

## **BURDETTE LAND CONSULTING, INC.**

308-D W Millbrook Road, Suite 200 - Raleigh, North Carolina 27609  
Telephone (919) 841-9977 - Fax (919) 841-9909

February 17, 2006

Mr. Daniel T. Sullivan  
Contentnea Creek Development Company  
8502-202 Six Forks Road  
Raleigh, North Carolina 27615

**RE: Cooper Tract**  
Lake Jordan, Chatham County, North Carolina  
BLC Project #: 60009

Dear Mr. Sullivan:

On February 10 and 15, 2006, Burdette Land Consulting, Inc. (BLC) conducted a determination and delineation of jurisdictional and isolated wetlands, and streams on the subject property. This 130-acre property is located on the north side of Hatley Road (SR 1714) approximately 3200 feet east of Mt. Gilead Church Road (SR 1700), near Lake Jordan in Chatham County, North Carolina. Parker Creek runs through the northern edge of the property and has WS-IV and B water quality classifications. Figure 1 depicts the location of the property on the US Geological Survey (USGS) Merry Oaks and Farrington, NC 7.5-minute quadrangle topographic maps.

Waters of the US, commonly referred to as jurisdictional waters, include intermittent and perennial streams, ponds, lakes, rivers, and wetlands that are adjacent to or eventually connect to navigable waters. They are under the jurisdiction of the US Army Corps of Engineers (USACE), which regulates the discharge of fill material, mechanized land clearing, and excavation within their boundaries. If these features are not connected downstream then they are considered isolated and regulated only by the State of North Carolina through the NC Division of Water Quality (NCDWQ). The NCDWQ and a number of local government entities also regulate activities within vegetated riparian buffers established around surface waters to protect water quality. Riparian buffers only apply to wetlands in certain municipalities. Proposed development and road/utility construction require these jurisdictional and isolated waters and their associated riparian buffers to be identified and delineated in order to avoid impacts where practicable and to obtain the proper permits when impacts cannot be avoided.

### **Scope of Work**

The delineation of jurisdictional and isolated waters consisted of a field reconnaissance of the property to identify surface waters and areas that meet the criteria for jurisdictional wetlands described below. Surface waters (intermittent and perennial streams, ponds, lakes, and rivers)

are identified by an ordinary high water mark usually indicated by a clear line impressed in the bank, shelving along the water's edge, changes in the character of the soil, destruction of terrestrial vegetation, and/or presence of litter or debris.

Areas that exhibit hydrophytic vegetation, hydric soils, and wetland hydrology are wetlands according to the *1987 Corps of Engineers Wetland Delineation Manual*. Hydrophytic vegetation is present when more than 50 percent of the dominant species are obligate wetland, facultative wetland, or facultative plants listed on the *National List of Plant Species that Occur in Wetlands*. Hydric soils are identified based on Field Indicators of Hydric Soils published by the Natural Resources Conservation Service. Field indicators for hydric soils rely on the presence of gray or black colored surface and subsurface soils. Areas exhibiting wetland hydrology are permanently inundated to irregularly inundated or saturated with water. Since inundation and saturation may not be present during a one time field visit to conduct a wetland delineation, field indicators of wetland hydrology were established to confirm the presence of this parameter. These field indicators include, but are not limited to, direct observation of saturation or inundation, watermarks on woody vegetation, drift lines, sediment deposits, drainage patterns within wetlands, and the presence of oxidized root channels in the soil. Areas that meet all three criteria for wetlands may be either jurisdictional or isolated depending on whether or not they are adjacent or connect to navigable waters.

Surface waters in the Neuse and Tar-Pamlico River Basins require maintenance of 50-foot wide riparian buffers directly adjacent to these features. Only those surface waters shown on the most recent version of the soil survey map provided by the Natural Resource Conservation Service or 7.5-minute quadrangle topographic maps supplied by the USGS are subject to the Neuse/Tar-Pamlico River Basin: Nutrient Sensitive Waters Management Strategy: Protection and Maintenance of Riparian Areas with Existing Forest Vegetation (15A NCAC 2B.0233/260). The NCDWQ may exempt surface waters depicted on these maps from the riparian buffer rules if an on-site determination shows that the features are one of the following:

- 1) Ditches and manmade conveyances other than modified natural streams;
- 2) Manmade ponds and lakes that are located outside natural drainage ways; or
- 3) Ephemeral (stormwater) streams.

