

MEMORANDUM

To: Federal Highway Administration and U.S. Fish and Wildlife Service

From: Tennessee Department of Transportation
Environmental Division / Technical Studies Office – Ecology Section

Date: December 19, 2025

Subject: Revised Biological Assessment for Nashville Crayfish (*Faxonius shoupi*) For:
I-24 Southeast Choice Lanes; Davidson & Rutherford Counties, TN
PIN 134727.00

Please find attached a revised Biological Assessment (BA) for Nashville crayfish for the subject project. Revisions since the previous submittal are summarized below:

- All perennial streams in the Mill Creek (Hydrologic Unit Code [HUC] 05130202) watershed within the project Environmental Technical Study Area (ETSA) were previously assumed to provide suitable habitat for Nashville crayfish. However, in August and September 2025, Barge Design Solutions, Inc. conducted habitat assessment site visits at all streams within the ETSA to verify the presence of suitable conditions.
 - Based on the habitat assessments, STR-8, STR-10, STR-18, STR-19, STR-20, STR-22, STR-23, STR-26, STR-38, and STR-45 were found to lack suitable habitat for Nashville crayfish and have been removed from the BA. Details/justification for habitat determinations are now summarized in Appendix A - Nashville Crayfish Stream Assessment Table.
- Plan sheets and anticipated impacts to streams with suitable habitat for Nashville crayfish have been updated based on design refinements since the previous submittal. Action areas (Figure 3) at each resource have been updated accordingly based on revised impact locations, types, and durations.
 - Overall anticipated impact lengths have increased at STR-3, STR-5.1, STR-7, STR-14, STR-25/Sorghum Branch, and STR-27.
 - Overall anticipated impact lengths have decreased at STR-12/Mill Creek, STR-34/Collins Creek, and STR-50.
 - STR-15 was previously anticipated to be completely avoided but is now anticipated to be impacted.
 - STR-39 was previously anticipated to be impacted but is now anticipated to be completely avoided.

- Based on all updates, total (permanent and temporary) anticipated impacts to suitable habitat for Nashville crayfish have decreased from 3,838 LF (59,194 sq. ft) to 1,932 LF (41,180 sq. ft).
 - Anticipated permanent impacts have decreased from 1,750 LF (24,076 sq. ft.) to 906 LF (17,937 sq. ft.).
 - Anticipated temporary impacts have decreased from 2,088 LF (35,118 sq. ft.) to 1,026 LF (23,243 sq. ft.).