This is a template to develop a Request for Proposal for engineering for stream crossing replacements under the PA Dirt, Gravel, and Low Volume Road (DGLVR) Maintenance Program. The use of this RFP is not required, and this is being provided as a tool for use by conservation districts and grant recipients. You are encouraged to add, delete, or edit text in this template to fit local needs and policies, so long as the changes do not conflict with Program policy. An editable (MS Word) version of this document can be found on at:

<https://www.dirtandgravel.psu.edu/pa-program-resources/program-specific-resources/blank-forms> under “Example Forms”

Each scope of work item listed under each Task is followed by a highlighted reference to the corresponding requirement listed in the ***STREAM CROSSING DESIGN & INSTALLATION STANDARD.*** These references are intended as a guide for the conservation district or grant recipient as they modify this template to fit their project and engineering needs. You are encouraged to keep these highlighted references to assist the prospective Vendor in their review and response to the RFP.

Red, italicized font indicates text that should be evaluated and modified by the user to best fit their project.

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Version 05/27/2022

**TEMPLATE REQUEST FOR PROPOSALS (RFP)**

**ENGINEERING DESIGN AND INSPECTION OF ROAD/STREAM CROSSING REPLACEMENT**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ROAD over \_\_\_\_\_\_\_\_\_\_\_\_\_\_ CREEK, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ TOWNSHIP, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ COUNTY**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** (“Municipality”) is soliciting cost proposals for engineering services to support replacement of an existing road/stream crossing structure (culvert) carrying **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** ROAD over **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** CREEK. The crossing is located at latitude/longitude coordinates **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** °; -**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** °.

**This project will be funded by the Pennsylvania State Conservation Commission’s Dirt, Gravel, & Low-Volume Road Program (“DGLVR Program”), administered through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ County Conservation District (“conservation district”). To comply with the DGLVR Program’s Policy, this stream crossing replacement project MUST meet the minimum requirements outlined in the DGLVR Program’s** ***STREAM CROSSING DESIGN & INSTALLATION STANDARD*** (attached).

To support development of a Cost Proposal, potential bidders (“Vendors”) are provided with an anticipated scope of work below. Scope of work items listed under each Task reference corresponding requirements of the DGLVR Program’s ***STREAM CROSSING DESIGN & INSTALLATION STANDARD***. Vendors should base their cost estimate on a clear understanding of the requirements of the DGLVR Program’s ***STREAM CROSSING DESIGN & INSTALLATION STANDARD***, the information presented in this Request for Proposals, and the Vendor’s interpretation of existing site conditions and anticipated project needs. Additional information can be found in the *DGLVR Program’s Stream Crossing Replacement Technical Manual* and supporting documents. These are available online at (ADD WEBSITE ONCE POSTED).

**Off Right-of-Way Permission**

***FOR CD****: Keep the option that describes status of Off-ROW permission at the time this RFP is advertised.*

*OPTION 1*

*For this project, the Municipality has secured landowner permission to allow for project-related work (such as any necessary stream channel modifications) to extend outside of the Municipal Right-of-Way. The Vendor’s extent of work (design and associated disturbance areas) shall extend beyond the Municipal Right-of-Way as necessary to meet all DGLVR Program requirements.*

*OPTION 2*

*The Municipality has not yet secured permission from adjoining landowners to work outside of the Municipal Right-of-Way. Because Off Right-of-Way permission is a requirement for all stream crossing replacement projects funded through the DGLVR Program, the Municipality will secure those permissions prior to starting work. The Vendor’s extent of work (design and associated disturbance areas) should anticipate extending beyond the Municipal Right-of-Way as necessary to meet all DGLVR Program requirements.*

**Anticipated Scope of Work:**

The Vendor will provide professional engineering services necessary to meet all requirements set forth in the DGLVR Program’s ***STREAM CROSSING DESIGN & INSTALLATION STANDARD*** for this project. The anticipated scope of work below condenses these requirements into a series of categorized tasks to support development of the fee proposal.

Task 1. Site Survey and Mapping

1. Vendor will provide sufficient topographic survey and mapping necessary to define or support the following:
   1. Project boundaries and disturbance areas (IV.B; VI.W)
   2. Existing roadway elevations, grades, and profiles (IV.R, VI.B)
   3. Wetlands and other jurisdictional or regulated resource areas as applicable (IV.B, VI.A, VI.B)
   4. Design of replacement structure and appurtenances (IV.F, VI.B)
2. Vendor will establish two permanent benchmarks, located outside of areas likely to be disturbed (VI.B; VII.C).
3. Vendor will collect sufficient site survey to support required H&H analysis (see Task 2) (IV.C, IV.D).

Task 2. Hydraulic Analysis

1. Vendor will prepare an H&H analysis that evaluates the following flow events for the replacement structure (IV.C, IV.D):
   1. 2-year, 24-hour recurrence interval (Q2)
   2. 10-year, 24-hour recurrence interval (Q10)
   3. 25-year, 24-hour recurrence interval (Q25)
   4. 50-year, 24-hour recurrence interval (Q50)
   5. 100-year, 24-hour recurrence interval (Q100)

(*Note: H&H analysis must consider the required placement depth of streambed material inside the replacement structure.*)

1. Vendor will provide any additional H&H analysis necessary to satisfy applicable regulatory / permit requirements or governing design standards (IV.B).

Task 3. Geomorphic Assessment

1. Vendor is required to base the project design upon a longitudinal profile survey and cross-sectional surveys of existing conditions (IV.M). *For this project, a longitudinal profile survey and cross-sectional surveys have already been completed by the Conservation District.* (Policy 7.1.2.6). At their discretion, the Vendor may choose to use this survey to support project design (IV.N). Alternatively, the Vendor may choose to perform their own longitudinal profile- and cross-section surveys, in concert with the conservation district (IV.N).

*(Note: The DGLVR Program’s* ***STREAM CROSSING DESIGN & INSTALLATION STANDARD*** *and supporting technical documents provide information on the level of detail to be included in these surveys and their application to design.)*

Task 4. Channel Design

1. Using the longitudinal profile and cross-sectional surveys of existing site conditions, the Vendor will provide a stream channel design extending upstream, through, and downstream of the replacement crossing that achieves the following:
   1. Provides long-term channel continuity (IV.O) and aquatic organism passage (IV.J).
   2. Specifies essential channel features based upon survey of reference reach conditions. These include:
      1. Bankfull width and cross-sectional shape (IV.G, IV.M), with a well-defined low flow channel (thalweg) and bank margins (IV.L, IV. M).
      2. Streambed material composition and placement thickness (depth of fill) through the structure (IV.O).
      3. Type, number, length, location, and elevations of grade control features (IV.O, VI.B). A minimum rock size for grade controls must be specified (IV.E).

No design aspect of the road/stream crossing or associated modifications to adjacent stream segments, grade controls, or scour protection elements shall present a barrier to aquatic organism passage (IV.J).

Task 5. Out-of-Channel Design (Structure, Roadway, etc.)

Structure Design

1. The Vendor will specify a replacement structure and provide associated design services as follows:
   1. Structures must be of adequate width to accommodate the bankfull flow width of the stream at the final bankfull flow elevation with bank margins and to account for bank slopes, road approaches and site conditions (IV.F). The effective width of the replacement structure (measured at the bankfull elevation) must, at minimum, be 1.25 -times (125%) the typical bankfull channel width. For this project, typical bankfull channel width is \_\_\_\_\_\_\_\_\_\_ feet. The shape of the replacement structure must not restrict effective width at the bankfull elevation to less than 125% the specified bankfull width (IV.F).

*(Note: In many instances, it will be necessary to exceed the 125% minimum-width standard in order to meet all requirements of the DGLVR Program’s* ***STREAM CROSSING DESIGN & INSTALLATION STANDARD*** *pertaining to structure sizing.)*

* 1. The replacement structure must be properly aligned with the stream channel unless not feasible due to permitting restrictions or other constructability restraints (IV.H).
  2. Design must include types and placements of all associated structure appurtenances such as abutments, footings, wingwalls, etc. (VI.B).
  3. Sizing and installation of the structure and its appurtenances must be compatible with the restored stream reach in terms of providing long-term channel continuity and aquatic organism passage (IV.J, IV.O) and shall not reduce the minimum effective opening to less than 125% bankfull width at the structure inlet or outlet (IV.F).
  4. A minimum bury depth or elevation for invert or footings must be specified, below design streambed elevation (IV.O).
  5. The structure must pass the Q100 flow at an elevation not to exceed 80% of the finished opening height (IV.D).

Roadway and Drainage Design

1. The Vendor will provide design services as needed to address any necessary changes to roadway elevations and drainage patterns (IV.V). Meeting the DGLVR Program’s ***STREAM CROSSING DESIGN & INSTALLATION STANDARD*** may require increasing the existing roadway elevation. The DGLVR Program has coordinated with PA DEP regarding allowable changes in roadway elevation associated with the conditions of the General Permit #11. Reference the DGLVR Stream Crossing Standard for more information.
2. Design must consider additional floodplain connectivity (high-water bypass, floodplain pipes, etc.) where necessary (IV.I).

Task 6. Permitting

For this project, it is anticipated that a \_\_\_\_\_\_\_\_\_\_ permit will be required to authorize the project.

1. The Vendor will complete all required permit registration / application materials needed to meet all State, local and Federal regulatory requirements (IV.B).

*(Note: The Vendor will not submit materials to regulatory agencies for permit registration / authorization until the conservation district has reviewed the plans and specifications and provided written confirmation that they comply with DGLVR Policy and the Stream Crossing Design and Installation Standard (IV.Q)).*

Task 7. Construction Documents

1. The Vendor will prepare a complete set of Construction Documents, meeting the content requirements listed in the DGLVR Program’s ***STREAM CROSSING DESIGN & INSTALLATION STANDARD, section VI.*** The Construction Documents will include detailed drawings and technical specifications as necessary to affect proper implementation of the project. Comparison of existing and proposed conditions must be shown, as well as proposed erosion & sedimentation (E&S) control and dewatering measures to be utilized. All critical elevations, grades, slopes and other design criteria essential to proper construction/installation of the replacement structure must be clearly marked on the Construction Plans.

