



SCOPE OF SERVICES

Solicitation Number: CLMP149

Project Name: Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek – Peer Review

PROJECT FOR:

City of Austin (City), Public Works, through its Contract Management Department

PROJECT TITLE:

Peer Review - Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek

OBJECTIVES OF THE PROJECT:

The City anticipates selecting a Professional Service Consultant to perform Engineering Services in the Peer Review functions associated with the design and construction for the replacement of the Redbud Trail over Lady Bird Lake Bridge (Redbud Trail Bridge) and Barton Springs Road over Barton Creek Bridge (Barton Springs Bridge). The specific requirement for each structure is different, and will be detailed individually throughout the scope of services. The Professional Services Consultant selected for this project may also be referred to as **Peer Reviewer** within this scope of services or within the solicitation CLMP148 - Request for Qualifications (RFQ) for the Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek

BACKGROUND:

Replacement of the bridges shall provide safe and efficient access for people, goods, and service vehicles across Lady Bird Lake and Barton Springs Creek. The bridges must serve for 100 years and meet current design standards for cars, trucks, pedestrians, and bicycles, as referenced in later pages of the Scope of Services. The bridges are critical to the welfare of the daily commuters because they provide connection for vehicular access to several major roads and communities .

Redbud Trail Bridge over Lady Bird Lake

The Redbud Trail Bridge will be a multi-span structure connecting Austin to West Lake over Lady Bird Lake just downstream of the Tom Miller Dam. The proposed bridge will be approximately 1,100 feet long. The bridge will be designed for two 12-foot vehicle lanes, with shoulders and sidewalks on both sides, including a 10-foot combination pedestrian/bicycle path on the east side. The bridge will accommodate several utilities crossing the river, including water and wastewater lines. The bridge design shall incorporate such utility crossings in an effort to keep them predominantly hidden from view. The bridge is envisioned to be a structure designed to complement the surrounding natural environment of Red Bud Isle and the lake.

There has been a long history for this crossing over the Colorado River which actually includes two structures. The first is the primary 400' long by 28'-6" wide 10-span steel girder bridge with concrete deck over the main waterway. It spans from Lake Austin Blvd to the Red Bud Isle parks facility within the river basin. A secondary 119' long by 28'-6" wide 3-span bridge over the by-pass portion of the river flow runs from the island to the West/South side of the river near Stratford Drive. The structures were built in 1948 and served fairly light duty in the early years. However, upon more dense development of West Austin and the Westlake area residential community traffic has increased to about 13,000 vehicles per day. Increasing use of the Ullrich Water Treatment Plant (UWTP) over the years has added heavy daily truck traffic loadings. With the increased use of the UWTP, the cities of Westlake and Austin entered into an agreement that all UWTP truck traffic would enter and exit exclusively on City of Austin roadways. This agreement forces all routine lime, sludge, and construction truck traffic serving the plant to cross this set of bridges. Unfortunately, there are no acceptable detours for this heavy truck traffic.

The primary structure has experienced substructure degradation and has been repaired several times as a result of scour due to flood flows from high volume dam releases by the Lower Colorado River Authority (LCRA). The primary bridge received an all-time low Serviceability Rating of 36.4 (out of 100) in the mid-1990s through the Texas Department of Transportation (TXDOT) Bridge Inspection Appraisal Program (BRINSAP). This triggered serious concerns about the health and remaining life of the structure. A thorough and rigorous engineering study was then performed by CFX Engineering in 1996 to determine the remaining life of both structures and to design an interim strengthening project, completed in 1998. The study found through live load testing that the steel girders were highly fatigued and near the end of their useful life. The concrete decks were made composite with the steel girders by welding on shear studs to extend the life of the bridges. All subsequent inspections including the most recent one in 2012 have given them a fair rating of around 67. Despite this seemingly acceptable rating, the City of Austin is concerned that the somewhat cursory nature of the visual inspections performed is highly overrating the structural capacity of the bridges. The interim enhancements designed by CFX Engineering were only intended to extend the usable life of the structure through the 6 year construction of the UWTP expansion project and then until the City of Austin could aggressively secure capital funding to replace the bridges.

