

OVERVIEW: KYTC, Kentucky Transportation Cabinet Bridge Scour Countermeasure, Graves County

Over 68,000 bridges across the U.S. are classified as scour critical by FHWA standards. In 1999 the KYTC through the efforts of Fuller, Mossbarger, Scott and Mat Engineers of Frankfort, Kentucky and funding from the FHWA proposed a series of bridge scour contracts to protect 17 scour critical bridges in 6 counties.

The scope of the project required placing Armortec A-Jacks concrete armor units within engineered matrix around the piers on both sides of the creek crossing. A total of 5,050 A-Jacks units were placed in the dry after excavation provided a coffer dam throughout the installation process. Scour depths were determined and scour contraction was accounted for which justified placing A-Jacks 8-feet upstream of the piers and tied in A-Jacks across the full width of the streambed under the bridge.

The installation lasted two days from the time entry to the stream began. Six laborers and two pieces of excavation equipment (a bull dozer and track hoe) were used to clear and make ready the A-Jacks as well as backfilling the units at the end of construction. A-Jacks are recognized as a permanent high performance and cost effective scour countermeasure alternate to Riprap and are written in to HEC-23 as one of six acceptable scour countermeasures endorsed by the FHWA.



PRODUCT: Armortec A-Jacks AJ-24 concrete armor units

AMOUNT: 5,050 Units

DATE: Summer 2003

OWNER: State of Kentucky, Graves County

ENGINEER: KYTC, Frankfort Kentucky

CONSULTING ENGINEER: Fuller, Mossbarger, Scott and May of Lexington, KY

CONTRACTOR: Wilkens Construction Co., Mayfield, KY

SUBMITTED BY: David Kees

DATE: March 2004

