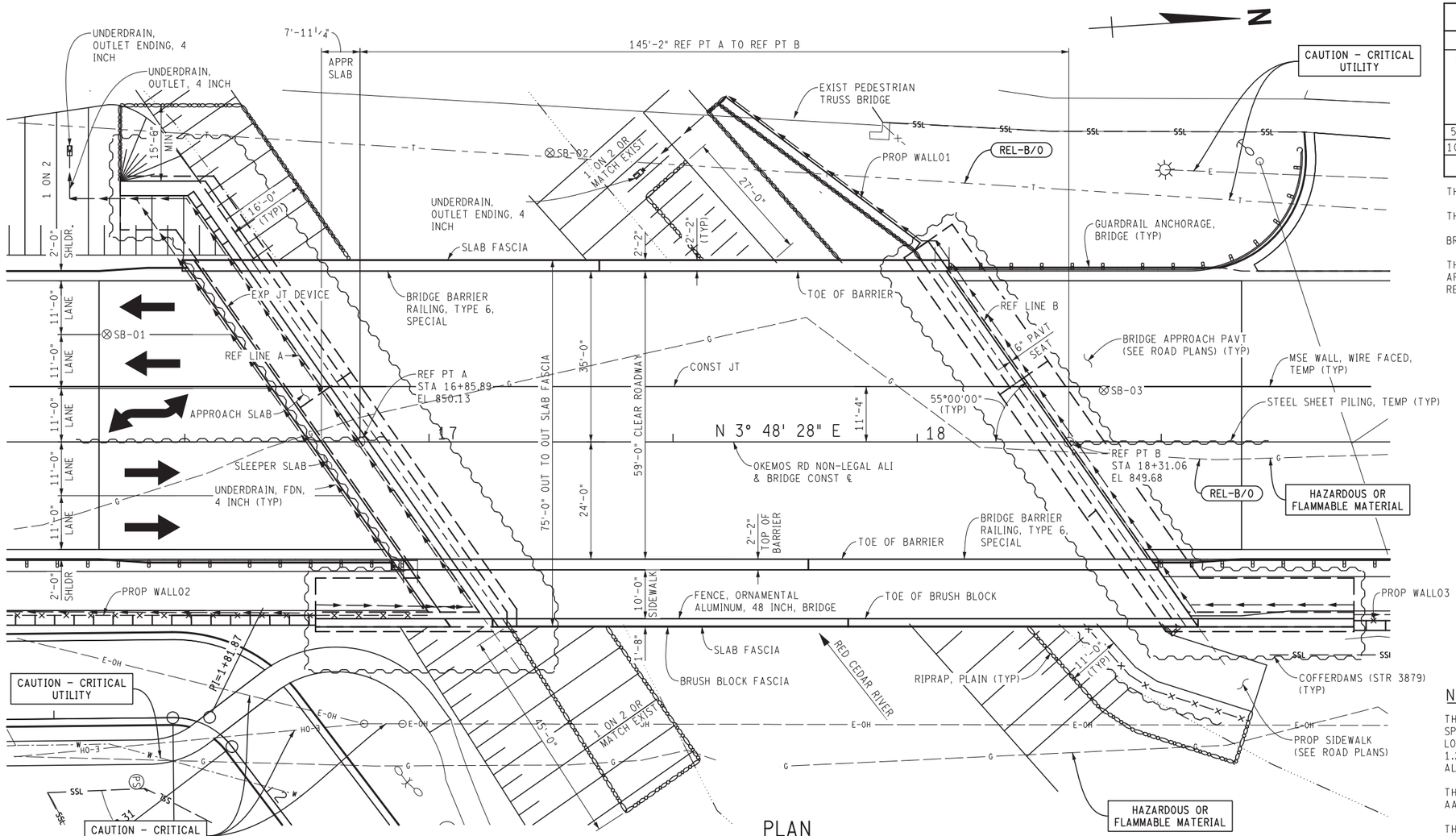

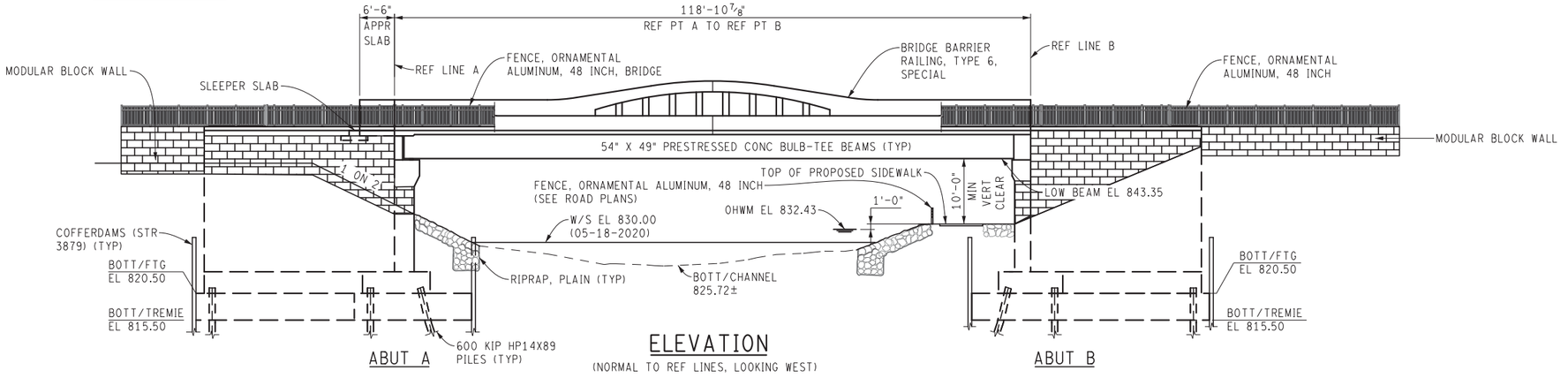

SUMMARY OF HYDRAULIC ANALYSIS

EXISTING				PROPOSED			
FLOOD DATA	DIS-CHARGE (CFS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY IN D/S CHANNEL (FPS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY IN D/S CHANNEL (FPS)	WATERWAY AREA (SFT) AT D/S FACE	CHANGE IN WS EL FROM U/S FACE OF PROPOSED STRUCTURE
50 YEAR	5700	844.35	5.21	843.04	3.97	1434	-1.31
100 YEAR	6600	845.32	5.10	844.04	4.03	1881	-1.28
MAXIMUM BRIDGE AREA BELOW LOW CHORD IS 1523 SQUARE FEET							

THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS 311 SQUARE MILES.

THE EXISTING BRIDGE LOW CHORD ELEVATION IS 841.34 FT.

BROKEN CONCRETE SHALL NOT BE USED FOR RIPRAP.

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 FLOODPLAIN.

MISCELLANEOUS QUANTITIES

JN 204715 CAT 0001	JN 204715 CAT 0002		
--	1	LSUM	Structures, Rem (STR 3879)
--	1	LSUM	Structures, Rem (STR 3880)
83	--	Cyd	Embankment, CIP
--	1970	Cyd	Backfill, Structure, CIP
--	11355	Cyd	Excavation, Fdn
--	8553	Cyd	Lightweight Backfill, Special
--	485	Ft	Underdrain, Fdn, 4 inch
--	16	Ft	Underdrain Outlet, 4 inch
--	2	Ea	Underdrain, Outlet Ending, 4 inch
--	2570	Sft	Steel Sheet Piling, Temp
--	1	LSUM	Cofferdams (STR 3879)
--	1	LSUM	Cofferdams (STR 3880)
--	19513	Sft	False Decking
--	3440	Sft	Mechanically Stabilized Earth Wall, Wire Faced, Temp, Furn
--	3440	Sft	Mechanically Stabilized Earth Wall, Wire Faced, Temp, Install
--	1	LSUM	Conc Surface Coating (STR 3879)
--	1	LSUM	Vibration Monitoring (STR 3879)
655	--	Syd	Riprap, Plain

NOTES:

THE DESIGN OF THIS STRUCTURE IS BASED ON 1.2 TIMES THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION HL-93 LOADING WITH THE EXCEPTION THAT THE DESIGN TANDEM PORTION OF THE HL-93 LOAD DEFINITION SHALL BE REPLACED BY A SINGLE 60 KIP AXLE LOAD BEFORE APPLICATION OF THIS 1.2 FACTOR. THE RESULTING LOAD IS DESIGNATED HL-93 MOD. LIVE LOAD PLUS DYNAMIC LOAD ALLOWANCE DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH.

THE DESIGN OF THE DECK SLAB IS BASED UPON THE STRIP METHOD AS DEFINED IN THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, UTILIZING HL-93 LOADING.

THE RIPRAP QUANTITY IS BASED ON THE LATERAL DIMENSIONS OF THE AREA TO BE PROTECTED, REGARDLESS OF THE NUMBER OF LAYERS REQUIRED. THE ESTIMATED WEIGHT OF RIPRAP IS 1147 TONS.

FALSE DECKING SHALL INCLUDE THE AREA BOUNDED BY REFERENCE LINES A & B AND OUTSIDE FLANGE FASCIAS OF CAMELBACK BEAMS OF NB BRIDGE AND STEEL BEAMS OF SB BRIDGE FOR REMOVAL AND THE AREA BOUNDED BY REFERENCE LINES A & B AND OUTSIDE FLANGE FASCIAS OF BEAMS A & M FOR PROPOSED CONSTRUCTION. THE ESTIMATED AREA IS 3083 SQUARE FEET DURING REMOVAL OF NB, 5790 DURING REMOVAL OF SB, AND 10640 SQUARE FEET DURING PROPOSED CONSTRUCTION.

DO NOT USE WHEELED, ROLLER BASED OR MACHINE MOUNTED COMPACTION EQUIPMENT TO COMPACT THE SUBGRADE, SUBBASE, AND BASE WITHIN 10' OF THE SLEEPER SLAB AFTER IT IS BUILT. USE ONLY HAND/PLATE COMPACTORS. CONTACT PRESSURE OF COMPACTION EQUIPMENT SHALL NOT EXCEED 10 PSI.

"COFFERDAMS (STR 3879)" HAS BEEN PROVIDED FOR THE REMOVAL OF THE EXISTING STRUCTURE STR 3879 AND CONSTRUCTION OF THE PROPOSED STRUCTURE. "COFFERDAMS (STR 3880)" HAS BEEN PROVIDED FOR THE REMOVAL OF THE EXISTING STRUCTURE STR 3880.

WITHOUT THE PREVENTATIVE MEASURES SHOWN ON THESE PLANS, THERE IS A POSSIBILITY THAT STREAM BED SCOUR MAY OCCUR. THE ESTIMATED TOTAL SCOUR DEPTH IS CALCULATED TO BE 26.3 FEET AT ABUTMENT A AND 8.7 FEET AT ABUTMENT B. THESE DEPTHS ARE BASED ON A 100 YEAR RUNOFF EVENT.

GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP. PAYMENT FOR GEOTEXTILE LINER SHALL BE INCLUDED IN PAYMENT FOR RIPRAP.

THE TREMIE SEAL DESIGN WAS BASED ON A WATER SURFACE EL 832.43.

ITEMS CAST INTO STRUCTURAL PRECAST CONCRETE TO FACILITATE BRIDGE CONSTRUCTION (FORMING, FINISHING, ETC.) SHALL BE GALVANIZED OR EPOXY COATED.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

fishbeck | MDOT Michigan Department of Transportation | NO SCALE

	DATE: 02/22/21	CS: MCS 33000	GENERAL PLAN OF STRUCTURE	DRAWING / SHEET
	DESIGN UNIT:	JN: 204715A	OKEMOS RD OVER RED CEDAR RIVER	OKEMOS GPSTR 001 / SECT 2 196
FILE: 200705_GPSTR_001.dgn	TSC: LANSING			