

# MERRIMACK RIVER WATER MAIN CROSSING & NEW RAW WATER INTAKE

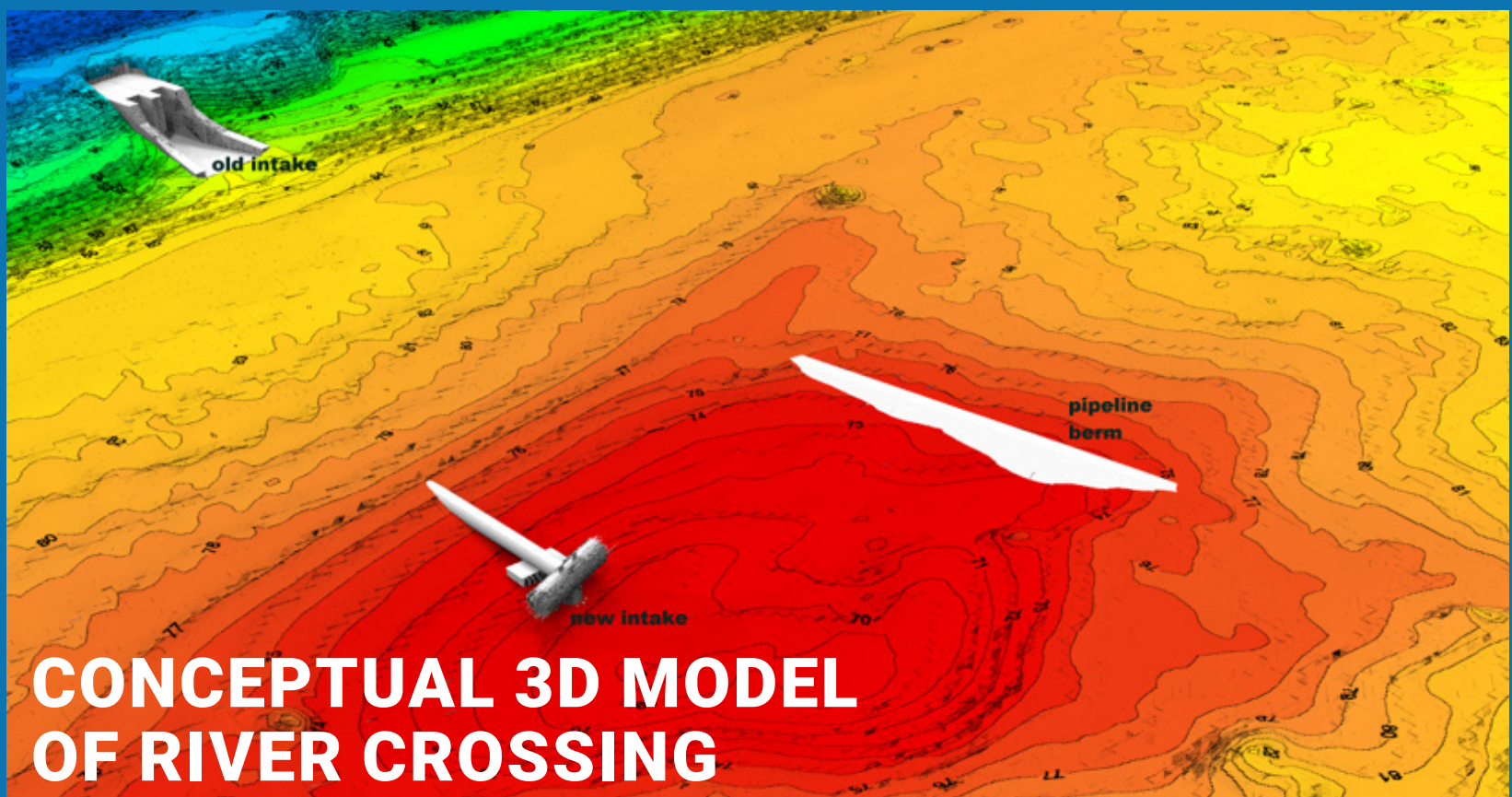
 **PENNICHUCK** Water Works  
Merrimack, New Hampshire



