NCDOT MINIMUM CRITERIA DETERMINATION CHECKLIST

STIP Project No.: R-3430B

State Project No.: 34544.1.4

Project Location:

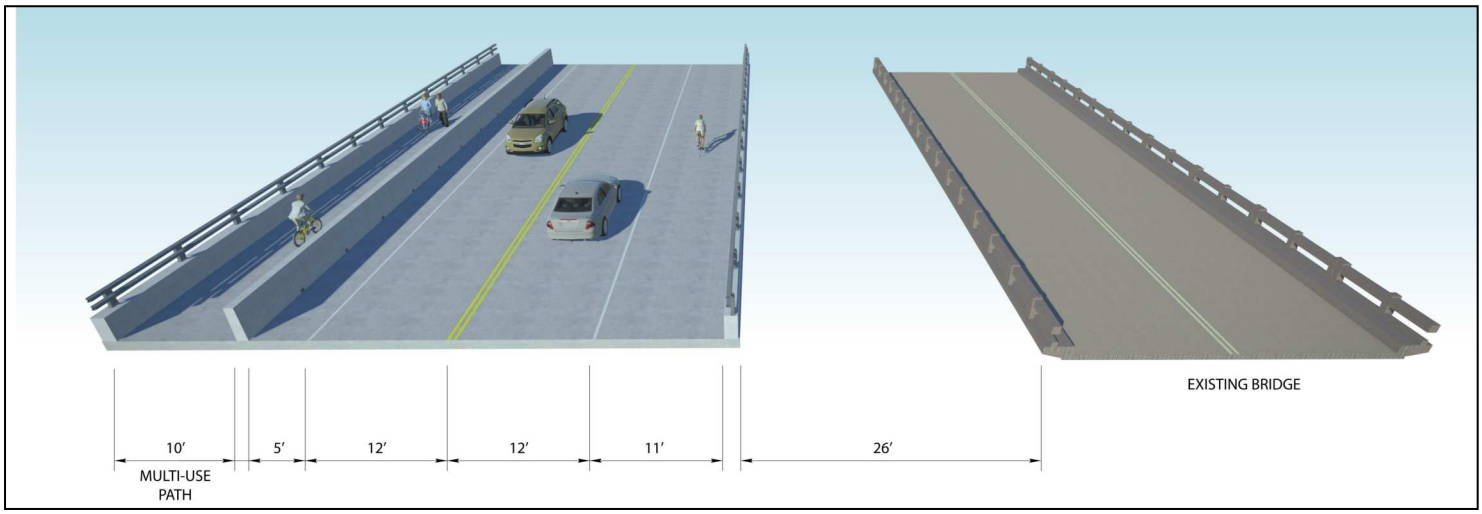
Bridge No. 110010 (Castle Bridge) over the Catawba River (Lake Rhodhiss) is located on SR 1001 (Malcolm Boulevard/Connelly Springs Road) in Burke County and Caldwell County. The design limits are from approximately 75 feet north of Harbor Ridge Drive to approximately 585 feet north of Castle Bridge Drive.

Project Description:

The proposed project (R-3430B) involves replacing Bridge No. 110010 over the Catawba River. NCDOT evaluated three alternatives, each with two design alignment options (see **SPECIAL PROJECT INFORMATION**). The new location replacement structure will be approximately 1,075 feet in length, with a minimum clear roadway width of 40 feet, and on new alignment west of the existing bridge. The new bridge will be approximately 6.5 feet higher in elevation than the existing bridge.

The project is listed in the current *NCDOT 2020-2029 State Transportation Improvement Program (STIP)* along with two adjacent projects: R-3430C to the north and R-3430A to the south. R-3430B is scheduled for right-of-way acquisition to begin in fiscal year 2022 and construction in fiscal year 2023. R-3430C is scheduled for right-of-way acquisition to begin in fiscal year 2026 and construction in fiscal year 2029. Right-of-way acquisition and construction for R-3430A are currently unfunded in the STIP.

The proposed bridge would accommodate the following typical section: 51-foot total bridge width (40-foot clear roadway width) from left to right, consisting of a 10-foot shared-use path (SUP), 1-foot protected barrier, 5-foot shoulder, two 12-foot travel lanes, and 11-foot shoulder. In accordance with the *NC Bicycle Facilities Planning and Design Guidelines*, a minimum bicycle-safe railing height of 54” will be required where bicyclists will be riding next to the handrail.



Construction activity on SR 1001 (Malcolm Boulevard and Connelly Springs Road) will extend approximately 1,215 feet south of the proposed bridge and approximately 810 feet north of the proposed bridge, respectively. SR 1001 has a functional classification of a minor arterial with a design speed of 50 mph and a posted speed of 45 mph.

Traffic will be maintained on-site using the existing bridge and roadway alignment during construction. Once construction is complete, traffic will be shifted to the new bridge, then demolition of the existing bridge will begin.

Anticipated Permit or Consultation Requirements:

It is anticipated that a US Army Corps of Engineers (USACE) Section 404 permit will be required for this single and complete project; the USACE is NCDOT's lead federal agency for the project. A corresponding Section 401 Water Quality Certification (WQC) from the North Carolina Department of Water Resources (NCDWR) will be required prior to the issuance of a Section 404 Permit. The USACE holds the final discretion as to what permit will be required to authorize project construction.

On behalf of the USACE, NCDOT is in consultation with the United States Fish and Wildlife Service (USFWS) to satisfy Section 7 of the Endangered Species Act (ESA).

Duke Energy FERC coordination and approval are anticipated for the proposed project following 404/401 permitting completion.

SPECIAL PROJECT INFORMATION

Purpose and Need

The purpose of the project is to replace the structurally deficient Bridge No. 110010 over the Catawba River. Prior to approximately $5 million in bridge maintenance improvements between 2018 and 2019, the bridge had a sufficiency rating of 8 out of 100. The 2020 NCDOT Bridge Management Unit records indicate the bridge currently has a sufficiency rating of 37.55 out of a possible 100.

Initial Preliminary Bridge Study Alternatives

Three initial alternatives were evaluated, each with two design alignment options (west or east), and all employing an on-site detour to maintain traffic during construction. Alternatives 1 and 2 would maintain traffic on the existing structure until completion of the new bridge and for Alternative 3, maintenance of traffic would be staged during construction.

Alternative 1 - Replace the existing bridge on new alignment approximately 67 feet from the center of the existing bridge to the center of the new bridge.

Alternative 2 - Replace the existing bridge on new alignment approximately 46 feet from the center of the existing bridge to the center of the new bridge.

Alternative 3 - Widen the existing structure; original bridge foundations would remain in use.

Eastern Alignment Alternatives Overview

Eastern alignments were not further studied due to potential impacts to the Castle Bridge Boat Access ramp. The three western alignments for Alternates 1, 2 and 3 were carried forward for additional design and study.

Western Alignment Alternatives Overview

Alternative 1

Alternative 1 consists of building a new 51-foot wide bridge. Traffic would remain on the existing bridge until the completion of the new bridge, at which point the current bridge would be demolished. This alternative would not preclude future widening of the bridge.

Alternative 1 would require about 3.35 acres of right-of-way (and other applicable roadway items). About 0.36 acres of dwarf-flowered heartleaf (DFHL) habitat would be impacted.

Alternative 2

Alternative 2 is similar to Alternative 1 and consists of building a new parallel 51-foot wide bridge west of the existing bridge. Traffic would remain on the existing bridge until completion of the new bridge, at which point the current bridge would be demolished. The proposed design does not preclude future widening of the bridge.

The narrow distance between the proposed bridge and existing bridge would require temporary shoring, creating construction challenges for this alternative. Alternative 2 would require about 3.20 acres of right-of-way and would impact about 0.31 acres of DFHL habitat.

Alternative 3

Alternative 3 consists of using the existing bridge foundations to build an approximately 65-foot wide bridge. The bridge would be constructed in phases to maintain traffic during construction.

To maintain two-lane traffic during construction, Alternative 3 requires a minimum width of 65 feet and the bridge would need to be extended north of the existing end bent by two additional spans. This alternative would add construction risks and higher costs. The alternative would reuse the existing foundations, connecting two bridge decks together (new foundations for stage 1 and existing foundations for stage 2).

Preferred Alternative

Alternative 1 was selected as the Preferred Alternative. Alternative 1 has fewer constructability issues; the longer tie-in improves traffic control and allows for an easier transition to a normal crown leading up to the bridge. The increased distance of 67 feet from the center of the existing bridge to the center of the new bridge allows enough room to build a separate structure should a four-lane roadway be needed in the future. There is no temporary shoring anticipated next to the bridge for this alternative.

The estimated R-3430B project cost is $19,927,951, including $496,091 for Right-of-Way, $431,860 for Utilities, and $19,000,000 for Construction.

No relocations are anticipated with this project.

There are no anticipated impacts to historic resources.

Pedestrian/Bicycle Accommodations: NCDOT Integrated Mobility Division (IMD) recommended that the project team coordinate with municipalities to determine the most appropriate type and location of pedestrian and bicycle facilities. Input from local coordination meetings and the *FHWA Bikeway Selection Guide* tool was used to identify a minimum typical section that could safely accommodate bicyclists and pedestrians in the community context.

Bridge Demolition: Bridge No. 110010 is constructed of a reinforced concrete bridge deck, steel girders, and reinforced concrete piers. The existing bridge will be removed with proper protection measures to avoid any debris falling into the water.

Public Involvement: A Virtual Public Comment Period was held from September 29 to October 15, 2021. NCDOT sent about 2,772 postcards to property owners directing them to the R-3430 PublicInput.com project site for project information and feedback.

There were 1,024 views of the project website and 93 comments received during the comment period, with 58 comments based off the poll questions and 35 independent comments. About 33% of comments were on the topic of bicyclists/pedestrians. Regarding the bridge replacement portion (R-3430B), 70% of respondents (of 43 responses) supported the recommendations shown on the project site.

Environmental Commitments: The list of project commitments (Green Sheet) is located at the end of the checklist.

PART A: MINIMUM CRITERIA

Item 1 to be completed by the Project Manager.	YES	NO
1 Is the proposed project listed as a type and class of activity allowed under the Minimum Criteria Rule in which environmental documentation is not required?	☒	☐

If the answer to number 1 is "no", then the project does not qualify as a minimum criteria project. A state Environmental Assessment is required.

If yes, under which category? **#9**

If either category #8, #12(i) or #15 is used complete Part D of this checklist.

PART B: MINIMUM CRITERIA EXCEPTIONS

Items 2 – 4 to be completed by the Project Manager.	YES	NO
2 Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse air quality impacts?	☐	☒
3 Will the proposed activity have secondary impacts or cumulative impacts that may result in a significant adverse impact to human health or the environment?	☐	☒
4 Is the proposed activity of such an unusual nature or does the proposed activity have such widespread implications, that an uncommon concern for its environmental effects has been expressed to the Department?	☐	☒
Item 5-8 to be completed by Division Environmental Officer.		
5 Does the proposed activity have a significant adverse effect on wetlands; surface waters such as rivers, streams, and estuaries; parklands; prime or unique agricultural lands; or areas of recognized scenic, recreational, archaeological, or historical value?	☐	☒
6 Will the proposed activity endanger the existence of a species on the Department of Interior's threatened and endangered species list?	☐	☒
7 Could the proposed activity cause significant changes in land use concentrations that would be expected to create adverse water quality or ground water impacts?	☐	☒
8 Is the proposed activity expected to have a significant adverse effect on long-term recreational benefits or shellfish, finfish, wildlife, or their natural habitats?	☐	☒

If any questions 2 through 8 are answered "yes", the proposed project may not qualify as a Minimum Criteria project. A state Environmental Assessment (EA) may be required. For assistance, contact the Environmental Policy Unit at (919) 707–6253 or EPU@ncdot.gov.

PART C: COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

Items 9- 12 to be completed by Division Environmental Officer.	**YES**	**NO**
9. Is a federally protected threatened or endangered species, or its habitat, likely to be impacted by the proposed action?	☒	☐
10. Does the action require the placement of temporary or permanent fill in waters of the United States?	☒	☐
11. Does the project require the placement of a significant amount of fill in high quality or relatively rare wetland ecosystems, such as mountain bogs or pine savannahs?	☐	☒
12. Is the proposed action located in an Area of Environmental Concern, as defined in the coastal Area Management Act?	☐	☒
Items 13 – 15 to be completed by the Project Manager.		
13. Does the project require stream relocation or channel changes?	☐	☒
Cultural Resources		
14. Will the project have an "effect" on a property or site listed on the National Register of Historic Places?	☐	☒
15. Will the proposed action require acquisition of additional right of way from publicly owned parkland or recreational areas?	☐	☒

Questions in Part "C" are designed to assist the Project Manager and the Division Environmental Officer in determining whether a permit or consultation with a state or federal resource agency may be required. If any questions in Part "C" are answered "yes," follow the appropriate permitting procedures prior to beginning project construction.

Response to Question 9: Threatened and Endangered Species

NCDOT prepared a *Natural Resources Technical Report (NRTR)* (May 2019) for R-3430. Since the completion of the *NRTR* (2019), the USFWS lists nine federally protected species in the project study area:

Federally protected species listed in the project study area

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Glyptemys muhlenbergii	Bog Turtle	T(S/A)	No	Not Required
Myotis grisescens	Gray Bat	E	Yes	No Effect
Myotis septentrionalis	Northern Long-eared bat	T	Yes	MANLAA*
Corynorhinus townsendii virginianus	Virginia Big-eared bat	E	Yes	No Effect
Gymnoderma lineare	Rock Gnome Lichen	E	No	No Effect
Hexastylis naniflora	Dwarf-flowered Heartleaf	T	Yes	MALAA*
Isotria medeoloides	Small Whorled Pogonia	T	Yes	No Effect
Liatris helleri	Heller's Blazingstar	T	No	No Effect
Sisyrinchium dichotomum	White irisette	E	Yes	No Effect

E – Endangered, T – Threatened, T(S/A) – threatened due to similarity of appearance, MALAA – May Affect Likely to Adversely Affect, MANLAA – May Affect Not Likely to Adversely Affect
* – Formal Section 7 consultation will confirm Note: IPaC data checked 11/30/21

A letter (July 9, 2021) documenting Section 7 survey results for the Northern Long-eared Bat, Virginia Big-eared Bat, and Gray Bat is included in Appendix A.

Dwarf-flowered Heartleaf (DFHL) - DFHL is documented to occur in the project study area. Field surveys were conducted in April 2018 and in Spring of 2021. There are five DFHL populations within the R-3430B study area located south of the existing and proposed replacement structure in the area incorporated into R-3430B for the bridge approach roadway tie-ins. As such, complete avoidance of the DFHL populations in the bridge area is unavoidable. NCDOT is preparing a Biological Assessment (BA) in accordance with ESA Section 7 and a plan will be developed with USFWS to offset the loss of plants.

Section 7 survey results concluded that NCDOT recommends a Biological Conclusion of *May Affect Not Likely to Adversely Affect* for the northern long-eared bat. The 2018 DFHL survey conducted within the study area found the Biological Conclusion for the DFHL as *Unresolved/May Affect Likely to Adversely Affect*. As noted above, a Biological Assessment (BA) is being prepared in accordance with the Endangered Species (ESA) Section 7, as amended, and a plan will be developed with USFWS to offset the loss of plants.

Response to Question 10

The preferred alternative will require a USACE Section 404 permit. Temporary barges (and other temporary measures) may be used for removal of the existing bridge and construction of the new bridge and will be documented in NCDOT's 404 permit application.

PART D: (To be completed when either category #8, 12(i) or #15 of the rules are used.)

Items 16- 22 to be completed by Division Environmental Officer.

16. Project length: _____

17. Right of Way width: _____

18. Project completion date: _____

19. Total acres of newly disturbed ground surface: _____

20. Total acres of wetland impacts: _____

21. Total linear feet of stream impacts: _____

22. Project purpose: _____

Reviewed by:

Theresa T. Ellerby
_____
Theresa T. Ellerby, CPM – Project Manager Date: 2/4/2022
PMU – Divisions 11-14

Kevin E. Moore
_____
Kevin Moore, P.E. – Sr. Project Manager Date: 2/4/2022
PMU – Divisions 11-14

Kimberly Bereis
_____
Kim Bereis, AICP – Project Manager Date: 2/3/2022
DRMP, Inc.

NCDOT PROJECT COMMITMENTS

STIP Project No. R-3430B
Bridge No. 110010 over the Catawba River on SR 1001
Burke and Caldwell Counties
WBS Element 34544.1.4

NCDOT Environmental Analysis Unit:

Dwarf-flowered Heartleaf

- NCDOT will offset the loss of DFHL in accordance with conservation measures developed with the U.S. Fish and Wildlife Service during the Endangered Species Act (ESA) Section 7 Consultation.

Federal Energy Regulatory Commission (FERC)

- ECAP will coordinate with Duke Energy and obtain FERC approval following the 404/401 permitting process.

NCDOT Division 11 and Division 13:

Maintenance Agreement

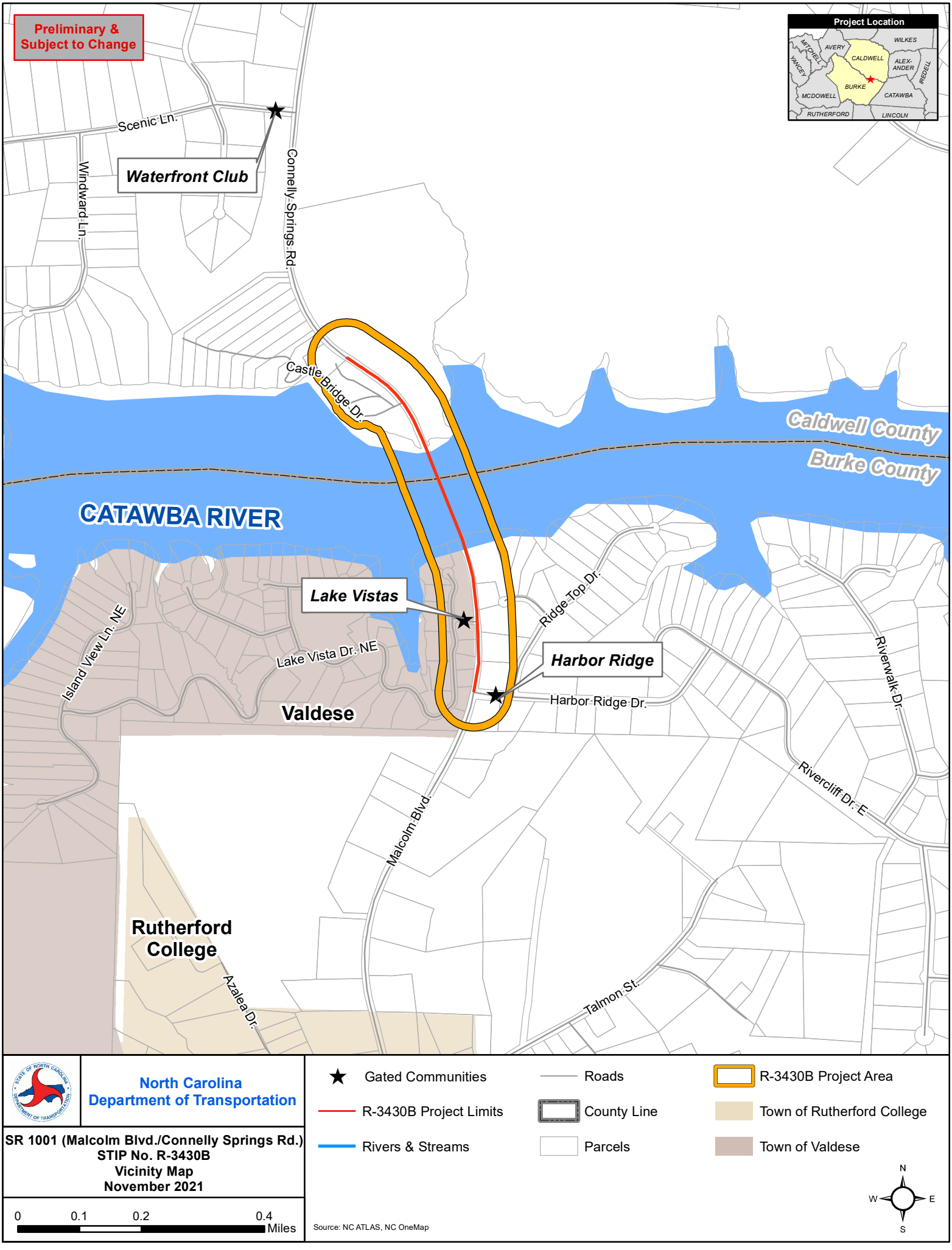
- NCDOT, if applicable, will develop a formal maintenance agreement with the Town of Valdese (south of bridge) and Caldwell County (north of bridge) for maintenance of the small sections of shared-use pathway (SUP) within the R-3430B design limits. The construction of the SUP will be contingent upon the town entering into an agreement.

NCDOT Structures Management Unit

- The existing bridge will be demolished/removed with proper protection measures to avoid any debris falling into the Catawba River.

River Safety Plan

- NCDOT SMU will prepare a *River Safety Plan* in support of the Duke Energy FERC coordination and for submittal with the 404/401 permit application.


Preliminary & Subject to Change
Project Location
WILKES
MITCHELL
AVERY
CALDWELL
ALEX-ANDER
YANCEY
IREDELL
BURKE
MCDOWELL
CATAWBA
RUTHERFORD
LINCOLN
Scenic Ln.
Windward Ln.
Waterfront Club
Connelly Springs Rd.
Castle Bridge Dr.
Caldwell County
Burke County
CATAWBA RIVER
Lake Vistas
Island View Ln. NE
Lake Vista Dr. NE
Valdese
Ridge Top Dr.
Harbor Ridge
Harbor Ridge Dr.
Riverwalk Dr.
Rivercliff Dr. E
Malcolm Blvd.
Rutherford College
Azalea Dr.
Talmon St.
North Carolina Department of Transportation
SR 1001 (Malcolm Blvd./Connelly Springs Rd.)
STIP No. R-3430B
Vicinity Map
November 2021
0 0.1 0.2 0.4 Miles
Gated Communities
Roads
R-3430B Project Area
R-3430B Project Limits
County Line
Town of Rutherford College
Rivers & Streams
Parcels
Town of Valdese
N
W
E
S
Source: NC ATLAS, NC OneMap

Preliminary & Subject to Change

Catawba River Basin

Connelly Springs Rd.

CASTLE BRIDGE BOAT ACCESS

Castle Bridge Dr.

Caldwell County

Burke County

CATAWBA RIVER

Deep Water Ln.

Ridge Top Dr.

Harbor Ridge Dr.

Malcolm Blvd.

North Carolina Department of Transportation

SR 1001 (Malcolm Blvd./Connelly Springs Rd.)
STIP No. R-3430B
Environmental Features Map
November 2021

0 250 500 1,000 Feet

Boat Access

R-3430B Project Limits

Rivers & Streams

County Boundary

Critical Watershed Area

R-3430B Project Area

Parcels

Town of Valdese

N W E S

Source: NC ATLAS, NC OneMap, NC Center for Geographic Information & Analysis, NC 911 Board

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

July 9, 2021

TO: Erin Cheely, Environmental Program Consultant
Environmental Coordination & Permitting Group, EAU

FROM: Melissa Miller, Environmental Program Consultant
Biological Surveys Group, EAU

SUBJECT: Section 7 survey results for the northern long-eared bat *(Myotis septentrionalis),* Virginia big-eared bat *(Corynorhinus townsendii virginianus)* and gray bat *(Myotis grisescens)* associated with the replacement of Bridge No. 110010 over Catawba River/Rhodhiss Lake on SR 1001 in Burke and Caldwell Counties , **TIP No. R-3430B**.

The North Carolina Department of Transportation (NCDOT, Divisions 11, 13) proposes to replace Bridge No. 110010 over Catawba River/Rhodhiss Lake on SR 1001 in Burke and Caldwell Counties, TIP No. R-3430B.

Northern long-eared Bat

The project to replace Bridge No. 110010 has been reviewed for effects on the northern long-eared bat (NLEB). As of May 4, 2015, NLEB is listed by the U.S. Fish and Wildlife Service (USFWS) as "Threatened" under the Endangered Species Act of 1973. As of July 9, 2021, NLEB is listed in IPaC https://ecos.fws.gov/ipac/location as occurring in Burke and Caldwell Counties.

According to the North Carolina Natural Heritage Program (NHP) Biotics Database, most recently updated April 2021, **the nearest NLEB hibernacula record is approximately 20 miles northwest of the project and no known NLEB roost trees occur within 150 feet of the project area**. NCDOT has also reviewed the USFWS Asheville Field office website (http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html) for consistency with NHP records. This project is located entirely outside of the red highlighted areas (12-digit HUC) that the USFWS Asheville Field Office has determined to be representative of an area that may require consultation. The closest 12 digit (030501010202) red HUC is approximately 22 miles away (North Fork Catawba River).

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

On June 9, 2021, NV5 biologists assessed Bridge No. 110010 for potential northern long-eared bat habitat. The bridge is constructed of steel beams and concrete guard rails with a concrete deck and concrete end walls and a clearance of 50 feet over the water surface. Vertical top-sealed shallow crevices and deep vertical unsealed crevices suitable for roosting were present, along with sheltered vertical surfaces for night roosting. No evidence of bats (bats, staining, and guano) was observed. No mines or caves were detected in the project area or within line of sight of the bridge. Trees greater than 3" dbh were noted in the project area. Based on the presence of suitable roost trees, NCDOT recommends a Biological Conclusion of ***May Affect Not Likely To Adversely Affect*** for the northern long-eared bat. In order to minimize impacts to potential roosting habitat, a tree clearing moratorium may be required between April 15 and August 15 of any year.

Virginia big-eared bat

The project to replace Bridge No. 110010 has also been reviewed for effects on the Virginia big-eared bat (COTO). As of November 30, 1979, the Virginia big-eared bat was listed by the U.S. Fish and Wildlife Service (USFWS) as "Endangered" under the Endangered Species Act of 1973. As of July 9, 2021, the Virginia big-eared bat is listed in IPaC (https://ecos.fws.gov/ipac/location) as occurring in Caldwell County.

According to the North Carolina Natural Heritage Program (NHP) Biotics Database, most recently updated in April 2021, COTO have not been documented in Caldwell County. USFWS, North Carolina Wildlife Resources Commission (WRC) and NHP data indicate **that the closest known occurrence of COTO is approximately 26 miles northwest of the project site.**

On June 9, 2021, NV5 biologists assessed Bridge No. 110010 for potential Virginia big-eared bat habitat. As stated above, no evidence of bats was observed on the bridge. No caves or mines were located within the project study area. NCDOT recommends a Biological Conclusion of ***No Effect*** for the Virginia big-eared bat.

Gray Bat

The project to replace Bridge No. 110010 has also been reviewed for effects on the gray bat, *Myotis grisescens* (MYGR). As of April 28, 1976, the MYGR was listed by the U.S. Fish and Wildlife Service (USFWS) as "Endangered" under the Endangered Species Act of 1973. As of July 9, 2021 MYGR is listed in IPaC https://ecos.fws.gov/ipac/location as occurring in Burke and Caldwell Counties.

According to the North Carolina Natural Heritage Program (NHP) Biotics Database, most recently updated in April 2021, MYGR have not been documented in Burke or Caldwell County. USFWS, North Carolina Wildlife Resources Commission (WRC) and NHP data indicate **that the closest known occurrence of MYGR is approximately 22.8 miles west of the project site.**

As previously stated, on June 9, 2021, NV5 biologists assessed Bridge No. 110010 for potential gray bat habitat. As stated above, no evidence of bats was observed on the bridge. No caves or mines were located within the project study area. NCDOT recommends a Biological Conclusion of ***No Effect*** for the gray bat.

Final design, tree clearing, and percussive activities information will be provided in the permit application.

If you need any additional information, please contact Melissa Miller at 919-707-6127.