

**Delineation of Wetlands and Waters of the U.S.**  
**Goldmine Springs Road**

Cherokee County, SC

PIN: Partial 100-00-00-018.000 & 100-00-00-018.001

*Prepared for*



**Exponential**  
**EQUITY**

**Exponential Equity**

Brandon Maxwell

6047 Tyvola Glen Circle, Suite 108

Charlotte, NC 28217

October 21, 2022

*Prepared By*



**Wetlands & Waters, Inc.**

4108 LB Propst Dr.

Conover, NC 28613

## Scope

Wetlands & Waters, Inc. (W&W) has conducted an evaluation of a parcel assemblage (+/- 18 acres) in Cherokee County, SC, as depicted on the attached Figures, for the purpose of identifying the presence of surface waters and wetlands that may be subject to Federal and/or State jurisdiction under Sections 404 and 401 of the Clean Water Act (collectively referred to as “Waters of the U.S.,” or WOTUS), as informed and implemented by subsequent regulations and guidance (1986 WOTUS regulation; 2003 SWANCC and 2008 Rapanos guidance). Section 404 of the Clean Water Act regulates the discharge of dredge and fill materials into “waters of the U.S.” and is jointly administered by the U.S. Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA). Section 401 of the Clean Water Act grants each state the authority to approve, condition, or deny any Federal permits that could result in a discharge to waters of the State.

Unless stated otherwise, this report is limited in scope to evaluation of potential Waters of the United States subject to Federal and/or State jurisdiction under sections 404 and 401 of the Clean Water Act, as amended. Findings and assessments made by consultants regarding jurisdictional limits and permitting requirements are preliminary and subject to verification and modification by the Corps, and in some cases, the State agencies charged with protection of water resources, including the South Carolina Department of Health and Environmental Control (DHEC).

## Clean Water Act Field Evaluation

### Methods

Field evaluations are conducted using methods consistent with those outlined in the applicable regional supplement<sup>1</sup> of the 1987 U.S. Army Corps Wetland Delineation Manual. Under normal circumstances, an area is classified as a wetland when indicators of hydrology, hydrophytic vegetation, and hydric soils are present. Surface waters are evaluated for indicators of an Ordinary High-Water Mark (OHWM) and continuous bed and bank formation, which are baseline indicators used by the Corps to determine if a jurisdictional tributary<sup>2</sup> may be present. OHWM assessments are based on regulatory guidance<sup>3</sup> issued by the Corps to assist in OHWM identification. Stream flow regime determinations are made using the standardized Methodology for Identification of Intermittent and Perennial Streams and Their Origins, version 4.11, developed by the North Carolina Division of Water Resources (DWR). DHEC uses the DWR Stream Identification Methodology for stream evaluations when appropriate.

### Findings

The Corps currently exerts jurisdiction over the territorial seas, waters used in interstate or foreign commerce, tributaries, and certain categories of wetlands, lakes, ponds and impoundments that meet certain criteria. Based on our assessment of existing site conditions, aerial photography, natural resource maps, and best professional judgment, W&W did not identify any potential features within the review area, and believes the area to be comprised entirely of high ground. Findings are approximated in Figure 1, *Approximate Delineation of Surface Waters and Wetlands*.

### Natural Resource Data

Various natural resource data was used to supplement field verification of findings. The review area is approximated on the attached publicly available natural resource maps and figures. This information is used by stakeholder agencies as baseline data when assessing the jurisdictional status of aquatic features.

---

<sup>1</sup> [Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0](#)

<sup>2</sup> The terms “tributary” and “stream” are used interchangeably throughout this report.

<sup>3</sup> U.S. Army Corps of Engineers. Regulatory Guidance Letter No. 05-05 Dec. 7, 2005

W&W makes no representations relating to the completeness or accuracy of baseline data and layers depicted on these maps and figures.

#### County GIS (Figure 2)

County GIS maps provide increased site-specific and land-use planning details relevant to site history and adjacent land uses. Relevant water resource and hydrologic layers have been activated for this figure. When jurisdictional streams are identified on a property by on-site inspection but are absent on County GIS mapping, local authorities typically apply local buffer ordinances or rules to those features (unless the buffers are applied based on drainage area or parameters other than stream classification). Conversely, if a stream channel is depicted on the local GIS but is determined to be non-regulated by the Corps and/or DHEC, local governments may have the option to remove local buffer protections for those drainages if the property owner or a project proponent can produce concurrence from the Corps and/or DHEC.

#### USGS Topographic Quadrangle (Figure 3)

United States Geological Survey maps provide increased site-specific and land-use planning details relevant to site history and adjacent land uses. These maps are commonly used by state and local authorities to assist in applying riparian buffer regulations. Generally, a feature that is depicted in blue or magenta is a water resource, although some features may not be subject to State or Federal jurisdiction due to nuances within State and Federal regulations. Additional jurisdictional water resources may be present in addition to what is represented on these maps.

#### Natural Resource Conservation Service Soil Survey (Figure 4)

United States Geological Survey maps identify areas of potential aquatic resources and large-scale soils characteristics within the evaluated area. Typically, soil surveys do not show specific soils units that are less than two acres in size, but are useful in supplementing field evaluations by identifying potential problematic soils, hydric soils, historic surface drainage features, and other relevant soil characteristics. In certain cases of presumed land manipulation/disturbance, NRCS paper soil surveys may be used to inform site investigations.

#### National Wetland Inventory (Figure 5)

National Wetland Inventory maps depict wetlands and water resources based on U.S. Fish and Wildlife Service criteria and are produced by GIS image analysts who identify and classify wetlands and deep-water habitats from aerial imagery. They are not a substitute for a field evaluation, as there are often discrepancies between existing features and those that are mapped by GIS.

#### FEMA Flood Mapping (Figure 6)

Federal Emergency Management Act flood maps are utilized by the Army Corps to determine if regulated floodplains are present. The President's Executive Order 11990, Protection of Wetlands, requires federal agencies to consider the need to mitigate flood and storm hazards in consideration of all actions. The Corps, as stated in general conditions 10 and 27 of the Nationwide Permits, requires completion of a PCN form for identification of projects that require coordination involving work in FEMA-designated 100-Year Floodplains. If a Section 404 permit is required, the proposed activity must comply with applicable FEMA-approved state or local floodplain management requirements. Additional notification requirements, conditions, restrictions, or prohibitions may be imposed depending on the type of proposed activity or permit.

### **S.C. Natural Heritage Program Report**

The South Carolina Natural Heritage Program (NHP) provides information about rare species, natural communities, conservation, and managed areas in South Carolina. The NHP database was consulted to identify natural heritage resources that may be present on-site. The enclosed site-specific report lists

documented occurrences of rare species, natural communities, and natural and managed areas within or in close proximity to the review area (Attachment A). According to the report, there are no records for rare species<sup>4</sup>, important natural communities, natural areas, or conservation/managed areas within the review area.

## Clean Water Act Permitting Considerations

Construction activities requiring excavation or fill in waters of the U.S. are routinely authorized under the Corps' Nationwide Permit (NWP) program<sup>5</sup> and corresponding State Water Quality Certification<sup>6</sup>.

Examples of activities that may require a permit include (but are not limited to) construction of a road crossing; stream bank/shoreline stabilization; wetland fill; dredging; and restoration, preservation, or enhancement activities in WOTUS. Activities authorized under the NWP program must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to WOTUS to the maximum extent practicable.

### Impact Limitations

Projects that fall within the Charleston District of the Corps of Engineers (SC counties) and wish to utilize an NWP for project-related impacts are subject to permit-specific impact limitations for each "[Single and Complete](#)" project. For commercial, residential, utility line, and other common projects, the below limitations apply:

Impact Type	Nationwide Permit Impact Limit
Stream Bed Loss	0.05 acre <sup>7</sup>
Aggregate Total Loss (All WOTUS Types)	0.5 acre

Unavoidable impacts that exceed NWP thresholds may only be authorized under an Individual permit and certification, and involve both public notices and comment periods.

### Compensatory Mitigation

Compensatory mitigation is required for impacts to WOTUS that exceed the following thresholds, as determined by the language of the corresponding NWP and the Charleston District Regional Conditions:

Impact Type	Compensatory Mitigation Threshold
Wetland Loss	> 0.1 acre
Stream Loss	> 0.005 acre

Note that the Corps reviews each project on a "case-by-case" basis, and may apply a compensatory mitigation requirement to proposed impacts that are less than the thresholds noted above. Compensatory mitigation credit requirements are based on a number of factors, including but not limited to quality and type of resource impacted, existing conditions, duration and type of impact, and a cumulative total of impact.

Compensatory mitigation in all forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) is required to the "maximum extent practicable" to ensure that a proposed project's individual and cumulative adverse effects are no more than minimal. The use of a private mitigation bank

<sup>4</sup> Although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed.

<sup>5</sup> See "[Permitting Process](#)" and most recent Nationwide Permits.

<sup>6</sup> See "[DHEC's General State Certification for Nationwide Permits](#)" and "[DHEC's Final 401 Water Quality Certification](#)"

<sup>7</sup> See "[Final Regional Conditions for 2021 Nationwide Permits in Charleston District \(SAC\)](#)."

to satisfy compensatory mitigation requirements is prioritized over other methods if the appropriate credit type (i.e., warm water stream credits, wetland credits, etc.) is available within the service area, which is determined by the Hydrologic Unit Code (HUC) in which the project occurs. This project is located in the Broad 03050105 HUC. Private bank rates are subject to change and in some cases may be negotiated.

In cases where no private mitigation banks are available within the region, an applicant may be required to pursue other forms of compensatory mitigation, such as a Permittee-Responsible Mitigation (PRM) plan, which can involve on-site or off-site restoration, preservation or enhancement and monitoring periods.

### **Other Permit Conditions**

Use of NWP requires that a project complies with the respective permit Terms, General Conditions, and Regional Conditions. Phases of development completed by a single owner or developer (or entities with shared ownership) can be considered as part of a single project by the Corps, where cumulative impacts are assessed toward notification and compensatory mitigation thresholds under the Nationwide Permit process. An additional factor in assessing project limits by the Corps is a test for independent utility. Within the NWP language, independent utility is defined as “A test to determine what constitutes a single and complete nonlinear project in the Corps Regulatory Program”. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.” Project limits can vary based on a particular agent’s interpretation of the regulations and project specifics.

Other considerations for a project’s eligibility under the Nationwide Permit program include (but are not limited to) a review for compliance with general and regional conditions, and impacts to cultural and historic resources, natural heritage resources, and federally protected species. For example, if activities authorized under the Nationwide Permit program may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, Section 106 consultation under the National Historic Preservation Act may be required. Similarly, if activities authorized under the Nationwide Permit program “may affect” a listed species or critical habitat identified in the Endangered Species Act, Section 7 consultation under the Endangered Species Act may be required.

### **Recommendations**

All findings assessing the jurisdictional status of potential waters of the U.S. are preliminary and are subject to verification and modification by the Corps, and are subject to change based on the Clean Water Act rules, regulations, and guidance in effect at the time of site development. If a federal permit is anticipated, W&W recommends a protected species survey to satisfy potential permitting requirements mandated under the Endangered Species Act. Vegetation surveys should occur during the Optimal Survey Window for South Carolina’s Federally Threatened, Endangered, and At-Risk Plant Species (Attachment B), if applicable. For certain species, W&W will contract sub-consultants for identification purposes.

Generally, W&W recommends evaluating potential impacts and CWA permit strategies as soon as practical. Next steps may consist of requesting that the Corps provide concurrence with the delineation by submitting a Jurisdictional Determination (JD) request, or proceeding with a permit verification request if impacts to features identified as potentially jurisdictional, potentially non-jurisdictional or marginal are necessary.

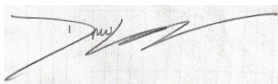
In some cases, proceeding with a JD request to the Corps is a good option to clarify the jurisdictional status of features identified on-site, but standalone JD requests can take several months to be processed by

the Corps and have no established statutory timeline for review. Alternatively, if conceptual site plans have been developed and project-related impacts fall within Nationwide Permit thresholds, W&W can prepare a permit verification request with a JD or Delineation Concurrence letter. This strategy takes advantage of the statutory timeline established for the Corps to respond to and process NWP verification requests.

This concludes our field assessment of regulated Waters of the U.S. within the review area. Please do not hesitate to contact us should you have questions or concerns.

