

May 10, 2021

Rachael Thorn
Watershed Protection Director
Chatham County
80-A East Street
Pittsboro, NC 27312

Re: McBane Conservation Subdivision Environmental Impact Assessment - **ADDENDUM**
Pittsboro, Chatham County
WR Project #02060411.02

Dear Ms. Thorn,

On behalf of the Robert Swain Company, WithersRavenel (WR) is submitting this Addendum to the Environmental Impact Assessment (EIA) in response to comments received from Johnson, Mirmiran & Thompson, Inc. (JMT), Chatham County's third-party reviewer for the McBane Conservation Subdivision EIA dated 2/18/2021. The following documentation and exhibits/maps are being provided as supplemental information to the EIA to address comments on specific Environmental Impact Assessment Items in the "Review Comments" letter from JMT, dated 3/19/2021. A copy of the JMT letter has been provided as an attachment for reference.

General Comments

- *Comment: A Grading Plan was not provided.*

The only grading currently proposed is for construction of the roads and utilities. Lot grading for each lot will be completed by the home builder. The road grading is depicted on the attached Utility and Storm Drainage Plan (Sheet 2.0).

- *Comment: No utility connections were shown on the site plan figures, and no discussion of long-term maintenance was provided.*

The utility connections are shown on the attached Utility and Storm Drainage Plan, which is also included with the First Plat submittal. All proposed internal utilities will be located within subdivision roads, which will connect to existing water and sewer force main along Old Graham Road. There will be no disturbance to onsite conservation areas for construction of utilities. Long term maintenance of the utilities is anticipated to be minimal since they are located within the subdivision roads. Long term operation impacts of the water and wastewater system are typical of any municipal style pressurized system. Water lines and wastewater force mains will be flushed out as needed. All lines will be repaired or replaced, as necessary. Grinder pumps installed on individual lots will be replaced as needed. Any required long-term maintenance of the utilities will not affect onsite conservation areas.

- *Comment: A jurisdictional waters delineation within the northern conservation area has not been completed.*

As specified in Section 4.4 – Existing Natural Resources of the EIA, a formal delineation and USACE approval was not originally completed within the northern conservation area because at the time of the delineation there was no proposed disturbance within this area and the inclusion of rustic trails was added later. After conversations with Chatham County, WithersRavenel completed a delineation of the wetlands, streams, and riparian buffers within the northern conservation area.

Upon completion of the delineation, WithersRavenel submitted a request for update of the previously issued Jurisdictional Determination which included the delineation within the northern conservation area. In an email dated 4/29/2021, James Lastinger with the USACE specified that the updated delineation for the entire tract has been verified by the USACE (SAW-2020-01202). Therefore, the delineation for the entire project tract has been verified by the USACE. A copy of the USACE email has been provided as an attachment to this addendum.

WithersRavenel also submitted a Buffer Determination Request to Chatham County specifically for the delineation of the riparian buffers within the northern conservation area. Drew Blake with Chatham County issued the Buffer Determination Letter dated 5/7/2021 verifying the buffer subjectivity and buffer types/widths. The 5/7/2021 Buffer Determination Letter, in combination with the previously issued Buffer Determination Letter dated 8/31/2020 completes the buffer determination for the entire project tract. Copies of the 8/31/2020 and 5/7/2021 Buffer Determination Letters have been provided as an attachment to this addendum.

- *Comment: The Natural Heritage Area (NHA) in the northwest portion of the site appears to be impacted by lots and an SCM, but no discussion was provided.*

In the NCNHP “McBane Project: report dated 3/9/2020, the NCNHP identified a Natural Heritage Area (NHA) in the northwest portion as Terrells Hardpan Natural Area (NA-ID: 3263.00) as documented in the attached On-Site Inventory Map (Map #3 of 6). NCNHP recommended conservation of the Upland Pool (Typic Piedmont Type)-G1 (EOID 39728.00) and Mixed Moisture Hardpan Forest-G2 (EOID 39729.00) within the Terrells Hardpan Natural Area, as these areas are rare to uncommon natural areas.

There are no proposed impacts to the Dry Oak-Hickory Forest (Piedmont Subtype)-G4G5 (EOID 39731.00) and Upland Pool (Typic Piedmont Subtype)-G1 (EOID 39728.00) within the northern conservation area. Additionally, there are no proposed impacts to the Piedmont Alluvial Forest-G4 in the southern conservation area which is not within the Terrells Hardpan Natural Area NHA and was not recommended for conservation by the NCNHP.

The proposed project will impact ± 0.004 acres of the Mixed Moisture Hardpan Forest (Piedmont Subtype)-G2 (EOID 39729.00) within the Terrells Hardpan Natural Area NHA, resulting in the conservation of 21.9 acres of this area.

The project will impact ± 7.0 acres of the Dry-Mesic Oak-Hickory Forest-G2 (EOID 39730.00) within the Terrells Hardpan Natural Area NHA, resulting in the conservation of 11.5 acres of this community. The project will also impact ± 13.2 acres of Dry-Mesic Oak-Hickory Forest-G2 within the central portion of the site which is not within the Terrells Hardpan Natural Area NHA and was not recommended for conservation by the NCNHP.

The proposed impacts within the Terrells Hardpan Natural Area NHA and other NCNHP classified natural areas are depicted in the attached On-Site Inventory Map (Map #5 of 6).

- *Comment: Rustic trails are planned through the NHA, but clearing or grading impacts for these trails is not discussed.*

The alignment of the rustic trails within the NHA in the northern conservation area have not been finalized but are intended to be little more than an unimproved walking trail. The rustic trails are intended to be aligned in the field to minimize vegetation and soil disturbance by meandering the trail through the northern conservation area where minimal vegetation removal is required. Additionally, there will be minimal, if any, grading for establishment of the trails as these will be unimproved dirt trails. Any grading of the trail will likely be conducted by hand, and heavy equipment will not be used within the NHA.

- *Comment: The Natural Heritage Program (NHP) recommended a 200-foot buffer along the entirety of Dry Creek, but it appears that the proposed buffer is 100 feet in most areas.*

The riparian buffer along Dry Creek is a minimum of 100-feet and is more than 240-feet in some areas where the FEMA 100-year floodplain is used for the riparian buffer as specified in Section 304.D.1. of the Chatham County Watershed Protection Ordinance (2016). The average width of the buffer along Dry Creek is 185-feet. The reduction of developable area to meet the 40% minimum conservation requirement, stormwater management requirements and other site constraints prevent the project from being able to provide the recommended 200-foot buffer along Dry Creek. However, there are no proposed impacts to Dry Creek or its tributaries, and the preservation of an average of 185-foot buffer along Dry Creek is sufficient to protect Dry Creek and meets the spirit and intent of NCNHP's recommendation of a 200-foot buffer.

Environmental Impact Assessment Item Comments

7. List square footages and height (in stories) of new buildings

Reviewer Comment: Square footage of houses is not provided.

The homes to be constructed are anticipated to be one or two stories, approximately 2,500 sf in size depending on the lot and homebuyer's preference.

10. Show areas to be cleared, graded, filled paved and landscaped.

Reviewer Comment: Grading plan is not provided.

The only grading currently proposed is for construction of the roads and utilities. Lot grading for each lot will be completed by the home builder. The road grading is depicted on the attached Utility and Storm Drainage Plan (Sheet 2.0).

11. Show connections to existing utility and sewer lines or new lines.

Reviewer Comment: No connections shown. Little information regarding utilities is included other than public water and sewer is supplied by AQUA.

The utility connections are shown on the attached Utility and Storm Drainage Plan, which also is included with the First Plat submittal. All proposed internal utilities will be located within subdivision roads, which will connect to existing water and sewer force main along Old Graham Road. There will be no disturbance to onsite conservation areas for construction of utilities.

12. Show wastewater management systems on a map.

Reviewer Comment: Not included.

There are no wastewater management systems proposed as the wastewater collection (sewer) will be conveyed to the existing AQUA sewer force main along Old Graham Road. The utility connections are shown on the attached Utility and Storm Drainage Plan, which is also included in the First Plat submittal.

Alternatives Analysis Comments

1. Discuss and compare all reasonable development alternatives (site selection, facility layout, utilities, stormwater management, construction methods, open space preservation, and any other pertinent alternatives considerations.

Reviewer Comment: Included. Avoidance and minimization of impacts to the NHA were not discussed.

The project has been designed to minimize impacts to the Terrells Hardpan Natural Area NHA to the greatest extent possible. Specifically, impacts to the Dry Oak-Hickory Forest (Piedmont Subtype)-G4G5 (EOID 39731.00) and Upland Pool (Typic Piedmont Subtype)-G1 (EOID 39728.00) were avoided entirely, as these areas were recommended for conservation by the NCNHP as these are classified as rare to uncommon natural areas. Furthermore, the project has been designed to avoid impacts to the Piedmont Alluvial Forest-G4 in the southern conservation area.

The project has been designed to minimize impacts to the Mixed Moisture Hardpan Forest (Piedmont Subtype)-G2 (EOID 39729.00) within the Terrells Hardpan Natural Area NHA to only ± 0.004 acres and will conserve 21.9 acres of this area within the northern conservation area as documented in the attached On-Site Inventory Map (Map #4 of 6)

Additionally, the project design has minimized the impact to the Dry-Mesic Oak-Hickory Forest-G2 (EOID 39730.00) within the Terrells Hardpan Natural Area NHA to only ± 7.0 acres and will conserve 11.5 acres of this community within the northern conservation area. The project has been designed to impact the Dry-Mesic Oak-Hickory Forest-G2 community in a manner that will leave the remaining 11.5 acres contiguous with the other natural areas within the northern conservation area.

Existing Environmental and Project Impacts Comments

B. Anticipate impacts (short-term construction impacts, long term operation impacts, and indirect or secondary impacts.)

Reviewer Comment: Indirect, secondary, and cumulative impacts were not discussed. More information needed regarding water/wastewater long-term operation maintenance.

Water and wastewater service to the development will be provided by extending an existing system operated by AQUA America, Inc. Short-term construction impacts include the installation of water and sanitary sewer force mains in the road Right-of-way. Both systems will operate under pressure allowing the water and sewer mains to be buried at minimum depths (3' to 4'). Wet well containing pumps will be installed on each lot. Connections to the existing water and wastewater systems will be made along Old Graham Road.

Long term operation impacts of the water and wastewater system are typical of any municipal style pressurized system. Water lines and wastewater force mains will be flushed out as needed. Grinder pumps installed on individual lots will be replaced as needed.

There are no indirect or secondary impacts expected from the water and wastewater system. Grinder pump stations will meet NCDEQ storage requirements and be equipped with audible and visual alarms to minimize the likelihood of spills. All equipment will be installed in disturbed areas (road right-of-way and lots) and not require additional stream or wetland impacts.

C. Discuss how potential impacts to the resource will be avoided and minimized through alternative selection, design strategies, construction methods, and long-term maintenance procedures.

Reviewer Comment: There was no discussion about long term maintenance of utilities and SCMs.

Long term maintenance of the utilities is anticipated to be minimal since they are located within the subdivision roads but will consist of repair or replacement of damaged utility lines, as necessary. Any required long-term maintenance of the utilities (flushing, pump replacement, line repair, etc.) will not affect onsite conservation areas.

Stormwater Control Measures (SCM's) are required to be inspected quarterly the first year in operation and annually thereafter. Inspections will be performed in accordance with the Chatham County Stormwater Ordinance and submitted on the required forms. Any issues noted in the inspection report will be corrected as required.

D. For unavoidable impacts, describe whether any compensatory mitigation is planned or required.

Reviewer Comment: Included. However, the EIA states that a formal delineation within the northern conservation area will be needed to avoid impacts to wetlands and streams for rustic trails. Ephemeral streams and buffers jurisdictional to the county are shown on Exhibit 14 but not shown on Exhibit 5.

The wetlands, streams and riparian buffers are depicted in the On-Site Inventory Map (Map #5 of 6).

1. Geography Comments

- Show areas that will be graded or filled and provide estimate cut/fill volumes.

Reviewer Comment: Grading plan not provided.

The only grading currently proposed is for construction of the roads and utilities. Lot grading for each lot will be completed by the home builder. The road grading is depicted on the attached Utility and Storm Drainage Plan (Sheet 2.0).

2. Soils and Prime Farmlands Comments

- Describe impacts to prime or unique farmland soils, including acreage estimates of lost farmland soils and retained farmland soils.

Reviewer Comment: Included. However, proposed loss of farmland soils is not quantified. Impacts to farmland soils is not the same as impacts to active farming operations.

The following table documents the estimation farmland soils lost and retained for the proposed project.

Farmland Impact Table					
Prime Farmland					
Map Unit Symbol	Map Unit Name	Rating	Acres within Project	Impacted Farmland Soils	Retained Farmland Soils
GaB	Georgeville silt loam, 2-6% slopes	All areas are prime farmland	±7.1 ac	±6.4 ac	±0.7 ac
NaB	Nanford-Badin Complex, 2-6% Slopes	All areas are prime farmland	±11.1 ac	±8.3 ac	±2.8 ac
RvA	Riverview silt loam, 0-3% Slopes, Frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season	±1.6 ac	±0.6 ac	±1.0 ac
Total Acreage			±19.8 ac	±15.3 ac	±4.5 ac
Farmland of Statewide Importance					
CkC	Cid silt loam, 6-10% slopes	Farmland of Statewide Importance	±4.3 ac	N/A	±4.3 ac
CmB	Cid-Lignum complex, 2-6% slopes	Farmland of Statewide Importance	±46.9 ac	±11.5 ac	±35.4 ac
NaC	Nanford-Badin complex, 6-10% slopes	Farmland of Statewide Importance	±15.2 ac	±13.9 ac	±1.3 ac
NaD	Nanford-Badin complex, 10-15% slopes	Farmland of Statewide Importance	±7.7 ac	±3.5 ac	±4.2 ac
Total Acreage			±74.1 ac	±28.9 ac	±45.2 ac
Project Totals			93.9 ac	±44.2 ac	±49.7 ac

4. Wetlands Comments

- Show identified wetlands on a map, and describe all relevant details, such as acreage, types, delineation, function, etc.

Reviewer Comment: Included. However, the EIA mentions that a formal delineation within the northern conservation area will be needed to avoid impacts to wetlands and streams from rustic trails.

As specified in Section 4.4 – Existing Natural Resources of the EIA, a formal delineation and USACE approval was not originally completed within the northern conservation area because at the time

of the delineation there was no proposed disturbance within this area and the inclusion of rustic trails was added later. After conversations with Chatham County, WithersRavenel completed a delineation of the wetlands, streams, and riparian buffers within the northern conservation area.

Upon completion of the delineation, WithersRavenel submitted a request for update of the previously issued Jurisdictional Determination which included the delineation within the northern conservation area. In an email dated 4/29/2021, James Lastinger with the USACE specified that the updated delineation for the entire tract has been verified by the USACE (SAW-2020-01202). Therefore, the delineation for the entire project tract has been verified by the USACE. A copy of the USACE email has been provided as an attachment to this addendum.

WithersRavenel also submitted a Buffer Determination Request to Chatham County specifically for the delineation of the riparian buffers within the northern conservation area. Drew Blake with Chatham County issued the Buffer Determination Letter dated 5/7/2021 verifying the buffer subjectivity and buffer types/widths. The 5/7/2021 Buffer Determination Letter, in combination with the previously issued Buffer Determination Letter dated 8/31/2020 completes the buffer determination for the entire project tract. Copies of the 8/31/2020 and 5/7/2021 Buffer Determination Letters have been provided as an attachment to this addendum.

5. Public lands and Scenic, Recreational, and State Natural Areas Comments

- Provide a map of County or municipal parks, scenic, recreational, or state natural areas (SNHAs, State or Federal Forests, etc.) on or adjacent to the site/project area.

Reviewer Comment: Included. The area designated as Voluntary Open Space (3.70 acres) on Exhibit 5 appears to be located within the NHA. Explain why this is being used for open space rather than natural space. The SCM in that location appears to be located within the NHA. Can this be located outside the NHA. Lots 25-35 also appear to be in NHA. Acreage of impact to the NHA is not provided.

SCM #1 is located outside the mixed moisture hardpan area recommended for preservation by NCNHP. The Voluntary Open Space is shown as requested by the Chatham County Planning Department, to show additional area dedicated by the developer in addition to the requirements of the Conservation Subdivision Guidelines.

The proposed project will impact ± 0.004 acres of the Mixed Moisture Hardpan Forest (Piedmont Subtype)-G2 (EOID 39729.00) within the Terrells Hardpan Natural Area NHA, resulting in the conservation of ± 21.9 acres of this area as depicted in the On-Site Inventory Map (Map #4 of 6).

The project will impact ± 7.0 acres of the Dry-Mesic Oak-Hickory Forest-G2 (EOID 39730.00) within the Terrells Hardpan Natural Area NHA, resulting in the conservation of 11.5 acres of this community. The project will also impact ± 13.2 acres of Dry-Mesic Oak-Hickory Forest-G2 within the central portion of the site which is not within the Terrells Hardpan Natural Area NHA and was not recommended for conservation by the NCNHP.

The proposed impacts within the Terrells Hardpan Natural Area NHA and other NCNHP classified natural areas are depicted in the attached On-Site Inventory Map (Map #3 of 4).

1. Fish and Aquatic Habitats Comments

- Discuss impacts to fish and aquatic life and their habitats, including a map showing those habitats.

Reviewer Comment: Included. NHP recommended a 200-foot buffer along the entirety of Dry Creek. Exhibit 5 shows a 100-foot buffer in most areas.

The riparian buffer along Dry Creek is a minimum of 100-feet and is more than 240-feet in some areas where the FEMA 100-year floodplain is used for the riparian buffer as specified in Section 304.D.1. of the Chatham County Watershed Protection Ordinance (2016). The average width of the buffer along Dry Creek is 185-feet. The reduction of developable area to meet the 40% minimum conservation requirement, stormwater management requirements and other site constraints prevent the project from being able to provide the recommended 200-foot buffer along Dry Creek. However, there are no proposed impacts to Dry Creek or its tributaries, and the preservation of an average of 185-foot buffer along Dry Creek is sufficient to protect Dry Creek and meets the spirit and intent of NCNHP's recommendation of a 200-foot buffer.

12. Wildlife and Natural Vegetation Comments

- Evaluate and discuss whether suitable habitat exists for rare, threatened, and/or endangered species, as described by the NC Natural Heritage Program.

Reviewer Comment: Included. However, the EIA states that rustic trails are planned through the NHA in the north west portion of the site. Impacts to the NHA are not discussed as a result of the trails (i.e., vegetation clearing). The NHA boundary is shown on the Fragmentation Map (pdf page 137), but not on Exhibit 5. It is unclear if lots shown on Exhibit 5 impact the NHA. Also, NHP recommended a 200-foot buffer along the entirety of Dry Creek. Exhibit 5 shows a 100-foot buffer in most areas.

The alignment of the rustic trails within the NHA in the northern conservation area have not been finalized but are intended to be little more than an unimproved walking trail. The rustic trails are intended to be aligned in the field to minimize vegetation and soil disturbance by meandering the trail through the northern conservation area where minimal vegetation removal is required. Additionally, there will be minimal, if any, grading for establishment of the trails as these will be unimproved dirt trails. Any grading of the trail will likely be conducted by hand, and heavy equipment will not be used within the NHA.

The riparian buffer along Dry Creek is a minimum of 100-feet and is more than 240-feet in some areas where the FEMA 100-year floodplain is used for the riparian buffer as specified in Section 304.D.1. of the Chatham County Watershed Protection Ordinance (2016). The average width of the buffer along Dry Creek is 185-feet. The reduction of developable area to meet the 40% minimum conservation requirement, stormwater management requirements and other site constraints prevent the project from being able to provide the recommended 200-foot buffer along Dry Creek. However, there are no proposed impacts to Dry Creek or its tributaries, and the preservation of an average of 185-foot buffer along Dry Creek is sufficient to protect Dry Creek and meets the spirit and intent of NCNHP's recommendation of a 200-foot buffer.

Exhibits (Maps, Figures, Tables, Photos, etc.) Comments

- Show areas that will be graded or filled and provide estimate cut/fill volumes.

Reviewer Comment: Included. However, the Fragmentation Map (pdf page 137) that was included does not include parcels, floodplains, streams, lakes, ponds, seeps, springs, and wetlands, or steep slope areas as required under the Chatham County Conservation Subdivision Guidelines for Conservation Space Selection. Also, the On-site Inventory Map as required under the Chatham County Conservation Subdivision Guidelines for Conservation Space Selection is not included. These maps will be needed prior to any plat approval.

The following maps have been provided in response to this comment.

- Fragmentation Map (Revised)
- On-Site Inventory Map (Maps 1-6)

We believe the information and maps provided in this Addendum adequately addresses the comments received on the EIA. Please feel free to contact me if you have any questions regarding the information provided in this Addendum or require any additional information to complete your review.

Sincerely,

WithersRavenel



Troy Beasley
Senior Environmental Scientist

Attachments:

- Third Party (JMT) Review Comments Letters - 3/19/2021
- USACE Email Verifying Updated Wetland Delineation (4/29/2021)
- Chatham County Buffer Determination Letters (8/31/2020 & 05/07/2021)
- Utility and Storm Drainage Plan (Sheet 2.0)
- Fragmentation Map (Revised)
- On-Site Inventory Map (Maps 1-6) - Revised

THIRD PARTY (JMT) REVIEW COMMENTS LETTER
3/19/2021



March 19, 2021

Jason Sullivan
Planning Director
Chatham County
P.O. Box 54
80-A East St.
Pittsboro, NC 27312

RE: Review Comments – Environmental Impact Assessment for the proposed McBane Conservation Subdivision
JMT Job No. #19-03787-005

Dear Mr. Sullivan:

Johnson, Mirmiran & Thompson (JMT) has completed our review of the Environmental Impact Assessment (EIA) prepared by WithersRavenel for the Robert Swain Company for the Savannah Ridge Development. Our comments have been compiled utilizing the *ERAC EIA Review Checklist* format. JMT reviewed the EIA for completeness in accordance with the most recent version of the Chatham County Subdivision Regulations and the Chatham County Conservation Subdivision Guidelines for Conservation Space Selection.

In our opinion, the EIA satisfies the requirements of the regulations and should be considered complete. We would like to note, however, that there were several inadequacies that will need to be addressed and/or corrected on future submittals as the project progresses through the approval process. Responses from the from the applicant to these final comments are not required. These items are addressed in detail in the attached comment matrix and summarized below.

- A Grading Plan was not provided.
- No utility connections were shown on the site plan figures, and no discussion of long term maintenance was provided.
- A jurisdictional waters delineation within the northern conservation area has not been completed.
- The Natural Heritage Area (NHA) in the northwest portion of the site appears to be impacted by lots and an SCM, but no discussion was provided.
- Rustic trails are planned through the NHA, but clearing or grading impacts for these trails is not discussed.
- The Natural Heritage Program (NHP) recommended retaining a 200-foot buffer along the entirety of Dry Creek, but it appears that the proposed buffer is 100 feet in most areas.

If you have any questions or need further information, please do not hesitate to contact me at (984) 269-4923 or rbode@jmt.com.

Very truly yours,

JOHNSON, MIRMIRAN & THOMPSON, INC.



Ray Bode, PWS
Senior Associate



Bill Jenkins, P.E.
Vice President

Review of Environmental Impact Assessment: McBane Conservation Subdivision
Chatham County

Environmental Impact Assessment Item	Adequately Described and Fully Discussed?
Proposed Project Description and Need	
1. Describe the overall project in detail, including all proposed phases.	Included.
2. Provide a project location map showing surrounding areas.	Included.
3. Provide a project site plan showing existing and proposed facilities.	Included.
4. Describe how this project fits into larger plans or connects with adjacent projects.	Included.
5. List and describe public facilities or benefits provided by the project.	Included.
6. Discuss the land acreage to be disturbed during each phase.	Included
7. List square footage and height (in stories) of new buildings.	Square footage of houses is not provided.
8. Describe proposed uses of all buildings and proposed facilities.	Included. Only homes are proposed.
9. Show number of parking spaces in parking lots and decks.	N/A. Parking is only available on driveways.
10. Show areas to be cleared, graded, filled, paved and landscaped.	Grading plan is not provided.
11. Show connections to existing utility and sewer lines or new utilities.	No connections shown. Little information regarding utilities is included other than public water and sewer is supplied by AQUA.
12. Show wastewater management systems on a map.	Not included.
13. Show proposed areas of impervious and semi-pervious surfaces.	Included.
14. Show and describe any proposed stormwater control devices.	Included.
Alternatives Analysis	
1. Discuss and compare all reasonable development alternatives (site selection, facility layout, utilities, stormwater management, construction methods, open space preservation, any other pertinent alternative considerations).	Included. Avoidance and minimization of impacts to the NHA were not discussed.
2. Discuss how the preferred alternative was selected and its benefits relative to other alternatives (including a no-build alternative, if applicable).	Included.
Existing Environment and Project Impacts	
For each resource topic below, describe:	
A. Existing resources and conditions.	Included.
B. Anticipated impacts (short-term construction impacts, long-term operation	Indirect, secondary and cumulative impacts are not discussed. More information is needed

Review of Environmental Impact Assessment: McBane Conservation Subdivision
Chatham County

impacts, and indirect or secondary impacts.)	regarding water/wastewater long-term operation maintenance.
C. Discuss how potential impacts to the resource will be avoided and minimized through alternative selection, design strategies, construction methods, and long-term maintenance procedures.	There is no discussion about long term maintenance of utilities or SCMs.
D. For unavoidable impacts, describe whether any compensatory mitigation is planned or required.	Included. However, the EIA states that a formal delineation within the northern conservation area will be needed to avoid impacts to wetlands and streams from the rustic trails. Ephemeral streams and buffers jurisdictional to the county are shown on Exhibit 14 but not shown on Exhibit 5.
1. Geography	
<ul style="list-style-type: none"> Discuss the geographic setting, geology, and topography of the project area and adjacent areas. 	Included.
<ul style="list-style-type: none"> Provide a topographic map of the property and surrounding area, use the county GIS website topography (2' contours interval) data at a scale appropriate for the project size, i.e., 1" = 100', etc.). 	Included.
<ul style="list-style-type: none"> Identify any 100-year floodplains (FEMA Special Flood Hazard Areas) on or adjacent to the property. If present, provide an appropriate-scale map of the flood-prone areas defined by the NC Flood Mapping Program. 	Included.
<ul style="list-style-type: none"> Show areas that will be graded or filled and provide estimated cut/fill volumes. 	Grading plan not provided.
<ul style="list-style-type: none"> If the project includes pond or dam work, show areas that will be flooded. 	N/A
2. Soils and Prime Farmlands	
<ul style="list-style-type: none"> Identify dominant soils in the project area (county GIS or NRCS website) and show on a map. 	Included.
<ul style="list-style-type: none"> Discuss any soil constraints (fill, wetland soils, septic suitability, slopes, etc.) and indicate those areas on a map. 	Included.
<ul style="list-style-type: none"> Describe any soil disturbance or contamination expected as a result of this project. 	Included.
<ul style="list-style-type: none"> If contamination is expected, discuss containment plans and procedures. 	Included.
<ul style="list-style-type: none"> If soil will be relocated, specify the number of square yards/feet to be moved, and its relocation site. 	Included.

Review of Environmental Impact Assessment: McBane Conservation Subdivision
Chatham County

<ul style="list-style-type: none"> Describe runoff management plans for the project. 	Included.
<ul style="list-style-type: none"> If soil disturbance is proposed, describe the off-site impacts expected from this activity. 	Included. No offsite impacts are proposed.
<ul style="list-style-type: none"> Provide a map of any prime or unique farmland soils in the project or service areas, and include reference used to make this determination. 	Included.
<ul style="list-style-type: none"> Describe impacts to prime or unique farmland soils, including acreage estimates of lost farmland soils and retained farmland soils. 	Included. However, proposed loss of farmland soil is not quantified. Impacts to farmland soils is not the same as impacts to active farming operations.
3. Land Use	
<ul style="list-style-type: none"> Provide a map showing current use of land on the site and surrounding properties. 	Included.
<ul style="list-style-type: none"> Discuss how the current land use fits into the surrounding area (conservation, development, ecological function, etc.) 	Included.
<ul style="list-style-type: none"> Provide the current zoning of the project site and the surrounding area. 	Included.
<ul style="list-style-type: none"> Discuss how the proposed uses fit into the intended land use of the area (conservation, development, ecological function, quality of life). 	Included.
<ul style="list-style-type: none"> Indicate whether zoning or local land use plans will need to be changed after project completion. 	Included.
4. Wetlands	
<ul style="list-style-type: none"> Indicate whether wetlands are present, describe the basis for this determination and identity of the person who made the determination. 	Included.
<ul style="list-style-type: none"> Show identified wetlands on a map, and describe all relevant details, such as acreage, types, delineation, function, etc.) 	Included. However, the EIA mentions that a formal delineation within the northern conservation area will be needed to avoid impacts to wetlands and streams from the rustic trails.
<ul style="list-style-type: none"> If wetlands are to be filled, specify the number of acres that will be affected. 	Included.
<ul style="list-style-type: none"> List all required permits and permitting agencies. 	Included.
<ul style="list-style-type: none"> If any diversions/additions/withdrawals of surface water will affect wetlands, describe those activities. 	N/A
5. Public lands and Scenic, Recreational, and State Natural Areas	

Review of Environmental Impact Assessment: McBane Conservation Subdivision
Chatham County

<ul style="list-style-type: none"> Provide a map of County or municipal parks, scenic, recreational or state natural areas (SNHAs, State or Federal Forests, etc.) on or adjacent to the site/project area. 	<p>Included. The area designated as Voluntary Open Space (3.70 acres) on Exhibit 5 appears to be located within the NHA. Explain why this is being used for open space rather than natural space. The SCM in that location also appears to be located within the NHA. Can this be located outside the NHA? Lots 25-35 also appear to be in the NHA. Acreage of impact to the NHA is not provided.</p>
6. Areas of Archaeological or Historical Value	
<ul style="list-style-type: none"> Discuss any archaeological or historical studies of the project location; provide relevant references. 	Included.
<ul style="list-style-type: none"> Describe and identify on a map any structures (i.e., walls, buildings, etc.) on the site and provide estimated ages of those structures. 	N/A. No structures identified on site.
<ul style="list-style-type: none"> Describe all impacts to any archaeological or historical resources in the proposed project area. 	N/A
<ul style="list-style-type: none"> Describe plans for demolishing or rebuilding any structures. 	N/A
<ul style="list-style-type: none"> Provide photographs of any significant resources, including all structures older than 50-years. 	N/A
<ul style="list-style-type: none"> Provide relevant correspondence with the Chatham County Historical Association and NC SHPO. 	Included.
7. Air Quality	
<ul style="list-style-type: none"> Describe the project's impacts on ambient air quality. 	Included.
<ul style="list-style-type: none"> Describe plans for any open burning during or after construction. 	Included.
<ul style="list-style-type: none"> Indicate the number of proposed parking spaces, if applicable. 	Included.
<ul style="list-style-type: none"> Describe whether the project will increase odor levels, or the likelihood of odor complaints. 	N/A
<ul style="list-style-type: none"> Provide a copy of any required traffic studies. 	N/A. EIA states that a traffic study is not required by NCDOT or Chatham County.
8. Noise Levels	
<ul style="list-style-type: none"> Discuss current noise levels; use a benchmark if possible. 	Included.
<ul style="list-style-type: none"> Describe any increases in noise levels expected from this project. 	Included.
<ul style="list-style-type: none"> Specify the distance at which the 	Included.

Review of Environmental Impact Assessment: McBane Conservation Subdivision
Chatham County

increased noise will be heard.	
<ul style="list-style-type: none"> Discuss whether surrounding properties will be affected by noise levels. 	Included.
<ul style="list-style-type: none"> If commercial uses are proposed, specify the hours of operation. 	N/A
9. Light Levels	
<ul style="list-style-type: none"> Describe lighting plans for the project, including how lighting will impact adjacent residents and wildlife. 	Included.
10. Surface and Groundwater Resources (discuss separately)	
<ul style="list-style-type: none"> Identify and provide a map of surface waters in the project area. Describe groundwater (aquifers) in the project area. 	Included.
<ul style="list-style-type: none"> Include names, locations, classifications, and use support ratings for surface waters. 	Included.
<ul style="list-style-type: none"> Specify and show on a map the river basin in which the project is located. 	Included.
<ul style="list-style-type: none"> Discuss any known groundwater quality issues. 	Included.
<ul style="list-style-type: none"> Discuss drinking water sources. 	Included.
11. Fish and Aquatic Habitats	
<ul style="list-style-type: none"> Describe fish and aquatic habitats in and adjacent to the site/project area. 	Included.
<ul style="list-style-type: none"> Discuss impacts to fish and aquatic life and their habitats, including a map showing those habitats. 	Included. NHP recommended a 200-foot buffer along the entirety of Dry Creek. Exhibit 5 shows a 100-foot buffer in most areas.
12. Wildlife and Natural Vegetation	
<ul style="list-style-type: none"> Describe and provide a map of natural community types on and adjacent to the site/project area. 	Included.
<ul style="list-style-type: none"> List the species of dominant plants and animals observed on the site that typify those communities. 	Included.
<ul style="list-style-type: none"> Evaluate and discuss whether suitable habitat exists for rare, threatened, and /or endangered species, as described by the NC Natural Heritage Program. 	Included. However, the EIA states that rustic trails are planned through the NHA in the north west portion of the site. Impacts to the NHA are not discussed as a result of the trails (i.e. vegetation clearing). The NHA boundary is shown on the Fragmentation Map (pdf page 137), but not on Exhibit 5. It is unclear if lots shown on Exhibit 5 impact the NHA. Also, NHP recommended a 200-foot buffer along the entirety of Dry Creek. Exhibit 5 shows a 100-foot buffer in most areas.
<ul style="list-style-type: none"> If wildlife will be displaced, discuss any 	Included.

Review of Environmental Impact Assessment: McBane Conservation Subdivision
Chatham County

limitation of adjacent areas to support them.	
<ul style="list-style-type: none"> Identify, list, and describe the distribution of the invasive species present on the site. Consult the NC Botanical Garden’s Web page, “Plants to Avoid in the Southeast US” for a list of invasive species common to the region. 	Included.
<ul style="list-style-type: none"> If forest will be cleared, discuss the extent of planned deforestation and specify the forestry methods to be used, including BMPs. 	Included.
13. Hazardous Materials	
<ul style="list-style-type: none"> List all hazardous materials to be stored or introduced during construction or operation. 	Included.
<ul style="list-style-type: none"> For each hazardous material, other than deminimis quantities or for routine housekeeping purposes, describe the procedures to be used to ensure their proper management, storage, and disposal. 	N/A
References	Not included.
Exhibits (Maps, Figures, Tables, Photos, etc.)	Included. However, the Fragmentation Map (pdf page 137) that was included does not include parcels, floodplains, streams, lakes, ponds, seeps, springs, and wetlands, or steep slope areas as required under the Chatham County Conservation Subdivision Guidelines for Conservation Space Selection. Also, the On-site Inventory Map as required under the Chatham County Conservation Subdivision Guidelines for Conservation Space Selection is not included. These maps will be needed prior to any plat approval.
State and Federal Permits Required	Included.

USACE EMAIL VERIFYING UPDATED WETLAND DELINEATION (4/29/2021)

Beasley, Troy

From: Lastinger, James C CIV USARMY CESAW (USA) <James.C.Lastinger@usace.army.mil>
Sent: Thursday, April 29, 2021 12:17 PM
To: Beasley, Troy
Subject: RE: McBane Subdivision - Pittsboro, Chatham County (SAW-2020-01202) - PJD Update Request
Attachments: McBane Subdivision PJD Request Update map_2021-04-28.pdf

Troy,

Reference is made to ORM ID SAW-2020-01202, please reference this number on any correspondence regarding this action.

On 4/29/2021, we received information from you requesting the Wilmington District, Regulatory Division review and concur with the boundaries of an aquatic resource delineation.

We have reviewed the information provided by you concerning the aquatic resources, and by copy of this e-mail, are confirming that the aquatic resources delineation has been verified by the Corps to be a sufficiently accurate and reliable representation of the location and extent of aquatic resources within the identified review area. The location and extent of these aquatic resources are shown on the attached delineation map, labeled McBane subdivision and dated 4/27/21.

Regulatory Guidance Letter (RGL) 16-01

<https://usace.contentdm.oclc.org/utills/getfile/collection/p16021coll9/id/1256> provides guidance for Jurisdictional Determinations (JD) and states "The Corps generally does not issue a JD of any type where no JD has been requested". At this time we are only verifying the delineation. This delineation may be relied upon for use in the permit evaluation process, including determining compensatory mitigation. "This verification does not address nor include any consideration for geographic jurisdiction on aquatic resources and shall not be interpreted as such.

This delineation verification is not an Approved Jurisdictional Determination (AJD) and is not an appealable action under the Regulatory Program Administrative Appeal Process (33 CFR Part 331). However, you may request an AJD, which is an appealable action.

If you wish to receive a Preliminary Jurisdictional Determination (PJD), or an Approved Jurisdictional Determination (AJD) please respond accordingly, otherwise nothing further is required and we will not provide any additional documentation.

James Lastinger
Regulatory Project Manager
Raleigh Regulatory Field Office
US Army Corps of Engineers, Wilmington District
ADDRESS: 3331 Heritage Trade Drive, Suite 105 Wake Forest, NC 27587
Tel: (919) 554-4884, x32
Fax: (919) 562-0421

-----Original Message-----

From: Beasley, Troy <TBeasley@withersravenel.com>
Sent: Thursday, April 29, 2021 10:25 AM
To: RaleighNCREG <RaleighNCREG@usace.army.mil>
Cc: Lastinger, James C CIV USARMY CESAW (USA) <James.C.Lastinger@usace.army.mil>

Subject: [Non-DoD Source] McBane Subdivision - Pittsboro, Chatham County (SAW-2020-01202) - PJD Update Request

Attached is the PJD Update Request for the McBane Subdivision project in Pittsboro, Chatham County. We previously completed a PJD (see attached) for the McBane Subdivision (SAW-2020-01202) which only covered a portion of the total parcel. We did not include the northwestern portion of the property because there is no proposed development in this area. However, as part of Chatham County's "Conservation Subdivision Requirements", all onsite streams and wetlands within the entire property must be delineated as approved by the USACE. Therefore, we completed the delineation within the northwestern area on 4/27/2021. The attached PJD Request Update now includes the delineation for the entire property, and we are requesting issuance of an updated PJD for the entire site.

I have included stream data forms for all onsite ephemeral, intermittent and perennial streams (locations noted on delineation exhibit), wetland/upland data forms and photo documentation of the onsite features. While I believe that the ephemeral channels and wetlands are not jurisdictional for under the Navigable Waters Protection Rule, there are no proposed impacts to any of these features, and for the essence of time we are only requesting an update to the existing PJD.

I have also attached the ORM Upload Sheet with the Aquatic Resources tab completed for the onsite features.

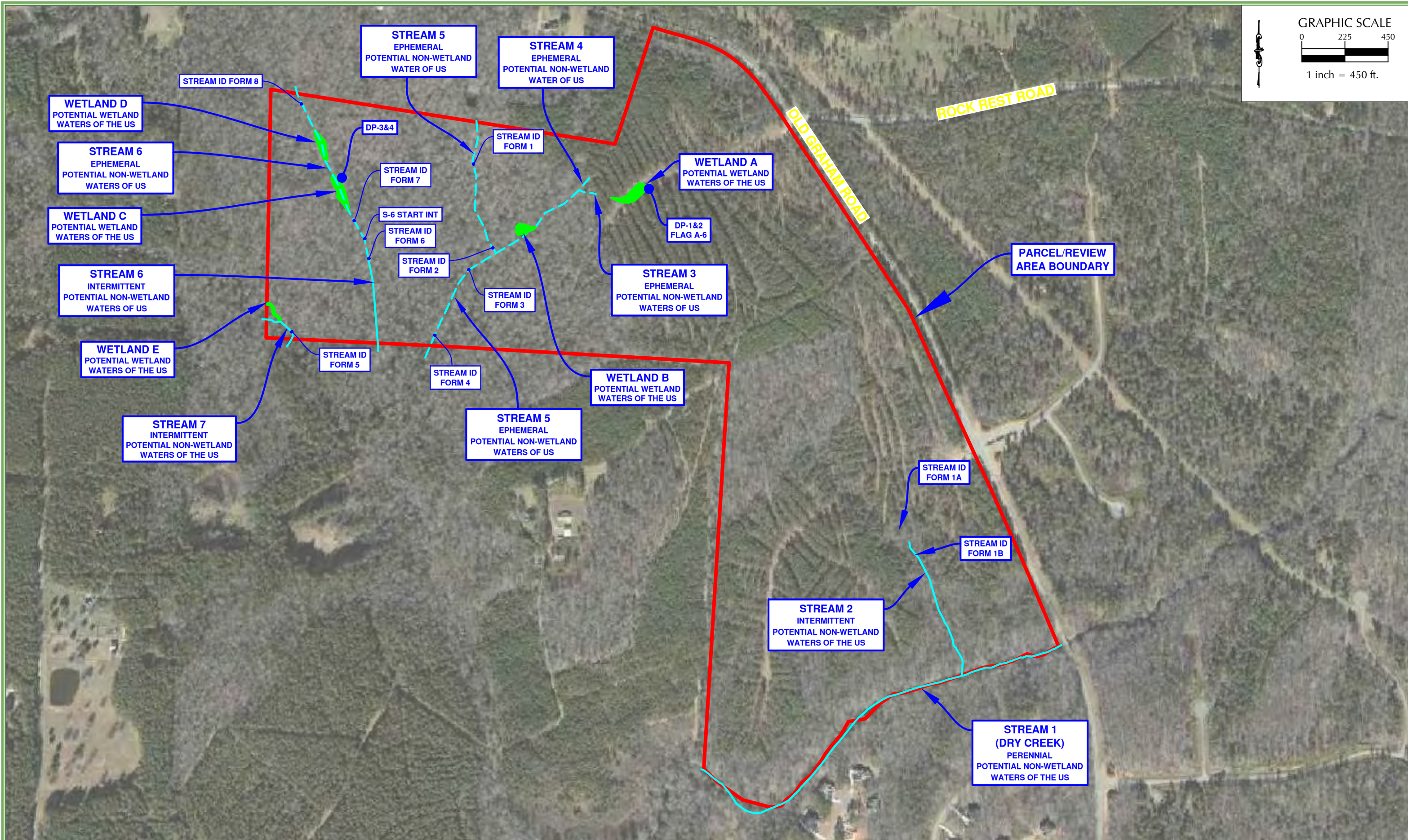
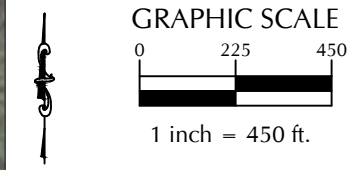
Thanks for your help and please let me know if you have any questions.

