09/08/99

TIP PROJECT: B-5157

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

# STATE OF NORTH CAROLINA
# DIVISION OF HIGHWAYS

BUFFER DRAWING
SHEET 1 OF 5

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|
| N.C. | B-5157 | 1 | |

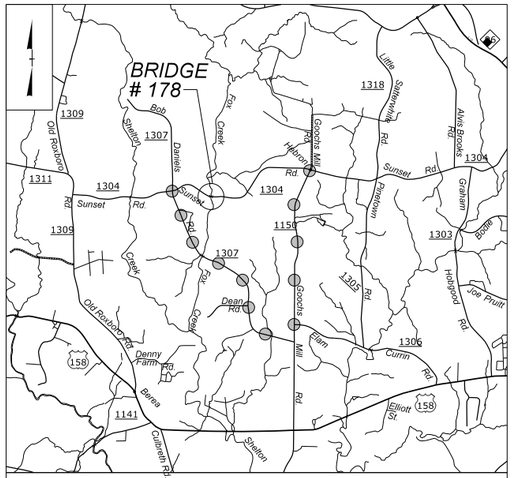
| STATE PROJ. NO. | F. A. PROJ. NO. | DESCRIPTION |
|---|---|---|
| 42332.1.1 | BRZ-1304(10) | P.E. |
| 42332.2.FD1 | BRZ-1304(10) | R/W & UTILITIES |

# GRANVILLE COUNTY

***LOCATION: BRIDGE NO. 178 OVER FOX CREEK ON SR 1304 (SUNSET ROAD)***

***TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE***

BUFFER IMPACTS PERMIT

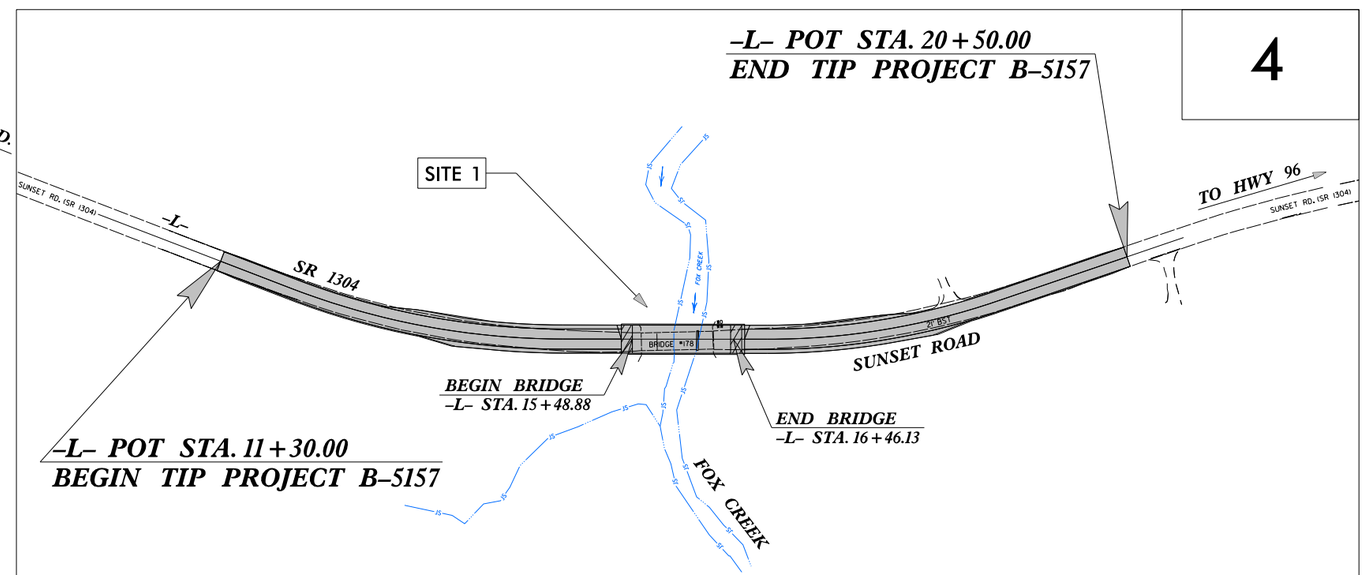



VICINITY MAP

DENOTES OFF-SITE DETOUR

NC GRID (NAD 83/NSRS 2007)

4




***CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.***

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONTRACT:

