PROJECT REFERENCE	SHEET NO.
17BP.9.R.83 – STOKES 286	6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21102 ENGINEER TIMOTHY T. MORTON

Signed by: 03-Mar-2025

MOTT MACDONALD I & E, LLC
LICENSE NO. F-0669

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 039102 ENGINEER BRANDON T. BAUGHMAN

Signed by: 03-Mar-2025

VHB ENGINEERING
LICENSE NO. C-3705

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:

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940 Main Campus Drive, Suite 500
Raleigh, NC 27606

VERTICAL SCALE 5′ 0 5′ 10′

HORIZONTAL SCALE 25′ 0 25′ 50′

-L-

BEGIN PROJECT STA. 10+50.00

BEGIN GRADE STA. 11+00.00 EL = 936.54′

MILL TO EXIST

BM1 ELEVATION = 900.06′
N 936294 E 1586718
-L- STATION 15+66.26 9.20′ LEFT
RAILROAD SPIKE SET IN 20″ POPLAR TREE

PI = 15+50.00
EL = 904.60′
VC = 400′
K = 499

BM2 ELEVATION = 844.92′
N 935643 E 1587181
-L- STATION 23+37.11 232.83′ RIGHT
RAILROAD SPIKE SET IN 20″ HICKORY TREE

PI = 20+95.00
EL = 861.55′
VC = 350′
K = 51

(-)17.0978%
(-)17.8000%
(-)15.1763%
(-)1.9298%
(+)4.4444%
(-)19.8000%
(-)9.1429%
(-)10.0000%
(-)17.8991%
(-)10.3120%
(-)11.0813%
(-)0.3636%

BEGIN DITCH LT -L- STA. 11+50 ELEV. = 938.80′

PI DITCH LT -L- STA. 11+50 ELEV. = 921.00′

PI DITCH LT -L- STA. 11+93 ELEV. = 914.50′

PI DITCH LT -L- STA. 12+50 ELEV. = 915.60′

BEGIN DITCH RT -L- STA. 12+00 ELEV. = 920.20′

BEGIN DITCH LT -L- STA. 12+60 ELEV. = 913.60′

END DITCH LT -L- STA. 13+22 ELEV. = 918.80′

PI DITCH RT -L- STA. 13+00 ELEV. = 900.40′

END DITCH RT -L- STA. 13+70 ELEV = 894.00′

END DITCH LT -L- STA. 16+05 ELEV. = 893.10′

BEGIN DITCH LT -L- STA. 17+15 ELEV. = 892.00′

END DITCH LT -L- STA. 19+23 ELEV. = 866.10′

BEGIN DITCH LT -L- STA. 20+70 ELEV. = 836.80′

24″ WELDED STEEL TRENCHLESS INSTALLATION

EXISTING GRADE

PROPOSED GRADE

Y

Y1

1.5:1

2:1

PIPE HYDRAULIC DATA

24″ WS Sta. 12+12

DRAINAGE AREA	= 5.5	AC
DESIGN FREQUENCY	= 25	YRS
DESIGN DISCHARGE	= 10	CFS
DESIGN HW ELEVATION	= 916.1	FT
100 YEAR DISCHARGE	= 11	CFS
100 YEAR HW ELEVATION	= 916.2	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 23	CFS
OVERTOPPING ELEVATION	= 917.7	FT

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 4400	CFS
DESIGN FREQUENCY	= 25	YR
DESIGN HW ELEVATION	= 848.2	FT
BASE DISCHARGE	= 6200	CFS
BASE FREQUENCY	= 100	YR
BASE HW ELEVATION	= 850.5	FT
OVERTOPPING DISCHARGE	= 21324	CFS
OVERTOPPING FREQUENCY	= 500+	YR
OVERTOPPING ELEVATION	= 856.4	FT
DATE OF SURVEY	= 05/23/2018	
W.S.ELEVATION AT DATE OF SURVEY	= 831.5	FT

FOR -L- PLAN SEE SHEET 4

1/6/2025 11:23:09 AM
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isp.p.jordan