



#E1-26350

August 24, 2018

Travis G. Hughes
Chief, Regulatory Division
Department of the Army
U.S. Army Corps of Engineers, Charleston District
69A Hagood Avenue
Charleston, South Carolina 29403

Re: Camp Hall Rail Project
(SAC-2016-01395)
Berkeley County, South Carolina
SHPO Project No. 16-EJ0087

Dear Travis Hughes:

Thank you for your letter of August 8, 2018, which we received on August 10, 2018, regarding the above-referenced proposed undertaking. We also received the *Camp Hall Rail Project: National Historic Preservation Act Section 106 Finding of Effect*, plans, and elevation drawings as supporting documentation for the proposed undertaking. In an email from Elizabeth Williams dated August 23, 2018, our Office additionally received the *Palmetto Railways Response to National Marine Fisheries Service Questions*, the letter to John Winkle dated July 13, 2018 regarding Palmetto Railways Construction Exemption in Berkeley County, South Carolina; Uses of Section 4(f) Properties, the *Palmetto Railways Construction Exemption Properties Section 4(f) map*, and the *Lake Moultrie Passage of the Palmetto Trail- Section 2 map* following our request for the documents cited in the *Finding of Effect* in regards to the best management practices, stabilization and minimization measures. The State Historic Preservation Office (SHPO) is providing comments to the U.S. Army Corps of Engineers (Corps), the Surface Transportations Board's Office of Environmental Analysis (OEA) and the Federal Railroad Administration (FRA) pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR 800. Consultation with the SHPO is not a substitution for consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public.

The proposed undertaking is defined as the construction of a 22.7-mile industrial rail line. The Area of Potential Effect (APE) for the proposed undertaking is defined as the project footprint plus a 100-foot-wide buffer zone on either side of the edge of the project footprint.

As noted in your letter and the *Finding of Effect*, the Diversion Canal (SHPO Site No. 0786), Garrett Cemetery (SHPO Site No. 1263), and the Bulltown Ditch (SHPO Site No. 1270) were previously identified in the APE and determined to be eligible for listing in the National Register of Historic Places (NRHP) (Sipe and Carpini 2017). The Corps has applied the criteria of adverse effect to these historic properties.

In applying the criteria of adverse effect to the Diversion Canal (SHPO Site No. 0786), the Corps notes that the proposed new railroad will be carried over the canal by a newly constructed six-span bridge. The overall bridge design is modeled generally on the existing Highway 45 Bridge that currently crosses the Diversion Canal approximately 1 mile to the north of the APE. The Corps notes that while the construction of the new railroad infrastructure has the potential to affect the structural integrity of the canal, the applicant's current plans include stabilization measures and best management practices designed to avoid adverse effects of this nature. The Corps recommends that the canal's significance is due to engineering and historical importance and will not be adversely affected by auditory or vibratory effects from the proposed infrastructure.

In applying the criteria of adverse effect to the Bulltown Ditch (SHPO Site No. 1270), the Corps notes that the proposed new railroad will cross a section of the ditch by a three-barrel culvert in a section already crossed by an existing railroad line and an electrical transmission line. The Corps recommends that the significance of Bulltown Ditch is tied to its association with the Santee Canal, and its role as a transportation corridor and an engineering achievement, therefore, it would not be adversely affected by temporary or permanent visual or noise effects. The Corps notes that while the proposed undertaking has the potential to affect the structural integrity of the canal, the Applicant has proposed to stabilize the ditch's bank during construction which will avoid a direct adverse effect to its structural integrity.

In applying the criteria of adverse effect to Garrett Cemetery (SHPO Site No. 1263), the Corps notes that the proposed right-of-way will be located approximately 120-feet from the cemetery. The Corps recommends that the grave markers conveying the significance of the cemetery will not be directly affected. The Corps notes that temporary and permanent changes of setting, including the construction and operation of the railroad, have the potential to affect Garrett Cemetery. In order to avoid any adverse effect, a 50-foot buffer will be established around the cemetery.

The Corps recommends that conditions be placed on the undertaking to ensure the preservation of significant features of the historic properties and to accommodate changes to the project description and/or footprint that may occur as the undertaking proceeds. We concur with this recommendation and recommend that the referenced conditions be submitted for review by our office and that additional coordination occur with our Office if the project description and/or footprint changes.

The Corps recommends that the proposed undertaking will have no adverse effect on historic properties. Based on the description of the Area of Potential Effect (APE), the identification of historic properties within the APE, the application of the criteria of adverse effect, and contingent on the review of the conditions by our Office, we concur with the assessment that no properties listed in or eligible for listing in the NRHP will be adversely affected by this project.

If archaeological materials are encountered during construction, the procedures codified at 36 CFR 800.13(b) will apply. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials. The federal agency or the applicant receiving federal assistance should contact our office immediately.

Please refer to SHPO Project Number 16-EJ0087 in any future correspondence regarding this project. If you have any questions, please contact me at (803) 896-6181 or KLewis@scdah.sc.gov.

Sincerely,

Keely Lewis

Keely Lewis
Archaeologist
State Historic Preservation Office

cc: Elizabeth Williams, Corps
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CAMP HALL RAIL PROJECT

NATIONAL HISTORIC PRESERVATION ACT SECTION 106 FINDING OF EFFECT

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August 2018



ICF. 2018. *Camp Hall Rail Project National Historic Preservation Act Section 106 Finding of Effect*. July. (ICF 00305.17.) Los Angeles, CA. Prepared for Surface Transportation Board, Office of Environmental Analysis & U.S. Army Corps of Engineers, Charleston District, Charleston, SC.

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Acronyms and Abbreviations

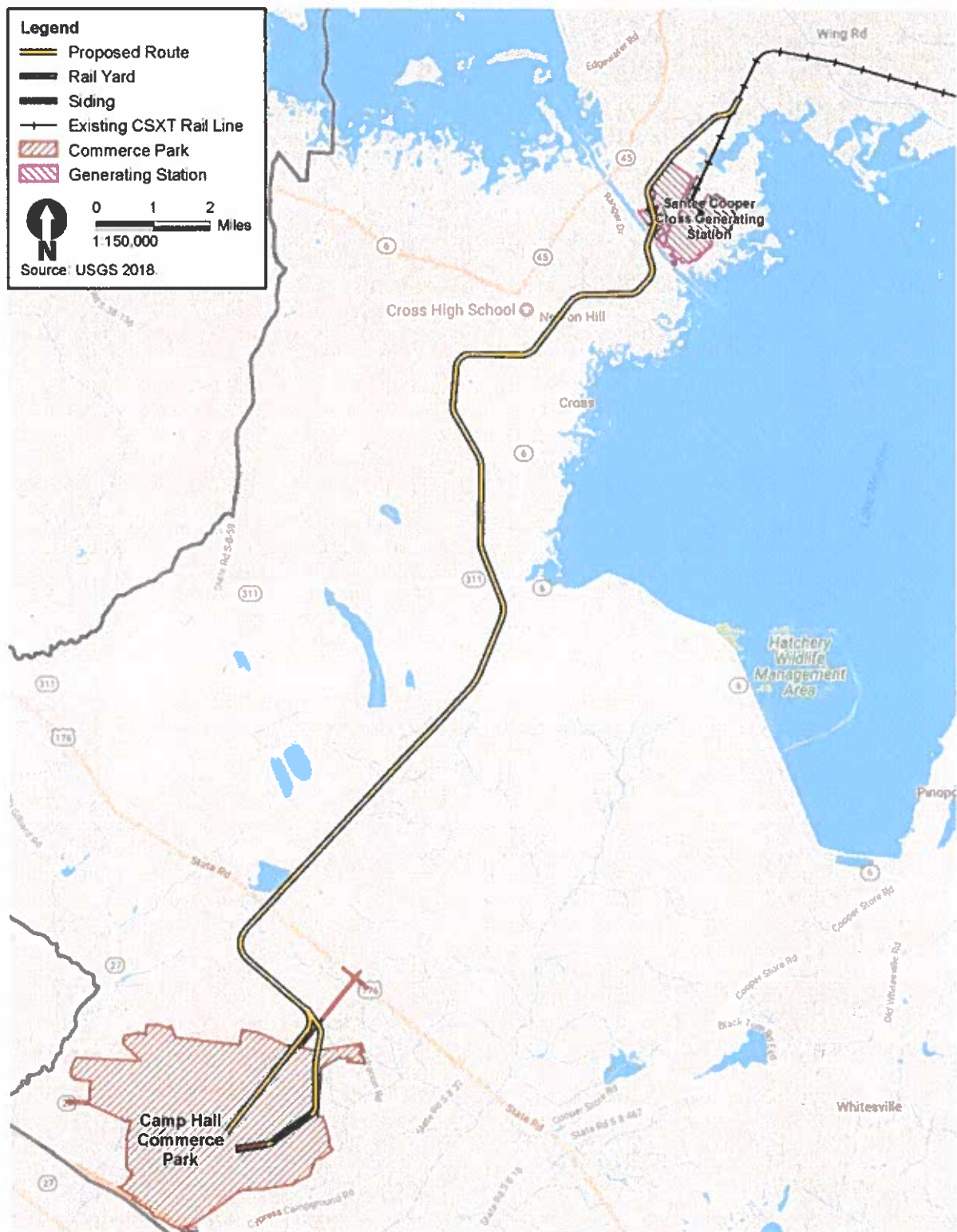
APE	Area of Potential Effects
Applicant	Palmetto Railways
Applicant's Consultant Team	Amec Foster Wheeler and S&ME
Board	Surface Transportation Board
CFR	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
FRA	Federal Railroad Administration
NHPA	National Historic Preservation Act of 1966
NRHP	National Register of Historic Places
OEA	Surface Transportation Board Office of Environmental Analysis
SHPO	State Historic Preservation Officer
U.S.C.	U.S. Code

Background

On August 3, 2017, Palmetto Railways (Applicant) filed a petition for exemption with the Surface Transportation Board (Board) pursuant to 49 U.S. Code (U.S.C.) §§ 10502 and 10901 in Docket No. FD 36095. The Applicant intends to construct and operate a new 22.7-mile rail line in Berkeley County, South Carolina. Pursuant to Sections 404 of the Clean Water Act (33 U.S.C. 1344), the Applicant has submitted an application to the U.S. Army Corps of Engineers (Corps) for a Department of the Army permit for the discharge of fill material into waters of the U.S. in association with the construction of the proposed rail line. The proposed rail line would provide rail service from the 6,781-acre Camp Hall Commerce Park currently under development to the A-Line of CSX Transportation Inc. (through the CSX Transportation Inc. Cross Subdivision connection) near the Santee Cooper Generating Station (Figure 1).

The Board's Office of Environmental Analysis (OEA) together with the Corps, as joint lead agencies, will evaluate the potential environmental effects of the proposed project pursuant to the National Environmental Policy Act of 1969, as amended (42 U.S.C. § 4321 et seq.), the Board's environmental rules at 49 CFR § 1105, the Corps' permitting authority under Section 404 of the Clean Water Act (40 CFR Part 230), and other applicable federal and state laws including Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 U.S.C. § 306108), and its implementing regulations at 36 Code of Federal Regulations (CFR) Part 800. In accordance with 36 CFR 800.2(a)(2), on June 13, 2018, OEA designated the Corps as the lead federal agency for fulfilling the collective OEA and Corps responsibilities under Section 106.¹ On July 12, 2018, the Federal Railroad Administration (FRA) accepted OEA's invitation to be a cooperating agency on the Environmental Assessment and also designated the Corps as the lead federal agency for this undertaking for purposes of Section 106 compliance. This document addresses effects analysis under the NHPA.

¹ The U.S. Fish and Wildlife Service is the only entity that requested to be a consulting party under Section 106.



Regulatory Setting

National Historic Preservation Act

The NHPA establishes the federal government policy on historic preservation and the programs, including the National Register of Historic Places (NRHP), through which this policy is implemented. Under the NHPA, significant cultural resources, referred to as historic properties, include any prehistoric or historic district, site, building, structure, or object included in, or determined eligible for inclusion in, the NRHP. Historic properties also include resources determined to be National Historic Landmarks. National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting United States heritage. A property is considered historically significant if it meets one of the NRHP criteria and retains sufficient historic integrity to convey its significance. The NHPA also established the Advisory Council on Historic Preservation, an independent agency responsible for implementing Section 106 of the NHPA by developing procedures to protect cultural resources included in, or eligible for inclusion in, the NRHP. Regulations are published in 36 CFR Parts 60, 63, and 800.

National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the NRHP was established by the NHPA as “an authoritative guide to be used by federal, state, and local governments; private groups; and citizens to identify the nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment.” The NRHP recognizes properties that are significant at the national, state, and local levels. Birthplaces, cemeteries, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years are typically not considered eligible for the NRHP, unless they satisfy certain conditions.

According to NRHP guidelines, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess and meet any of the following criteria:

- A. **Criterion A.** A property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. **Criterion B.** A property is associated with the lives of persons significant in our past.
- C. **Criterion C.** A property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction.
- D. **Criterion D.** A property yields, or may be likely to yield, information important in prehistory or history.

The NRHP requires that a resource must not only meet one of these criteria, but must also possess integrity. Integrity is the ability of a property to convey historical significance. The evaluation of a resource’s integrity must be grounded in an understanding of that resource’s physical characteristics and how those characteristics relate to its significance. The NRHP recognizes seven

aspects or qualities that, in various combinations, define the integrity of a property: location, design, setting, materials, workmanship, feeling, and association.

Section 106 of the National Historic Preservation Act

Section 106 requires that effects on historic properties be taken into consideration in any federal undertaking. The process has four steps: (1) initiating the Section 106 process, (2) identifying historic properties, (3) assessing adverse effects, and (4) resolving adverse effects.

Section 106 affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on any undertaking that would adversely affect historic properties. State Historic Preservation Officers (SHPOs) administer the national historic preservation program at the state level, review NRHP nominations, maintain data on historic properties that have been identified but not yet nominated, and advise and assist federal agencies in carrying out their Section 106 responsibilities.

33 CFR Part 325, Appendix C Procedures for the Protection of Historic Properties

Corps regulations for processing Department of the Army permits are located at 33 CFR Part 325, and Appendix C of 33 CFR Part 325 provides procedures for the protection of historic properties.

36 CFR Part 800, Protection of Historic Properties

The Advisory Council on Historic Preservation has also promulgated regulations at 36 CFR Part 800 to define how federal agencies meet Section 106 responsibilities.

Secretary of the Interior Standards for the Treatment of Historic Properties

In addition to providing criteria for evaluating the historic significance of properties, the U.S. Secretary of the Interior has developed "Standards for the Treatment of Historic Properties" (National Park Service n.d. a) According to the National Park Service, these standards provide "common sense historic preservation principles" and are presented as "a series of concepts about maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations" (National Park Service n.d. b).

