



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

Project ID P041181

Route S-13-108 (Outen Road)

County Chesterfield

Part 1 - Project Description

Include the Project Name/Description

S-13-108 (Outen Road) Bridge Replacement over Brown Creek

SCDOT proposes to replace the S-13-108 (Outen Road) Bridge over Brown Creek in Chesterfield County. The purpose of this project is to replace the bridge to correct the load restriction placed on it as well as restore all bridge components to good condition. The existing bridge is posted for load restrictions and has one or more components in poor condition. The proposed repair involves replacing the current bridge with a new bridge on existing alignment. The bridge is currently open to traffic but would be closed during construction.

NEPA studies revealed no significant impacts or effects to resources within the project study area.

It is anticipated that minor amounts of right of way will be required for the replacement of this structure. The minor amount of right of way needed will include temporary and/or permanent strips. Existing right of way is approximately 66' along the roadway and 150' in the area of the bridge. Given the rural location new acquisitions are not anticipated to have negative effects to resources or landowners and will be within the existing project study area.

Part 2 - PCE Type

Select the appropriate Categorical Exclusion from 23 CFR Part 771.117 that best fits the entire project from the drop-down menu. **Reference Appendix A of the PCE Agreement for a more detailed description of each CE contained in 23 CFR 771.117.**

23 CFR 771.117(c) Bridge rehabilitation, reconstruction, or replacement or railroad crossing improvements

23 CFR 771.117(d)

Part 3 - Thresholds

To be processed as a Programmatic Categorical Exclusion (PCE) the following conditions must be met in addition to the General Criteria (as outlined in the PCE Agreement between FHWA-SC and SCDOT). Place a "X" in the appropriate box below. If the answer is "Yes" to any of the below criteria, SCDOT will consult with FHWA-SC to determine the appropriate level of NEPA documentation required and forward to FHWA-SC for approval. ***Reference Part 4 of the Processing form or Section IV of the PCE Agreement for more details and definitions regarding each threshold.**

1.	Involves any unusual circumstances as described in <u>*23 CFR Part 771.117(b)</u>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2.	The acquisition of more than <u>*minor amounts</u> of temporary or permanent strips of right-of-way	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
3.	Involves acquisitions that result in residential or non-residential displacements	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
4.	Involves any adverse impacts to EJ populations	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Part 3 - Thresholds Continued

5.	Results in capacity expansion of a roadway by adding through lanes	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
6.	Involves construction that would result in <u>*major traffic disruptions</u>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
7.	Involves <u>*changes in access control</u> requiring FHWA approval	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
8.	An adverse effect determination under Section 106 of the National Historic Preservation Act.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
9.	Use of Section 4(f) property that cannot be documented with a FHWA <i>de minimis</i> determination or a programmatic Section 4(f) other than the programmatic evaluation for the use of historic bridges	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
10.	Any use of a Section 6(f) property	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
11.	Requires an Individual USACE 404 Permit	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
12.	Requires an Individual U.S. Coast Guard Permit.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
13.	Work encroaching in a regulatory floodway, adversely affecting the base floodplain (100 yr.) pursuant to E.O. 11988 and 23 CFR Part 650 Subpart A	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
14.	Construction in, across, or adjacent to a river designated as a National Wild and Scenic River	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
15.	Involves an increase of 15 dBA or greater on any noise receptor or abatement measures are found to be feasible and reasonable due to noise impacts	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
16.	May affect and is likely to adversely affect a Federally listed species or designated critical habitat or projects with impacts subject to the BGEPA	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
17.	Involves acquisition of land for hardship, protective purposes, or early acquisition	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
18.	Does not meet the latest Conformity Determination for air quality non-attainment areas (if applicable).	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
19.	Any known or potential <u>major</u> hazardous waste sites within the right-of-way.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
20.	Is not included in or is inconsistent with the STIP and/or TIP	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Part 3 Continued - Additional criteria to be completed for disposal of excess right-of-way PCE

1. Is the parcel part of a SCDOT environmental mitigation effort or could it be used for environmental mitigation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Is there a formal plan to use this parcel for a future transportation project (is it part of an approved LRTP)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Part 4 - Threshold Definitions

Unusual Circumstances (23 CFR Part 771.117) - Unusual circumstances are defined as:

- a. Significant environmental impacts;
- b. Substantial controversy on environmental grounds;
- c. Significant impact on properties protected by Section 4(f) of the DOT ACT or Section 106 of the National Historic Preservation Act; or
- d. Inconsistencies with any Federal, State, or local law, requirement, or administrative determination relating to the environmental aspects of the action.

Minor Amount of Right-of-Way (ROW):

A minor amount of ROW is defined as less than 3 acres per linear mile for linear projects or less than 10 acres of impacts for non-linear projects (eg: intersections, bridges), and no removal of major property improvements. Examples of major improvements include residential and business structures, or the removal of other features which would change the functional utility of the property. Removal of minor improvements, such as fencing, landscaping, sprinkler systems, and mailboxes would be allowed.

Major Traffic Disruptions:

A major traffic disruption is defined as an action that would result in: a) adverse effects to through-traffic businesses or schools, b) substantial change in environmental impacts, or c) public controversy associated with the use of the temporary road, detour, or ramp closure.

Changes in Access Control:

Requires approval from FHWA for changes in access control on the Interstate system (eg: Interchange Modification Reports or Interchange Justification Reports).

Environmental Commitments: (Check all that apply)

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> USTs/Hazardous Materials | <input checked="" type="checkbox"/> General Permit | <input checked="" type="checkbox"/> Right of Way |
| <input checked="" type="checkbox"/> Water Quality | <input type="checkbox"/> Individual Permit | <input checked="" type="checkbox"/> Floodplains |
| <input checked="" type="checkbox"/> Migratory Bird Treaty Act | <input type="checkbox"/> Essential Fish Habitat | <input type="checkbox"/> Lead Based Paint |
| <input checked="" type="checkbox"/> Stormwater | <input checked="" type="checkbox"/> Cultural Resources | |
| <input type="checkbox"/> Coast Guard Permit Exclusion | <input type="checkbox"/> Noise | <input type="checkbox"/> Non-Standard Commitment (see below) |

Part of CLRB 2022-1 DB Package 15

Impacts to jurisdictional waters will be less than thresholds outline in the USACE approved GP for SCDOT projects.

Relevant field studies and environmental reviews have been completed to determine that the project meets the criteria set forth in the Programmatic Categorical Exclusion Agreement signed by FHWA-SC 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 SCDOT Environmental Services Office immediately. A copy of this form is included in the project file and one (1) copy has been provided to FHWA.

