Chatham County

Environmental Impact Assessment

Granville

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S&EC

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List of Acronyms

AQI	Air Quality Index
BMP	Best Management Practice
CWA	Clean Water Act
DEQ	Department of Environmental Quality
DOT	Division of Transportation
EPA	Environmental Protection Agency
ESA	Endangered Species Act
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NCDWR	N.C. Division of Water Resources
NCSWC	North Carolina Surface Water Classification
NHP	Natural Heritage Program
NRCS	Natural Resource Conservation Service
RCP	Reinforced Concrete Pipe
SHPO	State Historic Preservation Office
S&EC	Soil & Environmental Consultants
USACE	Unites States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Executive Summary

The purpose of this Environmental Impact Assessment (EIA) is to evaluate the potential environmental impacts associated with the proposed "Granville" project as required under the Chatham County Subdivision Ordinance Section 6.2.B. This assessment was completed based on review of public documents and documents developed for Granville.

The proposed Granville project (The Project) is a +/-51-acre residential subdivision designed to meet the growing demand for residential housing in Chatham County. The Project will include residential homes and 3,252 linear feet of public roads.

The EIA included a review of the potential direct, secondary, and cumulative impacts of the Project throughout the study area. This included information regarding the existing resources, anticipated impacts, avoidance/minimization efforts, and mitigative measures for each of the resource topics listed in section 6.2.B of the Chatham County Subdivision Ordinance.

2.0 Introduction

2.1 Scope of Work

Soil & Environmental Consultants, PA (S&EC) was contracted by Fitch Creations, Inc. to create this EIA. This EIA will be submitted for the proposed Granville Subdivision in accordance with the Chatham County Subdivision Ordinance. An EIA is required for: "any proposed non-residential development project of two (2) contiguous acres or more in extent that disturbs two (2) or more acres" or "any proposed residential development project of two (2) contiguous acres or more in extent that will include fifty (50) or more dwelling units, whether detached single-family residences or in a multifamily structure or structures." While Granville has less than (50) dwelling units, the Chatham County Zone Ordinance also requires an Environmental Impact Assessment, as described in Section 6.2(B) of the Subdivision Regulations and related guidelines, for a project seeking approval through a Special Use Permit, and which consists of ten (10) or more contiguous acres in extent and that disturbs ten (10) or more acres.

2.2 Limitations

This EIA was prepared by using public documentation, online sources, and onsite sampling. This document serves to provide Chatham County with the necessary information needed to evaluate the potential environmental impacts associated with the proposed development at the time of submittal. It is assumed that the development will be constructed in accordance with all applicable local, state, and federal regulations.

This report is intended for use only by Chatham County and Fitch Creations, Inc. The EIA is not intended or recommended for reuse on any other project. S&EC disclaims liability for any third parties use or reliance on this document.

3.0 Proposed Project Description and Need

The proposed Granville project is a +/- 51-acre residential subdivision designed to meet the growing demand for residential housing. The development will connect to an adjacent project, Fearrington Village. The site is located approximately 9 miles south of Chapel Hill, North Carolina and approximately 8 miles north of Pittsboro, North Carolina. Most of the site is bounded by Big Hole Road to the south.

The project site is within the Dry Creek Watershed of the upper Cape Fear River Basin, USGS Hydrologic Unit Code 030300020701 (NCDWR Chatham Co. GIS). The site is depicted on the Farrington, NC USGS topographic quadrangle map located in the exhibits (Exhibit 7). The project drains to Bush Creek which flows just east of the site. Careful consideration has gone into the site plan to minimize impacts to surface waters and wetlands. The Project will provide a minimum 50-foot buffers of woodland vegetation around the perimeter of the site to maintain the aesthetic integrity of the property, repeating the perimeter woodland buffer adjacent to the Fearrington Village community. A minimum of 100-foot riparian buffers will be utilized along perennial streams, 50-foot buffers along intermittent streams and wetlands, and a 30-foot buffer along ephemeral streams to minimize impacts to surface waters.

The project is seeking approval as a Planned Residential Development, Special Use Permit and will preserver 36.9% of the site area in dedicated open space (7.43 acres within environmental buffers and 11.66 acres as additional dedicated open space). Over 50% of the proposed dedicated open space will be contiguous as well. The estimated impervious surface post construction will be +/-7.72 acres, or 14.91%. There will be approximately 43 single family lots with average lot areas of around 29,000 square feet (+/- 0.67 acres). The constructed homes will be approximately 30 feet in height with no homes exceeding 50 feet in height. Lots will be served by public water supplied by Chatham County public works and will connect to sanitary sewer services from the adjacent development, provided by Fearrington Utilities, LLC. The sewer and water service will parallel road rights-of-way, minimizing additional disturbances of the site. The Project will be built in three separate development phases. Land disturbance will occur for the construction of the two residential streets, and storm water BMPs. Roads were located along ridge line and higher elevations ensuring no encroachment into environment buffers and wetlands. The approximate area of disturbance for the road rights-of-way, storm water BMPs, and utilities and easements is 10 acres. An additional 11 acres will be disturbed for construction of the single-family homes and driveways. Storm water BMPs will be constructed as wet detention ponds able to handle the water quality/water quantity required by the Chatham County Storm Water Ordinance. The BMP's are located at seven locations within the project due to site topography. Storm water is diverted from roads and lots to the BMP's. Diversions are provided along the back of many residential lots with additional dedicated open space provided beyond. Each residence will have a minimum of a two-car garage and will have the ability to have two cars in the home's driveway. No other visitor spaces or on-street parking spaces are planned (Exhibit 29).

3.1 Purpose and Need

The purpose of this report is to comply with Chatham County Subdivision Regulations Section 6.2.B. as required by the Chatham County Zoning Ordinance section 11.3. Per the U.S. Census (2021), as Chatham County's population growth rate is expected to continue to increase from its current population of approximately 77,889 citizens, more residences will be needed to house these citizens (www.census.gov). This site is an ideal location for accessibility to the Research Triangle Region (Chapel Hill, Durham, Raleigh, Research Triangle Park) and the Piedmont Triad Region (Highpoint, Winston-Salem, Greensboro) and assists with the County's healthy growth in population and economic status. Given the projected demographic growth of the County and the proximity to major business and research centers, the demand for quality community living is also expected to increase. This proposed Project will help address this need for housing in the area while preserving the environmental and aesthetic health and integrity of the County's rural backdrop. The Project's proximity to Highway US 15-501 and unique rolling topography is desirable to many individuals in search of residential community living within the region.

4.0 Alternative Analysis

The Project Site offers prime conditions for a Planned Residential Development with lots utilizing the existing sewer easement on the adjacent development to the north. This planned subdivision offers its residents with access to a public water supply and is readily accessible to major transportation corridors.

4.1 No Action Alternative

Under the no action alternative, the proposed subdivision would not be constructed. Chatham County is rapidly growing and a demand for residential housing is increasing. Due to the subject property's proximity to Chapel Hill and the Research Triangle Park, this land will likely be developed with single family lots. This type of development would not utilize the land as efficiently as the proposed Planned Residential Development and would not achieve Chatham County's land use planning goals which encourage compact communities as the county continues to grow.

4.2 Alternative Sites

It has been determined that this is the preferred site over other locations for several justifiable reasons. The reasons include the existing physical location of the site, ability to avoid impacts to most surface waters, site topography, economic benefit to the County, and accessibility to other areas of the region including key commercial centers. The Project has two unnamed tributary intermittent streams that will be protected with minimum 50-foot buffers. Below the confluence of these tributaries, is a perennial section along the eastern property boundary that will be

protected with minimum 100-foot buffers. The Project is +/- 3 miles upstream from the New Hope River Arm of Jordan Lake and therefore this location would lessen the potential impacts of major water supplies and/or intakes. Due to the minimal amount of old-growth forest within the developed area other than the past selective timber harvesting, and conservation of natural areas, the development of the site would not have an adverse effect on the natural vegetation of the area. The Project will provide the County with sustainable growth while preserving the natural and aesthetic beauty of the region.

5.0 Existing Environment and Project Impacts

For each of the resource topics below we have provided information on the existing condition, anticipated impacts, minimization/avoidance efforts and mitigative measures. Short term and long-term impacts include the construction and permanent impacts associated with construction of the single-family subdivision. No required mitigation is anticipated at this time. See the attached plan for the approximate graded area for the public road rights-of-way (Exhibit 29). Earthwork computations will be estimated at the time of construction plans. Owners are aware of necessary USACE/DWR permit application requirements and Chatham County buffer authorization and will complete these prior to construction.

5.1 Geography

The site is in the Carolina Slate Belt geographic ecoregion of NC, which mostly consists of metamorphic rocks derived from metamudstone and metaargillite. Based on 2007 USGS NCGS Geologic Map of the Farrington 7.5-Minute Quadrangle, most of the underlying geologic material on this site consists of West Farrington pluton doirite (Zwfd). This is unfoliated, medium-grained hornblende diorite. In addition to Zwfd, there is a small amount of East Farrington pluton (Zefg-m) in the northwest corner of the property. There is also a small amount of Alluvium (Qal) geologic below the perennial stream on The Project. This is unconsolidated clay, silt, and gravel to cobble size clasts, subrounded to angular, deposited in drainages. Lastly, there is a small section of andesitic to basaltic lavas and tuffs (Zablt) in southern portion of The Project. This is typically unfoliated, green to black, amygdaloidal, plagioclase porphyritic, amphibole/pyroxene porphyritic and aphanitic; andesitic to basaltic lavas and shallow intrusions. Hyaloclastic texture is common and imparts a fragmental texture like a lithic tuff on some outcrops. Tuffs associated with the lavas are weakly foliated to foliated, green to gray, coarse tuff, and lapilli tuff. Local hornfels of unit present in vicinity of Big Hole Road (Exhibit 20). There is also a fault that separates Zwfd and Zablt, with Zwfd being the downthrown side, and Zablt being the upthrown side. There are many partial rock materials that can be seen throughout the field and wooded areas of the site. Since the proposed subdivision will receive water from Chatham County, no wells will need to be constructed that would potentially impact the geology of the site.

The Project site is located +/- 1 miles east of Pokeberry Creek. The Project is well outside of the flood area “AE”. See the attached NC Floodplain Mapping Program Map for the exact location (Exhibit 14). This “AE” zone depicts areas in a 1% annual chance floodplain (100-Year).

-5.1.1 Topography

The project site has a rolling terrain with slight to steep slopes with a headwater stream valley on the property (Exhibit 14). The stream valley contains unnamed tributary streams and wetlands that feed to Bush Creek. The site is in the central piedmont physiographic region. The topography of the site varies from a high elevation of approximately 470 feet above mean sea level (MSL) to a low of approximately 390 feet MSL where the surface water drainage area exits the property to the east.

During and after construction the existing topography on site will be altered slightly from land clearing, grading activities associated with development of the planned subdivision (Exhibit 29). The Project has been designed in such a manner to retain the topographical character of the site as much as possible. No soil will be imported to the site or exported from the site. Cut and fill will be balanced to the extent possible. Excess soil will be utilized for landscaping and/or stockpiled onsite and possible off-site within Fearrington Village for use in home construction in the subdivision. The Project will have no significant adverse impacts on topography or geology.

5.2 Soils and Prime Farmland

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey, the project area contains soils like Wedowee sandy loam, Helena sandy loam, and Georgeville silt loam. The site may also contain Cid-Lignum, Pittsboro-Iredell, and Nanford-Badin complex. USDA NRCS Farmland Classification indicates that approximately 95.5% of the soils on this site are suited as prime farmland/farmland of statewide importance (under current conditions). In areas suited for agricultural purposes, these soils are typically used for the cultivation of corn, small grains, soybeans, tobacco, and/or various grasses. In areas that prohibit agricultural cultivation due to steep slopes, boulders, and/or drainage features, the primary native vegetation found on these soils is a mix of pine/hardwood tree species. Important Farmlands within North Carolina are organized into three individual categories including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Criteria established to determine these classifications was published January 31, 1978, in the Federal Register and amended on June 17, 1994. The North Carolina NRCS State Soils Staff developed the criteria for farmland of statewide importance in 1988. The specific definitions for all three categories are located within the appendix. NRCS does not accurately show soil types/areas or potential prime farmland/farmland of statewide importance due to field discrepancies, map scaling, drainage features, streams, wetlands, etc. (Exhibit 18). The subject property contains drainage features, hills and a rocky soil surface making most of the site less suitable for farming. Approximately 8 acres of potential farmland could be lost in the proposed construction areas.

Based on the NRCS Soil Survey, all areas containing the Georgeville silt loam, Helena sandy loam, Nanford-Badin complex, and Wedowee sandy loam soil series have been determined to be prime farmland if they occur on 2 to 6 percent slopes. All areas containing the Cid-Lignum complex and Georgeville silt loam (6-10% slopes) soil series are considered areas with farmland of statewide importance. Soil areas with slopes exceeding 15 percent slope and/or contain boulders have been deemed not prime farmland. The applicability of farmland importance only considers agricultural crop commodities, and not silvicultural commodities (i.e., timber harvesting).

Based on viewing NRCS historical aerial maps of the site, one soil area was identified as past/former farmland and/or pasture areas. This area is shown on the Past Farmland Map. Currently, this area is forested and primarily contains Loblolly pines. Approximately 2.8 acres of past/former farmland will be disturbed during the construction of the subdivision.it is possible that impacts to prime or agricultural lands will occur on this site.

The clearing and grading for the proposed site will result in some soil disturbance along the roads and around the storm water BMP devices. However, adequate measures will be taken to minimize erosion such as silt fencing, diversions, and sediment traps. It is typical that a grading operation for the public roads will work to balance earthwork cut and fill. The goal of the earthwork project is to balance on-site soil so no soil would have to be imported or exported from the site. The roads are planned to be shoulder sections (no curb and gutter) with roadside ditches to direct roadway runoff to one of seven proposed storm water BMPs within the project. The proposed site plan should have no substantial impact on the soils on each lot or in the dedicated open space (Exhibit 29). The potential for soil contamination is possible due to heavy machinery being utilized for construction. If contamination occurs, spills will be cleaned by certified professionals and disposed of immediately.

5.3 Land Use

Evidence of past timber harvesting (i.e., stumps and lack of old growth) can be seen throughout the site and through historical aerial imagery. It appears that logging occurred due to the heterogeneity of the existing tree age classes on the site. There was one area that was observed in historical aerial maps that appear they were once managed as pasture or farmland (Exhibit 19). The remaining property is forested. Surrounding properties are primarily used for residential development with some agricultural areas interspersed.

The current zoning of the property and adjacent properties is classified as R-1. See the attached Zoning Map (Exhibit 10). According to the Chatham County Zoning Ordinance R-1 (Residential District) is, “Primarily for low to moderate density residential development within the residential-agricultural areas of the jurisdiction.” The zoning area will not need to be changed for the 40,000 square foot residential homes on the site; however, a zoning Special Use Permit would be required for clusters of smaller lots within preserved open space as proposed.

Existing land use will be modified from silvicultural/agricultural land to a residential subdivision. Large areas of the tract (approximately 36.9%) will be conserved for open space in the form of recreational areas, riparian buffers, BMP's, and wetlands.

5.4 Existing and Natural Resources

In 2022 S&EC conducted a detailed wetland delineation consistent with the USACE Wetland Delineation Manual (1987) and Eastern Mountains and Piedmont Region Reginal Supplement. S&EC also conducted a Chatham County Stream Buffer evaluation. Copies of the Detailed Delineation Report and Sketch Map are attached. The sketch map depicts surface waters and buffers that have been confirmed with James Lastinger of the USACE and Drew Blake of Chatham County. James Lastinger confirmed jurisdictional features on May 5, 2022. Drew Blake confirmed the Chatham County stream buffers on March 28, 2022. Onsite confirmation of the stream buffers and jurisdictional features has been completed. See the attached buffer letter (04/18/2022) and issued preliminary jurisdictional determination regarding jurisdictional feature confirmation (Exhibit 31). Wetland types on-site were identified as primarily bottomland hardwood and headwater forest wetlands (North Carolina Wetland Assessment Method Version 5, February 2016).

The site planning process involved determining ways in which surface water could be avoided. The majority of the jurisdictional waters and buffers are to be avoided completely. Mitigation for any potential impacts is not anticipated at this point. Appropriate permits will be acquired prior to construction including NCG01 for erosional Control. There will be no disturbance to existing wetlands and streams.

5.5 Public Lands and Scenic, Recreational, and State Natural Areas

There are no public lands or scenic, recreational, or state natural areas within the project site. See attached Park Map (Exhibit 12).

5.6 Areas of Archaeological or Historical Value

Cultural Resources are protected by law under the Indian Antiquities Articles of the North Carolina Administrative Code and Section 106 of the National Historic Preservation Act of 1966. Section 106 protects properties that possess significance but have not yet been listed or formally determined eligible for listing in the National Register. The State Historic Preservation Office (SHPO) in Raleigh, North Carolina should be contacted if archeological artifacts are uncovered during the construction.

In October 2022, S&EC personnel searched the files at the SHPO office for historical sites found within the project's boundaries. No historic records were found in our search. See the attached Chatham County Historic Association Notes and Photos (Exhibit 26). A SHPO project review request was conducted to determine if any other historical resources were of concern to the NC

Department of Natural and Cultural Resources. On November 10, 2022, SHPO determined in a letter to S&EC that they, "*Are aware of no historic resources which would be affected by the project. However, we recommend that an archaeological survey be conducted prior to ground disturbance*" Please see the SHPO letter in the attachments section (Exhibit 23).

5.7 Air Quality

Currently, the majority of Chatham County is in attainment status with respect to National Ambient Air Quality Standards. The northeastern portion of Chatham County, Wake County, Orange County, Durham County, and the northwestern half of Johnston County are currently within a North Carolina Recommended 8-hour Ozone Non-attainment Boundary. Non-attainment areas are those that have pollutants such as ozone that exceed federal air quality standards. In 2018, the Air Quality Index (AQI) Values for the Raleigh – Durham – Chapel Hill area were typically "Good" to "Moderate" with zero days recorded as "Unhealthy" (DENR 2018). Data from 2019 and on has not yet been posted and so was unavailable at the time of this report's preparation.

No direct significant negative impacts to air quality are expected as a result from this project following the construction phase. During the construction phase of the Project, machinery utilized will produce emissions resulting from the combustion of petroleum products, much like emissions from previous timber harvesting activities. Construction specifications for the Project will require mechanical equipment to meet emissions standards established by the State of North Carolina for the equipment utilized. Burning of land clearing debris is not anticipated and has never been utilized for Fearrington Village development. The timber is typically sold for use and the stumps and brush are ground for beneficial use on site. Any burning, if necessitated, will be conducted under controlled conditions with the appropriate permits from the local authorities if applicable.

Automobile activity will increase after construction as a result of development, but at moderate levels. As stated on the Division of Air Quality's webpage (http://daq.state.nc.us/monitor/aqi/aqi_gen.shtml) "DAQ monitors for carbon monoxide specific areas of NC, but the concentrations have decreased by more than 75% in the last 20 years."

The Project will have no significant adverse impacts on air quality during construction or following completion of development. The Clean Air Act, Environmental Protection Agency (EPA), National Ambient Air Quality Standards (NAAQS) 40 CFR Part 50. North Carolina Ambient Air Quality Standards 15A NCAC 02D .0400

Burning land clearing debris is not anticipated and has never been utilized for Fearrington Village development. The timber is typically sold for use and the stumps and brush are ground for beneficial use on site. In accordance with North Carolina Open Burning regulations 15A NCAC .02D .1900, all necessary open burn permits will be obtained online from North Carolina Department of Forestry or from one of the several permit agents in Chatham County. When an

open burn permit is not necessary then the burning will meet the criteria set forth in Paragraph B of 15A NCAC .02D .1903. Open burning will not occur on the site when a “No Burn Ban” is in effect for this region. Non-vegetative materials will not be burned, such as garbage, lumber, or other synthetic materials.

This project is not subject to North Carolina Control of Odors regulations 15A NCAC 02D.1800. If any odors are released in association with this project, the odors will be temporary and insignificant.

The traffic impact analysis conducted by Ramey Kemp Associates confirmed that no off-site infrastructure improvements are warranted. The analysis demonstrates that the current infrastructure is sufficient to accommodate the future traffic associated with the proposed development. Please see the attached traffic impact analysis and correspondence with the DOT (Exhibit 30).

5.8 Noise Levels

This region of the county is predominately rural and most of the noise producing activities are directly related to localized farming and logging operations. The current noise generated on site is primarily the result of minor farming operations. Currently, noise levels are exceptionally low on-site.

Noise levels are expected to increase during the construction phase of the project. Temporarily increased noise levels will result from commonly used mechanical equipment that will be utilized to grade the site and construct the road infrastructure and homes. Based on noise calculations, it is believed that the noise produced from this project will not exceed one half mile. No commercial uses are proposed. We are not anticipating any long-term negative affects from noise to surrounding properties. Following completion of the project, noise levels will return to normal level typical of a residential subdivision.

5.9 Light Level

Lighting is not required for the subdivision, though the project will provide street lighting designed by Duke Energy. The developer will utilize Duke Energy’s cut-off fixtures to concentrate light on the street and prevent any undesirable spillage. The lighting will be reviewed by and will meet all Chatham County lighting requirements.

Artificial light has the potential to disorient nocturnal wildlife species that utilize the moon for navigation. The proposed Project will not produce excessive amounts of artificial light and will likely not pose a major threat to wildlife.

5.10 Surface and Groundwater Resources

-5.10.1 Surface Waters

The site is located in the Dry Creek watershed of the upper Cape Fear River Basin, USGS 12-digit Hydrologic Unit Code 030300020701 (Exhibit 17). The site contains several un-named tributaries that eventually flow into Bush Creek. The watershed area of this site is approximately 70 acres. N.C. Division of Water Quality (DWQ) stream index numbers for the aforementioned creek is 16-41-4-(0.3) (NCSWC 2022). Bush Creek has a classification of "WS-IV; NSW" (Exhibit 17). "WS-IV; NSW" classified waters are protected as water supplies that are generally in moderately to highly developed watersheds; point source discharges of treated wastewater are permitted pursuant to Rules .0104 and .0211, local programs to control non-point source and storm water discharge of pollution are required (DEQ 2011). Waters classified as "NSW," or "Nutrient Sensitive Waters" are those that have the potential to exhibit high levels of nutrients. More stringent regulations exist on these waters to better protect the water quality downstream. Bush Creek is a tributary of Jordan Lake. Rules have been established to mitigate nutrient pollution entering the lake from waters upstream. The rules were deigned to improve and or maintain water quality in the lake. Buffers are required on all NSW waters and upper tributaries of Jordan Lake. These help to reduce pollutants entering these water bodies. The Granville site will abide by all required buffers and surface water regulations.

-5.10.2 Groundwaters

The Piedmont of North Carolina is underlain by crystalline-rock aquifers. These aquifers are lined by dense, almost impermeable bedrock that yields water from fractures and secondary porosity. Recharge occurs along the interstream areas through porous regolith and fractures in the bedrock. The majority of groundwater moves laterally and enters depressions in the landscape such as stream channels. Solum thickness has a direct correlation to groundwater storage, generally, the thicker the overlying regolith the greater the volume of water storage potential and subsequent well recharge/discharge capacity. Typically, groundwater recharge is greater in valleys and depressional areas due to the thicker regolith, and proximity to fracture zones in the bedrock. Groundwater quality is generally suitable for drinking and other uses, but iron, manganese, and sulfate can occur at undesirable levels (USGS 2001). The groundwater onsite will not be used for drinking as water will be supplied by Chatham County.

Most observable changes in groundwater quality are related to land use and waste disposal patterns. Underground storage tanks, waste lagoons and disposal landfills are commonly responsible for point source contamination. However, more dispersed contamination by non-point sources is increasing and is manifested by petroleum, pesticide, and biological contamination. No land uses commonly associated with groundwater contamination were encountered during the field inspections of this site.

Water quality is likely to be temporarily reduced as the result of the grading activities proposed. Construction will likely increase erosion and sedimentation of creeks immediately downstream of the site. Increased sedimentation has the potential to lower dissolved oxygen levels that can be detrimental to aquatic organisms. Utilizing currently accepted and required sediment and erosion prevention techniques; potential adverse effects during the construction will be minimized and isolated. The construction site will employ the necessary and required sediment and erosion control measures as dictated by the North Carolina Division of Land Resources. Immediately following the completion of the project, erosion rates are expected to be reduced. Storm water runoff rates will most likely increase due to the addition of impervious area, which is typically associated with development (i.e., roof tops, asphalt, concrete), but all efforts will be made to control and treat storm water runoff during the design phase of the project.

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.

5.11 Fish and Aquatic Habitats

Bush Creek is the primary perennial, important stream just east of the site. Fish habitats are isolated to small perennial tributaries associated with Bush Creek. Fish species present within these water bodies are typical of the piedmont region and include species such as mosquito fish and creek chub. Macrobenthos were located in low numbers within the northeastern end of the main perennial feature.

Aquatic Habitat was weak within the lower reaches of the main perennial drainage. This area had low sinuosity and baseflow. It is believed that the perennial does not contain strong flow year-round. The perennial stream contained strong bed material. The intermittent drainages provide weak aquatic habitat due to a general lack of base flow. The average width of streams onsite is approximately 3 feet with an average depth of around 4 inches (Exhibit 5). These features will be primarily conserved within the dedicated open space areas.

5.12 Wildlife and Natural Vegetation

The site exhibits a sporadically located, heterogeneous mix of plant community types. These plant communities generated through natural succession and were most likely manipulated by past and existing land uses. Examples of manipulation include but are not limited to land clearing for agricultural purposes, clearcutting, fire suppression, and dirt road construction and maintenance. The site and the immediate vicinity contain several dirt trails and roads, wetlands areas, stream channels, and forested riparian areas. This interspersion of habitat types has a direct correlation to the wildlife population dynamics and the species diversity. Wildlife habitat located in the vicinity include Loblolly Pine Forests, mixed hardwood communities, forested wetlands and riparian areas, and stream channels.

Portions of the existing vegetation will be removed or modified during construction. After development vegetative areas such as forested buffers will be maintained throughout the life of the project. Temporarily displaced wildlife are expected to migrate to adjacent habitats during the construction period, however, most species will have adequate resources after development, and may return once the project is complete. The dedicated open space areas will serve as permanent habitat for wildlife. These areas will also maintain the natural vegetation onsite. The highest quality habitat on the site will be encompassed within the dedicated open space area in order to avoid negative impacts.

-5.12.1 Forest Resources

Distribution and composition of the plant communities on and immediately adjacent to the site reflects the landscape variations in topography, soils, hydrology, and past or present land use practices. The plant communities observed within the property were limited due to past silvicultural and agricultural practices, topography, and soils. This has resulted in the property containing mostly early successional habitat except in areas that were not logged like the streamside management zones (SMZ's) along the streams. These undisturbed zones include areas within the stream buffers and on steep hillslopes. See "attached map for the locations of the community types found onsite (Exhibit 22).

Forests located on-site will be impacted by the proposed site plan. Portions of the site were cut and harvested at various times in the past. However, approximately 36.9% of the site will be preserved in the form of dedicated open space area including the more fragile and older growth communities associated with the surface waters located on the property. Perimeter lots will maintain a 50' wooded buffer of existing vegetation. Non-wooded perimeter buffers will be supplemented with additional native plant materials. Supplemental street trees will be provided on existing on-wooded lots.

The following plant communities based on the community descriptions published within the Classification of the Natural Communities of North Carolina Fourth Approximation were found on the Granville site (Schafale 2012):

Mesic Mixed Hardwood Forest (Piedmont Subtype)
This community type occurs in areas that have a higher moisture regime and nutrient content. The canopy is dominated by mesophytic hardwood species such as American beech, white oak, red oak, tulip poplar, sweet gum, and pignut hickory and a few scattered loblolly pines. The subcanopy is comprised of sourwood, red cedar, American holly, umbrella magnolia (*Magnolia tripetala*), and flowering dogwood. The shrub layer is somewhat diverse with species such as *Viburnum rafinesquianum*, hazelnut (*Corylus americana*) and blueberries. The herb layer is also quite diverse with species such as beech drops (*Epifagus virginiana*), bluets (*Houstonia caerulea*), spotted wintergreen, heartleaf (*Hexastylis arifolia*), cranefly orchid, grapefern (*Botrychium virginianum*), foamflower (*Tiarella cordifolia*), and liverleaf (*Hepatica americana*).

Late Pine Successional Areas
Examples of Late Pine Successional communities occur across most of the site as it has previously been logged. These areas are mixed into the Mesic Mixed Hardwood Forests (Piedmont Subtype) in various amounts. The Loblolly pines are consistent throughout the site, and in some cases, pines are the dominant canopy species.

-5.12.2 Protected Species

Species with Federal classifications of Endangered or Threatened are protected under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). According to a file review completed by S&EC personnel on the NHP (Natural Heritage Program) website and record search for species listed by the U.S. Fish and Wildlife Service (USFWS) on September 26, 2022, threatened, endangered, and Federal Species of Concern are located in Chatham County, however there are no documented occurrences on the Site. The Northern Long Eared Bat is listed as “May affect, but not likely to adversely affect” solely since there are potential roost trees on site. No Northern Long Eared Bats or their roost trees have been observed on or near the site. A copy of our review of the NHP files and USFWS Concurrence letter is included in the appendix (Exhibit 25 & 26).

On September 26, 2022, S&EC personnel reviewed files at the Natural Heritage Programs office in Raleigh, NC. NHP was contacted to complete a biological field survey of potential elemental occurrences within the project area. The results of this survey are attached (Exhibit 27).

A list of expected wildlife within this region of the state is located in the exhibits section. (Exhibit 28) (Martof, Webster amended according to NC Natural History Museum website).

Invasive plant species many times outcompete natives following disturbances such as the clearcutting that took place onsite. This has resulted in many of the early successional areas containing Autumn olive and Chinese privet. Areas of the site also contain Japanese stilt grass where soils have a higher moisture content and light levels are lower. Many are within the areas with the proposed development which are overrun with invasive species with some of the better habitat areas onsite containing mostly native species will be left undisturbed.

5.13 Hazardous Materials

When utilizing mechanical construction equipment there is always the potential for accidental spills of fuels such as gasoline or diesel. All re-fueling will occur in designated upland areas, as far as feasible from surface waters. Spills that may occur will be contained immediately by certified personnel and disposed of appropriately. After development, automobiles and typical equipment and chemicals will be utilized to maintain the landscaped open space and subdivision homes. We consider these activities to be of a de minimis nature and would be insignificant.

6.0 Conclusion

The Environmental Impact Assessment for the proposed Granville project was completed to determine the potential environmental effects this development could have on the site and surrounding property.

The Granville project will contain approximately 43 single family lots and will be developed as a Planned Residential Development that will accommodate the increasing population of Chatham County.

Throughout the construction of the subdivision, measures will be taken to ensure impacts to the environment are minimized and development is performed in a practical yet environmentally friendly manor.

References

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Webster, William D., J.F.Parnell, and W.C Biggs. 1985. Mammals of the Carolinas, Virginia, and Maryland. The University of North Carolina Press.

State and Federal Permits

(Include but may not be limited to)

- USACE approved stream/wetland delineation
-
- NCDWR 401 Water Quality Certification
- USACE 404 Permit (NWP 29/GC 4139)
- Chatham County Riparian Buffer review
- Chatham County Soil Erosion and Sedimentation Control
- Chatham County Environmental Resources storm water permit
- NCDOT driveway permit
- NCDOT subdivision roadway permit
- NCDOT encroachment agreement
- Chatham County Public Works water system approval
- Chatham County Public Works fire flow analysis
- NCDEQ Public Water Supply water permit

Exhibits

Chatham County Property Record Card

Exhibit 1

DATE 3/29/22 — CHATHAM CO TAX DEPARTMENT — PAGE 1
TIME 8:15:33 — PROPERTY CARD — PIN... 9774 00 42 5129 PROG# AS2006
USER CHNICK — FOR YEAR 2022

FITCH CREATIONS INC
2000 FEARRINGTON VILLAGE CTR
PITTSBORO NC 27312-8502

PARCEL ID.. 0095264
LOCATION... BIG HOLE RD
DEED YEAR/BOOK/PAGE.. 2021 2271 0352
PLAT BOOK/PAGE.. 2021 0397
LEGAL DESC:TRACT A

TOWNSHIP... 13 WILLIAMS

ASSESSMENT NONE .00 .00 .00
OWNER ID.. 02603
DISTRICT.. 107 NORTH CHATHAM FIRE DIST

NBRHOOD... 0265 BALDWIN
DESCRIPTION LOT OVER 10 AC/AFTER 2008 — RESIDENTIAL — 2021 REVIEW ATILLA
ROAD FRONT.
PREV PARCEL 0019363

MAINTAINED.. 2/25/2022 BY CHCLIFFS VALUED.. 2/25/2022 BY CHCLIFFS
VISITED..... BY TYPE OF REVIEW — ROUTING#..
PARCEL STATUS... ACTIVE — CATEGORY.. REAL & LISTED PERSONAL
*****

* LAND VALUED BY NEIGHBORHOOD BASE RATE METHOD *

SALES HISTORY

DEED BK/PAGE	SALE DATE	SALES INSTRUMENT	DISQUALIFIED	SALE AMOUNT	STAMP AMOUNT	DEED NAME
2271 0352	12/16/2021	WARRANTY DEED	QUALIFIED	1,139,000	2,278.00	FITCH CREATIONS INC
2020 0989	12/10/2021	SPLIT	OTHER			MRLD LLC

LAND SEGMENTS

LND #	ZONE	STRAT CODE	LAND TYPE/CODE	LAND QTY	AVERAGE LAND RATE	DPT%	SHP%	LOC%	SIZ%	OTH%	TOP%	TOT ADJ	CURRENT FMV
												.00	
1	R-1	100	AC U	51.765	22,267.01	.00	.00	100.00	.00	.00	.00		1,152,652

TOTAL PARCEL ACRES... 51.765 — LAND /51.765 — IMPROVEMENTS / OVR — TOTAL LAND/IMPROVE — TOTAL LAND FMV 2021 VALUE 1,152,652

	LAND /51.765	IMPROVEMENTS / OVR	TOTAL LAND/IMPROVE
FMV.....	1,152,652	0	1,152,652
APV.....	1,152,652	0	1,152,652

COMMENTS

PB 2021/397 TRACT A
SPLIT FROM 19363 BY PB 2021/397
CHANGED LOC CODE TO LA04-PLAT REVIEW

Exhibit 2

Soil Map—Chatham County, North Carolina
(15120- Granville)

Map Scale: 1:4,980 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Chatham County, North Carolina
Survey Area Data: Version 25, Jan 21, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 23, 2022—Apr 27, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CmB	Cid-Lignum complex, 2 to 6 percent slopes	9.2	17.7%
GaB	Georgeville silt loam, 2 to 6 percent slopes	9.5	18.2%
GaC	Georgeville silt loam, 6 to 10 percent slopes	25.4	49.0%
HeB	Helena sandy loam, 2 to 6 percent slopes	3.0	5.7%
NaB	Nanford-Badin complex, 2 to 6 percent slopes	0.7	1.4%
PsB	Pittsboro-Iredell complex, 2 to 8 percent slopes, stony	2.3	4.5%
WeB	Wedowee sandy loam, 2 to 6 percent slopes	1.8	3.4%
Totals for Area of Interest		**51.9**	**100.0%**

Exhibit 3

Watershed Protection Department
Website: www.chathamnc.org

Date Received: _____ PL# _____

Riparian Buffer Review Application
Surface Water Identification Request

Will this project result in the review of less than or equal to 25 acres? Yes ☑ No ☑
Will this project result in the review of greater than 25 acres? Yes ☑ No ☑

If your project will result in a review of greater than 25 acres please contact a private consulting firm to complete the surface water determination. For stream determinations the consultant must have successfully completed the NCDWQ/NC State University Surface Waters Classification. For wetland delineations the consultant must demonstrate at least 2 years of experience delineating jurisdictional wetlands in accordance with the Eastern Mountains and Piedmont Regional Supplement to the 1987 US Corps of Engineers Wetland Delineation Manual. Please visit the Watershed Protection Department website for a list of consultants that regularly complete work within Chatham County.

Review Type: Subdivisions (excluding Majors) ☐ Due Diligence/Voluntary/Jordan Reviews ☑

Application Date: 03/11/2022 Planning Application Number (Office Use Only): _____

Tract Information

Parcel #: 95264 Watershed District (and name of creek if known): Bush Creek

Property Owner: Fitch Creations, Inc.

Location/Physical Address of Tract: 0 Big Hole Rd, Pittsboro, NC 27312-8502

Driving Directions from Pittsboro: _____

_____

_____

Subdivision Name (if applicable): _____

Owner's/Agent Contact Information (Agent: Consultant or individual(s) receiving lot(s))

Name: Greg Fitch

Contact Phone Numbers: (h) _____ (w) 919-542-4000 (c) _____

E-mail: NA

Mailing Address: 2000 Fearrington Village Ctr. Pittsboro, NC 27312

Do you wish to be contacted prior to Chatham County staff visiting the property? ☑ Yes ☐ No

How much notice is required prior to arrival onsite? 1 week

Watershed Protection Department
Website: www.chathamnc.org

How would you like to receive the completed review letter? (Please check one of the following)

☐ I would like to pick up the completed Riparian Buffer Review at the County Office

☐ I would like the completed Riparian Buffer Review mailed to me

☑ I would like the completed Riparian Buffer Review e-mailed to me

Please include the following items with this request

☑ Copy of Original Plat, Chatham County GIS Map, or detailed drawing indicating review area

☑ Signed Right to Enter Property Form

☑ Signed Owner's Agent Designation Form (if applicable) ☐ Not Applicable

☑ Fee (make checks payable to Chatham County)

Minor Subdivisions: $50 Administration Fee plus $50 per lot created

Total Lots Created: _____ Total Paid: $_____

Due Diligence and Voluntary Buffer Reviews: $100 per feature found onsite

Feature *is defined as any surface water that is subject to Chatham County Riparian Buffers (streams, wetlands, ponds). Due Diligence and Voluntary Reviews will be paid after the onsite review is completed prior to the report being sent to applicant.*

** The above fees do not apply to Jordan Lake Buffer Confirmations or confirmations of USGS mapped streams in accordance with the 1994 Chatham County Watershed Protection Ordinance*

I have read and understand the regulations of the Watershed Protection Ordinance, Section 304, and I agree to adhere to these associated policies and guidelines herein.

Owner/Agent Signature: _____ Date: 10/18/2022

CHATHAM COUNTY

AUTHORIZED AGENT FOR FORM

PROPERTY LEGAL DESCRIPTION:

LOT NO. TRACT 'A' PARCEL ID (PIN) 95264 PARCEL SIZE 51.765

STREET ADDRESS: BIG HOLE ROAD

Please print:
Property Owner: Fitch Creations, Inc.

Property Owner: _____

The undersigned owner(s) of the above described property, do hereby authorize

_____, of _____
(Contractor / Agent) (Name of consulting firm if applicable)

to act on my/our behalf and take all actions, I/we could have taken if present, necessary for the processing, issuance and acceptance of reviews, inspections, or permits and any and all standard and special conditions attached to these approvals. The activities authorized include the following (**Check all that apply**):

☐ **Check here for all of the below options.**

☐ Building Permit
☐ Zoning Compliance Permits
☐ Floodplain Determination
☐ Soil Erosion & Sedimentation Control Permit
☐ Permits to install, repair, evaluate, or expand onsite wastewater system(s)
☐ Evaluation/inspection/permitting of a private drinking water well(s).
☐ Riparian Buffer Review pursuant to §304 of the Chatham Co. Watershed Protection Ordinance.
☐ Other: _____

Property Owner's Address (if different than property above):
2000 Fearrington Village Ctr., Pittsboro, NC 27312

Telephone: 919-542-4000 E-mail: greg@fearrington.com

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.

Greg Fitch
Owner Authorized Signature
Date: 2/16/22

—
Agent Authorized Signature
Date: —

Revised 10/2017

CHATHAM COUNTY
NORTH CAROLINA

Watershed Protection Department

P.O. Box 548
Pittsboro, NC 27312

Website: www.chathamnc.org

Authorization to Enter Property Form

Date: 2/16/22

PARCEL No. (AKPAR) 95264

I, (print name) Greg Fitch on behalf of Fitz Creations, Inc., as owner of the property described above, or as a representative of the owner(s) do hereby convey permission to Chatham County staff to enter the property at their convenience to conduct a surface water identification (SWID) necessary to determine whether or not water features on my property are subject to the riparian buffer regulations described in Section 304 of the Chatham County Watershed Protection Ordinance. The SWID will be public record and on file at the Planning and Watershed Protection Departments, and may be requested in the future for review by interested parties.

I understand that stream delineations for the property listed above will be made by County staff only once and that if future subdivisions are proposed within this property boundary, it will require a surface water identification by a private consultant at the property owner's expense.

Greg Fitch
(Print Owner's Name)

Greg Fitz 2/16/22
(Signature of Owner)
(Date)

—
(Print Authorized Agent Name)

—
(Signature of Authorized Agent)
(Date)

CHATHAM COUNTY
NORTH CAROLINA

APPLICATION FOR FLOOD PLAIN DETERMINATION

Chatham County, North Carolina
This is a fillable form

Office Use Only: PL 20_____

Paid by: CK #_____ CA_____ CC_____

Applicant Information:

Name _____
Address _____
_____
BEST Contact Number:
(_____) - _____

Landowner Name (if different from applicant):

_____

Location of Property:

Property Address _____
Lot Number _____
Subdivision _____

Proposed Work: ☐ Residential Construction ☐ Septic/Repair Installation ☐ Creating New Lot(s) (See Planning Staff) ☐ Well ☐ Site Evaluation (Perc Test) ☐ Land Purchase ☐ Other: _____

Additional Information: Will property be used for **non-residential purpose(s)**? ☐ Yes ☐ No ***If yes, please see Planning Staff***

This application is a $20 non-refundable fee due to a minimum $25 refund limit. *Credit Card payments will be charged a convenience fee of $1. (AmEx not accepted)*

PLEASE READ AND SIGN

Please attach a drawing of the property showing the location of the development activity, the 100-year flood plain, the distance to a stream or river and other information necessary to accurately locate the development activity on the property in relationship to the floodable areas and property lines.
The information shown **for office use only** is based on the location of the property and development as provided by the applicant. The information shown is based on regulations in effect to date. A determination of permit approval will be evaluated based on the permit application submitted and the regulations in effect at the time.

I hereby certify that I am making this application for the landowner or myself and that the information given is correct to the best of my knowledge.

Applicant/Landowner (Please Print) _____ Applicant/Landowner Signature _____ Date _____

For Office Use Only

Is there a "T" code in Parcel Type? ☐ Yes ☐ No		Township:
Parcel ID#:	Acreage:	Zoning District/CUP:
Year Lot was created:	Watershed District:	Jordan Lake Watershed ☐ Yes ☐ No

Flood Plain Information

Flood Map # 37_____

Zone _____

Map Date: _____

The development activity is within 100 feet of the 100-year flood plain?

☐ Yes ☐ No ☐ Uncertain
If "Yes" or "Uncertain," talk to Environmental Quality Director.

*Flood Plain Elevation*_____

*The elevation of the development activity is*_____.

Riparian Buffer Information

Select one of the boxes below based on the information provided by Applicant:

☐ **Lot created before 1/23/2008 and not a subdivision of land:**

***If in Jordan Lake Watershed*: use the USGS Topo and NRCS Soil Survey** to look for streams and ponds to buffer with a 50 foot buffer. Identify "Rivers" on USGS Topo only for 100 ft buffers. No ephemerals.

☐ Stream(s) with 50' Buffer ☐ Pond(s) with 50' Buffer ☐ River or stream within 2500 feet of River with 100' Buffer

***Not in Jordan Lake Watershed*:** use **USGS Topo only**.

☐ Stream(s) with 50' Buffer ☐ River or stream within 2500 feet of River with 100' Buffer

☐ **Parcel will be subdivided:** Talk to Planning Staff. *Needs Riparian Buffer Review by EQ Staff.*

☐ **Lot (over 10 acres in size) created after 1/23/2008 and no Riparian Buffer Review on file or in Cityview:** must have Riparian Buffer Review by EQ Staff prior to building permit. Refer to Planning Staff.

☐ **Lot (under 10 acres in size) created after 1/23/2008:** Riparian Buffer Review should already be completed. See survey or Cityview. Check for "T" code!

Riparian Buffer Review required by EQ Staff? ☐ Yes ☐ No, if yes send to Subdivision Administrator

ADDITIONAL COMMENTS: _____

_____

_____

County Staff Signature _____ Date_____

Revised 7/18/2018

Watershed Protection Department

P.O. Box 548
Pittsboro, NC 27312

Website: www.chathamnc.org

RIPARIAN BUFFERS FOR MINOR SUBDIVISION
STEPS TO TAKE

For compliance with the Watershed Protection Ordinance (Section 304) Riparian Buffer Rules

Step 1: Initial Consultation Meeting

If necessary, schedule and hold an **initial consultation meeting** with staff to obtain a packet of information and discuss your proposed project, ask questions, and obtain general information prior to implementing your project design, land survey, septic/soils survey, etc., or to determine if you may be exempted or fall under the Pre December 2, 2008 rules. Any of the following staff can be contacted to schedule the initial consultation meeting:

- Ms. Paula Phillips, Land Use Administrator I, Planning Department
  paula.phillips@chathamnc.org or (919) 542-8276
- Ms. Kimberly Tyson, Planner II/Subdivision Administrator, Planning Department
  kimberly.tyson@chathamnc.org or (919) 542-8283
- Mr. Drew Blake, Watershed Specialist, Watershed Protection Department
  Drew.blake@chathamnc.org or (919) 545-8394
- Ms. Rachael Thorn, Director, Watershed Protection Department
  Rachael.thorn@chathamnc.org or (919) 545-8343

NOTE: Any questions pertaining to soils and sanitary/septic systems, please contact Anne Lowry, R.E.H.S., Director, Environmental Health Department: anne.lowry@chathamnc.org or (919) 545-8310

Step 2: Submit Riparian Buffer Application and all supporting documents

For projects under 25 acres

Following the initial consultation meeting, if your project is **considered by the Planning Department as a Minor Subdivision and is less than 25 acres** of total land area, please complete and submit the RIPARIAN BUFFER REVIEW APPLICATION: SURFACE WATER IDENTIFICATION REQUEST application. The project cannot be part of a planned, phased, or larger subdivision or development. To be considered as a complete submittal the Riparian Buffer Application must include the following items:

1. Completed Riparian Buffer Review Application
2. Copy of Original Plat, Chatham County GIS Map, and/or detailed drawing indicating area to be reviewed
3. Signed Right to Enter Form
4. Signed Owner's Agent Designation Form (If Applicable)

***If your project meets the criteria list above please continue to Step 3.**

For projects over 25 acres

If your total project is **larger than 25 acres** you are required to hire a private consultant to make the surface water determination. A list of approved environmental consultants can be provided upon request. The listing of any company on the list of approved environmental consultants does not constitute endorsement by Chatham County.

CHATHAM COUNTY
NORTH CAROLINA

Watershed Protection Department

P.O. Box 548
Pittsboro, NC 27312

Website: www.chathamnc.org

(a) Submit a scaled (no smaller than 1"=60') **Buffer Plan Sheet** (11"x17" or larger) and all other required information and forms indicating all water features identified on the parcel and associated buffers at their appropriate width(s).

(b) Submit copies of all NCDWQ Stream Identification Forms, Version 4.11, Wetland Determination Data Form – Eastern Mountains and Piedmont Region, digital photographs, notes, sketches, etc. Each water feature shown on the Buffer Plan Sheet described above must be identified 'Site ID' that matches the appropriate Stream Identification Form.

If you plan to use a consultant that is not currently on the list of approved environmental consultants please submit the following information from the private consultant along with your RIPARIAN BUFFER REVIEW APPLICATION: SURFACE WATER IDENTIFICATION REQUEST.

