

Greene Environmental Services
La Grange Mitigation Bank, Phase II
Bank Parcel Development Package

October 2014

Greene Environmental Services, LLC
Neuse River Umbrella Mitigation Bank

DWQ#: 08-0511v2



Greene Environmental Services, LLC
Ham Farms, 963 Hwy 258 S
Snow Hill, NC 28580

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Drainage District Letter

1.0 Project Location and Description

Greene Environmental Services, LLC (GES) of Snow Hill, North Carolina proposes to expand the La Grange bank parcel to the Greene Environmental Services Neuse River Basin Riparian Buffer and Nutrient Offset Umbrella Bank. The La Grange Phase II expansion bank parcel is located at the southwest intersection of NC 903 and Old Jason Road (SR 1501), north of La Grange, in Lenoir County, North Carolina (Appendix A: Figures 1, 2, 3a and 3b). The latitude/longitude coordinates of the site area approximately 35°20'30.00" N and 77°47'21.56" W. The purpose of the proposed Phase II mitigation bank expansion is to improve water quality within the Neuse River Basin by reducing nutrient and sediment inputs to the watershed and providing off-site mitigation for development requiring nutrient offsets.

The proposed bank parcel is located within the Middle Neuse Watershed (HUC: 03020202). Stormwater runoff from this site drains into Meeting House Branch (Stream Index # 27-72-3) and via a farm drainage ditch and maintained canal system (un-named tributary, UT). Meeting House Branch discharges to Bear Creek (Stream Index # 27-72-(0.1)), a major tributary to the Neuse River (Figures 1 and 3a). According to the NC Division of Water Quality Basinwide Information Management System, Meeting House Branch is classified as C; Sw, NSW. Mr. Chris Pullinger (NC DENR) determined that Meeting House Branch was an intermittent stream and subject to the Neuse Buffer Rules on April 4, 2011 (see Appendix B). On June 4, 2014, the unnamed tributary (UT) to Meeting House Branch was also determined to be intermittent and subject to the Neuse Buffer Rules as per a stream determination by Anthony Scarborough (NC DENR) (see Appendix B). The local Drainage District Conservationist provided a letter of assurance that the waterways adjacent to the Phase II site were under no maintenance or drainage district easements (Appendix B).

The proposed Phase II expansion bank parcel is 3.49 acres (152,202.40 ft²) designated for nutrient offset buffer and, where applicable, riparian buffer restoration credit. Riparian buffer mitigation acreage will be established in two sub-tracts labelled A and C in the survey plat provided in Figures 4a and 4b. (For reporting and mitigation credit calculations, acreages are rounded to the nearest hundredths thus slightly differing from areas listed on the survey plat). Sub-tract A is 0.03 acres (1,306.80 ft²) and buffers southerly flowing Meeting House Branch; sub-tract C is 0.49 acres (21,344.43 ft²) and buffers the westerly flowing unnamed tributary to

Meeting House Branch. Nutrient offset buffer will also be established in two sub-tracts, B and D. Sub-tract B is 0.16 acres (6,969.60 ft²) along the unnamed tributary to Meeting House Branch and sub-tract D is 2.81 acres (122,403.60 ft²) along a drainage ditch at the eastern border of the Phase II tract that discharging to the UT that flows into Meeting House Branch. The riparian buffers will extend from the top of the ditch-banks 50 feet perpendicular to the buffered stream segments. The nutrient offset buffers will extend from the top of the ditch-banks a minimum of 50 feet and a maximum of 200 feet perpendicular to the buffered stream segments or to the border of Phase I. A 0.06-acre (2,613.60 ft²) triangular portion of the site adjacent to L-13 on the survey plat is beyond the 200-foot allowable limit for mitigation credit thus is not included in the mitigation credit calculation. However, this isolated portion had to be purchased by Greene Environmental Services, LLC to avoid the need to provide access an access easement concerns. This isolated section accounts for the difference in acreage between that listed on the survey plat (3.55 acres) and the total amount available for mitigation credits (3.49 acres). This Phase II bank parcel shall be established under the terms and conditions of the Greene Environmental Services Neuse River Basin Riparian Buffer and Nutrient Offset Umbrella Bank made and entered into by Mr. Bobby Ham of Greene Environmental Services, LLC, acting as the Bank Sponsor and the North Carolina Department of Environment and Natural Resources – Division of Water Quality (now Division of Water Resources, DWR) which was signed by the Division Director on October 3, 2008.

The Phase II expansion bank parcel was previous agricultural cropland and approximately one acre was planted with bald cypress and river birch saplings during March of 2010, at which time DWQ (now DWR) staff visited the site and determined that it was suitable for mitigation. Katie Merritt with DWR visited the site in June of 2013 and determined this additional area (Phase II) was still suitable for nutrient offset mitigation.

2.0 Project Area – Existing Conditions

The proposed LaGrange Phase II tract was in row-crop agricultural production prior to approval by NC-DENR staff that the site was suitable for inclusion in a riparian buffer/nutrient offset mitigation bank. Soil and site conditions are favorable for the successful establishment of

planted vegetation that should mitigate some adverse environmental effects adjacent agriculture practices.

2.1 Geologic and Soil Characteristics

The property is located within the Inner Coastal Plain Physiographic Province, within the Rolling Coastal Plain Ecoregion. Based upon review of the United States Geological Survey (USGS), La Grange, North Carolina Quadrangle, the proposed Phase II Bank Parcel is located near the headwaters of Meeting House Branch with elevations ranging from ± 89 feet to ± 91 feet. Topographic relief and surface drainage is generally southwest (Figure 2).

There are three soil series mapped at the La Grange Phase II tract. The dominant soil is Pantego loam, a very poorly drained soil with slow runoff and a seasonally high water table; this soil comprises more than two-thirds of the Phase II tract (Figure 5 and Table 1). Pantego loam is generally poorly suited for agricultural production unless extensively ditched and drained. The subdominant soils comprising the remaining acreage of the tract are Craven fine sandy loam and Goldsboro sandy loam; these soils are moderately well drained but also have seasonally high water tables and are better suited for agricultural production. The region is known for being agriculturally productive for corn, soybeans, tobacco, sweet potatoes, wheat, and peanuts.

2.2 Vegetative Communities

The closest forested community is located downstream of the site along Meeting House Branch. This forested area is an early succession, consisting primarily of typical sweetgum (*Liquidambar styraciflua*) and red maple (*Acer rubrum*) that are approximately 20-40 years in age. The majority of the watershed draining to the site consists of agricultural fields that are lacking in riparian/ditch buffers. The adjacent land use consists entirely of agricultural fields, which primarily produce sweet potatoes, corn, and soybeans.

Table 1. Mapped Soils within the La Grange Bank Parcel Phase II Expansion tract (Soil descriptions obtained online from the US Department of Agriculture, Official Soil Series descriptions: <https://soilseries.sc.egov.usda.gov/>)

Soil Series and Acronym	General Description
Pantego loam (Pe)	Located on broad, smooth flats in interstream areas, with slopes of < 1%. Very poorly drained, infiltration is moderate and runoff is ponded to very slow. Water ponding on the surface and a seasonal high water table are the main limitations in the uses and management of this soil.
Craven fine sandy loam (Cr)	Located on nearly level and gently sloping uplands. Moderately well drained with a seasonally high water table. Moderate natural fertility and strongly acidic. Moderately important for farming with soil amendments of fertilizer and lime.
Goldsboro sandy loam (Go)	Located on nearly level and gently sloping uplands. Moderately well drained with a seasonally high water table. Natural fertility low but responds well to fertilizer and lime application; these soils are important for farming.

2.3 Threatened and Endangered Species

The US Fish and Wildlife Service (USFWS) and NC Natural Heritage Program (NHP) databases were searched for federally listed threatened and endangered plant and animal species for Lenoir County, NC. Two federally listed species, the red-cockaded woodpecker (*Picoides borealis*) and sensitive joint-vetch (*Aeschynomene virginica*), are currently listed in Wayne County (Table 2).

A review of the North Carolina Natural Heritage Program (NCNHP) database shows no occurrences of either species within a 2-mile radius of the site. According to the NCNHP Virtual Workroom, only one state listed species, Coachwhip (*Masticophis flagellum*), is located within a 2-mile radius of the site. This snake species is labeled as “SR” (significantly rare) and resides in dry and sandy woods, primarily in pine/oak sandhills. This site will provide no potential habitat for this species since the water table is fairly high in this area and the site soils are not “dry and sandy”.

Table 2. Listed Threatened and Endangered Species in Wayne County, NC (NC Natural Heritage Program).

Species	Federal Status	Habitat
Red-cockaded woodpecker	Endangered	The red-cockaded woodpecker prefers mature stands of longleaf pine (<i>Pinus palustris</i>) trees, generally over 80 years old. Habitat requirements average 125 to 200 acres in area. Although some cavities have been found in pine forests as small as 60 acres.
Sensitive joint-vetch	Threatened	The joint-vetch occurs in fresh to slightly brackish tidal river systems, within the intertidal zone where populations are flooded twice daily. It typically occurs at the outer fringe of marshes or shores; its presence in marsh interiors may be a result of nutrient deficiencies, ice scouring, or muskrat

2.4 Environmental Issues

Preliminary data was obtained from Environmental Data Resources, Inc. (EDR) regarding the potential for on-site or nearby sources of contamination. EDR maintains an updated database of current and historical sources of contamination. All storage tanks, whether above-ground or underground are identified, as well as superfund sites, landfills, hazardous waste sites, and other potential hazards. No sites were noted on their database within a one-mile radius of the Bank site.

2.5 FEMA Floodplain/Floodway Mapping

Meeting House Branch and its immediate floodplain are not located within the Federal Emergency Management Association's (FEMA's) designated floodway and approximate 100-year flood boundary (Figure 6). Therefore, no floodplain impacts are anticipated.

3.0 Proposed Nutrient Offset and Riparian Buffer Restoration Plan

Actions required to develop the La Grange site for mitigation were begun in March of 2010, however, the formal establishment of the 3.39-acre first phase of the bank was not completed until 2013. The First Annual Monitoring Report for the Phase I of the La Grange Bank Parcel was submitted for 2013; the Second Annual Report for Phase I was submitted in August 2014.

Restoration of the Phase II site will occur along the farm drainage ditch on the eastern portion of the tract, along the UT at the southern boundary of the tract and along Meeting House Branch at the extreme southwestern portion of the tract. During the initial planting actions in at the La Grange site in 2010, approximately one acre of the now proposed Phase II expansion was planted with bald cypress and river birch, as well as other character species. Quantitative and qualitative evaluations of the site indicated that only bald cypress and river birch survived in this portion. In the fall of 2013, portions of the expansion site were mowed to remove standing dead herbaceous vegetation (chiefly dog fennel (*Eupatorium capillifolium*) and silverling (*Baccharis glomeruliflora*) and to facilitate the establishment of the proposed Phase II expansion tract. In January 2014, based on data collected in four, temporary 10m by 10m representative plots, the density of bald cypress and river birch saplings in the existing stand was 242.9 ± 57.3 and 50.6 ± 50.9 saplings per acre, respectively, for a total density of 293.5 ± 69.1 saplings per acre.

The proposed planting design for the entire Phase II expansion included the planting of 100 saplings of character tree species in the existing stand for the purpose of increasing density above the 320 saplings per acre criteria threshold for mitigation bank success. The remaining acreage outside of the existing stand has been or will be planted in two installments. In February of 2014, a 1.62 acre section of the Phase II expansion tract was planted with 700 seedlings of character trees species. The remaining 0.88 acres will be planted with 400 seedlings in the winter of January-March 2015. Upon completion of the plantings the planted overall density will be 427 seedlings per acre in the Phase II tract. An assessment will be made of the previously planted seedlings then additional seedlings may be planted in January-March 2015 if deemed necessary; this will be recorded in the "As-Built" Report to be submitted after the final planting. The first annual monitoring report will be submitted following the 2015 growing

season.

“Character Trees” are defined as planted or volunteer species identified from a survey of local vegetation on less degraded sections of the specified stream and from reference literature that details native species. Seedlings of character tree species have been and will be purchased from NC State Forestry Service, Claridge Nursery in Goldsboro, NC. The character tree were chosen based on their suitability to site and soil conditions and are listed in Table 3.

Alternative trees for supplemental planting may include: persimmon (*Diospyros virginiana*), green ash (*Fraxinus pennsylvanica*), white oak (*Quercus alba*), turkey oak (*Quercus laevis*), longleaf pine (*Pinus palustris*), and live oak (*Quercus virginiana*). These trees will be bare root seedlings or containerized plants. Tree species that are best adapted to better drained site conditions (*Quercus virginiana*, *Quercus laevis*, *Quercus alba*, *Pinus palustris* and *Diospyros virginiana*) would be planted on portions of the tract where such conditions exist.

Table 3. Character trees planted in the Phase II expansion tract in 2010 and additional seedlings proposed for planting in March, 2014.

Species Name	Common Name	No. Seedlings Planted in 2010 and Surviving In 2014*	No. of Seedlings Planting In 2014	No. of Seedlings Proposed for Planting In 2014/2015
<i>Betula nigra</i>	River birch	53	220	100
<i>Liriodendron</i>	Yellow poplar	NA	100	100
<i>Nyssa sylvatica</i>	Black gum	NA	120	100
<i>Platanus</i>	Sycamore	NA	120	100
<i>Taxodium distichum</i>	Bald cypress	243	240	0
Totals		293	800	400

*Estimates based on seedling density in four 100m² representative

Buffer vegetative success criteria are based upon the density and growth of character tree species listed in Table 3. As per the Greene Environmental Services Neuse River Basin Riparian Buffer and Nutrient Offset Umbrella Banking Instrument, vegetative success criteria will be based upon guidelines set forth in the *Guidelines for Riparian Buffer Restoration* prepared by the North Carolina Ecosystem Enhancement Program (or subsequent updated

versions of these guidelines in place at the date of acceptance of a BPDP), and shall be defined as a success rate equivalent to 320 live stems per acre at the end of the 5-year monitoring period. For the purposes of monitoring, planted species must account for a minimum of 30 percent of the tree density in the monitoring plots.

If vegetative success criteria are not achieved based on acreage density calculations from combined monitoring plots over the entire restoration area, or if an inspection of the restoration/mitigation site indicates that portions of the site do not have sufficient stem densities or are otherwise deficient, supplemental planting shall be performed with tree species approved by NC-DWR. Supplemental planting shall be performed as needed until vegetative success criteria are met. No quantitative measurements of herb assemblages will be required to meet the vegetative success criteria. The quantity of monitoring plots shall be determined in accordance with *The Carolina Vegetative Sampling Protocol* (Levels I & II).

4.0 Monitoring and Maintenance Plan

The La Grange Phase II Bank Site will be monitored annually for five years (or until DWR's success criteria have been met). Supplemental planting and necessary site modifications will continue to be implemented as necessary. Monitoring activities will follow the terms and conditions of the Greene Environmental Services Neuse River Basin Riparian Buffer and Nutrient Offset Umbrella Banking Instrument, signed by the Division Director and Mr. Bobby Ham (GES).

Vegetative success will be monitored within the restored nutrient offset buffer and a monitoring report will be provided to DWR no later than December 31st of each monitoring year. The report will include vegetative plot data, monitored in accordance with the CVS-EEP Protocol for Recording Vegetation (CVS-EEP, v. 4.2). Plots measuring 100 m² (ten by ten meter squares) will be permanently established at the locations identified on Figure 7. The La Grange Bank Parcel Phase II expansion will contain 2 vegetative monitoring plots (identified as LAG 3 and LAG 4), exceeding the requirement of 2% of the proposed restoration area. Plant species, survival rates, and character species density will be recorded within each plot, as well as general notes on problems encountered or unique situational developments. Photographs of each plot

from the same plot corner will be included in the monitoring reports to provide DWR with a snapshot of the site success each year. At the end of the five year monitoring period, target acreage density of 320 planted character trees for the Phase II target is expected. Monitoring will take place between late August and October. The first annual monitoring report for Phase II will be submitted by December 2015 and the projected final annual monitoring report, pending approval by DWR, will be submitted by December 2019.

5.0 Financial Assurance and Conservation Easement Language

Greene Environmental Services, LLC will provide a performance bond or Letter of Credit from First Citizen's Bank to ensure completion of all mitigation work. The amount of the performance bond or Letter of Credit shall be sufficient to cover all costs associated with establishing the site for its proposed mitigation. Upon approval of the subject BPDP, Greene Environmental Services, LLC will provide financial assurance in the form of a monitoring bond or letter of credit in the amount of at least \$100,000 to ensure that adequate funds are available for completion of the maintenance and monitoring outlined in the BPDP under Section 3.

Upon approval of this Bank Parcel Development Package, The La Grange Phase II Mitigation Bank will be placed under a deeded conservation easement as per the same terms of the Phase I Mitigation Bank.

6.0 Nutrient Offset Mitigation Potential

The La Grange Bank Parcel Phase II Expansion consists of 3.49 acres, to be protected under a permanent conservation easement. The Phase II Parcel will generate exactly 22,651.20 square feet (0.52 acres) of Neuse River riparian buffer credits. The Phase II Parcel will also generate exactly 129,373.20 square feet (2.97 acres) of nutrient offset buffer which yields 6,750.87 (lb-N) Nitrogen credits at 2,273.02 lb-N/acre. Greene Environmental Services, LLC will maintain one credit ledger for riparian buffer credits generated from a buffered area totaling 0.03 acres, from the top of the ditchbank off of Meeting House Branch outward 0 to 50 feet perpendicular and a buffered area totaling 0.48 acres, from the top of the ditchbank off of the UT to Meeting House Branch outward 0 to 50 feet perpendicular; these areas are labelled Area A

and Area C, respectively, on the survey plat in Figure 4b.

Nutrient offset credits which will be generated from outward 0 feet to 200 feet perpendicular out from the stream on UT to Meeting House Branch; this area is 0.16 acres and is labelled Area B on the survey plat; on the ditch that drains to the UT to Meeting House Branch, 2.82 acres of credits will be generated as indicated in the area labelled Area D on the survey plat (Figure 4b).

The credit ledger shall be submitted on a separate 8 ½ in X 11 in spreadsheet with legible font style and font size. At a minimum and unless otherwise requested by DWR, credit ledgers shall contain the following information: **Bank Details listed in a header:** (1) name of the approved banking instrument as it appears on the instrument document, (2) sponsor name, (3) bank parcel name as it appears on the BPDP, (4) DWQ project number for the BPDP, (5) date the ledger was last updated, (6) total credits released to date.

Credit Details Table with the following for each credit sale: (1) date of credit sale, (2) purchaser name, (3) project name and corresponding HUC, (4) name of local government requiring Nutrient Offset Credits for this project, (4) credits released by DWQ to the Bank listed in pounds for Nutrient Offset Credits, (5) credits debited/sold from bank listed in pounds for Nutrient Offset, (6) available credits listed in pounds and acres for Nutrient Offset Credits.

Nutrient Offset Credit may be achieved through restoration of the riparian area adjacent to surface water features. Surface water features do not have to be intermittent or perennial, nor do they have to be depicted on a USGS, NRCS, or EMC approved map. The width of the restoration area begins at the landward limit of the top of bank or the rooted herbaceous vegetation and extends landward a maximum distance of 200 feet on all sides of the surface water.

7.0 References

Griffith, G.E., Omernik, J.M., Comstock, J.A., Schafale, M.P., McNab, W.H., Lenat, D.R., MacPherson, T.F., Glover, J.B, and Shelburne, V.B., 2002. Ecoregions of North Carolina and South Carolina. Accessed from: http://www.epa.gov/wed/pages/ecoregions/ncsc_eco.htm

Lee, M. T., Peet, Robert K., Roberts, S. D., and Wentworth, T. R., 2008. CVS-EEP Protocol for Recording Vegetation Level 1-2 Plot Sampling Only. Version 4.2

Lenoir County Online Mapping Services. Connect GIS Webhosting. Accessed from: <http://www.co.lenoir.nc.us/docs/disclaim.htm>. December 2011.

Natural Heritage Program. Virtual Workroom. Accessed from: http://nhpweb.enr.state.nc.us/public/virtual_workroom.phtml

Natural Resources Conservation Service. Soil Survey of Lenoir County, North Carolina. 1977. USDA Soil Conservation Service. Accessed from: http://soils.usda.gov/survey/printed_surveys/state.asp?state=North%20Carolina&abbr= NC

North Carolina Ecosystem Enhancement Program (NCEEP) 2004. Guidelines for Riparian Buffer Restoration. Accessed from: <http://portal.ncdenr.org/web/wq/swp/ws/401/riparianbuffers>

United States Fish and Wildlife Service. Threatened and Endangered Species by County Accessed from: <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?sPCODE=Q24J> and http://ecos.fws.gov/tess_public/countySearch!speciesByCountyReport.action?fips=3710 7

USGS. The National Map Viewer. Accessed from: <http://viewer.nationalmap.gov/viewer/> January 2012.



Photo of Phase II expansion site (on right) adjacent to tributary ditch.

Appendix A

Figure 1: Vicinity Map

Figure 2: USGS Topographic Map – La Grange Quadrangle

Figures 3a and 3b: Aerial maps of proposed mitigation banks

Figures 4a and 4b: Survey plats of Phase II bank

Figure 5: Soils mapped for Phase II

Figure 6: FEMA Floodplain/Floodway Map

Figure 7. Monitoring plot locations

Appendix B

DWR Stream Determination Letters

Drainage District Letter

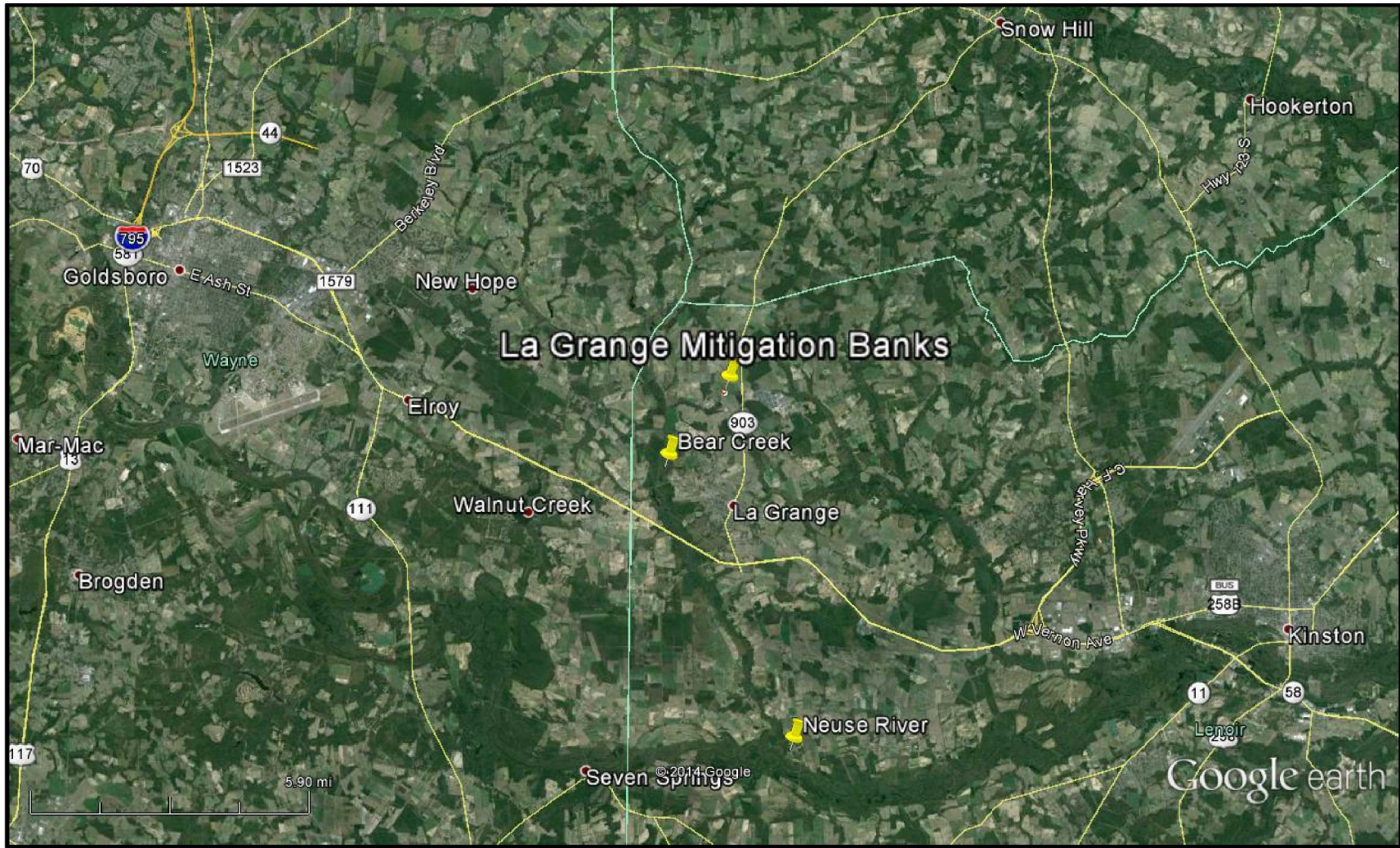


Figure 1. Regional vicinity map of the GES La Grange Mitigation Banks, Phases I and II in relation to the cities of Goldsboro, NC and Kinston, NC and the town of La Grange, NC. Bear Creek is a receiving stream of tributaries from in project area; Bear Creek is a tributary to the Neuse River.

