

SUMMARY OF HYDRAULIC ANALYSIS

FLOOD DATA	EXISTING			PROPOSED		
	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
50 YEAR						
100 YEAR						

CHANGE IN WS EL 3 U/S OF PROPOSED STRUCTURE

MAXIMUM BRIDGE AREA BELOW LOW CHORD IS _____ SQUARE FEET

THE WATER SURFACE AND/OR ENERGY 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.

EROSION AND SEDIMENTATION CONTROL

KEY	QUANTITY	PAY ITEM
55	EA	Erosion Control, Filter Bag
	FT	Turbidity Curtain (Shallow)
20	FT	Erosion Control, Silt Fence
39A	EA	Erosion Control, Inlet Protection, Fabric Drop
	LS	Sedimentation Control

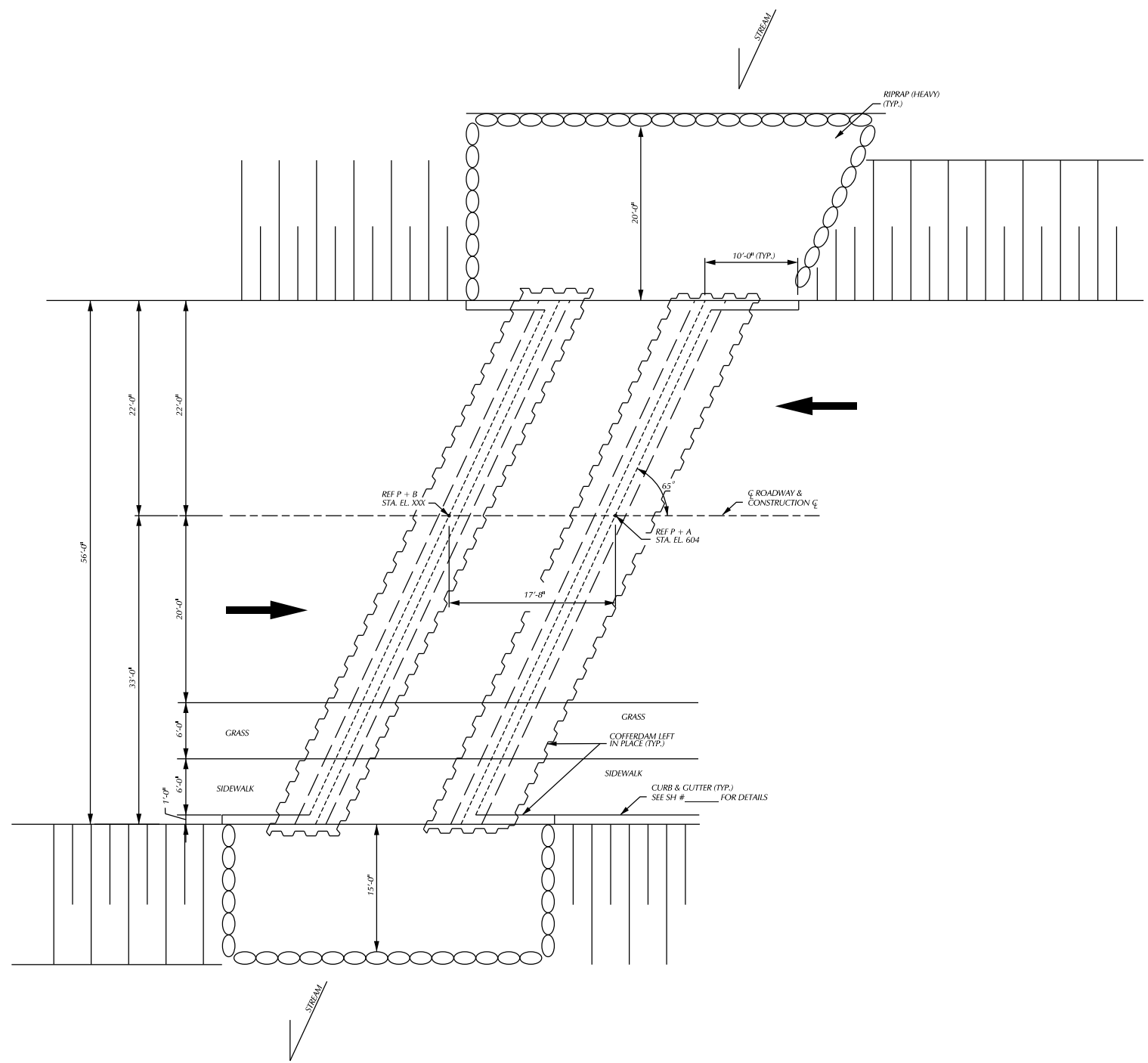
MISCELLANEOUS QUANTITIES

LS	Monitoring Vibrations (Structures)
LS	Monitoring Vibrations (Sanitary Sewers)
LS	Structures, Rem (B01 of 63021)
Cyd	Masonry and Conc. Structures, Rem.
LS	Structures, Rem Portions (B01 of 63021)
Sqf	False Decking
Cyd	Excavation, Fdn
Cyd	Backfill, Structure, CIP
Cyd	Excavation, Earth
Cyd	Non Haz Contaminated Material Handling and Disposal, LM
Tan	Riprap, Heavy, Special
Syd	Articulating Concrete Block System, 6 Inches
LS	Cofferdams, Left in Place (C01 of 63821)
LS	Conc. Surface Coating
Cyd	Conc. Quality Assurance, Structure
Cyd	Patching Mortar or Conc. *
Sqf	Patch, Forming *

* TO BE USED AS DIRECTED BY THE ENGINEER FOR REPAIRS ON THE EXISTING RETAINING WALL.

NOTES:

- THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARDS SPECIFICATIONS FOR HIGHWAY BRIDGES FES25 LOADING. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.
- THE REMOVAL OF THE EXISTING STRUCTURE, SLOPES AND GABIONS IS INCLUDED IN THE PAY ITEM, "Structures, Rem B01 of 63021". 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.