The Vendor will provide construction documents to the conservation district for consistency review with *DGLVR Program Policy* and S*tream Crossing Design and Installation Standard*. Vendor will provide responses and revisions as needed to satisfactorily address all review deficiencies, prior to submittal of permit application(s) or registration(s) (IV.Q).

1. *Vendor will prepare all bid documents necessary for advertisement and solicitation of construction bids (VI, VII)*

***FOR CD****: For 2), select the option that indicates whether the engineer will prepare bid documents for your project.*

* 1. The Vendor will prepare a complete set of bid documents, meeting the content requirements listed in the DGLVR Program’s ***STREAM CROSSING DESIGN & INSTALLATION STANDARD.*** The Vendor will provide draft bid documents to the conservation district for consistency review with *DGLVR Program Policy* and S*tream Crossing Design and Installation Standard*. Vendor will provide responses and revisions as needed to satisfactorily address all review deficiencies, prior to advertising (VII.A).

1. *Vendor will not be tasked with preparation of construction bid documents for this project.*

Task 8. Construction Inspection and Certification

***FOR CD****: Beginning with 1a), list any additional aspects of construction for the engineer to inspect onsite.*

1. Vendor will provide onsite inspection of critical aspects of construction, as listed in the DGLVR Program’s ***STREAM CROSSING DESIGN & INSTALLATION STANDARD,*** and additionally identified by the project owner (VII.D).
   1. *Additional critical aspects to be inspected onsite include*:
2. Upon project completion, Vendor will provide a certification form (signed and PE seal) indicating that critical stages of construction outlined in Section VII.D were inspected and installed in accordance with the Construction Documents and DGLVR Stream Crossing Standard. Vendor will provide a set of red-lined markup construction documents identifying any changes in the as-built conditions of the project compared to the design plans (VII.F). For field changes that result in notable deviation from the Construction Documents, a brief written description of cause, justification and changes made should be provided.

Task 9. Project Management and Meetings (Policy 7.1.2.5)

***FOR CD****: Beginning with b), list any additional meetings you would like to require the engineer to attend.*

1. Vendor will be required to attend the flowing meetings:
   1. a pre-design meeting at the location of the road/stream crossing replacement project. No design or permitting work related to this project may be started by the Vendor prior to this on-site pre-design meeting.
   2. *Bid site showing*
   3. *Bid selection / award meeting (often a municipal meeting held by the Project Owner)*
   4. *Pre-Construction*
   5. *Other*

*Task 10. Additional Services (if needed)*

***FOR CD****: Keep the engineering services listed that applicable to this project (if any). Add additional services as needed.*

1. *Vendor will provide documentation and make notifications necessary to secure required Off-ROW permission.*
2. *Vendor will provide a geotechnical investigation and summary report that determines soil bearing capacity (V.B).*
3. *Vendor will conduct a wetland delineation and provide reporting needed to meet regulatory / permit requirements (IV.B).*
4. *Site stakeout prior to construction*

**Response Submittal Requirements**

***Please provide a brief Letter of Interest (LOI) to the Municipality that briefly outlines your understanding of the service requested by the Municipality and identifying your firm’s proposed single point-of-contact / Project Manager. You may include in your LOI any additional information that you feel may be pertinent in the Municipality’s review and consideration of your proposal.***

***Please provide an hourly rate table.***

***Utilizing the attached Unit Fee Sheet, please provide an itemized Fee Proposal for completion of the Tasks identified in this RFP.***

***For Task 3 – Geomorphic Assessment, please indicate whether you propose to utilize an existing longitudinal profile (attached) and cross-sectional surveys provided by the conservation district, or if you propose to complete your own in concert with the conservation district. Provide a proposed fee accordingly.***

**PROPOSED FEE: ENGINEERING DESIGN AND INSPECTION OF ROAD/STREAM CROSSING**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ROAD over \_\_\_\_\_\_\_\_\_\_\_\_\_\_ CREEK, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ TOWNSHIP, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ COUNTY**

**TASK**

Task 1. Site Survey and Mapping

Task 2. Hydraulic Analysis

Task 3. Geomorphic Assessment

Task 4. Channel Design

Task 5. Out-of-Channel Design

Task 6. Permitting

Task 7. Construction Documents

Task 8. Construction Inspection and Certification

Task 9. Project Management

Task 10. Additional Services (if needed)

**PROPOSED FEE**

Task 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 8. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 9. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TOTAL PROPOSED FEE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

This COST PROPOSAL has been prepared by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (NAME)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (TITLE)

(DATE) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (FIRM)