

Rehabilitation of Bridges 2-008A&B

DuPont Blvd. US113 over Haven Lake Spillway

(DeIDOT Contract T202307801)



Setting the Scene:

Bridges 2-008A&B are owned and maintained by DeIDOT and are located in the City of Milford, spanning Haven Lake's spillway. The existing structures consists of similarly designed, simply supported steel I-beam structures supporting concrete decks and are carried by concrete abutments and foundations.

BR 2-008A, built in 1963, is 54 feet long and carries the southbound traffic of US113. This structure has a concrete floor below it and supports the Haven Lake Spillway at it's west face. BR 2-008B, also built in 1963, is 74 feet long and carries northbound traffic of US113. Each structure is 62 years old and see approximate 11,956 vehicles per day.



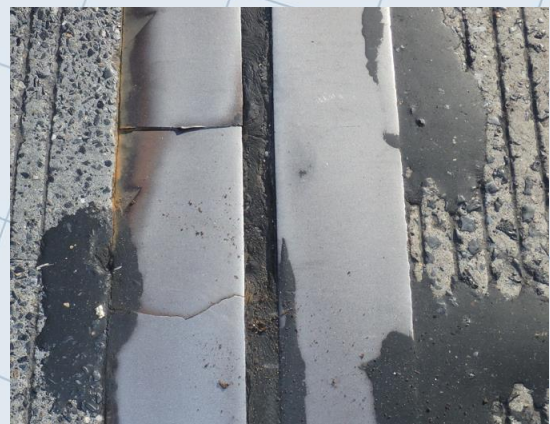
Location of Bridge 2-008A&B

Why are the bridges being worked on?

Through our bridge inspection process, both structures were identified as having corrosion issues. This led to the structures being placed on a cleaning and painting contract which was completed in the fall of 2023. While removing the corrosion, we found section loss to multiple bearings at the north end of BR 2-008A. A bearing serves a couple very important functions on a bridge: it allows the structure to move, and it transfers the vehicular loads from the superstructure to the substructure. With the section loss uncovered, the existing bearings no longer function as intended and require replacement. In the winter of 2023, a portion of the steel strip seal armoring broke free from the structure. This damaged not only the armoring, but the concrete around it and tore the gland within it. The strip seals sit on the top side of the structure, over the bearings and in conjunction with the bearings, allow for bridge movement while protecting the bearings from road salts, water intrusion, dirt and debris. With this failure in the armoring, the need to replace bearings, and the structures being 62 years old, the best course of action is to replace the strip seals on both bridges and the bearings on BR 2-008A. The approach slabs and approach paving have advanced deterioration and the slope protection at the southeast corner of BR 2-008B is failing creating an erosion issue. We will be addressing each of these problems as part of this effort.



Bearing "floating" after corrosion removal



Broken joint armoring (before it fully popped out) and torn joint material

See reverse side for additional information



How do we replace bearings, strip seals and approach slabs?

The first step to replacing the bearings is to install additional supporting steel under the north end of BR 2-008A. We will then erect a series of large hydraulic jacks which will lift the bridge just enough for us to remove the old bearings and install new ones. For the removal of the strip seals and approach slabs, we will demo the concrete and cut out the old reinforcement. We will then install the new reinforcement, set and tie in the new strip seal armoring, form the approach slabs and then finally pour the new concrete. While the concrete is curing, the crew will be installing the neoprene gland into the new armoring, removing the jacking systems, and touching up the bridges paint as needed. To facilitate the work as quickly as possible, but reduce the impacts to traffic, we will be utilizing phased construction. The plan is to close the outside lanes (right lanes) of BR2-008A and 2-008B at the same time, working on both structures simultaneously. Once all work is complete in that phase, we will reopen the outside lanes (right lanes) to traffic, then close the inside lanes (left lanes) of both structures, simultaneously repeating the construction process described above. Once complete, the traffic control will be lifted, allowing two full lanes in each direction. We will close the east shoulder of BR 2-008B to finish the repairs to the southeast slope protection and restabilize the slope.



BR 2-008A



BR 2-008B

How will this impact my travel along DuPont Blvd. US113 and when is this taking place?

As mentioned above, this project will be done in phases. The first phase will close the outside (right) lane in both the north and south direction. Phase two will reopen the outside lane and close the inside (left) lane in both the north and south direction. Both phases will reduce DuPont Blvd. down to 1 lane open in each direction. The project will finish by removing the traffic control devices, opening both lanes in the north and south directions, then closing the southeast shoulder to finish the slope stabilization.

We have analyzed the traffic data with summer being the busiest months, while the spring and fall are very comparable in volumes. The concrete work is temperature dependent and requires an ambient temperature of 40 degrees or higher to properly cure. In a concerted effort to minimize traffic impacts while still performing much needed maintenance to these structures, we believe the best time of the year to perform this work will be in the fall. We would start work in late August and anticipate the work to take 125 calendar days, weather permitting.

Who can I contact with more questions, and how?

Any questions, comments or concerns should be directed to DeIDOT Community Relations at 302-760-2080 or you may contact us by e-mail at dotpublic@delaware.gov. Please include the project name or contract number when contacting us to expedite our response to any inquiry.