The NCDWQ does not require maintenance riparian buffers directly adjacent to surface waters in the Cape Fear River Basin at this time. However, Chatham County requires 50-foot wide riparian buffers on all streams shown on the applicable USGS topographic map. Additionally, Chatham County may require maintenance of a riparian buffer on stream channels present in the field, which meet the criteria for at least an intermittent stream channel, but are not shown on the USGS topographic map. BLC has identified surface water features that would be considered at least intermittent stream channels.

Wetland boundaries and some channel centerlines were identified with pink, sequentially numbered flagging. For each surface water or wetland identified, we evaluated the downstream

connection to distinguish isolated from jurisdictional waters. Additionally, surface waters encountered on the site were examined using NCDWQ stream evaluation techniques. Figure 2 shows the location of the site on the applicable Chatham County Soil Survey map.

### Results

We observed jurisdictional wetlands and stream channels on the site. The Jurisdictional Waters Sketch Map provided as Figure 3 shows the approximate location of these features on the site. The following flag numbers were hung in the field to located boundaries of these features: 100-197 and 200-263 except 204. It is important to note that sequentially numbered flags were hung around all wetland areas, but the centerline of obvious stream channels were not flagged. These features are approximated on the map to ensure that they are also surveyed along with the wetland boundary flags.

Stream channels that exhibit important aquatic function are also designated on Figure 3. Linear footage of impacts proposed to these channels would count towards the overall limit of 300 linear feet of stream channel impacts under the Nationwide Permit program.

Parker Creek (A) is definitely subject to maintenance of a 50-foot wide vegetated buffer by Chatham County because it is shown on the USGS topographic map provided as Figure 1. Based on our field evaluation, BLC also believes that Chatham County may require vegetated buffers on the several other stream channels shown on Figure 3. The limits of stream channels and wetland boundaries and information regarding stream channels that exhibit important aquatic function provided are based on our best professional judgment and require verification from the USACE.

In general, property owners may choose to submit a jurisdictional and isolated waters survey to the USACE for their signature, which establishes the jurisdictional and isolated waters boundaries until the map expires five years from the date it is signed. A USACE signed survey is not required for permitting, but is offered to provide property owners with the assurance that the boundaries of jurisdictional and isolated waters on the property would not change for five years. Attached is a two-page guidance document regarding the preparation of a jurisdictional and isolated waters survey map suitable for the USACE's approval. It also includes four certification statements available for different site circumstances. The certification "For sites where there may be upland within the depicted boundary" is appropriate for this site.

An agent authorization form signed by the current property owner is required for BLC to submit either a survey for approval or a permit application for proposed development. A blank agent authorization form is attached for your use. A buyer may also sign this authorization provided contact information for the current property owner is provided along with the relevant portions of the real estate contract documenting the current property owner's authorization for the buyer to conduct inspections of the property.

### **Jurisdictional Waters Permitting**

There are several layers of regulations that apply independently to these features. However, the USACE and NCDWQ have developed a joint-application with concurrent review for permits to impact jurisdictional and isolated waters including wetlands, which is referred to as a Pre-Construction Notification Application.

#### *Jurisdictional Waters*

The USACE has issued activity specific Nationwide Permits to streamline the permitting process for unavoidable impacts to less than 300 linear feet of jurisdictional stream channel that exhibits important aquatic function and/or perennial stream channels and/or 0.5 acre of jurisdictional wetlands and other surface waters. Pre-construction notification and approval from the USACE is required for greater than 150 linear feet of stream channel impact and 0.10 acre of wetland impacts. Nationwide Permits have a maximum 45-day processing period upon the USACE's receipt of a complete application. Compensatory mitigation may be required to offset the loss of jurisdictional stream channels and wetlands when an approval from the USACE is required. Impacts that exceed the thresholds above for Nationwide Permits require an individual permit. Individual permit processing could take as much as 12 months to complete.

Impacts permitted by the USACE also require a Section 401 Water Quality Certification from NCDWQ. The NCDWQ has issued General Water Quality Certifications for impacts to jurisdictional waters approved by USACE and impacts to riparian buffers. Pre-construction notification and approval from the NCDWQ is required for greater than 150 linear feet of stream channel impact and 0.10 acre of wetland impacts for the entire project area and/or any length of stream impact within Neuse, Tar-Pamlico, or Randleman River Basins that require written concurrence from the NCDWQ for compliance with the riparian buffer rules discussed below. Water Quality Certifications have a maximum 60-day processing period upon the NCDWQ's receipt of a complete application. Compensatory mitigation may be required for impacts to 150 linear feet or more of stream channel and/or 1 or more acre of wetlands.

#### **Recommendations**

BLC recommends requesting a verification of the surface water and wetland delineation from the USACE including a determination of important aquatic function. We also recommend proceeding with a survey of the wetlands and stream channels identified on Figure 3. If proposed, BLC also recommends continued coordination with our office regarding permitting impacts to jurisdictional waters and wetlands present on the site.

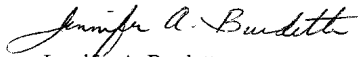
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Mr. Daniel Sullivan  
February 17, 2006  
Project #: 60009

We thank you for the opportunity to provide our services in support of the this project and look forward to assisting Contentnea Creek Development Company with obtaining the proper permits for development.

Sincerely,

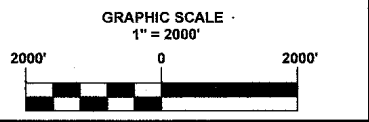
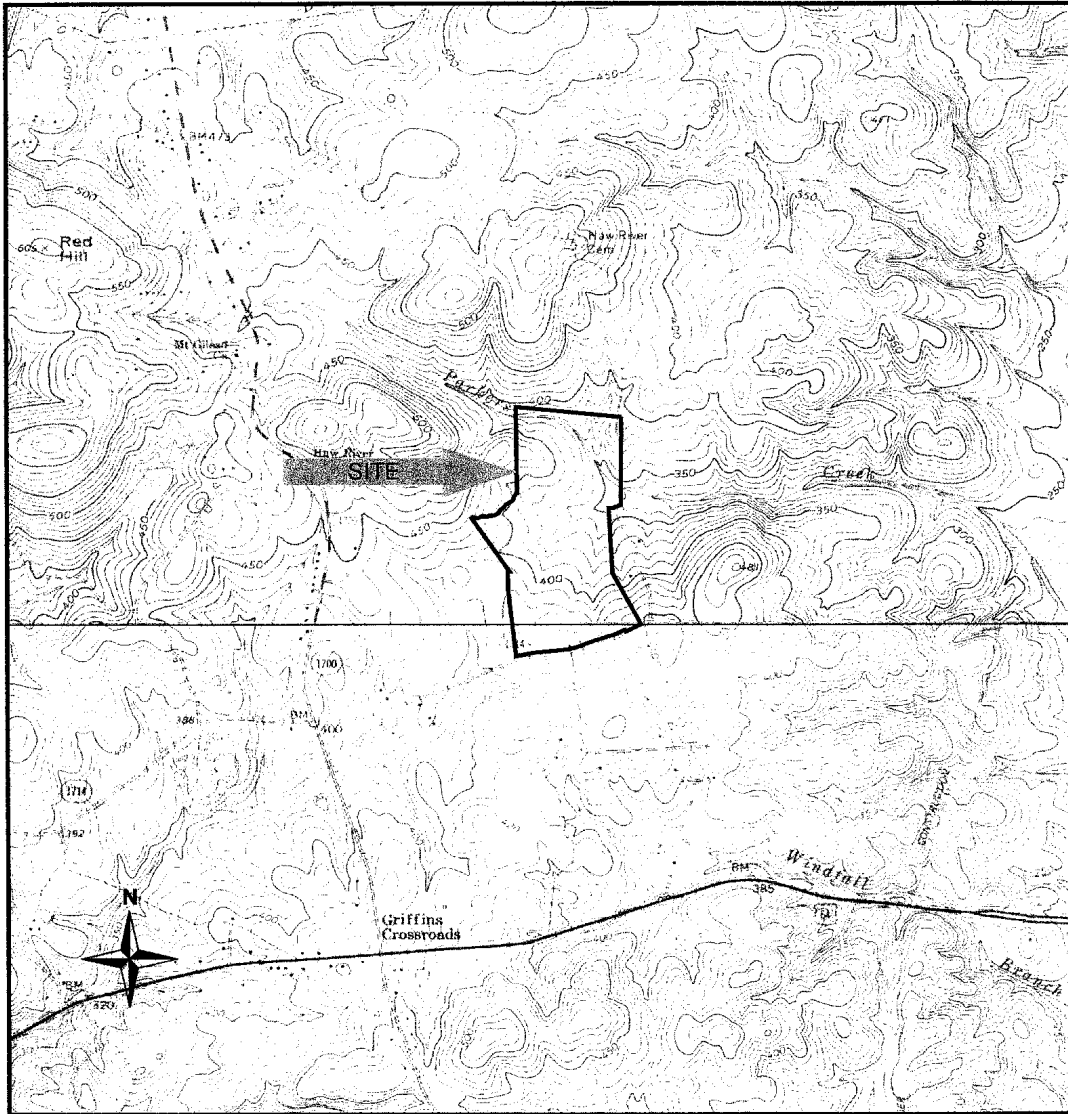
BURDETTE LAND CONSULTING, INC.



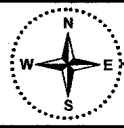
Jennifer A. Burdette  
Senior Environmental Specialist

Attachments

c: John Harris



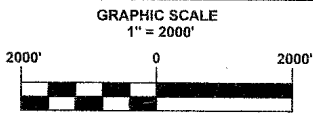
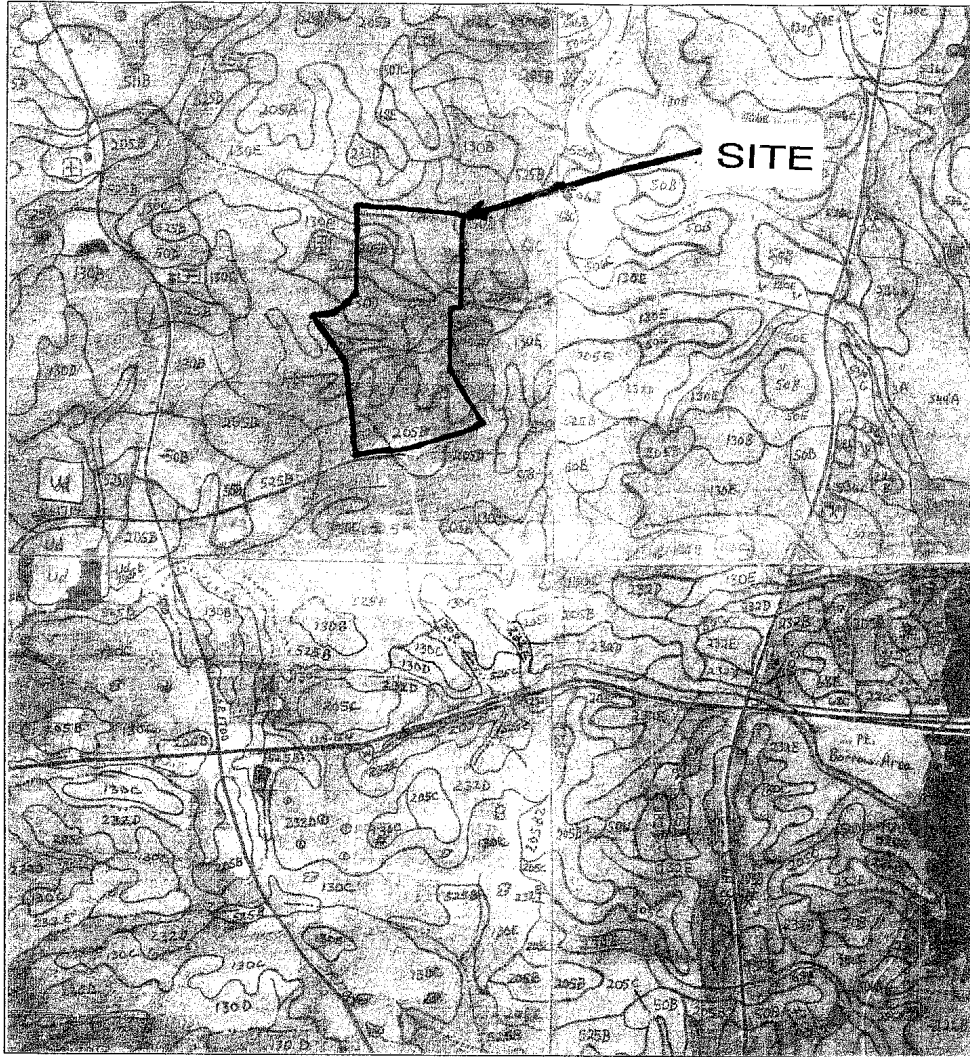
USGS LOCATION MAP  
COOPER SITE  
JORDAN LAKE, CHATHAM COUNTY, NC



