



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

April 18, 2023

R-2527 Proposed Wildlife Crossings

(Nc 24-27 From NC 73 to The Troy Bypass, Montgomery County)

On December 21, 2022, Travis Wilson with NC Wildlife Resources Commission requested to meet with the project team to discuss the possibility of incorporating wildlife crossing structures into the NC 24-27 widening project R-2527. Travis noted this was a renewed interest that WRC supported during the early planning stage of the project and that current USFS staff agreed. Travis acknowledged that the request is coming late into the final design phase and for that reason recommended crossings that would fit into the current design profile and would also be applicable for grant funding under the BIL, (Bipartisan Infrastructure Law).

A Teams meeting was held on February 6, 2023, to discuss wildlife crossing opportunities on forest service parcels within the R-2527 project limits. Below is a list of meeting attendees.

John Jamison	NCDOT EPU	johnjamison@ncdot.gov
Colin Mellor	NCDOT EPU	cmellor@ncdot.gov
Michael Turchy	NCDOT ECAPS	maturchy@ncdot.gov
Marissa Cox	NCDOT EAU, Biological Surveys	mrcox@ncdot.gov
Anne Burroughs	NCDOT EAU, Biological Surveys	amburroughs@ncdot.gov
Travis Wilson	NCWRC	travis.wilson@ncwildlife.org
Michelle Berry	NCDOT Hydraulics	mgberry@ncdot.gov
Kathleen Mahoney	USFS	Kathleen.mahoney@usda.gov
Susan Miller	USFS	Susan.miller@usda.gov
Allyson Conner	USFS	Allyson.conner@usda.gov
Karina Feltes	NCDOT PMU	kmfeltes@ncdot.gov
Allison White	NCDOT PMU	akwhite@ncdot.gov
Reuben Blakely	NCDOT Division 8	rblakley@ncdot.gov
Travis Morgan	NCDOT Division 8	tlmorgan@ncdot.gov

Meeting Summary

John Jamison kicked off the meeting with introductions and stated the meeting purpose. Travis Wilson with NCWRC provided history on the wildlife crossings as discussed early in the project planning stages. He identified a few potential locations thought to be suitable for new crossing structures and noted that some of the currently proposed structures, with modifications, might be suitable as well. Travis asked about the status of the project. Allison White with PMU noted that the project was scheduled for a February 2025 letting and that the Right of Way acquisition was in progress. The project schedule had recently changed to allow time for Utility relocations. Travis Morgan, Division 8 Utility Agent added that Right of Way was nearing completion and Utility relocations were pending. Allison White expressed a concern regarding additional right of way and easements needed for the potential crossings as these are tied to the Federal Land Transfer application and Utility Special Use Permits. Allison noted that utility relocations are planned to start this summer. Any changes affecting the current proposed utility work, right of way and easements may put the project Letting at risk.

Following the meeting, Travis Wilson sent the team a list of 7 sites to consider. Each site was evaluated based on the following criteria and project constraints.

Criteria:

- Minimum 60" cross pipe structure
- Perpendicular crossing preferred to minimize crossing length, (to prevent tunnel affect).
- High flow culvert barrels should include rip rap covered with fine material to make suitable for animal passage.

Constraints/Concerns:

- Avoid areas that will require additional ROW and Easement impacts.
- Avoid additional environmental impacts.
- Avoid impacts to proposed and existing Utilities.
- Construction costs impacts.
- Schedule impacts.

An internal meeting was held February 6, 2023, to evaluate impacts at each location. Attached to this memo is a table showing results from the project team's evaluation of each site.

Comments received from Internal staff.

Anne Burroughs - Biological Surveys:

- My preference for connectivity would also be for larger structures, even at cost of length.

- The 60” dimension was likely suggested because it is the smallest structure a bench could be installed in. The bench dramatically improves wildlife connectivity and discovery.
- However, a 48” pipe would still provide better connectivity than a 36” pipe just as a 72” structure would provide better connectivity than a 60” structure.
- Gretchen Vetter could give us a better idea of grant options and likelihoods.
- Being shovel ready is a plus for several grants although none of these crossings would be consider innovative, which could be a negative.
- Why are we considering habitat connectivity at this late stage for R-2527?
 - o Recent USFS leadership have placed higher value on habitat connectivity.
 - o Uwharrie National Forest lands are protected from development, so the future use and need of habitat connectivity is secure, thus making FS lands among the best place to invest in habitat connectivity.
- Generalizations
 - o Larger structures provide closer to natural habitat conditions which allow greater variety of fish and wildlife to use the hydraulic structures to access food, shelter, or mates.
 - o Curved structures are better than box culverts, as they provide more diverse aquatic habitat.
 - o Ideally, I would bridge Rocky Creek or even use a bottomless arch culvert.
 - o An innovative approach might be to provide better habitat connectivity through climate resilience planning.

Michelle Berry - Hydraulics Unit:

- General Comments:
 - o Some Divisions do not want to jack and bore larger than 60” due to settlement around pipe casting.
 - o Did not look at impact to utilities or permit impacts.
 - o Need information from Division for the cost to do Jack and Bore of 60” vs. 42” (or other sizes)

Michael Turchy - ECAP:

- From a permitting perspective, none of these changes will require a revisit to 4C and would be considered a minimization by our agencies.
- The permit drawings would need to be updated to show the revisions, but the impacts should remain the same or only slightly increased.

Division 8 Staff:

- Increasing project costs is a concern for this project.
- Currently no fencing is included in the project. If required at crossing locations, this would impact project cost.
- Avoid impacts to current proposed right of way, easements, and utilities.
- Expressed concerns regarding trenchless installation for larger pipes.

PMU:

- Avoid impacts to current proposed right of way, easements, and utilities.
- USFS approval of Special Use Permits is pending.
- Impacts to proposed and or existing utilities may put the project letting at risk.
- No fencing is included in the project at the request of USFS.

Recommendations:

After reviewing comments and discussion with Division 8 staff, two potential sites are recommended for evaluation and inclusion in the project.

Station 192-197: Clarks Creek crossing

- Utilize currently proposed 2@14'x9' RCBC.
- Fill high flow barrel with rip rap to the elevation of the 2' sill. (Rip rap needed to prevent scour)
- Add fine material, (crushed ABC and soil) atop rip rap to accommodate wildlife passage.
- Estimated cost using 2023-unit pricing - \$51,750, (cost of additional rip rap only).

Station 384-396: Rocky Creek

- Utilize currently proposed 3 @ 14'x12' RCBC.
- Fill high flow barrel with rip rap to the elevation of the 2' sill. (Rip rap needed to prevent scour)
- Add fine material, (crushed ABC and soil) atop rip rap to accommodate wildlife passage.
- Estimated cost using 2023-unit pricing - \$31,050, (cost of additional rip rap only).