Virginia Department of Transportation

INTER-AGENCY COORDINATION MEETING

Joint Permit Application

DEQ **COE** **VMRC**

I. VDOT PROJECT INFORMATION

Route: 669
UPC#: 109314
VDOT Project Number: 0669-046-682, C501, P101, R201
USGS Quadrangle: Benns Church
City/County: Isle of Wight
VDOT City/County Code: 046
Contract Type: Federal
Project Charge: 109314
Planned Ad Date: 03/12/2024
Designer: Zaman, Wali
Project Number(Assoc)(UPC): 0017-046-683(109481), 00669-046-23069785

II. TYPE OF SCOPING/COORDINATION: Permit Coordination

Permits Required: COE Individual; VDEQ Individual VWPP

III. VDOT CONTACTS

Permit Coordinator (VDOT District Contact)	District Environmental Manager (Authorized Agent)	VDOT (Applicant)
Name: Dean T Devereaux Address: 7511 Burbage Drive Suffolk, VA 23435 Phone #: (757) 334-1051	Name: Melissa R Wolford Address: 7511 Burbage Drive Suffolk, VA 23435 Phone #: (757) 956-3184	Name: Miranda S Kidd Address: 7511 Burbage Drive Suffolk, VA 23435 Phone #: (757) 956-3342

IV. PERMITTED ACTIVITY

The proposed Nike Park Road Extension project will consist of a new approximately one-mile, two-lane collector roadway that will also include the construction of a multi-use path that will run parallel to the new facility. The project will impact approximately 157,068 SF of nontidal forested wetland; 165 SF of nontidal emergent wetland: and 48.2 LF of jurisdictional ditch. In addition, temporary impacts to 1800.7 SF of nontidal forested wetland; 109.4 SF of unconsolidated bottom and 64LF of intermittent stream are proposed at ten separate crossings.

V. ENVIRONMENTAL ASSESSMENT *(Avoidance and Impacts are described in greater detail in section VI and VII.)*

	Present	*Impacts*		*Present*	*Impacts*
Federal Threatened/Endangered Species	Yes	*	Water of the U.S	Yes	Yes
State Threatened/Endangered Species	Yes	*	Wetlands	Yes	Yes
Anadromous fish	No	No	Riffle Pool Complexes	No	No
Trout	No	No	Other Special Aquatic Sites	No	No
Shellfish	No	No	100 Year Floodplain	No	No
Public Water Supply	No	No	Historic/Archeological Resources	No	No
Scenic Rivers	No	No	Air Quality Nonattainment Area	No	No
Navigable Waters	No	No	Tidal Waters/Wetlands:	No	No
Open Water > 1.0 Acre	No	No			

*Please refer to the T&E Report for T&E Species Impacts

VI. SUMMARY OF DETAILED ENVIRONMENTAL IMPACT INFORMATION

This project has multiple jurisdictional crossings.

General:

Latitude: 36°57'02" Longitude: 76°32'54"
FEMA FIRM number: 51093C0158E
Nearest Community: Barlett
Surrounding Land Use: Forest
Basin: James River Basin
Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): 7.28-12.5

MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	291.5	0	0	29.9	0	159031.6	74.97	1320.3	0
Quantity (yd^3) below OHW	2	0	0	2	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information:

Stream Name(s): Tributary of Ragged Island Creek, Titus Creek-UT Ragged Is. Ck.

Drainage Area (miles^2): See Ind Crossing Data

Pool/Riffle/Flat ratio: See Ind Crossing Data

Average Depth (feet): See Ind Crossing Data

Substrate: See Ind Crossing Data

Average Width (feet): See Ind Crossing Data

OHWM Indicator(s): See Ind Crossing Data

DWR Classification: Other (N/A)

Cowardin Classification: R4SB, PUB

DEQ Classification: III. Non-tidal (Coastal & Piedmont) Section #: 1a Special Standards: NEW-19

Linear Feet of Permanent Stream Impacts:

Perennial- 0 Intermittent- 8 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

Wetland Information:

Species identified: see data form

Cowardin Classification(s): PEM, PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	195.6	0	0	0	158835.77	0	159031.37	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	1800.7	0	1800.7	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Chickahominy Env bank Purchase part II of II	Chickahominy Env. Bank - Credit Purchase	37°18'32"/ 76°57'18"	02080206, 02080205, 02080207, 02080208	02080206	174222.13	$71,438.40
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	02080208	143626.84	$207,171.36

Other Natural Resource Information:

Cowardin Classification(s): PUB

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	48.2	0	1495.3	0
Temporary	0	0	109.4	0

Conceptual Other Mitigation: None Proposed

VII. PROJECT NARRATIVE:

Project purpose, need, and description:

Extension of Nike Park Road will improve safety on the local network of roads with the existing Route 17 Corridor. Proposed multi use path will enhance walkable/bikeable infrastructure. Benefit to traffic patterns includes support of future traffic volumes, enhance operational safety, and to maintain adequate level-of-service conditions.

Proposed construction schedule:

advertisement 12/2023.

Project impacts (include a description of all impacts, permanent and temporary):

The proposed Nike Park Road Extension project will consist of constructing a new approximately one-mile, two-lane collector roadway that will also include the construction of a multi-use path that will run parallel to the new facility. The new roadway will extend Nike Park Rd/Reynolds Dr to a new intersection location along RTE 17. The project would involve intersection improvements at Reynolds Dr. Including turn lanes and two-way stop control for Reynolds Drive. The project will impact approximately 157,068 SF of nontidal forested wetland; 165 SF of nontidal emergent wetland: and 48.2 LF of jurisdictional ditch. In addition, approximately 1800.7 of nontidal forested wetland; 109.4 SF of unconsolidated bottom; 64LF of intermittent stream To compensate for the affected area, a debit of credits totaling 252,648 SF Hampton Roads Airport Bank and 87,120 SF from the Chickahominy Environmental Bank is proposed.

T&E Species (See Attachment F for additional documentation):

Based upon a review of the DGIF database search and DCR Natural Heritage Conservation Site Maps for the project area, Threatened or Endangered species collections/records are within the required search distance for the project. The project is Geographically Isolated from any records of Threatened or Endangered species.

Cultural Resources (See Attachment E for additional documentation):

Section 106 coordination with DHR for the archaeological survey resulted in no historic properties being identified. An architectural survey was not required. A Stipulation II No Effect determination for this project was recorded on January 16, 2019.

VIII. PROJECT MITIGATION:

Project mitigation efforts including AVOIDANCE, MINIMIZATION, AND COMPENSATION:

Avoidance:

Summary of Avoidance measures - Multi-agency coordination regarding the Nike Park Road project (UPC109314) has been on-going since 2017. As can be seen from the timeline below, there have been several meetings over the years to discuss theproject and the various potential alternatives (please... See Attachment A.

Minimization:

Level spreaders instead of typical storm water detention/retention basins for water quality treatment of runoff. The propose shared path along existing Nike park road has been eliminatedThe proposed shared use path within the project limits has been reduced in width from 10’ to 8’ wide with a... See Attachment A.

Compensation (include functional assessment when applicable; see Attachment K for additional documentation):

Mitigation at standard ratios at the Hampton Roads Airport Bank and from the Chickahominy Environmental Bank

IX. EROSION AND SEDIMENT CONTROLS:
An erosion and sediment control plan will be prepared and implemented in compliance with the Erosion and Sediment Control Law, the Erosion and Sediment Control Regulations, and the annual erosion and sediment control standards and specifications approved by the Department of Conservation and Recreation.

X. STORMWATER MANAGEMENT STATEMENT:
Design of this project will be in compliance with the Stormwater Management Act, the Stormwater Management Regulations, and the annual stormwater management standards, and specifications approved by the Department of Conservation and Recreation.

XI. MATERIALS ASSESSMENT:
All fill material shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.

XII. FEMA STATEMENT:
The design of this project will be in compliance with all applicable FEMA-approved state or local floodplain management requirements.

XIII. DREDGE MATERIAL MANAGEMENT PLAN:
All dredge material will be removed to an approved, contained, upland location. The disposal area will be of sufficient size and capacity to properly contain the dredge material, to allow for adequate dewatering and settling out of sediment, and to prevent overtopping. The disposal area will be properly stabilized prior to placement of dredge material.

XIV. NEPA DOCUMENTATION:
Document type: CE
Date: 03/16/2019

XV. CERTIFICATION (for SPGP/VWPP only):

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

Applicant Signature: _____

Name of person signing above: _____
(print or type)

Title: _____ **Date:** _____

Authorized Agent Signature: _____

Name of person signing above: _____
(print or type)

Title: _____ **Date:** _____

XVI. ATTACHMENTS (Include all that apply):

[X] Narratives Continuation (See Attachment A)

[X] Project Maps [Vicinity, Topo, and FEMA Maps]

[X] Multi-crossings summary table

[X] Detailed Environmental Impact Information Sheet

[X] Permit Sketches (Plan views, section views including temporary and permanent impacts)

[X] Hydraulic Commentary

[X] Cultural Resources Information

[X] Threatened and Endangered Species Information (including VDOT T&E Report)

[X] Early Coordination Final IACM Comments

[X] Alternatives Analysis

[X] Wetland Delineation Documents

[X] Compensatory Mitigation

[X] Photographs

[X] Property_Owners_Nike_Park_Road_Project-3-14-23

[X] CE.FINAL.109314

[X] P&N_for_Nike_Park_Road_Extension

[X] 109314_Cumulative_and_secondary_impacts_5_23_23

[X] Interpretation_DEQ_Draft_EJ_Analysis_plus_Cat_Ex_04-14-23

[X] Wetland_Water_quality_Resources_for_Nike_Park_5-30_23_merged

[X] Jurisdictional Determination Form

[ ] Signed Certification Statement

[ ] SPGP Check List

Attachment A

Narratives Continuation

Attachment A - CONTINUATION:

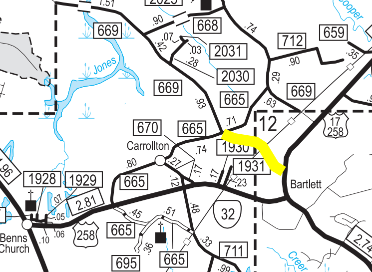
Avoidance:
see the attached Table 1 Comparison of Alternatives. Nike Park Road Extension and Studies Alternatives 11-3-2017). Please note that as Table 1 was created in 2017,impact estimates would need to be updated moving forward. Currently, VDOT has complied with NEPA and considered all reasonable and practicable alternatives. Additional questions will need to be addressed during thepermit application process. 1. July 2017: Pre-Permit Application Coordination at Interagency Agency Meeting where four Federal and 12State agencies shared their database findings and offered comments. Four build alternatives were offered, which included the Preferred Smart Scale Option (Alternative #1/Alignment A). Agencies requested consideration ofother alternatives/design options (including improving existing roads and intersections). An Informal Working Group was established to guide alternative selection.2. August 2017: USACE/DEQ/VDOT Working Group Meeting I: Agencies requested planning documents (Brewers Neck Corridor Study) and directional traffic analysis. The number of alternatives to be consideredincreased to seven. 3. October 2017: USACE field verification of wetland boundaries within the original project corridor.4. November 3, 2017: VDOT submission: Purpose and Need Statement, four page Analysis of Alternatives with Comparison of Attributes in matrix format (please see attached previously referenced Table 1), DirectionalTraffic Data for road network, and Water Resources Narrative. Only three alternatives met Purpose and Need. Alternative #7/Alignment D was included for purposes of minimizing wetland impacts.5. November 3, 2017: DEQ was in agreement with VDOT that Alternative #7/Alignment D (which is currently in the design stage for a July field inspection) minimizes wetland impacts and that Smart ScaleAlternative #1 was difficult to support. 6. December 2017: USACE/DEQ/VDOT Working Group Meeting II: review of alternatives analysissubmittal. The number of alternatives was eleven, which included options that shift the southern termini 1.4 miles to the west.7. January 2018: VDOT sent an email recognizing (1) that the Working Group had worked diligently and 2 collaboratively to minimize delays in the forthcoming permitting phase of the project, (2) that the USACE was required to prepare an Environmental Assessment (EA) level document to support future permit action, (3)FHWA?s CE level document did not include alternative analysis information, (4) projects meeting the criteria for a CE level document evaluate one alternative with a defined start and end point, and (5) the roadway?sdesign then incorporated minimization to environmental impacts to the maximum extent practicable. 8. January 2018: USACE requested traffic modeling data, rewrite of Purpose/Need, additional informationabout intersection improvements and continuity between the levels of detail provided for each of the eleven alternatives.9. February 2018: VDOT submission: traffic modeling data. 10. April 2018: USACE written request (see attached April 12, 2018 correspondence from Kimberly Prisco-Baggett) for narrative discussion of traffic modeling data, refinement of Purpose/Need and Alternative Analysis, otherwise the USACE cannot make a least environmentally damaging alternative (LEDPA)determination and all impacts have been avoided to the extent practicable. 11. March 2019: Categorical Exclusion accepted by FHWA.

Minimization:
corresponding reduction in width of the grassy buffer strip between the path and pavement The proposed left turn lane along Reynolds Drive has been eliminated

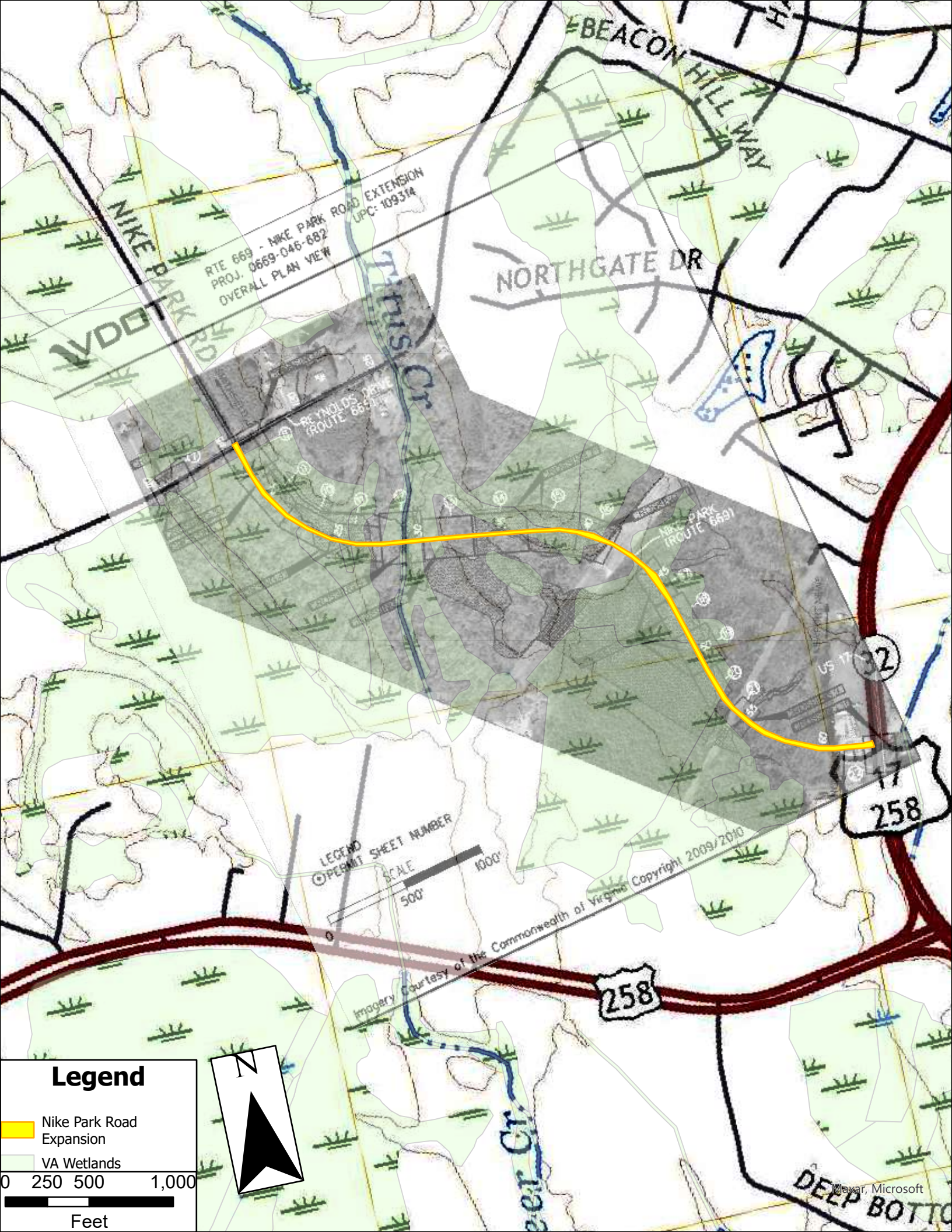
Attachment B

Project Maps

Vicinity, Topo, and FEMA Maps



1.51
669
.90
668
.74
712
659
Cooper
.35
.07
.42
.03
2031
.90
Jones
.28
2030
.29
669
669
665
.93
.63
12
17
258
.71
670
665
Carrollton
.74
1930
.80
.27
.17
.17
1931
.23
1928
1929
665
.12
Bartlett
.07
2.81
.05
32
.48
.45
.51
258
665
Benns
Church
.06
.10
.36
.33
711
665
695
.99
2.74


BEACON HILL WAY
NORTHGATE DR
NIKE PARK RD
VDOT
RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682
OVERALL PLAN VIEW
UPC: 109314
Trist Cr
REYNOLDS DRIVE
(ROUTE 669)
NIKE PARK
(ROUTE 669)
US 17
32
17
258
LEGEND
PERMIT SHEET NUMBER
SCALE
500'
1000'
0
Imagery Courtesy of the Commonwealth of Virginia Copyright 2009/2010
258
DEEP BOTTO
Maxar, Microsoft
Legend
Nike Park Road Expansion
VA Wetlands
N
0 250 500 1,000
Feet

76°33'45.44"W 36°58'14.12"N

76°31'52.08"W 36°56'8.44"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by the United States Geological Survey (USGS). The basemap shown is the USGS National Map: Orthoimagery. Last refreshed October, 2020.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on **3/10/2023 9:00 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

PANEL **158** OF **350**

Panel Contains:

COMMUNITY	NUMBER	PANEL
ISLE OF WIGHT COUNTY UNINCORPORATED AREAS	510303	0158

MAP NUMBER
51093C0158E
EFFECTIVE DATE
December 02, 2015

Attachment C

Multiple Crossing Impact Tables and Permit Sketches

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Multi-crossings summary table

Location Data					
Crossing Name	**Stream Name**	**Crossing Desc.**	**Station #**	**Lat/Long**	**Drainage Area**
Crossing 01		Mineral flat minor crossing		36°57'02"/ 76°32'54"	0
Crossing 02 Jurisdictional Ditch		Jurisdictional ditch only-cut through uplands		36°57'03"/ 76°32'54"	0
Crossing 03		PFO mineral flat_culvert Xing Reynolds Drive		36°56'59"/ 76°32'51"	0
Crossing 04		PFO Mineral flat_Mature Mixed Hardwoods		36°56'58"/ 76°32'45"	0
Crossing 05 Titus Creek-UT Ragged Island Ck	Titus Creek-UT Ragged Is. Ck.	Headwaters of Intermittent Stream_Titus Creek_Low Gradient Flooplain		36°56'58"/ 76°32'46"	0.12
Crossing 06		PFO Mineral flat_Mature Mixed Hardwoods		36°56'56"/ 76°32'41"	0
Crossing 07		PFO Mineral flat_Young Mixed Softwoods & Hardwoods		36°56'52"/ 76°32'36"	0
Crossing 08		PFO Mineral flat_Immature Mixed Hardwoods		36°56'52"/ 76°32'36"	0
Crossing 09		PFO Swale_Immature Mixed Hardwoods		36°56'44"/ 76°32'54"	0
Crossing 10_Stream	Tributary of Ragged Island Creek	Intermittent Stream_Tributary of Ragged Island Creek		36°56'41"/ 76°32'14"	0.1

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Impacts Data

Crossing Name	Wetland Impact	Wetland Type	Stream Impact(Perm.)		Stream Impact(Temp.)		Dredging/ Excavation	Fill	
	(s.f.)	(eg WOUS, PFO, PEM)	l.f.	s.f.	l.f.	s.f.	yds3	yds3(Perm.)	yds3(Temp.)
Crossing 01	33.7	PFO	0	0	0	0	0	0	0
Crossing 02 Jurisdictional Ditch	0		0	0	0	0	0	0	0
Crossing 03	1867.7	PEM, PFO	0	0	0	0	0	0	0
Crossing 04	25882.9	PFO	0	0	0	0	0	0	0
Crossing 05 Titus Creek-UT Ragged Island Ck	8227.7	PFO	0	291.5	64	0	2	0	0
Crossing 06	300.8	PFO	0	0	0	0	0	0	0
Crossing 07	63420.5	PFO	0	0	0	0	0	0	0
Crossing 08	58985.8	PFO	0	0	0	0	0	0	0
Crossing 09	1899.5	PFO	0	0	0	0	0	0	0
Crossing 10_Stream	213.47	PFO	8	29.9	25	74.97	0	2	0

Permit Data

Crossing Name	Corps Reporting	Corps Non-Reporting	VDEQ	VMRC	TVA
Crossing 01	Individual	None	Individual VWPP	None	None
Crossing 02 Jurisdictional Ditch	Individual	None	Individual VWPP	None	None
Crossing 03	Individual	None	Individual VWPP	None	None
Crossing 04	Individual	None	Individual VWPP	None	None
Crossing 05 Titus Creek-UT Ragged Island Ck	Individual	None	Individual VWPP	None	None
Crossing 06	Individual	None	Individual VWPP	None	None
Crossing 07	Individual	None	Individual VWPP	None	None
Crossing 08	Individual	None	Individual VWPP	None	None
Crossing 09	Individual	None	Individual VWPP	None	None
Crossing 10_Stream	Individual	None	Individual VWPP	None	None

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

	FO	SS	EM	WOUS
Total Waters Permanently Filled (acres)	3.646	0.000	0.004	0.001
Total Waters Temporarily Filled (acres)	0.041	0.000	0.000	0.032

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 01

General:

Latitude: 36°57'02" Longitude: 76°32'54" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A MLW elevation (feet): N/A	**Dredging/Excavation**			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	33.7	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s):
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:

Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data form

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	33.7	0	33.7	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	02080208	67.4	$207,171.36

Other Natural Resource Information: N/A

Cowardin Classification(s):

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 02 Jurisdictional Ditch

General:

Latitude: 36°57'03" Longitude: 76°32'54" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A
MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s): Bed and banks
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:
Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information: N/A

Species identified:

Cowardin Classification(s):

Amount Disturbed(area -feet^2)

	Emergent		**Scrub/Shrub**		**Forested**		**Totals**	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	0	0	0	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation: None Proposed

Other Natural Resource Information:

Cowardin Classification(s):

Amount of Impacts

	L.F		**S.F**	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	48.2	0	175	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 03

General:

Latitude: 36°56'59" Longitude: 76°32'51" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A

MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	1749.9	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s): Bed and banks
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:

Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified:

Cowardin Classification(s): PEM, PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	195.6	0	0	0	1554.3	0	1749.9	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	117.8	0	117.8	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	02080208	3304.2	$207,171.36

Other Natural Resource Information: N/A

Cowardin Classification(s):

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 04

General:

Latitude: 36°56'58" Longitude: 76°32'45" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A
MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	25882.9	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s): Bed and banks
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:
Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data sheets

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	25882.9	0	25882.9	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	02080208	51765.8	$207,171.36

Other Natural Resource Information: N/A

Cowardin Classification(s):

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 05 Titus Creek-UT Ragged Island Ck

General:

Latitude: 36°56'58" Longitude: 76°32'46" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): 12.5

MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	291.5	0	0	0	0	6544.8	0	1320.3	0
Quantity (yd^3) below OHW	2	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information:

Stream Name(s): Titus Creek-UT Ragged Is. Ck. Drainage Area (miles^2): 0.12
Pool/Riffle flat ratio: 0/0/100 Average Depth (feet): 0.1
Substrate: silt, sand Average Width (feet): 2
OHWM Indicator(s): Bed and banks
DWR Classification: Other (N/A) Cowardin Classification: R4SB, PUB
DEQ Classification: III. Non-tidal (Coastal & Piedmont) Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:
Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data sheets

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	6544.8	0	6544.8	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	1682.9	0	1682.9	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	02080208	13089.3	$207,171.36

Other Natural Resource Information:

Cowardin Classification(s): PUB

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	1320.3	0
Temporary	0	0	109.4	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 06

General:

Latitude: 36°56'56" Longitude: 76°32'41" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A
MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	300.8	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s):
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:

Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data form

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	300.8	0	300.8	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	02080208	601.6	$207,171.36

Other Natural Resource Information: N/A

Cowardin Classification(s):

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 07

General:

Latitude: 36°56'52" Longitude: 76°32'36" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A

MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	63420.5	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s):
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:

Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data forms

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	63420.5	0	63420.5	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Chickahominy Env bank Purchase part II of II	Chickahominy Env. Bank - Credit Purchase	37°18'32"/ 76°57'18"	02080206, 02080205, 02080207, 02080208	02080206	52042.46	$71,438.40
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	02080208	74798.54	$207,171.36

Other Natural Resource Information: N/A

Cowardin Classification(s):

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 08

General:

Latitude: 36°56'52" Longitude: 76°32'36" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A

MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	58985.8	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s):
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:

Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data forms

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	58985.8	0	58985.8	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Chickahominy Env bank Purchase part II of II	Chickahominy Env. Bank - Credit Purchase	37°18'32"/ 76°57'18"	02080206, 02080205, 02080207, 02080208	02080206	117971.6	$71,438.40

Other Natural Resource Information: N/A

Cowardin Classification(s):

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 09

General:

Latitude: 36°56'44" Longitude: 76°32'54" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): N/A
MLW elevation (feet): N/A

	Dredging/Excavation			**Filling (Permanent):**			**Filling (Temporary):**		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	0	0	1899.5	0	0	0
Quantity (yd^3) below OHW	0	0	0	0	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information: N/A

Stream Name(s): Drainage Area (miles^2):
Pool/Riffle flat ratio: Average Depth (feet):
Substrate: Average Width (feet):
OHWM Indicator(s):
DWR Classification: Cowardin Classification:
DEQ Classification: Section #: Special Standards:
Linear Feet of Permanent Stream Impacts:
Perennial- 0 Intermittent- 0 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data form

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	1899.5	0	1899.5	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Chickahominy Env bank Purchase part II of II	Chickahominy Env. Bank - Credit Purchase	37°18'32"/ 76°57'18"	02080206, 02080205, 02080207, 02080208	02080206	3799	$71,438.40

Other Natural Resource Information: N/A

Cowardin Classification(s):

Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VI (cont). **DETAILED ENVIRONMENTAL IMPACT INFORMATION**

Crossing Name: Crossing 10_Stream

General:

Latitude: 36°56'41" Longitude: 76°32'14" FEMA FIRM number: 51093C0158E
Nearest Community: Barlett Surrounding Land Use: Forest
Basin: James River Basin Sub-basin: 2C. Lwr James River Sub-basin
Hydrologic Unit Code: 02080206

Engineering data for impacts to Waters of the US:

OHW elevation (feet): 7.28

MLW elevation (feet): N/A

	Dredging/Excavation			Filling (Permanent):			Filling (Temporary):		
	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands	Streams	Open Water	Wetlands
Area (feet^2)	0	0	0	29.9	0	213.7	74.97	0	0
Quantity (yd^3) below OHW	0	0	0	2	0	0	0	0	0
Quantity (yd^3) below MLW	0	0	0	0	0	0	0	0	0
Construction Method									

Stream Information:

Stream Name(s): Tributary of Ragged Island Creek Drainage Area (miles^2): 0.1
Pool/Riffle flat ratio: 0/0/100 Average Depth (feet): 0.5
Substrate: silt, sand Average Width (feet): 5
OHWM Indicator(s): Bed and banks
DWR Classification: Other (N/A) Cowardin Classification: R4SB
DEQ Classification: III. Non-tidal (Coastal & Piedmont) Section #: 1a Special Standards: NEW-19
Linear Feet of Permanent Stream Impacts:
Perennial- 0 Intermittent- 8 Ephemeral- 0 Riffle/Pool- 0

Conceptual Stream Mitigation: None Proposed

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Wetland Information:

Species identified: see data sheets

Cowardin Classification(s): PFO

Amount Disturbed(area -feet^2)

	Emergent		Scrub/Shrub		Forested		Totals	
	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal	Non-Tidal	Tidal
Primary	0	0	0	0	213.47	0	213.47	0
Secondary	0	0	0	0	0	0	0	0
Temporary	0	0	0	0	0	0	0	0

Conceptual Wetland Mitigation:

Strategies Name	Site Name	Lat/Long	GSA	HUC	Debit	Payment
Chickahominy Env bank Purchase part II of II	Chickahominy Env. Bank - Credit Purchase	37°18'32"/ 76°57'18"	02080206, 02080205, 02080207, 02080208	02080206	409.07	$71,438.40

Other Natural Resource Information: N/A

Cowardin Classification(s):

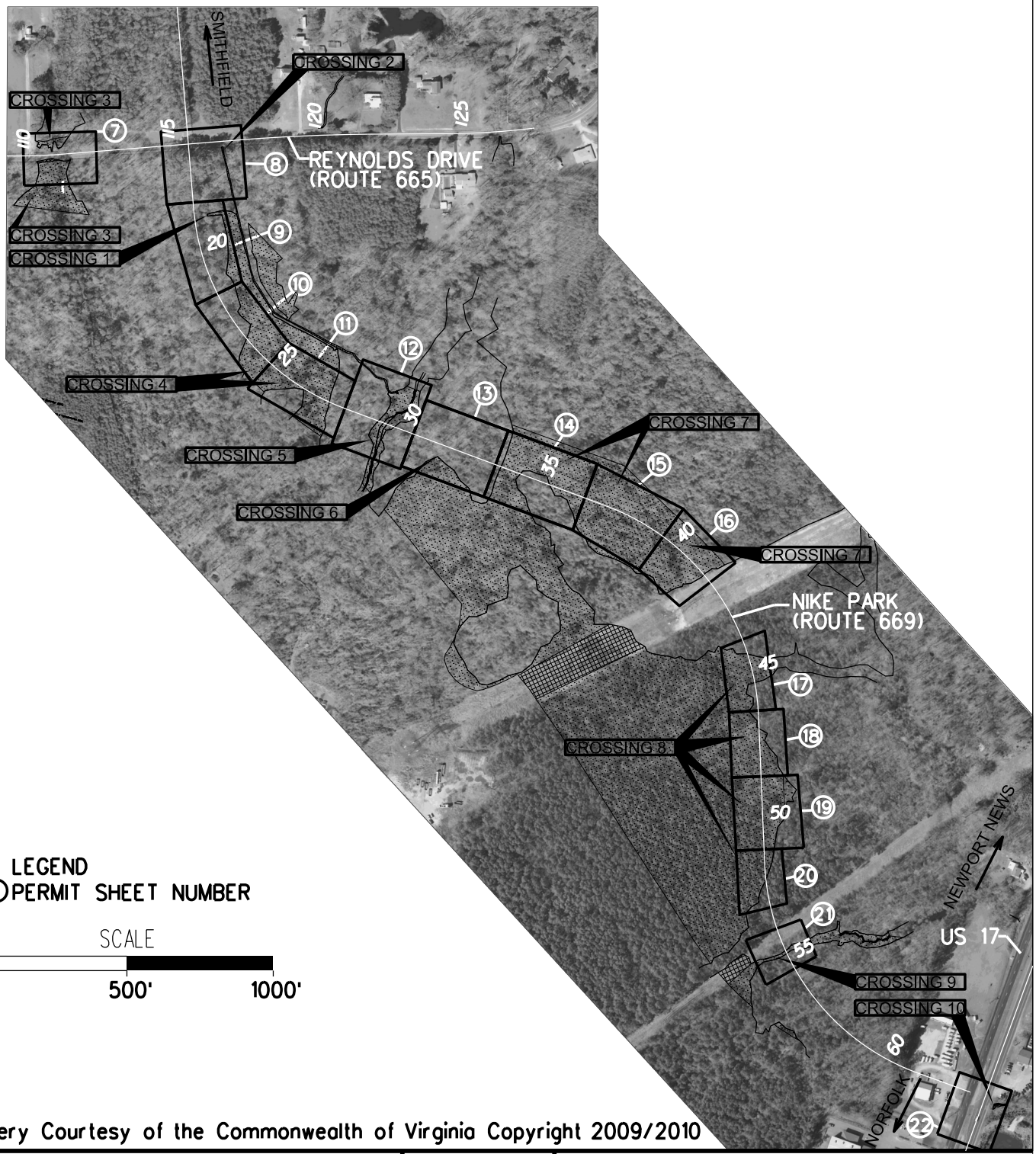
Amount of Impacts

	L.F		S.F	
	Non-Tidal	Tidal	Non-Tidal	Tidal
Permanent	0	0	0	0
Temporary	0	0	0	0

Conceptual Other Mitigation: None Proposed

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
OVERALL PLAN VIEW



LEGEND
⊙ PERMIT SHEET NUMBER

SCALE
0 500' 1000'

Imagery Courtesy of the Commonwealth of Virginia Copyright 2009/2010

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK AND TRIBUTRAY OF RAGGED ISLAND CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

SHEET 1 OF 24 DATE: 3/10/2023

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314

INDEX OF SHEETS

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK AND TRIBUTRAY OF RAGGED ISLAND CREEK

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314

LEGEND

E&S LEGEND:

TSF-A / TSF-B	Denotes Temporary Silt Fence, St'd EC-5 Type A or B
EC-15	Denotes Sediment Rentention Roll: Slope Interrupter
TDC	Denotes Temporary Diversion Channel, St'd EC-12
RCD-1	Denotes Rock Check Dam, Type I; St'd EC-4
RCD-2	Denotes Rock Check Dam, Type II; St'd EC-4
IP-A	Denotes Inlet Protection, Type A; St'd EC-6
IP-B	Denotes Inlet Protection, Type B; St'd EC-6
IP-C	Denotes Inlet Protection C; St'd EC-6
OP	Denotes Outlet Protection; St'd EC-1
LOD	Denotes Limits of Disturbance
WL	Denotes Wetland

Drainage Structure Legend

	Curb Cut to Mod. PG-5, W=2' (Typ.) w/ Steel Plate Crossing
	Level Spreader (Typ.)
On Grade or Slope Location	Curb Cut to Mod. PG-5, W=2' (Typ.)
In Sump Location	Curb Cut to Mod. PG-5, W=2' (Typ.)

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

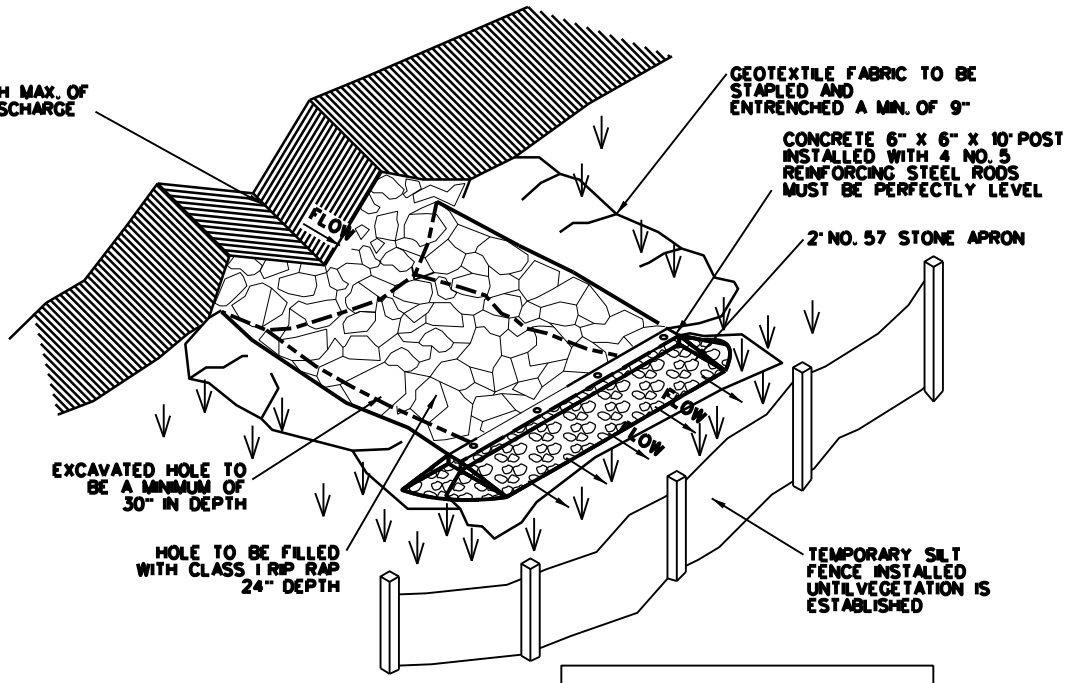
WATERWAY: TITUS CREEK AND TRIBUTRAY OF RAGGED ISLAND CREEK

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314

LEVEL SPREADER DETAIL



LEVEL SPREADER ISOMETRIC VIEW

NOT TO SCALE

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

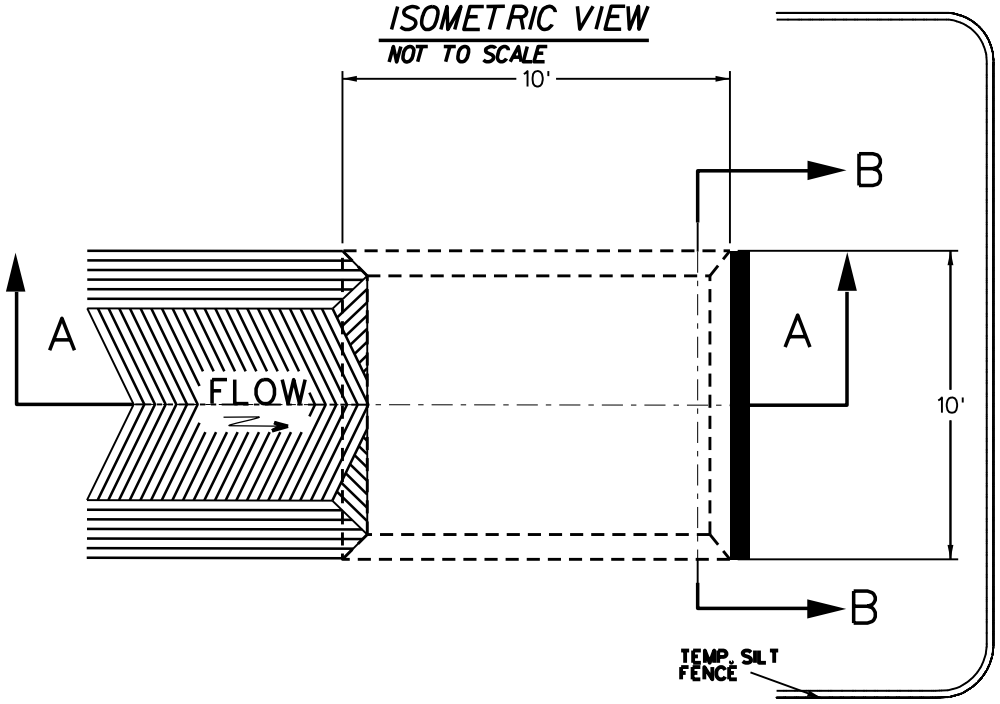
WATERWAY: TITUS CREEK AND TRIBUTRAY OF RAGGED ISLAND CREEK

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

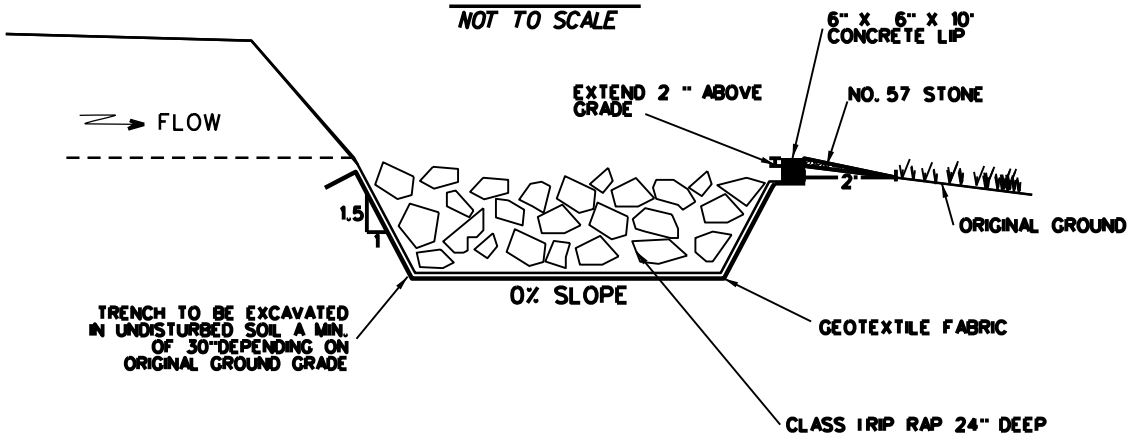
RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314

