

Tollways Lean on Hydro/LMC for Large System Preservation Projects

By: Patrick Martens, PE

Tolling authorities have a lot on the line when it comes to maintaining and keeping their system up and running. When travel lanes are down, time means money. So it is no surprise to see several tolling authorities turning to Fast Track Hydrodemolition with concrete overlays, to not only expedite repair of bridge deck surfaces, but to provide the highest quality system, that will provide upwards of 25 years of service and beyond.

The Maryland Transportation Authority (MdTA), Illinois Tollway, and the Delaware River Port Authority, are just three agencies with recent deck restoration type projects to provide rapid repair to significant structures on their system. The common denominator – the use of “Fast Track” Hydrodemolition (FTH) for the surface removals and preparation. It expedites the work and provides the best quality surface, leading to long term service.

The MdTA, in particular, has been a leader, not just within tolling authorities, but in the transportation field as a whole. They have done some massive jobs in recent years using hydrodemolition and Latex Modified Concrete (LMC). This includes work done several years ago on the I-95 corridor that included 18 deck overlays and 236,735 square yards of LMC.

Currently, the MdTA has a job on I-895 in Baltimore, to restore the travel lanes within the Harbor Tunnel. The work includes 50,000 square yards of surface restoration (FTH), with half of the work done on the pavement slab in the

northbound tube and approaches during April-May of 2019, and the southbound tube work currently occurring within the April-May 2020 timeframe. The surfacing is LMC.



Work within the Baltimore Harbor Tunnel (MdTA).

Concurrently, an MdTA contract had also been repairing select areas of the Chesapeake Bay Bridge, with surface repairs and the use of a Very Early Strength Latex Modified Concrete overlay (VESLMC), in order to expedite repair and keep the traffic flowing. That work replaced over 18,000 square yards of a failing microsilica overlay with the VESLMC, on various areas of the bridge, by using the FTH method to prepare the deck surface by selectively removing the deteriorated or weakened concrete. The technique helped the contractor to complete the work a full year ahead of schedule.

Likewise, the Illinois Tollway has recently completed some very large jobs or is currently administering projects, which include hydrodemolition, and LMC as their product of choice for the new surface. The most recent job includes the current

50,000 square yard job on the Tri-State Tollway (I-394) in Chicago. This comes on the heels of the Veterans Memorial Tollway job in Dupage County (I-355), which was 48,000 square yards, awarded back in 2018. The Tollway has also had several other significant size jobs using the FTH / LMC method, for selective removal and a long term surface. This allows for as much of the sound concrete deck as possible to be left in place. It also helps expedite the project and get lanes open faster without sacrificing quality.

Another Fast Track job that will start up soon in 2020 is the repair of 10 bridges, in phases, on the Walt Whitman corridor rehabilitation project. Owned by the Delaware River Port Authority, this work will result in the restoration of 24,000 square yards of the deck surfaces on the Pennsylvania approach portion of the highway through hydrodemolition surface removal and preparation.

These are just a few of the high profile jobs that owners are trusting with Hydrodemolition, and often Latex Modified Concrete surfacing, to preserve their structures. There are many other tolling agencies also that have used or are using Hydrodemolition and/or LMC. Some of the most recent of these include:

- Rhode Island Bridge and Turnpike Authority
- Kansas Turnpike Authority
- Richmond Metropolitan Authority
- West Virginia Parkways Authority
- Ohio Turnpike
- North Texas Tollway Authority

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