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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	_____	DATE
	CITY ENGINEER	DATE

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

DATE:

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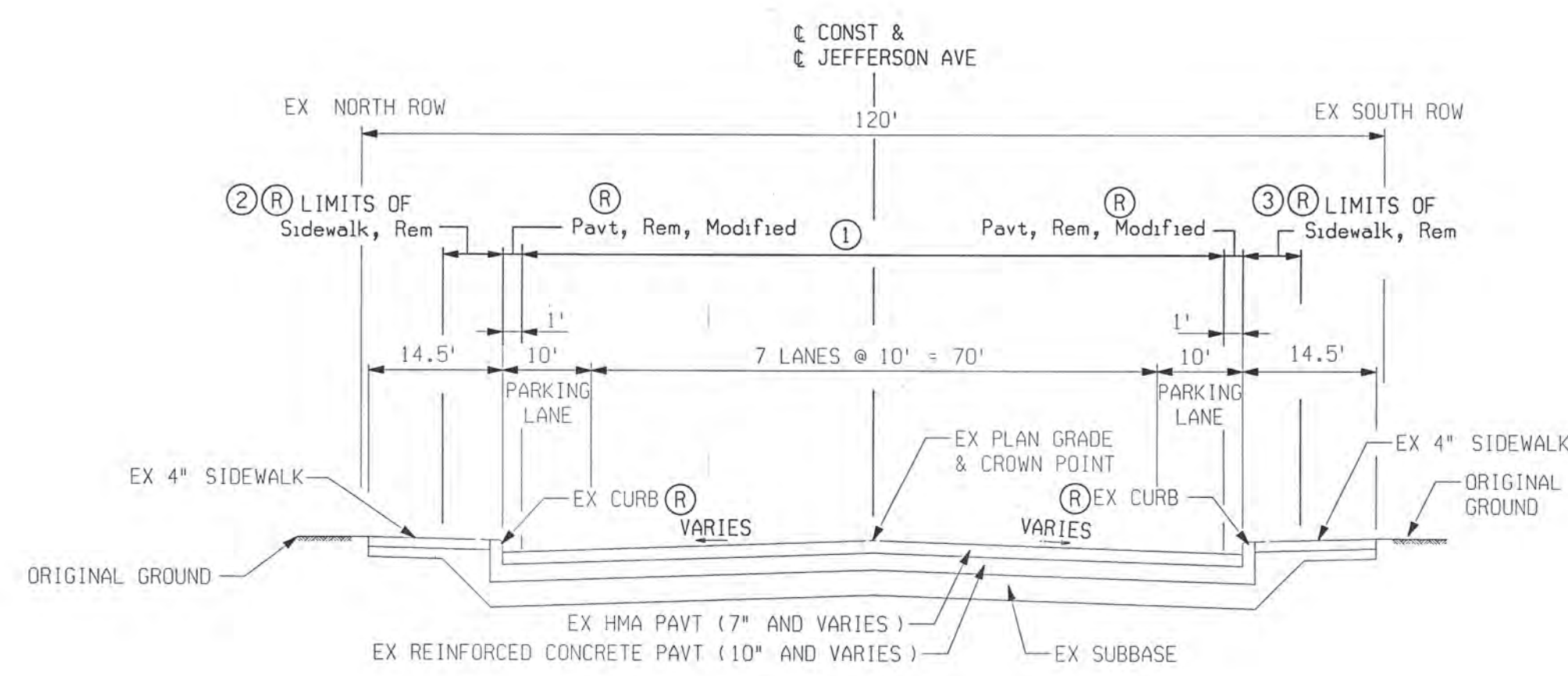
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- ② 7' ϵ CONST & ϵ JEFFERSON AVE
STA 8+50.00 TO STA 9+00.00
14.5' ϵ CONST & ϵ JEFFERSON AVE
STA 9+00.00 TO STA 9+97.41 & STA 10+94.21 TO STA 11+24.04
- ③ 7' ϵ CONST & ϵ JEFFERSON AVE
STA 8+50.00 TO STA 9+00.00 & STA 11+75.00 TO STA 12+10.00
14.5' ϵ CONST & ϵ 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:

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

NOTE: CAP EXISTING BRIDGE ϵ CONST & ϵ JEFFERSON AVE
STA 9+94.22 TO STA 10+88.97

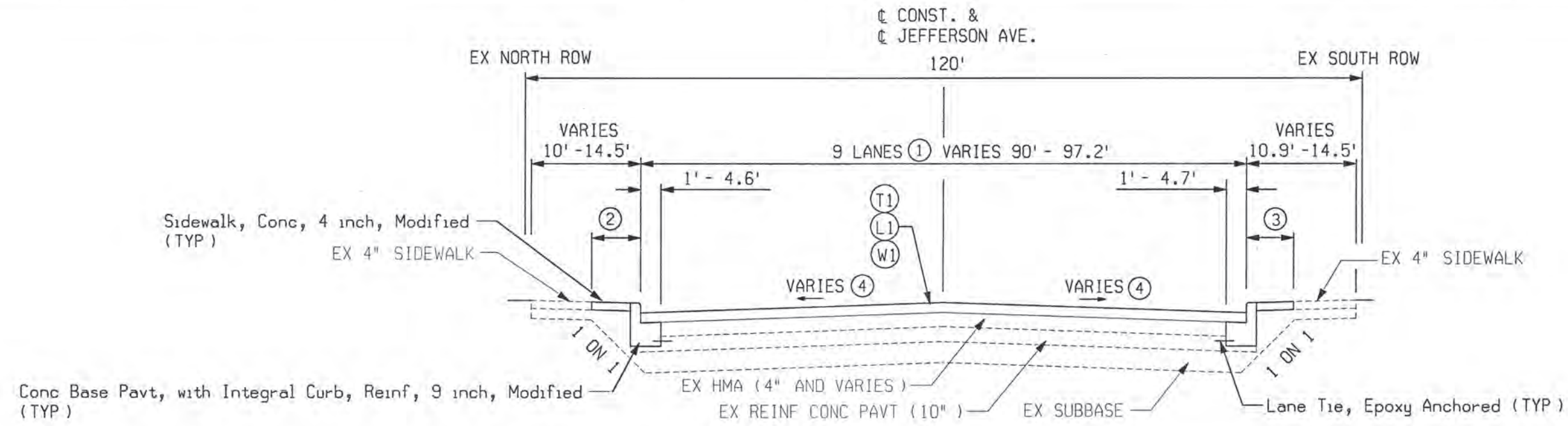


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

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

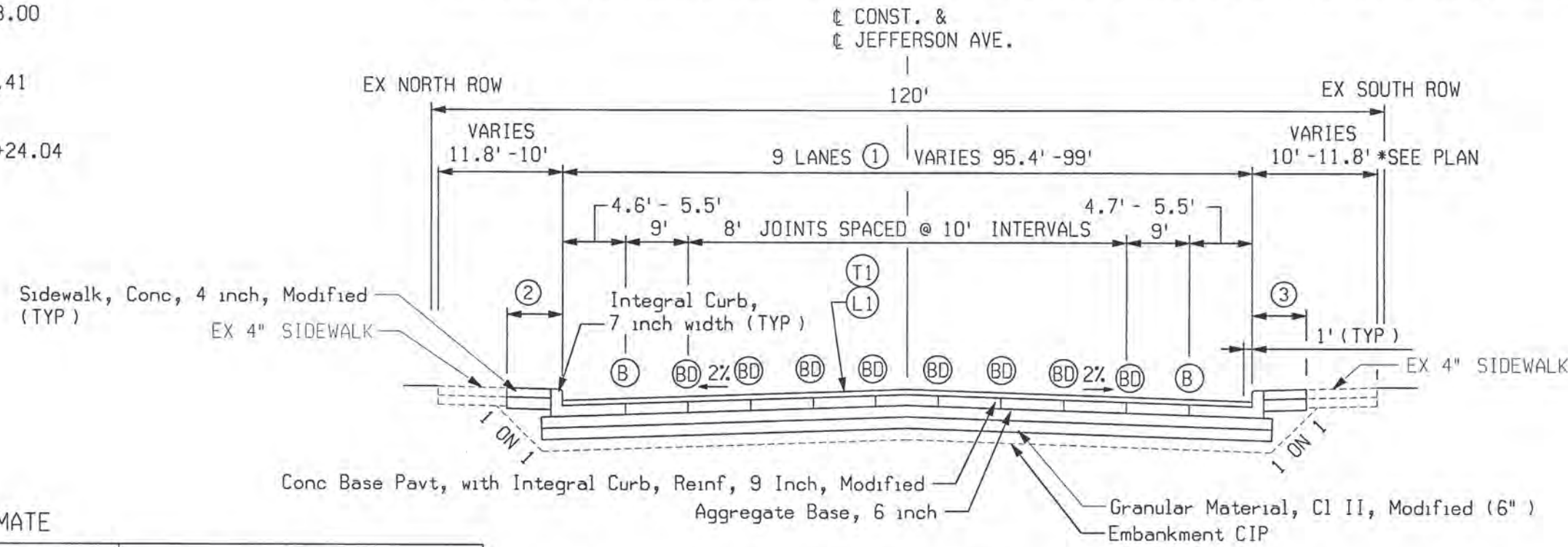
IN DIRECTION OF INCREASING STATIONING TO APPLY:

- ☉ CONST. & ☉ JEFFERSON AVE. STA 8+50.00 TO STA 9+33.00
- ☉ CONST. & ☉ JEFFERSON AVE. STA 11+36.00 TO STA 12+48.09
- ① LANE WIDTH VARIES FROM 10.0' TO 10.6'
- ① LANE WIDTH VARIES FROM 10.8' TO 10.0'
- ④ VARIES FROM *PARABOLIC CROWN TO 2%
- ④ VARIES FROM 2% TO *PARABOLIC CROWN

* SEE SHEET 4 ROAD DETAIL SHEET FOR TYPICAL PARABOLIC CROWN SECTION AND SHEET 5 FOR TRANSITION GRADES

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



PROPOSED TYPICAL APPROACH SECTION

IN DIRECTION OF INCREASING STATIONING TO APPLY:

- ☉ 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

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

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:

- Ⓟ - LONGITUDINAL BULKHEAD JOINT, ACCORDING TO STANDARD PLAN R-41 SERIES.
- Ⓟ - OPTIONAL Ⓟ OR Ⓟ JOINT
- Ⓟ - LONGITUDINAL 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



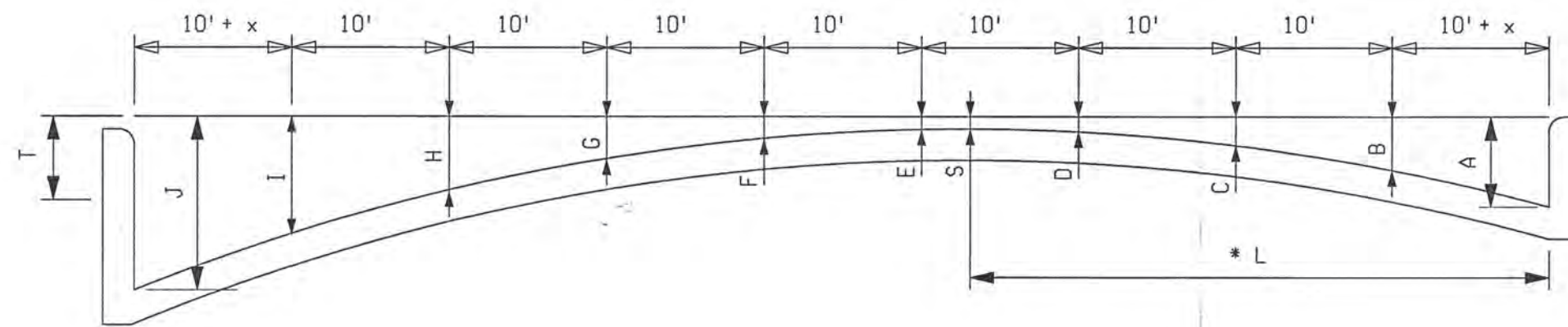
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	3 OF 80

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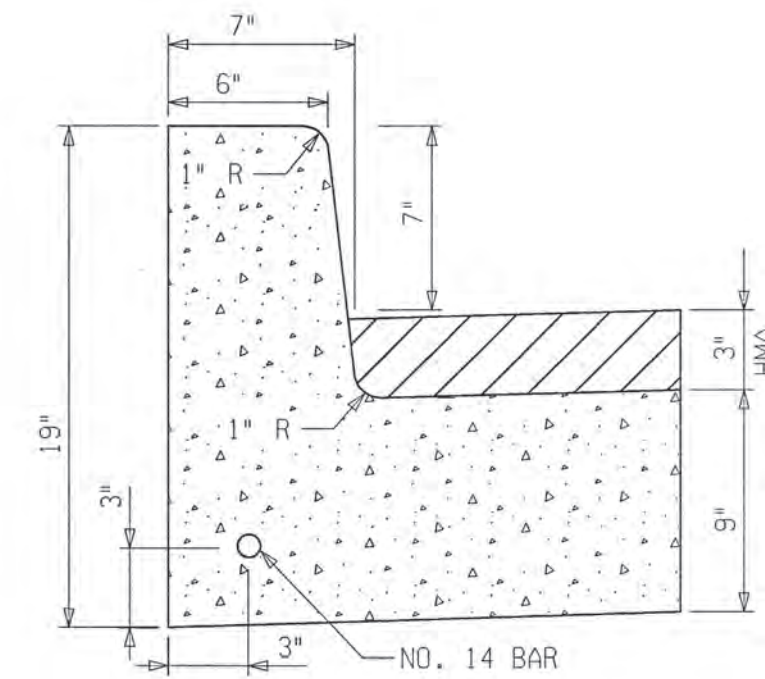
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$$x = \frac{\text{PAVEMENT WIDTH} - 90}{2}$$

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)



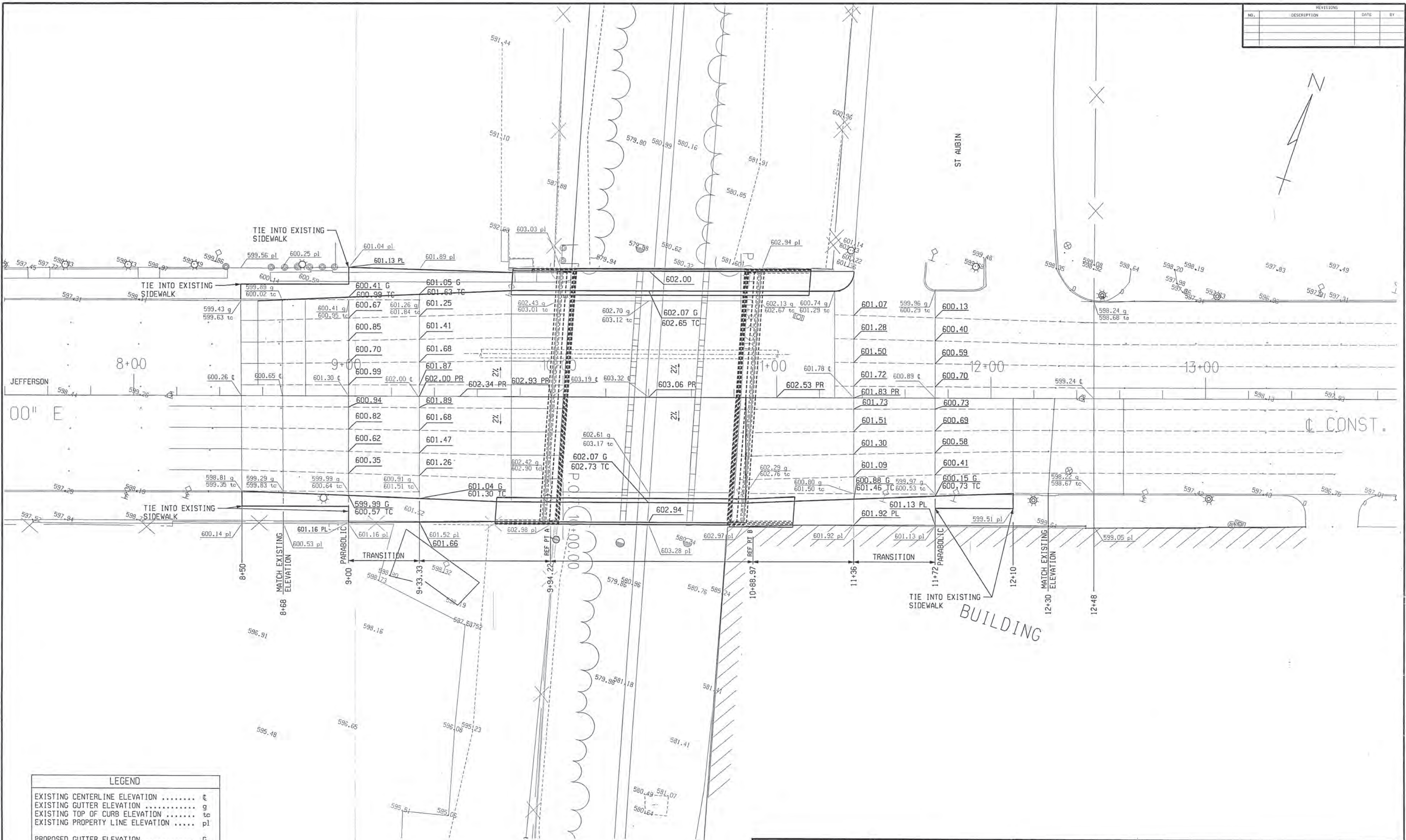
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT
ROAD DETAIL SHEET

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	1" = 50'	49717A	4 OF 80

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LEGEND	
EXISTING CENTERLINE ELEVATION	CL
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

DATE: 2/10/2005 3:36:42 PM
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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
ROAD DESIGN INITIATED	2003	COMPLETED
PRELIMINARY PLANS BY	PB	FINAL PLANS BY
FIELD INSPECTION (G.I.) BY	EARL HOWARD	DATE
PLANS-IN-HAND BY (FHWA)	AND (MDDT) TENNES	DATE

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.

MDDT'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 MDDT 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 (DWSO) 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:\Projects\354560 Detroit Bridges\MOT\notesheet.dgn

REVISIONS			
NO.	DESCRIPTION	DATE	BY

WATER & DRAINAGE SYMBOLS

- EXISTING CATCH BASIN
- ⊕ PROPOSED CATCH BASIN
- EXISTING MANHOLE
- PROPOSED MANHOLE
- △ EXISTING CULVERT END SECTION
- ▲ PROPOSED CULVERT END SECTION
- ⌒ EXISTING HEADWALL
- ⌒ PROPOSED HEADWALL
- ⊖ WATER SHUTOFF (Service Valve)
- GATE VALVE
- ⊙ GATEWELL
- ⊖ WATER METER
- ⊗ WATER MANHOLE
- ⊕ EXISTING FIRE HYDRANT
- ⊕ PROPOSED FIRE HYDRANT
- ⊕ (ADJ-HYD) ADJUST FIRE HYDRANT
- ⊕ (ADJ) ADJUST DRAINAGE STRUCTURE
- ⊕ (ADJ-K) ADJUST DRAINAGE STRUCTURE W/COVER
- ⊕ (ADJ-B/O) ADJUST DRAINAGE STRUCTURE BY OTHERS
- ⊕ (REC) RECONSTRUCT DRAINAGE STRUCTURE
- ⊕ (REC-K) RECONSTRUCT DRAINAGE STRUCTURE W/COVER
- ⊕ (REL-B/O) RELOCATE - BY OTHERS
- ⊕ (SR-1) SIDEWALK RAMP TYPE
- ∧ CHECK DAM (PROFILES)
- ∩ DIKE (PROFILES)
- W.T. ∩ WATER TABLE (PROFILES)
- GUARD POST
- ⊕ (W) WATER WELL

UTILITIES SYMBOLS

- ⊕ POWER POLE
- ⊕ TELEPHONE POLE
- ⊕ GUY POLE
- ⊕ LIGHT POLE
- ⊕ POWER LIGHT POLE
- ⊕ TELEPHONE MANHOLE
- ⊕ POWER TOWER
- ⊕ GAS VALVE
- ⊕ WALK/NO-WALK
- ⊕ DEADMAN FOR GUYWIRE
- ⊕ (R/R) RAILROAD SIGNAL
- ⊕ ELECTRICAL MANHOLE
- ⊕ ELECTRICAL HANDHOLE
- ⊕ TELEPHONE PEDESTAL/RISER

UTILITY PATTERNS

- ELEC --- ELECTRICAL LINE
- 24" GAS --- GAS LINE
- 12" OIL --- OIL LINE
- TELE --- TELEPHONE LINE
- 36" WH --- WATER LINE
- CTV --- CABLE TV
- FO --- FIBER OPTICS
- POWER TRANSMISSION LINE

R.O.W. PATTERNS

- xx --- EX. LIMITED ACCESS R.O.W.
- --- EXISTING R.O.W.
- xx --- PROP LIMITED ACCESS R.O.W.
- --- PROP FREE ACCESS R.O.W.
- --- SECTION LINE

TOPO PATTERNS

- HEDGE LINE
- TREE LINE
- x-x-x-x-x-x-x-x-x-x --- EXISTING FENCE
- x-x-x-x-x-x-x-x-x-x --- PROPOSED FENCE
- --- EXISTING GUARD RAIL
- --- PROPOSED GUARD RAIL
- --- DRAINAGE CRS/EDGE OF WATER
- WETLANDS AREA
- ABANDON ANY UTILITY
- CITY LIMITS
- RAILROAD
- SOUND ABATEMENT WALL
- CONCRETE MEDIAN BARRIER/BARRIER WALL
- SLOPE STAKE LINE

DRIVE/APPROACH LEGEND

- CONCRETE
- BITUMINOUS
- AGGREGATE

REMOVAL LEGEND

- REMOVING BITUMINOUS
- REMOVING SIDEWALK
- REMOVING PAVEMENT
- COLD-MILLING
- REMOVING CURB & GUTTER
- REMOVING (R)
- ABANDONING (A)
- SAVE (S)
- BULKHEAD (B)
- CLEARING (C)

MISCELLANEOUS SYMBOLS

- ⊕ RIPRAP
- ⊕ SIGN
- ⊕ STUMP
- ⊕ SWAMP
- ⊕ DECIDUOUS TREE
- ⊕ EVERGREEN TREE
- ⊕ MAIL BOX
- ⊕ QUARTER CORNER
- ⊕ SECTION CORNER
- ⊕ HALF QUARTER SECTION
- ⊕ (T.H.#) TEST HOLE NO.
- ⊕ (123) BEAM G. R. RUN NUMBER (EXISTING)
- ⊕ (123) BEAM G. R. RUN NUMBER (PROPOSED)

HAZARDOUS OR FLAMMABLE MATERIAL USED WITH UNDERGROUND GAS & ELECTRICAL LINES

CAUTION - CRITICAL UNDERGROUND UTILITY USED WITH FIBER OPTICS LINES

--- PROP 36" --- PROPOSED CULVERT/SEWER

--- EX 12" CMP --- EXISTING CULVERT/SEWER

⊕ (123) PROPOSED DRAINAGE STRUCTURE NUMBER

REAL ESTATE SYMBOLS

- PROPERTY OWNERSHIP ARROW
- ↔ CONTIGUOUS PROPERTY SYMBOL
- 123456 PARCEL NUMBER BOX
- PARCEL LINES

SPECIAL LEGEND THIS PROJECT



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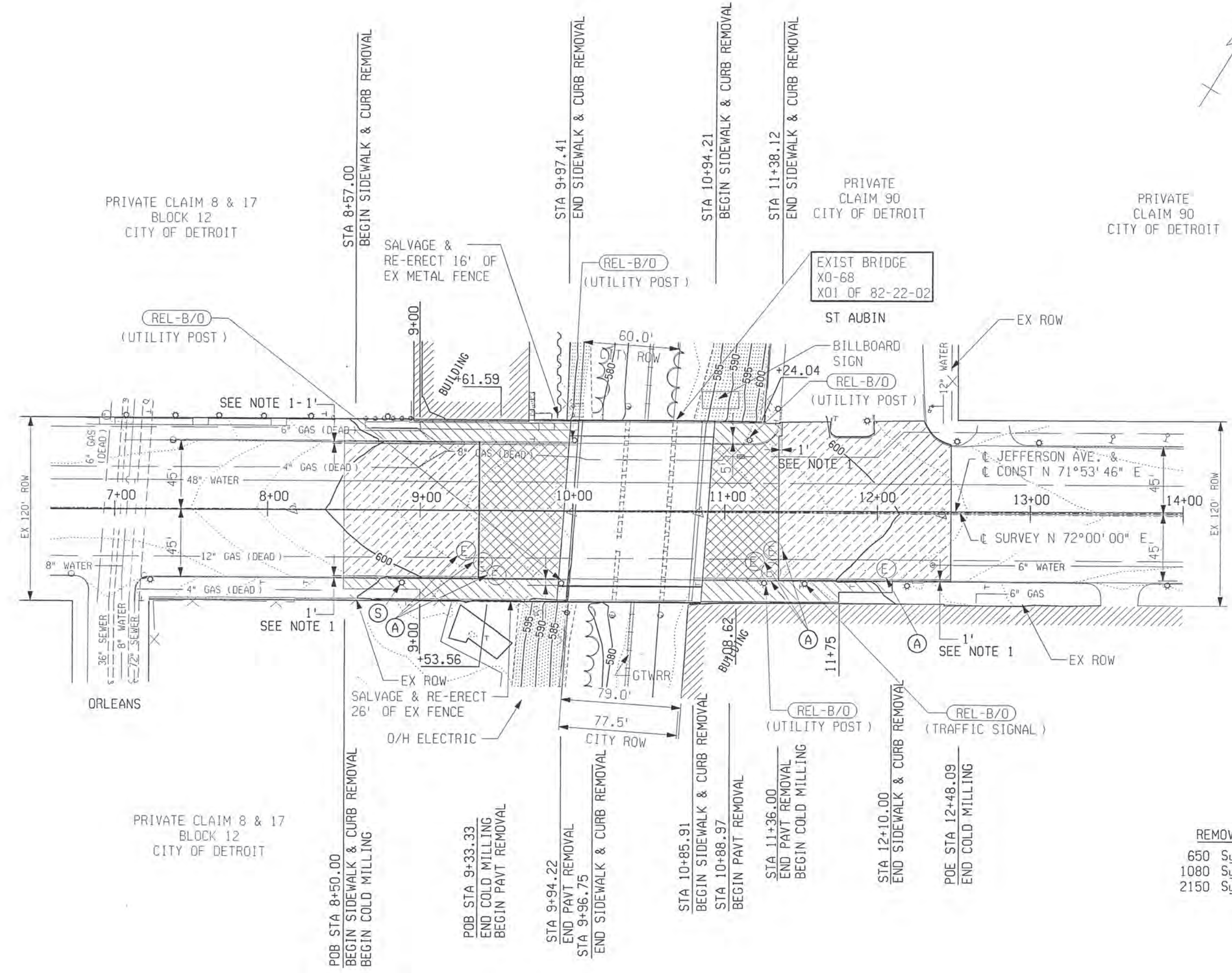
**JEFFERSON AVE OVER DEQUINDRE CUT
LEGEND SHEET**

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NONE	49717A	7 OF 80

DATE: 2/10/2005 3:35:26 PM
WORKED ON BY:
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FILE NAME: g:\Projects\354580 Detroit Bridges\MOT\legend.dgn

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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DATE:
CHECKED BY:



JEFFERSON AVE

JEFFERSON AVE

ORLEANS

REMOVAL LEGEND	
Cold Milling HMA Surface, Modified	
Sidewalk, Rem	
Pavt, Rem, Modified	
REMOVING	(R)
ABANDONING	(A)
SAVE	(S)
BULKHEAD	(B)
CLEARING	(C)
RELOCATE BY OTHERS	(REL-B/O)

REMOVAL QUANTITIES THIS SHEET	
650 Syd	Sidewalk, Rem
1080 Syd	Pavt, Rem, Modified
2150 Syd	Cold Milling HMA Surface, Modified

- NOTES:
1. REMOVE 1' WIDE STRIP OF PAVEMENT ALONG CURB THROUGH THE COLD MILLING SECTIONS, WHERE THE PAVEMENT IS BEING WIDENING
 2. SEE SHEETS 50-52 FOR BRIDGE REMOVAL
 3. SAWCUTTING IS INCLUDED IN THE PAY ITEM FOR Pavt, Rem, Modified AND Sidewalk, Rem
 4. CURB REMOVAL IS INCLUDED IN THE PAY ITEM FOR Pavt, Rem, Modified



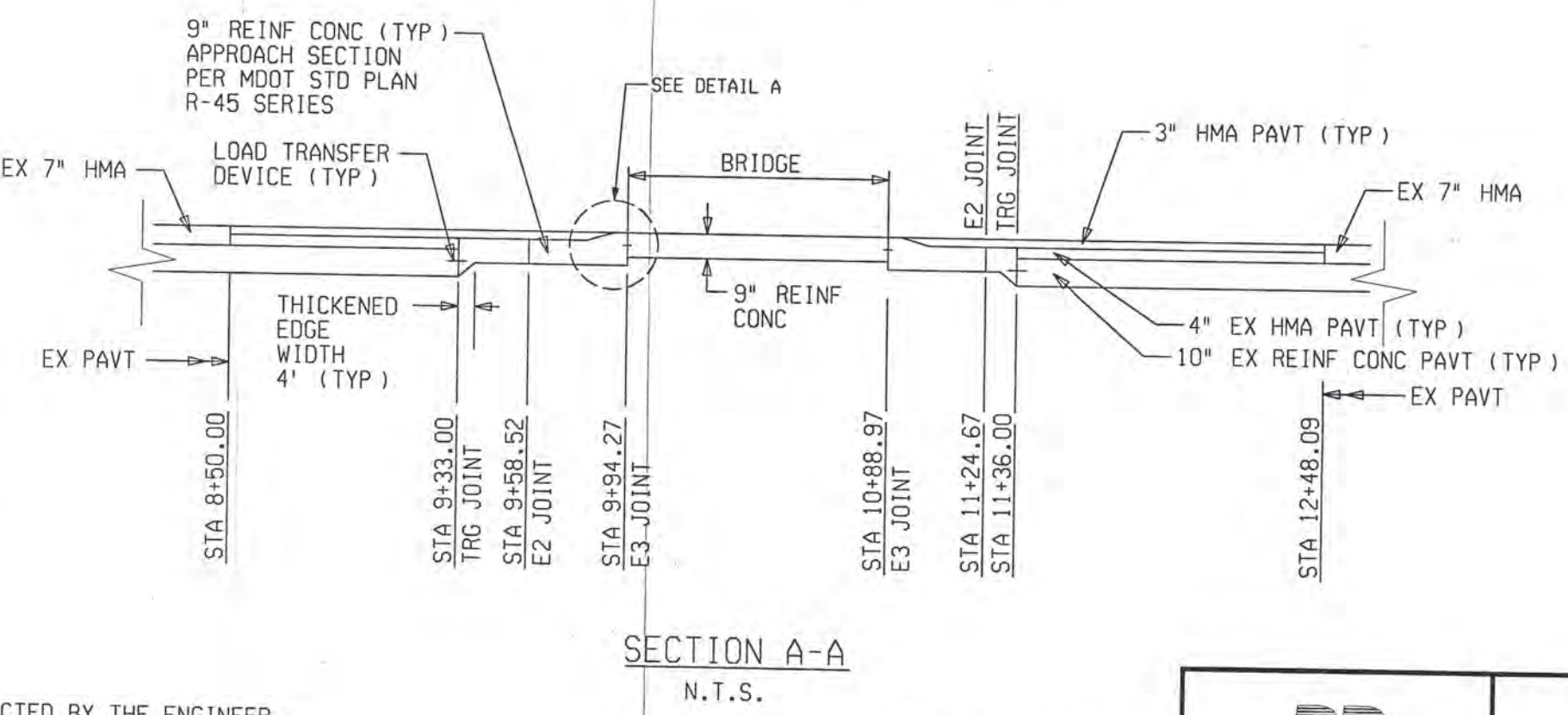
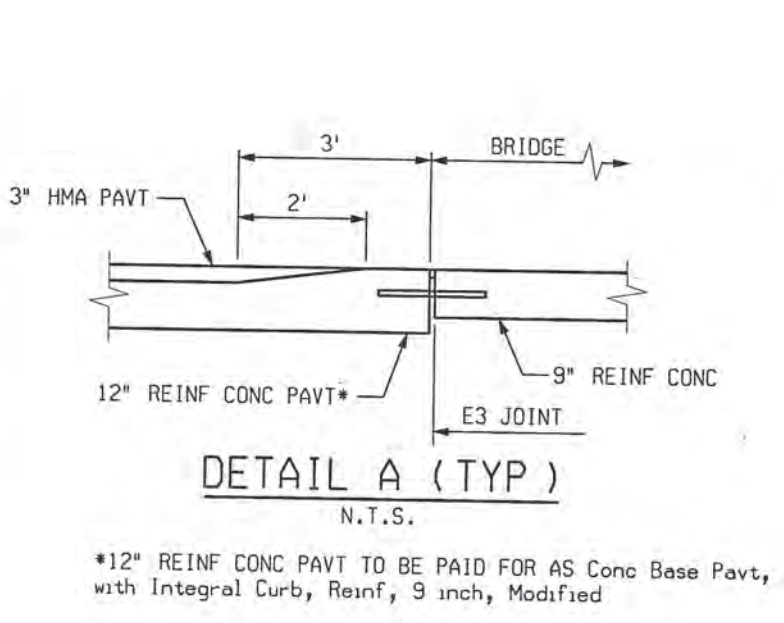
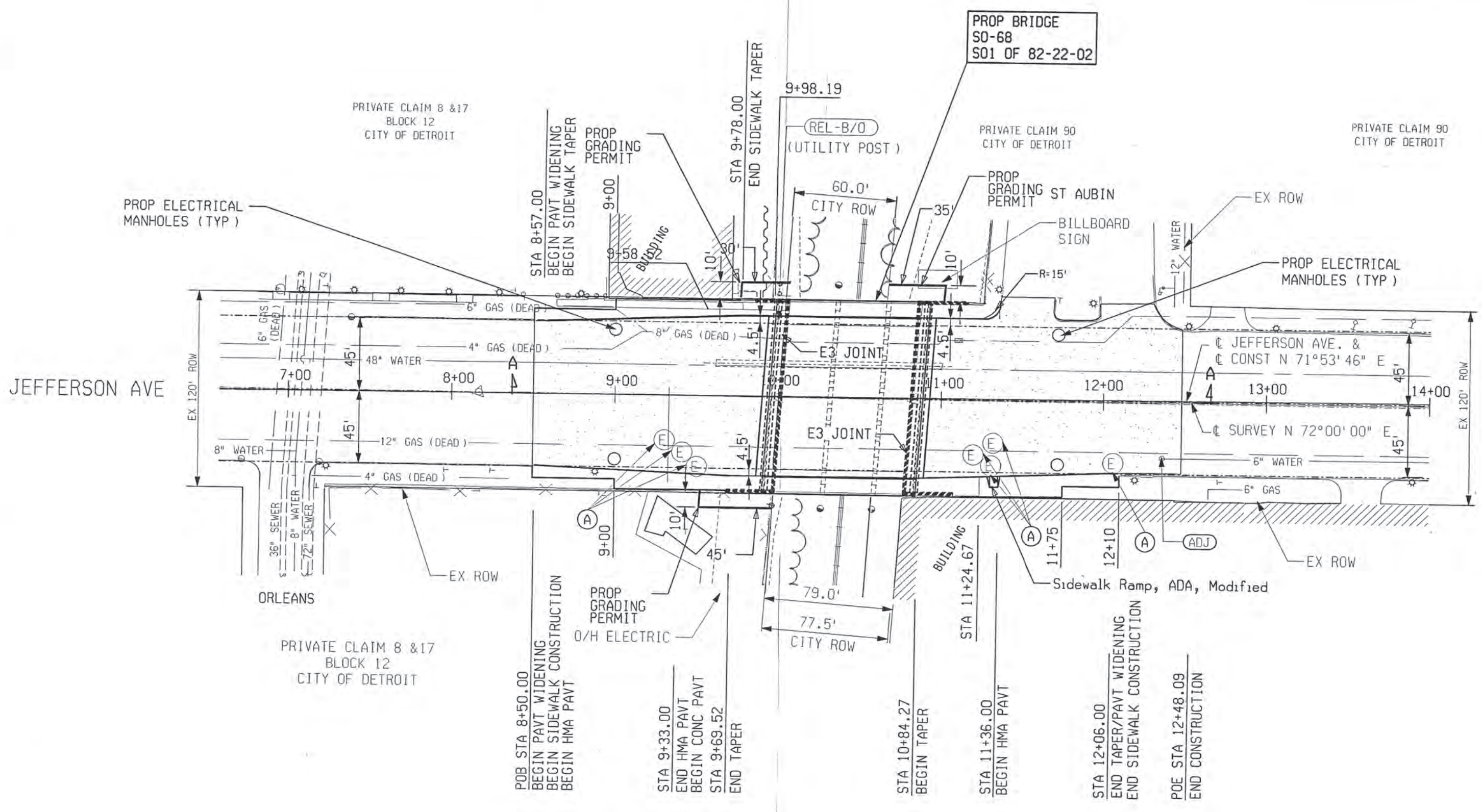
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CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT
REMOVAL SHEET

DATE	SCALE:	JOB NO.	SHEET:
02/11/05	1" = 40'	49717A	8 OF 80

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DATE: 2/17/2005 5:10:08 PM
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 FILE NAME: g:\Projects\35458D-Detroit Bldges\WOTV\Approachconstr.dgn



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 11, 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

	 PARSONS BRINCKERHOFF	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERING DIVISION	JEFFERSON AVE OVER DEQUINDRE CUT CONSTRUCTION SHEET	
			DATE 02/11/05	SCALE: 1" = 40'

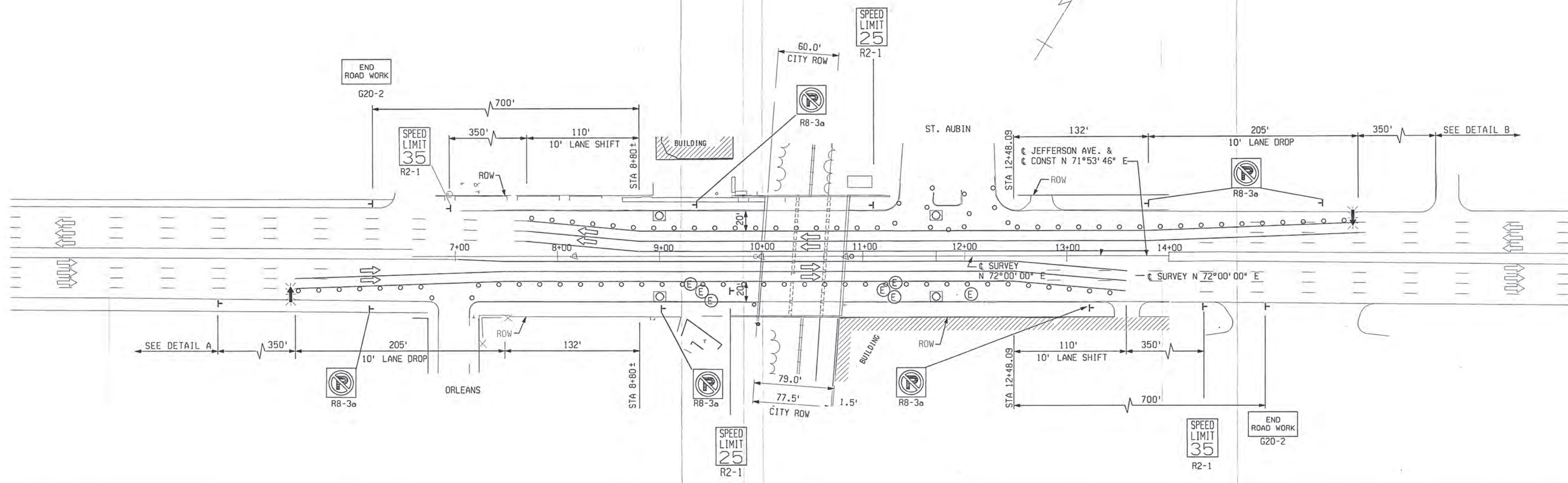
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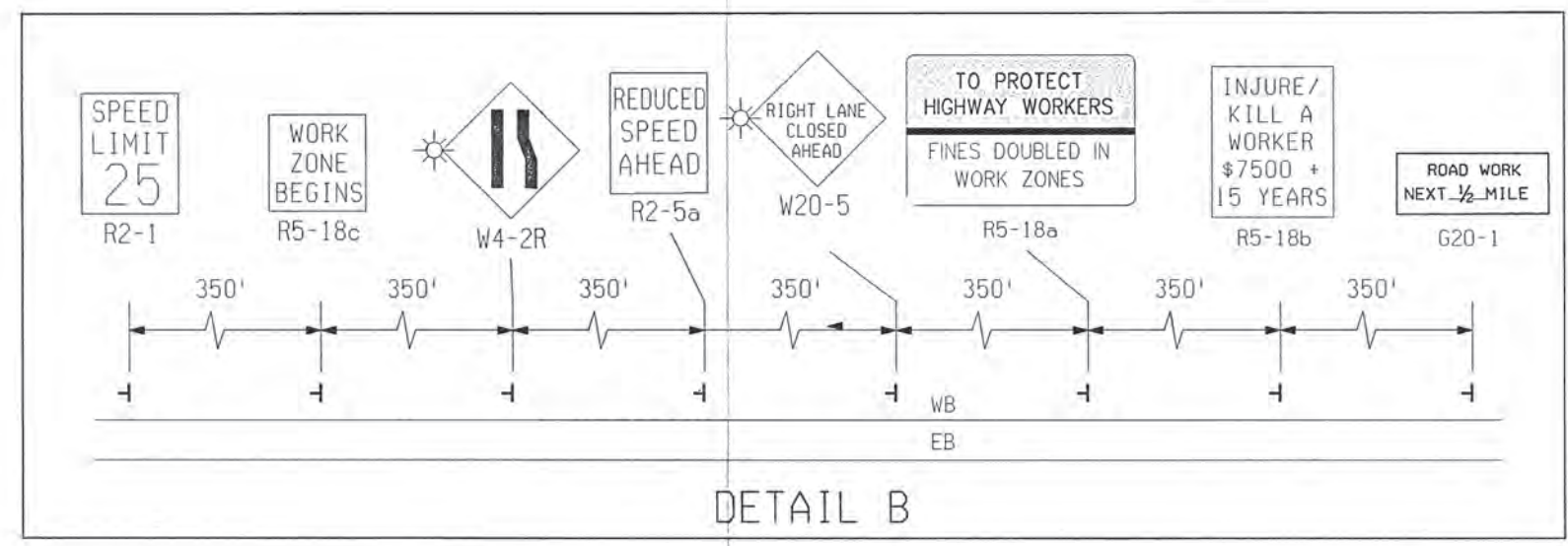
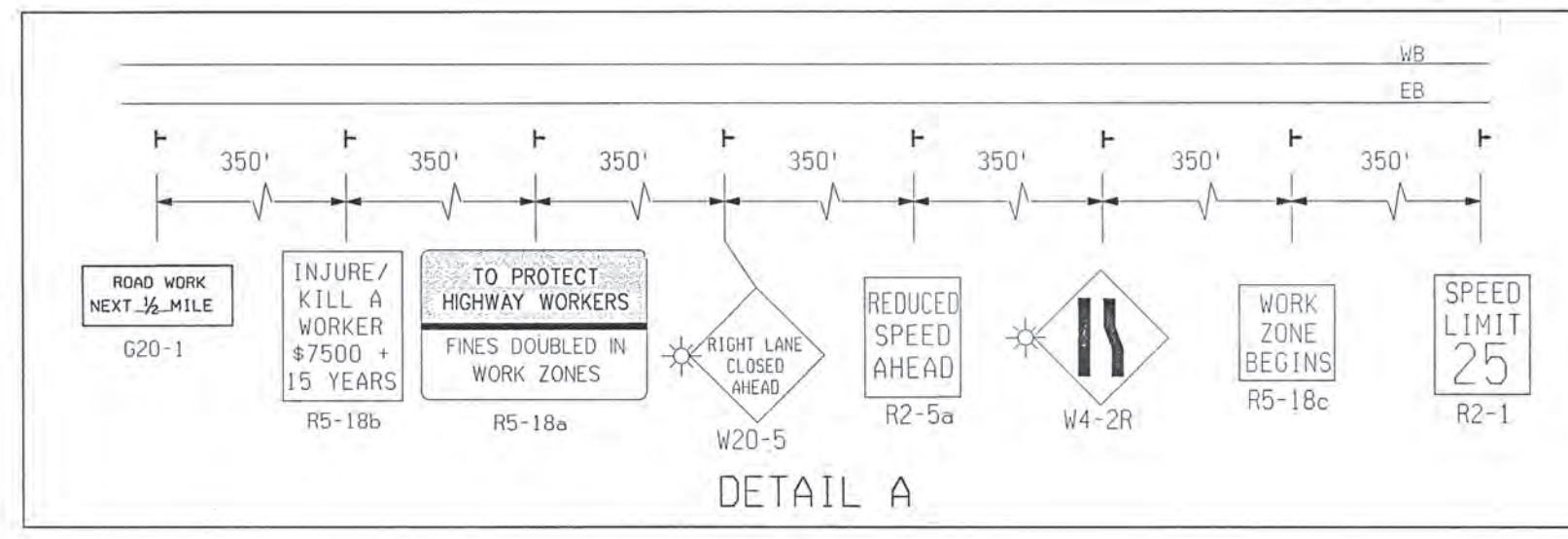
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STAGE I
LOOKING UPSTATION



KEY

- ○ ○ CHANNELIZING DEVICES
- ➔ LIGHTED ARROW PANEL
- ☀ TYPE A WARNING FLASHER (REQUIRED)
- ➔ TRAFFIC FLOW
- TT 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.

