

**INFORMATION TO BE SHOWN ON PLANS**

Elevations Provided by the Wave Study (Provided by Hydraulics Unit)

Design:	Discharge	N/A	c.f.s.	Frequency	50 yr.	yr.	Elev.	3.5	ft.
Base Flood:	Discharge	N/A	c.f.s.	Frequency	100 yr.	yr.	Elev.	3.9	ft.
Overtopping:	Discharge	N/A	c.f.s.	Frequency	500+	yr.	Elev.	13.68	ft.
							Sog Sta	367+2.94	L2

**ADDITIONAL INFORMATION AND COMPUTATIONS**

SCOUR CALCULATIONS PROVIDED BY Moffat & Nichol

LOCATION	TOTAL SCOUR (FEET)		FLOW VELOCITIES (FT/SEC)	
	100 yr.	500 yr.	100yr.	500yr.
SECTION 1 STA. 119-169	10.1	11.2	6.0	7.5
SECTION 2 STA. 170-173	13.4	14.3	7.5	8.5
SECTION 3 STA. 174-248	11.0	11.7	7.5	8.5
SECTION 4 STA. 249-363	8.2	9.1	4.0	5.0
SECTION 5 EAST 2 BENTS	9.3	10.4	4.0	5.0

LEVEL III WAVE STUDY DATA FOR COASTAL BRIDGE  
BRIDGE # (NEW) MID-CURRITUCK  
COUNTY CURRITUCK

LOCATION (AT THALWEG) CONVERSION FOR  
LAT 36.34248 MSL TO NAVD DELTA  
LONG -75.86605 SUBTRACT 0.32 FT

HYDRAULIC DATA	UNITS	100 YR	50 YR	10 YR
DEPTH-AVE. CURRENT SPEED	FT/SEC	3.8	3.2	2.2
WIND SPEED	MI/HR	3.9	3.9	2.8
WATER SURFACE ELEVATION	FT MSL	4.2	3.9	2.8
	FT MSLVD	3.9	3.6	2.5
WAVE CREST ELEVATION	FT NAVD	7.7	7.0	4.7
SIGNIFICANT WAVE HEIGHT	FT	3.4	3.2	2.5

The nearest benchmark is up Albemarle Sound at Frog Island and it states:

This station has been determined to be non-tidal for tidal datum purposes. There is either no measurable periodic rise and fall of the tide at this location, or it may be present but inconsistent, or the periodic tide is present and consistent, however the Mean Range of Tide (MRT) is negligible, that is below the established tidal/non-tidal threshold of 0.05m (0.10ft). Only the datum of local Mean Sea Level (MSL) is published at these stations. For Nautical Charting Datum applications, a non-tidal Low Water Datum (LWD) is established as 0.50ft (0.15m) below MSL.

**SITE DATA**

Drainage Area	N/A (INDETERMINATE - SOUND)	Source	N/A
River Basin	PASQUOTANK	Character	RURAL COASTAL PLAINS
Stream Classification (Such as Trout, High Quality Water, etc.)			SC
Data on Existing Structure	N/A (NEW LOCATION)		
Debris Potential:	Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High <input type="checkbox"/>	Total Waterway Opening	N/A s.f.
Data on Structures Up and Down Stream	N/A		
	Waterway Opening Below 100yr. WS EL.	N/A s.f.	

Design Control Elev.	N/A	ft.				
Gage Station No.	N/A	Period of Records	N/A yrs.			
Max. Discharge	N/A	c.f.s.	Date	N/A	Frequency	N/A

**Historical Flood Information:**

Date	Elev.	ft.	Est. Freq.	yr.	Source	Period of Knowledge	yr.

Historical Scour Info. : General ft. Contraction ft. Local ft.

Channel Slope N/A f/ft Source N/A Normal Water Surface Elev. 0.3 ft.

Manning's n: Left O.B. Channel Right O.B. Source

Flood Study / Status FEMA ZONE AE (EL 5) COASTAL STORM SURGE Floodway Established? N/A

Flood Study 100yr. Discharge N/A c.f.s. WS Elev.: Floodway N/A ft. Floodway N/A ft. @ River Station ?

**DESIGN DATA**

Hydrological Method LEVEL III WAVE STUDY DATA FOR COASTAL BRIDGE  
Hydraulic Design Method LEVEL III WAVE STUDY DATA FOR COASTAL BRIDGE

Floods Evaluated:	Freq. (yr.)	Q (c.f.s.)	Elev. (ft.)	Backwater (ft.)	Bridge Opening Velocity (f.p.s.)
@ River Station ?	10	N/A	2.5	N/A	N/A
	50	N/A	3.5	N/A	N/A
	100	N/A	3.9	N/A	N/A
	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A

Waterway Opening Provided Below Design W.S. Elev. 54,335 s.f., 100yr W.S. Elev. 68,123 s.f., 2,968,376 s.f., Total

Average Channel Velocity (Design) 3.2 f.p.s. Average Overbank Velocity (Design) NA f.p.s.

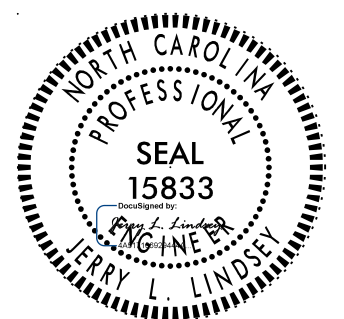
Computed Scour : General SEE BACK COVER ft. Contraction SEE BACK COVER ft. Local SEE BACK COVER ft.

Is a Floodway Revision Required? NO

**BRIDGE SURVEY & HYDRAULIC DESIGN REPORT**

N. C. DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
HYDRAULICS UNIT  
RALEIGH, N. C.

I.D. No.	R-2576	Project No.	34470.I.TAI	Proj. Station	241+2.5 -L-
County	CURRITUCK	Bridge Over	CURRITUCK SOUND	Bridge Inv. No.	
On Highway	Between US 158 and NC 12	Recommended Structure	1 @ 95' 72" MTB, 244 @ 100' 72" MBT, 2 @ 60' 54" MTB		
		Recommended Width of Roadway	36' TO 60' CLEAR ROADWAY Skew 90°		
		Recommended Location is (Up, At, Down) Stream from Existing Crossing	NEW LOCATION		
		Latitude	36.34248	Longitude	-75.86605
		Statewide Tier	<input checked="" type="checkbox"/>	Regional Tier	<input type="checkbox"/>
		Sub-Regional Tier	<input type="checkbox"/>		
		Bench Mark is	BM 8 RR SPIKE IN 14" PINE LOCATED 422' RIGHT OF STATION I19+10		
			N954241, E291362 Elev. 20.17 ft. Datum: NAVD 88		
		Temporary Crossing	NOT REQUIRED (NEW LOCATION)		



CURRITUCK SOUND Stream Inv. No. R-2576, Project No. 34470.I.TAI PDF File R-2576-Currituck Sound.3 of 3.pdf

Designed by: M.S. PRICE, P.E.  
Assisted by:  
Project Engineer: J. L. LINDSEY, P.E.  
Reviewed by: