

Construction Sequence 5: Roadway Deck

After the bridge's girders are installed, work begins on the concrete deck (bridge roadway). The first step is mounting deck pans, which are stay-in-place forms that support fluid concrete in the spaces between the girders. The pans are set to conform to the grade of the bridge, and seams between the pans are sealed to prevent leakage of concrete.

Installed simultaneously and bookending the locations of the deck pans are temporary deck overhangs. These timber forms and walkways are supported by steel frames that provide work areas for the operation of the concrete screed, which is the deck finishing machine.

Once the deck pans are secured, a labyrinth of reinforcing steel (rebar) is installed over the pans and girders. Individual rebar pieces are spliced together to make long segments, which are then laid out in a tight grid and tied together with heavy grade wire.

Next, concrete is pumped into the deck pans and around the rebar. A screed is mounted on a truss structure that travels on temporary rails placed on the deck overhangs to spread and finish the concrete. The screed advances forward slowly, moving side to side – a deliberate pace that ensures the concrete is properly placed and the rollers have sufficient contact to create a smooth surface.

After the concrete deck is completed, concrete traffic barriers and signage are installed to facilitate efficient and safe traffic flow. The final step to complete the bridge is affixing pavement markers and striping to delineate lanes and shoulders.

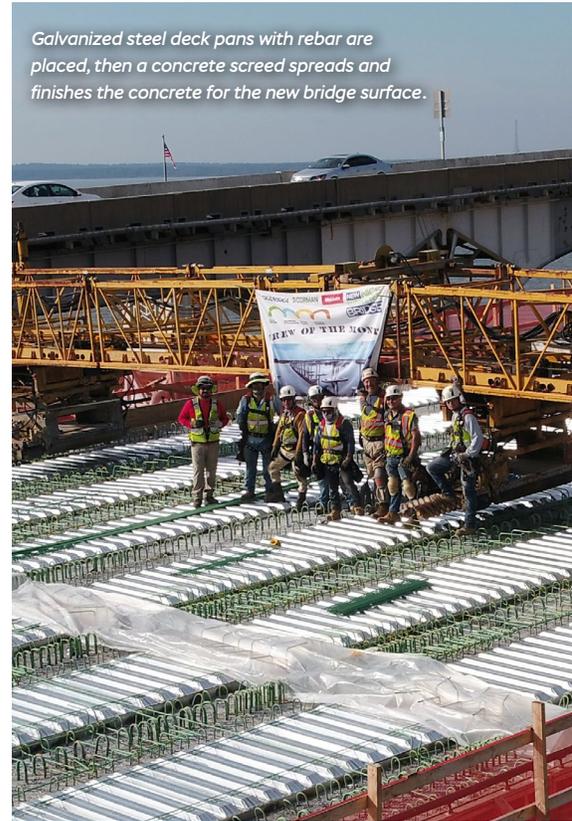
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The MDTA thanks the public for their patience as the new bridge is built.

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Galvanized steel deck pans with rebar are placed, then a concrete screed spreads and finishes the concrete for the new bridge surface.



Maryland Transportation Authority (MDTA) is replacing the existing Nice/Middleton Bridge with a new bridge that will:

- Increase the vehicle capacity with four 12-foot-wide lanes, replacing the old bridge's two 11-foot-wide lanes
- Improve safety by installing a barrier separated median between eastbound and westbound lanes, adding two-foot shoulders and other improvements that meet current safety standards
- Eliminate safety issues at toll booths by replacing them with highway speed toll lanes
- Enable tall ships to pass beneath its 135-foot clearance

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