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DATE: 2/6/06	USGS 7.5' TOPO QUAD(S): MERRY OAKS AND FARRINGTON, NC
DRAWN BY: TMB	CHK'D BY: JAB
PROJECT #: 60009	FIGURE #: 1



CHATHAM COUNTY SOIL SURVEY MAP  
COOPER SITE  
JORDAN LAKE, CHATHAM COUNTY, NC



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DATE: 2/6/06

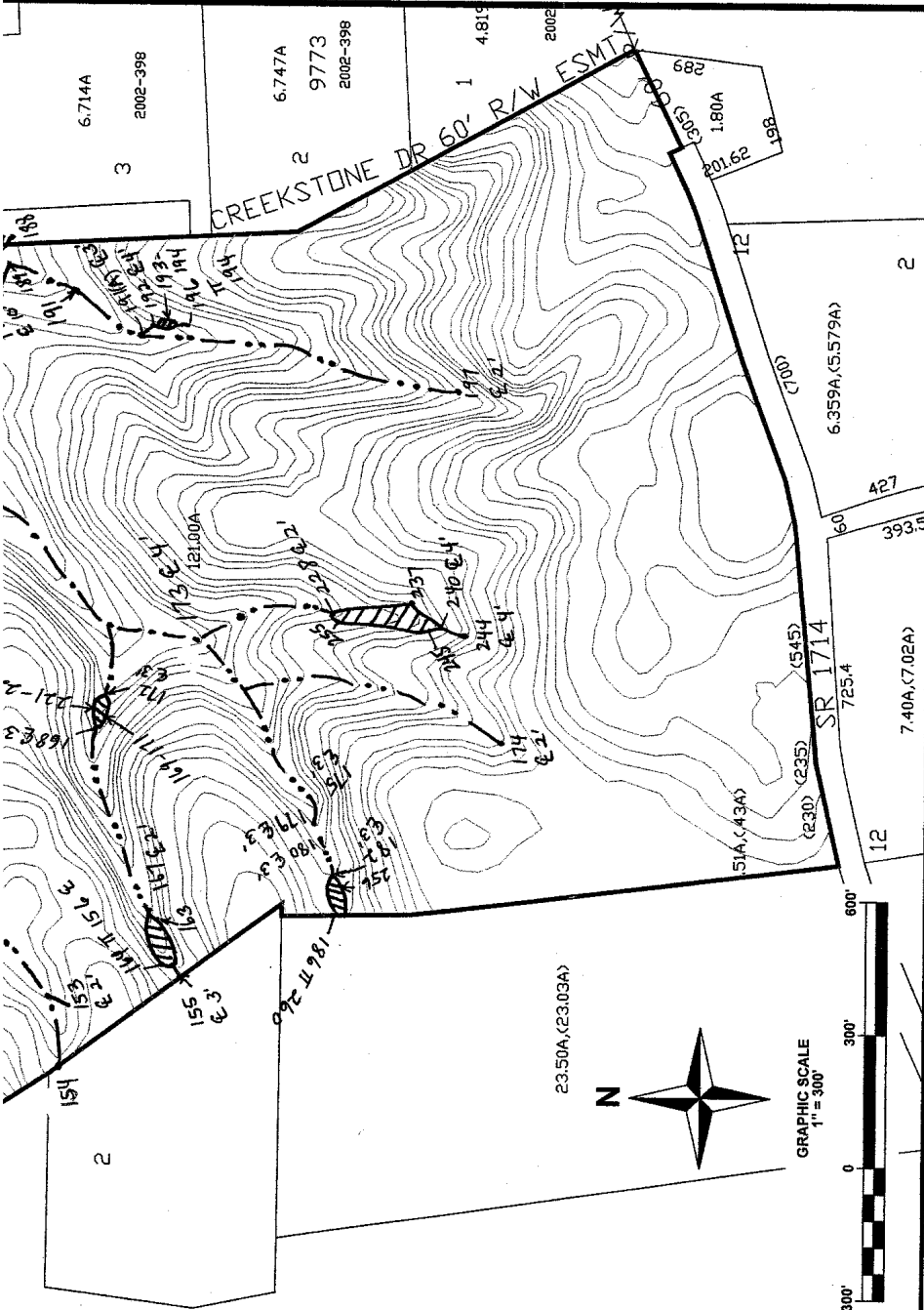
DRAWN BY: TMB

PROJECT #: 60009

SOIL SURVEY SHEET(S):  
H3, H4, I3, I4

CHK'D BY: JAB

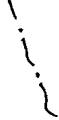
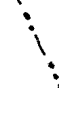
FIGURE #: 2



<p><b>BURDETTE LAND CONSULTING, INC.</b>          308-D W Millbrook Road, Suite 200 - Raleigh, North Carolina 27609          Telephone (919) 841-9977 - Fax (919) 841-9909</p>	<p><b>JURISDICTIONAL WATERS SKETCH MAP</b>          COOPER TRACT          JORDAN LAKE, CHATHAM COUNTY, NC</p>
<p>DATE: 02-16-06          SCALE: 1" = 300'          DRAWN BY: TMB          CHK'D BY: JAB          PROJECT #: 60099          FIGURE #: 3</p>	<p>6.714A 2002-398 3 6.747A 9773 2002-398 2 4.819 2002 1 1.80A 201.62 198 121.00A 151 154 157 160 163 166 169 172 175 178 181 184 187 190 193 196 199 202 205 208 211 214 217 220 223 226 229 232 235 238 241 244 247 250 253 256 259 262 265 268 271 274 277 280 283 286 289 292 295 