PROJECT FOR:

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

PROJECT TITLE:

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 Services Consultant to provide the design for the replacement of the Redbud Trail Bridge over Lady Bird Lake (Redbud Trail Bridge) and Barton Springs Road Bridge 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 the **Bridge Designer** within this scope of services or within the solicitation CLMP149 -Request for Qualifications for the Peer Review-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 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.

Bridge #1 – Redbud Trail Bridge over Lady Bird Lake

There has been a long history for this crossing over the Colorado River which 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 (City) 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 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 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 until the City 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 shall 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.

Bridge #2 – 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 area surrounded by the Barton Springs Road Bridge is very sensitive in several respects. It 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 Bridge Designer shall complete the two bridge designs. However, the Bridge Designer shall manage the projects completely separate for project and contract management reasons.

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.

Prior to the final design phase, the Bridge Designer shall work with the City to select a consensus bridge type and geometry. The bridge selection phase shall consist of meetings

with City stakeholders, including Public Works, Austin Transportation, Austin Water Utility, Watershed Protection, and Parks and Recreation. The Bridge Designer must work closely with the stakeholders for roadway transition design, landscaping, electrical design, and channel stabilization works. A design charrette is desired to formulate the aesthetic elements of the bridge. The conceptual design phase shall result in a Bridge Conceptual Engineering Report (BCER) that shall capture the type and style of bridge, key design elements, and shall form the basis of the design moving forward.

Reporting and Documentation Deliverables:

The Bridge Designer shall provide a Project Development and Environmental (PD&E) Study and Report, Bridge Conceptual Engineering Report (BCER), and intermediate and final design phases through complete Plans, Specifications, and Estimate (PS&E) documents. The initial contract will be for the BCER, and Design phase services will be negotiated and awarded by contract amendment after the PD&E and BCER phases are complete. Construction phase and Post-Construction phase services have been defined so that the team that is awarded the BCER and Design phase work is aware of the City's desired scope of services for the continuation of this project by that same team, subject to future funding and approval. The BCER shall capture the options and high level design elements and shall form the basis for moving forward with the final design. Final design is the detailed design work required to complete the plans, specifications, estimates, and all other documents required to bid and award the construction of the work.

The Design Team Requirements:

The Bridge Designer shall serve as the prime firm and design lead; and, shall have on staff experienced engineers and designers from a national bridge practice, project managers, project engineers, and engineering disciplines for the following roles: Project Manager and Project Professional. The Project Professional shall be a Senior bridge engineer that is registered as a structural engineer. These individuals must be employed by the prime firm. A National Bridge Practice is a firm that has done work throughout the continental US and is not limited to work in a single local or small regional area.

Other members of the design team shall include:
Bridge Architect – Experienced bridge architect with conceptual lighting expertise.
Urban/Landscape Architect – Experienced landscape architect and urban planner to tie the bridge design into the surrounding environment.
Electrical Engineer –Experienced electrical engineer for power supply and distribution design.
Civil Engineer – Roadway approaches.
Geotechnical Engineer
Environmental Engineer
Subsurface Utility Engineering Professional
Pipeline Engineer – Experience in water and wastewater design
Engineering Geologist – Experience in analysis and design of stable rock slopes

Survey

Content of Proposals

The Bridge Designer shall provide information that addresses and/or consist of the following concepts:

I. Approach and Project Understanding

1. Describe your general understanding of the project's issues, constraints and opportunities.
2. Describe your general approach to a phased construction of the bridge and approach roadways so that traffic is maintained throughout the project duration.

II. Aesthetics and Contextual Sensitivity

Provide a written description of the opportunities and constraints involved with the development of this major bridge project including connectivity considerations, community impacts, impacts on the adjacent properties, and overall character envisioned for the project. The staff is interested in the consultant's views concerning the design of the bridge and how this bridge can be not only functional, but elegant, attractive, and contextually appropriate through the design process.

