

INDEX OF SHEETS

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STANDARD PLANS

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

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS



CONTROL SECTION
XXX XXXXX

PROJECT JOB NO.
PW-6987

CULVERT REPLACEMENT PROJECT
REPLACEMENT OF THE W. PARKWAY CULVERT OVER ROUGE RIVER

THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AMERICAN ASSOCIATION OF THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO), FOR HIGHWAY BRIDGES HS 25 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/800 OF THE SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

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

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

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIALS OF THE FOLLOWING GRADES AND STRESSES.

- CONCRETE: GRADE S2 $f'c = 3,000$ PSI
- CONCRETE: GRADE D $f'c = 4,000$ PSI
- STEEL REINFORCEMENT: $f_y = 60,000$ PSI
- PRESTRESSED CONCRETE: $f'c = 5,000$ PSI

ALL DIMENSIONS ON THESE PLANS ARE IN INCHES EXCEPT AS NOTED.

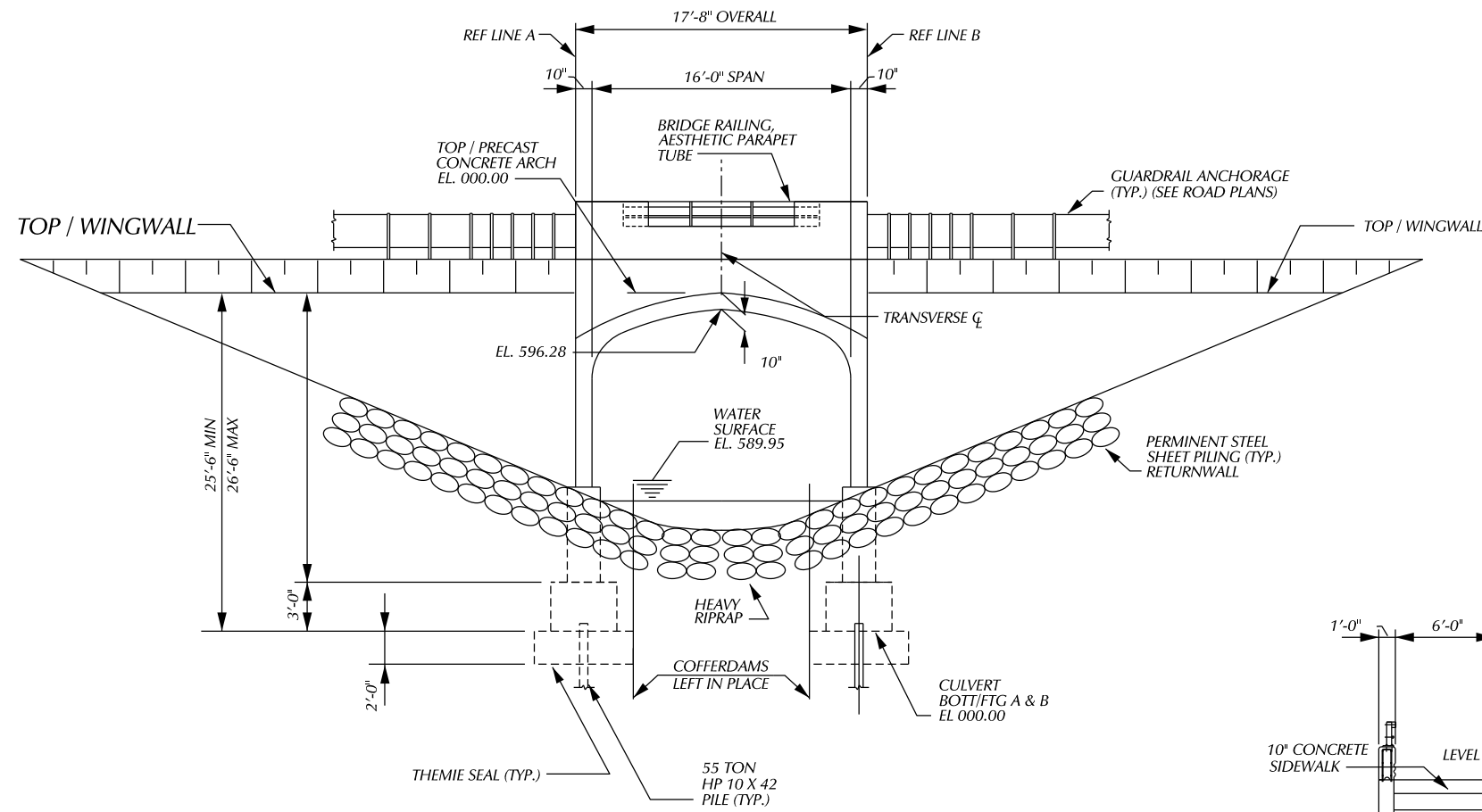


PUBLIC UTILITIES

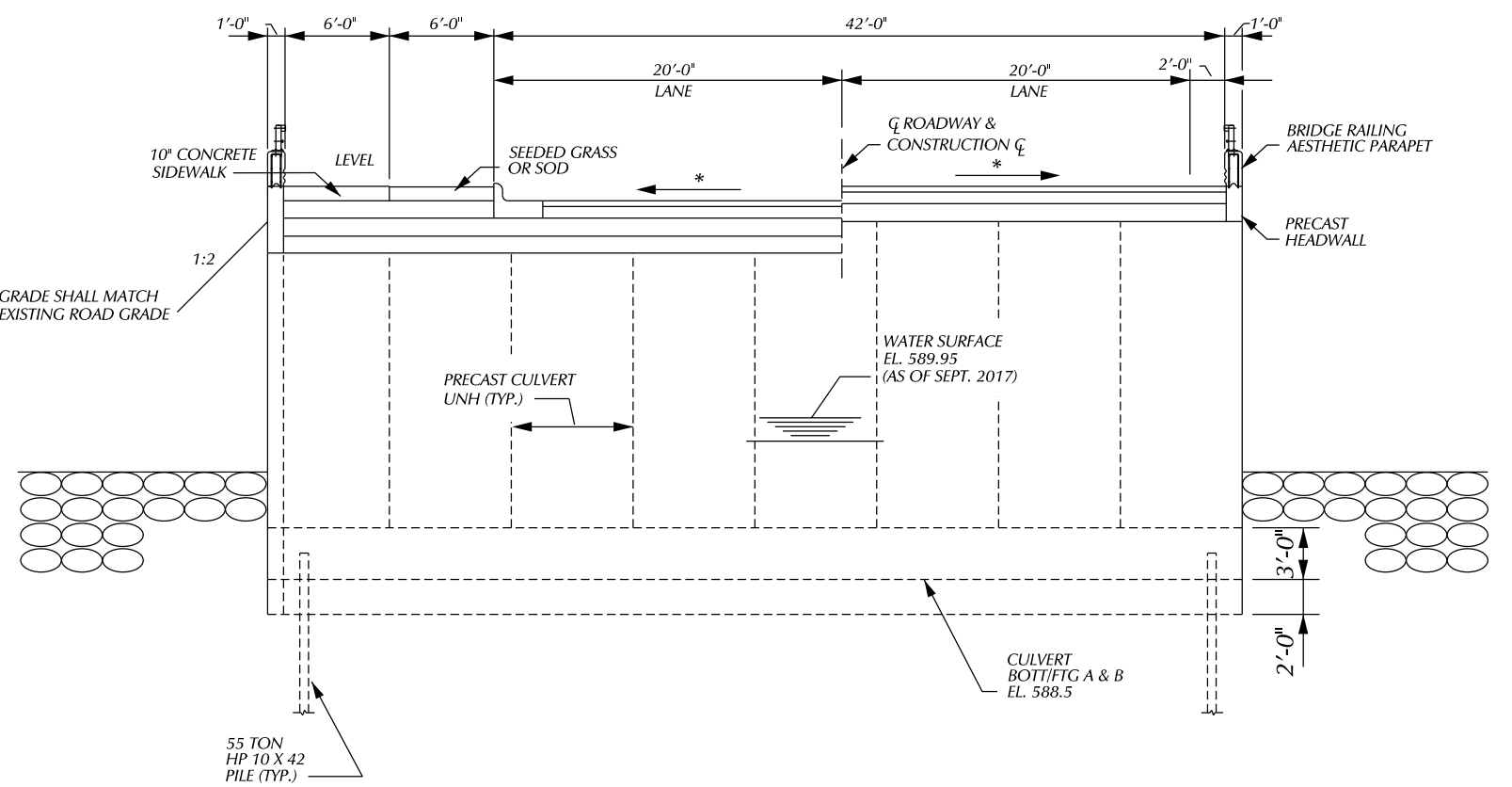
<p>AT&T METRO EAST 100 S MAIN ST, SUITE 314 MT CLEMENS, MI 487043-2374 JOE SIKOKI</p> <p>RIGHT OF WAY- METRO WEST 17651 MICHIGAN AVE., RM 301 DEARBORN, MI 48126</p> <p>KEVIN LOGAN CELL FAX KJ29152att.com MARK BRANAM Mark.branam@att.com BRADLEY HALL Bradley.x.hall@att.com DEREK BULKLEY Derek.m.bulkley@att.com</p> <p>NOTE: AT&T WILL REQUIRE FIVE TO SEVEN BUSINESS DAYS ADVANCE NOTICE PRIOR TO ADJUSTING FRAMES AND COVERS. CONTACT AT&T AT (734) 523-6883.</p> <p>CITY OF DETROIT PUBLIC LIGHTING AUTHORITY OF DETROIT 65 CADILLAC SQUARE, SUITE 3100 DETROIT, MI 48226 PHONE WEBSITE: www.pladetroit.org</p> <p>CITY OF DETROIT DETROIT WATER & SEWERAGE DEPARTMENT 6425 HUBER (CS) A-219 DETROIT, MI 48211 DEBRA SINGLETON dsingleton@dwsd.org EMERGENCY 24 HOUR SERVICE</p>	<p>TELEPHONE (586) 466-6310</p> <p>(313) 240-5482 (734) 223-5645 (313) 982-1029</p> <p>(313) 240-5390</p> <p>(313) 466-1049</p> <p>(313) 240-5480</p> <p>ELECTRIC POWER AND STREET LIGHTING (313) 324-8290</p> <p>WATER MAINS & SEWERS (313) 267-8309 (313) 267-7401</p>	<p>CITY OF DETROIT DETROIT FIRE DEPARTMENT FIRE MARSHAL'S DIVISION 1301 THIRD STREET DETROIT, MI 48226 PHONE CHIEF OTIS B. HOLT FAX</p> <p>CITY OF DETROIT, DETROIT POLICE DEPARTMENT DETROIT PUBLIC SAFETY HEADQUARTERS 1301 THIRD STREET DETROIT, MI 48226 PHONE FAX</p> <p>CITY OF DETROIT