CRITICAL JUNCTION STRUCTURE  
OF NEW INTAKE



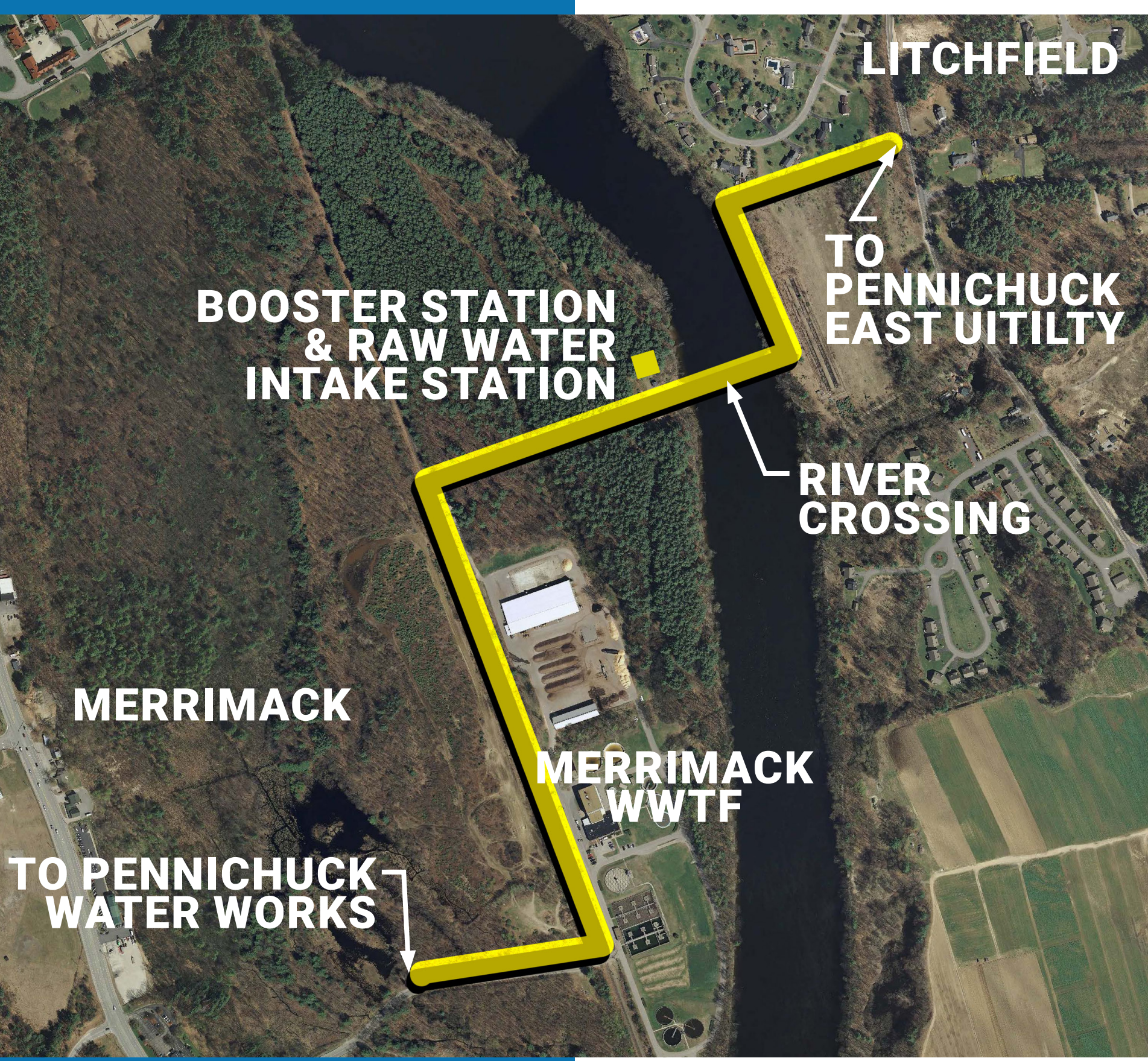
THE PIPE CROSSING  
READY TO BE SET  
IN PLACE AFTER 15  
HOURS OF STAGING



CONCEPTUAL 3D MODEL  
OF RIVER CROSSING



INSTALLATION OF NEW INTAKE  
SCREENS AND MANIFOLD



## A Public Health Crisis and an Engineering Solution

The civil engineering profession plays a vital role in protecting public health and keeping communities vibrant. When PFAS contaminated wells were found at more than 360 homes in Litchfield, New Hampshire, Pennichuck Water Works (PWW), a local water utility, needed a fast-tracked solution. Tighe & Bond was already under contract with PWW to design and provide construction administration services for a new 30 MGD in-river raw water intake on the Merrimack River next to Litchfield. The firm was asked to shift priorities and began work with multiple stakeholders, subconsultants, and contractors on the design and construction of a new water main that would cross the Merrimack River and connect Litchfield to a safe public water supply.

An extensive alternatives analysis evaluated various means and methods for construction, risk, and the ability to streamline permitting. Tighe & Bond proceeded with their recommendation of an open-cut, wet

installation of the pipe into the river banks on each side, and armored pipe installed across the river bottom. This approach would prevent safety risks, the costly risk of scheduling delays with directional drilling frac out and minimize disruption to the environment. In August 2018, 650 linear feet of HDPE pipe for the new water main was pulled across the Merrimack River. By October 2018, the full interconnection was substantially complete, significantly improving service for the Town of Litchfield and overall resiliency of the PWW distribution systems.



Submitted by  
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TWO CRANES COORDINATE THE RIVER CROSSING