5/13/2015
B-5157_Hyd_prm_buf_tsh.dgn
bsmith

## GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

## DESIGN DATA

ADT 2016 = 225
ADT 2036 = 305
K = 10 %
D = 60 %
T = 5 % *
V = 35 MPH
* TTST = 2% DUAL 3%
FUNC CLASS = RURAL LOCAL
SUB-REGIONAL TIER

## PROJECT LENGTH

| | | |
|---|---|---|
| LENGTH OF ROADWAY TIP PROJECT B-5157 | = | 0.156 MILES |
| LENGTH OF STRUCTURE TIP PROJECT B-5157 | = | 0.018 MILES |
| TOTAL LENGTH TIP PROJECT B-5157 | = | 0.174 MILES |

Prepared In the Office of:

SUNGATE DESIGN GROUP, P.A.
915 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
TEL (919) 859-2243 FAX (919) 859-6258
ENG FIRM LICENSE NO. C-490

Stantec
Stantec Consulting Services Inc.
801 Jones Franklin Road Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672

*for the North Carolina Department of Transportation*

*2012 STANDARD SPECIFICATIONS*

*RIGHT OF WAY DATE:*
APRIL 23, 2015

*LETTING DATE:*
APRIL 19, 2016

*STANTEC CONTACT*
STEVE SMALLWOOD, P.E.
*PROJECT ENGINEER*

*NCDOT CONTACT:*
RON MCCOLLUM, P.E.

*HYDRAULICS ENGINEER*

*SIGNATURE:* *P.E.*

*ROADWAY DESIGN ENGINEER*

*SIGNATURE:* *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

5/14/99

# BUFFER IMPACTS PERMIT

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5157 | 04 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

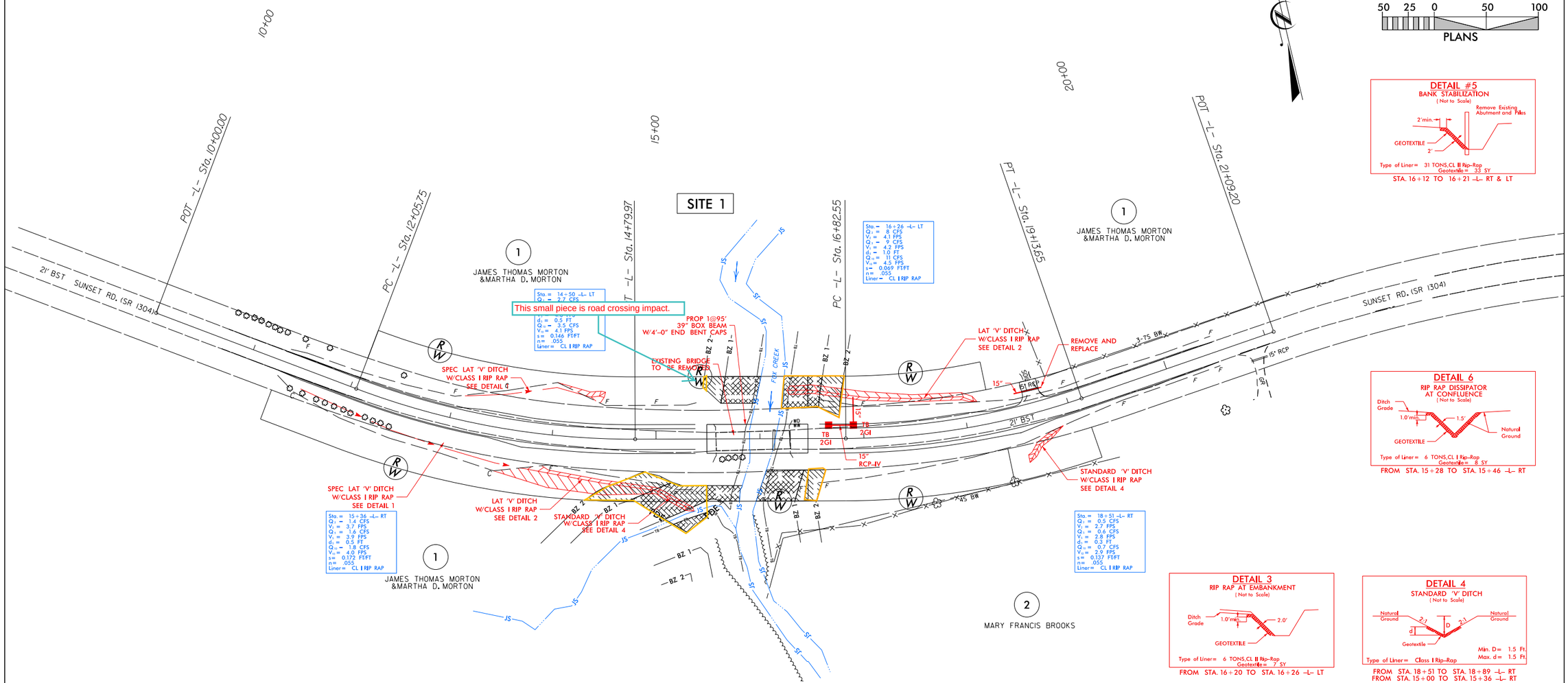
**PRELIMINARY PLANS**
DO NOT USE FOR CONSTRUCTION