TRAFFIC ENGINEERING, D.P.W. 2633 MICHIGAN AVENUE DETROIT, MI 48207 ASHOK PATEL FAX AshPat@detroitmi.gov JUBI CHACKUNKAL JubCha@detroitmi.gov KIRIT PATEL Patelki@detroitmi.gov</p> <p>SIGN SHOP 2425 FENKELL DETROIT, MI 48238 SIGN SHOP MANAGE FAX</p> <p>COMCAST CABLEVISION 12775 LYNDON DETROIT, MI 48227 BENE CUMMINGS FAX</p>	<p>FIRE CALL BOXES AND FIRE HYDRANTS (313) 596-2900 (313) 224-1311 (313) 596-2978</p> <p>POLICE CALL BOXES (313) 596-2200 (313) 596-1450</p> <p>PAVEMENT MARKINGS, SIGNS & TRAFFIC SIGNALS (313) 224-1610 (313) 224-1304</p> <p>(313) 224-1315 (313) 407-4124 (313) 628-5641</p> <p>SIGNS REMOVALS & INSTALLATIONS (313) 628-2923 (313) 628-4966</p> <p>TV CABLES (313) 934-2600 (313) 934-4824</p>	<p>DTE, GAS COMPANY ONE ENERGY PLAZA-WCB1722 DETROIT, MI 48226 DAVE ORZEL orzeld2@teenergy.com</p> <p>DTE, ELECTRIC COMPANY ONE ENERGY PLAZA IGS GROUP, 5185B DETROIT, MI 48226 ROBIN O'CONNELL FAX EXPOSED OR DAMAGED FACILITIES</p> <p>DTE, ENERGY/MICHIGAN GAS DATA INTEGRITY GAS ONE ENERGY PLAZA-WCB1836 DETROIT, MI 48226 BARBARA SAUNDERS CELL EXPOSED OR DAMAGED FACILITIES</p>	<p>HIGH PRESSURE GAS TRANSMISSION (313) 235-1135</p> <p>ELECTRIC POWER (313) 235-5632 (313) 235-9366 (313) 237-9564</p> <p>GAS MAINS (313) 235-5111 (313) 920-4488 (800) 477-4747</p>	<p>NOTE: CONTACT DTE TEN (10) WORKING DAYS PRIOR TO THE CONSTRUCTION START DATE TO COORDINATE ADJUSTMENTS FOR DETROIT EDISON MANHOLES.</p> <p>DETROIT THERMAL LLC 541 MADISON DETROIT, MI 48226 TOM MONRO FAX (313) 921-1922 (313) 921-1972</p> <p>ITC HOLDINGS CORP. 27175 ENERGY WAY NOVI, MI 48377 BRIANNA KOTELES bkoteles@itctransco.com (248) 946-3322</p> <p>MISS DIG CALL THREE (3) WORKING DAYS BEFORE YOU DIG (800) 482-7171 OR 811</p> <p>WAYNE COUNTY TRAFFIC OFFICE 29900 GODDARD RD. DETROIT, MI 48242 PHONE (734) 955-2154</p>	<p>STEAM LINES</p> <p>ELECTRICITY TRANSMISSION COMPANY</p> <p>ALL UNDERGROUND UTILITIES</p>
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DESIGNED BY LA		Date: 12/04/2017
Drawn WLW		
Checked By ---	Approved By ---	Job No: PW-6987
CONTRACT FOR: REPLACEMENT OF THE W. PARKWAY CULVERT OVER ROUGE RIVER		
LOCAL AUTHORITY APPROVAL CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERING DIVISION		
APPROVED BY _____	DATE _____	
PREPARED UNDER THE SUPERVISION OF _____ REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO. _____ CITY OF DETROIT ORGANIZATION CITY ENGINEERING DIVISION, D.P.W. 2 WOODWARD AVE. SUITE 601 DETROIT MI 48216 ADDRESS		
SHEET ___ OF ___		

CONTROL SECTION NO.: XXX XXXXX
JOB NO.: PW-6987



NOTE: * - GRADE SHALL MATCH EXISTING ROAD GRADE



BY	CHECKED BY	APPROVED:
PLAN		
GRADE		
ESTIMATE		
DESCRIPTION	DR	CHK
REVISIONS	DATE	

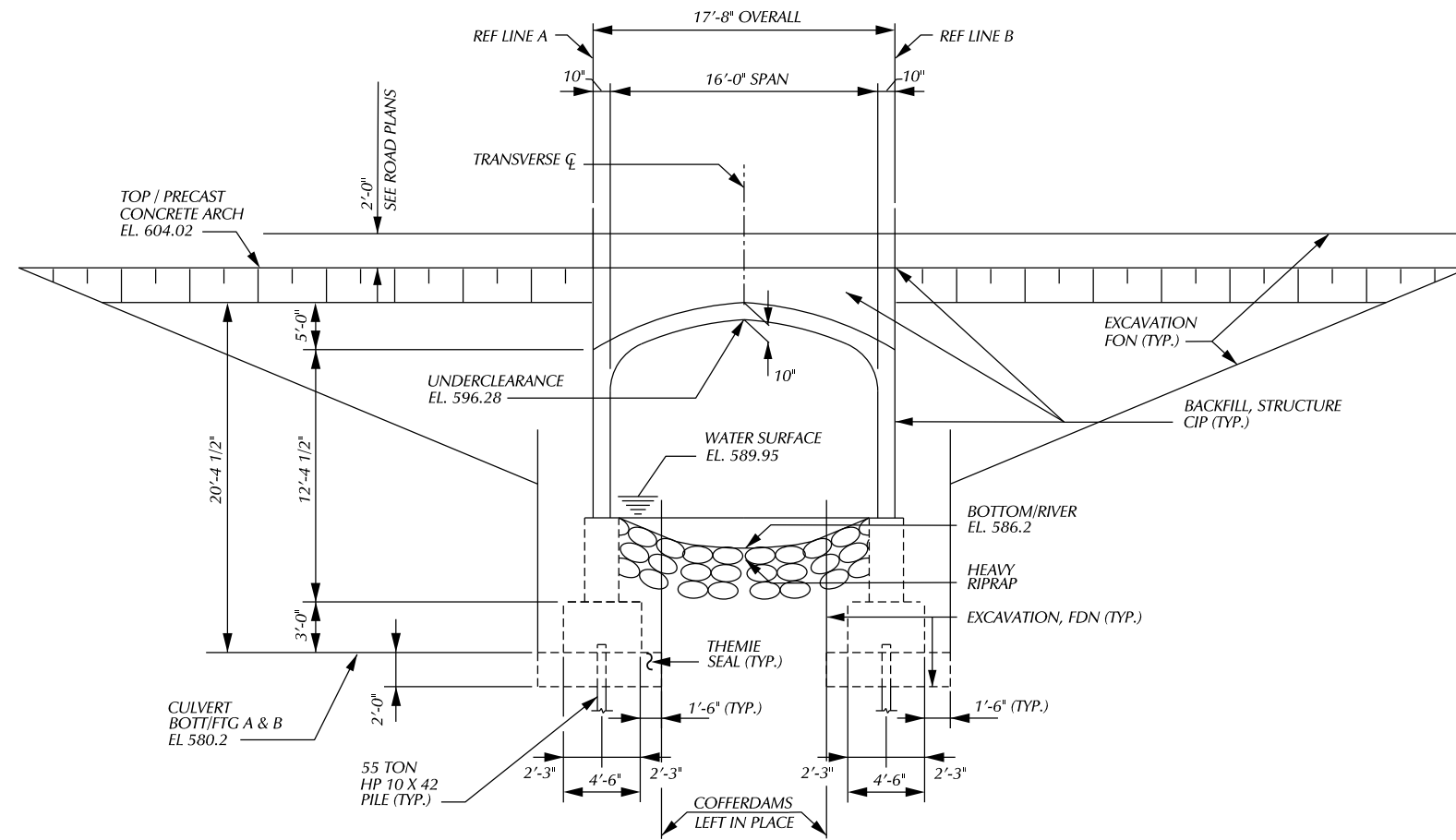
CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER

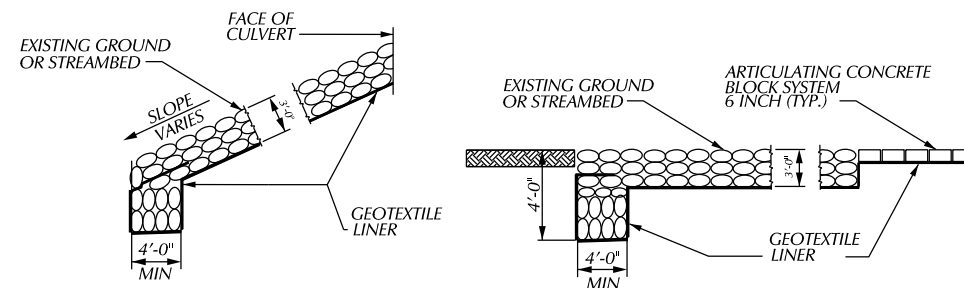
GENERAL PLAN OF STRUCTURE

SHEET	OF	SHEETS
CONTRACT	NO.	
ASSIGNMENT	NO.	
DATE		

BENCH MARKS ELEV



CULVERT SECTION



TOE HEADER

END HEADER

RIPRAP HEADER DETAILS

RIPRAP SHALL BE BURIED BELOW TOP OF EXISTING SLOPE

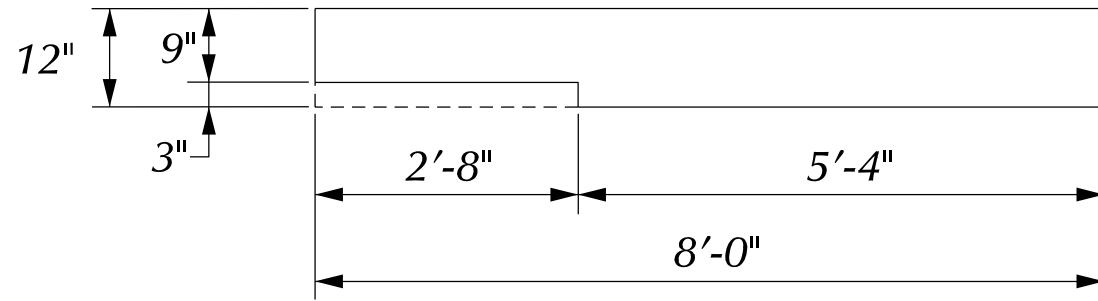
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DESCRIPTION	DR	CHK	DATE	*****	*****	
REVISIONS						

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

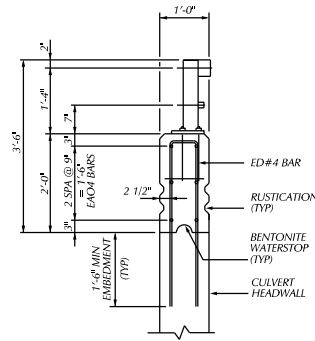
WEST PARKWAY CULVERT OVER ROUGE RIVER

GENERAL PLAN OF STRUCTURE

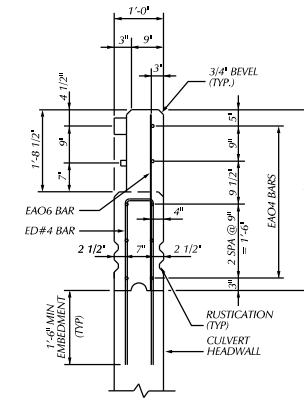
SHEET	OF	SHEETS
CONTRACT NO.		
ASSIGNMENT NO.		
DATE		



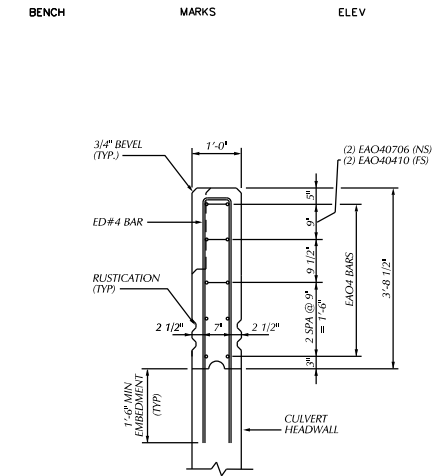
PLAN - CULVERT END WALL



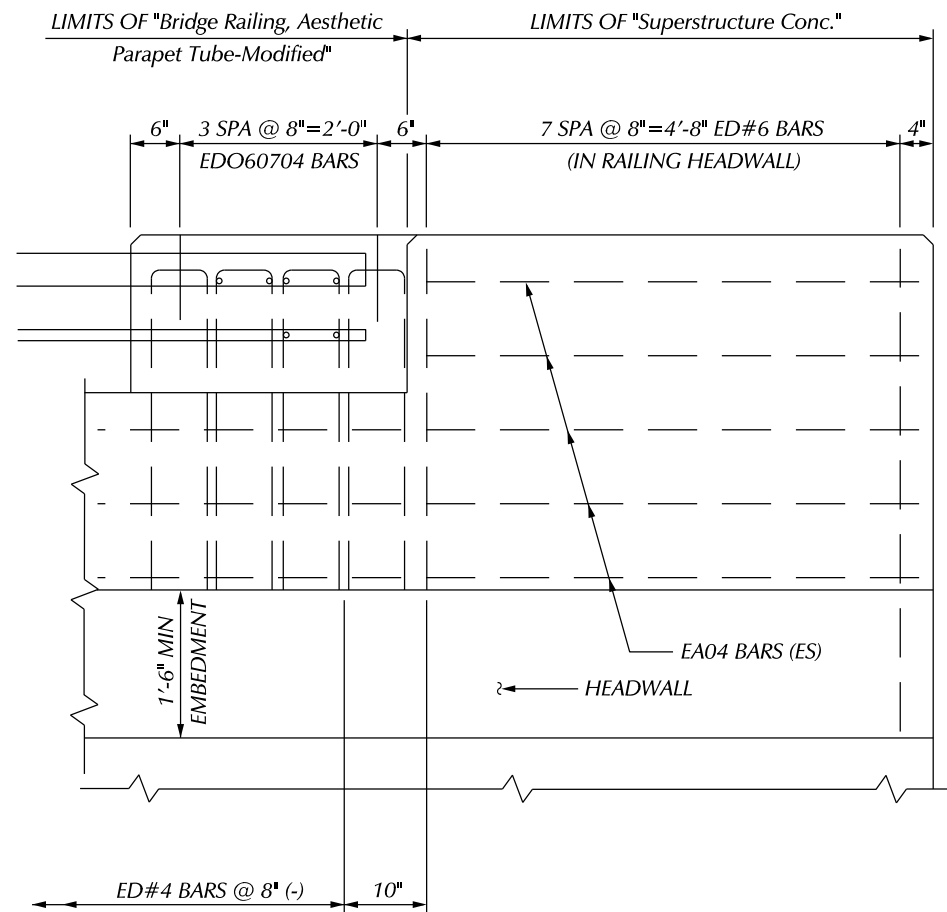
TYPICAL CULVERT RAILING SECTION



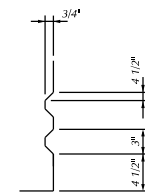
SECTION AT CULVERT END WALL (TUBE CONNECTION AREA)



SECTION AT CULVERT END WALL (FULL CONCRETE AREA)



PLAN - CULVERT END WALL DETAIL



RUSTICATION DETAIL (SHOWING RUSTICATION)

