



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

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Governor

Dee Freeman
Secretary

November 8, 2011

MEMORANDUM

TO: Pamela R. Williams, Bridge Project Planning Engineer, NCDOT
FROM: Michael R. Parker, NCDWQ, Asheville Regional Office
SUBJECT: Division 14 Design Build Bridge Replacement Program Scoping Review Comments

In reply to your request, the NCDWQ offers the following comments for the projects listed below:

Project Specific Comments

190018 Bridge No. 18 over Owl Creek, NCSR 1340, Cherokee County

1. Owl Creek is classified C waters; however, NCWRC has indicated that this stream contains rainbow trout. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

190036 Bridge No. 36 over Webb Creek, NCSR 1384, Cherokee County

1. The Left Fork of Webb Creek is classified C waters; however, NCWRC has indicated that this stream contains rainbow trout. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

370087 Bridge No. 87 over Cochran Creek, NCSR 1250, Graham County

1. Cochran Creek is classified C waters.
2. NCDWQ has no specific comments for this project.

490055 Bridge No. 55 over Long Branch, NCSR 1552, Jackson County

1. Long Branch is class C waters.
2. NCDWQ has no specific comments for this project.

490098 Bridge No. 98 over Fisher Creek, NCSR 1446, Jackson County

1. Fisher Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

490252 Bridge No. 252 over East Fork of Dicks Creek, NCSR 1389, Jackson County

1. The East Fork of Dicks Creek is classified C waters; however, NCWRC has indicated that this stream contains rainbow trout. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

550278 Bridge No. 278 over Poplar Cove Creek, NCSR 1308, Macon County

1. Poplar Cove Creek is classified as WS-III trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

550308 Bridge No. 308 over Watauga Creek, NCSR 1500, Macon County

1. Watauga Creek is class C-trout waters of the State. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.

2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

550315 Bridge No. 315 over East Fork Overflow Creek, NCSR 1618, Macon County

1. The East Fork Overflow Creek is classified C-trout ORW waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.
3. NCDOT may be required to obtain a State Stormwater permit for this project in accordance with 15A NCAC 2H .1000. This will depend on the amount of new impervious surface on the new bridge.

860131 Bridge No. 131 over Chestnut Cove Creek, NCSR 1122, Swain County

1. Chestnut Cove Creek is class C waters.
2. NCDWQ has no specific comments for this bridge project.

430102 Bridge No. 102 over Plott Creek, NCSR 1173, Haywood County

1. Plott Creek is classified C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

430309 Bridge No. 309 over Rogers Cove Creek, NCSR 1373, Haywood County

1. Rogers Cove Creek is classified as C waters.
2. NCDWQ has no specific comments for this bridge project.

430310 Bridge No. 310 over Laurel Branch, NCSR 1348, Haywood County

1. Laurel Branch is classified C waters.
2. NCDWQ has not specific comments for this bridge project.

430314 Bridge No. 314 over Arrington Branch (Rogers Branch), NCSR 1355, Haywood County

1. Arrington Branch is classified as C waters.
2. NCDWQ has no specific comments for this bridge project.

430317 Bridge No. 317 over Stevens Creek, NCSR 1346, Haywood County

1. Stevens Creek is classified C waters.
2. NCDWQ has no specific comments for this bridge project.

440314 Bridge No. 314 over Perry Creek, NCSR 1141, Henderson County

1. Perry Creek is classified as B waters.
2. NCDWQ has no specific comments on this bridge project.

440318 Bridge No. 318 over Meminger Creek, NCSR 1217, Henderson County

1. Meminger (Meninger) Creek is classified as C waters.
2. NCDWQ has no specific comments for this project.

740144 Bridge No. 144 over Panther Creek, NCSR 1138, Polk County

1. Panther Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

870028 Bridge No. 28 over Morton Creek, NCSR 1316, Transylvania County

1. Morton Creek is classified as C-trout waters. NCDWQ recommends that the most protective sediment and erosion control BMP's be implemented to reduce the risk of turbidity violations in trout waters. In addition, all disturbances within trout buffers shall be conducted in accordance with the NC Division of Land Resources and NC Wildlife Resources Commission.
2. Should NC Wildlife Resources Commission (NCWRC) identify these waters as naturally reproducing trout waters, NCDOT will be required to observe the NCWRC recommended moratoria for trout. In additions, NCDWQ will require that NCDOT strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" [15A NCAC 04B .0124] throughout design and construction of the project.

General Comments Regarding Bridge Replacement Projects

1. NCDWQ is very concerned with sediment and erosion impacts that could result from these projects. NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
2. If foundation test borings are necessary; it shall be noted in the document Geotechnical work is approved under General 401 Certification Number 3687/Nationwide Permit No. 6 for Survey Activities.
3. Any Bridge considered a Low Impact Bridge Project must fall under Nationwide Permit No. 3 to qualify for Low Impact; otherwise, standard permitting procedures will be required. Example (Regional General Permit No. 31, Nationwide Permit No. 23, Nationwide Permit No. 13, etc.)

4. Whenever possible, NCDWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the stream banks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.
5. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NCDWQ's *Stormwater Best Management Practices*.
6. Strict adherence to the most recent version of NCDOT's Best Management Practices For Bridge Demolition and Removal approved by the US Army Corps of Engineers is a condition of the 401 Water Quality Certification.
7. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from NCDWQ first.
8. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly.
9. All pile driving or drilling activities shall be enclosed in turbidity curtains unless otherwise approved by NCDWQ in this certification.
10. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water.
11. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
12. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
13. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
14. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

15. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
16. In most cases, the NCDWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour shall be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure shall be removed and the approach fills removed from the 100-year floodplain. Approach fills shall be removed and restored to the natural ground elevation. The area shall be stabilized with grass and planted with native tree species. Tall fescue shall not be used in riparian areas.

Thank you for the opportunity to provide comments at this time. NCDOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Mike Parker at 828-296-4500.

cc: Lori Beckwith, USACE, Asheville Field Office
Josh Deyton, NCDOT, Division 14 Bridge Manager
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Transportation Permitting Unit