



INFORMATION TO BE SHOWN ON PLANS **

WS EL. Taken @ River Station 8

Design:	Discharge	N/A	c.f.s.	Frequency	N/A	yr.	Elev.	N/A	ft.
Base Flood:	Discharge	34.0	c.f.s.	Frequency	100	yr.	Elev.	2.63	ft.
Overtopping:	Discharge	N/A	c.f.s.	Frequency	500+	yr.	Elev.	17.14	ft.

ADDITIONAL INFORMATION AND COMPUTATIONS

** HYDRAULIC MODELLING/SCOUR CALCULATIONS PROVIDED BY MOFFATT AND NICHOL

TOTAL SCOUR			TOTAL SCOUR			TOTAL SCOUR		
BENT NUMBER / STATION	TOTAL SCOUR (FEET)		BENT NUMBER / STATION	TOTAL SCOUR (FEET)		BENT NUMBER / STATION	TOTAL SCOUR (FEET)	
	100 yr.	500 yr.		100 yr.	500 yr.		100 yr.	500 yr.
BENT 9 STA 31+00	0.00	0.89	BENT 31 STA 53	0.22	0.95	BENT 51 STA 73+00	0.24	0.96
BENT 10 STA 32+00	0.00	0.93	BENT 32 STA 54+00	0.22	0.95	BENT 52 STA 74+00	0.24	0.96
BENT 11 STA 33+00	0.15	0.94	BENT 33 STA 55+00	0.23	0.95	BENT 53 STA 75+00	0.24	0.96
BENT 12 STA 34+00	0.19	0.94	BENT 34 STA 56+00	0.23	0.95	BENT 54 STA 76+00	0.25	0.97
BENT 13 STA 35+00	0.20	0.94	BENT 35 STA 57+00	0.23	0.95	BENT 55 STA 77+00	0.25	0.97
BENT 14 STA 36+00	0.20	0.94	BENT 36 STA 58+00	0.23	0.96	BENT 56 STA 78+00	0.25	0.97
BENT 15 STA 37+00	0.21	0.95	BENT 37 STA 59+00	0.23	0.96	BENT 57 STA 79+00	0.25	0.97
BENT 16 STA 38+00	0.21	0.95	BENT 38 STA 60+00	0.23	0.96	BENT 58 STA 80+00	0.25	0.97
BENT 17 STA 39+00	0.21	0.95	BENT 39 STA 61+00	0.23	0.96	BENT 59 STA 81+00	0.25	0.97
BENT 18 STA 40+00	0.22	0.95	BENT 40 STA 62	0.23	0.96	BENT 60 STA 82+00	0.25	0.97
BENT 19 STA 41+00	0.22	0.95	BENT 41 STA 63+00	0.23	0.96	BENT 61 STA 83+00	0.25	0.97
BENT 20 STA 42+00	0.22	0.95	BENT 42 STA 64	0.23	0.96	BENT 62 STA 84+00	0.25	0.97
BENT 21 STA 43+00	0.22	0.95	BENT 43 STA 65+00	0.23	0.96	BENT 63 STA 85+00	0.25	0.97
BENT 22 STA 44+00	0.22	0.95	BENT 44 STA 66+00	0.23	0.96	BENT 64 STA 86+00	0.25	0.97
BENT 23 STA 45+00	0.22	0.95	BENT 45 STA 67+00	0.23	0.96	BENT 65 STA 87+00	0.25	0.97
BENT 24 STA 46+00	0.22	0.95	BENT 46 STA 68+00	0.24	0.96	BENT 66 STA 88+00	0.25	0.97
BENT 25 STA 47+00	0.22	0.95	BENT 47 STA 69	0.24	0.96	BENT 67 STA 89+00	0.25	0.97
BENT 26 STA 48+00	0.22	0.95	BENT 48 STA 70+00	0.24	0.96	BENT 68 STA 90+00	0.25	0.97
BENT 27 STA 49+00	0.22	0.95	BENT 49 STA 71+00	0.24	0.96	BENT 69 STA 91+00	0.25	0.97
BENT 28 STA 50+00	0.22	0.95	BENT 50 STA 72+00	0.24	0.96	BENT 70 STA 92+00	0.24	0.96
BENT 29 STA 51+00	0.22	0.95				BENT 71 STA 93+00	0.23	0.95
BENT 30 STA 52+00	0.22	0.95				BENT 72 STA 94+00	0.00	0.93