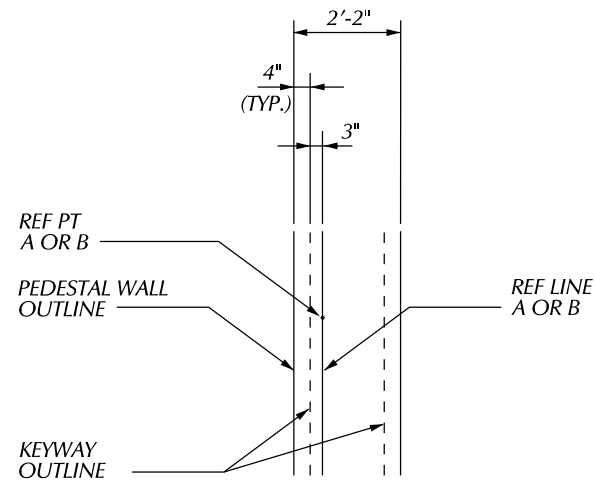
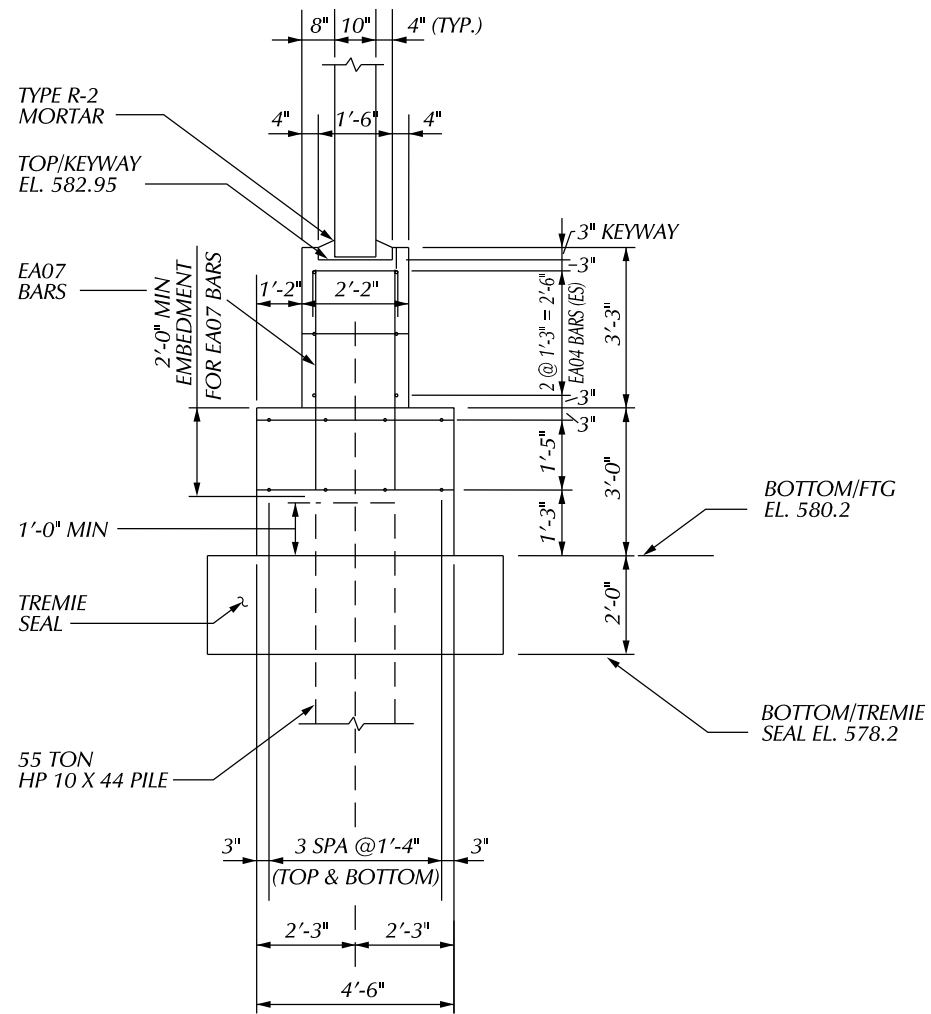
BY	CHECKED BY	APPROVED:
PLAN		
GRADE		
ESTIMATE		
DESCRIPTION	DR	CHK
REVISIONS	DATE	

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER

CULVERT RAILING DETAILS

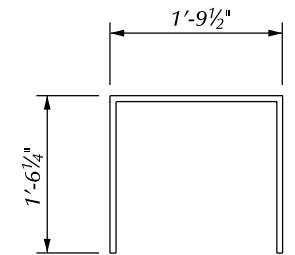
SHEET	OF	SHEETS
CONTRACT NO.		
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DATE		



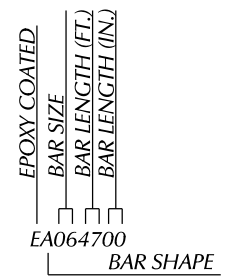
DETAIL A

EPOXY COATED STEEL REINFORCEMENT

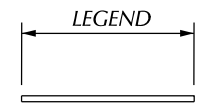
BAR	NO. REQ'D	TOTAL WT FTG A	TOTAL WT FTG B



ED060410



BAR LEGEND



EA BAR

SECTION THRU PEDESTAL WALL

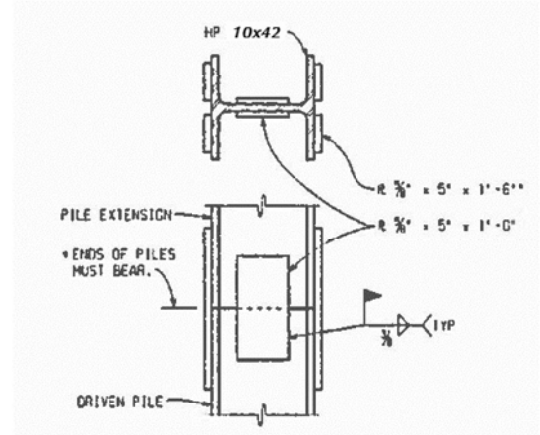
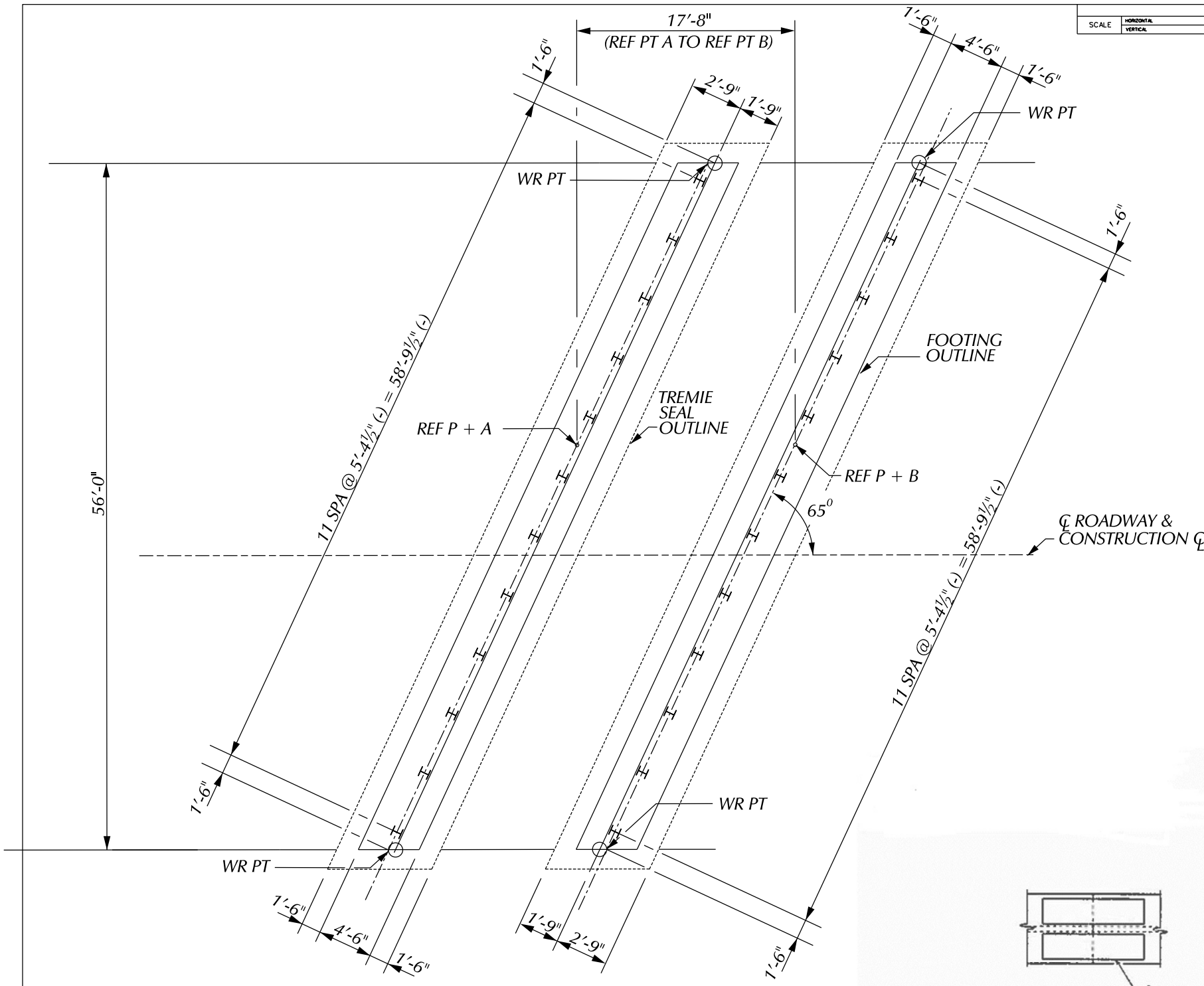
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PLAN							
GRADE							
ESTIMATE							
REVISIONS							

CITY OF DETROIT
CITY ENGINEERING DIVISION - D.P.W.
BUREAUS OF STREETS AND HIGHWAYS
FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER

CULVERT SUBSTRUCTURE DETAILS

SHEET OF SHEETS
CONTRACT NO.
ASSIGNMENT NO.
DATE

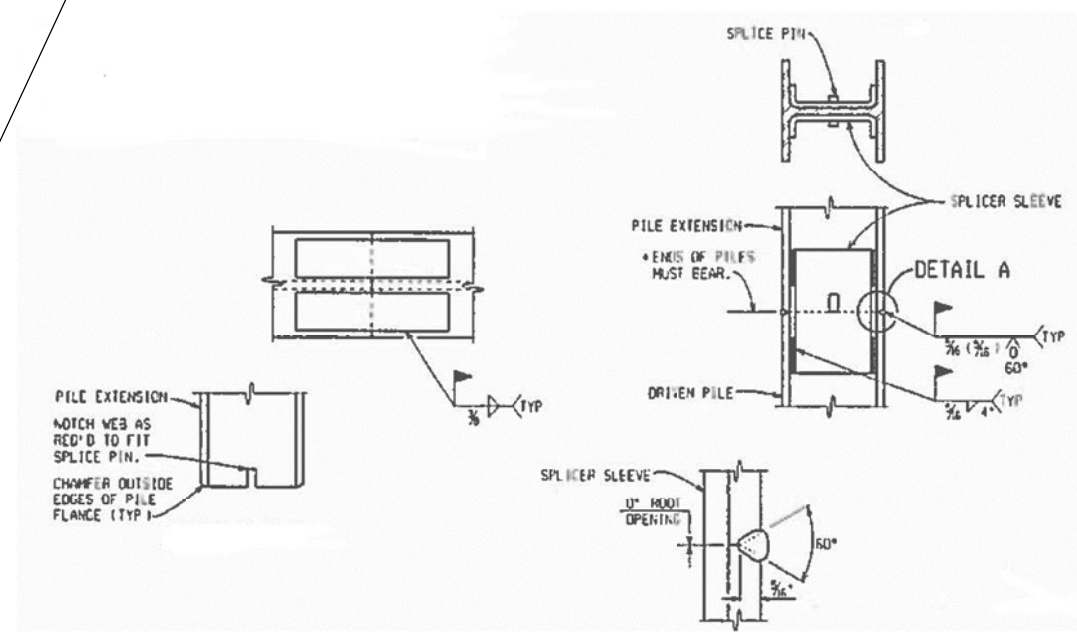


SPlice DETAILS
 * SET PILE EXTENSION IN PLACE WITH SPlice PLATES ATTACHED. TAP SEVERAL TIMES WITH THE HAMMER TO IMPROVE BEARING CONTACT, THEN COMPLETE WELDING OF PLATES TO THE LOWER SECTION.

55 TON STEEL "H" PILES					
LOCATION	PILE TYPE	NUMBER OF PILES	ESTIMATED LENGTH FURNISHED & DRIVEN		CUT-OFF ELEV.
			EACH LFT	TOTAL LFT	
FTG A	TEST	2	50	100	669.00
	VERTICAL	18	40	720	669.00
FTG B	TEST	2	50	100	669.00
	VERTICAL	18	40	720	669.00
TOTAL				1640	

MISCELLANEOUS QUANTITIES	
1 LS	PILE DRIVING EQUIPMENT, FURN
1640 FT	PILE STEEL, FURN AND DRIVEN, 10 INCH
4 EA	TEST PILE STEEL 10 INCH

FTG A FTG B
PILE LAYOUT



NOTCH DETAIL
DETAIL A
ALTERNATE SPlice DETAILS

* SET PILE EXTENSION IN PLACE WITH SPlice PLATES ATTACHED. TAP SEVERAL TIMES WITH THE HAMMER TO IMPROVE BEARING CONTACT, THEN COMPLETE WELDING OF PLATES TO THE LOWER SECTION.

NOTES:
 H - DENOTES VERTICAL PILES.
 (H) - DENOTES VERTICAL TEST PILES.
 ALL PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 55 TONS.
 STEEL PILES SHALL BE HP 10 X 42.
 ESTIMATED PILE PENETRATIONS HAVE BEEN DETERMINED BY USE OF THE STATIC FORMULA.
 THE PILE DRIVING FORMULAS IN THE STANDARD SPECIFICATIONS ARE NOT TO BE USED TO DETERMINE BATTERED PILE CAPACITY. BATTERED PILES ARE TO BE DRIVEN TO THE ELEVATION ESTABLISHED FOR VERTICAL PILES.
 THE USE OF VIBRATORY HAMMERS FOR INSTALLING H-PILES SHALL NOT BE ALLOWED.

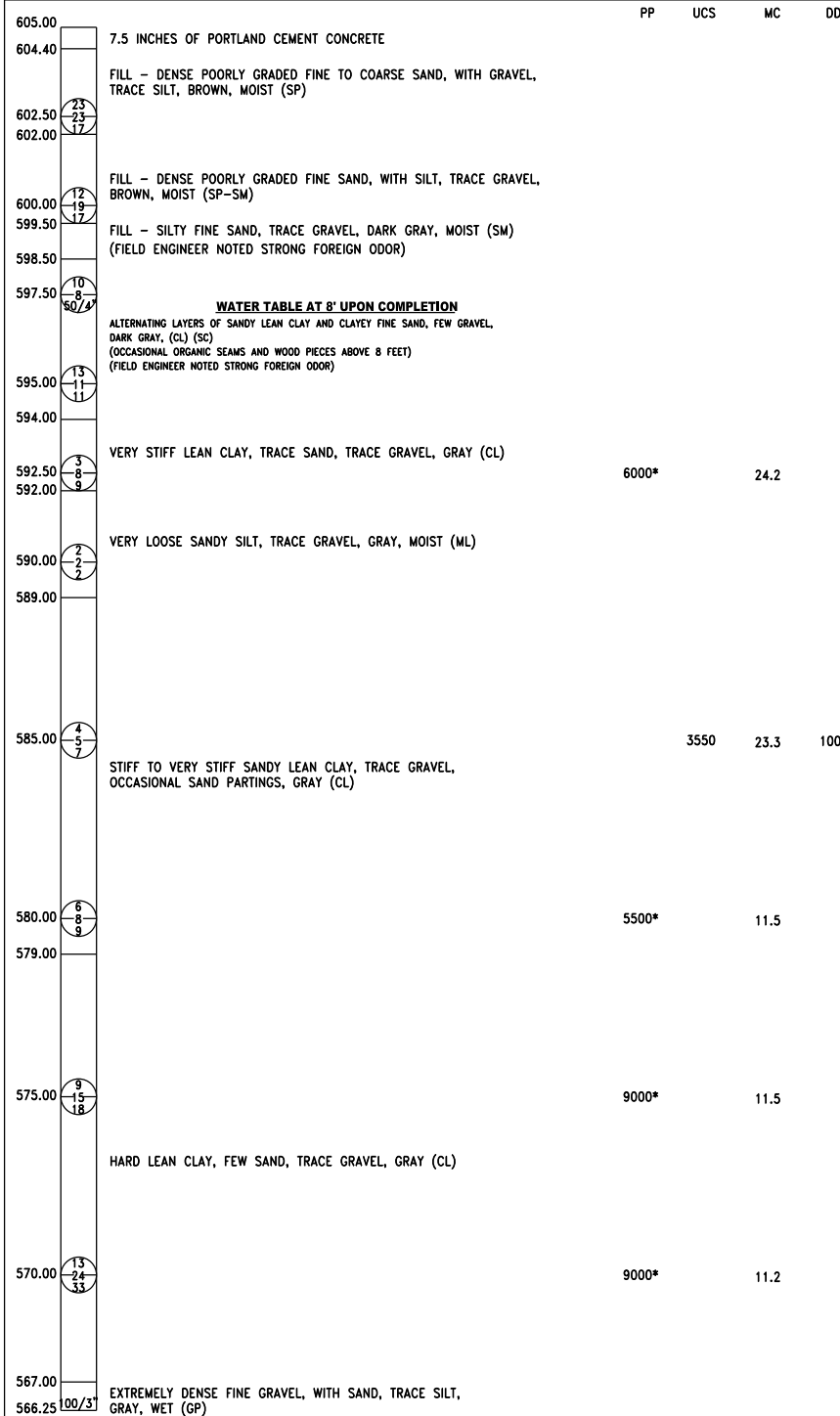
				BY	CHECKED BY	APPROVED:
						ENGINEER OF STREETS
DESCRIPTION	DR	CHK	DATE	INITIALS	DATE	
REVISIONS						

CITY OF DETROIT
 CITY ENGINEERING DIVISION - D.P.W.
 BUREAUS OF STREETS AND HIGHWAYS
 FOR

WEST PARKWAY CULVERT OVER ROUGE RIVER
CULVERT H PILE DETAILS

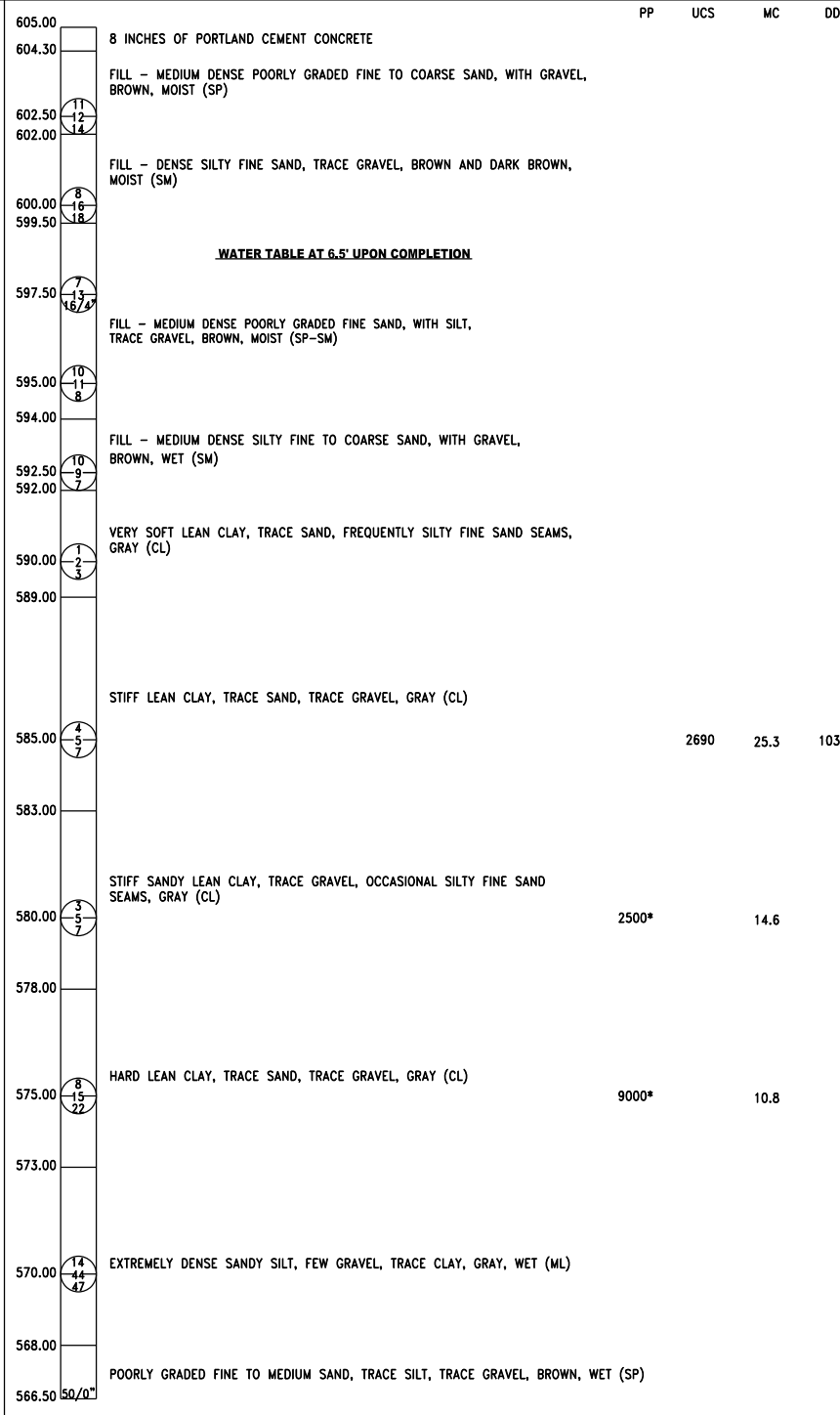
SHEET	OF	SHEETS
CONTRACT		
NO.		
ASSIGNMENT		
NO.		
DATE		

TEST BORING NO. SB-01
 LOCATION: WEST PARKWAY STREET
 PHYSICAL REFERENCE: 20' NORTH OF EXISTING CULVERT CENTER LINE
 PHYSICAL OFFSET: 21' EAST OF TOE OF THE WEST SIDE SIDEWALK
 STATION: -
 GROUND SURFACE ELEVATION: 605.0 FT BORING DATE: 9/11/17

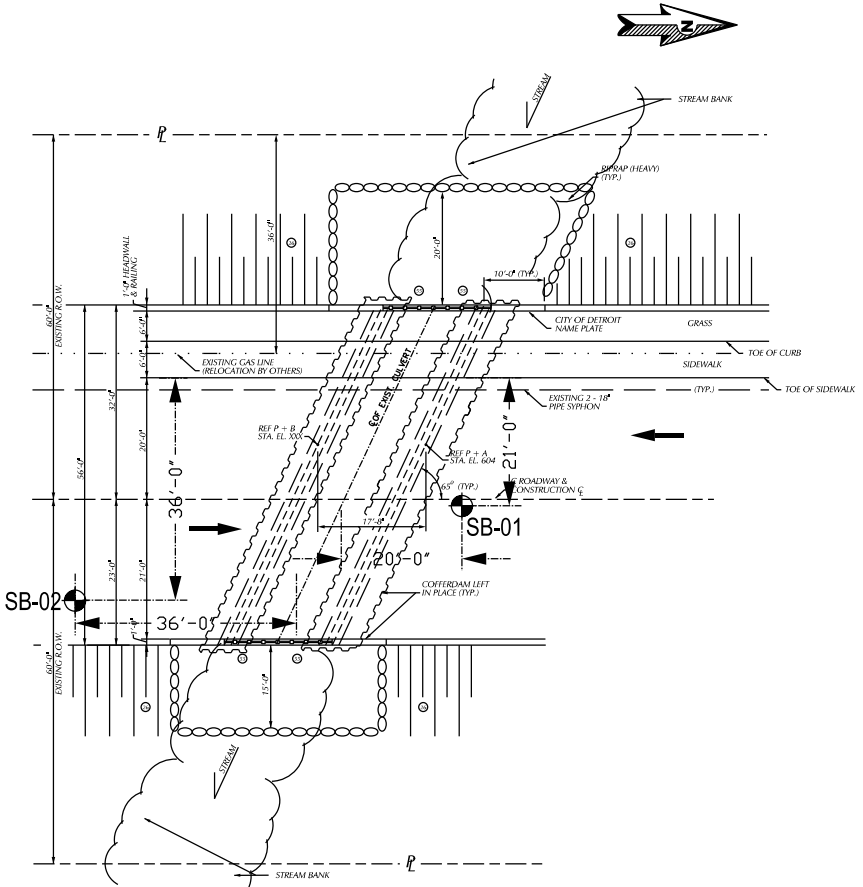


E.O.B. 38.75 FEET (EL. 566.25)
 BORING TERMINATED AT SAMPLER AND AUGER REFUSAL.
 POSSIBLE TOP OF BEDROCK

TEST BORING NO. SB-02
 LOCATION: WEST PARKWAY STREET
 PHYSICAL REFERENCE: 36" SOUTH OF EXISTING CULVERT CENTER LINE
 PHYSICAL OFFSET: 36' EAST OF TOE OF THE WEST SIDE SIDEWALK
 STATION: -
 GROUND SURFACE ELEVATION: 605.0 FT BORING DATE: 9/11/17



E.O.B. 38.50 FEET (EL. 566.50)
 BORING TERMINATED AT SAMPLER AND AUGER REFUSAL.
 POSSIBLE TOP OF BEDROCK



SOIL BORING LOCATION PLAN

SOIL BORING LOCATION

NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D. X 1.5" I.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 6" INCREMENTS USING A 140 LB HAMMER FALLING 30".

Legend:
 36' - 0" (Physical Offset)
 21' - 0" (Physical Reference)
 20' - 0" (Culvert Offset)

PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 UCS = LAB DETERMINED UNCONFINED COMPRESSIVE STRENGTH - TONS/SQ.FT (TSF)
 MC = MOISTURE CONTENT - (%)
 DD = DRY DENSITY - LBS/CU.FT (PCF)

REV#	DATE	DESCRIPTION

3031 W. Grand Blvd., Ste. 228
 Detroit, MI 48202
 Tel: 313-963-2731
 Fax: 313-963-2736
 www.somatieng.com

**CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERING DIVISION
 WEST PARKWAY CULVERT REPLACEMENT
 SOIL BORING LOG PLAN**

ISSUED FOR:
 DATE:
 BY:
 JOB NO.: