ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY

AT THE

CONNEXIAL CENTER

Laurens County, SC

PREPARED FOR

LAURENS COUNTY DEVELOPMENT CORPORATION 291 PROFESSIONAL PARK ROAD CLINTON, SC 29325

> JANUARY 2020 T&H J – 26942.0007

Prepared by:



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1. INTRODUCTION

Thomas & Hutton (T&H) was retained by Laurens County Development Corporation to conduct Environmental Due Diligence for the Chanel-McDaniel Property located within the Connexial Center in Laurens County, SC. This tract is being evaluated for possible commercial/industrial development to be included as a part of the Connexial Center. The Connexial Center is a business park located in Laurens County, SC and is owned by the Laurens County Development Corporation. Project personnel obtained the information contained in this report from private agencies, published references, and visual observations associated with the completion of the Wetlands Delineation, Phase I Environmental Site Assessment, Protected Species Assessment, Cultural Resources Identification Survey, Reconnaissance-Level Geotechnical Exploration, and associated field observations.

The Chanel-McDaniel Property is approximately 61-acres and is located about 3-miles northwest of the town of Gray Court in Laurens County, South Carolina. The western half of the property is currently being used for agricultural purposes and the eastern half of the property is currently undeveloped woods. The subject property is bisected by a dirt road named Old Dairy Road that runs from south to north and connects to Friendship Church Road approximately 0.5-milesr south of the property. Old Dairy Road is currently the only means of access to the property. The Chanel-McDaniel property is bounded on all sides by agricultural property. Laurens County is in the Upstate region of South Carolina and is adjacent to Greenville, Spartanburg, Union, Newberry, Greenwood, Abbeville, and Anderson Counties. The 724 square mile County has a population of approximately 66,994 (2018) and a labor force of approximately 16,753 (2017), according to estimates by the US Census Bureau. Interstate 385 generally runs northwest to southeast through the County, providing access directly to the city of Greenville (20 miles north) and Interstate 26 (in the southwest portion of the County). Interstate 26 provides direct access to Columbia (60 miles south), Charleston (170 miles south), and Spartanburg (32 miles north). Additionally, Laurens County is located 53-miles from the regional Columbia Metropolitan Airport, 25-miles from the Greenville-Spartanburg International Airport, and 80-miles from the Charlotte/Douglas International Airport. The County is also serviced by both Norfolk Southern and CSX railroad and Carolina Piedmont Railroad.

The following sections of this report summarize the information obtained during the due diligence phase of the project. T&H coordinated with Consultants for the preparation of a Protected Species Assessment, a Wetlands Delineation, a Reconnaissance-Level Geotechnical Exploration and a Cultural Resources Identification Survey. Thomas & Hutton has prepared a Phase I Environmental Site Assessment and has conducted an ALTA for the property. Each of these studies was completed and is included in the appendices section of this report.

2. ENVIROMENTAL DUE DILIGENCE

2.1 Phase I Environmental Site Assessment

T&H completed the "Phase I Environmental Site Assessment Report" in December 2019. Based on Thomas & Hutton's visual reconnaissance of the subject property, review of land use history, review of regulatory files, and conduct of interviews, the findings of the Phase I ESA are as follows:

On-Site Recognized Environmental Conditions

The remains of two (2) small structures were discovered on the subject property. Given the unknown age of the structures, it is possible that hazardous building materials may be present (e.g., asbestos in roofing materials and lead based paint), which may represent a potential business risk related to the subject property. In the case of demolition, the structures should be evaluated for asbestos containing building materials and lead based paint prior to demolition. All demolition related materials should be handled, stored, and removed in a manner that will not impact the subject property. All demolition related waste streams should be handled, recycle, and/or disposed in accordance with applicable federal, state, and local regulations and laws.

There was a small amount of minor, miscellaneous dumping noted on the subject property which will need to be removed and disposed of properly but is not considered a recognized environmental concern based on the visual inspection of the material present. There are no on-site recognized environmental conditions identified for the subject property that may be anticipated to have a potential environmental impact on the subject property.

Off-Site Recognized Environmental Conditions

There are no off-site recognized environmental conditions identified for the subject property that may be anticipated to have a potential environmental impact on the subject property.

Opinions

The historical use of the property is primarily agricultural and silvicultural. The remains of two (2) structures, a house and a small shed, are located on the subject property. Given the unknown age of the structures, it is possible that hazardous building materials may be present (e.g., asbestos in roofing materials and lead based paint), which may represent a potential business risk related to the subject property. In the case of demolition, the structures should be evaluated for asbestos containing building materials and lead based paint prior to demolition. All demolition related materials should be handled, stored, and removed in a manner that will not impact the subject property. All demolition related waste streams should be handled, recycle, and/or disposed in accordance with applicable federal, state, and local regulations and laws.

There was a small amount of miscellaneous illegal dumping on the subject property. These materials will need to be removed from the site and disposed of properly. Based on visual observation of the material present, it is the Environmental Professional's opinion that it is not considered a recognized environmental condition.

The Phase I ESA investigation did not identify any recognized environmental conditions on the subject property that may be anticipated to have a potential environmental impact on the subject property.

Conclusions

T&H has performed the Phase I Environmental Site Assessment for the Chanel-McDaniel property (TMS 188-00-00-002) located on Old Dairy Road, Gray Court, South Carolina in Laurens County in conformance with the scope of limitations of ASTM Standard of practice E 1527-13. Any exceptions to, or deletions from, this practice are described in Section 2.0 and Section 11.0 of the Phase I Report. This assessment revealed no evidence of any on-site recognized environmental conditions or off-site recognized environmental conditions. The full report can be found in Appendix A of this report.

2.2 Protected Species Assessment

The protected species assessment was conducted to assess the potential presence of protected species by Terracon. In December of 2019 Terracon utilized the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) search engine to identify any critical habitat that may occur within the subject property. Upon completion of the search it was found that there are no critical habitats, national wildlife refuges, or fish hatcheries within the property boundaries.

The USFWS lists the Northern Long-eared Bat, the Red-cockaded Woodpecker, and the Carolina Heelsplitter as federally threatened or endangered species that could potentially be found within the project site based on information obtained from the IPaC search engine. Based on Terracon's findings there will be a "no effect" to the redcocked woodpecker or the Carolina heelsplitter due to the lack of suitable habitat identified on-site during the field survey. Based on the forested habitats located on the Chanel-McDaniel property and the broad habitat described by the USFWS, there is a potential for the northern long-eared bat to occur within the site boundaries. Terracon has determined that development of the property is not likely to adversely affect the northern long eared bat. The full Threatened and Endangered Species Survey report can be found in Appendix B.

2.3 Wetlands Delineation and Survey

In December 2019, Terracon completed a Waters of the United States Delineation Report for the Chanel-McDaniel property. To complete the report Terracon gathered preliminary data and analyzed available government documentation, mobilized to the property to conduct the Field Delineation using consecutively numbered colored flagging to mark aquatic resource boundaries, surveyed each delineation flag using sub-meter Global Positioning Satellite (GPS), prepared a map showing approximate locations of the Waters of the United States (WOTUS) (including any wetland areas that were observed during the Field Delineation), and completed a WOTUS Delineation Report that included site characterization information, a discussion of applicable data, and recommendations for the property. As a result of the delineation, Terracon found that there were no wetlands observed on-site. There were two (2) jurisdictional tributaries observed on-site totaling to approximately 2,550 linear feet. Tributary 1 is approximately 2,377 linear feet in length and transects the site, flowing from south to north and drains into an unnamed pond adjacent the site to the northeast. Tributary 1 meanders on and offsite along the eastern boundary. Channel characteristics observed include an approximate channel width of 4 to 6 feet and a depth of five to 12 inches with significant meandering throughout as well as riffle and pool complexes. Flowing water was observed throughout the area delineated with substrate consisting of sand and small pebbles with gradual to steep banks. Tributary 2 is approximately 173 linear feet in length and was observed to have an underground seep originating in the central portion near the northern boundary and flows in a northeast direction offsite. The tributary eventually drains into the adjacent unnamed pond located approximately 225 feet downstream of the site. Channel characteristics observed include an approximate channel width of 2 to 4 feet and a depth of 2 to 6 inches. Flowing or standing water was observed with mostly a clay bottom and steep banks. The Waters of the United States Delineation Report can be found in Appendix C of this report.

2.4 Cultural Resources Identification Survey

Terracon completed the Cultural Resources Identification Survey (CRIS) for the Chanel-McDaniel property in December 2019. The purpose of the survey was to assess the property's potential for containing significant cultural resources and to make recommendations regarding additional work that may be required under Section 106 of the National Historic Preservation Act, as amended, and other pertinent federal, state, or local laws.

Fieldwork for the CRIS was conducted on December 3, 2019. This work included the excavation of 25 shovel test pits (STPs) at 30-meter intervals in high and moderate

probability areas for the occurrence of culturally significant resources. Each shovel test was approximately 30-cm in diameter and was excavated until culturally sterile subsoil was encountered. As a result of the survey, one archeological site, 38LU766, was recorded. Site 38LU766 is a late nineteenth/early twentieth century house site located on the eastern edge of a ridge in a plowed field west of Old Dairy Road in the northern portion of the project area. Based on shovel testing and the extent of a surface scatter, the site measures approximately 110 meters north/south by 60 meters east/west and includes a small stand of trees within an agricultural field. Site 38LU766 has few artifacts, little architectural debris, and no aboveground remains. The site is also a common site type and 38LU766 is not a good example of its type. Based on these factors, site 38LU766 is unlikely to yield any significant information about the history or prehistory of Laurens County and is recommended as being ineligible for inclusion in the National Register of Historic Places (NRHP).

Given the results of this survey, it is the opinion of Terracon that the Chanel-McDaniel property possesses little potential for containing significant cultural resources. Terracon recommends that no further cultural resources investigations are warranted for the property. The full report can be found in Appendix D.

3. GEOTECHNICAL EXPLORATION

Terracon completed the Preliminary Geotechnical Engineering Report for the Chanel-McDaniel property on December 31, 2019. The preliminary geotechnical investigation included five (5) Standard Penetration Test (SPT) borings ranging in depths from thirty (30) to sixty-eight and a half (68.5) feet below the existing grades on-site. The majority of borings that were performed encountered approximately 1.5 to 3-inches of topsoil followed by 3-feet of undocumented fill that consists of silty sand. According to Terracon, the farming and cultivation activities that have historically occurred on the property may have disturbed the top 3-feet of soil, causing it to now be classified as fill. Residual soils consisting of dense silty/clayey sand, and soft to very stiff sandy/silty clay were encountered below the undocumented fill until the boring termination depths. Partially weathered rock (PWR) was found in one (1) boring in the northeast portion of the property at a depth of 42-feet. Groundwater was encountered in two (2) of the test borings, one

(1) in the northeast portion of the property and the other in the southwest portion of the property, both at depths of 35-feet or more.

Based on the results of the testing, ensuring proper drainage from soil subgrades is critical and failure to do so will result in soil deterioration. Terracon states that proposed structures can be supported on a shallow, spread footing foundation system bearing on residual soils, or engineered fill extending to residual soils. Ground improvements such as stone columns, Geopiers or vibro piers may be required if columns loads are more than 200 kips. The on-site soils are suitable for use as structural fill under buildings and pavements if properly placed and compacted. The full Geotechnical Report can be found in Appendix E.

4. MASTER PLAN

The objective of the Conceptual Master Plan was to create a general guide for how the Chanel-McDaniel property could be developed in such a way that the buildable area on-site is utilized to the greatest extent possible, while avoiding any known encumbrances that exist on the on the property. The Laurens County Development Corporation has made the Chanel-McDaniel property a part of the Connexial Center. The additional property to the industrial park is included as a part of "Parcel 7" on the Master Concept Plan for the Connexial Center. The Conceptual Master Plan for the Connexial Center. The Additional property apart of the Source Plan for the Connexial Center.

4.1 Site Challenges

The challenges to development on this site include the jurisdictional stream along the eastern border of the site and the soils on the property. A buffer will need to be maintained between the top of bank of the jurisdictional stream and any proposed development. During construction, the subgrade soils onsite will need to be well-drained in order to keep the soil stability from deteriorating.

5. FIELD SURVEYING

Thomas & Hutton completed an ALTA/NSPS Land Title Survey for the property boundary of the Chanel-McDaniel property. A summary of the ALTA survey that was completed is described below.

5.1 ALTA Surveys and Subdivision Plat

An ALTA survey located pins to determine the boundary lines for the Chanel-McDaniel Property (TMS# 156-00-00-002). The total acreage is 60.53acres with a perimeter length of approximately 7,113 LF. The Chanel-McDaniel Property is bordered by five (5) other parcels (TMS# 188-00-00-001, TMS# 187-00-00-010, TMS# 156-00-00-018, TMS# 156-00-00-011, and TMS# 188-00-00-003) and is bisected by Old Dairy Road. A copy of the Chanel-McDaniel Property Alta survey can be found in Appendix F of this report.

A portion (15.00-acres) of the northern region of the Chanel-McDaniel Property was subdivided so that two (2) new parcels were created. A Subdivision Plat was completed on September 26, 2019 to reflect this. The total acreage of the newly created parcels are 15.00-acres and 45.53-acres. The 15.00-acre parcel has a perimeter length of approximately 3,525 LF and the 45.23-acre parcel has a perimeter length of approximately 6,070 LF. A copy of the Chanel-McDaniel Subdivision Plat can be found in Appendix F of this report.

An ALTA survey was also completed to determine the boundary lines of the adjacent property (TMS# 156-00-00-018) to the northwest of the Chanel-McDaniel Property. The adjacent 10.00-acre property owned by Griff Matlock has a perimeter length of approximately 2,739 LF and is bordered by three (3) other properties (TMS# 156-00-00-002, TMS# 187-00-00-010, and TMS# 156-00-00-011). A copy of the Matlock Property ALTA can be found in Appendix F of this report.

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APPENDIX A

Phase I Environmental Site Assessment

26942.0007

THOMAS & HUTTON

PHASE I ENVIRONMENTAL SITE ASSESSMENT

FOR

70-ACRE LAURENS PARCEL LAURENS COUNTY, SC

PREPARED FOR

LAURENS COUNTY DEVELOPMENT CORPORATION 291 PROFESSIONAL PARK ROAD CLINTON, SC 29325

JANUARY 2019

T&H J - 26942.0007

Prepared by:

THOMAS & HUTTON



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Exhibits

Appendix B

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Appendix E

Signature of Environmental Professional

Appendix F

Qualifications of Environmental Professional

1.0 EXECUTIVE SUMMARY

Thomas & Hutton was retained by the Laurens County Development Corporation on behalf of Laurens Electric Cooperative, LLC to conduct a Phase I Environmental Site Assessment (ESA) on an approximately 70-acre parcel of property located on Old Dairy Road, Gray Court, South Carolina in Laurens County (subject property). The Phase I ESA was completed in accordance with the guidelines set forth by the American Society for Testing and Materials (ASTM) Standard of Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process (Designation El527-13).

Section 3.0 - Site Description, Section 4.0 - User Provided Information, Section 5.0 - Record Review, Section 6.0 - Site Reconnaissance, and Section 7.0 - Interviews provided the basis for the findings (Section 8.0), and conclusions (Section 10.0), of this Phase I ESA. Using the practically reviewable reasonably ascertainable information along with visual observations, the findings with respect to recognized environmental conditions are as follows.

On-site concerns and recognized environmental conditions:

- The remains of two (2) small structures are located on the subject property. Given the unknown age of the structures, it is possible that hazardous building materials may be present (e.g., asbestos in roofing materials and lead based paint), which may represent a potential business risk related to the subject property. In the case of demolition, the structures should be evaluated for asbestos containing building materials and lead based paint prior to demolition. All demolition related materials should be handled, stored, and removed in a manner that will not impact the subject property. All demolition related waste streams should be handled, recycle, and/or disposed in accordance with applicable federal, state, and local regulations and laws.
- There are some areas of minimal miscellaneous dumping, which will need to be removed and disposed of properly but is not considered a recognized environmental concern based on the visual inspection of the material present.
- Based on available information, Thomas & Hutton did not identify the likely presence of an on-site recognized environmental condition for the subject property.

Off-site concerns and recognized environmental conditions:

• Based on available information, Thomas & Hutton did not identify the likely presence of an off-site recognized environmental condition for the subject property.

2.0 INTRODUCTION

2.1 Purpose

The Phase I ESA was conducted to identify, to the extent feasible, recognized environmental conditions associated with the parcels of property located on Old Dairy Road, Gray Court, South Carolina. The property is comprised of an approximate 70-acre property defined as TMS 188-00-00-002 (60 acres) and 156-00-00-018 (9.8 acres) in Laurens County, South Carolina. For the purpose of this ESA recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property, or onto the ground, into the ground water or surface water of the subject property. A historical recognized environmental condition is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

2.2 Scope of Services

The scope of services for the ESA included the following tasks:

- 1. Review the reasonably ascertainable regulatory agency environmental database reports and confirm the location and distance of problem sites to the property during the walking inspection of the property;
- 2. Review of selected, available standard historical sources such as topographic maps, available aerial photographs, environmental reports, etc.;
- 3. Perform a visual reconnaissance of the property and surrounding properties to search for evidence of prior or ongoing sources of contamination;
- 4. Interview available individuals familiar with past and present property uses activities, and operations; and
- 5. Preparation of the Phase I ESA report in ASTM E1527-13 format summarizing the assessment observations and findings.

2.3 Significant Assumptions

The opinions included herein are based on practical review of reasonable and ascertainable information obtained during the investigation and our experience on similar projects. If additional information becomes available, we request the opportunity to review the information, reassess the potential concerns, and modify our opinions and conclusions.

Significant assumptions refer to assumptions that can have an impact on conclusions drawn by an environmental professional. The significant assumptions made in conducting this Phase I ESA are as follows:

• Thomas & Hutton performed a walk-through of the open spaces present at the Site for reconnaissance. Based on these methods, Thomas &

Hutton did not encounter any conditions to suggest that the unobserved portions of the subject property were significantly different from observed portions of the subject property. Therefore, we assume the parts not inspected by Thomas & Hutton are similar in all aspects to those parts of the subject property that were inspected during the site visit.

• The slope of the groundwater table, without interference from pumping or injections, often approximates land surface topography in the area where the subject property is located. Therefore, groundwater movement is assumed to be in approximately the same direction as the topographic slope.

2.4 Limitations and Exceptions

2.4.1 Limitations

In connection with the tasks performed during this assessment, Thomas & Hutton has exercised reasonable efforts to employ the highest professional standards applicable in the industry today. The findings and conclusions provided in this Phase I ESA Report are based on the results of the site reconnaissance, review of regulatory and historical records, and interviews with persons knowledgeable of the subject property and properties in the surrounding area. Thomas & Hutton cannot guarantee however, that the review of land histories has necessarily yielded complete or usable information, or that our preliminary evaluation of the site conditions revealed all possible sources of contamination. Because of these and other limitations, this study has included the application of judgment to scientific principles. To that extent certain results of this work may be based on subjective interpretations. There can be no assurance that definitive or desired results have been obtained, or that they are supportive of any given course of action. The information provided under this assessment is not to be construed as legal advice.

ASTM E1527-13 defines a "recognized environmental condition (REC)" as "the presence or likely presence of any hazardous substances or petroleum products in, on or at a property: 1) due to release to the environment, 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment."

A "de minimis condition" is a condition that generally does not represent a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. De minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions.

ASTM E1527-13 defines a "controlled recognized environmental condition (CREC)" as a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place

subject to the implementation of required controls (for example property use restrictions, activity and use limitations, institutional controls, or engineering controls). A condition identified as a controlled recognized environmental condition does not imply that the Environmental Professional has evaluated or confirmed the adequacy, implementation or continued effectiveness of the required control that has been, or is intended to be, implemented.

ASTM E1527-13 defines a "historic recognized environmental condition (HREC)" as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to any required controls (for example property use restrictions, activity and use limitations, institutional controls, or engineering controls). Before calling the past release a historical recognized environmental condition, the Environmental Professional must determine whether the past release is a recognized environmental condition at the time of the Phase I Environmental Site Assessment is conducted (for example, if there has been a change in the regulatory criteria).

ASTM E1527-13 defines a "business environmental risk" as "a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice".

2.4.2 Exceptions

Exceptions to this Phase I ESA include non-scope items, such as but not totally inclusive of:

- No testing of soil, groundwater, surface water, air, debris, asbestos containing material, lead-based paint, radon, solid waste, hazardous waste, raw material, or product has been performed specifically for the investigation.
- A chain of title search for the property was not conducted as part of this assessment and is considered the responsibility of the user.
- Wetland delineation was not conducted or evaluated as part of this assessment.
- Endangered species survey was not conducted as part of this assessment. Cultural and historic resource studies were not performed as part of this assessment.

2.5 Special Terms and Conditions

No attempts have been made to independently verify information obtained during the investigation. There were no special terms or conditions applied to this Phase I ESA.

2.6 User Reliance

The Phase I ESA is a preliminary assessment that attempts to document the presence of any potential or actual threats to the environment (recognized

environmental conditions) and is not a complete characterization of the property's environmental situation. The Phase I ESA should not be relied upon to completely characterize the property's total environmental situation. The Phase I ESA cannot entirely eliminate all uncertainties regarding the potential for contamination of the soil, groundwater, or surface water. The Phase I ESA is performed to reduce the level of uncertainty and recognizes reasonable limits of time and cost. The findings provided in this Phase I ESA Report will assist the user and user's legal counsel in evaluating potential environmental risks that are associated with property transactions.

This report is provided for the exclusive use of the Laurens County Development Corporation, Laurens Electric Cooperative, LLC and their subsidiaries and/or affiliates. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties. The use of this report by any undesignated third party or parties will be at such party's sole risk and Thomas & Hutton disclaims liability for any such third-party use or reliance.

According to ASTM E1527-13, certain components of the Phase I ESA will expire 180 days from the date of that component and will require updating if the date of property acquisition exceeds this time period. The entire report will expire in one year. The following table lists the dates for pertinent components.

Component	Date of Initiation	Shelf Life
Environmental Database Search	November 21, 2019	180 days
Site Reconnaissance	November 26, 2019	180 days
Interviews	December 5, 2019	180 days
Environmental Lien Search	Not performed as a part of this Phase I Assessment	180 days
Declaration by Environmental Professional	January 13, 2020	365 days

3.0 SITE DESCRIPTIONS

3.1 Location and Legal Description

This property is comprised of two (2) parcels of property, TMS 188-00-00-002 (60 acres) and 156-00-00-018 (9.8 acres) located on Old Dairy Road, Gray Court, South Carolina in Laurens County. The subject property is bounded on all remaining sides by adjacent properties. The subject property location is shown on Exhibit A in Appendix A. An aerial of the subject property location is shown on Exhibit B in Appendix A.

3.2 Site and Vicinity General Characteristics

3.2.1 Topography

The subject property is located at an elevation ranging from 724 feet at the northeastern corner of the property to 801 feet above mean sea level (msl) on the western side of the subject property. The subject property's general topographic gradient is north. The general topographic setting of the subject property is illustrated on the USGS 7.5 minute series topographic quadrangle map for the 2014 Fountain Inn and Woodruff Quadrangles.

3.2.2 Soils

The U.S. Department of Agriculture Soil Conservation Service (SCS) classification indicates the soil types at the subject property are primarily Bethlehem, Cecil, Cataula, and Madison (Exhibit D in Appendix A). These soil types are generally well drained, and are classified as Hydrological Group Class B. Hydrologic group Class B - moderate infiltration, deep and moderately deep, moderately well and well drained soils with moderately coarse textures. Class B/D – Drained soils have moderate infiltration; undrained soils have poor infiltration.

3.2.3 Geology

The subject property is geologically located in the Piedmont Physiographic Region of South Carolina. The region is comprised of plateaus, relatively flat, raised areas of land. They are usually horizontal rises of rock, which were raised by forces of Earth. In South Carolina, the Piedmont region comprises one third of the area of SC and is typically hilly country containing many monadnocks. A monadnock is an isolated hill of bedrock rising conspicuously above the general level of the surrounding area. The Piedmont is underlain by metamorphic rocks of various origins that were folded during the Paleozoic as the North American and African plates converged.

3.2.4 Hydrology

The property is generally well drained. Storm water runoff from the subject property travels as sheet flow towards the low-lying areas on the northern side of the subject property. No storm water infrastructure is present at the site.

3.2.5 Hydrogeology

Typically, groundwater flow in the surficial aquifer beneath a site will follow a subdued replica of the surface topography, thus suggesting a probable flow towards the north (Exhibit C in Appendix A).

3.2.6 Floodplain

The subject property is located on Panels 45059C0075C and 45059C0100C of the Flood Insurance Rate Map for Laurens County, South Carolina. The map was prepared by the Federal Emergency Management Agency (FEMA). The map indicates that the subject property is located in Flood Zone X. Flood Zone X indicates that the area has minimal flood hazard and is outside the Special Flood Hazard Area (SFHA) and at a higher elevation than that of the 0.2-percent-annual-chance-flood.

3.3 Current Use of the Property

The subject property is currently used for agricultural and silvicultural purposes. The subject property is mostly wooded with some cleared fields onsite. Refer to Section 6 - Site Reconnaissance and Section 7 - Interviews for additional detail concerning property uses and operations.

3.4 Description of Structures, Roads, and Other Improvements

The subject property is fenced and secured with one (1) gated entrance on Old Dairy Road. There are two (2) small sheds located on the subject property in the fenced area where the hunting dogs are located on the subject property.

Utilities available at the subject property include water, sewer, electricity, and natural gas. Water and sewer are provided by Laurens County Water & Sewer Commission. Electricity is provided by the Laurens Electric Co-Op and natural gas is provided by Clinton-Newberry Natural Gas and the Laurens Commission of Public Works. Refer to Exhibits B in Appendix A for a site aerial, Section 6 - Site Reconnaissance, and Section 7 - Interviews for additional detail concerning the subject property.

3.5 Current Uses of Adjoining Properties

The subject property is situated in a mixed-use area including agricultural, silvicultural, and industrial properties. Adjacent properties on all sides are agricultural or silvicultural. The Country Fresh facility is located in the area property to the south. All other area property is residential, agricultural, and silvicultural.

4.0 USER PROVIDED INFORMATION

The purpose of this section is to report the tasks performed by the user Mr. Randy Garrett (Laurens Electric Cooperative, LLC) and communicated to the environmental professional, which includes review of titles and judicial records, specialized knowledge or experience by the user, actual knowledge of the user, reason for a significantly lower purchase/lease price, and commonly known and reasonable obtainable information. Mr. Randy Garrett, Vice President of Government Affairs, 1939 Land Management, LLC (Laurens Electric Cooperative, LLC), responded to the requirements of this section. Refer to Section 7 - Interviews for additional details concerning Mr. Garrett's interview.

4.1 Review of Titles and Judicial Records

Recorded land title records for recording or filing environmental liens or activity and use limitations have been reviewed by the user to identify the existence of such environmental liens or activity and use limitations and have found no environmental liens or activity use limitations that are material to recognized environmental conditions in connection with the property.

4.2 Specialized Knowledge or Experience by the User

The user has communicated all specialized knowledge or experience that is material to recognized environmental conditions in connection with the property to the environmental professional. Mr. Garrett was not aware of any recognized environmental conditions in connection with the property.

4.3 Actual Knowledge of the User

The user has no actual knowledge of any environmental liens or activity use limitations (AULs) encumbering the property or in connection with the property.

4.4 Reason for a Significantly Lower Purchase/Lease Price

The user has compared the purchase/lease price of the subject property to the fair market value of the property and believes that the purchase/lease price has not been influenced by any contamination by hazardous substances or petroleum products.

4.5 Commonly Known and Reasonable Obtainable Information

The user has communicated commonly known or reasonably obtainable information within the local community about the property that is material to recognized environmental conditions in connection with the property to the environmental professional.

4.6 Historical Documents

No historical documents were provided by the user.

5.0 RECORDS REVIEW

A search was performed on federal and state files for environmental problem sites within ASTM standard E 1527-13 search radius. For this search records were obtained from Environmental Data Resources, Inc. The complete Environmental Data Resources, Inc. reports are provided in Appendix B. The database search resulted in no Federal or State listings at the subject property or within the designated search radius of the subject property.

One (1) orphan sites were returned with the database search, the Houston Property Site. This site was located and determined to be outside the respective search radii.

5.1 Federal Files

The federal environmental data is a compilation of data that identifies environmental problem sites and activities from the records of the United States Environmental Protection Agency (USEPA). The data contained here is the result of a search of an Environmental Data System including but not limited to the following USEPA records:

- 1. The National Priorities (Superfund) List (NPL) is USEPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. To be included on the NPL, a site must either meet or surpass a predetermined hazard ranking score, be chosen as a state's top-priority site, or meet all three of the following criteria: (1) US Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; (2) USEPA determines that the site represents a significant threat; and (3) USEPA determines that remedial action is more cost effective than removal action.
- 2. The Comprehensive Environmental Response, Compensation and Liability Index System (CERCLIS) is the EPA's compilation of the sites for which USEPA has or is investigating a release of hazardous substances. These sites may be subject to review in accordance with the terms and conditions of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund Act).
- 3. The Resource Conservation and Recovery Information System (RCRIS) contains information regarding: (1) Large Quantity Generators (LQG); (2) Treatment, Storage, and Disposal (TSD) facilities; and, (3) Small Quantity Generators (SQG), and Transporters, which are required to register their hazardous waste activity under the Resource Conservation and Recovery Act (RCRA). The RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal.
- 4. The Emergency Response Notification System (ERNS) is a national computer database system that is used to store information on the release of hazardous substances into the environment. The ERNS reporting system contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party.
- 5. No Further Remedial Action Planned Report (NFRAP) contains information pertaining to Sites that have been removed from the EPA's CERCLIS Database.

A search of the federal databases indicated that no Federal sites were located within the search radius. No NPL, RCRIS-LQG, RCRIS-TSD, RCRA CORRACTS, NFRAP, or ERNS sites exist within the search radius. The respective search radii were as follows: NPL - 1.0 mile; RCRIS-SG - 0.25 mile; RCRIS-TSD - 0.5 mile; RCRIS-LG - 0.25 mile; CERCLIS - 0.5 mile; NFRAP - 0.5 mile; RCRA-CORRACTS - 1 mile; SEMS - 1 mile; and ERNS - property only.

5.2 State and Other Files

The state environmental data is a compilation of data that identifies environmental problem sites and activities from the records of the South Carolina Department of Health and Environmental Control (SCDHEC). The data contained here is the result of a search of SCDHEC records, including but not limited to:

- 1. The Underground Storage Tank (UST) list is a comprehensive listing of all registered underground storage tanks located in the state of South Carolina.
- 2. The Leaking Underground Storage Tank (LUST) list is a comprehensive listing if all reported leaking underground storage tanks located in the state of South Carolina.
- 3. The Hazardous Waste Sites (HWS) list is a summary listing pertaining to those facilities located in the state of South Carolina that have been deemed hazardous to the public health and welfare by SCDHEC.
- 4. The South Carolina Permitted Landfills (SWF) list is a summary of information pertaining to all active and inactive licensed solid waste facilities within the state of South Carolina.
- 5. The South Carolina Environmental Facility Information System (SCEFIS) integrates information on environmental facilities, permitting, violations, enforcement actions, and compliance activities to support regulatory requirements, and target environmental quality improvements for the water, air, solid waste, and house waste program areas.
- 6. The Brownfields Public Record (BROWNFIELDS) lists properties where response actions under the South Carolina Hazardous Site Reuse and Redevelopment Act and planned, ongoing or completed.
- 7. The South Carolina Groundwater Contamination Inventory (SCGWCI) is any site that has groundwater contamination over a federal MCL.
- 8. The South Carolina Drycleaning Facility Restoration Trust Fund is used to access, prioritize and cleanup contaminated registered drycleaning sites.
- 9. The SCDHEC Bureau of Land and Waste Management established the RCR registry to help monitor and maintain sites that have conditional remedies. A Conditional Remedy is an environmental remedy that includes certain qualifications. These qualifications are divided into two major categories: Remedies requiring Land Use Controls and Conditional No Further Actions.
- 10. The VCP lists sites from SCDHEC that are Voluntary Cleanup Sites.

No properties were identified within the specified radii in in EDR's search of the UST, LUST, HWS, SCGWCI, INDIAN LUST, INDIAN UST, FEMA UST, INDIAN VCP, US BRONWFIELDS, DEBRIS REGION 9, ODI, INDIAN ODI, US CDL, SC CDL, US HIST CDL, LIENS 2, HMIRS, SC SPILLS, SC SPILLS 80, SC SPILLS 90, DOT OPS, DOD, AND CONSENT.

5.3 Open Dumps

The Open Dump List is an inventory of facilities that do not comply with the EPA's Criteria for Classification of Solid Waste Disposal Facilities and Practices. The subject property is not on the list of open dumps. No other open dumps were observed within a 0.5-mile radius of the property.

5.4 Aerial Photography Review

A review of aerial photographs was conducted on November 27, 2019. The 1938, 1951, 1961, 1964, 1976, 1978, 1981, 1989, 1994, 1999, 2005, 2006, 2009, and 2011 Environmental Data Resources, Inc. aerial photographs show the subject property. A thirteen-year gap in aerial photography is noted between the years of 1938 and 1951, while a ten-year gap is noted between 1951 and 1961. A twelve-year gap is noted between the years of 1964 and 1976 and an eight-year gap in aerial photography is noted between the years of 1981 and 1989. A six-year gap is noted between 1999 and 2005. The quality of evaluation of aerial photography is controlled by the photograph's scale and quality.

The 1938, 1951, and 1961 aerials show Old Dairy Road to be in existence. Property to the west of Old Dairy Road is agricultural and property to the east is silvicultural.

In the 1964 and 1976 aerials, the subject property appears the same. It appears a house has been constructed on the adjacent property to the west of the subject property. There is further residential development on the area property to the south of the subject property.

In the 1978 and 1981 aerials of the subject property, the subject property remains silvicultural and agricultural. There is little change to the surrounding properties.

The quality of the 1989 aerial is poor, and it is difficult to identify any changes to the subject property or surrounding properties.

The 1994 and 1999 aerials show little change to the subject property or adjoining properties.

The 2005 and 2006 aerials show little change to the subject property. Adjoining properties to the west are agricultural and to the east are silvicultural.

In the 2009 and 2011 aerials, the subject property and adjoining properties remain silvicultural and agricultural.

5.5 Land Title Records Review

The land chain of title search and final review was not undertaken as part of this assessment.

5.6 Activity Use Limitations

A review of Federal and State records regarding NPL liens or CERCLA liens was not conducted as part of this Phase I ESA.

5.7 Sanborn Map Review

The complete Environmental Data Resources, Inc. Certified Sanborn Map collection was searched for fire insurance maps covering the subject property. No Sanborn Maps were identified for the subject property.

5.8 Vapor Intrusion

Based on review of the readily available federal and state files and visual observation of adjoining properties it appears an offsite vapor encroachment condition associated with the subject property is unlikely to exist.

Visual reconnaissance of the subject property and interviews revealed no on-site historical activities that may present a possible vapor intrusion pathway. Additionally, the EDR VEC App was utilized to evaluate vapor intrusion potential for the subject site. The EDR VEC App provides integrated data, efficient analytical tools, and professional reports to assist in compliance with the requirements of ASTM E2600-10, "Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions." The EDR VEC App did not identify any sources that could potentially be considered a source for vapor intrusion for the subject property.

6.0 SITE RECONNAISSANCE

Thomas & Hutton personnel conducted a visual reconnaissance of the subject property and surrounding areas on November 26, 2019. The purpose of the reconnaissance was to detect evidence of prior or ongoing activities that may result in a recognized environmental condition. Appendix C contains photographs that provide representative views of the subject property and surrounding area obtained during the subject property visit. The visual reconnaissance consisted of a drive of the roads within 1 mile of the subject property and a walk-through of the subject property.

6.1 Site Reconnaissance

Following are the observations made during the reconnaissance of the subject property and the surrounding area:

Subject Property

- The subject property consists of two (2) parcels of property, TMS 188-00-00-002 (60 acres) and 156-00-00-018 (9.8 acres). Property on the western side of Old Dairy Road is agricultural (Photographs 1, 2, 4, 5, 11, 12, and 13) and is heavily wooded on the eastern side (Photographs 3, 7, 8, 17, 18, 19, 22, 23, 26, and 27).
- Old Dairy Road bisects the subject property (Photograph 6).
- There is one gated entrance to the subject property on Old Dairy Road. The gate remains locked. Portions of the wooded area of the subject property were also gated and locked (Photograph 9 and 20).
- Hunting stands were noted on the wooded portions of the subject property (Photograph 16).
- A small creek was noted on the eastern side of the subject property (Photograph 21).
- There is some miscellaneous dumping onsite (Photographs 10 and 14).
- A portion of the property on the eastern side of Old Dairy Road was fenced and inhabited by hunting dogs (Photographs 15, 24, and 25).
- There was no visual evidence (e.g., vent lines, fill connections) of any underground storage tanks located at the subject property.
- There was no visual evidence of spills, leaks, staining, stressed vegetation, or odors on the subject property.

Adjoining Property

• Adjacent property is a mix of agricultural and silvicultural lands.

Area Property

- Area property is a mix of agricultural and silvicultural lands. There is some residential development on area property to the northwest and east of the subject property.
- There is no visual evidence of any activities that would have an environmental impact on the subject property.

7.0 INTERVIEWS

7.1 Interview with User's Representative

A written interview was conducted with the user's representative, Mr. Randy Garrett, Vice President of Government Affairs, 1939 Land Management, LLC (Laurens Electric Cooperative, LLC), on December 2, 2019. Mr. Garrett addressed all of the questions relating to the property use and possible environmental conditions in connection with the subject property in good faith and to the extent of his knowledge. Mr. Garrett stated that the previous and present land use of the property was agricultural. Mr. Garrett did not have any knowledge or belief that hazardous waste had been disposed on the subject property. Mr. Garrett did not have any direct knowledge of spills or chemical releases occurring on the subject property. Mr. Garrett was not aware of any environmental citations or enforcement actions related to the subject property. Mr. Garrett was not aware of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property. Mr. Garrett was not aware of any activity and land use limitations that are placed on the subject property or that have been filed or recorded.

7.2 Interview with Owner

A written interview was conducted with the current property owner of TMS 156-00-00-018 (9.81 acres), Griff Matlock, on December 5, 2019. Mr. Matlock addressed all of the questions relating to the property use and possible environmental conditions in connection with the subject property in good faith and to the extent of his knowledge. Mr. Matlock stated that he was aware that the Phase I ESA was being completed to support the possible lease/sale of the subject property. Mr. Matlock stated that both the present and previous land uses of the subject property were agricultural. Mr. Matlock claimed there are no underground storage tanks on the property that he was aware of. He did not know of any environmental concerns on or near the property. He also stated that he was not aware of any hazardous waste generation on-site or disposal of hazardous waste on-site. Mr. Matlock stated he was not aware of any pending, threatened, or past litigation, administrative proceedings, or notices of violations from any governmental entity relevant to hazardous substances or petroleum products in, on, or from the property. He was also not aware of any environmental liens or activity use limitations on the property. Mr. Matlock stated there was no value reduction of the property for environmental reasons.

A written interview was conducted with the current property owner of TMS 188-00-00-002 (60 acres), Markina Bailey, on December 6, 2019. Ms. Bailey addressed all of the questions relating to the property use and possible environmental conditions in connection with the subject property in good faith and to the extent of her knowledge. Ms. Bailey stated that she was aware that the Phase I ESA was being completed to support the possible lease/sale of the subject property. Ms. Bailey stated that presently the site is undeveloped land and that in the past it was used for hunting and a residential mobile home was located on the site. Ms. Bailey claimed there are no underground storage tanks on the property that she was aware of. She did not know of any environmental concerns on or near the property. She also stated that she was not aware of any hazardous waste generation on-site or disposal of hazardous waste on-site. Ms. Bailey stated she was not aware of any pending, threatened, or past litigation, administrative proceedings, or notices of violations from any governmental entity relevant to hazardous substances or petroleum products in, on, or from the property. She was also not aware of any environmental liens or activity use limitations on the property. Ms. Bailey stated there was no value reduction of the property for environmental reasons.

7.3 Correspondence with SCDHEC Representative

Ms. Kristen Keller with the SCDHEC Freedom of Information Office was contacted on November 27, 2019 concerning the subject property. On November 27, 2019 correspondence from the SCDHEC FOI office was received stating that no files related to the subject property could be found.

8.0 FINDINGS

Based on Thomas & Hutton's visual reconnaissance of the subject property, review of land use history, review of regulatory files, and conduct of interviews the findings of the Phase I ESA are as follows:

On-Site Recognized Environmental Conditions

There are some areas of minimal miscellaneous dumping, which will need to be removed and disposed of properly but is not considered a recognized environmental concern based on the visual inspection of the material present. There are no on-site recognized environmental conditions identified for the subject property that may be anticipated to have a potential environmental impact on the subject property.

Off-Site Recognized Environmental Conditions

There are no off-site recognized environmental conditions identified for the subject property that may be anticipated to have a potential environmental impact on the subject property.

9.0 OPINIONS

The historical use of the property is primarily agricultural and silvicultural. The remains of two (2) structures, a house and a small shed, are located on the subject property. Given the unknown age of the structures, it is possible that hazardous building materials may be present (e.g., asbestos in roofing materials and lead based paint), which may represent a potential business risk related to the subject property. In the case of demolition, the structures should be evaluated for asbestos containing building materials and lead based paint prior to demolition. All demolition related materials should be handled, stored, and removed in a manner that will not impact the subject property. All demolition related waste streams should be handled, recycle, and/or disposed in accordance with applicable federal, state, and local regulations and laws.

There is a small amount of miscellaneous illegal dumping on the subject property of materials. This material will need to be disposed of properly. Based on visual observation of the material present, it is the environmental professional's opinion that it is not considered a recognized environmental condition.

Other than the structures present onsite and the miscellaneous dumping that was noted, the Phase I ESA investigation did not identify any recognized environmental conditions on the subject property that may be anticipated to have a potential environmental impact on the subject property.

10.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope of limitations of ASTM Standard of practice E 1527-13 for the property located on Old Dairy Road, Gray Court, South Carolina in Laurens County consisting of TMS 188-00-00-002 (60 acres) and 156-00-00-018 (9.8 acres). Any exceptions to, or deletions from, this practice are described in Section 2.0 and Section 11.0 of this report. This assessment did not reveal any evidence of any on-site or off-site recognized environmental conditions.