LEVEL III WAVE STUDY DATA FOR COASTAL BRIDGE	UNITS	100 YR	50 YR	10 YR
HYDRAULIC DATA	FT/SEC	2.4	1.8	0.0
DEPTH-AVE. CURRENT SPEED	FT/SEC	2.4	1.8	0.0
WIND SPEED	MI/HR			
WATER SURFACE ELEVATION	FT MSL	5.7	5.5	0.8
WAVE CREST ELEVATION	FT NAVD	6.4	6.0	0.5
	FT MSL	6.8	6.0	0.7
	FT NAVD	8.0	7.7	0.4
SIGNIFICANT WAVE HEIGHT	FT	0.3	0.3	0.0

SITE DATA

Drainage Area: N/A (INDETERMINATE) Source: USGS QUAD MAP
 River Basin: PASQUOTANK Character: COASTAL SWAMP
 Stream Classification: SW
 Data on Existing Structure: N/A (NEW LOCATION)
 Total Waterway Opening: N/A s.f.
 Waterway Opening Below 100yr. WS EL.: N/A s.f.
 Debris Potential: Low x Moderate High
 Data on Structures Up and Down Stream: N/A (NOT COMPARABLE)

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	Period of Knowledge
				yr.	yr.

Historical Scour Info.:

General: N/A ft. Contraction: N/A ft. Local: N/A ft.

Channel Slope: N/A ft/ft Source: N/A Normal Water Surface Elev.: N/A ft.
 Manning's n: Left O.B. Channel Right O.B. Source
 Flood Study /Status: FEMA ZONE AE (EL 4) (COASTAL STORM SURGE) Floodway Established? NO
 With Floodway Without Floodway
 Flood Study 100yr. Discharge: N/A c.f.s. WS Elev.: Floodway N/A ft. Without Floodway N/A ft.

DESIGN DATA

Hydrological Method: N/A
 Hydraulic Design Method: N/A (HEC-RAS BY MOFFATT AND NICHOL)

Floods Evaluated:	Freq. (yr.)	Q (c.f.s.)	Elev. (ft.)	Backwater (ft.)	Bridge Opening Velocity (f.p.s.)
@ River Station 8	100	34.0	2.63	-0.06'	0.01
	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	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.: N/A s.f., 100yr W.S. Elev. 49.05 s.f., Total 382,399 s.f.
 Average Channel Velocity (Design): 0.01 f.p.s. Average Overbank Velocity (Design): N/A 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.

REPORT 1 OF 2
 SHEET 1 OF 2

I.D. No.: R-2576 Project No.: 34470.1.TAI Proj. Station: 61+67 -L-
 County: CURRITUCK Bridge Over: MAPLE SWAMP Bridge Inv. No.:
 On Highway: Between US 158 and NC 12
 Recommended Structure: 10 88' SPAN 54' MBT, 30 89' SPAN 54' MBT, 70 100' SPANS 72' MBT, 30 73' SPAN 54' MBT, 10 70' SPAN 54' MBT
 4'0" Cap. at End Bent 1, 2'6" Cap. at End Bent 2 w/ Sloping Abutments
 Recommended Width of Roadway: 36' TO 118' CLEAR ROADWAY Skew: 90°
 Recommended Location is (Up, At, Down) Stream from Existing Crossing: NEW LOCATION

Latitude: 36.32916 Longitude: -75.92470
 Statewide Tier Regional Tier Sub-Regional Tier
 Bench Mark is BM 4 - RR SPIKE IN PP 121' RIGHT OF STATION 29+41 -L-
 N951267, E2902922 Elev. 5.03 ft. Datum: NAVD 88
 Temporary Crossing: NOT REQUIRED (NEW LOCATION)



WETHERILL ENGINEERING
 SEAL 034333
 CAMERON M. LONG
 SEAL 15833
 JERRY L. LINDSEY

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

Stream: MAPLE SWAMP, Struct. Inv. No.: I.D. No.: R-2576, Project No.: 34470.1.TAI, PDF File: R-2576_Maple_Swamp_10F_2.pdf

MODELING AND SCOUR COMPS DRAFT & DECK DRAINAGE ONLY