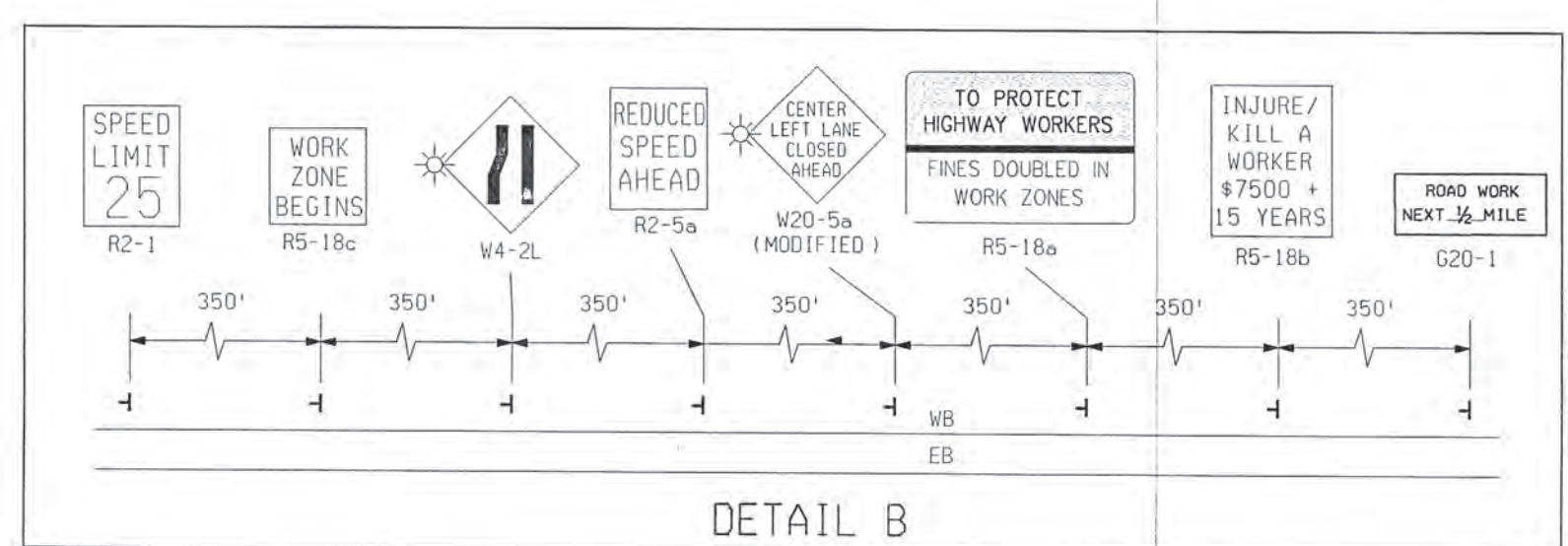
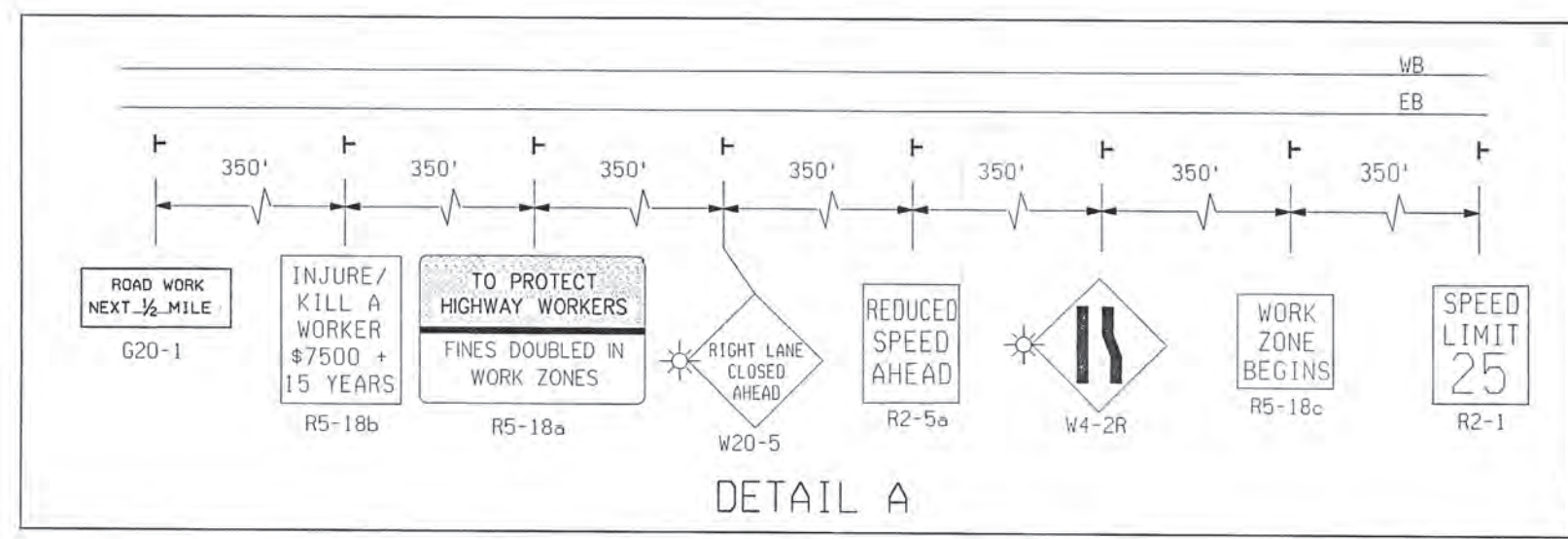
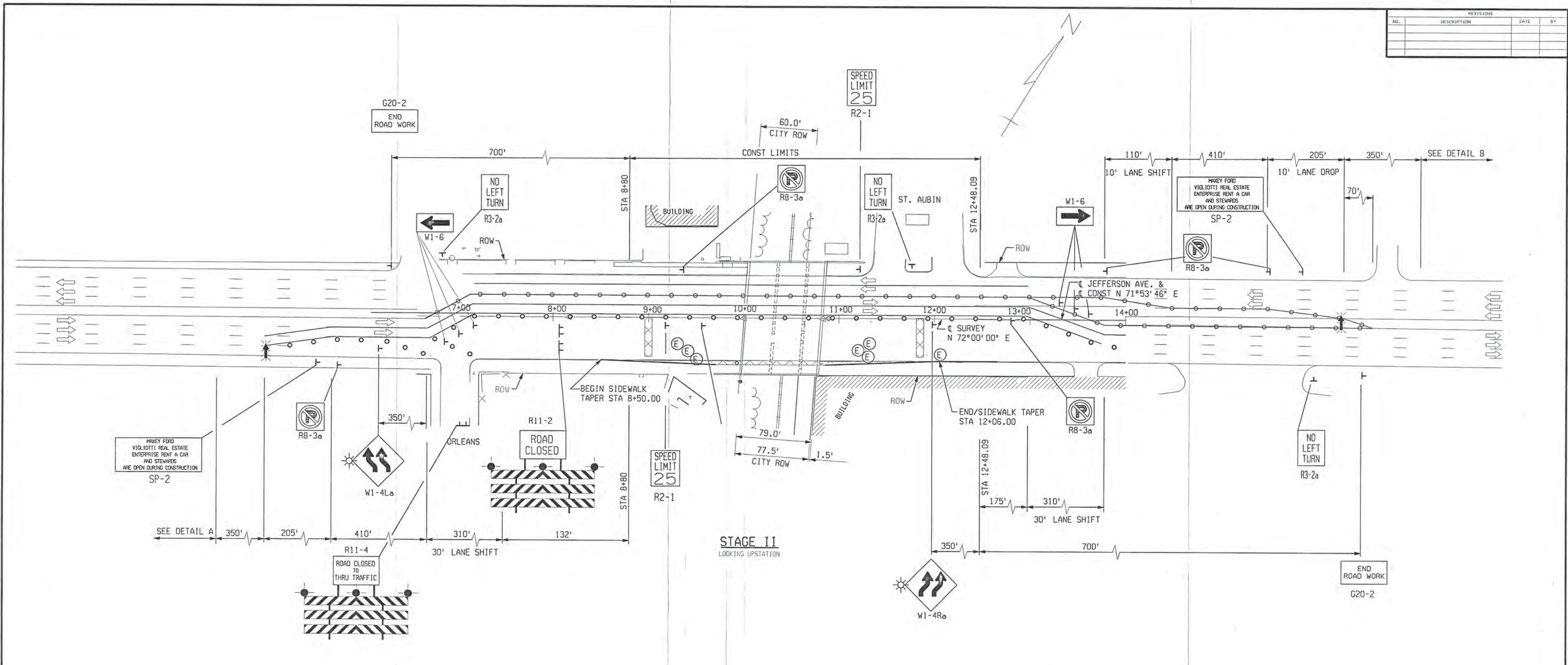


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JEFFERSON AVE OVER DEQUINDRE CUT
MAINTAINING TRAFFIC

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

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- KEY**
- ○ ○ CHANNELIZING DEVICES
 - ➔ LIGHTED ARROW PANEL
 - ☀ TYPE A WARNING FLASHER (REQUIRED)
 - ➔ TRAFFIC FLOW
 - TT 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.



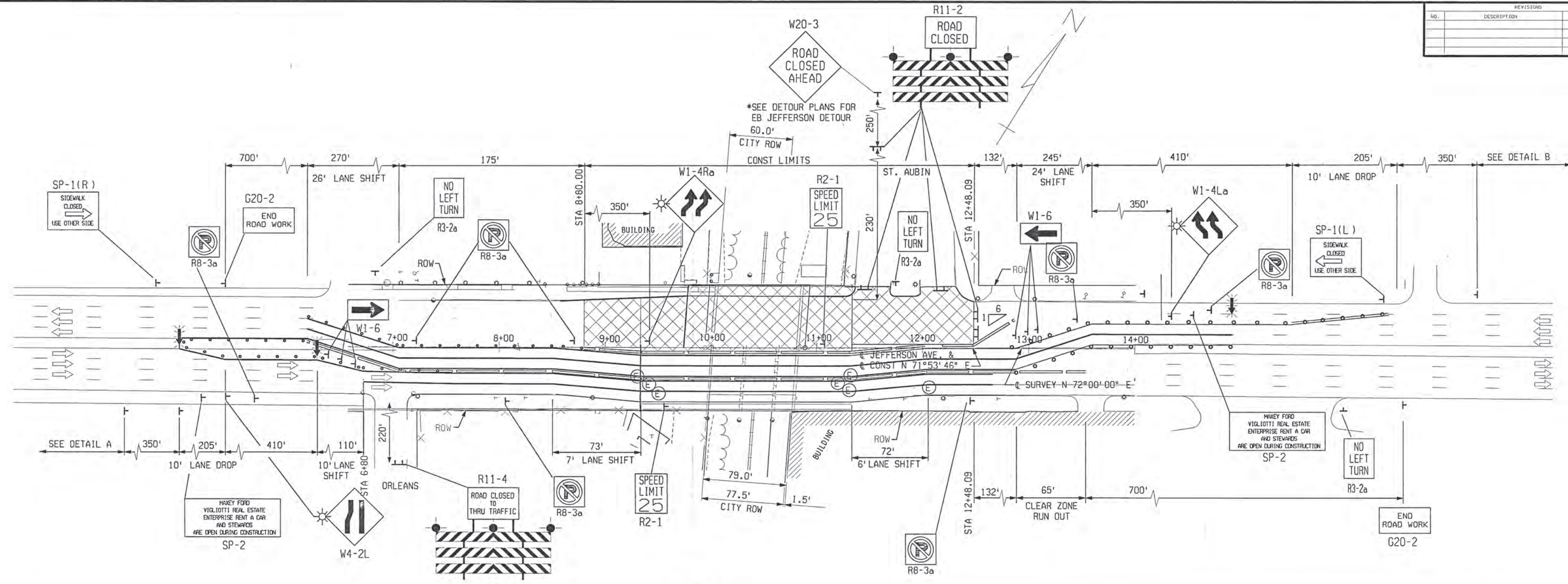
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 CITY ENGINEERING DIVISION

**JEFFERSON AVE OVER DEQUINDRE CUT
 MAINTAINING TRAFFIC**

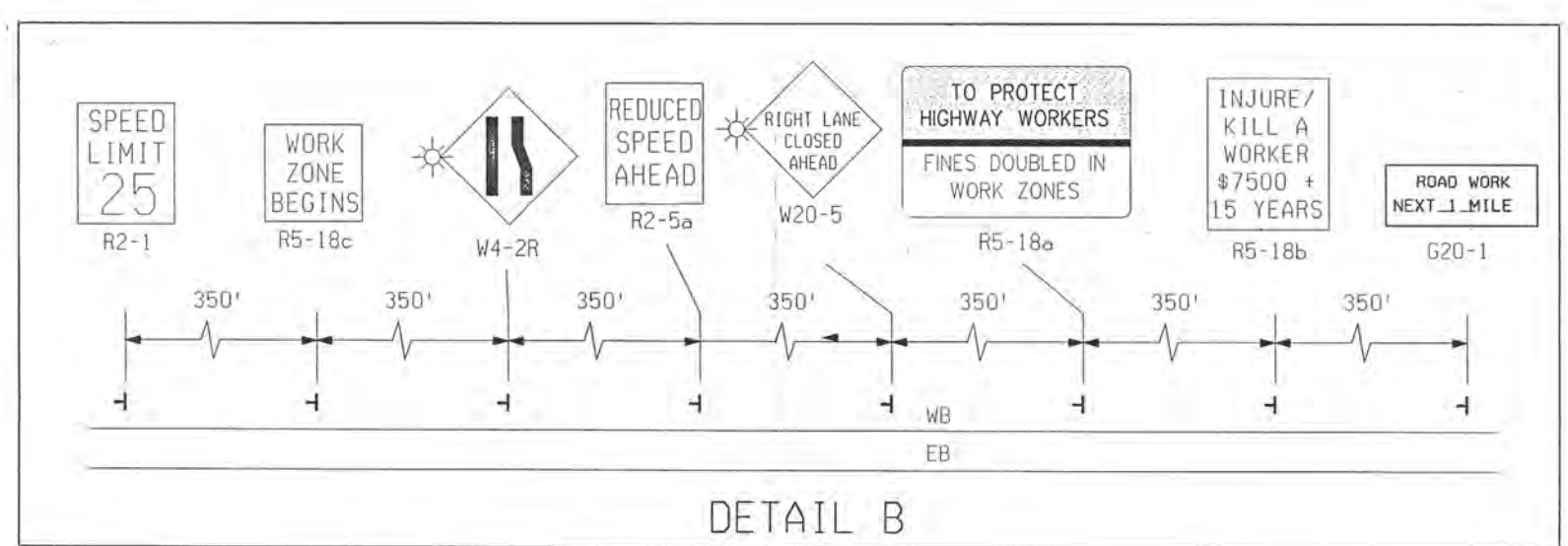
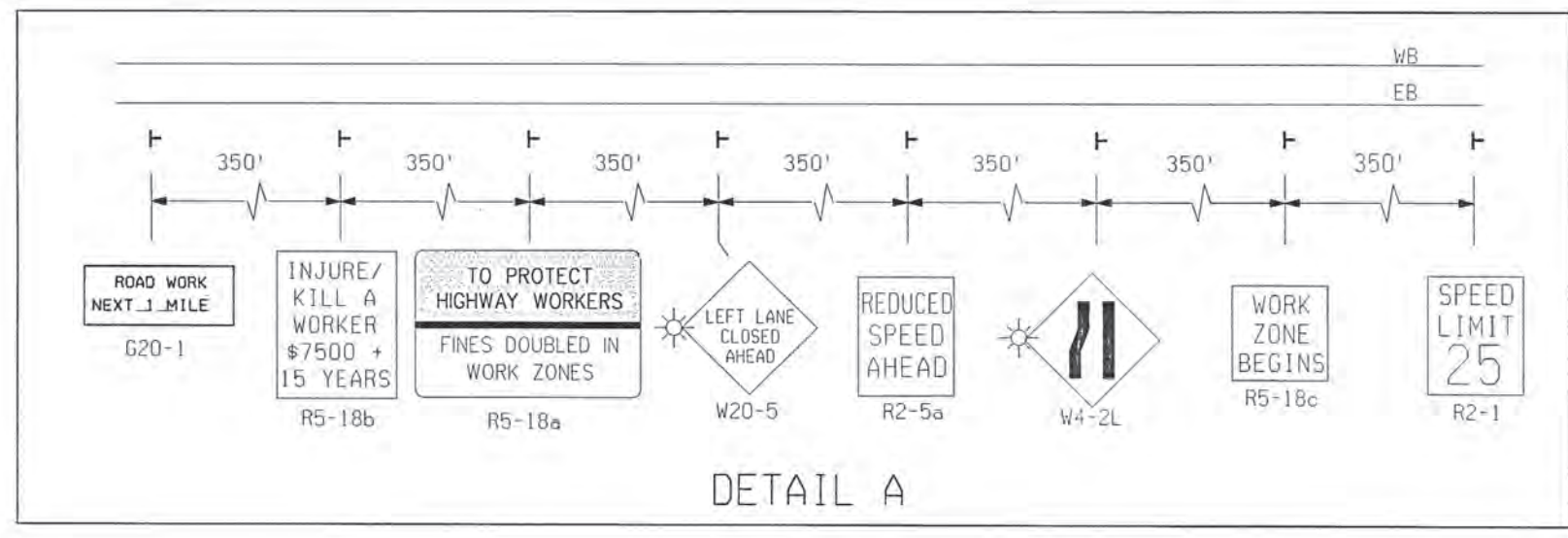
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02/11/05	NTS	49717A	11 OF 80

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 FILE NAME: g:\Projects\35456D Detroit Bridges\MOT\Stage 2.dgn

REVISIONS			
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STAGE III
LOOKING UPSTATION



- KEY**
- ○ ○ CHANNELIZING DEVICES
 - ➔ LIGHTED ARROW PANEL
 - ☀ TYPE A WARNING FLASHER (REQUIRED)
 - ➔ TRAFFIC FLOW
 - TT 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. 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

DATE: 2/10/2005 3:33:03 PM
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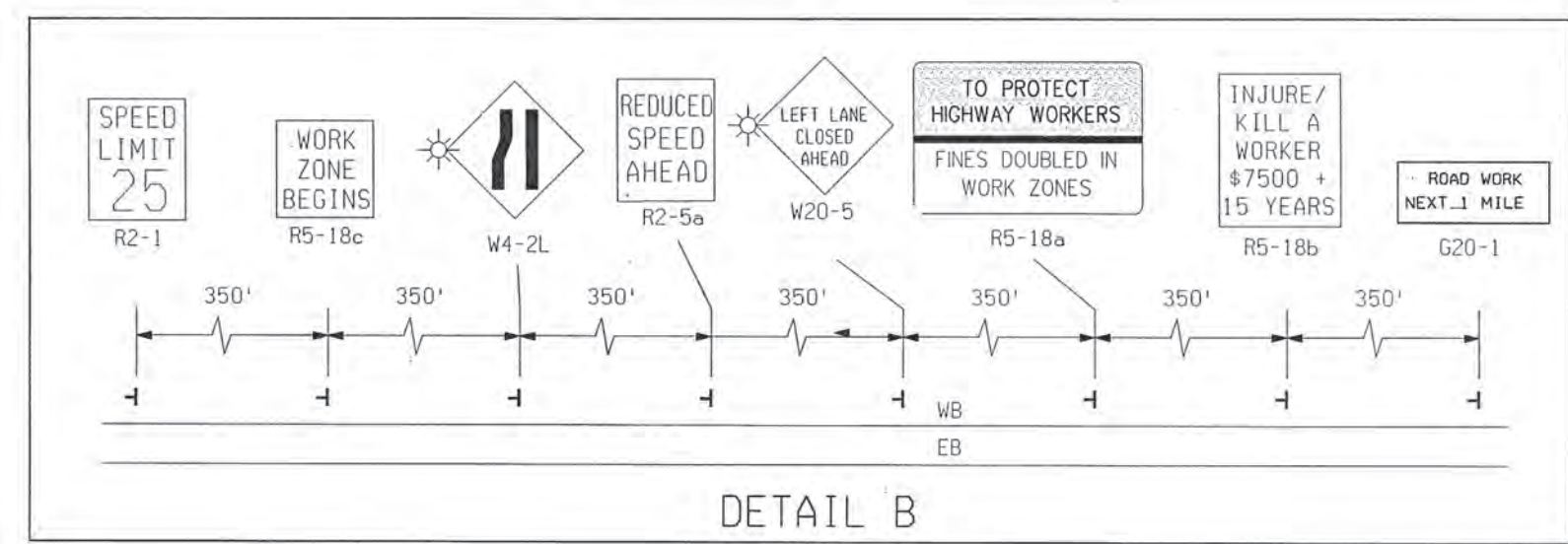
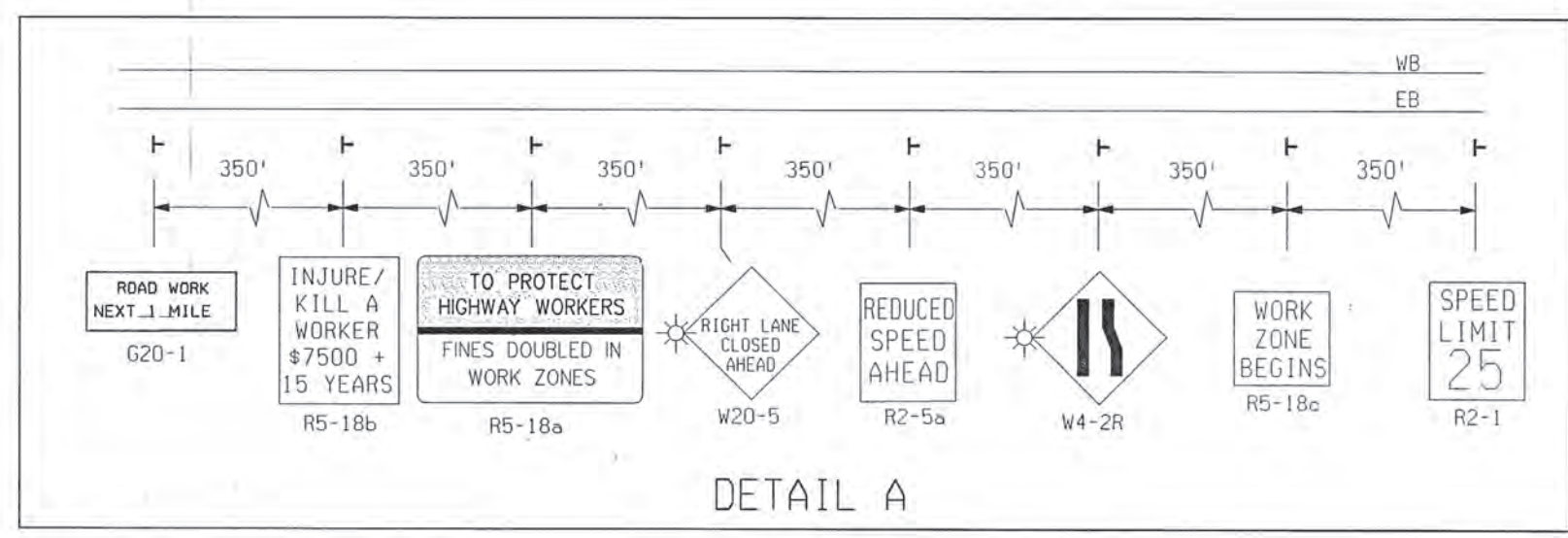
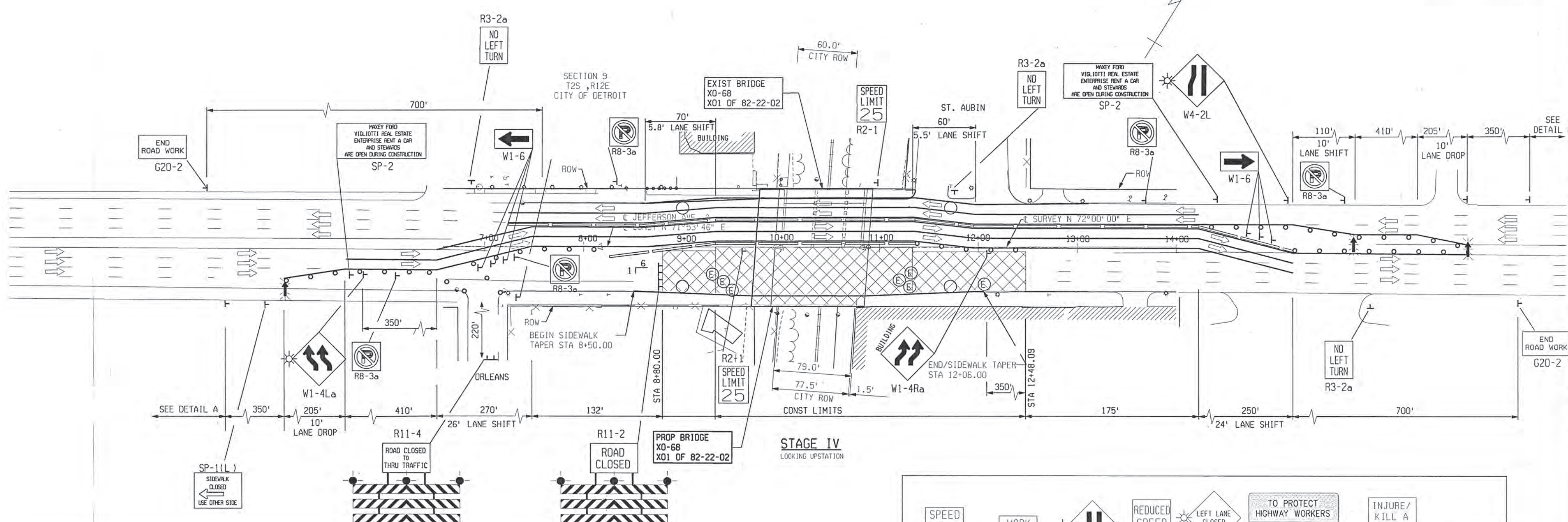
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KEY

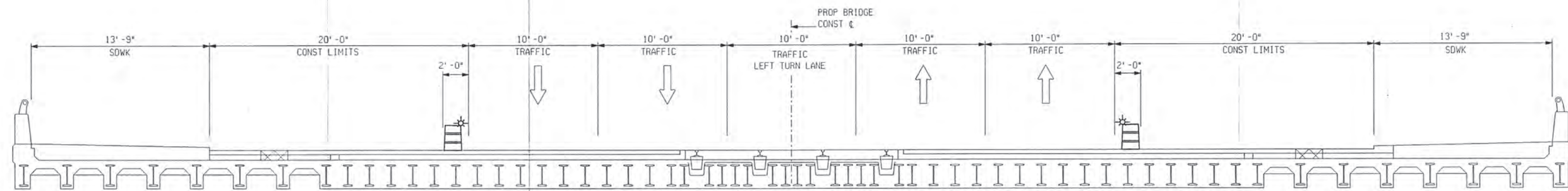
- CHANNELIZING DEVICES
- LIGHTED ARROW PANEL
- TYPE A WARNING FLASHER (REQUIRED)
- TRAFFIC FLOW
- TYPE III BARRICADE
- TEMP CONC BARRICADE

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.

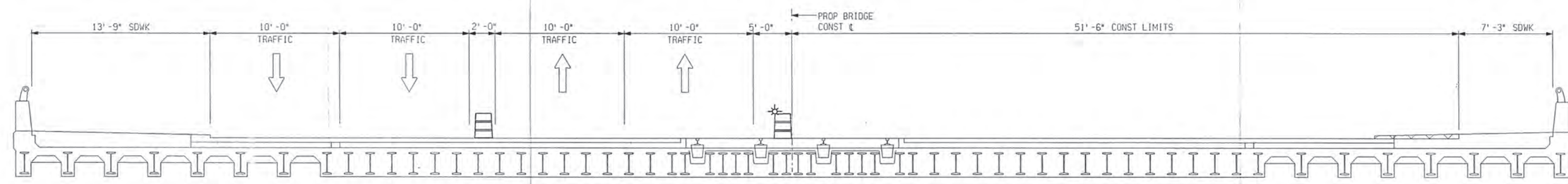
STAGE IVB:
 REMOVE TEMPORARY CONCRETE BARRIER AND OPEN BRIDGE TO WB AND EB TRAFFIC. CLOSE OUTERMOST WB LANE (PARKING LANE). CONSTRUCT REMAINDER OF WB SIDEWALK. COLD MILL AND OVERLAY CENTER LANE USING TRAFFIC REGULATORS.

		CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERING DIVISION	JEFFERSON AVE OVER DEQUINDRE CUT			
			MAINTAINING TRAFFIC			
		DATE	SCALE:	JOB NO.	SHEET:	
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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.



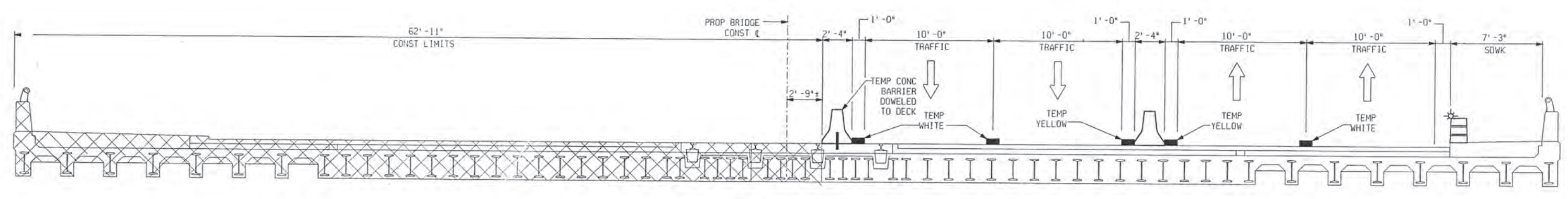
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT
MAINTAINING TRAFFIC

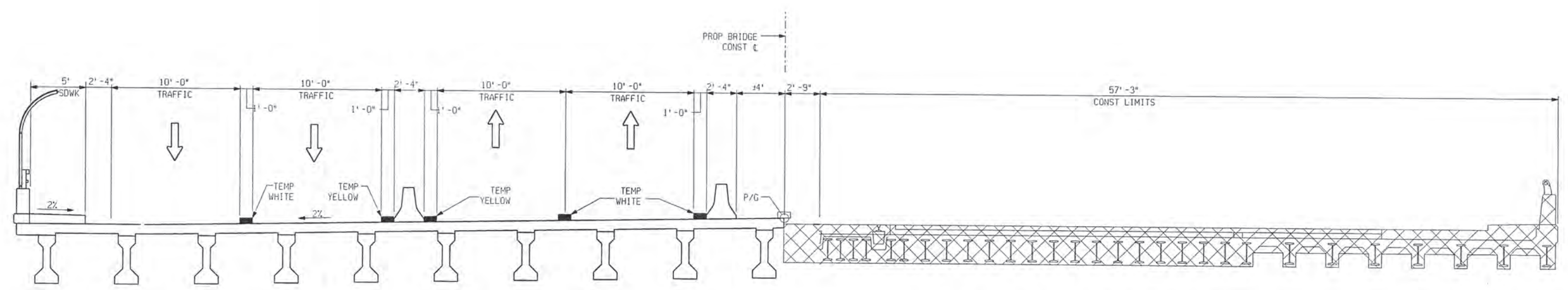
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	NTS	49717A	14 OF 80

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REVISIONS			
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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.

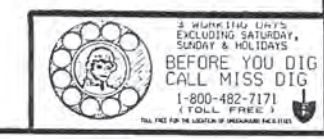
STAGE IVA:

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



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JEFFERSON AVE OVER DEQUINDRE CUT			
MAINTAINING TRAFFIC			
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02/11/05	NTS	49717A	15 OF 80

DATE: 2/10/2005 3:24:31 PM
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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

DATE: 2/10/2005 3:23:49 PM
WORKED ON BY:
DATE:
CHECKED BY:
FILE NAME: g:\Projects\364580 Detroit Bridges\101\JFFRdetour.dgn



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CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT STAGE III DETOUR PLAN			
DATE	SCALE:	JOB NO.	SHEET:
02/11/05	1" = 50'	49717A	16 OF 80

STAGE I - IV SIGN LEGEND

TYPE B TEMPORARY SIGNING	MMUTCD NO.	SIZE (in x in)	TEXT HT(in)	REQ. 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

REVISIONS			
NO.	DESCRIPTION	DATE	BY

TYPE B TEMPORARY SIGNING	MMUTCD NO.	SIZE (in x in)	TEXT HT(in)	REQ. 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



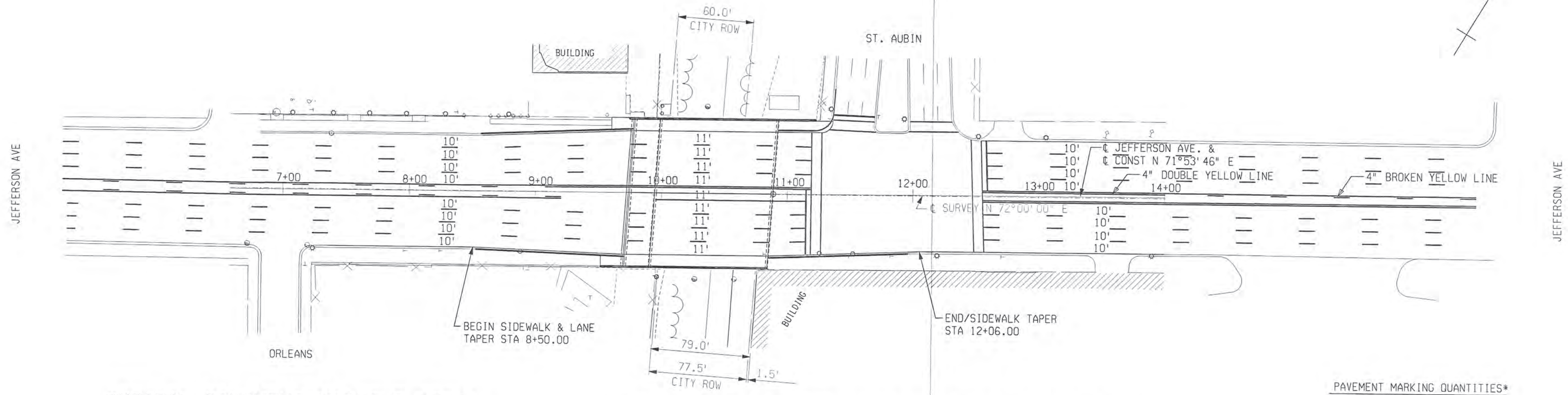
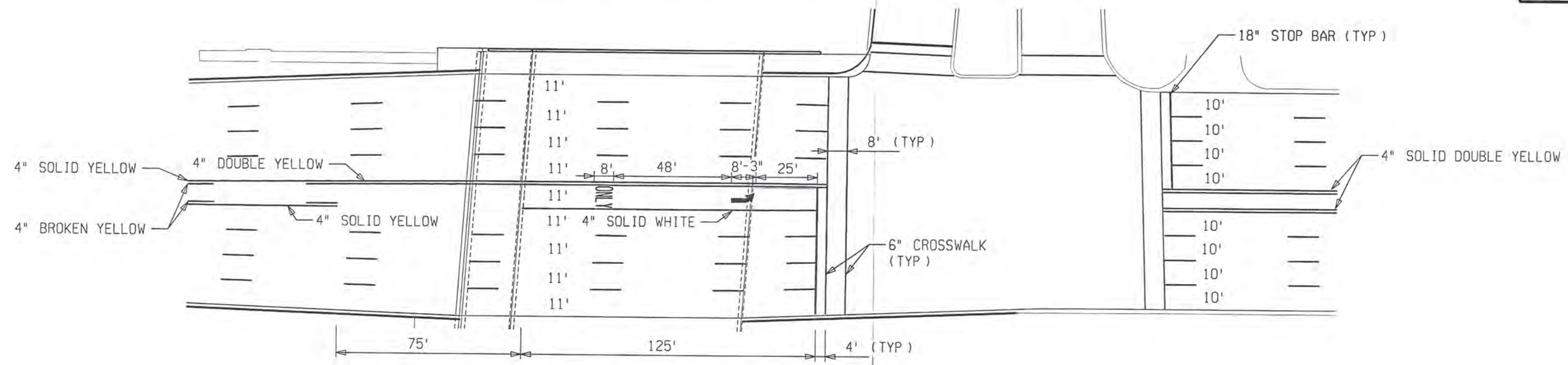
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

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

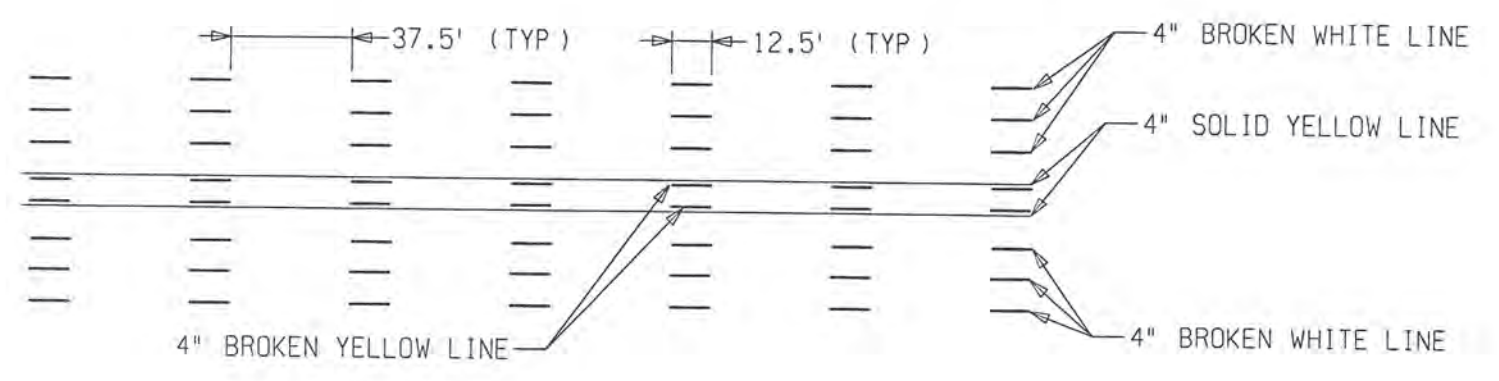
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TYPICAL INTERSECTION PAVEMENT MARKING

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



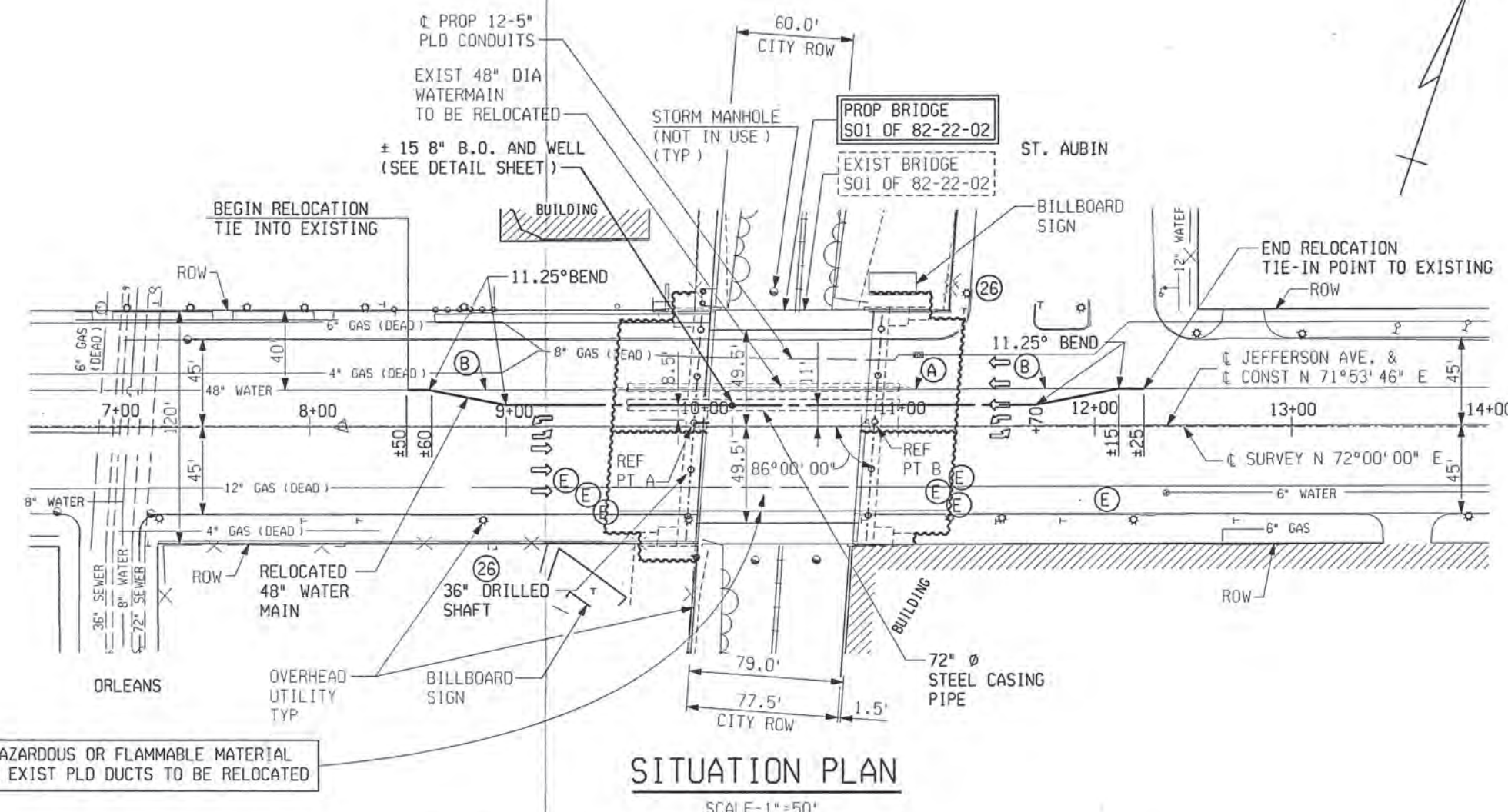
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

JEFFERSON AVE OVER DEQUINDRE CUT PAVEMENT MARKING SHEET

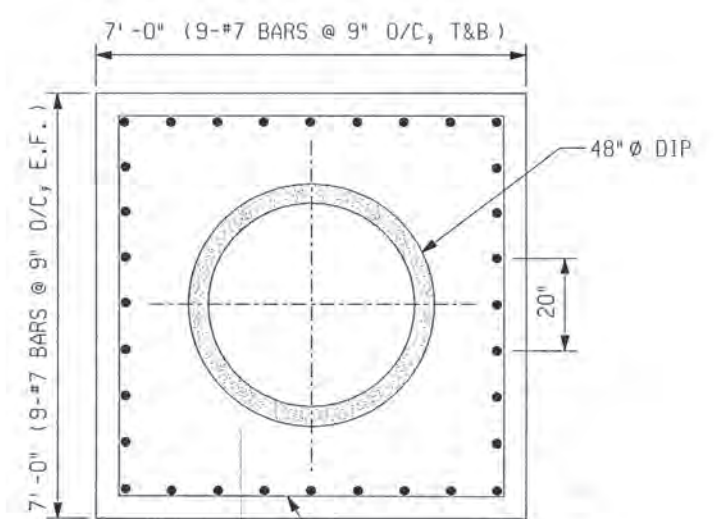
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02/11/05	1" = 50'	49717A	18 OF 80

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REVISIONS			
NO.	DESCRIPTION	DATE	BY



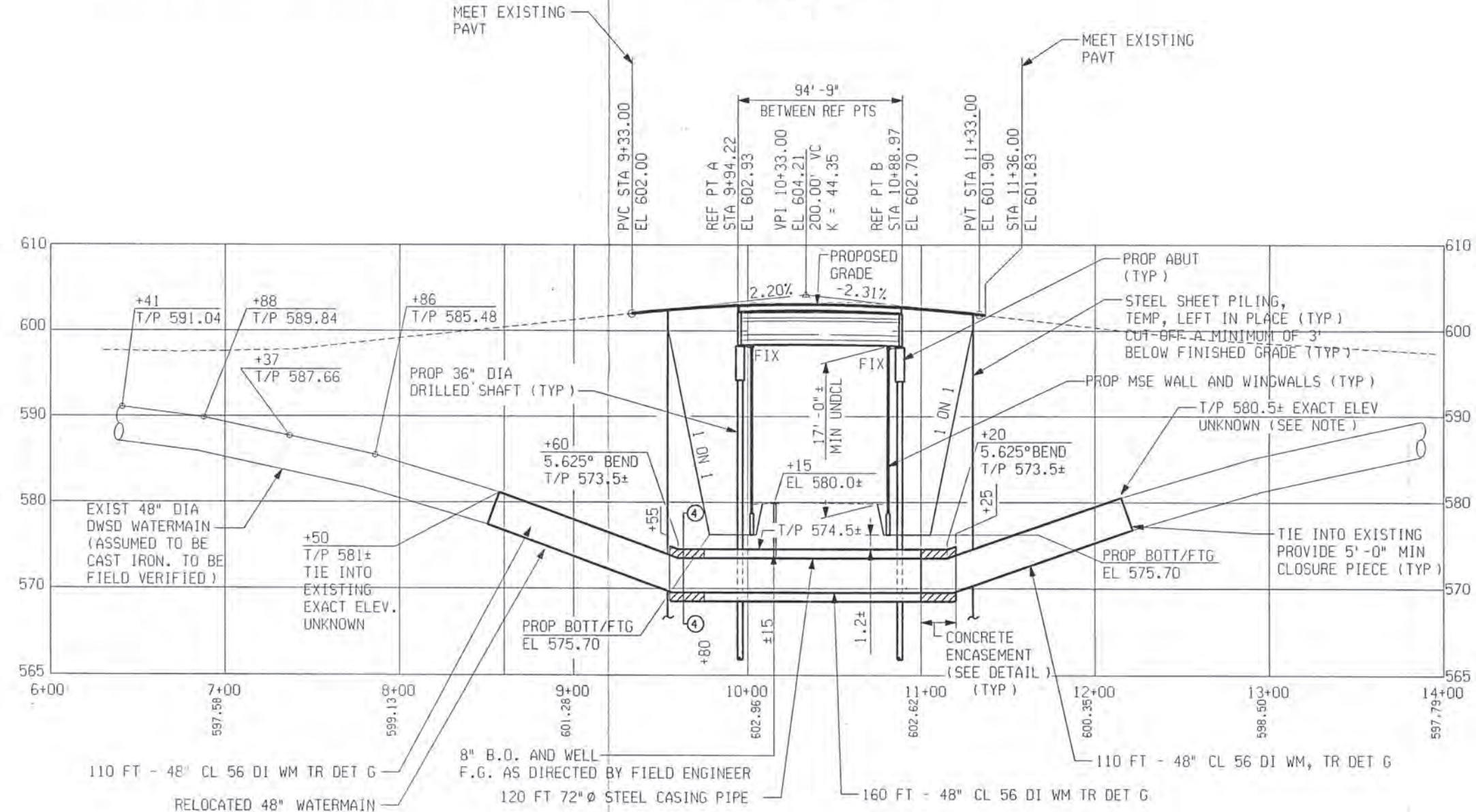
- NOTES:
1. ALL CONSTRUCTION SHALL COMPLY WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT.
 2. EXISTING PIPE ELEVATIONS ARE BASED ON AVAILABLE INFORMATION FROM DWSO 1915 FIELD NOTES AND ARE ONLY APPROXIMATE.
 3. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF THE EXISTING PIPE AT THE PROPOSED TIE IN LOCATIONS PRIOR TO RELOCATION OF WATER MAIN.
 4. A MINIMUM CLEARANCE OF 3.5' HORIZONTAL AND 1.5' VERTICAL SHALL BE MAINTAINED BETWEEN THE PIPE AND THE NEAREST UTILITY OR STRUCTURE.
 5. THE CONTRACTOR SHALL ENSURE THAT THERE IS NO INTERRUPTION OF SERVICE EXCEPT WHEN CONNECTING THE RELOCATED PIPE TO THE EXISTING.
 6. 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.
 7. THE CONTRACTOR SHALL NOTIFY DWSO 3 WORKING DAYS PRIOR TO START OF CONSTRUCTION. (CONTACT PERSON IS K. V. RAMACHANDRAN: 313-833-8443)
 8. THE CONTRACTOR SHALL EXPOSE THE EXISTING MAIN BEFORE DRIVING SHEET PILES. ALL BENDS SHALL BE ENCASED IN CONCRETE PER THE ENCASEMENT DETAIL.
 9. 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.
 10. FROM DWSO 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 DWSO AND HAVE THEM REPAIRED BEFORE BEGINNING RELOCATION OF THE EXISTING LINE.
 11. USE DUCTILE IRON RESTRAINED JOINT PIPE.
 12. ALL PLAN DIMENSIONS ARE HORIZONTAL.
 13. STEEL CASING PIPE SHALL MEET THE REQUIREMENTS OF AREMA.
 14. TESTING AND DISINFECTION SHALL BE DONE ACCORDING TO DWSO STANDARDS.
 15. THE CONTRACTOR SHALL PROVIDE 48" ADAPTERS FOR THE CONNECTIONS OF DIFFERENT PIPE MATERIALS. SUBMIT SHOP DRAWING FOR DWSO APPROVAL.