There are "four distinct approaches to the treatment of historic properties: preservation, rehabilitation, restoration, and reconstruction." The selection of a treatment approach "depends on a variety of factors, including the property's historical significance, physical condition, proposed use, and intended interpretation" (National Park Service n.d. c). Rehabilitation is the most commonly applied approach and is generally used to guide new construction adjacent to historic properties; it is appropriate for application to the Camp Hall Rail Project.

The Standards for Rehabilitation (36 CFR Part 67) are as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of the deterioration requires replacement of a distinctive feature, the new feature will match old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize a property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the property and its environment would be unimpaired.

Section 106 Compliance

The proposed project is a Section 106 undertaking as defined at 36 CFR § 800.16(y) because it requires a Federal Department of the Army permit from the Corps and a license from the Board. FRA may provide funding for the proposed rail line. The U.S. Coast Guard, under Section 9 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 401), the General Bridge Act of 1946, as amended (33 U.S.C. § 525), and the U.S. Department of Transportation Act of 1966 (49 U.S.C. §§ 1651–1659), has authority to approve bridges over navigable waters of the United States. These activities would also constitute undertakings.

Description of Undertaking

The proposed rail line would extend 22.7 miles to connect CSX Transportation Inc.'s Charleston Subdivision, also known as the A-Line, via the Cross Subdivision at the Santee Cooper Cross Generating Station in Berkeley County, South Carolina, to the existing Camp Hall Commerce Park. The entire proposed rail line would be within Berkeley County, South Carolina. The proposed route would run south-southwest from the Cross Generating Station, cross the Diversion Canal between

Lake Marion and Moultrie (via a proposed bridge), and run through the unincorporated community of Cross and south through pine plantations into Camp Hall Commerce Park (Figure 1). The proposed rail line would have two termination points within the Camp Hall Commerce Park—one within the Volvo Cars North America facility and one adjacent to Volvo Cars Drive and approximately 10,000 feet south of the crossing of Fish Road. The proposed project is intended to bring rail service to the industrial park, to support the area's infrastructure needs, and to alleviate highway congestion involving large commercial trucks in the area.

The Applicant proposes to construct the rail line within a generally 100-foot-wide right-of-way during daytime hours (6 a.m. to 10 p.m.) over a period of 18 to 20 months (Palmetto Railways 2018a). Construction of the rail line would include construction of one bridge crossing over the Diversion Canal. The bridge would be approximately 845 feet long (approximately 520 feet over water) and would provide a 100-foot-wide navigation channel and a 50-foot vertical clearance. The bridge would be supported by seven new bents (i.e., support structures). Four of the bents would be placed in the canal. The bridge surface would consist of 3-foot open-grating walkways on either side of a 16-foot-wide concrete ballast trough. The main span would be a steel through girder with a reinforced concrete ballast trough (Palmetto Railways 2018b). The Applicant would install culverts for crossings of other waterways, including Bulltown Ditch and two county-maintained blue-line ditches, and to provide hydrologic connectivity in wetland areas and water drainage in other areas.

The Proposed Action would cross 10 public roads and approximately 40 private road crossings, and the Applicant would construct rail crossings for those roads. The Applicant would relocate several private roads to avoid rail crossings of those roads. In addition to roads, the Proposed Action would cross other existing infrastructure, such as water mains and electrical transmission lines. The Applicant would construct a small maintenance and office facility, anticipated to be located to the west of the track fork with the Camp Hall Commerce Park (Palmetto Railways 2018a).

The Applicant would maintain the rail line to Class II standards with a maximum speed of 25 miles per hour (Palmetto Railways 2017c). The Applicant anticipates transporting approximately 50,000 automobiles per year on five round trips (five transits or passbys loaded with freight [automobiles] and five passbys of unloaded trains) on the proposed rail line per week, for an average of 1.4 train passbys per day. The trains would operate with two GP-40-2 locomotives and approximately 30 bi-level and tri-level auto racks (Palmetto Railways 2017c, 2018a). As the Camp Hall Commerce Park develops and if additional tenants request rail service, the Applicant would increase train length before increasing train frequency. Other than Volvo Cars North America, no tenants of the Camp Hall Commerce Park that would use rail service have been identified at this time.

Section 106 Consultation Efforts

Identification of Consulting Parties, and Initiation of Consultation

The following table summarizes the joint lead agencies' Section 106 consultation efforts conducted to date, including initiating Section 106 consultation and identifying consulting parties.

Date	Activity	Description
July 28, 2017	Pre-initiation SHPO coordination regarding identification and evaluation	Applicant submitted "Phase 1 Cultural Resource Survey of the Camp Hall Railroad Build-In, Berkeley County, South Carolina" to SHPO.

Date	Activity	Description
September 8, 2017	SHPO consultation initiation	OEA formally initiated Section 106 consultation with SHPO.
September 28, 2017	Coordination with SHPO	OEA acknowledged SHPO's prior comments as provided to Applicant.
October 2017	SHPO coordination regarding identification and evaluation of historic properties	Applicant submitted a revised report incorporating SHPO comments on a July 2017 draft.
November 7, 2017	Pre-consultation meeting	SHPO and Applicant met to discuss next steps. OEA, the Corps, and the U.S. Coast Guard participated via teleconference.
November 21, 2017	Information request from SHPO to Applicant	SHPO requested supplemental information from Applicant regarding Phase 1 Report.
	Interagency meeting	
March 26, 2018	Email from SHPO to Applicant	SHPO followed up on request for supplemental information from Applicant.
April 4, 2018	Public Notice	The Corps and the South Carolina Department of Health and Environmental Control, Water Quality Certification and Wetlands Section issued a joint public notice regarding a Department of the Army permit application submitted by the Applicant for permission "to discharge fill material into waters of the U.S., including wetlands associated with Bulltown Ditch, the Diversion Canal (between Lake Marion and Lake Moultrie), and tributaries to Caton Creek and Black Creek." A wide range of interested parties received the Public Notice, or a letter informing them of the project and how to access the Public Notice.
April 25, 2018	Coordination with SHPO	OEA requested SHPO assistance in developing a list of potential additional consulting parties.
May 18, 2018	Invitation to Section 106 Consultation	OEA formally invited the following tribes to consult under Section 106: Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, United Keetoowah Band of Cherokee, Wassamasaw Tribe of Varnertown Indians, Catawba Indian Nation, and Muscogee (Creek) Nation.
May 18, 2018	Invitation to Section 106 Consultation	OEA formally invited the following entities to consult under Section 106: Berkeley County Historical Society, Berkeley North Historical Society, Berkeley County Museum and Heritage Center, Lord Berkeley Conservation Trust, Old Santee Canal Park, Palmetto Conservation, and Santee Cooper.
May 18, 2018	Invitation to Section 106 Consultation	OEA formally invited the following agencies to consult under Section 106: Federal Energy Regulatory Commission, FRA, U.S. Coast Guard, United States Department of Agriculture, U.S. Environmental Protection Agency, U.S. Fish and

Date	Activity	Description
		Wildlife Service, and University of South Carolina/South Carolina Institute of Archaeology and Anthropology.
May 29, 2018	Consulting party participation	U.S. Fish and Wildlife Service indicated that it will participate as a consulting party in the Section 106 process.
June 13, 2018	Designation of collective responsibilities under Section 106.	OEA designated the Corps as the lead federal agency for fulfilling the collective OEA and Corps responsibilities under Section 106.
July 6, 2018	Section 106 information is provided to U.S. Fish and Wildlife Service	Applicant and Corps provided the Phase I Cultural Resources Survey of the Proposed Camp Hall Railroad Build-in, Berkeley County, South Carolina, Final Report, dated October 2017.
July 12, 2018	Designation of collective responsibilities under Section 106.	FRA designated the Corps as the lead federal agency for fulfilling the collective responsibilities under Section 106.

Identification of Historic Properties

In 2017, the Applicant engaged Amec Foster Wheeler and S&ME (Applicant's Consultant Team) to conduct a Phase 1 cultural resource survey, including archaeological and aboveground resources, of the proposed rail corridor and to prepare a report summarizing their findings (Phase 1 Report). In July 2017, the Applicant submitted the Phase 1 Report to SHPO, requesting concurrence with its determinations and findings. In August 2017, SHPO concurred with the determinations of NRHP eligibility contained within the Phase 1 Report but requested minor technical corrections to the documentation. A revised Phase 1 Report was prepared in October 2017 and submitted to SHPO.

The methodology and conclusions of the Phase 1 Report are summarized below. The effects analysis contained within this document relies entirely upon the identification effort described within the Phase 1 Report.

Study Area

The Area of Potential Effects (APE), defined at 36 CFR § 800.16(d), is the geographic area or areas within which an undertaking may directly or indirectly cause alterations to the character or use of historic properties, if any such properties exist. Subsets of the APE are often defined for Section 106 analysis of archaeological sites versus aboveground resources. This is due to differences in the nature of the resources and their sensitivity to effects. The study area that the Applicant used for identification of historic properties is discussed below under *Survey Area*. The APE for this undertaking is defined below under *Effects Analysis*.

Survey Area

Archaeology

The Survey Area for archaeological field work included a 200 foot study area for the 23-mile proposed rail corridor (AMEC Foster Wheeler 2017:i). This is broader than the generally 100-foot right-of-way of the proposed project.

Aboveground resources

The Survey Area for aboveground resources survey included the same area as for archaeology as well as areas of potential indirect impacts within a zone of around 0.5 mile from the centerline of the proposed corridor (AMEC Foster Wheeler 2017:i).

Records Search

Prior to field survey, the Applicant's Consultant Team conducted a search of the official records of the South Carolina Institute of Archaeology and Anthropology and the South Carolina Department of Archives and History. The purpose of this research was to identify previously recorded cultural resources within the APE or in its vicinity.

At the time of the records search, no archaeological sites had been previously recorded within the Survey Area. The records search area, however, covered a 1 kilometer radius. Within that radius, the Applicant's Consultant Team discovered documentation of 13 previously recorded archaeological sites. Although 12 of these sites have been recommended as NRHP eligible, no SHPO concurrence with these determinations was available.

The Applicant's Consultant Team identified eight previously recorded aboveground resources within the Survey Area. Of these resources, five are structures, two are cemeteries, and one is a canal. Seven of these resources were recommended as NRHP ineligible. One resource, the Diversion Canal, has been determined NRHP eligible with SHPO concurrence. The Diversion Canal, which connects Lakes Marion and Moultrie, contributes to an NRHP-eligible district associated with the development of a 1930s hydroelectric project, the Santee Cooper Hydroelectric Project. It was not identified as individually NRHP eligible.

Field Survey

Archaeological Survey

Methodology

The Applicant's Consultant Team survey methodology for archaeological field work within the Survey Area:

"included pedestrian inspection and regular interval shovel testing throughout the survey corridor. Shovel testing was conducted along two survey transects that span the entire 23-mile by 200-foot-wide corridor. Tests were placed at 30-meter intervals within locations mapped as uplands with relatively good soil drainage. Areas that were mapped as hydric or poorly drained were confirmed through subsurface investigation and subjected to visual inspection. As a result of the archaeological survey, it was determined that much of the project area was characterized by hydric or frequently flooded soils, despite the fact that they were mapped as well drained. Perusal of historic topographic maps indicated that many of the areas mapped as upland were historically wetlands. Ditches and

channelized streams have been used to drain many of these areas for silviculture and the construction of Lakes Marion and Moultrie have affected the hydrological landscape extensively" (AMEC Foster Wheeler 2017:ii).

Results and Recommendation

As reported in the Phase 1 Report, "No archaeological sites or isolated finds were encountered within the proposed railway corridor and no further archaeological investigation is recommended for this railway alignment as it is currently proposed" (AMEC Foster Wheeler 2017:ii). In August 2017, SHPO concurred with the determinations of NRHP eligibility contained within the Phase 1 Report.

Aboveground Resources Survey

Methodology

In addition to the Records Search described under *Records Search*, the aboveground resource identification methodology also included research at local repositories and development of a historic context, which is included in the Phase 1 Report. Intensive level aboveground resources field survey of the Survey Area occurred in December 2016 within 0.5 mile of the proposed railroad centerline, which includes the entire archaeological survey area. The field survey proceeded in accordance with the *Survey Manual: South Carolina Statewide Survey of Historic Places* and *National Register Bulletin 24: Guidelines for Local Surveys: A Basis for Preservation Planning*. Survey field crews from the Applicant's Consultant Team "drove all roads within and adjacent to the Survey Area and conducted pedestrian survey on all potential architectural resources," include the eight previously recorded resources (AMEC Foster Wheeler 2017:38). The Applicant's Consultant team "evaluated the integrity of each identified historic ... resource... [and those] that retained sufficient integrity were recorded" (AMEC Foster Wheeler 2017:38). Statewide Survey of Historic Resources site forms were prepared for each resource.

Results

As a result of verification in the field, the Applicant's Consultant affirmed the NRHP ineligible determination for seven of the previously recorded resources within the Survey Area. Similarly, it confirmed the NRHP-eligible status of the Diversion Canal as a contributor to the Santee-Cooper Hydroelectric Project historic district. This resource is described below under *Diversion Canal* in the *Historic Properties Identified* section.

During the field survey effort, 53 additional resources were documented. Of these 53, the Applicant's Consultant Team identified two as NRHP eligible: the Garrett Cemetery and the Bulltown Ditch. They are described below under *Historic Properties Identified*. In August 2017, SHPO concurred with the determinations of NRHP eligibility contained within the Phase 1 Report.

