

SCOPE OF SERVICES

The services to be rendered for this Project shall consist of the following Stages and Parts:

Stage 1: Perform field data collection on bridges with unknown foundations using Non Destructive Testing

Part 1: Consists of performing Field data collection using the dispersive wave testing methodology and or dispersive side sonic wave testing or other proven Non Destructive Testing methods. Pile selection will be the responsibility of the consultant, however LADOTD will reserve the right to designate particular piles on any bridge the engineer deems necessary. A minimum of three (3) test piles per bridge is required [one (1) nearest the deepest point of the channel profile and one (1) nearest the shallowest point of the channel profile]. A maximum number of test piles for each bridge will be determined by dividing the number of bents by two (2), unless authorized by the engineer in writing.

Part 2: Consists of sketching the bent and pile layout giving geographic references and nomenclature of test piles. This sketch (or a computer generated model) is to be included in the report. Numbering of bents shall begin at the abutment at the beginning of the bridge in the direction of control. Numbering of piles shall be from left to right when facing the bent in the direction of control. The route's direction of control is generally accepted as South to North or West to East. A control section manual containing beginning and ending points can be provided by DOTD.

Part 3: Consists of measuring the length of pile exposure to determine the deepest point along the profile of the bridge (either up-stream or down-stream). This measurement will be used to calculate the minimum pile penetration. Also, any channel or abutment revetment (stone or concrete) found must be documented and reported along with the length test results. Any site location that has both concrete revetment and channel revetment should not be tested, but brought to the Project Engineer's attention for review.

Part 4: Consists of producing all testing reports in Portable Document Format (PDF) recorded on a CD with files named using the LADOTD bridge Recall Number, and organized by District number on a monthly basis not to exceed 36 months

after the Notice To Proceed (NTP) as issued by the DOTD. A copy of the raw data for each pile tested, arranged in a format acceptable to the engineer, and organized by pile name, recall number, and District number will be submitted by the end of 36 months after the Notice To Proceed (NTP) was issued by the DOTD.

Stage 2: Screening of Scour Susceptible Bridges (Phase 1 Scour)

Part 1: Consists of obtaining any additional plans or information missing from the information supplied by the DOTD and organizing the bridges by river or stream.

Part 2: Will consist of determining the drainage areas for the bridges, computing the 100 year frequency discharge for bridge sites with drainage areas greater than 25 square miles and performing a scour analysis using the factors established by DOTD.

The DOTD required factors are identified in the Phase I Scour Assessment Worksheet (Appendix A) and shall be included in the reports. An example can be found in Appendix A to this Scope of Services.

The Consultant will determine the hydrologic characteristics of each bridge site, including drainage area, discharge and pile penetration. The hydrologic information (drainage area and discharge) computed for each site will be gathered and catalogued for future reference by DOTD and other users requiring such information. The Consultant will provide all quadrangle maps required under this Phase and they will become part of the records for each site.

From information gathered from the reports, a list of scour susceptible bridges will be prioritized based on the Annual Average Daily Traffic (AADT) of the highway crossing the stream. This list will be used to determine the order in which the bridges will be analyzed in the next Stage. The AADT information can be found in the current issue of the DOTD Highway Needs Summary for each district.

Part 3: Consists of general project management including meetings with DOTD to discuss progress, resolve any problems, and to file and organize the data. The use of DOTD microfilm files, microfilm reader/printers, construction plans, and Bridge Maintenance files should be scheduled as to not interfere with normal DOTD operations.

CONTRACT TIME

The Consultant shall proceed with the services specified herein after the execution of this Contract and upon written Notice-To-Proceed from the DOTD. The overall contract time to complete this project is estimated to be **four years**. The delivery schedule for all project deliverables shall be established by the Project Manager.

Upon successful completion of negotiations, a required trial demonstration will be completed by the winning consultant/team on a list of LADOTD control structures. The project manager will have prior knowledge as to the pile lengths associated with each control structure. This trial will serve as an opportunity for the winning consultant/team to prove that their chosen methodologies are reliable and verifiable within a tolerance of $\pm 10\%$. The trial will include nine (9) bridges comprised of three concrete, three steel, and three timber bridges that have known pile lengths. Upon successful completion of this trial, the Notice To Proceed will be issued from the Project Manager. Cost for this trial demonstration will be the contractor's expense.

During the completion of Stage I, the consultant will submit a monthly progress report to the project engineer. During Stage II, the Consultant will submit two (2) draft copies of the final report, with results, conclusions and recommendations, twelve (12) months after the invoice date of the bridges for Stage 1 work. Contract time for Stage III shall be twelve (12) months after the satisfactory completion of Stage II. Total contract time for all stages shall not exceed 1461 calendar days after the NTP from DOTD has been issued.