LEVEL SPREADER DETAIL

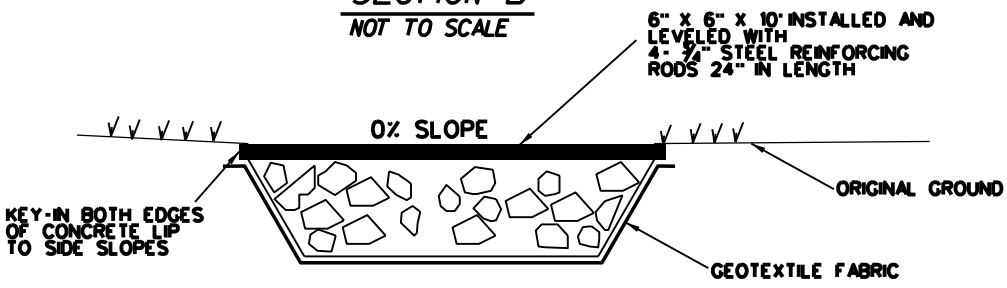
ISOMETRIC VIEW
NOT TO SCALE



SECTION A
NOT TO SCALE



SECTION B
NOT TO SCALE



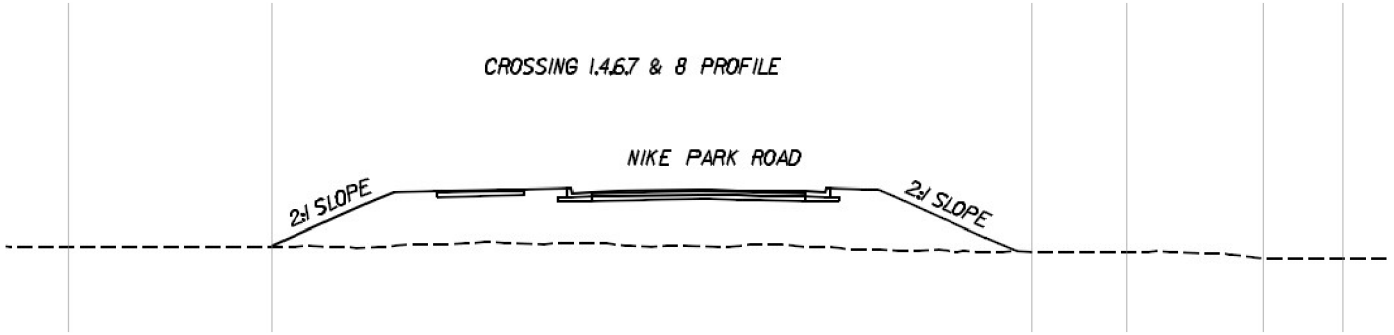
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK AND TRIBUTRAY OF RAGGED ISLAND CREEK

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING 1,4,6,7&8 PROFILE



MAXIMUM WIDTH OF PFO WETLAND IMPACT
APPROXIMATELY 101'

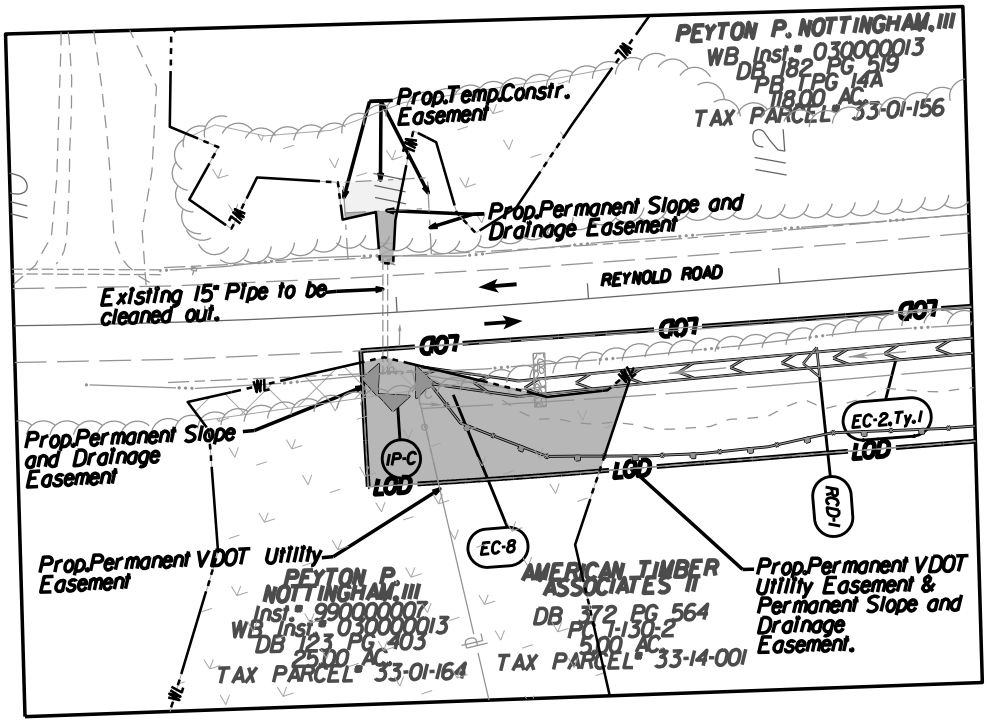
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION
WATERWAY: TITUS CREEK

NOT TO SCALE

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 3



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

TEMPORARY IMPACT PFO WETLAND

PEM WETLAND

PERMANENT IMPACT PEM WETLAND

SCALE

0 50' 100'

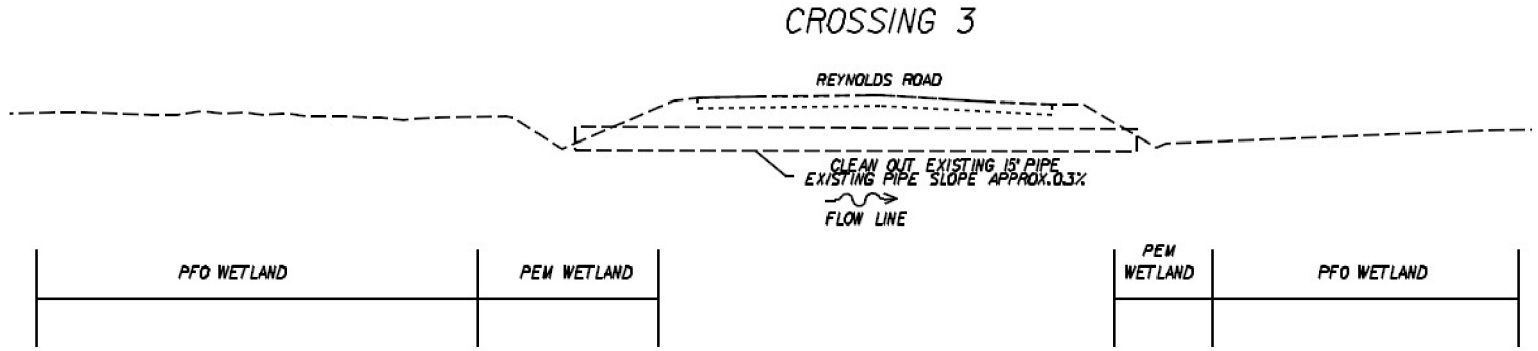
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING 3 PROFILE



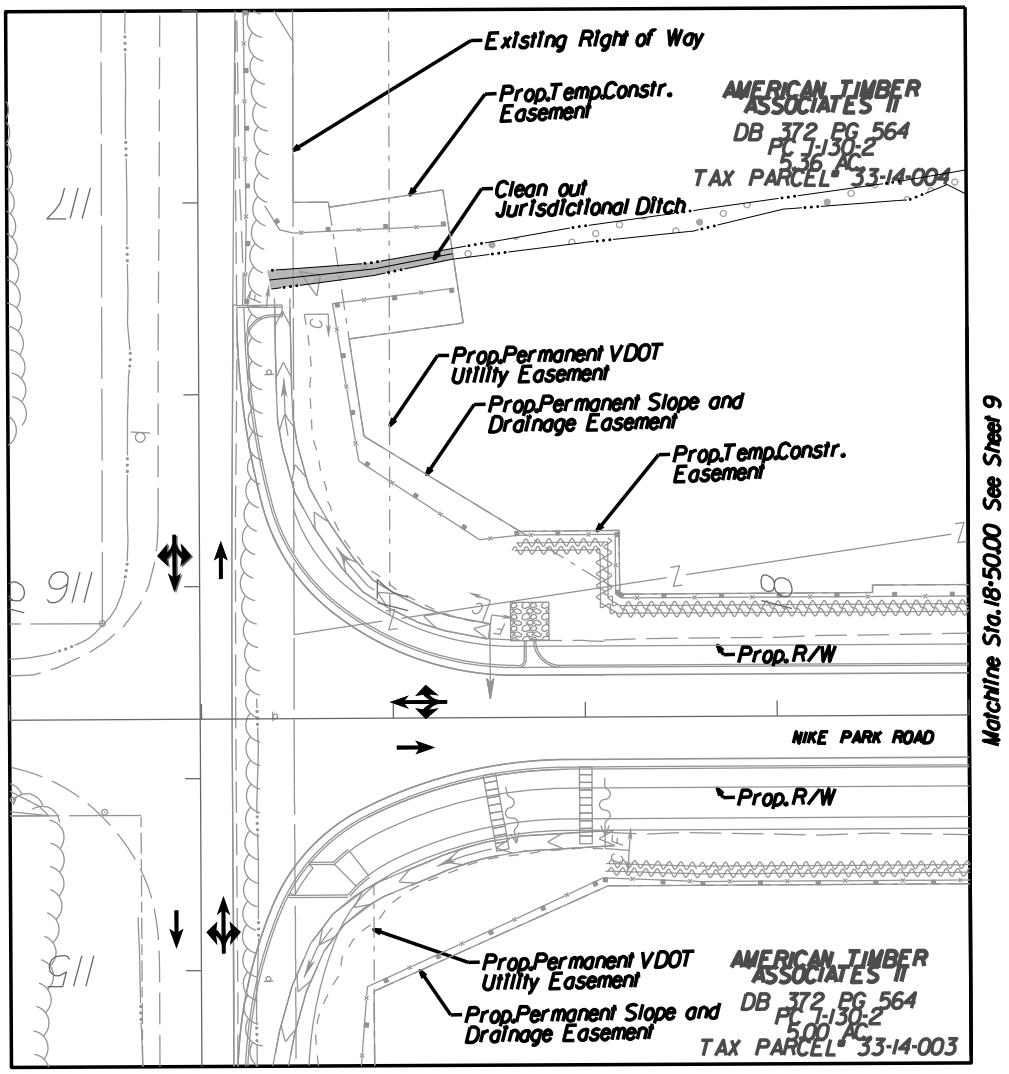
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION
WATERWAY: TITUS CREEK

NOT TO SCALE

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 2



LEGEND

JURISDICTIONAL DITCH

PERMANENT IMPACT
JURISDICTIONAL DITCH IMPACT

SCALE
0 50' 100'

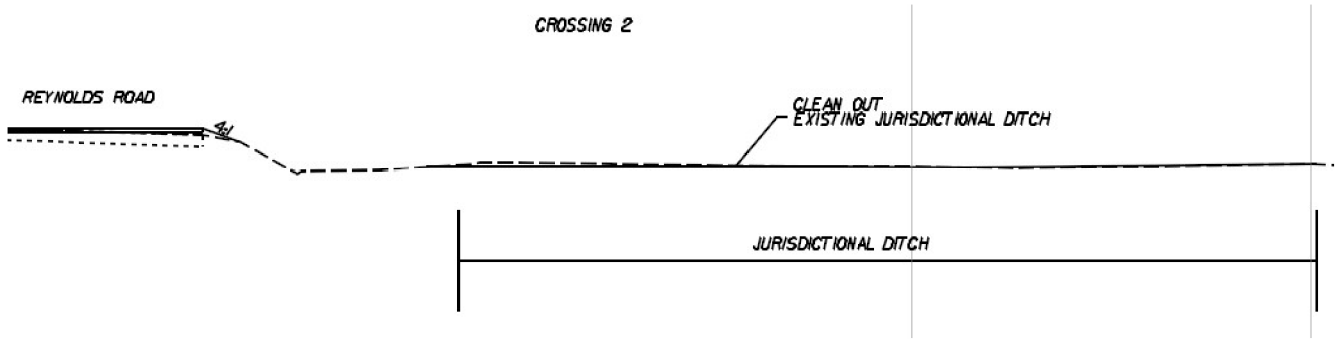
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING 2 PROFILE



NOTE: DITCH IS EPHEMERAL THEREFORE,
ORDINARY HIGH WATER IS UNCERTAIN.

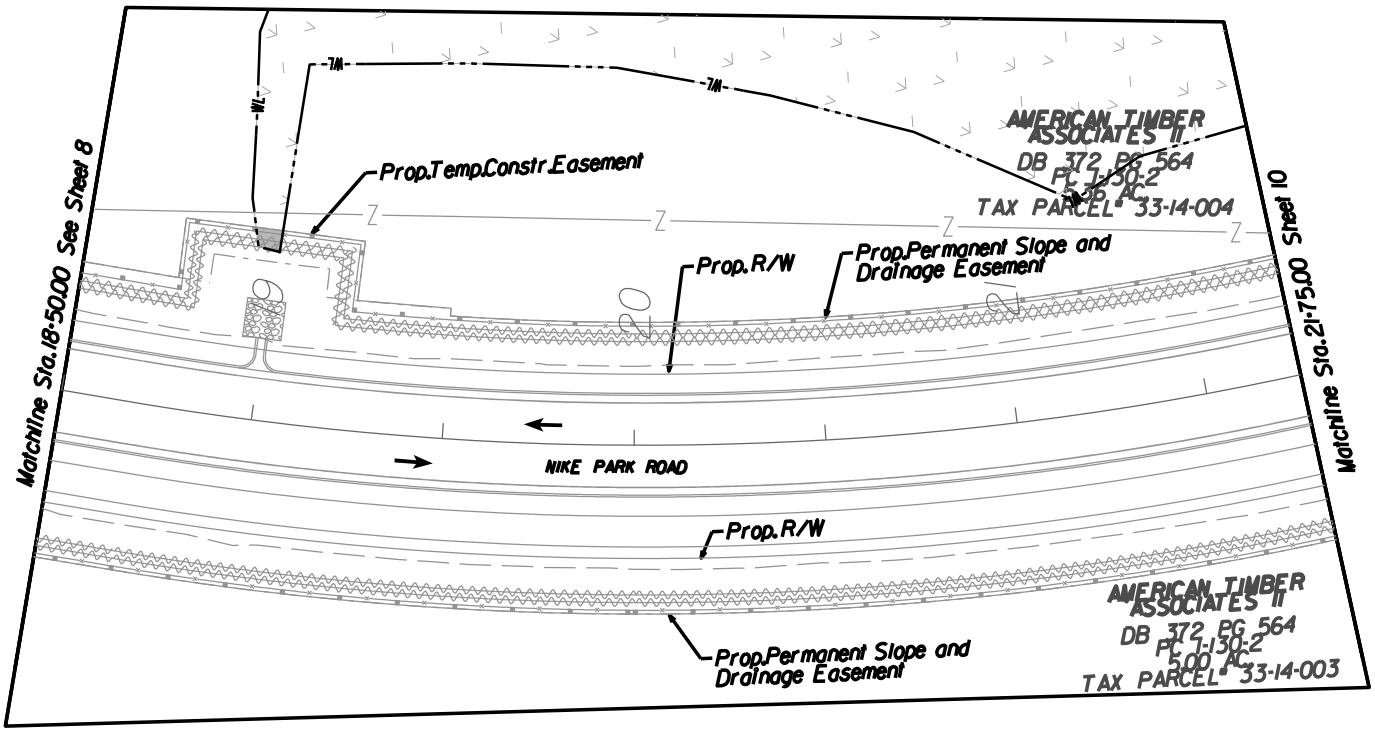
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION
WATERWAY: TITUS CREEK

NOT TO SCALE

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 1



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY:TITUS CREEK

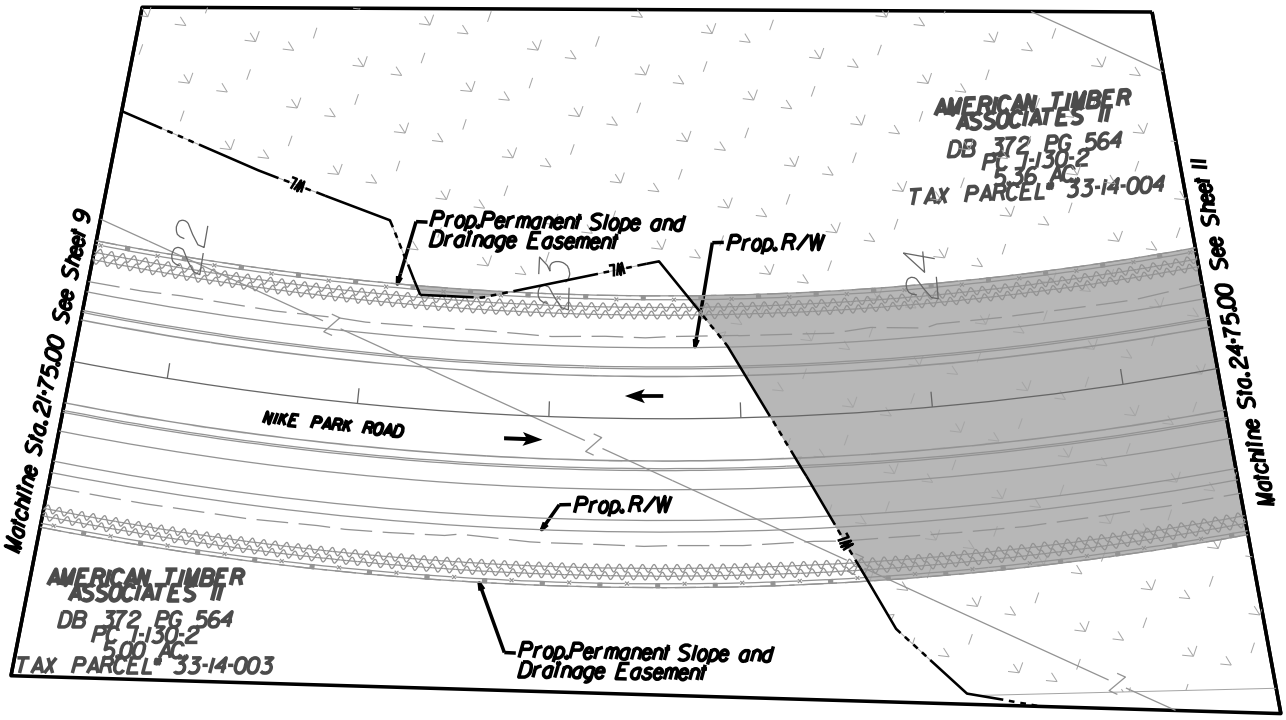
N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

SHEET 9 OF 24 DATE: 3/10/2023

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 4



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE
0 50' 100'

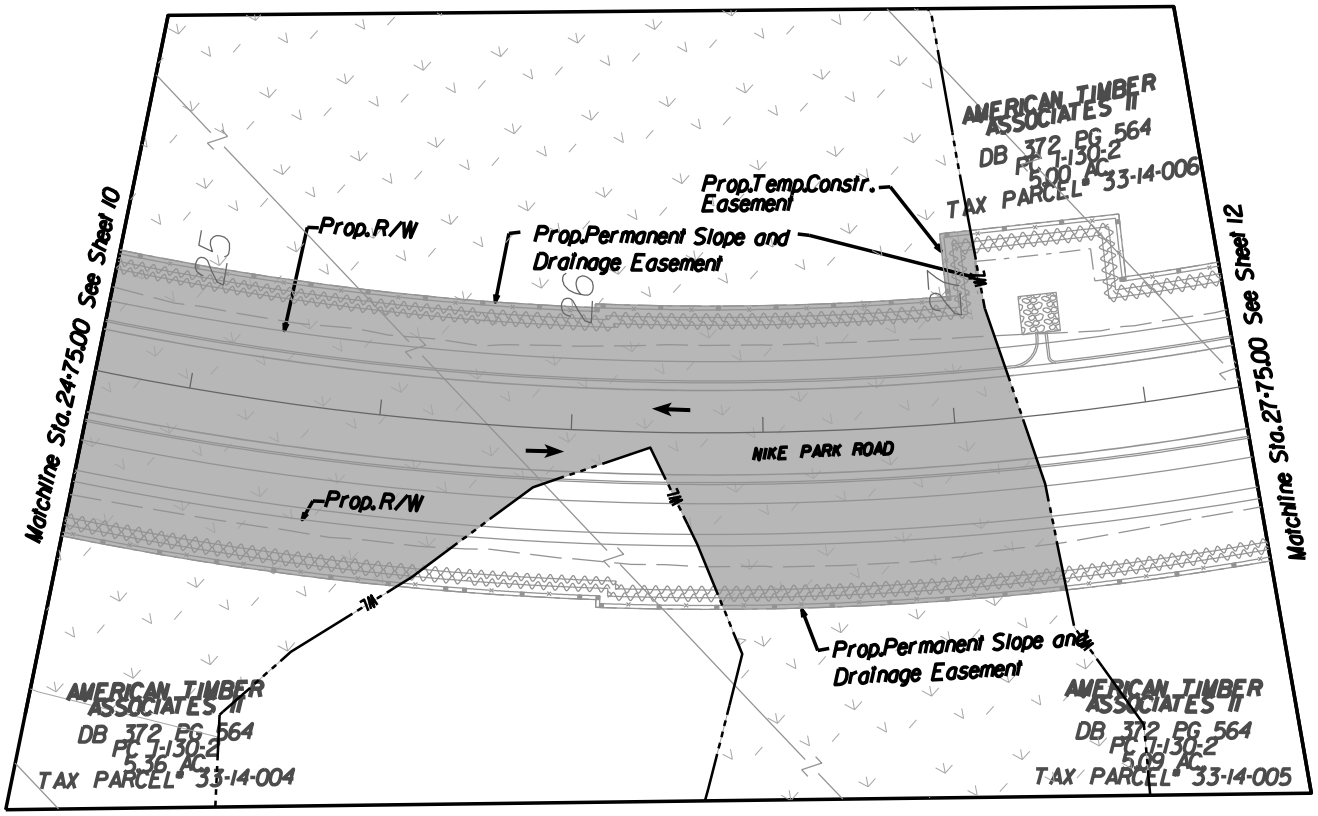
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 4



LEGEND

PFO WETLAND

PERMANENT IMPACT
PFO WETLAND

SCALE
0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

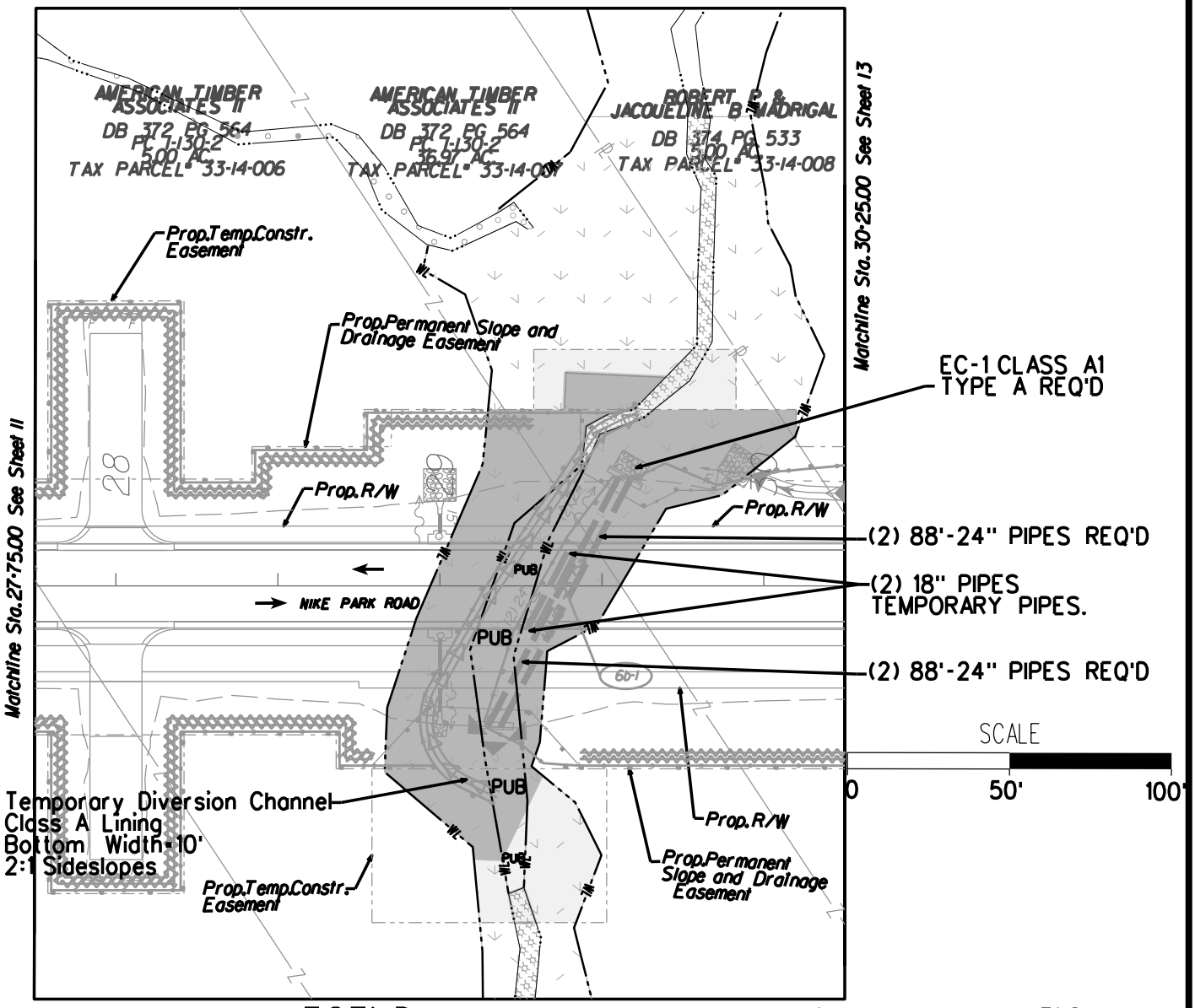
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 5



LEGEND

- PFO WETLAND
- INTERMITTENT (R4) STREAM CHANNEL
- PERMANENT IMPACT PFO WETLAND
- PUB — PERMANENT IMPACT PUB WETLAND
- TEMPORARY IMPACT STREAM CHANNEL INTERMITTENT (R4)
- TEMPORARY IMPACT PFO WETLAND
- PUB — TEMPORARY IMPACT PUB WETLAND

1. Install temporary E&S.
2. Clear and grub within right of way/temporary easement.
3. Excavate temporary diversion channel in the dry with double 18" temporary culvert in place.
4. Utilize temporary diversion channel to remove dual 18" pipe and install double 24" culvert with backfill in the dry, then reroute flow.
5. Remove temporary diversion channel in the dry.

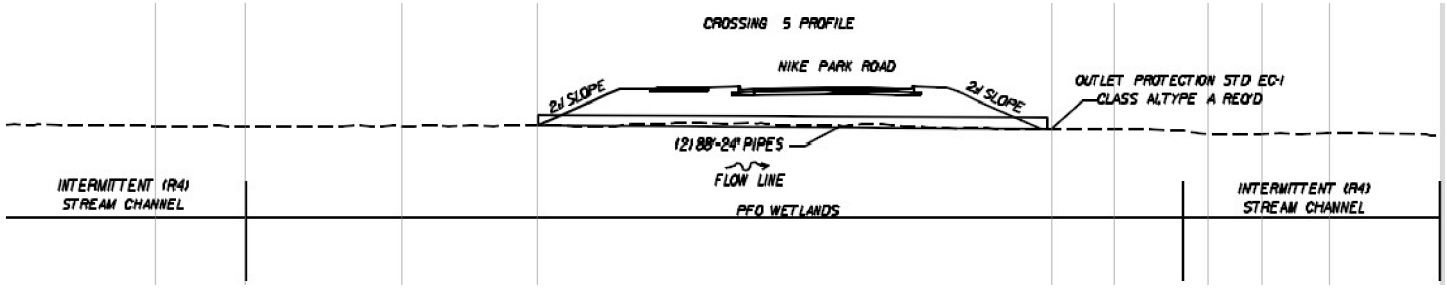
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING 5 PROFILE



NOTE: LIMITS OF ORDINARY HIGHWATER UNCERTAIN AT CROSSING #5.

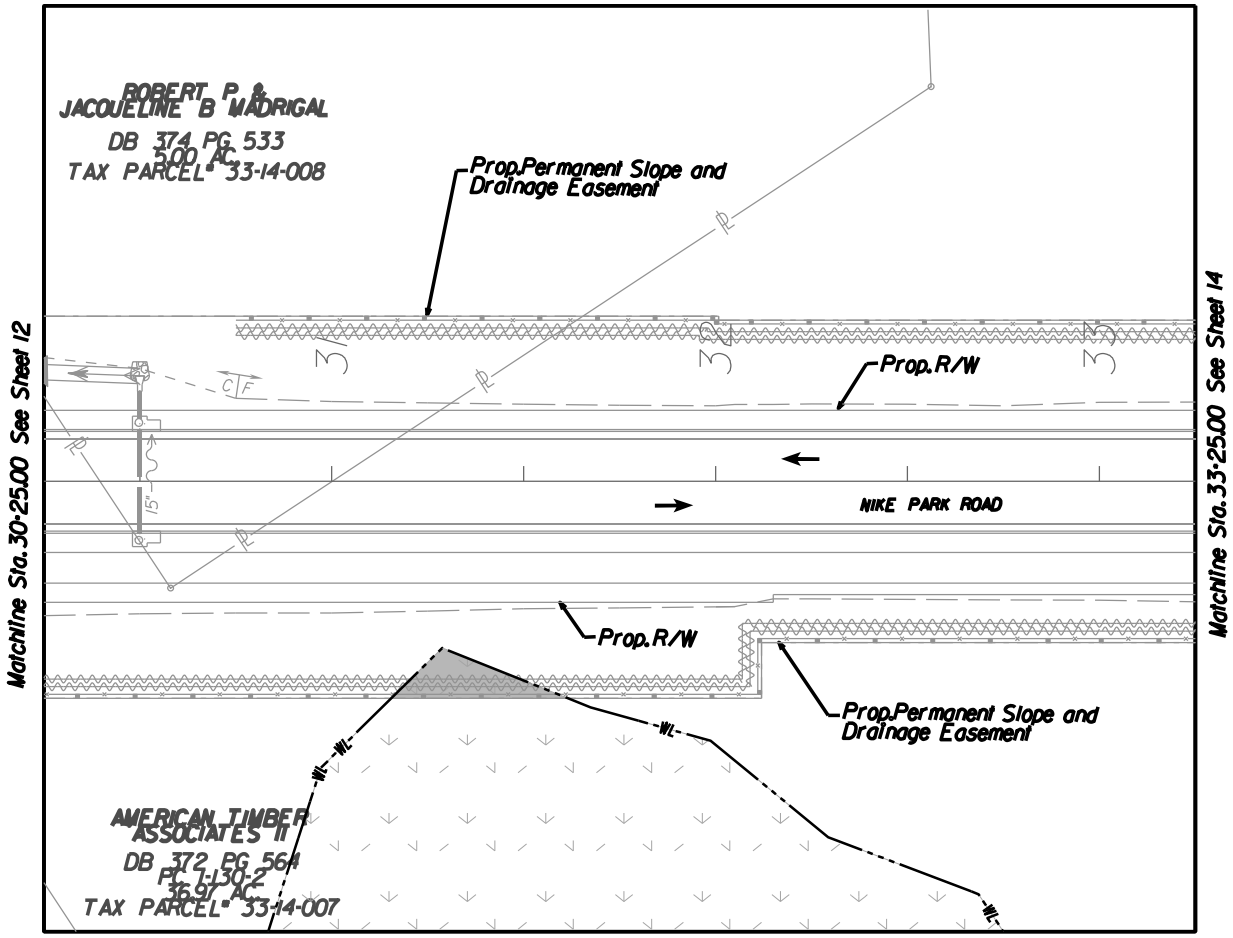
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION
WATERWAY: TITUS CREEK

NOT TO SCALE

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 6



LEGEND

PFO WETLAND

PERMANENT IMPACT
PFO WETLAND

SCALE
0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

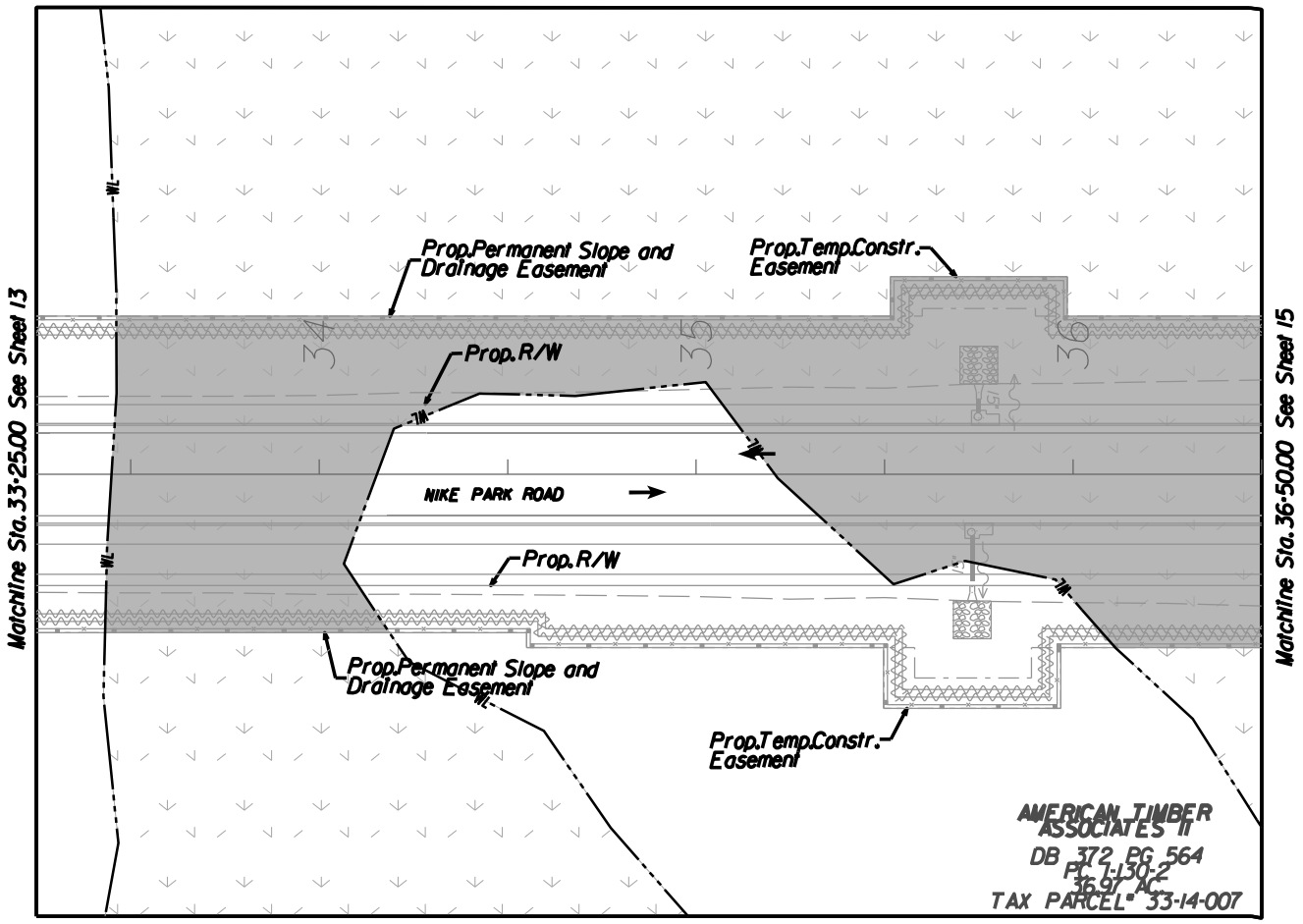
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 7



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE
0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

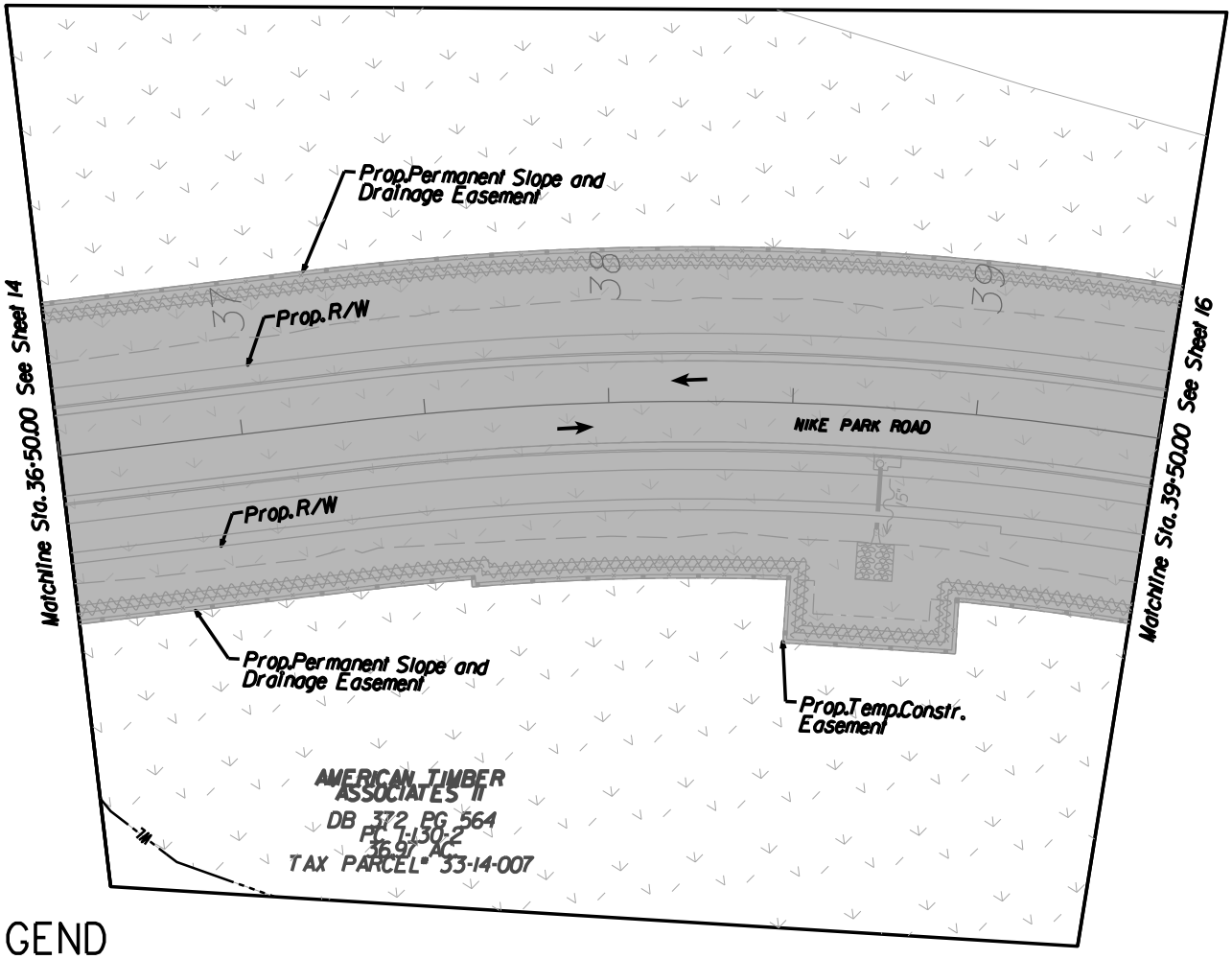
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 7



