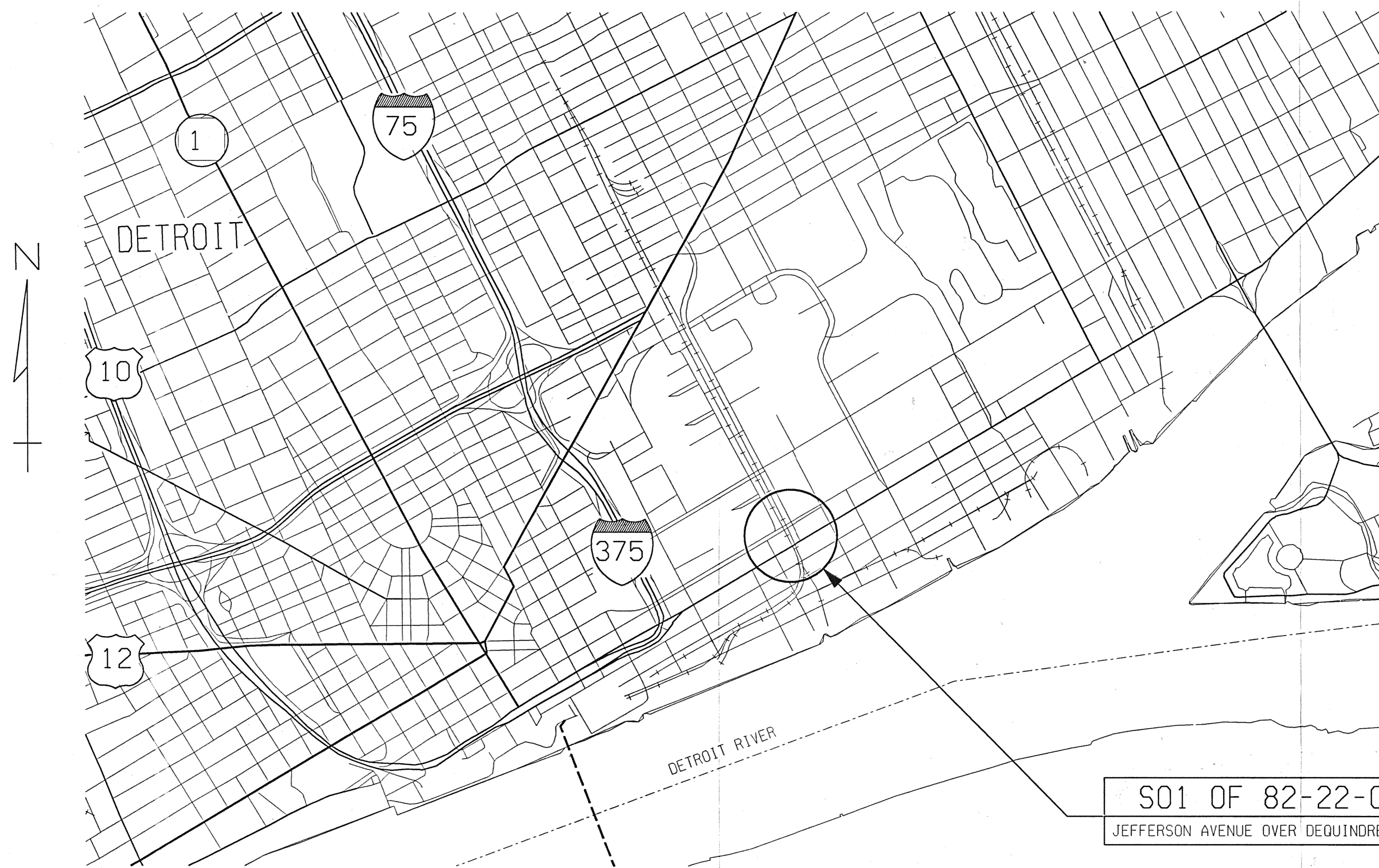


PLAN INDEX	
SH. NO	DESCRIPTION
1	TITLE SHEET
2-3	APPROACH TYPICAL SECTIONS
4-5	ROAD DETAIL SHEET
6	NOTESHEET
7	LEGEND SHEET
8	REMOVAL SHEET
9	CONSTRUCTION SHEET
10-17	MAINTAINING TRAFFIC/CONSTRUCTION STAGING
18	PAVEMENT MARKING SHEET
19-20	WATERMAIN SHEETS
21-45	ELECTRICAL SHEETS
46	EXPANSION JOINT DETAILS
47	PLD CONDUIT DETAILS
48	GENERAL PLAN OF SITE
49	LOG OF BORINGS
50-51	GENERAL PLAN OF STRUCTURE
52	EXISTING GENERAL PLAN OF SITE
53-54	EXISTING GENERAL PLAN OF STRUCTURE (REMOVAL)
55	EXISTING STRUCTURE SUPPORT (REMOVAL)
56	EXISTING STRUCTURAL DETAILS
57-59	CONSTRUCTION STAGING
60-61	DRILLED SHAFT DETAILS
62-68	ABUTMENT DETAILS
69-70	PRESTRESSED CONCRETE I-BEAM DETAILS
71-77	SUPERSTRUCTURE DETAILS
78	SLAB AND SCREED DETAILS
79-80	STEEL REINFORCEMENT DETAILS
80a	MONUMENT BOXES (SPECIAL DETAIL)
80b-80c	PLACEMENT OF TEMPORARY CONCRETE BARRIER (S.D.)

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION
 IN CO-OPERATION WITH
MICHIGAN DEPARTMENT OF TRANSPORTATION
AND FEDERAL HIGHWAY ADMINISTRATION
 PLANS OF PROPOSED BRIDGE REPLACEMENT # S01 OF 82-22-02

CONTROL SECTION BRT 82022
 JOB NUMBER 49717A
 FED PROJECT NUMBER BRT 0482 (134)
 FED ITEM NUMBER RR4245

JEFFERSON AVENUE BRIDGE OVER DEQUINDRE CUT
 WAYNE COUNTY
 CITY OF DETROIT



TITLE SHEET LEGEND

PROPOSED BRIDGE PROJECT	
EXISTING ROADS	
CITY STREET	
COUNTY	
STATE ROUTES	
FEDERAL DIVIDED ROUTES	
FEDERAL DIVIDED INTERSTATE ROUTES	
HOT MIX ASPHALT	
GRAVEL	
SECTION LINE	
CITY, VILLAGE OR TOWNSHIP LIMITS	
RAILROADS	

GENERAL NOTES

THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS25 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 2003 EDITION.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

CONCRETE: GRADE D	$f'c = 4,000$ psi
STEEL REINFORCEMENT	$f_y = 60,000$ psi
STEEL REINFORCEMENT: STIRRUPS FOR PRESTRESSED BEAMS	$f_y = 40,000$ psi
PRESTRESSED CONCRETE PRESTRESSING STRANDS	$f'c = 7,000$ psi $f's = 270,000$ psi

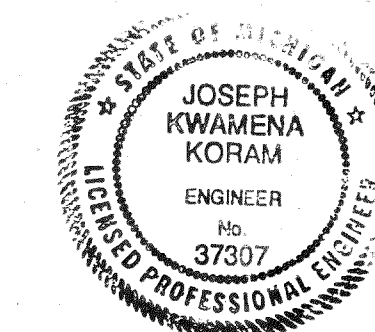
PROPOSED PLAN DIMENSIONS ARE IN FEET/INCHES UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES AND CURVE DATA ARE IN FEET.

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

CONTRACT FOR: REMOVAL AND REPLACEMENT OF EXISTING STRUCTURE, APPROACH RECONSTRUCTION, MSE WALLS, AND SLOPE RESTORATION

THESE PLANS WERE PREPARED FOR THE
CITY OF DETROIT, CITY ENGINEERING DIVISION
BY

PB PARSONS BRINCKERHOFF, INC.
535 GRISWOLD STREET, SUITE 1525
DETROIT, MICHIGAN 48226
313-963-5760



JMK
02/10/05

CITY OF DETROIT
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

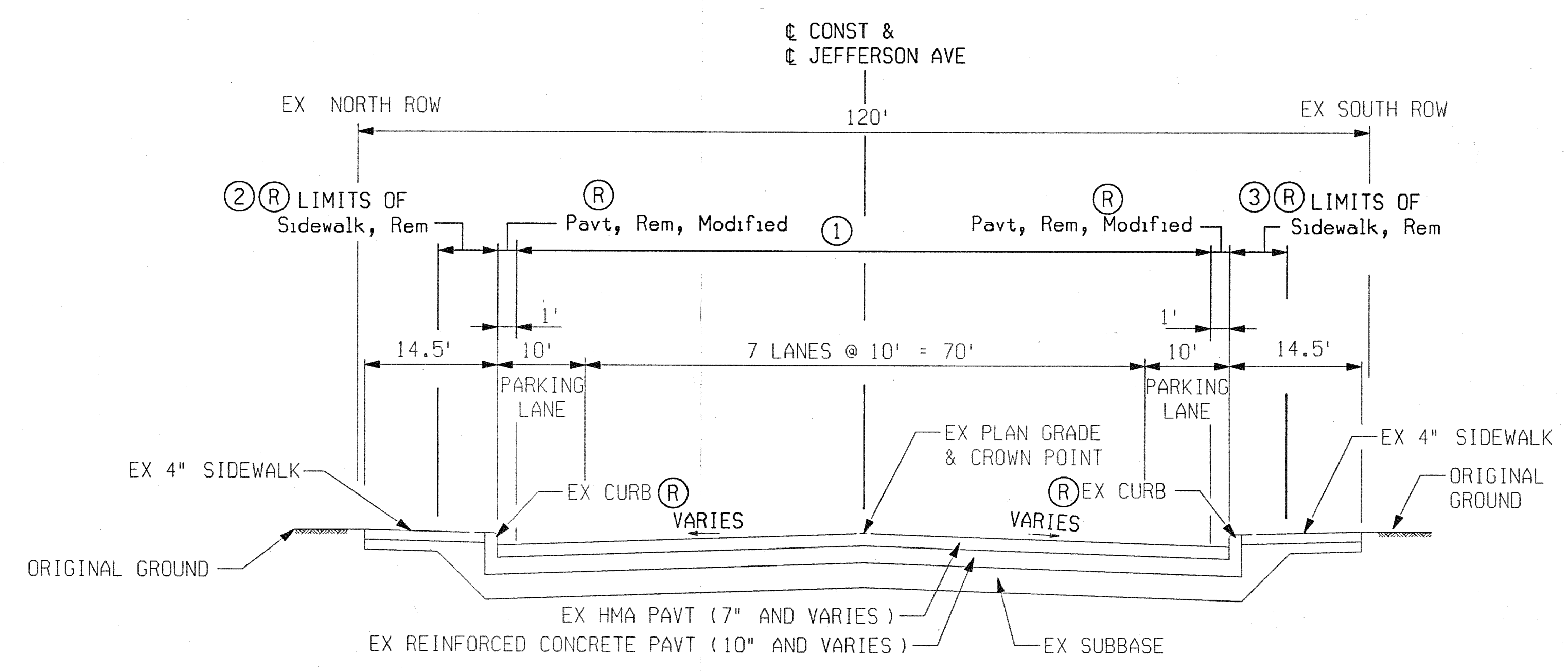
APPROVALS

RECOMMENDED FOR APPROVAL	<i>Rodolfo Flores</i>	2/11/05
	STRUCTURAL ENGINEER	DATE
RECOMMENDED FOR APPROVAL	<i>William Tally</i>	2/11/05
	HEAD ENGINEER	DATE
APPROVED BY	_____	_____
	CITY ENGINEER	DATE

CONTROL SECTION	JOB NUMBER	FEDERAL NUMBERS		SHEET NO.
		PROJECT	ITEM	
BRT 82022	49717A	BRT 0482 (134)	RR4245	1

DATE: 2/10/2005
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NO.	DESCRIPTION	DATE	BY



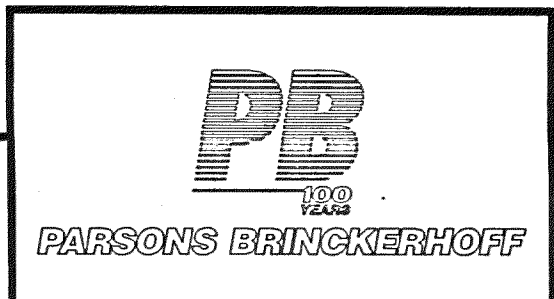
- ② 7' $\text{\textcircled{C}}$ CONST & $\text{\textcircled{C}}$ JEFFERSON AVE
STA 8+50.00 TO STA 9+00.00
14.5' $\text{\textcircled{C}}$ CONST & $\text{\textcircled{C}}$ JEFFERSON AVE
STA 9+00.00 TO STA 9+97.41 & STA 10+94.21 TO STA 11+24.04
- ③ 7' $\text{\textcircled{C}}$ CONST & $\text{\textcircled{C}}$ JEFFERSON AVE
STA 8+50.00 TO STA 9+00.00 & STA 11+75.00 TO STA 12+10.00
14.5' $\text{\textcircled{C}}$ CONST & $\text{\textcircled{C}}$ JEFFERSON AVE
STA 9+00.00 TO STA 9+96.75 & STA 10+84.27 TO STA 11+75.00

EXISTING TYPICAL APPROACH SECTION

IN DIRECTION OF INCREASING STATIONING
TO APPLY:

- $\text{\textcircled{C}}$ CONST. & $\text{\textcircled{C}}$ JEFFERSON AVE. STA 8+50 TO STA 9+33.00 ① Cold Milling HMA Surface, Modified (3" DEPTH AVG)
- $\text{\textcircled{C}}$ CONST. & $\text{\textcircled{C}}$ JEFFERSON AVE. STA 9+33.00 TO STA 9+94.22 (BRIDGE) ① Pavt, Rem, Modified
- $\text{\textcircled{C}}$ CONST. & $\text{\textcircled{C}}$ JEFFERSON AVE. STA 10+88.97 (BRIDGE) TO STA 11+36.00 ① Pavt, Rem, Modified
- $\text{\textcircled{C}}$ CONST. & $\text{\textcircled{C}}$ JEFFERSON AVE. STA 11+36.00 TO STA 12+48.09 ① Cold Milling HMA Surface, Modified (3" DEPTH AVG)

NOTE: GAP EXISTING BRIDGE $\text{\textcircled{C}}$ CONST & $\text{\textcircled{C}}$ JEFFERSON AVE
STA 9+94.22 TO STA 10+88.97

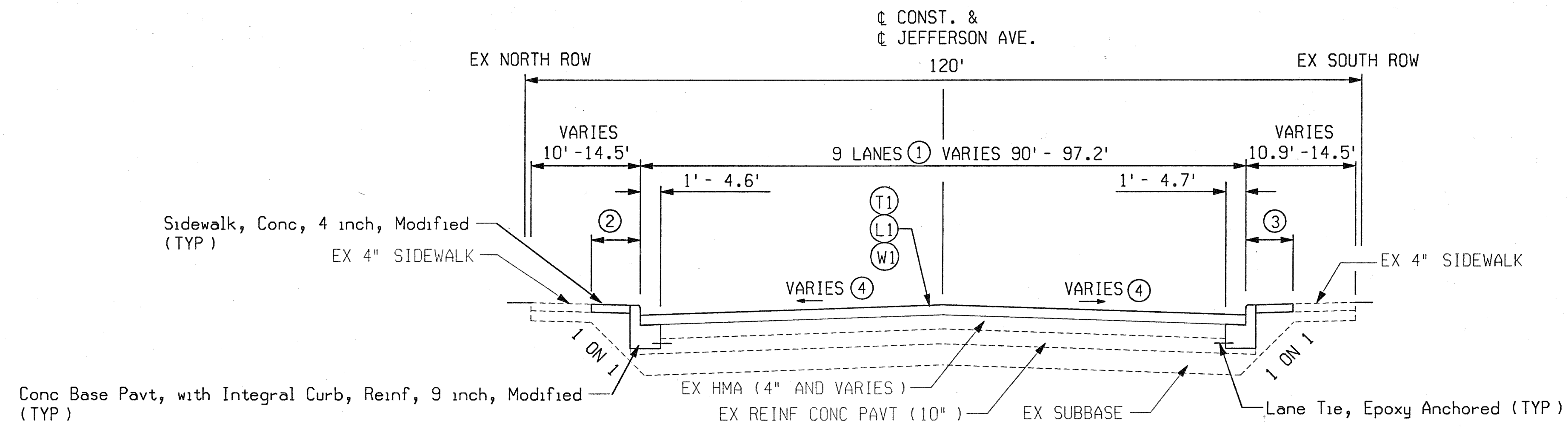


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	2 OF 80

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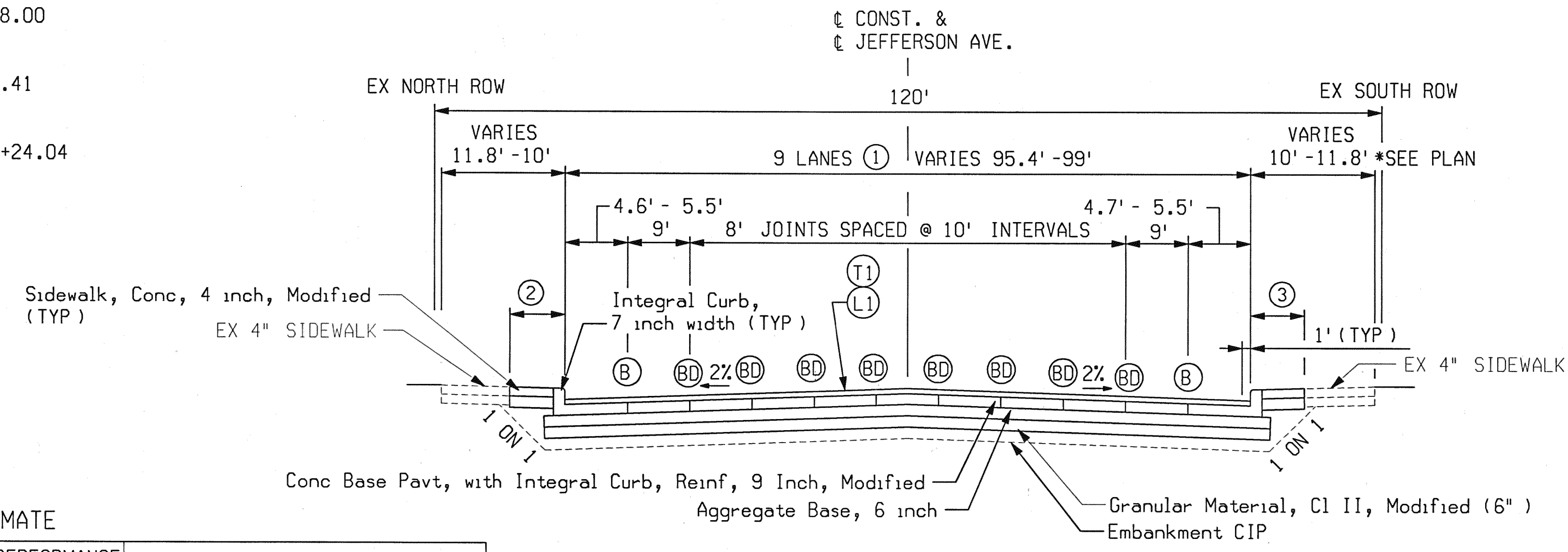


PROPOSED TYPICAL APPROACH SECTION

IN DIRECTION OF INCREASING STATIONING TO APPLY:

- (2) TO APPLY:
- WIDTH 7.0'
 - CONST. & JEFFERSON AVE STA 8+50.00 TO STA 8+57.00
 - WIDTH VARIES 7' - 5.6'
 - CONST. & JEFFERSON AVE STA 8+57.00 TO STA 9+00.00
 - WIDTH VARIES 13.1' - 10.0'
 - CONST. & JEFFERSON AVE STA 9+00.00 TO STA 9+78.00
 - WIDTH 10.0'
 - CONST & JEFFERSON AVE STA 9+78.00 TO STA 9+97.41
 - WIDTH 10.0'
 - CONST. & JEFFERSON AVE STA 10+94.21 TO STA 11+24.04

- CONST. & JEFFERSON AVE. STA 8+50.00 TO STA 9+33.00 (1) LANE WIDTH VARIES FROM 10.0' TO 10.6' (4) VARIES FROM *PARABOLIC CROWN TO 2%
- CONST. & JEFFERSON AVE. STA 11+36.00 TO STA 12+48.09 (1) LANE WIDTH VARIES FROM 10.8' TO 10.0' (4) VARIES FROM 2% TO *PARABOLIC CROWN
- * SEE SHEET 4 ROAD DETAIL SHEET FOR TYPICAL PARABOLIC CROWN SECTION AND SHEET 5 FOR TRANSITION GRADES



PROPOSED TYPICAL APPROACH SECTION

IN DIRECTION OF INCREASING STATIONING TO APPLY:

- (3) TO APPLY:
- WIDTH VARIES 7' - 5.9'
 - CONST & JEFFERSON AVE STA 8+50.00 TO STA 9+00.00
 - WIDTH VARIES 13.4' to 10.0'
 - CONST & JEFFERSON AVE STA 9+00.00 TO STA 9+69.52
 - WIDTH 10'
 - CONST & JEFFERSON AVE STA 9+69.52 TO STA 9+96.75
 - WIDTH VARIES 10' TO 13.2'
 - CONST & JEFFERSON AVE STA 10+84.27 TO STA 11+75.00
 - WIDTH VARIES 5.7' TO 7.0'
 - CONST & JEFFERSON AVE STA 11+75 TO STA 12+06.00
 - WIDTH 7'
 - CONST & JEFFERSON AVE STA 12+06 TO STA 12+10

- CONST. & JEFFERSON AVE. STA 9+33.00 TO STA 9+94.22* (BRIDGE)
- (1) LANE WIDTH VARIES FROM 10.6' TO 11.0' - SEE SHEET 9
- CONST. & JEFFERSON AVE. STA 10+88.97* (BRIDGE) TO STA 11+36.00
- (1) LANE WIDTH VARIES FROM 11.0' TO 10.8' - SEE SHEET 9

NOTE GAP PROPOSED BRIDGE CONST & JEFFERSON AVE STA 9+94.22 TO STA 10+88.97

*REINFORCED CONCRETE FROM STA 9+91.22 TO STA 9+94.22 AND FROM STA 10+88.97 TO STA 10+91.97

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE lb/syd	PERFORMANCE GRADE	REMARKS
T1	HMA, 4C	165	64-22	TOP COURSE
L1	HMA, 3C	165	64-22	LEVEL COURSE
W1	HMA, 3C	VARIES	64-22	WEDGING COURSE
FOR INFORMATION ONLY: HMA BOND COAT		0-0.10 GAL PER SYD		

NOTE: THE MIX DESIGN AND/OR JMF TARGET VALUE FOR AIR Voids IS TO BE ADJUSTED TO 2.5% FOR SHOULDER CORRUGATIONS REFER TO STANDARD PLAN R-112 SERIES

JOINT LEGEND FOR PAVEMENT JOINTS:

- (B) - LONGITUDINAL BULKHEAD JOINT, ACCORDING TO STANDARD PLAN R-41 SERIES.
- (BD) - OPTIONAL (B) OR (D) JOINT
- (D) - LOGITUDINAL LANE TIE JOINT WITH TIE BARS, ACCORDING TO STANDARD PLAN R-41 SERIES
- E2 - 1" TRANSVERSE EXPANSION JOINT WITH LOAD TRANSFER DEVICES, SEALED WITH HOT-POURED RUBBER-ASPHALT SEALANT, ACCORDING TO STANDARD PLAN R-39 SERIES, SYMBOL (E2).
- E3 - 1" TRANSVERSE EXPANSION JOINT IN CONCRETE PAVEMENT WITHOUT LOAD TRANSFER DEVICES, SEALED WITH HOT-POURED RUBBER-ASPHALT, ACCORDING TO STANDARD PLAN R-39 SERIES, SYMBOL (E3).

JOINT SPACING TO FOLLOW PROPOSED LANE LINES

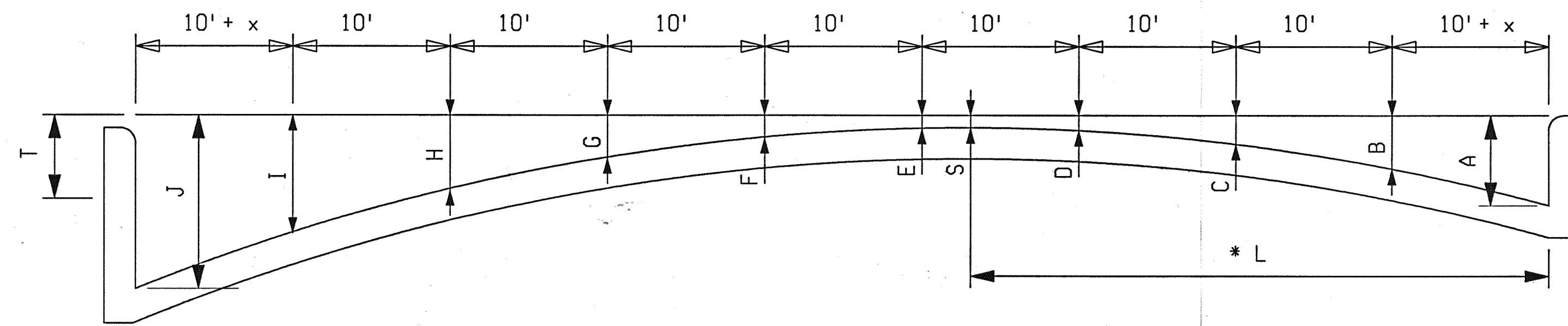


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	3 OF 80

DATE: 2/10/2005 3:48:29 PM
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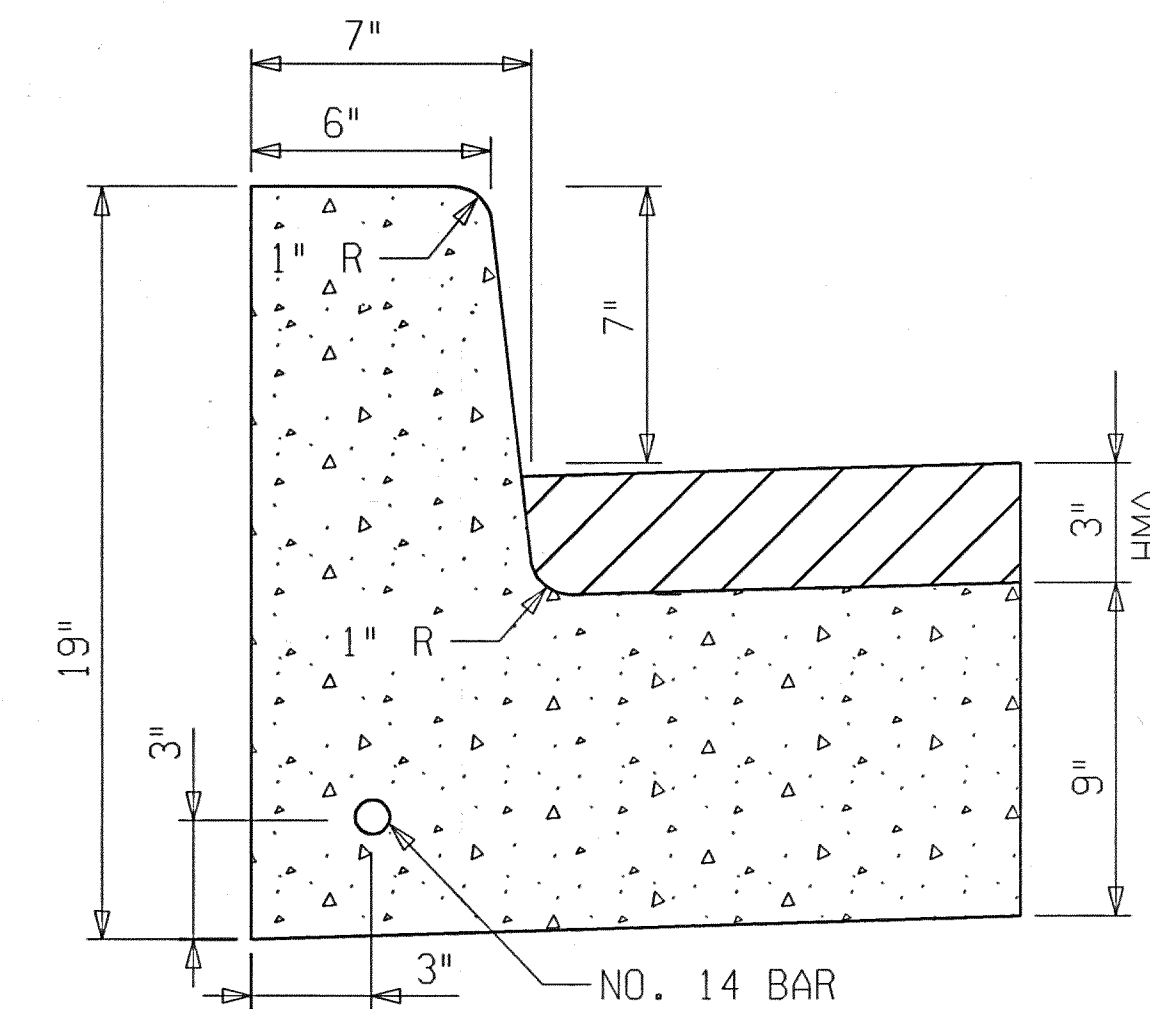
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NO.	DESCRIPTION	DATE	BY



$$x = \frac{\text{PAVEMENT WIDTH} - 90}{2}$$

Pavement Width	Curb Height	T	A	B	C	D	E	F	G	H	I	J	L	S
99 to 90 Feet	7 Inches	0.000	0.583	0.287	0.065	-0.083	-0.157	-0.157	-0.083	0.065	0.287	0.583	45.000	-0.167
		0.054	0.583	0.293	0.077	-0.065	-0.133	-0.127	-0.047	0.107	0.335	0.637	44.190	-0.140
		0.108	0.583	0.299	0.089	-0.047	-0.109	-0.097	-0.011	0.149	0.383	0.691	43.380	-0.114
		0.162	0.583	0.305	0.101	-0.029	-0.085	-0.067	0.025	0.191	0.431	0.745	42.570	-0.088
		0.216	0.583	0.311	0.113	-0.011	-0.061	-0.037	0.061	0.233	0.479	0.799	41.760	-0.063
		0.270	0.583	0.317	0.125	0.007	-0.037	-0.007	0.097	0.275	0.527	0.853	40.950	-0.038
		0.324	0.583	0.323	0.137	0.025	-0.013	0.023	0.133	0.317	0.575	0.907	40.140	-0.013
		0.378	0.583	0.329	0.149	0.043	0.011	0.053	0.169	0.359	0.623	0.961	39.330	0.010
		0.432	0.583	0.335	0.161	0.061	0.035	0.083	0.205	0.401	0.671	1.015	38.520	0.034
		0.486	0.583	0.341	0.173	0.079	0.059	0.113	0.241	0.443	0.719	1.069	37.710	0.057
0.540	0.583	0.347	0.185	0.097	0.083	0.143	0.277	0.485	0.767	1.123	36.900	0.079		

* L = DISTANCE FROM FACE OF CURB (HIGH SIDE) TO CROWN
(TYPICAL DETAIL PAVEMENT GRADES)



INTEGRAL CURB DETAIL
(NOT TO SCALE)



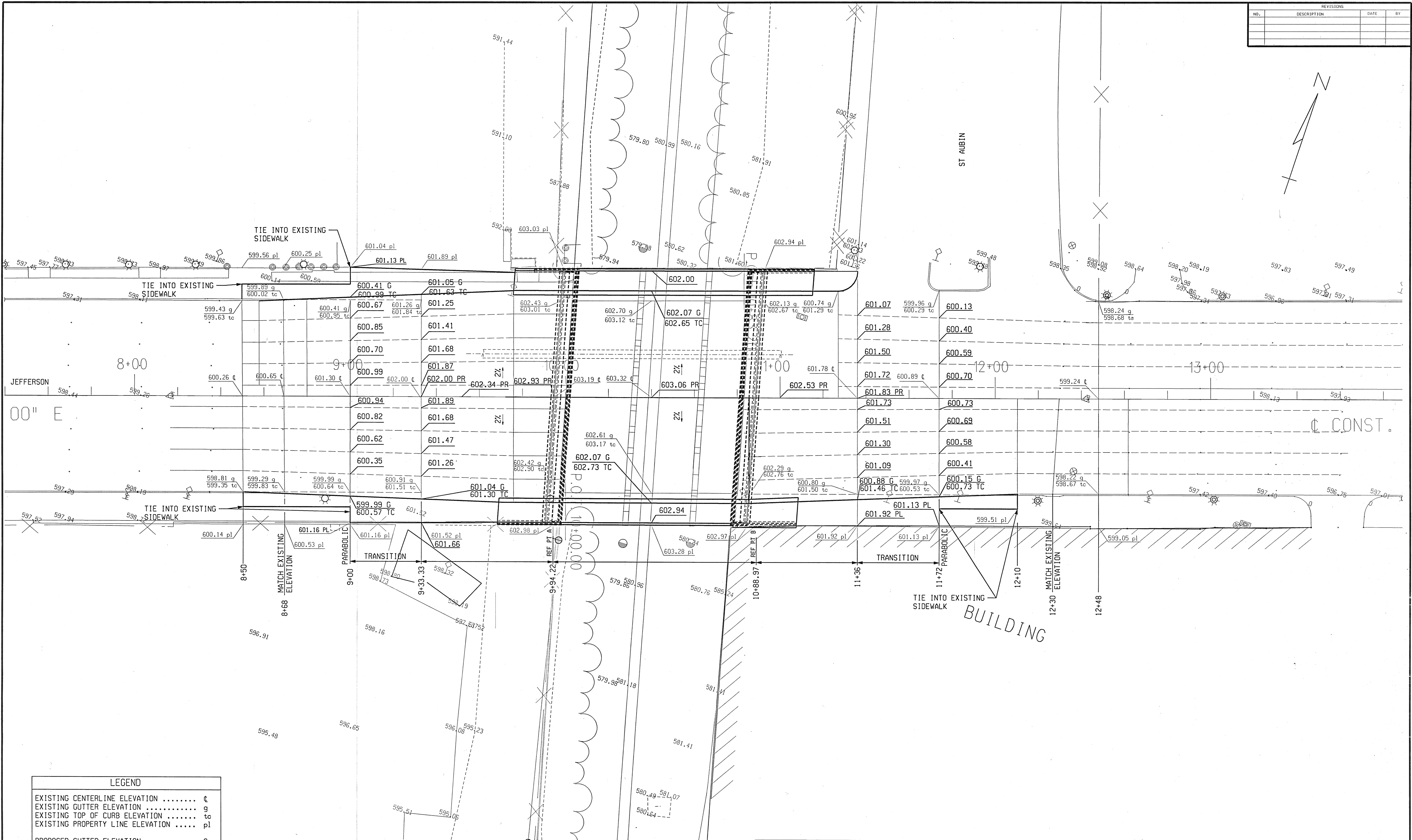
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT
ROAD DETAIL SHEET

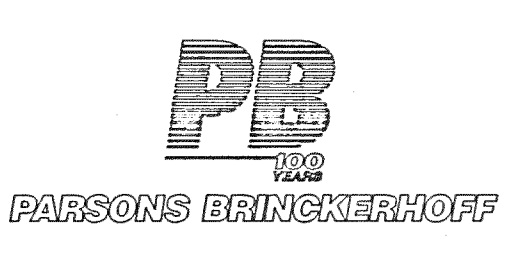
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LEGEND	
EXISTING CENTERLINE ELEVATION	¢
EXISTING GUTTER ELEVATION	g
EXISTING TOP OF CURB ELEVATION	tc
EXISTING PROPERTY LINE ELEVATION	pl
PROPOSED GUTTER ELEVATION	G
PROPOSED TOP OF CURB ELEVATION	TC
PROPOSED CENTERLINE	PR



CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT DETAIL GRADES			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	1" = 20'	49717A	5 OF 80

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ENGINEERING REPORT NO	ENVIRON IMPACT STMT	N/A	
METHOD OF SURVEY	FIELD	YEAR 2003	
SURVEY ORDER	SURVEY CHIEF	YEAR 2003	
AERIAL SURVEY NO		YEAR N/A	
HORIZ DATUM	CITY OF DETROIT	VERT DATUM	CITY OF DETROIT
ROAD DESIGN INITIATED	2003	COMPLETED	2005
PRELIMINARY PLANS BY	PB	FINAL PLANS BY	PB
FIELD INSPECTION (G1) BY	EARL HOWARD	DATE	08/04/04
PLANS-IN-HAND BY (FHWA)	AND (MDOT) TENNES	DATE	2005

GENERAL PLAN NOTES

UNDERGROUND UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE MISS DIG ALERT SYSTEM.

MDOT'S FREEWAY LIGHTING SYSTEM, THE SCANDI SYSTEM AND OTHER MISCELLANEOUS ELECTRICAL SYSTEMS ARE NOT A PART OF MISS DIG.

ADJUSTING MONUMENT BOXES

IT IS THE INTENT THAT ALL GOVERNMENT CORNERS ON THIS PROJECT BE PRESERVED AND THAT, WHERE NECESSARY, MONUMENT BOXES BE PLACED OR ADJUSTED. WHETHER SHOWN OR NOT.

PAVEMENT MARKINGS

ALL MARKINGS, SHAPES AND DIMENSIONS, SHALL CONFORM WITH MDOT PAVEMENT MARKING TYPICALS VIII-900E, VIII-905E, VIII-935E AND VIII-945E, UNLESS OTHERWISE SPECIFIED BY SPECIAL PROVISIONS.

PAVEMENT REMOVAL QUANTITIES

PAVEMENT REMOVAL AS SHOWN ON THE PLANS SHALL BE AT THE DISCRETION OF THE ENGINEER. IF IN HIS/HER JUDGEMENT, AREAS OF PAVEMENT MAY BE LEFT IN PLACE, OR ADDITIONAL AREAS ADDED TO PROVIDE THE PROPER CROSS-SECTION AND BASE. ADJUSTMENTS CAN BE MADE IN QUANTITIES.

SOIL EROSION MEASURES

PLACE TEMPORARY SEED AND MULCH AS SOON AS POSSIBLE. CRITICAL GRADES SHOULD BE PROTECTED WITH EITHER SOD OR SEED/MULCH AS DIRECTED BY THE ENGINEER.

EARTHWORK

ALL EARTHWORK GRADING AND COMPACTING REQUIRED TO RECONSTRUCT APPROACH PAVEMENTS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN PAYMENT FOR APPROACH ITEMS.

CONCRETE

ALL APPROACH CONCRETE SHALL BE GRADE S2 UNLESS OTHERWISE DIRECTED.

STAGING FOR CONSTRUCTION:

THE CONTRACTOR SHALL OBTAIN ACCESS TO DEQUINDRE CUT FOR STORAGE OF MATERIALS AND STAGING OF CONSTRUCTION WORK.

EXTERNAL LONGITUDINAL PAVEMENT JOINT

LONGITUDINAL JOINTS ADJACENT TO BRIDGE APPROACH CURB AND GUTTER OR CONCRETE SHOULDERS WILL NOT BE PAID SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN PAYMENT FOR MISCELLANEOUS REINFORCED CONCRETE PAVEMENT.

SIGNS

ANY CITY SIGNS REQUIRING RELOCATION DUE TO CONSTRUCTION OPERATIONS SHALL BE SALVAGED AND RESET BY THE CONTRACTOR AT LOCATIONS DESIGNATED BY THE ENGINEER. THIS WORK WILL BE CONSIDERED INCLUDED IN PAYMENT FOR OTHER CONTRACT ITEMS.

SOIL BORINGS AND/OR PAVEMENT CORES

THE SOIL BORING LOGS AND/OR PAVEMENT CORES REPRESENT POINT INFORMATION. NO INFERENCE SHOULD BE MADE THAT SUBSURFACE OR PAVEMENT CONDITIONS ARE THE SAME AT OTHER LOCATIONS.

EXISTING WATERMAINS

THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING WATERMAINS DURING THE CONSTRUCTION OF THIS PROJECT. FOR PLACEMENT OF 48" MAIN, CONTRACTOR WILL REMOVE RELEVANT PORTIONS OF EXISTING FOOTING

UTILITY CLEARANCE

THERE SHALL BE A MINIMUM OF 1' OF CLEARANCE BETWEEN EXISTING UTILITIES AND THE BOTTOM WALL FOOTINGS AT UTILITY CROSSINGS.

OLD PLANS

THE EXISTING OLD PLANS WERE REFERRED TO IN THE DESIGN OF THIS PROJECT: CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS JOB No PW 5752

IN ADDITION, OTHER OLD PLANS THAT PREDATE THIS PROJECT MAY BE AVAILABLE. THESE PLANS MAY BE REVIEWED IN THE CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS OFFICE DURING NORMAL WORKING HOURS.

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED ON OUR SURVEYS. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO IT'S ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

NAME OF OWNER	KIND OF UTILITY
MICHIGAN CONSOLIDATED GAS CO. 3200 HOBSON DETROIT, MICHIGAN 48201 ATTN: PAUL HARTMAN PHONE No.: (313) 577-7236	GAS
DETROIT EDISON COMPANY 2000 SECOND AVE., RM 518 SB DETROIT, MICHIGAN 48226 ATTN: ROBERT PETROFF PHONE No.: (313) 235-6515	ELECTRIC
SBC AMERITECH 31100 PLYMOUTH ROAD, RM 301 LIVONIA, MICHIGAN 48150 ATTN: DENNIS LEWIS PHONE No.: (734) 523-6891	TELEPHONE
CITY OF DETROIT (PUBLIC LIGHTING DEPT) 9449 GRINNEL AVE DETROIT, MICHIGAN 48213 ATTN: STAN TOPOLEWSKI PHONE No.: (313) 267-7228	LIGHTING
COMCAST CABLEVISION OF DETROIT 12775 LYNDON DETROIT, MICHIGAN 48227 ATTN: RUSTY KEMPER PHONE No.: (313) 934-2600 X540	CABLE
CITY OF DETROIT (DWSD) DETROIT DESIGN SECTION 1420 WASHINGTON BLVD, 6TH FLOOR DETROIT, MICHIGAN 48226 ATTN: DALJIT SINGH PHONE No.: (313) 964-9889	WATER
METROMEDIA FIBER NETWORK SERVICES 810 JORIE BOULEVARD, STE 110 OAK BROOK, ILLINOIS 60523 ATTN: JOHN FISK PHONE No.: (630) 371-0700	FIBER OPTIC

NOTES APPLYING TO STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

MONUMENT BOXES	R-11-D (S.D.)
TEMPORARY CONCRETE BARRIER	R-52-D
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-C
TEMPORARY TRAFFIC CONTROL DEVICES	R-125-C
PLACEMENT OF TEMPORARY CONCRETE BARRIER	R-126-E (S.D.)
CONVENTIONAL PAVEMENT REINFORCEMENT	R-45-E
LONGITUDINAL PAVEMENT JOINTS	R-41-D
TRANSVERSE PAVEMENT JOINTS	R-39-F.

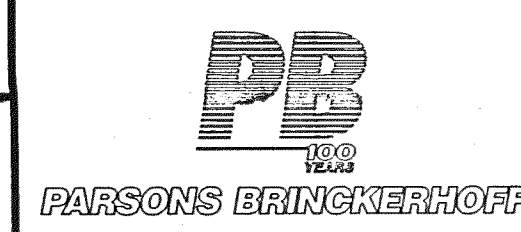
BRIDGE STANDARD PLANS

RAILING, AESTHETIC PARAPET TUBE	B-25-C
MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS	B-103-D

MISCELLANEOUS ESTIMATES

THE FOLLOWING ITEMS OF WORK SHALL BE DONE AS THEY APPLY THROUGHOUT THE PROJECT. THESE ITEMS ARE NOT DETAILED OR INCLUDED ON THE PLAN AND PROFILE SHEETS:

MISCELLANEOUS ITEMS		
1	LS	Contractor Staking
38	Hr	Staking Plan Errors and Extras, One Person
15	Hr	Staking Plan Errors and Extras, Two Person
22	Hr	Staking Plan Errors and Extras, Three Person
1	LS	Project Cleanup
1	Ea	Monument Box, Adj
1	Ea	Monument Preservation
70	Syd	Pavt Repr, Rem, Modified
5	Ton	Hand Patching
2	Ea	Water Shutoff, Adj, Modified
200	Ft	Sewer Cleanout, Modified
4	Ea	Dr Structure Cleaning, Modified
10	Ton	Conditioning Existing Pavement, Modified
10	Ton	Cement, Modified
100	Cyd	Non Haz Contaminated Material Handling and Disposal, LM
100	Syd	Slope Restoration
1	LS	Relocation and Site Cleanup
MAINTAINING TRAFFIC ITEMS		
17500	Ft	Pavt Mrkg, Type R, 4 inch, White, Temp
11300	Ft	Pavt Mrkg, Type R, 4 inch, Yellow, Temp
7	Ea	Barricade, Type III, High Intensity, Lighted, Furn
7	Ea	Barricade, Type III, High Intensity, Lighted, Oper
1510	Ft	Conc Barrier, Temp, Adjusted
1510	Ft	Conc Barrier, Temp, Furn
1510	Ft	Conc Barrier, Temp, Oper
3	Ea	Lighted Arrow, Type C, Furn
3	Ea	Lighted Arrow, Type C, Oper
1	LS	Minor Traf Devices
150	Ea	Plastic Drum, High Intensity, Lighted, Furn
150	Ea	Plastic Drum, High Intensity, Lighted, Oper
732	Sft	Sign, Type B, Temp, Prismatic, Furn
732	Sft	Sign, Type B, Temp, Prismatic, Oper
PERMANENT PAVEMENT MARKINGS		
90	Ft	Pavt Mrkg, Durable Reflectorized, 18 inch, Stop Bar
360	Ft	Pavt Mrkg, Durable Reflectorized, 6 inch, Crosswalk
1	Ea	Pavt Mrkg, Durable Reflectorized, Lt Turn Arrow Sym
1	Ea	Pavt Mrkg, Durable Reflectorized, Only
1230	Ft	Pavt Mrkg, Durable Reflectorized, Pavt Stripes, 4 inch, White
4950	Ft	Pavt Mrkg, Durable Reflectorized, Pavt Stripes, 4 inch, Yellow
10500	Ft	Pavt Mrkg, Longit, 6 inch or Less Width, Rem



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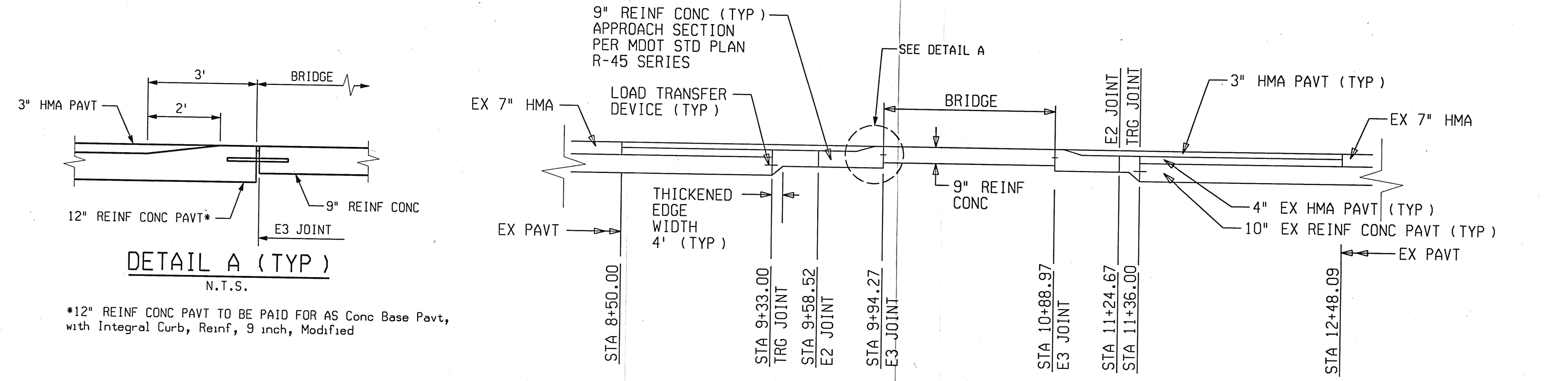
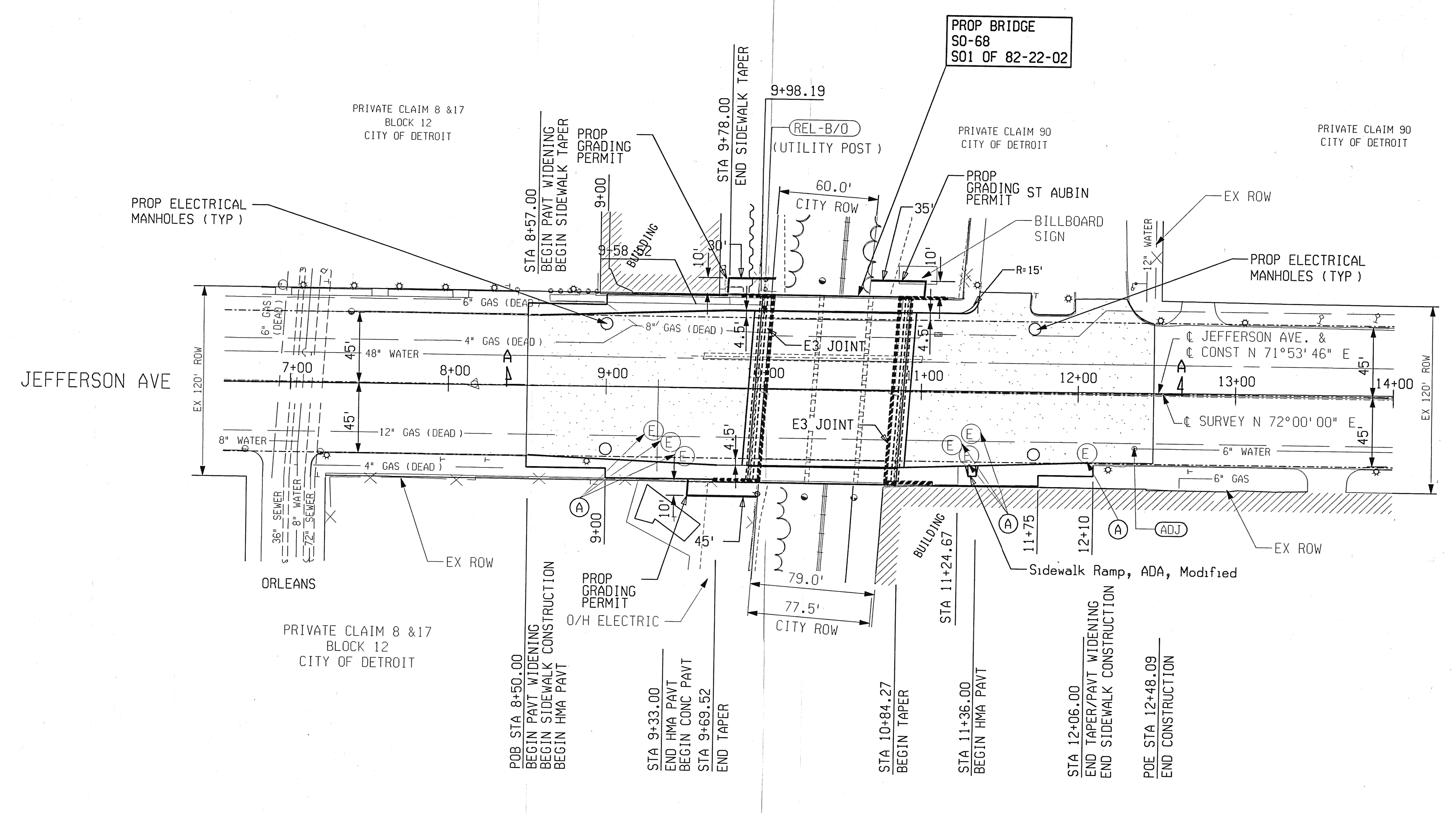
**JEFFERSON AVE OVER DEQUINDRE CUT
NOTESHEET**

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NONE	49717A	6 OF 80

DATE: 2/17/2005 CHECKED BY: FILE NAME: g:\p\Projects\35455D-Detroit Bridges\MOI\notesheet.dgn

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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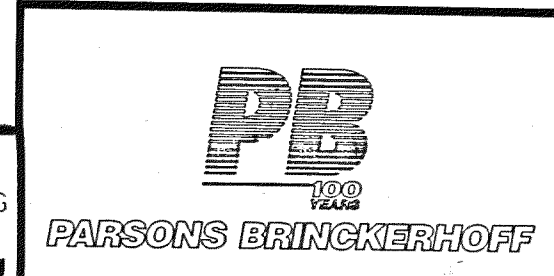
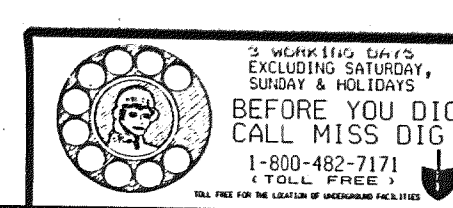


CONSTRUCTION QUANTITIES THIS SHEET

4620	Sft	Sidewalk, Conc, 4 inch, Modified
1220	Syd	Conc Base Pavt, with Integral Curb, Reinf, 9 inch, Modified
1230	Syd	Aggregate Base, 6 inch
300	Ton	HMA, 3C
280	Ton	HMA, 4C
25	Ton	HMA Approach, Modified
20	Sft	Sidewalk Ramp, ADA, Modified
220	Cyd	Granular Material, C1 II, Modified
185	Sft	Sidewalk, Conc, 6 inch, Modified

NOTE:
 LOCATION OF THE PROPOSED MANHOLES SHALL BE DIRECTED BY THE ENGINEER.
 SIDEWALK AT INTERSECTION SHOULD BE Sidewalk, Conc, 6 inch, Modified

SECTION A-A
 N.T.S.

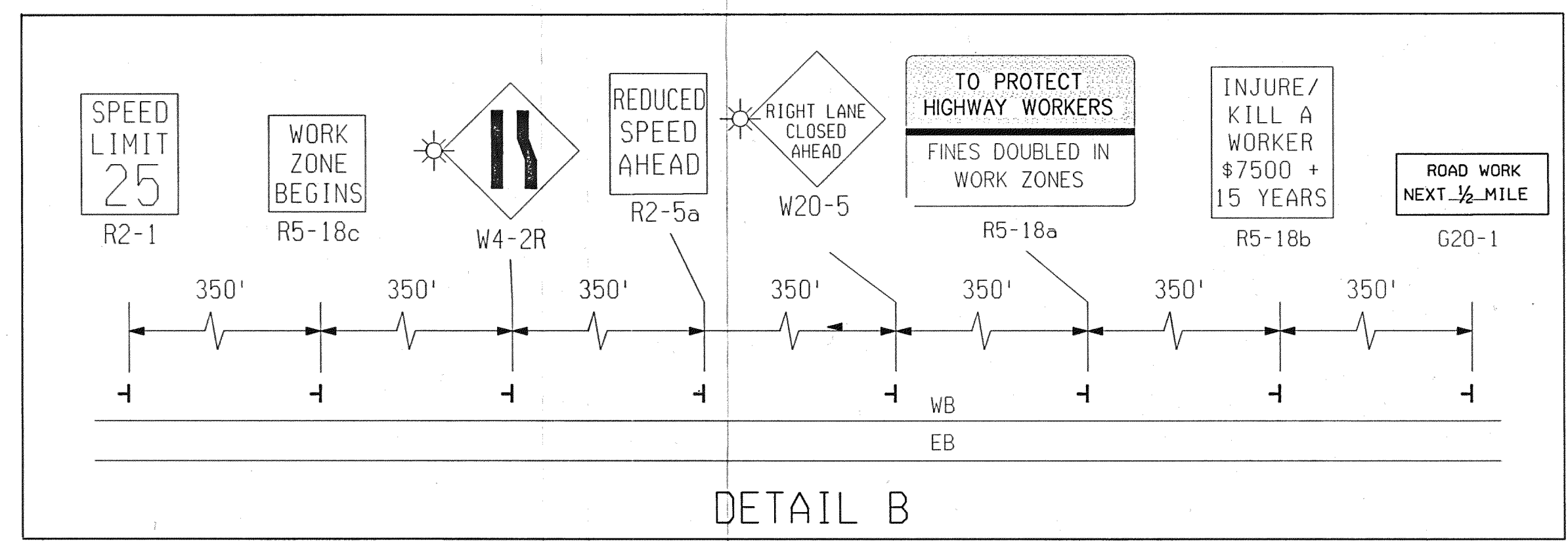
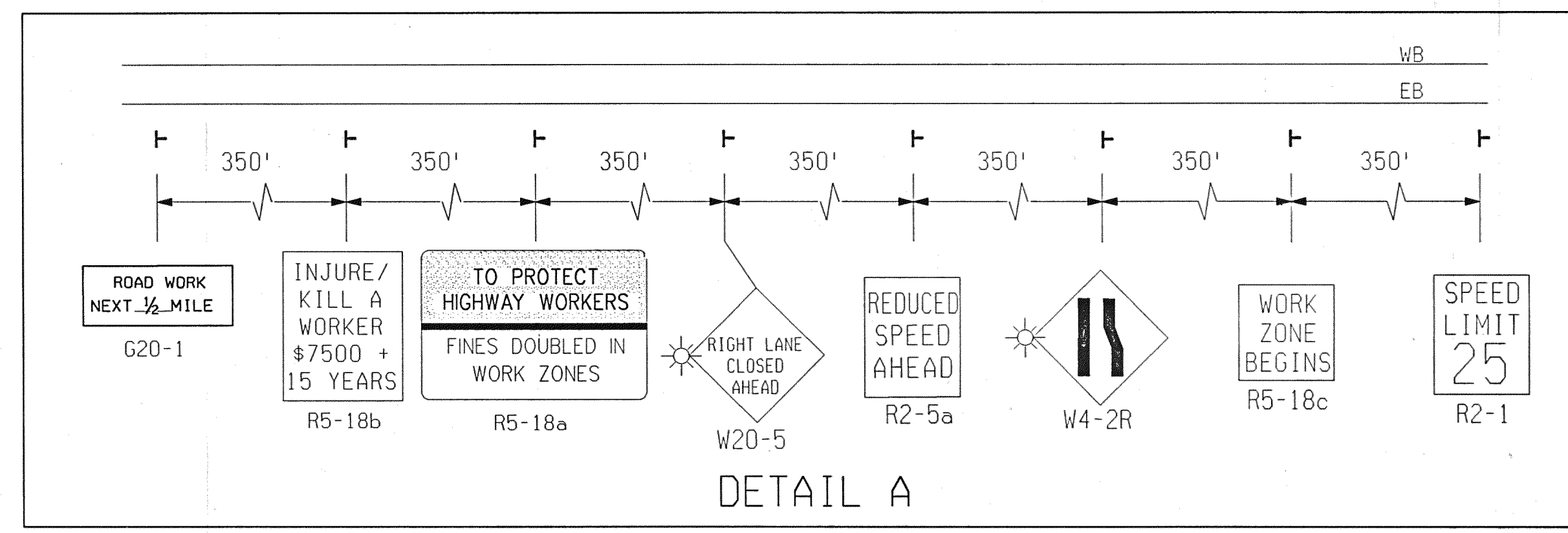
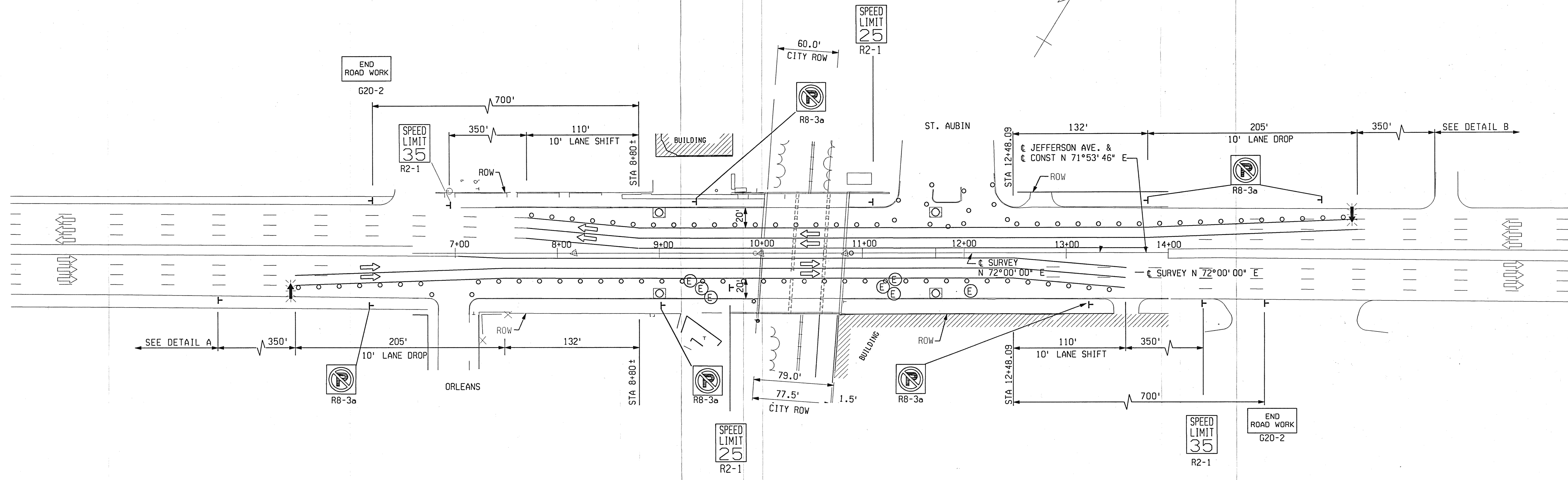


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**JEFFERSON AVE OVER DEQUINDRE CUT
 CONSTRUCTION SHEET**

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	1" = 40'	49717A	9 OF 80

REVISIONS			
NO.	DESCRIPTION	DATE	BY

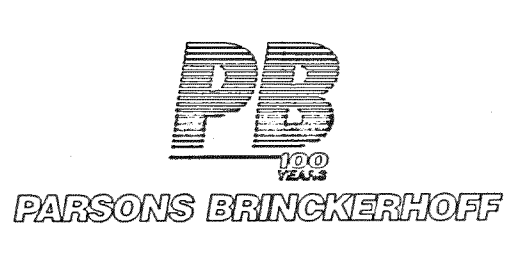


STAGE I
LOOKING UPSTATION

KEY

- ○ ○ CHANNELIZING DEVICES
- ← LIGHTED ARROW PANEL
- ☀ TYPE A WARNING FLASHER (REQUIRED)
- TRAFFIC FLOW
- ⊥ TYPE III BARRICADE
- TEMP CONC BARRICADE

STAGE I:
CONDUCT CLOSURE OF OUTER WEST AND EASTBOUND LANES USING TYPICAL M 018E. CONSTRUCT MANHOLES FOR PUBLIC LIGHTING DEPARTMENT IN OUTER WEST AND EASTBOUND LANES EAST AND WEST OF BRIDGE. SIDEWALKS IN BOTH WEST AND EASTBOUND DIRECTIONS WILL REMAIN OPEN.



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CITY ENGINEERING DIVISION

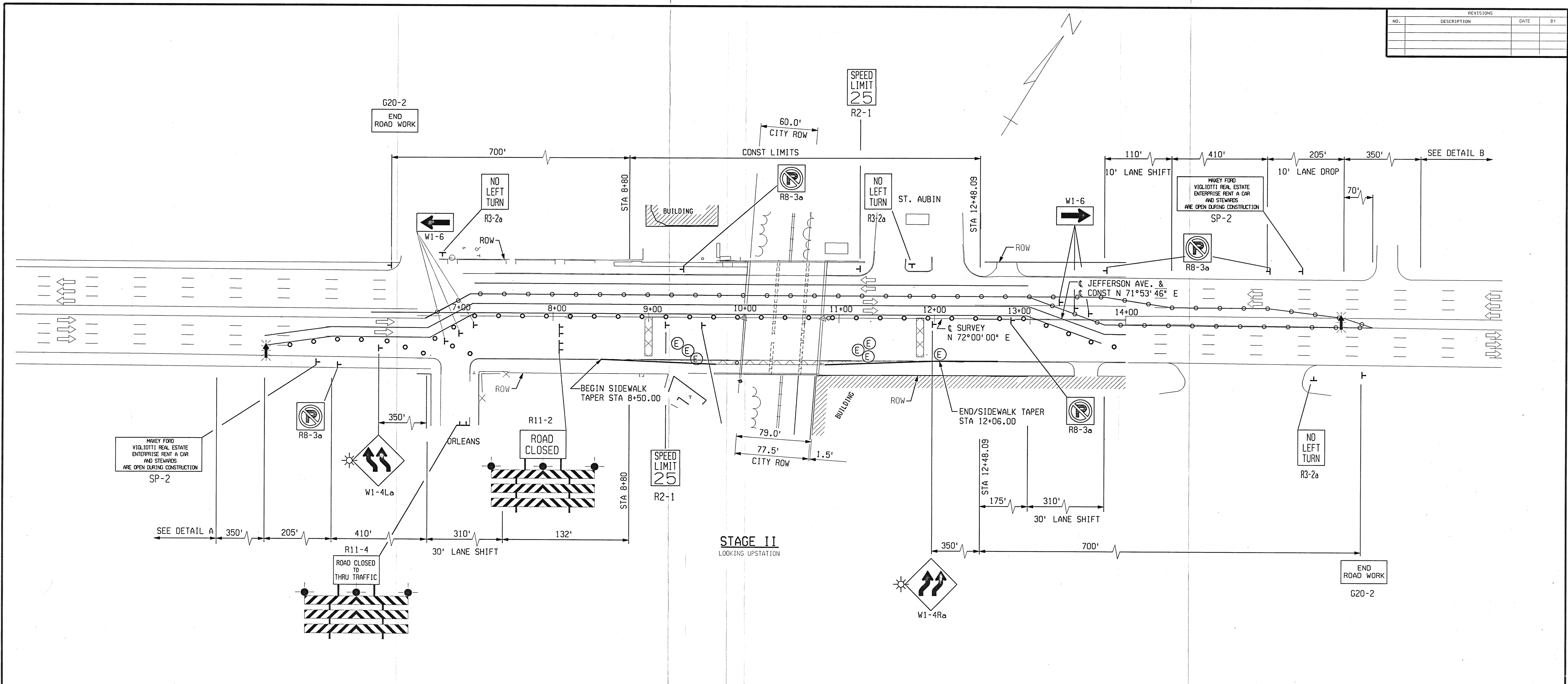
JEFFERSON AVE OVER DEQUINDRE CUT
MAINTAINING TRAFFIC

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	10 OF 80

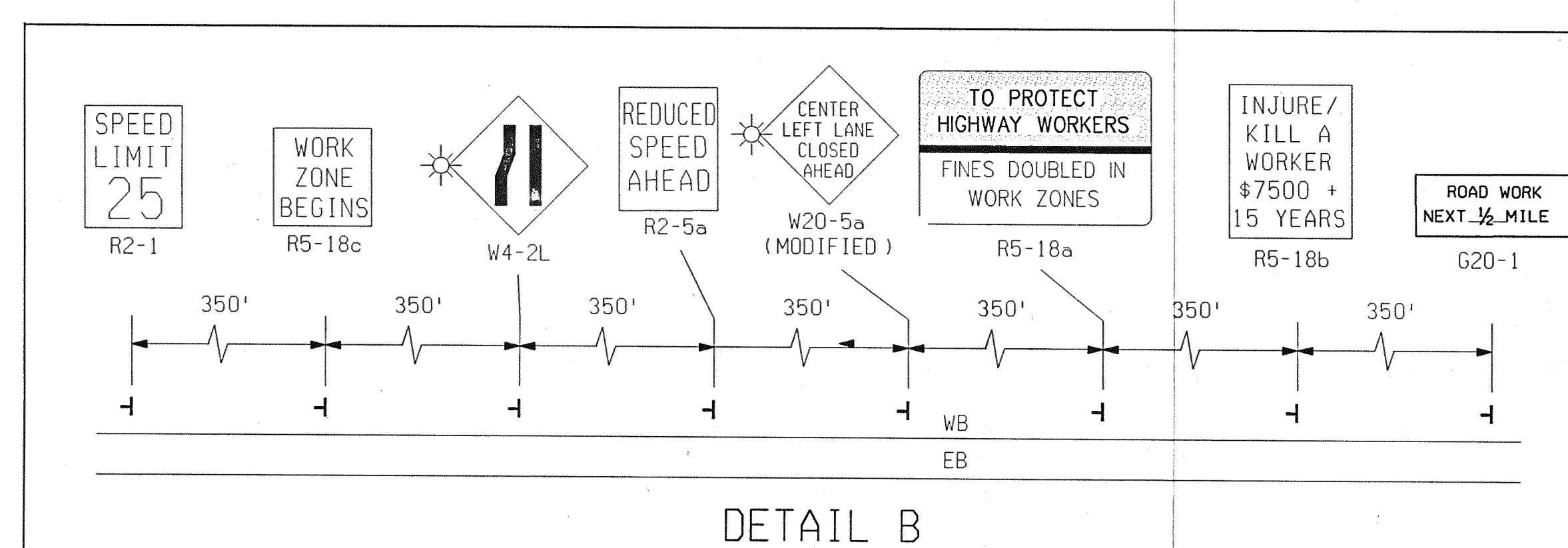
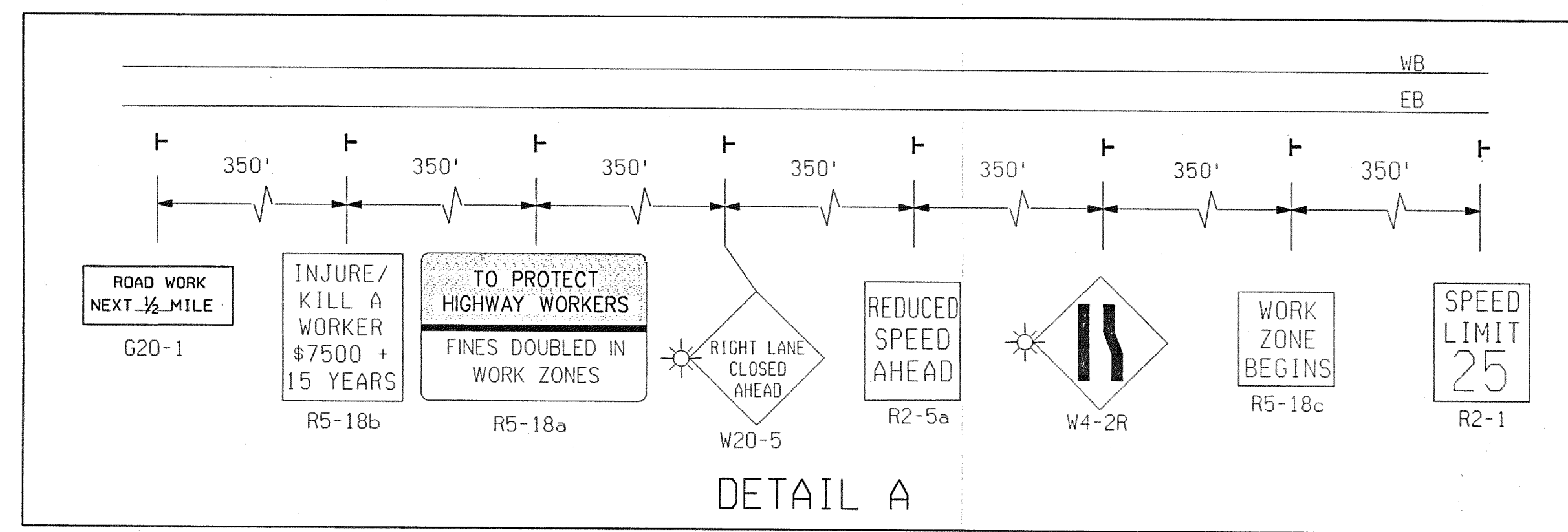
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

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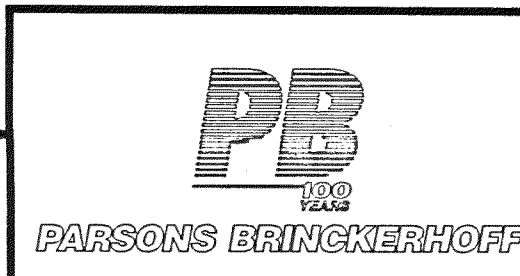


STAGE II
LOOKING UPSTATION



- KEY**
- ○ ○ CHANNELIZING DEVICES
 - ← LIGHTED ARROW PANEL
 - ☀ TYPE A WARNING FLASHER (REQUIRED)
 - TRAFFIC FLOW
 - ▬ TYPE III BARRICADE
 - ▬▬▬ TEMP CONC BARRICADE

STAGE II:
SHIFT WESTBOUND TRAFFIC INTO TWO WB OUTSIDE LANES. CONDUCT CLOSURE OF EASTBOUND LANES. SHIFT EASTBOUND TRAFFIC INTO WESTBOUND LANES PER TYPICAL M 050E. CONSTRUCT DUCT FOR PLD CONDUITS ON EASTBOUND SIDE OF BRIDGE. REMOVE PORTION OF SIDEWALK ON EASTBOUND REQUIRED FOR TRAFFIC SHIFT DURING STAGE III.

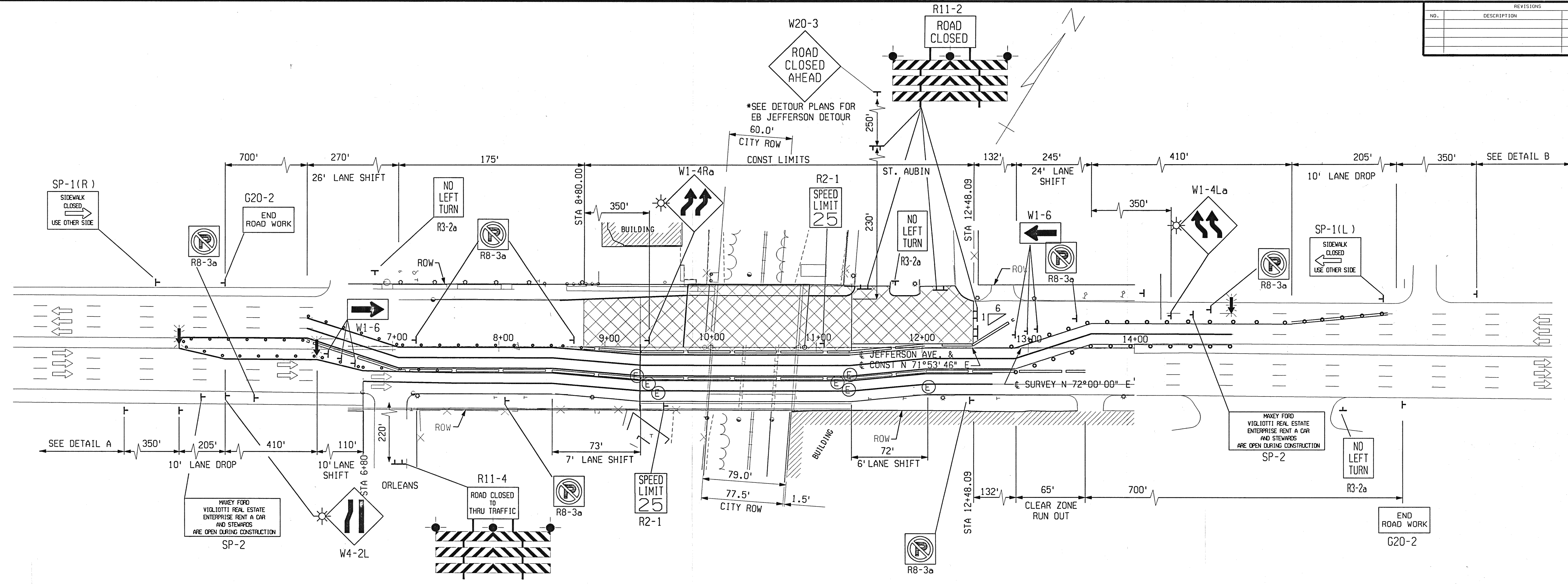


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CITY ENGINEERING DIVISION

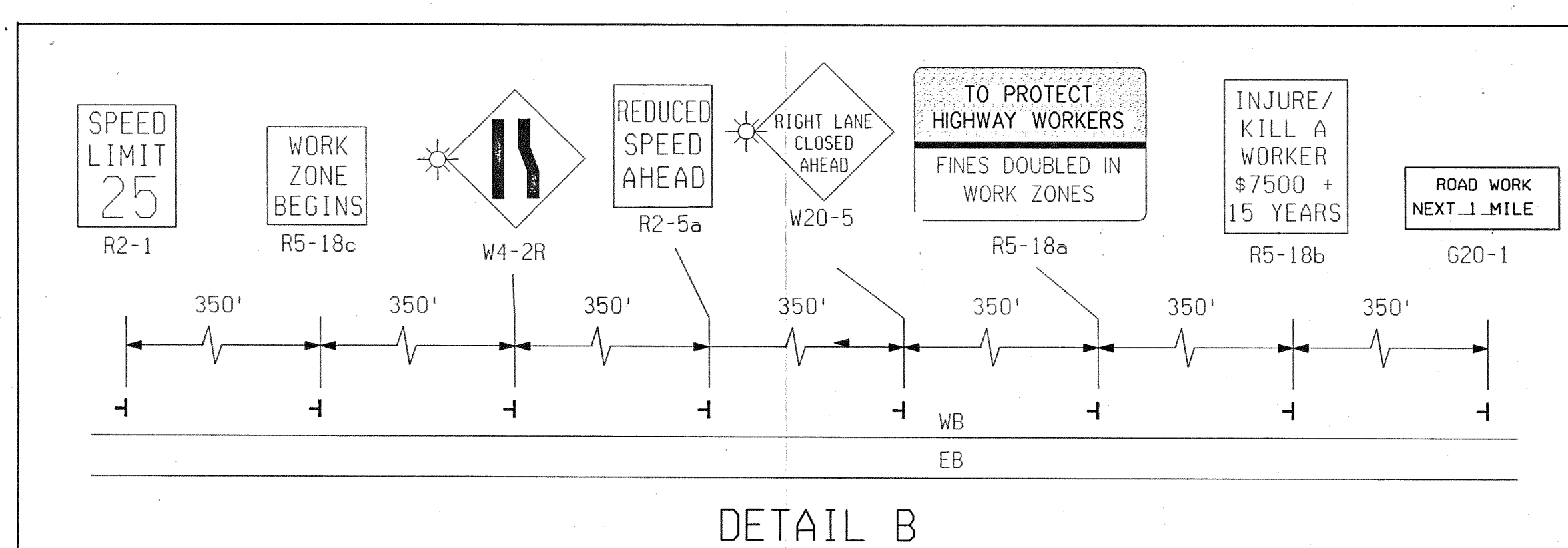
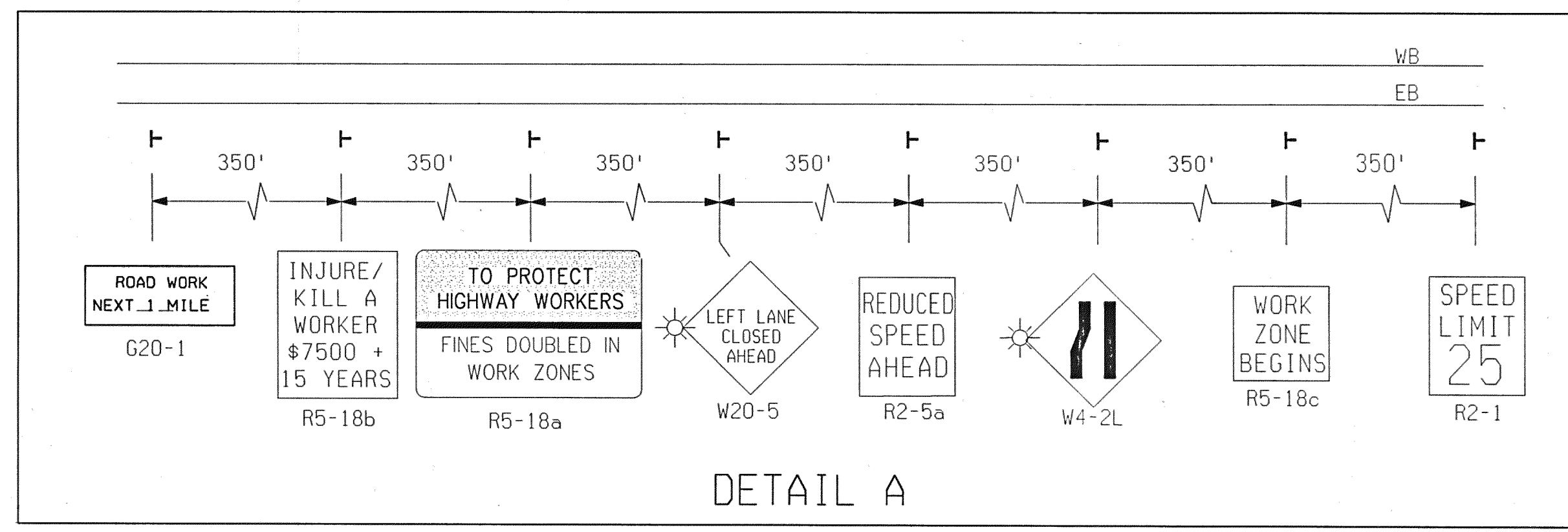
JEFFERSON AVE OVER DEQUINDRE CUT
MAINTAINING TRAFFIC

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	11 OF 80

REVISIONS			
NO.	DESCRIPTION	DATE	BY



STAGE III
LOOKING UPSTATION



KEY

- ○ ○ CHANNELIZING DEVICES
- ← LIGHTED ARROW PANEL
- ☀ TYPE A WARNING FLASHER (REQUIRED)
- TRAFFIC FLOW
- ⊥ TYPE III BARRICADE
- TEMP CONC BARRICADE

STAGE III:
SET UP TEMPORARY CONCRETE BARRIER ON EB JEFFERSON AVENUE. SHIFT EB TRAFFIC TO EB OUTSIDE LANES. SHIFT WB TRAFFIC INSIDE TO EB LANES. CLOSE WB LANES TO TRAFFIC AT BRIDGE. CLOSE ST. AUBIN AT LARNED ST. AVENUE (SEE DETOUR PLANS). CLOSE NB ORLEANS ST. TO THRU TRAFFIC AT JEFFERSON AVENUE. REMOVE NORTH HALF OF EXISTING BRIDGE. CONSTRUCT NORTH HALF OF BRIDGE. CONSTRUCT REMAINDER OF DUCTS FOR PLD CONDUITS TO MANHOLES ON WESTBOUND SIDE OF ROADWAY. ONLY FIVE FEET OF SIDEWALK SHALL BE CONSTRUCTED DURING THIS STAGE.

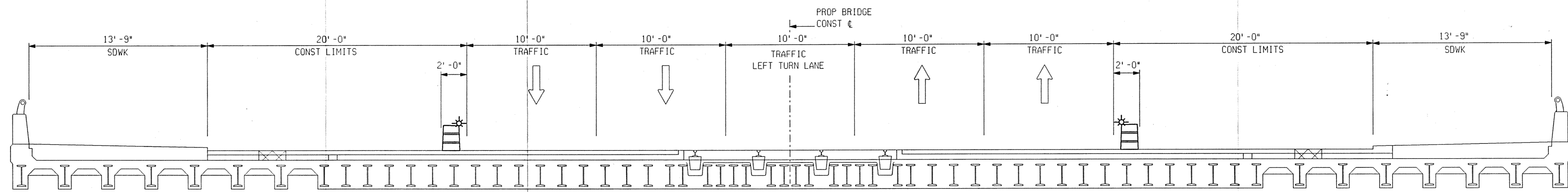


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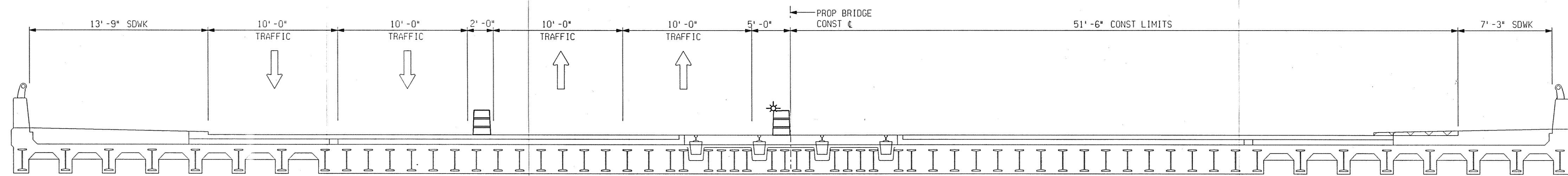
JEFFERSON AVE OVER DEQUINDRE CUT			
MAINTAINING TRAFFIC			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	12 OF 80

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REVISIONS			
NO.	DESCRIPTION	DATE	BY



STAGE I
LOOKING UPSTATION



STAGE II
LOOKING UPSTATION

STAGE I:
CONDUCT CLOSURE OF OUTER WEST AND EASTBOUND LANES USING TYPICAL M 018E. CONSTRUCT MANHOLES FOR PUBLIC LIGHTING DEPARTMENT IN OUTER WEST AND EASTBOUND LANES EAST AND WEST OF BRIDGE. SIDEWALKS IN BOTH WEST AND EASTBOUND DIRECTIONS WILL REMAIN OPEN.

STAGE II:
SHIFT WESTBOUND TRAFFIC INTO TWO WB OUTSIDE LANES. CONDUCT CLOSURE OF EASTBOUND LANES. SHIFT EASTBOUND TRAFFIC INTO WESTBOUND LANES PER TYPICAL M 050E. CONSTRUCT DUCT FOR PLD CONDUITS ON EASTBOUND SIDE OF BRIDGE. REMOVE PORTION OF SIDEWALK ON EASTBOUND REQUIRED FOR TRAFFIC SHIFT DURING STAGE III.



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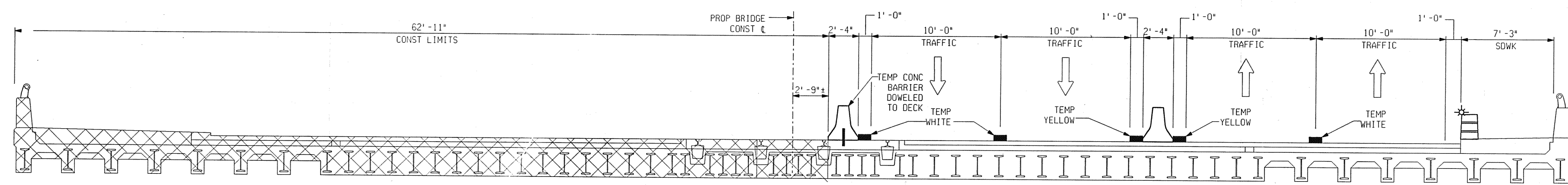
JEFFERSON AVE OVER DEQUINDRE CUT
MAINTAINING TRAFFIC

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	14 OF 80

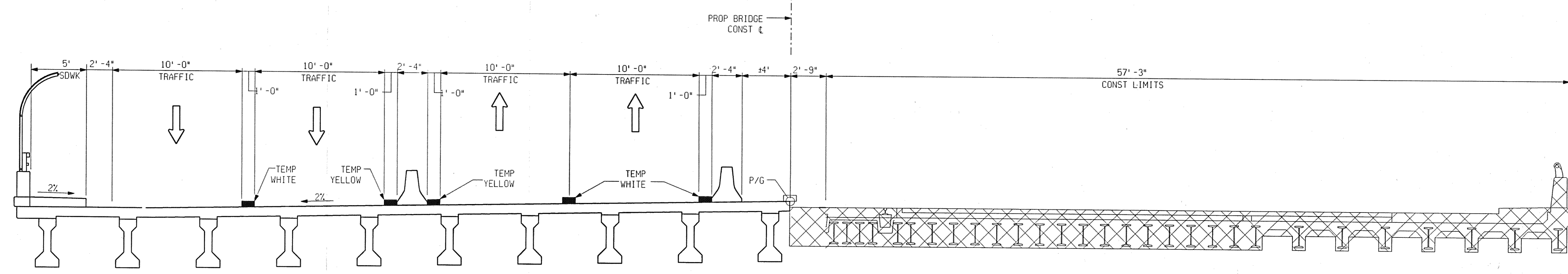
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

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FILE NAME: g:\Projects\354580-Detroit Bridges\MOT\Typ stage 3_4.dgn



STAGE III
LOOKING UPSTATION



STAGE IV
LOOKING UPSTATION

STAGE III:

SET UP TEMPORARY CONCRETE BARRIER ON EB JEFFERSON AVENUE. SHIFT EB TRAFFIC TO EB OUTSIDE LANES. SHIFT WB TRAFFIC INSIDE TO EB LANES. CLOSE WB LANES TO TRAFFIC AT BRIDGE. CLOSE ST. AUBIN AT LARNED ST. AVENUE (SEE DETOUR PLANS). CLOSE NB ORLEANS ST. TO THRU TRAFFIC AT JEFFERSON AVENUE. REMOVE NORTH HALF OF EXISTING BRIDGE. CONSTRUCT NORTH HALF OF BRIDGE. CONSTRUCT REMAINDER OF DUCTS FOR PLD CONDUITS TO MANHOLES ON WESTBOUND SIDE OF ROADWAY. ONLY FIVE FEET OF SIDEWALK SHALL BE CONSTRUCTED DURING THIS STAGE.

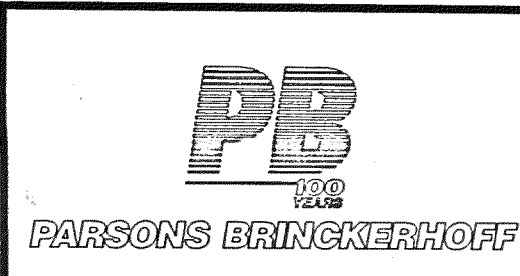
STAGE IVA:

PLACE TEMPORARY CONCRETE BARRIER ON COMPLETED NORTH HALF OF BRIDGE. SHIFT WB TRAFFIC OUTER WB LANES. SHIFT EB TRAFFIC TO INSIDE WB LANES. CLOSE EB LANES TO TRAFFIC AT BRIDGE. CLOSE OUTSIDE LANE ON SOUTHBOUND ST. AUBIN. BAG TRAFFIC SIGNALS AT ST. AUBIN AND PROHIBIT LEFT TURNS FROM JEFFERSON AVENUE TO ST. AUBIN. REMOVE AND CONSTRUCT SOUTH HALF OF BRIDGE.

STAGE IVB:

REMOVE TEMPORARY CONCRETE BARRIER AND OPEN BRIDGE TO WB AND EB TRAFFIC. CLOSE OUTERMOST WB LANE (PARKING LANE). CONSTRUCT REMAINDER OF WB SIDEWALK. COLD MILL AND OVERLAY CENTER LANE USING TRAFFIC REGULATORS.

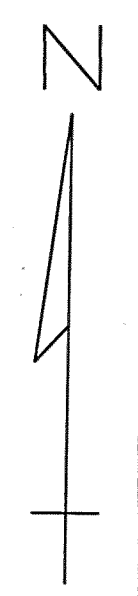
LEGEND	
↑	MAINTAIN TRAFFIC
▨	TEMPORARY CONSTRUCTION
▩	PERMANENT CONSTRUCTION
⊞	LIGHTED PLASTIC DRUM
▭	TEMP CONC BARRIER



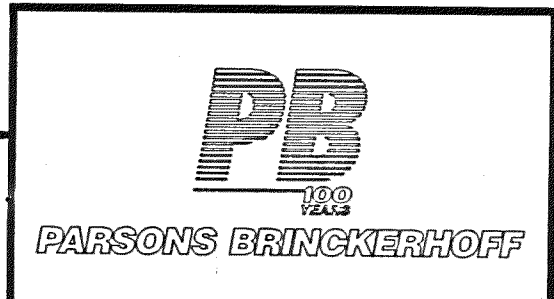
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT MAINTAINING TRAFFIC			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	15 OF 80

REVISIONS			
NO.	DESCRIPTION	DATE	BY



- ① SB ST AUBIN CLOSED LARNED TO JEFFERSON
- ② DETOUR
WB JEFFERSON ← → EB JEFFERSON
- ③ DETOUR
WB JEFFERSON ↑
- ④ DETOUR
WB JEFFERSON ←
- ⑤ DETOUR
WB JEFFERSON →
- ⑥ DETOUR
EB JEFFERSON ↑
- ⑦ DETOUR
EB JEFFERSON →
- ⑧ DETOUR
EB JEFFERSON ←
- ⑨ DETOUR ENDS
EB JEFFERSON
- ⑩ DETOUR ENDS
WB JEFFERSON
- ⑪ ROAD CLOSED



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JEFFERSON AVE OVER DEQUINDRE CUT
STAGE III DETOUR PLAN

DATE 02/11/05	SCALE: 1" = 50'	JOB NO. 49717A	SHEET: 16 OF 80
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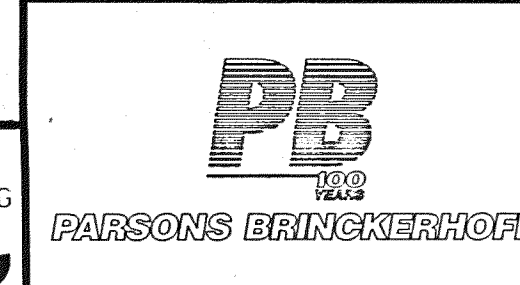
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STAGE I - IV SIGN LEGEND

TYPE B TEMPORARY SIGNING	MMUTCD NO.	SIZE (in x in)	TEXT HT(in)	REQ,D QUANT	AREA (sqft)	TOTAL (sqft)
	G20-1	60 x 24	6	2	10	20
	W20-5	48 x 48	6	1	16	16
	W20-5	48 x 48	6	2	16	32
	R11-2	48 x 30	6	5	10	50
	R2-1	24 x 30	4	4	5	20
	G20-2	60 x 24	6	2	10	20
	R5-18c	48 x 60	6	2	20	40
	R5-18b	48 x 60	6	2	20	40
	W1-6	48 x 24	-	6	8	48
	W4-2	48 x 48	-	2	16	32
	W4-2	48 x 48	-	2	16	32
	W1-4La	48 x 48	-	1	16	16
	W1-4Ra	48 x 48	-	1	16	16
	R5-18a	96 x 60	6	2	40	80
	W20-3	48 x 48	6	2	16	32
	R2-5a	24 x 30	4	2	5	10
	R3-2A	24 x 30	4	3	5	15

TYPE B TEMPORARY SIGNING	MMUTCD NO.	SIZE (in x in)	TEXT HT(in)	REQ,D QUANT	AREA (sqft)	TOTAL (sqft)
	SP-1 (LT)	48 x 36	5	2	12	24
	SP-1 (RT)	48 x 36	5	2	12	24
	SP-2	90 x 36	4	1	22.5	22.5
	R8-3a	24 x 24	N/A	7	4	28
	SP-3	42 x 36	4	1	10.5	10.5
	D3-2a	42 x 12	4	5	3.5	17.5
	D3-2a	42 x 12	4	5	3.5	17.5
	M4-9 (UP)	30 x 24	4	2	5	10
	M4-9 (R)	30 x 24	4	3	5	15
	M4-9 (L)	30 x 24	4	3	5	15
	R11-4	60 x 30	6	1	12.5	12.5
	R2-1	24 x 30	4	2	5	10
	M4-8a	24 x 18	4	2	3	6

REVISIONS			
NO.	DESCRIPTION	DATE	BY



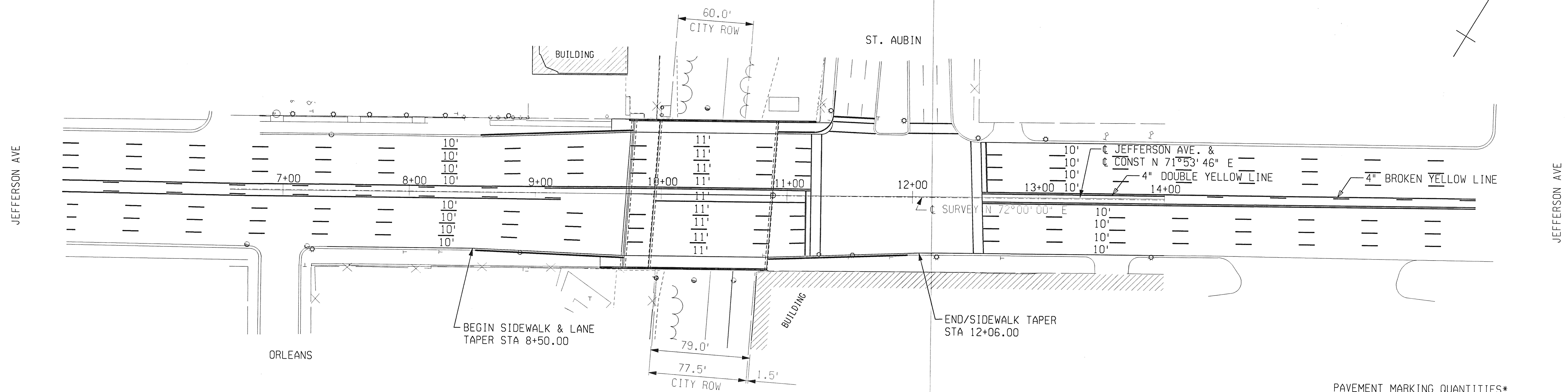
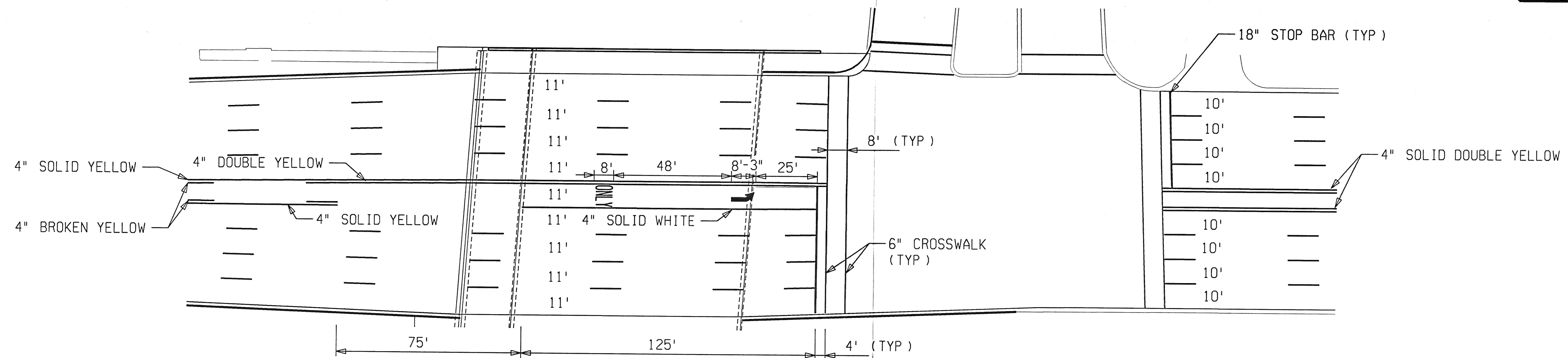
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT MAINTAINING TRAFFIC, SIGN LEGEND			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NONE	49717A	17 OF 80

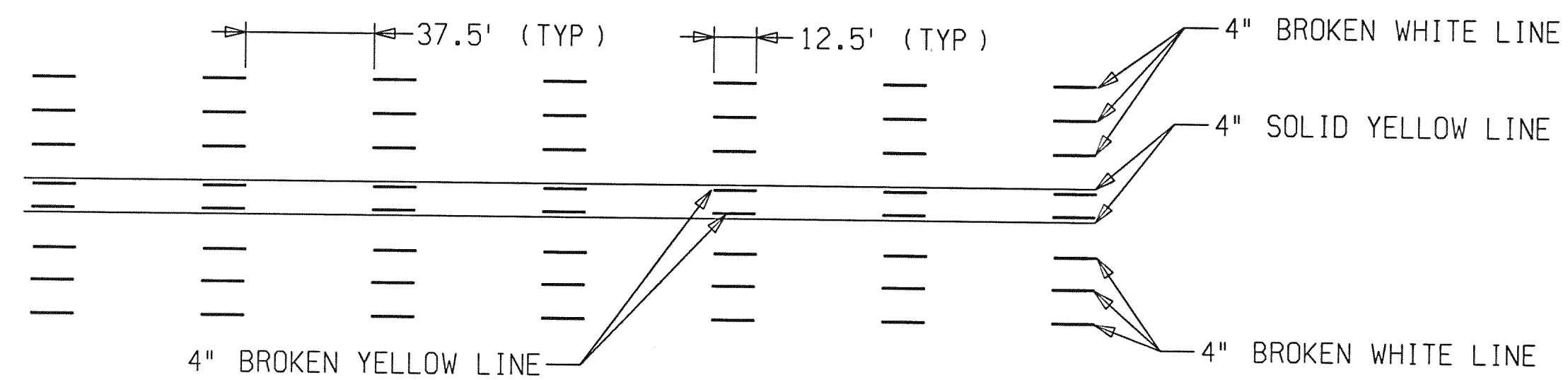
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TYPICAL INTERSECTION PAVEMENT MARKING

REVISIONS			
NO.	DESCRIPTION	DATE	BY

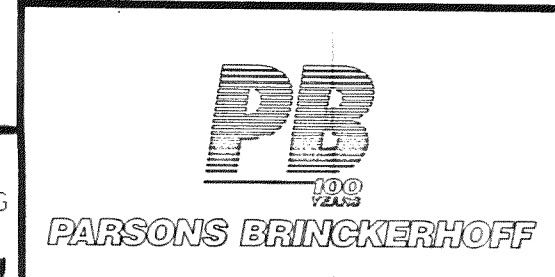


TYPICAL PAVEMENT MARKING DETAIL



NOTE: PROPOSED PAVEMENT MARKING BASED ON LIMITS OF PAVEMENT MARKING REMOVAL FOR M.O.T.

PAVEMENT MARKING QUANTITIES*
* SEE NOTESHEET

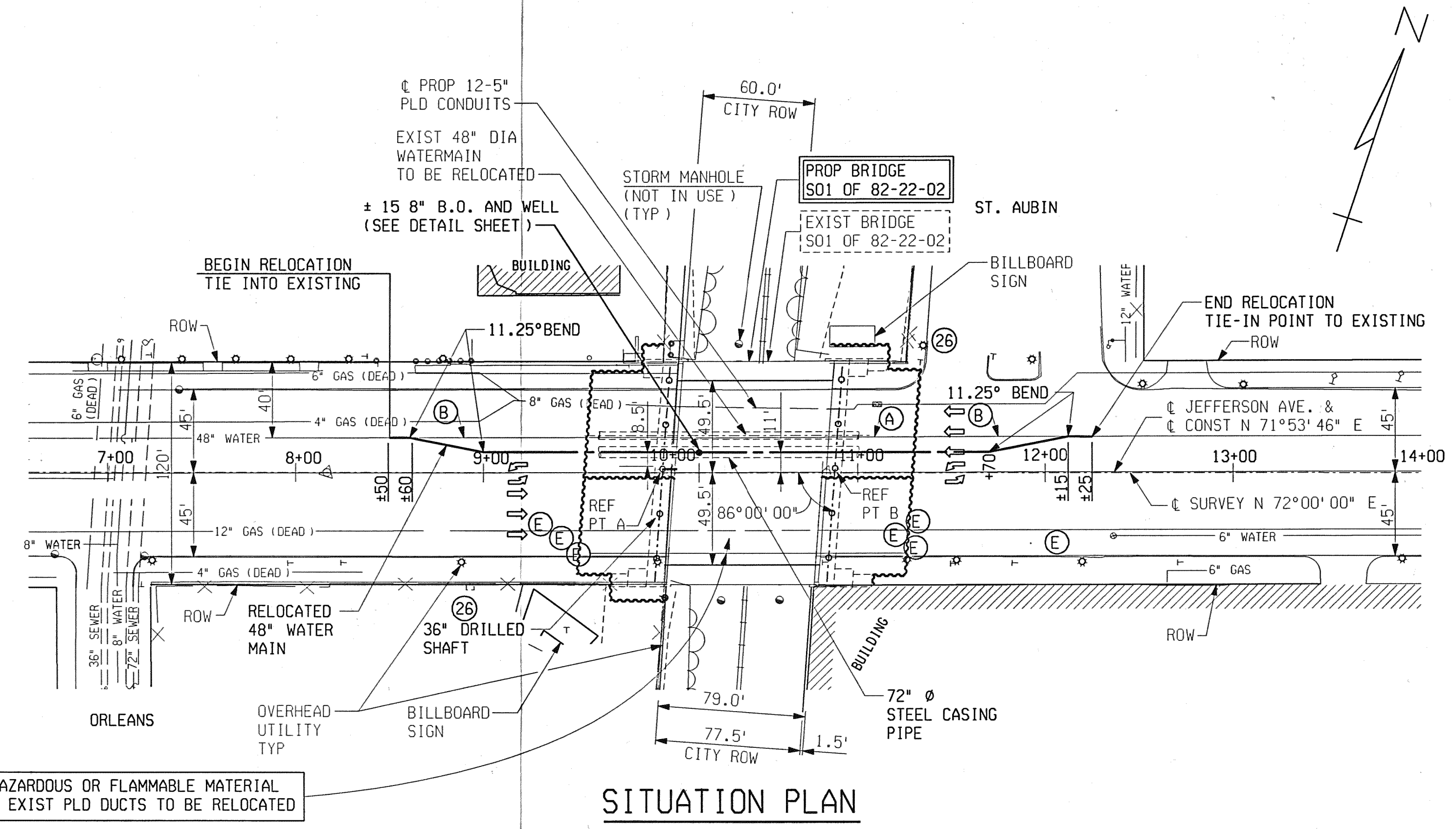


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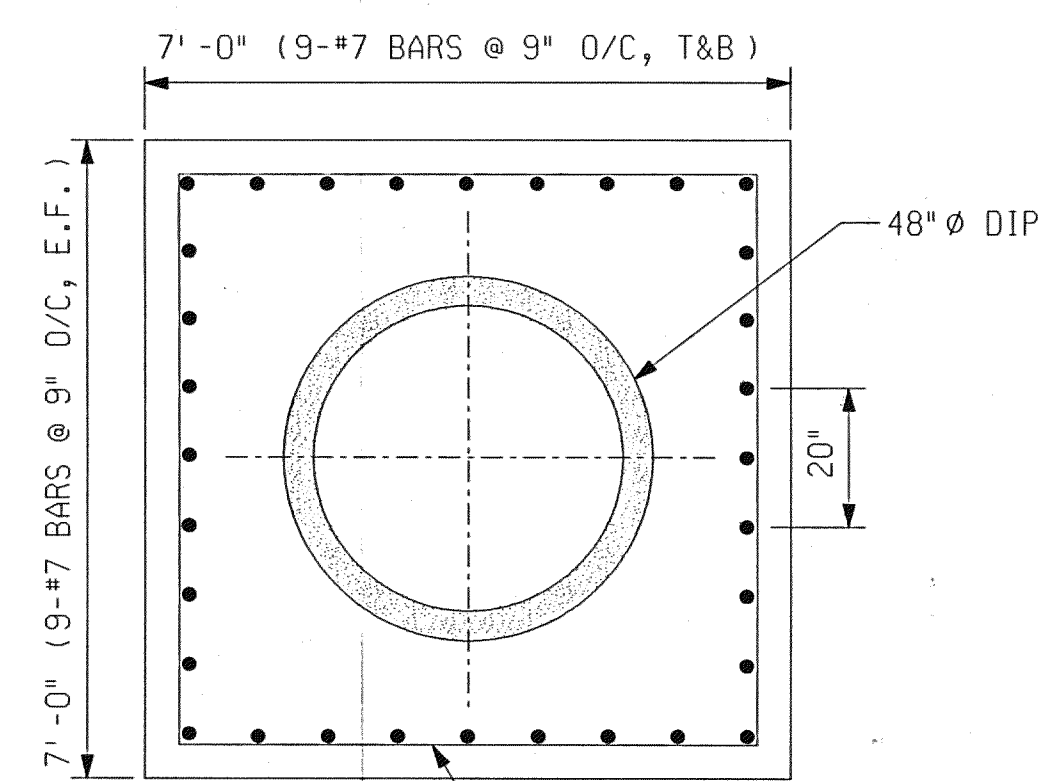
JEFFERSON AVE OVER DEQUINDRE CUT PAVEMENT MARKING SHEET			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	1" = 50'	49717A	18 OF 80

FILE NAME: g:\Projects\354580 Detroit Bridges\WOT\JEFFRy\mrkg.dgn
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REVISIONS			
NO.	DESCRIPTION	DATE	BY



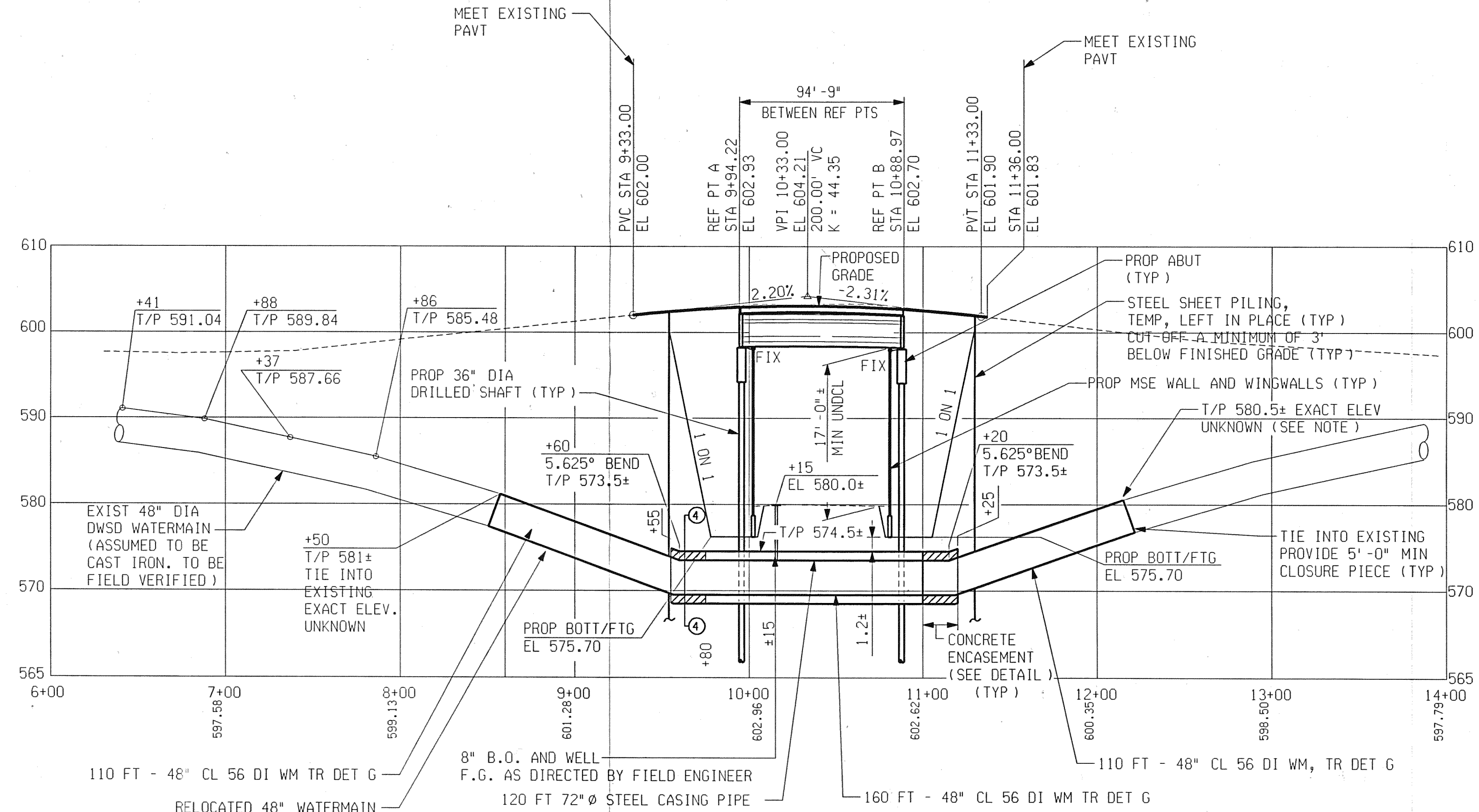
SITUATION PLAN
SCALE - 1" = 50'



* REINFORCING STEEL REQUIRED = 15.23 SQ. IN. ACTUAL = 19.2 SQ. IN.

4 48" CONC. PIPE ENCASEMENT SECTION
N.T.S.

* PAYMENT FOR REINFORCING STEEL IS INCLUDED IN PAYMENT FOR Conc Grade P1



PROFILE ALONG JEFFERSON AVE
VERT. SCALE - 1" = 10'
HOR. SCALE - 1" = 50'

NOTES:

- ALL CONSTRUCTION SHALL COMPLY WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT.
- EXISTING PIPE ELEVATIONS ARE BASED ON AVAILABLE INFORMATION FROM DWSD 1915 FIELD NOTES AND ARE ONLY APPROXIMATE.
- THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF THE EXISTING PIPE AT THE PROPOSED TIE IN LOCATIONS PRIOR TO RELOCATION OF WATER MAIN.
- A MINIMUM CLEARANCE OF 3.5' HORIZONTAL AND 1.5' VERTICAL SHALL BE MAINTAINED BETWEEN THE PIPE AND THE NEAREST UTILITY OR STRUCTURE.
- THE CONTRACTOR SHALL ENSURE THAT THERE IS NO INTERRUPTION OF SERVICE EXCEPT WHEN CONNECTING THE RELOCATED PIPE TO THE EXISTING.
- INTERRUPTION OF SERVICE FOR THE PURPOSE OF CONNECTING THE RELOCATED PIPE TO THE EXISTING SHALL BE DONE DURING LOW WATER SEASON (NOVEMBER TO APRIL) AND SHALL BE DONE ONLY DURING THE WEEKEND HOURS. THE WORK SHALL BE COORDINATED WITH THE SYSTEMS CONTROL AND OPERATIONS GROUP.
- THE CONTRACTOR SHALL NOTIFY DWSD 3 WORKING DAYS PRIOR TO START OF CONSTRUCTION. (CONTACT PERSON IS K. V. RAMACHANDRAN: 313-833-8443)
- THE CONTRACTOR SHALL EXPOSE THE EXISTING MAIN BEFORE DRIVING SHEET PILES. ALL BENDS SHALL BE ENCASED IN CONCRETE PER THE ENCASEMENT DETAIL.
- THE CONTRACTOR SHALL BULKHEAD THE ABANDONED WATERMAIN. IT SHALL BE FILLED WITH STABILIZED CEMENT FLYASH. PAYMENT FOR STABILIZED CEMENT FLYASH SHALL BE INCLUDED IN THE PAY ITEM: Sewer Bulkhead, 48 inch.
- FROM DWSD RECORDS THE NEAREST GATE VALVES ARE LOCATED ON THE EAST SERVICE DRIVE OF THE CHRYSLER FREEWAY AND AT THE INTERSECTION OF JEFFERSON AVENUE AND DUBOIS TO THE EAST OF THE CONSTRUCTION SITE. THERE ARE GATE VALVES ON BRANCH LINES BETWEEN THESE TWO LOCATIONS. THE CONTRACTOR SHALL LOCATE THESE AND SHALL ENSURE THAT THEY ARE OPERATIONAL BEFORE COMMENCING ANY WATERMAIN WORK. IN THE EVENT ANY OF THESE IS NOT OPERATIONAL HE SHALL INFORM DWSD AND HAVE THEM REPAIRED BEFORE BEGINNING RELOCATION OF THE EXISTING LINE.
- USE DUCTILE IRON RESTRAINED JOINT PIPE.
- ALL PLAN DIMENSIONS ARE HORIZONTAL.
- STEEL CASING PIPE SHALL MEET THE REQUIREMENTS OF AREMA.
- TESTING AND DISINFECTION SHALL BE DONE ACCORDING TO DWSD STANDARDS.
- THE CONTRACTOR SHALL PROVIDE 48" ADAPTERS FOR THE CONNECTIONS OF DIFFERENT PIPE MATERIALS. SUBMIT SHOP DRAWING FOR DWSD APPROVAL.