Sincerely,

Drew Lucas



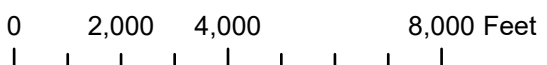
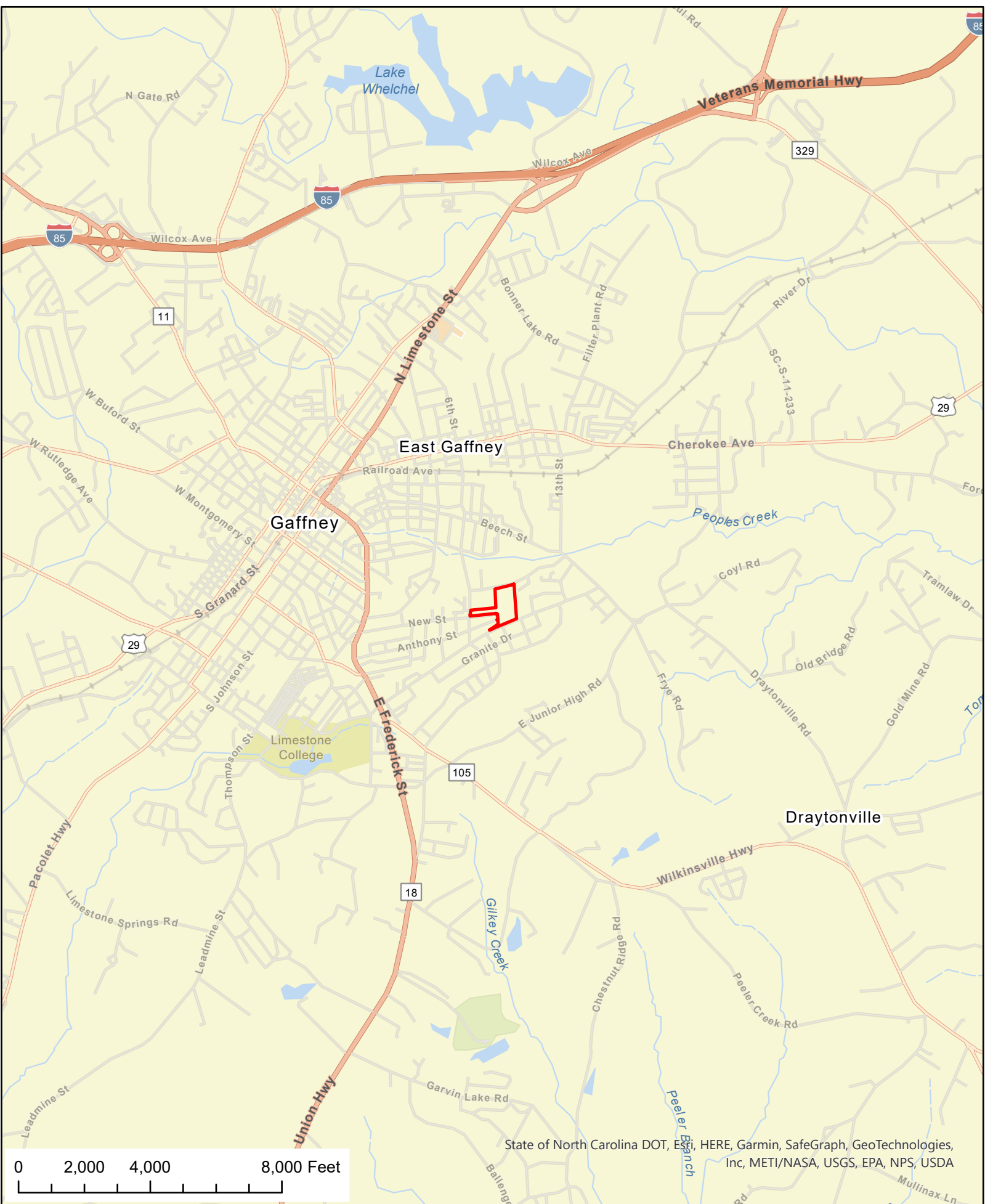
Field Technician  
540-529-2580

Chris Huysman



Senior Project Manager  
336-406-0906

Attachments: Vicinity Map  
Figure 1: Approximate Delineation of Surface Waters and Wetlands  
Figure 2. County GIS  
Figure 3. USGS Topographic Quadrangle  
Figure 4. NRCS Soil Survey  
Figure 5. National Wetland Inventory  
Figure 6. FEMA Floodplain Panel  
Attachment A: SC Natural Heritage Program Report  
Attachment B: Optimal Survey Window for South Carolina's Federally Threatened, Endangered, and At-Risk Plant Species



State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA



Site Vicinity

Project Name:	Goldmine Springs Road
Owner / Developer:	Exponential Equity
City / County:	Gaffney/Cherokee
Tax PIN(s):	partial 100-00-00-018.000 & 100-00-00-018.001
Coordinates:	Lat: 35.0696925°N Long: -81.6313078°W



Date: 10-03-2022

# Legend

 Review Area

Not for External Distribution

0 115 230 460 Feet

\*Wetland Sketch provided for illustrative purposes for preliminary planning use only. Not intended to be relied upon for exact location, dimensions, or orientation. All findings and assessments made by jurisdiction or permitting requirements are subject to verification by the US Army Corps of Engineers and other appropriate state and local authorities.

\*GPS approximations only, NOT surveyed

Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



Figure 1: Approximate Delineation of Surface Waters and Wetlands

Project Name:

Goldmine Springs Road

Owner / Developer:

Exponential Equity

City / County:

Gaffney/Cherokee

Tax PIN(s):

partial 100-00-00-018.000 & 100-00-00-018.001

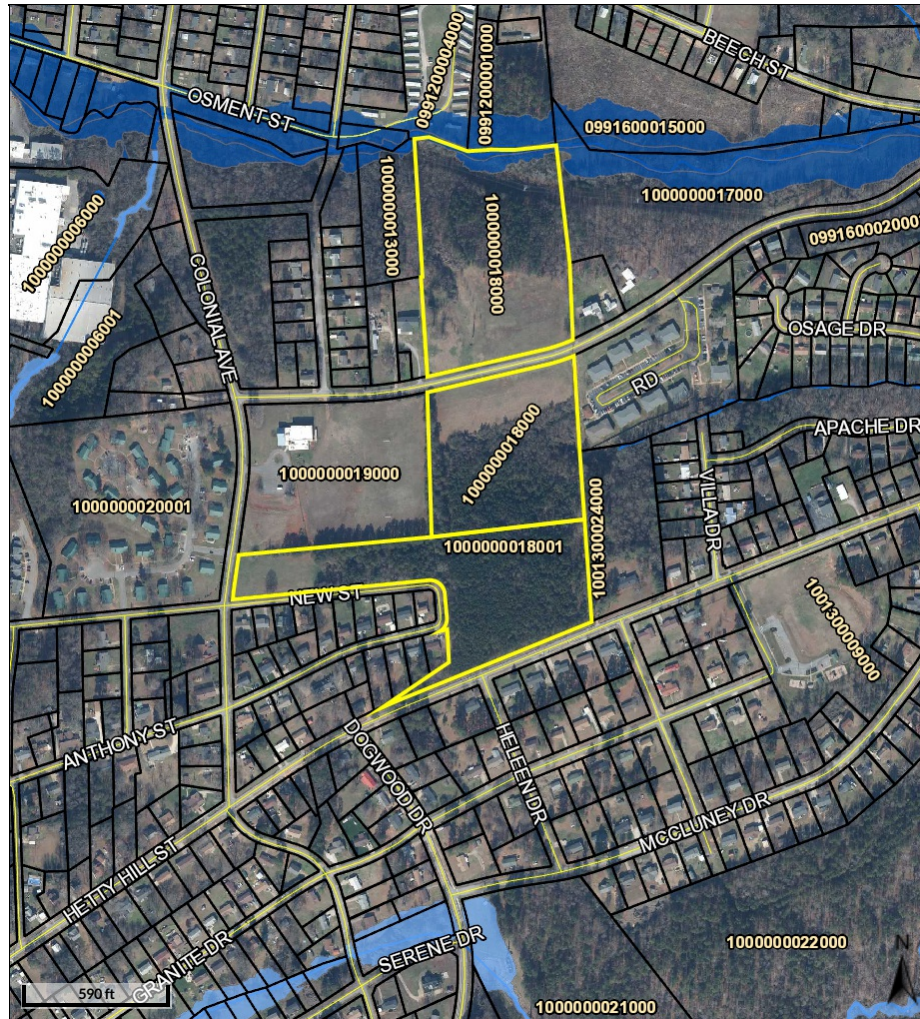
Coordinates:

