



PROJECT PROFILE



SALEM END ROAD BRIDGE AT STEARNS RESERVOIR

Project Type:
Bridge

Application:
Concrete repairs to reinforce the transverse girder under the bridge

Location:
Framingham, MA

Project Dates:
August 12 – November 19, 2019

Project Owner:
Town of Framingham

Contractor:
SW Construction Enterprises LLC

Products:
Rapid Set® DOT Concrete Mix, FLOW Control®, SET Control®

The town of Framingham, Mass. listed the Salem End Road Bridge, which spans the Stearns Reservoir, as a replacement priority in its 2013 master plan. The bridge was originally built in 1870 and rebuilt in 1927 and its concrete had become severely deteriorated. The damage was so extensive that the west sidewalk had to be closed in 2006.

The city elected to conduct concrete repairs instead of performing a full bridge replacement; the rehabilitated structure is expected to extend the useful life of the bridge at least 20 years. SW Construction Enterprises LLC performed the repairs in 2019.

DOT Concrete Mix, a fast-setting concrete repair mix, was used for the repair areas. DOT Concrete Mix offers corrosion resistance for embedded reinforcement as well as integral air entrainment for long life. FLOW Control® was used to increase the strength and fluidity of the mix. FLOW Control can also increase the compressive strength of Rapid Set® cement products by reducing mix water.

For the Salem End Road Bridge repair, materials were mixed in a CS Unitec Hippo Mixer and poured in five separate placements. Weather conditions during the late-summer, early-fall time frame were extreme and ranged from 90 degrees to 10 degrees Fahrenheit. Mixing water had to be temperature-adjusted to suit the environmental conditions, with the desired temperature of the mix (as it left the mixer) being 60 degrees.

PROJECT PROFILE

During hot weather, ice water was used to cool the mix. SET Control was used to increase the working time. During cold weather, SW Construction used a hot water heater to bring the water up to the appropriate temperature.

CTS provided hands-on support during all concrete pours, even accompanying the bridge contractors on a barge underneath the bridge to help conduct the mixing and pouring of concrete into the wooden formwork used to create the structure's transverse columns. The concrete was wet cured and had a formed-in-place finish.

CTS Cement Manufacturing Corporation manufactures Rapid Set professional-grade cement products for concrete repairs and new construction projects. Contractors, owners, engineers and architects choose Rapid Set to eliminate problems they have with other concrete repair materials, to save time and money, when superior durability is required and results need to be aesthetically pleasing. For more information about CTS Cement and Rapid Set, please visit www.CTScement.com.

ABOUT CTS CEMENT

