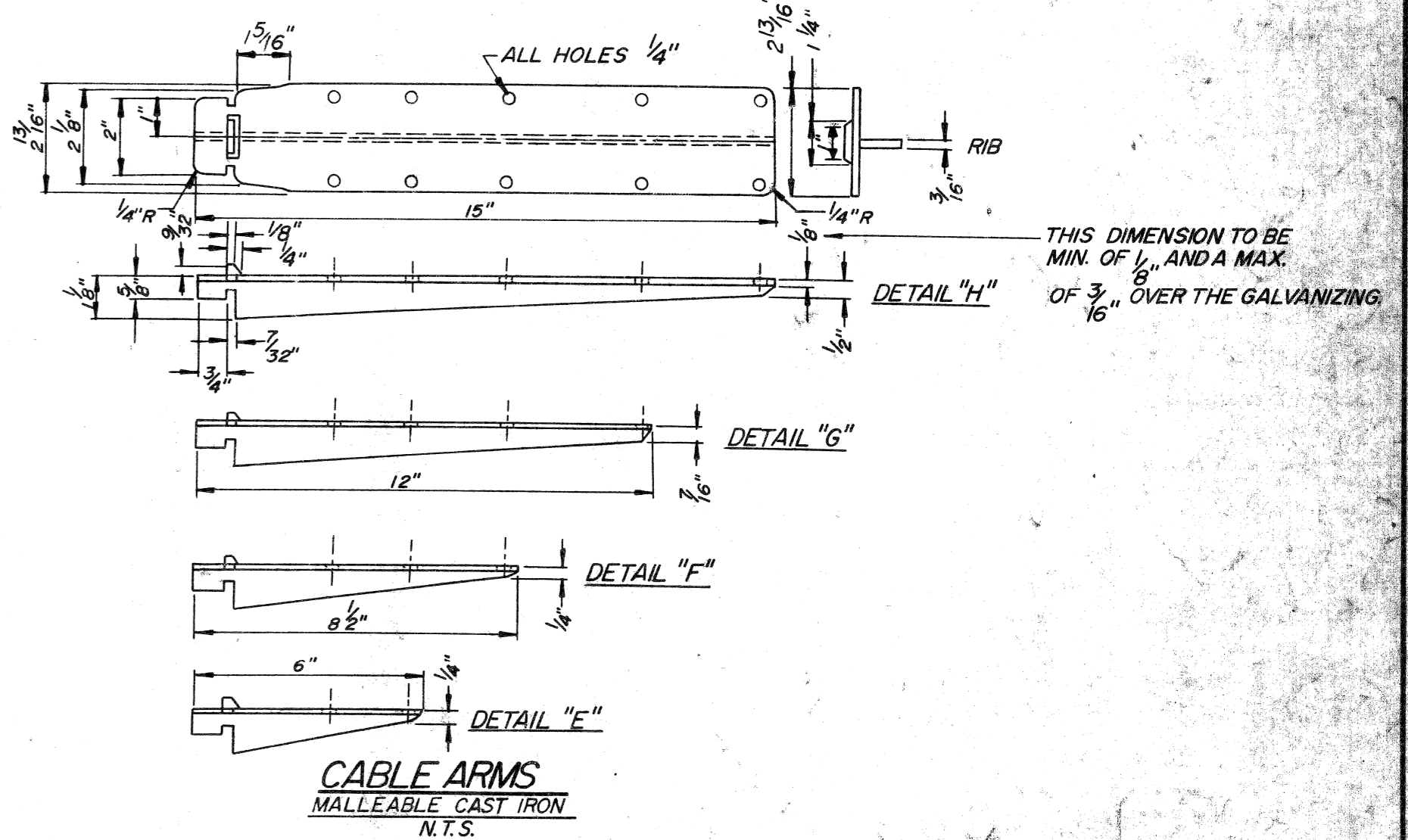


PLC. PATTERN NO. 2A
A.S.T.M. CLASS 30 GRAY IRON
APPROX. WT. 145 LBS.
STREET TYPE COVER
TO BE USED IN STREETS & DRIVES

- NOTES:
- DUCT ENTRANCE TO BE BUILT AS REQUIRED.
 - ALL RAILS TO BE 60#/YD OR HEAVIER.
 - CABLE PULLING IRONS TO BE GALVANIZED.
 - CABLE RACKS AND ARMS TO BE GALVANIZED.
 - IN PAVEMENT PROVIDE AT LEAST 3" BETWEEN ROOF AND BASE OF PAVEMENT. WHERE EXISTING GRADE IS HIGHER THAN PROP. FUTURE GRADE INSTALL BRICK RING OR GROUT (AS REQ'D) UNDER FRAME TO ALLOW FOR FUTURE FRAME ADJUSTMENT.
 - BAR NUMBERS DENOTE THE SIZE OF BAR REQUIRED IN ACCORDANCE WITH CURRENT USAGE SPECIFIED BY THE CONCRETE REINFORCING STEEL INSTITUTE.
 - EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT HANDHOLES SHALL BE ON VERTICAL PLANES OF THE FOOTING OUTLINE.
 - INSTALL ANCHORS & CABLE-RACKS AS SHOWN.
 - WHERE HANDHOLES ARE LOCATED BACK OF CURBS ROOF MUST BE BUILT 18" BELOW CURB GRADE, TO PROVIDE FOR FUTURE WIDENING.



CABLE ARM INSULATORS
WHITE GLAZED PORCELAIN DRY PROCESS
N.T.S.



CABLE RACKS, CABLE ARMS, AND CABLE ARM INSULATORS
N.T.S.

DATE	DESCRIPTION	CHKD. BY
		14

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
HANDHOLE DETAILS M2000(171)

SHEET _____ OF _____ SHEETS
JOB NO. _____
ASSIGNMENT NO. _____
DATE _____

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN BY CEA
CHECKED BY [Signature]
APPROVED BY [Signature]
DATE 11 - 1983
DRWG NO. 7 OF 17
FILE NO. CEA PL1085

PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

FILE NO. 48-0323
SHEET NO. 15 OF 25
DATE 11-1983

DATE	DESCRIPTION	CHKD BY	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
	OVERHEAD LINE WIRE			1	#2-#6 AWG H.D. UNCOATED SOLID COPPER A.S.T.M. B1													0.047 INCH BLACK NEOPRENE
				2	#4/0-#2/0 AWG M.H.D. UNCOATED 7/STR. COPPER A.S.T.M. B2, B8													0.063 INCH BLACK NEOPRENE
				3	#6 AWG, HD, UNCOATED SOLID COPPER A.S.T.M. B1													0.032 INCH POLYETHYLENE
				4	#2 AWG, HD, UNCOATED SOLID COPPER A.S.T.M. B1													0.047 INCH BLACK POLYETHYLENE
				5	#4/0-#2/0 AWG M.H.D. UNCOATED 7/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 4.13.86 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 P.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														
MULT. ST. LTG.	2000 V.	7														
TRAFFIC SIG. SECONDARY	2000 V.	8														
RECEPTACLE, BRACKET & LAMP POST WIRE	600 V.	9	#8 AWG 1/C UNCOATED SOFT 7/STR. COPPER A.S.T.M. B8				0.062 INCH 75° C. BLACK, OR WHITE AS PERMITTED, NOT IMPRINTED									
2/C AERIAL SERVICE	600 V.	10	2/C #8 AWG UNCOATED SOFT 7/STR. COPPER A.S.T.M. B8				0.062 INCH 60° C. BLACK, FIGURE 8 CONSTRUCTION									
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				0.045 INCH OVERALL OIL VISCOSITY 1,000 SUS AT 100° C	0.090 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000 V. BELTED	12	3/C #2/0 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	0.080 INCH HEAT & LIGHT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000 V. BELTED	13	3/C #2 AWG ROUND SOFT UNCOATED COPPER A.E.C.					0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C				0.080 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.					0.100 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	15	3/C #2/0 AWG UNCOATED SOFT COPPER A.E.C.					0.100 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/C #8 AWG UNCOATED SOFT COPPER ASTM B3				0.047 INCH 60° C. BLACK	0.085 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C				0.063 INCH COMMERCIAL PAPER	0.047 INCH ASPHALTUM SATURATED JUTE OVER LEAD	TWO LAYERS 0.020 INCH GALV. STEEL TAPE		
SERIES ST. LTG. CABLE DIRECT BURIAL	7500 V.	18	1/C #8 AWG UNCOATED SOFT COPPER ASTM B3				0.047 INCH 60° C. BLACK	0.188 INCH HIGH MOLE-CULAR WEIGHT COPPER CONDUCTOR				0.063 INCH COMMERCIAL PAPER	0.047 INCH ASPHALTUM SATURATED JUTE OVER LEAD			
	24000 V. SHIELDED	19	3/C 500MCM UNCOATED SOFT COPPER A.E.C.					0.230 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C				0.110 INCH COPPER BEARING LEAD	0.110 INCH HEAT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
TRANSMISSION CABLES	24000 V. SHIELDED	20	3/C 350 MCM UNCOATED SOFT COPPER A.E.C.					0.230 INCH PER CONDUCTOR OIL VISCOSITY 1,000 SUS AT 100° C				0.105 INCH COPPER BEARING LEAD	0.110 INCH HEAT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	24000 V. SHIELDED	21	3/C #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	0.090 INCH HEAT STABILIZED BLACK HIGH MOLE-CULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
MULTI-CONDUCTOR SIGNAL CABLE, IN DUCT		22	#14 AWG, SOFT UNCOATED COPPER, NO. OF CONDUCTORS AS REQD. ASTM B3													
		23	#14 AWG, SOFT UNCOATED COPPER, NO. OF CONDUCTORS AS REQD. ASTM B3													
8/C SERIES ST. LTG. IN DUCT	7500 V.	24	8/C #8 AWG SOLID SOFT, TINNED COPPER ASTM B 33													
OVERHEAD FLEXIBLE TRAINER WIRE (UNSHIELDED)		25	1/C #2 AWG & LARGER SOFT, H STRANDING TINNED COPPER ASTM B173													

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
CABLE & WIRE SPECIFICATIONS, DETAILS M2000(171)

SHEET _____ OF _____ SHEETS
JOB NO. _____
ASSIGNMENT NO. _____
DATE _____

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN BY: C.E.A.
CHECKED BY: [Signature]
APPROVED BY: [Signature]
DATE: 11-1983

PLAN PREPARED BY:
CONSULTING ENGINEERING ASSOCIATES, INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
DRAWG. NO. 8 OF 17 FILE NO. CEA 1085

PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

FILE NO. 48-0323
SHEET NO. 16 OF 25
DATE 11-1983

ACCORDING TO SPECIFICATIONS

SPECIAL CONSTRUCTION
0.063 INCH OF 30% HEAVY RUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR
0.094 INCH OF 30% HEAVY RUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR
HAVE ADDITIONAL 0.094 INCH VARISHED CAMBRIC TAPE OVER EACH CONDUCTOR
WHITE PAPER FOR IDENTIFICATION ALL CONDUCTORS CABLES WITH PARAFFINED JUTE (OUTSIDE FILLER).
0.094 INCH BELT OF OIL SATURATED PAPER OVERALL 0.115 INCH COPPER BEARING LEAD BENEATH OVERALL.

* CARBON BLACK PAPER TAPE OVER CONDUCTOR
* BINDER TAPE OVER SHIELDED INSULATED CONDUCTORS AND FILLERS TO BE COPPER
* SEMI-CONDUCTING COTTON TAPE OVER & RESISTING BUTYL

T.

DISTRIBUTION AND TRANSMISSION CABLES

ALL TRANSMISSION CABLES, (24KV, 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 KV, 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, 7500V.

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

		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 GRAVIMETRIC 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-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.

JACKETS

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

		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-54-401 SEPT. 1959

**KELLY RD. WIDENING
 GRAYTON TO NORTH OF SEYMOUR
 CABLE & WIRE SPECIFICATIONS
 DETAILS M2000 (171)**

SHEET _____ OF _____ SHEETS
 JOB NO. _____
 ASSIGNMENT NO. _____
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**CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT**

DRAWN BY CEA
 CHECKED BY [Signature]
 APPROVED BY [Signature]
 DATE 11-1983
 PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
 16580 WYOMING DETROIT, MICH 48221
 DRAWING NO. 9 OF 17
 FILE NO. CEA 1085

**PUBLIC LIGHTING COMMISSION
 CITY OF DETROIT**

FILE NO. 48-0323
 SHEET NO. 17 OF 25
 DATE 11-1983

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, B33 OR B189.
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 IMMERSERD, 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 26,500 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 IMMERSERD, 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 WIPE 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 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 27-30.

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 B' 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.

Table with columns: DATE, DESCRIPTION, CHKD. BY

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
CABLE & WIRE SPECIFICATIONS
DETAILS M2000 (171)

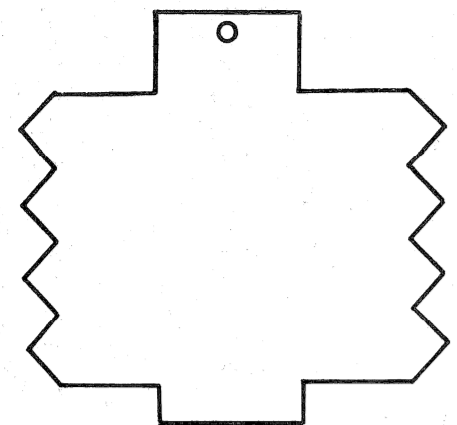
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CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

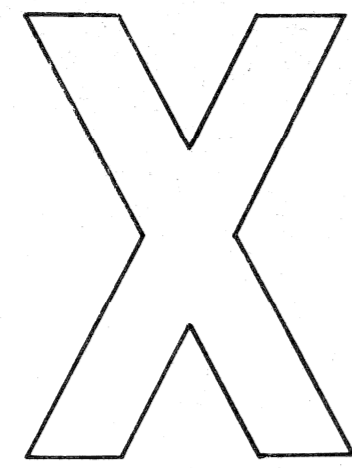
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PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

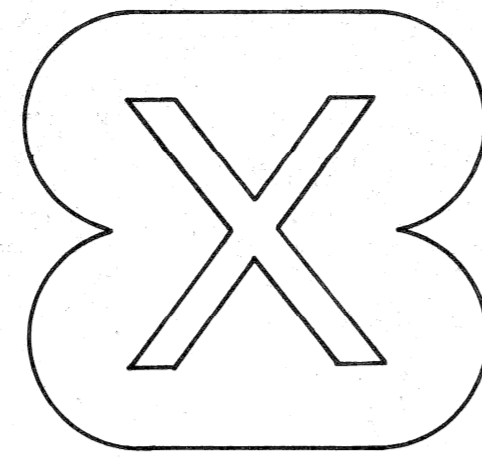
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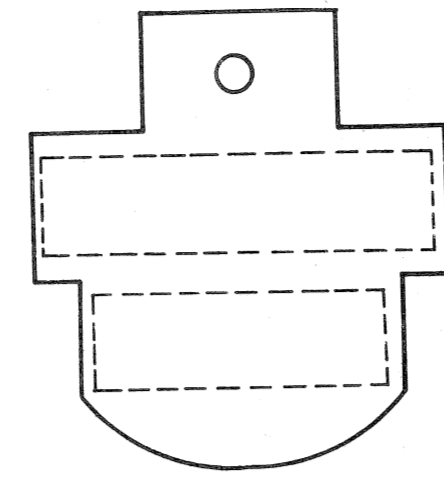
24,000 VOLT TRUNK LINE



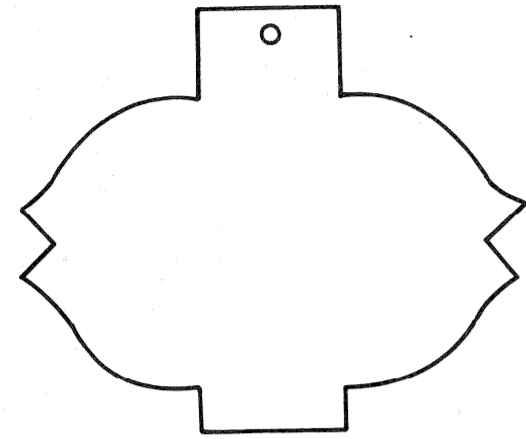
O. H. LINE PHASE TAG



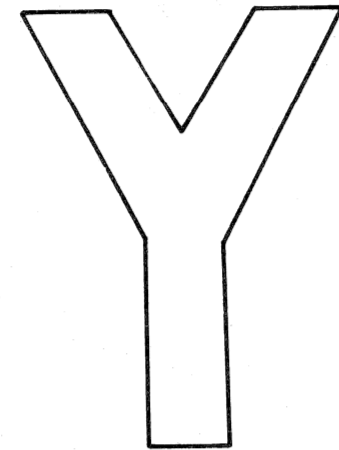
O. H. LINE OR POTHEAD PHASE TAG



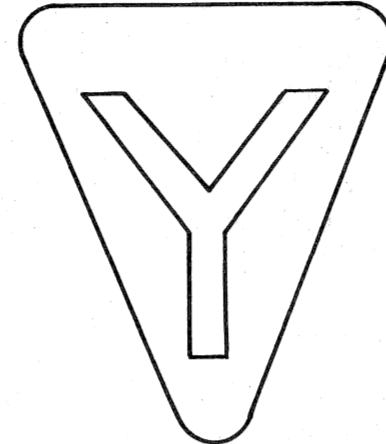
MULTIPLE STREET LIGHTING



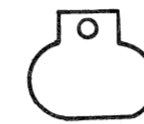
24,000 VOLT FEEDER



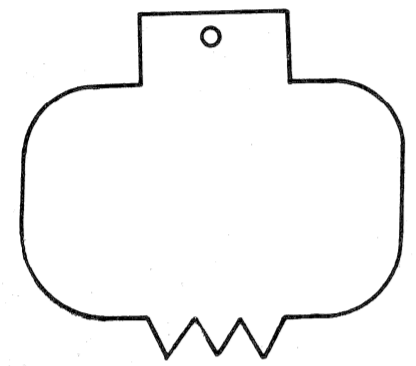
O. H. LINE PHASE TAG



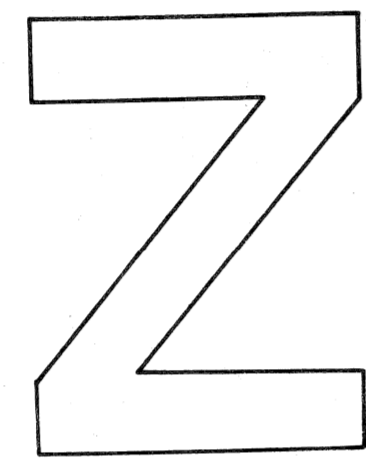
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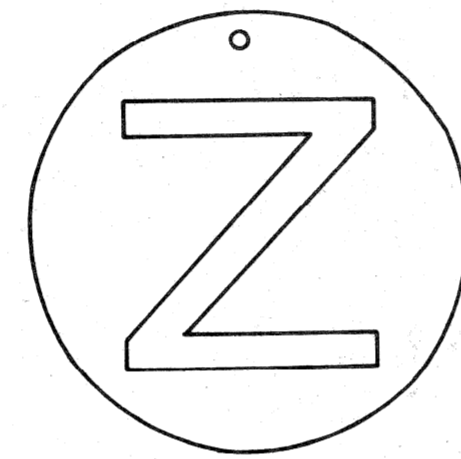
MULTIPLE INC. LTG.



7200 VOLT FEEDER



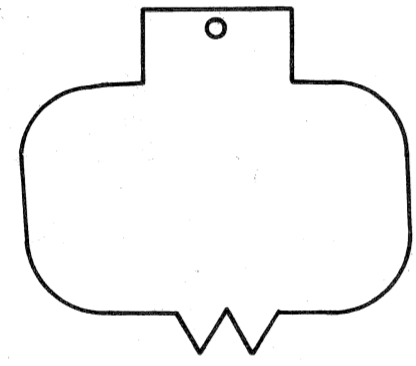
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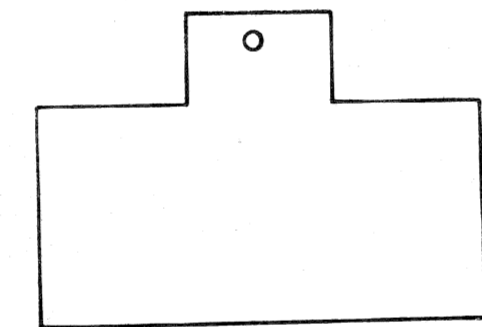
O. H. LINE OR POTHEAD PHASE TAG



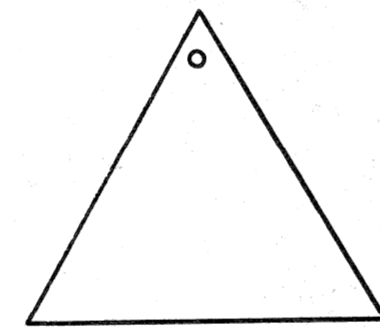
TRAFFIC SIGNALS



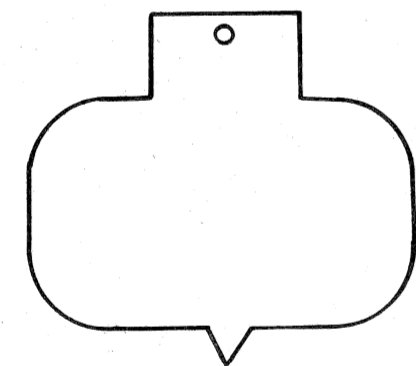
4800 VOLT & 5500 VOLT FEEDER



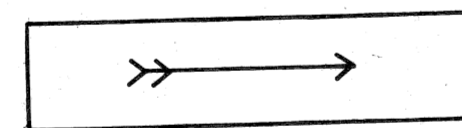
SUPERVISORY CONTROL



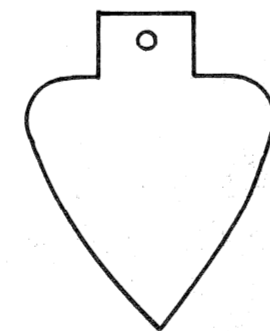
DEAD CABLE



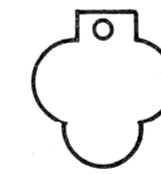
2400 VOLT FEEDER



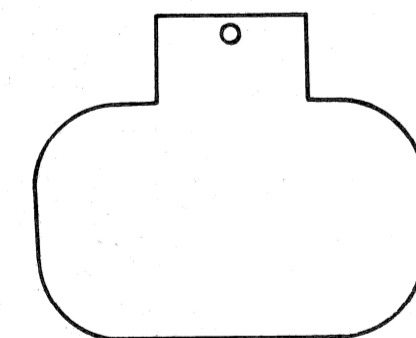
CIRCUIT DIRECTION



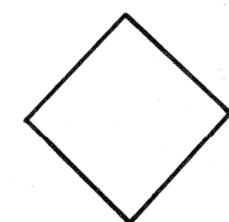
8 COND. CABLE



SECONDARY POWER SAFETY ISLANDS & TRAFFIC SIGNALS



MISCELLANEOUS

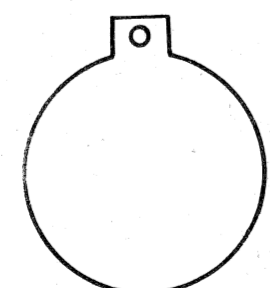


ST. LTG. COND. NO. (FROM 8/C CABLE)

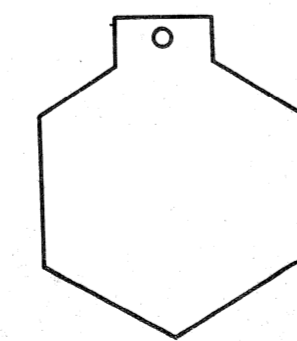


TRAFFIC SIGNAL CHRONOLIZER

IDENTIFICATION TAGS
MATERIAL LEAD
SCALE 3/4"=1"



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

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR

CABLE TAGS DETAILS M 2000(171)

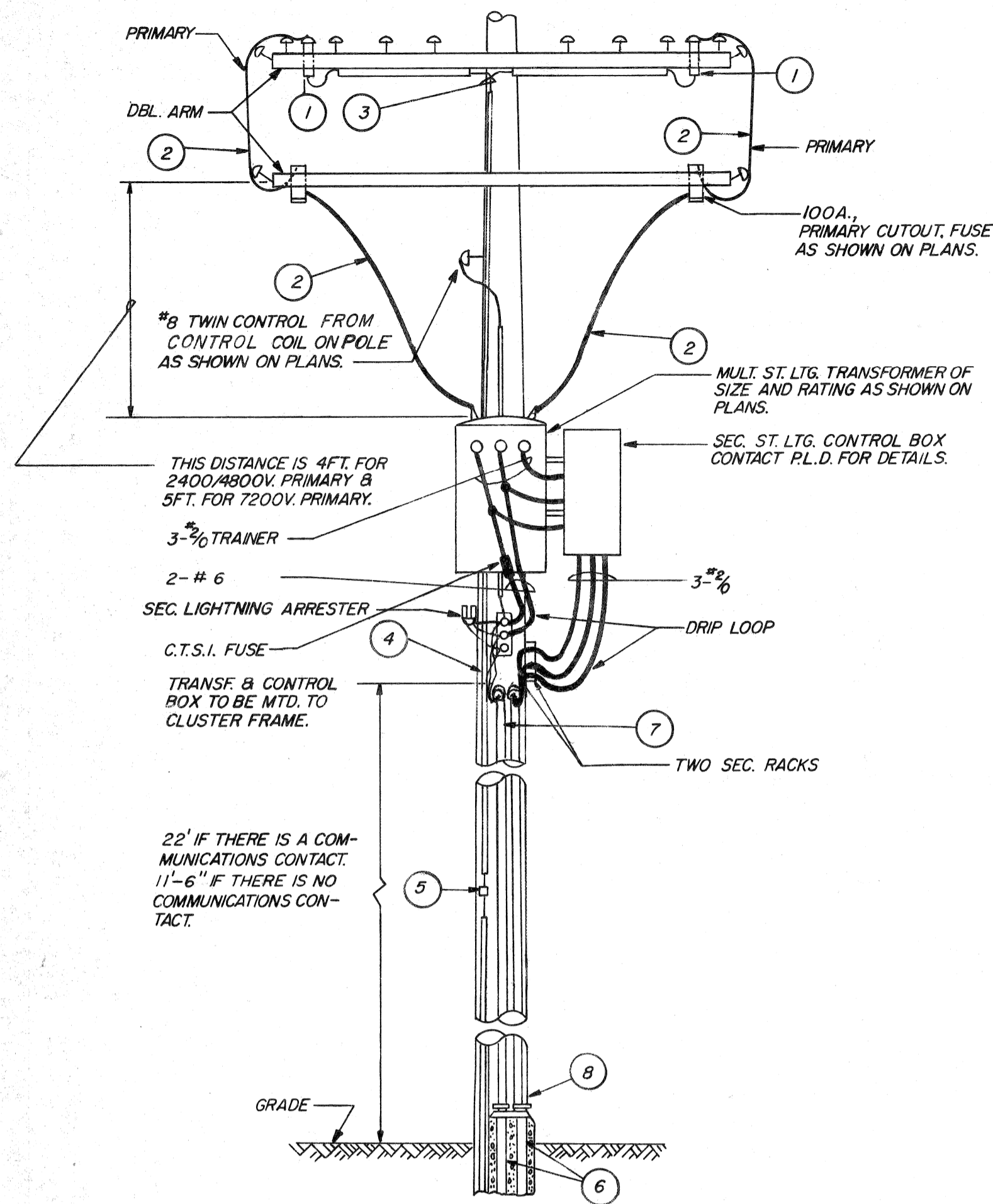
SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

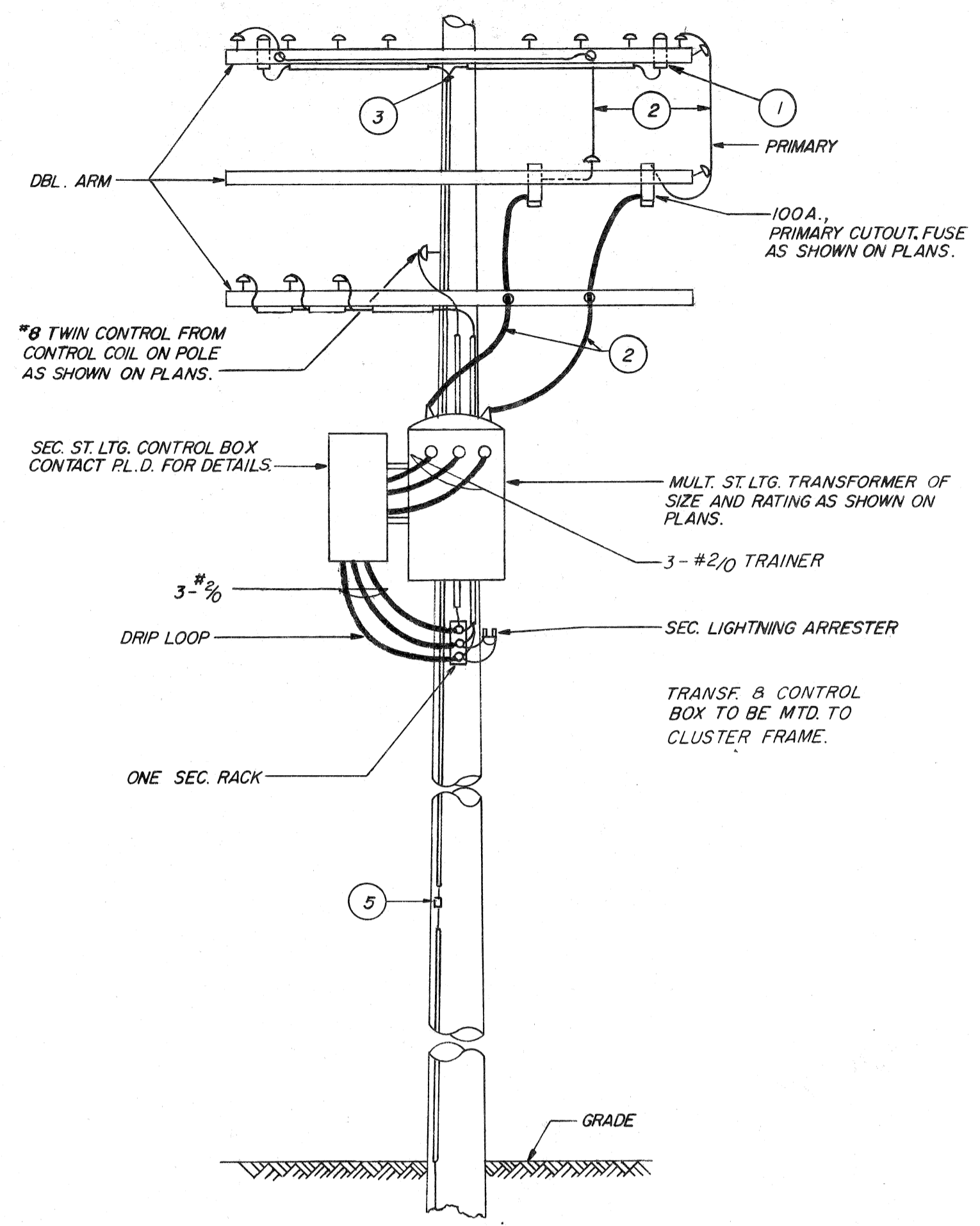
DRAWN C.E.A.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH., 48221
CHECKED <i>[Signature]</i>	
APPROVED <i>[Signature]</i>	
DATE 11-1983	DRWG. NO. 11 OF 17 FILE NO. CEA 1085

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CHECKED BY	
APPROVED	

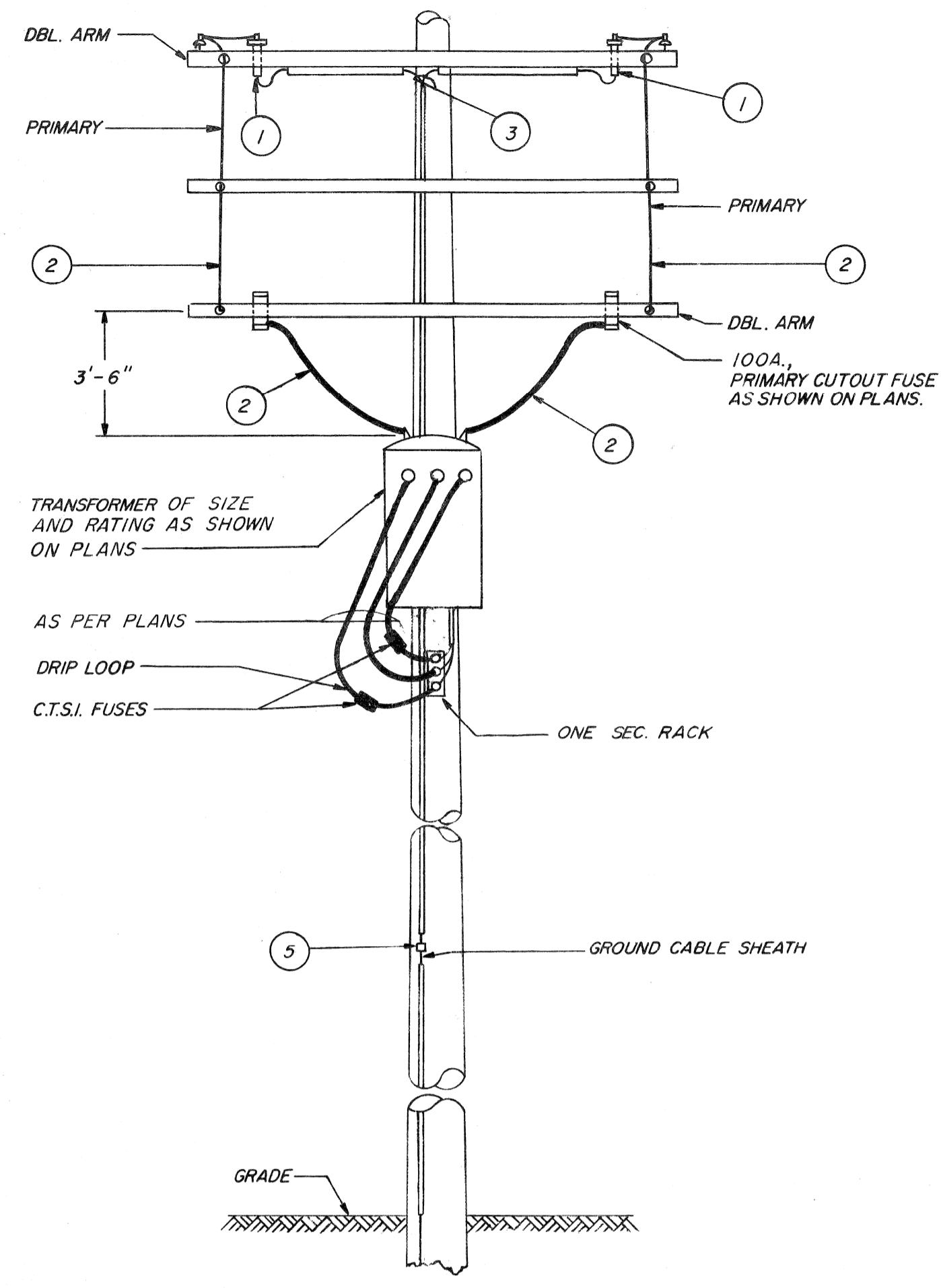
FILE NO. 48-0323
SHEET NO. 19 OF 25
DATE 11-1983



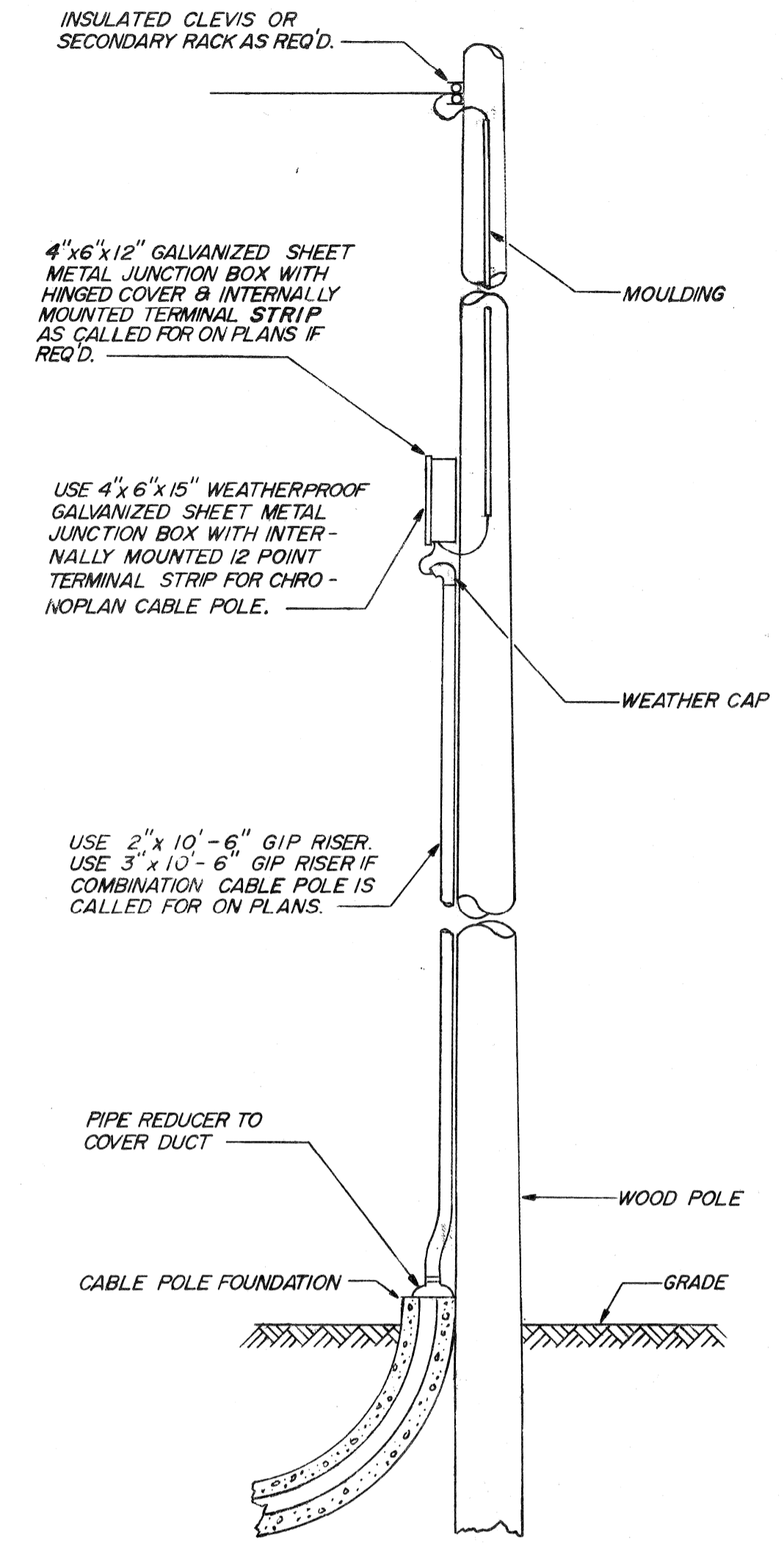
COMB TRANSF. POLE & ST. LTG. & SEC. CABLE POLE
DETAIL "A"
N. T. S.