WATERMAIN QUANTITIES THIS SHEET

380	Ft	Water Main, DI, 48 inch, Tr Det G
120	Ft	Steel Casing Pipe, 72 inch, Tr Det G *
1	Ea	Gate Well, Blow-off Well
60	Cyd	Conc Grade P1
1	Ea	Gate Well, Abandon
2	Ea	Water Main, 48 inch, Cut and Plug
4	Ea	11.25 Degrees Bend
2	Ea	5.625 Degrees Bend
1	Ea	48 inch x 48 inch x 48 inch Tee
650	Lbs	Dr Structure Cover
2	Ea	Sewer Bulkhead, 48 inch
1	Ea	48 inch Tapping Sleeve and Valve

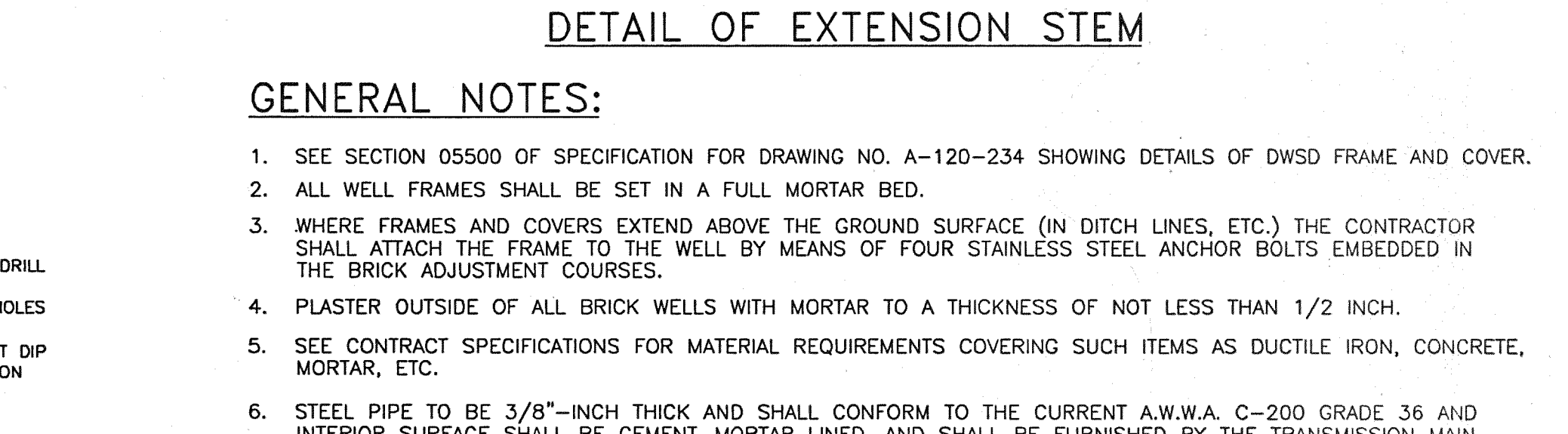
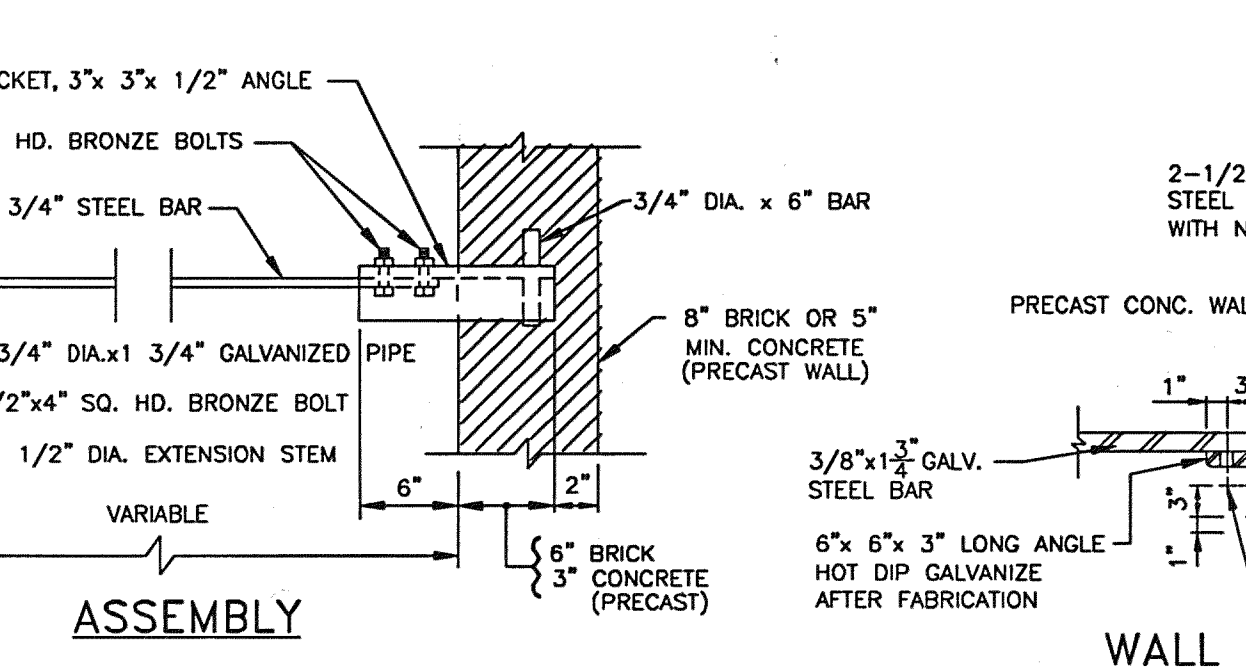
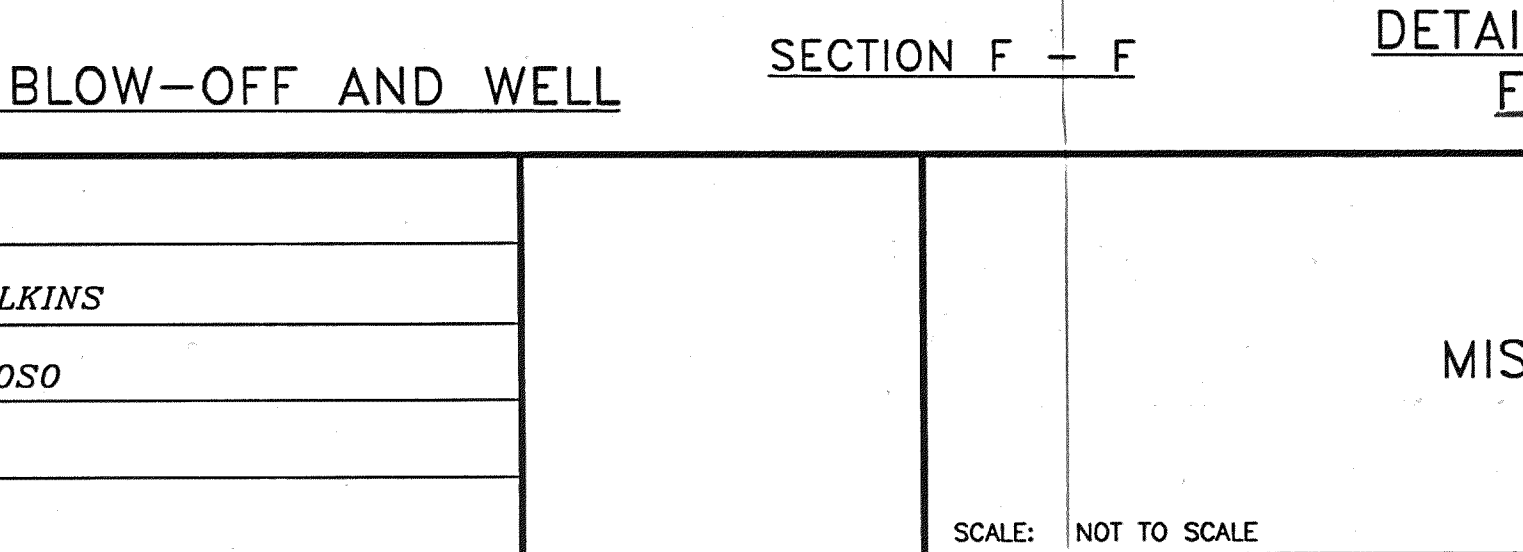
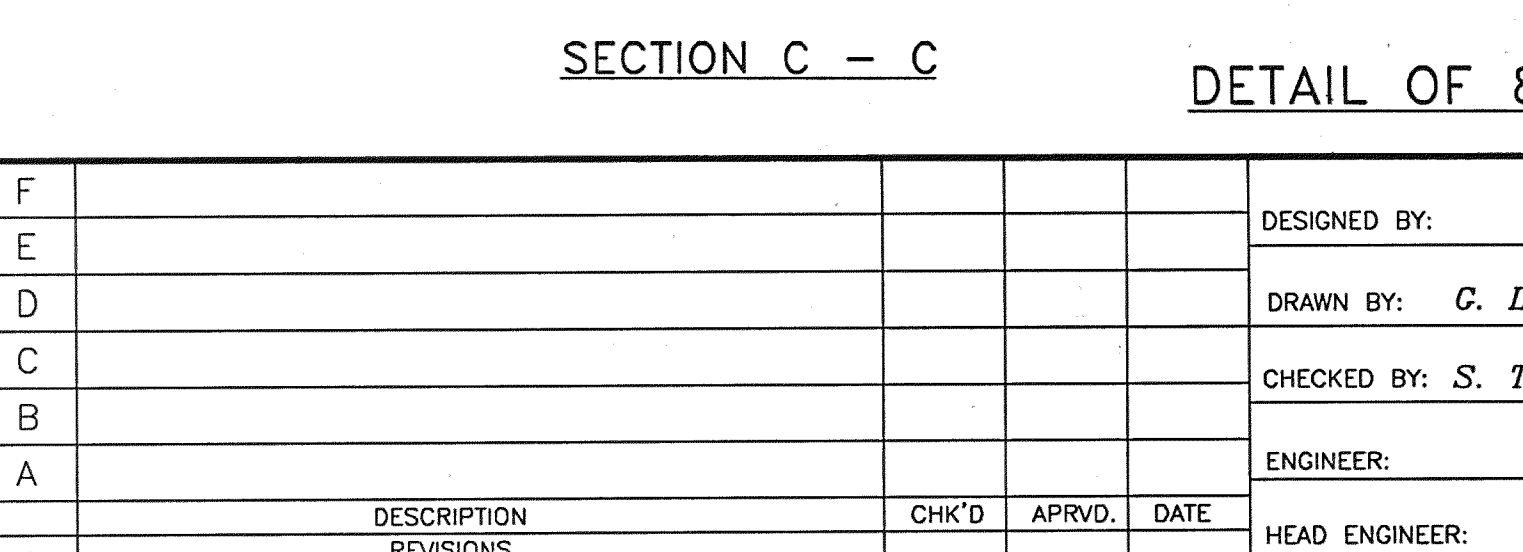
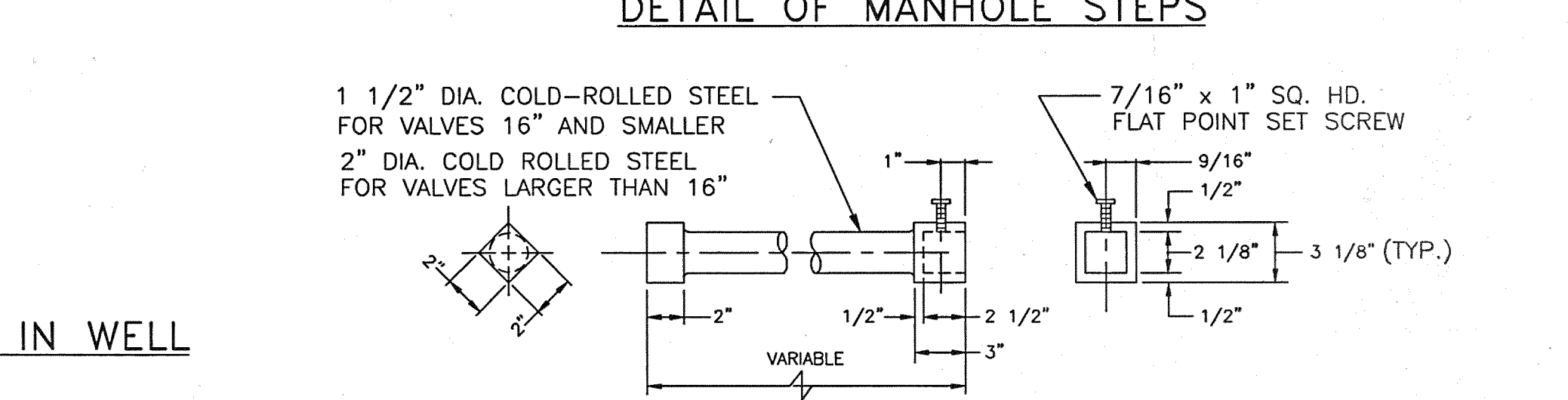
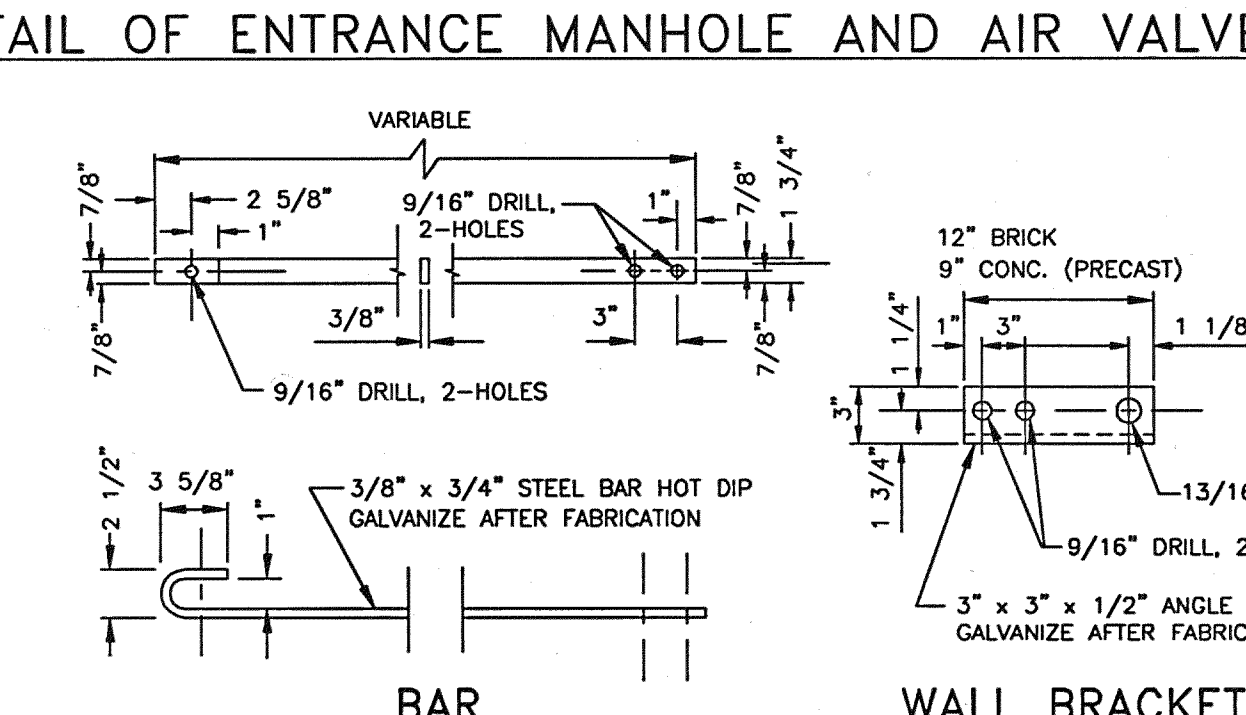
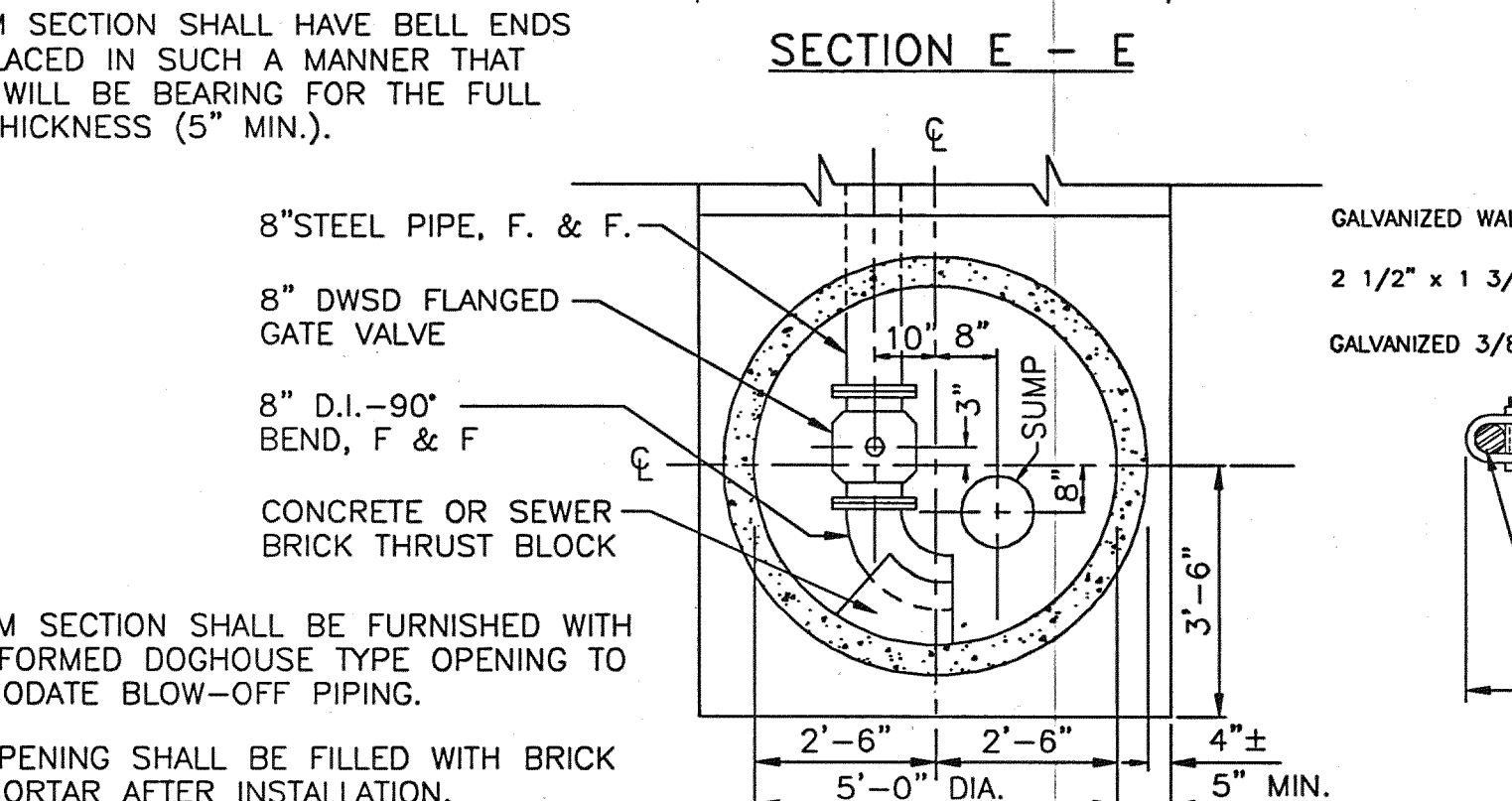
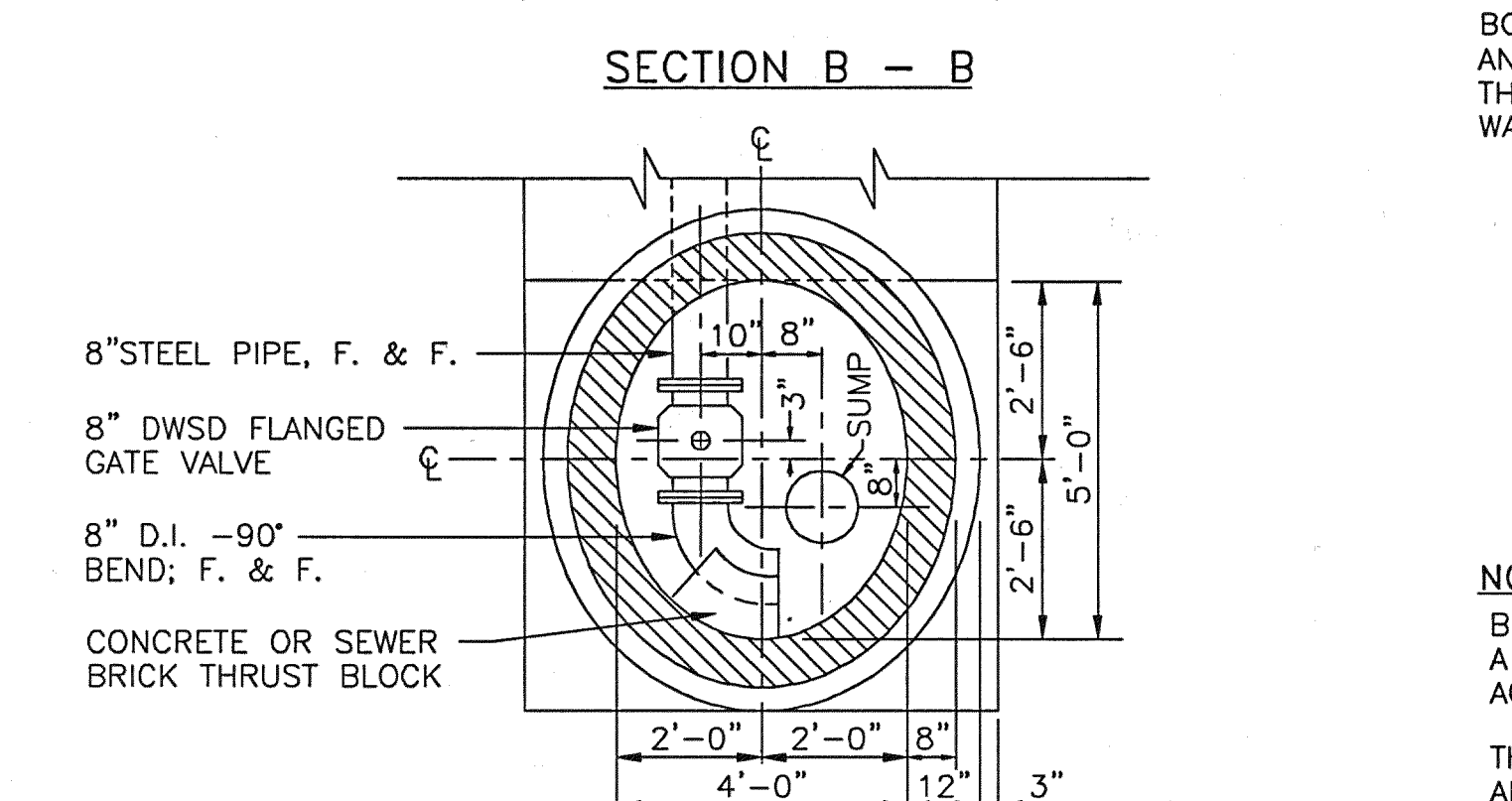
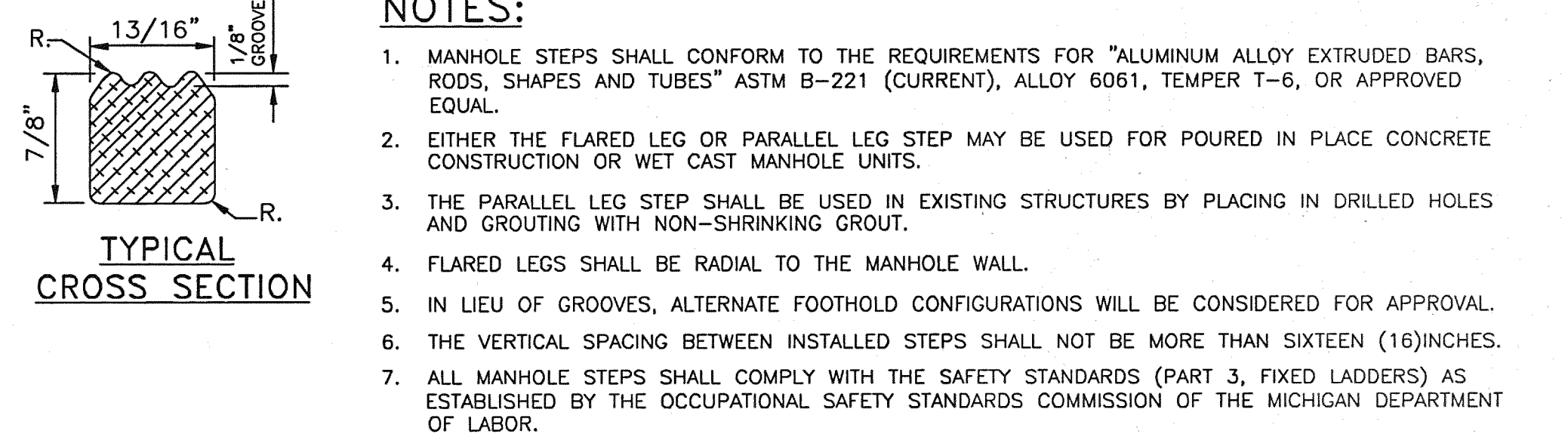
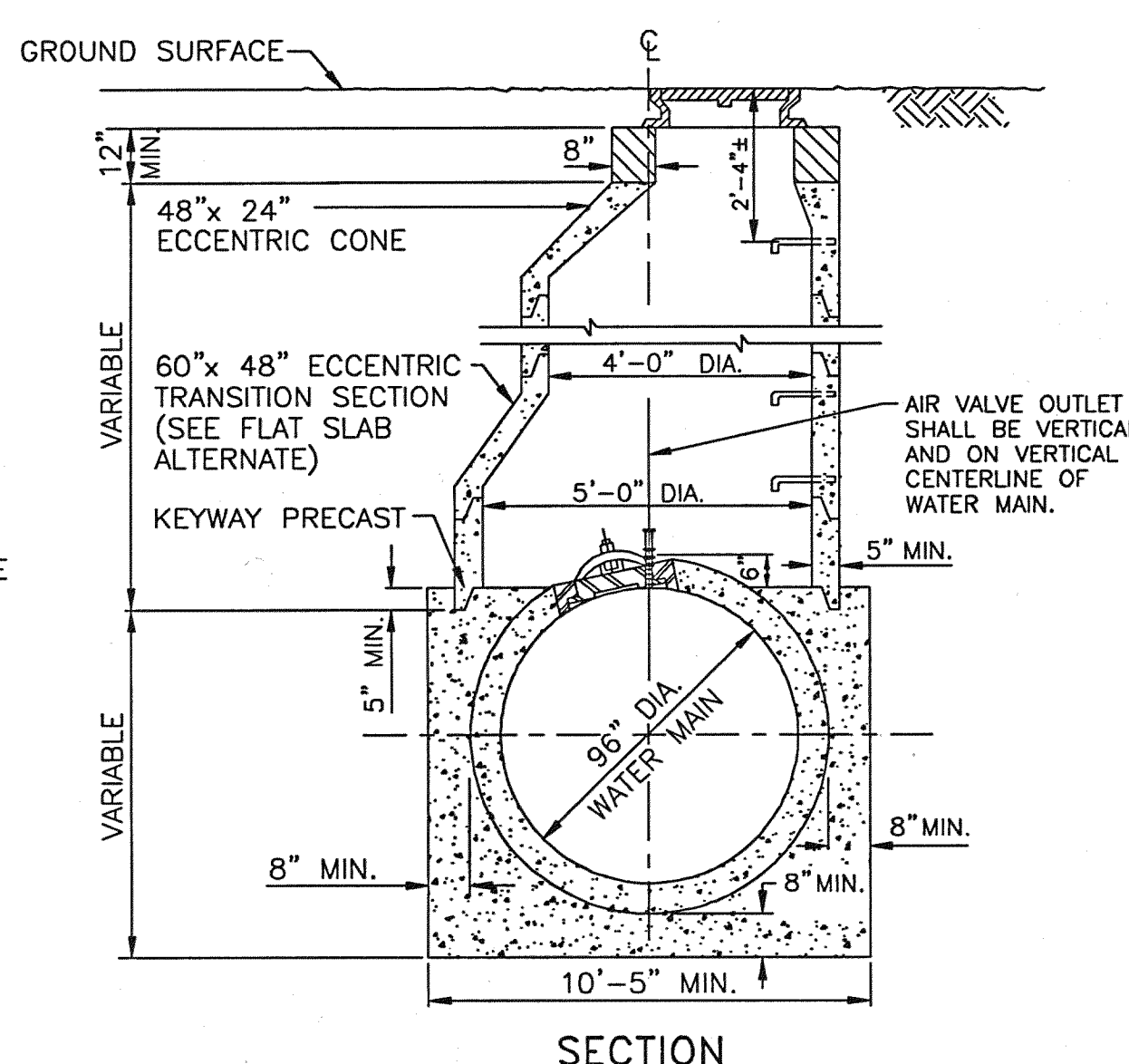
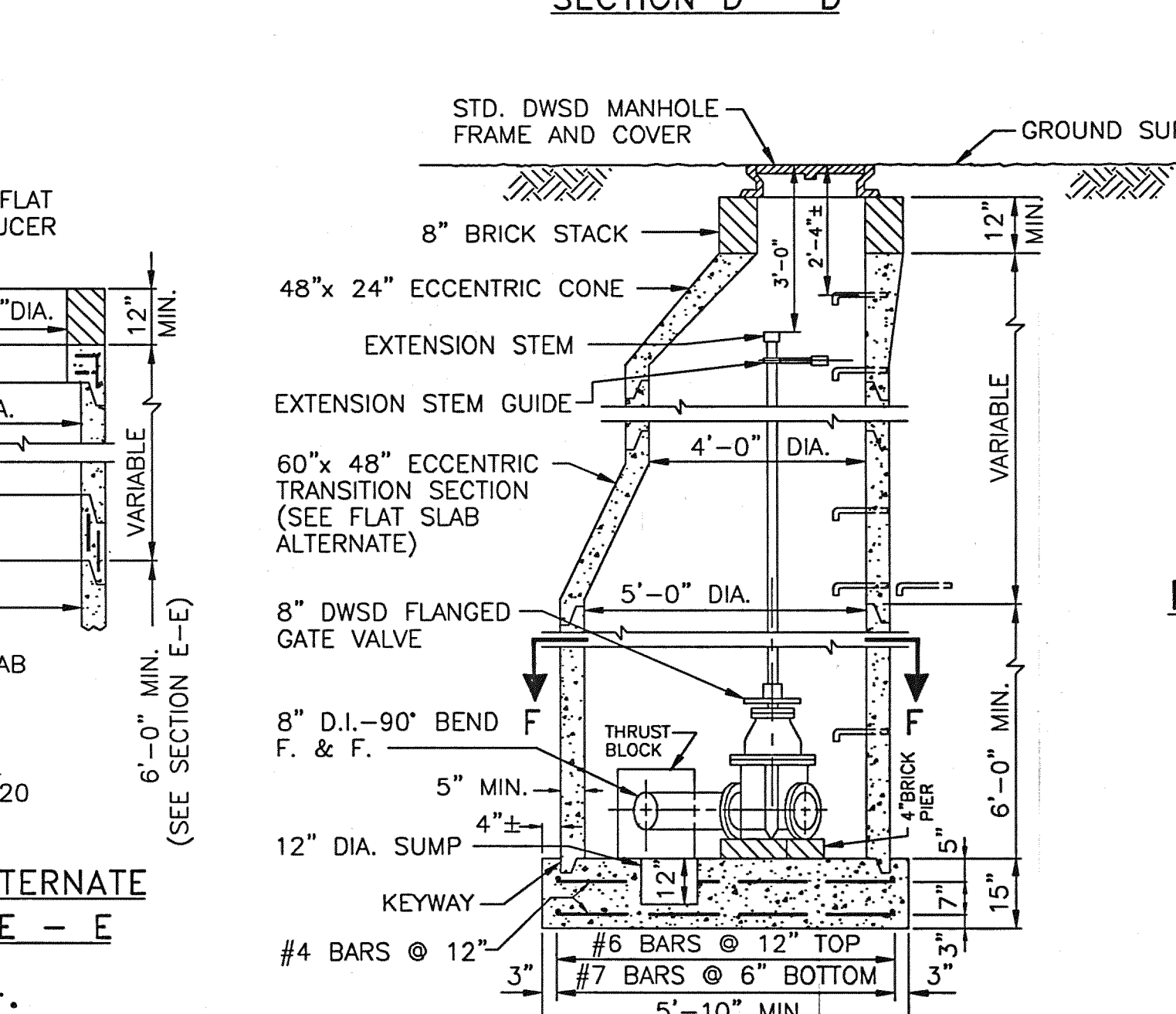
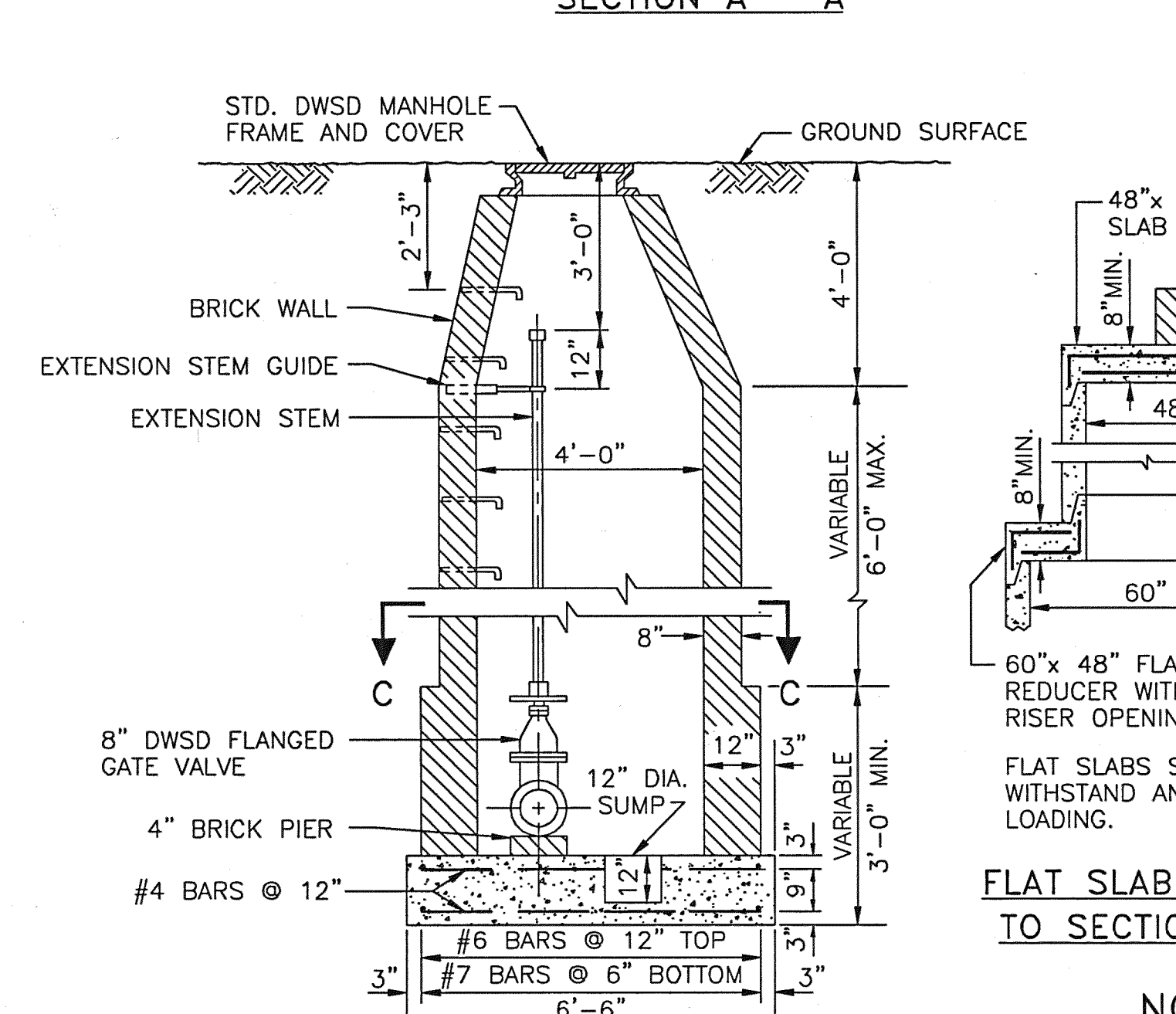
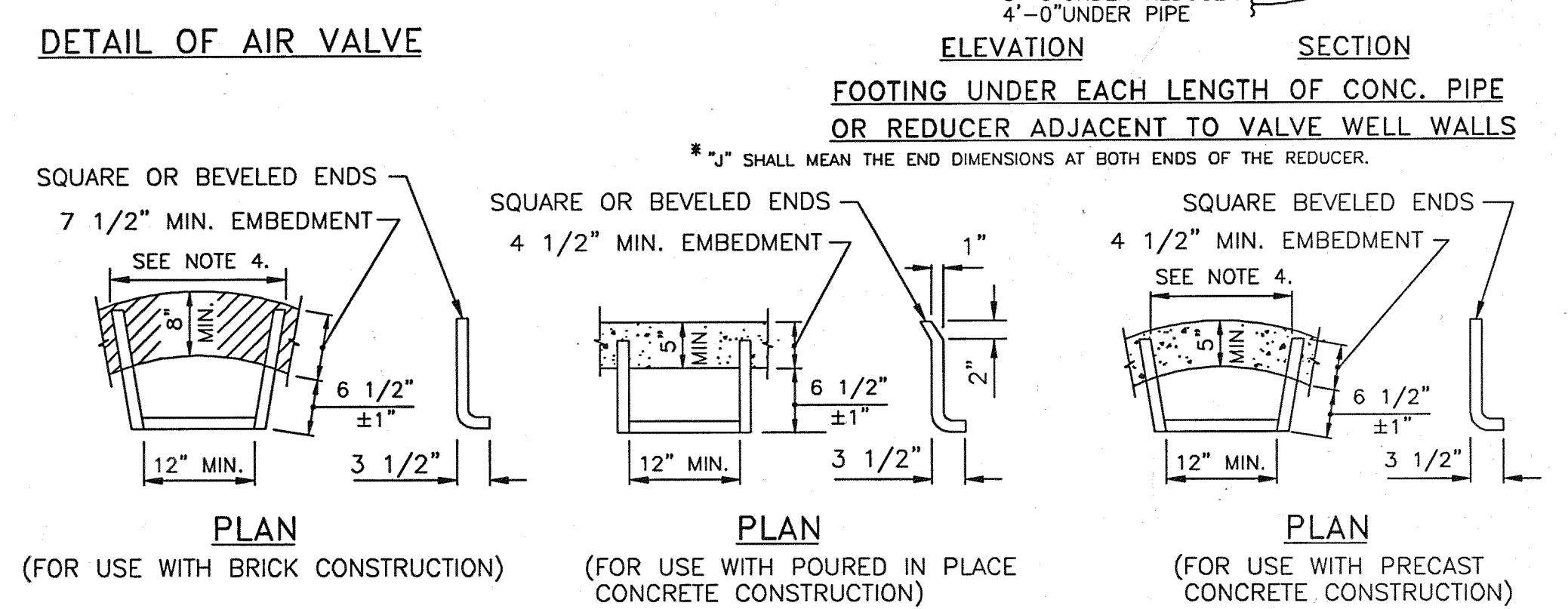
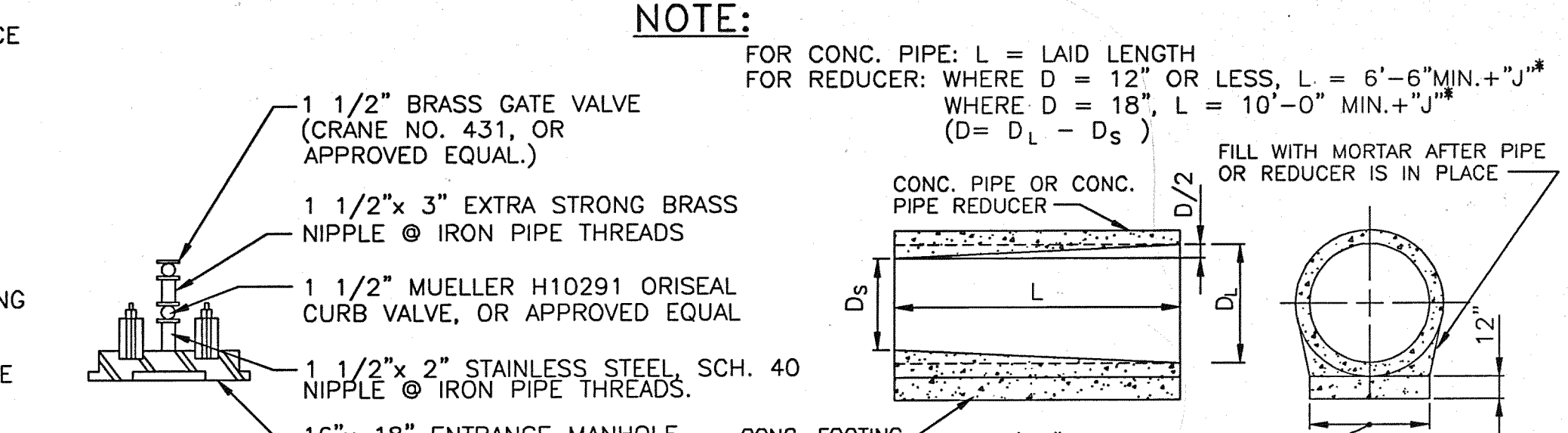
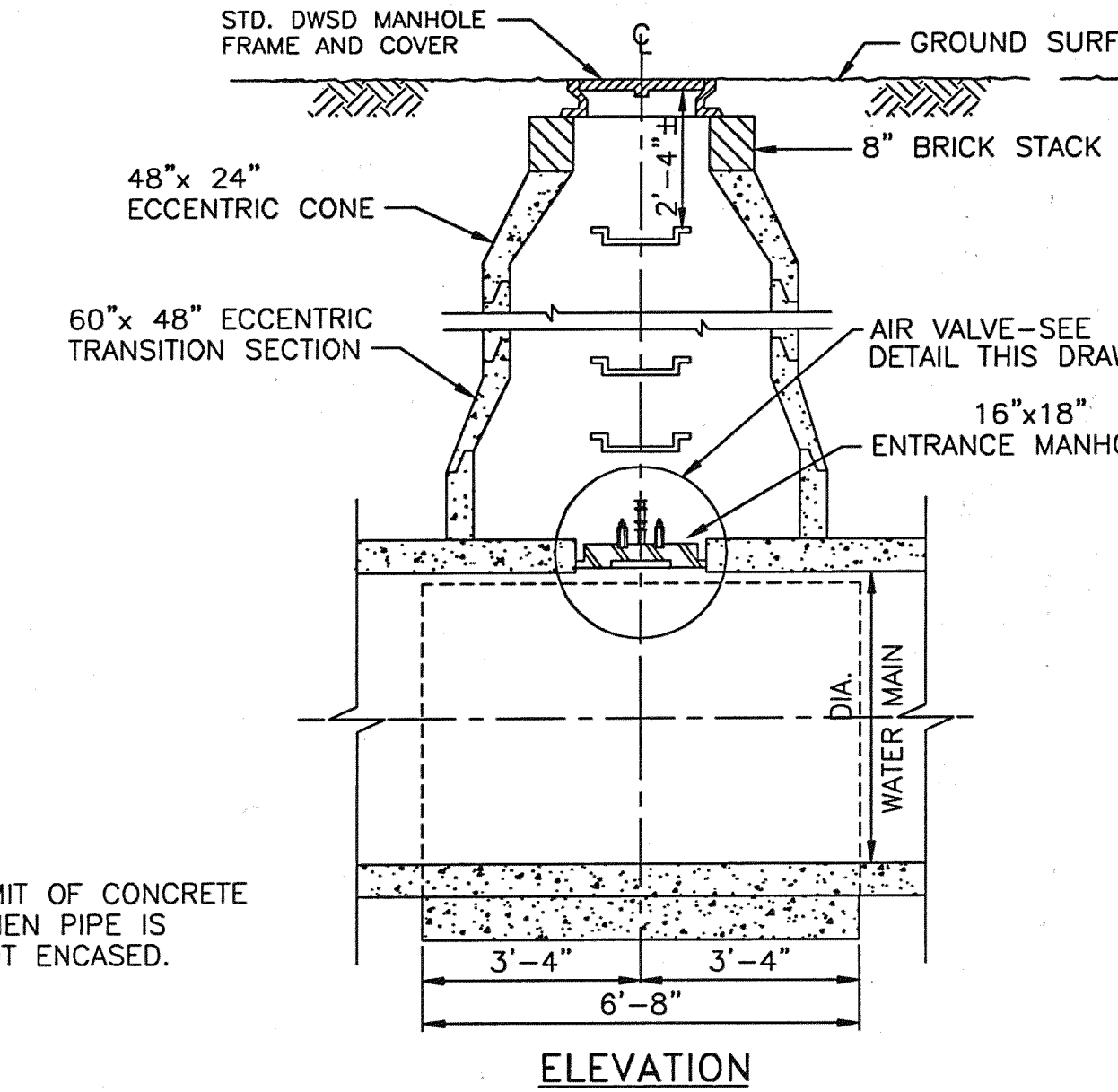
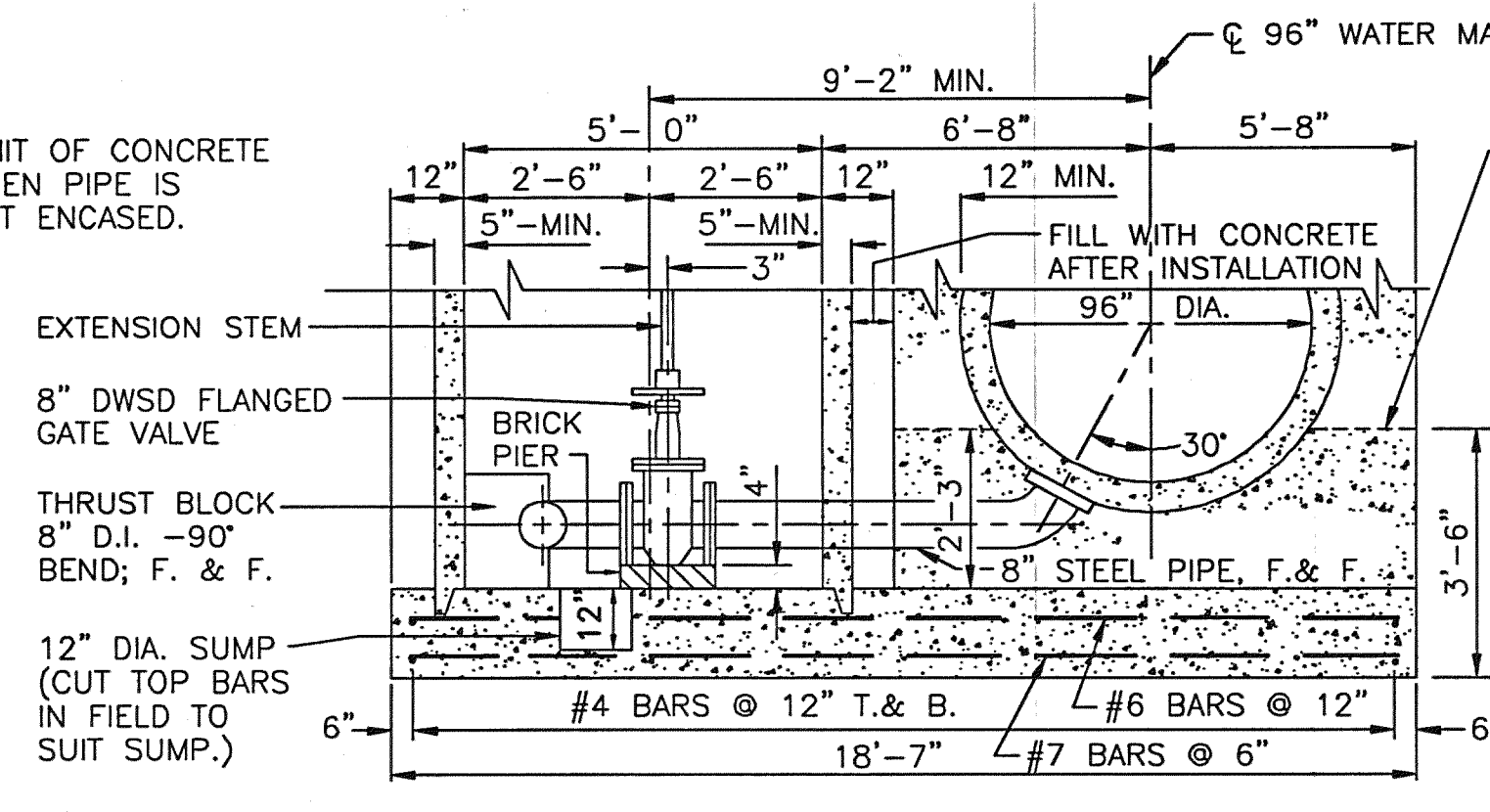
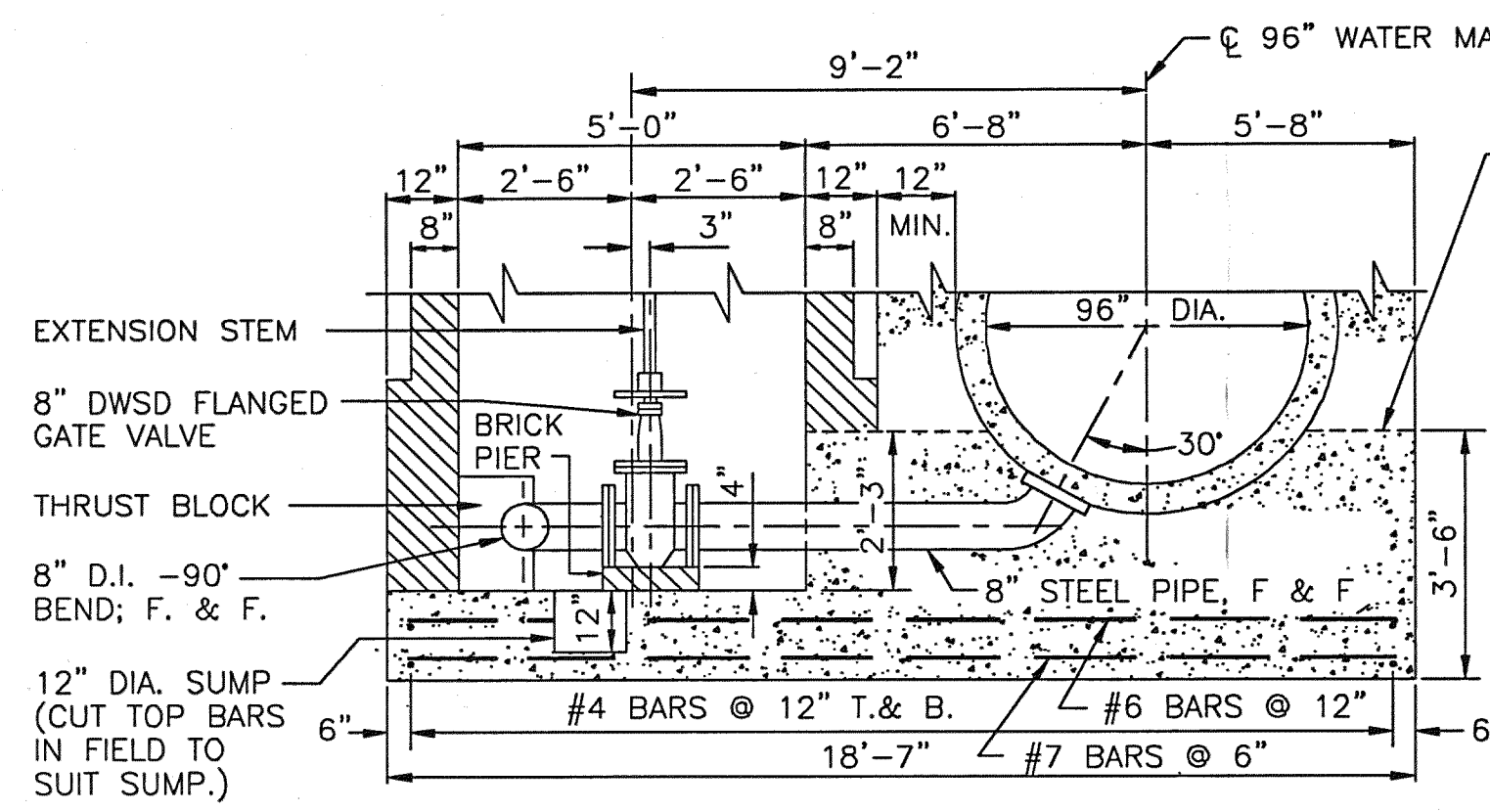
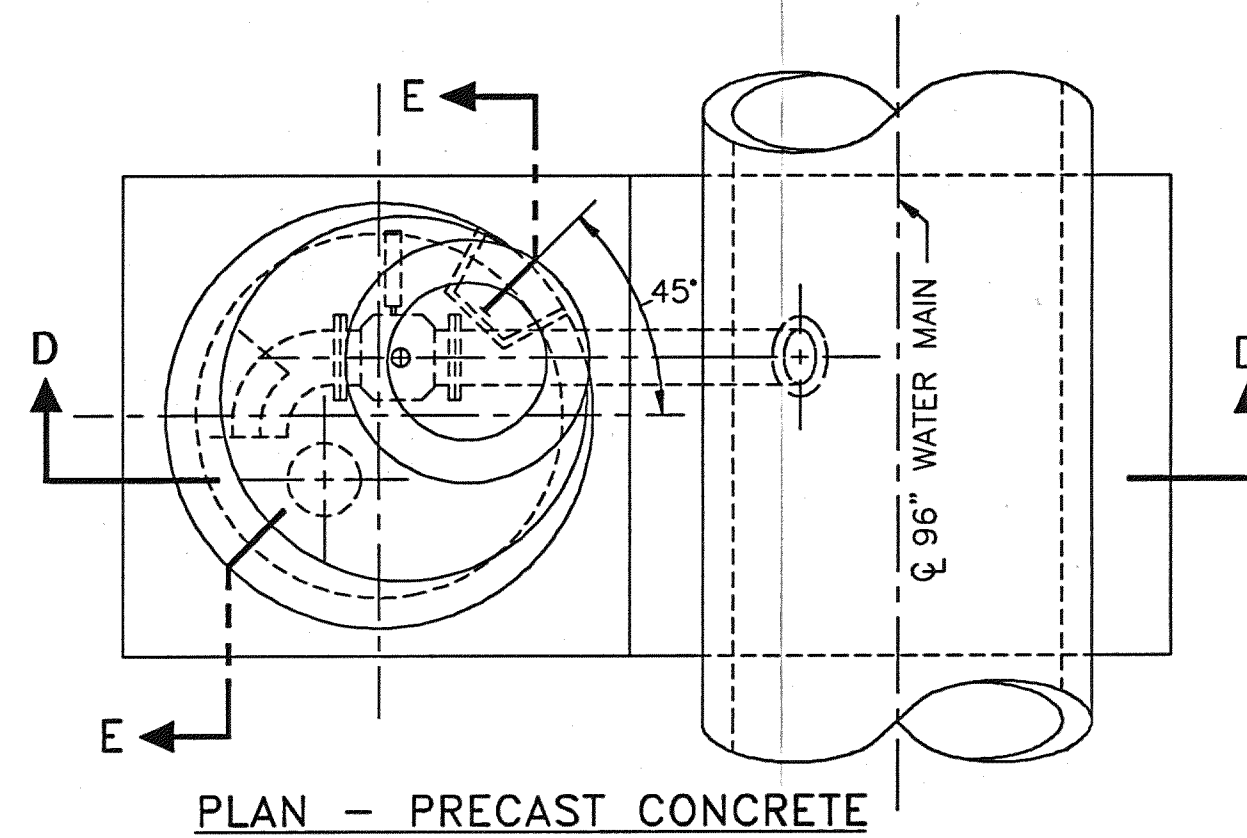
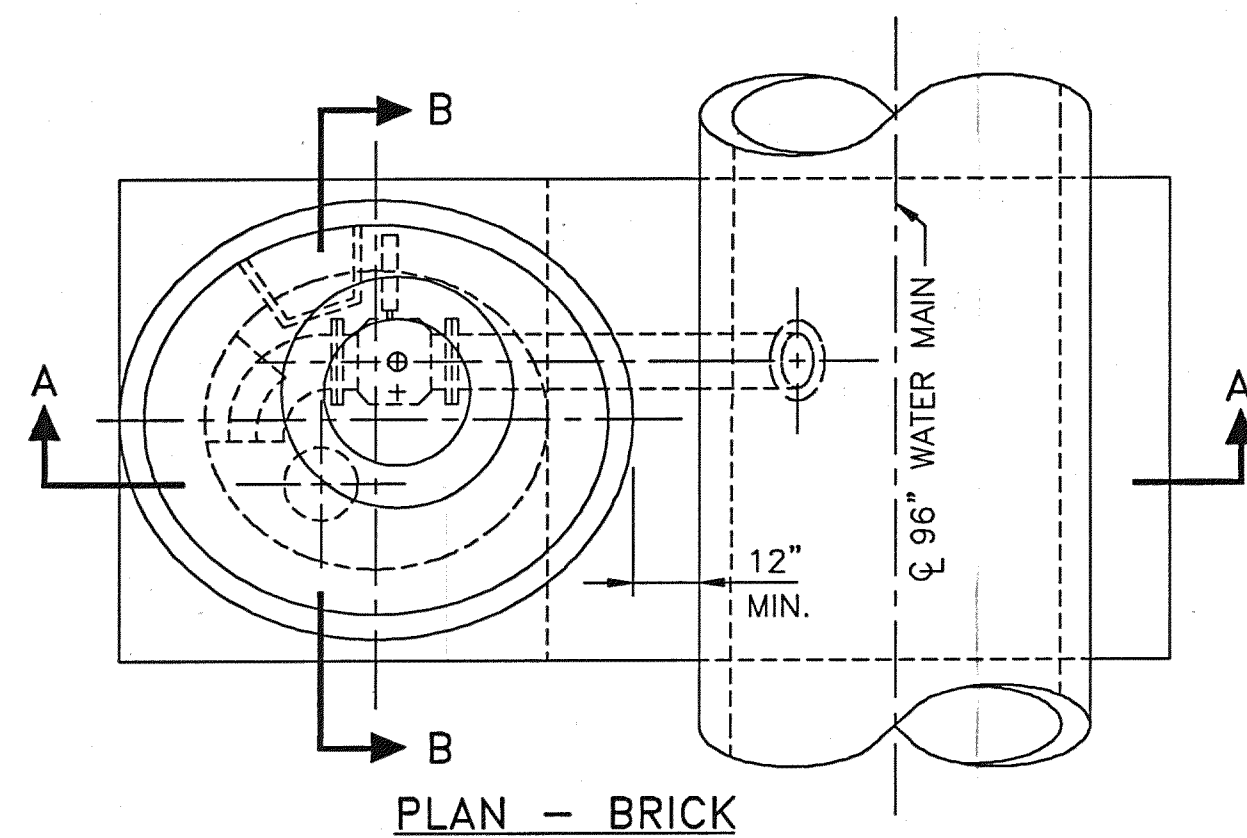


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

**WATER MAIN
JEFFERSON AVE OVER DEQUINDRE CUT**

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	1" = 50'	49717A	19 OF 80

DATE: 2/17/2005 5:08:50 PM
WORKED ON BY:
DATE:
CHECKED BY:
FILE NAME: g:\Projects\35458D - Detroit Bridges\WaterMain\Watermain.dgn



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	DESCRIPTION	CHK'D	APRVD.	DATE	
	REVISIONS				

DESIGNED BY:	
DRAWN BY:	C. L. WILKINS
CHECKED BY:	S. T. DIOSO
ENGINEER:	
HEAD ENGINEER:	

SCALE:	NOT TO SCALE
DATE:	02-11-05

CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION					M.D.E.Q. PERMIT NO. W054048
					FED. REF. NO.
					CONTRACT NO. JN49717A
					FILE NO.
SECTION MAP	TOWN	RANGE	SECTION	PORTION CODE	FAMIS NO. 000000
					DRAWING NO. 20 of 80

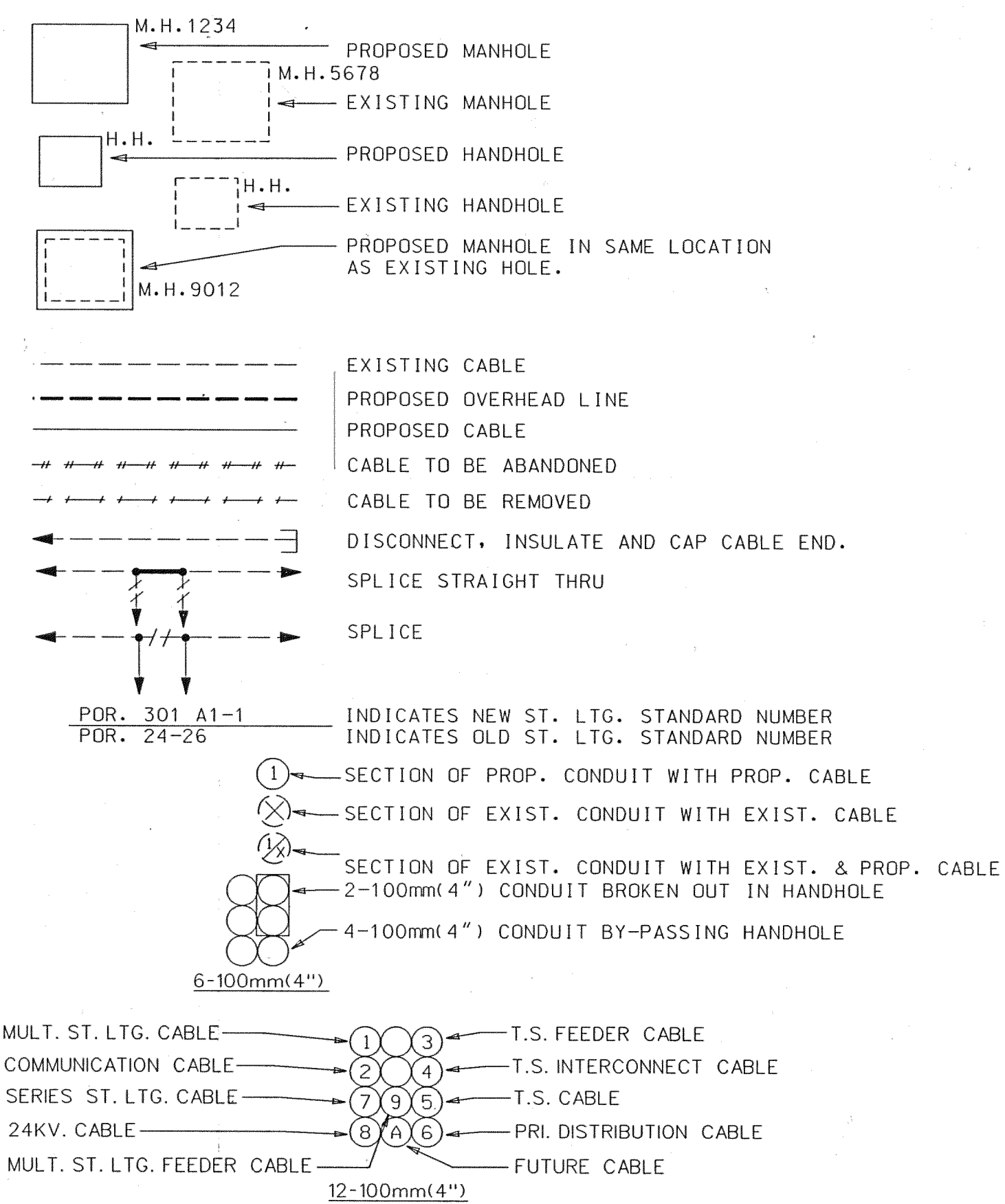
MISCELLANEOUS DETAILS

UNDERGROUND

- FIRE HYDRANT
- EXISTING MANHOLE
- EXISTING HANDHOLE
- EXISTING DUCT RUN
- ABANDON EXISTING DUCT RUN
- EXISTING DIRECT BURIAL OR PARKWAY CABLE
- ABANDON DIRECT BURIAL OR PARKWAY CABLE
- INSTALL DIRECT BURIAL CABLE (NO. AND SIZE WILL BE SHOWN)
- 6-130mm E.C. BUILD ENCASED CONDUIT (E.C.) (NO. AND SIZE WILL BE SHOWN)
- 2-75mm D.B. INSTALL DIRECT BURIAL CONDUIT (D.B.) (NO. AND SIZE WILL BE SHOWN)
- 2-100mm J.B. JACKED-BORED CONDUIT (J.B.) (NO. AND SIZE WILL BE SHOWN)
- 2-100mm J.B. JACKED-BORED CONDUIT (J.B.) (NO. AND SIZE WILL BE SHOWN)
- BUILD NEW MANHOLE (2-WAY)
- BUILD NEW MANHOLE (3-WAY)
- BUILD NEW MANHOLE (4-WAY)
- BUILD NEW MANHOLE (CORNER)
- BUILD NEW HANDHOLE (ROUND OR SQUARE AS INDICATED ON PLANS)
- BUILD POLYMER CONCRETE HANDHOLE
- BUILD TYPE "S" HANDHOLE
- BUILD TYPE "D" HANDHOLE
- EXISTING UNDERGROUND-FED ST. LTG. UNIT AND FOUNDATION
- REMOVE UNDERGROUND-FED ST. LTG. UNIT AND FOUNDATION (EXCEPT AS OTHERWISE NOTED)
- INSTALL CODE 009-00.010-06, OR 118-06 AS NOTED ST. LTG. UNIT ON BRIDGE OR NEW FDN. INSTALL LUMINAIRE (SALVAGED), EXCEPT WHERE OTHERWISE NOTED. ANCHOR BOLTS IN BRIDGE DECK ON PLAN BY OTHERS
- SALVAGED UNDERGROUND-FED ST. LTG. UNIT ON NEW FOUNDATION.