Troy Beasley

<Blocked<http://www.withersravenel.com/>>
219 Station Road, Suite 101 | Wilmington, NC 28405
Office: 910.256.9277 | Direct: 910.509.6512
Mobile: 910.622.0122
tbeasley@withersravenel.com <<mailto:tbeasley@withersravenel.com>>

<Blocked<https://www.linkedin.com/company/1040027?trk=tyah&trkInfo=clickedVertical%3Acompany%2CclickedEntityId%3A1040027%2Cidx%3A21-3%2CtarId%3A1439227492366%2Ctas%3Awithersravenel>>
<Blocked<https://www.facebook.com/withersravenel?ref=bookmarks>> <Blocked<https://twitter.com/WithersRavenel>>
<Blockedhttps://www.youtube.com/channel/UC1Y4TLZTX7cTZxW_zKAXz_Q>
<Blocked<https://www.instagram.com/withersravenel/>>

CONFIDENTIALITY AND NONDISCLOSURE <Blocked<http://withersravenel.com/wp-content/uploads/2015/09/Confidentiality.png>>



K:\06\06-0410\060411.02-McBane\Wetlands-Streams\CAD\UD Exhibit-Updated.dwg - Wednesday, April 28, 2021 11:32:25 PM - BEASLEY, TROY

Designer	WR	Scale	1" = 450'
Drawn By	THB	Date	04/27/2021
Checked By	THB	Job No.	02080411.02

MCBANE SUBDIVISION
 CHATHAM COUNTY
 NORTH CAROLINA

WETLAND DELINEATION EXHIBIT



**CHATHAM CO. BUFFER
DETERMINATION LETTERS
8/31/2020 & 5/7/2021**



WATERSHED PROTECTION DEPARTMENT

P.O. Box 548
Pittsboro, NC 27312
Phone: (919) 545-8394

Fax: (919) 542-2698 • E-mail: drew.blake@chathamnc.org • Website: www.chathamnc.org

August 31, 2020

Ms. Alyssa Ricci
WithersRavenel
115 Mackenan Dr.
Cary, NC 27511

Project Name: McBane Subdivision (Parcel 85449)

Location: Old Graham Road, Chatham County

Subject Features: Three (3) ephemeral segments, one (1) intermittent segment, one (1) perennial segment, two (2) wetlands, one (1) mapped floodplain

Date of Determination: August 17, 2020

Explanation:

The site visit was completed on August 17, 2020 by Drew Blake with the Chatham County Watershed Protection Department, and Alyssa Ricci on a property identified as Chatham County Parcel# 85449 that is located inside of the Jordan Lake watershed. WithersRavenel personnel completed a previous site visit which resulted in the identification of three (3) ephemeral segments, one (1) intermittent segment, one (1) perennial segment (Dry Creek), two (2) wetlands, and one (1) mapped floodplain on the property. WithersRavenel submitted a request for Chatham County to complete a formal review to determine if the features would be subject to riparian buffers according to Section 304 of the Chatham County Watershed Protection Ordinance. All points of origin, stream type transitions, and wetland boundaries were reviewed in the field.

Required Riparian Buffers:

The required riparian buffers described below are based on the surface water features identified on the Buffer Determination Exhibit with Buffers, completed by WithersRavenel. The ephemeral stream segments will require a 30-ft buffer from the top of bank landward. The intermittent stream will require a 50-ft buffer from the top of bank landward on both sides of the feature. Dry Creek will require a minimum 100-ft buffer from the top of bank landward on both sides of the feature; however this buffer may be superseded by the mapped FEMA floodplain line. The buffer along Dry Creek will consist of whichever is more restrictive between the perennial stream buffer and the mapped FEMA Floodplain.

The wetland boundaries flagged in the field by WithersRavenel have been reviewed and confirmed by the US Army Corps of Engineers (USACE). A 50-ft buffer will be required beginning at the flagged boundary and proceeding landward of any flagged wetlands determined jurisdictional by the USACE.

Impacts to Riparian Buffers:

Impacts to the riparian buffers may require a Riparian Buffer Authorization depending on the size and scope of the impacts. Please refer to Section 304 (j)(3) of the Chatham County Watershed Protection Ordinance to determine if your impacts will require a Riparian Buffer Authorization. If you determine that a Riparian



WATERSHED PROTECTION DEPARTMENT

P.O. Box 548
Pittsboro, NC 27312
Phone: (919) 545-8394

Fax: (919) 542-2698 • E-mail: drew.blake@chathamnc.org • Website: www.chathamnc.org

Buffer Authorization is required please contact Drew Blake to receive the required application and submittal instructions.

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 Chatham County, on parcels outside of the Jordan Lake watershed, may submit a request for appeal in writing to the Watershed Review Board. A request for a determination by the Watershed Review Board shall be made in accordance with Section 304 of the Chatham County Watershed Protection Ordinance. Landowners or affected parties that dispute a determination made by Chatham County, on parcels inside the Jordan Lake watershed, shall submit a request for appeal in writing to NC DWR, 401 & Buffer Permitting Unit, 1650 Mail Service Center, Raleigh, NC 27669-1650 attention of the Director of the NC Division of Water Quality.

Should this project result in any direct impacts to surface water features (i.e., crossing and/or filling streams or wetlands) additional reviews may be necessary. Additionally, a Section 404/401 Permit may be required. Any inquiries regarding Section 404/401 permitting should be directed to the Division of Water Resources (Central Office) at (919)-807-6364 and the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-554-4884.

Respectfully,

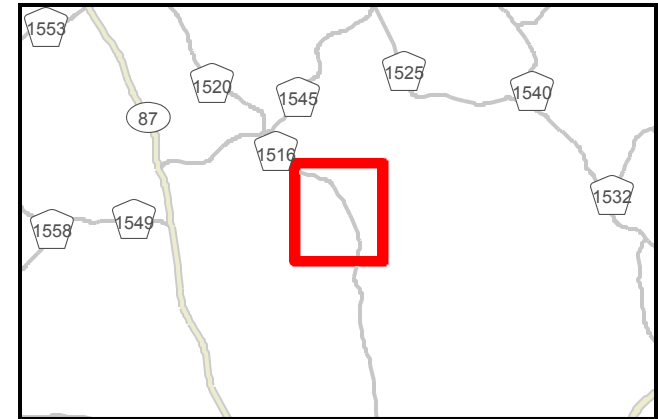
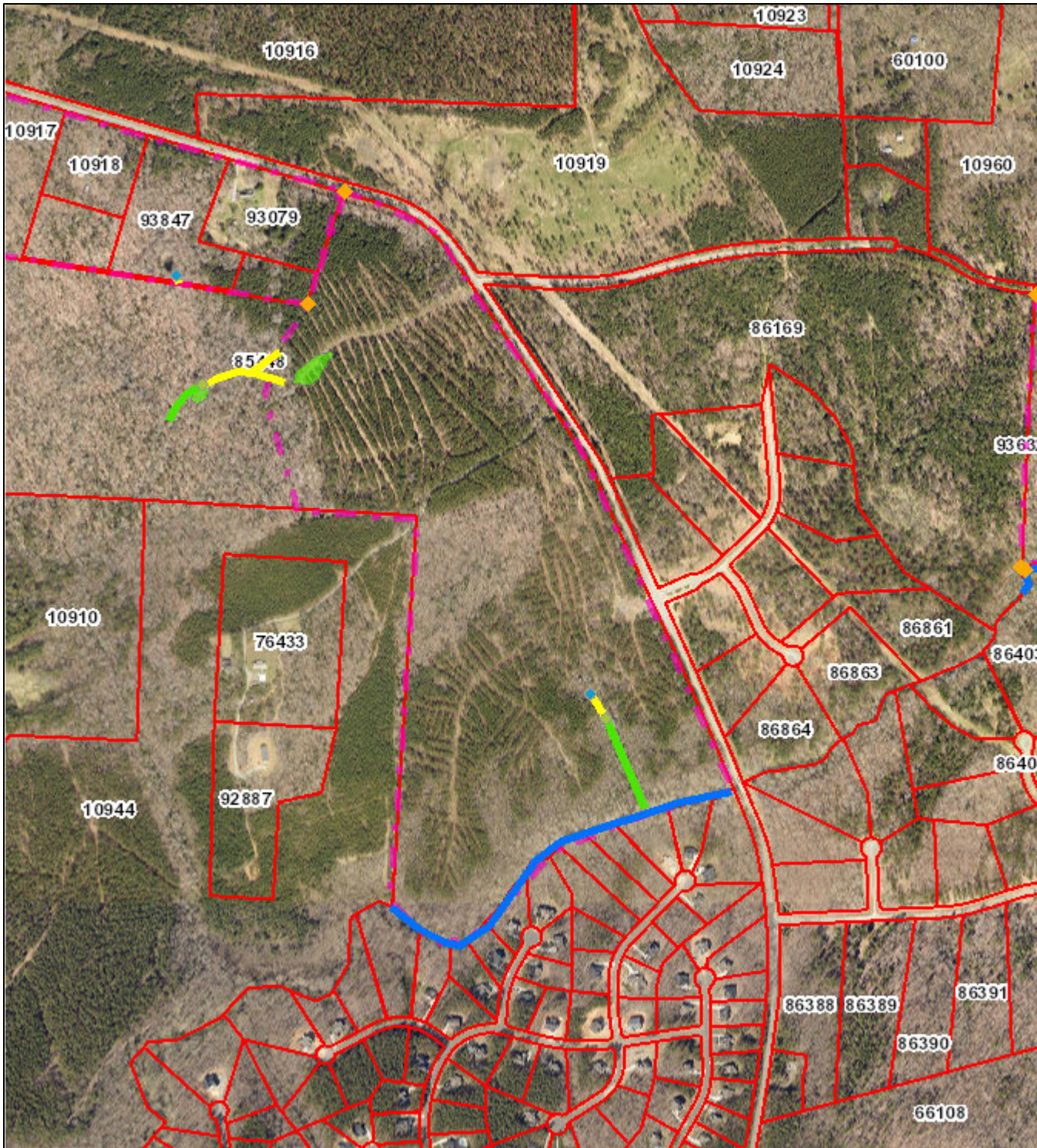
A handwritten signature in cursive script that reads "Drew Blake".

Drew Blake
Senior Watershed Specialist, CESSWI

Enclosures: Exhibit 1: Surface Water Features Approximate Locations – completed by Chatham County
Buffer Review Application Packet – completed by WithersRavenel

cc: Rachael Thorn, Director, Chatham County Watershed Protection Department
Kimberly Tyson, Planner II/Subdivision Administrator, Chatham County Planning Department
Angela Birchett, Planner II/Zoning Administrator, Chatham County Planning Department
Jason Sullivan, Director, Chatham County Planning Department

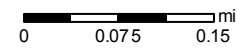
Exhibit 1



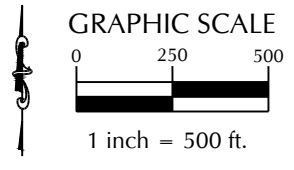
Legend

- GPSDataCollection_RiparianTransitionPoints_62
 - Origin-Ephemeral (Blue dot)
 - Ephemeral-Intermittent (Green dot)
 - Review Corners (Orange diamond)
- GPSDataCollection_RiparianStreams_7499
 - Ephemeral (Yellow line)
 - Intermittent (Green line)
 - Perennial (Blue line)
- GPSDataCollection_WetlandBoundaries_8192 (Magenta dashed line)
- GPSDataCollection_ReviewBoundaries_9921 (Magenta dashed line)
- Parcels (Red outline)

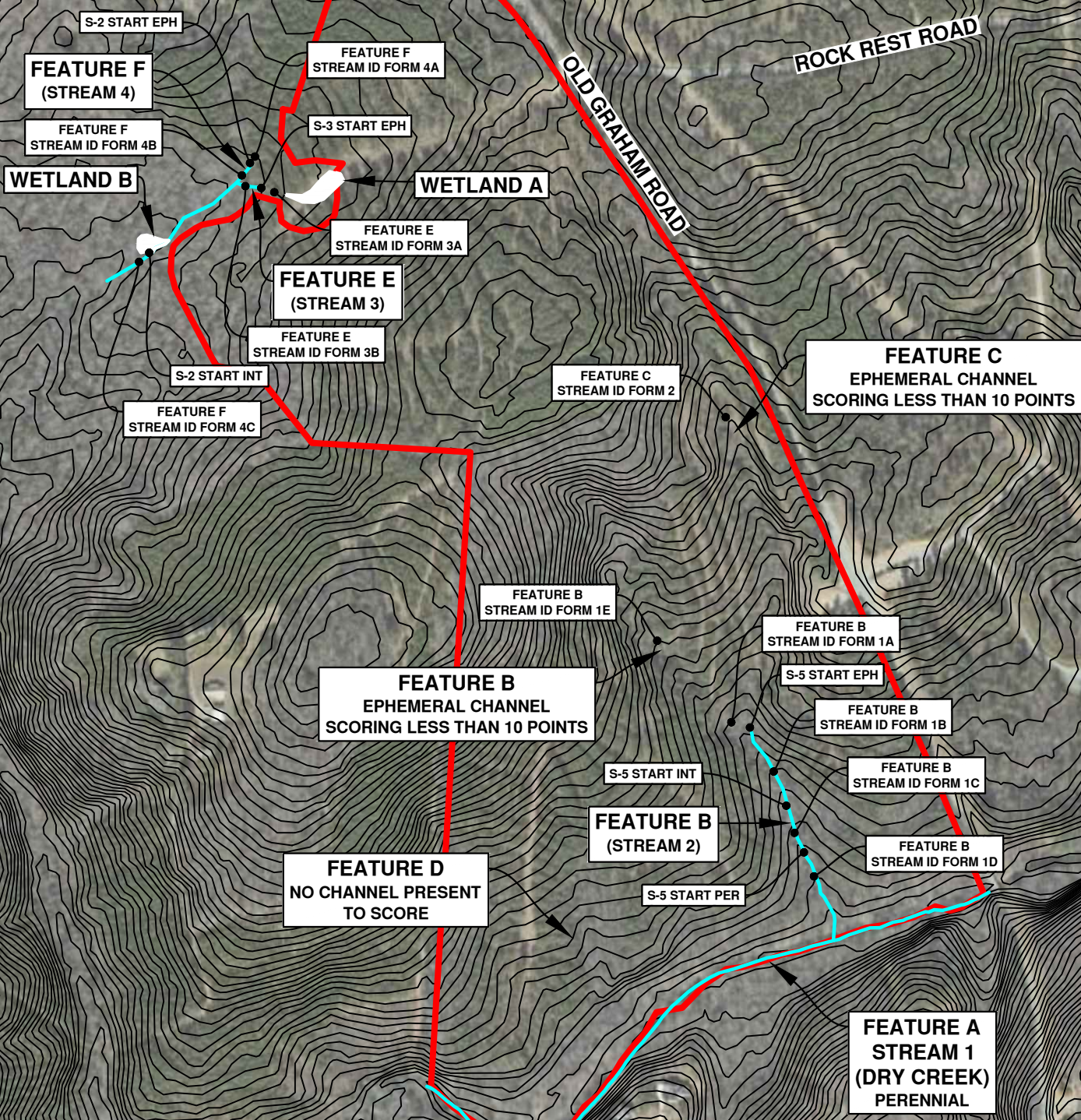
Service Layer Credits: Chatham County, Chatham County Environmental Quality, Chatham County GIS



Date: 8/31/2020
Time: 1:28:58 PM



REVIEW AREA



NOTES:
 1) DELINEATION PERFORMED BY WR ON 11/21/2019.
 2) WETLAND/STREAM LOCATIONS ARE APPROXIMATE, BASED ON GPS LOCATION, CHATHAM CO. GIS DATA AND TOPOGRAPHIC INTERPRETATION.

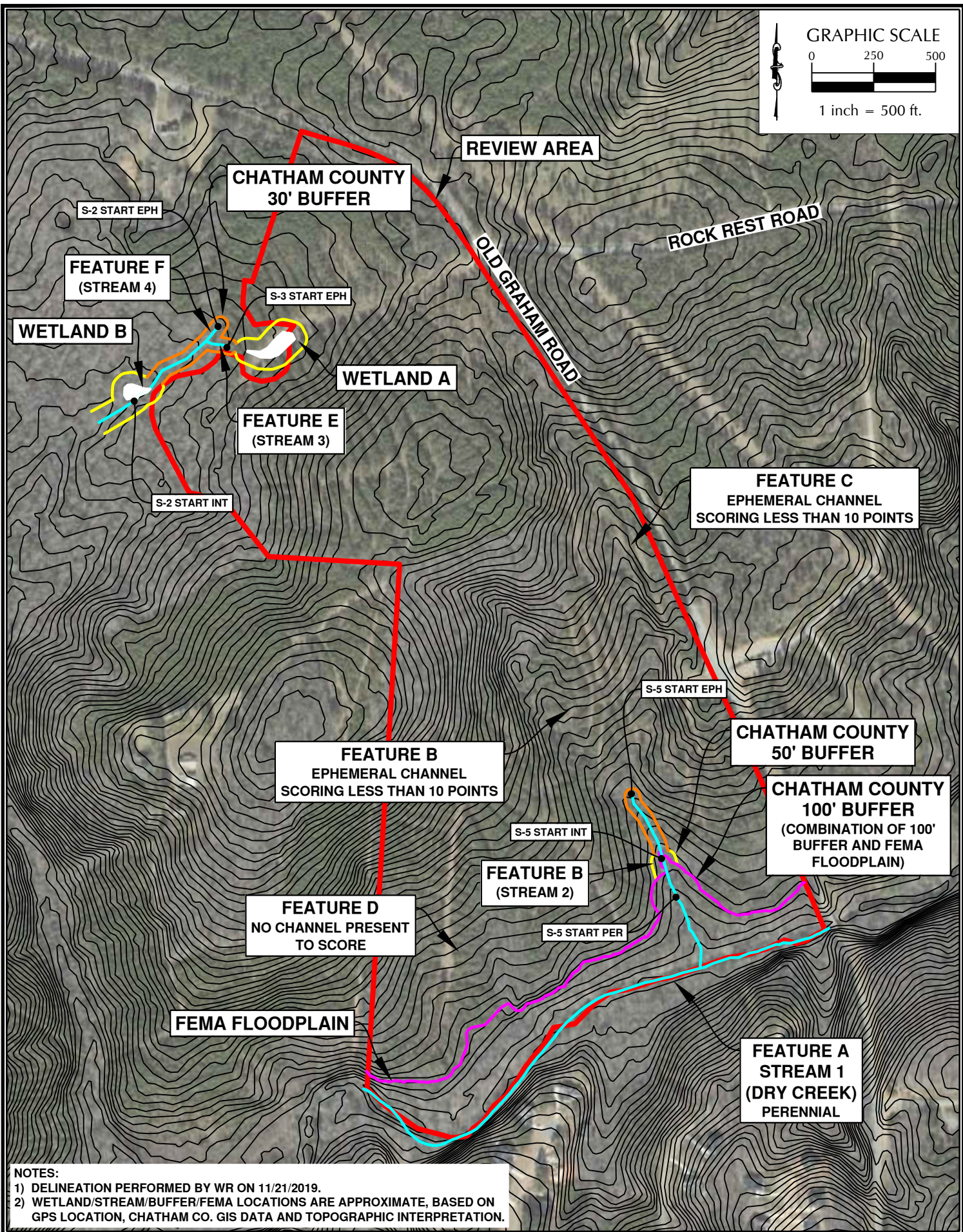
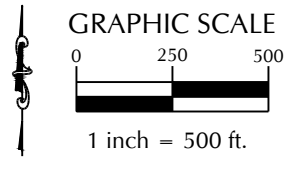
MCBANE SUBDIVISION

BUFFER DETERMINATION EXHIBIT



PITTSBORO CHATHAM COUNTY NORTH CAROLINA

K:\06\06-04\0\06041.1.02-McBane\Wetlands-Streams\CAD\Buffer Determination.dwg - Thursday, July 9, 2020 4:56:04 PM - RICCI, ALYSSA



NOTES:
 1) DELINEATION PERFORMED BY WR ON 11/21/2019.
 2) WETLAND/STREAM/BUFFER/FEMA LOCATIONS ARE APPROXIMATE, BASED ON GPS LOCATION, CHATHAM CO. GIS DATA AND TOPOGRAPHIC INTERPRETATION.

K:\06\06-04\0\06041.02-McBane Wetlands-Streams\CAD\Buffer Determination.dwg - Thursday, July 9, 2020 4:49:59 PM - RICCI, ALYSSA



WATERSHED PROTECTION DEPARTMENT

P.O. Box 548
Pittsboro, NC 27312
Phone: (919) 545-8394

Fax: (919) 542-2698 • E-mail: drew.blake@chathamcountync.gov • Website: www.chathamcountync.gov

May 7, 2021

Ms. Alyssa Ricci
WithersRavenel
115 Mackenan Dr.
Cary, NC 27511

Project Name: McBane Subdivision Conservation Area (Parcel 85448)

Location: Old Graham Road, Chatham County

Subject Features: Six (6) ephemeral segments, three (3) intermittent segments, five (5) wetlands

Date of Determination: May 3, 2021

Explanation:

The site visit was completed on May 3, 2021 by Drew Blake with the Chatham County Watershed Protection Department on a property identified as Chatham County Parcel# 85448 that is located inside of the Jordan Lake watershed. WithersRavenel personnel completed a previous site visit which resulted in the identification of six (6) ephemeral segments, three (3) intermittent segments, and five (5) wetlands on the property. WithersRavenel submitted a request for Chatham County to complete a formal review to determine if the features would be subject to riparian buffers according to Section 304 of the Chatham County Watershed Protection Ordinance. All points of origin, stream type transitions, and wetland boundaries were reviewed in the field.

Required Riparian Buffers:

The required riparian buffers described below are based on the surface water features identified on the Buffer Determination Exhibit with Buffers, completed by WithersRavenel. The ephemeral stream segments will require a 30-ft buffer from the top of bank landward. The intermittent stream segments will require a 50-ft buffer from the top of bank landward on both sides of the features.

The wetland boundaries flagged in the field by WithersRavenel have been reviewed and confirmed by the US Army Corps of Engineers (USACE). A 50-ft buffer will be required beginning at the flagged boundary and proceeding landward of any flagged wetlands determined jurisdictional by the USACE.

Impacts to Riparian Buffers:

Impacts to the riparian buffers may require a Riparian Buffer Authorization depending on the size and scope of the impacts. Please refer to Section 304 (j)(3) of the Chatham County Watershed Protection Ordinance to determine if your impacts will require a Riparian Buffer Authorization. If you determine that a Riparian Buffer Authorization is required, please contact Drew Blake to receive the required application and submittal instructions.

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 Chatham County, on parcels outside of the Jordan Lake



WATERSHED PROTECTION DEPARTMENT

P.O. Box 548
Pittsboro, NC 27312
Phone: (919) 545-8394

Fax: (919) 542-2698 • E-mail: drew.blake@chathamcountync.gov • Website: www.chathamcountync.gov

watershed, may submit a request for appeal in writing to the Watershed Review Board. A request for a determination by the Watershed Review Board shall be made in accordance with Section 304 of the Chatham County Watershed Protection Ordinance. Landowners or affected parties that dispute a determination made by Chatham County, on parcels inside the Jordan Lake watershed, shall submit a request for appeal in writing to NC DWR, 401 & Buffer Permitting Unit, 1650 Mail Service Center, Raleigh, NC 27669-1650 attention of the Director of the NC Division of Water Quality.

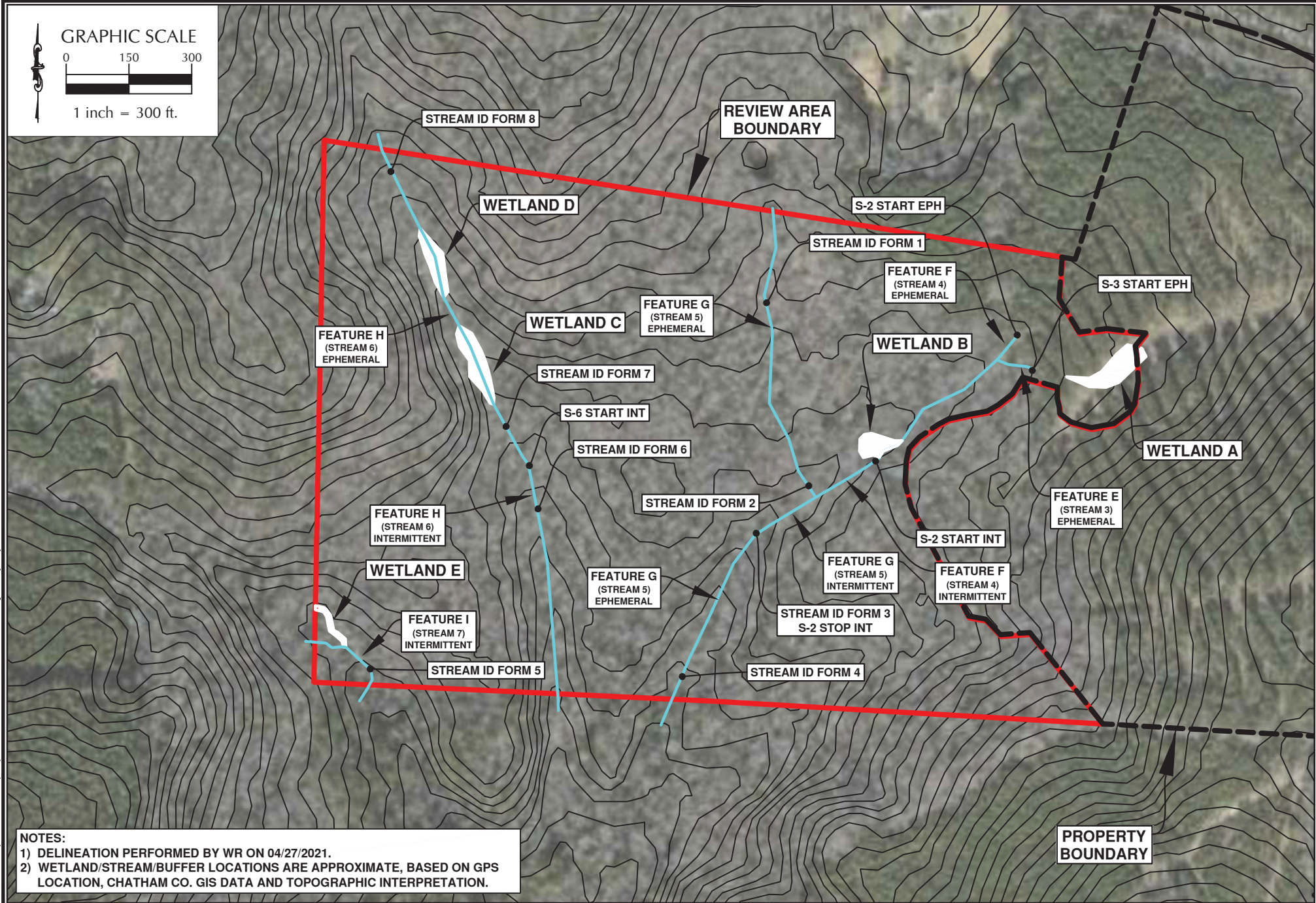
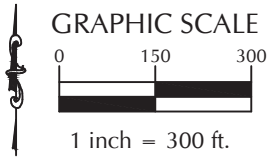
Should this project result in any direct impacts to surface water features (i.e., crossing and/or filling streams or wetlands) additional reviews may be necessary. Additionally, a Section 404/401 Permit may be required. Any inquiries regarding Section 404/401 permitting should be directed to the Division of Water Resources (Central Office) at (919)-807-6364 and the US Army Corp of Engineers (Raleigh Regulatory Field Office) at (919)-554-4884.

Respectfully,

Drew Blake
Senior Watershed Specialist, CESSWI

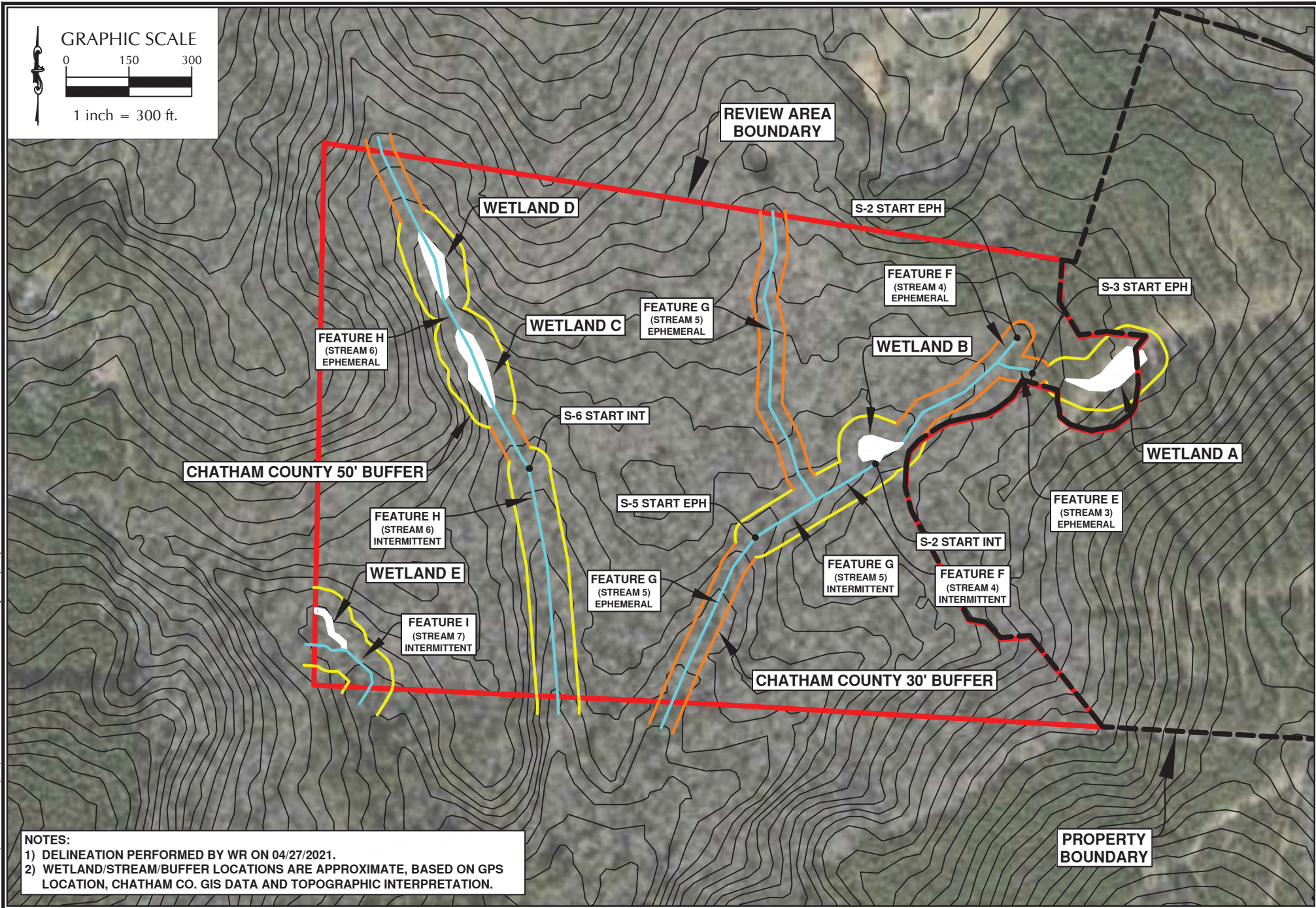
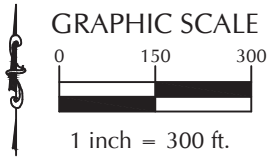
Enclosures: Exhibit 1: Buffer Determination Exhibit – completed by WithersRavenel
Exhibit 2: Buffer Determination Exhibit with Buffers – completed by WithersRavenel
NRCS Soil Survey Map – Completed by WithersRavenel
USGS Topographic Map – Completed by WithersRavenel
NC DWQ Stream Identification Forms – Completed by WithersRavenel
Wetland Determination Data Forms – Completed by WithersRavenel
Major Subdivision Riparian Buffer Review Application
Authorized Agent Form
Authorization to Enter Property Form

cc: Rachael Thorn, Director, Chatham County Watershed Protection Department
Kimberly Tyson, Planner II/Subdivision Administrator, Chatham County Planning Department
Jason Sullivan, Director, Chatham County Planning Department



NOTES:
 1) DELINEATION PERFORMED BY WR ON 04/27/2021.
 2) WETLAND/STREAM/BUFFER LOCATIONS ARE APPROXIMATE, BASED ON GPS LOCATION, CHATHAM CO. GIS DATA AND TOPOGRAPHIC INTERPRETATION.

K:\06_08-0410_069411.02-McBane Wetlands-Streams\CAD\Buffer Determination - Conservation Area.dwg - Friday, May 7, 2021 9:24:21 AM - RICCI, ALYSSA



NOTES:
 1) DELINEATION PERFORMED BY WR ON 04/27/2021.
 2) WETLAND/STREAM/BUFFER LOCATIONS ARE APPROXIMATE, BASED ON GPS LOCATION, CHATHAM CO. GIS DATA AND TOPOGRAPHIC INTERPRETATION.

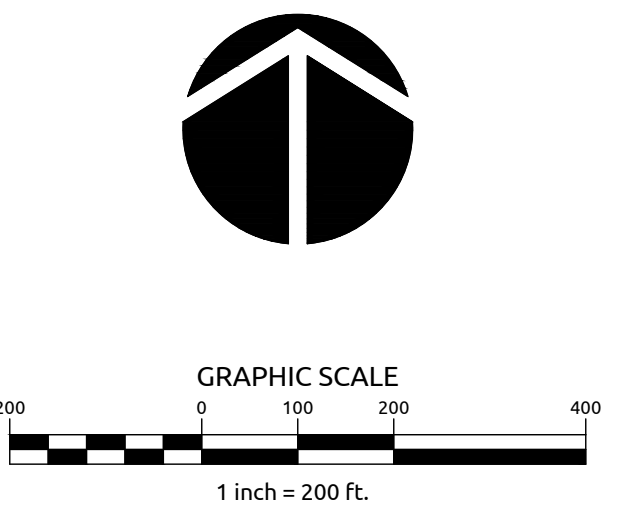
K:\06_08-0410_060411.02-McBane Wetlands-Streams\CAD\Buffer Determination - Conservation Area.dwg - Friday, May 7, 2021 10:09:36 AM - RICCI, ALYSSA

UTILITY & STORM DRAINAGE PLAN (SHEET 2.0)

Revisions



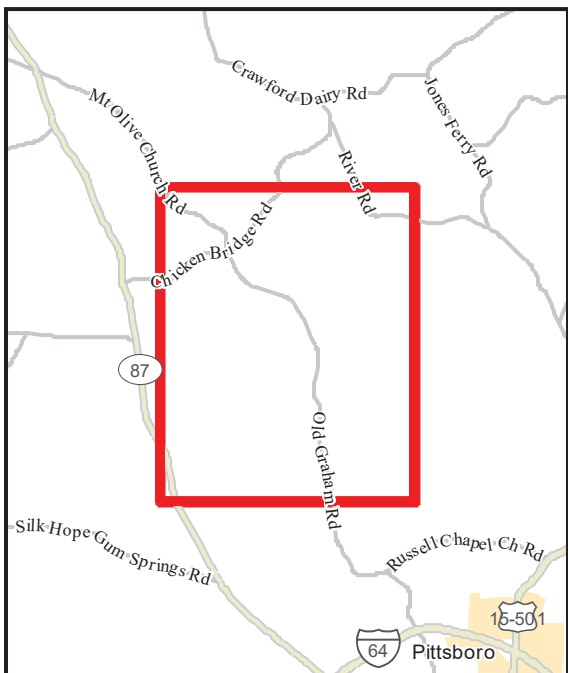
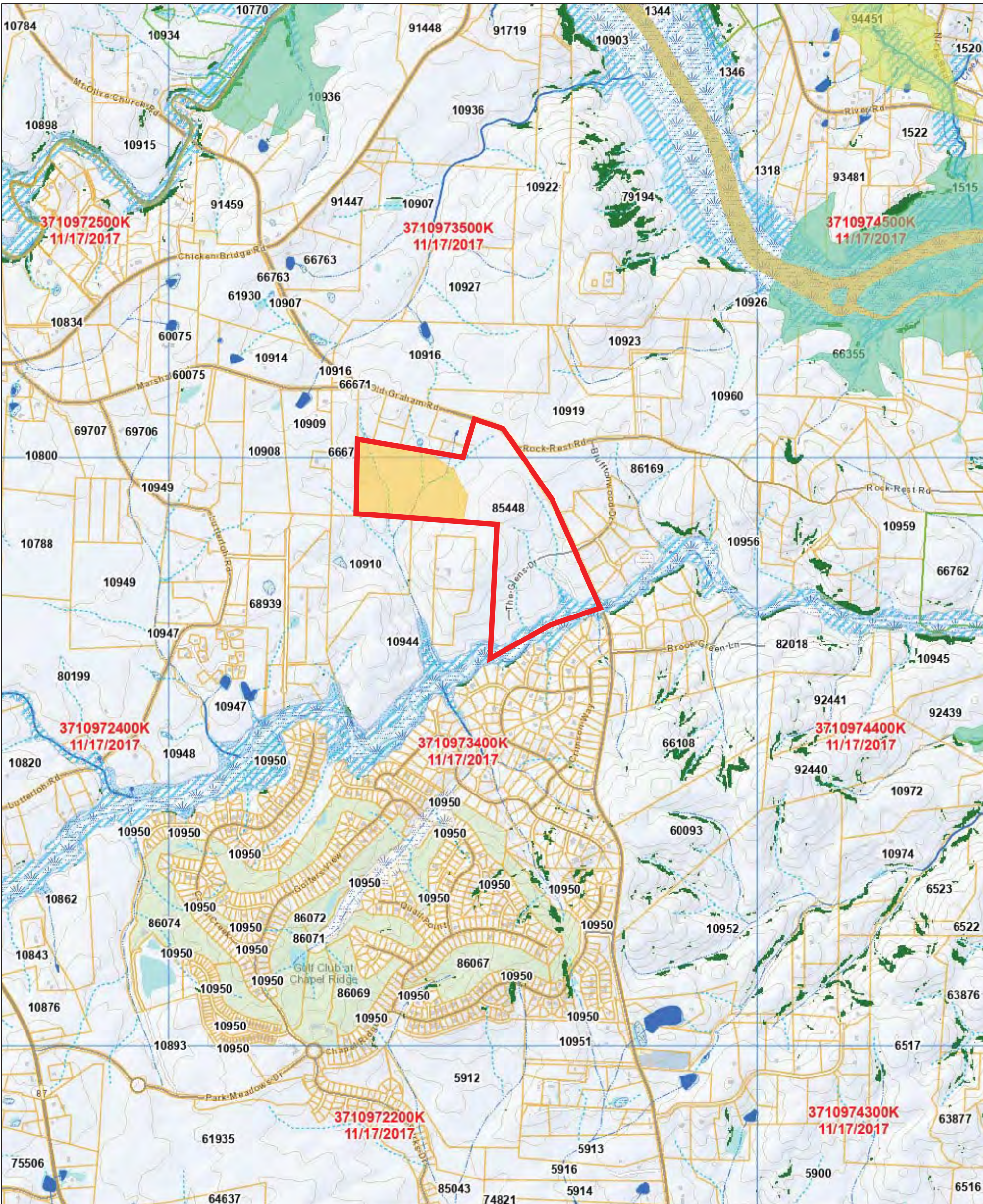
- NOTES:
- BOUNDARY AND ENVIRONMENTAL FEATURES (WETLANDS & STREAMS) SURVEY BY WITHERSRAVENEL.
 - WETLAND/STREAM/BUFFER DELINEATION PERFORMED BY WITHERSRAVENEL. WETLAND DELINEATION WITHIN PROPOSED LIMITS OF DISTURBANCE APPROVED BY USACE ON 7/14/2020 (AID: SAW-2020-01202). BUFFERS WITHIN PROPOSED LIMITS OF DISTURBANCE APPROVED BY CHATHAM COUNTY BUFFER DETERMINATION LETTER DATED 8/31/2020.
 - UTILITIES (WATER AND SEWER) TO BE PROVIDED BY AQUA.
 - A NON-DISCHARGE PERMIT FOR LAND APPLICATION IS NOT REQUIRED FOR THIS PROJECT.
 - SUBSURFACE WASTEWATER (SEPTIC) PERMITS ARE NOT REQUIRED FOR THIS PROJECT.
 - 404/401 PERMITTING IS NOT REQUIRED WITH THE PROPOSED SUBDIVISION LAYOUT.
 - EXISTING FORCEMAIN AND WATER LINES ON OLD GRAHAM ROAD AND PROPERTIES TO THE EAST FROM CONSTRUCTION PLANS FOR THE BLUFFS BY CE GROUP, INC.
 - WATER LINE, SANITARY SEWER FORCEMAINS, AND ROAD CULVERT SIZES TO BE PROVIDED WITH CONSTRUCTION DRAWINGS.
 - PROPOSED GRADING SHOWN FOR ROADS ONLY. LOTS WILL BE INDIVIDUALLY GRADED AT THE TIME OF HOME CONSTRUCTION.



\\withersr\planning\Projects\02060411.02\mcbane\CD\Drawings\with\title\plm\02060411.02\Utility\Utility.dwg, Friday, April 16, 2021 10:15:24 AM - CDDK, TERENCE

FRAGMENTATION MAP (REVISED)

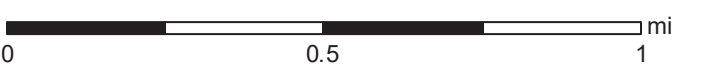
McBane Subdivision - Fragmentation Map



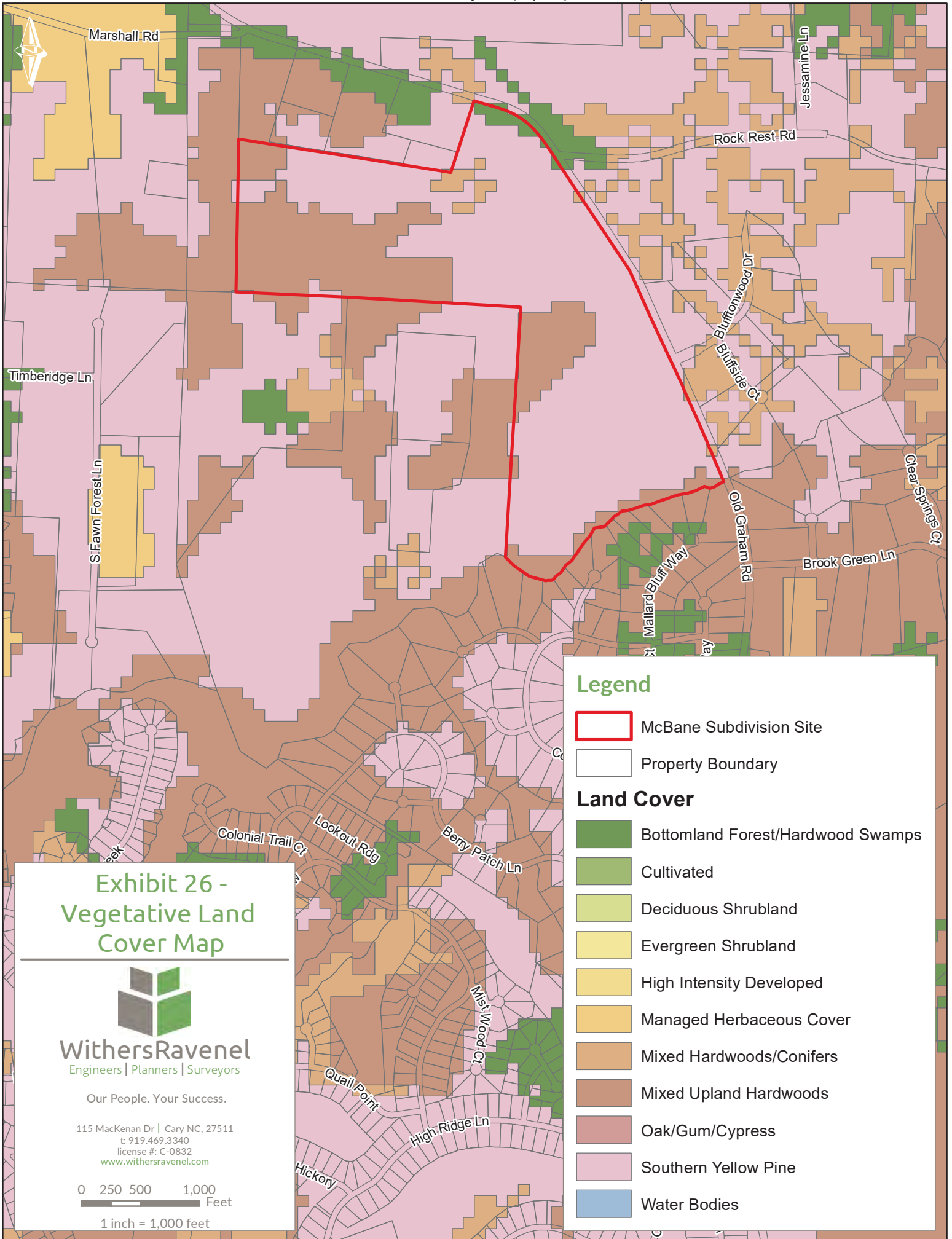
Legend

Natural Areas	Riparian Streams (Chatham County WP)
High	Perennial
Moderate	Intermittent
General	Ephemeral
Managed Areas	Riparian Ponds (Chatham County WP)
Registered Heritage Area	NRCS Soil Streams
Conservation Easement	USGS Rivers & Streams
Floodway	Streams / Rivers
Floodway	Intermittent Streams
Proposed Flood Hazard Areas	USGS Lakes & Ponds
1% Annual Chance	High Confidence Wetlands
0.2% Annual Chance	Medium Confidence Wetlands
Flood Map Index	

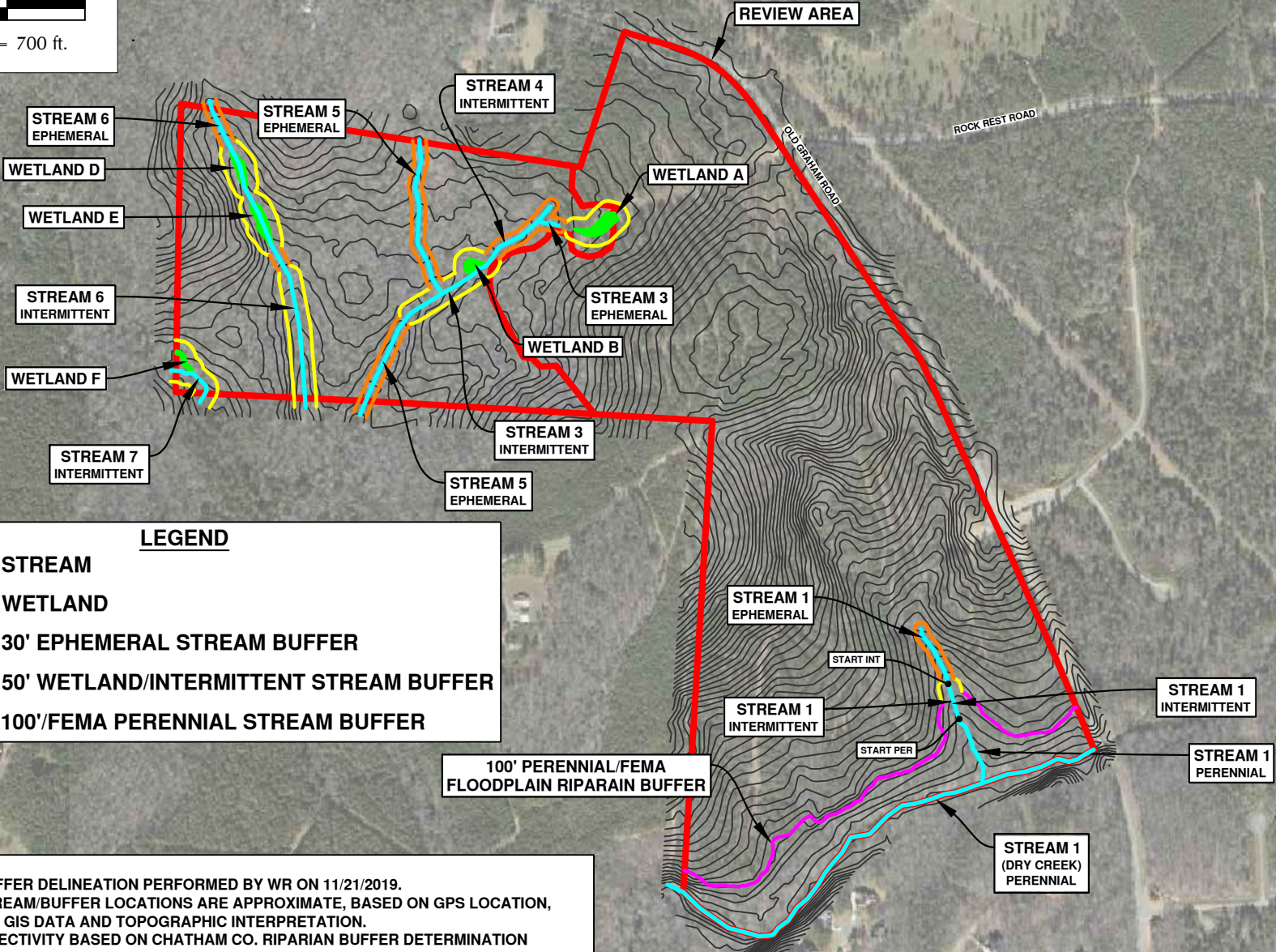
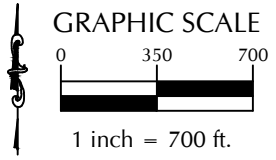
Service Layer Credits: Chatham County, Chatham County GIS



ON-SITE INVENTORY MAP (MAPS 1-6) REVISED



ON-SITE INVENTORY MAP (MAP #2 OF 6)



LEGEND

- STREAM
- WETLAND
- 30' EPHEMERAL STREAM BUFFER
- 50' WETLAND/INTERMITTENT STREAM BUFFER
- 100'/FEMA PERENNIAL STREAM BUFFER

NOTES:

- 1) WETLAND/BUFFER DELINEATION PERFORMED BY WR ON 11/21/2019.
- 2) WETLAND/STREAM/BUFFER LOCATIONS ARE APPROXIMATE, BASED ON GPS LOCATION, CHATHAM CO. GIS DATA AND TOPOGRAPHIC INTERPRETATION.
- 3) BUFFER SUBJECTIVITY BASED ON CHATHAM CO. RIPARIAN BUFFER DETERMINATION LETTERS DATED 08/17/2020 & 5/7/2021).
- 4) DELINEATION & JURISDICTIONAL STATUS VERIFIED BY USACE EMAIL DATED 4/29/2021 (AID: SAW-2020-01202).

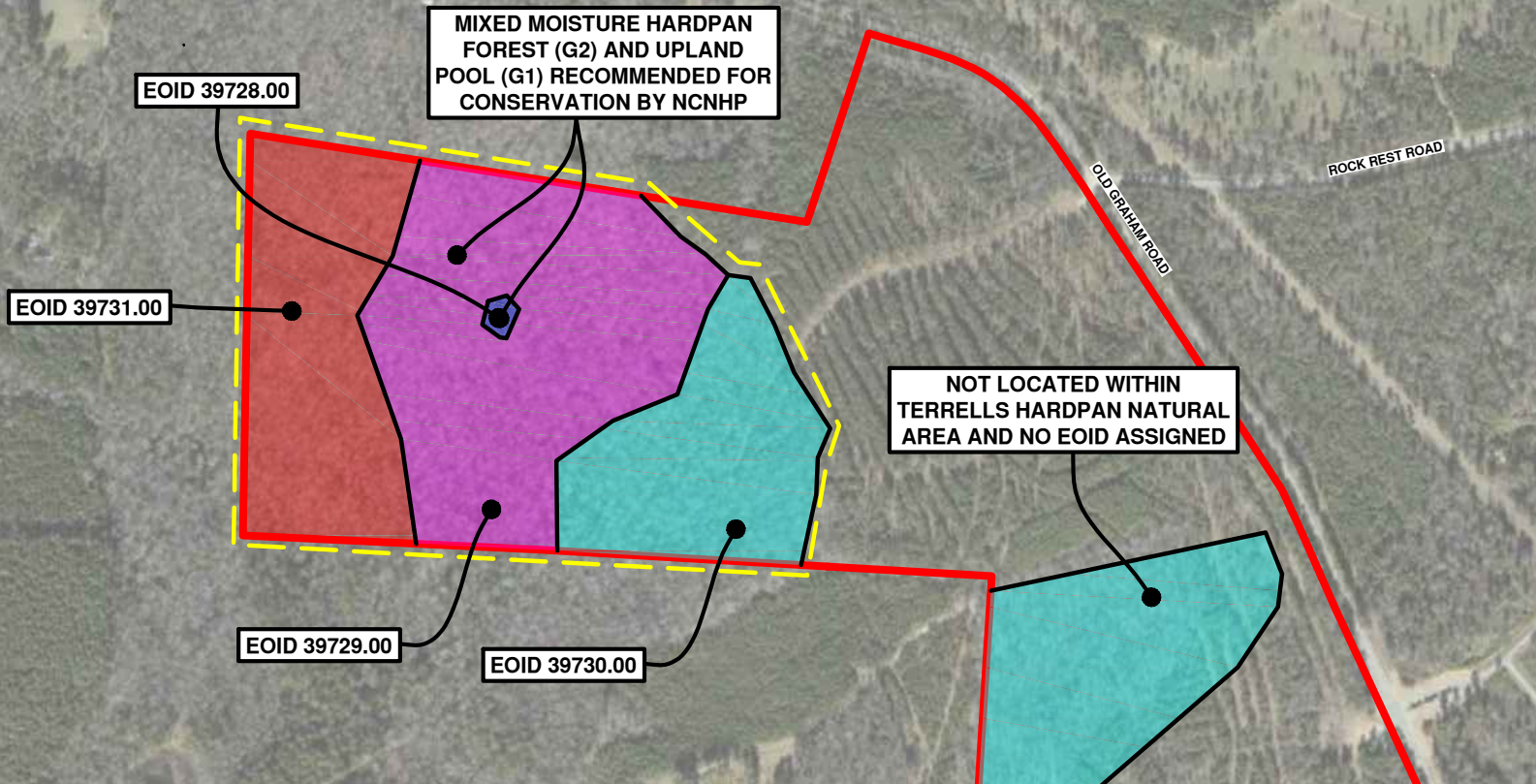
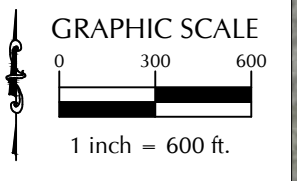
MCBANE SUBDIVISION

APPROVED WETLAND/BUFFER DELINEATION EXHIBIT



K:\06\06-0410\060411.02-McBane\Wetlands-Streams\CAD\EIA Exhibit_Ver 2.dwg - Monday, May 10, 2021 3:14:38 PM - BEASLEY, TROY

ON-SITE INVENTORY MAP (MAP #3 OF 6)



MIXED MOISTURE HARDPAN FOREST (G2) AND UPLAND POOL (G1) RECOMMENDED FOR CONSERVATION BY NCNHP

EOID 39728.00

EOID 39731.00







NOT LOCATED WITHIN TERRELLS HARDPAN NATURAL AREA AND NO EOID ASSIGNED

EOID 39729.00

EOID 39730.00

NOT LOCATED WITHIN TERRELLS HARDPAN NATURAL AREA AND NO EOID ASSIGNED

LEGEND

-  DRY OAK-HICKORY FOREST (PIEDMONT SUBTYPE) - G4G5 (±14-ACRES)
-  DRY-MESIC BASIC OAK-HICKORY FOREST (PIEDMONT SUBTYPE) - G3G4 (±25-ACRES)
-  MIXED MOISTURE HARDPAN FOREST - G2 (±22-ACRES)
-  PIEDMONT ALLUVIAL FOREST - G4 (±7-ACRES)
-  UPLAND POOL (TYPIC PIEDMONT SUBTYPE) - G1 (<1-ACRE)
-  MANAGED PINE FOREST (NO HATCHING) (±92-ACRES)

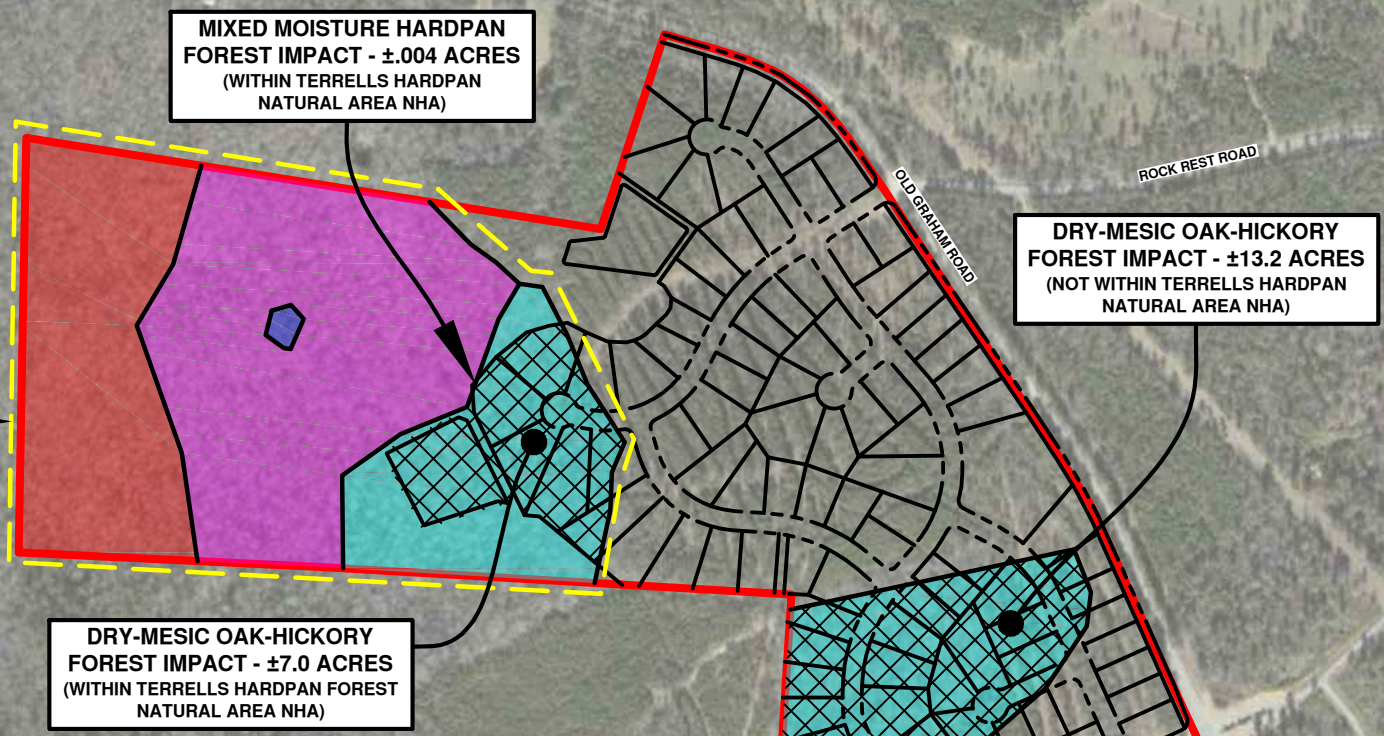
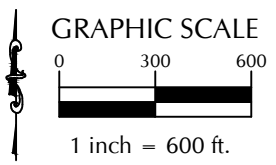
K:\08\05-0410_060411.02-McBane\Wetlands-Streams\CAD\EIA Exhibits_Ver 2.dwg - Monday, May 10, 2021 3:15:14 PM - BEASLEY, TROY

McBANE SUBDIVISION

NATURAL COMMUNITIES MAP



ON-SITE INVENTORY MAP (MAP #4 OF 6)








TERRELLS HARDPAN NATURAL AREA NHA BOUNDARY

**MIXED MOISTURE HARDPAN FOREST IMPACT - ±.004 ACRES
(WITHIN TERRELLS HARDPAN NATURAL AREA NHA)**

**DRY-MESIC OAK-HICKORY FOREST IMPACT - ±13.2 ACRES
(NOT WITHIN TERRELLS HARDPAN NATURAL AREA NHA)**

**DRY-MESIC OAK-HICKORY FOREST IMPACT - ±7.0 ACRES
(WITHIN TERRELLS HARDPAN FOREST NATURAL AREA NHA)**

LEGEND

-  DRY OAK-HICKORY FOREST (PIEDMONT SUBTYPE) - G4G5 (±14-ACRES)
-  DRY-MESIC BASIC OAK-HICKORY FOREST (PIEDMONT SUBTYPE) - G3G4 (±25-ACRES)
-  MIXED MOISTURE HARDPAN FOREST - G2 (±22-ACRES)
-  PIEDMONT ALLUVIAL FOREST - G4 (±7-ACRES)
-  UPLAND POOL (TYPIC PIEDMONT SUBTYPE) - G1 (<1-ACRE)
- MANAGED PINE FOREST (NO HATCHING) (±92-ACRES)**

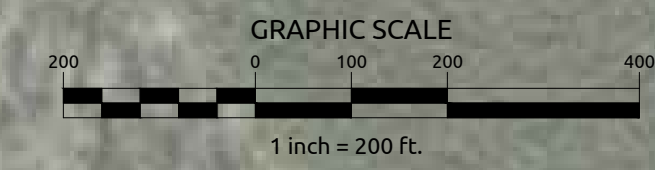
McBANE SUBDIVISION

NATURAL COMMUNITIES MAP IMPACT EXHIBIT



K:\08\05-0410\060411.02-McBane\Wetlands-Streams\CAD\EIA Exhibits_Ver 2.dwg - Monday, May 10, 2021 3:16:16 PM - BEASLEY, TROY

ON-SITE INVENTORY MAP (MAP #5 OF 6)



CONSERVATION SPACE - NATURAL SPACE
40.3 ACRES
INCLUDES WETLANDS, STREAMS AND BUFFERS

CONSERVATION SPACE - OPEN SPACE
1.79 ACRES
INCLUDES SCM #2
(10,950 SF NORMAL POOL)

CONSERVATION SPACE - OPEN SPACE
0.48 ACRES

CONSERVATION SPACE - OPEN SPACE
1.07 ACRES

CONSERVATION SPACE - OPEN SPACE
2.11 ACRES
INCLUDES SCM #1
(7,800 SF NORMAL POOL)

CONSERVATION SPACE	
TYPE	AREA
TOTAL MINIMUM CONSERVATION SPACE REQUIRED (40% OF SITE AREA)	64.79 AC
MINIMUM NATURAL SPACE REQUIRED (80% OF CONSERVATION SPACE)	51.83 AC
NATURAL SPACE PROVIDED*	51.83 AC
DEDICATED OPEN SPACE PROVIDED* (MAX 20% OF CONSERVATION SPACE)	12.57 AC
VOLUNTARY OPEN SPACE PROVIDED	3.70 AC
TOTAL OPEN SPACE PROVIDED	16.27 AC
STEEP SLOPES OF PROPERTY	0.0 SF

CONSERVATION SPACE - OPEN SPACE
2.17 ACRES

VOLUNTARY OPEN SPACE
3.20 ACRES
NOT WITHIN CONSERVATION SPACE

CONSERVATION SPACE - OPEN SPACE
0.61 ACRES

CONSERVATION SPACE - OPEN SPACE
2.09 ACRES
INCLUDES SCM #3
(19,375 SF NORMAL POOL)

CONSERVATION SPACE - NATURAL SPACE
11.36 ACRES
INCLUDES STREAMS, BUFFERS AND FLOODPLAIN

LEGEND

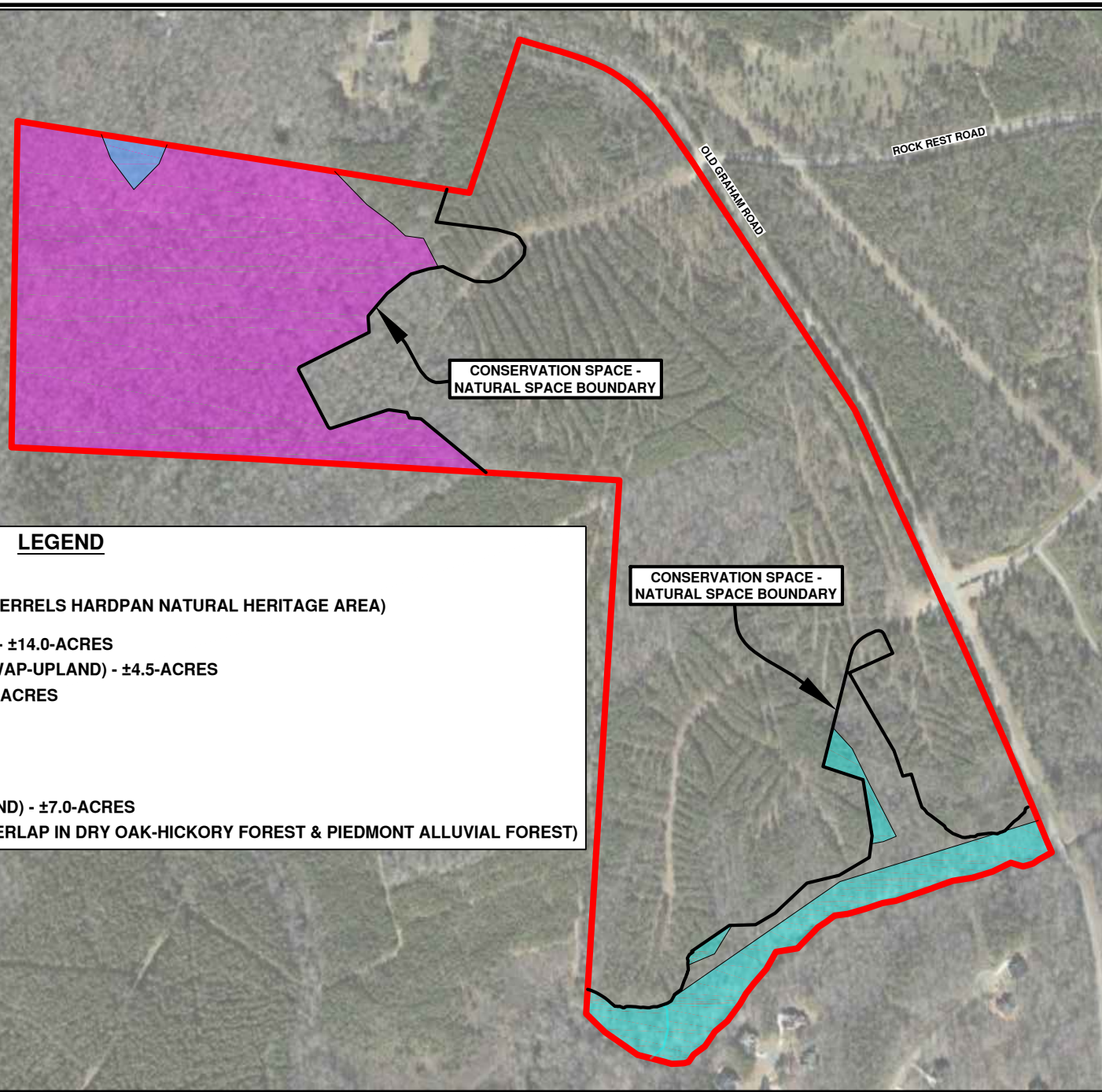
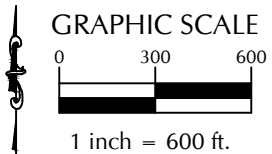
- WETLANDS**
- STREAMS**
- BUFFERS**
- FEMA 100-YR FLOODPLAIN**
- CONSERVATION SPACE - NATURAL AREA**
- CONSERVATION SPACE - OPEN SPACE**
- VOLUNTARY OPEN SPACE (NOT IN CONSERVATION AREA)**
- TWO FOOT INTERVAL TOPOGRAPHY**

Job No.	02060411.02	Drawn By	THB
Date	04/14/2021	Designer	WR
Checked By	WR	Designer	WR

Revisions

K:\00\04-010\040411.02\040411\040411.dwg WithersRavenel StreamCAD 333 3/24/2021 3:29:24 PM - TBEALCY

ON-SITE INVENTORY MAP (MAP #6 OF 6)



LEGEND

- PRIMARY NATURAL AREAS - ±40.8-ACRES (TERRELS HARDPAN NATURAL HERITAGE AREA)
 - DRY OAK-HICKORY FOREST (WAP-UPLAND) - ±14.0-ACRES
 - DRY-MESIC BASIC OAK-HICKORY FOREST (WAP-UPLAND) - ±4.5-ACRES
 - MIXED MOISTURE HARDPAN FOREST - ±22.0-ACRES
 - UPLAND POOL (WAP-UPLAND) - ±0.3 ACRES
- SECONDARY NATURAL AREAS - ±7.7-ACRES
 - PIEDMONT ALLUVIAL FOREST (WAP-LOWLAND) - ±7.0-ACRES
 - PRIME FARMLAND SOILS - ±2.7 - ACRES (OVERLAP IN DRY OAK-HICKORY FOREST & PIEDMONT ALLUVIAL FOREST)