Lat: 35.0696925°N

Long: -81.6313078°W

Date: 10-17-2022





- Legend**
- Parcels
  - Roads
  - Flood Map**
  - A
  - AE
  - Creeks
  - Lakes

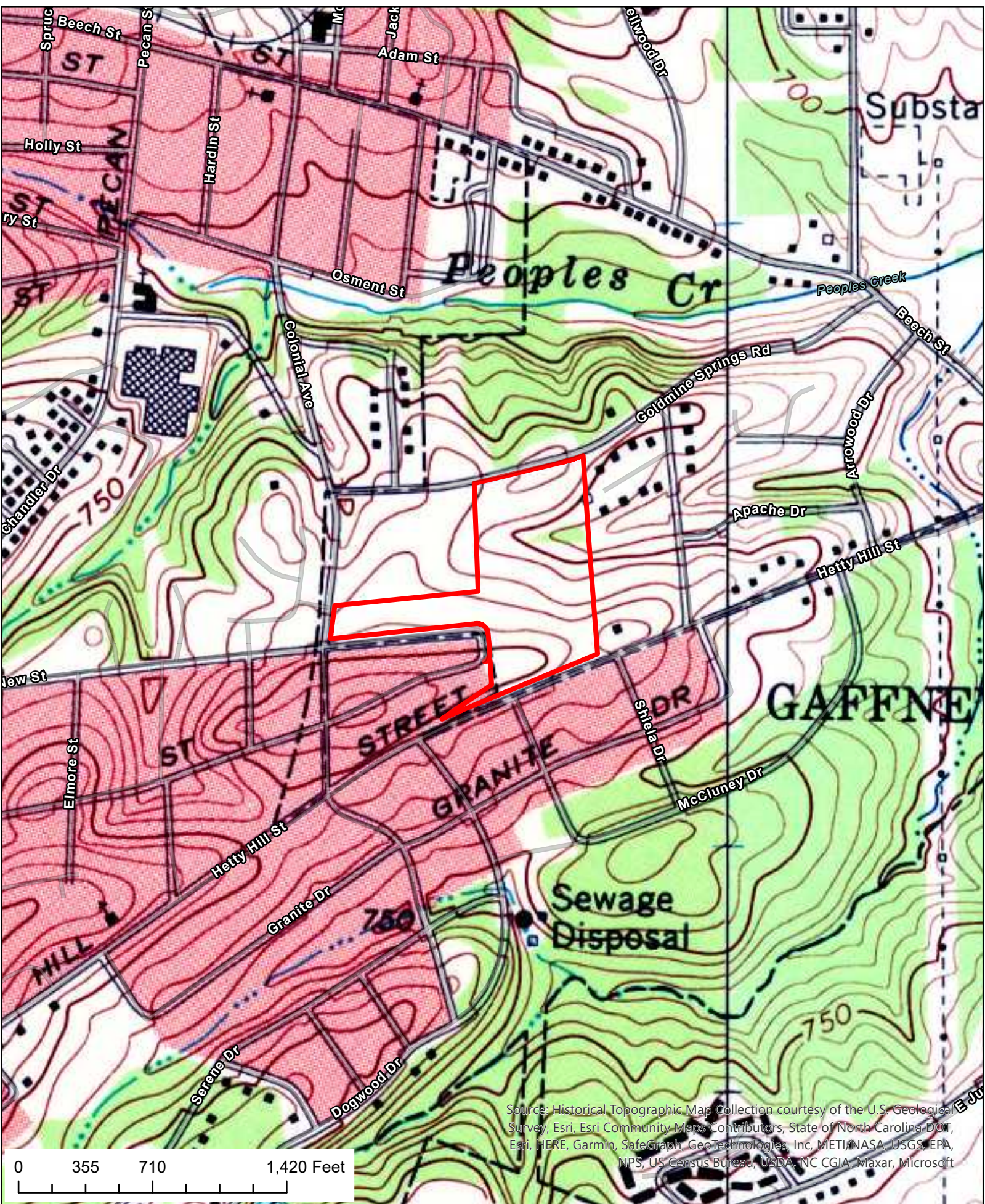
Date created: 10/3/2022  
 Last Data Uploaded: 9/29/2022 6:15:33 PM

Developed by Schneider  
 GEOSPATIAL



Figure 2: County GIS

Project Name:	Goldmine Springs Road		
Owner / Developer:	Exponential Equity		
City / County:	Gaffney/Cherokee		
Tax PIN(s):	partial 100-00-00-018.000 & 100-00-00-018.001		
Coordinates:	Lat: 35.069692	Long: -81.631307	
	Scale:	graphic	Date: 10-03-2022



Source: Historical Topographic Map Collection courtesy of the U.S. Geological Survey, Esri, Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NC CGIA, Maxar, Microsoft

**W** WETLANDS & WATERS, INC.  
 Figure 3: USGS Topo Quad

Project Name:	Goldmine Springs Road
Owner / Developer:	Exponential Equity
City / County:	Gaffney/Cherokee
Tax PIN(s):	partial 100-00-00-018.000 & 100-00-00-018.001
Coordinates:	Lat: 35.0696925°N Long: -81.6313078°W

North arrow pointing up, with N, S, E, W labels.

Date: 10-03-2022

Soil Map—Cherokee County, South Carolina  
(Review Area)

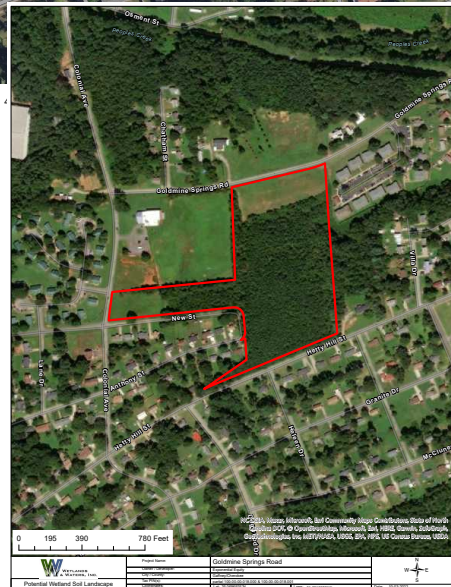


Soil Map may not be valid at this scale.

Map Scale: 1:3,590 if printed on A landscape (11" x 8.5") sheet.



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



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DaC2	Davidson loam, 2 to 10 percent slopes, eroded	3.1	17.0%
GfF	Gullied land, friable materials, 10 to 35 percent slopes	7.5	41.8%
TmB2	Tatum very fine sandy loam, 2 to 6 percent slopes, eroded	3.2	17.9%
TmC2	Tatum very fine sandy loam, 6 to 10 percent slopes, eroded	1.1	6.3%
TmD2	Tatum very fine sandy loam, 10 to 15 percent slopes, eroded	3.1	17.1%
<b>Totals for Area of Interest</b>		<b>18.0</b>	<b>100.0%</b>