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



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

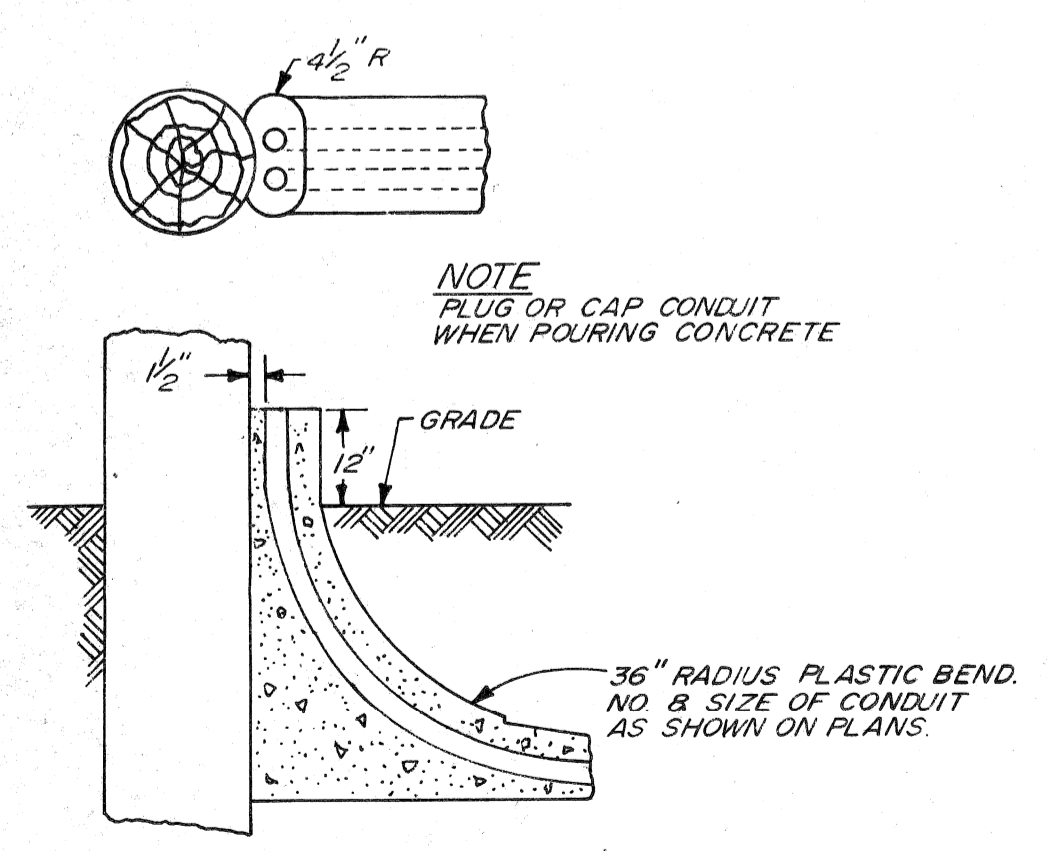


TYPICAL CHRONOPLAN, SECONDARY, MULT. ST. LTG. & TRAFFIC SIGNAL CABLE DETAIL
DETAIL "D"
N. T. S.

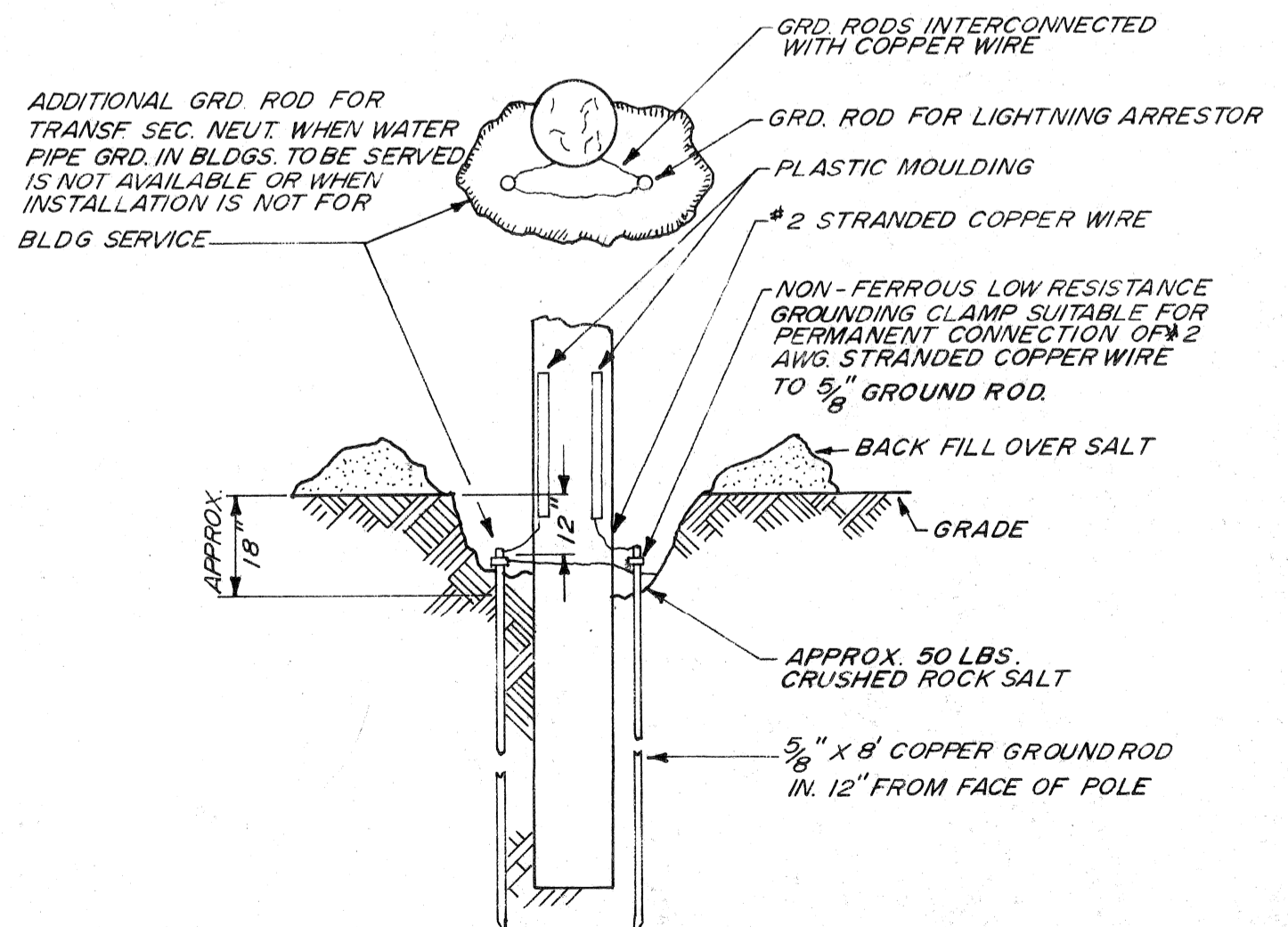
NOTE:
FOR ALL CABLE POLES INSTALL 2-5/8" x 8'-0" GROUND RODS AS SHOWN ON GROUND ROD INSTALLATION AND CONNECT GROUND RODS WITH #2 COPPER WIRE TO IRON PIPE RISER WITH SUITABLE GROUND CLAMP.

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" G.I.P. RISER
8	3" x 4" REDUCER ADAPTER

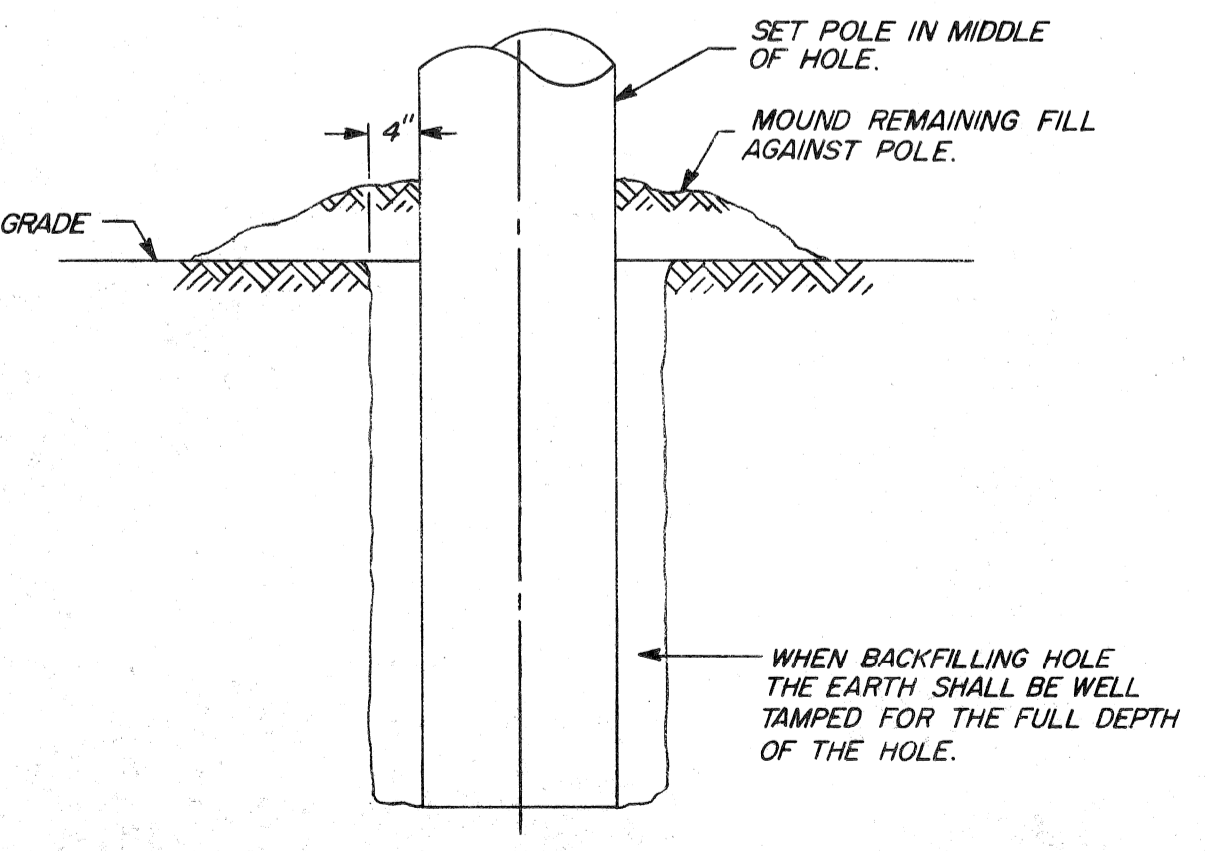
2" SQUARE
PUNCH 1/8" HOLE FOR NAIL
C 15
60
- PLD 45' POLE
- SET IN 1960 (TYP.)
USE 1/4" STEEL STAMP FOR LETTERING
PIN SET MARK 7'-0" ABOVE GRADE
STOCK: 0.032" ALUMINUM
MILL FINISH
TYPICAL MARKING WOOD POLE TAGS



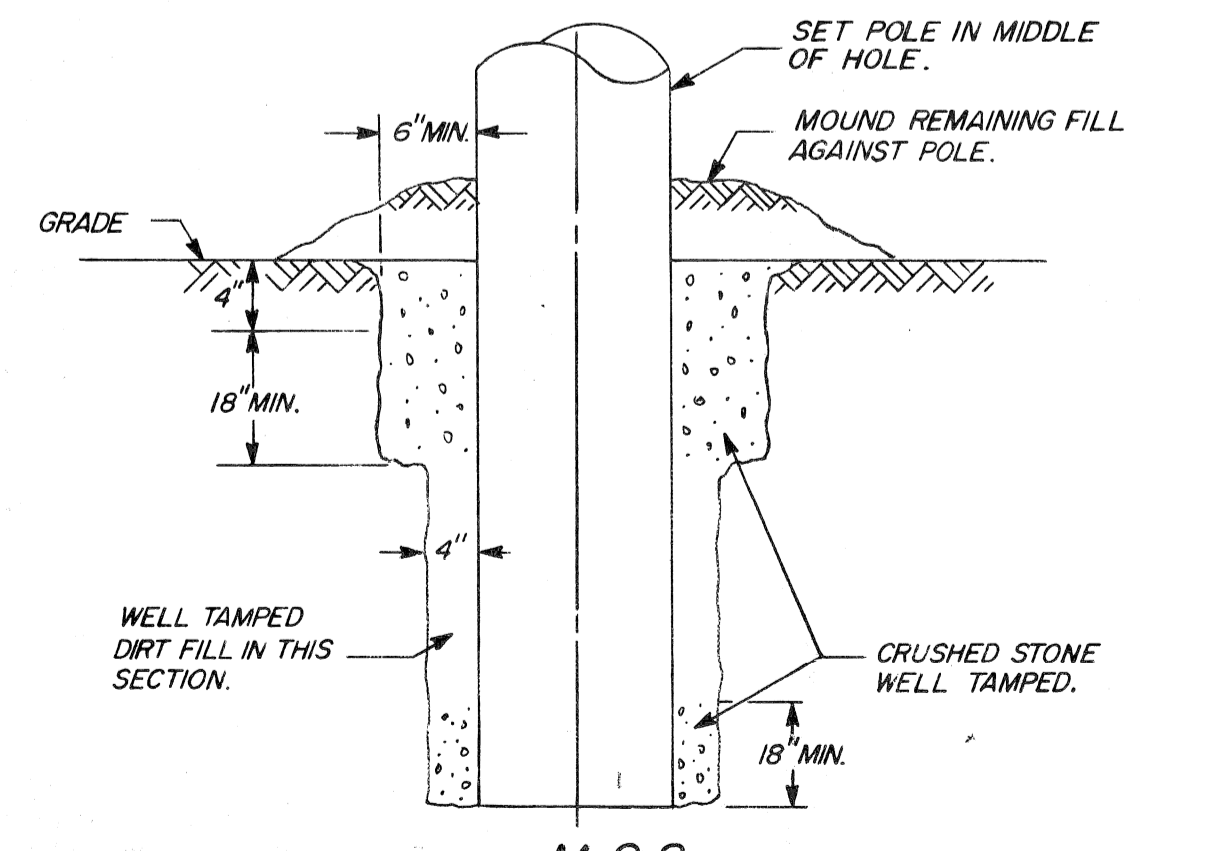
INSTALLATION OF CONDUIT AT CABLE POLE



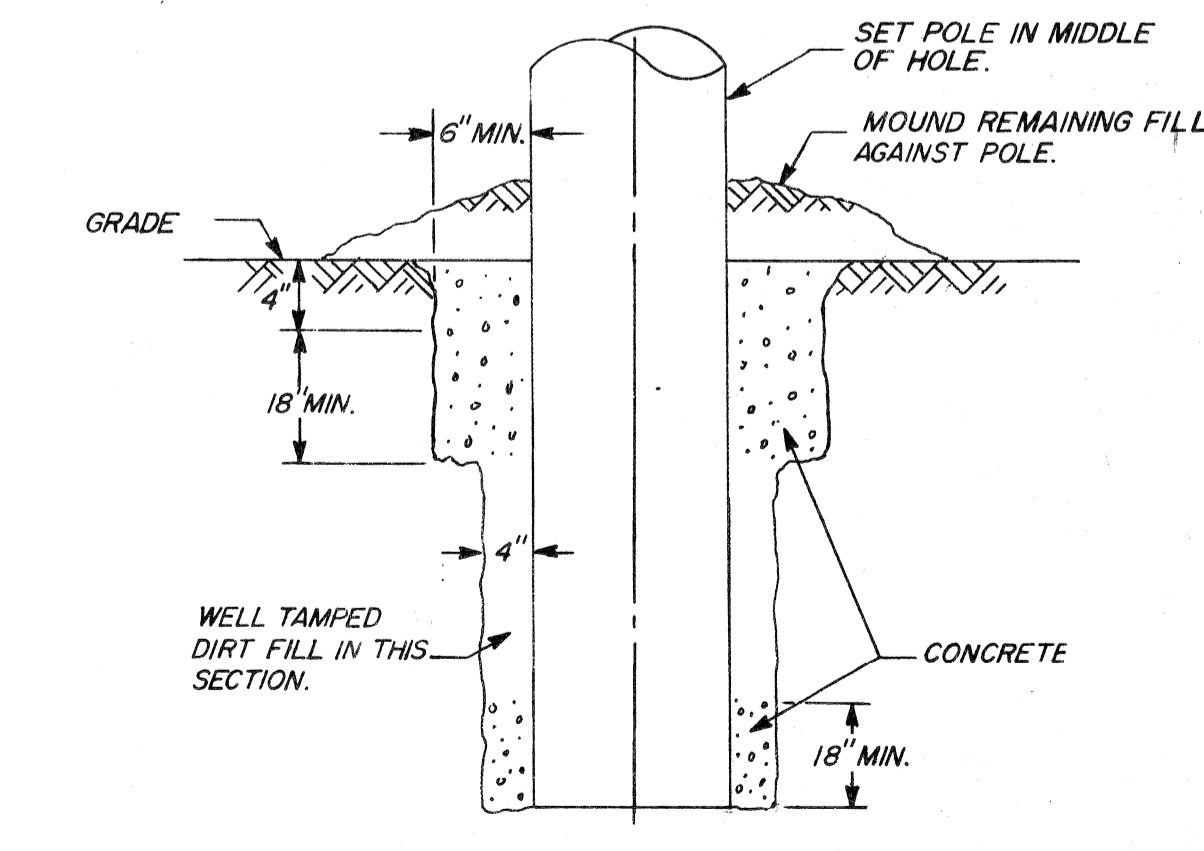
GROUND ROD INSTALLATION



WOOD POLE INSTALLATION
N. T. S.



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



WOOD POLE IN CONCRETE
N. T. S.

DATE	DESCRIPTION	CHKD. BY

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
240/480V. M2000(171)
TRANSFORMER POLES & MISC. CABLE POLE DETAILS

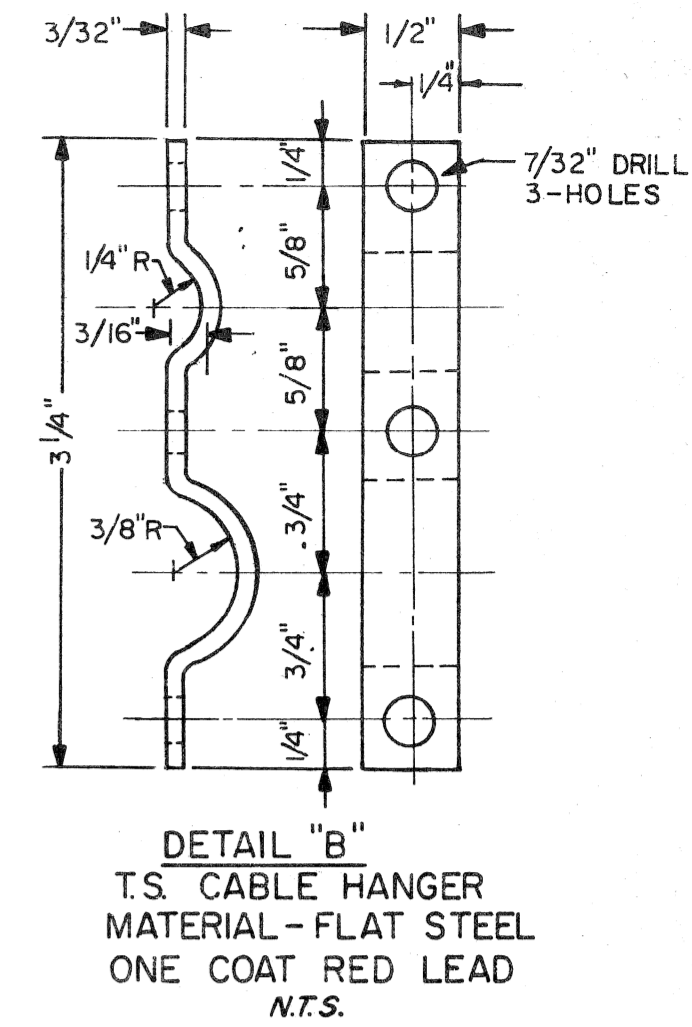
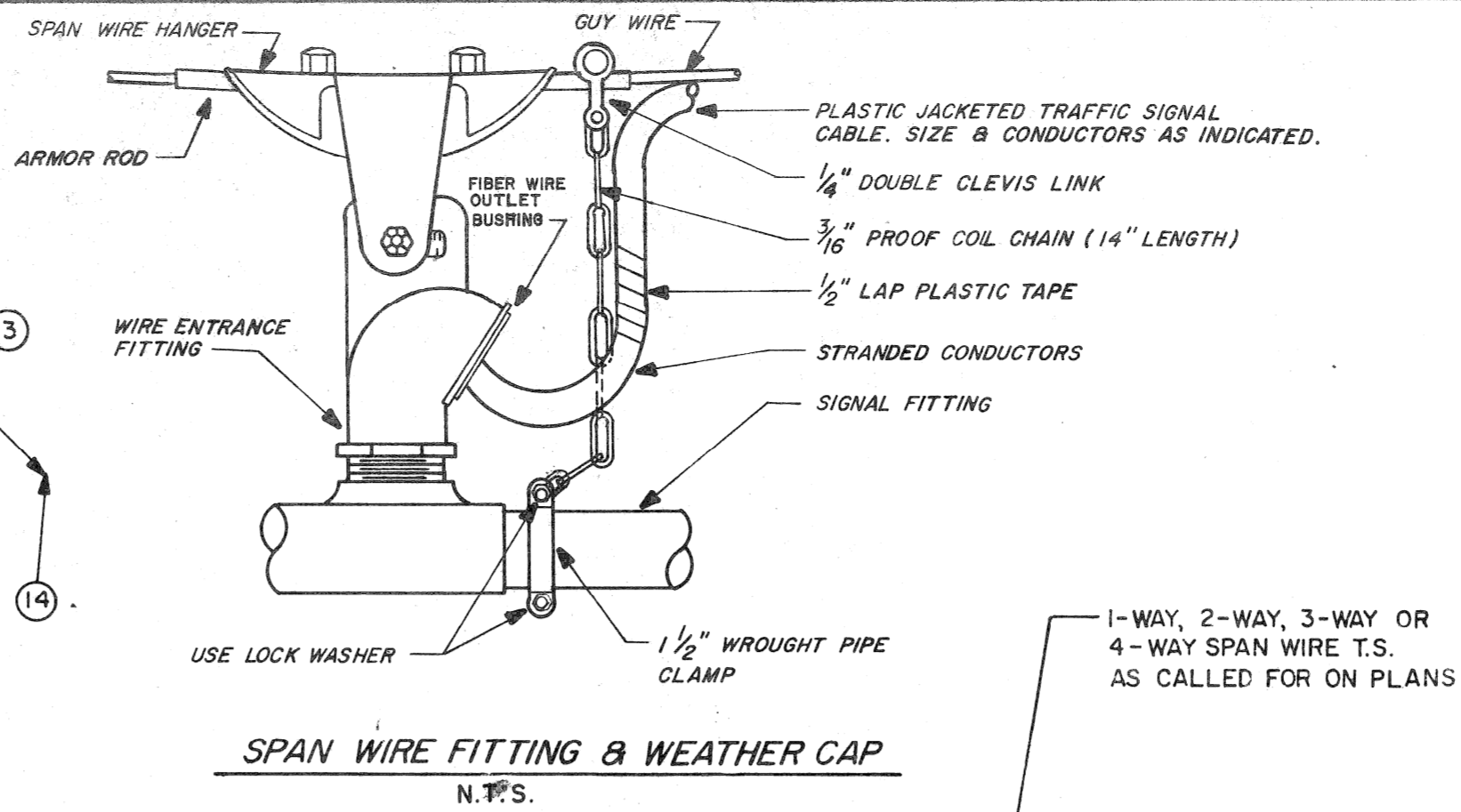
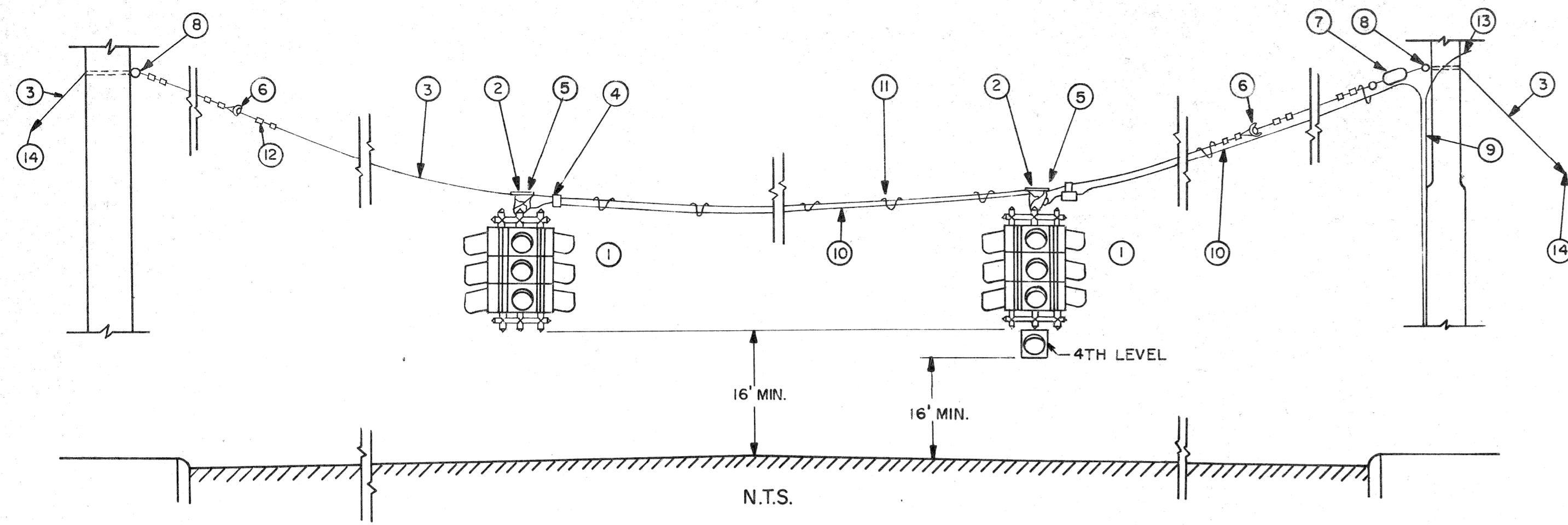
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JOB NO.		
ASSIGNMENT NO.		
DATE		

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

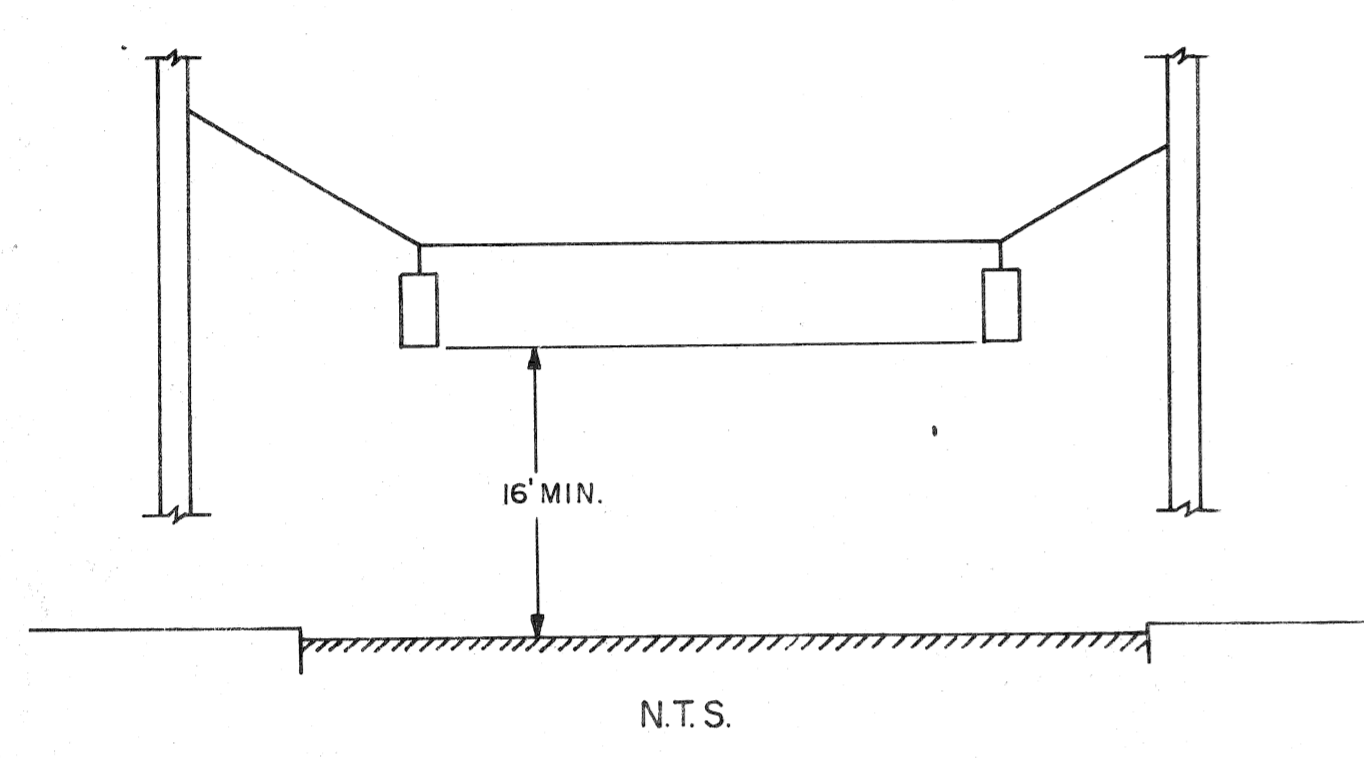
DRAWN	C.E.A.
CHECKED	
APPROVED	
DATE	

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
FILE NO. CEA 1085

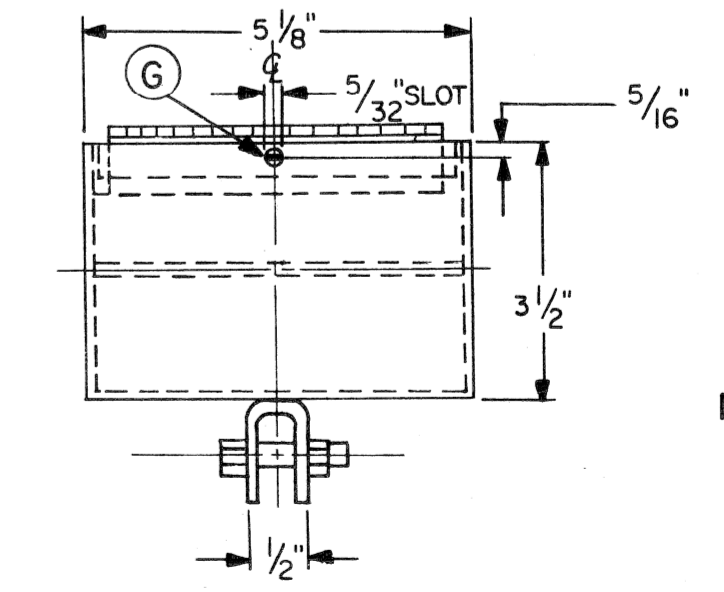
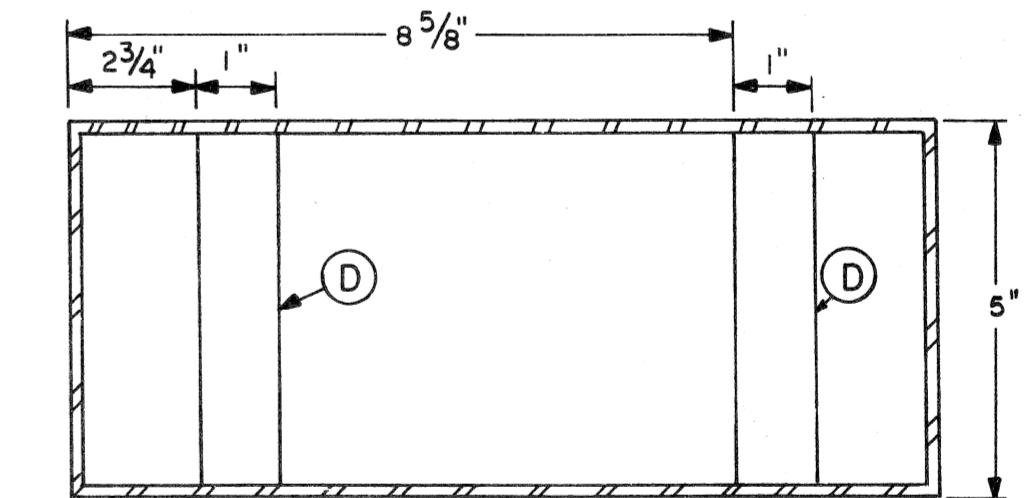
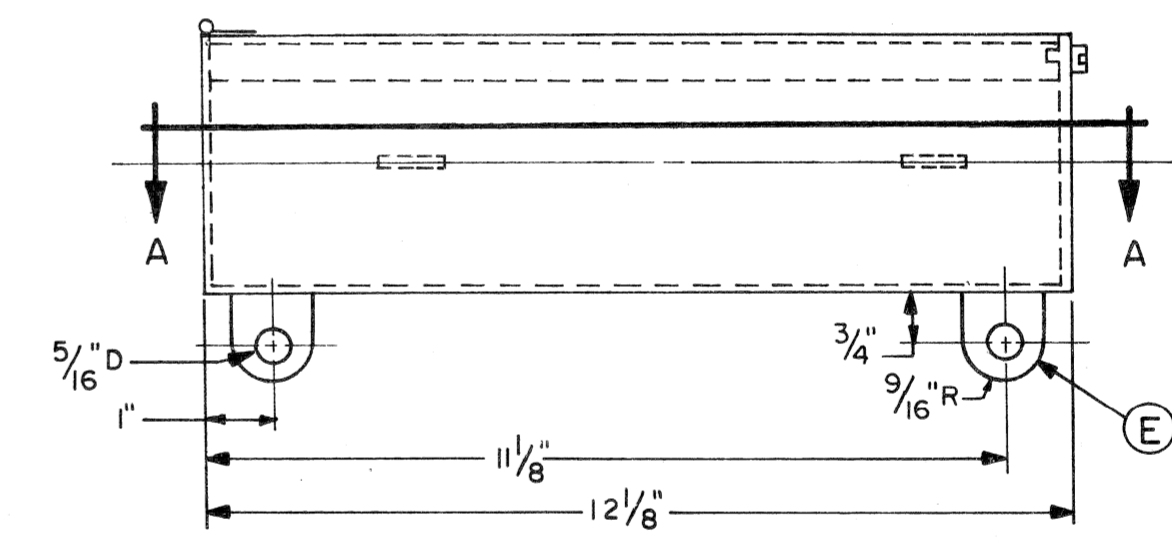
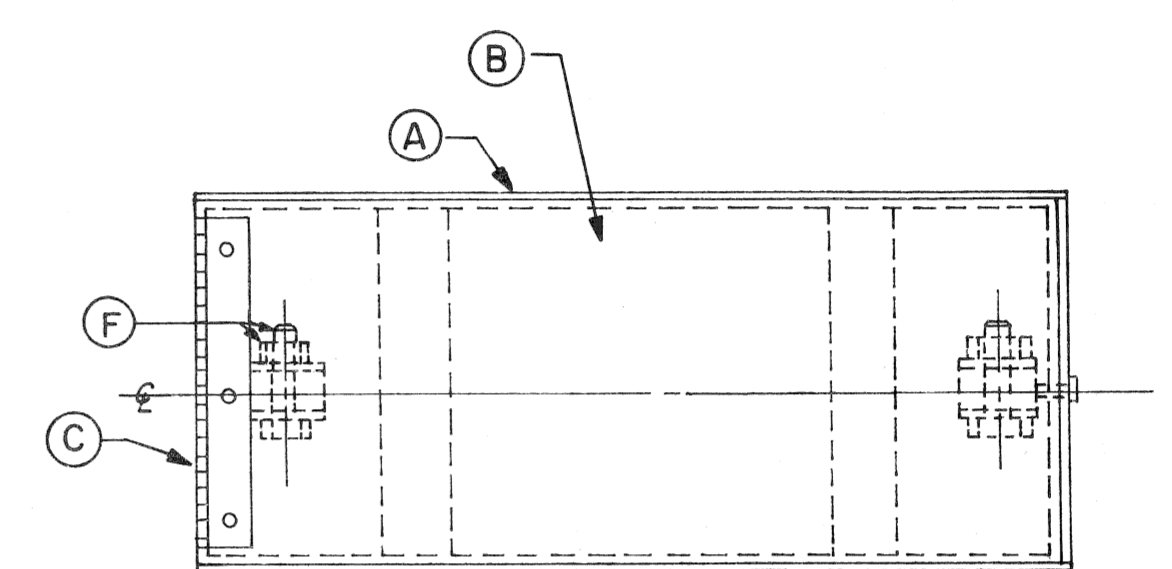
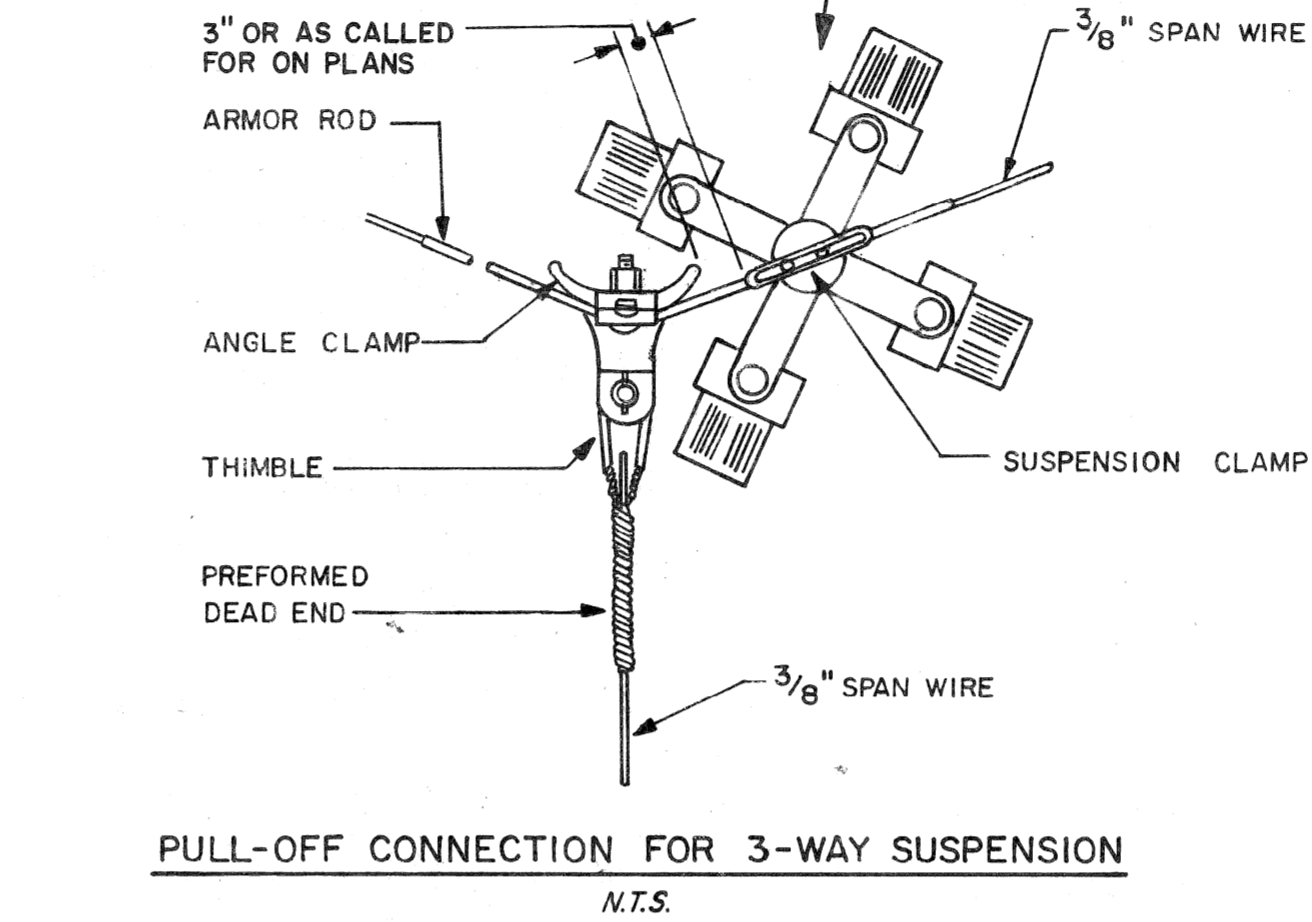
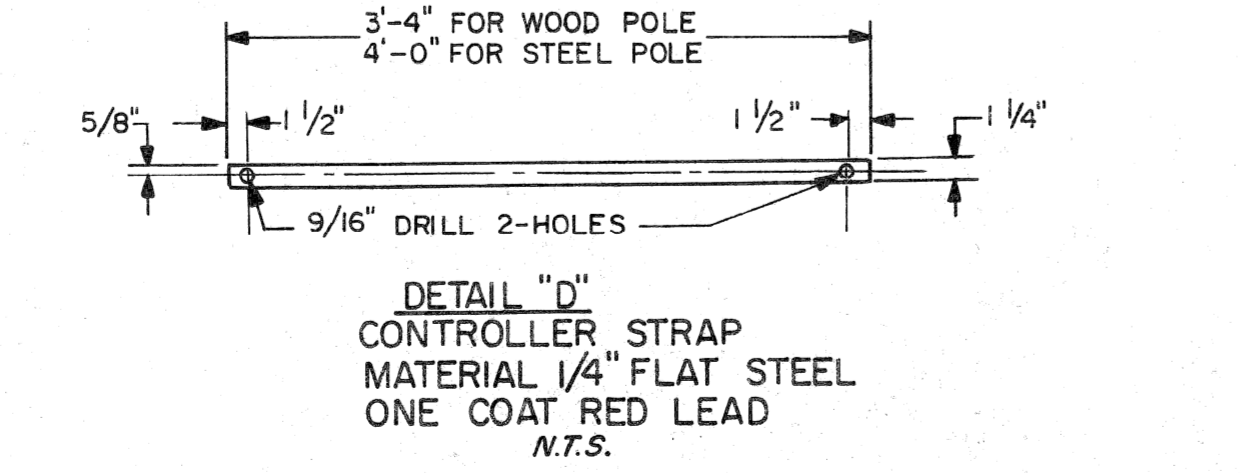
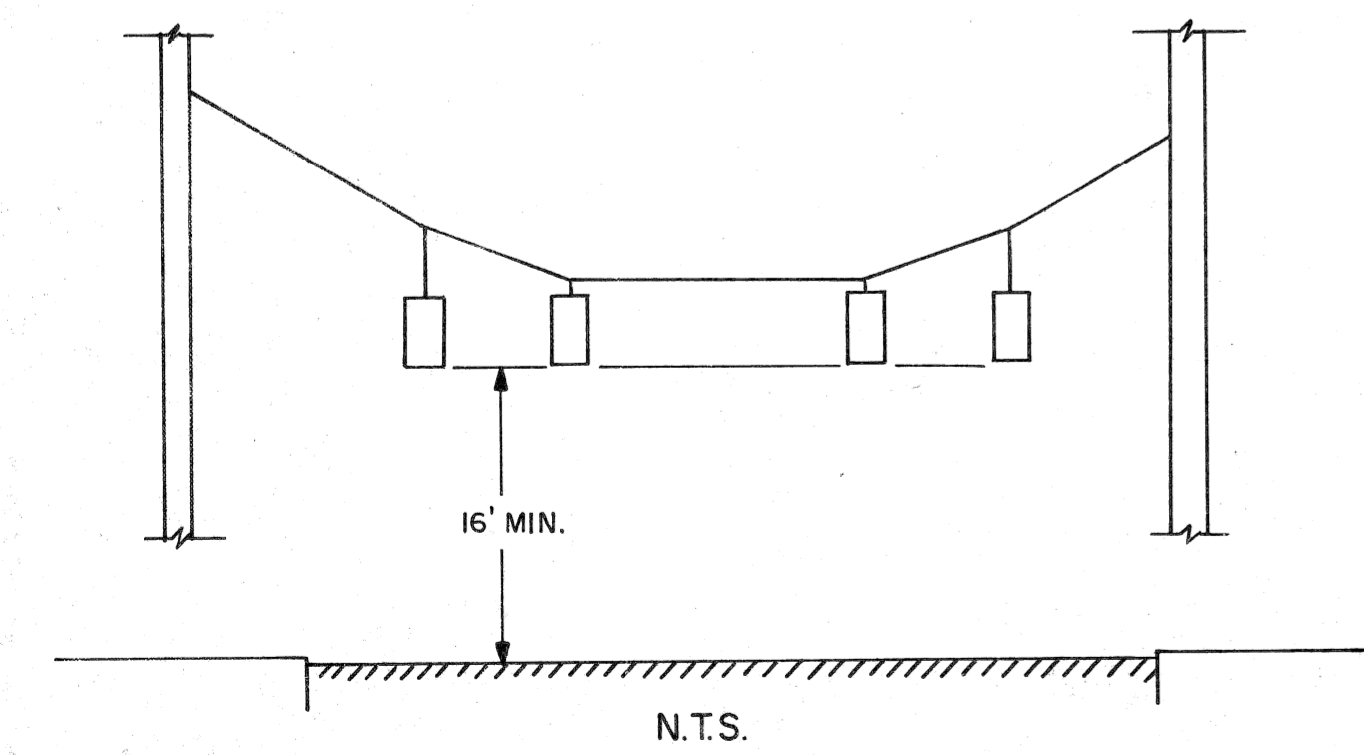
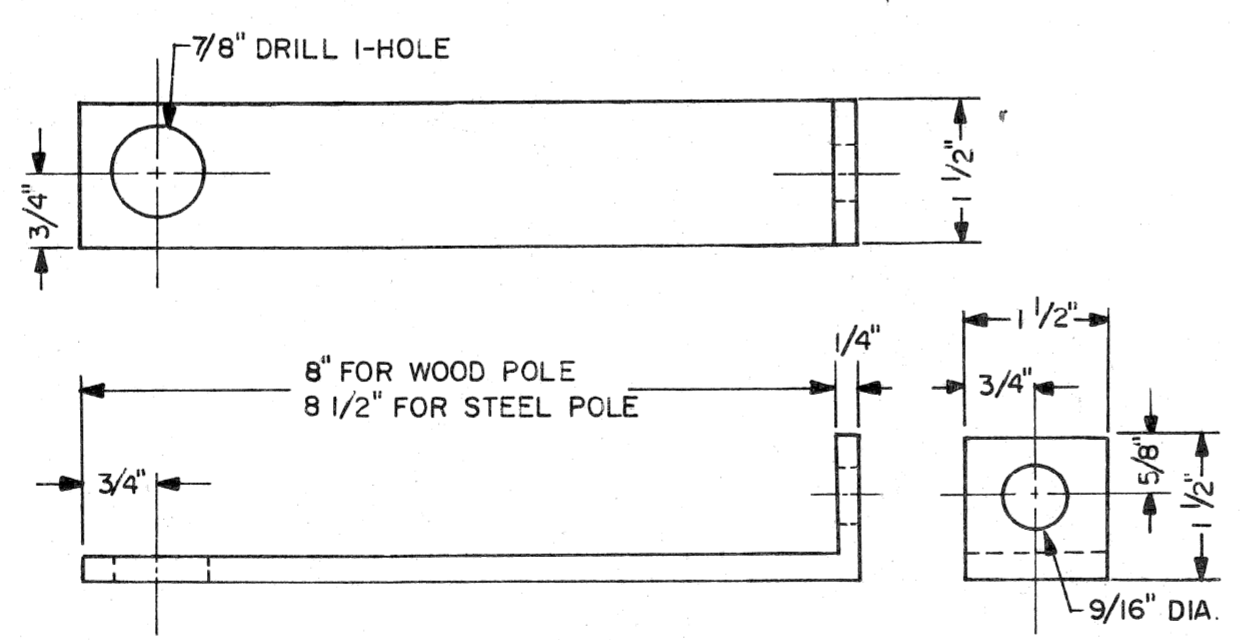
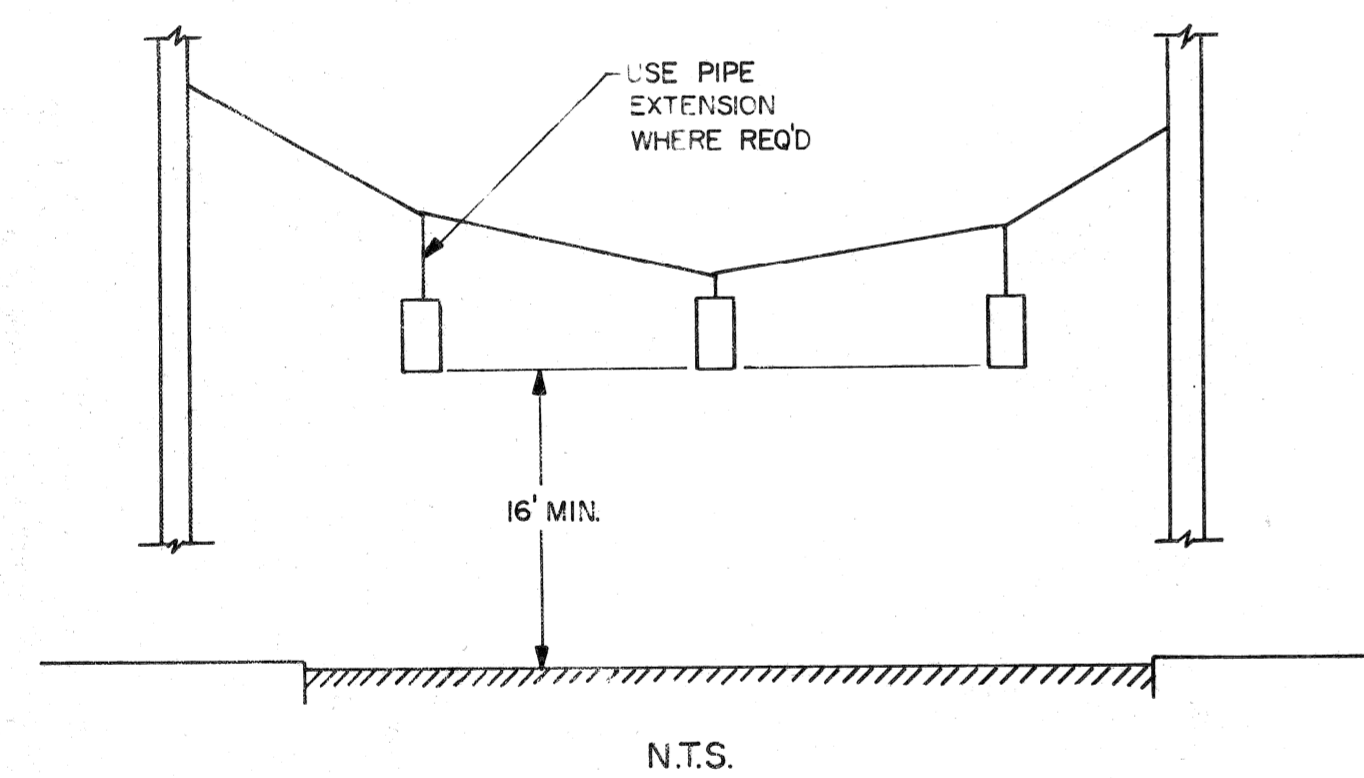
FILE NO.	48-0323
SHEET NO.	20 OF 25
DATE	11-1983