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

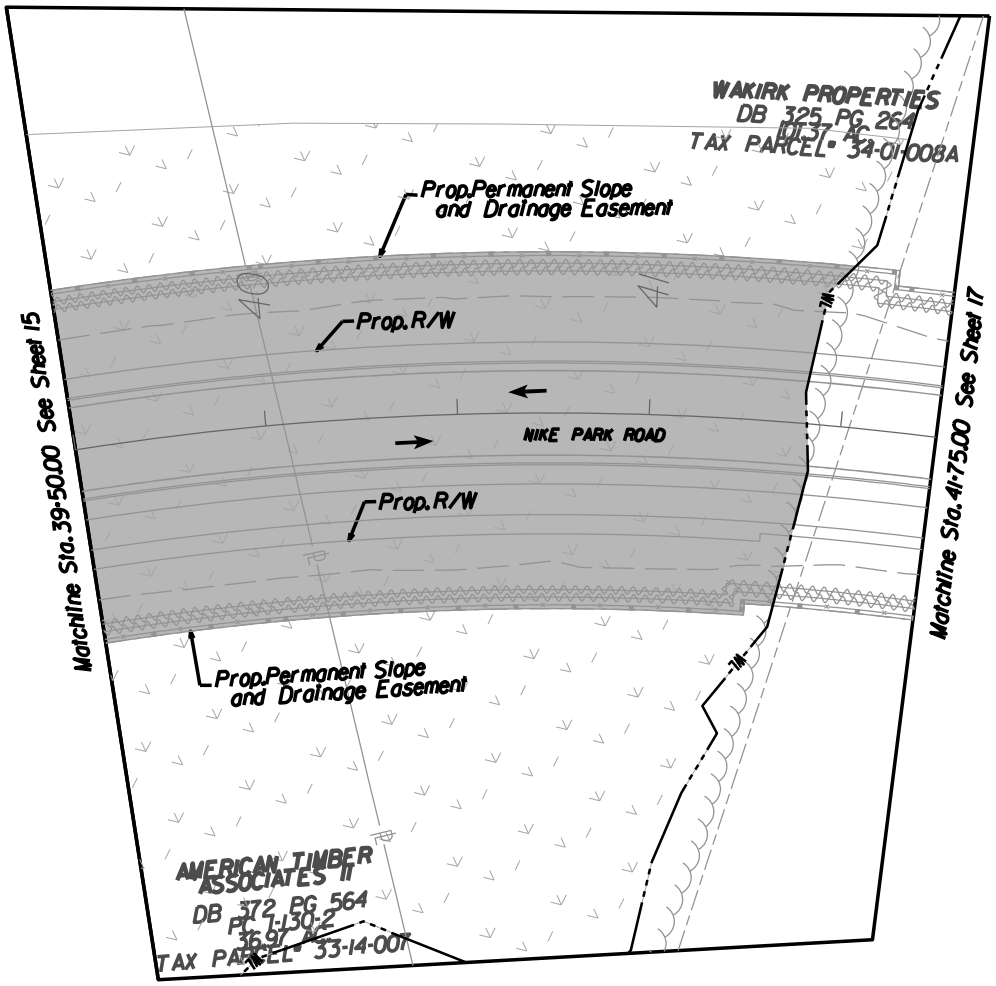
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 7



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA DEPARTMENT OF TRANSPORTATION

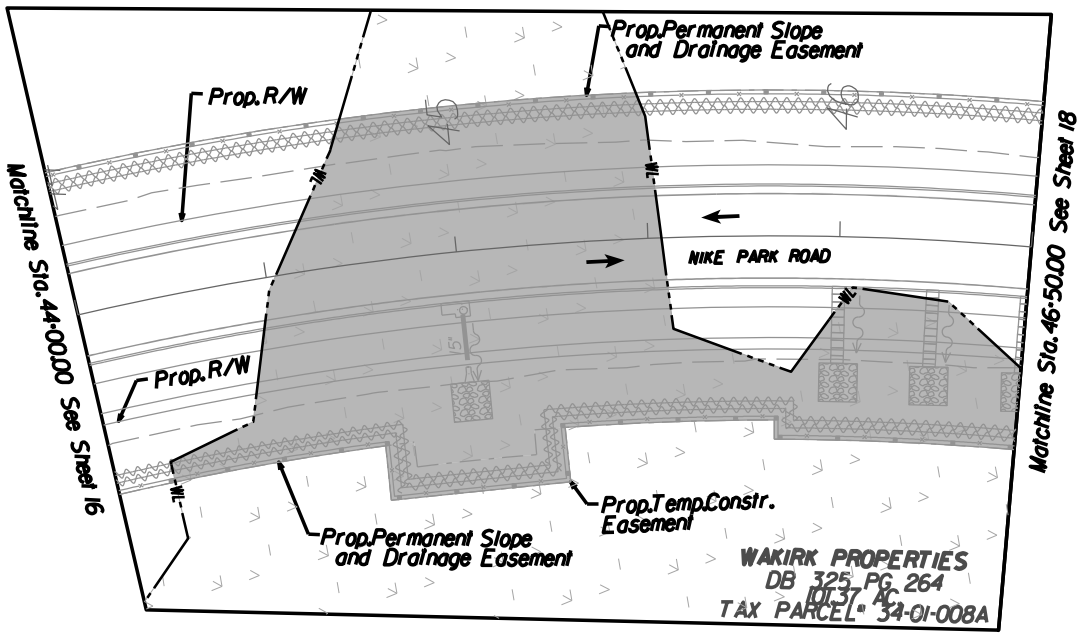
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

SHEET 16 OF 24 DATE: 3/10/2023

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 8



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

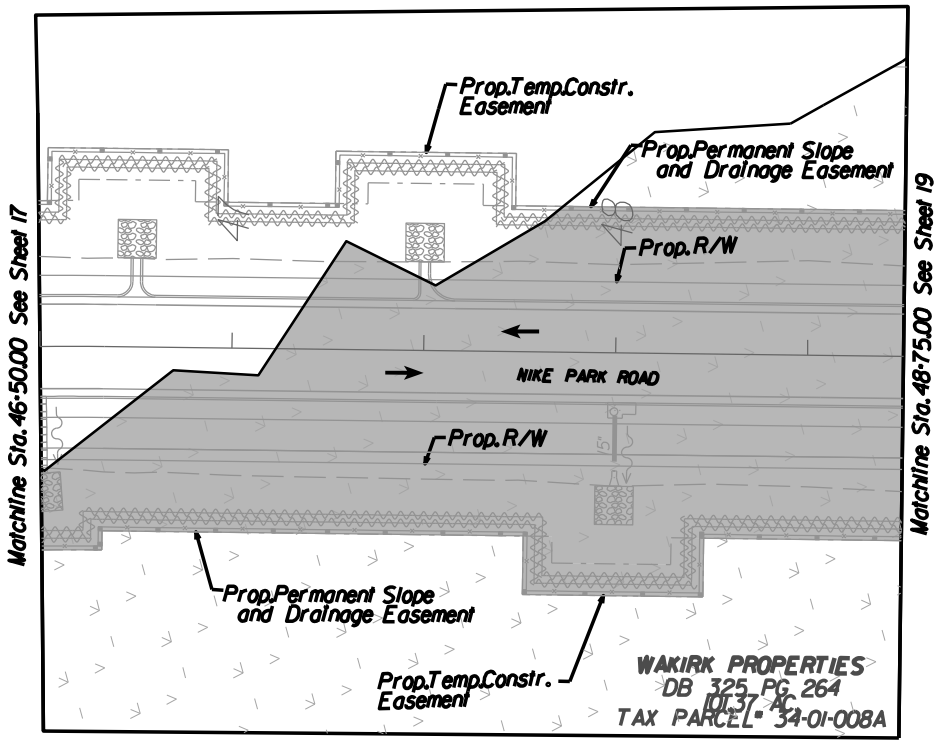
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 8



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

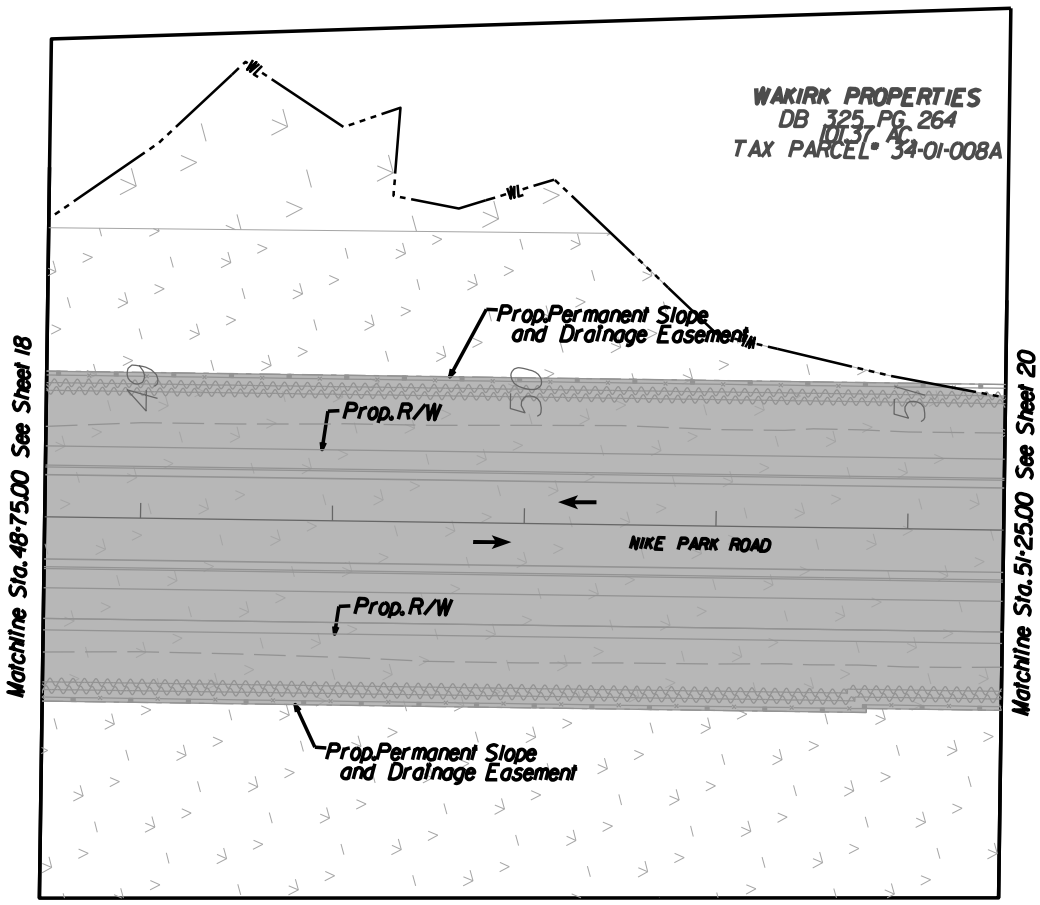
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 8



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

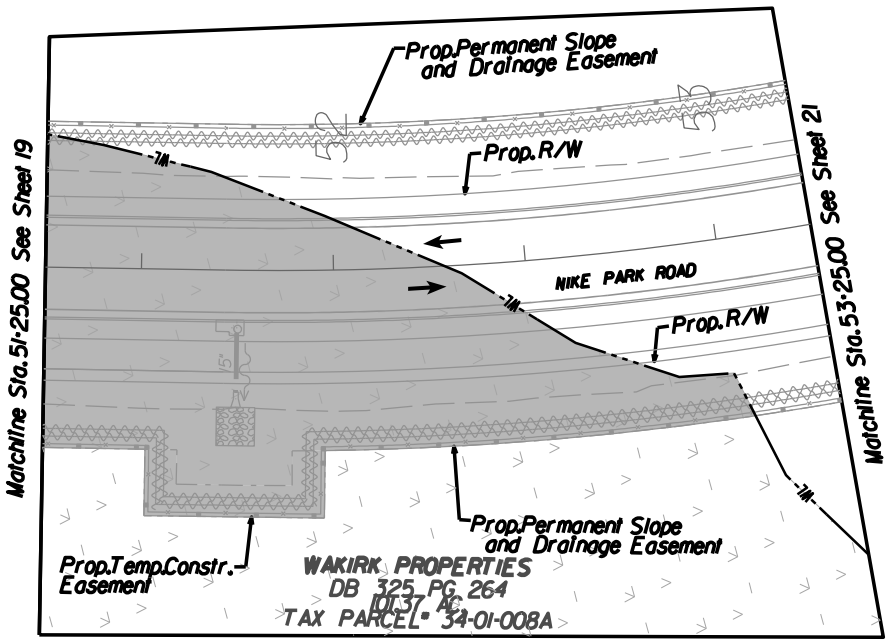
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 8



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

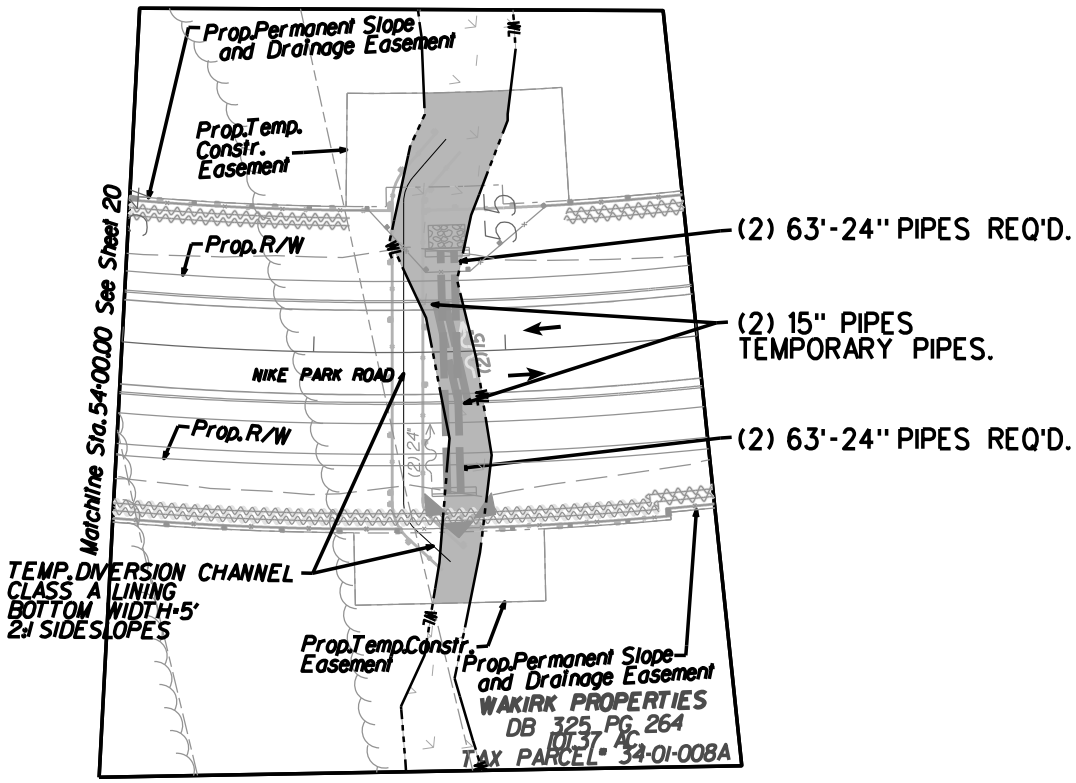
WATERWAY: TTITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 9



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

SCALE

0 50' 100'

1. Install temporary E&S.
2. Clear and grub within right of way/temporary easement.
3. Excavate temporary diversion channel in the dry with double 15" temporary culvert in place.
4. Utilize temporary diversion channel to remove dual 15" pipe and install double 24" culvert with backfill in the dry, then reroute flow.
5. Remove temporary diversion channel in the dry.

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

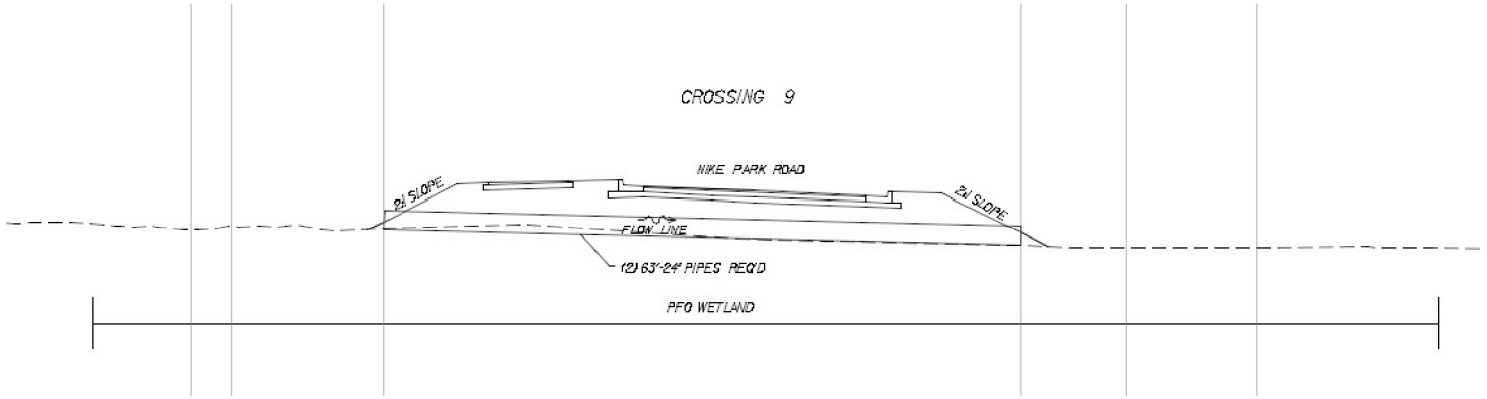
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING 9 PROFILE



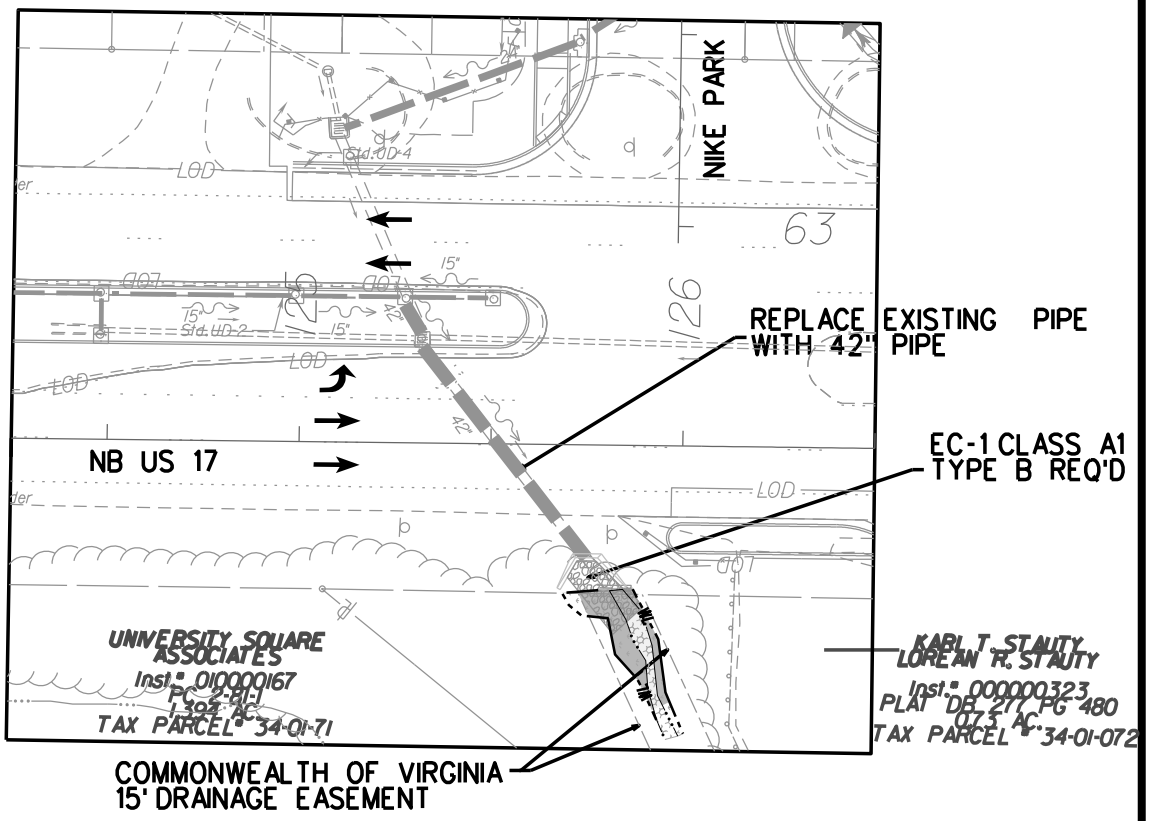
RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION
WATERWAY: TITUS CREEK

NOT TO SCALE

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING • 10



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

INTERMITTENT (R4) STREAM CHANNEL

PERMANENT IMPACT INTERMITTENT (R4) STREAM CHANNEL

TEMPORARY IMPACT INTERMITTENT (R4) STREAM CHANNEL

SCALE
0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

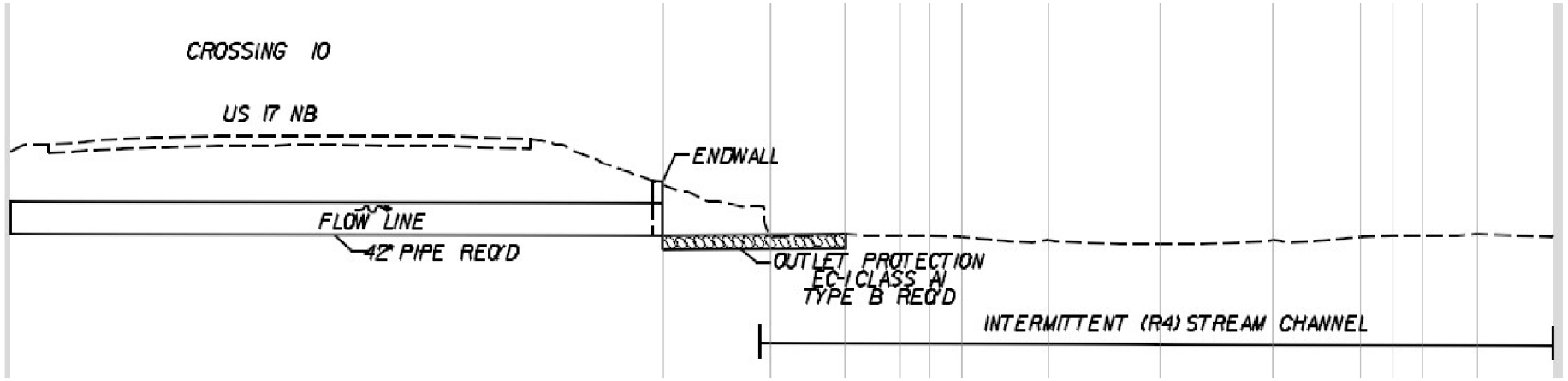
WATERWAY: TRIBUTARY OF RAGGED ISLAND CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
CROSSING 10 PROFILE



RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION
WATERWAY: TRIBUTARY OF RAGGED ISLAND CREEK

NOT TO SCALE

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

SHEET 22A OF 24 DATE: 3/10/2023

VDOT

RTE 669 - NIKE PARK ROAD EXTENSION
PROJ. 0669-046-682 UPC: 109314
IMPACT SUMMARIES

CROSSING 1 (SHEET 9)	
WETLAND TYPE	PERMANENT IMPACT AREA (SF)
PFO	33.7

CROSSING 2 (SHEET 8)			
Permanent Jurisdictional Ditch Impacts	LF	SF	CY CUT/FILL
Total	48.2	175.0	7

CROSSING 3 (SHEET 7)		
WETLAND TYPE	PERMANENT IMPACT AREA (SF)	TEMPORARY IMPACT AREA (SF)
PFO	1554.3	117.8
PEM	195.6	

CROSSING 4 (SHEET 10-11)	
WETLAND TYPE	PERMANENT IMPACT AREA (SF)
PFO	25882.9

CROSSING 5 (SHEET 12)			
	LF	SF	CY CUT/FILL
Temporary Intermittent (R4) Stream Channel	64	291.5	2

WETLAND TYPE	PERMANENT IMPACT AREA (SF)	TEMPORARY IMPACT AREA (SF)
PFO	6544.8	1682.9
PUB	1320.3	109.4

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA
DEPARTMENT OF TRANSPORTATION

WATERWAY: TITUS CREEK

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

CROSSING 6 (SHEET 13)	
WETLAND TYPE	PERMANENT IMPACT AREA (SF)
PFO	300.8

CROSSING 7 (SHEET 14-16)	
WETLAND TYPE	PERMANENT IMPACT AREA (SF)
PFO	63420.5

CROSSING 8 (SHEET 17-20)	
WETLAND TYPE	PERMANENT IMPACT AREA (SF)
PFO	58985.8

CROSSING 9 (SHEET 21)	
WETLAND TYPE	PERMANENT IMPACT AREA (SF)
PFO	1899.5

CROSSING 10 (SHEET 22)			
	LF	SF	CY CUT/FILL
Temporary Intermittent (R4) Stream Channel	25	74.97	
Permanent Intermittent (R4) Stream Channel	8	29.9	2

WETLAND TYPE	PERMANENT IMPACT AREA (SF)		
PFO	213.47		

Attachment D

Hydraulic Commentary

VIRGINIA DEPARTMENT OF TRANSPORTATION
LOCATION AND DESIGN
LOCATION HYDRAULIC STUDY

Project Information			
UPC	109314	State Project Number	0669-046-682
City/County	Isle of Wight	Route	RTE 669
Waterbody	Tributary to Ragged Island Creek and Titus Creek		

Study Information				
Project Type	New Construction			
Description of proposed actions within the Base Flood Plain	The project consists of intersection improvements and new construction of approximately a mile of roadway. The project will include to double 24" pipe culvert crossings, construction of a new stormsewer and replacement of a 30" pipe with a larger pipe. Placement of riprap is proposed at the outlet of all the pipes. The project does not intersect any mapped floodplains			
Drainage Area	0.12 sq. mi.			
Roadway Classification	Other Principal Arterial		Design Storm	10-year

Panel Number	Zone*	BFE	Floodway Encroachment	Notation
FM51093C0158E	NA		NA	The project not does not impact the a mapped flood zone
			Click to choose an item.	

***** Only note if in a Zone A, AE, V, or VE area

Engineers Assessment	The placement of the new culverts and replacement of the 30" pipe have been assessed to confirm that they will manage the increase in flows from the project area. A comprehensive hydrologic and hydraulic flow analysis is not necessary for the proposed project the proposed work will not create a significant impact to the stream flow volume or base flood elevation at this location.

Conclusion	
Further study required	None
To	

Personal Information			
Completed By	Shannon Kerrigan		
With	VDOT		
Phone	804-786-6084	Email	shannon.kerrigan@vdot.virginia.gov

UPC 109314
State Project Number 0669-046-682

COMMONWEALTH OF VIRGINIA
SHANNON R
KERRIGAN
Lic. No. 057932
PROFESSIONAL ENGINEER

Shannon Kerrigan
2023.03.08 15:09:52-05'00'

VDOT Location and Design
Central Office
Hydraulics Section

Responsible for Pages 1 to 2

Attachment E

Cultural Resources Information

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

VDOT Cultural Resources Summary Documentation for Interagency Permit Application

Project Number: 0669-046-682
Project Name: Nike Park Road Extension
VDHR File No. 2018-0277
District: Hampton Roads
Cultural Resources Manager: Stuck, Kenneth E.
Report Generated: 05/31/2023

UPC: 109314

Funding Source: State
Primary Jurisdiction: Isle of Wight

The following determinations have been made by VDOT Cultural Resources staff for this VDOT project as a whole in consultation with the State Historic Preservation Officer in Virginia (Director of Virginia Department of Historic Resources) in conformance with the requirements of Section 106 of the National Historic Preservation Act (54 U.S.C. 306108) and its implementing regulations, 36 CFR Part 800. The Area of Potential Effects (APE) for the USACOE's undertaking subject to Section 106 may be smaller than the APE defined for the project as a whole.

Designated Lead Federal Agency for Section 106: FHWA

Does the project have the potential to affect historic properties, should they be present? Yes

Description of Area of Potential Effects (APE): The APE is the geographic area within which a project may cause alterations to the character or use of historic properties, if any are present. For archaeology, the APE is the limits of ground-disturbing activities, including all easements - construction, drainage, utility, etc. For architecture, the APE is the structures immediately surrounding the proposed project.

Are there previously recorded architectural resources within the APE? No
Notes: There are no previously recorded architectural resources in the APE.
Date: 09/07/2017

Are there previously recorded archaeological resources within the APE? No
Notes: There are no previously recorded archaeological resources in the APE.
Date: 09/07/2017

Are historic properties present in the Area of Potential Effects? No

Effects Matrix: Not applicable
Explanation of Effect Determination: Archaeological survey conducted and DHR concurred January 16, 2019 that no further archaeological work required. No architectural survey was determined to be necessary. No archaeological sites identified. No historic properties will be impacted by the proposed project.

☑ **Determination of No Effect made** 01/16/2019 **and reported to the SHPO in accordance with Stipulation II.A of the *Programmatic Agreement among the Federal Highway Administration, the U.S. Army Corps of Engineers, Norfolk District, the Tennessee Valley Authority, the Advisory Council on Historic Preservation, the Virginia State Historic Preservation Officer, and the Virginia Department of Transportation Regarding Transportation Undertakings Subject to Section 106 of the National Historic Preservation Act of 1966 (executed August 2, 2016).***

Effect Determination (non-"Stip.II.A"): **VDHR Concurrence Date:**

If Adverse Effect, MOA Execution Date:

Attachment F

Threatened & Endangered Species Information

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

T&E CLEARANCE

Project Name:	Nike Park Road Extension	Project Type:	Construction
Project Number:	0669-046-682, C501, P101, R201	Charge Number:	109314
UPC:	109314	Route Type:	Secondary
Project Number(Assoc)(UPC):	0017-046-683(109481), 00669-046-23069785		
Route Number:	669		
District:	City/County:	Residency:	
Hampton Roads	Isle of Wight	Franklin	
From:	0.052 MLES NORTH OF ROUTE 665		
To:	0.0018 MLES WEST OF ROUTE 17		
Project Description:	#HB2.FY17 NIKE PARK RD EXTENSION FROM REYNOLDS DR TO RTE 17		
Additional Project Description:	The proposed Nike Park Road Extension project would consist of constructing a new two-lane collector roadway for approximately one mile including the construction of a multi-use path that would run parallel to the new facility. The new roadway would extend Nike Park Road from Reynolds Drive to a new intersection location with Route 17. The project would involve intersection improvements at Reynolds Drive including turn lanes and a two-way stop control for Reynolds Drive approaches.		
T&E Project Description:	#HB2.FY17 NIKE PARK RD EXTENSION FROM REYNOLDS DR TO RTE 17		
Quadrangle:	BENNS CHURCH	SERP Exempt?:	Yes
Latitude:	36°56'51"	Permit Required?:	Yes
Longitude:	-76°32'33"		
Last GIS species data load date:	03/08/2023	Buffer Size:	2 miles

SUMMARY:

[ ] **No federal nexus, SERP or state water quality permits required**

[X] **Federal nexus, SERP or state water quality permits required**

[ ] The activity falls within a list of activities that have been determined to have No Effect on Fish, Plant and Wildlife Resources. No additional review required.

[ ] The activity requires additional review, complete the appropriate level of review, as defined in Projects and Resources Requiring Review.

DATE: **REVIEWER:**

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

[X] Based upon a review of the appropriate data sources, T&E Resources are known or suspected to be a concern for this project and additional review is required. 03/16/2023 D Devereaux

[ ] Based on a review of the appropriate data sources, No T&E resources are documented or are suspected to be a concern for this project.

[ ] **PROJECT PHASE REVIEW COMPLETE**

SPECIES:

Species/Resource Name	Additional Information	Category	Federal Status	State Status	Data Source	Potential to Occur	Potential for Impacts	Effect Determination	Conclusion	TOYR Begin	TOYR End
Northern Long-Eared Bat (Myotis septentrionalis)		Mammals	FE	ST	IPaC OSL	suitable habitat was found in the forest.	Approximately 9.68 acres of trees will be removed. the March 6, 2023 evaluation within IPAC produced a May Affect determination. The NLEB will be uplisted on March 31, 2023, and FWS has provided a temporary consultation framework that will cover actions between March 31, 2023 and April 1, 2024. This project will require work after April 1, 2024.	Coordination pending			
Barking Treefrog (Hyla gratiosa)		Amphibians		ST	T&E Database Review	Based on the 2018 Habitat assessment prepared by VHB, the project area does not contain Barking treefrog habitar.	no effect.	No Effect			
Mabee's Salamander (Ambystoma mabeei)		Amphibians		ST	T&E Database Review	Based on the 2018 Habitat assessment prepared by VHB, the project area does not contain Mabee Salamander habitat.	No effect.	No Effect			
Anadromous Species - GENERAL: Below Rt. 17 bridge (James River)		Resource			T&E Database Review,Observation			No Effect			
Atlantic Sturgeon (Acipenser oxyrinchus)		Fish	FE	SE	T&E Database Review,Observation	none	based on distance to resource, no adverse impacts are anticipated.	No Effect			

Bald Eagle - Nest sites		Resource			Integrator - CCB Bald Eagle Nest			
Anadromous Fish		Resource			Integrator - Anadromous Fish	none	based on distance to resource Chucktuck creek (potential),Pagan river (potential), and James River 1 (confirmed), no adverse impacts are anticipated.	No Effect
Atlantic Sturgeon (Acipenser oxyrinchus)		Fish	FE	SE	T&E Database Review,Observation	none	based on distance to resource, no adverse impacts are anticipated.	No Effect
Anadromous Fish	Chucktuck creek (potential)	Resource			Integrator - Anadromous Fish	none	based on distance to resource Chucktuck creek (potential),Pagan river (potential), and James River 1 (confirmed), no adverse impacts are anticipated.	No Effect
Anadromous Fish	Pagan river (potential)	Resource			Integrator - Anadromous Fish	none	based on distance to resource Chucktuck creek (potential),Pagan river (potential), and James River 1 (confirmed), no adverse impacts are anticipated.	No Effect
Anadromous Fish	James River 1 (confirmed)	Resource			Integrator - Anadromous Fish		based on distance to resource Chucktuck creek (potential),Pagan river (potential), and James River 1 (confirmed), no adverse impacts are anticipated.	No Effect
Bald Eagle - Nest sites	Occupied 330	Resource			Integrator - CCB Bald Eagle Nest			
Bald Eagle - Nest sites	Nest Absent 330	Resource			Integrator - CCB Bald Eagle Nest			
Bald Eagle - Nest sites	Active 330	Resource			Integrator - CCB Bald Eagle Nest			
Bald Eagle - Nest sites	Active 660	Resource			Integrator - CCB Bald Eagle Nest			
Bald Eagle - Nest sites	Nest Absent 660	Resource			Integrator - CCB Bald Eagle Nest			
Bald Eagle - Nest sites	Occupied 660	Resource			Integrator - CCB Bald Eagle Nest			

Atlantic Sturgeon (Acipenser oxyrinchus)	6/10/97 8:00 PM;VDGIF Scientific Collections, TE, and Salvage permit data	Fish	FE	SE	Integrator - T&E Species	based on distance to resource Chucktuck creek (potential),Pagan river (potential), and James River 1 (confirmed), no adverse impacts are anticipated.	No Effect

AGENCY COMMENT:

AGENCY	DATE	COMMENTS
DWR	07/11/2017	Department of Game and Inland Fisheries: Preliminary comments were made in May. Please provide a Mabee's Salamander and Barking Tree Frog Habitat Assessment. Also contact JD Kleopfer regarding potential canebrake rattlesnake habitat. Abide by TOYR for tree removal and standard instream work comment. We Support DCR comments and coordination with FWS. 07/11/2017.
DNH	07/11/2017	Department of Conservation and Recreation (Natural Heritage): Would like more information on depressional wetland for staff ecologist. Concur with DGIF comments on Mabee's Salamander. 07/11/2017.

AGENCY COORDINATION RECORD:

AGENCY NAME	AGENCY TRACKING NUMBER	DATE SUBMITTED	DATE DUE	COORDINATION TYPE	DATE OF ACKNOWLEDGEMENT	NOTES
DWR		03/06/2023	04/05/2023	Submitted for Review		Forwarded 2018 salamander and tree frog assessment to DWR.
DCR-NH						
USFWS						
NOAA						

SURVEY(S) REQUESTED:

SCOPE	TYPE	REQUEST DATE	SPECIES	SURVEY STATUS	RECOMMENDATIONS

Habitat	Herptile	08/14/2017	Mabee's Salamander (Ambystoma mabeei), Barking Treefrog (Hyla gratiosa)	COMPLETE	VHB biologists conclude that habitat for Mabee's salamander does not exist within the study area. Present-day habitat for breeding barking tree frogs may exist at pools VPA and VPP, although these systems are artificially dammed.

RISK ASSESSMENT:

JUNE 5, 2018

Nike Park Road Extension

Habitat Assessment for Listed Amphibians

Isle of Wight County, Virginia

PREPARED FOR

Virginia Department of Transportation

PREPARED BY

351 McLaws Circle, Suite 3
Williamsburg, Virginia

Introduction

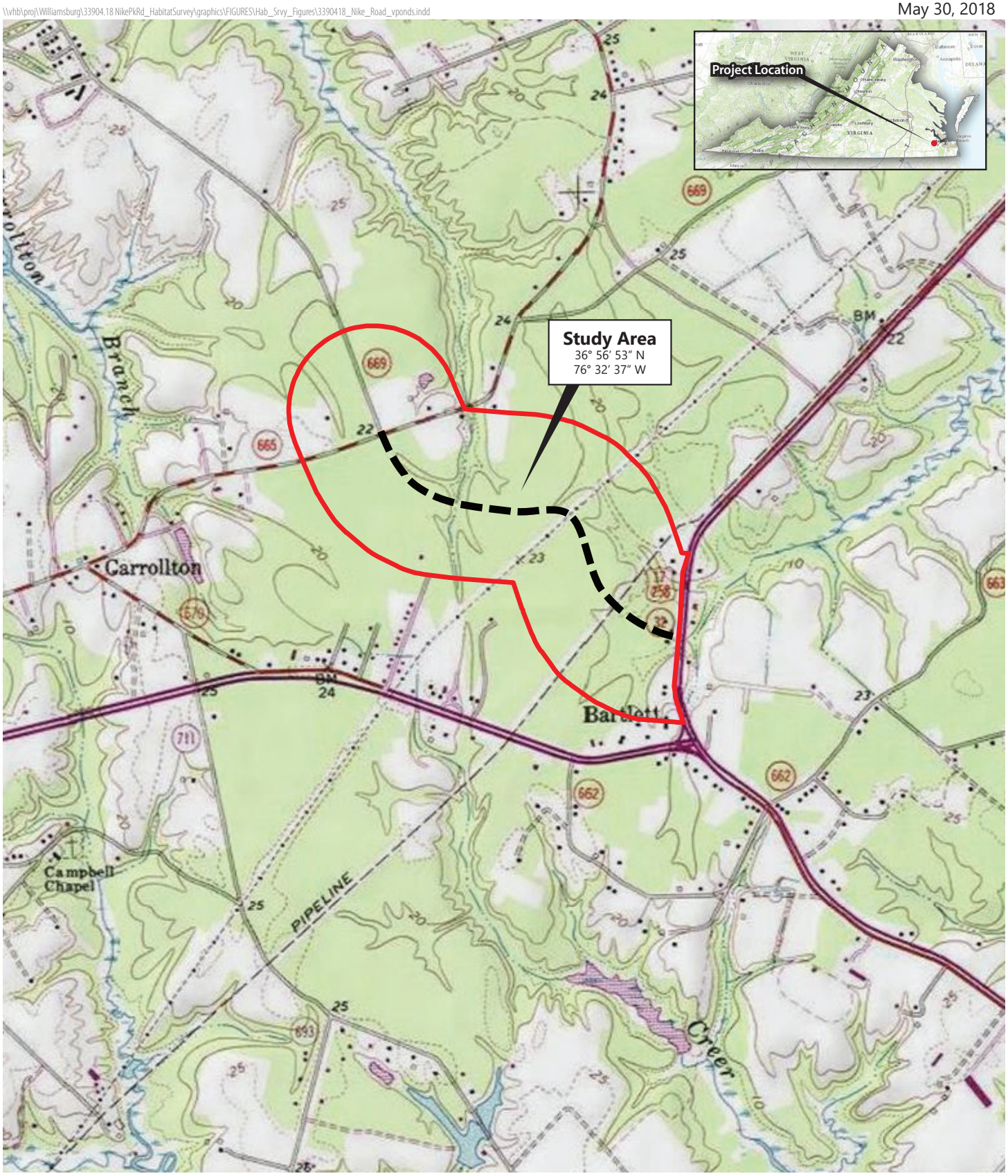
VHB was contracted by the Virginia Department of Transportation (VDOT) to perform a habitat-level assessment for two state-listed amphibian species, the barking tree frog (*Hyla gratiosa*) and Mabee's salamander (*Ambystoma mabeei*), for a proposed extension of Nike Park Road in Isle of Wight County, Virginia. The project area is located east of Carrollton, VA, between Route 655 and Route 17 (Figure 1). The new roadway will extend Nike Park Road from Reynolds Drive to a new intersection location at U.S. Route 17, and involve intersection improvements at Reynolds Drive including dedicated turn lanes and two-way stop control. The purpose of this work is to determine the likelihood of species presence and potential impacts based on the presence/absence of suitable habitat. This work did not include actual searches or trapping to determine animal presence.

Species Description

Mabee's Salamander

The Mabee's salamander is a small mole salamander, reaching a total length of 8-12 centimeters. This species is restricted to the coastal plain of South Carolina, North Carolina, and Virginia, with its northernmost range in Mathews County, Virginia. Adults occupy many types of terrestrial habitats surrounding breeding sites, including hardwood forests, pine forests, savannas, cypress-tupelo stands, and occasionally open fields (Niccoli & Kleopfer 2013). Breeding sites include fish-free, ephemeral pools in pine/hardwood stands, bogs, sinkholes, and ponds in open, grassy fields up to 1.5 meters deep (Hardy 1969, McCoy and Savitzky 2004).

While Hardy (1969) noted that one group of salamanders had moved an inexplicably long distance from any breeding pools, most observations of salamanders occurred near pools. Adults and juveniles are found below ground or under surface coverage in moist to wet environments until returning to their natal ponds for the breeding season. Mabee's salamanders begin this breeding migration between December and March during winter rain events (International Union for the Conservation of Nature 2018, Mitchell et al. 1993). After breeding, the female will deposit the eggs singly or in loose chains of 2-6 eggs on the bottom of the pool attached to leaves, twigs or other debris. Once the eggs are deposited, it takes 9-14 days for them to hatch into their aquatic-larval stage (Virginia Herpetological Society 2018). After 60 to 90 days starting between April and May, the larvae will metamorphize and leave the pool to begin their terrestrial life outside of the pool (Hardy 1969).



vhb

Nike Park Road Extension | Isle of Wight County, VA

Listed Amphibian Breeding Habitat Survey

0 SCALE IN FEET 2000

Source: USGS 7.5 minute Widewater, Virginia Quadrangle

FIGURE 1

Project Location Map

Barking Tree Frog

The barking tree frog is found from southern Virginia towards Florida and parts of Louisiana. It is the largest tree frog species in the southeastern U.S, with length ranging from 5 to 7 centimeters. The barking tree frog has a rougher skin texture than other tree frogs, which is diagnostic for the species when identified. Barking tree frogs are found in sandy areas near pools in pine savannas and in lowland woods and swamps. In Virginia, they have been observed in temporary pools in powerline corridors, willow oak-black gum hardwoods, and forested depressions (Virginia Herpetological Society 2018b).

Barking tree frogs are a mostly solitary and nocturnal species, spending their time in trees when the weather is warm and humid. When its dry or cold, they burrow beneath tree roots and vegetation for moisture and warmth (Richards 2005). Barking tree frogs mate seasonally. The females will breed once per season, while males can mate with multiple females. Groups of around 25 males move to water bodies from 1.5-6 feet deep and 45-60 feet in diameter (Murphey & Gerhardt 2002). Male choruses form on rainy summer nights, and typically go from late April to mid-August. Males will begin calls from trees to attract the females. When the females arrive, the males will leave arboreal habitats and begin floating on the water's surface while continuing to call their mates. Breeding pools are often found in open canopies typically dominated by graminoids (Richards 2005). Following amplexus, the female deposits up to 2,000 eggs on the pool substrate. The eggs take roughly 1 week to hatch and the larval period can last 40 to 70 days. Once metamorphosis is complete, the newly developed frogs will leave the breeding pools to search the surrounding area for refuge in the forests.

Survey Methods

Prior to initiating field work, VHB performed a review of the Virginia Department of Game and Inland Fisheries online data portal to determine if there were any recent confirmed sightings of Mabee's salamanders or barking tree frogs. VHB also discussed herpetological survey requirements for Mabee's salamander and barking tree frog with the Virginia Department of Game and Inland Fisheries (VDGIF). Ms. Amy Ewing with the Environmental Review section of VDGIF, suggesting that Mabee's salamander terrestrial habitats extend 300 meters (984 feet) from breeding vernal pools, informed VHB that VDGIF would require a survey for vernal pools within 300 meters of the proposed road alignment. VHB further discussed water depths of vernal pools necessary to qualify as potential breeding habitat for listed amphibians with the VDGIF state herpetologist, Mr. John Kleopfer. Mr. Kleopfer stated that the literature is unclear on minimal water depths of vernal pools used by Mabee's salamanders. Yet for purposes of this study, a minimum water depth was necessary, and VHB and Mr. Kleopfer agreed that 12 inches

would be used as the minimum water depth for purposes of inventorying ponded areas as potential state listed amphibian breeding areas.

VHB obtained road alignment shapefiles from VDOT, and extended out 300 meters on both sides of the roadway to create a study area shape file. These files were used to create a collector application in ArcGIS for iPad tablets with Trimble R1 GPS capability having a survey accuracy within one meter. Sections of property within 300 meters clearly void of vernal pools based on aerial imagery such as farm fields, residential yards, and commercial sites were excluded from the field survey.

Field surveys for amphibian breeding pools were conducted on April 11 and 12, 2018 by VHB biologists, and a follow-up inspection of pools was performed on May 29. The initial survey was performed using a transect method tracked by the GIS collector application to ensure a complete onsite field review of all habitat types and hydrologic features within the study area. Transects were spaced to ensure visual ranges of each biologist overlapped.

When areas of ponded water were encountered, biologists measured and recorded water depths at the deepest point in inches using a carpenter tape. Maximum water depths were determined by adding 1) the depth of water at the time of the field survey at the deepest point and 2) the measured difference between the highest observed pollen stain line on tree stems and the existing water line. This insured that the maximum seasonal water depth for this spring was determined as indicated by the tree stain lines. Biologists GPS surveyed the perimeter boundary of pools exceeding 12 inches in water depth. Photographs were taken at each ponded area demonstrating general habitat conditions and water depths.

VHB conducted a secondary survey on May 29, 2018 to determine the longevity of standing water present on site. This second visit was a brief walkover, focusing on higher quality pools identified in the April survey. Photographs were taken during this visit to document the current conditions of the identified pools.

Natural Communities

The natural communities on site have been moderately to highly altered by human activity such as farming, residential developments, commercial uses, and timber production. Uplands occur as mesic mixed hardwoods with white oak (*Quercus alba*), red oak (*Quercus rubra*), yellow poplar (*Liriodendron tulipifera*), American beech (*Fagus grandifolia*), red maple (*Acer rubrum*), and sweet gum (*Liquidambar styraciflua*). Loblolly pine (*Pinus taeda*) is commonly mixed within the hardwoods. The shrub layer was composed of American holly (*Ilex opaca*), horse sugar (*Symplocos tinctoria*), various highbush and lowbush blueberries (*Vaccinium fuscatum, Vaccinium formosum*, *Vaccinium pallidum*), and black huckleberry (*Gaylussacia baccata*). The herbaceous layer was sparse during our field visit but included Christmas fern (*Polystichum acrostichoides*), hay-scented fern (*Dennstaedtia punctiloba*), partridge berry (*Mitchella repens*), crane-fly orchid (*Tipularia discolor*), and may apple (*Podophyllum peltatum*). Forest age across the site varied

from recently cleared to reasonably old age forest with trees larger than 24" DBH (diameter at breast height).

Dominant wetland trees included willow oak (*Quercus phellos*), water oak (*Quercus nigra*), swamp chestnut oak (*Quercus michauxii*), loblolly pine, black gum (*Nyssa sylvatica*), red maple, and sweet gum. Mid-story species within wetlands on site included sweet bay (*Magnolia virginiana*), ironwood (*Carpinus caroliniana*), American holly, and highbush blueberry. Herbaceous wetland species included broadleaf arrowhead (*Sagittaria latifolia*), cinnamon fern (*Osmundastrum cinnamomeum*), slender wood oats (*Chasmanthium laxum*), netted chain fern (*Woodwardia areolata*), Virginia chain fern (*Woodwardia virginica*), lady fern (*Athyrium asplenoides*), false nettle (*Boehmeria cylindrica*), sphagnum moss (*Sphagnum* spp.), and various species of sedge (*Carex spp.*).

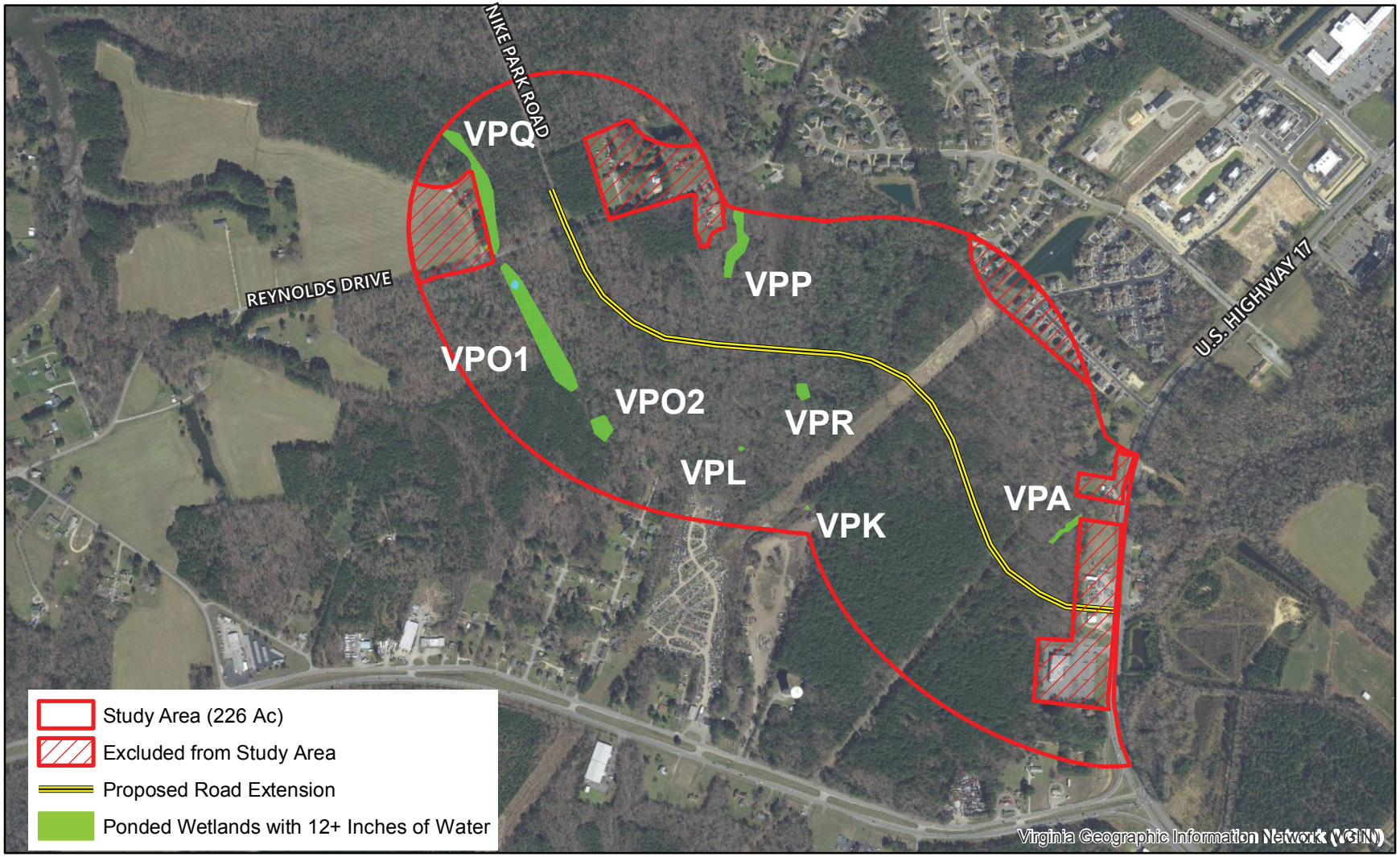
The site also consisted of several stands of loblolly pine (*Pinus taeda*). These pine stands contained an understory of American holly and various blueberry species. Herbaceous groundcover included southern twayblade (*Listera australis*), southern grape fern (*Sceptridium biternatum*), and southern adder's-tongue (*Ophioglossum pycnostichum*).

Survey Results

VHB performed a review of the Virginia Department of Game and Inland Fisheries online review for the study area, and no listed amphibian species were confirmed within a 2-mile radius (Attachment A).

During the initial site visit in April, VHB found eight ponded areas having a water depth at or slightly greater than 12 inches during the peak wet season. Each ponded area was assigned a field code by biologists (Figure 2). Seven of the eight ponded wetlands occur in a forested setting. One ponded area was found in an open environment on the outer edge of a metal scrap yard. The average depth of pools during the April site visit ranged from 10-14 inches deep. Water stains on trees in these pools suggested maximum water depth was about 2 to 3 inches higher than the actual water level recorded with the carpenter tape. Ponded areas range in size from 0.01 to 0.51 acres, and contained variable densities of aerial vegetative cover, ranging from 25% - 65%, with sedges, Virginia chain fern, royal fern, and sphagnum moss being the most common species. Representative photographs are provided in Attachment B.

Pools VPA, VPK, and VPP were found to be the result of man-made alterations. Pool VPA in the easternmost side of the study area was formed by fill placed within a narrow drainageway years ago that prevents the natural flow of surface water to a nearby stream. Pool VPK is the a very small ($\pm$0.02 acre) man-made depression within the metal scrap yard. This pool occurs in a cleared area disturbed by heavy equipment, and is dominated by cattails (*Typha latifolia*). VHB dismissed this pool from listed amphibian habitat due to the poor condition and continuous



0 870 1,740
Feet

Source: VGIN/VBMP 2015-2017 Orthophotography

Nike Park Road Extension | Isle of Wight County, VA

Listed Amphibian Breeding Habitat Survey

FIGURE 2 **April 2018 Habitat Survey Map**

disturbance by equipment. Pool VPP was found in the northern portion of the site immediately south of Reynolds Drive. This pool was fed by a small stream that flows northward into the pooled area and underneath Reynolds Road. Approximately 80 percent of the culvert opening underneath Reynolds Road is blocked by sand and debris, contributing to the damming of water. VPP occupies about 0.4 acres within the study area, with varying water depths from 4-10 inches. Visible water marks on trees in VPP indicated peak water levels reached an additional 3 inches (13 inches total). Trees growing along the edges of VPA and VPP had buttressed trunks and hypertrophied lenticels, suggesting extended duration of inundation.

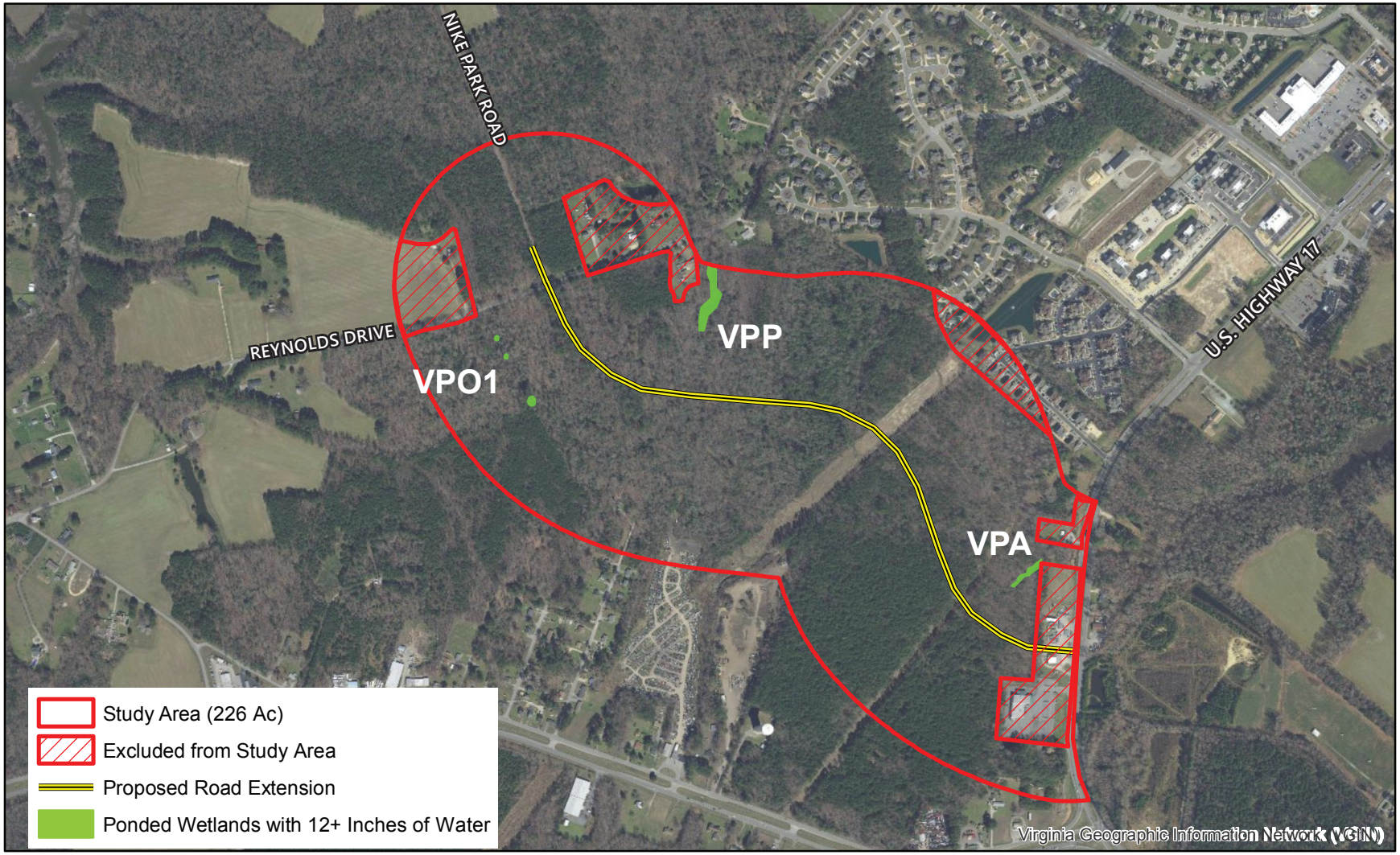
Ponded areas VPL, VPO1, VPO2, VPR, and VPQ represent natural systems occurring south of the proposed road alignment. VPL and VPR are small isolated depressions, and VPO1, VPO2, and VPQ occur within a flat, linear wetland with scattered micro-depressions. These sites are heavily vegetated with ferns among fallen logs.

One man-made pond was observed in the northernmost end of the study area behind a house. This pond contained fish, and was therefore not considered to be suitable breeding habitat for either of the target species.

VHB's second site visit on May 29 was performed after several days of rainfall. Of the eight pools observed in April, six experienced significant drops in water levels, with VPL, VPR, and VPO2 having no standing water, and VPO1 having only scattered pockets of standing water approximately 1 to 2 inches deep (Figure 3, and Attachment B). VPQ was observed having a few inches of water only within the bottom of a small ditch that cuts along the eastern edge of the wetland; no water was observed in the wooded area. The two ponded wetlands with blocked flow (VPA and VPP) continued to have standing water in May, although water levels appeared to be 3 to 4 inches lower compared to the April site visit (Table 1).

Table 1. Water Depths of Inundated Areas Evaluated for Listed Amphibian Breeding Pools

Pool Name	**Max. Water Depth (in) April 12, 2018**	**Max. Water Depth (in) May 29, 2018**
VPA (Dammed Channel)	14	10
VPK (Metal Scrap Yard)	Dismissed	Dismissed
VPL	12	0
VPO1	12	1"-2" in scattered micro pools
VPO2	12	0
VPP (Blocked Culvert)	13	10
VPQ (Ditch Only)	11	2
VPR	12	0



0 900 1,800
Feet

Source: VGIN/VBMP 2015-2017 Orthophotography

Nike Park Road Extension | Isle of Wight County, VA

Listed Amphibian Breeding Habitat Survey

FIGURE 3 **May 2018 Habitat Survey Map**

Discussion/Conclusions

The scientific literature on Mabee's salamander is not clear on water depth requirements for breeding habitat. Measured water depths of documented Mabee's salamander breeding ponds by Hardy (1969) were greater than 18 inches, but more consistently measured 3 to 4 feet. Measured water depths of pools documented to harbor Mabee's salamanders in the Grafton area of York County were 24 inches or greater (VHB unpublished data). Because the time for completed metamorphosis in water is 60 to 90 days (Hardy 1969), the duration of inundation should reasonably be longer for developing nymphs since standing water would need to be present when fully developed nymphs disperse the ponds. Nevertheless, the 12-inch depth was used for purposes of this study. This assumes, despite variances in pool geomorphology and soil permeability, that the duration of inundation for any given pool in the study area having 12 inches of water can possibly be long enough to sustain natal development into the spring season.

VHB's field examination of study area wetlands yield eight ponded areas with water depths near or above 12 inches in April 2018. No pool contained water over 14 inches. Pool VPK was dismissed as Mabee's salamander breeding habitat due to the altered condition of the metal scrap yard affected by heavy equipment. A follow up site visit on May 29 revealed three systems contained no standing water (approximately 45 days later), and the linear wetland system identified as VPO1 contained only small scattered pockets with 1 to 2 inches of standing water. Ponded area VPQ was found to have water only in the bottom of a ditch. Pools VPA and VPP were the only systems that retained standing water of any meaningful depth in May only because of man-caused alterations that blocked surface flow.

The field data suggests that the natural pools in the study area do not retain water beyond May. For this reason, VHB believes these areas do not retain water sufficiently long enough to support Mabee's salamander and barking tree frog metamorphosis. Likewise, VHB biologists question Mabee's salamander use of the artificial pools created by blocked flow since these features are recent in formation compared to centuries-old natural systems in other parts of the state where Mabee's salamanders exist. Furthermore, maintenance of these artificial systems (i.e. removal of blockages) is a real possibility (particularly related to the blocked culvert), which would greatly alter the ability of these systems to pool water for prolong periods. It should also be noted that the presence of Mabee's salamanders in Virginia occur where concentrated areas of naturally-formed vernal pools are present, such as those in York County and Gloucester County. Concentrations of vernal pools are important in supplying sufficient breeding areas that sustain populations for many years (Mitchell et al., 1993). In comparison, the Nike Park Road Extension study area does not contain a concentration of deep pools. The absence of multiple pools would further justify a conclusion that the study area is not favorable habitat for Mabee's salamanders.

The scientific literature suggests that adult barking tree frogs prefer deep pools, generally having water greater than 18 inches in depth and retaining water into the summer months (Murphy and Gerhardt 2002). While VHB's survey of pools within the study area revealed no pools with a water depth greater than 18 inches, it appears that the two artificial pools VPA and VPP likely retain water into the summer season because of blocked/dammed streams. However, maintenance on the ditches along Reynolds Drive and removal of debris blocking the culvert opening at VPP will eventually drain a majority of the pool, which could happen at any day, eliminating habitat for the species. This leaves VPA as the only ponded area likely to remain undisturbed for any significant period of time that would appear to retain water into the summer season. Furthermore, none of the natural pools retained water into the spring season, suggesting that all natural pools can be dismissed as habitat for barking tree frogs.

In summary, VHB biologists conclude that habitat for Mabee's salamander does not exist within the study area due to: 1) ponded areas observed having periods of inundation far shorter than the time required for complete metamorphosis; 2) pools being recently man-created; and 3) a lack of pool concentrations across the landscape needed to sustain populations over long periods of time. Present-day habitat for breeding barking tree frogs may exist at pools VPA and VPP, although these systems are artificially dammed. Consideration of habitat quality for barking tree frogs include the duration of inundation longer into the spring and summer months, and the possibility of alterations such as cleaning out culverts.

Coordination will be initiated with the Virginia DGIF and Virginia Natural Heritage to examine pools discovered by VHB and assess relative quality of habitat for the target species.

References Cited

Hardy, J.D., Jr. 1969. Reproductive activity, growth, and movements of Ambystoma mabeei Bishop in North Carolina. Bulletin of the Maryland Herpetological Society 5:65-76.

McCoy, M. W., and L. H. Savitzky. 2004. Feeding ecology of larvel *Ambystoma mabeei* (Urodela: Ambystomatidae). Southeastern Naturalist, 3(3): 409-416.

Mitchell, J. C., K. A. Buhlmann, S. Roble, and M. Norman. 1993. Ambystoma mabeei Mabee's Salamander Recovery Plan. Technical Review Draft. Virginia Department of Game and Inland Fisheries.

Murphy, C.G., & Gerhardt, H.C. (2002). Mate sampling by female barking treefrogs (*Hyla gratiosa*), *Behavioral Ecology*, 13(4), 472–480.

Niccoli, J.R., & Kleopfer, J.D. (2013) Status of Mabee's Salamander, *Ambystoma mabeei*, in Virginia: A Spatial Comparison of Habitat Condition at Sites of Known Occurrence. *Banisteria,* 41, 85-92. Accessed online from http://virginianaturalhistorysociety.com/banisteria/banisteria.htm.

Richards, L. 2005. Hyla gratiosa. Animal Diversity Web. Accessed online from http://animaldiversity.org/accounts/Hyla_gratiosa/.

Virginia Herpetological Society. Salamanders of Virginia: Mabee's Salamander (*Ambystoma mabeei*). Accessed online from May 11, 2018 from http://www.virginiaherpetologicalsociety.com/amphibians/salamanders/mabees-salamander/mabees_salamander.php.

Virginia Herpetological Society. Frogs and Toads of Virginia: Barking Tree Frog (*Hyla gratiosa*). Accessed online on May 10, 2018 from http://www.virginiaherpetologicalsociety.com/amphibians/frogsandtoads/barking-treefrog/barking_treefrog.php.

ATTACHMENT A
VDGIF Online Data Search Results

VaFWIS - Department of Game and Inland Fisheries

36,56,52.9 -76,32,34.7

is the Search Point

Submit Cancel

Search Point

- **Change** to "clicked" map point
- **Fixed** at 36,56,52.9 -76,32,34.7

Show Position Rings

Yes No

1/2 mile and 1/8 mile at the **Search Point**

Show Search Area

Yes No

2 Search distance miles radius

Search Point is at map center

Base Map Choices

Topography

Map Overlay Choices

Current List: Position, Search

Map Overlay Legend

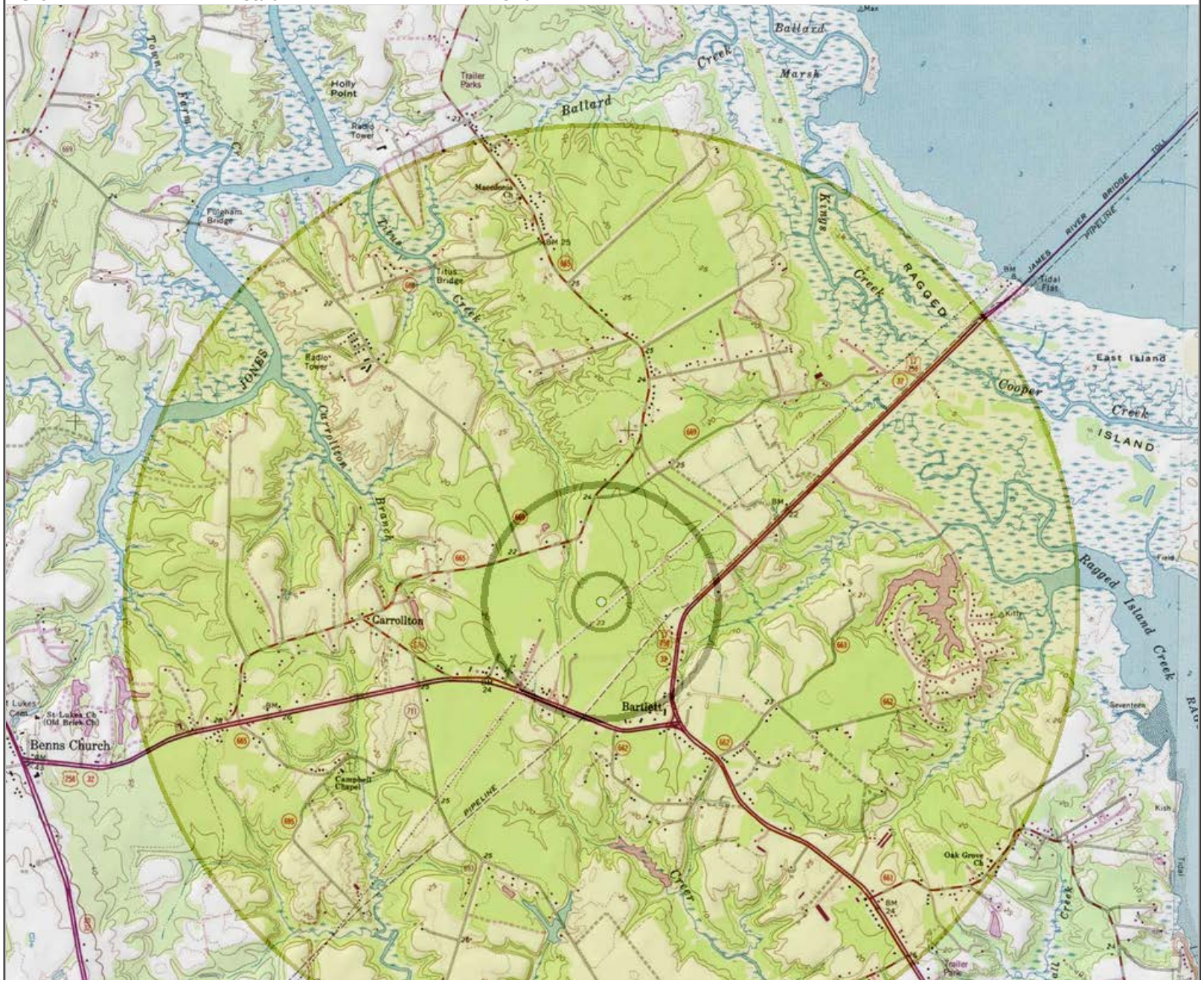
Position Rings 1/2 mile and 1/8 mile at the Search Point

2 mile radius Search Area

Virginia Fish and Wildlife Information Service

back | Refresh Browser Page

Map Click: Pan Id M | Map Scale: In Zoom Out | Screen Size: Small Size Big | Help



VaFWIS Initial Project Assessment Report Compiled on 6/4/2018, 2:09:28 PM

Help

Known or likely to occur within a **2 mile radius around point 36,56,49.6 -76,32,42.1**

View Map of Site Location

in **093 Isle of Wight County, VA**

480 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 30) (30 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus		BOVA
030071	FTST	Ia	Turtle, loggerhead sea	Caretta caretta		BOVA
040144	FTST	Ia	Knot, red	Calidris canutus rufa		BOVA
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
030064	SE	Ia	Turtle, eastern chicken	Deirochelys reticularia reticularia		BOVA
040110	SE	Ia	Rail, black	Laterallus jamaicensis		BOVA,Habitat
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA
050027	SE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
020052	SE	IIa	Salamander, eastern tiger	Ambystoma tigrinum		BOVA
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus		Habitat
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Ammodramus henslowii		Habitat

020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei		BOVA,Habitat
020002	ST	IIa	Treefrog, barking	Hyla gratiosa		BOVA
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes	BOVA,Habitat,SppObs
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
070131		Ic	Isopod, Phreatic	Caecidotea phreatica		BOVA
020063		IIa	Toad, oak	Anaxyrus quercicus		BOVA,Habitat
040052		IIa	Duck, American black	Anas rubripes		BOVA
040033		IIa	Egret, snowy	Egretta thula		BOVA
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA
040140		IIa	Woodcock, American	Scolopax minor		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		BOVA

To view **All 480 species** View 480

***FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

****I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (3 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C92	James River 1	Confirmed	6		IV	Yes
P127	Pagan river	Potential	0			Yes
P46	Chucktuck creek	Potential	0			Yes

Impediments to Fish Passage (1 records)

View Map of All Fish Impediments

ID	Name	River	View Map
400	SMITHFIELD DOWNS GOLF COURSE DAM	TR-JONES CREEK	Yes

Colonial Water Bird Survey (1 records)

View Map of All Query Results Colonial Water Bird Survey

			N Species	

Colony_Name	N Obs	Latest Date	Different Species	Highest TE*	Highest Tier**	View Map
Southside, Benns Church, Isle of Wight	1	May 17 2013	1			Yes

Displayed 1 Colonial Water Bird Survey

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

N/A

Bald Eagle Nests (4 records)

View Map of All Query Results
Bald Eagle Nests

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
IW0401	2	Mar 2 2011	Unknown	Yes
IW1101	1	Apr 18 2011	Unknown	Yes
IW9301	16	Apr 24 2000	HISTORIC	Yes
IW9901	14	Apr 25 2007	HISTORIC	Yes

Displayed 4 Bald Eagle Nests

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species (6 Species)

View Map of Combined Terrestrial Habitat Predicted for 6 WAP Tier I & II Species Listed Below

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040110	SE	Ia	Rail, black	Laterallus jamaicensis	Yes
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus	Yes
040379	ST	Ia	Sparrow, Henslow's	Ammodramus henslowii	Yes
020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei	Yes
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes
020063		IIa	Toad, oak	Anaxyrus quercicus	Yes

Public Holdings: (1 names

)

Name	Agency	Level
Ragged Island Wildlife Management Area	Va DGIF	

Compiled on 6/4/2018, 2:09:29 PM I908209.0 report=IPA searchType= R dist= 3218.688 poi= 36,56,49.6 -76,32,42.1

PixelSize=64; Anadromous=0.033233; BECAR=0.015564; Bats=0.015876; Buffer=0.097702; County=0.091595; Impediments=0.024526; Init=0.171357; PublicLands=0.034202; SppObs=0.28314; TEWaters=0.028458; TierReaches=0.047993; TierTerrestrial=0.191976; Total=1.122086; Tracking_BOVA=0.149761; Trout=0.019757

ATTACHMENT B
Field Photographs

Photograph 1: View of VPA in April. This pool is formed by a blocked stream.

Photograph 2: Another view of VPA in April.

Photograph 3: View of water depth at VPK in April. This system is located on the edge of a metal scrap yard.

Photograph 4: View of water depth at VPL in April, small isolated pool.

Photograph 5: View in April of VPO1, a long linear wetland with pools.

Photograph 6: View in April of VPP, a stream fed pool with a partially blocked culvert at Reynolds Drive.

Photograph 7: View in April of VPQ, a large wetland with scattered pools. Majority of western side is bordered by open field and yard.

Photograph 8: Another view of VPQ in April.

Photograph 9: View in April of VPR, a natural vernal pool roughly 300 feet north from the powerline easement.

Photograph 10: View of VPA during second visit in May 2018.

Photograph 11: View of VPO1 during second visit in May 2018.

Photograph 12: View of VPO2 during second visit in May 2018.

Photograph 13: View of VPP during second visit in May 2018.

Photograph 14: View of VPQ during second visit in May 2018.

Photograph 15: View of VPR during second visit in May 2018.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To: March 08, 2023
Project Code: 2023-0053474
Project Name: Nike park Road Extension on new location Rte 669 Isle of Wight Co

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

PROJECT SUMMARY

Project Code: 2023-0053474
Project Name: Nike park Road Extension on new location Rte 669 Isle of Wight Co
Project Type: Road/Hwy - New Construction
Project Description: Approximately one-mile, of a new two-lane collector roadway that with connect existing Nike Park road to Rte 17 in Carrollton.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.94882001949094,-76.54589795885212,14z

Counties: Isle of Wight County, Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15

NAME	BREEDING SEASON
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

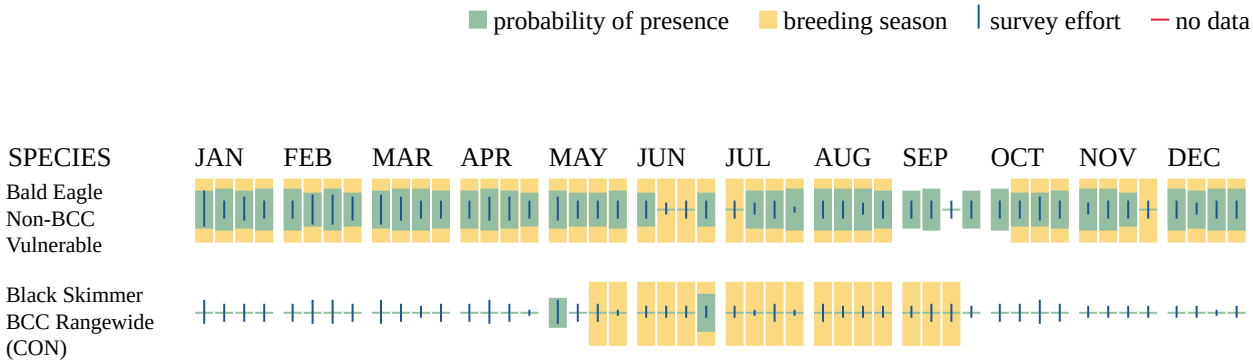
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

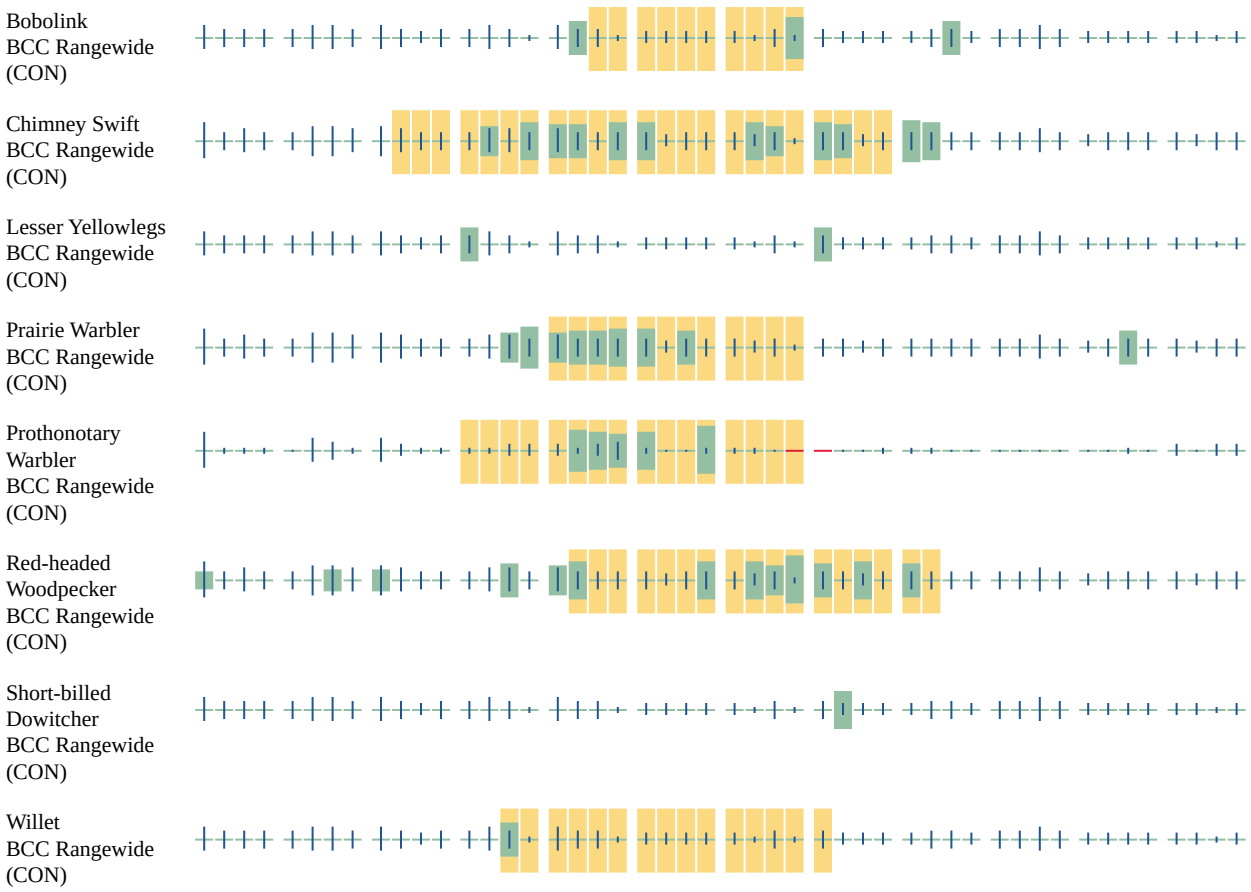
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell

me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPAC USER CONTACT INFORMATION

Agency: Virginia Department of Transportation
Name: dean devereaux
Address: 7511 Burbage Drive
City: suffolk
State: VA
Zip: 23435
Email dean.devereaux@vdot.virginia.gov
Phone: 7573341051

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Transportation

Attachment G

Early Coordination Final IACM Comments

Permit No. **17-6800-04**
Project No. **0669-046-682 C501, P101, R201**

A. FEDERAL

Corps of Engineers:

Reserve comments on pending information. The proposed Nike Park Road Extension project will consist of constructing the first phase of a new one-mile (approximately), two-lane collector (I believe this should read –connector) roadway that will also include the construction of a multi-use path that will run parallel to the new facility. This project remains under review. Our office will send a letter to the applicant regarding areas of concern that were not addressed during the presentation. The USACE needs additional alternatives analysis for areas outside of the current alternatives. The current alternatives are limited to similar start and end points. Alternatives should include different corridors and improving existing roads and intersections. Please provide the documentation from the previous studies with the alternatives analysis. 07/11/2017.

