

Jackson County SR-53 Hurricane Branch Culvert Replacement Project

October 20, 2025

Project History

On February 15, 2025, a significant rain event took place in Jackson County and severely damaged the inlet sections of twin 15-foot diameter metal pipes. The damage resulted in the collapse of the northbound shoulder, forcing closure of both the shoulder and the adjacent travel lane to remain in compliance with TDOT and FHWA safety regulations. Two-way travel is currently maintained by utilizing both the southbound lane and shoulder for traffic.

Within days, a multidisciplinary project team was assembled to develop a repair design as quickly and efficiently as possible to replace the damaged pipes and prevent further failure, avoiding an unplanned long-term road closure.

The team evaluated several repair alternatives, including options that would maintain one-lane traffic during construction. One considered phase-constructing the new structure, allowing traffic to remain on part of the existing culvert while new sections were built, then shifting traffic once the first phase was complete. However, due to the limits of the compromised section of the existing pipes and their depth (approximately 30–35 feet below the roadway surface), it was determined that traffic could not be safely maintained during construction due to the risk of roadway instability and potential collapse.

Another alternative considered including construction of a temporary run-around on a new alignment using temporary structures. Because the U.S. Army Corps of Engineers owns the property on both sides of the site, this alternative would have required right-of-way acquisition and coordination with the Corps, adding significant time to the project schedule. These steps would also have triggered a more extensive environmental permitting process. Given the timeframes typically associated with right-of-way acquisition from the Corps and the more extensive environmental permitting, often up to 18 months, this alternative was determined to be infeasible. Delays of that magnitude would have substantially increased the risk of complete structural failure and an unplanned long-term closure of SR-53.

An additional alternative evaluated by the team included a cast-in-place structure which would have avoided right-of-way impacts and additional permitting timelines. However, this option would have required a closure of up to four months (120 days).

Given these factors, the project team ultimately selected a repair option that prioritized safety and minimized closure duration. The chosen approach utilizes a large pre-cast concrete structure, which significantly reduces construction time and allows all work to remain within the existing right-of-way. This approach minimizes environmental permitting requirements and eliminates delays associated with right-of-way acquisition. While the use of a pre-cast structure of this size is innovative, pre-cast elements have proven successful on similar TDOT projects for accelerating construction timelines. The duration of the closure for this option is contractually limited to 50 days.

The project received environmental permits on July 15, 2025. Project plans were finalized on July 23, 2025. The project was let on October 3, 2025, with Cleary Construction as the apparent low-bidder at \$2,745,399.75.

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Frequently Asked Questions

Why does the road need to be closed?

During project development, it was determined that a one-lane operation could not be safely maintained due to the depth and instability of the existing structure. Full closure is necessary to ensure worker and public safety.

Could a run-around be installed at the project site to keep the road open?

A phased construction approach was evaluated but would require right-of-way acquisition from the U.S. Army Corps of Engineers, a process that can take up to 18 months. This alternative would also necessitate more extensive environmental permits, which involve significantly longer approval times than the permits required for the selected design.

Why does this project require expedited delivery?

The existing structure is severely compromised, and further deterioration could result in an unexpected full road collapse. Expediting the project minimizes the risk of unplanned closures and ensures the safety and reliability of SR-53 for the traveling public.

Will traffic be detoured onto local roads?

No. The signed detour will use only state routes, diverting traffic from SR-53 to SR-85 and SR-52 through Livingston. Several alternatives were evaluated, but this route was selected as it can safely accommodate both heavy truck and passenger vehicle traffic.

Was the impact of a road closure on the local community considered?

Yes. Community impact was central to every project decision. The use of pre-cast components allows for an estimated 50-day closure, compared to approximately 120 days for traditional construction methods.

Did anyone notify the local officials of the planned road closure for this project?

Yes. The TDOT Project Manager contacted the Jackson County EMA Director to obtain the appropriate distribution list and discuss the upcoming closure. The City of Gainesboro Mayor's Office was also contacted to confirm the correct contact for the closure notice.

On June 18, 2025, formal email notification was sent to local officials, including the Jackson County EMA Director, City Mayor, County Mayor, County Road Superintendent, and School Superintendent, providing details of the planned SR-53 closure.

What are the next steps?

The contract will be awarded the week of October 20th, with construction expected to begin in November and a completion date of May 22, 2026. Per the project contract, the contractor may only have the road closed for a maximum of 50-days during this time. Local officials will be provided a minimum of two weeks' notice for the start date of the road closure. TDOT will continue to coordinate closely with local emergency services, schools, and government officials prior to and throughout construction to minimize disruption and reinstate essential access as quickly as possible.