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March 8, 2024

Stocks Engineering
801 East Washington Street
Nashville, NC 29856

Attn: Mr. Kevin Varnell
E: kvarnell@stocksengineering.com

RE: Edgecombe County Animal Shelter
Wetlands/Waters Delineation
Edgecombe County, NC
Terracon Project No: 70237634

Dear Mr. Varnell:

Terracon Consultants, Inc. (Terracon), has completed the requested wetlands and waters delineation for the 33-acre Edgecombe County Animal Shelter Site located in Edgecombe County, NC (Exhibit 1). Terracon staff was tasked with identifying features that may be considered subject to jurisdiction and permitting requirements under Sections 404 and 401 of the Clean Water Act (CWA). The results presented herein are based on Terracon's best professional judgment and on the current regulations guidance regarding identifying jurisdictional wetlands and waters. The results are subject to review and concurrence by U.S. Army Corps of Engineers (USACE).

Background Research

Prior to the initiation of field efforts, several available resources were reviewed, including the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle of Tarboro, NC, the Natural Resources Conservation Service (NRCS) published Soil Survey of Edgecombe County, NC, aerial photography, and other publicly available mapping resources. Field work was conducted by technical staff on March 4, 2024.

Topography

Topography in the study area is characterized by gently sloping land. Elevations range from a high of approximately 108 feet above mean sea level (MSL) down to approximately 95 feet above MSL (Exhibit 1) based on a review of USGS mapping and other online resources.

Soils

Exhibit 2 depicts four (4) soil mapping units potentially occurring in the study area: Grantham very fine sandy loam; Rains fine sandy loam, 0-2% slopes, Southern Coastal Plain; and Norfolk loamy sand, 2-6% slopes.

The soil mapping units Rains fine sandy loam, 0-2% slopes, Southern Coastal Plain, and Grantham very fine sandy loam, both potentially occurring in the study area, are both considered hydric (wetland) soils by NRCS.

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Delineation Methodology

Terracon initially reviews readily available published resources to preliminarily identify features indicative of potential waters of the United States (WOTUS), including wetlands, on the site or in the immediate vicinity of the site. A field investigation is then performed to identify and delineate potential WOTUS and wetland areas utilizing the Routine On-site Determination Method described in the 1987 U.S. Army Corps of Engineers (USACE) [Wetland Delineation Manual](#) (USACE Manual) and the USACE November 2010 Atlantic Coast and Gulf Plain Region Supplement 2.0 (EMPRS). Potential wetland areas are located and investigated based on the three wetland parameters of hydrophytic vegetation, hydrology, and hydric soil indicators.

Hydrophytic vegetation is assessed by identifying plant species and their assigned wetland indicator rating of obligate (occur in wetlands >99% of the time), facultative wet (occur in wetlands 67-99% of the time), facultative (occur in wetlands 34-66% of the time), facultative upland (occur in wetland 1-33% of the time), and upland (occur in wetlands <1% of the time). The USACE manual defines hydrophytic vegetation as present when at least 50% of the dominant plant species are rated obligate, facultative wet, or facultative. Hydrology is determined based on several primary indicators (surface water, water marks, drift deposits, reduced iron presence, oxidized rhizospheres, etc.) and secondary indicators (soil surface cracks, drainage patterns, crawfish burrows, shallow aquitard, etc.). The USACE manual defines hydrology as present when at least one primary indicator and two secondary indicators are identified. Hydric soil is determined by investigating soil features such as color matrix, hue, and evidence of redox features including indicators such as saturation, stratified layers, gleyed matrix, mucky surface, organic/peat layers, hydrogen sulfide odor, and evidence of mottling indicating reduced conditions.

Areas possessing all three parameters, as described above, are located, and delineated as wetlands by designating their approximate boundaries with flagging tape. A data point is collected for each wetland area on the site detailing conditions as related to hydrophytic vegetation, hydrology, and hydric soil. The location of the data point is selected at a specific flag number indicative of conditions throughout the entire wetland area and adjacent upland area. Only one data point is typically collected for each wetland area on the site. Additional data points may be collected for atypical situations such as larger wetland areas that may exhibit differing ecological conditions in certain areas.

Additional potential WOTUS including stream channels, drainageways, and ditches are located, marked with flagging tape, and investigated to determine a preliminary stream classification, overall drainage patterns, and potential hydrologic connections to other WOTUS and wetland areas. If applicable, Terracon utilizes a sub-meter global positioning system (GPS) unit to locate field flagging. Otherwise, field flagging is located by an outside contracted surveyor.

Jurisdictional Wetlands and Waters

Section 404 of the Clean Water Act (CWA) requires regulation of discharges into WOTUS, including wetlands. Although the principal administrative agency of the CWA is the U.S. Environmental Protection Agency (EPA), the USACE has major responsibility for implementation, permitting, and enforcement of provisions of the CWA. Water bodies such as rivers, lakes, and streams are subject to jurisdictional consideration under the Section 404 program. However, by regulation, certain wetlands are also considered WOTUS. Our delineation methodology generally follows the guidance outlined in the Regional Supplement to the USACE Wetland Delineation Manual for the Atlantic Coast and Gulf Plains region, which states that areas must exhibit three distinct characteristics to be considered jurisdictional wetlands: 1) prevalence of hydrophytic (water tolerant) plants; 2) presence of hydric soils; and 3) sufficient wetland hydrology indicators within 12 inches of the

ground surface. The study area was also reviewed for the presence of tributaries (stream channels) using criteria provided by the USACE and the N.C. Division of Water Resources (NCDWR). When present, intermittent, and perennial tributaries, and certain other surface waters, are also considered typically jurisdictional by the USACE and/or NCDWR.

The following wetlands and waters will be under federal jurisdiction pursuant to the CWA:

- Traditional navigable waters (TNWs),
- Wetlands adjacent to TNWs,
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (3 months). This includes perennial streams and most intermittent streams
- Wetlands that are adjacent to such waters and tributaries, and
- Relatively permanent, standing or continuously flowing bodies of water “forming geographic features” that are described in ordinary parlance as “streams, oceans, rivers, and lakes”. These are Relatively Permanent Waters (RPWs).

The U.S. Supreme Court issued its decision in *Sackett v. Environmental Protection Agency* (EPA) on May 25, 2023. Based on the ruling, waters of the U.S. (WOTUS) are limited to streams, rivers, lakes, oceans, relatively permanent water bodies that are connected to navigable waters that are navigable in fact, and wetlands that have a continuous surface connection (i.e. adjacent) with navigable waters; provided the relatively permanent water bodies and wetlands constitute WOTUS and are “indistinguishable from” those waters. As of August 29, 2023, the new WOTUS Rule defines adjacent to mean “having a continuous surface connection”.

Based on the May 25, 2023, court ruling, the significant nexus test is no longer relevant, and some previously Section 404 wetlands may no longer be jurisdictional under Section 404 if they do not have a continuous surface connection to receiving waters. This ruling is significant because unlike previous court decisions, the *Sackett* case gives a majority ruling that will reshape the Section 404 regulatory framework in a more concise manner. It also has changed the way the State of North Carolina views those wetlands that are determined to be isolated/non-404 wetlands.

Previously under state law, North Carolina had an “isolated/non-404 wetland” permitting program, which generally required a state permit even if the wetland is not subject to Section 404 jurisdiction of the Corps. However, the need for a state permit has changed. On June 27, 2023, the NC legislature changed the state law definition for “wetlands” to be consistent with the federal rule. On September 20, 2023, North Carolina provided a public notice that stated, “Isolated wetlands and non-jurisdictional wetland permits will not be necessary for properties that have received Approved Jurisdictional Determinations (AJDs) confirming the wetlands on the property are not under the WOTUS rule”. Now that the USACE and EPA have restricted wetlands to only those water features with a continuous connection to a water course, it appears that the NCDEQ will not require isolated/non-404 wetland permits.

The following waters will still likely be considered non jurisdictional under the CWA:

- Swales or Erosional features (gullies, small washes characterized by low volume, infrequent or short duration flows)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.



Preliminary Delineation Results

Our review of the Edgecombe County Animal Shelter Site identified two (2) potential wetlands, one (1) potential tributary, two (2) potential jurisdictional ditches, and three (3) potential jurisdictional surface water ponds (Exhibit 3). The potential wetlands were flagged with pink-and-black and blue flagging, the potential tributaries and surface water ponds were flagged with blue and orange flagging, and the potential ditches were flagged with solid orange flagging.

These delineation results should be considered preliminary and are subject to review and approval by the USACE, should you request, and USACE chooses to review the delineation. Exhibit 3 depicts the approximate location and extent of the potential wetlands, tributary, surface water ponds, and ditches and was prepared using non-survey grade, sub-meter GPS data. Exhibit 3 is not a replacement for a traditional survey. It is suitable for preliminary planning purposes only and for use by a surveyor to aid in locating flags.

The following tables contain the specific information for the potential wetlands, tributary, ditches, and surface water ponds that were identified and delineated inside the property boundary. The potential wetlands were classified according to the North Carolina Wetland Assessment Method (NCWAM). The wetlands onsite were classified as a Headwater Forest wetland. Headwater Forests are found throughout the state in geomorphic floodplains of first-order or smaller streams and in topographic crenulations without a stream. W2, the largest wetland onsite, occurs in the expansive, Grantham hydric soil area.

Table 1. Potential Wetland Identified for the Edgecombe County Animal Shelter

Potential Wetland ID	NCWAM Classification	Approximate size (ac)	Hydrophytic Vegetation ¹	Hydric Soil (Munsell color)	Indicators of Hydrology ¹
W1	Headwater Forest	0.82	Sweetgum, red maple, giant cane	10YR 3/1 with redox	Surface water, saturation, moss trim lines
W2	Headwater Forest	5.58	Red maple, sweetbay, giant cane	7.5YR 3/1 with redox	Surface water, saturation, crayfish burrows
Total:		6.40 AC			

¹ Does not include all hydrophytic vegetation or hydrology indicators

Table 2. Potential Tributary Identified for the Edgecombe County Animal Shelter

Potential Tributary ID	Flow Regime ¹	NCDWR Stream Score	Approximate Amount in Study Area (LF)
T1	Intermittent	26	918
Total:			918 LF

¹ Based on NCDWR score at the time of the site investigation.

Additionally, two potentially jurisdictional ditches (D1 and D2) totaling 898 feet were identified within the study area. Due to their connection to other features, these features will likely be considered subject to Section 404 permitting.



Three surface water ponds (SW1, SW2, and SW3) were delineated within the project study area. SW1 has a culvert that drains to Wetland W2. If SW1 is serving as an active stormwater pond, then it may not be subject to USACE jurisdiction. SW2 is connected to ditch D2 and wetland W2. SW3 is connected to tributary T1. These surface water ponds, with the possible exception of SW1, may be subject to Section 404 jurisdiction as it appears they have connections to other jurisdictional features within the study area.

Table 3. Potential Surface Water Ponds Identified for the Edgecombe County Animal Shelter.

Potential Surface Water ID	Approximate Size (ac)	Subject to Buffer
SW1	0.20	No
SW2	0.02	No
SW3	0.08	No
0.30 AC		

Clean Water Act Permitting

Most impacts to wetlands and WOTUS, which are deemed under the jurisdiction of either the federal or state regulatory authority (USACE or NCDWR, respectively) must first be permitted pursuant to Section 404 and Section 401 of the CWA. Activities so authorized are subject to additional requirements to comply with water quality and storm water management regulations. The Nationwide Permit (NWP) program, administered by USACE, provides permitting of impacts which do not exceed a total of 0.5 acre of impact to wetlands and WOTUS. Under the NWP program, no more than 0.05 acre of stream/tributary can be impacted. If potential impacts exceed the NWP thresholds, then an Individual Permit from the USACE would be required.

It is Terracon’s professional opinion that all features delineated on the site will likely be subject to Section 404 jurisdiction based on the 2023 WOTUS Rule. If determined necessary, Terracon can prepare and submit a Preliminary Jurisdictional Determination (PJD) request to USACE to request written concurrence through a site visit or desktop review. Moving forward, the new WOTUS ruling will likely cause more delays in processing Jurisdictional Determinations and permits until USACE gets a handle on new guidance and implementation. If no impacts to any of the potential wetlands and/or WOTUS delineated onsite are proposed, then a PJD is typically not necessary.

Riparian Buffers/Setbacks

The study area is within the Tar-Pamlico River Basin within Edgecombe County. Per the Tar-Pamlico Riparian Buffer Rules, a 50-foot buffer will apply to features identified on the USGS 7.5-minute topographic map and/or the published Soil Survey for Edgecombe County. No features are identified on either of these maps. No riparian buffer should apply to any portion of the site.

Summary and Recommendations

Two (2) potential wetlands, one (1) potential tributary, three (3) potential surface water ponds, and two (2) potential ditches were delineated on the Edgecombe County Animal Shelter site. All features delineated will likely be considered subject to Section 404 jurisdiction and permitting requirements with the possible exception of SW 1 if it is an active stormwater pond. Terracon recommends that a PJD request be submitted to USACE if there is a possibility of Section 404



permitting being needed for the project and to fully document your due diligence if the site is proposed for development.

Please contact our office if you have questions regarding this evaluation.

Sincerely,
Terracon Consultants, Inc.

Dylan Warren

Dylan Warren
Field Scientist

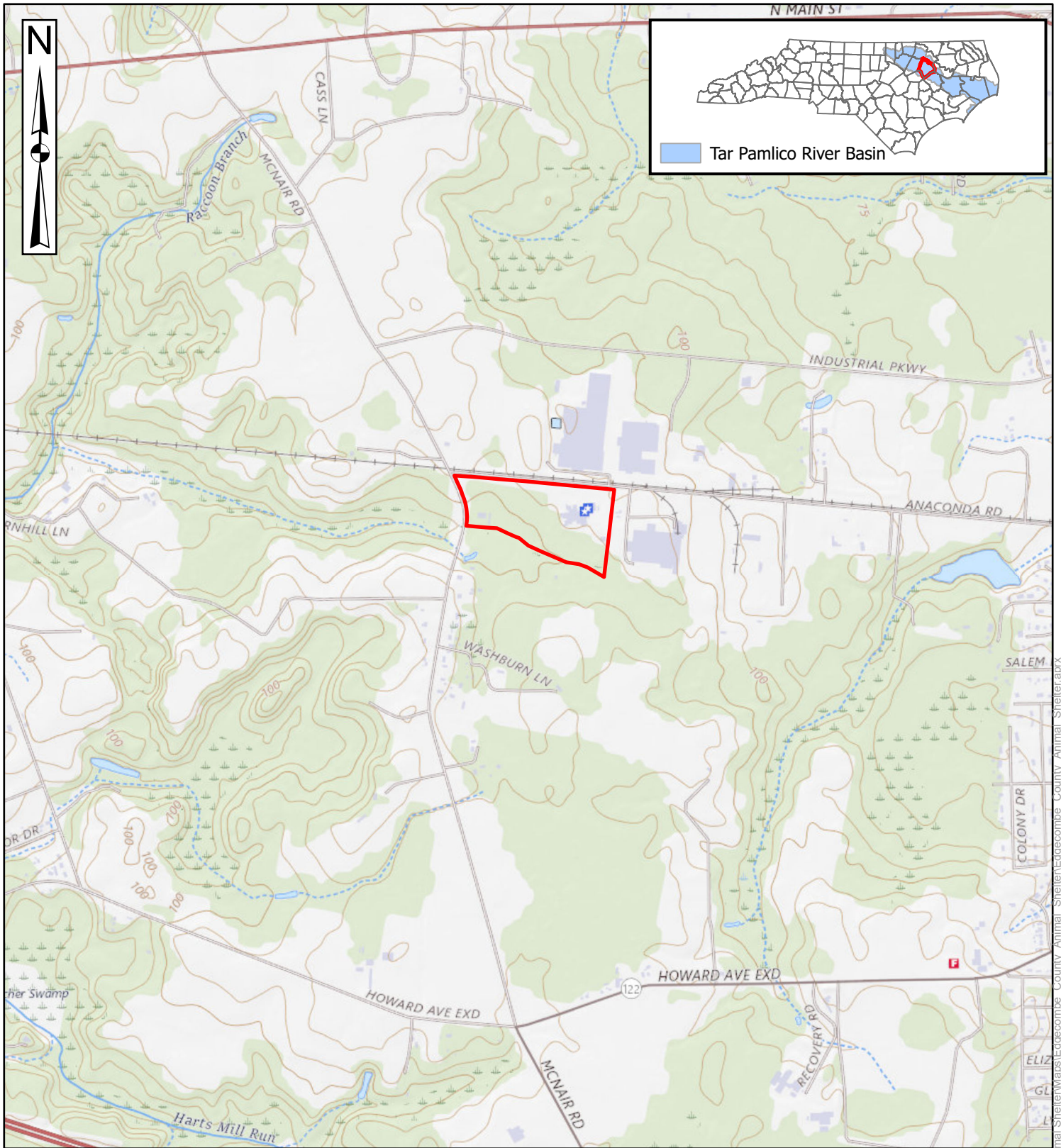
Rhiannon Graham

Rhiannon Graham
Senior Staff Scientist

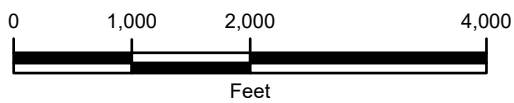
Jeff Harbour

Jeff Harbour, SPWS
Senior Scientist

Attachments: Exhibits




Project Study Area



DATA SOURCES:
USGS Topographic Basemap; 2022; Site Boundary
based on NC One Map Edgecombe County

PM:	RG	Project No.	70237634
Drawn By:	RG	Scale:	1 in = 1,624 ft.
Checked By:	JH	Filename:	Edgecombe_County_Animal_Shelter
Approved By:	JH	Date:	February 2024

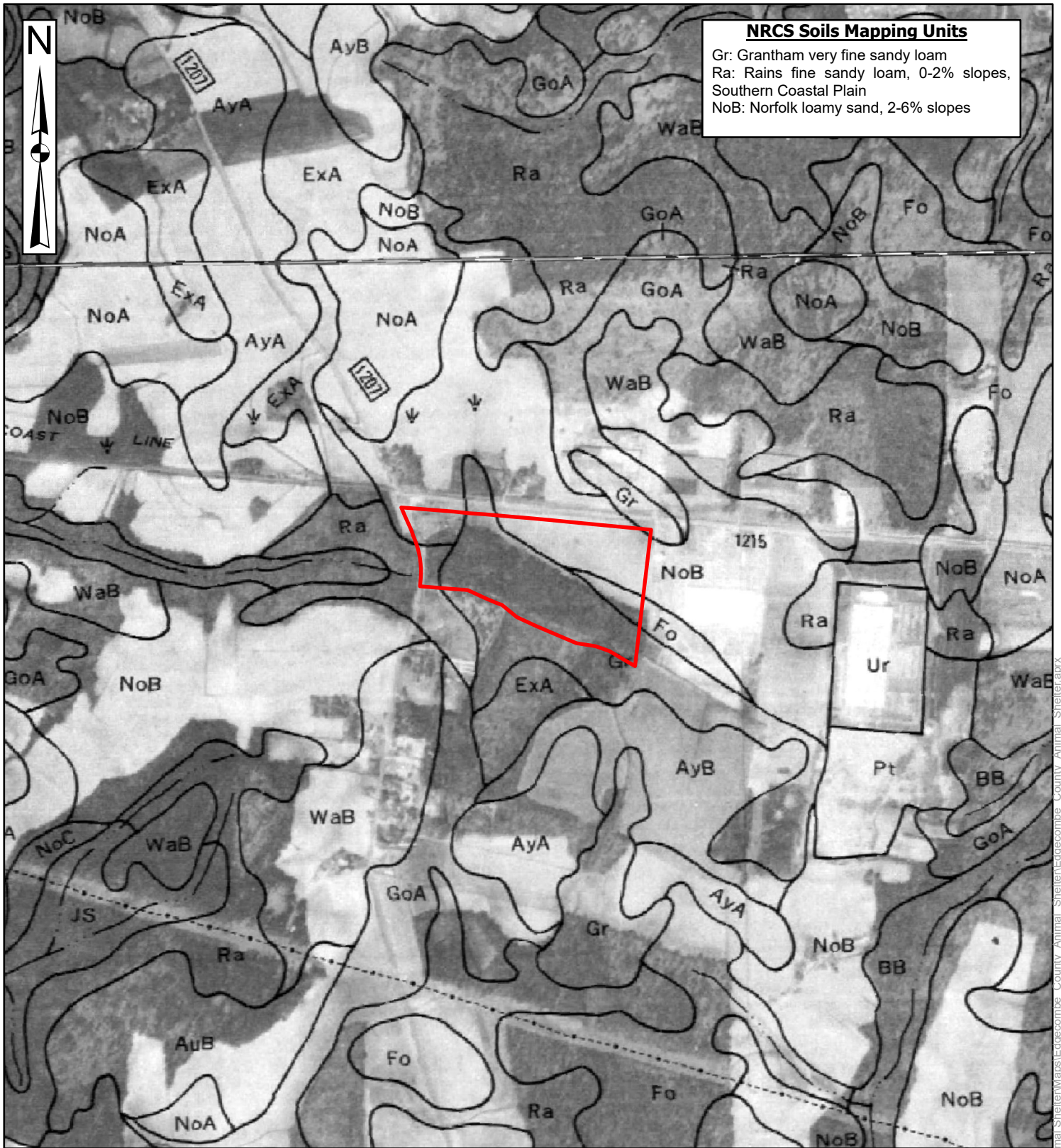


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USGS Topographic
Edgecombe County Animal Shelter Edgecombe County, NC

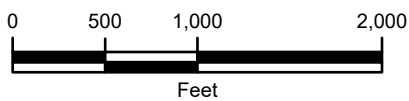
EXHIBIT NO.
1

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NRCS Soils Mapping Units
 Gr: Grantham very fine sandy loam
 Ra: Rains fine sandy loam, 0-2% slopes, Southern Coastal Plain
 NoB: Norfolk loamy sand, 2-6% slopes

 Project Study Area



DATA SOURCES:
 ESRI Aerial Imagery Basemap 2024; Site Boundary based on NC One Map Edgecombe County; NRCS Soil Data

PM:	RG	Project No.	70237634
Drawn By:	RG	Scale:	1 in = 1,040 ft
Checked By:	JH	Filename:	Edgecombe_County_Animal_Shelter
Approved By:	JH	Date:	February 2024

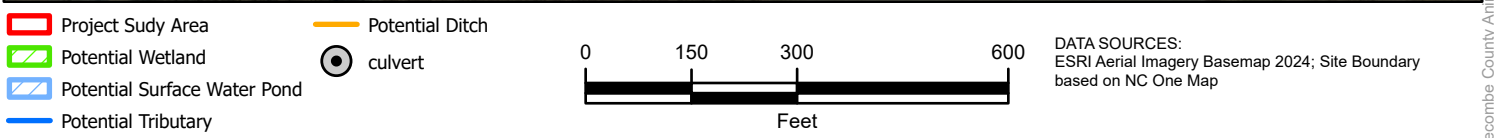
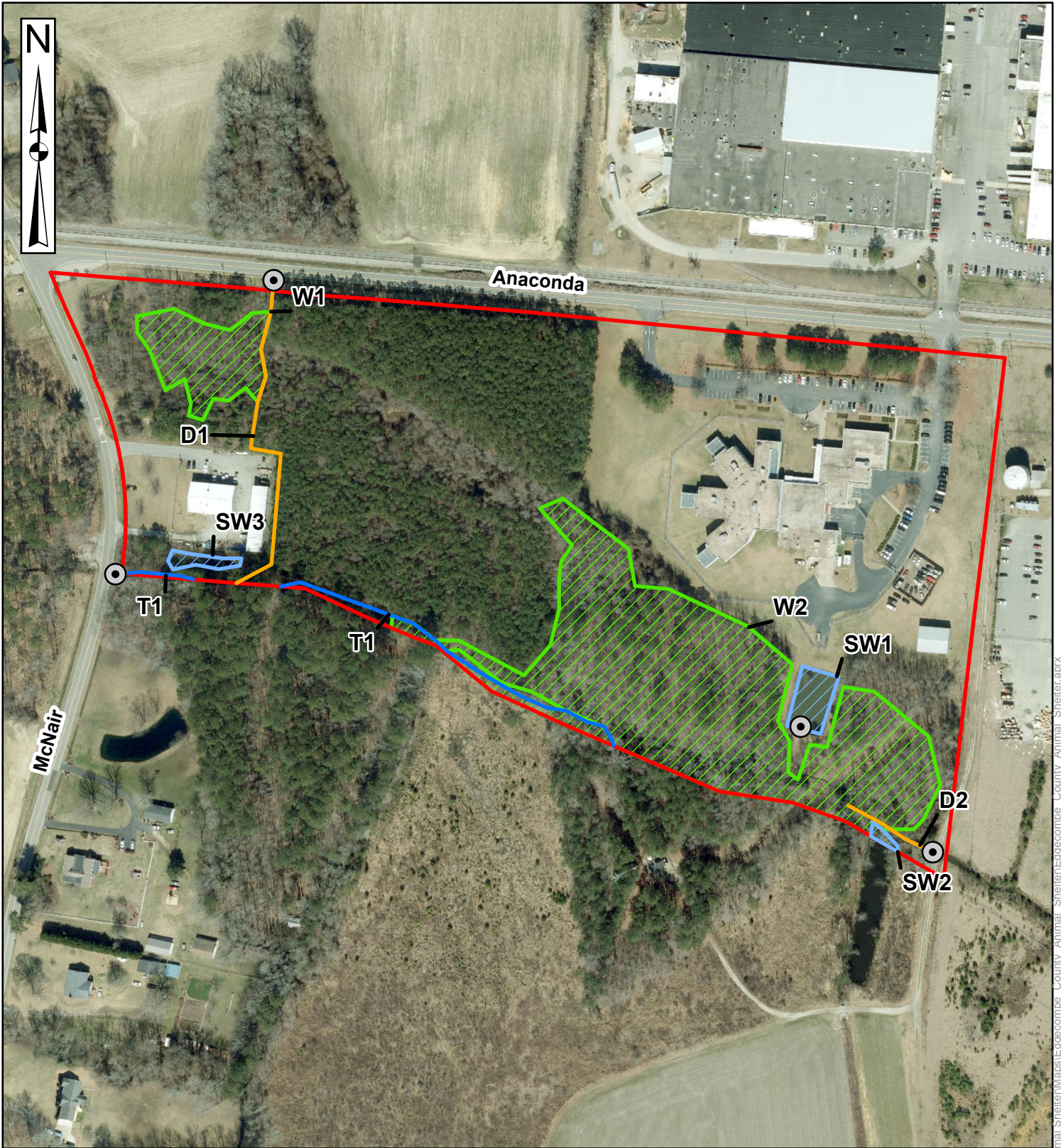


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NRCS Soil Survey
Edgecombe County Animal Shelter Edgecombe County, NC


EXHIBIT NO.
2

N:\GIS\2023\70237634_Edgecombe County Animal Shelter\Wraps\Edgecombe County Animal Shelter.aprx



PM:	RG
Drawn By:	RG
Checked By:	JH
Approved By:	JH

Project No.	70237634
Scale:	1 in = 273 ft.
Filename:	Edgecombe_County_Animal_Shelter
Date:	March 2024



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Potential Wetlands and Waters
Edgecombe County Animal Shelter Edgecombe County, NC

EXHIBIT NO.
3

N:\GIS\2023\70237634_Edgecombe County Animal Shelter\Waps\Edgecombe County Animal Shelter.aprx



☉ 116°SE (T) LAT: 35.911174 LON: -77.592597 ±13ft ▲ 111ft



04 Mar 2024, 10:54:05

Photograph 1: General site upland



☉ 4°N (T) LAT: 35.911123 LON: -77.591850 ±13ft ▲ 135ft



04 Mar 2024, 10:58:03

Photograph 2: General site upland



Photograph 3: Tributary T1



Photograph 4: Wetland W1



Photograph 5: Wetland W2



Photograph 6: Ditch D1



94°E (T) LAT: 35.908762 LON: -77.588438 ±13ft ▲ 132ft



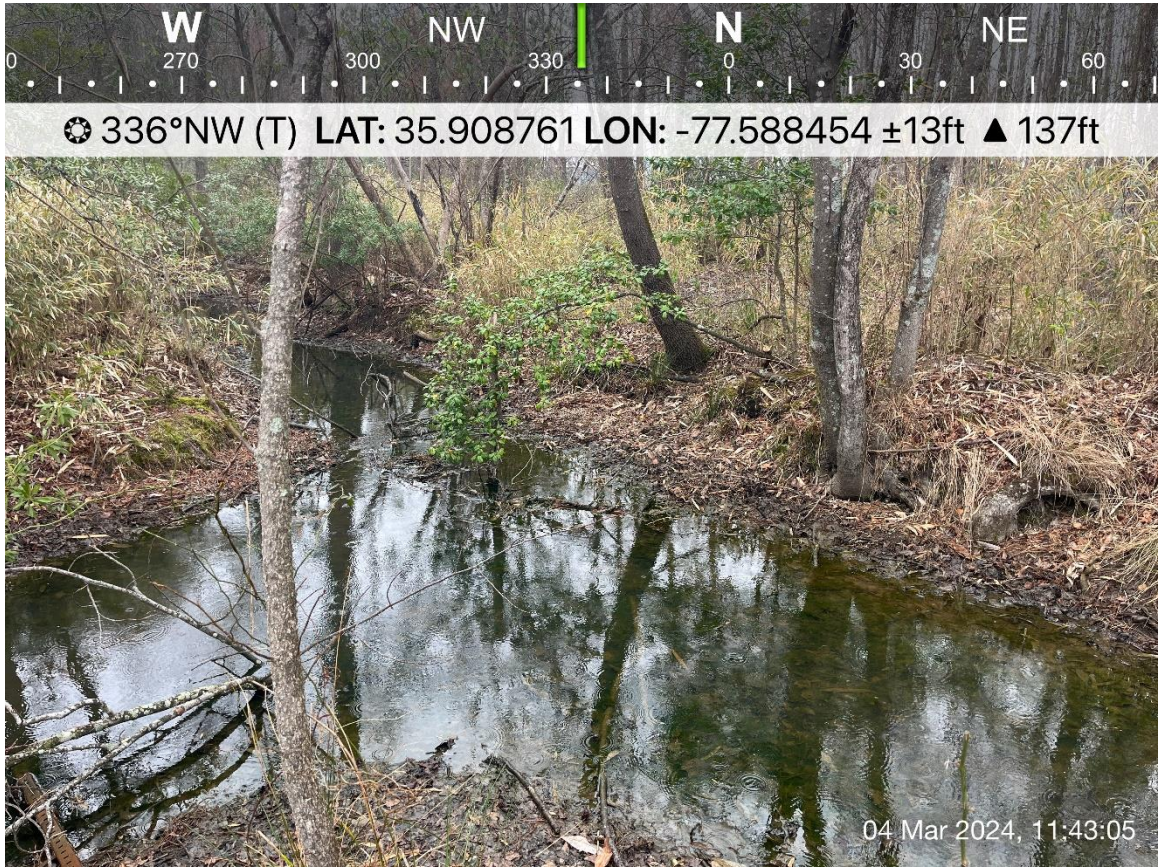
Photograph 7: Ditch D2



238°SW (T) LAT: 35.909443 LON: -77.588746 ±16ft ▲ 122ft



Photograph 8: Surface water pond SW1



Photograph 9: Surface water pond SW2



Photograph 10: Surface Water Pond SW3