

**ENVIRONMENTAL IMPACT ASSESSMENT**  
**Jordan Dam Road Storage Facility**  
**Moncure, Chatham County, North Carolina**



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Sage Project Number 2019.112

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## EXECUTIVE SUMMARY

The purpose of this Environmental Impact Assessment (EIA) as required and outlined by the Chatham County Ordinance Section 6.2.B is to evaluate the potential environmental impacts associated with the proposed development of the Jordan Dam Road Storage Facility. This EIA was completed using public documents, field reconnaissance, and preliminary mapping etc. specifically for the Jordan Dam Road Storage Facility.

The proposed project will serve as a storage facility mostly for boats, recreational vehicles, and household items. The proposed site plan includes indoor and outdoor storage areas on the +/- 38.4-acre undeveloped, forested Site. Future plans may provide retail sales and rentals, increasing sales and property tax income for the county.

The likelihood of development of the Site is high. The proposed project will provide necessary services to nearby residents and visitors from outside the County. These services meet many goals stated in the Chatham County Land Use Plan (2017) while considering potential impacts to surrounding human, cultural, and environmental resources.

## SECTION 1

# PROPOSED PROJECT DESCRIPTION AND NEED

### 1.1 General Site Description

The Jordan Dam Road Storage Facility project (Site) is located east of the US-1 South and Moncure-Pittsboro Road intersection in Moncure, Chatham County, NC. The coordinates of 35.62836°N, 79.083349°W generally correspond to the center of the Site. The Chatham County Online Land Records Viewer identifies the PIN as 9678-00-43-9636. The Site is approximately 38.4 acres and contains undeveloped, forested land. A 100-ft overhead transmission easement runs north to south near the western edge of the Site.

A wetland, stream, and riparian buffer delineation was performed by Sage Ecological Services, Inc. (Sage) on December 9 & 16, 2019. Four jurisdictional streams and eight riparian wetland areas were delineated on the Site. The wetlands and streams are subject to Chatham County riparian buffers. A field review with regulatory agencies has not occurred to confirm this delineation as of the date of this document. Details of the delineation are provided in Sections 3.4 and 3.10 and are depicted on the attached Figure 3.

### 1.2 Project Description

The proposed project consists of the construction of an indoor and outdoor storage facility to meet the demand for household and recreational vehicle storage in this area of Chatham County. The applicant owns an existing storage facility nearby, which is currently full and has a waitlist of clients. The Site is situated adjacent to US 1 Highway and near the Jordan Lake Poe Ridge boat ramp. The nearby planned Chatham Park development may also be served by this storage facility. Multiple RV campgrounds are also within close proximity of the Site, making this location accessible for a variety of recreational vehicles. The indoor storage units will be large units that will primarily store boats and RV's but may also be used to store household and commercial items excluding illegal and/or hazardous materials. Outdoor storage will be for boats, RVs, trailers, campers, and other similar vehicles. Potential future buildings will include an office for retail sales and rentals. Figure RZ01 details the site plan for this project, including storage unit buildings, parking space locations, land disturbance and site grading, impervious surface areas, landscaping, utility plans, and stormwater Best Management Practices (BMPs).

The proposed project will provide customers, including those living outside the county, a convenient location to store their recreational vehicles in close proximity to where they may be

used. This project addresses multiple strategies outlined in the Chatham County Land Use Plan (LUP) (2017) including reducing retail leakage to neighboring counties, supporting increased tourism and recreation amenities, increasing sales and property tax income, and promoting small business development near Village Centers.

The proposed indoor storage area is located in the southwest corner of the Site adjacent to US-1 South and Moncure-Pittsboro Road. The estimated total building area is approximately 96,600 square feet (sf). One driveway with a security gate from Moncure-Pittsboro Road is proposed. Nine one-story storage buildings, one stormwater management BMP, and approximately seventeen parking spaces are proposed for this area. Future plans include an office for retail sales and rentals. A well and septic system are proposed for drinking water and wastewater. A 20-ft. vegetated buffer and security screening/fencing will follow the property line.

The proposed outside storage area will have driveway access from Jordan Dam Road. A 20-ft. vegetated buffer is proposed for the parcel boundary. A security fence and gate are proposed for the limits of the outside storage area and second stormwater management BMP. Approximately 200, 60' parking spaces are proposed. All surfaces are proposed gravel, although other impervious surfaces may be used, totaling approximately 508,410 sf. The percent of impervious coverage for this project is approximately 36%. Tree removal and land disturbance will be limited to the amount necessary for the storage facility. Approximately 20 acres of the Site will remain forested. Both indoor and outdoor storage areas will have 24-hour video surveillance in addition to the electronic gate access.

## SECTION 2 ALTERNATIVES ANALYSIS

### 2.1 Site Selection and Design Alternatives

The Site is located adjacent to US-1 South and roadways utilized for lake and public space access near Moncure, NC. This area experiences daily commuter traffic as well as traffic going to and from various recreational areas nearby. The Site location reduces the amount of time large recreational vehicles spend on the road which will improve mobility and safety and may reduce overall fuel emissions.

An evaluation was performed by Sage to determine the location and extent of wetlands, streams, riparian buffers, natural communities, and the potential for protected species habitat on the Site. The site design incorporated the results of the environmental assessment to reduce and minimize impacts to existing natural resources on the Site. Landscaping along the privacy fence will be utilized to shield the Site from adjacent properties. In addition to protected riparian buffers, undeveloped areas will remain forested.

The Site is located within a Village Center determined by the Chatham County LUP and is adjacent to properties already zoned NB and B1 (2017). Land Use Policy Strategy 2.3 of the LUP recommends to, "allow areas designated as Village Centers and Crossroad Communities, as shown on the Future Land Use Map, to be developed for residential, commercial, and some light industrial purposes if appropriately designed to be in keeping with historic development patterns."

### 2.2 No-Build Alternative

A no-build alternative was studied for the Site. Due to suitable site conditions, proximity to other commercial sites, and ease of access, the likelihood of the Site being developed is high. According to the Chatham County LUP (2017), the Site is designated as "high suitability" for both industrial and commercial development. The Site is approximately 1 mile upstream from the Deep River. The proposed imperviousness of this project is approximately 36% and site development limits disturbance and clearing which reduces potential impact of the Site to downstream water quality. Other development may not utilize the Site as effectively as the proposed project.

## EXISTING ENVIRONMENT AND PROJECT IMPACTS

### 3.1 Geography

The Site is currently undeveloped and wooded. The topography of the Site ranges from a low point of +/- 206 feet above mean sea level (msl) along the southern property line, to a high point of +/- 284 feet msl at a point in the northern portion of the property. Figure 1 depicts the Site on the Merry Oaks, NC US Geological Survey (USGS) topographical quadrangle sheet. The Site is within the piedmont region of North Carolina and geologically lies within the Triassic Basin which is composed of sedimentary rock. The Site drains to the Deep River which is within the Cape Fear River Basin at a point downstream of the Jordan Lake dam. The Site does not lie within a FEMA Special Flood Hazard Area as shown on Figure 6.

The site design (Figure RZ01) utilizes the existing topography to minimize the amount of grading and fill required to construct the project. Proposed cut and fill totals will be moved on-site to accomplish a balanced earthwork total. It is anticipated that approximately 25,000 cubic yards of dirt will be moved on-site. No pond or dam work is proposed for this project.

### 3.2 Soils and Prime Farmlands

According to the Chatham County Soil Survey (2006) the dominant soils on the Site are Mayodan gravelly sandy loam and Mayodan fine sandy loam (Figures 2 and 7). According to the US Natural Resource Conservation Service (NRCS) Web Soil Survey, Mayodan gravelly sandy loam is typically found on hillslopes and ridges, and Mayodan fine sandy loam is typical of interfluves and summits. The NRCS describes both soils as well-drained upland soils composed of residuum weathered from mudstone and/or shale and siltstone and/or sandstone.

The majority of the Site contains Farmland of Statewide Importance (Figure 8). A small portion in the eastern corner contains Prime Farmland soils. Although the entire Site contains prime farmland soils, the Site is forested with no evidence of recent past farming. The site design results in the loss of 18 acres of areas mapped as Farmland of Statewide Importance.

The stormwater management plan will consist of two stormwater basins located in the central portion of the Site near the southern property line. The ponds are positioned so as to catch and temporarily store stormwater from all impervious surfaces as reasonably practicable prior to releasing it in close proximity to where surface waters exit the Site to the south. The ponds or SCMs

will be designed to meet the requirements of Chatham County and North Carolina Department of Water Quality. The proposed stormwater basins are depicted in Figure RZ01.

A records review of the NC Department of Environmental Quality (NCDEQ) Division of Waste Management Site Locator tool indicates no documented contamination on the Site or on adjacent properties.

### **3.3 Land Use**

Figure 9 depicts the current land use and zoning of the Site and properties in the vicinity. The Site is currently undeveloped and wooded and zoned R-1 Residential for low to moderate density residential development within the residential-agricultural areas of the jurisdiction. A 100-ft overhead transmission easement runs north to south in the western section of the Site.

Rural residential, undeveloped and forested land, agricultural land, and commercial businesses are present within the vicinity of the Site. There are two parcels adjacent to the west of the Site and east of Moncure-Pittsboro Road. The southern parcel is zoned NB – Neighborhood Business District and the northern parcel is zoned B-1 – General Business District. The southern parcel is undeveloped and forested. The northern parcel is the Chatham RV Park. Rural residential properties are present on the west side of Moncure-Pittsboro Road. To the east of the Site is a large parcel that is managed for timber production.

The proposed project will require a change in the current zoning for the Site from R-1 to CD-CB. The new zoning will allow for the proposed development of the storage facility. The proposed project will meet multiple strategies and goals described in the Chatham County LUP (2017).

The Economic Development Policy promotes entrepreneurship and small businesses that diversify the local economy. The proposed project will increase property and sales tax income and capitalize on the unique asset of the Jordan Lake Recreational Area.

The Site is located in a designated Village Center per the Chatham County LUP (2017). Economic Development Strategy 2.1 encourages small-scale small business developments in Village Centers and Crossroads Communities.

Economic Development Strategy 6.3 supports tourism and recreational opportunities and amenities, including the building of infrastructure for outdoor recreation. The proposed project will meet this goal by providing parking areas for boats and recreational vehicles. The Site is convenient to nearby boat ramps and RV parks which will promote tourism in Chatham County.



Land Use Policy Strategy 2.3 targets designated Village Centers and Crossroads Communities for small business developments across the county if appropriately designed to be in keeping with historic development patterns. The Land Use Policy states growth and development should occur within and near established planned centers of activity. The proposed project meets these goals by developing an appropriate small business within a designated Village Center.

Land Use Policy 6 states that commercial and mixed-use development should be located along major highways and key intersections. The Site is adjacent to the Moncure-Pittsboro Road exit from US 1, which is an intersection of a major highway and a major collector route.

Land Use Policy Strategy 6.1 limits shopping centers and highway commercial development to areas suitable for commercial development on the Future Land Use Map. The proposed project meets this goal since it is within a designated Village Center.

Land Use Policy Strategy 6.3 aims to amend land development regulations to push commercial development to nodes. The proposed project meets this goal by being located at the intersection of a major highway and a major collector route.

### 3.4 Wetlands

A stream, wetland, and riparian buffer delineation and evaluation was completed on December 9 & 16, 2019, by Mr. Sean Clark and Mr. David Gainey of Sage. Figure 3 and Table 1 provide additional information on the approximate location and extent of wetlands on the Site. As of the date of this report, no federal or state regulatory agents or Chatham County staff have visited the Site to confirm the delineation or riparian buffer determinations. Impacts to wetlands are not proposed.

**Table 1: Characteristics of Wetlands on the Site**

Feature ID	Latitude	Longitude	Estimated amount of aquatic resource in review area	Jurisdictional
WA-1	35.627724°N	79.082609°W	+/- 0.002 ac	Yes
WA-2	35.627382°N	79.082413°W	+/- 0.004 ac	Yes
WB	35.627884°N	79.083786°W	+/- 0.222 ac	Yes
WC-1	35.626886°N	79.084425°W	+/- 0.014 ac	Yes
WC-2	35.627152°N	79.084828°W	+/- 0.003 ac	Yes
WC-3	35.627227°N	79.085317°W	+/- 0.025 ac	Yes
WC-4	35.627305°N	79.085634°W	+/- 0.021 ac	Yes
WE	35.628044°N	79.081934°W	+/- 0.004 ac	Yes

### **3.5 Public Lands and Scenic, Recreational, and State Natural Areas**

There are no public lands or scenic, recreational, or state natural areas on the Site. NCDOT Bicycle Route 4 runs along Moncure-Pittsboro Road adjacent to the Site. The State of North Carolina owns a large parcel approximately 0.3-mile northwest of the Site for the Deep River Trail. The Deep River is approximately 0.5-mile east of the Site. The Poe's Ridge Boat Ramp at Jordan Lake is approximately 0.9-mile north of the Site. The NC Natural Heritage Program (NCNHP) Database lists five natural areas and nine managed areas within 1.0-mile of the Site. These properties are listed on the attached NCNHP Database Report and are depicted on Figure 10.

### **3.6 Areas of Archaeological or Historical Value**

A NC State Historic Preservation Office (NCSHPO) database review was performed prior to conducting fieldwork. A field survey for historic properties on the Site was performed by Sage during the December 16, 2019, delineation. No structures or ruins were found on the Site. No historic properties were noted on the Site, in the database search, or during the field survey. Twenty-one historic properties and one National Register Historic District are located within 1.0-mile of the Site boundary but are not adjacent to the Site. These include nine Surveyed Only and nine Surveyed Only-Gone properties, two block face properties, and one National Register property. The majority of these properties are south of the Site in and around Moncure. Figure 4 depicts the historic properties within the vicinity of the Site.