DIAGRAMS

(U.G.-FED. ST. LTG. STD. SYMBOLS ARE THE SAME AS THE UNDERGROUND LEGEND ON THIS SHEET).



LEGEND SHEET

DIAGRAMS

- INDICATES 2000V., 1-1/C #6 ST. LTG. CABLE
- INDICATES 2000V., 1-1/C #6 ST. LTG. CABLE & 1-#6 NEUTRAL.
- INDICATES 2000V., 2-1/C #6 ST. LTG. CABLES & 1-#6 NEUTRAL (ALL UNLABELED CABLE GROUPS ON WIRING DIAGRAM ARE SUCH.) 480/960V.
- INDICATES 2000V., 1-1/C #2 ST. LTG. CABLE
- INDICATES 2000V., 1-1/C #2 ST. LTG. CABLE & 1-#2 NEUTRAL.
- INDICATES 2000V., 2-1/C #2 ST. LTG. CABLES & 1-#2 NEUTRAL (ALL UNLABELED CABLE GROUPS ON WIRING DIAGRAM ARE SUCH.) 240/480V.
- INDICATES 2000V., 3-1/C #2 ST. LTG. CABLES & 1-#2 NEUTRAL.
- INDICATES REMOVE CABLES IN CONDUIT (REGARDLESS OF SIZE OR NUMBER OF CABLES IN THE CONDUIT.)
- INSTALL 7500V., 1-1/C #8 L.C. ST. LTG. CABLE
- INSTALL 7500V., 2-1/C #8 L.C. ST. LTG. CABLES

OVERHEAD

- INSTALL OVERHEAD ALLEY LTG. UNIT. WITH 1.83m BRACKET ARM.
- INSTALL OVERHEAD RESIDENTIAL LTG. (4.88m ARM WITH TYPE I 4-WAY LUMINAIRE SHOWN)
- INSTALL OVERHEAD RESIDENTIAL LTG. UNIT (3.048m ARM WITH TYPE II 2-WAY LUMINAIRE SHOWN)
- EXISTING WOOD POLE (AMERITECH POLE SHOWN)
- REMOVE WOOD POLE (P.L.D. POLE SHOWN)
- REPLACE WOOD POLE (HEIGHT & CLASS AS INDICATED)
- INSTALL WOOD POLE (HEIGHT & CLASS AS INDICATED) (USE SALVAGED POLE WHERE INDICATED)
- EXISTING OVERHEAD ST. LTG. UNIT
- REMOVE OVERHEAD ST. LTG. UNIT (D.E. CO. POLE SHOWN)
- INSTALL OVERHEAD ST. LTG. UNIT WITH 8FT. MAIN ST. LTG. BRACKET ARM.
- EXISTING OVERHEAD LINE
- REMOVE OVERHEAD LINE
- INSTALL OVERHEAD LINE
- INSTALL AND LATER REMOVE OVERHEAD LINE
- INSTALL GUY AND ANCHOR (10mm GUY UNLESS OTHERWISE NOTED)
- REMOVE GUY AND ANCHOR ROD
- INSTALL POLE GUY (10mm GUY UNLESS OTHERWISE NOTED)
- INSTALL ARM GUY (6mm GUY UNLESS OTHERWISE NOTED)
- REMOVE GUY (POLE OR ARM GUY WILL BE INDICATED)
- MATERIALS TO BE REMOVED
- MATERIALS TO BE INSTALLED
- CABLE POLE
- EXISTING MATERIALS
- MAKE WOOD POLE SELF-SUPPORTING IN CRUSHED STONE
- PHASES OF P.L.D. DISTRIBUTION WIRES OR EQUIPMENT
- D.E. CO. DISTRIBUTION WIRE
- D.E. SECONDARY WIRE
- INSTALL SUSPENSION INSULATOR
- P.L.D. DISTRIBUTION WIRE
- P.L.D. SECONDARY WIRE
- P.L.D. SERIES ST. LTG. WIRE
- P.L.D. MULT. ST. LTG. WIRE

GENERAL

- GUARD RAIL (CONCRETE)
- GUARD RAIL (STEEL)
- CENTER LINE (CL)
- PROPERTY LINE (PL) OR RIGHT OF WAY (ROW)
- PAVEMENT JOINTLINE AND CURB
- CURB LINE
- EXISTING ROUND CATCH BASIN
- EXISTING RECTANGLE CATCH BASIN
- EXISTING SEWER LINE, MANHOLE AND CATCH BASIN
- EXISTING DETROIT EDISON UNDERGROUND LINE AND MANHOLE
- EXISTING AMERITECH TELEPHONE UNDERGROUND LINE AND MANHOLE
- EXISTING GAS LINE AND MANHOLE
- EXISTING WATER LINE AND HANDHOLE
- EXISTING DETROIT PUBLIC LIGHTING UNDERGROUND LINE AND HANDHOLE.
- EXISTING DETROIT EDISON UNDERGROUND STEAM LINE
- EXISTING R.R. TRACKS
- EXISTING STREETCAR TRACKS
- EXISTING FENCE
- EXISTING PUBLIC TELEPHONE
- EXISTING TELEPHONE CONTROL BOX
- EXISTING TRANSFORMER
- NEW TRANSFORMER
- EXISTING R.R. CROSSING GATE AND FLASHERS
- EXISTING R.R. FLASHERS
- EXISTING R.R. CROSSING MAST ARM AND FLASHERS
- EXISTING DOUBLE POST SIGN (TYPE SHOWN ON PLANS)
- INSTALL DOUBLE POST SIGN (TYPE SHOWN ON PLANS)
- EXISTING SINGLE POST SIGN (TYPE SHOWN ON PLANS)
- INSTALL SINGLE POST SIGN (TYPE SHOWN ON PLANS)
- EXISTING MAST ARM ROAD SIGN (TYPE SHOWN ON PLANS)

TRAFFIC SIGNAL

- POCH POLE CONTACT HEIGHT OF TRAFFIC SIGNAL SPAN WIRE
- L.C.H. LOWEST CONTACT HEIGHT OF TRAFFIC SIGNAL TO SPAN WIRE.
- REMOVE HOOD AND INSTALL LAMPS (INCIDENTAL TO INSTALLATION OF TRAFFIC SIGNAL ON THIS CONTRACT)
- BACK-OUT LAMPS AND HOOD (SIGNALS INCLUDED IN THE INSTALLATION OF TRAFFIC SIGNAL ON THIS CONTRACT).
- EXISTING STOP BAR
- STOP BAR TO BE INSTALLED

TRAFFIC SIGNAL

- 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 3-SECTION 300mm(12") TRAFFIC SIGNAL (2-WAY SHOWN)
- EXISTING 1 OR 2-SECTION 300mm(12") TRAFFIC SIGNAL FLASHERS
- INSTALL 1 OR 2-SECTION 300mm(12") TRAFFIC SIGNAL FLASHERS
- INSTALL TWO-WAY ILLUMINATED CASE SIGN
- REMOVE TWO-WAY ILLUMINATED CASE SIGN
- INSTALL TWO-WAY ILLUMINATED CASE SIGN (SALVAGED)
- REMOVE TWO-WAY ILLUMINATED CASE SIGN
- EXISTING TWO-WAY ILLUMINATED CASE SIGN
- INSTALL FOUR-WAY ILLUMINATED CASE SIGN
- REMOVE FOUR-WAY ILLUMINATED CASE SIGN
- EXISTING FOUR-WAY ILLUMINATED CASE SIGN
- INSTALL 2-SECTION, 300mm(12") PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (2-WAY SHOWN)
- INSTALL 2-SECTION, 300mm(12") PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL WITH SALVAGED HEAD (2-WAY SHOWN)
- REMOVE 2-SECTION, PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- EXISTING 2-SECTION, 300mm(12") PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN)
- INSTALL TRAFFIC SIGNAL CONTROLLER (NEW OR SALVAGED AS SHOWN) (EXCEPT AS OTHERWISE NOTED).
- INSTALL MAST ARM STD. & MAST ARM ON NEW FOUNDATION (EXCEPT AS OTHERWISE NOTED).
- INSTALL TRAFFIC SIGNAL PEDESTAL ON NEW FOUNDATION (EXCEPT AS OTHERWISE NOTED).
- INSTALL 9.14m(30') ANCHOR BASE STEEL STRAIN POLE ON NEW FOUNDATION (EXCEPT AS OTHERWISE NOTED). (USE 400mm(16") BOLT CIRCLE FOR ALL NEW STRAIN POLES).
- EXISTING TRAFFIC SIGNAL CONTROLLER
- EXISTING MAST ARM STANDARD
- EXISTING PEDESTAL
- EXISTING STEEL STRAIN POLE
- INSTALL OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- EXISTING OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- REMOVE OVERHEAD PLASTIC JACKETED CABLE (P.J.)
- INSTALL JUNCTION BOX (J.B.)
- REMOVE JUNCTION BOX (J.B.)
- EXISTING JUNCTION BOX (J.B.)
- EXISTING LOOP DETECTOR
- INSTALL LOOP DETECTOR

CONTRACTOR TO FURNISH AND INSTALL ALL MATERIALS

002

JEFFERSON AVE OVER DEQUINDRE CUT

LEGEND

MANSSELL ASSOCIATES INC.

ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Drawn M.A.I.	Scale No Scale
Checked	Checked by
Drwg. No. 1 OF 25	Approved by
File No. M4044	

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

27-1104
Sheet No. 21
Date 02-11-05

DISK FILE:-----

GENERAL INFORMATION

1. CALL MISS DIG (313) (647-7344) 3 WORKING DAYS PRIOR TO ANY EXCAVATION FOR THE LOCATIONS OF UNDERGROUND UTILITIES.
2. A MINIMUM CLEARANCE OF 1.07m (3.5') HORIZONTAL & .3048m(1.0') VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED P.L.D. FACILITIES & EXISTING U.G. WATER FACILITIES.
3. CONTRACTOR TO NOTIFY MICHIGAN CONSOLIDATED GAS CO. AT (313) 491-6301 IF PROTECTIVE COATED GAS MAIN IS EXPOSED OR DAMAGED.
4. CONTRACTOR TO NOTIFY D.E. CO., AT (313) 237-9564 IF PROTECTIVE COATING OF ANY D.E.CO. HIGH VOLTAGE UNDERGROUND LINE IS EXPOSED OR DAMAGED.
5. ALL EXISTING P.L.D. LIGHTING, TRAFFIC SIGNAL, PRIMARY, TRANSMISSION ETC. CIRCUITS SHALL ALWAYS BE MAINTAINED IN AN OPERATIONAL CONDITION (EXCEPT WHERE OTHERWISE NOTED). NOTIFY P.L.D. SYSTEM OPERATOR AT (313) 224-0500 48 HOURS PRIOR TO BEGINNING WORK ON P.L.D. CIRCUITS & KEEP HIM INFORMED ON A DAILY BASIS.
6. EXISTING OVERHEAD & TRAFFIC SIGNAL FACILITIES ARE NOT NECESSARILY SHOWN ON PLANS.
7. CROSSARMS SHALL BE REMOVED AFTER ALL CONTACTS ARE REMOVED. (INCLUDED WITH THE REMOVAL OF OVERHEAD LINES).
8. ALL OVERHEAD WIRES & UNDERGROUND CABLES SHALL CONSIST OF COPPER CONDUCTORS AS PER SPECIFICATIONS.
9. ALL REMOVED WOOD POLES & CROSSARMS SHALL BE DISPOSAL BY P.L.D. THE CONTRACTOR AT A PROPER SITE.
10. 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).
11. ARM GUYS SHALL BE SIEMENS-MARTIN GRADE. ANCHOR AND POLE GUYS SHALL BE EXTRA HIGH STRENGTH GRADE.
12. INSTALL WOOD POLES SO AS NOT TO INTERFERE WITH TRAFFIC OR FUTURE CONSTRUCTION STAGES.
13. ALL SALVAGED WOOD POLES DIRECTED TO BE INSTALLED SHALL BE POLES PREVIOUSLY INSTALLED NEW ON THIS CONTRACT.
14. ALL TRANSFORMER POLES AND CABLE POLES SHALL BE FITTED UP WITH 3.048m (120") ARMS (EXCEPT WHERE OTHERWISE INDICATED).
15. INSTALLATION OF ARMS FOR EQUIPMENT, CUTOOTS, POTHEADS, TRANSFORMER, ETC. NOT SHOWN ON NEW CABLE AND TRANSFORMER POLES SHALL BE INSTALLED AS PER THE DETAIL DRWG. REQUIREMENT AND SHALL BE INCLUDED IN THE FITTING-UP OF THE CABLE AND/OR TRANSFORMER POLE.
16. ALL POTHEADS ON PRIMARY DISTRIBUTION CABLE POLES SHALL BE FLAT DIVERGENT DISCONNECTING TYPE.
17. 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.
18. ALL TRAFFIC STREET SIGNS SUCH AS "NO PARKING", "NO STANDING" ETC. SHALL BE TRANSFERRED FROM OLD STD. OR POLE TO NEW STD. OR POLE AT SAME LOCATION OR IN CLOSE PROXIMITY BY D.D.O.T.
19. ALL TRAFFIC SIGNALS SHALL BE MOUNTED WITH NEW STANDARD TRAFFIC SIGNAL BRACKETS & FITTINGS.
20. 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.
21. WHEN ENTERING PROPOSED CONDUIT INTO EXISTING MANHOLES & HANDHOLES EXERCISE CAUTION NOT TO DISTURB EXISTING CABLES. WALLS SHALL BE CORE DRILLED ONLY FOR ENTRANCE OF CONDUITS. NEW CONDUITS SHALL NOT INTERFERE WITH RACKING AND / OR TRAINING OF CABLES.

22. ALL SALVAGED TRAFFIC SIGNALS DIRECTED TO BE INSTALLED SHALL BE TRAFFIC SIGNALS PREVIOUSLY INSTALLED NEW ON THIS CONTRACT. (EXCEPT AS OTHERWISE INDICATED).
23. FOR TRAFFIC SIGNAL SPAN WIRE USE 10mm (3/8") EXTRA HIGH STRENGTH GRADE AS PER SPECIFICATIONS.
24. SIDEWALK RAMPS OF THE TYPE & LOCATION AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER SHALL BE CONSTRUCTED.
25. SEAL-END OF CABLE WHERE COILING OF CABLE IS CALLED FOR ON PLANS. (CONTRACTOR SHALL RECEIVE PAYMENT FOR COILED-UP CABLES).
26. CONTRACTOR SHALL DELIVER WHERE REQUIRED TO THE PUBLIC LIGHTING DEPARTMENT THE T.S. CONTROLLER FOR TIMING. CONTRACTOR SHALL PICK-UP CONTROLLER FROM P.L.D. WHEN READY FOR INSTALLATION.
27. PROPOSED T.S. SHALL BE PUT INTO OPERATION AT TIME OF REMOVAL OF EXISTING T.S. FACILITIES. CONTRACTOR SHALL NOTIFY THE P.L.D. INSPECTION IF HE IS UNABLE TO MAINTAIN T.S. IN AN OPERABLE CONDITION AT ALL TIMES.
28. THE CANDLEPOWER DISTRIBUTION FOR ALL MERCURY VAPOR & SODIUM VAPOR ST. LTG. LUMINAIRES SHALL BE SEMI-CUTOFF, MEDIUM DISTRIBUTION OF TYPE AS INDICATED ON THE PLANS.
29. ALL LUMINAIRES SHALL BE PROVIDED WITH 240V. INTERNAL BALLASTS AS CALLED FOR ON PLANS. (EXCEPT WHERE OTHERWISE INDICATED)
30. 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 INCLUDED WITH THE REMOVAL OF LUMINAIRE).
31. WHERE INSTALLATION OF NEW MANHOLES OR HANDHOLES OVER EXISTING CONDUITS (TO ACCOMMODATE NEW & EXISTING CONDUITS) IS CALLED FOR ON PLANS, CONTRACTOR SHALL CAREFULLY & SO AS NOT TO DAMAGE EXIST. CABLES, REMOVE THE EXISTING CONDUITS & ENCASEMENT WITHIN HOLES. EXIST. CABLES SHALL BE EXTENDED & PROPERLY TRAINED, RACKED & SUPPORTED.
32. WHERE ABANDONING OF U.G. CABLES IS CALLED FOR ON PLANS OR DIAGRAMS, CONTRACTOR SHALL CUT & REMOVE CABLES WITHIN MANHOLES & HANDHOLES.
33. FOR LOCATIONS OF P.L.D. INSTALLATIONS ON STRUCTURES SUCH AS CONDUITS HANDHOLES, CONDUIT SLEEVES, GALVANIZED STEEL CONDUITS & STREET LIGHTING STANDARD ANCHOR BOLTS SEE STRUCTURE PLANS.
34. PAVEMENT, SIDEWALK, CURB REMOVAL, REPLACEMENT AND EXCAVATION & BACKFILL SHALL BE DONE ACCORDING TO CITY OF DETROIT SPECIFICATIONS.
35. UNDERGROUND CABLE QUANTITIES ARE ITEMIZED ON GENERAL PLANS. ALL CABLES SHALL BE TAGGED IN ALL M.H.'S & H.H.'S. THIS INCLUDES EXIST. CABLES THAT ARE CONVERTED TO MULTIPLE, RECONNECTED TO OTHER CIRCUITS OR RENDERED DEAD.
36. ALL NEW SALVAGED & CONVERTED STEEL STREET LIGHTING STANDARDS SHALL BE PAINTED.
37. ALL ST. LTG. UNITS INSTALLED ON THIS CONTRACT AND EXIST. STREET LIGHTING UNITS CONVERTED OR RE-CONNECTED TO OTHER CIRCUITS SHALL BE STENCILLED OR RE-STENCILLED AS SHOWN ON PLANS. (INCLUDED TO STREET LIGHTING UNITS)
38. STENCILLING SHALL BE ON THE CURB SIDE OF THE POLE, LOCATED BETWEEN 1.219m (4') AND 1.524m (5') ABOVE GRADE. ALL LETTERS AND NUMBERS SHALL BE 50.8mm (2") IN HEIGHT. THE STENCILLING SHALL BE DONE WITH A WEATHER-RESISTANT ENAMEL: BLACK ENAMEL ON GRAY COLORED OR ALUMINUM POLES, AND YELLOW OR WHITE ENAMEL ON BLACK OR BRONZE COLORED POLES.

39. WHERE UNDERGROUND 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.
40. ALL NEW CONDUIT RUNS SHALL BE BUILT STRAIGHT AS POSSIBLE. BENDS SHALL HAVE NO LESS THAN 7.925m (26') RADIUS AND NO REVERSE OR "S" BENDS.
41. 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 (313) (931-3950).
42. ALL TREE TRIMMING REQUIRED TO CLEAR NEW OR SALVAGED STREET LIGHTING & TRAFFIC SIGNAL STD.'S AND O.H. ST. LTG. & TRAFFIC SIGNAL UNITS & O.H. WIRES SHALL BE INCLUDED WITH THE PAY-ITEM & NO EXTRA PAYMENT SHALL BE MADE.
43. WHERE IT IS SHOWN ON PLANS TO HAND DIG FOUNDATION, EXCAVATE BY HAND TOOLS ENTIRE DEPTH OF FOUNDATION. NO MECHANICAL EQUIPMENT SHALL BE USED.
44. CONTRACTOR SHALL NOTIFY THE P.L.D. SYSTEM OPERATION AT (313) (224-0500) & THE D.D.O.T. AFTER COMPLETION OF WORK AT ANY TRAFFIC SIGNAL INTERSECTION.
45. ALL CABLES SHALL BE TRAINED & PROPERLY RACKED IN ALL EXISTING MANHOLES & HANDHOLES. RACKS ARE TO BE INSTALLED WHERE NECESSARY & ARE INCLUDED IN THE INSTALLATION OF UNDERGROUND CABLE.
46. ALL CONDUITS NOT TERMINATING IN STRUCTURES SUCH AS MANHOLES, HANDHOLES OR FOUNDATIONS SHALL EXTEND .914m (3') BEYOND PAVEMENT LIMIT (EXCEPT AS OTHERWISE INDICATED). ALL UNOCCUPIED CONDUITS SHALL BE PLUGGED.
47. ALL NEW UNDERGROUND-FED STREET LIGHTING UNITS SHALL BE INSTALLED .762m (2.5') BACK OF FACE OF CURB UNLESS OTHERWISE INDICATED ON PLANS. VERIFY WITH P.L.D.
48. 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 BE REMOVED.
49. THE "FINAL" CONDUIT MUST BE TRIMMED FLUSH WITH MANHOLE WALL, HAVE END BELLS AND SPACERS AND BE TUCK POINTED. DO NOT ENCASE FINAL CONDUIT WITHOUT INSPECTION BY THE P.L.D. UNDERGROUND INSPECTION DEPARTMENT.
50. INSTALL 5mm (3/16") DIAMETER YELLOW POLYPROPYLENE ROPE IN ALL "FINAL" CONDUIT. (INCLUDE IN PAY ITEM FOR "CONDUIT")

HAND DIG ENTIRE DEPTH OF ALL STEEL STRAIN POLE & MAST ARM STANDARD FOUNDATIONS.

ALL REMOVED TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT SHALL BE SALVAGED IN REUSABLE CONDITION AND SHALL BECOME PROPERTY OF PLD. ALL REMOVED MATERIAL WILL BE STORED ON SITE FOR PICK-UP BY PLD. ALL MATERIAL LEFT FOR THE CONTRACTOR WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR FOR DISPOSAL AWAY FROM THE SITE.

CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND SPLICING OF CABLES AS SPECIFIED ON PLANS. ALL MATERIAL AND LABOR REQUIRED FOR CUTTING, SEALING, SPLICING (INCLUDING SPLICE KITS), RACKING, AND TAGGING OF CABLES SHALL BE INCLUDED IN THE INSTALLATION OF EACH RESPECTIVE CABLE. CONTRACTOR SHALL CONTACT THE P.L.D. SYSTEMS OPERATOR AT (313) 224-0500 PRIOR TO WORKING ON CABLES FOR COORDINATION AND INSPECTION.

REVISIONS	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

GENERAL INFORMATION

Job No.
49717A

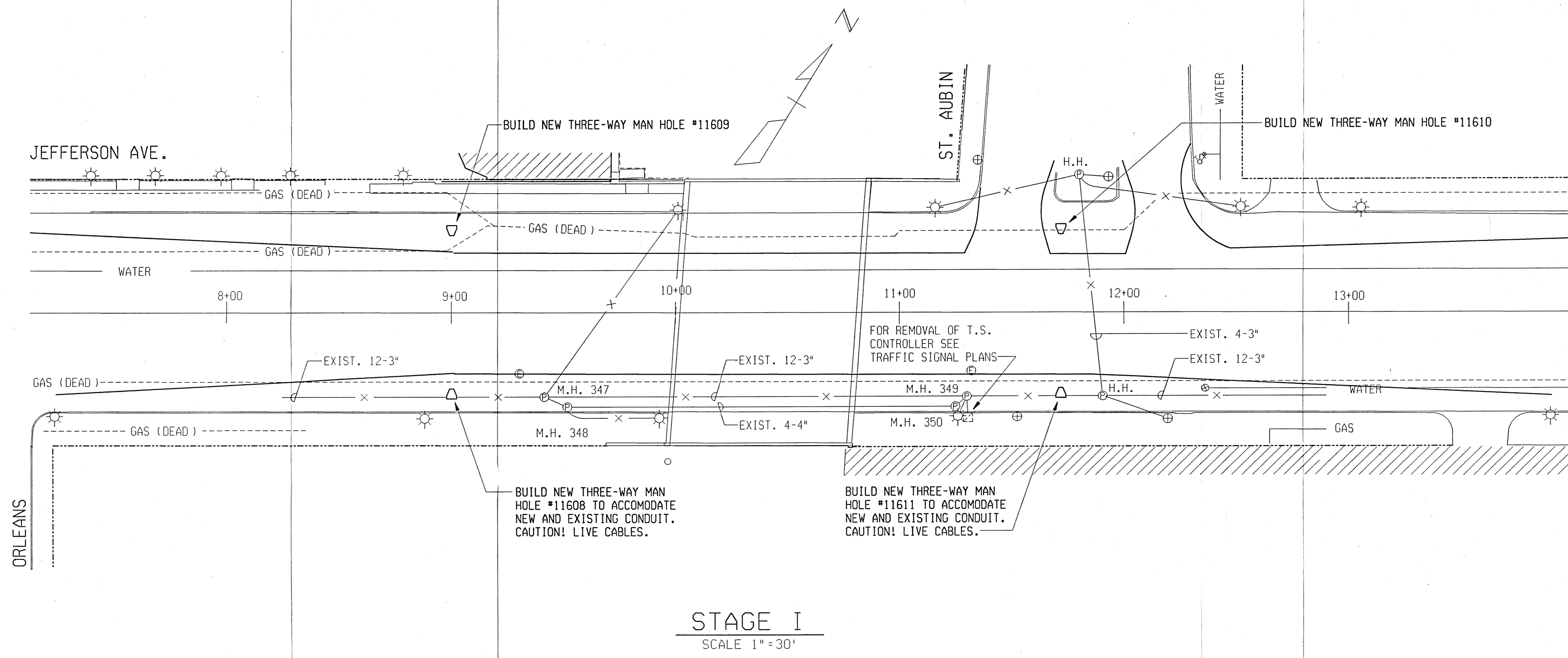
MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Drawn M.A.I.	Scale
Checked	No Scale
Drwg. No.	Checked by
2 OF 25	Approved by
File No.	
M4044	

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

003
27-1104
Sheet No.
22
Date
02-11-05

SHEET NO.
JOB NO.
CONTRACT SECTION



LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
1	Manhole, Three Way	4 Ea

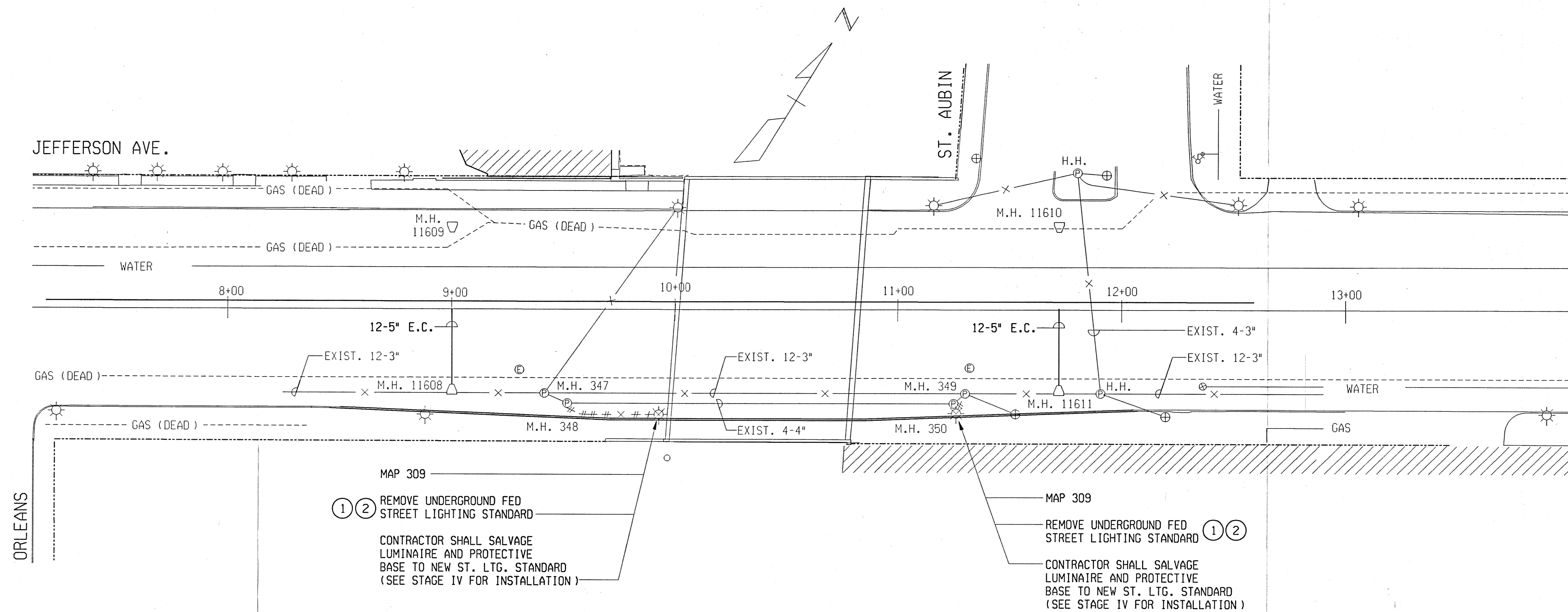
STAGE CONSTRUCTION SHEET
JEFFERSON AVE OVER DEQUINDRE CUP
PLD STREET LIGHTING AND UTILITIES

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River Farmington, MI 48335
(248) 473-7070

DRAWN MAI
CHECKED
FILE NO. M4044S1



DATE	PLD FILE NO.	JOB NO.	DESIGN UNIT	SHEET
02-11-05	27-1104	49717A		23



MAP 309
 ① ② REMOVE UNDERGROUND FED STREET LIGHTING STANDARD
 CONTRACTOR SHALL SALVAGE LUMINAIRE AND PROTECTIVE BASE TO NEW ST. LTG. STANDARD (SEE STAGE IV FOR INSTALLATION)

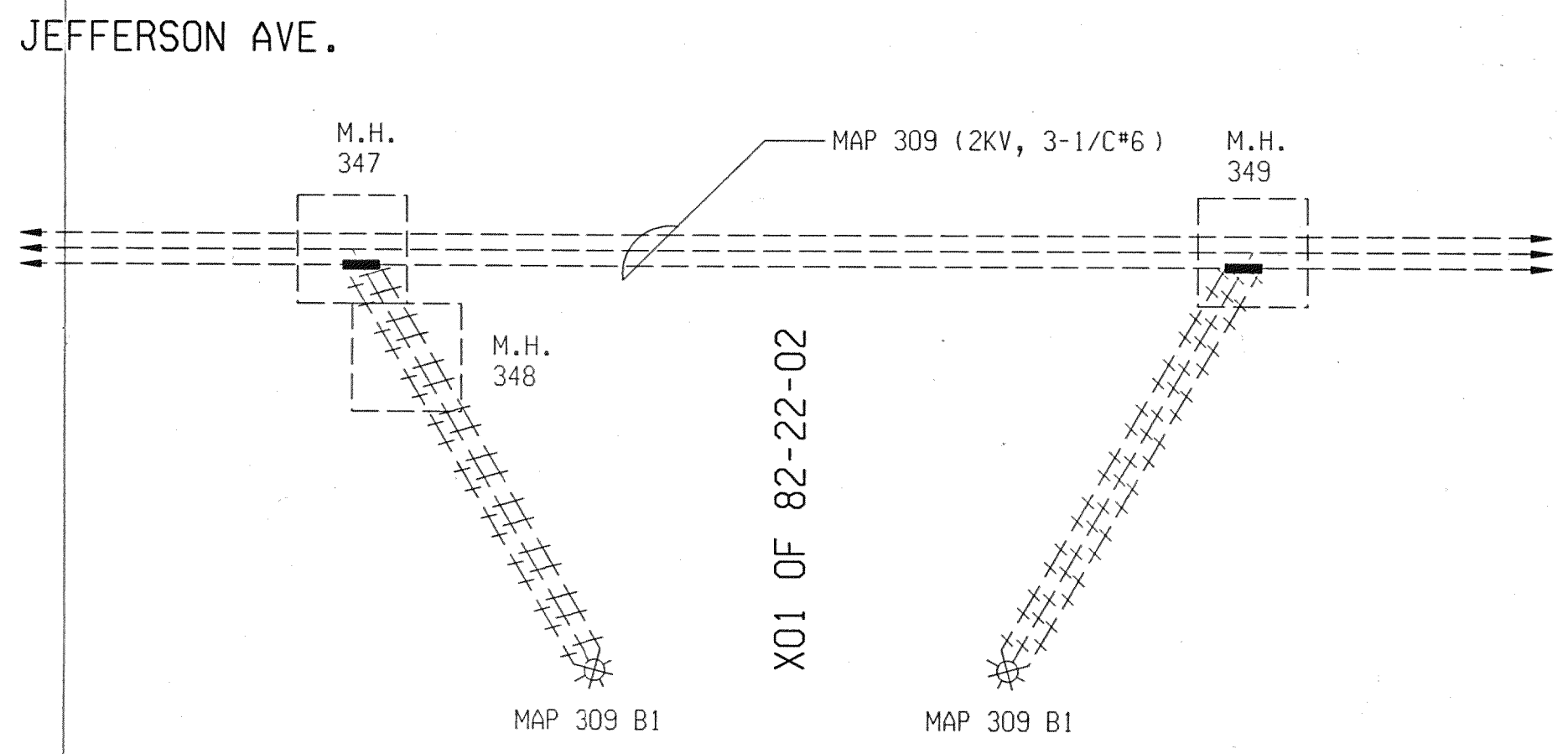
MAP 309
 REMOVE UNDERGROUND FED STREET LIGHTING STANDARD ① ②
 CONTRACTOR SHALL SALVAGE LUMINAIRE AND PROTECTIVE BASE TO NEW ST. LTG. STANDARD (SEE STAGE IV FOR INSTALLATION)

STAGE II
 SCALE 1" = 30'

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Fdn, Rem	2 Ea
②	Underground Fed St Ltg Unit, Rem	2 Ea
○	Conduit, Encased, 12, 5 inch, Modified	80 Ft

NOTES:

1. CONDUIT BANK ENCASEMENT MUST BE FORMED WITH SUITABLE MATERIAL.
2. CONDUIT MUST ENTER MANHOLE FLUSH AND BE TRIMMED, HAVE END BELLS, AND BE SPACED APART.
3. CONTRACTOR SHALL MAKE ALL CUTS AND SPLICES TO P.L.D. CABLES AS SPECIFIED ON PLANS. THE CONTRACTOR SHALL NOTIFY MR. JOHN MILLER (313) 267-8155 72 HOURS PRIOR FOR COORDINATION AND INSPECTION. PAYMENT INCLUDED IN THE AFFECTED PAYITEMS.



MULT. ST. LTG. DIAGRAM
 480/960V. MAP 309

STAGE CONSTRUCTION SHEET

JEFFERSON AVE OVER DEQUINDRE CUT

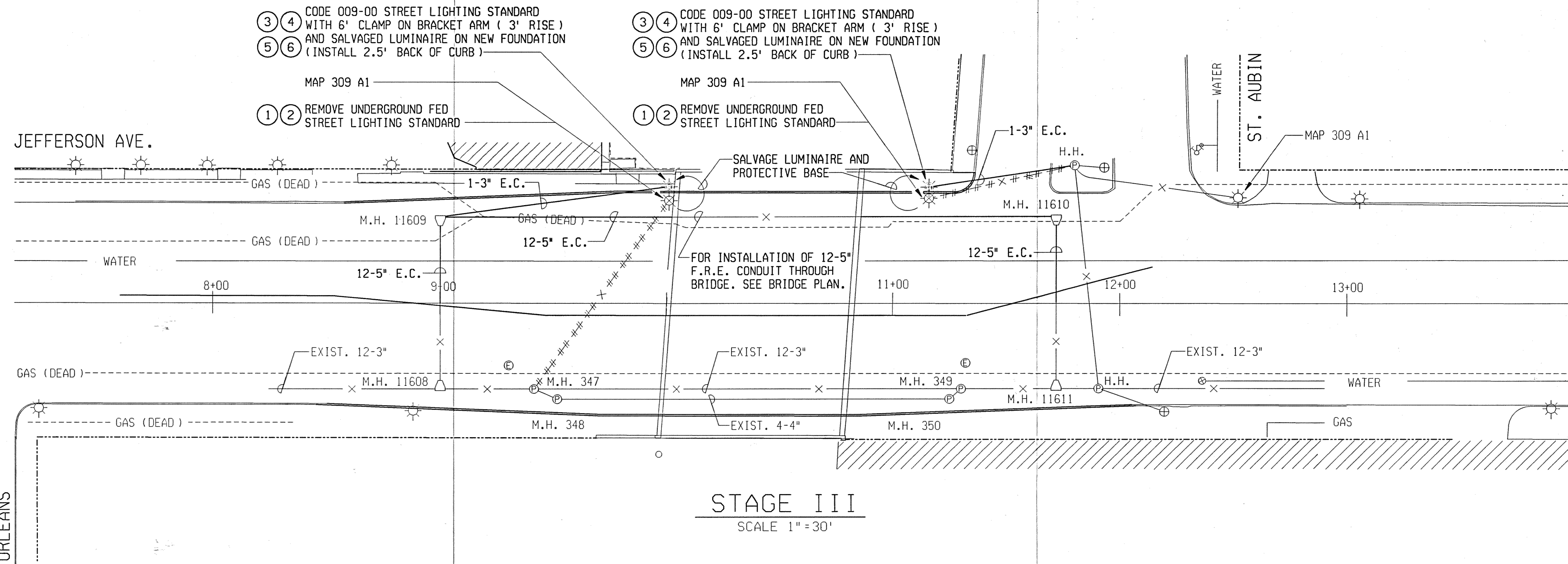
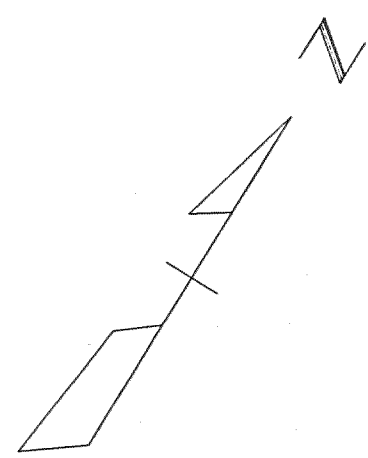
PLD STREET LIGHTING AND UTILITIES

PLAN PREPARED BY
MANSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River
 Farmington, MI 48335
 (248) 473-7070

DRAWN MAI
 CHECKED
 FILE NO. M4044S2



DATE	PLD FILE NO.	JOB NO.	DESIGN UNIT	SHEET
02-11-05	27-1104	49717A		24

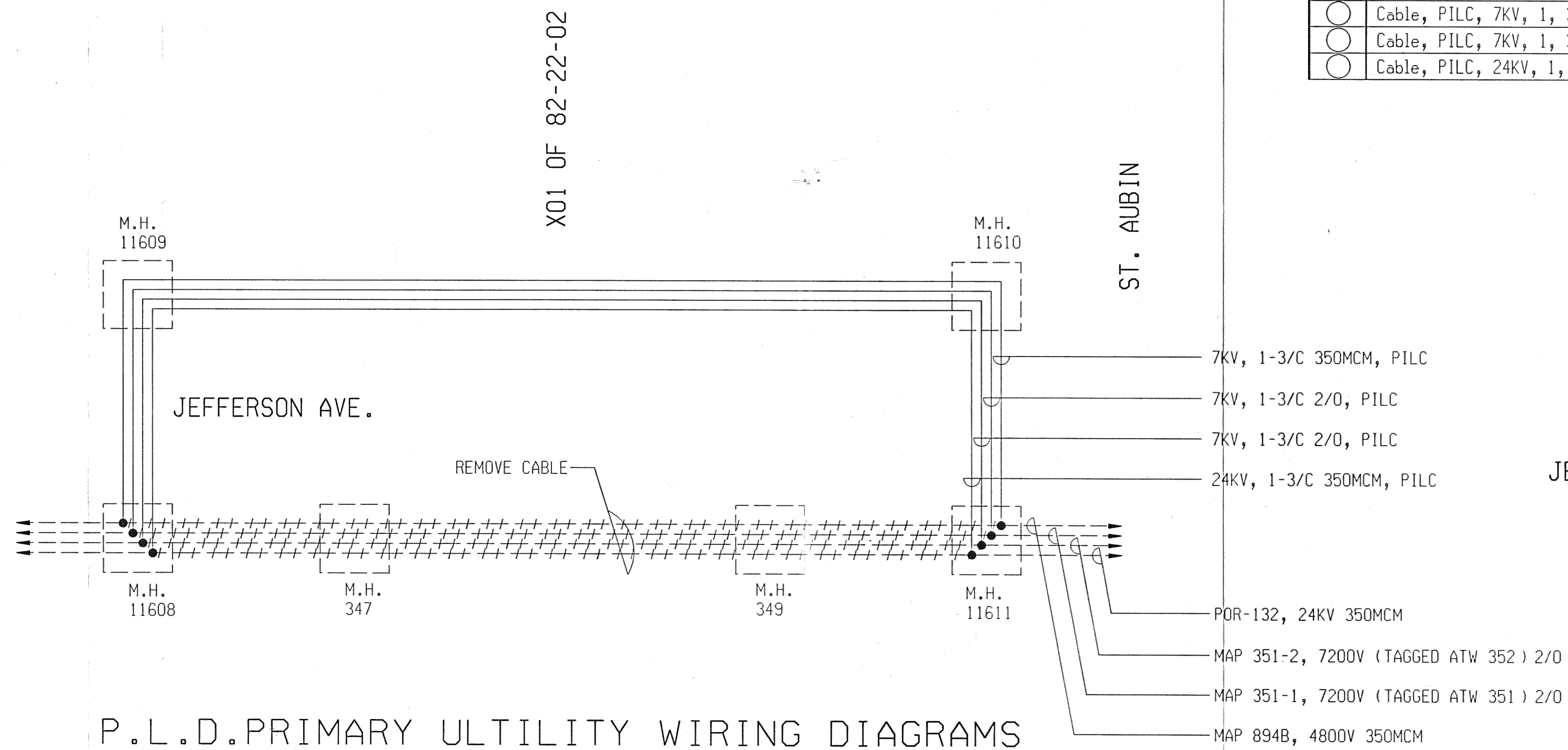


STAGE III
SCALE 1" = 30'

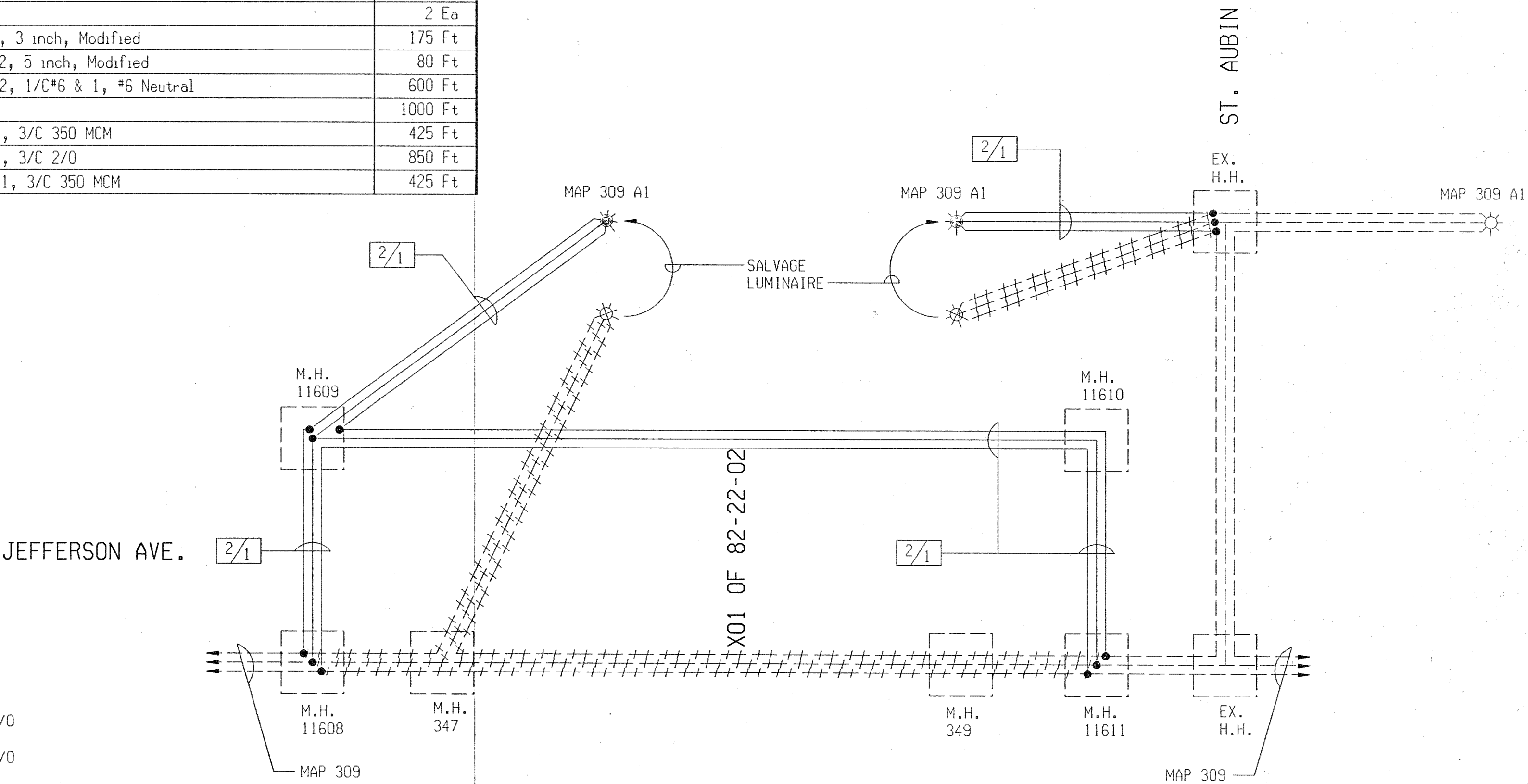
SALVAGING OF THE PROTECTIVE BASES TO THE NEW STREET LIGHTING STANDARDS SHALL BE INCLUDED IN THE PAYITEM "Luminaire, Salv"

ALL STREET LIGHTING STANDARDS INSTALLED ON THIS PROJECT SHALL BE PAINTED GREEN. PAYMENT INCLUDED IN THE COST OF CODE 009-00 STREET LIGHTING STANDARD. CONTRACTOR SHALL MATCH GREEN TO THE EXISTING POLES IN AREA OR AS DIRECTED BY THE P.L.D.

NO.	ITEM	QUANTITIES
①	Fdn, Rem	2 Ea
②	Underground Fed St Ltg Unit, Rem	2 Ea
③	Code 009-00 Anchor Base St Ltg Standard	2 Ea
④	Light Std Fdn	2 Ea
⑤	Bracket Arm, Clamp On, 6 foot, 3 foot Rise	2 Ea
⑥	Luminaire, Salv	2 Ea
○	Conduit, Encased, 1, 3 inch, Modified	175 Ft
○	Conduit, Encased, 12, 5 inch, Modified	80 Ft
○	St Ltg Cable, 2kv, 2, 1/C*6 & 1, *6 Neutral	600 Ft
○	Cable, Rem	1000 Ft
○	Cable, PILC, 7KV, 1, 3/C 350 MCM	425 Ft
○	Cable, PILC, 7KV, 1, 3/C 2/0	850 Ft
○	Cable, PILC, 24KV, 1, 3/C 350 MCM	425 Ft



P.L.D. PRIMARY UTILITY WIRING DIAGRAMS



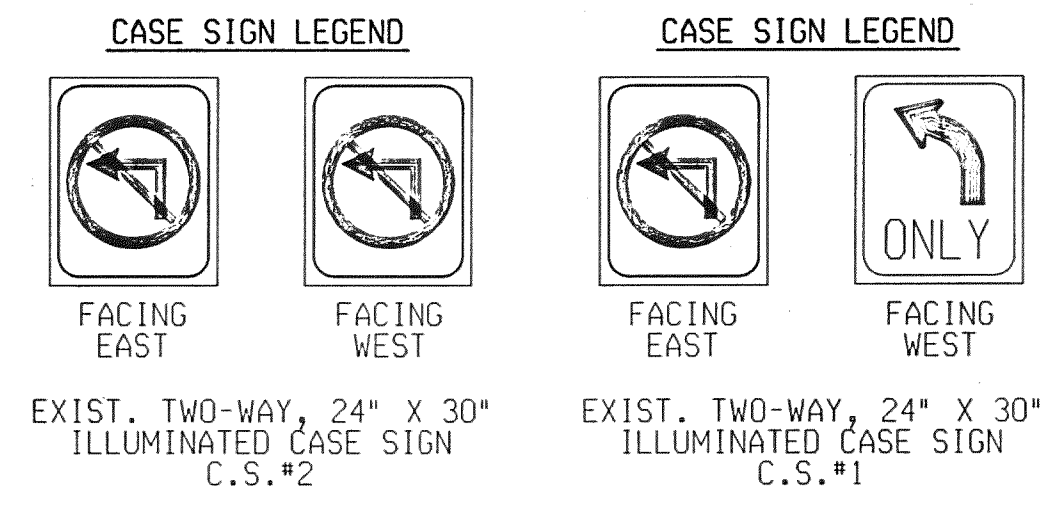
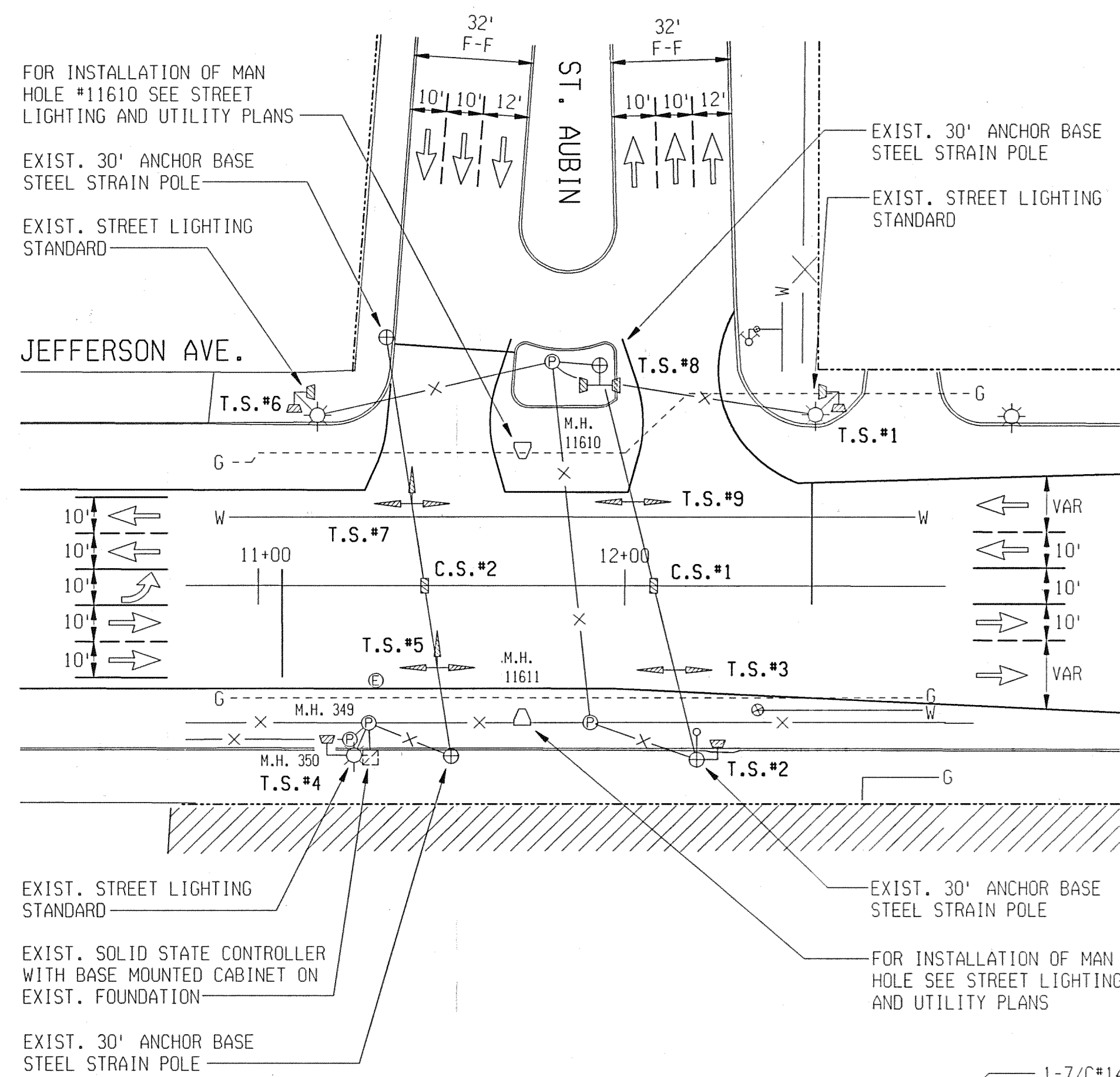
MULT. ST. LTG. DIAGRAM
480/960V. MAP 309

STAGE CONSTRUCTION SHEET

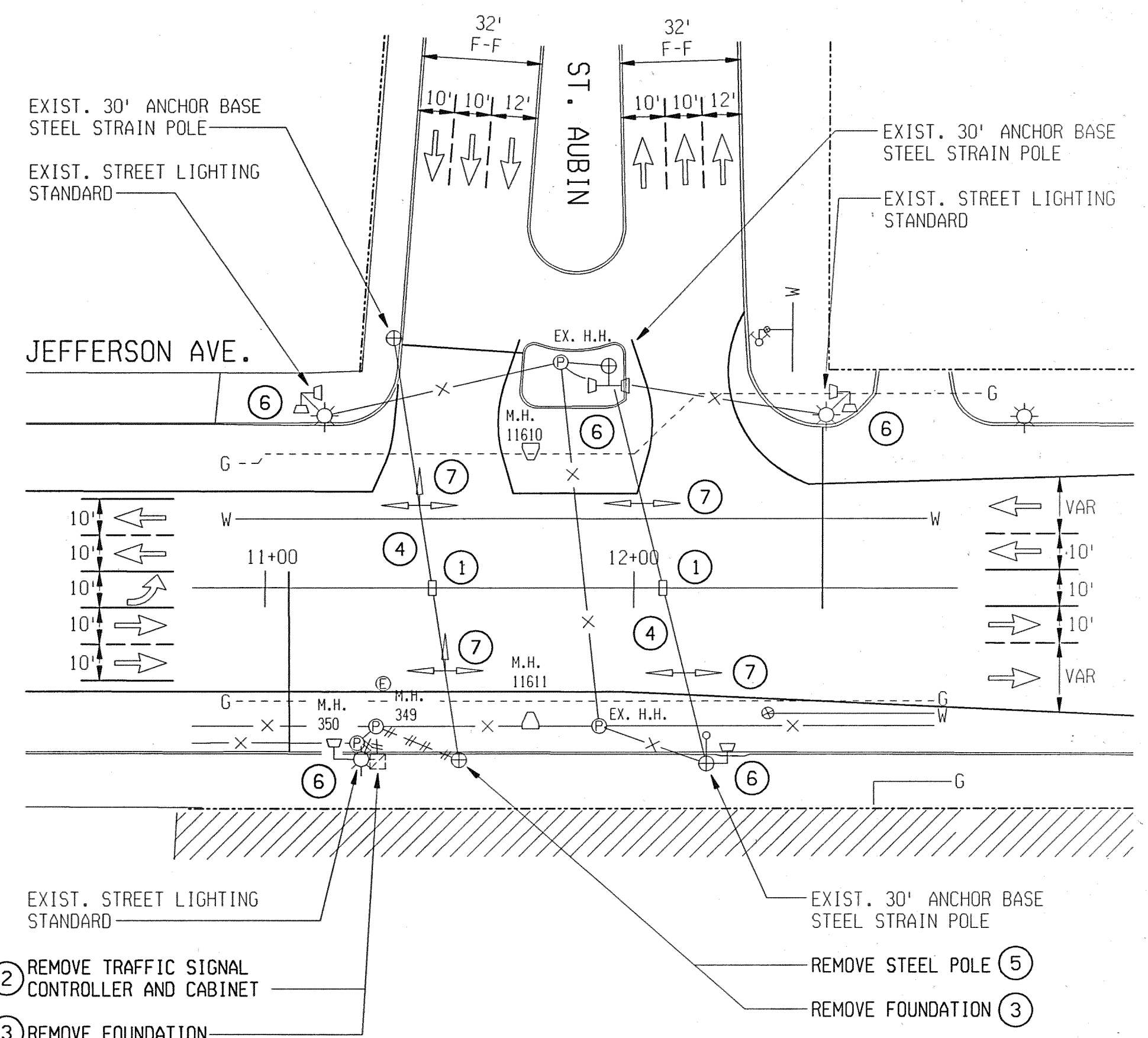
JEFFERSON AVE OVER DEQUINDRE CUT

PLD STREET LIGHTING AND UTILITIES

PLAN PREPARED BY MANSSELL ASSOCIATES INC. ENGINEERING CONSULTANTS 33608 Grand River Farmington, MI 48335 (248) 473-7070	DRAWN MAI CHECKED FILE NO. M4044S3		DATE	PLD FILE NO.	JOB NO.	DESIGN UNIT	SHEET
			02-11-05	27-1104	49717A		25

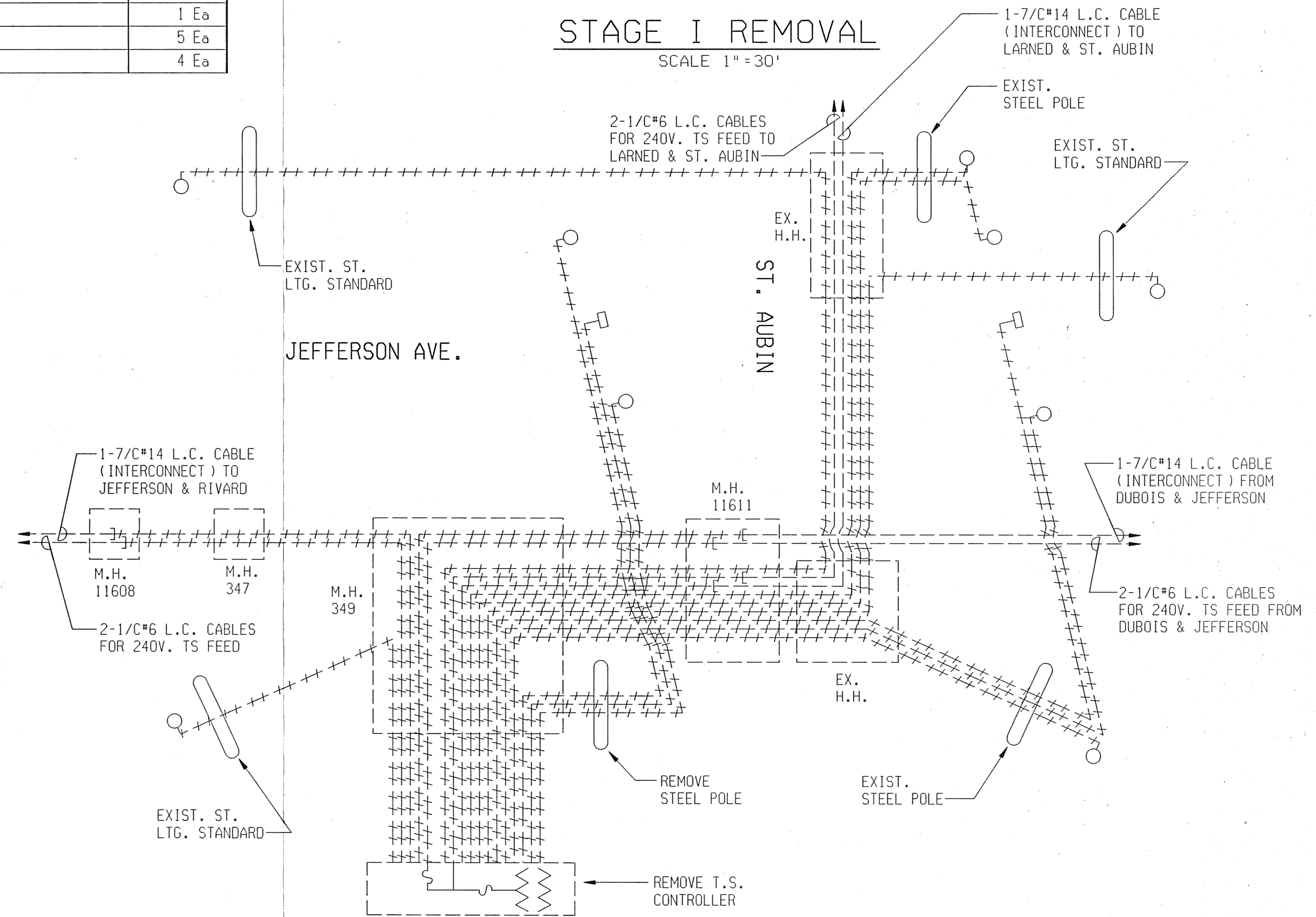
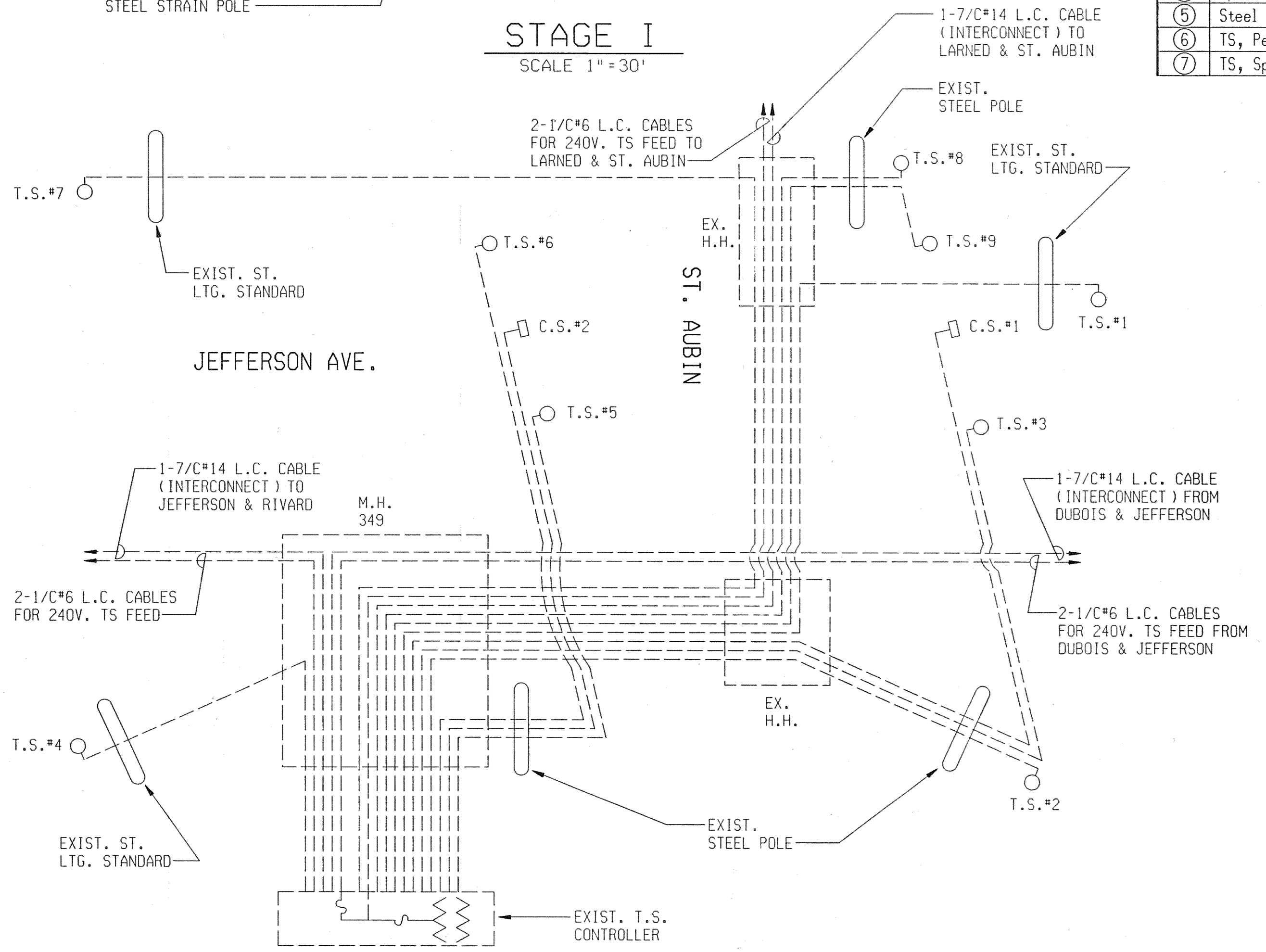


LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Case Sign, Rem	2 Ea
②	Controller and Cabinet, Rem	1 Ea
③	Fdn, Rem	2 Ea
④	Span Wire, Rem	2 Ea
⑤	Steel Pole, Rem	1 Ea
⑥	TS, Pedestrian, Bracket Arm Mtd, Rem	5 Ea
⑦	TS, Span Wire Mtd, Rem	4 Ea



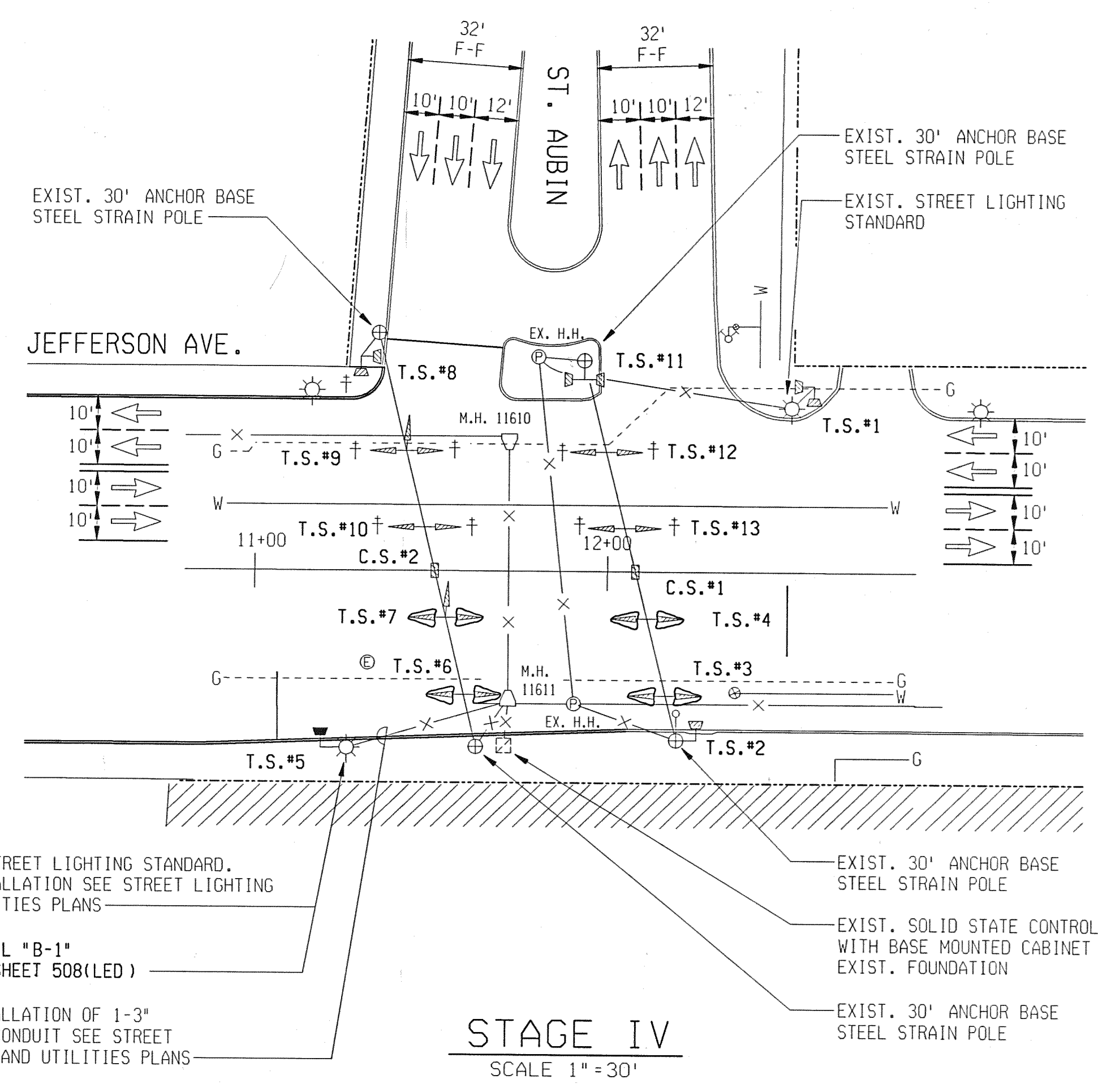
STAGE I
SCALE 1" = 30'

STAGE I REMOVAL
SCALE 1" = 30'



STAGE I WIRING DIAGRAM

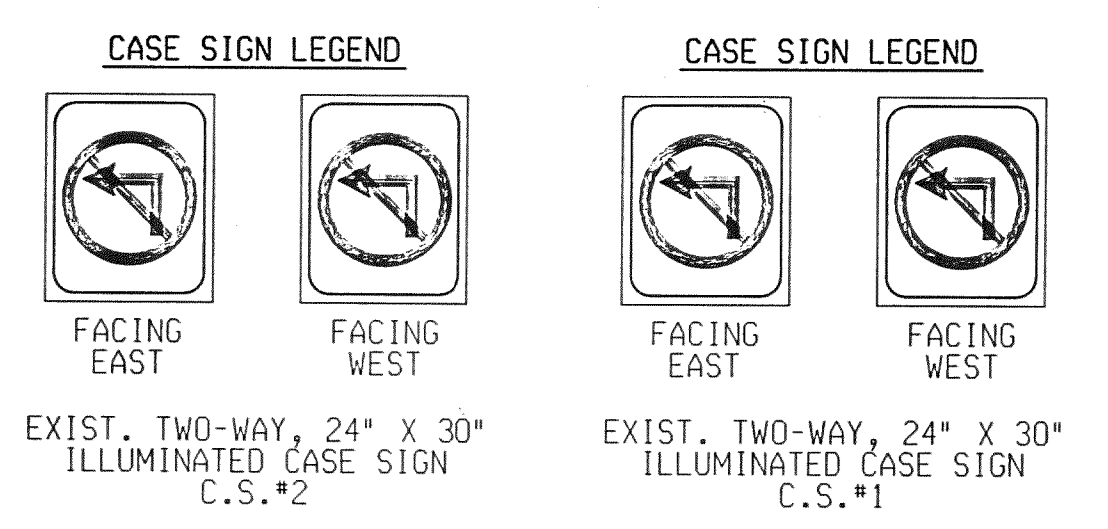
STAGE I REMOVAL WIRING DIAGRAM



STAGE IV
SCALE 1" = 30'

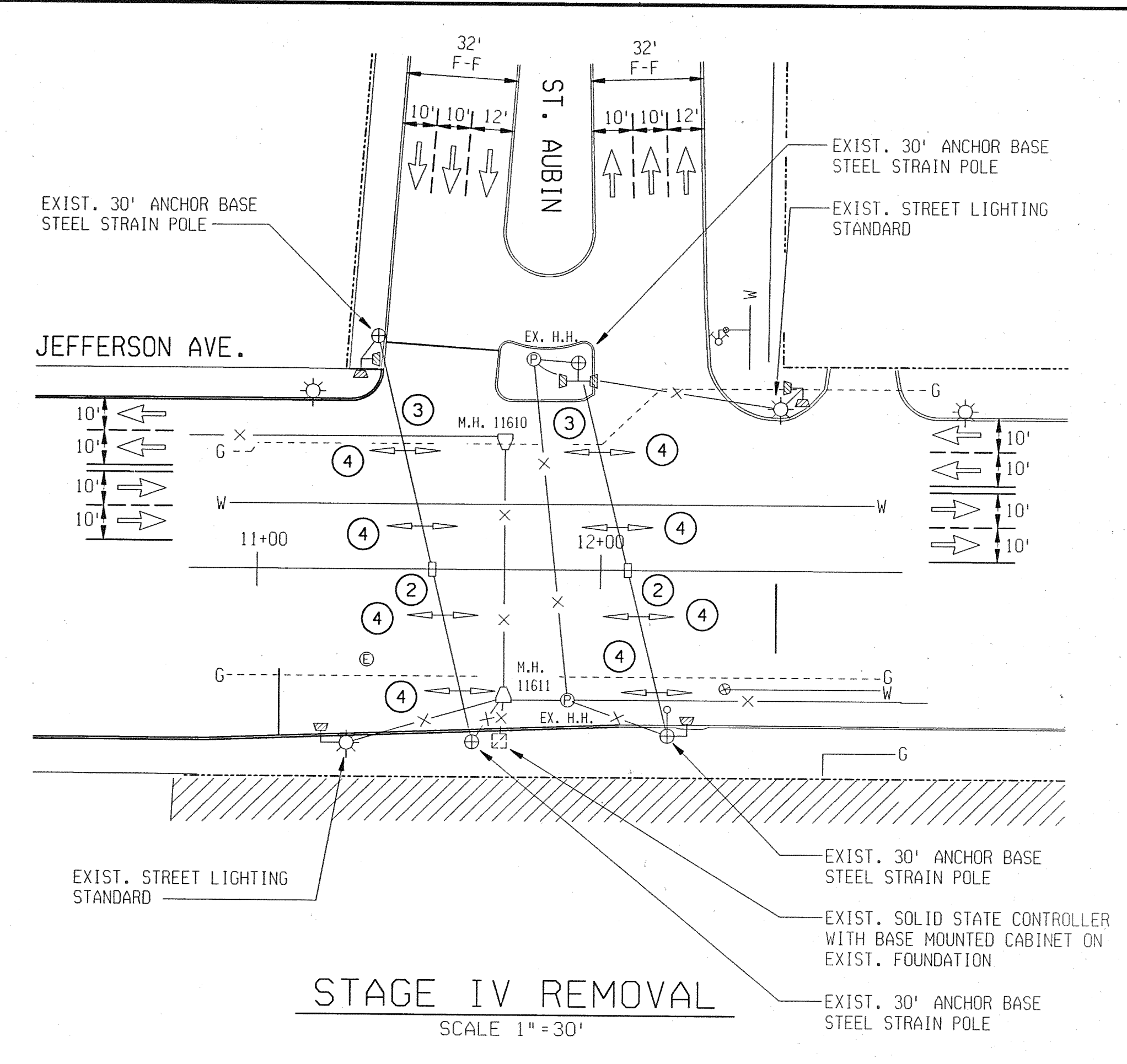
1 SEE DETAIL "B-1" DETAILS SHEET 508(LED)

FOR INSTALLATION OF 1-3" ENCASED CONDUIT SEE STREET LIGHTING AND UTILITIES PLANS

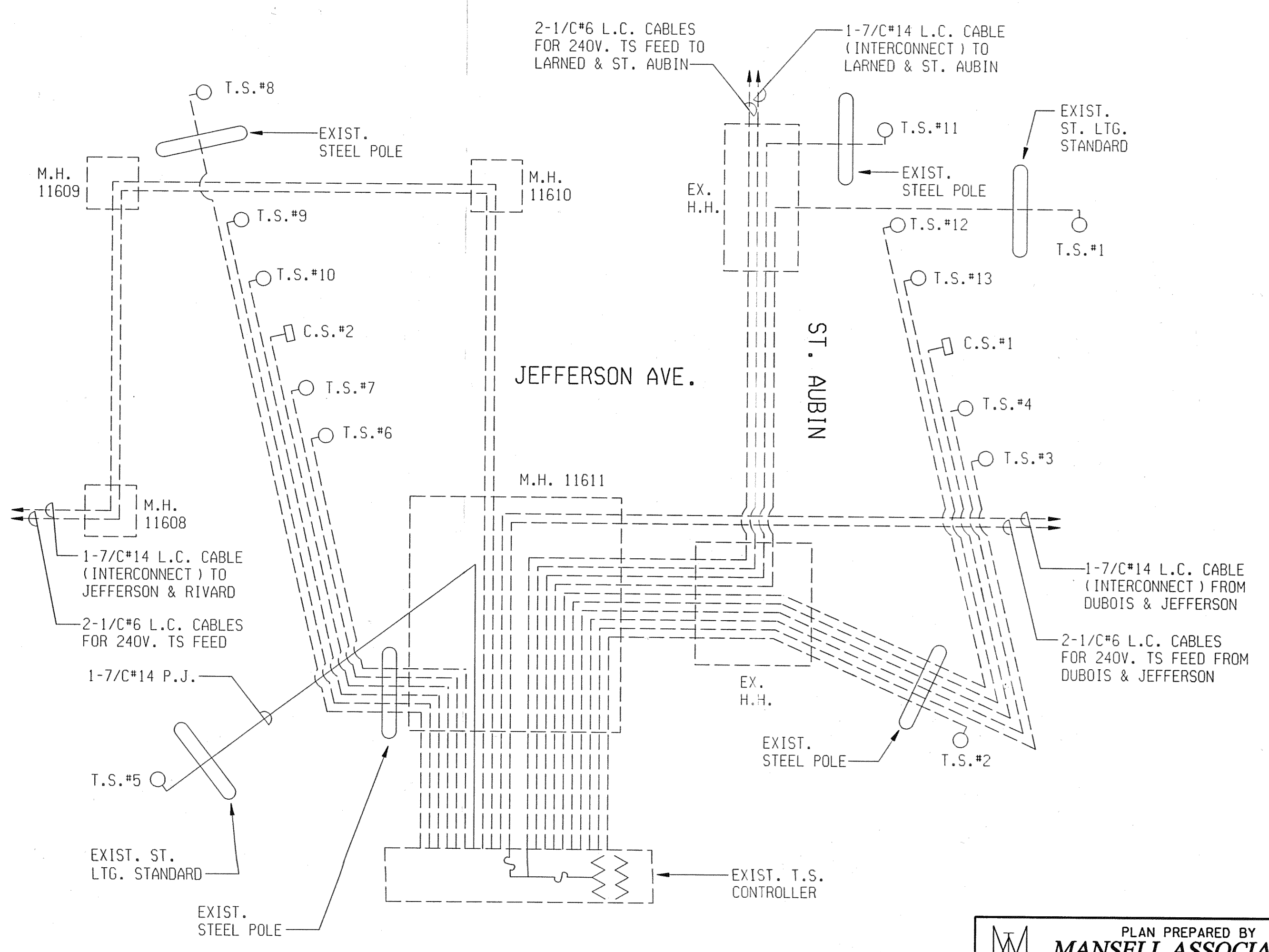


BAGGING & UNBAGGING OF TRAFFIC SIGNALS SHALL BE AS DIRECTED BY THE ENGINEER.

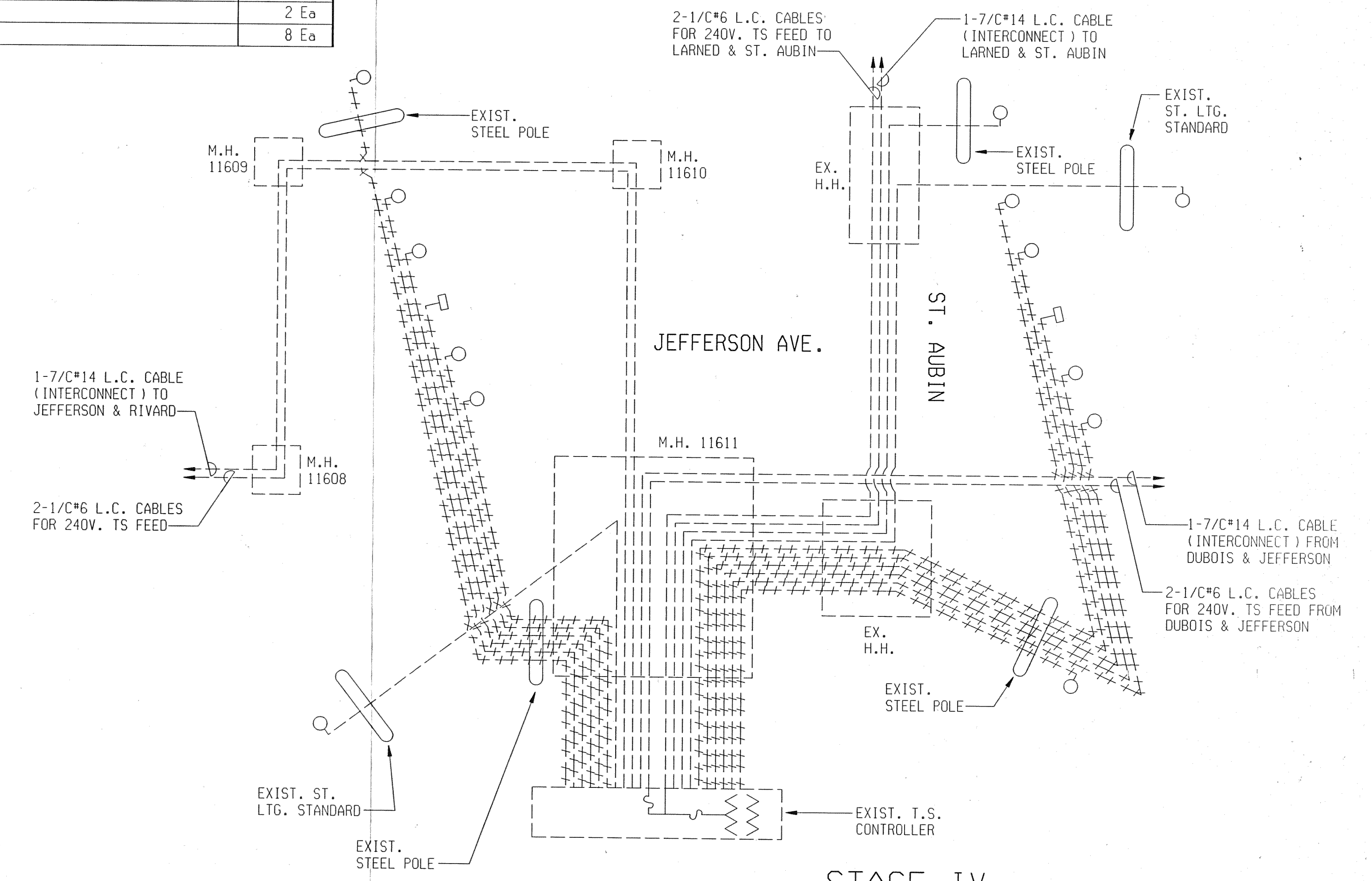
LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
1	TS, Pedestrian, One Way Bracket Arm Mtd (LED)	1 Ea
2	Case Sign, Rem	2 Ea
3	Span Wire, Rem	2 Ea
4	TS, Span Wire Mtd, Rem	8 Ea



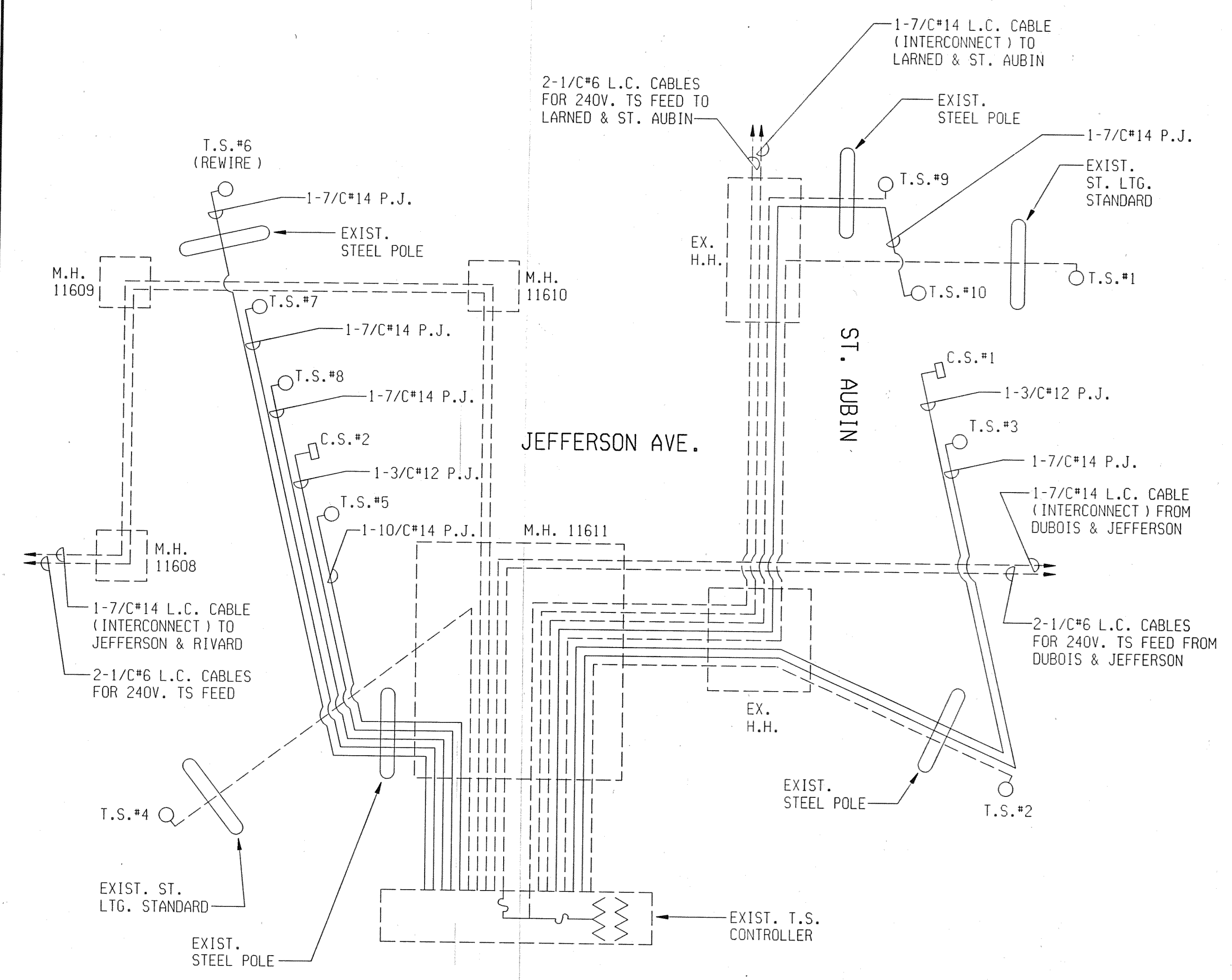
STAGE IV REMOVAL
SCALE 1" = 30'



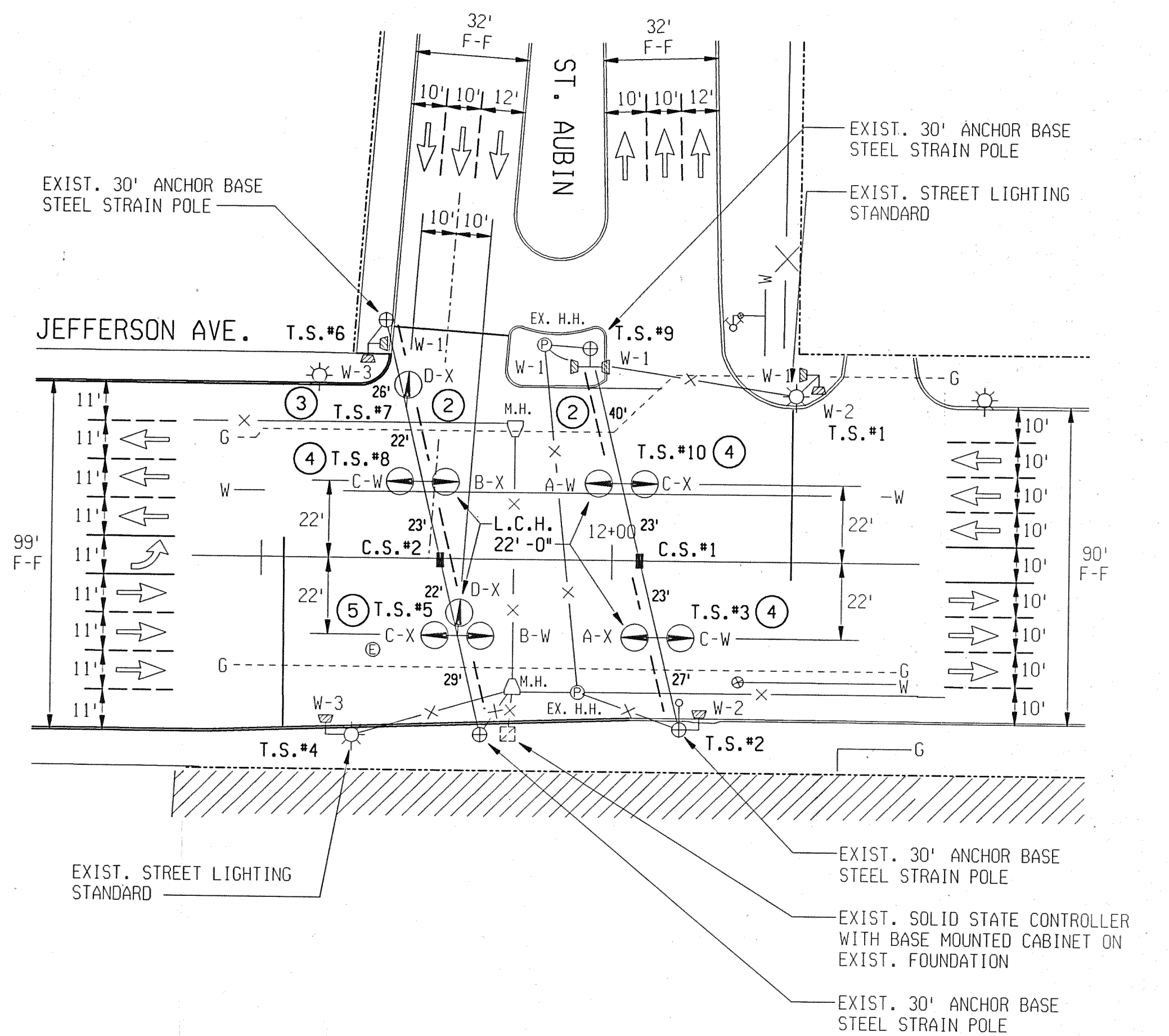
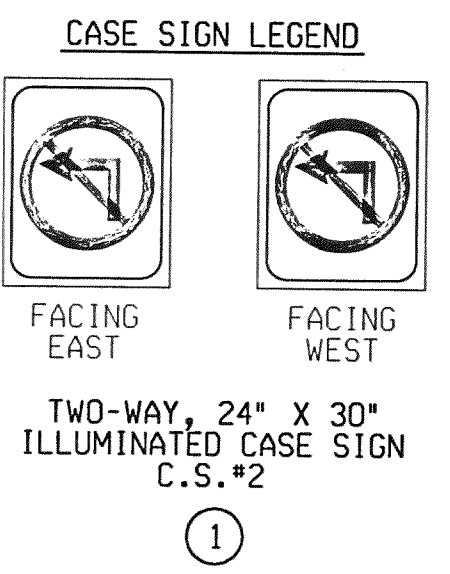
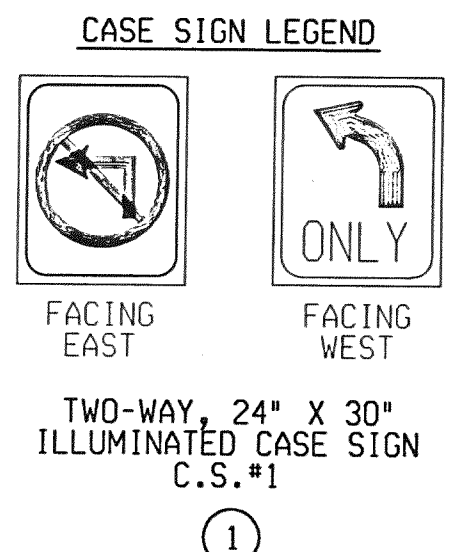
STAGE IV WIRING DIAGRAM



STAGE IV REMOVAL WIRING DIAGRAM

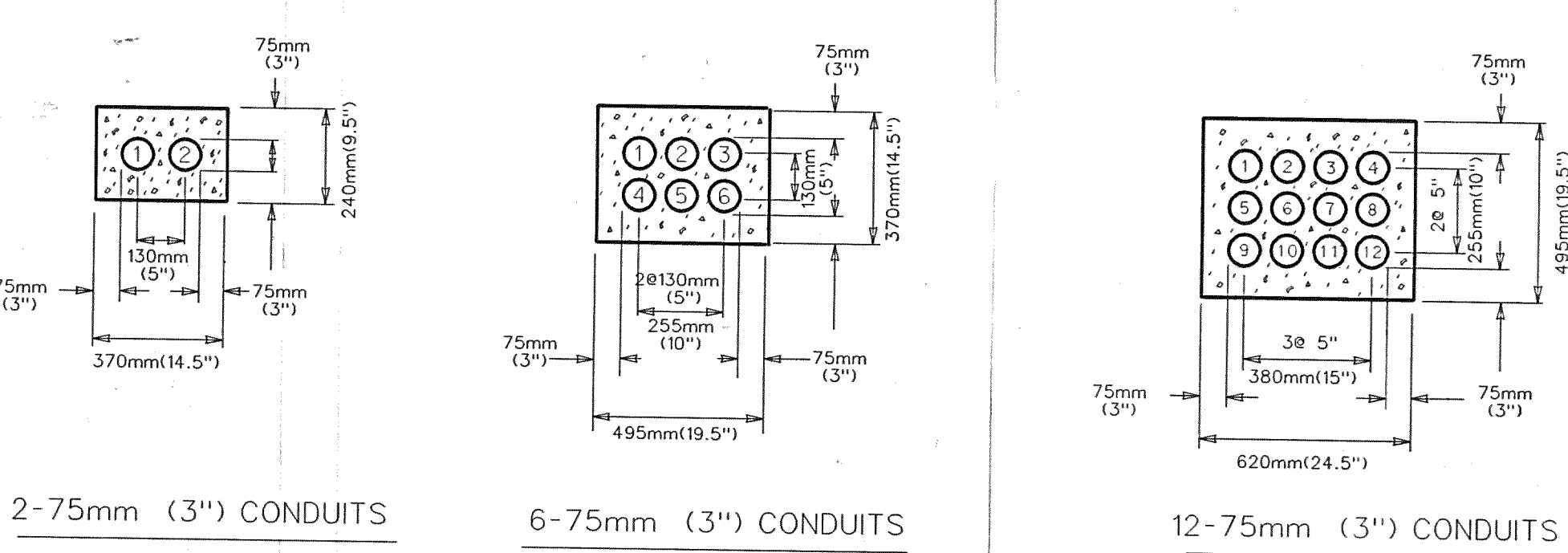
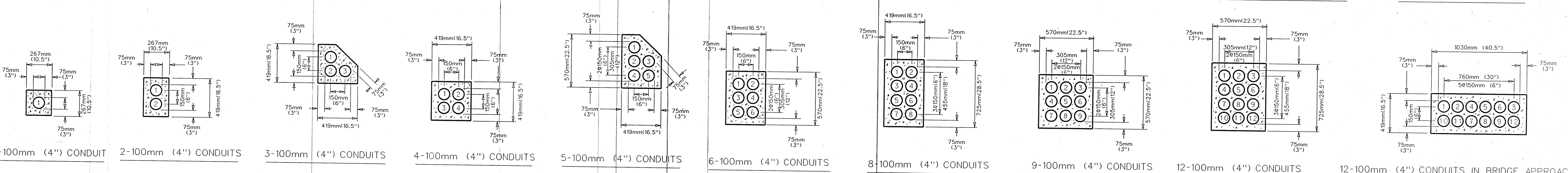
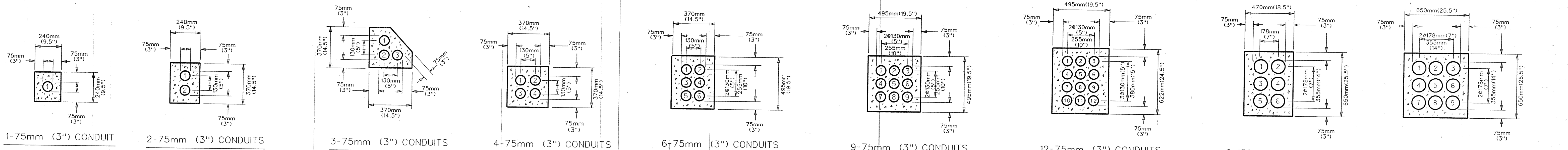


FINAL WIRING DIAGRAM



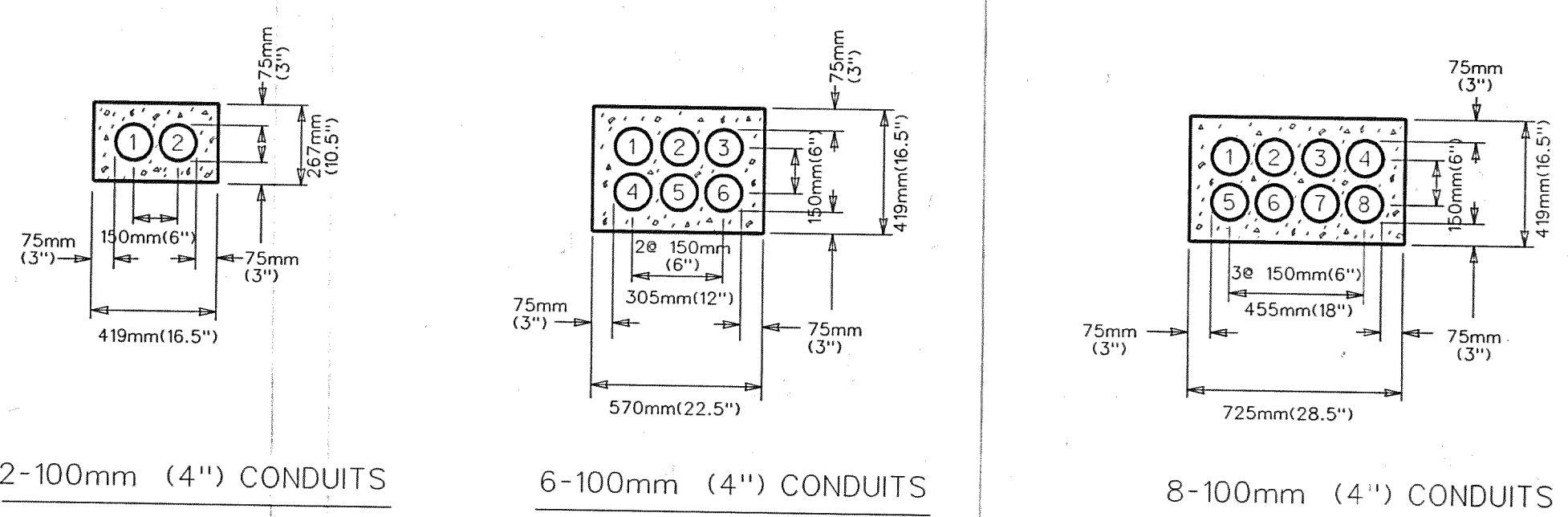
PLAN
 SCALE 1" = 30'

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Case Sign, Two Way, 24 inch by 30 inch	2 Ea
②	Span Wire	2 Ea
③	TS, One Way Span Wire Mtd (LED)	1 Ea
④	TS, Two Way Span Wire Mtd (LED)	3 Ea
⑤	TS, Three Way Span Wire Mtd (LED)	1 Ea
○	Cable, P.J. 600V, 1, 7/C*14	225 Ft



ALTERNATE ARRANGEMENT OF 75mm (3'') CONDUIT

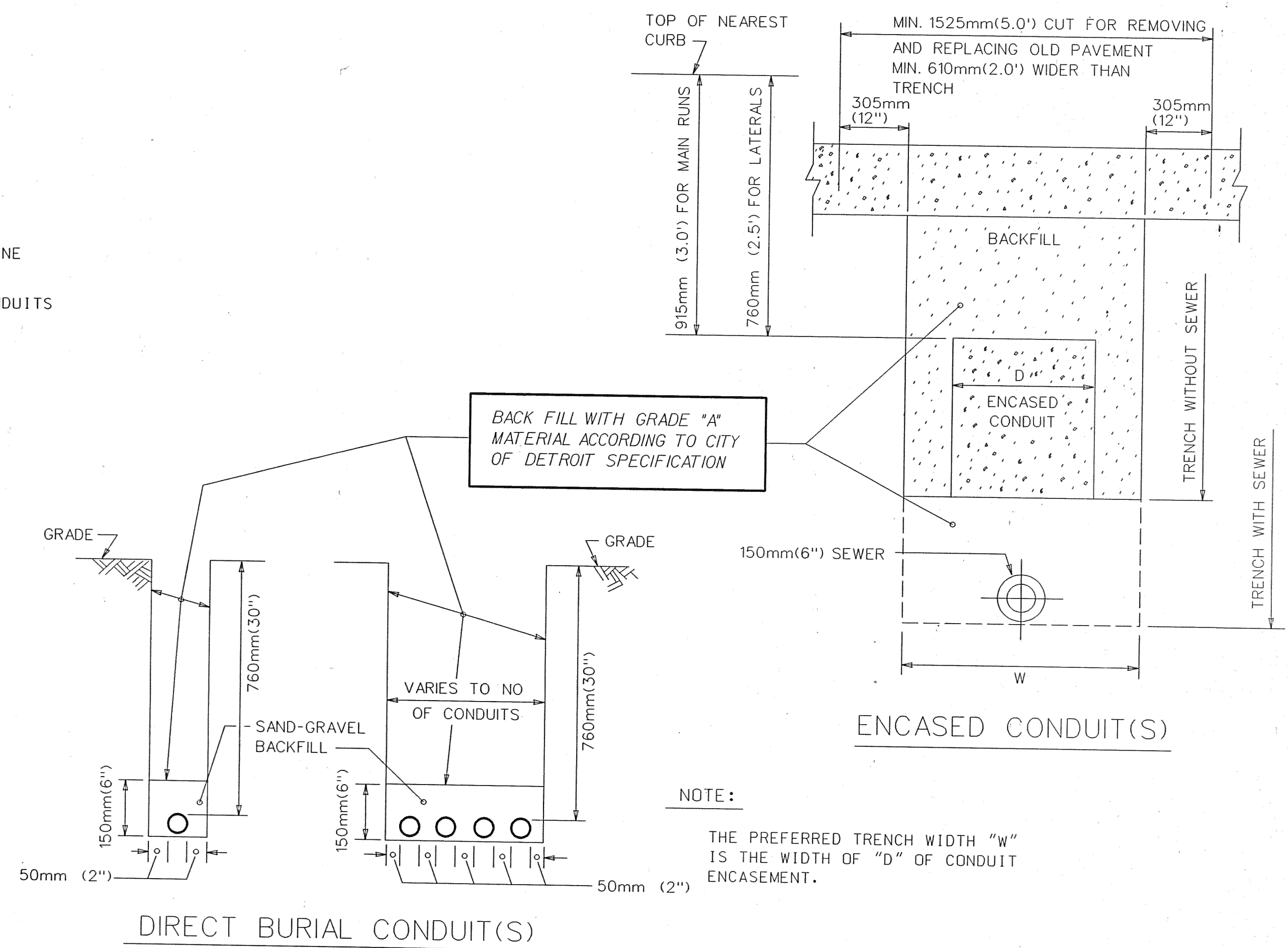
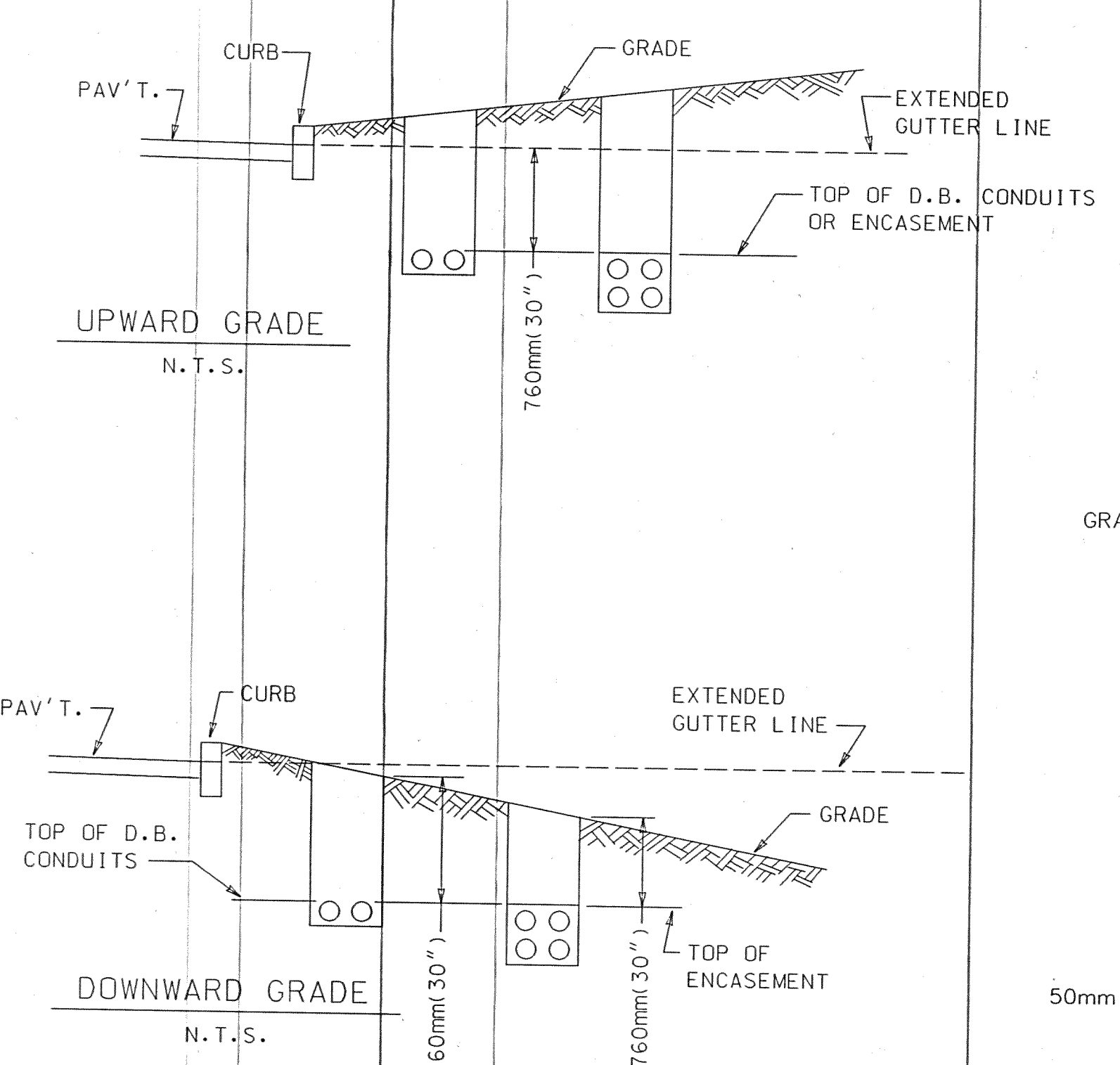
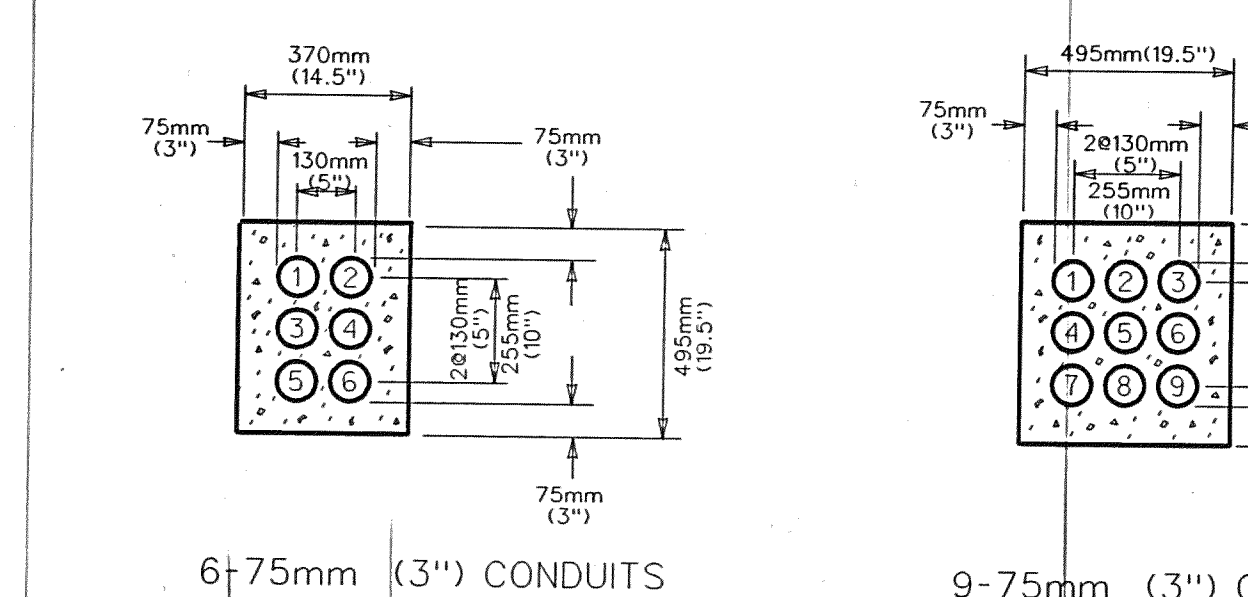
(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)



ALTERNATE ARRANGEMENT OF 100mm (4'') CONDUIT

(TO SUIT FIELD CONDITIONS)
(TO BE APPROVED BY THE ENGINEER)

1-50mm (2'') CONDUIT 2-50mm (2'') CONDUITS



NOTE:
THE PREFERRED TRENCH WIDTH "W" IS THE WIDTH OF "D" OF CONDUIT ENCASEMENT.

