KANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION TO THE
STANDARD SPECIFICATIONS, 2007 EDITION

Add a new SECTION to DIVISION 700:

CONTRACTOR FURNISHED PILE DRIVING ANALYZER (PDA)

1.0 DESCRIPTION

This specification is for Local Projects' use. Do not use Contractor Furnished PDA's on state routes.

Furnish a Pile Driving Analyzer (PDA) and signal matching analysis, and use to conduct testing of the driving of each specified pile to the penetration and bearing values shown on the Contract Documents.

BID ITEM	UNITS
Contractor Furnished PDA	Each

2.0 MATERIALS - None specified.

3.0 CONSTRUCTION REQUIREMENTS

a. Contractor Furnished PDA. Provide an independent, experienced testing organization to conduct the PDA testing, including an Engineer or Geologist licensed in the state of Kansas to directly supervise the PDA testing.

Prior to driving any piling, provide documentation on the independent testing organization to the Project Engineer for review and approval.

- The testing organization's licensed Engineer or Geologist shall:
  - be able to demonstrate a minimum of 3 years experience in performing all aspects of dynamic pile test services from data collection to analysis and reporting.
  - be experienced in determining static pile design and pile installation requirements for bridge foundations.
  - have experience in performing dynamic pile testing for all of the anticipated pile types likely to be encountered on Kansas projects including steel H-pile, steel pipe pile (both spiral-welded and straight seam) and concrete piles.
  - demonstrate progressive dynamic testing experience on a variety of pile supported bridges. To obtain compatibility with pile testing equipment and software that is familiar to KDOT staff, utilize testing equipment and software manufactured by Pile Dynamics, Inc. of Cleveland, Ohio (or approved equivalent) for the collection, processing and reporting of the high-strain dynamic test data (strain gage and accelerometer data collected during driving). Use a PAX Model 8 PDA (or later model, or approved equivalent) and current versions of CAPWAP and WEAP or other software for signal matching and wave equation analysis.

Provide the testing organization's Engineer or Geologist with the completed "Pile and Driving Equipment Data" sheet, prior to driving any piling.

A minimum of 2 restrikes will be required. Conduct the restrikes between 1 and 24 hours after the end of drive. Additional restrikes may be required at the discretion of the PDA consultant. Perform restrikes according to **subsection 704.3e.** (Also, see special provision 07-07009, latest revision).

To obtain the estimated capacities, use the PDA to take dynamic measurements as the pile is driven to the required designed capacities. If non-axial driving is indicated by dynamic test equipment measurements, immediately realign the driving system. Use the PDA results to provide the Contractor and Inspector with the blow count and penetration for the subsequent production pile driving.

b. Reporting. Provide all production pile recommendations to Project Engineer within 48 hours of the completion of the test. Within 5 business days of conducting the PDA, provide the Project Engineer a report (sealed by a licensed Professional Engineer or Geologist) of the results and recommendations for the driving of

the production piling. The Project Engineer will send a copy of the final report to KDOT's Chief Geologist for inclusion in the Pile Driving Database.

4.0 MEASUREMENT AND PAYMENT

The Engineer will measure each contractor furnished PDA used to perform testing on each specified pile. Payment for "Contractor Furnished PDA" is full compensation for the specified work.

Measurment and payment for the actual pile and driving of pile will be according to **SECTION 70**4.