Approved By:

Will McGoldrick

Digitally signed by Will McGoldrick
Date: 2022.09.22 09:25:01 -04'00'

Date

Primavera:



Yes



No

NEPA Start Date:

6/27/22

Does the project contain additional commitments?: (if Yes attach to form)



Yes



No

Date: 09/08/2022

SCDOT
NEPA ENVIRONMENTAL COMMITMENTS FORM



Project ID : P041181 County : Chesterfield District : District 4 Doc Type: PCE Total # of Commitments: 7

Project Name: S-13-108 (Outen Road) Bridge Replacement over Brown Creek

The Environmental Commitment **Contractor Responsible** measures listed below **are to be included in the contract and must be implemented**. It is the responsibility of the Program Manager to make sure the Environmental Commitment **SCDOT Responsible** measures are adhered to. If there are questions regarding the commitments listed please contact:

CONTACT NAME: Michael Pitts

PHONE #: (803)-737-2566

ENVIRONMENTAL COMMITMENTS FOR THE PROJECT

USTs/Hazardous Materials

NEPA Doc Ref:

Responsibility:

CONTRACTOR

If avoidance of hazardous materials is not a viable alternative and soils that appear to be contaminated are encountered during construction, the South Carolina Department of Health and Environmental Control (SCDHEC) will be informed. Hazardous materials will be tested and removed and/or treated in accordance with the United States Environmental Protection Agency and the SCDHEC requirements, if necessary.

☐ Special Provision

Water Quality

NEPA Doc Ref:

Responsibility:

CONTRACTOR

The contractor will be required to minimize possible water quality impacts through implementation of BMPs, reflecting policies contained in 23 CFR 650B and the Department's Supplemental Specification on Erosion Control Measures (latest edition) and Supplemental Technical Specifications on Seeding (latest edition). Other measures including seeding, silt fences, sediment basins, etc. as appropriate will be implemented during construction to minimize impacts to water quality.

☐ Special Provision

Migratory Bird Treaty Act

NEPA Doc Ref:

Responsibility:

CONTRACTOR

The federal Migratory Bird Treaty Act, 16 USC § 703-711, states that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. The South Carolina Department of Transportation (SCDOT) will comply with the Migratory Bird Treaty Act of 1918 in regard to the avoidance of taking of individual migratory birds and the destruction of their active nests.

The contractor shall notify the Resident Construction Engineer (RCE) at least four (4) weeks prior to construction/demolition/maintenance of bridges and box culverts. The RCE will coordinate with SCDOT Environmental Services Office (ESO), Compliance Division, to determine if there are any active birds using the structure. After this coordination, it will be determined when construction/demolition/maintenance can begin. If a nest is observed that was not discovered after construction/demolition/maintenance has begun, the contractor will cease work and immediately notify the RCE, who will notify the ESO Compliance Division. The ESO Compliance Division will determine the next course of action.

The use of any deterrents by the contractor designed to prevent birds from nesting, shall be approved by the RCE with coordination from the ESO Compliance Division. The cost for any contractor provided deterrents will be provided at no additional cost to SCDOT.

☐ Special Provision

Project ID : <input type="text" value="P041181"/>	SCDOT NEPA ENVIRONMENTAL COMMITMENTS FORM	
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ENVIRONMENTAL COMMITMENTS FOR THE PROJECT

Stormwater	NEPA Doc Ref: <input type="text"/>	Responsibility: <input type="text" value="CONTRACTOR"/>
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Stormwater control measures, both during construction and post-construction, are required for SCDOT projects with land disturbance and/or constructed in the vicinity of 303(d), TMDL, ORW, tidal, and other sensitive waters in accordance with the SCDOT's MS4 Permit. The selected contractor would be required to minimize potential stormwater impacts through implementation of construction best management practices, reflecting policies contained in 23 CFR 650 B and SCDOT's Supplemental Specifications on Seed and Erosion Control Measures (latest edition).

☐ Special Provision

General Permit	NEPA Doc Ref: <input type="text"/>	Responsibility: <input type="text" value="CONTRACTOR"/>
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Impacts to jurisdictional waters will be permitted under a Department of the Army Section 404 permit from the U.S. Army Corps of Engineers. Based on preliminary design, it is anticipated that the proposed project would be permitted under SCDOT's General Permit (GP). The required mitigation for this project will be determined through consultation with the USACE and other resource agencies.

☐ Special Provision

Cultural Resources	NEPA Doc Ref: <input type="text"/>	Responsibility: <input type="text" value="CONTRACTOR"/>
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The contractor and subcontractors must notify their workers to watch for the presence of any prehistoric or historic remains, including but not limited to arrowheads, pottery, ceramics, flakes, bones, graves, gravestones, or brick concentrations during the construction phase of the project, if any such remains are encountered, the Resident Construction Engineer (RCE) will be immediately notified and all work in the vicinity of the discovered materials and site work shall cease until the SCDOT Archaeologist directs otherwise.

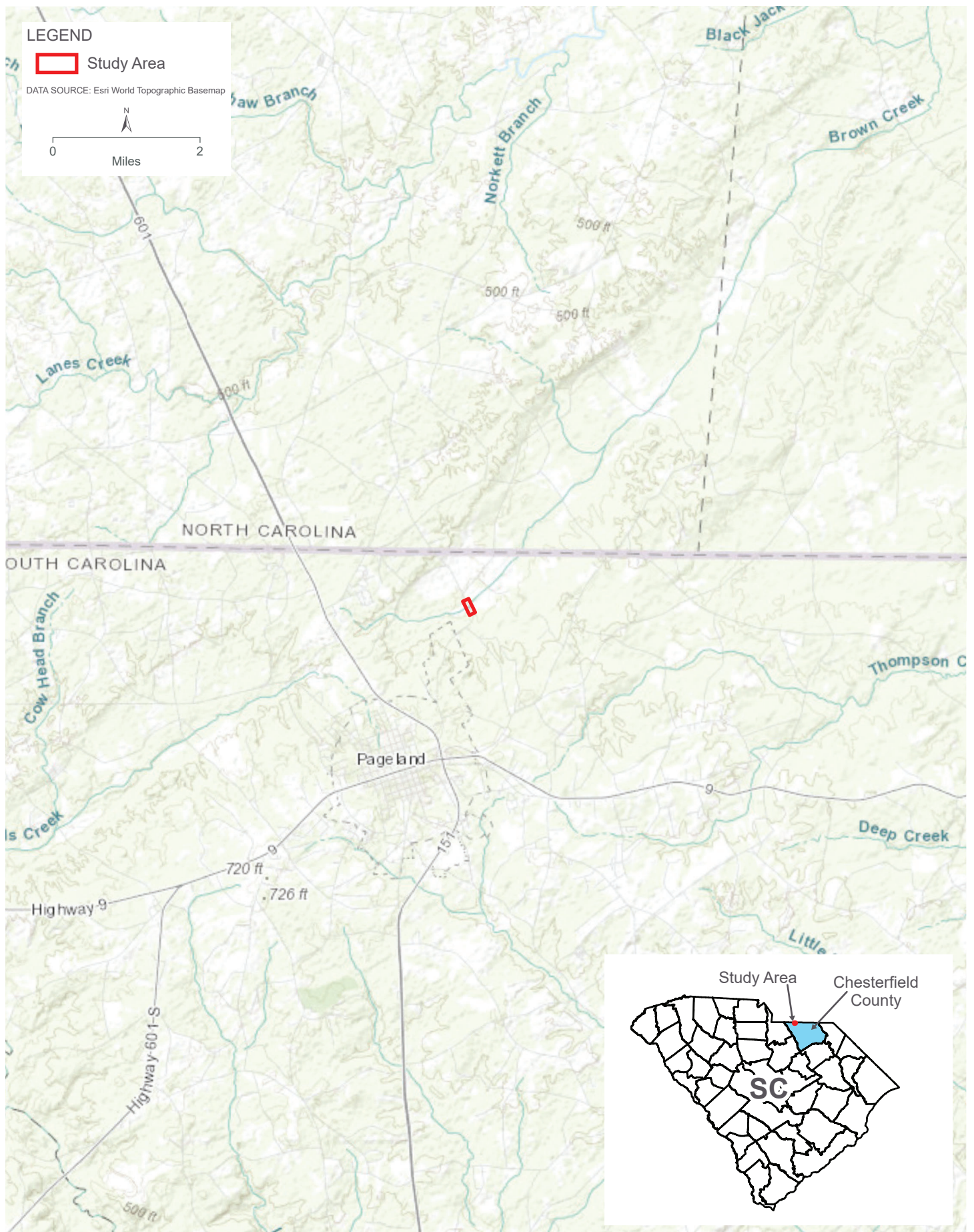
☐ Special Provision

Project ID : <input type="text" value="P041181"/>	SCDOT NEPA ENVIRONMENTAL COMMITMENTS FORM	
ENVIRONMENTAL COMMITMENTS FOR THE PROJECT		

Floodplains	NEPA Doc Ref: <input type="text"/>	Responsibility: <input type="text" value="CONTRACTOR"/>
<p>The Engineer of Record will send a set of final plans and request for floodplain management compliance to the local County Floodplain Administrator.</p>		
<input type="checkbox"/> Special Provision		

<input type="text"/>	NEPA Doc Ref: <input type="text" value="Page: XX Paragraph: XX"/>	Responsibility: <input type="text"/>
<input type="checkbox"/> Special Provision		

<input type="text"/>	NEPA Doc Ref: <input type="text" value="Page: XX Paragraph: XX"/>	Responsibility: <input type="text"/>
<input type="checkbox"/> Special Provision		

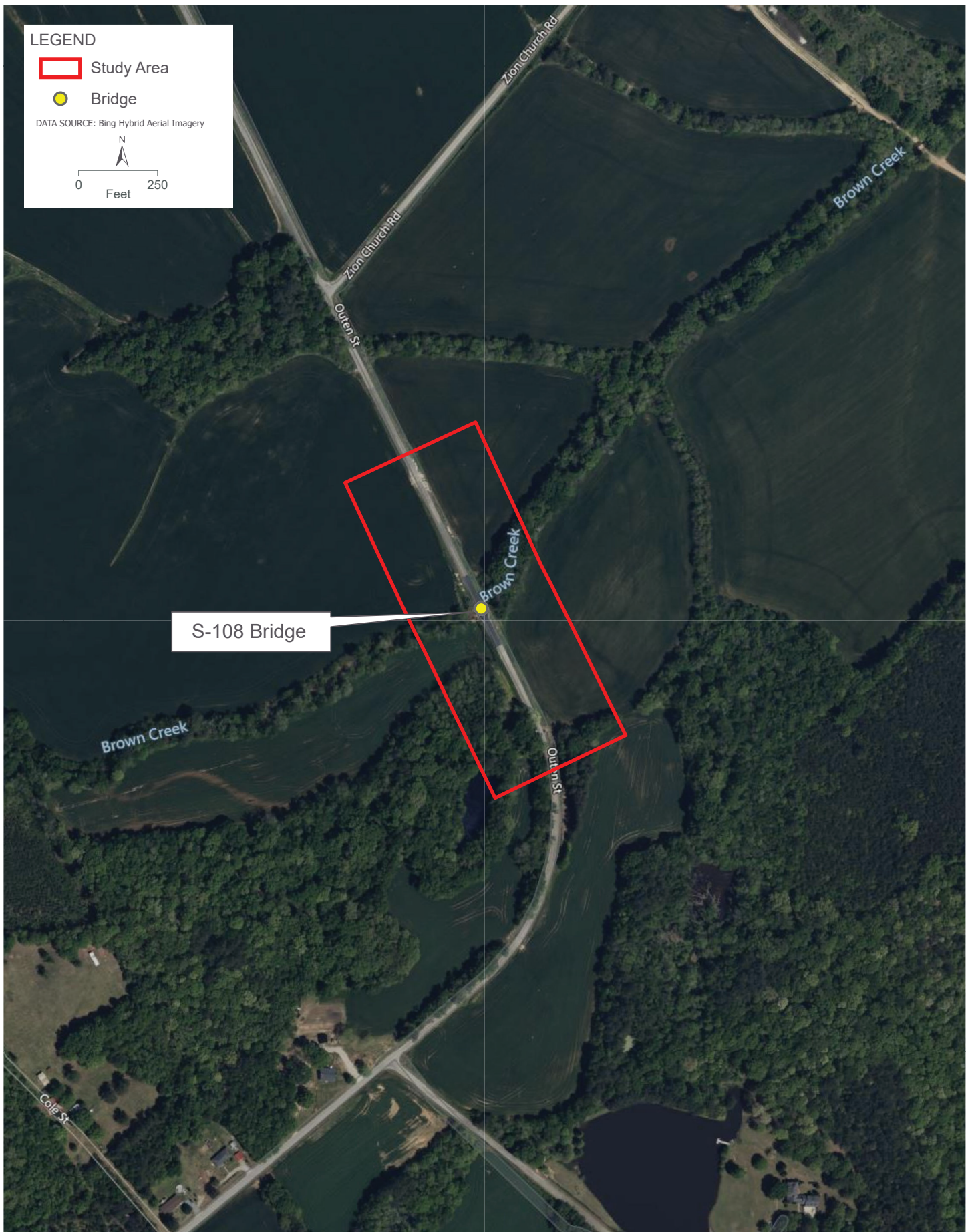


S-108 BRIDGE REPLACEMENT OVER BROWN CREEK

Project Vicinity

Figure 1





S-108 BRIDGE REPLACEMENT OVER BROWN CREEK

Project Aerial

Figure 2





Cultural Resources Project Screening Form

File Number: PIN: Route: County:

Project Name:

Type 1: Resurfacing, installation of fencing, signs, pavement markings, traffic signals, passenger shelters, railroad warning devices, installation of rumble strips, and landscaping

Project Type

Type 2: Bridge replacements on alignment, construction of bicycle/pedestrian facilities, and intersection improvements

Type 3: Projects that do not fall into Type 1 and Type 2 categories (e.g. road widening)

Comments

This project replaces the bridge carrying S-13-108 (Outen Street) over Brown Creek. The archaeological area of potential effect (APE) extends approximately 600 feet from either end of the bridge and 75 feet from the road centerline. The architectural APE extends an additional 300 feet outside of the archaeological APE. HDR conducted a field survey on August 9, 2022 and created a short form report detailing the project. The survey consisted of a pedestrian reconnaissance of the entire archaeological APE augmented by the excavation of shovel test pits (STPs). A total of 24 STP locations were investigated. Three STPs were not excavated due to slope, wetlands, or ground disturbance. The remaining 21 STPs were excavated but produced no cultural resources. No archaeological sites were identified within the archaeological APE. No architectural resources were identified within the APE. The current bridge to be replaced was built in 1979 and is not old enough to be considered for the National Register of Historic Places. No historic properties will be affected by this project. No additional cultural resources investigations are recommended.

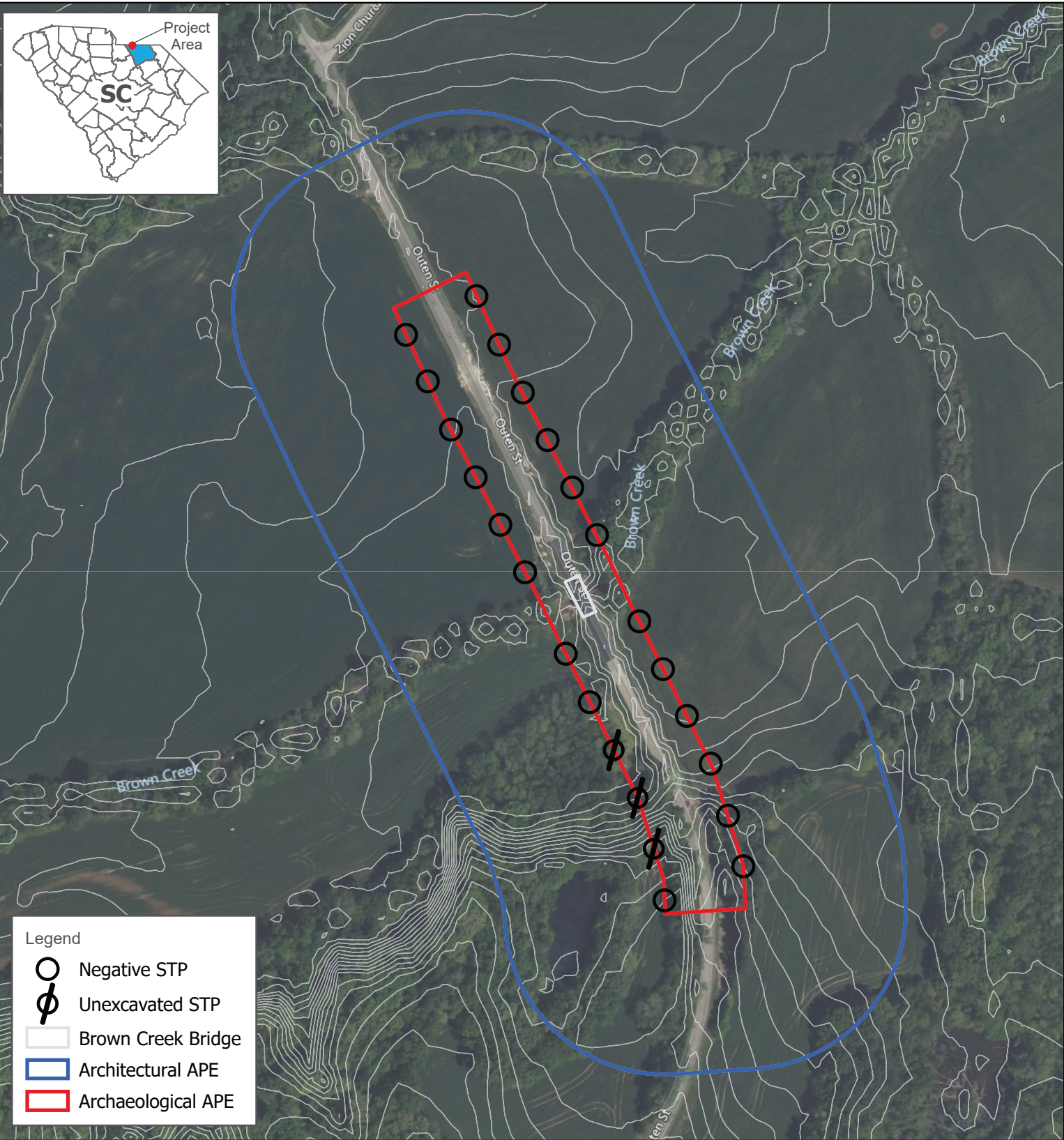
Effect Determination:

*SHPO consultation is required for all Type 3 projects and any project with a No Adverse or Adverse Effect Determination.

This screening form was developed to satisfy documentation requirements for Type I and Type II projects under a Programmatic Agreement between the Federal Highway Administration, the South Carolina State Historic Preservation Office, the US Army Corps of Engineers, and the South Carolina Department of Transportation. For Type I and Type II projects that have no effect on historic properties, the completion of this screening form with supporting documentation (e.g. ArchSite Map) provides evidence of FHWA and SCDOT's compliance with Section 106 of the National Historic Preservation Act.

Prepared by:

Review Date:

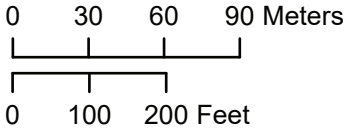


Date:
August 25, 2022



**Chesterfield County
S-13-108 Bridge
Replacement over
Brown Creek**

Project ID: P041181





Memo

Date: September 7, 2022

Project: S-108 (Outen Road) Bridge Replacement over Brown Creek
SCDOT PIN #P041181

To: Will McGoldrick – SCDOT

From: Blake Hartshorn – HDR
Eric Mularski, PWS – HDR

Subject: **Natural Resources Survey Technical Memorandum**

HDR conducted a natural resources survey for the South Carolina Department of Transportation (SCDOT) for the S-108 (Outen Road) Bridge Replacement over Brown Creek (Project) on June 2, 2022. The Project will involve the replacement of the S-108 Bridge over Brown Creek to improve structural integrity, capacity, and/or safety concerns.

The Study Area encompasses approximately 11.5 acres, and primarily consists of undeveloped forested lands, agricultural fields, and existing road right-of-way along S-108 (Outen Road) in Chesterfield County, South Carolina (Attachment 1, Figures 1 through 3). This technical memorandum provides a summary of HDR's methods and findings from a desktop analysis and an on-site natural resources survey. Attached to this memo are supporting figures, a permit determination, and HDR's biological assessment.

Desktop Analysis Methods

A desktop analysis was completed as part of an initial Study Area evaluation to identify key environmental resources to be considered for permitting and/or design. The potential resources identified in the desktop evaluation were field verified by HDR to ensure that critical regulatory items will not adversely impact the Project. The following resources were consulted during the desktop analysis:

- Federal Emergency Management Agency (FEMA) Map Service Center (<https://msc.fema.gov/portal>)
- South Carolina Department of Natural Resources (SCDNR) and South Carolina Natural Heritage Program (SCNHP) (<https://sclportal.dnr.sc.gov/portal/apps/sites/#/natural-heritage-program>)
- U.S. Fish and Wildlife Services (USFWS) Information for Planning and Consultation (IPaC) (<https://ecos.fws.gov/ipac/>)
- USFWS National Wetland Inventory (NWI) (<http://www.fws.gov/wetlands>)
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (<http://nhd.usgs.gov/>)
- USGS Topographic Quadrangle Maps (1:24,000-scale) Pageland and Hornsboro Quadrangle

Wetlands and Jurisdictional Waters of U.S.

On-site reconnaissance activities identified one stream, one jurisdictional ditch, and one open water within the Study Area (Attachment 1, Figure 4). A summary of jurisdictional waters of the U.S. is provided in Table 1.

Table 1. Summary of Delineated Waters of the U.S. within the Study Area

Feature Name	Coordinates (Decimal Degrees)	Type of Aquatic Resource	Cowardin et al. (1979) Classification ¹	Estimated Amount of Aquatic Resource in Study Area
Streams				
Stream 1 Brown Creek	34.803862 -80.375473	non-section 10 - non-wetland	R3UB1	Length: 472 lf Average Width: 15 lf
Total Streams:				472 lf
Jurisdictional Ditches				
Jurisdictional Ditch 1	34.803557 -80.375608	non-section 10 - non-wetland	R6	Length: 160 lf Average Width: 3 lf
Total Ditches:				160 lf
Open Water				
Open Water 1	34.802328 -80.375538	non-section 10 - non-wetland	PUBh	Area: 0.09 ac.
Total Open Waters:				0.09 ac.

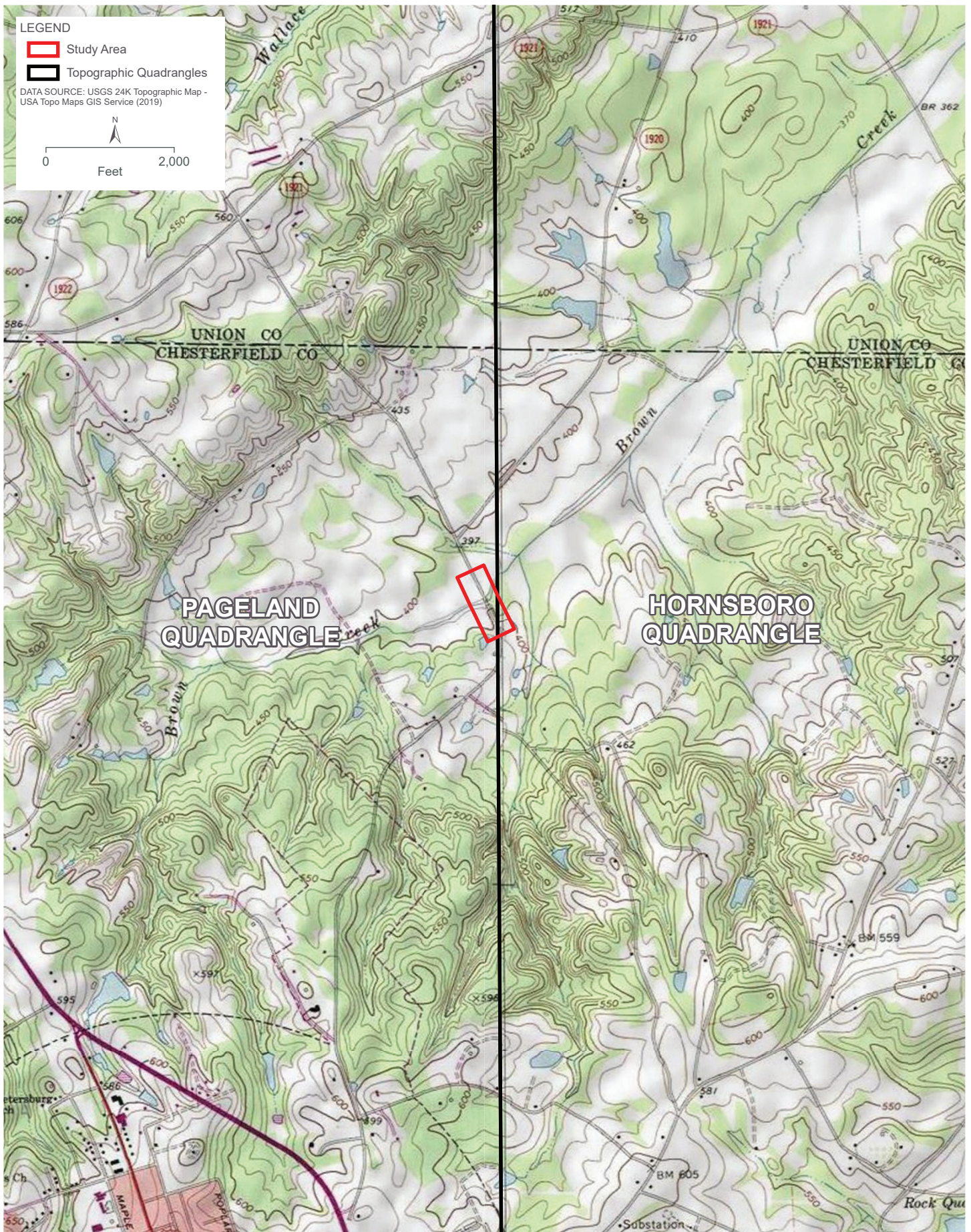
¹ R3UB1: Riverine, upper perennial, unconsolidated bottom, with a cobble-gravel bottom.

R6: Ephemeral.

PUBh: Palustrine, unconsolidated bottom, permanently flooded.

Based on the bridge design, impacts to jurisdictional waters may occur during construction but will meet USACE GP criteria. The SCDOT Permit Determination Form has been completed and is provided as Attachment 2 of this memo.

A field survey was also conducted within the Study Area pursuant to Section 7 of the Endangered Species Act. Results are provided in HDR's biological assessment (Attachment 3). The USFWS IPaC and county species list was used to determine what potential federally protected species could be on site. Based upon the field survey findings, the Project is not anticipated to impact threatened or endangered species or critical habitats currently listed by the USFWS.





Date: 9/8/2022

PERMIT DETERMINATION

FROM Blake Hartshorn COMPANY HDR Engineering Inc.

CONTACT INFO (phone and/or email) blake.hartshorn@hdrinc.com

SCDOT PROJECT ENGINEER Micheal Pitts

TO Will McGoldrick - Design Build Coordinator

Project Description Replacing bridge over Brown Creek along Outen Road in
in Chesterfield County, SC

Route or Road No. S-108 County Chesterfield

CONST. PIN P041181 OTHER PINS or STRUCTURE #

RESPONSE:

☐ It has been determined that no permits are required because:

☒ The following permit(s) is/are necessary:
(Please check which type(s) of permit the project will need)

USACE Permit ☒ GP ☐ IP ☐ 401 ☐ JD

OCRM Permit ☐ CAP ☐ CZC

Navigable ☐ SCDHEC NAVGP — if checked a USCG and/or USACE navigable permit may also be required, but will be determined during the NEPA and Permitting stages.

Other

Water Classification: FW *Print and attach the SCDHEC water quality report*

303(d) listed ☒ no ☐ yes, for *

TMDL developed ☒ no ☐ yes, for *

*List all that apply using the SCDHEC abbreviations

Comments: S-108 is a bridge replacement project. Impacts to jurisdictional waters
are anticipated. No Water Quality Report available for Brown Creek
watershed.

The determination above was based on the most recently available information at the time. This is a preliminary determination and is subject to change if the design of the project is modified.

Hartshorn, Blake L. Digitally signed by Hartshorn, Blake L.
Date: 2022.09.20 06:14:34 -04'00'

Biologist, SCDOT/Consultant

9/8/2022

Date

Biological Assessment of the
S-108 Bridge Replacement over Brown Creek
Chesterfield County, SC
SCDOT PIN #P041181

September 8, 2022

Pursuant to Section 7 of the Endangered Species Act, a field survey was conducted within the project corridor. The following list of threatened (T) and endangered (E) species was obtained from the U.S. Fish and Wildlife Service (USFWS):

Birds

Bald eagle (*Haliaeetus leucocephalus*) - Bald and Golden Eagle Protection Act (BGEPA)
Red-cockaded woodpecker (*Picoides borealis*) - E

Mammals

Tricolored bat (*Perimyotis subflavus*) – Proposed Endangered

Mollusks

Carolina heelsplitter (*Lasmigona decorata*) - E

Plants

Schweinitz's sunflower (*Helianthus schweinitzii*) - E

Methods

The project area was examined by GIS and field reconnaissance methods on June 2, 2022. Habitats surveyed were determined by each species' ecological requirements.

Results

The project consists of replacing a bridge and associated road work on S-108 over Brown Creek in Chesterfield County, South Carolina. Land use in the vicinity of the project includes agricultural uses and residences with a large, relatively undisturbed bottomland hardwood forest. Habitat types within the project corridor consist of bottomland forested wetlands dominated by large canopy tree species such as water oak (*Quercus nigra*), winged elm (*Ulmus alata*), and red maple (*Acer rubrum*) with an understory dominated by herbaceous species such as switchcane (*Arundinaria tecta*).

Bottomland hardwoods are typically found on floodplains of rivers and streams, and can occur in the Piedmont as well as the Coastal Plain. Typical tree species found in this bottomland hardwood communities include sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), hackberry (*Celtis laevigata*), overcup oak (*Quercus lyrata*), water oak (*Q. nigra*), sycamore (*Platanus occidentalis*), American holly (*Ilex opaca*), and American elm (*Ulmus americana*). Immature individuals of canopy species were observed within the subcanopy. Vine species present include poison ivy (*Toxicodendron radicans*) and summer grape (*Vitis aestivalis*). The herb layer contains

cardinal flower (*Lobelia cardinalis*), longleaf lobelia (*L. elongata*), and sensitive fern (*Onoclea sensibilis*).

The forested upland areas consist primarily of a dense mixed pine forest dominated by loblolly pine and sweetgum.

Brown Creek is classified as a perennial, unconsolidated bottom, riverine system. The creek is somewhat incised with areas of minor bank erosion, and it appears that it occasionally overtops its banks during heavy rain events.

According to the Heritage Trust database of endangered, threatened, and rare species, no federally listed species occur in the vicinity of the project. Additionally, a field review of the project study area showed that there is no suitable habitat for any listed species. The potentially jurisdictional waters in the project area have a very dense hardwood tree canopy with no large open water areas and are not suitable habitat for red-cockaded woodpecker or bald eagle. The roadsides within the study area are managed and not suitable habitat for Schweinitz's sunflower. The substrate of Brown Creek is well-sorted sand with slow-moving pools; however, the banks are incised with signs of scour and several agricultural fields are located adjacent to the stream causing siltation, which is not ideal habitat for the Carolina heelsplitter. A tricolored bat habitat assessment was also performed, and habitat was identified within the forested areas on site as well as under the S-108 bridge; however, there were no signs of bat usage. A formal bat survey was not conducted.

Based upon the lack of suitable habitat and no observations of the listed species in the vicinity of the project, results of the threatened and endangered species study indicate that the proposed action will not impact any threatened or endangered species or critical habitats currently listed by the USFWS.

Submitted by:



Blake Hartshorn
HDR Environmental Scientist
9/8/2022

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

COUNTY: Chesterfield

DATE: 09/15/2022

ROAD #: S-13-108

STREAM CROSSING: Brown Creek

Purpose & Need for the Project:

SCDOT proposes to replace the S-13-108 (Outen St.) Bridge over Brown Creek in Chesterfield County. The purpose of this project is to replace the bridge to correct the load restriction placed on it as well as restore bridge components to good condition. The existing bridge is posted for load restrictions and has one or more components in poor condition.

I. FEMA Acknowledgement

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

Panel Number: 45025C0050C Effective Date: 09/16/2011 (See Attached)

II. FEMA Floodmap Investigation

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: Bridge is located in FEMA Zone X. The preliminary bridge design will comply with SCDOT design criteria.

- ☐ 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. _____ Sheet No. _____ (See Attached)
☒ No

b. Road Plans ☒ Yes File No. 13.325 Sheet No. 10 (See Attached)
☐ No

B. Historical Highwater Data

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

b. SCDOT/USGS Documented Highwater Elevations
☐ Yes Results: _____
☒ No

c. Existing Plans ☒ Yes See Above
☐ No

V. Field Review

A. Existing Bridge

Length: 45 ft. Width: 30 ft. Max. span Length: 15 ft.

Alignment: ☒ Tangent ☐ Curved

Bridge Skewed: ☐ Yes ☒ No Angle: _____

End Abutment Type: Spill-through

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

Superstructure Type: Concrete Deck

Substructure Type: Timber piles w/steel beam repairs

Utilities Present: ☐ Yes ☒ No

Describe:

Debris Accumulation on Bridge: Percent Blocked Horizontally: <5 %
Percent Blocked Vertically: <15 %

Hydraulic Problems: ☒ Yes ☐ No

Describe:

Debris accumulation on timber piles consisting of small to medium sized branches and tree limbs. < 3" diameter. Roadway overtops for 100-year event.

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

V. Field Review (cont.)

B. Hydraulic Features

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

b. Distance from F.G. to Normal Water Elevation: _____ ~11.5 ft.

c. Distance from Low Steel to Normal Water Elev.: _____ ~10.5 ft.

d. Distance from F.G. to High Water Elevation: _____ ~2.9 ft.

e. Distance from Low Steel to High Water Elev.: _____ ~1.9 ft.

f. Channel Banks Stable: ☒ Yes ☐ No

Describe:

g. Soil Type: sand/course gravel/cobble

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.

Properties around bridge are agricultural use.

C. Existing Roadway Geometry

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

☒ Yes ☐ No

Describe:

Roadway was closed for an extended period and recently reopened with bridge repairs.

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

Yes

If "No", will the proposed bridge be:

☐ Staged Constructed

☐ Replaced on New Alignment

BRIDGE REPLACEMENT SCOPING TRIP RISK ASSESSMENT FORM

VI. Field Review (cont.)

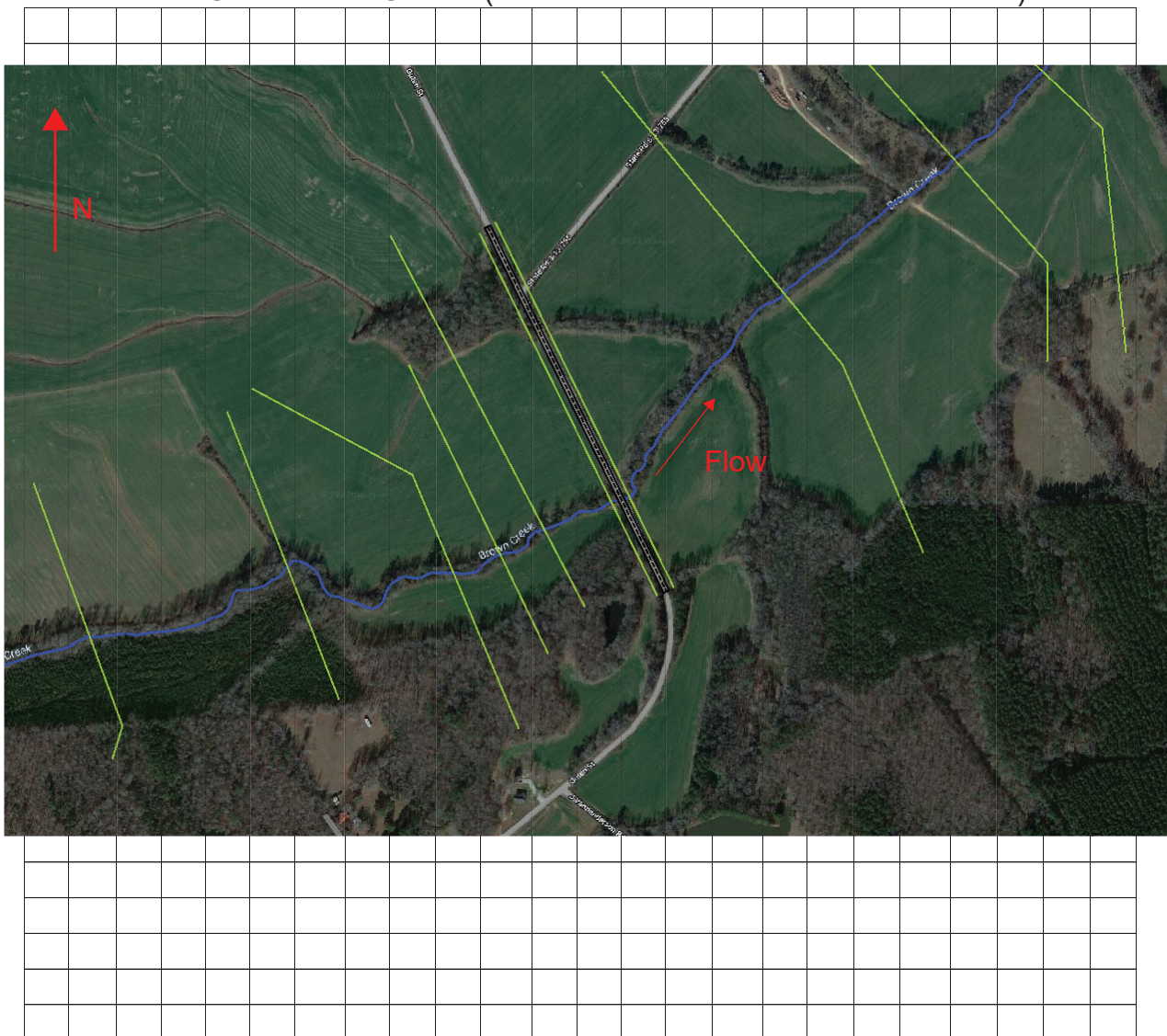
A. Proposed Bridge Recommendation:

Length: 180 ft. Width: 30 ft. Elevation: 398 ft.

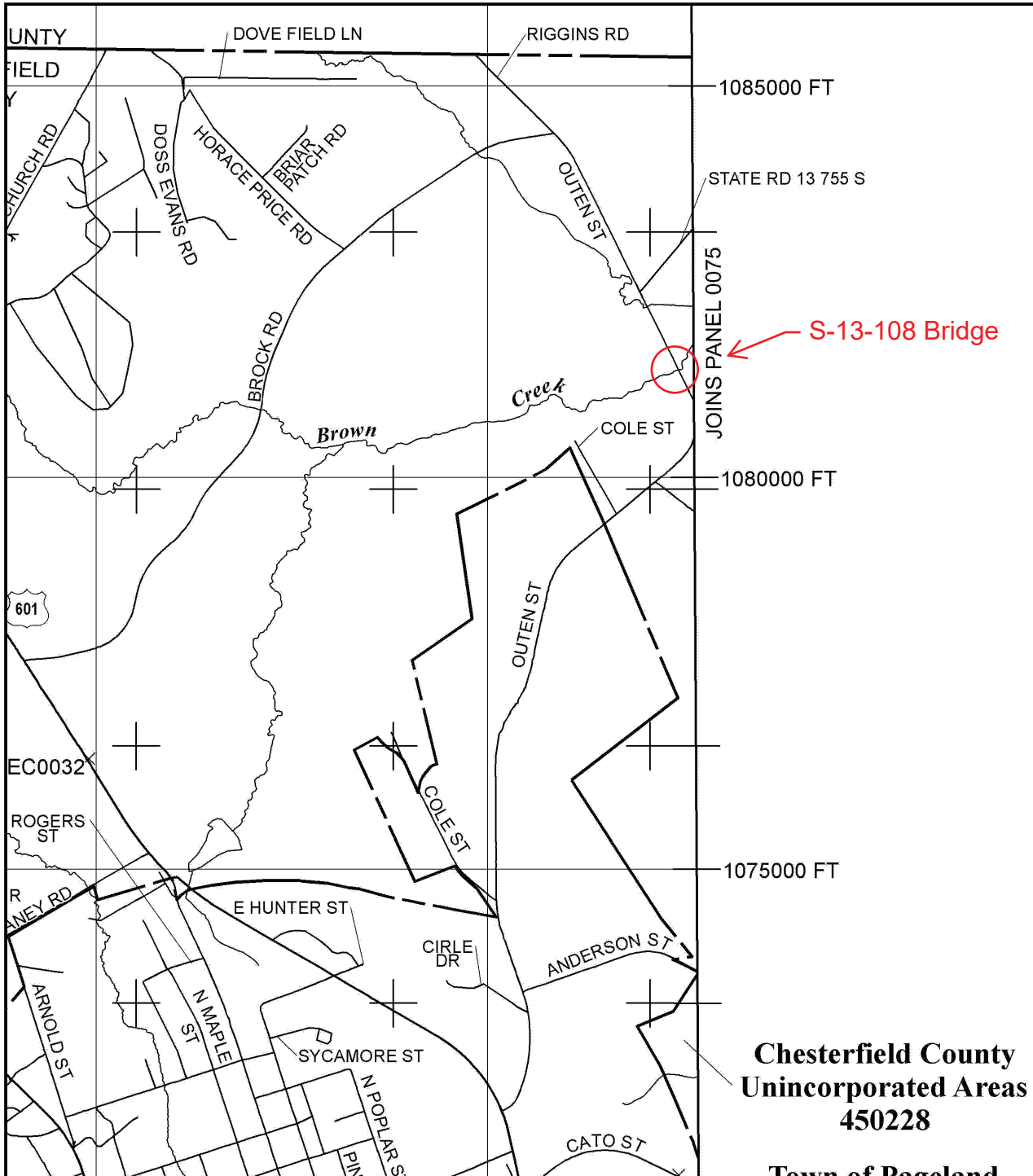
Span Arrangement: 3-60' spans

Notes: Proposed replacement is a 3-60' spans supported on 3.75' diameter piers with sloping abutments protected with rip rap.

BRIDGE SITE DIAGRAM: (Show North Arrow and Direction of Flow)



Performed By: Thomas Miller
Title: Hydraulic Engineer

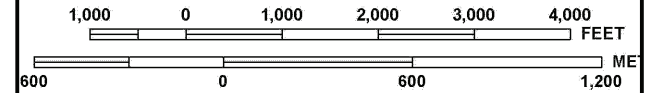


**Chesterfield County
Unincorporated Areas
450228**

Town of Pageland



MAP SCALE 1" = 2000'



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0050C

FIRM

FLOOD INSURANCE RATE MAP

**CHESTERFIELD
COUNTY,
SOUTH CAROLINA
AND INCORPORATED AREAS**

PANEL 50 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHESTERFIELD COUNTY	450228	0050	C
PAGELAND, TOWN OF	450307	0050	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



**MAP NUMBER
45025C0050C**

**EFFECTIVE DATE
SEPTEMBER 16, 2011**

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.

**South Carolina Department of Transportation
Location and Hydraulic Design of Encroachments on Floodplains Checklist**

23 CFR 650, this regulation shall apply to all encroachments and to all actions which affect base floodplains, except for repairs made with emergency funds. Note: These studies shall be summarized in the environmental review documents prepared pursuant to 23 CFR 771.

I. PROJECT DESCRIPTION

The South Carolina Department of Transportation (SCDOT) proposes to replace the load restricted bridge crossing of Brown Creek along Road S-13-108 (Outen Rd.) in Chesterfield County.

The proposed improvement would replace the structurally deficient bridge and include associated roadway improvements to accommodate the proposed bridge.

A. Narrative Describing Purpose and Need for Project

- a. Relevant Project History:
- b. General Project Description and Nature of Work (attach Location and Project Map):
- c. Major Issues and Concerns:

The primary purpose of the project is to replace the structurally deficient bridge. Roadway improvements are limited to those associated with accommodating the new structure.

The project crosses Brown Creek which is shown on the Flood Insurance Rate Map (FIRM) Panel 450025C0050C. Brown Creek is not designated as a Special Flood Hazard Area in the vicinity of the project. The project is not expected to be a significant or longitudinal encroachment as defined under 23 CFR 650A, nor is it expected to have an appreciable environmental impact on the base flood elevation. In addition, the project would be developed to comply with all appropriate floodplain regulations and guidelines.

B. Are there any floodplain(s) regulated by FEMA located in the project area?

Yes ☐ No ☒

C. Will the placing of fill occur within a 100-year floodplain?

Yes ☐ No ☒

D. Will the existing profile grade be raised within the floodplain?

The existing roadway overtops for the base flood. The roadway grade will be raised to accommodate a larger bridge structure and reduce overtopping potential.

E. If applicable, please discuss the practicability of alternatives to any longitudinal encroachments.

Minor longitudinal encroachments are expected based on the revised roadway profile. Bridge span arrangements will be optimized to limit profile changes. The bridge will be constructed on existing alignment to reduce longitudinal impacts.

F. Please include a discussion of the following: commensurate with the significance of the risk or environmental impact for all alternatives containing encroachments and those actions which would support base floodplain development:

a. What are the risks associated with implementation of the action?

Risks are minimal; the project will replace the existing bridge with larger bridge opening. The increased opening will have a negligible impact on the BFE's along the floodplain.

b. What are the impacts on the natural and beneficial floodplain values?

The project is not expected to negatively impact the floodplain values, as the hydraulic conditions will be retained/improved.

c. What measures were used to minimize floodplain impacts associated with the action?

The bridge opening will produce similar or improved hydraulic conditions within the floodplain. The bridge will be constructed on the existing alignment.

d. Were any measures used to restore and preserve the natural and beneficial floodplain values impacted by the action?

Not applicable.

- G. Please discuss the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development.

The impacts are not considered significant encroachments and would not support incompatible floodplain development. The proposed project will have no significant impact to base flood elevations along the stream and will not impact the potential for development within the floodplain.

- H. Were local, state, and federal water resources and floodplain management agencies consulted to determine if the proposed highway action is consistent with existing watershed and floodplain management programs and to obtain current information on development and proposed actions in the affected? Please include agency documentation.

All analysis for the project was performed in accordance with SCDOT, FEMA, and local regulations.

As the project progresses to final construction plans, the hydraulic modeling will be updated based on the final bridge layout.

____ Thomas Miller _____

SCDOT Hydraulic Engineer

____ 8-26-2022 _____

Date