DISK FILE: 101PLDM.MTR

Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

MISCELLANEOUS CONDUIT SECTIONS

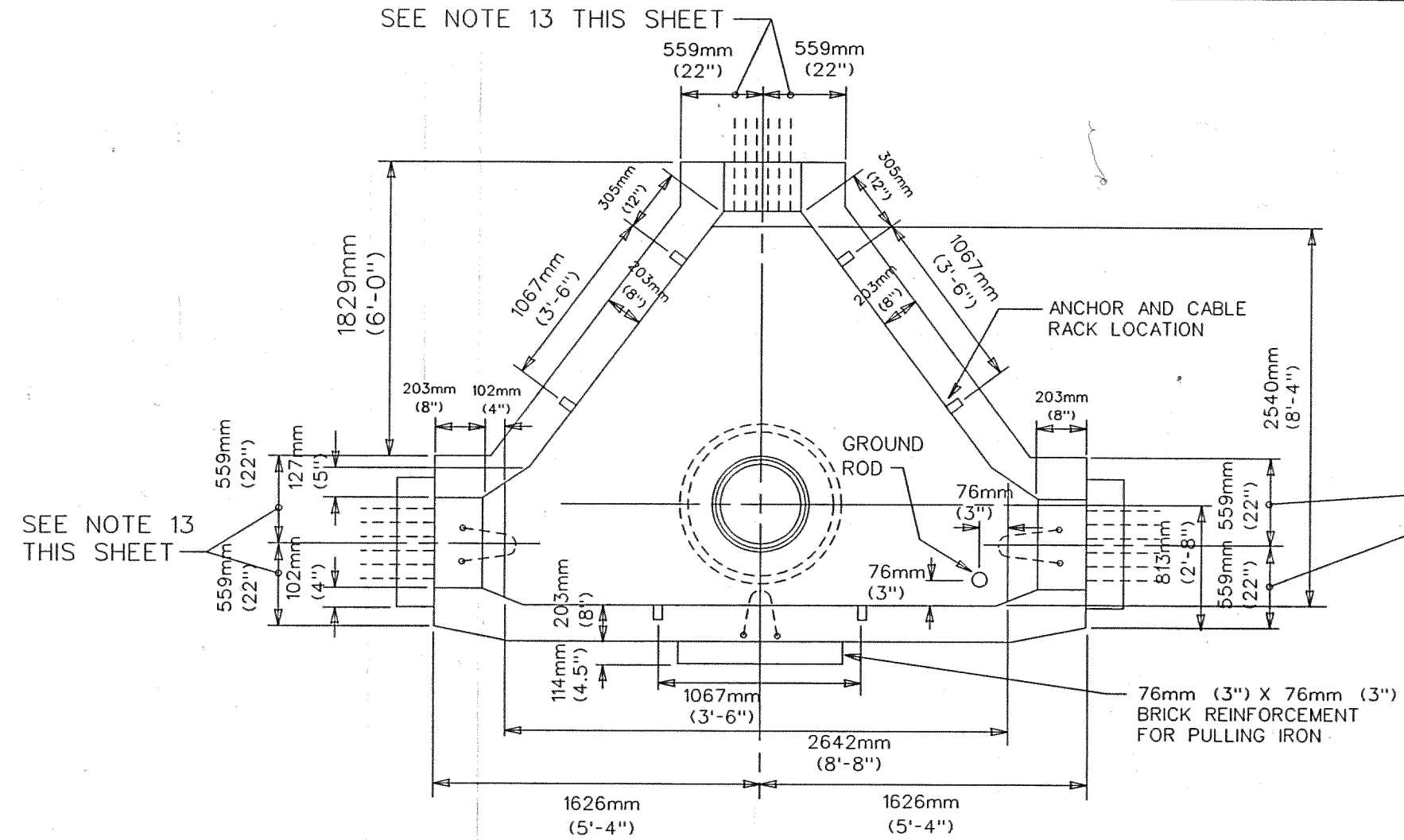
MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Drawn: M.A.I.
Checked: []
Drwg. No.: 11 OF 25
File No.: M4044

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

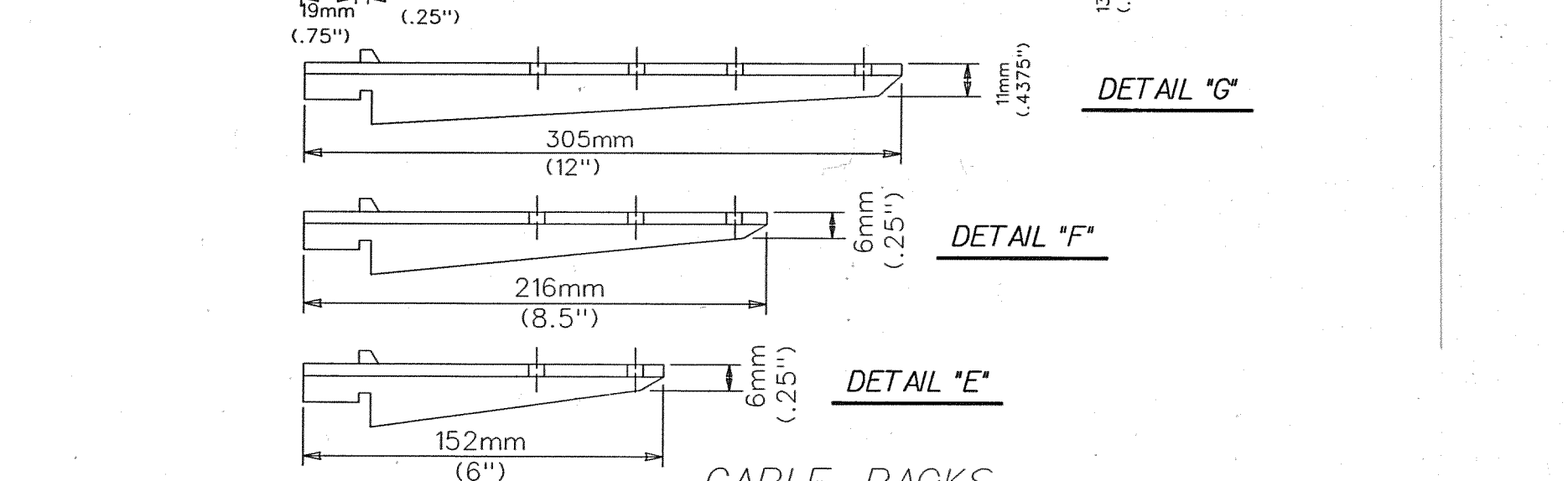
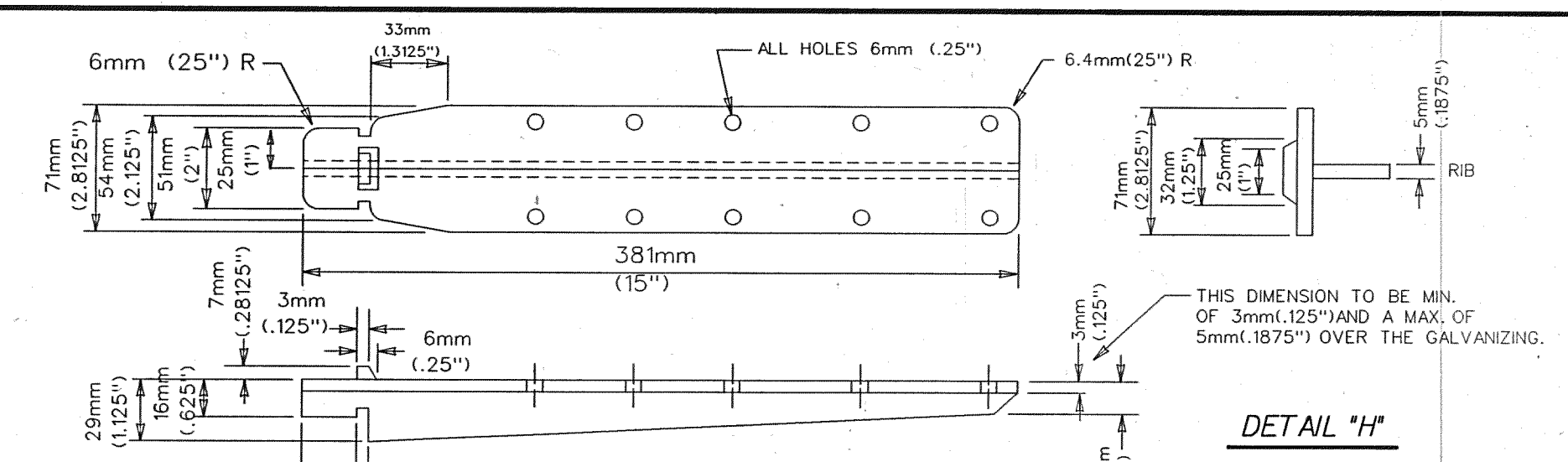
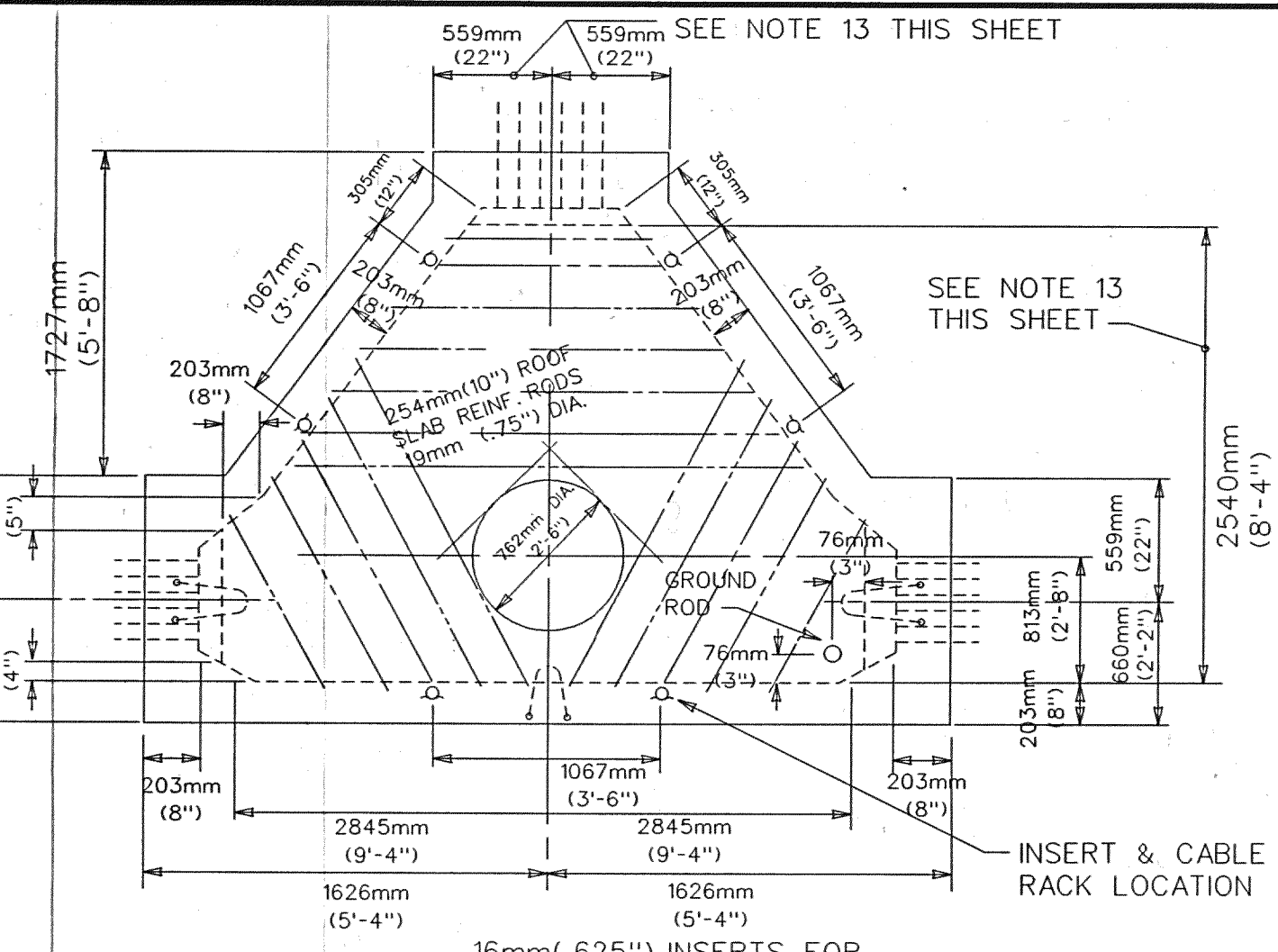
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27-1104
Sheet No. 31
Date 02-11-05

Job No. 49717A

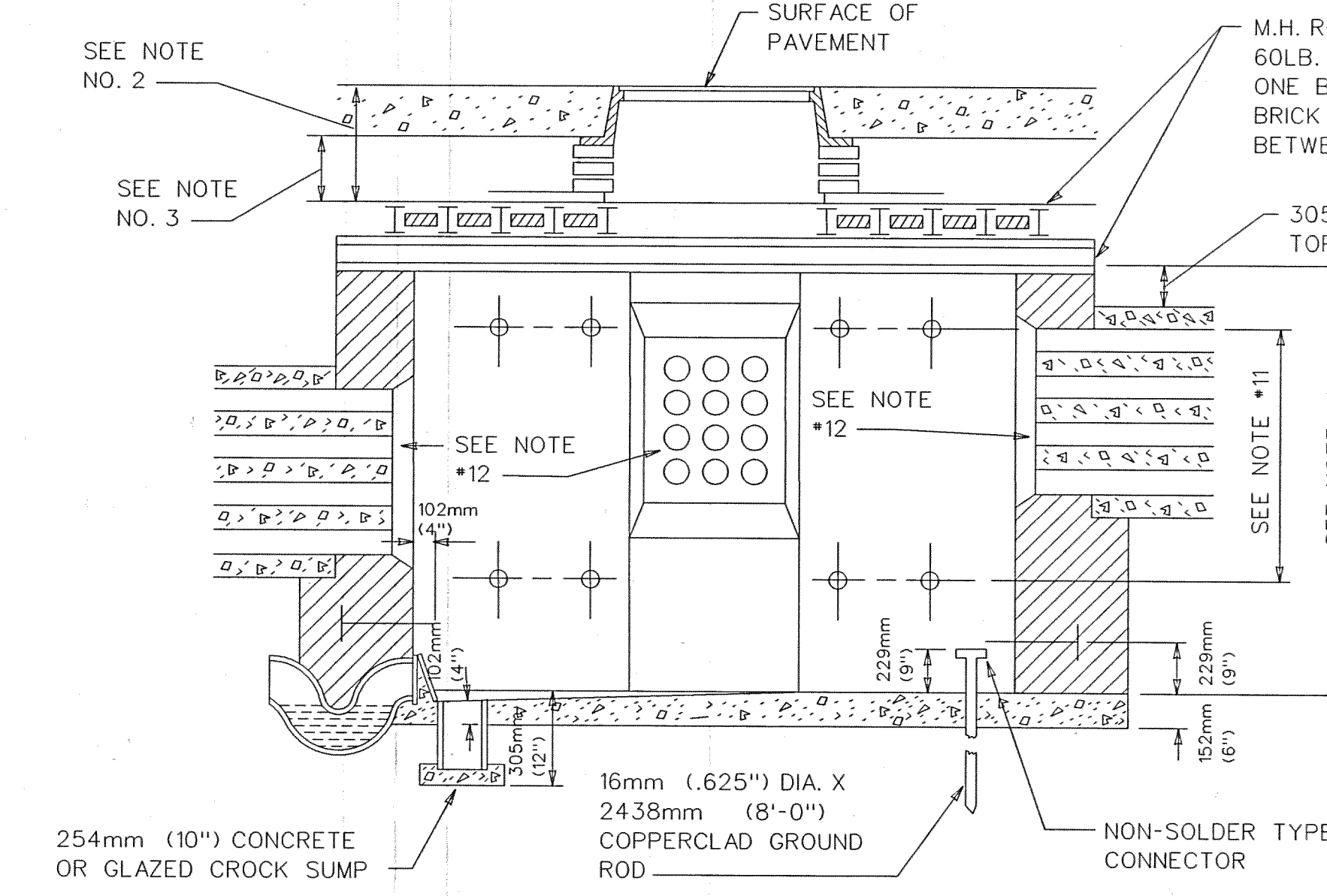


19mm (.75") DIA. REINFORCING STEEL RODS REQ'D. FOR 3-WAY MH.

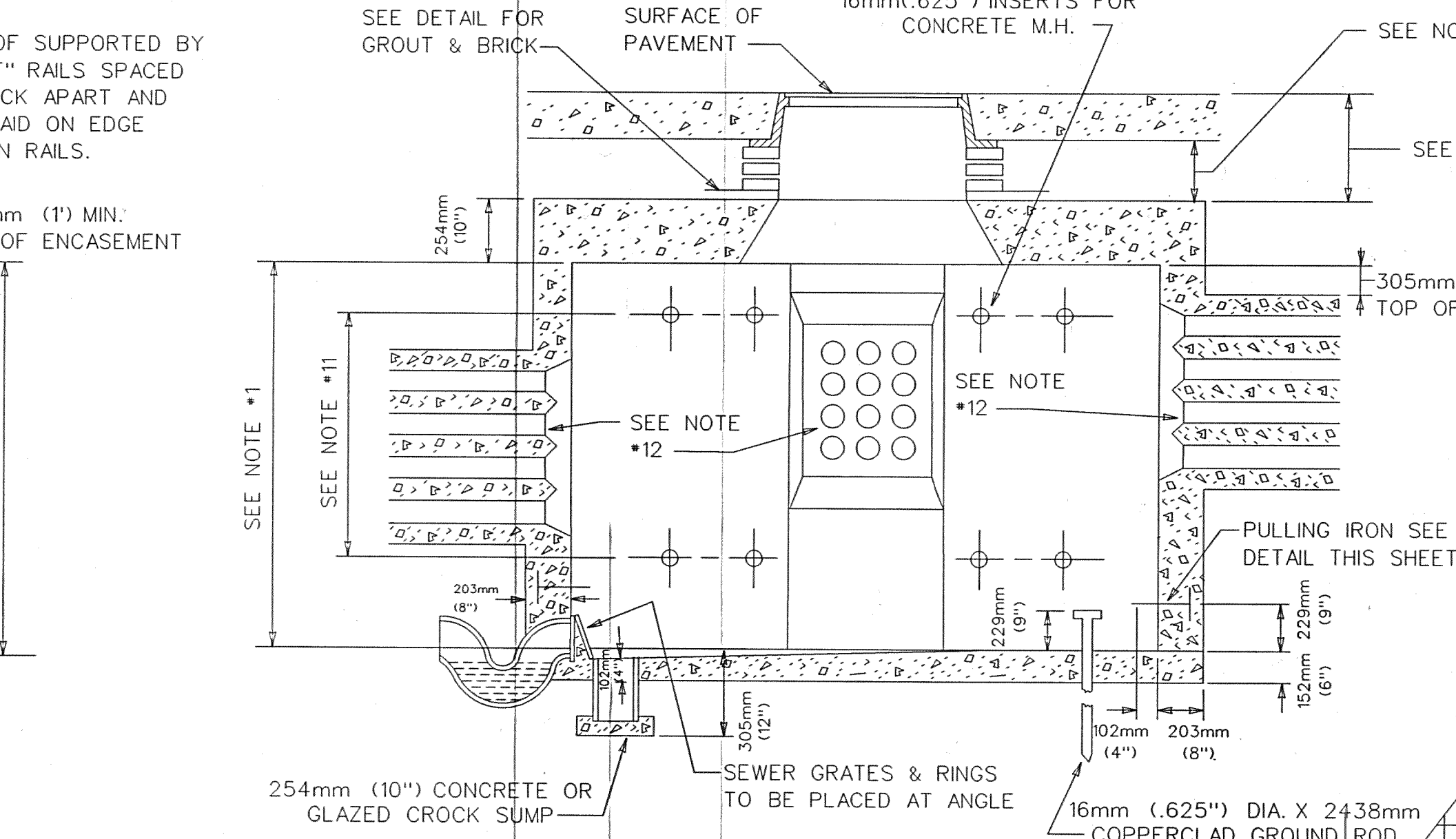
5 PIECES 1067mm (3'-6") LONG
 3 PIECES 1372mm (4'-6") LONG
 6 PIECES 1676mm (5'-6") LONG
 3 PIECES 1981mm (6'-6") LONG
 3 PIECES 2134mm (7'-0") LONG
 2 PIECES 2438mm (8'-0") LONG
 2 PIECES 2743mm (9'-0") LONG



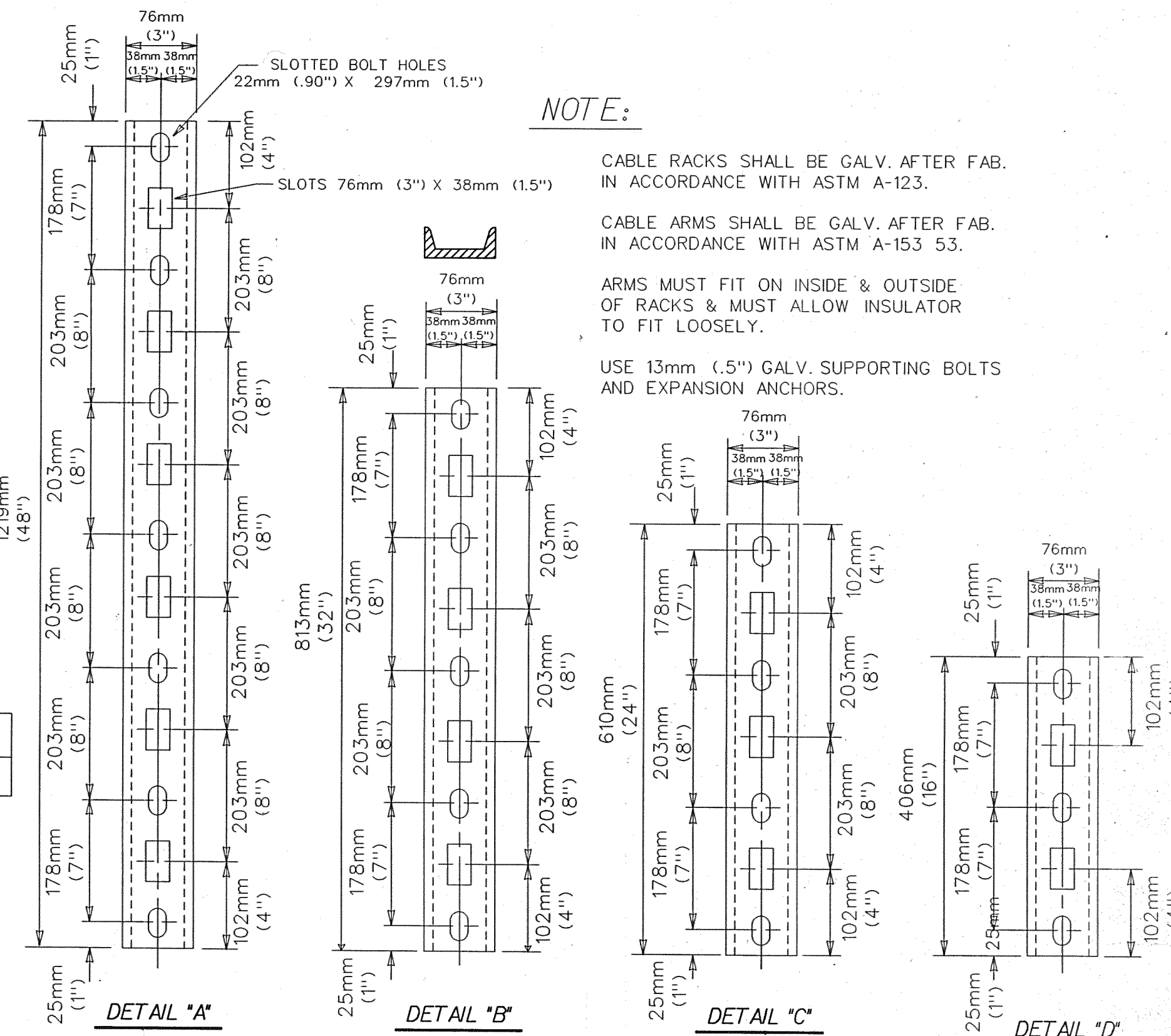
CABLE RACKS
 MALLEABLE CAST IRON
 N.T.S.



BRICK-THREE WAY MANHOLE
 N.T.S.



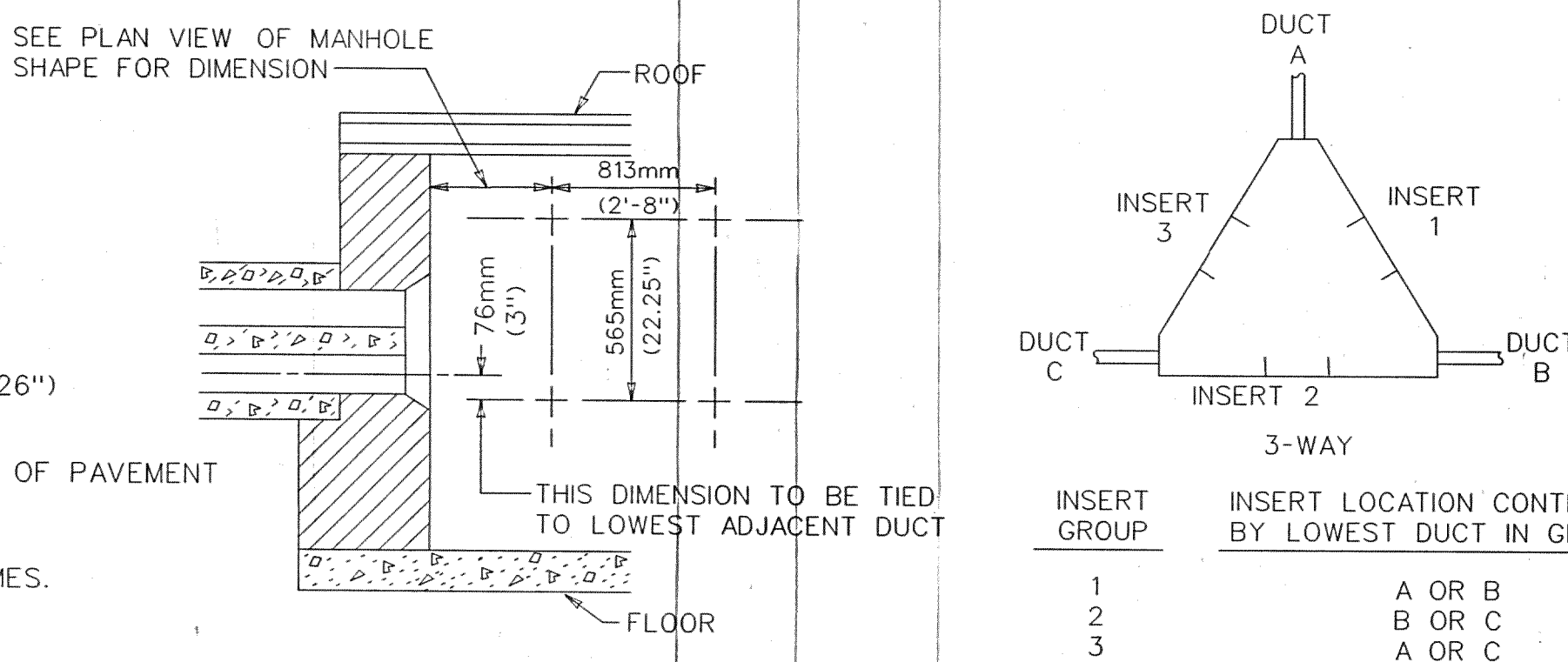
CONCRETE-THREE WAY MANHOLE
 N.T.S.



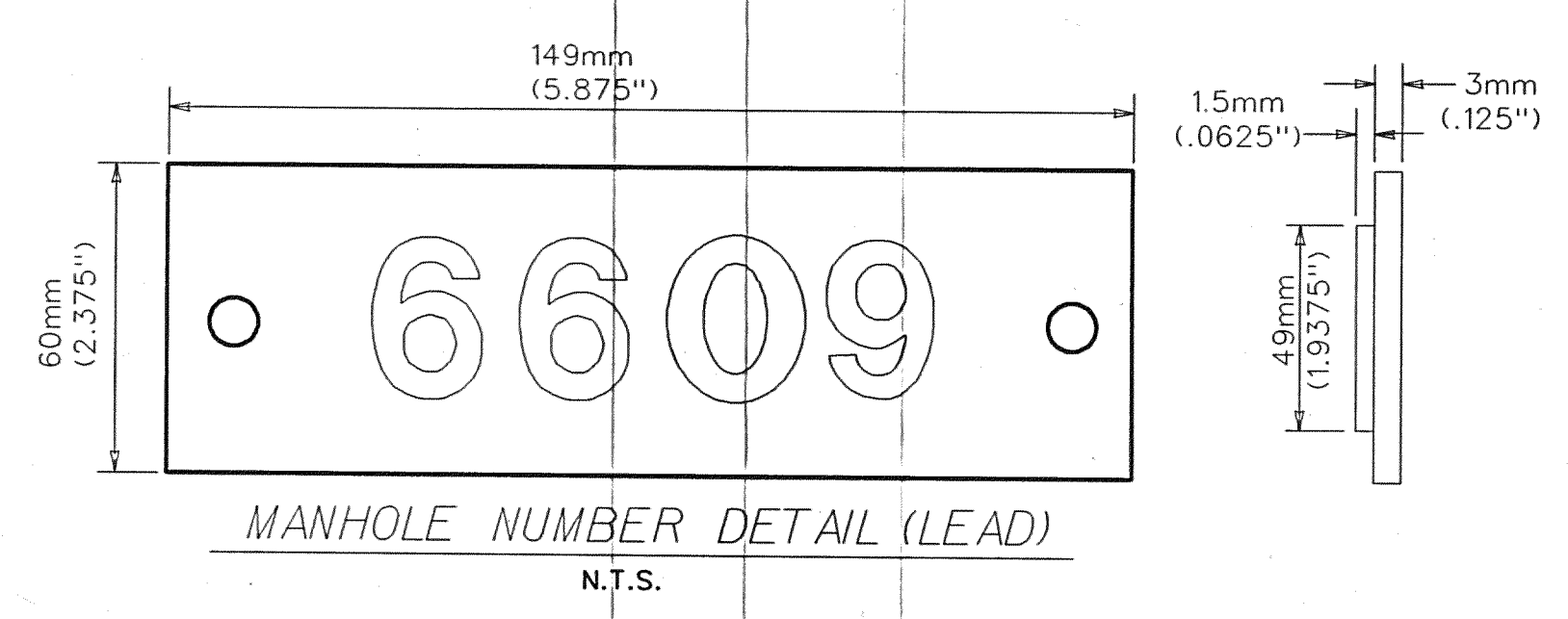
NOTE:

CABLE RACKS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-123.
 CABLE ARMS SHALL BE GALV. AFTER FAB. IN ACCORDANCE WITH ASTM A-153 5.3.
 ARMS MUST FIT ON INSIDE & OUTSIDE OF RACKS & MUST ALLOW INSULATOR TO FIT LOOSELY.
 USE 13mm (.5") GALV. SUPPORTING BOLTS AND EXPANSION ANCHORS.

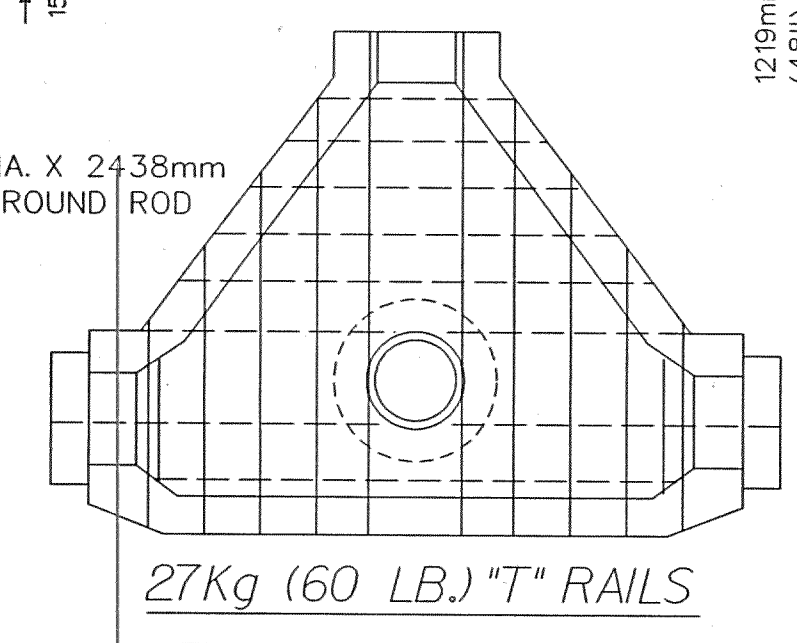
- NOTE:**
- THIS DIMENSION NORMALLY 1981mm. (6.5') SEE SPECIFICATIONS FOR UNUSUAL CONDITIONS.
 - WHERE M.H.'S ARE LOCATED BACK OF CURBS, TOP OF M.H. ROOF MUST BE BUILT .660m (26") BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
 - IN EXISTING PAVEMENT, PROVIDE AT LEAST .203m (8") BETWEEN TOP OF ROOF AND BASE OF PAVEMENT
 - BOLTS, RACKS & PULLING IRONS TO BE HOT-DIP GALV.
 - ☉ OF RAILS & UNDER M.H. FRAME FLANGE TO BE APPROX. .457m (18") FROM C'S OF FRAMES.
 - M.H. NUMBER TO BE INSTALLED ON MANHOLE WALL IN CONSPICUOUS PLACE.
 - MOUNTING HEIGHT FOR LOWER BOLTS OF CABLE RACK SHALL BE THE AVERAGE HEIGHT OF THE BOTTOM OF THE LOWEST DUCTS IN MAIN CONDUITS. INSTALL MIN. (2) 1.22m (48") LONG RACKS ON WALLS.
 - 203mm (8") THICK CHIMNEYS WHERE SPECIFIED SHALL BE INCIDENTAL TO APPLICABLE M.H. ITEM.
 - EXCAVATION LIMITS FOR PUBLIC LIGHTING DEPARTMENT MANHOLES SHALL BE ON VERTICAL PLANES ON THE FOOTING OUTLINE.
 - 13mm (.5") PLASTER OUTSIDE WALLS OF BRICK MANHOLES.
 - SPACING OF INSERTS AS REQUIRED TO ACCOMMODATE CABLE RACK
 - BELL ENDS ARE REQUIRED ON EACH CONDUIT ENTERING MANHOLE. (TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE)
 - THIS IS A MINIMUM DIMENSION & IS EXPANDABLE TO ACCOMMODATE MAIN DUCT WINDOW.
 - FOUR HEAVY 1219mm (48") CABLE RACKS, 8.381m (15") CABLE ARMS INSULATORS REQUIRED PER MANHOLE, UNLESS SPECIFIED OTHERWISE.
 - CONTRACTOR IS TO INSTALL MANHOLE NO. TAG FURNISHED BY P.L.D. MANHOLE SHALL NOT BE CONSIDERED COMPLETE. WITHOUT MANHOLE NO. TAG INSTALLED.



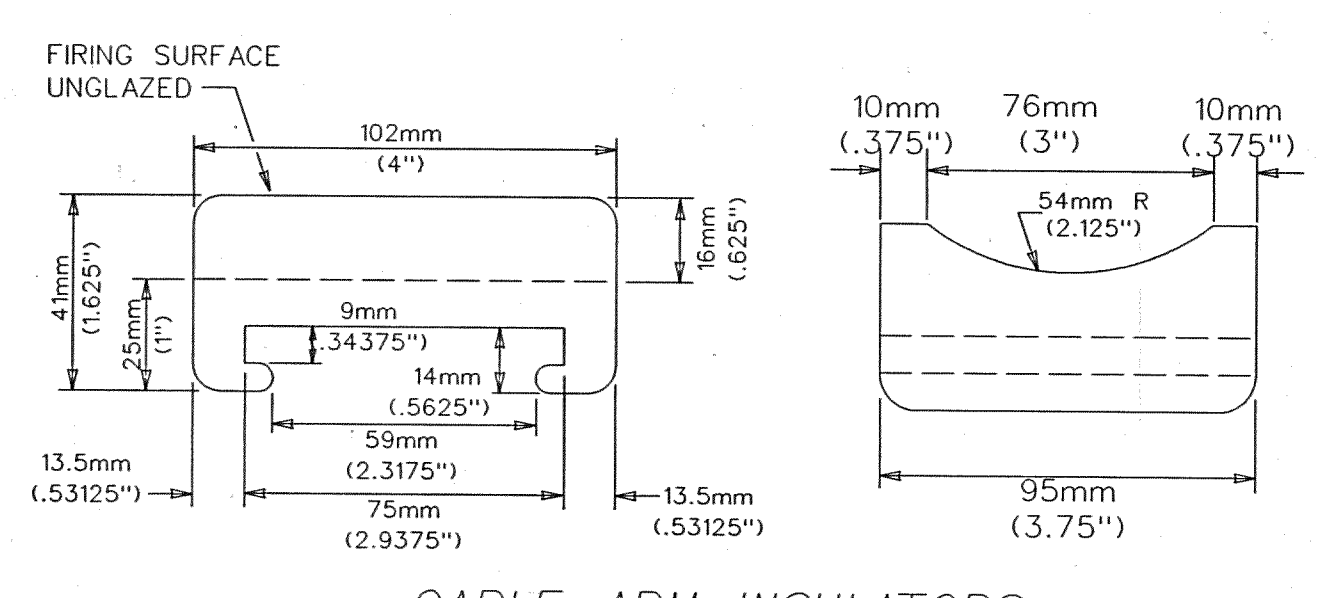
TYPICAL DIMENSIONS FOR RACK MOUNTING INSERTS
 N.T.S.



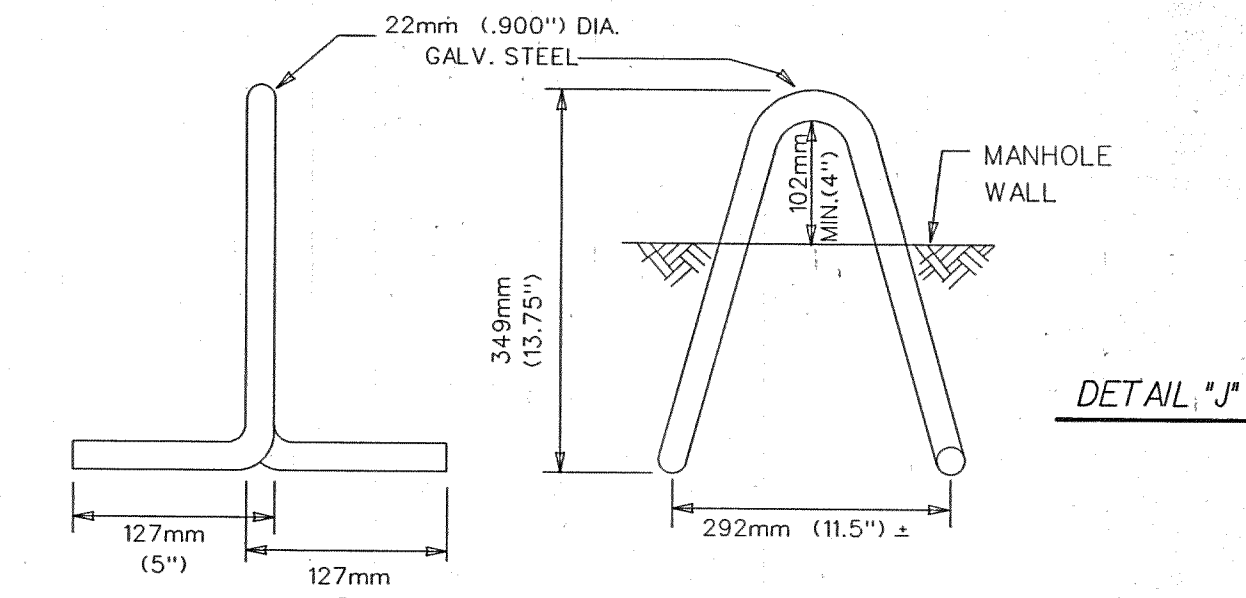
MANHOLE NUMBER DETAIL (LEAD)
 N.T.S.



27Kg (60 LB.) "T" RAILS



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



PULLING IRON
 N.T.S.

REV.	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

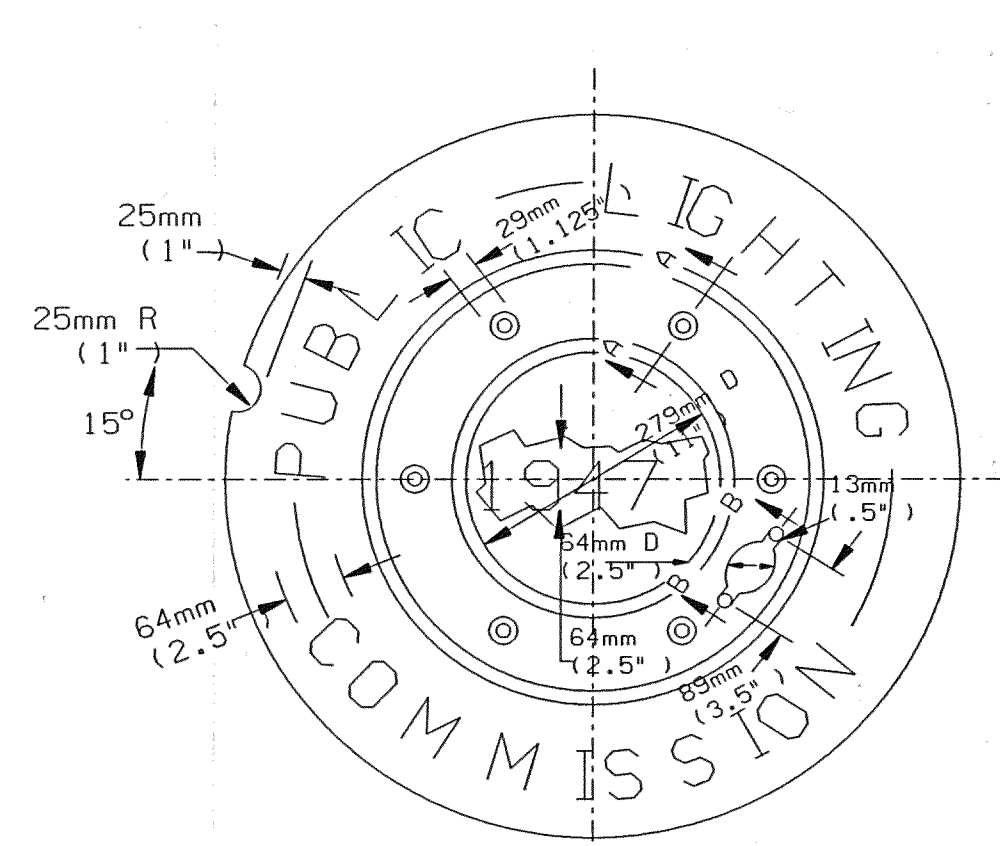
THREE-WAY MANHOLE

MANSELL ASSOCIATES INC.
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 33608 Grand River
 Farmington, MI. 48335
 (248) 473-7070

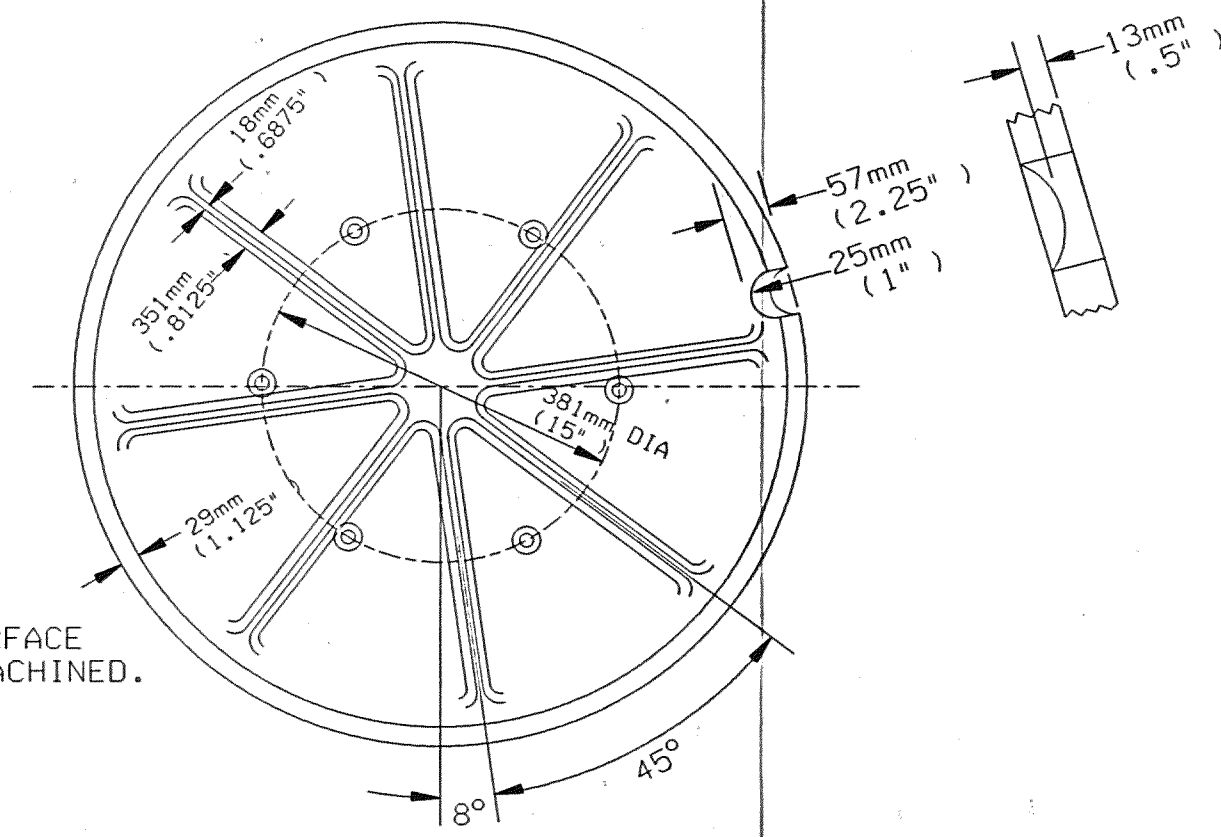
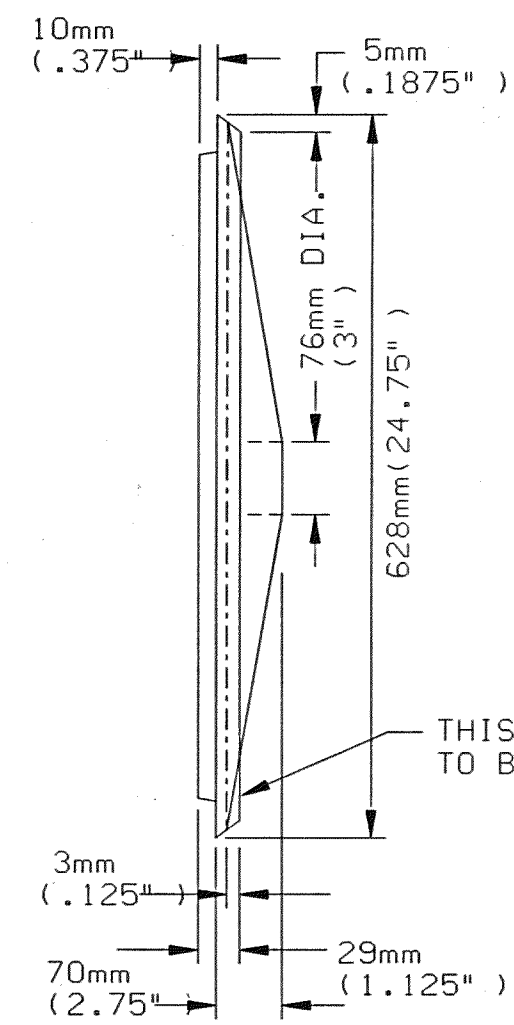
Drawn M.A.I.
 Checked
 Drwg. No. 12 OF 25
 File No. M4044

PUBLIC LIGHTING DEPARTMENT
 CITY OF DETROIT

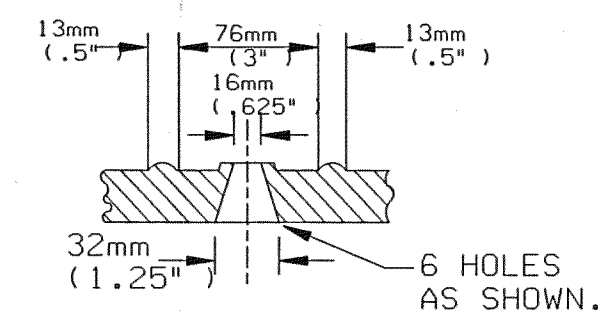
105
 27-1104
 Sheet No. 32
 Date 02-11-05



LETTERING & BEAD RAISED 10mm (.375") ABOVE FACE.
YEAR ON COVER TO BE YEAR OF CASTING.
CONTRACTOR TO CHANGE PATTERN IF REQUIRED.

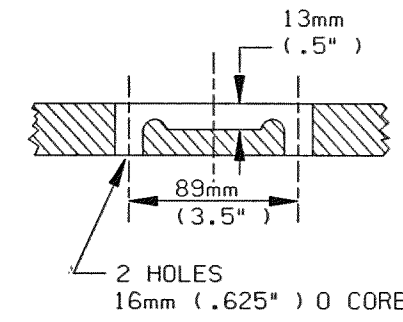


A.S.T.M. CLASS 30 GREY IRON
P.L.C. PATT. NO. 418 APPROX.
WT. 111kg(245lb)



SECTION A-A

N.T.S.

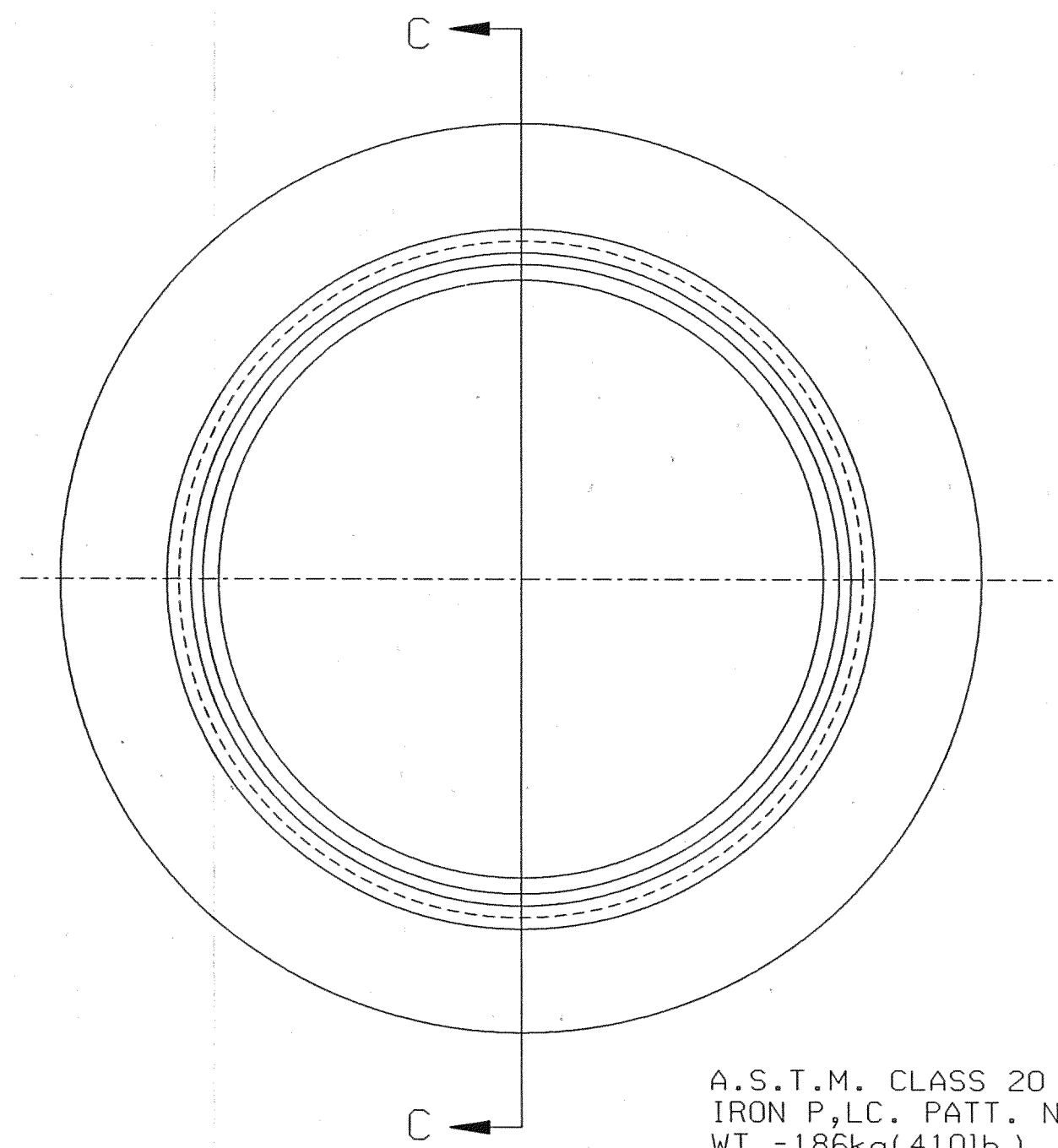


SECTION B-B

N.T.S.

MANHOLE COVER

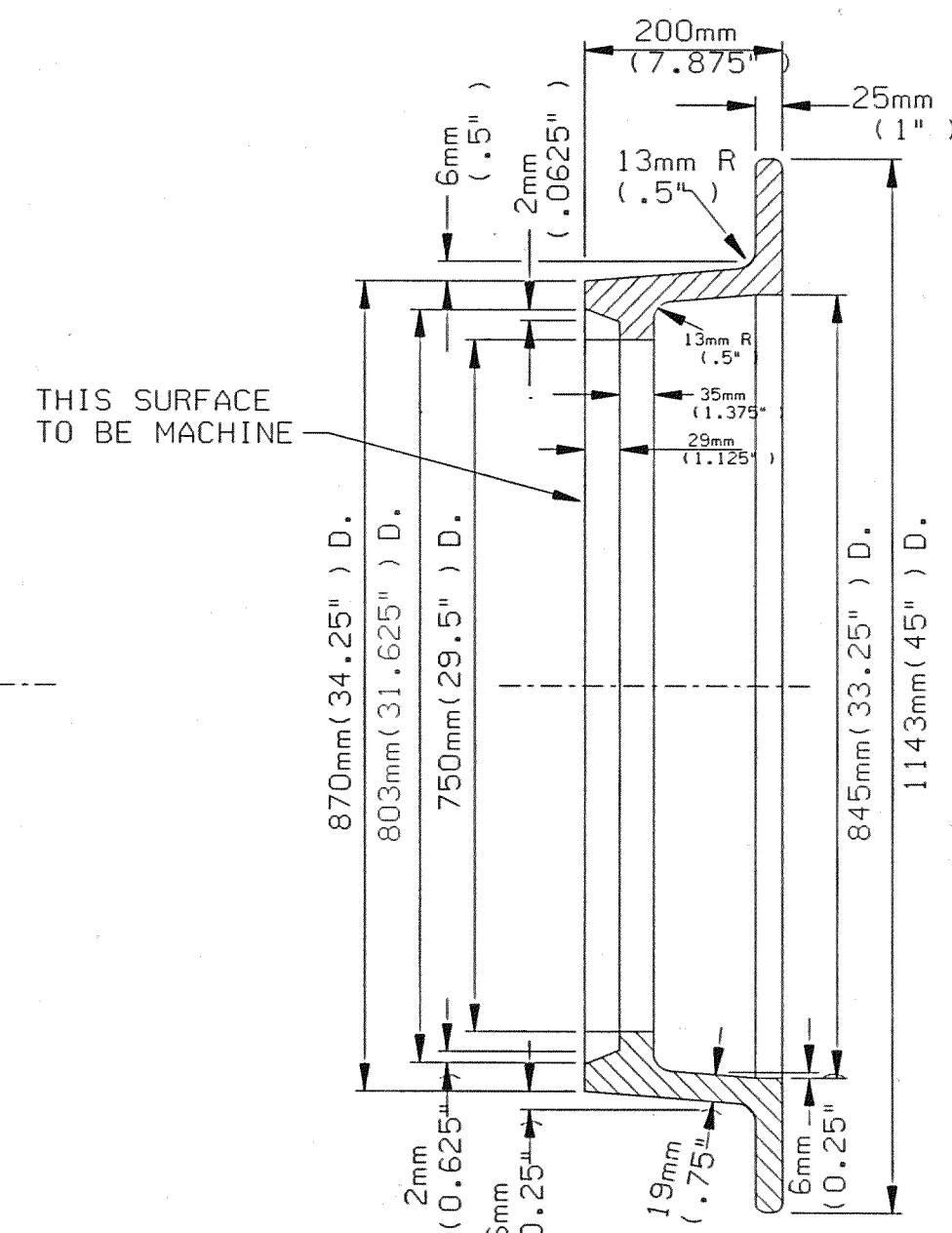
N.T.S.



A.S.T.M. CLASS 20 OR 30 GREY
IRON P.L.C. PATT. NO. 417 APPROX.
WT. -186kg(410lb)

MANHOLE FRAME

N.T.S.

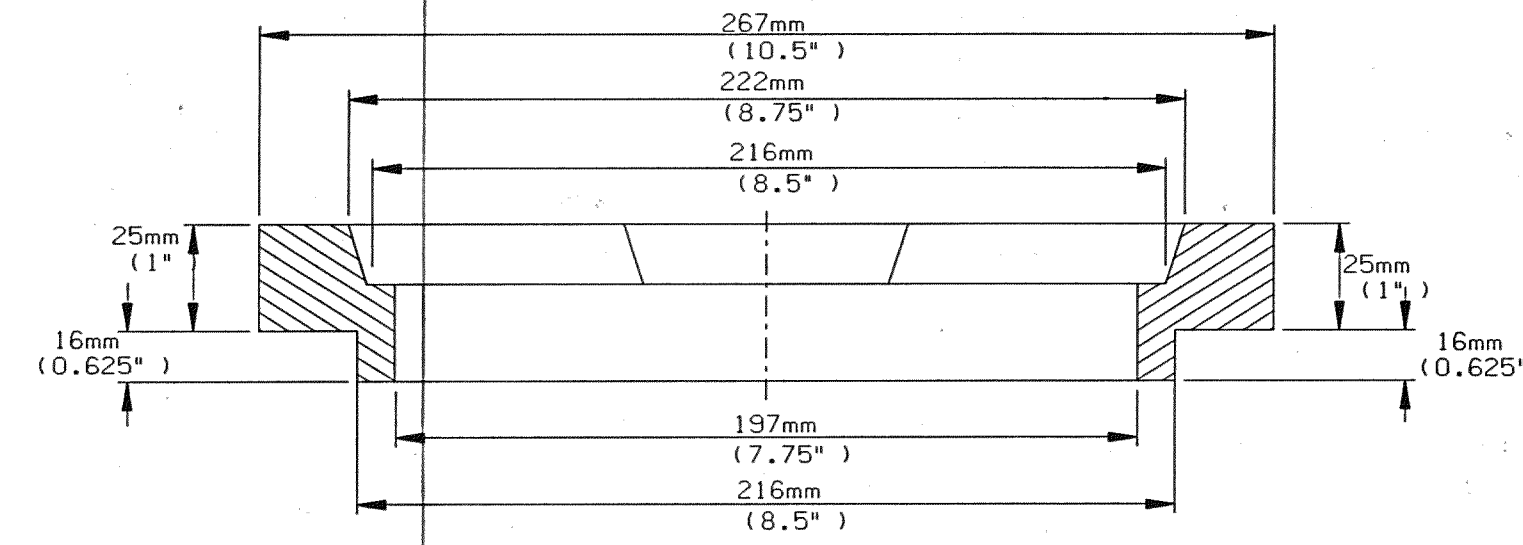


SECTION "C-C"

N.T.S.

