

EXHIBIT II

GENERAL SCOPE OF SERVICES

Bridge Engineering Assistance Program (BEAP)

Operational procedures and items not specifically covered by the Agreement, this General Scope of Services, or the memorandum of understanding shall be in accordance with the current version of MoDOT's Engineering Policy Guide, *EPG 136.3.8.9 Bridge Engineering Assistance Program (BEAP)*.

Information and Services Provided by the Commission

Upon request by the Consultant, the Commission will provide the Consultant with available information of record that may reside in the Commission's files and is pertinent to this project. In addition, the Commission will provide the Consultant with the specific items or services as shown below.

1. A copy of the latest inspection reports, Structure Inventory and Appraisal (SIA) sheet, photographs, and other relevant information about the bridge, as needed, will be provide by the District Office.
2. Some type of map showing the general location of the bridge will be provided by the District Office.
3. The Bridge Inspection Rating Manual is maintained by Bridge Division and is available in MoDOT's Engineering Policy Guide, *EPG 753 Bridge Inspection Rating*.
4. The District Office will assist the Consultant with coordination with the local public agency.
5. The Bridge Division will provide assistance with interpretation of MoDOT policies.
6. The Bridge Division will be responsible for the statewide contract administration of the BEAP program.
7. The District Office will be responsible for providing the notice to proceed to the Consultant.

General Scope and Typical Procedures for Service

The services to be provided by the Consultant shall be in accordance with the current policies of the Commission. The general stages of a BEAP project and the procedures followed during these stages are shown below.

1. Planning Phase

A. The Consultant receives a request for a potential BEAP project from the District Office or the local public agency. The general services provided by the Consultant for a typical project include a single site visit to the bridge to collect information, review and analysis of

conditions, and formulation of recommendations to the local public agency. The types of recommendations could include the items listed below.

- a. Recommendations for repair of damaged elements of the bridge.
- b. Recommendations for strengthening of deteriorated elements of the bridge.
- c. Recommendations for strengthening of elements of the bridge to increase the load capacity of the bridge.
- d. Recommendations for emergency repairs from flood damage.
- e. Studies on the hydraulic adequacy of the bridge.
- f. Recommendations on channel repair and scour mitigation or repair.
- g. Recommendations on load posting limitations for the bridge.
- h. Cost studies for repair or replacement alternatives for the bridge.
- i. Recommendations on whether or not to close a bridge.

B. The Consultant reviews the information that has been provided and develops a maximum cost to provide the requested services. (Field trips for the purpose of developing this cost ceiling are not reimbursable. However, if unexpected conditions are encountered during the project, the project estimate can be increased subject to Bridge Division review and approval for this increased amount. In this situation, the Consultant should notify the Bridge Division as soon as possible and provide a revised estimate along with the reasoning for this revised estimate.)

C. The Consultant submits the fee ceiling along with a brief definition of the project scope and a completion date for the project to the District Office. As a general rule, the time required to complete a project should not exceed 90 days. This information will be included on the BEAP Project Tracking Form that will be submitted to the Bridge Division for review and approval. Bridge projects normally considered to be eligible for BEAP funding are those that are anticipated to be performed in 60 or fewer total person hours per bridge. The District Office and the Bridge Division will confirm the eligibility of the proposed project, review the estimated cost, and provide the Consultant with the notice to proceed, which will typically be done through email. The BEAP Project Tracking Form will be relayed electronically to the consultant with updates to show the assigned BEAP project number and additional "milestone dates" that correspond to the various stages that followed the initial submittal. Electronic relay of the BEAP Project Tracking Form will continue throughout all stages of the project to keep all parties updated with the most current version of this form.

D. After the notice to proceed is received, the Consultant will advise the District Office and the local public agency of the date for the field visit to the bridge site. If a project is cancelled for some unforeseen reason after the notice to proceed has been given, the consultant shall immediately notify the District Office and the Bridge Division of this cancellation.

E. The services provided under the BEAP program shall not include the preparation of a complete design and plans for a replacement structure. When the Consultant has recommended that a structure be closed because of unsafe conditions, the Consultant may provide suggestions for various alternative structure types, but the actual design of a replacement structure is beyond the normal scope of a BEAP project.