11.0 DEVIATIONS AND DATA GAPS

During the review of standard historical property use information sources data failure occurred. Data failure is considered to occur when all the standard historical use information sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the data objectives have not been met (i.e., all obvious uses of the property shall be identified at five year intervals from the present, back to the property's first developed use or 1940, whichever is earlier). The historical source review did not identify property use information at five-year intervals back to 1940. However, given the available property use data, the data failure does not constitute a significant data gap and is not considered to have inhibited the overall evaluation of the subject property for recognized environmental conditions.

12.0 ADDITIONAL SERVICES

No additional services beyond the identified scope of work (Section 2.2) have been provided.

13.0 REFERENCES

All references to historical use sources, environmental record sources, and all other documentation are contained with the text of the relevant Sections of this report.
14.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

The signature of the Environmental Professional is provided in Appendix E.

15.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

The qualifications of the Environmental Professional are summarized in Appendix F.

Appendix A Exhibits









Project Boundary

1% Annual Chance Flood Hazard



Regulatory Floodway



Special Floodway



0.2% Annual Chance Flood Hazard



Future Conditions 1% Annual Chance Flood Hazard

to Levee

Area with Reduced Risk Due



AREA OF MINIMAL FLOOD HAZARD Zone X

70-Acre Laurens Parcel

Laurens County, South Carolina



the shadest of

FEMA



Appendix B EDR Records Search Report



Connexial Addition

231 MOUNT CARMEL RD GRAY COURT, SC 29645

Inquiry Number: 5879596.2s November 21, 2019

The EDR Radius Map[™] Report with GeoCheck®



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

FORM-LBC-CCA

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Thank you for your business. Please contact EDR at 1-800-352-0050 with any questions or comments.

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A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

231 MOUNT CARMEL RD GRAY COURT, SC 29645

COORDINATES

Latitude (North):	34.6518100 - 34° 39' 6.51"
Longitude (West):	82.1310870 - 82° 7' 51.91"
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	396346.4
UTM Y (Meters):	3834816.5
Elevation:	798 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: Version Date:

2014

Northeast Map: Version Date: 6063817 WOODRUFF, SC 2014

6063769 FOUNTAIN INN, SC

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20150424
Source:	USDA

DATABASE ACRONYMS

Target Property Address: 231 MOUNT CARMEL RD GRAY COURT, SC 29645

Click on Map ID to see full detail.

MAP ID

SITE NAME

ADDRESS

NO MAPPED SITES FOUND

DIST (ft. & mi.) DIRECTION

RELATIVE

ELEVATION

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL	National Priority List
	Proposed National Priority List Sites
NPL LIENS	- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL_____ National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY______ Federal Facility Site Information listing SEMS______ Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE...... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity
	Generators)

Federal institutional controls / engineering controls registries

LUCIS...... Land Use Control Information System

US ENG CONTROLS	Engineering Controls Sites List
	Sites with Institutional Controls

Federal ERNS list

ERNS_____ Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS______ Site Assessment Section Project List

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Permitted Landfills List

State and tribal leaking storage tank lists

LUST..... Leaking Underground Storage Tank List INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST	Underground Storage Tank Listing
UST	Comprehensive Underground Storage Tanks
AST	Aboveground Storage Tank List
INDIAN UST	. Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

RCR......Registry of Conditional Remedies
AUL.....Land Use Controls

State and tribal voluntary cleanup sites

INDIAN VCP...... Voluntary Cleanup Priority Listing VCP...... Voluntary Cleanup Sites

State and tribal Brownfields sites

BROWNFIELDS_____ Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY	Solid Waste Recycling Facilities
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
ALLSITES	Site Assessment & Remediation Public Record Database
CDL	Clandestine Drug Lab Sites
US CDL	. National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
SPILLS.	Spills Database List
	SPILLS 90 data from FirstSearch
SPILLS 80	. SPILLS 80 data from FirstSearch

Other Ascertainable Records

	. RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	Department of Defense Sites State Coalition for Remediation of Drycleaners Listing
	Financial Assurance Information
EPA WATCH LIST	
2020 COR ACTION	. 2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	
	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
	PCB Activity Database System
	Integrated Compliance Information System
	- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide
	Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
	PCB Transformer Registration Database
	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	
	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	
	Aerometric Information Retrieval System Facility Subsystem
US MINES.	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	. Facility Index System/Facility Registry System

UXO ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
AIRS	Permitted Airs Facility Listing
ASBESTOS	
COAL ASH	Coal Ash Disposal Sites
DRYCLEANERS	Drycleaner Database
Financial Assurance	Financial Assurance Information Listing
GWCI	Groundwater Contamination Inventory
NPDES	Waste Water Treatment Facilities Listing
UIC	Underground Injection Wells Listing
	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF	Recovered Government Archive Solid Waste Facilities List
RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name

HOUSTON PROPERTY SITE

Database(s)

SHWS

OVERVIEW MAP - 5879596.2S



Target Property N

- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
 - Dept. Defense Sites

Indian Reservations BIA Power transmission lines Special Flood Hazard Area (1%) 0.2% Annual Chance Flood Hazard National Wetland Inventory



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

Ħ

SITE NAME:	Connexial Addition
ADDRESS:	231 MOUNT CARMEL RD
	GRAY COURT SC 29645
LAT/LONG:	34.65181 / 82.131087

CLIENT: CONTACT: Thomas & Hutton Katie Mccoy INQUIRY #: 5879596.2s DATE: November 21, 2019 3:12 pm Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 5879596.2S



- Target Property N
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors 2
- National Priority List Sites
- Dept. Defense Sites



Indian Reservations BIA Power transmission lines Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Connexial Addition
ADDRESS:	231 MOUNT CARMEL RD
	GRAY COURT SC 29645
LAT/LONG:	34.65181 / 82.131087

Thomas & Hutton Katie Mccoy CLIENT: CONTACT: INQUIRY #: 5879596.2s DATE: November 21, 2019 3:15 pm Copyright © 2019 EDR, Inc. © 2015 TomTom Rel. 2015.

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMEN	TAL RECORDS							
Federal NPL site list								
NPL Proposed NPL NPL LIENS	1.000 1.000 1.000		0 0 0	0 0 0	0 0 0	0 0 0	NR NR NR	0 0 0
Federal Delisted NPL si	te list							
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY SEMS	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Federal CERCLIS NFRA	P site list							
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRAC	TS facilities li	st						
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-COR	RACTS TSD fa	acilities list						
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generato	rs list							
RCRA-LQG RCRA-SQG RCRA-VSQG	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0
Federal institutional con engineering controls re								
LUCIS US ENG CONTROLS US INST CONTROL	0.500 0.500 0.500		0 0 0	0 0 0	0 0 0	NR NR NR	NR NR NR	0 0 0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equiva	alent CERCLIS	;						
SHWS	1.000		0	0	0	0	NR	0
State and tribal landfill a solid waste disposal sit								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking	storage tank li	ists						
LUST INDIAN LUST	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
State and tribal register	ed storage tan	k lists						
FEMA UST	0.250		0	0	NR	NR	NR	0

	Search						
Database	Distance Target (Miles) Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST AST INDIAN UST	0.250 0.250 0.250	0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0
State and tribal institutio control / engineering cor							
RCR AUL	0.500 0.500	0 0	0 0	0 0	NR NR	NR NR	0 0
State and tribal voluntary	y cleanup sites						
INDIAN VCP VCP	0.500 0.500	0 0	0 0	0 0	NR NR	NR NR	0 0
State and tribal Brownfie	elds sites						
BROWNFIELDS	0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMEN	TAL RECORDS						
Local Brownfield lists		_					
US BROWNFIELDS	0.500	0	0	0	NR	NR	0
Local Lists of Landfill / S Waste Disposal Sites	Solid						
SWRCY INDIAN ODI	0.500 0.500	0 0	0 0	0 0	NR NR	NR NR	0 0
ODI	0.500	0	0	0	NR	NR	0
DEBRIS REGION 9 IHS OPEN DUMPS	0.500 0.500	0 0	0 0	0 0	NR NR	NR NR	0 0
Local Lists of Hazardous		0	0	0	INIK	INIX	0
Contaminated Sites	waste/						
US HIST CDL	0.001	0	NR	NR	NR	NR	0
ALLSITES CDL	0.500 0.001	0 0	0 NR	0 NR	NR NR	NR NR	0 0
US CDL	0.001	0	NR	NR	NR	NR	0
Local Land Records							
LIENS 2	0.001	0	NR	NR	NR	NR	0
Records of Emergency Release Reports							
HMIRS	0.001	0	NR	NR	NR	NR	0
SPILLS SPILLS 90	0.001 0.001	0 0	NR NR	NR NR	NR NR	NR NR	0 0
SPILLS 80	0.001	0	NR	NR	NR	NR	0
Other Ascertainable Records							
RCRA NonGen / NLR	0.250	0	0	NR	NR	NR	0
FUDS DOD	1.000 1.000	0 0	0 0	0 0	0 0	NR NR	0 0
SCRD DRYCLEANERS	0.500	0	0	0	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
US FIN ASSUR	0.001		0	NR	ND	ND		0
EPA WATCH LIST	0.001 0.001		0 0	NR	NR NR	NR NR	NR NR	0 0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		Ő	NR	NR	NR	NR	Õ
ROD	1.000		Õ	0	0	0	NR	Õ
RMP	0.001		Õ	NR	NR	NR	NR	Õ
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER RADINFO	0.001		0	NR NR	NR NR	NR NR	NR NR	0
HIST FTTS	0.001 0.001		0 0	NR	NR	NR	NR	0 0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		Õ	Ő	Ő	Õ	NR	Õ
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
	0.001		0	NR NR	NR NR	NR	NR NR	0
DOCKET HWC UXO	0.001 1.000		0 0	0	0	NR 0	NR	0 0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		Ő	0	NR	NR	NR	Õ
AIRS	0.001		Õ	NR	NR	NR	NR	Õ
ASBESTOS	0.001		Ō	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
GWCI	0.500		0	0	0	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVER	EDR RECOVERED GOVERNMENT ARCHIVES							
Exclusive Recovered Go	ovt. Archives							
RGA HWS	0.001		0	NR	NR	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
RGA LF RGA LUST	0.001 0.001		0 0	NR NR	NR NR	NR NR	NR NR	0 0
- Totals		0	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Database(s) E

EDR ID Number EPA ID Number

NO SITES FOUND

Count: 1 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
GRAY COURT	S105528119	HOUSTON PROPERTY SITE	S-107 3/4 MILE FROM FRONTAGE R	29645	SHWS

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2019 Date Data Arrived at EDR: 11/07/2019 Date Made Active in Reports: 11/20/2019 Number of Days to Update: 13 Source: EPA Telephone: N/A Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 01/13/2020 Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC) Telephone: 202-564-7333

EPA Region 1 Telephone 617-918-1143

EPA Region 3 Telephone 215-814-5418

EPA Region 4 Telephone 404-562-8033

EPA Region 5 Telephone 312-886-6686

EPA Region 10 Telephone 206-553-8665 EPA Region 6 Telephone: 214-655-6659

EPA Region 7 Telephone: 913-551-7247

EPA Region 8 Telephone: 303-312-6774

EPA Region 9 Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2019 Date Data Arrived at EDR: 11/07/2019 Date Made Active in Reports: 11/20/2019 Number of Days to Update: 13 Source: EPA Telephone: N/A Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 01/13/2020 Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994 Number of Days to Update: 56 Source: EPA Telephone: 202-564-4267 Last EDR Contact: 08/15/2011 Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2019 Date Data Arrived at EDR: 11/07/2019 Date Made Active in Reports: 11/20/2019 Number of Days to Update: 13 Source: EPA Telephone: N/A Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 01/13/2020 Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019 Date Data Arrived at EDR: 04/05/2019 Date Made Active in Reports: 05/14/2019 Number of Days to Update: 39 Source: Environmental Protection Agency Telephone: 703-603-8704 Last EDR Contact: 10/04/2019 Next Scheduled EDR Contact: 01/13/2020 Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/19/2019 Date Data Arrived at EDR: 07/30/2019 Date Made Active in Reports: 09/03/2019 Number of Days to Update: 35 Source: EPA Telephone: 800-424-9346 Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 01/27/2020 Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/19/2019 Date Data Arrived at EDR: 07/30/2019 Date Made Active in Reports: 09/03/2019 Number of Days to Update: 35 Source: EPA Telephone: 800-424-9346 Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 01/27/2020 Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/24/2019	Source: EPA
Date Data Arrived at EDR: 06/26/2019	Telephone: 800-424-9346
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/28/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/24/2019 Date Data Arrived at EDR: 06/26/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 113 Source: Environmental Protection Agency Telephone: (404) 562-8651 Last EDR Contact: 10/28/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019 Date Data Arrived at EDR: 06/26/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 113 Source: Environmental Protection Agency Telephone: (404) 562-8651 Last EDR Contact: 10/28/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/24/2019 Date Data Arrived at EDR: 06/26/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 113 Source: Environmental Protection Agency Telephone: (404) 562-8651 Last EDR Contact: 10/28/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators) RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019SourceDate Data Arrived at EDR: 06/26/2019TelephDate Made Active in Reports: 10/17/2019Last EDRNumber of Days to Update: 113Next S

Source: Environmental Protection Agency Telephone: (404) 562-8651 Last EDR Contact: 10/28/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/13/2019Source: Department of the NavyDate Data Arrived at EDR: 08/20/2019Telephone: 843-820-7326Date Made Active in Reports: 08/26/2019Last EDR Contact: 11/07/2019Number of Days to Update: 6Next Scheduled EDR Contact: 02/24/2020Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 08/20/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/19/2019SDate Data Arrived at EDR: 08/20/2019TDate Made Active in Reports: 08/26/2019LaNumber of Days to Update: 6N

Source: Environmental Protection Agency Telephone: 703-603-0695 Last EDR Contact: 08/20/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/09/2019 Date Data Arrived at EDR: 09/09/2019 Date Made Active in Reports: 09/23/2019 Number of Days to Update: 14 Source: National Response Center, United States Coast Guard Telephone: 202-267-2180 Last EDR Contact: 09/09/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

SHWS: Site Assessment Section Project List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 06/19/2019	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 06/20/2019	Telephone: 803-898-0835
Date Made Active in Reports: 09/06/2019	Last EDR Contact: 09/27/2019
Number of Days to Update: 78	Next Scheduled EDR Contact: 12/23/2019
	Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Landfills List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/06/2019
Date Data Arrived at EDR: 09/12/2019Source: Department of Health and Environmental Control
Telephone: 803-734-5165Date Made Active in Reports: 11/18/2019
Number of Days to Update: 67Source: Department of Health and Environmental Control, GIS Section
Telephone: 803-896-4084
Last EDR Contact: 09/06/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/23/2019	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 07/30/2019	Telephone: 803-898-4350
Date Made Active in Reports: 09/10/2019	Last EDR Contact: 10/21/2019
Number of Days to Update: 42	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/12/2019Source: EPA Region 4Date Data Arrived at EDR: 07/29/2019Telephone: 404-562-8677Date Made Active in Reports: 10/17/2019Last EDR Contact: 10/25/2019Number of Days to Update: 80Next Scheduled EDR Contact: 02/03/2020Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Ta Leaking underground storage tanks located on	anks on Indian Land I Indian Land in Michigan, Minnesota and Wisconsin.			
Date of Government Version: 04/08/2019 Date Data Arrived at EDR: 07/30/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 79	Source: EPA, Region 5 Telephone: 312-886-7439 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies			
	IAN LUST R1: Leaking Underground Storage Tanks on Indian Land A listing of leaking underground storage tank locations on Indian Land.			
Date of Government Version: 04/11/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies			
INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyomir				
Date of Government Version: 05/02/2019 Date Data Arrived at EDR: 10/22/2019 Date Made Active in Reports: 11/11/2019 Number of Days to Update: 20	Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies			
INDIAN LUST R10: Leaking Underground Storage LUSTs on Indian land in Alaska, Idaho, Oregor				
Date of Government Version: 04/16/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies			
INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.				
Date of Government Version: 05/01/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies			
INDIAN LUST R9: Leaking Underground Storage Ta LUSTs on Indian land in Arizona, California, No				
Date of Government Version: 04/08/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: Environmental Protection Agency Telephone: 415-972-3372 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies			
INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska				
Date of Government Version: 07/02/2019 Date Data Arrived at EDR: 10/16/2019 Date Made Active in Reports: 10/24/2019 Number of Days to Update: 8	Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies			

State and tribal registered storage tank lists

	3 3		
	EMA UST: Underground Storage Tank Listing A listing of all FEMA owned underground storage tanks.		
	Date of Government Version: 08/27/2019 Date Data Arrived at EDR: 08/28/2019 Date Made Active in Reports: 11/11/2019 Number of Days to Update: 75	Source: FEMA Telephone: 202-646-5797 Last EDR Contact: 10/11/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Varies	
	5 5 5	egistered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery ct (RCRA) and must be registered with the state department responsible for administering the UST program. Available	
	Date of Government Version: 07/26/2019 Date Data Arrived at EDR: 07/31/2019 Date Made Active in Reports: 10/07/2019 Number of Days to Update: 68	Source: Department of Health and Environmental Control Telephone: 803-896-7957 Last EDR Contact: 10/03/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Quarterly	
	AST: Aboveground Storage Tank List Registered Aboveground Storage Tanks.		
	Date of Government Version: 03/25/2004 Date Data Arrived at EDR: 08/04/2004 Date Made Active in Reports: 09/23/2004 Number of Days to Update: 50	Source: Department of Health and Environmental Control Telephone: 803-898-4350 Last EDR Contact: 08/21/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies	
INDIAN UST R5: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on India land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).			
	Date of Government Version: 04/08/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies	
INDIAN UST R6: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on India land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).			
	Date of Government Version: 05/01/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies	
INDIAN UST R8: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian Iand in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).			
	Date of Government Version: 05/02/2019	Source: EPA Region 8	

Date of Government Version: 05/02/2019 Date Data Arrived at EDR: 10/22/2019 Date Made Active in Reports: 11/11/2019 Number of Days to Update: 20 Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies

IND		Underground Storage Tank (UST) database provides information about underground storage tanks on Indian A Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee	
	Date of Government Version: 04/12/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies	
IND	INDIAN UST R10: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on India Iand in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).		
	Date of Government Version: 04/16/2019 Date Data Arrived at EDR: 07/30/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 79	Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies	
INDIAN UST R7: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provid Iand in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and		database provides information about underground storage tanks on Indian	
	Date of Government Version: 05/02/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies	
INDIAN UST R1: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tr Nations).		database provides information about underground storage tanks on Indian	
	Date of Government Version: 04/11/2019 Date Data Arrived at EDR: 07/30/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 79	Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies	
IND	INDIAN UST R9: Underground Storage Tanks on Indian Land The Indian Underground Storage Tank (UST) database provides information about underground storage tanks land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).		
	Date of Government Version: 04/08/2019 Date Data Arrived at EDR: 07/29/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 80	Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Erequency: Varian	

State and tribal institutional control / engineering control registries

RCR: Registry of Conditional Remedies

The Bureau of Land and Waste Management established this Registry to help monitor and maintain sites that have conditional remedies. A Conditional Remedy is an environmental remedy that includes certain qualifications. These qualifications are divided into two major categories: Remedies requiring Land Use Controls and Conditional No Further Actions.

Data Release Frequency: Varies

Date of Government Version: 09/09/2019 Date Data Arrived at EDR: 09/12/2019 Date Made Active in Reports: 11/18/2019 Number of Days to Update: 67 Source: Department of Health & Environmental Control Telephone: 803-896-4000 Last EDR Contact: 09/06/2019 Next Scheduled EDR Contact: 12/23/2019 Data Release Frequency: Varies

AUL: Land Use Controls

The term Land Use Controls or "LUCs" encompass institutional controls, such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other legal restrictions. The term also includes restrictions on access, whether achieved by means of engineered barriers (e.g., fence or concrete pad) or by human means (e.g., the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., restrictions on certain types of wells for the duration of the corrective action). Considered altogether, the LUCs for a facility will provide a tool for how the property should be used in order to maintain the level of protectiveness that one or more corrective actions were designed to achieve.

Date of Government Version: 09/09/2019 Date Data Arrived at EDR: 09/10/2019 Date Made Active in Reports: 11/18/2019 Number of Days to Update: 69 Source: Department of Health & Environmental Control Telephone: 803-896-4049 Last EDR Contact: 09/10/2019 Next Scheduled EDR Contact: 12/23/2019 Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015 Date Data Arrived at EDR: 09/29/2015 Date Made Active in Reports: 02/18/2016 Number of Days to Update: 142 Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 09/19/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008 Number of Days to Update: 27 Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 04/20/2009 Next Scheduled EDR Contact: 07/20/2009 Data Release Frequency: Varies

VCP: Voluntary Cleanup Sites

Sites participating in the Voluntary Cleanup Program. Once staff and a non-responsible party have agreed upon an approved scope of work for a site investigation and/or remediation, the party enters into a voluntary cleanup contract. Staff oversees the cleanup efforts to ensure that activities are performed to our satisfaction. Upon completion of the negotiated work in the voluntary cleanup contract, the non-responsible party receives State Superfund liability protection.

Date of Government Version: 07/17/2019 Date Data Arrived at EDR: 07/22/2019 Date Made Active in Reports: 09/06/2019 Number of Days to Update: 46 Source: Department of Health and Environmental Control Telephone: 803-896-4049 Last EDR Contact: 10/09/2019 Next Scheduled EDR Contact: 01/27/2020 Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Sites Listing

The Brownfields component of the Voluntary Cleanup Program allows a non-responsible party to acquire a contaminated property with State Superfund liability protection for existing contamination by agreeing to perform an environmental assessment and/or remediation.
Date of Government Version: 07/17/2019 Date Data Arrived at EDR: 07/19/2019 Date Made Active in Reports: 09/06/2019 Number of Days to Update: 49 Source: Department of Health & Environmental Control Telephone: 803-896-4069 Last EDR Contact: 10/09/2019 Next Scheduled EDR Contact: 01/27/2020 Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/03/2019 Date Data Arrived at EDR: 06/04/2019 Date Made Active in Reports: 08/26/2019 Number of Days to Update: 83 Source: Environmental Protection Agency Telephone: 202-566-2777 Last EDR Contact: 09/19/2019 Next Scheduled EDR Contact: 12/30/2019 Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Solid Waste Recycling Facilities

A listing of recycling center locations.

Date of Government Version: 01/30/2019 Date Data Arrived at EDR: 06/25/2019 Date Made Active in Reports: 06/26/2019 Number of Days to Update: 1 Source: Department of Health & Enviornmental Control Telephone: 803-896-8985 Last EDR Contact: 08/30/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 10/28/2019
Number of Days to Update: 52	Next Scheduled EDR Contact: 02/10/2020
• •	Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 10/17/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004 Number of Days to Update: 39	Source: Environmental Protection Agency Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned	
IHS OPEN DUMPS: Open Dumps on Indian Land A listing of all open dumps located on Indian L	and in the United States.	
Date of Government Version: 04/01/2014 Date Data Arrived at EDR: 08/06/2014 Date Made Active in Reports: 01/29/2015 Number of Days to Update: 176	Source: Department of Health & Human Serivces, Indian Health Service Telephone: 301-443-1452 Last EDR Contact: 11/01/2019 Next Scheduled EDR Contact: 02/10/2020 Data Release Frequency: Varies	
Local Lists of Hazardous waste / Contaminated	Sites	
US HIST CDL: National Clandestine Laboratory Re A listing of clandestine drug lab locations that Register.	gister have been removed from the DEAs National Clandestine Laboratory	
Date of Government Version: 06/11/2019 Date Data Arrived at EDR: 06/13/2019 Date Made Active in Reports: 09/03/2019 Number of Days to Update: 82	Source: Drug Enforcement Administration Telephone: 202-307-1000 Last EDR Contact: 11/20/2019 Next Scheduled EDR Contact: 03/09/2020 Data Release Frequency: No Update Planned	
ALLSITES: Site Assessment & Remediation Public Record Database The South Carolina Department of Health and Environmental Control is pleased to have the Public Record for your review. The purpose of this database is two-fold. First, it will provide to communities another form of notice of cleanup activity, allowing them to have more information about assessment and cleanup activities in their area and in the State. Second, it can assist those seeking to redevelop brownfield properties within South Carolina.		
Date of Government Version: 09/09/2019 Date Data Arrived at EDR: 09/10/2019 Date Made Active in Reports: 11/18/2019 Number of Days to Update: 69	Source: Department of Health & Environmental Control Telephone: 803-896-4000 Last EDR Contact: 09/10/2019 Next Scheduled EDR Contact: 12/23/2019 Data Release Frequency: Quarterly	
CDL 2: Clandestine Drug Lab Listing A listing of clandestine drug lab site locations.		
Date of Government Version: 07/31/2019 Date Data Arrived at EDR: 09/05/2019 Date Made Active in Reports: 11/15/2019 Number of Days to Update: 71	Source: South Carolina Law Enforcement Division Telephone: 803-896-7136 Last EDR Contact: 08/21/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies	
CDL: Clandestine Drug Lab Sites A listing of clandestine drug lab site locations.		
Date of Government Version: 01/24/2012 Date Data Arrived at EDR: 01/26/2012 Date Made Active in Reports: 02/24/2012 Number of Days to Update: 29	Source: Department of Health & Environmental Control Telephone: 803-896-4288 Last EDR Contact: 08/30/2019 Next Scheduled EDR Contact: 12/16/2019 Data Release Frequency: Varies	
US CDL: Clandestine Drug Labs		

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019 Date Data Arrived at EDR: 06/13/2019 Date Made Active in Reports: 09/03/2019 Number of Days to Update: 82

Source: Drug Enforcement Administration Telephone: 202-307-1000 Last EDR Contact: 11/20/2019 Next Scheduled EDR Contact: 03/09/2020 Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/25/2019 Date Data Arrived at EDR: 11/07/2019 Date Made Active in Reports: 11/20/2019 Number of Days to Update: 13

Source: Environmental Protection Agency Telephone: 202-564-6023 Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 01/13/2020 Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2019	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 06/26/2019	Telephone: 202-366-4555
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 09/24/2019
Number of Days to Update: 89	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

SPILLS: Spill List

Spills and releases of petroleum and hazardous chemicals reported to the Oil & Chemical Emergency Response division.

Date of Government Version: 08/23/2019	Source: Department of Health and Environmental Control
Date Data Arrived at EDR: 08/26/2019	Telephone: 803-898-4111
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 08/21/2019
Number of Days to Update: 72	Next Scheduled EDR Contact: 12/09/2019
	Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/25/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 03/07/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 63	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 03/26/2001	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 03/07/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 63	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/24/2019 Date Data Arrived at EDR: 06/26/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 113 Source: Environmental Protection Agency Telephone: (404) 562-8651 Last EDR Contact: 10/28/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/15/2019 Date Data Arrived at EDR: 05/21/2019 Date Made Active in Reports: 08/08/2019 Number of Days to Update: 79 Source: U.S. Army Corps of Engineers Telephone: 202-528-4285 Last EDR Contact: 11/19/2019 Next Scheduled EDR Contact: 03/02/2020 Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007 Number of Days to Update: 62 Source: USGS Telephone: 888-275-8747 Last EDR Contact: 10/11/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018 Date Data Arrived at EDR: 04/11/2018 Date Made Active in Reports: 11/06/2019 Number of Days to Update: 574 Source: U.S. Geological Survey Telephone: 888-275-8747 Last EDR Contact: 10/07/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017 Date Data Arrived at EDR: 02/03/2017 Date Made Active in Reports: 04/07/2017 Number of Days to Update: 63 Source: Environmental Protection Agency Telephone: 615-532-8599 Last EDR Contact: 11/11/2019 Next Scheduled EDR Contact: 02/24/2020 Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/24/2019 Date Data Arrived at EDR: 06/26/2019 Date Made Active in Reports: 09/23/2019 Number of Days to Update: 89 Source: Environmental Protection Agency Telephone: 202-566-1917 Last EDR Contact: 09/24/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013 Date Data Arrived at EDR: 03/21/2014 Date Made Active in Reports: 06/17/2014 Number of Days to Update: 88 Source: Environmental Protection Agency Telephone: 617-520-3000 Last EDR Contact: 10/31/2019 Next Scheduled EDR Contact: 02/17/2020 Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017 Date Data Arrived at EDR: 05/08/2018 Date Made Active in Reports: 07/20/2018 Number of Days to Update: 73 Source: Environmental Protection Agency Telephone: 703-308-4044 Last EDR Contact: 11/08/2019 Next Scheduled EDR Contact: 02/17/2020 Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016 Date Data Arrived at EDR: 06/21/2017 Date Made Active in Reports: 01/05/2018 Number of Days to Update: 198 Source: EPA Telephone: 202-260-5521 Last EDR Contact: 09/19/2019 Next Scheduled EDR Contact: 12/30/2019 Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016	Source: EPA
Date Data Arrived at EDR: 01/10/2018	Telephone: 202-566-0250
Date Made Active in Reports: 01/12/2018	Last EDR Contact: 08/23/2019
Number of Days to Update: 2	Next Scheduled EDR Contact: 12/02/2019 Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 09/30/2018	Source: EPA
Date Data Arrived at EDR: 04/24/2019	Telephone: 202-564-4203
Date Made Active in Reports: 08/08/2019	Last EDR Contact: 10/23/2019
Number of Days to Update: 106	Next Scheduled EDR Contact: 02/03/2020
Number of Days to Update: 106	Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/25/2019 Date Data Arrived at EDR: 11/07/2019 Date Made Active in Reports: 11/20/2019 Number of Days to Update: 13 Source: EPA Telephone: 703-416-0223 Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 02/17/2020 Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019 Date Data Arrived at EDR: 05/02/2019 Date Made Active in Reports: 05/23/2019 Number of Days to Update: 21 Source: Environmental Protection Agency Telephone: 202-564-8600 Last EDR Contact: 10/21/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995	Telephone: 202 Last EDR Conta
Number of Days to Update: 35	Next Scheduled

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008 Next Scheduled EDR Contact: 09/01/2008 Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 08/20/2019	Source: EPA
Date Data Arrived at EDR: 09/05/2019	Telephone: 202-564-6023
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 18	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

Date Made Active in Reports: 10/22/2009

Number of Days to Update: 76

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

	OF FCBS who are required to notify the EFA o	i such activities.
	Date of Government Version: 03/20/2019 Date Data Arrived at EDR: 04/10/2019 Date Made Active in Reports: 05/14/2019 Number of Days to Update: 34	Source: EPA Telephone: 202-566-0500 Last EDR Contact: 10/11/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Annually
IC	•	m (ICIS) supports the information needs of the national enforcement e needs of the National Pollutant Discharge Elimination System (NPDES)
	Date of Government Version: 11/18/2016 Date Data Arrived at EDR: 11/23/2016 Date Made Active in Reports: 02/10/2017 Number of Days to Update: 79	Source: Environmental Protection Agency Telephone: 202-564-2501 Last EDR Contact: 10/07/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Quarterly
FT	FTTS tracks administrative cases and pesticic	deral Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) de enforcement actions and compliance activities related to FIFRA, Community Right-to-Know Act). To maintain currency, EDR contacts the
	Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009 Number of Days to Update: 25	Source: EPA/Office of Prevention, Pesticides and Toxic Substances Telephone: 202-566-1667 Last EDR Contact: 08/18/2017 Next Scheduled EDR Contact: 12/04/2017 Data Release Frequency: No Update Planned
FT	TS INSP: FIFRA/ TSCA Tracking System - FIFR A listing of FIFRA/TSCA Tracking System (FT	A (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) TS) inspections and enforcements.
	Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009 Number of Days to Update: 25	Source: EPA Telephone: 202-566-1667 Last EDR Contact: 08/18/2017 Next Scheduled EDR Contact: 12/04/2017 Data Release Frequency: No Update Planned
ML		y Commission and contains a list of approximately 8,100 sites which th are subject to NRC licensing requirements. To maintain currency, s.
	Date of Government Version: 06/20/2019 Date Data Arrived at EDR: 06/20/2019 Date Made Active in Reports: 08/08/2019 Number of Days to Update: 49	Source: Nuclear Regulatory Commission Telephone: 301-415-7169 Last EDR Contact: 10/25/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Quarterly
СС	DAL ASH DOE: Steam-Electric Plant Operation E A listing of power plants that store ash in surfa	
	Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 08/07/2009 Date Made Active in Benerte: 10/22/2000	Source: Department of Energy Telephone: 202-586-8719

Last EDR Contact: 11/06/2019

Next Scheduled EDR Contact: 12/16/2019 Data Release Frequency: Varies

	COAL ASH EPA: Coal Combustion Residues Surface Impoundments List A listing of coal combustion residues surface impoundments with high hazard potential ratings.		
	Date Data Arrived at EDR: 03/05/2019TDate Made Active in Reports: 11/11/2019LNumber of Days to Update: 251N	Source: Environmental Protection Agency Telephone: N/A .ast EDR Contact: 09/03/2019 Next Scheduled EDR Contact: 12/16/2019 Data Release Frequency: Varies	
	PCB TRANSFORMER: PCB Transformer Registration The database of PCB transformer registrations th		
	Date Data Arrived at EDR: 11/30/2017TDate Made Active in Reports: 12/15/2017LNumber of Days to Update: 15N	Source: Environmental Protection Agency Telephone: 202-566-0517 .ast EDR Contact: 11/06/2019 Next Scheduled EDR Contact: 02/17/2020 Data Release Frequency: Varies	
RADINFO: Radiation Information Database The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.			
	Date Data Arrived at EDR: 07/01/2019TDate Made Active in Reports: 09/23/2019LNumber of Days to Update: 84N	Source: Environmental Protection Agency Telephone: 202-343-9775 .ast EDR Contact: 11/12/2019 Jext Scheduled EDR Contact: 01/13/2020 Data Release Frequency: Quarterly	
HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.			
	Date Data Arrived at EDR: 03/01/2007TDate Made Active in Reports: 04/10/2007LNumber of Days to Update: 40N	Source: Environmental Protection Agency Telephone: 202-564-2501 .ast EDR Contact: 12/17/2007 Jext Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned	
	HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that		

EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007 Number of Days to Update: 40 Source: Environmental Protection Agency Telephone: 202-564-2501 Last EDR Contact: 12/17/2008 Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/01/2019 Date Data Arrived at EDR: 07/31/2019 Date Made Active in Reports: 10/24/2019 Number of Days to Update: 85 Source: Department of Transporation, Office of Pipeline Safety Telephone: 202-366-4595 Last EDR Contact: 10/29/2019 Next Scheduled EDR Contact: 02/10/2020 Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2019	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 07/16/2019	Telephone: Varies
Date Made Active in Reports: 10/02/2019	Last EDR Contact: 10/02/2019
Number of Days to Update: 78	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015	Source: EPA/NTIS
Date Data Arrived at EDR: 02/22/2017	Telephone: 800-424-9346
Date Made Active in Reports: 09/28/2017	Last EDR Contact: 09/16/2019
Number of Days to Update: 218	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 07/14/2015 Date Made Active in Reports: 01/10/2017 Number of Days to Update: 546 Source: USGS Telephone: 202-208-3710 Last EDR Contact: 10/06/2019 Next Scheduled EDR Contact: 01/19/2020 Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017 Date Data Arrived at EDR: 09/11/2018 Date Made Active in Reports: 09/14/2018 Number of Days to Update: 3 Source: Department of Energy Telephone: 202-586-3559 Last EDR Contact: 11/04/2019 Next Scheduled EDR Contact: 02/17/2020 Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/01/2019 Date Data Arrived at EDR: 08/21/2019 Date Made Active in Reports: 11/11/2019 Number of Days to Update: 82 Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 11/15/2019 Next Scheduled EDR Contact: 03/02/2020 Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites A listing of former lead smelter site locations.		
Date of Government Version: 10/25/2019 Date Data Arrived at EDR: 11/07/2019 Date Made Active in Reports: 11/20/2019 Number of Days to Update: 13	Source: Environmental Protection Agency Telephone: 703-603-8787 Last EDR Contact: 11/07/2019 Next Scheduled EDR Contact: 01/13/2020 Data Release Frequency: Varies	
LEAD SMELTER 2: Lead Smelter Sites A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust		
Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010 Date Made Active in Reports: 12/02/2010 Number of Days to Update: 36	Source: American Journal of Public Health Telephone: 703-305-6451 Last EDR Contact: 12/02/2009 Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned	
US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS) The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.		
Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017 Number of Days to Update: 100	Source: EPA Telephone: 202-564-2496 Last EDR Contact: 09/26/2017 Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually	
US AIRS MINOR: Air Facility System Data A listing of minor source facilities.		
Date of Government Version: 10/12/2016 Date Data Arrived at EDR: 10/26/2016 Date Made Active in Reports: 02/03/2017 Number of Days to Update: 100	Source: EPA Telephone: 202-564-2496 Last EDR Contact: 09/26/2017 Next Scheduled EDR Contact: 01/08/2018 Data Release Frequency: Annually	
MINES VIOLATIONS: MSHA Violation Assessmer Mines violation and assessment information.	nt Data Department of Labor, Mine Safety & Health Administration.	
Date of Government Version: 06/06/2019 Date Data Arrived at EDR: 06/06/2019 Date Made Active in Reports: 10/24/2019 Number of Days to Update: 140	Source: DOL, Mine Safety & Health Admi Telephone: 202-693-9424 Last EDR Contact: 09/12/2019 Next Scheduled EDR Contact: 12/16/2019 Data Release Frequency: Quarterly	
US MINES: Mines Master Index File Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.		
Date of Government Version: 08/01/2019 Date Data Arrived at EDR: 08/27/2019 Date Made Active in Reports: 11/11/2019 Number of Days to Update: 76	Source: Department of Labor, Mine Safety and Health Administration Telephone: 303-231-5959 Last EDR Contact: 08/27/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Semi-Appually	

Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005 Date Data Arrived at EDR: 02/29/2008 Date Made Active in Reports: 04/18/2008 Number of Days to Update: 49 Source: USGS Telephone: 703-648-7709 Last EDR Contact: 08/30/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011 Date Data Arrived at EDR: 06/08/2011 Date Made Active in Reports: 09/13/2011 Number of Days to Update: 97 Source: USGS Telephone: 703-648-7709 Last EDR Contact: 08/30/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2019 Date Data Arrived at EDR: 09/10/2019 Date Made Active in Reports: 10/17/2019 Number of Days to Update: 37 Source: Department of Interior Telephone: 202-208-2609 Last EDR Contact: 09/10/2019 Next Scheduled EDR Contact: 12/23/2019 Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/03/2019Source: EPADate Data Arrived at EDR: 06/05/2019Telephone: (404) 562-9900Date Made Active in Reports: 09/03/2019Last EDR Contact: 09/04/2019Number of Days to Update: 90Next Scheduled EDR Contact: 12/16/2019Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017 Date Data Arrived at EDR: 01/17/2019 Date Made Active in Reports: 04/01/2019 Number of Days to Update: 74 Source: Department of Defense Telephone: 703-704-1564

Last EDR Contact: 10/10/2019 Next Scheduled EDR Contact: 01/27/2020 Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018 Date Data Arrived at EDR: 07/26/2018 Date Made Active in Reports: 10/05/2018 Number of Days to Update: 71	Source: Environmental Protection Agency Telephone: 202-564-0527 Last EDR Contact: 11/20/2019 Next Scheduled EDR Contact: 03/09/2020 Data Release Frequency: Varies	
ECHO: Enforcement & Compliance History Information ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide		
Date of Government Version: 07/06/2019 Date Data Arrived at EDR: 07/09/2019 Date Made Active in Reports: 10/02/2019 Number of Days to Update: 85	Source: Environmental Protection Agency Telephone: 202-564-2280 Last EDR Contact: 10/08/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Quarterly	
FUELS PROGRAM: EPA Fuels Program Registered Listing This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.		
Date of Government Version: 08/19/2019 Date Data Arrived at EDR: 08/20/2019 Date Made Active in Reports: 11/11/2019 Number of Days to Update: 83	Source: EPA Telephone: 800-385-6164 Last EDR Contact: 11/19/2019 Next Scheduled EDR Contact: 03/02/2020 Data Release Frequency: Quarterly	
AIRS: Permiited Airs Facility Listing A listing of permitted airs facilities.		
Date of Government Version: 08/26/2019 Date Data Arrived at EDR: 08/27/2019 Date Made Active in Reports: 11/07/2019 Number of Days to Update: 72	Source: Department of Health & Environmental Control Telephone: 803-898-4279 Last EDR Contact: 08/21/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies	
ASBESTOS: Asbestos Notification Listing Asbestos abatement & demolition project list		
Date of Government Version: 07/23/2019 Date Data Arrived at EDR: 07/31/2019 Date Made Active in Reports: 10/04/2019 Number of Days to Update: 65	Source: Department of Health & Environmental Control Telephone: 803-898-3882 Last EDR Contact: 10/21/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies	
COAL ASH: Coal Ash Disposal Sites A listing of sites with coal ash ponds.		
Date of Government Version: 03/20/2018 Date Data Arrived at EDR: 03/22/2018 Date Made Active in Reports: 04/25/2018 Number of Days to Update: 34	Source: Department of Health & Environmental Control Telephone: 803-898-3964 Last EDR Contact: 09/13/2019 Next Scheduled EDR Contact: 12/30/2019 Data Release Frequency: Varies	
DRYCLEANERS: Drycleaner Database The Drycleaning Facility Restoration Trust Fun registered drycleaning sites.	d database is used to access, prioritze and cleanup contaminated	
Date of Government Version: 01/08/2018 Date Data Arrived at EDR: 02/01/2018 Date Made Active in Reports: 03/21/2018 Number of Days to Update: 48	Source: Department of Health & Environmental Control Telephone: 803-898-3882 Last EDR Contact: 11/01/2019 Next Scheduled EDR Contact: 02/17/2020 Data Release Frequency: Annually	

Financial Assurance 1: Financial Assurance Inform	-
	te facilities. Financial assurance is intended to ensure that resources ost-closure care, and corrective measures if the owner or operator pay.
Date of Government Version: 06/20/2019 Date Data Arrived at EDR: 06/20/2019 Date Made Active in Reports: 09/06/2019 Number of Days to Update: 78	Source: Department of Health & Environmental Control Telephone: 803-896-4067 Last EDR Contact: 09/06/2019 Next Scheduled EDR Contact: 12/23/2019 Data Release Frequency: Semi-Annually
Financial Assurance 2: Financial Assurance Inform Hazardous waste financial assurance information	5
Date of Government Version: 06/20/2019 Date Data Arrived at EDR: 06/20/2019 Date Made Active in Reports: 09/06/2019 Number of Days to Update: 78	Source: Department of Health & Environmental Control Telephone: 803-898-3880 Last EDR Contact: 11/20/2019 Next Scheduled EDR Contact: 12/23/2019 Data Release Frequency: Varies
Financial Assurance 3: Financial Assurance Inform UST financial assurance information.	nation Listing
Date of Government Version: 07/26/2019 Date Data Arrived at EDR: 07/31/2019 Date Made Active in Reports: 10/08/2019 Number of Days to Update: 69	Source: Department of Health & Environmental Control Telephone: 803-898-3880 Last EDR Contact: 10/03/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Varies
GWCI: Groundwater Contamination Inventory An inventory of all groundwater contamination	n cases in the state.
Date of Government Version: 07/01/2008 Date Data Arrived at EDR: 11/06/2008 Date Made Active in Reports: 11/19/2008 Number of Days to Update: 13	Source: Department of Health and Environmental Control Telephone: 803-898-3798 Last EDR Contact: 09/23/2019 Next Scheduled EDR Contact: 01/06/2020 Data Release Frequency: Annually
NPDES: Waste Water Treatment Facilities Listing A listing of waste water treatment facility local	tions.
Date of Government Version: 07/23/2019 Date Data Arrived at EDR: 07/30/2019 Date Made Active in Reports: 09/10/2019 Number of Days to Update: 42	Source: Department of Health & Environmental Control Telephone: 803-898-4300 Last EDR Contact: 10/21/2019 Next Scheduled EDR Contact: 02/03/2020 Data Release Frequency: Varies
UIC: Underground Injection Wells Listing A listing of underground injection wells location	ons.
Date of Government Version: 08/05/2019 Date Data Arrived at EDR: 08/07/2019 Date Made Active in Reports: 10/21/2019 Number of Days to Update: 75	Source: Department of Health & Environmental Control Telephone: 803-898-3799 Last EDR Contact: 10/28/2019 Next Scheduled EDR Contact: 02/10/2020 Data Release Frequency: Semi-Annually
MINES MRDS: Mineral Resources Data System Mineral Resources Data System	
Date of Government Version: 04/06/2018 Date Data Arrived at EDR: 10/21/2019 Date Made Active in Reports: 10/24/2019 Number of Days to Update: 3	Source: USGS Telephone: 703-648-6533 Last EDR Contact: 08/30/2019 Next Scheduled EDR Contact: 12/09/2019 Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled

from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A Date Data Arrived at EDR: 07/01/2013 Date Made Active in Reports: 01/03/2014 Number of Days to Update: 186 Source: Department of Health and Environmental Control Telephone: N/A Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/ASource: Department of Health and Environmental ControlDate Data Arrived at EDR: 07/01/2013Telephone: N/ADate Made Active in Reports: 01/15/2014Last EDR Contact: 06/01/2012Number of Days to Update: 198Next Scheduled EDR Contact: N/AData Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Health and Environmental Control in South Carolina.

