

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): June 3, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District, SCDOT US 21 & SC51 Roadway Project, SAC 2015-00812-DS

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: York County City: Fort Mill

Center coordinates of site (lat/long in degree decimal format): Lat.35.070582 ° **N**, Long 80.935561 ° **W**.

Universal Transverse Mercator: NAD 83

Name of nearest waterbody: Sugar Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Catawba River

Name of watershed or Hydrologic Unit Code (HUC): Sugar Creek Watershed (03050103-01)

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: June 3, 2016

Field Determination. Date(s): November 17, 2015

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 no** "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: linear feet width (ft) and acres.

Wetlands: acres.

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

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³ [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]

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

Explain: **Wetland C is a 0.044 acre wetland feature that has developed in a depressional area adjacent to Flint Hill Road and against fill placed for a roadway/driveway onto private property. Wetland C has developed due to**

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.

stormwater being directed from the roadway ditch along Flint Hill Road into the area behind the roadway fill for the roadway/drive. Since there is no culvert in the roadway/driveway fill, the stormwater is being held in this depressional area into and during the growing season. This has resulted in the formation of Wetland C. Wetland C has standing water, hydric soils and is dominated by cattail (*Typha* spp.). During the field view on November 17, 2015, the Corps confirmed these conditions and could not see any evidence of overland flow from Wetland C or any other hydrologic connections from Wetland C to waters of the U.S. There are no wetlands adjacent to Wetland C and Wetland C has no connection to downstream waters (TNW)

Based upon field view, Wetland C is not connected to other waters of the U.S. through ditches, swales, or other form of overland conveyance. This wetland will not likely provide a use by interstate or foreign travelers for recreational purposes. This wetland will not provide fish or shellfish that could be taken or sold in interstate commerce. This wetland is not used for industrial purposes by industries in interstate commerce. This office has determined this wetland is isolated from waters of the U.S. and is not within jurisdiction of the Clean Water Act.

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 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: acres

Drainage area: acres

Average annual rainfall: inches

Average annual snowfall: inches

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

(ii) **Physical Characteristics:**

(a) Relationship with TNW:

- Tributary flows directly into TNW.
 Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .

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

- Tributary is:** Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: .

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

Average width: feet,
Average depth: Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

- Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover:
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:
Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

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 the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

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

- High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;

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.

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.

- | | |
|--|--|
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) Chemical Characteristics:

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

Explain: .

Identify specific pollutants, if known:

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings: .
 - Fish/spawn areas. Explain findings: .
 - Other environmentally-sensitive species. Explain findings: .
 - Aquatic/wildlife diversity. Explain findings: .

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: **Pick List**. 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: N/A.

(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:

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:
4. **Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:**

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:
- 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:
Provide estimates for jurisdictional waters in the review area (check all that apply):
 - Tributary waters: feet width (ft).
 - Other non-wetland waters: acres.
 Identify type(s) of waters .

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:
 - 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:

Provide acreage estimates for jurisdictional wetlands in the review area: 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.,”
- 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.

⁸See Footnote # 3.

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

¹⁰Prior 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.

- 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: .
- Other:

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: Wetland C, 0.04 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: STV-Ralph Whitehead.
- 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.

Although the Corps may not agree with all the information provided by the agent in the data forms describing delineated wetlands, the Corps agrees with the conclusion and boundaries established from site information documented.

- Data sheets prepared by the Corps: .
- Corps navigable waters' study: Corps 1977 Navigability Study.
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 03050103-01 (Sugar Creek)
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, Fort Mill, South, South Carolina.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Page 17 York County Soil Survey: Enon, Elbert' and Iredell soil series.
- National wetlands inventory map(s). Cite name: U12, U21, U42, and U43.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)

- Photographs: Aerial (Name & Date):(1999) 11209:20
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter:.
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify):Site View on November 17, 2015..

B. ADDITIONAL COMMENTS TO SUPPORT JD: Wetland C is a 0.044 acre wetland feature that has developed in a depressional area adjacent to Flint Hill Road and against fill placed for a roadway/driveway onto private property. Wetland C has developed due to stormwater being directed from the roadway ditch along Flint Hill Road into the area behind the roadway fill for the roadway/drive. Since there is no culvert in the roadway/driveway fill, the stormwater is being held in this depressional area into and during the growing season. This has resulted in the formation of Wetland C. Wetland C has standing water, hydric soils and is dominated by cattail (*Typha* spp.). During the field view on November 17, 2015, the Corps confirmed these conditions and could not see any evidence of overland flow from Wetland C or any other hydrologic connections from Wetland C to waters of the U.S. There are no wetlands adjacent to Wetland C and Wetland C has no connection to downstream waters (TNW)

Based upon field view, Wetland C is not connected to other waters of the U.S. through ditches, swales, or other form of overland conveyance. This wetland will not likely provide a use by interstate or foreign travelers for recreational purposes. This wetland will not provide fish or shellfish that could be taken or sold in interstate commerce. This wetland is not used for industrial purposes by industries in interstate commerce. This office has determined this wetland is isolated from waters of the U.S. and is not within jurisdiction of the Clean Water Act.

The features documented on this form include wetlands or other waters that are not jurisdictional, specifically Wetland C. Wetland C exhibits no apparent connection to Waters of the U.S., including no physical, chemical, or biological connections, and no apparent shallow subsurface flow connections to other waters. On the basis of this information, this office has determined that this feature as documented on this form is isolated and is not subject to jurisdiction under the Clean Water Act.

Photo 6 SCDOT US 21 & SC-51, York Co
Wetland C Photo taken 11/17/15 facing north
of drainage ditch along Flint Hill Rd as it
enters Wetland C. 2015-00812-DS



Photo 7 SCDOT US 21 & SC-51, York Co
Wetland C Photo taken 11/17/15 facing east
into Wetland C. Wetland boundary just
beyond fencing. 2015-00812-DS



**Photo 8 SCDOT US 21 & SC-51, York Co
Wetland C Photo taken 11/17/15 facing south
east of Wetland C. Wetland boundary at fill
for road on right (no culvert). 2015-00812-DS**



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U.S. Army Corps of Engineers

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B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District, SCDOT US 21 & SC51 Roadway Project, SAC 2015-00812-DS

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: York County City: Fort Mill

Center coordinates of site (lat/long in degree decimal format): Lat.35.070582 ° **N**, Long 80.935561 ° **W**.

Universal Transverse Mercator: NAD 83

Name of nearest waterbody: Sugar Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Catawba River

Name of watershed or Hydrologic Unit Code (HUC): Sugar Creek Watershed (03050103-01)

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: June 3, 2016

Field Determination. Date(s): November 17, 2015

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: Tributary A: 392 linear feet 2-4 width (ft) and . acres.

Wetlands: Wetland A: 0.11 acres, Wetland B: 0.001 acres. Wetland B abuts Tributary A as the wetlands continue outside of the project limits and Wetland A is adjacent to Tributary A.

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

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³ [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]

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: Sugar Creek Watershed (03050103-01): 29,229 **acres**

Drainage area: 100 **acres**

Average annual rainfall: Based on York Co Soil Survey 46.7 inches

Average annual snowfall: Based on York Co Soil Survey 2.6 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **2** tributaries before entering TNW.

Project waters are **10-15** river miles from TNW.

Project waters are **1 (or less)** river miles from RPW.

Project waters are **5-10** 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: N/A .

Identify flow route to TNW⁵: Tributary to Sugar Creek (Tributary A) flow to Sugar Creek which flows to Catawba River (TNW)

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

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.

Tributary stream order, if known: Tributary A is a first order stream.

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

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: Some portions of Tributary A that are adjacent to SC-51 roadway show some evidence of being (straightened) man altered at the inlet/outlet of the existing SC-51 roadway culvert.

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

Average width: Stream A: 2-4 feet,

Average depth: Stream A: <1foot

Average side slopes: **3:1**.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover:
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Tributary A appear to be fairly stable.

Presence of run/riffle/pool complexes. Explain: None observed within project limits.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): < 1.0%

(c) Flow:

Tributary provides for: **Perennial flow for Stream A**

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

Describe flow regime: Although Tributary A appears as a dashed blue line on the USGS quadrangle map, the field view determined that Tributary A has perennial flow. This determination is based on observed established bed and banks, ordinary high water mark, flow and numerous indicators of flow. Based on these observations, Tributary A was determined by the Corps to have a perennial flow regime.

Other information on duration and volume: .

Surface flow is: **Discrete and confined**. Characteristics: During normal conditions, flow in Tributary A is confined within the established bed and banks.

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

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 the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

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

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

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.

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

Explain: Water observed during field view was fairly clear with no observed pollutants, sheens or excessive sediments were noted.

Identify specific pollutants, if known:

Due to location of these waters adjacent to a State roadway (SC-51) and Flint Hill Road, it is anticipated that there could be some non-point sources of pollutants that could be washed overland from roadways and parking areas into these waters. This would include fuels, oils, and other pollutants deposited on the roadways from cars and trucks. In additions since there are stormwater collection/outfall structures and other commercial/residential development in and around this project, these waters could also receive waters that have increased sediments from eroded areas in the surrounding area during storm events.

SCDHEC website includes the following information for Sugar Creek - There are four SCDHEC monitoring sites along Sugar Creek. At the furthest upstream site (CW-247), aquatic life uses are fully supported. Recreational uses are not supported at this site due to fecal coliform excursions. Compounding this is a significant increasing trend in fecal coliform bacteria. Moving downstream to CW-246, aquatic life uses are partially supported based on macroinvertebrate community data. Aquatic life and recreational uses are fully supported at CW-013; however, there is a significant increasing trend in total nitrogen concentration. Significant decreasing trends in turbidity and fecal coliform bacteria suggest improving conditions for these parameters. At the furthest downstream site (CW-036), aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand and total nitrogen concentration. There is a significant increasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform excursions.

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

Riparian corridor. Characteristics (type, average width): Generally Tributary A has a forested riparian corridor (including Wetland B), although it has been somewhat impacted by adjacent residential/commercial development and utility right-of-ways, in some locations in and around the project limits. In some areas this riparian corridor is not very wide or may have had most of the trees removed.

Wetland fringe. Characteristics: Tributary A has a small area of forested wetlands (Wetlands B) abutting the stream on the south side of SC-51.

Habitat for:

Federally Listed species. Explain findings: .

Fish/spawn areas. Explain findings: .

Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: Tributary A provides an opportunity for many organisms (aquatic and terrestrial) to not only have areas of refuge, but also to provide areas for foraging and rearing of young.

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: Wetland A: 0.11 acres and Wetland B: 0.001 acres.

Wetland type. Explain: Wetlands A and B are forested wetlands.

Wetland quality. Explain: The delineated Wetlands A and B may be slightly impaired due to proximity with residential, commercial and roadway development.

Project wetlands cross or serve as state boundaries. Explain: N/A.

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain: Flow between the identified Wetland A & Wetland B to Tributary A occur numerous times throughout the year, on an intermittent basis. This flow is more frequent from Wetland B and Tributary A due to the proximity of Wetland B to Tributary A (directly abutting).

The flow from Wetland A is less frequent due to distance from Wetland A to Tributary A and the smaller drainage area around Wetland A. Wetland A is connected to Tributary A via a discrete hydrologic connection (located outside of project area) but is at a distance from Tributary A that likely results in a lesser flow frequency from Wetland A to Tributary A seasonally (during times of the year when shallow ground water is at/near ground surface).

Surface flow is: **Discrete**

Characteristics: During heavy precipitation and when shallow ground water was near the surface, Wetland A would flow to Tributary A at a location outside of the project limits via a discrete hydrologic connection. It is anticipated that these flow rates from Wetland A to Tributary A would diminish/drop throughout the year, especially during the drier months.

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

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting: Wetland B

- Not directly abutting: Wetland A
- Discrete wetland hydrologic connection. Explain: Flow from Wetland A to Tributary A is via a discrete wetland hydrologic connection that is outside of the project limits.
 - Ecological connection. Explain: .
 - Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
 Project wetlands are **15-20** river miles from TNW.
 Project waters are **5-10** aerial (straight) miles from TNW.
 Flow is from: **Wetland to navigable waters.**
 Estimate approximate location of wetland as within the **5 - 10-year** 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: Majority of wetlands delineated are forested and appear to be free of any visible contaminants or excessive sediments.

Identify specific pollutants, if known: Due to location of these wetlands adjacent to a State roadway (SC-51), Flint Hill Road, and drainage ways/tributaries adjacent to these roadways, it is anticipated that there could be some non-point sources of pollutants that could be washed overland from roadways and parking areas into these waters. This would include fuels, oils, and other pollutants deposited on the roadways from cars and trucks. In additions since there are stormwater collection/outfall structures and other commercial/residential development in and around this project, these waters could also receive waters that have increased sediments from eroded areas in the surrounding area during storm events.

SCDHEC website includes the following information for Sugar Creek - There are four SCDHEC monitoring sites along Sugar Creek. At the furthest upstream site (CW-247), aquatic life uses are fully supported. Recreational uses are not supported at this site due to fecal coliform excursions. Compounding this is a significant increasing trend in fecal coliform bacteria. Moving downstream to CW-246, aquatic life uses are partially supported based on macroinvertebrate community data. Aquatic life and recreational uses are fully supported at CW-013; however, there is a significant increasing trend in total nitrogen concentration. Significant decreasing trends in turbidity and fecal coliform bacteria suggest improving conditions for these parameters. At the furthest downstream site (CW-036), aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand and total nitrogen concentration. There is a significant increasing trend in pH. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform excursions.

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

- Riparian buffer. Characteristics (type, average width): Wetland A is a forested wetland that continues outside of the project boundary and is connected to Tributary A via a discrete hydrologic connection through an area that is a forested corridor between existing developments/buildings. Wetland B is located along Tributary A and within the forested riparian corridor of Tributary A. Both of these riparian buffers have been somewhat impacted by adjacent residential/commercial/industrial developments in some locations within the project limits. In some areas this corridor is less than 50 feet in width and in other areas it is up to 150 feet in width.

Vegetation type/percent cover. Explain: The majority of delineated wetlands are dominated by a mix of maturing hardwood/softwood trees.

Habitat for:

- Federally Listed species. Explain findings: .
- Fish/spawn areas. Explain findings: .
- Other environmentally-sensitive species. Explain findings: .

Aquatic/wildlife diversity. Explain findings: Wetland A and B provide an opportunity for many organisms (aquatic and terrestrial) to not only have area of refuge, but also to provide areas for foraging and rearing of young.

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

All wetland(s) being considered in the cumulative analysis: **2**
 Approximately (0.111) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Wetland A-No	0.11 ac	Wetland B-Yes	0.001 ac

Summarize overall biological, chemical and physical functions being performed: Wetland B abuts Tributary A, which has been identified by the Corps as having a perennial flow regime. Wetland A is adjacent to Tributary A but has a discrete hydrologic connection that is located outside of the project limits. Also along the relevant reach of the unnamed tributary to Sugar Creek identified as Tributary A (from project location to the confluence with Sugar Creek), there are approximately 15 acres of wetlands and open waters (based upon available areal photography).

Tributaries A is an unnamed tributary that flows to Sugar Creek outside of this project limits (approximately 1.3 miles) and ultimately to the downstream TNW, Catawba River (approximately 16.4 miles). These wetlands provide an important hydrology source for Sugar Creek and ultimately the downstream TNW (Catawba River).

These wetlands provide floodwater attenuation which reduces peak discharge rate and volume therefore protecting downstream streams and rivers. This attenuation also protects the receiving streams from accelerated erosion and sedimentation associated with stream scour. In addition, these wetlands provide an attenuating function for the maintenance of seasonal and base flows within associated streams and rivers. These wetlands provide water quality improvement to receiving stream through sediment and nutrient retention/uptake. These wetlands provide a sink for nutrient runoff and play an important role in nutrient cycling for nutrients such as nitrogen and phosphorus. Wetlands provide an area where sediments can be captured and prevented from entering receiving streams. Wetlands provide a diverse ecosystem for aquatic and terrestrial species. This diversity in part is provided by the fact that wetlands provide benefits to both terrestrial and aquatic habitats. This is especially important for species that require aquatic habitats for completion of a portion of their life cycle and a terrestrial habitat for another stage. In addition numerous terrestrial species rely upon wetlands such as these, to provide a source of food, shelter, and/or brooding area. Wetlands with a diversity of plant types and water regimes (open water, emergent, scrub/shrub, forest) provide a richer habitat which can be utilized by a larger number of species. This is especially true in the "edge" (ecotone) between aquatic systems and upland systems. In watersheds that contain forested wetlands, such as at this location, it has been shown that the wetlands export a large amount of carbon from the wetland areas. This carbon is critical for downstream aquatic organisms. Especially the macroinvertebrates that utilize the carbon as a food source and which in turn provide the basis for numerous food webs within streams and rivers.

It is based upon these functions that Wetland A, Wetland B (via Tributary A), and other unspecified wetlands have a significant nexus to Catawba River by providing a substantial contribution to the integrity of the physical, chemical and biological features of tributaries to Sugar Creek, Sugar Creek (RPW) and ultimately the Catawba River (TNW).

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:

Wetland A is adjacent to this Relatively Permanent Water with perennial flow (Tributary A). Flow from Wetland A to Tributary A does not typically occur throughout the entire year, but would occur at a frequency and duration beyond what would be expected from only precipitation events. Wetland area A, although a small wetland adjacent to this Tributary A, does provide functions that assist or maintain the chemical and physical integrity of the RPW. Wetlands have been shown to provide floodwater attenuation which reduces peak discharge rate and volume therefore protecting downstream streams and rivers. This attenuation also protects the receiving streams from accelerated erosion and sedimentation associated with stream scour. In addition wetlands have been shown to provide an attenuating function for the maintenance of seasonal and base flows within associated streams and rivers. Wetlands have also been shown to provide water quality improvement to receiving stream through sediment and nutrient retention/uptake. These wetlands provide a sink for nutrient runoff and play an important role in nutrient cycling for nutrients such as nitrogen and phosphorus. In addition, wetlands provide an area where sediments can be captured and prevented from entering receiving streams. The identified adjacent Wetland A is providing these functions with the corridor of Tributary A and as a result, has a significant nexus to Sugar Creek and provides an important contribution to the chemical, physical, and biological integrity of Sugar Creek and the downstream TNW (Catawba River).

4. **Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:**

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: Tributary A is a dashed blue lines on the USGS map for this area. During the field view, the Corps observed established bed and banks, an established ordinary high water mark, observable flow, and several indicators of flow. Based on the stream characteristics observed and available data, the Corps has determined that Tributary A has a perennial flow regime.

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:

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

- Tributary waters: **Tributary A**: 392 linear feet 2-4 width (ft).
 Other non-wetland waters: acres.
 Identify type(s) of waters .

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: **Wetland B (0.001 acres) directly abuts a tributary to Sugar Creek (Tributary A) which is a Relatively Permanent Water with a perennial flow regime.**
 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:

⁸See Footnote # 3.

Provide acreage estimates for jurisdictional wetlands in the review area: **Wetland B: 0.001** 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: **Wetland A: 0.11** 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.”
 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: _____
 Other: _____

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.

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.

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: STV-Ralph Whitehead.
- 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.

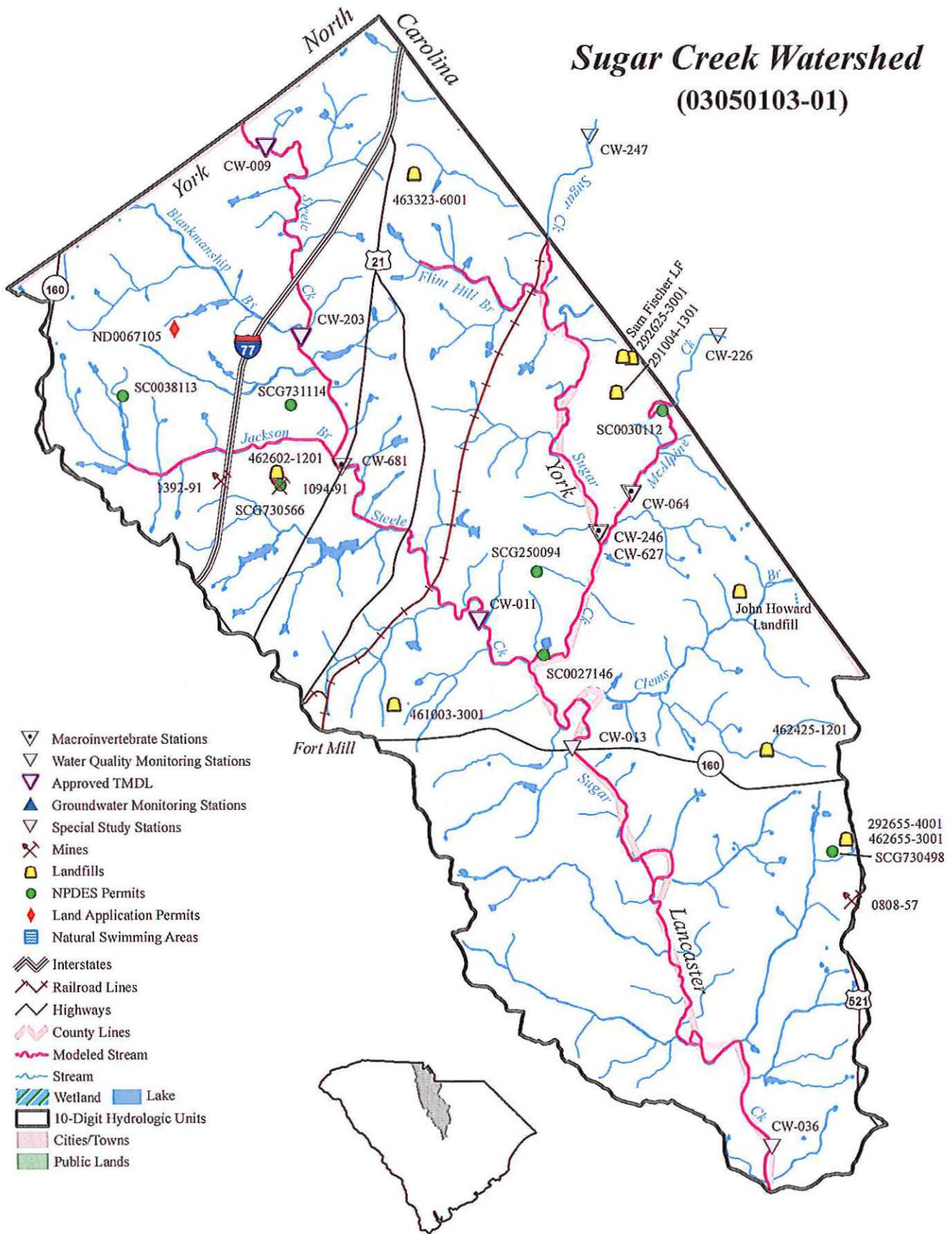
Although the Corps may not agree with all the information provided by the agent in the data forms describing delineated wetlands, the Corps agrees with the conclusion and boundaries established from site information documented.

- Data sheets prepared by the Corps: .
- Corps navigable waters' study: Corps 1977 Navigability Study.
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 03050103-01 (Sugar Creek)
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, Fort Mill, South, South Carolina.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Page 17 York County Soil Survey: Enon, Elbert' and Iredell soil series.
- National wetlands inventory map(s). Cite name: U12, U21, U42, and U43.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):(1999) 11209:20
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter:.
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify):Site View on November 17, 2015..

B. ADDITIONAL COMMENTS TO SUPPORT JD: Although Tributary A appears as a dashed blue line on the USGS quadrangle map, however, the field view determined that Tributary A has perennial flow. This determination is based on observed established bed and banks, ordinary high water mark, flow and numerous indicators of flow. Based on these observations, Tributary A was determined to have a perennial flow regime. In addition, the field view of this delineation determined that Wetland B directly abuts Tributary A. These waters documented on this form include a perennial RPW Tributary A and wetlands directly abutting these jurisdictional tributaries (Wetland B). Based on guidance in RGL 07-01, perennial RPW's and wetlands abutting perennial RPW's are subject to jurisdiction under the Clean Water Act.

Wetland A is adjacent to this Relatively Permanent Water with perennial flow (Tributary A). Flow from Wetland A to Tributary A does not typically occur throughout the entire year, but would occur at a frequency and duration beyond what would be expected from precipitation events. Wetland area A although a small wetland adjacent to this Tributary A, does provide functions that assist or maintain the chemical and physical integrity of the RPW. Wetlands have been shown to provide floodwater attenuation which reduces peak discharge rate and volume therefore protecting downstream streams and rivers. This attenuation also protects the receiving streams from accelerated erosion and sedimentation associated with stream scour. In addition wetlands have been shown to provide an attenuating function for the maintenance of seasonal and base flows within associated streams and rivers. Wetlands have also been shown to provide water quality improvement to receiving stream through sediment and nutrient retention/uptake. These wetlands provide a sink for nutrient runoff and play an important role in nutrient cycling for nutrients such as nitrogen and phosphorus. In addition, wetlands provide an area were sediments can be captured and prevented from entering receiving streams. The identified adjacent Wetland A is providing these functions within the corridor of Tributary A and as a result, has a significant nexus to Sugar Creek and provides an important contribution to the chemical, physical, and biological integrity of Sugar Creek and the downstream TNW (Catawba River). Adjacent wetlands (Wetland A) are also jurisdictional under CWA, based upon information in support of a Significant Nexus Determination for these adjacent wetlands. The waters documented on this form are jurisdictional Waters of the U.S.

Sugar Creek Watershed (03050103-01)



- ▽ Macroinvertebrate Stations
- ▽ Water Quality Monitoring Stations
- ▽ Approved TMDL
- ▲ Groundwater Monitoring Stations
- ▽ Special Study Stations
- ✂ Mines
- 🗑 Landfills
- NPDES Permits
- ◆ Land Application Permits
- 🏊 Natural Swimming Areas
- 🛣 Interstates
- 🚂 Railroad Lines
- 🛣 Highways
- 🗺 County Lines
- 🌊 Modeled Stream
- 🌊 Stream
- 🌿 Wetland
- 🟦 Lake
- 📦 10-Digit Hydrologic Units
- 🏘 Cities/Towns
- 🌳 Public Lands



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): June 3, 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Charleston District, SCDOT US 21 & SC51 Roadway Project, SAC 2015-00812-DS

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: South Carolina County/parish/borough: York County City: Fort Mill

Center coordinates of site (lat/long in degree decimal format): Lat.35.070582 ° **N**, Long 80.935561 ° **W**.

Universal Transverse Mercator: NAD 83

Name of nearest waterbody: Steele Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Catawba River

Name of watershed or Hydrologic Unit Code (HUC): Sugar Creek Watershed (03050103-01)

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: June 3, 2016

Field Determination. Date(s): November 17, 2015

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: Tributary B: 12 linear feet, Tributary C: 434 linear feet, and Tributary D: 158 linear feet 2-8 width (ft) and acres.

Wetlands: acres.

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

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³ [Including potentially jurisdictional features that upon assessment are NOT waters or wetlands]

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

Explain: **SCDOT and their consultants have identified a feature called, "non-jurisdictional wetland D, stormwater basin", a 0.02 acre feature adjacent to and on the east side of US 21 at a location approximately 600 feet south of the**

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.

intersection of US 21 and Business 21 (Old Nation Road). SCDOT and their consultants thought that this feature may be an unmaintained storm water basin due to presence of concrete block wall on either side of this feature and because the area within these walls would qualify as wetland under the 1987 Corps Delineation Manual criteria as wetland. This feature was identified as being 0.02 acres in size (approximately 100 feet by 8.5 feet).

During the field view on November 17, 2015, the Corps confirmed the presence of the concrete block walls that are parallel and outside of the delineated area, indication of flow from sediment deposits and debris within the identified area, and that the substrate in this area was saturated with some hydrophytic plants present. The presence of saturated sediments, hydrophytic plants, and accumulated debris appear to be occurring at this location due to a lack of maintenance of this area. This lack of maintenance by the removal of accumulated sediments has allowed water to be not drain properly in this area during the growing season and as a result sediments are saturated and hydrophytic plants have colonized this area.

The area upstream of his feature (drainage area) is comprised of developed sites, roads, and open fields. The storm water from this area is directed into the identified area via existing roadway ditch storm water ditches along Business 21 (Old Nation Road). The identified area directs flow downstream (westerly directions) under US 21 via a 24 inch diameter concrete culvert. At the outlet end of this culvert, the Corps observed that flow becomes dispersed and flows over land. There is no defined bed and bank channel, no ordinary high water mark, or strong indicators of flow. These conditions are indicative of flow being exclusively driven by precipitation events.

A close inspection of the walls indicated that although the concrete walls are in place, they are not joined or appear to be connected in the past to function as a storm water basin. In addition, no evidence of a downstream wall or weir was observed that would retain or control discharge from this area. Based upon this, the Corps believes that these walls were put in place a fill retaining walls for the site development to either side of the identified feature is at a higher elevation and appears to have occurred on fill material. It appears that the wall was meant to retain the fill and allow for the identified feature to continue to convey storm water from the area around Business 21 to the west side of US 21.

Based upon field view, the feature identified by SCDOT and their consultants as “non-jurisdictional wetland D, stormwater basin” is not a storm water basin, nor would it be consider to be a wetland. Furthermore, this identified feature is not a tributary but would be a non-jurisdictional, linear storm water conveyance feature if properly maintained. This determination is based upon the fact that the flow within this feature being driven exclusively by precipitation events and flow within this feature would likely not continue beyond storm events for more 24 hours. Therefore the Corps has determined that this is a linear storm water conveyance feature (approximately 100 linear feet in length) is not subject to jurisdiction under the Clean Water Act.

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: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
- Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .

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

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: .

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

Average width: feet,
Average depth Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

- Silts
- Sands
- Concrete
- Cobbles
- Gravel
- Muck
- Bedrock
- Vegetation. Type/% cover:
- Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope):

(c) Flow:

Tributary provides for: **Pick List for Stream A**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

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

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.

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):
 - 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: .

Identify specific pollutants, if known:

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings: .
 - Fish/spawn areas. Explain findings: .
 - Other environmentally-sensitive species. Explain findings: .
 - Aquatic/wildlife diversity. Explain findings: .

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: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting:

Not directly abutting:

Discrete wetland hydrologic connection. Explain: Flow from Wetland A to Tributary A is via a discrete wetland hydrologic connection that is outside of the project limits.

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.

- 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: N/A.

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

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: Majority of delineated wetlands are dominated by a mix of maturing hardwood/softwood forests.
- 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:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
------------------------------	------------------------	------------------------------	------------------------

Summarize overall biological, chemical and physical functions being performed:

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:
4. **Documentation for the Record only: Significant nexus findings for seasonal RPWs and/or wetlands abutting seasonal RPWs:**

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: Tributaries B, C and D appear as a solid blue lines on the USGS map for this area. In addition, during the field view, perennial flow regime was observed along with established bed and banks, an established ordinary high water mark, and observable flow. Based on the stream characteristics observed and available data, the Corps has determined that Tributaries B, C, and D each have a perennial flow regime.
 - 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:
Provide estimates for jurisdictional waters in the review area (check all that apply):
 - Tributary waters: **Tributary B: 12 linear feet, Tributary C: 434 linear feet, and Tributary D: 158 linear feet** 2-8 width (ft).
 - Other non-wetland waters: acres.
Identify type(s) of waters .
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:
 - 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:

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

⁸See Footnote # 3.

Provide acreage estimates for jurisdictional wetlands in the review area: **Wetland A, 0.11** 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.”
 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: _____
 Other: **As described above, SCDOT and their consultants have identified a feature called, “non-jurisdictional wetland D, stormwater basin” adjacent to and on the east side of US 21 at a location approximately 600 feet south of the intersection of US 21 and Business 21 (Old Nation Road). However, the Corps has determined that this feature is not a storm water basin, a wetland, or a tributary. Therefore the Corps has determined that this is a linear storm water conveyance feature (approximately 100 linear feet in length) is not subject to jurisdiction under the Clean Water Act.**

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): non-jurisdictional linear conveyance, approximately _____ linear feet _____ width (ft).
 Lakes/ponds: _____ acres.
 Other non-wetland waters: _____ acres. List type of aquatic resource: _____
 Wetlands: Wetland C, 0.04 acres.

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.

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: STV-Ralph Whitehead.
- 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.

Although the Corps may not agree with all the information provided by the agent in the data forms describing delineated wetlands, the Corps agrees with the conclusion and boundaries established from site information documented.

- Data sheets prepared by the Corps: .
- Corps navigable waters' study: Corps 1977 Navigability Study.
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 03050103-01 (Sugar Creek)
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000, Fort Mill, South, South Carolina.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Page 17 York County Soil Survey:Enon, Elbert' and Iredell soil series.
- National wetlands inventory map(s). Cite name: U12, U21, U42, and U43.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):(1999) 11209:20
or Other (Name & Date): .
- Previous determination(s). File no. and date of response letter:.
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify):Site View on November 17, 2015..

B. ADDITIONAL COMMENTS TO SUPPORT JD: Tributaries B, C and D appear as a solid blue lines on the USGS map for this area. In addition, during the field view, perennial flow regime was observed along with established bed and banks, an established ordinary high water mark, and observable flow. Based on the stream characteristics observed and available data, the Corps has determined that Tributaries B, C, and D each have a perennial flow regime. Based on guidance in RGL 07-01, perennial RPW's are subject to jurisdiction under the Clean Water Act.

As described above, SCDOT and their consultants have identified a feature called, "non-jurisdictional wetland D, stormwater basin" adjacent to and on the east side of US 21 at a location approximately 600 feet south of the intersection of US 21 and Business 21 (Old Nation Road). However, the Corps has determined that this feature is not a storm water basin, a wetland, or a tributary. Therefore the Corps has determined that this is a linear storm water conveyance feature (approximately 100 linear feet in length) is not jurisdictional. On the basis of this information, this office has determined that this feature as documented on this form is not a tributary and is not subject to jurisdiction under the Clean Water Act.

**Photo 1 SCDOT US 21 & SC-51, York Co
Wetland D. Photo taken 11/17/15 facing
east in drainage way. Block walls appear
to be retaining walls for adjacent fill.**



**Photo 2 SCDOT US 21 & SC-51, York Co
Wetland D. Photo taken 11/17/15 facing
east in drainage way. Northern block wall
is retaining wall for adjacent fill.**



**Photo 3 SCDOT US 21 & SC-51, York Co
Wetland D. Photo taken 11/17/15 facing
east in drainage way below retaining walls
adjacent to 24" culvert under US 21**



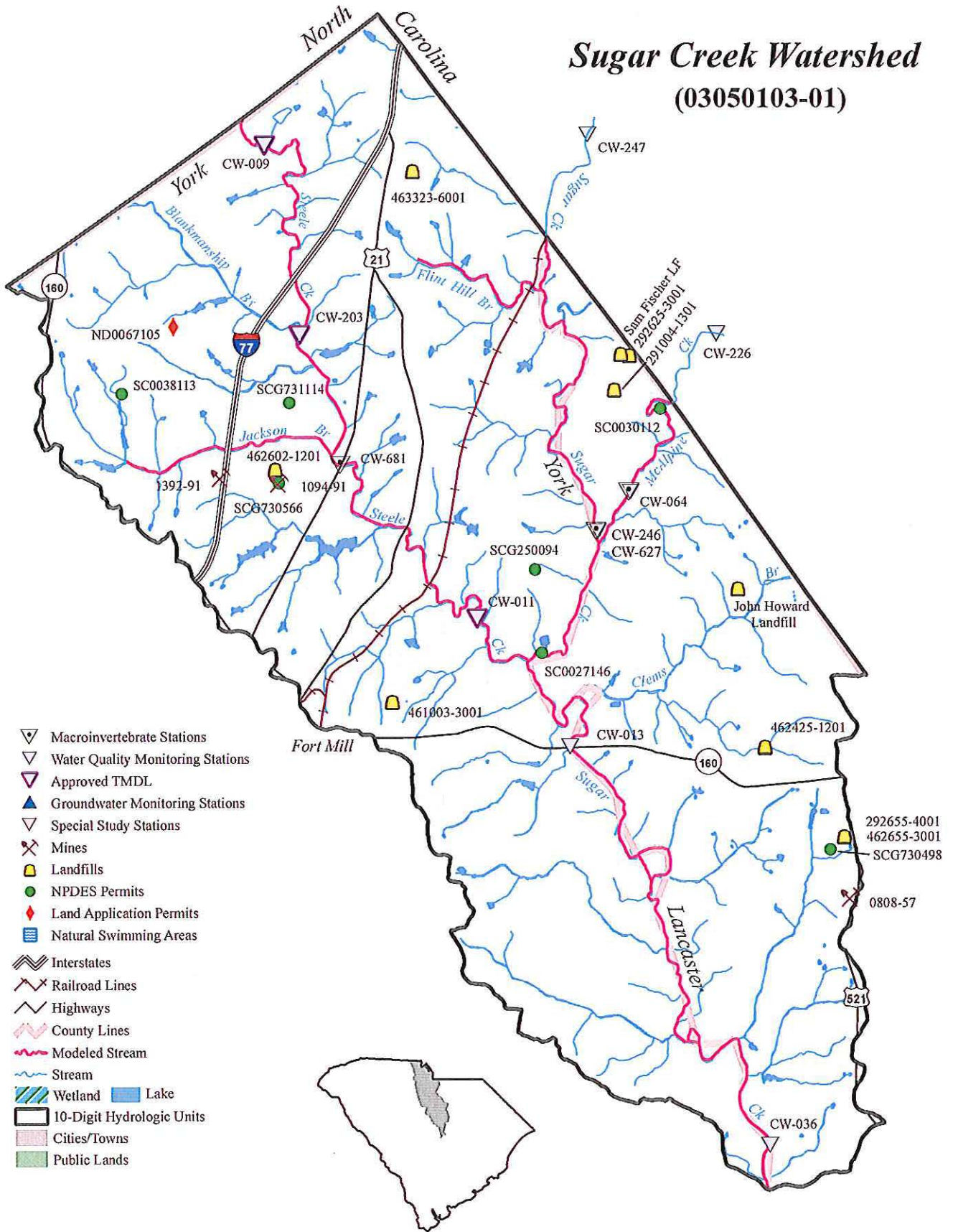
**Photo 4 SCDOT US 21 & SC-51, York Co
Wetland D. Photo taken 11/17/15 at inlet
end of the 24" culvert under US 21.
2015-00812-DS**



Photo 5 SCDOT US 21 & SC-51, York Co
Photo taken 11/17/15 at outlet end of the
existing 24" culvert under US 21 indicating
overland flow. 2015-00812-DS



Sugar Creek Watershed (03050103-01)



- ▽ Macroinvertebrate Stations
- ▽ Water Quality Monitoring Stations
- ▽ Approved TMDL
- ▲ Groundwater Monitoring Stations
- ▽ Special Study Stations
- ⚡ Mines
- 🗑️ Landfills
- NPDES Permits
- ◆ Land Application Permits
- 🏊 Natural Swimming Areas

- 🛣️ Interstates
- 🚂 Railroad Lines
- 🛣️ Highways
- 🗺️ County Lines
- 🌊 Modeled Stream
- 🌊 Stream
- 🌿 Wetland
- 🌊 Lake
- 🗺️ 10-Digit Hydrologic Units
- 🏘️ Cities/Towns
- 🌳 Public Lands