There have been two preliminary reports done for the Austin Water Utility in regards to options and cost estimates for the relocation or replacement of their attached utilities. Although these utility lines are not a large portion of the project in terms of cost, these utility attachments are considered to be a critical component to the final design of the crossing project as a whole. Design for the relocation of the water and wastewater utility lines is an integral part of this bridge project. Since Redbud Trail is the single access for traffic into and out of the Ullrich Water Treatment Plant, it must remain traversable at all times during construction. The existing 72-inch diameter tunnel should be clearly identified and not require relocation due to the bridge design. Water and wastewater mains are to remain in service throughout the entirety of the construction phase.

Barton Springs Road Bridge over Barton Creek

The Barton Springs Road Bridge will be a complete replacement of the obsolete Barton Springs Road Bridge over Barton Creek located near the intersection of Robert E Lee Road. The 3-span open spandrel concrete arch bridge on concrete bents was originally built in 1925 and was expanded on one side in 1946. The current bridge is 212' long and 58'-8" wide. Structurally it appears to be in fair condition; however, the deck width and geometry are extremely obsolete. The bridge is currently a bottle-neck for the enhancement of all modes of travel on Barton Springs Road approaching Zilker Park from the east. The preliminary design concept approximately doubles the width of the bridge deck to accommodate 2-6' sidewalks, 2-5' bicycle lanes, 4-10' travel lanes and a 15' median thus matching the new cross section of Barton Springs Road established by the reconstruction of that roadway east of Robert E Lee Rd.

The Barton Springs Road Bridge is very sensitive in several respects. The area is considered highly environmentally sensitive, surrounded by critical urban park property on all sides. It crosses the most sensitive urban watershed in Austin, Barton Creek, and is a frequently congested gateway to the southeast corner of the core of downtown Austin when special events are held. The structure is very obsolete and is not officially historically registered; however, it is likely to be considered by some to be historically significant nonetheless. Context sensitivity will be highly critical to the success of the replacement structure.

There are a large number of interrelated improvement needs at the intersection of Barton Springs Road and Robert E Lee with a fairly complex bridge geometry including an immediate adjacent "T" intersection, realignment of traffic lanes to match new Barton Springs cross section east of Robert E Lee, structural sidewalk and bridge class railing along west side of Robert E Lee, expansion of the bicycle lanes across the bridge and through the intersection, a large retaining wall and slope stabilization along the Umlauf property, sidewalk connectivity on the southeast corner, redesign of signalized traffic intersection, street drainage design, environmental protection of Zilker Park and Barton Creek, protection of the creek and trailside amenities below the bridge, hike and bike trail, terraced slopes and plantings along the trails, maintaining access for the Zilker Park Train, and multiple public and private utilities attached to the bridge. Water and wastewater mains are to remain in service during the construction phase. Coordination of upsizing existing utilities will be required during the design phase.

ANTICIPATED SERVICES:

The Peer Reviewer shall coordinate closely with the Bridge Design Team and the City Project Management staff, from the beginning of the Bridge Conceptual Engineering Report (BCER) until completion. The Peer Reviewer coordination with the Design Team will occur in both formal day to day contacts and via formal project meetings and reviews. The information process will include Over the Shoulder Reviews (OSR) or work in progress to identify and resolve issues early in design. The City of Austin expects that the Bridge Design Team and Peer Reviewer team will generally resolve issues where they may initially differ. It is anticipated City of Austin project staff will be involved in discussions between the Design Team and Peer Reviewer team. All correspondence with the Bridge Team and Peer Reviewer team will include the City of Austin Project Management staff.