Date of Government Version: N/A Date Data Arrived at EDR: 07/01/2013 Date Made Active in Reports: 01/03/2014 Number of Days to Update: 186 Source: Department of Health and Environmental Control Telephone: N/A Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/14/2019	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 05/14/2019	Telephone: 860-424-3375
Date Made Active in Reports: 08/05/2019	Last EDR Contact: 11/11/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018 Date Data Arrived at EDR: 04/10/2019 Date Made Active in Reports: 05/16/2019 Number of Days to Update: 36 Source: Department of Environmental Protection Telephone: N/A Last EDR Contact: 10/02/2019 Next Scheduled EDR Contact: 01/20/2020 Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019 Date Data Arrived at EDR: 05/01/2019 Date Made Active in Reports: 06/21/2019 Number of Days to Update: 51

PA MANIFEST: Manifest Information Hazardous waste manifest information.

> Date of Government Version: 06/30/2018 Date Data Arrived at EDR: 07/19/2019 Date Made Active in Reports: 09/10/2019 Number of Days to Update: 53

RI MANIFEST: Manifest information Hazardous waste manifest information

> Date of Government Version: 12/31/2017 Date Data Arrived at EDR: 02/23/2018 Date Made Active in Reports: 04/09/2018 Number of Days to Update: 45

WI MANIFEST: Manifest Information Hazardous waste manifest information.

> Date of Government Version: 05/31/2018 Date Data Arrived at EDR: 06/19/2019 Date Made Active in Reports: 09/03/2019 Number of Days to Update: 76

Source: Department of Environmental Conservation Telephone: 518-402-8651 Last EDR Contact: 10/29/2019 Next Scheduled EDR Contact: 02/10/2020 Data Release Frequency: Quarterly

Source: Department of Environmental Protection Telephone: 717-783-8990 Last EDR Contact: 10/09/2019 Next Scheduled EDR Contact: 12/07/2020 Data Release Frequency: Annually

Source: Department of Environmental Management Telephone: 401-222-2797 Last EDR Contact: 11/14/2019 Next Scheduled EDR Contact: 03/02/2020 Data Release Frequency: Annually

Source: Department of Natural Resources Telephone: N/A Last EDR Contact: 09/06/2019 Next Scheduled EDR Contact: 12/23/2019 Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals. Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes Source: National Institutes of Health Telephone: 301-594-6248 Information on Medicare and Medicaid certified nursing homes in the United States. **Public Schools** Source: National Center for Education Statistics Telephone: 202-502-7300 The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states. **Private Schools** Source: National Center for Education Statistics Telephone: 202-502-7300 The National Center for Education Statistics' primary database on private school locations in the United States. Daycare Centers: Child Day Care List Source: Department of Social Services Telephone: 803-898-7345

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA Telephone: 877-336-2627 Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory Source: Department of Natural Resources Telephone: 803-734-9494

Current USGS 7.5 Minute Topographic Map Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CONNEXIAL ADDITION 231 MOUNT CARMEL RD GRAY COURT, SC 29645

TARGET PROPERTY COORDINATES

Latitude (North):	34.65181 - 34° 39' 6.52''
Longitude (West):	82.131087 - 82° 7' 51.91"
Universal Tranverse Mercator:	Zone 17
UTM X (Meters):	396346.4
UTM Y (Meters):	3834816.5
Elevation:	798 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map: Version Date:	6063769 FOUNTAIN INN, SC 2014
Northeast Map:	6063817 WOODRUFF, SC
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
45059C0075C	FEMA FIRM Flood data
Additional Panels in search area:	FEMA Source Type
45059C0100C	FEMA FIRM Flood data
NATIONAL WETLAND INVENTORY	
NWI Quad at Target Property FOUNTAIN INN	NWI Electronic <u>Data Coverage</u> YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

MAP ID

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

Not Reported

LOCATION

FROM TP

GENERAL DIRECTION GROUNDWATER FLOW

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

GEOLOGIC AGE IDENTIFICATION

Era:	Paleozoic	Category:	Plutonic and Intrusive Rocks
System:	Devonian		
Series: Middle Paleozoic granitic rocks			
Code:	Pzg2 (decoded above as Era, System & Ser	ries)	

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5879596.2s



SITE NAME: ADDRESS:	Connexial Addition 231 MOUNT CARMEL RD
	GRAY COURT SC 29645
LAT/LONG:	34.65181 / 82.131087

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1	
Soil Component Name:	CECIL
Soil Surface Texture:	sandy loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

			Soil Layer	Information			
Boundary			Classification		Saturated hydraulic		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	5 inches	sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5
2	5 inches	79 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5

Soil Map ID: 2	
Soil Component Name:	CECIL
Soil Surface Texture:	sandy loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Boundary				Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	
1	0 inches	5 inches	sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5
2	5 inches	79 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5

Soil Map ID: 3	
Soil Component Name:	CECIL
Soil Surface Texture:	sandy clay loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

	Soil Layer Information						
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	3 inches	sandy clay loam	Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5
2	3 inches	79 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5

Soil Map ID: 4

Soil Component Name:	CECIL
Soil Surface Texture:	sandy clay loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained
Hydric Status: Not hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

	Soil Layer Information								
	Boundary			Classification		Saturated hydraulic			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity	Soil Reaction (pH)		
1	0 inches	3 inches	sandy clay loam	Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5		
2	3 inches	79 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 5.5 Min: 4.5		

Soil Map ID: 5	
Soil Component Name:	Madison
Soil Surface Texture:	sandy loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained
Hydric Status: Unknown	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information								
Layer	Boundary			Classification		Saturated hydraulic		
	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec		
1	0 inches	5 inches	sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5	
2	5 inches	38 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5	
3	38 inches	53 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5	

Soil Map ID: 6	
Soil Component Name:	PACOLET
Soil Surface Texture:	sandy clay loam
Hydrologic Group:	Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.
Soil Drainage Class:	Well drained
Hydric Status: Unknown	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 0 inches

Soil Layer Information									
	Boundary			Classification		Saturated hydraulic			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec			
1	0 inches	5 inches	sandy clay loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5		
2	5 inches	26 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5		
3	26 inches	53 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5		

Soil Map ID: 7

Soil Component Name:	CHEWACLA
Soil Surface Texture:	loam
Hydrologic Group:	Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.
Soil Drainage Class:	Somewhat poorly drained
Hydric Status: Partially hydric	
Corrosion Potential - Uncoated Steel:	High
Depth to Bedrock Min:	> 0 inches
Depth to Watertable Min:	> 15 inches

	Soil Layer Information						
Boundary				Classification		Saturated hydraulic	l
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	5 inches	loam	Not reported	Not reported	Max: Min:	Max: Min:
2	5 inches	24 inches		Not reported	Not reported	Max: Min:	Max: Min:
3	24 inches	48 inches		Not reported	Not reported	Max: Min:	Max: Min:
4	48 inches	61 inches		Not reported	Not reported	Max: Min:	Max: Min:

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

WELL ID

LOCATION FROM TP

No PWS System Found

MAP ID

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

		LOCATION
MAP ID	WELL ID	FROM TP
1	SCP500000013406	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 5879596.2s



Cluster of Multiple Ico	ns
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SITE NAME:Connexial AdditionCLIENT:ThomasADDRESS:231 MOUNT CARMEL RD GRAY COURT SC 29645CONTACT:Katie MoLAT/LONG:34.65181 / 82.131087DATE:Novemb	Mcco 596.2s mber 3
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GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
1 ESE 1/2 - 1 Mile Lower		5	SC WELLS	SCP50000013406
Database:	Water Well Database (Piedmo	nt Counties)		
SCDNR Grid #:	44Hi012	Old SCDNR #:	44H	-i012
SCWRC #:	44Hi012	SCWRC Transitional #:	Not R	Reported
SCWRC Original #:	Not Reported	DHEC Permit #:		Reported
DHEC Construction Permit #:	Not Reported	DHEC Public Supply Sys	#: Not R	Reported
DHEC Public Well #:	Not Reported	Total Well Depth:	250	•
Completed Depth:	0	Elevation:	0	
Topography:	Not Reported	Aquifer:	Not R	Reported
Basin:	Not Reported	Water Use:	DO	•
Source:	w	Yield:	30	
Updated:	20031211000000.000			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: SC Radon

Radon Test Results

Zipcode	Average	Num Tests	Minimum	Maximum	% > 4 pCi/L
29645	2.3	22	0.3	13.8	4.5

Federal EPA Radon Zone for LAURENS County: 2

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 29645

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.100 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA Telephone: 877-336-2627 Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: Department of Natural Resources Telephone: 803-734-9494

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS) The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS) Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS) This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

South Carolina Water Well Database Source: Department of Natural Resources Telephone: 803-734-6440 Water wells in the Coastal Plain counties of South Carolina.

Water Well Database Source: Department of Natural Resources Telephone: 864-654-1671 A listing of water wells in the Piedmont (upstate) counties.

OTHER STATE DATABASE INFORMATION

RADON

State Database: SC Radon Source: Department of Health & Environmental Control Telephone: 864-241-1090 Radon Test Results by Zip Code

Area Radon Information Source: USGS Telephone: 703-356-4020 The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones Source: EPA Telephone: 703-356-4020 Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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Connexial Addition 231 MOUNT CARMEL RD GRAY COURT, SC 29645

Inquiry Number: 5879596.4 November 21, 2019

EDR Historical Topo Map Report with QuadMatch™



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

Site Name:

Connexial Addition

231 MOUNT CARMEL RD

GRAY COURT, SC 29645

EDR Inquiry # 5879596.4

Client Name:

Thomas & Hutton P.O. Box 7608 Columbia, SC 29202 Contact: Katie Mccoy



11/21/19

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Thomas & Hutton were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Res	ults:	Coordinates:	
P.O.#	26942.0007	Latitude:	34.65181 34° 39' 7" North
Project:	Connexial Addition	Longitude:	-82.131087 -82° 7' 52" West
-		UTM Zone:	Zone 17 North
		UTM X Meters:	396348.74
		UTM Y Meters:	3835012.99
		Elevation:	797.14' above sea level
Maps Provid	led:		

2014 1983 1957

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2014 Source Sheets



Woodru

Fountain Inn 2014 7.5-minute, 24000



1983 Source Sheets



Woodruff 1983 7.5-minute, 24000 Aerial Photo Revised 1976

1957 Source Sheets



Fountain Inn 1957 15-minute, 62500 Aerial Photo Revised 1956



Fountain Inn 1983 7.5-minute, 24000 Aerial Photo Revised 1976





5879596 - 4 page 5



SW

S

SE





Thomas & Hutton

CLIENT:

Connexial Addition

231 MOUNT CARMEL RD GRAY COURT, SC 29645

Inquiry Number: 5879596.8 November 22, 2019

The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

Site Name:

Client Name:

Connexial Addition 231 MOUNT CARMEL RD GRAY COURT, SC 29645 EDR Inquiry # 5879596.8 Thomas & Hutton P.O. Box 7608 Columbia, SC 29202 Contact: Katie Mccoy



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:				
<u>Year</u>	<u>Scale</u>	Details	Source	
2017	1"=500'	Flight Year: 2017	USDA/NAIP	
2013	1"=500'	Flight Year: 2013	USDA/NAIP	
2011	1"=500'	Flight Year: 2011	USDA/NAIP	
2006	1"=500'	Flight Year: 2006	USDA/NAIP	
1999	1"=750'	Flight Date: March 07, 1999	USGS	
1994	1"=500'	Acquisition Date: February 02, 1994	USGS/DOQQ	
1989	1"=750'	Flight Date: March 19, 1989	USGS	
1981	1"=500'	Flight Date: March 09, 1981	USDA	
1978	1"=500'	Flight Date: March 22, 1978	USDA	
1976	1"=500'	Flight Date: February 23, 1976	USGS	
1964	1"=500'	Flight Date: October 06, 1964	USGS	
1961	1"=500'	Flight Date: June 23, 1961	USGS	
1951	1"=500'	Flight Date: May 14, 1951	USGS	
1938	1"=500'	Flight Date: December 28, 1938	USDA	

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Connexial Addition 231 MOUNT CARMEL RD GRAY COURT, SC 29645

Inquiry Number: 5879596.3 November 21, 2019

Certified Sanborn® Map Report



6 Armstrong Road, 4th floor Shelton, CT 06484 Toll Free: 800.352.0050 www.edrnet.com

Certified Sanborn® Map Report

Site Name:

Connexial Addition 231 MOUNT CARMEL RD GRAY COURT, SC 29645 EDR Inquiry # 5879596.3 Thomas & Hutton P.O. Box 7608 Columbia, SC 29202 Contact: Katie Mccoy

Client Name:



11/21/19

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Thomas & Hutton were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # A45C-4084-BFE6

PO # 26942.0007

Project Connexial Addition

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results Certification #: A45C-4084-BFE6

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

	Library of Congi	ress
--	------------------	------

University Publications of America

EDR Private Collection

The Sanborn Library LLC Since 1866™

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Connexial Addition

231 MOUNT CARMEL RD GRAY COURT, SC 29645

Inquiry Number: 5879596.5 November 24, 2019

The EDR-City Directory Image Report

6 Armstrong Road Shelton, CT 06484 800.352.0050 www.edrnet.com

Environmental Data Resources Inc

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Executive Summary

Findings

City Directory Images

Thank you for your business. Please contact EDR at 1-800-352-0050 with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.



RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2014	\checkmark		EDR Digital Archive
2010	\checkmark		EDR Digital Archive
2005	\checkmark		EDR Digital Archive
2000	\checkmark		EDR Digital Archive
1995			EDR Digital Archive
1992			EDR Digital Archive

FINDINGS

TARGET PROPERTY STREET

231 MOUNT CARMEL RD GRAY COURT, SC 29645

<u>Year</u>	<u>CD Image</u>	<u>Source</u>	
MOUNT C	ARMEL RD		
2014	pg A1	EDR Digital Archive	
2010	pg A2	EDR Digital Archive	
2005	pg A3	EDR Digital Archive	
2000	pg A4	EDR Digital Archive	
1995	-	EDR Digital Archive	Street not listed in Source
1992	-	EDR Digital Archive	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images



-

Source EDR Digital Archive

100	WILKES, ELMER E
155	OCCUPANT UNKNOWN,
195	CANTRELL, ROGER E
206	OCCUPANT UNKNOWN,
209	GRAY, NATHAN
231	MCDANIEL, CAMERON W
286	BURTON, JOHN C
317	FRAIZER, CHARLENE J
382	BROWN, KEVIN D
502	C/K ENTERPRISES
558	BOLDEN, BARBARA N
653	BOLDEN, BETTY M
	NORMAN, SHANE C
673	
701	
773	JACKSON, ROOSEVELT R
816	MASSEY, DONALD G
831	WALTERS, KAYLA
848	MASSEY CHRISTOPHER D
858	OCCUPANT UNKNOWN,
943	FINLEY, JERIE L
966	SIMS, CALVIN
991	MORRIS, FREDERICK J
1075	TODD, JOHN
1076	DORRAH, FRANKLIN
1207	DORRAH, JAMES H
1209	DORRAH, GEORGE W
1350	EPPS, JOE B
1361	OCCUPANT UNKNOWN,
1391	TUCKER, CLEVELAND
1443	OWENS, JOYCE T
1528	OCCUPANT UNKNOWN,
1548	FULLER, MARK
1646	FLOYD, TERRILL K
1686	WRIGHT, MICHAEL S
1845	SPIVEY, DAVID L
1853	SPIVEY, DELENA M
1874	BLACKSTONE, LINDSEY
1945	BLACKSTONE, JOEL R
1993	BLACKSTONE, JOEL K
	,



-

Source EDR Digital Archive

206 209 231 317 382	STODDARD, RACHEL D GRAY, NATHAN MCDANIEL, CHANEL SAXON, MATTIE S BROWN KIRK BROWN, KEVIN D
558	BOLDEN, BARBARA N
653	BOLDEN, RICKY L
673	NORMAN, SHANE C
701	JACKSON, STEPHANIE
773	JACKSON, CORDELIA L
816	MASSEY, DONALD G
831	CORBIN, ERICON A
943	FINLEY, CATHERINE F
991	MORRIS, FRED J
1066	SIMS, CALVIN
1075	TODD, JOHN
1076	DORRAH, FRANKLIN
1207	DORRAH, JAMES H
1209	DORRAH, GEORGE W
1350	EPPS, JOE B
1361	TUCKER, JIMMY L
1391	TUCKER, LOLA P
1443	OWENS, THOMAS
1548	FULLER, MARK
1646	FLOYD, TERRILL K
1686	WRIGHT, MICHAEL
1845	SPIVEY, DAVID L
1853	SPIVEY, DELENA M
1874	BLACKSTONE, LOIS J
1945	BLACKSTONE, ROSE A
1993	BLACKSTONE, JOEL K



-

Source EDR Digital Archive

155	CANTRELL, DOROTHY M
206	STODDARD, RACHEL D
231	CEASAR, CAROLYN E
317	SAXON, S J
382	BELL, O J
558	BOLDEN, BARBARA N
673	NORMAN, HAZEL W
816	MASSEY, DONALD
831	CORBIN, ERICON
873	HOUSTON, RUBY
943	FINLEY, CATHERINE
966	SIMS, CALVIN
991	MORRIS, FRED J
1075	TODD, JOHN
1076	DORRAH, FRANKLIN
1207	DORRAH, JAMES H
1209	GRAY, NATHAN
1350	EPPS, JOE B
1361	TUCKER, JIMMY L
1391	TUCKER, LOLA P
1443	OWENS, THOMAS
1548	FULLER, MARK
1646	FLOYD, TERRILL K
1845	SPIVEY, DAVID L
1853	SPIVEY, DELENA M
1874	BLACKSTONE, HOYT L
1945	BLACKSTONE, JOEL R



-

Source EDR Digital Archive

117	BAGWELL, CHARLES K
155	CANTRELL, DOROTHY
231	JOHNSON, WILLIAM W
317	SAXON, S J
382	BELL, O J
558	BOLDEN, BARBARA N
673	NORMAN, HAZEL
773	JACKSON, R
816	MASSEY, DONALD
858	MASSEY, DONALD
873	HOUSTON, RUBY
943	FINLEY, JERIE
1076	DORRAH, PEARLIE
1178	BAGWELL, CHARLES K
1207	DORRAH, JAMES H
1209	GRAY, NATHAN
1350	EPPS, JOE B
1391	TUCKER, LOLA
1443	OWENS, THOMAS
1528	GUEST, NIVIA
1646	FULLER, RICKEY
1845	SPIVEY, DAVID
1853	SPIVEY, DELENA
1874	BLACKSTONE, HOYT L
1945	BLACKSTONE, JOEL R

Appendix C Photographs 1 through 27





CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 1	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: West	
COMMENT:	
Southern boundary of subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 2	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: Northwest	
COMMENT:	
Agricultural field on subject property.	

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

December 2019

T&H J – 26942.0007

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 3	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: East	
COMMENT:	
Wooded area of subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 4	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: North	
COMMENT:	
Agricultural field on subject property.	

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

T&H J – 26942.0007
CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 5	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: East	
COMMENT:	
Agricultural field on subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 6	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: South	
COMMENT:	
Old Dairy Road on subject property.	

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

December 2019

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 7	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: East	
COMMENT:	
Wooded area of subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 8	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: East	
COMMENT:	
Wooded area of subject property.	

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC

HINMAS & HUTTON

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 9	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: East	
COMMENT:	
Locked gate on subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 10	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: West	
COMMENT:	
Miscellaneous dumping on subject property.	

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 11	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: Northeast	
COMMENT:	
Agricultural field on subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 12	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: South	
COMMENT:	
Agricultural field on subject property.	

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 13	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: Southeast	
COMMENT:	
Agricultural field on subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 14	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: West	
COMMENT:	
Miscellaneous dumping on subject property.	

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC

THOMAS & HUTTON

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 15	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION:	
COMMENT:	
Agricultural field on subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 16	and the second
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: North	
COMMENT:	
Agricultural field on subject property.	

Environmental Site Assessment

Laurens County Development Corporation – 70-Acre Laurens Parcel

Gray Court, Laurens County, SC



CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 17	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: East	
COMMENT:	
Wooded area of subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel		
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC		
PHOTOGRAPH #: 18			
PHOTOGRAPHER: Kate McCoy			
DATE: November 26, 2019			
DIRECTION: South			
COMMENT:			
Wooded area of subject property.			

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

December 2019

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 19	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: Southeast	
COMMENT:	
Wooded area of subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel		
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC		
PHOTOGRAPH #: 20			
PHOTOGRAPHER: Kate McCoy			
DATE: November 26, 2019			
DIRECTION: South			
COMMENT:			
Fenced portion of subject property.			

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 21	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: South	
COMMENT:	Shink Carl Manager and Shink S
Small creek on subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel		
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC		
PHOTOGRAPH #: 22			
PHOTOGRAPHER: Kate McCoy			
DATE: November 26, 2019			
DIRECTION: South			
COMMENT:			
Wooded area of subject property.			

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC

THOMAS & HUTTON

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 23	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: North	
COMMENT:	
Wooded area of subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel		
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC		
PHOTOGRAPH #: 24			
PHOTOGRAPHER: Kate McCoy			
DATE: November 26, 2019			
DIRECTION: North			
COMMENT:			
Hunting dogs on subject property.			

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

December 2019

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC
PHOTOGRAPH #: 25	
PHOTOGRAPHER: Kate McCoy	
DATE: November 26, 2019	
DIRECTION: West	
COMMENT:	
Hunting dogs on subject property.	

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel		
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC		
PHOTOGRAPH #: 26			
PHOTOGRAPHER: Kate McCoy			
DATE: November 26, 2019			
DIRECTION: West			
COMMENT:			
Wooded area of subject property.			

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC

H THOMAS & HUTTON

CLIENT: Laurens County Development Corporation	SITE NAME: 70-Acre Laurens Parcel		
PROJECT #: 26942.0007	SITE LOCATION: Gray Court, SC		
PHOTOGRAPH #: 27			
PHOTOGRAPHER: Kate McCoy			
DATE: November 26, 2019			
DIRECTION: West			
COMMENT:			
Wooded area of subject property.			

Environmental Site Assessment Laurens County Development Corporation – 70-Acre Laurens Parcel Gray Court, Laurens County, SC THOMAS & HUTTON

Appendix D SCDHEC Freedom of Information Act Request

Mahec	F	reedom of Informatior Customer Service: (8	•
Date: 11/27/2019	Internal reque	st number:	
Contact information			
Name: <u>Katie McCoy</u> Street address: <u>1501 Main Street</u> Phone number: <u>(803) 451-6797</u>	City		State: SC Zip Code: 29201
Request information			
I'm requesting: Specific do Facility or project name: CJ WILLI Facility address: Old Dairy Road County: Laurens DHEC file custodian/staff contact if Description of documents or files re	AM W JOHNSON Pro	· · ·	
	•	nis site, to include: RCRA, ha	azardous waste, UST, groundwater,
The property consists of the area	enclosed in TMS 188-	-00-00-002 and 156-00-00-0	18 in Laurens County.
Family Privacy Protection Act st	atement		
	btained from our ager	ncy for commercial solicitation	r private entity from knowingly obtaining on directed to any person in the State. for the purposes of commercial
Submit requests: Email: foi@dhe	and a second		e, 2600 Bull St., Columbia, S.C. 29201
D ⁻¹	Cost:		
Services: Scan #: W			CD duplication #:
Delivery options: Pick up Ema	iled 🗌 Mailed		Total charge:

2.



November 27, 2019

Ms. Katie McCoy Thomas and Hutton 1501 Main Street Columbia, SC 29201-5801

Re: Freedom of Information Request #818233 CJ William W Johnson Old Dairy Road Laurens, SC

Dear Ms. McCoy:

This is to advise you that the Freedom of Information Office could not locate any files on the referenced subject, company individual, and /or address as submitted.

If you feel that the information you requested may be found under another name or description, please submit the additional information by fax (803) 898 – 3816 or by e-mail to foi@dhec.sc.gov referencing the above Request Number.

If you have any questions or require further assistance, please contact our office at (803) 898 - 3882. This request is now closed.

Sincerely,

Kristen Keller Freedom of Information Office Appendix E Signature of Environmental Professional



I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in #312.10 of 40 CFR 312. I have the specific qualifications based on my education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Lisa B. Muzekari, P.E.

JAN 13,2020

Date

H THOMAS & HUTTON

Appendix F Qualifications of Environmental Professional



Lisa Muzekari, PE | Senior Project Manager

Lisa Muzekari is a Senior Project Manager with over 20 years of experience in environmental engineering. She has managed a practice group focusing on environmental health and safety compliance and solid waste management and is recognized in her field for providing environmental assessments, permitting, planning, and compliance strategies for municipal and private clients. Lisa's experience includes water, wastewater, air, environmental planning, permitting and compliance, industrial and hazardous waste, air modeling, and safety and emergency planning. She is responsible for various phases of engineering projects, from conception and planning to design. Lisa's areas of expertise includes air permitting/modeling; environmental assessment; stormwater management; spill prevention control and countermeasures plans; CERCLA/RCRA hazardous waste; process safety management plans; risk management programs; water, wastewater, and reuse water studies; and solid waste evaluations.

Education

University of South Carolina - M.S. in Civil Engineering, 1992 University of South Carolina – B.S. in Civil Engineering, 1991

Professional Registrations

Professional Engineer in SC, NC, GA

Professional Associations

Water Environment Association of South Carolina, Water Environment Federation, Carolinas Air Pollution Control Association

Project Experience

Hazardous Waste / Environmental Site Assessments

Various Clients, Project Manager and Environmental Professional for Phase I Environmental Site Assessment activities for various subject properties. The Phase I ESAs were conducted in accordance with ASTM Standard E1527-13.

- Union County, SC Trakas Site
- Spartanburg County, SC Victor Hill Site
- Johns Island, SC Hoggard Lane at Main Road Site
- North Charleston, SC Patriot Park Site
- Berkeley County, SC Berkeley County Schools Williams Lane Site
- Oconee County, SC Seneca Rail Site
- Beaufort County, SC Various Potential Economic Development Sites
- Richland County, SC Colony Tire Site, Bluff Road
- Spartanburg County, SC Cedar Crest Road Site
- Dorchester County, SC 2,000 acre Industrial Economic Development Site

City of Dublin, Mulch Site Investigation, Dublin, GA, Project Engineer responsible for the development of a Corrective Action Plan and Initial Investigation related to disposal and burning activities at the City mulch site. The investigation included an asbestos inspection/survey and soil/waste characterization sampling. Remediation activities include asbestos abatement and soil excavation. The Remediation Phase and Abatement Phase are in the process of being coordinated with GAEPD.

Liberty Sun Energy, LLC, Environmental Assessment, Walterboro, SC, Project Manager and Environmental Professional for the Phase I Environmental Site Assessment activities for a proposed solar farm to be located in Colleton County, South Carolina. The Phase I ESA was conducted in accordance with ASTM Standard E1527-05.

Savannah Housing Authority – Hitch Village, Environmental Assessment, Savannah, GA, Project Manager and Environmental Professional for the Phase I Environmental Site Assessment activities for the former Hitch Village property located in the City of Savannah, Georgia. The Phase I ESA was conducted in accordance with ASTM Standard E1527-05.

Owens-Corning, Savannah Asphalt Facility Asbestos Abatement and Demolition, Savannah, GA, Coordination of asbestos abatement activities and provided onsite observation throughout the duration of the project for the demolition of the Owens Corning former asphalt facility located in Savannah, GA. Prior to beginning the onsite activities, preparation of site-specific plans regarding the project, including a site-specific Health and Safety Plan, Work Plan, and Environmental Mitigation Plan. A total of 12,244 linear feet/square feet of asbestos containing material was abated, 310 tons of mixed scrap metal was transported and reclaimed, 3,500 gallons of oil and oily sludge was removed and transported for energy recovery, and 26 loads (40 yd3 boxes) of concrete was sent to crushing for reclaim. *

Town of Moncks Corner, Umphlett Lumber Tract Environmental Assessment and Remediation, Moncks Corner SC, Provided professional engineering services to conduct response actions as identified in the SCDHEC Voluntary Cleanup Contract. Assessment activities and remediation activities included the installation and sampling of shallow ground water monitoring wells at five locations, collection of surface and subsurface soil samples at over 20 locations, collection of sediment and corresponding surface water samples at two locations, and excavation and disposal of arsenic contaminated soil. No groundwater contaminants were detected. *

City of Walterboro, Rizer Ford Environmental Assessment and Remediation, Walterboro, SC, Project Manager for the Phase I and II Environmental Site Assessment activities for the former Rizer Ford Property. Investigative activities included soil and ground water evaluation. As a result of the site assessment activities, services included assisting the City with drafting a Voluntary Cleanup Contract with SCDHEC for the cleanup of the property to be used for redevelopment. *

South Carolina Research Authority, Catawba Street Property Phase I and Phase II ESA, Columbia, SC, Conducted Phase I and Phase II Environmental Site Assessments for former warehouse site. The assessment included the installation of temporary ground water monitoring wells and groundwater sampling. *

AME Development Group, Cypress Grove Development Site Investigation, Moncks Corner, SC, Provided preliminary site investigation of soil and water. A GPR investigation was conducted to identify subsurface anomalies (e.g., buried drums) in the area of concern and exploratory excavations were conducted with URS/BP Barber oversight. After completion of the initial investigation, URS/BP Barber proceeded with additional field activities. All areas identified in the GPR Investigation were evaluated and further excavation of waste material was conducted. Excavated material, debris and waste drums were properly contained in lined roll-off containers and samples were obtained for characterization for disposal of the hazardous and non-hazardous material. *

600 Assembly Street, Site Assessment, Columbia, SC, Conducted a site assessment, which included locating underground storage tanks. The assessment included a ground penetrating radar investigation, asbestos inspection, soil screening, and soil sampling. *

Buncombe County Landfill, Contamination Assessment, Asheville, NC, Conducted and supervised a contamination assessment, which included installation of monitoring wells, modified Dutch Cone Penetrometer investigation, borehole geophysical investigation, discrete zone sampling, and Packer Test investigation. *

Fishburne International, Contamination Assessment, Asheville, NC, Conducted and supervised a contamination assessment, which included the installation of temporary well points, groundwater and surface water sampling, and modified Dutch Cone Penetrometer investigation. *

Kalama Chemicals, Inc., Beaufort, SC, Provided statistical support as a team member in conducting a baseline risk assessment on a Superfund Potential Responsible Party lead RI/FS project. *

Lindau Chemicals, Site Assessment, Columbia, SC, Conducted a site assessment to locate underground storage tanks. The assessment included a ground penetrating radar investigation, soil screening, and soil sampling.*

NASA, RCRA Facility Investigation Kennedy Space Center, Cape Canaveral, FL, Performed a RCRA Facility Investigation for a NASA facility, which included assessment of soil, surface water, and groundwater contamination.*

Sears Fuel Storage Site, Remedial Action Plan, Miami, FL, Developed a Remedial Action Plan for the abandoned fuel storage site, which included design of recovery wells, air stripping system, infiltration gallery, and soil vapor extraction system. *

Air Permitting and Dispersion Modeling

Various Clients, Air Permit Application Packages including permit forms, emission calculations, process descriptions, and dispersion modeling results were compiled for over 100 industries and municipalities. The Aermod, ISC2, ISC3, and Screen models were utilized in performing the air dispersion modeling.

- ABB Power T&D Company Inc.
- Aiken Regional Medical Center
- American Eagle Wheel Corporation
- American Italian Pasta Company
- American Titanium Works
- Amick Farms, Inc.
- Beaufort-Jasper Water & Sewer Authority
- BioEnergy
- Carolina International Trucks
- Charleston Water System
- City of Columbia
- Department of Public Utilities, City of Orangeburg
- Devro-Teepak
- Dixie Clay Company
- Eastern Pacific International
- EFCO Corporation
- Filtration Group Technical Media
- Fisher Tank
- Fitesa
- City of Florence
- Florence Concrete Products
- Hilton Head Island Public Service District
- Holcim (US) Inc.
- Honda of South Carolina Mfg., Inc.
- Institute for Business & Home Safety
- John Deere Consumer Products

- Kings Electronics Co., Inc.
- Kiswire, Inc.
- Martin Color-Fi, Inc.
- Modine Manufacturing Company
- MTU Detroit Diesel
- Musashi South Carolina, Inc.
- New London Engineering
- New Millenium Building Systems
- Nucor Building Systems
- Phoenix Finishing
- Providence Hospital Northeast
- Rifenburg Construction for GSP International Airport
- South Carolina State Farmers Market
- South Island Public Service District
- Southland Log Homes
- Spirax Sarco
- Tranter Radiator Products
- Walgreens
- Waste2 Energy, LLC
- Wateree Dyeing and Finishing Corporation
- Wateree Textile
- Weisz Graphics
- Town of Winnsboro
- Yanagawa
- York County Industries

City of Myrtle Beach, Water Reclamation Facility, Myrtle Beach, SC, A conditional major Title V Permit Application was prepared for the major source of hazardous air pollutants. The permit application limited the number of hours the City could operate their odor control scrubbers in order to be classified as a conditional major source. *

Department of Public Utilities, City of Orangeburg, WWTP, Orangeburg, SC, Prepared a Title V Permit Application for all emission sources at the wastewater treatment plant. Permitting included a sludge dryer utilizing heat from electrical turbines. *

City of Columbia, Metro Wastewater Treatment Plant, Columbia, SC, Performed Air Dispersion modeling for the sludge incinerators in order to comply with State and Federal Regulations for the stack test results. Provided professional engineering services for the renewal of the air permit. *

City of Columbia, Metro Wastewater Treatment Plant, Columbia, SC, Coordinated Information Collection Rule (ICR) request from EPA for sewage sludge incineration units, including stack testing data collection, communications with EPA, and completion and submission of required documentation for EPA. The ICR resulted in the promulgation of new source performance standards and emission guidelines for sewage sludge incineration units located at wastewater treatment facilities designed to treat domestic sewage sludge.*

Aiken County Public Service Authority, Horse Creek Pollution Control Facility, North Augusta, SC, Prepared the Air Permitting Application and performed Air Dispersion Modeling for sludge dryer. *

Homelite, Inc, Greer, SC, Prepared a Title V Permit Application for all industrial activities at the Homelite Greer Facility. *

Tranter, Inc, Edgefield, SC, Prepared a Title V Permit Application for all of the on-site industrial activities related to the manufacturing of heat exchange units. *

Devro, Inc., Sandy Run, SC, Prepared various construction permit applications, including new production lines and boilers, and a Title V Permit Application for all industrial activities related to the manufacturing of collagen casings. Additionally, the Storm Water Pollution Prevention Plan (SWPPP), SPCC Plan, Emergency Response Plan, Process Safety Management Plan, and Risk Management Plan were prepared for the facility and are kept up-to-date in accordance with regulations and as plant changes occur. *

Honda Manufacturing of South Carolina, Inc., Timmonsville, SC, Prepared various construction permit applications, including new production lines for Personal Water Craft, and Operating Permit renewals for all industrial activities related to the manufacturing of ATVs. Additionally, the Storm Water Pollution Prevention Plan (SWPPP) and SPCC Plan were prepared for the facility and are kept up-to-date in accordance with regulations and as plant changes occur. *

Green Energy Holdings, Bio Mass Facility, Orangeburg County, SC, Prepared Air Permitting Application. Research and technical assistance with replying to SCDHEC on air permit application submittal.*

Waste 2 Energy, Waste Processing Facility, Columbia, SC, Prepared Air Permitting Application for proposed bio energy facility, which included the anaerobic digestion of food and yard waste to produce methane to be burned in generators for power production. Emission calculations, air dispersion modeling, and air permit application prepared for submittal to SCDHEC. *

BioEnergy, Berkeley County, SC, Prepared Air Permitting Application for proposed bio energy facility, which included the anaerobic digestion of municipal sludge, grease trap waste, and DAF waste to produce methane to be burned in a Combined Heat and Power (CHP) unit, boiler, and flare, when needed. Emission calculations, air dispersion modeling, and air permit application prepared for submittal to SCDHEC. Additionally, overall project management of the development of a SPCC Plan, BMP Plan, Wastewater Construction Permit, and Land Application of Biosolids Permit packages were prepared for the facility. The facility was the first of its kind in South Carolina, therefore coordination with all Bureaus of SCDHEC were required to obtain all permits for the construction and operation of the facility. The facility was permitted as a wastewater treatment facility since it accepts 503 regulated biosolids as a feed material. *

Stormwater Pollution Prevention Plans

Developed Stormwater Pollution Prevention Plans (SWP3s) for over 75 regulated facilities. The Stormwater Pollution Prevention Plans included site assessments, identification of potential pollutant sources, development of best management practices, monitoring requirements, visual assessments, and development of management procedures to maintain site compliance. Stormwater Pollution Prevention Plans were developed in accordance with Industrial General Permits in SC, NC, and GA. Recent experience includes SWP3s prepared for the following clients:

- Alpine Utilities Stoops Creek WWTP
- American Italian Pasta Company

- Amick Farms Processing Plant
- Amick Farms Feed Mill

Lisa Muzekari | continued

- ArvinMeritor
- City of Barnwell WWTP
- Town of Batesburg-Leesville WWTP
- Beaufort-Jasper Water & Sewer Authority Cherry Point WWTP
- Beaufort-Jasper Water & Sewer Authority Hardeeville WWTP
- City of Bennettsville WWTP
- Boozer Lumber Company
- Charleston Water System Daniel Island and Plum Island WWTPs
- City of Clinton Department of Public Works
- Corley Lumber Mill
- DeRoyal Textiles
- Devro
- Dorchester County WWTP
- Dorchester County Airport I
- Dorchester County Airport II
- East Richland County Public Service District
- City of Florence WWTP
- Florence Concrete Products
- Greenwood Metropolitan District West Alexander WWTP and Wilson Creek WWTP
- City of Hartsville WWTP
- City of Hartsville Airport
- Hilton Head Public Service District WWTP
- Honda of SC Mfg., Inc.
- City of Inman WWTP
- Kings Electronics
- Town of Kingstree WWTP

Spill Prevention Control and Countermeasures Plans

- City of Lake City WWTP
- City of Lake City Airport
- City of Lake City C&D Landfill
- City of Mullins WWTP
- Musashi
- City of North Myrtle Beach Ocean Drive WWTP
- City of North Myrtle Beach Crescent Beach WWTP
- ReWa Durbin Creek WWTP
- ReWa Georges Creek WWTP
- ReWa Gilder Creek WWTP
- ReWa Grove Creek WWTP
- ReWa Lower Reedy WWTP
- ReWa Marietta WWTP
- ReWa Mauldin Road WWTP
- ReWa Pelham WWTP
- ReWa Piedmont WWTP
- ReWa Taylors WWTP
- ReWa Maintenance / Shop Area
- Richland County Broad River WWTP
- Siemens VDO
- Spartanburg Water Landrum Page Creek WWTP
- Spirax Sarco
- Town of Summerton WWTP
- TMA
- Tyson Foods
- Yanagawa

Developed Spill Prevention Control and Countermeasures Plans (SPCCs) for numerous facilities in the Southeast. The SPCC plans were developed to addresses petroleum/oil storage and handling operations of the facility. The SPCC Plans provided the written documentation of the site-specific measures (procedural and structural) the facility was to implement to prevent or minimize any discharge of petroleum/oil into the waters of the United States. The SPCC Plans were prepared to meet the requirements of the revised SPCC Regulation (40 CFR 112). Recent experience includes SPCCs prepared for the following clients:

- American Italian Pasta Company
- Amick Broilers, Inc.
- Amick Farms, Inc.
- Arvin Meritor
- Beaufort Jasper Water and Sewer Authority

 Cherry Point WWTP
- Beaufort Jasper Water and Sewer Authority

 Port Royal WWTP
- Beaufort Jasper Water and Sewer Authority

 Purrysburg WTP
- City of Barnwell WWTP
- City of Bennettsville WWTP
- City of Clinton WTP
- City of Florence WWTP
- City of Hartsville WWTP
- City of Newberry Public Works Department

- City of Newberry WTP
- City of Newberry WWTP
- Devro-Teepak
- Dilmar Oil
- Dorchester County Airports
- Dorchester County WWTP
- Dorchester Excavating
- East Richland County Public Service District WWTP
- Eastern Pacific International
- Energis LLC
- Florence Concrete Products
- Greenwood Metropolitan Sewer District
- Holcim (US) Inc.
- Honda of South Carolina Mfg., Inc.