298 301 304 307 310 313 316 319 322 325 328 331 334 337 340 343 346 349 352 355 358 361 364 367 370 373 376 379 382 385 388 391 394 397 400 403 406 409 412 415 418 421 424 427 430 433 436 439 442 445 448 451 454 457 460 463 466 469 472 475 478 481 484 487 490 493 496 499 502 505 508 511 514 517 520 523 526 529 532 535 538 541 544 547 550 553 556 559 562 565 568 571 574 577 580 583 586 589 592 595 598 601 604 607 610 613 616 619 622 625 628 631 634 637 640 643 646 649 652 655 658 661 664 667 670 673 676 679 682 685 688 691 694 697 700 703 706 709 712 715 718 721 724 727 730 733 736 739 742 745 748 751 754 757 760 763 766 769 772 775 778 781 784 787 790 793 796 799 802 805 808 811 814 817 820 823 826 829 832 835 838 841 844 847 850 853 856 859 862 865 868 871 874 877 880 883 886 889 892 895 898 901 904 907 910 913 916 919 922 925 928 931 934 937 940 943 946 949 952 955 958 961 964 967 970 973 976 979 982 985 988 991 994 997 1000</p>



**LEGEND**

-  JURISDICTIONAL STREAM CHANNEL THAT EXHIBITS IMPORTANT AQUATIC FUNCTION AND ARE POTENTIALLY SUBJECT TO CHATHAM COUNTY VEGETATED BUFFER REQUIREMENTS
-  JURISDICTIONAL STREAM CHANNEL THAT MAY NOT EXHIBIT IMPORTANT AQUATIC FUNCTION AND ARE NOT SUBJECT TO CHATHAM COUNTY VEGETATED BUFFER REQUIREMENTS

 JURISDICTIONAL WETLANDS

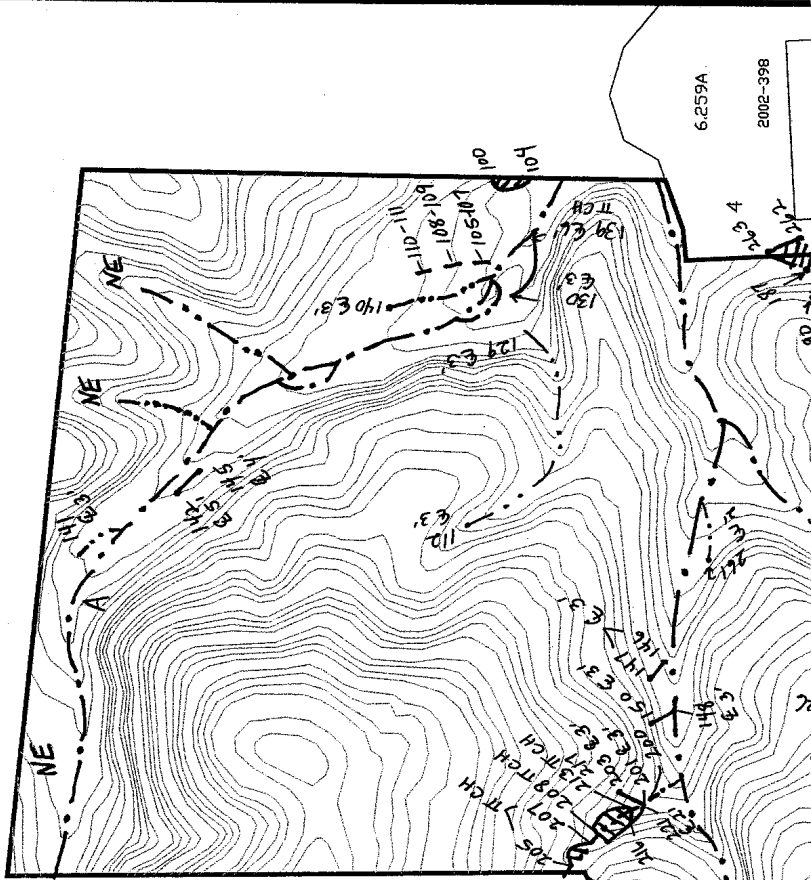
 AREA EVALUATED

**DRAINAGE DESIGNATIONS**

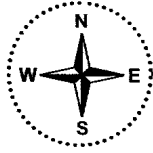
- A** CENTERLINE
- ξ TIE TO
- TT CHANNEL

- NOTES:**
- 1.) THE DESIGNATION AND LIMITS OF THESE FEATURES MUST BE VERIFIED BY THE US ARMY CORPS OF ENGINEERS.
  - 2.) THE LOCATIONS OF THESE FEATURES ARE APPROXIMATE AND DEPICTED HERE TO FACILITATE SURVEYING. THIS MAP DOES NOT REPRESENT A SURVEY OF JURISDICTIONAL / ISOLATED WATERS OF THE US.
  - 3.) STREAM CHANNELS WITH A CLEAR BED AND BANK WERE NOT FLAGGED. SURVEYORS NEED TO LOCATE THE CENTER LINE OF THESE STREAM CHANNELS AT EACH BEND OR MEANDER AND NOTE THE WIDTH OF THE CHANNEL AT EACH POINT.

**NE NOT EVALUATED**



6.259A  
2002-398



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**AGENT AUTHORIZATION FORM**

US Army Corps of Engineers  
Raleigh Regulatory Field Office  
6508 Falls of Neuse Road, Suite 120  
Raleigh, North Carolina 27615

North Carolina Division of Water Quality  
Central Office  
Mail Service Center 1650  
Raleigh, North Carolina 27699

To Whom It May Concern:

By signing below, the current property owner gives representatives of Burdette Land Consulting, Inc. permission to act as their authorized agent for jurisdictional and isolated waters and riparian buffer determinations, delineation, and permitting for the subject project. This authorization includes permission to enter the site to conduct site meetings with US Army Corps of Engineers and NC Division of Water Quality personnel, as necessary.

Project Name: Cooper Tract

BLC Project #: 60009

Current Property Owner or Easement Holder:

Name: \_\_\_\_\_  
*(include contact person if a corporation, partnership, or government)*

Mailing Address: \_\_\_\_\_

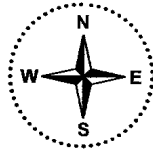
\_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Signature \_\_\_\_\_ Print Name *(include title, if appropriate)* \_\_\_\_\_

\_\_\_\_\_ Date

\_\_\_\_\_



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**Preparation of Jurisdictional and Isolated Waters Survey for USACE Approval Guidance**

The following applies to plats or plans submitted to the Corps of Engineers for confirmation of Section 404 jurisdiction:

- 1) In addition to the applicant's copies, one legible paper copy on 11X17 inch or smaller paper (multiple sheets with matchlines are acceptable), or a digital copy on disk (Autocad or Microstation are acceptable) must be submitted for Corps files.
- 2) Distances and bearings for wetland boundaries and stream channels must be printed legibly along side the lines or in an arranged table. Centerline points with widths noted at each point are acceptable for stream channels. Show all connections of stream channels through culverts.
- 3) Area of individual wetlands depicted (square feet or acreage) or linear measurements allowing the area to be calculated should be shown.
- 4) Total area of wetlands and waters depicted (square feet or acreage) should be shown
- 5) Total area (acreage) of property or area evaluated
- 6) The plat must be sealed or signed by the surveyor.
- 7) Plat must clearly identify the limit of the evaluation. Cut jurisdictional areas at the property lines or the limit of evaluation, and do not show jurisdictional areas beyond the property or area being surveyed.
- 8) If non-jurisdictional wetlands are present, we recommend that some legible method (e.g. hatching, or an arrow indicating isolated wetlands) be used to identify the wetland on the survey. Determination of non-jurisdiction must first be approved by the Corps.
- 9) One of the following paragraphs of certification should be printed on the survey with the signature lines, depending upon the situation:

- a. For sites where the entire actual jurisdictional boundary is depicted:

“This certifies that this copy of this plat accurately depicts the boundary of the jurisdiction of Section 404 of the Clean Water Act as determined by the undersigned on this date. Unless there is a change in the law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five years from this date. This determination was made utilizing the 1987 Corps of Engineers Wetlands Delineation Manual.”

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

AID: \_\_\_\_\_

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For sites where a portion of the actual jurisdictional boundary is depicted (such as when only the impact areas were delineated):

“This certifies that this copy of this plat accurately depicts the boundary of the jurisdiction of Section 404 of the Clean Water Act in the areas impacted by the present proposed activity, as determined by the undersigned on this date. Other areas of jurisdiction may be present on the site but have not been delineated. Unless there is a change in the law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five years from this date. This determination was made utilizing the 1987 Corps of Engineers Wetlands Delineation Manual.”

For sites where there may be upland within the depicted jurisdictional boundary:

“This certifies that this copy of this plat identifies as waters of the U.S. or wetlands all areas of waters of the U.S., including wetlands, regulated pursuant to Section 404 of the Clean Water Act as determined by the undersigned on this date. Unless there is a change in law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five years from this date. This determination was made utilizing the 1987 Corps of Engineers Wetlands Delineation Manual.”

For sites where only the impact areas have been delineated and those areas include uplands.

“This certifies that this copy of this plat identifies as waters of the U.S. or wetlands all areas of waters of the U.S., including wetlands, regulated pursuant to Section 404 of the Clean Water Act in the areas impacted by the present proposed activity, as determined by the undersigned on this date. Other areas of jurisdiction may be present on the site but have not been delineated. Unless there is a change in the law or our published regulations, this determination of Section 404 jurisdiction may be relied upon for a period not to exceed five years from this date. The determination was made utilizing the 1987 Corps of Engineers Wetlands Delineation Manual”