



Soil & Environmental Consultants, PA

8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
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November 17, 2017
S&EC Project No.: 13203.W2

Attn: Alex Barroso
239 Parker Road
Chapel Hill, NC 27516

Re: Chatham County Stream Buffer Evaluation and Wetland Review
Manns Chapel Road Tract
Chatham County, NC

Mr. Barroso:

On November 14, S&EC personnel completed the Chatham County Buffer evaluation and wetland review on the Manns Chapel Road Tract in Chatham County. You will find the attached report detailing our findings. Supporting maps that further document the wetland and stream related site characteristics are also attached. Please review this information and call our office if you have questions.

The next step in the wetland and stream verification process is to visit the site with the Army Corps of Engineers' agent for Chatham County. In addition, a site meeting must be conducted with an agent for Chatham County (for review of the revised Chatham County Watershed Ordinance). Furthermore, I am attaching a copy of our agent authorization form that you should complete and return; this will grant S&EC authority to correspond with the Corps on your behalf.

As you move forward in planning your development, S&EC personnel are available for site plan review and permit consultation services. Please contact S&EC if you have any questions related to wetland and stream regulations or if you need clarification of the attached report.

Sincerely,

Steven Ball, RF, PWS
Project Manager

Dan McCauley
Environmental Scientist

CHATHAM COUNTY BUFFER EVALUATION & WETLAND DELINEATION FOR THE Manns Chapel Road Tract

On November 14, 2017, S&EC personnel completed a Chatham County Buffer evaluation and Wetland Delineation on the Manns Chapel Road Tract (± 122.13 acres). The site is located southeast of the intersection of Manns Chapel Road and Tobacco Road in Chatham County, NC. Figure 1 and Figure 2 show the location of the site on a USGS topographic quadrangle and NRCS County Soil Survey, respectively.

EXECUTIVE SUMMARY

We have determined that some on-site features will likely require county buffer protection as well as be regulated by the USACE. The attached sketch map depicts the approximate location of each buffer area. The exact location of each delineated area should be surveyed with appropriate buffer widths established and incorporated into planning for the project.

SCOPE OF WORK

The Chatham County Buffer Evaluation was conducted according to guidelines referenced in the Chatham Watershed Protection Ordinance Section 304(E)10. Specifically, the ordinance directs evaluators to the “Field Procedures for Classification of Streams and Waterbodies, Chatham County, NC” (December 12, 2007), which “prescribes methodologies for establishing the location and extent of streams and water bodies in the field.” Areas on the site that met the criteria for buffer protection were delineated in the field with numbered, pink S&EC logo flagging. It is important to note that some features described in this report may meet the criteria for jurisdictional wetlands or other Waters of the US regulated by the US Army Corps of Engineers (USACE) and/or the NC Division of Water Quality (NC-DWQ) under authority of the Clean Water Act (33 USC 1344).

RESULTS & RECOMMENDATIONS

The results of the Chatham County Buffer Evaluation are discussed below.

Chatham County Buffers:

We have determined that the following on-site areas meet the criteria for buffer protection as defined by the Chatham County Watershed Protection Ordinance. Please refer to the attached “Buffer Sketch Map” for specific flag numbers and approximate locations.

Buffered features were observed during the site evaluation; the approximate locations of each are illustrated on the attached buffer sketch map.

Ephemeral Streams that would likely require a 30-foot buffer were identified on-site and are described below:

- **Feature E** (UT to Wilkinson Creek) begins off property to the west and stops shortly after at flag SB04 Stop.

- **Feature J** (UT to Wilkinson Creek) begins at flag SB02 and flows east. This feature does not contain a strong; well defined drainage throughout and should be reviewed by Chatham County.

Intermittent Streams that would likely require a 50-foot buffer were identified on-site and are described below:

- **Feature C** (UT to Wilkinson Creek) begins at flag S01 and flows into Wetland 9.
- **Feature D** (UT to Wilkinson Creek) begins at flag S02 and flows into Feature C.
- **Feature G** (UT to Wilkinson Creek) begins at flag S03 and flows into Feature F.
- **Feature I** (UT to Wilkinson Creek) begins at flag S04 and flows into Feature H.

Perennial Streams that would likely require a 100-foot buffer were identified on-site and are described below:

- **Feature A** (UT to Wilkinson Creek) begins off property to the north and flows south off property. This feature becomes impounded once it passes through the power easement. This area will need to be reviewed by Chatham County to determine if the perennial buffer will be assessed from the water's edge.
- **Feature B** (UT to Wilkinson Creek) begins off property to the north and flows into Feature A.
- **Feature H** (UT to Wilkinson Creek) begins at flag SB01 and flows into Feature F.
- **Feature F** (UT to Wilkinson Creek) begins off property to the north and flows into Feature A.

Please refer to the attached sketch for approximate locations and classifications.

Wetland areas identified on-site that would potentially require a 50-foot.

- **Wetlands 1 through 10** have been delineated and will need to be approved by the USACE. These wetlands will need to be surveyed and placed on a map for planning purposes. Please see attached sketch map for the locations of the wetlands identified on-site.

Surface waters on this site flow into Wilkinson Creek in the Cape Fear River Basin, which has been classified in NC-DWQ's "Classification and Water Quality Standards Applicable to Surface Waters and Wetlands of North Carolina" as WS-IV; NSW.

The streams on this site are potentially subject to buffer regulations administered by state and local authorities. A brief description of county buffers can be found in the regulations section of this report. The project engineer or planner should provide input toward the application of these regulations to the site plan during design and review.

All S&EC flags comprising the Chatham County Buffer Evaluation should be surveyed for use in site planning and county approval and permitting. The entire length of the stream feature was not flagged, but will need to be survey located for the map. Stream features may be located either along the centerline (with channel widths noted at each survey point) or at the top-of-bank. S&EC delineation flag numbers should be shown on the survey.

All S&EC flags comprising the wetland and jurisdictional waters delineation should be surveyed and a Wetland Delineation Map generated for use in site planning and USACE approval and permitting. The entire length of each stream feature was not flagged, but will need to be survey located for the Wetland Delineation Map. Stream features may be located either along the centerline (with channel widths noted at each survey point) or at the top-of-bank. The Wetland Delineation Map should include all of the information listed on the attached **“Obtaining a Jurisdictional Determination – Submitting a Plat for Corps Verification.”** S&EC delineation flag numbers should be shown on the wetland survey. Please have the property owner or contracting buyer complete the attached agent authorization form if you would like S&EC to act on their behalf for requesting approval of the wetland delineation. This form will also be used in preparing a permit application for impacts to wetlands or surface waters when we are provided with a plan showing the proposed impacts. **S&EC cannot conduct correspondence with the USACE unless we have agent authorization (see attached Agent Authorization). This authorization form must be filled out in its entirety and returned to S&EC (a faxed copy is acceptable).**

Regulations

A short list of regulations that apply to buffer areas observed on the site are discussed below. Please be aware that other local, state, and federal regulations not included in this list may also apply. S&EC personnel are available to discuss these regulations as they apply to your project.

Chatham County Watershed Protection Ordinance

The Chatham County Watershed Protection Ordinance was revised February 20, 2012 to require stringent buffer requirements around surface water features in the County’s jurisdiction. The ordinance requires all stream classifications to be conducted by a qualified professional who has received documented certification of training in classifying streams and surface waters in North Carolina. Additionally, all wetland delineations must be conducted by a qualified professional who has at least 2 years of demonstrated experience in conducting wetland delineations in North Carolina under the Clean Water Act Sections 401 and 404 provisions. All field determinations of streams are subject to review and approval by the County.

The ordinance requires a one hundred (100’) foot buffer along each side of perennial streams, or the full horizontal extent of the “Area of Special Flood Hazard 5” as most recently mapped by the North Carolina Floodplain Mapping Program, NC Division of Emergency Management, whichever is greater. Intermittent Streams require a fifty (50’) foot riparian buffer along each side. Ephemeral Streams require a thirty (30’) foot buffer along each side. Wetlands require a riparian buffer of fifty (50’) feet from the delineated boundary, surrounding all features classified as wetlands and linear wetlands.

Before **any** land disturbance activities may begin, and in addition to any erosion control notification, the riparian buffer boundaries must be clearly flagged in the field and approved by county staff. Tree protection fencing or other approved protective measures must be installed along the approved flagging lines.

Limitations

Our evaluations, conclusions, and recommendations are based on project and site information available to us at the time of this report and may require modification if there are any changes in the project or site conditions, or if additional data about the project or site becomes available in the future. This report is intended for use by Alex Barroso on this project. These findings are not intended or recommended to be suitable for reuse on extensions of the project or on any other project. Reuse on extensions of this project or on any other project shall be done only after written verification or adaptation by SOIL & ENVIRONMENTAL CONSULTANTS, PA, for the specific purpose intended.

CONCLUSION

The Chatham County Buffer Evaluation for the Manns Chapel Tract was completed by S&EC on November 14, 2017. This site contains buffered areas that require protection under the Chatham County Watershed Protection Ordinance as well as areas regulated by the USACE. Some activities such as utility crossings are allowed in the riparian buffer as prescribed under Section 304(F)10. Please have the buffer survey forwarded to our office upon completion for our verification and review.

Drew Blake with Chatham County confirmed stream buffers on 1/2/18
 Andy Williams with the USACE confirmed jurisdictional features on 1/11/17

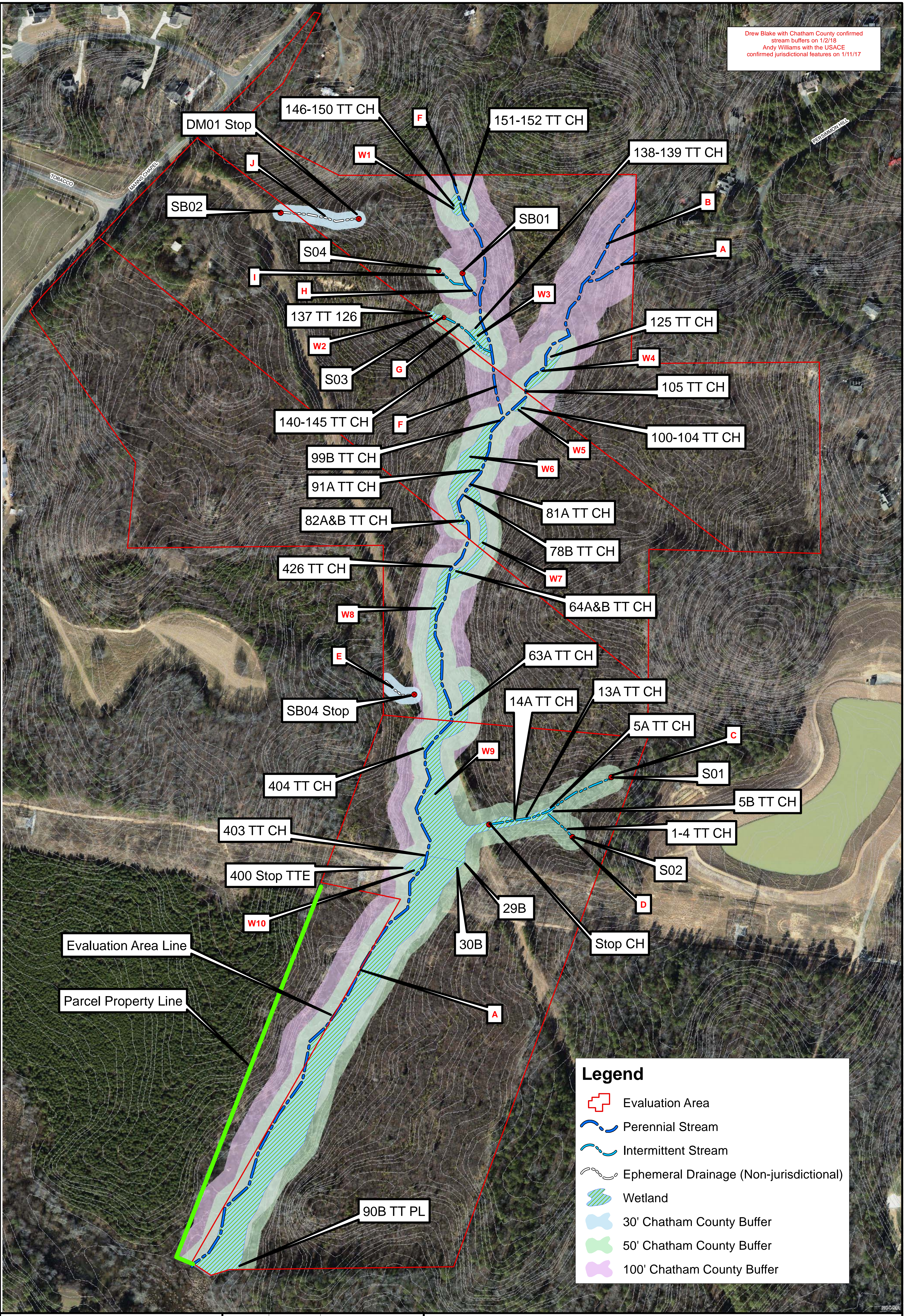
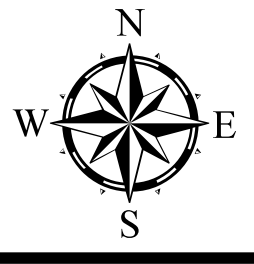


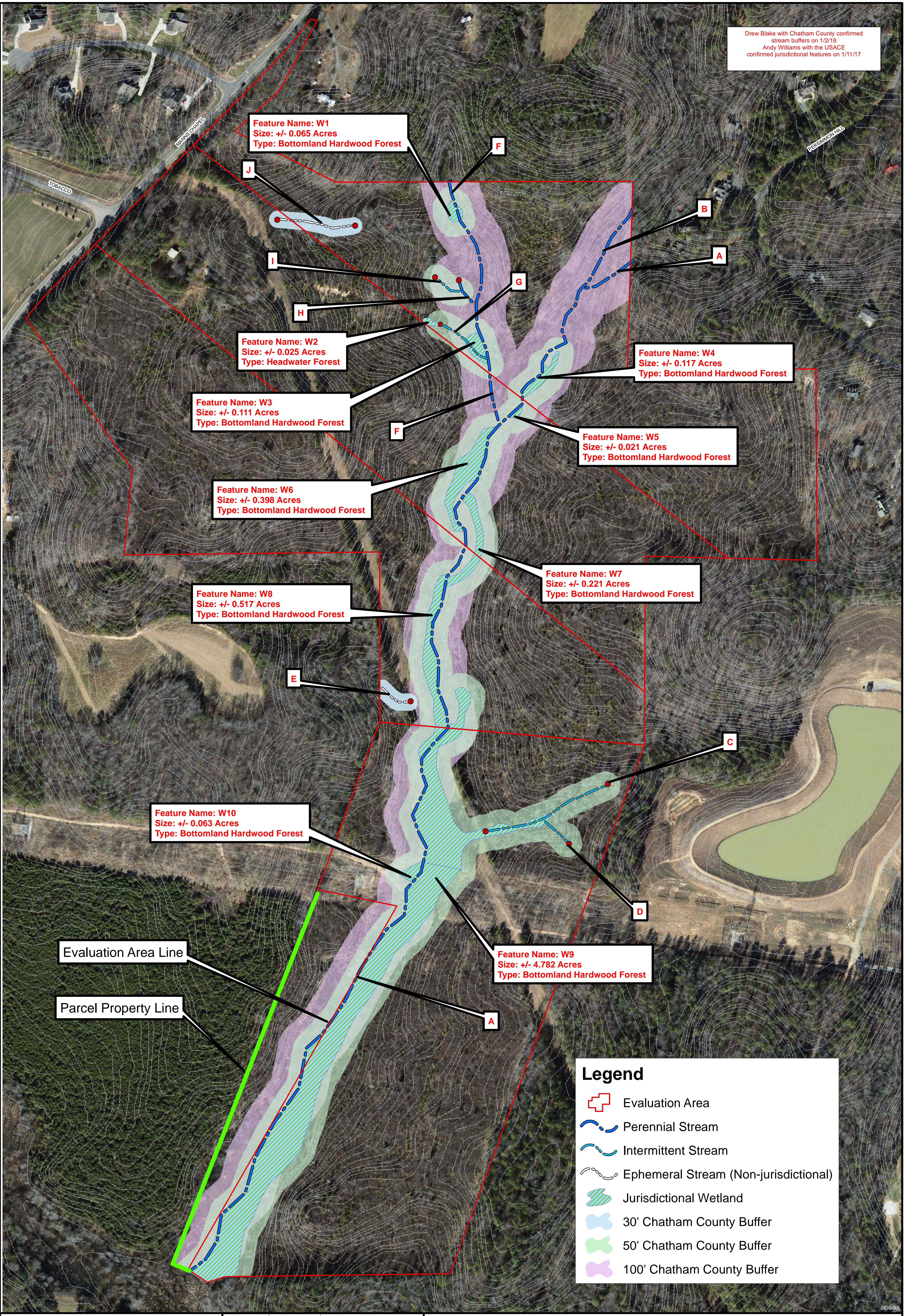
Figure - Sketch Map

Project No. 13203	Scale: 1 = 150'	Manns Chapel Chatham County, NC Chatham County GIS NC OneMap
Project Mgr.: SB	1/11/18	Prepared by: DM

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Drew Blake with Chatham County confirmed stream buffers on 1/2/18
 Andy Williams with the USACE confirmed jurisdictional features on 1/11/17



Feature Name: W1
 Size: +/- 0.065 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W2
 Size: +/- 0.025 Acres
 Type: Headwater Forest

Feature Name: W3
 Size: +/- 0.111 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W6
 Size: +/- 0.398 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W8
 Size: +/- 0.517 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W10
 Size: +/- 0.063 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W4
 Size: +/- 0.117 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W5
 Size: +/- 0.021 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W7
 Size: +/- 0.221 Acres
 Type: Bottomland Hardwood Forest

Feature Name: W9
 Size: +/- 4.782 Acres
 Type: Bottomland Hardwood Forest

Evaluation Area Line

Parcel Property Line

Legend

- Evaluation Area
- Perennial Stream
- Intermittent Stream
- Ephemeral Stream (Non-jurisdictional)
- Jurisdictional Wetland
- 30' Chatham County Buffer
- 50' Chatham County Buffer
- 100' Chatham County Buffer

Figure Sketch Map

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