- THE TOP 2' (±) OF THE EXISTING RETAINING WALL SHALL BE REMOVED BY SAW CUTTING. WORK IS INCLUDED IN "Structures, Rem Portions (B01 of 63021)". SEE "RETAINING WALL REMOVAL AND CONSTRUCTION SEQUENCE" ON SHEET _____.
- REMOVAL OF EXISTING SHEETING IN THE SLOPE ADJACENT TO THE PROPOSED RETAINING WALL IS INCLUDED IN "Structures, Rem Portions (B01 of 63021)".
- DURING WORK ON THE EXISTING AND PROPOSED RETAINING WALLS CASE SHALL BE TAKEN TO PREVENT ANY MATERIAL FROM ENTERING THE WATERWAY. THE CONTRACTOR SHALL PROPOSE 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 _____ SQUARE FEET TO UNDERCLEARANCE ELEVATION _____.
- 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 6.6' AT ABUTMENT A AND 13.6' AT ABUTMENT B. THESE DEPTHS ARE BASED ON A 100 YEAR RUN-OFF EVENT.
- THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS 18 SQUARE MILES.
- BROKEN CONCRETE SHALL NOT BE USED AS RIPRAP.
- THE TREMIE SEAL DESIGN WAS BASED ON A WATER SURFACE AT EL. _____.
- 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 RESPONSIBILITY OF THE CONTRACTOR.
- COFFERDAMS IN STREAM SHALL BE CUT OFF AT ELEVATION _____ OR A MINIMUM OF 1'-0" BELOW THE STREAM BOTTOM OR 1'-0" BELOW GRADE. WORK IS INCLUDED IN THE BID ITEM, "Cofferdams, 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. THE ESTIMATED AREA OF COATING IS 1500 SQUARE YARDS.
- ALL ENCAVATION ON THE PROJECT SHALL BE CONSIDERED NON-HAZARDOUSLY CONTAMINATED. STORAGE AREA FOR THE MATERIAL ON SITE MAY BE LIMITED.



WEST PARKWAY CULVERT

PLAN	BY	CHECKED BY	APPROVED:	CITY OF DETROIT CITY ENGINEERING DIVISION - D.P.W. BUREAUS OF STREETS AND HIGHWAYS FOR				WEST PARKWAY CULVERT OVER ROUGE RIVER	SHEET OF SHEETS
GRADE			ENGINEER OF STREETS					GENERAL PLAN OF STRUCTURE	CONTRACT NO.
ESTIMATE								ASSIGNMENT NO.	
REVISIONS	DESCRIPTION	DR	CHK	DATE	FINAL	****	****		DATE