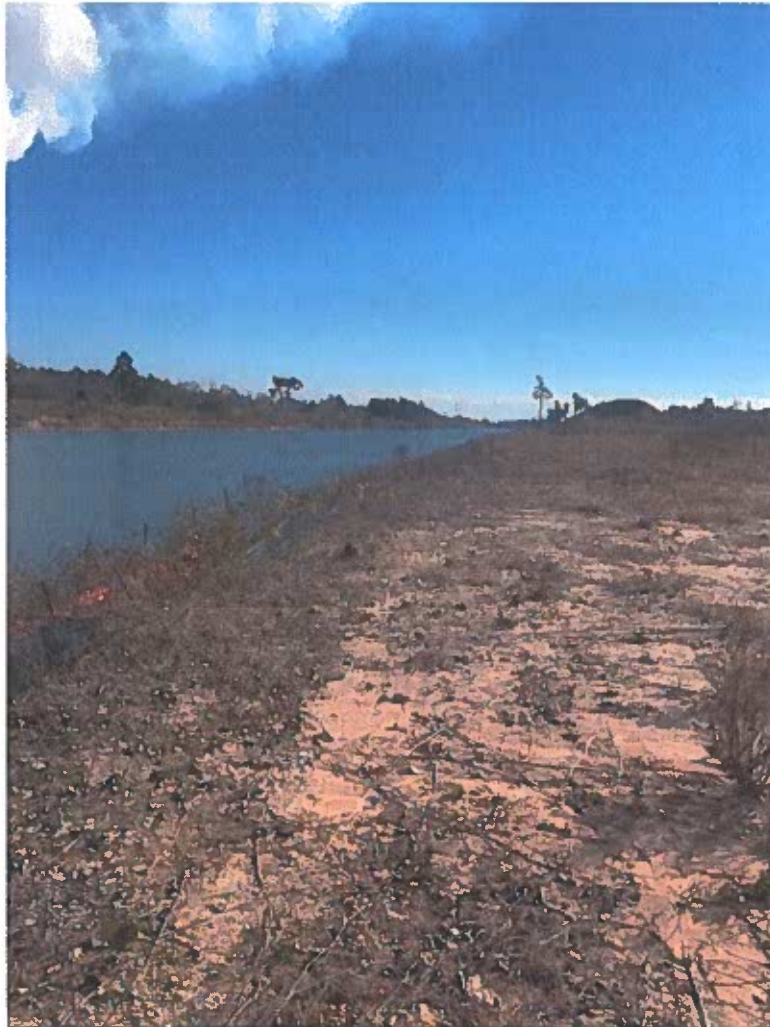
Historic Properties Identified

Diversion Canal

The Diversion Canal located within the more narrowly focused aboveground resource APE is a contributing feature to the Santee Cooper Hydroelectric Project, a historic district identified by the Federal Energy Regulatory Commission in 2002 with SHPO concurrence. The following summary is

based upon the *Cultural Resources Survey Santee Cooper Hydroelectric Project* report (Mead & Hunter 2002).

A massive public works project funded by the federal Public Works Administration between 1938 and 1953, the Santee Cooper Hydroelectric Project's goals included "rural electrification, improvements in general health conditions, and the eradication of malaria in the Santee watershed" (Mead & Hunt 2002:6).



Photograph 1 Diversion Canal, View North.

The project was neither easy to build nor without controversy. The South Carolina General Assembly created the Santee Cooper Hydroelectric Project in 1934 with "the power to produce electricity, develop inland navigation on the Santee, Cooper, and Congaree Rivers; reclaim swamps; and reforest watersheds" (Mead & Hunt 2002:9). Some stakeholders, including private utility companies, objected to state government involvement in power generation and distribution. Legal challenges mounted by owners whose land would be flooded by project implementation, including some whose families had owned the land for many generations and others who were former slaves or their descendants who acquired the land after emancipation, played out until 1939. With land

acquisition and topographic surveys complete, the project broke ground in 1938 (Mead & Hunt 2002:9-10).

Consisting of a large system of dams and dikes designed to harness the power of the Santee and Cooper Rivers, the Santee Cooper Hydroelectric Project's construction involved clearing of 190,000 acres of land, cutting of 200 million feet of timber, excavation of 42 million cubic feet of earth, and pouring of 3.1 million cubic yards of concrete. Construction proceeded quickly, with the Jeffries Powerhouse completed in 1942 and Santee Spillway Hydroelectric Unit completed in 1950 (Mead & Hunt 2002:6, 10).



Photograph 2 Diversion Canal, view southeast

Historic District

The historic district associated with the Santee Cooper Hydroelectric Project was determined eligible for listing in the NRHP in 2002 under Criterion A at the local and state levels of significance and Criterion C at the state and national levels of significance. Its period of significance is 1942 to 1950 (Mead & Hunt 2002:23).

Under Criterion A, the historic district is NRHP eligible based in its association with the development of hydroelectric power, its role in bringing electrical service to a previously unserved area, and as the largest New Deal project in the state (Mead & Hunt 2002:23).

Under Criterion C, the historic district is NRHP eligible as a 1930s hydroelectric power facility and as an engineering achievement. "At the time of its construction, Santee Cooper formed the largest impoundment by surface area in the world... Today, the impoundment remains the largest in the country" (Mead & Hunt 2002:23). An "internationally recognized engineering accomplishment at the time it was constructed, [it] remains one of the country's great engineering feats and possesses exceptional importance as an engineering landmark" (Mead & Hunt 2002:23).

The Santee Cooper Hydroelectric Project's contributing components include Pinopolis Dam, Jeffries Powerhouse, Pinopolis Lock, West Dam, West Dike, East Dam and East Dam Extension, East Dike, North Dike, Auxiliary Buildings (3), Santee Dam, Santee Spillway Hydroelectric Unit, Santee Spillway, Santee North Dam, Santee South Dam, Diversion Canal, and Tailrace Canal (Mead & Hunt 2002:10, 17–21). Character-defining features of the historic district are not specified in detail in the *Cultural Resources Survey Santee Cooper Hydroelectric Project*. Based on the nature of Santee Cooper Hydroelectric Project's significance, however, its character-defining features include these contributing elements along with their spatial, functional, structural and historical relationships to one another.

The Diversion Canal was constructed in 1942. It extends 5 miles, connecting Lake Marion (covering 110,000 acres) to Lake Moultrie (covering 60,000 acres), which were both created by the implementation of the Santee Cooper Hydroelectric Project. Water from the Santee River impounded by the Santee Dam exits Lake Marion through the Diversion Canal and into Lake Moultrie. Four hundred feet wide at its surface, the Diversion Canal narrows to 200 feet at the bottom. Currently, one bridge carrying Route 45 crosses the Diversion Canal.

Because it lacks distinction to be individually eligible, the Diversion Canal's primary importance is the physical and historical role it plays in the functioning of the hydroelectric project overall.

Cultural or Historic Landscape

The 2002 *Cultural Resources Survey Santee Cooper Hydroelectric Project* did not evaluate the historic district as a potential cultural landscape. In order to analyze the fullest possible range of potential effects of the current project, this Finding of Effect considered the Santee Cooper Hydroelectric Project as a potential cultural landscape, which the National Park Service defines as "a geographic area including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values" (Birnbaum 1994).

The National Park Service further defines four types of cultural landscapes: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes (Birnbaum 1994). Of these types, Santee Cooper Hydroelectric Project aligns most closely to a historic site, which the National Park Service describes as "a landscape significant for its association with a historic event, activity, or person" (Birnbaum 1994).

Cultural landscapes "are composed of a number of character-defining features which, individually or collectively contribute to the landscape's physical appearance as they have evolved over time. In addition to vegetation and topography, cultural landscapes may include water features, such as ponds, streams, and fountains; circulation features, such as roads, paths, steps, and walls; buildings; and furnishings, including fences, benches, lights and sculptural objects" (Birnbaum 1994).

The South Carolina Department of Archives and History has promulgated *Guidance for Assessing Visual and Indirect Effects to Historic Landscapes*. The South Carolina Department of Archives and

History's definition of a historic landscape states that "landscapes can be formally designed, like the gardens at Middleton Place or can be vernacular places, such as rural farmsteads. Historic landscapes usually include both natural and cultural features, such as the Georgetown County Rice Culture Historic District which includes rivers and historic rice fields. Landscapes can also be associated with important events" (South Carolina Department of Archives and History 2018). This association with events could include the Santee Cooper Hydroelectric Project,

According to South Carolina Department of Archives and History, "common characteristics of historic landscapes include engineering, [which] applies where the landscape and its uses reflect the practical application of scientific principles to serve human needs, such as transportation usage. Landscapes can also reflect agricultural use or industrial use," such as the Santee Cooper Hydroelectric Project. (South Carolina Department of Archives and History 2018).

Associated with the important historical events represented by the Public Works Administration and the electrification of the region, the Santee Cooper Hydroelectric Project would be appropriately classified as an engineering landscape. Innovatively harnessing the dynamic hydrology of the region to provide electricity for the first time to households across the region, the project transformed the physical landscape by creating water features such as Lakes Marion and Moultrie and introducing massive structures such as the associated dams.

The character-defining features of the Santee Hydroelectric Project as a cultural or historic landscape overlap with those of the historic district: Pinopolis Dam, Jeffries Powerhouse, Pinopolis Lock, West Dam, West Dike, East Dam and East Dam Extension, East Dike, North Dike, Auxiliary Buildings (3), Santee Dam, Santee Spillway Hydroelectric Unit, Santee Spillway, Santee North Dam, Santee South Dam, Diversion Canal, and Tailrace Canal. Lakes Moultrie and Marion would also be character-defining features of the Santee Cooper Hydroelectric Project as a historic or cultural landscape.

The significance of the landscape does not derive from its visual qualities, but rather in its ambitious design, innovative functioning, and transformative impact on the region. The spatial relationships among the character-defining features and their interrelated functionality convey the landscape's significance rather than views to and/or from these elements.

Bulltown Ditch

Shown on topographic maps as approximately 3.5 miles in length, the Bulltown Ditch is located east of the Diversion Canal, between Lakes Marion and Moultrie and may be associated with the Santee Canal (Amec Foster Wheeler 2017:125). Developed between 1793 and 1800, the Santee Canal connected the Santee River to the Cooper River in order to move goods from the inland Santee basin and Charleston. The Santee Canal was 22 miles long with tow paths on either side. With a width of 35 feet at the top, the canal tapered to a width of 20 feet at the bottom. Its depth was 5.5 feet and the water level was 4 feet. Designed with a series of locks, it was considered highly advanced at the time of design and construction. A series of droughts in the period between 1817 and 1819 revealed flaws in the canal's design and it was never financially successful as projected. A railroad serving the area was constructed between 1840 and 1853. By 1855, the canal was abandoned (Wylie and Chamberlain 1981). The construction of the Santee Cooper Hydroelectric Project, including the creation of Lakes Marion and Moultrie, resulted in inundation of extensive areas of the Santee Canal.



Photograph 3 Bulltown Ditch, View North

A 1921 topographic map shows the Bulltown Ditch as entering the Santee Canal. The Diversion Canal may be a component of either a feeder or overflow system of the Santee Canal. "Although it is no longer a functioning part of the Santee Canal system, the Bulltown Ditch is a recognizable landscape feature associated with the system and has undergone little alteration in appearance since its original construction. The Bulltown Ditch is currently crossed by a railroad line and a transmission line but as these do not alter fundamental characteristics of the ditch, they do not compromise its overall integrity" (Amec Foster Wheeler 2017:128).

The Bulltown Ditch is NRHP eligible under Criterion A for its association with the Santee Canal transportation system which was designed to facilitate trade and Criterion C for its engineering as part of the Santee Canal system (Amec Foster Wheeler 2017:128).

Garrett Cemetery

Located in a grove of trees with a boundary delineated by rope fence and a ditch, the Garrett Cemetery consists of 12 marked burials. The burial markers consist of a combination of stone, wood, and brick. A few markers are whitewashed. Most do not have identifiers carved in them. One stone shows the letter "G" and another reads "J.C. Garrett, Died 1878." Although the identifying features are few, "the markers and the grave goods indicate that the Garrett Cemetery is an African-American cemetery that dates to the second half of the nineteenth century" (Amec Foster Wheeler 2017:122).



Photograph 4 Garrett Cemetery, View northeast.

The Garrett Cemetery is NRHP eligible under Criterion A as “reflective of a specific cultural and historical period that helped shape the broad patterns of the history of Berkeley County,” under Criterion C for its “distinctive grave markers that are reflective of African-American family cemeteries,” and Criterion D for its information potential (Amec Foster Wheeler 2017:124–125).

Effects Analysis

Area of Potential Effects

Given that the Corps is the lead federal agency for this undertaking to fulfill the collective responsibilities of the Corps, OEA, and FRA for purposes of Section 106, this document will focus on the APE, as defined at 36 CFR Part 800.16(d).²

² As defined in 33 CFR 325, Appendix C (1)(g), the Corps’ permit area consists of those areas comprising the waters of the United States that will be directly affected by the proposed work or structures and uplands directly affected as a result of authorizing the work or structures. The following three tests must all be satisfied for an activity undertaken outside the waters of the United States to be included within the “permit area”: (1) Such activity would not occur but for the authorization of the work or structures within the waters of the United States; (2) Such activity must be integrally related to the work or structures to be authorized within waters of the United States. Or, conversely, the work or structures to be authorized must be essential to the completeness of the overall project or program; and (3) Such activity must be directly associated (first order impact) with the work or structures to be authorized.” For this undertaking, the Corps’ permit area is narrower than the APE, as defined in 36 CFR 800.16(d).

The project area's topography is primarily low and flat with occasional subtle landforms. The hydrology of the area originally included extensive wetlands with a profusion of native pines suited to the wetland environment. The introduction of the Cooper Santee Hydroelectric Project resulted in dramatic changes to the hydrology by introducing Lakes Moultrie and Marion, reducing the wetlands, and altering other water features such as swamps, rivers, and tributaries. Some of the pines have been clear-cut.

Archaeology

The APE for archaeological sites was defined as the project footprint³ plus a 100-foot-wide buffer zone on either side of the edge of the project footprint. A 100-foot-wide buffer allows archaeologists to encounter and record any resources that are adjacent to, as well as within, the project footprint, resulting in a sample of what sites are present in and near the proposed project footprint,

Aboveground Resources

The APE for aboveground historic properties (historic buildings, structures, sites, objects, landscapes and districts) has been defined as the project footprint plus a 200-foot buffer on either side of the project footprint measured from its outermost edge. Alterations to the hydrologic landscape which change the area's original setting, coupled with the presence of pines that serve as visual screens, allow analysis of the full range of potential impacts on aboveground resources, which can include demolition, construction and operation impacts, and impacts caused by changes to the visual and auditory setting of the resource to be accounted for within this APE.

Appendix A provides a detailed map depicting the APE for archaeology and aboveground resources

Assessment of Adverse Effects

The following section addresses the proposed project and its potential effects on historic properties. Each proposed project component was considered to determine if the undertaking would alter, directly or indirectly, any of the characteristics of a historic property that qualifies it for inclusion in the NRHP. For any properties within the APE that are listed in or are eligible for inclusion in the NRHP, the Section 106 Criteria of Adverse Effect were applied in accordance with 36 CFR § 800.5.

As set forth in 36 CFR § 800.5(a)(1), "an adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the [NRHP] in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the [NRHP]. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

Examples of adverse effects are set forth in 36 CFR § 800.5(a)(2).

However, Paragraph 5.f. of Appendix C still establishes that the Corps "will consider the effects of undertakings on any known historic properties that may occur outside the permit area."

³ The project footprint includes multiple aspects of the project that may or may not be completely in the right-of-way. The project footprint is a compilation of the right-of-way, disturbance footprint, bridge, rail yard, sidings, and the rail alignment.

Typical Activities and Associated Potential Adverse Effects

Construction and operation of a new rail line involves a variety of activities with the potential to affect historic properties. Examples of these activities and their associated potential effects include, but are not limited to:

- Preparing previously undisturbed land for staging and construction of railroad right-of-way—including grading, cuts, and excavating earth and rock—has the potential to physically damage, destroy, or move historic properties within the path of construction or staging.
- Rerouting of linear historic roads, trails, and water conveyance, drainage, or irrigation features could result in an alteration that is inconsistent with the Standards for Rehabilitation.
- Soil compression resulting from construction of access roads or railbed can result in physical damage to or destruction of subsurface historic properties.
- For a property whose setting contributes to its significance, relocation of roads can result in a change to the character or use of a historic property.
- Use of heavy construction equipment near historic properties sensitive to temporary visual, noise, vibration, or atmospheric effects can diminish the integrity of such properties.
- Changes in water flow resulting from introduction of new structures or features associated with railroad (such as culverts or railbeds) could cause flooding of eligible buildings or water features.
- New visual elements introduced to the landscape such as tracks, sidings, trestles, bridges, communication towers, and power lines can affect historic properties that rely on viewsheds to convey significance.
- New noise effects from the operation of a railroad could affect historic properties that rely on a quiet setting to convey significance.
- Vibratory effects from the operation of a new railroad could affect historic properties whose construction or materials render them vulnerable to such effects.

Application of the Section 106 Criteria of Adverse Effect

In this section, the Section 106 criteria of adverse effect is applied to the typical activities and proposed project elements that comprise the undertaking, and their potential effects on historic properties in the APE. It also takes into account avoidance and minimization measures the Applicant has incorporated to avoid potential adverse effects on historic properties. In accordance with 36 CFR § 800.5(b), a finding of “no adverse effect” may be proposed if “conditions are imposed, such as the subsequent review of plans for rehabilitation by the [SHPO] to ensure consistency with the Secretary’s [of the Interior] Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects.”

Diversion Canal: No Adverse Effect (Conditional)

The proposed new railroad will be carried over the 400-foot Diversion Canal by a newly constructed bridge. The location of the Diversion Canal as it relates to the APE is shown in Figure 2.

The proposed new six-span bridge would cross the Diversion Canal with an overwater area of approximately 11,730 square feet. The overwater distance of the bridge is approximately 520 linear feet. The bridge would be supported by seven new support structures, known as bents, that each

consist of two 8-foot, 6-inch diameter supports. Four of the bents totaling 453.6 square feet would be placed in the canal. No other structures, such as riprap or bank armoring, are proposed to be constructed in the banks of the canal. The overall bridge design is modeled generally on the existing Highway 45 bridge that currently crosses the Diversion Canal approximately 1 mile north of the proposed new crossing (Palmetto Railways 2018a, 2018b, 2018c, 2018d).

NRHP eligible for its role in the bringing electricity to the region (Criterion A) and as an impressive engineering achievement (Criterion C), the Santee Cooper Hydroelectric Project historic district to which the Diversion Canal contributes relies on its individual components and their relationships to one another to convey significance. Similarly, to the extent that the Santee Cooper Hydroelectric Project is NRHP-eligible as a cultural or historic landscape, its significance is conveyed by its individual components, the spatial relationships among them, and their collective use and operation.

While the construction of new railroad infrastructure (including installation of railbed, signaling apparatus, bridges and culverts) has the potential to directly affect the structural integrity of the canal, the Applicant's current plans include stabilization measures and best management practices designed to avoid effects of this nature (Palmetto Railways 2018c). Due to the nature of engineering and historical importance, the canal's significance is not adversely affected by auditory or vibratory effects. Nevertheless, the Applicant has developed measures to minimize any such effects during construction. These measures are memorialized in a Mitigation Plan (Palmetto Railways 2018d).⁴

⁴ Mitigation Plan included with Department of the Army permit application.



Figure 2. Diversion Canal

Because aesthetic qualities of the Diversion Canal are not among the features that convey its significance, indirect temporary or permanent visual effects introduced by the proposed new bridge would not be adverse. The Diversion Canal relies on its functionality and relationship to other Santee Cooper Hydroelectric Project components to convey significance. For historic landscapes that rely on “aesthetic qualities” or “scenic views to or from,” South Carolina Department of Archives and History recommends the introduction of an “opaque vegetative barrier” to “minimize adverse visual impacts to historic sites” (South Carolina Department of Archives and History 2018). However, since visual characteristics are not what make the Diversion Canal and Santee Cooper Hydroelectric Project eligible for listing in the NRHP, this impact minimization technique is not indicated.

Bulltown Ditch: No Adverse Effect (Conditional)

The proposed new railroad will cross a section of the Bulltown Ditch that is already crossed by an existing railroad line and an electrical transmission line (Amec Foster Wheeler 2017:129). The location of the Bulltown Ditch as it relates to the APE is shown in Figure 3.

The proposed crossing structure at Bulltown Ditch is a three-barrel culvert. The Bulltown Ditch relies on its association with the Santee Canal for its significance, which is tied to its role as a transportation corridor and an engineering achievement. Temporary or permanent visual or noise effects would, therefore, not be adverse because neither its visual qualities nor a quiet setting are essential to understanding the historic property.

While the proposed project would cross a section of the Bulltown Ditch already impacted by an existing CSX Transportation Inc. railroad line and a transmission easement, construction of new railroad infrastructure still has the potential to affect the structural integrity of the canal. Current conditions include an existing culvert system, which the Applicant proposes to extend. The Applicant has proposed stabilizing the ditch’s bank during construction, which will avoid a direct adverse effect to the physical and structural integrity of the ditch (Palmetto Railways 2018d:8).

The ditch will run parallel to the proposed rail alignment at a distance of approximately 150 feet. This distance is adequate to buffer the ditch from construction or operation impacts (Palmetto Railways 2018d:8).

The nature of this historic property is not vulnerable to vibratory effects, and none are anticipated.

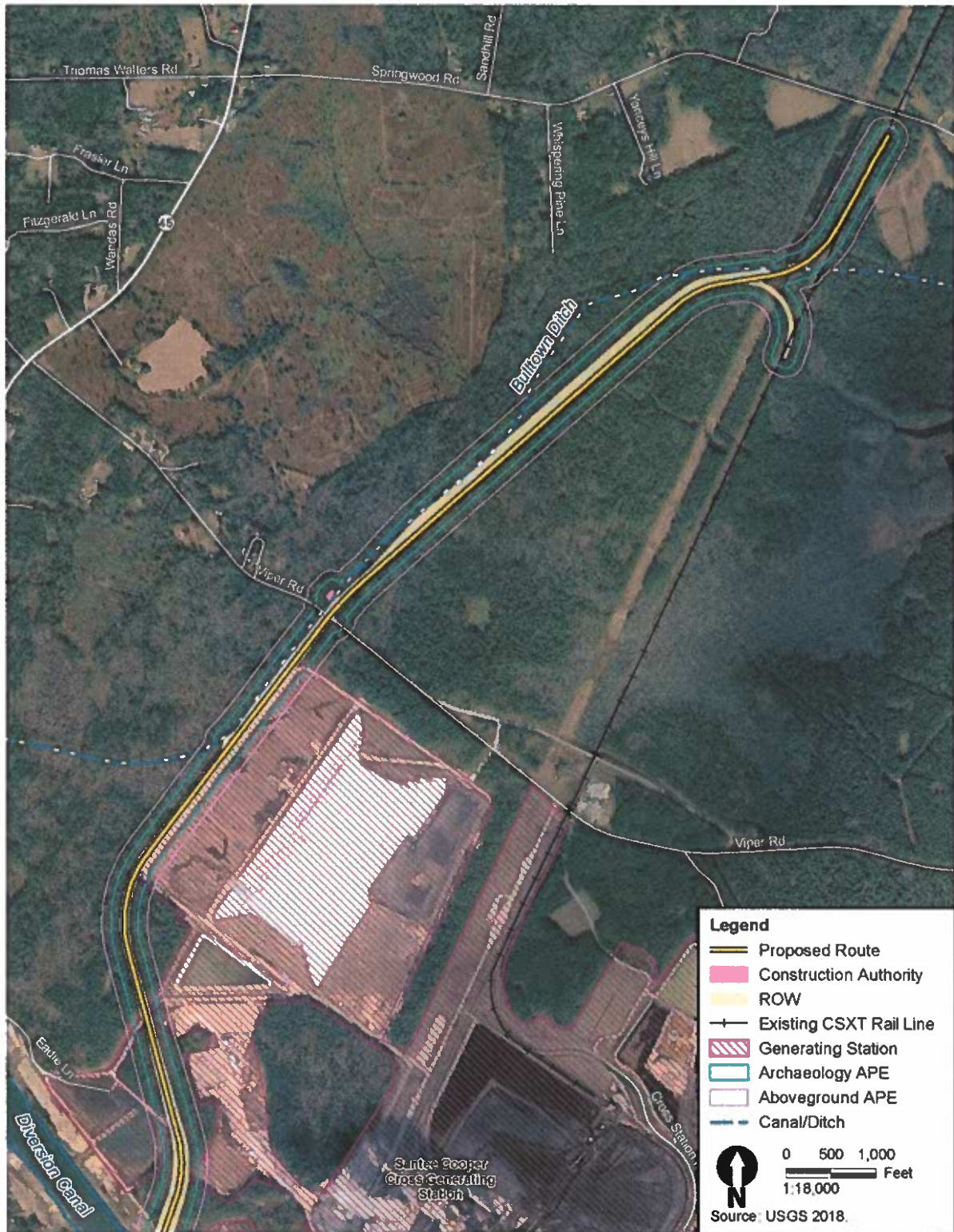


Figure 3. Bulltown Ditch

Garrett Cemetery: No Adverse Effect

The proposed right-of-way is located approximately 120 feet from the Garrett Cemetery. Its essential character-defining features are physical. The location of the Garrett Cemetery as it relates to the APE is shown in Figure 4.

Because of the distance of the historic property from the construction and operation of the proposed railroad, the grave markers that convey the cemetery's significance will not be directly affected. Visual and auditory setting are not essential to conveying the Garrett Cemetery's significance, but constitute an important aspect of its integrity. Temporary and permanent changes of setting, including the construction and operation of the railroad, therefore have the potential to affect the Garrett Cemetery. In order to avoid any potential effects, the Applicant's Consultant Team recommended, and SHPO concurred, that a 50-foot buffer be established around the cemetery. Based on the Applicant's current project design, the "Garrett Cemetery is located outside the area where construction and operation activities would occur and ... [proposed project activities] will more than comply with the 50 foot buffer established around the resource" (Palmetto Railways 2018d:7).

Conditions

The proposed project appears to generally respect the historic character and integrity of the existing historic properties. Nevertheless, conditions shall be placed on the undertaking to ensure the preservation of significant features of the historic properties and to accommodate changes to the project description and/or footprint that may occur as the undertaking proceeds.

If previously unknown or unevaluated buildings, structures, objects, districts, archeological sites, human remains, funerary artifacts, or associated artifacts are discovered during construction of the undertaking, the Applicant will immediately cease all work and notify the Corps. The Corps will reinitiate the Section 106 process including consultation with SHPO, interested parties, and interested federally recognized tribes to determine whether the discovery constitutes an NRHP-eligible historic property, to analyze whether an adverse effect is posed by the undertaking, and to develop appropriate resolution, as needed.

Conclusions and Recommendations

With respect to archaeology, no archeological sites (as historic properties) were identified within the APE. No additional work is recommended.

With regard to aboveground historic properties in the APE, no adverse effect to historic properties is anticipated.

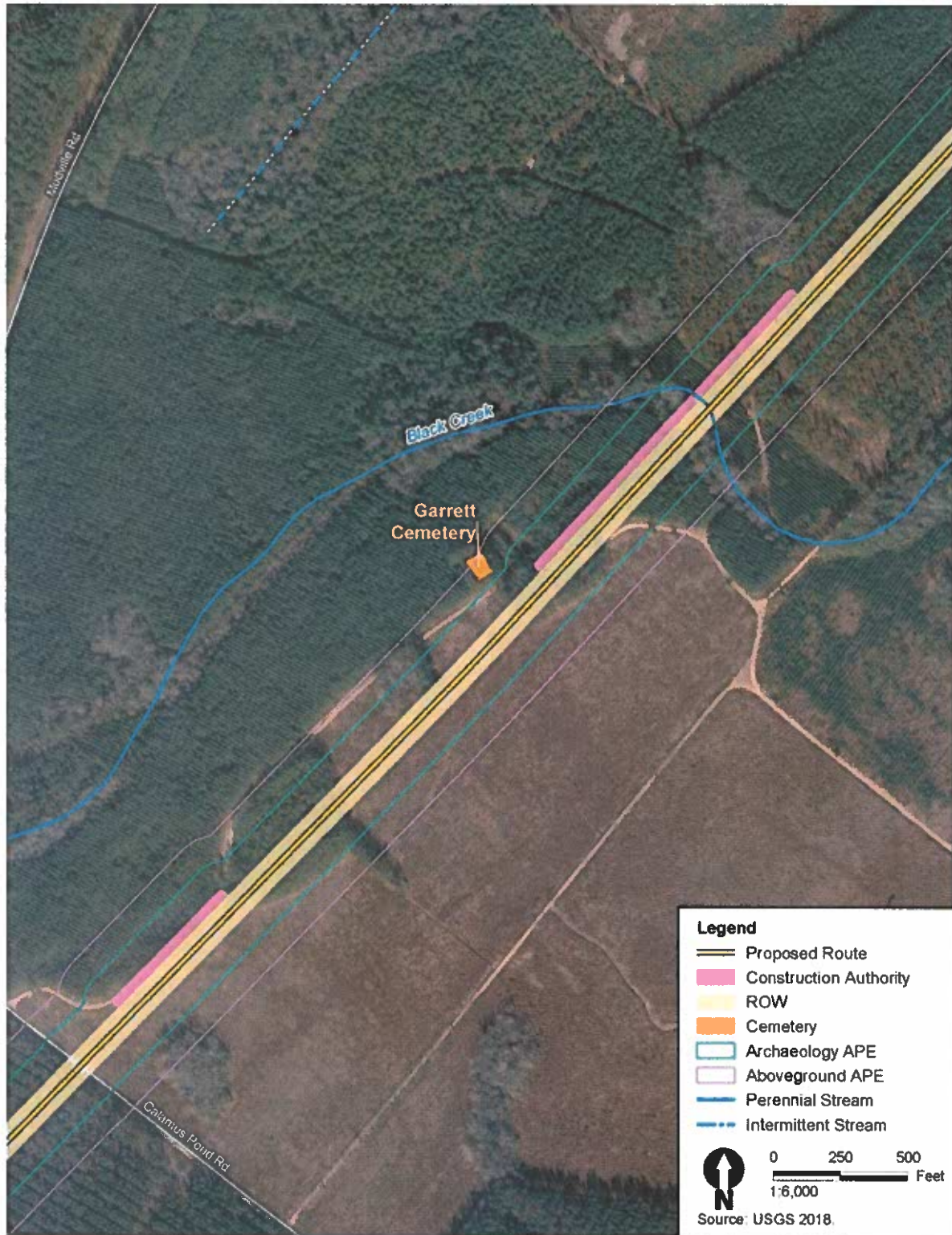


Figure 4. Garrett Cemetery

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