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

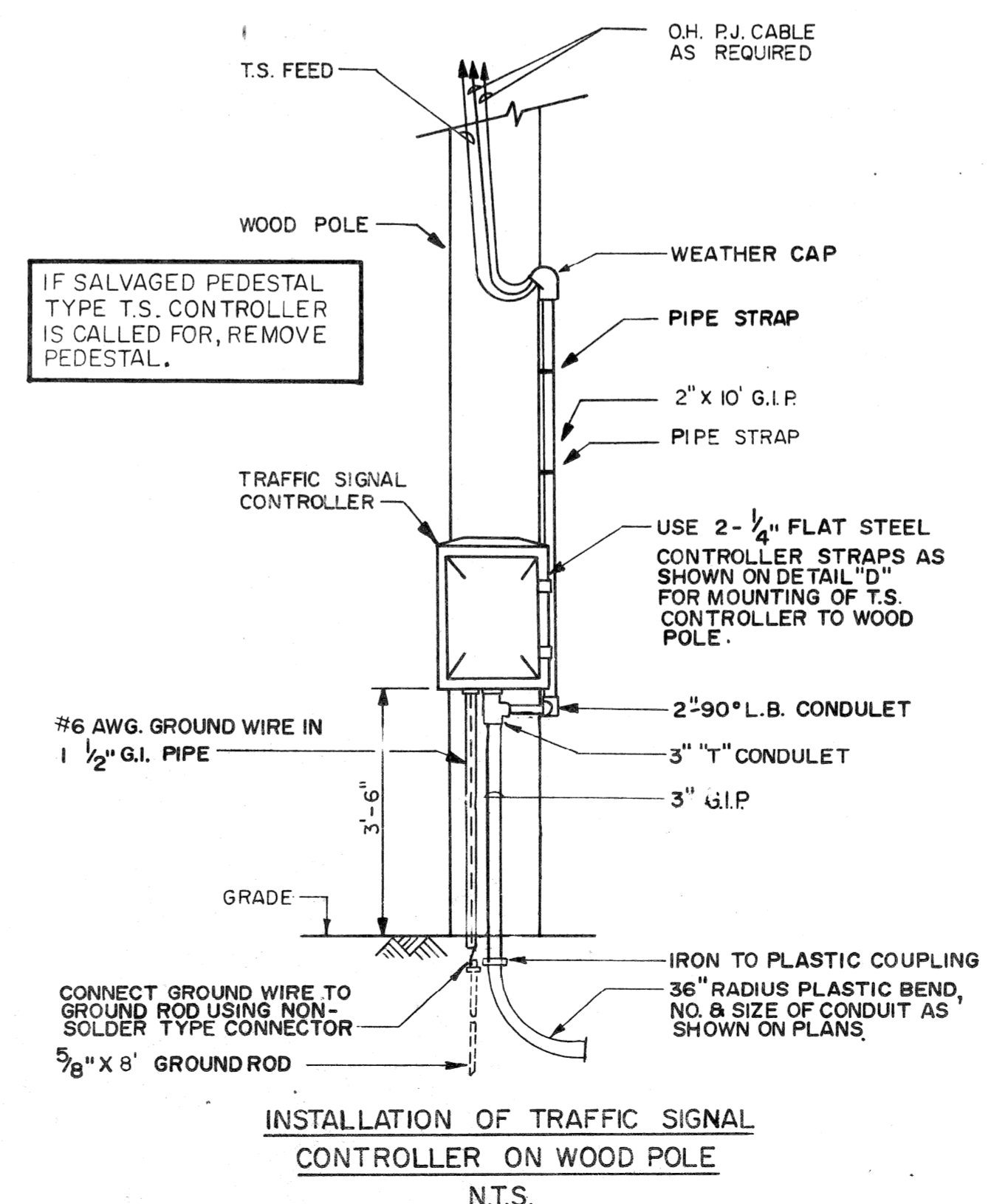


NO.	ITEM
1	TRAFFIC SIGNAL AS REQUIRED ON GENERAL PLAN
2	SPAN WIRE HANGER
3	3/8" GUY WIRE (USE SIEMENS-MARTIN AS PER SPEC.)
4	CABLE HANGER DETAIL "B"
5	ARMOR ROD
6	STRAIN INSULATOR
7	3/4" X 18" TURNBUCKLE
8	3/4" EYEBOLT
9	SPLIT PLASTIC CONDUIT
10	#14 T.S. CABLE (AS SPECIFIED)
11	PREFORMED STEEL LASHING 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



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

NOTE: BOX TO BE OF WEATHER TIGHT CONSTRUCTION



INSTALLATION OF TRAFFIC SIGNAL CONTROLLER ON WOOD POLE N.T.S.

DATE	DESCRIPTION	CHKD BY
		55

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
 WOOD POLE T.S. SPAN WIRE INSTALLATION
 DETAILS M2000(171)

SHEET	OF	SHEETS
JOB NO.		
ASSIGNMENT NO.		
DATE		

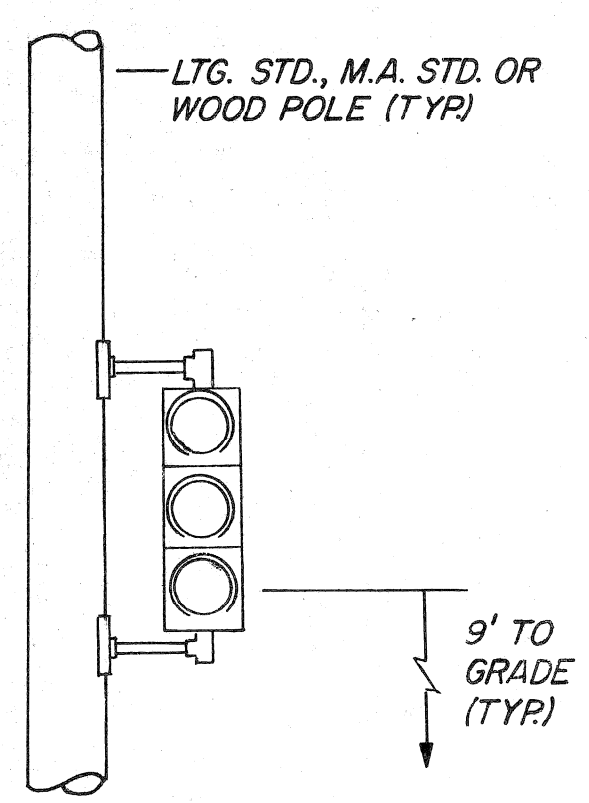
CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT

DRAWN BY	CEA
CHECKED BY	
APPROVED BY	
DATE	11 - 1983

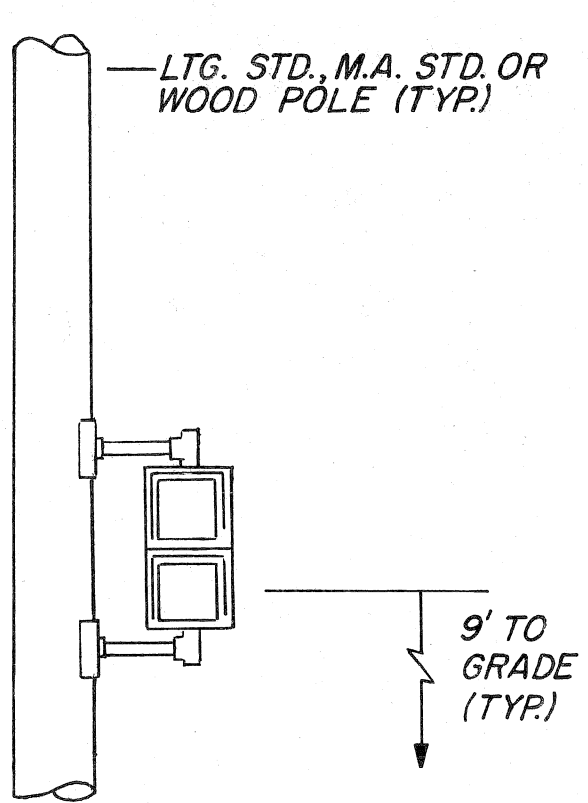
PLAN PREPARED BY	CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
FILE NO.	16580 WYOMING DETROIT, MICH. 48221
DATE	13 OF 17
FILE NO.	CEA 1085

PUBLIC LIGHTING COMMISSION
 CITY OF DETROIT

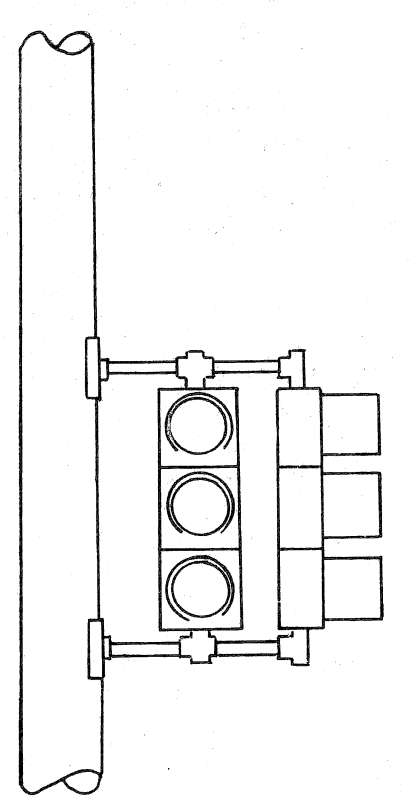
FILE NO.	48-0323
SHEET NO.	21 OF 25
DATE	11 - 1983



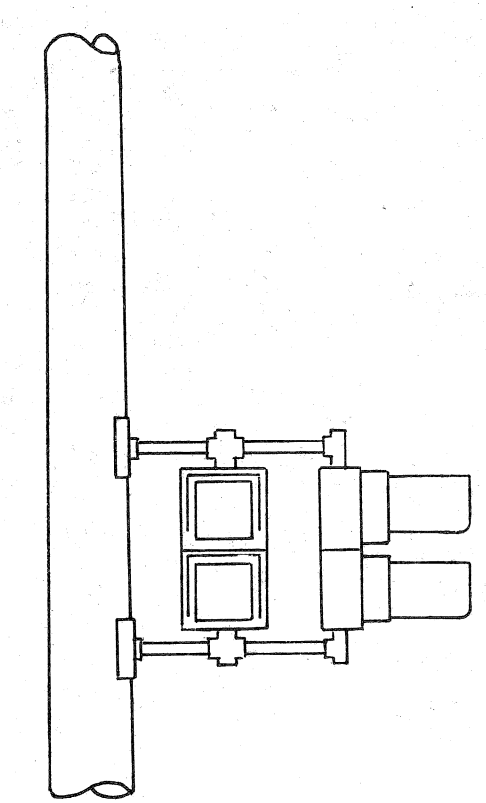
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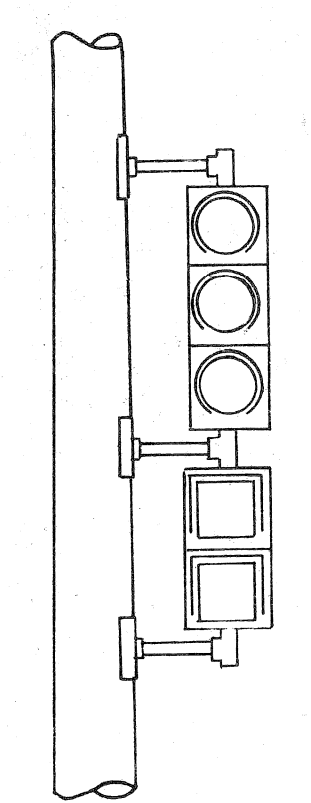
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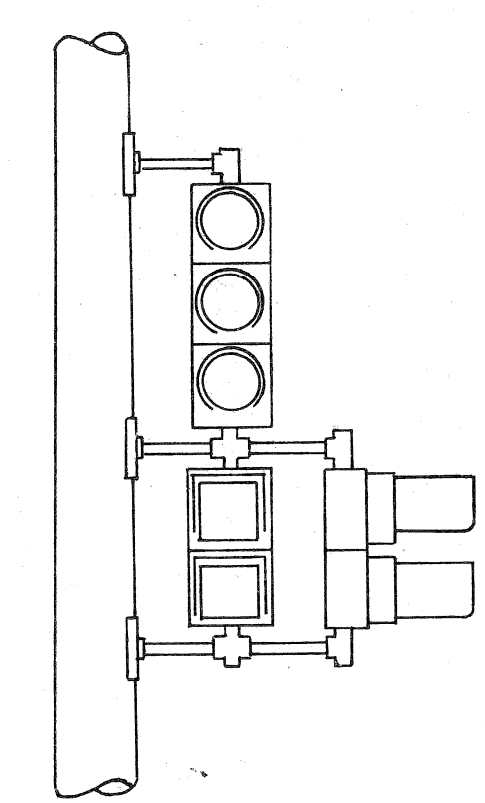
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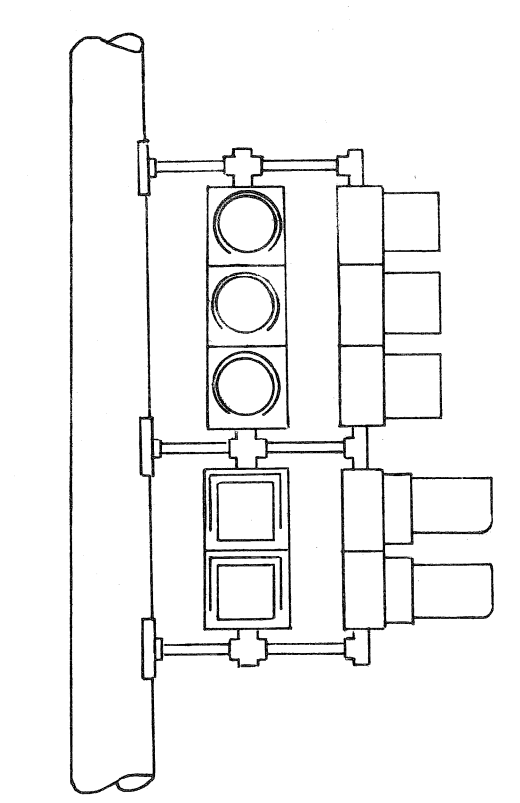
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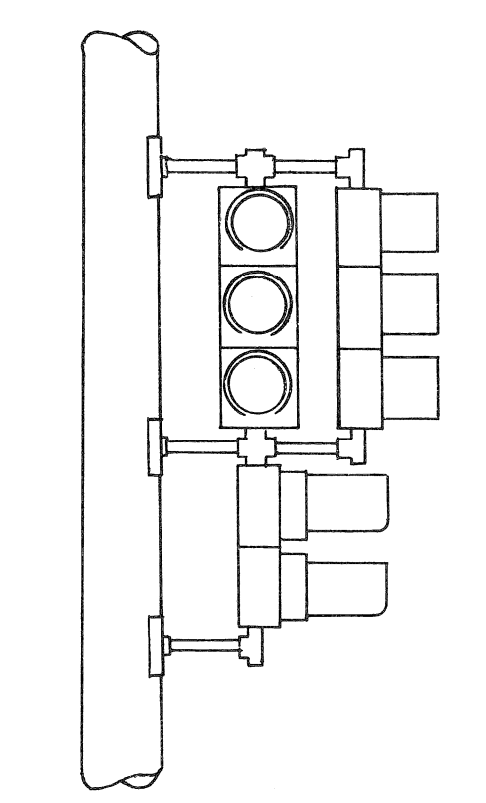
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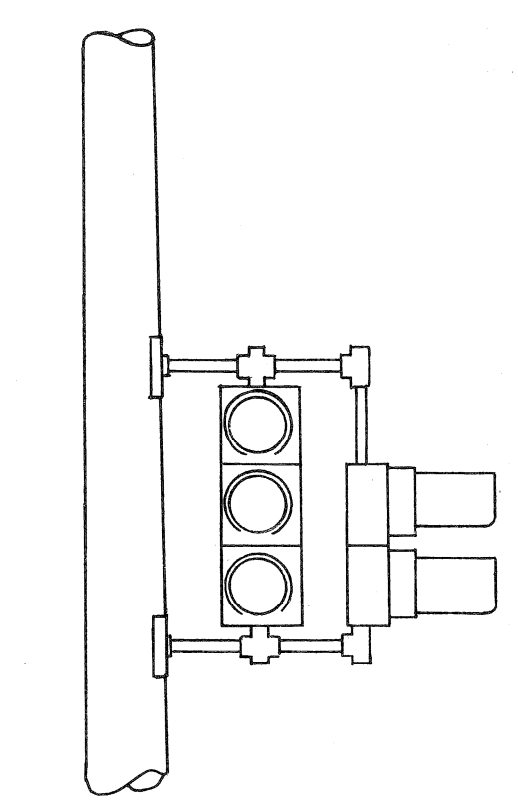
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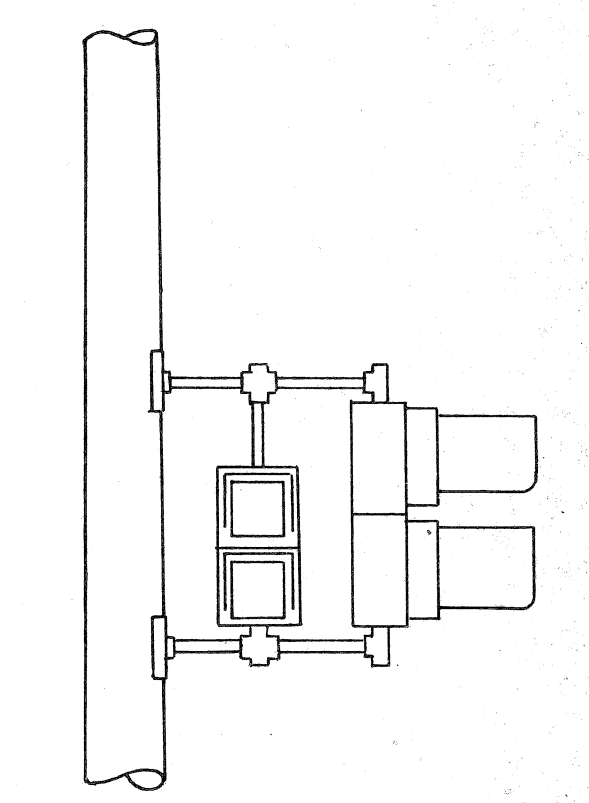
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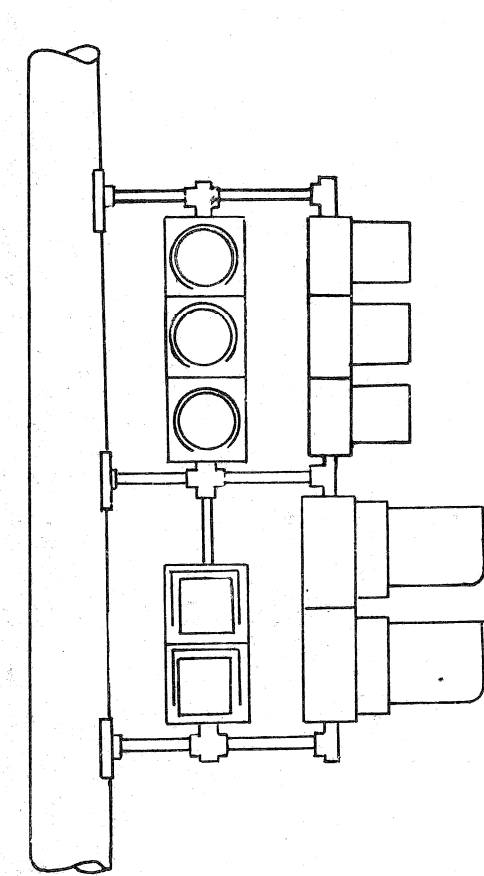
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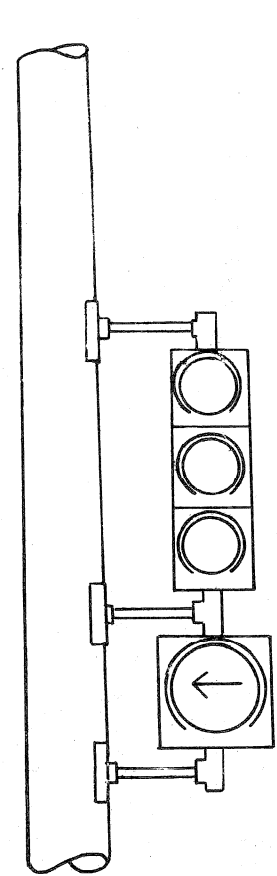
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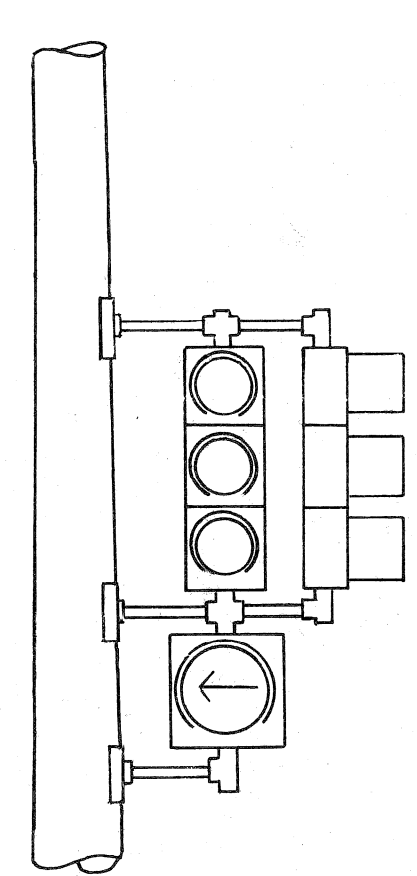
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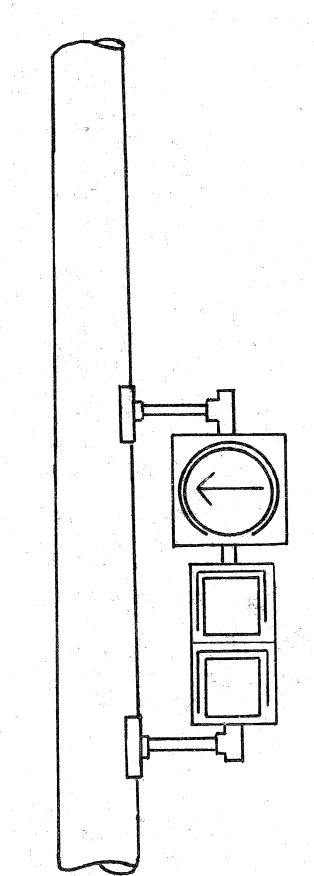
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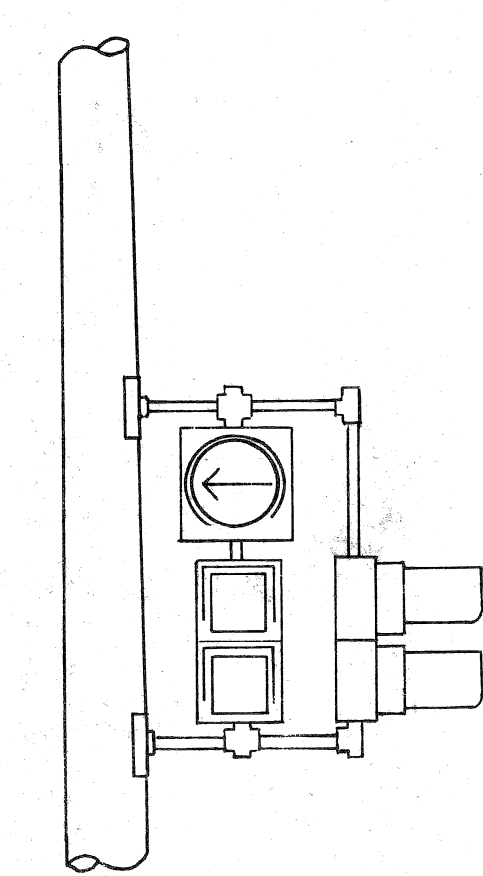
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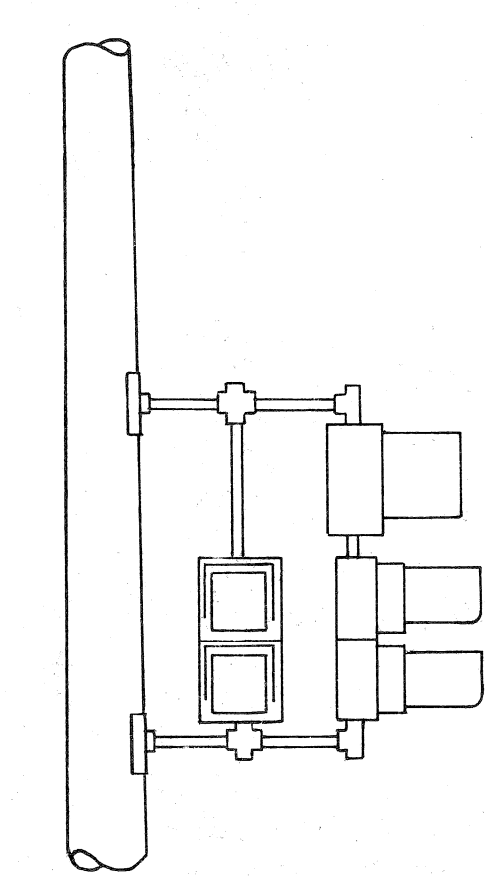
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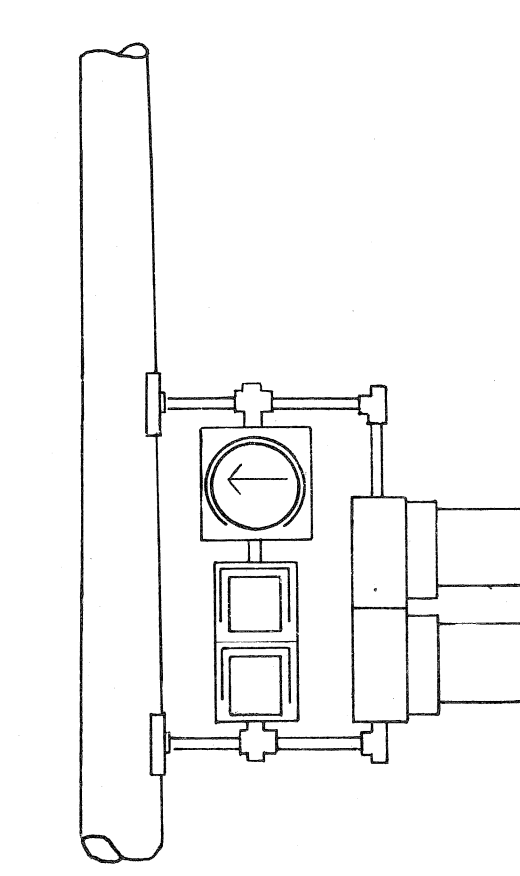
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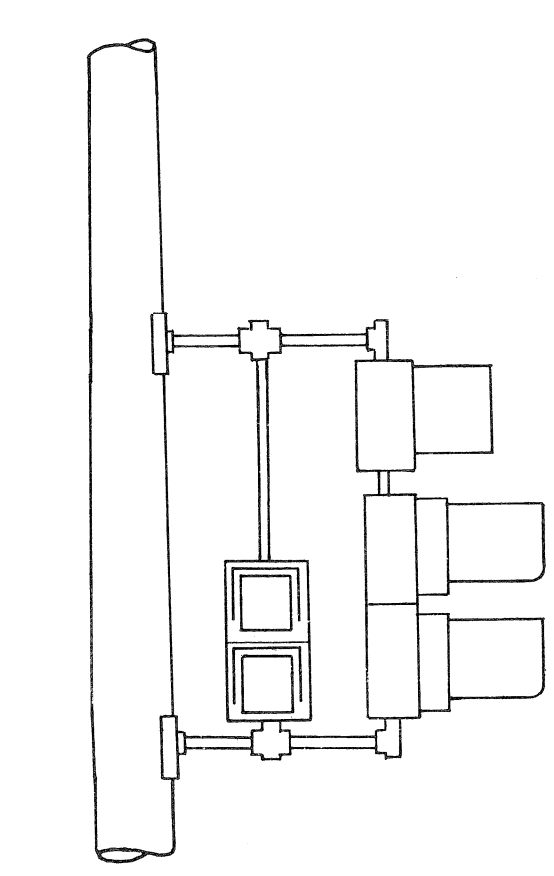
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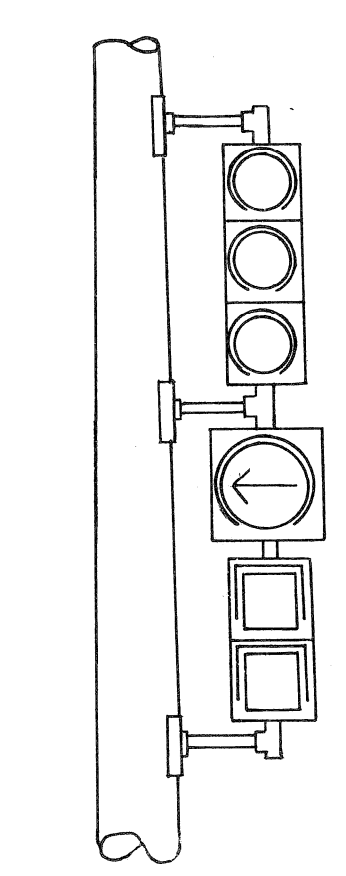
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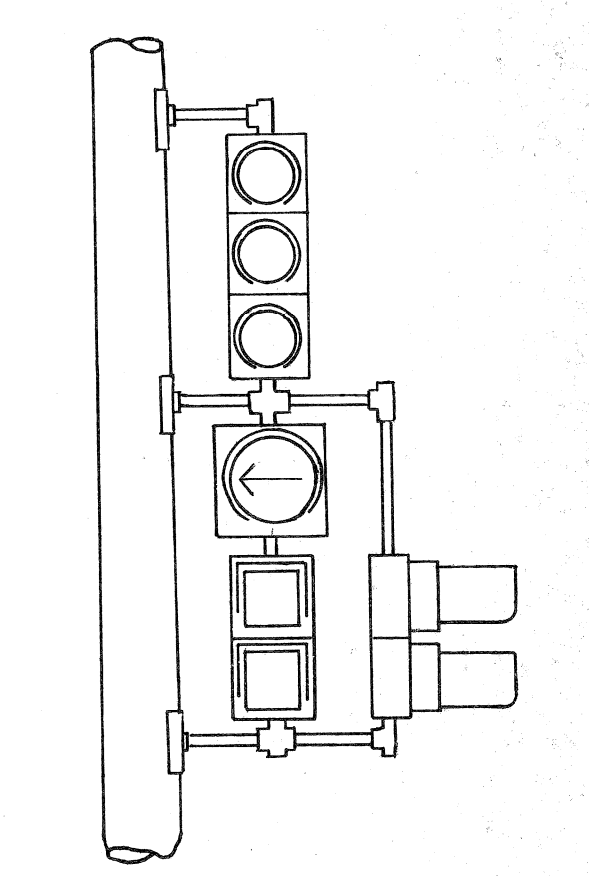
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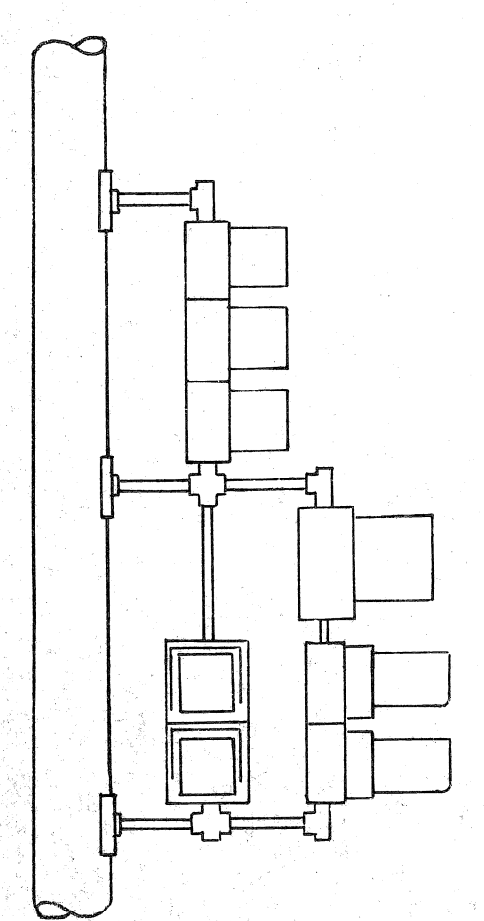
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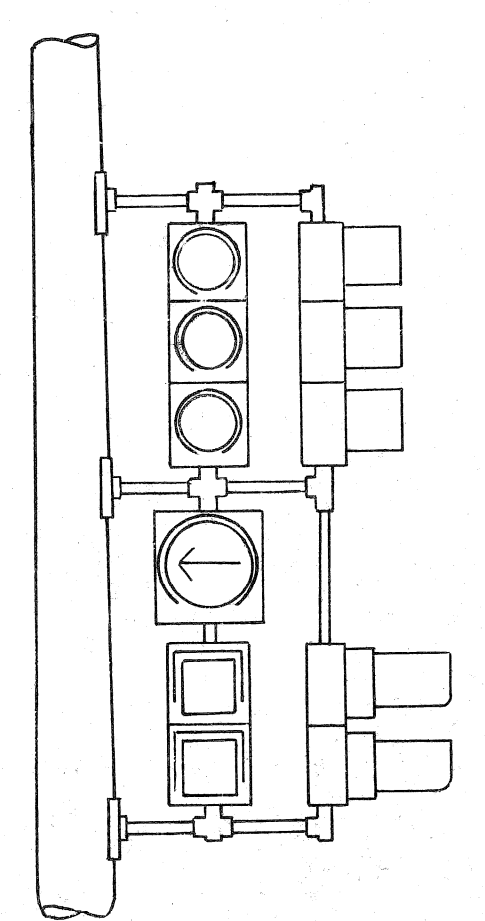
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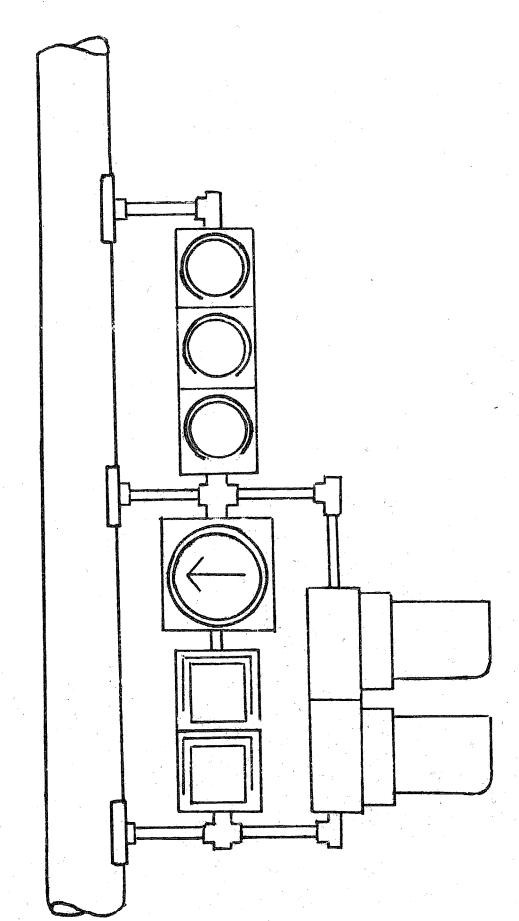
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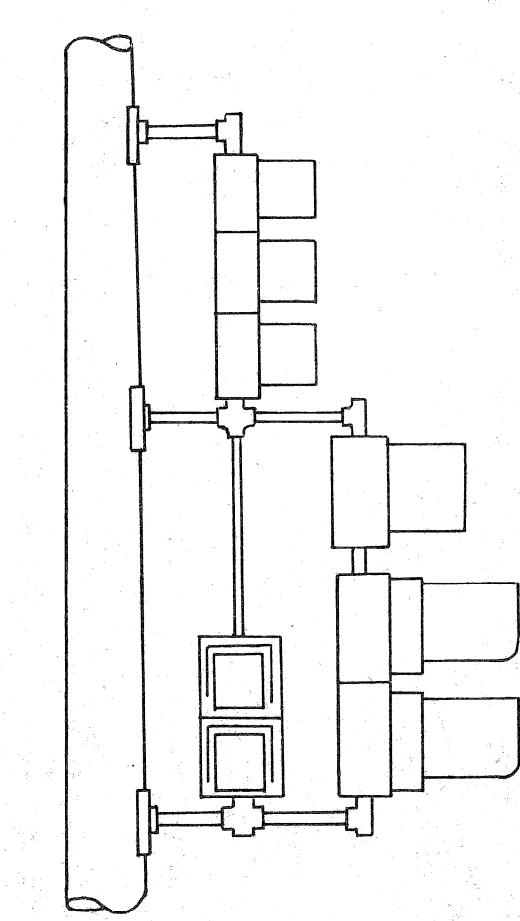
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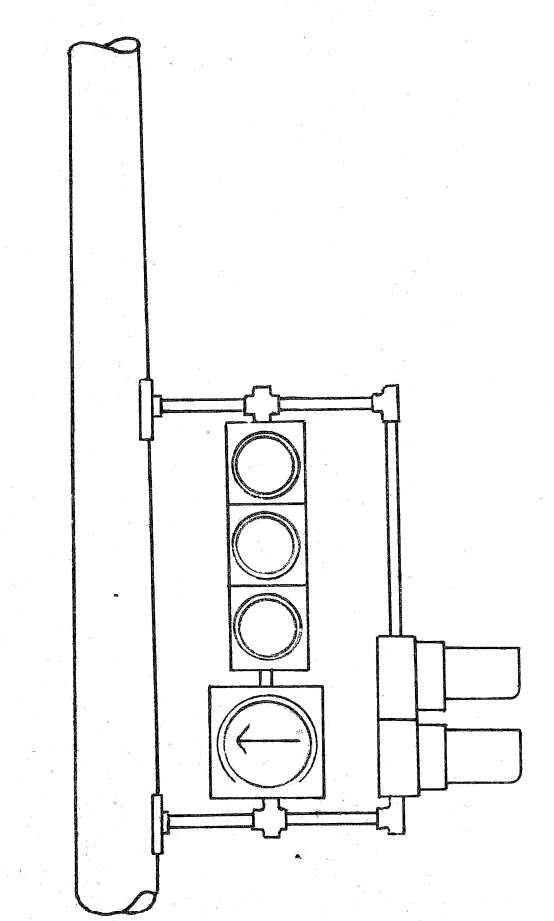
DETAIL "X-1"



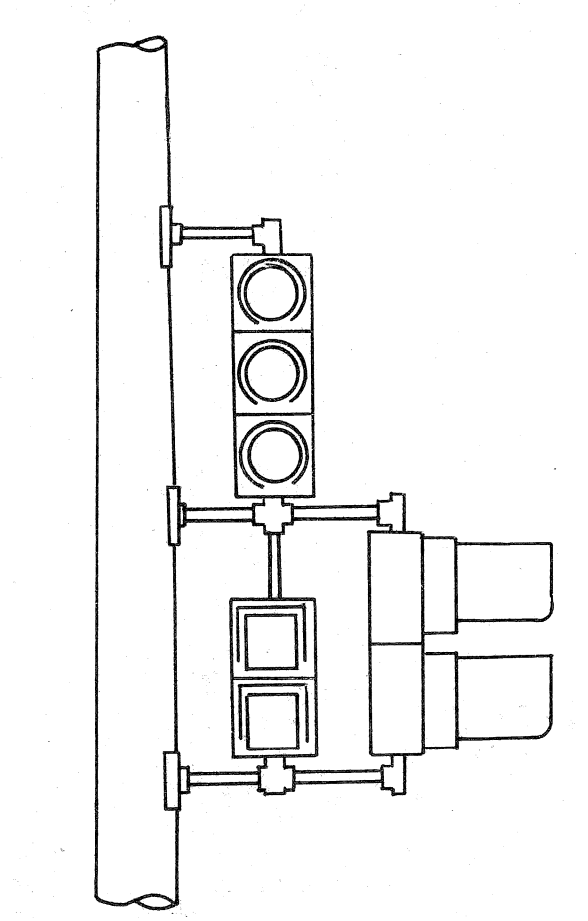
DETAIL "Y-1"



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.

DATE	DESCRIPTION	CHKD BY
		58

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
M2000(171)
T.S. BRACKET ARM ASSEMBLY DETAILS

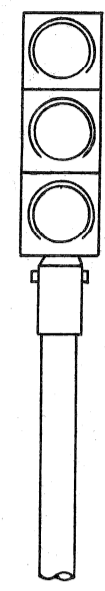
SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

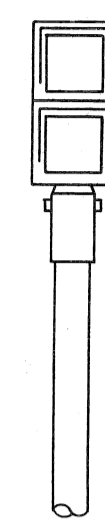
DRAWN C.E.A.	PLAN PREPARED BY: CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED <i>[Signature]</i>	16580 WYOMING DETROIT, MICH., 48221
APPROVED <i>[Signature]</i>	DRWG. NO. 14 OF 17 FILE NO. CEA 1085
DATE 11 - 1983	

CHECKED BY	PUBLIC LIGHTING COMMISSION
APPROVED BY	CITY OF DETROIT

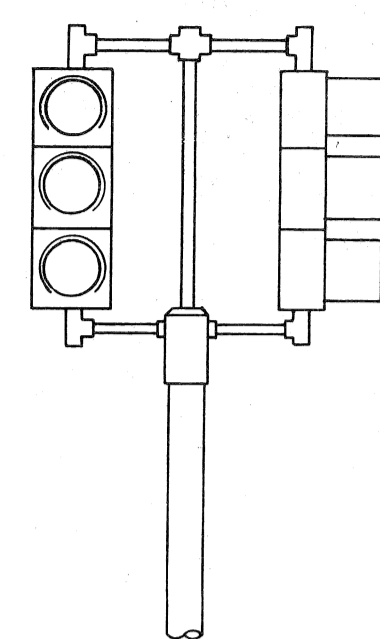
FILE NO. 48-0323
SHEET NO. 22 OF 25
DATE 11 - 1983



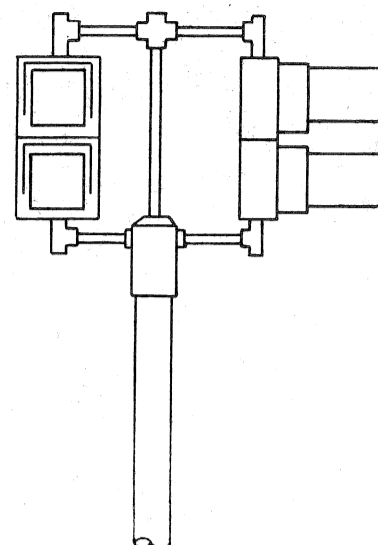
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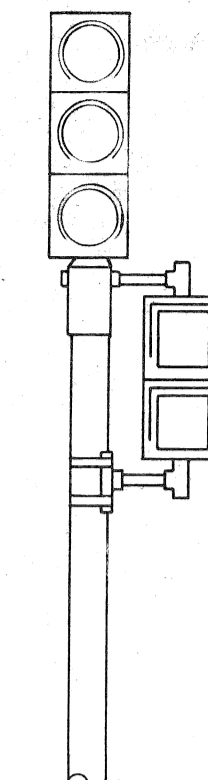
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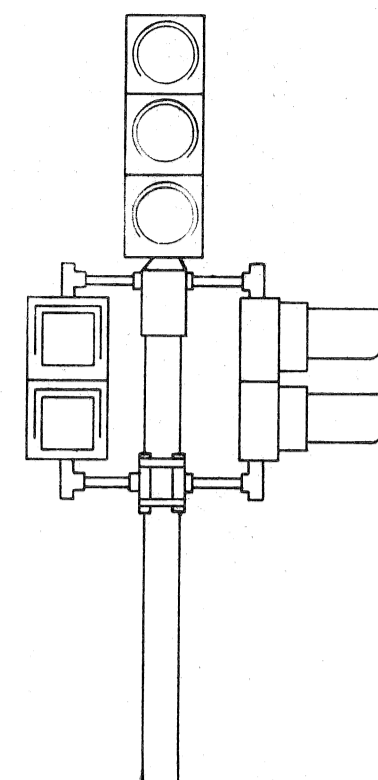
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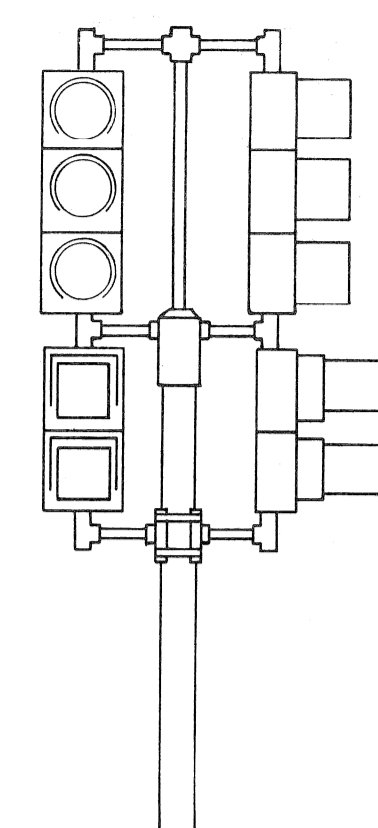
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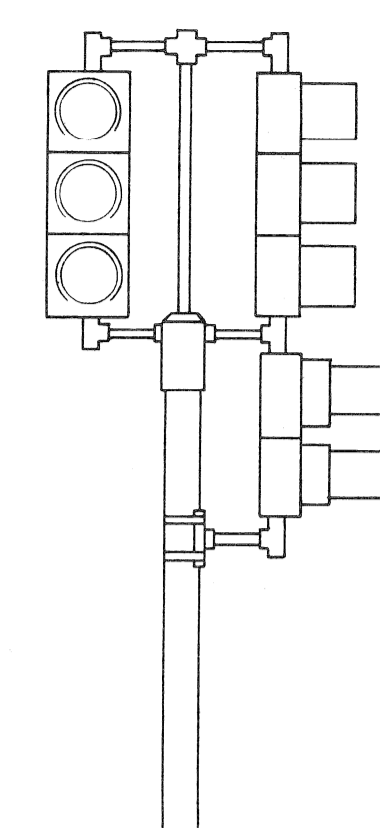
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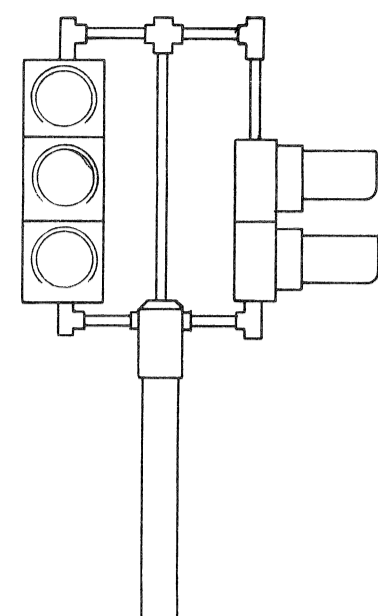
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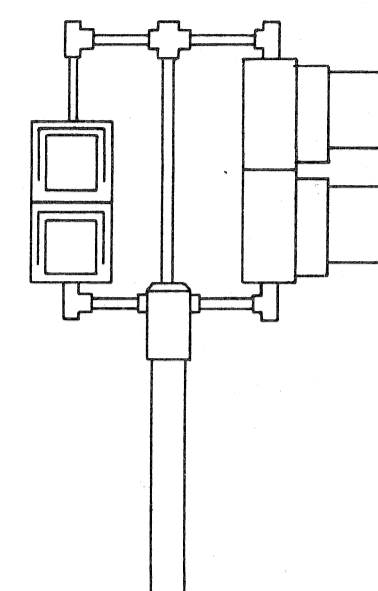
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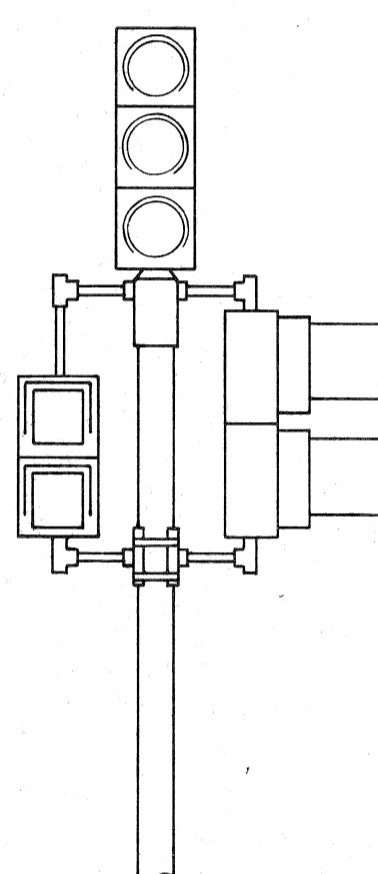
DETAIL "H-2"



DETAIL "J-2"



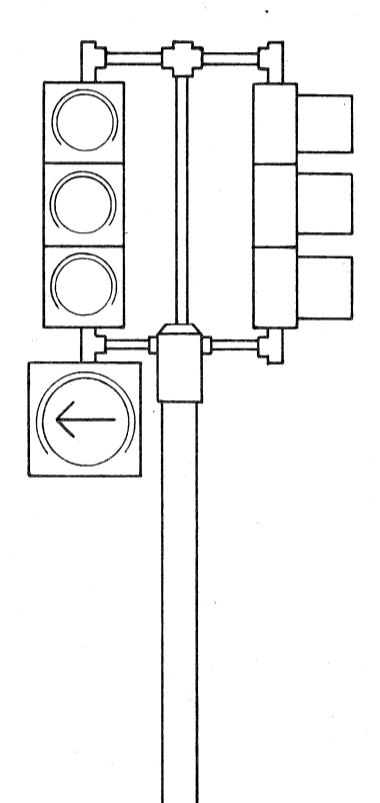
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DETAIL "L-2"



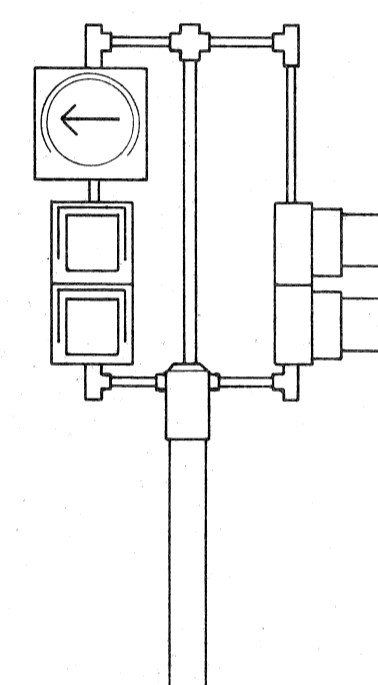
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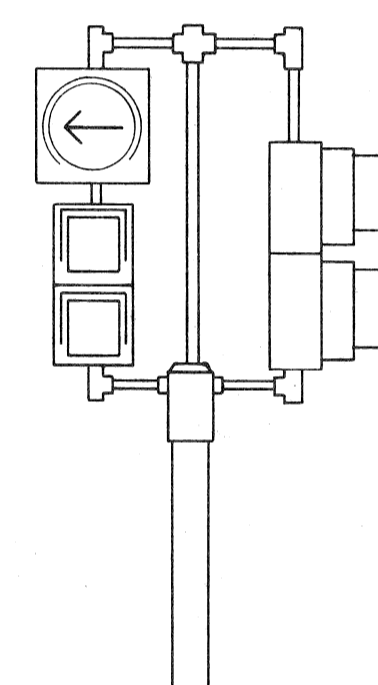
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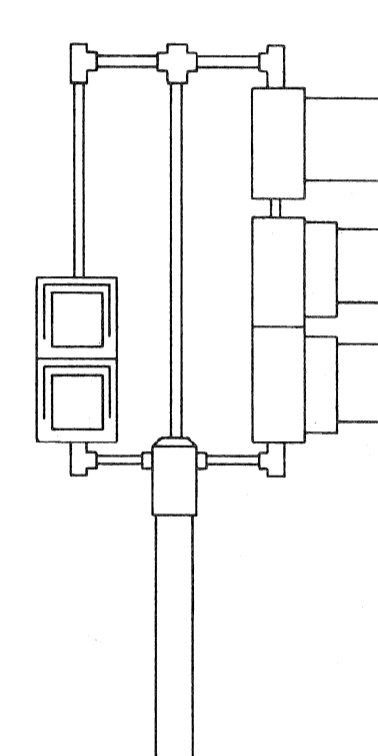
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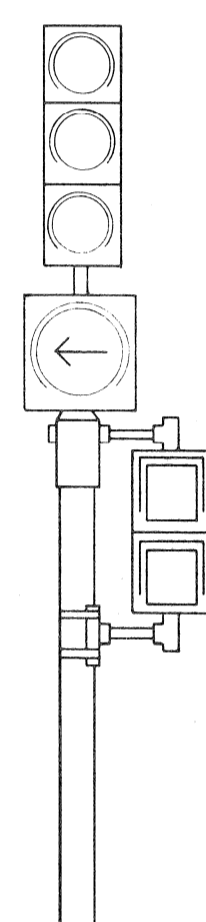
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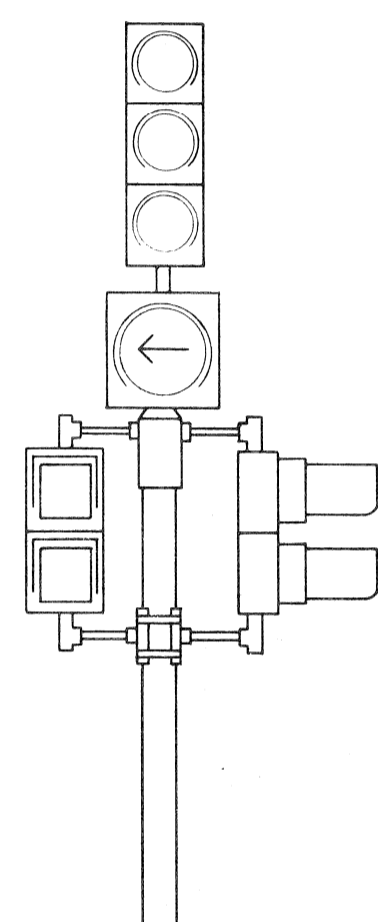
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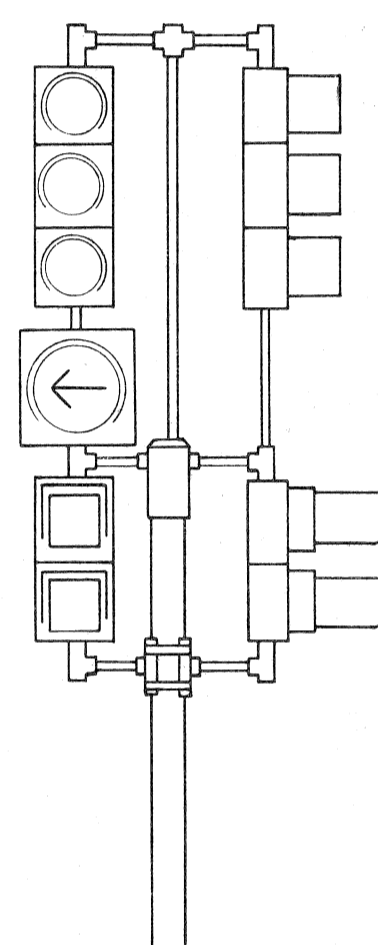
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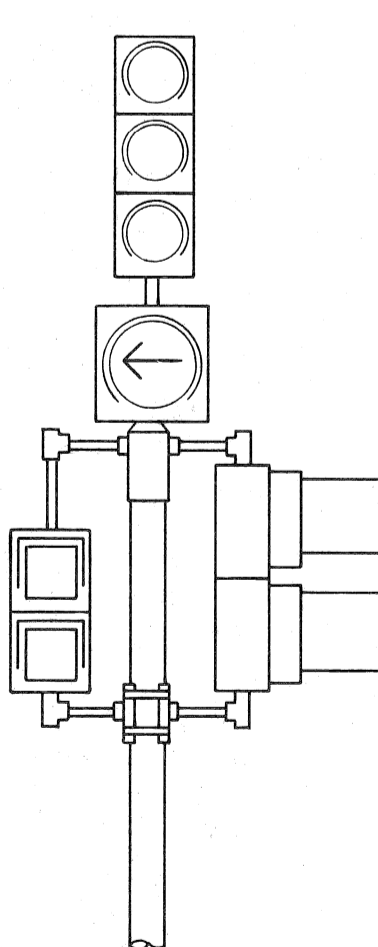
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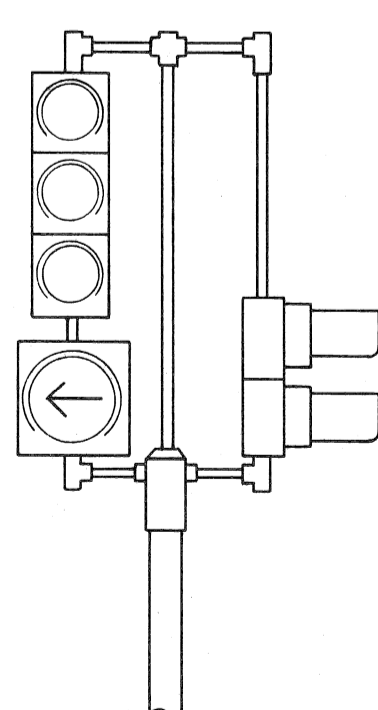
DETAIL "U-2"



DETAIL "V-2"



DETAIL "W-2"



DETAIL "X-2"

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.

DATE	DESCRIPTION	CHG. BY
		59

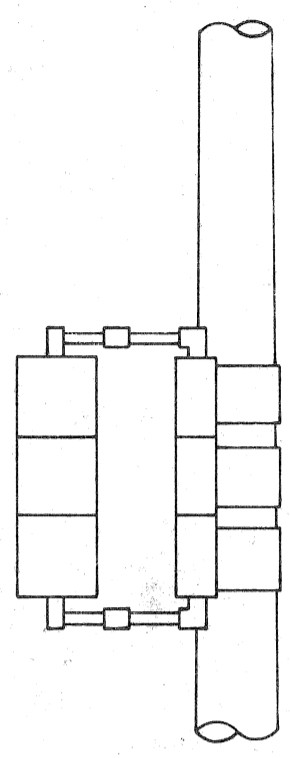
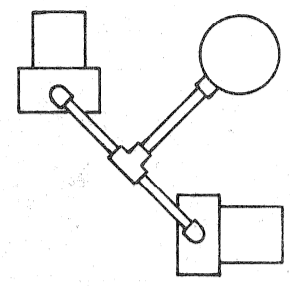
**KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR**
T.S. PEDESTAL ASSEMBLY DETAILS M2000(17)

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

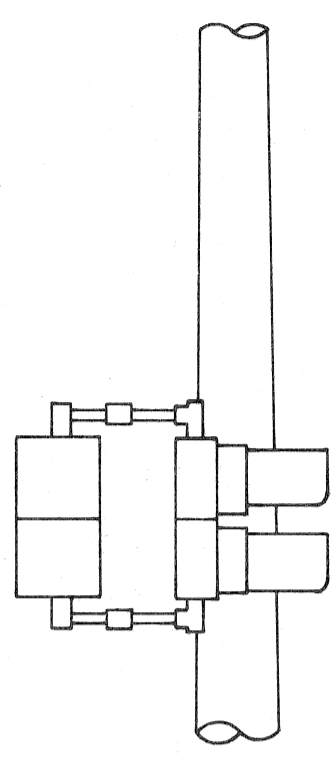
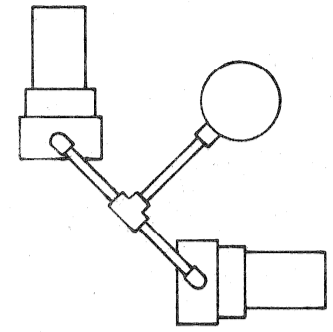
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN BY C.E.A.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
CHECKED BY [Signature]	16580 WYOMING DETROIT, MICH. 48221
APPROVED BY [Signature]	
DATE 11-1983	DRAWING NO. 15 OF 17 FILE NO. CEA 1085

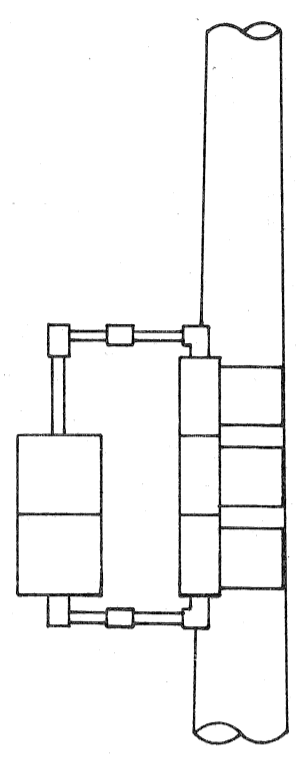
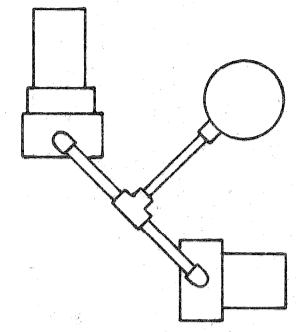
PUBLIC LIGHTING COMMISSION
CITY OF DETROIT



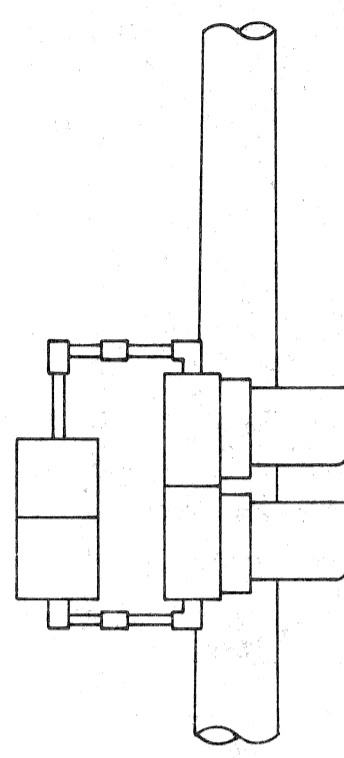
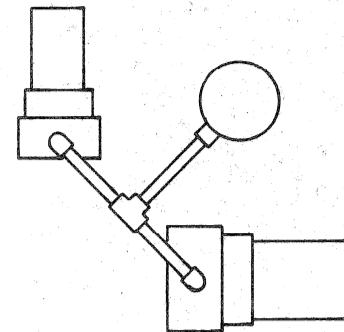
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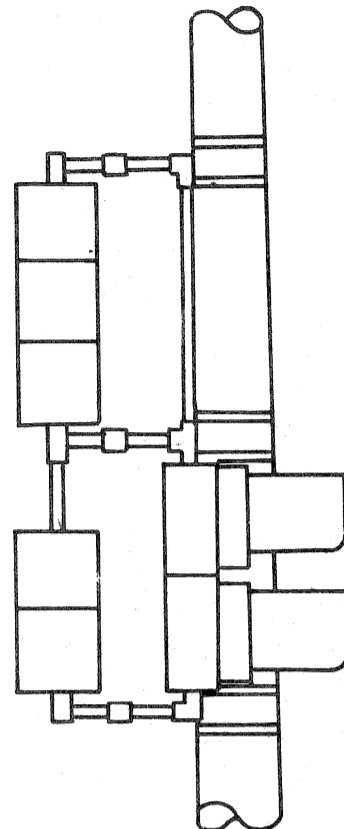
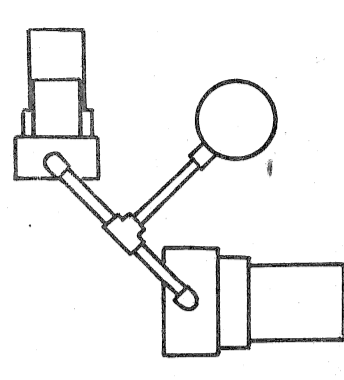
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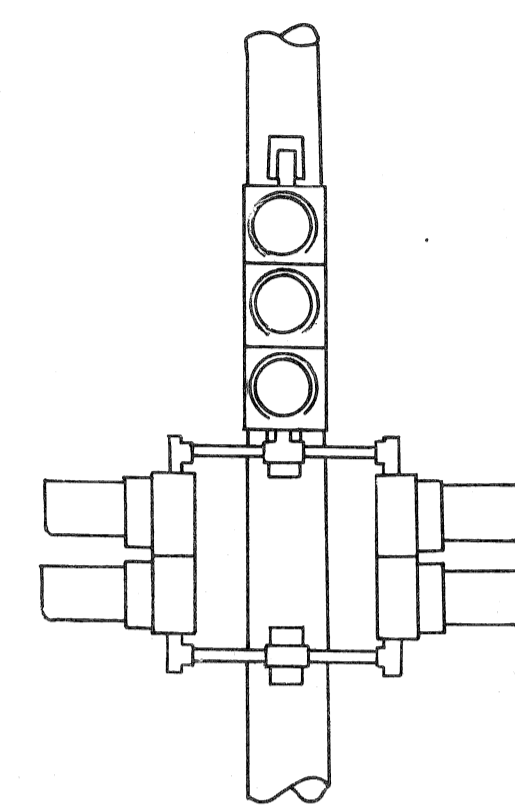
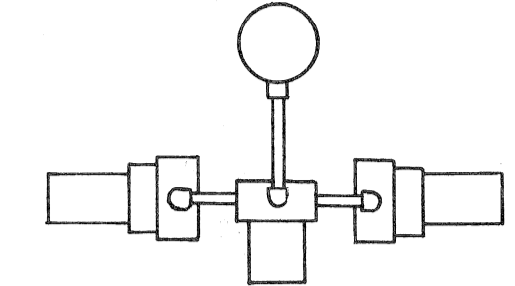
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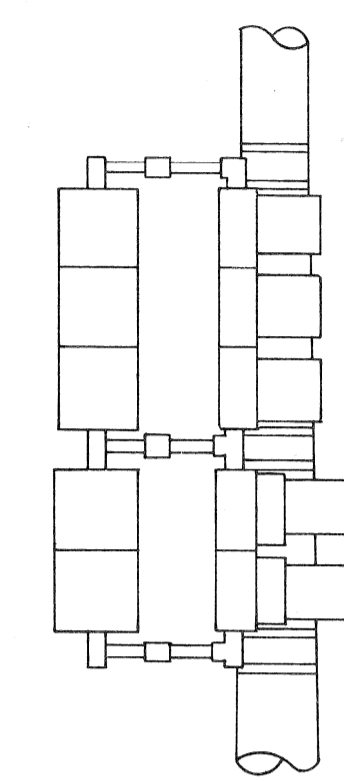
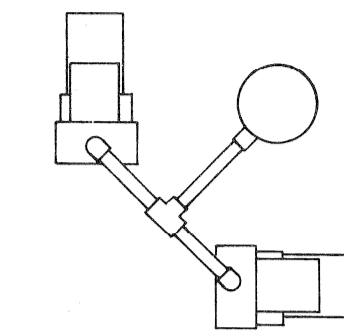
DETAIL "D-3"



DETAIL "E-3"



DETAIL "F-3"



DETAIL "G-3"

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.

DATE	DESCRIPTION	CHKD. BY
		60

**KELLY RD. WIDENING
 GRAYTON TO NORTH OF SEYMOUR**
 T.S. BRACKET ARM ASSEMBLY DETAILS M2000(171)

SHEET _____ OF _____ SHEETS
JOB NO.
ASSIGNMENT NO.
DATE

CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT

DRAWN C.E.A.	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH., 48221
CHECKED <i>[Signature]</i>	
APPROVED <i>[Signature]</i>	
DATE 11 - 1983	DRWG. NO. 16 OF 17 FILE NO. CEA 1085

PUBLIC LIGHTING COMMISSION
 CITY OF DETROIT

FILE NO. 48-0323
SHEET NO. 24 OF 25
DATE 11-1983

AS PER PLANS

AS CONSTRUCTED

BID-ITEM	UNIT	DRWG. NO.				TOTAL	DRWG. NO.				TOTAL
		3	4				3	4			
1-3" ENCASED CONDUIT	LIN. FT.	--	52			52					
2-3" ENCASED CONDUIT	LIN. FT.	--	40			40					
ROUND HANDHOLE	EACH	--	1			1					
REMOVE WOOD POLE	EACH	14	--			14					
REMOVE O.H. ST. LTG. UNIT	EACH	10	--			10					
REMOVE #8 TWIN	LIN. FT.	150	--			150					
REMOVE 11 PR. (COMM.)	LIN. FT.	840	--			840					
REMOVE 600V., 1-7/C #14 P.J. CABLE FOR CHRONOPLAN	LIN. FT.	320	--			320					
REMOVE 2-#6 O.H. LINE	LIN. FT.	1155	--			1155					
40 FT., CLASS 4 WOOD POLE	EACH	10	--			10					
40 FT., CLASS 2 WOOD POLE	EACH	1	--			1					
45 FT., CLASS 2 WOOD POLE	EACH	2	--			2					
400 W. MERCURY VAPOR O.H. ST. LTG. UNIT WITH SERIES COIL	EACH	12	--			12					
11 PR. (COMM.)	LIN. FT.	850	--			850					
600V., 1-7/C #14 P.J. CABLE FOR CHRONOPLAN	LIN. FT.	330	--			330					
2-#6 O.H. LINE	LIN. FT.	1165	--			1165					
FIT-UP WOOD POLE AS A T.S. CABLE POLE	EACH	1	--			1					
REMOVE T.S. CONTROLLER & CABINET	EACH	--	1			1					
REMOVE 1-WAY BRACKET ARM T.S.	EACH	--	2			2					
REMOVE 2-WAY BRACKET ARM T.S.	EACH	--	1			1					
REMOVE 3-WAY MAST ARM T.S. & MAST ARM	EACH	--	2			2					
1-WAY PEDESTRIAN BRACKET ARM T.S.	EACH	--	2			2					
1-WAY PEDESTRIAN T.S. ON 8 FT. PEDESTAL ON NEW FDN.	EACH	--	2			2					
1-WAY T.S. ON 8 FT. PEDESTAL ON NEW FDN.	EACH	--	1			1					
TWO 3-WAY SPAN WIRE T.S. ON NEW SPAN WIRE	EACH	--	1			1					
T.S. CONTROLLER & CABINET MOUNTED ON WOOD POLE	EACH	--	1			1					

DATE	DESCRIPTION	CHKD. BY

KELLY RD. WIDENING
GRAYTON TO NORTH OF SEYMOUR
 QUANTITY SHEET M2000(171)

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN **CEA**
 CHECKED *[Signature]*
 APPROVED *[Signature]*
 DATE **11 - 1983**

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

DRWG. NO. **17 OF 17** FILE NO. **CEA 1085**

CHECKED BY
 APPROVED BY
PUBLIC LIGHTING COMMISSION
 CITY OF DETROIT

FILE NO. **48-0323**
 SHEET NO. **25 OF 25**
 DATE **11 - 1983**