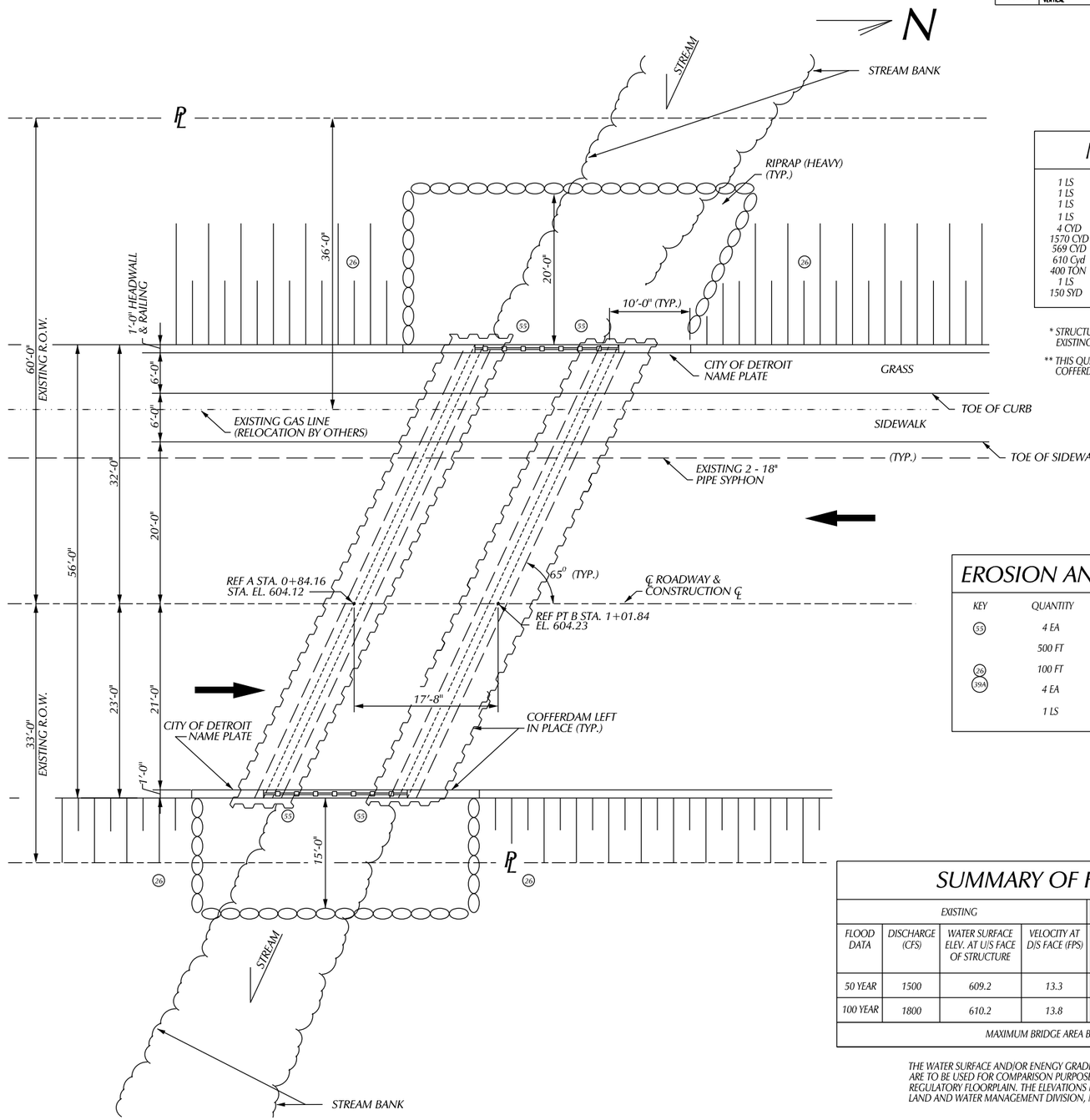
SCALE	HORIZONTAL	BOOK NO. PG.	LEVEL
	VERTICAL	PAVING COMPLETED	DATE

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

BENCH MARKS ELEV



PLAN

MISCELLANEOUS QUANTITIES

1 LS	MONITORING VIBRATIONS (STRUCTURES)
1 LS	MONITORING VIBRATIONS (SANITARY SEWERS)
1 LS	STRUCTURES, REM (B01 OF 63021)
1 LS	STRUCTURES, REM *
4 CYD	EXCAVATION, FDN **
1570 CYD	BACKFILL, STRUCTURE, CIP
569 CYD	EMBANKMENT, CIP
610 Cyd	NON HAZ CONTAMINATED MATERIAL HANDLING AND DISPOSAL, LM
400 TON	RIPRAP, HEAVY, SPECIAL
1 LS	CONFFERDAMS, LEFT IN PLACE
150 SYD	CONC. SURFACE COATING

* STRUCTURE, REM INCLUDED: REMOVAL OF EXISTING CORRUGATED PIPE-CULVERT, REMOVAL EXISTING GUARDRAIL, EXCAVATING, FDN FOR CULVERT REMOVAL.

** THIS QUANTITY FOR EXCAVATION FOUNDATION FOR PROPER INSTALLATION OF PROPOSED COFFERDAMS.

EROSION AND SEDIMENTATION CONTROL

KEY	QUANTITY	PAY ITEM
53	4 EA	EROSION CONTROL, FILTER BAG
	500 FT	TURBIDITY CURTAIN (SHALLOW)
26	100 FT	EROSION CONTROL, SILT FENCE
39A	4 EA	EROSION CONTROL, INLET PROTECTION, FABRIC DROP
	1 LS	SEDIMENTATION CONTROL

SUMMARY OF HYDRAULIC ANALYSIS

EXISTING				PROPOSED			
FLOOD DATA	DISCHARGE (CFS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY AT D/S FACE (FPS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY AT D/S FACE (FPS)	WATERWAY AREA (SFT) AT D/S FACE	CHANGE IN WS EL 3 U/S OF PROPOSED STRUCTURE