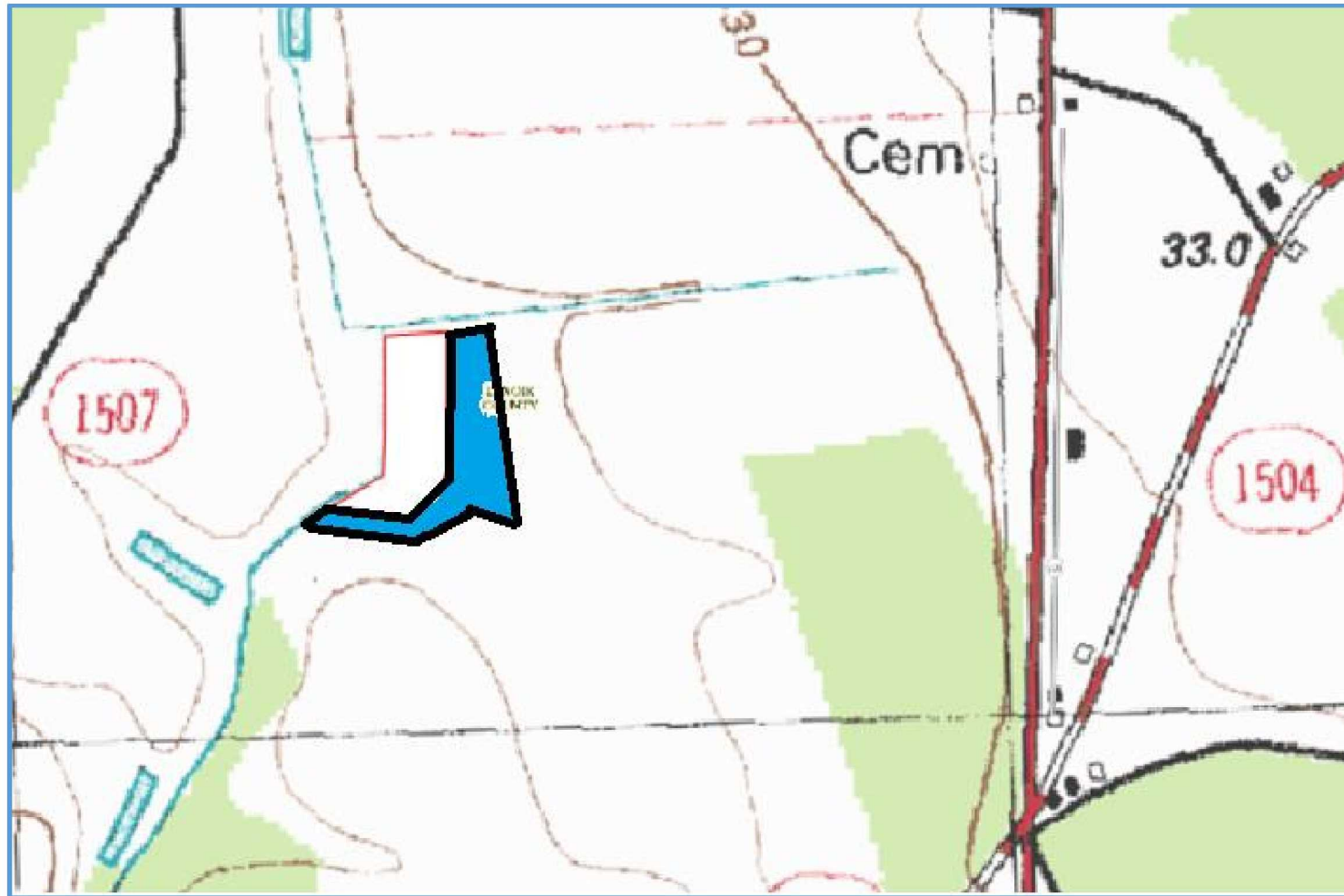


Figure 2. USGS topographic map for the GES La Grange Mitigation Banks, Phases I (outlined in red) and II (highlighted in blue). Illustration is an excerpt from the USGS La Grange Topographic Quadrangle (1:24000). The bank location is approximately two miles north of the town of La Grange, NC and east of NC 903. Bank Parcel Development Package for La Grange Phase II, Greene Environmental Services, LLC, September 2014.

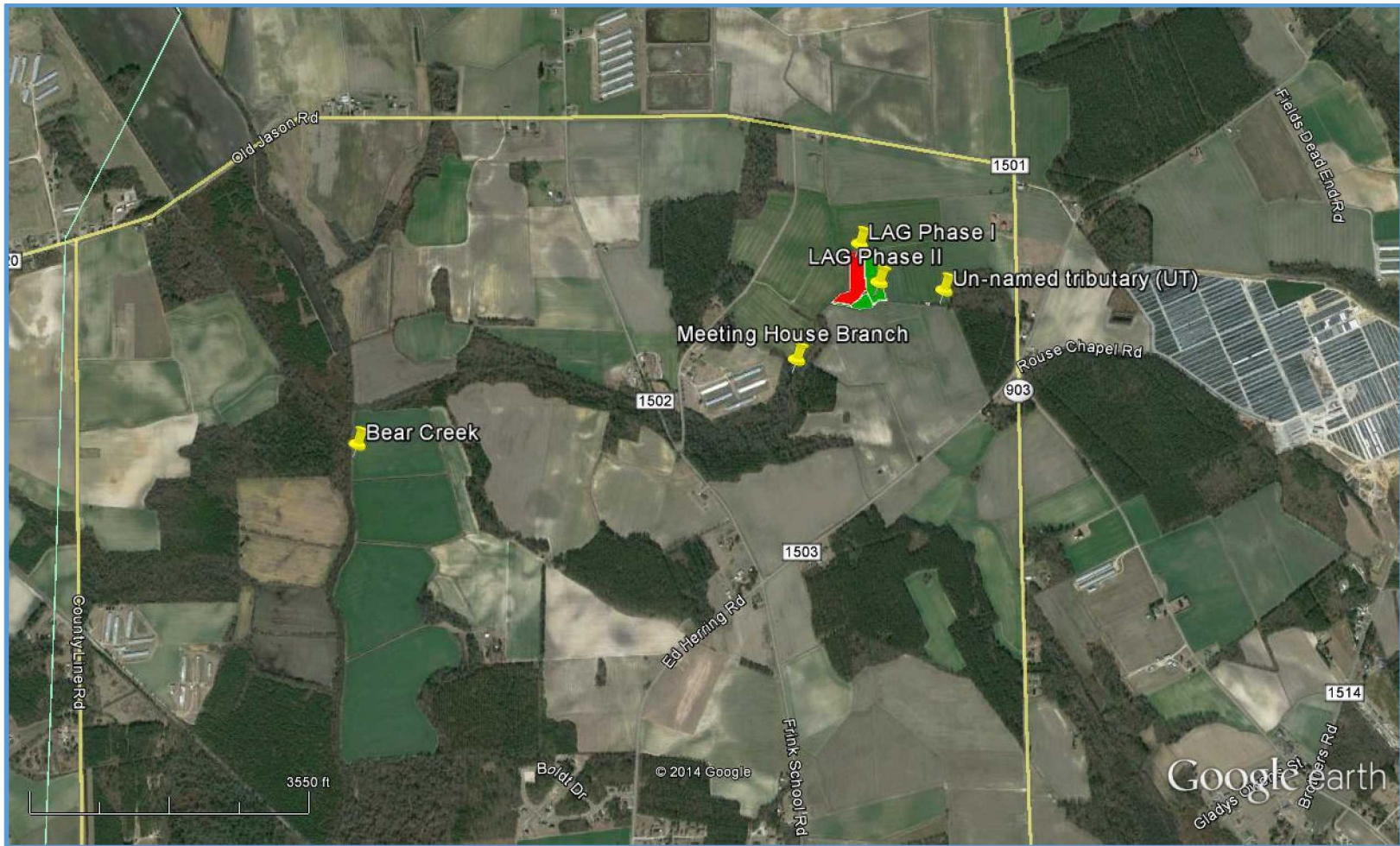


Figure 3a. Aerial photograph depicting the La Grange Mitigation Banks in relation to Meeting House Branch and its un-named tributary and Bear Creek, the receiving stream for Meeting House Branch and tributary to the Neuse River. Bank Parcel Development Package for La Grange Phase II, Greene Environmental Services, LLC, September 2014.



Figure 3b. Aerial photograph depicting GES La Grange Mitigation Banks, Phases I and II. The area in red is Phase I. Phase II includes: II-a nutrient buffer to field drainage ditch, II-b nutrient buffer to UT, II-c nutrient buffer to UT, II-d riparian buffer to UT and II-e riparian buffer to Meeting House Branch. Bank Parcel Development Package for La Grange Phase II, Greene Environmental Services, LLC, September 2014.

Figure 4a. Survey plat illustrating the location of LaGrange Phase II and farm road access easement from NC 903. Bank Parcel Development Package for La Grange Phase II, Greene Environmental Services, LLC, September 2014.

See Next Page

VICINITY MAP

LEGEND

- EIP-----Existing Iron Pipe
- NIP-----New Iron Pipe
- EIS-----Existing Iron Stake
- NIS-----New Iron Stake
- PKS-----P.K. Nail Set
- PKF-----P.K. Nail Found
- NPS-----No Point Set
- RRSF-----Rail Road Spike Found
- RRSS-----Rail Road Spike Set
- CMF-----Concrete Monument Found
- P.P.-----Power Pole
- L.P.-----Lamp Post
- T.P.-----Telephone Pedestal
- C-----Center Line
- R/W-----Right of Way
- NPS-----No Point Set
- CSS-----Cotton Spindle Set
- CSF-----Cotton Spindle Found
- O-----5/8" NIP

I, James D. Grant, certify that this plat was drawn under my supervision from an actual survey made under my supervision (deed description recorded in Book SEE, page) that the boundaries not surveyed are clearly indicated as drawn from information found in books referenced; that the ratio of precision as calculated is $\frac{1}{200}$; that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration number and seal this 4th day JULY 14 20 A.D.

EXEMPTION APPROVAL STATEMENT

THIS PROPERTY IS EXEMPT FROM THE LENOIR COUNTY SUBDIVISION ORDINANCE PER SECTION 20-58-() THEREOF.

