

**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	S-12-141	39094	1229.039094.2

Programmatic Type: CE B

Project Name: Proposed Bridge Replacement on S-12-141 (Brooklyn Road) over Rocky Creek in Great Falls, South Carolina (Chester County).

Proposed Action: The South Carolina Department of Transportation (SCDOT) proposes to replace the existing S-12-141 (Brooklyn Road) bridge over Rocky Creek in Great Falls, South Carolina (**Figure 1**). A wastewater treatment plant is located adjacent to the northwest side of the bridge. In addition, timber piles from a previous bridge at this crossing are located approximately 300 feet south (downstream) of the existing S-12-141 bridge. Rocky Creek is included on the S.C. Department of Health and Environmental Control (SCDHEC) 303(d) list of impaired waters. The scope of the project involves replacing the existing two-lane bridge (one lane in each direction) with a new, modern structure in the existing location. The existing bridge is 300 feet in length and 29.5 feet in width with six, 50-foot spans. The curb to curb width is approximately 26.4 feet and the existing bridge and approaches do not currently have adequate shoulders. The existing bridge has a clearance height (low chord elevation) of 21.2 feet from low steel to normal water elevation. The proposed project is part of a design-build contract and funds for the project are reasonably expected to be available. The proposed project is included in the State Transportation Improvement Plan (STIP District 4 – Page 1) as an Off-System Project. Preliminary engineering indicates that the new bridge would be approximately 320 feet in length and 34 feet in width and consist of four, 80-foot spans (**Figure 2**). The new bridge would accommodate two, 11-foot travel lanes (one lane in each direction) with 6-foot paved shoulders on either side (**Figure 3**). The span lengths would be increased by 30 feet and the piers would be offset slightly from the existing piers. The existing clearance height (low chord elevation) would be maintained. An additional 0.34 acres of right-of-way would be required; however, displacements would not result from the proposed project. In addition, impacts would occur to approximately 85 linear feet of Rocky Creek as a result of the bridge replacement. It is anticipated that the existing bridge would need to be closed for demolition and re-construction of the bridge and an off-site detour (approximately 2.65 miles) would be required during this time (**Figure 1**). Replacement of the bridge in a new location with roadway realignment was considered. Replacement to the north would result in impacts to the wastewater treatment plant. Replacement to the south would result in a wetland impact and conflict with the timber piles from the previous bridge. In addition, replacement of the bridge in a new location would require a new roadway alignment with an extension of project limits and additional right-of-way acquisition. As a result, the replacement of the bridge in the existing location has been deemed the most reasonable alternative due to the environmental sensitivity of the area and low traffic volume on the roadway.

Purpose and Need: The bridge was built in 1961 and has a sufficiency rating of 62.3. The bridge is eligible for rehabilitation funding from the federal Highway Bridge Replacement and Rehabilitation Program. Traffic studies indicate that the existing (2008) average daily traffic volume (ADT) for S-12-141 is 950 vehicles per day (vpd). By 2028, the ADT on S-12-141 is expected to increase to 1,216 vpd. The roadway is classified as a Rural-Local facility. The aging structure is nearing the end of its useful life and replacement of the bridge would increase the

safety of the crossing, bring the bridge into current compliance to meet today's standards 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 would 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).

The project is located within the Federal Energy Regulatory Commission (FERC) project boundaries for the Duke Energy Catawba-Wataeree 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.

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. A wetland and a stream (Rocky Creek) are located within the project study area (PSA). Column footings or drilled shafts would be placed within Rocky Creek and impacts would occur to approximately 85 linear feet of Rocky Creek as a result of the bridge replacement (**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 would be attained through purchase of mitigation credits from an approved mitigation bank. In addition, the proposed project is located within Zone AE of a Federal Emergency Management Agency (FEMA) floodplain. However, a preliminary hydraulic assessment has determined that the bridge replacement would meet the "No Rise" requirement (see Bridge Replacement Scoping Trip Risk Assessment in **Appendix B**). A coordination letter was sent to the Chester County Floodplain Manager to notify them of the bridge replacement project within a FEMA regulated floodplain (**Appendix A**).

Stormwater control measures during construction and post-construction are required for SCDOT projects within the vicinity of SCDHEC designated "sensitive" waters. These include, but are not limited to: 303(d) impaired waters, waters with Total Maximum Daily Loads (TMDLs), Outstanding Resource Waters (ORW), Shellfish Harvesting Waters (SFH) and trout waters. Rocky Creek is listed on the SCDHEC 303(d) list for impaired waters. As a result, stormwater control measures for sensitive waters would be in accordance with SCDOT's MS4 Permit.

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).

Additionally, the proposed project would have no effect on land use, hazardous materials, farmlands, air quality or noise.

Environmental Commitments:

- 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**.
- 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, it is anticipated that the proposed project would impact approximately 85 linear feet of Rocky Creek and 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 the floodplain 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 Floodplain Manager prior to construction and a No-Rise Certification will also be obtained. A letter of coordination with the Chester County Floodplain Manager was sent November 29, 2011 (**Appendix A**). Coordination with the Floodplain Manager will continue throughout the process and they will be notified once the final hydraulic analysis is complete.
- The bridge is located in the vicinity of a SCDHEC 303(d) listed water (Rocky Creek) and stormwater control measures, both during construction and post-construction, will be in accordance with SCDOT's MS4 Permit.
- 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.

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 programmatically 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"/>		
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 approximately 0.34 acres of new right-of-way would need to be obtained for the proposed bridge replacement (**Figure 4**). However, the proposed project would primarily take place within existing right-of-way and 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.

Section 106 - Cultural Resources (Archaeological/Historic)

In accordance with 36 CFR 800.4, a cultural resource survey was conducted in August 2010. A background historical and archival records search was conducted as part of the cultural survey. This records search revealed that three archaeological sites and two historic sites are located within 0.5 mile of the project area. These sites were identified during the cultural resources survey for the Catawba-Wateree Hydro Project. One archeological site (17th-19th Century) is eligible for the National Register of Historic Places (NRHP). One historic site (Great Falls Depot, circa 1912) is NRHP-listed and one site (Great Falls/Dearborne Development, circa 1907) is eligible for NRHP. No archaeological resources were revealed during an intensive archaeological survey in August 2010. Also, there are no historic architectural resources within the project corridor. In addition, the bridge over Rocky Creek was constructed in 1961 and is not NRHP-eligible. As a result, the cultural resource survey determined that these NRHP-listed and NRHP-eligible resources would not be affected by the S-12-141 bridge replacement.

The State Historic Preservation Office (SHPO), Tribal Historic Preservation Offices 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 bridge replacement (see approved correspondence in **Appendix A**).

Water Quality

A water-quality monitoring station (Station CW-175) is located on the S-141 bridge over Rocky Creek and it is included on the 2010 S.C. Department of Health and Environmental Control (SCDHEC) 303(d) list of impaired waters. At Station CW-175, aquatic life uses are not supported due to dissolved oxygen, turbidity, and total phosphorous excursions. In addition, there is a significant decreasing trend in pH. Recreational uses are not supported at this site due to fecal coliform bacteria excursions.

Stormwater control measures during construction and post-construction are required for SCDOT projects within the vicinity of SCDHEC designated “sensitive” waters. These include, but are not limited to: 303(d) impaired waters, waters with Total Maximum Daily Loads (TMDLs), Outstanding Resource Waters (ORW), Shellfish Harvesting Waters (SFH) and trout waters. As a result of Rocky Creek’s listing on the SCDHEC 303(d) list for impaired waters, stormwater control measures for sensitive waters would be in accordance with SCDOT’s MS4 Permit.

Wetlands and Streams

The project study area (PSA) was field reviewed in August 2010 for the presence of jurisdictional waters of the U.S. and potential waters were delineated. Prior to the fieldwork, a review of the National Wetlands Inventory (NWI) was also conducted. The PSA reviewed was approximately 1,000 feet long, 180 feet wide and generally centered on the SC-12-141 bridge over Rocky Creek and roadway approaches. Potential jurisdictional waters of the U.S. identified in the PSA include one freshwater wetland (Wetland A) and Rocky Creek (Stream A), a perennial relatively permanent water (RPW). Detailed descriptions of these waters can be found in the supporting *Natural Resources Technical Memorandum*.

A total of approximately 0.01 acres of wetland and 226 linear feet of stream are located within the PSA. 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. However, based on preliminary design, impacts would occur to approximately 85 linear feet of stream (**Figure 4**). Impacts to the wetland are not anticipated.

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. Based on preliminary engineering, it is anticipated that a GP would be required for this project.

In addition to the Section 404 permit, SCDHEC must grant, deny, or waive a Water Quality Certification (WQC), in accordance with Section 401 of the Clean Water Act. Waters considered by SCDHEC to be sensitive may also require additional consideration during the 401 WQC process. These include, but are not limited to, Outstanding Resource Waters (ORW), Shellfish Harvesting Waters (SFH), trout waters, areas draining to waters included on the 303(d) list of impaired waters, and areas draining to waters with an approved TMDL. Rocky Creek at S-12-141 is “impaired” and is a 303(d) listed water. Depending on the type of impairment, extent of the project, and other factors, SCDHEC may require additional water quality protection and stormwater treatment measures during and after construction to ensure that the impaired water is not being further degraded by the project.

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 would 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 or 100 linear feet of stream.

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

Floodplains

The proposed project is located within Zone AE of Federal Emergency Management Agency (FEMA) floodplain map (Panel Number 45023C0417C). Zone AE is a high risk area for flooding and is in the area determined to have a 1% annual chance of flooding.

A preliminary hydraulic assessment was performed in March of 2012 to determine possible impacts to the floodplain from the proposed project (see the Bridge Replacement Scoping Trip Risk Assessment Form in **Appendix B**). The proposed project would increase the bridge length and span openings. In addition, flood stages along the creek are controlled by Duke Energy. As a result, the proposed project is not expected to increase the Base Flood Elevation on Rocky Creek and a No-Rise Certificate would be obtained in accordance with FEMA regulations. A coordination letter was sent to the Chester County Floodplain Manager on November 29, 2011 (**Appendix A**).

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 would 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 an additional 0.34 acres of right-of-way is required for this project. The area directly adjacent to the bridge predominately consists of undisturbed land with low potential for hazardous materials.

A Phase 1 Environmental Site Assessment (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. There were four (4) additional sites listed within the specified search radius as well as a total of fourteen (14) unmapped “orphan” listed on environmental databases. However, these sites were investigated and 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 RECs 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 underground storage tanks (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 Department of Health and Environmental Controls (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 list of protected species known to occur in Chester County was reviewed, and evaluations were performed regarding the likelihood of the presence of each species within the project area. A search of the United States Fish and Wildlife Service (USFWS) database provided existing information concerning the potential occurrence of threatened or endangered species within Chester County. This database identifies federally threatened or endangered species known to occur or to have formerly occurred in Chester County and are listed in **Table 1**.

Table 1

Chester County Endangered/Threatened Species

Federally Protected Species		Protection Status	
Common Name	Scientific Name	Federal	State
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA	E
Carolina heelsplitter	<i>Lasmigona decorata</i>	E	E
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	E

Source: South Carolina Department of Natural Resources

E = Endangered, BGEPA = Bald and Golden Eagle Protection Act

The list of protected species known to occur in Chester County was reviewed, and evaluations were performed regarding the likelihood of the presence of each species within the PSA in August 2010. None of the protected species were observed within the PSA during the field review. No potential habitat for red-cockaded woodpecker or bald eagle was identified within the PSA; therefore, it is determined that the project has a biological conclusion of “no effect” on these species (see **Appendix C** for Biological Assessment). The field review did, however, reveal potential habitat for Carolina heelsplitter.

A survey for freshwater mussels was conducted in October 2010 and a November 2010 report concluded that this reach of Rocky Creek is extremely poor freshwater habitat for freshwater mussels, and provides inappropriate habitat for the Carolina heelsplitter (see **Appendix C** for Mussel Survey). Based on the findings of the report, it is determined that the project would have “no effect” on the Carolina heelsplitter.

Land Use

The area around the bridge consists primarily of rural, undeveloped woodlands. Scattered residential uses can be found in the surrounding area. A wastewater treatment plant is located adjacent to the northwest side of the bridge. 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. As a result, the proposed bridge replacement would not result in an impact to land use.

Air Quality

The purpose of this project is to replace a 50 year old bridge with a new, modern structure. 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 would 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 would 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 would 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

Federal Emergency Management Agency. July 5, 1982. FIRM Flood Insurance Rate Map, Chester County, South Carolina, Community Panel Number 45023C0417C. Available at: <http://map1.msc.fema.gov> Accessed March 2012.

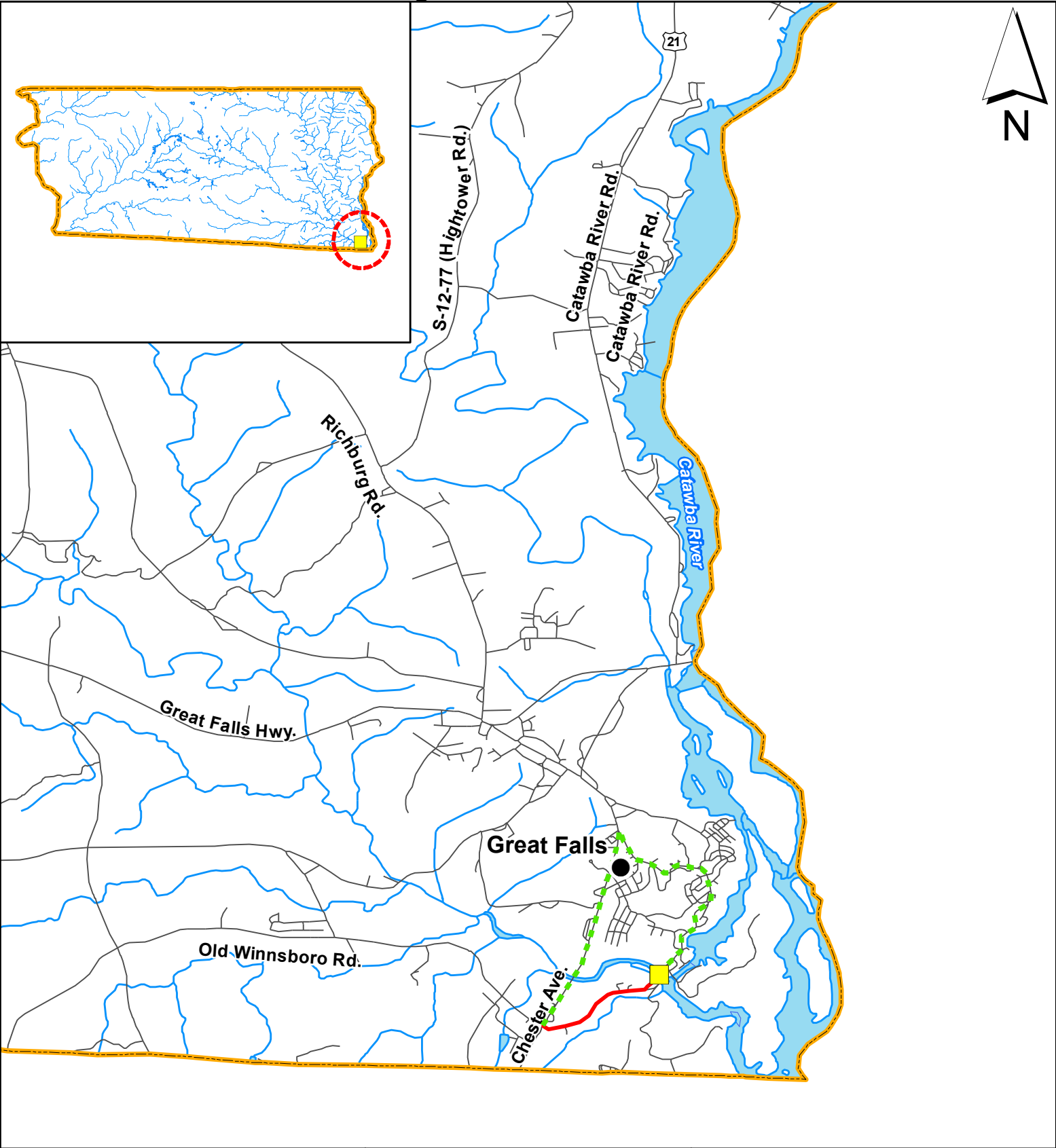
Federal Highway Administration. 2009. *Interim Guidance on Air Toxic Analysis in NEPA Documents*. Available at: <http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm> Accessed April 2011.

Brockington and Associates, Inc. November 2010. *Cultural Resources Survey of the S-12-141 Rocky Creek Bridge Replacement Project, Chester County, South Carolina*. Prepared for the South Carolina Department of Transportation.

S&ME, Inc. April 2011. *Phase 1 Environmental Site Assessment: Bridge over Rocky Creek (S-12-141) Chester County, South Carolina*. Prepared for the South Carolina Department of Transportation.

STV/RWA. February 2011. *Natural Resources Technical Memorandum – Proposed Bridge Replacement S-141 over Rock Creek*. Prepared for the South Carolina Department of Transportation.

Figure 1: Site Location

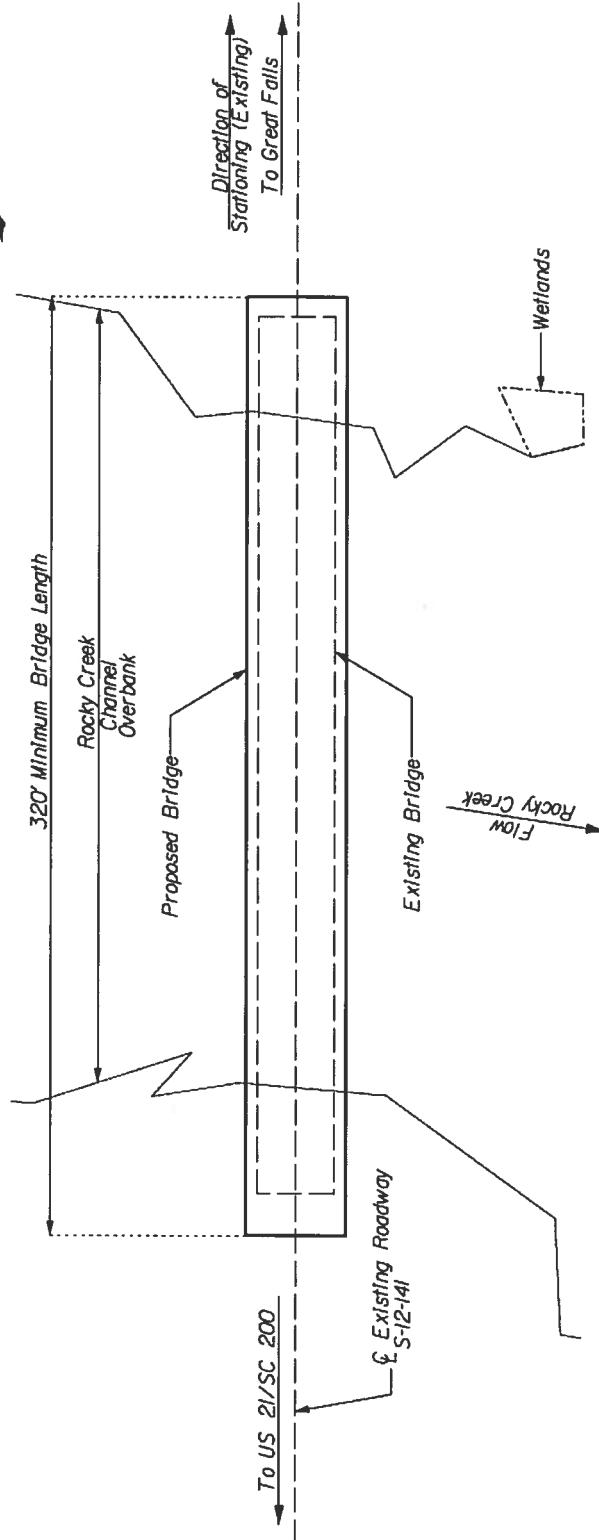


<p>Legend</p> <ul style="list-style-type: none">County BoundaryBridge LocationRoad ClosureDetour RouteRailRoadsRivers and StreamsLakes/Water Bodies	<p>S-12-141 over Rocky Creek Chester County, SC</p>	<p>0 0.5 1 2 Mi.</p> <p>SCDOT</p> <p>STV</p>
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Figure 2: Plan View

ROUTE S-12-141 OVER ROCKY CREEK CHESTER COUNTY PRELIMINARY BRIDGE LAYOUT

SUBJECT TO CHANGE BASED ON DESIGN



Note: Spans over channel shall be 50' minimum in length

Note: Drawing is not to scale

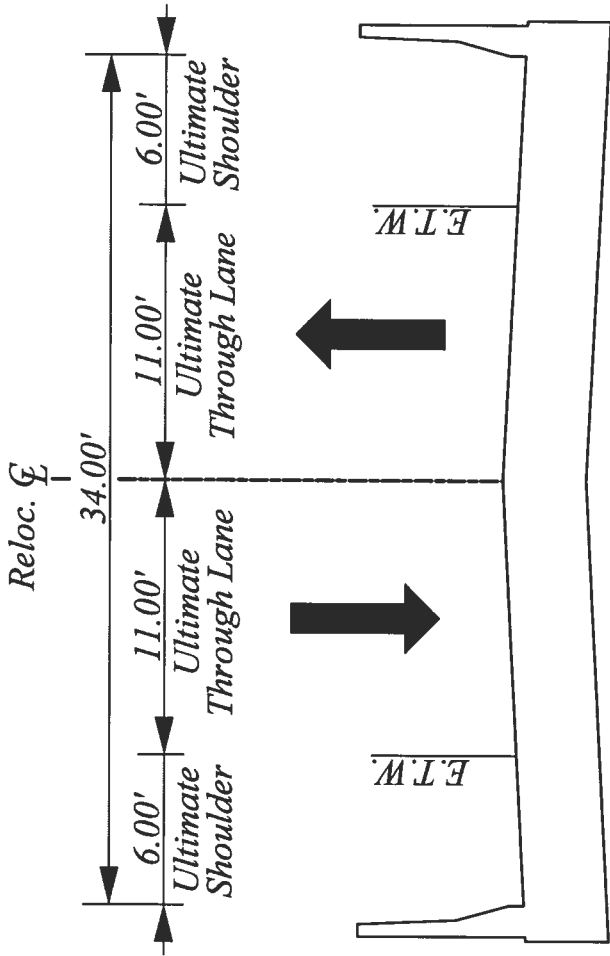
*Preliminary Design

S-14-121 over
Rocky Creek
Chester County, SC



Figure 3: Typical Section

ROUTE S-12-141 OVER ROCKY CREEK
CHESTER COUNTY
PRELIMINARY BRIDGE TYPICAL SECTION



TYPICAL SECTION NO. 1

USE THIS SECTION ON
S-12-141 BRIDGE

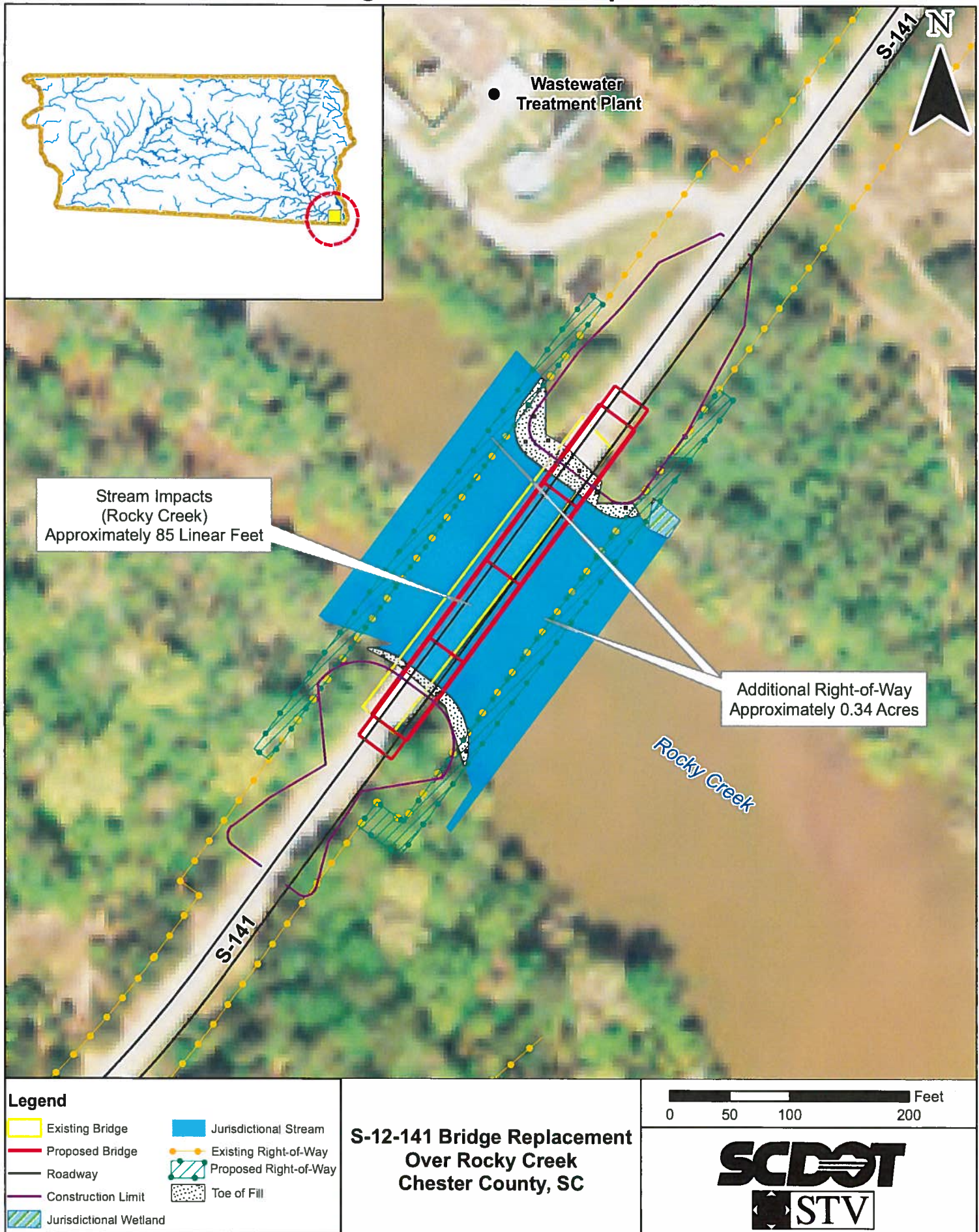
NOTE: DRAWING IS NOT TO SCALE

*Preliminary Design

S-12-77 over Fishing
Creek
Chester County, SC



Figure 4: Potential Impacts



Appendix A

Agency Correspondence



STV/Ralph Whitehead Associates

1000 West Morehead Street, Suite 200
Charlotte, North Carolina 28208
(704) 372-1885 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



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



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



REPLY TO
ATTENTION OF

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

RECEIVED

DEC 2 2011

STV/Ralph Whitehead Associates
Charlotte, NC

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 January 3, 2011, requesting a Jurisdictional Determination, on behalf of South Carolina Department of Transportation, for a 4.5 acre tract, located along S-141 across Rocky Creek located in Chester County, South Carolina. The project area is depicted on the enclosed sketch (Sheet 1 of 1) entitled "S-141 Bridge Replacement over Rocky Creek (SCDOT PIN: 39094), Chester County, SC" dated August 25, 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 **226 linear feet and 0.01 acres** of federally defined freshwater wetlands or other waters. **Specifically, your project contains 226 linear feet of Rocky Creek and 0.01 acres of wetlands directly abutting Rocky Creek.** 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

39094-BR02

of the application. Otherwise, a delay could occur in confirming that a preliminary jurisdictional determination was performed for the permit project area.

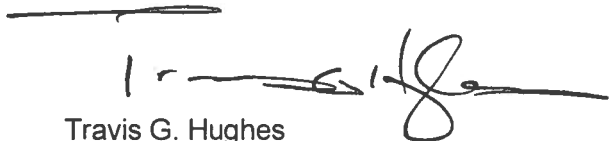
This preliminary jurisdictional determination is a non-binding action and as such has no expiration until it is superseded by an Approved Jurisdictional Determination. If you intend to request an Approved Jurisdictional Determination in the future, you are advised not to commence work in these wetlands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

In future correspondence concerning this matter, please refer to SAC 2011-00024-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,

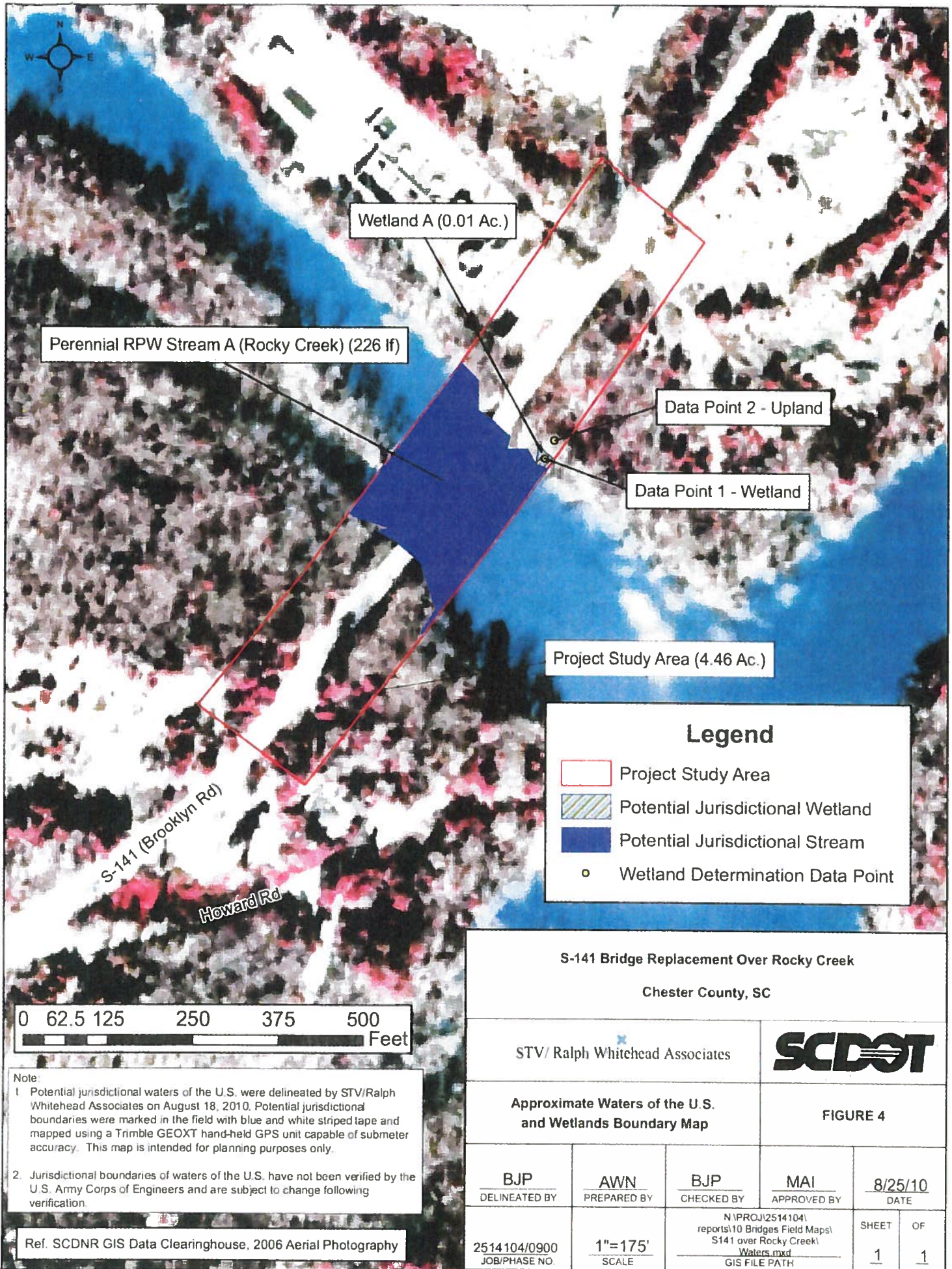
A handwritten signature in black ink, appearing to read "Travis G. Hughes", with a horizontal line extending to the right.

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

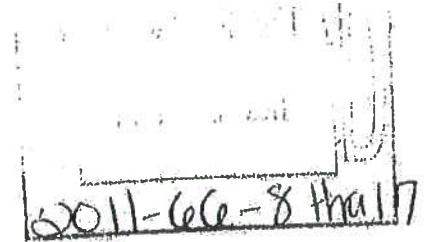




South Carolina
Department of Transportation

February 7, 2011

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



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 9 Catawba River Bridge Replacement Project, Chester
and Lancaster Counties, File No. 1229.039094 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, Fairfield 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

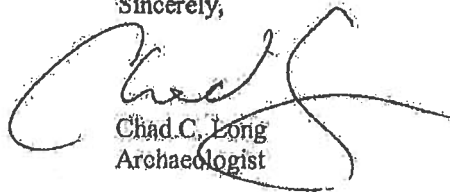


2011-66-17

- 10) No Need for Archaeological or Historic Architectural Survey for the Proposed I-85 SBL
Southern Railroad Bridge Replacement Project, Cherokee County
File No. 11.039094.11 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: Cathy Pottier for Wenonah Haire Date: 2/17/11

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

File: Env/CCL



South Carolina
Department of Transportation

February 7, 2011

11-DKO
NHFA

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

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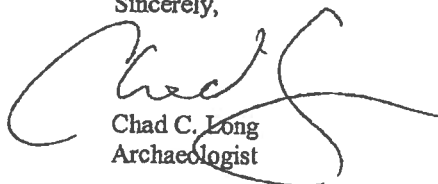
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Sincerely,

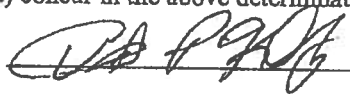


Chad C. Long
Archaeologist

Enclosures

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

Signed:

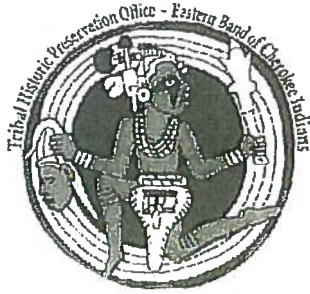


Date:

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:

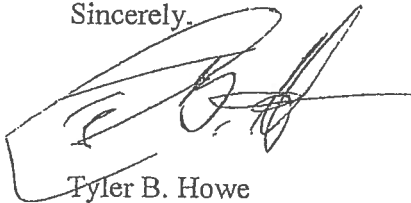
- 1.) (File # 40.039333A; Pin: 39333). Phase I Cultural Resources Survey of the Hardscrabble Road Widening Project, Richland County, SC.
- 2.) (File # 29.039094.5; PCN: .39094_BR05). Cultural Resources Survey of the SC 200 Cane Creek Bridge Replacement Project, Lancaster County, SC.
- 3.) (File # 20.39094.3 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

Appendix B

Preliminary Hydraulic Assessment

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

COUNTY: Chester

DATE: 05 March 2012

ROAD #: S-141

STREAM CROSSING: Rocky Creek

Purpose & Need for the Project:

Project replaces a 1961 bridge structure. Replacement increases safety and provides for long-term functionality of S-141.

I. FEMA Acknowledgement

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

Panel Number: 45023C0417C Effective Date: Sept 16, 2011 (See Attached)

II. FEMA Floodmap Investigation

Rocky Creek is a Zone AE w/ BFEs and non-encroachment area established by limited detail study. No mapped floodway or plotted profile exists.

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, in this case the Great Falls/Rocky Creek Hydro Station. 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. 12.385 Sheet No. 8 (See Attached)
☐ No

b. Road Plans ☒ Yes File No. 12.385.1 Sheet No. 7 (See Attached)
☐ No

B. Historical Highwater Data

a. USGS Gage ☐ Yes Gage No. 02147500 located ~1.8 mi upstream Results: _____
☒ No

b. SCDOT/USGS Documented Highwater Elevations

☒ Yes Results: 292.14 (recorded on 12.385.1 and 12.385 plans)
☐ No Elevation datum is unknown.

c. Existing Plans ☒ Yes See Above
☐ No

V. Field Review

A. Existing Bridge

Length: 300 ft. Width: 29.5 ft. Max. span Length: 50 ft.

Alignment: ☒ Tangent ☐ Curved

Bridge Skewed: ☐ Yes ☒ No Angle: _____

End Abutment Type: Spill-through

Riprap on End Fills: ☒ Yes ☐ No Condition: poor - eroded

Superstructure Type: Concrete T-beams

Substructure Type: Steel piles w/ concrete caps.

Utilities Present: ☒ Yes ☐ No
Describe:

sewer, telecom

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: 24.3 ft.

c. Distance from Low Steel to Normal Water Elev.: 21.2 ft.

d. Distance from F.G. to High Water Elevation: 14.3 ft.

e. Distance from Low Steel to High Water Elev.: 11.2 ft.

f. Channel Banks Stable: ☒ Yes ☐ No

Describe:

g. Soil Type: Brown and tan 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 - maintain existing Cut off timber piles beneath 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:

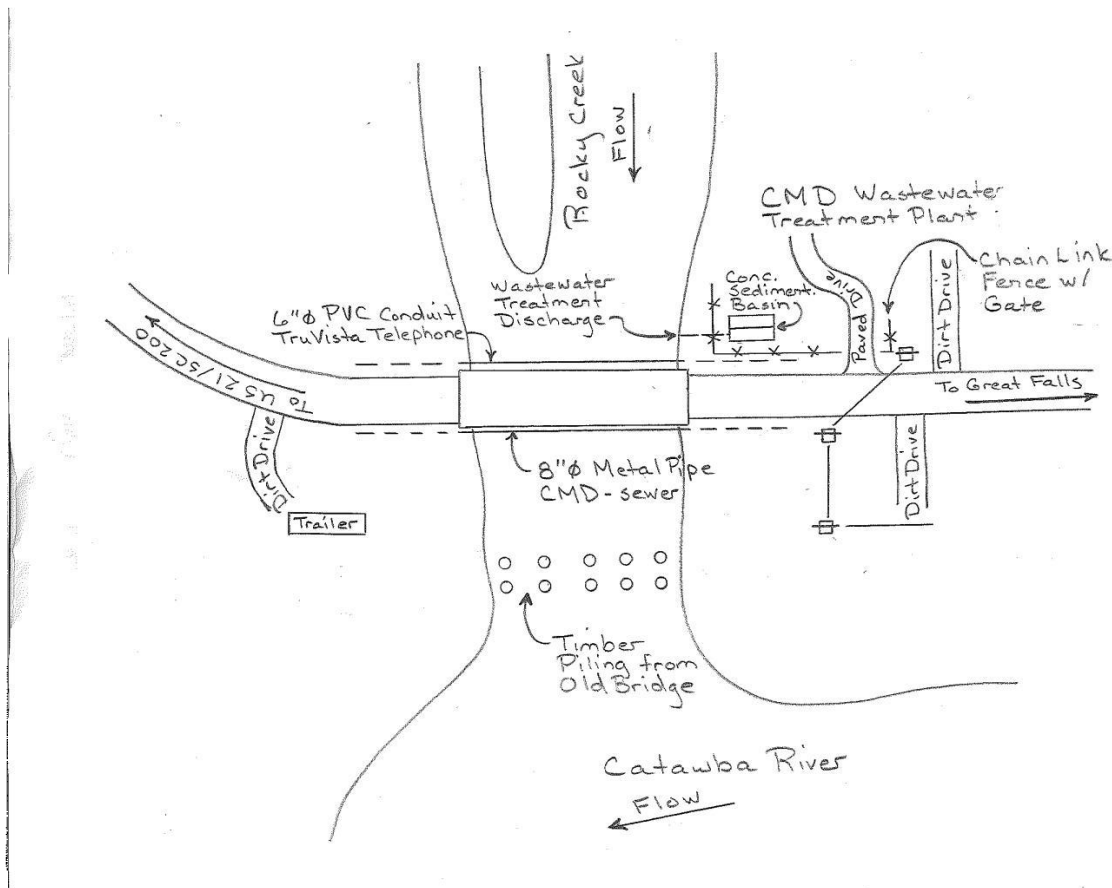
Length: 320 ft. Width: 34 ft. Elevation: elevation ft.

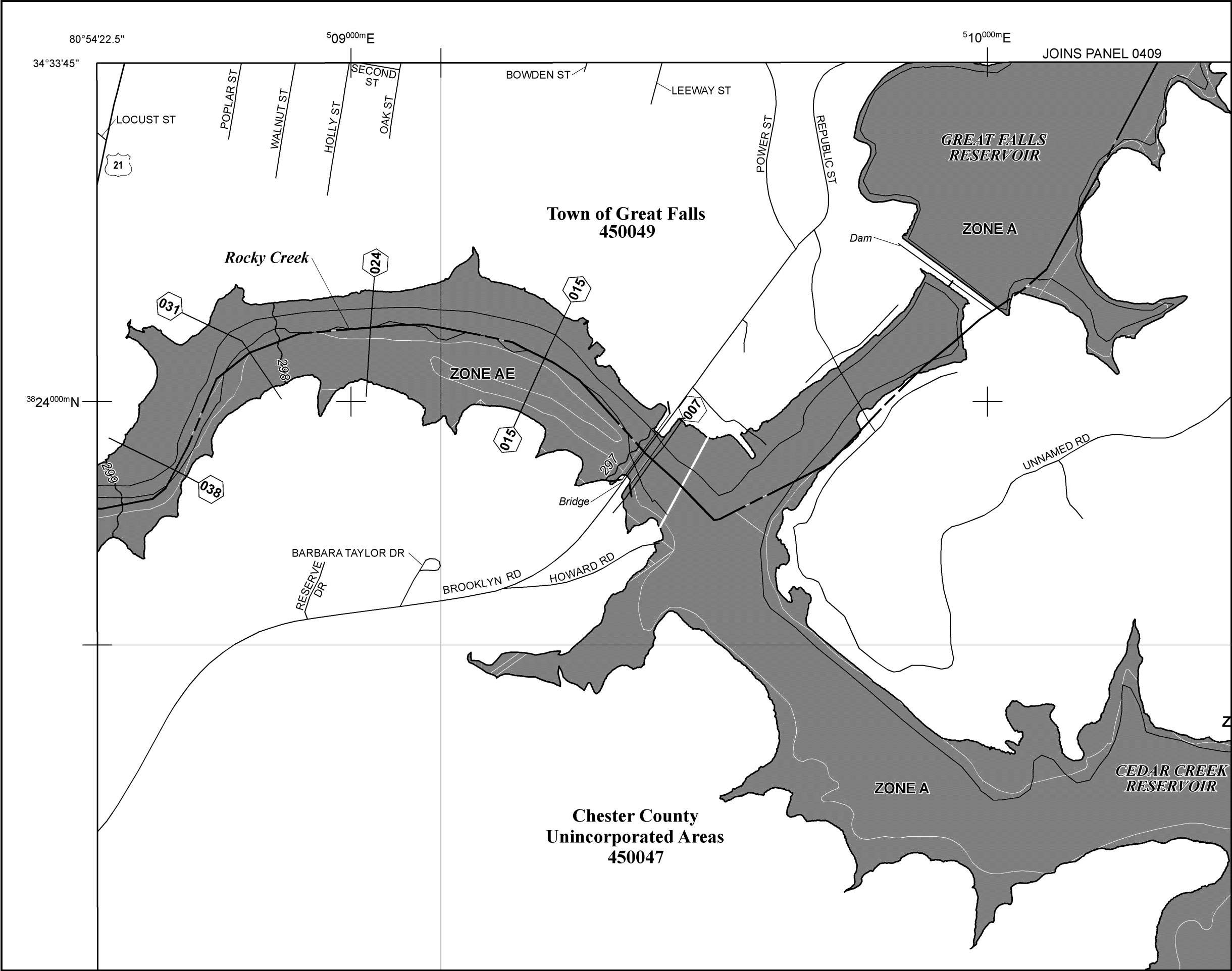
Span Arrangement: 4 @ 80 ft

Notes: Maintain existing horizontal and vertical roadway alignment.

maintain
exstg
bridge
deck

DIAGRAM: (Show North Arrow and Direction of Flow)





Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0

250

500

750

1,000

FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0417C

FIRM

FLOOD INSURANCE RATE MAP

CHESTER COUNTY,
SOUTH CAROLINA
AND INCORPORATED AREAS

PANEL 417 OF 450

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHESTER COUNTY	450047	0417	C
GREAT FALLS, TOWN OF	450049	0417	C

MAP NUMBER

45023C0417C

EFFECTIVE DATE

SEPTEMBER 16, 2011

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88) ³
Fishing Creek (continued)			
1308	130,847	18,436	460.9
1313	131,347	18,436	462.0
1318	131,847	18,436	463.8
1323	132,347	18,436	464.8
1328	132,847	18,436	469.2
1333	133,347	18,436	470.8
1342	134,171	14,597	473.5
1348	134,847	14,597	475.7
1353	135,347	14,597	476.3
1358	135,774	14,597	477.0
1359	135,934	14,597	478.1
1363	136,347	14,597	478.8
1368	136,847	14,597	479.0
1371	137,118	14,597	479.1
1378	137,847	14,597	479.2
1383	138,347	14,597	479.2
1388	138,847	14,597	479.3
1398	139,847	14,597	479.5
1403	140,347	14,597	479.7
1408	140,834	14,597	479.8
1413	141,284	14,597	480.5
1423	142,347	14,217	480.8
1428	142,847	14,217	480.9
1433	143,347	14,217	480.9
1438	143,847	14,217	481.0
1453	145,347	14,217	481.4
1458	145,847	14,217	481.6
1463	146,347	14,217	481.8
1470	146,964	14,217	481.8
1471	147,132	14,217	483.1
1475	147,503	14,217	484.2
Rocky Creek			
004	388	22,363	296.7
005	511	22,363	296.8
007	674	22,363	297.0

PLAN

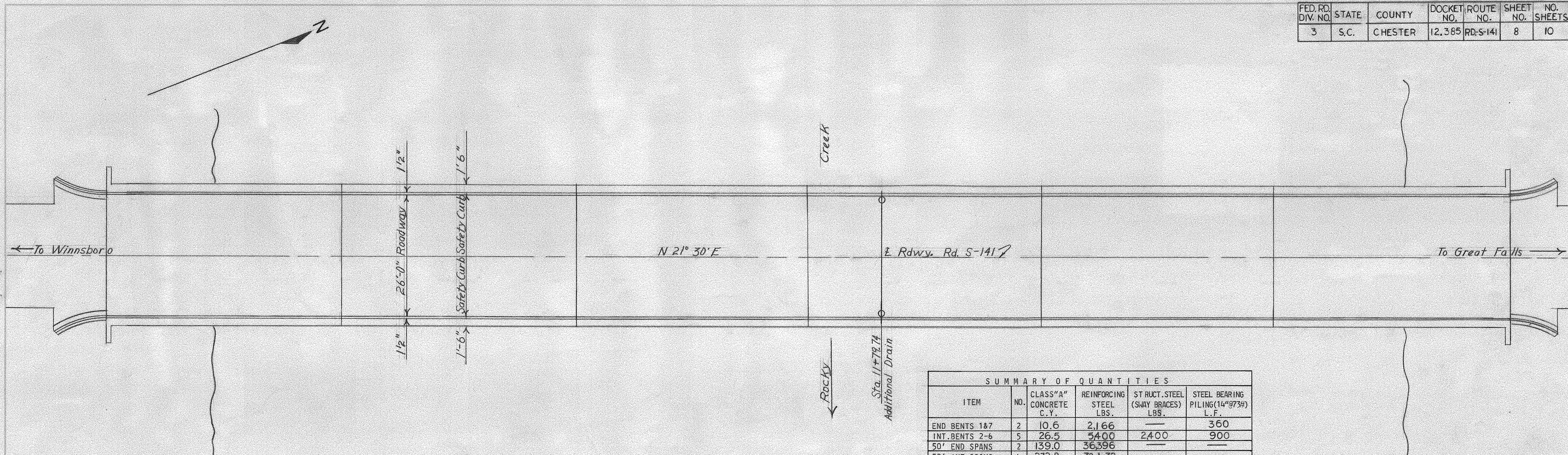
DATE 10-60

BY WFL

CHECKED WFL

APPROVED [Signature]

NOTES: 1. ALL DIMENSIONS IN FEET UNLESS OTHERWISE SPECIFIED.



SUMMARY OF QUANTITIES				
ITEM	NO.	CLASS "A" CONCRETE C.Y.	REINFORCING STEEL LBS.	STEEL BEARING PILING (14" @ 73") L.F.
END BENTS 1&7	2	10.6	2,166	360
INT. BENTS 2-6	5	26.5	5,400	900
50' END SPANS	2	139.0	36,396	—
50' INT. SPANS	4	272.8	72,172	—
CURB & GUTTER	2	1.8	130	—
TOTAL		450.7	116,264	1,260

NOTES:
CONSTRUCT FLARED CURB AND GUTTER ON BOTH SIDES OF RDWY. AT EACH END OF BRIDGE.

PROFILE

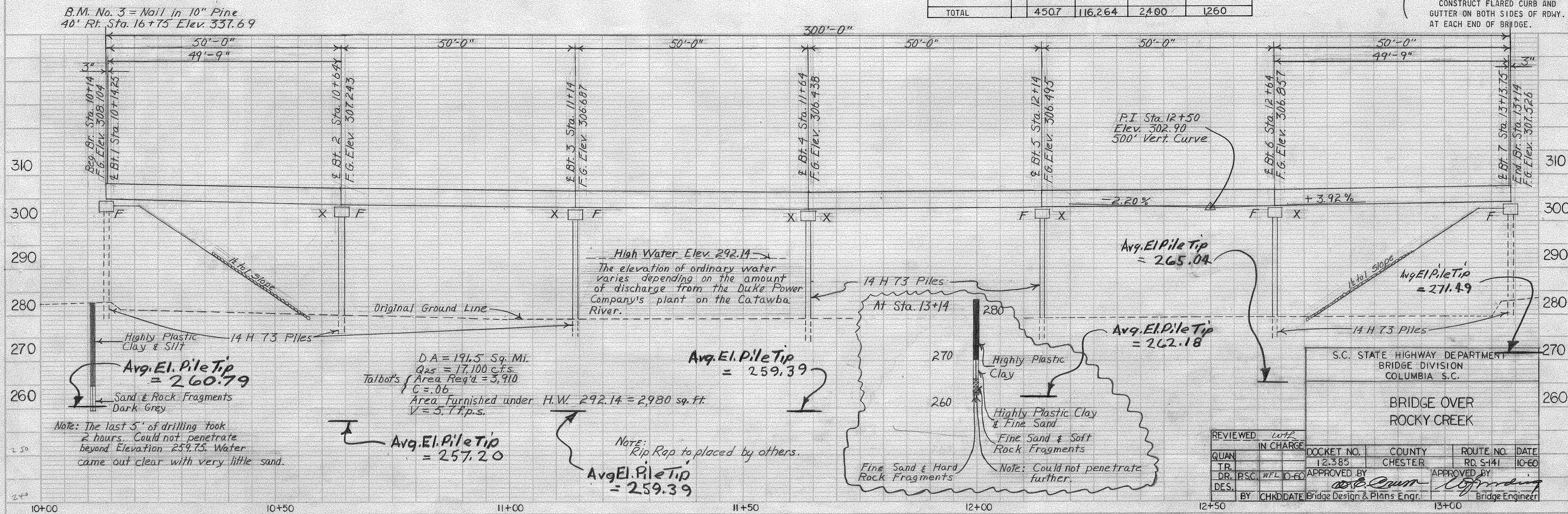
DATE 10-60

BY WFL

CHECKED WFL

APPROVED [Signature]

NOTES: 1. ALL DIMENSIONS IN FEET UNLESS OTHERWISE SPECIFIED.



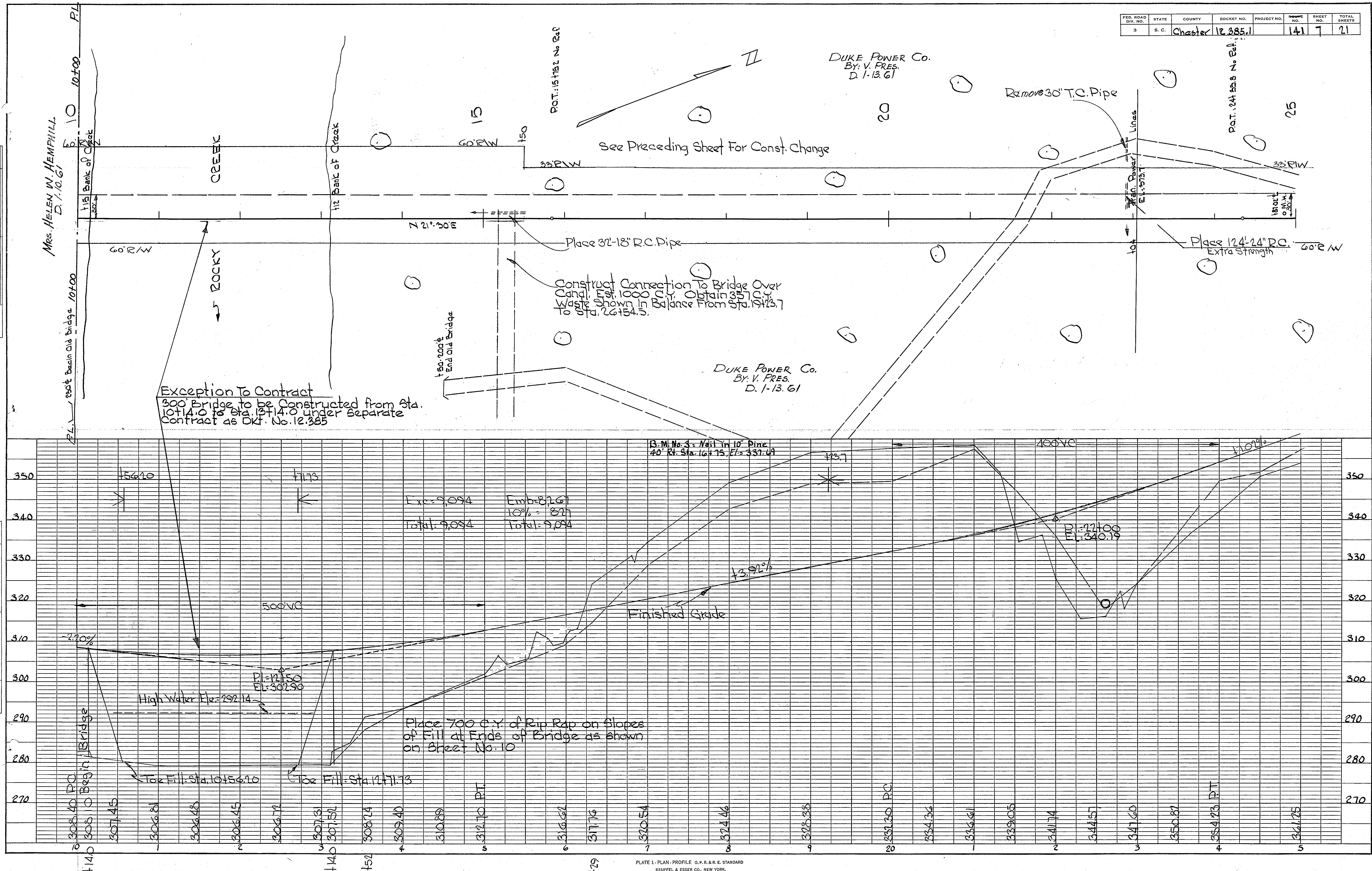
REVIEWED	WFL	DOCKET NO.	COUNTY	ROUTE NO.	DATE
QUAN.		12.385	CHESTER	RD. S-141	10-60
TR.					
DR.	PSC	WFL			
DES.					
BY	CHK	DATE	Bridge Design & Plans Engr.	APPROVED BY [Signature]	Bridge Engineer

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	NAME NO.	SHEET NO.	TOTAL SHEETS
3	S. C.	Chester	12,385.1		141	7	21

PLAN	SURVEYED	BY	DATE
NO.	NOTE BOOK		
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		

PROFILE	SURVEYED	BY	DATE
NO.	NOTE BOOK		
	GRADES CHECKED		
	STRUCTURE NOTATIONS CHKD.		

Chester Co.
From RD 141 to RD 62



Appendix C

Biological Assessment and Mussel Survey

**Biological Assessment
Federal and State Threatened and Endangered Species
S-141 Bridge Replacement over Rocky Creek
Chester County, South Carolina
PIN 39094
File No. 12.039094.2**

The South Carolina Department of Transportation (SCDOT) is proposing to replace the SC 141 (Brooklyn Road) Bridge over Rocky Creek located near the Town of Great Falls in the southeastern portion of Chester County, South Carolina. The proposed project would involve the replacement of the existing SC 141 Bridge over Rocky Creek with a new bridge and associated roadway approach improvements. Based on information provided by the SCDOT Bridge Replacement Site Information, the new bridge is anticipated to be built downstream of the existing bridge and traffic will be maintained. The existing SC 141 Bridge over Rocky Creek was built in 1961, and has a sufficiency rating of 62.3 out of 100, but is not considered either structurally deficient or functionally obsolete. The existing bridge is 29.5 feet in width and 300 feet in length, and consists of six 50-foot spans of cast-in-place concrete caps supported on steel piles. The deck and superstructure of the bridge have been rated as being in satisfactory condition, and the substructure condition has been rated as fair. It is anticipated that the replacement bridge will be designed and constructed as part of a pending SCDOT Design-Build contract. Consequently, the proposed bridge dimensions and other design details are unknown at the time of this writing.

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 federally 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 County was obtained from the South Carolina Department of Natural Resources (SCDNR) Rare, Threatened, and Endangered Species Inventory (updated April 16, 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 COUNTY FEDERAL AND/OR STATE
ENDANGERED/THREATENED SPECIES**

Protected Species		Protection Status	
Common Name	Scientific Name	Federal	State
Animal			
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA	E
Carolina heelsplitter	<i>Lasmigona decorata</i>	E	E
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	E
Plant			
Georgia aster	<i>Aster georgianus</i>	C	

E = Endangered, *BGEPA* = Bald and Golden Eagle Protection Act, *C* = Candidate

Methods

On behalf of SCDOT, the list of federal and/or state protected species for Chester County 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 August 18, 2010. STV/RWA environmental scientists Brandon Phillips and Tony Nardo reviewed a PSA generally centered on the S-141 Bridge over Rocky Creek and roadway approaches, and conducted a pedestrian survey of the PSA for the presence of potential habitat for the above-listed species.

STV/RWA reviewed a PSA encompassing the existing S-141 roadway and adjacent communities that measured approximately 1,000 feet long and 180 feet wide extending from a center located at the S-141 Bridge over Rocky Creek and the roadway approaches and the adjacent habitat communities located approximately 500 feet north and south of the bridge.

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 PSA.

Results

According to the SCHT database, no occurrences of protected species have been documented within a one-mile radius of the PSA.

Based on the STV/RWA field review, the PSA largely consists of undeveloped woodland and maintained rights-of-way (R/Ws).

None of the protected species were observed within the PSA during the field review conducted by STV/RWA. No potential habitat for red-cockaded woodpecker was identified within the PSA; therefore, it is determined that the project will have a biological conclusion of "no effect" on this species. The field review did, however, reveal potential habitat for Carolina heelsplitter, as well as potential foraging habitat for the bald eagle within the PSA. Biological conclusions for the protected species that have potential habitat within the PSA follows.

There is no potential nesting habitat for the bald eagle within the PSA. No individuals were observed during the field review. Additionally, reviews of the SCHT Geographic Database of Rare and Endangered Species did not reveal the presence of any known individuals or populations of bald eagle within one mile 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.

A survey for freshwater mussels was conducted on October 27, 2010 by Alderman Environmental Services, Inc. In a report dated November 17, 2010, Alderman Environmental Services, Inc., concluded that this reach of Rocky Creek is extremely poor freshwater habitat for freshwater mussels, and provides inappropriate habitat for the Carolina heelsplitter. Based on the findings of the report, it is determined that the project will have "no effect" on the Carolina heelsplitter. The findings report of this mussel survey is attached to this BA.

BIOLOGICAL CONCLUSION: NO EFFECT



Alderman Environmental Services, Inc.

November 17, 2010

PROJECT: Freshwater mussel survey for STV Incorporated; S-141 Bridge Replacement over Rocky Creek, Chester Co., SC

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

BIOLOGISTS: John Alderman
John E. Alderman

SCDNR Endangered Mussel Survey Permit Authorization: November 25, 2002

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

LOCATION: Rocky Creek, Santee-Cooper River Basin; S-141; Chester Co., SC; see Figure 1

SURVEY DATE: October 27, 2010

COMMENTS: During May 18, 2004, John M. Alderman, Gene Vaughan, and Joseph Alderman surveyed the Great Falls-Dearborn Reservoir area, including the lower reaches of Rocky Creek, upstream and downstream of S-141. This reach of Rocky Creek is extremely poor freshwater mussel habitat and is basically lentic habitat most of the time, since this reach becomes part of Great Falls-Dearborn Reservoir. The substrate is mostly composed of unconsolidated, shifting sand. In 2004, only *Corbicula fluminea*, the exotic Asian clam, was found in this reach of Rocky Creek. Additionally, on October 27, 2010, a NPDED permitted facility was observed discharging to this reach of Rocky Creek. Since there have been no positive changes to this habitat since 2004, a reconnaissance survey was only required at this project site. This area provided inappropriate habitat for the Carolina heelsplitter.

CAROLINA HEELSPLITTER BIOLOGICAL DETERMINATION:

For direct effects on the Carolina heelsplitter: No Effect

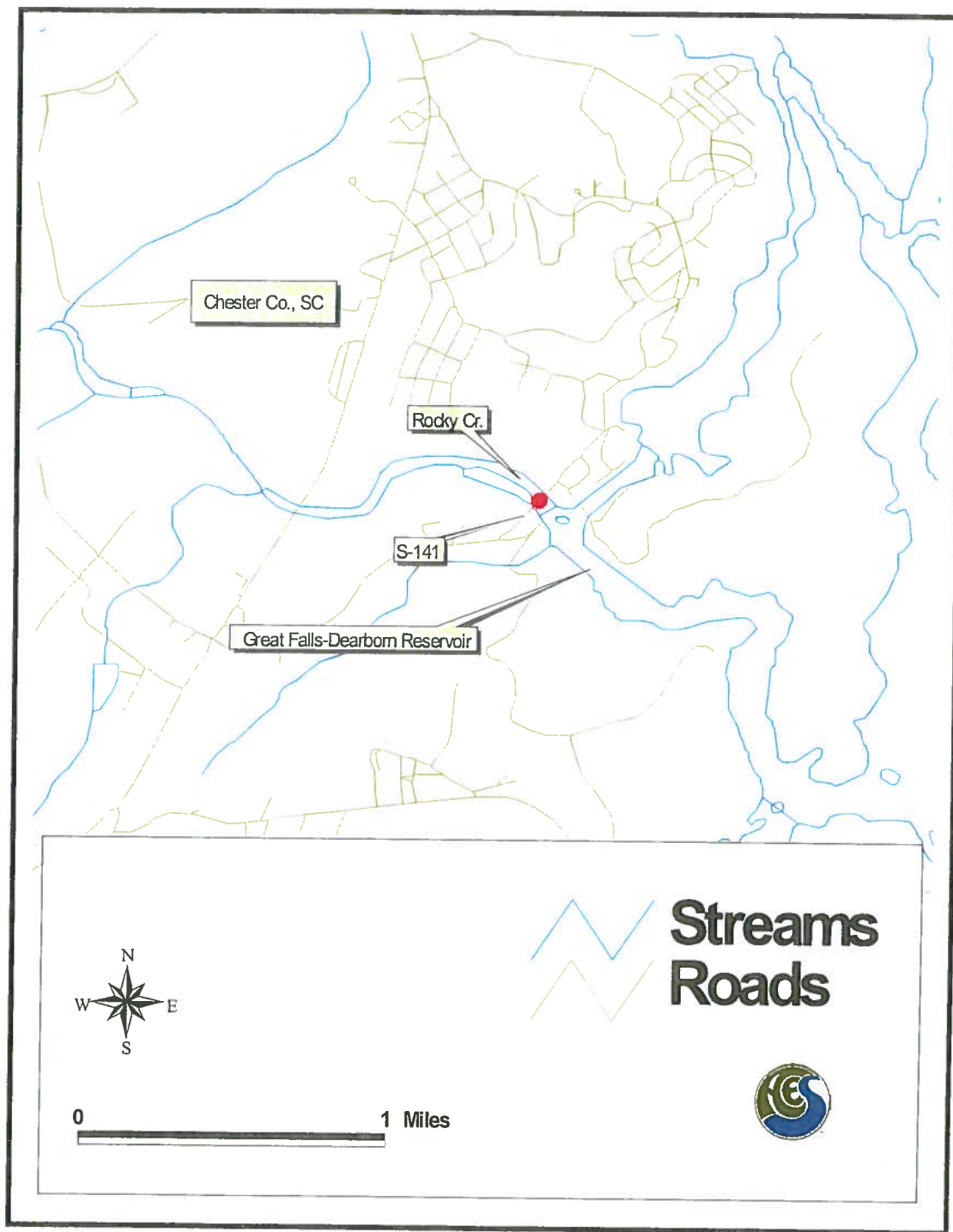


Figure 1. Rocky Creek freshwater mussel reconnaissance survey site; S-141 bridge crossing, Chester Co., SC

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 ☐ Pubic 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.

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	
_____ a. Marshland, swamp, ponds, beneficial aquatic vegetation or other potential wetlands (circle).				
_____ b. Buffer Zones (specify width & source of requirement). _____ _____ _____				
_____ c. Areas classified as "Environmental" as identified by Duke Energy.				
_____ d. Areas classified as "Natural Areas" as identified by Duke Energy.				
_____ e. Areas classified as "Impact Minimization Zone" as identified by Duke Energy.				
_____ f. Rare or threatened species (specify): _____ _____ _____				
_____ g. 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

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

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-wateree.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.

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

PART V. — SUMMARY TABLES

TABLE 1
SUMMARY OF CONSULTATION/PERMITTING RESULTS

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

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.)

Date of Modification	Reason	Modification Description	Issue Resolved Yes/No

DUKE ENERGY CONVEYANCE PERMIT APPLICATION FORM

PART V - SUMMARY TABLES (Continued)

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

Permit/Certification Name	Issuing Agency	Date of Issuance	Date of Expiration

* 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:

- 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.
- Larger filing fees required for applications that must be approved by the FERC.
- 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.
- Each service facility (e.g. boat ramp, courtesy pier, etc.) also counts toward the total "docking locations" number.
- The applicant is responsible for any additional legal or financial documentation.
- Dry stack rock is the only vertical stabilization technique allowed on the Nantahala Reservoirs.
- No ski ramps/ slalom courses are allowed on the Nantahala Reservoirs.
- \$150/ yr collected per docking location for the total time period, collected at the time of the application.
- 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.