* 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

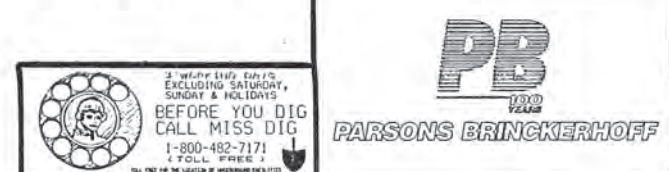


PROFILE ALONG C JEFFERSON AVE

VERT. SCALE - 1" = 10'
HOR. SCALE - 1" = 50'

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

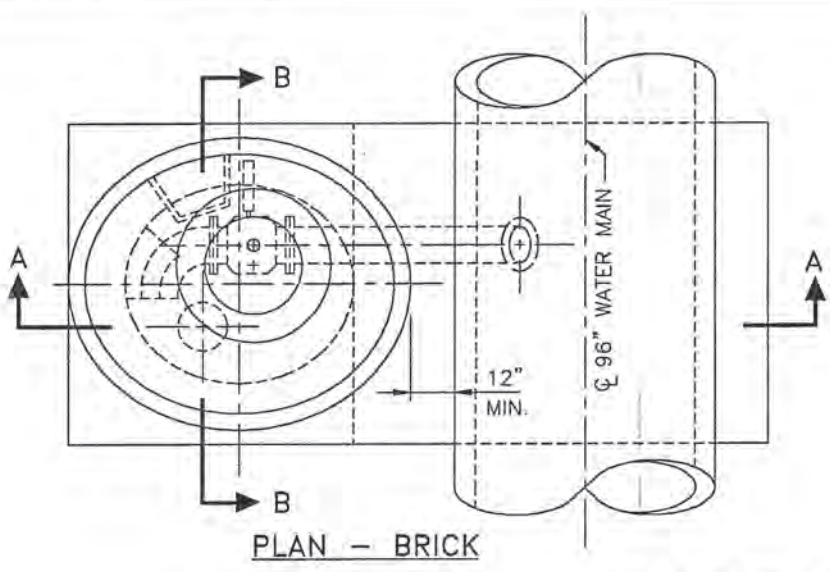


CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERING DIVISION

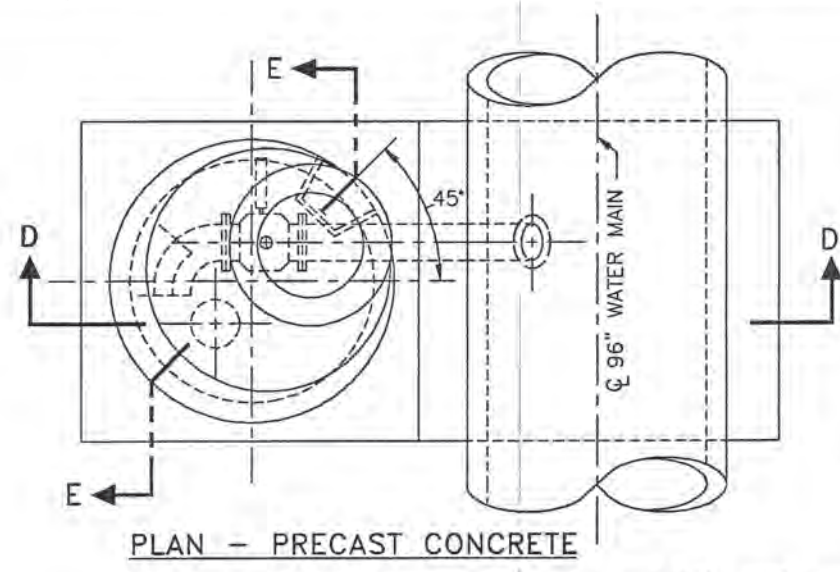
**WATER MAIN
JEFFERSON AVE OVER DEQUINDRE CUT**

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

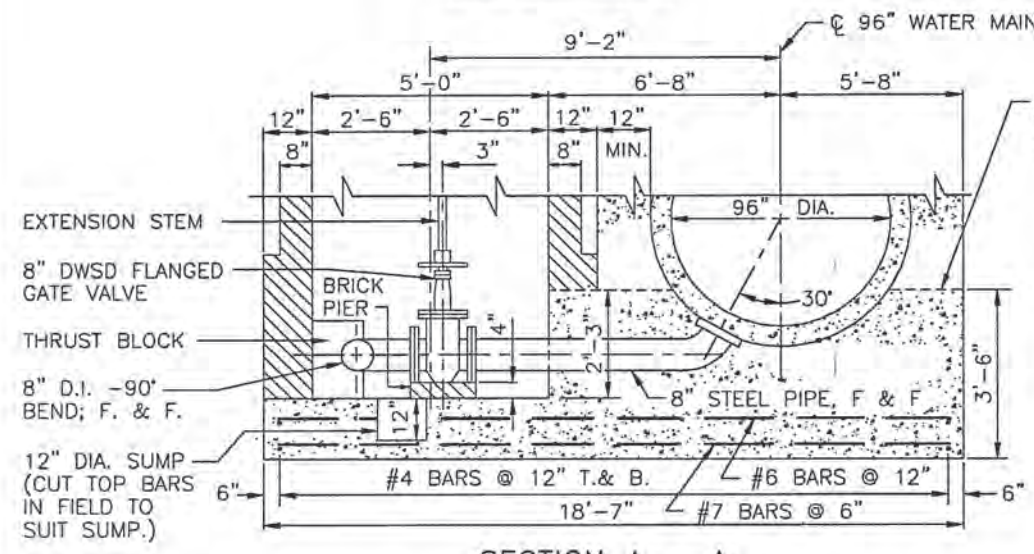
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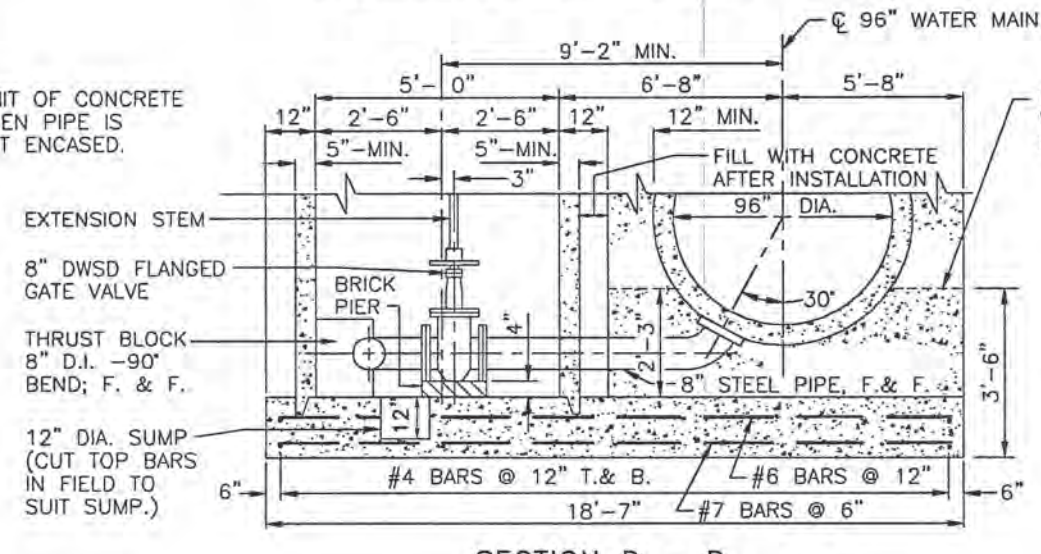
PLAN - BRICK



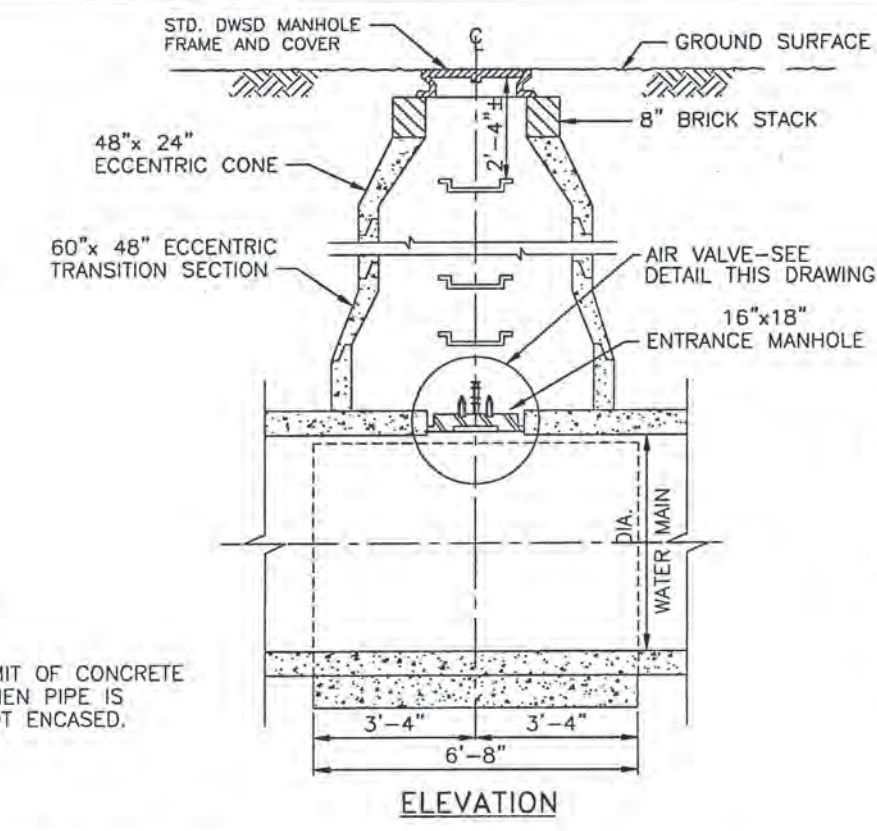
PLAN - PRECAST CONCRETE



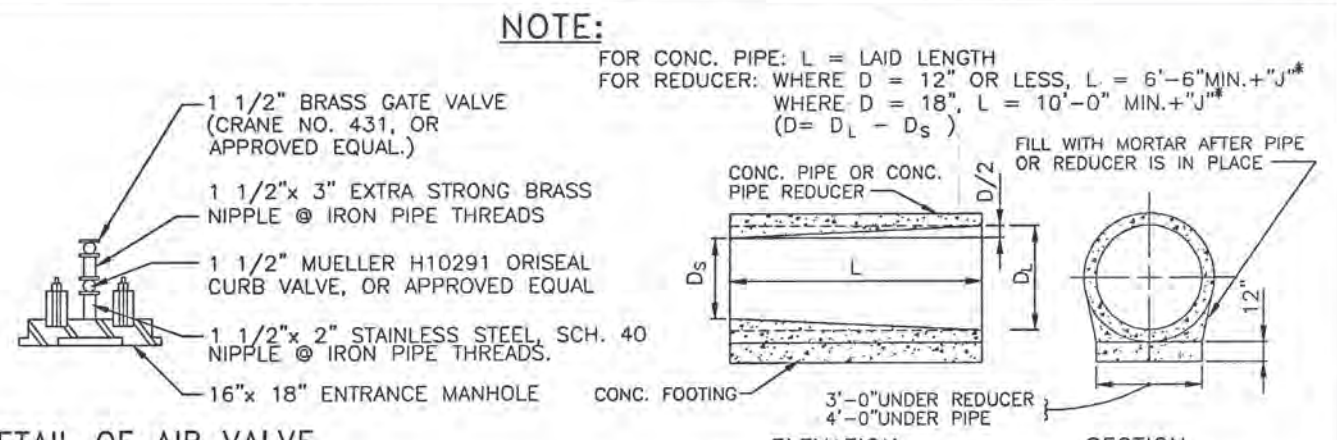
SECTION A - A



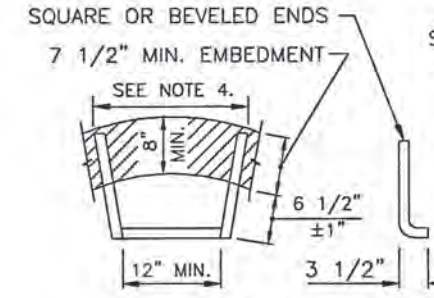
SECTION D - D



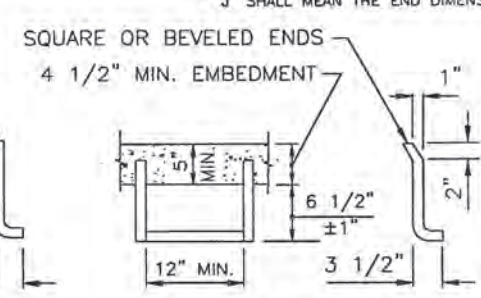
ELEVATION



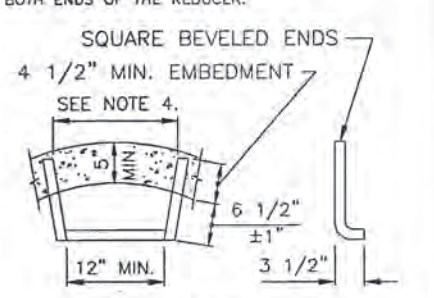
DETAIL OF AIR VALVE



PLAN (FOR USE WITH BRICK CONSTRUCTION)



PLAN (FOR USE WITH POURED IN PLACE CONCRETE CONSTRUCTION)



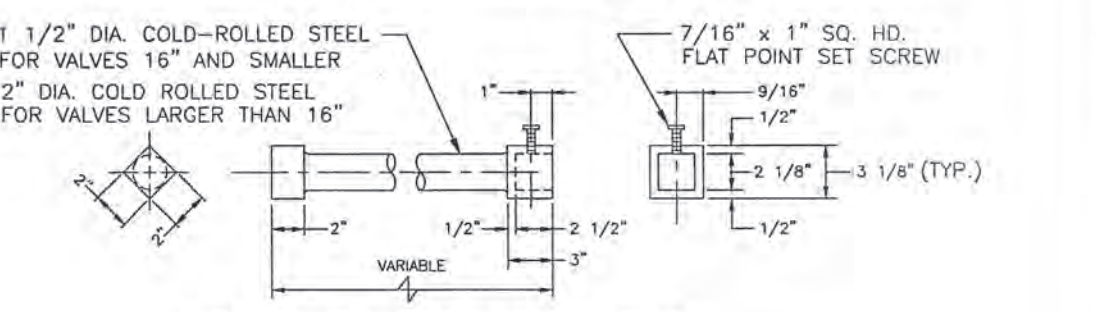
PLAN (FOR USE WITH PRECAST CONCRETE CONSTRUCTION)

NOTE:
 FOR CONC. PIPE: L = LAID LENGTH
 FOR REDUCER: WHERE D = 12" OR LESS, L = 6'-6" MIN. + "J"
 WHERE D = 18", L = 10'-0" MIN. + "J"
 (D = D_L - D_S)

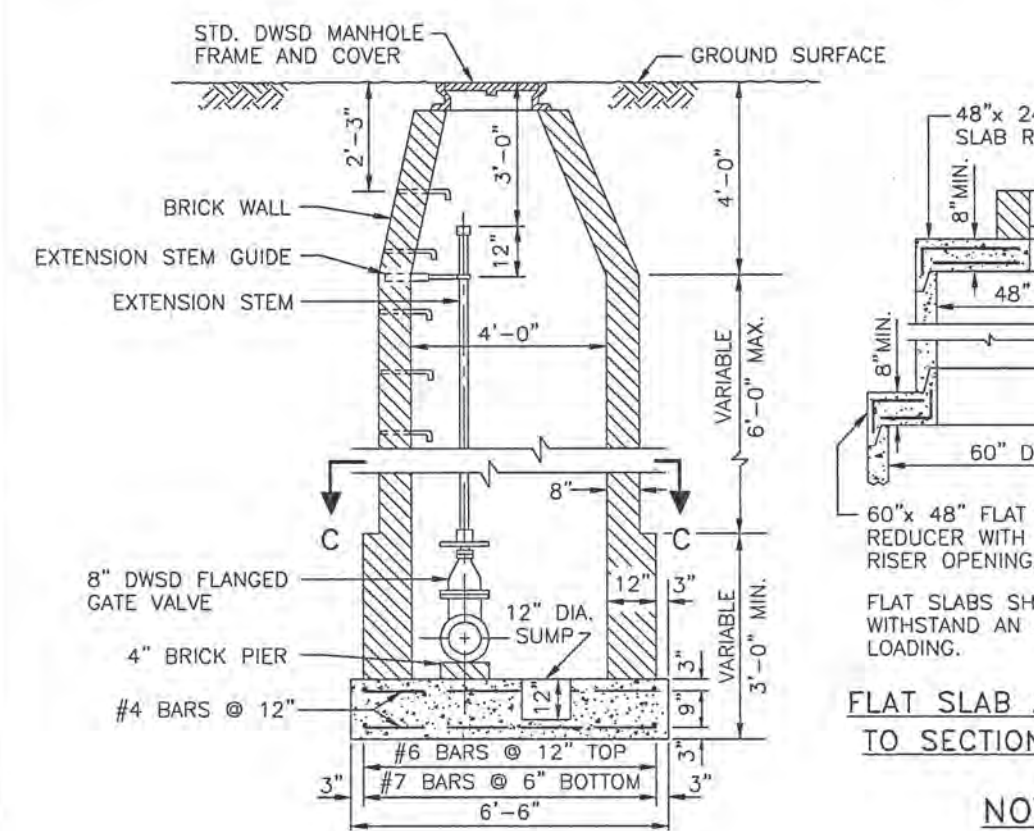
FOOTING UNDER EACH LENGTH OF CONC. PIPE OR REDUCER ADJACENT TO VALVE WELL WALLS

- NOTES:**
- MANHOLE STEPS SHALL CONFORM TO THE REQUIREMENTS FOR "ALUMINUM ALLOY EXTRUDED BARS, RODS, SHAPES AND TUBES" ASTM B-221 (CURRENT), ALLOY 6061, TEMPER T-6, OR APPROVED EQUAL.
 - EITHER THE FLARED LEG OR PARALLEL LEG STEP MAY BE USED FOR POURED IN PLACE CONCRETE CONSTRUCTION OR WET CAST MANHOLE UNITS.
 - THE PARALLEL LEG STEP SHALL BE USED IN EXISTING STRUCTURES BY PLACING IN DRILLED HOLES AND GROUTING WITH NON-SHRINKING GROUT.
 - FLARED LEGS SHALL BE RADIAL TO THE MANHOLE WALL.
 - IN LIEU OF GROOVES, ALTERNATE FOOTHOLD CONFIGURATIONS WILL BE CONSIDERED FOR APPROVAL.
 - THE VERTICAL SPACING BETWEEN INSTALLED STEPS SHALL NOT BE MORE THAN SIXTEEN (16) INCHES.
 - ALL MANHOLE STEPS SHALL COMPLY WITH THE SAFETY STANDARDS (PART 3, FIXED LADDERS) AS ESTABLISHED BY THE OCCUPATIONAL SAFETY STANDARDS COMMISSION OF THE MICHIGAN DEPARTMENT OF LABOR.

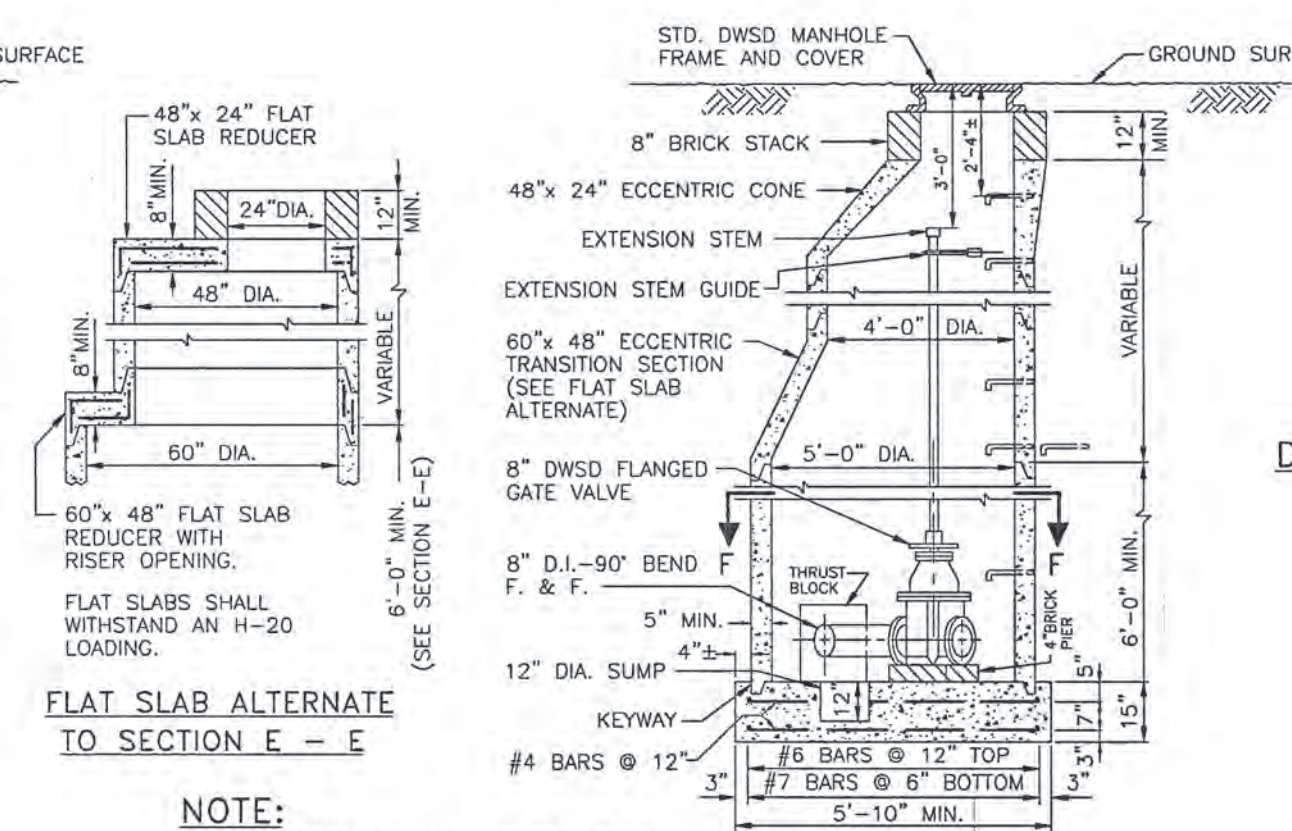
DETAIL OF MANHOLE STEPS



DETAIL OF EXTENSION STEM



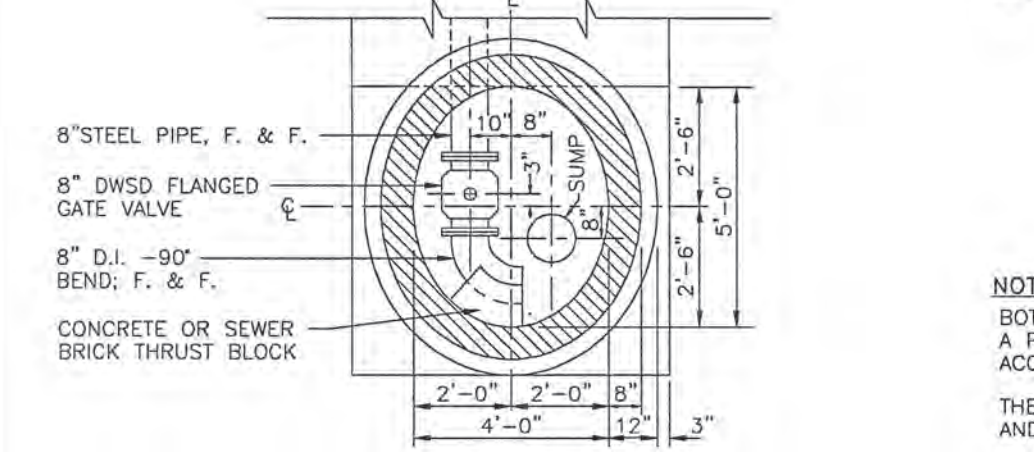
SECTION B - B



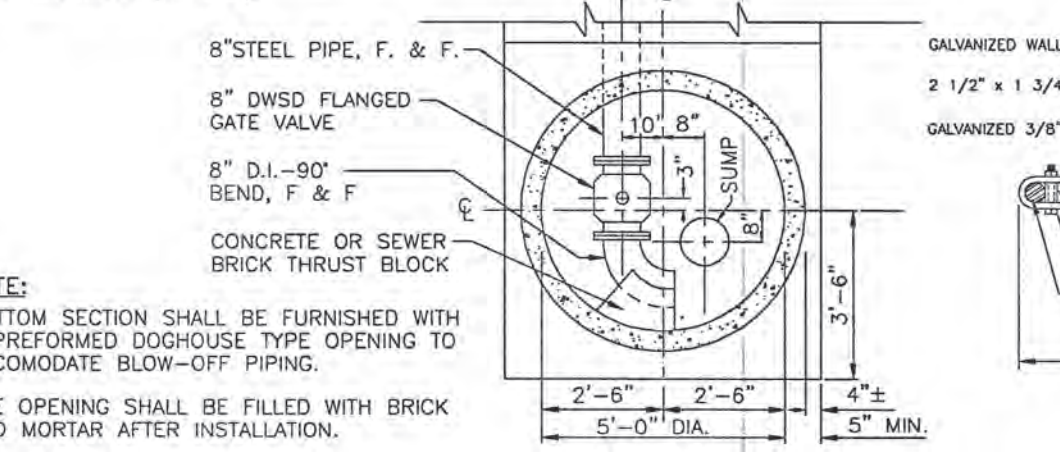
SECTION E - E

FLAT SLAB ALTERNATE TO SECTION E - E

NOTE:
 BOTTOM SECTION SHALL HAVE BELL ENDS AND PLACED IN SUCH A MANNER THAT THERE WILL BE BEARING FOR THE FULL WALL THICKNESS (5" MIN.).



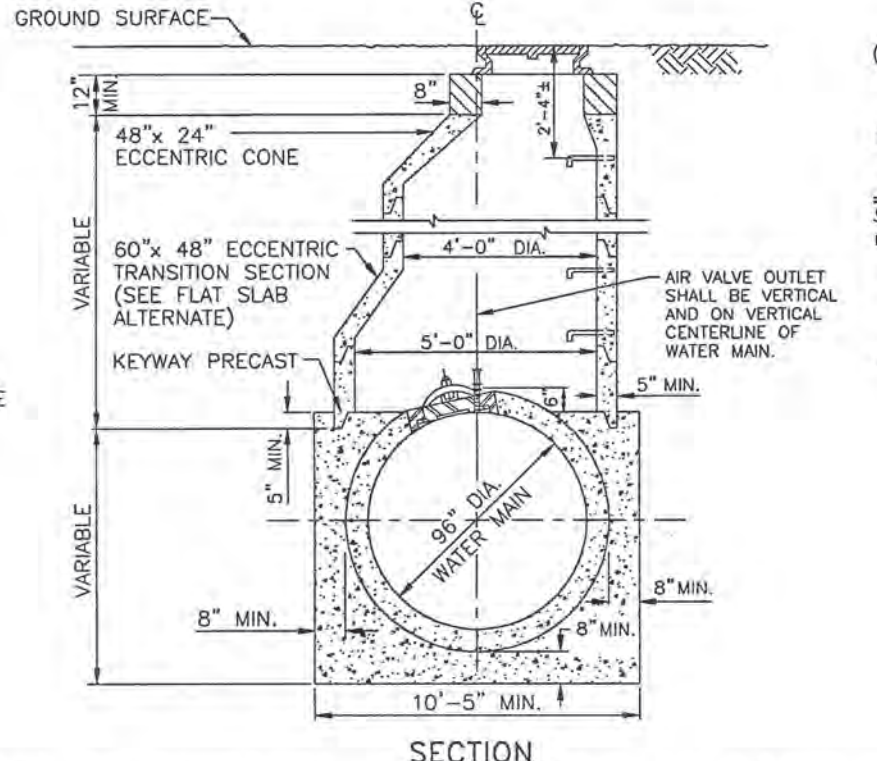
SECTION C - C



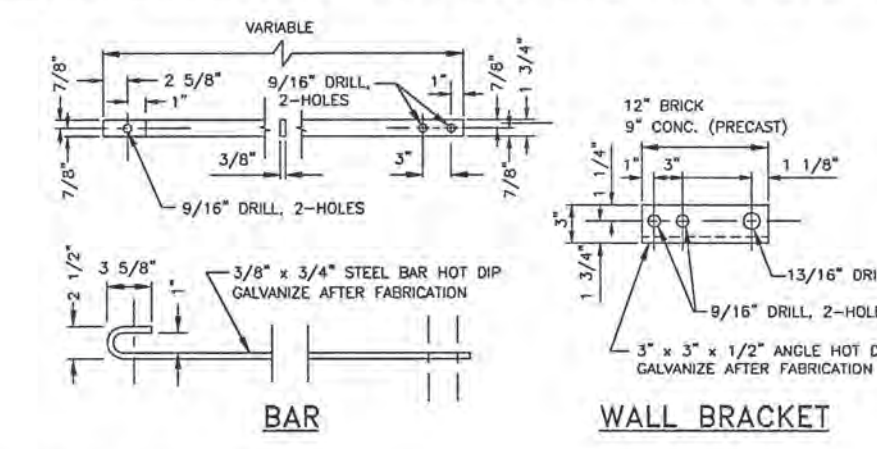
SECTION F - F

NOTE:
 BOTTOM SECTION SHALL BE FURNISHED WITH A PREFORMED DOGHOUSE TYPE OPENING TO ACCOMMODATE BLOW-OFF PIPING. THE OPENING SHALL BE FILLED WITH BRICK AND MORTAR AFTER INSTALLATION.

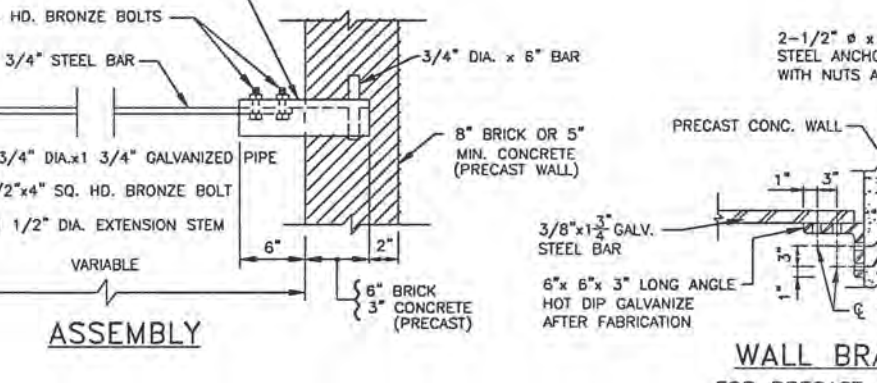
DETAIL OF 8" BLOW-OFF AND WELL



DETAIL OF ENTRANCE MANHOLE AND AIR VALVE IN WELL



BAR WALL BRACKET



ASSEMBLY

DETAIL OF EXTENSION STEM GUIDE FOR BLOW-OFF WELL

- GENERAL NOTES:**
- SEE SECTION 05500 OF SPECIFICATION FOR DRAWING NO. A-120-234 SHOWING DETAILS OF DWS D FRAME AND COVER.
 - ALL WELL FRAMES SHALL BE SET IN A FULL MORTAR BED.
 - WHERE FRAMES AND COVERS EXTEND ABOVE THE GROUND SURFACE (IN DITCH LINES, ETC.) THE CONTRACTOR SHALL ATTACH THE FRAME TO THE WELL BY MEANS OF FOUR STAINLESS STEEL ANCHOR BOLTS EMBEDDED IN THE BRICK ADJUSTMENT COURSES.
 - PLASTER OUTSIDE OF ALL BRICK WALLS WITH MORTAR TO A THICKNESS OF NOT LESS THAN 1/2 INCH.
 - SEE CONTRACT SPECIFICATIONS FOR MATERIAL REQUIREMENTS COVERING SUCH ITEMS AS DUCTILE IRON, CONCRETE, MORTAR, ETC.
 - STEEL PIPE TO BE 3/8" THICK AND SHALL CONFORM TO THE CURRENT A.W.W.A. C-200 GRADE 36 AND INTERIOR SURFACE SHALL BE CEMENT-MORTAR LINED, AND SHALL BE FURNISHED BY THE TRANSMISSION MAIN PIPE SUPPLIER.
 - EXTERNAL PROTECTION FOR STEEL PIPE SHALL CONFORM TO SECTION A1.3 OF A.W.W.A. STANDARD C-203, OR ENCASED IN CONCRETE.
 - EXTERNAL PROTECTION FOR FLANGES, BOLTS, AND ALL OTHER EXPOSED BARE METAL SURFACES SHALL BE KOPPER'S BITUMASTIC #50, OR APPROVED EQUAL.
 - PIPE FLANGES SHALL CONFORM TO A.W.W.A. C-207 CLASS E HUB TYPE AND SHALL BE FACED, AFTER WELDING, PERPENDICULAR TO STEEL PLATE PIPE. MATERIAL SHALL BE A.S.T.M. A-181 GRADE 1. FLANGE FINISH 125RMS.
 - THE FLANGE GASKET SHALL BE SINGLE PIECE, FULL FACED GASKETS, 1/16-INCH THICK, FABRICATED FROM NON-METALLIC NON-ASBESTOS FIBER GASKET MATERIAL CONFORMING TO DESIGNATION ASTM F-104(F712100A9E22K5M6) WITH GRAPHITE OR APPROVED ANTI-STICK COMPOUND ON BOTH SIDES.
 - PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ALL THE REQUIREMENTS OF "SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE RISERS AND TOPS" ASTM C-478 WITH MODIFIED GROOVED TONGUE JOINTS AND RUBBER GASKETS. EACH SECTION SHALL NOT HAVE MORE THAN TWO HOLES FOR HANDLING PURPOSES. THESE HOLES SHALL BE SATISFACTORILY PLUGGED AFTER INSTALLATION.
 - THE CONTRACTOR MAY REQUEST THE DIMENSIONS (6'-0" x 4'-0") REFER TO SECTION A-A & D-D) BE INCREASED TO ACCOMMODATE EXISTING UTILITIES, DITCHES AND CULVERTS THAT INTERFERE WITH OR IMPEDE WATER MAIN AND MANHOLE CONSTRUCTION AND IF APPROVED BY THE ENGINEER, SHALL INCLUDE ALL REQUIREMENTS BY THE UTILITY OWNER, JURISDICTIONAL AUTHORITY AND THE ENGINEER.

UNDER THE ABOVE REQUEST, DITCHES SHALL BE REPLACED WITH APPROVED CULVERT TREATMENT. THE ABOVE MAY BE IN LIEU OF RELOCATING FACILITIES BUT NOT PRECLUDE THAT OPTION. THE OPTION SELECTED AND APPROVED SHALL BE AT NO ADDITIONAL CONTRACT COST.

F				DESIGNED BY:		CITY OF DETROIT WATER AND SEWERAGE DEPARTMENT ENGINEERING DIVISION	M.D.E.O. PERMIT NO.	W054048
E				DRAWN BY: C. L. WILKINS			FED. REF. NO.	
D				CHECKED BY: S. T. DIOSO			CONTRACT NO.	JN49717A
C				ENGINEER:			FILE NO.	
B				HEAD ENGINEER:			DRAWING NO.	20 of 80
A								
DESCRIPTION		CHK'D	APR'D.	DATE	SCALE: NOT TO SCALE	DATE: 02-11-05	SECTION MAP	TOWN
REVISIONS							RANGE	SECTION
							PORTION CODE	FAMIS NO.
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MISCELLANEOUS DETAILS

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, CUTOUTS, 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 OPERATOR 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.

REV.	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

GENERAL INFORMATION

Job No.
49717A

MANSELL ASSOCIATES INC.



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

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

PUBLIC LIGHTING DEPARTMENT

CITY OF DETROIT

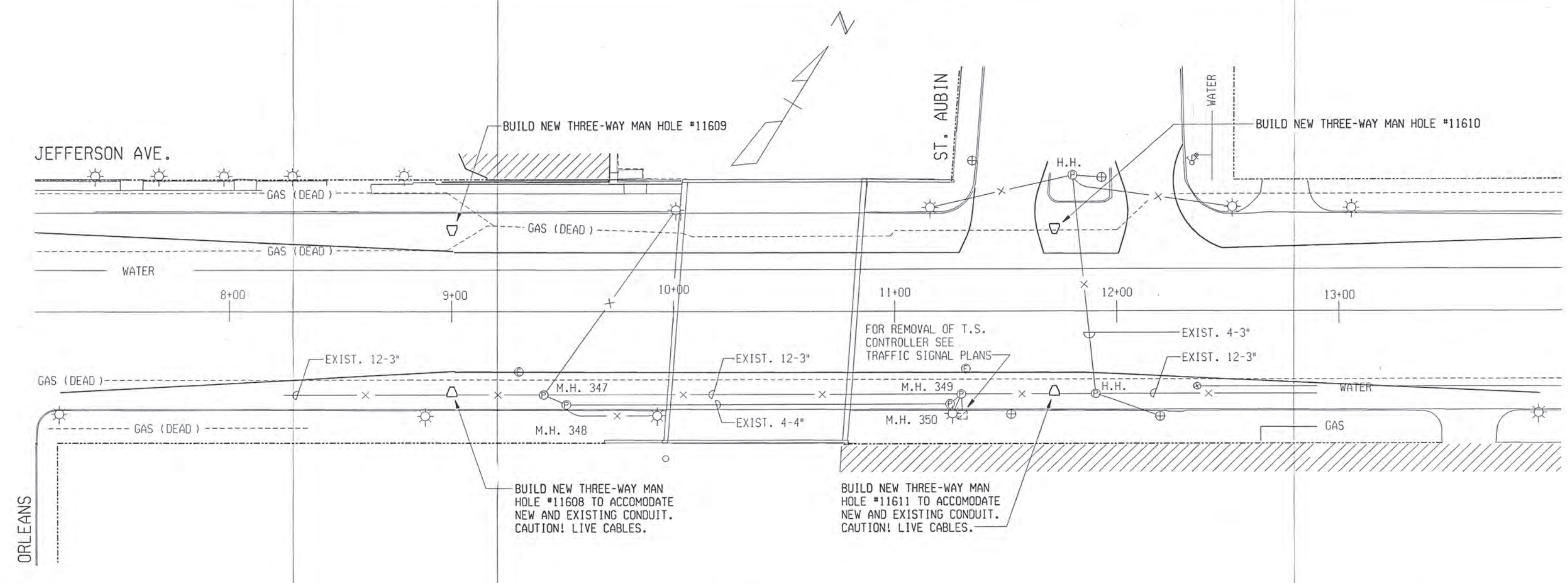
003

27-1104

Sheet No.
22

Date
02-11-05

SHEET NO. 23
JOB NO. 49717A
CONTROL SECTION



STAGE I
SCALE 1" = 30'

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

STAGE CONSTRUCTION SHEET

JEFFERSON AVE OVER DEQUINDRE CUT

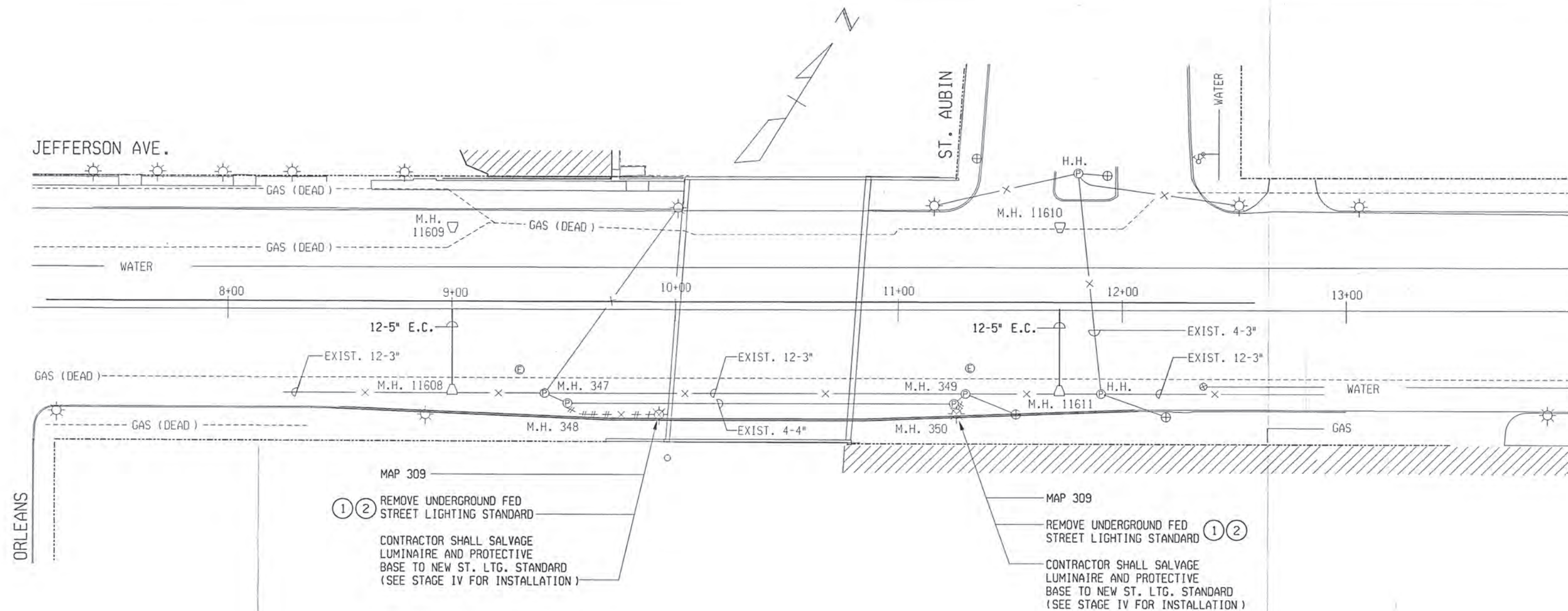
PLD STREET LIGHTING AND UTILITIES

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

DRAWN MAI
CHECKED
FILE NO. M4044S1



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



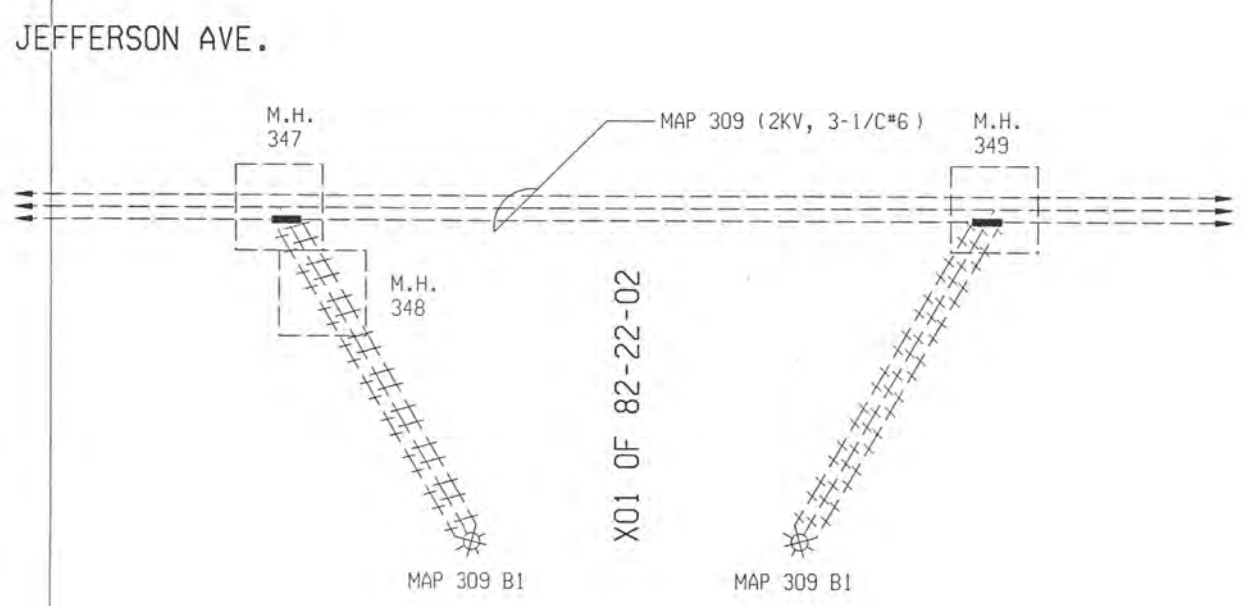
MAP 309
 ① ② REMOVE UNDERGROUND FED STREET LIGHTING STANDARD
 CONTRACTOR SHALL SALVAGE LUMINAIRE AND PROTECTIVE BASE TO NEW ST. LTG. STANDARD (SEE STAGE IV FOR INSTALLATION)

STAGE II
 SCALE 1" = 30'

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

NOTES:

1. CONDUIT BANK ENCASUREMENT 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

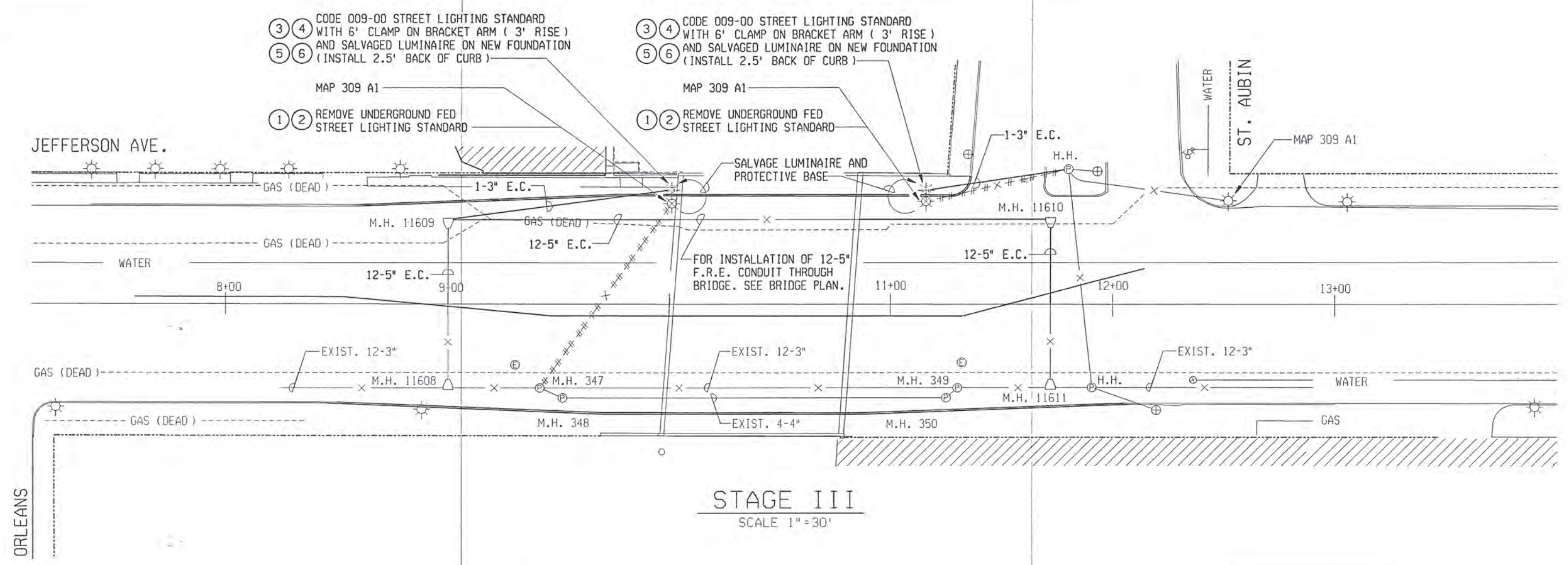
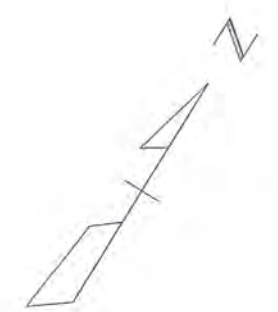
PLAN PREPARED BY
MANSSELL ASSOCIATES INC.
 ENGINEERING CONSULTANTS
 33608 Grand River Farmington, MI 48335
 (248) 473-7070

DRAWN MAI
 CHECKED
 FILE NO. M4044S2

MDOT
 Michigan Department of Transportation

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

SHEET NO. 25
JOB NO.
CONTROL SECTION

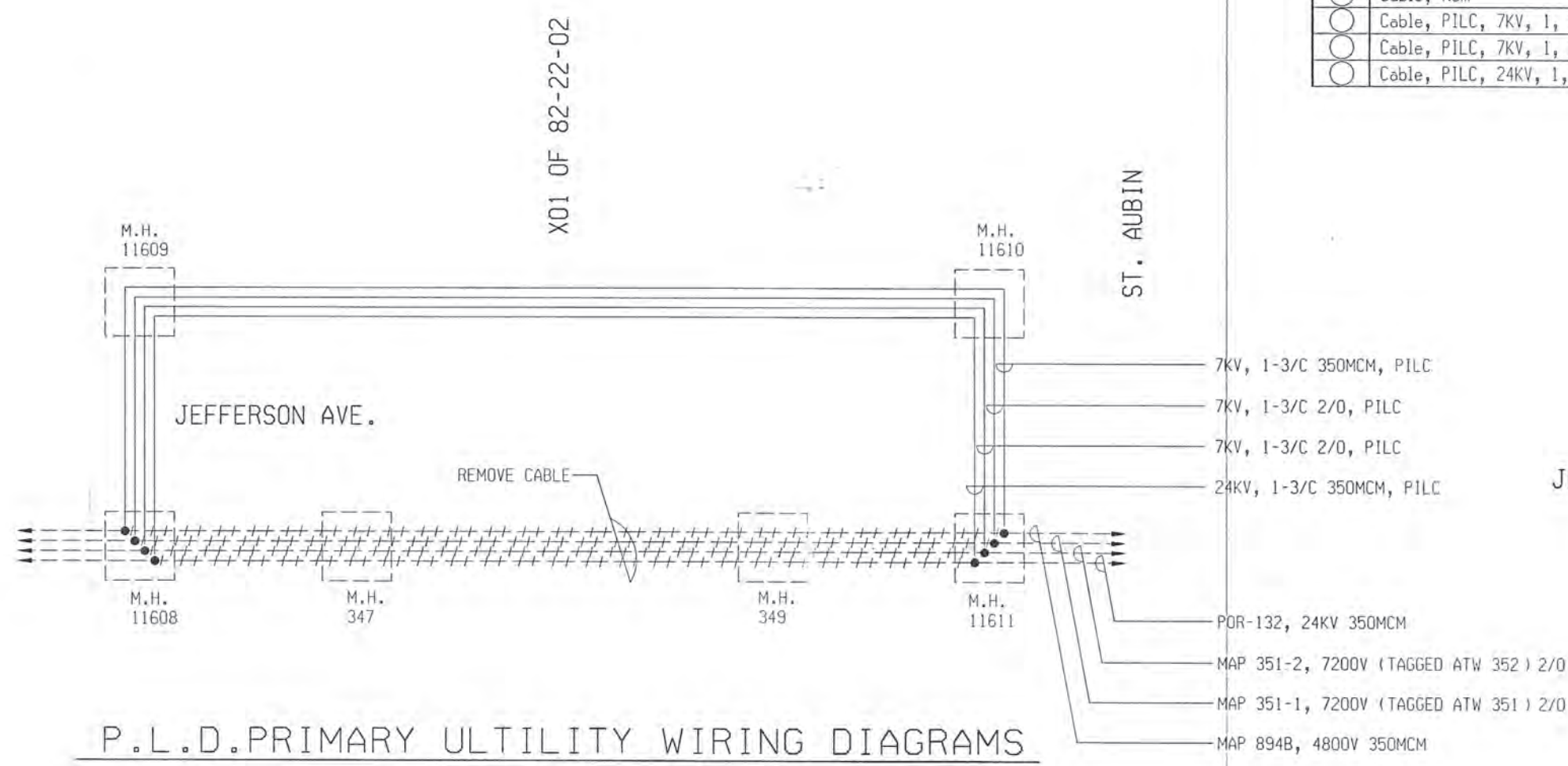


STAGE III
SCALE 1" = 30'

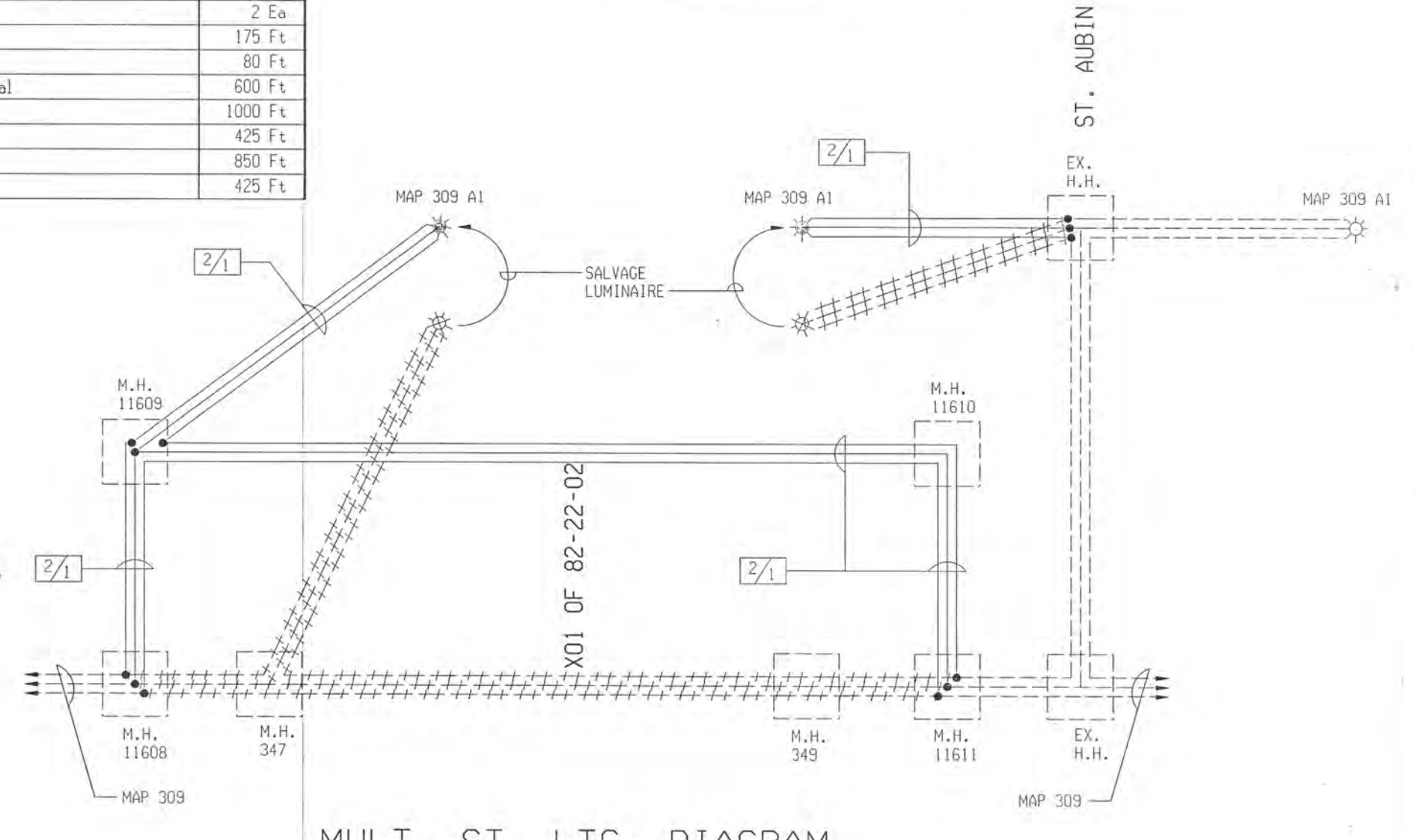
SALVAGING OF THE PROTECTIVE BASES TO THE NEW STREET LIGHTING STANDARDS SHALL BE INCLUDED IN THE PAYITEM "Luminaire, Salv"

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

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.



P.L.D. PRIMARY UTILITY WIRING DIAGRAMS



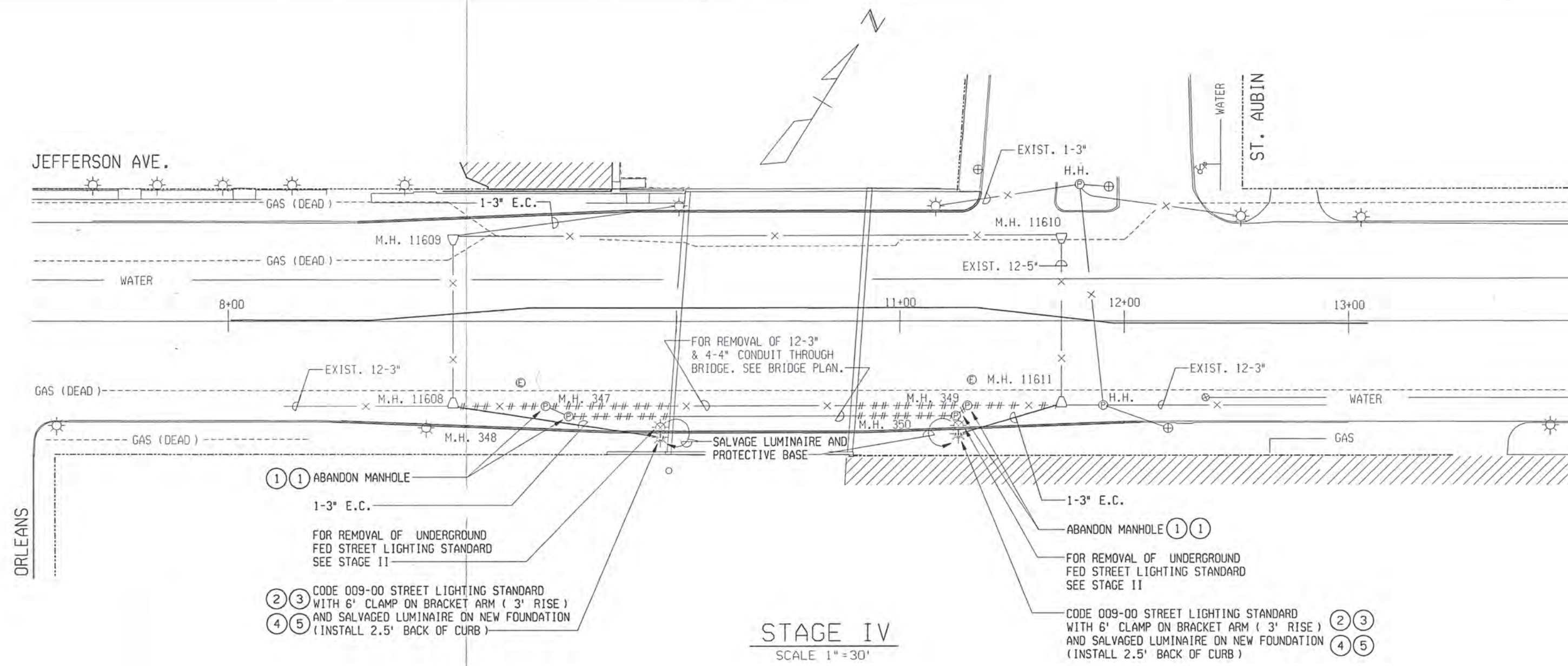
MULT. ST. LTG. DIAGRAM
480/960V. MAP 309

STAGE CONSTRUCTION SHEET

JEFFERSON AVE OVER DEQUINDRE CUT

PLD STREET LIGHTING AND UTILITIES

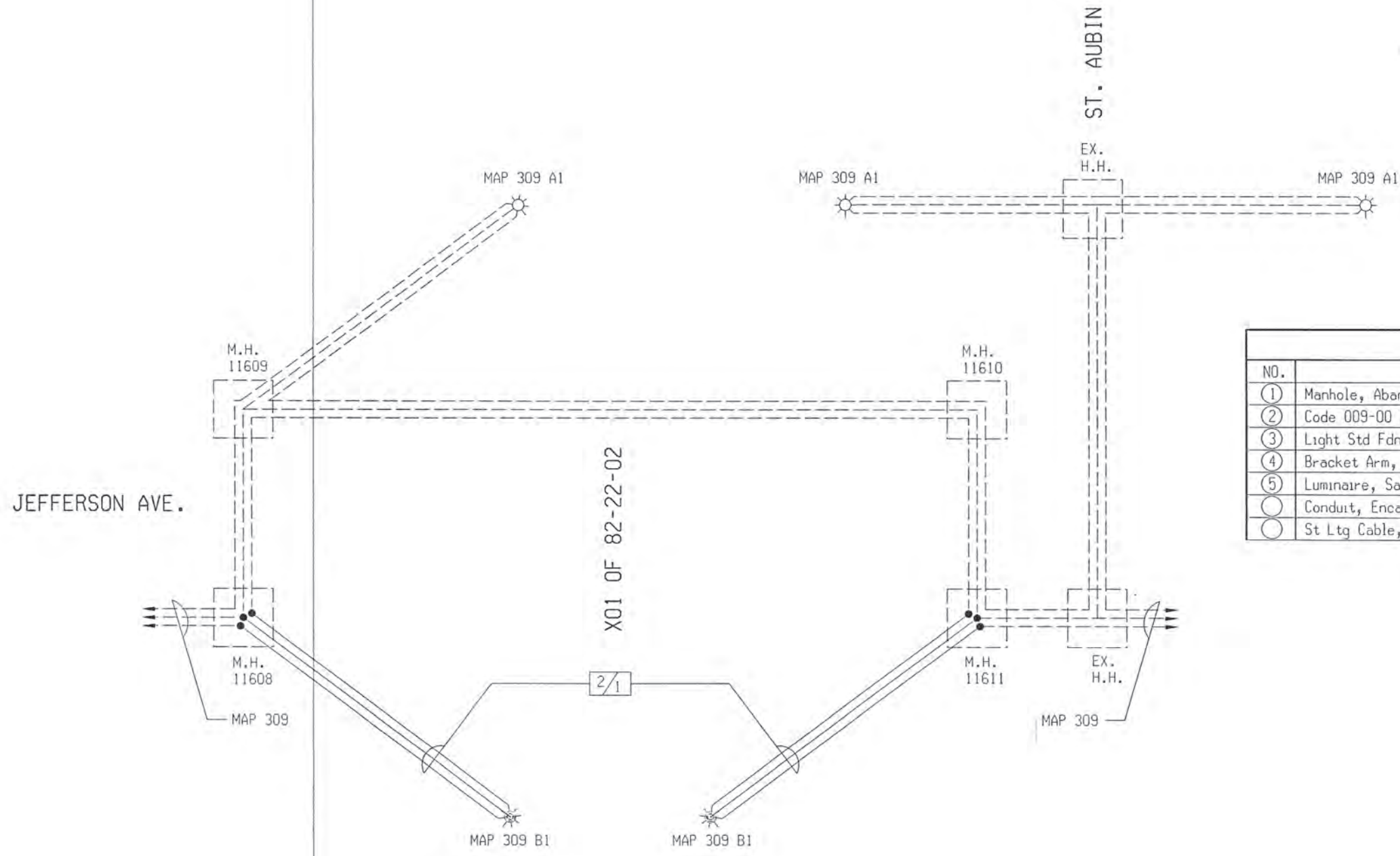
PLAN PREPARED BY MANSELL ASSOCIATES INC. ENGINEERING CONSULTANTS 33608 Grand River Farmington, MI 48335 (248) 473-7070	DRAWN MAI CHECKED FILE NO. M404453		DATE 02-11-05 PLD FILE NO. 27-1104 JOB NO. 49717A DESIGN UNIT	SHEET 25
	MANSELL ASSOCIATES INC.			



STAGE IV
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.



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

LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
(1)	Manhole, Abandon	4 Ea
(2)	Code 009-00 Anchor Base St Ltg Standard	2 Ea
(3)	Light Std Fdn	2 Ea
(4)	Bracket Arm, Clamp On, 6 foot, 3 foot Rise	2 Ea
(5)	Luminaire, Salv	2 Ea
○	Conduit, Encosed, 1, 3 inch, Modified	145 Ft
○	St Ltg Cable, 2Kv, 2, 1/C#6 & 1, #6 Neutral	150 Ft

STAGE CONSTRUCTION SHEET

JEFFERSON AVE OVER DEQUINDRE CUT

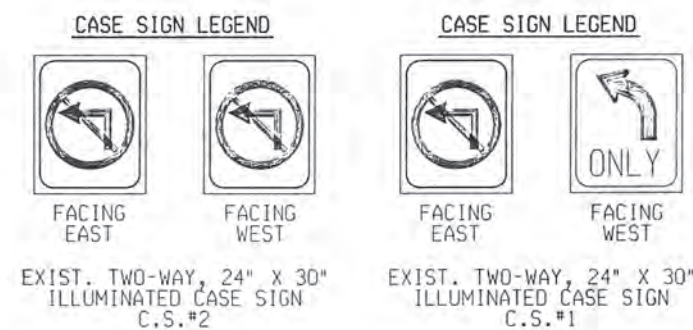
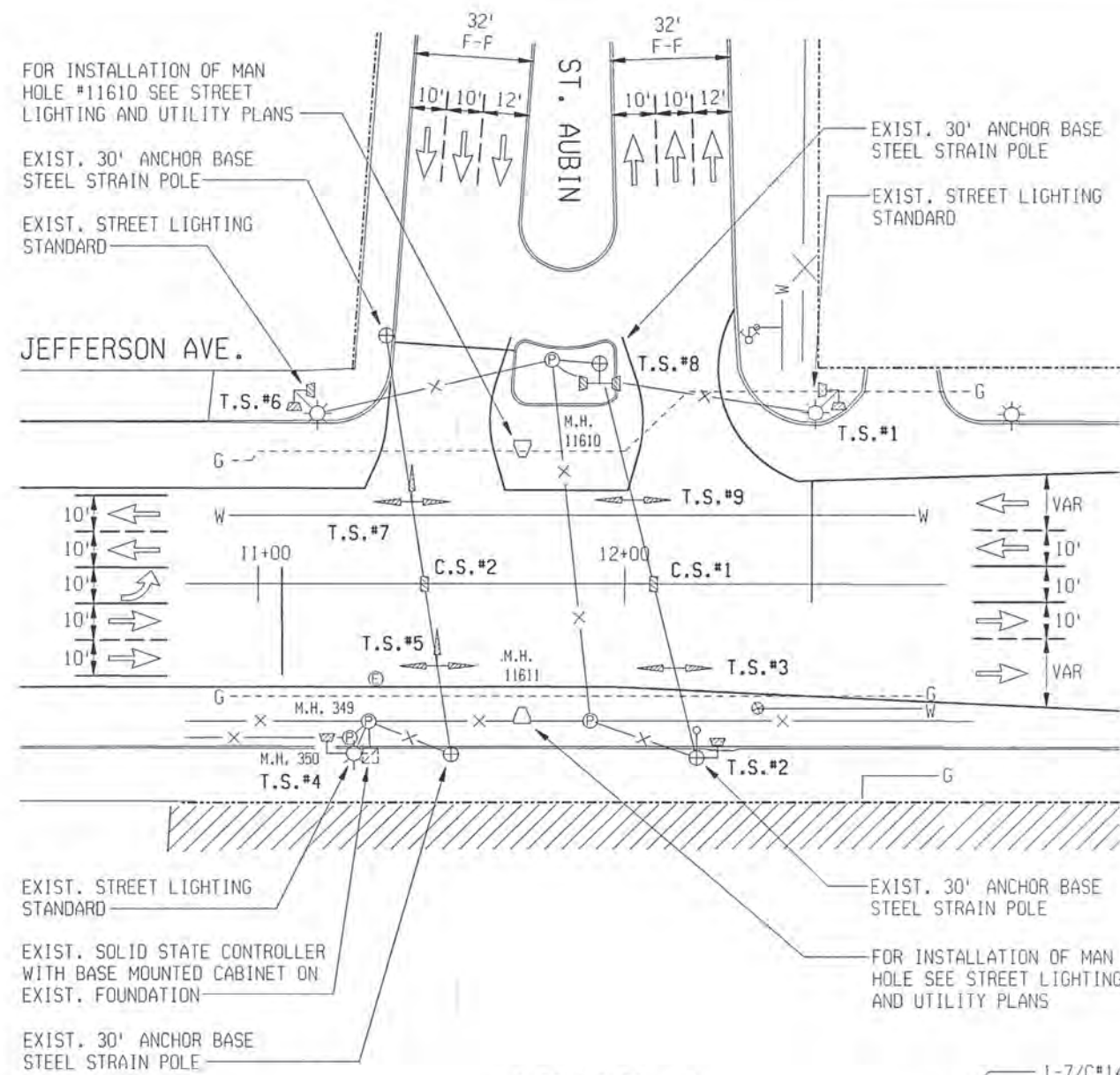
PLD STREET LIGHTING AND UTILITIES

DATE	PLD FILE NO.	JOB NO.	DESIGN UNIT	SHEET
02-11-05	27-1104	49717A		26

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

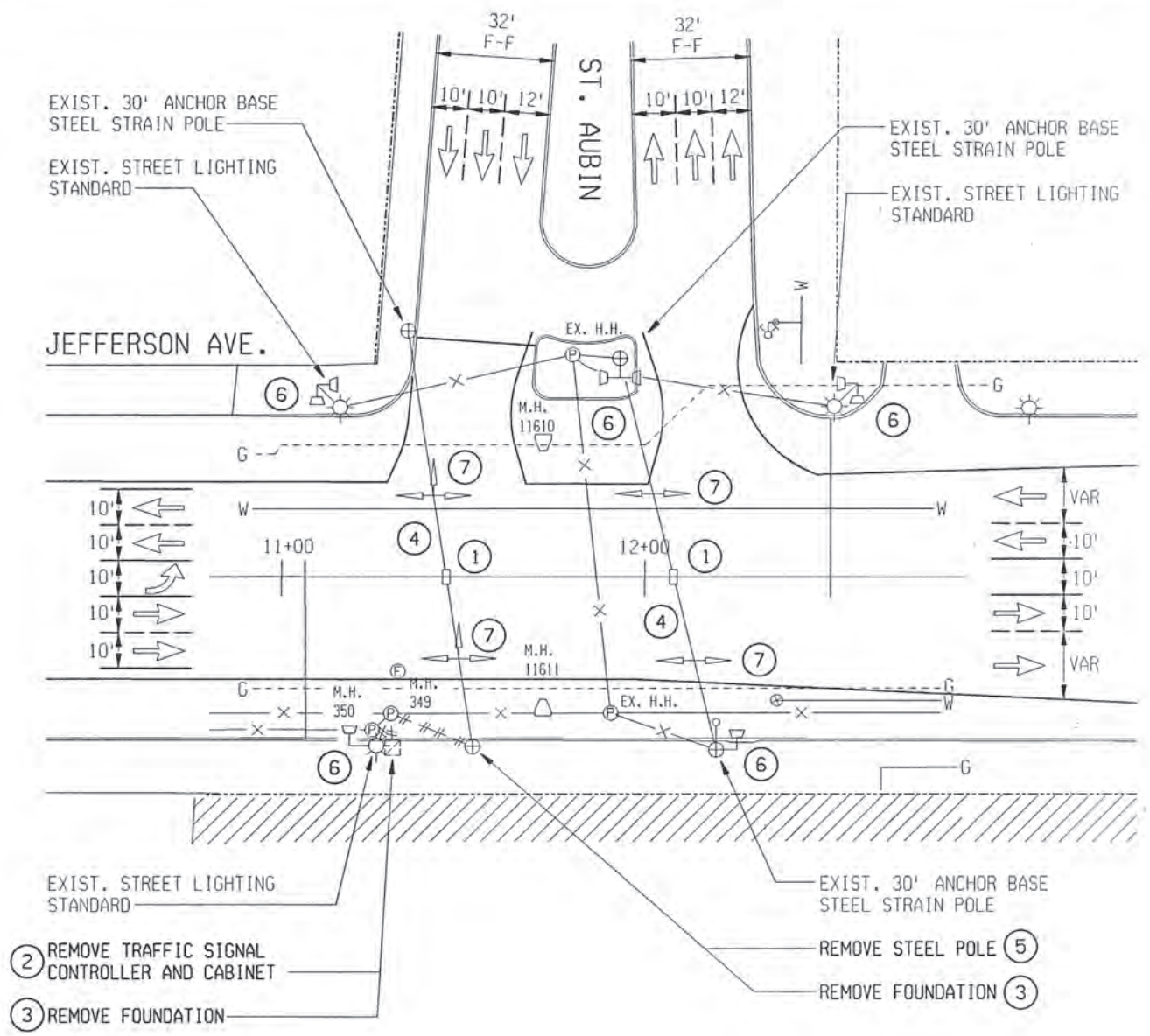
DRAWN MAI
 CHECKED
 FILE NO. M404454



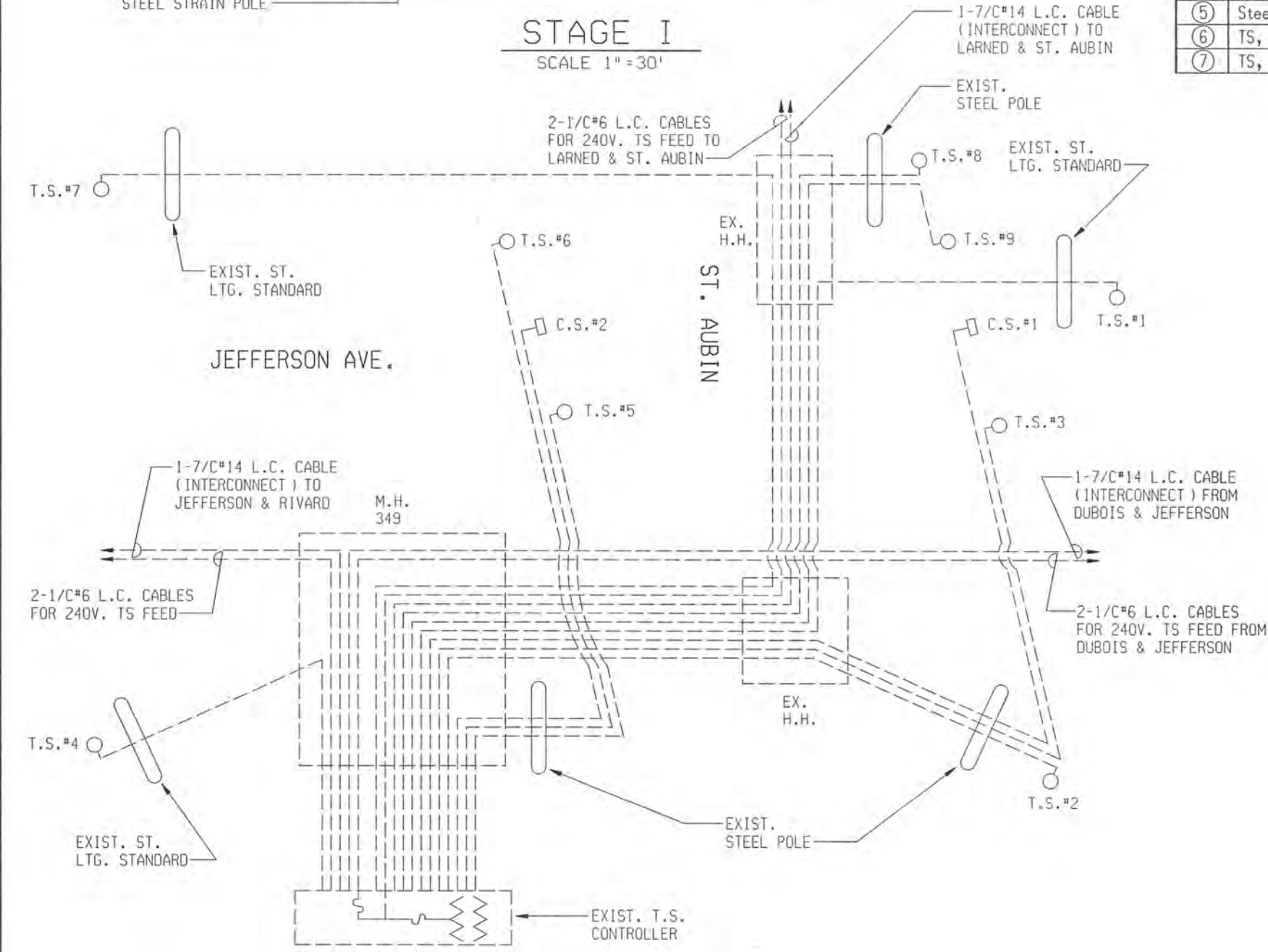


NO.	ITEM	QUANTITIES
1	Case Sign, Rem	2 Ea
2	Controller and Cabinet, Rem	1 Ea
3	Fdn, Rem	2 Ea
4	Span Wire, Rem	2 Ea
5	Steel Pole, Rem	1 Ea
6	TS, Pedestrian, Bracket Arm Mtd, Rem	5 Ea
7	TS, Span Wire Mtd, Rem	4 Ea

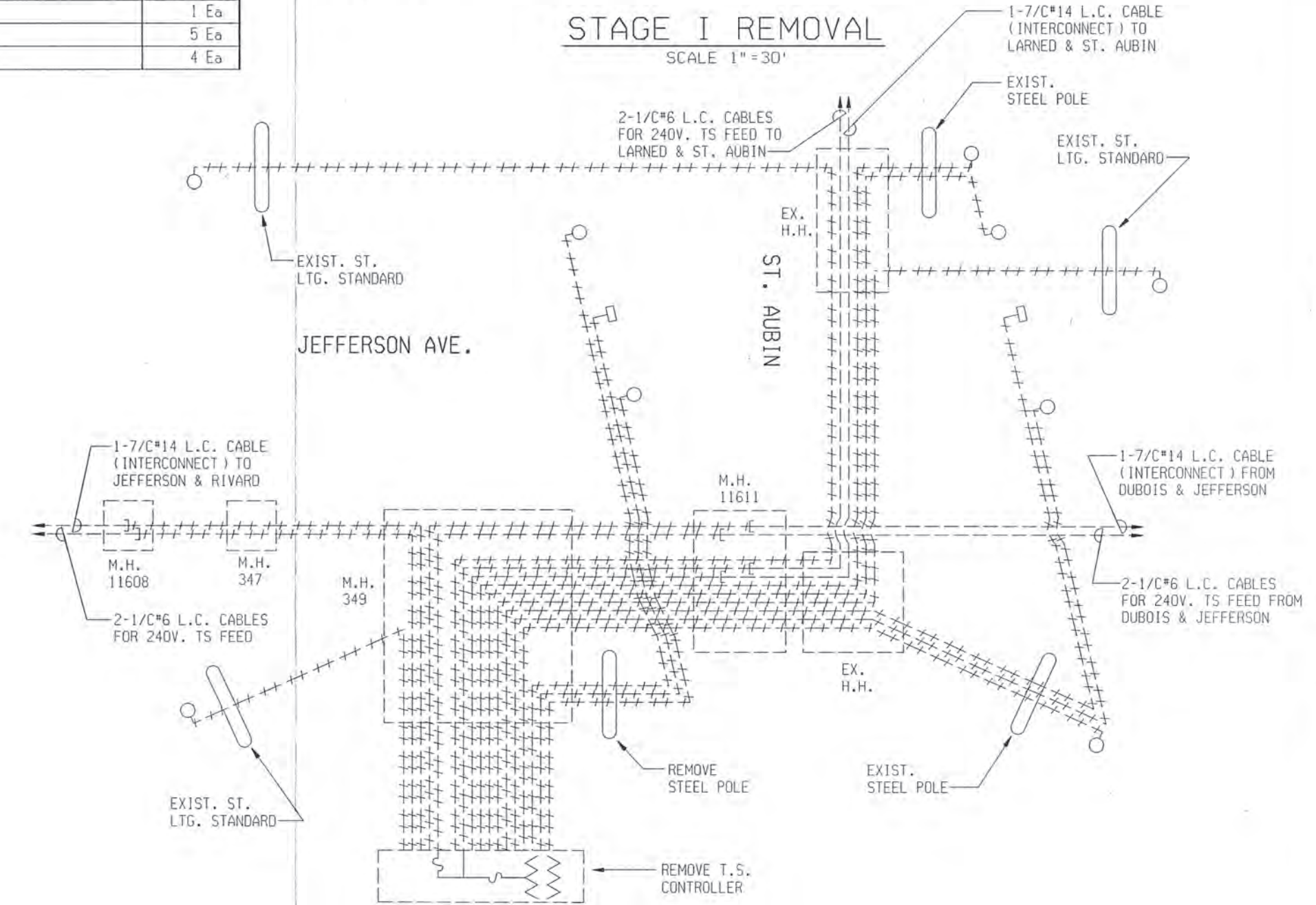
STAGE I
SCALE 1" = 30'



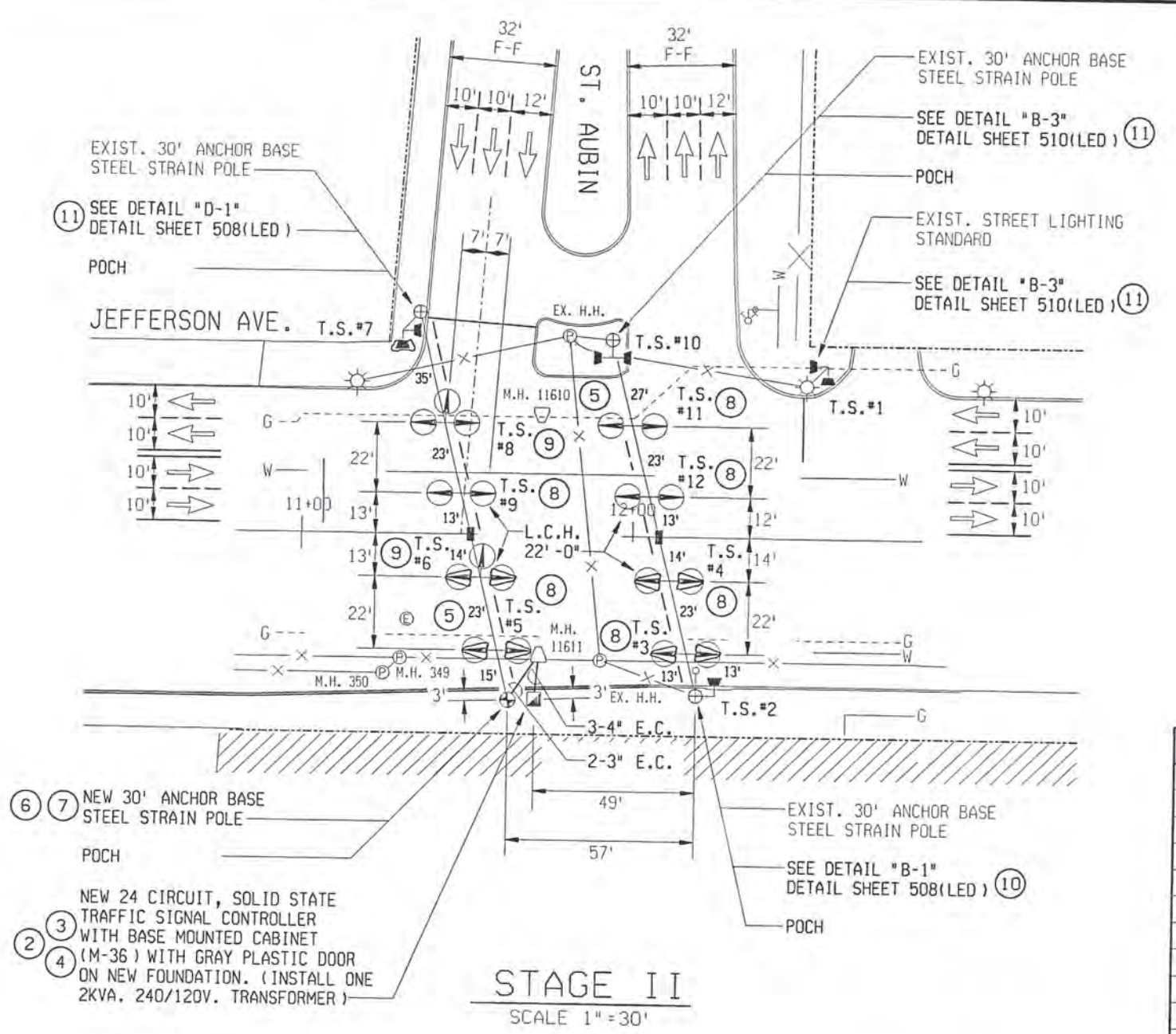
STAGE I REMOVAL
SCALE 1" = 30'



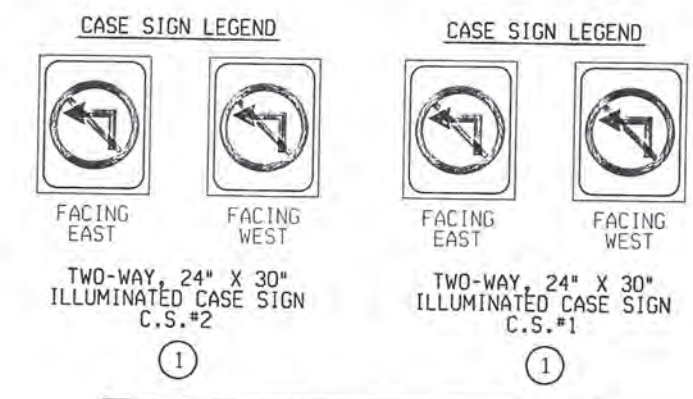
STAGE I WIRING DIAGRAM



STAGE I REMOVAL WIRING DIAGRAM

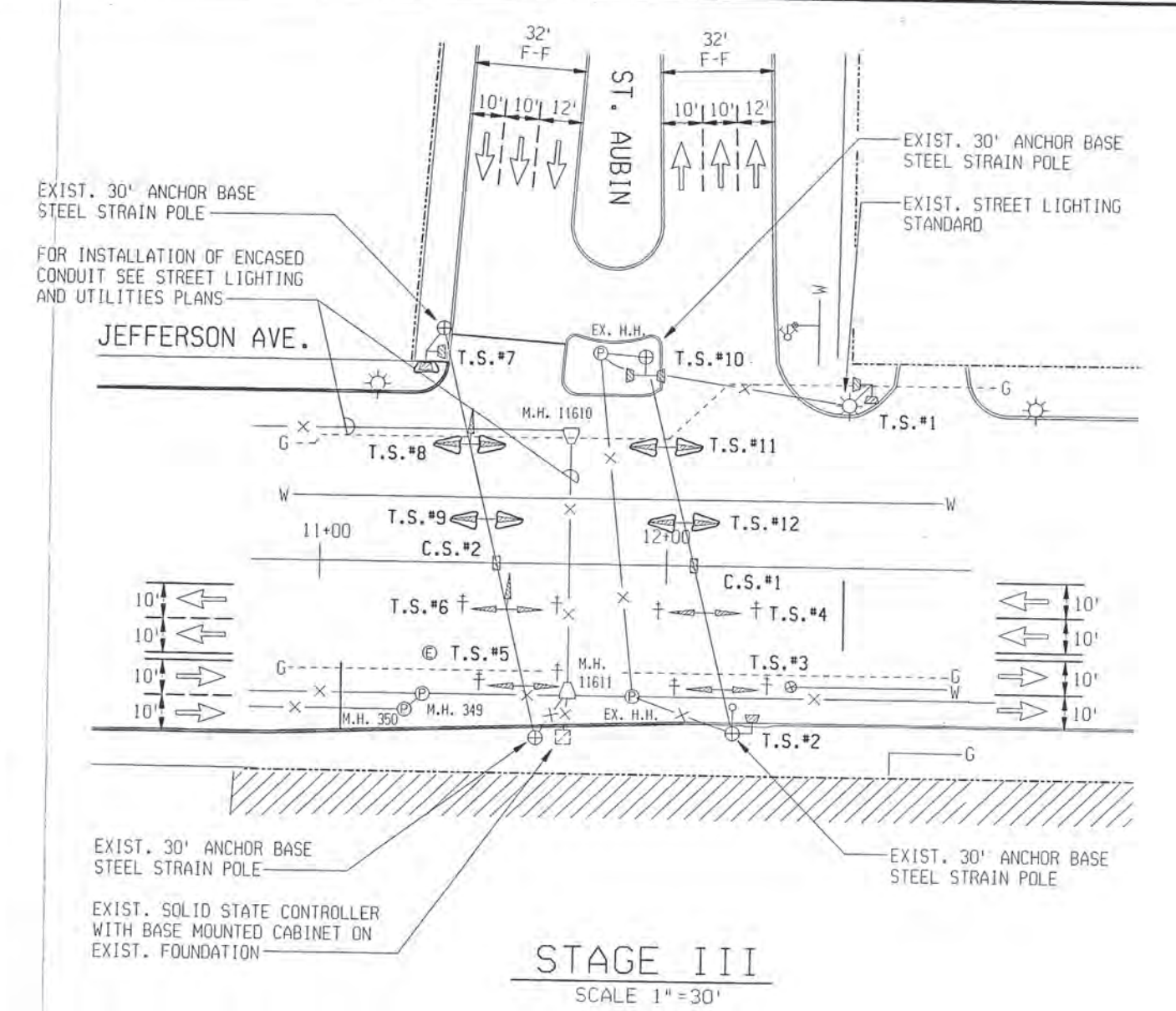


STAGE II
SCALE 1" = 30'

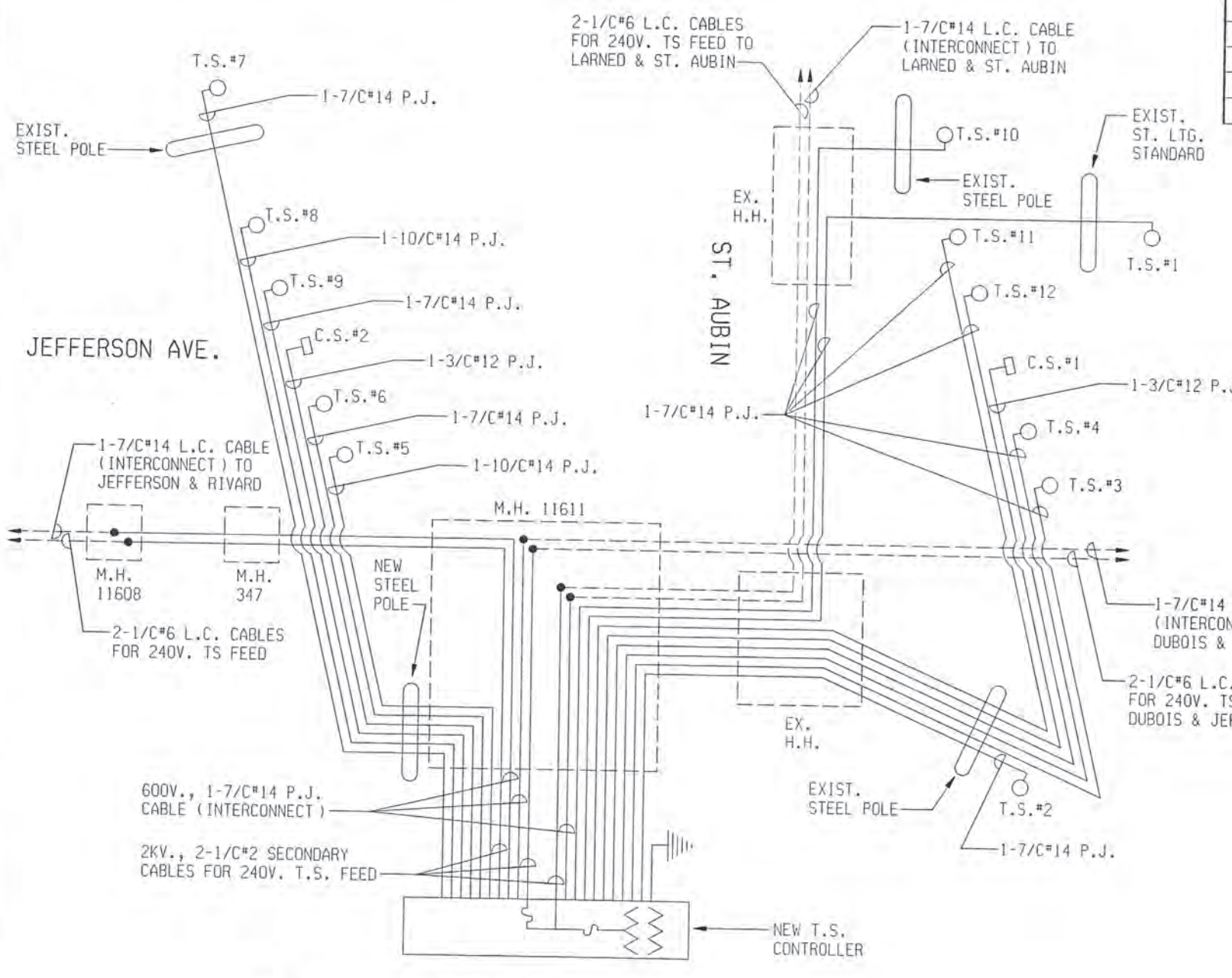


BAGGING & UNBAGGING OF TRAFFIC SIGNALS SHALL BE AS DIRECTED BY THE ENGINEER.

NO.	ITEM	QUANTITIES
①	Case Sign, Two Way, 24 inch by 30 inch	2 Ea
②	Controller and Cabinet, Solid State, TBC	1 Ea
③	Controller and Cabinet, Solid State, TBC, Delivered	1 Ea
④	Controller Fdn, Base Mount	1 Ea
⑤	Span Wire	2 Ea
⑥	Strain Pole, Steel, Anchor Base, 30 foot	1 Ea
⑦	Strain Pole, Steel, Anchor Fdn	1 Ea
⑧	TS, Two Way Span Wire Mtd (LED)	6 Ea
⑨	TS, Three Way Span Wire Mtd (LED)	2 Ea
⑩	TS, Pedestrian, One Way Bracket Arm Mtd (LED)	1 Ea
⑪	TS, Pedestrian, Two Way Bracket Arm Mtd (LED)	3 Ea
⑫	Conduit, Encased, 2, 3 inch, Modified	20 Ft
⑬	Conduit, Encased, 3, 4 inch, Modified	15 Ft
⑭	Cable, Sec, 2Kv, 2, 1/2"	750 Ft
⑮	Cable, P.J., 600V, 1, 7/8"	750 Ft

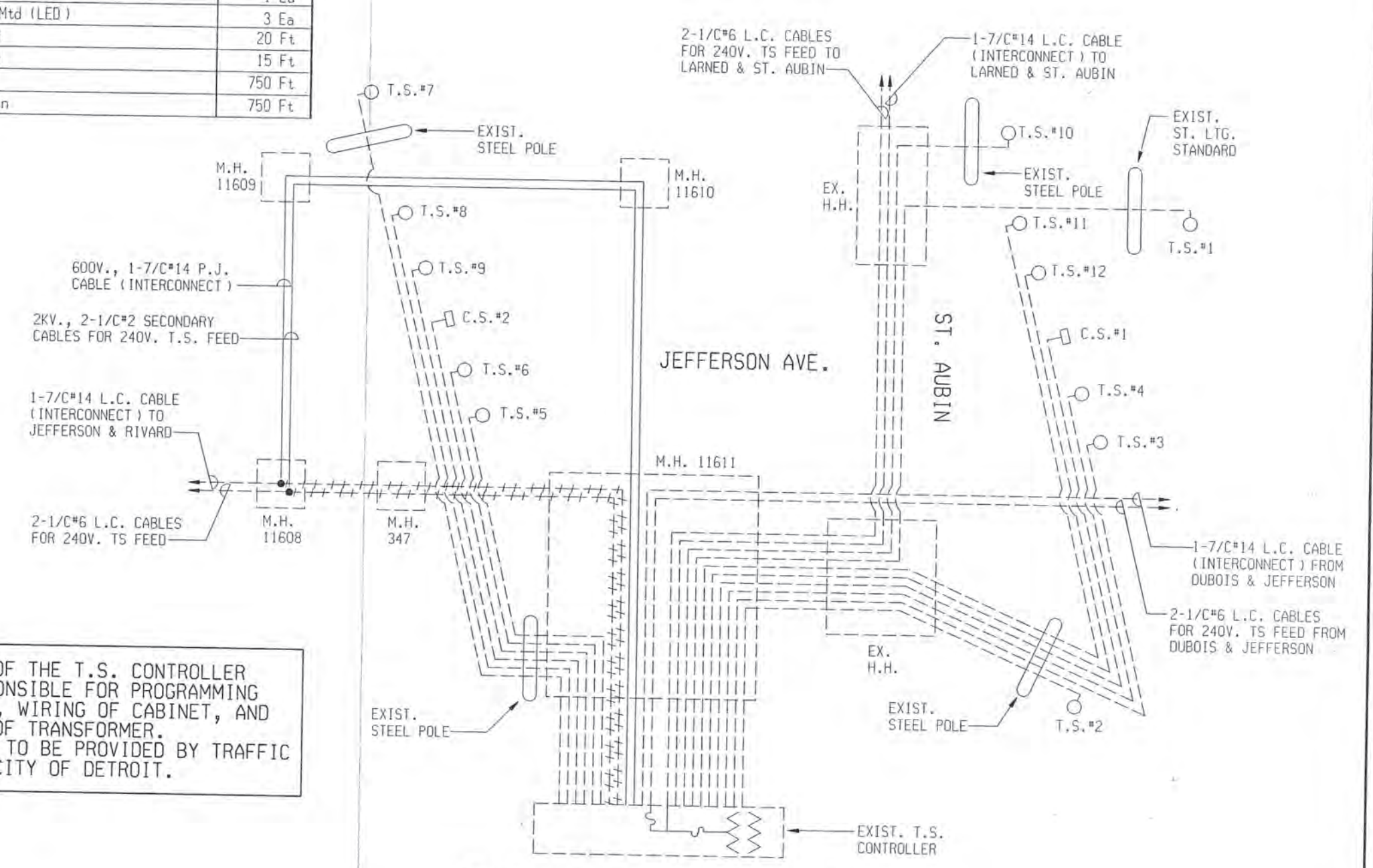


STAGE III
SCALE 1" = 30'

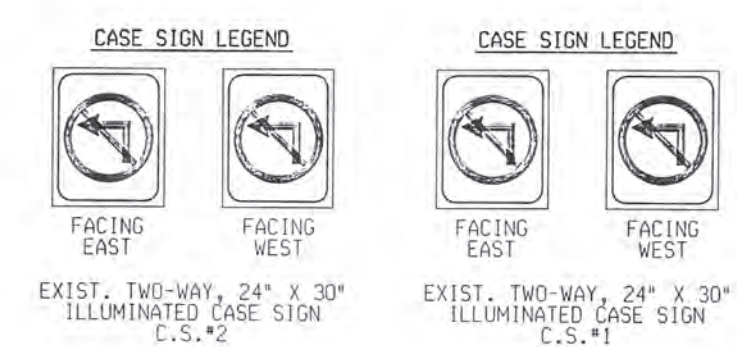
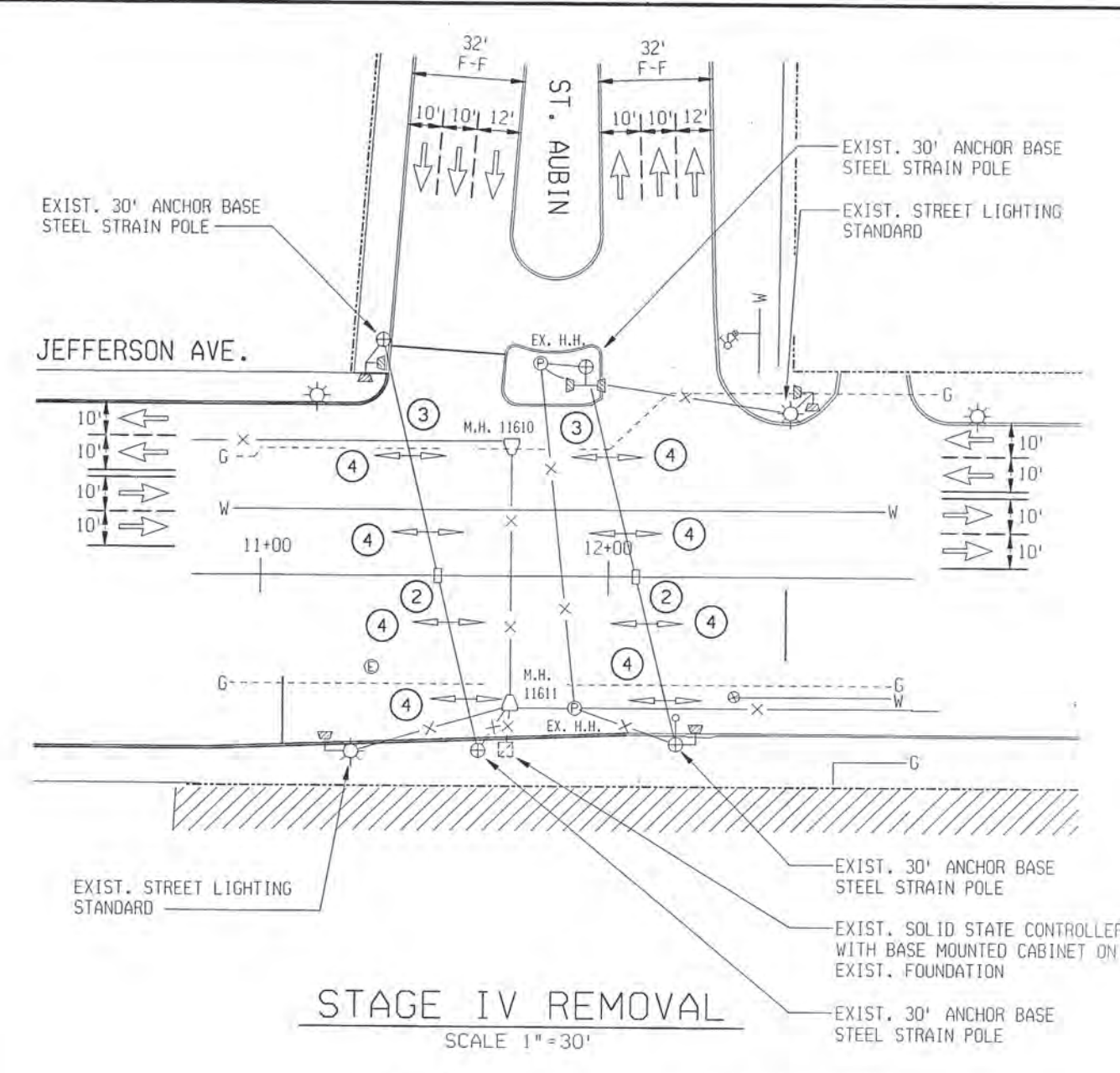
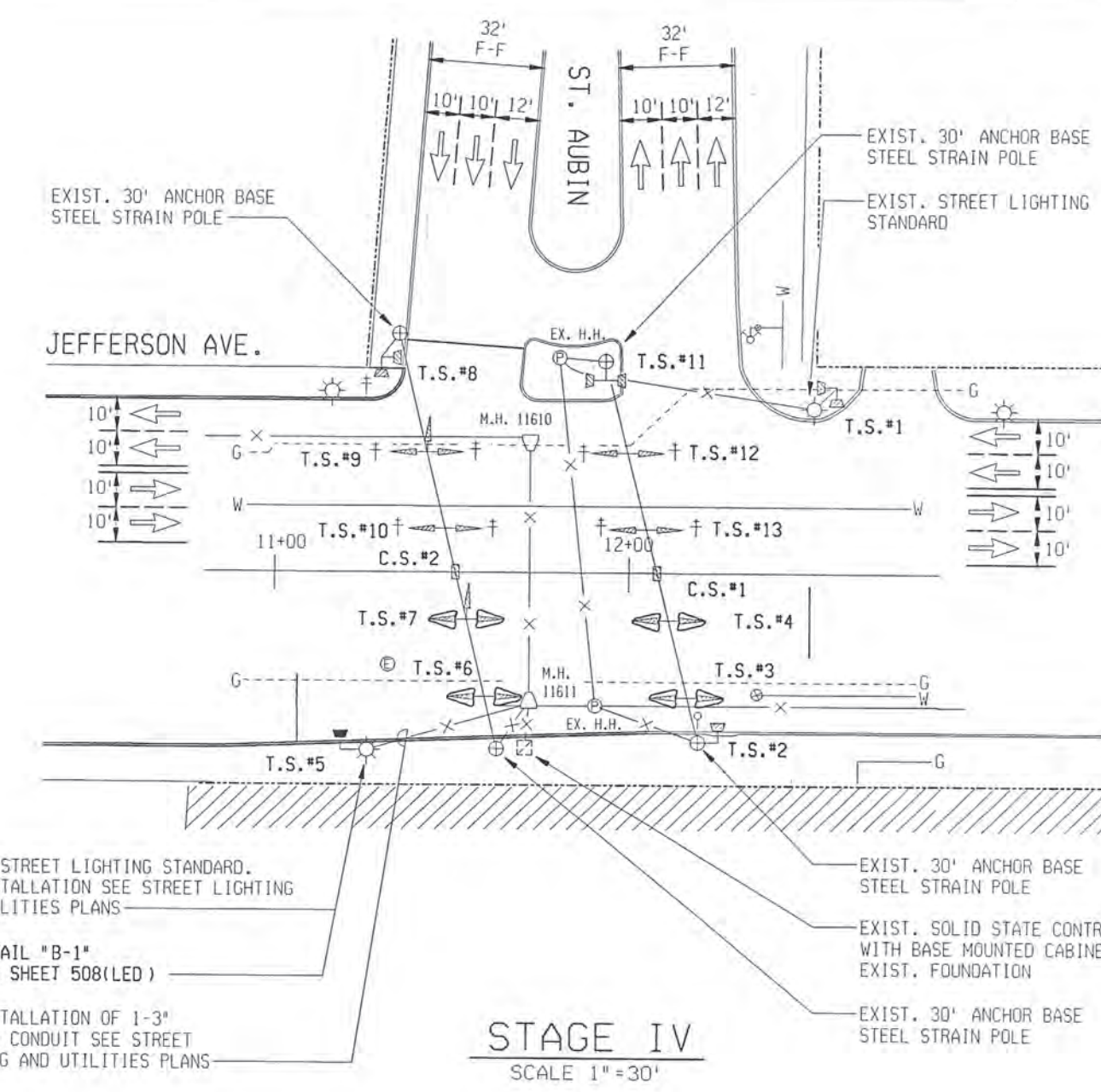


STAGE II WIRING DIAGRAM

THE SUPPLIER OF THE T.S. CONTROLLER SHALL BE RESPONSIBLE FOR PROGRAMMING OF CONTROLLER, WIRING OF CABINET, AND INSTALLATION OF TRANSFORMER. TIMING PERMIT TO BE PROVIDED BY TRAFFIC ENGINEERING, CITY OF DETROIT.



STAGE III WIRING DIAGRAM



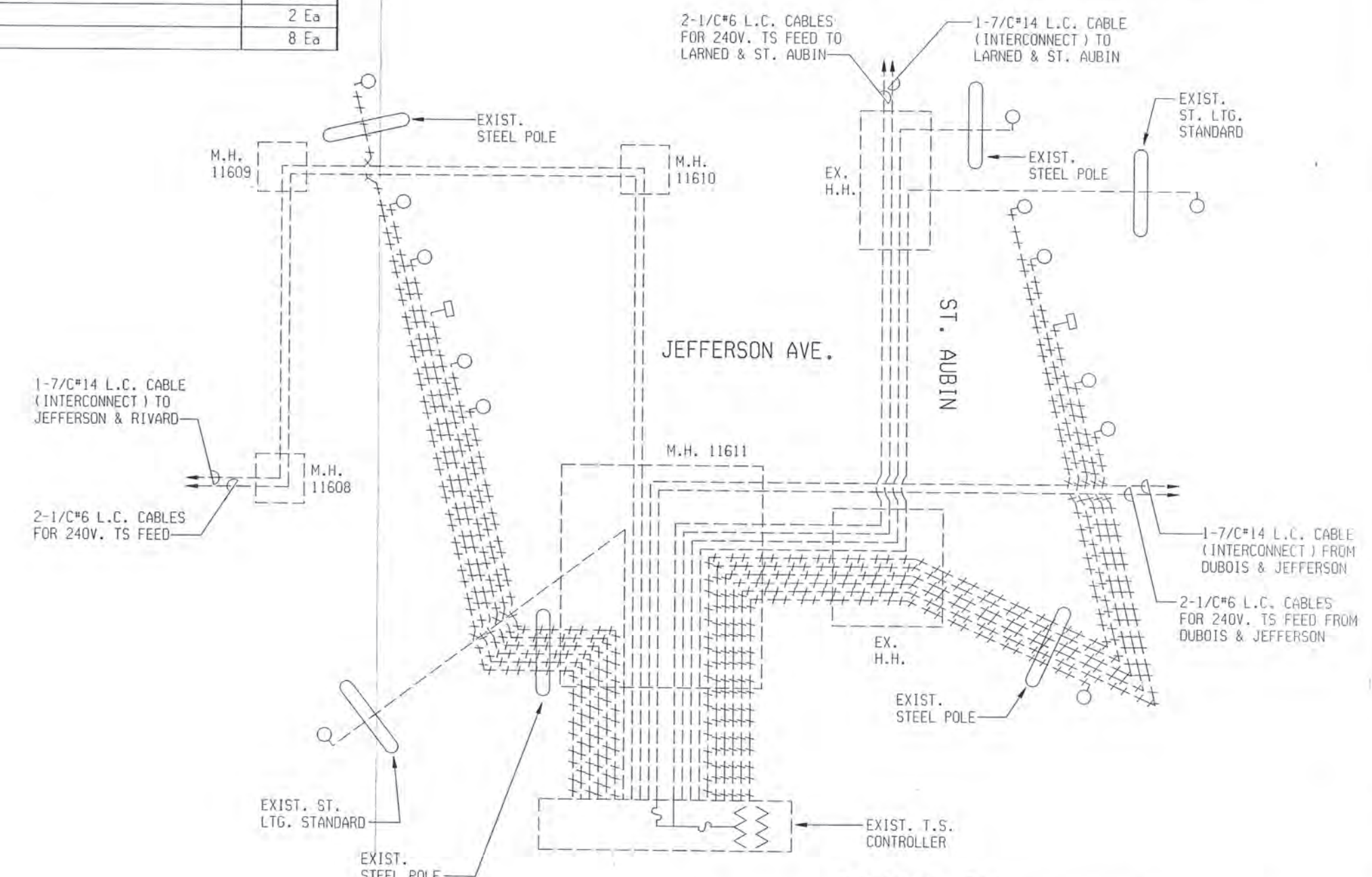
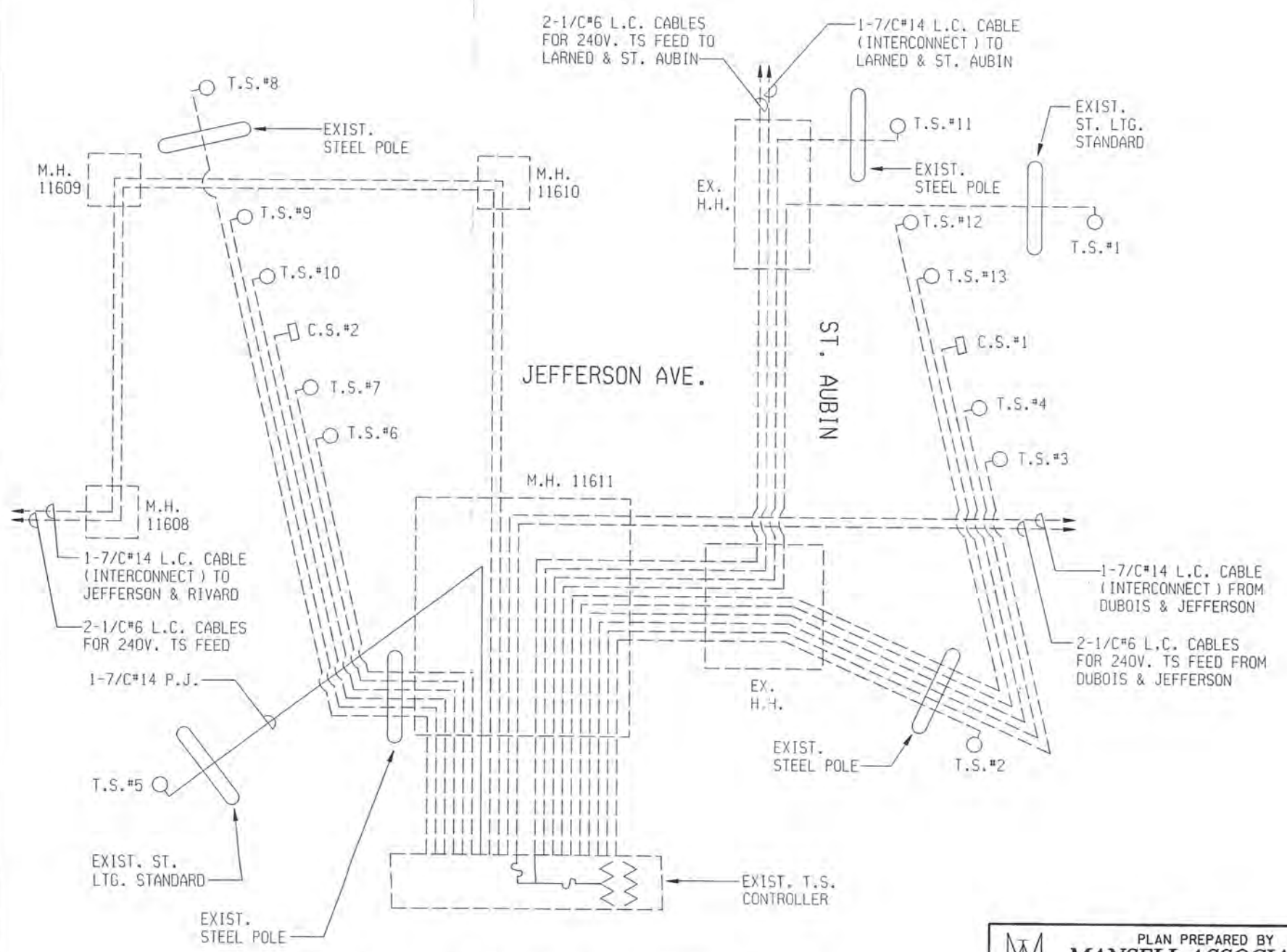
BAGGING & UNBAGGING OF TRAFFIC SIGNALS SHALL BE AS DIRECTED BY THE ENGINEER.

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

1 SEE DETAIL "B-1" DETAILS SHEET 508(LED)
 FOR INSTALLATION OF 1-3" ENCASED CONDUIT SEE STREET LIGHTING AND UTILITIES PLANS

STAGE IV
 SCALE 1"=30'

STAGE IV REMOVAL
 SCALE 1"=30'

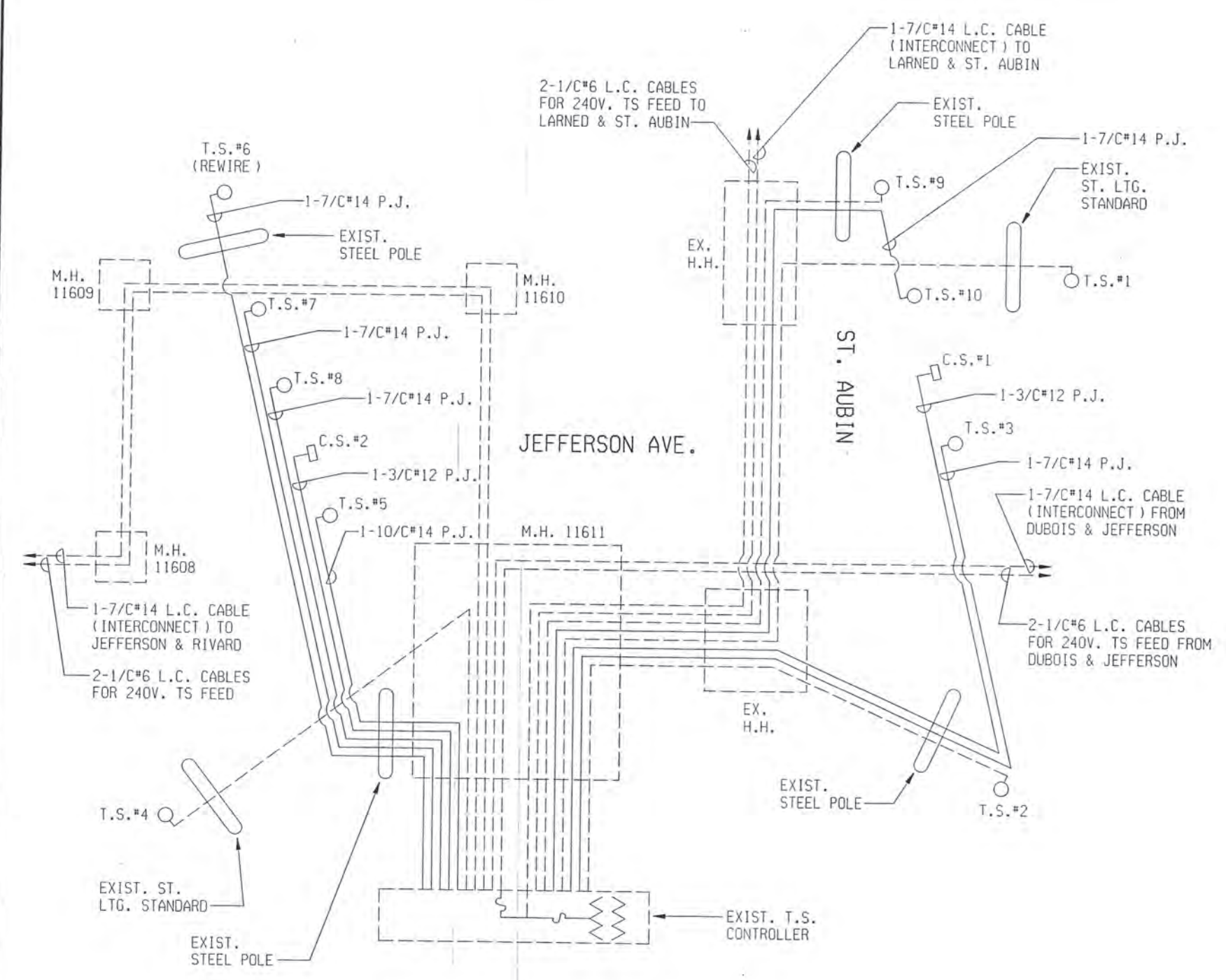


STAGE IV WIRING DIAGRAM

STAGE IV REMOVAL WIRING DIAGRAM

PLAN PREPARED BY MANSELL ASSOCIATES INC. ENGINEERING CONSULTANTS 33608 Grand River Farmington, MI 48335 (248) 473-7070	DRAWN MAI CHECKED FILE NO. M4045C	CONTROL SECTION JOB NUMBER 49717A	FEDERAL NUMBERS PROJECT ITEM	AUTH. NO. CONT. SEC. ENGR/TECH SHEET 9 OF 25	DRAWN DATE 02-11-05 SCALE 1"=30' PLD TS FILE 52-2512	JEFFERSON AVENUE AT SAINT AUBIN CITY OF DETROIT WAYNE COUNTY	CONST SHEET NO. 29
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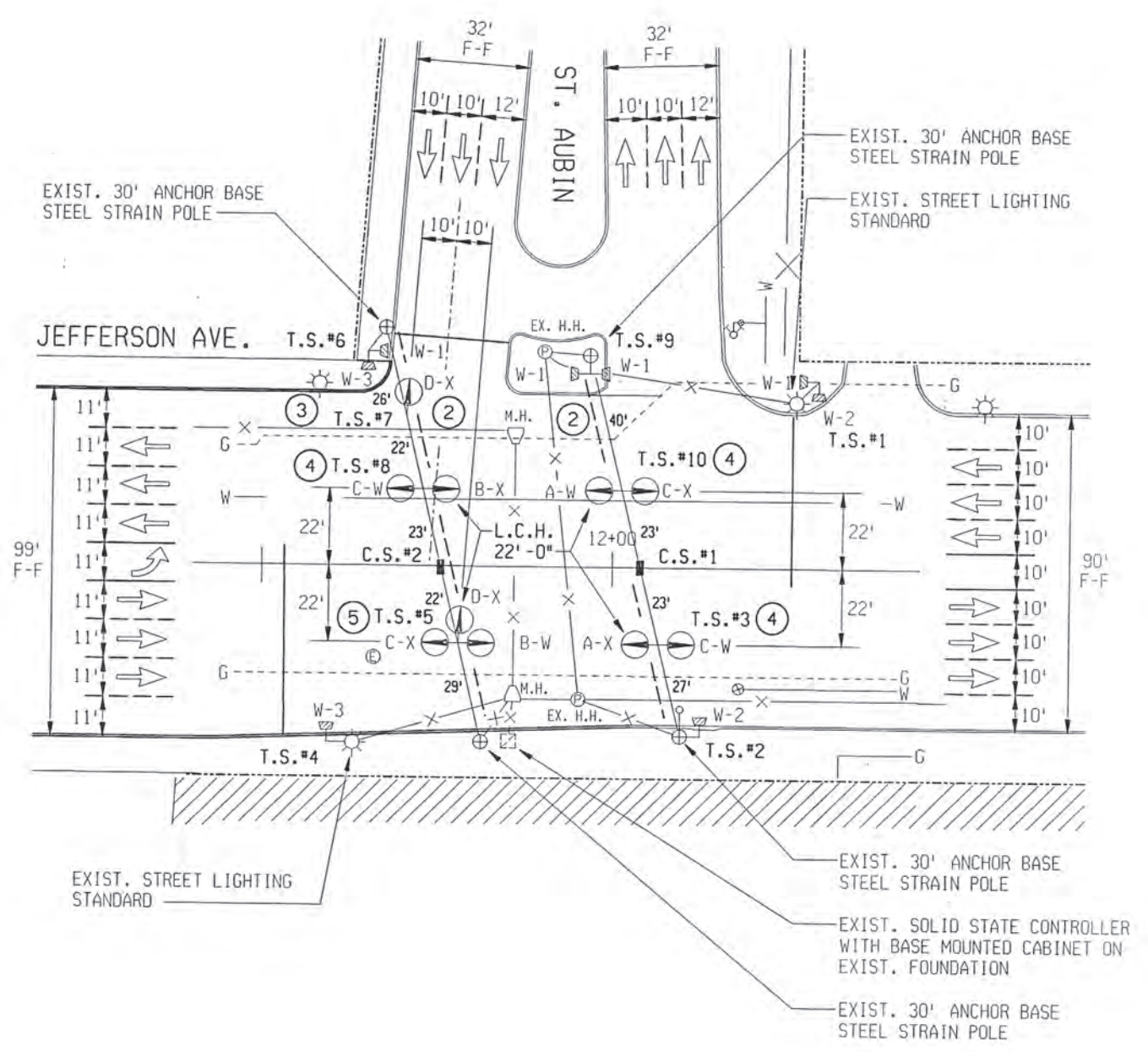
JOB NO. 49717A
CONTROL SECTION



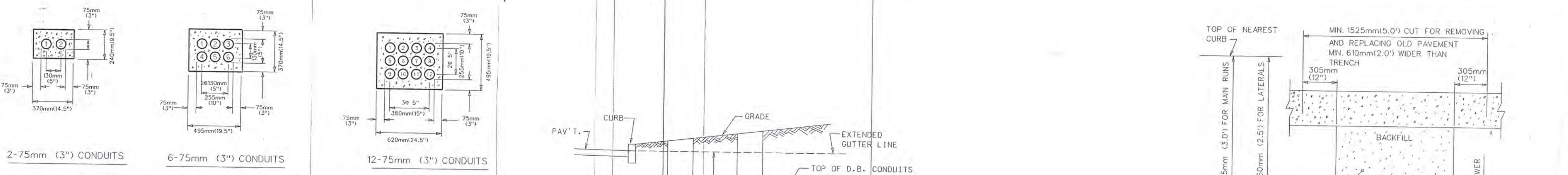
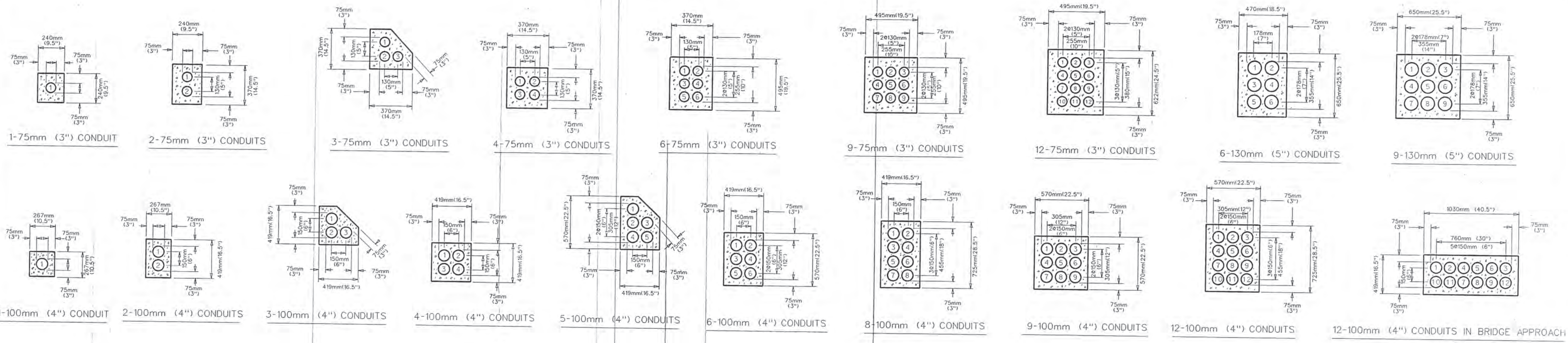
FINAL WIRING DIAGRAM



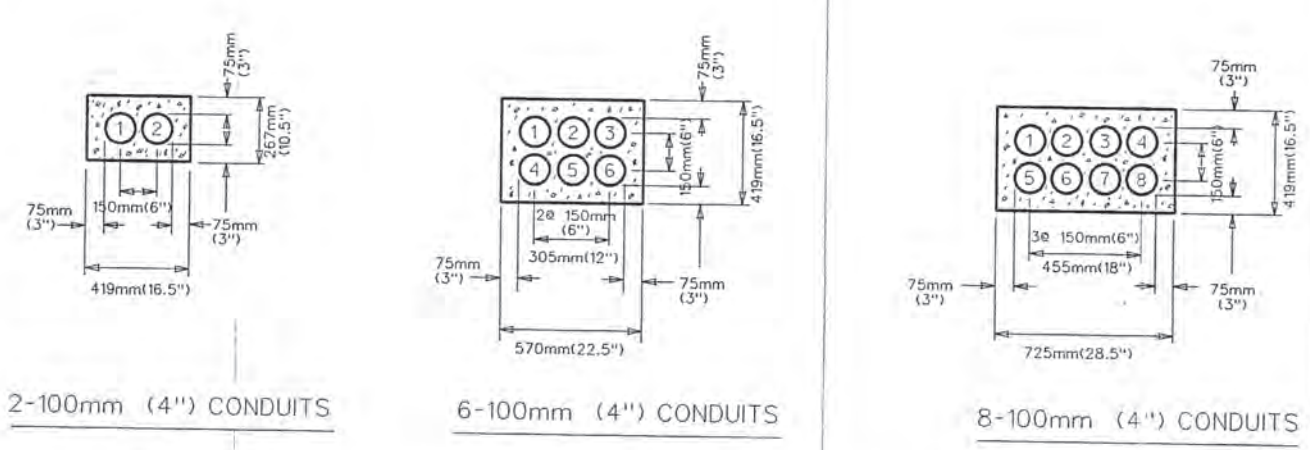
LIST OF MATERIAL		
NO.	ITEM	QUANTITIES
①	Case Sign, Two Way, 24 inch by 30 inch	2 Ea
②	Span Wire	2 Ea
③	TS, One Way Span Wire Mtd (LED)	1 Ea
④	TS, Two Way Span Wire Mtd (LED)	3 Ea
⑤	TS, Three Way Span Wire Mtd (LED)	1 Ea
○	Cable, P.J. 600V, 1, 7/C*14	225 Ft



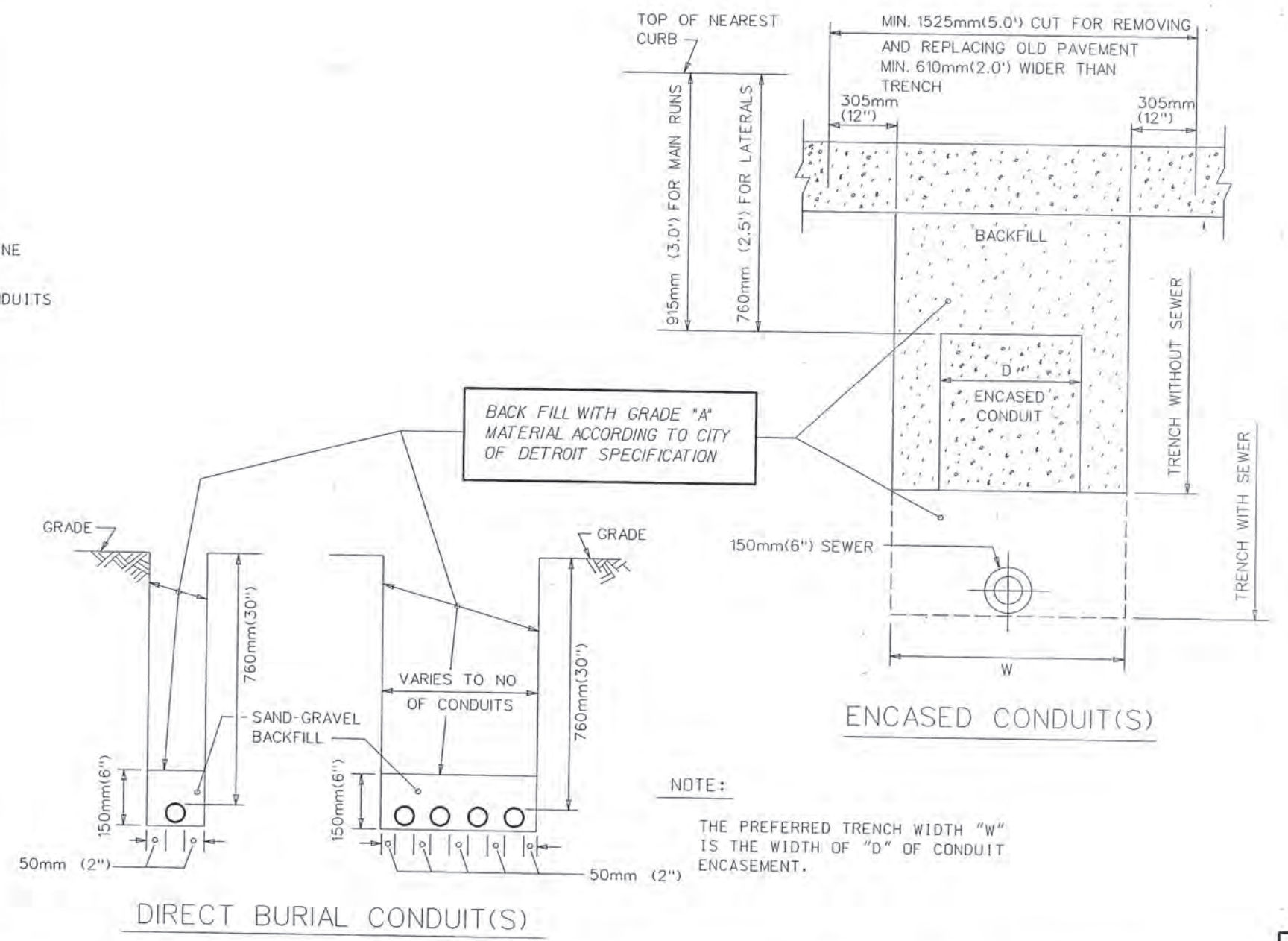
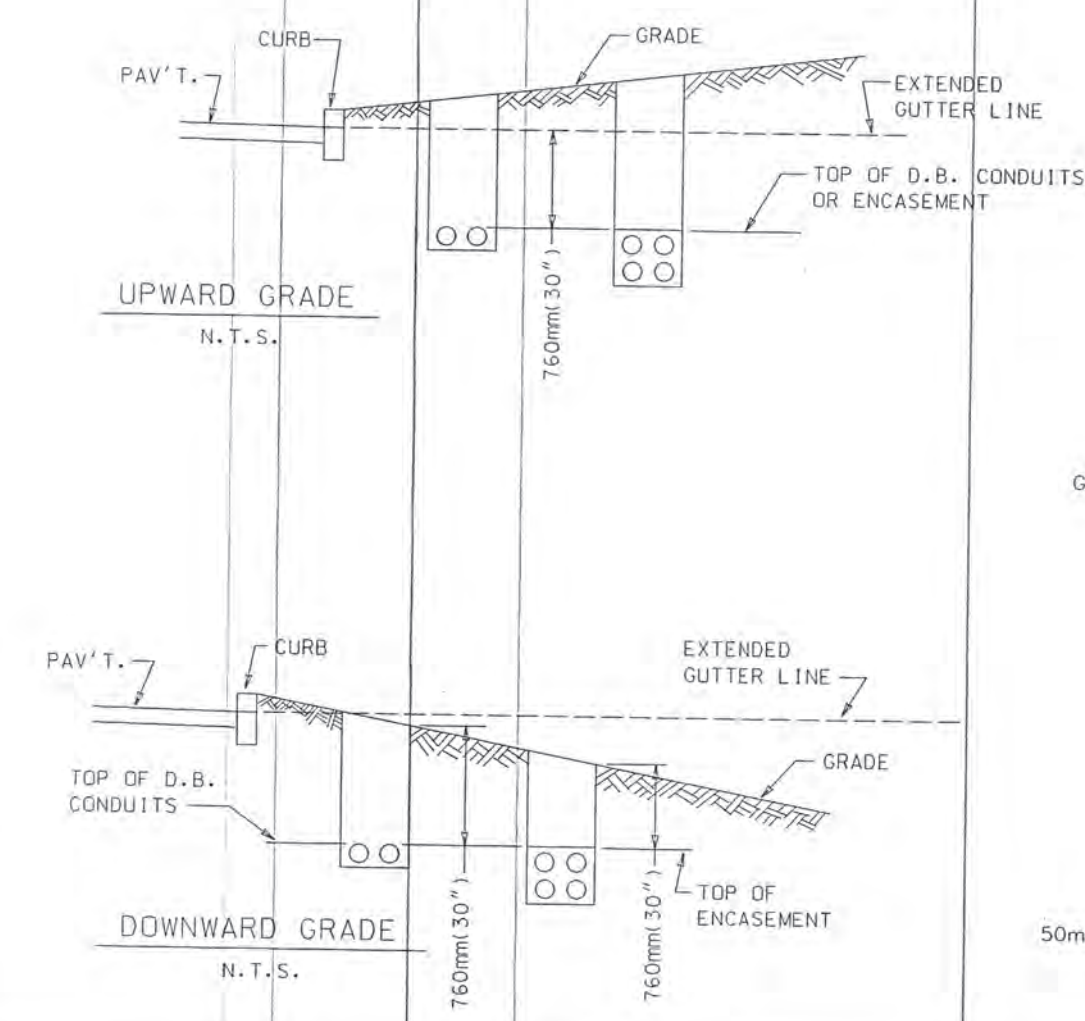
PLAN
SCALE 1" = 30'



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)



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

DISK FILE: 10PLDLM1TR

Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT
MISCELLANEOUS CONDUIT SECTIONS

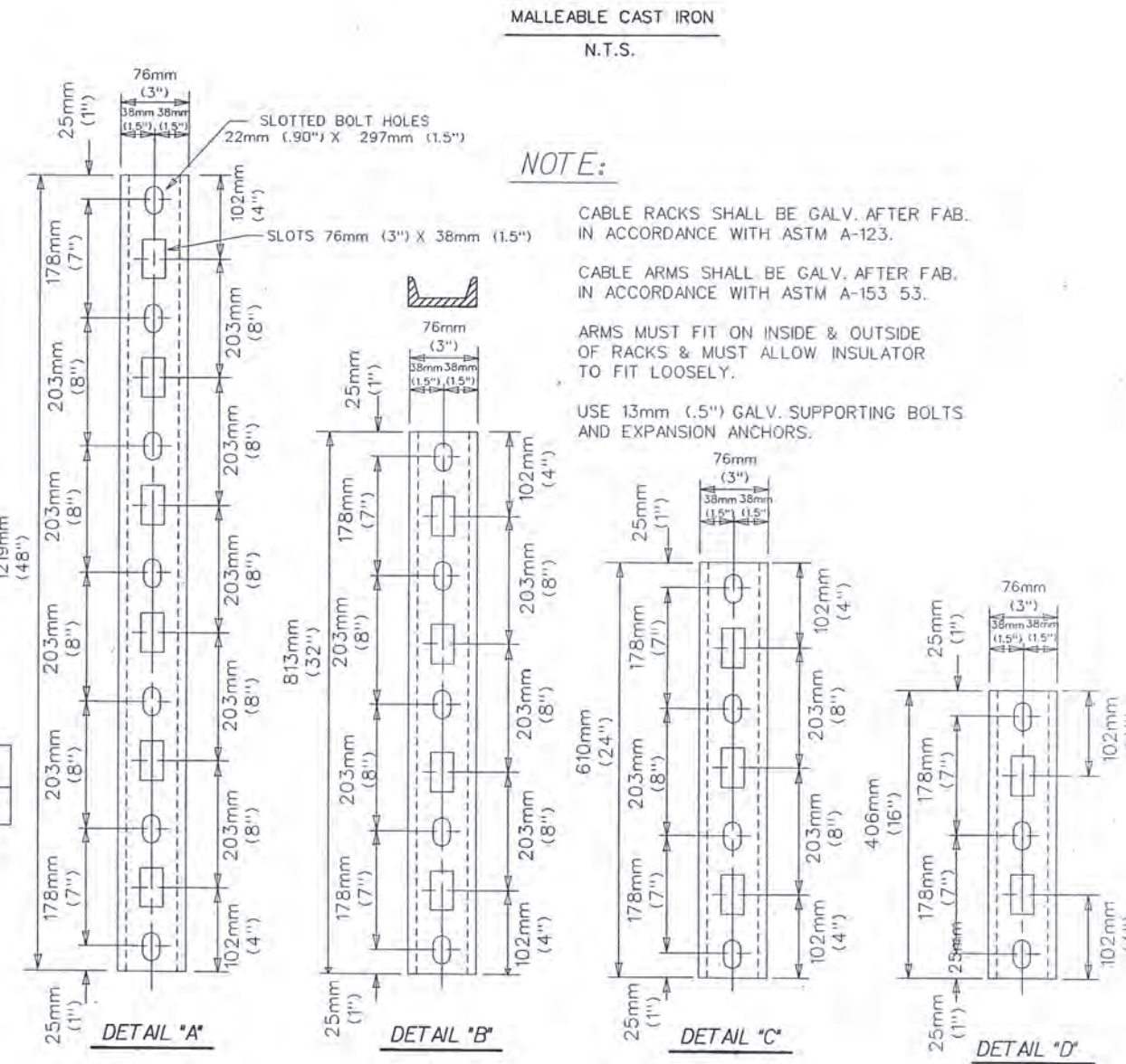
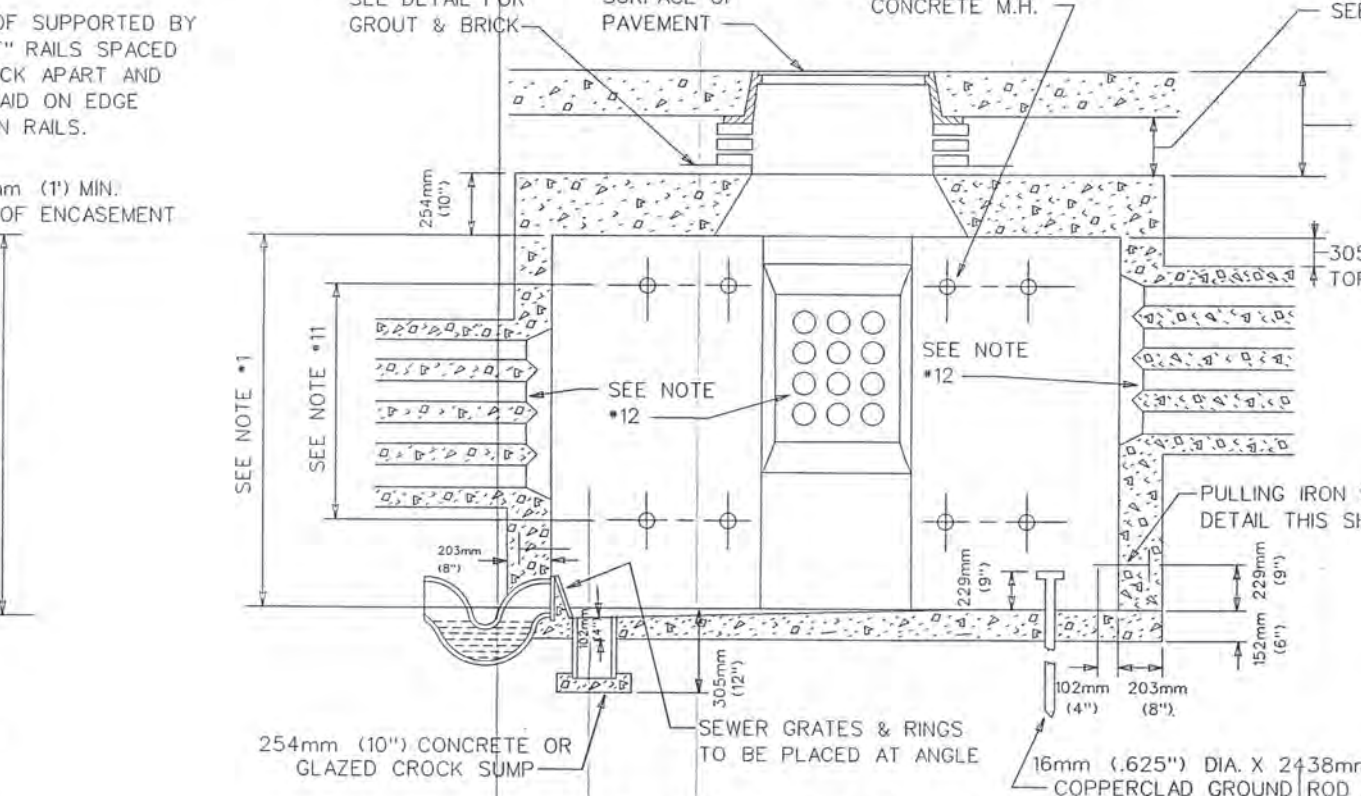
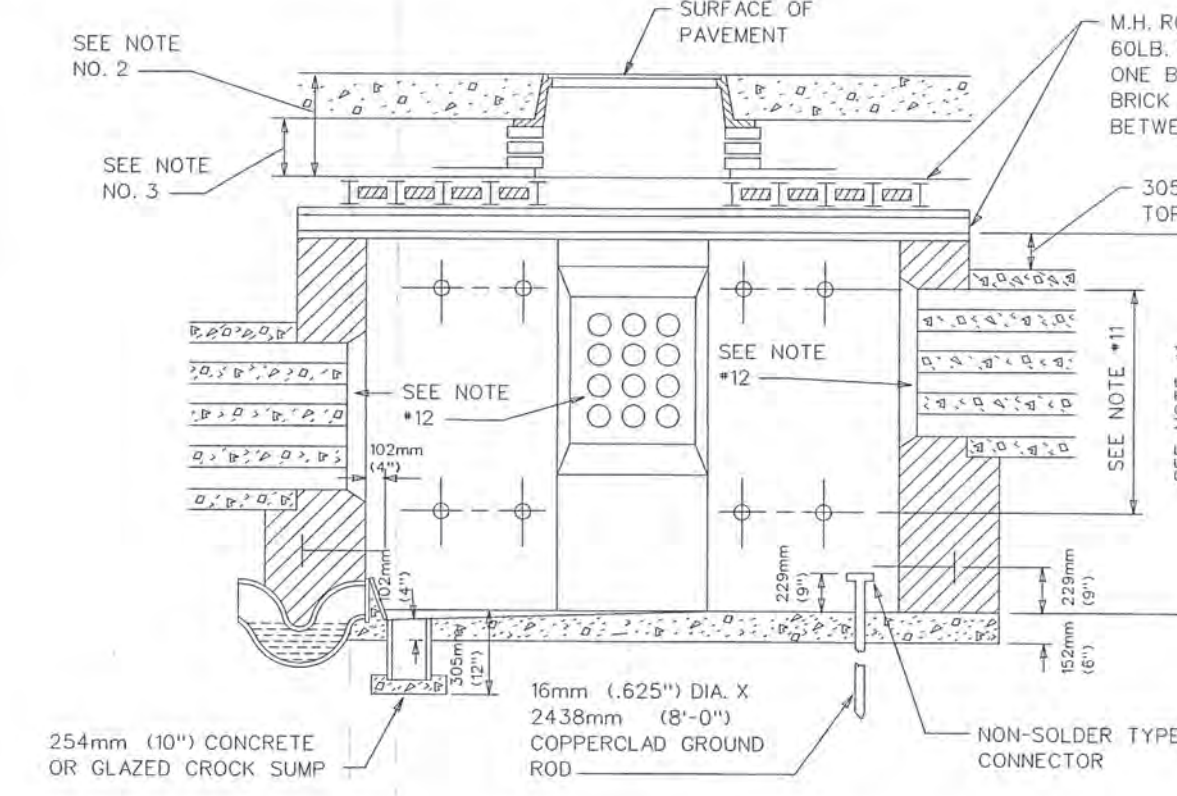
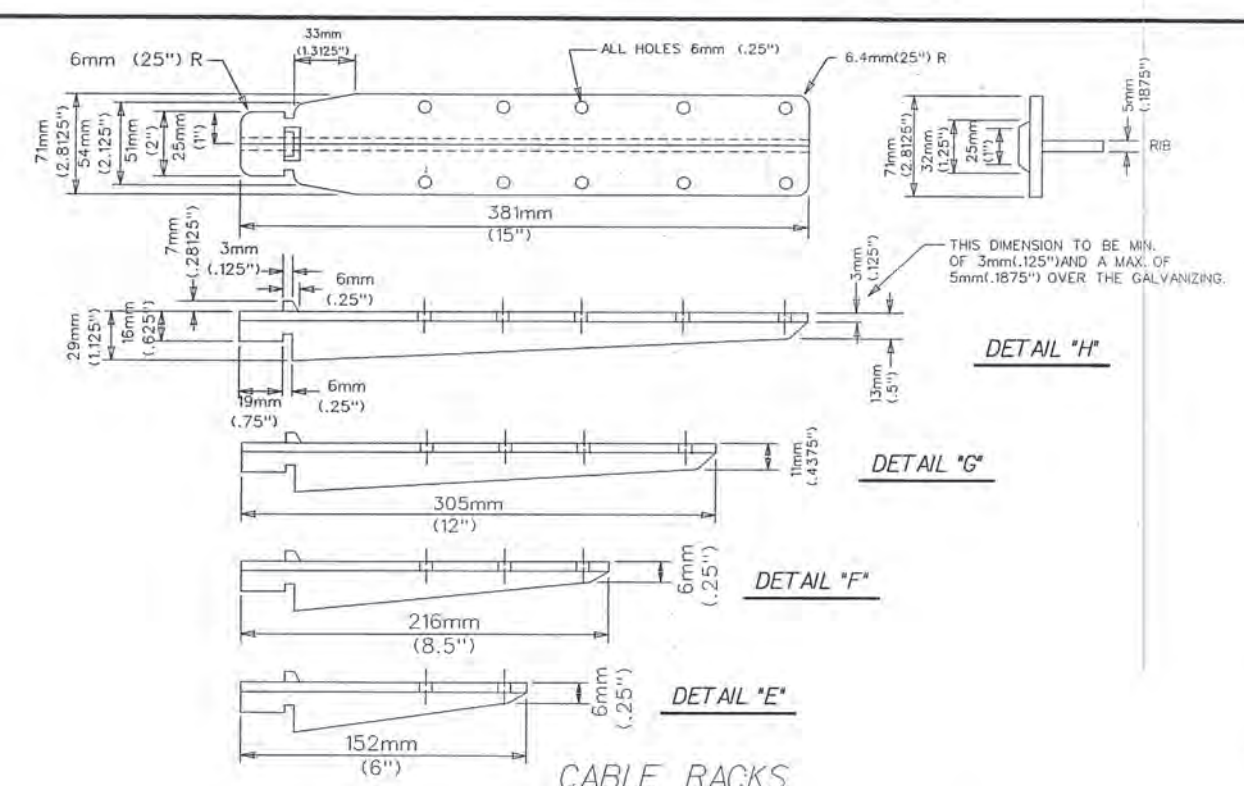
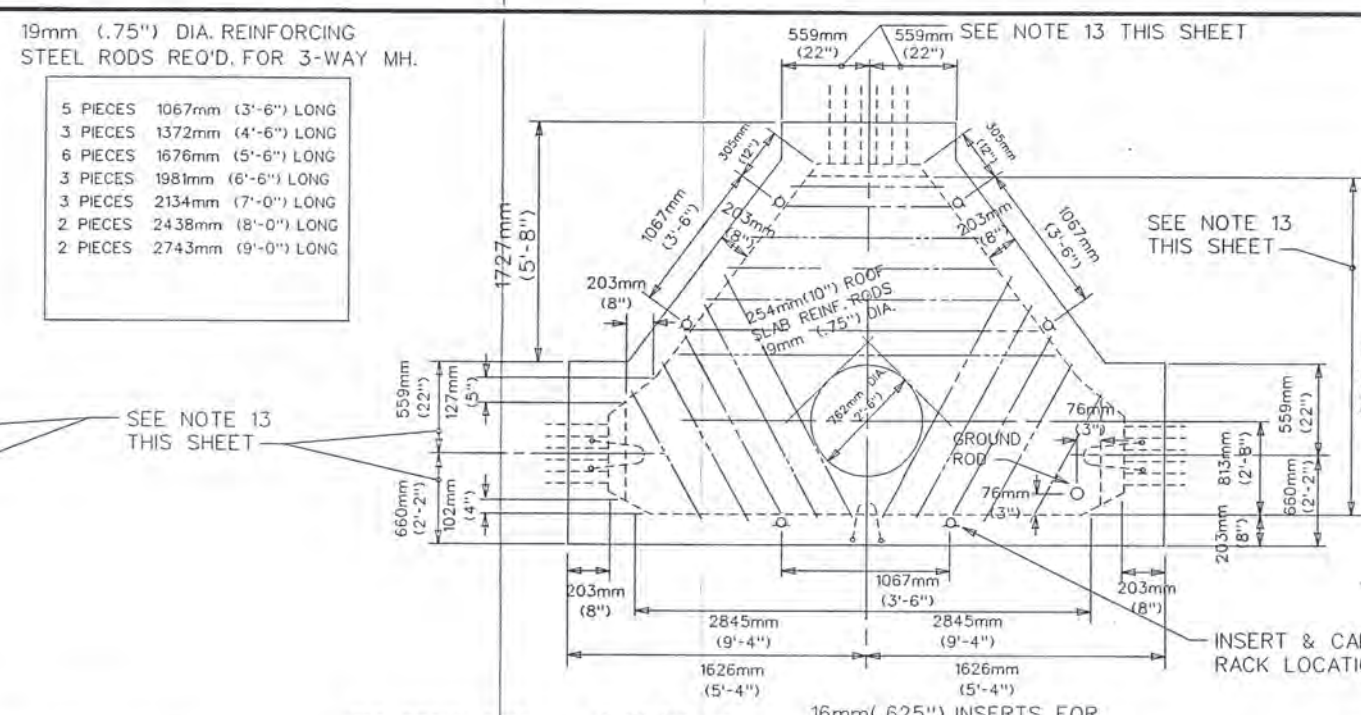
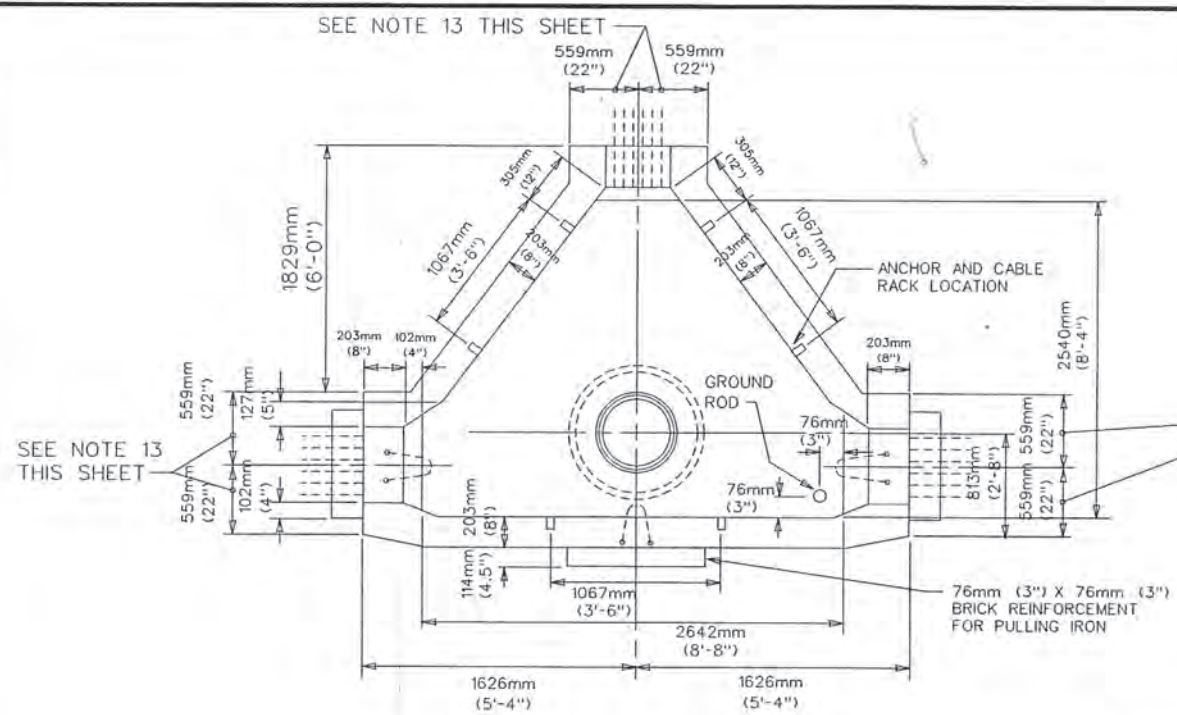
Job No.
49717A

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

Drawn M.A.I.	Scale
Checked	No Scale
Drwg. No. 11 OF 25	Checked by
File No. M4044	Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

101
27-1104
Sheet No. 31
Date 02-11-05

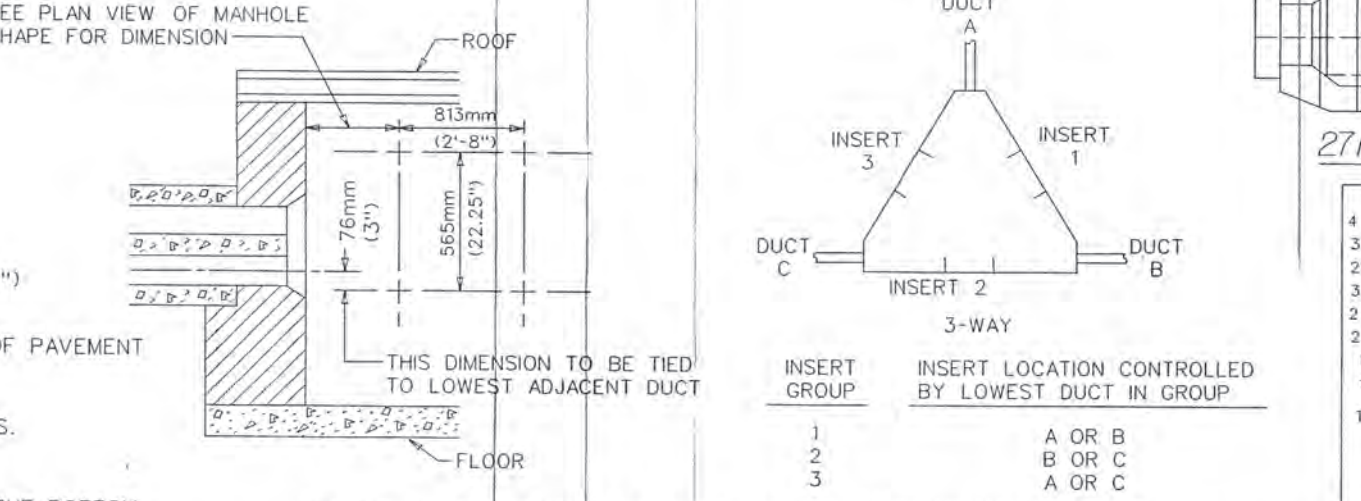


BRICK-THREE WAY MANHOLE
N.T.S.

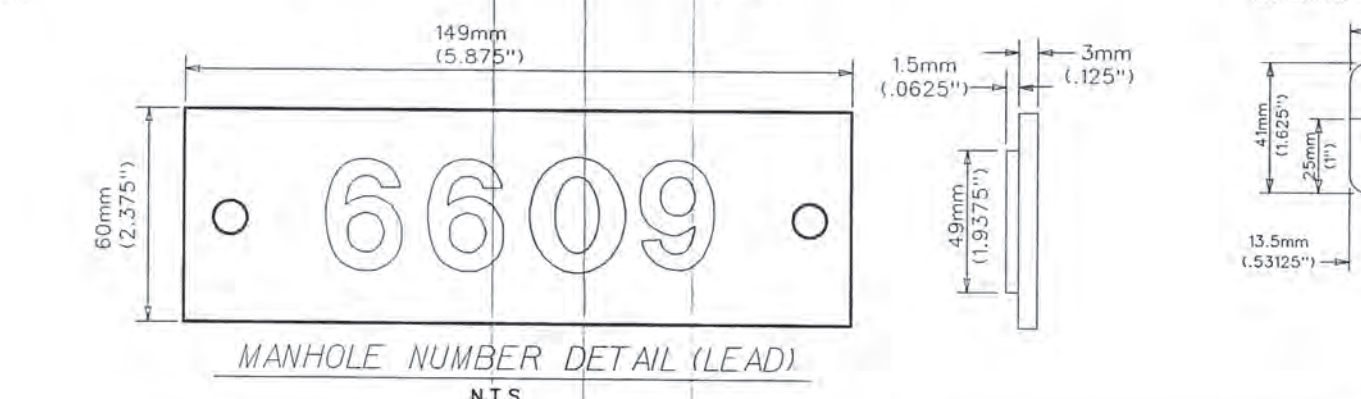
CONCRETE-THREE WAY MANHOLE
N.T.S.

CABLE RACKS
76mm (3") STD. 4.1 CHANNEL
N.T.S.

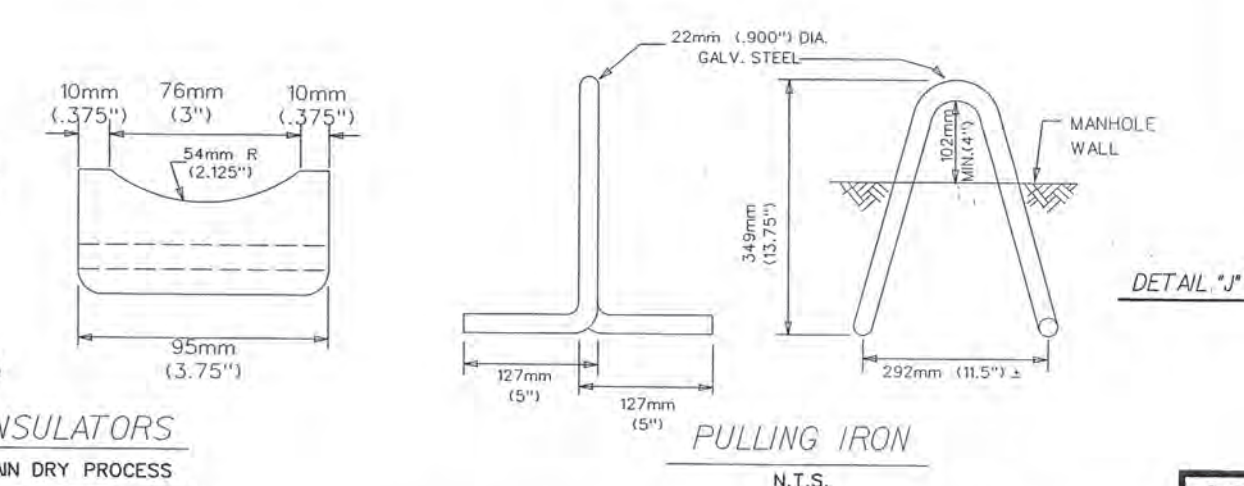
- NOTE:**
- THIS DIMENSION NORMALLY 1981mm (6.5') SEE SPECIFICATIONS FOR UNUSUAL CONDITIONS.
 - WHERE M.H.'S ARE LOCATED BACK OF CURBS, TOP OF M.H. ROOF MUST BE BUILT .660m (26") BELOW CURB GRADE TO PROVIDE FOR FUTURE PAVEMENT.
 - IN EXISTING PAVEMENT, PROVIDE AT LEAST .203m (8") BETWEEN TOP OF ROOF AND BASE OF PAVEMENT.
 - BOLTS, RACKS & PULLING IRONS TO BE HOT-DIP GALV.
 - C 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, 8.381mm (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.



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

PULLING IRON
N.T.S.

DISK FILE: 105PLDM.MTR

REV.	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT
THREE-WAY MANHOLE

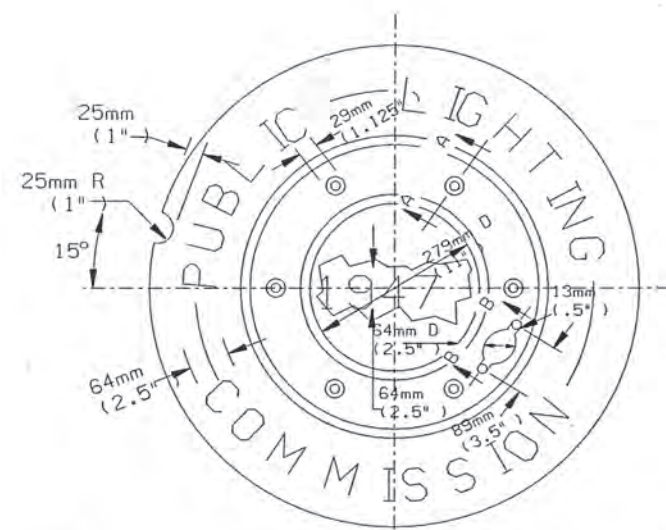
MANSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

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

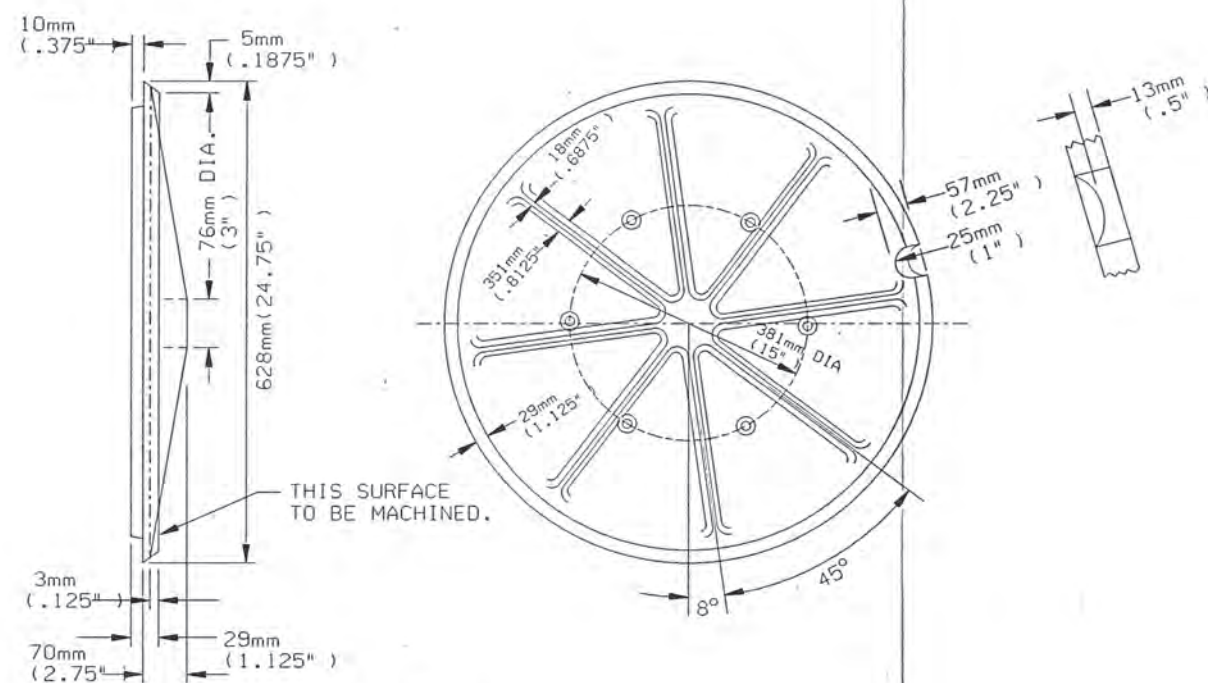
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Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

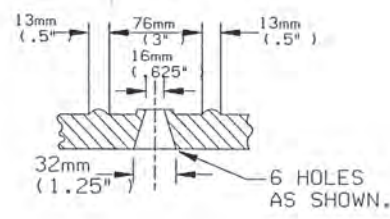
105
Sheet No. 32
Date 02-11-05



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

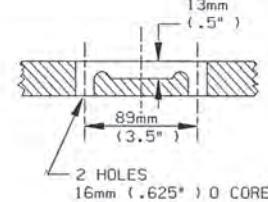


A.S.T.M. CLASS 30 GREY IRON
P.L.C. PATT. NO. 418 APPROX.
WT. 111kg(245lb)



SECTION A-A

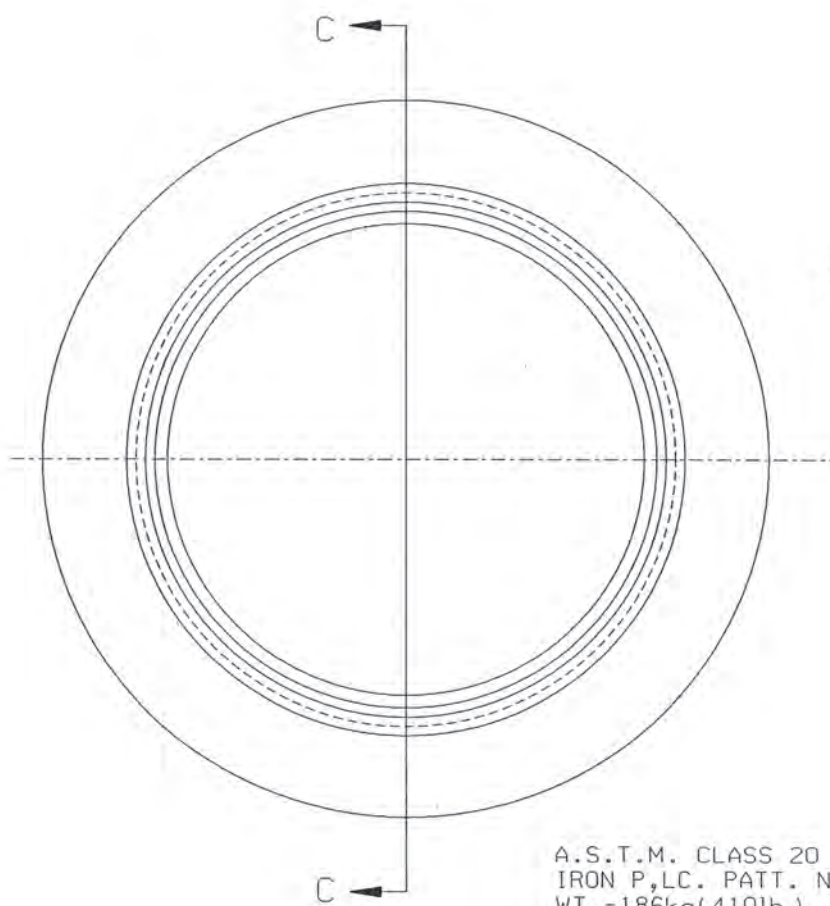
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SECTION B-B

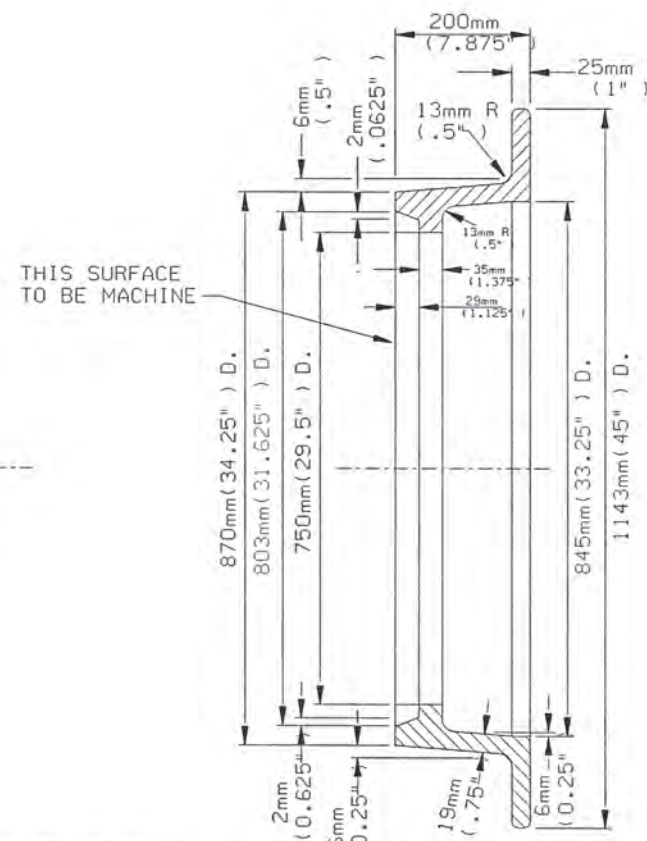
N.T.S.

MANHOLE COVER
N.T.S.



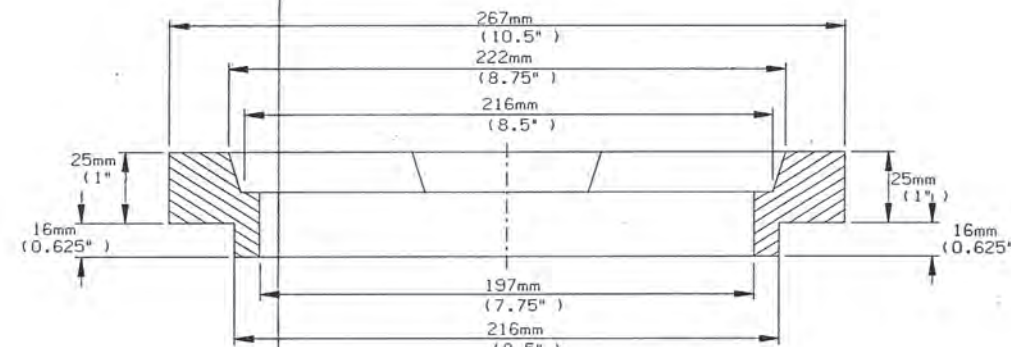
A.S.T.M. CLASS 20 OR 30 GREY
IRON P.L.C. PATT. NO. 417 APPROX.
WT. -186kg(410lb)

MANHOLE FRAME
N.T.S.



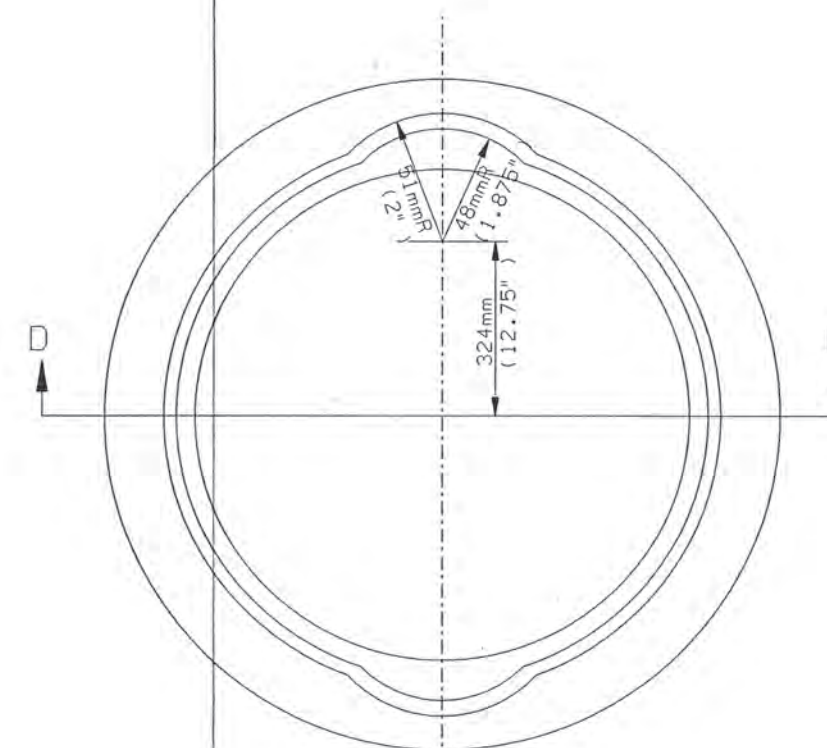
SECTION "C-C"

N.T.S.



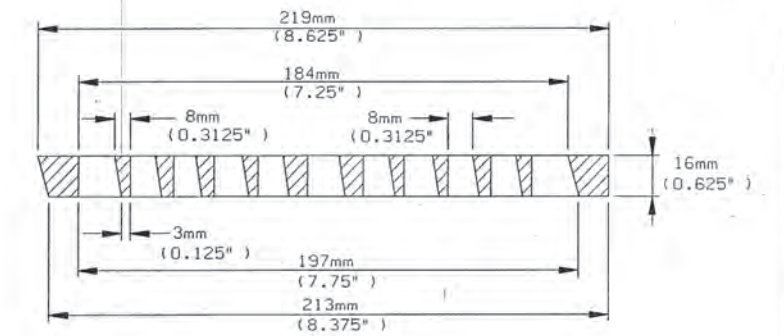
SECTION D-D

N.T.S.



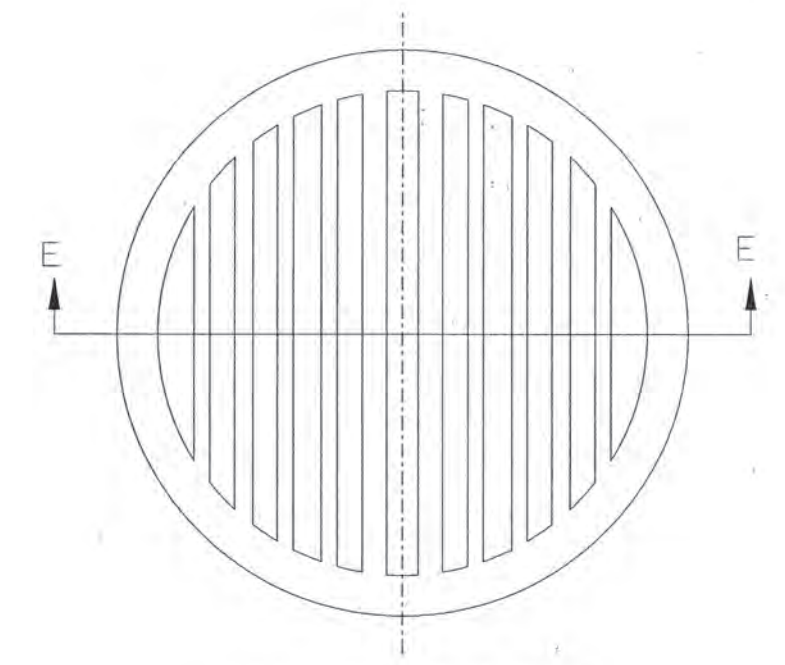
A.S.T.M. CLASS 20 OR 30 GREY
IRON P.L.C. PATT. NO. 318-A
APPROX WT-4.08lb(91b)

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: 108PLD.MTR

REV	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

MANHOLE FRAMES & COVERS - SEWER GRATE & RING

Job No.
49717A

MANSSELL ASSOCIATES INC.



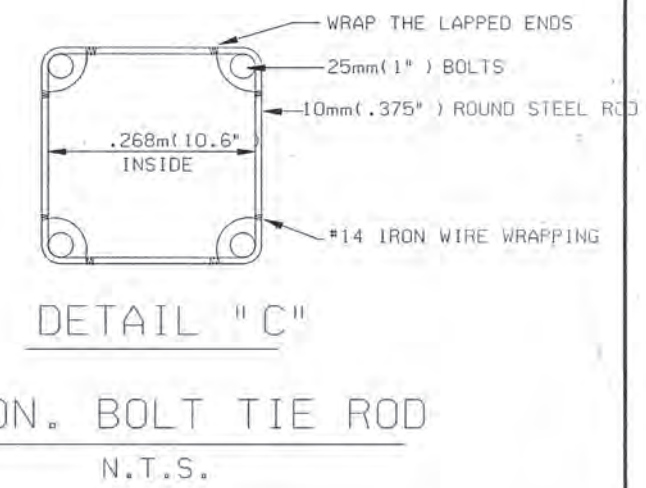
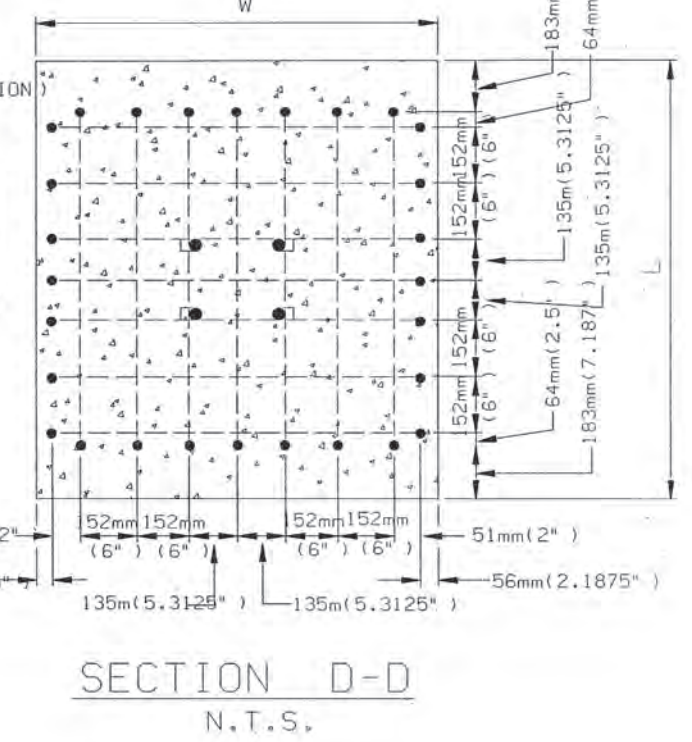
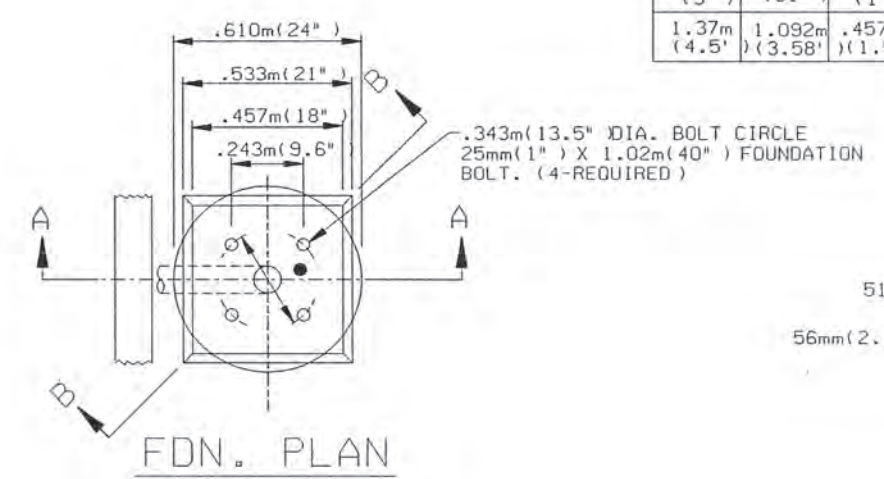
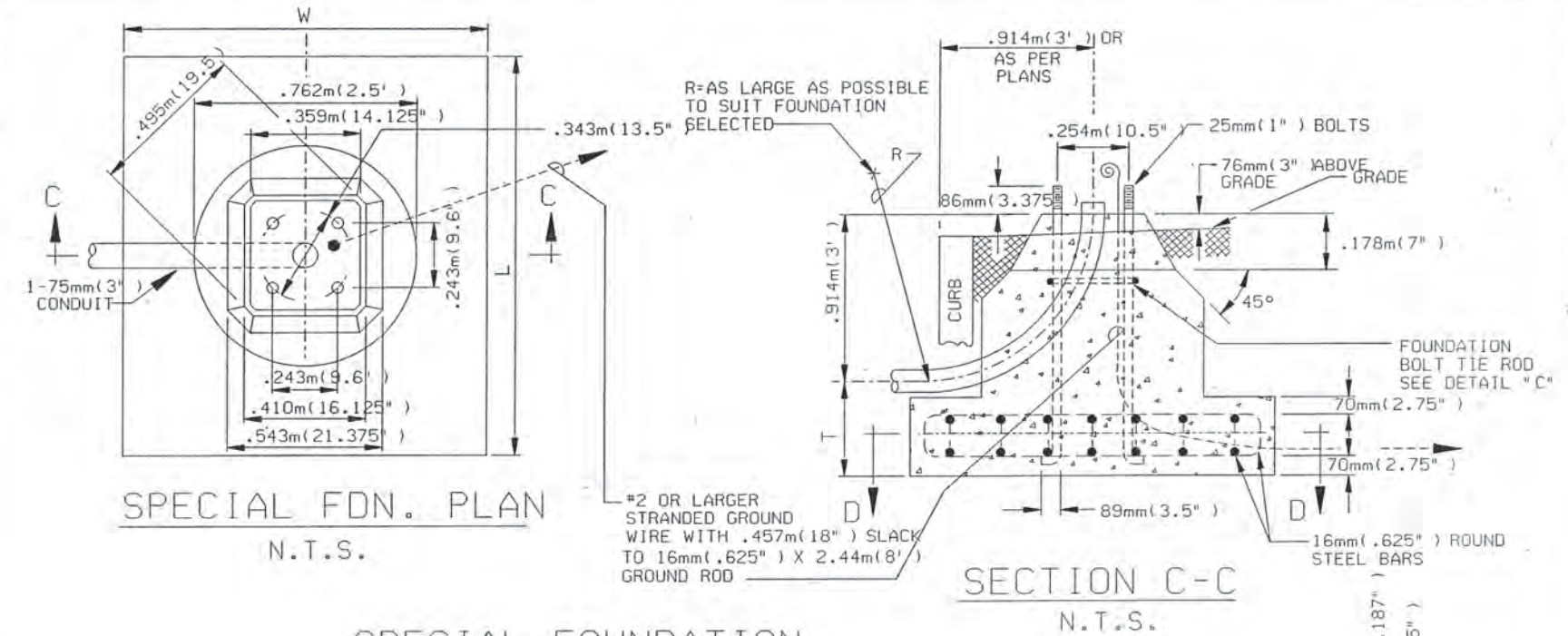
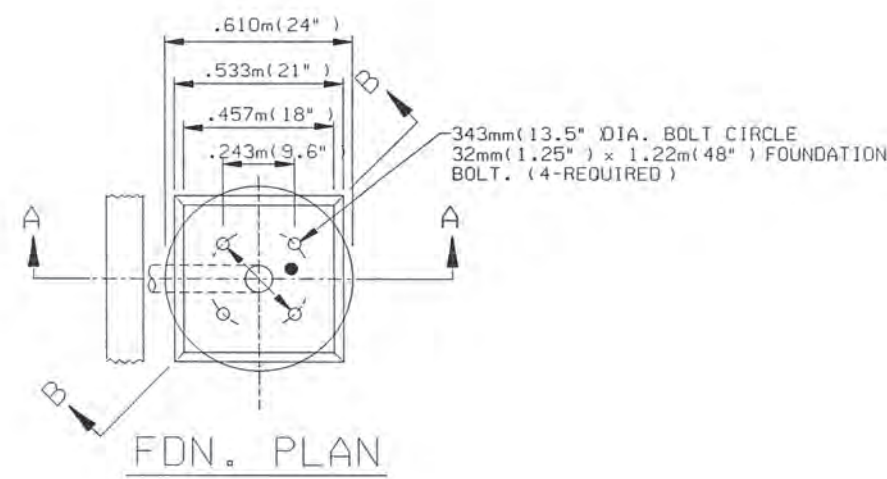
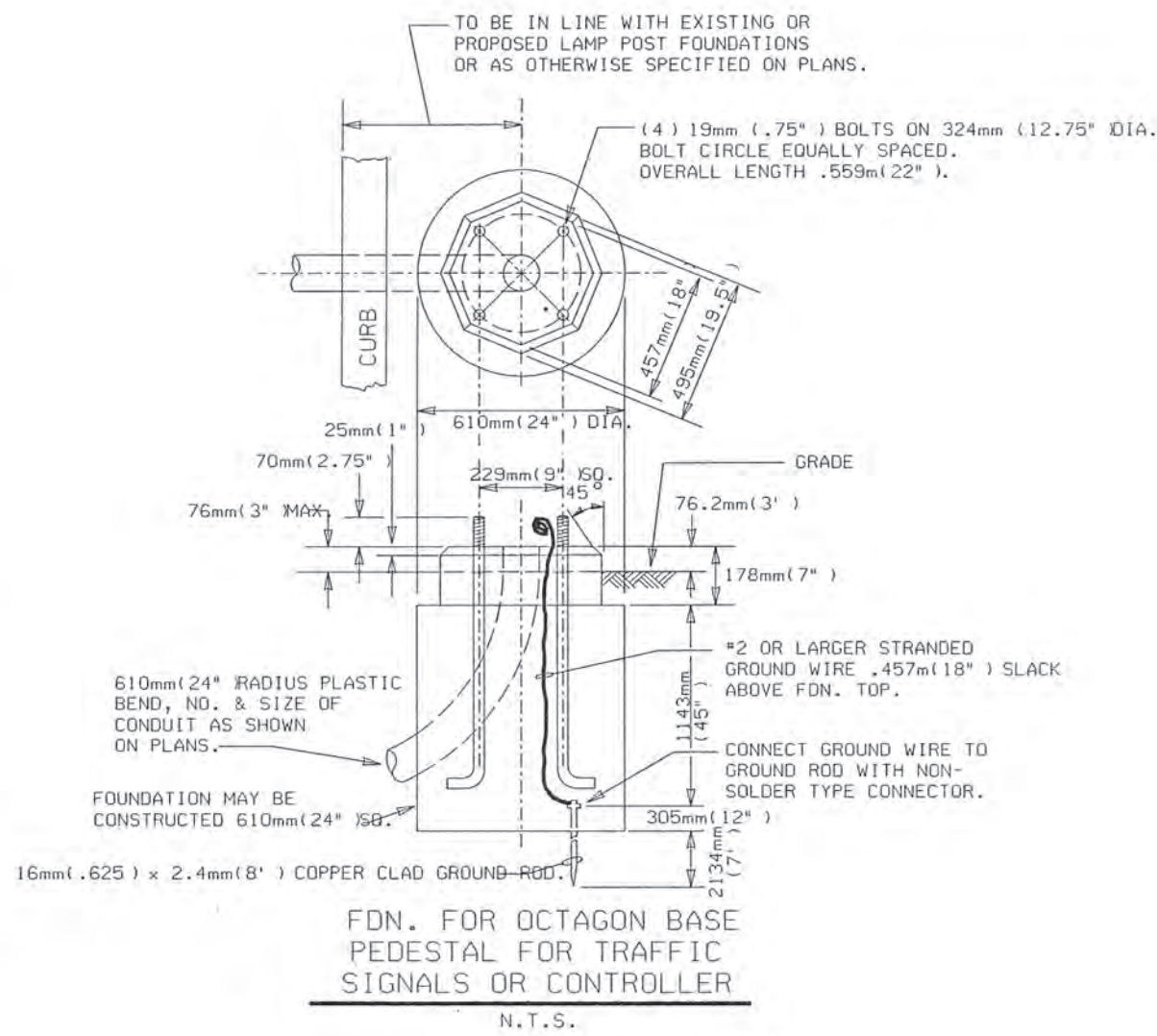
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Checked	Scale
Drwg. No. 13 OF 25	No Scale
File No. M4044	Checked by
	Approved by

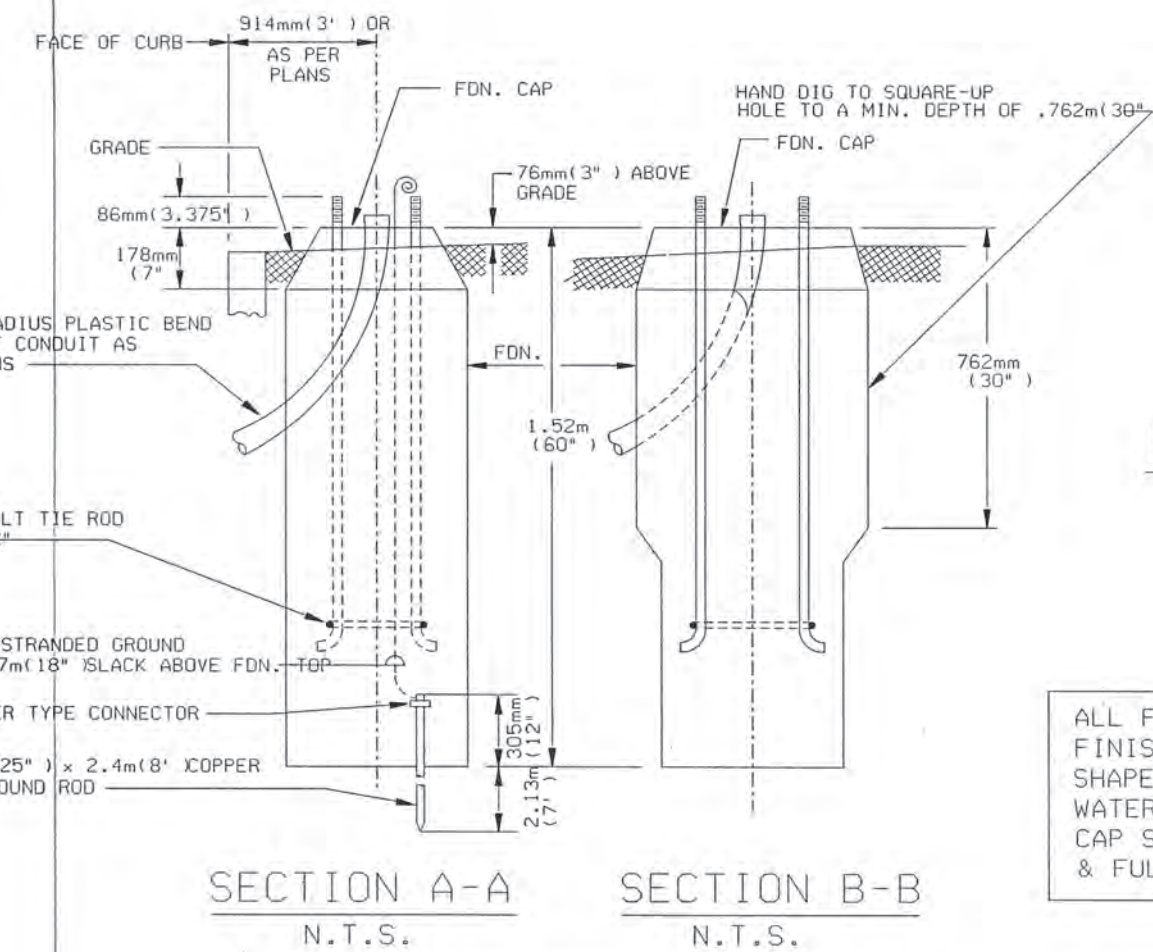
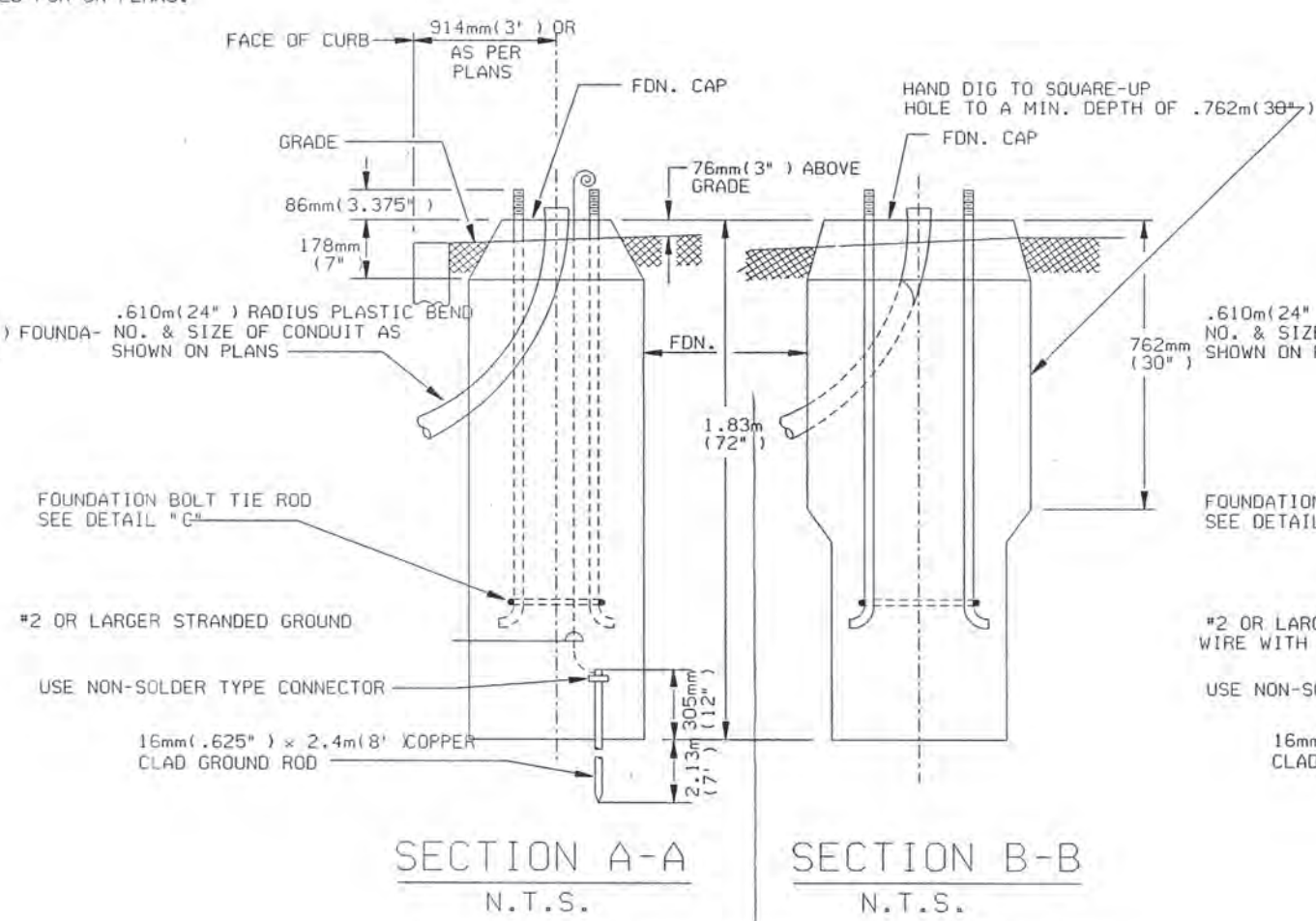
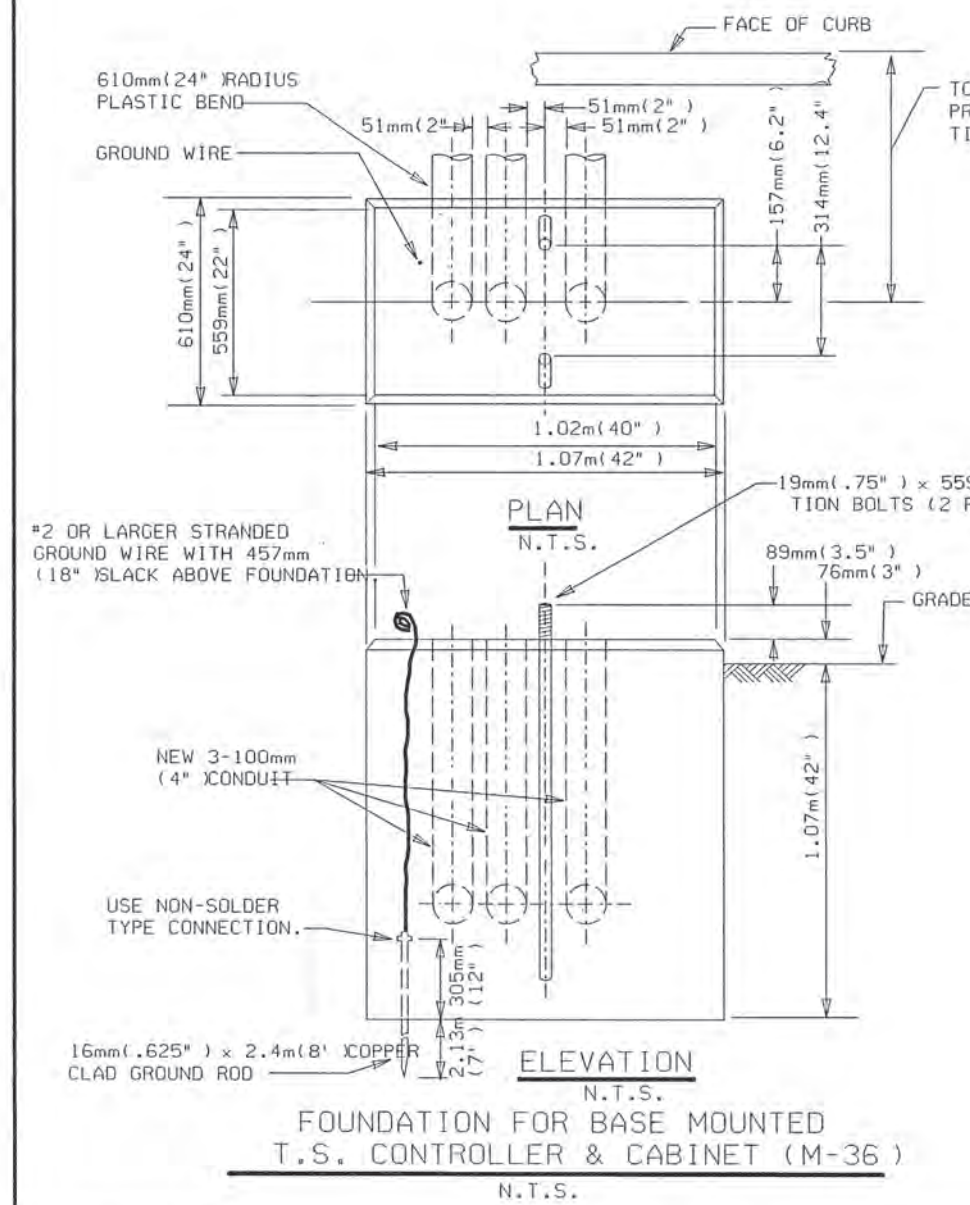
**PUBLIC LIGHTING
DEPARTMENT**
CITY OF DETROIT

108

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



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.



Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

FOUNDATIONS

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

Job No.
49717A

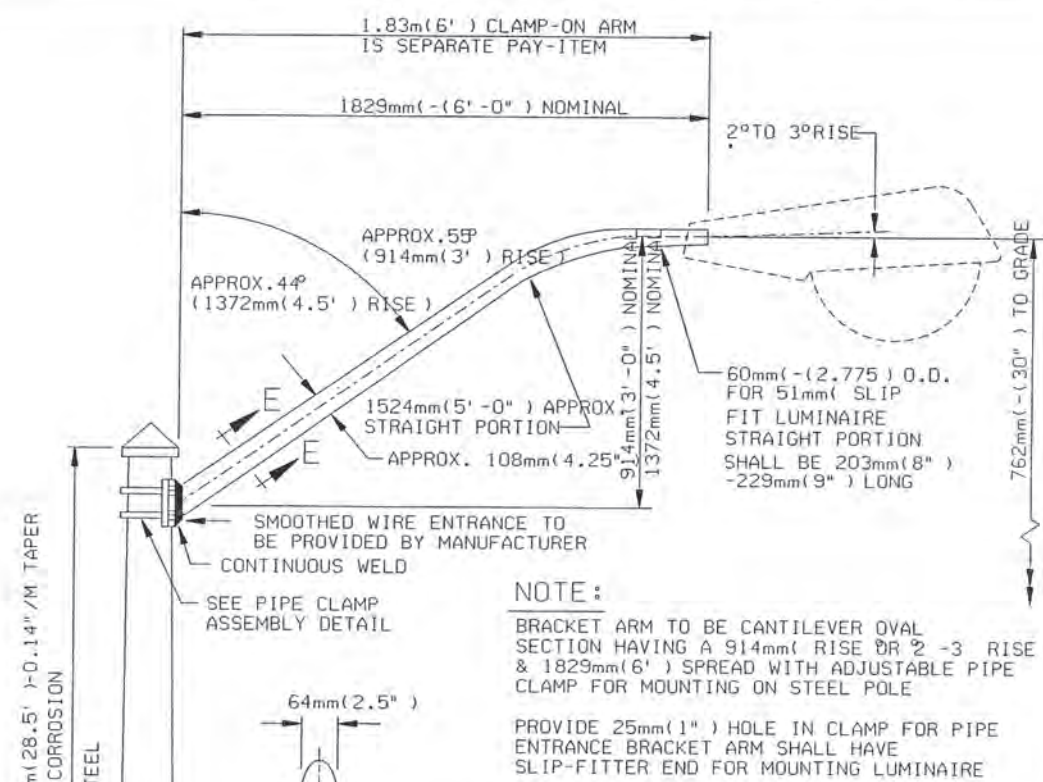
MANSSELL ASSOCIATES INC.
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

Checked
No. 14 OF 25
File No. M4044

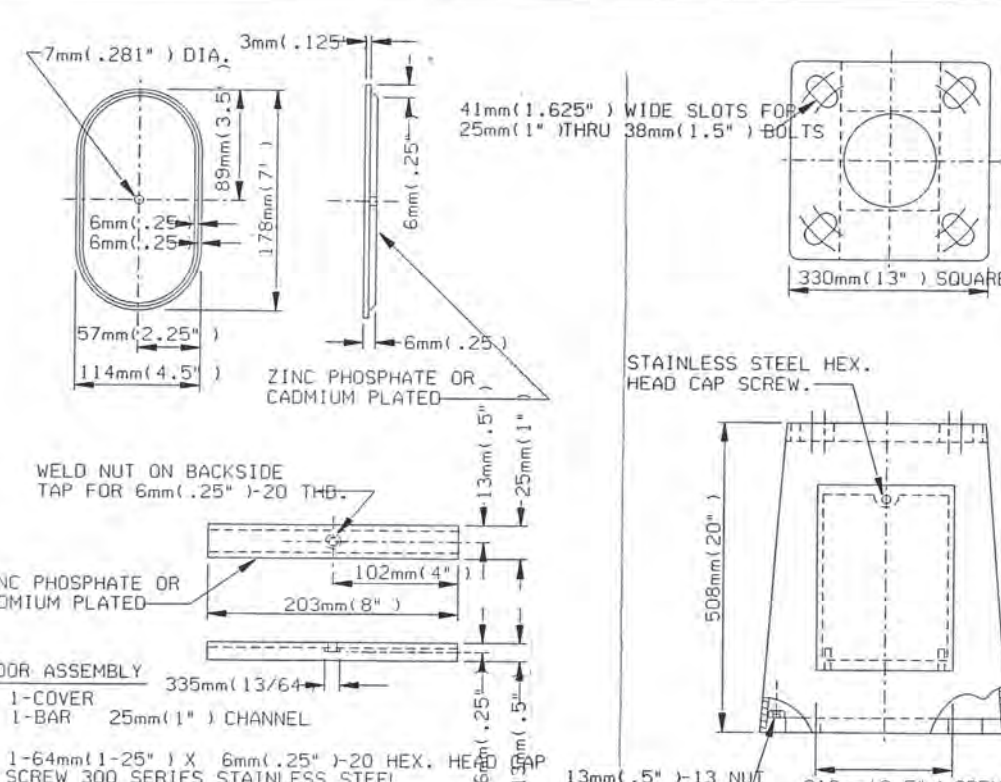
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Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

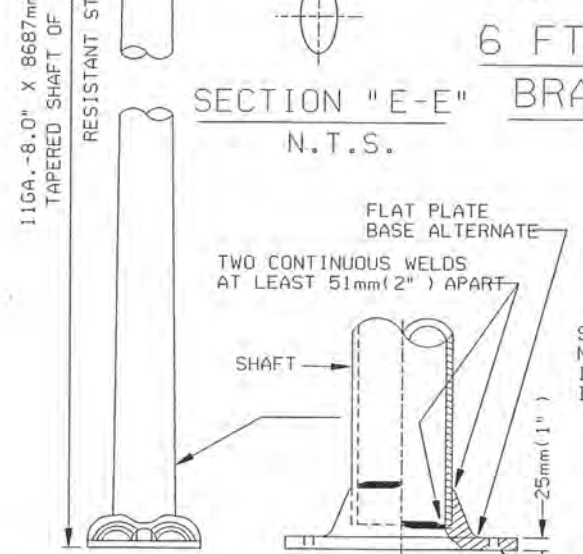
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Sheet No. 34
Date 02-11-05



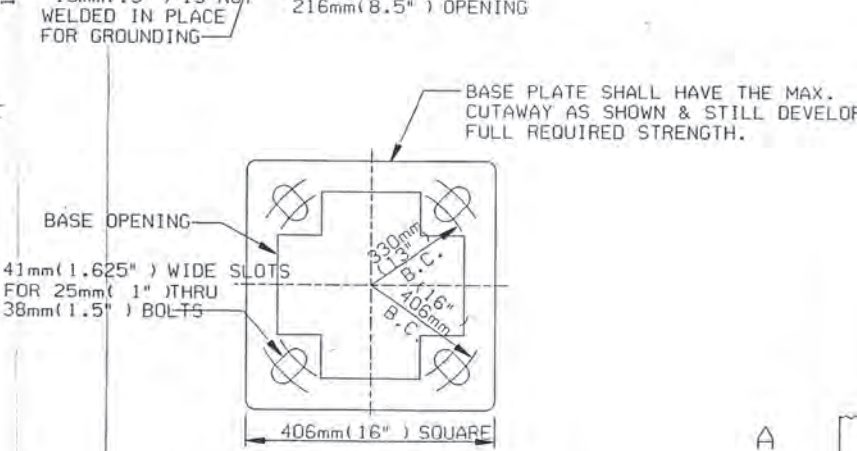
SECTION "E-E" BRACKET ARM
N.T.S.



HANDHOLE COVER DETAIL
N.T.S.

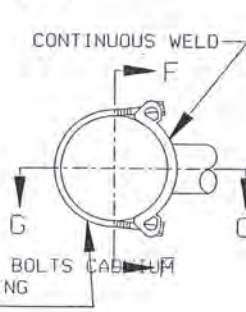


SHAFT MODIFICATION
N.T.S.



BASE PLATE PLAN
N.T.S.

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



SECTION "G-G"

SECTION "F-F"

TYPE	POLE DIAMETER
A	91mm (-114mm (3.6') - (4.5'))
B	155mm (-175mm (6.1') - (6.9'))
C	191mm (-216mm (7.5') - (8.5'))

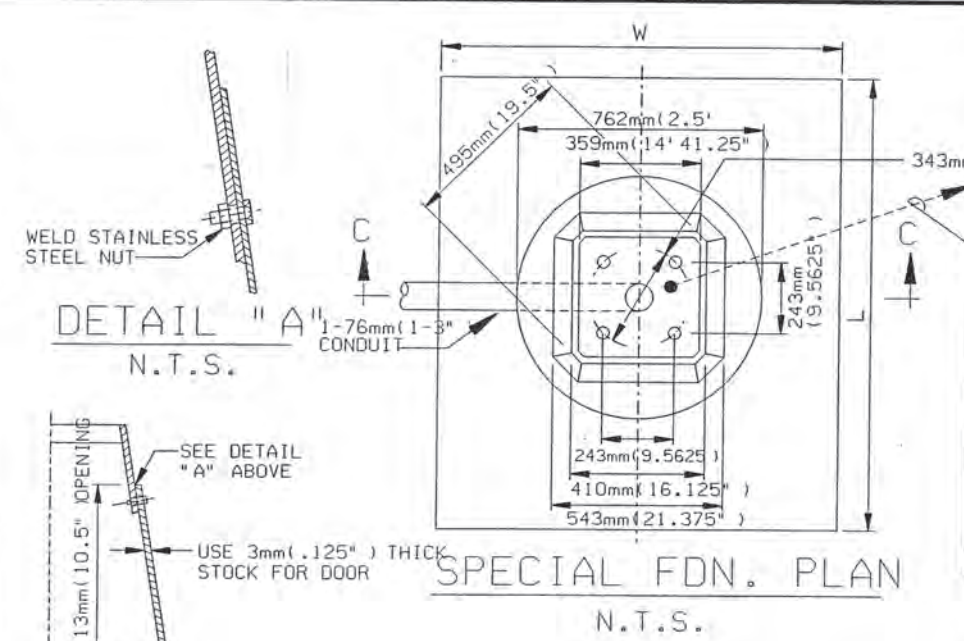
PIPE CLAMP DETAILS N.T.S.

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 102mm (4") 1016mm (40") X 165mm (6.5")	508mm (20")	102mm (4")	1	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.

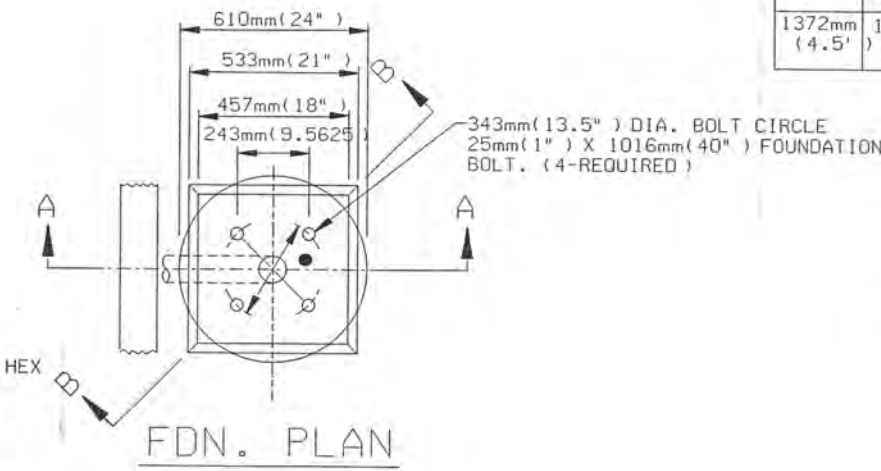
** SHAFT LOADING: SHAFTS SHALL WITHSTAND, AT THE GUARANTEED MINIMUM YIELD STRENGTH OF THE SHAFT MATERIAL, THE LOADS SHOWN IN THIS TABLE. THE LOAD SHALL BE APPLIED IN A SINGLE HORIZONTAL DIRECTION ANYWHERE AROUND THE CIRCUMFERENCE OF SHAFT 18 INCHES FROM THE TOP.

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



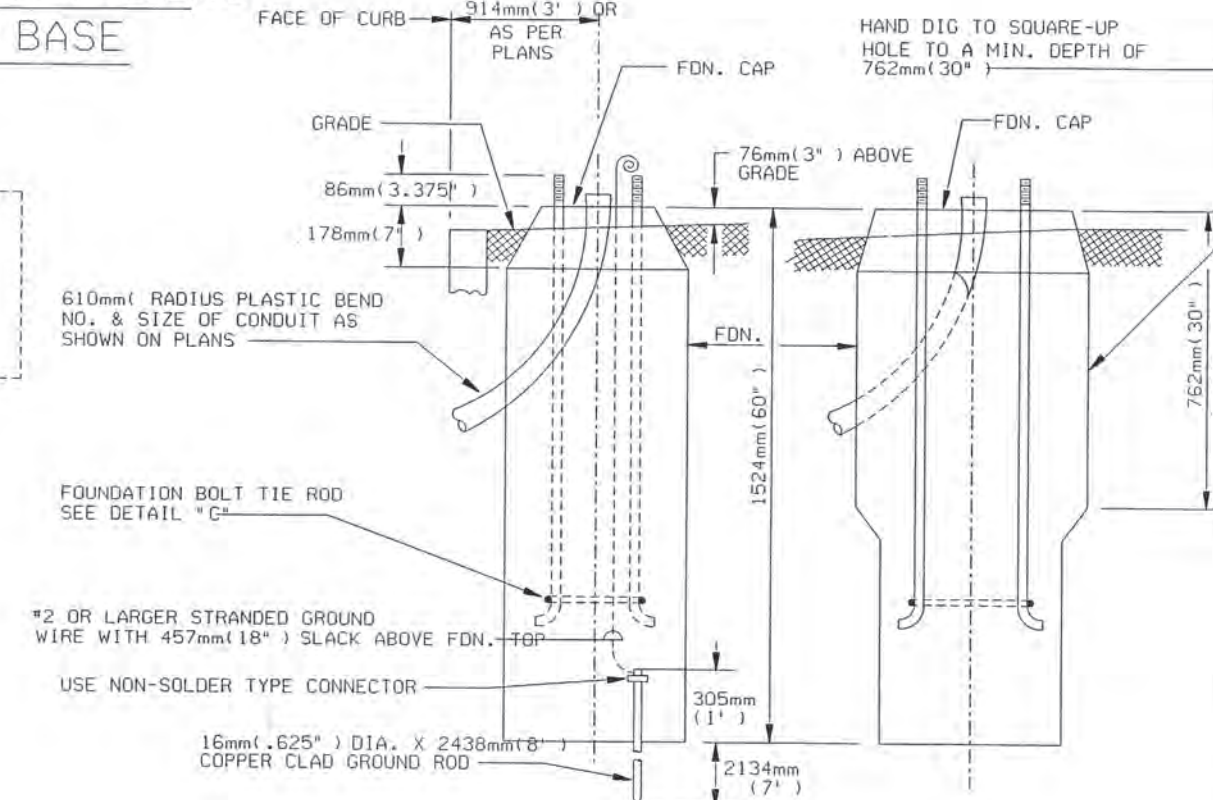
SPECIAL FOUNDATION

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

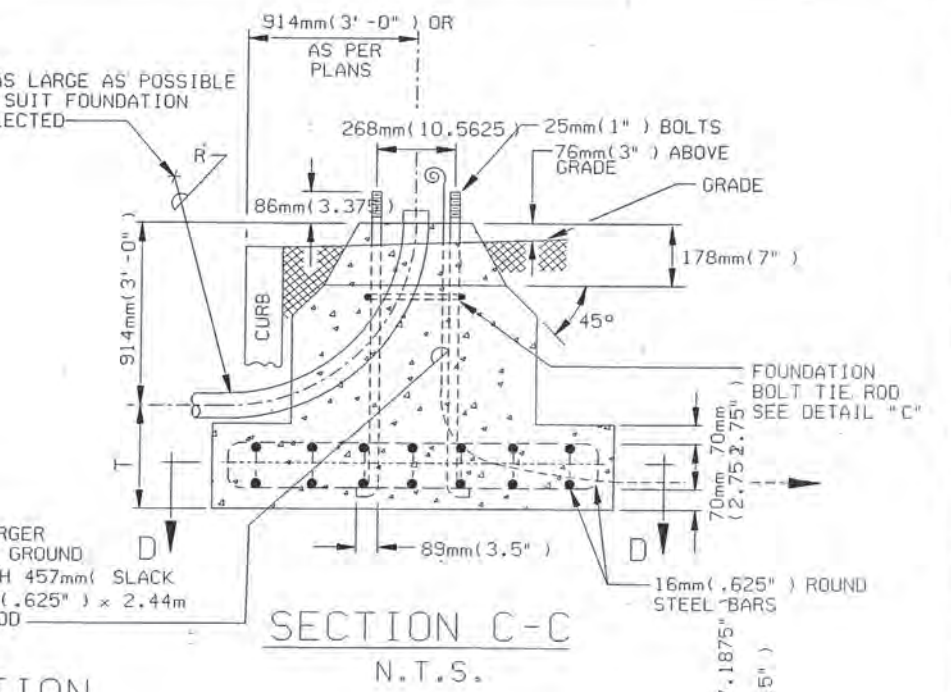


FDN. PLAN

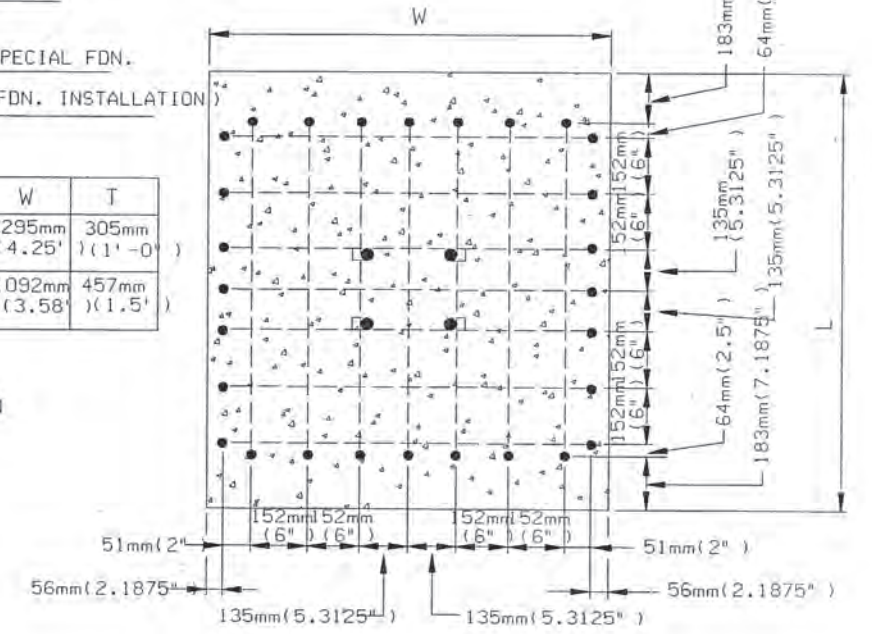
P.L.D. UNIVERSAL STEEL TRANSFORMER BASE
N.T.S.



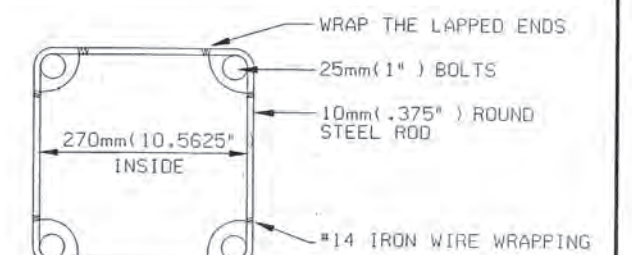
SECTION A-A SECTION B-B
ANCHOR BASE STD. FOUNDATION
N.T.S.



SECTION C-C
N.T.S.



SECTION D-D
N.T.S.



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.

DISK FILE: H5PLD\MTR

Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

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

MANSSELL ASSOCIATES INC.



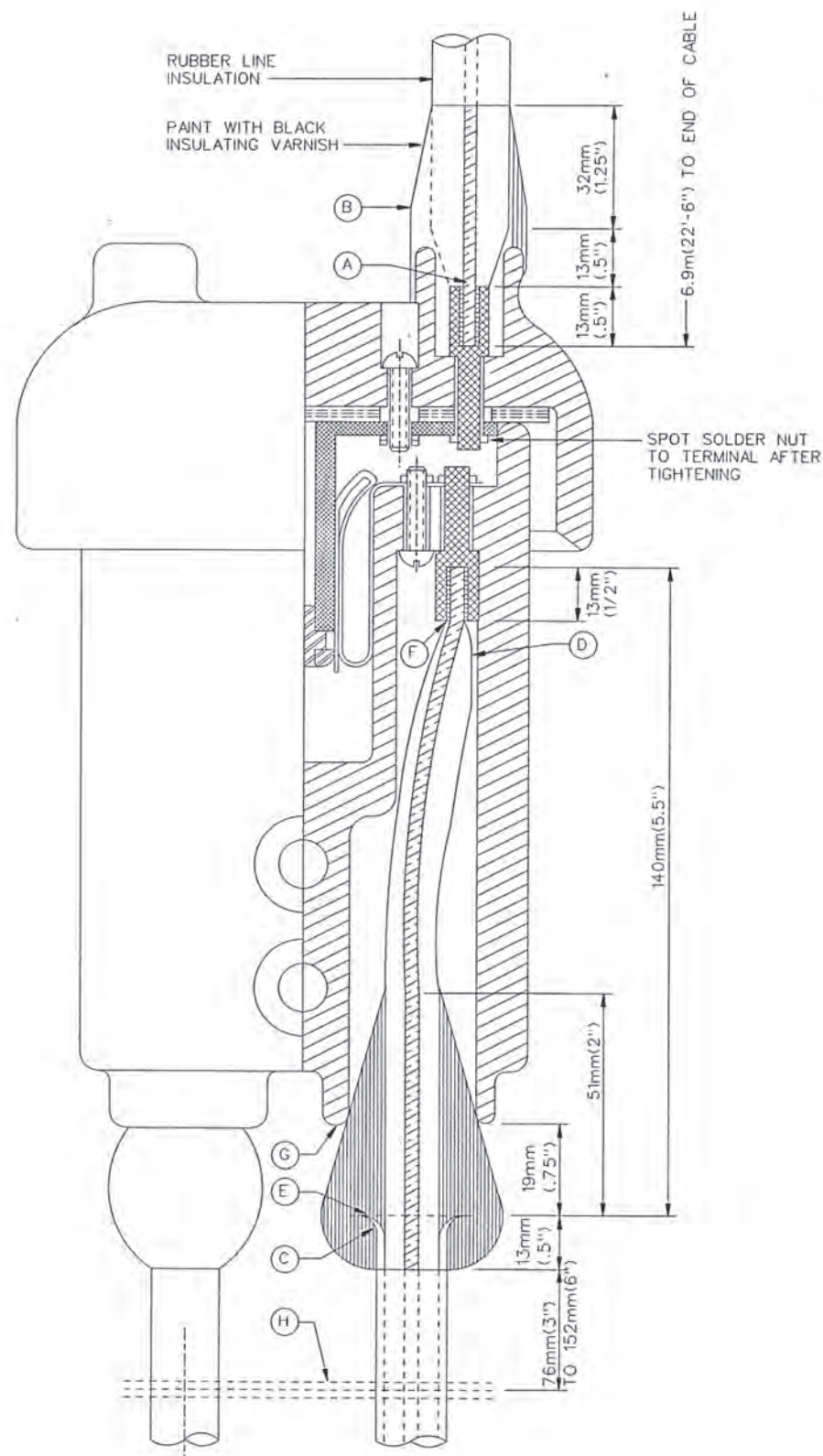
ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
(248) 473-7070

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

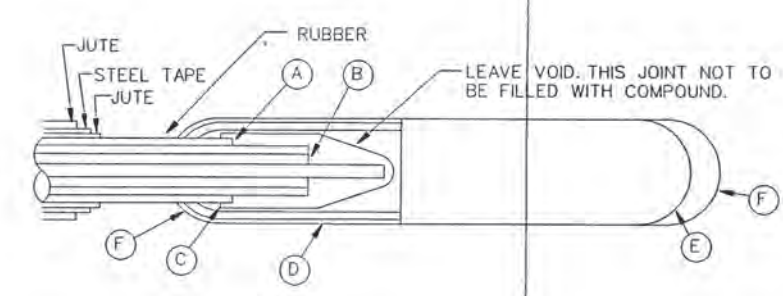
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JOB NO. 27-1104
SHEET NO. 35
DATE 02-11-05



CONNECTION FOR SERIES CUTOUT
N.T.S.

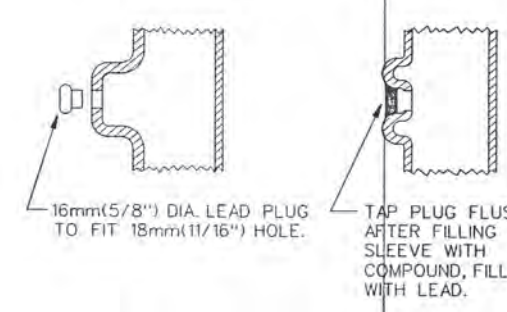
- A - SWEAT TERMINAL & PENCIL RUBBER INSULATION TO FIT SNUGLY IN PORCELAIN CAP OPENING SO THAT THE CONNECTOR NUT IS TIGHTENED, THE OPENING IS COMPLETELY & TIGHTLY FILLED.
- B - BUILD UP WITH #1 TAPE AS SHOWN, & COVER WITH 2 LAYERS, HALF LAP, WITH #2 TAPE. PAINT WITH ONE COAT OF BLACK INSULATING VARNISH.
- 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 - #16 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.

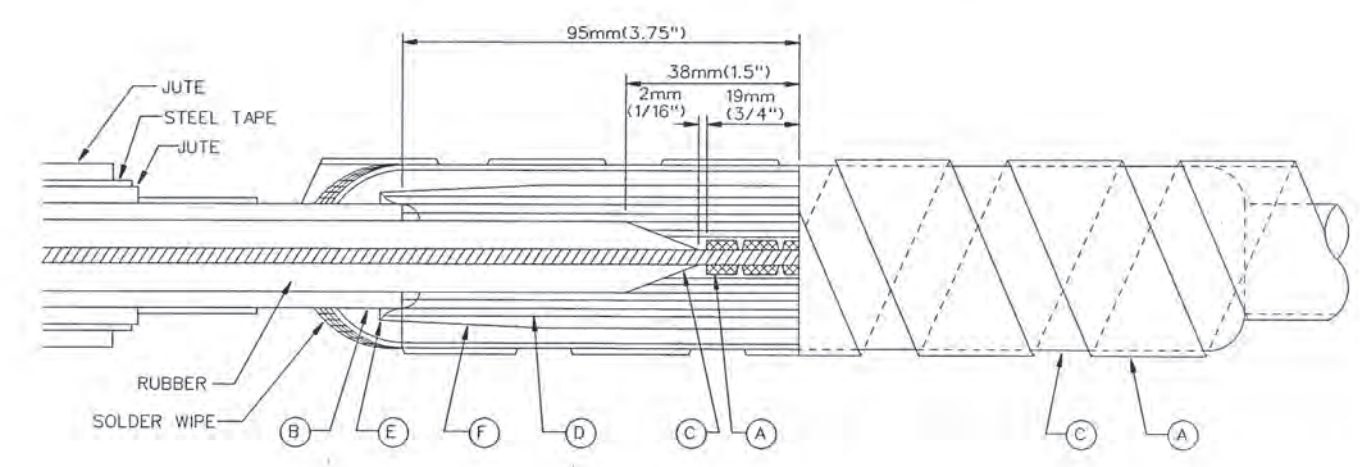
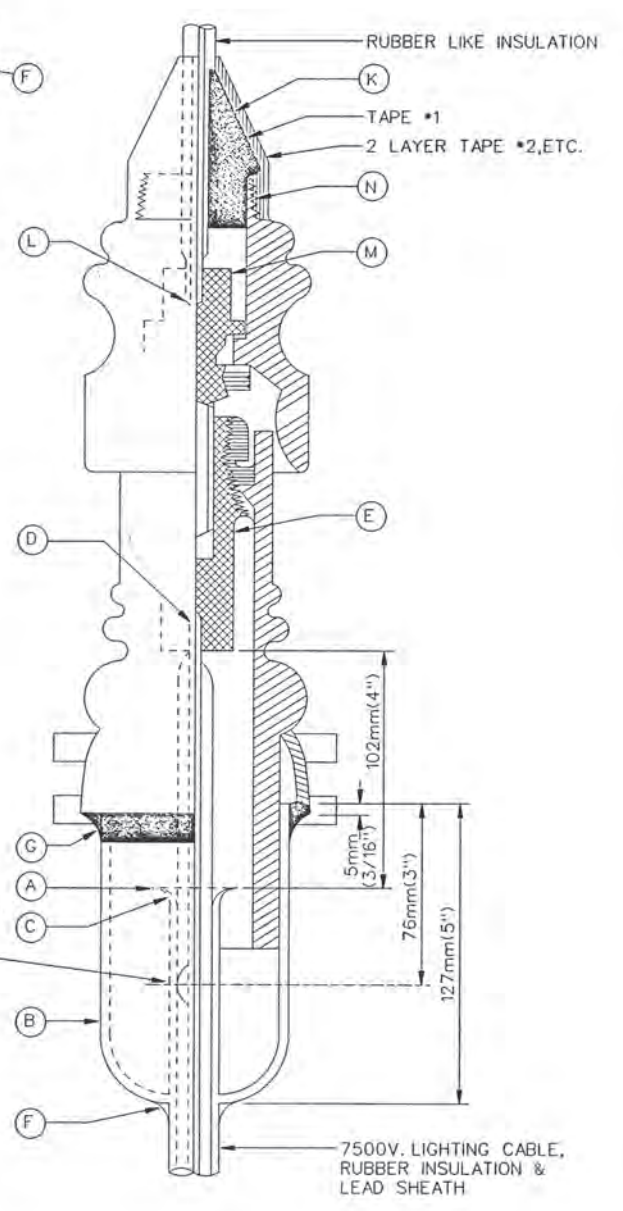


CONNECTIONS FOR 1/C 7500V. POTHEAD
N.T.S.

- 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 - TRAIL 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 TAPE #2-HALF LAP. PAINT WITH APPROVED BLACK INSULATING VARNISH.

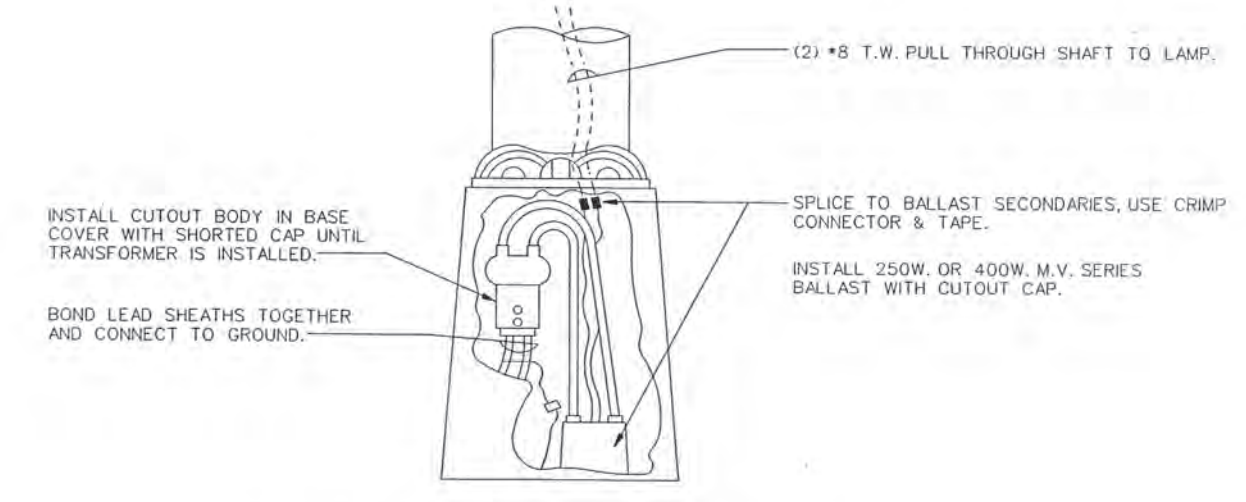
MATERIAL TYPES

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 203(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.

DSK FILE: 20PLDM.MTR

REVISION	Date	Description	Chkd. by

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

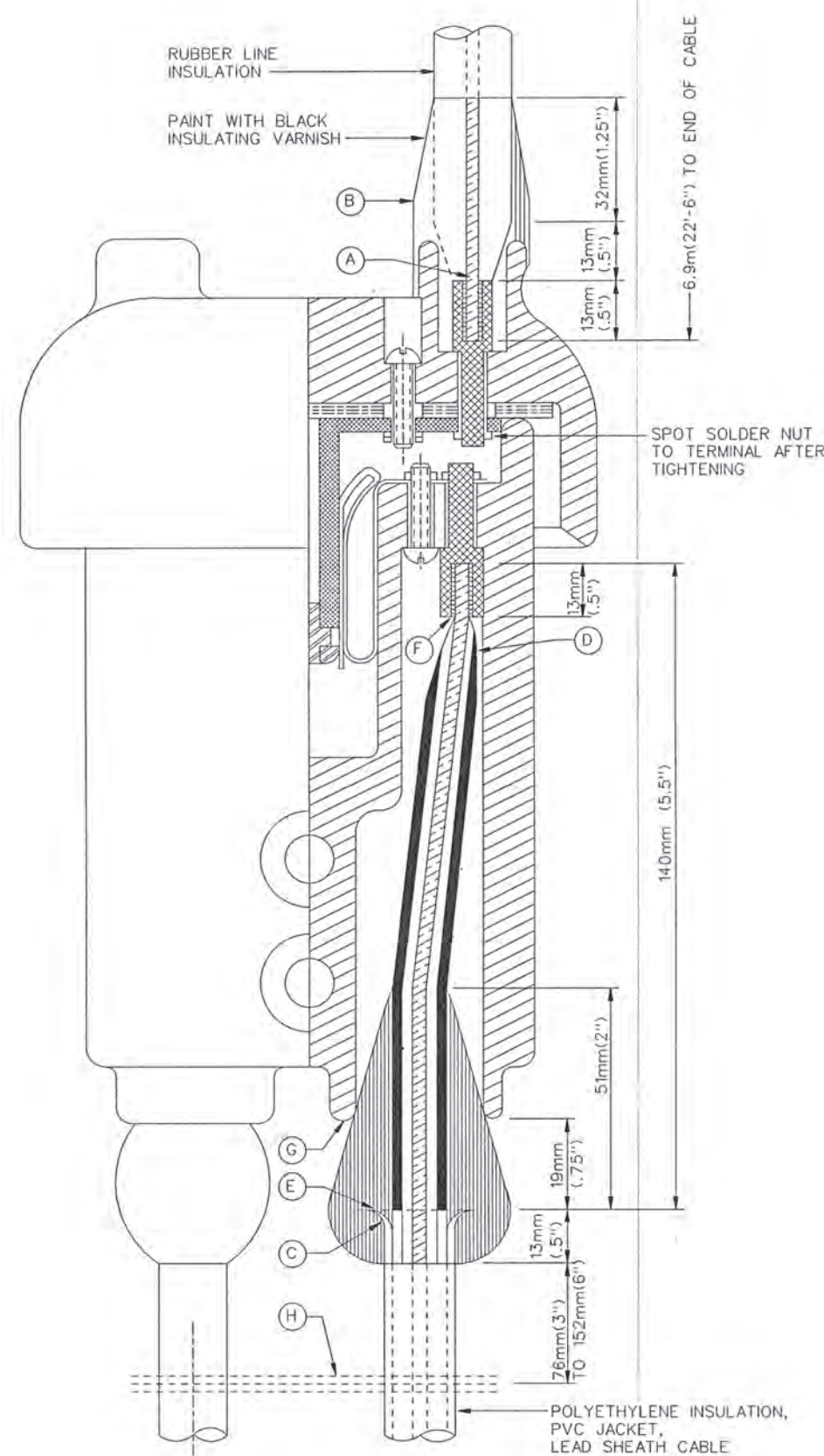
Job No.
49717A

MANSELL 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. 16 OF 25	Approved by
File No. M4044	

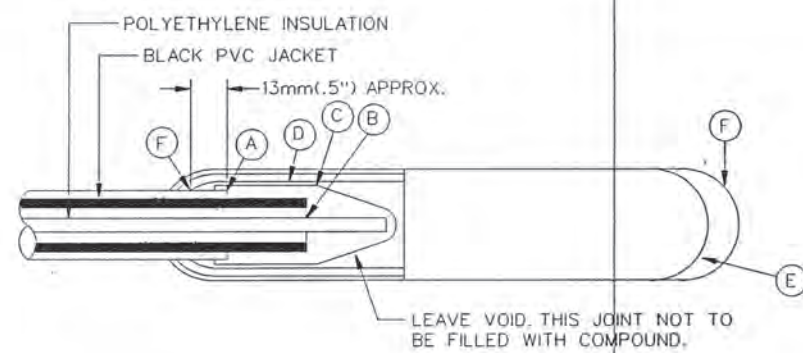
PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

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



CONNECTION FOR SERIES CUTOUT
N.T.S.

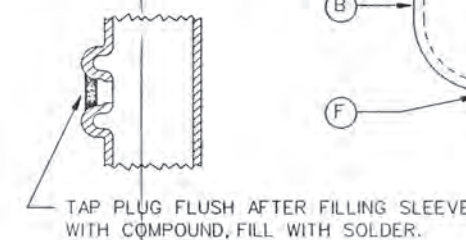
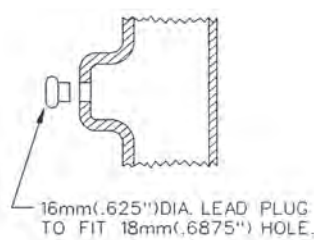
- A - SWEAT TERMINAL & PENCIL INSULATION TO FIT SNUGLY IN PORCELAIN OPENING SO THAT AS NUT IS DRAWN UP TIGHT THE OPENING IS COMPLETELY AND TIGHTLY FILLED.
- B - BUILD UP WITH #3 TAPE AS SHOWN, & COVER WITH 2 LAYERS, HALF LAP, WITH #2 TAPE AS NOTED.
- C - USE TUBE CUTTER TO SCORE LEAD SHEATH & CHIP OFF 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") 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") OF BARE COPPER.
- C - OVERLAP WITH TAPE #2 APPROXIMATELY 6mm (.25") FROM END OF LEAD SHEATH, AT LEAST 2 LAYERS OF TAPE AT THIS POINT.
- D - 32mm (1.25") x 203mm (8") x 3mm (.125") 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.

EMBOSS LEAD SLEEVE WITH 18mm (.6875") DIA. HOLE, CENTER AT 76mm (3") BELOW TOP OF SLEEVE SEE DETAIL BELOW



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

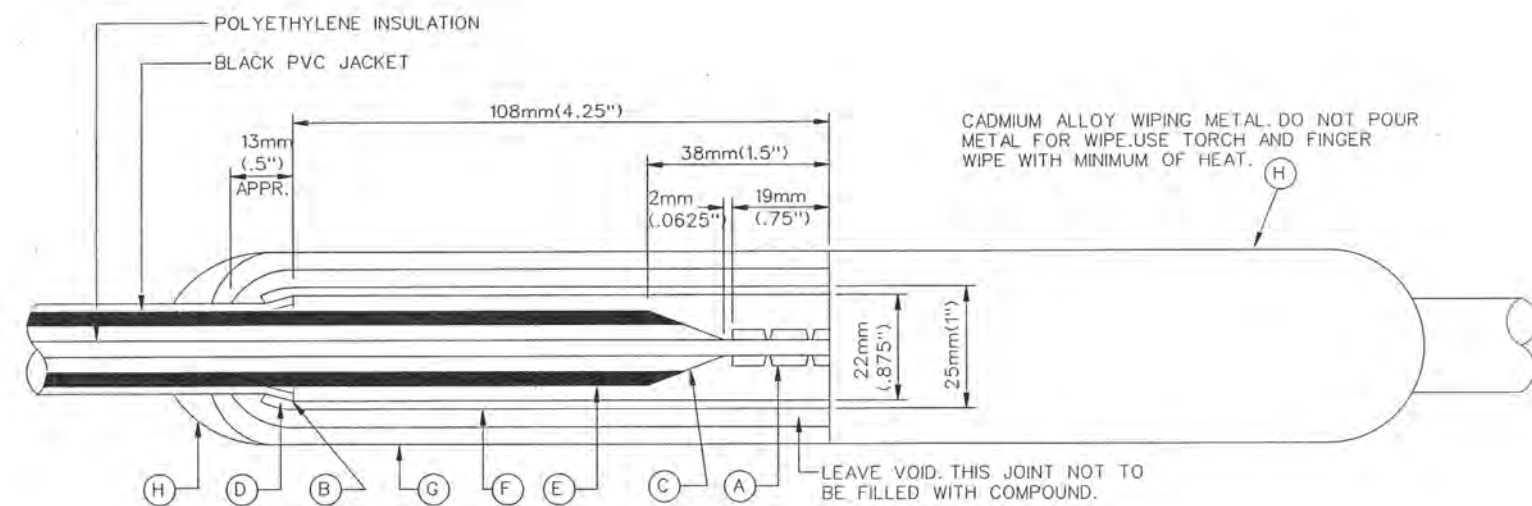
- A - USE TUBE CUTTER TO SCORE LEAD SHEATH AND CHIP OFF WITH CHIPPING IRON. DO NOT BREAK OFF BY BENDING. 102mm (4") OF INSULATION TO REMAIN, NOT INCLUDING BARED CONDUCTOR.
- B - FORM BOTTOM OF EMBOSSED SLEEVE & SLIP OVER CABLE, HOLE IN FRONT.
- C - BELL LEAD SHEATH.
- D - SWEAT CONDUCTOR INTO TERMINAL & PENCIL INSULATION SMOOTHLY FOR 19mm (.75")
- 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") DIA. LEAD PLUG INTO SLEEVE HOLE, TAP FLUSH & FILL WITH SOLDER.
- J - TRAIN 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") THICK x 19mm (.75") 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.
3. USE SMALL HAND TORCH FOR WIPING JOINTS, AT MINIMUM TEMPERATURE.
4. WHEN IT IS NECESSARY TO SPLICE POLYETHYLENE INSULATED CABLE TO RUBBER CABLE, USE ABOVE MATERIALS.
5. APPLY ADHESIVE INSIDE BELLED SHEATH CAVITY ONLY. APPLY TAPE AFTER ADHESIVE HAS BECOME TACKY.

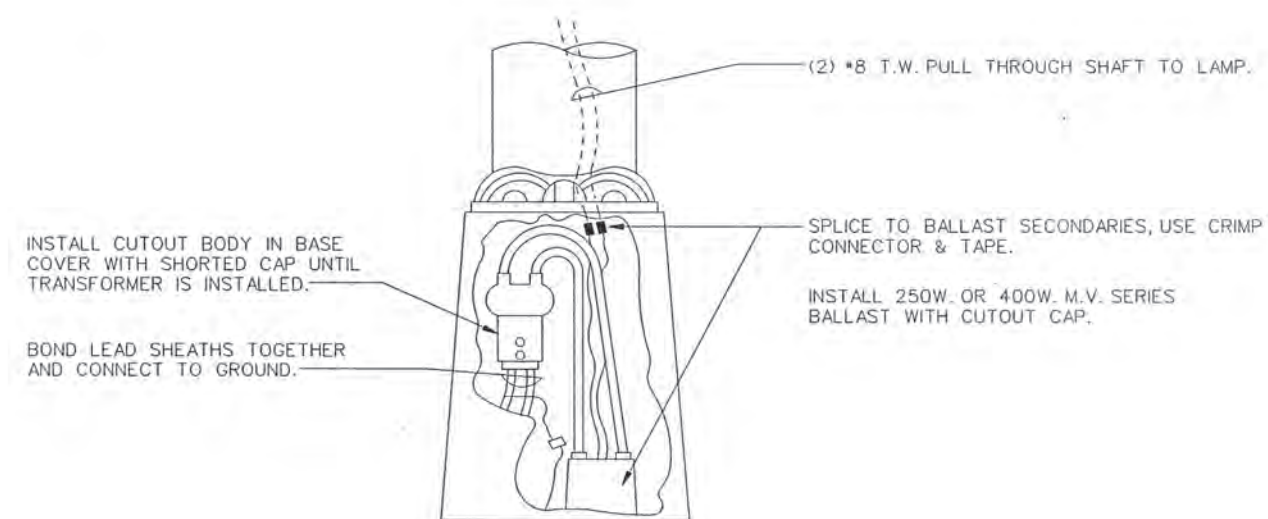
NOTE:

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



INCANDESCENT TO MERCURY CONVERSION
N.T.S.

DISK FILE: 202PDL.MTR

DDbte	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

POLYETHYLENE INSUL., P.J. LEAD SHEATHED SPLICE & CONN.

MANSSELL ASSOCIATES INC.



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

Checked	Checked by
Drwg. No. 17 OF 25	Approved by
File No. M4044	

No Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

202
27-1104
37
02-11-05

Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

CABLE & WIRE SPECIFICATIONS, DETAILS

MANSELL ASSOCIATES INC.

ENGINEERING CONSULTANTS
33608 Grand River
Farmington, MI. 48335
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Drawn M.A.I.	Scale No Scale
Checked	Checked by
Dwg. No. 18 OF 25	Approved by
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

27-1104
Sheet No. 38
Date 02-11-05

USE	VOLT RATING NO.	ITEM NO.	CONDUCTOR	SYNTHETIC RUBBER	IMPREG-NATED PAPER	POLYETHYLENE	POLYVINYL-CHLORIDE	SHIELD OVER INSULATED CONDUCTOR	TAPE OVER INSULATED CONDUCTORS	IMPREG-NATED PAPER BELT	JACKET	LEAD SHEATH	COVERING OVER LEAD	STEEL TAPE ARMOR	COVERING OVER STEEL TAPE	COVERING OVER CONDUCTOR
OVERHEAD LINE WIRE	—	1	#2-#6 ANG. H.D., UNCOATED SOLID COPPER A.S.T.M. B1													1.2mm (.047") BLACK NEOPRENE
	—	2	#4/0-#2/0 ANG. H.D., UNCOATED SOLID COPPER A.S.T.M. B1													1.6mm (.063") BLACK NEOPRENE
OVERHEAD LINE WIRE	—	3	#2-#6 ANG. H.D., UNCOATED SOLID COPPER A.S.T.M. B1													.8mm (.032") BLACK POLYETHYLENE
	—	4	#2-#6 ANG. H.D., UNCOATED SOLID COPPER A.S.T.M. B1													1.2mm (.047") BLACK POLYETHYLENE
	—	5	#4/0-#2/0 ANG. H.D., UNCOATED SOLID COPPER A.S.T.M. B8													1.6mm (.063") BLACK POLYETHYLENE
SPECIAL EVENT FEEDER,	2000V.	6														
MULT. ST. L.T.G.	2000V.	7														
TRAFFIC SIGNAL SECONDARY	2000V.	8														
RECEPTACLE BRACKET & LAMP POST WIRE	600V.	9	#8 ANG. 1/2 UNCOATED SOFT COPPER A.S.T.M. B8			1.6mm (.063") 75°C BLACK, RED OR WHITE AS PER D. DRAWING FIGURE 8										
Z/C AERIAL SERVICE	600V.	10	2/C #8 ANG. UNCOATED SOFT COPPER A.S.T.M. B8			1.6mm (.063") 75°C BLACK, RED OR WHITE AS PER D. DRAWING FIGURE 8										
	5000V. BELTED	11	3/C 350 MCM UNCOATED SOFT COPPER AEIC	2.2mm (.085") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)						11.4mm (.45") OVERALL OIL VISCOSITY AT 100°C (212 F.)	2.4mm (.095") COPPER BEARING LEAD		2.2mm (.085") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000V. BELTED	12	3/C #2/0 ANG. UNCOATED SOFT COPPER AEIC	2.2mm (.085") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)						11.4mm (.45") OVERALL OIL VISCOSITY AT 100°C (212 F.)	2.2mm (.085") COPPER BEARING LEAD		2mm (.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	5000V. BELTED	13	3/C #2 ANG. ROUND, SOFT UNCOATED COPPER AEIC	2.2mm (.085") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)						11.4mm (.45") OVERALL OIL VISCOSITY AT 100°C (212 F.)	2mm (.08") COPPER BEARING LEAD		2mm (.08") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
DISTRIBUTION CABLES	7000V. BELTED	14	3/C 350 MCM UNCOATED SOFT COPPER AEIC	2.54mm (.10") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)						11.4mm (.45") OVERALL OIL VISCOSITY AT 100°C (212 F.)	2.4mm (.095") COPPER BEARING LEAD		2.2mm (.085") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	15	3/C #2 ANG. UNCOATED SOFT COPPER AEIC	2.54mm (.10") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)						11.4mm (.45") OVERALL OIL VISCOSITY AT 100°C (212 F.)	2.2mm (.085") COPPER BEARING LEAD		2.2mm (.085") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
	7000V. BELTED	16	3/C 350 MCM UNCOATED SOFT COPPER AEIC	2.54mm (.10") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)						11.4mm (.45") OVERALL OIL VISCOSITY AT 100°C (212 F.)	2.2mm (.085") COPPER BEARING LEAD		2.2mm (.085") HEAT & LIGHT STABILIZED BLACK HIGH MOLECULAR WEIGHT POLYETHYLENE OVER LEAD SHEATH			
SERIES ST. L.T.G. CABLE IN DUCT	7500V.	17	1/C #8 ANG. UNCOATED SOFT COPPER ASTM B3	4.8mm (.189") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)		1.2mm (.047") 60°C BLACK					1.6mm (.063") COMMERCIAL PAPER					TWO LAYER SATURATED COPPER STEEL TAPE
SERIES CABLE DIRECT BURIAL	7500V.	18	1/C #8 ANG. UNCOATED SOFT COPPER ASTM B3	4.8mm (.189") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)		1.2mm (.047") 60°C BLACK					1.6mm (.063") COMMERCIAL PAPER					ASPHALTUM SATURATED COPPER STEEL TAPE
	24000V. SHIELDED	19	3/C 350 MCM UNCOATED SOFT COPPER AEIC	5.8mm (.230") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)				COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE								
TRANS-MISSION CABLES	24000V. SHIELDED	20	3/C 350 MCM UNCOATED SOFT COPPER AEIC	5.8mm (.230") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)				COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE								
	24000V. SHIELDED	21	3/C #2/0 ANG. UNCOATED SOFT COPPER AEIC	6.2mm (.245") PER CONDUCTOR OIL VISCOSITY AT 100°C (212 F.)				COPPER TAPE INTERCALATED WITH SEMI-CONDUCTING OF OR METALIZED PAPER TAPE								
MULTI-SIGNAL CABLE IN DUCT	—	22	#14 ANG. UNCOATED COPPER, NO. OF CONDUCTOR AS REV'D. ASTM B3													
MULTI-SIGNAL CABLE, SERIAL (I.N.)	—	23	#14 ANG. UNCOATED COPPER, NO. OF CONDUCTOR AS REV'D. ASTM B3													
B/C SERIES IN DUCT	7500V.	24	8/C #8 ANG. UNCOATED SOFT COPPER ASTM B33													
OVERHEAD FLEXIBLE TRAINER WIRE (SHIELDED)	—	25	1/C #2 ANG. & LARGER CLASS G OR H STANDING TINNED COPPER ASTM B173													1.6mm (.063") COPPER PURPOSE OR HEAVY DUTY BLACK NEOPRENE

COLOR CODED AS FOLLOWS:
RED - A CIRCUIT
BLACK - B CIRCUIT
WHITE - NEUTRAL

ALL MULTIPLE STREET LIGHTING, TRAFFIC SIGNAL SECONDARY AND SPECIAL EVENT CABLES INSTALLED IN CONDUIT SHALL BE AS PER THE FOLLOWING: CONDUCTORS: UNCOATED, STRANDED COPPER CONDUCTOR PER ASTM B-8 AND B-189 INSULATED, MEETS OR EXCEEDS FILE REQUIREMENTS FOR VOLTAGE INSULATION AND ASTM D2602-78 POLYETHYLENE-FRAC POLYETHYLENE RUBBER EXCEED ALL REQUIREMENTS OF TEST METHOD OF ICEA S-55-516, NEMA WC8 FOR HEAVY DUTY CHLOROSULFONATED POLYETHYLENE LISTED BY UNDERWRITER'S LABORATORIES INC. AS TYPE RHH OR RHW.

NOTE: PRIOR TO PLACING ORDER FOR PURCHASE OF THIS CABLE A SAMPLE LENGTH OF CABLE MUST FIRST BE SUBMITTED TO P.L.D. FOR THEIR APPROVAL.

ACCORDING TO SPECIFICATIONS

SPECIAL INSTRUCTION
1.6mm (.063") OF 30% HEAVY RUBBER AND ONE LAYER OF LAPPED FILLED COTTON TAPE OVER EACH CONDUCTOR LAYER SHALL BE USED FOR ALL REMAINING CONDUCTORS EACH HAVE ADDITIONAL 2.4mm (.094") UNWEIGHTED CAMBRIC TAPE OVER THE REMAINING CONDUCTORS WITH WHITE PAPER FOR IDENTIFICATION ALL CONDUCTORS CABLED WITH PARAFFINATED JUTE (OUTSIDE FILLER).
2.4mm (.094") BELT OF OIL SATURATED PAPER OVERALL (2.9mm x 0.115 INCH COPPER BEARING LEAD BENEATH OVERALL).

* CARBON BLACK PAPER TAPE OVER CONDUCTOR
* BINDER TAPE OVER SHIELDED INSULATED CONDUCTOR AND FILLERS TO BE COPPER OR COPPER TAPE COATED WITH PAPER TAPE (SEE D. DRAWING FIGURE 8) METALIZED PAPER TAPES

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:

INSULATIONS

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

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

CONDUCTORS

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

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

		POLYVINYL-CHLORIDE 60° C (140° F)	POLYVINYL-CHLORIDE 75° C (167° F)	HIGH MOLECULAR WEIGHT NATURAL POLYETHYLENE	SYNTHETIC RUBBER 75° C (167° F) HEAT & MOISTURE RESISTANT	OZONE RESISTING BUTYL RUBBER
ORIGINAL	TENSILE STRENGTH PSI	2300, MIN.	2300, MIN.	1400, MIN.	700, MIN.	600, MIN.
	ELONGATION AT RUPTURE, PERCENT	250, MIN.	250, MIN.	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. 60, 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 121± 1° C (250± 1.8° F)	% OF ORIGINAL	50, MAX.	25, MAX.	—	—	—
OIL IMMERSION 4 HRS., 70± 1° C (158± 1.8° F)	TENSILE STRENGTH % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
	ELONGATION % OF ORIGINAL	* 85, MIN.	** 85, MIN.	—	—	—
HEAT SHOCK 121± 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	—	—	—
ACCELERATED WATER ABSORPTION REQUIREMENT	ELECTRIC METHOD	DIELECTRIC CONSTANT, 1 DAY	10, MAX.	10, MAX.	5, MAX.	—
	OR GRAVIMETRIC METHOD	% CAPACITANCE INCREASE	1-14 DAYS-10, MAX. 7-14 DAYS-5, MAX.	1-14 DAYS-4.0, MAX. 7-14 DAYS-2.0, MAX.	1-14 DAYS-10.0, MAX. 7-14 DAYS-4.0, MAX.	1-14 DAYS-5.0, MAX. 7-14 DAYS-3.0, MAX.
	TEMP.	50± 1° C (122± 1.8° F)	75± 1° C (167± 1.8° F)	—	75± 1° C (167± 1.8° F)	75± 1° C (167± 1.8° F)
		20 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	10 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	—	20 MILLIGRAMS PER SQ. 25.4mm(1") MAX.	15 MILLIGRAMS PER SQ. 25.4mm(1") MAX.
TEST IN ACCORDANCE WITH LATEST REVISION OF:		IPCEA S-61-402 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-61-402	IPCEA S-19-81 (EXCEPTIONS ARE NOTED ABOVE)	IPCEA S-19-81	IPCEA S-19-81

FOR #6 AWG AND LARGER, USING BUFFED DIE-CUT SPECIMENS, THE FOLLOWING VALUES SHALL APPLY:

- * ELONGATION AFTER AIR OVEN TEST 45% MIN.
- ** ELONGATION AFTER AIR OVEN TEST 50% MIN.
- * OR ** TENSILE STRENGTH AFTER OIL IMMERSION 80% MIN.
- * OR ** ELONGATION AFTER OIL IMMERSION 60% MIN.

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

		NEOPRENE BLACK, HEAVY DUTY	NEOPRENE BLACK GENERAL PURPOSE	POLYVINYL-CHLORIDE, BLACK	HEAT & LIGHT STABILIZED BLACK POLYETHYLENE 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 168 HRS. 80° C (176± 1.8° F)	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. 4 HRS. 70± 1° C (158± 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. 4 HRS. 70± 1° C (158± 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 INTERIM REVISION #1 PUB. S-54-401 SEPT. 1959	—

JEFFERSON AVE OVER DEQUINDRE CUT

CABLE & WIRE SPECIFICATIONS

MANSSELL ASSOCIATES INC.



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

Drawn: M.A.I.
Checked
Drwg. No. 19 OF 25
File No. M4044

Scale No Scale
Checked by
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PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

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27-1104
Sheet No. 39
Date 02-11-05

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±3 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 Ø C (P40 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 (19.6 C) (60 F) THIS TEST SHALL BE CONDUCTED UPON COMPLETION OF THE HIGH VOLTAGE TEST.

SHORT-TIME DIELECTRIC STRENGTH TEST - A (3.05m) X TEN (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 THERE IS A QUANTITY LIMITATION OF
8. DIELECTRIC POWER TEST) 7.62m (25') ON THESE TESTS PER AEIC
9. POWER FACTOR TEST
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 Ø C (P40 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 15.6 C (60 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.

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 Ø C (P40 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 (.025") 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) .254mm (.010") MIN. .76mm (.030") MAX. THICKNESS		BLACK POLYETHYLENE (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					COMMERCIALLY 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).

REV	Date	Description	Chkd. by

JEFFERSON AVE OVER DEQUINDRE CUT

CABLE & WIRE SPECIFICATIONS

Job No. 49717A

MANSSELL ASSOCIATES INC.



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Checked by M.H.I.
Drwg. No. 20 OF 25
File No. M4044

No Scale
Checked by
Approved by

PUBLIC LIGHTING DEPARTMENT
CITY OF DETROIT

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