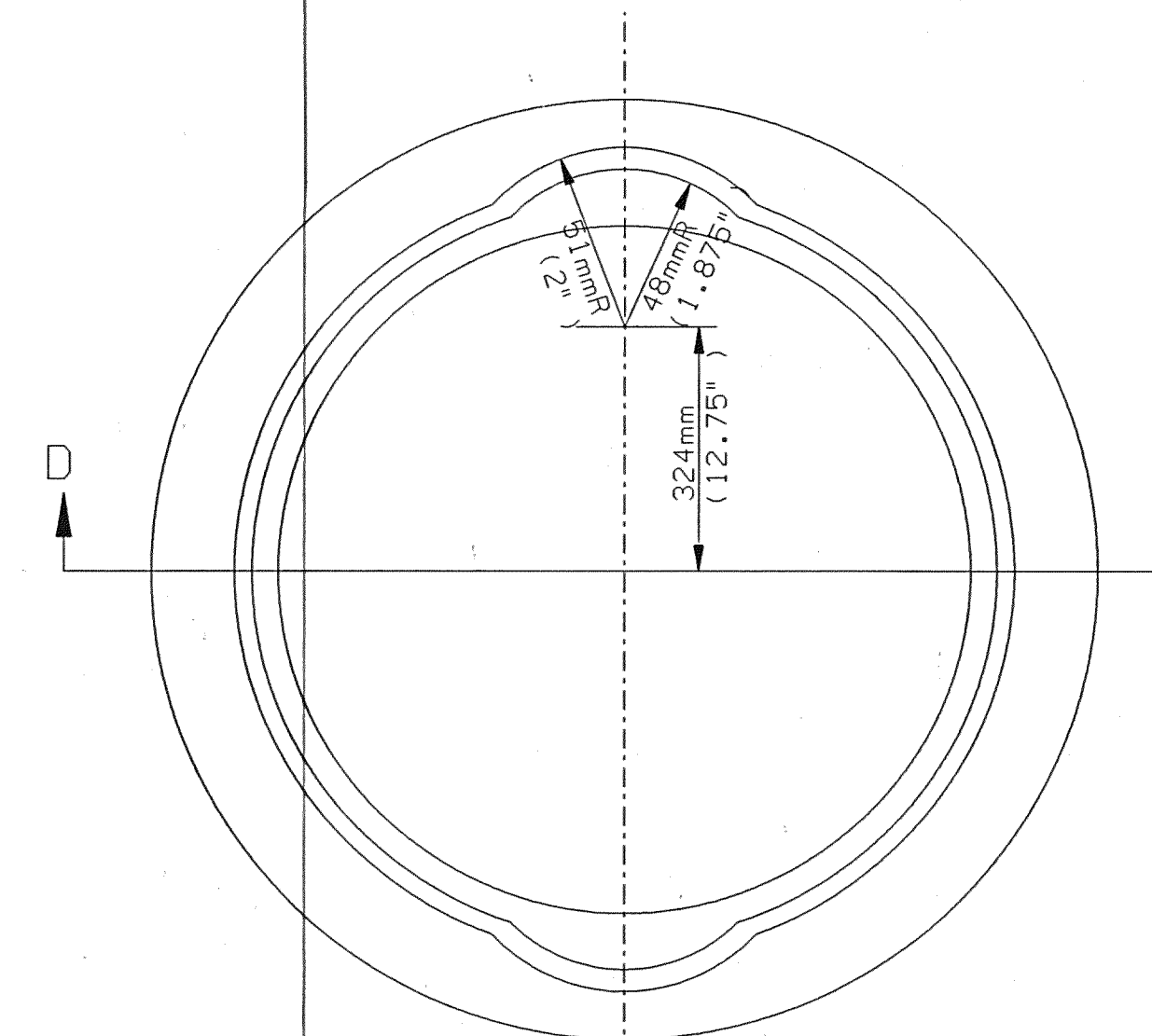
JEFFERSON AVE OVER DEQUINDRE CUT

MANHOLE FRAMES & COVERS - SEWER GRATE & RING



SECTION D-D

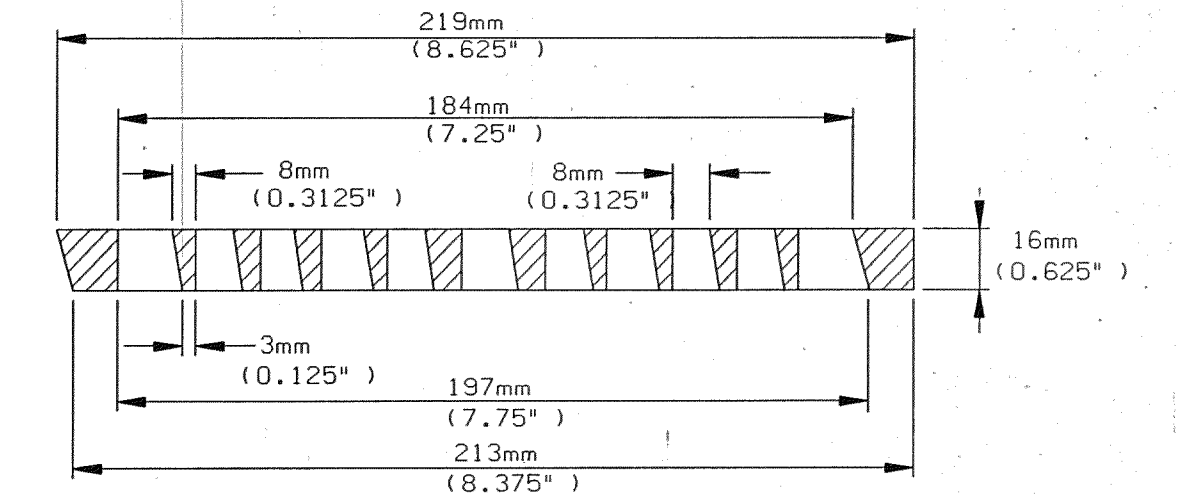
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A.S.T.M. CLASS 20 OR 30 GREY
IRON P.L.C. PATT. NO. 318-A
APPROX WT-4.08lb(9lb)

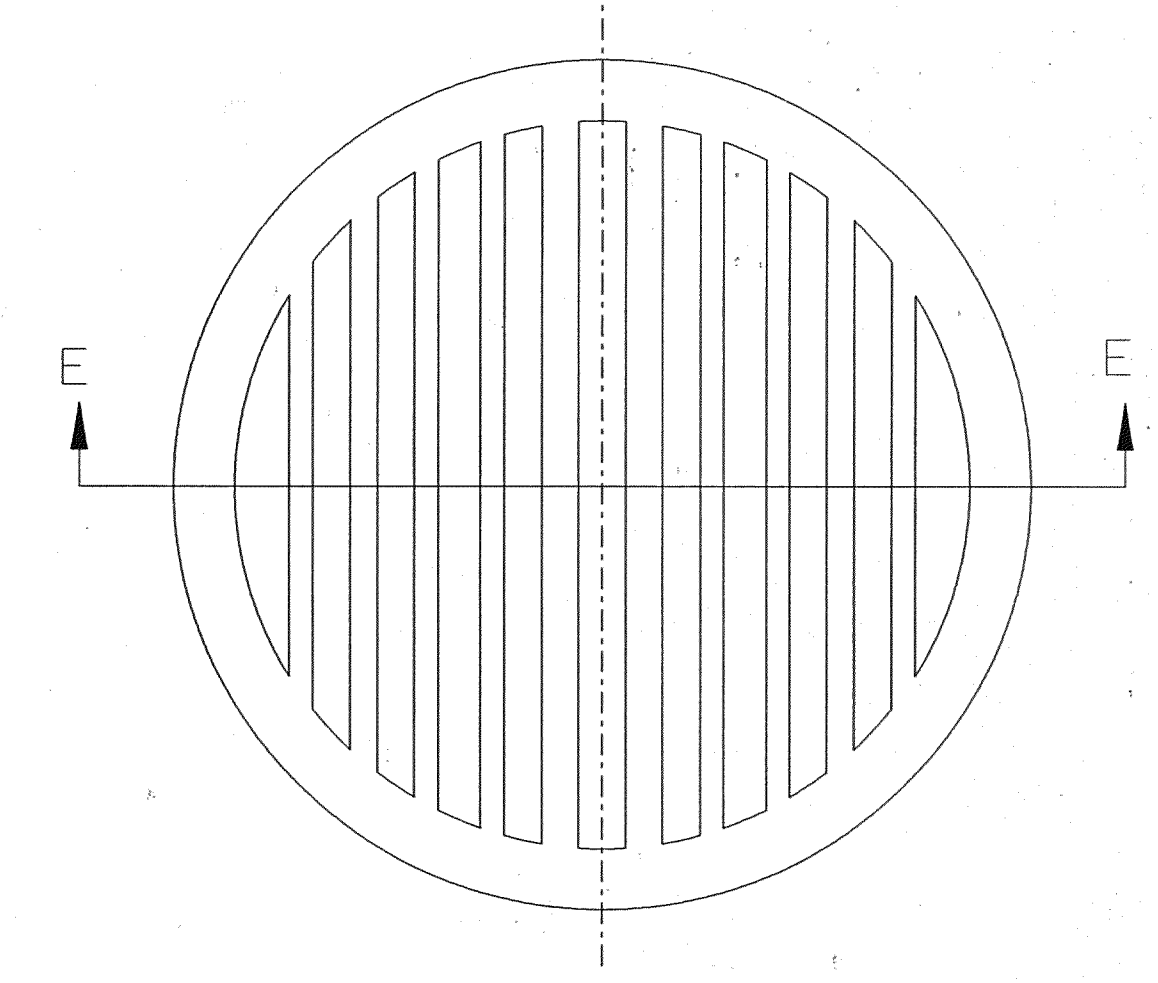
SEWER RING

N.T.S.



SECTION E-E

N.T.S.



A.S.T.M. CLASS 20 OR 30 GREY
IRON P.L.C. PATT. NO. 318
APPROX WT-2.04lb(4.5lb)

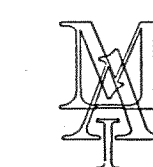
SEWER GRATE

N.T.S.

DISK FILE: 108PLDMTR

REV	Date	Description	Chkd. by

MANSELL ASSOCIATES INC.



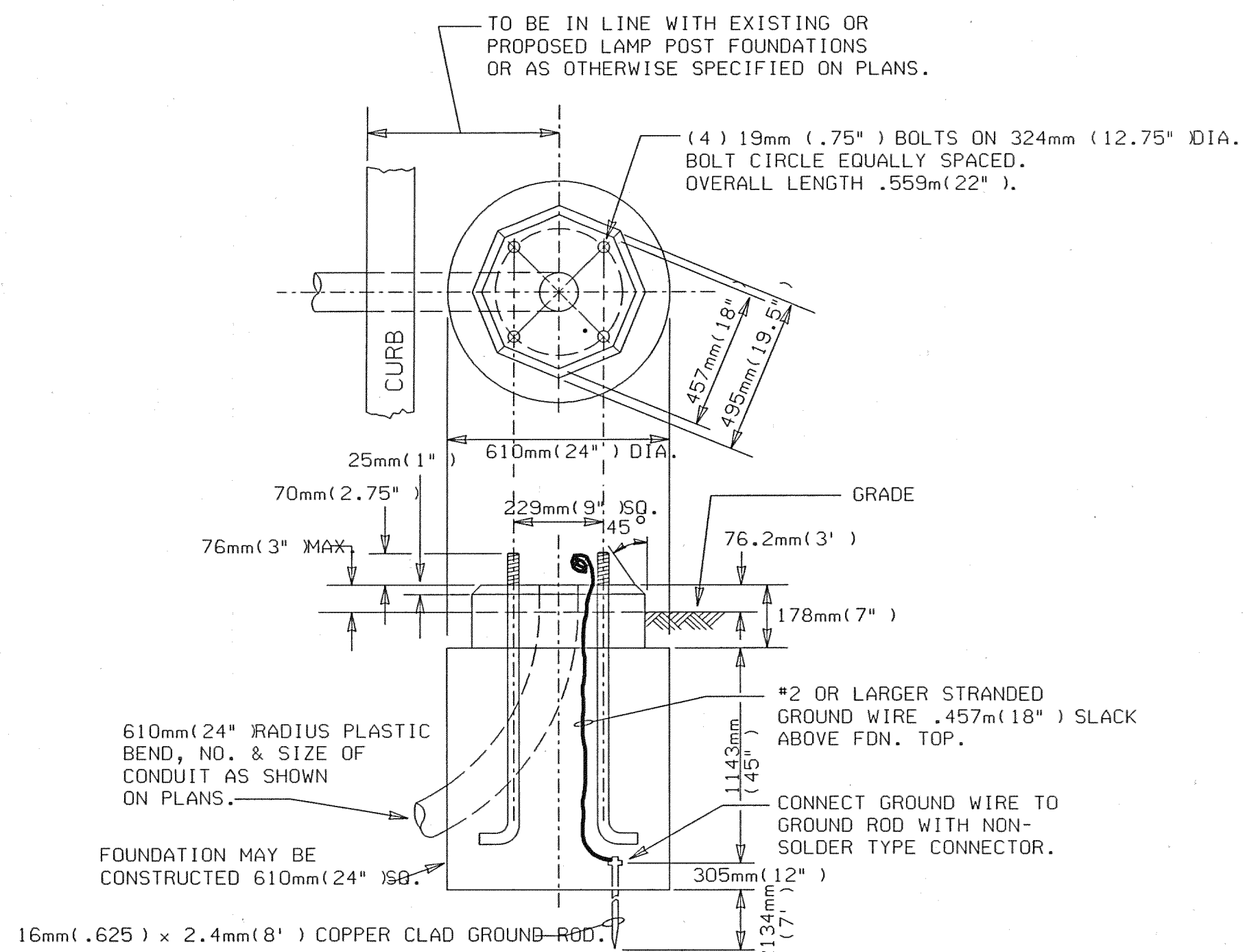
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Checked	M.A.I.
Checked by	
Drwg. No.	13 OF 25
File No.	M4044

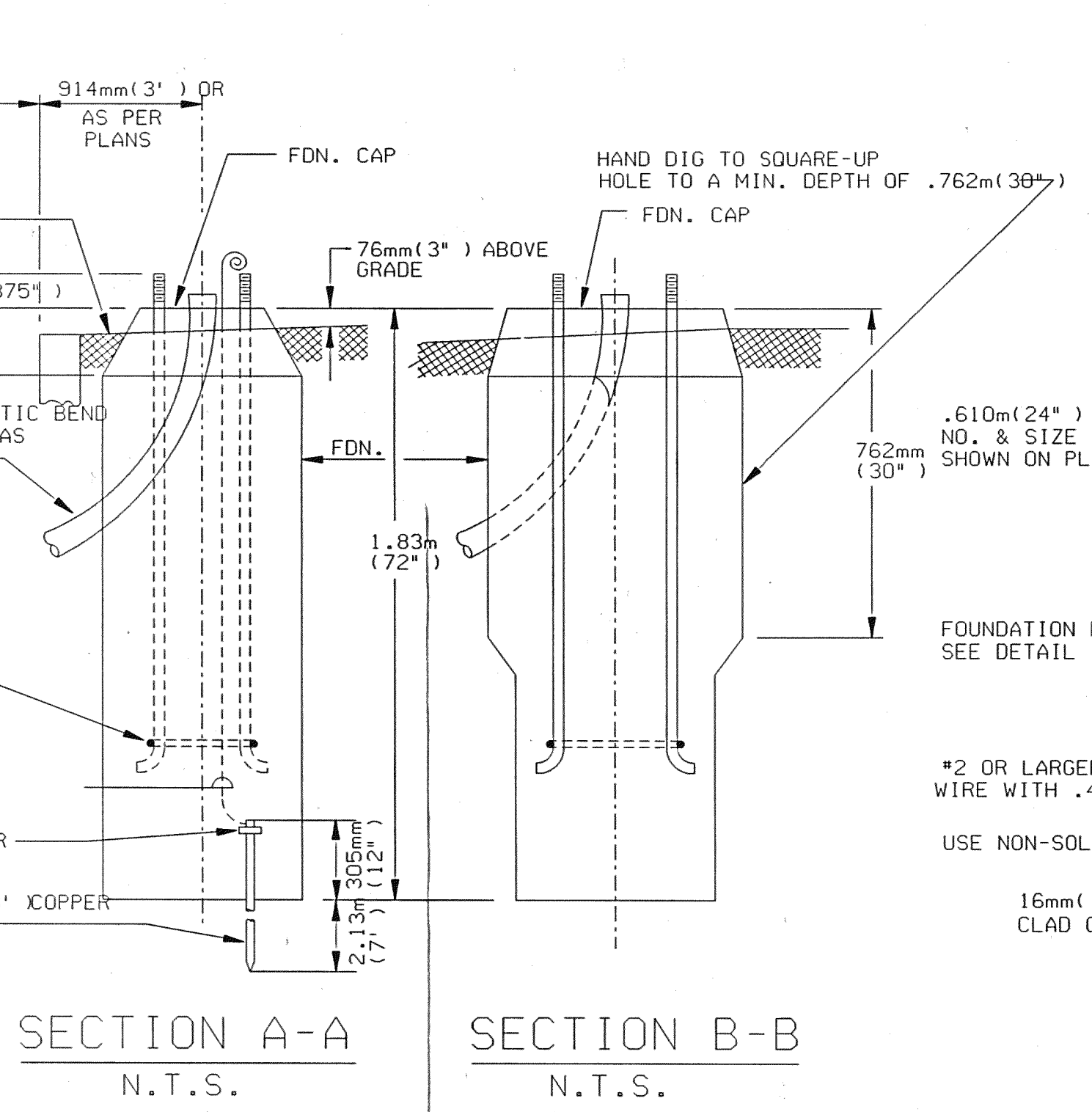
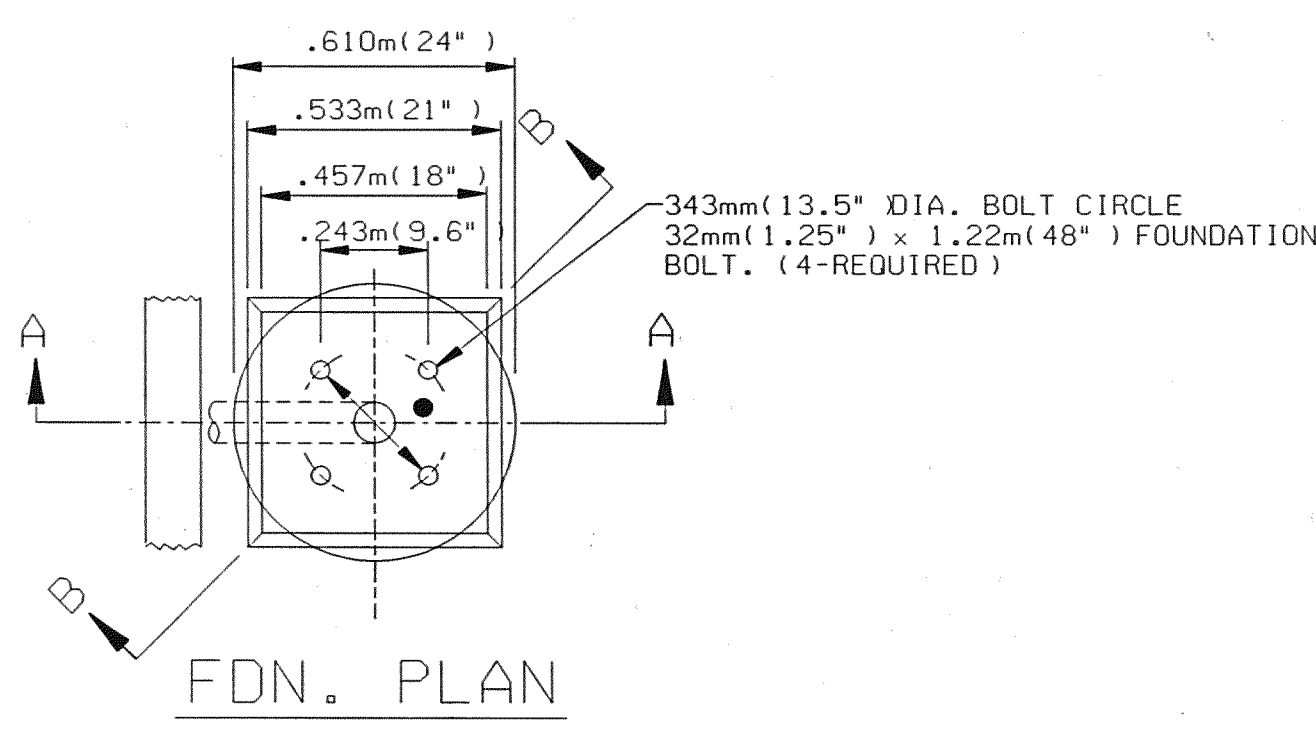
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Approved by	

PUBLIC LIGHTING
DEPARTMENT
CITY OF DETROIT

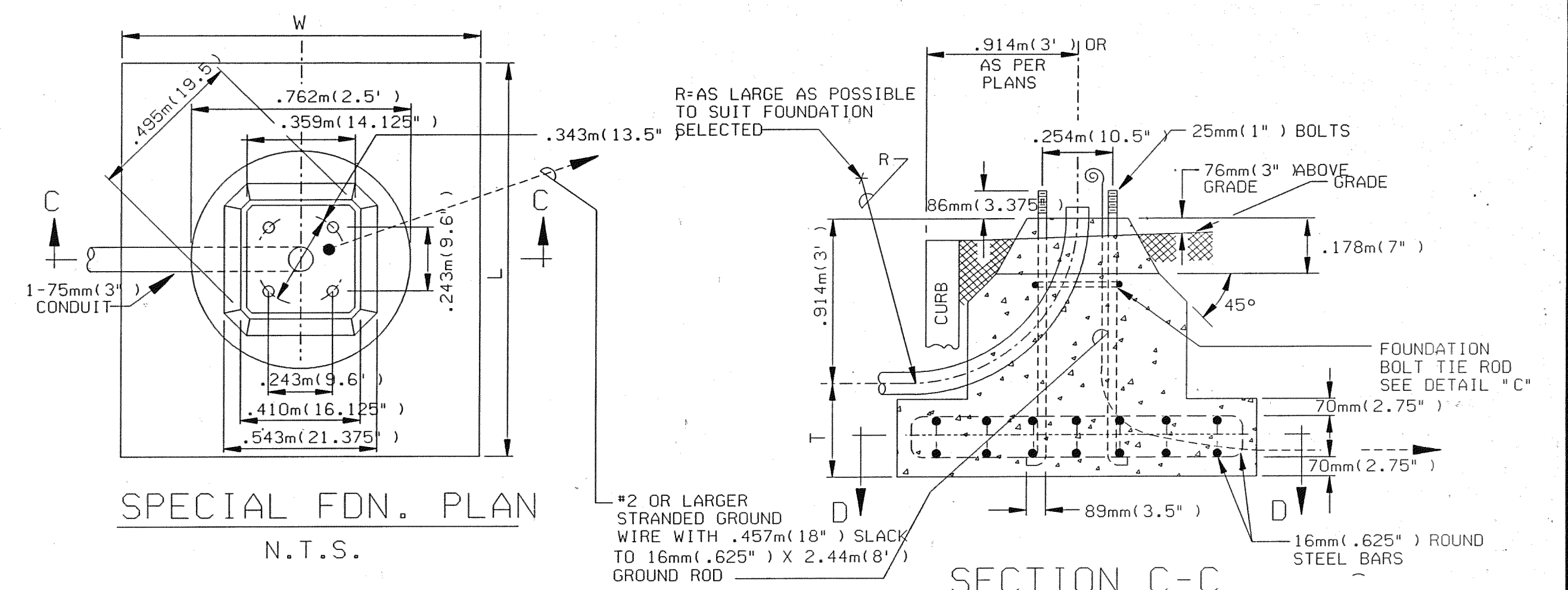
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27-1104
Sheet No. 33
Date 02-11-05



FDN. FOR OCTAGON BASE PEDESTAL FOR TRAFFIC SIGNALS OR CONTROLLER
N.T.S.



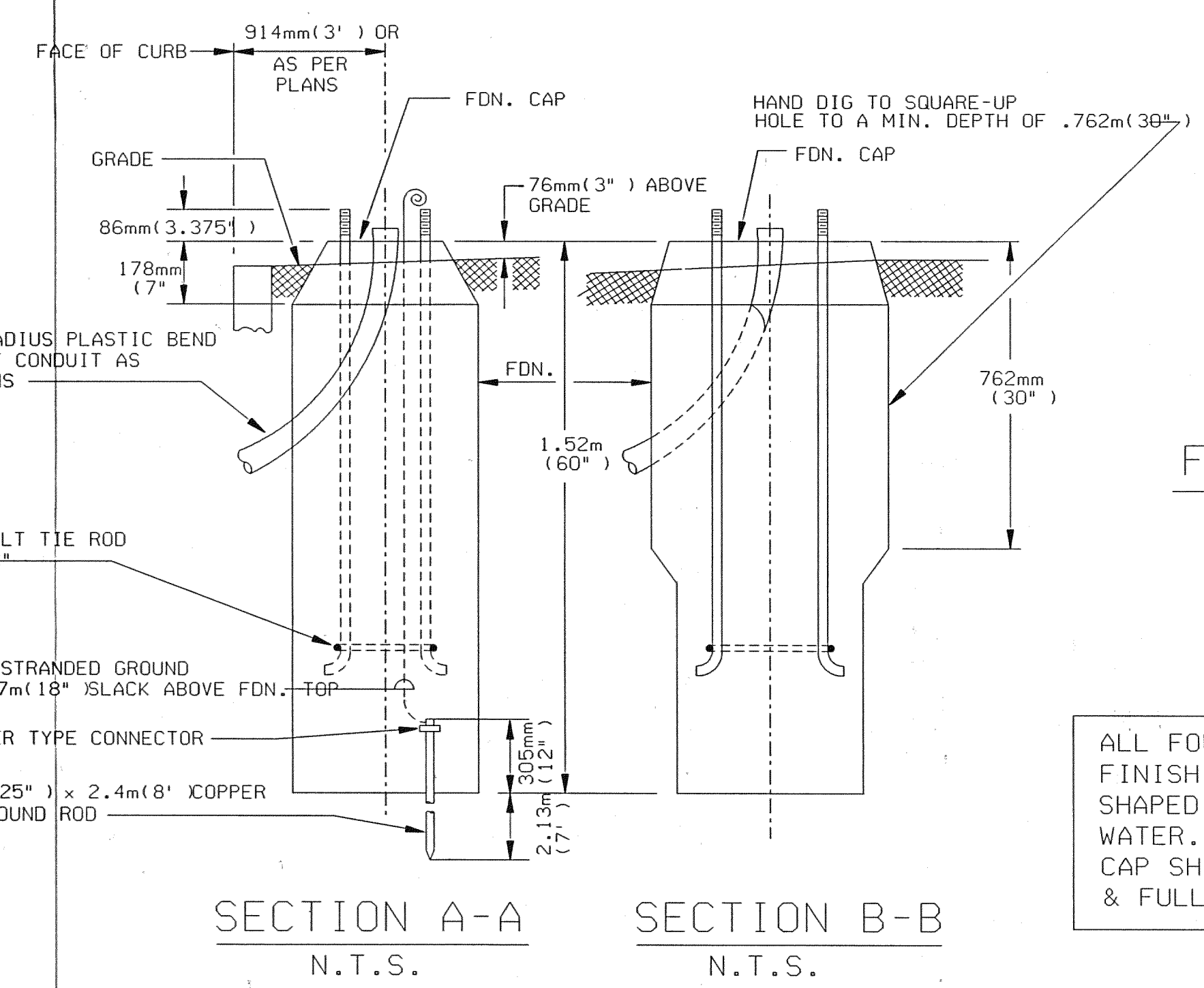
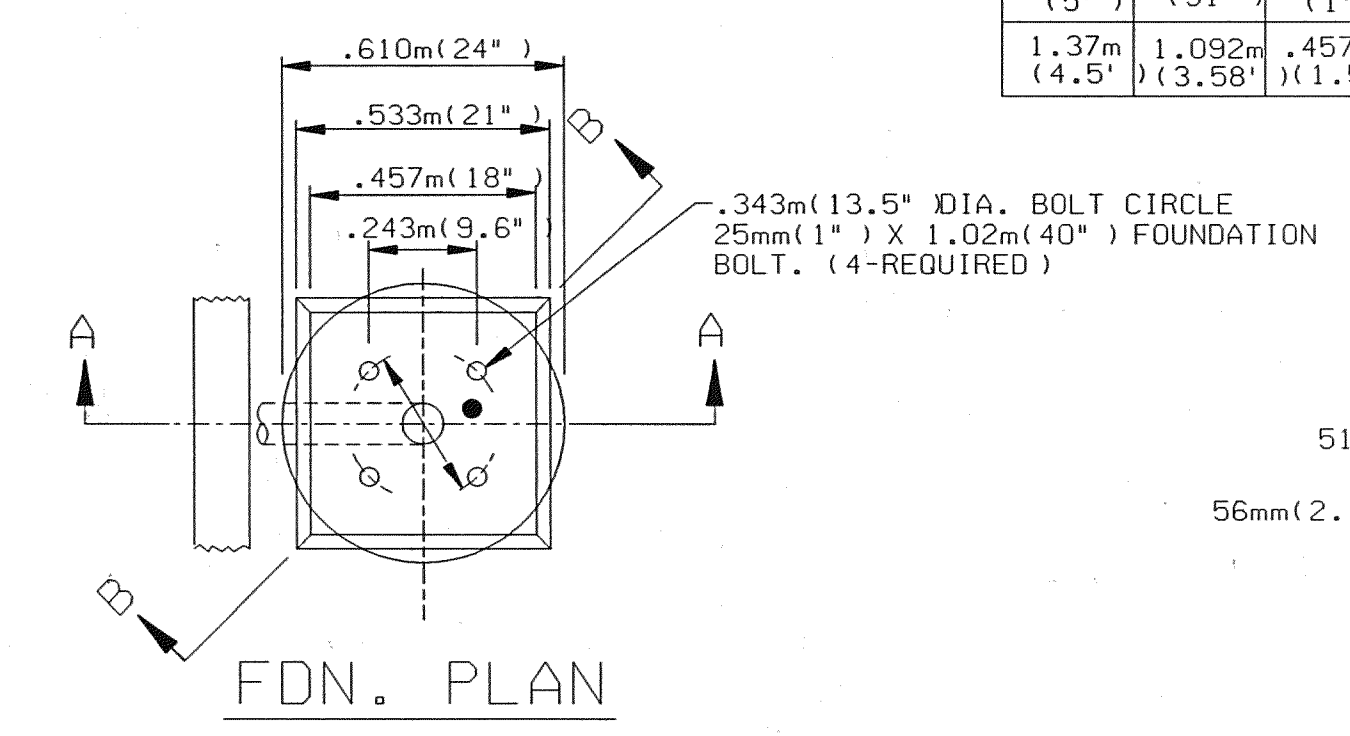
ANCHOR BASE STD. FOUNDATION
CODE 118-06, 119-06, 117-10-10



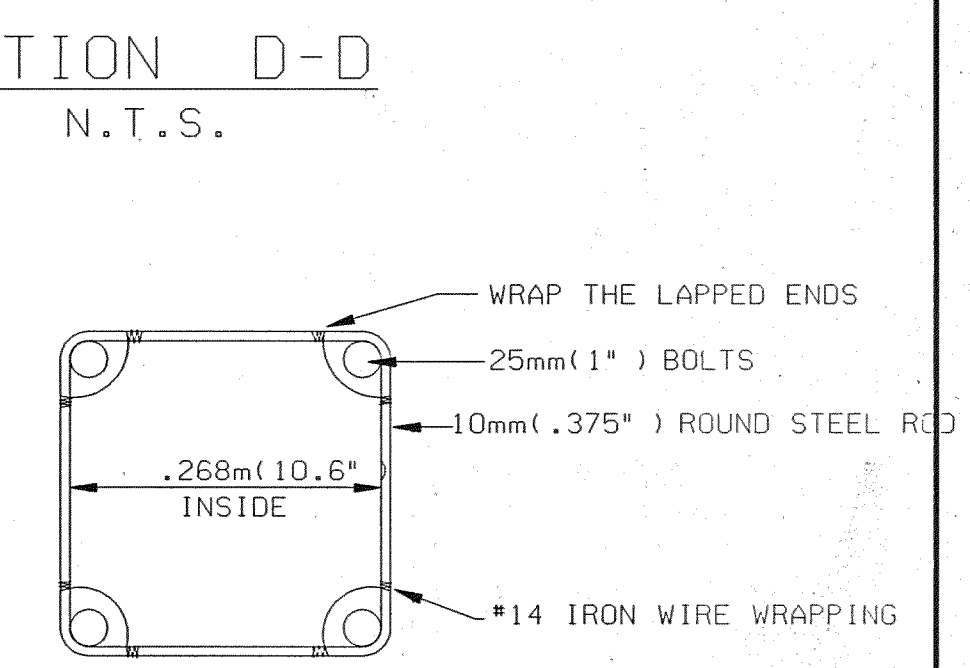
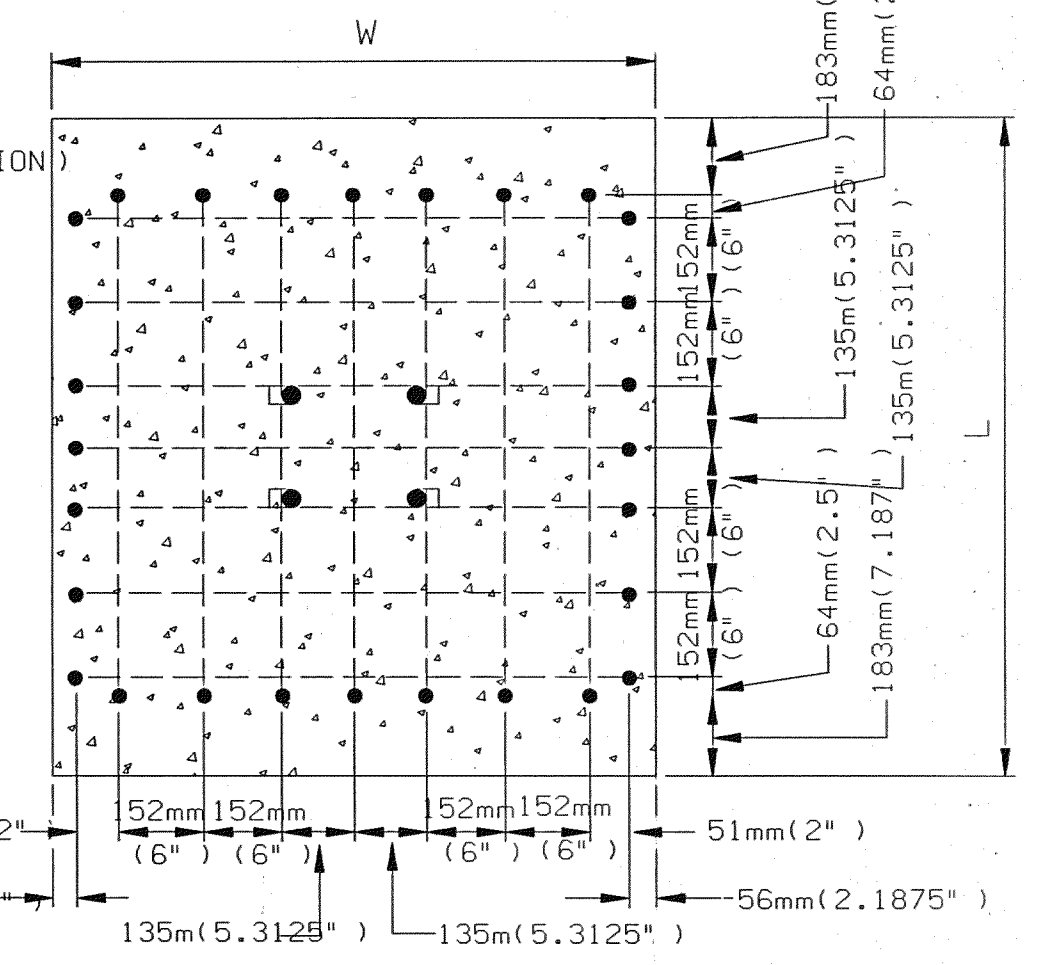
SPECIAL FOUNDATION

THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN. (TO BE PAID FOR AS A NORMAL ST. LTG. STD. FDN. INSTALLATION)

L	W	T
1.52m (5')	1.3m (51')	.305m (1')
1.37m (4.5')	1.092m (3.58')	.457m (1.5')



ANCHOR BASE STD. FOUNDATION
CODE 009-00, 010-06, 116-02



FDN. BOLT TIE ROD
N.T.S.

ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTIONS ABOVE CAP SHALL BE CLEANED OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.

REVISIONS	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT
FOUNDATIONS

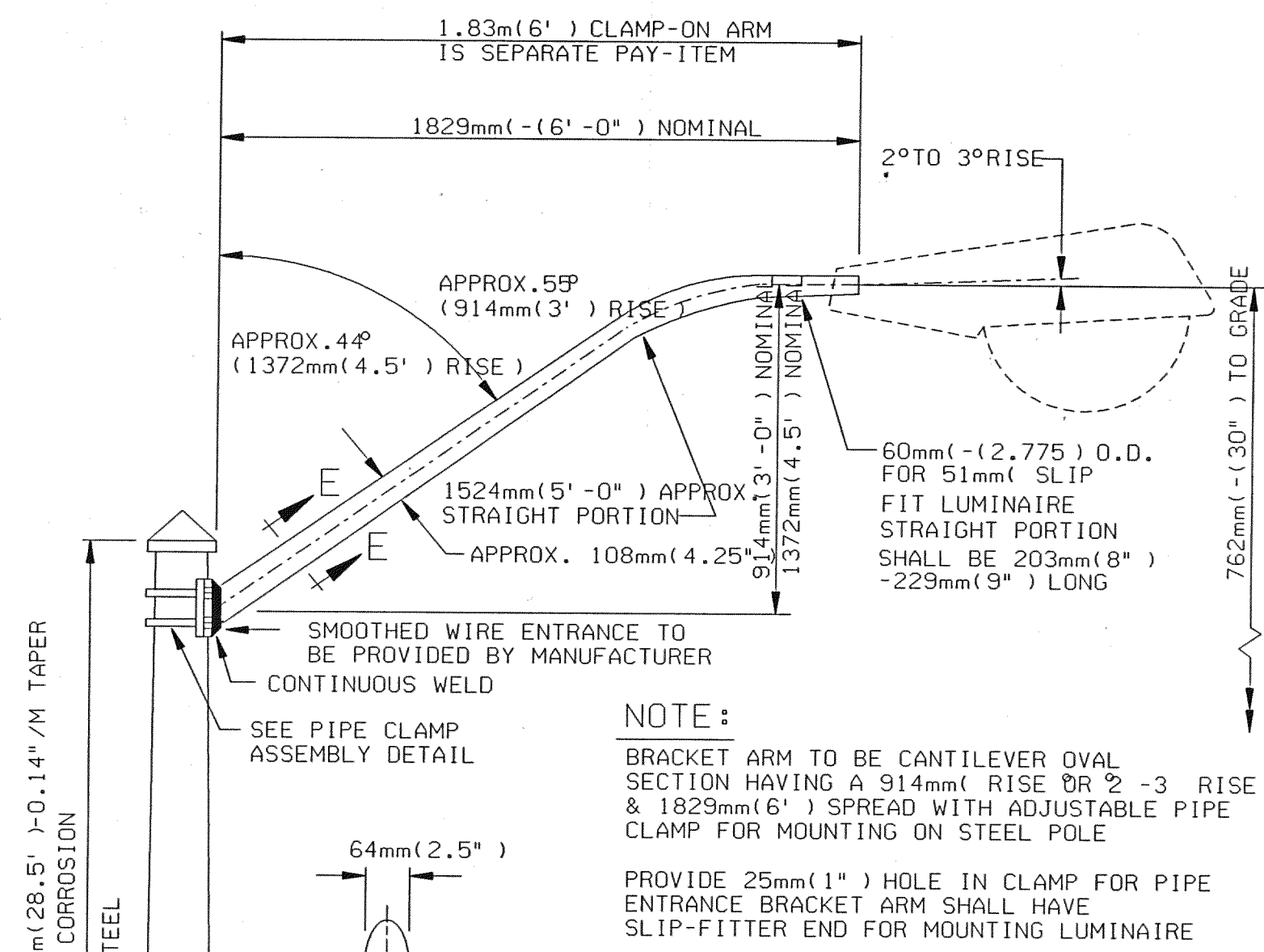
MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Drawn M.A.I.
Checked
Dwg. No. 14 OF 25
File No. M4044

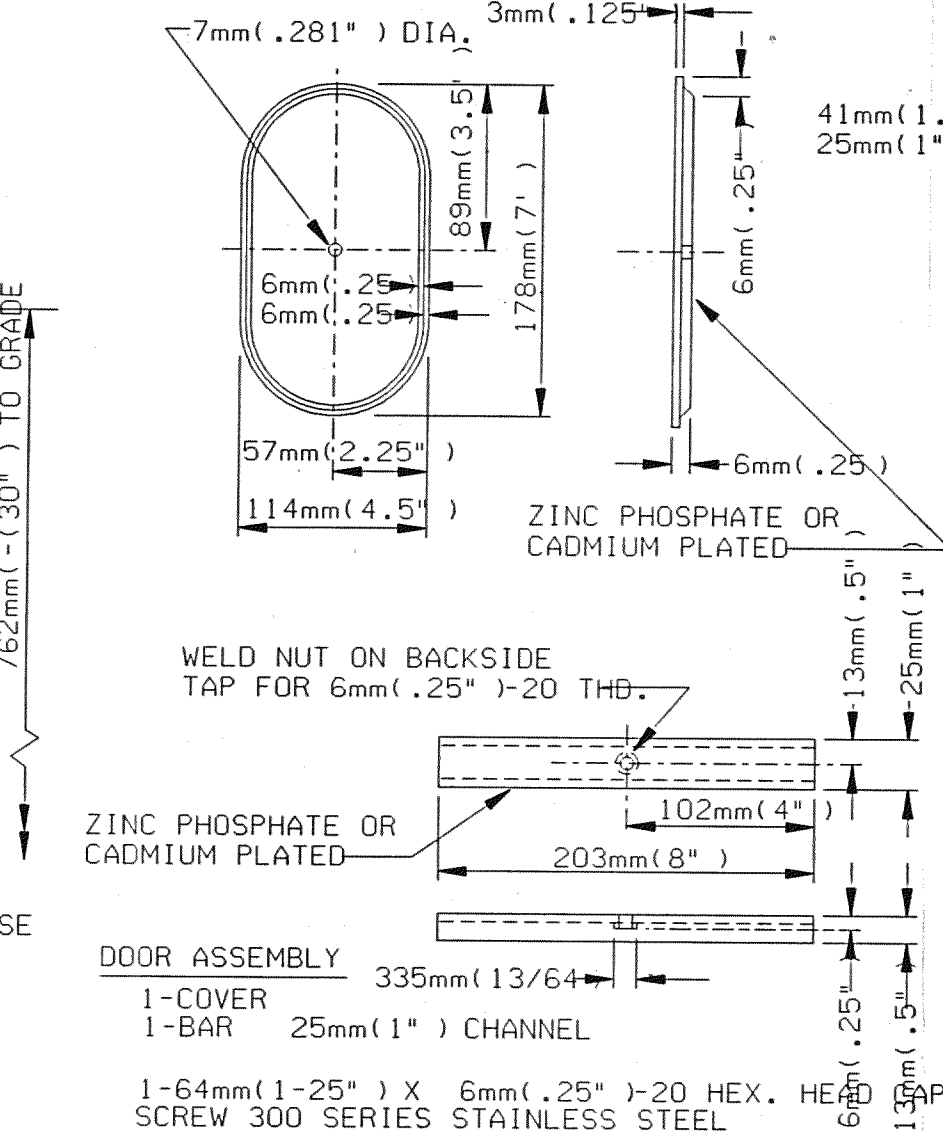
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Approved by
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

109
27-1104
Sheet No. 34
Date 02-11-05

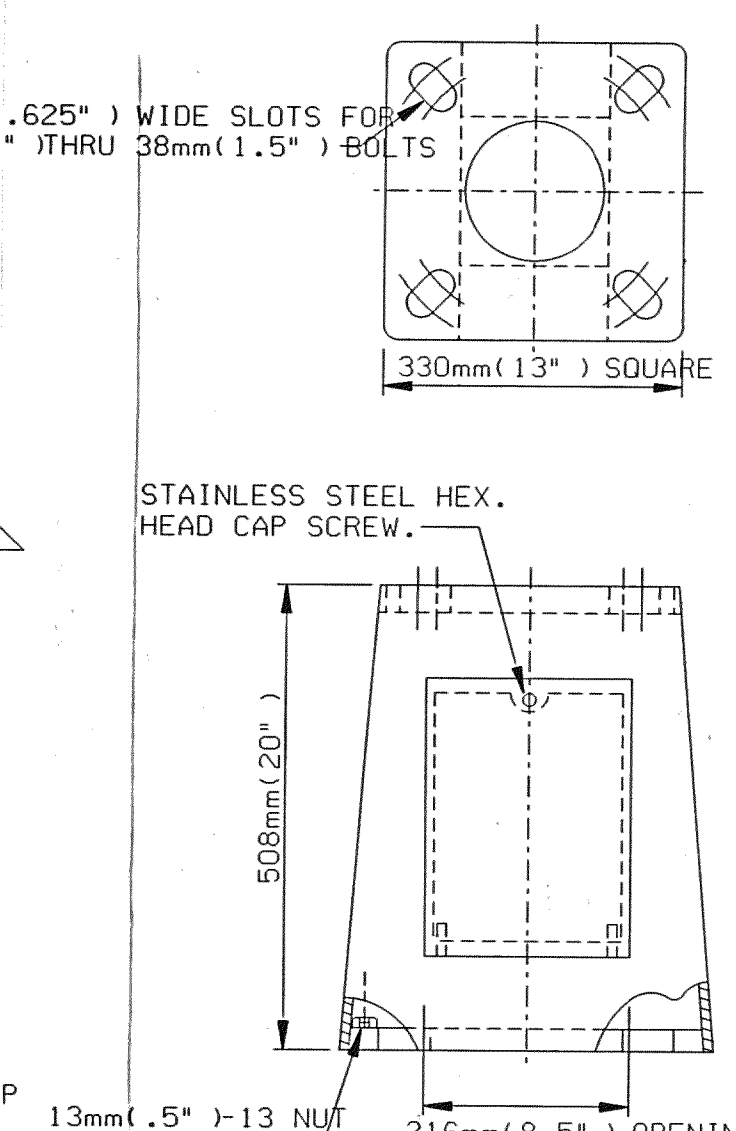
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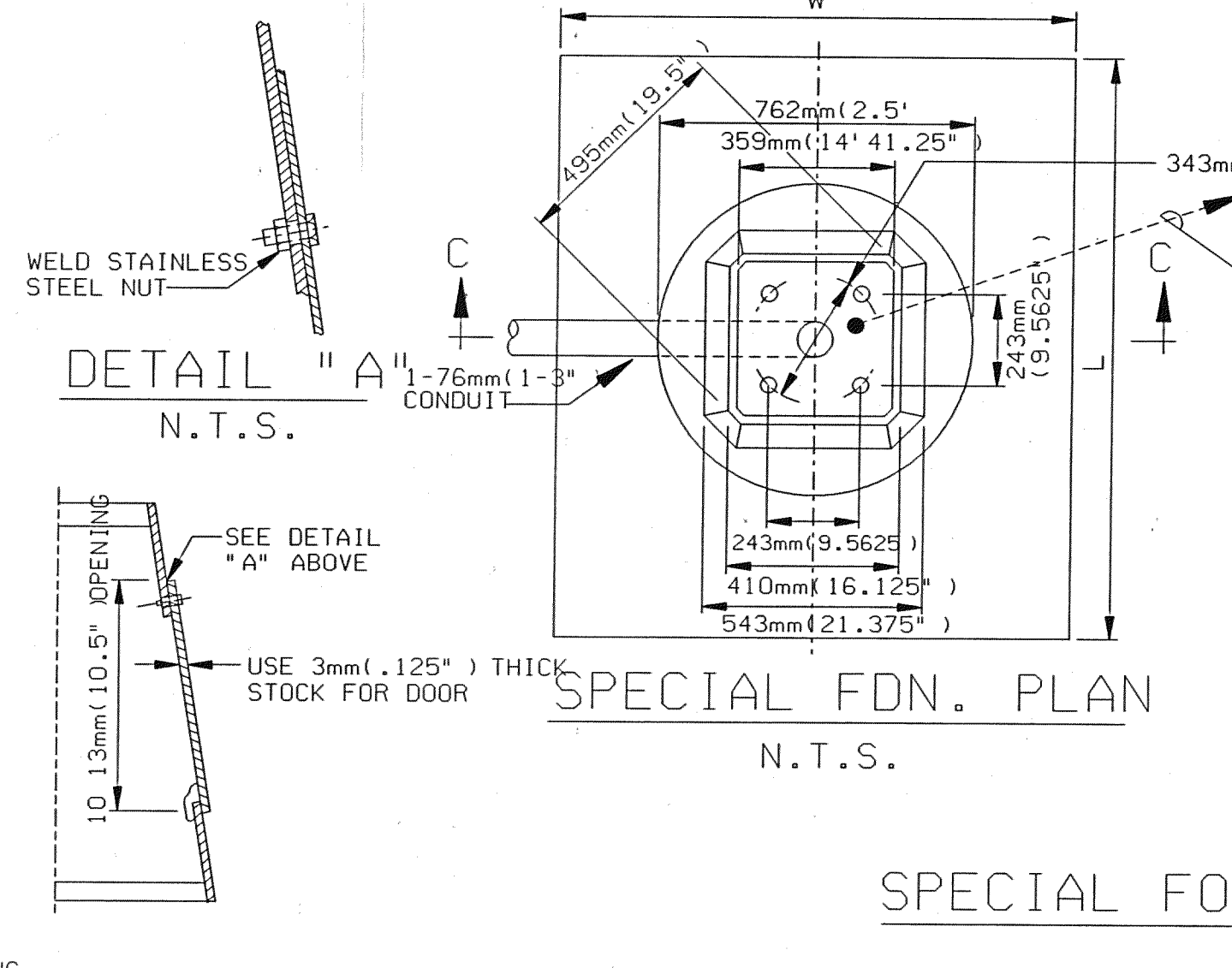
6 FT. CLAMP-ON BRACKET ARM
N.T.S.



HANDHOLE COVER DETAIL
N.T.S.



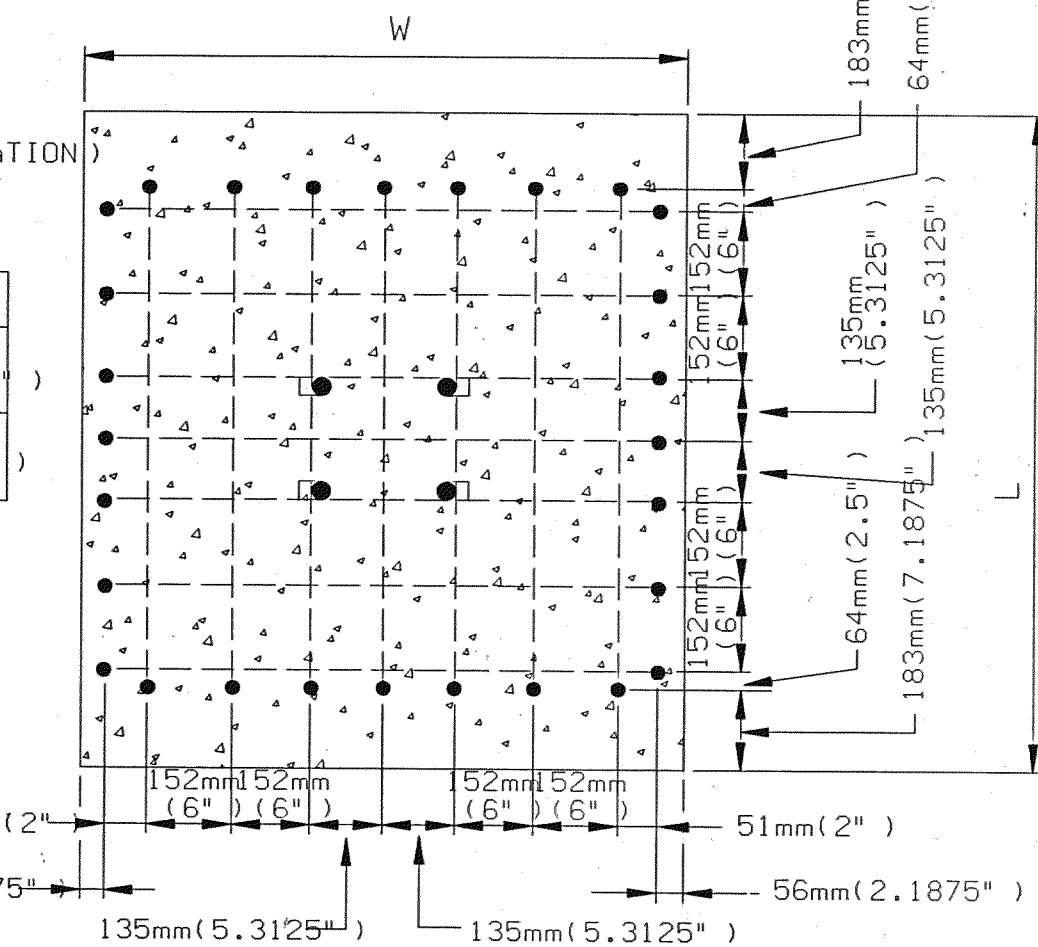
SPECIAL FDN. PLAN
N.T.S.



SPECIAL FOUNDATION

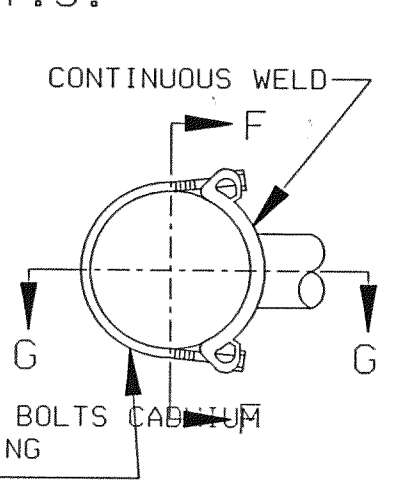
THERE SHALL BE NO EXTRA PAYMENT FOR SPECIAL FDN.
(TO BE PAID FOR AS A NORMAL ST. LTG. STD. FDN. INSTALLATION)

L	W	T
1524mm (5'-0")	1295mm (4'-2.5")	305mm (1'-0")
1372mm (4.5')	1092mm (3.58')	457mm (1.5')



SECTION D-D
N.T.S.

CODE 009-00
STREET LIGHTING STANDARD
N.T.S.

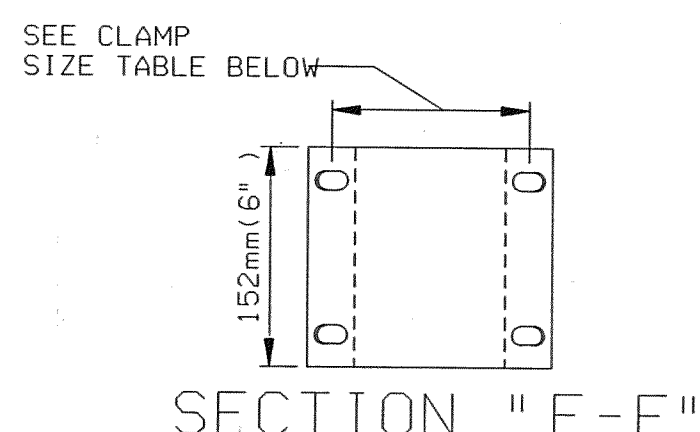


SECTION "G-G"

TYPE	POLE DIAMETER
A	91mm (3.6") - (4.5")
B	155mm (6.1") - (6.9")
C	191mm (7.5") - (8.5")

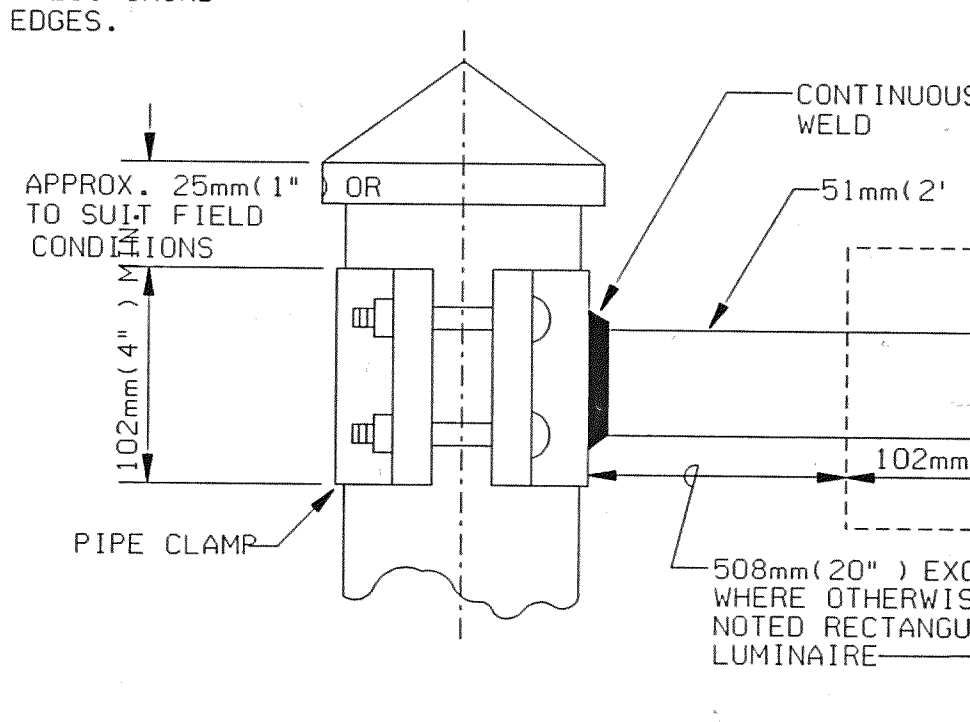
CLAMP SIZE TABLE

PIPE CLAMP DETAILS
N.T.S.

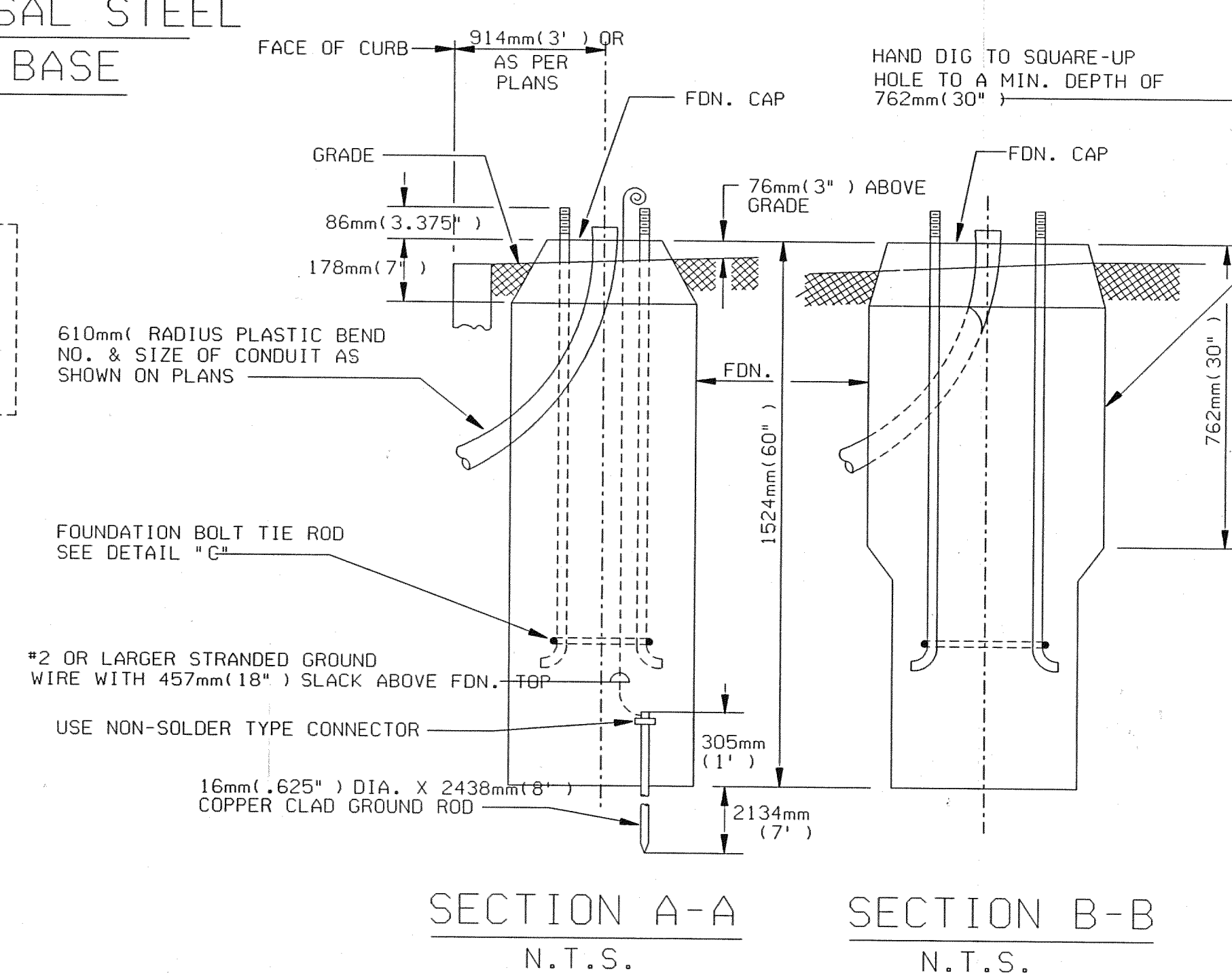


SECTION "F-F"

BASE PLATE PLAN
N.T.S.

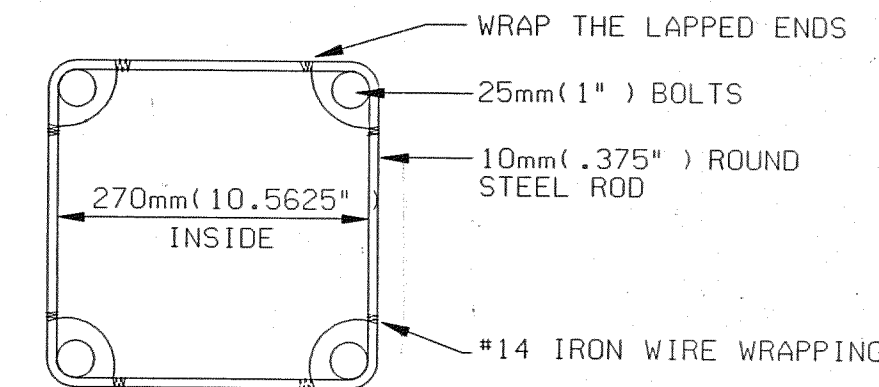


P.L.D. UNIVERSAL STEEL TRANSFORMER BASE
N.T.S.



SECTION A-A SECTION B-B
N.T.S. N.T.S.

ANCHOR BASE STD. FOUNDATION



DETAIL "C"

FDN. BOLT TIE ROD
N.T.S.

ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTIONS ABOVE CAP SHALL BE CLEANED OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.

STD. CODE NO.	SHAFT LENGTH	SHAFT DEFLECTION	MINIMUM LOAD	ANCHOR BOLT CIRCLE Ø	ANCHOR BOLT Ø & O.A.	HANDHOLE	LUMINAIRE MOUNTING HEIGHT	BRACKET FITTERS REQ'D	BRACKET LENGTH
009-00	8687mm (28.5')	74mm (2.9")	880*	343mm (13.5")	25mm (1") X 1016mm (40")	1165mm (6.5') X 14mm (30')	—	—	1.83m (6')

* SHAFT DEFLECTION: SHAFT DEFLECTION MEASURED IN INCHES AT TOP, SHALL NOT BE GREATER THAN THAT SHOWN, FOR A HORIZONTAL LOAD OF 100 LBS. APPLIED 18 INCHES BELOW TOP OF SHAFT.

* * SHAFT LOADING: SHAFTS SHALL WITHSTAND, AT THE GUARANTEED MINIMUM YIELD STRENGTH OF THE SHAFT MATERIAL, THE LOADS SHOWN IN THIS TABLE, THE LOAD SHALL BE APPLIED IN A SINGLE HORIZONTAL DIRECTION ANYWHERE AROUND THE CIRCUMFERENCE OF SHAFT 18 INCHES FROM THE TOP.

CLAMP-ON BRACKET & RECTANGULAR LUMINAIRE
N.T.S.

JEFFERSON AVE OVER DEQUINDRE CUT

ANCHOR BASE ST.LTG.STD. (CODE 009-00)

MANSELL ASSOCIATES INC.



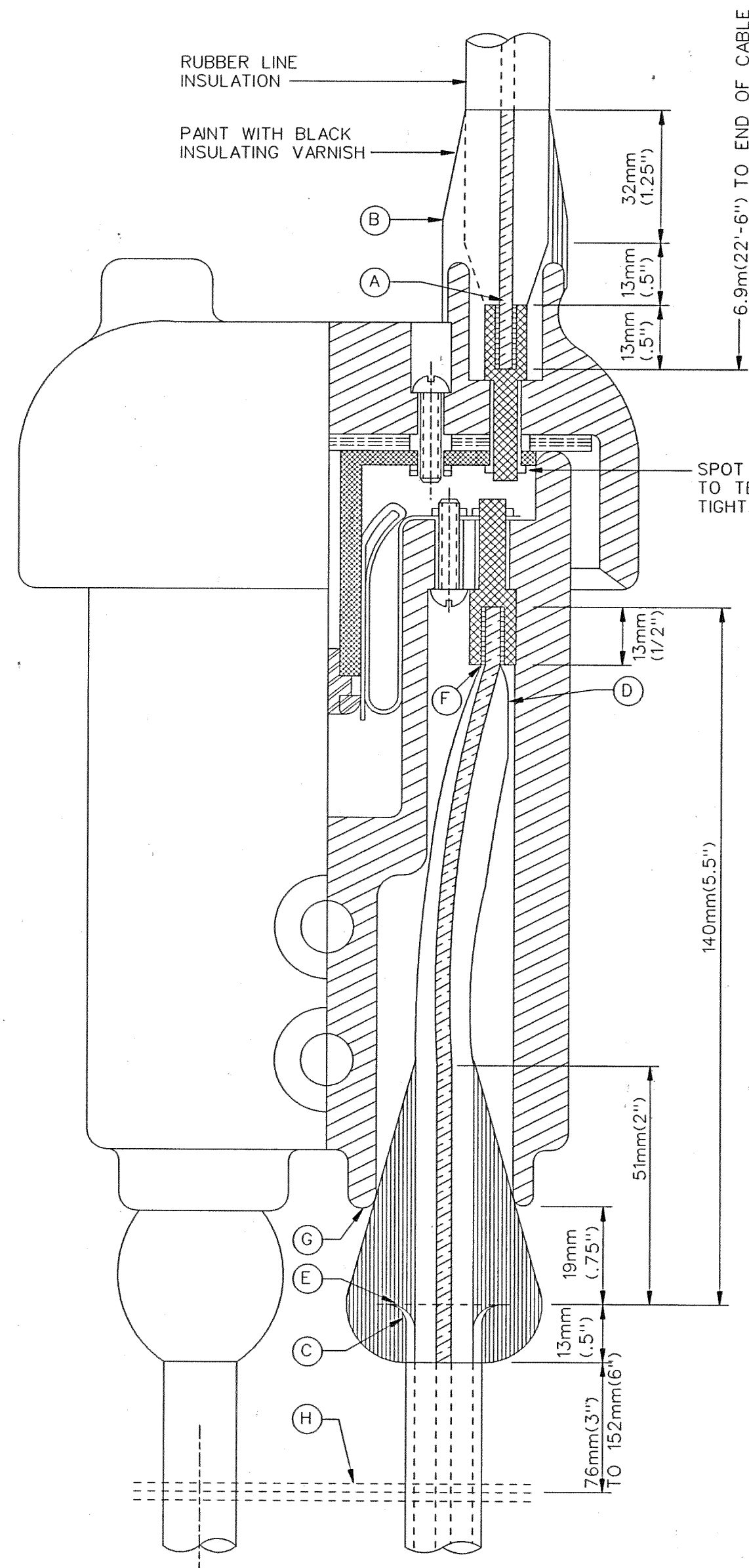
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Drawn M.A.I.
Checked
Drwg. No. 15 OF 25
File No. M4044

Scale No Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

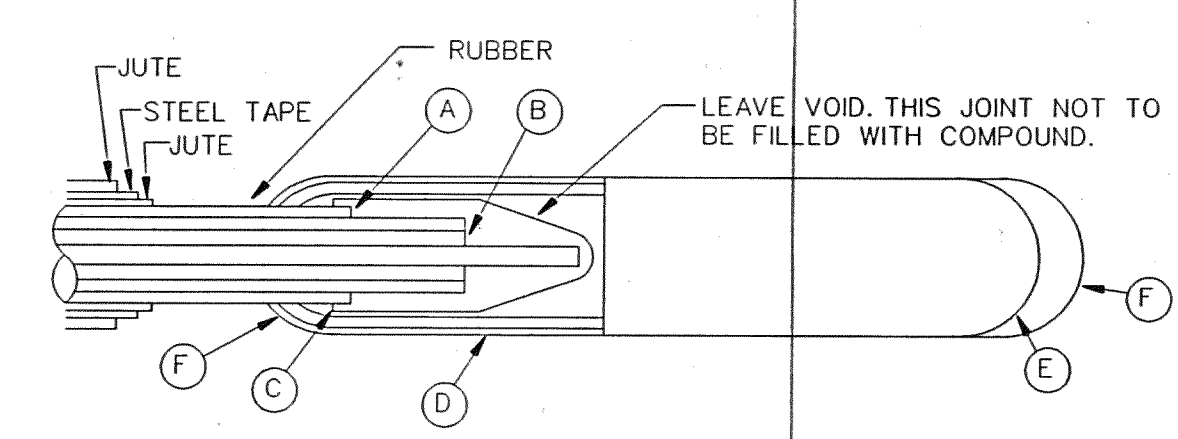
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27-1104
Sheet No. 35
Date 02-11-05



CONNECTION FOR SERIES CUTOUT
N.T.S.

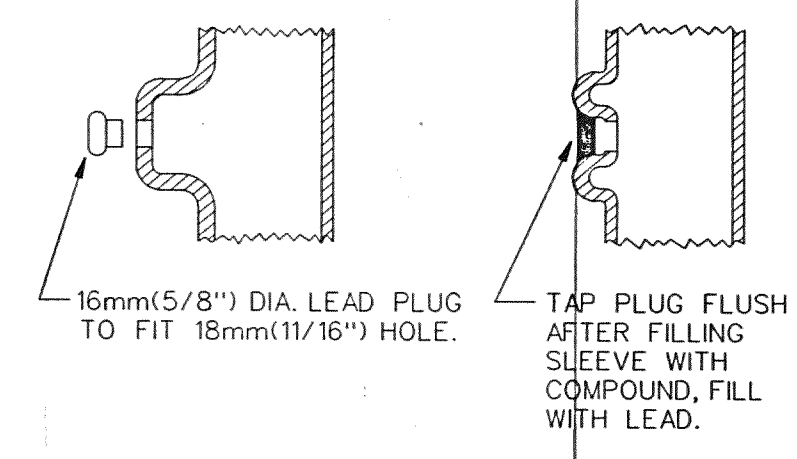
- A - SWEAT TERMINAL & PENCIL RUBBER INSULATION TO FIT SNUGLY IN PORCELAIN CAP OPENING SO THAT THE CONNECTOR NUT IS TIGHTENED, THE OPENING IS COMPLETELY & TIGHTLY FILLED.
- B - BUILD UP WITH #1 TAPE AS SHOWN, & COVER WITH 2 LAYERS, HALF LAP, WITH #2 TAPE. PAINT WITH ONE COAT OF BLACK INSULATING VARNISH.
- C - USE TUBE CUTTER TO SCORE LEAD SHEATH & CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- D - CUT INSULATION & PENCIL SMOOTHLY FOR CONNECTION.
- 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. 19mm (.75") 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.

NOTE:
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 TO EXPOSE 25mm (1") BARE COPPER.
- C - OVERLAP WITH TAPE #2 APPROXIMATELY 6mm (1/4") FROM END OF LEAD OF LEAD SHEATH, AT LEAST 2 LAYERS OF TAPE AT THIS POINT.
- D - 32mm (1.25") x 203mm (8") x 3mm (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 MINIMUM OF HEAT.

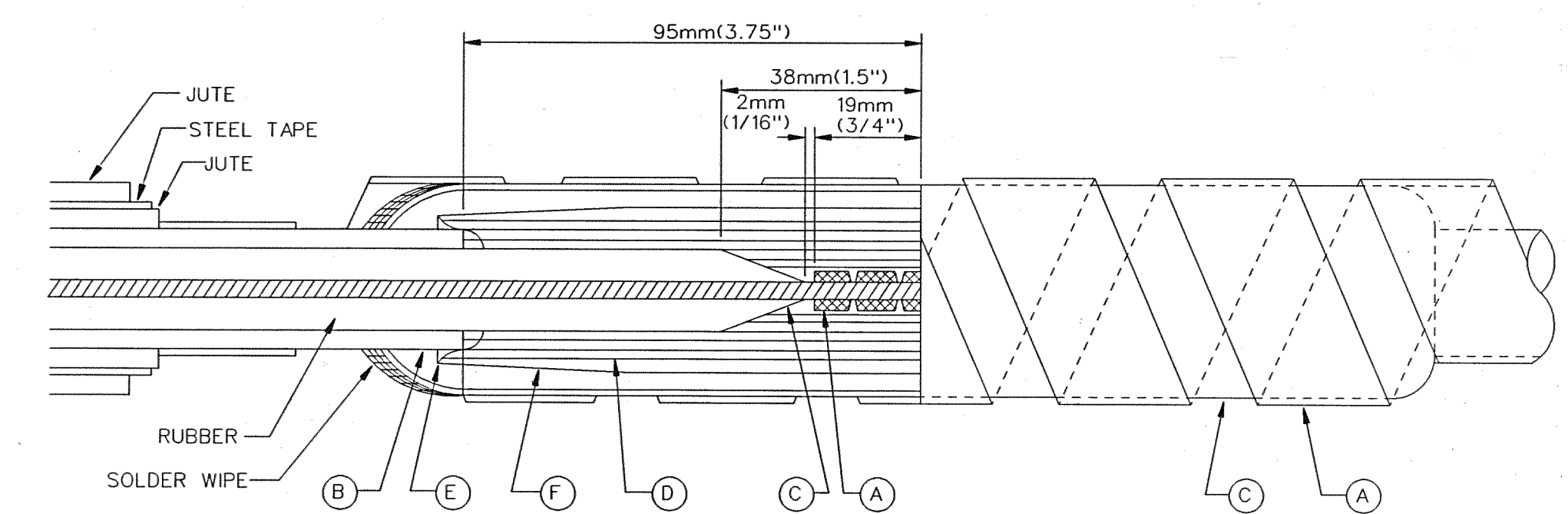
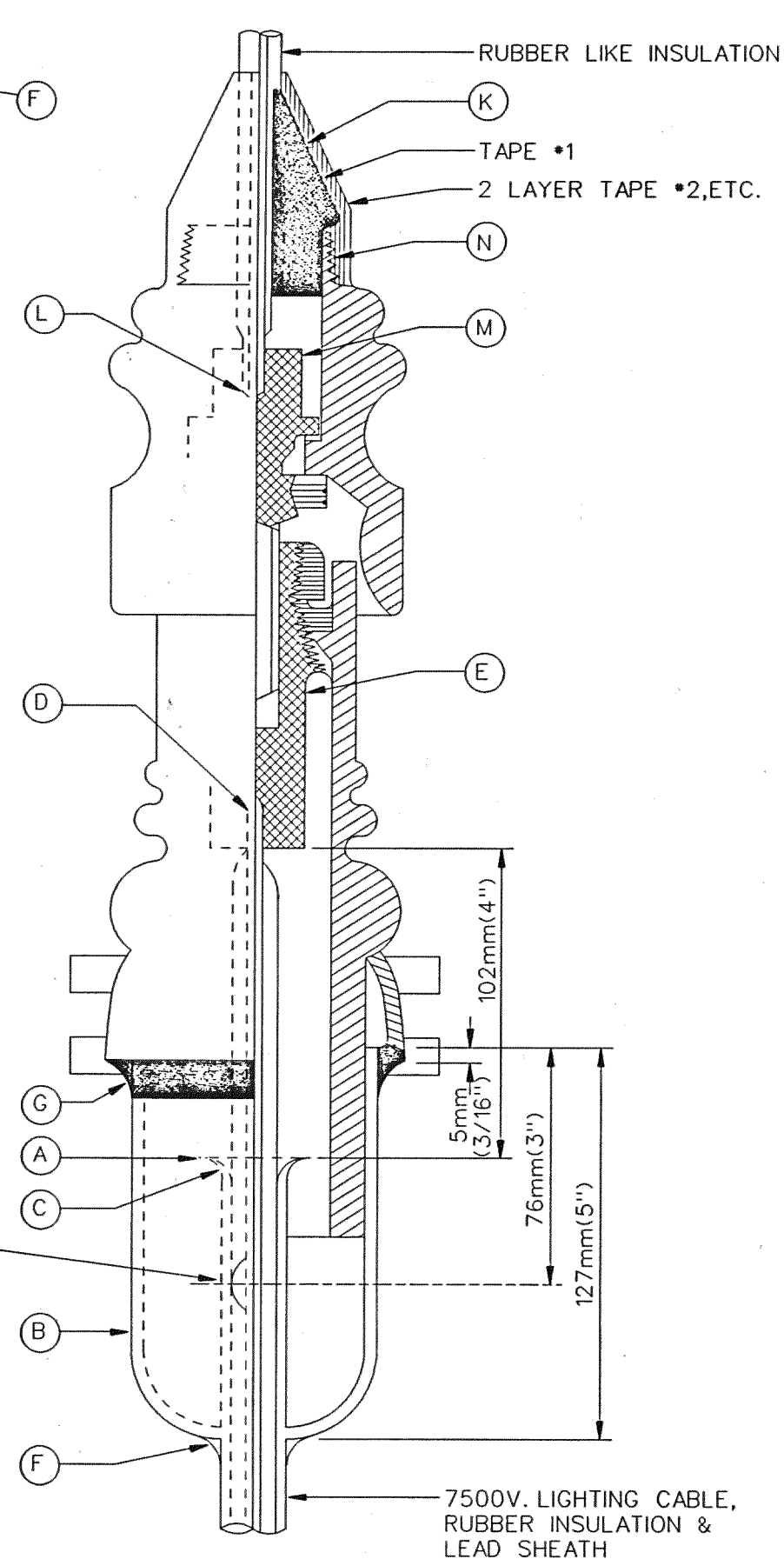


CONNECTIONS FOR 1/C 7500V. POTHEAD
N.T.S.

- A - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING. 102mm (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 19mm (3/4")
- E - MOUNT TERMINAL FIRMLY INTO PORCELAIN.
- F - PUSH SLEEVE INTO CAST IRON COLLAR AND WIPER 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 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 APPROVED BLACK INSULATING VARNISH.

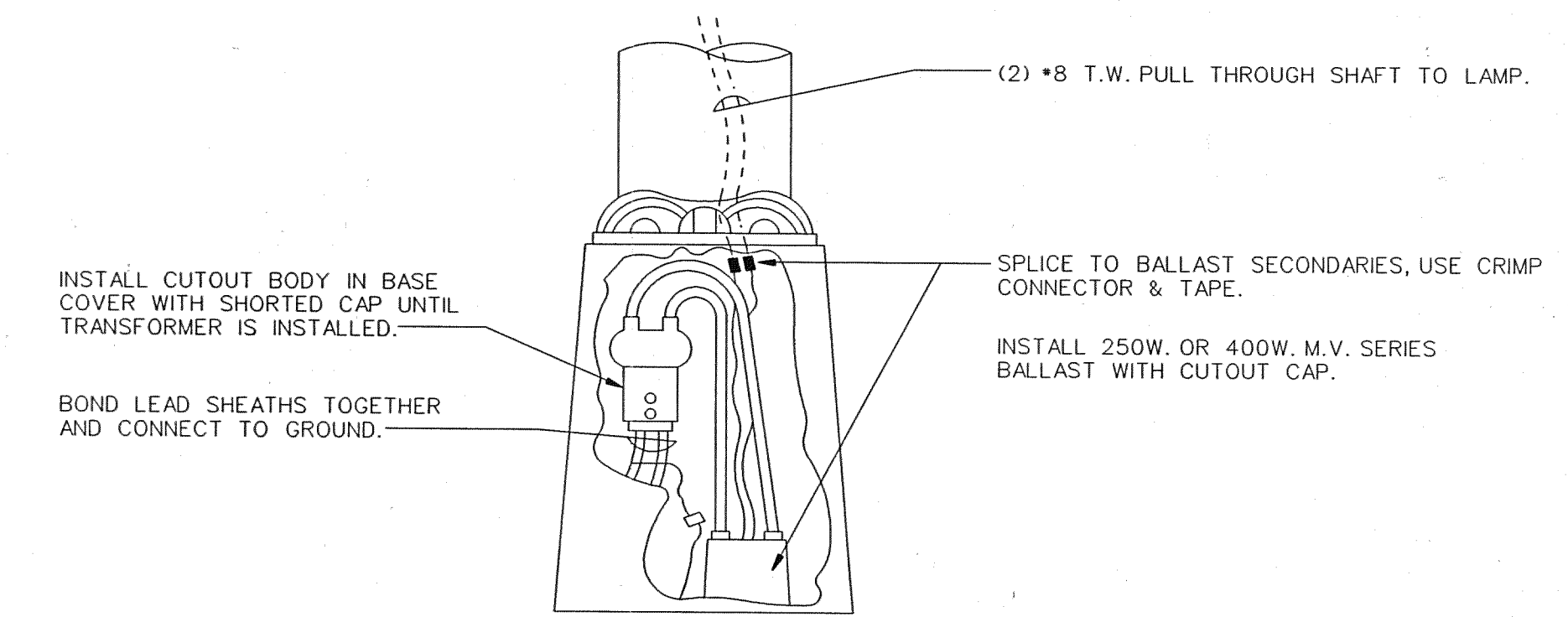
MATERIAL TYPES

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



#8 LIGHTING CABLE JOINT
N.T.S.

- A - 38mm (1.5") #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 APPROXIMATELY 25mm (1") DIAMETER OVERALL.
- E - OVERLAP WITH TAPE #1 APPROXIMATELY 6mm (1/4") FROM END OF LEAD SHEATH, AT LEAST 2 LAYERS OF TAPE AT THIS POINT.
- F - TWO LAYERS OF TAPE #2 APPLIED HALF LAP.
- G - 32mm (1.25") x 203mm (8") x 3mm (1/8") LEAD SLEEVE.
- H - TWO LAYERS OF TAPE #2 HALF LAP, ON ARMORED PARKWAY CABLE ONLY.



INCANDESCENT TO MERCURY CONVERSION
N.T.S.

DISK FILE: 20PLDMMTR

REV	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT
RUBBER INSULATED LEAD SHEATHED SPLICE & CONNECTIONS

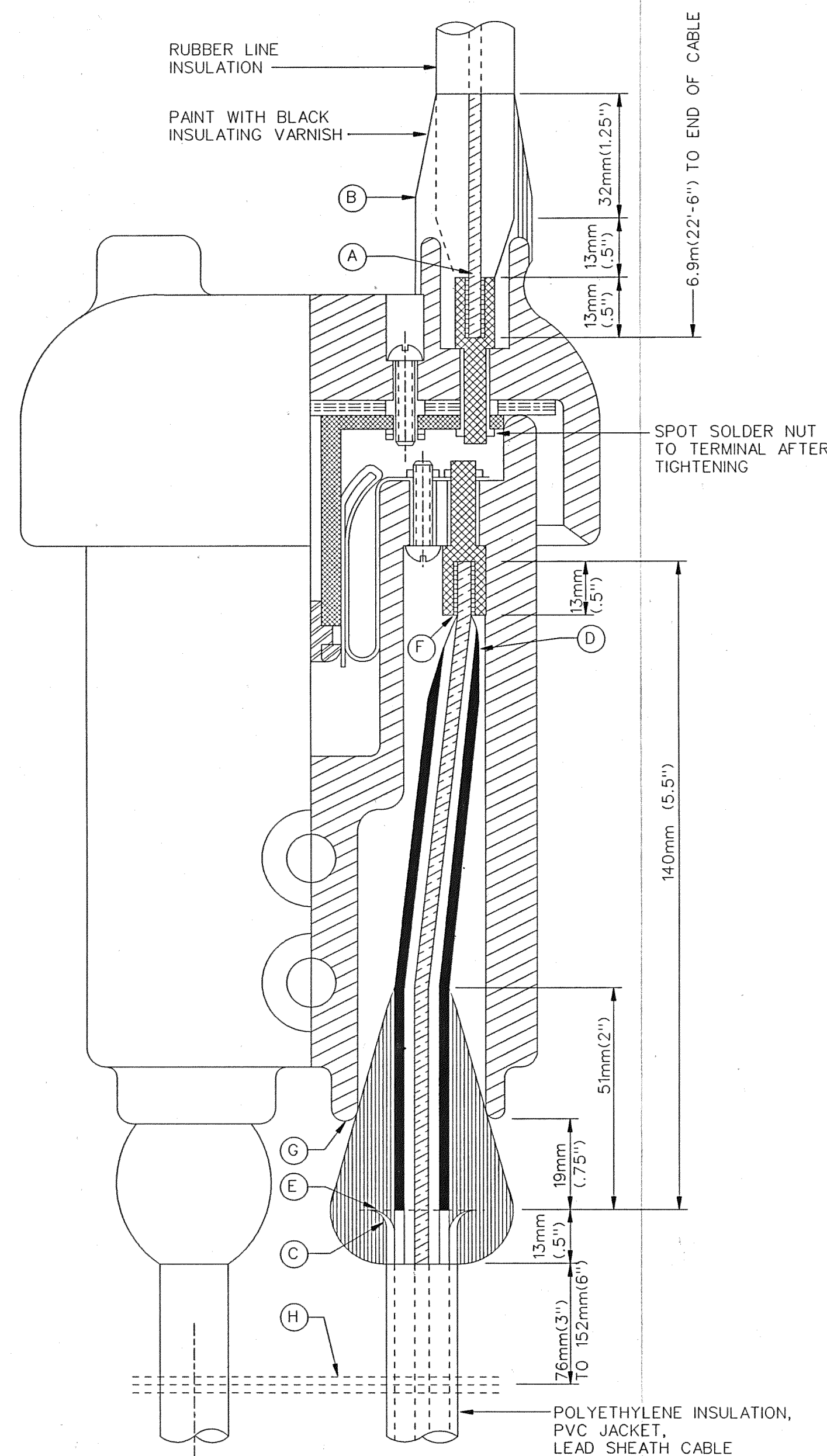
Job No.
49717A

MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Drawn M.A.I.	Scale
Checked	No Scale
Drwg. No.	Checked by
16 OF 25	Approved by
File No.	
M4044	

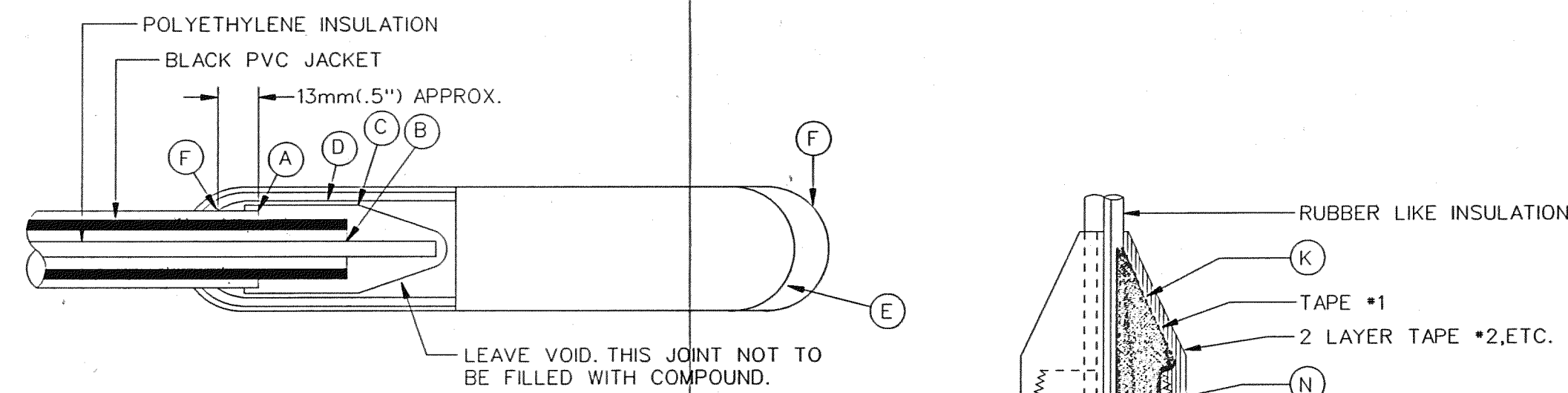
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

201
PLD File No.
27-1104
Sheet No.
36
Date
02-11-05



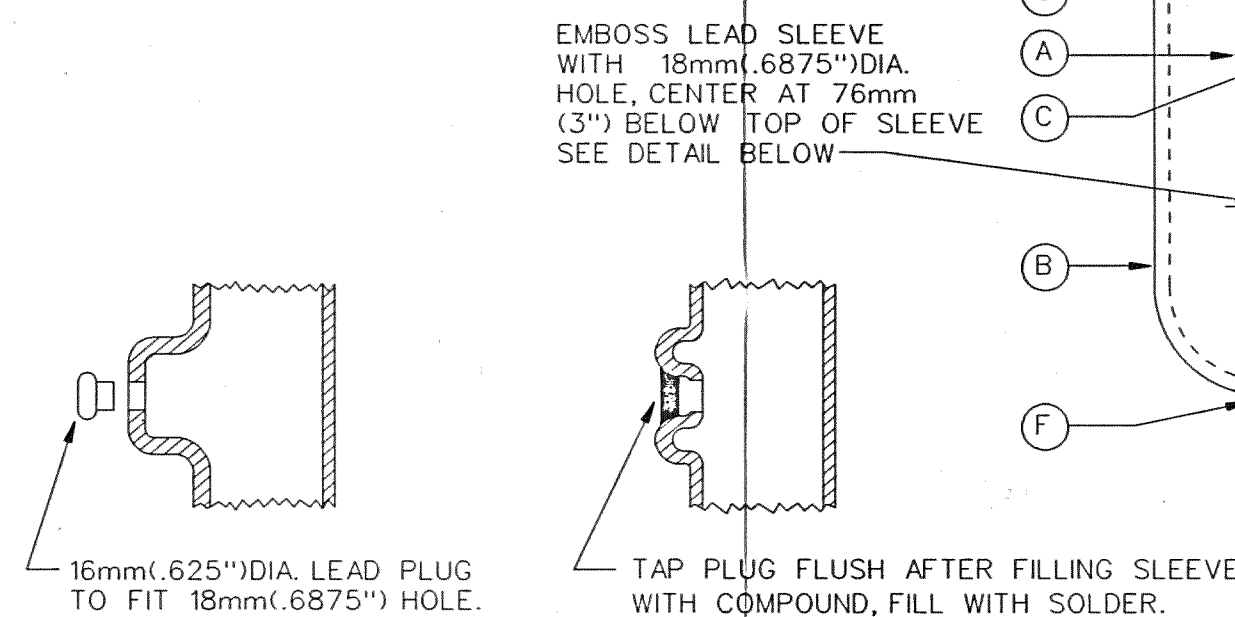
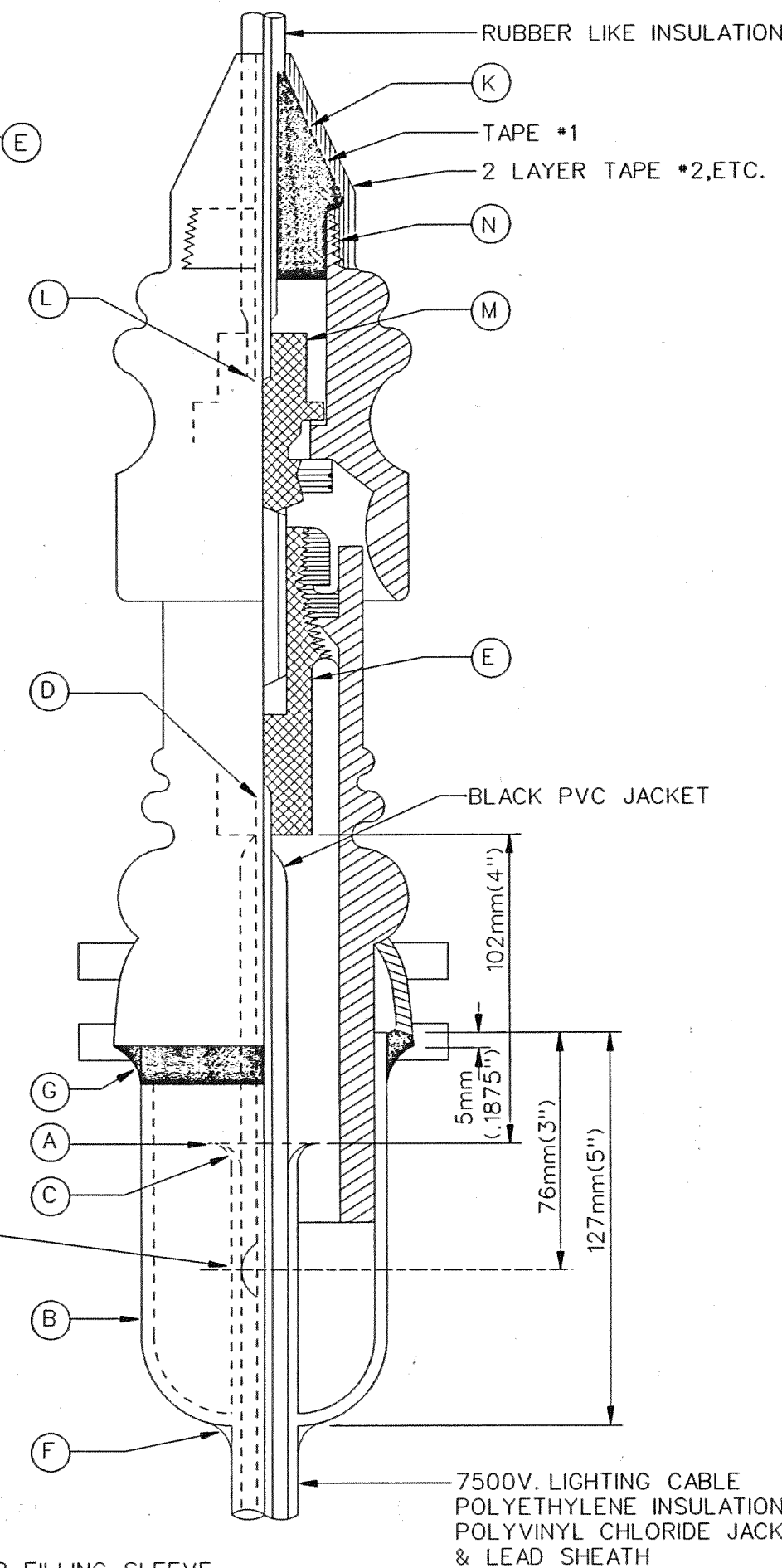
CONNECTION FOR SERIES CUTOUT
N.T.S.

- 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 *3 TAPE AS SHOWN, & COVER WITH 2 LAYERS, HALF LAP, WITH *2 TAPE AS NOTED.
- C - USE TUBE CUTTER TO SCORE LEAD SHEATH & CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING.
- D - CUT INSULATION & 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 19mm (.75 inch) 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.



#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 TO EXPOSE 25mm (1 inch) OF BARE COPPER.
- C - OVERLAP WITH TAPE *2 APPROXIMATELY 6mm (.25 inch) FROM END OF LEAD OF LEAD SHEATH, AT LEAST 2 LAYERS OF TAPE AT THIS POINT.
- D - 32mm (1.25 inch) x 203mm (8 inch) x 3mm (.125 inch) 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.



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

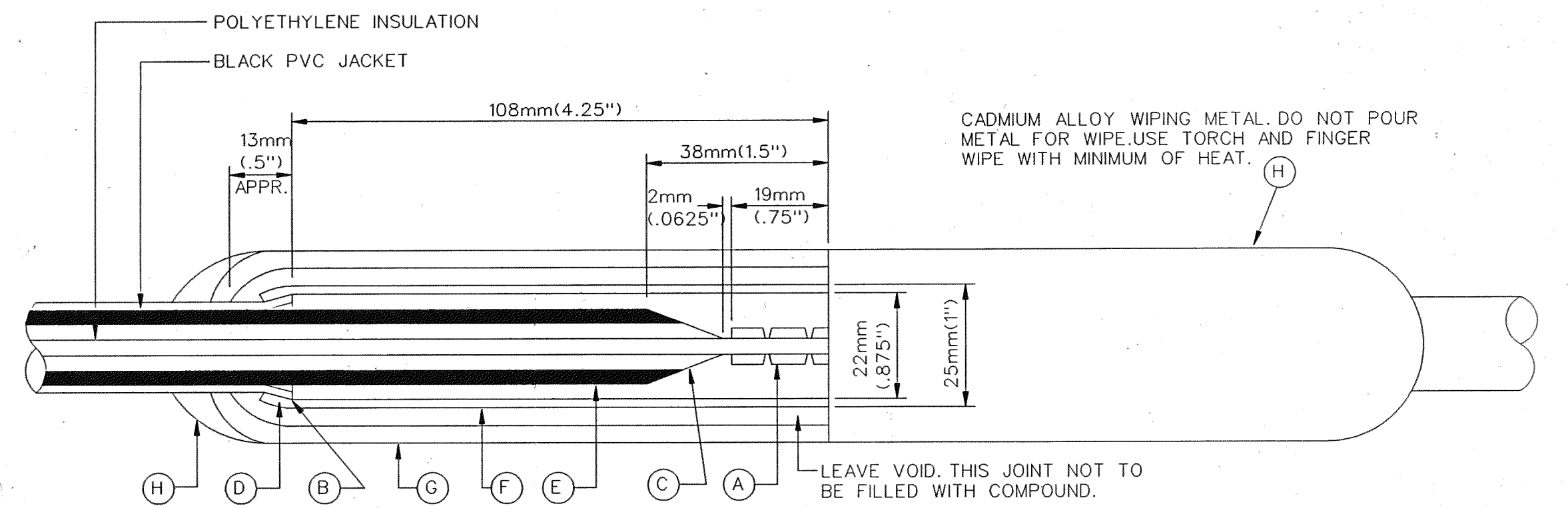
- A - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING. 102mm (4 inch) OF INSULATION TO REMAIN, NOT INCLUDING BARED CONDUCTOR.
- B - FORM BOTTOM OF EMBOSSED SLEEVE & SLIP OVER CABLE, HOLE IN FRONT.
- C - BELL LEAD SHEATH.
- D - SWEAT CONDUCTOR INTO TERMINAL & PENCIL INSULATION SMOOTHLY FOR 19mm (.75 inch)
- 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 16mm (.625 inch) DIA. LEAD PLUG INTO SLEEVE HOLE, TAP FLUSH & FILL WITH SOLDER.
- J - TRAIL THE CABLE AND MOUNT POTHEAD ON CROSS ARM.
- 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 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, 1mm (.02 inch) THICK x 19mm (.75 inch) WIDE TAPE *3: APPROVED A.S.T.M. RUBBER TAPE. FILLING COMPOUND: APPROVED COMPOUND.
- 2. TAPE *2: BLACK PVC PLASTIC ELECTRICAL TAPE. ADHESIVE: APPROVED ADHESIVE. 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.

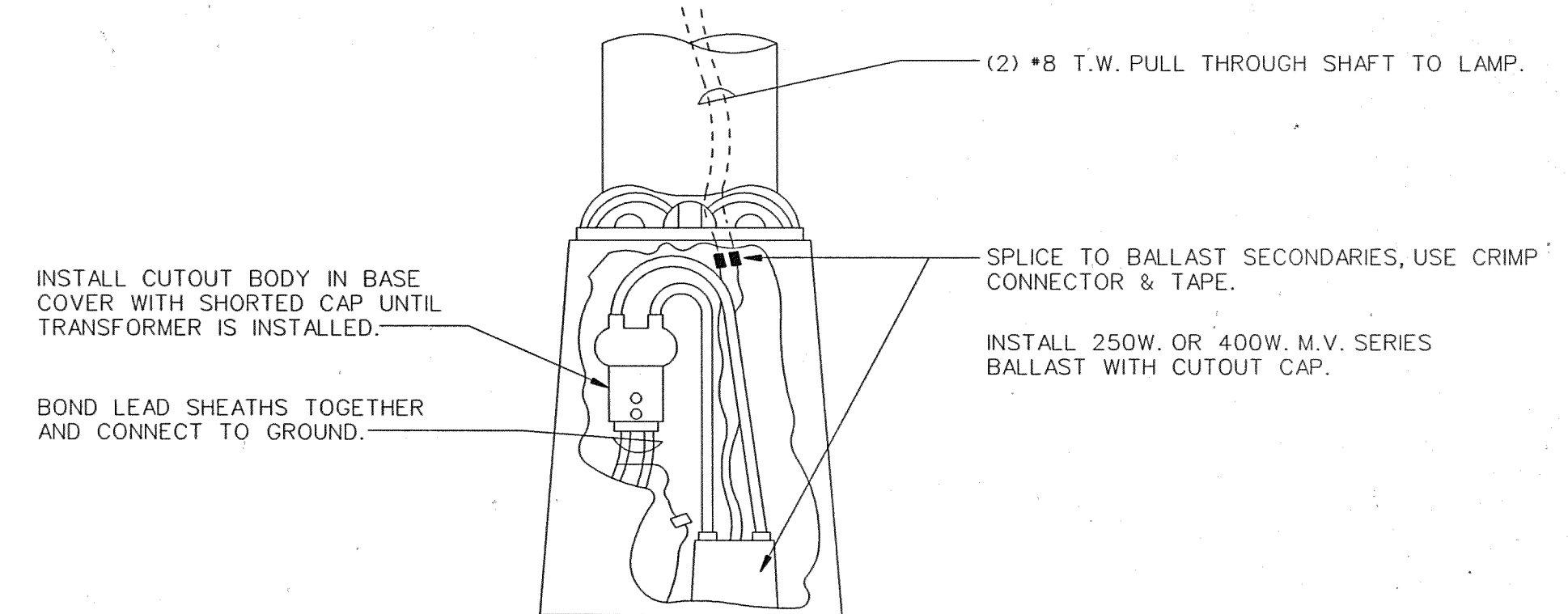
NOTE:

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.



#8 LIGHTING CABLE JOINT
N.T.S.

- A - 38mm (1.5 inch) *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.
- 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 25mm (1 inch).
- F - OVERLAP BELLED SHEATH WITH TAPE APPROX. 6mm (.25 inch)
- G - TWO LAYERS OF TAPE *2 APPLIED HALF LAP.
- H - LEAD SLEEVE 254mm (10 inch) LONG, 3mm (.125 inch) WALL, 32mm (1.25 inch) INSIDE DIAMETER.
- H - SPECIAL LOW TEMPERATURE CADMIUM ALLOY WIPING METAL.



INCANDESCENT TO MERCURY CONVERSION
N.T.S.

- (2) *8 T.W. PULL THROUGH SHAFT TO LAMP.
- SPLICE TO BALLAST SECONDARIES, USE CRIMP CONNECTOR & TAPE.
- INSTALL 250W. OR 400W. M.V. SERIES BALLAST WITH CUTOUT CAP.
- BOND LEAD SHEATHS TOGETHER AND CONNECT TO GROUND.

DISK FILE: 202P.LDM.MTR

DATE	DESCRIPTION	CHKD. BY

JEFFERSON AVE OVER DEQUINDRE CUT
POLYETHYLENE INSUL., P.J. LEAD SHEATHED SPLICE & CONN.

MANSELL ASSOCIATES INC.
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File No. M4044	Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT
27-1104
Sheet No. 37
Date 02-11-05

1. DISTRIBUTION AND TRANSMISSION CABLES

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

ALL DISTRIBUTION CABLES, (7 & 5 KV, ITEMS 19 & 21 INCLUSIVE) ARE FOR CIRCUITS WITH UNDERGROUND NEUTRAL AND SHALL ALSO CONFORM WITH THE ABOVE SPECIFICATION, WITH CONSTRUCTION OPTIONS AS NOTED IN TABLE 1.

2. OVERHEAD LINE WIRE

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

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

THIS IS A SPECIAL CONSTRUCTION AND SHALL BE MADE STRICTLY IN ACCORDANCE WITH THE DESCRIPTION IN TABLE 1. APPLICABLE REFERENCE SPECIFICATIONS SHOWN BELOW:

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

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

		POLYVINYL-CHLORIDE 60° C (140 F)	POLYVINYL-CHLORIDE 75° C (167 F)	HIGH MOLECULAR WEIGHT NATURAL POLYETHYLENE	SYNTHETIC RUBBER 75° C (167 F) HEAT & MOISTURE RESISTANT	MOZONE 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.	250, MIN.	300, MIN. & 13mm(.5") SET, MAX.	350, MIN. & 13mm(.5") SET, MAX.
AIR OVEN TEST TIME & TEMP, AS NOTED	TENSILE STRENGTH % OF ORIGINAL	65, MIN. 168 HRS., 100° C (212± 1.8 F)	120, MAX. 80, MIN. 168 HRS., 120° C (248± 1.8 F)	75, MIN. 48 HRS., 100° C (212± 1.8 F)	—	60, MIN. 168 HRS., 100° C (212± 1.8 F)
	ELONGATION % OF ORIGINAL	* 65, MIN. 168 HRS., 100° C (212± 1.8 F)	** 75, MIN. 168 HRS., 120° C (248± 1.8 F)	75, MIN. 48 HRS., 100° C (212± 1.8 F)	—	60, MIN. 168 HRS., 100° C (212± 1.8 F)
OXYGEN PRESSURE TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80° C (176± 1.8 F)	—
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 168 HRS., 80° C (176± 1.8 F)	—
AIR PRESSURE HEAT TEST	TENSILE STRENGTH % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127° C (260± 1.8 F)	50, MIN. 40 HRS., 127° C (260± 1.8 F)
	ELONGATION % OF ORIGINAL	—	—	—	50, MIN. 20 HRS., 127° C (260± 1.8 F)	50, MIN. 40 HRS., 127° C (260± 1.8 F)
HEAT DISTORTION 12± 1° C (250± 1.8 F)	% OF ORIGINAL	50, MAX.	25, MAX.	—	—	—
OIL IMMERSION 4 HRS., 70° C (158± 1.8 F)	TENSILE STRENGTH % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
	ELONGATION % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
HEAT SHOCK 12± 1° C (250± 1.8 F)		NO CRACKS	NO CRACKS	—	—	—
COLD BEND		NO CRACKS -30 ± 1° C (-22± 1.8 F)	NO CRACKS -30 ± 1° C (-22± 1.8 F)	NO CRACKS -55 ± 1° C (-67± 1.8 F)	—	—
INSULATION RESISTANCE CONSTANT AT 15.0° C (60± 1.8 F)		1,000 MIN.	2,000 MIN.	50,000 MIN.	4,000 MIN.	20,000 MIN.
FLAME RESISTANCE PROPERTIES		SECT. 6.5 IPCEA S-61-402	SECT. 6.5 IPCEA S-61-402	—	—	—
		10, MAX.	10, MAX.	—	5, MAX.	—
ACCELERATED WATER ABSORPTION REQUIREMENT	ELECTRIC METHOD	DIELECTRIC CONSTANT, 1 DAY	1-14 DAYS-10, MAX. 7-14 DAYS-5, MAX.	1-14 DAYS-4.0, MAX. 7-14 DAYS-2.0, MAX.	—	1-14 DAYS-10.0, MAX. 7-14 DAYS-4.0, MAX.
	OR GRAVIMETRIC METHOD	% CAPACITANCE INCREASE	50 ± 1° C (122± 1.8 F)	75 ± 1° C (167± 1.8 F)	—	75 ± 1° C (167± 1.8 F)
TEST IN ACCORDANCE WITH LATEST REVISION OF:		MILLIGRAMS PER SQ. 25.4mm(1") MAX.	MILLIGRAMS PER SQ. 25.4mm(1") MAX.	—	MILLIGRAMS PER SQ. 25.4mm(1") MAX.	MILLIGRAMS PER SQ. 25.4mm(1") MAX.
		IPCEA S-61-402 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-61-402	IPCEA S-19-81 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-19-81 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-19-81

FOR #6 AWG AND LARGER, USING BUDDIED 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.

INSULATIONS

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

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

CONDUCTORS

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

- SOFT OR ANNEALED, BARE COPPER WIRE ASTM B3
- MEDIUM HARD DRAWN COPPER WIRE ASTM B2
- HARD DRAWN COPPER WIRE ASTM B1
- CONCENTRIC-LAY-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

JACKETS

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

		NEOPRENE BLACK, HEAVY DUTY	NEOPRENE BLACK GENERAL PURPOSE	POLYVINYL-CHLORIDE, BLACK	HEAT & LIGHT STABILIZED BLACK POLYETHYLENE COVER'G OVER LEAD SHEATH
ORIGINAL	TENSILE STRENGTH PSI	1800, MIN.	1500, MIN.	1500, MIN.	1400, MIN.
	ELONGATION AT RUPTURE, %	300, MIN. & 10mm(.375") MAX. SET	250, MIN. & 10mm(.375") MAX. SET	100, MIN.	350, MIN.
AIR OVEN TEST, TIME & TEMP, AS NOTED	TENSILE STRENGTH % OF ORIGINAL	—	—	75 MIN. 120 HRS. 121± 1° C (250± 1.8 F)	75, MIN.
	ELONGATION % OF ORIGINAL	—	—	60 MIN. 120 HRS. 121± 1° C (250± 1.8 F)	75, MIN.
OXYGEN PRESSURE TEST	TENSILE STRENGTH % OF ORIGINAL	50, MIN.	50, MIN.	—	—
AIR PRESSURE HEAT TEST 20 HRS., 127° C (260± 1.8 F)	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 (250± 1.8 F)	60 MIN. 18 HRS. 121± 1° C (250± 1.8 F)	60 MIN. 18 HRS. 121± 1° C (250± 1.8 F)	60 MIN. 18 HRS. 121± 1° C (250± 1.8 F)
	ELONGATION % OF ORIGINAL	60 MIN. 18 HRS. 121± 1° C (250± 1.8 F)	60 MIN. 18 HRS. 121± 1° C (250± 1.8 F)	60 MIN. 18 HRS. 121± 1° C (250± 1.8 F)	60 MIN. 18 HRS. 121± 1° C (250± 1.8 F)
HEAT DISTORTION PERCENT OF UNAGED VALUE		—	—	50, MAX. 90 ± 1° C (194± 1.8 F)	25, MAX. 90 ± 1° C (194± 1.8 F)
HEAT SHOCK 121± 1° C (250± 1.8 F)		—	—	NO CRACKS	—
COLD BEND TEST-35 ± 1° C (-31± 1.8 F)		—	—	NO CRACKS	NO CRACKS
ENVIRONMENTAL CRACKING		—	—	—	NO CRACKS
LIGHT ABSORPTIVITY		—	—	—	24,000, MIN.
TEST IN ACCORDANCE WITH LATEST REVISION OF:		IPCEA S-19-82	IPCEA S-61-402	IPCEA S-61-402	IPCEA INTERIM REVISION #1 PUB. S-54-401 SEPT. 1959

JEFFERSON AVE OVER DEQUINDRE CUT

CABLE & WIRE SPECIFICATIONS

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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

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CERTIFIED TEST REPORTS

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

ITEMS 1 - 5 INCLUSIVE - OVERHEAD LINE WIRE

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

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

ITEMS 6 - 10 INCLUSIVE

1. CONDUCTOR CONTINUITY, RESISTANCE, TENSILE STRENGTH, AND ELONGATION TESTS IN ACCORDANCE WITH THE LATEST REVISIONS OF ASTM B8, B33 OR B189.
2. THE PHYSICAL AND OTHER TESTS FOR THE SPECIFIED INSULATION SHOWN ON SHEET 2.
3. INSULATION THICKNESS MEASUREMENTS.
4. THE ALTERNATING-CURRENT VOLTAGE TEST IN ACCORDANCE WITH THE LATEST REVISION OF IPCEA S-61-402.
5. INSULATION RESISTANCE TEST. INSULATION RESISTANCE CONSTANT AS SHOWN ON SHEET 2.
6. (CABLE ITEM 8 ONLY) MINIMUM, MAXIMUM AND AVERAGE LEAD THICKNESS MEASUREMENTS SHALL ALSO BE INCLUDED.
7. (CABLE ITEM 10 ONLY) A RIP TEST SHALL ALSO BE INCLUDED AS FOLLOWS:

A 1.83m SAMPLE OF THE COMPLETED 2 CONDUCTOR WIRE WITH CLEANLY CUT ENDS SHALL BE SUBJECTED TO A TEMPERATURE OF (-23° C) (-10 F) FOR ONE HOUR, WHILE STILL COLD, THE TWO INSULATED CONDUCTORS SHALL BE SEPARATED AT ONE END FOR A DISTANCE OF APPROXIMATELY (76mm) 3 INCHES AND THEN SHALL BE TORN APART WITH STEADY PULL AT A RATE OF (838mm) 33 INCHES IN ONE SECOND OR LESS. THERE SHALL BE NO DAMAGE TO THE INSULATION.

ITEMS 11 - 16 INCLUSIVE - DISTRIBUTION CABLES UNDER 10KV. 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 SPECIFICATION" 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 (140 F) 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 (15.6 C) (60 F) AND WHILE STILL IMMERSED, EACH REEL OF INSULATION CABLE WITHOUT LEAD, SHALL WITHSTAND A 60 CYCLE POTENTIAL OF 30,000 VOLTS FOR A PERIOD OF FIVE (5) MINUTES.

INSULATION RESISTANCE TEST-THE INSULATION RESISTANCE SHALL NOT BE LESS THAN 26,500 MEGOHMS PER THOUSAND FEET AT (15.6 C) (60 F) THIS TEST SHALL BE CONDUCTED UPON COMPLETION OF THE HIGH VOLTAGE TEST.

SHORT-TIME DIELECTRIC STRENGTH TEST - A (3.05m) (10 FT.) SAMPLE OF THE FINISHED CABLE WITH ONLY THE LEAD REMOVED, AFTER TWELVE (2) 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 SHALL BE WIPED WITH A CLEAN DRY CLOTH. THESE SAMPLES SHALL BE BENT AND MAINTAINED IN A "U-SHAPE" HAVING A BENDING DIAMETER EQUAL TO FIVE TIMES THE INSULATED CABLE DIAMETER. THE BENT SAMPLES SHALL THEN BE PLACED IN A VERTICAL POSITION ON A FLAT METALLIC GROUNDED PLATE AND 60 CYCLE A.C. 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 NOT 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.

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) 7.62m (25') ON THESE TESTS PER AEIC
10. SPARK TEST ON COVERING OVERHEAD 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 (140 F) POLYVINYL CHLORIDE IS SHOWN ON SHEET 2.
4. ALTERNATING CURRENT VOLTAGE TEST.
5. INSULATION RESISTANCE TEST INSULATION RESISTANCE CONSTANT AS 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 I.P.C.E.A. S-61-402, EXCEPT THAT THE INSULATION RESISTANCE CONSTANT SHALL BE 1000 AT 1576 C (300 F).

ITEM 24 - B/C SERIES STREET LIGHTING CABLE

1. CONDUCTOR CONTINUITY AND RESISTANCE IN ACCORDANCE WITH THE LATEST REVISION OF ASTM B-33.
2. LEAD SHEATH THICKNESS MEASUREMENTS.
3. A HIGH VOLTAGE TEST CONSISTING OF 22,500 VOLTS, 60 CYCLES A.C. 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 I.P.C.E.A. 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.

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 (140 F) PVC INSULATION AND OTHER TESTS SHOWN ON SHEET 2.
3. INSULATION RESISTANCE TESTS.
4. VOLTAGE TESTS PER IPCEA S-61-402.
5. INSULATION THICKNESS.
6. LEAD SHEATH THICKNESS.
7. THICKNESS OF COVERING OVER LEAD SHEATH.
8. SPARK TEST ON COVER LEAD SHEATH ON EACH LENGTH.

ITEM 27 - INTEGRAL MESSENGER COMMUNICATIONS CABLE (MULTI-PAIR)

ITEM 28 - COMMUNICATIONS CABLE

ITEM 29 - COMMUNICATIONS CABLE, LEAD SHEATH

ITEM 30 - COMMUNICATIONS CABLE, LEAD SHEATH, DIRECT BURIAL

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

ITEM NO.	USE AND RATING	CONDUCTOR	INSULATION (b)	TAPE OVER INSULATION CONDUCTORS	INNER BELT	SHIELD OVER TAPE OR BELT	JACKET OR SHEATH	COVERING OVER SHEATH
27	(a) AERIAL 600V.		.635mm (.024") POLYETHYLENE (ASTM D 1351)	CLASS B		CORRUGATED, LONGITUDINAL, ANNEALED, .1mm (.004") COPPER	BLACK POLYETHYLENE (ASTM D 2308). THICKNESSES OVER CORE AND MESSENGER AND WEB DIMENSIONS IN ACCORDANCE WITH REA SPECIFICATION PE-38.	
28	IN DUCT 600V.	*6 OR *19 AWG, SOLID, UNCOATED COPPER (ASTM B3)-NUMBER OF PAIRS AS REQUIRED		12.5 PERCENT MINIMUM LAP, POLYETHYLENE TEREPHTHALATE		BLACK POLY-ETHYLENE (ASTM D 2308) THICKNESS IN ACCORDANCE WITH PARAGRAPH 3.6.7, 3.7 AND TABLE IV OF FED. SPEC. J.C.111.		
29	IN DUCT 600V.		.79mm (.031") DIOCTYL PHTHALATE PLASTICIZED PVC (ASTM D 2219)				LEAD-ANTIMONY THICKNESS PER ITEM 26 EXCEPT 1.6mm (.063") MIN. THICKNESS	
30	DIRECT BURIAL 600V.	*6 OR *19 AWG, SOLID, TINNED COPPER (ASTM B 33)-NUMBER OF PAIRS AS REQUIRED					COMMERCIAL PURE LEAD, THICKNESS PER ITEMS 22 & 23.	ASPHALTUM-SATURATED JUTE STEEL ARMOR PER ITEMS 17 & 18.

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 304.80m (1000')
2. CERTIFICATION OF MUTUAL CAPACITANCE OF ALL CABLES AND OF NON-INJURIOUS EFFECT OF FLOODING COMPOUND ON ITEM 27.

(a) *FIGURE .203m (8") CONSTRUCTION. MESSENGER SHALL BE 7 STRAND EHS GALVANIZED, CLASS A, 6mm (.25") NORMAL DIAM. (ASTM A 475) AND SHALL BE FULL FLOODED.

(b) COLOR CODED PER FEDERAL SPECIFICATION J-C-111.

(c) NOMINAL THICKNESS, mm (INCHES).

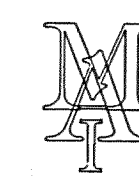
REVISIONS	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

CABLE & WIRE SPECIFICATIONS

Job No. 49717A

MANSSELL ASSOCIATES INC.



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