

TOTAL BILL OF MATERIAL																		
	REMOVAL OF EXISTING STRUCTURES	1220mm Ø DRILLED PIERS IN SOIL	1220mm Ø DRILLED PIERS NOT IN SOIL	CROSSHOLE SONIC LOGGING	CSL TUBES	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL	HP 310 X 79 STEEL PILES	CONCRETE BARRIER RAIL	100mm SLOPE PROTECTION	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	
	LUMP SUM	METERS	METERS	EA.	METERS	SQ. METERS	SQ. METERS	CU. METERS	LUMP SUM	kg	kg	kg	NO.	METERS	METERS	SQ. METERS	LUMP SUM	LUMP SUM
SUPERSTRUCTURE						930.5	985.3		LUMP SUM			116,900		136,920			LUMP SUM	LUMP SUM
END BENT 1								27.2		2680			8	84.0		970		
BENT 1		14.7	9.0	1	105.0			38.5		6630	1490							
BENT 2		8.8	8.0		77.4			43.0		6456	1430							
END BENT 2								29.8		2841			8	84.0		1100		
TOTAL	LUMP SUM	23.5	17.0	1	182.4	930.5	985.3	138.5	LUMP SUM	18607	2920	116,900	16	168.0	136,920	2070	LUMP SUM	LUMP SUM

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.

ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 345W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

AFTER SERVING AS A TEMPORARY STRUCTURE THE EXISTING BRIDGE NO. 56 CONSISTING OF 5 SPANS (1 @ 10.7m, 1 @ 10.5m, 1 @ 16.9m, 1 @ 10.6m, 1 @ 10.5m) OF REINFORCED CONCRETE DECK AND GIRDERS WITH END BENTS OF RC CAPS ON STEEL PILES AND INTERIOR BENTS OF RC POST & BEAM; WITH A CLEAR ROADWAY WIDTH OF 8.6m AND LOCATED UP STATION ON Y-2 SHALL BE REMOVED TO 1,000m BELOW NATURAL GROUND. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

EXISTING BRIDGE NO. 306 CONSISTING OF 3 SPANS (1 @ 12.9m, 1 @ 15.9m, 1 @ 14.4m) OF REINFORCED CONCRETE DECK AND GIRDERS WITH END BENTS OF RC CAPS ON FOOTINGS AND INTERIOR BENTS OF RC POST AND BEAM; WITH A CLEAR ROADWAY WIDTH OF 6.1m AND LOCATED DOWN STATION ON -Y2- SHALL BE REMOVED TO 1,000m BELOW NATURAL GROUND.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

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.

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 LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 360,000 kg OF REINFORCING STEEL, ONE 760mm SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 360,000 kg OF REINFORCING STEEL, TWO 760mm SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

FOR FALSEWORK AND FORMS OVER OR ADJACENT TO TRAFFIC, SEE SPECIAL PROVISIONS.

FOR MINIMIZING RAILROAD FLAGGING SERVICE, SEE SPECIAL PROVISIONS.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR METRIC STRUCTURAL STEEL, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

THE DRILLED PIERS AT BENT NOS. 1 & 2 HAVE BEEN DESIGNED FOR BOTH SKIN FRICTION AND TIP BEARING. THE REQUIRED TIP BEARING CAPACITY IS 1436 kPg.

THE REQUIRED TIP BEARING CAPACITY AT BENT NOS. 1 & 2 SHALL BE VERIFIED.

DRILLED PIERS FOR BENT NOS. 1 & 2 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 2560 kN EACH AT THE TOP OF THE COLUMN.

PERMANENT STEEL CASING IS NOT REQUIRED FOR DRILLED PIERS AT BENT NO. 1 & 2.

DRILLED PIERS AT BENT NOS. 1 & 2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 78.0m AND 78.5m RESPECTIVELY AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

SPT TESTING IS NOT REQUIRED TO DETERMINE THE TIP BEARING CAPACITY OF THE DRILLED PIERS AT BENT NOS. 1 & 2.

SLURRY CONSTRUCTION SHALL NOT BE USED FOR THIS PROJECT.

SID INSPECTIONS ARE NOT REQUIRED TO DETERMINE THE BOTTOM CLEANLINESS OF THE DRILLED PIERS AT BENT NOS. 1 & 2.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS AT BENT NOS. 1 & 2. SEE SPECIAL PROVISION FOR CROSSHOLE SONIC LOGGING.

PILES FOR END BENT NOS. 1 & 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 530 kN EACH.

WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.

THE CONTRACTOR SHALL OBSERVE A ONE MONTH WAITING PERIOD BEFORE BEGINNING ANY WORK FOR END BENT CONSTRUCTION AFTER COMPLETION OF THE EMBANKMENT AT EACH END BENT. THE CONTRACTOR MAY BEGIN THE REINFORCED BRIDGE APPROACH FILL CONSTRUCTION AFTER COMPLETION OF END BENT INCLUDING WINGWALLS.

THE DRILLED PIERS WILL BE CONSTRUCTED IN TRIASSIC MATERIAL WHICH HAS A HIGH POTENTIAL TO DEGRADE WHEN EXPOSED TO AIR AND WATER. THEREFORE, THE CONTRACTOR IS CAUTIONED NOT TO EXCAVATE THE BOTTOM FEW FEET OF THE PIERS UNTIL JUST PRIOR TO THE PLACEMENT OF CONCRETE. INSPECTION OF THE BOTTOM SHALL BE MADE NO MORE THAN ONE HOUR PRIOR TO PLACING THE CONCRETE AND ANY SOFT OR LOOSE MATERIAL SHALL BE REMOVED.

RAILROAD EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO PERFORMING ANY WORK IN THE RAILROAD RIGHT-OF-WAY.

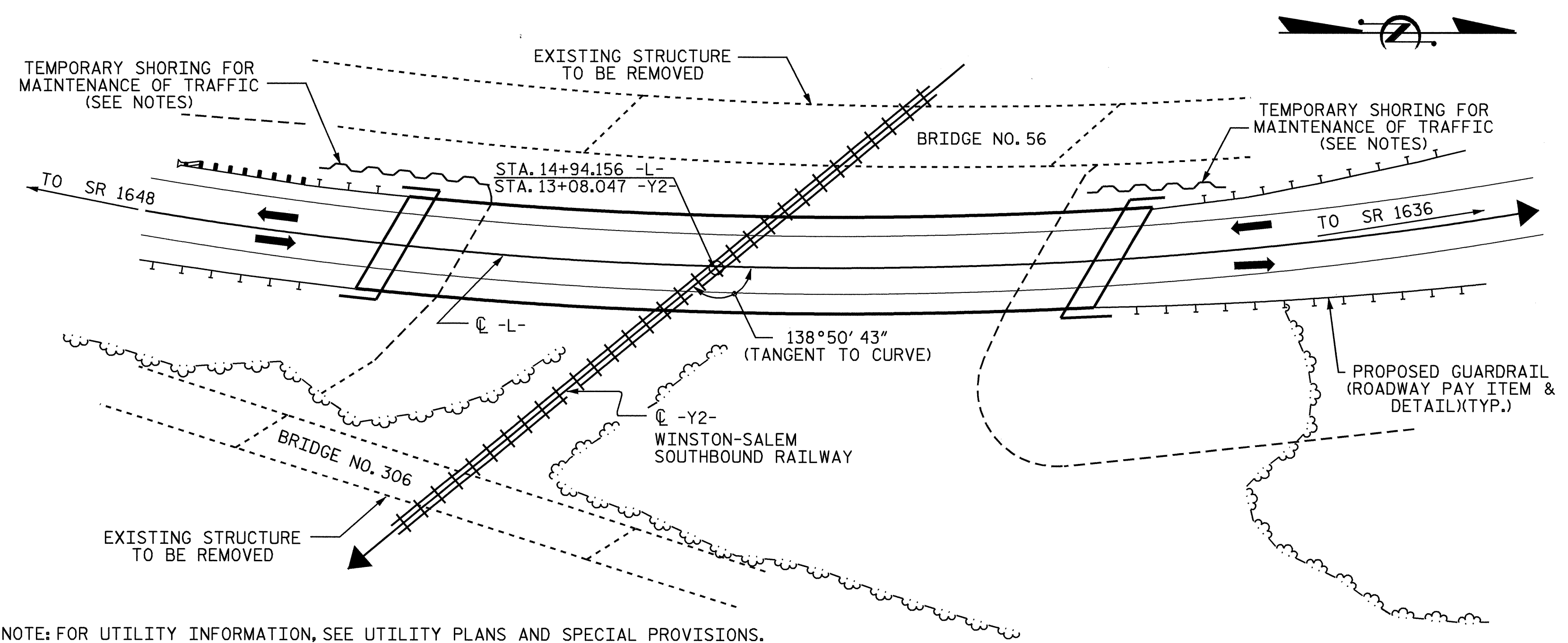
ADDITIONAL EROSION CONTROL MEASURES FOR PROTECTION OF RAILROAD DITCHES MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

NO SEPARATE PAYMENT WILL BE MADE FOR RAILROAD EROSION CONTROL MEASURES.

LIMITS OF SILT FENCE AND FILTER FABRIC PARALLEL TO RAILROAD SHALL EXTEND A MINIMUM OF 3,000m OUTSIDE EDGE OF SUPERSTRUCTURE OR TOE OF SLOPE OF CONSTRUCTION. A GREATER LENGTH OF SILT FENCE OR FILTER FABRIC MAY BE REQUIRED IF SO DIRECTED BY THE ENGINEER.

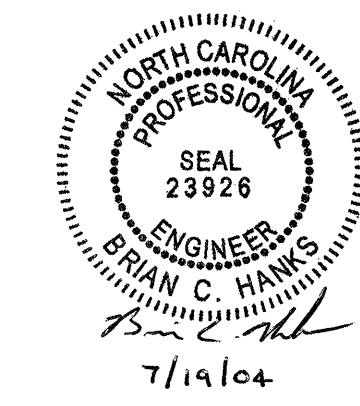
FILTER FABRIC TO BE NAILED TO TIMBER RAIL TIES WITH PRIME SOURCE "GRIP CAP" OR EQUIVALENT. FILTER FABRIC ON SHOULDER TO BE SECURED AS DIRECTED BY THE ENGINEER AND RAILROAD.

BM #2 : NCGS MONUMENT "SIGN" LOCATED 12.430m LEFT OF STA. 14+55.350 -L-, EL. 92.758



LOCATION SKETCH

DRAWN BY : D. G. FLY DATE : 1/22/04
CHECKED BY : B. C. HANKS DATE : 2/16/04



PROJECT NO. B-1019
ANSON COUNTY
STATION: 14+94.156 -L-

SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE OVER
WINSTON-SALEM
SOUTHBOUND RAILWAY
ON US 52 BETWEEN
SR 1648 AND SR 1636

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5	
1			3			TOTAL SHEETS	
2			4			35	