ADMINISTRATOR _____
DATE _____

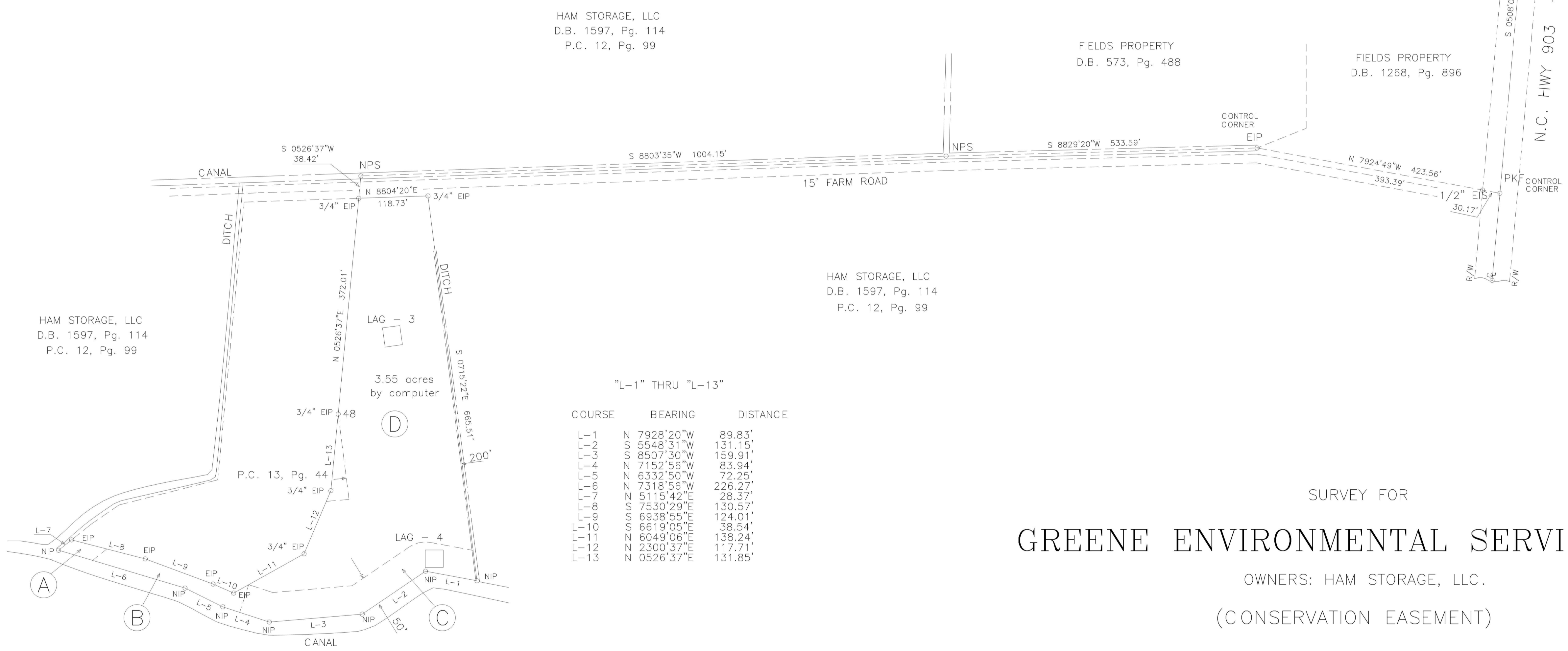
- I, James D. Grant, PLS certify:
- a. That the survey creates a subdivision of land within the area of a county or municipality that has an ordinance that regulates parcels of land.
 - b. That the survey is located in such a portion of a county or municipality that is unregulated as to an ordinance that regulates parcels of land.
 - c. Any one of the following:
 1. That the survey is of an existing parcel or parcels of land and does not create a new street or change an existing street.
 2. That the survey is of an existing building or other structure, or natural feature, such as a water course; or
 3. That the survey is a control survey.
 - d. That the survey is of another category, such as the recombination of existing parcels, a court ordered survey, or other exception to the definition of subdivision.
 - e. That the information available to the surveyor is such that the surveyor is unable to make a determination to the best of his or her professional ability as to the provisions in (a) through (d) above.

James D. Grant, PLS. L-3752

ACREAGE DATA FOR BUFFER AREAS

- AREA "A" = 1,491.00 sq.ft.
- AREA "B" = 7,129.75 sq.ft.
- AREA "C" = 21,129.63 sq.ft.
- AREA "D" = 122,609.26 sq.ft.

James D. Grant, PLS L-3752



"L-1" THRU "L-13"

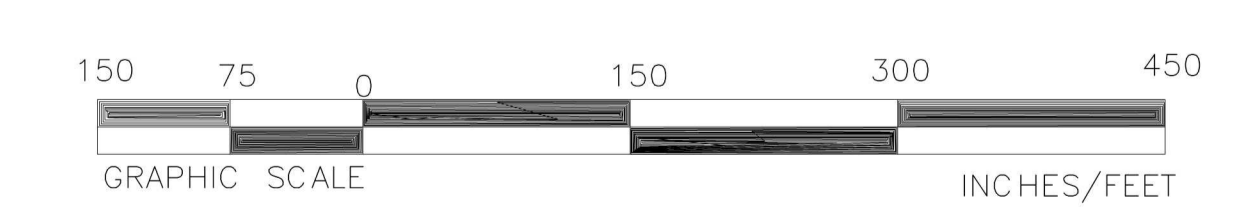
COURSE	BEARING	DISTANCE
L-1	N 7928'20"W	89.83'
L-2	S 5548'31"W	131.15'
L-3	S 8507'30"W	159.91'
L-4	N 7152'56"W	83.94'
L-5	N 6332'50"W	72.25'
L-6	N 7318'56"W	226.27'
L-7	N 5119'42"E	28.37'
L-8	S 7530'29"E	130.57'
L-9	S 6938'55"E	124.01'
L-10	S 6619'05"E	38.54'
L-11	N 6049'06"E	138.24'
L-12	N 2300'37"E	117.71'
L-13	N 0526'37"E	131.85'

SURVEY FOR
GREENE ENVIRONMENTAL SERVICES, LLC

OWNERS: HAM STORAGE, LLC.
(CONSERVATION EASEMENT)

A PORTION OF THE PROPERTY RECORDED IN D.B. 1597, Pg. 114, P.C. 12, Pg. 99, AND INCLUDES ALL OF THE 2.62 ACRE TRACT RECORDED IN P.C. 13, Pg. 371 OF THE LENOIR COUNTY REGISTRY.

MOSELEY HALL TWSP. - LENOIR CO, N.C.



SCALE: 1' = 150' - DATE: 07/14/2014

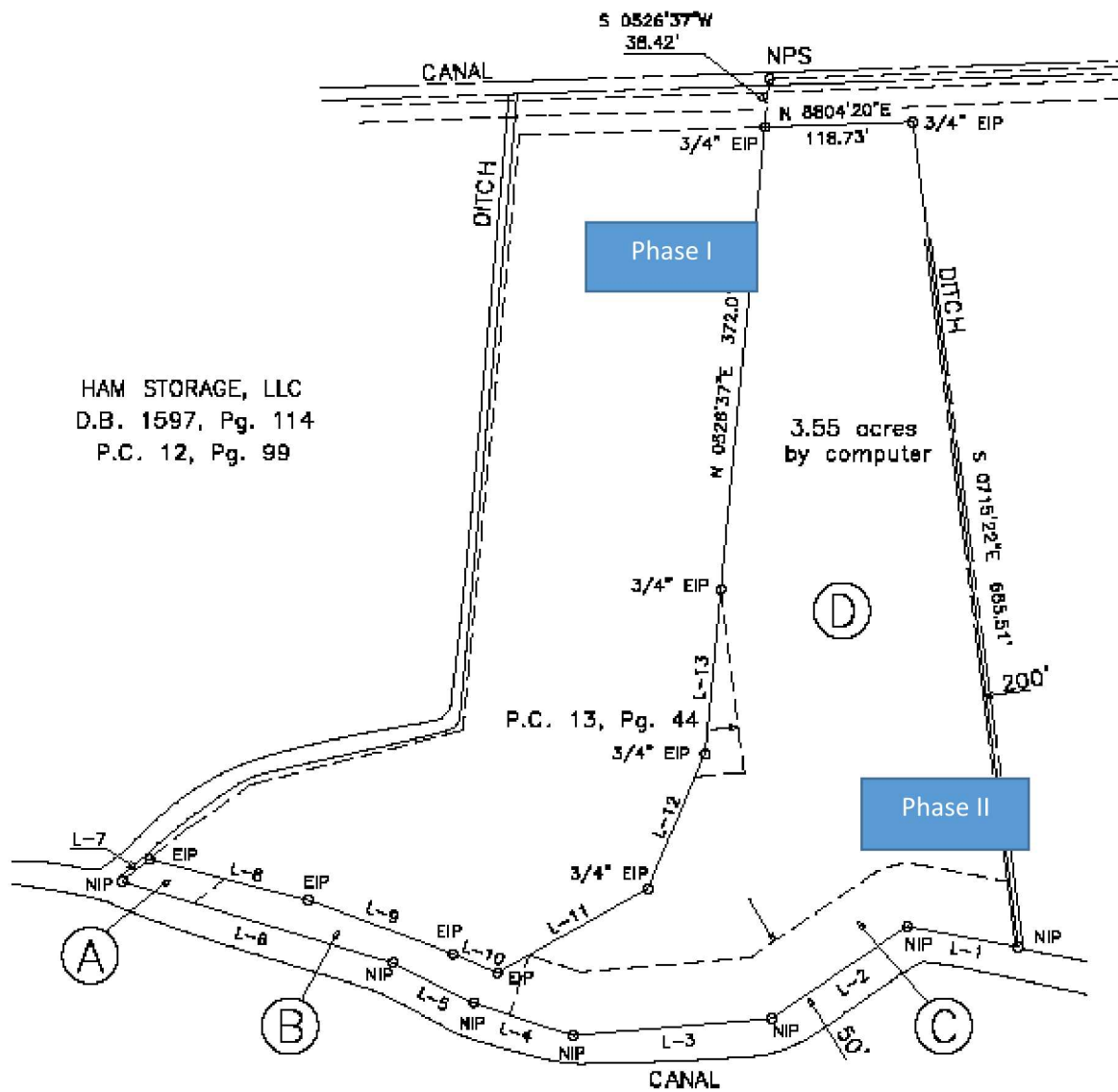
REFERENCES D.B. 1597, Pg. 114
P.C. 12, Pg. 99

