

Area 1
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): 9/10/2007

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Wilmington, Elizabeth Garden Center, 2007 2919 067

C. PROJECT LOCATION AND BACKGROUND INFORMATION: 1465 NC Hwy 172

State: NC

County/parish/borough: Onslow

City: Sneads Ferry

Center coordinates of site (lat/long in degree decimal format): Lat. 34.5448° N, Long. 77.4750° W.

Universal Transverse Mercator:

Name of nearest waterbody: Stones Creek

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

Name of watershed or Hydrologic Unit Code (HUC):

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:

Field Determination. Date(s): December 8, 2006 and August 1, 2007

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: linear feet: width (ft) and/or acres.

Wetlands: 5.3. acres, 5 acres in Area 2 and 0.3 acres in Area 1.

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

Elevation of established OHWM (if known): .

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

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

Explain: .

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

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

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

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

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

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

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

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

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

(i) General Area Conditions:

Watershed size: 2 square miles

Drainage area: 2 square miles

Average annual rainfall: 54 inches

Average annual snowfall: 3 inches based on data generated from Lejeune

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 5-10 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: The wetlands in question are separated from the system described as Area 1 via NC 172. The adjacent stream is an unnamed tributary to Stones Creek, a tributary to Stones Bay, a tributary interface with the New River, which is navigable in fact.

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: 1st order.

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

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain: The upper end of the unnamed tributary has been excavated and extended via a ditch through wetlands.

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

Average width: 6-8 feet
Average depth: 2-3 feet
Average side slopes: **Close to vertical.**

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: sloughing banks.

Presence of run/riffle/pool complexes. Explain: No.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): less than 5 %

(c) Flow:

Tributary provides for: **Seasonal flow**

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

Describe flow regime: The channel appears to be perennial.

Other information on duration and volume:

Surface flow is: **discrete and confined.** Characteristics:

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):

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.

(iii) Chemical Characteristics:

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

Explain: The surrounding land use is predominately timber. The water is likely clean, but is probably dark as most natural waterbodies in this section of southeastern North Carolina have been stained by tannins. This does not indicate a pollutant.

Identify specific pollutants, if known: None known.

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

Riparian corridor. Characteristics (type, average width): forested wetlands and uplands; approximately 50 feet wide based on aerial photography.

Wetland fringe. Characteristics: Present based in infrared photography, but exact characteristics unknown as channel is off-site.

Habitat for:

Federally Listed species. Explain findings:

Fish/spawn areas. Explain findings:

Other environmentally-sensitive species. Explain findings:

Aquatic/wildlife diversity. Explain findings: Assumed habitat present on review of aerial photography and

experience with review of similar channels in this region.

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

(i) Physical Characteristics:

(a) General Wetland Characteristics: The on-site, adjacent wetland has been partially filled in an unauthorized discharge. It is separated from the rest of the wetlands that abut an unnamed tributary to Stones Creek by NC 172. Please see the attached wetland data sheet for additional information. The abutting wetlands are located outside of the review area on the south side of NC 172.

Properties: On Site and Off Site

Wetland size: approximately 0.3 acres (onsite) ; approximately 15 acres (off site)

Wetland type. Explain: palustrine, wet flat. This wetland was located at the very upper end of the headwaters of an unnamed tributary to Stones Creek. The wetlands located on the south side of NC 172 appear to be the same as those found on the north side (as determined by the vegetation seen from the road). Exact details about this system could not be determined because it is located off-site.

Wetland quality. Explain: The current, and past, quality of this system is low. It has been separated from the remainder of the system by a heavily traveled two-lane state highway and its primary function historically has been as a holding area for stormwater running off the neighboring landscape. That water would then filter through the soil and under NC 172 (no culvert found) to the wetlands on the other side.; The function of wetlands located on the south side of NC 172 are normal for palustrine, timbered wetlands in southeastern North Carolina.

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

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent Flow**. Explain: There is no surface flow and subsurface flow would likely have been present after rain events and for some time following that event.

Surface flow is: **Not present as split by NC Highway.**

Characteristics:

Subsurface flow: **Yes** Explain findings: The parcels to the east and west of this site are slightly higher, though not obvious on the USGS topo maps. This observation is supported by the fact that this small wetland tip was the very upper end of the headwaters to an unnamed tributary. Therefore, water does not leave this site by flowing away from the wetlands over land to the east, north, or west. The property owners indicated that water does not stand for long periods of time on this site indicating that the water must be traveling laterally under NC 172. There is no culvert under NC 172 connecting this site to the adjacent wetlands. The water must be moving under the soil and road surface to the south.

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: NC Hwy 172.

(d) Proximity (Relationship) to TNW

Project wetlands are **5-10** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable water.**

Estimate approximate location of wetland as within the **500 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: The three parameters described by the 1987 Manual can be found in the attached wetland data sheets. There is no surface water in this wetland. The wetland is the very upper end of the headwaters to an unnamed tributary in an area that is sparsely developed.

Identify specific pollutants, if known: possible oil, grease, and gas from Highway road surface.

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

Riparian buffer. Characteristics (type, average width): The wetlands located on the south side of NC 172 form a buffer around the unnamed tributary that appears to be approximately 50 or more feet wide..

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: The wetlands located on the south side of NC 172 would likely provide habitat for both aquatic and terrestrial wildlife, particularly amphibians and reptiles.

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

All wetland(s) being considered in the cumulative analysis: **2**

Approximately (15.3) 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>
No	0.3	Yes	15

Summarize overall biological, chemical and physical functions being performed: The wetland that abuts the unnamed tributary provides resting and foraging habitat for both aquatic and upland species, acts as a filter for pollutants, provides a source of detritus, mitigates water temperature in the stream channel, attenuates flooding events, traps sediments that might otherwise choke the stream channel, and transforms excess nutrients. The adjacent wetland separated by NC 172 attenuates flooding, traps sediments and pollutants, and transforms excess nutrients.

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:

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: The adjacent wetlands, in combination with the rest of the wetland system and unnamed tributary, have a significant nexus with the New River, a traditionally navigable water. There is the capacity to carry carry pollutants to the New River, to attenuate/carry flood waters to the New River, to provide foraging/nesting/resting habitat for species found in/around the New River, to transfer compounds that support the foodweb in the New River, and to prevent the deposition of sediments into the New River

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: linear 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: **0.3** acres.

⁸See Footnote # 3.

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

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

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

7. Impoundments of jurisdictional waters.⁹

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

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

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

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

Identify water body and summarize rationale supporting determination:

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

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

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

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

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

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

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

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

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.

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: Not to scale CAD drawing with the approximate wetland line onsite.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. SUBMITTED WITH THE ORIGINAL JD, attached.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: Onslow County, 1992.
- National wetlands inventory map(s). Cite name: Sneads Ferry.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Firm Panel 3720425900J.
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Aerial photo from Onslow County Database, 2006. Aerial infrared from Topozone.com, 1999-2003.
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): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: This document has been filled out for wetlands that are located adjacent to but not abutting the RPW. These resources are found on-site. In order to provide an accurate review of the system located within the project site and to make a significant nexus determination, it was necessary to describe the area located off-site. The New River is a large coastal river that supports commercial and private boating and fishing. It has been designated as navigable in fact and is, therefore, a TNW. The drainage and watershed areas are the wetlands and highground that appear to discharge surface and subsurface water to the tributary system. For this significant nexus determination, the watershed and drainage areas are the wetlands adjacent to the unnamed tributary and the high ground, timberland surrounding the wetlands to the south of NC 172.

Area 2

APPROVED JURISDICTIONAL DETERMINATION FORM

U.S. Army Corps of Engineers

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SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 9/10/2007

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Wilmington, Elizabeth Garden Center, 2007 2919 067

C. PROJECT LOCATION AND BACKGROUND INFORMATION: 1465 NC Hwy 172

State: NC

County/parish/borough: Onslow

City: Sneads Ferry

Center coordinates of site (lat/long in degree decimal format): Lat. 34.5448° **N**, Long. 77.4750° **W**.

Universal Transverse Mercator:

Name of nearest waterbody: Stones Creek

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

Name of watershed or Hydrologic Unit Code (HUC):

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:

Field Determination. Date(s): December 8, 2006 and August 1, 2007

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: linear feet: width (ft) and/or acres.

Wetlands: 5.3. acres, 5 acres in Area 2 and 0.3 acres in Area 1.

c. Limits (boundaries) of jurisdiction based on: 1987 Corps Delineation Manual. The limits of jurisdiction appear to be along the wetland fringe.

Elevation of established OHWM (if known):

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

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.

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

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:

Drainage area:

Average annual rainfall:

Average annual snowfall:

(ii) **Physical Characteristics:**

(a) **Relationship with TNW:**

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are river miles from TNW.

Project waters are river miles from RPW.

Project waters are aerial (straight) miles from TNW.

Project waters are aerial (straight) miles from RPW.

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

Identify flow route to TNW⁵:

Tributary stream order, if known:.

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.

(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: feet
Average side slopes:

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:

Tributary gradient (approximate average slope):

(c) Flow:

Tributary provides for:

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

Describe flow regime:.

Other information on duration and volume:

Surface flow is: Characteristics:

Subsurface flow: 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:**

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

Explain:

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.

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:

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: Explain:

Surface flow is:

Characteristics:

Subsurface flow: 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 river miles from TNW.

Project waters are aerial (straight) miles from TNW.

Flow is from:

Estimate approximate location of wetland as within the floodplain.

(ii) Chemical Characteristics:

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

Identify specific pollutants, if known:

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

- Riparian buffer. Characteristics (type, average width): The wetlands located on the south side of NC 172 form a buffer around the unnamed tributary that appears to be approximately 50 or more feet wide..
- 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:

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: .

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: linear 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: **The wetland is a continuum of wetlands without separation.**
- 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: **5.3** acres (5 acres abutting Area 2 and 0.3 acres adjacent in Area 1).

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: **0.3** acres.

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

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

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

7. **Impoundments of jurisdictional waters.⁹**

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

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

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

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

Identify water body and summarize rationale supporting determination: .

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

Tributary waters: linear feet width (ft).

⁸See Footnote # 3.

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

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

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

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

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

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

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

SECTION IV: DATA SOURCES.

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

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Not to scale CAD drawing with the approximate wetland line onsite.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant. SUBMITTED WITH THE ORIGINAL JD, attached.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: .
- USDA Natural Resources Conservation Service Soil Survey. Citation: Onslow County, 1992.
- National wetlands inventory map(s). Cite name: Sneads Ferry.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Firm Panel 3720425900J.
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Aerial photo from Onslow County Database, 2006. Aerial infrared from Topozone.com, 1999-2003.
 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): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: This document has been filled out for wetlands that are located adjacent to but not abutting the RPW. These resources are found on-site In order to provide an accurate review of the system located within the project site and to make a significant nexus determination, it was necessary to describe the area located off-site. The New River is a large coastal

river that supports commercial and private boating and fishing. It has been designate as navigable in fact and is, therefore, a TNW. The drainage and watershed areas are the wetlands and highground that appear to discharge surface and subsurface water to the tributary system. For this significant nexus determination, The watershed and drainage areas are the wetlands adjacent to the unnamed tributary and the high ground, timberland surrounding the wetlands to the south of NC 172.

Southern Environmental Group, Inc.

5315 College Road Suite E · Wilmington, North Carolina 28412

910.452.2711 · Fax: 910.452.2899 · office@segi.us

www.segi.us

Wetland Determination Information Package

Date: 12/08/2006

Project Name: 1465 HWY 172 **SEGi Project #:** 06-207.01

Owner: Robert C. Perry & Heather A. Sullivan **Applicant**
145 Wheeler Creek Rd. **(If different**
Sneads Ferry, NC 28460 **from Owner):**

Phone Number: 910.327.2977

Project Site: 1465 HWY 172, 5 acres, Sneads Ferry, NC

Parcel ID: 425900931004

Project Size (Acres): 5.18 **Square Feet:** 225,641

Subdivision Name: N/A

Block and Lot #: N/A

Directions to Site: North on HWY 17 out of Wilmington. Turn right onto HWY 172 towards Sneads Ferry. Site is approximately 2.5 miles from HWY 17 on left side of road.

County (No.): Onslow (67)

Nearest Water Body: Stones Creek

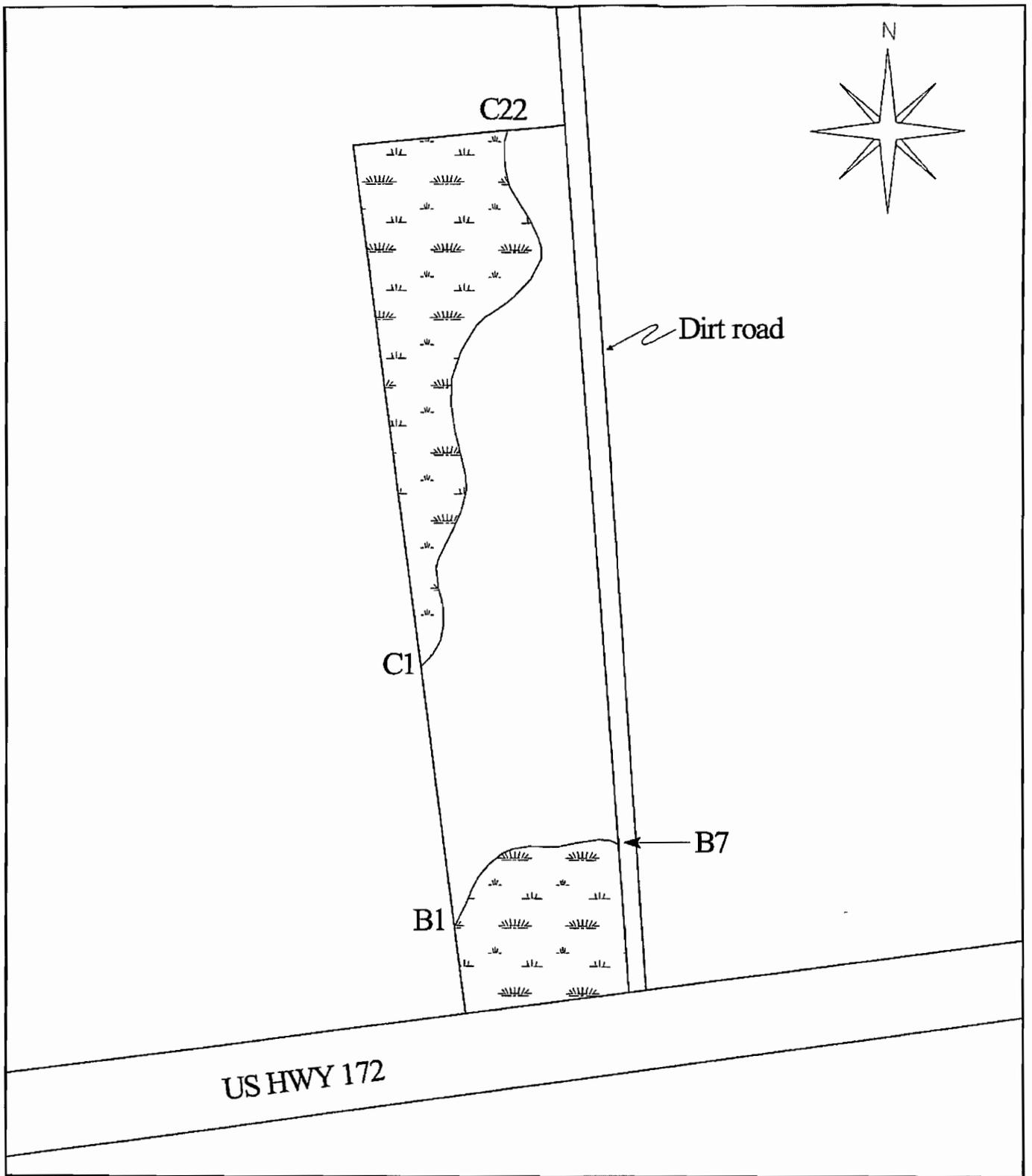
Watershed: Cape Fear

Lat / Long 34.5438°N / 77.4755°W

USGS Quad Name: Sneads Ferry

Wetland Acreage: **2 Linear Footage of Stream:** N/A

Attached: Letter of Agency
Vicinity Map (3 scales)
Tax Map and Parcel Information
Topographic Map
Topographic Map on Infrared aerial
Field Sketch
Soils Map
Data Sheets



Not to Scale Date: December 8, 2006 Project #: 06-XXX.01 Drawn By: Jerry Peake

Wetland Delineation

1465 HWY 172, 5 acres
 Sneads Ferry, Onslow County, NC

Southern Environmental Group, Inc.

5315 College Road Suite E
 Wilmington, North Carolina 28412
 Office (910) 452-2711 Fax (910) 452-2899

DATA FORM
Routine Wetland Determination
(1987 COE Wetlands Determination Manual)

SEGi

Project/Site: 1465 HWY 172/ Heather's Garden Center Project #: 06-207.01 Applicant/owner: Chris Perry	Investigator: Jerry Peake Southern Environmental Group, Inc. 5315 South College Road, Suite E Wilmington, North Carolina 28412 910.452.2711	Date: 12/08/06 County: Onslow State: NC Latitude: 34.5438 °N Longitude: 77.4755 °W
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain below if needed):		Community ID: Upland Plot Transect ID: Plot ID: 50' Upland of B4, Pocosin

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
<i>Ilex coriacea</i>	S	FACW			
<i>Pinus taeda</i>	T	FAC			
<i>Pinus palustris</i>	T	FACU+			
<i>Acer rubrum</i>	T	FAC			
<i>Persea barbonia</i>	S	FACW			

Percentage of plants that are OBL, FACW, or FAC (excluding FAC-) 80%

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, lake or tide gage <input type="checkbox"/> Aerial photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available. Field Observations: Depth of surface water: 0(in) Depth to free water in pit: <18(in) Depth to saturated soil: <18(in)	Wetland Hydrology Indicators Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12" <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators <input type="checkbox"/> Oxidized root channels in upper 12" <input type="checkbox"/> Water stained leaves <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-neutral test <input type="checkbox"/> Other (explain in remarks)
Remarks:	

SOILS

Map Unit Name
 (Series and Phase) : Baymeade fine sand
 Taxonomy (Subgroup): Arenic Hapludults

Drainage Class: Well Drained

Field observations confirm mapped type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, etc.
0-5		10YR 5/2			Sand
5+		10YR 8/1			Sand

Hydric Soil Indicators: (check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Mg or Fe Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking In Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National/Local Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma matrix | <input type="checkbox"/> Other (explain in remarks) |

Remarks:

Wetland Determination

- | | | |
|---------------------------------|---|---|
| Hydrophytic vegetation present? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is the sampling point within a wetland? |
| Hydric soils present? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Wetland hydrology present? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

Remarks:

NOTES:

DATA FORM
Routine Wetland Determination
(1987 COE Wetlands Determination Manual)

SEGi

Project/Site: 1465 HWY 172/ Heather's Garden Center Project #: 06-207.01 Applicant/owner: Chris Perry	Investigator: Jerry Peake Southern Environmental Group, Inc. 5315 South College Road, Suite E Wilmington, North Carolina 28412 910.452.2711	Date: 12/08/06 County: Onslow State: NC Latitude: 34.5438 °N Longitude: 77.4755 °W
Do normal circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (atypical situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential problem area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain below if needed):		Community ID: Wetland Plot Transect ID: Plot ID: 75' west of G21, Pocosin

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
<i>Acer rubrum</i>	T	FAC			
<i>Pinus serotina</i>	T	FACW+			
<i>Gordonia lasianthus</i>	S	FACW			
<i>Ilex coriacea</i>	S	FACW			
<i>Lyonia lucida</i>	S	FACW			
<i>Smilax laurifolia</i>	V	FACW+			
Percentage of plants that are OBL, FACW, or FAC (excluding FAC-)			100%		
Remarks: 					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, lake or tide gage <input type="checkbox"/> Aerial photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available. Field Observations: Depth of surface water: 0(in) Depth to free water in pit: 3(in) Depth to saturated soil: 0(in)	Wetland Hydrology Indicators Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12" <input type="checkbox"/> Water marks <input type="checkbox"/> Drift lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage patterns in wetlands Secondary Indicators <input type="checkbox"/> Oxidized root channels in upper 12" <input type="checkbox"/> Water stained leaves <input type="checkbox"/> Local soil survey data <input type="checkbox"/> FAC-neutral test <input type="checkbox"/> Other (explain in remarks)
Remarks: 	

SOILS

Map Unit Name
 (Series and Phase) : Baymeade fine sand
Taxonomy (Subgroup): Arenic Hapludults

Drainage Class: Well Drained

Field observations confirm mapped type? Yes No

Profile Description

Depth (inches)	Horizon	Matrix color (Munsell moist)	Mottle colors (Munsell moist)	Mottle abundance/contrast	Texture, concretions, structure, etc.
0+		10YR 2/1			Muck

Hydric Soil Indicators: (check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Mg or Fe Concretions |
| <input type="checkbox"/> Histic Epipedon | <input checked="" type="checkbox"/> High Organic Content in Surface Layer of Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National/Local Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma matrix | <input type="checkbox"/> Other (explain in remarks) |

Remarks:

Wetland Determination

- | | | |
|---------------------------------|---|---|
| Hydrophytic vegetation present? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Is the sampling point within a wetland? |
| Hydric soils present? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Wetland hydrology present? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

Remarks: At the point of the wetland plot the soil has hydric soil indicators.

NOTES: