STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

February 26, 2021

Memorandum to: Jessica Earley, PE, Priority Projects Team, Project Management Unit

From: Matt Haney, Biological Surveys Group, Environmental Analysis Unit

Subject: Freshwater Mussel Survey Report for the Replacement of Bridge No. 536 on SR 1296 (Brooks Branch Rd) over Newfound Creek, Buncombe County. TIP # B-6018. WBS Element # 48213.1.1

The North Carolina Department of Transportation proposes to replace Bridge No. 536 on SR 1296 (Brooks Branch Rd) over Newfound Creek in Buncombe County. Newfound Creek is in the French Broad River Basin (HUC# 06010105) and flows approximately 9 river miles (RM) from the project location to the French Broad River. As of January 26, 2021, the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) webpage listed Appalachian Elktoe (*Alasmidonta raveneliana*) as an Endangered species (under the Endangered Species Act (ESA)) that potentially occurs at the project location. The IPaC webpage indicated that the project location does not overlap with Critical Habitat for this species.

Appalachian Elktoe has been reported from relatively shallow, medium-sized creeks and rivers with cool, clean, well-oxygenated, moderate- to fast-flowing water. The species is most often found in riffles, runs, and shallow flowing pools with stable, relatively silt-free, coarse sand and gravel substrate associated with cobble, boulders, and/or bedrock. Stability of the substrate appears to be critical to the Appalachian Elktoe, and the species is seldom found in stream reaches with accumulations of silt or shifting sand, gravel, or cobble. Individuals that have been encountered in these areas are believed to have been scoured out of upstream areas during periods of heavy rain, and have not been found on subsequent surveys.

Newfound Creek is on the North Carolina Department of Environmental Quality (NCDEQ)-Division of Water Resources 2018 303(d) list of impaired streams (Fair rating for benthos). The closest NPDES facility to the project is French Broad River WRF (Permit # NC0024911), which is located approximately 11 RM away from the project along the French Broad River.

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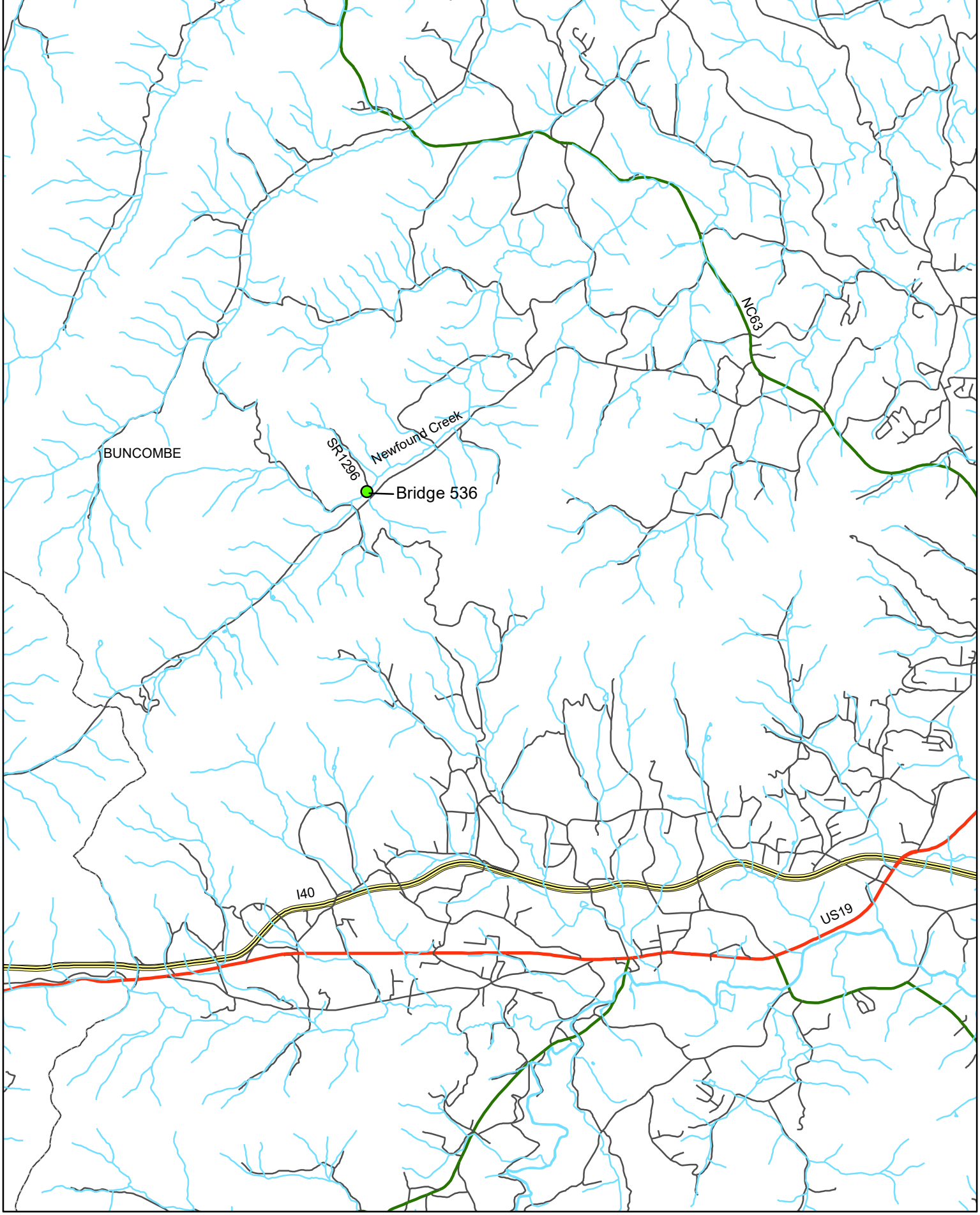
A review of the NC Natural Heritage Program database (last updated in October 2020) was conducted to determine if there were any records of rare mussels within the proposed project study area or receiving waters. The closest current occurrence of Appalachian Elktoe is in the French Broad River approximately 16 RM away from the project (EO ID 21150). This occurrence was last observed in 2017.

A mussel survey was conducted on October 8, 2020 by NCDOT biologists Jared Gray (Permit No. 20-ES00314) and Matt Haney, along with Dewberry biologist Anne Burroughs from approximately 400 meters downstream of the bridge crossing to approximately 100 meters upstream of the crossing. Newfound Creek ranged from 4-8 feet wide and the water depth was 0.5-2 feet. The substrate consisted of silt, sand, cobble, gravel and clay. Land use adjacent to the stream consisted of pasture and residential. There were signs of streambank erosion. Although marginal habitat does exist for Appalachian Elktoe, no live mussels or mussel shells were observed.

Due to the results of the mussel survey and that there are no known occurrences of Appalachian Elktoe in Newfound Creek or near the project, this project may affect, but is not likely to adversely affect this species.

Biological Conclusion for Appalachian Elktoe: May Affect-Not Likely to Adversely Affect



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B-6018 Buncombe County

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