F. The BEAP program shall not be used to provide a general inspection for a structure. The general inspection of a bridge, including assignment of condition and appraisal ratings, is a service provided by MoDOT through the nonstate bridge inspection program.

2. Inspection Phase

After receiving the notice to proceed from the District Office, the Consultant should make a field visit to the bridge site to collect new data as well as verifying existing relevant data. This field visit should be coordinated with the local public agency and should include a discussion of potential solutions with the local public agency. In addition to structural items, the consultant's routine review should also encompass traffic control devices or other safety measures present at the bridge site, with any recommendations for changes to these items included in the BEAP report.

3. Analysis Phase

The Consultant shall provide the appropriate engineering analysis necessary to provide the deliverables as defined in the scope of services shown on the BEAP Project Tracking Form. All engineering analysis should be done in accordance with the current version of MoDOT's Engineering Policy Guide at the time the work is completed. Items not addressed in the Engineering Policy Guide shall be done in accordance with the latest version of AASHTO's *Standard Specifications for Highway Bridges*, *LRFD Bridge Design Specifications*, or *The Manual for Bridge Evaluation*. In cases of conflict between the AASHTO manuals and the Engineering Policy Guide, the Engineering Policy Guide shall prevail.

4. Reporting Phase

A. After completion of the BEAP study, the Consultant shall prepare a report that addresses all of the items identified in the scope of services on the BEAP Project Tracking Form. A typical report should be one to two pages providing a general overview of the services provided for the project along with the findings, results, and recommendations. The report should include additional sketches and tabular summaries, as appropriate. The Consultant shall simultaneously submit the completed report to the local public agency, the District Office, and Bridge Division. The report must be signed and sealed by a professional engineer registered in Missouri.

B. If a repair or retrofit is being recommended that impacts the load carrying capacity of the bridge, load rating calculations must be provided with the report. The load rating calculations must provide inventory, operating, and posting ratings in accordance with current MoDOT policy, as defined in the Engineering Policy Guide. If the recommendations contained in the report will result in changes to National Bridge Inventory items for the bridge, the Consultant shall either complete a new SIA sheet for the bridge or provide a marked up copy of the existing SIA indicating the changes that need to be made. Guidance on completing or updating the SIA sheet can be found in the Engineering Policy Guide.

C. Within 45 days after notification from MoDOT of acceptance of the report for a BEAP project, the Consultant shall prepare an invoice of the actual costs for services provided. The invoice should be itemized and include the hours and cost for each individual involved with the project. Only the travel expenses and personnel costs for one site visit to the bridge site will normally be reimbursable. Charges for vehicle mileage have to be made at the current standard IRS mileage rate for the date that the vehicle was used. The Consultant shall sign and send the invoice directly to the contact person in Bridge Division for review and processing. If desired, the Consultant may scan the signed invoice and send it electronically to the email address provided on the BEAP Project Tracking Form for the Bridge Division contact person. Payments for services provided by the Consultant will be done electronically. The Consultant will be expected to fill out the appropriate paperwork with the State of Missouri, Office of Administration, to allow for the electronic processing of payments.

5. Changes in Project Scope or Other Revisions

The BEAP Project Tracking Form is the memorandum of understanding for BEAP projects. All appropriate information needed for the project shall be provided on this form and updated electronically throughout all successive stages of the project to keep the document accurate and current. There should be no deletions or changes of previously approved information shown without approval from MoDOT. When deletions or changes are made, appropriate notes or comments should be added to the form along with a date for these changes and the initials of the person making the changes.

Prior to the initial submittal of the BEAP Project Tracking Form, the Consultant shall ensure that the problem description is accurate and that the scope of services to be provided properly addresses the described problem. The final report shall be consistent in its entirety with all items identified in the scope of services. If for some reason it is determined by the Consultant that a change in either the description of the problem or the scope of services is needed, then the Consultant shall immediately advise MoDOT of these changed conditions and for approval to proceed with the project under these changed conditions.