Any bridge design must integrate three basic elements: efficiency, economy and elegance. Regardless of size and location, the quality of the structure, its aesthetic attributes and the resulting impact on its surroundings must be carefully considered. Achieving the desired results involves:

1. Full integration of the three basic elements listed previously.

2. The Bridge Designer's willingness to accept the challenge and opportunity presented. A successful bridge design will then be elegant or aesthetically pleasing in and of itself and will be compatible with the site by proper attention to forms, shapes and proportions. Attention to details is of primary importance in achieving a continuity of line and form. In general, the rule of "form flowing function" shall be used.

The Bridge Designer shall consider the totality of the structure as well as its individual components and the environment of its surroundings. A disregard for continuity or lack of attention to detail can negate the best intent. Formulas cannot be established; however the Transportation Research Board's (TRB's) **Bridge Aesthetics Around the World** as well as authors such as David P. Billington can guide the designer. A book developed by the Maryland Department of Transportation entitled **Aesthetic Bridges** provides excellent guidance. In bridge aesthetics the designer is dealing with the basic structure itself; not with enhancement, additions or other superficial touches. The Bridge Designer is expected to be well read on the subject of bridge aesthetics and committed to fulfilling both the structural and aesthetic needs of the site.

Aesthetics are a major role because the bridges on these projects are located in or adjacent to parks, recreational areas, or other major public gathering points. The Barton Springs Bridge is highly visible to large numbers of users, and the park itself is listed on the National Register of Historic Places.

The Bridge Conceptual Engineering Report shall include a summary of aesthetic considerations for the structure and the sites. The summary shall consist of sketches, drawings, etc., of recommended treatment as well as the options considered in the aesthetic study but not recommended as appropriate. It shall also include an estimate of cost to implement the recommended aesthetic treatment.

III. Risk Identification

1. Identify the major risks for the proposed Project.

2. Describe your project specific strategies for minimizing Project risks during the course of design on this project. Include ideas for mitigating major areas of risk identified above in item #1.

IV. Quality Management

Provide a synopsis of Proposer's Quality Assurance/Quality Control Plan.

Quality Plan - The Technical Proposal shall include a Quality Plan. The Quality Plan shall describe the designer's proposed quality assurance/quality control (QA/QC) program for the design Work, the QA/QC program for the construction Work, and how the design and construction activities performed by different entities will be coordinated to ensure consistency of quality. The Quality Plan shall be considered an interim document for the purpose of conveying the overall philosophy of the designer regarding QA/QC, and shall be expanded and/or amended prior to implementation on the Project.

The Initial Quality Plan shall include two, separate QA/QC organizational charts for the design Work and the construction Work, clearly defining to whom the QA/QC staff shall report within the designer's organization. The Proposer shall provide resumes for key QA/QC personnel.

To ensure quality design and construction, the narrative for the Initial Quality Plan shall describe the roles and responsibilities of key QA/QC personnel during each phase of the Project. The narrative shall also describe the inter-relationship and relative authority within the designer's organization of QA/QC staff and design and construction staff.

The purpose of the QA/QC procedure is to improve the quality of the structural designs and plans. The key element to the success of this process is effective communication between all parties. The goals of the QA/QC procedure are:

1. Designed structures that improve public safety and meet City requirements.

2. Designed structures which meet current structural engineering practices.
3. Designed structures that are aesthetically pleasing, constructible, durable, economical, inspectable, and require little maintenance.
4. Design contract documents that meet the City's needs, schedule, budget, and construction staging requirements.
5. Structural design costs are minimized.
6. An organized and indexed set of design calculations are produced. Design criteria and assumptions are included in the front after the index.
7. Plan quality is maximized.
8. The QA/QC procedure allows for change, innovation, and continuous improvement.

The intent of the QA/QC process is to facilitate plan production efficiency and cost-effectiveness while assuring the structural integrity of the design and maximizing the quality of the structural contract documents.