Lisa Muzekari | continued

- John Deere Consumer Products Bradenton, FL Test Facility
- John Deere Consumer Products Columbia, SC Facility
- John Deere Consumer Products Gastonia, NC Facility
- John Deere Springs Farm Shop Rock Hill, SC
- John Deere Southeast Engineering Center Charlotte, NC
- KPR Holdings
- Laurens County Water and Sewer Commission – Joanna WWTP

- Meritor Automotive
- Meritor Heavy Vehicle Systems
- M.L. Corley & Sons Sawmill, Inc.
- Musashi South Carolina, Inc.
- Oak Mitsui
- Otis Spunkmeyer
- Ridge Recyclers
- Rockwell International
- Siemens VDO
- South Island Public Service District
- Transaxle Manufacturing of America
- Tyson Foods

Process Safety Management Plans

Developed Process Safety Management Programs for over 30 facilities. Prepared written programs, performed compliance audits, completed process hazard analysis, developed standard operating procedures, and evaluated and documented mechanical integrity program.

Emergency Action Plans

Developed Emergency Action Plans for the following entities:

- Greenwood Commissioners of Public Works
- Hilton Head Public Service District
- City of Bennettsville, SC

Risk Management Programs

Developed Risk Management Programs in accordance with 40 CFR 68 for the over 30 facilities. The Risk Management Programs addressed Prevention Programs, Management Programs, and Hazard Assessment Programs. Off-site consequence analyses were performed utilizing the Degadis air dispersion model to determine the extents of possible release scenarios. RMP Programs were developed for chemicals including chlorine, sulfur dioxide, and ammonia. *

Stormwater Management

Richland County, Industrial and High Risk Runoff Program, Columbia, SC, Development of program for Richland County to control Industrial and High Risk Runoff. Richland County holds a NPDES Phase I Permit. *

City of Hartsville, Stormwater Utility, Hartsville, SC, Development of financial requirements for the development of a stormwater utility for the City of Hartsville in order to comply with the upcoming requirements of NPDES Phase II permitting. *

CMOM Audits and Programs

Anderson County, SC, Assisted in the EPA Capacity, Management, Operation, and Maintenance (CMOM) Audit conducted as part of the voluntary CMOM analysis program EPA asked Anderson County to participate in.*

City of Clemson, SC, Prepared a Capacity, Management, Operation, and Maintenance (CMOM) Audit for the City of Clemson collection system. *

East Richland County Public Service District, Columbia, SC, Prepared a Capacity, Management, Operation, and Maintenance (CMOM) Audit for the East Richland County Public Service District collection system. * East Richland County Public Service District, Columbia, SC, Prepared a Capacity, Management, Operation, and Maintenance (CMOM) Program for the East Richland County Public Service District including several programs for operation and maintenance of the collection system. * Laurens County Water and Sewer Commission Laurens, SC, Prepared Capacity, Management, Operation, and Maintenance (CMOM) Program components for the Laurens County Water and Sewer Commission including various programs for the operation and maintenance of the collection system. *

City of Myrtle Beach, SC, Prepared a Capacity, Management, Operation, and Maintenance (CMOM) Audit and CMOM Program for the City of Myrtle Beach collection system.*

Town of Summerton, SC, Prepared a Capacity, Management, Operation, and Maintenance (CMOM) Audit for the Town of Summerton collection system. *

Town of Summerton, SC, Prepared a Capacity, Management, Operation, and Maintenance (CMOM) Program for the Town of Summerton including various programs for the operation and maintenance of the collection system. *

Taylors Fire and Sewer District, Taylors, SC, Prepared a Capacity, Management, Operation, and Maintenance (CMOM) Program for the Taylors Fire and Sewer District including several programs for operation and maintenance of the collection system. *

Solid Waste Management

Anderson County, Financial Analysis of Waste Management Alternatives, Anderson, SC, Prepared a financial analysis of waste management alternatives. Analysis included the construction of a regional Subtitle D facility and the contrasting with a private company to purchase the County landfill and provide solid waste management services. *

Chester County, Financial Analysis of Waste Management Alternatives, Chester, SC, Prepared a financial analysis of waste management alternatives. *

York County, Financial Analysis of Waste Management Alternatives, York, SC, Prepared a financial analysis of waste management alternatives. Analysis included the construction of a Subtitle D facility and the utilization of a regional landfill. The analysis also included a C&D landfill and composting area for yard waste. *

Homelite, Waste Minimization Plan, Columbia, SC, Responsible for development of Waste Minimization Plan for production activities at the Homelite facility. *

York County, Groundwater Quality Assessment Plan, York, SC, Prepared a groundwater quality assessment plan for the York County Landfill. The plan addressed placement of monitoring wells and required analyses. *

Source Water Assessment Programs

Beaufort Jasper Water & Sewer Authority, Okatie, SC, Developed a Source Water Assessment Program for the Beaufort Jasper Water & Sewer Authority to locate potential contaminant sources for their wells and surface water source. The project included the coordination between the BJW&SA and the City of Savannah SWAPs. *

City of Bennettsville, **SC**, Developed a Source Water Protection Program for the City of Bennettsville Water Treatment Plant to locate potential contaminant sources for their wells and surface water source.*

Eastern Band of Cherokee Indians, Cherokee, NC, Developed a Source Water Assessment Program for the Qualla Boundary in Cherokee, North Carolina. The SWAP included one surface water source, six springs, and over thirty wells. The SWAP was coordinated with EPA Region IV and included GPS and GIS deliverables. *

City of Savannah, GA, Developed a Source Water Assessment Program for the City of Savannah I&D Water Treatment Plant to locate potential contaminant sources for their surface water source. The project included the coordination between the City of Savannah and the Beaufort Jasper Water and Sewer Authority and the formation of a Source Water Protection Task Force Committee. *

Water, Wastewater and Reuse Water Plans and Studies

Chester County, Countywide Wastewater System Study, Chester, SC, Preparation of an engineering study to address the existing wastewater infrastructure and potential future growth countywide in determining alternatives for expansion of the wastewater collection system and treatment facilities. The study included preliminary cost estimates for proposed expansion of the existing system, population projections, and collection system mapping. *

Clarendon County, Countywide Wastewater Study, Manning, SC, Preparation of an engineering study to analyze alternatives to create a regional sewer system in Clarendon County, including the consolidation of existing municipal systems. The study included preliminary cost estimates for various alternatives, as well as population and flow projections. *

City of Clemson, Evaluation of Long-Term Water Supply Options, Clemson, SC, Performed an engineering analysis of long-term water supply options for the City of Clemson, Clemson University, and Town of Central. The study included a present worth cost analysis of water supply alternatives, including wholesale alternatives, as well as the construction of a new water treatment plant. *

City of Conway, Water and Wastewater System Evaluation, Conway, SC, Project Engineer for the evaluation and financial planning of the City's water and wastewater systems. Responsible for data acquisition and evaluation of existing programs for the water distribution and sewer collection systems. Responsible also for determining future areas of growth and assisted in the determination of future capital improvement projects and prioritization. Served as the liaison to Raftelis Financial Consultants in the development of the rate model and financial plan for the water and sewer systems. *

Dillon County, Regional Sewer Study, Dillon, SC, Preparation of an engineering study to analyze alternatives to create a regional sewer system in Dillon County, including the consolidation of existing municipal and private systems. The study included a present worth cost comparison for the identified alternatives. *

Town of Gifford/Hampton County, Water and Wastewater Viability, Hampton, SC, Assisted with the development of a Water and Wastewater Viability Study for Hampton County, which included alternatives for regionalization of water and wastewater service in Hampton County, as well as analysis of available water and wastewater services, projected demands, and the means to provide water and wastewater to locations within the County, with a focus on consolidation and possible expansion and interconnection of existing suppliers. *

James Island Public Service District, Sewer System Evaluation, Charleston, SC, Project Manager for the District's sewer system evaluation. Coordinated the asset data compilation and facilitated the valuation of the sewer system assets. *

Marlboro County, Countywide Water Study, Bennettsville, SC, Performed a countywide engineering study for water supply throughout Marlboro County, including municipal and privately owned systems. The study analyzed the feasibility of creating a countywide system and the expansion of the existing systems into unserviced areas of the County. *

Renewable Water Resources, Assessment of Biosolids Environmental Management System (EMS), Greenville, SC, Conducted an assessment of the developing ReWa Biosolids Environmental Management System (EMS) to aid ReWa in determining areas of the program that needed further development. Aided ReWa in their Biosolids EMS Program by developing Element 3 of their program. *

Renewable Water Resources, Durbin Creek Wastewater Treatment Plant (WWTP) Reuse Water Feasibility Study, Greenville, SC, Development of the Durbin Creek WWTP Reuse Water Feasibility Study for WCRSA which included various alternatives for the reuse of effluent from the WWTP. *

Renewable Water Resources, Gilder Creek Wastewater Treatment Plant (WWTP) Reuse Water Feasibility Study and PER, Greenville, SC, Development of the Gilder Creek WWTP Reuse Water Feasibility Study and Reuse Preliminary Engineering Report for ReWa which included various alternatives for the reuse of effluent from the WWTP.*

Spartanburg Sanitary Sewer District, Collection System Evaluation, Spartanburg, SC, Project Engineer for the City of Spartanburg's collection system evaluation. Responsible for coordinating the evaluation that included asset evaluation, compliance history and a financial records review. Worked closely with Raftelis Financial Consultants in the data acquisition necessary for the rate model development and financial impact analysis. Responsible for all presentations to the SSSD and City personnel to help facilitate negotiations for the transfer of assets. *

Water Distribution/Treatment and Associated Projects

Beaufort Jasper Water & Sewer Authority, Regional Water System Feasibility Study, Sheldon Township, SC, Conducted a feasibility study for a new regional water system for Sheldon Township for the Beaufort Jasper Water & Sewer Authority. The study was performed to determine the most cost effective method of providing potable water and fire protection to the Sheldon Township area of northern Beaufort County. *

Charleston Water System, Raw Water Intake Model, Charleston, SC, Developed a Fortran Model to hydraulically analyze the raw water intake system for the Water Treatment Plant for the Charleston Water System. *

Edgefield County Water & Sewer Authority, Preliminary Engineering Report (PER) Water Distribution System Improvements, Edgefield, SC, Prepared a PER for improvements to the Edgefield County Water Distribution System. *

Wastewater Collection/Treatment and Associated Projects

Aiken County Public Service Authority, Preliminary Engineering Report (PER) Sludge Composting Facility at Horse Creek Pollution Control Facility, North Augusta, SC, Prepared a PER for a sludge composting facility at the Horse Creek Pollution Control Facility. Additional air permitting services were provided for a sludge dryer. *

American Eagle Wheel Corporation, Pretreatment System Improvements, York, SC, Assisted in permitting with SCDHEC and the City of York for pretreatment system improvements. *

Beaufort-Jasper Water & Sewer Authority, St. Helena Wastewater Treatment Plant (WWTP) 201 Facilities Plan, St. Helena Island, SC, Responsible for the development of a 201 Plan for the upgrade and expansion of the St. Helena WWTP. *

Beaufort-Jasper Water & Sewer Authority, Preliminary Engineering Report (PER) St. Helena Wastewater Treatment Plant (WWTP) Expansion, St. Helena Island, SC: Preparation of Preliminary Engineering Report for Beaufort-Jasper Water & Sewer Authority for the expansion of the St. Helena WWTP. *

City of Bennettsville, Sludge Land Application Plan, Bennettsville, SC, Preparation of plan for land application of Bennettsville's Wastewater Treatment Plant sludge on Becker Minerals reclamation sites. *

City of Bishopville, Rate Analysis, Bishopville SC, Performed a rate analysis for the City's water and sewer systems. *

City of Conway, Conway Wastewater Treatment Plant (WWTP) 201 Facilities Plan, Conway, SC: Responsible for development of 201 Facilities Plan for the upgrade and expansion of the Conway WWTP. *

Diebold, Operation and Maintenance Manual, Sumter, SC, Preparation of Operation and Maintenance Manual for Diebold's Industrial Wastewater Pretreatment Facility. *

Edgefield County Water & Sewer Authority, Preliminary Engineering Report (PER) Land Application of Alum Sludge, Edgefield, SC, Prepared a preliminary engineering report for the land application of alum sludge on private land. *

Kershaw County Water & Sewer Authority, 208 Water Quality Management Plan Camden, SC, Responsible for development of 208 Water Quality Management Plan for the unincorporated areas of Kershaw County. *

City of Lake City, Rate Study, Lake City, SC, Performed a rate study for the water and sewer systems to include wholesale services for sewer service. *

MTU Detroit Diesel, Oil/Water Separator, Aiken, SC, Assisted in permitting with SCDHEC and the Aiken County Public Service Authority for the construction of an oil/water separator. *

National Dye Works, Wastewater Treatment Plant (WWTP) Operation and Maintenance Manual, Lynchburg, SC, Preparation of Operation and Maintenance Manual for National Dye Works' Industrial WWTP. *

City of Newberry, Newberry Wastewater Treatment Plant (WWTP) 201 Facilities Plan, Newberry, SC, Responsible for development of 201 Facilities Plan for the expansion of the Newberry WWTP. *

Town of Pamplico, Cost Effective Analysis of Wastewater Alternatives, Pamplico, SC, Performed a cost-effective analysis for several wastewater treatment alternatives, which included capital costs and annual operation and maintenance costs. *

City of Walterboro, Sludge Management Plan, Walterboro, SC, Developed Sludge Management Plan for the City's wastewater treatment facility to determine the most cost-effective means of sludge disposal. As a result of the sludge management plan, a preliminary engineering report was prepared and a permit obtained for land application of sludge on private farmland.*

* Prior Experience with Previous Employer(s)

ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY AT THE

CONNEXIAL CENTER LAURENS COUNTY, SC

APPENDIX B

PROTECTED SPECIES ASSESSMENT

26942.0007

THOMAS & HUTTON

Threatened & Endangered Species Survey

Connexial Center – 70 acres

Old Dairy Road

Gray Court, Laurens County, South Carolina

December 31, 2019

Terracon Project No. 86197255, Task 2



Prepared for: Thomas & Hutton Columbia, South Carolina

Prepared by: Terracon Consultants, Inc. Greenville, South Carolina

Offices Nationwide Employee-Owned terracon.com December 31, 2019



Thomas & Hutton 1501 Main Street, Suite 760 Columbia, South Carolina 29201

- Attn: Mr. Brad Sanderson, P.E. P: 803-451-6782 E: sanderson.b@thomasandhutton.com
- Re: Threatened & Endangered Species Survey Connexial Center – 70 acres Old Dairy Road Gray Court, Laurens County, South Carolina Terracon Project No. 86197255, Task 2

Dear Mr. Sanderson:

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Threatened & Endangered Species Survey report for the above-referenced site. This assessment was performed in accordance with Terracon's Agreement for Services for Proposal P86197255 dated November 8, 2019.

We appreciate the opportunity to be of service to you on this project. If there are any questions regarding this report or if we may be of further assistance, please contact us at (864) 292-2901.

Sincerely, Terracon

Katherine L. Weatherly Senior Staff Scientist

FOR Andv Ruocoo

Principal/ Environmental Manager

Terracon Consultants Inc. 72 Pointe Cir Greenville, SC 29615-3506

P 864-292-2901 F 864-292-6361 terracon.com

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APPENDIX A

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APPENDIX B

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APPENDIX C

Site Photographs



1.0 INTRODUCTION

The following report details methodology and an assessment of survey results for the threatened and endangered species survey completed on December 11 and 18, 2019 for the project site described below and depicted in Appendix A. This threatened and endangered species survey was conducted within the site boundaries and immediate vicinity of the site to determine the occurrence of, or potential for occurrence of animal and plant species recognized as threatened or endangered within the boundaries of the referenced site. Completion of this survey was directed by and complies with the Federal Endangered Species Act (ESA) of 1973.

1.1 Site Location

The approximately 70-acre site is located along Old Dairy Road in Gray Court, Laurens County, South Carolina. The approximate center of the review area is located at 34.652401 latitude and - -82.131867 longitude. The site is identified as Laurens County Parcel Nos. 156-00-00-018 and 188-00-00-002.

The project site is located with the Southern Outer Piedmont (45b) level IV Ecoregion within the Piedmont level III Ecoregion of South Carolina. The irregular plains of the Southern Outer Piedmont has less relief, and less precipitation than the adjacent, higher elevation Southern Inner Piedmont Ecoregion. Planted pine plantations are common in the Southern Outer Piedmont which consist of predominantly of loblolly pine (*Pinus taeda*) and shortleaf pine (*Pinus echinata*). Areas which have not been heavily altered by humans consist of mixed pine-hardwood woodlands. Gneiss, schist and granite are the dominant rock types, covered with deep saprolite and mostly red, clayey subsoils. The majority of soils are Kanhapludults.

1.2 Existing Conditions

At the time of site reconnaissance, land cover primarily consisted of undeveloped woodlands and agricultural fields with a perennial and intermittent stream systems. A fence encloses the northeast quadrant of the site, and Old Dairy Road bisects the entire site from north to south. Wetlands and streams were identified by Terracon throughout the site and are detailed in a separate report.

The site is bordered to the north, east, south and west by agricultural fields and wooded land and an unnamed pond is adjacent to the northeast. The wooded land predominantly consists of mixed oak hardwood woodlands in the center and eastern portions or the site (east of Old Dairy Road) and agricultural fields in the western portion of the site (west of Old Dairy Road). The general existing conditions are depicted on Exhibit 5 in Appendix A, and photos of the site taken during the field visit are included in Appendix C.

Threatened & Endangered Species Survey

Connexial Center – 70 acres
Gray Court, South Carolina
December 31, 2019
Terracon Project No. 86197255, Task 2



1.3 Proposed Project

This survey was conducted during the beginning stages of the project planning. Therefore, the extent or type of Federal action(s) involved as a part of the project, if any, is unknown at this time.

2.0 RECORDS REVIEW

The following federally threatened, and endangered species are listed by the United States Fish and Wildlife Service (USFWS) South Carolina Ecological Services Field Office and as potentially occurring within the project boundaries based on the information obtained from the Information, Planning, and Conservation (IPaC) search engine.

Class	Listed Species	Federal Status		
Mammals	Northern Long-eared Bat (Myotis septentrionalis)	Threatened		
Birds	Red-cockaded Woodpecker (Picoides borealis)	Endangered		
Clams	Carolina Heelsplitter (Lasmigona decorate)	Endangered		

Table 1: USFWS IPaC Official Species List

Sources: USFWS – IPaC Official Species List generated on December 10, 2019 (Consultation Code: 04ES1000-2020-SLI-0241)

*= SCDNR Rare, Threatened, and Endangered Species and Communities Known to Occur in Laurens County¹

2.1 Federal Status Explanation

According to the ESA threatened species are those species "which are likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range". Species listed as endangered are considered to have a higher risk of extinction, and are defined by the ESA as "any species which is in danger of extinction throughout all or a significant portion of its range".

2.1.1 At-Risk Species

According the USFWS list of At-Risk, Candidate, Endangered, and Threatened Species for Laurens County (included in Appendix B), there are a total of five species in Laurens County which have been federally designated as an At-Risk Species (ARS). These species include: Mimic crayfish (*Distocambarus carlsoni*), Monarch Butterfly (*Danaus plexippus*), Little Brown Bat (*Myotis lucifugus*), Tri-colored Bat (*Perimyotis subflavus*), and Georgia Aster (*Symphyotrichum georgianum*).

¹ <u>http://www.dnr.sc.gov/species/county.html</u>

Threatened & Endangered Species Survey Connexial Center – 70 acres - Gray Court, South Carolina December 31, 2019 - Terracon Project No. 86197255, Task 2



ARS are species in which the USFWS has petitioned to list but are not currently federally protected and do not require Section 7 Consultation at this time. These species are not evaluated, or discussed further in this survey report. In the event of a ARS being federally listed, informal and/or formal consultation with USFWS may be required if the species, or suitable habitat occurs on the project site or vicinity.

2.1.2 Critical Habitat

On December 10, 2019 Terracon utilized the USFWS IPaC search engine to identify critical habitat that may occur on the site. According to IPaC (consultation code: 04ES1000-2020-SLI-0241), there are no critical habitats, national wildlife refuges or fish hatcheries within the project boundaries. A copy of the USFWS IPaC report is included in Appendix B.

2.2 Coordination with SCDNR

Terracon contacted the South Carolina Department of Natural Resources (SCDNR) Heritage Trust Program for technical assistance regarding documented occurrences of rare, threatened or endangered species on the site or in the vicinity of the site. Based on the response provided by SCDNR, dated December 5, 2019 there are no federally listed species or state listed species documented on the site, or within three miles of the site. However, four Heritage 'watch list' species were found within three miles of the project site and include the one-flower stitchwort (*Minuartia uniflora*), highback chub (Hybopsis hypsinotus), greenfin shiner (*Cyprinella chloristia*), and seagreen darter (*Etheostoma thalassinum*). As noted by SCDNR, their records are not assumed complete nor should they be assumed comprehensive; therefore, field surveys should be conducted for more thorough evaluations. A copy of the response provided by the SCDNR Heritage Trust Program is included in Appendix B.

3.0 HABITAT ASSESSMENT

A field survey was conducted on December 11 and 18, 2019 by Ms. Katherine Weatherly to identify suitable habitat for federally threatened and endangered species protected by the ESA. During the field survey, plant communities and habitats were observed and noted to determine habitat types where the listed species have the potential to occur. The existing site conditions are depicted in Appendix A Exhibit 5. The habitat classifications and associated descriptions are discussed below. It should be noted the aquatic resources were delineated by Terracon on December 11 and 18, 2019 and a Jurisdictional Determination Request is pending submittal to the US Army Corps of Engineers (USACE) as of the issuance of this report. The delineated aquatic features are not depicted on the exhibits in Appendix A as USACE has not verified the delineation at this time.
Threatened & Endangered Species Survey

Connexial Center – 70 acres Gray Court, South Carolina December 31, 2019 Terracon Project No. 86197255, Task 2



3.1 Agricultural Land

Approximately 17.9-acres of the site contains agriculture land. The agricultural land habitat contains little to no groundcover and the dominant species is fescue which is harvested for livestock and an attractant for game species. Fescue fields take up the majority of the western portion the site, west of Old Dairy Road. Appendix C contains photographs representative of the agricultural land on the site.

3.2 Oak Hickory Forest

Oak-hickory forest habitat is located in the central and eastern portions of the site, east of Old Dairy Road, and borders both the piedmont small stream forest and agricultural land habitat. The canopy trees in the oak-hickory forest habitat consist of a mixture of various pine and hardwood species mainly including: water oak (*Quercus nigra*), pignut hickory (*Carya glabra*), sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), and eastern red cedar (*Juniperus virginiana*). The understory on sloping areas is maintained to a minimum, however areas exhibiting flatter topography contain: Virginia creeper (*Parthenocissus quinquefolia*), eastern poison ivy (*Toxicodendron radicans*), Christmas fern (*Polystichum acrostichoides*), greenbriar (*Smilax rotundifolia*), privet (*Forestieva ligustrina*), and American holly (*Ilex opaca*). Appendix C contains photographs representative of the habitat designated as oak-hickory forest on the site.

3.3 Piedmont Small Stream Forest

A perennial stream was observed along the eastern boundary, which is piped in two locations along the southeast portion of the site. The headwaters of an intermittent stream is located along the northcentral boundary of the site and eventually flows into the offsite unnamed pond to the northeast. The habitat surrounding the streams is considered a piedmont small stream forest. The perennial stream channel along the eastern boundary is moderate to high gradient and the substrate is moderately sorted and contains high amounts of fine sediment and silt. The intermittent stream channel is low gradient with little substrate and mostly a clay bottom. The overstory of these areas predominantly consist of a variety of hardwood tree species including: black gum (*Nyssa* sylvatica), water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), and American beech (*Fagus grandifolia*). The Piedmont small stream forests consist of a moderate to open understory containing privet (*Forestieva* ligustrina), Japanese honeysuckle (*Lonicera japonica*), American holly (*Ilex opaca*), eastern red cedar (*Juniperus virginiana*) and netted chain fern (*Woodwardia areolate*). Appendix C contains photographs representative of the piedmont small stream forest habitat on the site.

Threatened & Endangered Species Survey

Connexial Center – 70 acres Gray Court, South Carolina December 31, 2019 Terracon Project No. 86197255, Task 2



4.0 EFFECT DETERMINATIONS

The following determinations were made for each species, based on the likelihood of that species occurring on the site, or being impacted by development of the site. These effect determinations are listed in order of priority from lowest to highest, and are based on USFWS standard language implemented for Section 7 Consultation.

- "No effect" will not affect listed species
- "Not likely to adversely affect" effects are expected to be completely beneficial, discountable or insignificant
- Likely to adversely affect" adverse effects to listed species may occur

The following is a brief description of each federally listed threatened and endangered species located on the IPaC Official Species List for the site. The site was surveyed for each of the species and its recognized habitat. Comments are provided regarding results of the onsite survey with regard to habitat and occurrence.

4.1 <u>Mammals</u>

Northern Long-Eared Bat (Myotis septentrionalis)

The northern long-eared bat has large distinct ears, and roosts in caves, mines or large trees. They are typically seen through cracks or crevices with only the ears and nose visible, or at dusk dark flying through the air catching macroinvertebrates such as: beetles, caddisflies, moths, flies, or leafhoppers.

Compared to other species of bats, the northern long-eared bat is the most susceptible to the fungal disease known as white-nose-syndrome. This disease is the main cause for the decline of this species. In accordance with the Key to the Northern Long-Eared Bat 4(d) Rule for Federal Actions that May Affect Northern Long-Eared Bats, Terracon determined that the site is located inside the white-nose syndrome zone. Generally, the white-nose syndrome zone is determined based on a review of a white-nose syndrome zone map prepared by USFWS. Based on previous correspondence with the USFWS South Carolina Ecological Field Office (conducted in August 2017), all counties within South Carolina are within the white-nose syndrome zone. As a result, the Northern Long-Eared Bat 4(d) Rule may be applied. Therefore, if the site contains suitable habitat for the northern long eared bat, but is not located within 150 feet from a known roost tree, the project has met the criteria for the 4(d) rule. As a result, any incidental take is therefore exempt.

Based on the forested habitats located on the site and the broad habitat described by USFWS, there is a potential for the northern long-eared bat to occur within the site boundaries. Terracon has determined that the proposed project is not likely to adversely affect the northern long eared bat.

Threatened & Endangered Species Survey

Connexial Center – 70 acres
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4.2 <u>Birds</u>

Red-cockaded Woodpecker (Picoides borealis)

Red-cockaded woodpeckers are small birds requiring old growth pine forest for cavity excavation, foraging and nesting. The red-cockaded woodpecker's prime habitat consists specifically of old growth longleaf pine habitat, however on occasion other pine species may be sufficient under proper conditions. The particular habitat associated with this species requires many years to develop and is generally fire dependent to maintain open mid-story conditions. The recommended survey window for red-cockaded woodpeckers is from April 1 through July 31 due to nesting season.

There will be a "no effect" to the red-cockaded woodpecker because neither the species nor its suitable habitat was identified during the field survey.

4.3 <u>Clams</u>

Carolina heelsplitter (Lasmigona decorata)

The Carolina heelsplitter is currently the only mussel species in South Carolina that is federally listed as endangered. It has a mean shell length of 78mm and the outer surface of the shell is yellowish, greenish, or brownish and can have greenish or blackish rays. The Carolina heelsplitter is found in cool, shallow, heavily shaded streams of moderate gradient with little or no fine sediment. Clean streams with natural flooding and with pool, riffle and run sequences are also a required habitat requirement.

There will be "no effect" to the Carolina heelsplitter based on the lack of suitable stream habitat on the site.

5.0 FINDINGS

According to the SCDNR Heritage Trust Program, there are no federally listed species or state listed species documented on the site, or within three miles of the site. There are, however, four Heritage 'watch list' species found within three miles of the project site. A copy of the response provided by SCDNR Environmental Program is included in Appendix B.

No federally threatened or endangered species were observed on the site during the field survey. However, due to the wide-ranging and generalized habitat description for the federally threatened northern long eared bat described by the USFWS, the mature forest on the site represents potential habitat for the species. In consideration of the USFWS habitat designation of mature forest as potential habitat for the species, the proposed project is "not likely to adversely affect" the northern long eared bat.



Connexial Center – 70 acres
Gray Court, South Carolina
December 31, 2019
Terracon Project No. 86197255, Task 2

6.0 CONCLUSIONS

Development of the site is "not likely to adversely affect" the northern long eared bat. In accordance with the *Key to the Northern Long-Eared Bat 4(d) Rule for Federal Actions that May Affect Northern Long-Eared Bats*, and previous correspondence with USFWS, Terracon determined that the site is located inside the white-nose syndrome zone. As a result, the Northern Long-Eared Bat 4(d) Rule may be applied. Because the site is not located within 150 feet from a known roost tree, nor is the site located within 0.25 miles from a known hibernacula and winter roost, the project has met the criteria for the 4(d) rule. As a result, any incidental take is exempt.

The "not likely to adversely affect" conclusion of this assessment regarding the Northern Long-Eared Bat does not require coordination with USFWS. The USFWS South Carolina Ecological Services Field Office maintains a clearance letter that applies to all projects that meet certain criteria. This clearance letter serves as the USFWS concurrence with the conclusions of the habitat assessment. A copy of this letter is included in Appendix B.

7.0 GENERAL COMMENTS

This survey was performed in accordance with generally accepted practices of this profession undertaken in similar studies at the same time and in the same geographical area. This report is for the exclusive use of the client for the project being discussed. No warranties, either expressed or implied, are intended or made. It should be noted that USFWS has specific survey windows and time periods established for surveys of listed species. The findings of this survey are constrained by the project schedule, which may not coincide with the applicable survey windows. USFWS may require species to be reevaluated within the established surveys windows. In conducting the limited scope of services described herein, certain sources of information and public records were reviewed. No biological assessment can wholly eliminate uncertainty regarding the potential for concerns in connection with a project.

8.0 REFERENCES

Griffith, G.E., Omernik, J.M., Comstock, J.A., Glover, J.B., and Shelburne, V.B., 2002, Ecoregions of South Carolina, U.S. Environmental Protection Agency, Corvallis, OR (map scale 1:1,500,000).

Information, Planning, and Conservation (IPAC) online screening tool (December 10, 2019).

"South Carolina List of At-Risk, Candidate, Endangered, and Threatened Species – Laurens County" USFWS South Carolina Ecological Services Field Office. Accessed December 29, 2019

APPENDIX A

Exhibit 1 - Site Location Map Exhibit 2 - Topographic Map Exhibit 3 - USFWS NWI Map Exhibit 4 - NRCS Soils Map Exhibit 5 - Habitat Map



Legend Approximate Site Boundary	\langle
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FAX: (864) 292-6361

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Connexial Center Old Dairy Road Gray Court, Laurens County, South Carolina

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APPENDIX B

USFWS County List USFWS IPaC Report USFWS Clearance Letter SCDNR County List Coordination with SCDNR

LAURENS COUNTY

CATEGORY	COMMON NAME/STATUS	SCIENTIFIC NAME	SURVEY WINDOW/ TIME PERIOD	COMMENTS
Amphibians			None Found	
Birds	Red-cockaded woodpecker (E)	Picoides borealis	March1-July 31	Nesting season
Crustaceans	Mimic crayfish (ARS)	Distocambarus carlsoni	November-April	
Fishes		·	None Found	
Insects	Monarch butterfly (ARS)	Danaus plexippus	August-December	Overwinter population departs: March-April
	Little brown bat (ARS)	Myotis lucifugus	Year round	Found in trees, rock crevices, and under bridges
Mammals	Northern long-eared bat (T)	Myotis septentrionalis	Year round	Winter surveys not as successful
	Tri-colored bat (ARS)	Perimyotis subflavus	Year round	Found in mines and caves in the winter
Mollusks		-	None Found	-
Plants	Georgia aster (ARS*)	Symphyotrichum georgianum	Early October-mid November	
Reptiles			None Found	

* Contact National Marine Fisheries Service (NMFS) for more information on this species.

** The U.S. Fish and Wildlife Service (FWS) and NMFS share jurisdiction of this species.

- ARS Species that the FWS has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted); information is provided only for conservation actions as no Federal protections currently exist.
- ARS* Species that are either former Candidate Species or are emerging conservation priority species.
- BGEPA Federally protected under the Bald and Golden Eagle Protection Act
- C FWS or NMFS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list these species.
- CH Critical Habitat
- E Federally Endangered
- P or P CH Proposed for listing or critical habitat in the Federal Register
- S/A Federally protected due to similarity of appearance to a listed species
- T Federally Threatened

These lists should be used only as a guideline, not as the final authority. The lists include known occurrences and areas where the species has a high possibility of occurring. Records are updated as deemed necessary and may differ from earlier lists.

For a list of State endangered, threatened, and species of concern, please visit <u>https://www.dnr.sc.gov/species/index.html</u>.



United States Department of the Interior

FISH AND WILDLIFE SERVICE South Carolina Ecological Services 176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 Phone: (843) 727-4707 Fax: (843) 727-4218 http://www.fws.gov/charleston/



In Reply Refer To: Consultation Code: 04ES1000-2020-SLI-0241 Event Code: 04ES1000-2020-E-00441 Project Name: Connexial Center December 10, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/ eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

South Carolina Ecological Services

176 Croghan Spur Road, Suite 200 Charleston, SC 29407-7558 (843) 727-4707

Project Summary

Event Code: 04ES1000-2020-E-00441

Project Name: Connexial Center

Project Type: DEVELOPMENT

Project Description: 70 acres-commercial development

Project Location:

Approximate location of the project can be viewed in Google Maps: <u>https://www.google.com/maps/place/34.65184580544404N82.13171149504953W</u>



Counties: Laurens, SC

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. <u>NOAA Fisheries</u>, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/9045</u> Birds	Threatened
NAME	STATUS
NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: <u>https://ecos.fws.gov/ecp/species/7614</u>	Endangered
Clams	
NAME	STATUS
Carolina Heelsplitter <i>Lasmigona decorata</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: <u>https://ecos.fws.gov/ecp/species/3534</u>	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the <u>National Wildlife Refuge</u> system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described <u>below</u>.

- 1. The <u>Migratory Birds Treaty Act</u> of 1918.
- 2. The Bald and Golden Eagle Protection Act of 1940.
- 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the <u>USFWS</u> <u>Birds of Conservation Concern</u> (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ <u>below</u>. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the <u>E-bird data</u> <u>mapping tool</u> (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found <u>below</u>.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

- 1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
- 2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
- 3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (=)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <u>http://www.fws.gov/birds/management/managed-species/</u> <u>birds-of-conservation-concern.php</u>
- Measures for avoiding and minimizing impacts to birds <u>http://www.fws.gov/birds/</u> <u>management/project-assessment-tools-and-guidance/</u> <u>conservation-measures.php</u>
- Nationwide conservation measures for birds <u>http://www.fws.gov/migratorybirds/pdf/</u> management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS <u>Birds of Conservation Concern</u> (<u>BCC</u>) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the <u>Avian</u> <u>Knowledge Network (AKN)</u>. The AKN data is based on a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u> and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (<u>Eagle Act</u> requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the <u>AKN Phenology Tool</u>.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the <u>Avian Knowledge Network (AKN)</u>. This data is derived from a growing collection of <u>survey</u>, <u>banding</u>, <u>and citizen science datasets</u>.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: <u>The Cornell Lab of Ornithology All About Birds Bird Guide</u>, or (if you are unsuccessful in locating the bird of interest there), the <u>Cornell Lab of Ornithology Neotropical Birds guide</u>. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

- 1. "BCC Rangewide" birds are <u>Birds of Conservation Concern</u> (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- 2. "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and

3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the <u>Eagle Act</u> requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the <u>Northeast Ocean Data Portal</u>. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the <u>NOAA NCCOS Integrative Statistical</u> <u>Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic</u> <u>Outer Continental Shelf</u> project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the <u>Diving Bird Study</u> and the <u>nanotag studies</u> or contact <u>Caleb Spiegel</u> or <u>Pam Loring</u>.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to <u>obtain a permit</u> to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell

me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.





U.S. Fish and Wildlife Service Clearance to Proceed with U.S. Department of Commerce, U.S. Department of Housing and Urban Development, and U.S. Department of Agriculture Projects

The U.S. Fish and Wildlife Service (Service) is one of two lead Federal Agencies mandated with the protection and conservation of Federal trust resources, including threatened and endangered species listed under the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*) (ESA). The U.S. Department of Commerce (DOC), U.S. Department of Housing and Urban Development (HUD), as well as the U.S. Department of Agriculture (USDA) allocate grant funds for rural development projects. Accordingly, obligations under the ESA and the National Environmental Policy Act (NEPA) require HUD and USDA to perform an environmental impact review prior to a project's approval. Primarily, these projects involve repair, maintenance, or reconstruction of existing facilities on previously developed land.

Many of the DOC, HUD, and USDA projects result in no adverse impacts to federally protected species. In determining if your project will have an effect on federally protected species or designated critical habitat under the jurisdiction of the Service, we provide this guidance, relative to the criteria listed below, applicable to many DOC, HUD, and USDA project requests. If the project description falls in one of the categories and the Federal agency, or their designee, determines there is <u>no effect or impact</u> to federally protected species or designated critical habitat, no further action is required under section 7 of the ESA. Please note this guidance applies only to projects in South Carolina.

Description of DOC, HUD, and USDA Projects Covered

The following types of projects have been evaluated by the Service in accordance with ESA and NEPA:

- 1. Purchase machinery, equipment, and supplies for use in existing structures and buildings.
- 2. Finance or refinance existing structures or properties. Transfer of loans where the original lending or mortgage institutions for existing projects are no longer holding the loans and the properties transfer via back loans.
- 3. Construct, expand, maintain, remove, replace, or rehabilitate structures on developed or otherwise disturbed areas. Examples of developed or disturbed areas include paved, filled, graveled, routinely mowed vegetated grasses, agricultural fields, and pasturelands. Undeveloped areas are those sites where natural vegetation dominates.
- 4. New, refurbished, or expanded parking lots and amenities associated with existing or proposed private, commercial, or industrial developments that do not expand into previously undeveloped areas.
- 5. Implement streetscape beautification projects. Examples of these projects include the removal and replacement of existing sidewalks, curbing, or gutters; demolishing and

disposing of existing curbing; installing irrigation systems for plants; installing or replacing streetlights, benches, or trashcans; and installing handicap sidewalk ramps or new sidewalks within city limits in right of ways.

- 6. Repair, replace, or renovate existing wastewater treatment facilities, water supply facilities, and storm water facilities (such as drainage ditches and ponds) without expansion of the existing site boundary.
- 7. Install or replace pipelines or transmission lines using trenchless technology (directional drilling) techniques. Trenchless technology eliminates the need to disturb the environment caused by excavating and backfilling trenches.
- 8. Install or replace pipelines by trench and back fill within previously disturbed lands such as, but not limited to, maintained easements and transportation right of ways <u>provided a</u> <u>protected species survey is performed and no protected species are found on the site</u>.

The Service recommends that project proponents indicate which of the criteria are applicable to the project when submitting to the appropriate permitting agency.

Northern Long-eared Bat Consideration

The Service issued a nationwide programmatic biological opinion (PBO) for the northern longeared bat (*Myotis septentrionalis*, NLEB) on January 5, 2016. The PBO was issued pursuant to section 7(a)(2) of the ESA to address impacts that Federal actions may have on this species. In addition, the Service published a final 4(d) rule on January 14, 2016, which details special consultation provisions for Federal actions that may affect the NLEB. Briefly, the PBO and the 4(d) rule allow for "incidental" take of the NLEB throughout its range under certain conditions. Take is defined in section 3 of the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Further, incidental take is defined as take that results from, but is not the purpose of, carrying out an otherwise lawful activity. Under the PBO and 4(d) rule, all incidental take of the NLEB is exempted from the ESA's take prohibitions under certain conditions. However, incidental take <u>is prohibited</u> within one quarter mile from known hibernacula and winter roost, or within 150 feet from a known maternity roost tree during the months of June and July.

In consideration of known hibernacula, winter roosts, and maternity roost tree locations in South Carolina, this letter hereby offers blanket concurrence for a may affect, but is not likely to adversely affect determination for the NLEB if the proposed work occurs more than one quarter mile from known hibernacula, winter roosts, or is further than 150 feet from a known maternity roost trees. If an activity falls within one-quarter mile of hibernacula or winter roost or within 150 feet of a maternity roost tree additional consultation with the Service will be required. As a conservation measure for all projects it is recommended that all tree clearing activities be conducted during the NLEB inactive season of November 15th to March 31st of any given year.

Clearance to Proceed

For all of the above listed projects that meet the criteria, have no effect or impact upon federally protected species or designated critical habitat, and, if applicable, meet the requirements of the NLEB 4(d) rule no further coordination with the Service is necessary. This letter may be

downloaded and serve as the Service's concurrence letter for your project. The protected species survey or assessment conducted for the property should be included with this letter when submitting the project to Federal permitting agencies.

Please note that obligations under the ESA must be reconsidered if: (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner which was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the identified action.

The Service recommends that project proponents contact the South Carolina Department of Natural Resources regarding potential impacts to State protected species. If the proposed project will impact streams and/or wetlands, please contact the U.S. Army Corps of Engineers, Charleston District. The Service appreciates your cooperation in the protection of federally listed species and their habitats in South Carolina.