For each of the stages of the design listed below, the Peer Reviewer will submit a Summary of Review Comments and Comment Log to the Bridge Design Engineer, with a copy to the city. The Peer Reviewer will verify that the design is feasible and adequately incorporates the design and load rating criteria and concept design parameters. The Peer Reviewer may recommend modifications that improve cost-effectiveness or constructability of the design when submitting Summaries of Review Comments for Design and Load Rating criteria and Concept Design. The submittals shall be made according to the schedule outlined in each submittal summary below

The following stages of design will be reviewed by the Project Professional:

1. Bridge Conceptual Engineering Report
 - The Bridge Conceptual Engineering Report is intended to establish all the basic parameters that will affect the work done in the Design and Plans preparation phase. It will contain sufficient detail for the justification of the proposed bridge type. The 30% Structures Plans will be included as an appendix with the Bridge Conceptual Engineering Report.
 - Deliverable Schedule: Peer Reviewer will submit no later than four weeks after receipt from City of Austin. Peer Reviewer will include report of findings.
2. 30% Milestone and Engineer's Opinion of Probable Construction Costs (EOPCC)
 - The 30% Plans will be submitted with the Bridge Conceptual Engineering Report. The 30% Design will include the Type, Size, and Location (TS&L) from the selection phase and other structural, architectural, and electrical sheets as needed to describe the periphery of the bridge and provide detail required for a 30% EOPCC.
 - Peer Reviewer will review the 30% Plan submitted by the Bridge Design Engineer. The 30% Plan will provide an early review of the final plan preparation for conformance with the Bridge Conceptual Engineering Report, aesthetic guidelines, and key design specifications. The intent of this peer review is to identify design discrepancies at an early stage and avoid major plan modifications resulting from future reviews. At this stage, consideration will be given to potential revisions to the design criteria and project standard details.
 - Deliverable Schedule: Peer Reviewer will submit no later than two weeks after receipt of the 30% Plan from the City. Peer Reviewer will include report of findings from 30% Constructability Study Review.
3. 60% Milestone and Engineer's Opinion of Probable Construction Costs
 - This submission is only a partial plans set. Its purpose is to communicate essential project information to the Geotechnical and Hydraulic Engineers so that all remaining calculations can be performed using actual structural shapes, loads, and dimensions. Plans sheets required for this submittal include: Plan & Elevation, Bridge Hydraulics Recommendation Sheet, Boring Logs, Foundation layout, Substructure Plans, and draft technical specifications.

- Deliverable Schedule: Peer Reviewer will submit no later than four weeks after receipt of the 60% Plan from the City. Peer Reviewer will include report of findings from 60 Constructability Study Review.
- 4. 90% Milestone and EOPCC
 - Upon approval of the 60% Structures Plans, 90% Structures Plans shall begin. At this stage of development, the Bridge Designer shall have resolved the 30% and 60% Structures Plans review comments and developed plans for completion. The design and plan production shall be 100% complete. This submittal shall include prints of the completed plans, Summary of Pay Items (complete with quantities), design calculations, Final Phase II Geotechnical Report, Addenda to Hydraulic Report, and if appropriate, Technical Special Provisions. No sheet or detail should be missing at this state.
 - Deliverable Schedule: Peer Reviewer will submit no later than three weeks after receipt of 90% Plan from City. Peer Reviewer will include report of findings from 90% Constructability Study Review.
- 5. Bid Documents and EOPCC
 - After resolution of the 90% Structures Plan comments, the Bridge Designer shall make all authorized changes necessary to complete the plans and Technical Special Provisions.

The Peer Reviewer may have the need to request items that do not appear in the reports, such as design notebooks, calculations, etc.

Project Management

The Peer Reviewer must have experience in the following: design of projects similar in scope to the project; relevant experience in the disciplines required for this project; a minimum of 15 years' experience and responsible charge of engineering work in the appropriate disciplines; relevant experience on multi-million dollar projects verifying the constructability of the proposed designs; must not have a conflict of interest arising from investments, agency, employer, and business affiliations; and grants, contracts, and consulting income. The Peer Reviewer must conduct review in a manner that respects confidential business information and intellectual property.

Contract Administration

- a. The City will provide a Project Manager to give direction to the Peer Reviewer activities.
- b. The Peer Reviewer will conduct the administration of the project, which will include communication with the City of Austin, invoicing, supplemental agreements, cost and schedule updates, billing preparation, and other non-technical work, for the Peer Review portion of the project.
- c. No changes in Project Professional, project manager or lead review personnel will be made without written notification and agreement from the City of Austin. The City will notify the Peer Reviewer if there are changes to the City's project management personnel.

