

**South Carolina Department of Transportation
On Behalf of the Federal Highway Administration – South Carolina Division Office**

**PROCESSING FORM FOR PROGRAMMATIC CATEGORICAL EXCLUSIONS
NON MAJOR FEDERAL ACTIONS**

County	Route	PIN	File Number
Chester/Lancaster	SC 9	39094_RD04	1229.039094.4

Programmatic Type: CE B

Project Name: Proposed Bridge Replacement on Eastbound SC 9 (Chester/Lancaster Highway) over the Catawba River in Chester/Lancaster Counties.

Proposed Action: The South Carolina Department of Transportation (SCDOT) proposes to replace the existing eastbound SC 9 (Chester/Lancaster Highway) bridge over the Catawba River in Chester and Lancaster Counties, South Carolina (see **Figure 1**). The proposed project is located on the borders of Chester County and Lancaster County, between the Town of Fort Lawn and the City of Lancaster, South Carolina. The scope of the project involves replacing the existing two-lane, eastbound SC 9 bridge (to Lancaster County) over the Catawba River in the existing location with a new modern structure. The existing eastbound SC 9 bridge is 1,420 feet in length and 31.5 feet in width with a maximum span length of 85 feet. The bridge height (low chord) is approximately 30 feet from low steel to normal water elevation. The existing eastbound bridge has right-of-way of approximately 75 feet on either side of the centerline. The westbound bridge (to Chester County) was replaced in 1957 and is located about 30 feet north, directly adjacent to the eastbound bridge. The proposed project is part of a design-build contract and funds for the project are reasonably expected to be available. The project is included in the State Transportation Improvement Plan (STIP) with funding for the years 2010-2015 (STIP District 4 –Page 1) as part of a packet that includes Federal-aid funds. Preliminary engineering indicates that the new bridge would be of a similar size to the existing eastbound bridge and would be approximately 1,424.5 feet in length and 44 feet in width (**Figure 2**). The new bridge would accommodate two, 12-foot travel lanes (eastbound) with 10-foot paved shoulders on either side and would be constructed on the original centerline (**Figure 3**). The existing elevation (low chord) would be maintained. The piers would be offset approximately 15 feet from the existing piers and the hydraulic opening would be designed to equal or exceed the westbound bridge. The existing main channel spans are longer on the westbound bridge than on the existing eastbound bridge. The main channel arrangement would be designed to match the westbound bridge as part of the replacement. As a result, the eastbound bridge would require fewer substructure/pier units than the westbound bridge. Additional right-of-way would not be required and displacements would not result from the proposed project. It is anticipated that the existing eastbound bridge would need to be closed for demolition and re-construction; however, the westbound bridge would be utilized to accommodate both eastbound and westbound traffic during construction (one lane in each direction with a temporary concrete barrier) (**Figure 3**). As a result, a temporary bridge or off-site detour would not be needed.

Purpose and Need: The purpose of the proposed project is to replace a structurally deficient and functionally obsolete bridge. The eastbound SC 9 bridge was built in 1930, reconstructed in 1957 and has a sufficiency rating of 42.3 out of 100. The bridge is eligible for replacement through the federal Highway Bridge Replacement and Rehabilitation Program. The eastbound bridge accommodates two lanes of one-way traffic and the roadway is classified as a Rural Minor Arterial. Traffic studies indicate that the existing (2008) average daily traffic volume (ADT) for SC 9 is 5,550 vehicles per day (VPD). By 2028, the ADT is expected to increase to 8,825 VPD. The SC-9 eastbound bridge provides a major roadway crossing of the Catawba River and

provides an important transportation link between Fort Lawn and Lancaster, as well as a connection to Interstate 77 to the west. The nearest roadway bridge crossings over the Catawba River are approximately 10 miles north (Rock Hill Highway) and 10 miles to the south (Great Falls Road) of this location. The aging structure is nearing the end of its useful life and replacement of the bridge will increase the safety of the crossing and provide for long-term functionality.

Findings: The project has been assessed for possible effects on the human and natural environment with a determination that no significant environmental impact will occur. The class of action and impact determination documented by this statement would qualify this project as a categorical exclusion under 23 CFR 771, Section 115(b).

In consultation with the State Historic Preservation Office (SHPO), as appropriate, the project would not affect historic properties or archeological sites under 36 CFR 800. Concurrence from the SHPO and the Tribal Historic Preservation Offices (THPOs) for the Catawba Indian Nations and the Eastern Band of Cherokee Indians is included in **Appendix A**.

This project would involve encroachment on either wetlands and/or floodplains. Therefore, under Executive Order 11990 and 11988, respectively, it has been determined that no practicable alternative to this involvement is considered and all practicable measures to minimize harm have been incorporated. The Department will obtain the appropriate permits, as applicable, and adhere to any conditions set forth therein. The public will be advised through appropriate notices of this involvement. Wetlands and a stream (the Catawba River) are located within the project study area (PSA). There would be no fill impacts from the proposed project; however, column footings or drilled shafts would be placed within the Catawba River and Wetland A. As a result, impacts would occur to approximately 176 linear feet of stream (Catawba River) and approximately 0.010 acres of Wetland A (**Figure 4**). It is anticipated that the proposed project would be processed as a General Permit (GP) and a Preliminary Jurisdictional Determination (JD) has been made concurring with the wetland and stream delineations (**Appendix A**). It is anticipated that any required compensatory mitigation requirements for permanent project impacts will be attained through purchase of mitigation credits from an approved mitigation bank. In addition, the proposed project is located within Zone A of a Federal Emergency Management Agency (FEMA) floodplain. However, a preliminary hydraulic assessment has determined that the bridge replacement will meet the "No Rise" requirement (see Bridge Replacement Scoping Trip Risk Assessment Form in **Appendix B**). Coordination letters were also sent to the Chester County and Lancaster County Floodplain Managers to notify them of the bridge replacement project within a FEMA regulated floodplain (**Appendix A**).

The project is not expected to jeopardize the continued existence of any listed endangered or threatened species or destroy or adversely modify critical habitat. Therefore, no further investigation under Section 7 of the Endangered Species Act is necessary (see **Appendix C** for Biological Assessment).

The project is located within the Federal Energy Regulatory Commission (FERC) project boundaries for the Duke Energy Catawba-Wateree Project. The project would require completion of a Duke Energy Conveyance Permit prior to construction activities and FERC notification. The Conveyance Permit determination from Duke Energy is included in **Appendix A** and the permit application is included in **Appendix D** for procurement by the design-build team.

Additionally, the bridge replacement will not require the acquisition of additional right-of-way and the proposed project will have no affect on land use, hazardous materials, farmlands, air quality or noise.

Environmental Commitments:

- Impacts to jurisdictional waters will be permitted and appropriately mitigated, if required, under a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers. Based on preliminary engineering, impacts would occur to 176 linear feet of stream and 0.010 acres of wetlands. It is anticipated that the proposed project would be permitted under SCDOT's General Permit (GP). Any required compensatory mitigation requirements for permanent project impacts will be attained through purchase of mitigation credits from an approved mitigation bank.
- Construction within floodplains will be consistent with FEMA regulations. The bridge will be replaced as part of a design/build contract. If necessary, a detailed hydraulic analysis will be performed during the final design phase. The contractor will be required to construct a minimum structure length, minimum low chord and minimum channel opening. A letter of concurrence will be obtained from the Chester County and Lancaster County Floodplain Managers prior to construction and a No-Rise Certification will also be obtained. Letters of coordination with the Chester County and Lancaster County Floodplain Managers were sent November 29, 2011 (**Appendix A**). Coordination with the Floodplain Managers will continue throughout the process and they will be notified once the final hydraulic analysis is complete.
- The acquisition and disturbance of hazardous waste will be avoided, if possible. If avoidance is not a viable alternative, hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency and the South Carolina Department of Health and Environmental Control requirements.
- A Duke Energy Conveyance Permit will be completed by the design-build team as part of the permitting process, prior to construction activities. A copy of the Duke Energy Conveyance Application Form is included in **Appendix D**.

Categorical Exclusion Type B (Conditional Programmatic)

Projects of the type listed below would not automatically fall under the same programmatic clearance as the CE Type A. The regulations in 23 CFR 771.117(d) list additional types of projects which can meet the CE criteria only after FHWA approval. Several of these projects have been approved to be processed programmaticly by FHWA-SC if certain conditions are met. These types are listed below.

Check appropriate project type:

- ☐ 1. Safety projects including but not limited to: placement of traffic barrier; energy attenuators; grading of slopes or gore areas to eliminate the need for guardrail, improve the clear zone, improve curves, or improve sight distance/ removal of fixed objects such

as boulders or trees; lighting; glare screens; delineators; and safety modification of drainage structures.

- ☐ 2. Pavement resurfacing, restoration, rehabilitation, and reconstruction projects including related shoulder and ditch work.
- ☐ 3. Traffic operation type projects including but not limited to: freeway surveillance and control systems; intersection channelization; turn lanes, acceleration or deceleration lanes; construction, modification or elimination of curbs, raised median dividers or sidewalks; and widening less than a single lane width.
- ☒ 4. Bridge and culvert rehabilitation work and bridge replacement at the same location.

To be processed as a Categorical Exclusion Type B (CEB) the following conditions must be met in addition to the General Criteria (as outlined in the PA between FHWA-SC and SCDOT). Place a check in the appropriate box.

	Yes	No
1. The acquisition of more than minor amounts of temporary or permanent strips of right-of-way and the acquisition will not require any residential or business displacements.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Use of Section 4(f) properties.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. An adverse effect determination under Section 106 of the Nation Historic Preservation Act.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Individual Coast Guard Permits.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Individual Corps of Engineer Permits, or and impact greater than three (3) acres of wetlands.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a. Wetland Impacts (acres): <input type="text" value="0.010 acres"/>		
6. Impacts to planned growth or land use, or significant impacts on travel patterns.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Work encroaching in a regulatory floodway, adversely affecting the base floodplain, or potentially adversely affecting a National Wild and Scenic River.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Changes in access control.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Any known or potential major hazardous waste sites within the right-of-way.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the answer is yes to any of the above criteria, a documented Categorical Exclusion (CE-C) must be prepared and forwarded to FHWA for approval.

The above described project has been reviewed based on the information contained in the engineer's Project Planning Report (PPR) and it has been determined that the project meets the criteria set forth in the Programmatic Categorical Exclusion Agreement signed by FHWA and SCDOT. It is understood that any additions/deletions to the project may void environmentally processing the project as presently classified; consequently, any engineering changes must be brought to the attention of the SCDOT Environmental Section immediately. The project's CE Classification should be shown in the remarks section on the Letter of Request for Authorization

Form (PS Form 39) for right-of-way and/or construction for concurrence by FHWA. A copy of this form is included in the project file and one (1) copy has been provided to FHWA.

Prepared by: Stephanie Gallagher AICP, Environmental Planner
STV Incorporated

March 7, 2012
Date

PPMS: Yes ☐ No ☐

SUPPLEMENTAL INFORMATION

Acquisitions /Displacements

It is anticipated that the proposed bridge replacement would take place within existing right-of-way and therefore additional right-of-way would not be needed. As a result, no displacements would result from the proposed project.

Section 4(f)

The proposed project would not impact publically owned parks, recreational areas, or wildlife refuges. Therefore, a Section 4(f) evaluation/approval is not required for this project.

A boat ramp that is owned by Duke Energy and maintained by the South Carolina Department of Natural Resources (SCDNR) is located adjacent to the westbound SC 9 bridge over the Catawba River, on the northern end (**Figure 4**). It is not anticipated that the proposed project would impact the boat ramp or access road to the facility. The area under the eastbound bridge would need to be closed during demolition and construction of the new bridge. As a result, temporary downstream impacts would occur during this period as access under the eastbound bridge would be restricted. Boats launching from the ramp would only be allowed to travel upstream during this period.

Section 106 - Cultural Resources (Archaeological/Historic)

In accordance with 36 CFR 800.4, a cultural resource survey was conducted in August and October of 2010. A background historical and archival records search was conducted as part of the cultural survey. No previously identified archeological resources are located within 0.5 mile of the proposed project. One historic architectural resource (the Lancaster and Chester Railroad Bridge – Resource 0579) was identified approximately 875 feet south of the existing eastbound SC 9 bridge. This resource was determined to be eligible for the National Register of Historic Places (NRHP) in 1986. However, the proposed replacement of the eastbound SC 9 bridge would be of a similar height and scale to the westbound SC 9 bridge. As a result, it has been determined that the proposed eastbound SC 9 bridge replacement would have No Effect on Resource 0579.

In addition, intensive archaeological surveys were conducted in August and October of 2010. These surveys consisted of intensive shovel tests and the excavation recovered Isolate 1 (one milky quartz reduction flake and one orthoquartz split pebble, which date to an intermediate Pre-Contact subperiod). However, it is recommended that Isolate 1 is not eligible for the NRHP and further investigation is not warranted.

An intensive architectural survey was also conducted in October of 2010 and identified two structures over 50 years in age. One residential resource and an outbuilding (Resources 0282.00-0282.01), both constructed circa 1960, are located approximately 200 feet north of the proposed project. These resources were recommended as not eligible for the NRHP and further management of these resources was deemed not warranted. In addition, the existing eastbound SC 9 bridge was previously determined to be not eligible for the NRHP.

The cultural survey report concludes that the proposed project would not effect any archeological sites or historic properties. The State Historic Preservation Office (SHPO), Tribal Historic Preservation Office of the Eastern Band of Cherokee Indians (EBCI THPO) and the

Catawba Indian Nation (CIN THPO) have all concurred with the findings that no cultural resources would be affected by the proposed eastbound SC 9 bridge replacement (see approved correspondence in **Appendix A**).

Wetlands and Streams

The project study area (PSA) was field reviewed on October 27, 2010 for the presence of jurisdictional waters of the U.S. and waters, including wetlands and streams, were delineated. Prior to the fieldwork, a review of the National Wetlands Inventory (NWI) was also conducted. The PSA reviewed was approximately 2,500 feet long, 250 feet wide and generally centered on the eastbound SC 9 Bridge over the Catawba River and roadway approaches. Potential jurisdictional waters of the U.S. identified in the PSA include one traditional navigable water (Catawba River – Stream A) and two wetlands (Wetland A and Wetland B). Detailed descriptions of these waters can be found in the supporting *Natural Resources Technical Memorandum*.

It is anticipated that impacts to these wetlands and stream could occur as a result of the proposed project. A total of approximately 1.46 acres of wetlands and 250 linear feet of stream are located within the PSA. A summary of the total amount of wetlands and streams located within the PSA is included in **Table 1**.

Table 1
Waters in the PSA

System	Total Area within PSA
Wetlands	
Wetland A (mixture of palustrine forested and scrub-shrub/emergent herbaceous wetlands)	1.44 acres
Wetland B (scrub-shrub/emergent herbaceous wetlands)	0.02 acres
<i>Total Wetlands</i>	<i>1.46 acres</i>
Stream	
Stream A (Catawba River – traditional navigable water)	250 linear feet
<i>Total Stream</i>	<i>250 linear feet</i>

Source: *Natural Resources Technical Memorandum – SC 9 Bridge Replacement over Catawba River*, February 2011.

The delineated jurisdictional boundaries have been verified by the U.S. Army Corps of Engineers (USACE), and a Preliminary Jurisdictional Determination (dated April 27, 2011) is included in **Appendix A**. Adverse impacts to jurisdictional waters of the U.S. would be minimized to the most practical extent possible and cut/infill would be limited to the minimum necessary for the crossing. Fill impacts are not anticipated from the proposed project; however, based on preliminary design, column footings or drilled shafts will be placed within the Catawba River and Wetland A. As a result, impacts would occur to approximately 176 linear feet of stream (Catawba River) and approximately 0.010 acres of Wetland A (**Figure 4**).

Permitting

A Clean Water Act Section 404 permit is required for impacts to jurisdictional waters of the U.S., including wetlands. Section 404 is administered by the USACE. Depending on the type and extent of jurisdictional waters of the U.S., including wetlands, to be impacted, Section 404 permitting requirements can range from activities that are considered exempt or preauthorized

to those requiring pre-construction notification (PCN) for a Nationwide Permit (NWP) or Individual Permit (IP) from the USACE.

For SCDOT projects, USACE General Permit (GP) 2010-01346 may be applicable if impacts do not exceed 3.0 acres of freshwater wetlands and/or 300 linear feet of stream. The GP has been approved by the South Carolina Department of Health and Environmental Controls (SCDHEC), therefore separate approval for Section 401 WQC consistency is not required. However, SCDHEC may require compensatory mitigation for isolated wetlands determined to be non-jurisdictional pursuant to the Clean Water Act. Pursuant to Section 404, regulated discharges would include, but are not necessarily limited to, the placement of fill material, riprap, pipes, culverts, etc., into waters of the U.S. The permit application must include a delineation of affected waters of the U.S., including wetlands, as well as a description of impact avoidance and minimization strategies, and an alternatives analysis. Based on preliminary engineering, it is anticipated that a GP will be required for this project.

No waters located within the PSA are included on the 303(d) list of impaired waters and are therefore not subject to 303(d) list impairments. Quantitative water quality sampling within the PSA was not conducted. The proposed project is not expected to have long term impacts to water quality within the PSA watershed. Short-term impacts would be controlled through Best Management Practices (BMPs). In addition, it is anticipated that the National Pollutant Discharge Elimination System (NPDES) limits would be offset approximately 5 feet from the construction limits. NPDES limits will be included on permit drawings.

In addition, the existing bridge is located within a Federal Energy Regulatory Commission (FERC) Project Boundary for the Catawba-Wateree Project and Duke Energy's Shoreline Management Plan (SMP) area. Duke Energy was contacted for comment on the proposed project and their response letter indicating that a Conveyance Permit will be required is included in **Appendix A**. It is not anticipated that the new bridge would negatively impact the waterway as the hydraulic opening would not be reduced from the existing bridge. A Duke Energy Conveyance Permit will be obtained as part of the permitting process. The permit may take approximately six months for approval and will be required prior to construction. A copy of the Duke Energy Conveyance Application Form is included in **Appendix D**.

Compensatory Mitigation

Compensatory mitigation is normally required to offset unavoidable losses of waters of the U.S. The Council on Environmental Quality (CEQ) has defined mitigation in 40 CFR Part 1508.20 to include: avoiding impacts, minimizing impacts, rectifying impacts, reducing impacts over time, and compensating for impacts. Three general types of mitigation include avoidance, minimization and compensatory mitigation. Compensatory mitigation consists usually of the restoration of existing degraded wetlands or waters, or the creation of wetlands/waters of equal or greater value than those to be impacted. This type of mitigation is only undertaken after avoidance and minimization actions are exhausted and should be undertaken, when practicable, in areas near the impact site (i.e., on-site compensatory mitigation). The USACE typically requires compensatory mitigation for any wetland impacts greater than 0.10 acre for which a Section 404 permit application is submitted.

It is anticipated that any compensatory mitigation requirements for permanent project impacts will be attained through purchase of mitigation credits from a USACE approved mitigation bank. Specific mitigation requirements will be established during the Section 404 permitting process.

Floodplains

The proposed project is located within Zone A of Federal Emergency Management Agency (FEMA) floodplain map (Map Number 45057C0230D). Zone A is a high risk area for flooding and is in the area determined to have a 1% annual chance of flooding. Base Flood Elevations have not been determined.

A preliminary hydraulic assessment (see the Bridge Replacement Scoping Trip Risk Assessment Form in **Appendix B**) was performed in September of 2011 to determine possible impacts to the floodplain from the proposed project. The proposed project would increase the bridge length and span openings. In addition, flood stages along the Catawba River are controlled by Duke Energy. As a result, the proposed project is not expected to increase the Base Flood Elevation on the Catawba River and a No-Rise Certificate will be obtained in accordance with FEMA regulations. Letters of coordination with the Chester County and Lancaster County Floodplain Managers were sent November 29, 2011 (**Appendix A**). Coordination with the Floodplain Managers will continue throughout the process and they will be notified once the final hydraulic analysis is complete.

The level of risk analogous with the probable area of flooding and its consequences attributed to this encroachment is not expected to be any greater than that associated with the present roadway and bridge. Also, the project is not expected to have any increased potential for impact on those critical elements that would constitute a significant risk under 23 CFR 650A. The project's construction within these floodplains would be consistent with FEMA regulations. As part of the design/build contract, the contractor selected will be required to construct a minimum structure length, minimum low chord and minimum channel opening. Once the design/build contract has been established, the proper hydraulic design and analysis will be performed according to FEMA regulations. If the detailed hydraulic analysis is deemed necessary and fails to verify that the proposed project would not significantly impact the floodplain, the project would require re-evaluation prior to proceeding with construction.

Hazardous Materials

The acquisition of additional right-of-way is not required for this project. In addition, the area directly adjacent to the bridge predominately consists of undisturbed land with low potential for hazardous materials. A Phase 1 ESA for the proposed project was completed in April 2011. In general accordance with ASTM E 1527-05, *Standard Practice for Environmental Site Assessments*, the purpose of the Phase 1 ESA is to identify recognized environmental conditions (RECs) and historical recognized environmental conditions (HRECs). The Phase 1 ESA included a search of standard environmental databases and a site reconnaissance. The subject was not listed on any environmental databases; however, the southwestern adjoining property site (Chester Metropolitan District Sewer and Water Treatment Facility) was listed on the Leaking Underground Storage Tank (LUST) and Underground Storage Tank (UST) database. This listed site had two petroleum releases and both were granted no further action status by the South Carolina Department of Health and Environmental Controls (DHEC). A total of forty-five (45) unmapped "orphan" sites within the study area were listed on environmental databases. However, these "orphan" sites were investigated they are not considered environmental threats to the subject property based on location, groundwater flow and current regulatory status. The Phase 1 ESA revealed no evidence of recognized environmental conditions on the subject property or within the specified search radii. As a result, impacts to hazardous materials are not expected.

It is SCDOT's practice to avoid the acquisition of USTs and other hazardous waste materials, if at all possible. If soils that appear to be contaminated with petroleum products were encountered during construction, the South Carolina DHEC would be informed. If avoidance were not a viable alternative, tanks and other hazardous materials would be tested and removed and/or treated in accordance with the United States Environmental Protection Agency (EPA) and South Carolina DHEC requirements. Costs necessary for clean up would be taken into consideration during the right-of-way appraisal and acquisition process.

Threatened and Endangered Species

Pursuant to Section 7 of the Endangered Species Act, the lists of protected species known to occur in Chester and Lancaster Counties were reviewed, and evaluations were performed regarding the likelihood of the presence of each species within the PSA. A search of the U.S. Fish and Wildlife Service (USFWS) database as well as the South Carolina Department of Natural Resources (SCDNR) and the South Carolina Heritage Trust (SCHT) provided existing information concerning the potential occurrence of threatened or endangered species within Chester and Lancaster Counties. This USFWS database identifies federally threatened or endangered species known to occur or to have formerly occurred in Chester and Lancaster Counties and are listed in **Table 2**.

Table 2
Chester and Lancaster Counties Endangered/Threatened Species

Federally Protected Species		Protection Status		Species With Known Occurrence
Common Name	Scientific Name	Federal	State	County
Little amphianthus	<i>Amphianthus pusillus</i>	T	-	Lancaster
Smooth coneflower	<i>Echinacea laevigata</i>	E	-	Lancaster
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGPA	E	Chester and Lancaster
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	E	-	Lancaster
Black-spored quillwort	<i>Isoetes melanospora</i>	E	-	Lancaster
Carolina heelsplitter	<i>Lasmigona decorata</i>	E, CH	E	Chester and Lancaster
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	-	Chester

Source: SCDNR, 2010

T = Threatened, E = Endangered, CH-Critical Habitat, BGPA = Bald and Golden Eagle Protection Act

Terrestrial field reviews were conducted in October 2010, and aquatic mussel surveys were conducted in 2003 and 2004. These efforts revealed no potential habitat in the project study area for the red-cockaded woodpecker, little amphianthus, smooth coneflower, black-spored quillwort, or Carolina heelsplitter. A biological conclusion of 'No Effect' has been determined for these species (see Biological Assessment, Appendix B). The field review did, however, reveal potential habitat for bald eagle and Schweinitz's sunflower within the project study area. As such, additional field surveys were performed.

Potential habitat for the bald eagle was identified in mature (30-50 year old) trees along the east side of the Catawba River within the PSA; however, no individuals or nests were observed during the survey. Additionally, no occurrences of bald eagle have been documented on the SCHT Geographic Database of Rare and Endangered Species within a one-mile radius of the PSA. Due to the removal of the bald eagle from the federal threatened and endangered species

list, effective August 8, 2007, the bald eagle is no longer protected by the Endangered Species Act. Since the USFWS no longer conducts consultations regarding this species, a biological conclusion regarding potential project-related impacts is not provided.

Limited potential habitat for Schweinitz's sunflower exists within maintained RW and along the edges of upland forest in the southeastern portion of the PSA. No plants were observed during the October 2010 survey, which was conducted during the flowering season for Schweinitz's sunflower. Based on the literature reviews and the field survey conducted during the flowering season, it is determined that the project would have 'No Effect' on the Schweinitz's sunflower.

Additional details regarding the protected species surveys can be found in the supporting *Natural Resources Technical Report* (STV/RWA, 2011), the Freshwater Mussel Report (**Appendix C**) and the Biological Assessment (**Appendix C**).

Land Use

The area around the bridge consists primarily of rural, undeveloped woodlands with some agricultural and industrial development mixed in. A few commercial establishments can be found along SC-9. There are also pockets of residential uses (mobile homes and single-family residences) radiating from the bridge area. In addition, the Lancaster County Airport and McWhirter Field is located approximately 3,000 feet northeast of the bridge and two water/sewer facilities are located directly adjacent to the river, southwest and southeast of the SC 9 bridges.

The majority of the area located directly adjacent to the bridge along the Chester County side is zoned for agricultural, commercial and industrial uses. The area located directly adjacent to the bridge along the Lancaster County side is primarily zoned for commercial and industrial uses as well as planned development. As a result, the bridge replacement is not expected to modify existing land use or change the timing or density of development in the area. The project is not in conflict with any plan, existing land use, or zoning regulation.

Air Quality

The purpose of this project is to replace a functionally obsolete and structurally deficient bridge. This project has been determined to generate minimal air quality impacts for Clean Air Act Amendments (CAAA) criteria pollutants and has not been linked with any special Mobile Source Air Toxins (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOBILE6.2 model forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050 while vehicle-miles of travel are projected to increase by 145 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project (FHWA 2011).

Noise

The proposed project does not represent improvements on new location, the addition of through traffic lanes or significant changes in alignment. Therefore, the requirements for conducting noise studies under 23 CFR 772 do not apply.

References

Brockington and Associates, Inc. November 2010. *Cultural Resources Survey of the SC 9 Catawba River Bridge Replacement Project, Chester and Lancaster Counties, South Carolina*. Prepared for the South Carolina Department of Transportation.

Federal Emergency Management Agency. June 16, 2011. FIRM Flood Insurance Rate Map, Lancaster County, South Carolina. Map Number 45057C0230D. Available at: <http://map1.msc.fema.gov> Accessed August 2011.

Federal Highway Administration. 2009. *Interim Guidance on Air Toxic Analysis in NEPA Documents*. Available at: <http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm> Accessed April 2011.

S&ME, Inc. April 2011. *Phase 1 Environmental Site Assessment: Bridge over Catawba River (SC Hwy 9) Chester/Lancaster County, South Carolina*. Prepared for the South Carolina Department of Transportation.

STV/RWA. February 2011. *Natural Resources Technical Memorandum – SC 9 Bridge Replacement over the Catawba River*. Prepared for the South Carolina Department of Transportation.

Figure 1: Site Location

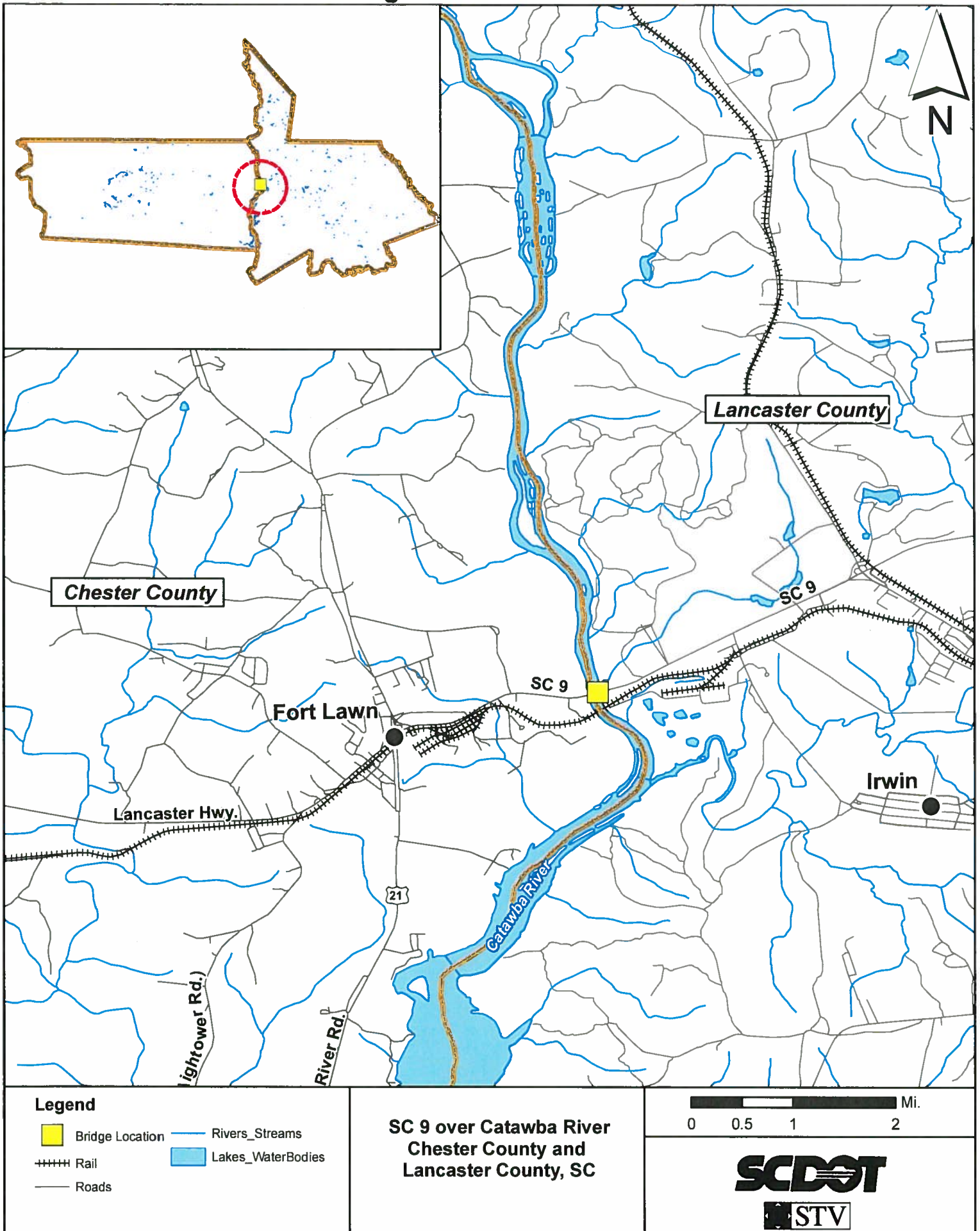
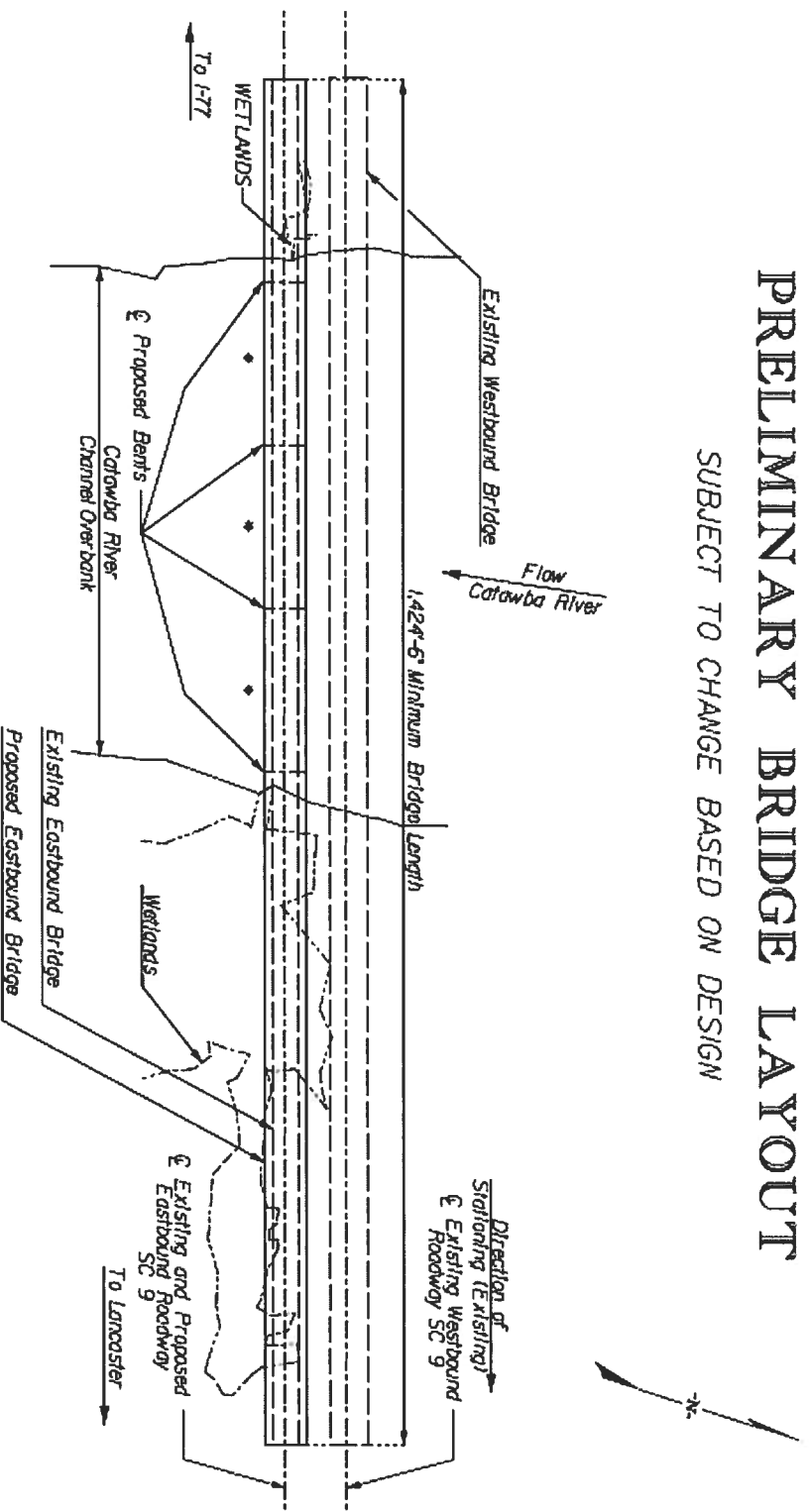


Figure 2: Plan View

ROUTE SC 9 OVER CATAWBA RIVER CHESTER AND LANCASTER COUNTIES PRELIMINARY BRIDGE LAYOUT

SUBJECT TO CHANGE BASED ON DESIGN



* Note: Proposed eastbound bridge span arrangement to match existing westbound bridge span arrangement within limits of overbank of Catawba River.

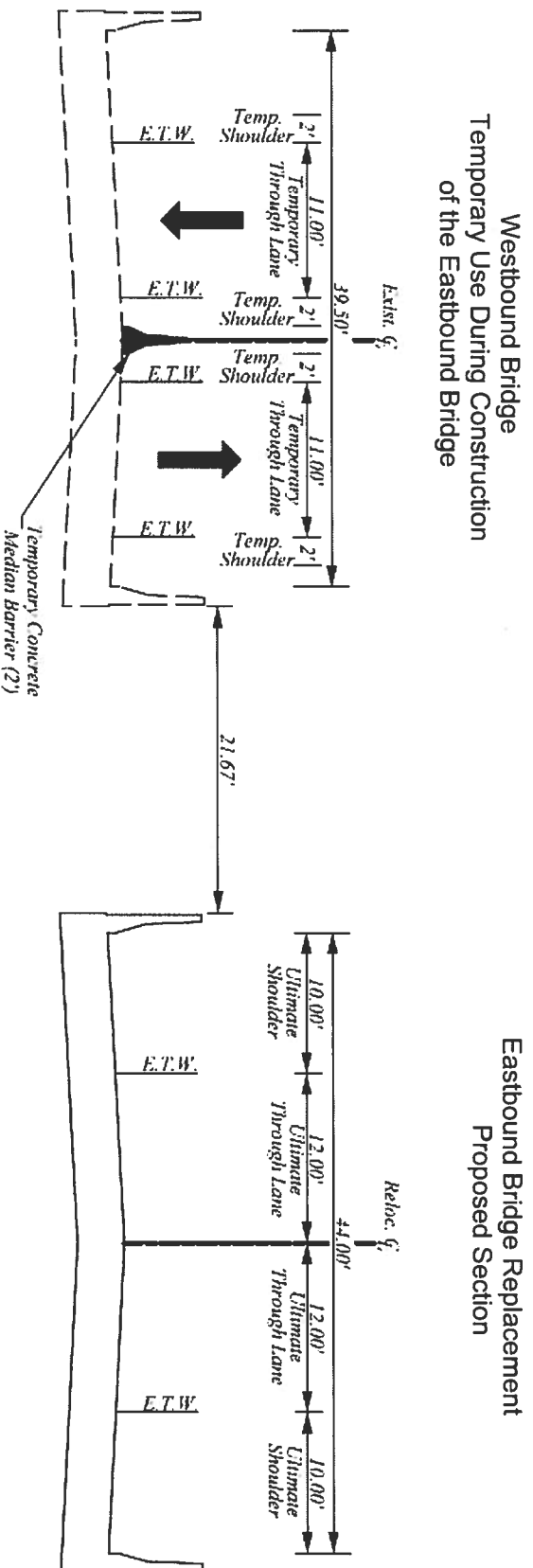
Note: Drawing is not to scale

*Preliminary Design

SC 9 over Catawba River
Chester County and
Lancaster County, SC



Figure 3: Typical Section



TYPICAL SECTION NO. 1 USE THIS SECTION ON SC 9 BRIDGE

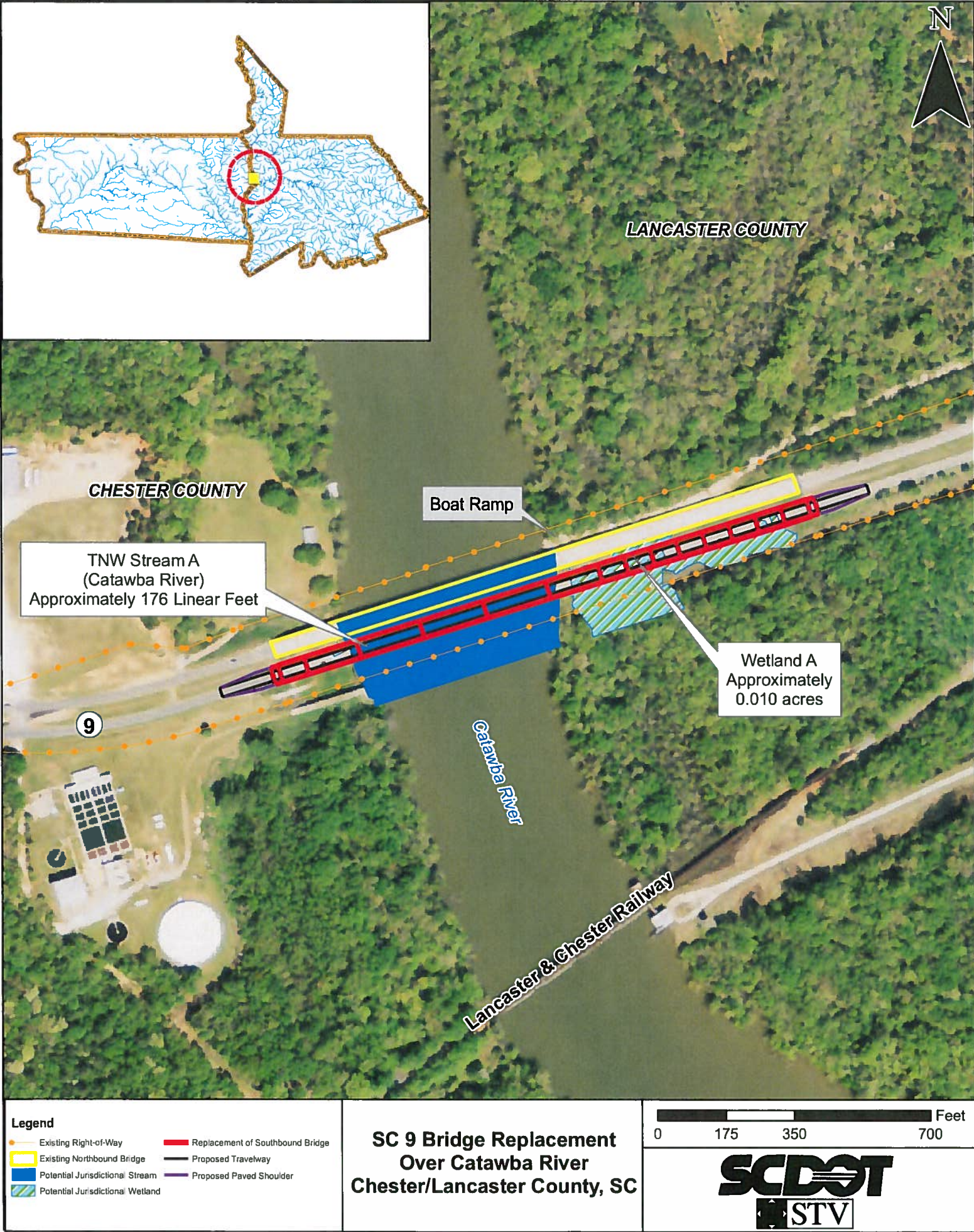
NOTE: DRAWING IS NOT TO SCALE

*Preliminary Design

SC 9 over
Catawba Creek
Chester and Lancaster
County, SC



Figure 4: Potential Impacts



Appendix A
Agency Correspondence



STV/Ralph Whitehead Associates

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Charlotte, North Carolina 28202
(704) 372-1393 fax: (704) 372-3393

November 29, 2011

Ms. Karen Lee
Chester County Floodplain Manager
1476 J.A. Cochran Bypass
Chester, SC 29706

RE: No Impact Intent Statements for Bridge Replacement Projects on SC-9 over the Catawba River, S-12-77 over Fishing Creek and S-12-141 over Rocky Creek in Chester County.

Dear Ms. Lee

The South Carolina Department of Transportation is preparing to replace the above referenced bridges in Chester County. The bridges will be replaced through a design/build contract where the contractor must construct a minimum structure length, minimum low chord and minimum channel opening equal to or greater than the existing structure. This letter attests that the referenced bridges all lay within Zone A of a FEMA regulated floodplain. Preliminary hydraulic assessments have been performed and the bridge replacements are not expected to cause any increases within the base flood elevations nor would they increase the flooding potential for the surrounding areas during 100-year storm events. As a result, it is anticipated that each of the bridges will be designed to meet the "No-Rise" requirements. Once the design/build contracts have been established, the final hydraulic design and analysis will be performed according to FEMA regulations. You will be notified of the study findings for each of the bridges once they are completed.

Please feel free to contact me at (704) 372-3393 if you have any questions or require additional information about the proposed projects.

Sincerely,

Stephanie J. Gallagher, AICP
Environmental Planner
STV, Inc.

Ec: Heather Robbins, SCDOT NEPA Manager



STV/Ralph Whitehead Associates

1000 West Morehead Street, Suite 200
Charlotte, North Carolina 28204
(704) 372-1885 fax: (704) 372-3393

November 29, 2011

Mr. Bill Anderson
Lancaster County Building Official/Floodplain Manager
P.O. Box 1809
Lancaster, SC 29721

RE: No Impact Intent Statements for the Bridge Replacement Projects on SC 9 over the Catawba River and SC 200 over Cane Creek in Lancaster County.

Dear Mr. Anderson

The South Carolina Department of Transportation is preparing to replace the above referenced bridges in Lancaster County. The bridges will be replaced through a design/build contract where the contractor must construct a minimum structure length, minimum low chord and minimum channel opening equal to or greater than the existing structures. This letter attests that the referenced bridges lay within Zone A of FEMA regulated floodplains. A preliminary hydraulic assessment has been performed on each bridge and their replacement is not expected to cause any increases within the base flood elevations nor increase the flooding potential for the surrounding areas during 100-year storm events. As a result, it is anticipated that each of the bridges will be designed to meet the "No-Rise" requirements. Once the design/build contract has been established, the final hydraulic design and analysis will be performed according to FEMA regulations. You will be notified of the study findings for the bridges once they are completed.

Please feel free to contact me at (704) 372-3393 if you have any questions or require additional information about the proposed projects.

Sincerely,

Stephanie J. Gallagher, AICP
Environmental Planner
STV, Inc.

Ec: Heather Robbins, SCDOT NEPA Manager



Duke Energy Lake Services
P.O. Box 1006 / EC120
Charlotte, NC 28201-0006



November 2, 2011

Ms. Heather Robbins
South Carolina Department of Transportation
P.O. Box 191
Columbia, SC 29202-0191

Subject: Comments regarding bridge replacements within the Duke Energy Catawba-Wateree Project.

Dear Ms. Robbins:

Thank you for your letter dated Oct. 10, 2011 requesting comments on the proposed bridge replacement projects located on SC 9 over Fishing Creek Lake and S-141 over Rocky Creek Lake. These projects will require completion of Duke Energy's Conveyance Permit Application process and FERC notification to comply with our FERC license for the Catawba-Wateree Project. Additionally, any current easement agreements for the existing bridge right-of-ways may require updates to reflect any proposed changes. We will be glad to assist you in completing these requirements.

Enclosed is our form for providing basic information about the projects and a list of specific informational items that will be required. Note that each bridge will need to be treated as a separate project utilizing separate forms. Once we have reviewed the items requested and all required agencies have provided comments, the complete application can be submitted. A fee schedule for reviewing the applications and preparing the easements is also enclosed.

Once you have reviewed the enclosed material, please contact either Ronnie Lawson (704-382-7669) or myself (704-382-1120) to discuss. We look forward to helping you with this project.

Sincerely,

Kermitt Taylor
Duke Energy Lake Services

Enclosures

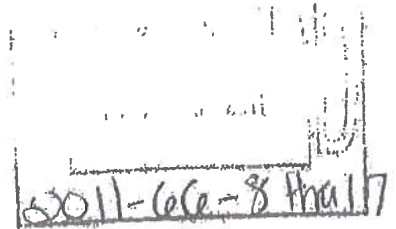
cc: Ronnie Lawson, Duke Energy Lake Services
Kelvin Reagan, Duke Energy Lake Services Manager, Southern Region



South Carolina
Department of Transportation

February 7, 2011

Ms. Elizabeth Johnson
Deputy State Historic Preservation Officer
South Carolina Department of Archives and History
8801 Parklane Road
Columbia, SC 29223-4906



RE: Ten Design Build Bridge Replacement Projects

Dear Ms. Johnson:

The Department plans to hire a design build contractor to replace ten structurally deficient bridges in various counties throughout the state. Brockington and Associates conducted background research and/or field surveys for each of the proposed bridge replacement projects. Copies of the survey reports and letters recommending no need for survey are provided for your review and comment.

Based on the results of background research and field surveys, it is the Department's determination that no historic properties will be affected by the following undertakings:

- 2011-66-8 1) Proposed S-26-24 Pawleys Swamp Bridge Replacement Project, Horry County
File No. 26.040460.1 PCN: 40460_BR01
- 2011-66-9 2) Cultural Resources Survey of the S-13-22 Thompson Creek Bridge Replacement Project, Chesterfield County, File No. 13.040460.3 PCN: 40460_BR03
- 2011-66-10 3) Cultural Resources Survey of the SC 41 Marsh Creek Bridge Replacement Project, Marion County, File No. 34.040460.2 PCN: 40460_BR02
- 2011-66-11 4) Cultural Resources Survey of the SC 3 Calawha River Bridge Replacement Project, Chester and Lancaster Counties, File No. 12.039094.4 PCN: 39094_BR04
- 2011-66-12 5) Proposed SC 72 Cane Creek Bridge Replacement Project, Union County,
File No. 44.039441.2 PCN: 39441_BR02
- 2011-66-13 6) Cultural Resources Survey of the S-12-77 Fishing Creek Bridge Replacement Project, Chester County, File No. 12.039094.1 PCN: 39094_BR01
- 2011-66-14 7) Cultural Resources Survey of the S-12-141 Rocky Creek Bridge Replacement Project, Chester County, File No. 12.039094.2 PCN: 39094_BR02
- 2011-66-15 8) No Need for Archaeological or Historic Architectural Survey for the Proposed SC 200 Wateree Creek Bridge Replacement Project, Faltfield County
File No. 20.39094.3 PCN: 39094_BR03
- 2011-66-16 9) Cultural Resources Survey of the SC 200 Cane Creek Bridge Replacement Project, Lancaster County, File No. 29.039094.5 PCN: 39094_BR05

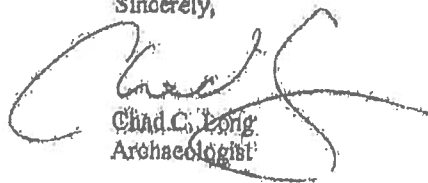


2011-06-17

- 10) No Need for Archaeological or Historic Architectural Survey for the Proposed I-85 SBL
Southern Railroad Bridge Replacement Project, Cherokee County
File No. 11.022094.11 PCN: 22094_BRI I

In accordance with the memorandum of agreement approved by the Federal Highway Administration, March 16, 1999, the Department is providing this information as agency official designee, as defined under 36 CFR 800.2, to ensure compliance with Section 106 of the National Historic Preservation Act. It is requested that you review the enclosed material and, if appropriate, indicate your concurrence in the Department's findings, thus completing the Section 106 consultation process. Please respond within 30 days if you have any objections or if you have need of additional information.

Sincerely,



Chad C. Long
Archaeologist

Enclosures

I ~~(do not)~~ concur in the above determination.

Signed: Caitlin Pottier for Wenonah Haire Date: 5/17/11

cc: Shane Belcher, FHWA
Russell Townsend, EBCL
Lisa LaRue-Stopp, United Keetowah
Dr. Wenonah Haire, CIN-THRO
Keith Derting, SCIAA

File: Env/CCL



South Carolina
Department of Transportation

February 7, 2011

11-DKO
NHPA

Ms. Elizabeth Johnson
Deputy State Historic Preservation Officer
South Carolina Department of Archives and History
8301 Parklane Road
Columbia, SC 29223-4905

RECEIVED

FEB 14 2011

SC Department of
Archives & History

RE: Ten Design Build Bridge Replacement Projects

Dear Ms. Johnson:

The Department plans to hire a design build contractor to replace ten structurally deficient bridges in various counties throughout the state. Brockington and Associates conducted background research and/or field surveys for each of the proposed bridge replacement projects. Copies of the survey reports and letters recommending no need for survey are provided for your review and comment.

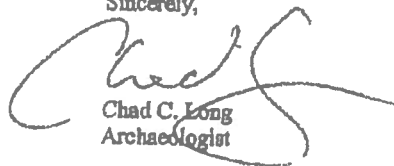
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- 3) Cultural Resources Survey of the SC 41 Marsh Creek Bridge Replacement Project, Marion County, File No. 34.040460.2 PCN: 40460_BR02
- 4) Cultural Resources Survey of the SC 9 Catawba River Bridge Replacement Project, Chester and Lancaster Counties, File No. 1229.039094 PCN: 39094_BR04
- 5) Proposed SC 72 Cane Creek Bridge Replacement Project, Union County,
File No. 44.039441.2 PCN: 39441_BR02
- 6) Cultural Resources Survey of the S-12-77 Fishing Creek Bridge Replacement Project, Chester County, File No. 12.039094.1 PCN: 39094_BR01
- 7) Cultural Resources Survey of the S-12-141 Rooky Creek Bridge Replacement Project, Chester County, File No. 12.039094.2 PCN: 39094_BR02
- 8) No Need for Archaeological or Historic Architectural Survey for the Proposed SC 200 Wateree Creek Bridge Replacement Project, Fairfield County
File No. 20.39094.3 PCN: 39094_BR03
- 9) Cultural Resources Survey of the SC 200 Cane Creek Bridge Replacement Project, Lancaster County, File No. 29.039094.5 PCN: 39094_BR05

10) No Need for Archaeological or Historic Architectural Survey for the Proposed I-85 SBL
Southern Railroad Bridge Replacement Project, Cherokee County
File No. 11.039094.11 PCN: 39094_BR11

In accordance with the memorandum of agreement approved by the Federal Highway Administration, March 16, 1993, the Department is providing this information as agency official designee, as defined under 36 CFR 800.2, to ensure compliance with Section 106 of the National Historic Preservation Act. It is requested that you review the enclosed material and, if appropriate, indicate your concurrence in the Department's findings, thus completing the Section 106 consultation process. Please respond within 30 days if you have any objections or if you have need of additional information.

Sincerely,



Chad C. Long
Archaeologist

Enclosures

I (~~do not~~) concur in the above determination.

Signed:



Date:

2/23/11

cc: Shane Belcher, FHWA
Russell Townsend, EBCI
Lisa LaRue-Stopp, United Keetowah
Dr. Wenonah Haire, CIN-THPO
Keith Derting, SCIAA

File: Env/CCL



Eastern Band of Cherokee Indians
Tribal Historic Preservation Office
P.O. Box 455
Cherokee, NC 28719
Ph: 828-554-6852 Fax 828-488-2462

DATE: April 6, 2011

TO: FHWA, SC Division
Robert L. Lee
Division Administrator
1835 Assembly St.
Suite 1270
Columbia, SC 29201



PROJECTS: Comments concerning:

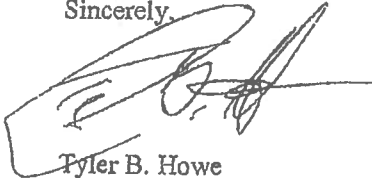
- 1.) (File # 40.039333A; Pin: 39333). Phase I Cultural Resources Survey of the Hardscrabble Road Widening Project, Richland County, SC.
- 2.) (File # 29.039094.5; PCN: 39094_BR05). Cultural Resources Survey of the SC 200 Cane Creek Bridge Replacement Project, Lancaster County, SC.
- 3.) (File # 20.39094.3 PCN: 39094_BR03). No Need for Archaeological or Historic Architectural Survey for Proposed SC 200 Wateree Creek Bridge Replacement Project, Fairfield County, SC.
- 4.) (File # 12.039094.2 PCN: 39094_BR02). Cultural Resources Survey of the S-12-141 Rocky Creek Bridge Replacement Project, Chester County, SC.
- 5.) (File # 12.039094.1 PCN: 39094_BR01). Cultural Resources Survey of the S-12-77 Fishing Creek Bridge Replacement Project, Chester County, SC.
- 6.) (File # 44.039441.2 PCN: 39441_BR02). No Need for Archaeological or Historic Architectural Survey for the Proposed SC 72 Cane Creek Bridge Replacement Project, Union County, SC.
- 7.) (File # 1229.039094 PCN: 39094_BR04). Cultural Resources Survey of the SC 9 Catawba River Bridge Replacement Project, Chester and Lancaster Counties, SC.
- 8.) Cultural Resources Survey of the Celriver/Red River Road Improvements Project, York County, SC. City of Rock Hill Project.

The Tribal Historic Preservation Office of the Eastern Band of Cherokee Indians (EBCI THPO) would like to thank you for the opportunity to comment on this proposed section 106 activities under §36 C.F.R. 800.

The EBCI THPO concurs with the archeologist's recommendations that no sites eligible for inclusion on the National Register of Historic Places were encountered during the recent phase I archaeological field surveys. As such, the EBCI THPO believes that the proposed projects may proceed as planned. In the event that project plans change, or cultural resources or human remains are discovered, all work should cease, and this office should be contacted to continue government to government consultation as defined under Section 106 of the National Historic Preservation Act of 1966, as amended.

If we can be of further service, or if you have any comments or questions, please feel free to contact me at (828) 554-6852.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tyler B. Howe', with a large, stylized initial 'T' and 'H'.

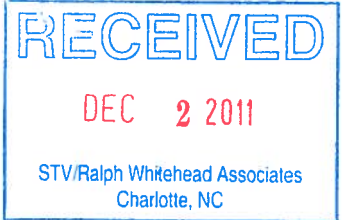
Tyler B. Howe
Tribal Historical Preservation Specialist
Eastern Band of Cherokee Indians

C: Wayne D. Roberts



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT, CORPS OF ENGINEERS
69A HAGOOD AVENUE
CHARLESTON, SOUTH CAROLINA 29403-5107



April 27, 2011

Regulatory Division

Mr. Sean Connolly
Environmental Permit Manager
South Carolina Department of Transportation
P.O. Box 191, 955 Park Street
Columbia, South Carolina 29202

Dear Mr. Connolly:

This is in response to a letter from STV/Ralph Whitehead received December 23, 2011, requesting a Jurisdictional Determination, on behalf of South Carolina Department of Transportation, for a 14.1 acre tract, located along **SC-9 across Catawba River (SCDOT PIN: 39094) located in Lancaster and Chester Counties, South Carolina.** The project area is depicted on the enclosed sketch (Sheet 1 of 1) entitled "SC-9 Southbound Bridge Replacement over the Catawba River, Chester/Lancaster Counties, SC" dated October 29, 2010, that depict the project location, soils mapping, project boundaries, and delineated Waters of the U.S. A preliminary jurisdictional determination is used to indicate that this office has identified wetlands or other waters on the property and believes these waters may be jurisdictional waters of the United States. Since the Preliminary does not verify the actual jurisdictional status of wetlands and/or waters of the United States on the property, it relies on the presumption of jurisdiction for the purpose of expediting the request for a Preliminary.

Based on an on-site inspection, a review of aerial photography, topographic maps, National Wetland Inventory maps and soil survey information and information which you provided, it has been concluded that the boundaries shown on the referenced sketch or plat are a reasonable approximation of the location and boundaries of the waters found on this site. The property in question contains a total of approximately **250 linear feet and 1.46 acres** of federally defined freshwater wetlands or other waters. **Specifically, your project contains 250 linear feet of Catawba River, and two separate wetlands (0.02 acres and 1.44 acres) directly abutting Catawba River.** You are cautioned that this delineation is approximate, subject to change, and should be used for planning purposes only. This office should be contacted prior to performing any work in or around these wetlands or other waters. In order for a definitive determination to be provided, these areas should be located and marked on-site, sketched or surveyed, platted on a map, and should be accompanied by a request for an Approved Jurisdictional Determination. Upon receipt of such a request, this office can then issue an approved determination as to jurisdiction (rather than the presumption of jurisdiction). You should also be aware that the areas identified as wetlands or other waters may be subject to restrictions or requirements of other state or local government entities.

Please note that since this jurisdictional determination is a Preliminary, it is subject to change and therefore is not an appealable action under the Corps of Engineers administrative appeal procedures defined at 33 CFR 331. If a permit application is forthcoming as a result of this

Preliminary, a copy of this letter, as well as the attached sketch or plat should be submitted as part of the application. Otherwise, a delay could occur in confirming that a preliminary jurisdictional determination was performed for the permit project area.

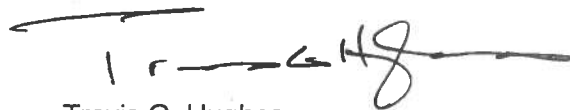
This preliminary jurisdictional determination is a non-binding action and as such has no expiration until it is superseded by an Approved Jurisdictional Determination. If you intend to request an Approved Jurisdictional Determination in the future, you are advised not to commence work in these wetlands and/or waters prior to receiving the Approved Jurisdictional Determination.

In future correspondence concerning this matter, please refer to SAC 2011-00032-DJS. You may still need state or local assent.

Enclosed are two copies of the Preliminary Jurisdictional Determination Form which have been prepared for your signature. Please sign each copy and return to this office in the enclosed self-addressed envelope.

If you have any questions concerning this matter, please contact Stephen A. Brumagin at 803-253-3445.

Sincerely,

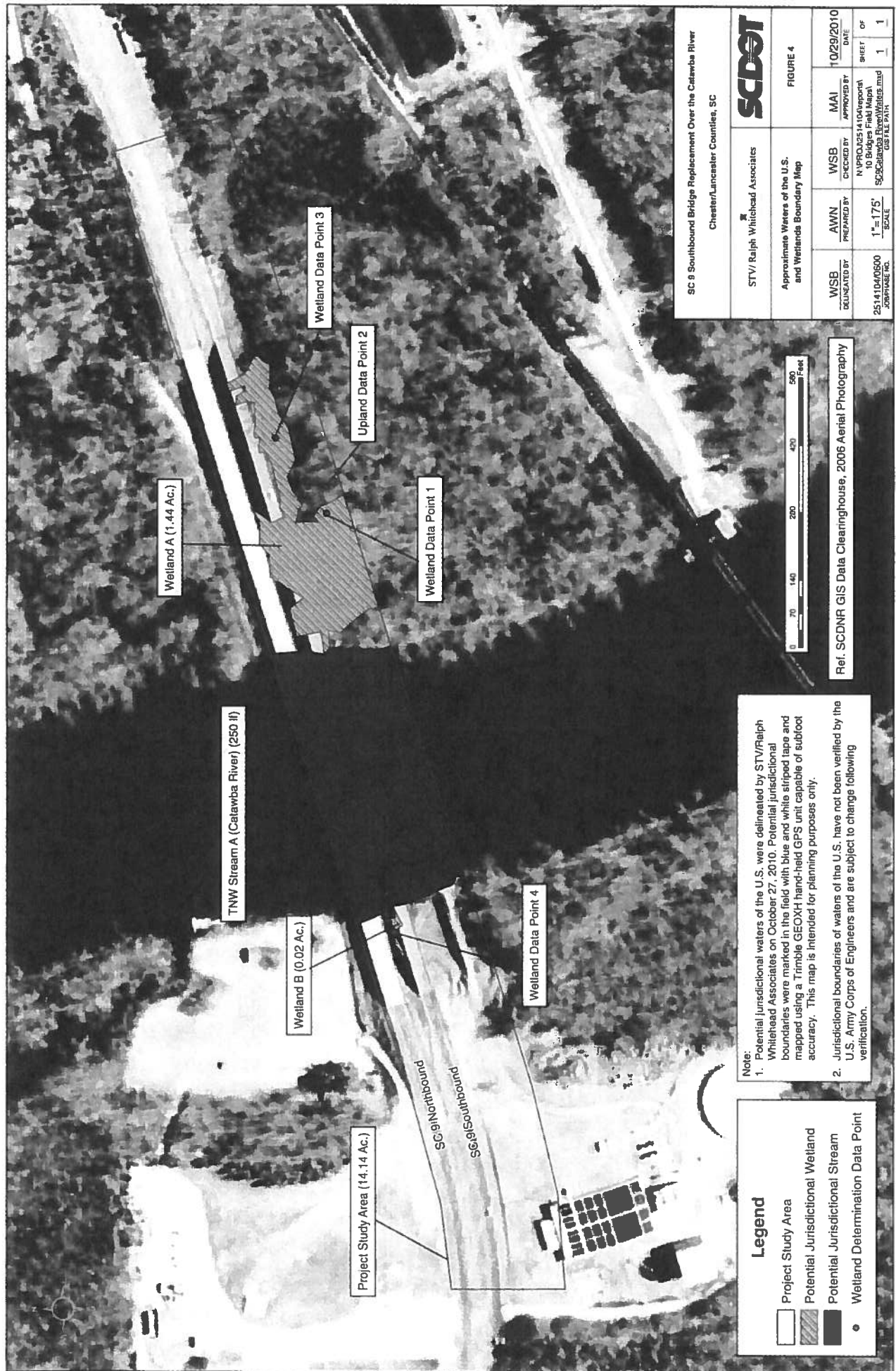
A handwritten signature in black ink, appearing to read 'Travis G. Hughes', with a long horizontal line extending to the right.

Travis G. Hughes
Chief, Special Projects Branch

Enclosures:
Preliminary Jurisdictional Determination Form

Copy Furnished:

Mr. Michael Iagnocco, PWS
STV/Ralph Whitehead Associates
1000 West Morehead Street, Suite 200
Charlotte, North Carolina 28208



SC 9 Southbound Bridge Replacement Over the Catawba River

Chester/Lancaster Counties, SC

STV/Ralph Whitehead Associates

SCDOT

Approximate Waters of the U.S.
and Wetlands Boundary Map

FIGURE 4

WSB DELINEATED BY 2514104/0600 JWH/PAE/ML	AWN PREPARED BY 1"=175' SCALE	WSB CHECKED BY NVP/QU2514104/0600 10 Bridges Field Maps SCDOT/PAE/ML	MAI APPROVED BY DATE	10/29/2010
			SHEET OF	1 1

Ref. SCDNR GIS Data Clearinghouse, 2006 Aerial Photography

Note:

- Potential jurisdictional waters of the U.S. were delineated by STV/Ralph Whitehead Associates on October 27, 2010. Potential jurisdictional boundaries were marked in the field with blue and white striped tape and mapped using a Trimble GEOXH hand-held GPS unit capable of subfoot accuracy. This map is intended for planning purposes only.
- Jurisdictional boundaries of waters of the U.S. have not been verified by the U.S. Army Corps of Engineers and are subject to change following verification.

Legend

- Project Study Area
- Potential Jurisdictional Wetland
- Potential Jurisdictional Stream
- Wetland Determination Data Point

Appendix B

Preliminary Hydraulic Assessment

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

COUNTY: Chester/Lancaster

DATE: 23 September 2011

ROAD #: SC 9

STREAM CROSSING: Catawba River SBL

Purpose & Need for the Project:

Project replaces the structurally deficient and functionally obsolete 1930/1957 southbound structure. Replacement increases safety and provides for long-term functionality of SC 9.

- I. FEMA Acknowledgement The Catawba River's floodplain is an unnumbered Zone A; a floodplain boundary is mapped, no BFEs are determined, no floodway has been mapped.

Is this project located in a regulated FEMA Floodway? ☐ Yes ☒ No

Panel Number: 45057C0230D Effective Date: June 16, 2011 (See Attached)
4500470150B July 5, 1982

- II. FEMA Floodmap Investigation The Catawba River is an unnumbered Zone A; no BFEs are determined and no profile is published.

FEMA Flood Profile Sheet Number _____ illustrates the existing 100 year flood:

- ☐ Passes under the existing low chord elevation.
☐ Is in contact with the existing low chord elevation.
☐ Overtops the existing bridge finished grade elevation.

III. No Rise/CLOMR Preliminary Determination

- ☒ Preliminary assessment indicates this project may be constructed to meet the "No-Rise" requirements. A detailed hydraulic analysis will be performed to verify this assessment.

Justification: At this bridge, flood stages in the Catawba River are controlled by Duke Power company through its system of dams. It is reasonable to assume that a new bridge that does not decrease net opening area will result in no rise.

- ☐ Preliminary assessment indicates this project may require a CLOMR/LOMR. Impacts will be determined by a detailed hydraulic analysis.

Justification: _____

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

IV. Preliminary Bridge Assessment

A. Locate Existing Plans

a. Bridge Plans ☒ Yes File No. 1229.385 Sheet No. 6 (See Attached)
☐ No 1229.235 FAP 269 5

b. Road Plans ☒ Yes File No. 29.441 Sheet No. 16 (See Attached)
☐ No

B. Historical Highwater Data

a. USGS Gage ☐ Yes Gage No. _____ Results: _____
☒ No

b. SCDOT/USGS Documented Highwater Elevations

☒ Yes Results: 439.40 (1916)
☐ No

c. Existing Plans ☐ Yes See Above
☒ No

V. Field Review

A. Existing Bridge

Length: 1420 ft. Width: 31.5 ft. Max. span Length: 85 ft.

Alignment: ☒ Tangent ☐ Curved

Bridge Skewed: ☐ Yes ☒ No Angle: _____

End Abutment Type: Spill-through

Riprap on End Fills: ☒ Yes ☐ No Condition: _____

Superstructure Type: CIP concrete tee beams and structural steel

Substructure Type: Reinforced concrete piers and multi-column bents. Steel piles on widening

Utilities Present: ☒ Yes ☐ No
Describe:

fiber optic telecom (Comporium) attached, power overhead

Debris Accumulation on Bridge: Percent Blocked Horizontally: 0 %
Percent Blocked Vertically: 0 %

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

Hydraulic Problems: ☐ Yes ☒ No

Describe:

V. Field Review (cont.)

B. Hydraulic Features

a. Scour Present: ☐ Yes ☒ No Location: _____

b. Distance from F.G. to Normal Water Elevation: 34 ft.

c. Distance from Low Steel to Normal Water Elev.: 29.9 ft.

d. Distance from F.G. to High Water Elevation: 9 ft.

e. Distance from Low Steel to High Water Elev.: 4.9 ft.

f. Channel Banks Stable: ☒ Yes ☐ No

Describe:

g. Soil Type: Brown and tan slightly clayey silty fine to medium sand

h. Exposed Rock: ☒ Yes ☐ No Location: _____

i. Give Description and Location of any structures or other property that could be damaged due to additional backwater.

C. Existing Roadway Geometry

a. Can the existing roadway be closed for an On-Alignment Bridge Replacement

☒ Yes ☐ No

Describe: Close and detour to existing westbound bridge.

If "yes", does the existing vertical and horizontal curves meet the proposed design speed criteria?

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

If "No", will the proposed bridge be"

- ☐ Staged Constructed
☐ Replaced on New Alignment

VI. Field Review (cont.)

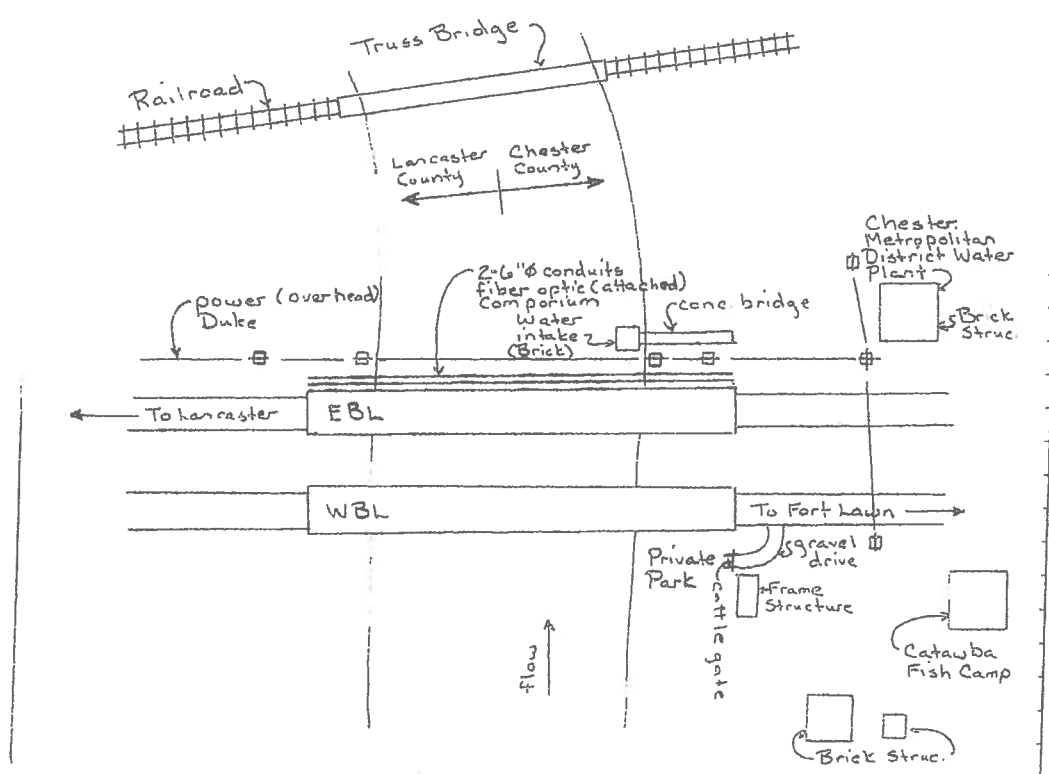
A. Proposed Bridge Recommendation:

Length: 1424.5 . Width: 44 ft. Elevation: maintain low chord ft.

Span Arrangement: Mimic existing westbound structure over river. (see 1229.385 sheet 7 attached).

Notes: Multiple 100' or 120' spans over floodplains. Offset 15 feet from existing piers. Bulb tee prestressed concrete girder or structural steel. Match existing westbound hydraulic opening size. Contact Duke Power for FERC/Duke approval.

DIAGRAM: (Show North Arrow and Direction of Flow)



[illegible]

Harry P. Bates

Page 5 of 5



2000
APPROXIMATE SCALE
0 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CHESTER COUNTY,
SOUTH CAROLINA
(UNINCORPORATED AREAS)

PANEL 150 OF 225

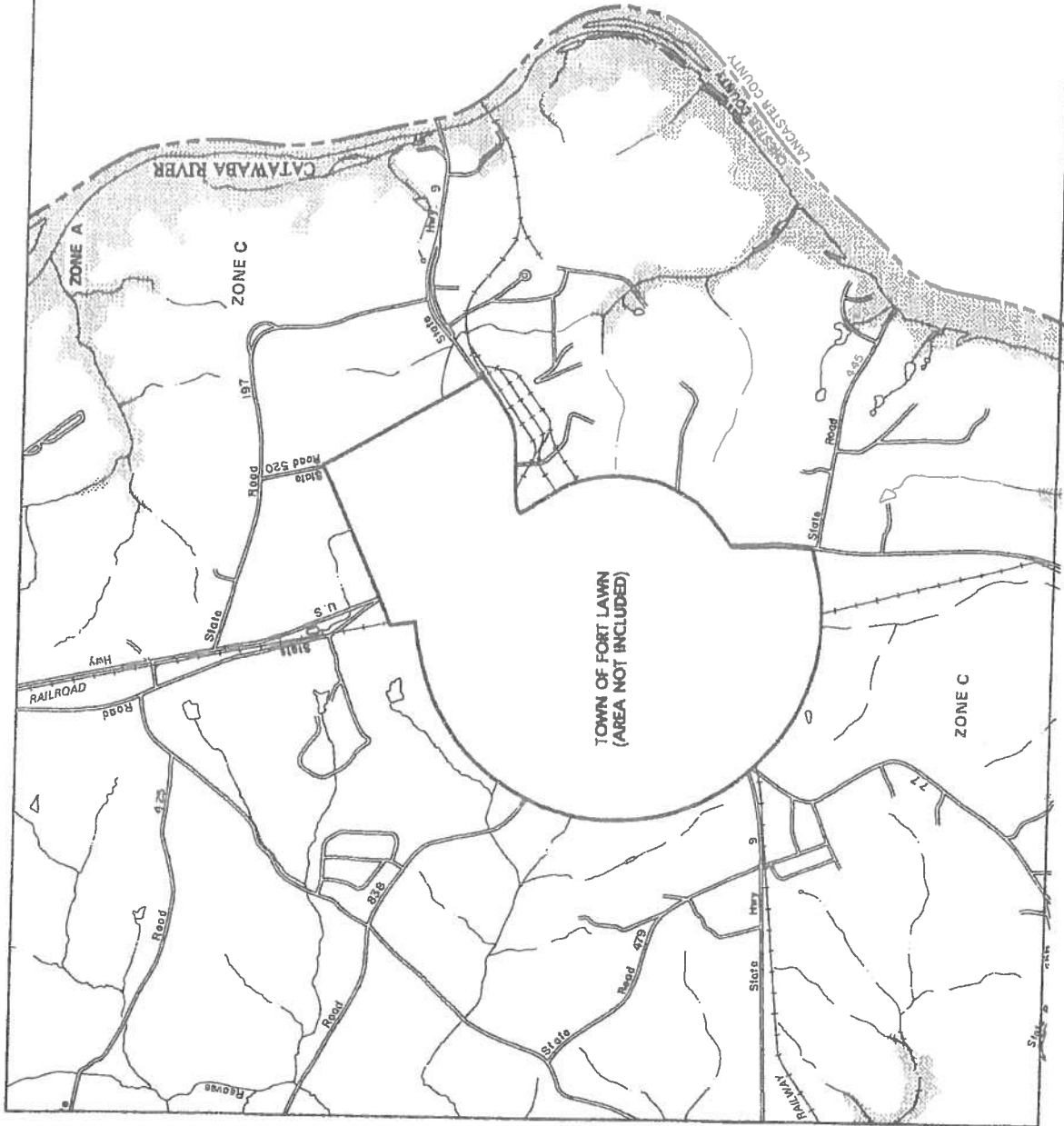
COMMUNITY-PANEL NUMBER
450047 0150B

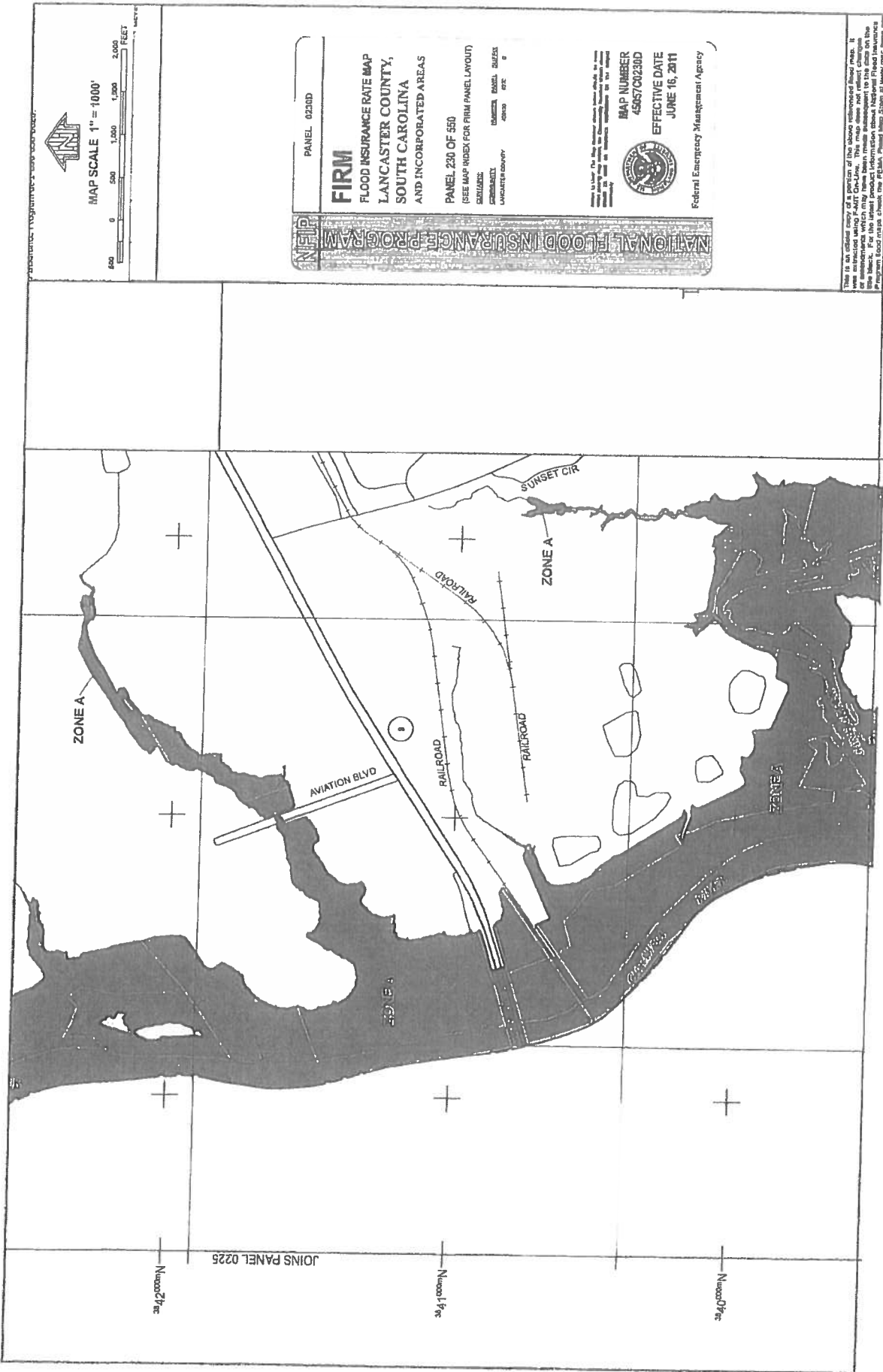
EFFECTIVE DATE:
JULY 5, 1982



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It is not to be used for any purpose other than the one for which it was prepared. Any reproduction, alteration, or dissemination of this map without the express written permission of the Federal Emergency Management Agency is prohibited. For this latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.msc.fema.gov.





FIRM
FLOOD INSURANCE RATE MAP
LANCASTER COUNTY,
SOUTH CAROLINA
AND INCORPORATED AREAS

PANEL 02230D

PANEL 230 OF 550
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

SCALE:
 1" = 1000'
 0 500 1,000 1,500 2,000 FEET

MAP NUMBER
 45057/02230D

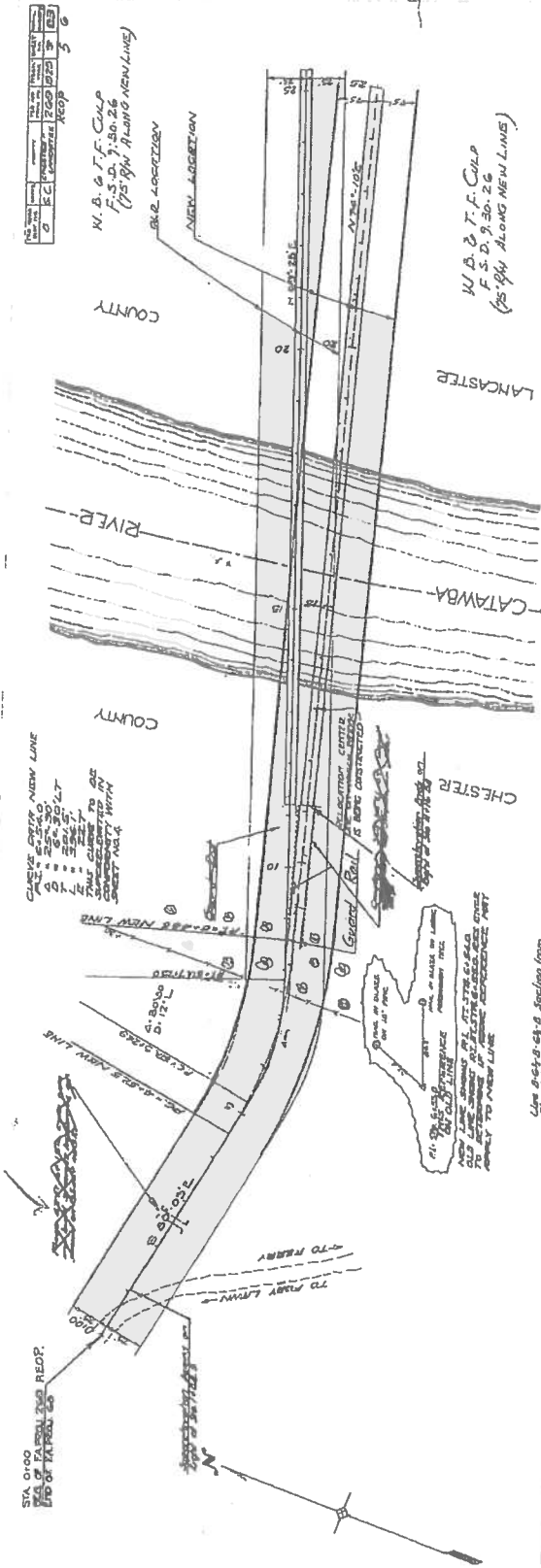
EFFECTIVE DATE
 JUNE 16, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was prepared by the Federal Emergency Management Agency (FEMA) and is subject to change without notice. The latest product information about National Flood Insurance Program (NFIP) maps is available at www.fema.gov.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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NO.	DATE	BY	CHKD.	APP'D.	REMARKS
1	10/10/20	W.D.B.T.F.			NEW LINE
2	10/10/20	W.D.B.T.F.			NEW LINE
3	10/10/20	W.D.B.T.F.			NEW LINE
4	10/10/20	W.D.B.T.F.			NEW LINE
5	10/10/20	W.D.B.T.F.			NEW LINE
6	10/10/20	W.D.B.T.F.			NEW LINE
7	10/10/20	W.D.B.T.F.			NEW LINE
8	10/10/20	W.D.B.T.F.			NEW LINE
9	10/10/20	W.D.B.T.F.			NEW LINE
10	10/10/20	W.D.B.T.F.			NEW LINE



W.D.B.T.F. CULP
F.S.D. 9.30.26
(75' 19" ALONG NEW LINE)

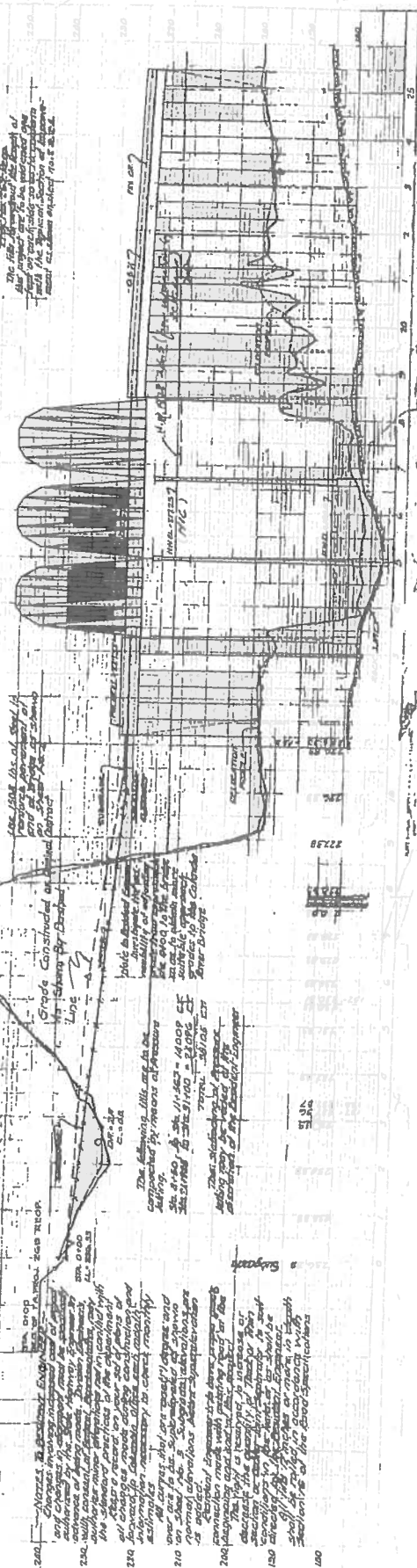
N.B. G.T.F. CULP
F.S.D. 9.30.26
(75' 19" ALONG NEW LINE)

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W.D.B.T.F. CULP
F.S.D. 9.30.26
(75' 19" ALONG NEW LINE)

N.B. G.T.F. CULP
F.S.D. 9.30.26
(75' 19" ALONG NEW LINE)

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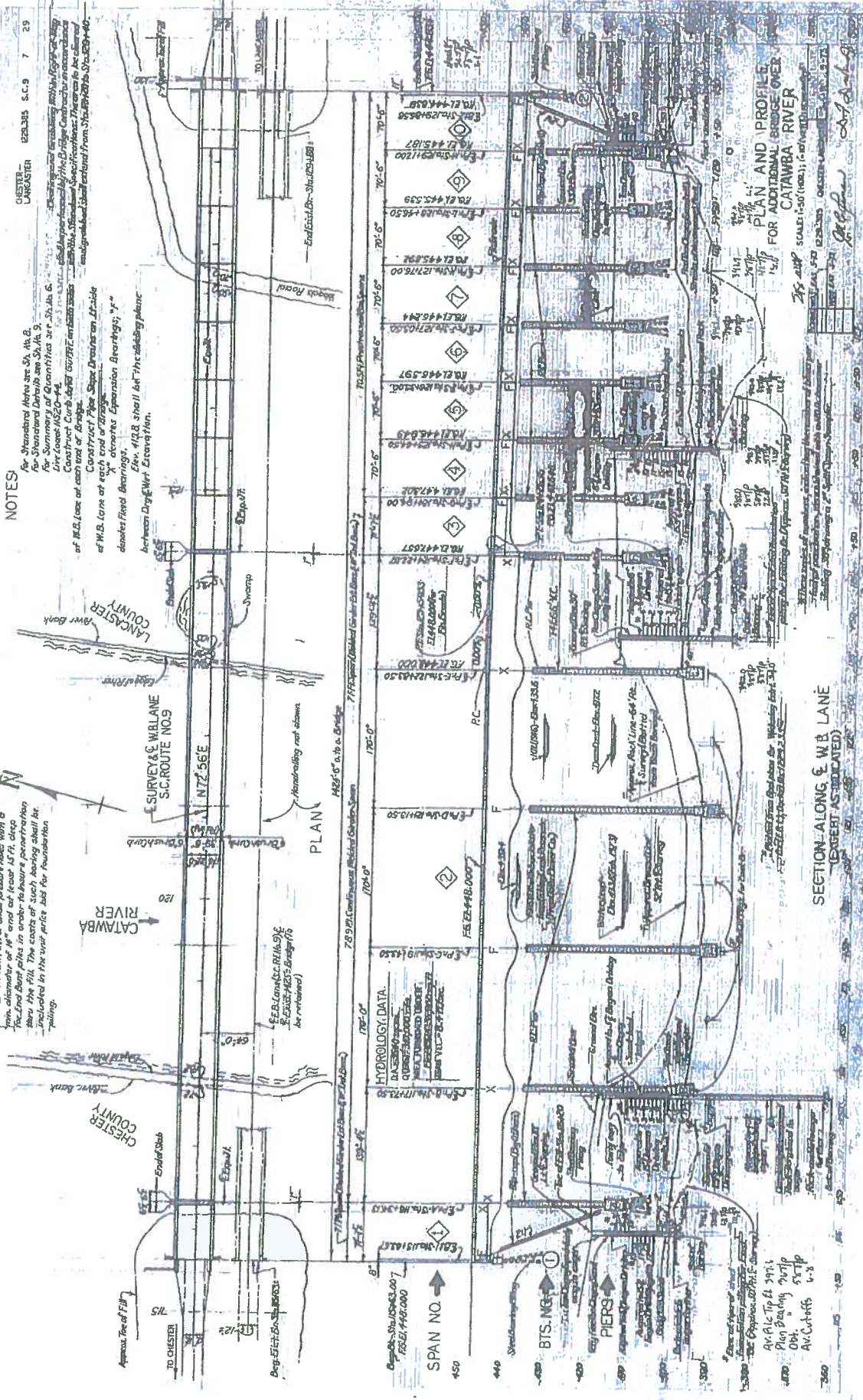
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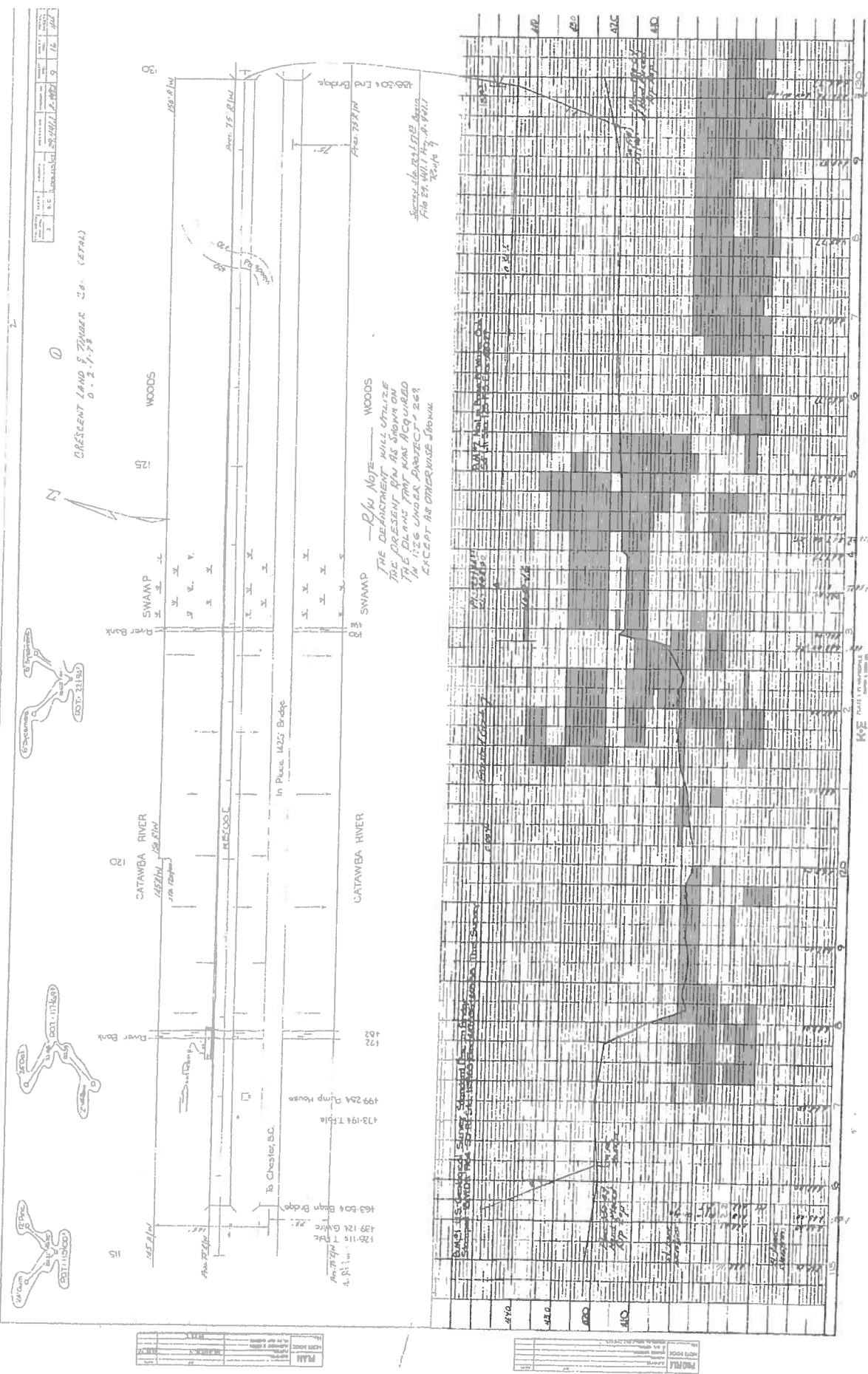
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NOTES

NOTE: The Contractor shall produce holes with a 1/2" diameter at 18" end at least 12 ft deep. The end bore holes in order to insure penetration thru the fill. The costs of such boring shall be included in the unit price bid for foundation piling.

For Standard Notes see Sta. No. 8.
For Standard Details see Sta. No. 9.
For Summary of Quantities see Sta. No. 6.
Line Load 1620-44.
Construct Curb and Drain on Outside of Bridge.
Construct Pipe Sheet Pile on Inside of W.B. Line at each end of bridge.
Construct Expansion Bearings; 1" between Drag Wrt. Excavation.
Elev. 412.8 shall be the existing plane between Drag Wrt. Excavation.





CRESCENT LAND 8 THUNDER 30. (EPAL)
0-2, 1, 78

WOODS
—R/N NOTE—
THE DEPARTMENT WILL UTILIZE
THE PRESENT R/N AS SHOWN ON
THE PLANS THAT WAS ACQUIRED
IN 1936 UNDER PROJECT 269
EXCEPT AS OTHERWISE SHOWN

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Appendix C

Mussel Survey and Biological Assessment



Alderman Environmental Services, Inc.

November 17, 2010

PROJECT: Freshwater mussel report for STV Incorporated; SC 9 Bridge Replacement over Catawba River, Chester/Lancaster county line, SC

TARGET SPECIES: Federally listed endangered Carolina heelsplitter (*Lasmigona decorata*)

SCDNR Endangered Mussel Survey Permit Authorization: November 25, 2002

U.S. FISH AND WILDLIFE SERVICE ES PERMIT: TE065756-1

LOCATION: Catawba River, Santee-Cooper River Basin; SC 9; Chester/Lancaster county line, SC; see Figure 1

COMMENTS: During September 18, 2003 and October 1, 2003, John M. Alderman, Gene Vaughan, Lora Zimmerman (USFWS biologist), and 2 SC State Parks biologists surveyed the Catawba River at Landsford Canal State Park. A very strong effluent odor was present in the air. Although substrate appeared good, no evidence of freshwater mussels was observed. Also, on November 14, 2004, John M. Alderman, Lora Zimmerman, and Joseph Alderman canoe surveyed the Catawba River from Landsford Canal State Park down to SC 9 bridge crossing. No evidence of freshwater mussels was seen, including shell fragments or any fresh or weathered shells. Only *Corbicula fluminea* was observed. Throughout most of this river reach, lentic conditions became increasingly apparent. Lentic conditions started around Rock Water Spring Branch and dominated the reach below Dunn Creek confluence. Therefore, unnatural sediment deposition was occurring, particularly around islands. As stated in 2004, "This is not appropriate Carolina heelsplitter habitat." Based upon these past survey results and the existing lentic conditions found at the planned SC 9 Catawba River project site, no in-stream survey is required at this survey site.

CAROLINA HEELSPLITTER BIOLOGICAL DETERMINATION:

For direct effects on the Carolina heelsplitter: No Effect

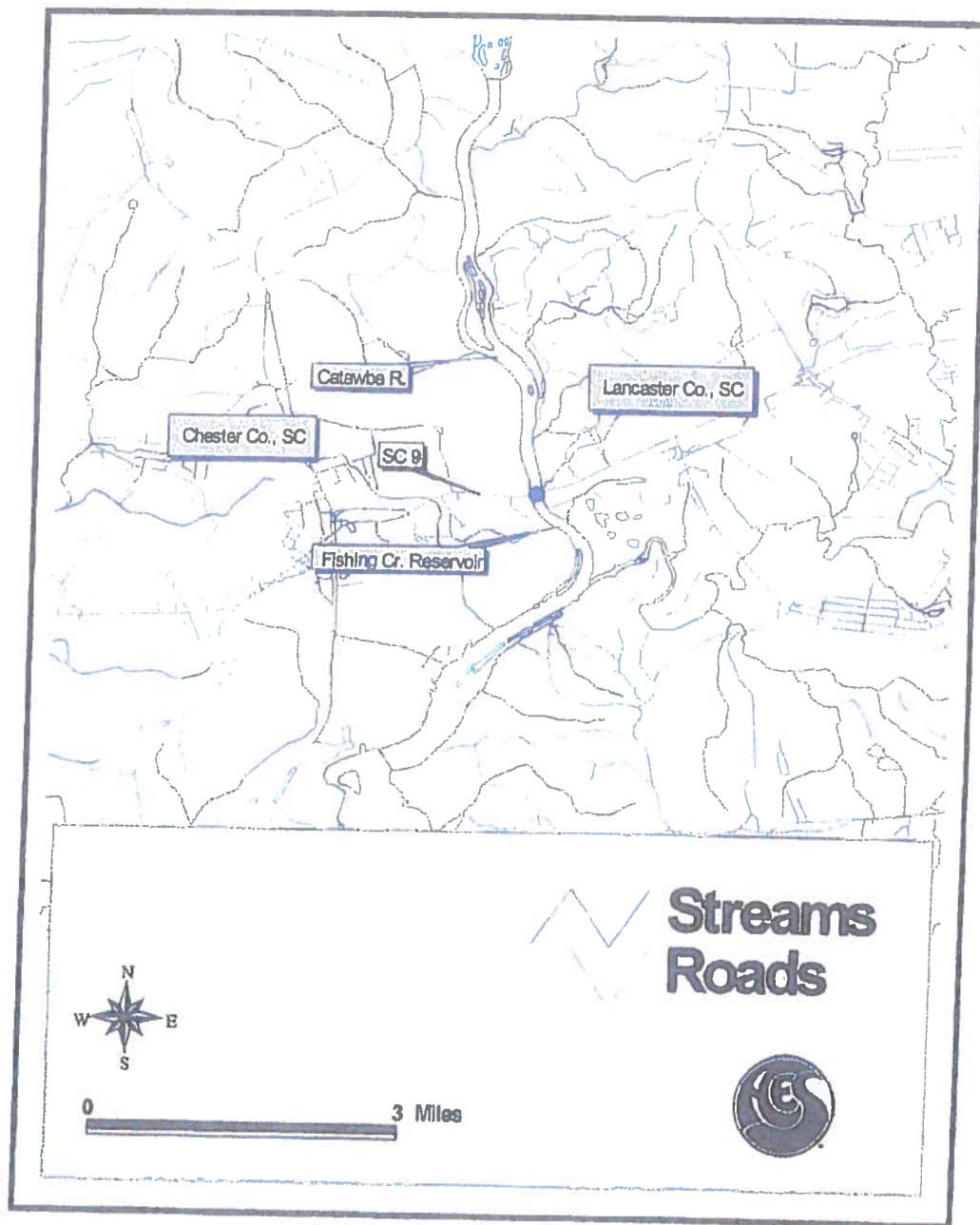


Figure 1. Catawba River, SC 9 bridge replacement site, Chester/Lancaster county line, SC

Biological Assessment
Federal and State Threatened and Endangered Species
SC 9 Southbound Bridge Replacement over the Catawba River
Chester and Lancaster Counties, South Carolina
PIN 39094
File No. 1229.039094.4

The South Carolina Department of Transportation (SCDOT) is proposing to replace the SC 9 Southbound Bridge over the Catawba River located approximately five miles west of the City of Lancaster. The bridge is located on the border of Chester and Lancaster Counties, with Chester County located on the western side of the bridge and Lancaster County located on the eastern side of the bridge. The proposed project would involve the replacement of the existing SC 9 Southbound Bridge over the Catawba River with a new bridge and associated roadway approach improvements. SCDOT proposes to replace the existing bridge in place with a new modern structure while maintaining the existing roadway alignment and approaches. It is anticipated that the two northbound travel lanes would be converted to two-way traffic during construction to accommodate southbound travel. As a result, an alternate detour route would not be required. The existing SC 9 Southbound Bridge over the Catawba River was built in 1930 and reconstructed in 1957. The bridge has a sufficiency rating of 42.3 out of 100, classifying the structure as structurally deficient and functionally obsolete, making it eligible for replacement through the Federal Highway Bridge Replacement and Rehabilitation Program. The existing bridge is approximately 31.5 feet in width and 1,420 feet in length and consists of two 13-foot travel lanes with 2.5-foot paved shoulders on each side.

It is anticipated that the proposed replacement bridge would be approximately 1,430 feet in length and 44 feet in width. The proposed structure would include two 12-foot southbound travel lanes with 10-foot shoulders on either side. The majority of the proposed project would take place within existing right-of-way (R/W); however, additional R/W may be required to accommodate the replacement bridge. It is anticipated that the replacement bridge will be designed and constructed as part of a pending SCDOT Design-Build contract.

Because of the federal nexus of the project, consultation with the U.S. Fish and Wildlife Service (USFWS) is required under Section 7 of the Endangered Species Act (ESA), as amended (16 USC 1531-1534) for proposed projects that "may affect" federally endangered and threatened species. This Biological Assessment (BA) analyzes potential impacts to federal and/or state endangered and threatened species for the proposed project, and is intended to initiate informal consultation, as needed.

The following list (Table 1) of federal and/or state endangered (E) and threatened (T) species for Chester and Lancaster County was obtained from the South Carolina Department of Natural Resources (SCDNR) Rare, Threatened, and Endangered Species Inventory (updated April 15, 2010) and the U.S. Fish and Wildlife Service (USFWS) protected species database (updated March 2010). The table includes bald eagle (*Haliaeetus leucocephalus*) which is no longer federally protected by the Federal Endangered Species Act but is afforded protection through the Bald and Golden Eagle Protection Act (BGEPA).

**TABLE 1. CHESTER AND LANCASTER COUNTY FEDERAL AND/OR STATE
 ENDANGERED AND THREATENED SPECIES**

Protected Species		Protection Status	
Common Name	Scientific Name	Federal	State
Animal			
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGPA	E
Carolina heelsplitter	<i>Lasmigona decorata</i>	E, CH	E
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	-
Plant			
Little amphianthus	<i>Amphianthus pusillus</i>	T	-
Smooth coneflower	<i>Echinacea laevigata</i>	E	-
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	E	-
Black-spored quillwort	<i>Isoetes melanospora</i>	E	-

T = Threatened, E = Endangered, CH = Critical Habitat, BGPA = Bald and Golden Eagle Protection Act

Methods

On behalf of SCDOT, the list of federal and/or state protected species for Chester and Lancaster Counties was reviewed, and evaluations were performed regarding the likelihood of the presence of each species within the project study area (PSA) and potential project-related impacts. A field survey for federal and/or state-listed protected species was conducted by STV/Ralph Whitehead Associates (STV/RWA) on October 27, 2010. STV/RWA environmental scientists Steven Busbee, PWS and Tony Nardo reviewed a project study area generally centered on the SC 9 Southbound Bridge over the Catawba River and roadway approaches, and conducted a pedestrian survey of the PSA for the presence of potential habitat for the above-listed species. Additionally, a mussel-specific survey was conducted by Alderman Environmental Services, Inc. for the presence of potential habitat for Carolina heelsplitter within the project study area.

STV/RWA reviewed a project study area approximately 2,500 feet long and 300 feet wide generally centered on the SC 9 Southbound Bridge over the Catawba River and roadway approaches.

In addition, the South Carolina Heritage Trust (SCHT) Geographic Database of Rare and Endangered Species, updated January 17, 2006, was also reviewed to determine the presence of protected species within or in close proximity to the project study area.

Results

According to the SCHAT database, no occurrences of protected species have been documented within a one-mile radius of the project study area.

Based on the STV/RWA field review, the project study area largely consists of floodplain habitats, including mixed hardwood forest and maintained roadway and utility R/Ws, associated with the Catawba River. Industrial and residential development is dominant in the western portion of the project study area providing little to no habitat for protected species. Other less prominent natural communities located in the project study area include mixed hardwood/pine upland forest.

None of the protected species were observed within the PSA during the field reviews conducted by STV/RWA. No potential habitat for red-cockaded woodpecker, little amphianthus, smooth coneflower, or black-spored quillwort was identified within the project study area. Additionally, no potential habitat for Carolina heelsplitter was identified during the mussel-specific surveys (the freshwater mussel report is attached to this BA); therefore, it is determined that the project will have a biological conclusion of 'no effect' on these species. The field review did, however, reveal

SC 9 Southbound Bridge Replacement over the Catawba River
Biological Assessment for Federal and/or State Threatened and Endangered Species
February 1, 2011

potential habitat for bald eagle and Schweinitz's sunflower within the PSA. Biological conclusions for the protected species that have potential habitat within the PSA follow.

The bald eagle was removed from the federal list of threatened and endangered species on August 8, 2007. However, the species is still federally protected pursuant to the Bald and Golden Eagle Protection Act. Bald eagle typically nest in mature live pine or cypress trees in the transition zone between mature forests and large bodies of water. Nests are very large, up to six feet in width, and constructed of large sticks and soft materials such as dead vegetation, grasses, and pine needles. Winter roosts are usually in mature trees, similar to nesting trees, but may be somewhat farther from water. Potential habitat for the bald eagle was identified in mature (30- to 50-year old) trees along the east side of the Catawba River within the project study area. However, no individuals or nests were observed during the survey. Additionally, no occurrences of bald eagle have been documented on the SCDOT Geographic Database of Rare and Endangered Species within a one-mile radius of the project study area. Due to the removal of the bald eagle from the federal threatened and endangered species list, effective August 8, 2007, the bald eagle is no longer protected by the Endangered Species Act. Since the USFWS no longer conducts consultations regarding this species, a biological conclusion regarding potential project-related impacts is not provided.

The typical habitats for Schweinitz's sunflower include roadsides, old pastures, transmission line R/Ws, and the edges of upland woods. Limited potential habitat for Schweinitz's sunflower exists within maintained R/W and along the edges of upland forest in the southeastern portion of the project study area. No plants were observed during the October 27, 2010 survey which was conducted during the flowering season for Schweinitz's sunflower. Based on the literature reviews and the field survey conducted during the flowering season, it is determined that the project would have 'no effect' on the Schweinitz's sunflower.

BIOLOGICAL CONCLUSION: NO EFFECT



SCDOT Authorized Agent's Signature

02 / 01 / 2011

Date



Alderman Environmental Services, Inc.

November 17, 2010

PROJECT: Freshwater mussel report for STV Incorporated; SC 9 Bridge Replacement over Catawba River, Chester/Lancaster county line, SC

TARGET SPECIES: Federally listed endangered Carolina heelsplitter (*Lasmigona decorata*)

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COMMENTS: During September 18, 2003 and October 1, 2003, John M. Alderman, Gene Vaughan, Lora Zimmerman (USFWS biologist), and 2 SC State Parks biologists surveyed the Catawba River at Landsford Canal State Park. A very strong effluent odor was present in the air. Although substrate appeared good, no evidence of freshwater mussels was observed. Also, on November 14, 2004, John M. Alderman, Lora Zimmerman, and Joseph Alderman canoe surveyed the Catawba River from Landsford Canal State Park down to SC 9 bridge crossing. No evidence of freshwater mussels was seen, including shell fragments or any fresh or weathered shells. Only *Corbicula fluminea* was observed. Throughout most of this river reach, lentic conditions became increasingly apparent. Lentic conditions started around Rock Water Spring Branch and dominated the reach below Dunn Creek confluence. Therefore, unnatural sediment deposition was occurring, particularly around islands. As stated in 2004, "This is not appropriate Carolina heelsplitter habitat." Based upon these past survey results and the existing lentic conditions found at the planned SC 9 Catawba River project site, no in-stream survey is required at this survey site.

CAROLINA HEELSPLITTER BIOLOGICAL DETERMINATION:

For direct effects on the Carolina heelsplitter: No Effect

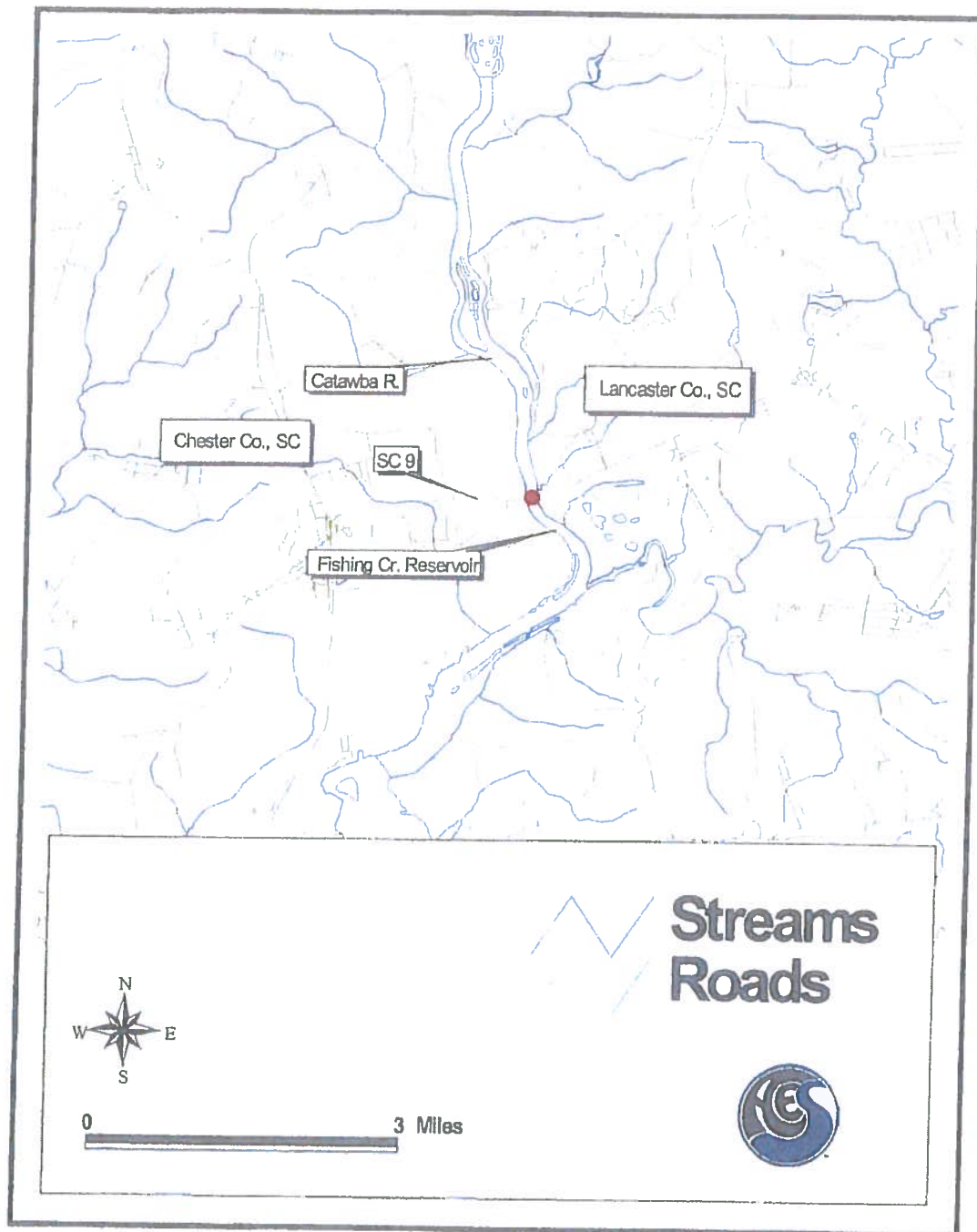


Figure 1. Catawba River, SC 9 bridge replacement site, Chester/Lancaster county line, SC

Appendix D

Duke Energy Conveyance Permit Application Form

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

FOR DUKE ENERGY USE ONLY

Application Fee \$ _____ Security Deposit \$ _____ Check # _____ Date Rec'd. _____ Initials _____

Final Protection/Avoidance Area Field Verified Date ____/____/____ Initials _____

Approved to Start Work By * : _____
(Print) (Sign) Date _____

Completion Required By Date ____/____/____

Closeout Inspection Passed Date * ____/____/____ Initials _____

Any Stop Work Orders or SMG Violations * ? (check one) ☐ Yes ☐ No (If Yes, explain): _____

Deposit Refunded Date _____ Initials _____ Permit Database Updated Date _____ Initials _____

* Forward copy of approved application (all pages, plus any attachments that Duke Energy changed) back to applicant with Approval Letter and highlight any changes. File copies of Approval and Close-out Checklists and any Stop Work Orders with application. Duke Energy approval is signified by the fully signed easement or permit document for conveyance.

PART I. - APPLICANT INFORMATION (Please Print)

Name: _____ Telephone: (____) _____

Lake Address: _____ Mailing Address: _____
(If different)

LAKE INFORMATION

Lake: _____ County: _____ State: _____

City: _____ Subdivision: _____

Applicant Signature* _____ Date _____

* Per my signature, the information provided in this application is correct to the best of my knowledge.

Application Preparation Contractor: _____

Contractor Contact Person: _____ Telephone: (____) _____

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

Construction Company 1: _____

Contact Person (print): _____ Telephone (____) _____

Construction Work To Be Done (*check all that apply*): ☐ Public Bridge Construction ☐ Water Intake
☐ Utility Line Crossing ☐ Sewer Outfall ☐ Storm Water Outfall ☐ Staging Area ☐ Other (*specify*): _____

Construction Company 2: _____

Contact Person (print): _____ Telephone (____) _____

Construction Work To Be Done (*check all that apply*): ☐ Public Bridge Construction ☐ Water Intake
☐ Utility Line Crossing ☐ Sewer Outfall ☐ Storm Water Outfall ☐ Staging Area ☐ Other (*specify*): _____

PART II - DESCRIPTION OF PROJECT

A. BASIC INFORMATION

1. Type of facility(s) (*check all that apply*): ☐ Open Boat Slips ☐ Boat Ramp ☐ Settling Basin/Storm Water Outfall
☐ Utility Line Crossing ☐ Wastewater Discharge ☐ Water Withdrawal ☐ Public Bridge Construction
☐ Other (*specify*): _____

2. Number and Size (*acres*) of Individual Proposed Lakebed Use Area(s) (*list all areas in table*):

Proposed Lakebed Use Area No.	Area (<i>acres</i>) within FERC Project Boundary	# of Boat Slips and Boat Ramps	Intake/Outfall Structure(s)	Public Bridge	Other (<i>specify</i>) _____ _____

3. Proposed Lakebed Use Area(s) (*Total for the project*): _____ acres.

Indicate if this is a: ☐ Lease ☐ Easement ☐ Permit

4. Supporting activities: (*check all that apply*): ☐ Excavation ☐ Shoreline Stabilization ☐ Other (*specify*): _____

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

5. Type of proposed work (check one): ☐ New Construction ☐ Expansion ☐ Rebuild
6. Intended users (check one): ☐ General Public ☐ Condominium/Subdivision Lot Owners
☐ Long-term Campground Users ☐ Transient Campground Users (<14 days) ☐ Yacht/Boat Club Members
☐ Other (specify): _____
7. Lake user category (check one): ☐ Residential Marina ☐ Commercial Marina ☐ Public Infrastructure
☐ Other (specify): _____
8. Legal Entity Claiming Title to the Tract(s) Adjoining the Proposed Lakebed Use Area(s) (specify LLC, Inc., other):

9. Excluding private piers, are there any other water-based recreational facilities (e.g. public access areas, marinas, etc.) within 0.5 miles of the proposal? (check one): ☐ No ☐ Yes (If Yes, specify):

10. Total planned duration of the overall project: START _____ / _____ FINISH _____ / _____
(Month / Year) (Month / Year)
(Include first equipment mobilization through completion of final mitigation measures and demobilization.)
11. Total planned duration of all work within the lake: START _____ / _____ FINISH _____ / _____
(Month / Year) (Month / Year)
(Include any ground disturbance or other work within the FERC Project Boundary.)
12. List all work needed to support the proposal within the Project Boundary (e.g. excavation for pipe lines, storm water outlets, shoreline stabilization, etc.):

Additional Comments / Information:

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

PART II (Continued)

B. PROTECTION / AVOIDANCE AREA DESCRIPTION

Complete the following table considering all land areas within and immediately adjoining the FERC Project Boundary or Duke-owned Peripheral Strip.

<u>Protection/Avoidance Areas</u> (check all that apply)	<u>Approx. Acreage</u> <u>or Linear</u> <u>Footage</u>	<u>Identification Method *</u>		<u>Mitigate ** (M),</u> <u>Avoid (A), or</u> <u>Not Applicable (N/A)</u>
		<u>Field ID</u>	<u>Work Area Dwg. ID</u>	
<u>a.</u> Marshland, swamp, ponds, beneficial aquatic vegetation or other potential wetlands (circle).				
<u>b.</u> Buffer Zones (specify width & source of requirement).				
<u>c.</u> Areas classified as "Environmental" as identified by Duke Energy.				
<u>d.</u> Areas classified as "Natural Areas" as identified by Duke Energy.				
<u>e.</u> Areas classified as "Impact Minimization Zone" as identified by Duke Energy.				
<u>f.</u> Rare or threatened species (specify):				
<u>g.</u> Gas, water, sewer, communications or electric lines (circle).				

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

Protection/Avoidance Areas (check all that apply)	Approx. Acreage or Linear Footage	Identification Method *		Mitigate ** (M), Avoid (A), or Not Applicable (N/A)
		Field ID	Work Area Dwg. ID	
h. Historic properties / cultural resources (specify): _____ _____ _____				
i. Other areas requiring specific avoidance, protection or mitigation (specify): _____ _____ _____				

- * For "Field ID" column - Specify entity or person that performed the identification and how it was physically marked (e.g. Duke Energy, John Doe, orange survey tape).
- * For "Work Area Dwg. ID" column - Specify the symbol that is used on the drawings to identify the protection/avoidance area.
- ** For Mitigation - List and attach mitigation plans for areas marked as "M".

BEFORE YOU MAIL THE APPLICATION TO DUKE ENERGY LAKE SERVICES ENSURE YOU HAVE:

- Checked the information thoroughly.
- Met all requirements for a complete application.
- Included a single check to Duke Energy for the application filing fee and security deposit.
- Included all agency permits or comment letters and information on issues addressed.
- Included all required drawings, surveys and plans.
- Included copies of deeds and authorization letters.

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

PART III - INFORMATIONAL REQUIREMENTS FOR ALL APPLICANTS (NC & SC)

The completed draft Duke Energy Conveyance Permit Application Form (Parts I & II) must be provided to Duke Energy Lake Services for review and comment prior to initiating contact with any of the resource agencies. In addition to the completed draft Application Form, the following items must be provided to Duke Energy Lake Services for all applicants in North and South Carolina to constitute a complete application. Each lettered item below should be addressed on a separate page with the item copied in its entirety at the top of the page with responses and supporting information included:

- A. A compliance letter from the applicant to Duke Energy stating, "(Applicant) hereby agrees to comply with all recommendations, requirements, and/or conditions contained in the attached letters and permits from the various federal, state, and local agencies pertaining to our application to construct a _____ on Lake _____."
- B. A statement describing the proposed use of FERC Project property ("Project"), along with the amount of Project property involved, the name and address of the party or parties to whom the rights are to be conveyed (i.e. the organization or person owning, leasing or that has substantial equity interest in the property adjacent to the Project boundary), and the name and address of the person Duke Energy should contact regarding the application.
- C. A general vicinity map (1 in. = 1 mile or similar scale) with the locations of facilities shown and a **Duke Energy Directions by Road** form providing directions to the development or project area location. This map should be sufficiently labeled with road names, landmarks, county lines, towns, etc., so that the proposed project site is easy to locate. Also include a copy of the applicable Duke Energy Shoreline Management Plan map that includes the subject area.
- D. A detailed written description of the proposed facilities. Include a survey prepared by a licensed Professional Land Surveyor of the entire shoreline adjoining the Project boundary within the development. The survey must include, at a minimum:
 - (1) A North arrow to indicate map orientation.
 - (2) The FERC Project boundary.
 - (3) Side property line intersection points with the Project boundary.
 - (4) Site plan of the development including the designated lot number for any lot having Project frontage.
 - (5) Duke Energy's Shoreline Management Plan shoreline classifications.
 - (6) A line parallel to the full pond contour representing 1/3 of the cove width or 120' from the full pond contour (whichever distance is closer to the shoreline).
 - (7) An indication of the applicant's ownership of the property adjoining the Project boundary.
 - (8) The location, labels, and descriptive information for all existing or proposed facilities that will be located within the Project boundary including, but not limited to, marina facilities, boat slips, courtesy docks, boat ramps, bulkheads, shoreline stabilization at amenity areas, excavation areas, staging areas, utility line crossings, water intakes or discharges, etc. (Do not include private piers or associated shoreline stabilization.)
- E. An accurate technical drawing of all proposed facilities within the Project boundary including all dimensions, total length from the Project boundary, any anchoring or floatation systems, roof structures, water intakes or outfalls, fueling facilities, line crossings, shoreline stabilization, and any other relevant information.
- F. A survey, suitable for recording and no larger than 11" x 17", prepared by a licensed Professional Land Surveyor of the lease, permit, or easement area(s) for the facilities within the Project boundary. The survey must include, at a minimum:
 - (1) A North arrow to indicate map orientation.
 - (2) Location point data representative of the site, positionally accurate to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. The location point must include latitude/longitude in decimal degrees, based on the horizontal reference datum of the North American Datum of 1983 (NAD 83). The location point should be indicated at the intersection of the proposed facility and the Project boundary for each separate lease/permit/easement area or the mid-point of the proposed lease/permit/easement area if there are multiple facilities (e.g., multiple docks with slips) within one lease/permit/easement area.
 - (3) The FERC Project boundary.
 - (4) The boundaries and acreage of the proposed lease, permit, or easement area.
 - (5) The facilities included in the lease, permit, or easement area.
 - (6) Labels indicating the lake name and any other notable features.
- G. A copy of all correspondence to and from any local, regional, state and federal agencies, including any required permits (e.g. 401 and 404 water quality certifications, building permits, etc.) or other approvals or comments which have been obtained from these agencies regarding this activity. Include a copy of any local, regional, state or federal regulations or guidelines that will be followed. (*Note: All permitting issues must be resolved and clearly documented.*)

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

- H. A copy of the deed and registered survey plat or other instrument under which the applicant claims title to the affected property (e.g., the shoreline adjoining the conveyance area or the lakebed if the applicant owns the property within the lake).
- I. A list of names and addresses of property owners adjoining the development or project area location.
- J. Sufficient color photographs of the conveyance project area to illustrate the shoreline and upland areas adjoining the proposed facilities. These photographs should show aquatic habitat, vegetative cover, land cover, and shoreline buffer conditions present at the project site and within 100 feet landward of the shoreline. Also, indicate the date that each photograph was taken. For projects with multiple leases, permitted user agreement areas or easement areas, a map must be submitted that indicates the location/orientation of each set of photographs.
- K. Describe how the proposed construction will be designed to avoid or minimize conflict with the natural, historic, scenic and public recreational values and resources of the Project.
- L. Describe the magnitude and pattern of existing boat traffic in the area, including any existing recreational uses (public or private) at and near the proposed facilities and any areas of attraction, such as marine gas facilities, restaurants, and mooring areas. Describe any effect the proposed facilities may have on existing boat traffic in the area. Describe what measures will be used to ensure boating safety in the vicinity of the proposal during and after construction activity. *(Include any required Navigational Safety Plans with a plan and schedule for installation, maintenance and inspection of the warning/safety devices, with responsibilities listed and verified by confirmation letters from the responsible entities.)*
- M. Describe the procedures proposed to construct the facilities and stabilize any shoreline disturbance that may occur as a result of the proposal (e.g. shoreline stabilization, boat ramps, pipeline trenches, etc.), especially land disturbances within 100 feet of the project boundary.
- N. For projects that include water withdrawals of less than 1 million gallons per day (MGD), the following information must be provided, at a minimum:
- (1) A complete description of the design and construction of the water pipeline and intake structure (including elevation data).
 - (2) Specifications of the intake screen size, openings and intake velocities.
 - (3) Proposed average annual and average monthly water withdrawal rates.
 - (4) Maximum instantaneous pumping capacity.
 - (5) The critical lake elevation for the intake (i.e., the lake elevation below which the intake will no longer pump at its maximum instantaneous pumping capacity for a sustained period of time).
 - (6) A description of measures proposed to mitigate the potential entrainment of fish or aquatic organisms.
- O. A statement indicating that there will be no proposed or requested changes (e.g., modified reservoir level operating ranges, modified flow releases from hydro Project dams, etc.) in hydro Project operation as a result of construction and utilization of the proposed facilities.
- P. If required, an Environmental Assessment (EA) should be prepared for FERC, including both a hard copy and electronic copy on a CD-ROM in Microsoft Word format. Note: An EA is required for all requests that must be submitted to the FERC for review and approval.
- Q. A check to Duke Energy for the application filing fee and security deposit and a separate check to the appropriate state Habitat Enhancement Fund if a payment is required.

THE FOLLOWING IS FOR WATER WITHDRAWAL FACILITIES GREATER THAN 1 MGD ONLY

For all water withdrawal requests on the Catawba-Wateree project, written consultation will be required with the Water Management Group. The Water Management Group information for consultation is attached.

- R. All applicants for new, expanding or rebuilding water withdrawal facilities that have or will have a maximum instantaneous water withdrawal rate greater than or equal to 1 million gallons per day (MGD) must provide the following:
- (1) A draft comprehensive Preliminary Engineering Report (PER) for Duke review and comment prior to contacting any of the agencies or initiating any additional work on the draft application (see Part III -- Information Requirements For All Applicants). The PER must include the applicant's request for the maximum instantaneous withdrawal rate and the maximum average annual rate with supporting documentation.
 - (2) The proposed estimated average annual facility withdrawal schedule (in MGD) for the next thirty years or the executed term of the easement or permit, whichever is greater.

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

- (3) Estimates (in percent of total withdrawals) for consumptive use and inter-basin transfers for the next thirty years or the executed term of the easement or permit whichever is greater. Separate out the percentage estimate for consumptive use from the percentage estimate for inter-basin transfers.
 - (4) Detailed information on water conservation plans. If these plans are required to be filed with local, state, or federal government entities, provide the plan that is currently filed. Provide details on the required local, state, or federal government reporting requirements, if any.
 - (5) Detailed information on drought ordinances and water shortage response plans, including a description of the associated trigger points at which the water use restrictions would be implemented. Provide the estimated reduction in water withdrawals (in MGD) that would result from implementation of the referenced water shortage response plan.
 - (6) For the water proposed to be withdrawn, a detailed estimate of the amounts and location of the discharge points back into the river system. Include estimates and locations for current discharge locations as well as a description of how those estimates and discharge locations are expected to change over the next thirty years or the executed term of the easement or permit, whichever is greater.
 - (7) For the normal use intake, provide the withdrawal capacity (in MGD) of the pump(s) serving the normal use intake with all applicable intake pumps operating at their maximum capacity (i.e., this is the maximum instantaneous withdrawal rate). Also, provide the first lake level elevation at which the maximum instantaneous withdrawal rate of the normal use intake pumps becomes limited. Provide the second lake level elevation at which the normal use intake pump(s) can no longer withdraw water from the lake and must be shutdown.
 - (8) For the low level or emergency use intake, provide the withdrawal capacity (in MGD) of the pump(s) serving the low level or emergency use intake with all applicable intake pumps operating at their maximum instantaneous rate. Also, provide the first lake level elevation at which the maximum instantaneous withdrawal rate of the low level or emergency use intake pumps becomes limited. Provide the second lake level elevation at which the low level or emergency use intake pump(s) can no longer withdraw water from the lake and must be shutdown.
- S. For water intakes with ultimate capacity greater than or equal to 1 million gallons per day (MGD), attach a report, prepared and stamped by a licensed Professional Engineer, to this Conveyance application that contains the following information, as a minimum:
- (1) A detailed estimation of current and future raw water demands and pumping requirements, including:
 - a) Graphs and supporting documentation showing annual average and annual peak raw water demand projections (in MGD) for each year in at least a 30-year forecast (or the expected term of the easement or permit, whichever is longer) that will be served by the proposed raw water intake facility. (Note: If the proposal is for expansion of an existing facility, also specify the same information for the existing raw water intake facility).
 - b) Graphs and supporting documentation showing the maximum average annual rate and the maximum instantaneous rate (in MGD) of the proposed raw water intake facility to meet the demand forecast of Item (1) a) above. (Note: If the proposal is for expansion of an existing facility, also specify the same information for the existing raw water intake facility).
 - c) Graphs and supporting documentation characterizing how the average monthly capacity and peak monthly capacity (in MGD) of the proposed raw water intake facility are expected to vary in a given calendar year for the forecasted period. (Note: If the proposal is for expansion of an existing facility, also specify the same information for the existing raw water intake facility).
 - (2) A description of the applicant's ongoing programs to support the conservation and efficient use of the water withdrawn and any information quantifying the effectiveness of those programs.
 - (3) A summary describing the applicant's construction plan and schedule throughout the forecasted period to modify equipment to achieve the capacity as noted in Item (1) b), and including identification of the ultimate capacity.
 - (4) A description of the applicant's drought management program, including voluntary and mandatory water use restriction measures and any information quantifying the effectiveness of the program.
 - (5) An engineering feasibility evaluation that evaluates the available alternatives that the applicant considered to meet the raw water demand as forecasted in Item (1) a) above before choosing the proposed alternative. At least one of the alternatives evaluated must consider the use of an intake that is fully operational with the lake level as shallow as the Critical Reservoir Elevation required for full hydroelectric station operation on the applicable lake (or for lakes Keowee and Jocassee, five feet below maximum drawdown). In performing this alternatives evaluation, the applicant must use its best efforts to identify and evaluate deep water intakes that would maximize the amount of usable lake storage, including but not limited to the potential use of interconnects with other water supply systems or locating the intake at alternate locations. (Note: Duke Energy reserves the right to reject engineering evaluations that do not adequately consider the available alternatives that would best protect and enhance usable reservoir storage. Duke Energy also reserves the right to conduct, at Duke Energy's expense, its own verification of any engineering evaluation and the applicant will be expected to provide Duke Energy or its contractor with the design information required to complete this verification.)
 - (6) A flowchart and supporting documentation showing how the raw water will be used once it is withdrawn from the Duke reservoir, including percentages of the intake volume that will be:

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- a) Lost due to consumptive uses.
 - b) Lost from the subject river system due to inter-basin transfers at specified wastewater discharge stations (*).
 - c) Returned to the subject river system via specified wastewater discharge stations (*).
- (* Note: Include a USGS quad sheet or other suitable map showing stream and reservoir names; county/city names and boundaries; major roadway names; locations, names and National Pollutant Discharge Elimination System (NPDES) permit identification numbers of the subject wastewater discharge stations; and boundaries drawn to show the geographic area that will be served with water that comes from the subject raw water intake facilities.)
- (7) *(For the portions of the withdrawn water that will ultimately return to a Duke reservoir only)* A summary of the wastewater stream chemical limits as specified in the NPDES permit for the subject wastewater treatment station(s) and a quantification of any discharge stream chemical improvements achieved by treatment processes that exceed the minimal wastewater treatment standards.
 - (8) A reservoir system water quantity model that evaluates the impact of the proposed water withdrawal on the applicable Duke reservoir system. (Note: Duke Energy has existing reservoir system water quantity models for some of its reservoirs and in those cases, the applicant may choose to coordinate with Duke or a mutually agreeable consulting firm to utilize the Duke model at the applicant's expense.)

THE FOLLOWING IS FOR WASTEWATER EFFLUENT DISCHARGE FACILITIES ONLY

- T. Attach a report, prepared and stamped by a licensed Professional Engineer, to this Conveyance application that contains the following information, as a minimum:
- (1) A detailed estimation of current and future discharge demands and flow rates, including:
 - a) Graphs and supporting documentation showing annual average and annual peak wastewater discharge demand projections (in MGD) for each year in at least a 30-year forecast (or the executed term of the easement or permit, whichever is longer) that will be served by the proposed wastewater discharge facility. (Note: If the proposal is for expansion of an existing facility, also specify the same information for the existing wastewater discharge facility.)
 - b) Graphs and supporting documentation showing annual average capacity and maximum instantaneous peak capacity (in MGD) of the proposed wastewater discharge facility to meet the demand forecast of Item 1) a) above. (Note: If the proposal is for expansion of an existing facility, also specify the same information for the existing wastewater discharge facility.)
 - c) Graphs and supporting documentation characterizing how the average monthly capacity and peak monthly capacity (in MGD) of the proposed wastewater discharge facility are expected to vary in a given calendar year for the forecasted period. (Note: If the proposal is for expansion of an existing facility, also specify the same information for the existing wastewater discharge facility.)
 - (2) A summary of the wastewater stream chemical limits as specified in the NPDES permit for the subject wastewater treatment station and a quantification of any discharge stream chemical improvements achieved by treatment processes that exceed the minimal wastewater treatment standards.
 - (3) A detailed description of the expected chemical composition of the effluent stream, including any expected significant short-term variations on a monthly basis or long-term variations over the forecasted period.
 - (4) An engineering feasibility evaluation that evaluates the available alternatives that the applicant considered to meet the wastewater discharge demands as forecasted in Item (1) a) above before choosing the proposed alternative. At least one of the alternatives evaluated must use an effluent outfall that is fully operational with the lake level as shallow as the Critical Reservoir Elevation required for full hydroelectric station operation on the applicable lake (or for lakes Keowee and Jocassee, five feet below maximum drawdown). In performing this alternatives evaluation, the applicant must use its best efforts to identify and evaluate alternatives that would minimize the impacts to the Duke reservoir system, including but not limited to the potential use of interconnects with other wastewater treatment systems and locating the discharge facility at alternate locations. (Note: Duke Energy reserves the right to reject engineering evaluations that do not adequately consider the available alternatives that would best protect and enhance the water quality and/or water quantity within the Duke reservoir system. Duke Energy also reserves the right to conduct, at Duke Energy's expense, its own verification of any engineering evaluation and the applicant will be expected to provide Duke Energy or its contractor with the design information required to complete this verification.)
 - (5) A summary describing the applicant's construction plan and schedule throughout the forecasted period to modify equipment to achieve the capacity as noted in Item (1) b), and including identification of the ultimate capacity.
 - (6) Include a USGS quad sheet or other suitable map showing stream and lake names; county/city names and boundaries; major roadway names; and boundaries drawn to show the geographic area that will be served by the subject wastewater discharge facilities.
 - (7) Reservoir system water quantity and water quality models that evaluate the impacts of the proposed wastewater discharge on the applicable Duke reservoir system. (Note: Duke Energy has existing reservoir system water

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quantity and water quality models for some of its reservoirs and in those cases, the applicant may choose to coordinate with Duke or a mutually agreeable consulting firm to utilize the Duke models at the applicant's expense.)

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PART IV. – AGENCY REVIEWS/APPROVALS REQUIRED

Duke Energy reserves the right to require consultation with additional organizations beyond those included in the Agency List.

****** Refer to the attached Agency List to determine which federal, state, regional, and local agencies require consultation or review. Each agency must be provided at least 30 days prior notification for all conveyance and commercial facility applications on Duke Energy lakes. Evidence must be provided (e.g. response letter or Certified Mail receipt) in the complete application to show that each agency was given the opportunity to review the proposal. Notify them by forwarding a completed copy of this application (PARTS I & II), including the information required under PART III. B-D.

What to Expect:

- a) You will typically receive a letter from each agency either documenting the agency's concurrence with your application, requiring additional information, recommending modifications, or offering no comment. You must address each agency's comments with a follow-up letter and in your final application.
- b) If you do not receive any documentation from an agency within 30 days of their receipt of your application, you must provide that agency with a follow-up letter requesting the agency comment on your proposal within 15 days from the date of the follow-up letter. If you still do not receive any response as a result of the second letter, you must type "NO RESPONSE" at the top of the follow-up letter and provide a copy to Duke Energy along with proof of the agency's receipt of the letter (e.g. Certified Mail receipt). You may proceed with the application process recognizing, however, that if their comments come later in the application process, you will be required to address them.
- c) *From the United States Army Corps of Engineers (USACOE): (** Note – The USACOE may have additional forms to submit for your proposal.)* If the proposal can be done under the requirements of a General Permit (GP) or a Nationwide Permit (NWP), you will typically receive a letter from the Corps documenting authorization and providing any additional instructions. If the proposal isn't covered under a GP or a NWP, you'll be required to obtain an Individual Permit (IP) from the USACOE pursuant to Sect. 404 of the Clean Water Act and/or Sect. 10 of the Rivers and Harbors Act. You must receive written documentation from the USACOE that your application either meets the requirements of a GP or a NWP or that the proper IP has been received before Duke Energy can process your application.
- d) *From the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Quality: (** Note – The NCDENR may have additional forms to submit for your proposal and an additional fee.)* If the proposal meets the requirements of the Clean Water Act Sect. 401 Water Quality Certification, you will typically receive a letter from the NCDENR Division of Water Quality documenting Sect. 401 Certification and providing any additional instructions. You may also receive a letter requiring additional information or recommending modifications. You must receive written documentation from NCDENR that Sect. 401 Certification has been received before Duke Energy can process your application.
- e) *From the South Carolina Department of Health and Environmental Control (SCDHEC): (** Note – The SCDHEC may have additional forms to submit for your proposal and an additional fee.)* The SCDHEC conducts a joint application process with the USACOE in S.C. If the proposal meets the requirements of the Clean Water Act Sect. 401 Water Quality Certification, you will typically receive a letter from SCDHEC documenting Sect. 401 Certification and providing any additional instructions. You may also receive a letter from USACOE requiring additional information for the agencies that participate in the joint application process. You must receive written documentation from SCDHEC that Sect. 401 Certification has been received before Duke Energy can process your application.
- f) *From the State Historic Preservation Officer (SHPO):* Each state SHPO utilizes their own forms for consultation, which should be used when notifying those agencies. Those forms may be found at: <http://www.duke-energy.com/shoreline-management/catawba-waters.asp> or by contacting the respective agencies.
- g) *From the Catawba Indian Nation Tribal Historic Preservation Officer (THPO):* An additional fee may be required.
- h) *From the local Marine Commission:* Applications are normally reviewed during their regularly scheduled monthly public meetings. Applicants must contact the Commission's representative at least one month in advance of the next meeting to be included on the agenda. You will typically receive a letter and/or a copy of the meeting minutes documenting the Commission's concurrence with your application, requiring additional information, or recommending modifications. You must address each comment with a follow-up letter and in your final application.

PART V. - SUMMARY TABLES (Continued)

TABLE 2
SUMMARY OF APPLICATION MODIFICATIONS AFTER START OF CONSULTATION
(Modifications made after Duke Energy approval to start contacting the required agencies.)

[illegible]

PART V - SUMMARY TABLES (Continued)

TABLE 3
SUMMARY OF NON-DUKE ENERGY PERMITS/CERTIFICATIONS*

[illegible]

* Copies of all permits/certifications must be included with agency correspondence in PART III, Item G.

DUKE ENERGY LAKE SERVICES FEE SCHEDULE

EFFECTIVE DATE: February 7, 2011

<i>PROGRAM</i>	<i>ACTIVITY</i>	<i>APPL. FILING FEE (a)</i>	<i>USER FEE (c)</i>	<i>SECURITY DEPOSIT</i>
Private Facilities	Individual Private Facilities	\$300.00	No Charge	No Charge
	Common-Use Facilities	\$300.00 per applicant	No Charge	No Charge
	Maintenance / Non-Conforming structures	\$300.00	No Charge	No Charge
Excavation		\$1,000.00 or \$2,000 (b)	No Charge	\$1,000
Shoreline Stabilization	Landscape plantings & bioengineering	No Charge	No Charge	No Charge
	Rip-Rap	\$50.00	No Charge	No Charge
	Seawall (f)	\$300.00	No Charge	No Charge
Miscellaneous Reservoir Uses	Fish Attractors	No Charge	No Charge	No Charge
	Heat exchange coils for heat pumps	No Charge	No Charge	No Charge
	Irrigation pumps for minor withdrawals	No Charge	No Charge	No Charge
	Ski Ramps/Slalom course (g)	\$200.00	No Charge	No Charge
	Special Use Facilities	\$300.00	No Charge	No Charge
	Temporary Sales Pier (<2 yrs)	\$300.00	\$150/ per docking location (h)	No Charge

PLEASE NOTE: For Combined activities, the highest fee and/or deposit will be required

PROGRAM	ACTIVITY	APPL. FILING FEE (a)	USER FEE (c)	SECURITY DEPOSIT
Marina Facilities (e)	Commercial Marina	\$2,000.00 or \$2,500.00 (b)	\$150/per docking location/ yr. (d)	\$2,000
	Residential Marina (i)	\$2,000.00 or \$2,500.00 (b)	\$150/per docking location/ yr. (d)	\$2,000
	Rebuilds	\$1,000.00	\$150/ per docking location/ yr. (d)	\$1,000
	Time Extensions	\$1,000	N/A	N/A
	Transfer of Permit/ Lease	\$500.00	\$150/ per docking location / yr. (d)	No Charge
Conveyance (e)	All	\$2,000.00 or \$2,500.00 (b)	No Charge	\$2,000
	Time Extensions	\$1,000.00	N/A	N/A
	Staging Area	\$2,000.00 or \$2,500.00 (b)	No Charge	\$2,000
	Transfer of Permit/ Easement	\$500.00	No Charge	No Charge

NOTES:

- a) Any studies necessary for application review or studies required pursuant to application approval must be paid for by the applicant and those costs are not included in the filing fees shown above.
- b) Larger filing fees required for applications that must be approved by the FERC.
- c) User fees are billed annually and additional late payment fees will apply for overdue fees. Lake Use permits may be canceled if user fees are not paid.
- d) Each service facility (e.g. boat ramp, courtesy pier, etc.) also counts toward the total "docking locations" number.
- e) The applicant is responsible for any additional legal or financial documentation.
- f) Dry stack rock is the only vertical stabilization technique allowed on the Nantahala Reservoirs.
- g) No ski ramps/ slalom courses are allowed on the Nantahala Reservoirs.
- h) \$150/ yr collected per docking location for the total time period, collected at the time of the application.
- i) Nantahala SMG does not allow boat ramp construction at private marinas.

APPLICABILITY: These fees and deposits apply as noted to all allowable, non-exempted lake use requests on the following reservoirs controlled by Duke Energy in North and South Carolina:

Lake James	Great Falls Lake
Lake Rhodhiss	Rocky Creek Lake
Lake Hickory	Lake Wateree
Lookout Shoals Lake	Lake Jocassee
Lake Norman	Lake Keowee
Mtn. Island Lake	Gaston Shoals Lake
Lake Wylie	Ninety-Nine Islands Lake
Fishing Creek Lake	Rink Pond (Rink Dam)
Nantahala Area Project Reservoirs	Belews Lake (if applicable)
	Lake Summit (if applicable)

EXEMPTED LAKE USE REQUESTS: Fees and security deposits will not be charged for facilities needed to directly support comprehensive management of the lakes by Duke Energy or public agencies (e.g. rescue squad, Power Squadron and US Coast Guard Auxiliary emergency-support facilities, state wildlife department management facilities, police department non-recreational facilities, facilities needed at designated state and local public parks and recreation areas. Duke Energy mosquito control facilities, Duke Energy hydro station facilities, etc.)

- Duke's Real Estate Department establishes a separate fee schedule for uses of Belews Lake.

REFUNDS:

- Application filing fees will only be refunded if the applicant withdraws the application prior to its approval by Lake Services or if the application is denied by Lake Services.
- User fees will not be refunded.
- Security deposits will be refunded provided that no violations of the Shoreline Management Guidelines occur.

ENFORCEMENT FEE SCHEDULE:

- **Refusal to remove an unapproved, dilapidated, or unsafe structure:** Removal of the structure from the Project property by DE-LS. Loss of consideration for lake use permitting activities until cost of removal, which includes all removal costs including DE-LS or contractor expenses, landfill fees, and a set management fee of \$1,000, is paid.
- **Unauthorized structure built within the Project Boundaries:** After-the-fact application may be accepted if structure conforms to the specific requirements. Fee will be twice the current permit fee to cover additional management costs. Non-complying structures will be subject to modification or removal and restoration of disturbed areas at the owner's expense.

REVISIONS:

- This fee schedule will be revised as needed.