

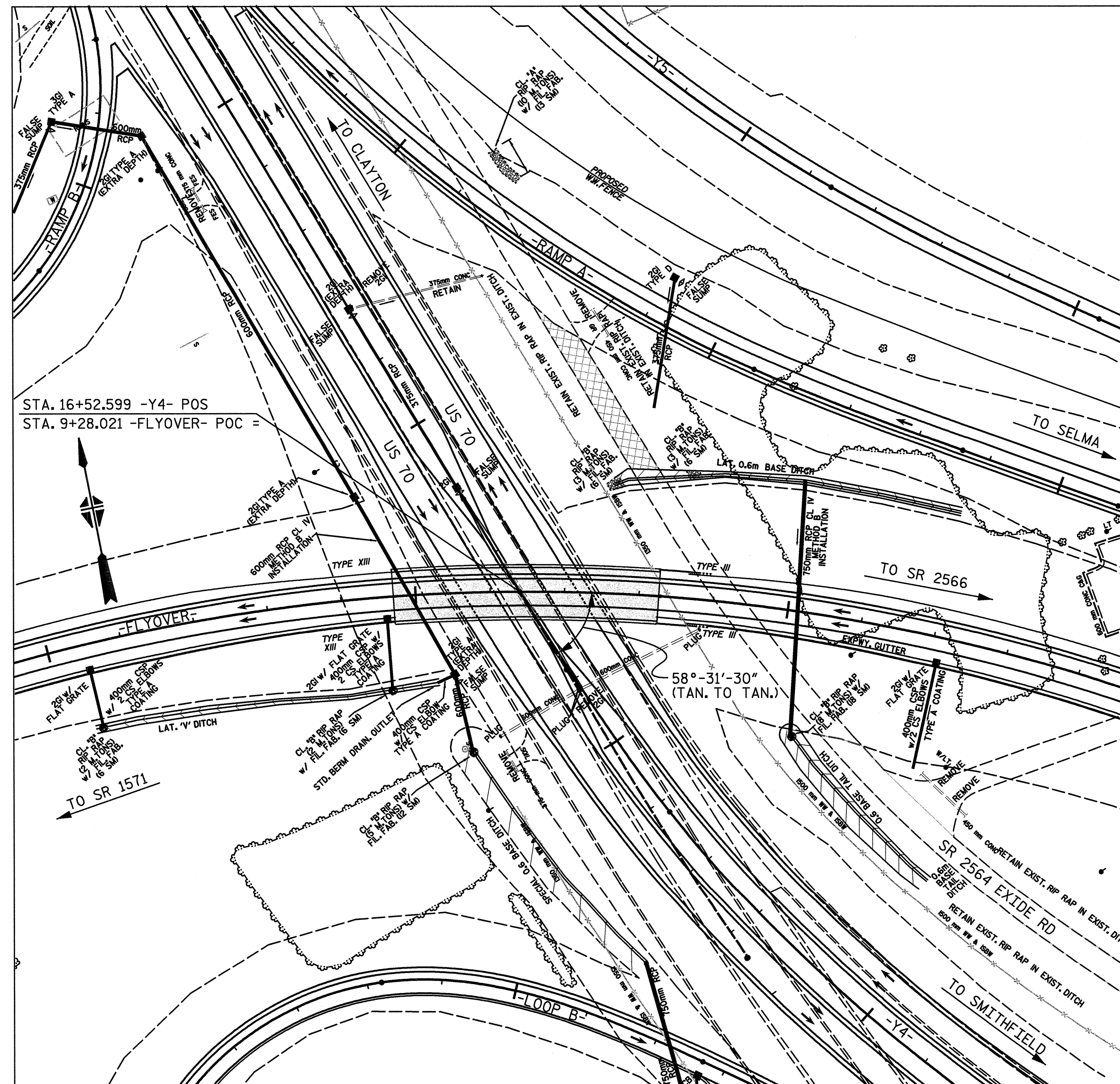
# TOTAL BILL OF MATERIAL

	FOUNDATION EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLAB	REINFORCING STEEL	SPIRAL COLUMN REINF. STEEL	STRUCTURAL STEEL	HP 310 X 79 STEEL PILES	CONCRETE BARRIER RAIL	100mm SLOPE PROTECTION	POT BEARINGS	EVAZOTE JOINT SEALS	
	LUMP SUM	SQ. METERS	SQ. METERS	CU. METERS	LUMP SUM	kg	kg	APPROX. kg	NO.	METERS	METERS	SQ. METERS	LUMP SUM	LUMP SUM
SUPERSTRUCTURE		1,019.4	1,061.3		LUMP SUM			152,800			143.729		LUMP SUM	LUMP SUM
END BENT 1				30.3		2,946			12	260.9		282.2		
BENT 1	LUMP SUM			83.4		7,070	679		27	484.2				
END BENT 2				30.3		2,946			12	296.6		337.0		
TOTAL	LUMP SUM	1,019.4	1,061.3	144.0	LUMP SUM	12,962	679	152,800	51	1,041.7	143.729	619.2	LUMP SUM	LUMP SUM

## GENERAL 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.  
 THIS BRIDGE HAS BEEN DESIGNED BY STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.  
 THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES" FOR SEISMIC PERFORMANCE CATEGORY A.  
 ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 345W STEEL AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON PLANS.  
 PILES FOR END BENTS 1 & 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 530KN EACH.  
 WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.  
 PILES FOR BENT 1 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 530KN EACH.

FOR METRIC STRUCTURAL STEEL, SEE SPECIAL PROVISIONS.  
 FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED BRIDGE, SEE SPECIAL PROVISIONS.  
 FOR FALSEWORK AND FORMS OVER OR ADJACENT TO TRAFFIC, SEE SPECIAL PROVISIONS.  
 FOR FALSEWORK AND FORM WORK, SEE SPECIAL PROVISIONS.  
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.  
 NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.  
 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 ADDITIONAL PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.  
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.  
 REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICAL 420-3 OF THE STANDARD SPECIFICATIONS. FOR FABRICATED METAL STAY-IN-PLACE FORMS, SEE SPECIAL PROVISIONS.



**BENCH MARK DATA**

B. M. #BL-7 R/R SPIKE DRIVEN VERTICALLY  
 IN BASE OF 10" HOLLY TREE  
 BL STA. 135+85.578, 120.089 RT.  
 ELEV. 85.921 N 205682.4659 E 660854.7846

PROJECT No. R-2552C  
 JOHNSTON COUNTY  
 STATION: POS 16+52.599 -Y4- =  
 POC 9+28.021 -FLYOVER-

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING  
 LOCATION SKETCH,  
 GENERAL NOTES &  
 TOTAL BILL OF MATERIAL**

NO.	BY	DATE	NO.	DATE
1			1	
2			2	

SHEET NO. 5-309  
 TOTAL SHEETS 431

**RALPH WHITEHEAD ASSOCIATES, INC.**  
 CONSULTING ENGINEERS  
 P.O. BOX 35624 CHARLOTTE, N.C. 28235

DRAWN BY JTG, DDL DATE 1-05 DWG. NO. D-1748.04  
 CHECKED BY ZAL DATE 1-05

NOTE: FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

## LOCATION SKETCH

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