50 YEAR	1500	609.2	13.3	606	9.9	1321	3.2
100 YEAR	1800	610.2	13.8	607.8	11.9	1842	1.9
MAXIMUM BRIDGE AREA BELOW LOW CHORD IS 151 SQUARE FEET							

THE WATER SURFACE AND/OR ENENGY GRADE ELEVATIONS SHOWN ON THE ABOVE HYDRAULIC TABLE ARE TO BE USED FOR COMPARISON PURPOSES ONLY AND ARE NOT TO BE USED FOR ESTABLISHING A REGULATORY FLOORPLAIN. THE ELEVATIONS MAY NOT BE USED PROVIDED THEY ARE VERIFIED WITH THE LAND AND WATER MANAGEMENT DIVISION, MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY.

NOTES:

THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARDS SPECIFICATIONS FOR HIGHWAY BRIDGES HS25 LOADING. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.

THE REMOVAL OF THE EXISTING STRUCTURE, SLOPEWALLS AND GABIONS IS INCLUDED IN THE PAY ITEM, "STRUCTURE, REM". SEE "STRUCTURES REMOVAL SEQUENCE" ON SHEET .

REMOVAL OF THE EXISTING SUBSTRUCTURE UNITS SHALL BE ISOLATED FROM THE WATERWAY USING TEMPORARY STEEL SHEET PILING. TEMPORARY SHEETING FOR THE REMOVAL SHALL ADHERE TO THE SAME REQUIREMENTS FOR CONSTRUCTION AND DE-WATERING AS THE COFFERDAM. TEMPORARY SHEETING SHALL BE CUT OFF 1'-0" BELOW FINISH GRADE AND SHALL NOT INTERFERE WITH PROPOSED CONSTRUCTION. ALL COST ASSOCIATED WITH THE TEMPORARY SHEETING IS INCLUDING IN THE REMOVAL ITEMS.

DURING WORK ON THE EXISTING AND PROPOSED RETAINING WALLS CASE SHALL BE TAKEN TO PREVENT ANY MATERIAL FROM ENTERING THE WATERWAY. THE CONTRACTOR SHALL PROPOSED A SYSTEM FOR PROTECTION OF THE WATERWAY & SUBMIT IT TO THE ENGINEER FOR APPROVAL. PAID FOR AS "SEDIMENTATION CONTROL". SEE SPECIAL PROVISION.

PAYMENT FOR FALSE DECKING SHALL BE BASED ON THE AREA OF THE EXISTING ARCH BARREL OVER THE WATERWAY REGARDLESS OF THE SIZE OF THE BARGE OR PLATFORM USED. THE CONTRACTOR SHALL TAKE CARE NOT TO ALLOW THE EXISTING EARTH FILL TO FALL INTO THE WATERWAY.

GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP. PAYMENT FOR GEOTEXTILE LINER SHALL BE INCLUDED IN THE PAYMENT FOR "RIPRAP, HEAVY, SPECIAL".

THE EXISTING STRUCTURE PROVIDES A WATERWAY AREA OF 91 SQUARE FEET. TO UNDERCLEARENCE ELEVATION 592.15.

WITHOUT THE PREVENTIVE MEASURES SHOWN ON THESE PLANS, THERE IS A POSSIBILITY THAT STREAM BED SCOUR MAY OCCUR. THE ESTIMATED TOTAL SCOUR DEPTH IS CALCULATED TO BE 12.6 AT ABUMENT A AND 12.6 AT ABUMENT B. THESE DEPTHS ARE BASED ON A 100 YEAR RUNOFF EVENT.

THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS ___ SQUARE MILES.

BROKEN CONCRETE SHALL NOT BE USED AS RIPRAP.

THE TREMIE SEAL DESIGN WAS BASED ON A WATER SURFACE AT EL. 589.95.

THE WIDTH OF THE TREMIE UNDER THE STRUCTURE MAY NOT BE INCREASED EXCEPT IN THE SOUTHWEST QUADRANT IN THE VICINITY OF THE EXISTING AND PROPOSED SANITARY SEWER.

THE USE OF VIBRATORY HAMMERS FOR INSTALLATION COFFERDAM SHALL NOT BE ALLOWED.

DEWATERING OF THE COFFERDAM IS TO BE MADE THRU FILTER BAGS UNTIL COMPLETION OF THE TREMIE SEAL. ALL COST ASSOCIATED WITH DEWATERING ARE THE REPONSIBILITY OF THE CONTRACTOR.

COFFERDAMS IN STREAM SHALL BE CUT OFF AT ELEVATION 585.2 OR A MINIMUM OF 1'-0" BELOW THE STREAM BOTTOM OR 1'-0" BELOW GRADE. WORK IS INCLUDED IN THE BID ITEM, "CONFFERDAMS, LEFT IN PLACE (C01 OF 63821).

CONCRETE SURFACE COATING IS TO BE APPLIED TO BOTH SIDES OF THE RAILING, THE HEADRAIL FACIA, THE CULVERT AND PEDESTAL WALL END FACES, THE TOP AND EXPOSED SIDE OF THE WINGWALL, RETURNWALLS AND THE RETAINING WALL. COATING SHALL EXTEND 6 INCHES MINIMUM BELOW FINISHED GRADE.

ALL EXCAVATION ON THE PROJECT SHALL BE CONSIDERED NONHAZARDOUS CONTAMINATED. STORAGE AREA FOR THE MATERIAL ON SITE MAY BE LIMITED.

DESCRIPTION	DR	NCK	DAPV	DATE
REVISIONS				

	BY	CHECKED BY	APPROVED:
PLAN			ENGINEER OF STREETS
GRADE			
ESTIMATE			
FINAL	SHEET	REVIEW	

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