

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 (227)

CONTROL SECTION 82400

JOB NO. 15765A

FHWA REGION	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MICH.				
STREET	CITY	COUNTY	TWP.	SHEET NO.	TOTAL SHEETS

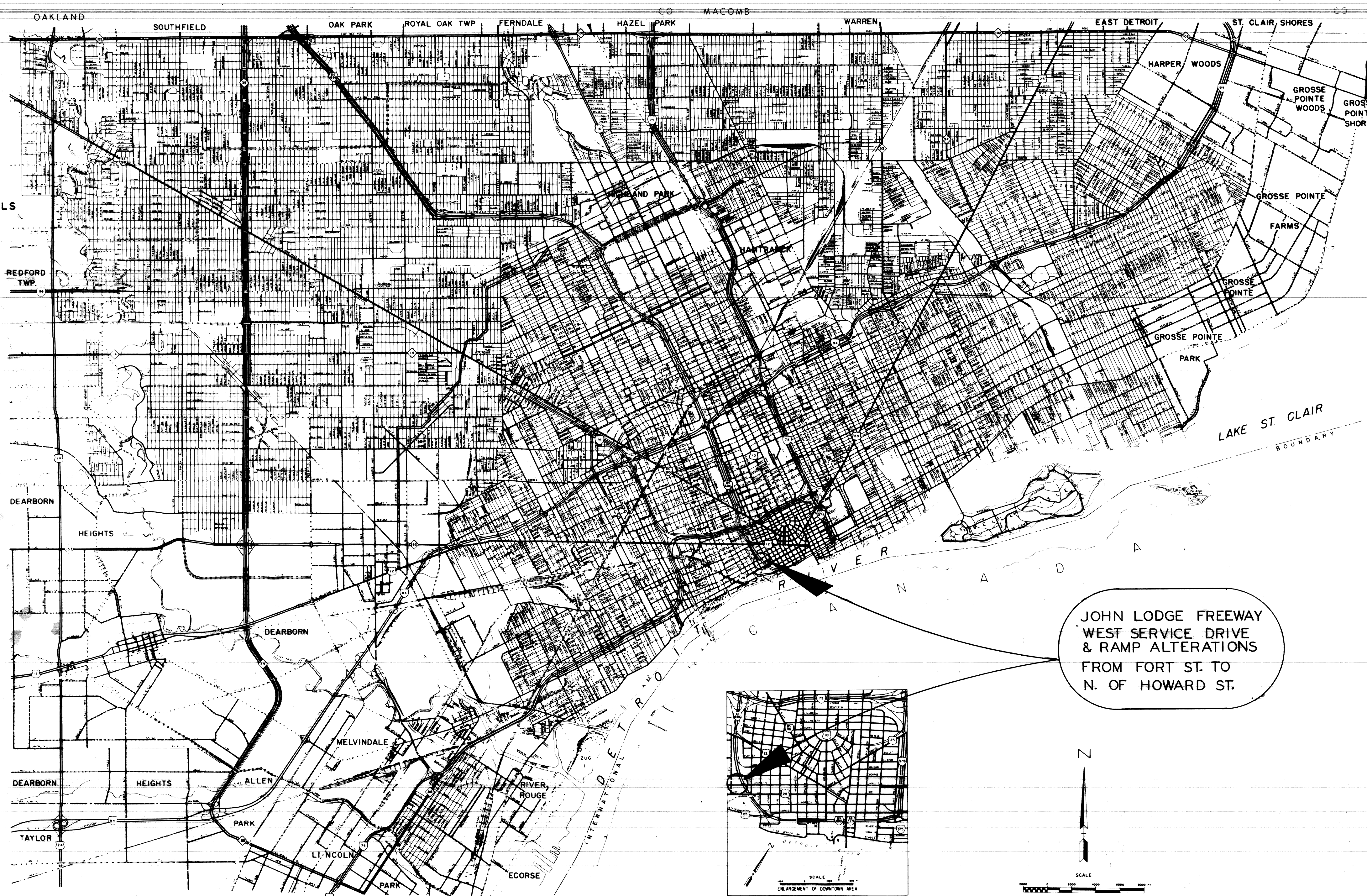
ADT: 12690 ADT
DESIGN SPEED: 25 MPH

INDEX OF SHEETS

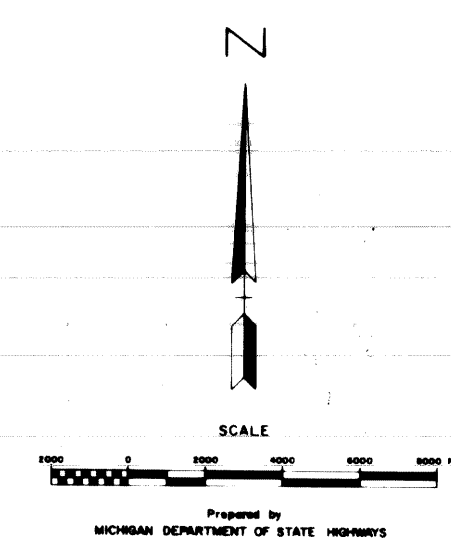
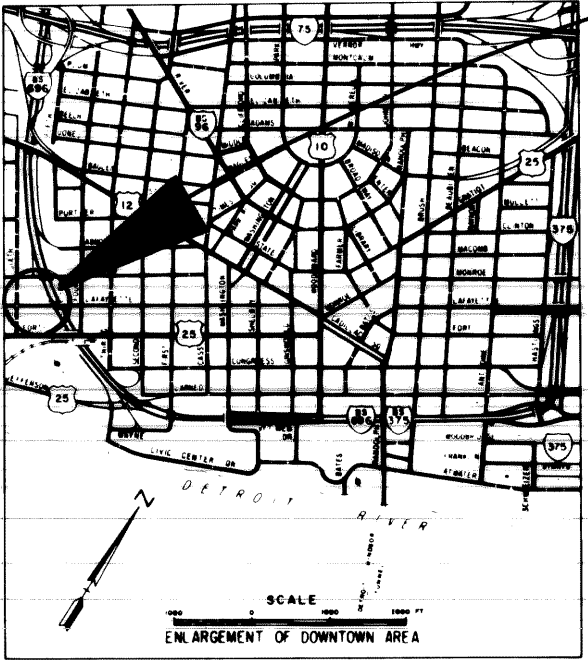
- 1 TITLE SHEET
- 2 TYPICAL CROSS - SECTIONS
- 3 ALIGNMENT
- 4 CONSTRUCTION SEQUENCE
- 5 REMOVALS
- 6 PLAN AND PROFILES
- 7-8 DETAILED GRADES
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- 10-12 STANDARD PLANS AND DETAILS
- 13 QUANTITY SHEET
- 14-19 PLD PLANS
- 20 PLD QUANTITY SHEET
- 21-36 PLD DETAILS

STANDARD PLANS

- I - 9C
- I - 13C
- II - 28G
- II - 29D
- II - 30C
- II - 31C
- II - 39H
- II - 40E
- II - 41D
- II - 42E
- II - 43D
- II - 44F
- II - 45E
- IV - 80D
- IV - 84D
- V - 96C
- V - 98D
- V - 100A
- V - 112J
- VI - 124C
- VI - 125F



JOHN LODGE FREEWAY
WEST SERVICE DRIVE
& RAMP ALTERATIONS
FROM FORT ST. TO
N. OF HOWARD ST.



ITEM NO. UF 1014

CONTRACT FOR G, DS, P, & UTILITIES

LOCAL AUTHORITY APPROVAL
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

APPROVED BY E.M. Kennedy Jr. 1/29/86
DATE
DEPUTY DIRECTOR

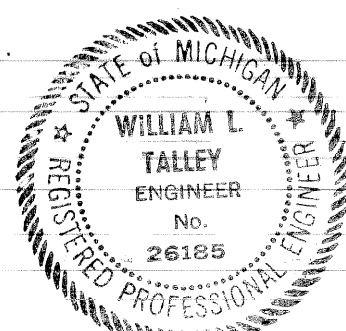
APPROVED BY C.R. Heppner 8-24-86
DATE
DIRECTOR

PREPARED UNDER SUPERVISION OF

William R. Talley 26185
REGISTRATION NO.
REGISTERED PROFESSIONAL ENGINEER

CITY OF DETROIT
ORGANIZATION

DETROIT, MICHIGAN
ADDRESS

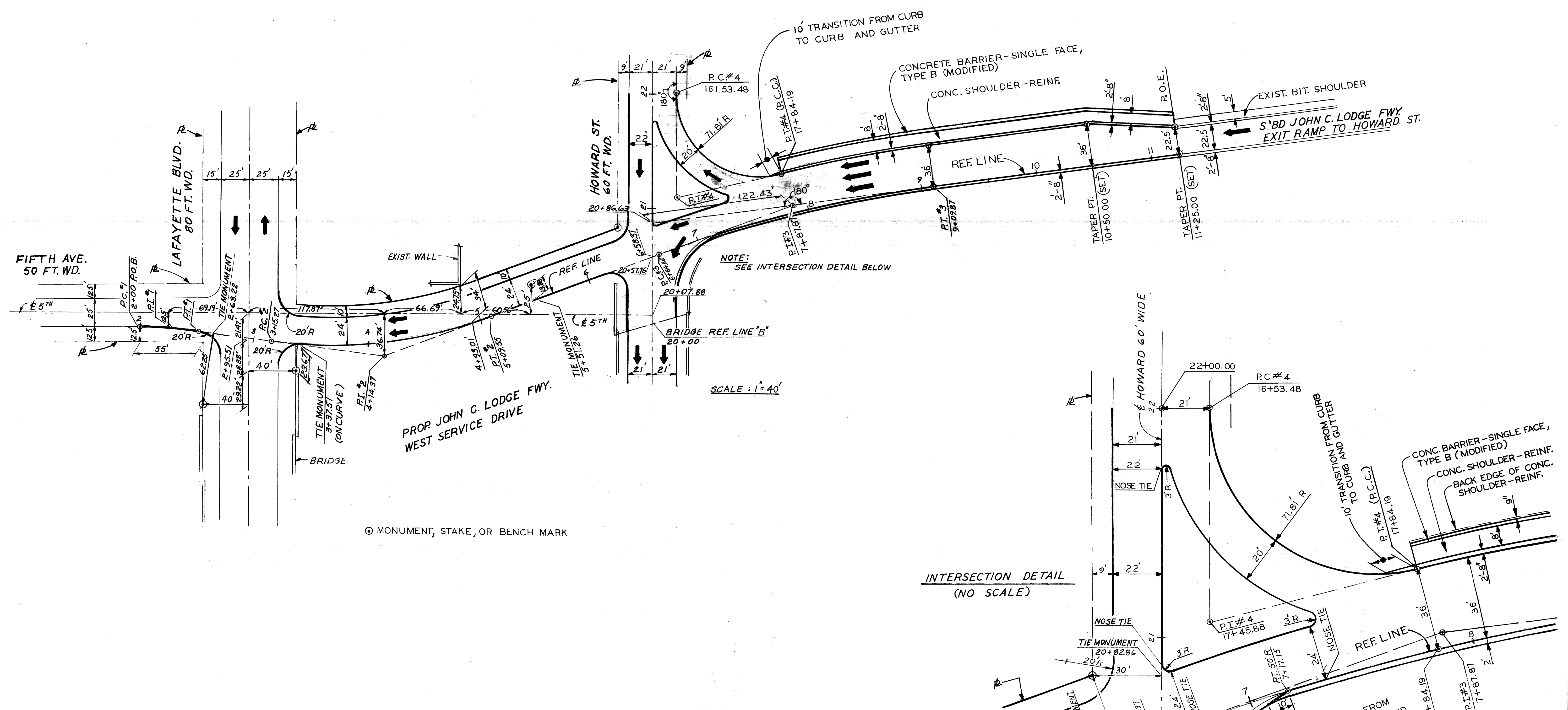
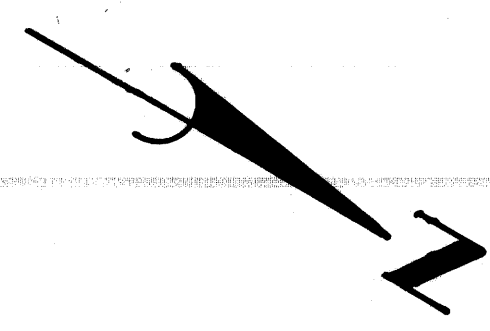


(SEAL)

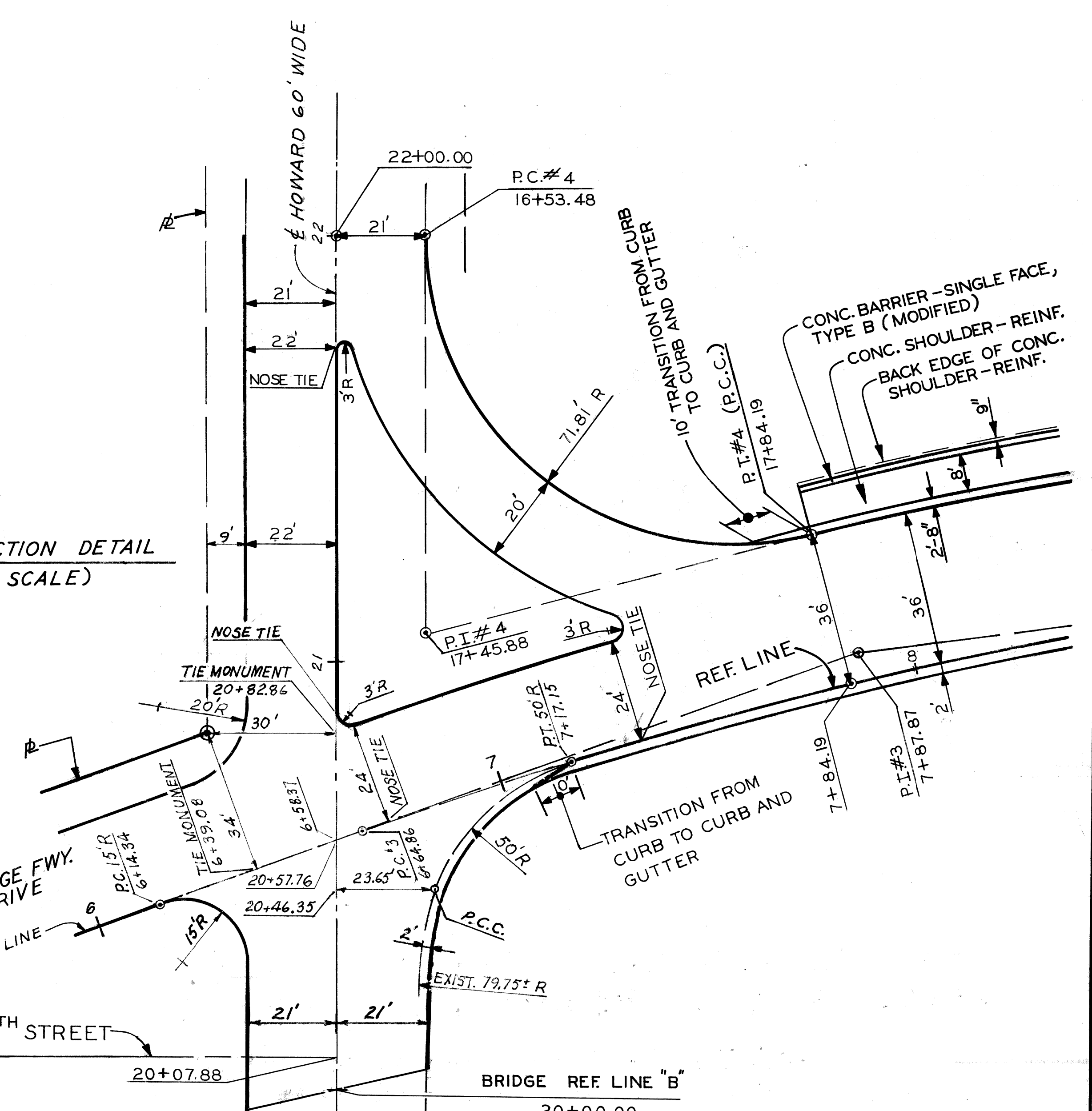
CONTROL SECTION 82400, JOB NO. 15765A, ITEM NO. UF 1014

FILE NO.	DATE	BY	REVISION

(C)



INTERSECTION DETAIL (NO SCALE)



CURVE DATA			
CURVE #1	CURVE #2	CURVE #3	CURVE #4
$\Delta = 7^{\circ}23'17.6''$	$\Delta = 27^{\circ}49'45.8''$	$\Delta = 12^{\circ}45'42.5''$	$\Delta = 104^{\circ}17'37''$
$D = 14^{\circ}19'26.2''$	$D = 14^{\circ}19'26.2''$	$D = 5^{\circ}12'31.3''$	$D = 79^{\circ}47'16.99''$
$R = 400'$	$R = 400'$	$R = 1100'$	$R = 71.81'$
$T = 25.83'$	$T = 99.10'$	$T = 123.01'$	$T = 92.40'$
$L = 51.58'$	$L = 194.29'$	$L = 245.01'$	$L = 130.71'$
$E = 0.8328'$	$E = 12.0929'$	$E = 6.8570'$	$E = 45.21'$
$PC = 2+00$	$PC = 3+15.27$	$PC = 6+64.86$	$PC = 16+53.48$
$PI = 2+25.83$	$PI = 4+14.37$	$PI = 7+87.87$	$PI = 17+45.88$
$PT = 2+51.58$	$PT = 5+09.55$	$PT = 9+09.87$	$PT = P.C.C. = 17+84.19$

DESIGNED BY	RBP/UP/WB
DRAWN BY	RBP/UP
TRACED BY	
CHECKED BY	WB

APPROVED: *William R. Kelly*
 ENGINEER OF STREETS
 HIGHWAY ENGINEER

CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT
 BUREAUS OF STREETS AND HIGHWAYS

JOHN LODGE FWY W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD.

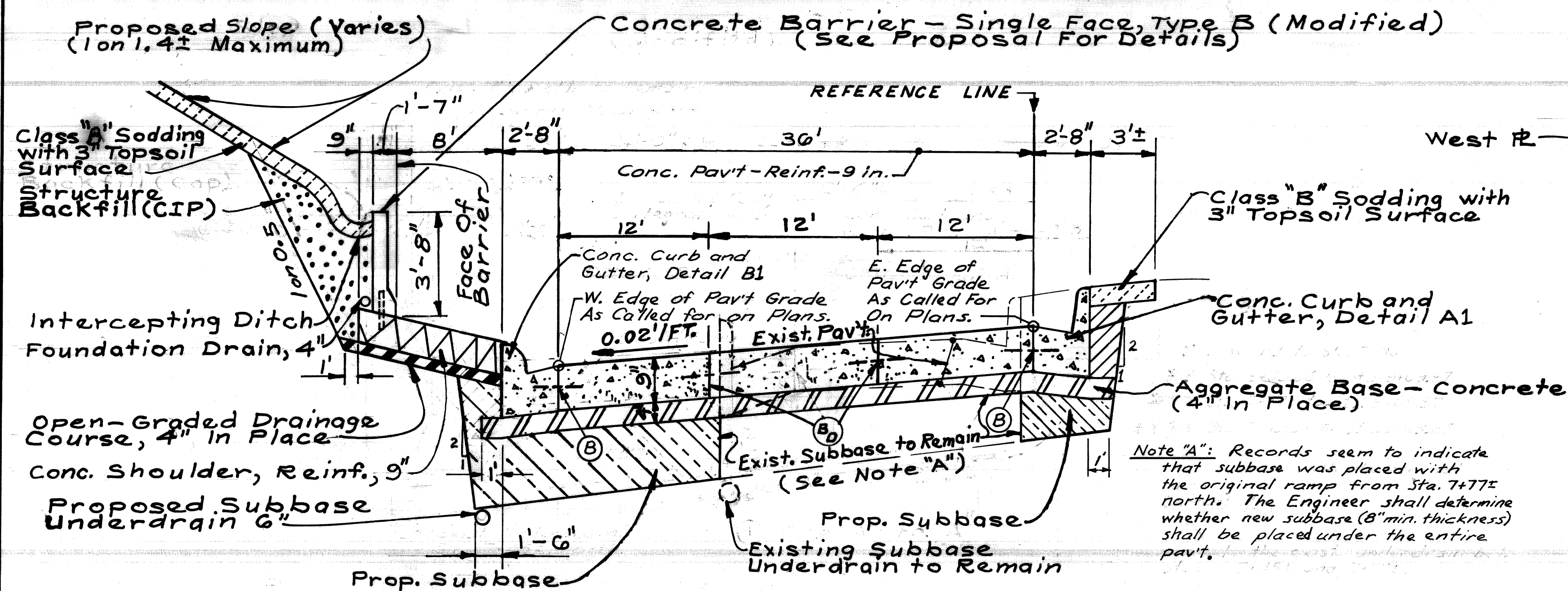
ALIGNMENT

SHEET 3 OF 36 SHEETS

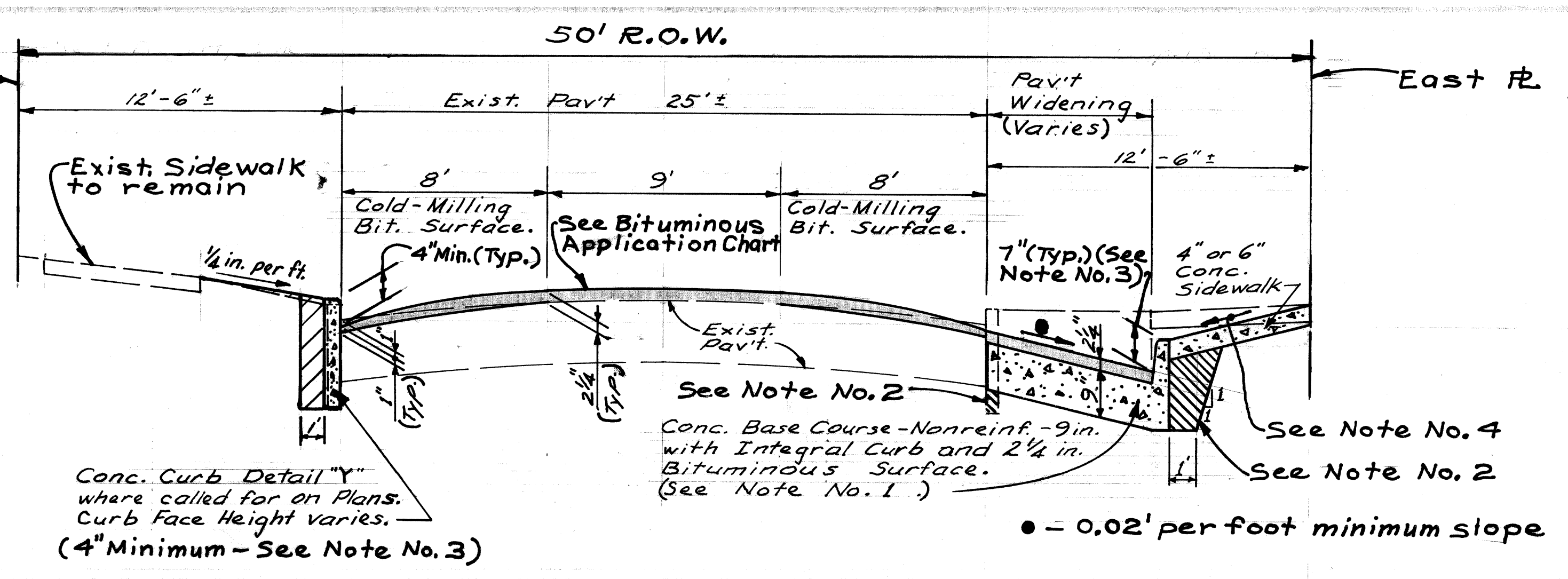
CONTRACT NO. 15765A

ASSIGNMENT NO.

DATE 4-86



TYPICAL CROSS - SECTION
S'BD JOHN LODGE EXIT RAMP TO HOWARD



TYPICAL CROSS - SECTION
FIFTH AVE. (W. SER. DR.)
FORT TO LAFAYETTE
(No Scale)

BITUMINOUS APPLICATION CHART			
ITEM	RATE OF APPLICATION	ESTIMATED THICKNESS	ASPHALT PENETRATION
Bituminous Mix. No. 1100L, 20AA	130 #/Sq. Yd.	1 1/4 inches	85-100
Bituminous Mix. No. 1100T, 20AA	120 #/Sq. Yd.	1 inch	85-100

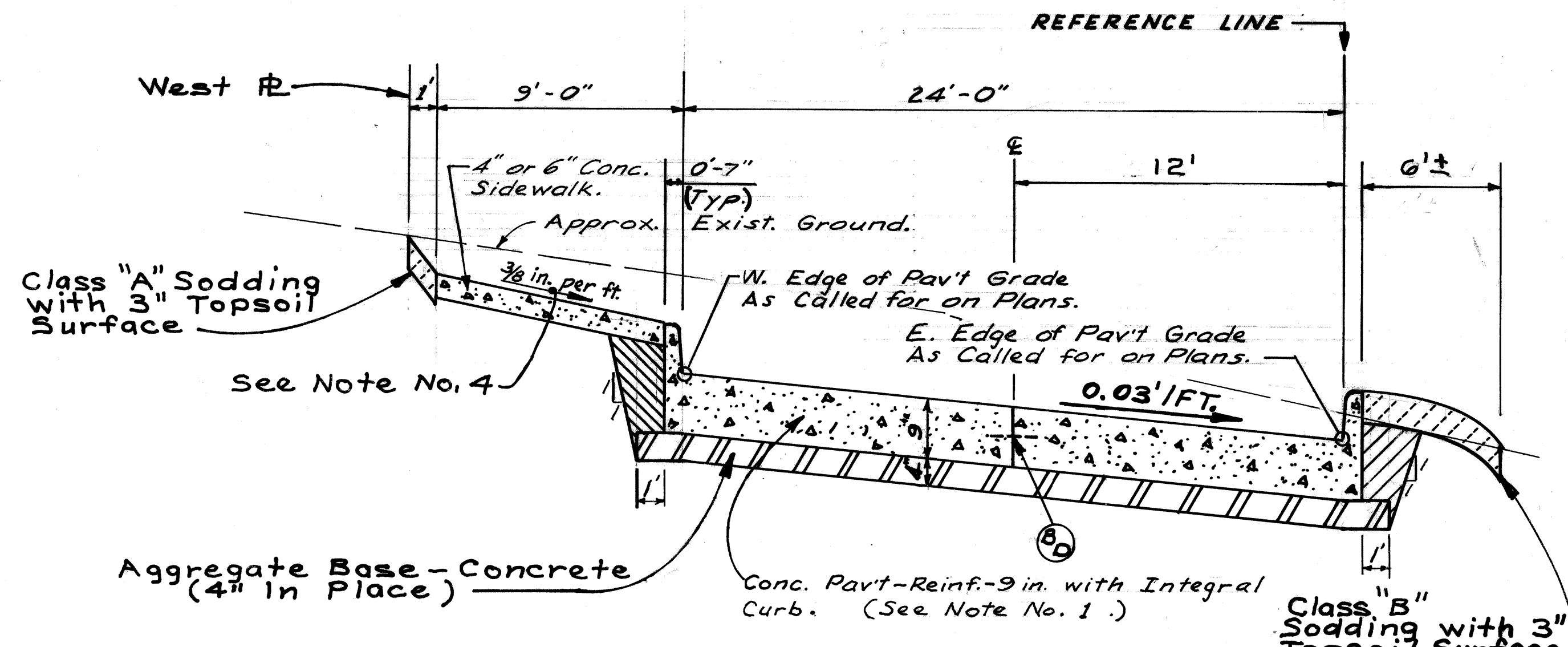
Bituminous Bond Coat 0-0.10 Gal./Sq. Yd. to Rigid Bases and 0-0.05 Gal./Sq. Yd. Tack Coat between layers.

LEGEND	
	Concrete Shoulder, Reinforced, 9"
	Selected Excavated Material (Incidental to Paving).
	Granular Material Class II (See Note No. 2)
	Aggregate Base - Concrete (4 inches in Place).
	Subbase (LM)
	Class 'B' (East Side of Rdwy.) or Class 'A' (West Side) Sodding with 3" Topsoil Surface.
	Existing Pavt, Sidewalk or Ground Line.
	Proposed Pavt, Sidewalk or Ground Line.
	Longitudinal Bulkhead Joint according to MDOT Std Dwg II-41D.
	Longitudinal Lane Tie Joint with Tie Bar according to MDOT Std Dwg II-41D.
	Optional, B or D Joint.

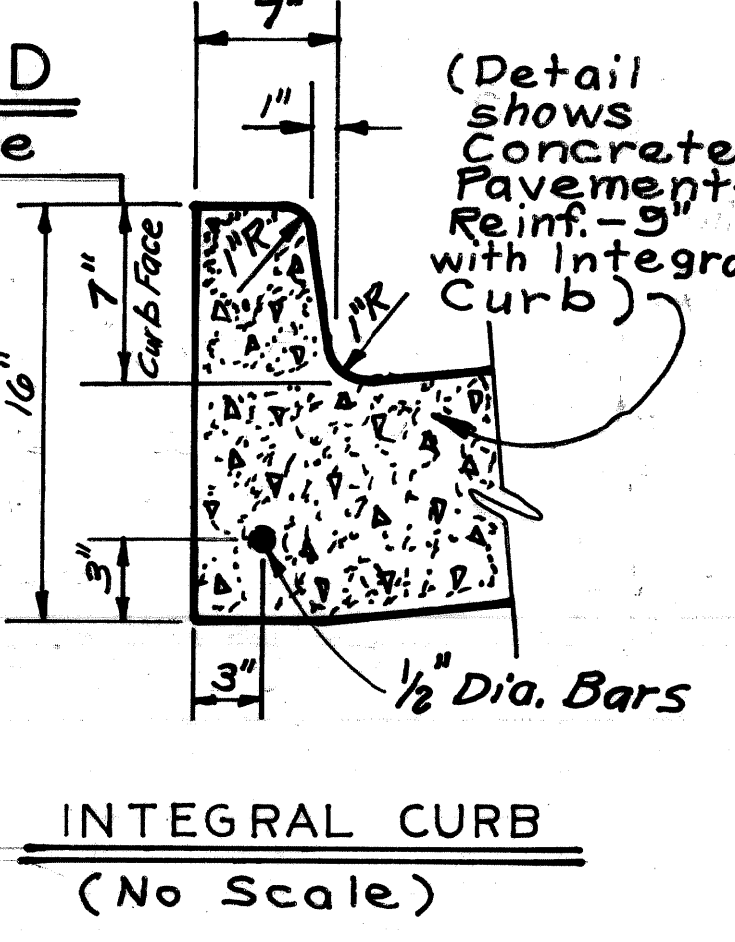
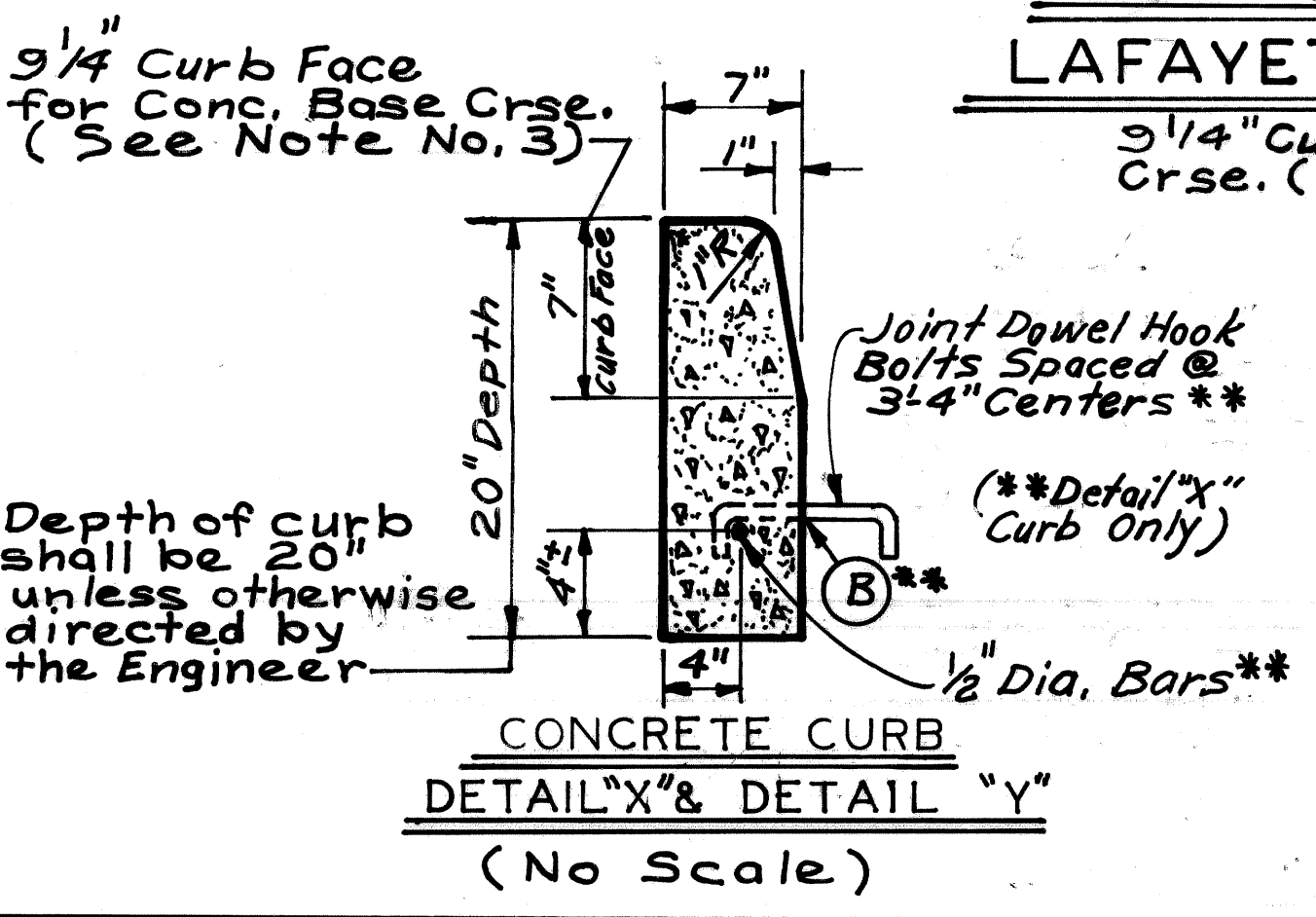
ESTIMATED QUANTITIES TO BE USED THROUGHOUT THE PROJECT AT THE DISCRETION OF THE ENGINEER	
BARRICADE, TYPE III, LIGHTED, FURNISHED	2 EACH
BARRICADE, TYPE III, LIGHTED, OPERATED	2 EACH
REMOVING PAVEMENT (REPAIR)	20 SQ. YARDS
CONCRETE PAVEMENT REPAIR, 10" NONREINFORCED	20 SQ. YARDS
SUBGRADE UNDERCUTTING TYPE II	30 CU. YARDS
4" CONCRETE SIDEWALK	90 SQ. FEET
REMOVING SIDEWALK	10 SQ. YARDS
CLEANING EXISTING STORM DRAINAGE STRUCTURES	6 EACH
SEWER CLEANOUT	100 LIN. FEET
CLASS "A" SODDING	25 SQ. YARDS
CLASS "B" SODDING	25 SQ. YARDS
TOPSOIL SURFACE, 3"	50 SQ. YARDS
CATCH BASIN "L"	1 EACH
REMOVING DRAINAGE STRUCTURES	1 EACH
WATER	1 UNIT
CEMENT	10 TONS
CONCRETE CURB DETAIL "X"	50 LIN. FEET
CONCRETE CURB DETAIL "Y"	50 LIN. FEET
RECONSTRUCT GATE WELL	1 EACH
MOVING FENCE	360 LIN. FEET

MISCELLANEOUS QUANTITIES	
FIELD OFFICE	4 MONTHS
MOBILIZATION	1 LUMP SUM
FLAG CONTROL	1 LUMP SUM
MINOR TRAFFIC DEVICES	1 LUMP SUM

- NOTES
- The proposed curb shall be Integral Curb (See Detail this sheet) with concrete curb details "X" and "Y" as alternates. Regardless of construction method, the proposed curb shall be paid for as "Concrete Base Course - Nonreinforced - 9" with Integral Curb" (Fort to Lafayette, Detail "Y" as the alternate) or "Concrete Pavement - Reinforced - 9" with Integral Curb" (Lafayette to Howard, Detail "X" as the alternate).
 - Backfill, if required under proposed sidewalk or pavement, shall be Granular Material Class II. (Incidental to sidewalk or pavement).
 - Proposed final curb face height shall be 7" unless otherwise called for on the Plans or directed by the Engineer.
 - 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 minimum to 1/2" per foot maximum.



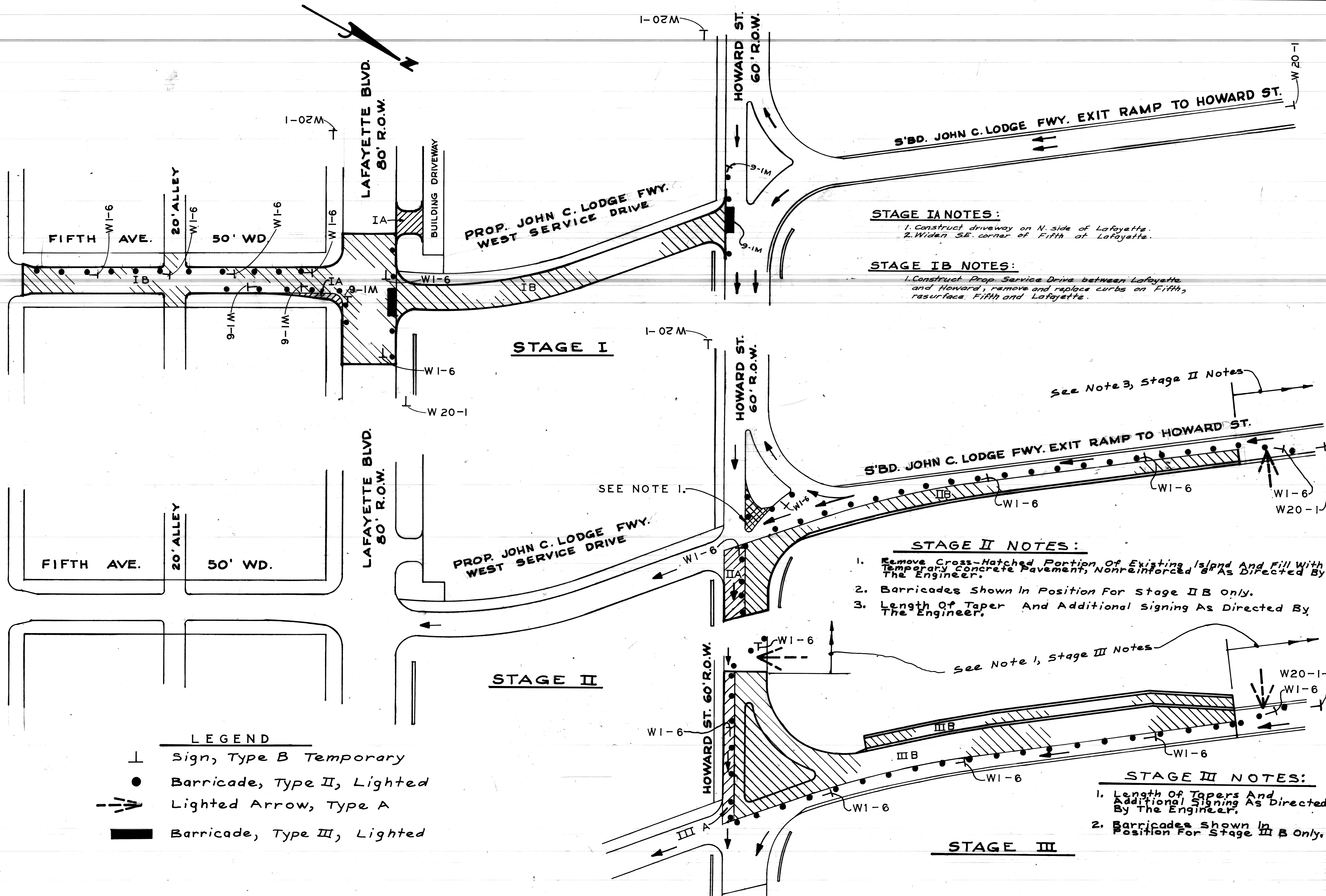
TYPICAL CROSS - SECTION
WEST SERVICE DRIVE
LAFAYETTE TO HOWARD



DESIGNED BY	R.B.P./W.B.	APPROVED:	William R. Alley	CITY OF DETROIT	JOHN LODGE FWY W. SERVICE DR. & RAMP	SHEET 2 OF 36 SHEETS
DRAWN BY	R.B.P./J.J.	ENGINEER OF STREETS		CITY ENGINEERING DEPARTMENT	ALTERATIONS, FROM FORT TO N. OF HOWARD	CONTRACT NO. 15765A
TRACED BY		HIGHWAY ENGINEER		BUREAU OF STREETS AND HIGHWAYS		ASSIGNMENT NO.
CHECKED BY	W.B.				TYPICAL CROSS-SECTIONS	DATE 4-86

FORT ST. 100' R.O.W.

FORT ST. 100' R.O.W.



STAGE I NOTES:

- 1. Construct driveway on N. side of Lafayette.
- 2. Widen SE. corner of Fifth at Lafayette.

STAGE I B NOTES:

- 1. Construct Prop. Service Drive between Lafayette and Howard, remove and replace curbs on Fifth, resurface Fifth and Lafayette.

STAGE II NOTES:

- 1. Remove Cross-Hatched Portion of Existing Island and Fill With Temporary Concrete Pavement, Nonreinforced 6" As Directed By The Engineer.
- 2. Barricades Shown in Position For Stage II B Only.
- 3. Length Of Taper And Additional Signing As Directed By The Engineer.

STAGE III NOTES:

- 1. Length Of Tapers And Additional Signing As Directed By The Engineer.
- 2. Barricades Shown in Position For Stage III B Only.

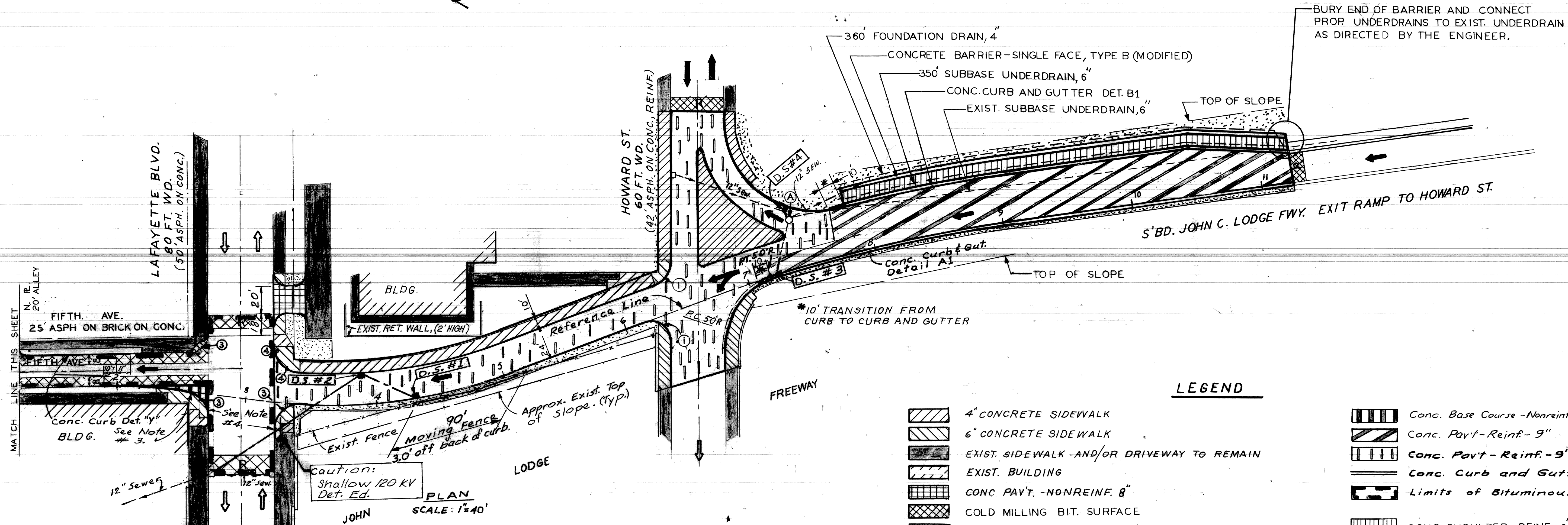
LEGEND

- ⊥ Sign, Type B Temporary
- Barricade, Type II, Lighted
- ➔ Lighted Arrow, Type A
- Barricade, Type III, Lighted

REFERENCE DRAWINGS		DESIGNED BY	RBP / WS	APPROVED:	 CITY ENGINEERING DEPARTMENT BUREAU OF STREETS AND HIGHWAYS	JOHN LODGE FWY. W. SERVICE DRIVE & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD CONSTRUCTION SEQUENCE	SHEET 4 OF 36 SHEETS
		DRAWN BY	JK / JU				CONTRACT NO. 15765A
		TRACED BY					ASSIGNMENT NO.
		CHECKED BY	WB				DATE 4 - 86
COORD	DESCRIPTION	DRN	CKD	APVD	DATE		
REVISIONS LOCATED BY COORDINATES ON SHEET							

C.B.M. EL. 130.80 ARROW ON HYDRANT
100' W. OF W. LINE LODGE FREEWAY

C.B.M. ELEV. 129.11 BRASS CAP
S. SIDE HOWARD @ W. LINE
LODGE FREEWAY (ON BRIDGE)



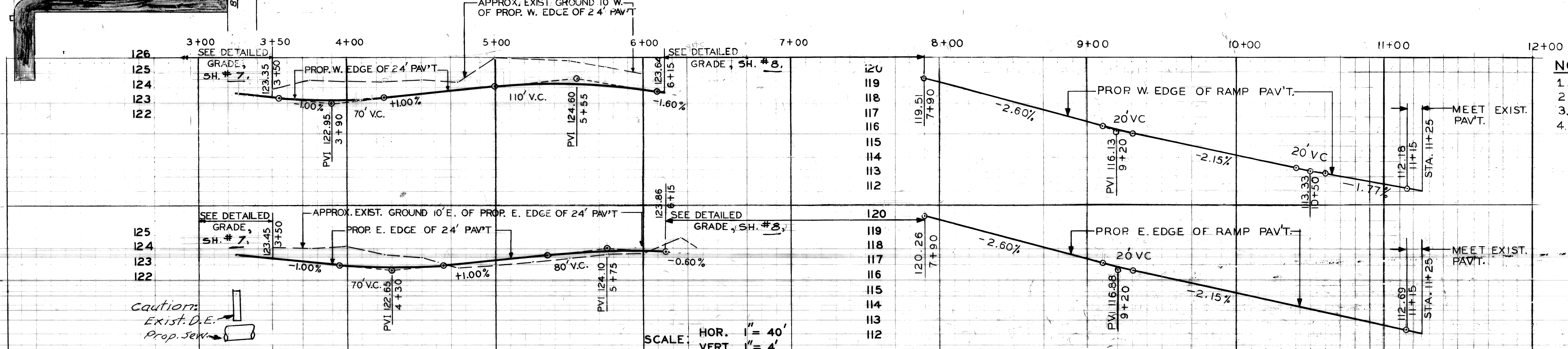
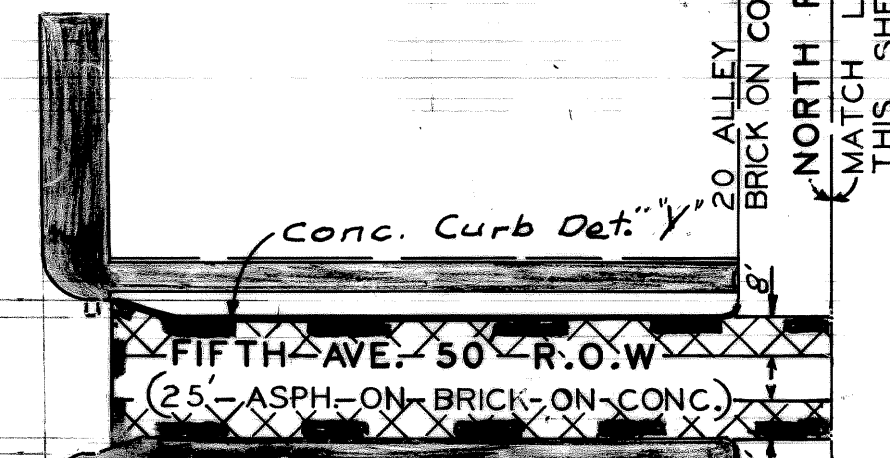
PLAN
SCALE: 1"=40'

LEGEND

- 4' CONCRETE SIDEWALK
 - 6' CONCRETE SIDEWALK
 - EXIST. SIDEWALK AND/OR DRIVEWAY TO REMAIN
 - EXIST. BUILDING
 - CONC. PAV'T. - NONREINF. 8"
 - COLD MILLING BIT. SURFACE
 - REMOVING BIT SURFACE
 - CL. "B" SODDING (FWY. SIDE OF RDWY), CL. "A" SODDING (W. SIDE), WITH 3" TOPSOIL SURFACE.
 - CONC. BASE COURSE - NONREINF. 9" WITH INT. CURB #2 1/2" BIT. SURF.
 - CONC. PAV'T. - REINF. 9"
 - CONC. PAV'T. - REINF. 9" WITH INTEGRAL CURB.
 - CONC. CURB AND GUTTER DET. A1 OR DET. B1
 - LIMITS OF BITUMINOUS RESURFACING.
 - CONC. SHOULDER, REINF., 9"
- (A) ADJUSTING DRAINAGE STRUCTURE COVERS
(B) SIDEWALK RAMP TYPE 1, 2, 3 OR 4.

Drainage Structure (D.S.) No.	Station	D.S. Type	With Trap	Cover	Outlet Sewer Size & Type	Outlet Elevation	Outlet Sewer Runs To:	D.S. or Inlet Sewer Elev.	Sewer Length	Length of Trench	Sewer Top
D.S.#1	4+30	C.B. A	-	D	12" C-76 III	118.3	D.S.#2	118.1	42'	42'	-
D.S.#2	3+90	C.B. B	-	D	12" C-76 III	117.4	Ex. C.B.	116.7	136'	#136'	12"
D.S.#3	7+23	C.B. B	T	H	12" C-76 III	***	Ex. Sew.	***	7'	7'	-
D.S.#4	17+42	C.B. B	T	D	12" C-76 III	***	Ex. S.M.H.	***	6'	6'	-

** To Be Determined by Field Engineer. *** Meet Exist. Sewer Elev.
* Caution: 120 KV D.E. Cable and 16" Gas in Lafayette. Also 24 KV PLD Cable.



- NOTES:
- FOR ALIGNMENT, SEE SHEET # 3
 - FOR UTILITY LEGEND, SEE SHEET # 12
 - 6" MIN. CURB FACE STA 2+00 TO LAFAYETTE.
 - 4" MIN CURB FACE BOTH SIDES OF LAFAYETTE.

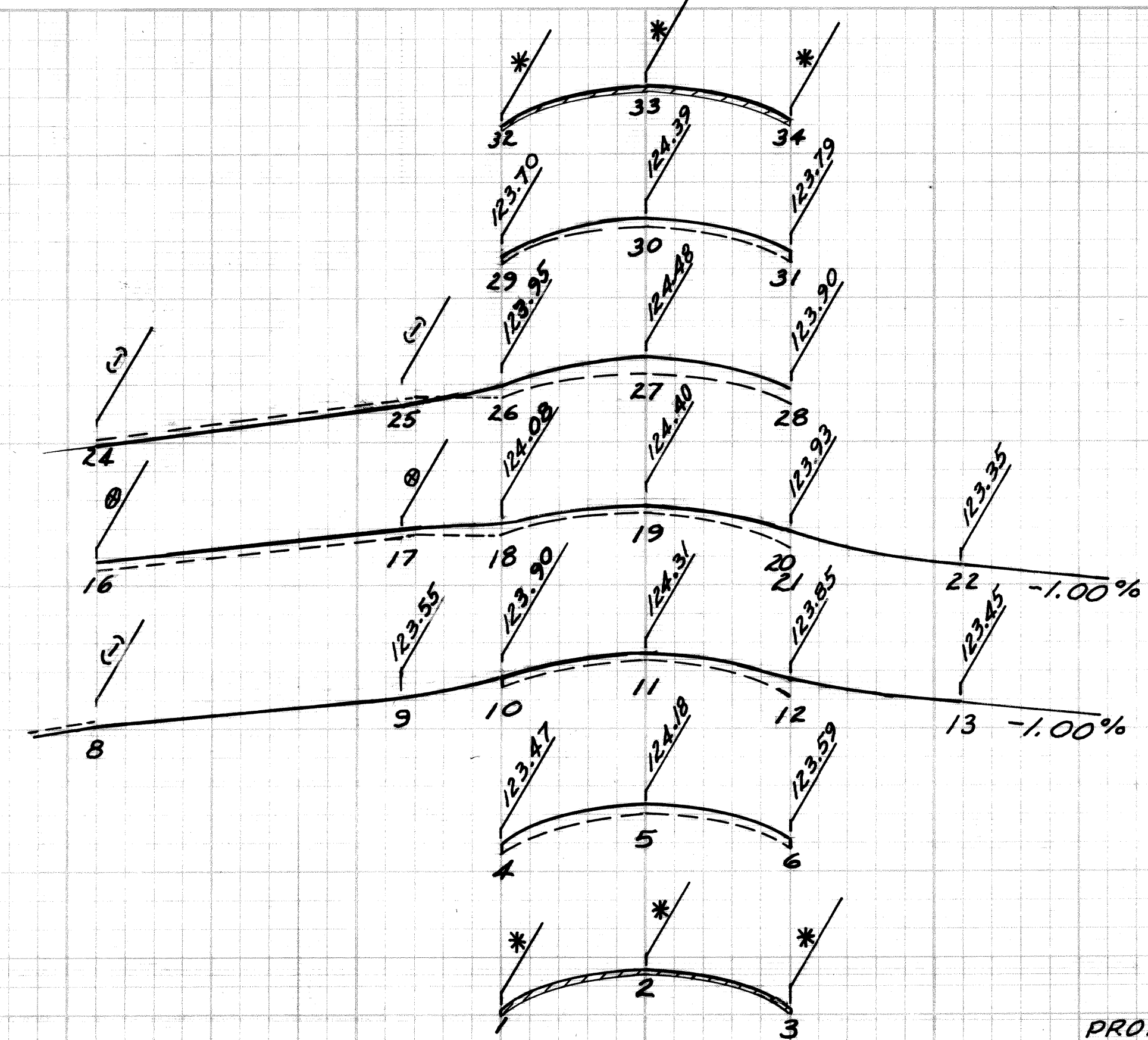
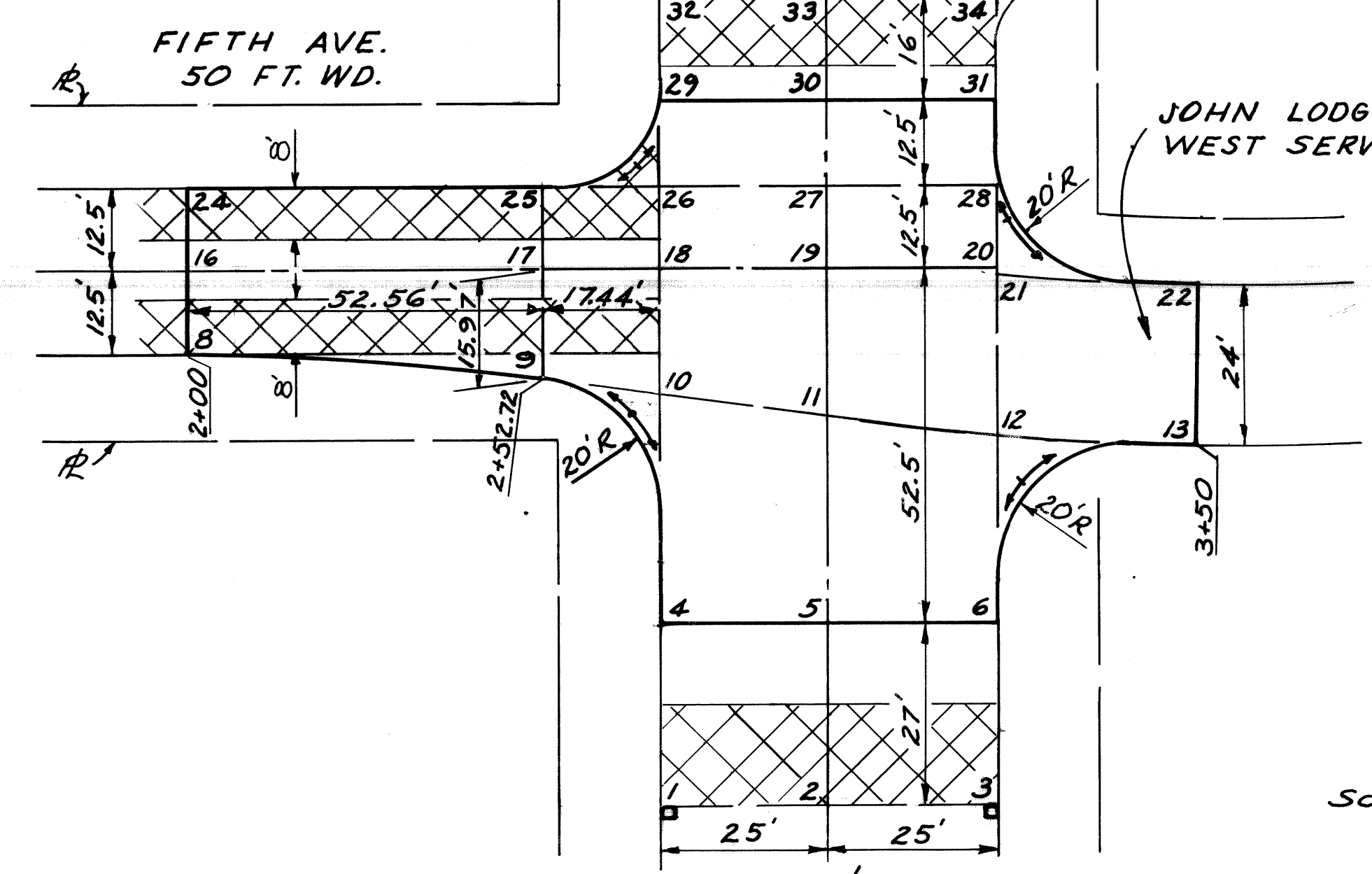
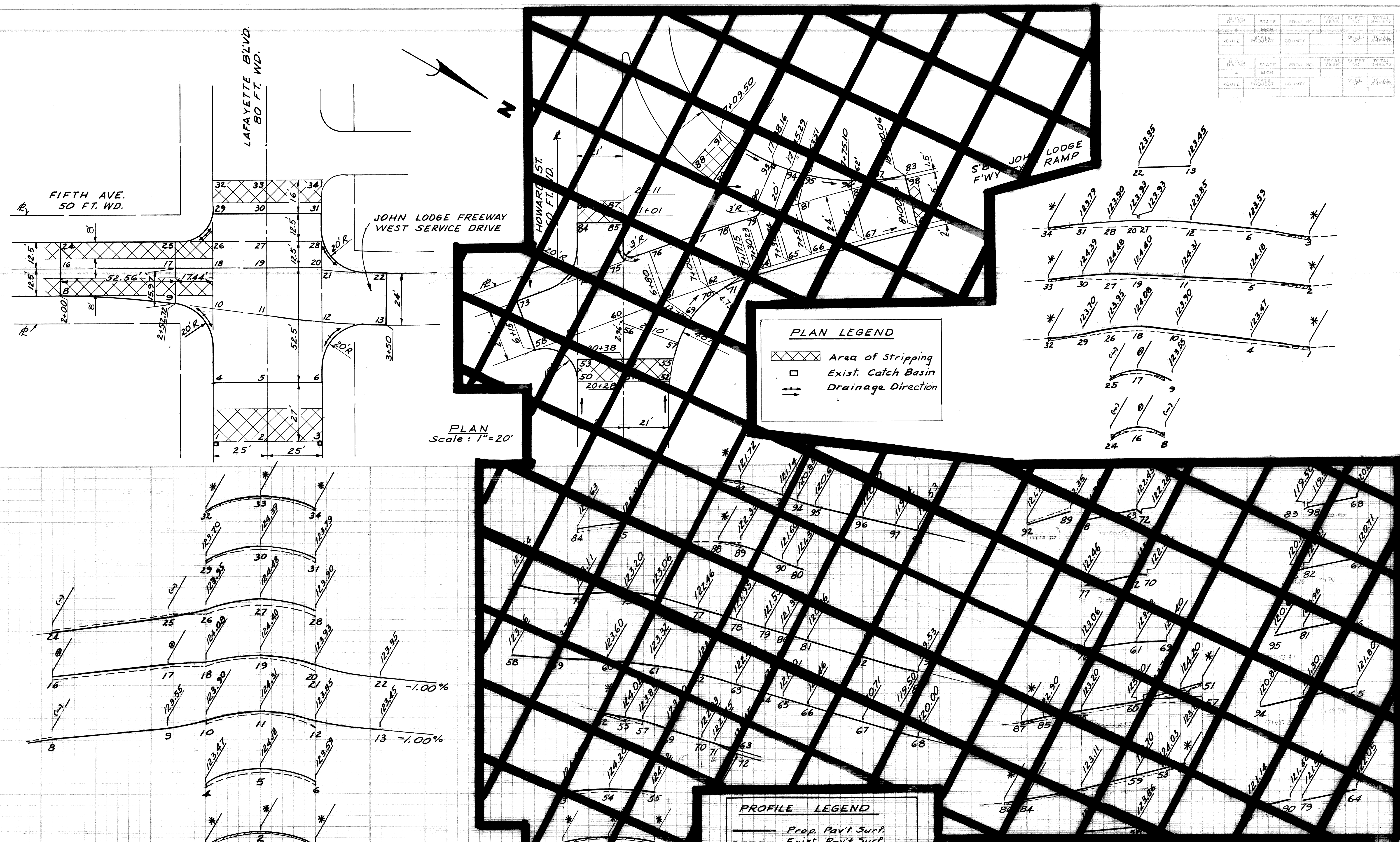
DESIGNED BY RBP/UP	DRAWN BY RBP/UP	TRACED BY	CHECKED BY WB	APPROVED: <i>William R. Galley</i> ENGINEER OF STREETS HIGHWAY ENGINEER	CITY OF DETROIT CITY ENGINEERING DEPARTMENT BUREAUS OF STREETS AND HIGHWAYS	JOHN LODGE FWY W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD.	SHEET 6 OF 36 SHEETS CONTRACT NO. 15765A ASSIGNMENT NO. DATE 4-86
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D.P.R. DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
4					
D.P.R. DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
4					

OPERATION BY DATE
 PRELIMINARY R.O.W. CHECKED
 FINAL DESIGN CHECKED
 TRACED
 FINAL R.O.W. CHECKED
 QUANTITIES CHECKED
 SQUAD

OPERATION BY DATE
 SURVEYED
 PLAN CHECKED
 PROFILE PLOTTED
 PROFILE CHECKED
 GRADE INSPECTION
 FEDERAL INSPECTION

AUTH.	DATE	REVISION
		FINAL R.O.W.



PLAN
Scale: 1"=20'

PROFILE
Hor.: 1"=20'
Vert.: 1"=2'

PLAN LEGEND

- Area of Stripping
- Exist. Catch Basin
- Drainage Direction

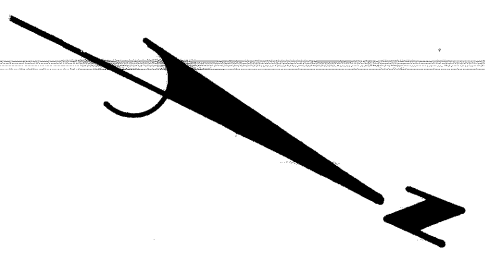
PROFILE LEGEND

- Prop. Pav't Surf.
- Exist. Pav't Surf.
- Stripping
- Prop. Elev. = Exist. Elev.
- Prop. Elev. = Ex. El. + 2 1/2"
- Prop. Elev. = Ex. El. - 1"

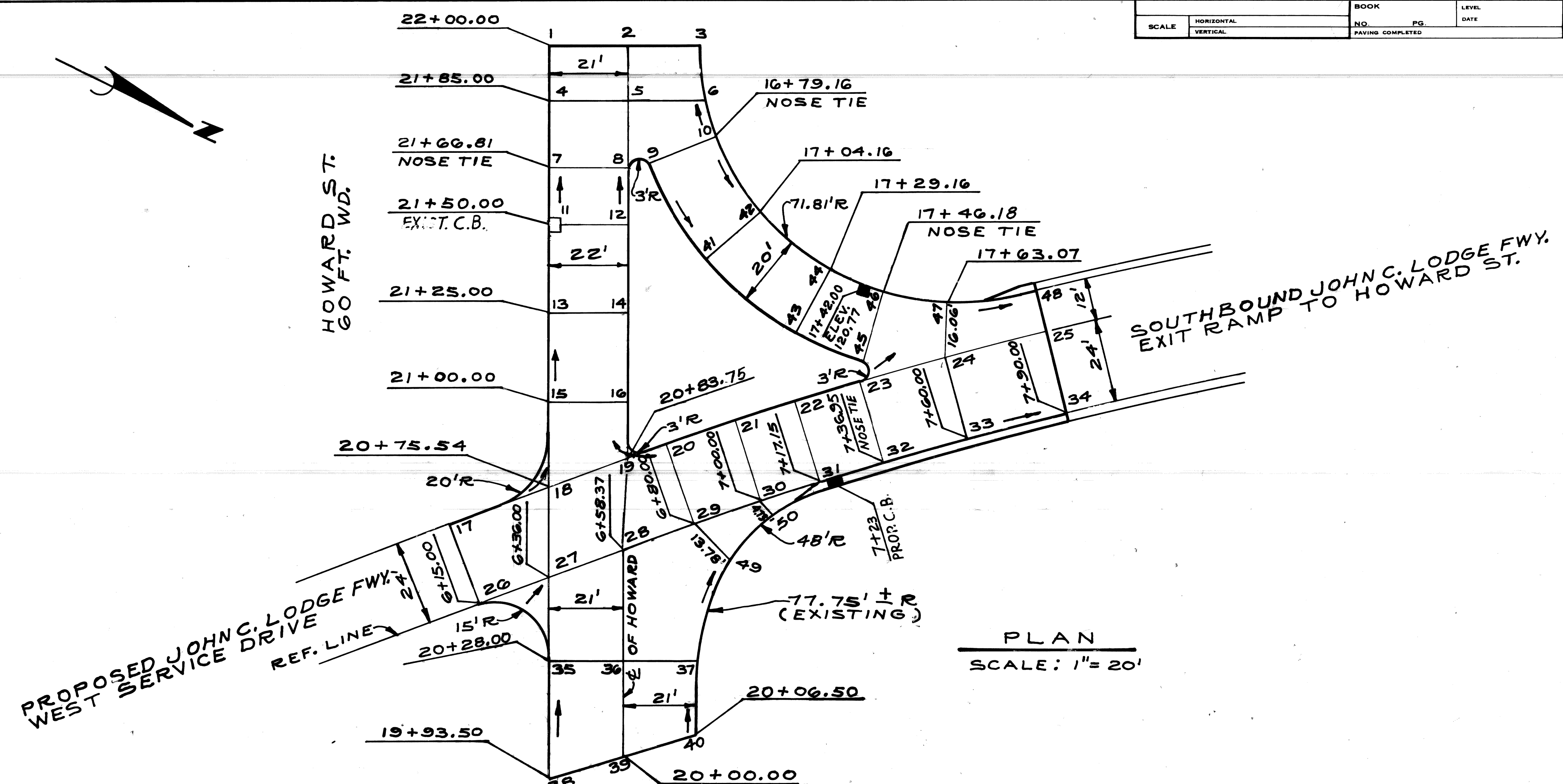
JOHN LODGE FWY W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD. DETAILED GRADES

7 OF 36
15765A
4-86

D.P.R. DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



HOWARD ST.
60 FT. W.D.

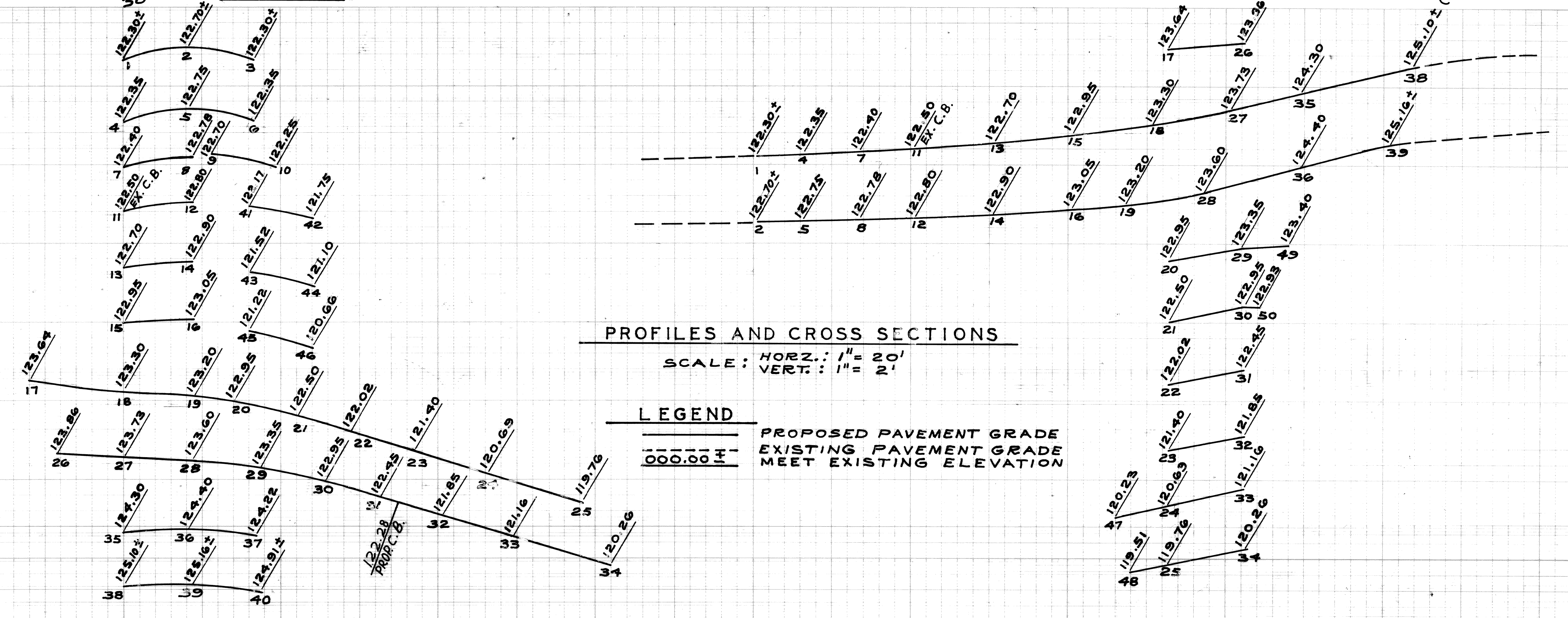


PLAN
SCALE: 1" = 20'

BENCH MARKS
ELEV
C.B.M.#1 ON HYD. N. SIDE LAFAYETTE E1,127.29
100' W. OF W.L. OF LODGE FWY.
C.B.M.#2 BRASS CAP S. SIDE HOWARD E1,125.83
W. LINE LODGE FWY. (ON BRIDGE)
P.B.M.# 28-353 N.W. CORNER FORT AND E1,124.80
SECOND

- LEGEND**
- , □ PROP. EXIST. CATCH BASINS
 - DETAIL GRADE AREA
 - ⇄ DRAINAGE DIRECTION

NOTES:
FOR DETAIL ALIGNMENT, SEE SHEET # 3



PROFILES AND CROSS SECTIONS
SCALE: HORIZ.: 1" = 20'
VERT.: 1" = 2'

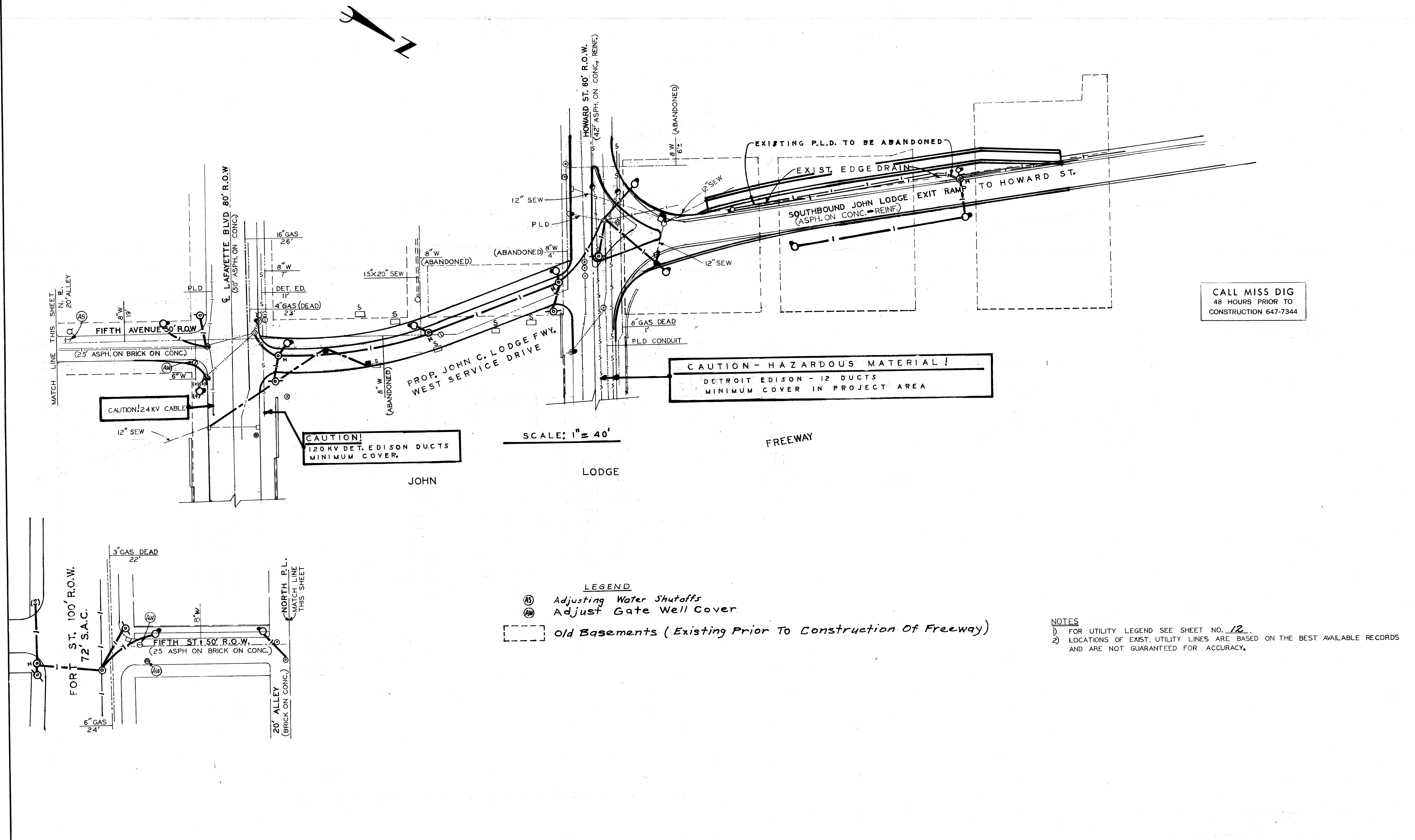
- LEGEND**
- PROPOSED PAVEMENT GRADE
 - EXISTING PAVEMENT GRADE
 - 000.00 ± MEET EXISTING ELEVATION

PLAN	BY U.P./J.J.	CHECKED BY U.P.	APPROVED: <i>William J. Talley</i> ENGINEER OF STREETS
GRADE	BY U.P.	CHECKED BY W.B.	HIGHWAY ENGINEER
ESTIMATE			
DESCRIPTION	DRN	CK D	AP VO DATE
REVISIONS	CHECK	REVIEW	

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAU OF STREETS AND HIGHWAYS

JOHN LODGE FWY. W. SERVICE DRIVE & RAMP
ALTERATIONS, FROM FORT TO N. OF HOWARD
DETAILED GRADES AT HOWARD ST.

INDEX NO.	SHEET 8 OF 36 SHEETS
CONTRACT NO.	15765A
ASSIGNMENT NO.	
DATE	4-86



CALL MISS DIG
48 HOURS PRIOR TO
CONSTRUCTION 647-7344

CAUTION! 24 KV CABLE

CAUTION!
120 KV DET. EDISON DUCTS
MINIMUM COVER.

CAUTION - HAZARDOUS MATERIAL!
DETROIT EDISON - 12 DUCTS
MINIMUM COVER IN PROJECT AREA

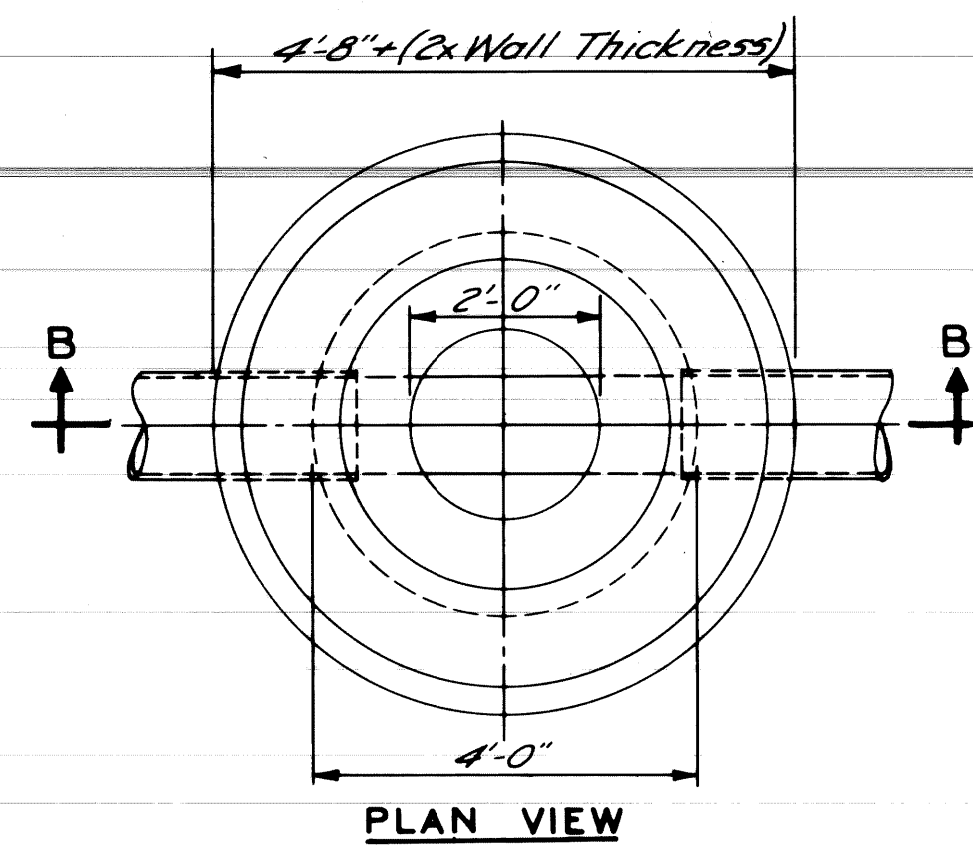
SCALE: 1" = 40'

- LEGEND**
- (AS) Adjusting Water Shutoffs
 - (AW) Adjust Gate Well Cover

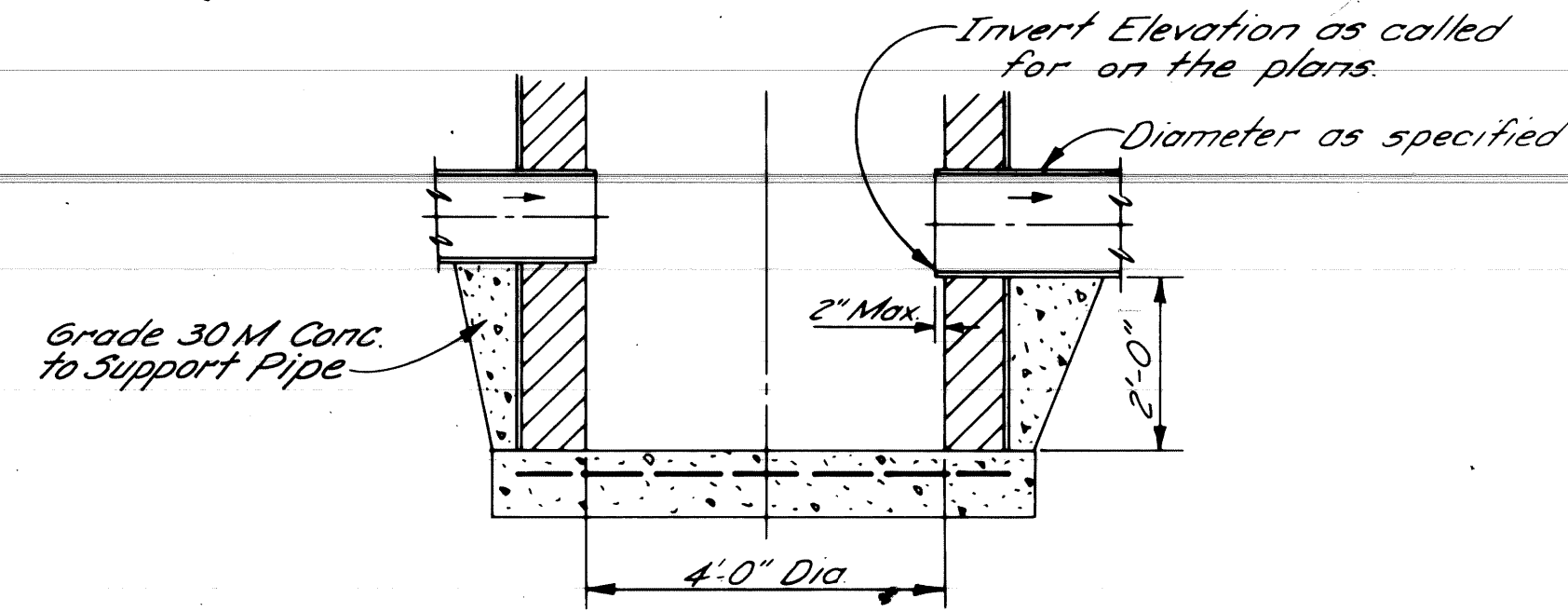
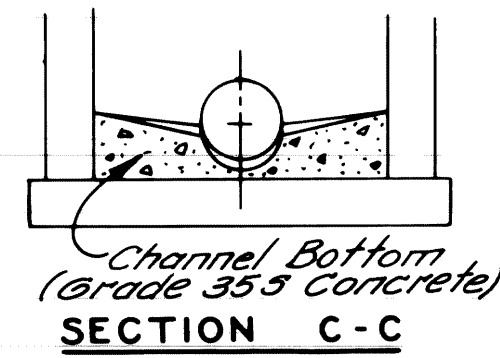
--- Old Basements (Existing Prior To Construction Of Freeway)

- NOTES**
- 1) FOR UTILITY LEGEND SEE SHEET NO. 12
 - 2) LOCATIONS OF EXIST. UTILITY LINES ARE BASED ON THE BEST AVAILABLE RECORDS AND ARE NOT GUARANTEED FOR ACCURACY.

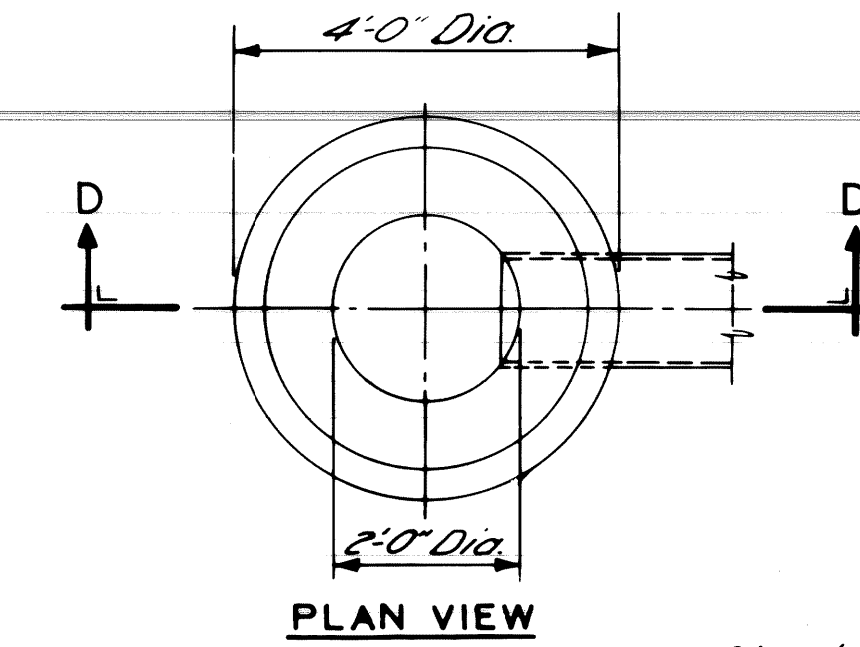
REVISIONS LOCATED BY COORDINATES ON SHEET 1 2 3 4 5 6 7 8 9 10 11		REFERENCE DRAWINGS DESIGNED BY DRAWN BY R.B.P. / J.J. TRACED BY CHECKED BY	APPROVED: <i>William R. Talley</i> ENGINEER OF STREETS HIGHWAY ENGINEER	CITY OF DETROIT CITY ENGINEERING DEPARTMENT BUREAUS OF STREETS AND HIGHWAYS	JOHN LODGE FWY W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD. UTILITIES	SHEET 9 OF 36 SHEETS CONTRACT NO. 15765A ASSIGNMENT NO. DATE 4 - 86
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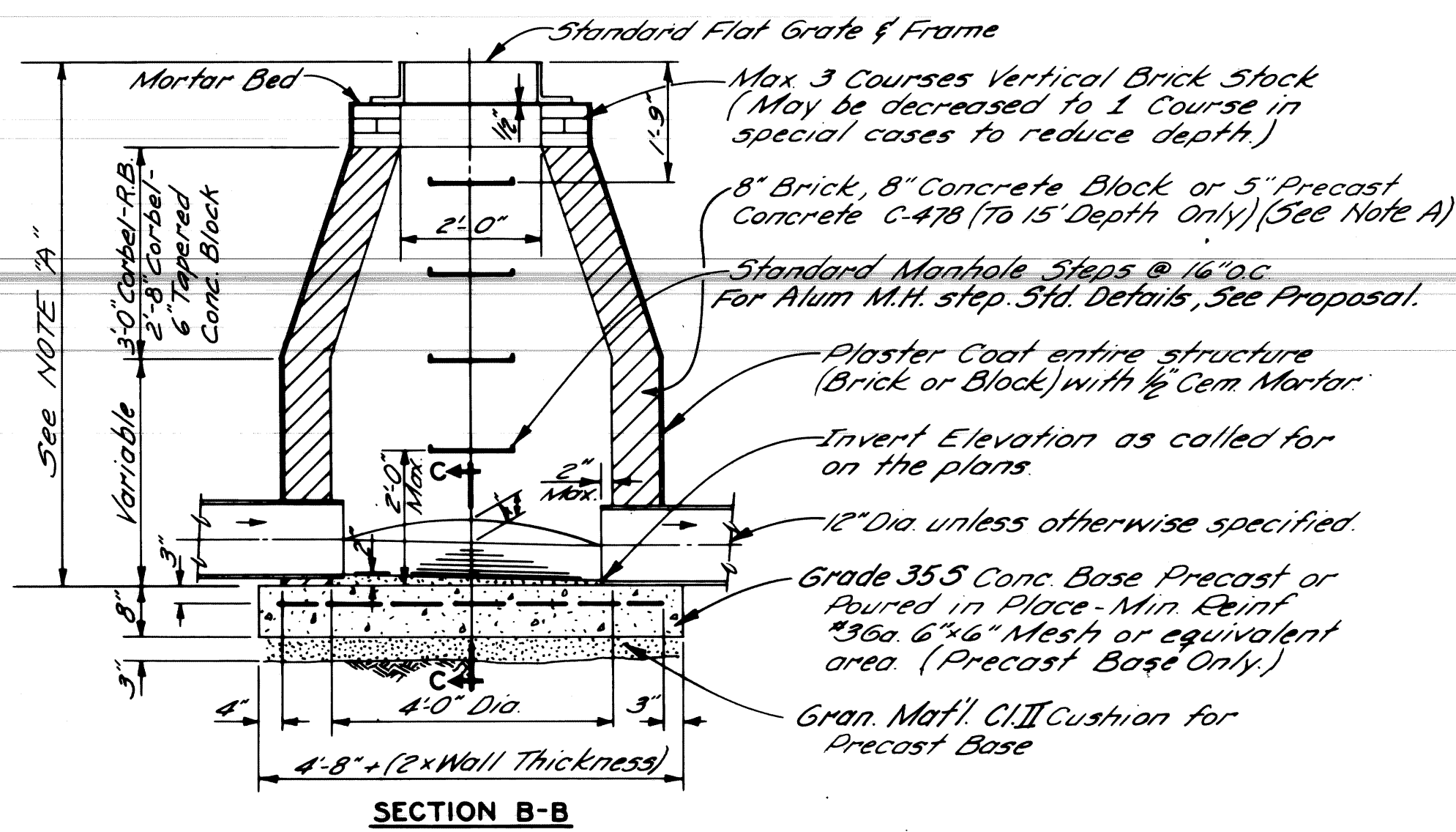
NOTE "A"
Wall thickness below a depth of 15 feet shall be 12 inches.



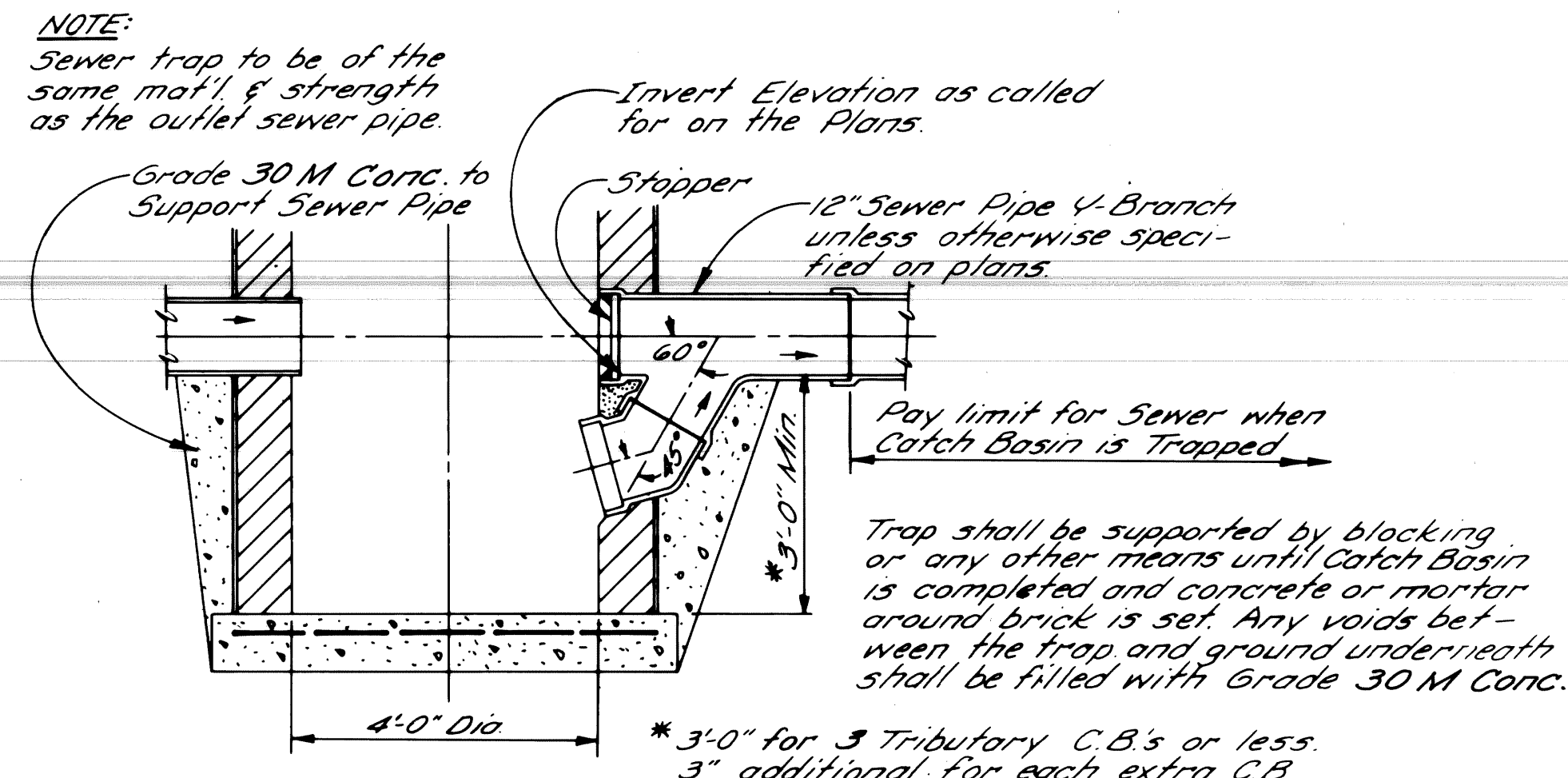
DETAIL OF SUMP FOR CATCH BASIN "B"
NO SCALE



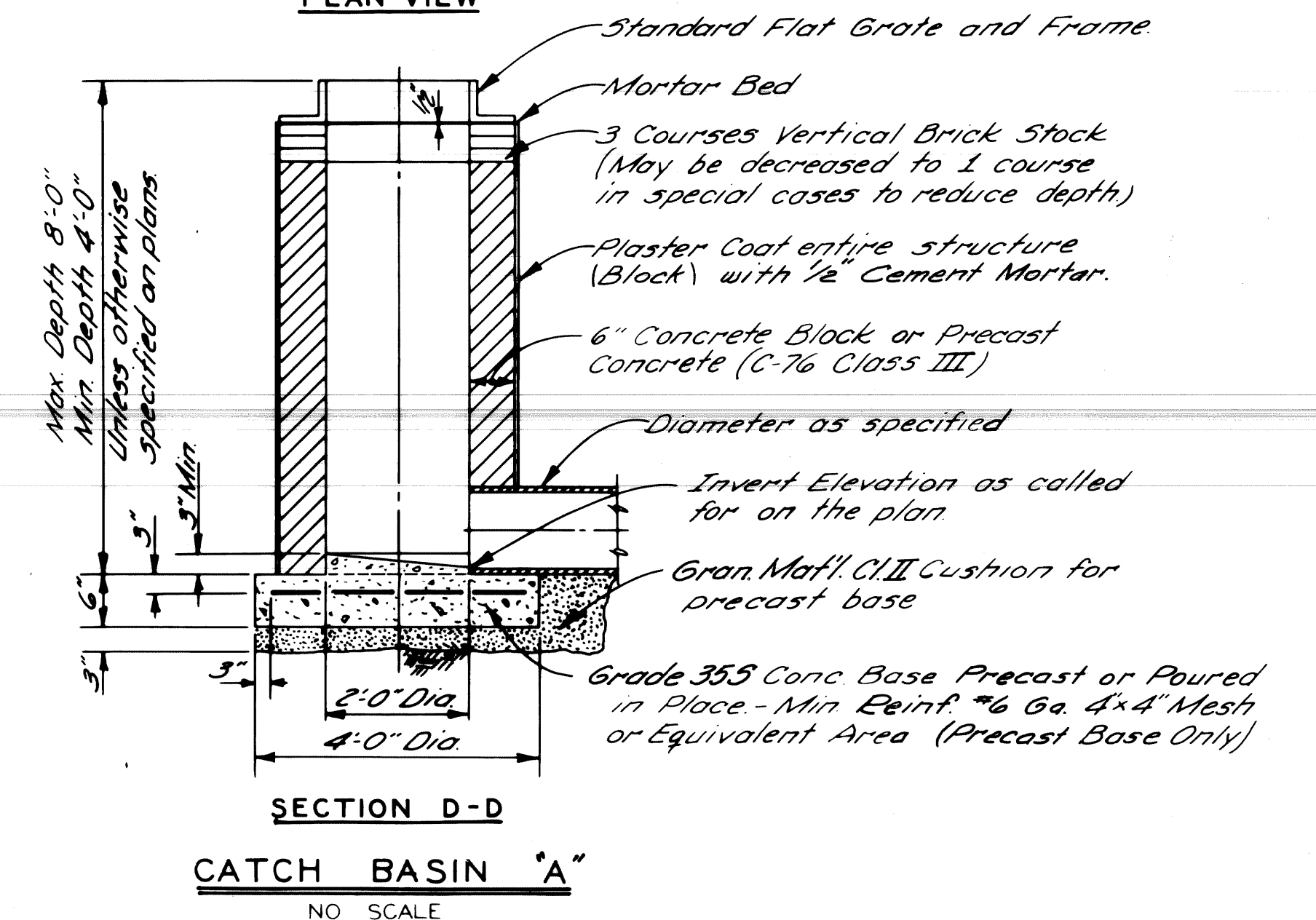
NOTE:
Catch Basin "A" will be used only when outletting to a Catch Basin "B"



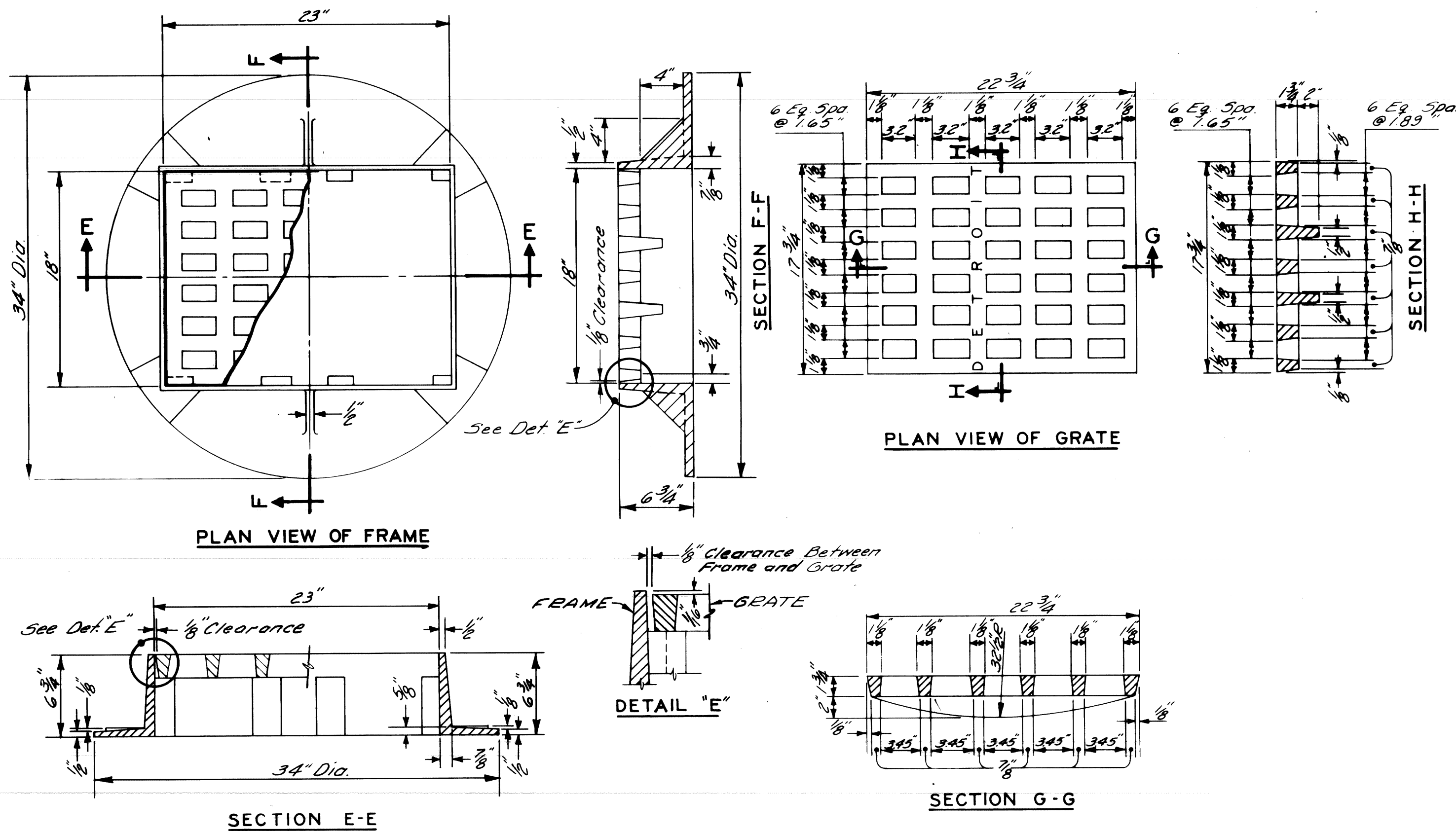
CATCH BASIN "B"
NO SCALE



DETAIL OF TRAP FOR CATCH BASIN "B"
NO SCALE



CATCH BASIN "A"
NO SCALE



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 of 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. Tile 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.

DESIGNED BY M. POLITO		APPROVED: <i>William R. Talley</i> ENGINEER OF STREETS		CITY OF DETROIT CITY ENGINEERING DEPARTMENT	DETAILS OF STANDARD CATCH BASINS "A" & "B" AND FLAT GRATE & FRAME	SHEET 10 OF 36 SHEETS CONTRACT No. 15765 A
DRAWN BY M. POLITO		APPROVED: <i>W. E. Proger</i> ENGINEER OF EXPRESSWAYS				
TRACED BY		APPROVED: <i>W. R. Barnard</i> HEAD CIVIL ENGINEER		DATE 4 - 86		
CHECKED BY D. MILZ		DESCRIPTION		REVISIONS LOCATED BY COORDINATES ON SHEET		

LEGEND

UNDERGROUND PLAN

- EXISTING DIRECT BURIAL OR PARKWAY CABLE
- ABANDON DIRECT BURIAL OR PARKWAY CABLE
- INSTALL DIRECT BURIAL OR PARKWAY CABLE (NO. & SIZE AS INDICATED)
- 1-3" --- INSTALL DIRECT BURIAL CONDUIT (1-3" SHOWN)
- EXISTING SINGLE P.L.D. DUCT RUN
- 4-3" --- EXISTING P.L.D. DUCT RUN (4-3" SHOWN)
- 2-3" --- ABANDON EXISTING P.L.D. DUCT RUN (2-3" SHOWN)
- 4-4" --- BUILD ENCASED CONDUIT (4-4" SHOWN)
- 2-3" --- GALVANIZED STEEL CONDUIT, JACKING-BORING (2-3" SHOWN)
- EXISTING P.L.D. HANDHOLE
- M.H.1234 EXISTING P.L.D. MANHOLE
- BUILD ROUND HANDHOLE
- BUILD TYPE "D" HANDHOLE
- M.H.7890 BUILD NEW MANHOLE (2-WAY)
- △ M.H.1234 BUILD NEW MANHOLE (3-WAY)
- △ M.H.5678 BUILD NEW MANHOLE (CORNER)
- ◇ M.H.9012 BUILD NEW MANHOLE (4-WAY)
- BUILD TRAFFIC SIGNAL CONTROLLER FDN.
- BUILD T.S. MAST ARM STANDARD FDN.
- BUILD T.S. PEDESTAL FDN.
- INSTALL 30FT. STEEL STRAIN POLE ON NEW FDN.
- △ EXISTING FIRE OR POLICE CALL BOX
- ▲ INSTALL NEW FIRE OR POLICE CALL BOX (EXCEPT AS OTHERWISE INDICATED)
- ▲ INSTALL SALVAGED FIRE OR POLICE CALL BOX (EXCEPT AS OTHERWISE INDICATED)
- ⊠ INSTALL MULT. ST. LTG. CONTROL CABINET ON NEW FDN.
- ☀ EXISTING U.G.-FED ST. LTG. UNIT
- ☀ EXISTING U.G.-FED ST. LTG. UNIT WITH DBL. ARM
- ☀ FUTURE U.G.-FED ST. LTG. UNIT
- ☀ REMOVE U.G.-FED ST. LTG. UNIT & FOUNDATION (EXCEPT AS OTHERWISE NOTED)
- ☀ INSTALL SALVAGED U.G.-FED ST. LTG. UNIT ON NEW FDN.
- "T" INDICATES TRAFFIC SIGNAL CONTACT ON ST. LTG. STD.
- ★ INSTALL CODE 009-00 ANCHOR BASE ST. LTG. STD. WITH 6FT. CLAMP-ON ARM (3'-0" RISE) & 250W. TYPE III SODIUM VAPOR LUMINAIRE ON NEW FOUNDATION.

OVERHEAD PLAN

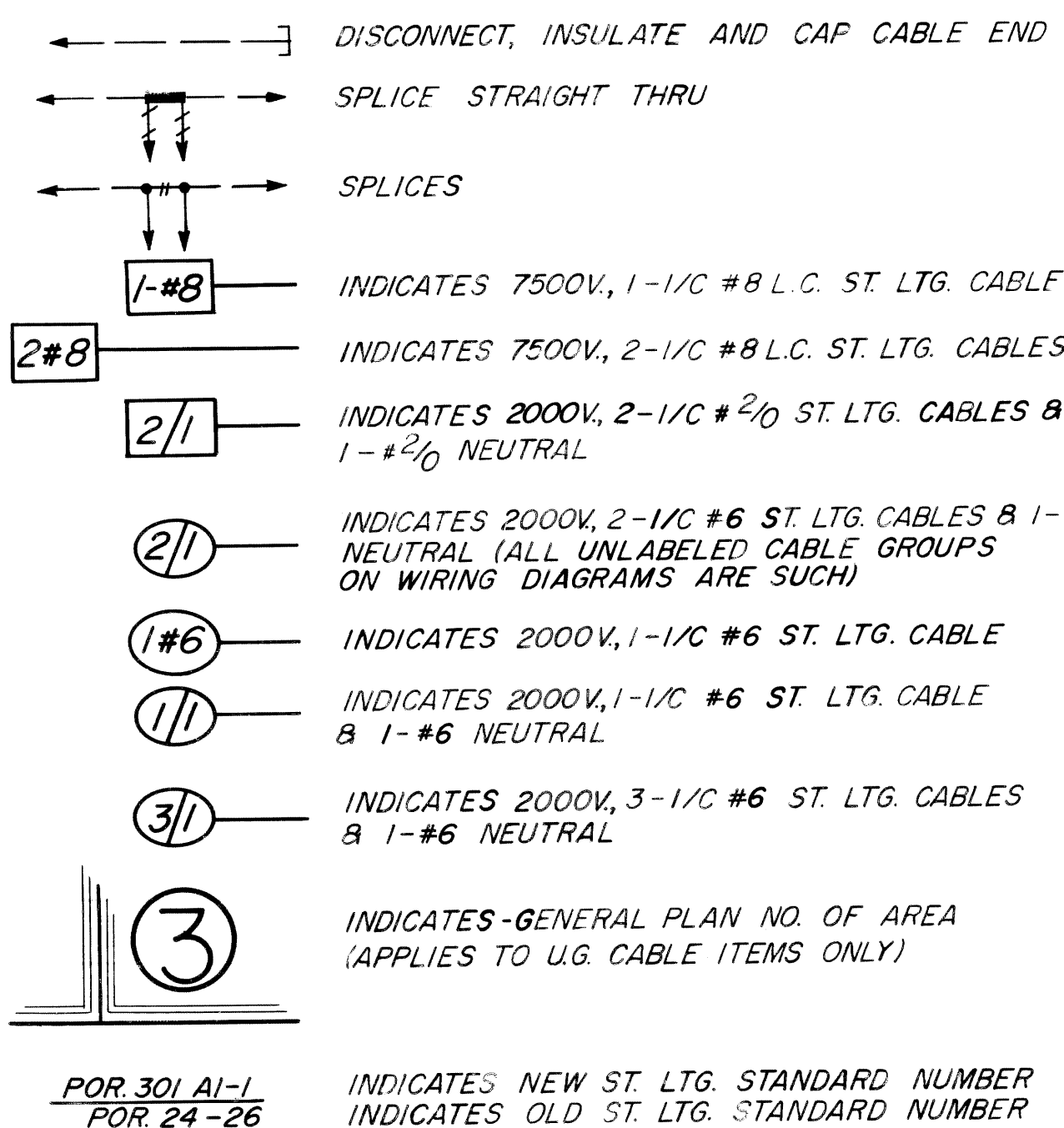
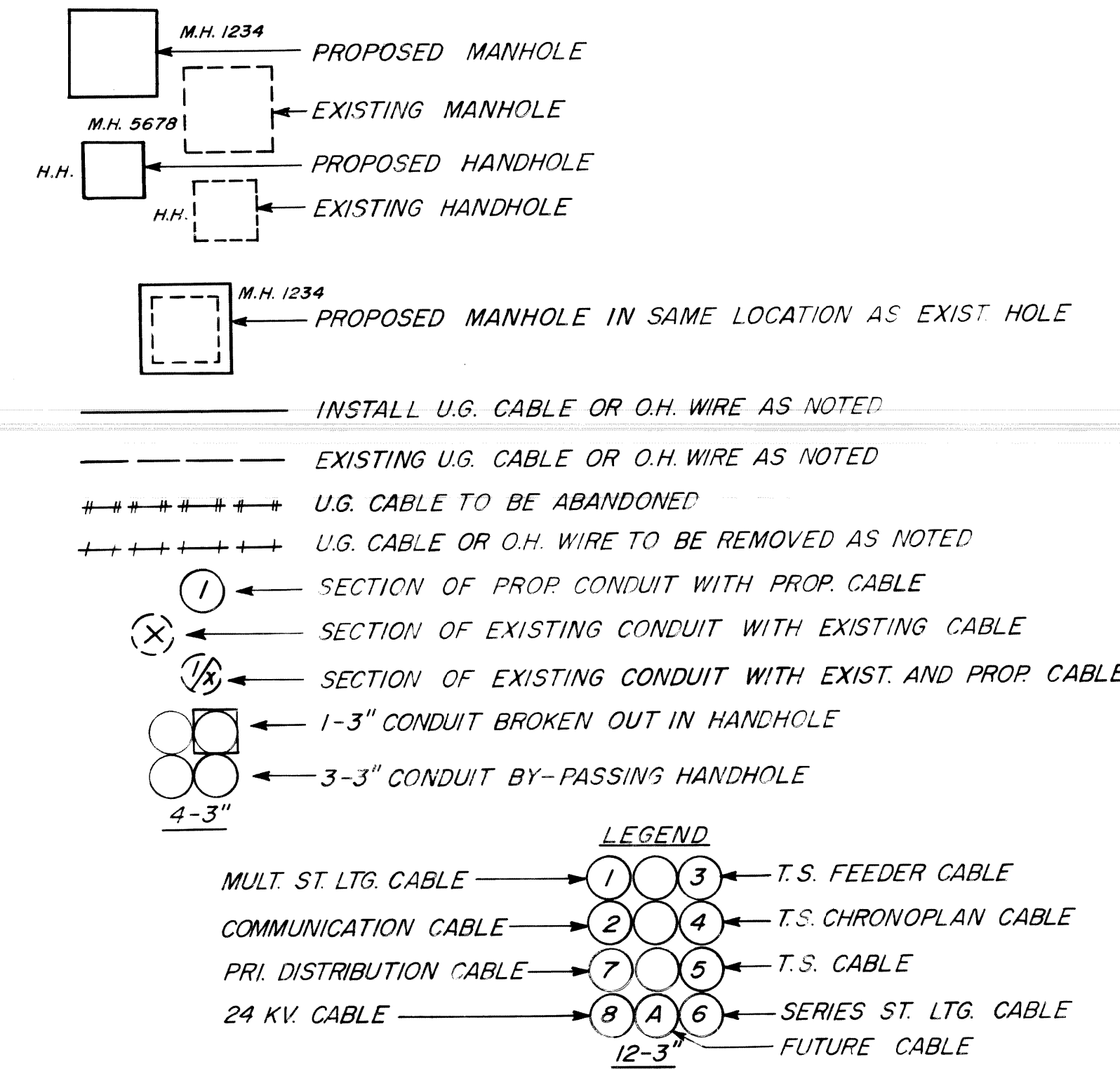
- EXISTING WOOD POLE (D.E. CO. POLE SHOWN)
- C REMOVE WOOD POLE (P.L.D. POLE SHOWN)
- ⊙ REPLACE WOOD POLE (HEIGHT & CLASS AS INDICATED)
- ✕ INSTALL 35FT. CLASS 4 WOOD POLE (EXCEPT WHERE OTHERWISE NOTED) (USE SALVAGED POLE WHERE INDICATED)
- EXISTING OVERHEAD ST. LTG. UNIT
- REMOVE OVERHEAD ST. LTG. UNIT
- INSTALL OVERHEAD ST. LTG. UNIT WITH 8FT. BRACKET ARM & LUMINAIRE AS PER PLANS. INSTALL SERIES COIL IF CALLED FOR. (USE SALVAGED UNIT WHERE NOTED)
- INSTALL NEW 100W. MERCURY VAPOR LUMINAIRE FOR ALLEY LTG. WITH NEW SERIES COIL & NEW 6FT. BRACKET ARM. (USE SALVAGED UNIT WHERE INDICATED)
- INDICATES 2-WAY
- STA-24 (2-#6) EXISTING OVERHEAD LINE (2-#6 OF STANTON-24 SHOWN)
- 3-#2 (STA-662) REMOVE OVERHEAD LINE (3-#2 OF STANTON-662 SHOWN)
- 2-#6 (STA-24) INSTALL OVERHEAD LINE (2-#6 OF STANTON-24 SHOWN)
- 3-#6 (MULT) INSTALL & LATER REMOVE OVERHEAD LINE (3-#6 MULT. SHOWN)
- 1/2" GUY INSTALL GUY & ANCHOR (1/2" GUY SHOWN)
- REMOVE GUY & ANCHOR
- 1/2" P GUY INSTALL POLE GUY (1/2" GUY SHOWN)
- 3/8" A GUY INSTALL ARM GUY (3/8" GUY AS SHOWN)
- P OR A REMOVE GUY (TYPE AS INDICATED)
- IN. MATERIAL TO BE INSTALLED
- RM. MATERIAL TO BE REMOVED
- M.S.S. MAKE WOOD POLE SELF-SUPPORTING IN CRUSHED STONE
- XYZ PHASES OF P.L.D. DISTRIBUTION WIRES OR EQUIPMENT
- E D.E. CO. DISTRIBUTION WIRE
- es D.E. CO. SECONDARY WIRE
- C.P. CABLE POLE
- ⊙ INSTALL SUSPENSION INSULATOR
- EXISTING → C C P.L.D. DISTRIBUTION WIRE
- PROPOSED → CS CS P.L.D. SECONDARY WIRE
- EXISTING → A A P.L.D. SERIES ST. LTG. WIRE
- PROPOSED → M M P.L.D. MULTIPLE STREET LIGHTING WIRE

GENERAL

- PROPERTY LINE
- EXISTING FACE OF CURB WHEN NEW STREET CONST.
- PROPOSED FACE OF CURB WHEN NEW STREET CONST. OR EXISTING FACE OF CURB WHEN NO STREET CONST.
- FUTURE PAVEMENT
- S SEWER LINE, MANHOLE & CATCH BASIN
- E DETROIT EDISON COMPANY U.G. LINE & MANHOLE
- T MICH. BELL TEL. COMPANY U.G. LINE & MANHOLE
- W WATERMAIN & GATEWELL
- G MICH. CONSOLIDATED GAS CO. U.G. LINE & WELL (OTHER UTILITIES SHOWN SIMILAR)

DIAGRAMS & CONDUIT ALLOCATION

(U.G.-FED STD. SYMBOLS SAME AS UNDERGROUND LEGEND OF THIS SHEET.)



CONTRACTOR TO SALVAGE ALL REMOVED EQUIPMENT & STORE ON SITE FOR PICK-UP BY P.L.D.

TRAFFIC SIGNAL PLAN

- INSTALL 3-SECTION TRAFFIC SIGNAL (1-WAY SHOWN)
- INSTALL 3-SECTION TRAFFIC SIGNAL WITH SALVAGED HEADS (2-WAY SHOWN)
- REMOVE 3-SECTION TRAFFIC SIGNAL (3-WAY SHOWN)
- EXISTING 3-SECTION TRAFFIC SIGNAL (4-WAY SHOWN)
- INSTALL 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (2-WAY SHOWN)
- INSTALL 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL WITH SALVAGED HEAD (1-WAY SHOWN)
- REMOVE 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- EXISTING 2-SECTION PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- INSTALL JUNCTION BOX
- INSTALL SALVAGED JUNCTION BOX
- REMOVE JUNCTION BOX
- EXISTING JUNCTION BOX
- INSTALL OVERHEAD PLASTIC JACKETED CABLE
- EXISTING OVERHEAD PLASTIC JACKETED CABLE
- REMOVE OVERHEAD PLASTIC JACKETED CABLE
- INSTALL TRAFFIC SIGNAL CONTROLLER (NEW OR SALVAGED AS INDICATED) ON NEW FDN.
- INSTALL CANTILEVER TYPE TRAFFIC SIGNAL MAST ARM STANDARD & MAST ARM ON NEW FOUNDATION. (EXCEPT AS OTHERWISE INDICATED)
- INSTALL 8 FT. TRAFFIC SIGNAL PEDESTAL ON NEW FOUNDATION (EXCEPT AS OTHERWISE INDICATED)
- INSTALL STEEL STRAIN POLE ON NEW FDN.
- EXISTING TRAFFIC SIGNAL CONTROLLER
- EXISTING MAST ARM STANDARD
- EXISTING PEDESTAL
- EXISTING STEEL STRAIN POLE
- BACK-OUT LAMPS & HOOD SIGNALS (INCIDENTAL TO INSTALLATION OF T.S. ON THIS CONTRACT).
- REMOVE HOOD & INSTALL LAMPS (INCIDENTAL TO INSTALLATION OF T.S. ON THIS CONTRACT).
- POCH POLE CONTACT HEIGHT OF T.S. SPAN WIRE
- L.C.H. LOW CONTACT HEIGHT OF SPAN WIRE T.S. TO SPAN WIRE
- ② INDICATES TYPE OF SIDEWALK RAMP TO BE CONSTRUCTED

PLAN INDEX	
DRWG. NO.	SUB-TITLE
1	LEGEND
2	GENERAL INFORMATION
3	GENERAL PLAN
4	T.S. AT HOWARD
5	T.S. AT LAFAYETTE
6	T.S. AT FORT ST.
7	QUANTITY SHEET
8 THRU 23	DETAILS

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD

SHEET 14 OF 36 SHEETS
CONTRACT NO. 15765 A
ASSIGNMENT NO.
DATE 4-86

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN CEA
CHECKED ep
APPROVED [Signature]
DATE APRIL 1986

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

DRWG. NO. 1 OF 23
FILE NO. CEA 1096

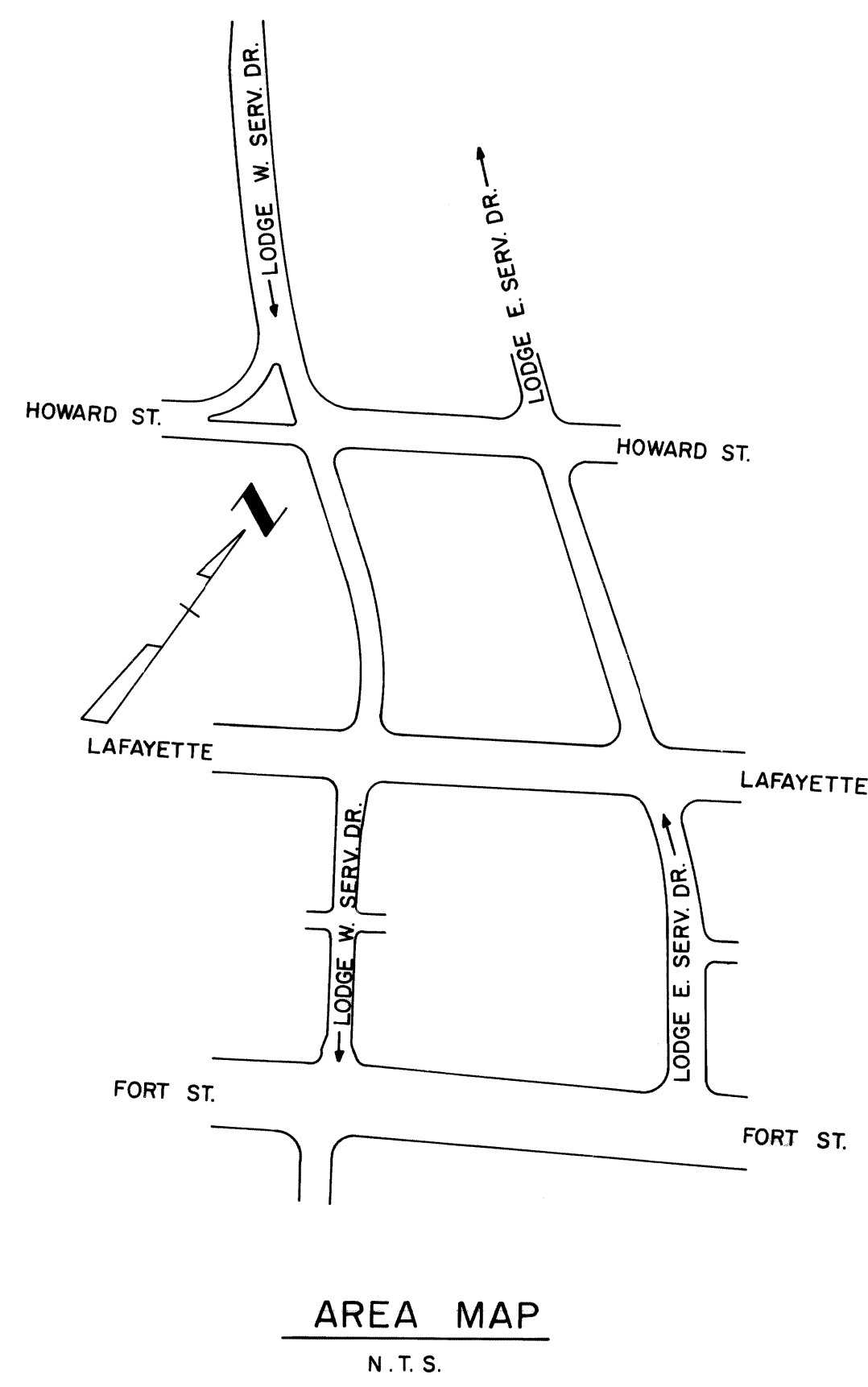
PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

48-0331
1 OF 23
APR. 1986

GENERAL INFORMATION SHEET

T-

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-5-8000 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 480V. 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. (STENCIL-LING & 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, CUTOUPS, 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 3/8" 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.

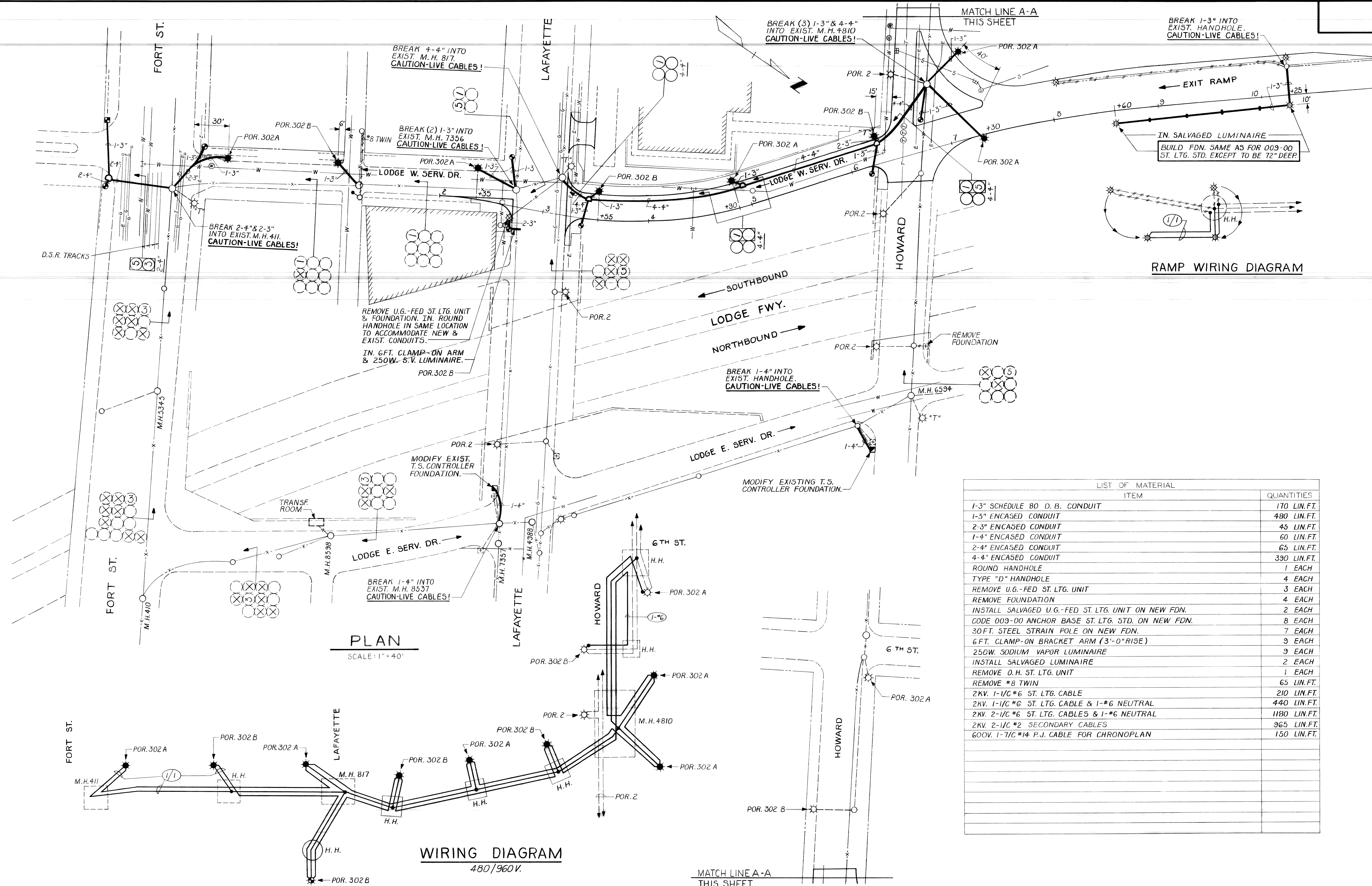


AREA MAP
N. T. S.

LIST OF MATERIAL	
ITEM	QUANTITIES
CONDUIT REPAIR - UNDER PAVEMENT	2 EACH
CONDUIT REPAIR - UNDER SIDEWALK OR DIRT	2 EACH
REMOVING STREETCAR RAIL AND FOUNDATION	50 LIN. FT.

NOTE:
THE ITEMS AND QUANTITIES LISTED ABOVE SHALL APPLY TO ALL LOCATIONS DIRECTED BY THE ENGINEER.

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">DATE</td><td style="width: 60%;">DESCRIPTION</td><td style="width: 20%;">DRAWN BY</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	DATE	DESCRIPTION	DRAWN BY													<p>JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD</p> <p>GENERAL INFORMATION & AREA MAP</p>	<p>SHEET 15 OF 36 SHEETS</p> <p>CONTRACT NO. 15765A</p> <p>ASSIGNMENT NO. </p> <p>DATE 4-86</p>	<p>CITY OF DETROIT</p> <p>CITY ENGINEERING DEPARTMENT</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">DRAWN</td><td style="width: 80%;">CEA</td></tr> <tr><td>CHECKED</td><td> </td></tr> <tr><td>APPROVED</td><td> </td></tr> <tr><td>DATE</td><td> </td></tr> </table>	DRAWN	CEA	CHECKED		APPROVED		DATE		<p>PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS</p> <p>16580 WYOMING DETROIT, MICH. 48221</p> <p>DRWG. NO. 2 OF 23</p> <p>FILE NO. CEA 1096</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20%;">DRAWN BY</td><td style="width: 80%;"> </td></tr> <tr><td>CHECKED BY</td><td> </td></tr> <tr><td>APPROVED BY</td><td> </td></tr> </table>	DRAWN BY		CHECKED BY		APPROVED BY		<p>PUBLIC LIGHTING COMMISSION</p> <p>CITY OF DETROIT</p>	<p>LIST NO. 48-0331</p> <p>SHEET NO. 2 OF 23</p> <p>DATE APR. 1986</p>
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LIST OF MATERIAL		QUANTITIES
ITEM		
1-3" SCHEDULE 80 D. B. CONDUIT		170 LIN. FT.
1-3" ENCASED CONDUIT		480 LIN. FT.
2-3" ENCASED CONDUIT		45 LIN. FT.
1-4" ENCASED CONDUIT		60 LIN. FT.
2-4" ENCASED CONDUIT		65 LIN. FT.
4-4" ENCASED CONDUIT		390 LIN. FT.
ROUND HANDHOLE		1 EACH
TYPE "D" HANDHOLE		4 EACH
REMOVE U.G.-FED ST. LTG. UNIT		3 EACH
REMOVE FOUNDATION		4 EACH
INSTALL SALVAGED U.G.-FED ST. LTG. UNIT ON NEW FDN.		2 EACH
CODE 009-00 ANCHOR BASE ST. LTG. STD. ON NEW FDN.		8 EACH
30 FT. STEEL STRAIN POLE ON NEW FDN.		7 EACH
6 FT. CLAMP-ON BRACKET ARM (3'-0" RISE)		3 EACH
250W. SODIUM VAPOR LUMINAIRE		9 EACH
INSTALL SALVAGED LUMINAIRE		2 EACH
REMOVE O. H. ST. LTG. UNIT		1 EACH
REMOVE #8 TWIN		65 LIN. FT.
2KV. 1-1/2" #6 ST. LTG. CABLE		210 LIN. FT.
2KV. 1-1/2" #6 ST. LTG. CABLE & 1-#6 NEUTRAL		440 LIN. FT.
2KV. 2-1/2" #6 ST. LTG. CABLES & 1-#6 NEUTRAL		1180 LIN. FT.
2KV. 2-1/2" #2 SECONDARY CABLES		965 LIN. FT.
600V. 1-7/8" #14 P.J. CABLE FOR CHRONOPLAN		150 LIN. FT.

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWRD

SHEET 16 OF 36 SHEETS
 CONTRACT NO. 15765 A
 ASSIGNMENT NO.
 DATE 4-86

CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT

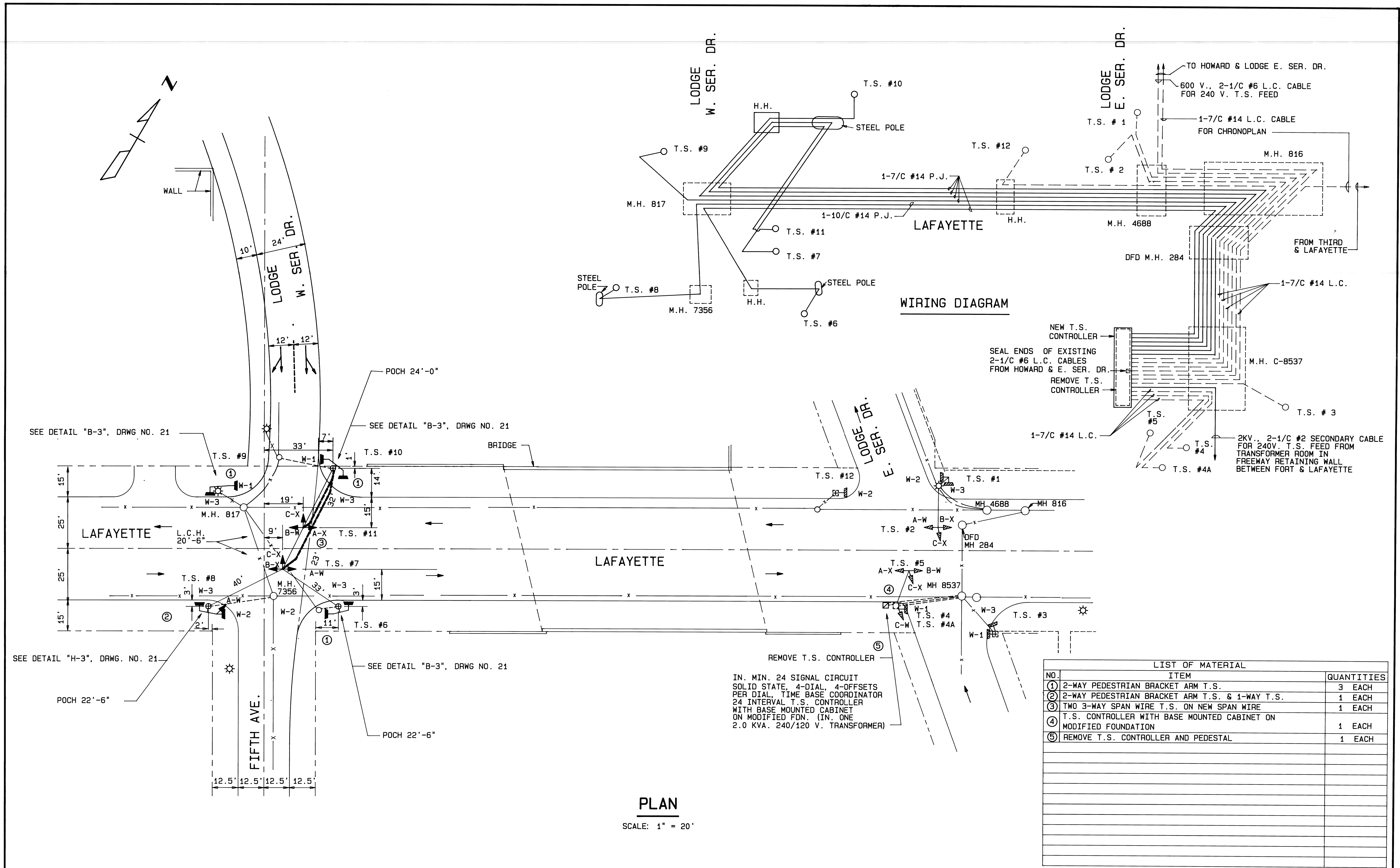
DRAWN CEA
 CHECKED
 APPROVED
 DATE APRIL 1986

PLAN PREPARED BY
 CONSULTING ENGINEERING ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 16580 WYOMING DETROIT, MICH. 48221
 DRWG. NO. 3 OF 23
 FILE NO. CEA 1096

DRAWN BY
 CHECKED BY
 APPROVED BY

PUBLIC LIGHTING COMMISSION
 CITY OF DETROIT

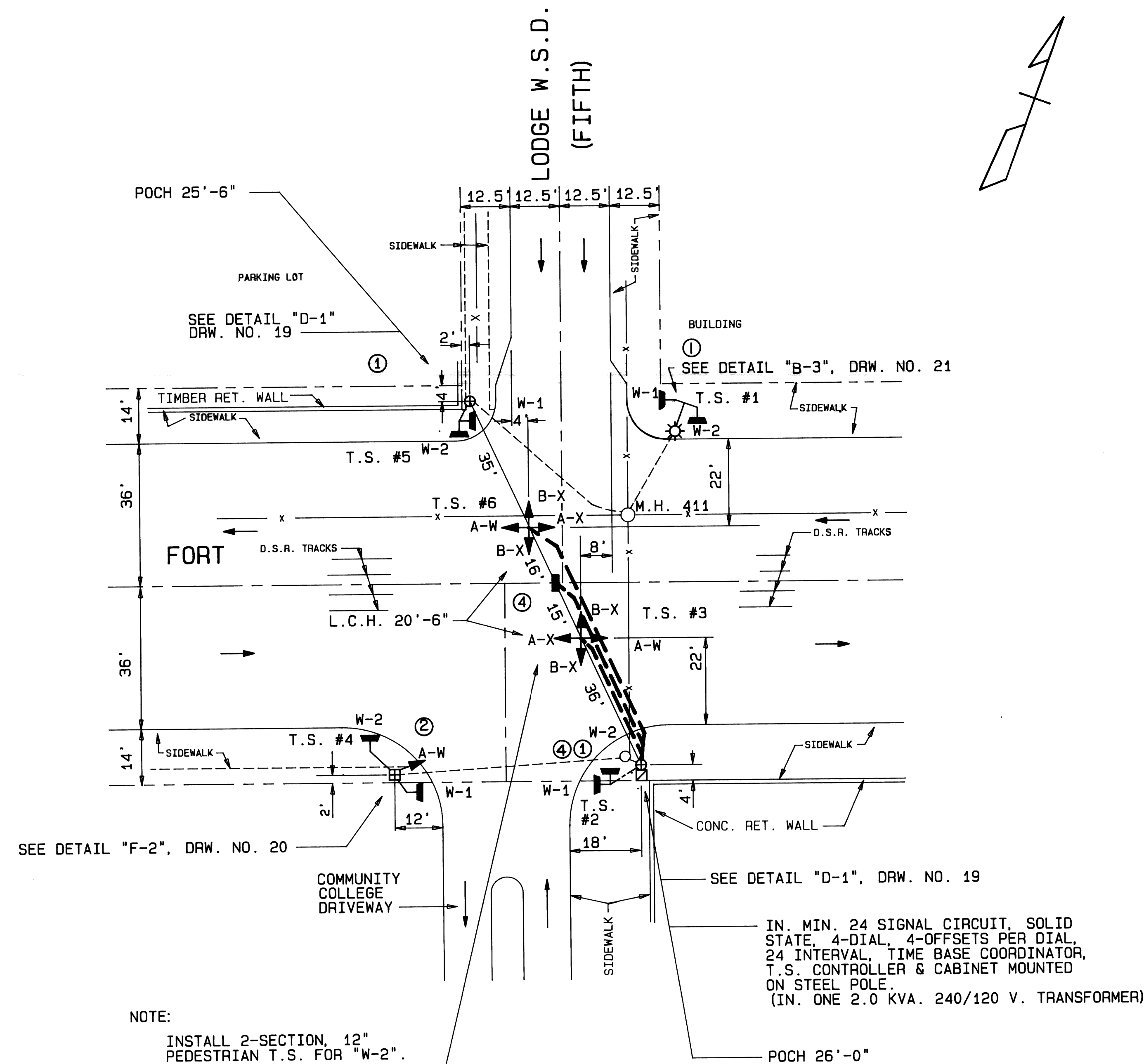
FILE NO. 48-0331
 SHEET NO. 3 OF 23
 DATE APR. 1986



PLAN

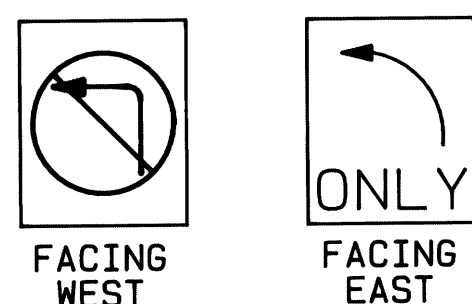
SCALE: 1" = 20'

REVISIONS	DATE	DESCRIPTION	CHKD. BY	SHEET 18 OF 36 SHEETS	CITY OF DETROIT CITY ENGINEERING DEPARTMENT	CONTRACT NO. 15765A	C.E.A. CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221 DRWG. NO. 5 OF 23 FILE NO. C.E.A. 1096	PLANNED BY	PUBLIC LIGHTING DEPARTMENT CITY OF DETROIT	FILE NO. 48-0331
				ASSIGNMENT NO.		SHEET NO. 5 OF 23				
				DATE 4-86		DATE APRIL 1986		APPROVED BY		

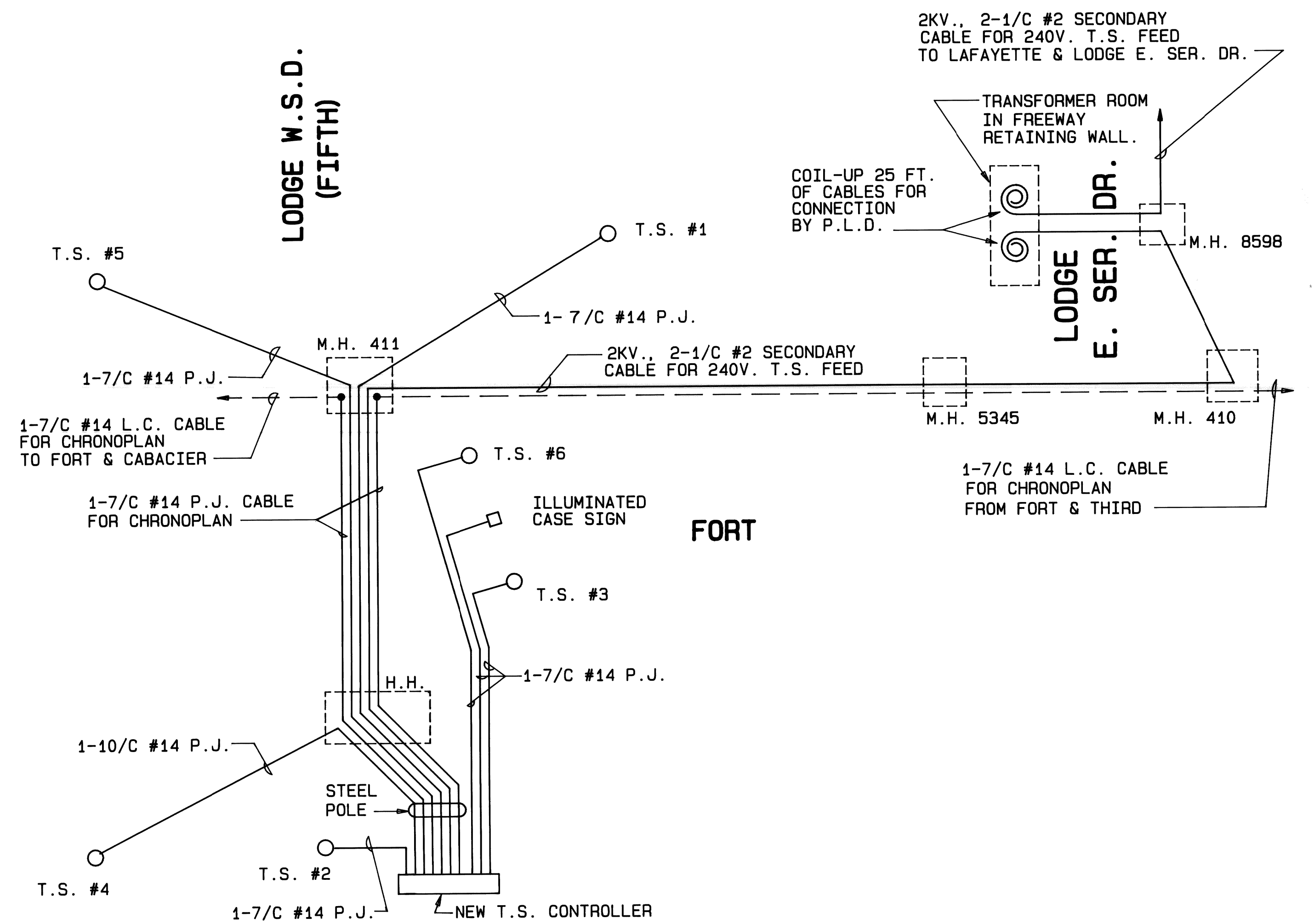


PLAN
SCALE: 1" = 20'

CASE SIGN LEGEND



INSTALL 2-WAY ILLUMINATED CASE SIGN



WIRING DIAGRAM

LIST OF MATERIAL		
NO	ITEM	QUANTITIES
①	2-WAY PEDESTRIAN BRACKET ARM T.S.	3 EACH
②	2-WAY PEDESTRIAN T.S. & 1-WAY T.S. ON 10 FT PEDESTAL ON NEW FDN.	1 EACH
③	TWO 4-WAY SPAN WIRE T.S. & ILLUMINATED CASE SIGN ON NEW SPAN WIRE.	1 EACH
④	T.S. CONTROLLER & CABINET MOUNTED ON STEEL POLE	1 EACH

DATE	DESCRIPTION	CHKD. BY

**TRAFFIC SIGNAL INSTALLATION
AT FORT & LODGE WEST SERVICE DRIVE**

SHEET 19 OF 36 SHEETS
CONTRACT NO. 15765A
ASSIGNMENT NO.
DATE 4 - 86

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN C.E.A.
CHECKED
APPROVED
DATE APRIL 1986

PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
DRWG. NO. 6 OF 23
FILE NO. C.E.A. 1096

CHECKED BY
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**PUBLIC LIGHTING
DEPARTMENT**
CITY OF DETROIT

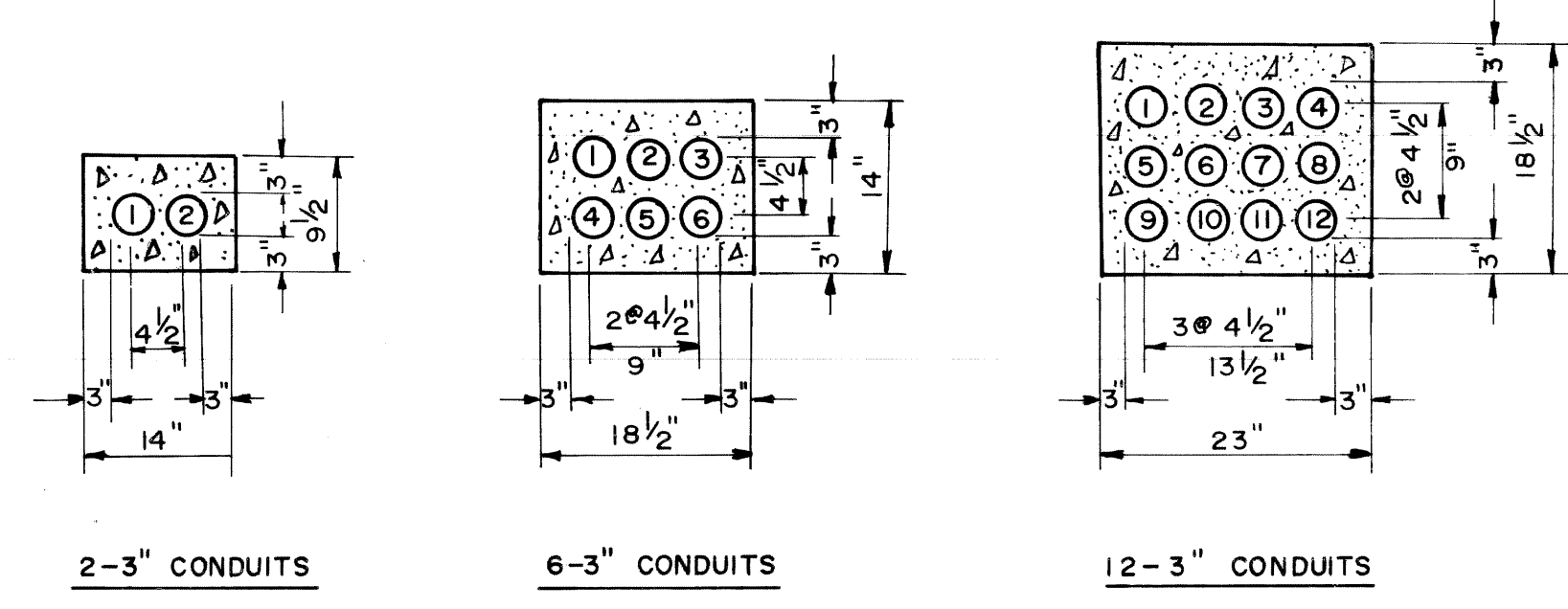
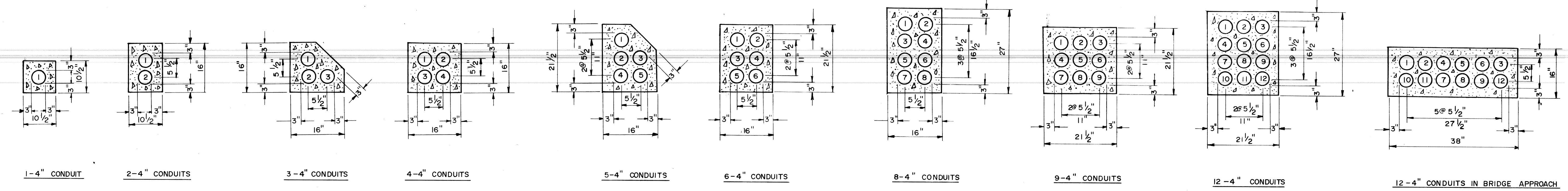
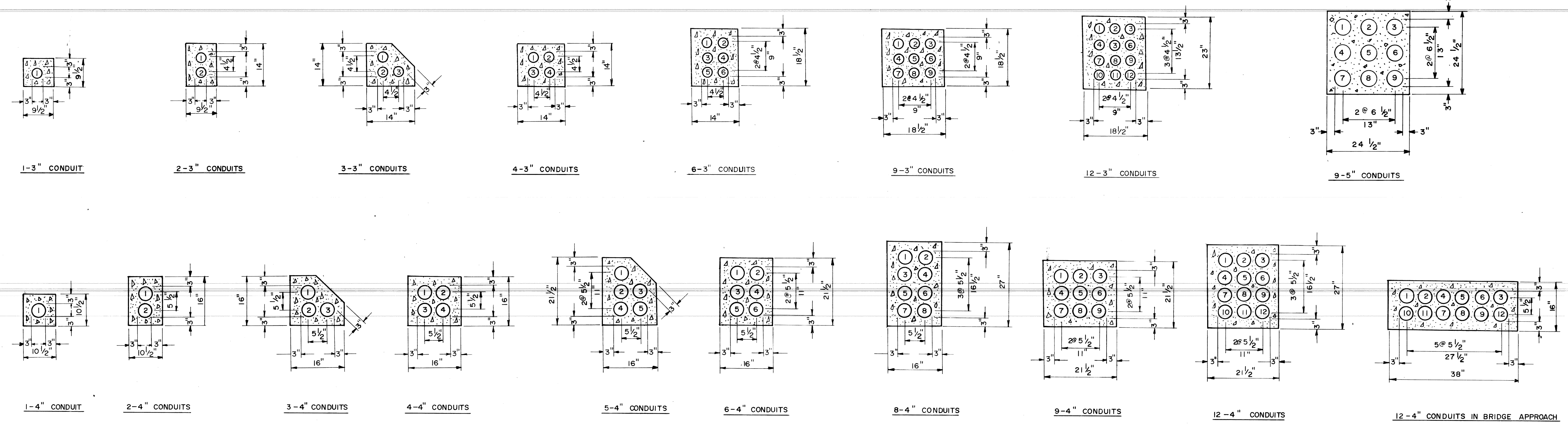
FILE NO. 48-0331
SHEET NO. 6 OF 23
DATE APRIL 1986

AS PER PLANS

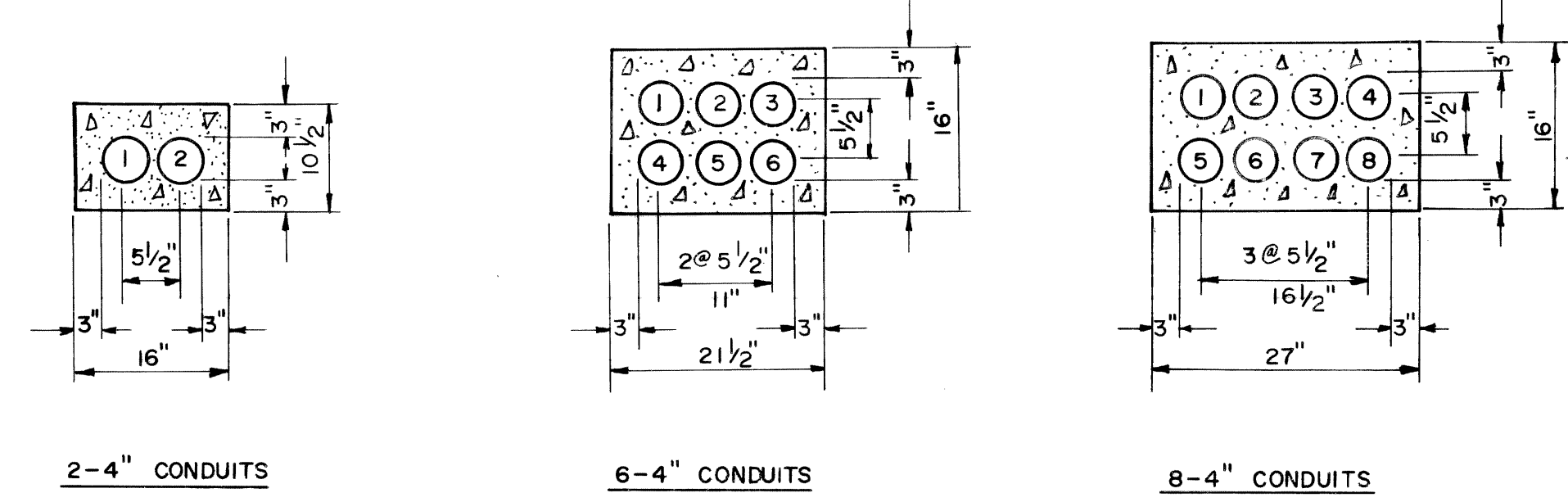
AS CONSTRUCTED

BID-ITEM	UNIT	DRWG. NO.										TOTAL	DRWG. NO.										TOTAL
		2	3	4	5	6								2	3	4	5	6					
CONDUIT REPAIR-UNDER PAVEMENT	EACH	2	-	-	-	-						2											2
CONDUIT REPAIR-UNDER SIDEWALK OR DIRT	EACH	2	-	-	-	-						2											2
REMOVING STREETCAR RAIL AND FDN.	LIN. FT.	50	-	-	-	-						50											50
1-3" SCHEDULE 80 D.B. CONDUIT	LIN. FT.	170	-	-	-	-						170											170
1-3" ENCASED CONDUIT	LIN. FT.	480	-	-	-	-						480											480
2-3" ENCASED CONDUIT	LIN. FT.	45	-	-	-	-						45											45
1-4" ENCASED CONDUIT	LIN. FT.	60	-	-	-	-						60											60
2-4" ENCASED CONDUIT	LIN. FT.	65	-	-	-	-						65											65
4-4" ENCASED CONDUIT	LIN. FT.	390	-	-	-	-						390											390
ROUND HANDHOLE	EACH	1	-	-	-	-						1											1
TYPE "D" HANDHOLE	EACH	4	-	-	-	-						4											4
REMOVE U.G.-FED ST. LTG. UNIT	EACH	3	-	-	-	-						3											3
REMOVE FOUNDATION	EACH	4	-	-	-	-						4											4
INSTALL SALVAGED UG-FED ST. LTG. UNIT ON NEW FOUNDATION	EACH	2	-	-	-	-						2											2
CODE 009-00 ANCHOR BASE ST. LTG. STD. ON NEW FDN.	EACH	8	-	-	-	-						8											8
30 FT. STEEL STRAIN POLE ON NEW FDN.	EACH	7	-	-	-	-						7											7
6 FT. CLAMP-ON BRACKET ARM (3'-0" RISE)	EACH	9	-	-	-	-						9											9
250 W. SODIUM VAPOR LUMINAIRE	EACH	9	-	-	-	-						9											9
INSTALL SALVAGED LUMINAIRE	EACH	2	-	-	-	-						2											2
REMOVE O.H. ST. LTG. UNIT	EACH	1	-	-	-	-						1											1
REMOVE #8 TWIN	LIN. FT.	65	-	-	-	-						65											65
2KV. 1-1/C #6 ST. LTG. CABLE	LIN. FT.	210	-	-	-	-						210											210
2KV. 1-1/C #6 ST. LTG. CABLE & 1-#6 NEUTRAL	LIN. FT.	440	-	-	-	-						440											440
2KV. 2-1/C #6 ST. LTG. CABLES & 1-#6 NEUTRAL	LIN. FT.	1180	-	-	-	-						1180											1180
2KV. 2-1/C #2 SECONDARY CABLES	LIN. FT.	965	-	-	-	-						965											965
600V. 1-7/C #14 P.J. CABLE FOR CHRONOPLAN	LIN. FT.	150	-	-	-	-						150											150
REMOVE 2-WAY PEDESTRIAN BRACKET ARM T.S.	EACH	-	-	1	-	-						1											1
REMOVE 1-WAY PEDESTRIAN T.S. & PEDESTAL	EACH	-	-	1	-	-						1											1
REMOVE T.S. CONTROLLER & PEDESTAL	EACH	-	-	1	1	-						2											2
1-WAY PEDESTRIAN BRACKET ARM T.S.	EACH	-	-	3	-	-						3											3
2-WAY PEDESTRIAN BRACKET ARM T.S.	EACH	-	-	-	3	3						6											6
2-WAY PEDESTRIAN BRACKET ARM T.S. & 1-WAY T.S.	EACH	-	-	-	1	-						1											1
2-WAY PEDESTRIAN T.S. & 1-WAY T.S. ON 10 FT. PEDESTAL ON NEW FDN.	EACH	-	-	-	-	1						1											1
TWO 2-WAY SPAN WIRE T.S. ON NEW SPAN WIRE	EACH	-	-	1	-	-						1											1
TWO 3-WAY SPAN WIRE T.S. ON NEW SPAN WIRE	EACH	-	-	-	1	-						1											1
TWO 4-WAY SPAN WIRE T.S. & ILLUMINATED CASE SIGN ON NEW SPAN WIRE	EACH	-	-	-	-	1						1											1
T.S. CONTROLLER WITH BASE MOUNTED CABINET ON MODIFIED FDN.	EACH	-	-	1	1	-						2											2
T.S. CONTROLLER & CABINET MOUNTED ON STEEL POLE	EACH	-	-	-	-	1						1											1
REMOVE FLASHER & PANEL ASSEMBLY	EACH	-	-	1	-	-						1											1

DATE	DESCRIPTION	CHKD. BY	<p>JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD</p> <p>QUANTITY SHEET</p>	<p>SHEET <u>20</u> OF <u>36</u> SHEETS</p> <p>CONTRACT NO. 15765 A</p> <p>ASSIGNMENT NO.</p> <p>DATE 4-86</p>	<p>CITY OF DETROIT</p> <p>CITY ENGINEERING DEPARTMENT</p>	<p>DRAWN CEA</p>	<p>PLAN PREPARED BY:</p> <p>CONSULTING ENGINEERING ASSOCIATES INC.</p> <p>ENGINEERING CONSULTANTS</p> <p>16580 WYOMING DETROIT, MICH. 48221</p>	<p>CHECKED BY</p>	<p>PUBLIC LIGHTING COMMISSION</p> <p>CITY OF DETROIT</p>	<p>FILE NO. 48-0331</p> <p>SHEET NO. 7 OF 23</p> <p>DATE APR. 1986</p>
						<p>CHECKED EP</p>				
						<p>APPROVED</p>				
						<p>DATE APRIL 1986</p>				

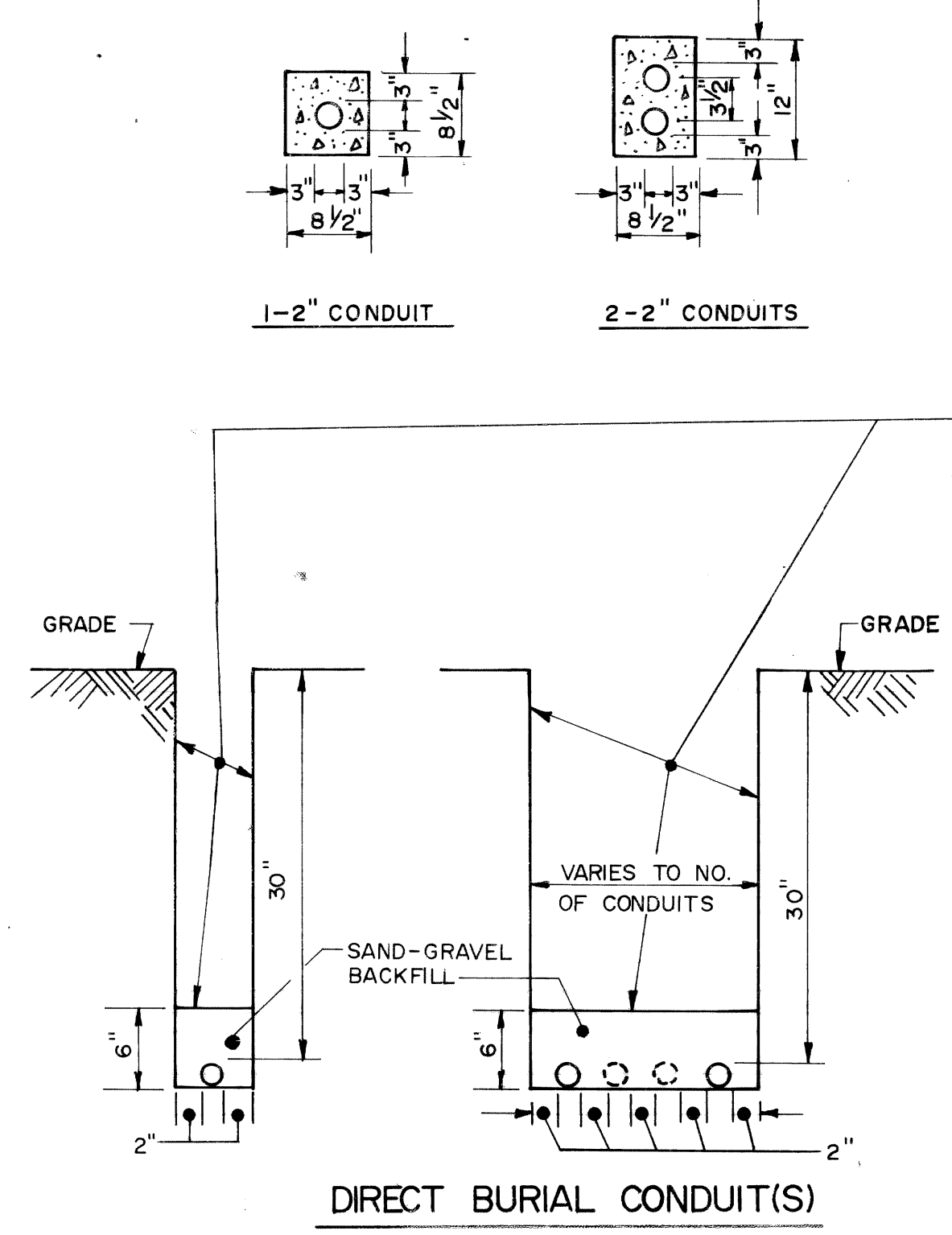


ALTERNATE ARRANGEMENT OF 3" CONDUIT
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)

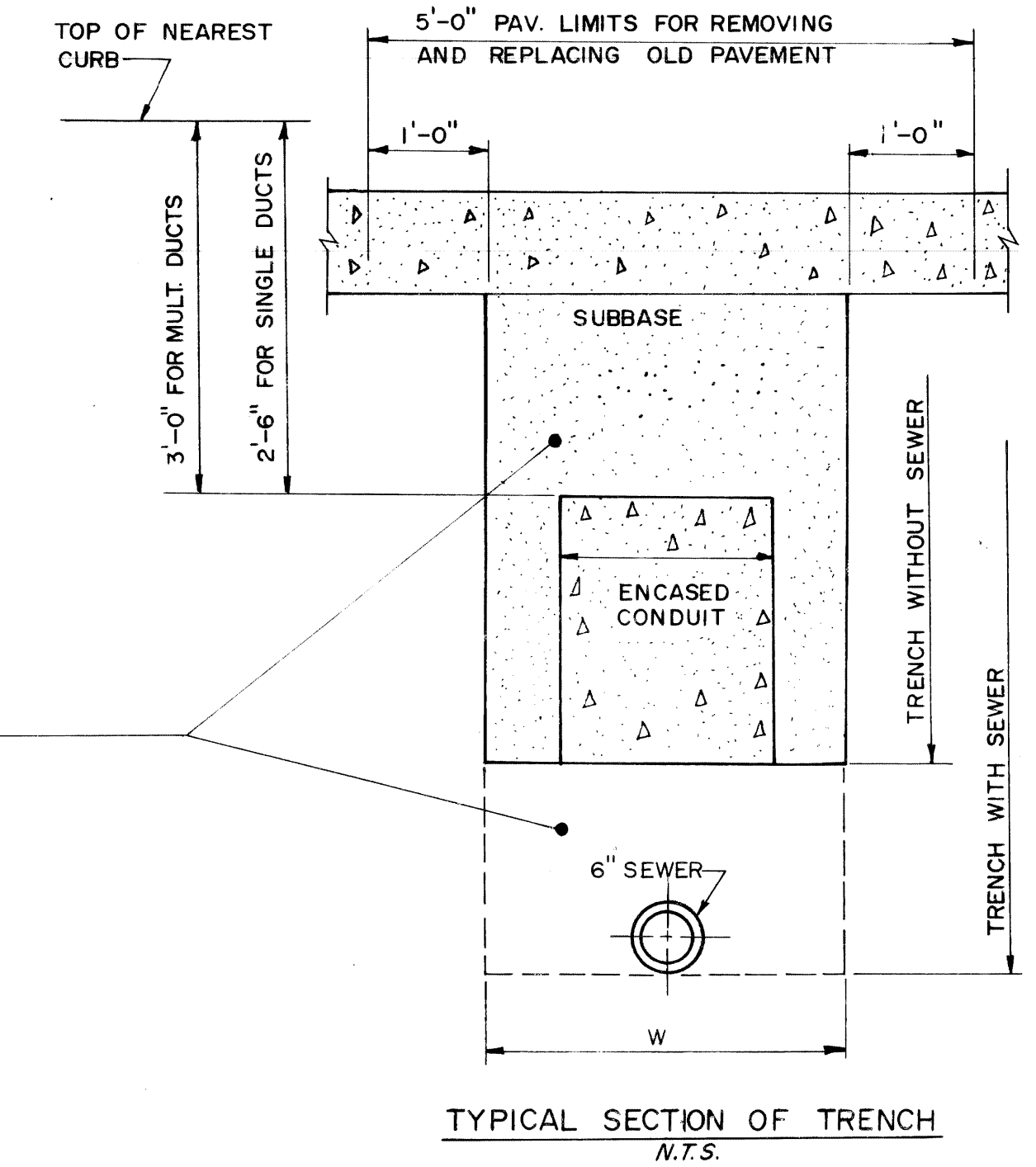


ALTERNATE ARRANGEMENT OF 4" CONDUIT
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)

CONCRETE ENCASED CONDUIT SECTIONS



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



DATE	DESCRIPTION	CHKD BY

JOHN LODGE FWY. W. SERVICE DR. & RAMP
ALTERATIONS, FROM FORT TO N. OF HOWARD
MISC. ENCASED CONDUIT SECTIONS
DETAILS

SHEET 21 OF 36 SHEETS
CONTRACT 15765 A
ASSIGNMENT NO.
DATE 4-86

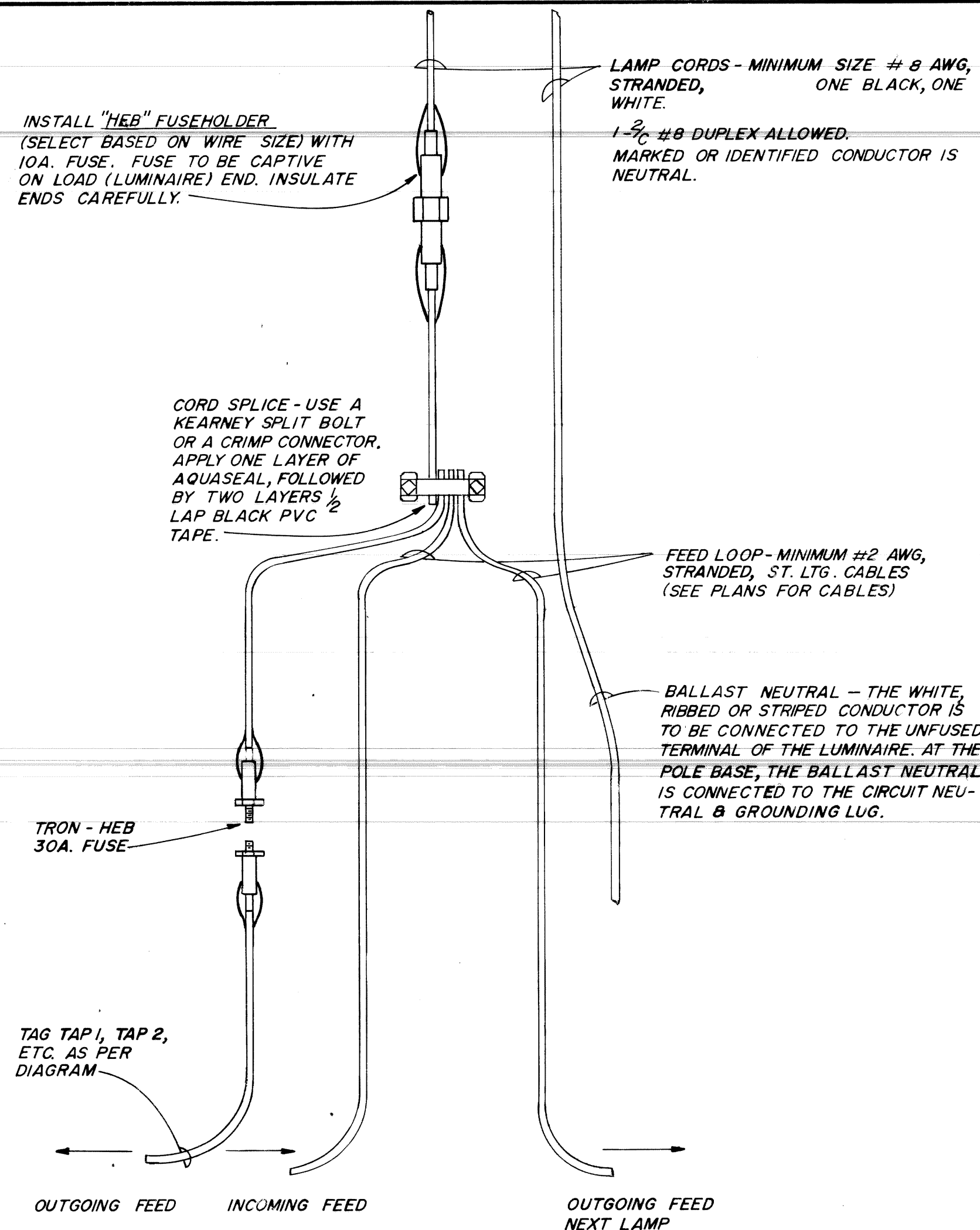
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN CEA
CHECKED [initials]
APPROVED [initials]
DATE APRIL 1986

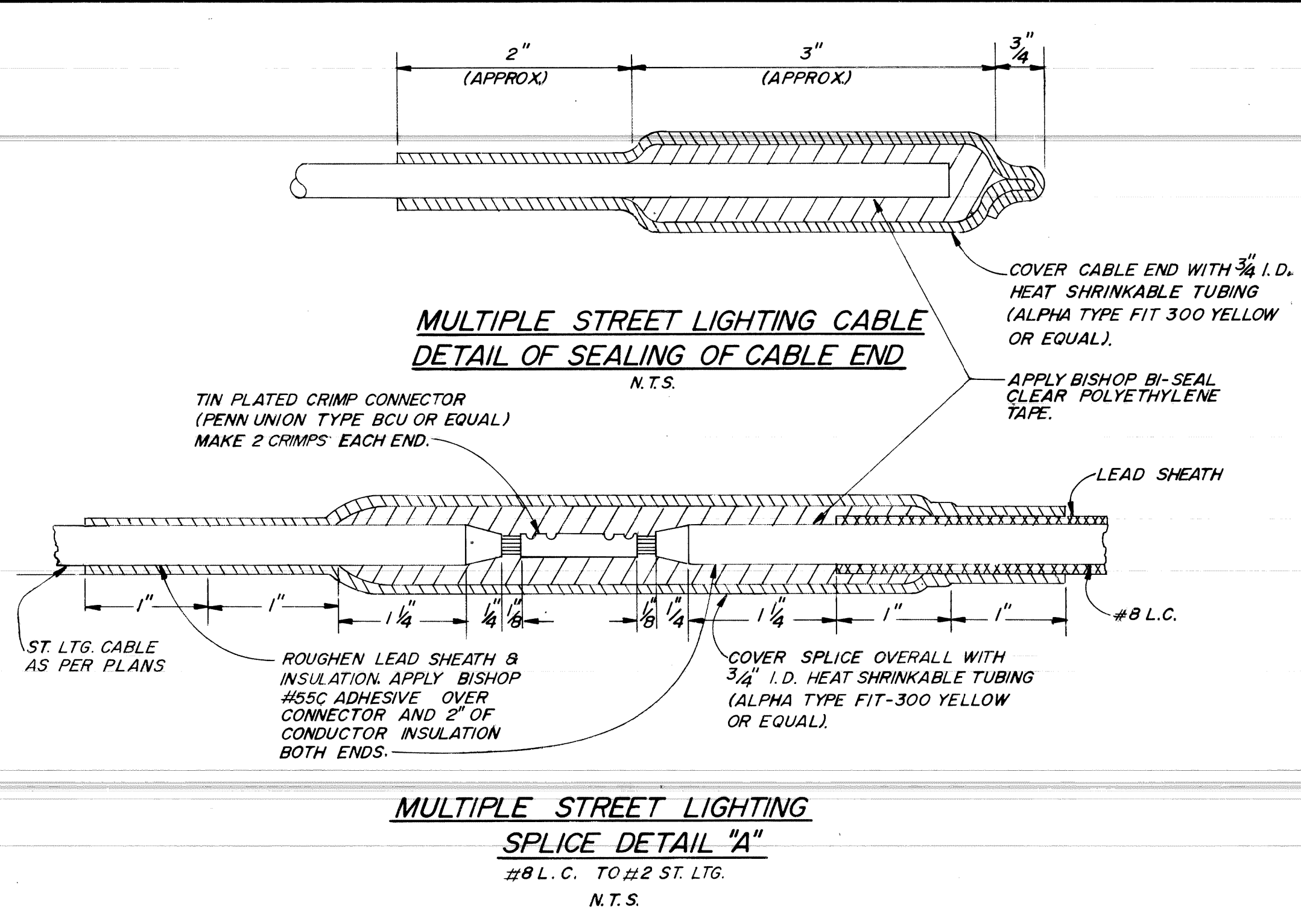
PLAN PREPARED BY
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH., 48221
DRWG. NO. 8 OF 23
FILE NO. CEA 1096

CHECKED BY
APPROVED BY
PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

FILE NO. 48-0331
SHEET NO. 8 OF 23
DATE APR. 1986

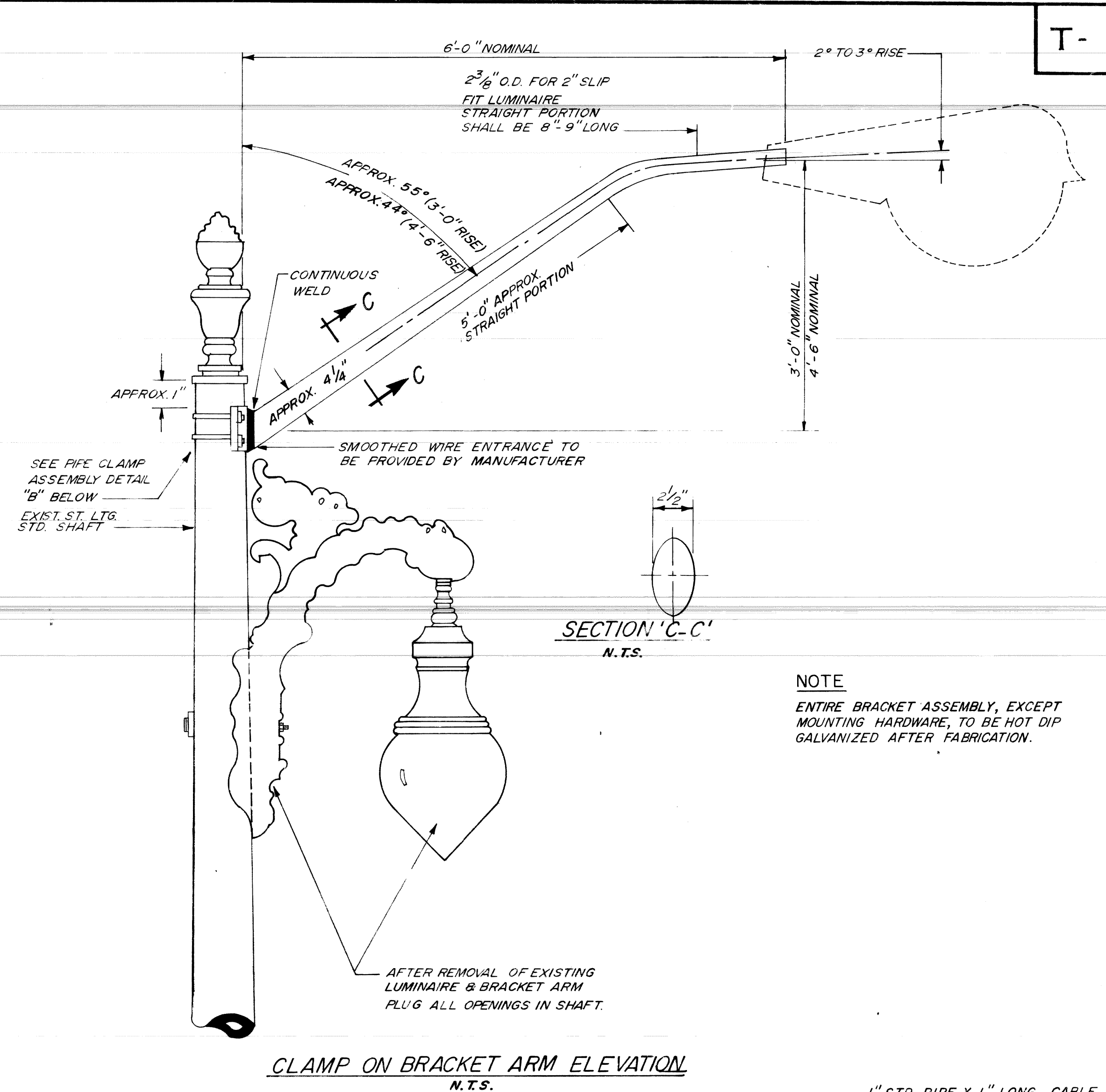


MULTIPLE STREET LIGHTING CONNECTION IN POLE BASE
N.T.S.



SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS

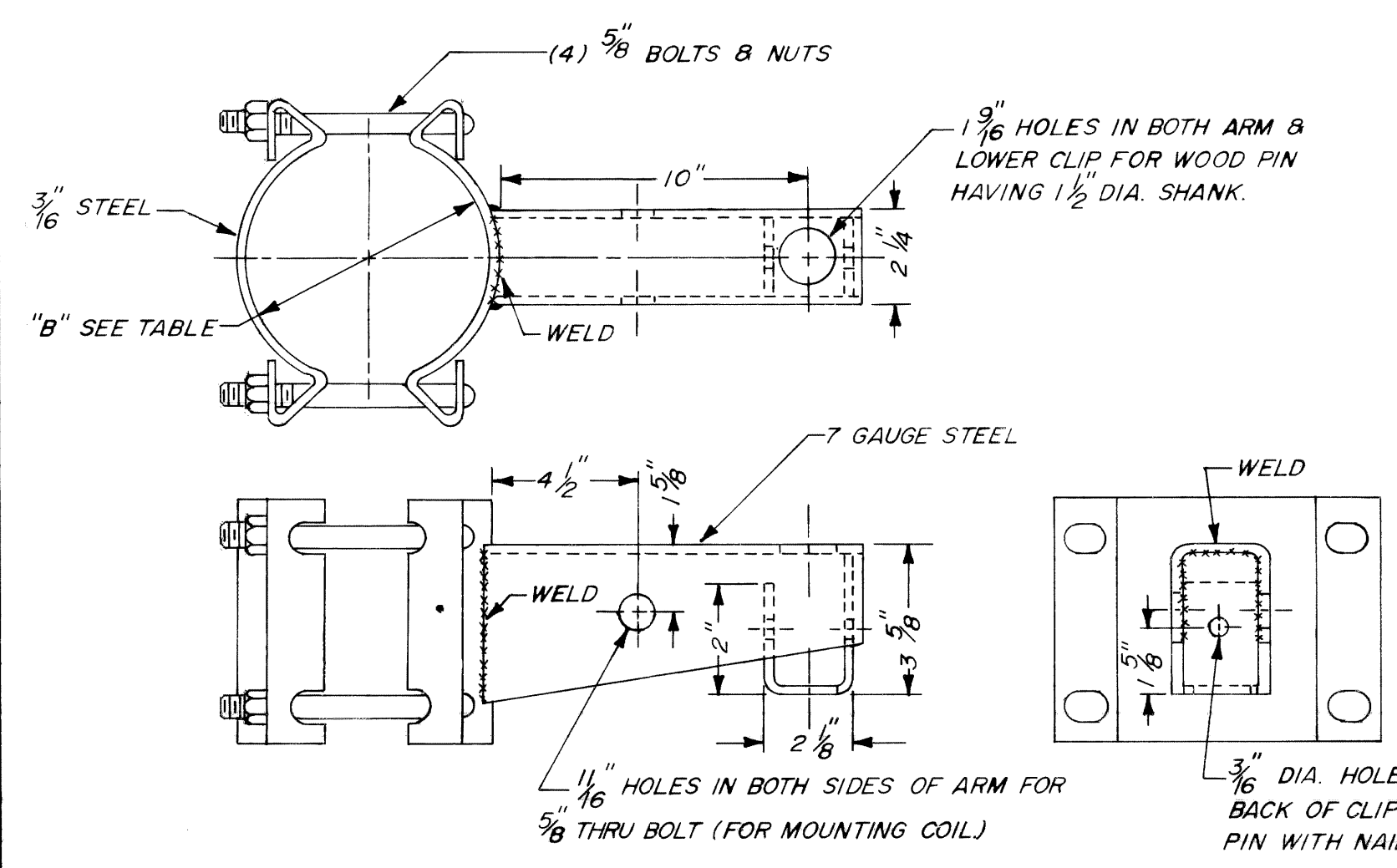
ATWTR.	MCRDY.
BI.	MTRSE.
BUTZL.	PAL. PK.
CNFLD.	PHILP.
CONN'R.	PORTER.
CLUSTER.	STANTN.
GRNFD.	STONE.
HUDSN.	TRNTY.
J. CAMP.	TRBLY.
JOY RD.	TURNR.
LA. BEL.	VERNR.
LTHRP.	WALTN.
LUDDN.	WARRN.
MAPLE.	WATER.



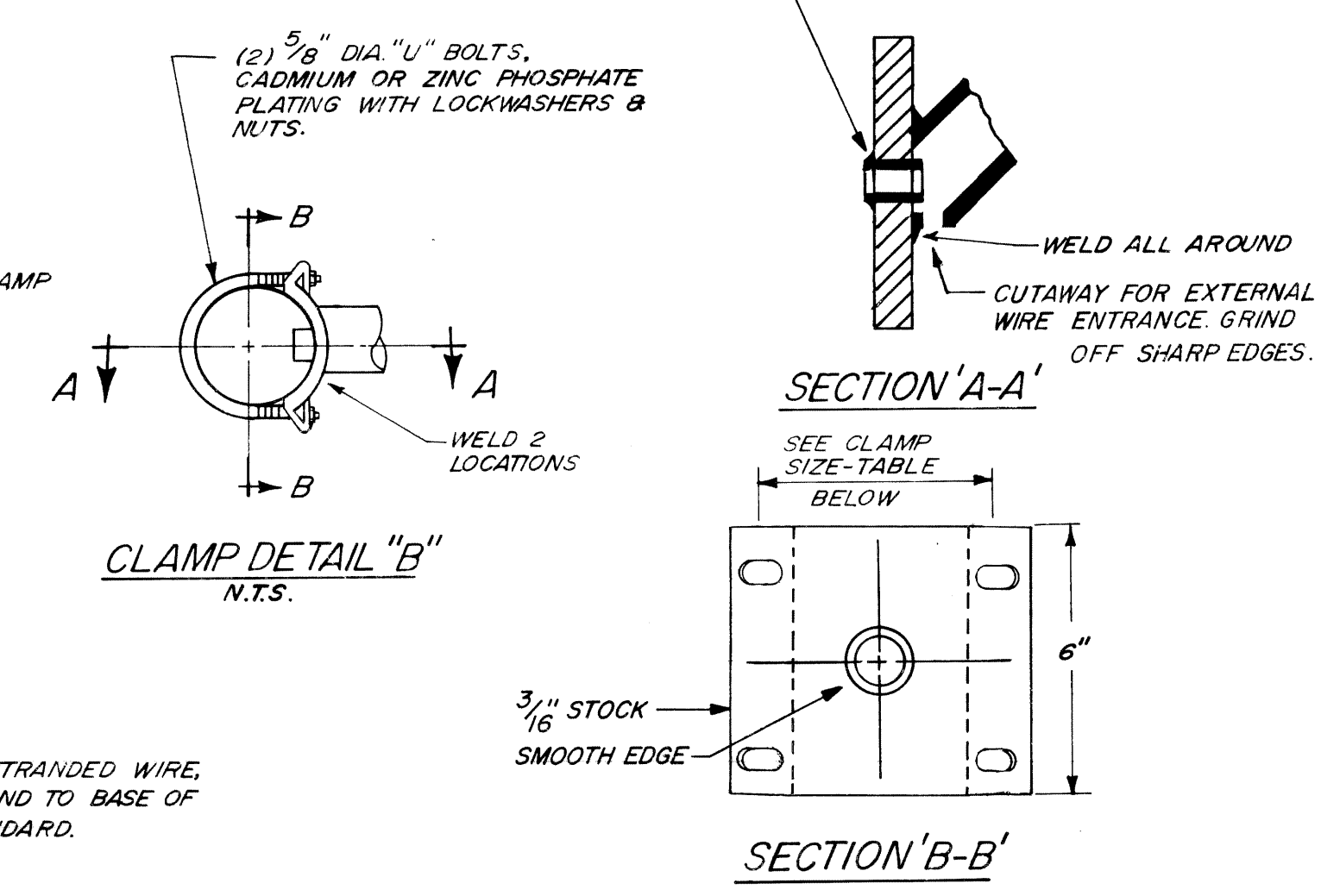
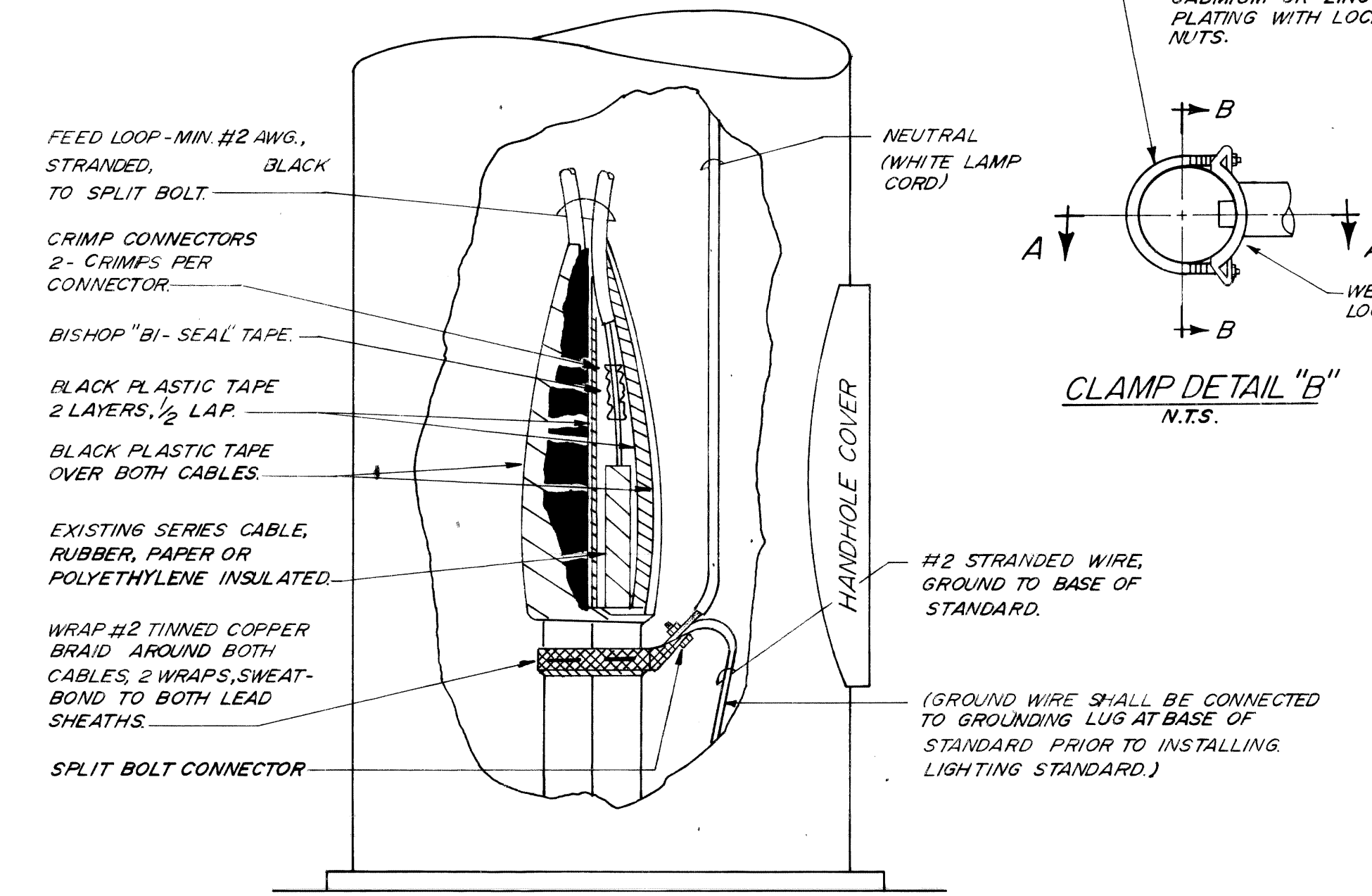
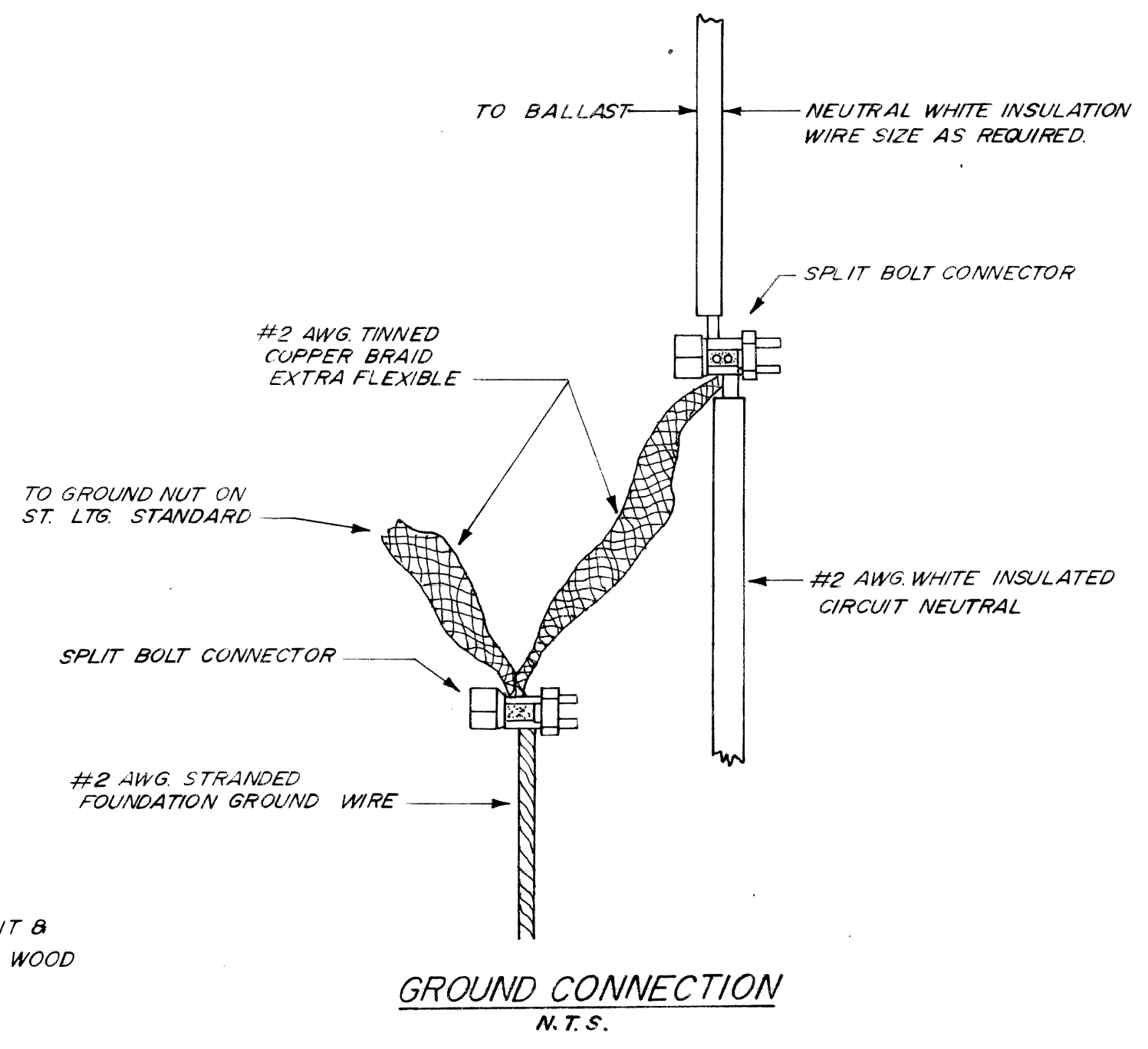
NOTE
ENTIRE BRACKET ASSEMBLY, EXCEPT MOUNTING HARDWARE, TO BE HOT DIP GALVANIZED AFTER FABRICATION.

CLAMP SIZE TABLE

TYPE	POLE DIAMETER
A	3.6" - 4.5"
B	6.1" - 6.9"
C	7.5" - 8.5"
D	



CLAMP FEEDER ARM
N.T.S.



CLAMP SIZE TABLE

TYPE	POLE DIAMETER
A	3.6" - 4.5"
B	6.1" - 6.9"
C	7.5" - 8.5"

DATE	DESCRIPTION	CHKD BY

6
JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD
MULT. ST. LTG. CABLE CONNECTIONS, CLAMP-ON ARM & MISC. DETAILS

SHEET 23 OF 36 SHEETS
CONTRACT NO. 15765A
ASSIGNMENT NO.
DATE 4-86

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

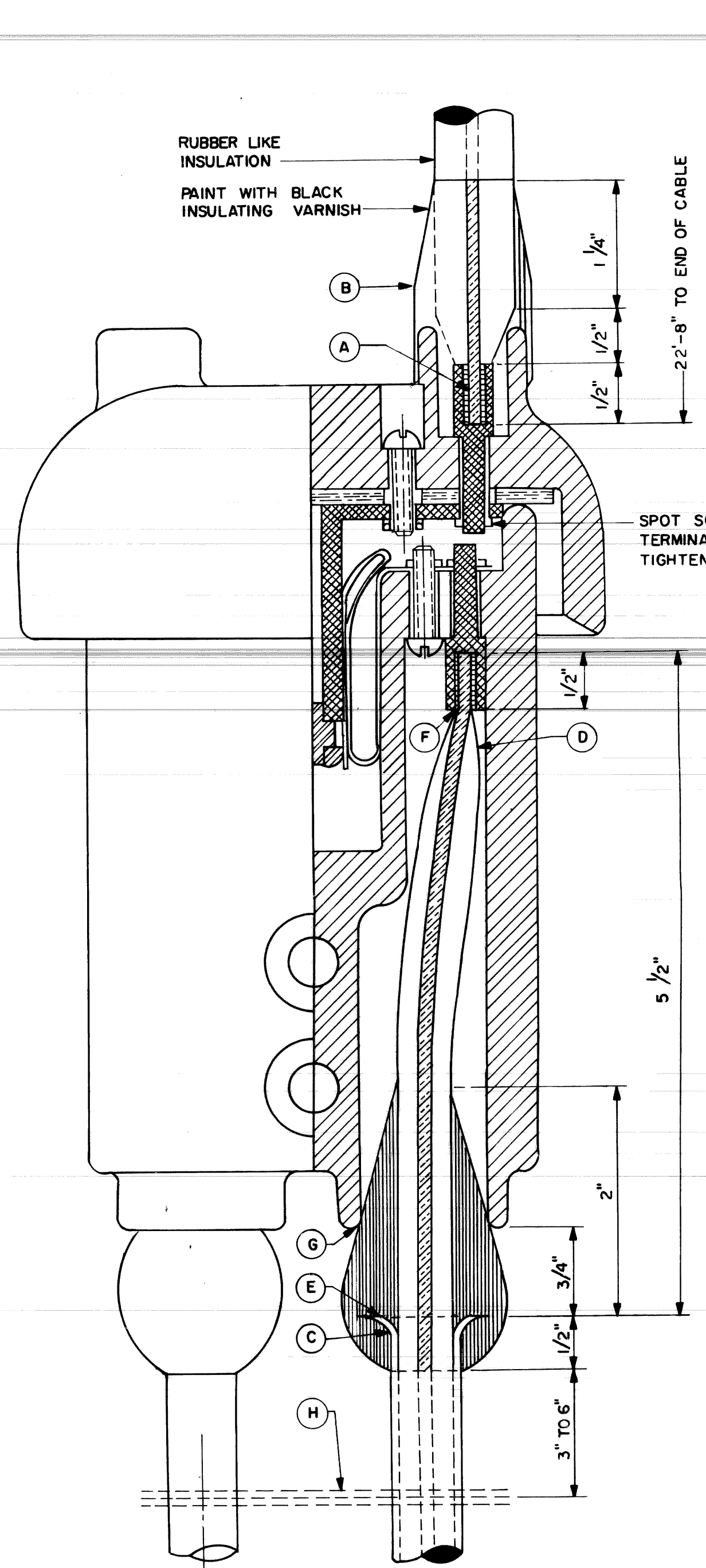
DRAWN BY C.E.A.
CHECKED BY
APPROVED BY
DATE APRIL 1986

PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
DRWG. NO. 10 OF 23
FILE NO. CEA 1096

CHECKED BY
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PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

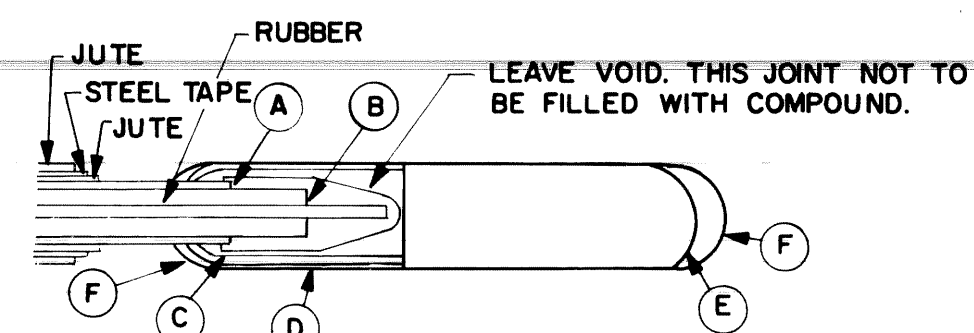
FILE NO. 48-0331
SHEET NO. 10 OF 23
DATE APR. 1986



CONNECTION FOR SERIES CUTOUT
N.T.S.

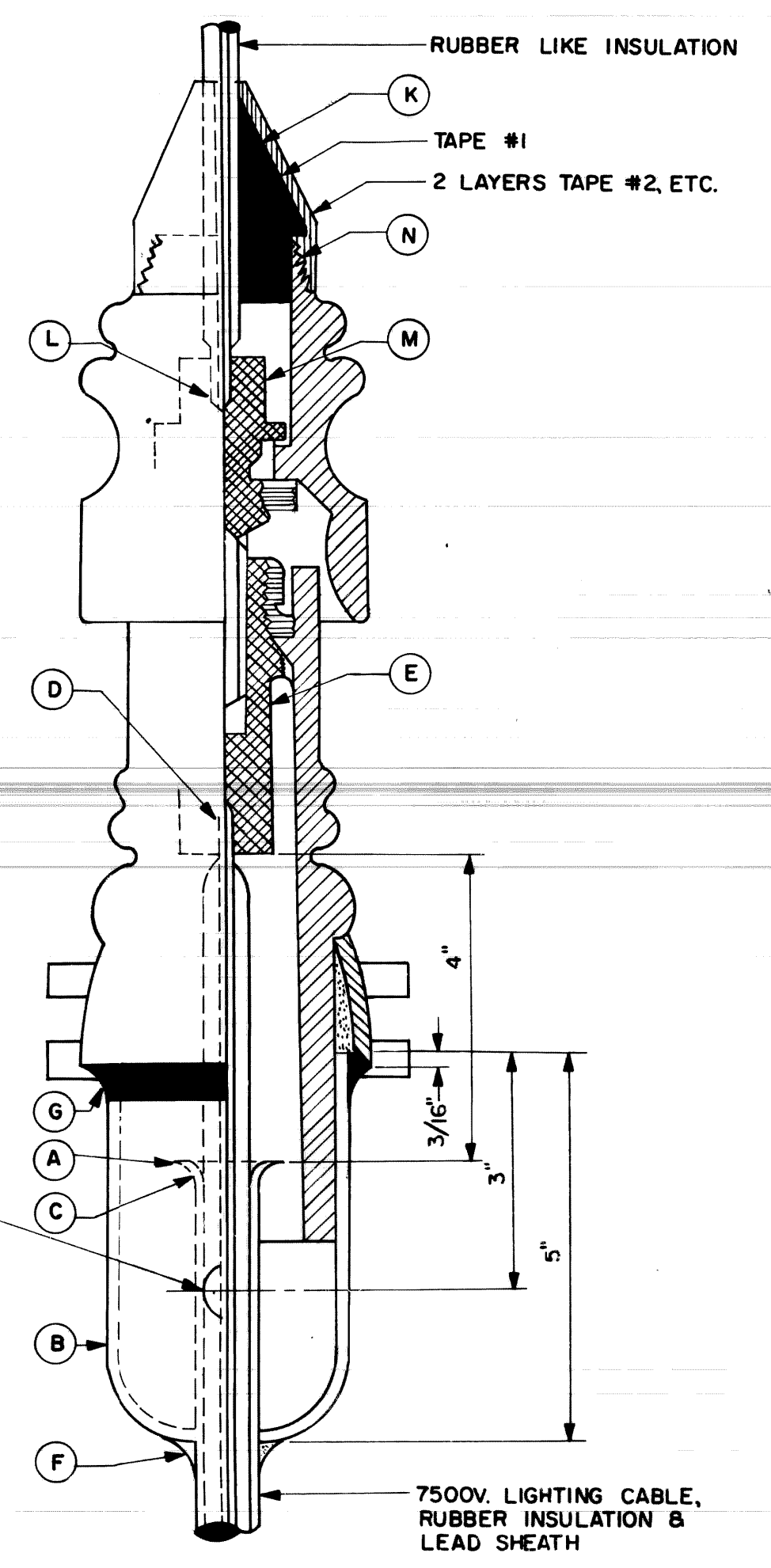
- A - SWEAT TERMINAL & PENCIL RUBBER INSULATION TO FIT SNUGLY IN PORCELAIN CAP OPENING SO THAT THE CONNECTOR NUT IS TIGHTENED. THE OPENING IS COMPLETELY & TIGHTLY FILLED.
- B - BUILD UP WITH #1 TAPE AS SHOWN, & COVER WITH 2 LAYERS, HALF LAP, WITH #2 TAPE. PAINT WITH ONE COAT OF BLACK INSULATING VARNISH.
- C - USE TUBE CUTTER TO SCORE LEAD SHEATH & CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- D - CUT INSULATION & PENCIL SMOOTHLY.
- E - BELL LEAD SHEATH. REMOVE TAPE COMPLETELY, INCLUDING AS MUCH AS CAN BE REMOVED INSIDE OF BELL. FILL SHEATH CAVITY WITH RUBBER CEMENT.
- F - SWEAT CONDUCTOR INTO TERMINAL.
- G - APPLY TAPE #1 OVER BELL AS SHOWN TO FORM A TIGHT FIT BETWEEN INSULATION AND PORCELAIN AT "G" WHEN NUT IS TIGHTENED. COVER TAPE #1 WITH 2 LAYERS OF TAPE #2 APPROX. 3/4" FROM END OF TAPE #1.
- H - #18 SERVICE WIRE OR BRAID 4 WRAPS BETWEEN CABLES & SWEATED TO LEAD SHEATH FOR BOND TIE TO GROUND WIRE.

NOTES:
1. FOR PARKWAY CABLE, STRIP JUTE & STEEL TAPE DOWNWARD TO DUCT ENTRANCE.
2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR THE APPLICATION AS SHOWN ON THE DRAWINGS.



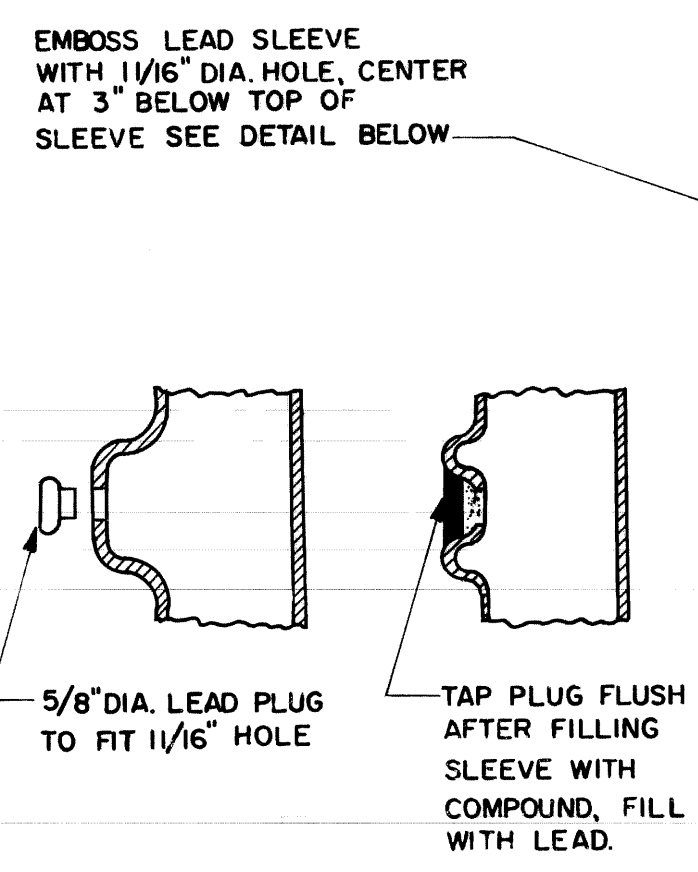
#8 LIGHTING CABLE DEAD END CAP

- A - SCORE LEAD SHEATH WITH TUBE CUTTER & CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- B - CUT INSULATION
- C - OVERLAP WITH TAPE #2 APPROXIMATELY 1/2" FROM END OF LEAD OF LEAD SHEATH, AT LEAST 2 LAYERS OF TAPE AT THIS POINT.
- D - 1 1/4" x 8" x 1/8" LEAD SLEEVE
- E - SHAPE AND BEAT LEAD SLEEVE TO FORM A CLOSED END.
- F - CADMIUM ALLOY WIPING METAL. DO NOT POUR METAL FOR WIPE. USE TORCH AND FINGER WIPE WITH MINIMUM OF HEAT.



#8 LIGHTING CABLE JOINT
N.T.S.

- A - 1/2" #8 TINNED COPPER SLEEVE, 2 CIRCUMFERENTIAL CRIMPS ON EACH END.
- B - SCORE LEAD SHEATH WITH TUBE CUTTER & CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- C - CUT INSULATION & PENCIL SMOOTHLY AS SHOWN, AFTER REMOVING TAPE.
- D - APPLY TAPE #1 TO APPROXIMATELY 1" DIAMETER OVERALL.
- E - OVERLAP WITH TAPE #1 APPROXIMATELY 1/4" FROM END OF LEAD OF LEAD SHEATH, AT LEAST 2 LAYERS OF TAPE AT THIS POINT.
- F - 2 LAYERS OF TAPE #2 APPLIED HALF LAP.
- G - 1/4" x 8" x 1/8" LEAD SLEEVE.
- H - TWO LAYERS OF TAPE #2 HALF LAP ON ARMORED PARKWAY CABLE ONLY.



CONNECTIONS FOR 1/C 7500V. POTHEAD
N.T.S.

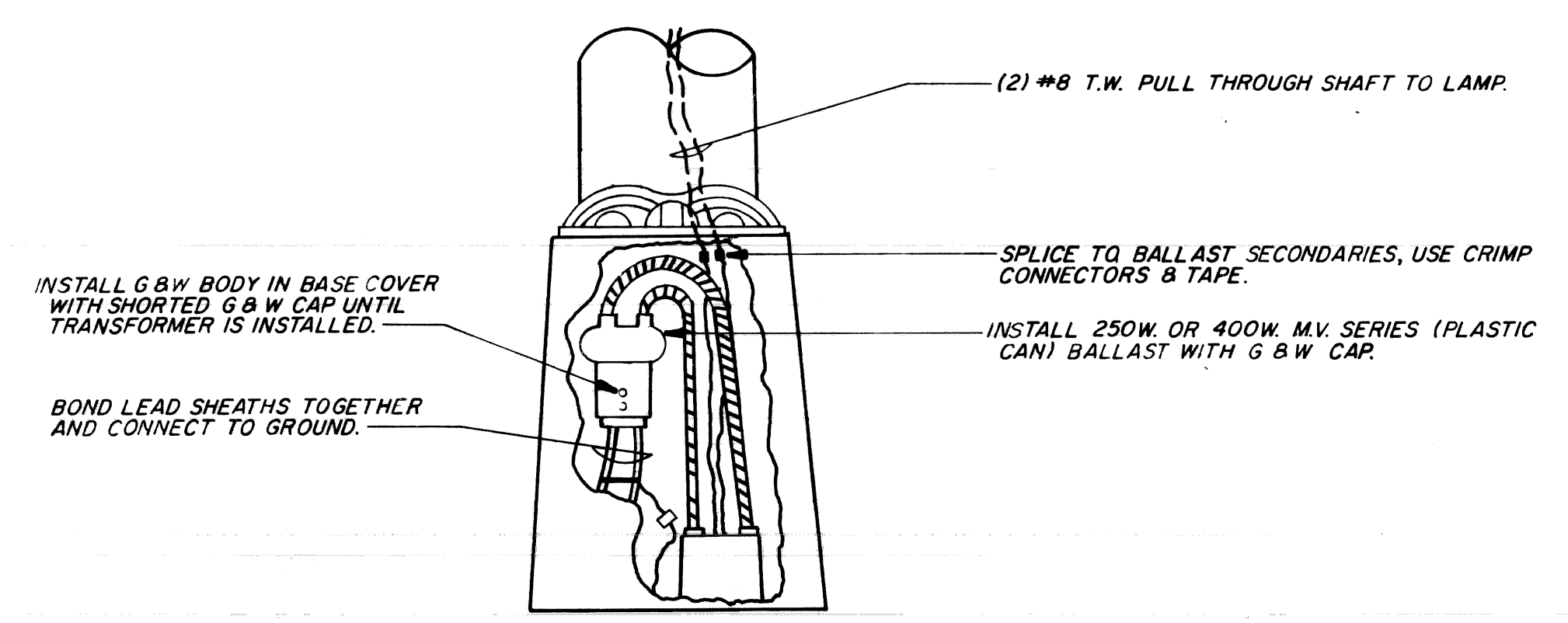
- A - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING 4" OF INSULATION TO REMAIN, NOT INCLUDING BARED CONDUCTOR.
- B - FORM BOTTOM OF EMBOSSED SLEEVE & SLIP OVER CABLE, HOLE IN FRONT.
- C - BELL LEAD SHEATH, REMOVE TAPE FROM INSULATION, INCLUDING AS MUCH AS POSSIBLE FROM WITHIN BELLED SHEATH.
- D - SWEAT CONDUCTOR INTO TERMINAL & PENCIL INSULATION SMOOTHLY FOR 3/4".
- E - MOUNT TERMINAL FIRMLY INTO PORCELAIN.
- F - PUSH SLEEVE INTO CAST IRON COLLAR AND WIPE SMOOTHLY TO LEAD SHEATH.
- G - INVERT & FILL JOINT BETWEEN IRON COLLAR AND SLEEVE WITH EPOXY RESIN.
- H - LAY POTHEAD HORIZONTAL & FILL COMPLETELY WITH APPROVED COMPOUND.
- I - INSERT LEAD PLUG INTO EMBOSSED HOLE, TAP FLUSH & FILL WITH LEAD.
- J - TRAIN CABLE & MOUNT POTHEAD ON CROSS ARM.
- K - SLIP THE CONE SHAPED RUBBER BUSHING ON THE RUBBER INSULATED CABLE RISER.
- L - SWEAT CONDUCTOR INTO TERMINAL FIRMLY INTO THE POTHEAD CAP.
- M - MOUNT THE TERMINAL FIRMLY INTO THE POTHEAD CAP.
- N - BUILD UP WITH TAPE #1 AND CARRY 2 LAYERS OVER THE CAP TO POINT "N" AS SHOWN. COVER WITH 2 LAYERS TYPE #2 - HALF LAP. PAINT WITH BLACK INSULATION VARNISH.

MATERIAL TYPES

TAPE #1 - CORONA RESISTING HIGH VOLTAGE RUBBER TAPE ONLY.
TAPE #2 - BLACK PLASTIC ELECTRICAL TAPE.

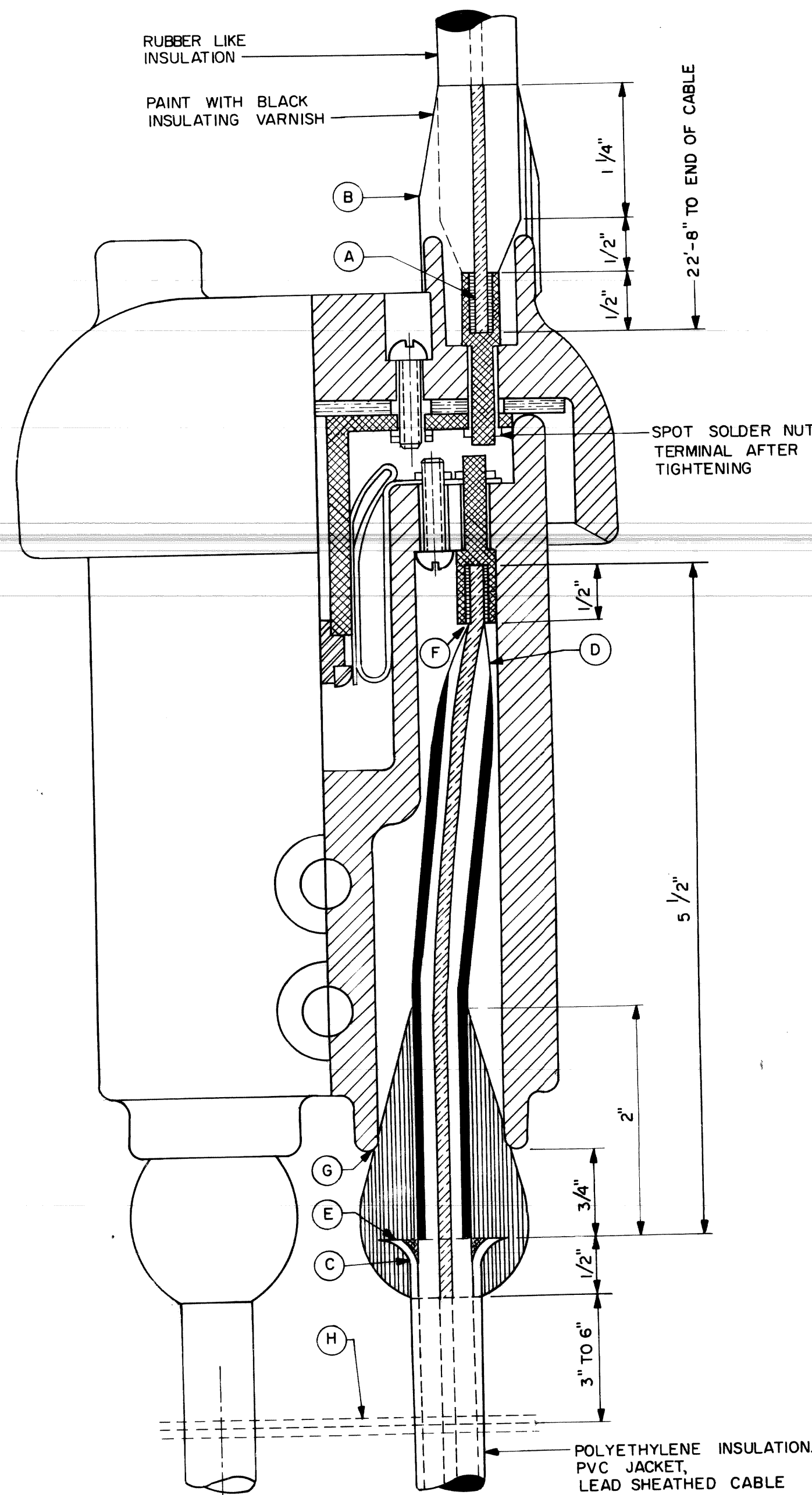
SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS.

ATWTR.	MCRDY.
BI.	MTRSE.
BUTZL.	PAL.PK.
CNFLD.	PHILP.
CONNR.	PORTER.
CUSTER.	STNTN.
GRNFD.	STONE.
HUDSN.	TRNTY.
J.CAMP.	TRBLY.
JOY RD.	TURNR.
L.A.BEL.	VERNR.
LTHRP.	WALTN.
LUDDN.	WARRN.
MAPLE.	WD.TER.



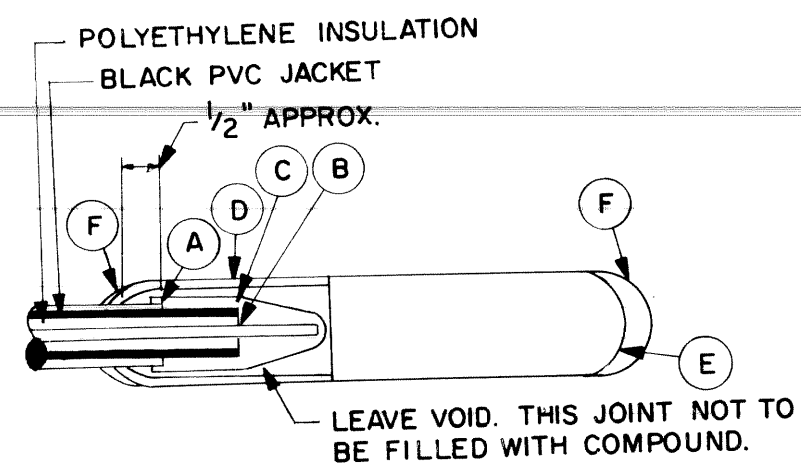
INCANDESCENT TO MERCURY CONVERSION
N.T.S.

DATE	DESCRIPTION	CHKD. BY	<p>JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD</p> <p>RUBBER INSULATED LEAD SHEATHED CABLE SPLICE & CONNECTIONS DETAILS</p>	SHEET 25 OF 36 SHEETS	<p>CITY OF DETROIT</p> <p>CITY ENGINEERING DEPARTMENT</p>	DRAWN BY CEA	<p>PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS</p> <p>16580 WYOMING DETROIT, MICH. 48221</p>	CHECKED BY	<p>PUBLIC LIGHTING COMMISSION</p> <p>CITY OF DETROIT</p>	FILE NO. 48-0331		
				CONTRACT NO. 15765A		APPROVED BY		SHEET NO. 12 OF 23				
				ASSIGNMENT NO.		DATE APRIL 1985		DRWG. NO. 12 OF 23		FILE NO. CEA 1096	APPROVED BY	DATE APR. 1986
				DATE 4 - 86								



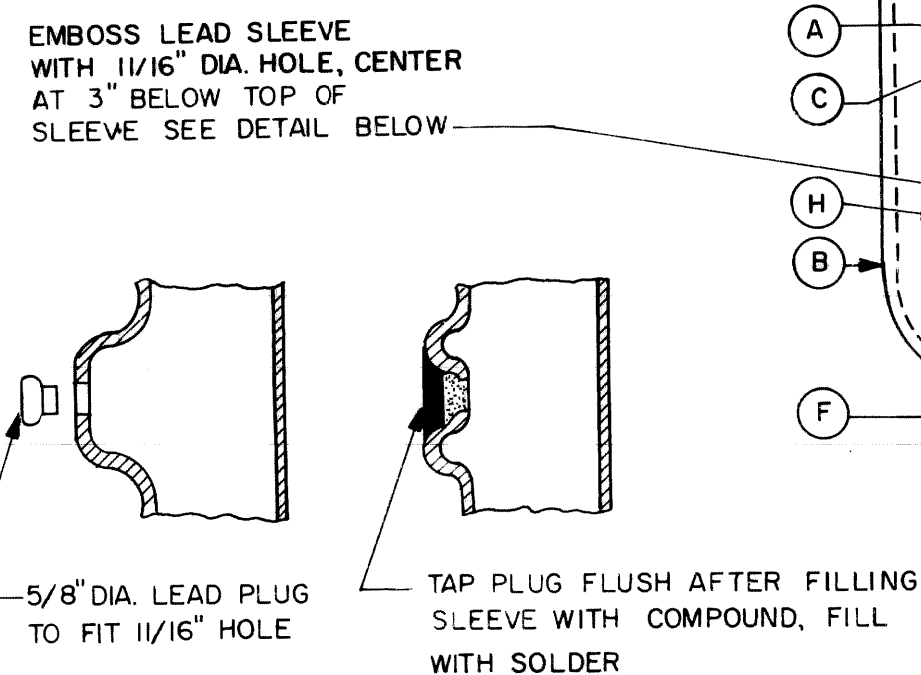
CONNECTION FOR SERIES CUTOUT
N.T.S.

- A - SWEAT TERMINAL & PENCIL INSULATION TO FIT SNUGLY IN PORCELAIN OPENING SO THAT AS NUT IS DRAWN UP TIGHT THE OPENING IS COMPLETELY AND TIGHTLY FILLED.
- B - BUILD UP WITH TAPE #3 AS SHOWN AND COVER WITH 2 LAYERS 1/2" HALF LAP, TAPE #2 PAINT AS NOTED.
- C - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- D - CUT INSULATION AND PENCIL SMOOTHLY FOR CONNECTION.
- E - BELL LEAD SHEATH AND FILL SHEATH CAVITY WITH APPROVED ADHESIVE.
- F - SWEAT CONDUCTOR INTO TERMINAL.
- G - APPLY TAPE #1 OVER BELL SUFFICIENTLY TO FORM A TIGHT FIT BETWEEN CABLE AND PORCELAIN. AT G COVER TAPE #1 WITH 2 LAYERS OF TAPE #2 TO ABOUT 3/4" FROM END OF TAPE #1.
- H - #18 SERVICE WIRE OR BRAID, 4 WRAPS BETWEEN CABLES AND SWEATED TO LEAD SHEATH FOR BOND TIE TO GROUND WIRE.



#8 LIGHTING CABLE DEAD END CAP
N.T.S.

- A - SCORE LEAD SHEATH WITH TUBE CUTTER AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- B - CUT INSULATION TO EXPOSE 1" OF BARE COPPER.
- C - APPLY 3 LAYERS TAPE #2 OVER PVC JACKET LEAD SHEATH. OVERLAP SHEATH WITH TAPE APPROX. 1/4" & COVER BARE COPPER.
- D - LEAD SLEEVE 8" LONG, 1/8" WALL, 1/4" INSIDE DIAMETER.
- E - SHAPE & BEAT LEAD SLEEVE TO FORM A CLOSED END.
- F - CADMIUM ALLOY WIPING METAL. DO NOT POUR METAL FOR WIPE. USE TORCH & FINGER WIPE WITH MINIMUM OF HEAT.



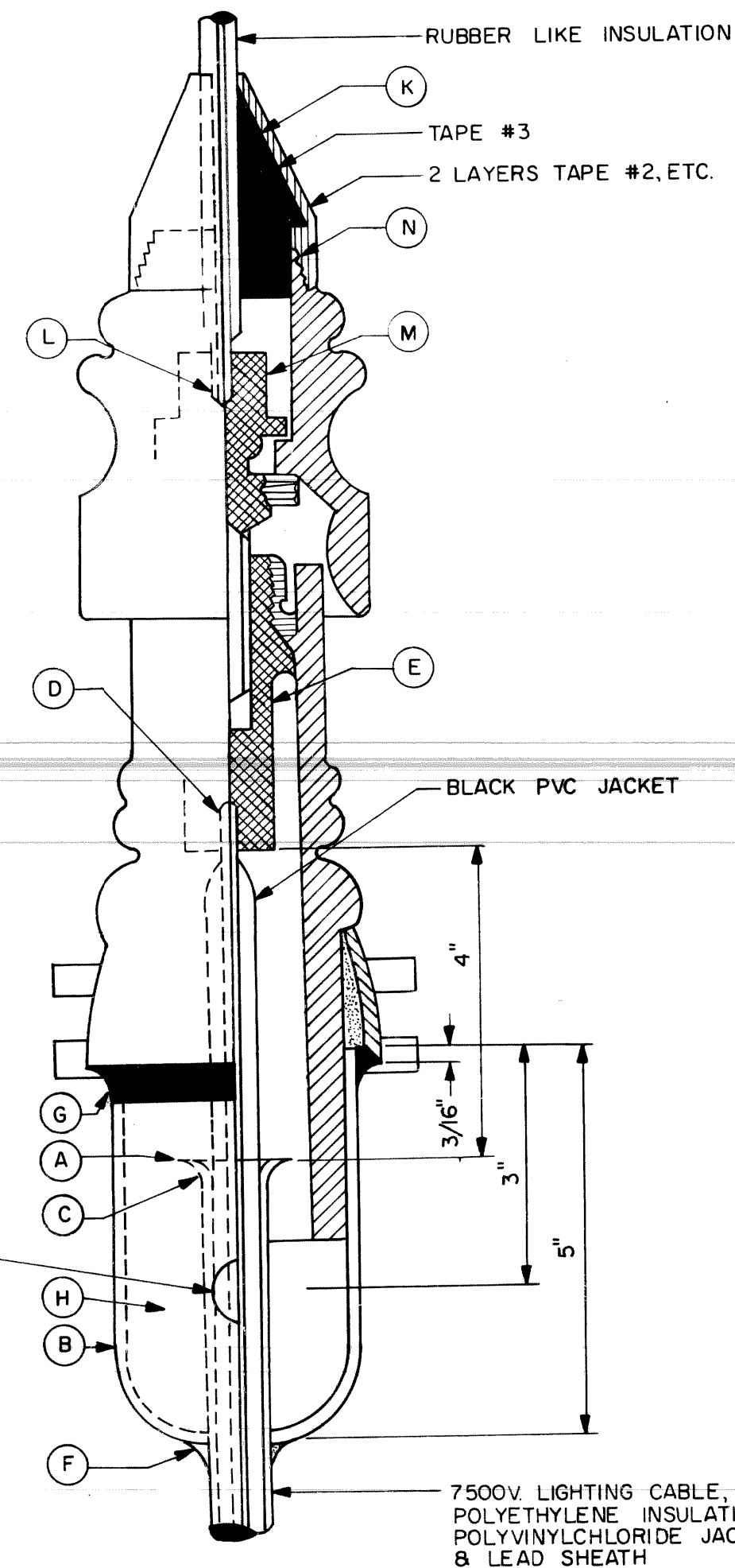
CONNECTIONS FOR 1/C 7500V. POTHEAD
N.T.S.

- A - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING. 4" OF INSULATION TO REMAIN, NOT INCLUDING BARED CONDUCTOR.
- B - FORM BOTTOM OF EMBOSSED LEAD SLEEVE & SLIP OVER CABLE HOLE IN FRONT.
- C - BELL LEAD SHEATH.
- D - SWEAT CONDUCTOR INTO TERMINAL & PENCIL INSULATION SMOOTHLY FOR 3/4".
- E - MOUNT TERMINAL FIRMLY INTO PORCELAIN HOUSING.
- F - PUSH SLEEVE INTO CAST IRON COLLAR AND FINGER WIPE TO CABLE SHEATH WITH LOW TEMPERATURE CADMIUM ALLOY. USE MINIMUM OF HEAT. DO NOT POUR METAL.
- G - INVERT & FILL JOINT BETWEEN IRON COLLAR AND LEAD SLEEVE WITH APPROVED EPOXY RESIN.
- H - LAY POTHEAD HORIZONTAL & FILL WITH APPROVED COMPOUND. DO NOT HEAT COMPOUND MORE THAN NECESSARY FOR POURING.
- I - INSERT 5/8" DIA. LEAD PLUG INTO SLEEVE HOLE, TAP FLUSH, AND FILL IN WITH SOLDER.
- J - TRAIN THE CABLE AND MOUNT THE POTHEAD ON CROSSARM.
- K - SLIP THE CONE SHAPED RUBBER BUSHING ON THE RUBBER INSULATED CABLE RISER.
- L - SWEAT CONDUCTOR INTO TERMINAL 'L' AND PENCIL INSULATION AS SHOWN.
- M - MOUNT THE TERMINAL FIRMLY INTO THE POTHEAD CAP.
- N - BUILD UP WITH TAPE #3 AND CARRY 2 LAYERS OVER THE END OF THE CAP TO POINT 'N' AS SHOWN. COVER WITH 2 LAYERS TAPE #2 HALF LAP. PAINT WITH APPROVED BLACK INSULATING VARNISH.

MATERIAL & SPECIAL PRECAUTIONS

- 1. TAPE #1: CLEAR POLYETHYLENE TAPE, 0.02" THICK X 3/4" WIDE. TAPE #2: BLACK PVC PLASTIC ELECTRICAL TAPE. TAPE #3: APPROVED A.S.T.M. RUBBER TAPE. ADHESIVE: APPROVED ADHESIVE. FILLING COMPOUND: APPROVED COMPOUND. WIPING METAL: APPROVED LOW TEMPERATURE CADMIUM ALLOY WIPING METAL.
- 2. USE SMALL HAND TORCH FOR WIPING JOINTS, AT MINIMUM TEMPERATURE.
- 3. WHEN IT IS NECESSARY TO SPLICE POLYETHYLENE INSULATED CABLE TO RUBBER CABLE, USE ABOVE MATERIALS.
- 4. APPLY ADHESIVE INSIDE BELLED SHEATH CAVITY ONLY. APPLY TAPE AFTER ADHESIVE HAS BECOME TACKY.

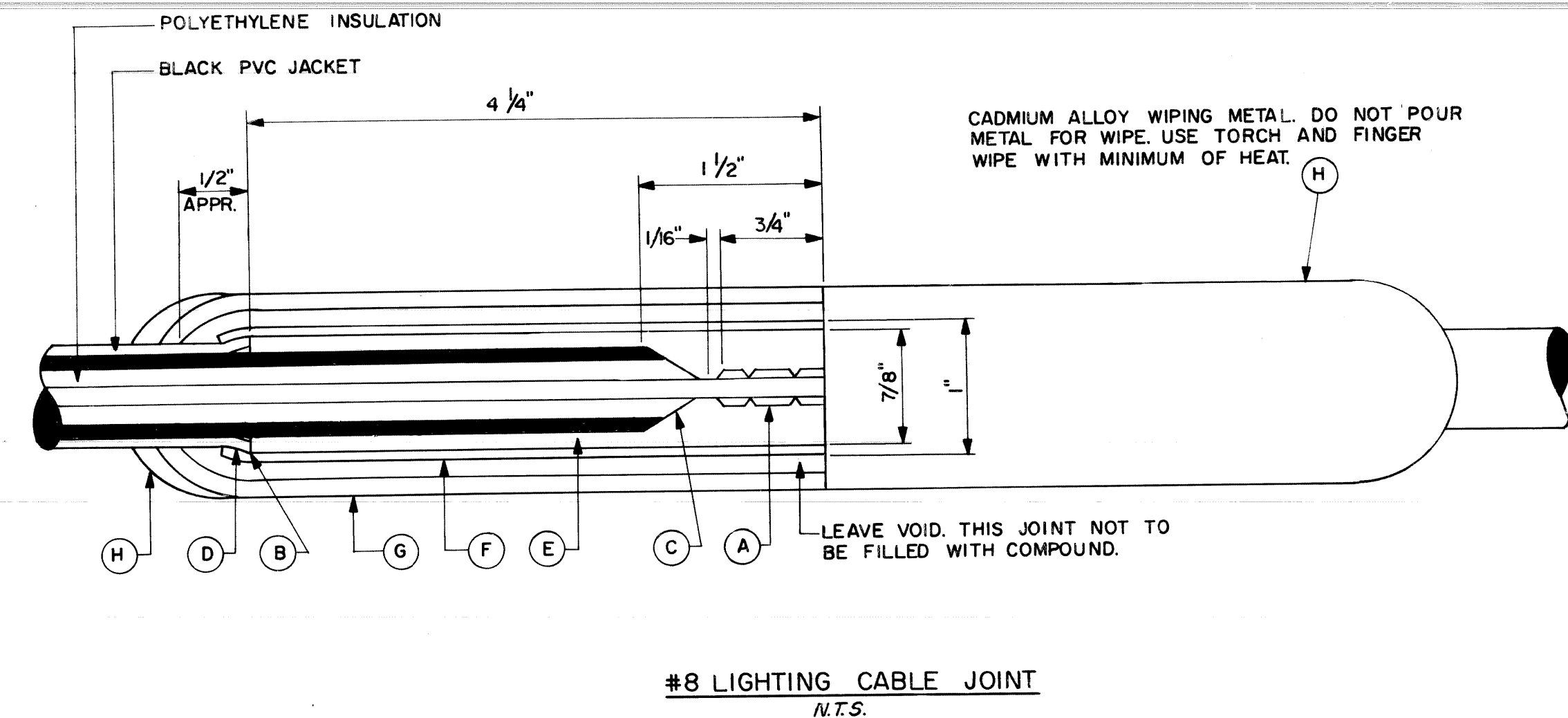
NOTE:
THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL SPLICING MATERIALS HE PROPOSES TO USE WITH SUPPORTING DATA THAT THE MATERIAL IS SUITABLE FOR APPLICATION AS SHOWN ON THE DRAWINGS.



SUBSTATION NAMES ON IDENTIFICATION TAGS SHALL BE SPELLED AS FOLLOWS

ATWTR.	MCRDY.
BL.	MTRSE.
BUTZL.	PAL. PK.
CNFLD.	PHILP.
CONNR.	PORTER.
CUSTER.	STNTN.
GRNFD.	STONE.
HUDSN.	TRNTY.
J. CAMP.	TRBLY.
JOY RD.	TURNR.
L.A. BEL.	VERNR.
LTHRP.	WALTN.
LUDDN.	WARRN.
MAPLE.	WD. TER.

INCANDESCENT TO MERCURY CONVERSION
N.T.S.



#8 LIGHTING CABLE JOINT
N.T.S.

- A - 1/2" #8 TINNED COPPER SLEEVE, 2 CIRCUMFERENTIAL CRIMPS ON EACH END.
- B - SCORE LEAD SHEATH WITH TUBE CUTTER AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- C - CUT INSULATION AND PENCIL SMOOTHLY AS SHOWN.
- D - BELL LEAD SHEATH TO DIAMETER SHOWN AND FILL SHEATH CAVITY WITH APPROVED ADHESIVE.
- E - APPLY TAPE #1 OVER PVC JACKET AND BELLED SHEATH TO A DIA. OF 1" OVERLAP BELLED SHEATH WITH TAPE APPROX. 1/4".
- F - 2 LAYERS OF TAPE #2 APPLIED HALF LAP.
- G - LEAD SLEEVE 10" LONG, 1/8" WALL, 1/4" INSIDE DIAMETER.
- H - SPECIAL LOW TEMPERATURE CADMIUM ALLOY WIPING METAL.

DATE	DESCRIPTION	CHKD. BY
2/2		

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD
POLYETHYLENE INSULATED, POLYVINYLCHLORIDE JACKETED, LEAD SHEATHED CABLE CONNECTION SPECIFICATIONS
DETAILS

SHEET 26 OF 36 SHEETS
CONTRACT NO. 15765A
ASSIGNMENT NO.
DATE 4-86

CITY OF DETROIT

CITY ENGINEERING DEPARTMENT

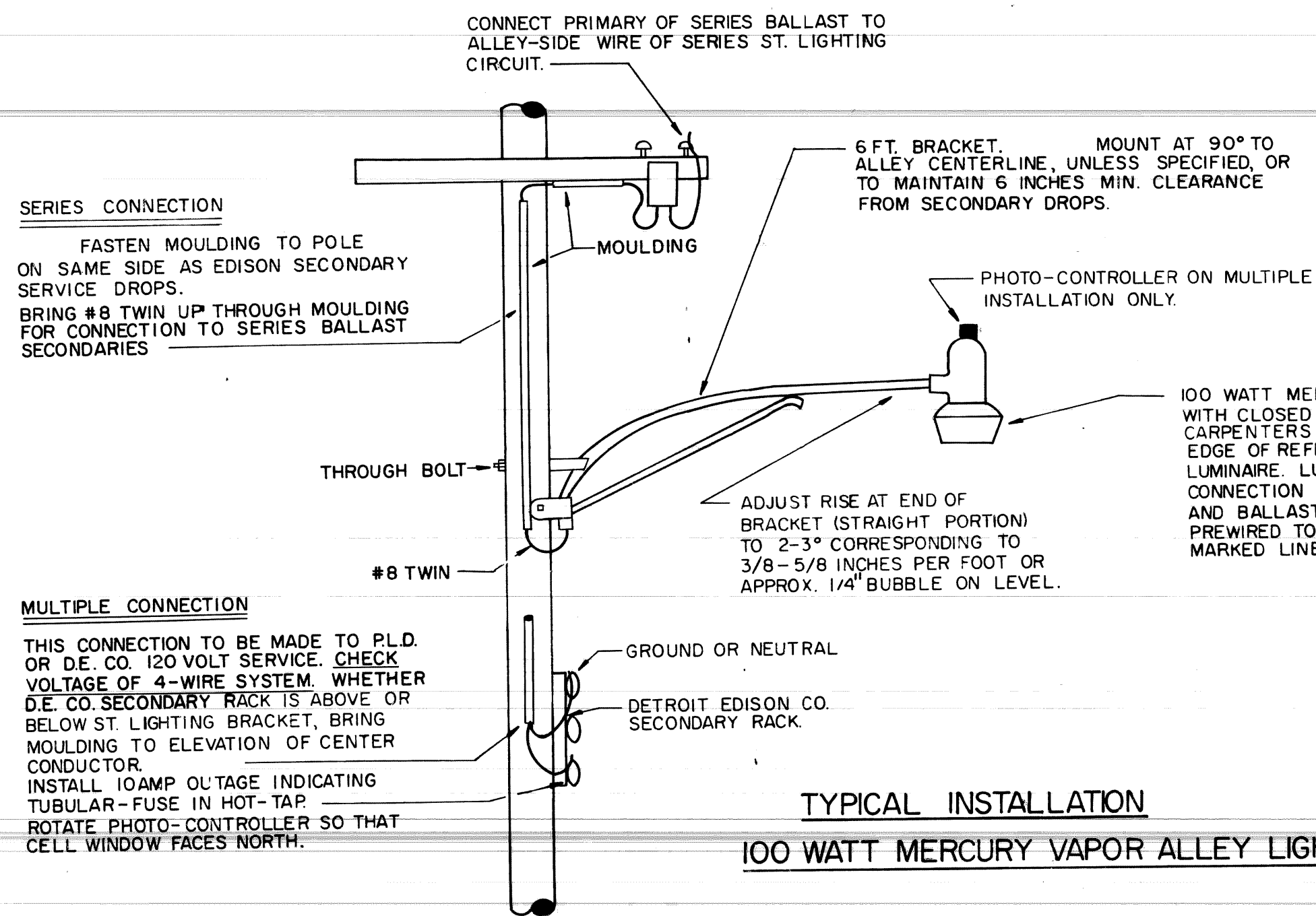
DRAWN BY CEA
CHECKED BY
APPROVED BY
DATE APRIL 1986

PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
DRWG. NO. 13 OF 23
FILE NO. CEA 1096

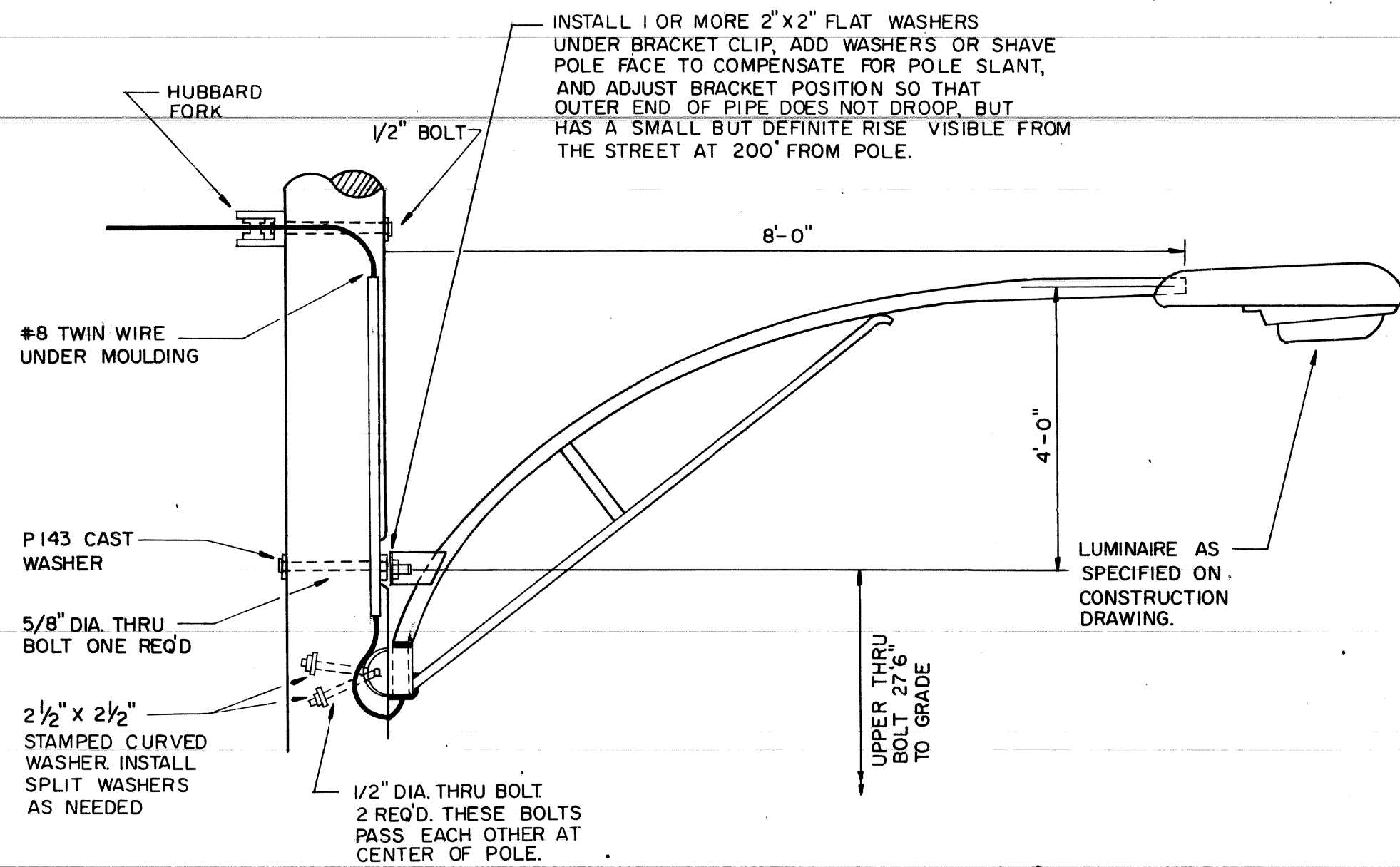
CHECKED BY
APPROVED BY

PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

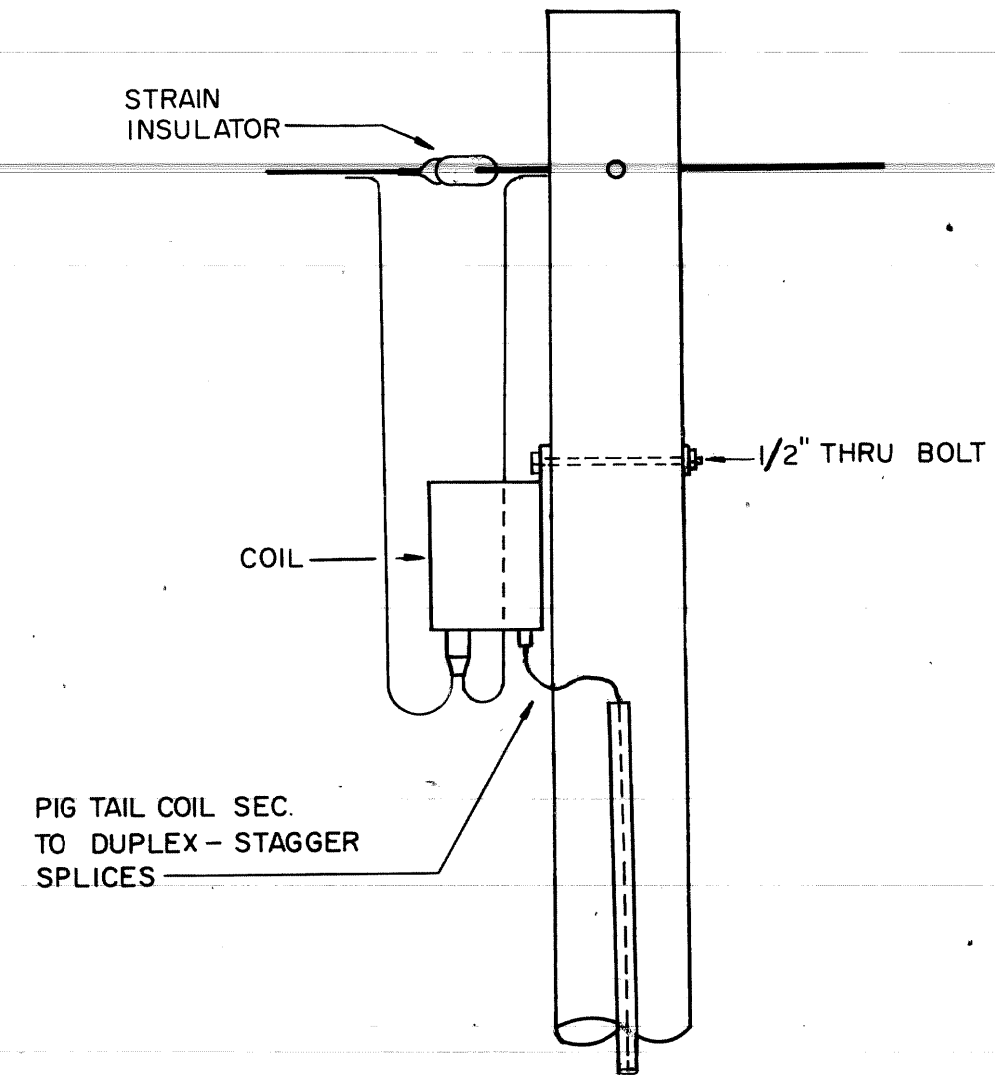
FILE NO. 48-0331
SHEET NO. 13 OF 23
DATE APR. 1986



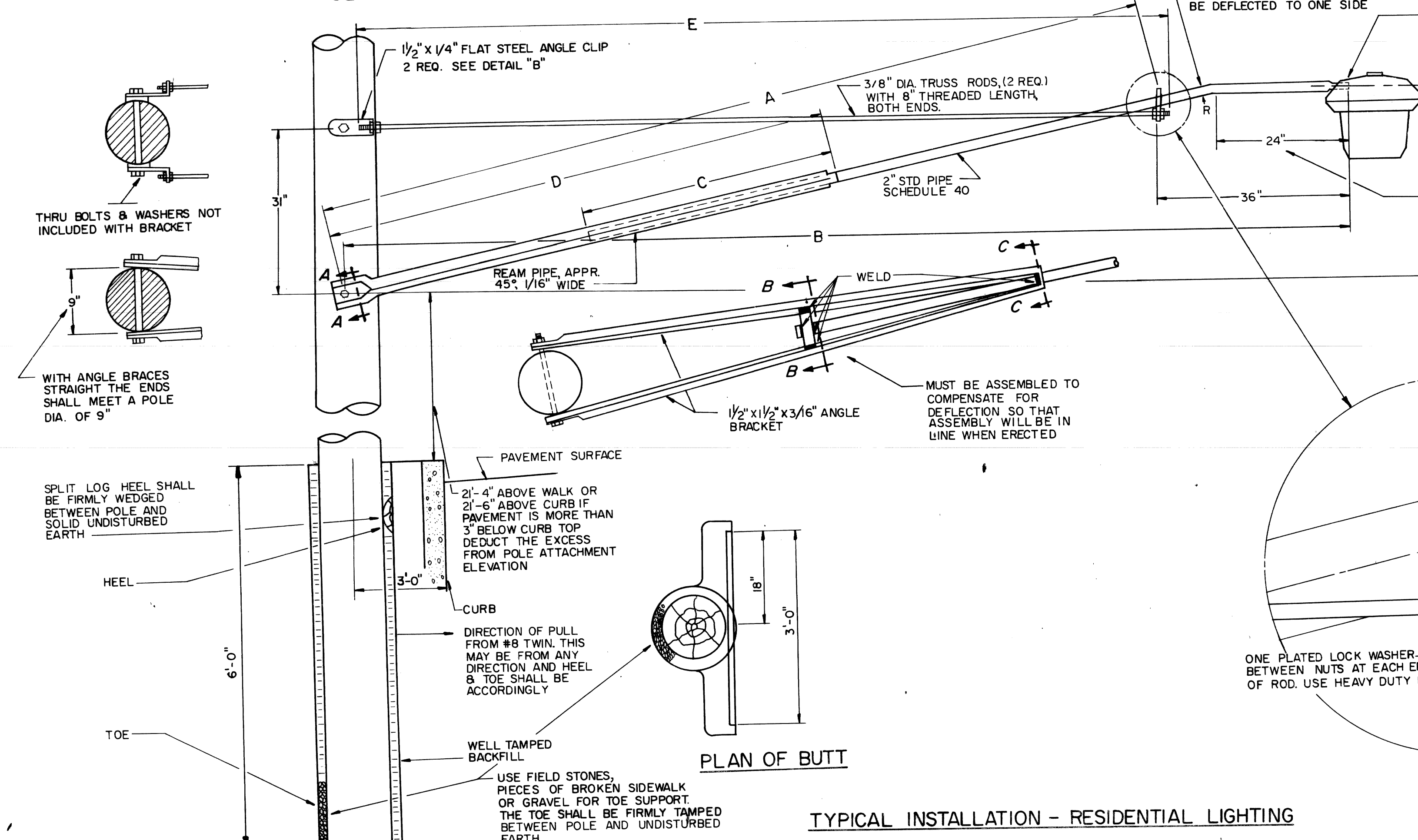
TYPICAL INSTALLATION
100 WATT MERCURY VAPOR ALLEY LIGHT



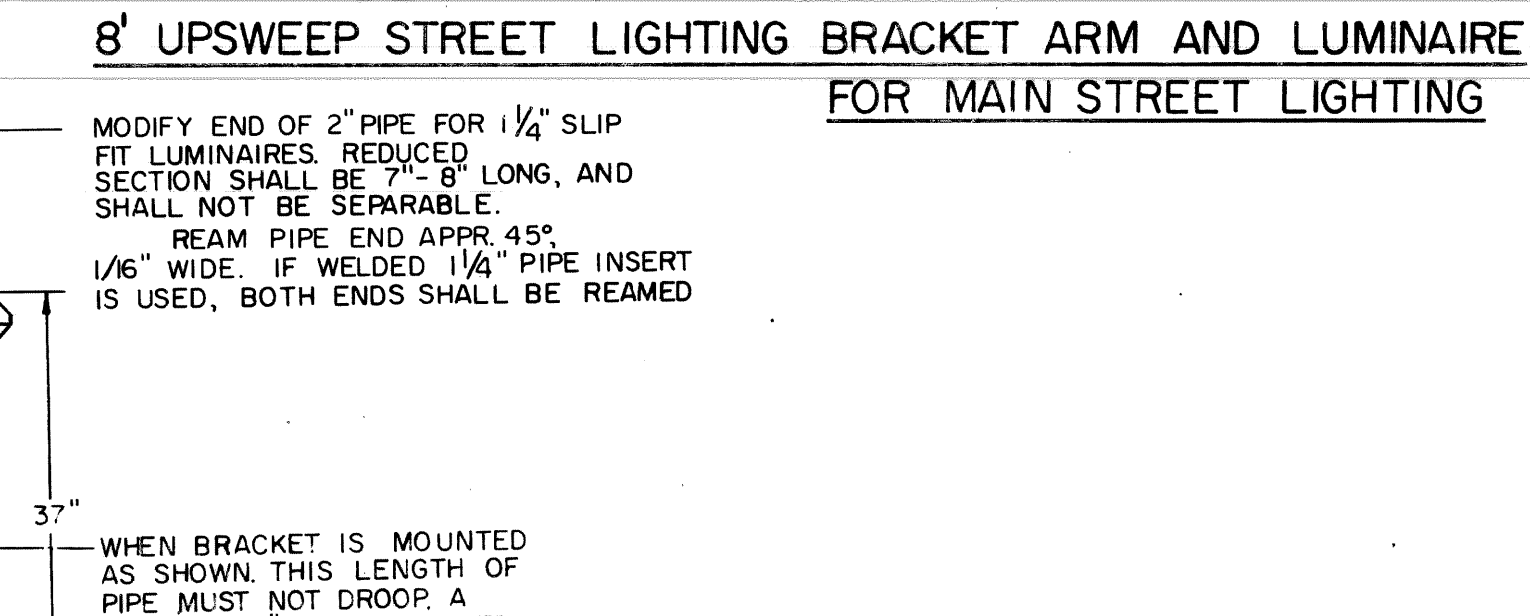
8' UPSWEEP STREET LIGHTING BRACKET ARM AND LUMINAIRE FOR MAIN STREET LIGHTING



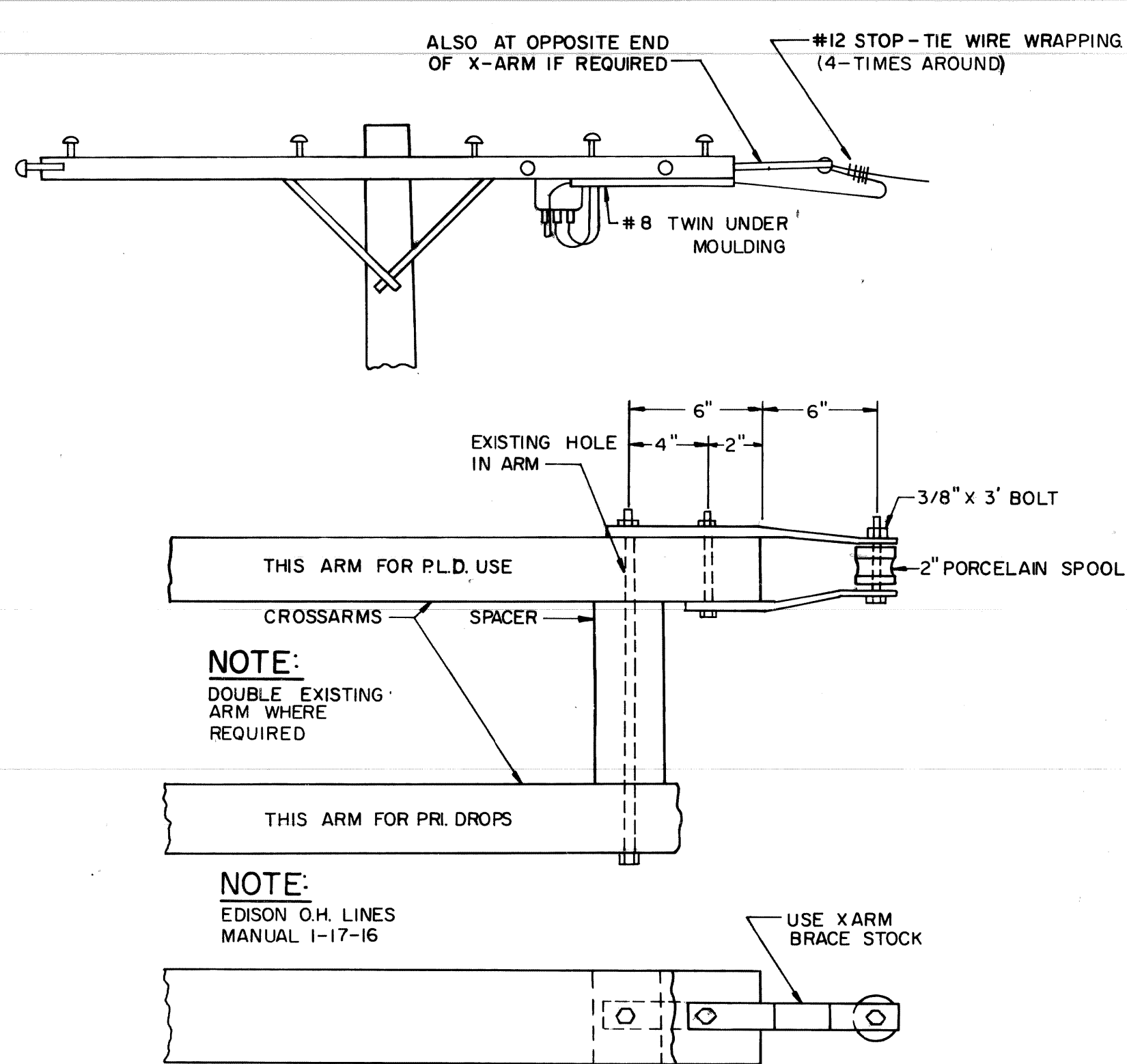
TYPICAL COIL INSTALLATION



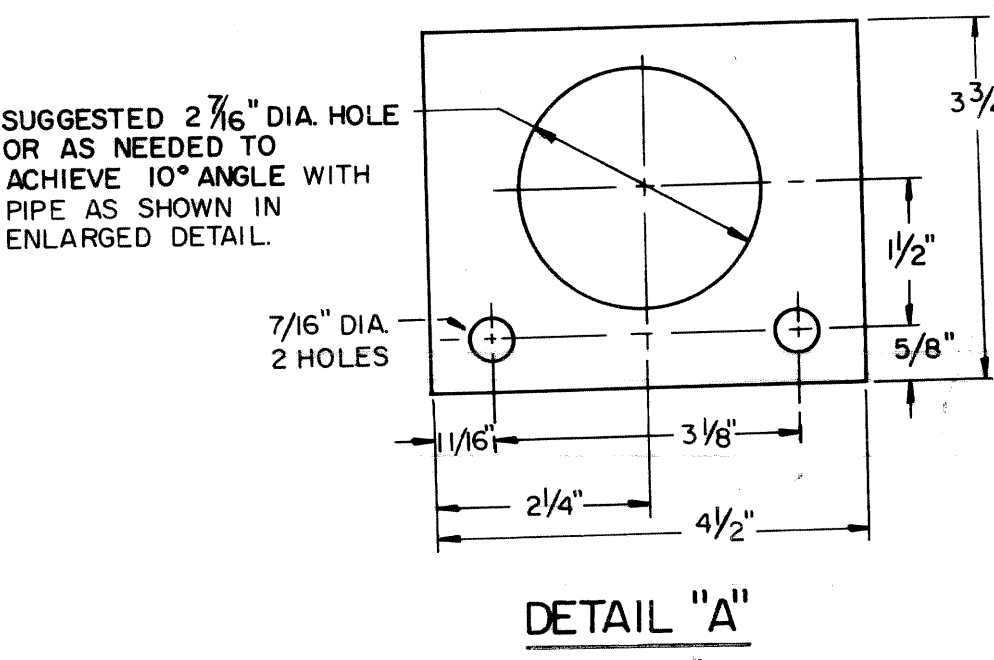
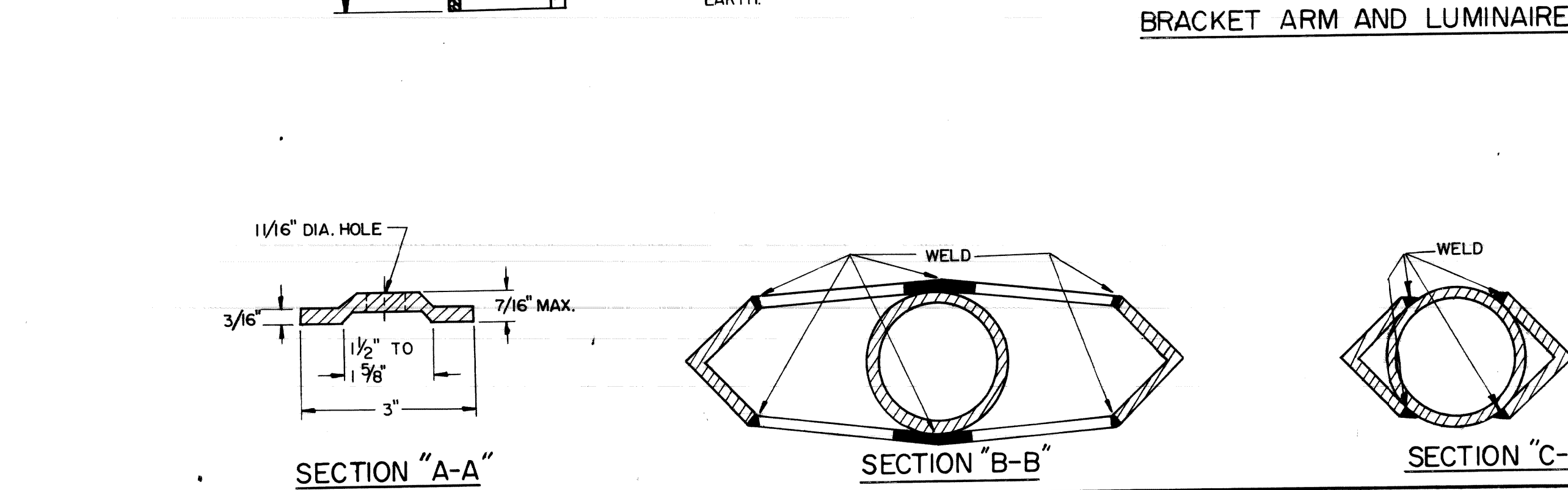
TYPICAL INSTALLATION - RESIDENTIAL LIGHTING
BRACKET ARM AND LUMINAIRE



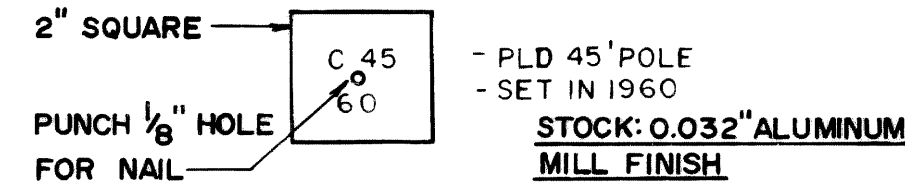
DIMENSIONS					ROD LENGTH
A	B	C	D	E	
13'-4"	16'-0"	4 8"	96"	13'-3"	
17'-3"	20'-0"	6'-0"	10'-0"	17'-3"	



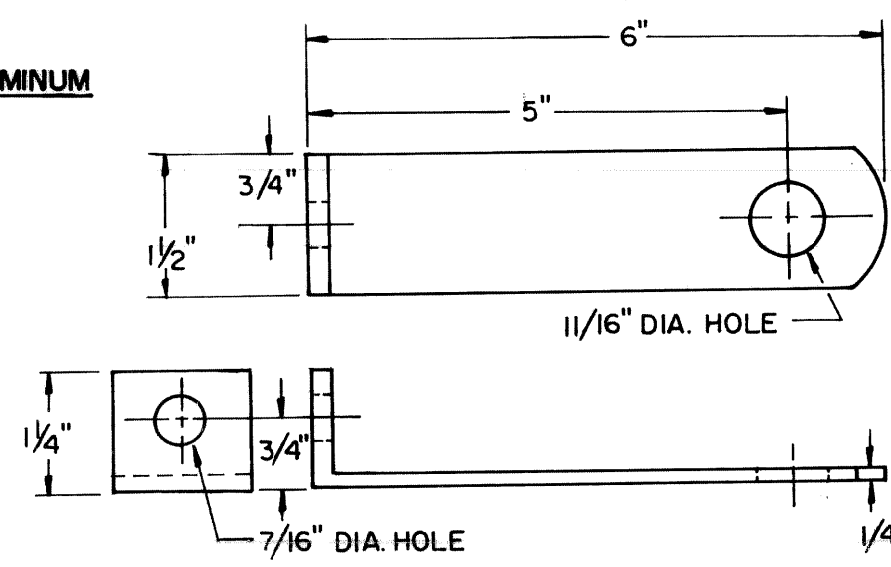
END OF ARM CONSTRUCTION FOR STREET LIGHTING AT TRANSFORMER OR CABLE POLES



DETAIL "A"
STOCK 5/16" MILD STEEL



TYPICAL MARKING
WOOD POLE TAGS



DETAIL "B"
2 REQ.

DATE	DESCRIPTION	CHKD. BY	41	<p>JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD</p> <p>MISCELLANEOUS OVERHEAD DETAILS</p>	<p>SHEET 27 OF 36 SHEETS</p> <p>CONTRACT NO. 15765A</p> <p>ASSIGNMENT NO.</p> <p>DATE 4-86</p>	<p>CITY OF DETROIT</p> <p>CITY ENGINEERING DEPARTMENT</p>	DRAWN BY CEA CHECKED BY P APPROVED BY DATE APRIL 1986	PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH. 48221 FILE NO. CEA 1096	CHECKED BY APPROVED BY	PUBLIC LIGHTING COMMISSION CITY OF DETROIT	FILE NO. 48-0331 SHEET NO. 14 OF 23 DATE APR. 1986
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1. DISTRIBUTION AND TRANSMISSION CABLES

ALL TRANSMISSION CABLES, (24 K.V., ITEMS 11-16 INCLUSIVE) ARE FOR CIRCUITS WITH GROUNDED NEUTRAL, AND SHALL CONFORM STRICTLY WITH THE LATEST REVISION OF THE A.E.I.C. "SPECIFICATION FOR IMPREGNATED PAPER INSULATED, LEAD COVERED SOLID TYPE CABLE", 9TH EDITION, DATED APRIL, 1954, AND CONSTRUCTION OPTIONS AS NOTED IN SHEET 1.
 ALL DISTRIBUTION CABLES, (7.5 K.V., ITEMS 19-21 INCLUSIVE) ARE FOR CIRCUITS WITH UNGROUNDED NEUTRAL AND SHALL ALSO CONFORM WITH THE ABOVE SPECIFICATION, WITH CONSTRUCTION OPTIONS AS NOTED IN TABLE I.

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 I.

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 I, 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 I.
 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-STRANDED COPPER CONDUCTORS, HARD, MEDIUM HARD OR SOFT, COATED OR UNCOATED, AS REQUIRED. ASTM B8
 ROPE-LAY-STRANDED, 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	ELECTRICAL METHOD	DIELECTRIC CONSTANT, 1 DAY	10, MAX.	10, MAX.	—	5, MAX.
		% CAPACITANCE INCREASE	1-14 DAYS-10, MAX. 7-14 DAYS-5, MAX.	1-14 DAYS-4.0 MAX. 7-14 DAYS-2.0 MAX.	—	1-14 DAYS 10.0 MAX. 7-14 DAYS 4.0, MAX.
	OR GRAMIMETRIC METHOD	TEMP.	50±1°C	75±1°C	—	75±1°C
TEST IN ACCORDANCE WITH LATEST REVISION OF		IPCEA S-61-402 (EXCEPTIONS ARE NOTED ABOVE)		IPCEA S-61-402	IPCEA S-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 I.

		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-61-402	IPCEA INTERIM REVISION #1 PUB. S-54-401 SEPT. 1959

DATE	DESCRIPTION	CHKD BY	<p>JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD CABLE & WIRE SPECIFICATIONS DETAILS</p>	<p>SHEET 29 OF 36 SHEETS CONTRACT NO. 15765A ASSIGNMENT NO. DATE 4-86</p>	<p>CITY OF DETROIT CITY ENGINEERING DEPARTMENT</p>	DRAWN BY	<p>PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS 16580 WYOMING DETROIT, MICH 48221</p>	<p>CHECKED BY</p>	<p>PUBLIC LIGHTING COMMISSION CITY OF DETROIT</p>	FILE NO.	
		26				APRIL 1986				DRAWING NO.	48-0331
						16 OF 23				FILE NO.	16 OF 23
						CEA 1096				DATE	APR. 1986

CERTIFIED TEST REPORTS

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

ITEMS 1 - 5 INCLUSIVE - OVERHEAD LINE WIRE

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

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

ITEMS 6 - 10 INCLUSIVE

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

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

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

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

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

ITEMS 17 - 18 INCLUSIVE - SERIES STREET LIGHTING CABLE

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

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

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

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

EXTERNAL CORONA TEST - THIS TEST SHALL BE CONDUCTED ON ONE (1) SAMPLE PER 10,000 FT. OF COMPLETED CABLE EIGHTEEN (18) INCHES LONG WITH ONLY THE LEAD SHEATH REMOVED, AFTER WHICH IT SHALL BE WIRED 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 THEN 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 - 8/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 8" CONSTRUCTION MESSENGER SHALL BE 7 STRAND EHS GALVANIZED, CLASS A, 1/4-IN. NOMINAL DIAM (ASTM A 475) AND SHALL BE FULL FLOODED.
(b) COLOR CODED PER FEDERAL SPECIFICATION J-C-III.
(c) NOMINAL THICKNESS, INCHES.

Table with columns: DATE, DESCRIPTION, CHECKED BY. Empty rows.

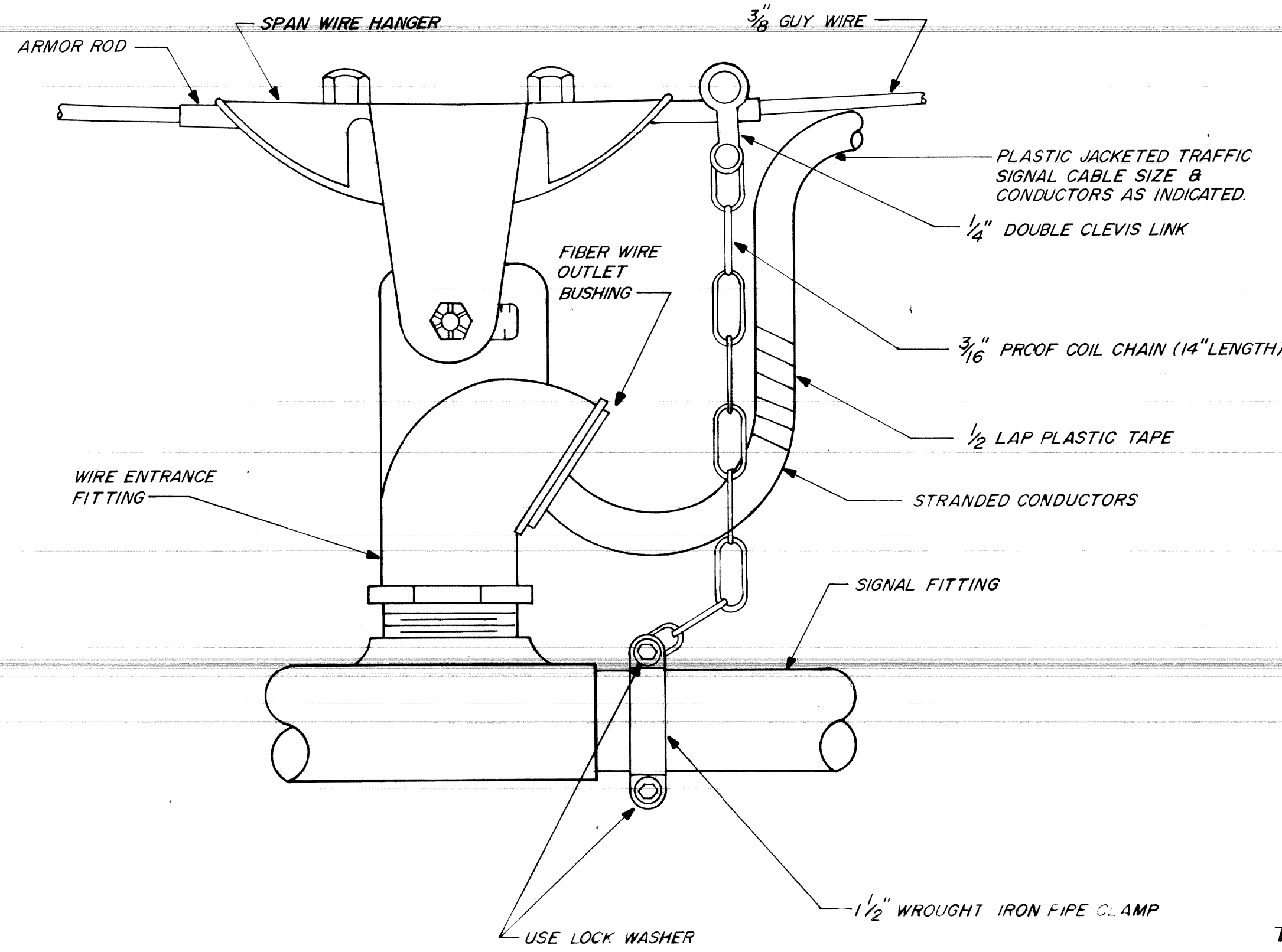
JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD CABLE & WIRE SPECIFICATIONS DETAILS

Table with columns: SHEET 30 OF 36 SHEETS, CONTRACT NO. 15765A, ASSIGNMENT NO., DATE 4-86

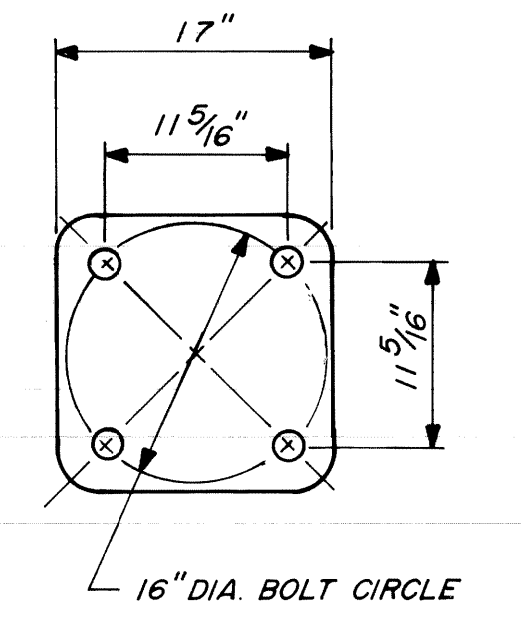
CITY OF DETROIT CITY ENGINEERING DEPARTMENT

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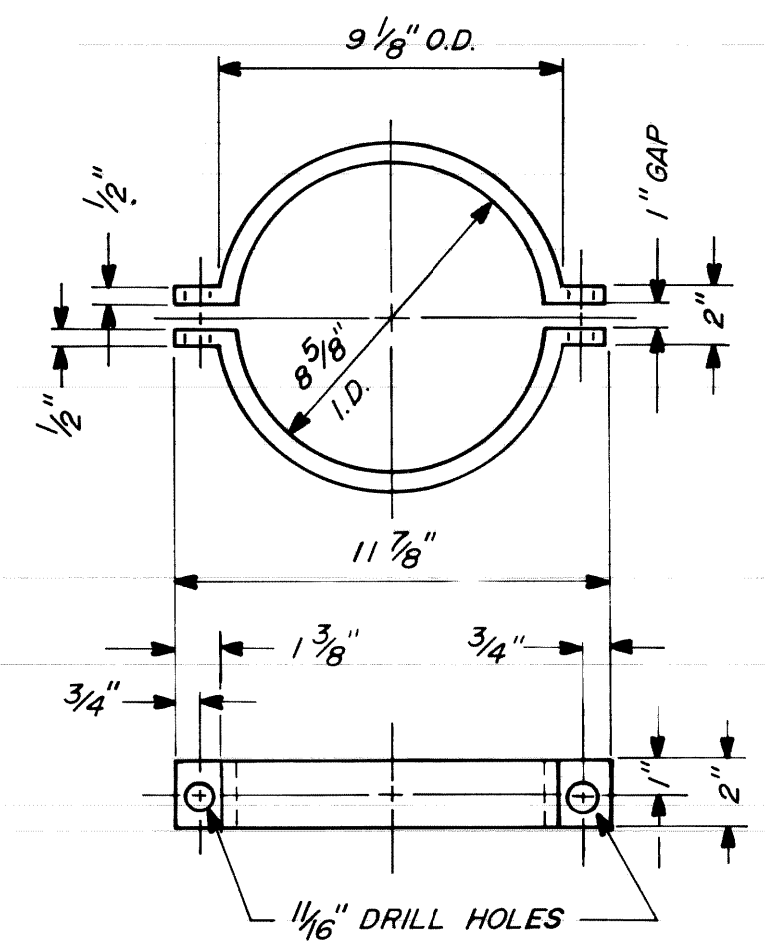
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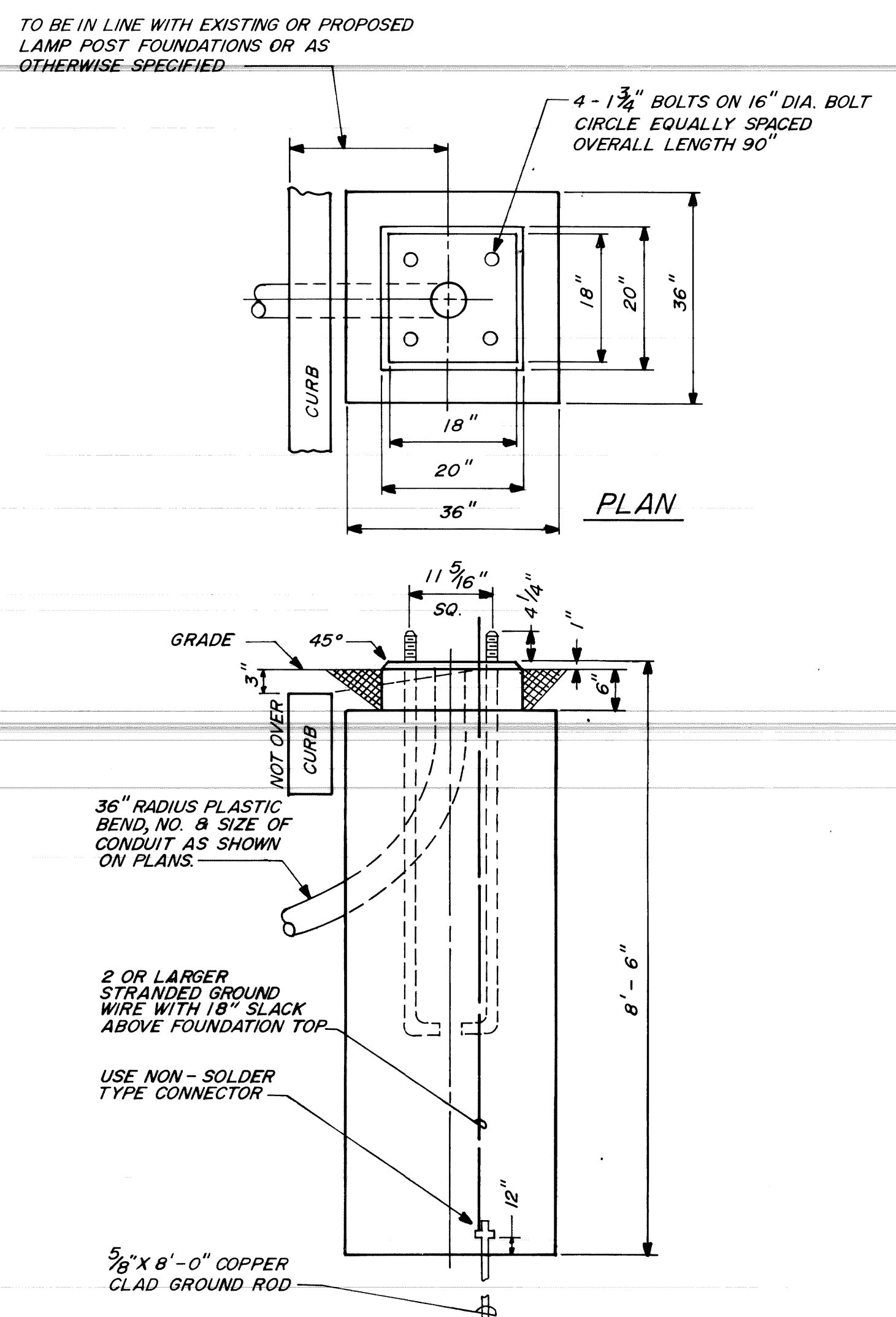
SPAN WIRE FITING & WEATHER CAP
N.T.S.



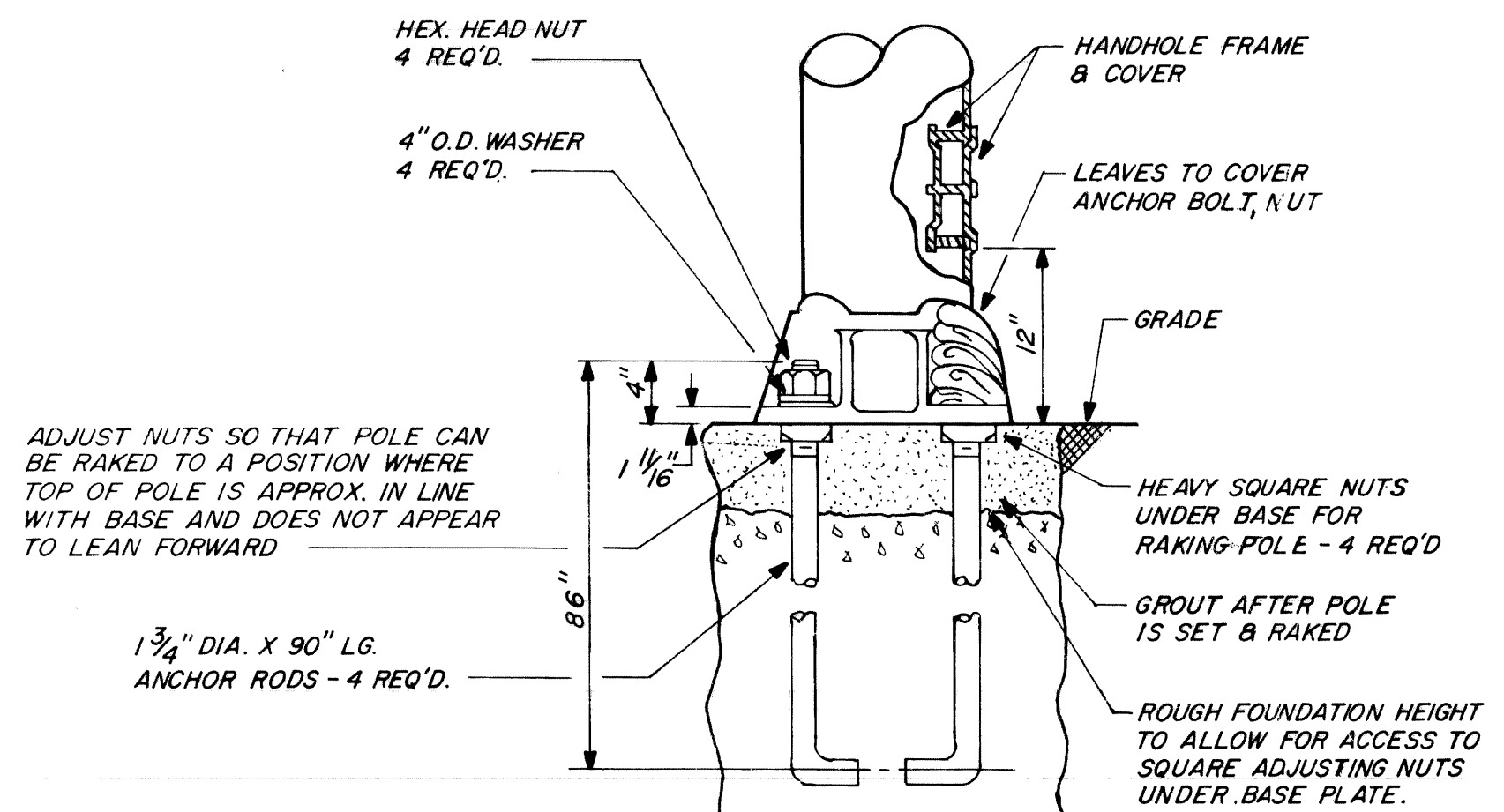
ANCHOR BOLT PLAN
N.T.S.



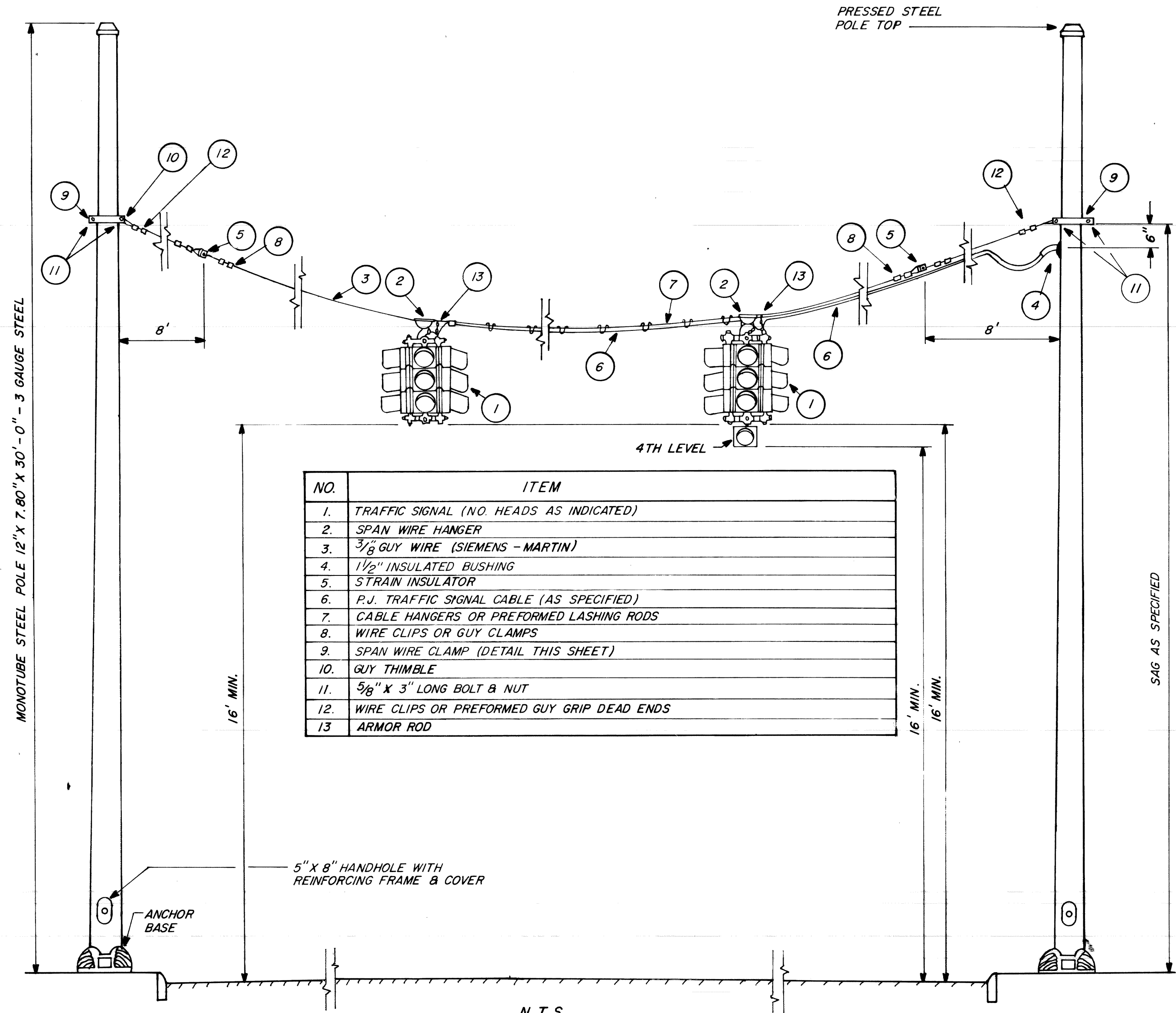
SPAN WIRE CLAMP
N.T.S.
MATERIAL: 1/2" X 2" GALVANIZED STEEL



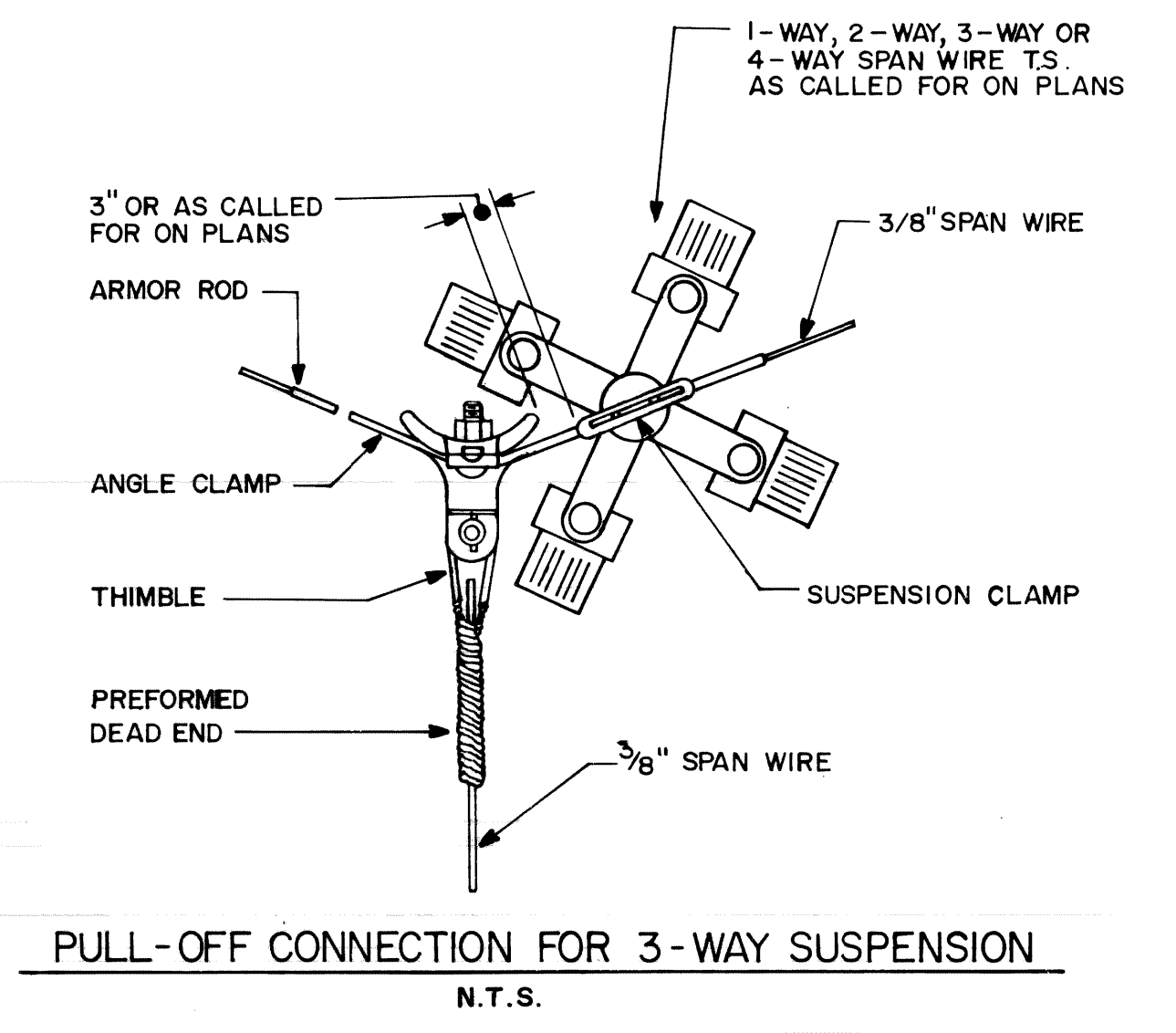
SPAN WIRE STEEL POLE FOUNDATION
N.T.S.



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



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



PULL-OFF CONNECTION FOR 3-WAY SUSPENSION
N.T.S.

DATE	DESCRIPTION	CHKD. BY

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD
STEEL POLE SPAN WIRE INSTALLATION DETAILS

SHEET 31 OF 36 SHEETS
CONTRACT NO. 15765 A
ASSIGNMENT NO.
DATE 4 - 86

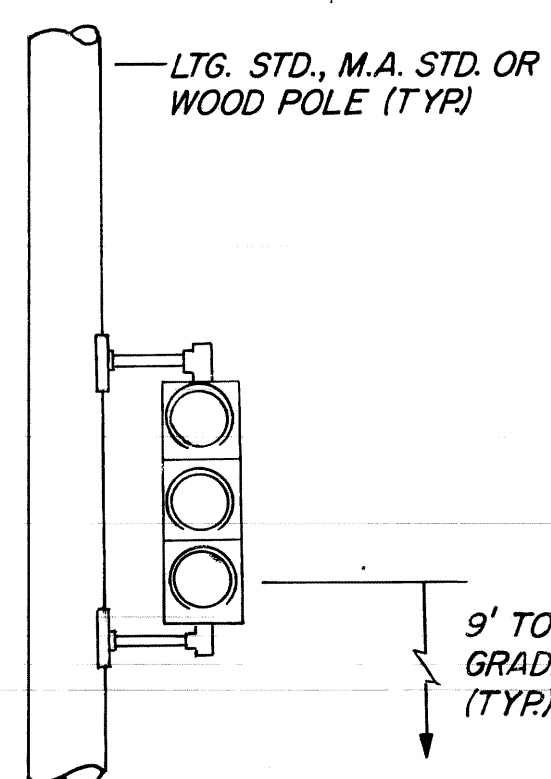
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

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DATE APRIL 1986

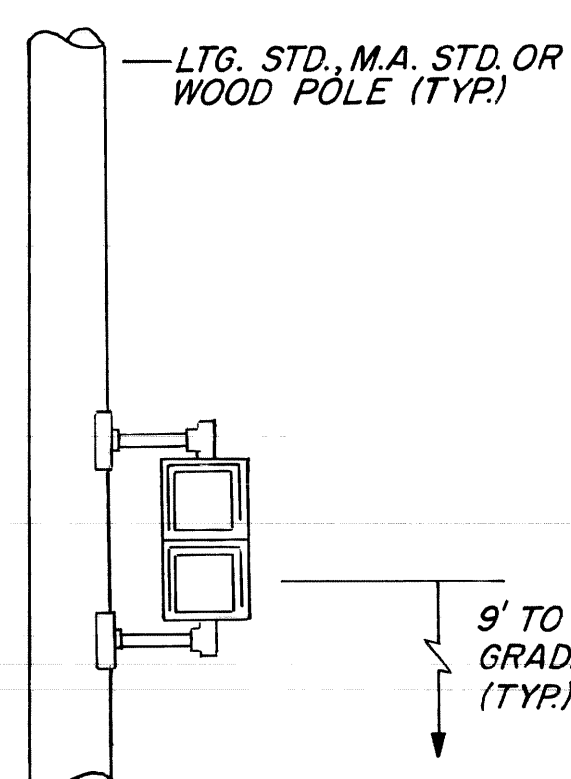
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16580 WYOMING DETROIT, MICH., 48221
DRWG. NO. 18 OF 23
FILE NO. CEA 1096

CHECKED BY
APPROVED
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

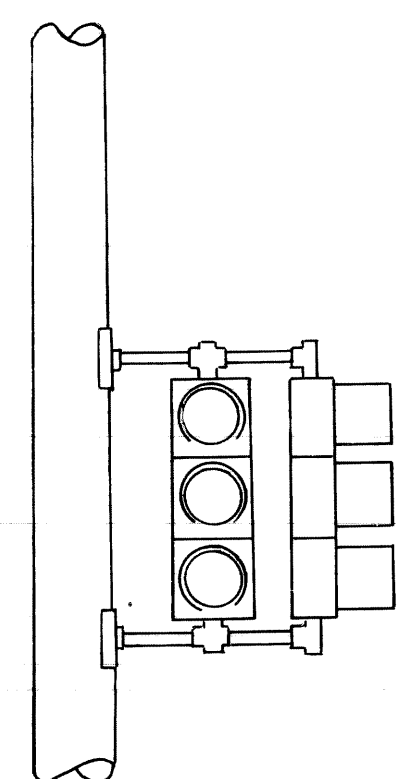
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FILE NO. 48-0331
SHEET NO. 18 OF 23
DATE APR. 1986



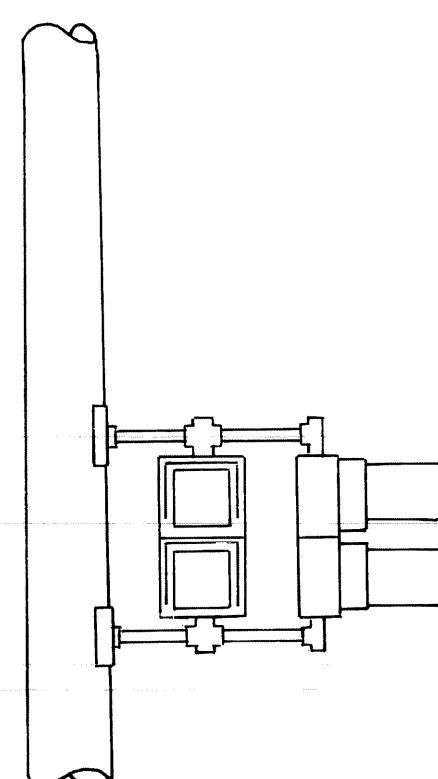
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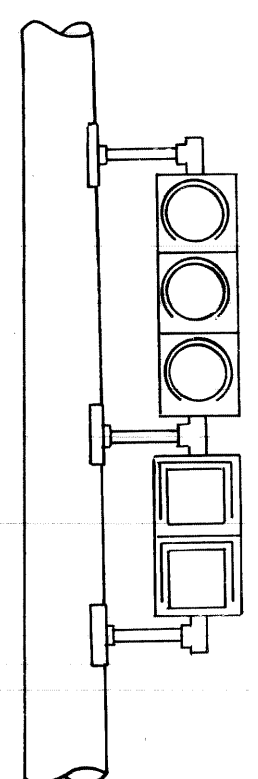
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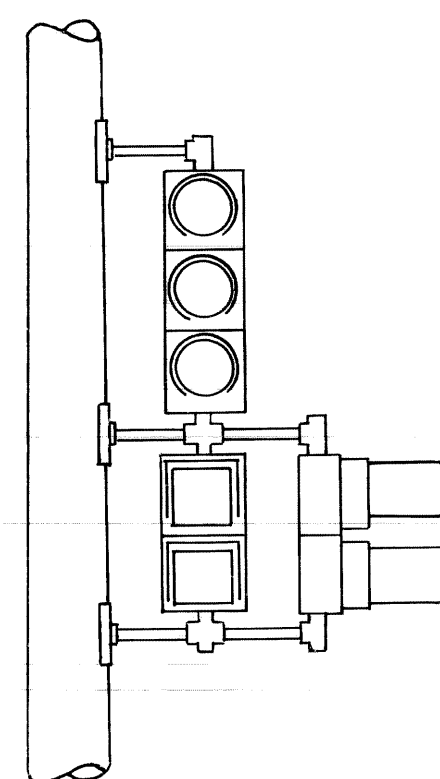
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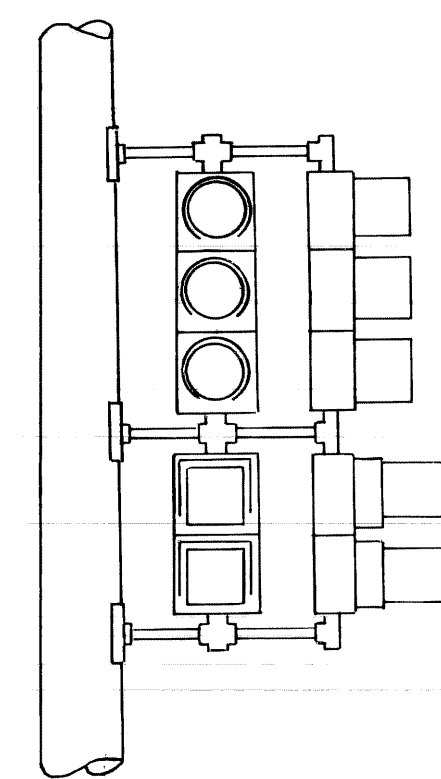
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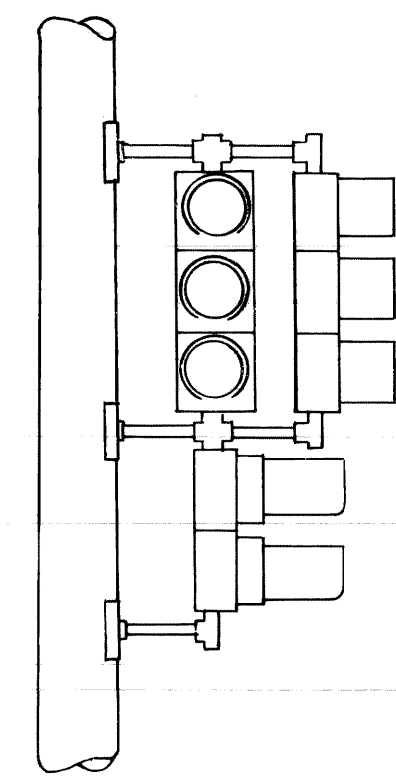
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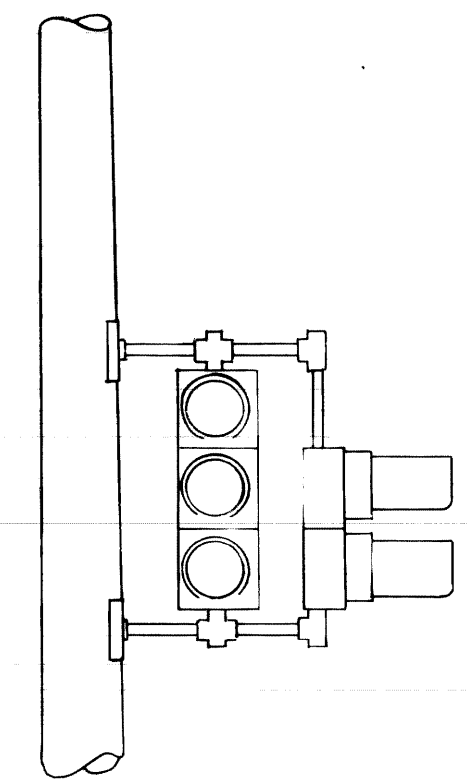
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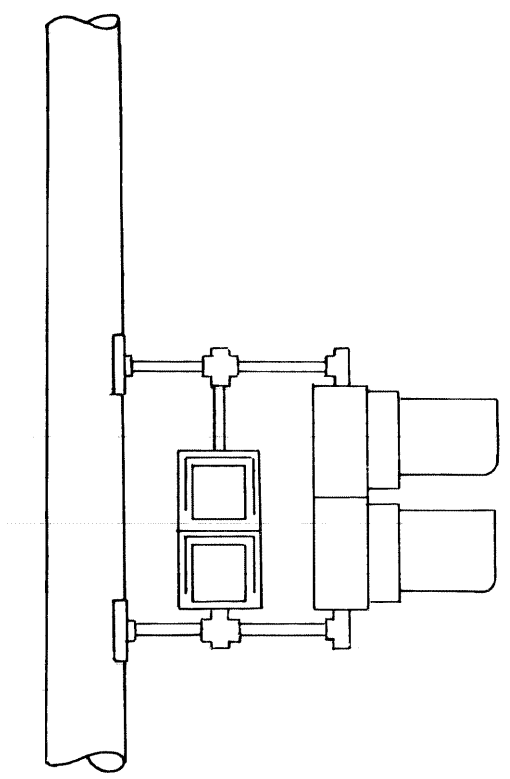
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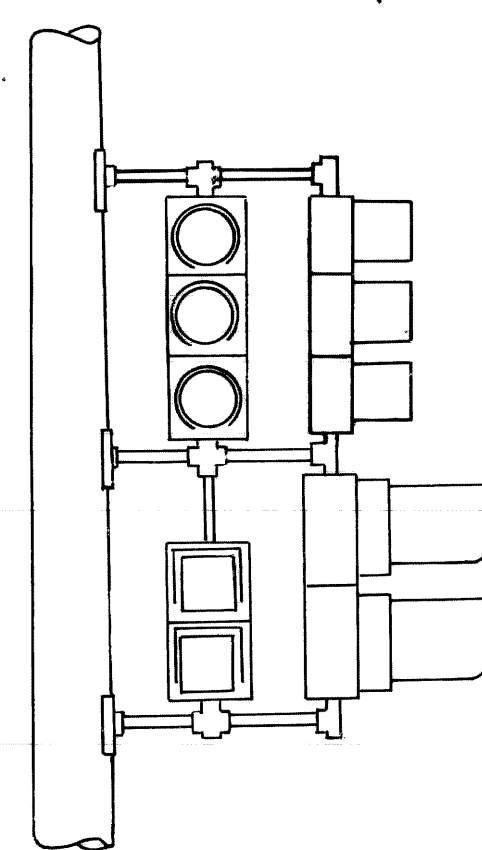
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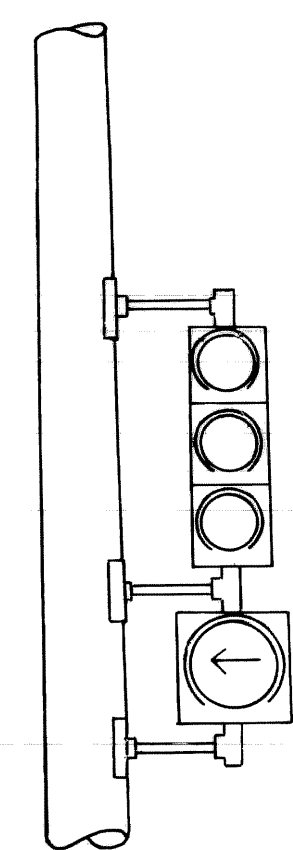
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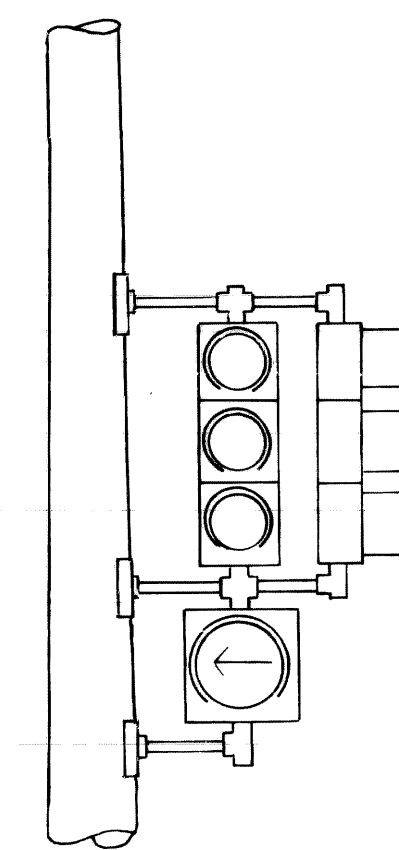
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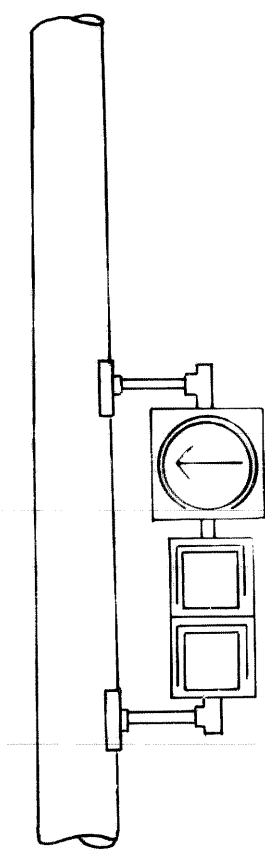
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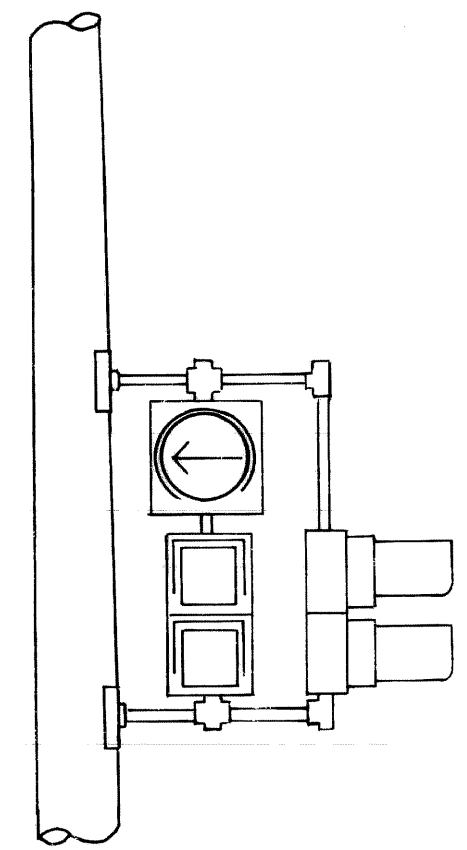
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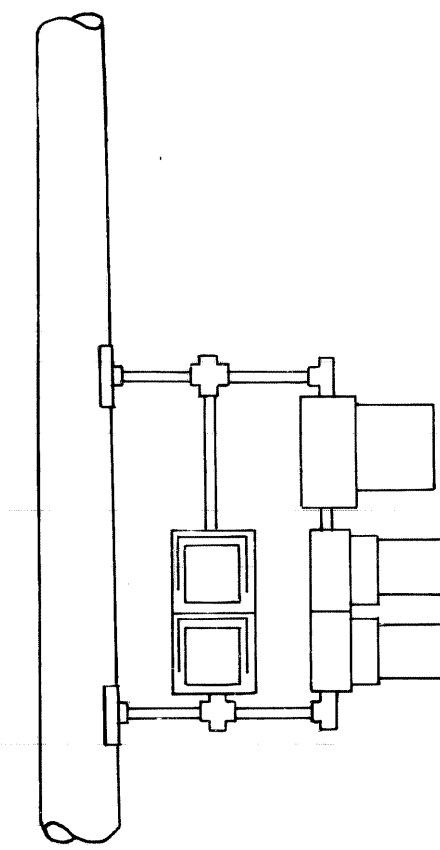
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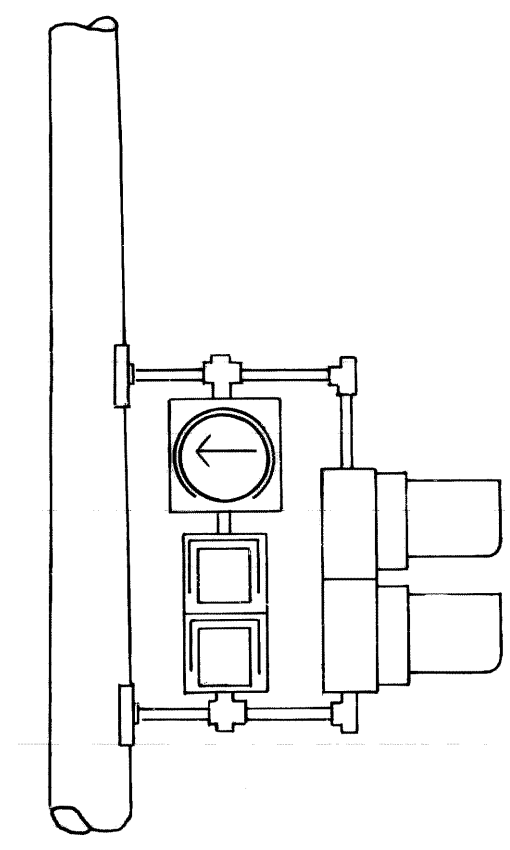
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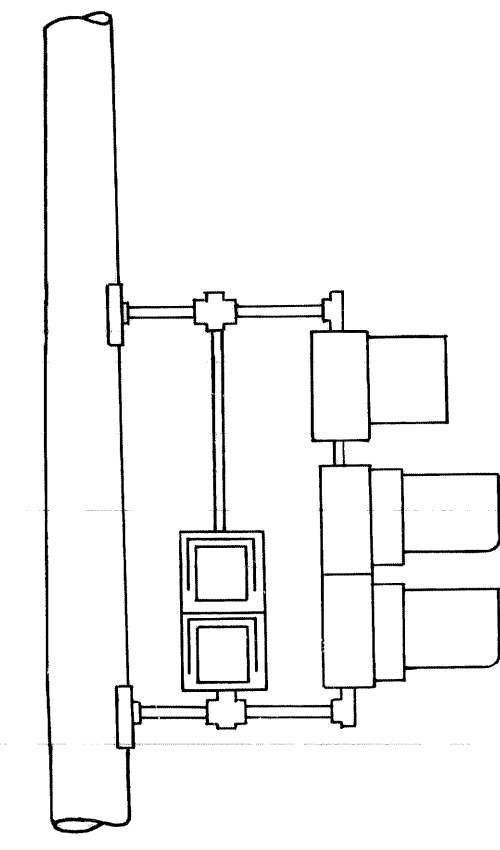
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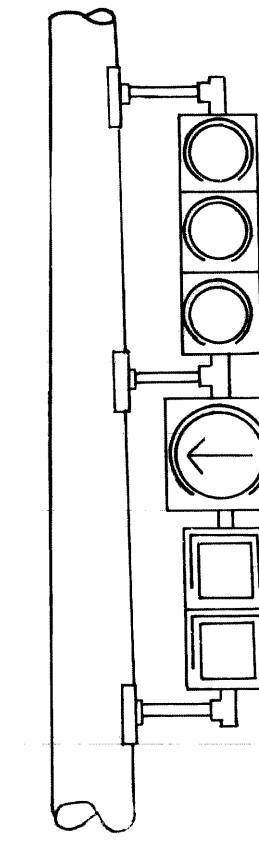
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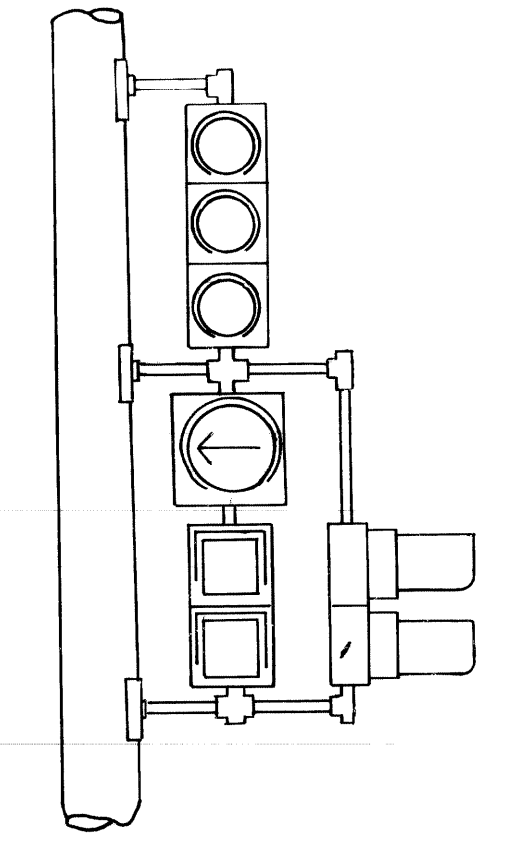
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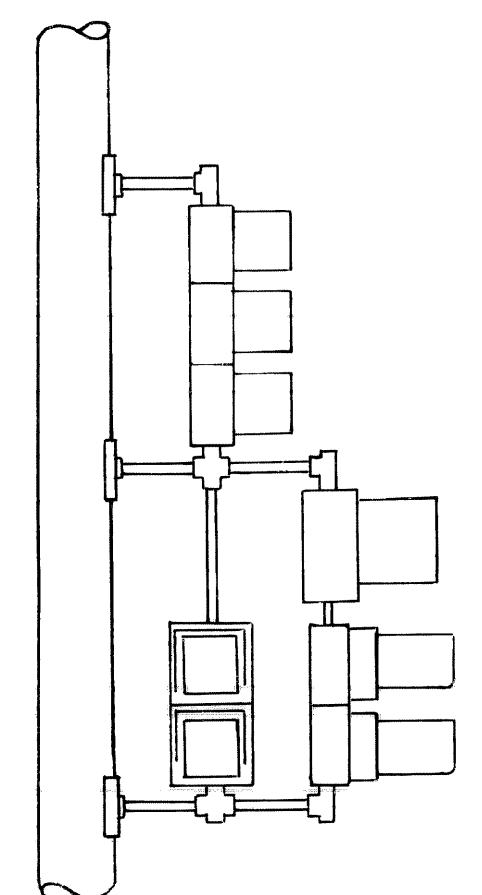
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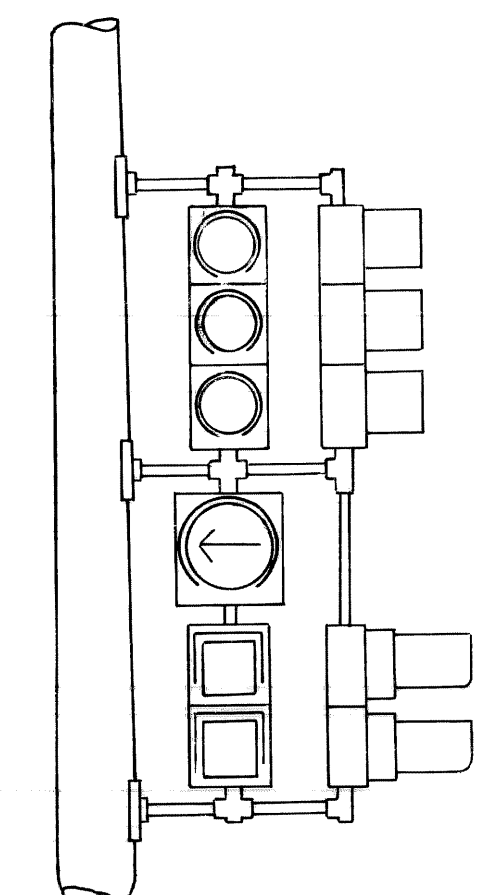
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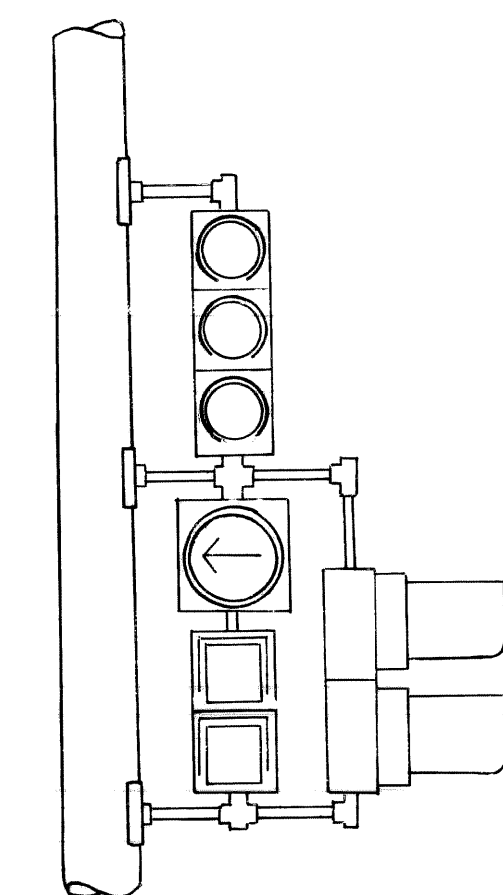
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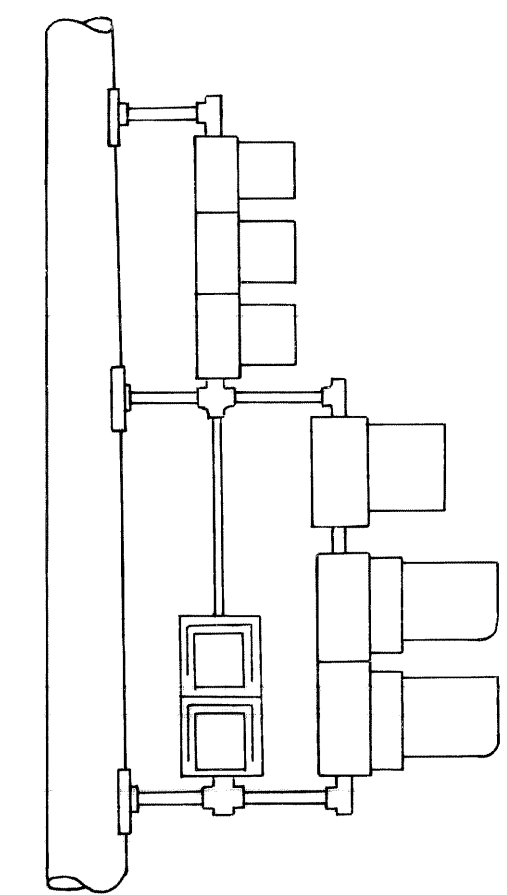
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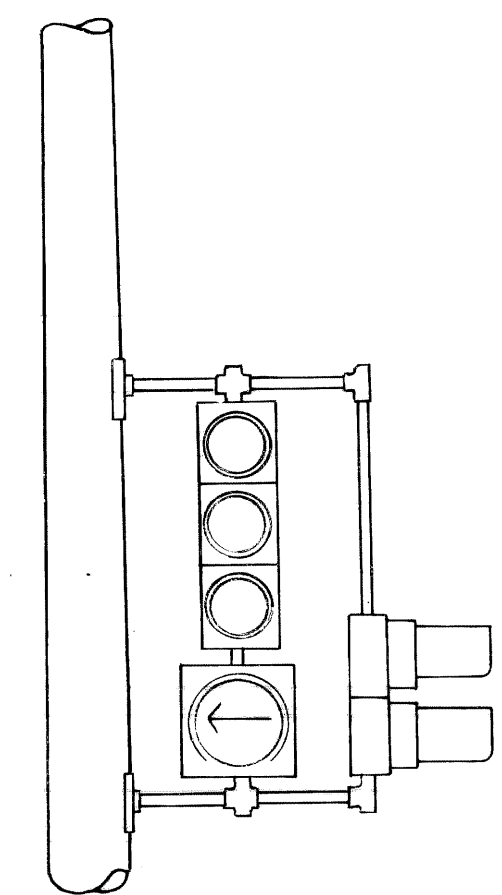
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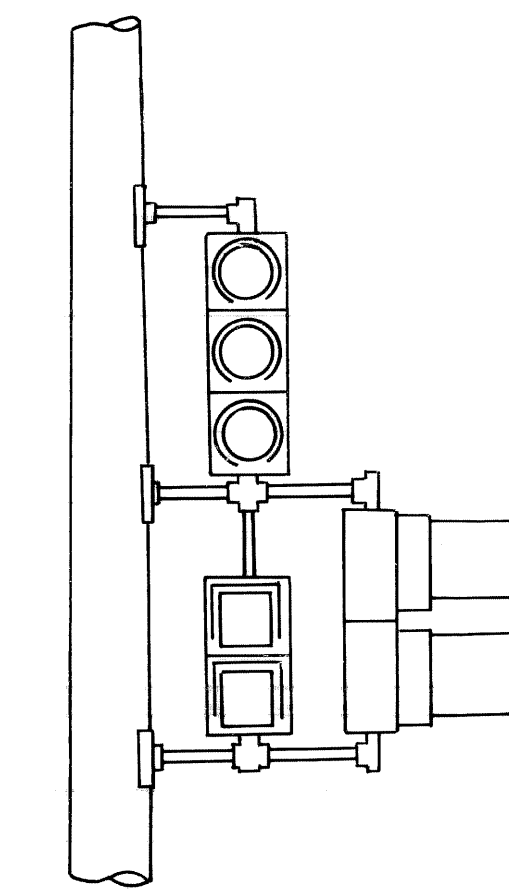
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DETAIL "Z-1"



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	CHECKED BY
		58

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD
T.S. BRACKET ARM ASSEMBLY DETAILS

SHEET 32 OF 36 SHEETS
CONTRACT NO. 15765A
ASSIGNMENT NO.
DATE 4 - 86

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

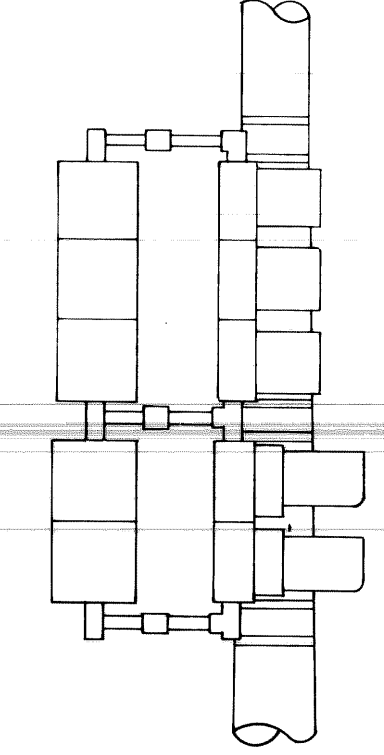
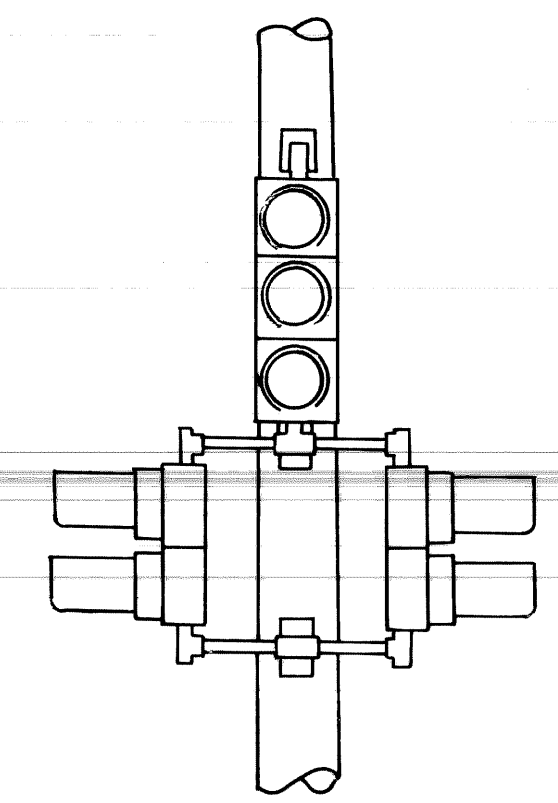
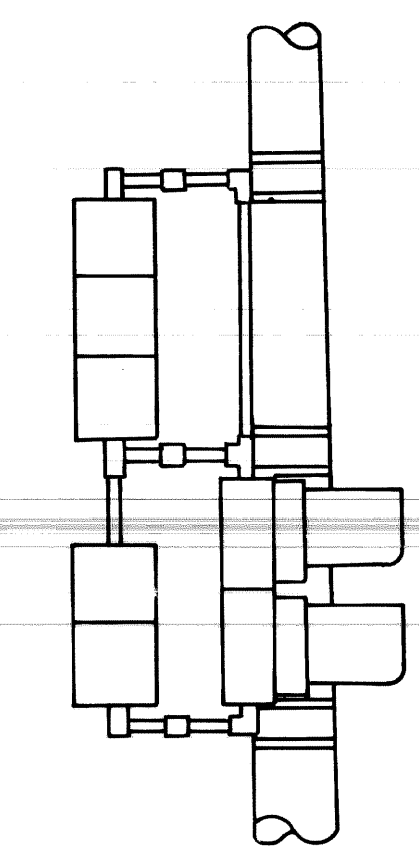
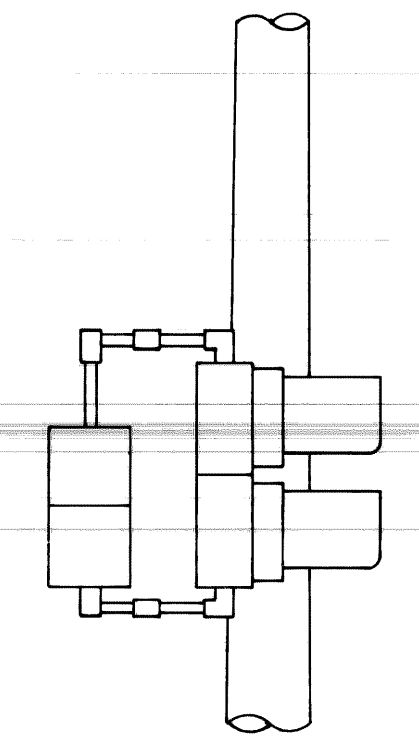
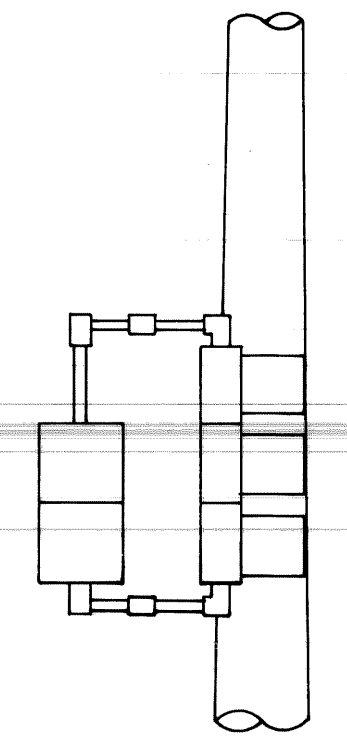
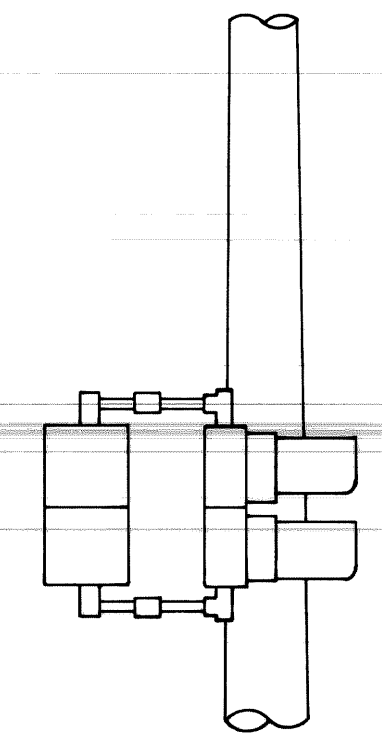
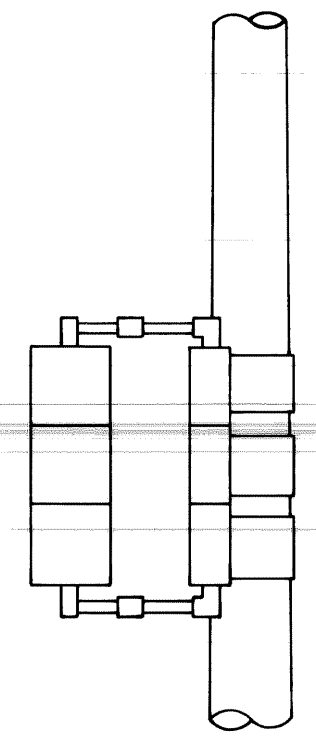
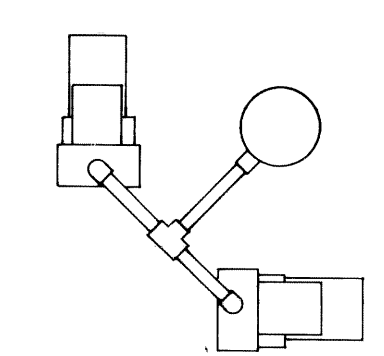
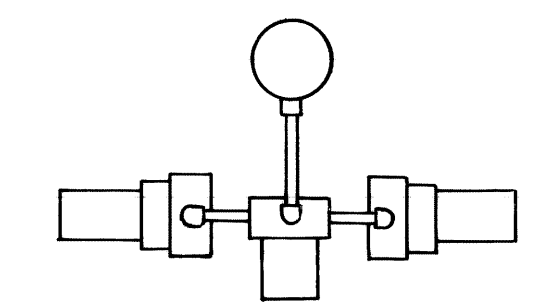
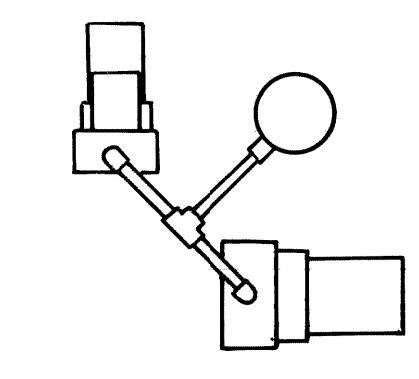
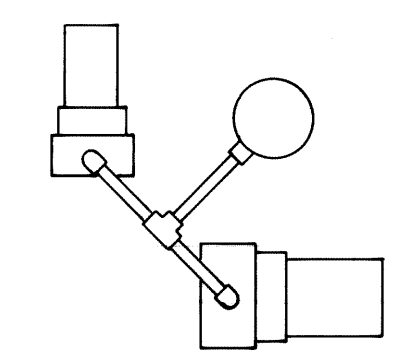
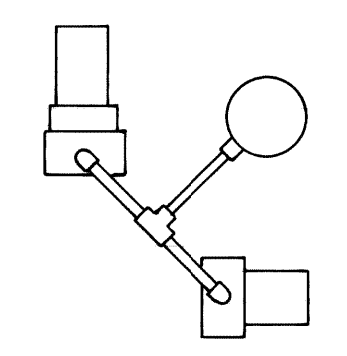
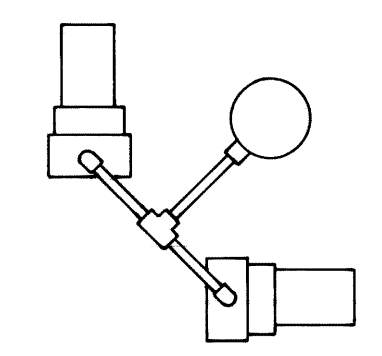
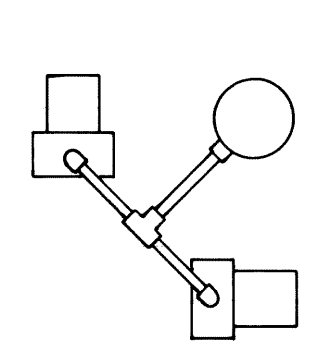
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APPROVED [Signature]
DATE APRIL 1986

PLAN PREPARED BY:
CONSULTING ENGINEERING ASSOCIATES INC.
ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH. 48221
DRWG. NO. 19 OF 23
FILE NO. CEA 1096

CHECKED BY
APPROVED BY

PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

FILE NO. 48-0331
SHEET NO. 19 OF 23
DATE APR. 1986



DETAIL "A-3"

DETAIL "B-3"

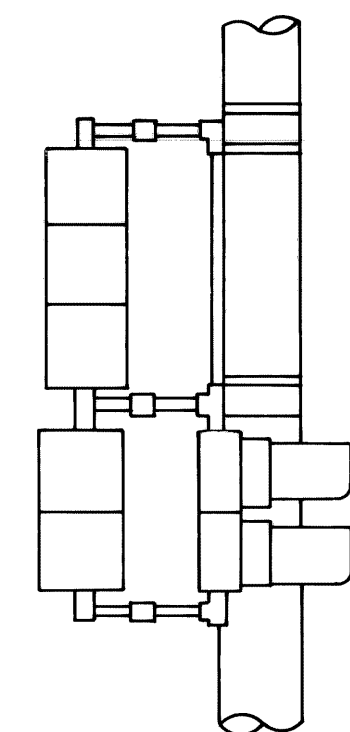
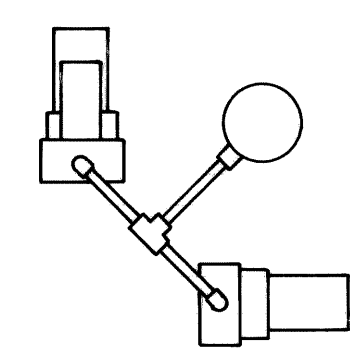
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DETAIL "D-3"

DETAIL "E-3"

DETAIL "F-3"

DETAIL "G-3"



DETAIL "H-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

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD

T.S. BRACKET ARM ASSEMBLY DETAILS

SHEET 34 OF 36 SHEETS

CONTRACT 15765A

ASSIGNMENT NO.

DATE 4 - 86

CITY OF DETROIT

CITY ENGINEERING DEPARTMENT

DRAWN CEA

CHECKED [Signature]

APPROVED [Signature]

DATE APRIL 1986

PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS

16580 WYOMING DETROIT, MICH., 48221

DRWG. NO. 21 OF 23

FILE NO. CEA 1096

CHKD BY

APPROVED BY

PUBLIC LIGHTING COMMISSION

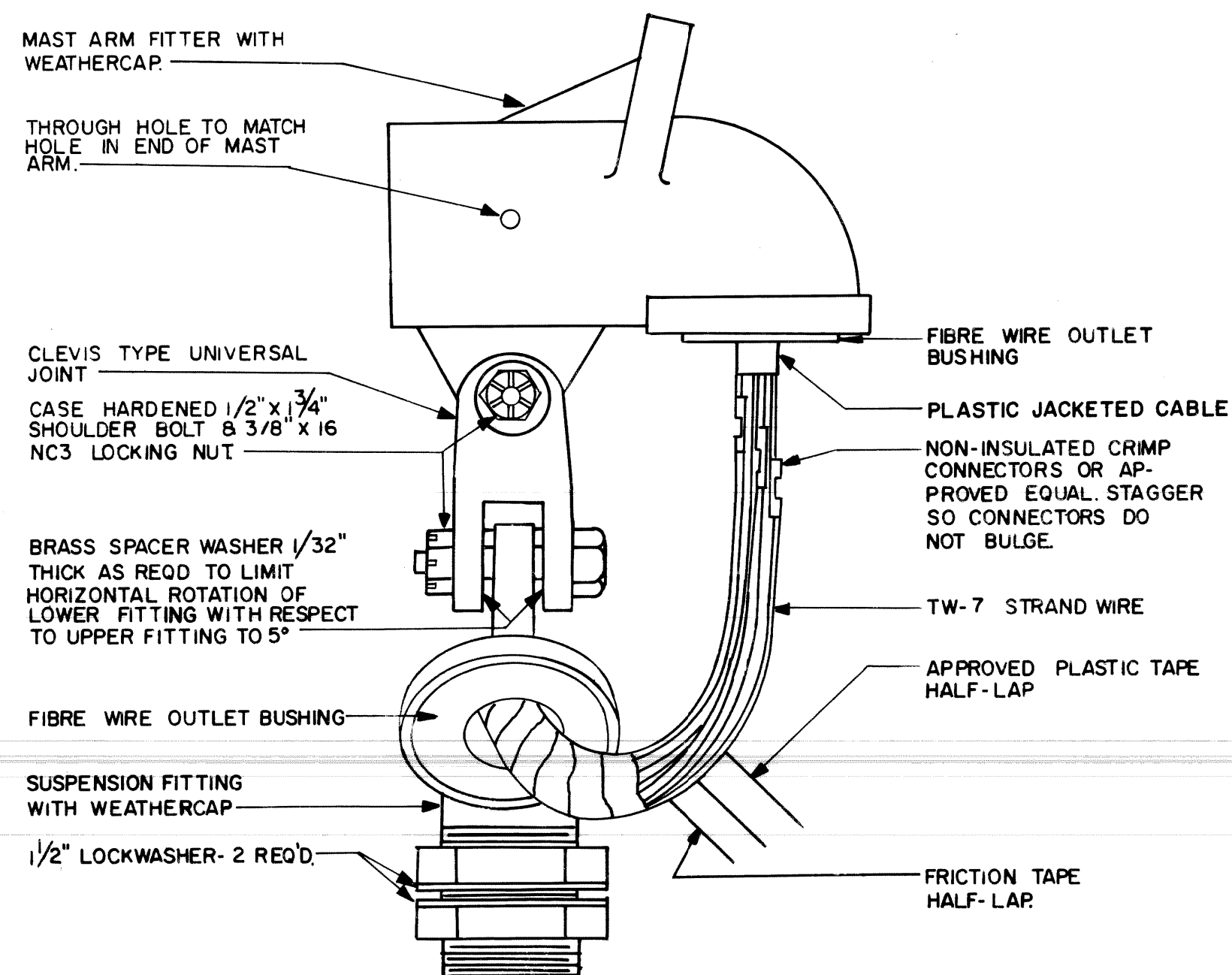
CITY OF DETROIT

510

FILE NO. 48-0331

SHEET NO. 21 OF 23

DATE APR. 1986

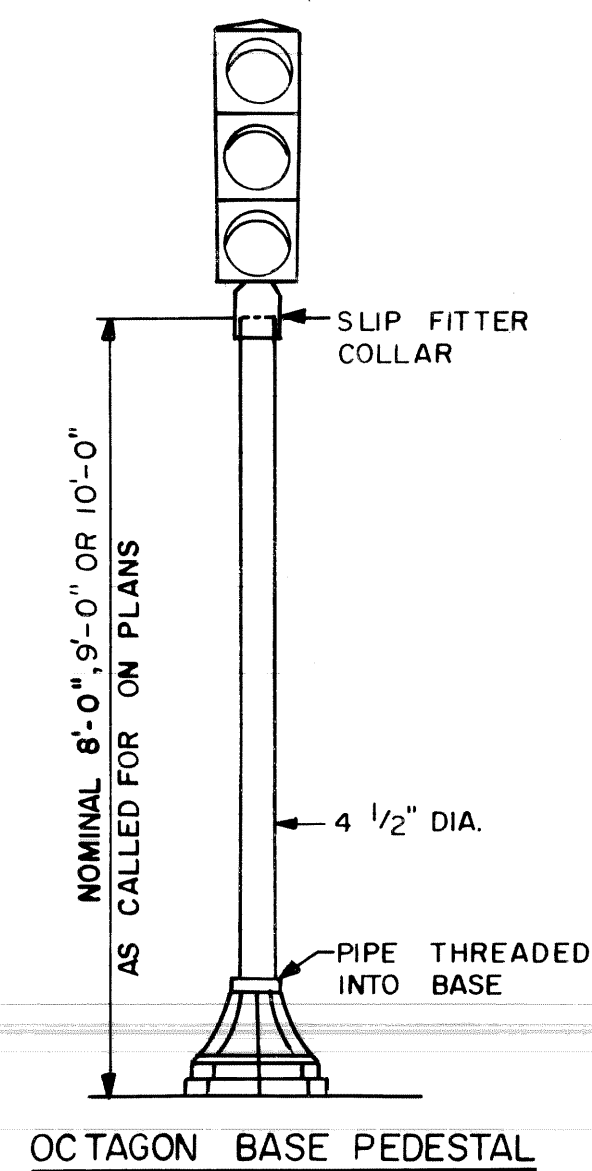


MAST ARM FITTING & WEATHERHEAD DETAIL

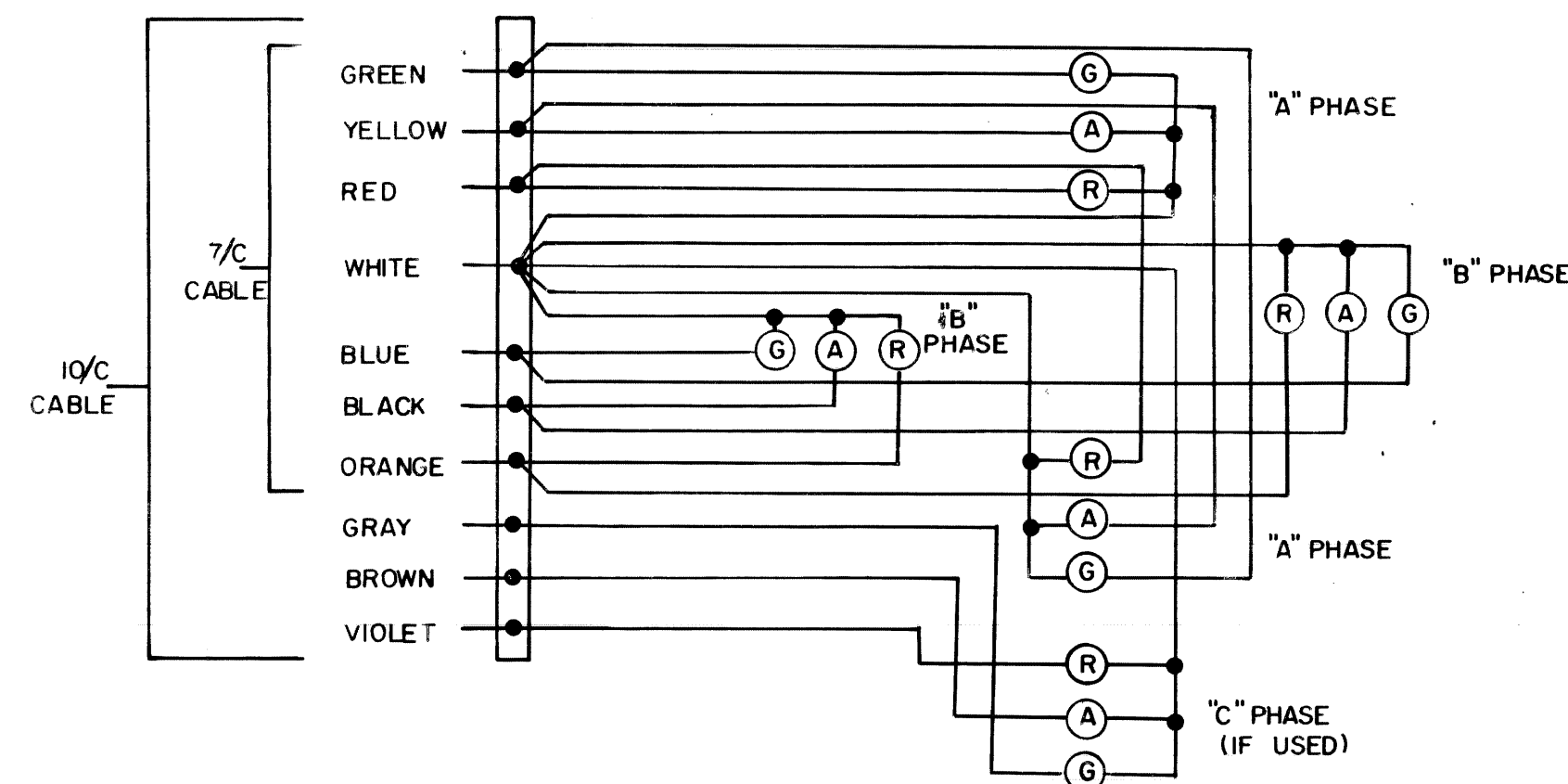
NOTE:

INDIVIDUAL CONNECTION TO BE TAPED WITH APPROVED PLASTIC TAPE.

N.T.S.

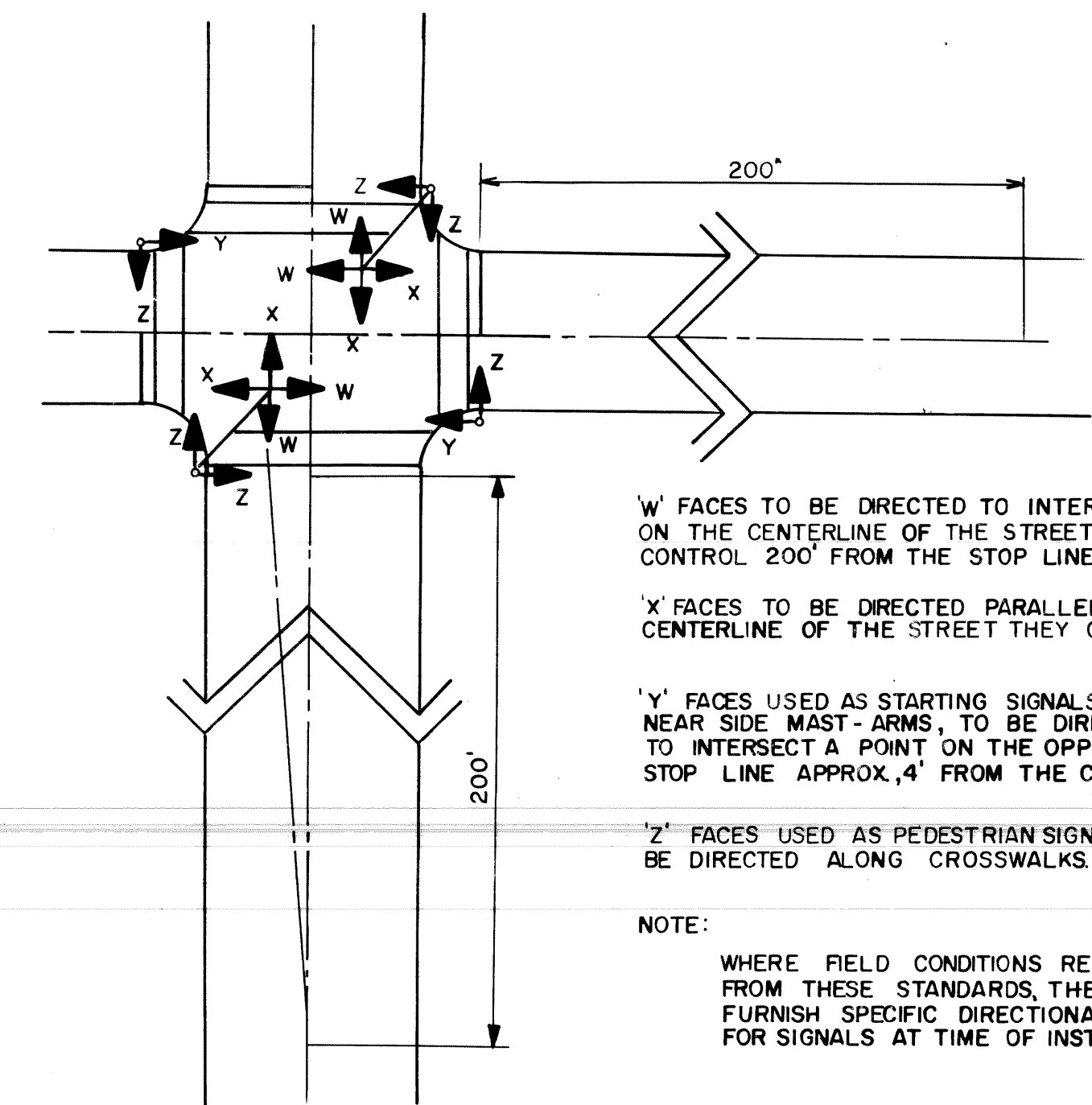


OCTAGON BASE PEDESTAL



COLOR CODING & CABLE CONNECTIONS FOR TRAFFIC SIGNAL LAMPS

THE INCOMING CABLE FROM THE CONTROLLER IS TO BE CONNECTED TO THE TERMINAL BLOCK IN ONE FACE OF THE SIGNAL ASSEMBLY. THE OTHER FACES IN THE ASSEMBLY ARE TO BE CONNECTED TO THIS TERMINAL BLOCK BY #14 TW WIRES THROUGH THE ASSEMBLY FRAMEWORK.



STANDARDS FOR DIRECTIONAL SETTINGS OF TRAFFIC SIGNALS

'W' FACES TO BE DIRECTED TO INTERSECT A POINT ON THE CENTERLINE OF THE STREET THEY CONTROL 200' FROM THE STOP LINE.

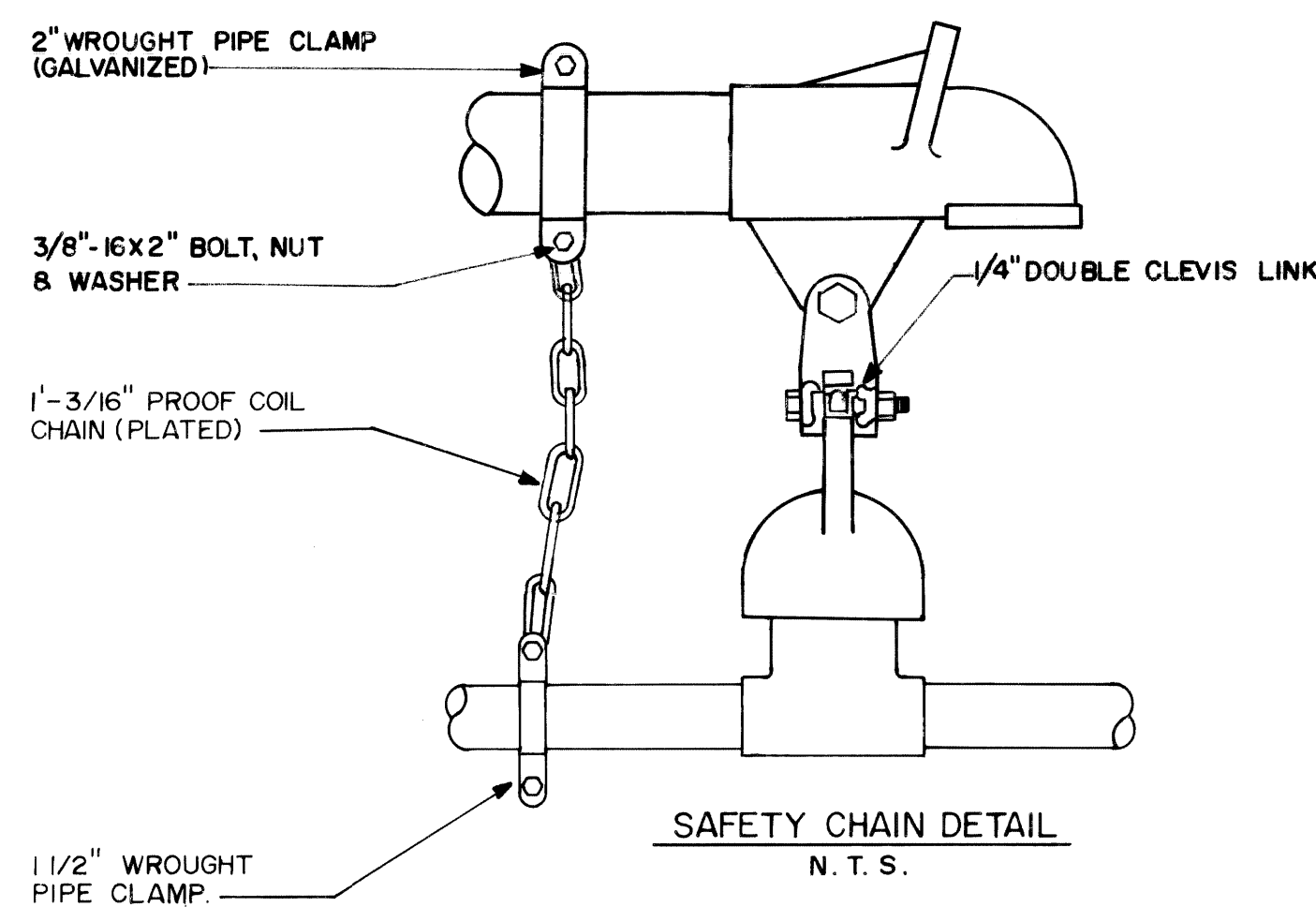
'X' FACES TO BE DIRECTED PARALLEL TO THE CENTERLINE OF THE STREET THEY CONTROL.

'Y' FACES USED AS STARTING SIGNALS WITH NEAR SIDE MAST-ARMS, TO BE DIRECTED TO INTERSECT A POINT ON THE OPPOSITE STOP LINE APPROX. 4' FROM THE CURB.

'Z' FACES USED AS PEDESTRIAN SIGNALS TO BE DIRECTED ALONG CROSSWALKS.

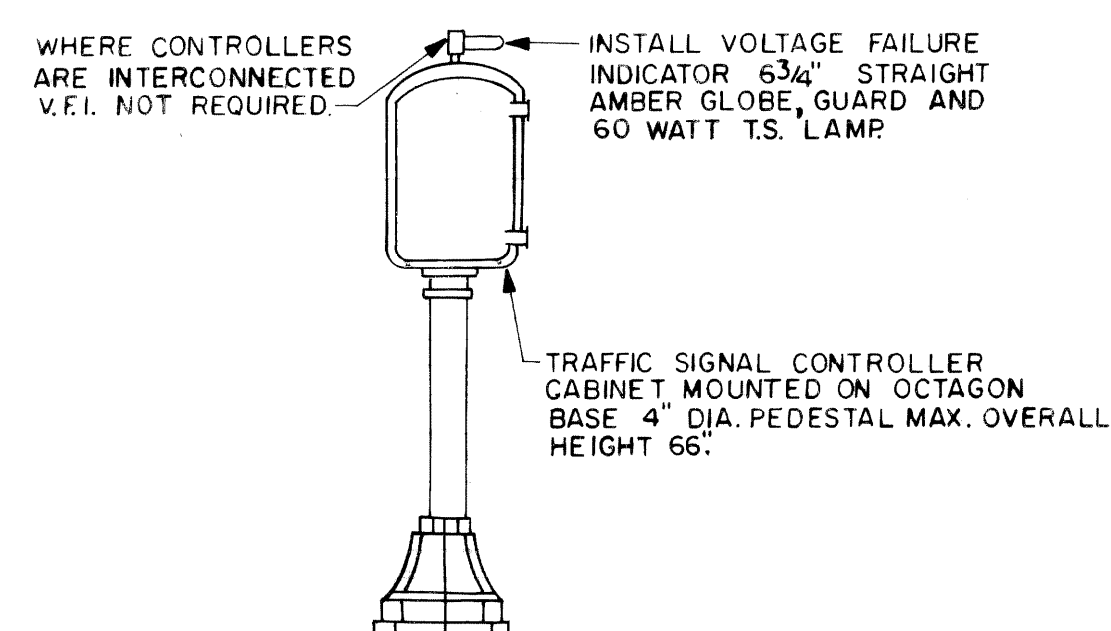
NOTE:

WHERE FIELD CONDITIONS REQUIRE DEVIATION FROM THESE STANDARDS, THE P.L.C. WILL FURNISH SPECIFIC DIRECTIONAL SETTINGS FOR SIGNALS AT TIME OF INSTALLATION.



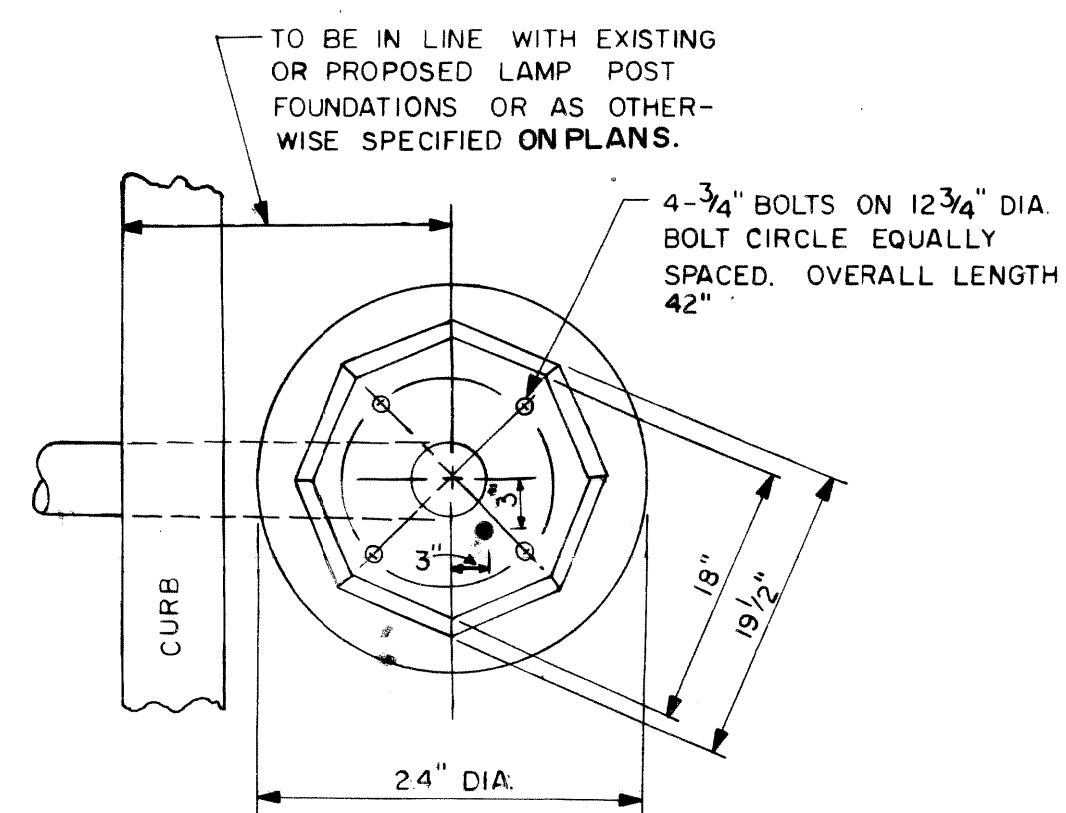
SAFETY CHAIN DETAIL

N.T.S.



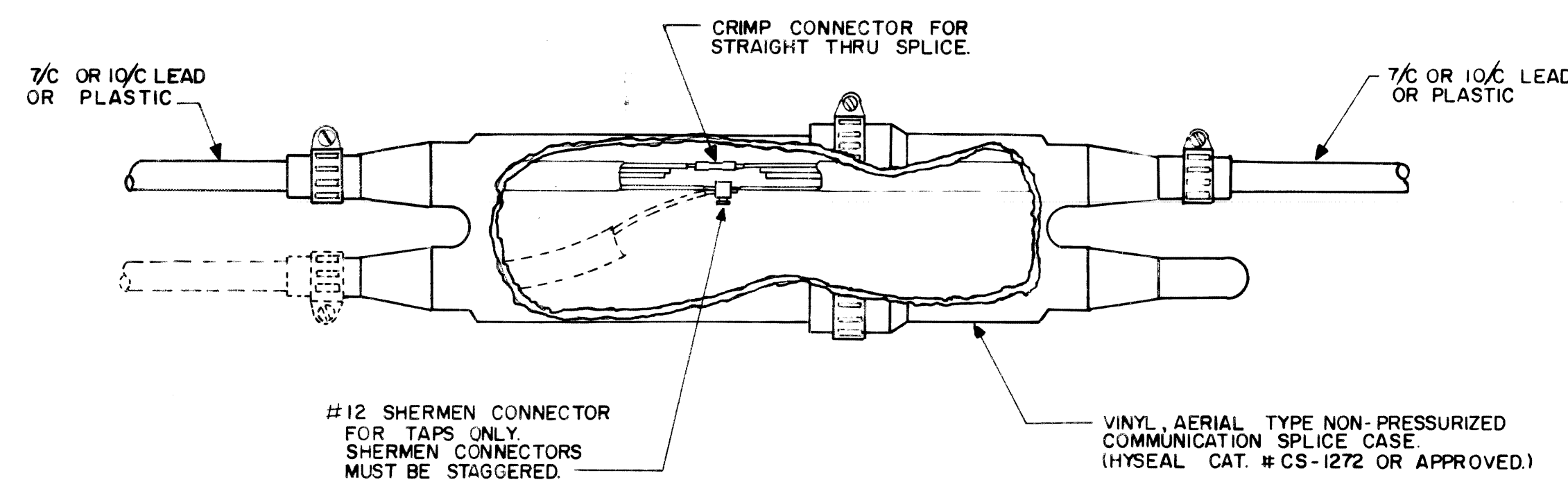
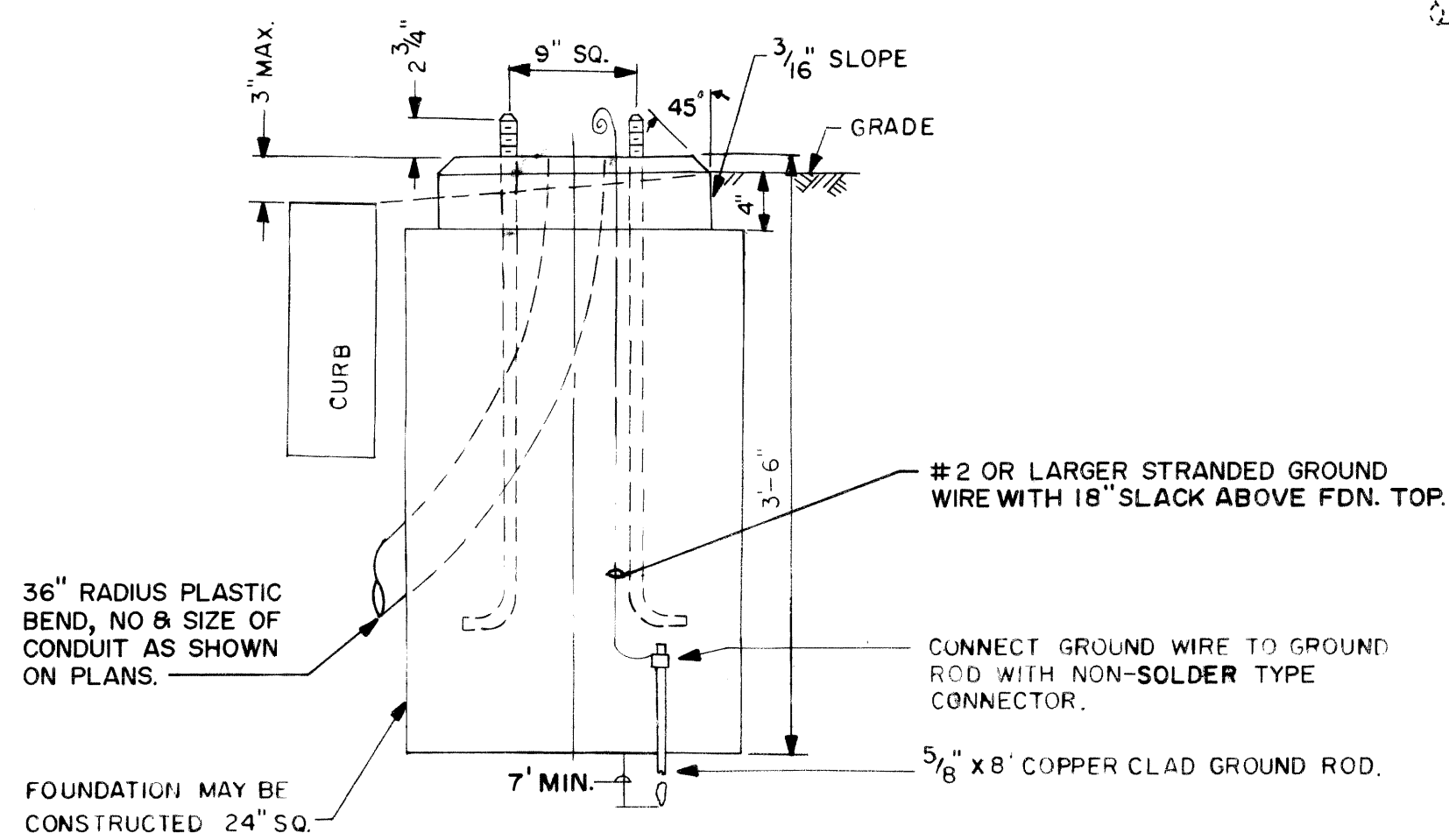
SINGLE CABINET CONTROLLER OCTAGON BASE

N.T.S.



FOUNDATION FOR OCTAGON BASE PEDESTAL FOR TRAFFIC SIGNALS OR CONTROLLER

N.T.S.



TRAFFIC SIGNAL CABLE SPlice DETAIL

NOTE:

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

DATE	DESCRIPTION	CHKD BY
		57

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD

MISCELLANEOUS TRAFFIC SIGNAL, DETAILS

SHEET 35 OF 36 SHEETS
CONTRACT NO. 15765A
ASSIGNMENT NO.
DATE 4-86

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

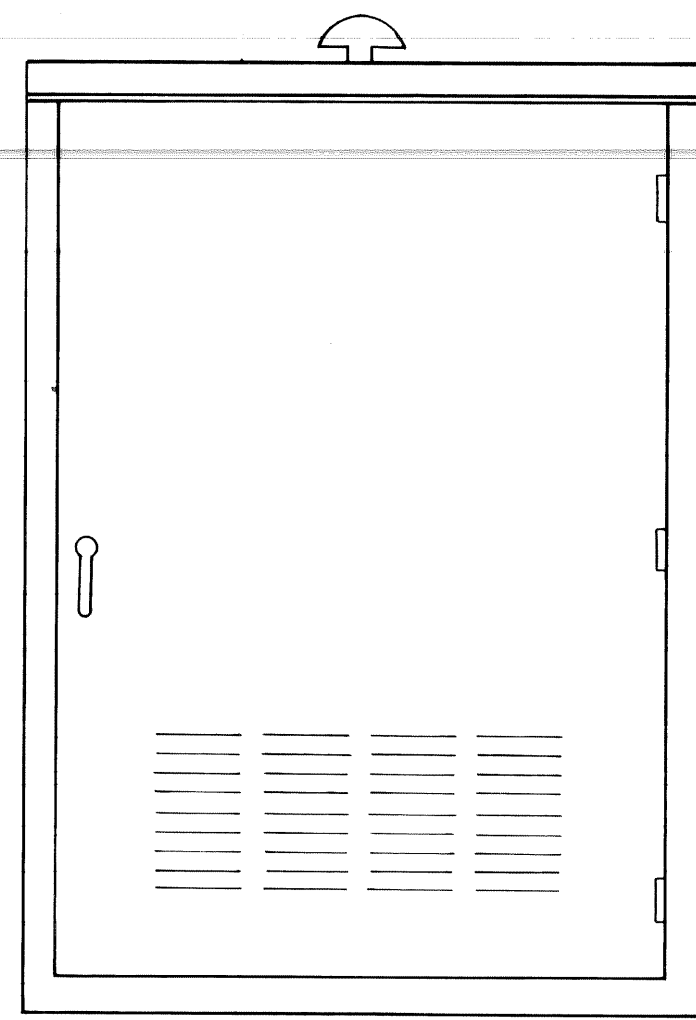
DRAWN BY CEA
CHECKED BY
APPROVED BY
DATE APRIL 1986

PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS	
1650 WYOMING	DETROIT, MICH. 48221
22 OF 23	CEA 1096

CHECKED BY
APPROVED BY

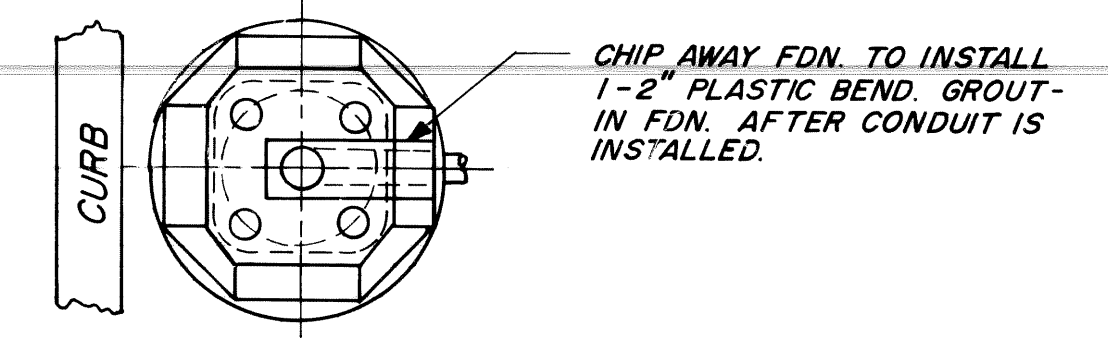
PUBLIC LIGHTING COMMISSION
CITY OF DETROIT

FILE NO. 48-0331
SHEET NO. 22 OF 23
DATE APR. 1986

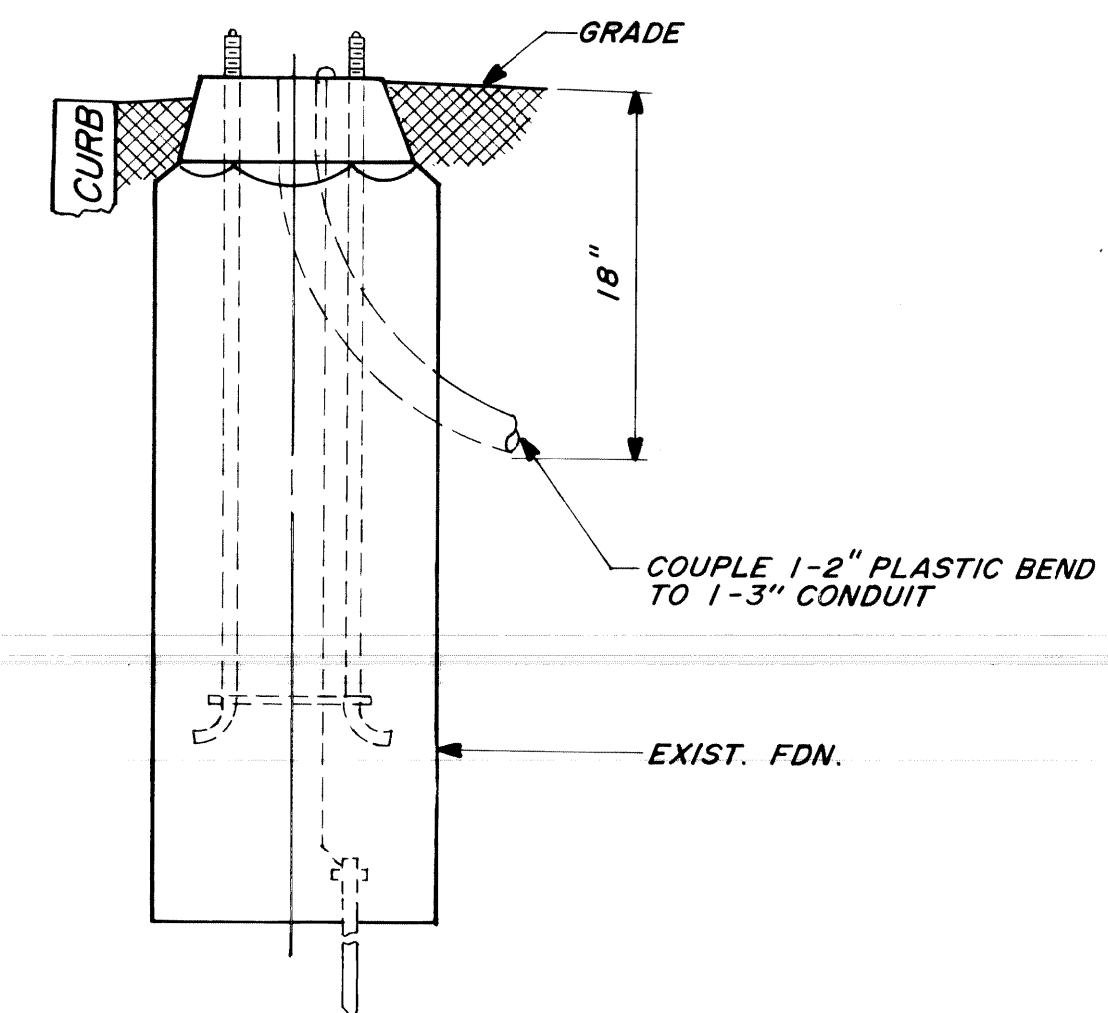


VENTED ALUMINUM CABINET WITH BASE MOUNTING SHALL BE NEMA 5

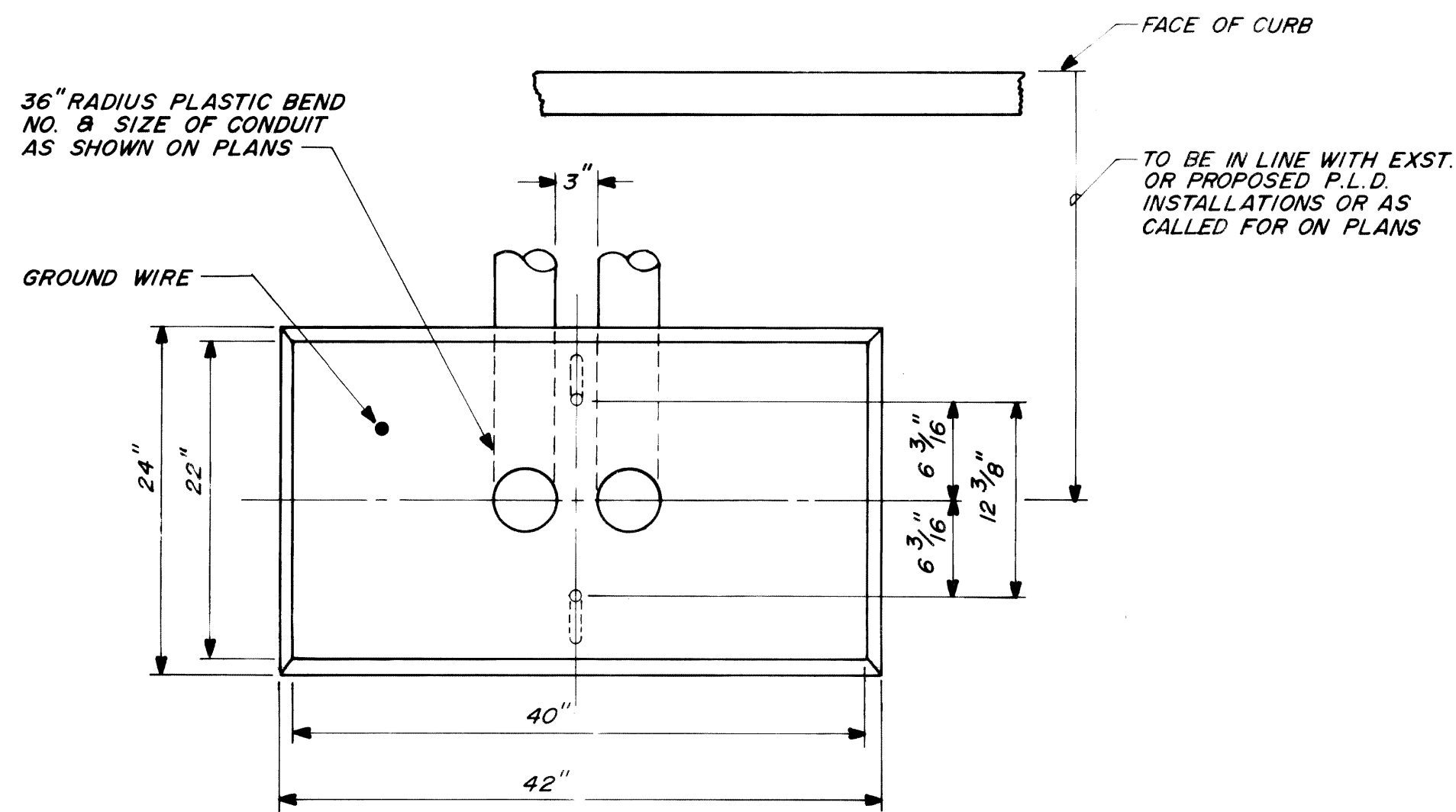
BASE MOUNTED TRAFFIC SIGNAL CONTROLLER & CABINET
N.T.S.



CHIP AWAY FDN. TO INSTALL 1-2" PLASTIC BEND. GROUT IN FDN. AFTER CONDUIT IS INSTALLED.



DETAIL OF INSTALLING CONDUIT INTO EXISTING FDN.
N.T.S.



PLAN
N.T.S.

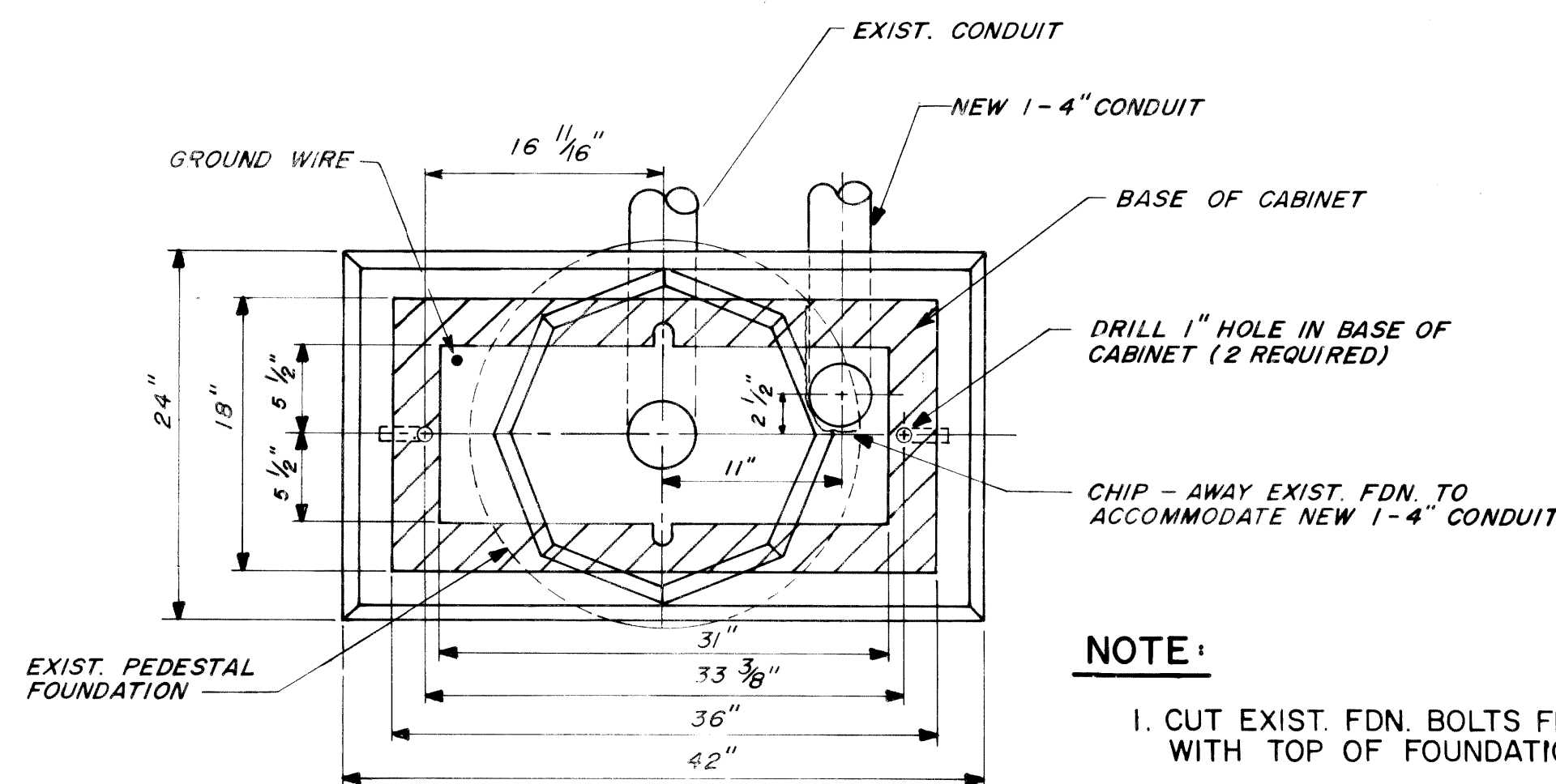
#2 OR LARGER STRANDED GROUND WIRE WITH 18" SLACK ABOVE FOUNDATION

USE NON-SOLDER TYPE CONNECTOR

5/8" X 8'-0" COPPER CLAD GROUND ROD

ELEVATION
N.T.S.

FOUNDATION FOR BASE MOUNTED T.S. CONTROLLER & CABINET



PLAN
N.T.S.

#2 OR LARGER STRANDED GROUND WIRE WITH 18" SLACK ABOVE FOUNDATION

3/4" X 42" FOUNDATION BOLTS (2 REQ'D)

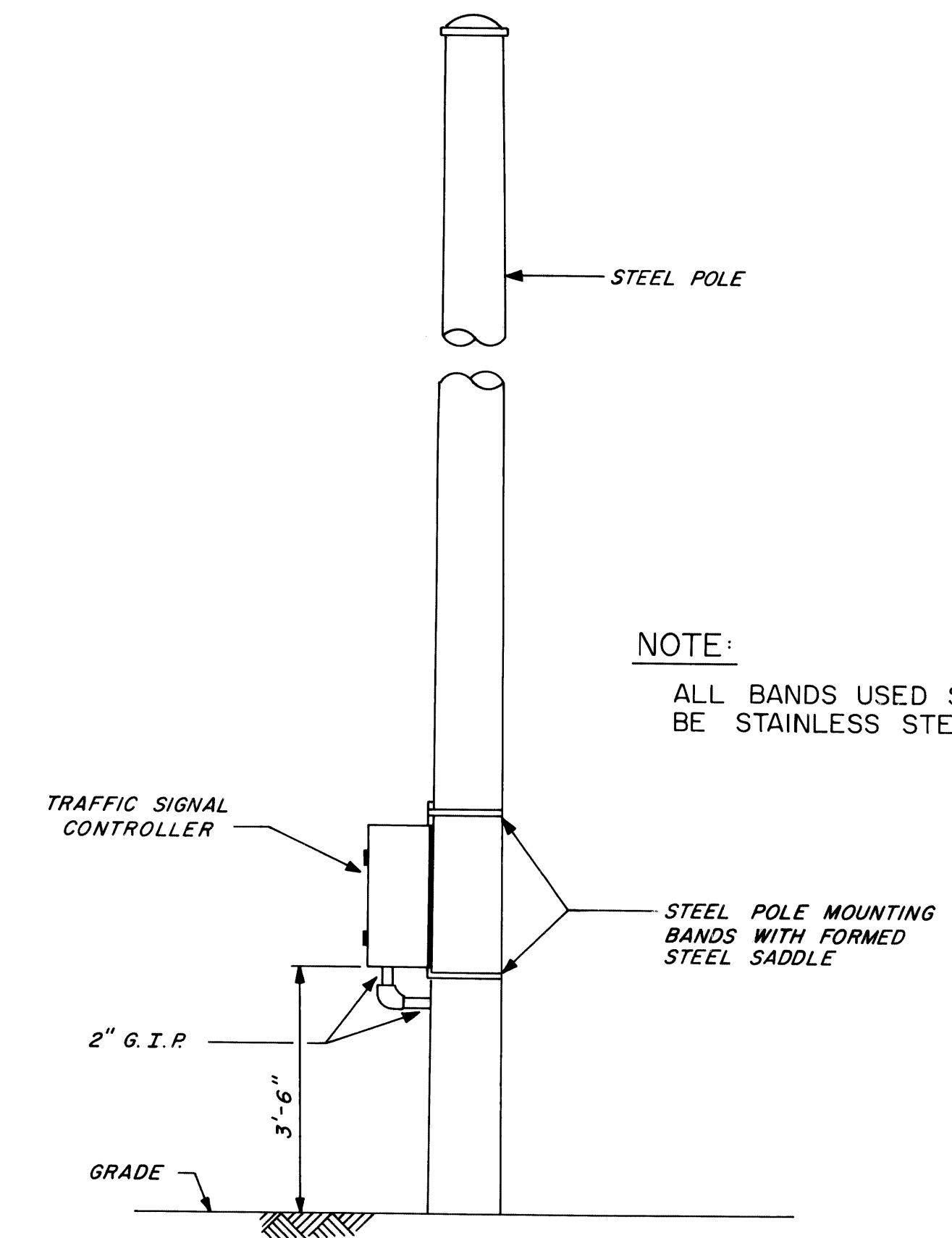
EX. CONDUIT
EX. PEDESTAL FOUNDATION
USE NON-SOLDER TYPE CONNECTOR

5/8" X 8'-0" COPPER CLAD GROUND ROD

ELEVATION
N.T.S.

MODIFICATION OF PEDESTAL FDN. FOR BASE MOUNTED T.S. CONTROLLER

NOTE:
1. CUT EXIST. FDN. BOLTS FLUSH WITH TOP OF FOUNDATION.



NOTE:
ALL BANDS USED SHALL BE STAINLESS STEEL.

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

DATE	DESCRIPTIONS	CHKD. BY

JOHN LODGE FWY. W. SERVICE DR. & RAMP ALTERATIONS, FROM FORT TO N. OF HOWARD
BASE MOUNTED T.S. CONTROLLER CABINET & FOUNDATION DETAILS

SHEET **36** OF **36** SHEETS
CONTRACT NO. 15765 A
ASSIGNMENT NO.
DATE 4 - 86

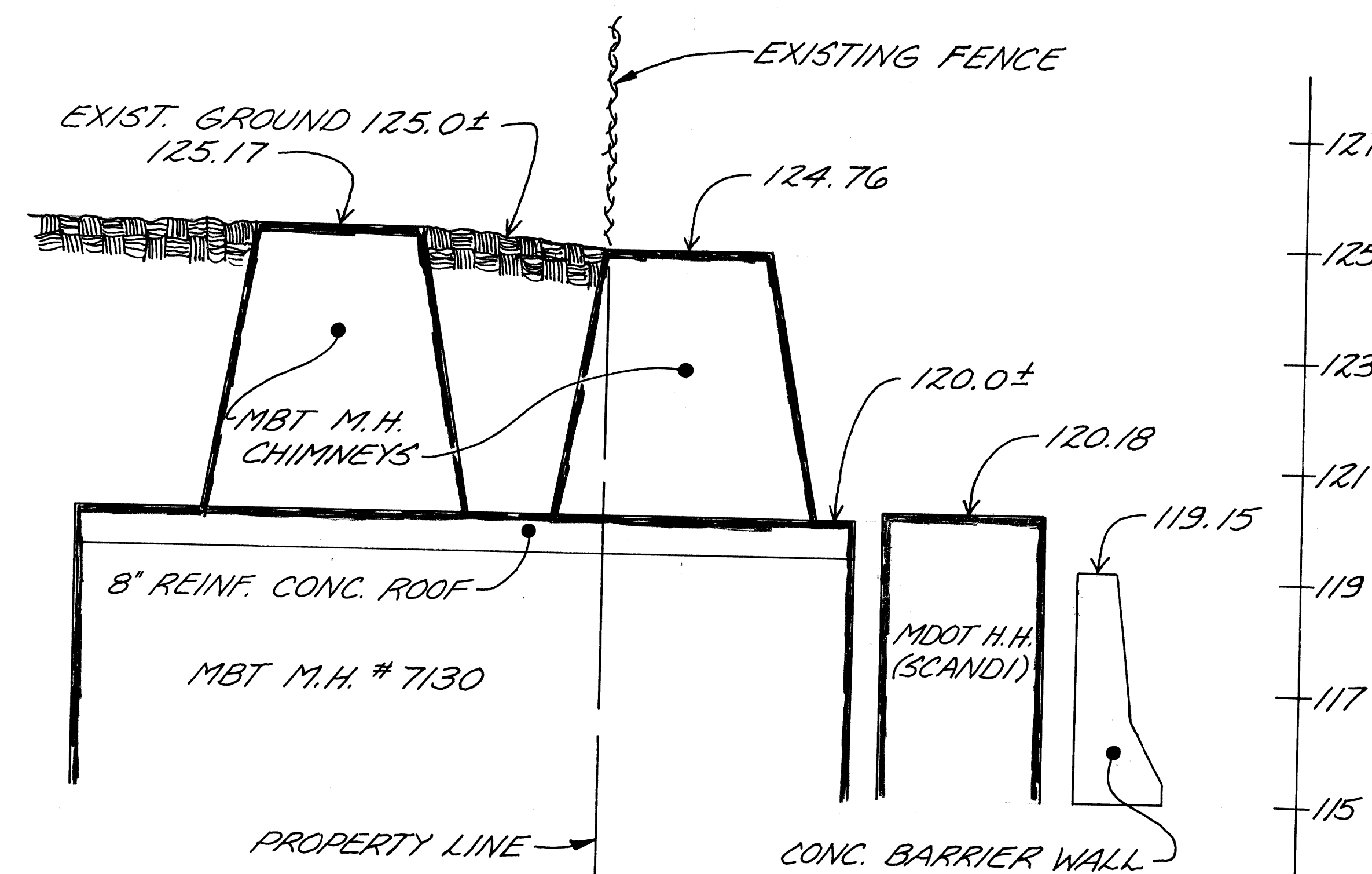
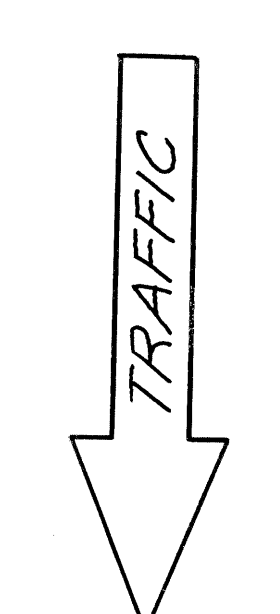
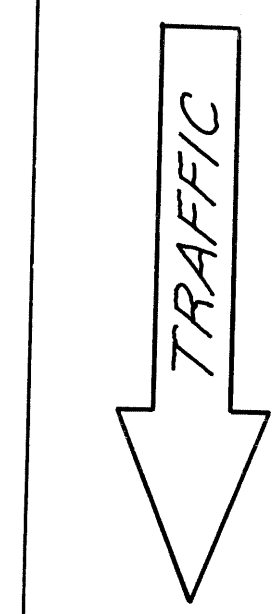
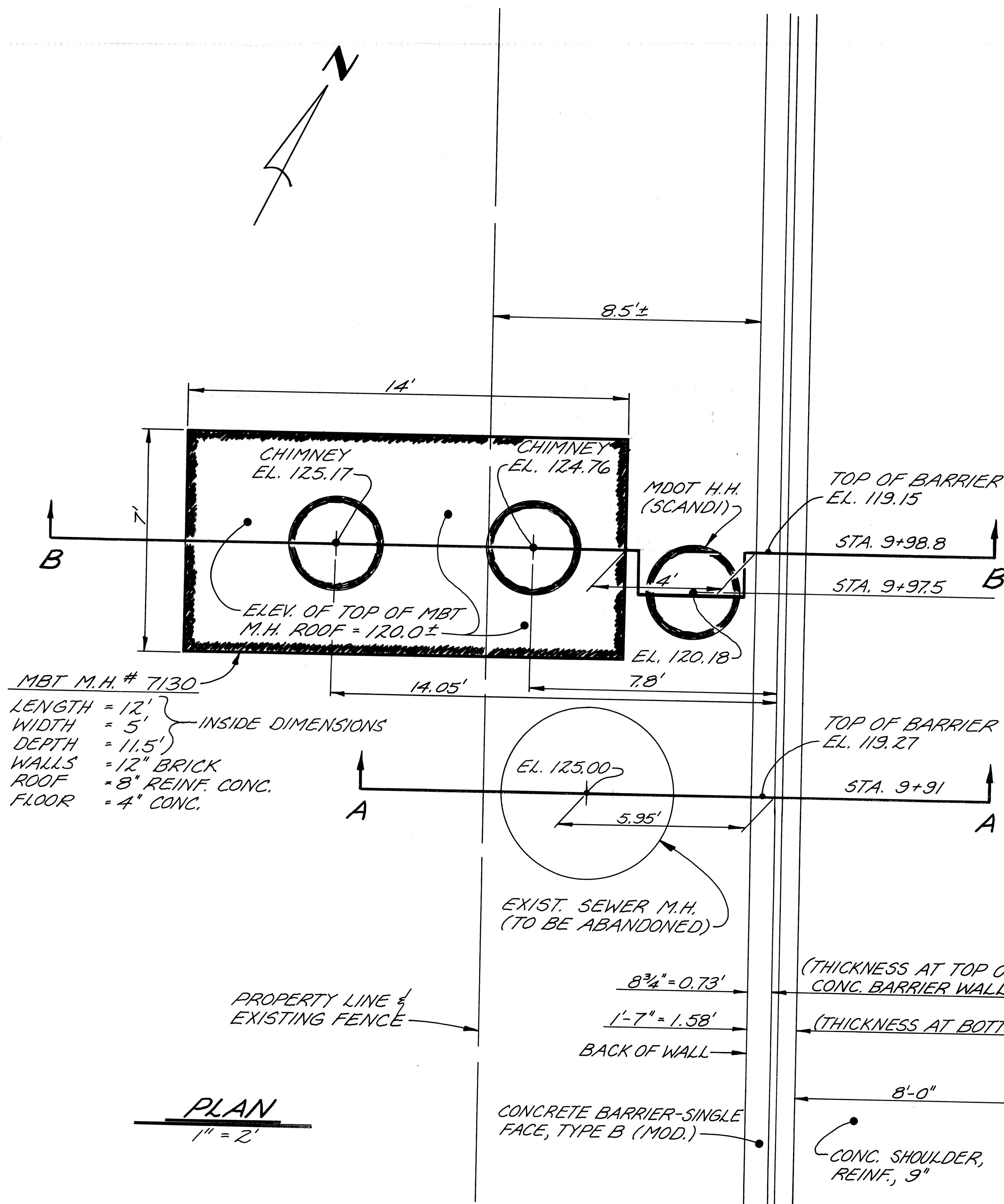
CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

DRAWN C.E.A.
CHECKED *ep*
APPROVED *ep*
DATE APRIL 1986

PLAN PREPARED BY CONSULTING ENGINEERING ASSOCIATES INC. ENGINEERING CONSULTANTS
16580 WYOMING DETROIT, MICH., 48221
FILE NO. CEA 1096
23 OF 23

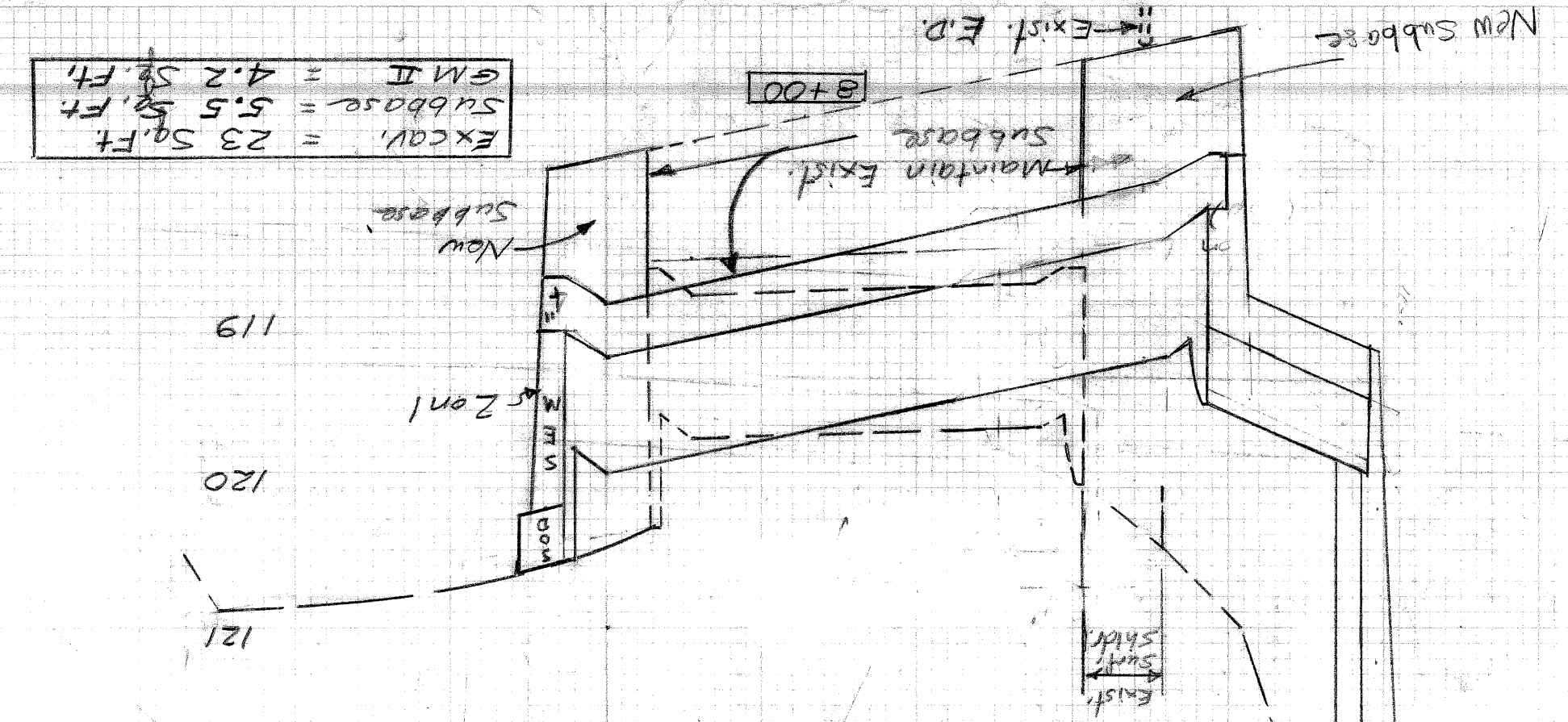
CHECKED BY
APPROVED
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

512
FILE NO. 48-0331
SHEET NO. 23 OF 23
DATE APR. 1986

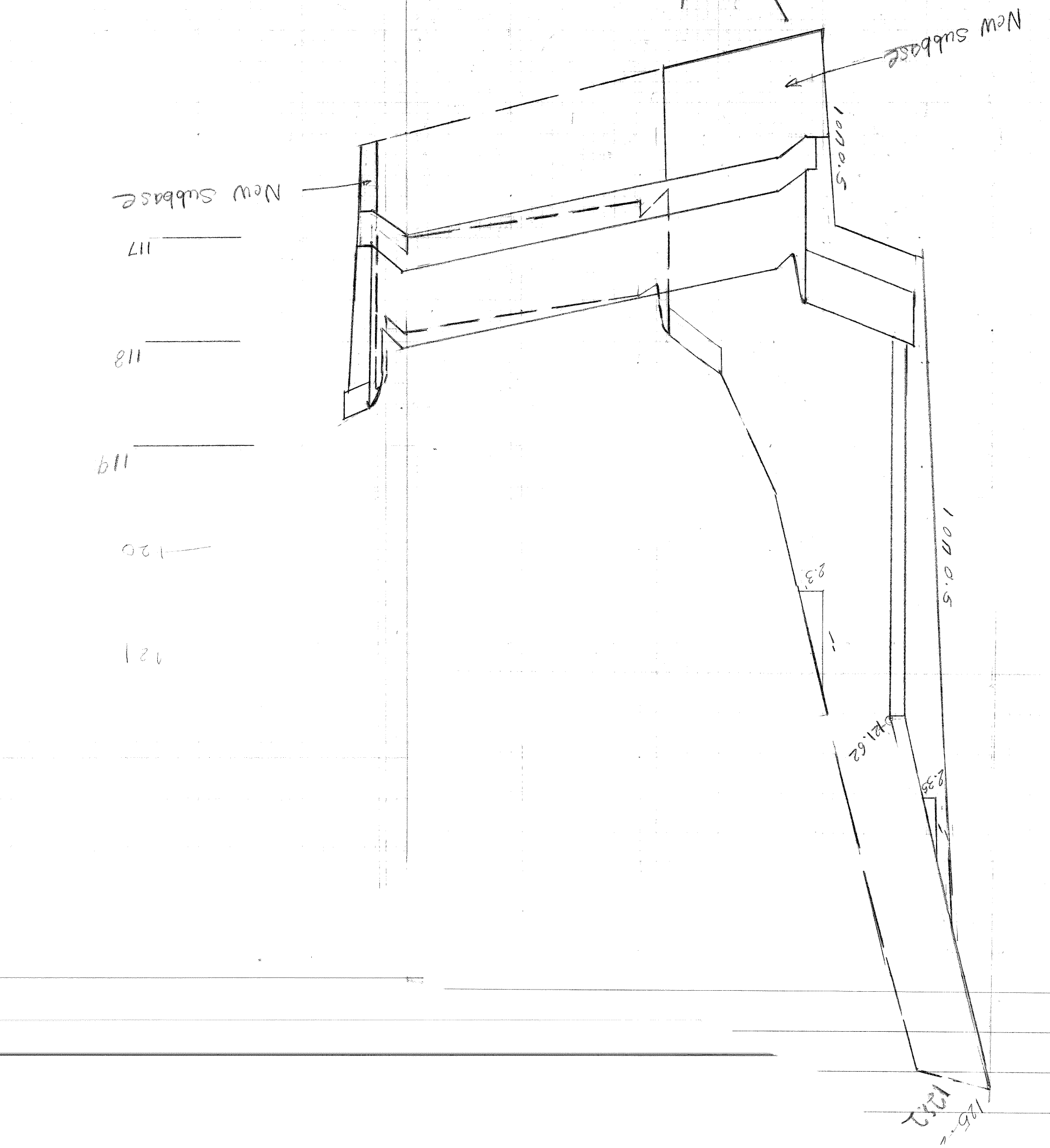
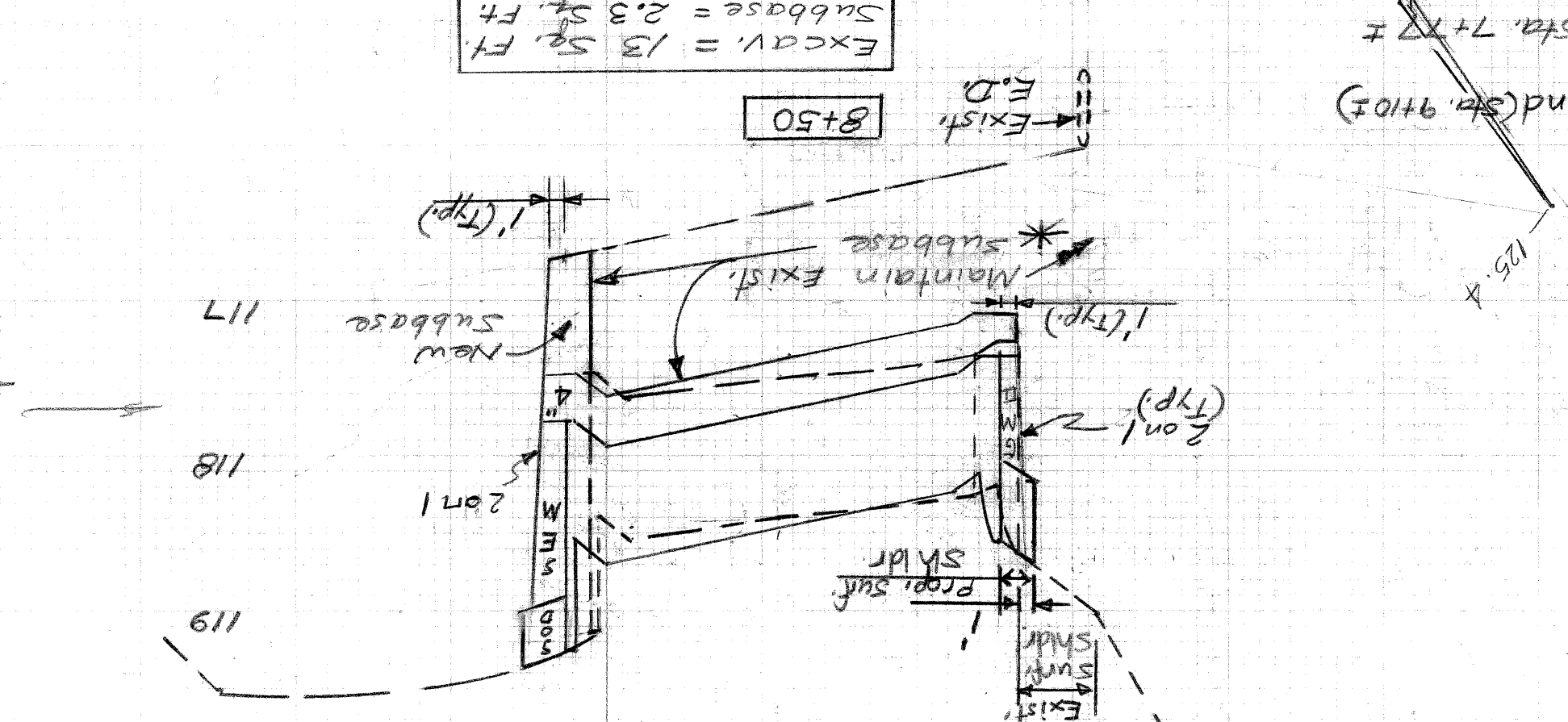


SECTION B-B
1" = 2'
(LOOKING NORTH)

ESTIMATING CROSS-SECTIONS
 JOHN LODGE FREEWAY
 SBD EXIT RAMP TO HOWARD
 by RJP 12/10/82

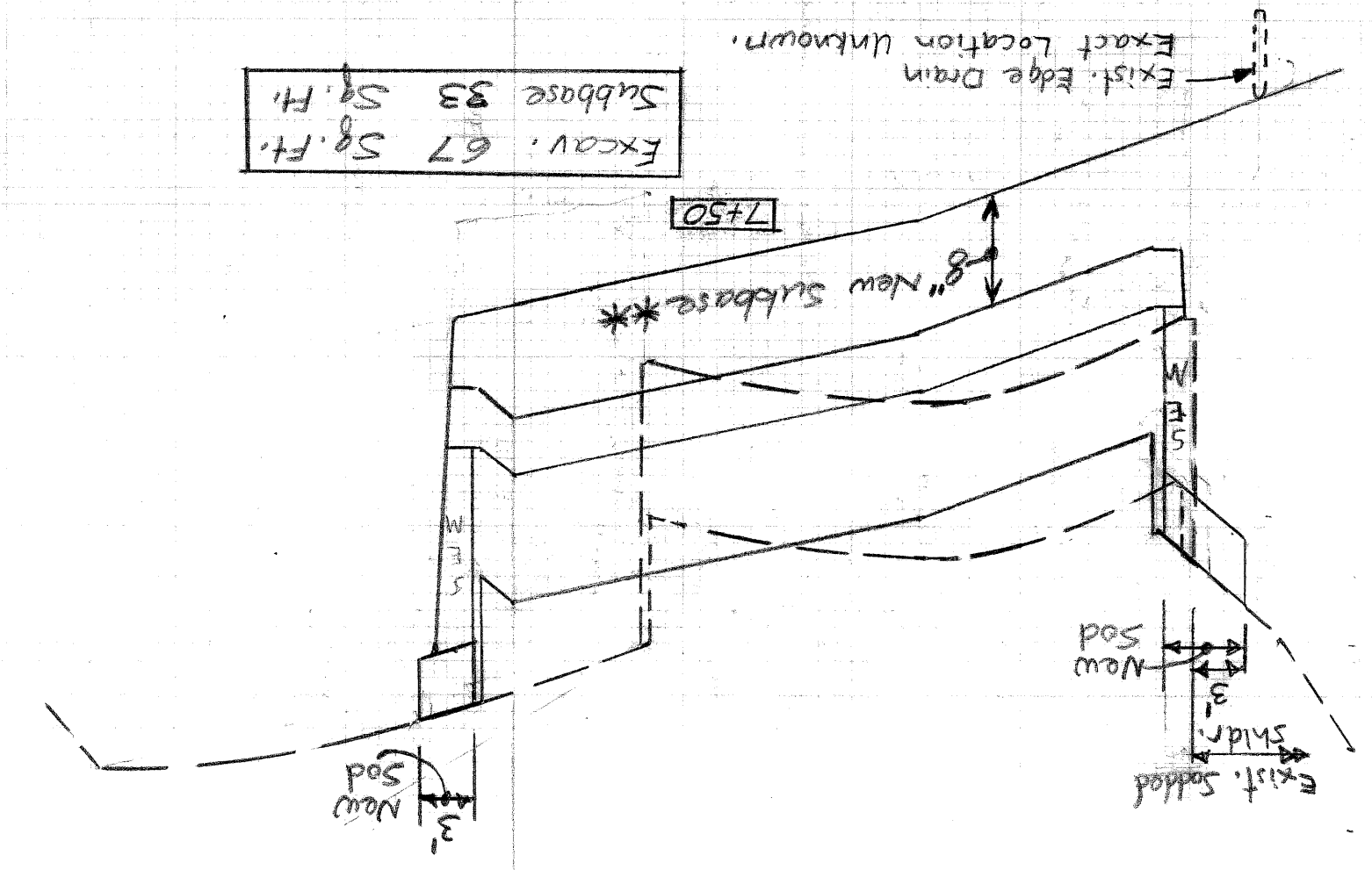
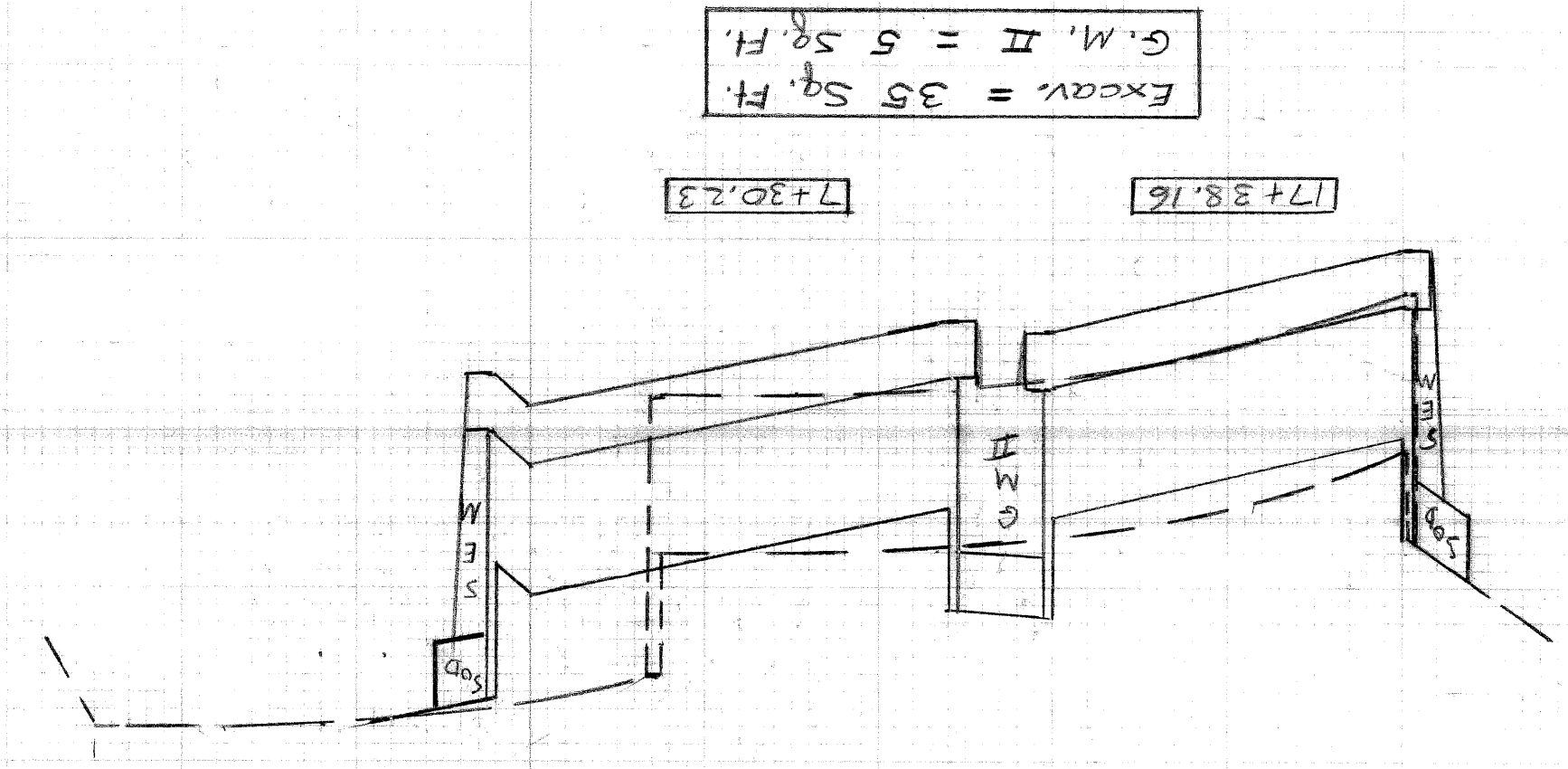


Exist. Sand-Gravel Subbase
 Begins at Station 7+77½
 and continues on down
 the ramp to the Freeway.
 * Sta. 7+45 to Sta. 7+77½
 * Sta. 7+77½ to End (Sta. 9+105)

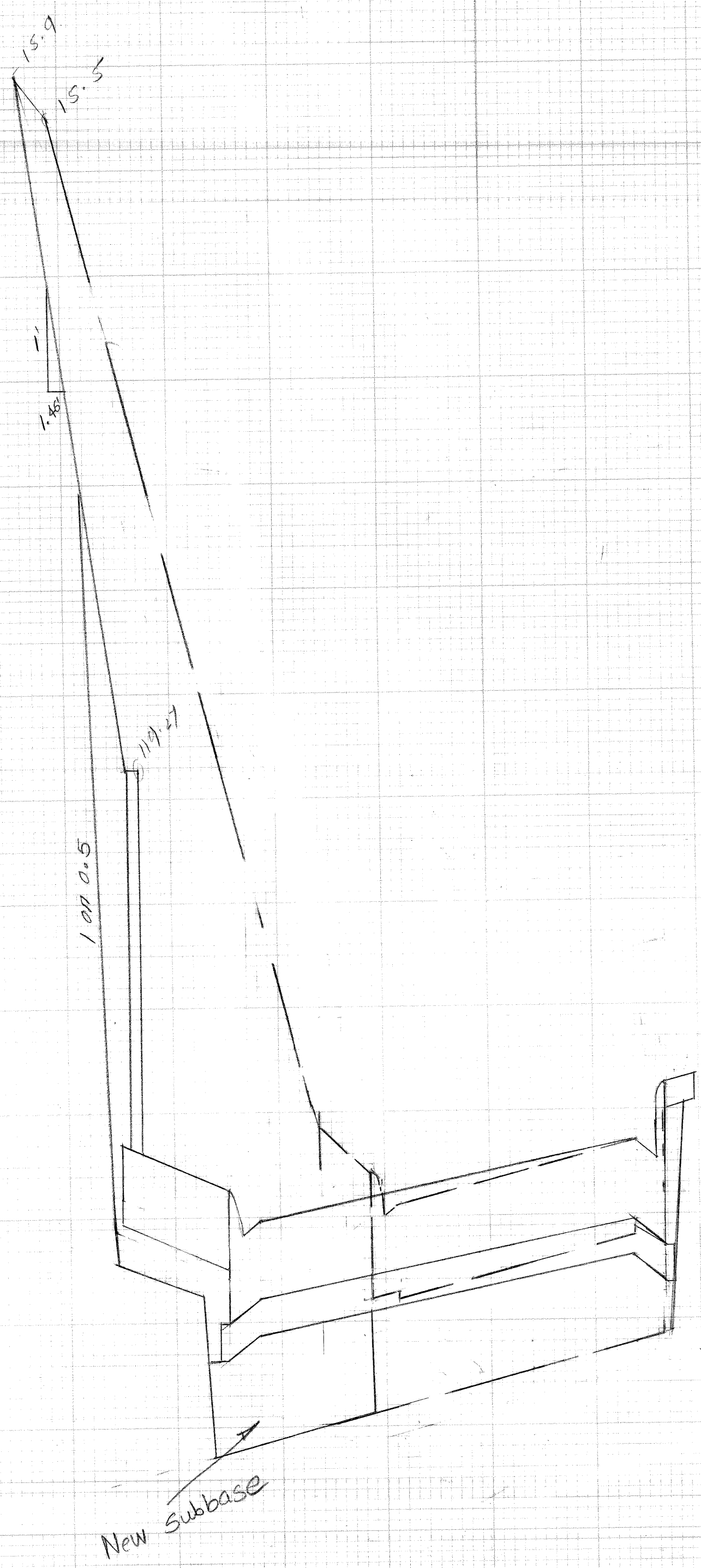


Not Valid

8+75

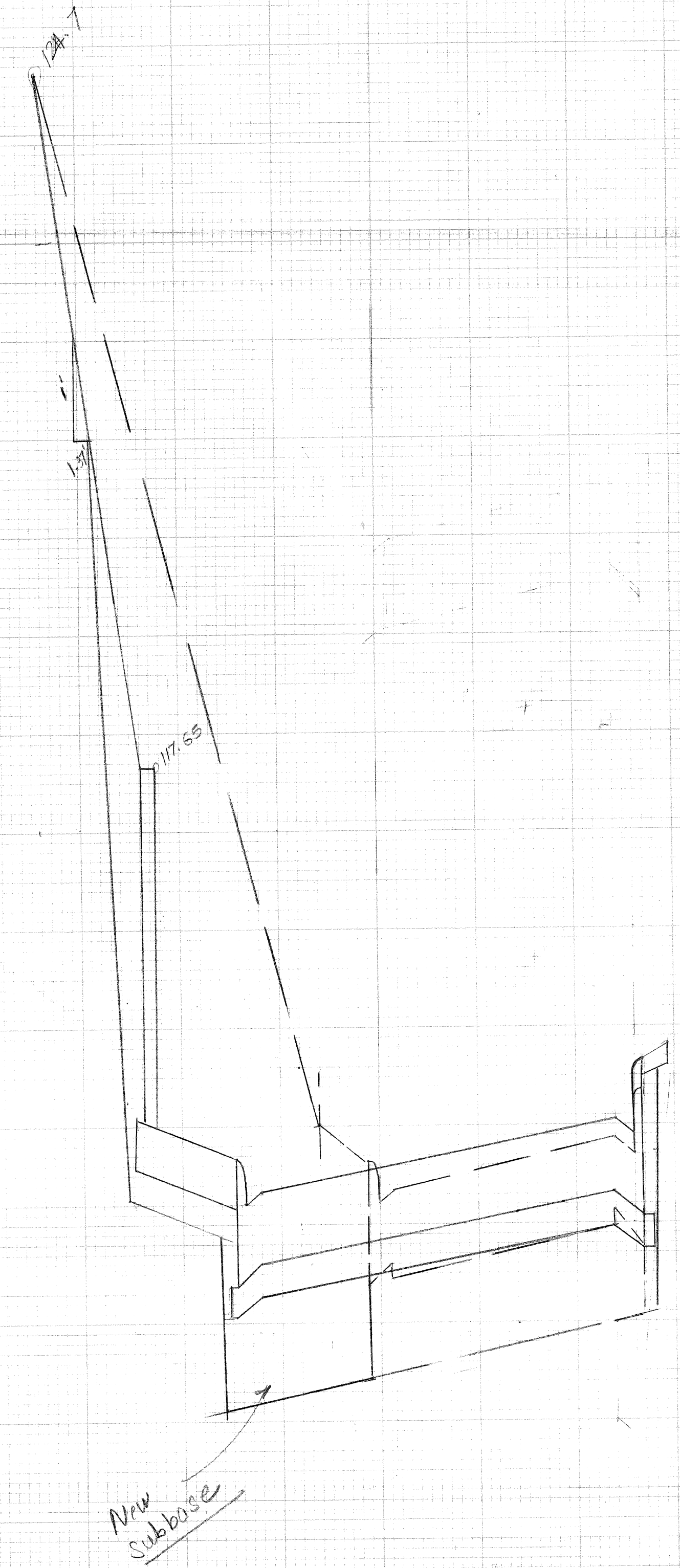


SCALE 1" = 10' HORIZONTAL
 1" = 1' VERTICAL



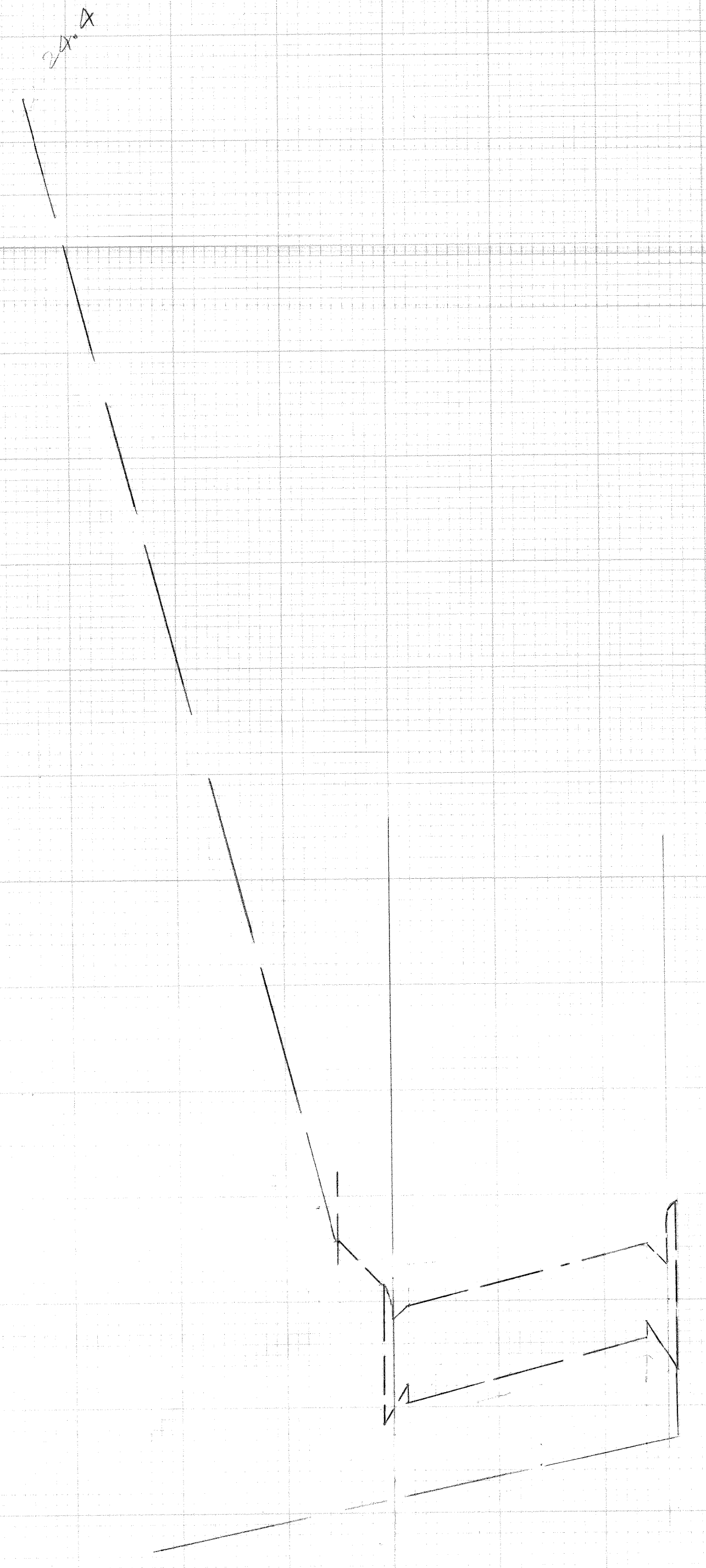
9+75

117
116
115



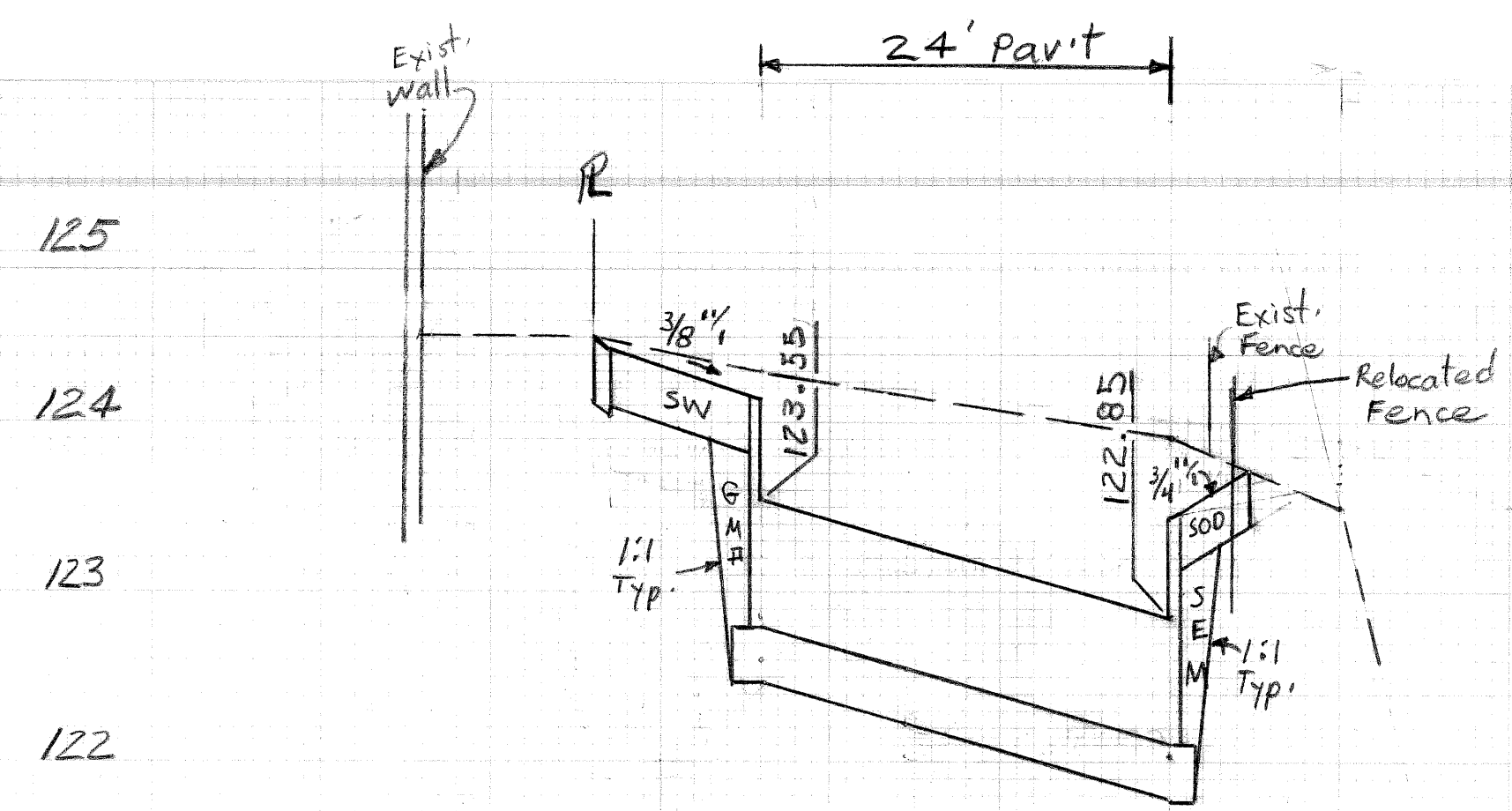
10+50

115
114
113

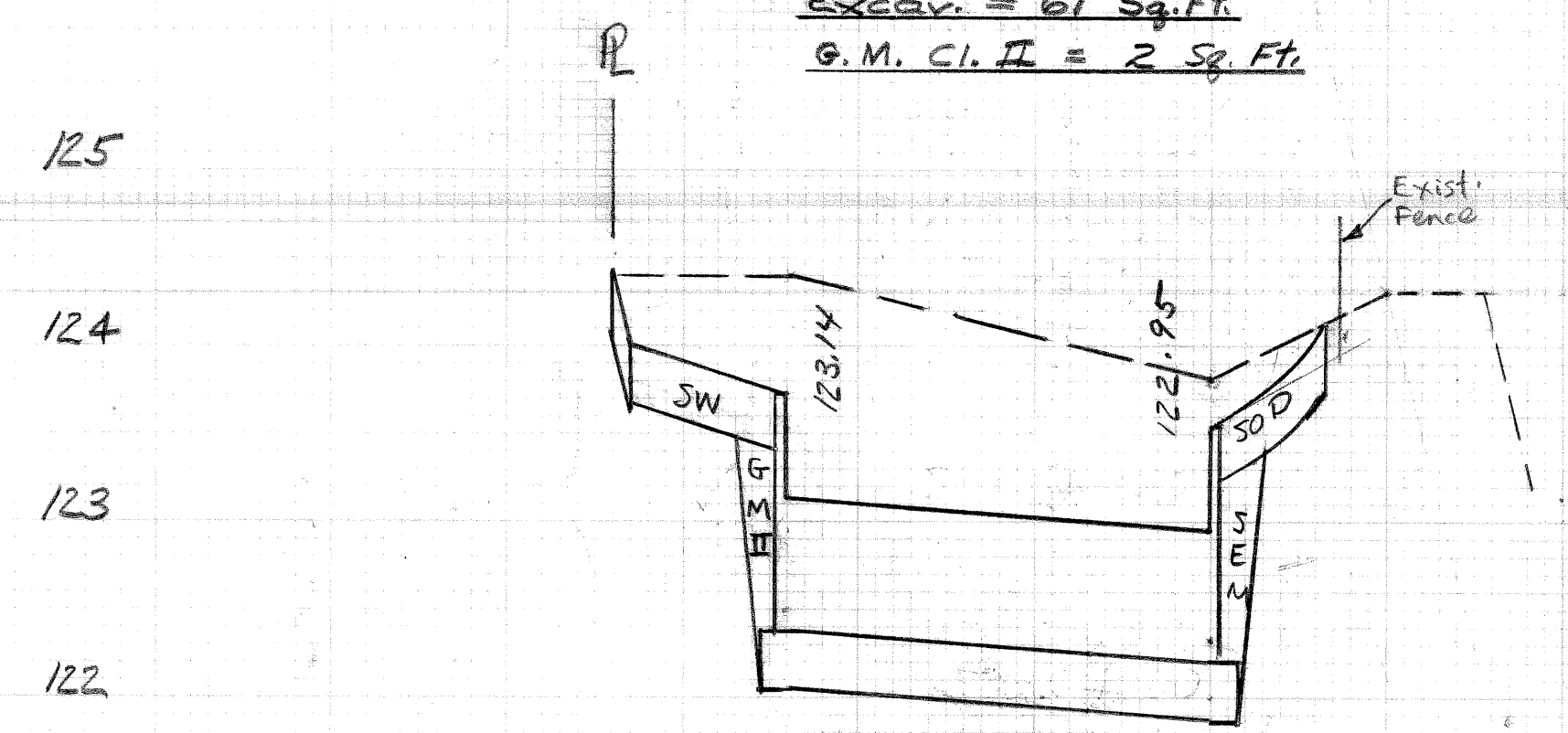


10+75

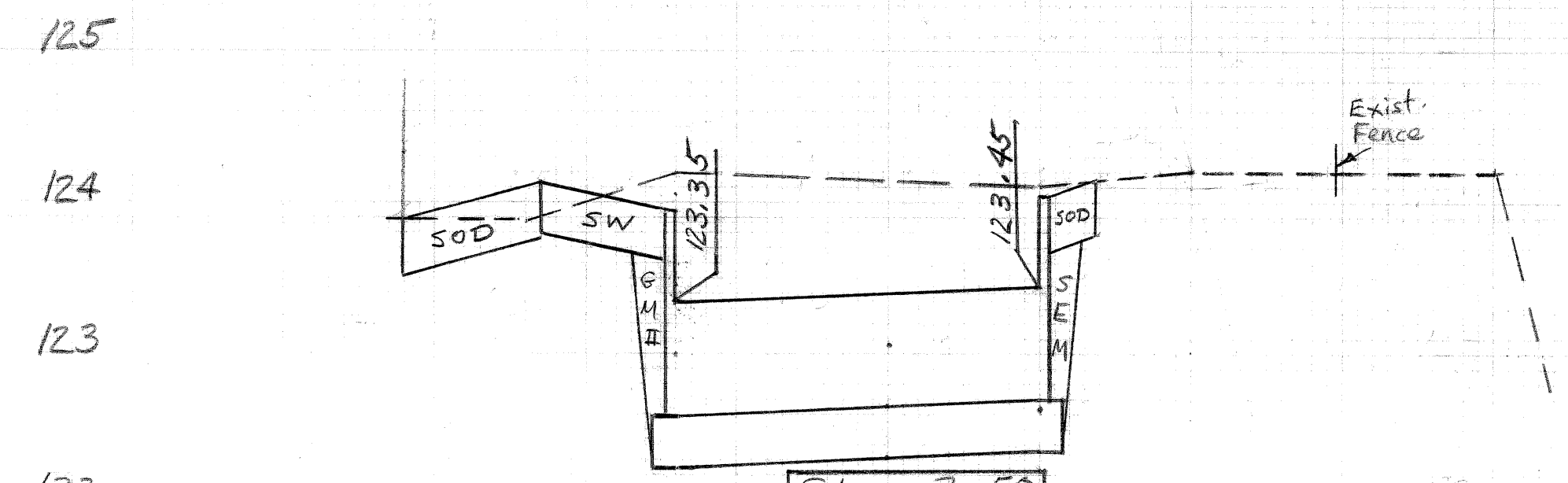
116
115
114
113



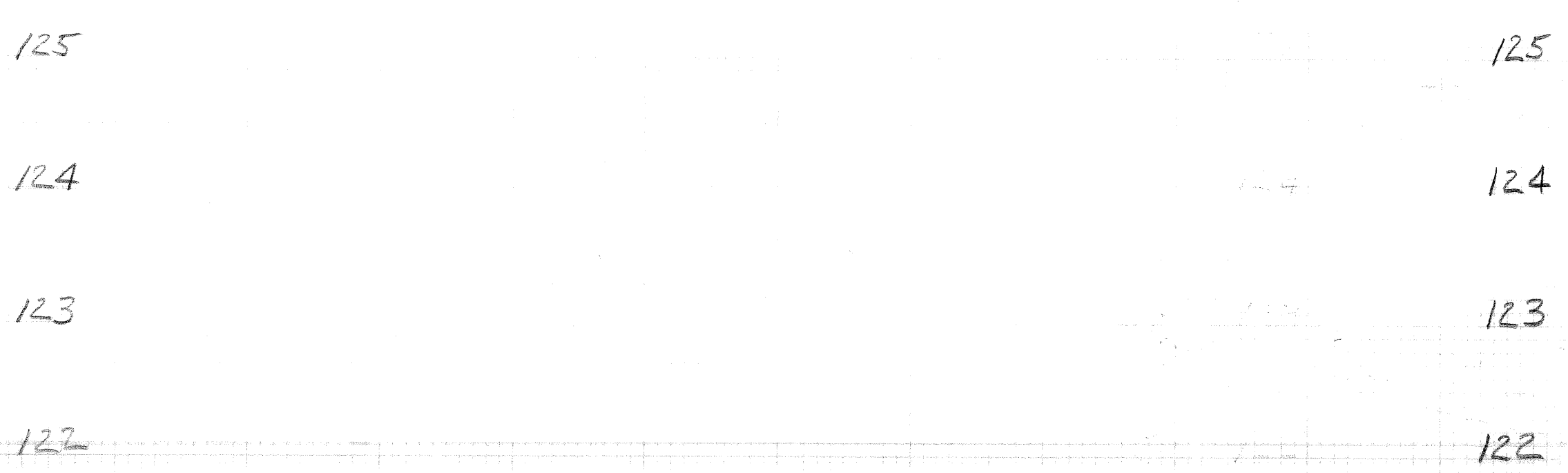
Sta. 4+50
 Excav. = 61 Sq. Ft.
 G.M. C.I. II = 2 Sq. Ft.



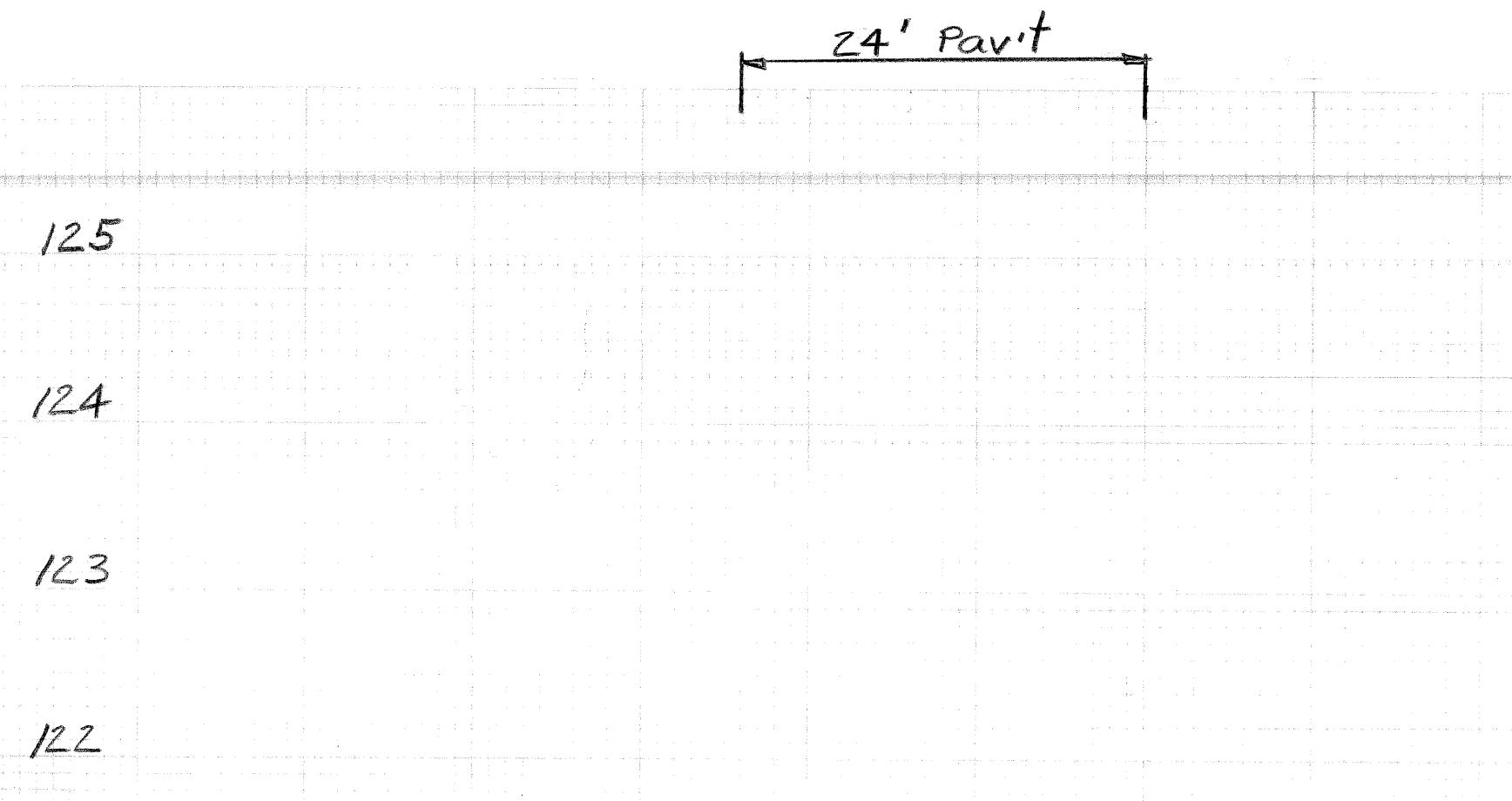
Sta. 4+00
 Excav. = 70 Sq. Ft.
 G.M. II = 2 Sq. Ft.



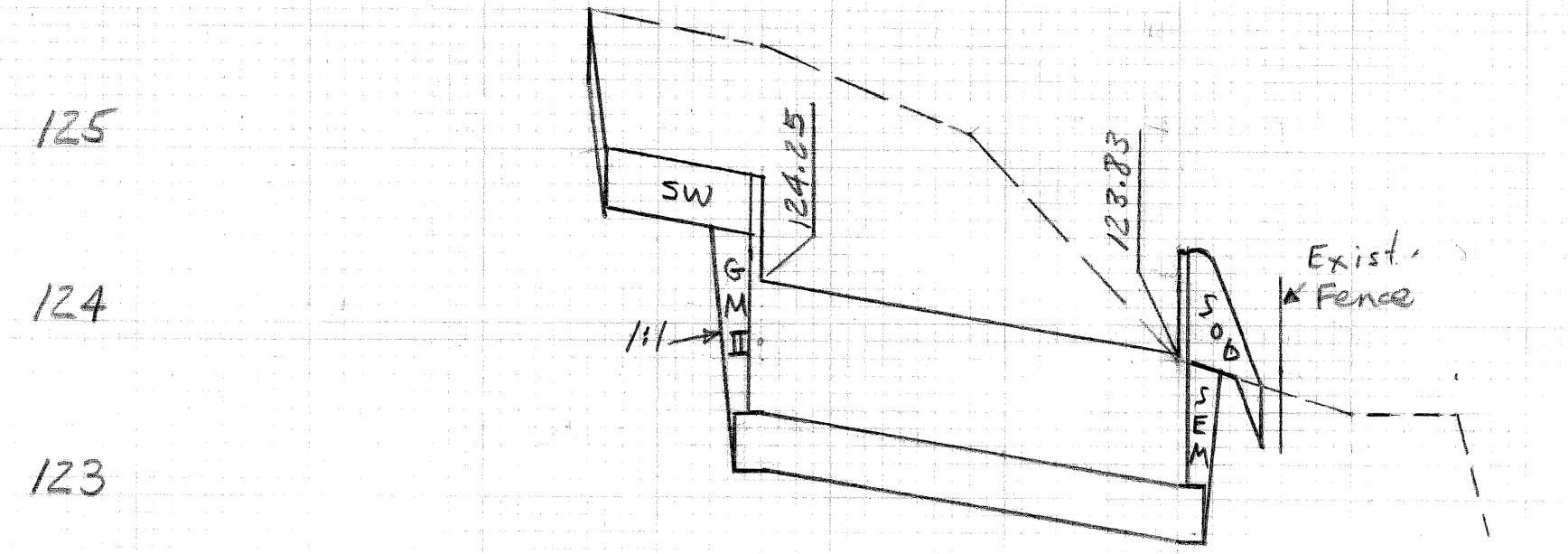
Sta. 3+50
 Excav. = 57 Sq. Ft.
 G.M. II = 2 Sq. Ft.



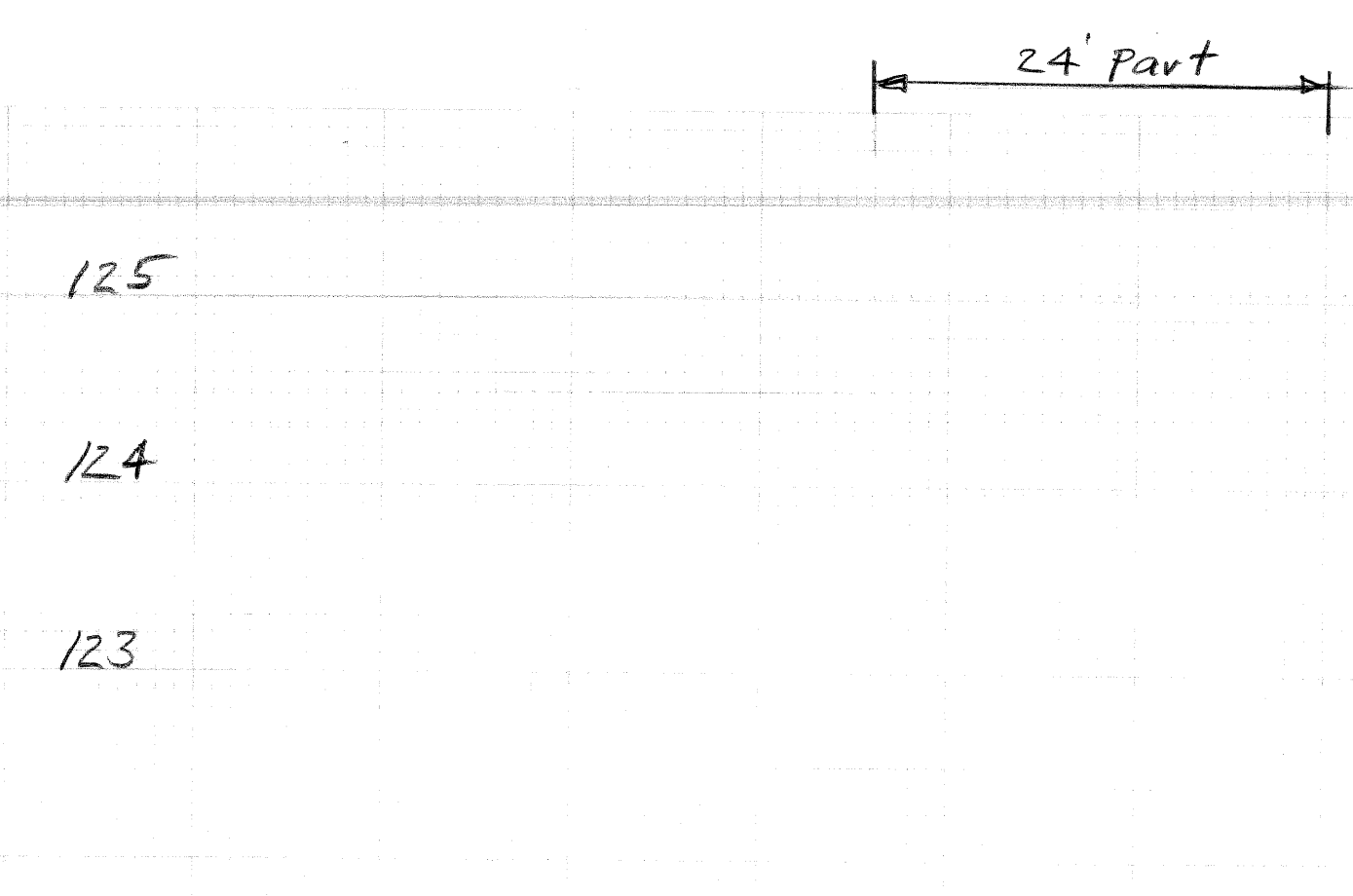
Sta. 5+100
 Excav. = 79 Sq. Ft.
 G.M. II = 2 Sq. Ft.



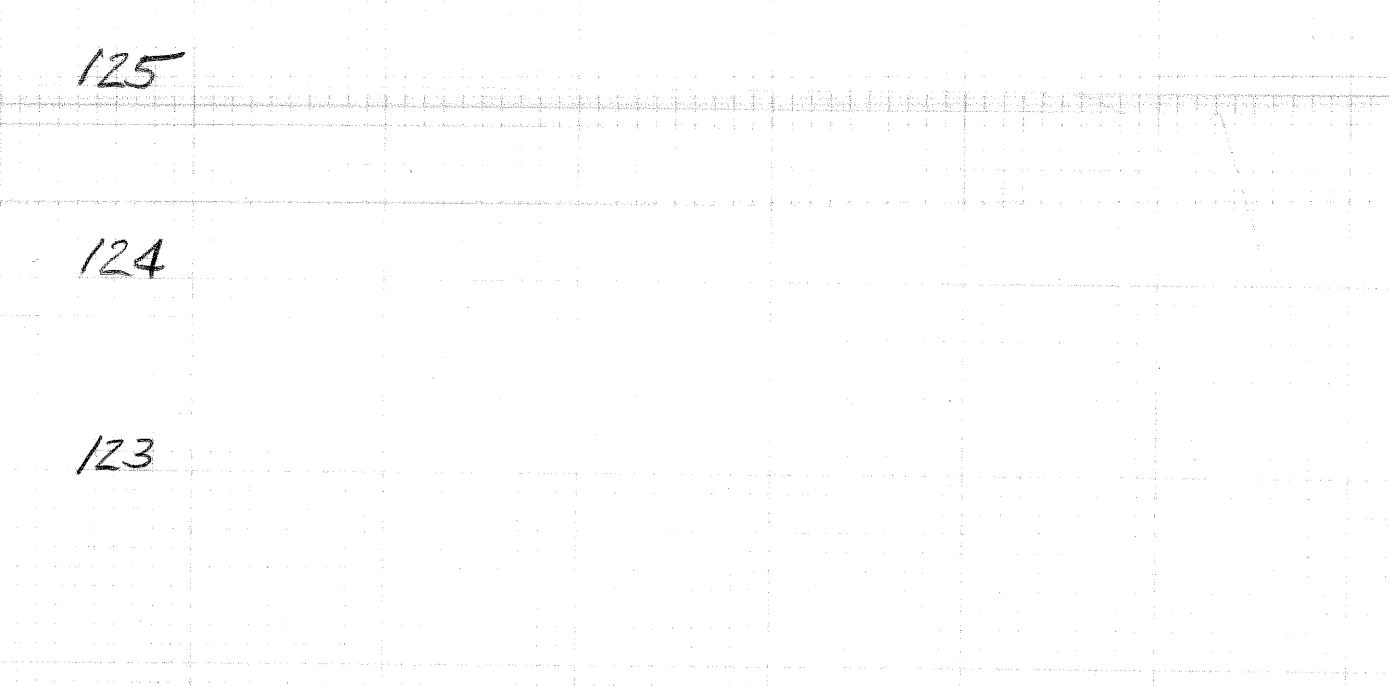
Sta. 6+00
 Excav. = 57 Sq. Ft.
 G.M. II = 2 Sq. Ft.



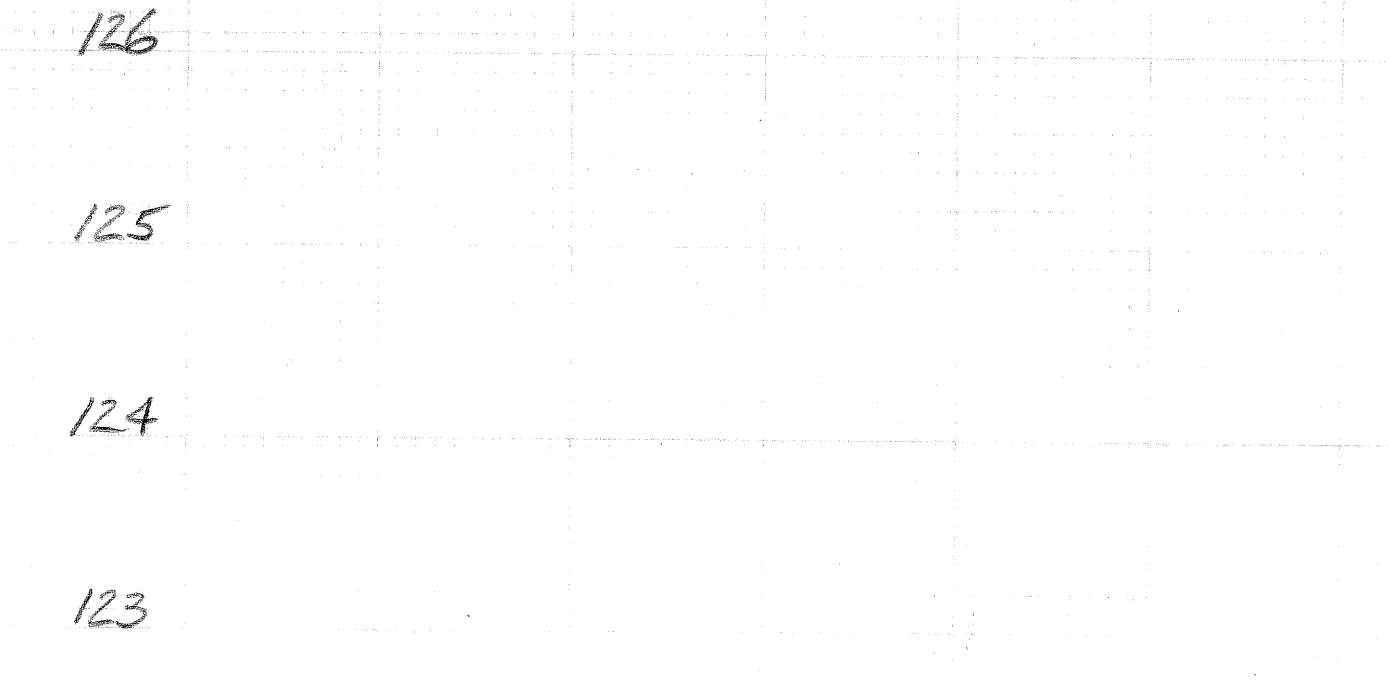
Sta. 5+50
 Excav. = 63 Sq. Ft.
 G.M. II = 2 Sq. Ft.



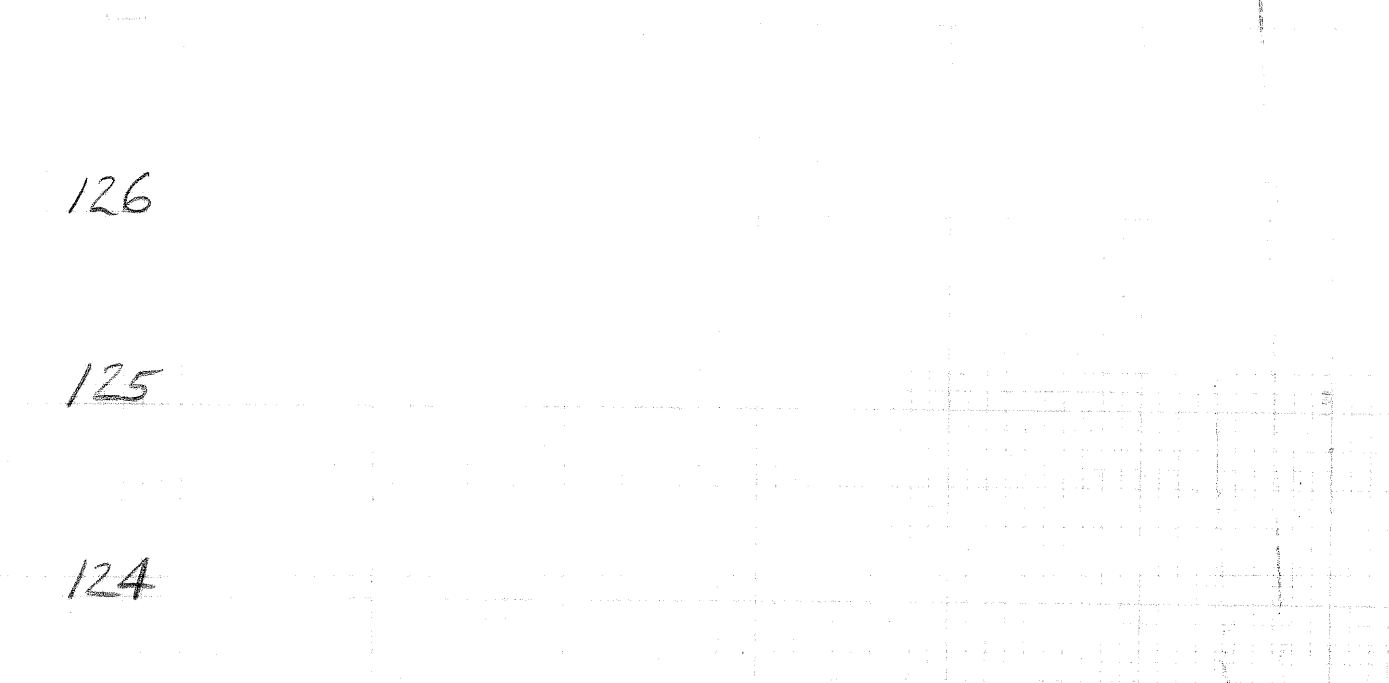
Sta. 3+50
 Excav. = 57 Sq. Ft.
 G.M. II = 2 Sq. Ft.



Sta. 4+00
 Excav. = 70 Sq. Ft.
 G.M. II = 2 Sq. Ft.



Sta. 4+50
 Excav. = 61 Sq. Ft.
 G.M. C.I. II = 2 Sq. Ft.



Sta. 5+00
 Excav. = 79 Sq. Ft.
 G.M. II = 2 Sq. Ft.

ESTIMATING CROSS-SECTIONS
 JOHN LODGE FWY WEST SERVICE DRIVE
 LAFAYETTE TO HOWARD

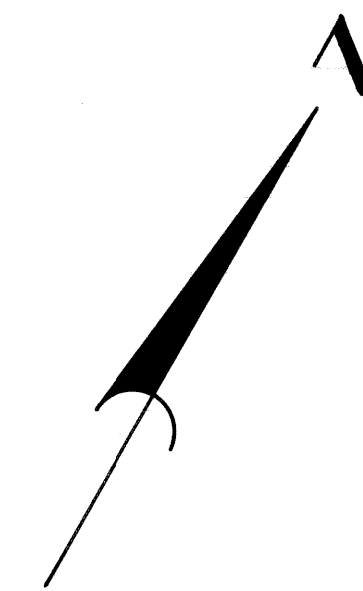
Exist. Grd. by R/S 10/14/82 Sta. 3+50 through Sta. 6+00.
 Prop. Grd. by R/S 12/10/82 " " " " " "

700m FT

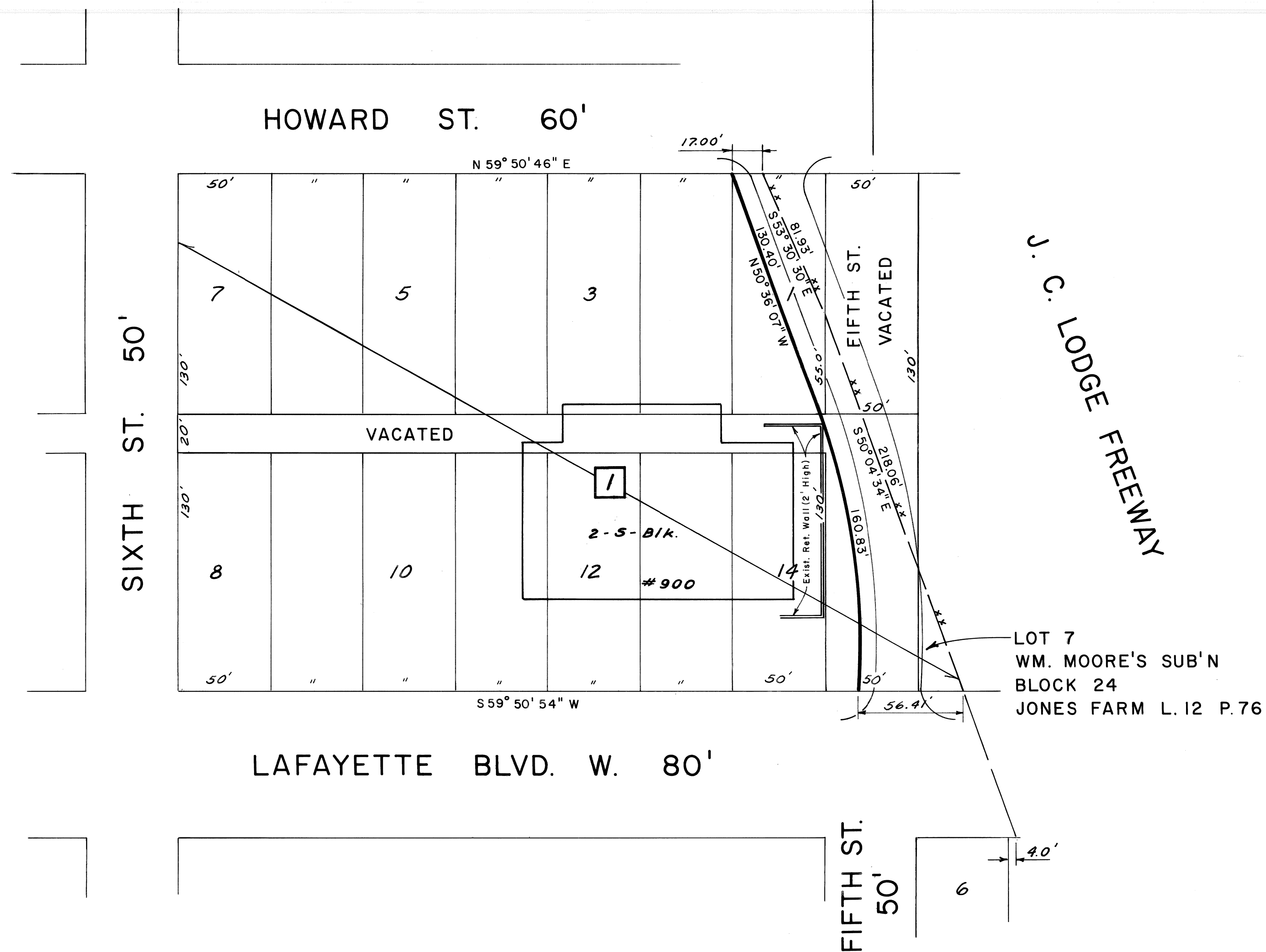
700m FT

HOWE BENTON GROUP

PARCEL	OWNER(S)	TOTAL OWNERSHIP	TO BE ACQUIRED		REMAINDER		REMARKS
			In Fee Incl. Ex. Esmt. (Portion in Ex. Esmt.)	Other Incl. Ex. Esmt. (Portion in Ex. Esmt.)	LEFT	RIGHT	
1	Wayne County Board of Auditors	104,477 S.F.	7,615 S.F.		96,862 S.F.		Partial Take



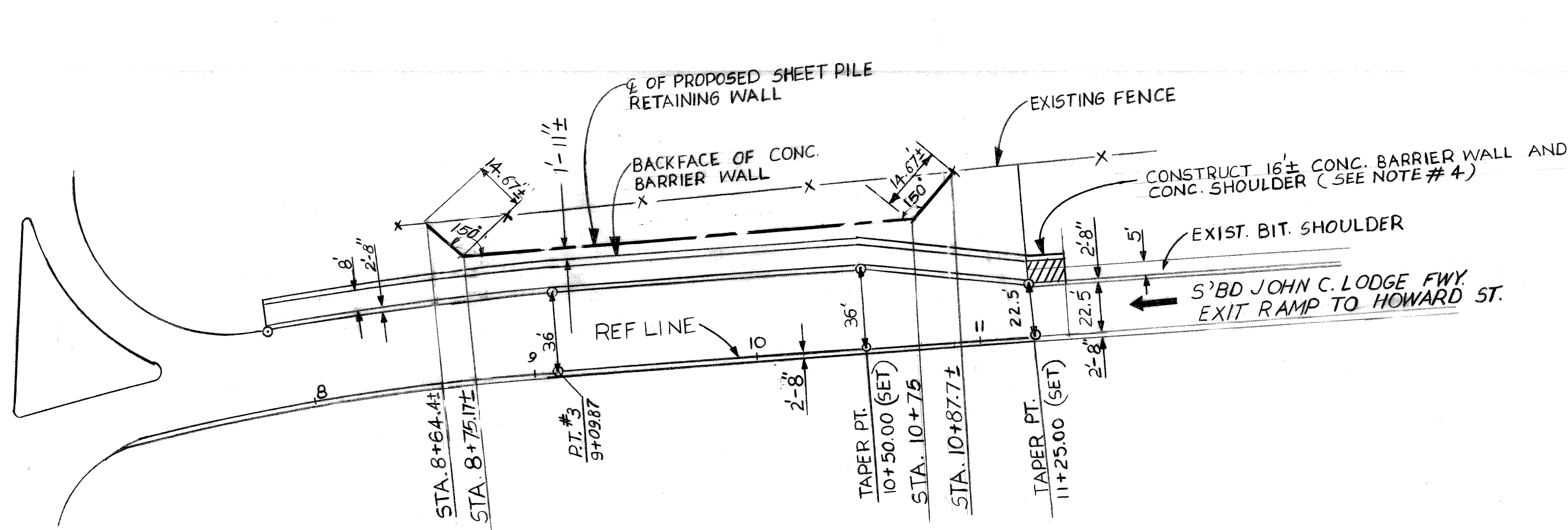
BLOCK 33 MAP OF THE WESTERN ADD'N L. 14 P. 136



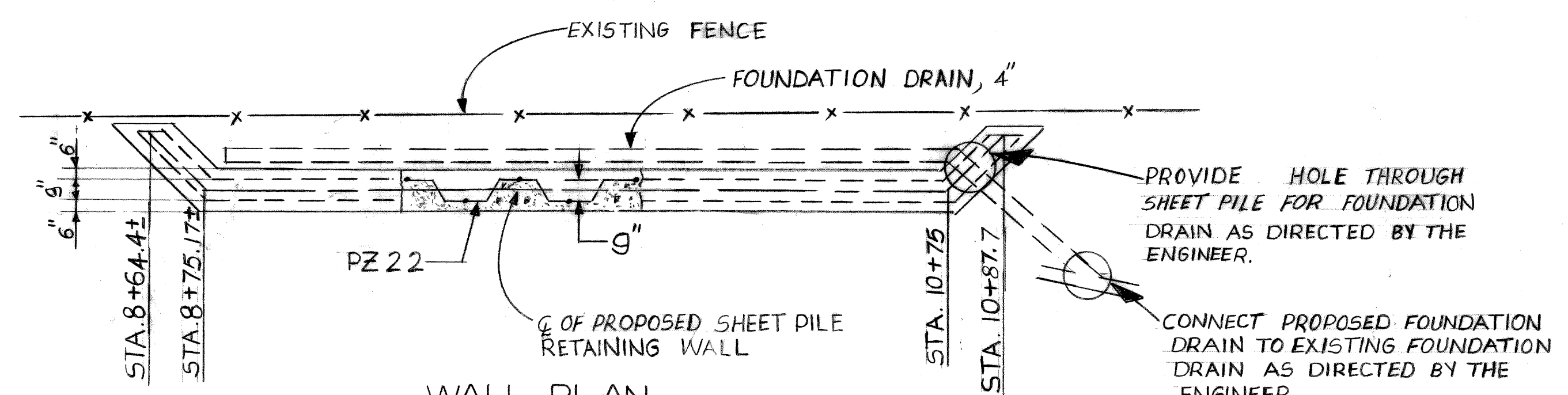
PLAN
SCALE: 1" = 40'

R = 366'
Δ = 25° 10' 38"
CHORD = 159.54'
BEARING = N 38° 00' 48" W

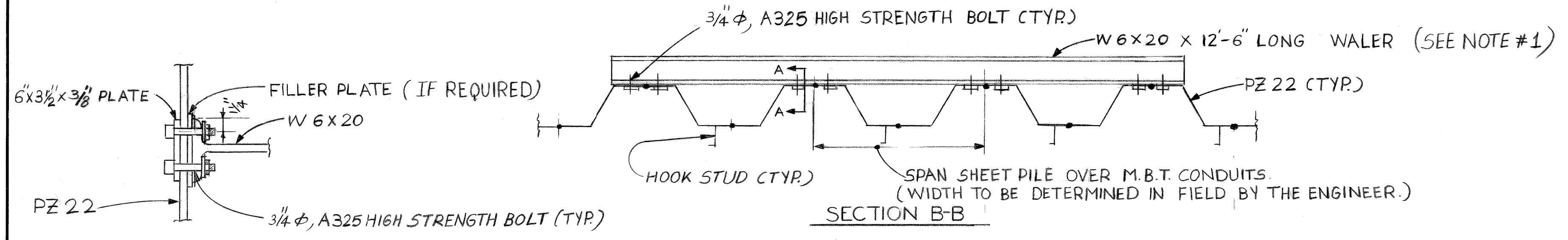
DESIGNED BY		APPROVED:			CITY OF DETROIT DEPARTMENT OF TRANSPORTATION PLANNING & TRAFFIC ENGINEERING	JOHN LODGE FWY. W. SERVICE DR. LAFAYETTE TO HOWARD	SHEET 3 OF 3 SHEETS
DRAWN BY							DRWG No.
TRACED BY							DATE JAN. 20, 1984
CHECKED BY							
COORD	DESCRIPTION	DRW	CHKD	APVD	DATE		
REVISIONS LOCATED BY COORDINATES ON SHEET							



LOCATION PLAN
(NO SCALE)

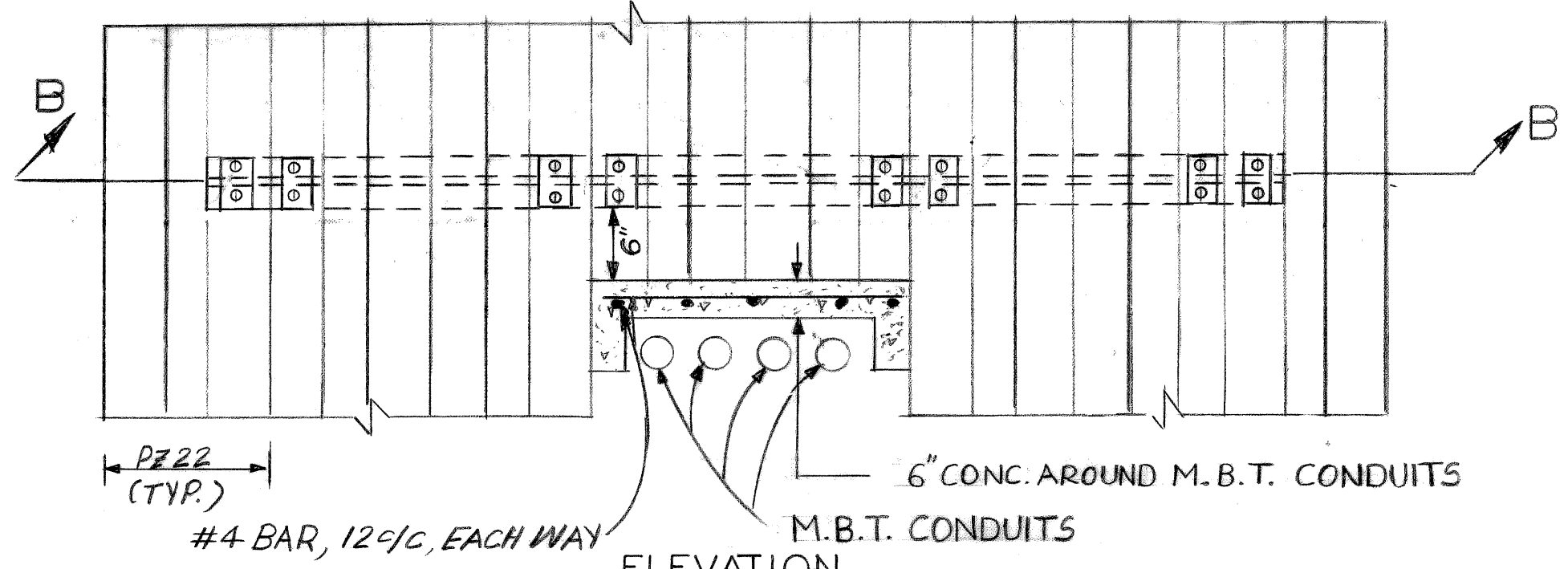


WALL PLAN
(NO SCALE)

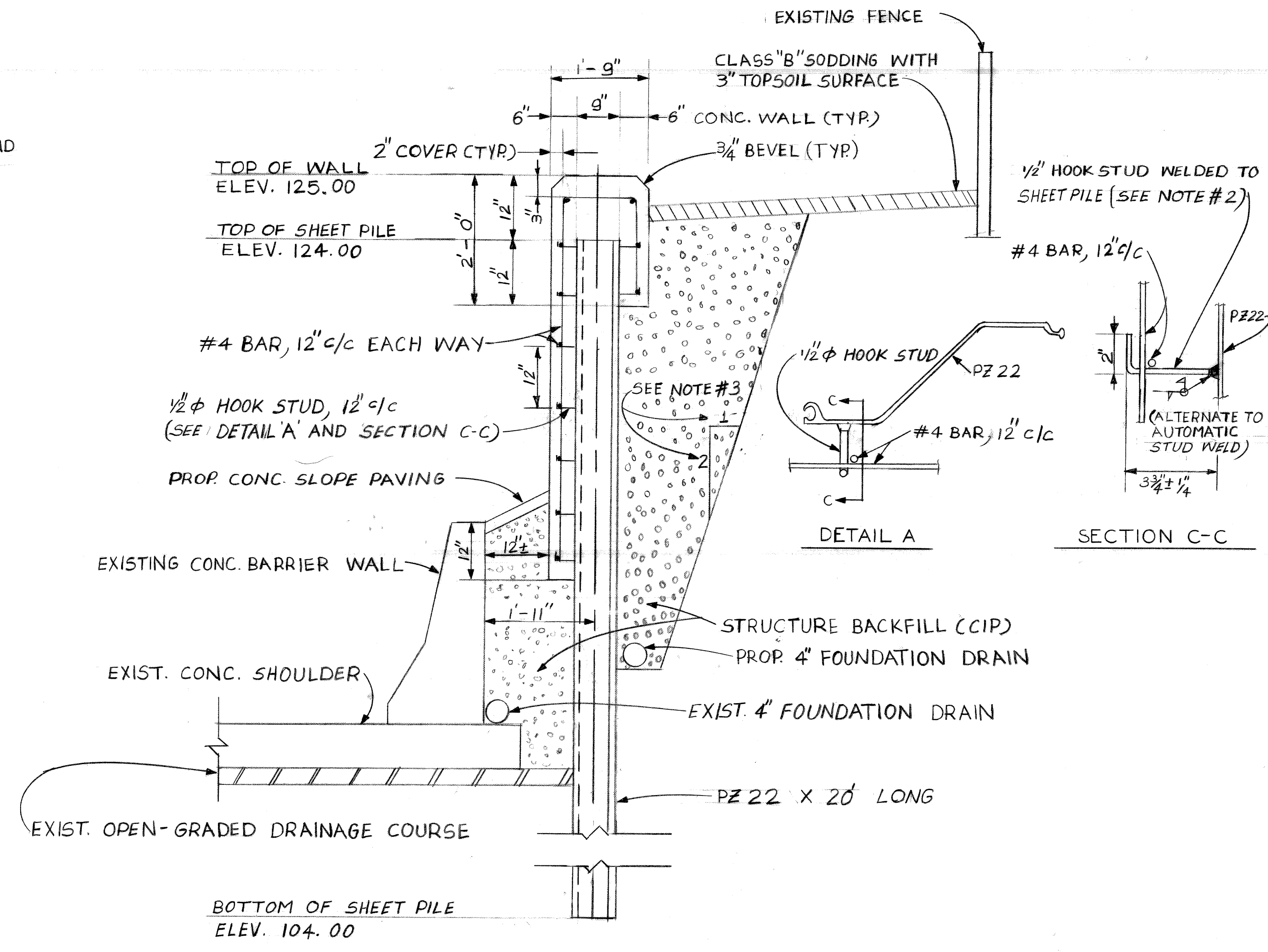


SECTION A-A

SECTION B-B



DETAIL FOR SPANNING M.B.T. CONDUITS
(NO SCALE)



TYPICAL WALL SECTION
(NO SCALE)

NOTES:

- ① Concrete Grade 355, $f'_c = 3,500$ p.s.i.
Steel Reinforcement (Epoxy coated), $f_s = 60,000$ p.s.i.
Structural Steel A36, $F_y = 36$ ksi
Waterproof all portions of the wall assembly with two coats of Hot Asphalt.
- ② The $1/2$ " ϕ Hook Studs shall be welded to the sheet pile in accordance with Sections 5.04.36 and 8.06.08 of MDOT 1984 Std. Specifications.
- ③ Excavate area behind proposed sheet piling as shown or as directed by the Engineer. Invert elevation of proposed 4" Foundation Drain to be a minimum of 6" above the invert elevation at existing Foundation Drain.
- ④ Construct additional 16" of Conc. Barrier Wall and Conc. Shoulder (having same details as rest of project) from Sta. 11+25 to 11+41± parallel to exist. curb and gutter line. Conc. Barrier Wall shall be tapered down uniformly from full height of 3'-8" at Sta. 11+25 to 2'-0" at Sta. 11+41±. The 2'-0" end shall be rounded off and embedded in the slope as directed by the Engineer.

NO.	DESCRIPTION	DATE

DESIGNED BY	U. C. PATEL	APPROVED:	
DRAWN BY	U. C. PATEL		
TRACED BY			
CHECKED BY	W.C. / W.B.	HIGHWAY & EXPRESSWAY ENGINEER	

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT
BUREAUS OF STREETS AND HIGHWAYS

JOHN LODGE FWY. W SERVICE DR. AND RAMP
ALTERATIONS FROM FORT TO N. OF HOWARD

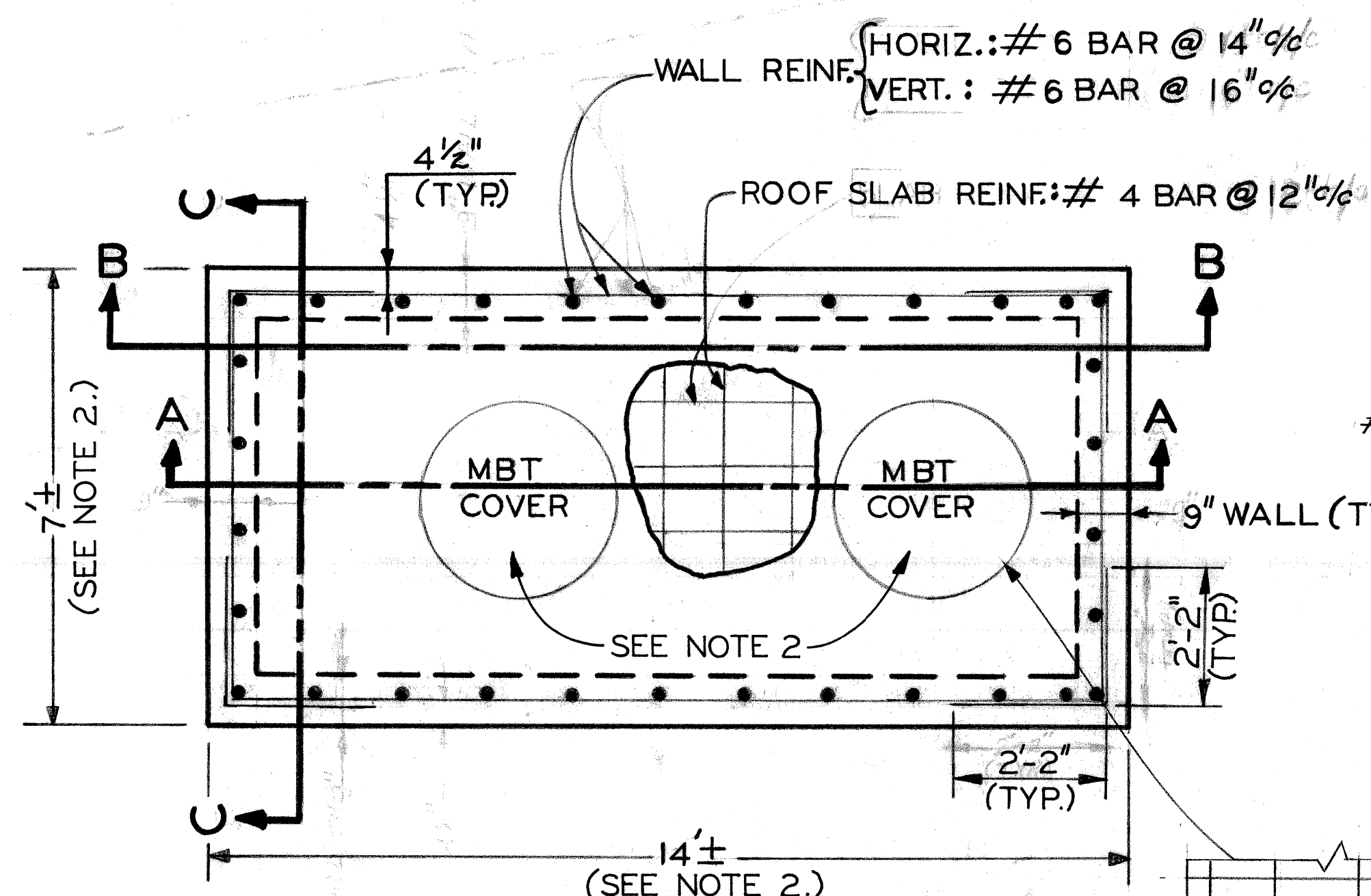
SHEET PILE RETAINING WALL

SHEET 1 OF 1 SHEETS
JOB No. 15765A
DRWG No.
DATE 5-87

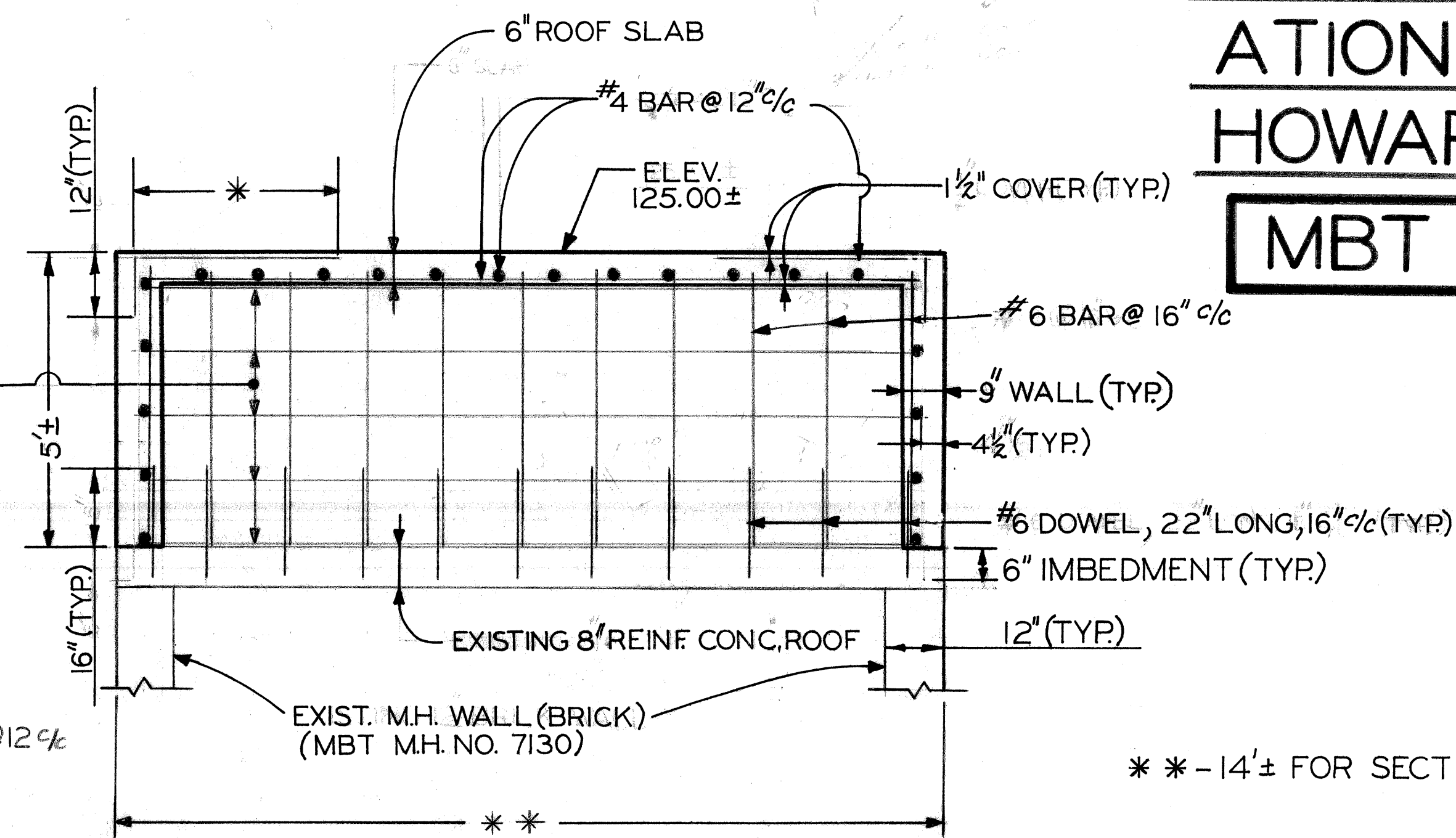
JOHN LODGE FREEWAY WEST SERVICE DRIVE & RAMP ALTER- ATIONS FROM FORT ST. TO N. OF HOWARD ST. JOB NO. 15765A

MBT M.H. NO. 7130 MODIFICATION

*-42" FOR SECTION B-B, 22" FOR SECTION C-C



PLAN
NO SCALE

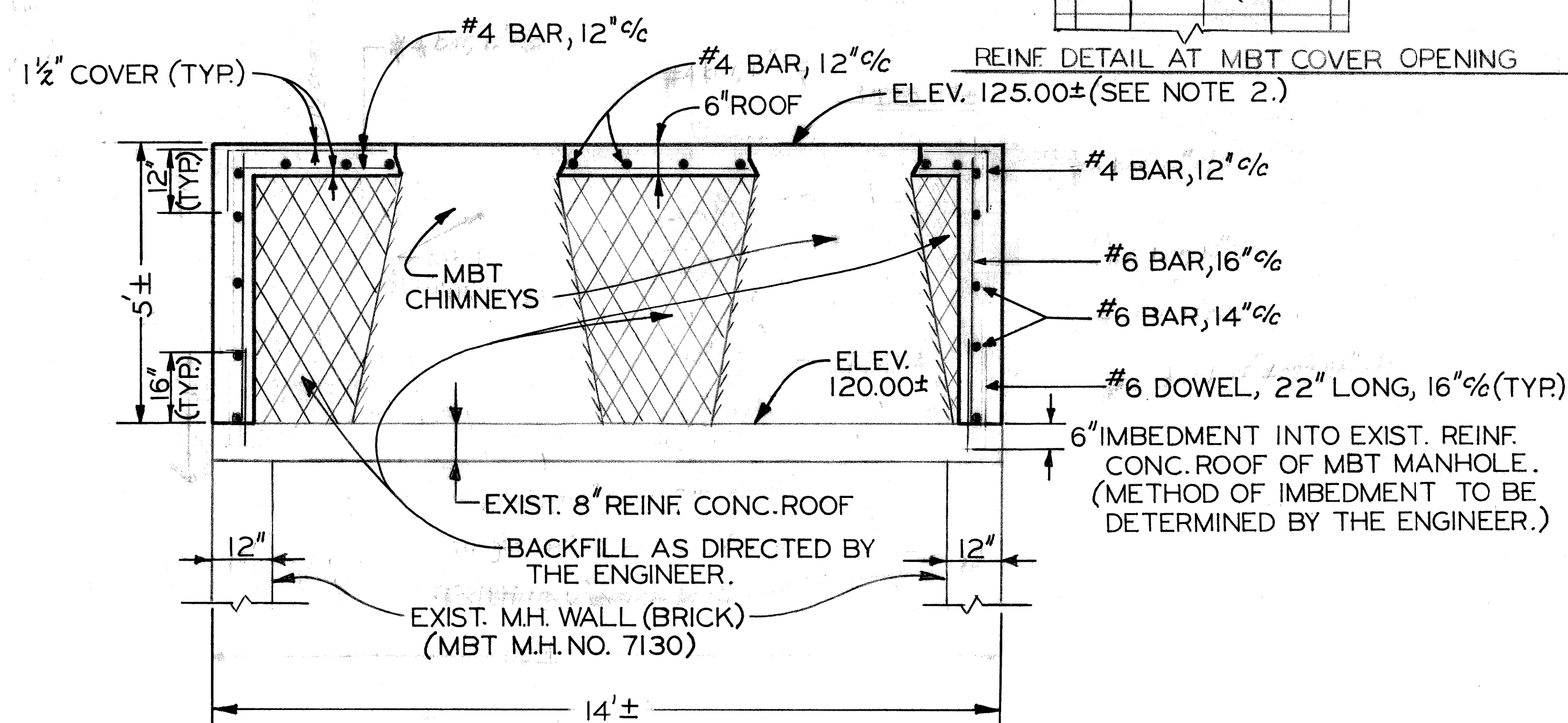


SECTIONS B-B AND C-C
NO SCALE

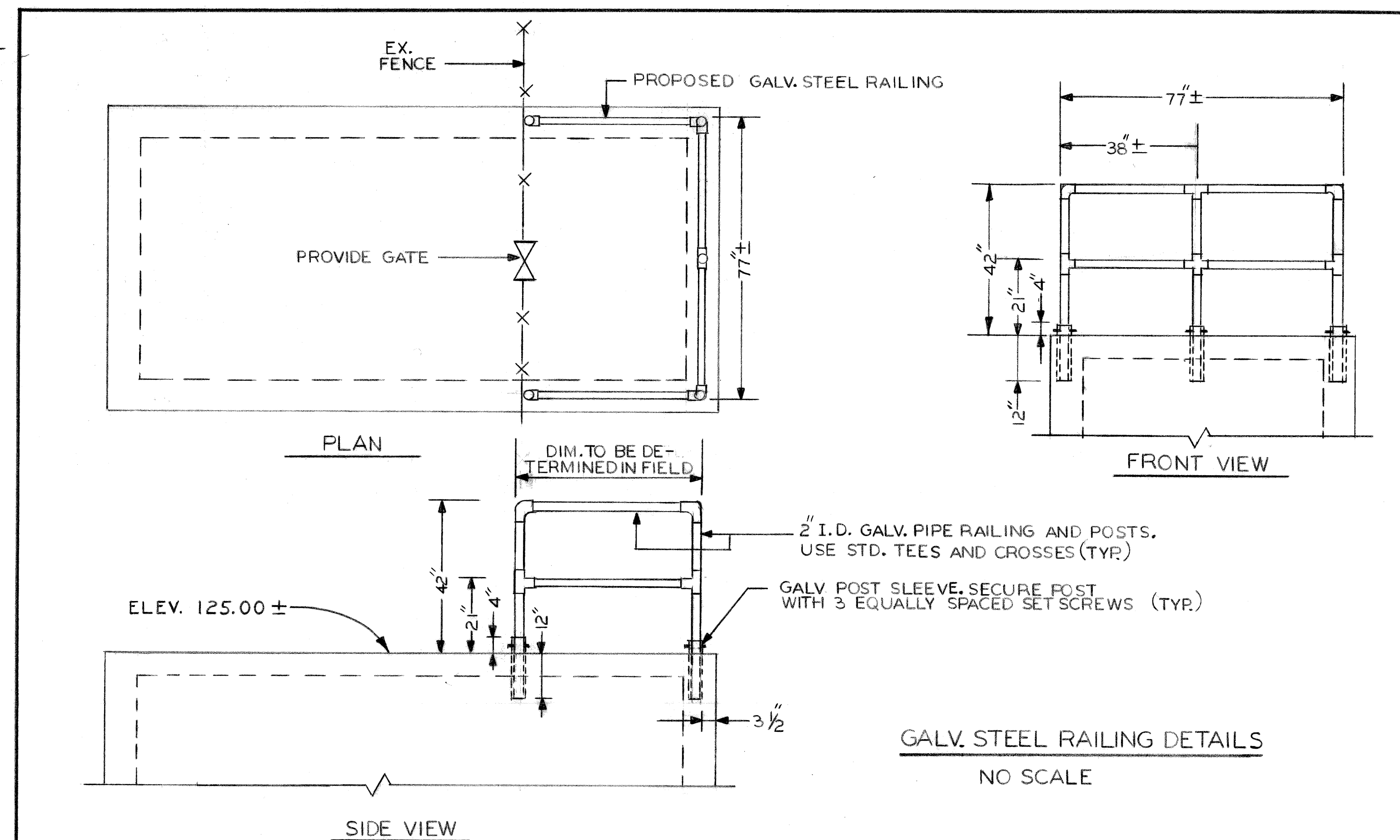
NOTES:

1. REINF. STEEL $f_y = 60,000$ PSI; CONC. $f'_c = 4,000$ PSI.
2. ACTUAL OUTER DIMENSIONS OF PROPOSED 9" WALL (7'± X 14'±) AND ACTUAL ELEVATION OF TOP OF PROPOSED 6" ROOF SLAB (125.00±) SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. ADJUST MBT ACCESS COVER ELEVATIONS AS REQUIRED.
3. WEEP HOLES SHALL BE PROVIDED IN THE 9" CONC. WALL AS DIRECTED BY THE ENGINEER.
4. SLOPE PROTECTION DURING CONSTRUCTION IS INCIDENTAL AND SHALL NOT BE PAID FOR SEPARATELY. METHOD OF SLOPE PROTECTION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

** -14'± FOR SECTION B-B, 7'± FOR SECTION C-C (SEE NOTE 2.)



SECTION A-A
NO SCALE



GALV. STEEL RAILING DETAILS
NO SCALE

DATE 3-9-87

DESIGNED BY U.P.

CHECKED BY W.B.

DRAWN BY U.P./W.B.