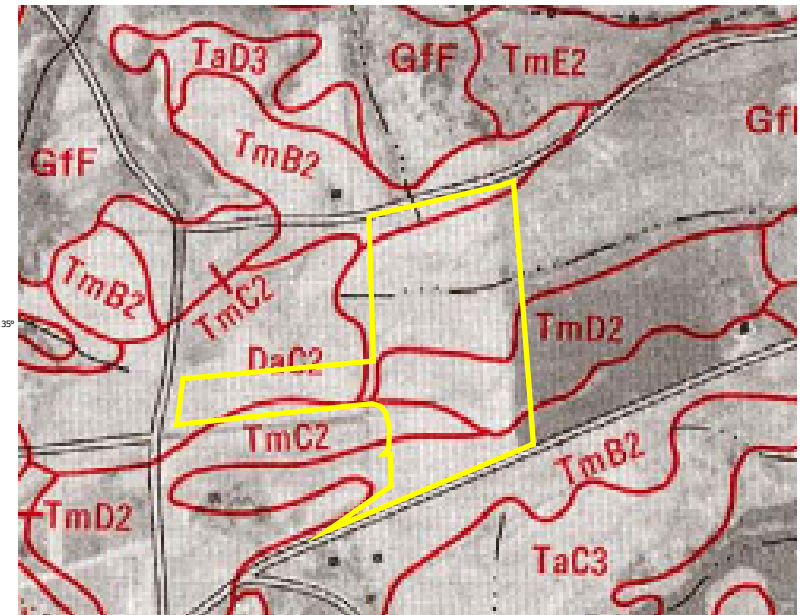


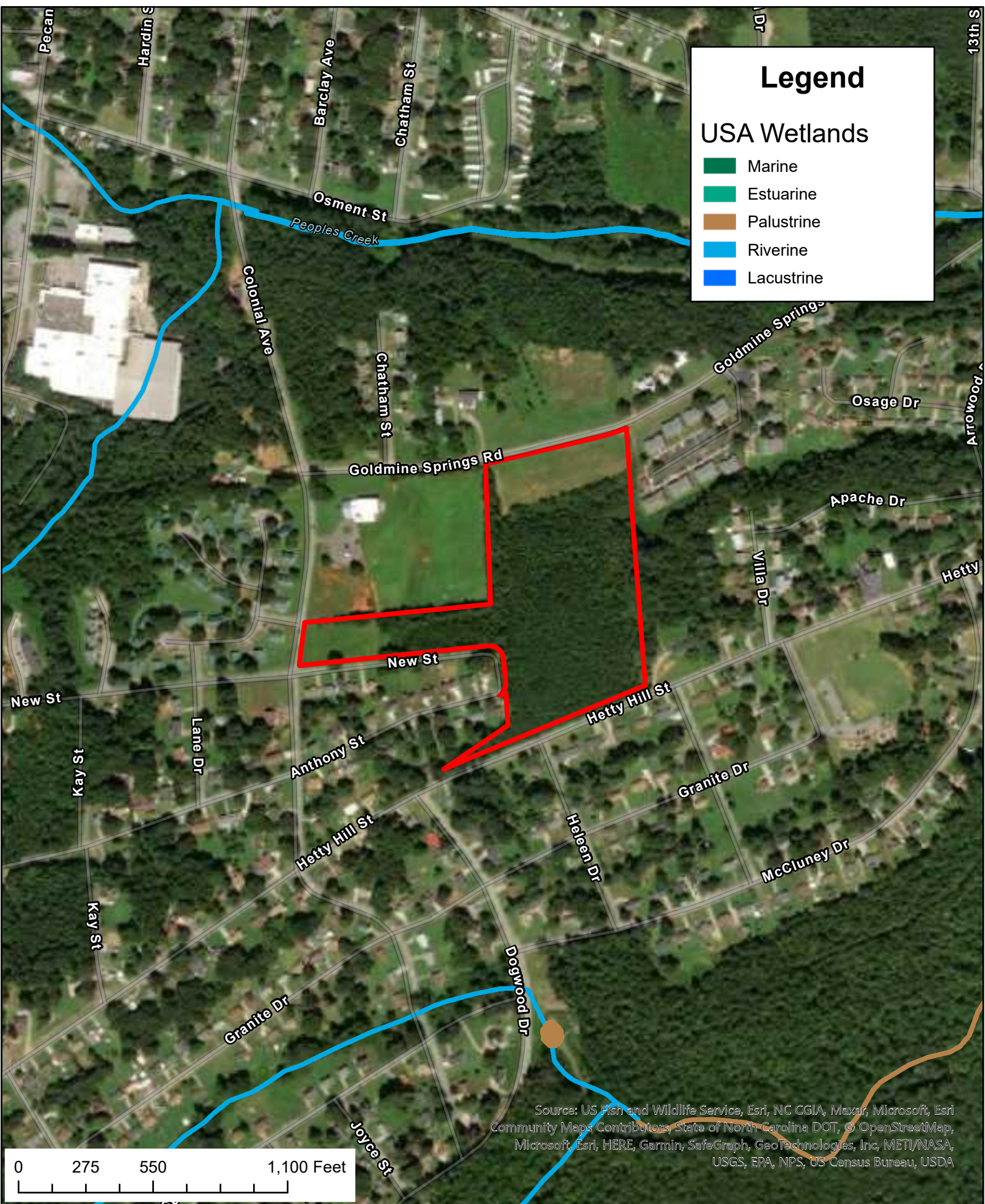
Figure 4: NRCS Soil Survey

Project Name: Goldmine Springs Road  
 Owner / Developer: Exponential Equity  
 City / County: Gaffney / Cherokee  
 Tax PIN(s): partial 100-00-00-018.000 & 100-00-00-018.001

Coordinates:  
 Lat: 35.069692 Long: -81.631307

Scale: graphic

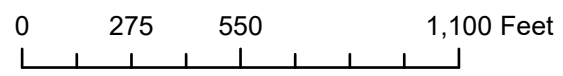
Date: 10-03-2022



### Legend

**USA Wetlands**

- Marine
- Estuarine
- Palustrine
- Riverine
- Lacustrine



Source: US Fish and Wildlife Service, Esri, NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

 <b>WETLANDS &amp; WATERS, INC.</b>	Project Name:	Goldmine Springs Road		
	Owner / Developer:	Exponential Equity		
	City / County:	Gaffney/Cherokee		
	Tax PIN(s):	partial 100-00-00-018.000 & 100-00-00-018.001		
	Coordinates:	Lat: 35.0696925°N	Long: -81.6313078°W	

Figure 5: National Wetlands Inventory

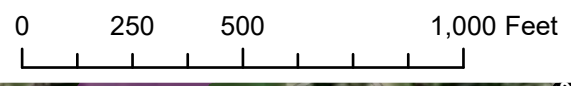


### Legend

**USA Flood Hazard Areas**

- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee

NC CGIA, Maxar, Microsoft, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA



<p><b>WETLANDS &amp; WATERS, INC.</b></p> <p>Figure 6: FEMA Floodplain Panel</p>	Project Name:	Goldmine Springs Road		
	Owner / Developer:	Exponential Equity		
	City / County:	Gaffney/Cherokee		
	Tax PIN(s):	partial 100-00-00-018.000 & 100-00-00-018.001		
	Coordinates:	Lat: 35.0696925°N	Long: -81.6313078°W	

# Attachment A

## South Carolina Natural Heritage Report





# South Carolina Department of Natural Resources

---

Robert H. Boyles, Jr.  
Director

Emily C. Cope  
Deputy Director for Wildlife and Freshwater Fisheries

This report includes the following items:

- A - A report for species which intersect the project area
- B - A report for species which intersect the buffer around the project area
- C - A list of best management practices relevant to species near to or within the project area
- D - A list of best management practices relevant to the project type
- E - Instructions to submit new species observation records to the SC Natural Heritage Program

Please be advised:

The contents of this report, including all tables, maps, recommendations, and various other text, are produced as a direct result of the information a user provides at the time of submission. The SCDNR assumes that all information submitted by the user represents the project scope as proposed, and recommends that additional reports be requested should the scope deviate from how the project was initially represented to the SCDNR.

The technical comments outlined in this report are submitted to speak to the general impacts of the activities as described through inquiry by parties outside the South Carolina Department of Natural Resources. These technical comments are submitted as guidance to be considered and are not submitted as final agency comments that might be related to any unspecified local, state or federal permit, certification or license applications that may be needed by any applicant or their contractors, consultants or agents presently under review or not yet made available for public review. In accordance with its policy 600.01, Comments on Projects Under Department Review, the South Carolina Department of Natural Resources, reserves the right to comment on any permit, certification or license application that may be published by any regulatory agency which may incorporate, directly or by reference, these technical comments.

Interested parties are to understand that SCDNR may provide a final agency position to regulatory agencies if any local, state or federal permit, certification or license applications may be needed by any applicant or their contractors, consultants or agents. For further information regarding comments and input from SCDNR on your project, please contact our Office of Environmental Programs by emailing [environmental@dnr.sc.gov](mailto:environmental@dnr.sc.gov) or by visiting [www.dnr.sc.gov/environmental](http://www.dnr.sc.gov/environmental). Pursuant to Section 7 of the Endangered Species Act, requests for formal letters of concurrence with regards to federally listed species should be directed to the USFWS.

Should you have any questions or need more information, please do not hesitate to contact our office by email at [speciesreview@dnr.sc.gov](mailto:speciesreview@dnr.sc.gov) or by phone at 803-734-1396.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Lemeris, Jr.", is written over a light blue horizontal line.

Joseph Lemeris, Jr.  
Heritage Trust Program  
SC Department of Natural Resources

*Live Life Outdoors*



## A. Project Area - Species Report

There are 0 tracked species records found within the project foot print. The following table outlines occurrences found within the project footprint (if any), sorted by listing status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found on site may be listed in this table but are not represented on the map. Please contact [speciesreview@dnr.sc.gov](mailto:speciesreview@dnr.sc.gov) should you have further questions related to sensitive species found within the project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau,

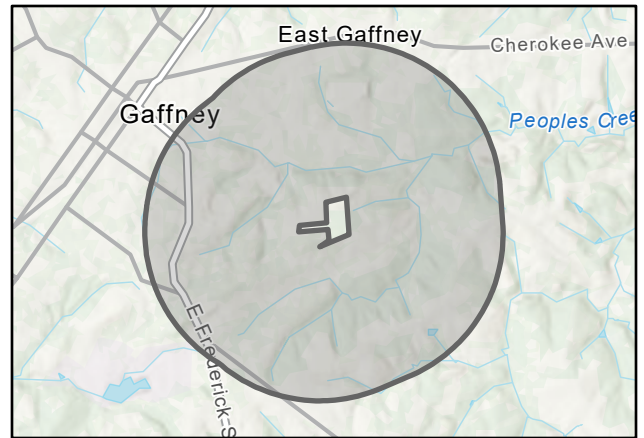
No records for species of concern are found within the project area

## B. Buffer Area - Species Report

The following table outlines rare, threatened or endangered species found within 1 miles of the project footprint, arranged in order of protection status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found within the buffer area may be listed in this table but are not represented on the map.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, FEMA, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA



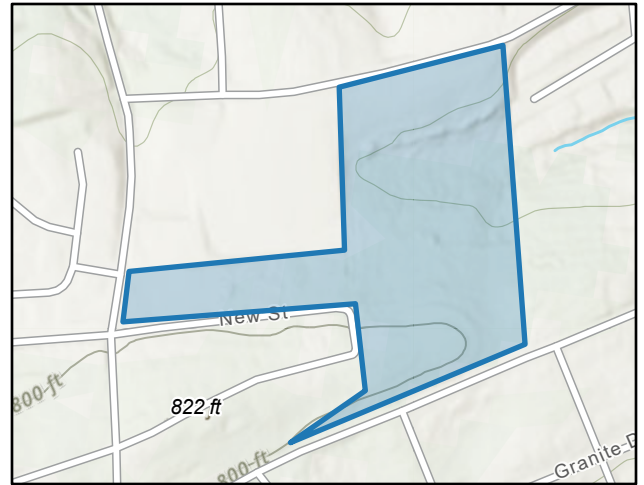
No records for species of concern are found within the buffered search distance area

## C. Species Best Management Practices (1 of 1)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact [speciesreview@dnr.sc.gov](mailto:speciesreview@dnr.sc.gov) should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS, Finland, NLSI, Ordnance Survey, SKGeodesy, Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri,



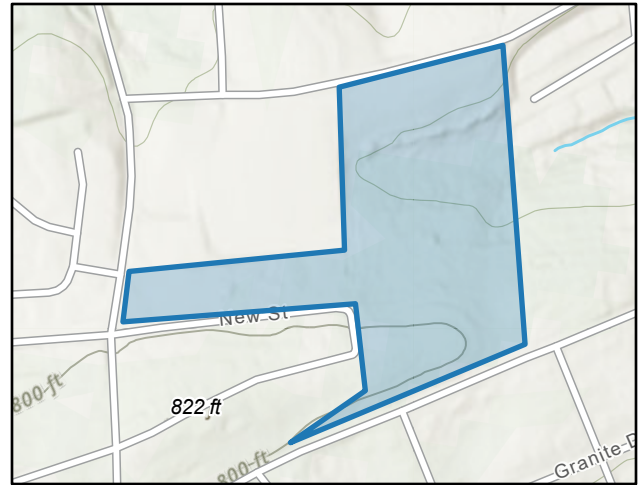
Cavity- and tree-roosting bat species including the federally threatened northern long-eared bat (*Myotis septentrionalis*), state-endangered Rafinesque's big-eared bat (*Corynorhinus rafinesquii*), and the federally at-risk tricolored bat (*Perimyotis subflavus*) have been known to occur in the county of the proposed site. As a conservation measure, it is recommended that any tree clearing activities be conducted during the inactive season for Northern long-eared bat (November 15th through March 31st) to avoid negative impacts to the species. If any of the above species are found on-site, please contact the USFWS and SCDNR.

## D. Project Best Management Practices (1 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at [environmental@dnr.sc.gov](mailto:environmental@dnr.sc.gov) should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri,



If this project is associated with the Federal Government and the project area is or once was used as farmland, we recommend that consultation occur with the U.S. Department of Agriculture's Natural Resource Conservation Service (NRCS) per the Farmland Protection Policy Act; areas of the site are classified as prime farmland or farmland of statewide importance.

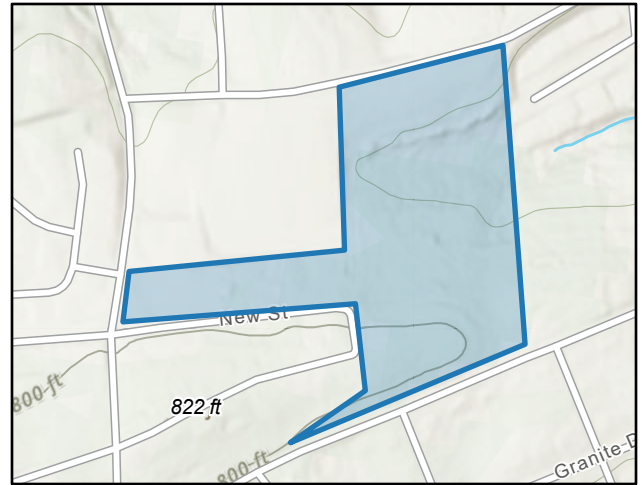
- All necessary measures must be taken to prevent oil, tar, trash and other pollutants from entering the adjacent offsite areas/wetlands/ water.
- Once the project is initiated, it must be carried to completion in an expeditious manner to minimize the period of disturbance to the environment.
- Upon project completion, all disturbed areas must be permanently stabilized with vegetative cover (preferable), riprap or other erosion control methods as appropriate.
- The project must be in compliance with any applicable floodplain, stormwater, land disturbance, shoreline management guidance or riparian buffer ordinances.
- Prior to beginning any land disturbing activity, appropriate erosion and siltation control measures (e.g. silt fences or barriers) must be in place and maintained in a functioning capacity until the area is permanently stabilized.
- Materials used for erosion control (e.g., hay bales or straw mulch) will be certified as weed free by the supplier.
- Inspecting and ensuring the maintenance of temporary erosion control measures at least:
  - a. on a daily basis in areas of active construction or equipment operation;
  - b. on a weekly basis in areas with no construction or equipment operation; and
  - c. within 24 hours of each 0.5 inch of rainfall.
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts.
- Land disturbing activities must avoid encroachment into any wetland areas (outside the permitted impact area). Wetlands that are unavoidably impacted must be appropriately mitigated.
- Your project may require a Stormwater Permit from the SC Department of Health & Environmental Control, please visit <https://www.scdhec.gov/environment/water-quality/stormwater>

## D. Project Best Management Practices (2 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at [environmental@dnr.sc.gov](mailto:environmental@dnr.sc.gov) should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS, Finland, NLSI, Ordnance Survey, SK Geodesy, Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri,

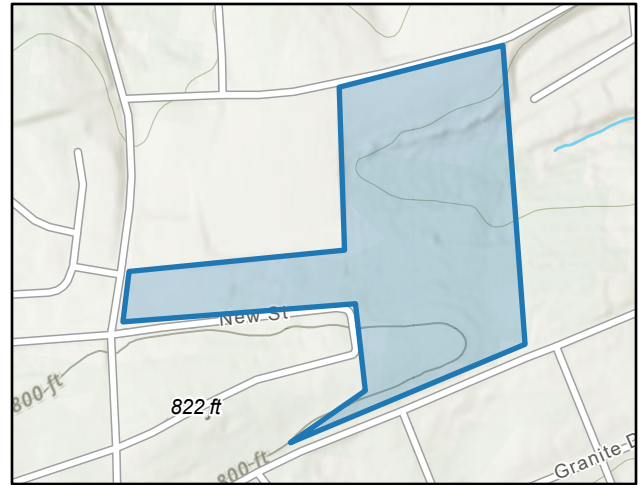


- Residential and commercial development has grown exponentially in recent years. Activities associated with these developments can have detrimental impacts on wildlife and aquatic resources such as habitat fragmentation, loss of available habitats and pollution, especially stormwater pollution. The result of these impacts causes the displacement of species and increases wildlife and human interactions. However, properly planned and sited development activities may allow for economic expansion with minimal negative impacts.
- Where appropriate, particularly adjacent to wetlands and water bodies, drainage plans and construction measures for residential and commercial development should be designed to control erosion and sedimentation, water quality degradation and other negative impacts on adjacent water and wetlands utilizing the best available design research. Developers proposing development activities should contact and work closely with local community development planning entities.
- Developments should be planned where growth is most compatible with natural resources utilizing residential and commercial cluster development methods, maximizing green spaces which can both be beneficial to protect natural resources and provide recreational opportunities for outdoor enthusiasts.
- Developments should be designed and constructed to avoid impact to wetland and stream areas whenever possible and to minimize unavoidable wetland and stream impacts to the maximum extent possible. Aquatic habitats and other sensitive natural areas should be identified in the initial planning stages of the project and incorporated in their natural state into the overall development plan.
- Developments should be designed to maintain the integrity and contiguity of wetland and stream systems and their associated riparian corridors, including the establishment of protective upland buffers around and between undisturbed aquatic systems whenever possible. Projects should be designed to minimize habitat fragmentation, including the construction of a limited number of road and utility crossings through streams and wetlands.
- The SCDNR recommends that the applicant incorporate vegetated bioswales, catch basins and/or bioretention cells/rain gardens into development plans beyond the regulatory requirements of the Stormwater Permitting requirements to add additional features to aid in capturing and filtering runoff from hardened surfaces. These structures can protect water quality and prevent oil, gas and other pollutants from directly entering nearby waterways. In addition, the SCDNR strongly recommends the use of permeable or porous pavement surfaces when possible. Permeable surfaces allow for rainfall to filter through the soil which aids in flood control and improves water quality.
- The following resources are available from Clemson Extension to assist:
  - <https://hgic.clemson.edu/factsheet/an-introduction-to-bioswales/>
  - <https://hgic.clemson.edu/factsheet/rain-garden-plants-introduction/>
  - <https://hgic.clemson.edu/factsheet/bioretention-cells-a-guide-for-your-residents/>
  - <https://hgic.clemson.edu/factsheet/an-introduction-to-porous-pavement/>
  - <https://hgic.clemson.edu/factsheet/trees-for-stormwater-management/>

## E. Instructions for Submitting Species Observations

The SC Natural Heritage Dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. Below are instructions for how to download the SC Natural Heritage Occurrence Reporting Form through the Survey123 App.

Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS, Finland, NLSI, Ordnance Survey, SKGeodesy, Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, Esri,



## Conservation Ranks & SWAP Priority Status

The SC Natural Heritage Program assigns S Ranks for species tracked within the state of South Carolina based on ranking methodology developed by NatureServe and its state program network. For information conservation rank definitions, please visit <https://explorer.natureserve.org/AboutTheData/Statuses>

The SCDNR maintains and updates its State Wildlife Action Plan (SWAP) every 10 years. This plan categorizes species of concern by Moderate, High, and Highest Priority. Please visit <https://www.dnr.sc.gov/swap/index.html> for more information about the SC SWAP.

## Instructions for accessing the SC Natural Heritage Occurrence Reporting Form

For use in a browser (on your desktop/PC):

- 1) Follow <https://bit.ly/scht-reporting-form>
- 2) Select 'Open in browser'
- 3) The form will open and you can begin entering data!

This method of access will also work on a browser on a mobile device, but only when connected to the internet. To use the form in the field without relying on data/internet access, follow the steps below.