Sincerely,

Thomas D. McCoy Field Supervisor



Rare, Threatened, and Endangered Species of South Carolina - by County

The lists below indicate what species have been reported to the Heritage Trust Program as occurring in each county. They are not a complete listing of what actually exists, as no complete survey of the state has ever been done.

Laurens County

Animals

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
Danaus plexippus	Monarch Butterfly	ARS*: Risk, Priority		G4	SNR
Distocambarus carlsoni	Mimic Crayfish	ARS*: Risk, priority		G2G3	SNR
Elliptio "angustata-producta" complex	Carolina Lance-Atlantic Spike complex			G3	S3
Eptesicus fuscus	Big Brown Bat			G5	S5?
Lasiurus borealis	Eastern Red Bat			G3G4	S4S5
Microtus pennsylvanicus	Meadow Vole			G5	S3?
Myotis lucifugus	Little Brown Myotis			G3	S1S2
Perimyotis subflavus	Tricolored Bat	ARS*: Risk, priority		G2G3	S1S2
Picoides borealis	Red-cockaded Woodpecker	LE: Endangered	SE: Endangered	G3	S2
Tyto alba	Barn-owl			G5	S4

Plants

Scientific Name	Common Name	Federal Status	State Status	Global Rank	State Rank
Botrychium jenmanii	Alabama Grapefern			G3G4	SNR
Cypripedium pubescens	Large Yellow Lady's-slipper			G5T5	S3
Dirca palustris	Eastern Leatherwood			G4	S2
Frasera caroliniensis	Columbo			G5	S2
Heteranthera reniformis	Kidneyleaf Mud-plantain			G5	S1
Lonicera flava	Yellow Honeysuckle			G5?	S2
Minuartia uniflora	One-flower Stitchwort			G4	S3
Orobanche uniflora	One-flowered Broomrape			G5	S2
Panax quinquefolius	American Ginseng			G3G4	S4
Rhododendron eastmanii	May White			G2	S2
Symphyotrichum georgianum	Georgia Aster	ARS*: Risk, priority		G3	SNR
Trillium rugelii	Southern Nodding Trillium			G3	S2
Viola tripartita var. tripartita	Three-parted Violet			G5T3	S3

For additional information about rare, threatened, and endangered species or questions about these lists, please contact <u>Anna Smith</u>.

Environmental Review

- Office of Environmental Programs
- Bald Eagle Nest Data
- Planning & Conservation

Phone Numbers | Accessibility | FOIA | Privacy Policy South Carolina Department of Natural Resources - Rembert C. Dennis Building 1000 Assembly Street, Columbia, SC 29201 © 2015 All rights reserved. <u>webmaster@dnr.sc.gov</u>

South Carolina Department of Natural Resources

PO Box 167 Columbia, SC 29202 (803) 734-1396 TurnerS@dnr.sc.gov



Robert H. Boyles, Jr Interim Director

Emily C. Cope Deputy Director for Wildlife and Freshwater Fisheries

December 5, 2019

Katherine L. Weatherly Senior Staff Scientist Terracon Consultants, Inc. 72 Pointe Circle Greenville, SC 29615

Electronic submission

Re: Request for Threatened and Endangered Species Consultation Connexial Commercial Development Project, Laurens County, South Carolina

Dear Ms. Weatherly:

The South Carolina Department of Natural Resources (SCDNR) has received your request for threatened and endangered species consultation of the Connexial Project Commercial Development Project, Laurens County, South Carolina. The project site includes the proposed development for commercial/light industrial use. The existing project site consists of wooded land and fields. Aerial images indicate that surrounding areas consist of commercial development, residential development, single-family homes, wooded land, and fields.

According to SCDNR data, there are no lists of threatened or endangered species or designated critical habitat found within 3-miles of the project footprint. 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.

Additional species of concern have been found within 3-miles of the project site, including the one-flower stitchwort *(Minuartia uniflora),* highback chub *(hybopsis hypsinotus),* greenfin shiner *(Cyprinella chloristia),* and seagreen darter *(Etheostoma thalassinum).* SWAP species are those species of greatest conservation need not traditionally covered under any federal funded programs. Species are listed in the SWAP because they are rare or designated as atrisk due to knowledge deficiencies; species common in South Carolina but listed rare or declining elsewhere; or species that serve as indicators of detrimental environmental conditions. SCDNR recommends that appropriate measures should be taken to minimize or avoid impacts to the aforementioned species of concern.

Review of National Wetlands Inventory (NWI) indicate that wetlands and/or hydric soils are present within your project area. SCDNR advises that you consult with the U.S. Army Corps of Engineers (www.sac.usace.army.mil/Missions/Regulatory) to determine if jurisdictional wetlands are present and if a permit and mitigation is required for any activities impacting these areas. If jurisdiction features are present, SCDNR recommends that developed project plans avoid or minimize impacts where practicable. Additionally, a 401 Water Quality Certification may also be required from the SC Department of Health & Environmental Control. For more

information, please visit their website at <u>https://www.scdhec.gov/environment/water-quality/water-quality-certification-section-401-clean-water-act.</u>

SCDNR offers the following comments and Best Management Practices (BMPs) regarding this project's potential impacts to natural resources:

- 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.
- Land disturbing activities must avoid encroachment into any wetland areas (outside the permitted impact area). Wetlands that are unavoidably impacted must be appropriately mitigated.
- If clearing must occur, riparian vegetation within wetlands and waters of the U.S. must be conducted manually and low growing, woody vegetation and shrubs must be left intact to maintain bank stability and reduce erosion.
- Construction activities must avoid and minimize, to the greatest extent practicable, disturbance of woody shoreline vegetation within the project area. Removal of vegetation should be limited to only what is necessary for construction of the proposed structures.
- Where necessary to remove vegetation, supplemental plantings should be installed following completion of the project. These plantings should consist of appropriate native species for this ecoregion.

These technical comments 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 or by visiting 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 Joe Lemeris by email at lemerisj@dnr.sc.gov or by phone at 803-734-1396.

Sincerely,

Samantha Turner Heritage Trust Program SC Department of Natural Resources

APPENDIX C Site Photographs

Responsive Resourceful Reliable

Connexial Center – 70 acres Old Dairy Road, Gray Court, SC Terracon Project No. 86197255, Task 2 Photo Date: December 11 and 18, 2019





Photo #1 View of agricultural land habitat and Old Dairy Road in the southwest



Photo #3 View of agricultural land habitat in the northwest



Photo #5 View of Piedmont small stream forest habitat along the eastern boundary



Photo #2 View of Old Dairy Road near the center of the site



Photo #4 View of fencing in the northwest area



Photo #6 View of Pie forest habit

View of Piedmont small stream forest habitat in the northcentral area

Connexial Center – 70 acres Old Dairy Road, Gray Court, SC Terracon Project No. 86197255, Task 2 Photo Date: December 11 and 18, 2019



Photo #7 View of piped stream along the southeast portion of the site



Photo #9 View of oak hickory forest habitat in the central and east portions of the site





Photo #8 View of oak hickory forest habitat in the central and east portions of the site

ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY AT THE

CONNEXIAL CENTER LAURENS COUNTY, SC

APPENDIX C

WETLANDS DELINEATION

26942.0007

THOMAS & HUTTON


December 31, 2019

Thomas & Hutton 1501 Main Street, Suite 760 Columbia, South Carolina 29201

- Attn: Mr. Brad Sanderson, P.E. P: 803-451-6782 E: sanderson.b@thomasandhutton.com
- RE: Waters of the United States Delineation Connexial Center – 70 acres Old Dairy Road Gray Court, Laurens County, South Carolina Terracon Project No. 86197255, Task 1

Dear Mr. Sanderson,

Terracon is pleased to submit the enclosed Waters of the U.S. (WOTUS) Delineation report in accordance with our proposal (Terracon Proposal No. P86197255) dated November 8,2019. The findings of Terracon's delineation are summarized below:

- Total Site Size 70.03 acres
- Jurisdictional Tributaries 2,550 LF

Considerations

Terracon understands you intend to obtain a Jurisdictional Determination from the United States Army Corps of Engineers (USACE). There are two types of Jurisdictional Determinations that can be obtained from USACE; (1) Preliminary Jurisdictional Determination and (2) Approved Jurisdictional Determination.

Preliminary Jurisdictional Determination (PJD) Request: A PJD is the most common type of jurisdictional determination provided by USACE. For purposes of computation of impacts, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a PJD will treat all waters and wetlands that would be affected in any way by the permitted activity as if they are jurisdictional WOTUS. In other words, there is a presumption of jurisdiction for all aquatic resources on a site. In most cases, PJDs are sufficient to initiate wetlands/WOTUS impact permitting if future phases of the project would impact aquatic resources. Other state and



Terracon Consultants Inc. 72 Pointe Circle Greenville, SC 29615-3506 P 864-292-2901 F 864-292-6361 terracon.com Connexial Center – 70 acres
Gray Court, Laurens County, South Carolina December 31, 2019
Terracon Project No. 86197255, Task 1



federal permitting agencies that rely on USACE to verify wetland/WOTUS boundaries also typically accept PJDs. The advantage of PJDs is less regulatory scrutiny and more expedited response from USACE. It should be noted that PJDs may not satisfy all local and/or state permitting authority requirements and, although infrequent, the USACE may require AJDs on a case-by-case basis.

Approved Jurisdictional Determination (AJD) Request: An AJD is needed if there are non-jurisdictional (isolated) aquatic resources on a site. An AJD may also be required if there are no aquatic resources on the site and the entire site is comprised of uplands. The level of effort to obtain an AJD requires additional documentation and regulatory agency scrutiny is typically greater. Additionally, the USACE will seek concurrence from the United States Environmental Protection Agency (EPA) for AJDs.

By definition, a PJD can only be used to determine that wetlands or other water bodies that exist on a particular site "may be" jurisdictional WOTUS. A PJD by definition cannot be used to determine either that there are no wetlands or other water bodies on a site at all (i.e., that there are no aquatic resources on the site and the entire site is comprised of uplands), or that there are no jurisdictional wetlands or other water bodies on a site, or that only a portion of the wetlands or waterbodies on a site are jurisdictional. A definitive, official determination that there are, or that there are not, jurisdictional WOTUS on a site can only be made by an AJD¹.

Please note that either a PJD or AJD can be used for potential USACE Clean Water Act permitting efforts. The distinction is that PJD carries a presumption of jurisdiction; therefore, all aquatic resources on a site would be jurisdictional and subject to the Clean Water Act. Additionally, although both PJDs and AJDs are acceptable for potential permitting, only the AJD option can be appealed. Following the Field Delineation, Terracon will provide site specific consultation regarding the applicability of requesting a PJD or AJD and the level of effort and additional cost required to obtain an AJD as applicable.

Recommendations

Based on the findings of the WOTUS Delineation described in the enclosed report, Terracon recommends submitting a copy of the WOTUS Delineation report and applicable Jurisdictional Determination request form to the USACE District office for review and verification of the WOTUS Delineation to obtain a Preliminary Jurisdictional Determination (PJD), unless the site is operating under the Palmetto Sites Program in which an Approved Jurisdictional Determination (AJD) is required.

If future activities would result in impacts to aquatic resources located on the, 404/401 Clean Water Act (CWA) permitting will likely be required. Impacts to aquatic resources processed as a

¹ USACE Regulatory Guidance Letter No. 08-02, dated June 26, 2008

Connexial Center – 70 acres Gray Court, Laurens County, South Carolina December 31, 2019 Terracon Project No. 86197255, Task 1



Nationwide Permit (NWP) or an Individual Permit (IP) depend upon the extent of impacts. NWPs are typically used for projects resulting in less than 0.5 acre of impacts to WOTUS. IPs are typically used for projects resulting in more than 0.5 acre of impacts to WOTUS.

Terracon is available to assist you with 404/401 CWA permitting services at your request. We can also provide additional support studies such as mitigation planning, threatened and endangered species surveys, and cultural resource assessments if required by USACE.

Closing

Terracon appreciates the opportunity to provide services on this important project. Please feel free to contact either of the undersigned if you have any questions or require additional information.

Sincerely,

Terracon Consultants, Inc.

Katherine L. Weatherly Senior Staff Scientist

FOR Andy Rudcco

Principal/ Environmental Manager

Enclosure: Waters of the US Delineation Report

CONNEXIAL CENTER – 70 ACRES OLD DAIRY ROAD GRAY COURT, LAURENS COUNTY, SOUTH CAROLINA

December 31, 2019 Terracon Project No. 86197255, Task 1



Prepared for: Thomas & Hutton Columbia, SC

Prepared by: Terracon Consultants, Inc. Greenville, SC





Connexial Center – 70 acres
Gray Court, Laurens County, South Carolina December 31, 2019
Terracon Project No. 86197255, Task 1

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APPENDICES

APPENDIX A – EXHIBITS

APPENDIX B – WETLAND DETERMINATION DATA FORMS

APPENDIX C – SITE PHOTOGRAPHS

APPENDIX D – CREDENTIALS

APPENDIX E – COMMON ACRONYMS



Connexial Center – 70 acres
Gray Court, Laurens County, South Carolina December 31, 2019
Terracon Project No. 86197255, Task 1

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) was retained by Thomas & Hutton (client) to perform a Waters of the U.S. (WOTUS) delineation on the approximately 70.03-acre tract of land identified as Connexial Center. The site is located along Old Dairy Road in Gray Court, Laurens County, South Carolina and is comprised of two parcels identified as Laurens County Parcel No's. 156-00-00-018 (10.03 acres) and 188-00-00-002 (60.00 acres). The site location is depicted on Exhibit 2 in Appendix A. The WOTUS Delineation was performed in accordance with our proposal (Terracon Proposal No. P86197255) dated November 8, 2019.

The approximately 70.03-acre site primarily contains agricultural fields and wooded land. A fence encompasses the northeast quadrant. Old Dairy Road crosses the length of the site from north to south, and additionally has a fork which extends to the western boundary of the site. Photographs depicting the conditions on-site are provided in Appendix C.

The purpose of performing the preliminary WOTUS delineation was to characterize the existing site conditions, observe the site for the presence of WOTUS, including wetlands, and provide an opinion regarding whether or not WOTUS (if observed) would be considered jurisdictional by the United States Army Corps of Engineers (USACE).

2.0 SCOPE OF SERVICES

Terracon performed the following scope of work in accordance with our proposal:

- Preliminary Data Gathering and Analysis of readily available government documentation.
- Mobilized to the site to conduct the Field Delineation using consecutively numbered colored flagging to mark aquatic resource boundaries.
- Sub-meter Global Positioning Satellite (GPS) surveying of each delineation flag.
- Prepared a map showing approximate locations of delineated WOTUS, including wetland areas observed during the Field Delineation, if any.
- Completed a WOTUS Delineation Report that included site characterization information, a discussion of applicable data, and recommendations for the site.

3.0 PRELIMINARY DATA GATHERING AND ANALYSIS

Prior to visiting the site to conduct the field delineation, background research was conducted, consisting of locating and reviewing historic aerial photographs, historic topographic maps, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) maps, soil data from the Natural Resources Conservation Service (NRCS), Federal Emergency Management Agency (FEMA) Flood

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Insurance Rate Maps (FIRM), publicly available elevation data such as light detection and ranging (LiDAR) data, and/or other related data based on availability. The preliminary data analysis assisted Terracon in identifying potential aquatic resources and jurisdictional features on the site. The data evaluated is described in the subsections below.

3.1 Topographic Maps and Aerial Photographs

Readily available USGS topographic maps and select aerial photographs (at approximately 10 to 15-year intervals) were reviewed to evaluate the potential presence of aquatic resources that may be considered WOTUS by USACE. Table 1 contains a brief description of applicable features identified during review of the topographic maps and aerials photographs.

- Topographic map: 2017, 2014, 2011, 1983 Fountain Inn, South Carolina USGS Topographic Map (1:24,000)
- Aerial photographs: 1994, 2005, 2010, 2015, 2018: Google Maps

Direction	Description		
Site	1983-2018: Intermittent stream along the eastern border		
	1983: Wooded and agricultural land with a branch of Reedy Creek further north		
North	1994-2018: Wooded and agricultural land, a pond to the northeast and a branch of Reedy Creek further north		
East	1983-2018: Wooded and agricultural land with an intermittent tributary further east		
South	1983-2018: Wooded and agricultural land and Old Dairy Rd with an intermittent branch of Reedy Creek further south		
West	1983-2018: Wooded and agricultural land followed by perennial branch of Reedy Creek further west		

Table 1: Summary of Topographic Maps and Aerial Photographs

Based on the review of the USGS topographic maps, the site elevation rages from approximately 730 to 790 feet above mean sea level. The site slopes gently downwards towards the north and slopes steeply downward to the east towards an intermittent tributary. The USGS Topographic maps and aerial photographs appear to depict the site as undeveloped wooded land and cleared land. One intermittent stream is depicted transecting the site flowing south to north towards an unnamed pond adjacent to the northeast of the site. Portions of the site appear to have been used for silvicultural activities in the past. Topographic map and aerial photograph are provided as Exhibit 1 and 2 in Appendix A.

3.2 National Wetlands Inventory and National Hydrography Dataset

The USFWS NWI map was reviewed to identify wetland areas on the site and in the immediate vicinity. The NWI map and depicts suspect wetland areas and waterbodies based on stereoscopic analysis of high-altitude aerial photographs. The NHD is used to portray surface water. The NHD represents the drainage network with features such as rivers, streams, canals,



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lakes, ponds, coastline, dams, and streamgages. A NWI/NHD map is included as Exhibit 3 in Appendix A. Table 2 contains a brief description of applicable features identified based on review of the NWI and NHD data.

Direction	Description
Site	A riverine feature is located along the eastern boundary
North	A freshwater pond feature is adjoining to the northeast
East	A riverine feature flows on and offsite to the east
South	A riverine feature which flows onsite and freshwater pond feature further southwest
West	None

Table 2: Summary National Wetlands Inventory	and National Hydrography Dataset
--	----------------------------------

The review of the NWI map indicated the presence of a potential tributary on the project site. A riverine intermittent streambed that is seasonally flooded (R4SBC) is mapped along the eastern boundary where it meanders offsite in the central eastern portion.

3.3 Soil Data

Data from the USDA NRCS Web Soil Survey was reviewed to identify soil types, including hydric soils for the site. Soils containing hydric soil components are documented on the National List of Hydric Soils. Inclusion on the National List of Hydric Soils indicates that the soil series or one of its components contain characteristics that may be hydric and is not an indication of hydric soil for a specific location.

Hydric soils listed on the NRCS National List of Hydric Soils must meet one or more of the following NRCS hydric criteria codes:

- 1. All Histels except Folistels and Histosols except Folists; or
- 2. Map unit components in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, or Andic, Cumulic, Pachic, or Vitrandic subgroups that:
 - a. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - b. Show evidence that the soil meets the definition of a hydric soil;
- 3. Map unit components that are frequently ponded for long duration or very long duration during the growing season that:
 - a. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - b. Show evidence that the soil meets the definition of a hydric soil; or
- 4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:

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- a. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
- b. Show evidence that the soils meet the definition of a hydric soil.

Table 3 is an excerpt from the NRCS Web Soil Survey Hydric Soil Rating.

Map unit symbol	Map Unit — Laurens County, South Carolina (SC05 Map unit name	Rating*	Acres in AOI**	Percent of AOI
CIB	Cecil sandy loam, 2 to 6 percent slopes	0	21.50	30.7%
CIC2	Cecil sandy loam, 6 to 10 percent slopes, moderately eroded	0	10.43	14.9%
CmB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	0	15.06	21.5%
CmC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	0	8.40	12.0%
Cw	Chewacla and Worsham soils	45	6.09	8.7%
MhF	Madison and Pacolet soils, 15 to 40 percent slopes	0	6.44	9.2%
PaD2	Pacolet sandy clay loam, 10 to 15 percent slopes, eroded	0	2.11	3.0%
Totals for A	rea of Interest		70.03	100.0%

* This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform.

**Acreages are approximate only.

The NRCS soil data depicts hydric soils (Cw) on the site (See Appendix A Exhibit 4).

3.4 FEMA FIRM Map

Terracon downloaded and reviewed Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel Number 45059C0075C (effective 8/16/12). According to the FIRM panel, the entire project site is located in Zone X which is outside of the FEMA designated 100-year and 500-year floodplain zones. A FEMA Floodplain Map is included as Exhibit 5 in Appendix A. Connexial Center – 70 acres Gray Court, Laurens County, South Carolina December 31, 2019 Terracon Project No. 86197255, Task 1



4.0 FIELD DELINEATION TECHNIQUES

Terracon personnel conducted a reconnaissance on December 11 and 18, 2019 to characterize the existing site conditions and identify the presence of potential jurisdictional wetlands and waters. Characteristics of potential jurisdictional wetlands and waters were assessed (when applicable) utilizing the criteria detailed in sections 4.1 and 4.2 of this report. The evaluation methods generally followed the routine on-site determination method referenced in the 1987 USACE Manual and the Eastern Mountains and Piedmont Region Version 2.0 (Regional Supplement).

4.1 Wetland Observations

Wetlands generally have three essential characteristics: wetland hydrology, hydrophytic vegetation, and hydric soils. Vegetation and hydrology observations were performed throughout the site where access was permitted, and soils were evaluated to determine if wetland characteristics were present. Data regarding the three essential characteristics was gathered within observed suspect wetland areas as applicable to further delineate boundaries.

4.1.1 Plant Community Assessment

Suspect areas were visually observed to determine the species, when possible, and absolute percentage of ground cover for five strata of plant community types within a thirty-foot radius of the observation location. The wetland indicator status for each species of vegetation observed was documented. The indicator status was determined using the USACE National Wetlands Plant List (2016 NWPL v3.3). Indicator status categories for vegetation are presented below:

- Obligate Wetland (OBL): occur almost always (estimated probability greater than 99%) under natural conditions in wetlands.
- Facultative Wetland (FACW): usually occur in wetlands (estimated probability 67%-99%) but occasionally found in non-wetlands.
- Facultative (FAC): equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- Facultative Upland (FACU): usually occur in non-wetlands (estimated probability 67%-99%) but occasionally found in wetlands.
- Upland (UPL): rarely occur in wetlands but occur almost always (estimated probability greater than 99%) under natural conditions in non-wetlands.

The percent cover of each stratum was determined, and dominance was evaluated. Dominant species were the most abundant species that accounted for more than 20 percent of the absolute percent coverage of the stratum. The number of dominant species with an indicator status of OBL, FACW, and/or FAC was compared to the total number of dominant species across all strata. Typically, when more than 50 percent of the dominant species had an indicator status of OBL, FACW, and/or FAC, hydrophytic vegetation was present.

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Gray Court, Laurens County, South Carolina December 31, 2019
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If the percentage of dominant species with an indicator status of OBL, FACW, and/or FAC was less than 50 percent, prevalence index and morphological adaptations may have been evaluated to confirm if hydrophytic vegetation was present or absent.

4.1.2 Hydric Soils Assessment

After Terracon evaluated wetland vegetation, subsurface soil samples were collected. The samples were collected to a depth of approximately 20 inches below ground surface and were visually compared to Munsell Soil Color Charts®, which aided in the evaluation of hydric soil characteristics. The soil samples were further examined for hydric soil indicators including, but not limited to, histosol, thick dark surface, sandy gleyed matrix, sandy redox, loamy gleyed matrix, redox dark surface, and/or redox depressions. If these or other hydric soil indicators were observed in the subsurface soil sample, the observation location was considered to have hydric soil.

4.1.3 Wetland Hydrology Assessment

Visual indicators of wetland hydrology were evaluated. Examples of primary wetland hydrology indicators include, but are not limited to, surface water, high water table, soil saturation, water marks, sediment deposits, drift deposits, iron deposits, inundation visible on aerial imagery, and water-stained leaves. Examples of secondary wetland hydrology indicators include, but are not limited to, surface soil cracks, drainage patterns, moss trim lines, and crayfish burrows. If at least one primary wetland hydrology indicator or two secondary wetland hydrology indicators were observed, the observation location was considered to have wetland hydrology.

4.2 Classification of Wetlands

Upon completion of the review of the three wetland criteria at each area, a wetland determination was made by a Terracon scientist. Under normal circumstances, if one or more of the wetland criteria were not identified, the area was not considered to be a wetland. If present, the wetland/upland boundaries were marked in the field using consecutively numbered flagging and each flag location was marked using submeter GPS technology. The Field Delineation included collection of hydrology, vegetation, and soil assessment data from discrete sample locations (Data Points) necessary to complete required USACE Wetland Determination Data Forms. The number of Data Points evaluated was determined based on professional judgement. The recorded Wetland Determination Data Forms for the project site can be found in Appendix B and Data Point locations are depicted on the Depiction of Aquatic Resources Map (Exhibit 6 in Appendix A).

4.3 Surface Water and Drainage Feature Observations

Terracon also made observations of site features that may be considered jurisdictional waterbodies. If a waterbody was identified, observations regarding its characteristics were recorded. Potential jurisdictional waterbodies are typically evaluated based on the observation of the following characteristics:

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Flow Characteristics:

- Perennial: contains water at all times except during extreme drought.
- Intermittent: carries water a considerable portion of the time but ceases to flow occasionally or seasonally.
- Ephemeral: carries water only during and immediately after periods of rainfall or snowmelt.
- Ordinary High Water Mark (OHWM): The limit line on the shore established by the fluctuation of the water surface. It is shown by such things as a clear line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, the presence of litter and debris or other features influenced by the surrounding area.
- Bank Shape Descriptions:
 - Undercut: banks that overhang the stream channel
 - Steep: bank slope of approximately greater than 30 degrees
 - Gradual: bank slope of approximately 30 degrees or less
- Aquatic Habitat Descriptions:
 - Pool: deeper portion of a stream where water flows slower than in neighboring, shallower portions, smooth surface, and finer substrate
 - Riffle: shallow area in a stream where water flows swiftly over gravel and rock or other coarse substrate resulting in a rough flow and a turbulent surface
 - Run: section of a stream with a low or high velocity and with little or no turbulence on the surface of the water.

During the Field Delineation, Terracon personnel marked the jurisdictional limits of aquatic resources using consecutively numbered flagging. Each flag location was marked using submeter GPS technology. Linear aquatic resources located entirely within abutting wetland systems were evaluated for stream parameters and the approximate locations of the linear features were estimated and displayed on the Depiction of Aquatic Resources Map (Exhibit 6 in Appendix A).

4.4 Depiction of Aquatic Resources

USACE requires a depiction of the Field Delineation results to serve as the basis for verification of aquatic resource locations. The Depiction of Aquatic Resources Map (Appendix A, Exhibit 6) was created by uploading the shapefile points collected using the Trimble Geo7x submeter GPS with Global Navigation Satellite System (GNSS) receiver at each flag location. PathFinder® software was used to conduct differential correction of the GPS point data by combining information in a local base station file from fixed GPS receivers located at various locations throughout the country. The point shapefiles were geoprocessed into polygon shapefiles for each aquatic resource and exported to a map deliverable using ArcMap® software. The Depiction of Aquatic Resources Map contains a generalized boundary of the site based on best available data



such as spatially referenced computer aided design and drafting (CADD) data (if available and provided by the client), county parcel data, and/or existing boundary surveys.

5.0 FIELD DELINEATION RESULTS

December 31, 2019 Terracon Project No. 86197255, Task 1

On December 11 and 18, 2019, Terracon performed a Field Delineation on the site using the field techniques described in Section 4.0. The findings of the Field Delineation are illustrated on the Depiction of Aquatic Resources Map (Exhibit 6, Appendix A). The GIS data created using the GPS data was evaluated to determine the approximate size of each aquatic resource. Site photographs, included in Appendix C, provide an indication of the physical characteristics observed during the Field Delineation. Descriptions of the aquatic resource features observed on site are provided in the following sections. It should be noted that a heavy rain event occurred within 48 hours of each day of the Field Delineation.

5.1 Wetlands

Terracon did not observe wetlands onsite during the Field Delineation.

5.2 Tributaries

Terracon observed two jurisdictional tributaries on the site totaling approximately 2,550 linear feet. Tributary 1 (approximately 2,377 linear feet) transects the site, flowing from south to north and drains into an unnamed pond adjacent the site to the northeast. Tributary 1 meanders on and offsite along the eastern boundary. Channel characteristics observed include an approximate channel width of 4 to 6 feet and a depth of five to 12 inches with significant meandering throughout as well as riffle and pool complexes. Flowing water was observed throughout the area delineated with substrate consisting of sand and small pebbles with gradual to steep banks.

Tributary 2 (approximately 173 linear feet) was observed to have an underground seep originating in the central portion near the northern boundary and flows in a northeast direction offsite. The tributary eventually drains into the adjacent unnamed pond located approximately 225 feet downstream of the site. Channel characteristics observed include an approximate channel width of 2 to 4 feet and a depth of 2 to 6 inches. Flowing or standing water was observed with mostly a clay bottom and steep banks. Table 5 contains a summary of the tributaries identified on site during the Field Delineation.

Table 4: Summary of Tributaries		
Parameters	Tributary 1	Tributary 2
Approximate Length	2,377 linear feet	173 linear feet
Name of Water Body	Unnamed tributary	Unnamed tributary
Location	Transects the site along the eastern boundary	Located centrally near the eastern boundary

Table 4. Summary of Tributarias



Connexial Center – 70 acres Gray Court, Laurens County, South Carolina December 31, 2019 Terracon Project No. 86197255, Task 1

Parameters	Tributary 1	Tributary 2
WOTUS Type	Intermittent stream	Intermittent stream
OHWM	Yes	Yes
Approximate		
Width Across	Ranges 4 to 6 feet	Ranges 2 to 4 feet
OHWM		
Bed & Bank	Yes	No
Water Present	Yes	Yes
Flow Direction	North	Northeast

5.3 Upland Areas

Terracon sampled and assessed all areas that represented different vegetative communities throughout the project site to thoroughly review if these areas may exhibit the three wetland criteria (hydrophytic vegetation, hydric soils, and hydrology). The portions of the site not identified as containing aquatic resources are considered uplands.

6.0 CONCLUSIONS

Terracon conducted a WOTUS Delineation of the approximately 70.03-acre site on December 11 and 18, 2019. Table 6 contains a summary of the aquatic resources Terracon identified during the Field Delineation and Terracon's opinion regarding the jurisdictional status of each aquatic resource. The aquatic resources identified during the delineation are illustrated on the Depiction of Aquatic Resources Map located in Appendix A, Exhibit 6.

Table 5: S	Summary	of Field	Delineation
------------	---------	----------	-------------

Aquatic Resource	Size	Jurisdictional or Non- Jurisdictional Opinion
Tributaries	Tributary 1: 2,377 LF	Jurisdictional
Induanes	Tributary 2: 173 LF	Jurisdictional

7.0 GENERAL COMMENTS

The WOTUS delineation was performed in accordance with generally accepted practices of this profession undertaken in similar studies at the same time and in the same geographical area. A preliminary WOTUS delineation, such as the one performed at this site, is of limited scope, is noninvasive, and cannot eliminate the potential that WOTUS, including wetlands are present at the site beyond what is identified by the limited scope of this preliminary delineation. In conducting the limited scope of services described herein, certain sources of information and public records were not reviewed. No biological delineation can wholly eliminate uncertainty regarding the potential for concerns in connection with a project. The limitations of this preliminary delineation should be recognized.

Connexial Center – 70 acres - Gray Court, Laurens County, South Carolina December 31, 2019 - Terracon Project No. 86197255, Task 1



This report has been prepared in accordance with generally accepted scientific and engineering evaluation practices. This report is for the exclusive use of the client and any relying government entities for the project being discussed. No warranties, either expressed or implied, are intended or made.

Conditions within WOTUS, including wetlands naturally change over time and can vary seasonally over short periods. Effects of man-made disturbances and/or temporal variations (e.g. rainfall, season, drought), and/or subjective regulatory interpretation of data and field conditions may preclude assessment in conformance with USACE requirements and sometimes significantly affect findings, conclusions, and recommendations.

8.0 CLOSING

Terracon appreciates the opportunity to provide services on this important project. Please feel free to contact either of the undersigned if you have any questions or require additional information.

Sincerely, Terracon Consultants, Inc.

Katherine L. Weatherly Senior Staff Scientist

FOR

Andy Ruocco, PWS Principal/ Environmental Manager



APPENDIX A Exhibits

Responsive Resourceful Reliable

Legend Approximate Site Boundary		A Contract of the second of th
0 400 800 1,600 Feet No. 86197255 Drawn By: MDP Approved By: AR	Topographic Vicinity Map Connexial Center Old Dairy Road	Exhibit

1.8 000
1:8.000

⊦eet

Project No. 86	197255	
Drawn By:	MDP	1
Approved By:	AR	72 Poin
Date: 12/14	/2019	PH: (86

Consulting Eng	acon gineers & Scientists	
inte Circle	Greenville, SC 29615	Gray
864) 292-2901	FAX: (864) 292-6361	

Connexial Center Old Dairy Road ⁄ Court, Laurens County, South Carolina

1







PANEL 45059C0075C off. 8/16/2012

AREA OF MINIMAL FLOOD HAZARD Zone X

Firm Pa Flood Hazard Z Zone Type 1% Annu	Lones ual Chance Flood Hazard				
0.2% An Future C			Source: Esri, DigitalClobe, (USDAniUSCSCA: CCRIDM	Scoleye, Earthstar Geographice, CNES/Airbus DS, CNuraind the GIS User Community	l
0 250 5	500 1,000 Feet	N Project No. 86197255 Drawn By: MDF Approved By: AR Date: 12/14/2019	Trend Consulting Engineers & Scientists 72 Pointe Circle Greenville, SC 29615 PH: (864) 292-2901 FAX: (864) 292-6361	FEMA Floodplain Map Connexial Center Old Dairy Road Gray Court, Laurens County, South Carolina	Exhibit 5





APPENDIX B Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Connexial Center	City/County: Gray Court	/ Laurens	Sampling Date: 12/11/19
Applicant/Owner: Thomas & Hutton	· · ·	State: SC	_ Sampling Point: S-1 Up
Investigator(s): K. Weatherly	Section, Township, Range:	n/a	
Landform (hillslope, terrace, etc.): hillslope	ocal relief (concave, convex,	none): <u>convex</u>	Slope (%): <u>12</u>
Subregion (LRR or MLRA): MLRA 136 Lat: 34.650961	Long: <u>_</u> 8	2.12898	Datum: WGS 84
Soil Map Unit Name: Chewacla and Worsham soils		NWI classific	ation: <u>N/A</u>
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes 🖌 No 📃] (If no, explain in R	emarks.)
Are Vegetation Soil, or Hydrology significantly	y disturbed? N Are "Nori	nal Circumstances" p	resent? Yes 🗹 No 🦲
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? N (If neede	d, explain any answei	s in Remarks.)

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

Yes No Yes No Yes No	Is the Sampled Area within a Wetland?	Yes No
of delineation.		
	Yes No V Yes No V	Yes No V Yes No V

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required;	check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)	Oxidized Rhizospheres on Living	Roots (C3) Doss Trim Lines (B16)
Water Marks (B1)	Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled So	oils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)		🛄 Shallow Aquitard (D3)
Water-Stained Leaves (B9)		Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No	✓ Depth (inches):	
Water Table Present? Yes No	✓ Depth (inches):	
Saturation Present? Yes No	Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monito	pring well aerial photos, previous inspec	tions) if available [.]
Remarks:		
Kennarks.		

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: S-1 Up

	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: <u>30'</u>)		Species?			
1. Quercus nigra	40	Ý	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A	2)
2. Fagus grandifolia	60	Y	FACU		'
				Total Number of Dominant	
3				Species Across All Strata: 4 (E	3)
4					
5				Percent of Dominant Species	(ח/ ו
				That Are OBL, FACW, or FAC: 50 (A	√B)
6	400			Prevalence Index worksheet:	
	100	= Total Cov	er		
50% of total cover: 50	20% of	total cover	20	Total % Cover of: Multiply by:	
	2070 01			OBL species $0 \times 1 = 0$	
Sapling Stratum (Plot size:)				FACW species 0 x 2 = 0	
1				FAC species 70 x 3 = 210	
2					
				FACU species 210 x 4 = 840	
3				UPL species $0 x 5 = 0$	
4				Column Totals: <u>280</u> (A) <u>1050</u> ((B)
5				()((-)
6				Prevalence Index = $B/A = 3.75$	
		= Total Cov		Hydrophytic Vegetation Indicators:	
50% of total cover:	20% of	total cover		1 - Rapid Test for Hydrophytic Vegetation	
Shrub Stratum (Plot size: <u>30'</u>)				2 - Dominance Test is >50%	
1. Quercus nigra	30	Y	FAC	3 - Prevalence Index is $\leq 3.0^1$	
					ativa a
2. Ligustrum sinense	15	N	FACU	4 - Morphological Adaptations ¹ (Provide suppor data in Remarks or on a separate sheet)	ung
_{3.} Juniperus virginiana	20	N	FACU		
4. Fagus grandifolia	15	Ν	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)	
5. Ilex opaca	10	N	FACU		
				¹ Indicators of hydric soil and wetland hydrology mus	st
6				be present, unless disturbed or problematic.	
	90				
		= Total Cov	er	Definitions of Five Vegetation Strata:	
50% of total cover: 45				Definitions of Five Vegetation Strata:	
50% of total cover: <u>45</u>				Tree – Woody plants, excluding woody vines,	
Herb Stratum (Plot size: 30')	20% of	total cover	22.5	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.	•
				Tree – Woody plants, excluding woody vines,).
Herb Stratum (Plot size: <u>30'</u>) 1. Lonicera japonica	20% of	total cover	22.5	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: <u>30'</u>) 1. Lonicera japonica 2. Polystichum acrostichoides	20% of <u>20</u>	total cover N Y	22.5 FACU FACU	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines,).
Herb Stratum (Plot size: <u>30'</u>) 1. Lonicera japonica	20% of	total cover	22.5 FACU	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less).
Herb Stratum (Plot size: <u>30'</u>) 1. Lonicera japonica 2. Polystichum acrostichoides	20% of <u>20</u>	total cover N Y	22.5 FACU FACU	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines,).
Herb Stratum (Plot size: <u>30'</u>) 1. Lonicera japonica 2. Polystichum acrostichoides	20% of <u>20</u>	total cover N Y	22.5 FACU FACU	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less).
Herb Stratum (Plot size: <u>30'</u>) 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 45	20% of 20 40 30	total cover	22.5 FACU FACU	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.).
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6.	20% of 20% of 40 30	total cover	22.5 FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.).
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4	20% of 20 40 30	total cover	22.5 FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including).
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6.	20% of 20 40 30	total cover	22.5 FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody). ;
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4	20% of 20 40 30	total cover	22.5 FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includinherbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately). ;
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4	20% of 20 40 30 	total cover N Y Y	22.5 FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody). ;
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10.	20% of 20 30 	total cover N Y Y	22.5 FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includinherbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4	20% of 20 30 	total cover	22.5 FACU FACU FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10.	20% of 20 30 	total cover N Y Y	22.5 FACU FACU FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11.	20% of 20 40 30 	N Y Y	22.5 FACU FACU FACU FACU FACU FACU FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45	20% of 20 40 30 	N Y Y	22.5 FACU FACU FACU FACU FACU FACU FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum (Plot size:))	20% of 20 40 30 	N Y Y	22.5 FACU FACU FACU FACU FACU FACU FACU 22.5	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45	20% of 20 40 30 	N Y Y	22.5 FACU FACU FACU FACU FACU FACU FACU 22.5	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum (Plot size:)) 1.	20% of 20 40 30 	N Y Y	22.5 FACU FACU FACU FACU FACU FACU FACU 22.5	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum Plot size:) 1. 2.	20% of 20 40 30 90 20% of	N Y Y Y Total Cover Total Cover	22.5 FACU FACU FACU FACU FACU FACU FACU 22.5	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum Plot size:) 1. 2. 3.	20% of 20 40 30 90 20% of 20% of	N Y Y	22.5 FACU FACU FACU FACU FACU FACU FACU 22.5	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum Plot size:) 1. 2. 3. 4.	20% of 20 40 30 90 20% of 20% of	total cover <u>N</u> <u>Y</u> <u>Y</u> = Total Cover total cover	22.5 FACU FACU FACU FACU FACU FACU FACU 22.5	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately if (1 m) in height.). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum Plot size:) 1. 2. 3.	20% of 20 40 30 90 20% of 20% of	total cover <u>N</u> <u>Y</u> <u>Y</u> = Total Cover total cover	22.5 FACU FACU FACU FACU FACU FACU FACU 22.5	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately ft (1 m) in height. Woody vine – All woody vines, regardless of height). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum Plot size:) 1. 2. 3. 4.	20% of 20 40 30 90 20% of 20% of	total cover <u>N</u> <u>Y</u> <u>Y</u> = Total Cover total cover	22.5 FACU FACU FACU FACU FACU FACU FACU FACU FACU FACU FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately ft (1 m) in height. Woody vine – All woody vines, regardless of height). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum (Plot size:)) 1. 2. 3. 4. 5.	20% of 20 40 30 90 20% of 90	N Y Y	22.5 FACU FACU FACU P	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately ft (1 m) in height. Woody vine – All woody vines, regardless of height). ; g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum Plot size:) 1. 2. 3. 4.	20% of 20 40 30 90 20% of 90	N Y Y	22.5 FACU FACU FACU P	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately ft (1 m) in height. Woody vine – All woody vines, regardless of height). 5 g y 3
Herb Stratum (Plot size: 30') 1. Lonicera japonica 2. Polystichum acrostichoides 3. Smilax auriculata 4. 5. 6. 7. 8. 9. 10. 11. 50% of total cover: 45 Woody Vine Stratum (Plot size:)) 1. 2. 3. 4. 5.	20% of 20 40 30 90 20% of 20% of 20% of	N Y Y	22.5 FACU FACU FACU P	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, includin herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately ft (1 m) in height. Woody vine – All woody vines, regardless of height). 5 g y 3