CERTIFICATE OF REVIEW OFFICER
NORTH CAROLINA LENOIR COUNTY
I, _____, REVIEW OFFICER OF LENOIR COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.
REVIEW OFFICER _____

CERTIFICATE OF REGISTRATION BY REGISTER OF DEEDS
NORTH CAROLINA LENOIR COUNTY
FILED FOR REGISTRATION ON THE _____ DAY OF _____, 20 ____
AT _____ (a.m./p.m.) AND DULY RECORDED IN PLAT CAB. _____, Pg. _____
REGISTER OF DEEDS _____

GRANT & ASSOCIATES, P.A.
LAND SURVEYING SERVICES
P.O. BOX 517
SNOW HILL, N.C. 28580
(252) 747-7777

LIC. No. C-2168
DATE: 07/14/14 DRAWN BY: JDG FB/Pg N/A FILE No.: 11030



HAM STORAGE, LLC
 D.B. 1597, Pg. 114
 P.C. 12, Pg. 99

ACREAGE DATA FOR BUFFER AREAS

- AREA "A" = 1,491.00 sq.ft.
- AREA "B" = 7,129.75 sq.ft.
- AREA "C" = 21,129.63 sq.ft.
- AREA "D" = 122,609.26 sq.ft.

Figure 4b. Excerpt from topographic survey plat illustrating boundaries of LaGrange Phase II boundaries. Sections A and C are Riparian Buffer; Sections B and D are Nutrient Offset. The triangular area adjacent to L-13 is beyond the 200 foot allowable limit for Phase I and Phase II. Bank Parcel Development Package for La Grange Phase II, Greene Environmental Services, LLC, September 2014.

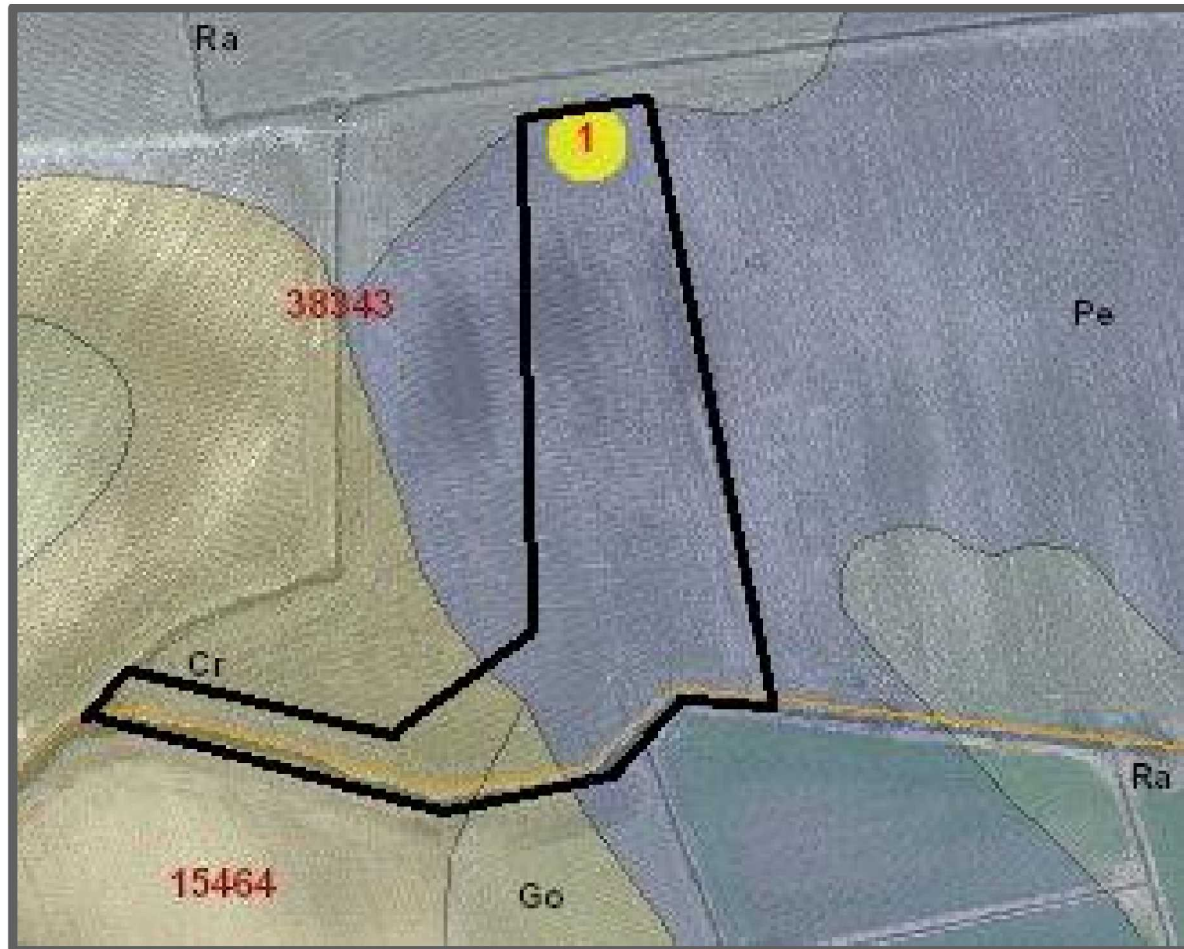
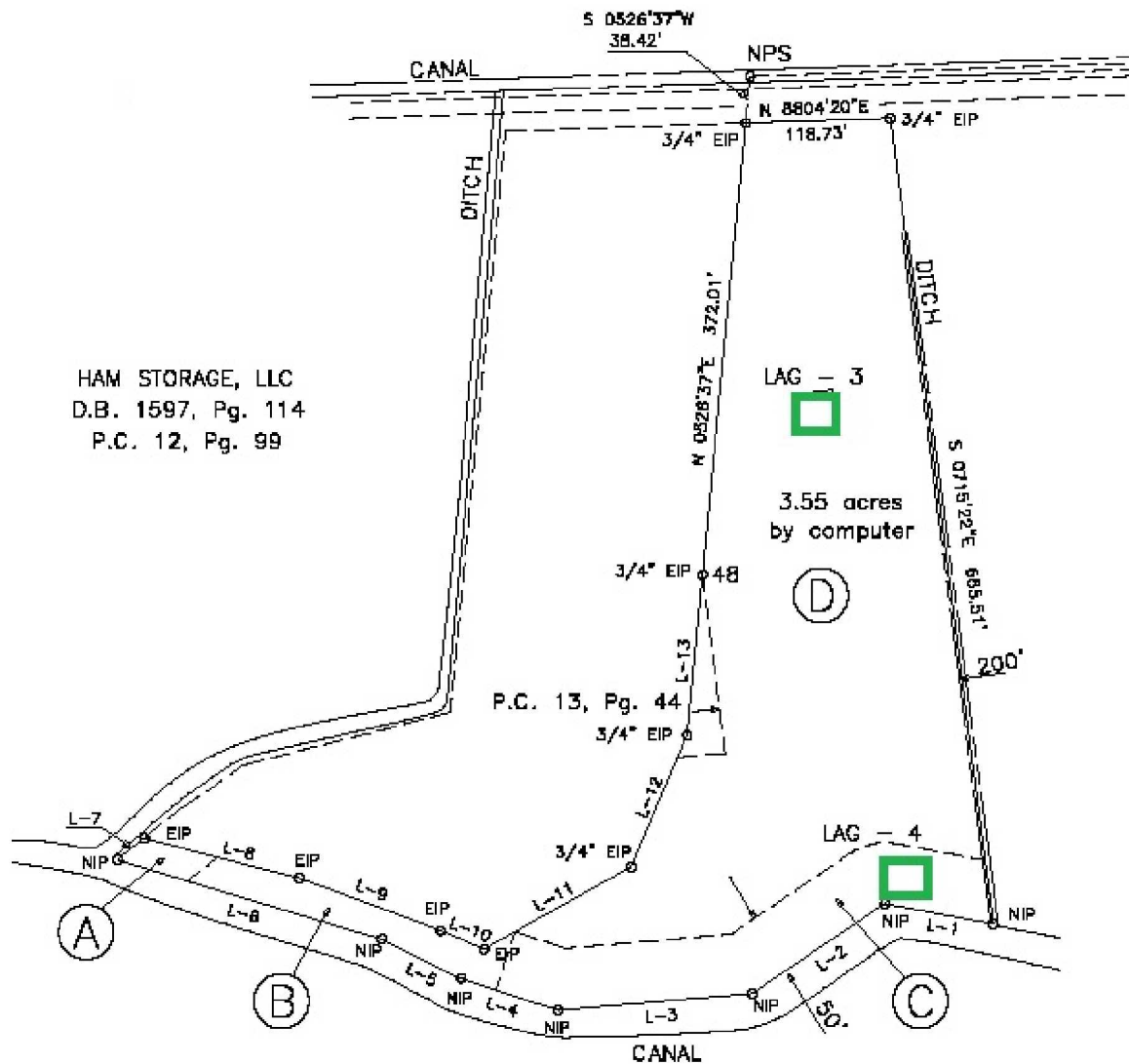


Figure 5. Mapped soils of the La Grange Phase II mitigation site. The outlined (black lines) polygon is the approximate boundary of the Phase II tract. The dominant soil series in the tract is Pantego loam (Pe); Craven fine sandy loam (Cr) and Goldsboro sandy loam (Go) are the subdominant soils mapped for the site. (Base map excerpted from the Lenoir County Online mapping Services website: <https://lenoir2.connectgis.com/Map.aspx>). Bank Parcel Development Package for La Grange Phase II, Greene Environmental Services, LLC, September 2014.



HAM STORAGE, LLC
 D.B. 1597, Pg. 114
 P.C. 12, Pg. 99



Figure 7. Locations of 10m x 10m vegetation monitoring plots, LAG-3 and LAG-4 in Phase II tract. LAG-3 is entirely within the nutrient offset acreage; LAG-4 is entirely within the riparian buffer acreage.

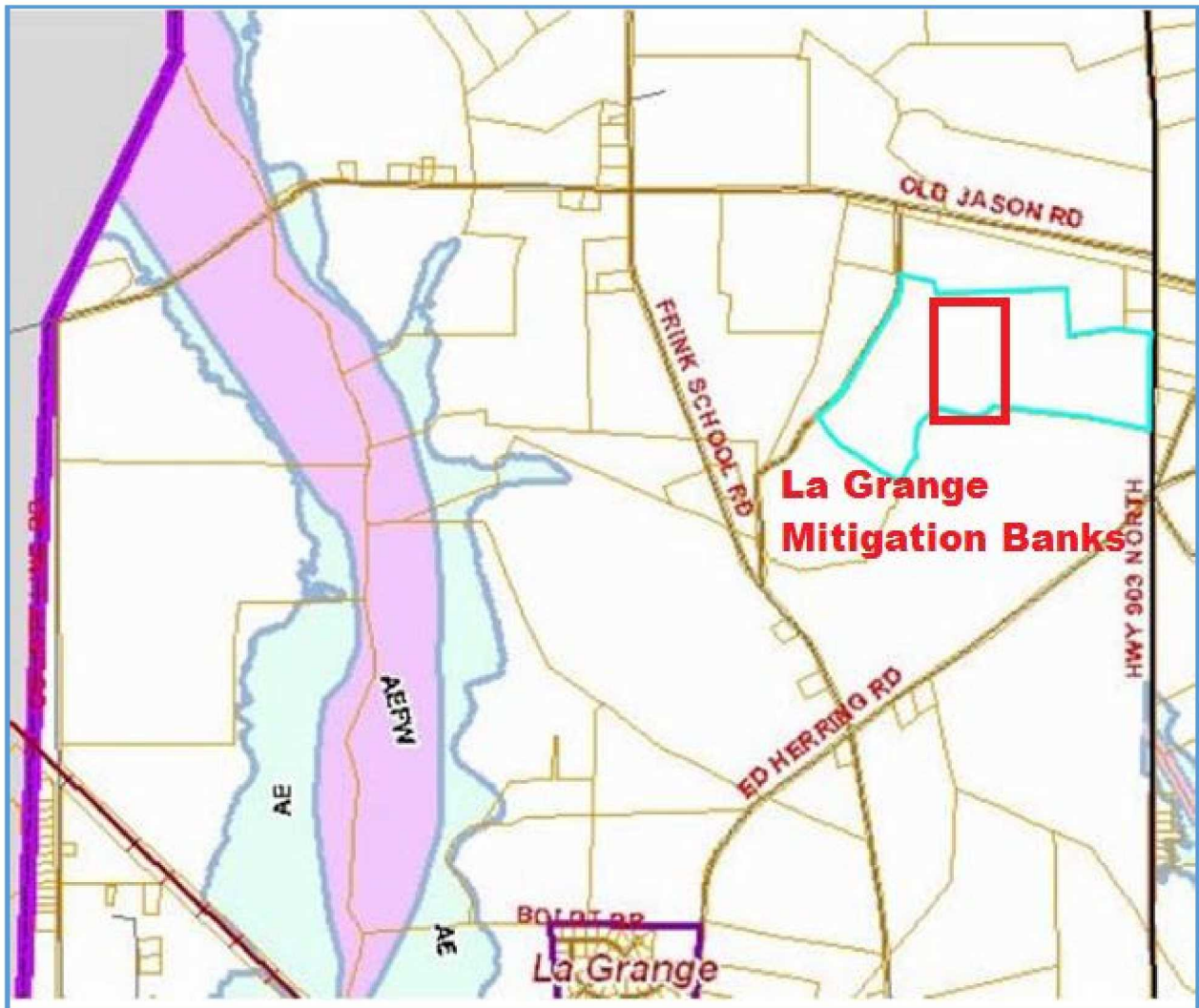


Figure 6. FEMA Floodway/Floodplain Map. The La Grange Mitigation Banks (red rectangle) are not included in the FEMA mapped floodway/floodplain; the mapped FEMA areas depicted are on Bear Creek, a receiving stream for Meeting House Branch. Bank Parcel Development Package for La Grange Phase II, Greene Environmental Services, LLC, September 2014.

NC Flood Zone: AE 100-year flooding with base flood elevation (BFE) determined

NC Flood Zone: AEFW 100-year floodway; The floodway is an area that includes the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water-surface elevation by more than a designated height.

Source: NC Floodplain Mapping Program



North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue
Governor

Coleen H. Sullins
Director

Dee Freeman
Secretary

April 4, 2011

DWQ Project # 2011-0113
Lenoir County

Bobby Ham
Greene Environmental Services, LLC
90 Ham Produce Road
Snow Hill, NC 28580

Subject Property: LaGrange/MHBP Riparian Buffer (mitigation bank)
UT to Meeting House Branch

**On-Site Determination for Applicability to the Neuse River Riparian Area
Protection Rules (15A NCAC 2B .0233)**

Dear Mr. Ham:

On March 3, 2011, at your request I conducted an on-site determination to review drainage features located on the subject property for applicability to the Neuse Buffer Rules (15A NCAC 2B .0233). The project area is labeled as "2011-0113" on the attached map initialed by me on April 4, 2011. The project is located on the east side of NC HWY 903, approximately 0.2 miles south of the intersection of NC HWY 903 and Old Jason Road (SR 1501), north of the community of La Grange, NC.

At your request, I conducted an on-site determination as stated above. During my review I evaluated the stream using the DWQ Stream Classification Form. I evaluated the stream reach at the uppermost end of the project area and calculated the score to be 19.25 points. The form states that if the score is "greater than or equal to 19 points the stream is at least intermittent".

The Division of Water Quality (DWQ) has determined that the surface water labeled as "2011-0113" on the attached map is at least intermittent and is SUBJECT to the Neuse Buffer Rule. This feature and its associated buffers should be identified on any future plans for this property. The owner (or future owners) should notify the DWQ (and other relevant agencies) of this decision in any future correspondences concerning

this property. This on-site determination shall expire five (5) years from the date of this letter.

Landowners or affected parties that dispute a determination made by the DWQ or Delegated Local Authority that a surface water exists and that it is subject to the buffer rule may request a determination by the Director. A request for a determination by the Director shall be referred to the Director in writing c/o Cyndi Karoly, DWQ, 401 Oversight/Express Review Permitting Unit, 2321 Crabtree Blvd., Suite 250, Raleigh, NC 27604-2260. Individuals that dispute a determination by the DWQ or Delegated Local Authority that "exempts" a surface water from the buffer rule may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. Applicants are hereby notified that the 60-day statutory appeal time does not start until the affected party (including downstream and adjacent landowners) is notified of this decision. DWQ recommends that the applicant conduct this notification in order to be certain that third party appeals are made in a timely manner. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This determination is final and binding unless you ask for a hearing within 60 days.

This letter only addresses the applicability to the buffer rules and does not approve any activity within the buffers. Nor does this letter approve any activity within Waters of the United States or Waters of the State. If you have any additional questions or require additional information please call me at (252) 948-3920.

Sincerely,



Chris Pullinger
Division of Water Quality
Surface Water Protection
Washington Regional Office

Enclosures: copy of 1:24,000 scale USGS topographic map, La Grange quadrangle

cc: DWQ 401 Oversight/Express Unit - Attn: Lia Gilleski
WaRO File Copy
David Knowles; 2813 Jefferson Dr.; Greenville, NC 27858

Shadetown

30.0

North Carolina Environmental
Management Commission
Division Of Water Quality

For NEUSE Basin Buffer

Date April 4 2011

Reviewed by Robert Christopher Phillips

2011-0113

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Ch

1501

Cem

33.0

1504

SUBJECT

1507

1503

House

Branch

903

31.0

1510

Moseley

1502

BM
28.2

1511

1514



North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

July 1, 2014

DWQ # 08-0511 Ver. 4
Lenoir County

Jeff Becker
Greene Environmental Services
1004 Glencastle Way
Raleigh, NC 27606

Subject Property: LaGrange Bank Parcel, Phase II Expansion
UT to Meeting House Branch, Neuse River Basin

On-Site Determination for Applicability to the Neuse River Riparian Area Protection Rules (15A NCAC 2B .0233)

Dear Mr. Becker:

On June 4, 2014, at your request Anthony Scarbraugh met with David Knowles of Greene Environmental Services and conducted an on-site determination to review unnamed tributary (UT) to Meeting House Branch located on the subject property for applicability to the Neuse Buffer Rules (15A NCAC 2B .0233). The feature is labeled as "08-0511 Ver. 4" on the attached map initialed by Mr. Scarbraugh on July 1, 2014. The project is located approximately 0.37 miles southwest of the intersection of Old Jason Road and NC Highway 903 in Pitt County, NC.

At your request, Mr. Scarbraugh conducted on-site determination as stated above. During his review, he evaluated the stream using the DWR Stream Classification Form. He evaluated the stream reach 08-0511 Ver. 4 at N 35 20.437, W 77 47.157 and calculated the score to be 20.25 points. The form states that if the score is "greater than or equal to 19 points the stream is at least intermittent."

The Division of Water Resources (DWR) has determined that the portion of the feature labeled as "08-0511 Ver. 4" on the attached map, and highlighted in blue is subject to the Neuse Buffer Rules. The feature and the associated buffers should be identified on any future plans for this property. The owner (or future owners) should notify the DWR (and other relevant agencies) of this decision in any future correspondences concerning this property. This on-site determination shall expire five (5) years from the date of this letter.

The owner (or future owners) should notify the DWR (and other relevant agencies) of this decision in any future correspondences concerning this property. This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the DWR or Delegated Local Authority that a surface water exists and that it is subject to the buffer rule may request a determination by the Director. A request for a determination by the Director shall be referred to the

Director in writing c/o Karen Higgins, DWR 401 & Buffer Permitting Unit, 1617 Mail Service Center, Raleigh, NC 27699-1650. Individuals that dispute a determination by the DWR or Delegated Local Authority that "exempts" a surface water from the buffer rule may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. Applicants are hereby notified that the 60-day statutory appeal time does not start until the affected party (including downstream and adjacent landowners) is notified of this decision. DWR recommends that the applicant conduct this notification in order to be certain that third party appeals are made in a timely manner. To ask for a hearing, send a written petition, which conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. This determination is final and binding unless you ask for a hearing within 60 days.

This letter only addresses the applicability to the buffer rules and does not approve any activity within the buffers. Nor does this letter approve any activity within Waters of the United States or Waters of the State. If you have any additional questions or require additional information please call Anthony Scarbraugh in the Washington Regional Office at (252) 948-3924.

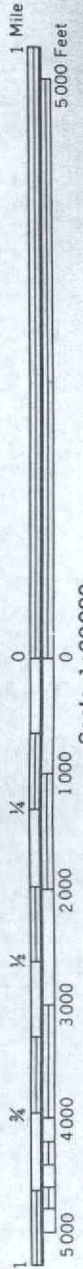
Sincerely,



Robert Tankard, Assistant Regional Supervisor
Water Quality Regional Operations Section
Division of Water Resources, NCDENR

Attachment: copy of sheet 3, 1977 version of Lenoir County Soil Survey"

cc: DWR 401 & Buffer Permitting Unit
File Copy
Katie Merritt, DWR 401 & Buffer Permitting Unit



(Joins sheet 4)

Scale 1:20000

GREENE COUNTY

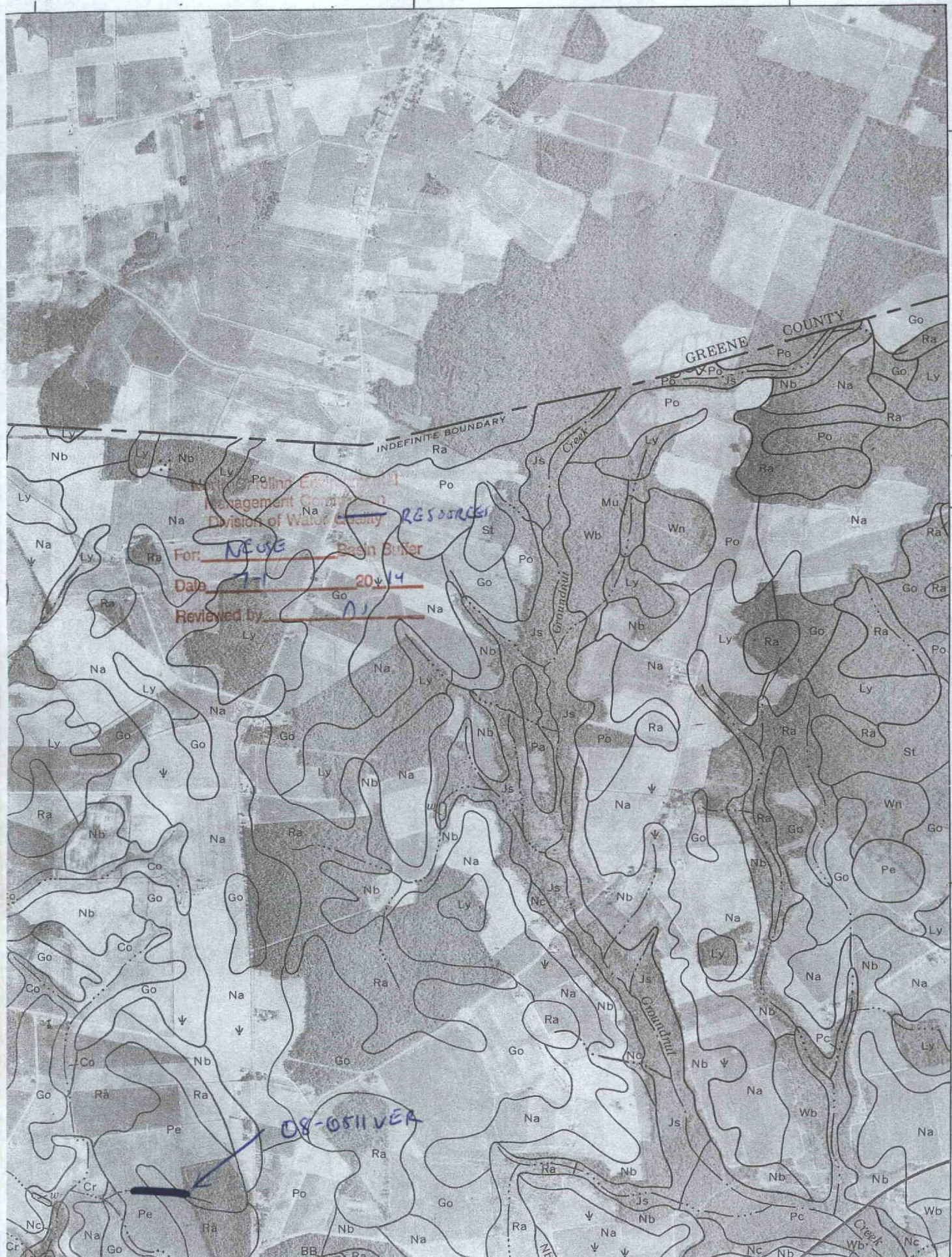
INDEFINITE BOUNDARY

For: NEUSE Basin Buffer
Date: 7-1 2014
Reviewed by: [Signature]

RESOURCES

08-0511VER

(Joins sheet 8) | 2 370 000 FEET



To: NC-DENR, Division of Water Resources:

From: Carl Kirby, District Conservationist, Greene / Lenoir County, NC

Re: No recorded drainage district easement for unnamed tributary to Meeting House Branch

Date: 06/11/2014

The Lenoir Soil and Water Conservation District does not hold a recorded easement for the purpose of drainage canal management or any other purpose on a tract of land owned by Ham Storage, LLC located off of NC 903 approximately 2 miles north of LaGrange, NC in Lenoir County. The property is listed in the Lenoir County Registry, D.B. 1597, Pg. 144 and P.C. 12, Pg. 99. The canal in question is an unnamed tributary to Meeting House Branch and forming the southern boundary of the property. The coordinates for section of the unnamed tributary in question are: 35.34104 / -77.7888 downstream to 35.34095 / -77.79119.

Previously confirmed by Jeff Becker, Greene Environmental Services Representative, the deed for this property was searched by a qualified legal professional and no easements on this property had been recorded at the Lenoir County Courthouse register of deeds.


Carl Kirby

District Conservationist, Lenoir County, NC

06/12/2014



Lenoir County District Chairman, Lenoir County, NC

06/12/2014