For use on a smartphone or tablet using the field app:

- 1) Download the Survey123 App from the Google Play store or the Apple Store. This app is free to download. Allow the app to use your location.
- 2) No need to sign in. However, you will need to provide the app with our Heritage Trust GIS portal web address. You will only need to do this once: (this is a known bug with ESRI's software, and future releases of the form should not require the below steps. Bear with us in the meantime!).
  - a. Tap 'Sign in'
  - b. Tap the settings (gear symbol) in the upper right corner
  - c. Tap 'Add Portal'
  - d. After the 'https://', type [schtportal.dnr.sc.gov/portal](https://schtportal.dnr.sc.gov/portal)
  - e. Tap 'Add Portal'
  - f. Tap the back-arrow icon (upper left corner) twice to return to the main sign in page.
- 3) Use the camera app (or other QR Reader app) to scan the QR code on this page from your smartphone or tablet. Click on the 'Open in the Survey123 field app'. This will prompt a window to allow Survey123 to download the SC Natural Heritage Occurrence Reporting Form. Select 'Open.'
- 4) The form will automatically open in Survey123, and you can begin entering data! This form will stay loaded in the app on your device until you manually delete it, and you can submit as many records as you like.



## Attachment B

# Optimal Survey Window for South Carolina's Federally Threatened, Endangered, and At-Risk Plant Species

OPTIMAL SURVEY WINDOWS AND NUMBER OF YEARS A SURVEY IS VALID FOR  
SOUTH CAROLINA'S FEDERALLY THREATENED, ENDANGERED, AND AT-RISK PLANT SPECIES

SCIENTIFIC NAME	COMMON NAME	STATUS	SURVEY WINDOW	YEARS SURVEY IS VALID
<i>Aeschynomene virginica</i>	sensitive joint-vetch	T	July – October	1
<i>Amaranthus pumilus</i>	seabeach amaranth	T	July - October (or before first tropical storm that causes overwash)	1
<i>Amorpha georgiana</i> var. <i>georgiana</i>	Georgia lead-plant	ARS	late April – October	2
<i>Cardamine micranthera</i>	small-anthered bittercress	E	April - May	1
<i>Carex impressinervia</i>	impressed-nerved sedge	ARS	April - May	2
<i>Carex lutea</i>	golden sedge	E	mid April - mid June	2
<i>Dionaea muscipula</i>	Venus flytrap	ARS	late May – June	2
<i>Echinacea laevigata</i>	smooth coneflower	E	late May – October	2
<i>Fimbristylis perpusilla</i>	Harper's fimbristylis	ARS	July – September	2
<i>Geum radiatum</i>	spreading avens	E	June – September	2
<i>Gymnoderma lineare</i>	rock gnome lichen	E	year round	2
<i>Hedyotis purpurea</i> var. <i>montana</i>	Roan Mountain bluet	E	June – July	2
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	E	late August – October	2
<i>Helonias bullata</i>	swamp pink	T	April – May	2
<i>Hexastylis naniflora</i>	dwarf-flowered heartleaf	T	March – May	2
<i>Hudsonia montana</i>	mountain golden heather	T	late May - early June	2
<i>Isoetes microvela</i>	thin-wall quillwort	ARS	April – July	1
<i>Isotria medeoloides</i>	small whorled pogonia	T	mid May - early July	1
<i>Liatris helleri</i>	Heller's blazing star	T	July – September	2
<i>Lindera melissifolia</i>	pondberry	E	February – March; September - October	2
<i>Lindera subcoriacea</i>	bog spicebush	ARS	March - August	2
<i>Lobelia boykinii</i>	Boykin's Lobelia	ARS	May – July	2
<i>Ludwigia ravenii</i>	Raven's seedbox	ARS	June - October	2
<i>Lysimachia asperulaefolia</i>	rough-leaved loosestrife	E	mid May – September	2
<i>Macbridea caroliniana</i>	Carolina birds-in-a-nest	ARS	July – November	2
<i>Minuartia godfreyi</i>	Godfrey's stitchwort	ARS	April – June	2
<i>Oxypolis canbyi</i>	Canby's dropwort	E	mid July – September	2
<i>Platanthera integrilabia</i>	white fringeless orchid	T	mid July - late August	2
<i>Ptilimnium nodosum</i>	harperella	E	July – early September (during low water)	1
<i>Rhus michauxii</i>	Michaux's sumac	E	May – October	2
<i>Rhynchospora crinipes</i>	hairy-peduncled beakrush	ARS	July – September	2
<i>Rudbeckia heliopsidis</i>	sun-facing coneflower	ARS	July – September	2
<i>Sagittaria fasciculata</i>	bunched arrowhead	E	mid May – July	2
<i>Sarracenia oreophila</i>	green pitcher-plant	E	late April – October	2
<i>Sarracenia purpurea</i> var. <i>montana</i>	mountain purple pitcher-plant	ARS	April – October	2
<i>Sarracenia rubra</i> ssp. <i>jonesii</i>	mountain sweet pitcher-plant	E	April – October	2

SCIENTIFIC NAME	COMMON NAME	STATUS	SURVEY WINDOW	YEARS SURVEY IS VALID
<i>Schwalbea americana</i>	American chaffseed	E	May - August (1-2 months after a fire)	2
<i>Sisyrinchium dichotomum</i>	white irisette	E	late May – July	2
<i>Solidago plumosa</i>	Yadkin River goldenrod	CCA	September – October	2
<i>Solidago spithamea</i>	Blue Ridge goldenrod	T	July – September	2
<i>Symphotrichum georgianum</i>	Georgia aster	CCA	October - mid November	2
<i>Spiraea virginiana</i>	Virginia spiraea	T	May - early July	2
<i>Sporobolus teretifolius</i>	wire-leaved dropseed	ARS	July – September (following fire)	2
<i>Thalictrum cooleyi</i>	Cooley's meadowrue	E	mid June - early July	2
<i>Tsuga caroliniana</i>	Carolina hemlock	ARS	year round	2

**STATUS KEY:**

E - Federally endangered

T - Federally threatened

ARS - Proposed for listing as threatened or endangered under the ESA, candidate species for listing, or petitioned by a third party for listing. ARS species listed above have "substantial" 90-day findings and are undergoing status reviews (awaiting 12-month findings).

CCA - Species subject to a candidate conservation agreement.

**OTHER NOTES:**

These survey windows were determined from species recovery plans, field observations, herbaria specimens, and NC Natural Heritage Program information. For additional information about these species, please visit the U.S. Fish and Wildlife Service Asheville Field Office webpage at <https://www.fws.gov/asheville/> or the Raleigh Field Office webpage at <https://www.fws.gov/raleigh/>.

If suitable habitat for species is present in the proposed impact area, the U.S. Fish and Wildlife Service will likely request species surveys, conducted by a qualified biologist, during the optimal survey window. Projects are reviewed on a case-by-case basis and you are encouraged to contact a Section 7 coordinator early in the project planning process. To discuss your project and survey requirements with a Section 7 coordinator, please contact the Asheville Field Office at 828-258-3939 or the Raleigh Field Office at 919-856-4520

Version date: March 10, 2020