Profile Desc	ription: (Describe	to the dept	th needed to docu	nent the i	ndicator	or confirm	n the absence	e of indicato	ors.)	
Depth	Matrix		Redo	x Feature	S					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-6	10YR 6/6	100					sandy loa			
6-20	10YR 6/8	100					clay			
·										
·										
·										
	oncentration, D=Dep	letion, RM=	Reduced Matrix, M	S=Maskec	Sand Gra	ains.			ng, M=Matrix.	
Hydric Soil									roblematic Hyd	
Histosol			Dark Surface						A10) (MLRA 1 4	7)
	oipedon (A2)		Polyvalue Be				148) 📙 🤇		e Redox (A16)	
🔲 Black Hi			Thin Dark Su			47, 148)		(MLRA 14		
	en Sulfide (A4)		Loamy Gleye		F2)				odplain Soils (F19)
	d Layers (A5)		Depleted Ma		· c)		П,	(MLRA 13		(TE12)
	uck (A10) (LRR N) d Below Dark Surfac	o (A11)	Depleted Da						/ Dark Surface in in Remarks)	(1712)
	ark Surface (A12)	e (ATT)						эшег (схріа		
	/ucky Mineral (S1) (I	RR N.				RR N.				
-	-	•				·				
MLRA	A 147, 148)	·	MLRA 13	6)			³ Inc	dicators of h	ydrophytic vege	etation and
MLRA Sandy G	A 147, 148) Gleyed Matrix (S4)		MLRA 13	6) ace (F13) (MLRA 13	6, 122)			ydrophytic vege logy must be p	
MLRA Sandy G	A 147, 148)		MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	1 8) w	etland hydro	ydrophytic vege logy must be p ed or problema	resent,
MLRA Sandy G Sandy R Stripped	A 147, 148) Gleyed Matrix (S4) Redox (S5)		MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	1 8) w	etland hydro	logy must be p	resent,
MLRA Sandy G Sandy R Stripped	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):		MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	1 8) w	etland hydro	logy must be p	resent,
MLRA Sandy G Sandy R Sandy R Stripped Restrictive I Type:	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent,
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	1 8) w	etland hydro hless disturb	logy must be p	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
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MLRA Sandy G Sandy R Stripped Restrictive I Type: Depth (inc	A 147, 148) Gleyed Matrix (S4) Redox (S5) I Matrix (S6) Layer (if observed):	:	MLRA 13	6) ace (F13) (podplain S	(MLRA 13 oils (F19)	6, 122) (MLRA 14	18) we 7) ur	etland hydro hless disturb	logy must be p ed or problema	resent, tic.
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WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Connexial Center	City/County: Gray Court / Laurens	Sampling Date: <u>12/18/19</u>
Applicant/Owner: Thomas & Hutton	State: SC	_ Sampling Point: S-2 Up
Investigator(s): K. Weatherly	Section, Township, Range: <u>n/a</u>	
	cal relief (concave, convex, none): <u>CONVEX</u>	Slope (%): <u>5</u>
Subregion (LRR or MLRA): MLRA 136 Lat: 34.653889	Long: <u>82.13174</u>	Datum: WGS 84
Soil Map Unit Name: Pacolet sandy clay loam	NWI classifica	ition: N/A
Are climatic / hydrologic conditions on the site typical for this time of y	ar? Yes 🚺 No 🛄 (If no, explain in Re	marks.)
Are Vegetation Soil , or Hydrology significant	disturbed? N Are "Normal Circumstances" pr	resent? Yes 🔽 No 📃
Are Vegetation, Soil, or Hydrology naturally p	blematic? \mathbf{N} (If needed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	sampling point locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes No ✓ Hydric Soil Present? Yes No ✓ Wetland Hydrology Present? Yes No ✓	Is the Sampled Area within a Wetland? Yes	No 🗸
Remarks:		
Heavy rainfall within 48 hours of delineation. Photos 9-13 in photo log.		
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	Surface Soil C	Cracks (B6)
Surface Water (A1)		etated Concave Surface (B8)
High Water Table (A2) Hydrogen Sul		
	spheres on Living Roots (C3) Moss Trim Lin	
	duced Iron (C4) Dry-Season W duction in Tilled Soils (C6) Crayfish Burro	Vater Table (C2)
Drift Deposits (B3)		sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		ressed Plants (D1)
☐ Iron Deposits (B5)	Geomorphic P	
Inundation Visible on Aerial Imagery (B7)	Shallow Aquita	
Water-Stained Leaves (B9)		phic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral T	īest (D5)
Field Observations:		
Surface Water Present? Yes No 🖌 Depth (inche	:	
Water Table Present? Yes No 🖌 Depth (inche	:	
Saturation Present? Yes No 🖌 Depth (inche	Wetland Hydrology Present	? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho	s, previous inspections), if available:	
Remarks:		

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: S-2 Up

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?	Status	Number of Dominant Species
_{1.} Quercus alba	60	Y	FACU	That Are OBL, FACW, or FAC: (A)
2. Quercus nigra	40	Y	FAC	
				Total Number of Dominant Species Across All Strata: 6 (B)
3				Species Across All Strata: <u>6</u> (B)
4				Percent of Dominant Species
5	<u> </u>			That Are OBL, FACW, or FAC: <u>16.7</u> (A/B)
6				(***)
	100	= Total Co		Prevalence Index worksheet:
50				Total % Cover of: Multiply by:
50% of total cover: <u>50</u>	20% of	total cover	20	OBL species 0 $x_1 = 0$
Sapling Stratum (Plot size:)				FACW species 0 $x^2 = 0$
1				
				FAC species $40 x 3 = 120$
2				FACU species <u>160</u> x 4 = <u>640</u>
3				UPL species _60 x 5 = 300
4				Column Totals: 260 (A) 1060 (B)
5				(A) = (A) = (A)
6				Prevalence Index = $B/A = 4.07$
0				
		= Total Co	ver	Hydrophytic Vegetation Indicators:
50% of total cover:	20% of	total cover	:	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: <u>30'</u>)				2 - Dominance Test is >50%
1 Juniperus virginiana	20	Y	FACU	3 - Prevalence Index is $\leq 3.0^1$
2. Fagus grandifolia	20	Y	FACU	4 - Morphological Adaptations ¹ (Provide supporting
	·			data in Remarks or on a separate sheet)
3. Quercus alba	5	N	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
4. Ligustrum sinense	10	N	FACU	
5. Ilex opaca	5	N	FACU	
	·			¹ Indicators of hydric soil and wetland hydrology must
6	·			be present, unless disturbed or problematic.
	60	= Total Co	ver	Definitions of Five Vegetation Strata:
50% of total cover: 30				
50% of total cover: $30'$				Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: <u>30'</u>)	20% of		<u>;</u> 12	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
<u>Herb Stratum</u> (Plot size: <u>30'</u>) 1. <u>Smilax auriculata</u>	20% of	total cover	FACU	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: <u>30'</u>)	20% of		<u>;</u> 12	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines,
<u>Herb Stratum</u> (Plot size: <u>30'</u>) 1. <u>Smilax auriculata</u> 2. <u>Sphagnum spp</u> .	20% of	total cover	FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Herb Stratum (Plot size: <u>30'</u>) 1. Smilax auriculata _{2.} Sphagnum spp.	20% of 40 60	total cover	FACU	Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines,
Herb Stratum (Plot size: <u>30'</u>) 1. Smilax auriculata _{2.} Sphagnum spp.	20% of 40 60	total cover	FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3. 4. 5.	20% of 	Y Y Y	FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines,
Herb Stratum (Plot size: <u>30'</u>) 1. Smilax auriculata _{2.} Sphagnum spp.	20% of 	Y Y Y	FACU	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3. 4. 5.	20% of 	Y Y Y	<u>FACU</u> UPL	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3. 4. 5. 6. 7.	20% of 	Y Y Y	<u>FACU</u> UPL	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3	20% of 	Y Y Y	<u>FACU</u> UPL	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3	20% of 	Y Y Y	<u>FACU</u> UPL	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
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Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3. 4. 5. 6. 7. 8. 9.	20% of 	Y Y Y	<u>FACU</u> UPL	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
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Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3. 4. 5. 6. 7. 8. 9. 10. 11.	20% of 40 60 	Y Y Y	: <u>12</u> <u>FACU</u> <u>UPL</u>	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
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Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3	20% of 40 	Y Y Y	: 12 FACU UPL UPL	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3	20% of 40 	Y Y Y	: 12 FACU UPL UPL	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3	20% of 40 _	Y Y Y	: 12 FACU UPL .	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
Herb Stratum (Plot size: 30') 1. Smilax auriculata 2. Sphagnum spp. 3	20% of 40 60 100 20% of 20% of	Y Y Y	: 12 FACU UPL .	 Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.

Profile Desc	ription: (Describe	to the dept	n needed to docum	ent the ir	ndicator o	or confirm	n the absence	of indicators.)	
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	F	Remarks
0-8	7.5YR 5/4	100					sandy loa		
8-20	7.5YR 4/4	100							
0-20	1.31K 4/4	100					clay		
		·							
		·							
		·							
¹ Type: C=Co	oncentration, D=Dep	letion, RM=I	Reduced Matrix, MS	=Masked	Sand Gra	iins.	² Location: Pl	L=Pore Lining, N	/I=Matrix.
Hydric Soil I									matic Hydric Soils ³ :
Histosol			Dark Surface	(S7)			_	cm Muck (A10)	-
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APPENDIX C Site Photographs



Connexial Center – 70 acres – Gray Court, SC Photos Taken: December 11 and 18, 2019 Terracon Project No. 86197255, Task 1



Photo 1 Typical view of Stream 1 in the northeast portion of the site



Photo 2 Typical view of Stream 1 in the southeast portion of the site



Connexial Center – 70 acres Gray Court, SC Photos Taken: December 11 and 18, 2019 Terracon Project No. 86197255, Task 1



Photo 3 View of upland data point S-1 soil sample



Photo 4 View north of upland data point S-1



Connexial Center – 70 acres Gray Court, SC Photos Taken: December 11 and 18, 2019 Terracon Project No. 86197255, Task 1



Photo 5 View east of upland data point S-1



Photo 6 View south of upland data point S-1



Connexial Center – 70 acres – Gray Court, SC Photos Taken: December 11 and 18, 2019 Terracon Project No. 86197255, Task 1



Photo 7 View west of upland data point S-1



Photo 8 Typical view of Stream 2 in the north central portion of the site







Photo 9 View of upland data point S-2 soil sample



Photo 10 View north of upland data point S-2







Photo 11 View east of upland data point S-2



Photo 12 View south of upland data point S-2
Waters of the US Delineation







Photo 13 View west of upland data point S-2



APPENDIX D Credentials

ANDY RUOCCO, M.S., PWS, LEED AP BD+C ENVIRONMENTAL DEPARTMENT MANAGER

PROFESSIONAL EXPERIENCE

Mr. Ruocco is an Environmental Department Manager with 16 years of professional experience. Mr. Ruocco's education and years of environmental and regulatory compliance experience have resulted in the development of specialized multi-disciplinary skills for use on wetland disturbance, urban and water development, transportation and industrial development, and corridor assessment/restoration projects. His areas of expertise includes project management involving Section 404/401 Clean Water Act permitting, Mitigation Analysis/Design, Development of complex Alternatives Analyses to support permitting for various large scale industrial projects, transportation projects, utility right-of-ways, and commercial developments. Threatened and Endangered Species Surveys, Habitat Assessments, National Environmental Policy Act (NEPA) Documentation, Environmental Site Assessments (ESA), Subsurface Site Investigations, Environmental Permitting and Regulatory Compliance, and Soil & Groundwater Remediation. Mr. Ruocco serves as an Authorized Project Reviewer (APR) for Natural Resource services and Phase I Environmental Site Assessments conducted as part of Terracon's quality control process.

PROJECT EXPERIENCE

Industrial Commerce Park, Berkeley County, SC

Project Manager for 404/401 Clean Water Act (CWA) permit application, development of a Permittee-responsible Mitigation Plan in compliance with 40 CFR Part 230, Compensatory Mitigation for Losses of, Aquatic Resources; Final Rule, and preparation of environmental documentation to support USACE in making a decision with regard to 42 USC § 4321 et seq. NEPA for a local energy provider on an approximately 3,800 acre site. The site is located adjacent to a world-class automotive manufacturing facility that is currently under construction. Mr. Ruocco worked with an interdisciplinary team of economic development professionals, civil design engineers, and environmental management leaders within the organization to develop a permit application and mitigation plan that would allow the energy provider to develop the site. Mr. Ruocco calculated various mitigation scenarios for each alternative that was developed during the planning process and lead the permitting documentation development activities, which included preparation of a Practicable Alternative Analysis under 404(b)(1) Guidelines associated with the CWA. The project involved substantial coordination with regulatory agencies including USACE, SCDHEC, SHPO, EPA, SCDNR, USFWS, NOAA-NMFS and local government and community representatives, and environmental stakeholders. Other services conducted by Terracon in connection with the project included a cultural resource survey, various wetland delineations, and protected species surveys.

Professional Services Completed: 2015-20107

Construction Cost: TBD Terracon Fee: \$250,000

Contact

Andy.Ruocco@terracon.com (P) 843/884-1234 (M) 843/200-8949

Education

Master of Science, Environmental Science, College of Charleston, 2007

Bachelor of Science, Biological Sciences, University of South Carolina, College of Science and Mathematics, 2000

Registrations

SC Licensed Well Driller

LEED Accredited Professional

SC Licensed Asbestos Building Inspector

Certified Erosion Prevention Sediment Control Inspector

Professional Wetland Scientist Society of Wetland Scientists

Certifications

40 Hour HAZWOPER Certification 10 Hour OSHA Construction Certification 30 Hour OSHA Construction Certification

NEPA and Transportation Decision Making Process provided by National Highway Institute, 2013

NEPA Cumulative Effects Analysis and Documentation provided by the Shipley Group, 2012

Work History

Terracon Consultants, Inc., N. Charleston, SC Staff Scientist, Project Manager, Environmental Department Manager, 2005-Present

South Carolina Department of Health and Environmental Control Columbia, SC Environmental Manager I, 2001-2005



Grainger Generating Station Wetland Mitigation Bank Planning, South Carolina

Project manager for the planning and establishment of a mitigation bank to support a local energy provider and related economic development projects. Planning and preparation for the mitigation bank included mitigation calculations to determine the potential mitigation credits that would be available for sale, coordination with the Interagency Review Team (IRT), construction plans, hydrologic investigations, wetland and WoUS delineations, monitoring, conservation easement evaluation, long-term stewardship evaluation and coordination, and preparation of a mitigation banking prospectus. After obtaining positive feedback from multiple USACE decision makers in multiple USACE offices regarding the establishment of the mitigation bank, Terracon presented the proposed mitigation bank to the IRT on two different occasions. Multiple resource agency representatives serving on the IRT opposed the establishment of the mitigation bank to largely due the past operation of the site as a coal fired power plant and onsite storage of coal combustion residuals. The energy provider is following through with the restoration and enhancement of wetlands on the site to fulfill expectations of the local community and in accordance with the approved closure plans for the site. Terracon is continuing to provide consulting services for the wetland restoration and enhancement.

Professional Services Completed: 2015-present

Construction Cost: TBD Terracon Fee: \$200,000

WestEdge Project, Charleston, South Carolina

Project manager for 404/401 CWA permit and development of a Mitigation Plan in compliance with 40 CFR Part 230, Compensatory Mitigation for Losses of, Aquatic Resources; Final Rule for the development of an economic development project located in Charleston South Carolina that will require several acres of impacts to tidal wetlands classified as Ocean and Coastal Resource Management Critical Area wetlands. Mr. Ruocco worked with an interdisciplinary team of economic development professionals, civil design engineers, and environmental attorneys within the organization to develop a permit application and mitigation plan that would allow the applicant to expand the manufacturing capabilities. Mr. Ruocco calculated various mitigation scenarios for each alternative that was developed during the planning process and lead the permitting documentation development activities, which included preparation of a Practicable Alternative Analysis under 404(b)(1) Guidelines associated with the CWA and Permittee Re4sponsible Mitigation Plan. The project involved substantial coordination with regulatory agencies including USACE. Other services conducted by Terracon in connection with the project included wetland delineations and consulting for land acquisitions associated with the Permitted Responsible Mitigation Plan through coordination of land trusts, government entities, and long-term stewardship. **Professional Services Completed:** 2017-present

Construction Cost: TBD

Terracon Fee: \$80,000

Mercedes Benz Vans manufacturing facility expansion, Charleston County, SC

Project Manager for 404/401 CWA permit and development of a Mitigation Plan in compliance with 40 CFR Part 230, Compensatory Mitigation for Losses of, Aquatic Resources; Final Rule for the expansion of a vehicle manufacturing facility on an approximately 200-acre site. The client for this project intends to expand the manufacturing facility to transition from overseas shipping and assembly to full production within the Unites States. Mr. Ruocco worked with an interdisciplinary team of economic development professionals, civil design engineers, and environmental attorneys within the organization to develop a permit application and mitigation plan that would allow the manufacturer to expand the manufacturing capabilities. Mr. Ruocco calculated various mitigation scenarios for each alternative that was developed during the planning process and lead the permitting documentation development activities, which included preparation of a Practicable Alternative Analysis under 404(b)(1) Guidelines associated with the CWA. The project involved substantial coordination with regulatory agencies including USACE. Other services conducted by Terracon in connection with the project included a cultural resource survey, various wetland delineations, and protected species surveys.



Professional Services Completed: 2015-2017 Construction Cost: TBD Terracon Fee: \$70,000

South Carolina Inland Port Dillon, Dillon County, SC

Project Manager working directly for the South Carolina Ports Authority (SCPA) providing Individual 404/401 CWA wetland permitting support services and a development of a Permittee-responsible Mitigation (PRM) Plan to offset the wetlands and Waters of the US impacts associated with the development of the South Carolina Inland Port Dillon (SCIPD) in Dillon County, South Carolina. The permitting support included preparation of permit drawing sets to meet US Army Corps of Engineers (USACE) submittal standards and calculation of mitigation credits requirements using the USACE Charleston District's Compensatory Mitigation Guidelines. Developed a PRM plan that consisted of preservation and hydrologic enhancement an approximately 75-acre property located within the floodplain of the Little Pee Dee River to offset the impacts associated with the SCIPD project. The project involved substantial coordination with regulatory agencies including USACE, SC Department of Health and Environmental Control (SCDHEC), and SC Department of Natural Resources (SCDNR). The PRM Plan was developed to minimize the efforts required by SCPA to the maximum extent possible while gaining approval for the project. Finalization of the PRM required extensive negotiations and information to satisfy the resource agency reviewers.

Professional Services Completed: 2016-2017

Construction Cost: Unknown

Terracon Fee:~\$35,000

Yellowhouse Creek Mine Site Hugh Leatherman Terminal, Charleston County, SC

Project Manager for the wetland delineation, Threatened and Endangered Species Survey, and Individual Mining permit for 100-acre site located adjacent to Yellowhouse Creek, a tributary to the Wando River. The South Carolina Ports Authority (SCPA) was expeditiously seeking approvals for mining operation of the site to provide fill material for the containment wall at the Hugh Leatherman Terminal in accordance with the special conditions developed for the project developed as a result of the permitting. Terracon conducted all field works and prepared submittals for the efforts on an expedited basis to match the speed of the project. The project involved substantial coordination with regulatory agencies including USACE, SCDHEC, and SCDNR. Multiple office meetings and field meetings were conducted with regulatory representatives throughout the course of the permitting process.

Professional Services Completed: 2016 Construction Cost: Unknown

Terracon Fee:~\$30,000

Project Circle, Laurens County, SC

Project Manager for the wetlands delineation and Individual Permitting for an approximately 100 acre site zoned heavy industrial located in Laurens County, South Carolina. An approved jurisdictional determination was obtained for the site. The permitting consisted of an Individual 404/401 CWA Permit for development of a manufacturing facility that would support the automotive industry. Due to the size of planned development, approximately 3,000 linear feet of streams would be impacted during construction. Mr. Ruocco assisted the civil design engineers in developing alternative layouts and that would result in avoidance and minimization of stream impacts. Mr. Ruocco calculated various mitigation scenarios for each alternative and coordinated with multiple mitigation banks to secure mitigation credits. Mr. Ruocco coordinated and conducted negotiations with USACE regarding onsite mitigation and other permittee responsible mitigation alternatives. Mr. Ruocco prepared an extensive Alternatives Analysis document and prepared a final proposed mitigation plan that was submitted to USACE. The project involved substantial coordination with regulatory agencies including USACE, SCDHEC, and SCDNR. Multiple office meetings and field meetings were conducted with regulatory representatives throughout the course of the permitting process. **Professional Services Completed:** 2014

Terracon Fee: \$35,000



Project Striker Industrial Facility Expansion, Berkeley County, SC:

Project Manager for the wetlands delineation and permitting on approximately 300 acres of property of heavy industrial zoned property located adjacent to the Cooper River in Goose Creek, Berkeley County, South Carolina. Terracon secured and Jurisdictional Determination for the entire 300 acre tract. Permitting consists of an Individual 404/401 CWA permitting Permit for development of an approximately 250 acre portion of the site for future construction of a chemical manufacturing facility. Mr. Ruocco worked with the design engineer to develop various alternative designs that showed avoidance and minimization of wetland impacts. Mr. Ruocco prepared an extensive Alternatives Analysis document and prepared a final proposed mitigation plan that was submitted to USACE. The project involved substantial coordination with regulatory agencies including USACE, SCDHEC, and SCDNR.

Professional Services Completed: 2011 - 2014 Construction Cost: Phase I approximately \$150 million Terracon Fee: \$30,000

Bushy Park Industrial Expansion, Berkeley County, SC:

Project Manager for the wetlands delineation and permitting on approximately 40 acres of property of heavy industrial zoned property located adjacent to the Cooper River in Goose Creek, Berkeley County, South Carolina. The permitting consisted of an Individual 404/401 CWA Permit for development of an approximately 37 acre portion of the site for future construction of a manufacturing facility that produces high voltage cable for underground and submarine applications. Mr. Ruocco worked with the design engineer to develop various alternative designs that showed avoidance and minimization of wetland impacts. Mr. Ruocco prepared an extensive Alternatives Analysis document and prepared a final proposed mitigation plan that was submitted to USACE. *The Individual Permit for the project was obtained from the USACE within four months of submittal.* The Coastal Zone Consistency was obtained with two weeks following the authorization of the federal permit. The project involved substantial coordination with regulatory agencies including NOAA, USACE, SCDHEC, and SCDNR, which was a key component to providing such an expedited permit.

Professional Services Completed: 2011 - 2012

Construction Cost: Phase I approximately \$150 million **Terracon Fee:** \$20,000

Poplar Grove Gas Main, Charleston County, SC:

Project Manager for a wetland delineation and permitting effort for an approximately 3-mile utility right-ofway (ROW) for installation of an 8" gas main. The project site contained extensive wetlands within the ROW. Prepared a Jurisdictional Determination Request package that was submitted to USACE. Also prepared a line setting request package that was submitted to SCDHEC-OCRM due to the presence of Critical Area within the ROW. Mr. Ruocco conducted coordination with USACE for the impacts associated with the gas main installation. Terracon also coordinated with SCDHEC-OCRM for a General Permit for the directional drilling of the gas main under Rantowles Cree and its tributaries (Critical Area). The project required approximately 0.75 acres of wetland impacts. Through coordination with USACE and knowledge from past projects, Mr. Ruocco was able to obtain a Nationwide Permit for the installation of the gas main even though the impacts were greater than 0.5 acres (Wetland impacts over 0.5 acres typically are not authorized under Nationwide Permits). Mr. Ruocco also obtained a separate General Permit from SCDHEC-OCRM for directional drilling under Critical Area wetlands. The permits were obtained on an expedited schedule and as a result, the client was able to meet deadlines critical for project funding, thus avoiding delays. The project involved substantial coordination with regulatory agencies including SHPO, USACE, and SCDHEC-OCRM, which was a key component to providing such an expedited permit.

Professional Services Completed: 2014 Construction Cost: Unknown Terracon Fee: \$15,000



Volvo Gas Main, Dorchester and Berkeley County, SC:

Project Manager for a wetland delineation and permitting effort for an approximately 4-mile utility right-ofway (ROW) for installation of an 8" gas main. The project site contained extensive wetlands within the ROW. Prepared a Jurisdictional Determination Request package that was submitted to USACE. Mr. Ruocco conducted coordination with USACE for the impacts associated with the gas main installation. The permits were obtained on an expedited schedule and as a result, the client was able to meet deadlines critical for project funding, thus avoiding delays. The project involved coordination with regulatory agencies including USACE, and SCDHEC-OCRM, which was a key component to providing such an expedited permit.

Professional Services Completed: 2014

Construction Cost: Unknown

Terracon Fee: \$15,000

Additional Linear Utility Experience

- Rhodens Island Gas Main: 404 and 401 Permitting, SCDHEC-OCRM General Permit and Coastal Zone Consistency, Wetland Delineation, Jurisdictional Determination
- **Rhodens Island Water Main:** 404 and 401 Permitting, SCDHEC-OCRM General Permit and Coastal Zone Consistency, Wetland Delineation, Jurisdictional Determination
- West Ashley Gas Main: 404 and 401 Permitting, SCDHEC-OCRM General Permit and Coastal Zone Consistency, Wetland Delineation, Jurisdictional Determination
- Moncks Corner Gas Main: 404 and 401 Permitting, Wetland Delineation, Jurisdictional Determination
- Conway Gas Main: 404 and 401 Permitting, Wetland Delineation, Jurisdictional Determination
- **US Highway 17 Gas Main:** 404 and 401 Permitting, SCDHEC-OCRM Critical Area Permit and Coastal Zone Consistency, Wetland Delineation, Jurisdictional Determination

SCDOT Bees Creek Bridge & Euhaw Creek Bridge Replacement, Jasper County, SC:

Project Manager for the SC Route 462 Bridge Replacement over Bees Creek in Coosawhatchie, Jasper County, South Carolina. The project consisted of completion of NEPA documentation and supporting studies including Threatened and Endangered Species Assessment, Biological Assessment, Natural Resource Technical Memorandum, Water Quality Evaluation, Wetland and Stream Analysis, Section 4(f) Evaluation Wetland Delineation and Wetland Permitting, State Critical Area Permitting, Essential Fish Habitat Assessment, Phase I ESA / Hazardous Materials Assessment, Lead and Asbestos Survey, Cultural Resource Assessment, Farmland Evaluation, Land Use Evaluation, Air Quality Evaluation, and Noise Evaluation. The project involved substantial coordination with regulatory agencies including USACE, SCDHEC. **Professional Services Completed:** 2010 - 2013

Construction Cost: \$700,000 Terracon Fee: \$120,000

SCDOT SC-34 Bridge Replacement – Fairfield County, SC

Assisted project manager for environmental services consisting of wetland delineation, wetland permitting and mitigation, threatened and endangered species survey, and the preparation of a Natural Resources Technical Memorandum. This project was completed for the South Carolina Department of Transportation in response to a proposed bridge replacement along SC-34 in Fairfield County, South Carolina.

Professional Services Completed: 2012

Terracon Fee: \$15,000

Georgia DOT- Parcel 7 Hutchinson Island - Chatham County, GA

Project Manager for Categorical Exclusions documentation preparation for staged development of an approximately 20 acre site to support the Savannah ferry services. The project consisted of completion of



NEPA documentation, evaluation, and supporting studies including Threatened and Endangered Species Assessment, Biological Assessment, Water Quality Evaluation, Wetland and Stream Analysis, Section 4(f) Evaluation, Wetland Delineation and Wetland Permitting, Essential Fish Habitat Assessment, Phase I ESA / Hazardous Materials Assessment, Lead and Asbestos Survey, Cultural Resource Assessment, Farmland Evaluation, Land Use Evaluation, Air Quality Evaluation, and Noise Evaluation.

Professional Services Completed: 2012

Terracon Fee: \$10,000

Multiple Solar Sites throughout North Carolina and South Carolina

Manager for wetland delineations and 404/401 CWA permitting for over 50 properties located throughout North Carolina and South Carolina for two separate clients. Projects included marking of upland/wetland boundaries for sites ranging in size from approximately 30 to 300 acres. Each site required coordination with USACE and NCDENR. The sites will be used for development of solar farms.

Professional Services Completed: 2014-2015

Construction Cost: Unknown

Terracon Fee: >\$200,000

Other representative natural resources permitting projects:

- Biological Assessment SCPA Wando Welch Terminal, Mt. Pleasant, South Carolina
- Biological Assessment SCPA Hugh Leatherman Terminal, North Charleston, South Carolina
- Biological Assessment and 404/401 Permit of Veterans Terminal Bulkhead Collapse Reconstruction, Charleston, South Carolina
- Highway 41 Bridge Replacement Gas Main Permitting, Mt. Pleasant, South Carolina
- West Ashley Gas Main Wetland Delineation and Permitting, Charleston, South Carolina
- Chicora Elementary School, North Charleston, South Carolina
- Town of Sullivan's Island Critical Area Sewer Line Permitting, Charleston, South Carolina
- Cabin Creek Commercial Development, Berkeley County, South Carolina
- Sylvan Shores Residential Development, Charleston County, South Carolina
- New Road Wetland Delineation & Permitting, Charleston County, South Carolina
- Morris Island Light House Critical Area Permitting, Charleston County, South Carolina
- Multiple utility corridor projects including permits, throughout South Carolina

Remediation & Regulatory Reporting Experience

Remediation and regulatory compliance experience for multiple sites throughout South Carolina. Responsible for conducting soil and groundwater assessments, semi-annual groundwater assessment monitoring, determining risk-based remediation goals for soil and groundwater related to contamination required under South Carolina laws. Preparation Corrective Action Plans (CAPs) to include design and installation of soil and groundwater remediation systems. Representative projects include:

- Grand Strand Airport MPE GW Remediation, Myrtle Beach, South Carolina
- Firestone Soil and Oil Spill Remediation, North Charleston, South Carolina
- Sanders Bros. Construction GW Assessment and Remediation, North Charleston, South Carolina
- Corrective Action GW Remediation Quick Mart 10, Kingstree, South Carolina
- Corrective Action GW Remediation Pantry Express, Columbia, South Carolina
- Spring Grove Landfill Monitoring; Charleston, South Carolina
- Palmetto Commerce Parkway Extension Vapor Investigation; Charleston, South Carolina
- ACE Basin (U.S. Highway 17 South) Improvements; Green Pond, South Carolina



Site Assessment Experience

Project Manager for numerous Phase I and Phase II ESA projects for a varied client base including lending institutions, insurance companies, law firms, and private industrial entities using American Society for Testing and Materials (ASTM) and client-specific due diligence guidelines.

Example properties assessed include due diligence assessments at sites ranging from urban environments to rural areas on a wide variety of facilities including: former bulk petroleum storage and distribution facilities; turn-of-the century mills and factories; industrial steel production facilities; automotive dealerships with large-scale repair facilities, automotive and equipment service and fueling facilities; full-service dry cleaning facilities; electroplating facilities; textile manufacturing and painting facilities; large warehousing and distribution centers; hospitals; and large land parcels. Representative projects include:

- Highway 17A Improvement Project Moncks Corner, South Carolina
- Highway 126 Improvement Project Aiken County, South Carolina
- 6.29 Acre Coleman Blvd Site, Mount Pleasant, South Carolina
- 847 Coleman Blvd, Mount Pleasant, South Carolina
- Alucoil, Manning, South Carolina
- Baucoms Nursery, Summerville, South Carolina
- US Highway 17A Corridor, Moncks Corner, South Carolina
- Chick-fil-A, Moncks Corner, South Carolina

Indoor Air Quality And Asbestos And Lead Based Paint Experience

Project Manager for numerous IAQ and asbestos/lead based paint projects for a varied client base including commercial and residential properties. Example properties assessed include due diligence assessments at sites ranging from urban environments to rural areas on a wide variety of facilities including: converted turn-of-the century mills and factory buildings; industrial facilities; hospitals; high-end multi-family residential developments, commercial office structures, office buildings. Representative projects include:

- Sergeant Jasper Building, Charleston South Carolina
- Marine Corp Air Station, Building 1122 Barracks, Beaufort, South Carolina
- Marine Corp Air Station, Building 594 Airplane Hangar, Beaufort, South Carolina
- Charleston AFB, Asbestos and Lead Based Paint Surveys Multiple Buildings, Charleston, South Carolina
- Parris Island Marine Corps Recruit Depot, Parris Island, South Carolina
- Asbestos Inspection, Lead Paint Survey and Waste Characterization Sampling, Keesler Air Force Base, Biloxi, Mississippi.
- Asbestos Inspection, Lead Paint Survey and Waste Characterization Sampling, Barksdale Air Force Base, Shreveport, Louisiana
- Bank of America Building IAQ Survey, Charleston, South Carolina
- Kings Crossing IAQ Survey and Remediation, Charleston, South Carolina

Regulatory Compliance

Project Manager for numerous SWPPP (construction and industrial) and SPCC projects for a varied client base.

- Horry County Airports SWPPPs, Throughout Horry County, South Carolina
- Charleston International Airport Bulk Fuel Storage SPCC, North Charleston, South Carolina
- Summerville SCDOT Section Shed SPCC, Summerville, South Carolina
- JBC-North Auxiliary Air Field SWPPP (Construction), North, South Carolina
- Runway 03-31 CAFB SWPPP (Construction), North Charleston, South Carolina
- Taxiway Charlie CAFB SWPPP(Construction), North Charleston, South Carolina
- Shaw AFB- Housing Demolition SWPPP(Construction), Sumter, South Carolina
- Sanders Brothers Berkeley Plant SWPPP (Industrial), Summerville, South Carolina
- IFCO Systems SWPPP (Industrial), Walterboro, South Carolina
- Americast SWPPP (Industrial) and SPCC, North Charleston, South Carolina

Air Permitting

Provided air permitting services for concrete batch plants:



- McCarthy Improvements, North Charleston, South Carolina
- Summers Concrete, North Charleston, South Carolina
- Concrete on Demand, North Charleston, South Carolina
- Port City Concrete, Summerville, South Carolina
- Stono Concrete, Goose Creek, South Carolina



KATHERINE L. WEATHERLY

Senior Staff Scientist

PROFESSIONAL EXPERIENCE

As a senior staff scientist in the Greenville, S.C. office of Terracon, Ms. Weatherly's responsibilities include conducting Phase I environmental site assessments, transaction screenings, LSI (Phase II) assessments, groundwater sampling, soil remediation projects, wetland delineations, threatened and endangered species surveys, and Section 404/401 Clean Water Act permitting.

Ms. Weatherly has over 5 years of experience in the industry.

PROJECT EXPERIENCE

Environmental Site Assessments

Numerous locations within the southeast region of the United States including South Carolina, North Carolina, Georgia, Tennessee, Virginia and West Virginia. Performed Phase I Environmental Site Assessments of industrial, commercial, residential and "green" properties in accordance with ASTM E 1527-13 and ASTM E 2247-16 standards.

Field Investigations and Remediation

Numerous locations within the southeast region of the United States. Taken part in numerous field services for sample collection of potentially hazardous materials in soils and groundwater. Managed South Carolina SUPERB projects for closed UST sites undergroing assessment for petroleum hydrocarbons or periodic monitoring for natural attenuation.

Jurisdictional Waters Delineations and Permitting

Numerous locations within the southeast region of the United States. Project Manager for numerous jurisdictional wetland delineation projects in compliance with the US Army Corps of Engineers Wetlands Delineation Manual (1987), Atlantic and Gulf Coastal Plain Regional Supplement, and Eastern Mountains and Piedmont Regional Supplement. Obtained Nationwide Permiting to include mitigation banking in accordance with Section 404/401 of the Clean Water Act and under US Corps of Engineers regulatory guidelines for impacts to jurisdictional wetlands and waters of the US.

Endangered Species Surveys

Performs habitat assessments throughout the southeast. Primary activities include Section 7 consultation, desktop reviews, and visual field reconnaissance to identify potential cirtical habitat on project sites.

Coal Combustion Residuals – Various Sites

Responsible for the oversight, coordination, and completion of groundwater well monitoring and aquifer characterization for a confidential client at numerous coal fired power plants across the southeast. Site responsibilities include: (i) reporting to project management and project teams, (ii) coordination and performing field work for well redevelopment, slug testing, groundwater samping and project management, and (iii) ensuring that Terracon staff abide by site safety rules and safe work practices.

Education

Bachelor of Arts, Biological Sciences, 2012, Clemson Unviersity

Certifications

OSHA 40-Hour Health and Safety Training: HAZWOPER

D&D West 40-Hour Training: Basic Wetland Delineation

NCDOT Erosion & Sedimentation Control/Stormwater Certification: Level 2

American Heart Association Heartsaver First Aid / CPR / AED

Work History

Terracon Consultants, Inc., Field Environmental Scientist, 2014present

Clemson University, Water Quality Management and the White Ibis, Research Team Member, 2010-2011

South Carolina Army National Guard (SCARNG), Captain, Military Police, Charleston, SC, 2010present





APPENDIX E Common Acronyms



COMMON ACRONMYS

AJD	Approved Jurisdictional Determination
CWA	Clean Water Act
EPA	Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GPS	Global Positioning Systems
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate Wetland
OHWM	Ordinary High Water Mark
PJD	Preliminary Jurisdictional Determination
UPL	Obligate Upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
WOTUS	Waters of the U.S.

ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY AT THE

CONNEXIAL CENTER LAURENS COUNTY, SC

APPENDIX D

Cultural Resources Identification Survey

26942.0007

THOMAS & HUTTON



January 9, 2020

Bill Green Principal Department Manager, Natural and Cultural Resource Services Terracon 521 Clemson Road Columbia, SC 29229

Re: Connexial Center Laurens County, South Carolina SHPO Project No. 19-KL0428

Dear Bill Green:

Our office received documentation on December 13, 2019 that you submitted under the Department of Commerce Site Certification program for the tract referenced above. This letter is for informational purposes only and constitutes our office's coordination under the 2014 Memorandum of Understanding (MOU) with the South Carolina Department of Commerce. This letter is not a result of consultation under Section 106 of the National Historic Preservation Act or under any pertinent state law.

The cultural resources identification survey provided meets the requirements of the MOU. As a result of the investigation of the approximately 70-acre project area, one archaeological site (Site 38LU0766) was identified within the project area and one historic architectural resource (FIP-1) was identified adjacent to the project area. Site 38LU0766 is recommended as not eligible for listing in the National Register of Historic Places (NRHP). Our office concurs with this recommendation.

If Connexial Center were to require state permits or federal permits, licenses, funds, loans, grants, or assistance for development, we would recommend to the federal or state agency or agencies that

• Additional cultural resources/historic property identification survey of the project area are not needed.

The agency will determine if a reasonable and good faith effort has been made to identify historic properties or whether additional identification efforts are needed.

Project Review Forms and additional guidance regarding our office's role in the federal and state compliance process and historic preservation can be found on our website at <u>https://scdah.sc.gov/historic-preservation/programs/review-compliance</u>.

Our office has a technical comment on the report that we ask to see addressed (please see attached). We

will accept the report as final once this comment is addressed; there is no need to send a revised draft. In accordance with the MOU, please provide two bound copies of the final report to the DOC and one bound, one unbound, and one digital (PDF) copy of the final report to SHPO. Please ensure that a copy of our comments letter is included in the Appendices and Attachments of the final report.

Please provide GIS shapefiles for the surveyed area. Shapefiles should be compatible with ArcGIS (.shp file format) and should be sent as a bundle in .zip format. For additional information, please see our <u>GIS</u> <u>Data Submission Requirements</u>.

Please refer to SHPO Project Number 19-KL0428 in any future correspondence regarding this project. If you have any questions, please contact me at 803-896-6181 or at KSchroer@scdah.sc.gov.

Sincerely,

Keely Lewis-Schroer

Keely Lewis-Schroer Archaeologist State Historic Preservation Office

cc: Keith Derting, SCIAA Jennifer Druce, SCDOC

Technical Comments

p. 6, para. 1- "Based on the architectural survey, there are no structures more than 40 years old within or adjacent to the project area." As stated on p. 2, one-above ground historic resource (FIP-1) was identified approximately 125 meters to the west of the current project area but was not revisited during the current study. Please correct the architectural survey results section to include this information as well as in Section 5.0.



January 9, 2020

Mr. Brad Sanderson Thomas & Hutton 1501 Main St., Suite 760 Columbia, South Carolina 29201

Re: FINAL REPORT

Cultural Resources Identification Survey of Approximately 70 Acres at the Proposed Connexial Center Laurens County, South Carolina Terracon Project No. 73197279 SHPO Project No. 19-KL0428

Authors: Barbara Gengenbach, M.A., and J. Mills Dorn, M.H.P.

Dear Mr. Sanderson:

Terracon Consultants, Inc. (Terracon), on behalf of Thomas & Hutton, has completed a Cultural Resources Identification Survey (CRIS) of approximately 70 acres at the proposed Connexial Center in Laurens County, South Carolina (Figures 1 and 2). The purpose of the survey was to identify and evaluate archaeological and historic resources within and immediately adjacent to the project area that could be eligible for inclusion in the National Register of Historic Places (NRHP). The CRIS was done under contract to Thomas & Hutton, in general accordance with Terracon Proposal No. P86197255 dated November 8, 2019. The project was done for compliance with the South Carolina Department of Commerce (SCDOC) Industrial Site Certification process and follows the guidelines contained in the Memorandum of Understanding (MOU) between the SCDOC and the South Carolina State Historic Preservation Office (SHPO) dated March 2011 (updated 2014).

1.0 PROJECT DESCRIPTION

The project area is located on the northwest side of Friendship Church Road along both sides of Old Dairy Farm Road in the northwestern portion of Laurens County (Figure 1). Gray Court is located approximately 3.0 miles to the southeast and Fountain Inn is located approximately 4.5 miles to the northwest. The project area is trapezoidal in shape and is bordered by an unnamed tributary of Reedy Creek on the east, previously surveyed portions of the Connexial Center (also known as Friendship Industrial Park) to the south and west, and by private property to the north. A portion of Old Dairy Road bisects the project area north to south.

2.0 ENVIRONMENTAL CONTEXT

The project area is situated within the Piedmont physiographic province and lies within the Enoree

Connexial Center - Laurens County, South Carolina January 9, 2020 - Terracon Project No. 73197279



River portion of the Santee River drainage basin. The Enoree River is located approximately 5.0 miles northeast of the project area. The closest natural water source is an unnamed tributary of Reedy Creek, which forms the eastern boundary of the project area.

Topography in the project area is undulating to steeply sloped, with rolling hills throughout. Elevations range from about 740 ft. above mean sea level (AMSL) in the areas around the tributary to 807 ft. AMSL in the northwest portion of the project area. Vegetation primarily consists of mixed pine and hardwoods east of Old Dairy Road and agricultural fields west of Old Dairy Road (Figures 3 and 4). East of Old Dairy Road, surface visibility was negligible and no pedestrian survey was conducted. West of Old Dairy Road in agricultural fields surface visibility was approximately 80 percent and a pedestrian survey was conducted in addition to shovel testing.

Soils in the project area are composed primarily of clayey and loamy residuum that has weathered in place from the gneiss and/or granite bedrock. These soils include well drained Cecil sandy loam, Madison and Pacolet soils, Pacolet sandy clay loam; and somewhat poorly drained alluvial Chewacla and Worsham soils. Approximately 90 percent of the soils in the project area are classified as well drained, while five percent are classified as somewhat poorly drained (Figure 5).

3.0 BACKGROUND RESEARCH

3.1 Previously Recorded Sites and Cultural Resource Investigations

Background research for the project was conducted on November 27, 2019, using ArchSite, a GIS program depicting previously recorded archaeological and historic resources in South Carolina. The area examined was a 0.25-mile radius around the project area.

Based on the background research, no archaeological sites or above ground historic resources were found within or immediately adjacent to the project area (Figure1). There were two prior CRISs performed adjacent to the project area: The Friendship Industrial Park (conducted by Terracon in 2017 (Sain and Linck 2017) and the Connexial Center Industrial Park (conducted by Terracon in 2018 (Higgins 2018). During the 2017 CRIS, one above-ground historic resource, a one-story, front gable barn built in the 1960s was identified (Sain and Linck 2017). This resource, identified as FIP-1, is located approximately 125 meters west of the current project area and was not revisited during the current survey.

3.2 Historic Research

In addition to the records review, eighteenth through twentieth century maps were examined to determine whether historic resources were likely to be present within the proposed project area. Henry Mouzon's 1775 *Map of North and South Carolina with their Indian Frontiers* ... shows the project area located in an uninhabited area between the Enoree and Saluda rivers (Figure 6). On

Cultural Resources Identification Survey Connexial Center - Laurens County, South Carolina January 9, 2020 - Terracon Project No. 73197279



Mills' (1825) Atlas map of the Laurens District the project area is located south of Durham's Creek (now Durbin Creek) and southwest of Young's Post Office (now Youngs) (Figure 7). No historic resources are shown in the vicinity of the project area at this time. On the 1957 Fountain Inn USGS topographic map the project area intersected by Old Dairy Road. The nearest structure is a house located on a knoll approximately 60 meters west of the project area, just north of a dirt road that extends into the project area (Figure 8). This house is no longer extant.

3.3 Predictive Model Research

The most commonly used model for predicting the location of archaeological sites in the Piedmont of South Carolina is the one used by the U.S. Forest Service (USFS) for Sumter National Forest (Benson 2006:225-226). Based on factors such as slope, landform type, and distance to water, the USFS classifies areas into high, moderate, and low probability areas. High probability areas include all ridge tops, noses, saddles, and crests, and all well-drained, low-slope areas within 150 meters of the nearest water source. High probability areas also include areas within 50 meters of an old roadbed (for historic sites) or a lithic raw material source (for prehistoric sites). Moderate probability areas include well-drained areas having a slope of less than 10 percent that are located more than 150 meters from a water source. Low probability areas include ridge side slopes having.

Based on these parameters, approximately 17 percent (12 acres) of the project area had high potential for containing prehistoric archaeological sites due its proximity to an unnamed tributary. Another 27 percent (19 acres) adjacent to Old Dairy Road and a dirt road had a high probability for containing historic archaeological sites. Approximately 39 percent (27 acres) had a moderate probability for containing archaeological resources, while 17 percent (12 acres) had a low probability due to the presence of poorly drained soils and steep slopes surrounding the unnamed tributary (Figure 9).

4.0 **RESULTS OF FIELDWORK**

4.1 Archaeological Survey

On December 3, 2019, Archaeologist Barbara Gengenbach, M.A., conducted a CRIS of the project area. The archaeological survey consisted of excavating 25 shovel test pits (STPs) at 30-meter intervals in high and moderate probability areas along four transects in the project area (Figure 9, Table 1). Each shovel test was approximately 30 cm in diameter and was excavated until culturally sterile subsoil was encountered. If artifacts were found during the survey, additional shovel tests were excavated at 15-meter intervals around the site to help define the site's boundaries. As a result of the survey, one archaeological site, 38LU766, was recorded.

Connexial Center Laurens County, South Carolina January 9, 2020 Terracon Project No. 73197279



Transect	STPs	Bearing	Area	Landform	Results
Transect 1	7	20°	А	Ridge and ridge nose	No sites or isolated finds
Transect 2	11	180°	В	Ridge	Site 38LU766
Transect 3	3	300°	В	Ridge	No sites or isolated finds
Transect 4	4	120°/140°	В	Ridge	No sites or isolated finds

Table 1. Shovel Test Transects and Results.

4.1.1 Area A

Area A was located in a mixed pine and hardwood forest east of Old Dairy Road. During the survey of Area A, seven shovel tests, ranging from 20–40 cm deep, were excavated along a single transect (Transect 1) stretching across a ridge top and ridge nose overlooking an unnamed tributary of Reedy Creek (Figure 9, Table 1). Soils were relatively uniform, with a typical soil profile consisting of 20 cm of reddish brown (5YR 4/6) sandy clay loam (Ap horizon), followed by 20+ cm (20–40+ cm below surface [cmbs]) of red (2.5YR 4/8) clay subsoil (Bt horizon) (Figure 10). As a result of the survey, no archaeological sites or isolated finds were recorded in Area A.

4.1.2 Area B

Area B was located in agricultural fields west of Old Dairy Road. During the survey of Area B, 18 shovel tests, ranging from 20–60 cm deep, were excavated along three transects (Transects 2 through 4) located on a ridge adjacent to Old Dairy Road and an unnamed dirt road (Figure 9, Table 1). All transects were excavated within plowed fields where surface visibility was approximately 80 percent (see Figure 4). A pedestrian survey was also conducted in this area. Soils were relatively uniform, with a typical soil profile consisting of 15 cm of red (2.5YR 4/6) clay loam (Ap horizon), followed by 15+ cm (15–30+ cmbs) of red (10R 4/8) clay subsoil (Bt horizon) (Figure 11). As a result of the survey, one archaeological site, 38LU766, was identified in Area B.

4.1.3 Site 38LU766

Site Number: 38LU766	NRHP Recommendation: Not Eligible
Site Type: House Site; Prehistoric Isolate	Elevation: 785 ft. AMSL
Components: Late 19 th /early 20 th c. Unid. Prehistoric	Landform: Ridge
UTM Coordinates: E396143, N3834997 (NAD 27)	Soil Type: Cecil sandy clay loam
Site Dimensions: 110 m N/S x 60 m E/W	Vegetation: Agricultural Field
Artifact Depth: 0-20 cmbs	No. of STPs/Positive STPs: 11/5

Site 38LU766 is a late nineteenth/early twentieth century house site located on the eastern edge of a ridge in a plowed field west of Old Dairy Road in the northern portion of the project area (Figures 1 and 12). Based on shovel testing and the extent of a surface scatter, the site measures approximately 110 meters north/south by 60 meters east/west and includes a small stand of trees within an agricultural field (Figures 13 and 14). The stand of trees contains a pile of stones as well

Connexial Center - Laurens County, South Carolina January 9, 2020 - Terracon Project No. 73197279



as a few bricks and clear bottle glass (Figure 15). The site is bounded by two negative shovel tests excavated at 15-meter intervals to the north, south, and west, and Old Dairy Road to the east. Shovel tests to the east were not excavated due to thick vegetation and the presence of a barbed wire fence (Figure 16). It should be noted that this resource does not appear on the 1957 Fountain Inn USGS topographic quadrangle (see Figure 8), indicating that it was gone by the time this map was produced.

During the investigation, 11 shovel tests were excavated in and around the site. Five of these shovel tests contained a total of 11 artifacts found between 0 and 20 cmbs. A typical soil profile consisted of 15 cm of red (2.5YR 4/6) clay loam (Ap horizon), followed by 15+ cm (15–30+ cmbs) of red (10R 4/8) clay subsoil (Bt horizon) (see Figure 11).

A total of 19 artifacts (18 historic and one prehistoric) were recovered from the site, including eight found on the surface and 11 recovered from shovel tests. Recovered artifacts consisted of three pieces of whiteware, three pieces of alkaline-glazed stoneware, 11 pieces of container glass (4 aqua, 3 amethyst, 2 cobalt, one green opalescent, and one clear), and one brick fragment. These artifacts indicate a late nineteenth to early twentieth century occupation. In addition to the historic artifacts, one middle stage chert biface that had broken during manufacture and was used on multiple edges, was found on the surface (Appendix). This biface is not temporally diagnostic.

Regarding the National Register Criteria for Evaluation (National Register Bulletin 15):

Criterion A – The site has no known association with events that have made a significant contribution to the broad patterns of our history.

Criterion B – The site has no known association with the lives of significant persons in our past.

Criterion C – The site contains no architectural or other aboveground remains. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value.

Criterion D – Site 38LU766 contains relatively few artifacts, all found on the surface or in shallow, disturbed contexts. As such, the site is unlikely to yield significant information about the history or prehistory of Laurens County.

Site 38LU766 is a late nineteenth/early twentieth century house site with few artifacts, little architectural debris, and no aboveground remains. The site is also a common site type and 38LU766 is not a good example of its type. Based on these factors, site 38LU766 is unlikely to yield any significant information about the history or prehistory of Laurens County and is recommended as being ineligible for inclusion in the NRHP.

Connexial Center Laurens County, South Carolina January 9, 2020 Terracon Project No. 73197279



4.2 Architectural Survey

An architectural survey was conducted to record structures within or adjacent to the project area that were at least 40 years old and retained at least a modest level of integrity. All publicly accessible roads within and adjacent to the project area were driven to look for standing structures that met these criteria. Based on the architectural survey, one previously recorded structure, FIP-1, was located approximately 125 meters west of the project area; however, it was not revisited during the current survey as it was already recorded by Terracon in 2017 (Sain and Linck 2017).

5.0 SUMMARY AND RECOMMENDATIONS

On behalf of Thomas & Hutton, Terracon has completed a CRIS of approximately 70 acres at the proposed Connexial Center in Laurens County, South Carolina (Figures 1 and 2). Shovel testing and a pedestrian survey resulted in the discovery of one archaeological site, 38LU766. Site 38LU766 is a late nineteenth/early twentieth century house site that contains few artifacts, is a common site type, and lacks archaeological integrity. Based on these factors the site is recommended as being ineligible for inclusion in the NRHP. Based on the architectural survey, one previously recorded structure, FIP-1, was located approximately 125 meters west of the project area; however, it was not revisited during the current survey as it was already recorded by Terracon in 2017 (Sain and Linck 2017).

Shovel testing in high and moderate probability areas indicated that soils across the tract are shallow and deflated, and that intact and significant archaeological remains are unlikely to be found within the project area. This supports the results of the two prior CRRSs that were conducted adjacent to the current project area (Higgins 2018; Sain and Linck 2017). In addition, the architectural survey did not find any previously unrecorded above-ground resources more than 40 years old. Based on these factors, it is Terracon's opinion that no historic properties will be affected by the proposed undertaking and that no additional cultural resource investigations are warranted for the project area.

6.0 CLOSING

Terracon appreciates the opportunity to provide you with this report. If you have any questions, please do not hesitate to contact Bill Green at (803) 403–1256.

Sincerely, Terracon Consultants, Inc.

Barbara Gengenbach, M.A. Archaeologist

Un

William Green, M.A., RPA # 10387 Principal / Department Manager Natural and Cultural Resource Services



REFERENCES

Benson, Robert W.

2006 Sumter National Forest Cultural Resources Overview. Francis Marion and Sumter National Forests, CRM Report 06-07. Report prepared for the Francis Marion and Sumter National Forests, USDA Forest Service. Report prepared by Southeastern Archaeological Services, Inc., Athens, Georgia.

Higgins, Kelly

2018 Cultural Resources Identification Survey of Approximately 93 Acres at the Proposed Connexial Center Industrial Park, Laurens County, South Carolina. Report prepared for Thomas and Hutton, Columbia, South Carolina by Terracon Consultants Inc., Columbia, South Carolina.

Mills, Robert

1825 *Atlas of the State of South Carolina.* Reprint 1980. Southern Historical Press, Greenville, South Carolina.

Sain, Douglas, and Shelby Linck

2017 Cultural Resources Identification Survey of Approximately 328 Acres at the Proposed Friendship Industrial Park, Laurens County, South Carolina. Report prepared for Thomas & Hutton, Columbia, South Carolina by Terracon Consultants, Inc., Columbia, South Carolina.

Web Soil Survey

2019 http://websoilsurvey.ncrs.usda.gov/app/WebSoilSurvey.aspx. United States Department of Agriculture soils website. Accessed November 27, 2019.



Figure 1. Project area and cultural resources within a 0.25-mile radius. Base Map:Fountain Inn (1983) 7.5' USGS topographic quadrangle.





Project No. 73	197279
Date: Decembe	er 2019
Drawn By:	BGG
Reviewed By:	BGG

Terra	DCON
521 Clemson Rd.	Columbia, SC
PH. (803) 741-9000	terracon.com

USGS TOPOGRAPHIC MAP	Figure
THE CONNEXIAL CENTER LAURENS CO., SC	1



Figure 2. Aerial image of the Project area and cultural resources within a 0.25-mile radius. Base Map:Fountain Inn (1983) 7.5' USGS topographic quadrangle.







Project No. 73 [,]	197279
Date: Decembe	er 2019
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AERIAL IMAGERY	Figure
THE CONNEXIAL CENTER LAURENS CO., SC	2









Figure 3. Typical vegetation in Area A, facing northeast from STP 1-1.



Figure 4. Agricultural fields in Area B, view north from STP 3-1.



Figure 5. Soil types in the project area. Soil data obtained from NRCS Web Soil Survey (SSURGO). Soils depiected in yellow and orange are well drained, soils in blue are poorly drained, and hatched soils are steeply sloped.

Base Map:Fountain Inn (1983) 7.5' USGS topographic quadrangle.

Soil Types

Cecil sandy loam, 2-6% slopes

- Cecil sandy clay loam, 6-10% slopes, moderately eroded
- Chewacla and Worsham soils
- Madison and Pacolet soils, 15-40% slopes Cecil sandy clay loam, 2-6% slopes, moderately eroded
 - Pacolet sandy clay loam, 10-15% slopes, eroded





Project No. 73	197279	
Date: Decembe	er 2019	
Drawn By:	BGG	
Reviewed By:	BGG	

Cecil sandy loam, 6-10% slopes, moderately eroded

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Connexial Center
Laurens County, South Carolina January 9, 2020
Terracon Project No. 73197279



Figure 6. Mouzon's (1775) map showing the approximate location of the project area in red.



Figure 7. Mills' (1825) Atlas Map of the Laurens District showing the approximate location of the project area in red.







Figure 8. 1957 Fountain Inn, SC USGS topographic map showing the project area in red.



Figure 9. Probability areas and shovel test transects. Base Map:Fountain Inn (1983) 7.5' USGS topographic quadrangle.







Project No. 7	3197279
Date: Decem	ber 2019
Drawn By:	BGG
Reviewed By:	BGG

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PRODADILITTAREAS	PROBABILITY AREAS
	PRUDADILITY AREAS

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Figure







Figure 10. Typical soil profile in Area A.



Figure 11. Typical soil profile in Area B and site 38LU766.









Figure 13. Site 38LU766, view northwest from site datum.



Figure 14. Site 38LU766, view south from site datum.







Figure 15. Site 38LU766, rock pile within stand of trees, view facing west.



Figure 16. Site 38LU766 showing thick vegetation, view facing east from site datum.



APPENDIX A – ARTIFACT CATALOG
Catalog
Artifact
Center /
Connexial
) - V
Appendix

ite No.	Cat. No.	Provenience	Site No. Cat. No. ProvenienceDepth (cmbs)	Count	Count Weight (g)	Class	Category	Subcategory	Description/Type
38LU766	1.01	Surface	Surface	-	18.2	Lithic	Chipped Stone	Biface	Middle Stage
38LU766	1.02	Surface	Surface	-	16.8	H. Ceramic	Stoneware	Alkaline-Glazed	
38LU766	1.03	Surface	Surface	с	28.0	Glass	Container		Amethyst
38LU766	1.04	Surface	Surface	-	3.7	Glass	Container		Cobalt
38LU766	1.05	Surface	Surface	-	34.6	Glass	Container		Aqua
38LU766	1.06	1.06 Surface	Surface	-	15.1	H. Ceramic	Refined Earthenware	Whiteware	Plain
38LU766	2.01	2-2	0-26	-	4.6	H. Ceramic	Refined Earthenware	Whiteware	
38LU766	2.02	2-2	0-26	-	3.0	Glass	Container		Aqua
38LU766	2.03	2-2	0-26	-	2.3	Glass	Container		Clear
38LU766	3.01	2-2+15W	0-20	-	2.0	Glass	Container		Cobalt
38LU766	3.02	2-2+15W	0-20	-	1.6	Brick			
38LU766	3.03	2-2+15W	0-20	-	0.8	H. Ceramic	Refined Earthenware	Whiteware	Plain
38LU766	4.01	2-2+30N	0-15	-	2.7	Glass	Container		Aqua
38LU766	4.02	2-2+30N	0-15	-	26.0	H. Ceramic	Stoneware	Alkaline-Glazed	
38LU766	5.01	2-2+30S	0-15	-	3.5	Glass	Container		Green Opalescent
38LU766	6.01	2-2+60S	0-20	-	3.1	Glass	Container		Aqua
38LU766	6.02	2-2+60S	0-20	1	6.1	H. Ceramic	Stoneware	Alkaline-Glazed	

	1			1													
Notes	Broken then used on multiple edges								Etched floral design								
Date		1800-1950	1880-1914			1820-present	1820-present			1800-1950		1845-present					
Cortex																	
Portion Temper Size Grade Cortex																	
Temper																	
Portion	Base	Rim			Base		Base										
Material	Chert																
Site No. Cat. No. Pattern Group		Kitchen	Kitchen		Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Architectural	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen	Kitchen
Cat. No.	1.01	1.02	1.03	1.04	1.05	1.06	2.01	2.02	2.03	3.01	3.02	3.03	4.01	4.02	5.01	6.01	6.02
Site No.	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766	38LU766



January 9, 2020

Bill Green Principal Department Manager, Natural and Cultural Resource Services Terracon 521 Clemson Road Columbia, SC 29229

Re: Connexial Center Laurens County, South Carolina SHPO Project No. 19-KL0428

Dear Bill Green:

Our office received documentation on December 13, 2019 that you submitted under the Department of Commerce Site Certification program for the tract referenced above. This letter is for informational purposes only and constitutes our office's coordination under the 2014 Memorandum of Understanding (MOU) with the South Carolina Department of Commerce. This letter is not a result of consultation under Section 106 of the National Historic Preservation Act or under any pertinent state law.

The cultural resources identification survey provided meets the requirements of the MOU. As a result of the investigation of the approximately 70-acre project area, one archaeological site (Site 38LU0766) was identified within the project area and one historic architectural resource (FIP-1) was identified adjacent to the project area. Site 38LU0766 is recommended as not eligible for listing in the National Register of Historic Places (NRHP). Our office concurs with this recommendation.

If Connexial Center were to require state permits or federal permits, licenses, funds, loans, grants, or assistance for development, we would recommend to the federal or state agency or agencies that

• Additional cultural resources/historic property identification survey of the project area are not needed.

The agency will determine if a reasonable and good faith effort has been made to identify historic properties or whether additional identification efforts are needed.

Project Review Forms and additional guidance regarding our office's role in the federal and state compliance process and historic preservation can be found on our website at <u>https://scdah.sc.gov/historic-preservation/programs/review-compliance</u>.

Our office has a technical comment on the report that we ask to see addressed (please see attached). We

will accept the report as final once this comment is addressed; there is no need to send a revised draft. In accordance with the MOU, please provide two bound copies of the final report to the DOC and one bound, one unbound, and one digital (PDF) copy of the final report to SHPO. Please ensure that a copy of our comments letter is included in the Appendices and Attachments of the final report.

Please provide GIS shapefiles for the surveyed area. Shapefiles should be compatible with ArcGIS (.shp file format) and should be sent as a bundle in .zip format. For additional information, please see our <u>GIS</u> <u>Data Submission Requirements</u>.

Please refer to SHPO Project Number 19-KL0428 in any future correspondence regarding this project. If you have any questions, please contact me at 803-896-6181 or at KSchroer@scdah.sc.gov.

Sincerely,

Keely Lewis-Schroer

Keely Lewis-Schroer Archaeologist State Historic Preservation Office

cc: Keith Derting, SCIAA Jennifer Druce, SCDOC

Technical Comments

p. 6, para. 1- "Based on the architectural survey, there are no structures more than 40 years old within or adjacent to the project area." As stated on p. 2, one-above ground historic resource (FIP-1) was identified approximately 125 meters to the west of the current project area but was not revisited during the current study. Please correct the architectural survey results section to include this information as well as in Section 5.0.

ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY AT THE

CONNEXIAL CENTER LAURENS COUNTY, SC

APPENDIX E

RECONNAISSANCE-LEVEL GEOTECHNICAL EXPLORATION

26942.0007

THOMAS & HUTTON

Preliminary Geotechnical Engineering Report

Connexial Center Gray Court, Laurens County, South Carolina December 31, 2019 Terracon Project No. 86195130

Prepared for:

Thomas & Hutton Engineering Co. Columbia, South Carolina

> Prepared by: Terracon Consultants, Inc. Greenville, South Carolina



December 31, 2019



Thomas & Hutton Engineering Co. 1501 Main Street, Suite 760 Columbia, SC 29201

- Attn: Mr. Brad Sanderson, P.E. P: (803) 451 6782 E: <u>sanderson.b@thomasandhutton.com</u>
- Re: Preliminary Geotechnical Engineering Report Connexial Center Gray Court, Laurens County, South Carolina Terracon Project No. 86195130

Dear Mr. Sanderson:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. These services were performed in accordance with proposal number P86197255, dated November 8, 2019. This geotechnical engineering report presents the results of the subsurface exploration and provides preliminary geotechnical recommendations concerning earthwork and the preliminary design of foundations, floor slabs and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely, Terracon Consultants, Inc.

hage

Maggie McKenney, E.I.[†]. Staff Geotechnical Engineer

Nitin Dudani, P.E. Senior Geotechnical Engineer





Enclosures

cc: 1 – Client (PDF) 1 – File

> Terracon Consultants, Inc. 72 Pointe Circle, Greenville, South Carolina 29615 P [864] 292 2901 F [864] 292 6361 terracon.com

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Appendix A – Field Exploration

Exhibit A-1	Site Location Plan
Exhibit A-2	Boring Location Plan
Exhibit A-3	Field Exploration Description
Exhibits A-4 to A-8	SPT Boring Logs

Appendix B – Supporting Documents

Exhibit B-1	General Notes
Exhibit B-2	Unified Soil Classification Systems



EXECUTIVE SUMMARY

This report presents the results of our geotechnical engineering services performed for the proposed Connexial Center to be located off Old Dairy Road in Gray Court, South Carolina. Our geotechnical engineering scope of work included the advancement of five (5) soil test borings to depths of approximately 30 to 68 ½ feet below existing site grades, or auger refusal. This report specifically addresses the preliminary recommendations for the proposed development. Based on the information obtained from our subsurface exploration, the following geotechnical considerations were identified:

- n Borings for the proposed development encountered approximately 1 ½ to 3 inches of topsoil followed by 3 feet of undocumented fill in borings B-1, B-2 and B-3. The farming and cultivation activities may have disturbed the top 3 feet of the soil causing it to turn into fill for classification purposes . Residual soils consisting of loose to dense silty/ clayey sand, and soft to very stiff sandy/silty clay were encountered below undocumented fill until the boring termination depths. Partially weathered rock was encountered in B-1 from 42 to 45. Auger refusal was encountered at 45 feet in boring B-1 and 68 ½ feet in boring B-5, indicating possible bedrock.
- n The proposed building may be supported on a shallow foundation bearing on the native residual soils, or engineered fill extending to residual soils. Based on the results of our settlement analysis, we estimated that the maximum total settlements would be up to 1 inch and differential settlements less than ³/₄ inches under the maximum column load of 100 kips using an allowable bearing capacity of 2,500 pounds per square foot (psf). Ground improvements such as stone columns, Geopiers or vibro piers may be required if columns loads are more than 200 kips. We recommend additional field explorations and analysis once final site plan and loads are available.
- n Borings encountered high fines content and natural moisture in the upper materials and the site is susceptible to disturbance during construction or in wet conditions. The subgrade should be graded to provide positive drainage and it should be protected by keeping it dry and preventing heavy vehicles in the footprint of the proposed construction. Depending on the time of grading, moderate to substantial soil drying may be required prior to use of on-site material as structural fill.
- Groundwater was observed at a depth of 35 to 39 feet below existing site grades in borings B1 and B5 while drilling or for the short duration that the borings were allowed to remain open.
 We do not anticipate groundwater will affect construction activities based on our current understanding of the proposed development.
- n In accordance with 2015 International Building Code (IBC), seismic site classification for this site is D. We would recommend performing shear wave velocity measurements using ReMi, MASW or seismic CPT to lower the seismic site class or seismic parameters. This option has a potential to provide savings in structure cost.



- n The native soils typically appear suitable for use as general engineered fill; however, further testing should be performed during construction to assess specific conditions at that time.
- n This study is not intended for the actual design and construction of future development of the site. A more detailed geotechnical investigation with additional soil borings in the proposed building footprints and with the foundation analysis using actual loads will be required prior to the design and construction of the buildings.

Close monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We therefore recommend that Terracon be retained to monitor this portion of the work.

This summary should be used in conjunction with the entire report for design purposes. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein. The section titled **GENERAL COMMENTS** should be read for an understanding of the report limitations.

PRELIMINARY GEOTECHNICAL ENGINEERING REPORT CONNEXIAL CENTER GRAY COURT, SOUTH CAROLINA Terracon Project No. 86195130 December 31, 2019

1.0 INTRODUCTION

This report presents the results of our geotechnical engineering services performed for the proposed Connexial Center to be located off Old Dairy Road in Gray Court, South Carolina. Our geotechnical engineering scope of work included the advancement of five (5) soil test borings to depths of approximately 30 to 68 ½ feet below existing site grades, or auger refusal. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- n Subsurface soil conditions
- n Site preparation and earthwork
- n Seismic considerations
- n Groundwater conditions
- n Foundation design and construction
- n Floor slab design and construction

2.0 **PROJECT INFORMATION**

2.1 Project Description

ITEM	DESCRIPTION			
	Refer to the Site Location Plan and Boring Location Plan			
Site layout	(Exhibits A-1 and A-2 in Appendix A)			
Proposed Construction	The development plans were not available during the writing of this report. We have assumed the proposed development will include industrial facilities (warehouse/ manufacturing building), and associated parking areas, loading docks, driveways, and detention ponds.			
Finished floor elevation	Not available during the writing of this report.			
	Not provided, but assumed to be:			
Maximum loads	n Columns – 100 kips			
(assumed)	n Walls – 3 to 4 kips per linear foot (klf)			
	n Slabs – 150 pounds per square foot (psf)			
Grading in building and	Grading plan is not available at the time of this report. We presume that			
parking area	the site will require cut and fill on the order of 5 to 10 feet.			



ITEM	DESCRIPTION
	We assume both rigid (concrete) and flexible (asphalt) pavement sections should be considered. Please confirm this assumption. Anticipated traffic is as follows:
Traffic loading assumed	 n Autos/light trucks: 2,500 vehicles per day n Light delivery and trash collection vehicles: 25 vehicles per week n Heavy trucks: 50 vehicles per week The pavement design period is 20 years.

2.2 Site Location and Description

ITEM	DESCRIPTION
Location	The site is located off Old Dairy Road in Gray Court, Laurens County, South Carolina. The site is composed of two parcels totaling approximately 70 acres (Laurens County Tax Map # 156-00-00-018 and 188-00-00-002).
	Approximate Latitude: 34.65254° and Longitude: -82.13207°
Existing Improvements	The site contains two agricultural fields in the western portion of the site, with Old Dairy Road bisecting the site from north to south. The remaining portions are undeveloped wooded areas with multiple dirt trails.
Current Ground Cover	Trees, grass, and bushes.
Existing topography	Based on available Google Earth information, the site is slight sloping down towards the south.

3.0 SUBSURFACE CONDITIONS

3.1 Site Geology

The project site is located within the Piedmont Physiographic Province of South Carolina, an area underlain by ancient igneous and metamorphic rocks. The topography and relief of the Piedmont has developed from differential weathering of the igneous and metamorphic bedrock. The residual soils in this area are the product of in-place chemical weathering of rock. The typical residual soil profile consists of clayey soils near the surface where soil weathering is more advanced, underlain by sandy silts and silty sands that generally become harder with depth to the top of parent bedrock.

The boundary between soil and rock is not sharply defined due to variations in weathering and the presence of soft rock. The transition zone is locally termed as "partially weathered rock".



Partially weathered rock is defined for engineering purposes as residual material that can be drilled with soil boring methods but exhibits standard penetration test (SPT) N-values exceeding 100 blows per foot (bpf). The depth to partially weathered rock occurs at irregular depths due to variations in degree of weathering and variations in the material composition of the rock.

3.2 Typical Subsurface Profile

Based on the results of the SPT borings, subsurface conditions on the project site can be generalized as follows:

Description	Approximate Depth to Bottom of Stratum (feet)	Material Encountered	SPT N value
Surface	Approx. 1 ½ to 3 inches	Topsoil	-
Stratum 1	3	Fill	WOH to 15
Stratum 2	30 to 68 ½, termination of boring	Residual –loose to dense silty/clayey sand, soft to very stiff sandy/silty clay	4 to 50
Stratum 3	42 to 45 in B-1	Partially weathered rock – sampled as very dense silty sand ¹	100+
Stratum 4	Below 45 feet in B-1 and	Podrock based on ouger refugel	
Stratum 4	68 1/2 feet in B-5	Bedrock based on auger refusal	-

Specific conditions encountered at each boring location are indicated on the individual boring logs. Stratification boundaries on the boring logs represent the approximate location of changes in soil types; in-situ, the transition between materials may be gradual. Details for each of the borings can be found on the boring logs included in Appendix A of this report.

3.3 Groundwater

The boreholes were observed while drilling and after completion for the presence and level of groundwater. Groundwater was observed at a depth of 35 to 39 feet in borings B-1 and B-5 while drilling, and at 24 feet in B-1 for the short duration (2 hours or less) that the borings were allowed to remain open. Due to the low permeability of the soils encountered in the borings, a relatively long time may be necessary for a groundwater level to develop and stabilize in a borehole in these materials. Longer observations in piezometers or observation wells sealed from the influence of surface water are often required to define groundwater levels in materials of this type.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. In addition, perched water could develop in sand seams and layers overlying lower permeability clay soils following periods of heavy or prolonged precipitation. Therefore, groundwater levels during construction or at other



times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 **Preliminary Geotechnical Considerations**

The following evaluation and recommendations are based upon our understanding of the proposed development and the results from the field exploration. If the above-described project conditions are incorrect or changed after this report, or subsurface conditions encountered during construction are significantly different from those reported, Terracon should be notified, and these recommendations must be re-evaluated to make appropriate revisions. It is very important to note this is a preliminary report prepared for the purpose of site selection considerations and planning with no project specific information. It is anticipated that a detailed geotechnical evaluation will be performed for specific structures and load conditions during the actual design stage of the project.

Borings for the proposed development encountered approximately 1 ½ to 3 inches of topsoil followed by 3 feet of undocumented fill in borings B-1 through B-3. Residual soils consisting of loose to dense silty/ clayey sand, and soft to very stiff sandy/silty clay were encountered below fill until the boring termination depths. Partially weathered rock was encountered in B-1 from 42 to 45. Auger refusal was encountered at 45 feet in boring B-1 and 68 ½ feet in boring B-5, indicating possible bedrock.

Our findings indicate the proposed structure can be supported on a shallow, spread footing foundation system bearing on residual soils, or engineered fill extending to residual soils. Preliminary settlement analysis was performed by using the soil parameters obtained from the SPT borings and column loads of 100 kips. Based on the results of our settlement analysis, we estimated that the maximum total settlements would be up to 1 inch and differential settlements less than ³/₄ inches under the maximum column load of 100 kips using an allowable bearing capacity of 2,500 pounds per square foot (psf). Ground improvements such as stone columns, Geopiers or vibro piers may be required if columns loads are more than 200 kips.

The on-site soils are suitable for use as structural fill under buildings and pavements if properly placed and compacted. Specific site preparation, material types, and compaction requirements will be provided in the final geotechnical engineering report.



4.2 Earthwork

The following presents recommendations for site and subgrade preparation, excavation, and placement of engineered fills on the project. The recommendations presented for design and construction of earth supported elements including foundations and slabs are contingent upon following the recommendations outlined in this section.

Earthwork on the project should be observed and evaluated by Terracon. The evaluation of earthwork should include observation and testing during placement of engineered fill, subgrade preparation, foundation bearing soils, and other geotechnical conditions exposed during the construction of the project.

4.2.1 Site Preparation

We anticipate construction will start by removing/ stripping trees, grass, and bushes. This activity should be performed with minimal disturbance to the subgrade soils.

The near surface silty/ clayey sand encountered in the borings will be sensitive to disturbance from construction activity and water seepage. If precipitation occurs prior to or during construction, the near-surface silty/ clayey soils could increase in moisture content and become more susceptible to disturbance. Construction activity should be monitored and curtailed if the construction activity is causing subgrade disturbance.

Proofrolling should be performed with heavy rubber-tired construction equipment such as a fully loaded tandem-axle dump truck. A geotechnical engineer or his representative should observe proofrolling to help locate unstable subgrade materials. Proofrolling should be performed after a suitable period of dry weather to avoid degrading an otherwise acceptable subgrade and to reduce the amount of undercutting/ remedial work required. Unstable materials located should be stabilized as directed by the engineer based on conditions observed during construction. Undercut and replacement and densification in place are typical remediation methods.

4.3 **Preliminary Foundation Recommendations**

This study is not intended for the actual design and construction of future development of the site. A more detailed geotechnical investigation with additional soil borings in the proposed building footprints and with the foundation analysis using actual loads will be required prior to the design and construction of the buildings.

In our opinion, the proposed buildings can be supported by a shallow, spread footing foundation system bearing on residual soils, or engineered fill extending to residual soils. Preliminary recommendations for shallow foundations for the proposed structures are presented in the following paragraphs.



4.3.1 Design Recommendations

DESCRIPTION	Column	Wall
Net allowable bearing pressure ¹	2,500 psf	2,500 psf
Minimum dimensions	24 inches	18 inches
Minimum embedment below finished grade for frost protection ²	18 inches	18 inches
Approximate total settlement ³	around 1 inch	around 1 inch
Estimated differential settlement ³	around ¾ inch between columns	around ¾ inch over 40 feet
Ultimate coefficient of sliding friction	0.	35

1. The recommended net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Assumes any unsuitable fill or soft soils, if encountered, will be undercut and replaced with engineered fill.

- 2. And to reduce the effects of seasonal moisture variations in the subgrade soils. For perimeter footings and footings beneath unheated areas.
- 3. The foundation settlement will depend upon the variations within the subsurface soil profile, the structural loading conditions, the embedment depth of the footings, the thickness of compacted fill, and the quality of the earthwork operations.

The allowable foundation bearing pressures apply to dead loads plus design live load conditions. The design bearing pressure may be increased by one-third when considering total loads that include wind or seismic conditions. The weight of the foundation concrete below grade may be neglected in dead load computations. Interior footings should bear a minimum of 12 inches below finished grade. Finished grade is the lowest adjacent grade for perimeter footings and floor level for interior footings.

Foundations and masonry walls should be reinforced as necessary to reduce the potential for distress caused by differential foundation movement. The use of joints at openings or other discontinuities in masonry walls is recommended.

4.3.2 Construction Considerations

The base of all foundation excavations should be free of water and loose soil prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Should the soils at bearing level become excessively dry, disturbed or saturated, or frozen, the affected soil should be removed prior to placing concrete. We recommend using a lean concrete mud-mat over the bearing soils if the excavations must remain open for an extended period of time.

If unsuitable bearing soils are encountered in footing excavations, the excavations should be extended deeper to suitable soils and the footings could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. The footings could also bear on properly compacted backfill extending down to the suitable soils. Overexcavation for compacted **Responsive _ Resourceful _ Reliable**



backfill placement below footings should extend laterally beyond all edges of the footings at least 8 inches per foot of overexcavation depth below footing base elevation. The overexcavation should then be backfilled up to the footing base elevation with well-graded granular material placed in lifts of 9 inches or less in loose thickness and compacted to at least 95 percent of the material's maximum dry density (ASTM D 698). The overexcavation and backfill procedure is illustrated in the following figures for lean concrete or granular backfill.



NOTE: Excavations in sketches shown vertical for convenience. Excavations should be sloped as necessary for safety.

4.4 Seismic Considerations

Code Used	Site Classification
2015 International Building Code (IBC) ¹	D ²

- 1. In general accordance with the 2015 International Building Code, Table 1613.3.2.
- 2. The 2015 International Building Code (IBC) requires a site soil profile determination extending a depth of 100 feet for seismic site classification. The current scope requested does not include the required 100-foot soil profile determination. Borings for the building extended to a maximum depth of approximately 68 ½ feet and this seismic site class definition considers that medium dense to very dense silty sand continues below the maximum depth of the subsurface exploration. Deeper exploration could be performed to confirm the conditions below the current depth of exploration. Alternatively, a geophysical exploration could be utilized in order to attempt to justify a higher seismic site class.



4.5 Preliminary Pavement Design

4.5.1 Preliminary Estimates of Minimum Pavement Thickness

As a minimum, we recommend the following typical pavement section be considered. We recommend that analysis be performed again during the design phase of the project using actual traffic count and lab tested CBR values.

	Typical Pavement Section Thickness (inches)							
Traffic Area	Alternative	Asphalt Concrete Surface Course	Asphalt Concrete Binder Course	Portland Cement Concrete ¹	Graded Aggregate Base (GAB)	Total Thickness		
Light Duty	PCC			5	4	9		
(Car Parking)	AC	2			6	8		
Heavy Duty	PCC			7	4	11		
Heavy Daty	AC	1 ½	3		8	12 ½		
Trash Container Pad and Delivery Pad ²	PCC			6 ½	4	10 ½		

1. The trash container pad should be large enough to support the container and the tipping axle of the collection truck.

- 2. Pavement section thickness values in the table are minimum and not the average.
- 3. Truck loading greater than specified will have a negative effect on the pavement performance and could greatly decrease the design life and increase the need for maintenance. Therefore, strict quality control will be needed to ensure no pavement is less designed. Pavements less than the designed thickness should be removed and reconstructed versus using a decreased pay factor.
- 4. The aggregate base will serve to provide improved drainage beneath the concrete, reduce pumping of fines and reduce frost heave during winter months. Base course materials should conform to the South Carolina Department of Transportation (SCDOT) "Standard Specifications for Highway Construction". The graded aggregate base should be compacted to a minimum of 98 percent of the material's modified Proctor (ASTM D-1557), Method C) maximum dry density.

The aggregate base course (ABC) should be compacted to a minimum of 98 percent of the material's modified Proctor (ASTM D-1557, Method C) maximum dry density. Where base course thickness exceeds 6 inches, the material should be placed and compacted in two or more lifts of equal thickness.



Asphalt concrete aggregates and base course materials should conform to the applicable South Carolina Department of Transportation (SCDOT) "Standard Specifications for Roads and Structures", Sections for Aggregate Base Course material, Hot Mix Asphalt Base Course, and Surface Course.

We recommend a portland cement concrete (PCC) pavement be utilized in entrance and exit sections, dumpster pads, or other areas where extensive wheel maneuvering are expected. Adequate reinforcement and number of longitudinal and transverse control joints should be placed in the rigid pavement in accordance with ACI requirements. The joints should be sealed as soon as possible (in accordance with sealant manufacturer's instructions) to minimize infiltration of water into the soil.

5.0 GENERAL COMMENTS

Terracon should be retained to review the final design plans and specifications, so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the borings performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between borings, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A FIELD EXPLORATION





Preliminary Geotechnical Engineering Report Connexial Center - Gray Court, SC December 31, 2019 - Terracon Project No. 86195130



Field Exploration Description

The subsurface exploration consisted of drilling and sampling five (5) SPT borings (B-1 through B-5) at the site to depths of approximately 30 to 68 $\frac{1}{2}$ feet below existing site grades, or auger refusal. All borings were located in the field by a Terracon engineer based on the proposed site location provided by Thomas & Hutton. The boring coordinates were collected with a handheld GPS unit. The handheld GPS unit has an accuracy of +/- 30 feet on clear days. The boring depths were measured from the existing ground surface at the time of our field activities. The locations of the borings should be considered accurate only to the degree implied by the means and methods used to define them.

The borings were drilled using a track-mounted rotary drill rig using continuous flight hollow-stem augers to advance the boreholes. Samples of the soil encountered in the borings were obtained using the split-barrel sampling procedures as defined by ASTM 1586. In the split-barrel sampling procedure, the number of blows required to advance a standard 2-inch O.D. split-barrel sampler the last 12 inches of the typical total 18-inch penetration by means of a 140-pound conventional safety hammer with a free fall of 30 inches, is the standard penetration resistance value (SPT-N). This value is used to estimate the in-situ relative density of cohesionless soils and consistency of cohesive soils.

An automatic SPT hammer was used to advance the split-barrel sampler in the borings performed on this site. A greater efficiency is typically achieved with the automatic hammer compared to the conventional safety hammer operated with a cathead and rope. Published correlations between the SPT values and soil properties are based on the lower efficiency cathead and rope method. This higher efficiency affects the standard penetration resistance blow count (N) value by increasing the penetration per hammer blow over what would be obtained using the cathead and rope method. The effect of the automatic hammer's efficiency has been considered in the interpretation and analysis of the subsurface information for this report.

The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further visual examination and classification. Information provided on the boring logs attached to this report includes soil descriptions, consistency evaluations, boring depths, sampling intervals, and groundwater conditions. The borings were backfilled with auger cuttings prior to the drill crew leaving the site.

A field log of each boring was prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples. Final boring logs included with this report represent the engineer's interpretation of the field logs and include modifications based on laboratory observation and tests of the sample.