The proposed Nike Park Road Extension project will consist of constructing the first phase of a new one-mile (approximately), two-lane collector (I believe this should read –connector) roadway that will also include the construction of a multi-use path that will run parallel to the new facility. This project remains under review. Our office has a scheduled meeting on August 15, 2017 to discuss. 07/09/2017

Fish and Wildlife Service:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

Environmental Protection Agency:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

US Coast Guard:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

Tennessee Valley Authority:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

National Marine Fisheries Service:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

B. STATE

Department of Environmental Quality (Air):

Open Burning (9 VAC 5-130 et seq.); Restrict emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOX)06/29/2017.

No Comment. 08/10/2017.

Department of Environmental Quality (Water):

Need alternatives analysis. No comments at this time. 07/11/2017.

Purpose and need and alternative analyses are needed. Future project coordination meetings will be necessary for the permitting of the project. HCS 08/09/2017

Department of Environmental Quality (Waste):

General comments. Small Quantity Generator in proximity to the project site. See Soil, Sediment and Waste Management comments.
VAR000512533 – VDOT James River Bridge, Rt. 17 Between Isle of Wight and Newport News, Carrollton, VA 23314
Soil, Sediment, and Waste Management
Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws

and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 et seq.; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 et seq., and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous materials, 49 CFR Part 107.
Asbestos and/or Lead-based Paint
All structures being demolished/renovated/ removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP must be followed. Questions may be directed to Mr. Jason Miller at the Piedmont Regional Office (804-527-5028), or to the Division of Land Protection and Revitalization inspector at the nearest regional office (see http://www.deq.virginia.gov/Locations.aspx).
Pollution Prevention – Reuse - Recycling
Please note that DEQ encourages all construction Permits and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately. 07/06/2017.

No Comment. 08/09/2017.

Department of Environmental Quality (Stormwater Management):

No Comment. 07/11/2017.

No Comment. 08/09/2017.

Department of Conservation and Recreation (Parks and Rec):

We do not anticipate that these projects will have any adverse impacts on existing or planned recreational facilities; nor will they impact any streams on the National Park Service's Nationwide Rivers Inventory, designated or potential Virginia Scenic Rivers or existing or potential Virginia Byways. Please contact DCR for an update on this information if a significant amount of time passes before it is utilized." 06/29/2017.

No Comment. 08/09/2017.

Department of Conservation and Recreation (Natural Heritage):

Would like more information on depressional wetland for staff ecologist. Concur with DGIF comments on Mabee's Salamander. 07/11/2017.

Biotics documents the presence of natural heritage resources within two miles of the project area. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.
DCR recommends selecting one of the alternatives that avoids the documented isolated depressional wetland in the study area. 08/09/2017

Department of Conservation and Recreation (Floodplains):

This project is not within the mapped SFHA. The requirements of the floodplain program do not apply. 06/29/2017.

No Comment. 08/09/2017.

Department of Health:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

Department of Historic Resources:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

Virginia Institute of Marine Science:

No Comment. 07/11/2017.

No Comment. 08/09/2017.

Department of Game and Inland Fisheries:

Preliminary comments were made in May. Please provide a Mabee's Salamander and Barking Tree Frog Habitat Assessment. Also contact JD Kleopfer regarding potential canebrake rattlesnake habitat. Abide by TOYR for tree removal and standard instream work comment. We Support DCR comments and coordination with FWS. 07/11/2017.

No Comment. 08/09/2017.

Virginia Marine Resources Commission:

No jurisdiction. 07/11/2017.

No Comment. 08/09/2017.

VDOT Response:

Nike Park Road Extension Design options Analysis

Meeting Summary October 13, 2022 | 9:30 AM - 10:30 AM Google Meets

Attendees USACE Kim Prisco-Baggett, Kimberly, Denson, Brian. VDOT –Duvall, Bruce; Wolford, Melissa; Redgate, Daniel; Pauley Jerry; Zaman Wali; Devereaux, Dean

On October 13, 2022, the Virginia Department of Transportation (VDOT) met with the U.S. Army Corps of Engineers (USACE) to discuss the wetland impacts associated with the Nike Park Road Extension Project (UPC 109314). USACE requested additional information as noted below.

1) USACE requested traffic data justifying why Alt 1A and 1C are undesirable with regard to purpose and need as wetland impacts are smaller by orders of magnitude. Justification should be narrative with supporting data.

The purpose and need (P&N) is to improve safety on Titus Creek Drive (Route 668) and Reynolds Drive (Route 665) by providing a direct network linkage/connection from Carrollton Boulevard (Route 17) to Battery Park Road (Route 704).

All the new location road alternatives would include two 11-ft lanes with 8-ft shoulders (2-ft paved) and a 10-ft paved shared-use path within 65-ft of the right of way; the preferred alternative connection with Carrolton Boulevard (Route 17) would include turn lanes within approximately 85-ft of the right-of-way and a new signal. Alternatives with connections to Route 258 would also include turn lanes and require additional analysis to determine if signals are warranted.

Alternative 1A includes the extension of Nike Park Road (Route 669) to Brewer's Neck Boulevard (Route 258) utilizing the current Bartlett Circle (Route 1931). This alternative does not meet the intended P&N as it would not provide a direct linkage between Carrollton Boulevard (Route 17) and Battery Park Road (Route 704) and therefore would not improve safety along Titus Creek Drive (Route 668) and Reynolds Drive (Route 665) since motorists would continue to use these "cut-through" routes. Alternative 1A, if used by motorists as a primary travel route to Route 704, would increase travel distance by approximately two miles and would add to congestion at the intersection of Route 17 and Route 258. Motorists travelling southbound on Route 17 would continue to use the quicker/shorter connection through Smith's Neck Road and Titus Creek Drive or Reynold's Drive to Battery Park Road (Route 704) from Route 17. The impacts from Alternative 1A include five residential relocations on Bartlett Circle.

Alternative 1C includes the extension of Nike Park Road (Route 669) to Brewer's Neck Boulevard (Route 258) utilizing an existing gravel road leading to a wireless tower. The gravel road would be reconstructed as part of this alternative. As with Alternative 1A, this alternative does not meet the intended P&N as there is no direct linkage to Carrollton Boulevard (Route 17) and motorists would continue to use the quicker/shorter

connection through Smith's Neck Road and Titus Creek Drive or Reynold's Drive to Battery Park Road (Route 704) from Carrollton Boulevard (Route 17). Alternative 1C, if used by motorists as a primary travel route to Route 704, would increase travel distance by approximately 2.5 miles. While relocations were not identified as an impact of this alternative, partial and full property takes would occur.

Both Alternatives 1A and 1C would provide a new road extension from the intersection of Nike Park Road (Route 669) and Reynolds' Drive (Route 665) to Brewer's Neck Boulevard (Route 258). However, in comparison to the preferred alternative, both Alternative 1A and 1C would shift the connection to the south and connect directly to Brewer's Neck Boulevard (Route 258) rather than to Carrolton Boulevard (Route 17). This does not meet the P&N of providing a direct network linkage/connection from Route 17 to Route 704 and improving safety on Titus Creek Drive (Route 668) and Reynolds Drive (Route 665).

The tables provided below present the 2041 difference between improvements versus no improvements at the intersections shown for morning (am) and afternoon (pm) traffic. Negative values represent reduced vehicles if the preferred alternative were implemented. The 2041 Improved, 2041 Unimproved and 2041 Improved – Unimproved for all intersections in the study area are included as an attachment.

In the event Alternative 1A or 1C were selected over the Preferred Alternative, the improvements at the intersections of Carrollton Boulevard (Route 17) and Smith's Neck Road (Route 669); Smith's Neck Road (Route 669) and Reynolds Drive (Route 665); and Smith's Neck Road (Route 669) and Titus Creek Drive (Route 668); would not be realized. The reductions in vehicles at Nike Park Road (Route 669) and Titus Creek Drive (Route 668), which would improve safety, would also not be achieved without the preferred alternative due to the increased travel distances discussed above.

Data based on Improved - Unimproved

TIME			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
am	Carrollton Blvd (Rte 17)	Nike Park Rd Extension	10	0	0	0	0	185	490	0	10	0	0	0
am	Carrollton Blvd (Rte 17)	Smith's Neck Rd (Rte 669)	0	490	0	0	185	(40)	(230)	0	0	0	0	0
am	Brewer's Neck Blvd (Rte 258)	Reynold's Dr (Rte 665)	0	14	0	0	0	(15)	0	0	0	0	0	0
am	Brewer's Neck Blvd (Rte 258)	Norsworthy Dr (Rte 670)	0	0	0	0	0	0	0	0	0	0	0	0
am	Nike Park Rd (Rte 669)	Titus Creek Dr (Rte 668)	0	199	(3)	(205)	363	0	0	0	0	7	0	(110)
am	Reynold's Dr (Rte 665)	Norsworthy Dr (Rte 670)	0	0	11	0	0	0	0	7	7	17	0	0
am	Reynold's Dr (Rte 665)	Nike Park Rd (Rte 669)	10	181	15	46	446	0	156	423	56	10	0	0
am	Smith's Neck Rd (Rte 669)	Reynold's Dr (Rte 665)	8	0	0	0	(183)	0	0	0	61	0	0	0
am	Smith's Neck Rd (Rte 669)	Titus Creek Dr (Rte 668)	(33)	7	0	0	31	0	0	0	(230)	0	0	0

Data based on Improved - Unimproved

TIME			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
pm	Carrollton Blvd (Rte 17)	Nike Park Rd Extension	10	(10)	0	0	0	670	310	0	10	0	0	0
pm	Carrollton Blvd (Rte 17)	Smith's Neck Rd (Rte 669)	0	301	(1)	2	581	(231)	(80)	0	0	0	0	0
pm	Brewer's Neck Blvd (Rte 258)	Reynold's Dr (Rte 665)	0	0	1	0	0	0	(12)	196	0	0	0	0
pm	Brewer's Neck Blvd (Rte 258)	Norsworthy Dr (Rte 670)	0	0	0	0	0	0	0	0	0	0	0	0
pm	Nike Park Rd (Rte 669)	Titus Creek Dr (Rte 668)	0	456	0	(204)	353	0	0	0	0	0	0	(239)
pm	Reynold's Dr (Rte 665)	Norsworthy Dr (Rte 670)	0	0	0	0	0	0	0	0	0	(4)	0	0
pm	Reynold's Dr (Rte 665)	Nike Park Rd (Rte 669)	10	581	10	0	293	0	(13)	253	37	10	0	0
pm	Smith's Neck Rd (Rte 669)	Reynold's Dr (Rte 665)	0	(231)	0	0	(80)	0	0	0	0	0	0	0
pm	Smith's Neck Rd (Rte 669)	Titus Creek Dr (Rte 668)	(231)	0	0	0	0	0	0	0	(80)	0	0	0

N/S/E/WBL = North/South/East/West Bound Left
N/S/E/WBT – North/South/East/West Bound Through
N/S/E/WBR – North/South/East/West Bound Right

2) Could signal optimization address the volume on existing networks of roads, especially Titus Creek Drive and Smiths Neck Road?

The existing roads were evaluated including intersection improvements at Titus Creek Drive (Route 668) and Nike Park Road (Route 669); Titus Creek Drive (Route 668) and Smith's Neck Road (Route 665); Reynold Drive (Route 665) and Nike Park Road (Route 669) and Reynold Drive (Route 665) and Smith's Neck Road (Route 669). While intersection improvements and/or signal optimization would provide improved safety benefits at the intersections (i.e., by adding capacity [turn lanes], upgrading currently unsignalized intersections and reducing the number of accidents at the intersections), these improvements would not change the existing traffic patterns or reduce the volume of cut-through traffic utilizing these roads. Motorists will continue to utilize the fastest route available based on data received from GPS based applications. Without construction of an alternate route (i.e., Nike Park Road Extension) the residential areas of Titus Creek Drive, Smith's Neck Road and Reynold's Drive will continue to be hindered by the motorists utilizing these secondary roads as a primary cut through when traveling between Smithfield, VA and Route 17. Furthermore, even with signal optimization at the area intersections, if there is no new network connection, the projected traffic using these roads as a cut-through to reach Carrollton Boulevard (Route 17) would increase resulting in road deterioration, contribute to increased accidents, and potentially cause access issues for existing residents due to the inability to make turns.

3) USACE Request the Alignment Comparison Table of all design options studied.

Alignment Comparison Table and 10-13-22 PPTX now uploaded to SharePoint for USACE to download.

DEQ

Devereaux, Dean T. (VDOT)

From: Schul, Hannah (DEQ)
Sent: Monday, November 27, 2017 12:53 PM
To: Devereaux, Dean T. (VDOT)
Cc: Salyers, Jennifer (VDOT); Floyd, Scharlene A CIV USARMY CENAO (US); Scott, Mackenzie (DEQ)
Subject: Nike Park Road Alternatives Analysis: DEQ Comments

Dean,

After review of the Nike Park Road alternatives analysis, DEQ has the following comments and questions:

- In the summary of alternatives, Alternative 7 was identified as the Preferred Minimization Alternative and the LEDPA. This determination makes supporting the Preferred Alternative 1 over Alternative 7 difficult, as Alternative 7 offers the same safety and linkage benefits as the Preferred Alternative 1 while reducing wetland impacts by almost an acre.

- Stormwater management impacts were not included in this analysis. Are there any preliminary designs available that include BMP locations? As always, BMPs should not be placed in jurisdictional areas.

More comments and questions may arise upon further review.

Thank you,

Hannah Schul
VWP Permitting Specialist

Office of Wetlands and Stream Protection
Department of Environmental Quality
629 E. Main Street
Richmond, VA 23219

804-698-4074
Hannah.Schul@deq.virginia.gov

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

April 12, 2018

Special Projects Regulatory Section
NAO-2017-01468 – 2017-V6800
VDOT- 0669-046-682, C501, P101, R201 (Titus Creek)

James E. Poff
1700 North Main Street
Suffolk, Virginia 23434
ATTN: Jennifer Salyers, Dean Devereaux

Dear Mr. Poff:

This letter is in regard to the early coordination and pre-application review for the "Nike Road Park Road Extension," presented at the July 11, 2017, Inter-Agency Coordination Meeting (IACM) held in Richmond, Virginia. The pre-application submittal proposes constructing the first phase of a new, approximately one mile long, two-lane collector road, as well as a multi-use path to run parallel to the new road.

We participated in multiple interagency meetings to discuss the proposed project, purpose and need, alternatives, traffic modeling, and other such issues. Unfortunately, we still have some concerns that have not been sufficiently addressed.

It is our understanding you are preparing to submit a joint permit application prior to addressing our concerns. Please understand that at this time we do not have sufficient documentation to support that your preferred alternative is the least environmentally damaging practicable alternative.

If you are not able to address our concerns prior to submittal of an application, our concerns will need to be addressed during the permit process. Once we receive the permit application, our office will be requesting the necessary information to make our determination regarding the least environmentally damaging practicable alternative, the only alternative for which we can issue a permit.

Some of the larger concerns we have include:

1. The purpose and need should be written as a statement of the problem. It should also include specific screening criteria for each need element that the alternatives can be weighed against.
2. The alternative analysis needs to analyze with detail how each alternative addresses or does not address the purpose and need elements you identified.
3. Ensure that the alternatives analysis is comparing all alternatives in the same way.

4. Our office understands an additional jurisdictional determination is necessary to include impacts for storm water management facilities associated with the new road construction. If you submit an application prior to receipt of the delineation of all sites related to this project (including stormwater locations), the application will be considered incomplete.
5. You identified Alternative 3 as meeting the purpose and need and you recommended moving forward with the alternative. Please document why Alternative 3 is not the least environmentally damaging alternative.
6. Please provide a narrative supporting how the traffic modelling numbers you supplied support your preferred alternative, but not the other alternatives considered.

Since our concerns revolve around three of the steps in the merger process - purpose and need, alternatives development, and identification of the preferred alternative and preliminary LEDPA - following these steps as outlined in the merger process will help ensure that we appropriately document the steps in the 404(b)(1) process. We would be more than happy to walk through these steps with you in a meeting to ensure a common understanding of what is needed.

Should you need further assistance or have any questions, please contact Scharlene Floyd at (757) 201-7367 or scharlene.a.floyd@usace.army.mil

Sincerely,

Kimberly A. Prisco-Baggett

Kimberly Prisco-Baggett, MBA
Chief, Special Projects Regulatory Section

cc:
Virginia Department of Transportation
Virginia Department of Environmental Quality
Federal Highway Administration

Attachment H

Alternatives Analysis

TABLE #1 - COMPARSION OF ALTERNATIVES. NIKE PARK ROAD EXTENSION AND STUDY ALTERNATIVES_10-16-2022

Alternative	Title	Description	Length (Miles)	Design Speed (MPH)	Wetland Impacts (Acres) (Preliminary)	Stream Impacts (LF)	Cowardin / HGM Wetlands	*Cost ($ Millions) (Preliminary CN Only)	Right of Way Impacts	Disadvantages	Advantages
Baseline (1)	Alignment A	Extend Nike Park Road (RTE 669) to Carrollton Blvd. (Route 17), on new location, aligned north of Auto Salvage Yard and south of transmission tower	0.83	50	5.52	80	PFO, R4 / MSF, Riverine nonperennial	$8.8	One commercial relocation; partial and full takes.	Property impacts; hinder future development.	Meets the purpose and need (safety and linkage); Lower cost and less lane miles added.
1A	Bartlett Circle	Extend Nike Park Road (RTE 669) to Brewer's Neck Blvd. (RTE 258), utilizing 0.23 mi of current Bartlett Circle RW	0.68	45	0.48	75	PFO, R4 / MSF, Riverine nonperennial	$4.8	Five residential relocations; partial and full takes.	Does not adequately meet the purpose and need (no direct linkage to RTE 17); increased property impacts.	Minimizes wetland impacts; Lower cost and less lane miles added.
1B	Bartlett Circle / Auto Salvage Yard	Extend Nike Park Road (RTE 669) to Brewer's Neck Blvd. (RTE 258), constructing roadway along western edge of Auto Salvage Yard	0.79	45	0.42	220	PEM,PFO,R4 / MSF, Riverine nonperennial	$4.4 note#1	One commercial relocation (salvage yard)and one residential relocation; partial and full takes.	Does not adequately meet the purpose and need (no direct linkage to RTE 17); remediation cost for junkyard a minimum of $1 million; increased property impacts.	Minimizes wetland impacts; Lower cost and less lane miles added.
1C	Wireless Tower Access	Extend Nike Park Road (RTE 669) to Carrollton Blvd. (RTE 17), on new location for 0.52 mile to tie into existing12-ft wide gravel access road, to be reconstructed.	0.76	45	1.2	0	PFO/ MSF	$4.9	No relocations are anticipated; partial and full takes.	Does not adequately meet the purpose and need (no linkage to RTE 17); high costs, Partial/full RW takes; increased traffic impacts at the Brewers Station development.	Minimizes wetland impacts; less lane miles added.
2	Full Upgrade of Existing Roadway Network	Reconstruction of existing two lane Reynolds Dr, (RTE 665) Titus Creek Dr (RTE 668), & portions of Smith's Neck Road (RTE 665)	2.75	45	2.18	EUB= 490, R4=40	PEM,PSS,PFO,R4, EEM,EUB / MSF, Tidal Fringe, Riverine	$10.0	One residential relocation on Titus Creek Drive and three residential relocations on Reynolds Drive; partial and full takes.	Does not adequately address the purpose and need; not practicable due to high costs and increased property impacts.	Minimizes wetland impacts
3	Intersection Improvements	Intersection improvements at (Nike/Titus, Smiths/Titus, Nike/Reynolds (signalized), Smiths/Reynolds per Brewer's Neck Corridor Study	1.0	-	0.39	40	PEM,PFO,R4 / MSF,Riverine nonperennial	$5.9	No relocations are anticipated; partial and full takes.	Does not meet the purpose and need (safety or linkage); higher costs, Minimal safety improvement	Improved safety at each intersection. Minimizes wetland impacts; less property impacts; less lane miles added. All intersections are recommended improvements in the Brewer's Neck Corridor Study.

Alternative	Title	Description	Length (Miles)	Design Speed (MPH)	Wetland Impacts (Acres) (Preliminary)	Stream Impacts (LF)	Cowardin / HGM Wetlands	*Cost ($ Millions) (Preliminary CN Only)	Right of Way Impacts	Disadvantages	Advantages
4	Smith's Neck Concept	Extend Nike Park Road (RTE 669) across Titus Creek estuary & tie to Smiths Neck Road (RTE 258) ["Alignment #1" from Brewer's Neck Corridor Study]	1.4	45	0.48	75	PEM,PFO, R4 / MSF	$11.9	Two residential relocations; partial and full takes.	Does not adequately meet the purpose and need (no linkage to RTE 17); more lane miles than other alternatives and higher costs.	Minimizes wetland impacts
6	Bridging Concept for Baseline Alignment A	Using Baseline Alternative, bridge across wetland areas to minimize impacts	0.83	45	0.66	0	PFO, R4 / MSF,Riverine nonperennial	$14.6 Note#2	One commercial relocation; partial and full takes.	Alternative is not practicable due to high costs associated w/long bridge spans (1,050', 1,230')	Meets the purpose and need (safety and linkage);Significant reduction in permanent wetland impacts.
7	Alignment D Baseline alternative to reduce wetland impact	Extend exist. Nike Park Road (RTE 669) to Carrollton Blvd. (RTE 17), curving to align north of transmission tower	0.89	45	4	70	PFO, R4 / MSF, Riverine nonperennial	$8.9	One commercial relocation; partial and full takes.	Best engineering practices do not recommend curves for new alignment.	Meets the purpose and need (safety and linkage);Reduce wetland impacts by 27% compared to baseline
8	Alignment B	Extend exist. Nike Park Road (RTE 669) to Carrollton Blvd. (RTE 17), curving to align north of transmission tower	0.84	45	5.17	70	PFO, R4 / MSF, Riverine nonperennial	$8.9	One commercial relocation; partial and full takes.	Property impacts; hinder future development.	Meets the purpose and need (safety and linkage). Other alignments have less wetland impact.
9	Alignment C	Extend exist. Nike Park Road (RTE 669) to Carrollton Blvd. (RTE 17), curving to align north of transmission tower	0.82	45	4.96	70	PFO, R4 / MSF, Riverine nonperennial	$8.7	One commercial relocation; partial and full takes.	Property impacts; hinder future development.	Meets the purpose and need (safety and linkage).Other alignments have less wetland impact.

Note #1; excludes potential for excessive cleanup costs and/or environmental liability($1 mil) automobile salvage yard

Note #2; Cost estimates excludes pedestrian facilities on bridge.

MSF = Mineral Soil Flats

R4= river intermittent, EUB =Estuarine unconsolidated bottom, R4 = River intermittent,.

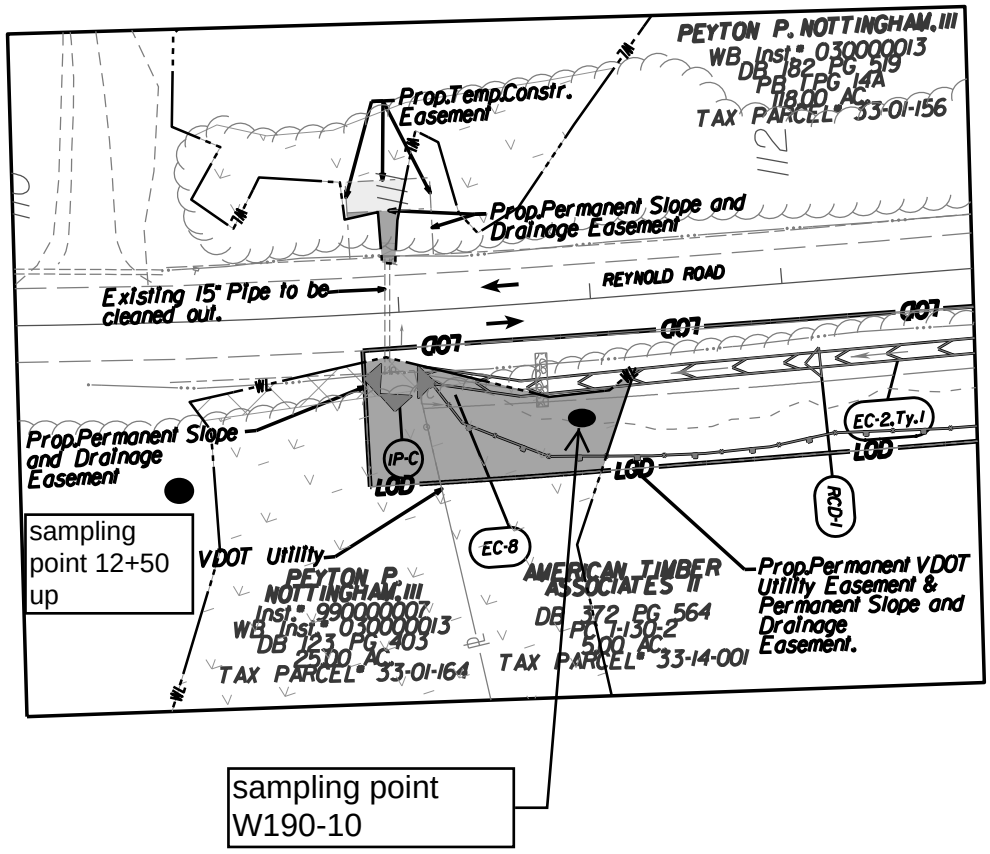
*Right of way costs are not included.

Improvements recommended in the Brewer's Neck Corridor Study.

Attachment I

Wetland Delineation Documents

AGCP Data point locations



LEGEND

PFO WETLAND

PERMANENT IMPACT PFO WETLAND

TEMPORARY IMPACT PFO WETLAND

PEM WETLAND

PERMANENT IMPACT PEM WETLAND

SCALE

0 50' 100'

RTE 669 - NIKE PARK ROAD EXTENSION
IN: ISLE OF WIGHT COUNTY
PROJECT NO: 0669-046-682
APPLICATION BY: VIRGINIA DEPARTMENT OF TRANSPORTATION
WATERWAY: TITUS CREEK

N

SKETCHES ARE TO BE USED SOLELY FOR SECURING WATER QUALITY PERMITS AND ARE NOT TO BE USED FOR CONTRACT QUANTITY ESTIMATES.

AGCP Data point locations for Crossing #3

DATE: 3/10/2023

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Nike Park Rd. City/County: Isle of Wight Sampling Date: 10/10/2018

Applicant/Owner: VDOT State: VA Sampling Point: WET-W190.10

Investigator(s): Dean T. Devereaux Section, Township, Range: Isle of Wight

Landform (hillside, terrace, etc.): Drainage Way Local relief (concave, convex, none): Concave Slope (%): 0%

Subregion (LRR or MLRA): LRR T Lat: 36 57' 0.693N Long: 76 33' 3.11N Datum:

Soil Map Unit Name: Myatt fine sandy loam NWI classification: PF01C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation W , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation W , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Drier than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- x FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soil moist @ depth.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WET-W190.10

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus phellos*	20	Yes	FACW
2. *Acer rubrum*	20	Yes	FAC
3. *Nyssa sylvatica*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	50	=Total Cover	
50% of total cover: 25		20% of total cover:	10
Sapling/Shrub Stratum (Plot size: 30 ft.)			
1. *Liquidambar styraciflua*	10	No	FAC
2. *Nyssa sylvatica*	20	Yes	FAC
3. *Quercus phellos*	25	Yes	FACW
4. *Acer rubrum*	5	No	FAC
5.			
6.			
7.			
8.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12
Herb Stratum (Plot size: 3x3 ft.)			
1. *Carex crinita*	12	Yes	FACW
2. *Smilax rotundifolia*	15	Yes	FAC
3. *Lycopus virginicus*	8	No	OBL
4. *Taxodium radicans*	8	No	N.I.
5. *Quercus phellos*	15	Yes	FACW
6. *Lonicera sempervirens*	1	No	?
7.			
8.			
9.			
10.			
11.			
12.			
	59	=Total Cover	
50% of total cover: 30		20% of total cover:	12
Woody Vine Stratum (Plot size:)			
1. *See herb stratum*			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	8	x 1 =	8
FACW species	72	x 2 =	144
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		392 (B)

Prevalence Index = B/A = 2.45

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Moss on hummocks.

SOIL

Sampling Point: WET-W190.10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2						Loamy/Clayey	
3-12	10YR 5/2	95	10YR 5/8	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A**)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

NC DWQ Stream Identification Form Version 4.11

Crossing # 5 (stream) SC-14 Sta. 122

Date: 02/21/2017	**Project/Site**: Nike Park	**Latitude:**
Evaluator: Michael J.Mussomeli, Dean T. Devereaux	**County:** Isle of Wight	**Longitude:**
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 18.5	**Stream Determination (circle one)** **Ephemeral (Intermittent) Perennial**	**Other** *e.g. Quad Name*: Benns Church

A. Geomorphology (Subtotal =_____)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and banks are weak	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence All Runs	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 4)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = _____)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians seasonal; too early	0	0.5	1	1.5
25. Algae None	0	0.5	1	1.5
26. Wetland plants in streambed Lizards Tail	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Nike Park Rd. City/County: Isle of Wight Sampling Date: 10/10/2018

Applicant/Owner: VDOT State: VA Sampling Point: 12+50 RCL

Investigator(s): Dean T. Devereaux Section, Township, Range: Isle of Wight

Landform (hillside, terrace, etc.): Gentle slope Local relief (concave, convex, none): Convex Slope (%): 0-29

Subregion (LRR or MLRA): LRR T Lat: 36 57' 0.453" Long: 76 33' 4.014" Datum: N/A

Soil Map Unit Name: Myatt fine sandy loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Drier than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T,U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: 12+50 RCL

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus michauxii*	10	No	FACW
2. *Acer rubrum*	25	Yes	FAC
3. *Liquidambar styraciflua*	7	No	FAC
4. *Ilex opaca*	5	No	FAC
5. *Quercus alba*	30	Yes	FACU
6. *Nyssa sylvatica*	10	No	FAC
	87	=Total Cover	
50% of total cover: 44		20% of total cover:	18

Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Shrub Stratum (Plot size: 30 ft,)			
1. *Oxydendrum arboreum*	25	Yes	FACU
2. *Acer rubrum*	7	No	FAC
3. *Vaccinium corymbosum*	5	No	FACW
4. *Ilex opaca*	1	No	FAC
5.			
6.			
	38	=Total Cover	
50% of total cover: 19		20% of total cover:	8

Herb Stratum (Plot size: 3 x 3 ft.)			
1. *Quercus michauxii*	2	Yes	FACW
2. *Persea borbonia*	2	Yes	FACW
3. *Mitchella repens*	1	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1

Woody Vine Stratum (Plot size: 3x3)			
1. *Smilax rotundifolia*	1	No	FAC
2.			
3.			
4.			
5.			
	1	=Total Cover	
50% of total cover: 1		20% of total cover:	1

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	19	x 2 =	38
FAC species	56	x 3 =	168
FACU species	56	x 4 =	224
UPL species	0	x 5 =	0
Column Totals:	131 (A)		430 (B)

Prevalence Index = B/A = 3.28

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody Plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody Vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: 12+50 RCL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1						Loamy/Clayey	
3-8	10YR 6/2	88	2.5YR 6/8	12			Loamy/Clayey	
8-12	10YR 5/2	80	2.5YR 6/8	20			Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR, P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (**MLRA 150A**)
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Attachment J

Jurisdictional Determination Form

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

October 13, 2022

PRELIMINARY JURISDICTIONAL DETERMINATION

Special Projects Regulatory Section
NAO-2017-01468 (Titus Creek)

Virginia Department of Transportation
Attn: Mr. Dean Devereaux
1700 N. Main Street
Suffolk, Virginia 23434

Dear Mr. Devereaux:

This letter is in regard to your request for a preliminary jurisdictional determination for waters of the U.S. (including wetlands) on property known as Nike Park Road Extension, located on a 53.69-acre parcel in Isle of Wight County, Virginia.

The map entitled "Figure 6 – Delineation Map", by Stantec Consulting Services, Inc. on September 20, 2017 (copy enclosed) provides the location(s) of waters and/or wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation and the presence of an ordinary high water mark.

This preliminary jurisdictional determination and associated aquatic resource delineation map may be submitted with a permit application.

Please be aware that you may be required to obtain a Corps permit for any discharge of dredged and/or fill material, either temporary or permanent, into a water of the U.S. In addition, you may be required to obtain a Corps permit for certain activities occurring within, under, or over a navigable water of the U.S. subject to the Section 10 of the Rivers and Harbors Act. Furthermore, you may be required to obtain state and local authorizations, including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC), and/or a permit from your local wetlands board.

This delineation and preliminary jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. Therefore, if you or your tenant are US Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should discuss the

applicability of a certified wetland determination with the local USDA service center, prior to starting work.

This is a preliminary jurisdictional determination and is not a legally binding determination regarding whether Corps jurisdiction applies to the aquatic resources in question. To determine Corps' jurisdiction, you may request and obtain an approved jurisdictional determination.

This delineation of aquatic resources can be relied upon for no more than five years from the date of this letter. New information may warrant revision. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to the Corps, either by email to brian.c.denson@usace.army.mil or by standard mail to Attn: Brian Denson, U.S. Army Corps of Engineers, Norfolk District, CENAO-WR-R, 803 Front Street, Norfolk, VA 23510-1011.

If you have any questions, please contact Mr. Denson by telephone at (757) 201-7792 or by email at brian.c.denson@usace.army.mil.

Sincerely,

Kimberly A. Prisco-Baggett

Kimberly Prisco-Baggett, MBA
Chief, Special Projects Section

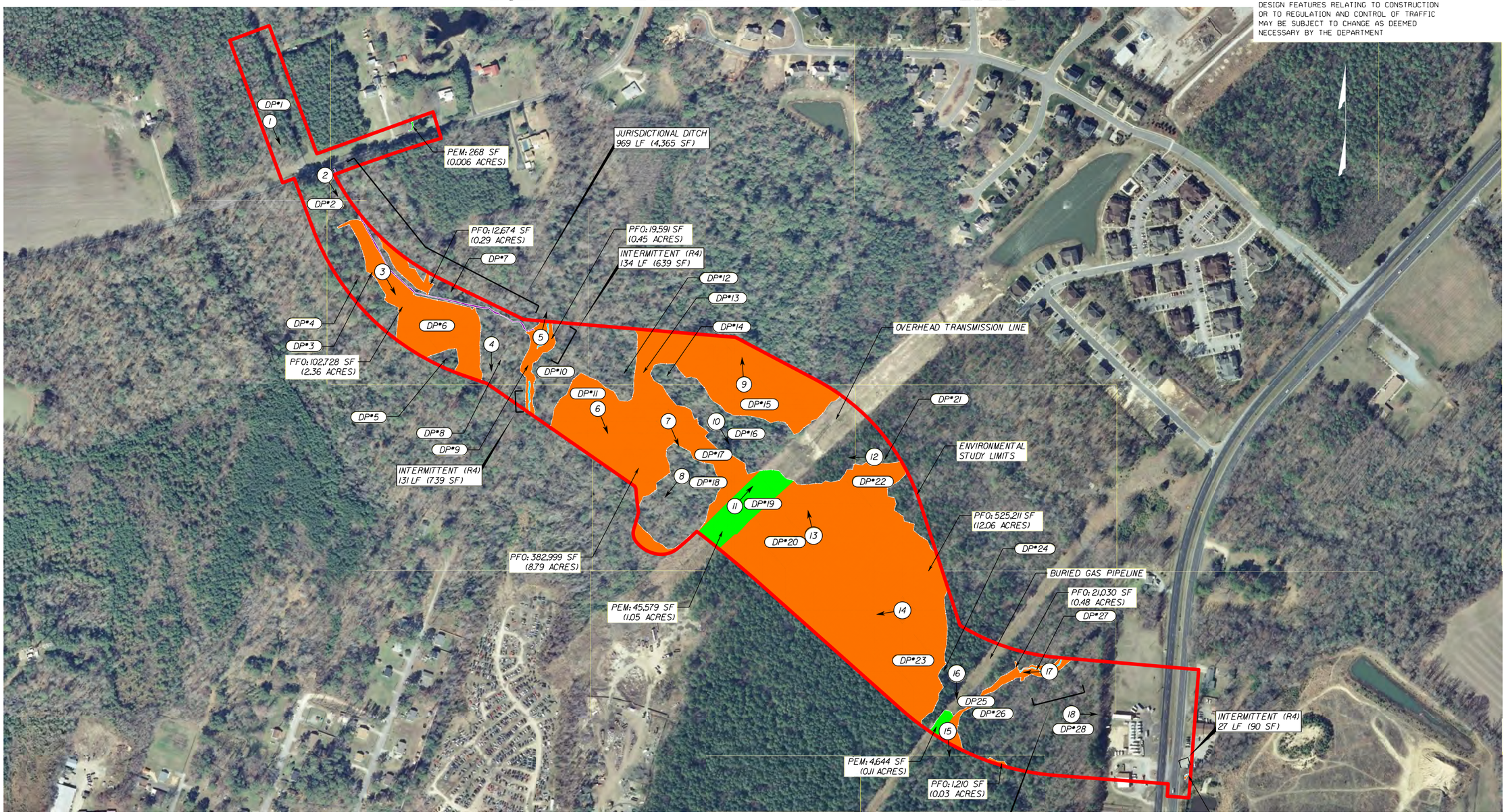
Enclosures:
PJD Form
Referenced MAP

PROJECT MANAGER Robert Condrey (804) 786-2801
SURVEYED BY, DATE
DESIGN BY Brian Hawley (540) 785-5544
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	669	0669-046-682, PE101, C501	Fig.6

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

FIGURE 6 - DELINEATION MAP



SUMMARY OF JURISDICTIONAL AREAS WITHIN THE NIKE PARK ROAD EXTENSION ENVIRONMENTAL STUDY AREA (53.69 ACRES).

	WETLAND		STREAM			
	PEM (ft²)	PFO (ft²)	INTERMITTENT (R4) (ft²)	lf	JURISDICTIONAL DITCH (ft²)	lf
	50,491	1,065,656	2,175	509	4,365	969
ACRES	1.16	24.46	0.05	N/A	0.10	N/A

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

LEGEND

- DENOTES PEM WETLAND
- DENOTES PFO WETLAND
- DENOTES JURISDICTIONAL DITCH
- DENOTES INTERMITTENT (R4) STREAM CHANNEL
- DENOTES DELINEATED WOUS
- DENOTES ENVIRONMENTAL STUDY LIMITS
- DP* DENOTES DATA POINT
- DENOTES PHOTO LOCATION

COWARDIN CLASSIFICATION	
PFO	PALUSTRINE FORESTED WETLAND
PEM	PALUSTRINE EMERGENT WETLAND
R4	RIVERINE INTERMITTENT

SCALE 0 200' 400'

PROJECT	SHEET NO.
0669-046-682	Fig.6

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. **REPORT COMPLETION DATE FOR PJD:** 13-OCT-2022

B. **NAME AND ADDRESS OF PERSON REQUESTING PJD:**
Virginia Department of Transportation
Attn: Dean Devereaux
1700 N. Main Street
Suffolk, VA 23434

C. **DISTRICT OFFICE, FILE NAME, AND NUMBER:**
NAO-2017-1468, Nike Park Road JD

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: VA County/parish/borough: Isle of Wight County City:
Center coordinates of site (lat/long in degree decimal format):
Lat.: 36.94372° Long.: -76.54304°
Universal Transverse Mercator: 18
Name of nearest waterbody: Brewers Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: October 3, 2022
☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
PEM Nike Park	36.946532	-76.544202	1.16 acres	Wetland	Section 404
PFO Nike Park	36.945503	-76.542863	24.46 acres	Wetland	Section 404
R4 Nike Park	36.948149	-76.546514	0.0616 acres	Non-wetland waters	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there “may be” waters of the U.S. and/or that there “may be” navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

_X__ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _ Figure 6 – Delineation Map _.
_X__ Data sheets prepared/submitted by or on behalf of the PJD requestor.
__X_ Office concurs with data sheets/delineation report.
___ Office does not concur with data sheets/delineation report. Rationale:
_____.
___ Data sheets prepared by the Corps: _____.
___ Corps navigable waters' study: _____.
___ U.S. Geological Survey Hydrologic Atlas: _____.
___ USGS NHD data.
___ USGS 8 and 12 digit HUC maps.
_X__ U.S. Geological Survey map(s). Cite scale & quad name: _____.
__X_ Natural Resources Conservation Service Soil Survey. Citation: _____.
_X__ National wetlands inventory map(s). Cite name: _____.
___ State/local wetland inventory map(s): _____.
___ FEMA/FIRM maps: _____
___ 100-year Floodplain Elevation is: _____. (National Geodetic Vertical Datum of 1929)

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

___ Photographs: ___ Aerial (Name & Date): _____.
___ or ___ Other (Name & Date): _____.
_X__ Previous determination(s). File no. and date of response letter: __10/26/2017, NAO-2017-1468___.
___ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of Regulatory staff member completing PJD

Dean Devereaux

Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

VDOT Virginia Department of Transportation

Environmental

Nike Park Road Extension Delineation, Isle of Wight County, Virginia

0669-046-682, PE101, C501

Request for Preliminary Jurisdictional Determination

August 14, 2017 (updated September 20, 2017)

Prepared By: Scott Kupiec, PWD
Stantec Consulting Services Inc.
5209 Center Street
Williamsburg, Virginia 23188
(757) 220-6869

Table of Contents

1.0 INTRODUCTION

A detailed investigation of Waters of the U.S. (WOUS), including wetlands, has been conducted for the Nike Park Road Extension project (State Project Number 0669-046-682, PE101, C501). This project is located in Isle of Wight County, Virginia (Appendix A, Figures 1 & 2). The project environmental study limits (ESL) extend southeast from the Nike Park Road (Route 669) and Reynolds Drive (Route 665) intersection approximately 0.8 miles to Carrollton Boulevard (Route 17), approximately 0.25 miles north of the Carrollton Boulevard and Brewers Neck Boulevard (Route 258) intersection. A copy of the Pre-Application and/or Jurisdictional Waters Determination Request Form is provided in Appendix B.

2.0 SITE DESCRIPTION

The site is primarily forested with an overhead transmission line and buried gas pipeline traversing the eastern portions of the project area. Existing VDOT right-of-way (ROW) also occurs within the ESL. The topography is flat to gently sloping, ranging in elevation from 10-20 feet above mean sea level. The project area lies within the Titus Creek, Carrollton Branch, and Ragged Island Creek watersheds, all draining to the James River within Hydrologic Unit Code (HUC) 02080206.

3.0 STUDY METHODS

3.1 Off-site Evaluation

Prior to conducting fieldwork, the following information was consulted: the U.S. Geological Survey (USGS) 7.5-minute Topographical Quadrangle (quad) Map for Benns Church, Virginia (1994 revision), the National Wetlands Inventory Interactive Mapper (NWI) administered by the U.S. Fish and Wildlife Service (USFWS), and the Web Soil Survey, administered by the Natural Resources Conservation Service (NRCS). The USGS quad map depicts mostly forested land, an intermittent tributary, and multiple utility ROWs within the ESL. The NWI Map (Appendix A, Figure 3) depicts freshwater forested wetlands as well as one riverine system (Titus Creek). Additionally, the Soil Survey (Appendix A, Figure 4) indicates that the site is underlain by Myatt fine sandy loam and Slagle fine sandy loam. Myatt fine sandy loam and Slagle fine sandy loam are classified by the NRCS as hydric and non-hydric respectively in Isle of Wight, Virginia.

3.2 On-site Evaluation

Fieldwork was conducted in June 2017 using the aforementioned resource mapping and mapping provided by VDOT. WOUS located within the ESL were delineated in the field in accordance with the Routine Determination Method as outlined in the *1987 Corps of Engineers Wetland Delineation Manual* and methods described in the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0).* Wetland flags were placed in the field at the determined jurisdictional boundaries and sequentially numbered to provide an on-site record of the delineation and to assist in survey location.

3.3 Surface Waters

All non-wetland surface waters within the ESL delineated as WOUS were based upon the application of the hydrology parameters and the regulatory definition of ordinary high water (33 CFR Part 328) using the US Army Corps of Engineers (Corps)/Environmental Protections Agency (EPA) regulatory guidance referenced in the July 15, 2007 Norfolk District Public Notice as well as the Corps Regulatory Guidance Letter 05-05.

Flow regime and Cowardin classification within the delineated stream channels were determined based upon criteria derived from established protocols utilized for perennial flow determinations. This includes the North Carolina Division of Water Quality's *Methodology for Identification of Intermittent and Perennial Streams and their Origins*. This methodology uses a qualitative evaluation of geomorphic, hydrologic, and biologic indicators. Each individual stream was visually assessed using these indicators to estimate flow regime, specifically the reach break location between ephemeral, intermittent, and perennial flow, as appropriate. In addition, background data, antecedent moisture conditions, and prior experience were relied upon to make these determinations.

4.0 RESULTS

4.1 Wetlands

The jurisdictional wetland features within the project are classified as palustrine forested (PFO) and emergent (PEM) wetlands. The majority of wetlands identified are associated with a flat landscape and may be classified as headwater/mineral flat wetlands. The hydrology of most jurisdictional wetlands identified appear to be derived from groundwater sources. Several wetland systems on-site are contained within defined drainages and are connected to streams identified within the ESL.

Wetland vegetation is typified by red maple (*Acer rubrum*) sweetgum (*Liquidambar styraciflua*), swamp chestnut oak (*Quercus michauxii*), loblolly pine (*Pinus taeda*), sweet bay (*Magnolia virginiana*), netted chainfern (*Woodwardia areolata*), and roundleaf greenbrier (*Smilax rotundifolia*). The transition from wetland to upland is generally identified by the break from hydric to non-hydric soils, and a loss of secondary indicators of hydrology.

4.2 Streams and Jurisdictional Ditch

Streams within the ESL were classified as intermittent (R4) and are associated with defined drainages. Streams within the ESL were found to be undisturbed. A jurisdictional ditch was located in the western portion of the ESL and does not appear to be associated with a defined drainage. The feature appears to have been excavated and is generally straight in nature.

5.0 SUMMARY OF WOUS

A Delineation Map showing the approximate limits of WOUS including wetlands, as well as data point locations, representative photograph locations, and Cowardin Classifications can be found in Appendix A (Figure 6). Associated Data Sheets are provided in Appendix C along with Representative Site Photos in Appendix D.

Based upon the field delineation, 509 linear feet of intermittent streams were found within the ESL. Approximately 25.62 acres of palustrine wetland features were identified within the ESL and are comprised of 1.16 acres of PEM and 24.46 acres of PFO wetlands. In addition, 969 linear feet of jurisdictional ditch is present. A summary of jurisdictional areas within the Nike Park Road Extension ESL is provided on the Delineation Map (Appendix A, Figure 6), and summarizes the delineated areas by mapping identification, Cowardin Classification, and area and/or length, as applicable.

6.0 REGULATORY REQUIREMENTS

Waters of the U.S., including wetlands, are regulated under Section 404 and 401 of the Clean Water Act (CWA), authorizing the Corps to regulate the placement of fill within these jurisdictional areas. The

Virginia Department of Environmental Quality (DEQ) also regulates impacts such as land clearing, filling, excavating, draining, ditching, and dredging of surface waters and wetlands under Section 401 of the CWA as well as State Water Control Law (Code of Virginia Title 62.1), Virginia Administrative Code Regulations 9VAC25-210 *et seq*., 9VAC25-660 *et seq*., 9VAC25-670 *et seq*., 9VAC25-680 *et seq*., and 9VAC25-690 *et seq*. Additionally, the Virginia Marine Resources Commission (VMRC) regulates activities on state-owned submerged lands under Code of Virginia Title 28.2, Chapter 12.

We respectfully request that the Corps confirm our delineation. We would appreciate the opportunity to meet with you on-site to present our fieldwork. Please call to set up a meeting date or to discuss any questions regarding our investigation.

7.0 REFERENCES

Cowardin, L.V. Carter, F.C. Golet and E.T. LaRoe 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Document OBS/79-31. U.S. Government Printing Office, Washington, DC.

Environmental Laboratory 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0).* Technical Report TR-10-20. U.S. Army Engineer Research and Development Center, Vicksburg, MS. 161 pages.

Environmental Laboratory 1987. *U.S. Army Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. U.S. Army Corps of Engineers, Waterways Experimental Station. Vicksburg, MS. 100 pages.

North Carolina Division of Water Quality. 2010. *Methodology for Identification of Intermittent and Perennial Streams and their Origins.* Internal Guidance Manual. Version 4.11.

United States Army Corps of Engineers. *NWPL Home V3. 3-a5e3*. Web. 23 Jul. 2017.

United States Department of Agriculture, Natural Resources Conservation Service. 2016. *Field Indicators of Hydric Soils in the United States,* Version 8.0. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

United States Department of Agriculture, Natural Resources Conservation Service. *Web Soil Survey*. 10 Aug. 2016. Web. 20 Jul. 2017.

United States Fish and Wildlife Service National Wetlands Inventory. *Wetlands Mapper*. By U.S. Fish and Wildlife Service; National Wetlands Inventory; National Standards and Support Team. 3 Jan. 2017. Web. 20 Jul. 2017.

Appendix A. Figures

10,000' 5,000' 0' 10,000'

SCALE: 1 INCH = 10,000 FEET

SOURCE: VIRGINIA ATLAS AND GAZETTEER, DeLORME MAPPING CO., 1995

VDOT Virginia Department of Transportation

Environmental

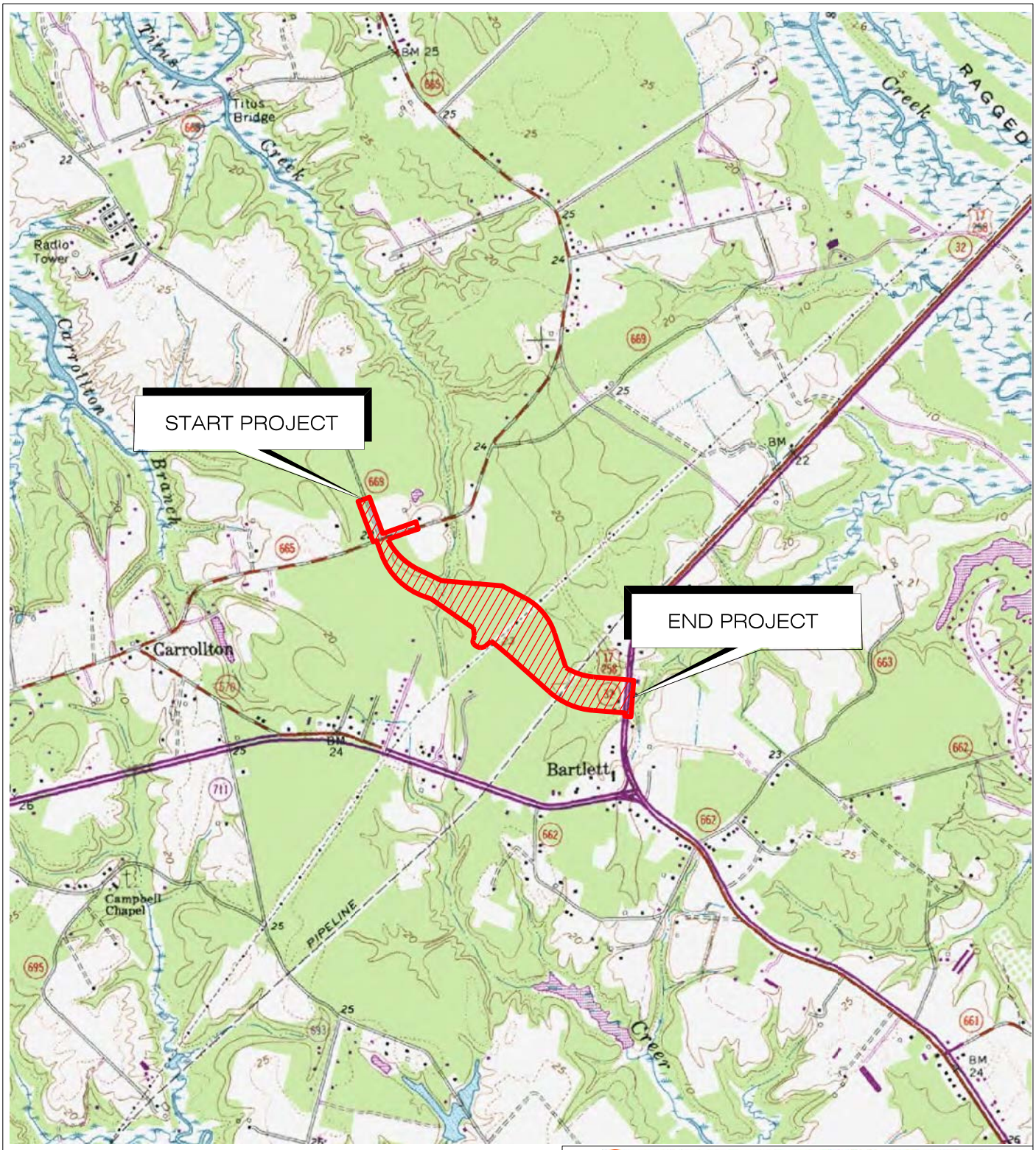
FIGURE 1

PROJECT VICINITY MAP

NIKE PARK ROAD EXTENSION

0669-046-682, PE101, C501

ISLE OF WIGHT, VA	AUGUST 2017



2,000' 1,000' 0' 2,000'

SCALE: 1 INCH = 2,000 FEET

START: LATITUDE: 36°57' 08.69" N
LONGITUDE: 76°33' 00.59" W

END: LATITUDE: 36°56' 40.04" N
LONGITUDE: 76°32' 14.52" W

SOURCE: USGS 7.5 MINUTES SERIES TOPOGRAPHIC MAP, BENNS CHURCH, VA QUADRANGLE, 1965 (REVISED 1992)

VDOT Virginia Department of Transportation

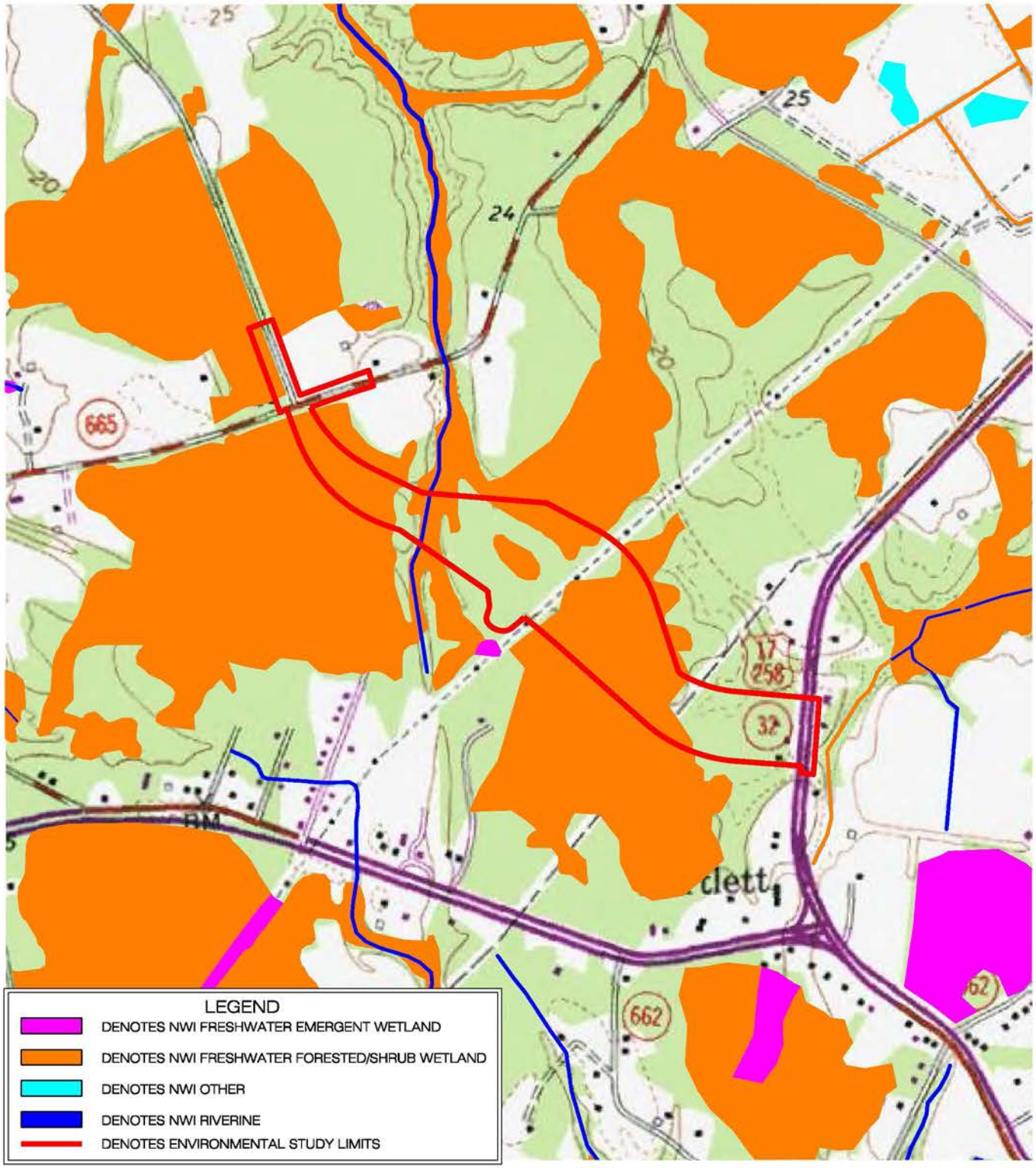
Environmental

FIGURE 2
PROJECT LOCATION MAP

NIKE PARK ROAD EXTENSION

0669-046-682, PE101, C501

ISLE OF WIGHT, VA | AUGUST 2017



1,000' 500' 0' 1,000'

SCALE: 1 INCH = 1,000 FEET

SOURCE: Download
http://fws.gov/wetlands

VDOT Virginia Department of Transportation

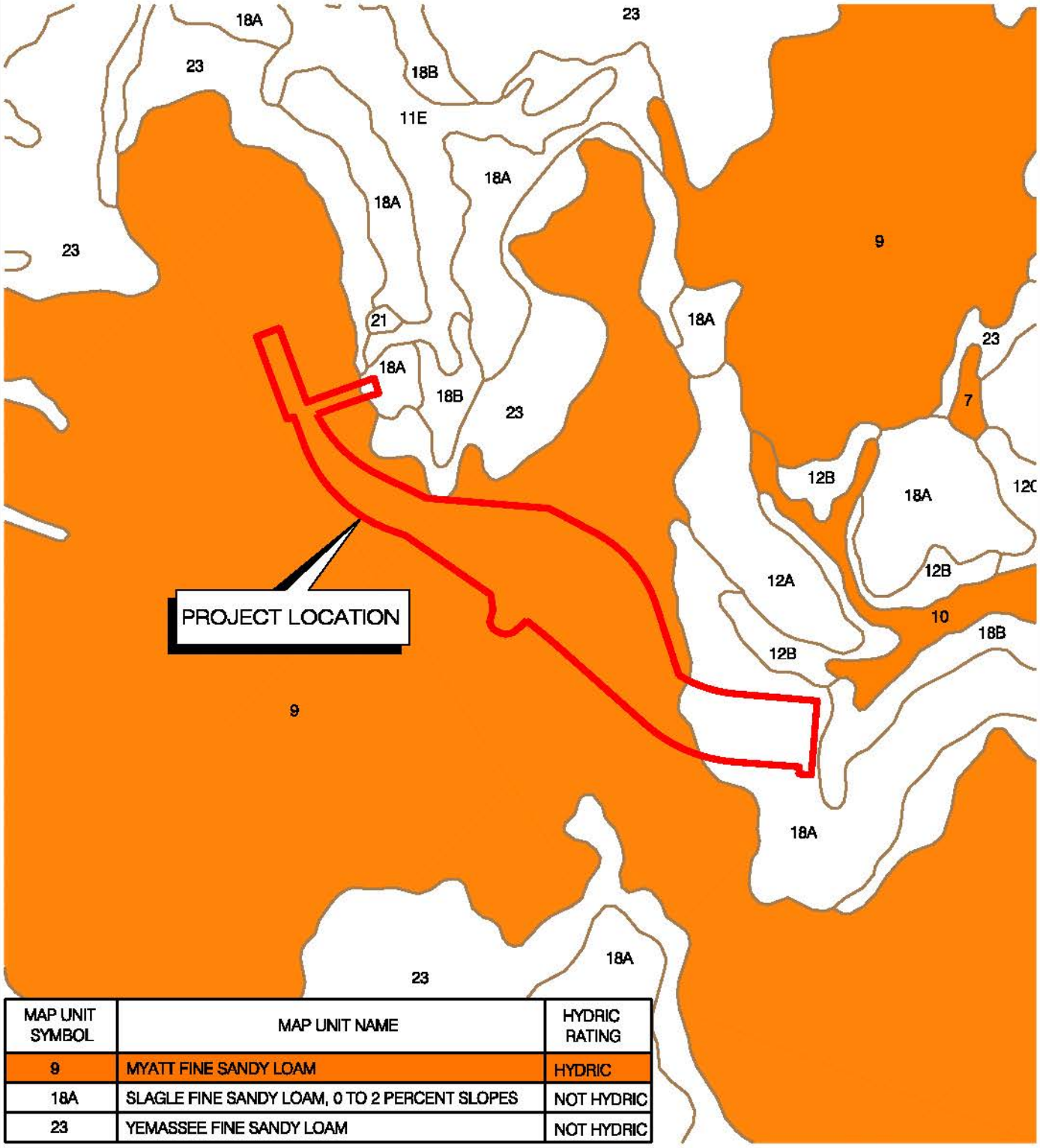
Environmental

FIGURE 3
NATIONAL WETLANDS INVENTORY MAP

NIKE PARK ROAD EXTENSION

0669-046-682, PE101, C501

ISLE OF WIGHT, VA	AUGUST 2017



MAP UNIT SYMBOL	MAP UNIT NAME	HYDRIC RATING
9	MYATT FINE SANDY LOAM	HYDRIC
18A	SLAGLE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	NOT HYDRIC
23	YEMASSEE FINE SANDY LOAM	NOT HYDRIC

*SOILS FOUND WITHIN PROJECT LIMTS

1,000' 500' 0' 1,000'

SCALE: 1 INCH = 1,000 FEET

DENOTES HYDRIC SOIL

SOURCE: USDA SSURGO DIGITAL DATA

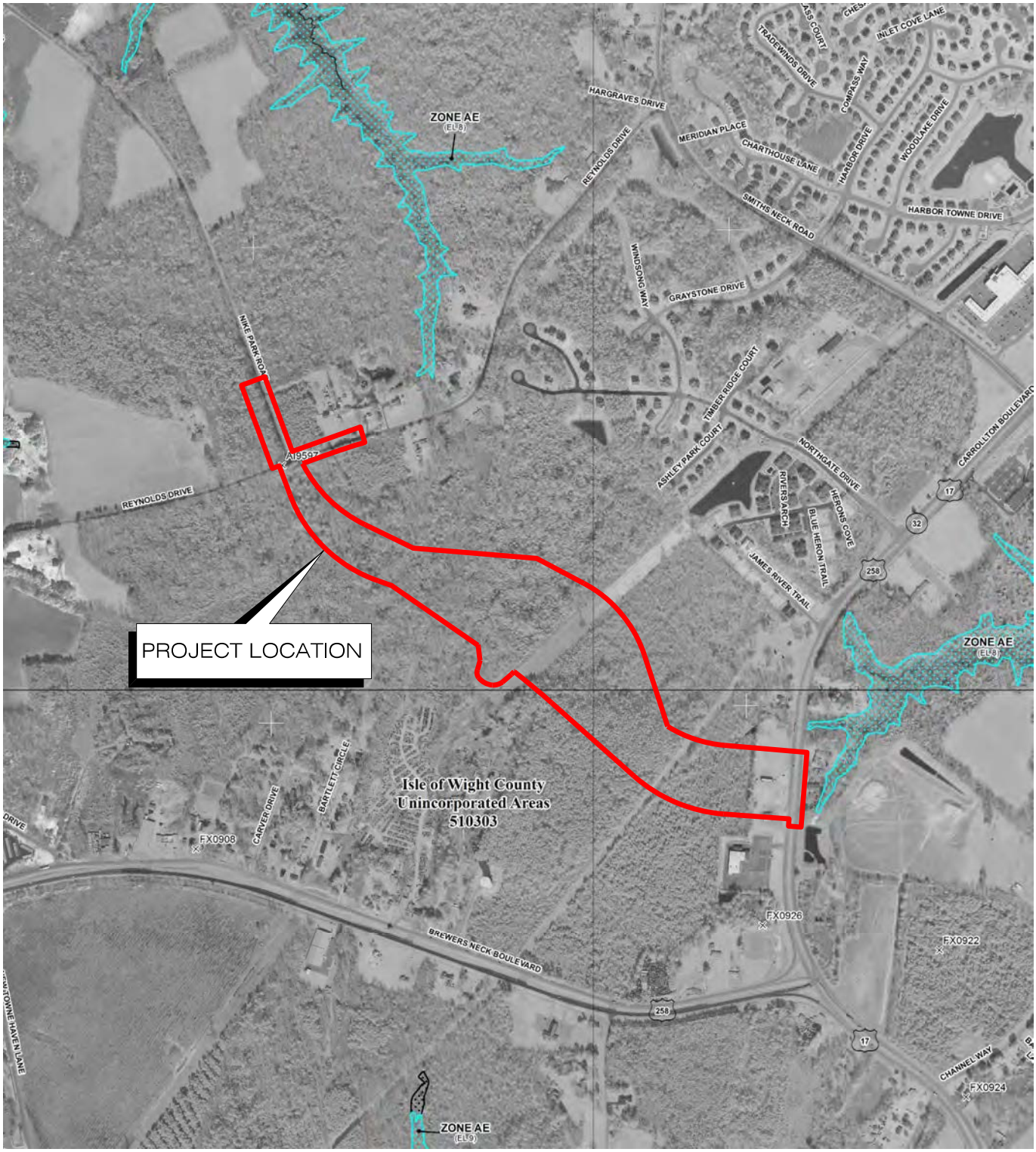
VDOT Virginia Department of Transportation

Environmental

FIGURE 4
SOILS MAP
NIKE PARK ROAD EXTENSION

0669-046-682, PE101, C501

ISLE OF WIGHT, VA | AUGUST 2017



1,000' 500' 0' 1,000'

SCALE: 1 INCH = 1,000 FEET

SOURCE: DIGITAL FLOOD INSURANCE RATE MAP (DFIRM)
FEDERAL EMERGENCY MANAGEMENT AGENCY,
NATIONAL FLOOD INSURANCE PROGRAM
MAP 51093C0158E DECEMBER 2, 2015.

VDOT Virginia Department of Transportation

Environmental

FIGURE 5
DIGITAL FLOOD INSURANCE RATE MAP

NIKE PARK ROAD EXTENSION

0669-046-682, PE101, C501

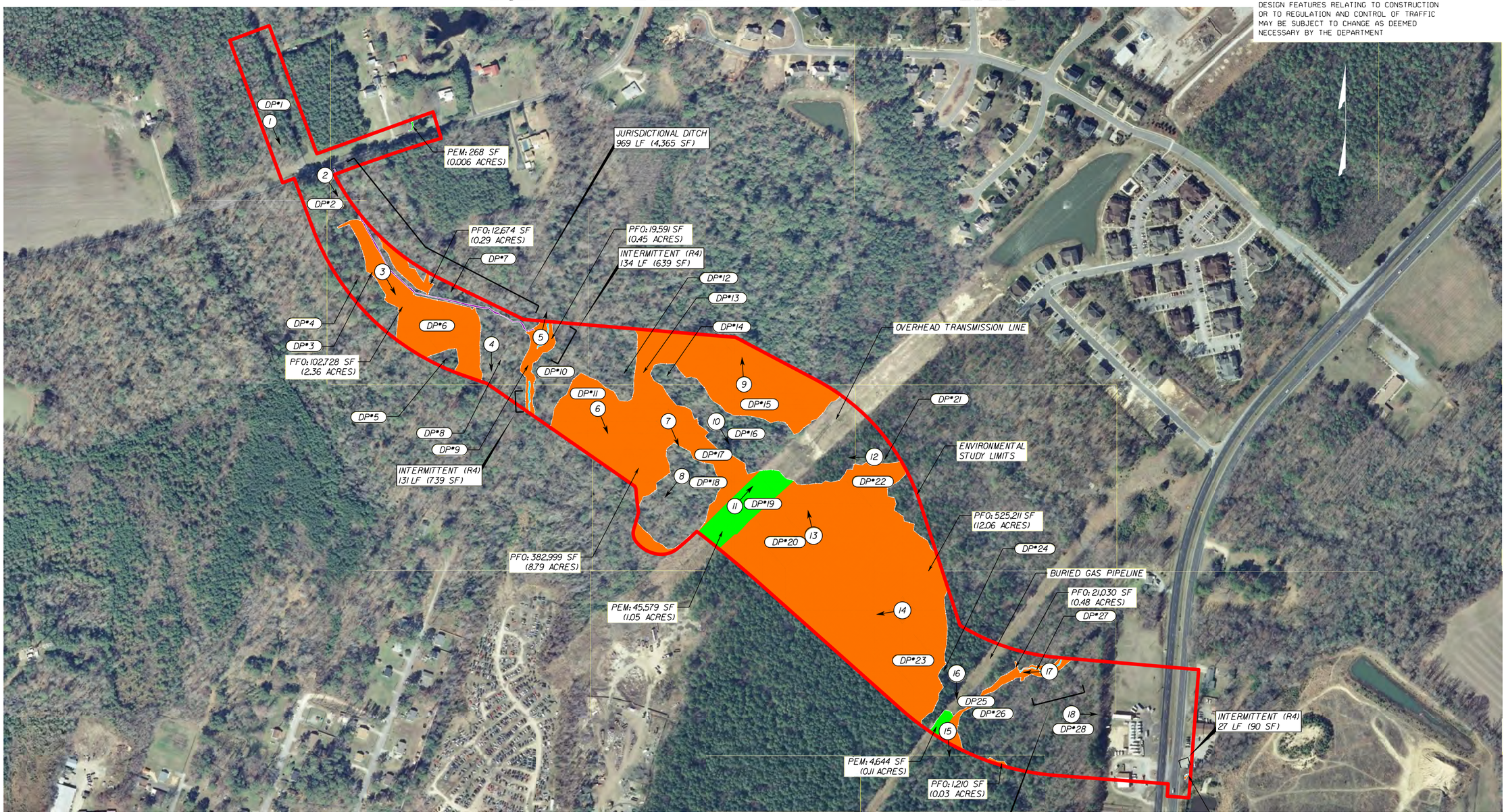
ISLE OF WIGHT, VA	AUGUST 2017

PROJECT MANAGER Robert Condrey (804) 786-2801
SURVEYED BY, DATE
DESIGN BY Brian Hawley (540) 785-5544
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	669	0669-046-682, PE101, C501	Fig.6

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

FIGURE 6 - DELINEATION MAP



SUMMARY OF JURISDICTIONAL AREAS WITHIN THE NIKE PARK ROAD EXTENSION ENVIRONMENTAL STUDY AREA (53.69 ACRES).

	WETLAND		STREAM			
	PEM (ft²)	PFO (ft²)	INTERMITTENT (R4) (ft²)	lf	JURISDICTIONAL DITCH (ft²)	lf
	50,491	1,065,656	2,175	509	4,365	969
ACRES	1.16	24.46	0.05	N/A	0.10	N/A

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

LEGEND

- DENOTES PEM WETLAND
- DENOTES PFO WETLAND
- DENOTES JURISDICTIONAL DITCH
- DENOTES INTERMITTENT (R4) STREAM CHANNEL
- DENOTES DELINEATED WOUS
- DENOTES ENVIRONMENTAL STUDY LIMITS
- DP* DENOTES DATA POINT
- DENOTES PHOTO LOCATION

COWARDIN CLASSIFICATION	
PFO	PALUSTRINE FORESTED WETLAND
PEM	PALUSTRINE EMERGENT WETLAND
R4	RIVERINE INTERMITTENT

SCALE 0 200' 400'

PROJECT	SHEET NO.
0669-046-682	Fig.6

Appendix B. Pre-application and/or Jurisdictional Waters Request Form

NORFOLK DISTRICT REGULATORY OFFICE
PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District
Regulatory Office
803 Front Street
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: CENAO.REG_ROD@usace.army.mil

Additional information on the Regulatory Program is available on our website at:
http://www.nao.usace.army.mil/
Please contact us at 757-201-7652 if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination:

1. Date of Request: **August 2017**

2. Project Name: **Nike Park Road Extension Delineation; VDOT Application No. 17-6800.**

3. City or County where property located: **Isle of Wight**

4. Address of property and directions (attach a map of the property location and a copy of the property plat): **The project extends southeast from the Nike Park Road (Route 669) and Reynolds Drive (Route 665) intersection approximately 0.8 miles to Carrollton Boulevard (Route 17) approximately 0.25 miles north of the Carrollton Boulevard and Brewers Neck Boulevard (Route 258) intersection. Location and vicinity maps are located in the submittal package**

5. Coordinates of property (if known): **Start: Latitude: 36°57'08.69"N Longitude: 76°33'00.59"W**
End: Latitude: 36°56'40.04"N Longitude: 76°32'14.52"W

6. Size of property in acres: Approximately 50 acres.

7. Tax Parcel Number / GPIN (if available):

8. Name of Nearest Waterway: **Titus Creek**

9. Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request: **Environmental constraints analysis.**

10. Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously? ☐ YES ☐ NO ☒ UNKNOWN,

If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available:

Property Owner Contact Information:

Property Owner Name:
Mailing Address:
City: State: Zip:
Daytime Telephone:
E-mail Address:

If the person requesting the Jurisdictional Determination is **NOT** the Property Owner, please also supply the Requestor's contact information here:

Requestor Name:	**Mr. Dean Devereaux – Virginia Department of Transportation**
Mailing Address:	**1700 N. Main St.**
City: State: Zip:	**Suffolk, Virginia 23434**
Daytime Telephone:	**(757) 925-2637**
E-mail Address:	**Dean.Devereaux@VDOT.Virginia.gov**

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

Dean Devereaux

Digitally signed by Dean Devereaux
DN: cn=Dean Devereaux, o=VDOT, ou=Hamptn Roads, email=dean.devereaux@vdot.virginia.gov, c=US
Date: 2017.08.01 07:31:03 -04'00'

Requestor's Signature Date

Appendix C. Data Sheets

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 1

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/28/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: UPLAND IN NORTHWESTERN PORTION OF PROJECT AREA ADJACENT TO NIKE PARK RD.

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO4B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
Surface Water (A1)	Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Marl Deposits (B15)	Drainage Patterns (B10)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)	Other	X Geomorphic Position (D2)
		Shallow Aquitard (D3)
		FAC-Neutral Test (D5)
		Sphagnum Moss (D8)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Acer rubrum	Tree	FAC	75
Liriodendron tulipifera	Sapling	FACU	10
Liquidambar styraciflua	Sapling	FAC	10
Ilex opaca	Sapling	FAC	10
Ilex opaca	Shrub	FAC	5
Aralia spinosa	Shrub	FAC	5
Lonicera japonica	Herbaceous	FACU	20
Parthenocissus quinquefolia	Herbaceous	FACU	10

Non-Dominant Species	Stratum	IND	%
Carya glabra	Tree	FACU	10
Vitis rotundifolia	Herbaceous	FAC	5
Gelsemium sempervirens	Herbaceous	FAC	5

% Dominant species FAC or wetter: 63%

Prevalence Index: 3.3

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%: X
Prevalence Index is ≤ 3.0:
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 3/3	100					LOAM
4-20	2.5Y 5/2	90	10YR 5/6	10	C	M	CLAY LOAM

Hydric Soil Indicators:

Histosol (A1)	Coast Prairie Redox (A16)	Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
Histic Epipedon (A2)	Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	1cm Muck (A9)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	Marl (F10)	2cm Muck (A10)
Stratified Layers (A5)	Stripped Matrix (S6)	Depleted Ochric (F11)	Reduced Vertic (F18)
Organic Bodies (A6)	Dark Surface (S7)	Iron-Manganese Masses (F12)	Piedmont Floodplain Soils (F19)
5cm Mucky Mineral (A7)	Polyvalue Below Surface (S8)	Umbric Surface (F13)	Anomalous Bright Loamy Soils (F20)
Muck Presence (A8)	Thin Dark Surface (S9)	Delta Ochric (F17)	Red Parent Material (TF2)
1 cm Muck (A9)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)	Other
Thick Dark Surface (A12)	X Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 2

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/28/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG SF-4.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1B
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	40
Liriodendron tulipifera	Tree	FACU	30
Acer rubrum	Tree	FAC	30
Carya glabra	Sapling	FACU	10
Acer rubrum	Sapling	FAC	15
Vaccinium formosum	Shrub	FAC	15
Aralia spinosa	Shrub	FAC	5
Dendrolycopodium obscurum	Herbaceous	FACU	20

Non-Dominant Species	Stratum	IND	%
Lonicera japonica	Herbaceous	FACU	5
Vitis rotundifolia	Herbaceous	FAC	5

% Dominant species FAC or wetter: 63%

Prevalence Index: 3.4

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/3	100					LOAM
4-16	2.5Y 5/3	98	10YR 5/6	2	C	M	CLAY LOAM
16-20	10YR 5/1	85	10YR 5/8	15	C	M	CLAY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 3

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/28/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND AT FLAG WN-12.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Quercus rubra	Tree	FACU	50
Acer rubrum	Tree	FAC	40
Nyssa sylvatica	Sapling	FAC	15
Liquidambar styraciflua	Sapling	FAC	10
Ilex opaca	Shrub	FAC	10
Woodwardia areolata	Herbaceous	OBL	25
Osmundastrum cinnamomeum	Herbaceous	FACW	15
Smilax rotundifolia	Vine	FAC	5

Non-Dominant Species	Stratum	IND	%
Quercus michauxii	Sapling	FACW	5
Microstegium vimineum	Herbaceous	FAC	10
Cinna arundinacea	Herbaceous	FACW	5

% Dominant species FAC or wetter: 88%

Prevalence Index: 2.9

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ___

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 4/1	95	10YR 3/4	5	C	M	LOAM
4-12	2.5Y 5/2	90	2.5Y 5/4	10	C	M	CLAY LOAM
12-20	2.5Y 5/2	85	10YR 4/6	15	C	M	CLAY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ___
Depth (inches): ___

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 4

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/28/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND AT FLAG WN-12.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	50
Acer rubrum	Tree	FAC	40
Carpinus caroliniana	Sapling	FAC	15
Ilex opaca	Sapling	FAC	10
Athyrium asplenioides	Herbaceous	FAC	20
Mitchella repens	Herbaceous	FACU	5

Non-Dominant Species	Stratum	IND	%
Liquidambar styraciflua	Tree	FAC	20
Carya glabra	Sapling	FACU	5
Oxydendrum arboreum	Sapling	FACU	5

% Dominant species FAC or wetter: 83%
Prevalence Index: 3.1
NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST
Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-1	10YR 3/2	100					LOAM
1-4	2.5Y 4/2	95	10YR 6/6	5	C	M	CLAY LOAM
4-20	2.5Y 5/1	85	10YR 4/6	15	C	M	SANDY CLAY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 5

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/28/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WO-6.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	60
Quercus michauxii	Tree	FACW	20
Oxydendrum arboreum	Sapling	FACU	25
Liriodendron tulipifera	Sapling	FACU	15
Acer rubrum	Sapling	FAC	15
Vaccinium formosum	Shrub	FAC	10
Mitchella repens	Herbaceous	FACU	5
Vitis rotundifolia	Herbaceous	FAC	3

Non-Dominant Species	Stratum	IND	%
Ilex opaca	Tree	FAC	15
Liquidambar styraciflua	Sapling	FAC	5

% Dominant species FAC or wetter: 63%

Prevalence Index: 3.1

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 4/3	100					LOAM
4-20	2.5Y 5/1	75	10YR 4/3	5	INCLUSION	M	SANDY CLAY LOAM
			10YR 5/6	15	C	M	
			10YR 5/6	5	C	PL	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 6

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/28/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WO-6.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
Surface Water (A1)	X Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Marl Deposits (B15)	Drainage Patterns (B10)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)	Other	X Geomorphic Position (D2)
		Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		Sphagnum Moss (D8)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Quercus michauxii	Tree	FACW	40
Liquidambar styraciflua	Tree	FAC	35
Acer rubrum	Tree	FAC	35
Magnolia virginiana	Sapling	FACW	15
Ilex opaca	Sapling	FAC	15
Quercus michauxii	Sapling	FACW	10
Ilex opaca	Shrub	FAC	5
Osmundastrum cinnamomeum	Herbaceous	FACW	10
Juncus effusus	Herbaceous	OBL	10
Athyrium asplenioides	Herbaceous	FAC	5
Toxicodendron radicans	Herbaceous	FAC	5
Microstegium vimineum	Herbaceous	FAC	5
Chasmanthium latifolium	Herbaceous	FAC	5

Non-Dominant Species	Stratum	IND	%
Nyssa sylvatica	Tree	FAC	15

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.5

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 4/3	100					SANDY LOAM
4-20	2.5Y 5/2	75	10YR 4/3	15	INCLUSION	M	SANDY CLAY LOAM
			10YR 5/7	15	C	M	

Hydric Soil Indicators:

Histosol (A1)	Coast Prairie Redox (A16)	Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
Histic Epipedon (A2)	Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	1cm Muck (A9)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	Marl (F10)	2cm Muck (A10)
Stratified Layers (A5)	Stripped Matrix (S6)	Depleted Ochric (F11)	Reduced Vertic (F18)
Organic Bodies (A6)	Dark Surface (S7)	Iron-Manganese Masses (F12)	Piedmont Floodplain Soils (F19)
5cm Mucky Mineral (A7)	Polyvalue Below Surface (S8)	Umbric Surface (F13)	Anomalous Bright Loamy Soils (F20)
Muck Presence (A8)	Thin Dark Surface (S9)	Delta Ochric (F17)	Red Parent Material (TF2)
1 cm Muck (A9)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)	Other
Thick Dark Surface (A12)	X Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 7

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/28/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG SE-20.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liquidambar styraciflua	Tree	FAC	40
Pinus taeda	Tree	FAC	35
Acer rubrum	Tree	FAC	35
Liquidambar styraciflua	Sapling	FAC	10
Liriodendron tulipifera	Sapling	FACU	10
Ilex opaca	Sapling	FAC	15
Aralia spinosa	Shrub	FAC	20
Microstegium vimineum	Herbaceous	FAC	25
Lonicera japonica	Herbaceous	FACU	10
Vitis rotundifolia	Herbaceous	FAC	10

Non-Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	20
Quercus michauxii	Sapling	FACW	5

% Dominant species FAC or wetter: 80%

Prevalence Index: 3.1

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-2	10YR 3/2	100					LOAM
2-20	10YR 4/2	90	10YR 4/6	10	C	M	SANDY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 8

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WL-6.**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	60
Cornus florida	Tree	FACU	30
Carya glabra	Tree	FACU	45
Cornus florida	Sapling	FACU	20
Ilex opaca	Sapling	FAC	15
Ilex opaca	Shrub	FAC	10
Athyrium asplenioides	Herbaceous	FAC	60

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 43%

Prevalence Index: 3.6

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: ____
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 3/3	100					LOAM
4-20	10YR 5/4	100					LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 9

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WL-6.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	R4SBC
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	X Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	X Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: 8

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Acer rubrum	Tree	FAC	50
Nyssa sylvatica	Tree	FAC	30
Ilex opaca	Sapling	FAC	20
Carpinus caroliniana	Sapling	FAC	10
Nyssa sylvatica	Sapling	FAC	15
Woodwardia areolata	Herbaceous	OBL	30
Carex lurida	Herbaceous	OBL	10
Smilax bona-nox	Vine	FAC	10

Non-Dominant Species	Stratum	IND	%
Ilex opaca	Tree	FAC	15

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.6

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ___

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-6	10YR 3/2	100					LOAM
6-20	2.5Y 5/1	75	10YR 5/8	20	C	M	CLAY LOAM
			10YR 7/6	5	C	PL	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ___
Depth (inches): ___

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 10

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WJ-35.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Fraxinus pennsylvanica	Tree	FACW	35
Carya glabra	Tree	FACU	20
Ilex opaca	Tree	FAC	25
Liquidambar styraciflua	Tree	FAC	20
Carpinus caroliniana	Sapling	FAC	10
Ilex opaca	Sapling	FAC	10
Athyrium asplenioides	Herbaceous	FAC	35
Vitis rotundifolia	Herbaceous	FAC	10

Non-Dominant Species	Stratum	IND	%
Euonymus americanus	Herbaceous	FAC	5

% Dominant species FAC or wetter: 88%

Prevalence Index: 2.9

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 3/4	100					LOAM
4-20	2.5Y 5/3	100					LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 11

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WJ-34.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Quercus michauxii	Tree	FACW	70
Fraxinus pennsylvanica	Tree	FACW	35
Carpinus caroliniana	Sapling	FAC	20
Ilex opaca	Sapling	FAC	10
Symplocos tinctoria	Shrub	FAC	10
Ilex opaca	Shrub	FAC	10
Athyrium asplenioides	Herbaceous	FAC	50

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.5

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/2	100					LOAM
4-20	2.5Y 5/2	80	10YR 3/2	5	INCLUSION	M	CLAY LOAM
			10YR 3/6	15	C	M	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 12

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WJ-46.**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	35
Quercus alba	Tree	FACU	25
Acer rubrum	Tree	FAC	25
Liriodendron tulipifera	Sapling	FACU	15
Cornus florida	Sapling	FACU	15
Ilex opaca	Sapling	FAC	15
Quercus rubra	Sapling	FACU	10
Symplocos tinctoria	Shrub	FAC	5
Vaccinium formosum	Shrub	FAC	5
Athyrium asplenioides	Herbaceous	FAC	50

Non-Dominant Species	Stratum	IND	%
Euonymus americanus	Herbaceous	FAC	5

% Dominant species FAC or wetter: 50%

Prevalence Index: 3.5

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: ____
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/2	100					LOAM
4-20	2.5Y 5/3	90	10YR 3/2	5	INCLUSION	M	SANDY LOAM
			10YR 5/8	5	C	M	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 13

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WH-39.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Quercus michauxii	Tree	FACW	40
Fraxinus pennsylvanica	Tree	FACW	25
Ilex opaca	Sapling	FAC	20
Quercus michauxii	Sapling	FACW	15
Pinus taeda	Sapling	FAC	10
Clethra alnifolia	Shrub	FACW	10
Athyrium asplenioides	Herbaceous	FAC	30

Non-Dominant Species	Stratum	IND	%
Woodwardia areolata	Herbaceous	OBL	5

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.4

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ___

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/2	100					LOAM
4-20	2.5Y 5/2	80	10YR 3/2	5	INCLUSION	M	SANDY LOAM
			10YR 4/6	15	C	M	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ___
Depth (inches): ___

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 14

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WH-37.**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	45
Liquidambar styraciflua	Tree	FAC	30
Oxydendrum arboreum	Tree	FACU	20
Ilex opaca	Sapling	FAC	25
Pinus taeda	Sapling	FAC	15
Fagus grandifolia	Sapling	FACU	10
Vaccinium formosum	Shrub	FAC	5
Morella cerifera	Shrub	FAC	2
Dendrolycopodium obscurum	Herbaceous	FACU	15
Mitchella repens	Herbaceous	FACU	5

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 50%

Prevalence Index: 3.6

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: ____
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 3/2	100					LOAM
4-8	2.5Y 4/2	100					SAND
8-20	2.5Y 4/2	90	10YR 4/6	10	C	M	SANDY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 15

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WH-22.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	X Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	60
Liquidambar styraciflua	Tree	FAC	35
Ilex opaca	Sapling	FAC	20
Liquidambar styraciflua	Sapling	FAC	20
Nyssa sylvatica	Sapling	FAC	15
Clethra alnifolia	Shrub	FACW	35
Smilax rotundifolia	Vine	FAC	10

Non-Dominant Species	Stratum	IND	%
Magnolia virginiana	Sapling	FACW	5

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.8

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ___

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/4	100					LOAM
4-20	2.5Y 5/1	70	10YR 3/2	10	INCLUSION	M	SANDY CLAY LOAM
			10YR 5/6	20	C	M	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ___
Depth (inches): ___

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 16

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WH-22.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1C
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	CONVEX
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	30
Liquidambar styraciflua	Tree	FAC	30
Ilex opaca	Tree	FAC	30
Liriodendron tulipifera	Sapling	FACU	15
Cornus florida	Sapling	FACU	5
Liquidambar styraciflua	Sapling	FAC	5
Ilex opaca	Shrub	FAC	5
Athyrium asplenioides	Herbaceous	FAC	10

Non-Dominant Species	Stratum	IND	%
Mitchella repens	Herbaceous	FACU	3
Microstegium vimineum	Herbaceous	FAC	3

% Dominant species FAC or wetter: 63%

Prevalence Index: 3.4

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 3/2	100					LOAM
4-8	2.5Y 5/3	95	10YR 3/2	5	INCLUSION	M	SANDY CLAY LOAM
8-20	2.5Y 5/4	75	10YR 4/6	25	C	M	SANDY CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 17

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WH-51.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1C
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	X Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	X Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Nyssa sylvatica	Tree	FAC	60
Pinus taeda	Tree	FAC	30
Liquidambar styraciflua	Sapling	FAC	25
Pinus taeda	Sapling	FAC	25
Acer rubrum	Sapling	FAC	15
Morella cerifera	Shrub	FAC	10
Woodwardia areolata	Herbaceous	OBL	25
Smilax bona-nox	Vine	FAC	10

Non-Dominant Species	Stratum	IND	%
Ilex opaca	Tree	FAC	20

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.8

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-3	10YR 3/2	100					LOAM
3-20	2.5Y 5/1	70	10YR 3/2	5	INCLUSION	M	SANDY CLAY LOAM
			10YR 5/6	20	C	M	
			10YR 4/6	5	C	PL	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 18

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WI-20.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Acer rubrum	Tree	FAC	30
Liriodendron tulipifera	Tree	FACU	25
Liquidambar styraciflua	Tree	FAC	25
Acer rubrum	Sapling	FAC	10
Liquidambar styraciflua	Sapling	FAC	10
Ilex opaca	Sapling	FAC	5
Mitchella repens	Herbaceous	FACU	5

Non-Dominant Species	Stratum	IND	%
Ilex opaca	Tree	FAC	15

% Dominant species FAC or wetter: 71%

Prevalence Index: 3.2

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-6	10YR 3/2	100					LOAM
6-20	2.5Y 5/4	75	10YR 3/2	10	INCLUSION	M	SANDY CLAY LOAM
			10YR 4/6	15	C	M	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 19

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WI-25.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	X Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	X Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	X Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Rhynchospora inexpansa	Herbaceous	FACW	60
Juncus tenuis	Herbaceous	FAC	15

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.2

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/2	100					LOAM
4-20	2.5Y 5/2	75	10YR 3/2	5	INCLUSION	M	SANDY CLAY LOAM
			10YR 5/6	15	C	M	
			7.5YR 3/6	5	C	PL	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 20

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND SOUTHWEST OF LINE WG.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO4B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	X Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	50
Quercus alba	Tree	FACU	25
Nyssa sylvatica	Tree	FAC	25
Liquidambar styraciflua	Sapling	FAC	25
Nyssa sylvatica	Sapling	FAC	20
Acer rubrum	Sapling	FAC	15
Quercus rubra	Sapling	FACU	15
Clethra alnifolia	Shrub	FACW	5
Ilex opaca	Shrub	FAC	5
Woodwardia areolata	Herbaceous	OBL	15
Woodwardia virginica	Herbaceous	OBL	5
Osmunda spectabilis	Herbaceous	OBL	5

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 83%

Prevalence Index: 2.9

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ___

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 3/2	100					LOAM
4-20	2.5Y 5/1	85	10YR 5/6	15	C	M	SANDY CLAY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ___
Depth (inches): ___

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 21

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WG-3.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1B
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	50
Liriodendron tulipifera	Tree	FACU	20
Acer rubrum	Sapling	FAC	35
Liquidambar styraciflua	Sapling	FAC	10
Ilex opaca	Shrub	FAC	15
Mitchella repens	Herbaceous	FACU	5
Euonymus americanus	Herbaceous	FAC	3

Non-Dominant Species	Stratum	IND	%
Quercus alba	Sapling	FACU	5

% Dominant species FAC or wetter: 71%

Prevalence Index: 3.2

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-5	10YR 3/2	100					LOAM
5-8	2.5Y 4/2	90	10YR 3/2	5	INCLUSION	M	SANDY LOAM
			10YR 4/6	5	C	M	
8-20	2.5Y 5/3	80	10YR 5/6	20	C	M	SANDY LOAM

Hydric Soil Indicators:

			Indicators for Problematic Hydric Soils
___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 22

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WG-3.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO1B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	1-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ___
Water Table: ___
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	60
Liquidambar styraciflua	Sapling	FAC	30
Acer rubrum	Tree	FAC	20
Magnolia virginiana	Tree	FACW	15
Woodwardia virginica	Herbaceous	OBL	10
Chasmanthium laxum	Herbaceous	FACW	5
Vitis rotundifolia	Herbaceous	FAC	5
Osmunda spectabilis	Herbaceous	OBL	5

Non-Dominant Species	Stratum	IND	%
Quercus alba	Tree	FACU	5

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.7

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ___
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ___

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-6	10YR 3/2	100					LOAM
6-20	2.5Y 5/2	70	10YR 6/8	30	C	M	SANDY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ___
Depth (inches): ___

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 23

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	MYATT FINE SANDY LOAM

Summary of Findings: **WETLAND NEAR FLAG WE-15.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	PFO4B
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	55
Acer rubrum	Tree	FAC	25
Liquidambar styraciflua	Sapling	FAC	20
Vaccinium formosum	Herbaceous	FAC	10
Osmunda spectabilis	Herbaceous	OBL	10
Osmundastrum cinnamomeum	Herbaceous	FACW	10

Non-Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	10

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.9

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/2	100					LOAM
4-20	10YR 5/2	70	10YR 5/6	25	C	M	CLAY LOAM
			7.5YR 5/6	5	C	PL	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 24

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	SLAGLE FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WE-15.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-2

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Pinus taeda	Tree	FAC	70
Carpinus caroliniana	Sapling	FAC	5
Vaccinium formosum	Shrub	FAC	5
Ilex opaca	Shrub	FAC	5
Parthenocissus quinquefolia	Herbaceous	FACU	3
Microstegium vimineum	Herbaceous	FAC	2

Non-Dominant Species	Stratum	IND	%
Quercus nigra	Tree	FAC	15
Nyssa sylvatica	Tree	FAC	15
Quercus alba	Tree	FACU	5

% Dominant species FAC or wetter: 83%

Prevalence Index: 3.1

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-5	10YR 3/2	100					LOAM
5-20	2.5Y 5/4	80	10YR 3/2	5	INCLUSION	M	SANDY LOAM
			2.5Y 5/2	15	D	M	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 25

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	SLAGLE FINE SANDY LOAM

Summary of Findings: **WETLAND AT FLAG WL-21.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:	X	Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
Surface Water (A1)	X Water Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)	Marl Deposits (B15)	Drainage Patterns (B10)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	X Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)	Other	X Geomorphic Position (D2)
		Shallow Aquitard (D3)
		X FAC-Neutral Test (D5)
		Sphagnum Moss (D8)

Water Depths (inches):
Surface Water:
Water Table:
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Acer rubrum	Tree	FAC	55
Magnolia virginiana	Sapling	FACW	25
Liquidambar styraciflua	Sapling	FAC	10
Woodwardia areolata	Herbaceous	OBL	15
Osmundastrum cinnamomeum	Herbaceous	FACW	5
Toxicodendron radicans	Herbaceous	FAC	5

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 100%

Prevalence Index: 2.5

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation:
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: X
Problematic Hydrophytic Vegetation:

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-8	10YR 3/2	100					LOAM
8-20	2.5Y 5/2	80	10YR 3/2	5	INCLUSION	M	SANDY CLAY LOAM
			10YR 4/6	15	C	M	

Hydric Soil Indicators:

Histosol (A1)	Coast Prairie Redox (A16)	Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
Histic Epipedon (A2)	Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	
Black Histic (A3)	Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	1cm Muck (A9)
Hydrogen Sulfide (A4)	Sandy Redox (S5)	Marl (F10)	2cm Muck (A10)
Stratified Layers (A5)	Stripped Matrix (S6)	Depleted Ochric (F11)	Reduced Vertic (F18)
Organic Bodies (A6)	Dark Surface (S7)	Iron-Manganese Masses (F12)	Piedmont Floodplain Soils (F19)
5cm Mucky Mineral (A7)	Polyvalue Below Surface (S8)	Umbric Surface (F13)	Anomalous Bright Loamy Soils (F20)
Muck Presence (A8)	Thin Dark Surface (S9)	Delta Ochric (F17)	Red Parent Material (TF2)
1 cm Muck (A9)	Loamy Mucky Mineral (F1)	Reduced Vertic (F18)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)	Other
Thick Dark Surface (A12)	X Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type:
Depth (inches):

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 26

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	SLAGLE FINE SANDY LOAM

Summary of Findings: **UPLAND NEAR FLAG WL-21.**

Hydrophytic Vegetation is Present:	X	Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	SLOPE
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	___ Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Liriodendron tulipifera	Tree	FACU	40
Cornus florida	Tree	FACU	25
Acer rubrum	Tree	FAC	25
Nyssa sylvatica	Sapling	FAC	15
Liquidambar styraciflua	Sapling	FAC	10
Acer rubrum	Sapling	FAC	10
Ilex opaca	Shrub	FAC	5
Chasmanthium latifolium	Herbaceous	FAC	5
Mitchella repens	Herbaceous	FACU	5

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: 67%

Prevalence Index: 3.5

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: X
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 3/2	100					LOAM
4-20	2.5Y 5/4	90	10YR 3/2	5	INCLUSION	M	SANDY LOAM
			7.5YR 5/6	5	C	M	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 27

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	SLAGLE FINE SANDY LOAM

Summary of Findings: **STREAM AT FLAG SB-27.**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:	X	Disturbed Parameters (see Remarks):		Local Relief:	CONCAVE
Wetland Hydrology is Present:	X	Problematic Parameters (see Remarks):		Landform:	DRAINAGEWAY
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	1-3

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
X Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: 4

Remarks: **HYDROLOGY PARAMETER MET.**

STREAM CHANNEL IS 2' WIDE WITH 0.5' BANKS; ORDINARY HIGH WATER MARK IS PRESENT.

Vegetation Parameter:

Dominant Species	Stratum	IND	%

Non-Dominant Species	Stratum	IND	%

% Dominant species FAC or wetter: ____

Prevalence Index: ____

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: ____
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER NOT MET.**

NO VEGETATION PRESENT IN CHANNEL.

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	**Color (Moist)**	**%**	**Color (Moist)**	**%**	**Type**	**Loc**	**Texture**
0-4	10YR 4/2	100					SANDY LOAM
4-20	2.5Y 5/2	80	10YR 4/2	15	INCLUSION	M	SANDY LOAM
			10YR 4/6	5	C	PL	

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	X Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER MET.**

Wetland Determination Data Form - Atlantic and Gulf Coastal Plain Region

Sampling Point Number: 28

Stantec

Project:	NIKE PARK ROAD EXTENSION		
Applicant:	VIRGINIA DEPARTMENT OF TRANSPORTATION	Section/Township/Range:	N/A
City/County:	ISLE OF WIGHT	Subregion (LRR or MLRA):	LRR T
State:	VIRGINIA	Start:	36°57'08.69"N 76°33'00.59"W
Investigator(s):	S. KUPIEC	Terminus:	36°56'40.04"N 76°32'14.52"W
Date:	6/29/2017	Soil Map Unit Name:	SLAGLE FINE SANDY LOAM

Summary of Findings: **UPLAND SOUTHEAST OF LINE WE.**

Hydrophytic Vegetation is Present:		Normal Circumstances:	X	NWI Classification:	N/A
Hydric Soils are Present:		Disturbed Parameters (see Remarks):		Local Relief:	NONE
Wetland Hydrology is Present:		Problematic Parameters (see Remarks):		Landform:	FLAT
Sampled Area is within a Wetland:		Atypical Climate/Hydrology (see Remarks):		Slope %:	0-1

Hydrology Parameter:

Primary Indicators:		*Secondary Indicators:*
___ Surface Water (A1)	___ Water Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Sparsely Vegetated Concave Surface (B8)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Stunted or Stressed Plants (D1)
___ Inundation Visible on Aerial Imagery (B7)	___ Other	X Geomorphic Position (D2)
		___ Shallow Aquitard (D3)
		___ FAC-Neutral Test (D5)
		___ Sphagnum Moss (D8)

Water Depths (inches):
Surface Water: ____
Water Table: ____
Saturated soil: >20

Remarks: **HYDROLOGY PARAMETER NOT MET.**

Vegetation Parameter:

Dominant Species	Stratum	IND	%
Quercus rubra	Tree	FACU	45
Pinus taeda	Tree	FAC	30
Liriodendron tulipifera	Tree	FACU	30
Liquidambar styraciflua	Sapling	FAC	15
Liriodendron tulipifera	Sapling	FACU	15
Lonicera japonica	Herbaceous	FACU	5
Gelsemium sempervirens	Herbaceous	FAC	5

Non-Dominant Species	Stratum	IND	%
Ilex opaca	Tree	FAC	15
Quercus rubra	Sapling	FACU	5

% Dominant species FAC or wetter: 43%

Prevalence Index: 3.6

NOTE: SPECIES INDICATOR STATUS ACCORDING TO 2016 NATIONAL WETLAND PLANT LIST

Calculated using all species present.

Rapid Test for Hydrophytic Vegetation: ____
Dominance Test >50%: ____
Prevalence Index is ≤ 3.0: ____
Problematic Hydrophytic Vegetation: ____

Remarks: **VEGETATION PARAMETER NOT MET.**

Soil Parameter:

	Matrix		Redox Features				
Depth (inches)	Color (Moist)	%	Color (Moist)	%	Type	Loc	Texture
0-4	10YR 3/2	100					LOAM
4-20	2.5Y 5/4	100					SANDY LOAM

Hydric Soil Indicators:

___ Histosol (A1)	___ Coast Prairie Redox (A16)	___ Redox Dark Surface (F6)	*Indicators for Problematic Hydric Soils*
___ Histic Epipedon (A2)	___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Black Histic (A3)	___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ 1cm Muck (A9)
___ Hydrogen Sulfide (A4)	___ Sandy Redox (S5)	___ Marl (F10)	___ 2cm Muck (A10)
___ Stratified Layers (A5)	___ Stripped Matrix (S6)	___ Depleted Ochric (F11)	___ Reduced Vertic (F18)
___ Organic Bodies (A6)	___ Dark Surface (S7)	___ Iron-Manganese Masses (F12)	___ Piedmont Floodplain Soils (F19)
___ 5cm Mucky Mineral (A7)	___ Polyvalue Below Surface (S8)	___ Umbric Surface (F13)	___ Anomalous Bright Loamy Soils (F20)
___ Muck Presence (A8)	___ Thin Dark Surface (S9)	___ Delta Ochric (F17)	___ Red Parent Material (TF2)
___ 1 cm Muck (A9)	___ Loamy Mucky Mineral (F1)	___ Reduced Vertic (F18)	___ Very Shallow Dark Surface (TF12)
___ Depleted Below Dark Surface (A	___ Loamy Gleyed Matrix (F2)	___ Piedmont Floodplain Soils (F19)	___ Other
___ Thick Dark Surface (A12)	___ Depleted Matrix (F3)	___ Anomalous Bright Loamy Soils (F20)	

Restrictive Layer (If Observed)
Type: ____
Depth (inches): ____

Remarks: **SOIL PARAMETER NOT MET.**

Appendix D. Representative Site Photos

Nike Park Road Extension
Representative Photographs

	**Photo 1: A representative view of a forested upland adjacent to Nike Park Road.**
	**Photo 2: A representative view of a jurisdictional ditch adjacent to Reynolds Drive.**
	**Photo 3: A representative view of a forested wetland southeast of Reynolds Drive.**
	**Photo 4: A representative view of a forested upland southeast of Reynolds Drive.**

Nike Park Road Extension
Representative Photographs

	**Photo 5: A representative view of an intermittent stream and associated wetlands within the north-central portion of the project area.**
	**Photo 6: Representative view of a forested wetland within the north-central portion of the project area.**
	**Photo 7: A representative view of a forested wetland within the central portion of the project area.**
	**Photo 8: A representative view of a forested upland within the central portion of the project area.**

Nike Park Road Extension
Representative Photographs

	**Photo 9: A representative view of a forested wetland within the north-central portion of the project area.**
	**Photo 10: A representative view of a forested upland within the central portion of the project area.**
	**Photo 11: A representative view of an emergent wetland within an existing transmission right of way within the central portion of the project area.**
	**Photo 12: A representative view of a forested upland within the central portion of the study area.**

Nike Park Road Extension
Representative Photographs

	**Photo 13: A representative view of a forested wetland within the south-central portion of the project area.**
	**Photo 14: A representative view of a forested wetland within the southeastern portion of the project area.**
	**Photo 15: A representative view of a forested wetland within the southeastern portion of the project area.**
	**Photo 16: A representative view of a forested upland within the southeastern portion of the project area.**

Nike Park Road Extension
Representative Photographs

	**Photo 17: A representative view of an intermittent stream and associated forested wetland located within the southeastern portion of the project area.**
	**Photo 18: A representative view of a forested upland located in the southeastern portion of the project area.**

Attachment K

Compensatory Mitigation

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Mitigation Strategies Report

Mitigation Required						
	EM	SS	FO	Stream	Other l.f	Other s.f
Tidal						
Non tidal	195.6		314562.94			

Running Sum	Wetland	Stream	Other l.f	Other s.f
Mitigation Required	314758.54	0	0	0
Mitigation Proposed	314758.54	0	0	0

Mitigation Proposed										
Strategies Name	Site Name	Lat/Long	GSA	Basin	Sub-basin	County	HUC	Topo Quad	Debit	Payment
Chickahominy Env bank Purchase part II of II	Chickahominy Env. Bank - Credit Purchase	37°18'32"/ 76°57'18"	02080206, 02080205, 02080207, 02080208	James River Basin	2C. Lwr James River Sub-basin	Charles City	02080206	BRANDON	122197.54	$71,438.40
Hampton roads airport bank part I of II	Hampton Rds Airport Bank - Credit Purchase	N/A/ N/A	02080206 & 02080208	James River Basin	2C. Lwr James River Sub-basin	Chesapeake	02080208	BOWERS HILL	192561	$207,171.36

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Chickahominy Env. Bank - Credit Purchase MS-018-0002 Ledger Sheet
HUC 02080206

Wetland

Project Number	Permit Number	Permit Type/Date Issued	Basin/Sub-basin	HUC	City/County	USFWS Class. of Impact	Debit (ft2)	Site Size (ft2)	Site Size (ac.)	% of Total Credits	Remaining Credits
0604-020-615	11-4087-15	VWP General Permit No. WP3/08-09-2011, LOP-1/10-05-2011	2D. Appomattox River Sub-basin	02080207	Chesterfield	PSS, POW, PEM	6460	641075	14.72	1.00	634615
0001-020-131	13-4130	VWP General Permit No. WP3/08-12-2013, 22-SPGP-LT/08-12-2013	2C. Lwr James River Sub-basin	02080206	Chesterfield	PFO	4344	634615	14.57	1.00	630271
0646-074-209	09-4161	VWP General Permit No. WP3/NA, 22-SPGP-LT/NA	2C. Lwr James River Sub-basin	02080206	Prince George	PEM	992	630271	14.47	0.00	629279
0005-018-114	10-4070	VWP General Permit No. WP3/NA, 22-SPGP-LT/NA	2C. Lwr James River Sub-basin	02080206	Charles City	R2OW, PSS, PFO	6300	629279	14.45	1.00	622979
00000-042-14735966	N/A	VWP General Permit No. WP3/NA, NW 27/NA	2C. Lwr James River Sub-basin	02080206	Hanover	PEM	407	622979	14.30	0.00	622572
0095-042-116	09-4130-15	VWP General Permit No. WP3/11-17-2009, NW 23/10-21-2009	2C. Lwr James River Sub-basin	02080206, 02080208	Hanover	PEM	14234	622572	14.29	2.00	608338
0147-043-103	09-4155-MOD-09, 09-4155	VWP General Permit No. WP3/09-13-2011, LOP-1/08-05-2011	2B. Mid James River Sub-basin	02080205	Henrico	L1UB, PFO	63057	608338	13.97	10.00	545281
0662-020-283	10-4164	VWP General Permit No.	2D. Appomattox River Sub-basin	02080207	Chesterfield	PFO	2506	545281	12.52	0.00	542775

		WP3/NA, 22-SPGP-LT/NA								
0147-043-103	09-4155-MOD-09, 09-4155	VWP General Permit No. WP3/09-13-2011, LOP-1/08-05-2011	2B. Mid James River Sub-basin	02080205	Henrico	L1UB, PFO	6982	542775	12.46	1.00	535793
0360-964-120	12-4046-15	NW 23/06-06-2012		N/A	Hanover	R2UB, PSS	354	535793	12.30	0.00	535439
0001-166-286	23-4006	NW 23/NA	No sub-basin	02080106	Ashland	PFO, R3UB	17424	535439	12.29	3.00	518015
0095-964-416	16-4069-04	NW 23/01-24-2018	2C. Lwr James River Sub-basin	02080206	Richmond District Wide	PEM, PFO	20174	518015	11.89	3.00	497841
0609-018-561	16-4113	VWP General Permit No. WP3/07-18-2016, 22-SPGP-LT/07-18-2016	2C. Lwr James River Sub-basin	02080206	Charles City	PFO, R3UB	1568	497841	11.43	0.00	496273
0155-018-574	18-4154	NW 23/07-23-2020	2C. Lwr James River Sub-basin	02080206	Charles City	PSS, PEM, PFO, R3UB	8497	496273	11.39	1.00	487776
0634-090-742	18-4019, 18-4019-MOD	NW 23/10-17-2018	2C. Lwr James River Sub-basin	02080206	Surry	R2UB, PSS, PFO	1308	487776	11.20	0.00	486468
0607-018-132	16-4063	VWP General Permit No. WP3/04-12-2016, 22-SPGP-LT/04-12-2016	2C. Lwr James River Sub-basin	02080206	Charles City	PEM, PFO	8479	486468	11.17	1.00	477989
0155-018-574	18-4154	NW 23/07-23-2020	2C. Lwr James River Sub-basin	02080206	Charles City	PSS, PEM, PFO, R3UB	1800	477989	10.97	0.00	476189
0095-020-818	21-4027	NW 23/01-11-2023	2C. Lwr James River Sub-basin	02080206	Chesterfield	PSS, PFO, R3UB	13389	476189	10.93	2.00	462800
0669-046-682	23-4025	Individual VWPP/NA, Individual/NA	2C. Lwr James River Sub-basin	02080206	Isle of Wight	R4SB, PFO, PEM, PUB	122197.54	462800	10.62	19.00	340602.46
0001-020-633	15-4134	VWP General Permit No. WP3/08-10-2015, 22-SPGP-LT/08-10-2015	2D. Appomattox River Sub-basin	02080207	Chesterfield	PFO	198.46	340602.46	7.82	0.00	340404.00

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

0636-020-653	18-4026	NW 23/04-12-2018	2D. Appomattox River Sub-basin	02080207	Chesterfield	PFO, R3UB	2990	340404.00	7.81	0.00	337414.00
0064-043-744	17-4208-04	Individual VWPP/04-13-2018, Individual/05-04-2018	2C. Lwr James River Sub-basin	02080206	Henrico	PEM, PFO	15334	337414.00	7.75	2.00	322080.00
0017-121-R19	N/A	Regional Permit 11/NW03/NA	2C. Lwr James River Sub-basin	02080206	Newport News	PFO	2730	322080.00	7.39	0.00	319350.00
1343-072-144	16-4153	VWP General Permit No. WP3/10-17-2016, 22-SPGP-LT/NA	2B. Mid James River Sub-basin	02080205	Powhatan	PSS, PFO, R3UB	4889	319350.00	7.33	1.00	314461.00
0064-043-744	17-4208-04	Individual VWPP/04-13-2018, Individual/05-04-2018	2C. Lwr James River Sub-basin	02080206	Henrico	PEM, PFO	164850	314461.00	7.22	26.00	149611.00

*** Proposed Debit**

IACM DATE: 04/11/2023
VDOT PROJECT #: 0669-046-682, C501, P101, R201
PERMIT #: 23-4025 PRE-APP#: 17-6800

Hampton Rds Airport Bank - Credit Purchase MS-131-0001 Ledger Sheet
HUC 02080208

Wetland

Project Number	Permit Number	Permit Type/Date Issued	Basin/Sub-basin	HUC	City/County	USFWS Class. of Impact	Debit (ft2)	Site Size (ft2)	Site Size (ac.)	% of Total Credits	Remaining Credits
0095-042-716	14-4015-09	NW 23/09-11-2014	2C. Lwr James River Sub-basin	02080206	Hanover	R4SB, PSS, PEM, PFO	26768	871200	20.00	3.00	844432
1612-020-651	14-4191	VWP General Permit No. WP3/12-19-2014, 22-SPGP-LT/12-19-2014	2C. Lwr James River Sub-basin	02080206	Chesterfield	R4SB, PSS, PEM, PFO, R3UB	3134	844432	19.39	0.00	841298
0810-047-637	N/A	N/A		N/A	James City	N/A	254	841298	19.31	0.00	841044
0669-046-682 *	23-4025	Individual VWPP/NA, Individual/NA	2C. Lwr James River Sub-basin	02080206	Isle of Wight	R4SB, PFO, PEM, PUB	192561	841044	19.31	22.00	648483

*** Proposed Debit**

Mitigation Strategies
Project Num: 0669-046-682
Permit Num: 23-4025-04

		Emergent	Scrub/Shrub	Forested	Stream	Other l.f.	Other s.f.
Mitigation Required	Tidal	N/A	N/A	N/A	N/A	N/A	N/A
	Nontidal	195.6	N/A	314562.94	N/A	N/A	N/A

Running Sum	Wetland	Stream	Other l.f	Other s.f
Mitigation Required	314758.54	0	0	0
Mitigation Proposed	314758.54	0	0	0

Strategy Name	Site ID	Name	Latitude/ Longitude	GSA	Basin	Sub-basin	HUC	Topoquad	Debit	Payment
Nontidal Wetland								**Total**	**314758.54**	
Chickahominy Env bank Purchase part II of II	MS-018-0002	Chickahominy Env. Bank - Credit Purchase	37.30889/ -76.95500	02080206, 02080205, 02080207, 02080208	James River Basin	2C. Lwr James River Sub-basin	02080206	BRANDON	122197.54	$71,438.40
Hampton roads airport bank part I of II	MS-131-0001	Hampton Rds Airport Bank - Credit Purchase	NA/ NA	02080206 & 02080208	James River Basin	2C. Lwr James River Sub-basin	02080208	BOWERS HILL	192561	$207,171.36

Attachment L

Photographs

Photographer's Name: DTD February 15, 2023

Photographic Log for 23-4025

Impact Area Number: Crossing #3_Reynolds Drive PFO_north
Photo Date and Time: 7/27/2017
Photograph Orientation: Facing North
Description: narrow PFO fringe located between Reynolds Drive and aerial utility easement in background.

Impact Area Number: Crossing #3_Reynolds Drive PFO_south_flag W190
Photo Date and Time: 6/14/2017
Photograph Orientation: Facing South
Description: Looking at representative PFO community W190 off Reynolds road

Photographer's Name: DTD February 15, 2023

Photographic Log for 23-4025

Impact Area Number: crossing #4
Photo Date and Time: 7/18/2017
Photograph Orientation: Facing east
Description: Representative PFOA community

Impact Area Number: Crossing #5 looking downstream
Photo Date and Time: 2/21/2017
Photograph Orientation: Facing North
Description: Point where concentrated flow reappears at the northern limit of project to form an intermittent reach of stream

Photographer's Name: DTD February 15, 2023

Photographic Log for Rte40

Impact Area Number: Crossing #5 looking downstream
Photo Date and Time: 2/21/2017
Photograph Orientation: Facing south
Description: proposed PUB impact area upstream of the clipboard

Impact Area Number: crossing #7
Photo Date and Time: 10/3/2017
Photograph Orientation: Facing south **Description:** Young Mixed softwood PFO

Impact Area Number: crossing #8
Photo Date and Time: 10/3/2017
Photograph Orientation: Facing south **Description:** Young Mixed softwood PFO

Attachment M

Other Documents

Property Owners
Nike Park Road Project
VDOT Project Number 0669-046-682, C501; UPC Number 109314

Poplar Harbor A Ltd Partnership
11835 Fishing Point Rd, Suite 101
Newport News, VA 23606

Calvin B. & Valerie S. Langhorn
22019 Reynold Dr.
Carrollton, VA 23314

Peyton P. Nottingham, III
21358 Reynolds Dr.
Carrollton, VA 23314

American Timber Associates II
264 H. McLaws Cir.
Williamsburg, VA 23185

Robert P. & Jacqueline Madrigal
PO Box 194
Carrollton, VA 23314

Wakirk Properties
102 West Rd.
Portsmouth, VA 23707

Dan M, Turnage
PO Box 44.
Dryfork, WV 26263

Padeway LLC
900 S. Church St.
Smithfield, VA 23430

Karl T. & Lorean R. Stauty
1524 Kings Hwy.
Suffolk, VA 23432

James River Crossings Inc
616 Village Dr., Suite G
Virginia Beach, VA 23454

Project Information			
Project Name:	Nike Park Road Extension	**Federal Project#:**	
Project Number:	0669-046-682, C501, P101, R201	**Project Type:**	Construction
UPC:	109314	**Charge Number:**	109314
Route Number:	669	**Route Type:**	Secondary
Project Limit--From:	REYNOLDS DR	**To:**	ROUTE 17
Additional Project Description:	The proposed Nike Park Road Extension project would consist of constructing a new two-lane collector roadway for approximately one mile including the construction of a multi-use path that would run parallel to the new facility. The new roadway would extend Nike Park Road from Reynolds Drive to a new intersection location with Route 17. The project would involve intersection improvements at Reynolds Drive including turn lanes and a two-way stop control for Reynolds Drive approaches.		
Purpose And Need:	The purpose of the project is to improve safety on Titus Creek Drive (Route 668) and Reynolds Drive (Route 665) by providing a direct network linkage/connection from Carrollton Blvd. (Route 17)to Battery Park Road (Route 704). Purpose and Need continued on attached document.		
District:	**City/County:**		**Residency:**
Hampton Roads	Isle of Wight		Franklin

Date CE level document approved by VA Division FHWA: 06/12/2017

FHWA Contact: Frost, Mack

Project in STIP: Yes **In Long Range Plan?** Yes

CE Category 23 CFR 771.117: d

Description of Category: Additional actions which meet the criteria for a CE in the CEQ regulations (40 CFR §1508.4) and paragraph (a) of this section may be designated as CEs only after Administration approval unless otherwise authorized under an executed agreement pursuant to paragraph (g) of this section. The applicant shall submit documentation which demonstrates that the specific conditions or criteria for these CEs are satisfied and that significant environmental effects will not result.

Logical Termini and Independent Utility: Yes

Next Phase of Funding Available? Yes

Comments: None.

Typical Section: Mainline typical includes two 11-ft lanes, 5-ft buffer strip, an 8-ft paved shared-use path, curb & gutter, and permanent slopes within 160-ft of right of way. Route 17 connection typical includes additional turn lanes within approximately 160-ft of right of way (140-ft is existing).

Structures: None.

SOCIO-ECONOMIC

Minority/Low Income Populations: Not Present **Disproportionate Impacts to Minority/Low Income Populations:** No

Source: Isle of Wight County Planning and Isle of Wight CountyTransportation Manager, and Census Data.

Existing or Planned Public Recreational Facilities: Not Present

Community Services: Not Present

Consistent with Local Land Use: Yes

Source: Isle of Wight County Parks & Recreation and Isle of Wight County Transportation Manager

Existing or Planned Bicycle/Pedestrian Facilities Not Present

Source: Isle of Wight Parks & Recreation and Isle of Wight Transportation Manager

Socio-Economic Comments: An environmental justice (EJ) analysis was performed for the project. The minority or low-income population of the environmental justice study area does not exceed 50 percent and there are no impacts to the EJ population. No minority or low-income populations have been identified that would be adversely impacted by the proposed project. Therefore, in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23, no further EJ analysis is required.
There are no existing or planned recreational facilities within the project limits. The project proposes to add an 8-ft wide shared use path which is consistent with Isle of Wight County's Bike and Pedestrian Master Plan.

SECTION 4(f) and SECTION 6(f)

Use of 4(f) Property: No

Source: Isle of Wight County Planning, Isle of Wight Transportation Manager, and VDOT Hampton Roads District Cultural Resources Manager

6(f) Conversion: No **Acres of Conversion:**

4(f) Comments: There are no 4(f) properties located within the proposed project limits.

6(f) Comments: There are no 6(f) properties located within the proposed project limits.

CULTURAL RESOURCES

Section 106 Effect Determination: None

Name of Historic Property: **DHR Concurrence date:** None

A Section 106 effect determination of No Historic Properties Present or Affected has been concluded pursuant to Stipulation II.A of the 2016 Federal Programmatic Agreement among FHWA, USACE, TVA, VA SHPO, and VDOT.
Stip. II.A Determination Date: 01/16/2019

MOA/PA Execution Date: None

Cultural Resource Comments: None.

