Changing a Culture Takes Time

By Mark Croarkin

Changing a culture takes time. Missouri’s reputation as a “Show Me” state stands true as MoDOT engineers had to be shown that shotcrete is a viable solution before they opened up their specifications.

On June 1, 2011, MoDOT partnered with Concrete Strategies (a St. Louis contractor) and BASF (material supplier) to host a shotcrete demonstration on the substructure of a bridge in Chesterfield, MO. Contractors, consultants, construction inspectors, bridge engineers, and many more observed a live demonstration of shotcrete. This event kindled positive conversations on shotcrete applications, which ultimately had to overcome decades of concerns derived from observations and opinions formed during an era filled with poor quality control, little to no specifications, and no nozzleman requirements.

In November of 2011, Dan Millette with Euclid held a shotcrete class for MoDOT in Chesterfield. As a representative of the American Shotcrete Association (ASA), and a former ACI nozzleman examiner, Millette was an excellent source of information to help educate our group on the history of shotcrete, types of equipment, mixture information, safety practices, and much more. ASA has been extremely helpful and more than willing to hold education sessions like this for interested parties. I would strongly recommend that agencies interested in shotcrete take advantage of the expertise within ASA. After a demonstration, some education, and a few field trials here and there, the only thing left was to wait. It takes time to evaluate products, so time is what MoDOT needed to evaluate before allowing shotcrete placement on a more regular basis.

Shotcrete repairs are now fairly commonly allowed by Job Specific Provisions (JSP) in Missouri and many construction inspectors have become familiar with its use. While MoDOT relies heavily on ACI 506.2, “Specification for Shotcrete,” each job may have additional considerations. Some portions of the job specifications tend to be enforced more strictly than others. The
Mark Croarkin graduated from the Missouri University of Science and Technology in 1997 and has been a licensed professional engineer since 2002. With the exception of 1 year of experience in private industry, Croarkin’s career has been dedicated to MoDOT. His foundation started with Construction Inspection, but his experience includes working in six of MoDOT’s seven geographically diverse districts in materials, construction, design build, bridge maintenance, and maintenance positions. Recently, Croarkin has been promoted to lead all of MoDOT’s maintenance efforts as the St. Louis District Maintenance Engineer. From 2009-2016, Croarkin was responsible for the safety of all structures in the St. Louis region, as well as directing repair crews and prioritize contract repairs. His passion for finding better ways to maintain bridges earned him a reputation as a leader in innovation for the State of Missouri. This article describes his accounts of the road MoDOT took to allow shotcrete into the specifications.