(c) A short Statement of Credentials of the private consultant(s) making the surface water determinations for our files. The statement(s) must demonstrate the following:
For stream classifications, the private consultant minimally has taken the NCDWQ/NC State University Surface Waters Classification training course and must have passed the written and field exam.
For wetland delineations, the private consultant has demonstrated at least 2 years of experience delineating jurisdictional wetlands in accordance with the Eastern Mountains and Piedmont Regional Supplement to the 1987 US Corps of Engineers Wetland Delineation Manual.

The information provided in A thru C will be reviewed by staff within the Planning and Watershed Protection Departments. Chatham County personnel will contact the designated agent (private consultant) to schedule an onsite review. Additional reviews by US Army Corps of Engineers Raleigh Regional Field Office and North Carolina Division of Water Resources (if applicable) of stream determinations and wetland delineations completed by private consultants may be necessary. Once the staff review has been completed the applicant or designated agent (private consultant) will be notified by letter from the Watershed Protection Department.

Step 3: Schedule On-Site Review

If you have indicated that you would like to be present while the on-site review is being completed Chatham County personnel will contact you to coordinate a date and time to complete the review. **Please note that this can delay the review period due to scheduling conflicts or weather events.** Please indicate on the application how much advanced notice is required to schedule the on-site review. **Please have area(s) to be reviewed clearly marked and/or flagged in the field prior to county staff visiting the property.**

Step 4: Issuance of Findings

During the site review, staff will stake or flag identified stream origins and wetlands in accordance to Section 304 of the Watershed Protection Ordinance only on the parcel (s) identified on the application form. These findings will be provided via mail, electronic mail, or pick up at the office, to the owner and/or Authorized Agent as indicated on the application. The findings will be provided as a letter

CHATHAM COUNTY
NORTH CAROLINA

Watershed Protection Department

P.O. Box 548
Pittsboro, NC 27312

Website: www.chathamnc.org

report with supporting exhibits and maps. All surface water features observed on the property during the review will be shown on a map (Exhibit 2) of the applicant's property as approximate locations only. The information and findings will be mailed to you (or can be picked up) within 15 business days of the signed and completed application submitted to the Watershed Protection Department. The review process and issuance of findings may be extended due to weather delays or scheduling conflicts.

Step 5: Submission of Plan for Review

It is the responsibility of the applicant to transfer the surface water locations as depicted in Exhibit 2 onto a professional land surveyed plan, for review and approval. The plan must depict all surface water features, their associated buffer limits, and final plat certificates (provided by the Planning Department). The plan will be reviewed by staff within the Planning and Watershed Protection Departments.

NOTE: Prior to any land disturbing activities, the buffer boundaries must be protected with clearly visible flagging or tree protection fencing, if forested. Watershed Protection staff must be contacted prior to land disturbance to determine if a site inspection is required. Flagging and tree protection fencing may not be removed until the project is completed.

Representative Photos for

Fearrington Village (S&EC Project# 15120)

W1 (Feature A on SS)

S01_Ephemeral

S02_Intermittent

S04_Ephemeral

S05_Perennial

Feature A_Perennial

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11 SO1 / Feature B

Date: 1/25/2022	**Project/Site:** Farrington	**Latitude:** 35.787774
Evaluator: AJK + KM	**County:** Chatham	**Longitude:** -79.086719
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 10	**Stream Determination (circle one)** (Ephemeral) Intermittent Perennial	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	(0)	0.5	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 2.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 2)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 S02 / Feature B

Date: 1/25/2022	Project/Site: Fearrington Village	Latitude: 35.788231
Evaluator: SJEC-K. Murphrey	County: Chatham	Longitude: -79.086364
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 24	**Stream Determination (circle one)** Ephemeral (Intermittent) Perennial	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 12)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	1	(2)	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (7)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 S03/ Feature A

Date: 1/25/2022	**Project/Site:** Fearrington Village	**Latitude:** 35.790058
Evaluator: SAEC-K. Murphrey	**County:** Chatham	**Longitude:** -79.086002
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 27.5	**Stream Determination (circle one)** Ephemeral (Intermittent) Perennial	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 12)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (8.5)				
12. Presence of Baseflow	0	1	2	(3)
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	(1.5)	1	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 7)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	(1)	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11 504 / Feature A

Date: 1/25/2022	Project/Site: Fearrington	Latitude: 35.790316
Evaluator: AJK + KM	County: Chatham	Longitude: -79.086360
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 11	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1) →	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 2)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	0.5	(1)	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 2)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11 505 / Feature A

Date: 1/25/2022	**Project/Site:** Kearrington	**Latitude:** 35.789135
Evaluator: AJK + KM	**County:** Chatham	**Longitude:** -79.083807
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 34.5	**Stream Determination (circle one)** Ephemeral Intermittent (Perennial)	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 20)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	(3)
4. Particle size of stream substrate	0	1	2	(3)
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	1	(2)	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = (3)	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6.5)				
12. Presence of Baseflow	0	1	2	(3)
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	(1.5)	1	0.5	0
15. Sediment on plants or debris	0	0.5	(1)	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 8)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	(1)	2	3
21. Aquatic Mollusks	0	(1)	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 SO6 / Feature C

Date: 1/25/2022	**Project/Site:** Fearrington Village	**Latitude:** 35.788826
Evaluator: SAEC-K.Murphrey	**County:** Chatham	**Longitude:** -79.084260
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 22	**Stream Determination (circle one)** Ephemeral (Intermittent) Perennial	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 10)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	1	(2)	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (7)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 507/Feature C

Date: 1/25/2022	**Project/Site:** Fearrington Village	**Latitude:** 35.7883384
Evaluator: SEC-K. Murphrey	**County:** Chatham	**Longitude:** -79.08443
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 10.5	**Stream Determination (circle one)** (Ephemeral) Intermittent Perennial	**Other** *e.g. Quad Name:*

A. Geomorphology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (1)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Exhibit 4

Preliminary ORM Data Entry Fields for New Actions

ACTION ID #: SAW-

Begin Date (Date Received):

Prepare file folder ☐

Assign Action ID Number in ORM ☑

1. Project Name [PCN Form A2a]: Granville

2. Work Type: ☑ Private ☐ Institutional ☐ Government ☐ Commercial

3. Project Description / Purpose [PCN Form B3d and B3e]:
Unknown

4. Property Owner / Applicant [PCN Form A3 or A4]: Fitch Creations, Inc.

5. Agent / Consultant [PNC Form A5 – or ORM Consultant ID Number]:
Steven Ball; S&EC, PA

6. Related Action ID Number(s) [PCN Form B5b]: N/A

7. Project Location – Coordinates, Street Address, and/or Location Description [PCN Form B1b]:
0 Big Hole Rd. Pittsboro, NC 27312-8502

8. Project Location – Tax Parcel ID [PCN Form B1a]: 95264

9. Project Location – County [PCN Form A2b]: Chatham

10. Project Location – Nearest Municipality or Town [PCN Form A2c]: Pittsboro

11. Project Information – Nearest Waterbody [PCN Form B2a]: Bush Creek

12. Watershed / 8-Digit Hydrologic Unit Code [PCN Form B2c]: 03030002 Cape Fear River Basin

Authorization: Section 10 ☐ Section 404 ☑ Section 10 and 404 ☐

Regulatory Action Type:

- ☐ Standard Permit
- ☐ Nationwide Permit #
- ☐ Regional General Permit #
- ☐ Jurisdictional Determination Request
- ☐ Pre-Application Request
- ☐ Unauthorized Activity
- ☐ Compliance
- ☐ No Permit Required

Revised 20150602

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 03/09/2022

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Steven Ball - 8412 Falls of Neuse Road, Raleigh NC 27615

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: N/A

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: NC County/parish/borough: Chatham City: Pittsboro

Center coordinates of site (lat/long in degree decimal format):

Lat.: 35.789796 Long.: -79.085442

Universal Transverse Mercator: 17S 673021 3962324

Name of nearest waterbody: Bush Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date: 10/18/2022

☐ Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
W1	35.789703	-79.085351	.07 ac	wetland	Section 404
W2	35.790573	-79.081751	.06 ac	wetland	Section 404
LW	35.790083	-79.082753	96 ft	linear wetland	Section 404
C	35.789574	-79.083197	54 ft	Intermittent Stream	Section 404
B	35.788502	-79.085774	711 ft	Intermittent Stream	Section 404
A	35.789456	-79.085696	2000 ft	Intermittent/Perennial Stream	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

☐ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _____.

☒ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____.

☐ 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: 1"=1500' 2019 NC Farrington Quad.

☒ Natural Resources Conservation Service Soil Survey. Citation: Chatham County Soil Survey Sheet 5.

☐ National wetlands inventory map(s). Cite name: _____.

☐ State/local wetland inventory map(s): _____.

☐ FEMA/FIRM maps: _____.

☐ 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)

☐ Photographs: ☐ Aerial (Name & Date): _____.
or ☐ Other (Name & Date): _____.

☐ Previous determination(s). File no. and date of response letter: _____.

☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	_____
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Jurisdictional Determination Request

US Army Corps of Engineers
Wilmington District

This form is intended for use by anyone requesting a jurisdictional determination (JD) from the U.S. Army Corps of Engineers, Wilmington District (Corps). Please include all supporting information, as described within each category, with your request. You may submit your request via mail, electronic mail, or facsimile. Requests should be sent to the appropriate project manager of the county in which the property is located. A current list of project managers by assigned counties can be found on-line at: http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/Contact/CountyLocator.aspx, by calling 910-251-4633, or by contacting any of the field offices listed below. Once your request is received you will be contacted by a Corps project manager.

ASHEVILLE & CHARLOTTE REGULATORY FIELD OFFICES
US Army Corps of Engineers
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006
General Number: (828) 271-7980
Fax Number: (828) 281-8120

RALEIGH REGULATORY FIELD OFFICE
US Army Corps of Engineers
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587
General Number: (919) 554-4884
Fax Number: (919) 562-0421

WASHINGTON REGULATORY FIELD OFFICE
US Army Corps of Engineers
2407 West Fifth Street
Washington, North Carolina 27889
General Number: (910) 251-4610
Fax Number: (252) 975-1399

WILMINGTON REGULATORY FIELD OFFICE
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28403
General Number: 910-251-4633
Fax Number: (910) 251-4025

INSTRUCTIONS:

All requestors must complete Parts A, B, C, D, E, F and G.

NOTE TO CONSULTANTS AND AGENCIES: If you are requesting a JD on behalf of a paying client or your agency, please note the specific submittal requirements in **Part H**.

NOTE ON PART D – PROPERTY OWNER AUTHORIZATION: Please be aware that all JD requests must include the current property owner authorization for the Corps to proceed with the determination, which may include inspection of the property when necessary. This form must be signed by the current property owner(s) or the owner(s) authorized agent to be considered a complete request.

NOTE ON PART D - NCDOT REQUESTS: Property owner authorization/notification for JD requests associated with North Carolina Department of Transportation (NCDOT) projects will be conducted according to the current NCDOT/USACE protocols.

NOTE TO USDA PROGRAM PARTICIPANTS: A Corps approved or preliminary JD may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA Program participants, or anticipate participation in USDA programs, you should also request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

A. PARCEL INFORMATION

Street Address: 0 Big Hole Rd.

City, State: Pittsboro, NC 27312-8502

County: Chatham

Parcel Index Number(s) (PIN): 95264

B. REQUESTOR INFORMATION

Name: Greg Fitch

Mailing Address: 8412 Falls of Neuse Road

2000 Fearrington Village Ctr. Pittsboro,

Telephone Number: 919-846-5900

Electronic Mail Address: sball@sandec.com

Select one:

☑ I am the current property owner.

☑ I am an Authorized Agent or Environmental Consultant[1]

☑ Interested Buyer or Under Contract to Purchase

☑ Other, please explain. _____

_____

C. PROPERTY OWNER INFORMATION[2]

Name: Fitch Creations, INC

Mailing Address: 2000 Fearrington Village Ctr.

Pittsboro, NC 27312-8502

Telephone Number: _____

Electronic Mail Address: _____

[1] Must provide completed Agent Authorization Form/Letter.

[2] Documentation of ownership also needs to be provided with request (copy of Deed, County GIS/Parcel/Tax Record).

D. PROPERTY ACCESS CERTIFICATION[3,4]

By signing below, I authorize representatives of the Wilmington District, U.S. Army Corps of Engineers (Corps) to enter upon the property herein described for the purpose of conducting on-site investigations, if necessary, and issuing a jurisdictional determination pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. I, the undersigned, am either a duly authorized owner of record of the property identified herein, or acting as the duly authorized agent of the owner of record of the property.

*See Agent Authorization Form Attached

Print Name

Capacity: ☐ Owner ☑ Authorized Agent[5]

10/18/2022

Date

Signature

E. REASON FOR JD REQUEST: (Check as many as applicable)

☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.

☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.

☑ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.

☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.

☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.

☐ A Corps JD is required in order obtain my local/state authorization.

☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.

☐ I believe that the site may be comprised entirely of dry land.

☐ Other:_____

[3] For NCDOT requests following the current NCDOT/USACE protocols, skip to Part E.

[4] If there are multiple parcels owned by different parties, please provide the following for each additional parcel on a continuation sheet.

[5] Must provide agent authorization form/letter signed by owner(s).

F. JURISDICTIONAL DETERMINATION (JD) TYPE (Select One)

☑ I am requesting that the Corps provide a preliminary JD for the property identified herein.

A Preliminary Jurisdictional Determination (PJD) provides an indication that there may be "waters of the United States" or "navigable waters of the United States"on a property. PJDs are sufficient as the basis for permit decisions. For the purposes of permitting, all waters and wetlands on the property will be treated as if they are jurisdictional "waters of the United States". PJDs cannot be appealed (33 C.F.R. 331.2); however, a PJD is "preliminary" in the sense that an approved JD can be requested at any time. PJDs do not expire.

☐ I am requesting that the Corps provide an approved JD for the property identified herein.

An Approved Jurisdictional Determination (AJD) is a determination that jurisdictional "waters of the United States" or "navigable waters of the United States" are either present or absent on a site. An approved JD identifies the limits of waters on a site determined to be jurisdictional under the Clean Water Act and/or Rivers and Harbors Act. Approved JDs are sufficient as the basis for permit decisions. AJDs are appealable (33 C.F.R. 331.2). The results of the AJD will be posted on the Corps website. A landowner, permit applicant, or other "affected party" (33 C.F.R. 331.2) who receives an AJD may rely upon the AJD for five years (subject to certain limited exceptions explained in Regulatory Guidance Letter 05-02).

☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

G. ALL REQUESTS

☑ Map of Property or Project Area. This Map must clearly depict the boundaries of the review area.

☑ Size of Property or Review Area 51.76 acres.

☑ The property boundary (or review area boundary) is clearly physically marked on the site.

H. REQUESTS FROM CONSULTANTS

☑ Project Coordinates (Decimal Degrees): Latitude: 35.789796
Longitude: -79.085442

☑ A legible delineation map depicting the aquatic resources and the property/review area. Delineation maps must be no larger than 11x17 and should contain the following: (Corps signature of submitted survey plats will occur after the submitted delineation map has been reviewed and approved).[6]

- North Arrow
- Graphical Scale
- Boundary of Review Area
- Date
- Location of data points for each Wetland Determination Data Form or tributary assessment reach.

For Approved Jurisdictional Determinations:

- Jurisdictional wetland features should be labeled as Wetland Waters of the US, 404 wetlands, etc. Please include the acreage of these features.
- Jurisdictional non-wetland features (i.e. tidal/navigable waters, tributaries, impoundments) should be labeled as Non-Wetland Waters of the US, stream, tributary, open water, relatively permanent water, pond, etc. Please include the acreage or linear length of each of these features as appropriate.
- Isolated waters, waters that lack a significant nexus to navigable waters, or non-jurisdictional upland features should be identified as Non-Jurisdictional. Please include a justification in the label regarding why the feature is non-jurisdictional (i.e. "Isolated", "No Significant Nexus", or "Upland Feature"). Please include the acreage or linear length of these features as appropriate.

For Preliminary Jurisdictional Determinations:

- Wetland and non-wetland features should not be identified as Jurisdictional, 404, Waters of the United States, or anything that implies jurisdiction. These features can be identified as Potential Waters of the United States, Potential Non-wetland Waters of the United States, wetland, stream, open water, etc. Please include the acreage and linear length of these features as appropriate.

☑ Completed Wetland Determination Data Forms for appropriate region
(at least one wetland and one upland form needs to be completed for each wetland type)

[6] Please refer to the guidance document titled "Survey Standards for Jurisdictional Determinations" to ensure that the supplied map meets the necessary mapping standards. http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Jurisdiction/

- [x] Completed appropriate Jurisdictional Determination form
  - **PJDs,** please complete a Preliminary Jurisdictional Determination Form[7] and include the Aquatic Resource Table
  - **AJDs**, please complete an Approved Jurisdictional Determination Form[8]
- [x] Vicinity Map
- [x] Aerial Photograph
- [x] USGS Topographic Map
- [x] Soil Survey Map
- [ ] Other Maps, as appropriate (e.g. National Wetland Inventory Map, Proposed Site Plan, previous delineation maps, LIDAR maps, FEMA floodplain maps)
- [ ] Landscape Photos (if taken)
- [x] NCSAM and/or NCWAM Assessment Forms and Rating Sheets
- [ ] NC Division of Water Resources Stream Identification Forms
- [ ] Other Assessment Forms

[7] www.saw.usace.army.mil/Portals/59/docs/regulatory/regdocs/JD/RGL_08-02_App_A_Prelim_JD_Form_fillable.pdf
[8] Please see http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Jurisdiction/

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Soil & Environmental Consultants, PA

8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com

PROPERTY OWNER CERTIFICATION / AGENT AUTHORIZATION

Project Name/Description: Granville S&EC Project #_____

Date: _____

The Department of the Army
U.S. Army Corps of Engineers, Wilmington District
69 Darlington Avenue
Wilmington, NC 28403

Attn: _____ Field Office: _____

I, the undersigned, a duly authorized owner of record of the property/properties identified herein, do authorize representatives of the Wilmington District, U.S. Army Corps of Engineers (Corps) and Soil & Environmental Consultants, PA (S&EC) staff, as my agent, to enter upon the property herein described for the purpose of conducting on-site investigations and issuing a determination associated with Waters of the U.S. subject to Federal jurisdiction under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. This document also authorizes S&EC, as my agent, to act on my behalf and take all actions necessary for the processing, issuance and acceptance of a permit or certification and any and all associated standard and special conditions.This notification supersedes any previous correspondence concerning the agent for this project.

NOTICE: This authorization, for liability and professional courtesy reasons, is valid only for government officials to enter the property when accompanied by S&EC staff. You should call S&EC to arrange a site meeting prior to visiting the site.

PARCEL INFORMATION:

Parcel Index Number(s) (PIN): Not yet assigned (newly subdivided portion of 9774-03-41-9454)
Site Address: Big Hole Road (newly subdivided portion of 318 Big Hole Road)
City, County, State: Chatham County, NC

PROPERTY OWNER INFORMATION:

Name: Fitch Creations, Inc
Mailing Address: 2000 Fearrington Village Ctr., Pittsboro, NC 27312
Telephone Number: 919-542-4000

Greg Fitch
Property Owner (please print)

2/16/22
Date

Greg Fitch
Property Owner Signature

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

Project/Site: Fearrington Village South City/County: Chatham Sampling Date: 1/25/2022

Applicant/Owner: Fitch Creations, INC State: NC Sampling Point: DP1

Investigator(s): S&EC- AJ Kamal + Kevin Murphrey Section, Township, Range: Chapel Hill

Landform (hillside, terrace, etc.): Flooplain Local relief (concave, convex, none): Convex Slope (%): 2-4

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.790567 Long: -79.081743 Datum: NAD 83

Soil Map Unit Name: GaC NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DP1

Tree Stratum (Plot size: 30ft X 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	30	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	30 =Total Cover		
50% of total cover: 15	20% of total cover: 6		
Sapling/Shrub Stratum (Plot size: 15ft X 15ft)			
1. *Platanus occidentalis*	10	Yes	FACW
2. *Acer rubrum*	5	Yes	FAC
3. *Ligustrum sinense*	10	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
	25 =Total Cover		
50% of total cover: 13	20% of total cover: 5		
Herb Stratum (Plot size: 5ft X 5ft)			
1. *Carex sp.*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		
Woody Vine Stratum (Plot size:)			
1. *Smilax rotundifolia*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 4/6	80	5YR 5/8	15	C	M	Loamy/Clayey	Sandy Clay Loam
			7.5YR 5/2	5	D	M		
3-14	10YR 5/2	80	5YR 4/6	20	C	PL		Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data sheet is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

Project/Site: Fearrington Village South City/County: Chatham Sampling Date: 1/25/2022

Applicant/Owner: Fitch Creations, INC State: NC Sampling Point: DP2

Investigator(s): S&EC- AJ Kamal + Kevin Murphrey Section, Township, Range: Chapel Hill

Landform (hillside, terrace, etc.): Hillsope Local relief (concave, convex, none): Convex Slope (%): 2-4

Subregion (LRR or MLRA): LRR P, MLRA 136 Lat: 35.788174 Long: -79.084980 Datum: NAD 83

Soil Map Unit Name: GaC NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No x	**within a Wetland?** **Yes** ____ **No** x
Wetland Hydrology Present?	Yes ____	No x	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No x	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No x	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: DP2

Tree Stratum (Plot size: 30ft X 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus taeda*	15	Yes	FAC
2. *Liquidambar styraciflua*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover: 5	

Sapling/Shrub Stratum (Plot size: 15ft X 15ft)			
1. *Pinus taeda*	10	Yes	FAC
2. *Acer rubrum*	15	Yes	FAC
3. *Liquidambar styraciflua*	10	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
	35	=Total Cover	
50% of total cover: 18		20% of total cover: 7	

Herb Stratum (Plot size: 5ft X 5ft)			
1.	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	=Total Cover	
50% of total cover: 5		20% of total cover: 2	

Woody Vine Stratum (Plot size:)			
1. *Smilax rotundifolia*	10	Yes	FAC
2. *Lonicera japonica*	15	Yes	FACU
3.			
4.			
5.			
	25	=Total Cover	
50% of total cover: 13		20% of total cover: 5	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 5/6	80	2.5Y 5/3	20	D	M	Loamy/Clayey	Sandy Clay Loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data sheet is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

Exhibit 5

Site has been confirmed by the USACE and Chatham Co.

This map is for jurisdictional featueres only. It does not include the ephemeral features regulated by the County.

1 tt 18

31 tt 20

DP1

W2

W1

S03

32LW 3'-
35LW 2' tt CH

S05

Feature A

A

25 tt CH -
26 tt CH

SB01

B

BIG HOLE

Detailed Delineation of Waters of the US
Suitable for Preliminary Planning Only

S&EC reserves the right to modify this map based on more fieldwork, and any other additional information. Approximations were mapped using topographic maps, air photos and ground truthing. If the site is going to be disturbed, S&EC's detailed delineation should be approved and permitted by the U.S. Army Corps of Engineers as required. If the user of this work desires an accurate map of the regulated features flagged by S&EC, they should retain a NC Registered Professional Land Surveyor to locate S&EC's flagging.

Legend

- Evaluation Area
- Potentially Jurisdictional Perennial Stream
- Potentially Jurisdictional Intermittent Stream
- Potentially Jurisdictional Linear Wetland
- Potentially Jurisdictional Wetland
- 100ft Chatham Co. Buffer
- 50ft Chatham Co. Buffer
- 2'Chatham County Contours

NCCGIA

Project No. 15120.W1	**Scale:** 1" = 250'	**Final JD features Map**	0 250 500 1,000 Feet
Project Mgr.: SB	**04/18/22**	**Fearrington Village South** Aerials from NC One Map	N
		Prepared by: JH	

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Exhibit 6

N
W E
S

Site has been confirmed by the USACE and Chatham Co.

This map is for jurisdictional featueres only. It does not include the ephemeral features regulated by the County.

Feature Name: W2
Size: +/- 0.06 ac
Type: Bottomland Hardwood Forest

Feature Name: W1
Size: +/- 0.07 ac
Type: Headwater Forest

Feature A

Feature Name: LW
Size: +/- 96 ft
Type: Headwater Forest

A

B

Detailed Delineation of Waters of the US
Suitable for Preliminary Planning Only

S&EC reserves the right to modify this map based on more fieldwork, and any other additional information. Approximations were mapped using topographic maps, air photos and ground truthing. If the site is going to be disturbed, S&EC's detailed delineation should be approved and permitted by the U.S. Army Corps of Engineers as required. If the user of this work desires an accurate map of the regulated features flagged by S&EC, they should retain a NC Registered Professional Land Surveyor to locate S&EC's flagging.

Legend

- Evaluation Area
- Potentially Jurisdictional Perennial Stream
- Potentially Jurisdictional Intermittent Stream
- Potentially Jurisdictional Linear Wetland
- Potentially Jurisdictional Wetland
- 100ft Chatham Co. Buffer
- 50ft Chatham Co. Buffer
- 2'Chatham County Contours

NCCGIA

Project No. 15120.W1	**Scale:** 1" = 250'	**Wetland Classification Map**	0 250 500 1,000 Feet
Project Mgr.: SB	09/23/2022	**Fearrington Village South** Aerials from NC One Map	N
		Prepared by: MM	

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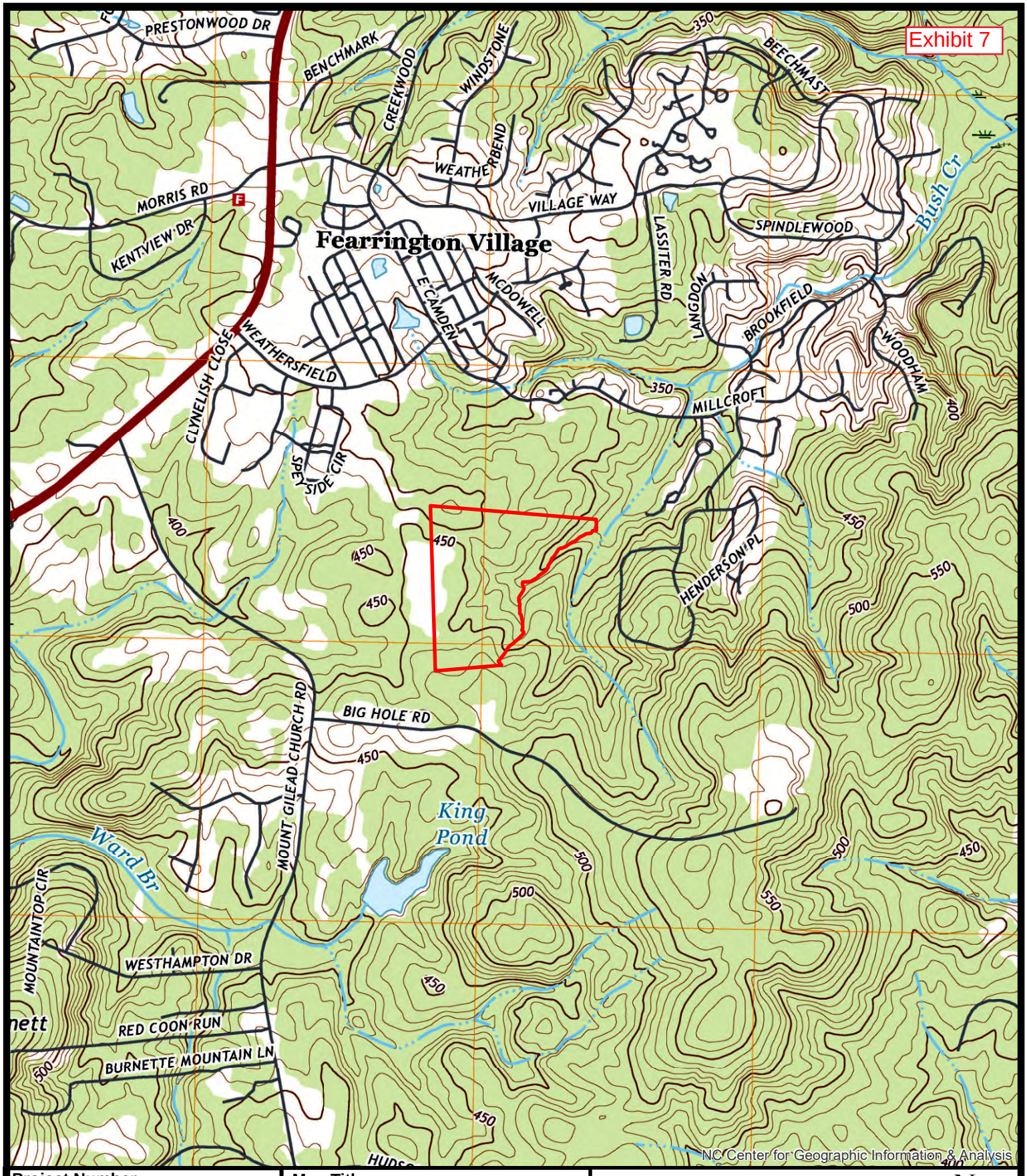

Project Number:	15120.W1
Project Manager:	SB
Scale:	1" = 1500'
Date:	01/14/2022

Map Title:

Figure 1 - USGS Map

Granville

Source:

2019 NC Farrington Quad

0 1,500 3,000

Feet

N

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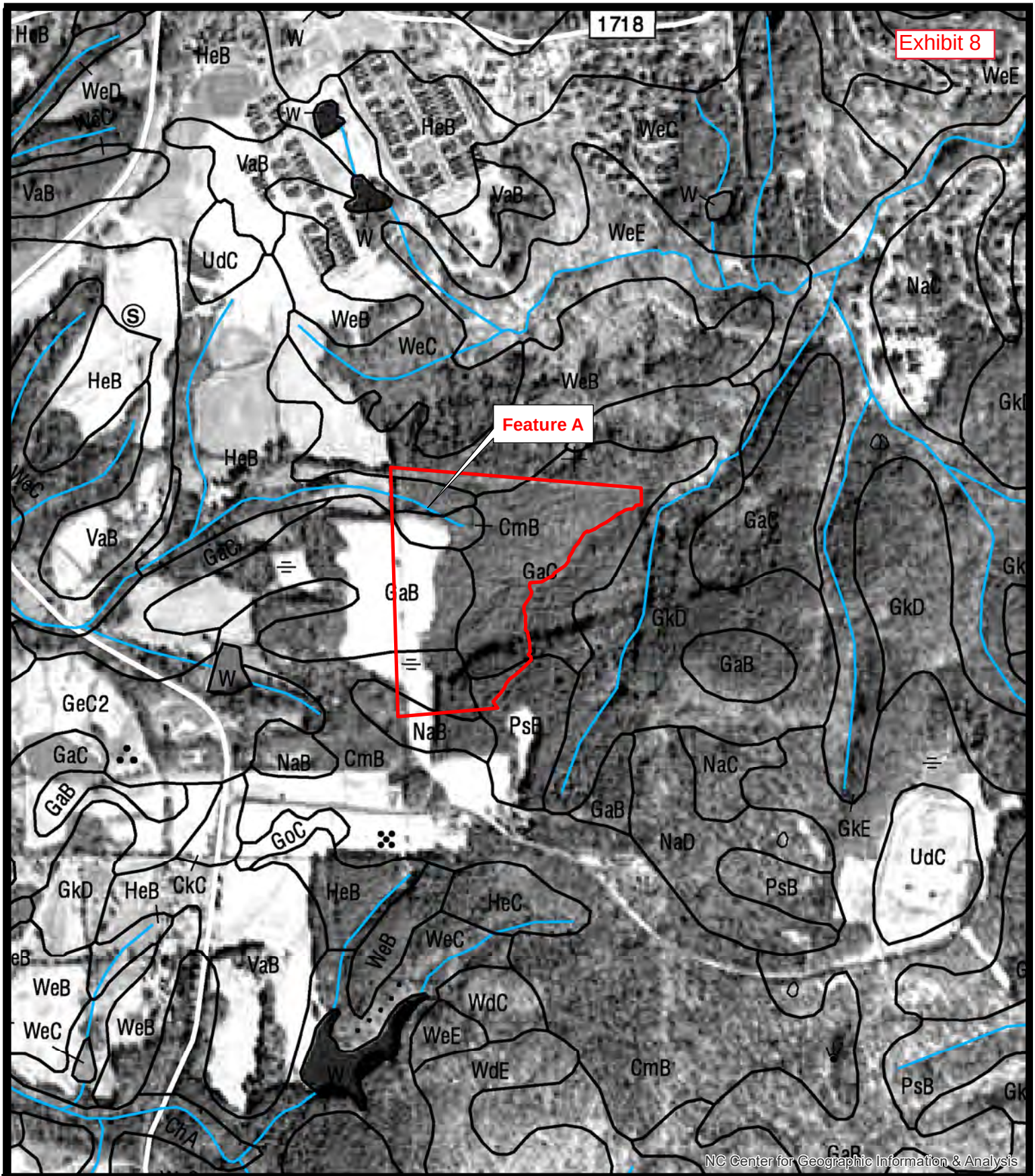

Project Number:	15120.W1
Project Manager:	SB
Scale:	1" = 1000'
Date:	01/14/2022

Map Title:

Figure 2 - Soil Survey

Granville

Source: Chatham County Soil Survey Sheet 05

0 1,000 2,000

Feet

N

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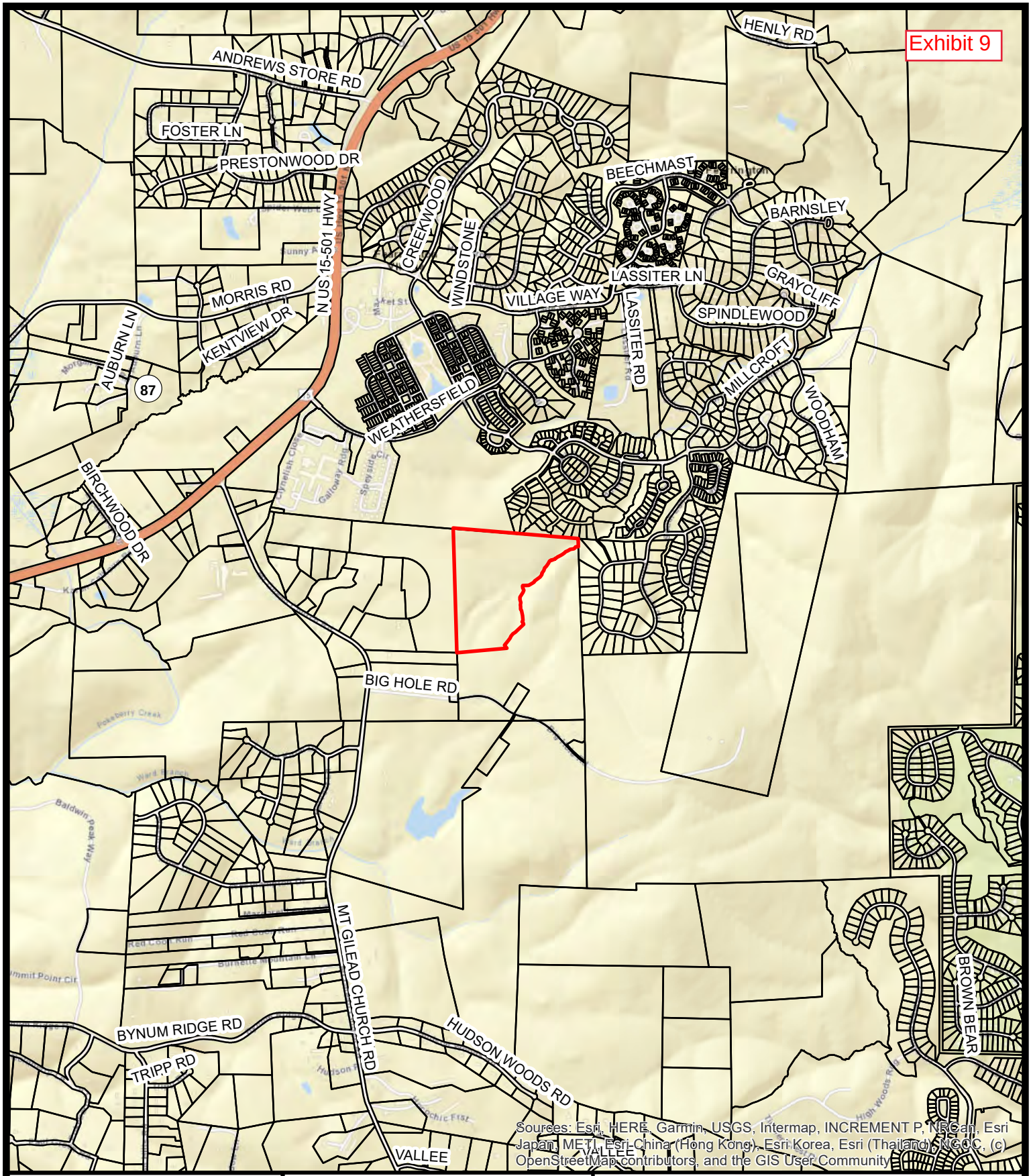
Exhibit 9



Project Number: 15120.W6	**Map Title:** Vicinity Map Granville Chatham County, NC
Project Manager: SB	
Scale: 1" = 2000'	
Date: 09/23/2022	**Source:** Bing.com Chatham Co. GIS

N

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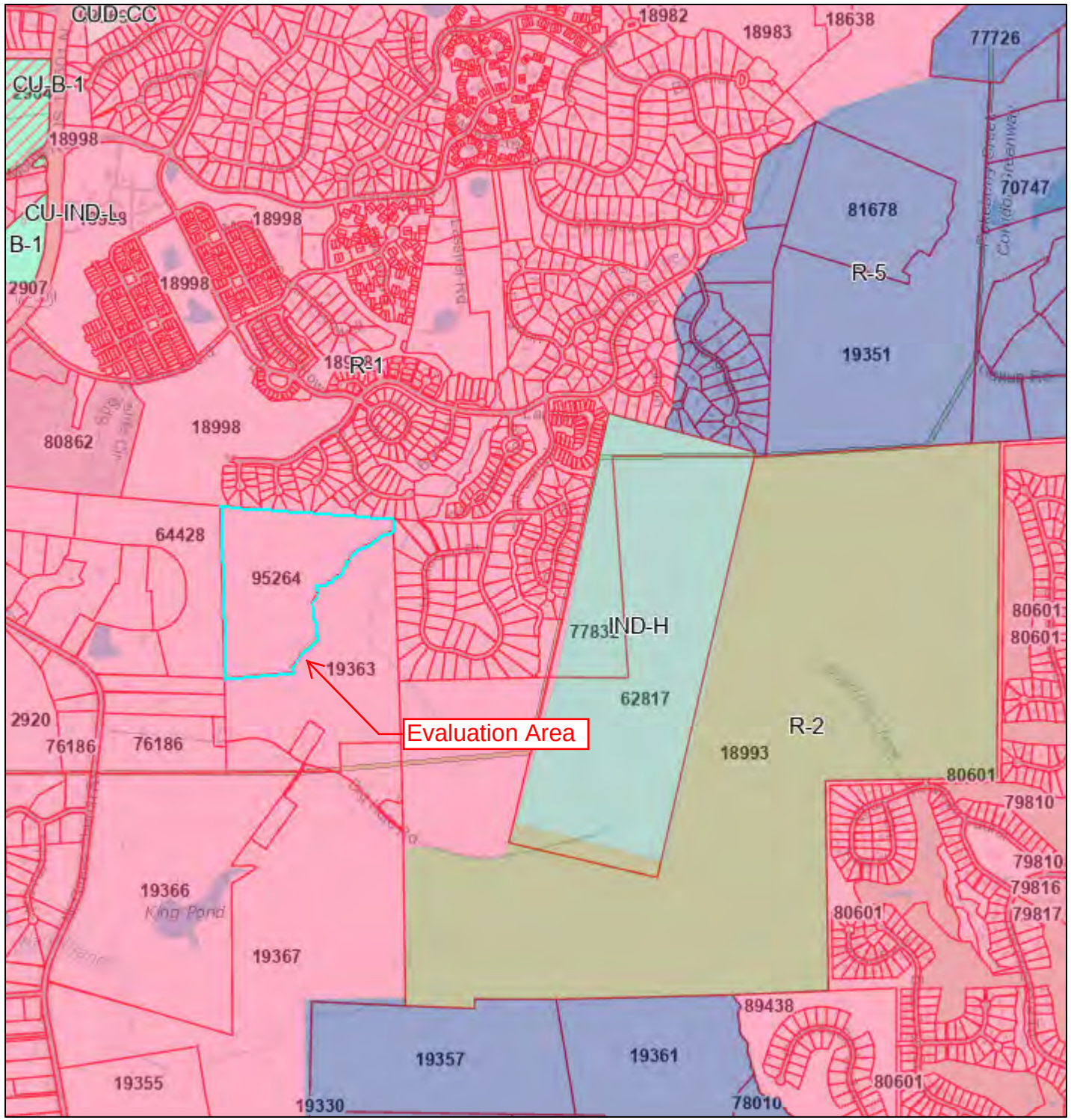
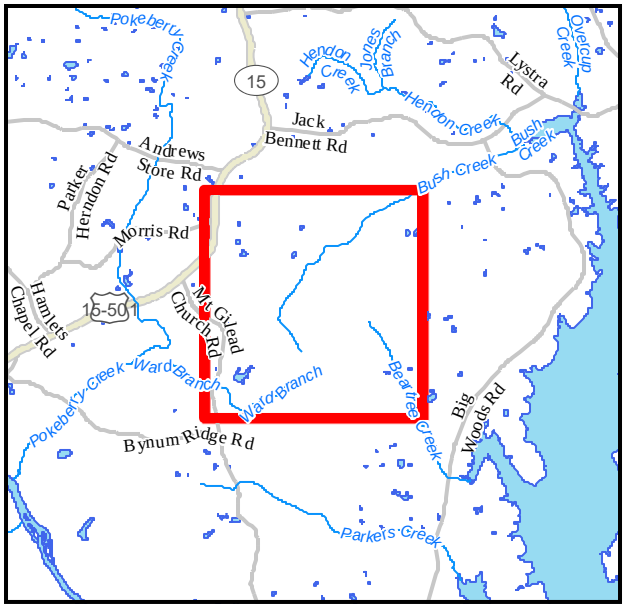
Chatham County Land Use and Planning Application

Exhibit 10





Legend

Cary Zoning

- TR-CU
- PDD Major
- R12-CU
- R40
- R40-CU
- R8-CU
- RR

0 0.325 0.65 mi

N

Service Layer Credits:
Chatham County,
Chatham County GIS

CHATHAM COUNTY
NORTH CAROLINA

Date: 9/23/2022
Time: 1:28:11 PM

Exhibit 11

Locate Park & Recreational Activities

Chatham County, NC

Enter park name

Locate Recreational Activities

Search for an address or locate on map

27312, Pittsboro, North Carolina

Show results within 5 Miles

0 20

Check search source layer's visibility in the Layer

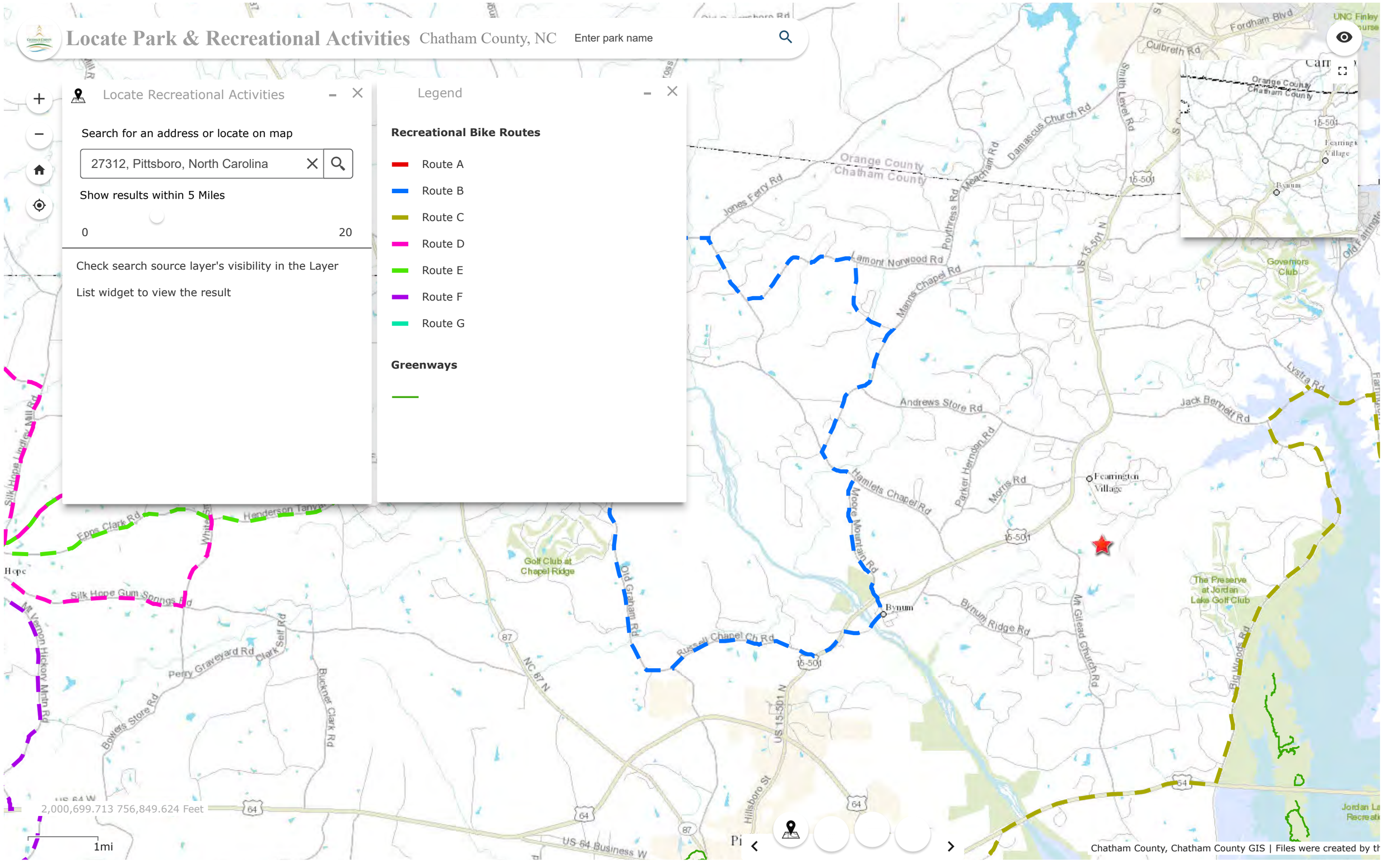
List widget to view the result

Legend

Recreational Bike Routes

- Route A
- Route B
- Route C
- Route D
- Route E
- Route F
- Route G

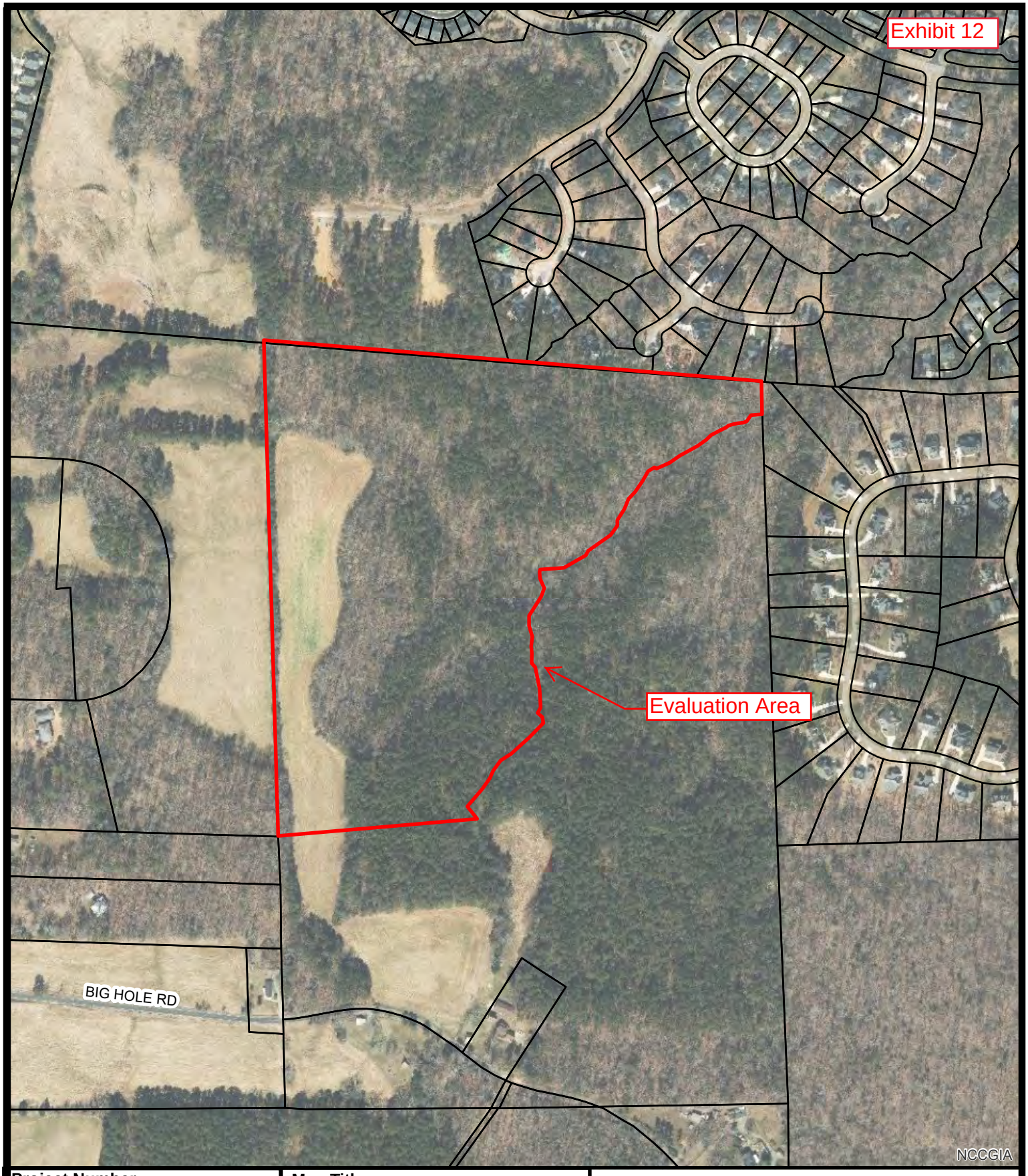
Greenways



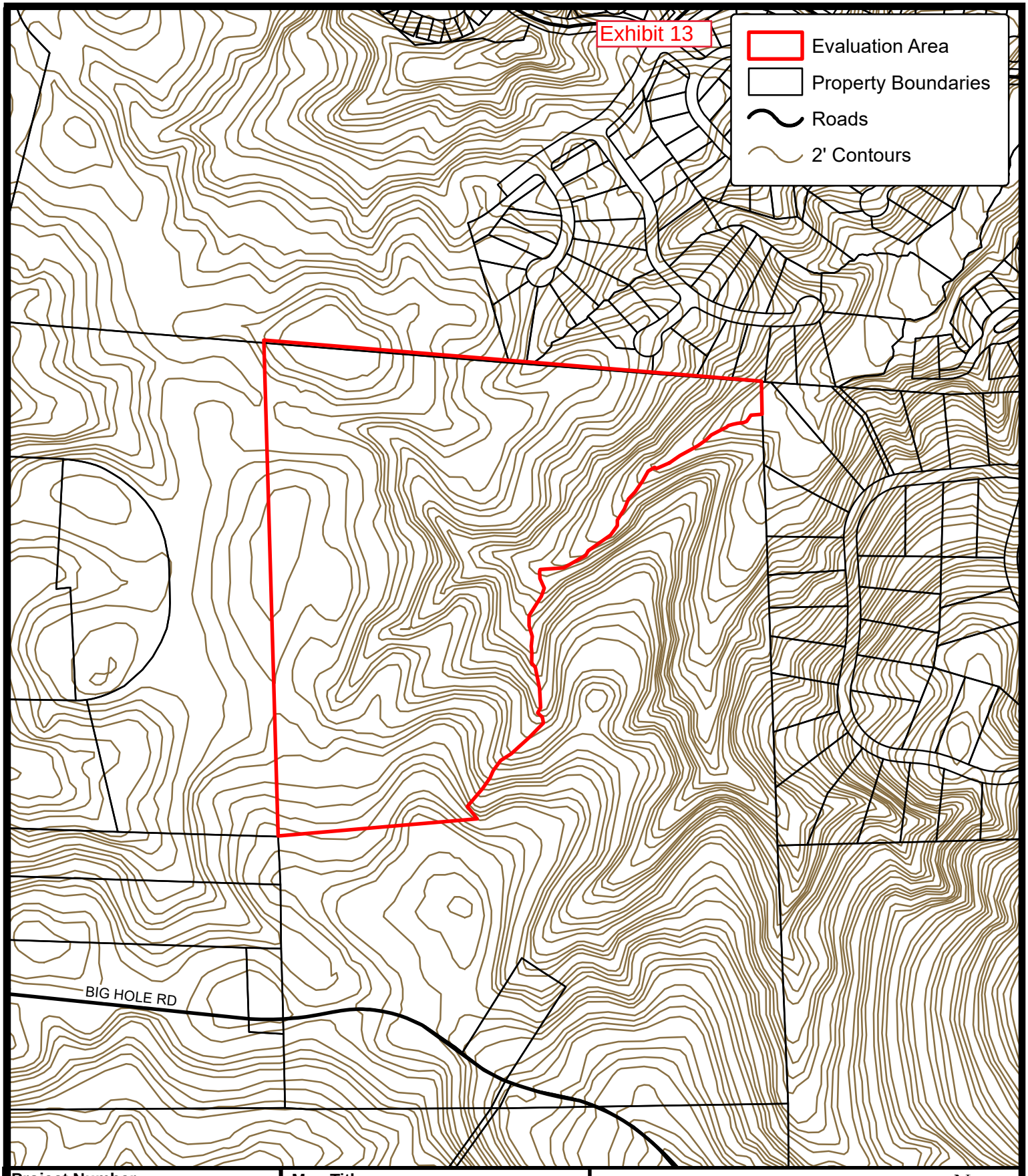
2,000,699.713 756,849.624 Feet

1mi

Chatham County, Chatham County GIS | Files were created by th



Project Number: 15120.W6	**Map Title:** Aerial Map Granville Chatham County, NC	0 250 500 1,000 Feet N
Project Manager: SB		
Scale: 1" = 500'		
Date: 09/23/2022	**Prepared by:** MM	S&EC Soil & Environmental Consultants, PA 8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467 sandec.com



Project Number:	15120.W6
Project Manager:	SB
Scale:	1" = 500'
Date:	09/23/2022

Map Title:

Topographic Map

Granville
Chatham County, NC

Source: NC One Map

0 250 500 1,000 Feet

N

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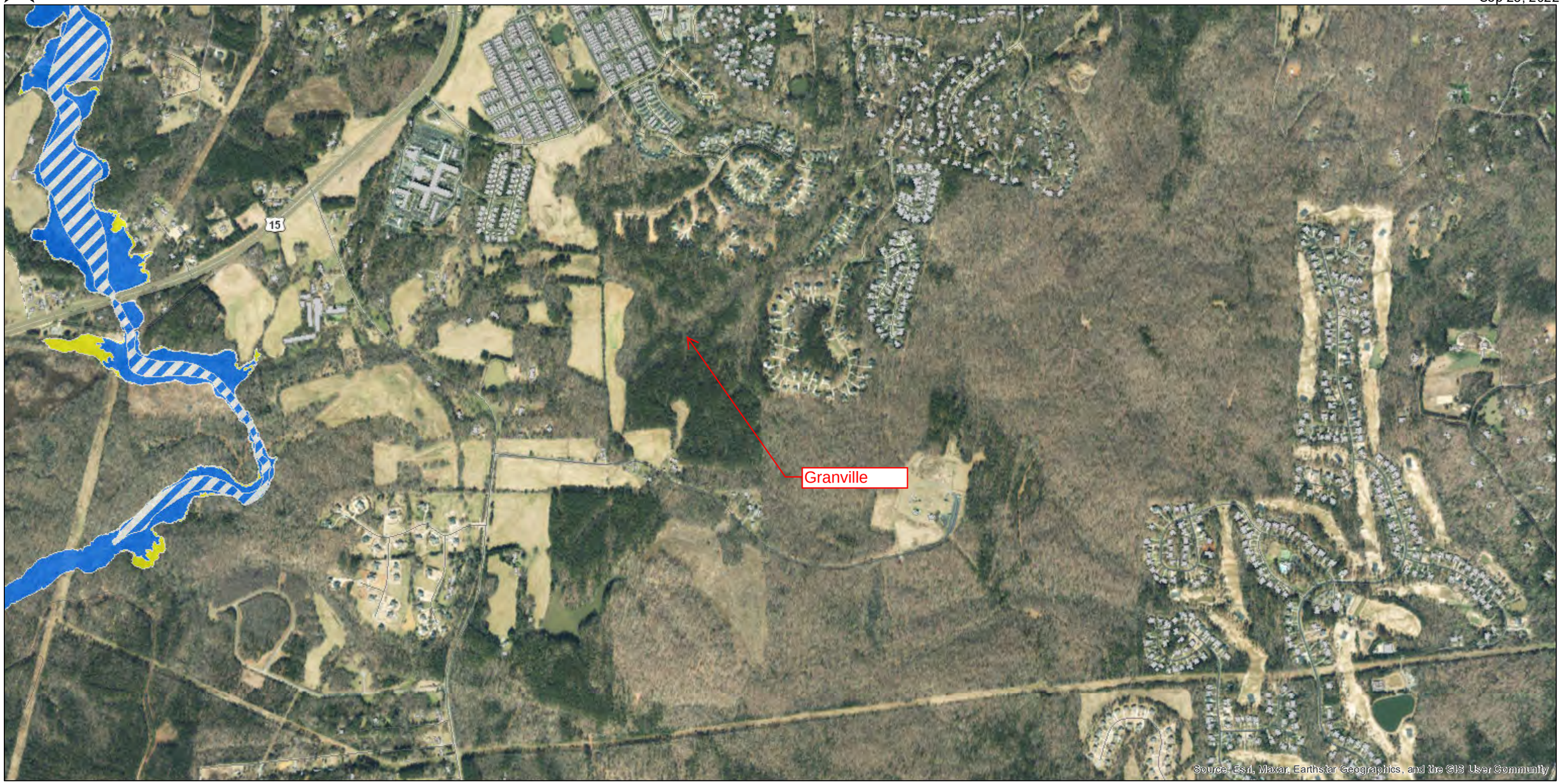
Exhibit 14

Flood Map

Sep 23, 2022



Legend

- Panels
- Political Areas
- Stream Centerline
- Cross Sections
- Levee

Flood Hazard Areas

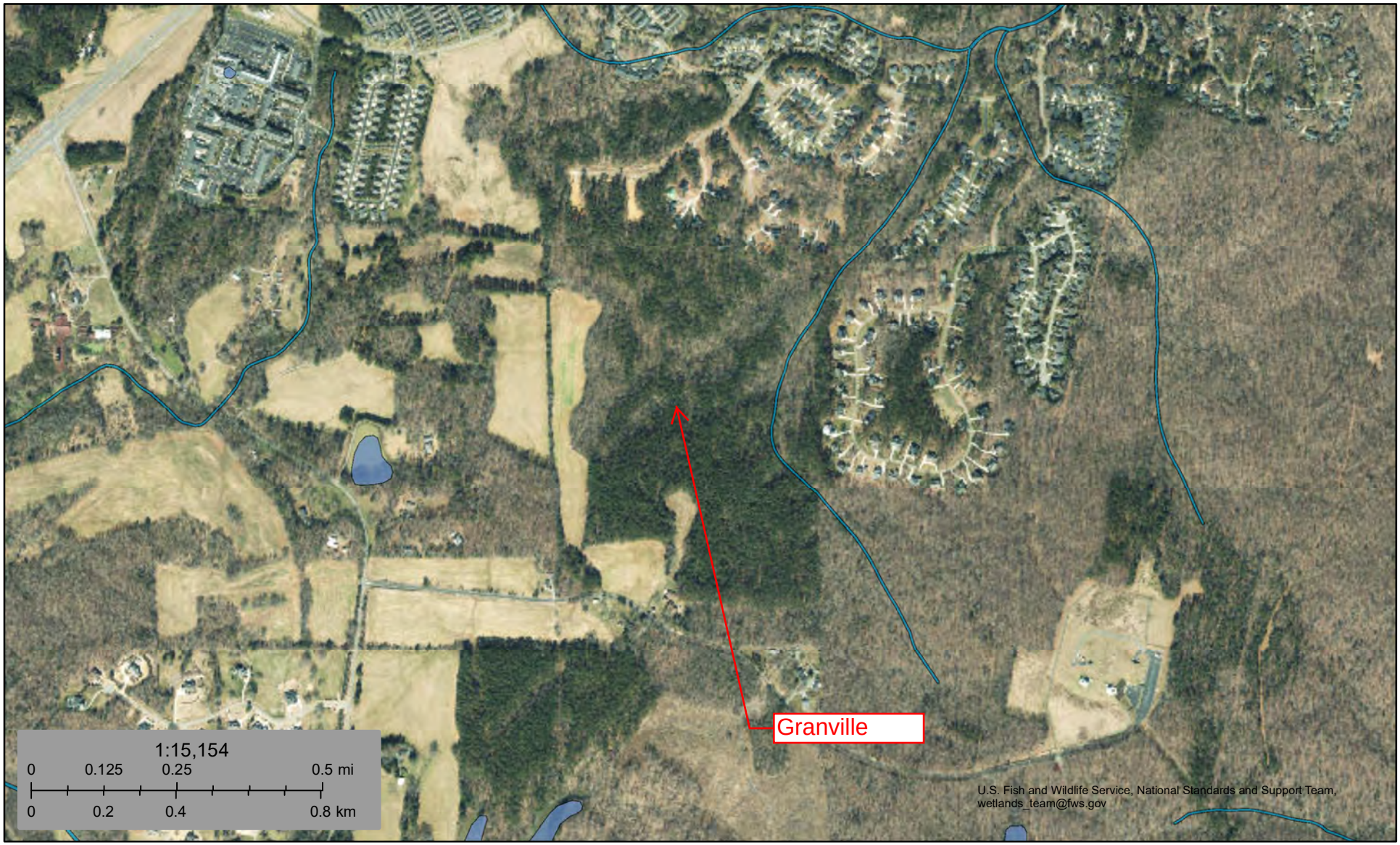
- AE
- Floodway (AE)
- 0.2 % Chance Annual Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard

North Carolina Floodplain Mapping Program

Exhibit 15

U.S. Fish and Wildlife Service
National Wetlands Inventory

NWI Map



September 23, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

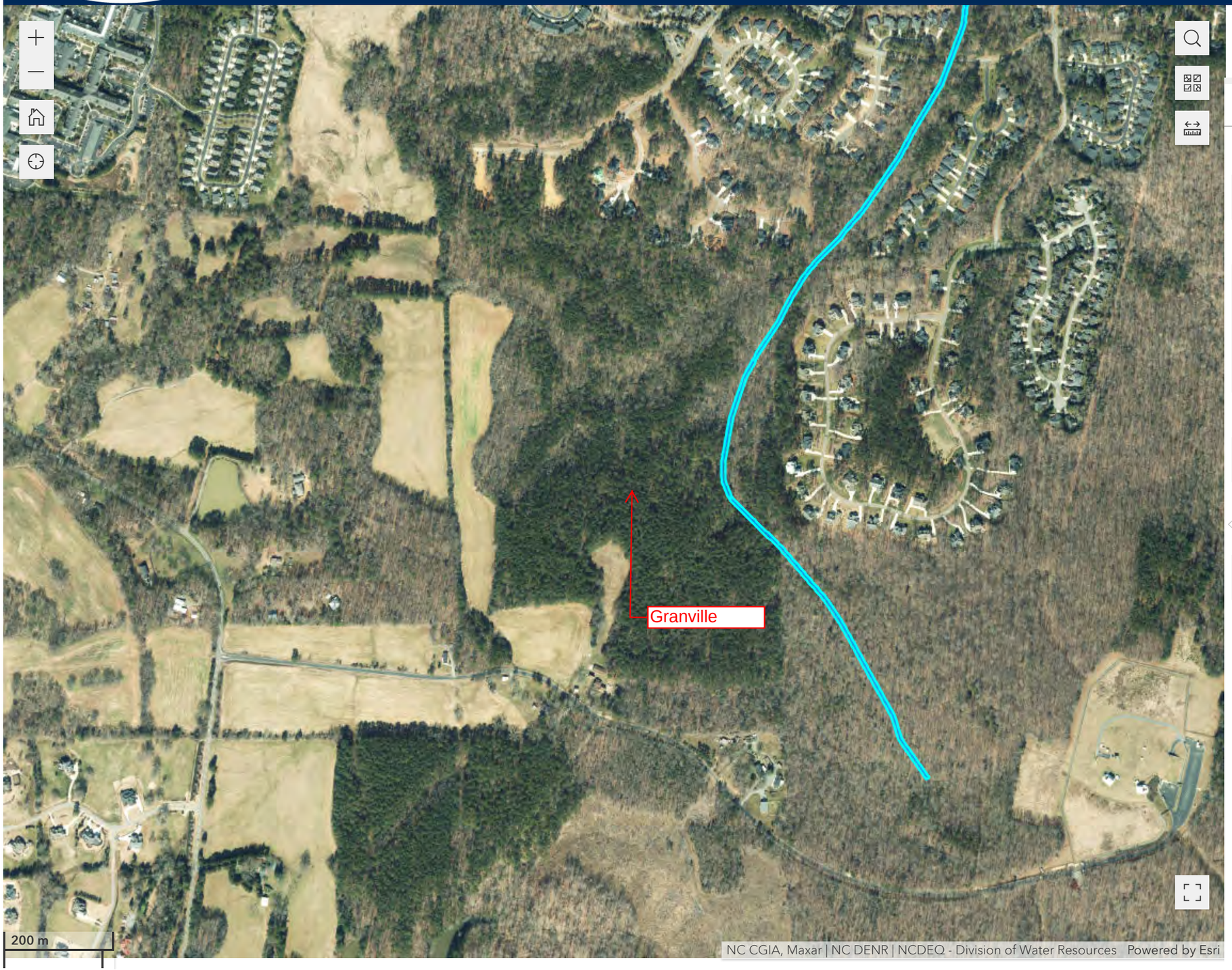
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Exhibit 16

NC Surface Water Classifications

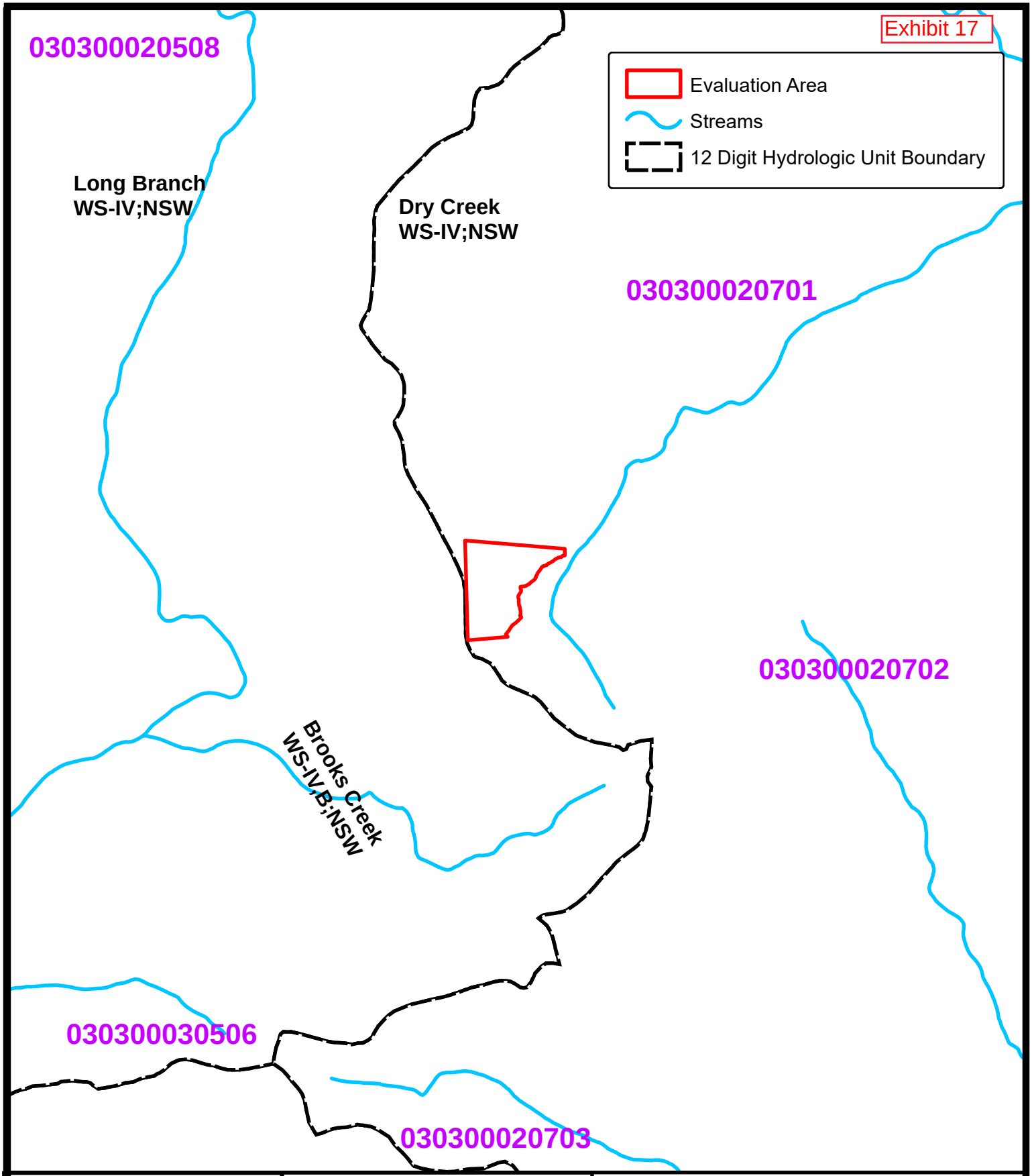
NC Classifications Website | Report an Issue



Stream Details | Legend | Layers

Surface Water Classifications:

Stream Index:	16-41-4-(0.3)
Stream Name:	Bush Creek
Description:	From source to a point 0.1 mile upstream of Chatham County SR 1716
Classification:	WS-IV;NSW
Date of Class.:	August 2, 1992
What does this Class. mean?	View
River Basin:	Cape Fear



Project Number:	15120.W6
Project Manager:	SB
Scale:	1" = 5000'
Date:	9/26/2022

Map Title:

Watershed Map

Granville
Chatham County, NC

Source: NCDWR
Chatham County GIS

N

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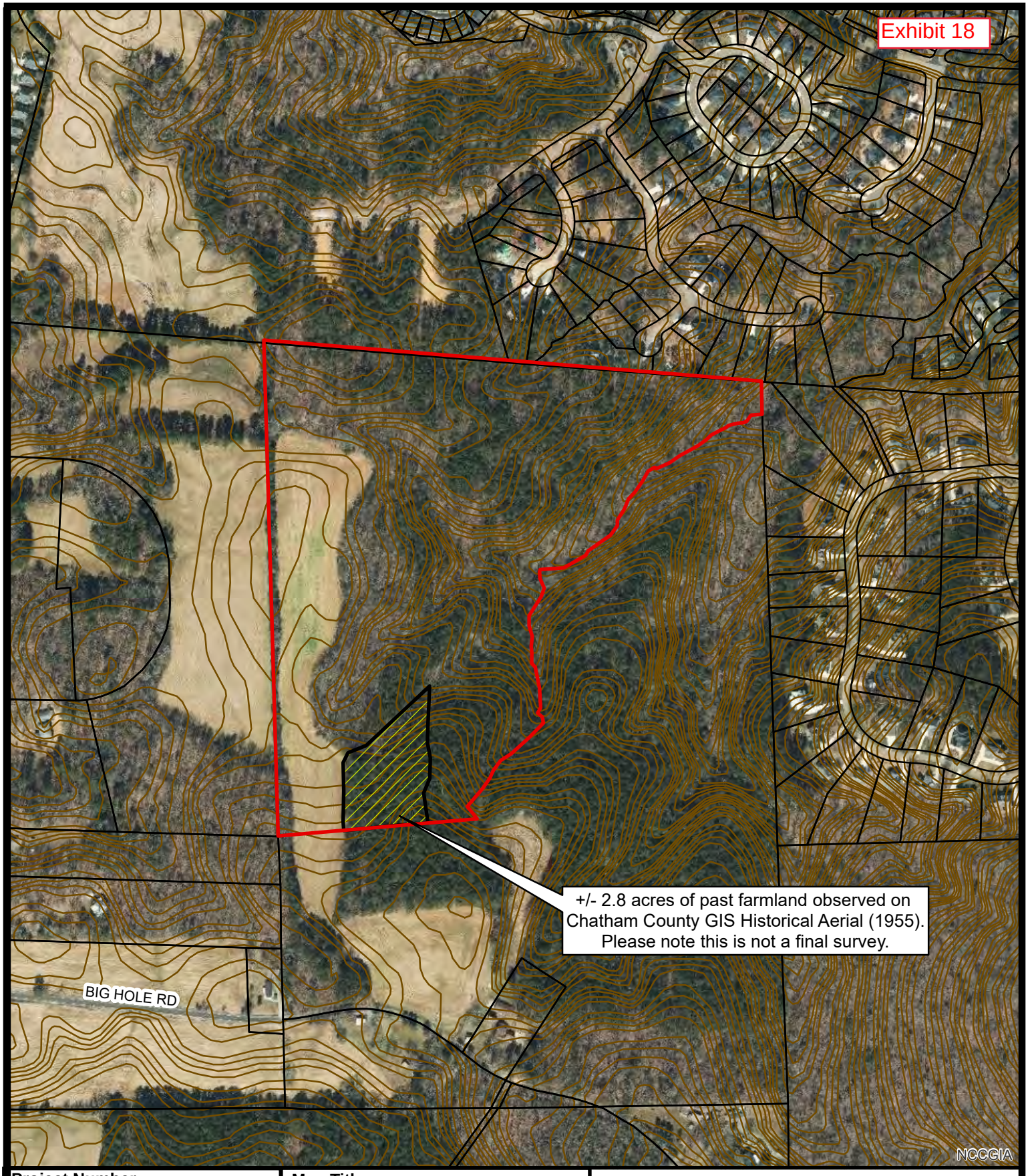

Project Number:	15120.W6
Project Manager:	SB
Scale:	1" = 500'
Date:	09/23/2022

Map Title:

Past Farmland Map

Granville
Chatham County, NC

Prepared by: MM

N

0 250 500 1,000 Feet

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Prime and other Important Farmlands

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

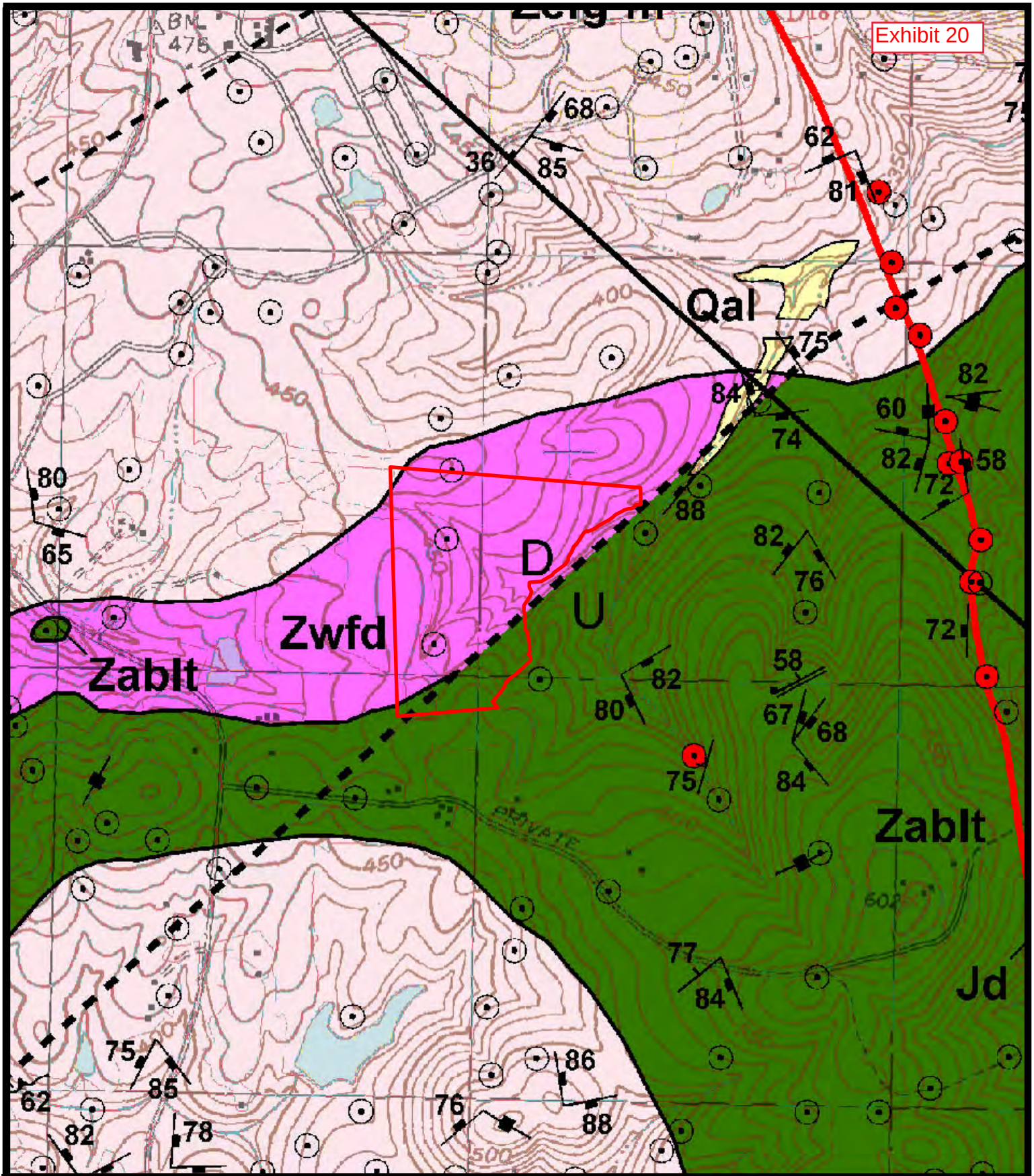
In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Report—Prime and other Important Farmlands

Prime and other Important Farmlands–Chatham County, North Carolina		
Map Symbol	**Map Unit Name**	**Farmland Classification**
CmB	Cid-Lignum complex, 2 to 6 percent slopes	Farmland of statewide importance
GaB	Georgeville silt loam, 2 to 6 percent slopes	All areas are prime farmland
GaC	Georgeville silt loam, 6 to 10 percent slopes	Farmland of statewide importance
HeB	Helena sandy loam, 2 to 6 percent slopes	All areas are prime farmland
NaB	Nanford-Badin complex, 2 to 6 percent slopes	All areas are prime farmland
PsB	Pittsboro-Iredell complex, 2 to 8 percent slopes, stony	Not prime farmland
WeB	Wedowee sandy loam, 2 to 6 percent slopes	All areas are prime farmland

Data Source Information

Soil Survey Area: Chatham County, North Carolina
Survey Area Data: Version 25, Jan 21, 2022



Project Number: 15120.W6	**Map Title:** Geologic Map Granville Chatham County, NC
Project Manager: SB	0 500 1,000 2,000 Feet N
Scale: 1" = 1000'	
Date: 09/23/2022	Source: NC Geologic Survey USGS 2007 Geologic Farrington Quad

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