Project Meetings

- a. Kick-off Meeting – The Peer Reviewer will attend the project kick-off meeting to establish communication protocol for the project, discuss known project issues, review the project schedule, and obtain other available project information from the City of Austin.
- b. Plan Review Meetings – The Peer Reviewer will attend plan submittal review meetings and perform reviews at the BCER, 30%, 60%, and 90% completion stages using independent design computations.
- c. Additional Project Meetings (as necessary) – At the direction of the City Project Manager, the Project Professional will attend up to 10 additional project meetings to address issues not covered during other scheduled meetings.

PROPOSED SCHEDULE:

Anticipated duration for both bridges, Phases 1-6 combined, is no more than 26 months. Selected Bridge Design Team shall begin work on the Redbud Trail Bridge first so the Project Professional will also begin work on the Redbud Trail Bridge first. The selected Bridge Design Team will submit a deliverable schedule for each bridge that incorporates all phases within the allotted duration of 26 months for both bridges combined. The selected Peer Reviewer will base his/her schedule on the schedule submitted by the Bridge Design Team and accepted by the City.

Phase 1 - Project Development and Environmental Process (PD&E)
 Phase 2 –Bridge Conceptual Engineering Report (BCER)
 Phase 3 –30% Plan Documents (for the selected design configuration)
 Phase 4 –60% Plan Documents
 Phase 5 - 90% Plan Documents
 Phase 6 –100% Bid Documents

SELECTION OF CONSULTANT:

The RFQ for Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek (CLMP148) will run concurrently with the RFQ associated with this scope of services (Peer Review -Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge project (CLMP149)). Consultants may submit statements of qualifications for both solicitations; but it is the City's intent that a firm will only be selected for one of the two solicitations. The recommendation of the Bridge Design Team for the Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek will occur first. The recommendation of a Peer Reviewer Team for the Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek will occur afterwards.

COST ESTIMATE:

The estimated total cost for professional services is \$400,000 and the estimated total construction cost for both bridges is \$15,200,000

1. Redbud Trail Bridge
 - a. Preliminary Engineering and Design Peer Review - \$258,000
 - b. Construction - \$12,000,000
2. Barton Springs Road Bridge
 - a. Preliminary Engineering and Design Peer Review - \$142,000
 - b. Construction - \$3,200,000

MAJOR AND OTHER SCOPES OF WORK:

Below is a list of the major scopes of work that the City has identified for this project. There must be representation for all major scopes of work listed in the prime's statement of qualifications. The experience of the firms listed to perform the Major Scopes of Work, whether a subconsultant or prime firm, will be evaluated under Consideration Item 6 – Major Scopes of Work – Comparable Project Experience. In addition, the City has identified Other Scopes of work that MAY materialize during the course of the project. The City does not guarantee that the scopes listed under Other Scopes of work will materialize on this contract. If the prime consultant intends to enter into a subconsulting agreement on a scope of work not listed below, the prime consultant is required to contact SMBR and request an updated availability list of certified firms in each of the scopes of work for which the prime consultant intends to utilize a subconsultant.

Major Scopes of Work

Structural Engineer
Civil Engineer

Other Scopes of Work

None identified

Notes:

- Any questions relating to this RFQ should be emailed to the authorized contact person no later than Friday, March 14, 2014.
- Participation at the prime or subconsultant level may create a conflict of interest and thus necessitate exclusion from any contracts resulting from the work performed in the design phase.
- If the City determines that a conflict of interest exists at the prime or subconsultant level, the City reserves the right to replace/remove the prime or instruct the prime consultant to remove the subconsultant with the conflict of interest and to instruct the prime consultant to seek a post-award change to the prime consultant's compliance plan as described in City Code § 2-9B-23. Such substitutions will be dealt with on a case-by-case basis and will be considered for approval by Small and Minority Business Resources (SMBR) in the usual

course of business. The City's decision to remove a prime or subconsultant because of a conflict of interest shall be final.

- Construction Inspection and Public Information and Communications are NOT a subconsultant opportunity. These services will be performed in-house or under a separate contract, if needed.