

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): August 26, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: NAO-2016-0712

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: VA County/parish/borough: City: Chesapeake
Center coordinates of site (lat/long in degree decimal format): Lat. 36.74417° N, Long. -76.16985° W.

Universal Transverse Mercator:

Name of nearest waterbody: Stumpy Lake and North Landing River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Albemarle and Chesapeake Canal-Intracoastal Waterway and North Landing River

Name of watershed or Hydrologic Unit Code (HUC): 03010205

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: various

Field Determination. Date(s): February 23, 2016, April 21, 2016, July 5, 2016

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: 11,900 linear feet: width (ft) and/or acres.

Wetlands: 30 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):n/a.

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: ..

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 2,768,020 acres
Drainage area: 3,750 square miles
Average annual rainfall: 45 inches
Average annual snowfall: 8 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
- Tributary flows through 2 tributaries before entering TNW.

Project waters are 1-2 river miles from TNW.
Project waters are 1 (or less) river miles from RPW.
Project waters are 1-2 aerial (straight) miles from TNW.
Project waters are 1 (or less) aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: Both the Albemarle and Chesapeake Canal (A&C Canal) and North Landing River cross the Virginia/North Carolina state boundary. Project wetlands/waters are tributaries to the A&C Canal and North Landing River.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW⁵: The non-tidal forested wetlands (30 acres) on the property abut a large area of wetlands to the north. These wetlands are part of the larger overall property (Tax map parcel 0390000000380) which were delineated as wetlands and confirmed by the Corps in January, 2007 (05-R1451, NAO-2006-5097). This large, contiguous wetland abuts a man-altered perennial tributary which is the western tributary of North Landing River. Documentation of the perennial nature of this tributary is in file NAO-2006-5097, an updated approved JD of the northern section of parcel 0390000000380 dated August 27, 2015. This tributary of the North Landing River flows to Stumpy Lake; a man-made lake which was created by damming the tributary. The spillway at Stumpy Lake flows into "Gum Swamp", which flows to the North Landing River, a TNW. The North Landing River becomes part of the Intracoastal Waterway (Albemarle and Chesapeake Canl) and flows into North Carolina, and becomes the Currituck Sound in North Carolina.

This site contains approximately ten (10) man-made tributaries, with an estimated total of 11. All tributaries were excavated for farming prior to the 1950's or from wetlands as part of a drainage project ("Tulloch Ditching") in the late 1990's. The locations of the ditches in the farm fields were modified over the years. In particular, D2, the main tributary, appears to have been widened to serve as the main collection point for the ditching that occurred in the late 1990's. The ten tributaries, which were determined to be jurisdictional and are shown on the map titled, "Waters of the US Data Collection Points, Centerville Farm Field Site, Chesapeake, Virginia", dated July 6, 2016 by Roth Environmental, LLC:

- Tributary D1- East- West in northern area- flows west
- Tributary D2- Main Canal- flows south (includes a small pond at the south end)
- Tributary D3- Eastern property line- flow direct unclear
- Tributary D4- Northern area- flows south
- Tributary D5- Northern area-flows south
- Tributary D6- Main northern tributary- flows east (includes a small pond where it intersects with D4, D5, and D7)
- Tributary D7- Northern area- flows south
- Tributary D9- Main East-West tributary- flows east
- Tributary D10- Western property line- southern portion flows north to D9; northern flow direction unclear
- Tributary D11- Northern area- flows east

All of these tributaries are larger, "primary" or "perimeter" ditches which have several indicators of ordinary high water mark; these indicators are documented in the report by Roth Environmental, Inc. dated June 16, 2016, with revisions of July 6, 2016. There are several smaller swales in the northern non-tidal wetland area, but these were considered part of the overall wetlands. There are also some small east-west swales and lateral ditches within the farm fields which were considered part of the upland farm fields (prior converted cropland). The tributaries, in general, all flow south towards D2, which flows through a culvert under Elbow Road to another tributary to the south. This tributary continues into the large, contiguous wetlands along the Albemarle and Chesapeake Cana; part of the Intracoastal Waterway, and a TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural

Artificial (man-made). Explain: All tributaries within the review area were excavated for farming prior to the 1950's or from wetlands as part of a drainage project ("Tulloch Ditching") in the late 1990's.

Manipulated (man-altered). Explain: The perennial tributary to which the on site forested wetlands abut is located outside the review area, approximately 4,000 feet to the north. This tributary is the western tributary to the North Landing River, and is depicted as a natural waterway on historical quad sheets dating to 1907. The western tributary to the North Landing River abuts a large, contiguous forested wetland system that extends from the tributary, south to the wetlands in the review area. This perennial tributary flows into Stumpy Lake, which was impounded by an earthen dam built in 1910 in a segment of the North Landing River, to create the Norfolk County Reservoir (now known as Stumpy Lake). Historic quad sheets from the early 1900's depict a natural, perennial waterway (a tributary to North Landing River) where Stumpy Lake is now located. Current aerial photos and past site visits in 2015 indicate the upstream portions of this tributary to the North Landing River have been excavated/dredged and the lower portions may have also been man-altered.

Tributary properties with respect to top of bank (estimate):

Average width: 4-8 feet

Average depth: 1-4 feet

Average side slopes: **2:1.**

Primary tributary substrate composition (check all that apply):

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Silts | <input checked="" type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input checked="" type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> Other. Explain: . | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Banks are generally stable and vegetated.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Presence of run/riffle/pool complexes. Explain: Topography is relatively flat, however, flow direction was observed.
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): 0-1 %

(c) **Flow:**

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **20 (or greater)**

Describe flow regime: The ten tributaries on the site are RPWs and flow at least seasonally. All had water present during a site visit on April 21, 2016. Most also had water present at another site visit on July 5, 2016. The western tributary of the North Landing River, which abuts forested wetlands which are connected to the wetlands in the review area, has perennial flow. The western tributary of the North Landing River is shown as a "blue line" waterway on current and historical quad sheets, and generally has a slow flow which would increase somewhat with rainfall events. Much of this channel has been maintained, however, there is some limited structure (such as large woody debris, debris dams, sediment dams and leaf packs) further downstream to slow flow. In addition, the natural gradient of the waterbody slows water flow, providing time for many pollutants (sediments and nutrients bound to the sediments) to drop out of the water column before being carried downstream. .

Other information on duration and volume: .

Surface flow is: **Confined**. Characteristics: The ten tributaries contains flow within their banks. An ordinary high water mark is present in these channels and varies by location, but includes bed and bank, destruction of terrestrial vegetation, vegetation bent due to flow or absent, presence of litter and debris, and blackened leaves and water staining along the ditch bank/bottom indicating prolonged water presence in channel bottoms. Additional information is documented in the report by Roth Environmental, as updated July 6, 2016.

Subsurface flow: **Yes**. Explain findings: Groundwater is present in the wetlands immediately adjacent to many of the tributaries. The wetlands on the project site are likely to slowly release groundwater into the tributaries which is important for maintaining base flows to the tributary itself and downstream waters.

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks

OHWM⁶ (check all indicators that apply):

clear, natural line impressed on the bank

changes in the character of soil

shelving

vegetation matted down, bent, or absent

leaf litter disturbed or washed away

sediment deposition

water staining

other (list): water present

Discontinuous OHWM.⁷ Explain: .

the presence of litter and debris

destruction of terrestrial vegetation

the presence of wrack line

sediment sorting

scour

multiple observed or predicted flow events

abrupt change in plant community

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by:

oil or scum line along shore objects

fine shell or debris deposits (foreshore)

physical markings/characteristics

tidal gauges

other (list):

Mean High Water Mark indicated by:

survey to available datum;

physical markings;

vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Water in the ten tributaries is clear enough to notice fallen leaves beneath the surface, but becomes turbid if disturbed. The watershed at the upper reaches of the perennial tributary (western tributary of the North Landing River) is developed as residential, and has been converted to a stormwater management canal system for the residences. The lower reaches of the perennial tributary are primarily undeveloped adjacent forested wetlands.

Identify specific pollutants, if known: While there are no documented pollutants, the residential developments and farm fields likely contribute pollutants from the dirt roads, fertilizers and pesticides and lawns which drain into the tributaries. The tributary and adjacent wetlands are likely to remove some of these pollutants from the upstream watershed.

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

Riparian corridor. Characteristics (type, average width): The ten tributaries vary in their riparian corridors. The tributaries at the northern portion of the site generally contains a forested wetland or upland buffer on both sides. The tributaries along the east and west property lines contain a mix of farm fields and forested areas. Two tributaries run mainly through farm fields. The width varies from a narrow fridge to extensive corridors in forested wetlands.

Wetland fringe. Characteristics:

Habitat for:

Federally Listed species. Explain findings: A report from the US Fish and Wildlife Service's IPaC (Information for Planning and Conservation) website dated July 26, 2016, indicates that the Northern long-eared Bat (*Myotis septentrionalis*), a species listed as Threatened under the Endangered Species Act (ESA), should be considered as part of an effect analysis for this project location. The species is not documented to occur on the site, but the channel could contain a source of water for this threatened bat.

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings: The same IPaC report noted above, indicates the potential prescence of several species of migratory birds, which could use the tributary as a source of water.

Aquatic/wildlife diversity. Explain findings: While aquatic/wildlife species were not directly observed using the tributaries, the wetlands and ditches provide suitable habitat for a variety of species common to the area. In addition, the wetland and ditches are structurally different from the surrounding uplands and clearly contribute to the overall habitat diversity of the site. Deer are likely utilize the wetlands for food and bedding down and the tributaries as a water source. Beaver activity has been documented nearby in the western tributary to the North Landing River.

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

Riparian buffer. Characteristics (type, average width): .

Vegetation type/percent cover. Explain: .

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N) Size (in acres) Directly abuts? (Y/N) Size (in acres)

Summarize overall biological, chemical and physical functions being performed: See Section IIIC narrative attached in the addendum.

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: The western tributary to the North Landing River is depicted on historical quad sheets as far back as 1902, and newer topographic maps depict the waterway as perennial (“blue line”). This tributary is visible on aerial photos, and the upstream, excavated portion along the project site is clearly visible as a waterway. A review of aerial photos from 1994-2014 on Google Earth, depict the presence of water in the canal over different years and time of year. Flow was present in this tributary during two site visits conducted for another project, NAO-2006-5097, on December 19, 2014 and March 2,

2015. Perennial flow is present within this western tributary to the North Landing River upstream of the project site and continuing downstream to the confluence with Stumpy Lake, into Gum Swamp, and the North Landing River (a traditionally navigable water (TNW)). The 30 acres of forested wetlands abut this tributary via abutting wetlands outside the review area. In addition, based on site visits and off-site information, it is likely that D2, the largest tributary in the review area, is perennial, as all observations indicate the presence of water, even a summer site visit.

- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: All tributaries were visited by the Corps PM and consultant on April 21, 2016 and all had water present, as documented in the report by Roth Environmental. Rainfall for the 3 month antecedent time frame of February to April, 2016 was within the 30th- 70th percentile at the Norfolk Airport WETS station. Previous to the April 21, 2016 site visit, no precipitation was recorded at Norfolk Airport for 9 days (since April 12, 2016). This indicates that even during periods of lower than normal precipitation, water is present in the tributaries, indicating at least seasonal flow. In addition, ordinary high water marks were documented in all the tributaries. All tributaries have several indicators of ordinary high water mark (bed and bank, destruction of terrestrial vegetation, presence of litter and debris, vegetation absent, water staining, and/or change in plant community); these indicators are documented in the report by Roth Environmental, Inc. dated June 16, 2016, with revisions of July 6, 2016. During a second site visit on July 5, 2016, all tributaries were observed to determine flow direction, and all had flow present. The two small ponds - one along D2 (southern pond) and the other along D6 (northern pond) had water present and ordinary high water marks (bed and bank, destruction of terrestrial vegetation, vegetation absent, water staining and change in plant community).

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: **11,900** linear feet **4-10** width (ft).

Other non-wetland waters: **0.1** acres.

Identify type(s) of waters: **Two small ponds (northern and southern) which are located within tributaries (southern pond within D2 and northern pond mostly within D6).**

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **The 30 acres of forested wetlands within the review area are contiguous to, and abut each other, other forested wetlands outside the review area, and the western tributary to the North Landing River. The information examined shows the majority of the review area and undeveloped forested wetlands to the north contain hydric soils (mapped by NRCS as Acredale and Gertie). The National Wetland Inventory (NWI) maps depict extensive PFO and PEM (palustrine forested and emergent) wetlands surrounding the property on all sides (separated by Elbow Road on the south). The current project limits do not extend north to the western tributary of the North Landing River and this area was not officially delineated as part of this review (this tributary is located approximately 4,000 feet to the north of the review area. However, information examined and previous wetland delineations indicate that wetlands are present in a continuous connection from the tributary to the 30 acres of forested wetlands within the review area. Much of parcel 039000000380 was delineated as wetlands per the 1987 Corps of Engineers Wetland Delineation Manual in a previous jurisdictional determination confirmed by the Corps in 2007. This delineation extends towards the western tributary of the North Landing River, up to areas directly abutting the western tributary of the North Landing River, which the NWI maps as PFO1C and PFO1Eh. Aerial photos of the areas along the western tributary depict areas with surface saturation, similar to those observed further upstream as part of another delineation on parcel 039000000380. Aerial photos and a review of LiDAR do not depict any berms or man-made barriers between the abutting forested wetlands and the western tributary to the North Landing River. The 30 acres of wetlands within the review area also abut the main primary north-south tributary (D2) and other RPW tributaries which were dug from wetlands as part of Tulloch ditching work in the late 1990's to early 2000's. These tributaries primarily flow south to the Albemarle and Chesapeake Canal (TNW) and the main tributary (D2) typically flows year-round.**

⁸See Footnote # 3.

- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: The 30 acres of forested wetlands within the review area also abut several of the tributaries located in the northern area of the site. Tributaries D1, D2, D3, D4, D5, D6, and D7 all abut the wetlands. These tributaries all connect with D2 which flows to the south, under a culvert beneath Elbow Road, through another tributary and wetlands and connects to the Albemarle and Chesapeake Canal, a TNW. These tributaries are RPWs and flow seasonally as noted above.

Provide acreage estimates for jurisdictional wetlands in the review area: **30** acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: _____ acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: _____ acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from “waters of the U.S.,” or
- Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain: _____.
- Other factors. Explain: _____.

Identify water body and summarize rationale supporting determination: _____.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: _____ linear feet _____ width (ft).
- Other non-wetland waters: _____ acres.
Identify type(s) of waters: _____.
- Wetlands: _____ acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: _____.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
 Lakes/ponds: acres.
 Other non-wetland waters: acres. List type of aquatic resource: .
 Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
 Lakes/ponds: acres.
 Other non-wetland waters: acres. List type of aquatic resource: .
 Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "Wetland Delineation, Centerville Farm Field Site, Chesapeake, Virginia", revised July 6, 2016 by Roth Environmental, LLC.
 Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 Office concurs with data sheets/delineation report.
 Office does not concur with data sheets/delineation report.
 Data sheets prepared by the Corps: .
 Corps navigable waters' study: A&C Canal.
 U.S. Geological Survey Hydrologic Atlas: .
 USGS NHD data.
 USGS 8 and 12 digit HUC maps.
 U.S. Geological Survey map(s). Cite scale & quad name: 1902, 1907 Norfolk Topographic Quadrangle maps; 1918, 1919 Cape Henry SE maps; 1948, 1965, 1994 Kempsville maps.
 USDA Natural Resources Conservation Service Soil Survey. Citation: SSURGO soils on CorpsMaps, consultant review of NRCS online maps.
 National wetlands inventory map(s). Cite name: US Fish and Wildlife Service NWI map.
 State/Local wetland inventory map(s): .
 FEMA/FIRM maps: Review area is not mapped within a FEMA Flood Hazard.
 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
 Photographs: Aerial (Name & Date): .
or Other (Name & Date): .
 Previous determination(s). File no. and date of response letter: NAO-2006-5097.
 Applicable/supporting case law: Newdunn, SWANCC and Rapanos.
 Applicable/supporting scientific literature: .
 Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: See "Addendum to Approved Jurisdictional Determination Form for Tri Cities (NAO-2016-0712)".