NATURAL RESOURCES

Are Waters of the U.S. present? Yes

Linear Feet of Impact: Approximately 140

Federal Threatened or Endangered Species:
Atlantic Sturgeon (Acipenser oxyrinchus)-Federal:FE-No Effect
Northern Long-Eared Bat (Myotis septentrionalis)-Federal:FT-Coordination Required

Based upon a review of the DGIF database search and DCR Natural Heritage Conservation Site Maps for the project area, **Threatened or Endangered species collections/records are within the required search distance for the project.** ✓ 02/01/2019 D Devereaux

100 Year Floodplain: Not Present
Regulatory Floodway Zone: Not Present
Public Water Supplies: Not Present
Are any tidal waters/wetlands present? No
Wetlands: Present with impacts
Tidal Acres of Impact: 0
Tidal Wetland Type: None
Are any Non-Tidal Wetlands Present? Yes
Non Tidal Acres of Impact: 3.9
Non Tidal Wetland Type: Forested
Total Wetland Acres of Impacts: 3.9

Are water quality permits required? Yes

Natural Resource Comments: The project is located outside Northern Long-Eared Bat buffer area. Tree clearing activities would not occur within 150 feet of known maternity roost tree and would not remove trees within 0.25-miles of known hibernaculum. No survey for bats or for signs of bats has been accomplished. The project would apply the final 4(d) rule to fulfill project specific Section 7 responsibilities

Compensatory mitigation would be required for permanent wetland impacts and would be addressed during the permitting phase of the project.

AGRICULTURAL/OPEN SPACE

Open Space Easements: Not Present

Agricultural/Forestal Districts: Not Present

Source: Project Definition Form

Agricultural/Open Space Comments: There are no open space easements or agricultural and forestal districts located within the proposed project limits.

FARMLAND

NRCS Form CPA-106 Attached? Yes

Rating: 122

Alternatives Analysis Required? No

Source: Isle of Wight County Planning and Natural Resources Conservation Service

Farmland Comments: The Natural Resource Conservation Service (NRCS)indicated on the CPA-106 form that prime farmlands are located within the proposed project limits. Based on the farmland conversion impacts evaluation conducted for the project, no further analysis is required.

INVASIVE SPECIES

Invasive Species in the project area? Unknown

There is potential for invasive species to become established along the limits of disturbance of the project during and following construction. Section 244.02(c) of VDOT's Road and Bridge Specifications (2016) includes provisions intended to control noxious weeds (which includes non-native and invasive species).

While rights-of-ways are at risk from invasive species colonization from adjacent properties, implementing the above provisions would reduce or minimize potential for introduction, proliferation, and spread of invasive species. Additionally, the implementation of best management practices for erosion/sediment control and abatement of pollutant loading would minimize indirect impacts to adjoining communities and habitat by reducing excess nutrient loads that could encourage invasive species proliferation.

Invasive Species Comments: None.

AIR QUALITY

Air Quality Status and Regional Conformity

Jurisdiction Description: This project is located within an Attainment area for all of the National Ambient Air Quality Standards (NAAQS). In addition, the project is located in a volatile organic compounds (VOC) and nitrogen oxides (NOx) Emissions Control Area. As such, all reasonable precautions should be taken to limit the emissions of VOC and NOx. The following VDEQ air pollution regulations must be adhered to during the construction of this project: 9 VAC 5-130, Open Burning restrictions; 9 VAC 5-45, Article 7, Cutback Asphalt restrictions; and 9 VAC 5-50, Article 1, Fugitive Dust precautions.

The study area is located in the County of Isle of Wight. At the time of preparation of this technical report, the United States Environmental Protection Agency's (EPA) Green Book shows the County of Isle of Wight to be designated as an attainment area for all criteria pollutants. Notwithstanding that listing in the EPA Green Book, federal conformity requirements, including specifically 40 CFR 93.114 and 40 CFR 93.115, apply for the project as the area in which it is located is one affected by a recent court decision that reinstates conformity requirements nationwide associated with the 1997 ozone NAAQS that had previously been eliminated with the revocation by EPA of that NAAQS in 2015. The project is currently included in the Hampton Roads Transportation Planning Organization (HRTPO) FY 2018 – 2021 Transportation Improvement Program (UPC # 109314) and the HRTPO 2040 Long-Range Transportation Plan, which received a joint FTA/FHWA conformity finding for the 1997 ozone standard, dated October 29, 2018.

Carbon Monoxide

CO Microscale Analysis Required for NEPA? No

✓ The proposed project meets the criteria specified in the current FHWA-VDOT "Programmatic Agreement for Project Level Air Quality Analyses for Carbon Monoxide" and therefore a project-specific analysis for CO is not required.

The worst case intersection within the project area occurs at the intersection of Route 17 and the Nike Road Extension. An intersection project would fall under the types of projects listed in Table 2 of the agreement,i.e.,a 6 lane urban intersection for all approaches and an approach speed of 35 mph. The modeled CO concentrations for this type of project excluding the background concentrations is 5.2 ppm for the one-hour and, using a persistence factor of 0.77, an eight-hour concentration of 4.0 ppm. When the background concentrations of 2.0 ppm and 1.1 ppm are included, the one-hour and eight-hour concentrations increase to 7.2 ppm and 5.1 ppm, respectively. These predicted values are well below the one-hour and eight-hour CO NAAQS of 35 ppm and 9 ppm, respectively. This configuration would give a much worst-case scenario than that of the proposed intersection improvements that include no more than 4 approach lanes in each direction and an approach speed of 45 mph or greater.

Particulate Matter

This project is located in: A PM2.5 Attainment Area

PM Hotspot Analysis Required? No

The final rule that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in Fine Particulate Matter (PM2.5) nonattainment and maintenance areas was published on March 10, 2006. This project is located in a PM2.5 attainment area and therefore no further discussion of PM2.5 is necessary.

Mobile Source Air Toxics

This project requires: No further discussion of MSAT

✓ The project qualifies for a categorical exclusion under 23 CFR 771.117.

This project is excluded from further analysis following FHWA's Interim Guidance Update on MSAT Analysis in NEPA dated October 18, 2016 for projects qualifying as a categorical exclusion under 23 CFR 771.117

NOISE

Noise Scoping Decision: Type I - Noise study required

Barriers Under Consideration? No

Noise Comments: A noise evaluation was performed and determined that noise abatement is not considered feasible; therefore, noise barriers are not recommended for construction at this time. In addition, there are no highway traffic noise-related public controversies or substantial construction noise impacts associated with this project. Therefore a detailed quantitative noise analysis is not required.

RIGHT OF WAY AND RELOCATIONS

Residential Relocations: No

Commercial Relocations Yes **Number of Commercial Relocations:** 3

Non-Profit Relocations: No

Right of Way required? Yes

Fee Simple: 6.3 **Temporary Easement:** 0.5

Permanent Easement: 5.6 **Utility Easement:** 1.03

Amount of Right of Way Acreage: 13.43

Septic Systems or Wells: Not Present **Hazardous Materials:** Not Present

Source: Right of Way Data Sheet, District Utilities Engineer, Project Manager, and District Environmental Hazardous Materials Manager

ROW and Relocations Comments: Three commercial properties would be relocated. Property acquisitions and relocations would comply with the Uniform Relocation guidelines.

A Phase I Environmental Site Assessment (ESA)was conducted by VDOT has identified potential hazardous materials being present on two parcels. A Phase II ESA would be completed later in project development. However, based on the initial site assessment, no significant hazardous material contamination impacts are anticipated.

CUMULATIVE AND INDIRECT IMPACTS

Present or reasonably foreseeable future projects (highway and non-highway) in the area: Yes

Impact same resources as the proposed highway project (i.e. cumulative impacts): No

Indirect (Secondary) impacts: Yes

Source: Hampton Roads District Traffic Engineer

Cumulative and Indirect Impacts Comments: Currently, Project #0017-046-683 UPC 109481 is under plan development. The project proposes intersection improvements at Brewer's Neck Blvd (Route 258) and Carrollton Blvd. (Route 17). The proposed Nike Park Road (Route 669) extension involves a new intersection connection with Carrollton Blvd. (Route 17) within 1600-ft of the existing Route 258/Route 17 intersection. The forecasted travel delay estimates are based on future conditions include approved development at the intersection of Route 258/Route 17. The corridor models indicate that the new intersection at Route 669/Route 17 would cause minor travel delays for through movements on Route 17 that range from 2 to 9 seconds. In comparison, delays at the Route 258/Route 17 intersection in the AM are not anticipated to change for northbound through movement on Route 17 and the southbound through movements travel time is reduced up to 7 seconds. In the PM peak period, through travel delay on Route 17 in both the northbound and southbound directions is reduced by a range from 13 and 32 seconds, while the eastbound Route 258 delay increases by 20 seconds. Opportunities to improve delay times throughout the corridor would be maximized by synchronization efforts once the controllers are in place. The travel delay impacts are minor and do not substantially cause significant cumulative or indirect impacts.

Another benefit of this project is to provide corridor capacity on existing local roads connecting to Carrollton Blvd (Route 17) which includes Smith's Neck Road (Route 669) to the east and Brewer's Neck Road (Route 258) to the west of the proposed project. There are 9 approved development plans within the corridor; 2 on Benn’s Church Blvd. (Route 10), 2 on Brewer’s Neck Road (Route 258), 5 on Carrollton Blvd. (Route 17) and 1 on Smith's Neck Rd. (Route 669). Traffic data forecasts 17,350 ADT in 2041 design year for the Nike Park Road Extension are generated from the approved developments. Traffic data forecasts 52,800 ADT in 2041 for Carrollton Blvd. (Route 17).

PUBLIC INVOLVEMENT

Substantial Controversy on Environmental Grounds: No

Source: Isle of Wight County

Public Hearing: Yes **Type of Hearing:** Combined Hearing

Other Public Involvement Activities: Yes

Type of Public Involvement: Isle of Wight County held a public information meeting on January 10, 2013. A combined public hearing is planned for the project later in development.

Public Involvement Comments: Public comments were received on multiple improvements including the proposed project Two alternative locations were proposed in the study. Citizen input informed the Isle of Wight County's decision to select the proposed project.

COORDINATION

State Agencies:

DEQ - Water Division
Virginia Outdoors Foundation
Department of Forestry
Department of Conservation and Recreation

Federal Agencies:

Natural Resources Conservation Service
U.S. Army Corps of Engineers

Local Entity:

Isle of Wight County Administrator
Isle of Wight County/City Planner
Isle of Wight Office of Transportation
Isle of Wight Parks and Recreation
Isle of Wight Public Works

Other Coordination Entities:

Town Manager - Smithfield
Planning - Smithfield
Hampton Roads Planning District Commission

This project meets the criteria for a Categorical Exclusion pursuant to 40 CFR 1508.4 and 23 CFR 771.117 and will not result in significant impacts to the human or natural environment.

Nike Park Road Extension (RTE 669)
Project #0669-046-682

Purpose and Need:

The purpose of the project is to improve safety on Titus Creek Drive (Route 668) and Reynolds Drive (Route 665); and provide a network linkage/connection from Carrollton Blvd. (Route 17) to Battery Park Road (Route 704). Based on the Brewer's Neck Corridor Study, Titus Creek Drive and Reynolds Drive are being used as cut-through routes for commuters traveling from the Town of Smithfield using S. Church Street (Route 10) to Carrollton Blvd. (Route 17). Between 2014 and 2016, there were 31 accidents on Titus Creek Drive, (7 rear end, 7 angle, 3 side-swipe, 9 fixed object, 4 deer, and 1 non-collision), and there were 38 crashes on Reynolds Drive (8 rear end, 6 angle, 2 sideswipe, 2 non-collision, 17 fixed object, and 3 other). These crashes have resulted in 24 injuries (9 on Titus Creek Drive and 15 on Reynolds Drive). Based on the statewide crash rate for similar facilities which is 241.35 per 100 Million Vehicle Miles, crash rates were higher than average for both Titus Creek Drive (274 per 100 million Vehicle Miles) and Reynolds Drive (674 per 100 Million Vehicle Miles).

Another goal of this project is to provide corridor capacity on existing local roads connecting to Carrollton Blvd (Route 17) which includes Smith's Neck Road (Route 669) to the east and Brewer's Neck Road (Route 258) to the west of the proposed project. There are 9 approved development plans within the corridor; 2 on Benn’s Church Blvd. (Route 10), 2 on Brewer’s Neck Road (Route 258), 5 on Carrollton Blvd. (Route 17) and 1 on Smith's Neck Rd. (Route 669). Traffic data forecasts 17,350 ADT in 2041 design year for the Nike Park Road Extension are generated from the approved developments. Traffic data forecasts 52,800 ADT in 2041 for Carrollton Blvd. (Route 17).

NAO-2017-01468 – 2017-V6800 VDOT- 0669-046-682, C501, P101, R201 (Titus Creek)
Nike Park Road Extension, Isle of Wight County. May 23, 2023

Analysis of Cumulative and Secondary Impacts.

The project corridor bisects approximately 200 acres of undeveloped land in Isle of Wight County within the boundaries of the Newport Development Service District. Development Service Districts serve to focus on development and public services while preserving the remaining areas for agricultural uses. Isle of Wight County regulates development in environmentally sensitive areas through its land development ordinances, such as the Floodplain Management Ordinance, Wetlands Ordinance, and the Chesapeake Bay Preservation Area (CBPA) Ordinance.

Apart from one parcel at the proposed intersection of the Nike Park Road extension and existing Rte. 17, all parcels within the project corridor are zoned RAC for "rural agricultural conservation". While the RAC designation is used to limit future growth, current or future landowners could pursue rezoning appeals for future residential and/or commercial developments. Any future developments would be designed, reviewed, and approved based on local, state, and federal statutes in place at the time.

In the vicinity of the proposed project alignment, there are several residential developments in varying stages (under construction, under design, recently completed etc.). The proposed project could potentially contribute to future development in the currently undeveloped areas adjacent to the project alignment. However, without the proposed project, the current traffic congestion concerns in the area would continue, and would likely increase, with the additional residential developments already approved and in progress. Construction of the proposed project will enhance connectivity and access and is expected to benefit the local community.

In lieu of roadside ditches, VDOT has designed stand-alone level spreaders to provide diffuse runoff flows down the proposed embankment and on to adjacent properties. The impetus for level spreaders came from multiple meetings with regulatory agencies. At the request of the Army Corps of Engineers all proposed ditches along the length of the project were removed to reduce the footprint of the project and avoid draining the adjacent wetlands. Level spreaders were deemed an acceptable solution to meet stormwater regulation and alleviate the concerns of the Corps, and the design team moved forward with a goal of minimizing any new type of channelization around the project area that would drain the wetlands. VDOT's proposed drainage features including culverts and level spreaders will not impose any hardship on adjacent properties and their future uses.

Dean Devereaux
Environmental Specialist / Wetlands-Water Quality Permitting / Hampton Roads District
Virginia Department of Transportation
757-334-1051
Dean.Devereaux@VDOT.Virginia.gov

Re: DEQ draft EJ policy

Kochersperger, Sandra (VDOT) <Sandra.Kochersperger@vdot.virginia.gov>

Fri 4/14/2023 11:41 AM

To: Devereaux, Dean T. (VDOT) <Dean.Devereaux@VDOT.Virginia.gov>
Cc: Brobst, Karen (VDOT) <Karen.Brobst@vdot.virginia.gov>

Hi Dean -

I reviewed the draft guidance and agree that Nike Park does not fall under the need for a full EJ analysis based on the type of permit this would apply to or the EJ community guidelines.

Based on the guidance from DEQ, the project is within a Census Block Group that would not be considered an EJ community (low-income is 28% and people of color is 39% according to EJScreen). Since the VA average for people of color is 39%, the % in the Census Block Group does not exceed the state average. Low-income does not exceed 30% and therefore the guidance does not apply for definition of a low-income community either.

In addition, the permit for Nike Park does not fall into the "Permits of Concern" for water impacts since the wetland impacts are less than 10 acres and the stream impacts are less than 25,000 linear feet.

Based on the flow chart on page 5 of the guidance, we can stop at the determination that the project is not located in an EJ Community.

Please let me know if you have any questions or if you need anything additional.

Thank you!

Sandra Kochersperger, PMP
Assistant Manager / Environmental
Virginia Department of Transportation
757-218-4746
Sandra.Kochersperger@VDOT.Virginia.gov

On Thu, Apr 13, 2023 at 8:19 AM Devereaux, Dean <dean.devereaux@vdot.virginia.gov> wrote:

> Morning Sandra, Here is DEQ draft EJ. Based on a quick review, I don't see Nike Park road permit rising to the thresholds described herein___Dean.
>
>
> **Dean Devereaux**
> *Environmental Specialist / Wetlands-Water Quality Permitting / Hampton Roads District*
> Virginia Department of Transportation
> 757-334-1051
> Dean.Devereaux@VDOT.Virginia.gov
>

See Socio Comments on Page 2 for analysis of Environmental Justice per Categorical Exclusion 03-06-2019

Environmental Division
NEPA Programs
Categorical Exclusion (CE)

Project Information

Project Name:	Nike Park Road Extension	**Federal Project#:**	
Project Number:	0669-046-682, C501, P101, R201	**Project Type:**	Construction
UPC:	109314	**Charge Number:**	109314
Route Number:	669	**Route Type:**	Secondary
Project Limit--From:	REYNOLDS DR	**To:**	ROUTE 17

Additional Project Description: The proposed Nike Park Road Extension project would consist of constructing a new two-lane collector roadway for approximately one mile including the construction of a multi-use path that would run parallel to the new facility. The new roadway would extend Nike Park Road from Reynolds Drive to a new intersection location with Route 17. The project would involve intersection improvements at Reynolds Drive including turn lanes and a two-way stop control for Reynolds Drive approaches.

Purpose And Need: The purpose of the project is to improve safety on Titus Creek Drive (Route 668) and Reynolds Drive (Route 665) by providing a direct network linkage/connection from Carrollton Blvd. (Route 17) to Battery Park Road (Route 704). Purpose and Need continued on attached document.

District:	**City/County:**	**Residency:**
Hampton Roads	Isle of Wight	Franklin

Date CE level document approved by VA Division FHWA: 06/12/2017

FHWA Contact: Frost, Mack

Project in STIP: Yes **In Long Range Plan?** Yes

CE Category 23 CFR 771.117: d

Description of Category: Additional actions which meet the criteria for a CE in the CEQ regulations (40 CFR §1508.4) and paragraph (a) of this section may be designated as CEs only after Administration approval unless otherwise authorized under an executed agreement pursuant to paragraph (g) of this section. The applicant shall submit documentation which demonstrates that the specific conditions or criteria for these CEs are satisfied and that significant environmental effects will not result.

Logical Termini and Independent Utility: Yes

Next Phase of Funding Available? Yes

Comments: None.

Typical Section: Mainline typical includes two 11-ft lanes, 5-ft buffer strip, an 8-ft paved shared-use path, curb & gutter, and permanent slopes within 160-ft of right of way. Route 17 connection typical includes additional turn lanes within approximately 160-ft of right of way (140-ft is existing).

Structures: None.

SOCIO-ECONOMIC

Minority/Low Income Populations: Not Present **Disproportionate Impacts to Minority/Low Income Populations:** No

Source: Isle of Wight County Planning and Isle of Wight CountyTransportation Manager, and Census Data.

Existing or Planned Public Recreational Facilities: Not Present

Community Services: Not Present

Consistent with Local Land Use: Yes

Source: Isle of Wight County Parks & Recreation and Isle of Wight County Transportation Manager

Existing or Planned Bicycle/Pedestrian Facilities Not Present

Source: Isle of Wight Parks & Recreation and Isle of Wight Transportation Manager

Socio-Economic Comments: An environmental justice (EJ) analysis was performed for the project. The minority or low-income population of the environmental justice study area does not exceed 50 percent and there are no impacts to the EJ population. No minority or low-income populations have been identified that would be adversely impacted by the proposed project. Therefore, in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23, no further EJ analysis is required.

There are no existing or planned recreational facilities within the project limits. The project proposes to add an 8-ft wide shared use path which is consistent with Isle of Wight County's Bike and Pedestrian Master Plan.

SECTION 4(f) and SECTION 6(f)

Use of 4(f) Property: No

Source: Isle of Wight County Planning, Isle of Wight Transportation Manager, and VDOT Hampton Roads District Cultural Resources Manager

6(f) Conversion: No **Acres of Conversion:**

4(f) Comments: There are no 4(f) properties located within the proposed project limits.

6(f) Comments: There are no 6(f) properties located within the proposed project limits.

CULTURAL RESOURCES

Section 106 Effect Determination: None

Name of Historic Property: **DHR Concurrence date:** None

A Section 106 effect determination of No Historic Properties Present or Affected has been concluded pursuant to Stipulation II.A of the 2016 Federal Programmatic Agreement among FHWA, USACE, TVA, VA SHPO, and VDOT.
Stip. II.A Determination Date: 01/16/2019

MOA/PA Execution Date: None

Cultural Resource Comments: None.

Wetland/Water Resources Narrative of Nike Park Road Extension
NAO-2017-1468
Date 5-30-23

Project Description

The proposed Nike Park Road Extension project will consist of constructing a new approximately one-mile, two-lane collector roadway that will also include the construction of a multi-use path that will run parallel to the new facility. The new roadway will extend Nike Park Road from its current terminus with Reynolds Drive to a new intersection location along U.S. Route 17 (Carrollton Boulevard). The project will involve intersection improvements at the existing terminus with Reynolds Drive that consist of constructing exclusive turn-lanes for the southbound Nike Park Road and westbound Reynolds Drive approaches. Improvements for the Nike Park Road Extension intersection along U.S. Route 17 will consist of signalization, to include communications interconnect with adjacent traffic signals along the corridor that will enhance traffic progression, exclusive left and right-turn lanes for the eastbound approach of the Nike Park Road Extension, an exclusive right-turn lane for southbound U.S. Route 17, and an exclusive left-turn lane for northbound U.S. Route 17.

Topography and Land Use

Existing Nike Park Road, classified as a rural connector, begins at the intersection of Battery Park Road in Smithfield, and ends at a “T” intersection at Reynolds Drive, a two-lane road over relatively flat terrain. Land use is primarily rural residential and rural agriculture.

Water Resources

The hydrologic unit code for the project limits is 02080206– Lower James and (1) Pagan River Jones Creek sub-watershed, and (2) James River Cooper Creek sub-watershed. Surface waters within the study limits include Titus Creek and unnamed tributary to Cooper Creek. Titus Creek exists as a nontidal intermittent stream south of Reynolds Road. The drainage basin of Titus Creek within the study area is approximately 1.1 square miles and has a mean basin elevation of 18.6 feet above sea level. At 0.13 square miles, the drainage basin of the

unnamed tributary to Cooper Creek is limited to a non-tidal stream in the southeast portion of the study area.

Classification of Wetlands

Palustrine have been identified throughout the extent of the study area. While Palustrine Forested (PFO) wetlands make up a majority of the wetlands encountered, a small fringe of Palustrine Emergent wetlands (PEM) were also identified. All wetlands identified within the project limits have a hydrologic connection to waters of the U.S. No isolated wetlands were identified in the project limits.

The Palustrine Forested wetlands encountered are primarily precipitation and groundwater-driven systems underlain by Myatt Fine sandy loam soils. Myatt Soils are very deep, poorly drained, moderately slowly permeable soils on stream terraces and flats.

According to Virginia Department of Conservation and Recreation, Natural Communities of Virginia: Classification of Ecological Groups and Community Types" The dominant community type is defined as Non-Riverine Flatwoods. Most of the seasonally saturated to seasonally flooded forests in this ecological group occupy nearly flat, broad, outer Coastal Plain terraces.

Non-Riverine Flatwoods are most common on relatively flat land surfaces such as interfluves, extensive relic lake bottoms, or large alluvial terraces. The primary source of water is precipitation. They receive virtually no groundwater discharge, which distinguishes them from the depression and slope wetland classes. Dominant hydrodynamics are vertical fluctuations. Non-Riverine Flatwoods lose water by overland flow, infiltration, and percolation to subsurface layers, and evapotranspiration. They are distinguished from non-wetland flatwoods land surfaces by their poor vertical drainage due to low permeability soils or impermeable layers (e.g., hardpans), slow lateral drainage, and low hydraulic gradients.

Norfolk District Wetland Attribute Evaluation

The US Army Corps of Engineers Norfolk District Wetland Attribute Form (Form) was prepared to provide a qualitative description of the physical, chemical, and biological characteristics of the wetlands under evaluation. The Form was completed for dominant wetland community types within the evaluation area. The Non-Riverine Flatwoods on hydric soils within the study area are the dominant community type (see wetland attribute form ***Non-Riverine Flatwood PFO***). The second community type is the Coastal Plain Bottomland Forest found within the narrow Titus Creek floodplain (see wetland attribute form ***PFO wetland at Intermittent Stream***). This is a seasonally flooded forest occupies the intermittent stream valley south of Reynolds Road. Both communities represent typical early successional mixed pine flatwoods of the Virginia outer coastal plain.

US Army Corps of Engineers Norfolk District Wetland Attribute Form

Wetland Identifier: Representative Non-Riverine Flatwood PFO know as Crossing #4										**Prepared by: Dean Devereaux Date: 4-28-23**
Community Type of wetland system being evaluated (use Natural Communities of VA) ; Non-Riverine Flatwood										**Latitude/Longitude 36 56 59 / 76 32 54**
Acreage of Wetland/Acreage of Impact : Crossing #4 = 0.59 acre										**Nearest named watercourse; Titus Creek**
Landscape Position: Flat										**Adjacent land use; wooded.**
Distance to nearest roadway or development 500LF										**Wetland has been altered or manipulated; No.**
Corps Regional Supplement Delineation Completed/Reviewed: NAO-2017-1468										**Data used to complete the form (data should be attached as appropriate); field observations.**

ATTRIBUTES

A. GROUNDWATER RECHARGE/DISCHARGE: This attribute considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It relates to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

B. FLOODFLOW ALTERATION (Storage & Desychronization): This attribute considers the potential for the wetland to reduce flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It relates to the potential for the wetland to add to the stability of the wetland ecological system or the wetland buffering characteristics relative to erosion and flood prone areas.

C. FISH AND SHELLFISH HABITAT: This attribute considers the potential of the seasonal or permanent watercourses associated with the wetland to provide fish or shellfish habitat.

D. SEDIMENT/POLLUTANT RETENTION: This attribute considers the potential of the wetland in reducing or preventing degradation of water quality. It relates to the potential for the wetland to act as a trap for sediment and other pollutants in runoff water from the surrounding watershed.

E. NUTRIENT REMOVAL/RETENTION/TRANSFORMATION: This attribute considers the potential for the wetland to act as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. It relates to the potential of the wetland to prevent adverse effects of nutrients entering aquifers or surface waters such as ponds, lakes, and other watercourses.

F. PRODUCTION EXPORT (Nutrients): This attribute considers the potential of the wetland to produce food or usable products for humans or other living organisms.

G. STREAMBANK EROSION/SHORELINE STABILIZATION: This attribute considers the potential of the wetland to stabilize streambanks and shorelines against erosion.

H. WILDLIFE HABITAT: This attribute considers the potential of the wetland to provide habitat for various types of animal populations typically associated with wetlands. Consideration should be given to both resident and/or migrating species.

I. RARE/THREATENED/ENDANGERED SPECIES: This attribute considers the potential for the wetland to support rare/threatened/endangered plant and/or animal species.

US Army Corps of Engineers Norfolk District Wetland Attribute Form

Qualifiers	Attributes Check all that apply & identify which Attribute the Qualifier applies too										Comments and/or detailed observations
		A	B	C	D	E	F	G	H	I	
1. Public or private wells occur below the wetland											Community is best described as late successional, mineral soil flatwood. Mineral soil flatwoods are most common on relatively flat land surfaces such as interfluves and large alluvial terraces. The primary source of water is precipitation. They receive virtually no groundwater discharge, which distinguishes them from the depression and slope wetland classes. Dominant hydrodynamics are vertical fluctuations. Mineral soil flatwoods lose water by overland flow, infiltration, and percolation to subsurface layers, and evapotranspiration. They are distinguished from non-wetland flats land surfaces by their poor vertical drainage due to low permeability soils or impermeable layers (e.g., hardpans), slow lateral drainage, and low hydraulic gradients. A majority of the corridor is underlain by Myatt fine sandy loam. Myatt fine sandy loams are know for their high runoff potential and poor drainage class. No lateral ditches were observed. Endangered Species: potential for Northern Long Eared Bat to occur within suitable habitat found within the entire 200 acre tract of woods. No presence/absence survey, but USFWS Standing Analysis indicates that majority of the suitable habitat remains unoccupied across the WNS affected states. Question 33; a potential source of pollution within the watershed is the existing auto salvage yard up landscape from the wetlands in question.
2. Gravel/sandy soils are present in/adjacent to the wetland											
3. Fragipan/impervious soils/bedrock are present in the wetland											
4. Fine grained mineral/organic soils are present in the wetland	X	X			X	X	X	X	X	X	
5. A man-made ditch is associated with/adjacent/contiguous to the wetland	X	X			X	X	X	X	X	X	
6. A perennial/intermittent watercourse is associated with/adjacent/contiguous to the wetland	X	X	X	X	X	X	X	X	X	X	
7. A pond/lake is associated with/adjacent/contiguous to the wetland											
8. Critical habitat for state/federally listed rare/threatened/endangered plant/animal species is present in the wetland											
9. State/federally listed rare/threatened/endangered plant/animal species are present in the wetland									X	X	
10. A defined/constricted outlet Is associated with the wetland	X	X	X		X	X	X	X	X	X	
11. A defined inlet is associated with the wetland											
12. Water quality of the watercourse/pond/lake associated with the wetland meets or exceeds standards											
13. Signs of groundwater discharge are present in the wetland											
14. Signs of variable water levels are present in the wetland											
15. The size of the wetland relative to its watershed is large	X	X	X		X	X	X	X	X	X	
16. Ponded/open water is within the wetland											
17. The wetland exists in a flat area with flood storage potential											
18. The wetland watershed contains a high percentage of impervious surfaces											
19. Flood storage is small/nonexistent in the watershed	X	X	X	X	X	X					
20. The wetland receives/retains sheetflow from the surrounding uplands	X	X	X	X	X	X					
21. The wetland receives/detains excessive flood water from watercourses within the watershed											
22. The watercourse associated with the wetland is sinuous or diffuse											
23. The wetland is located in/along/at the head of a watercourse	X	X	X	X	X	X					
24. The wetland contains a high density of vegetation					X	X	X				
25. Forest is the dominant cover type in the watershed					X	X	X				
26. Woody debris, undercut/overhanging banks and/or vegetation are present within the wetland or the watercourse associated with the wetland											
27. Width of watercourse (bank to bank) associated with the wetland is more than 50 feet											
28. Vegetation along the banks provides shade for the watercourse associated with the wetland	X			X							
29. Submerged vegetation/gravel beds/other habitat that appears to be suitable for spawning is present in the watercourse associated with the wetland											
30. Barrier(s) to anadromous fish (such as dams, waterfalls, road crossings) are absent from the watercourse associated with the wetland											
31. Evidence of fish/shellfish is present within the watercourse associated with the wetland and/or within the wetland	X			X							
32. Sources of excess sediments are present in the watershed											
33. Sources of pollutants are present in the watershed	X	X		X	X						
34. Flow velocities visibly decrease within the wetland											
35. Erosion is visible within the watercourse associated with the wetland and/or within the wetland											
36. Flows within the wetland are diffuse	X	X		X	X	X	X		X	X	

US Army Corps of Engineers Norfolk District Wetland Attribute Form

		A	B	C	D	E	F	G	H	I
37. Vegetation and water within the wetland is interspersed										
38. Evidence of sediment accumulation is present within the wetland										
39. Water intakes are located within 1 mile upstream or downstream of the wetland										
40. Sources of excess nutrients are present in the watershed										
41. The wetland soils are saturated for most of the season										
42. Deep organic sediment deposits are present in the wetland										
43. Emergent vegetation is present in the wetland										
44. Dense woody vegetation is present in the wetland	X			X		X	X		X	X
45. More than one of wetland vegetation is present				X		X	X		X	X
46. Flows within the wetland have a low velocity	X	X	X	X	X	X				
47. Wildlife food sources exist within the wetland	X			X					X	X
48. Economically/commercially used products are within the wetland	X				X	X			X	X
49. Evidence of wildlife, to include avian and amphibian, uses are found within the wetland	X			X					X	X
50. Evidence of macrobenthic use is found within the watercourse associated with the wetland										
51. More than one vegetative layer is present within the wetland	X			X		X	X		X	X
52. A distinct shoreline/streambank exists between the wetland and the watercourse associated with the wetland and/or the upland										
53. The streambank/shoreline contains dense roots										
54. The wetland is greater than 10 feet in width	X	X	X	X	X	X	X		X	X
55. Flows within the wetland have a high velocity										
56. Flows within the wetland are channelized										
57. Open water fetch is present										
58. Dense woody vegetation borders the watercourse/lake/pond associated with the wetland	X			X		X	X		X	X
59. Dense emergent vegetation borders the watercourse/lake/pond associated with the wetland										
60. Wetland is fragmented by development										
61. Buffer surrounding wetland is contiguous and undeveloped	X	X		X	X					
62. Wetland is part of a wildlife corridor										
63. Wetland includes deep/shallow marsh or wooded swamp										
64. Logs/snags are present in the watercourse associated with the wetland										
65. Other										

US Army Corps of Engineers Norfolk District Wetland Attribute Form

Wetland Identifier; PFO_ Coastal Plain Bottomland Forest near Data point DP-9.										**Prepared by: DTD Date: 5-11-23**
Community Type of wetland system being evaluated (use Natural Communities of VA) Riverine flatwoods.										**Latitude/Longitude 36 56 55 / 76 32 46**
Acreage of Wetland/Acreage of Impact ; 0.2 acre.										**Nearest named watercourse; Titus Creek.**
Landscape position of wetland ; Intermittent Stream Valley.										**Adjacent land use; Silviculture.**
Distance to nearest roadway or development; 750-feet.										**Wetland has been altered or manipulated; No.**
Corps Regional Supplement Delineation Completed/Reviewed; NAO-2017-1468										**Data used to complete the form (data should be attached as appropriate); field observations.**

ATTRIBUTES

A. GROUNDWATER RECHARGE/DISCHARGE: This attribute considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It relates to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

B. FLOODFLOW ALTERATION (Storage & Desychronization): This attribute considers the potential for the wetland to reduce flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It relates to the potential for the wetland to add to the stability of the wetland ecological system or the wetland buffering characteristics relative to erosion and flood prone areas.

C. FISH AND SHELLFISH HABITAT: This attribute considers the potential of the seasonal or permanent watercourses associated with the wetland to provide fish or shellfish habitat.

D. SEDIMENT/POLLUTANT RETENTION: This attribute considers the potential of the wetland in reducing or preventing degradation of water quality. It relates to the potential for the wetland to act as a trap for sediment and other pollutants in runoff water from the surrounding watershed.

E. NUTRIENT REMOVAL/RETENTION/TRANSFORMATION: This attribute considers the potential for the wetland to act as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. It relates to the potential of the wetland to prevent adverse effects of nutrients entering aquifers or surface waters such as ponds, lakes, and other watercourses.

F. PRODUCTION EXPORT (Nutrients): This attribute considers the potential of the wetland to produce food or usable products for humans or other living organisms.

G. STREAMBANK EROSION/SHORELINE STABILIZATION: This attribute considers the potential of the wetland to stabilize streambanks and shorelines against erosion.

H. WILDLIFE HABITAT: This attribute considers the potential of the wetland to provide habitat for various types of animal populations typically associated with wetlands. Consideration should be given to both resident and/or migrating species.

I. RARE/THREATENED/ENDANGERED SPECIES: This attribute considers the potential for the wetland to support rare/threatened/endangered plant and/or animal species.

US Army Corps of Engineers Norfolk District Wetland Attribute Form

Qualifiers	Attributes Check all that apply & identify which Attribute the Qualifier applies too										Comments and/or detailed observations
		A	B	C	D	E	F	G	H	I	
1. Public or private wells occur below the wetland											Low Gradient stream valley with intermittment stream showing some meanders, but development of bed and banks was not observed.
2. Gravel/sandy soils are present in/adjacent to the wetland											
3. Fragipan/impervious soils/bedrock are present in the wetland											
4. Fine grained mineral/organic soils are present in the wetland	X	X			X	X	X		X	X	
5. A man-made ditch is associated with/adjacent/contiguous to the wetland											
6. A perennial/intermittent watercourse is associated with/adjacent/contiguous to the wetland	X	X	X	X	X	X	X	X	X	X	
7. A pond/lake is associated with/adjacent/contiguous to the wetland											
8. Critical habitat for state/federally listed rare/threatened/endangered plant/animal species is present in the wetland											
9. State/federally listed rare/threatened/endangered plant/animal species are present in the wetland	X								X	X	
10. A defined/constricted outlet Is associated with the wetland	X	X	X	X	X	X	X	X	X	X	
11. A defined inlet is associated with the wetland	X	X	X	X	X	X	X	X	X	X	
12. Water quality of the watercourse/pond/lake associated with the wetland meets or exceeds standards											
13. Signs of groundwater discharge are present in the wetland											
14. Signs of variable water levels are present in the wetland											
15. The size of the wetland relative to its watershed is large	X	X	X	X	X	X	X	X	X	X	
16. Ponded/open water is within the wetland											
17. The wetland exists in a flat area with flood storage potential	X	X	X	X	X	X	X	X	X	X	
18. The wetland watershed contains a high percentage of impervious surfaces				X							
19. Flood storage is small/nonexistent in the watershed	X	X		X	X	X	X				
20. The wetland receives/retains sheetflow from the surrounding uplands	X	X		X	X	X					
21. The wetland receives/detains excessive flood water from watercourses within the watershed											
22. The watercourse associated with the wetland is sinuous or diffuse											
23. The wetland is located in/along/at the head of a watercourse	X	X	X		X	X					
24. The wetland contains a high density of vegetation											
25. Forest is the dominant cover type in the watershed					X	X	X				
26. Woody debris, undercut/overhanging banks and/or vegetation are present within the wetland or the watercourse associated with the wetland	X		X		X	X	X				
27. Width of watercourse (bank to bank) associated with the wetland is more than 50 feet											
28. Vegetation along the banks provides shade for the watercourse associated with the wetland	X			X						X	
29. Submerged vegetation/gravel beds/other habitat that appears to be suitable for spawning is present in the watercourse associated with the wetland											
30. Barrier(s) to anadromous fish (such as dams, waterfalls, road crossings) are absent from the watercourse associated with the wetland											
31. Evidence of fish/shellfish is present within the watercourse associated with the wetland and/or within the wetland											
32. Sources of excess sediments are present in the watershed	X	X		X	X						
33. Sources of pollutants are present in the watershed	X	X		X	X						
34. Flow velocities visibly decrease within the wetland	X	X		X	X						
35. Erosion is visible within the watercourse associated with the wetland and/or within the wetland											
36. Flows within the wetland are diffuse	X	X		X	X	X	X		X		

US Army Corps of Engineers Norfolk District Wetland Attribute Form

		A	B	C	D	E	F	G	H	I
37. Vegetation and water within the wetland is interspersed										
38. Evidence of sediment accumulation is present within the wetland										
39. Water intakes are located within 1 mile upstream or downstream of the wetland										
40. Sources of excess nutrients are present in the watershed										
41. The wetland soils are saturated for most of the season	X	X		X	X	X	X			
42. Deep organic sediment deposits are present in the wetland										
43. Emergent vegetation is present in the wetland										
44. Dense woody vegetation is present in the wetland	X			X		X	X		X	X
45. More than one of wetland vegetation is present										
46. Flows within the wetland have a low velocity	X	X	X	X	X	X	X			
47. Wildlife food sources exist within the wetland	X			X	X	X	X		X	
48. Economically/commercially used products are within the wetland	X				X	X			X	X
49. Evidence of wildlife, to include avian and amphibian, uses are found within the wetland	X			X					X	X
50. Evidence of macrobenthic use is found within the watercourse associated with the wetland										
51. More than one vegetative layer is present within the wetland										
52. A distinct shoreline/streambank exists between the wetland and the watercourse associated with the wetland and/or the upland										
53. The streambank/shoreline contains dense roots										
54. The wetland is greater than 10 feet in width	X	X	X	X					X	X
55. Flows within the wetland have a high velocity										
56. Flows within the wetland are channelized										
57. Open water fetch is present										
58. Dense woody vegetation borders the watercourse/lake/pond associated with the wetland	X			X		X	X		X	X
59. Dense emergent vegetation borders the watercourse/lake/pond associated with the wetland										
60. Wetland is fragmented by development										
61. Buffer surrounding wetland is contiguous and undeveloped	X	X		X	X					
62. Wetland is part of a wildlife corridor										
63. Wetland includes deep/shallow marsh or wooded swamp										
64. Logs/snags are present in the watercourse associated with the wetland										
65. Other										