			BORING L	og no. B-1					Page 1 of	1
PF	20,	JECT: Connexial Center		CLIENT: Thoma Colum	as & Hu nbia, SC	tton	Eng	ineering Co	-	
Sľ	TE:	Old Dairy Road Gray Court, SC		-	,					
GRAPHIC LOG	La	DCATION See Exhibit A-2 litude: 34.6539° Longitude: -82.1305°			DEPTH (Ft.)	WATER LEVEL	OBSERVATIONS SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)
	0.1	PTH TOPSOIL, 1.5 inches FILL - SILTY SAND (SM), fine to medium grain	ed, red		/	_		6-7-8	SS-1	29
	<u>≺3.0</u>	RESIDUAL - SILTY SAND (SM), fine to medium	n grained, red and or	ange, medium dense		_		N=15 3-6-7		20
2/30/19		with mica, fine to medium grained, red and white	e, medium dense		5	_		N=13 5-7-8		30 24
E.GDI 1		fine to medium grained, yellow and brown, loose)			_		N=15		
IEMPLAI					1() 		N=6		
(ACON_DATA		fine to medium grained, yellow and white, loose			1	5-	\times	2-4-4 N=8	SS-5	-
ER .GPJ 1ERK		with mica, fine to medium grained, yellow and w	hite, loose		20	- - -	\times	1-2-4 N=6	SS-6	_
		fine to coarse grained, yellow and white, loose			25	- 5 -		1-2-2 N=4	SS-7	-
WELL 86195130		with mica, fine to medium grained, gray and whi	te, loose		30	- - - -	\times	1-2-3 N=5	SS-8	-
SMARI LOG-NO					3	5-5	z×	2-2-5 N=7	SS-9	_
KEPUKI. GEU	42.	fine to medium grained, gray and white, medium	n dense		40	- - -	\times	10-9-15 N=24		-
	45.	PARTIALLY WEATHERED ROCK SAMPLED A gray and white, very dense, 40-45 feet rocky; rel	AS SILTY SAND (SI fusal at 45 feet	<u>机</u> , fine to coarse graine		_	Х	50/2.5"	SS-11	
	45.	Auger Refusal at 45 Feet			4	5		N=50/2.5"		
	s	tratification lines are approximate. In-situ, the transition may be	gradual.		Hammer T	ype: A	utomatic	;		1
Advar 1 2 1		ent Method: ollow Stem Auger	See Exhibit A-3 for descr	iption of field procedures	Notes:					
> Abano		ent Method: backfilled with auger cuttings upon completion.	See Appendix B for expla abbreviations.	nation of symbols and						
		WATER LEVEL OBSERVATIONS			Boring Starte	d: 12-2	3-2019	Boring Corr	pleted: 12-23-2	019
		Vhile drilling t completion of drilling			Drill Rig: Geo	probe	7822 DT	Driller: B. B	umette	
SH				inte Cir ville, SC	Project No.: 8	861951	30	Exhibit:	A-4	

			E	BORING L	OG NO. I	B-2					Page 1 of	1
PF	20,	JECT: Connexial Center			CLIENT: Th	nomas & olumbia,	Hutte SC	on E	ngin	eering Co		
Sľ	TE	: Old Dairy Road Gray Court, SC				,						
GRAPHIC LOG	La	DCATION See Exhibit A-2 titude: 34.6504° Longitude: -82.1295° EPTH					DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)
	0.2	∠∆ <u>TOPSOIL</u> , 2.5 inches <u>FILL - SILTY SAND (SM)</u> , fine to	medium graine	ed		/	_		\times	2-4-5 N=9	SS-1	34
	3.0	RESIDUAL - SILTY SAND (SM),	fine to medium	grained, red, mediu	m dense		_	-		5-6-9		30
		fine to medium grained, red, med	ium dense				5			N=15		
		fine to medium grained, brown ar	id orange, loose				 10			N=10 3-4-4 N=8	SS-4	
							-					
		fine to medium grained, brown ar	d white, mediur	n dense			15 <u>-</u>	-	X	4-5-6 N=11	SS-5	-
		fine to medium grained, brown ar	d white, loose				 20	-	X	2-4-4 N=8	SS-6	_
		fine to coarse grained, brown and	white, medium	dense			 25 _	-	X	4-6-8 N=14	SS-7	_
	30.	0					- - 30-		\times	2-7-11 N=18	SS-8	_
Advar 2 1 Aban Bo		Boring Terminated at 30 Feet	e transition may be	gradual.			mer Type	: Autor	natic			
Advar 21	/4" H	ent Method: Iollow Stem Auger nent Method:		See Exhibit A-3 for descri See Appendix B for expla			:					
Bo		backfilled with auger cuttings upon completio	n. [;]	abbreviations.								
	Λ	WATER LEVEL OBSERVATIONS			acor	Boring	Started: 1	12-23-20	019	Boring Corr	npleted: 12-23-2	2019
					CLU	Drill Rig	: Geopro	be 7822	2 DT	Driller: B. B	Burnette	
					ille, SC	Project	No.: 861	95130		Exhibit:	A-5	

		BORING L	og no. B∹	3		Р	age 1 of	1
PRC	JECT: Connexial Center		CLIENT: Thom Colu	nas & Hutte mbia, SC	on Engi		0	
SITI	E: Old Dairy Road Gray Court, SC							
ERAPHIC LO	OCATION See Exhibit A-2 atitude: 34.6519° Longitude: -82.1317° DEPTH			DEPTH (Ft.)	WATER LEVEL OBSERVATIONS SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)
	3.∆ <u>TOPSOIL</u> , 3 inches <u>FILL - SILTY SAND (SM)</u> , fine to medium grain 0	ned, brown and orang	e	/		WOH- WOH- WOH	SS-1	35
×××××	RESIDUAL - SILTY SAND (SM), fine to mediu	m grained, red, mediu	ım dense	5-		6-13-13 N=26	SS-2	17
	fine to medium grained, red, medium dense			-		6-7-6 N=13	SS-3	
	fine to medium grained, yellow and brown, loos	е		10-		2-4-4 N=8	SS-4	
	· · · · · · · · · · · · · · · · · · ·			-		3-5-7		
	fine to medium grained, yellow and white, medi	um dense		15-		3-5-7 N=12	SS-5	
	fine to medium grained, yellow and white, loose	•		20-	\mid	3-4-4 N=8	SS-6	-
	fine to coarse grained, red and black, medium o	dense		25-		3-7-7 N=14	SS-7	-
	0.0					6-7-14 N=21	SS-8	
	Boring Terminated at 30 Feet Stratification lines are approximate. In-situ, the transition may b	-		Hammer Type	: Automatic			
	ment Method: Hollow Stem Auger	See Exhibit A-3 for descr	iption of field procedures	Notes:				
	ment Method: backfilled with auger cuttings upon completion.	See Appendix B for expla abbreviations.	anation of symbols and					
	WATER LEVEL OBSERVATIONS			Boring Started: 1	2-23-2019	Boring Comple	eted: 12-23-2	019
	No free water observed	IIerr	acon	Drill Rig: Geopro	be 7822 DT	Driller: B. Burr	nette	
			vinte Cir ville, SC	Project No.: 8619	95130	Exhibit: A	6	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 86195130 CONNEXIAL CENTER. GPJ TERRACON_DATATEMPLATE.GDT 12/30/19

			BORING L	og no. B-4				F	Page 1 of	1
PF	20	JECT: Connexial Center		CLIENT: Thomas Columbia	& Hutte a, SC	on E	nginee		<u> </u>	
Sľ	TE	: Old Dairy Road Gray Court, SC							1	1
GRAPHIC LOG	La	OCATION See Exhibit A-2 atitude: 34.6539° Longitude: -82.1346° EPTH			DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)
		2.∆ <u>TOPSOIL</u> , 2 inches			/ _			3-4-5		
	3.0						×	N=9	SS-1	40
		CLAYEY SAND (SC), with roots, fine grained, r	ed with orange, loose	•	5 -		\triangleleft	2-4-5 N=9	SS-2	36
12/30/1		fine grained, red orange, loose					\times	3-4-5	SS-3	1
en la	. 8.0	<u>SILTY SAND (SM)</u> , fine to medium grained, red	orange with white, Ic	oose				N=9 2-3-4	SS-4	
EMPLATE					10-			N=7		
ACON_DATAT		some mica, fine grained, red orange with black,	loose		15-			2-4-5 N=9	SS-5	_
IIER GPJ IEKK		fine to medium grained, red orange and brown,	medium dense		20-		×	7-14-8 N=22	SS-6	_
CONNEXIAL CEN		some mica, fine grained, red orange and brown,	loose		25-		×	2-4-4 N=8		-
5195130		, with mica, fine grained, red orange and gray bro	wn medium dense		-			3-4-7		-
ELL 86	•. 30	Boring Terminated at 30 Feet	wn, medium dense		- 30-		\rightarrow	N=11	SS-8	
		Stratification lines are approximate. In-situ, the transition may be	gradual.	Ha	mmer Type	: Auton	natic			
	ocon	nent Method:	.	Not						
	donr	Hollow Stem Auger nent Method: backfilled with auger cuttings upon completion.	See Exhibit A-3 for descri See Appendix B for expla abbreviations.		co .					
		WATER LEVEL OBSERVATIONS		Borin	g Started: 1	2-19-20	19	Boring Comp	leted: 12-19-2	019
BOKIN	I	No free water observed	lierr	DCOD -	Rig: Geopro			Driller: B. Bu		
SH				inte Cir /ille, SC Proje	ct No.: 861	95130		Exhibit:	A-7	

				BORING L	og no. B-	5					Page 1 of	2
PF	SOJ	JECT:	Connexial Center		CLIENT: Thom Colu	nas & H mbia, S	utte C	on E	ngir	neering Co		
SI	TE:		Old Dairy Road Gray Court, SC									
GRAPHIC LOG	Lati		↓ See Exhibit A-2 6506° Longitude: -82.1335°				UEPIH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)
		_\ <u>TOPS</u>	<u>OIL</u> , 2.5 inches DUAL-SANDY CLAY (CL), with roots, re	d with orange, stiff			_			3-4-7	SS-1	37
		red or	ange, very stiff				_			N=11 6-9-11		38
2/30/19						4	5 —			N=20 5-8-12	SS-3	42
E.GDT 12	8.0		<u>/ SAND (SM)</u> , fine grained, red orange a	nd brown, loose			_			N=20 3-3-5		
MPLATE						1	0			N=8		
CON_DATATE						1	 5		X	3-3-5 N=8	SS-5	_
er .gpj terra		some	mica, fine to medium grained, red orang	e with white, loose		2			X	2-3-4 N=7	SS-6	-
THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 86195130 CONNEXIAL CENTER. GPJ TERRACON_DATATEMPLATE.GDT 12/30/19 T B B C B C B C C C C C C C C C C C C C		fine to	o medium grained, red orange and white,	loose		2	 25		X	2-3-4 N=7	SS-7	-
D WELL 8619513						Э			X	3-3-3 N=6	SS-8	_
SMART LOG-N	37.0		o medium grained, red orange and dark b	rown, loose		3	- 		X	2-2-3 N=5	SS-9	-
REPORT. GEO S	. 42.0	<u>SAND</u>	DY SILT (ML) , red orange with black, soft	t		4		\bigtriangledown	X	WOH-1-1 N=2	SS-10	-
ROM ORIGINAL			<u> / SAND (SM)</u> , fine to coarse grained, red	l orange with light gray	v, dense	4	- 		X	16-21-16 N=37		-
RATED F	St	tratification	n lines are approximate. In-situ, the transition may b	be gradual.		Hammer	Туре	Autor	matic			
Advan		ent Metho		See Exhibit A-3 for descr	iption of field procedures	Notes:						
Abance Bor	donme	ollow Sten ent Metho ackfilled v	-	See Appendix B for expla abbreviations.	anation of symbols and							
	IV.	WATE /hile dril	R LEVEL OBSERVATIONS			Boring Star	ied: 1	2-19-2	019	Boring Com	pleted: 12-19-2	019
			in A	72 Pc		Drill Rig: Ge	-		2 DT	Driller: B. Bu		
푸					ville, SC	Project No.:	8619	95130		Exhibit:	A-8	

				BORING L	OG NO. B-5					Page 2 of 2	2
ľ	PR	OJECT:	Connexial Center		CLIENT: Thoma	as & Hutte bia, SC	on E	Ingine	ering Co		
	SIT		Did Dairy Road Gray Court, SC			514, 00					
	GRAPHIC LOG		See Exhibit A-2 D6° Longitude: -82.1335°			DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SAMPLE	WATER CONTENT (%)
			SAND (SM), fine to coarse grained, ren nedium grained, red orange and white		r, dense <i>(continued)</i>	50-	-		4-10-11 N=21		-
E.GDT 12/30/19		fine to r feet.	nedium grained, red orange with black	, medium dense, Rock	y drilling from 57 feet to	60 – 55–	-		4-5-7 N=12		-
DATATEMPLAT		fine to c	coarse grained, red orange and white,	dense		60-	-		12-14-36 N=50	SS-14	-
GPJ TERRACON			ca, fine to medium grained, red orange 88.5 feet.	e and gray brown, dense	e, Rocky drilling from 65	5 – 65–	-		6-13-18 N=31	SS-15	-
THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 86195130 CONNEXIAL CENTER. GPJ TERRACON_DATATEMPLATE.GDT 12/30/19			nes are approximate. In-situ, the transition may	be gradual.		Hammer Type	: Auto	matic	50/0" N=50/0"	SS-16	
F SEPAR		cement Method:		See Exhibit A-3 for descr	iption of field procedures	Notes:					
IG IS NOT VALID IF	Aband	4" Hollow Stem / lonment Method: ing backfilled wit	Auger	See Appendix B for expla							
NG LC	∇				B	oring Started: 1	12-19-2	019	Boring Com	npleted: 12-19-20	019
S BOR		While drillir	' '			orill Rig: Geopro	be 782	2 DT	Driller: B. B	Jurnette	
THIS					ville, SC P	Project No.: 861	95130		Exhibit:	A-8	

APPENDIX B SUPPORTING DOCUMENTS

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS



DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

	(More thar Density determin	RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			(50% or more passing the No. 200 sieve.)						
RMS	Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength, Qu, tsf	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.				
T T	Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3				
RENGTH	Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4				
REN	Medium Dense	10 - 29	19 - 58	Medium-Stiff	0.50 to 1.00	4 - 8	5 - 9				
STI	Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18				
	Very Dense	> 50	<u>></u> 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42				
				Hard	> 4.00	> 30	> 42				

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents

Trace

With

Modifier

Percent of Dry Weight < 15 15 - 29 > 30

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents Trace With Modifier Percent of Dry Weight < 5 5 - 12 > 12 **GRAIN SIZE TERMINOLOGY**

Major Component of Sample Boulders Cobbles Gravel Sand

Silt or Clay

Over 12 in. (300 mm) 12 in. to 3 in. (300mm to 75mm) 3 in. to #4 sieve (75mm to 4.75 mm) #4 to #200 sieve (4.75mm to 0.075mm Passing #200 sieve (0.075mm)

Particle Size

PLASTICITY DESCRIPTION

<u>Term</u> Non-plastic Low Medium High

Plasticity Index



Exhibit B-1

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assign	ning Group Symbols	s and Group Names	s Using Laboratory	Tests ^A	Group	Soil Classification Group Name ^B
	Gravels:	Clean Gravels:	$Cu \ge 4$ and $1 \le Cc \le 3^{E}$		Symbol GW	Well-graded gravel F
	More than 50% of	Less than 5% fines ^C	$Cu \ge 4$ and $T \le CC \le 3$ Cu < 4 and/or 1 > Cc > 3	E	GN	Poorly graded gravel
	coarse	Gravels with Fines:	Fines classify as ML or N		GP	Silty gravel ^{F,G, H}
Coarse Grained Soils:	fraction retained on	More than 12% fines ^C	Fines classify as ML of M	GM	Clayey gravel ^{F,G,H}	
lore than 50% retained	No. 4 sieve	Clean Sands:	$C_{u} \ge 6 \text{ and } 1 \le C_{c} \le 3^{E}$		SW	Well-graded sand
n No. 200 sieve	Sands:	Less than 5% fines ^D	$Cu \ge 6$ and/or $1 > Cc > 3$	E	SP	Poorly graded sand
	50% or more of coarse fraction passes				SM	Silty sand ^{G,H,I}
	No. 4 sieve	Sands with Fines: More than 12% fines ^D	Fines Classify as CL or C	Fines classify as ML or MH		Clayey sand ^{G,H,I}
			PI > 7 and plots on or ab		SC CL	Lean clay ^{K,L,M}
	Silts and Clays:	Inorganic:	PI < 4 or plots below "A"		ML	Silt ^{K,L,M}
	Liquid limit less than 50		Liquid limit - oven dried			Organic clay ^{K,L,M,N}
Fine-Grained Soils:	Fine-Grained Soils: Organic		Liquid limit - not dried	< 0.75	OL	Organic silt ^{K,L,M,O}
50% or more passes the			PI plots on or above "A" I	ino	СН	Fat clay ^{K,L,M}
No. 200 sieve	Silts and Claves	Inorganic:	PI plots below "A" line		MH	Elastic Silt ^{K,L,M}
	Silts and Clays: Liguid limit 50 or more		· ·		1711	Organic clay ^{K,L,M,P}
		Organic:	Liquid limit - oven dried Liquid limit - not dried	< 0.75	ОН	Organic ciay ^{K,L,M,Q}
Highly organic soils:	Drive e rik	 y organic matter, dark in o			PT	Peat
sand with silt, SP-SC pc $Cu = D_{60}/D_{10} Cc = \frac{0}{D_{4}}$ If soil contains $\ge 15\%$ sa	rell-graded sand with clay, porly graded sand with clay $\frac{(D_{30})^2}{x D_{60}}$ and, add "with sand" to gro L, use dual symbol GC-GM	up name.	 ^M If soil contains ≥ 30% "gravelly" to group na ^N Pl ≥ 4 and plots on o ^O Pl < 4 or plots below ^P Pl plots on or above ^Q Pl plots below "A" line 	ame. r above "A" lin "A" line. "A" line.		nantly gravel, add
	60 For classific: soils and find 50 of coarse-grz Equation of "A" Horizontal at PI=0.73 Equation of "U" Vertical at LL=' 10 7 4 10 7 4	- line I=4 to LL=25.5. (LL-20) - line 16 to PI=7, LL-8) - C +	NUT UNP OH OH OH MH or OH	8		
	0 10 16 2	20 30 40 50	0 60 70 80	90 100	110	

ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY AT THE

CONNEXIAL CENTER LAURENS COUNTY, SC

APPENDIX F

ALTA SURVEYS AND SUBDIVISION PLAT

26942.0007

THOMAS & HUTTON

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY COMMITMENT FILE NUMBER 18.014RE COMMITMENT DATE: JUNE 14, 2019 AT 9:00 A.M. SCHEDULE B-SECTION II EXCEPTIONS

ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I--REQUIREMENTS ARE MET.(NOT A SURVEY MATTER) 2. TAXES FOR THE YEAR 2019 NOT YET DUE AND PAYABLE AND ALL SUBSEQUENT YEARS.

(NOT A SURVEY MATTER)

3. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION. (THIS EXCEPTION WILL BE DELETED IN THE LENDER'S/OWNER'S POLICY UPON RECEIPT OF A SATISFACTORY ORT FORM IOI-SC "OWNER'S AFFIDAVIT"). (NOT A SURVEY MATTER)

4. MECHANIC'S AND MATERIALMEN'S LIEN AND LIEN CLAIMS, IF ANY, WHERE NO NOTICE THEREOF APPEARS ON RECORD. (THIS EXCEPTION WILL BE DELETED IN THE LENDER'S/OWNER'S POLICY UPON RECEIPT OF A SATISFACTORY ORT FORM IOI-SC "OWNER'S AFFIDAVIT").(NOT A SURVEY MATTER)

5. FACTS WHICH WOULD BE DISCLOSED BY A COMPREHENSIVE SURVEY OF THE PREMISES HEREIN DESCRIBED. (THIS EXCEPTION WILL BE DELETED IN THE LENDER'S POLICY FOR A RESIDENTIAL TRANSACTION. UPON RECEIPT OF A SATISFACTORY AFFIDAVIT ORTIO7-SC SURVEY AFFIDAVIT THIS EXCEPTION WILL BE DELETED IN THE OWNER'S POLICY FOR A RESIDENTIAL TRANSACTION.)(NOT A SURVEY MATTER)

6. INTEREST OR CLAIMS NOT DISCLOSED BY THE RECORD TITLE, INCLUDING, BUT NOT LIMITED TO: (A) MECHANIC'S, MATERIALISM'S, LABORERS, AND OTHER LIENS NOT OF RECORD AS OF DALE HEREOF, EVEN THOUGH SUCH LIENS IF SUBSEQUENTLY FILED MAY RELATE BACK AND CONSTITUTE A LIEN PRIOR TO THE DATE HEREOF, (B) UNRECORDED LEASES OR AGREEMENTS WHICH AFFECT THE SUBJECT PROPERTY; (C) EVIDENCE OF MISSING HEIRS, FORGERIES, LACK OF CAPACITY, AND MATTERS NOT OF RECORD IN THE CLERK OF COURT OR PROBATE COURT FOR LAURENS COUNTY, WHICH MAY DEFEAT OR IMPAIR TITLE; (D) MARITAL RELATIONSHIPS OTHER THAN APPEARING OF RECORD (E) SPECIAL ASSESSMENTS AND OTHER GOVERNMENTAL CHANGES THAT ARE NOT SHOWN AS EXISTING LIENS.(NOT A SURVEY MATTER)

7. GENERAL UTILITY EASEMENTS AND RIGHTS-OF-WAY. (ALL OBSERVED OR DISCLOSED ARE AS SHOWN HEREON)

8. EXCEPTION IS TAKEN TO ANY ENVIRONMENTAL MATTERS PERTAINING TO SAID PROPERTY, SPECIFICALLY IN THE MATTER THAT MIGHT BE REVEALED AS A RESULT OF A FULL ENVIRONMENTAL ASSESSMENT, INCLUDING SOIL TESTING, AT THE SUBJECT PROPERTY. (NOT A SURVEY MATTER) 9. SECURITY INTERESTS WHICH MAY HAVE ATTACHED TO FIXTURES ON THE SUBJECT PROPERTY.

(NO FIXTURES WERE NOTED TO HAVE HAD DEATH RAYS, GATLING GUNS, PHALANX DEFENSE SYSTEMS, WILD OR DANGEROUS ANIMALS, OR COUSIN OTIS ATTACHED TO THEM AT THE TIME OF THIS SURVEY)

IO. FEDERAL JUDGMENTS, LIENS, OR PROCEEDINGS FILED ONLY IN THE FEDERAL COURT OR ONLY AT THE DISTRICT OFFICE OF THE INTERNAL REVENUE. (NOT A SURVEY MATTER)

II. MATTERS OCCURRING OR PRIOR TO OR SUBSEQUENT TO THE INCLUSIVE DATES OF EXAMINATION. (NOT A SURVEY MATTER)

12. COMPLIANCE WITH ANY LOCAL, COUNTY, STATE, OR FEDERAL GOVERNMENT LAW OR REGULATION RELATIVE TO ZONING, SUBDIVISION, OCCUPANCY, USE, CONSTRUCTION OR DEVELOPMENT OF THE SUBJECT PROPERTY.(NOT A SURVEY MATTER)

13. THIS COMMITMENT EXPRESSES NO WARRANTY OF TITLE TO ANY MOBILE HOME OR OTHER PERSONAL PROPERTY OF ANY KIND OR NATURE. (NOT A SURVEY MATTER)

14. THIS COMMITMENT DOES NOT COVER MATTERS OF SURVEY, FLOOD ZONE, OR ROLLBACK TAXES. (NOT A SURVEY MATTER)

15. LAND OPTION AGREEMENT BY AND BETWEEN MARTINA BAILEY, BRIGHTON CAESAR, AND CAMERON MCDANIEL (OPTIONORS) AND 1939 LAND MANAGEMENT, LLC (OPTIONEE) DATED JUNE 30, 2018 AND RECORDED IN THE OFFICE OF THE CLERK OF COURT/ROD FOR LAURENS COUNTY ON JULY 12, 2018 IN BOOK D 1393 AT PAGE 144-153.(NO DOCUMENT)

I6. MATTERS REFLECTED IN THAT DEED OF DISTRIBUTION, LAURENS COUNTY PROBATE ESTATE NO. 2006ES 3000371, IN THE MATTER OF MADELINE C. DOWEY, DATED DECEMBER 27, 2018 AND RECORDED IN THE OFFICE OF THE PROBATE COURT ON JANUARY 28, 2019 IN BOOK 1426 AT PAGE 183. (APPLIES, NO PLOTTABLE REFERENCES THEREIN)

17. CIVIL ACTION NO. 2018-CP-30-00660, PLAINTIFF CAMERON MCDANIEL, MARKINA BAILEY, AND BRIGHTON CAESAR (PLAINTIFFS) AND CHANEL MCDANIEL (DEFENDANTS). PARTITION ACTION. PLEASE NOTE THE PARTITION ACTION DOES NOT APPEAR TO COMPORT WITH THE LAND OPTION AGREEMENT. (APPLIES, NO PLOTTABLE REFERENCES THEREIN, EXHIBITS NOT ATTACHED.)

I8. ORDER OF JUDGMENT, CIVIL ACTION NO. 2013-CP-30-00808, RICHARD F. WATSON, III AND BERNARD PEYTON WATSON AS TRUSTEE OF THE RICHARD F. WATSON, JR. FAMILY TRUST (PLAINTIFFS) VS. MARKINA BAILEY, CAMERON MCDANIEL, BRIGHTON CAESAR, CHANEL MCDANIEL, JUDY C. BROOKS, AND DEBORAH ALPHIN AS PERSONAL REPRESENTATIVE OF THE ESTATE OF LIBBY C. ALEXANDER (DEFENDANTS). (ESTABLISHING THAT OLD DAIRY ROAD IS A PUBLIC ROADWAY, AND THAT THE DIRT ROAD FROM OLD DAIRY ROAD ON THE MCDANIEL PROPERTY TO THE PROPERTY LINE OF PLAINTIFFS' PROPERTY AS SHOWN ON THE GIS TAX MAP FOR LAURENS COUNTY IS A PRESCRIPTIVE EASEMENT FOR INGRESS AND EGRESS TO PLAINTIFFS PROPERTY, APPURTENANT THERETO AND RUNNING WITH THE LAND (IT BEING ACKNOWLEDGED THAT NEITHER JUDY BROOKS NOR THE ESTATE OF LIBBY ALEXANDER HAVE ANY OWNERSHIP INTEREST OR CONTROL OVER THIS DIRT ROAD.) (APPLIES, PLOTTABLE APPLICABLE REFERENCES THEREIN AS SHOWN HEREON)

19. ORDER OF DEFAULT JUDGMENT, CIVIL ACTION NO. 2010-CP-30-1039, FIRST CITIZENS BANK AND TRUST COMPANY, INC. VS. CHANEL E. MCDANIEL. JUDGMENT IN FAVOR OF PLAINTIFF IN THE AMOUNT OF \$7,463.63, PLUS INTEREST, COSTS, AND ATTORNEY'S FEES IN THE AMOUNT OF \$952.50.(NOT A SURVEY MATTER)

RECORD DESCRIPTION OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY COMMITMENT FILE NUMBER 18.014RE COMMITMENT DATE: JUNE 14, 2019 AT 9:00 A.M.

EXHIBIT "A"

ALL THAT CERTAIN PIECE, PARCEL OR TRACT OF LAND, SITUATED, LYING AND BEING IN THE COUNTY OF LAURENS, STATE OF SOUTH CAROLINA, IN DIALS TOWNSHIP, ABOUT TWO MILES FROM OWINGS STATION, CONSISTING OF SIXTY (60) ACRES, MORE OR LESS, RECORDED IN DEED BOOK 179 AT PAGE 144, THIS BEING THE SAME PROPERTY CONVEYED TO MADELINE ELAINE BLACK DOWNEY IN THE WILL OF HER MOTHER, KEZIAH BERTHA MCKINNEY JOHNSON, PROBATE FILE 87-ES-109, WHO DIED MARCH 18, 1987, AND WILLIAM WARNER JACKSON LIFE ESTATE, WHO DIED FEBRUARY 10, 2001.

NOTES

- ACCORDING TO F.I.R.M. MAP NO. 45059C, PANEL 0075C, DATED 08/16/12, THE PROPERTY SHOWN ON THIS PLAT IS LOCATED IN FLOOD HAZARD ZONE X.
- . COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.
- 3. TABLE A, ITEM #2 SUBJECT PROPERTY ADDRESS NONE ASSIGNED. 4. TABLE A, ITEM # 6(a) - ZONING REPORT OR LETTER NOT PROVIDED.
- 5. TABLE A, ITEM #9 TOTAL PARKING SPACES NONE OBSERVED, PROPERTY WAS
- UNDEVELOPED AT THE TIME OF THIS SURVEY. 6. TABLE A, ITEM #16 - WITHIN THE SUBJECT PROPERTY, NO EVIDENCE OF EARTH MOVING,
- BUILDING CONSTRUCTION OR ADDITIONS WAS OBSERVED. 7. TABLE A, ITEM #17 - WITHIN THE SUBJECT PROPERTY, NO EVIDENCE OF STREET
- ALTERATION, SIDEWALK ALTERATIONS OR PROPOSED R/W CHANGES WAS OBSERVED. 8. TABLE A, ITEM #18 - WITHIN THE SUBJECT PROPERTY, NO DELINEATION MARKERS FOR WETLANDS WERE NOTED.





T-POST

TMS# 188-00-00-001 DOUGLAS WAYNE STEWART, ETAL DB 373 PG 326 (II/27/96) PB 23 PG 110

/4" OTP



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ALTA/NSPS CERTIFICATION

MARTINA BAILEY, BRIGHTON CAESAR, CHANEL MCDANIEL, AND MARKINA BAILEY AS CUSTODIAN FOR CAMERON MCDANIEL 1939 LAND MANAGEMENT, LLC.

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY. LAURENS COUNTY DEVELOPMENT CORPORATION.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH TH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOI ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AN ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS I-5, 6(a), , 13 AND 16-20 OF TABLE A THEREOF. THE FIELD WORK WAS OMPLETED ON 06/20/19.



SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARDS OF PRACTICE MANUAL FOR SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN.

F. ELLIOTTE QUINN III SOUTH CAROLINA PROFESSIONAL LAND SURVEYOR LICENSE NO. 10292

ALTA/NSPS LAND TITLE SURVEY OF TMS# 156-00-00-002 CONTAINING 60.53 Ac. OWNED BY CHANEL McDANIEL, ETAL

> NEAR FOUNTAIN INN LAURENS COUNTY, SC

prepared for LAURENS COUNTY DEVELOPMENT CORPORATION

No.	Revision	Bу	Date



501 River Street Greenville, SC 29601 • 864.412.2222 www.thomasandhutton.com 1 INCH = 200 FEET

drawn reviewed plat field crew 06/25/2019 JEW FEQ 06/20/2019 JEW

job 26942.0006

SHEET 1 OF

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
COMMITMENT FILE # 18.015RE COMMITMENT DATE: JUNE 14, 2019 AT 9:00 A.M.
SCHEDULE B-SECTION II EXCEPTIONS I. ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART IREQUIREMENTS ARE MET.(NOT A
SURVEY MATTER) 2. Taxes for the year 2019 not yet due and payable and all subsequent years, and any rollback taxes. (not a survey matter)
3. RIGHTS OR CLAIMS OF PARTIES IN POSSESSION. (THIS EXCEPTION WILL BE DELETED IN THE LENDER'S/OWNER'S POLICY UPON RECEIPT OF A SATISFACTORY ORT FORM IOI-SC "OWNER'S
AFFIDAVIT"). (NOT A SURVEY MATTER) 4. MECHANIC'S AND MATERIALMEN'S LIEN AND LIEN CLAIMS, IF ANY, WHERE NO NOTICE THEREOF APPEARS ON RECORD. (THIS EXCEPTION WILL BE DELETED IN THE LENDER'S/OWNER'S POLICY UPON RECEIPT OF A
SATISFACTORY ORT FORM OI-SC "OWNER'S AFFIDAVIT").(NOT A SURVEY MATTER) 5. FACTS WHICH WOULD BE DISCLOSED BY A COMPREHENSIVE SURVEY OF THE PREMISES HEREIN
DESCRIBED. (THIS EXCEPTION WILL BE DELETED IN THE LENDER'S POLICY FOR A RESIDENTIAL TRANSACTION. UPON RECEIPT OF A SATISFACTORY AFFIDAVIT ORTIO7-SC SURVEY AFFIDAVIT THIS
EXCEPTION WILL BE DELETED IN THE OWNER'S POLICY FOR A RESIDENTIAL TRANSACTION.) (NOT A SURVEY MATTER) 6. INTEREST OR CLAIMS NOT DISCLOSED BY THE RECORD TITLE, INCLUDING, BUT NOT LIMITED TO: (A)
MECHANIC'S, MATERIALISMS, LABORERS, AND OTHER LIENS NOT OF RECORD AS OF DATE HEREOF, EVEN THOUGH SUCH LIENS IF SUBSEQUENTLY FILED MAY RELATED BACK AND CONSTITUTE A LIEN PRIOR TO THE DATE HEREOF, (B) UNRECORDED LEASES OR AGREEMENTS WHICH AFFECT THE SUBJECT PROPERTY; (C) EVIDENCE OF MISSING HEIRS, FORGERIES, LACK OF CAPACITY, AND MATTERS NOT OT RECORD IN THE CLERK OF COURT OR PROBATE COURT FOR LAURENS COUNTY, WHICH MAY DEFEAT OR IMPAIR TITLE; (D) MARITAL RELATIONSHIPS OTHER THAN APPEARING OF RECORD (E) SPECIAL ASSESSMENTS AND OTHER GOVERNMENTAL CHANGES THAT ARE NOT SHOWN AS EXISTING LIENS.(NOT A SURVEY MATTER)
 7. GENERAL UTILITY EASEMENTS AND RIGHTS-OF-WAY.(NONE OBSERVED OR DISCOLOSED) 8. EXCEPTION IS TAKEN TO ANY ENVIRONMENTAL MATTERS PERTAINING TO SAID PROPERTY, SPECIFICALLY
IN THE MATTER THAT MIGHT BE REVEALED AS A RESULT OF A FULL ENVIRONMENTAL ASSESSMENT, Including soil testing, at the subject property. (not a survey matter)
9. SECURITY INTERESTS WHICH MAY HAVE ATTACHED TO FIXTURES ON THE SUBJECT PROPERTY, SPECIFICALLY IN THE MATTERS THAT MAY BE REVEALED AS A RESULT OF A FULL ENVIRONMENTAL ASSESSMENT, INCLUDING SOIL TESTING AT THE SUBJECT PROPERTY.(NOT A SURVEY MATTER)
10. FEDERAL JUDGMENTS, LIENS, OR PROCEEDINGS FILED ONLY IN THE FEDERAL COURT OR ONLY AT THE DISTRICT OFFICE OF THE INTERNAL REVENUE SERVICE.(NOT A SURVEY MATTER)
II. MATTERS OCCURRING OR PRIOR TO OR SUBSEQUENT TO THE INCLUSIVE DATES OF EXAMINATION.(NOT A SURVEY MATTER)
12. COMPLIANCE WITH ANY LOCAL, COUNTY, STATE, OR FEDERAL GOVERNMENT LAW OR REGULATION RELATIVE TO ZONING, SUBDIVISION, OCCUPANCY, USE, CONSTRUCTION OR DEVELOPMENT OF THE SUBJECT PROPERTY.(NOT A SURVEY MATTER)
13. THIS COMMITMENT EXPRESSES NO WARRANTY OF TITLE TO ANY MOBILE HOME OR OTHER PERSONAL PROPERTY OF ANY KIND OR NATURE.(NOT A SURVEY MATTER)
 14. THIS COMMITMENT DOES NOT COVER MATTERS OF SURVEY, FLOOD ZONE, OR ROLLBACK TAXES.(NOT A SURVEY MATTER) 15. MATTERS REFLECTED ON PLAT RECORDED IN THE OFFICE OF THE CLERK OF COURT/ROD FOR LAURENS
COUNTY IN BOOK 54 AT PAGE 257 (APPLIES, AS SHOWN) 16. LAND OPTION AGREEMENT BY AND BETWEEN GRIFFITH MATLOCK (OPTIONOR) AND 1939 LAND MANAGEMENT,
LLC (OPTIONEE) DATED MARCH I, 2019 AND RECORDED IN THE OFFICE OF THE CLERK OF COURT/ROD FOR LAURENS COUNTY ON MARCH 13, 2019, IN BOOK D 1434 AT PAGE 101- 109. (APPLIES, NO PLOTTABLE REFERENCES THEREIN)
RECORD DESCRIPTION OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
COMMITMENT FILE # 18.015RE COMMITMENT DATE: JANUARY 3, 2020 AT 9:00 A.M.
EXHIBIT "A"
All that piece, parcel or lot of land, situate, lying and being in the County of Laurens, State of South Carolina consisting of 10.00 acres of land, more or' less, as more particularly shown and identified on that plat of survey titled "AN ALTA/NSPS LAND TITLE SURVEY OF TMS# 156-00-00-018 CONTAINING 10.00 Ac. OWNED BY GRIFF MATLOCK" prepared by Thomas & Hutton Engineering co, approved by F. Elliotte Quinn, III, SCPLS License No. 10292, dated June 6, 2019 and revised January 20, 2020, recorded in the office of the Clerk of Court for Laurens County in Plat Bookat Page The aforementioned plat is incorporated herein be reference for a more detailed description of the property herein conveyed.
This being the same property conveyed unto Sardi Bond-Billingslea by Estate of Keziah Bertha McKinney Johnson (Probate Estate No. 87-ES-30-109) by Deed of Distribution dated July 13, 1988 and recorded in the office of the Cleric of Court for Laurens County, South Carolina on July 15, 1988 in Deed Book 244 at Page 541 and conveyed to Griff Matlock by intestate succession of Sardi Bond- Billingslea and confirmed by Quiet Title Action (Case No. 2019-CP-30-00343) recorded in the office of the Clerk of Court for Laurens County, South Cai'olina on December 20, 2019 in Deed Book 1484 at Page 84.
TMS#: 156-00-0018
LEGEND
 IRON PIPE FOUND (SIZE & TYPE AS NOTED) IRON REBAR SET (5/8" W/ T&H PLASTIC CAP) IRON REBAR FOUND (SIZE & TYPE AS NOTED)

NOTES

- ACCORDING TO F.I.R.M. MAP NO. 45059C, PANEL 0075C, DATED 08/16/12, THE PROPERTY SHOWN ON THIS PLAT IS LOCATED IN FLOOD HAZARD ZONE X.
 COORDINATES AND DIRECTIONS SHOWN ON THIS SURVEY ARE BASED ON SOUTH CAROLINA
- STATE PLANE COORDINATE SYSTEM (NAD83). DISTANCES SHOWN ARE GROUND DISTANCES, NOT GRID DISTANCES.3. TABLE A, ITEM #2 SUBJECT PROPERTY ADDRESS NONE ASSIGNED.
- 4. TABLE A, ITEM # 6(a) ZONING REPORT OR LETTER NOT PROVIDED.
- 5. TABLE A, ITEM #9 TOTAL PARKING SPACES NONE OBSERVED, PROPERTY WAS UNDEVELOPED AT THE TIME OF THIS SURVEY.
- 6. TABLE A, ITEM #16 WITHIN THE SUBJECT PROPERTY, NO EVIDENCE OF EARTH MOVING, BUILDING CONSTRUCTION OR ADDITIONS WAS OBSERVED.
- 7. TABLE A, ITEM #17 WITHIN THE SUBJECT PROPERTY, NO EVIDENCE OF STREET
- ALTERATION, SIDEWALK ALTERATIONS OR PROPOSED R/W CHANGES WAS OBSERVED. 8. TABLE A, ITEM #18 - WITHIN THE SUBJECT PROPERTY, NO DELINEATION MARKERS FOR
- WETLANDS WERE NOTED.




ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY AT THE

CONNEXIAL CENTER LAURENS COUNTY, SC

APPENDIX G

MASTER PLAN EXHIBIT

26942.0007

THOMAS & HUTTON



ENVIRONMENTAL DUE DILIGENCE

SUMMARY REPORT

FOR THE

CHANEL-MCDANIEL PROPERTY AT THE

CONNEXIAL CENTER LAURENS COUNTY, SC

APPENDIX H

Site Maps

26942.0007

THOMAS & HUTTON



SITE LOCATION MAP

FOR THE CHANEL-MCDANIEL PROPERTY AT THE CONNEXIAL CENTER 1/7/2020

This map was created using geothinQ | www.geothinQ.com | Mapping Smart Land Decisions





AERIAL MAP

FOR THE CHANEL-MCDANIEL PROPERTY AT THE CONNEXIAL CENTER 1/7/2020

This map was created using geothinQ | www.geothinQ.com | Mapping Smart Land Decisions





TOPOGRAPHIC MAP

FOR THE CHANEL-MCDANIEL PROPERTY AT THE CONNEXIAL CENTER 1/7/2020

This map was created using geothinQ | www.geothinQ.com | Mapping Smart Land Decisions

National Flood Hazard Layer FIRMette



Legend



Hydrologic Soil Group-Laurens County, South Carolina (FOR THE CHANEL-MCDANIEL PROPERTY AT THE CONNEXIAL CENTER)



Web Soil Survey National Cooperative Soil Survey



Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CIB	Cecil sandy loam, 2 to 6 percent slopes	В	17.8	29.3%
CIC2	Cecil sandy loam, 6 to 10 percent slopes, moderately eroded	В	10.5	17.4%
CmB2	Cecil sandy clay loam, 2 to 6 percent slopes, moderately eroded	В	9.3	15.4%
CmC2	Cecil sandy clay loam, 6 to 10 percent slopes, moderately eroded	В	7.9	13.1%
Cw	Chewacla and Worsham soils	B/D	6.2	10.3%
MhF	Madison and Pacolet soils, 15 to 40 percent slopes	В	7.2	11.8%
PaD2	Pacolet sandy clay loam, 10 to 15 percent slopes, eroded	В	1.6	2.7%
Totals for Area of Interest			60.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition Component Percent Cutoff: None Specified Tie-break Rule: Higher