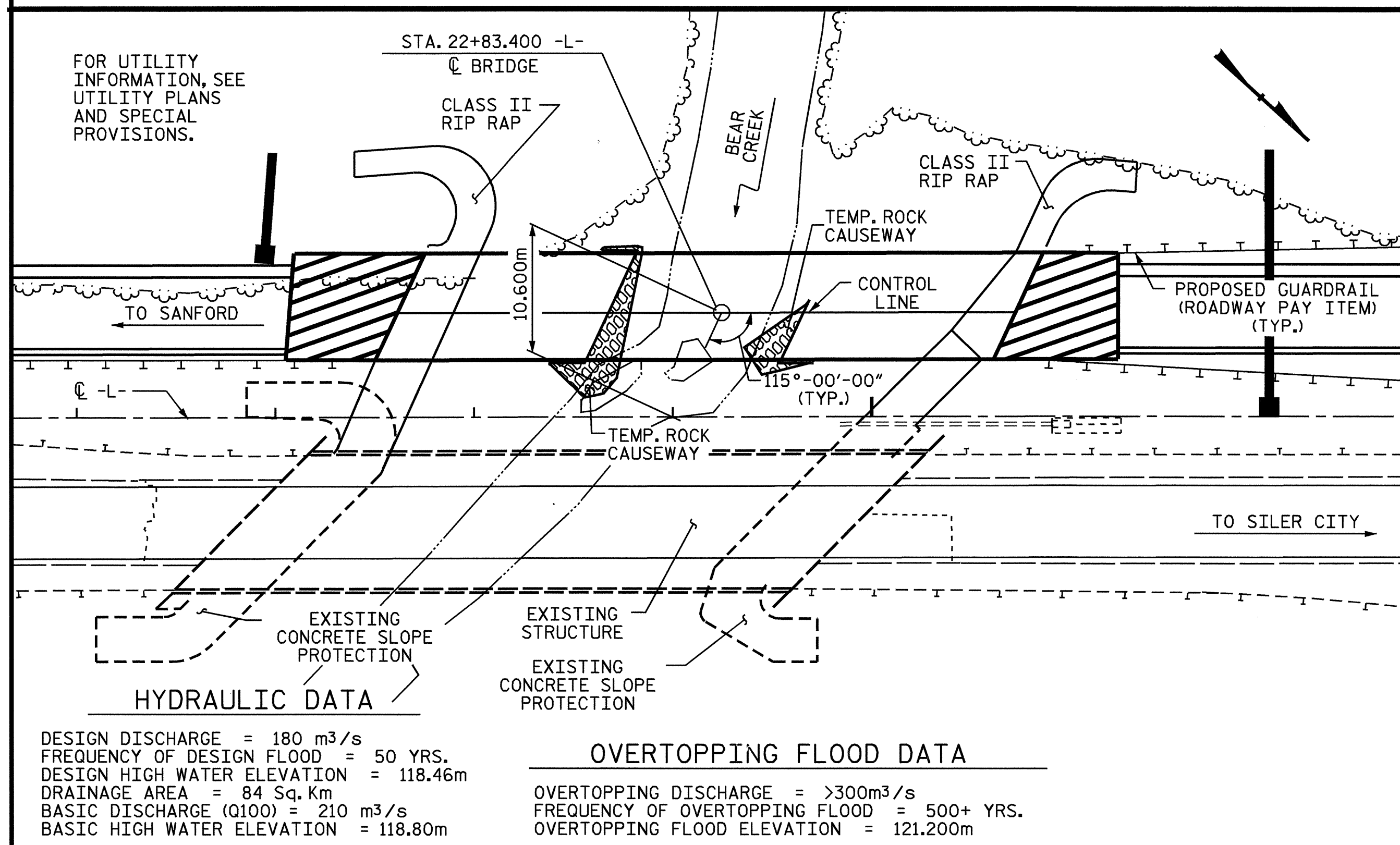


BENCHMARK #9: RAILROAD SPIKE IN BASE OF 225m Ø MAPLE, 34.750m RIGHT OF
 23+40.000 -L-; EL. 119.252

FOR UTILITY
 INFORMATION, SEE
 UTILITY PLANS
 AND SPECIAL
 PROVISIONS.



LOCATION SKETCH

---NOTES---

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 ALL ELEVATIONS ARE IN METERS.
 ASSUMED LIVE LOAD = MS 18 OR ALTERNATE LOADING.
 FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SNSM.
 FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.
 THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.
 REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.
 THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 300mm BELOW THE GROUND LINE.
 THE CONTRACTOR SHALL OBSERVE A 45 DAY WAITING PERIOD BEFORE BEGINNING ANY WORK FOR END BENT CONSTRUCTION AFTER COMPLETION OF THE EMBANKMENT AT EACH END BENT.
 PILES AT END BENTS #1 AND #2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 530 KN EACH.
 WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.
 THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", NOVEMBER, 1995.
 NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
 STEEL PILE POINTS WITH TEETH ARE REQUIRED FOR PILES AT END BENT #1 AND #2. SEE SPECIAL PROVISIONS FOR STEEL PILE POINTS.
 AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 22+83.400-L-.

THE CONTRACTOR MAY CHOOSE TO UTILIZE THE STANDARD OVERHANG FALSEWORK BRACING SYSTEM, SEE "STANDARD OVERHANG FALSEWORK" SHEETS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
 DRILLED PIERS AT BENT #1 HAVE BEEN DESIGNED FOR TIP BEARING ONLY. THE REQUIRED TIP BEARING CAPACITY IS 1925 kPa.
 THE DRILLED PIER AT BENT #1 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN ELEVATION 110.795, SATISFY THE REQUIRED TIP BEARING CAPACITY, AND HAVE A MINIMUM PENETRATION OF 2.13 METERS INTO ROCK AS DEFINED BY THE DRILLED PIERS SPECIAL PROVISIONS.
 DRILLED PIERS AT BENT #2 HAVE BEEN DESIGNED FOR TIP BEARING ONLY. THE REQUIRED TIP BEARING CAPACITY IS 1925 kPa.
 THE DRILLED PIER AT BENT #2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN ELEVATION 111.245, SATISFY THE REQUIRED TIP BEARING CAPACITY, AND HAVE A MINIMUM PENETRATION OF 2.13 METERS INTO ROCK AS DEFINED BY THE DRILLED PIERS SPECIAL PROVISIONS.
 THE SCOUR CRITICAL ELEVATION FOR BENT #1 IS ELEVATION 113.0 METERS. THE SCOUR CRITICAL ELEVATION FOR BENT #2 IS ELEVATION 113.5 METERS. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
 PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT #1 AND #2. IF REQUIRED, THE CASING SHALL NOT EXTEND BELOW ELEVATION 113.0 AND 113.5, RESPECTIVELY, WITHOUT THE ENGINEER'S PERMISSION. THE NEED FOR PERMANENT STEEL CASING WILL BE DETERMINED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR PERMANENT STEEL CASING.
 SPT TESTING IS NOT REQUIRED TO DETERMINE THE TIP BEARING CAPACITY OF THE DRILLED PIERS.
 CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS. SEE SPECIAL PROVISIONS FOR CROSSHOLE SONIC LOGGING.
 SLURRY CONSTRUCTION SHALL NOT BE USED FOR THIS PROJECT.
 SID INSPECTIONS ARE NOT REQUIRED TO DETERMINE THE BOTTOM CLEANLINESS OF THE DRILLED PIERS.
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

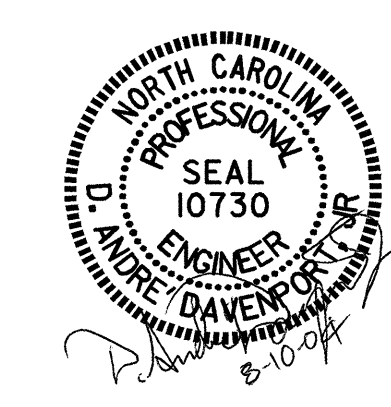
TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS	1,066m DIA. DRILLED PIER IN SOIL	1,066m DIA. DRILLED PIER NOT IN SOIL	PERMANENT STEEL CASING FOR 1,066m DIA. DRILLED PIER	CROSSHOLE SONIC LOGGING	CSL TUBES	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	1372 mm PRESTRESSED CONCRETE GIRDER	HP 310 X 79 STEEL PILES	STEEL PILE POINTS	CONCRETE BARRIER RAIL	PLAIN RIP RAP CLASS II (600mm)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS		
	LUMP SUM	METERS	METERS	METERS	EACH	METERS	SQ. METERS	SQ. METERS	CU. METERS	LUMP SUM	KG.	KG.	NO.	METERS	NO.	METERS	EACH	METERS	METRIC TONS	SQ. METERS	LUMP SUM	LUMP SUM
SUPERSTRUCTURE							725	793		LUMP SUM			12	241.952			122.99			LUMP SUM	LUMP SUM	
END BENT 1									24.5		2123			8	64.0	8		208	212			
BENT 1		8.2	6.8	8.4	1	63.1			22.8		4115	775										
BENT 2		8.9	6.6	6.8	1	64.9			21.8		3957	741										
END BENT 2									24.5		2123			8	40.0	8		135	138			
TOTAL	LUMP SUM	17.1	13.4	15.2	2	128.0	725	793	93.6	LUMP SUM	12318	1516	12	241.952	16	104.0	16	122.99	343	350	LUMP SUM	LUMP SUM

PROJECT NO. R-2610B
CHATHAM COUNTY
 STATION: 22+83.400 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE OVER
 BEAR CREEK ON
 US 421 BETWEEN
 SR 1010 AND SR 2333



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			60

DRAWN BY: H. T. BARBOUR DATE: 11-06-03
 CHECKED BY: D. A. DAVENPORT DATE: 12-03