The National Register property is the Lockville Dam Canal and Powerhouse (CH0018) and is approximately 0.4-mile southwest of the Site along the Deep River. An environmental review request was submitted to NCSHPO on December 13, 2019, to solicit a project review and comments on potential effects to historic properties with the development of the Site. As of the date of this report, a response from NCSHPO has not been received.

Archeological records are not typically included in the NCSHPO database and to date there is no publicly available comprehensive listing of archeological sites in North Carolina available from the Office of State Archeology (OSA). This agency compiles data on the state's legacy of artifacts through application of state and federal archaeology laws and regulations, and by maintaining inventories of site data and collections. Currently, two regulations may apply to the project if remains or artifacts are encountered during construction. These include the Unmarked Human Burial and Human Skeletal Remains Protection Act of NC (UHBHSR), and Section 106 of the

National Historic Preservation Act (NHPA). If archaeological artifacts or remains are discovered on the Site during construction, appropriate personnel will immediately be contacted, and all work will cease until confirmation on proceeding with construction from proper authorities is received. During the field evaluation no signs of cemeteries or graves were observed.

### **3.7 Air Quality**

The project is anticipated to comply with the State Implementation Plans for achieving and maintaining National Ambient Air Quality Standards (NAAQS) for criteria pollutants. According to the USEPA website, as of November 30, 2019, the project area is not located in a non-attainment area for all-criteria pollutants.

The project is not anticipated to result in the increase of odor levels. The site design proposes approximately 200, 60' parking spaces, but the majority of these spaces are provided for long-term boat and recreational vehicle storage. During construction, impacts to air quality will be minimal from exhaust created by machinery used to clear and grade the Site for development. Once construction is completed, minor impacts to air quality will result from customer visits to the storage facility. Daily visits to the storage facility are not anticipated to have significant impacts to air quality or decrease traffic mobility. A traffic study was not performed nor required for this project.

### **3.8 Noise Levels**

Current noise levels generated from the Site are negligible, as the Site is undeveloped. However, properties adjacent to the Site are utilized for commercial businesses and periodic logging. A stone quarry is located approximately 0.75 mile to the southwest. The Site is adjacent to US-1 South which has an average annual daily traffic (AADT) count between 30,000 and 32,000 vehicles (NC Department of Transportation, 2017). While noise levels generated from the Site will increase during construction and after development, impacts to the surrounding area will not be significant in relation to existing noise levels from adjacent sources. Access to the Site will be available 24 hours a day through a security gate and code box, however, entry codes will only be provided to employees and customers.

### 3.9 Light Levels

Lighting will be provided for customer safety in both the indoor and outdoor storage areas. Approximately 20 lamp posts will be installed in the outdoor storage area. Site lighting will be provided by Duke Energy and will be full cutoff to avoid light pollution. Lighting will be projected downward to reduce light pollution to neighboring areas in accordance with Chatham County ordinances. Wall pack light fixtures will be utilized on each side of each storage building. Site design utilizes forested areas facing adjacent properties to shield some of the lighting generated from the Site. Additionally, the privacy/security fence will include a 20-ft vegetated perimeter buffer. All lighting will comply with Section 13 of the Chatham County Zoning Ordinance. Artificial lighting for the project is not anticipated to have significant impacts to residents or wildlife.

### 3.10 Surface and Groundwater Resources

The Site drains to the Deep River which is within the Cape Fear River Basin [USGS Hydrologic Unit Code (HUC) 03030003]. Four streams are present on the Site. The NC Division of Water Resources surface water classification for surface waters on the Site is Water Supply IV (WS-IV). This classification is given to waters in moderately to highly developed watersheds or protected areas. Figure 3 and Table 2 provide additional information on the identified surface waters.

**Table 2: Surface Waters Identified on the Site**

Feature ID	Stream Name	Stream Classification	Flow Regime	Resource Length
Stream A	UT to Deep River	WS-IV	Perennial	+/- 645 LF
Stream B	UT to Deep River	WS-IV	Ephemeral	+/- 79 LF
Stream B	UT to Deep River	WS-IV	Intermittent	+/- 211 LF
Stream C	UT to Deep River	WS-IV	Perennial	+/- 2,196 LF
Stream D	UT to Deep River	WS-IV	Intermittent	+/- 78 LF

Groundwater was not tested on the Site. As stated in Section 3.2 above, there is no evidence of contamination on or adjacent to the Site per the database search or the field review. All groundwater is expected to move from higher to lower elevations, generally from north to south on the Site. A well system for drinking water is proposed. New well construction will follow the guidelines and recommendations from the Environmental Health Division of Chatham County.

Sediment and erosion control measures will be utilized during construction and forested riparian buffers will be protected from clearing and grading to reduce impacts to surface waters on the Site. Two stormwater management BMPs are proposed to capture stormwater runoff from the impervious portions of the Site. These BMPs will continue to reduce pollutants and sediment entering surface waters from the Site after construction is completed.

### **3.11 Fish and Aquatic Habitats**

Aquatic habitats on the Site are provided by surface waters and wetlands. These habitats are important for aquatic and terrestrial species. A query of both NCDEQ fish community sampling and benthic data indicates that no publicly documented sampling has been conducted within 4-miles of the project for all years reviewed. If disturbance of the jurisdictional areas within the Site are required, permitting through Chatham County and NCDEQ will be acquired prior to any land disturbance. Currently, no impacts are proposed to any jurisdictional areas on the Site and riparian buffers will remain forested and undeveloped. Figure 3 depicts the existing aquatic habitats on the Site.

### **3.12 Wildlife and Natural Vegetation**

Based on observed stumps and the age of existing trees, trees on the Site have previously been harvested. Aside from the maintained utility easement, two distinct community types are present on the Site although both would likely mature into Mesic Mixed Hardwood Forests as described in the Classifications of the Natural Communities of North Carolina (Schafale & Weakley, 1990). The tops of the hills are dominated by +/-15-20-year-old loblolly pines with varying densities of understory/mid-story hardwoods and shrubs. The drainages on the Site are dominated by hardwood species.

The loblolly pine dominated community is relatively dense in terms of stems per area. The understory in this community varied in density and composition but typically included species such as yellow poplar, northern red oak, southern red oak, white oak, water oak, sweetgum, red maple,

sourwood, red cedar, blueberries, and other small shrub species. Little herbaceous cover was observed due to the dense canopy cover, but wild ginger was observed.

The hardwood dominated natural communities occupying the drainages on the Site had overstories and mid-stories composed of American beech, northern red oak, southern red oak, white oak, water oak, yellow poplar, sweet gum, red maple, and southern sugar maple. The mid-story also regularly contained American holly, sourwood, blueberry, southern arrowwood, and strawberry bush. Greenbriar and muscadine grape were common vines found within this community. Wetland areas within this community also contained elderberry, possumhaw viburnum false nettle and soft rush.

Invasive species observed on the Site included Chinese privet, autumn olive, Japanese honeysuckle, and Nepalese browntop or Japanese stiltgrass. These species were not dominant.

Two online datasets were queried in order to assess known federally listed species in North Carolina. These included the NCNHP Data Explorer and the online US Fish & Wildlife Service (USFWS) Threatened and Endangered (T&E) Species for Chatham County, NC (Table 3). These were reviewed prior to conducting the fieldwork. Please note that the review did not include Federal Species of Concern, Candidate Species, or state listed species. According to the NCNHP Report dated December 12, 2019, no federally listed T&E species were documented on the Site. Two federally listed species, harperella and the Cape Fear shiner, have known occurrences within one mile of the Site.

During the site assessment it was noted that the drainages present are small, containing first and second order streams, with a substrate which is comprised of a combination of silt, gravel, cobble, with some areas containing bedrock.

Forested areas consisted of hardwood dominated forests in the lower areas and young (+/- 15-20 years) loblolly pine dominated areas in the uplands. The loblolly dominated areas contained canopy trees typically too small for RCW nesting habitat and also contained a hardwood understory typically not preferred for RCW foraging habitat.

Although the Deep River is less than 1.0-mile from the Site, suitable nesting and foraging habitat for bald eagle is not present on the Site.

**Table 3. USFWS Threatened & Endangered Species List for Chatham County, NC, as of June 27, 2018**

Common Name	Scientific name	Federal Status	Habitat Type
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGPA <sup>1</sup>	Terrestrial
Cape Fear Shiner <sup>2</sup>	<i>Notropis mekistocholas</i>	Endangered	Aquatic
Red-cockaded Woodpecker	<i>Picoides borealis</i>	Endangered	Terrestrial
Harperella <sup>3</sup>	<i>Ptilimnium nodosum</i>	Endangered	Terrestrial

1 - Bald and Golden Eagle Protection Act

2 - USFWS Range by Basin Map depicts Cape Fear shiner extending to the Site; habitat requirements include gravel, cobble, and boulder substrates; The species is known from tributaries and mainstreams of the Deep River and Cape Fear River in Chatham County.

3- Habitat requirements for this species include rocky riverbeds in the Piedmont, rocky or gravel shoals and sandbars, and along the margins of clear, swift-flowing stream sections.

As per the site plan (Figure RZ01), approximately 18 acres of existing forest on the Site will be cleared for the proposed development. Larger wildlife species such as white-tail deer, fox, raccoon, opossum, squirrel, and birds will migrate to remaining forested areas on the Site located in the eastern portion of the Site and along the drainages. Approximately 20 acres of the Site are to remain forested to provide suitable habitat to wildlife.

### 3.13 Hazardous Materials

No hazardous materials will be permitted to be stored on the Site, however, potential incidents from accidental fuel spills are possible. Best management practices concerning the use of aboveground storage tanks containing heavy equipment fuels and containers such as hydraulic oil will be implemented during construction activities. Spills that may occur during construction or from customers visiting and storing vehicles on the Site will be immediately contained and cleaned by certified personnel. Any potential incidents are considered to be de minimus in nature and would be insignificant.

## SECTION 4 CONCLUSIONS

An Environmental Impact Assessment for the proposed Jordan Dam Road Storage Facility was completed to identify potential environmental impacts the proposed project could have on the Site and surrounding land uses. Direct, indirect, and cumulative impacts were considered when developing the EIA and while designing the site plan. During construction of the Site, preventative measures will be taken to avoid and minimize impacts to the environment and adjacent properties. The development of the Site will require a change in zoning for the property from R-1 to CD-CB. This request takes into consideration existing land use in the vicinity of the Site and potential to increase sales and property tax for the county. The project will meet multiple goals outlined in the Chatham County Land Use Plan, including reducing retail sales leakage, diversifying the local economy, promoting outdoor recreation, reducing fuel emissions, and increasing traffic safety within the County.



## SECTION 5 REFERENCES

- Chatham County Comprehensive Plan*. 2017. Accessed December 16, 2019. <https://www.chathamnc.org>
- Chatham County Land Records Viewer. Accessed December 16, 2019. <https://chathamncgis.maps.arcgis.com/>
- Federal Emergency Management Administration. FEMA Flood Map Service Center. DFRIM Panel 9678, Effective Date 11/17/17. Accessed December 16, 2019.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. *Phytoneuron* 2016-30: 1-17. Published 28 April 2016. Munsell Color. 2000. *Munsell Soil Color Charts*. Gretagmacbeth, New Windsor, NY.
- N.C. Department of Natural and Cultural Resources. North Carolina State Historic Preservation Office GIS Maps and Data. <https://www.ncdcr.gov/about/history/division-historical-resources/gis-maps-and-data>
- N.C. Department of Environmental Quality – Division of Waste Management. Division of Waste Management Site Locator Tool. Accessed December 16, 2019. <https://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/waste-management-gis-maps>
- N.C. Department of Environmental Quality – Division of Air Quality. Air Quality Rules and Regulations. Accessed December 16, 2019. <https://deq.nc.gov/about/divisions/air-quality/air-quality-rules/rules>
- N.C. Department of Transportation. Annual Average Daily Traffic Mapping Application. Accessed December 16, 2019. <https://connect.ncdot.gov/resources/State-Mapping/Pages/Traffic-Volume-Maps.aspx>
- N.C. Division of Environmental Quality. Find Your HUC. 2018. Accessed December 16, 2019. <https://ncdenr.maps.arcgis.com/apps/PublicInformation/index.html?appid=ad3a85a0c6d644a0b97cd069db238ac3>
- N.C. Division of Water Quality. 2010. Methodology for Identification of Intermittent and Perennial Streams and Their Origins, Version 4.11. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Raleigh, NC.
- N.C. Division of Water Resources. NCDWR Surface Water Classifications. Accessed December 17, 2019. <https://deq.nc.gov/about/divisions/water-resources/planning/classification-standards/classifications>
- N.C. Division of Water Resources. 2017. *401 & Buffer Permitting Unit Riparian Buffers Protection Program*. <http://deq.nc.gov/about/divisions/water-resources>

- N.C. Geological Survey. 1985. *Geologic Map of North Carolina*. Raleigh, North Carolina Department of Natural Resources and Community Development, Geological Survey Section. Accessed December 16, 2019. <https://ncdenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a8281cbd24b84239b29cd2ca798d4a10>
- Radford, Albert E., Ahles, Harry E., and C. Ritchie Bell. 1968. *Manual of the Vascular Flora of the Carolinas*. The University of North Carolina Press, Chapel Hill, NC.
- Schafale, Michael P. & Alan Weakley. 1990. Classification of the Natural Communities of North Carolina. Third Approximation.
- Smith, Cherri. 2008. *Invasive Exotic Plants of North Carolina*. N.C. Department of Transportation. Raleigh, NC. 185 pp.
- Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. <https://websoilsurvey.sc.egov.usda.gov/>. Accessed December 16, 2019.
- U.S. Army Corps of Engineers Environmental Laboratory (USCOE). 1987. *Corps of Engineers Wetlands Delineation Manual*. Wetlands Research Technical Report Y-87-1, US Army Engineers Waterways Experiment Station, Vicksburg, MS.
- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0*, ed. J. F. Berkowitz, J.S. Wakeley, R.W. Lichvar, C.V. Noble, ERDC/EL TR-12-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Department of Agriculture. 2006. *Soil Survey of Chatham County, North Carolina*. Natural Resources Conservation Service, US Department of Agriculture, Washington, D.C.
- U.S. Fish and Wildlife Service (USFWS). Bald and Golden Eagle Information. Updated September 25, 2015. Accessed December 6, 2019. <https://www.fws.gov/birds/management/managed-species/bald-and-golden-eagle-information.php>
- USFWS. *Cape Fear Shiner (*Notropis mekistocholas*)*. Updated August 24, 2017. Accessed December 6, 2019. [https://www.fws.gov/raleigh/species/es\\_cape\\_fear\\_shiner.html](https://www.fws.gov/raleigh/species/es_cape_fear_shiner.html)
- USFWS. *Endangered Species, Threatened Species, Federal Species of Concern, and Candidate Species for Chatham County, North Carolina*. Updated June 27, 2018. Accessed December 6, 2019. <https://www.fws.gov/raleigh/species/cntylist/chatham.html>
- USFWS. *Harperella (*Ptilimnium nodosum*)*. Updated August 24, 2017. Accessed December 6, 2019. [https://www.fws.gov/raleigh/species/es\\_harperella.html](https://www.fws.gov/raleigh/species/es_harperella.html)
- USFWS. *Red-cockaded Woodpecker (*Picoides borealis*)*. Updated August 24, 2017. Accessed December 6, 2019. [https://www.fws.gov/raleigh/species/es\\_red-cockaded\\_woodpecker.html](https://www.fws.gov/raleigh/species/es_red-cockaded_woodpecker.html)
- U.S. Geological Survey. 2013. – *Merry Oaks, NC Quadrangle, North Carolina* [map]. 1:24,000. 7.5 Minute Series. United States Department of the Interior, USGS.

**APPENDIX A**  
**SITE PHOTOS**



**Photo 1:** View of Stream A as it enters the US-1 culvert.



**Photo 2:** View of Stream C.



**Photo 3:** View of Wetland WA adjacent to Flag WA-08 near Stream A.



**Photo 4:** View of Wetland WB adjacent to Stream B.

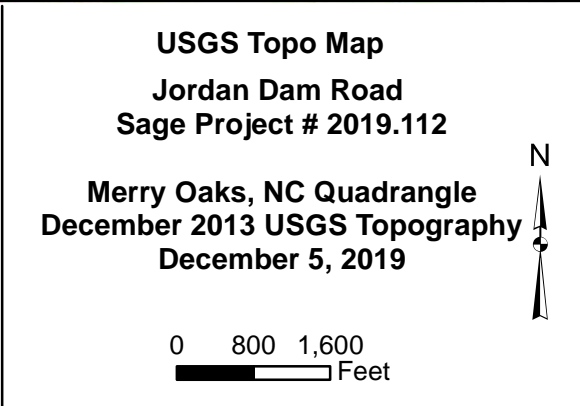
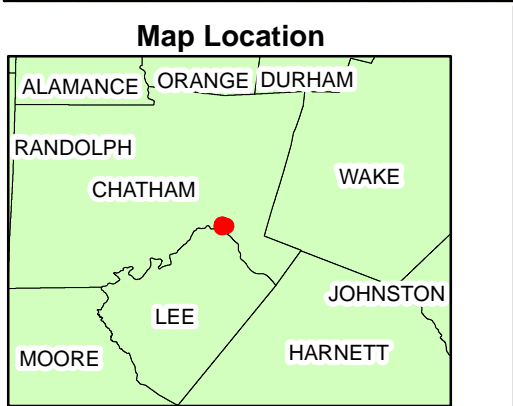
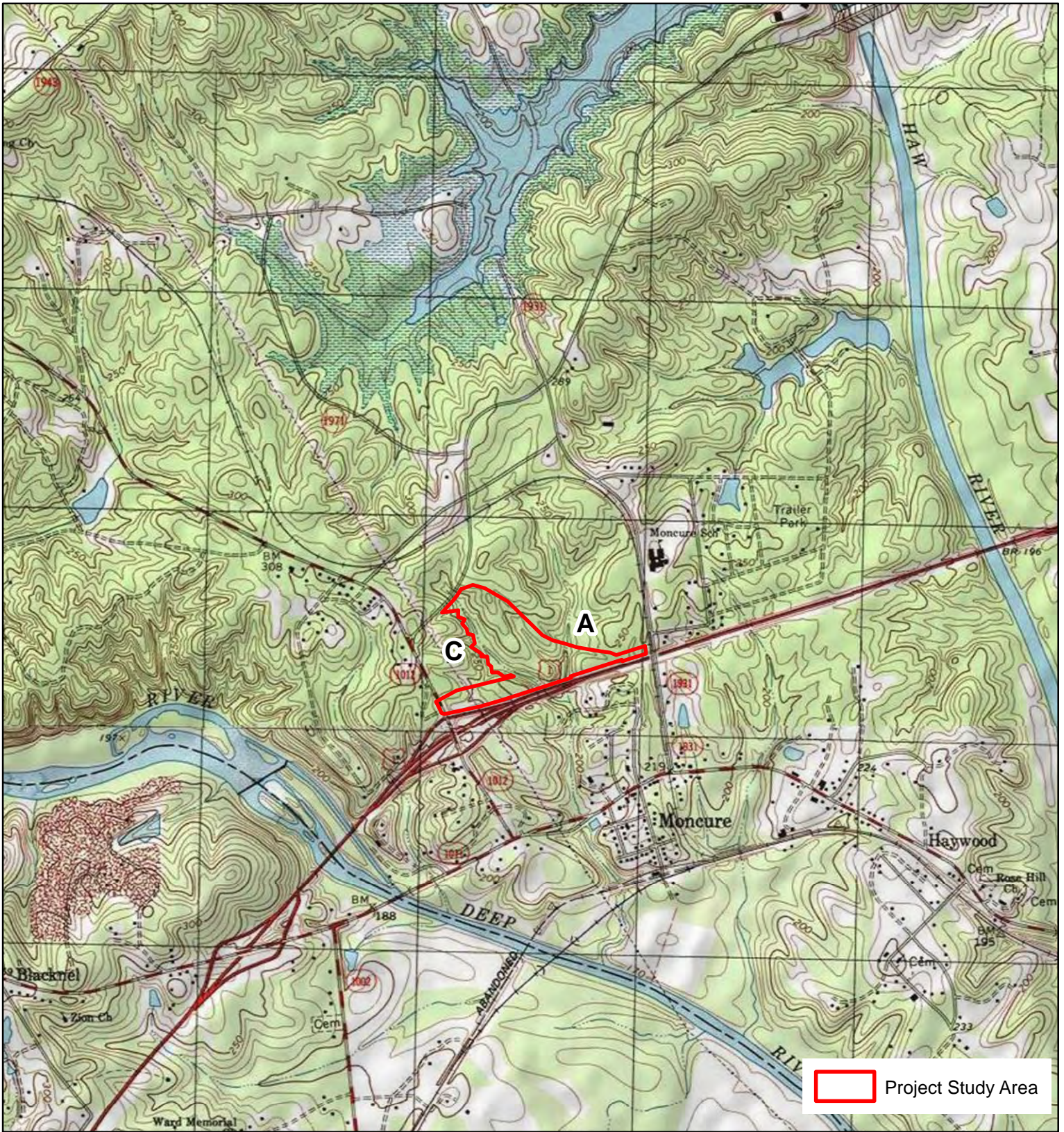


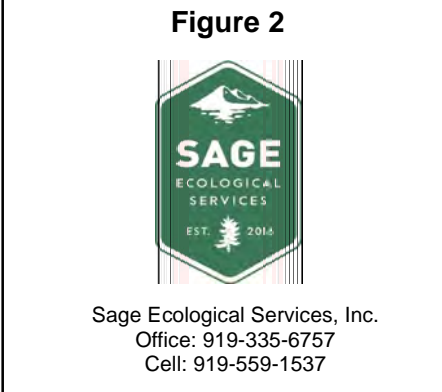
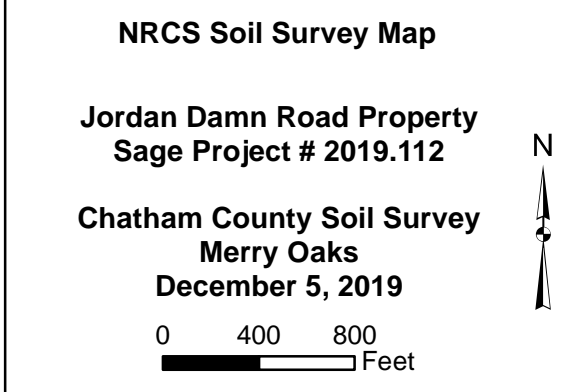
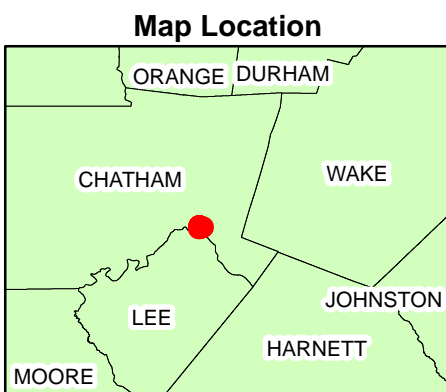
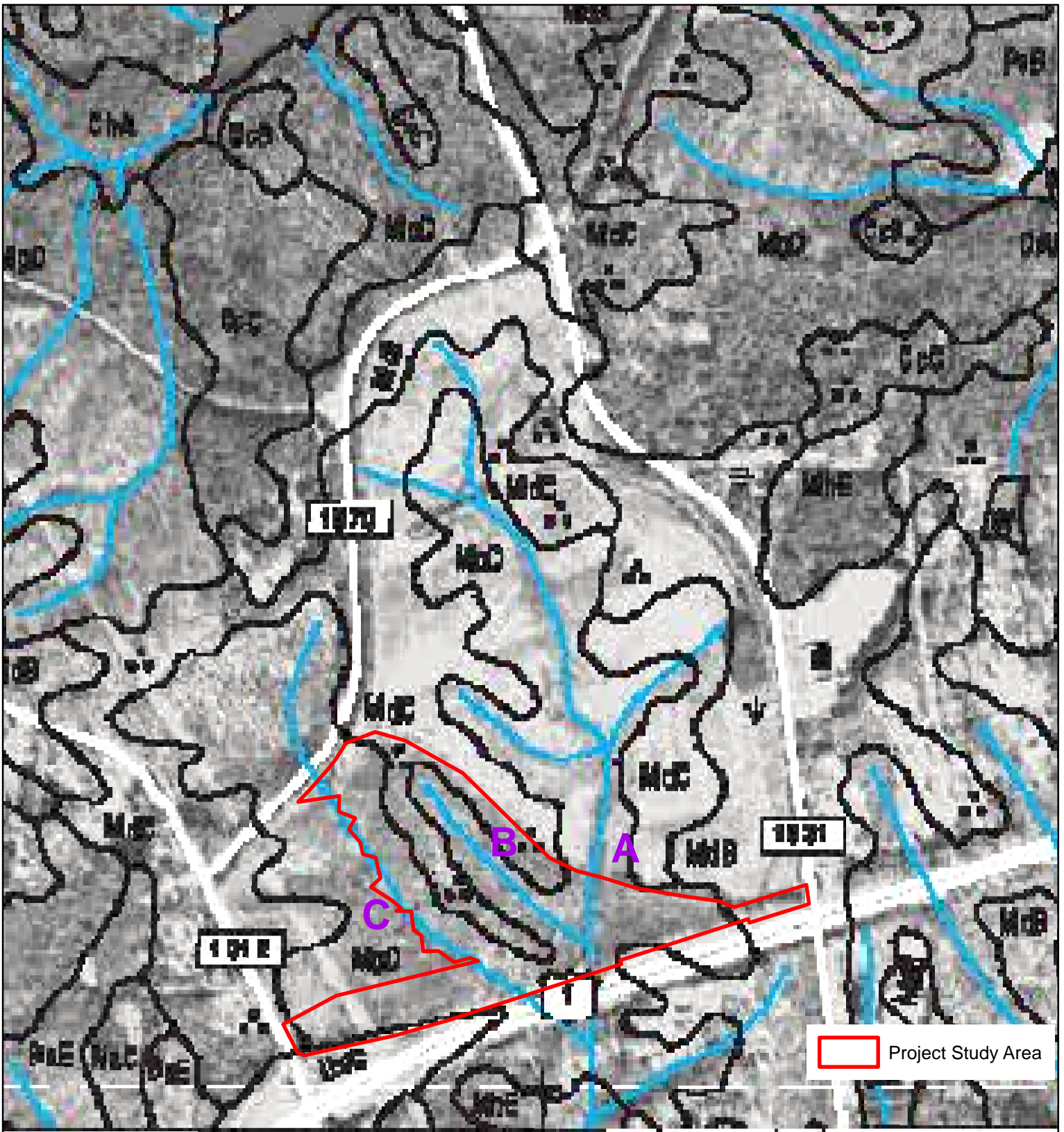
**Photo 5:** Example of loblolly pine dominated area on the Site.



**Photo 6:** Example of Hardwood dominated community on the Site.

**APPENDIX B**  
**FIGURES**

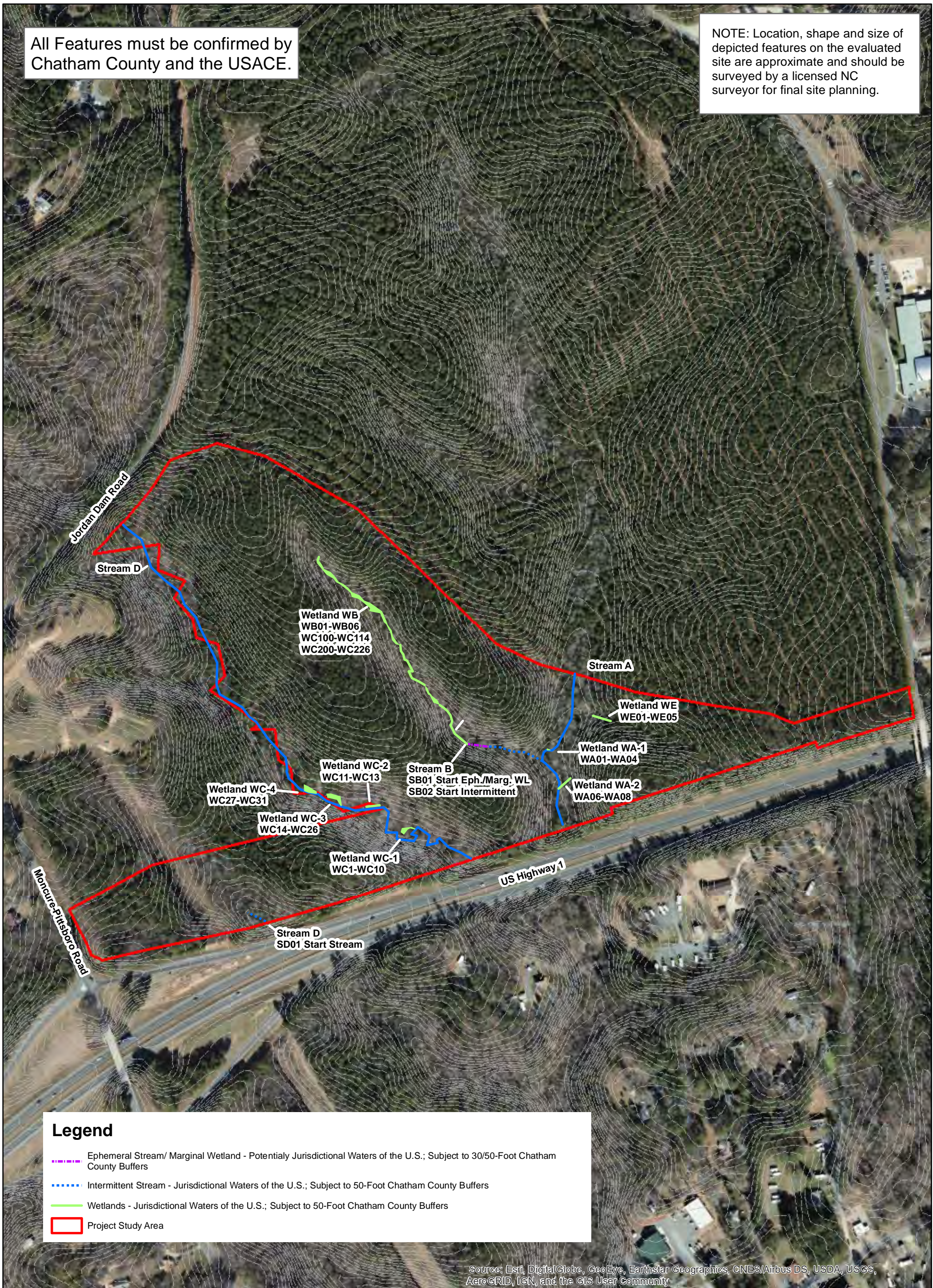






All Features must be confirmed by Chatham County and the USACE.

NOTE: Location, shape and size of depicted features on the evaluated site are approximate and should be surveyed by a licensed NC surveyor for final site planning.

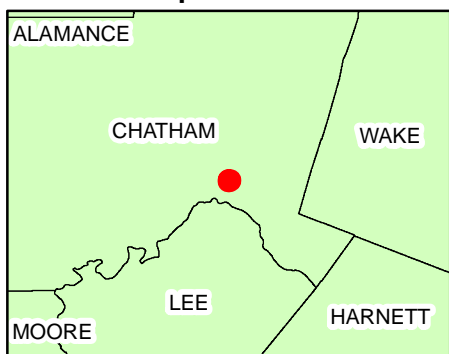


**Legend**

- - - - - Ephemeral Stream/ Marginal Wetland - Potentially Jurisdictional Waters of the U.S.; Subject to 30/50-Foot Chatham County Buffers
- - - - - Intermittent Stream - Jurisdictional Waters of the U.S.; Subject to 50-Foot Chatham County Buffers
- - - - - Wetlands - Jurisdictional Waters of the U.S.; Subject to 50-Foot Chatham County Buffers
- Project Study Area

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

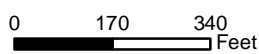
**Map Location**



**Wetland Sketch Map**

Jordan Dam Road Project  
Sage Project # 2019.112

December 11, 2019



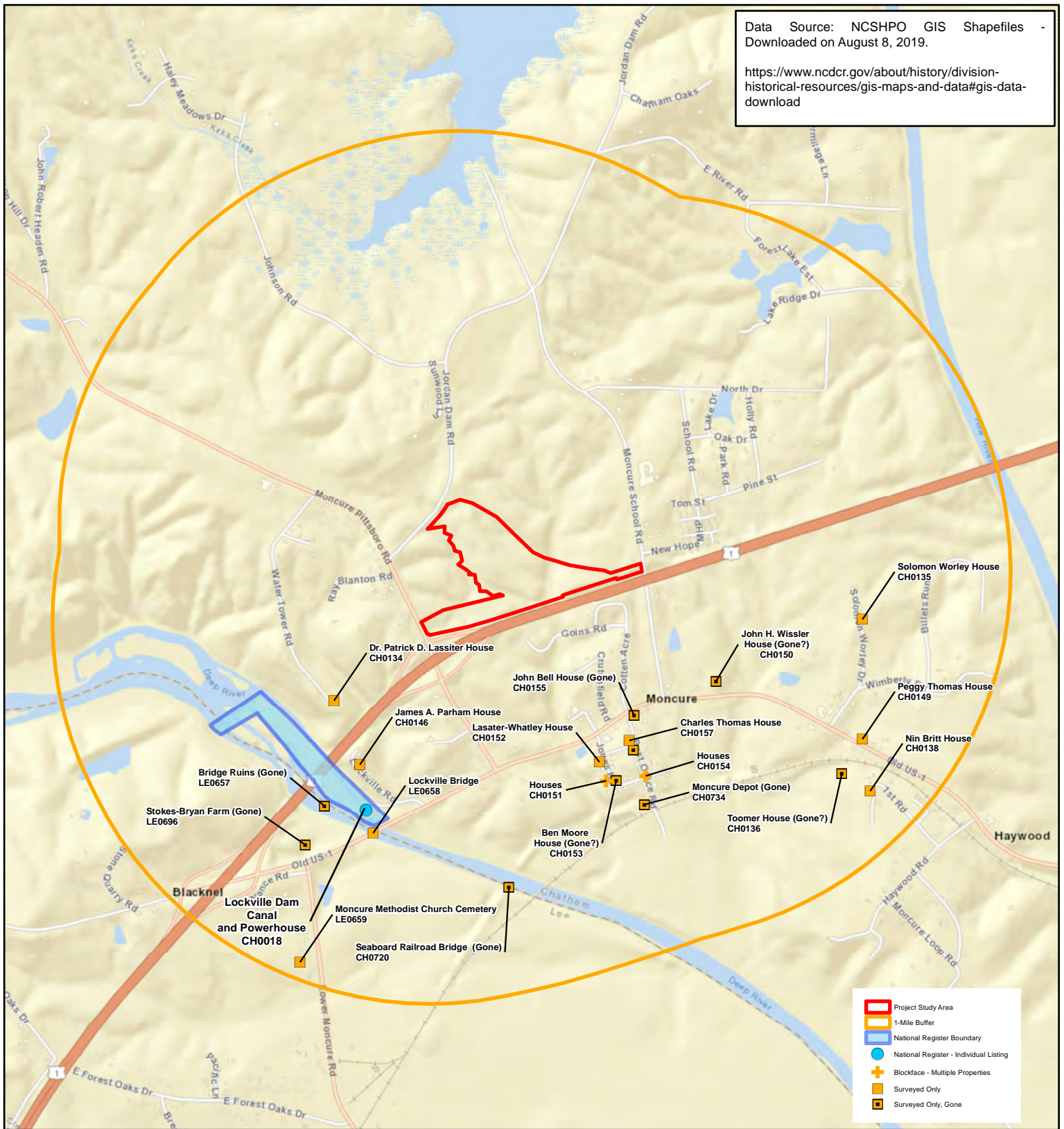
**Figure 3**

**Drawn By:**  
David Gainey

Sage Ecological Services, Inc.  
Office: 919-335-6757  
Cell: 919-559-1537

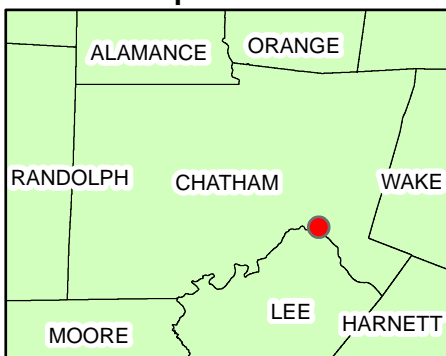
Data Source: NCSHPO GIS Shapefiles -  
Downloaded on August 8, 2019.

<https://www.ncdcr.gov/about/history/division-historical-resources/gis-maps-and-data#gis-data-download>



- Project Study Area
- 1-Mile Buffer
- National Register Boundary
- National Register - Individual Listing
- + Blockface - Multiple Properties
- Surveyed Only
- Surveyed Only, Gone

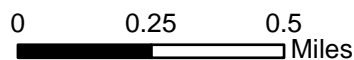
### Map Location



### NCSHPO Map

Jordan Dam Road Property  
Sage Project # 2019.112

December 10, 2019



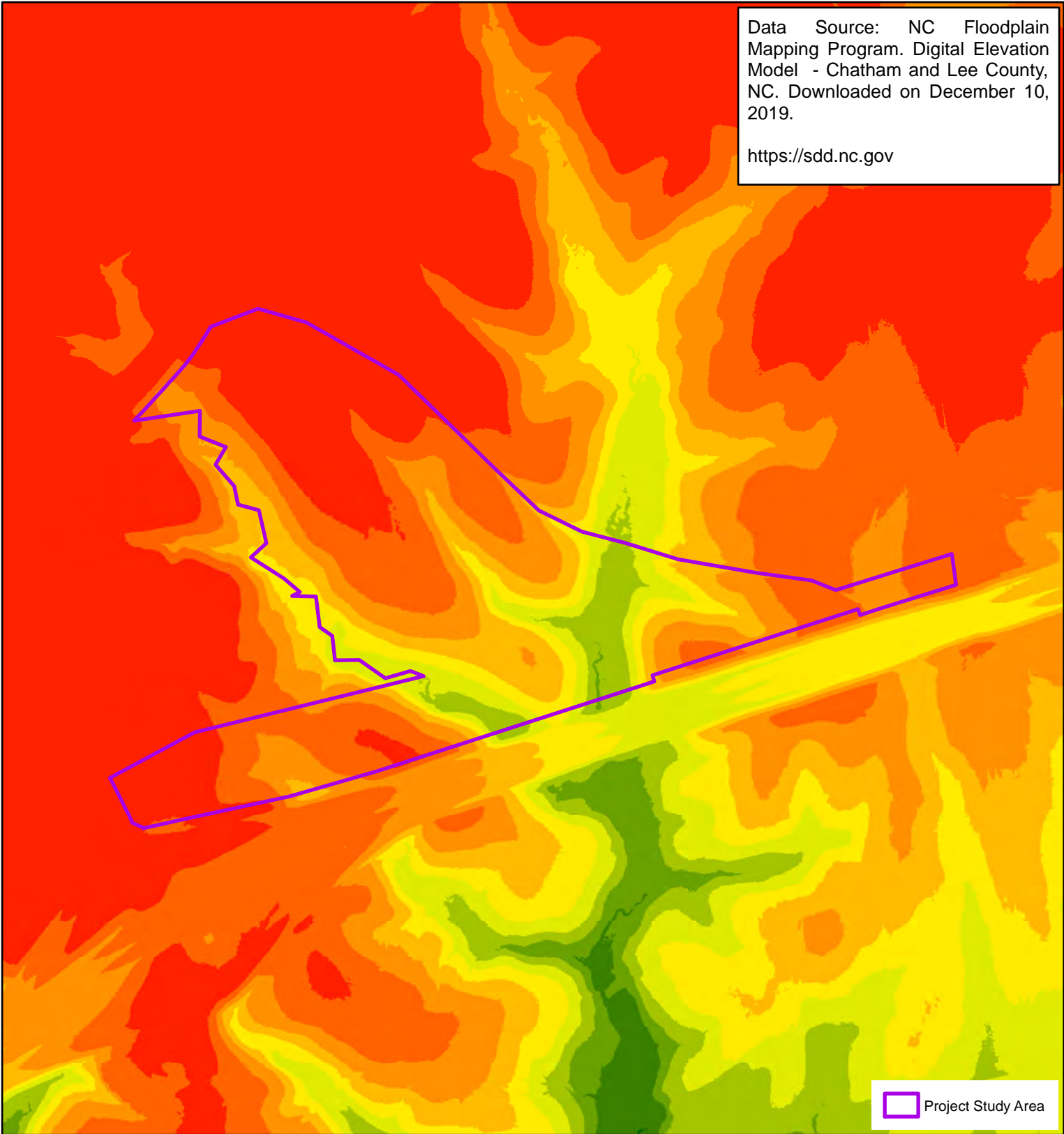
### Figure 4




Sage Ecological Services, Inc.  
Office: 919-335-6757  
Cell: 919-559-1537

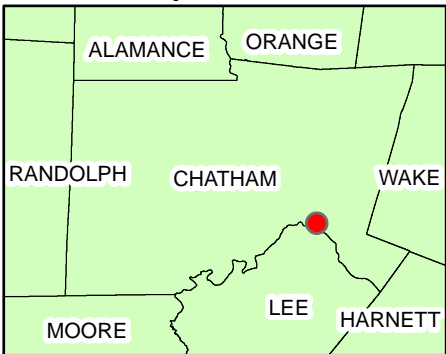
Data Source: NC Floodplain Mapping Program. Digital Elevation Model - Chatham and Lee County, NC. Downloaded on December 10, 2019.

<https://sdd.nc.gov>



 Project Study Area

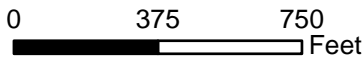
**Map Location**



**LIDAR - Digital Elevation Map**

**Jordan Dam Road Property  
Sage Project # 2019.112**

**December 10, 2019**



**Figure 5**



Sage Ecological Services, Inc.  
Office: 919-335-6757  
Cell: 919-559-1537

Please Note:  
 Areas on the map not depicted by colored symbology per the map legend are located in Zone X (Areas of Minimal Flood Hazard). Adjacent DIFRM's not depicted on map.



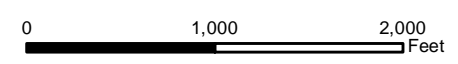
**Zone X  
 Areas of Minimal  
 Flood Hazard**

**Map Location**



**Map Legend**

- Project Study Area
- 0.2% - 500-Year Annual Flood Hazard
- Zone AE - 1% Annual Chance Flood Event



**FEMA Special Flood Hazard Areas**

**Jordan Dam Road Property  
 Sage Project # 2019.112**

**December 13, 2019**

**Map Information:**

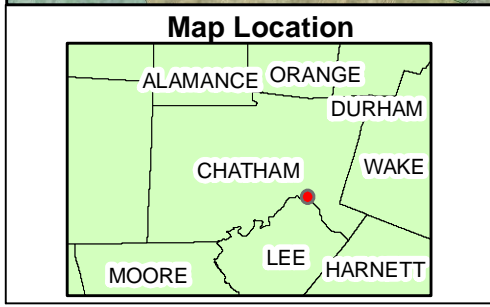
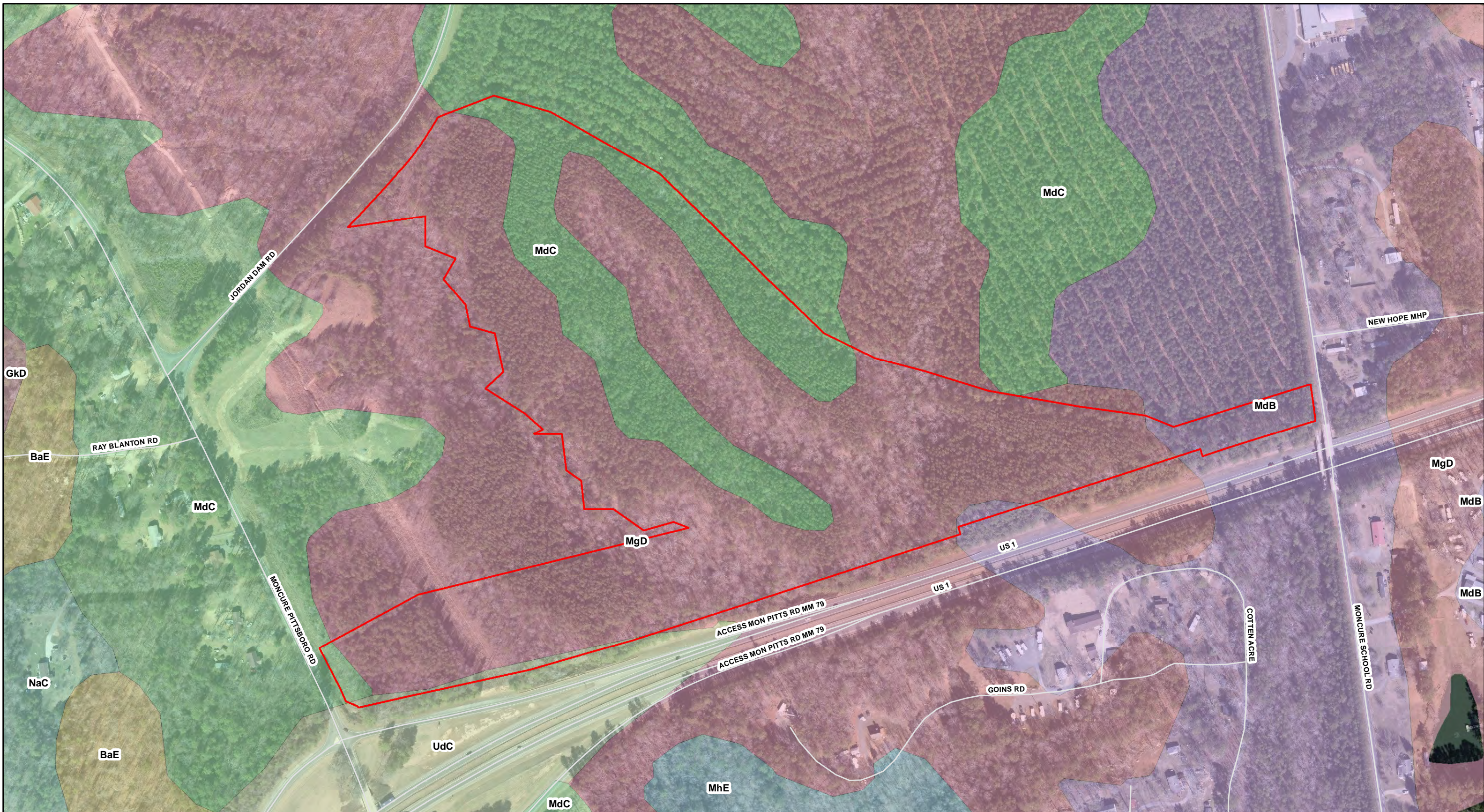
Date Prepared: December 13, 2019  
 Preparer: P. Beach - Sage Ecological  
 Source: flood.nc.gov  
 Map Name: 3710967800L  
 Effective Date: November 17, 2017  
 Data Source Date: December 12, 2019



**Figure 6**



Sage Ecological Services, Inc.  
 Office: 919-335-6757  
 Cell: 919-559-1537



**Map Legend**

Project Study Area	MgD - Mayodan gravelly sandy loam, 10 to 15 percent slopes
BaE - Badin-Nanford complex, 15 to 30 percent slopes	MhE - Mayodan-Brickhaven complex, 15 to 30 percent slopes
CcC - Carabnton-Brickhaven complex, 6 to 10 percent slopes	NaC - Nanford-Badin complex, 6 to 10 percent slopes
GkD - Georgeville-Badin complex, 10 to 15 percent slopes	UdC - Udorthents, loamy, 2 to 10 percent slopes
MdB - Mayodan fine sandy loam, 2 to 6 percent slopes	W - Water
MdC - Mayodan fine sandy loam, 6 to 10 percent slopes	

**Dominant Soil Series Areas**  
**Jordan Dam Road Property**  
**Sage Project # 2019.112**  
**December 15, 2019**

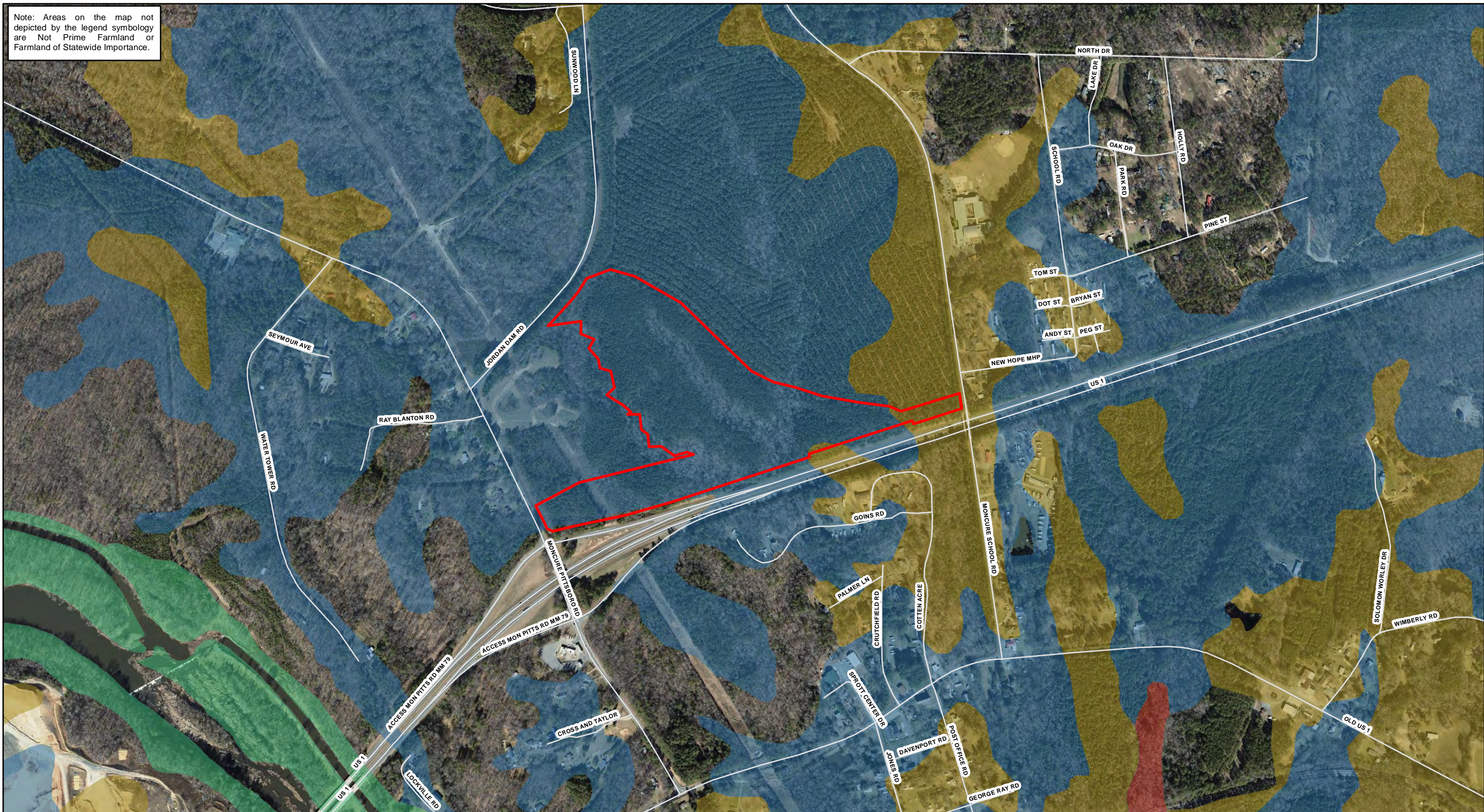
**Map Information:**  
 Date Prepared: December 15, 2019  
 Preparer: P. Beach - Sage Ecological  
 Source: Web Soil Survey  
 Data Source Date: December 15, 2019

0 250 500  
 Feet

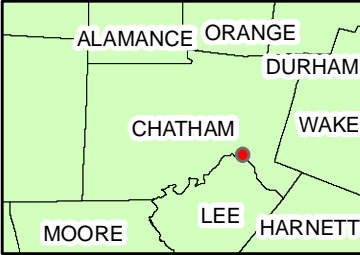
**Figure 7**

Sage Ecological Services, Inc.  
 Office: 919-335-6757  
 Cell: 919-559-1537

Note: Areas on the map not depicted by the legend symbology are Not Prime Farmland or Farmland of Statewide Importance.



**Map Location**



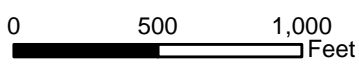
**Map Legend**

- Project Study Area
- Farmland of Statewide Importance\*
- Potential Prime Farmland\*\*
- Prime Farmland\*\*\*
- Prime Farmland\*\*\*\*

\* Land available for farming with existing use as cropland, pastureland, rangeland, forestland, or other land.  
 \*\* Land with optimal physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.  
 \*\*\* If drained and either protected from flooding or not frequently flooded during the growing season.  
 \*\*\*\* If protected from flooding or not frequently flooded during the growing season.

**Farmland Soils Map  
 Jordan Dam Road Property  
 Sage Project # 2019.112**

**December 19, 2019**



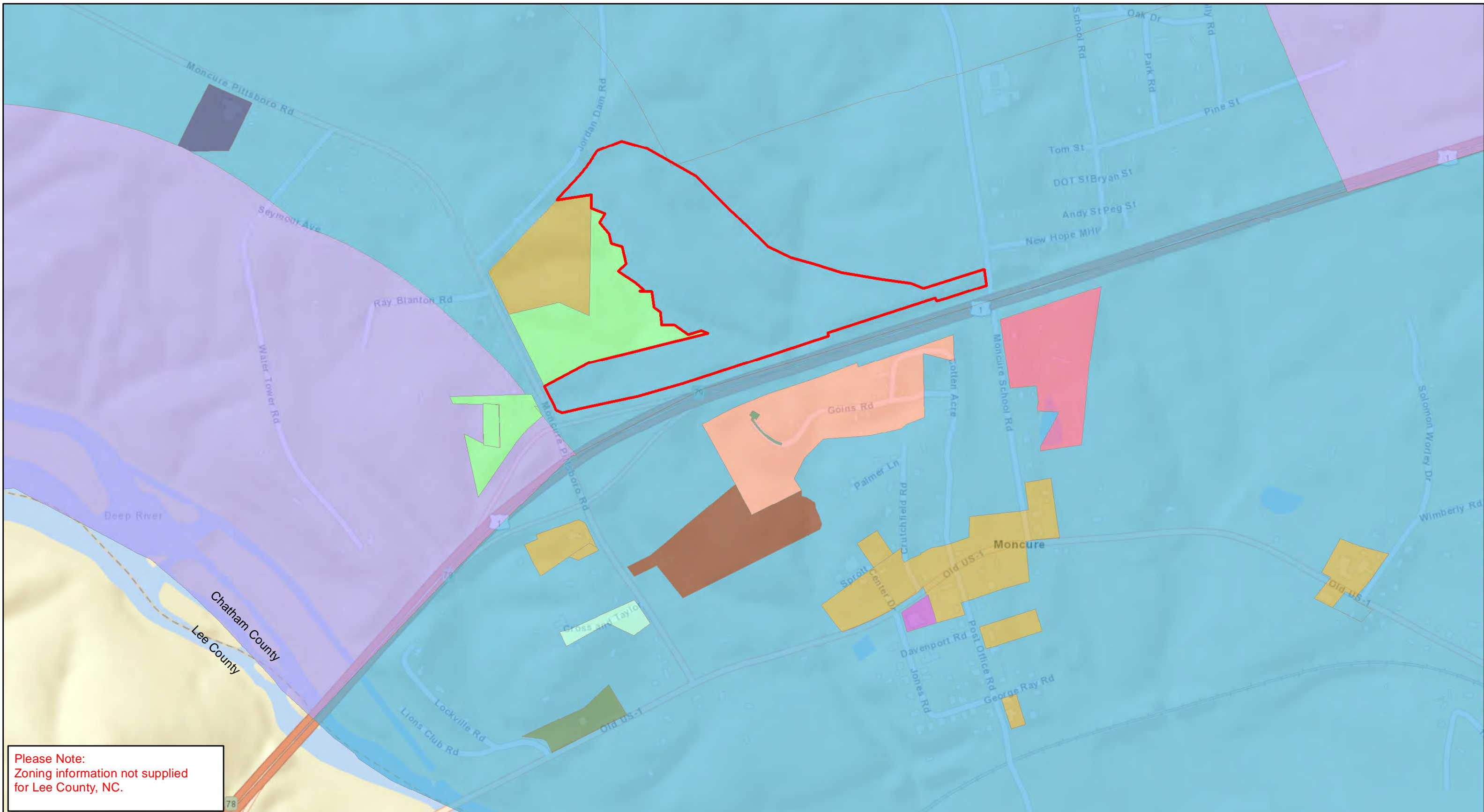
**Map Information:**

Date Prepared: December 19, 2019  
 Preparer: P. Beach - Sage Ecological  
 Source: NRCS Web Soil Survey Shapefiles  
 (Chatham County, NC)  
 Data Source Date: December 17, 2019

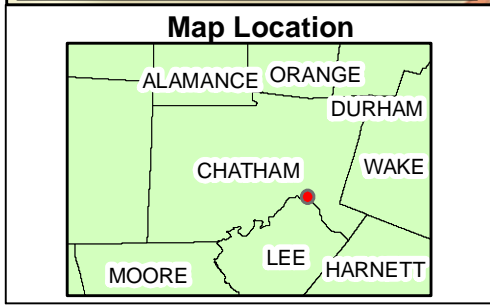
**Figure 8**



Sage Ecological Services, Inc.  
 Office: 919-335-6757  
 Cell: 919-559-1537



Please Note:  
Zoning information not supplied  
for Lee County, NC.



**Map Legend**

Project Study Area	General Business District
<b>Zoning Class</b>	Mobile Home (Non-Conforming)
Conditional District-Neighborhood Business District	Neighborhood Business District
Conditional Use District-General Business District	Office & Institutional
Conditional Use District-Light Industrial District	Residential District 1
Conditional Use District-Neighborhood Business District	Residential District 5
Conditional Use District-Office & Institutional	

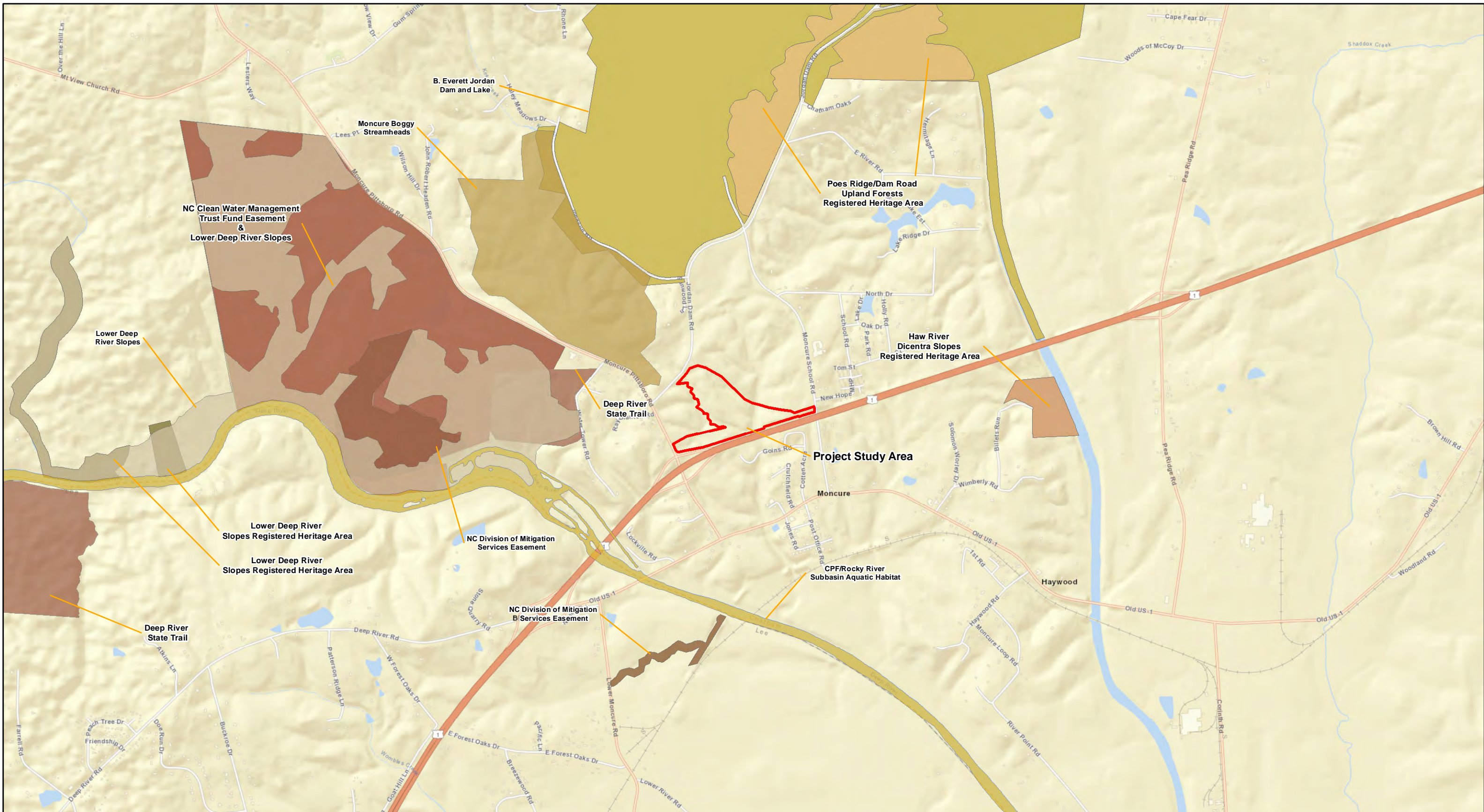
**Chatham County Zoning**  
**Jordan Dam Road Property**  
**Sage Project # 2019.112**  
**December 17, 2019**

Map Information:  
 Date Prepared: December 17, 2019  
 Preparer: P. Beach - Sage Ecological  
 Source: Chatham County NC Zoning GIS Data (May 11, 2018)  
 Data Downloaded on December 19, 2019

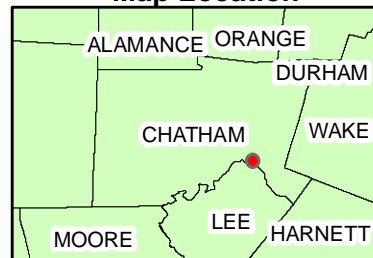
0 0.125 0.25  
 Miles

**Figure 9a**

Sage Ecological Services, Inc.  
 Office: 919-335-6757  
 Cell: 919-559-1537



**Map Location**



**Map Legend**

- Project Study Area
- CPF/Rocky River Subbasin Aquatic Habitat
- Lower Deep River Slopes
- Moncure Boggy Streamheads
- B. Everett Jordan Dam and Lake
- Deep River State Trail
- Haw River Dicentra Slopes Registered Heritage Area
- Lower Deep River Slopes Registered Heritage Area
- NC Clean Water Management Trust Fund Easement
- NC Division of Mitigation Services Easement
- Poes Ridge/Dam Road Upland Forests Registered Heritage Area



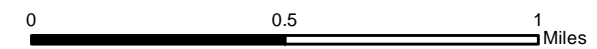
**Public Lands and State Natural Areas**

**Jordan Dam Road Property  
Sage Project # 2019.112**

**December 17, 2019**

**Map Information:**

Date Prepared: December 17, 2019  
 Preparer: P. Beach - Sage Ecological  
 Source: NC One Map State-Owned Lands (2019)  
 Natural Heritage Program Natural Areas (2019)  
 Natural Heritage Program Managed Areas (2018)  
 Moncure, NC Google Query



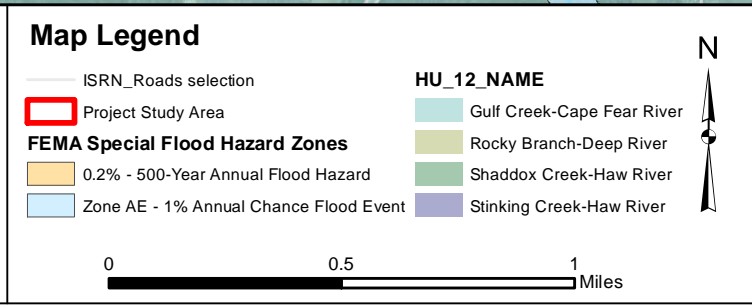
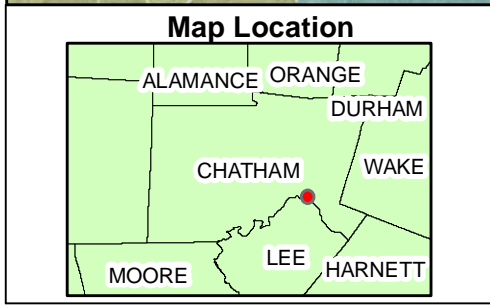
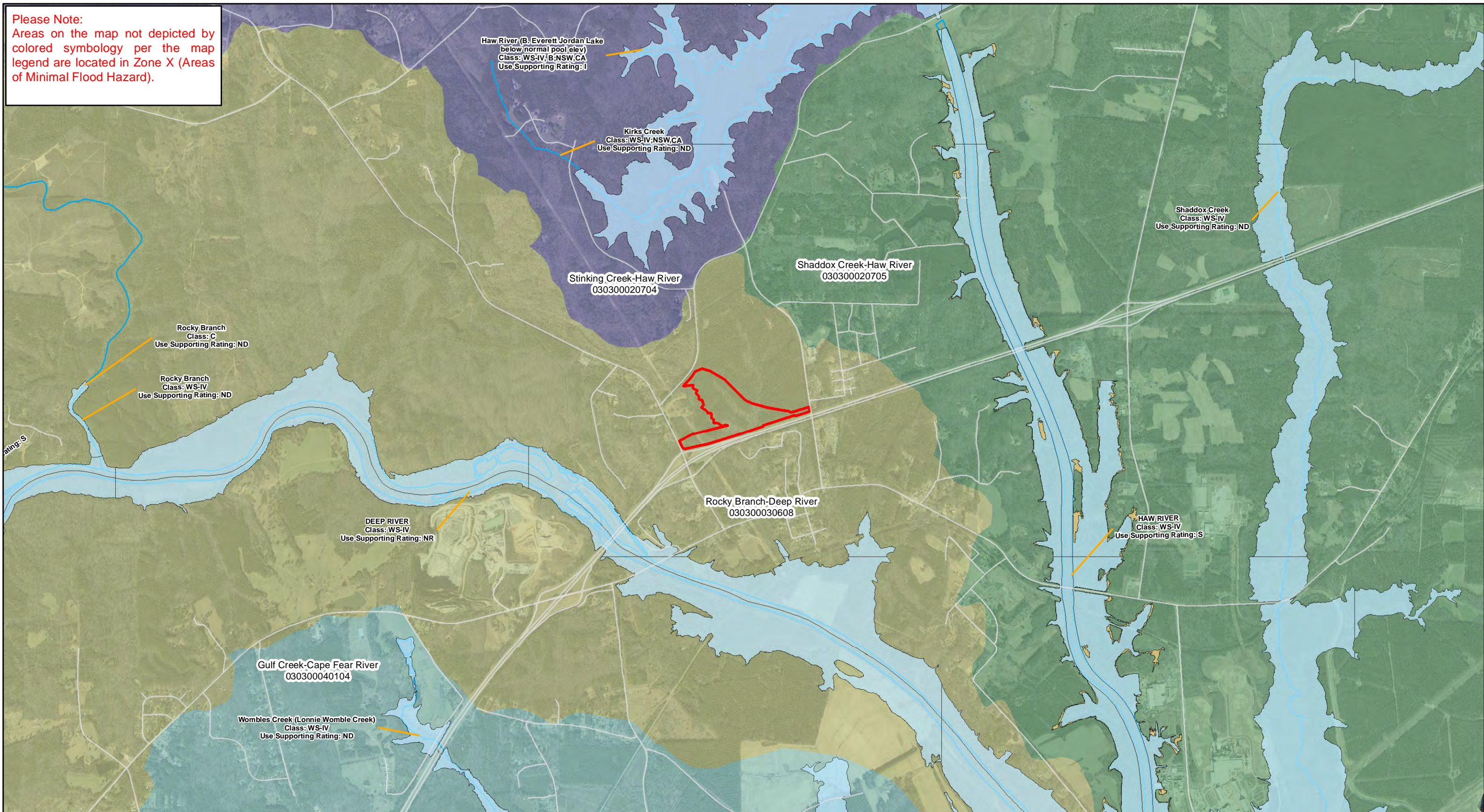
**Figure 10**



Sage Ecological Services, Inc.  
 Office: 919-335-6757  
 Cell: 919-559-1537



Please Note:  
 Areas on the map not depicted by colored symbology per the map legend are located in Zone X (Areas of Minimal Flood Hazard).



**FEMA Special Flood Hazard Areas with Surface Water Resources**

**Jordan Dam Road Property**  
**Sage Project # 2019.112**

**December 17, 2019**

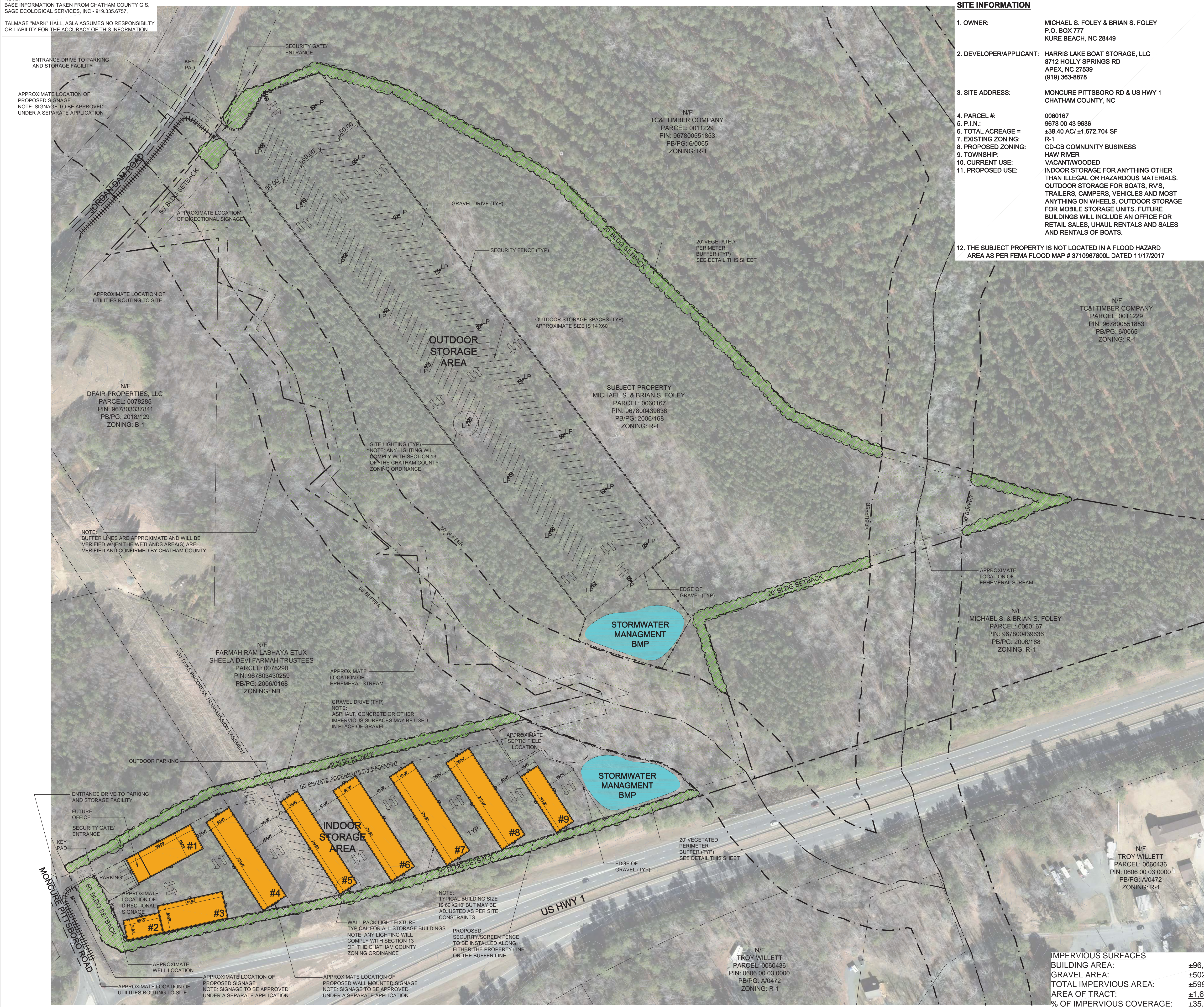
**Map Information:**

Date Prepared: December 17, 2019  
 Preparer: P. Beach - Sage Ecological  
 Source: NC FRIS DFIRM Shapefiles- Chatham and Lee County, NC (2019)  
 NC One Map Water Quality Ratings (2019)  
 NC One Map Hydrologic Units (2019)

**Figure 11**

Sage Ecological Services, Inc.  
 Office: 919-335-6757  
 Cell: 919-559-1537

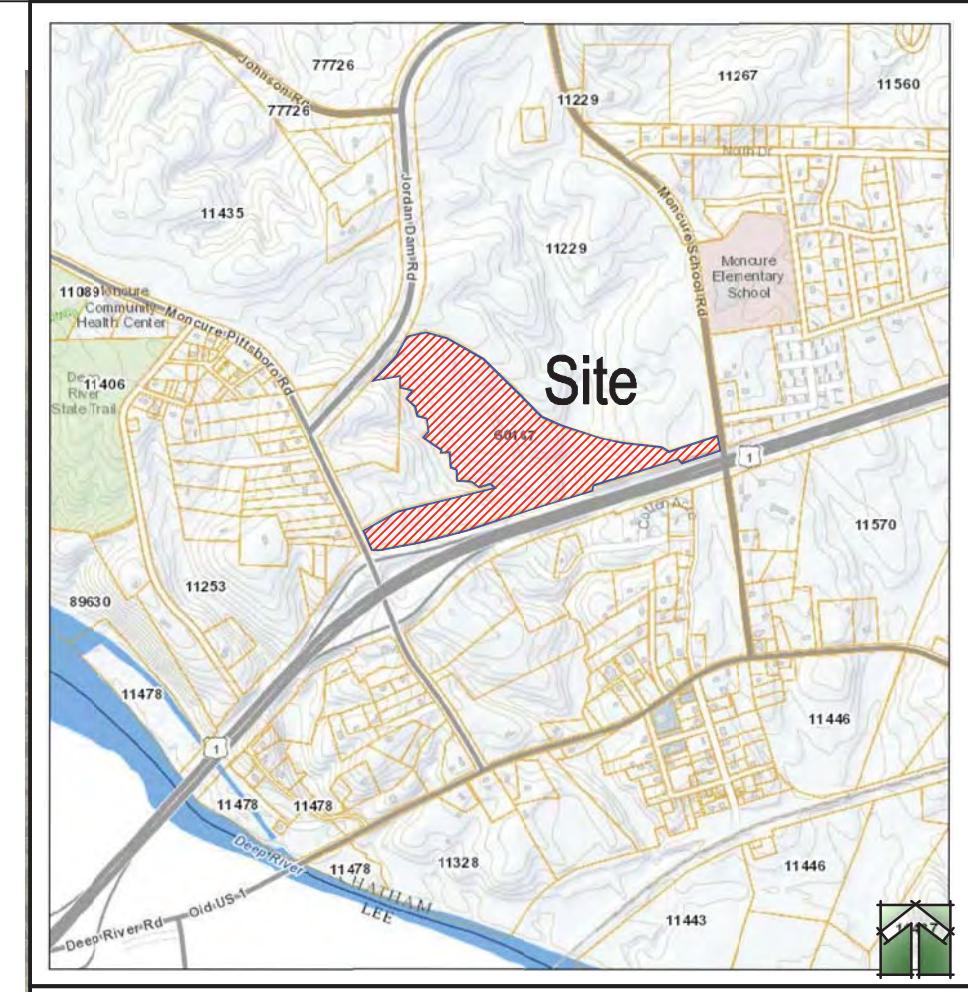
NOTE:  
 BASE INFORMATION TAKEN FROM CHATHAM COUNTY GIS,  
 SAGE ECOLOGICAL SERVICES, INC. - 919.335.6757,  
 TALMAGE "MARK" HALL, ASLA ASSUMES NO RESPONSIBILITY  
 OR LIABILITY FOR THE ACCURACY OF THIS INFORMATION



**SITE INFORMATION**

1. OWNER: MICHAEL S. FOLEY & BRIAN S. FOLEY  
 P.O. BOX 777  
 KURE BEACH, NC 28449
2. DEVELOPER/APPLICANT: HARRIS LAKE BOAT STORAGE, LLC  
 8712 HOLLY SPRINGS RD  
 APEX, NC 27539  
 (919) 363-8878
3. SITE ADDRESS: MONCURE PITTSBORO RD & US HWY 1  
 CHATHAM COUNTY, NC
4. PARCEL #: 0060167  
 9678 00 43 9636  
 ±38.40 AC/ ±1,672,704 SF
5. P.I.N.: R-1
6. TOTAL ACREAGE =
7. EXISTING ZONING: CD-CB COMMUNITY BUSINESS
8. PROPOSED ZONING: HAW RIVER
9. TOWNSHIP: VACANT/WOODED
10. CURRENT USE: INDOOR STORAGE FOR ANYTHING OTHER THAN ILLEGAL OR HAZARDOUS MATERIALS. OUTDOOR STORAGE FOR BOATS, RV'S, TRAILERS, CAMPERS, VEHICLES AND MOST ANYTHING ON WHEELS. OUTDOOR STORAGE FOR MOBILE STORAGE UNITS. FUTURE BUILDINGS WILL INCLUDE AN OFFICE FOR RETAIL SALES, UHAUL RENTALS AND SALES AND RENTALS OF BOATS.
11. PROPOSED USE:

12. THE SUBJECT PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS PER FEMA FLOOD MAP # 3710967800L DATED 11/17/2017



Vicinity Map

**CANOPY TREE EXAMPLES:** BALD CYPRESS, SOUTHERN SUGAR MAPLE, WILLOW OAK, RED MAPLE

**UNDERSTORY TREE EXAMPLES:** GRAPE MYRTLE, YAUPON HOLLY, SOUTHERN WAX MYRTLE, EASTERN RED CEDAR

**EVERGREEN SHRUB EXAMPLES:** LOROPETALUM, NELLIE STEVENS HOLLY, ABELIA, VARIEGATED PRIVET

**SCREEN/SECURITY FENCE:** NOTE: LOCATION TO BE DETERMINED

**PLANTINGS PER 100' LENGTH OF BUFFER:**  
 (3) UNDERSTORY TREES  
 (2) CANOPY TREES  
 (12) EVERGREEN SHRUBS

**NOTE:** SCREEN/SECURITY FENCING MAY BE USED IN PLACE OF PLANTINGS

**BUFFER PLANTING PER 100 LINEAR FEET OF BUFFER**  
 NOTE: LAYOUT IS ILLUSTRATIVE ONLY

**REVISED**  
 3:53 pm, Dec 13, 2019

**TYPICAL BUFFER SECTION**  
 NOTE: SECTION IS FOR ILLUSTRATIVE PURPOSES ONLY

**NOTE:** PHASE 1 WILL CONSIST OF THE BUILDING SHOWN WITH OUTDOOR PARKING/STORAGE IN ITS IMMEDIATE VICINITY. FUTURE ADDITIONAL BUILDINGS WILL BE CONSTRUCTED AS NEEDED TO ACCOMMODATE DEMAND

**NOTE:** CONFIGURATION OF OUTDOOR PARKING/STORAGE MAY CHANGE BUT INGRESS/EGRESS TO THE SITE FOR EMERGENCY VEHICLES WILL BE MAINTAINED AS PER COUNTY STANDARDS & REQUIREMENTS

**IMPERVIOUS SURFACES**

BUILDING AREA:	±96,600 SQ.FT.
GRAVEL AREA:	±502,560 SQ.FT.
TOTAL IMPERVIOUS AREA:	±599,160 SQ.FT.
AREA OF TRACT:	±1,672,704 SQ.FT.
% OF IMPERVIOUS COVERAGE:	±35.82%

**EXHIBIT "A"**  
**CONCEPTUAL SITE PLAN**

SCALE: 1" = 100'

TALMAGE "MARK" HALL, ASLA  
 PROFESSIONAL LANDSCAPE ARCHITECT  
 talmagemark@gmail.com

**REZONING EXHIBIT "A"**  
**MONCURE PITTSBORO ROAD STORAGE**  
**HAW RIVER TOWNSHIP, CHATHAM COUNTY, NC**  
**HARRIS LAKE BOAT STORAGE, LLC**

FOR REVIEW AND COMMENT ONLY

NOT RELEASED FOR CONSTRUCTION

FOR REVIEW ONLY NOT FOR CONSTRUCTION

PROJECT:	DATE
PROJECT: CONCEPTUAL SITE	12.2019
ISSUE:	12.11.2019
REVISIONS:	REVISIONS
REVISIONS:	12.13.2019
DRAWN BY:	TMH
CHECKED BY:	TMH
CONTENT:	EXHIBIT "A"
	CONCEPTUAL SITE PLAN

RZ01

12/13/2019 3:51 PM C:\Users\Engineer\Documents\Talmage Mark Hall ASLA\TMH-ASLA 2019\PAUL BREWER\DWG\MONCURE-SP04.dwg

CHATHAM COUNTY PROJECT NO: XXX  
 ©2019 TALMAGE "MARK" HALL, ASLA EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESSED WRITTEN PERMISSION AND CONSENT OF TALMAGE "MARK" HALL, ASLA

NCSHPO ENVIRONMENTAL RECORDS REVIEW REQUEST



December 13, 2019

Renee Gledhill-Earley  
State Historic Preservation Office  
109 East Jones Street, Room 258  
Raleigh, NC 27601

RE: NC State Historic Preservation Office Environmental Review Request  
Jordan Dam Road Property  
Chatham County, NC  
Sage Project #2019.112

Dear Ms. Gledhill-Earley,

Sage Ecological Services, Inc. (Sage) requests a State Historic Preservation Office Environmental Review for the +/-48.8-acre Jordan Dam Road Property (Site) located east of the US-1 South and Moncure-Pittsboro Road intersection in Moncure, Chatham County, NC. The coordinates of 35.62836°N, 79.083349°W generally correspond to the center of the Site. The purpose of this letter is to solicit comments of any potential concerns and request a file review of the Site.

### **PROJECT DESCRIPTION**

The purpose of the project is a proposed storage facility consisting of indoor and outdoor storage areas. Driveway access will be provided via Moncure-Pittsboro Road and via Jordan Dam Road. The Site contains undeveloped, forested land. Hardwoods and pines are present throughout the Site. Land use in the vicinity of the Site consists of undeveloped, forested land, rural residential, agricultural and pastureland, and some commercial properties to the south in Moncure. Figure 1 depicts the Site on the Merry Oaks, NC USGS Topographic Quadrangle. Figure 2 depicts the Site on an aerial map.

### **NCSHPO DATABASE REVIEW**

There are no historic properties listed on or adjacent to the Site. No structures were observed on the Site during the field review. Twenty-one historic properties and one National Register Historic District are within 1.0-mile of the Site boundary. These include nine Surveyed Only and nine Surveyed Only-Gone properties, two blockface properties, and one National Register property.

The majority of these properties are south of the Site in and around Moncure. The National Register property is the Lockville Dam Canal and Powerhouse (CH0018) and is approximately 0.4-mile southwest of the Site. Figure 3 depicts the historic properties within the vicinity of the Site.

Please contact me via email at [KHamlin@sageecological.com](mailto:KHamlin@sageecological.com) or call me at (919) 244-0623 if you have any questions or require any additional information.

Respectfully submitted:



Kim Hamlin  
Sage Ecological Services, Inc.  
3707 Swift Drive  
Raleigh, NC 27605

*Attachments:*

- Figure 1 – USGS Vicinity Map
- Figure 2 – Aerial Vicinity Map
- Figure 3 – NCSHPO Map
- Photo Log

NC NATURAL HERITAGE PROGRAM DATABASE REPORT



Roy Cooper, Governor  
Susi Hamilton, Secretary  
Walter Clark, Director, Land and Water Stewardship

NCNHDE-10921

December 12, 2019

Sean Clark  
Sage Ecological Services  
3707 Swift Drive  
Raleigh, NC 27606-2543  
RE: Jordan Dam Road Project; 2019.112

Dear Sean Clark:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

Based on the project area mapped with your request, a query of the NCNHP database indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for field surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is found within the project area or is indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here: <https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37>.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Clean Water Management Trust Fund easement, or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact Rodney A. Butler at [rodney.butler@ncdcr.gov](mailto:rodney.butler@ncdcr.gov) or 919-707-8603.

Sincerely,  
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area  
 Jordan Dam Road Project  
 Project No. 2019.112  
 December 12, 2019  
 NCNHDE-10921

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Dragonfly or Damselfly	4567	Gomphurus septima	Septima's Clubtail	2013-04-15	A	4-Low	---	Significantly Rare	G2	S3
Dragonfly or Damselfly	33757	Somatochlora georgiana	Coppery Emerald	2004-Pre	H?	5-Very Low	---	Significantly Rare	G3G4	S2?
Freshwater Bivalve	18434	Villosa constricta	Notched Rainbow	1974-09-14	H	3-Medium	---	Threatened	G3	S3
Freshwater Fish	3224	Notropis mekistocholas	Cape Fear Shiner	2019-06-05	A	3-Medium	Endangered	Endangered	G1	S1
Natural Community	25726	Dry-Mesic Oak--Hickory Forest (Piedmont Subtype)	---	2017-03-17	B	2-High	---	---	G4G5	S4
Natural Community	9320	Dry-Mesic Oak--Hickory Forest (Piedmont Subtype)	---	2013	C	2-High	---	---	G4G5	S4
Natural Community	34545	Dry-Mesic Oak--Hickory Forest (Piedmont Subtype)	---	2014-05-07	B	2-High	---	---	G4G5	S4
Natural Community	25727	Dry Oak--Hickory Forest (Piedmont Subtype)	---	2017-03-17	B	3-Medium	---	---	G4G5	S4
Natural Community	25728	Mesic Mixed Hardwood Forest (Piedmont Subtype)	---	2017-03-17	B	3-Medium	---	---	G3G4	S4
Natural Community	25729	Piedmont Basic Glade (Typic Subtype)	---	2017-03-17	BC	2-High	---	---	G2	S2
Natural Community	27319	Piedmont Boggy Streamhead	---	2009-04-09	C	2-High	---	---	G2G3	S2
Natural Community	34544	Piedmont Bottomland Forest (High Subtype)	---	2014-05-07	C	3-Medium	---	---	G3G4	S2
Natural Community	25730	Piedmont Levee Forest (Typic Subtype)	---	2018-04-26	C	2-High	---	---	G3G4	S3S4



Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Vascular Plant	6411	Enemion biternatum	Eastern Isopyrum	1951-04	H	4-Low	---	Special Concern Vulnerable	G5	S2
Vascular Plant	27318	Lindera subcoriacea	Bog Spicebush	2009-04-09	BC	2-High	---	Significantly Rare Throughout	G3	S2
Vascular Plant	16756	Phacelia covillei	Buttercup Phacelia	2014-05-07	A	3-Medium	---	Significantly Rare Throughout	G3	S3
Vascular Plant	3981	Ptilimnium nodosum	Harperella	1971-08	F	3-Medium	Endangered	Endangered	G2	S1

Natural Areas Documented Within a One-mile Radius of the Project Area

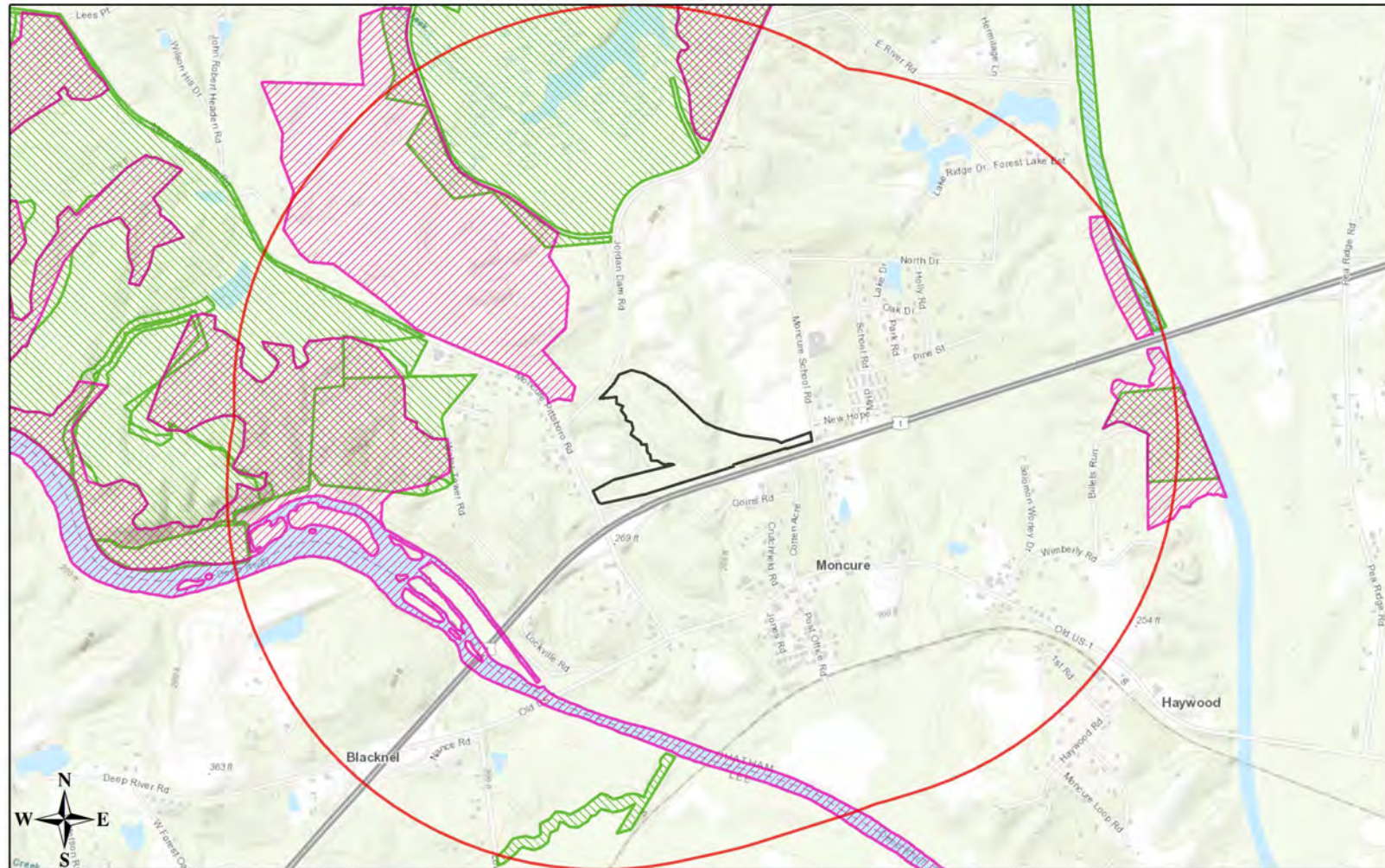
Site Name	Representational Rating	Collective Rating
Poes Ridge/Dam Road Upland Forests	R5 (General)	C5 (General)
Haw River Dicentra Slopes	R4 (Moderate)	C4 (Moderate)
Moncure Boggy Streamheads	R3 (High)	C4 (Moderate)
Lower Deep River Slopes	R3 (High)	C3 (High)
CPF/Rocky River Subbasin Aquatic Habitat	R1 (Exceptional)	C1 (Exceptional)

Managed Areas Documented Within a One-mile Radius of the Project Area





Managed Area Name	Owner	Owner Type
B. Everett Jordan Dam and Lake	US Army Corps of Engineers	Federal
Deep River State Trail	NC DNCR, Division of Parks and Recreation	State
NC Clean Water Management Trust Fund Funded Project	NC DNCR, Clean Water Management Trust Fund	State
Deep River State Trail Dedicated Nature Preserve	North Carolina Department of Natural and Cultural Resources, Division	State
Poes Ridge/Dam Road Upland Forests Registered Heritage Area	US Army Corps of Engineers	Federal
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State
NC Clean Water Management Trust Fund Funded Project	NC DNCR, Clean Water Management Trust Fund	State
Haw River Dicentra Slopes Registered Heritage Area	130 of Chatham, LLC	Private
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State

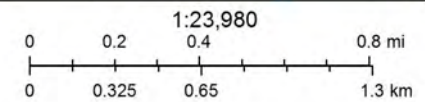
Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on December 12, 2019; source: NCNHP, Q4 Oct 2019. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

# NCNHDE-10921: Jordan Dam Road Project



December 12, 2019

-  Project Boundary
-  Buffered Project Boundary
-  NHP Natural Area (NHNA)
-  Managed Area (MAREA)



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

## APPENDIX E STATE AND FEDERAL PERMITS

State and federal approvals/permits potentially required include, but are not limited to, the following:

- USACE approved stream and wetland delineation
- NCDOT driveway permit
- Chatham County riparian buffer review
- Chatham County soil erosion and sediment control
- Chatham County environmental resources stormwater permit
- Chatham County Public Works water system approval
- Chatham County Public Works fire flow analysis
- NCDEQ Public Water Supply water permit
- Chatham County and NCDEQ individual well and septic permit