## BUFFER DRAWING SHEET 2 OF 5

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

50 25 0 50 100
PLANS




### DETAIL #5
BANK STABILIZATION
( Not to Scale)




Type of Liner= 31 TONS,CL II Rip-Rap
Geotextile= 33 SY
STA. 16+12 TO 16+21 -L- RT & LT

### DETAIL 6
RIP RAP DISSIPATOR
AT CONFLUENCE
( Not to Scale)




Type of Liner= 6 TONS,CL I Rip-Rap
Geotextile= 8 SY
FROM STA. 15+28 TO STA. 15+46 -L- RT

### DETAIL 3
RIP RAP AT EMBANKMENT
( Not to Scale)



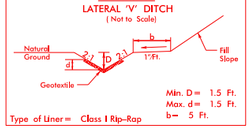

Type of Liner= 6 TONS,CL II Rip-Rap
Geotextile= 7 SY
FROM STA. 16+20 TO STA. 16+26 -L- LT

### DETAIL 4
STANDARD 'V' DITCH
( Not to Scale)




Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
Type of Liner= Class I Rip-Rap
FROM STA. 18+51 TO STA. 18+89 -L- RT
FROM STA. 15+00 TO STA. 15+36 -L- RT

### DETAIL 2
LATERAL 'V' DITCH
( Not to Scale)




Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
b= 5 Ft.
Type of Liner= Class I Rip-Rap
FROM STA. 16+26 TO STA. 18+13 -L- LT
FROM STA. 14+00 TO STA. 15+00 -L- RT

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bsmith

5/14/99

# BUFFER IMPACTS PERMIT

| PROJECT REFERENCE NO. | SHEET NO. |
|---|---|
| B-5157 | 04 |
| R/W SHEET NO. | |
| ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER |

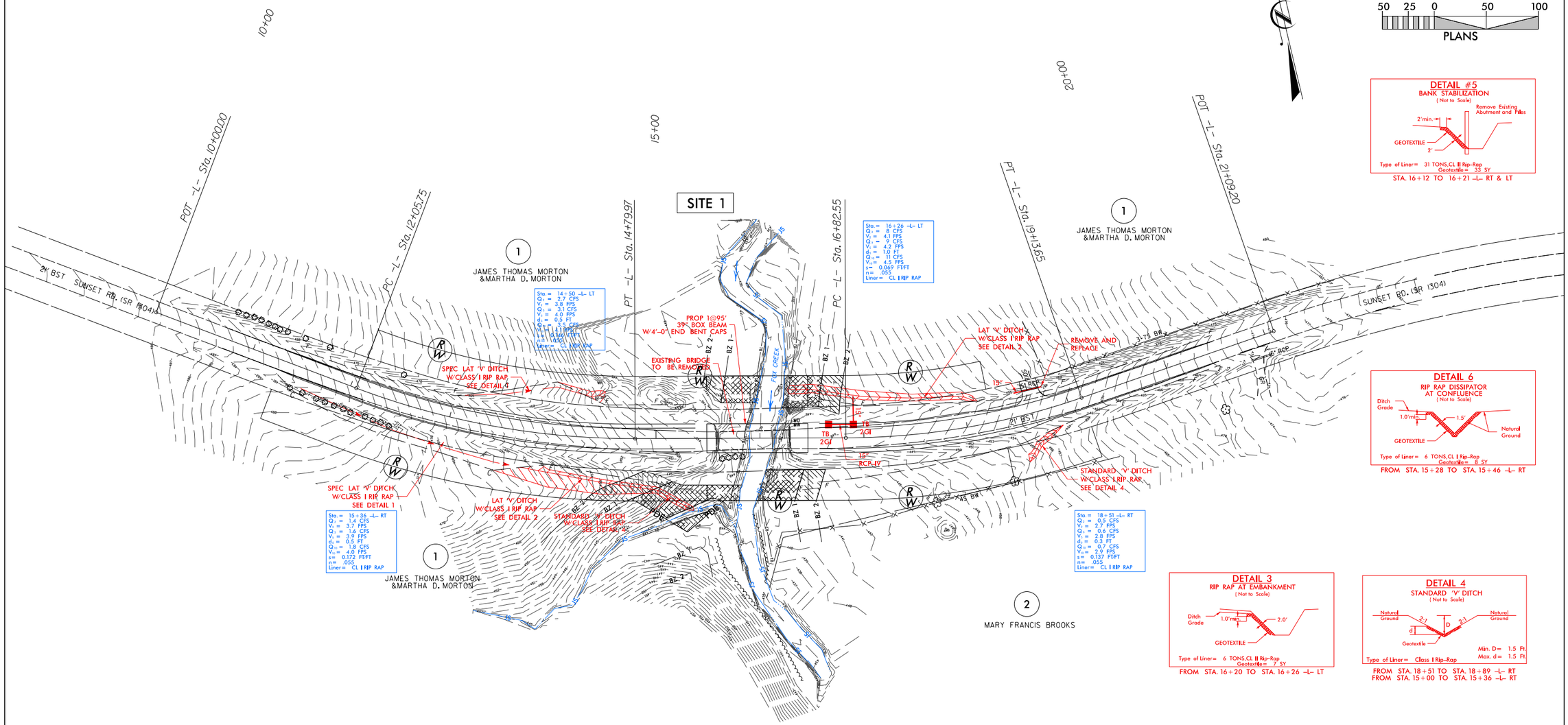
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BUFFER DRAWING
SHEET 3 OF 5

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

50 25 0 50 100
PLANS




## DETAIL #5
BANK STABILIZATION
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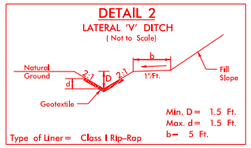
LATERAL 'V' DITCH
( Not to Scale)




Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
b= 5 Ft.
Type of Liner= Class I Rip-Rap
FROM STA. 16+26 TO STA. 18+13 -L- LT
FROM STA. 14+00 TO STA. 15+00 -L- RT

5/13/2015
B-5157_Hyd_prm_buf_psh04.dgn
bsmith

# BUFFER IMPACTS SUMMARY

| | | | IMPACT | | | | | | | | | BUFFER REPLACEMENT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | TYPE | | | ALLOWABLE | | | MITIGABLE | | | | |
| SITE NO. | STRUCTURE SIZE / TYPE | STATION (FROM/TO) | ROAD CROSSING | BRIDGE | PARALLEL IMPACT | ZONE 1 ($ft^2$) | ZONE 2 ($ft^2$) | TOTAL ($ft^2$) | ZONE 1 ($ft^2$) | ZONE 2 ($ft^2$) | TOTAL ($ft^2$) | ZONE 1 ($ft^2$) | ZONE 2 ($ft^2$) |
| 1 | 1 @ 95' BRIDGE | 15+50 TO 16+45 -L- | | X | | 3150 | 576 | 3726 | | | | | |
| 1 | IMPACTS TO UT -L- RT | 14+35 TO 15+50 -L- | | | X | 1754 | 1179 | 2933 | | | | | |
| 1 | -L- LT | 15+45 TO 15+50 -L- | X | | | 0 | 37 | 37 | | | | | |
| 1 | -L- LT & RT | 16+45 TO 16+81 -L- | X | | | 360 | 1050 | 1410 | | | | | |
| **TOTAL:** | | | | | | 5264 | 2842 | 8106 | 0 | 0 | 0 | | |

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

GRANVILLE COUNTY
PROJECT: 42332.1.1 (B-5157)

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SHEET 4 OF 5

Rev. May 2006

# WETLANDS IN BUFFER IMPACTS SUMMARY

| SITE NO. | STATION (FROM/TO) | | WETLANDS IN BUFFERS ZONE 1 ($ft^2$) | WETLANDS IN BUFFERS ZONE 2 ($ft^2$) |
|---|---|---|---|---|
| 1 | 11+30 TO 20+50 -L- | | 0 | 0 |
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| **TOTAL:** | | | 0 | 0 |

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

GRANVILLE COUNTY
PROJECT: 42332.1.1 (B-5157)

5/8/2015
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