V. Sustainability

1. Describe your approach to integrating sustainable practices in designing past bridge projects including but not limited to: 1) deconstruction, 2) re-use of materials, 3) origin of materials, 4) types and costs of materials, (5) location of material manufacture, (6) use of high performance materials, (7) low life-cycle costs, (8) site work solutions, (9) rapid construction and prefabrication, and (10) low VOC paints and sealers. Please provide specific examples from past projects and any other that you would carry forward to this project.
2. Describe environmental stewardship efforts that your business has made within your own organization in the past three years, such as:
    - A written policy or plan that commits to operating in a sustainable manner;
    - Energy conservation measures;
    - Water conservation measures;
    - Waste reduction and recycling measures;
    - Plans for the reduction or management of fossil fuel usage for transportation.

VI. Portfolio

Although this project is within an urban boundary, it is in the setting of a major river, park facility, and naturally green area. Include a small portfolio of past bridge work on major urban bridge projects in a relatively natural setting, demonstrating a clear contextual sensitivity. Include a minimum of 3 projects.

Requirements for Design Review

The design process shall consist of milestone deliverables that include the following: Project Development and Environmental Study and Report; Bridge Conceptual Engineering Report;

30%, 60%, 90%, and 100% Plan Documents.

I. Bridge Conceptual Engineering Report

The Bridge Conceptual Engineering Report is intended to establish all the basic parameters that shall affect the work done in the Design and Plans preparation phase. It shall contain sufficient detail for the justification of the proposed bridge type. The 30% Structures Plans shall be included as an appendix with the Bridge Conceptual Engineering Report.

For alternate designs, consistency between the alternates is essential in ensuring equitable competition and optimum cost-effectiveness. This consistency includes uniformity of design criteria, material requirements and development of unit costs.

The Bridge Conceptual Engineering Report shall contain only supportable and defendable statements. Subjective opinions or unsubstantiated statements are not acceptable. All arguments must be clearly and logically defensible with calculations, sketches or other technical data.

The major items to be considered in the Bridge Conceptual Engineering Report are:

1) General: The bridge length, height and pier locations are subject to vertical and horizontal design clearance requirements such as those for clear zone and hydrology. After these considerations are met, span lengths are governed by economics and aesthetic considerations. Superstructure depths (grade separation structures in particular) shall be kept to the minimum that is consistent with good engineering practice. Recommended span/depth ratios for steel superstructures are shown in AASHTO.

   The length of the bridge will be affected by:

   a. Opening required by the Bridge Hydraulic Report.

   b. Environmental Considerations.

   c. Railroad clearances and cross sections.

   d. Width of waterway and/or width of cross section of roadway being spanned including the use of retaining walls, or fender systems.

2) Statical System: The economic and engineering advantages of both simple span and continuous spans shall be addressed.

3) Superstructure
4) Substructures
5) Foundations
6) Scour
7) Temporary Traffic Control: Show how traffic shall be maintained during construction for each of the bridge alternates considered. Assess the impacts of the traffic carried on the structures as well as under the structures being constructed. Consider all major overhead work items such as bridge demolition and girder placement. Show stability towers locations, phased construction sequences, girder splice locations, etc., for each alternate being considered. Compare traffic user impacts for each of the alternates.
8) Quantity estimates: Degree volume quantities must be calculated for demolition of the existing bridges.
9) Unit costs
10) Develop cost curves: for each alternative establish the most economical span arrangement, i.e., minimum combined superstructure and substructure cost.
11) Retaining Wall Study: If retaining walls are present, a retaining wall study shall be included in the Bridge Conceptual Engineering Report.
12) Bicycle and Pedestrian Facilities: The report shall describe the facilities to be provided and the means to be used to comply with ADA requirements and the City standards.
13) Detail how Water and Wastewater utilities shall remain in service during construction phase and how access to these utilities shall be maintained for maintenance.
14) Detail how access to the Ullrich Water Treatment Plant shall be maintained on Redbud Trail during the construction phase.

II. 30% Milestone and Engineer's Opinion of Probable Construction Costs

The 30% Structures Plans shall be submitted with the Bridge Conceptual Engineering Report. The 30% Design shall 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% Engineer's Opinion of Probable Construction Costs (EOPCC). The Phase 1 Geotechnical Report and the Hydraulic Report shall be included with the submittal containing the BCER. No specifications shall be included with this submittal.

The 30% Structures Plans shall show, as a minimum, the following information:

1) General Notes Sheet: As many general notes as possible shall be included on this sheet at this stage. Subsequent additions shall be made, when necessary, as the design progresses.

2) Plan and Elevation Sheet

3) Substructures: For end bents, piers or intermediate bents, show substructure elements and sizes including all deviations from the typical dimensions, foundation type including element spacing and the arrangement of piles or drilled shafts.

4) Superstructure: Include cross section showing lanes, shoulders, railings, slab thickness, beam type and spacing and web depth for steel girders. If applicable, show geometric changes in shapes of various components. Also show construction phases and maintenance of traffic data, outline of the existing structure and portions to be removed, and utilities (existing and proposed as available).

5) Retaining Walls: Preliminary control drawings shall be submitted when proprietary or standard cast-in-place walls are proposed. Include control drawings for all critical temporary walls.

6) Bridge Hydraulics Recommendation Sheet.

7) Report of core borings.

8) Proposed construction sequence and methods, indicate construction easements and methods of construction access.

9) Preliminary aesthetic details.

10) Preliminary post-tensioning layouts.

11) Preliminary foundation layouts and installation table.

12) Sidewalks: Show preliminary accessible elements.

13) Any other special details.

III. Bridge Plan Contents and Sheet Sequence

This suggested plan contents and sheet sequence was modified from the TXDOT PS&E Guidelines.

A. General

- Title Sheet
- Project Layout/Index
- Typical Section
- General Notes
- Estimate and Quantity
- Consolidated Summaries

B. Bridges

- Bridge Hydraulic Data Sheets - these data can be shown on plan sheets or may be included in a separate hydraulic report if deemed necessary or more appropriate.
- **Bridge Layout**
  - **Plan Layout**
    - Reference Line, Centerline, or Profile Grade Line (bearing and location)
    - Beginning and Ending Bridge Stations and Elevations
    - All Bent Stations and Bearings
    - Armor Joint type, Location, and Size of Seal (if used)
    - Width (overall, roadway, shoulders, etc.)
    - Approach Slab and Curb Returns
    - Direction of traffic and/or Stream Flow
    - North Arrow
    - Correct Plotting of Test Holes, Identification, and Location
    - Horizontal Clearances (as required, for structures, utilities, RR tracks, etc.)
    - Right-of-Way (if applicable)
    - Horizontal Curve Data (if applicable)
    - Cross slope and/or Super-elevation (if applicable)
    - Limits of Riprap, Block-out Around Column
    - Skew angle(s) of Structure and/or Bents
    - Railing Type (specify rail type and show nominal face of rail)
    - Beam Line Numbers (consistent with span details).
  - **Profile layout**
    - Overall Length of Structure
    - Lengths and Types of Units/Spans
    - Overall length, limits of payment, and Type of Railing (rail post spacing if required to clear slab joints)
    - Vertical Curve Data and Grade
    - Beginning and Ending Bridge Station and Elevation

- Fixed/Expansion Conditions at All Bents
- Minimum Calculated Vertical Clearances and Other Clearances as Required (structures, utilities, RR tracks, etc.)
- Existing and Proposed Ground Lines Clearly Marked
- High Water Elevation (if applicable)
- Grid Elevations and Stations
- Column Heights
- Number, Size, Length, and Type of Foundations
- Test Holes, Data, and Information
- Bent numbers must be circled
- Show Typical Transverse Section (overall roadway widths, shoulder width, sidewalks, cross slopes and railings)
- Clearance sign(s) and other signs attached to bridge
- Traffic signal detectors in bridge slab
- Permanent Structure Number (PSN)
- Limits and type of riprap
- Design Speed, Average Daily Traffic (ADT), and Functional Classification

o **Layout review considerations**

- Check layout against all structural details for compatibility to be sure that all features correspond.
- Check foundation against structural details and special foundations notes specified by the foundation engineer to be sure spread footings or number and direction of batter of piles are in agreement.
- Checker shall initial sheet after checking for the corrected details.

- Detailed Quantity Summary - detailed summary of the bid items for all bridges, also including PSN identification and bearing seat elevations. For an example of a detailed summary sheet, see TXDOT's Bridge Detailing Manual, latest edition.
- Structural Details - details for abutments, bents, framing plan, slab details, etc.
- Structural Standards - standards are for beams, deck details, expansion joint, rails, etc.

C. Retaining Wall Details

- Wall Layouts

- Retaining Wall Standards

D. Roadway Details

- Survey and Control Index Sheets
- Horizontal and Vertical Control Sheets
- Alignment Data Sheets
- Plan and Profile
- Intersection Details
- Driveway Details
- Miscellaneous Details
- Roadway and Paving Standards

E. Traffic Items

- Traffic Signal Layout
- Traffic Signal Standards
- Illumination - layouts of lighting pole, mounted luminaire, electrical service, and conduit run locations, etc.
- Illumination Standards
- Signing
- Signing Standards
- Pavement Markings
- Pavement Markings Standards

F. Drainage Details

- Drainage Area Map
- Hydrologic Data
- Hydraulic Calculations
- Plan and Profile
- Drainage Standards

G. Utilities

- Existing Water and Wastewater lines (Plan and Profiles) Layout
- Proposed Water and Wastewater lines (Plan and Profiles) Layout
- The existing 72-inch diameter Ullrich Tunnel (Plan and Profiles) Layout shall be shown on all diagrams/maps

- Other Utilities
- Utility Standards (for each utility type)

H. Traffic Control Plan

- Typical Section
- Phases Narrative
- Phase Layouts
- Detour Layout and Barricade Layout sheets
- Temporary Traffic Signals, Illumination
- Traffic Control Standards

I. Environmental Issues

- Storm Water Pollution Prevention Plans (SW3P)s
- Sensitive Areas
- Wetland Mitigation Plan - Projects that unavoidably disrupt waters of the United States which have been further determined to be wetlands shall require mitigation (replacement) of such wetlands. Approval of mitigation plans must be obtained from the Corps of Engineers such that the project can be authorized under a Section 404 permit
- Environmental Standards - erosion control standards (sediment control fence, construction exits, etc.).
- **Environmental Permits, Issues and Commitments (EPIC) Sheet** (example document is *TxDOT EPIC sheet*) - The EPIC sheet must list all environmental commitments, issues and conditional requirements affecting the contractor and their work on that specific project. The sheet can be supplemented by specific details shown on other plan sheets but the areas of concern shall be shown on the EPIC for the contractor's information. The sheet shall not be used to reiterate what is already shown in environmental permits for all projects. This sheet is specific to the project it is included in, and shall address areas the contractor shall be aware of. Include everything from conditional requirements from resource agencies to environmental commitments made to landowners and other entities (e.g. tree preservation) on the EPIC sheets.

J. Miscellaneous Items

- Aesthetic Treatments/Elements
- Aesthetics Standards
- Demolition & Removal Sheets
- Landscaping/Irrigation

IV. 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. Plan sheets required for this submittal include: Plan & Elevation, Bridge Hydraulics Recommendation Sheet, Boring Logs, Foundation layout, Substructure Plans, and draft technical specifications.

60% Substructure Submittal Contents:

1) Foundation Layouts
2) Foundation Installation Notes
3) Pile/Drilled Shaft Installation Table
4) Footing Concrete Outline (All Variations)
5) Pier Concrete Outline (All Variations)
6) Wall Plans – Control Drawings
7) Pile Details
8) Lateral Stability Analysis Completed
9) Phase II Geotechnical Report
10) Draft Technical Specifications
11) Reinforcement of Footing and Column
12) Post-Tensioning Details
13) Plan and Elevation Sheet
14) Bridge Hydraulics Recommendation Sheet
15) Boring Logs

At the 60% Structures Plans submittal, all comments from earlier reviews shall have been resolved. At this phase, the design shall be 90% complete and the plans, 60% complete. In addition to the documents required for the 60% Substructure Submittal, the 60% Structures Plans shall include the following details as applicable: final concrete outlines of all individual components, major reinforcing steel, final post-tensioning layouts, steel box/girder details, segmental concrete box details, bearing details, seismic details, details of congested areas, details of unique features, accessible pedestrian facilities details, accessible bicycle facilities details, and other details as required. Comment resolution at this stage shall be in conjunction with a design workshop.

V. 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 the 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, Addendums to Hydraulic Report, and if appropriate, Technical Special Provisions. No sheet or detail shall be missing at this state.

VI. 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 Bridge Designer shall provide a list of all changes made to the Plans and Specifications that were not directly related to the 90% Structures Plans review comments. The intent is to help minimize the City's Review time and to help the City focus on only those new items or details proposed by the Bridge Designer.

Once all changes/corrections are made, or if no changes/corrections are necessary, the Bridge Designer shall submit his work to the City. Submittal of this stage of the work shall include the original drawings, one record set of prints with each sheet sealed, sealed Technical Special Provisions (if required), and sealed Summary of Pay Items with estimated bridge quantities. Also include original documents in electronic format.

Scope of Design Work

I. Bridge Conceptual Engineering Report (BCER)

The Bridge Designer shall produce a Bridge Conceptual Engineering Report (BCER) summarizing the core values and decisions established for bridge type, alignment, and geometry; approach roadway geometry; aesthetic treatments; lighting; landscape architecture; urban planning; and parks improvements and connections from all charrettes, stakeholder meetings, and validated public input. The BCER must be reviewed and approved by the City before beginning the final bridge design phase.

The report shall use standard, letter-size pages with any larger sheets or drawings folded to fit the report size. The report shall be neatly written and the contents presented in a logical sequence with narrative, as required, explaining the section contents. An Executive Summary shall compare the relative features and costs of the alternates considered and recommend alternate(s) to be carried forward into the Final Structures Plans Preparation phase.

The Bridge Conceptual Engineering Report shall be as self-contained as possible by including all arguments that establish, justify, support, or prove the conclusions. It is

acceptable to make reference to other documents that will be included in the final submittal package; however, any documentation that shall help emphasize a point, support a statement, or clarify a conclusion shall be included. Such documentation may include drawings, clear and concise views, or other such illustrated information.

The Bridge Conceptual Engineering Report shall address construction time requirements and the effect the components, systems, site constraints and conditions, or other site characteristics or criteria have upon the construction time, where additive or deductive.

II. Bridge Design Phase

A. Key Bridge Design Elements

1) Final Bridge Layout
2) Final Typical Section
3) General Notes
4) Quantities
5) Finish Grade and Bearing Seat Elevations
6) Foundation Layout. The Bridge Designer will provide a bridge foundation design based on the recommendations of the geotechnical report and an assessment of the data presented in the report.
7) Drilled Shaft Details
8) Foundation Cap Design and Details
9) Coordination with the Geotechnical Engineering Consultant
10) Abutment Plan and Elevation
11) Abutment Details Bent Plan and Elevation
12) Thrust Block Plan and Elevation
13) Thrust Block Details
14) Steel – Framing Plan
15) Steel Box Girder – Cross-Sections
16) Steel Box Girder – Camber Details
17) Steel Box Girder – Details
18) Outrigger Design and Details
19) Cross-Frame – Details
20) Miscellaneous Superstructure Details (drains, lighting)

21) Miscellaneous Superstructure Details (Utility Corridor appurtenances)
22) Bridge Deck Plan
23) Bridge Deck Details
24) Suspension Hanger Details
25) Steel Arch Design and Details
26) Steel Arch Camber Details
27) Bearing Details
28) Expansion Joint Details
29) Drainage Details
30) Traffic Railing Details
31) Pedestrian Railing Details
32) Bridge Electrical and Power
33) Approach Slab Plan, Grading, Details
34) Sidewalk Plans/Details
35) Erection Sequencing
36) Supplemental Retaining Walls
37) Supplemental Retaining Wall Details
38) Compile, Verify, and Modify TxDOT Standard Drawings
39) QA/QC
40) Coordination with City's Consultants
41) Bridge Total Quantities and EOPCC
42) Bridge Special Provisions and Specifications
43) Dynamic Loading

B. Bridge Architecture

1) Design Refinements
2) Architectural Plans
   a. Bridge Elevation
   b. Plan View Including Approaches
   c. Typical Cross Sections
   d. Thrust Block Details
   e. Cable Anchor Architectural Detail

f. Pedestrian Railing Details

g. Paving Patterns

h. Soffit Details

i. Bridge Color Specifications

j. Abutment Elevations and Cross Sections

3) Lighting Design

a. Detailed Lighting Design

b. Updated Renderings Based on Final Design

c. Fixture Locations and Specifications

d. Fixture Details

4) Engineering / Landscape Architecture Coordination - Interdisciplinary Reviews

III. Urban Design Development

A. The initial concepts shall be combined with conceptual urban planning.

a. Provide conceptual landscaping and coordination.

b. Prepare renderings as needed.

IV. Opinion of Probable Cost

The Bridge Designer shall provide an Engineer's Opinion of Probable Construction Cost (EOPCC) for the selected concept design with the 30%, 60%, 90%, and Bid Set design deliverables. Each EOPCC shall be based on the information in that deliverable.

A. The Bridge Designer shall provide an Engineer's Opinion of Probable Construction Costs (EOPCC). City bid tabs shall be the primary source of unit prices and heavily weighted in the development of all EOPCC. The primary reason for this limitation is that construction costs received by the City often do not track well with other, lower, external prices such as the 3-month average low bids for TxDOT. Bridge related projects unit pricing for all available City projects within the last 12 years shall be provided for the Bridge Team's use. However, the following sources may still be utilized as applicable and appropriate, Texas Department of Transportation (TXDOT) Austin District Average Low Bid Unit Price and 3 Months Statewide Item Average, RS Means Cost Data, National Construction Estimator, Engineering News Record Construction Cost Index and national and/or local vendor/contractor pricing (where applicable).

B. The following are tasks that shall be performed as part of the EOPCC effort:

a. Develop or identify a template for the cost estimate and provide to design team.

b. Obtain and coordinate with design team the work/bid item descriptions and quantities for cost estimate.

c. Verify work/bid items to be actual pay items per the City Standard Specifications.

d. Perform cost analysis, including verification of costs and applicability of bid items, when information has been provided by the design team.

C. Each of the EOPCC deliverables shall be delivered in an Excel spreadsheet format.

V. Approach Roadway Reconstruction Design

VI. Electrical Engineering

1) Conduit Plans / Wiring Diagrams / Details
2) Notes
3) Controller Panel / Cabinet / Schedules
4) Details
5) Interdisciplinary Reviews

VII. Utility Engineering

1) Water and Wastewater Engineering – Consultant shall have extensive experience in water and wastewater design in soil conditions consistent with the sites being discussed. The consultant shall have experience in designs that keep existing utilities in service and in analyzing improvements to existing water and wastewater lines capacities.
2) Coordination with utility owners
3) Bridge hangars/attachments/structural supports/thrust and expansion controls
4) Abutment/penetration details

VIII. Project Coordination

1) Survey/Subsurface Utility Engineering (SUE) Coordination – The survey and SUE are being conducted by subconsultants to the Primary Bridge Consultant.
2) Borings / Geotechnical – The borings and the geotechnical evaluation are being conducted by subconsultants under contract to the Bridge Designer. The geotechnical engineer shall submit a report interpreting the borings and other soils information and give guidance regarding a preferred foundation type. The Bridge Designer shall submit preliminary design loads for anticipated controlling cases to the geotechnical engineer. These shall be used by the geotechnical engineer during the development of the geotechnical engineering report and recommendations. All preliminary

design assumptions and recommendations made to the structural engineer and geotechnical engineer shall be confirmed during the final design stage and with a reissuance of the geotechnical report. The Bridge Designer shall coordinate with the geotechnical engineer to verify that the required design parameters are taken into account.

3) Hydrologic and Hydraulic (H&H) / Scour – The Bridge Designer shall provide consulting/input into scour protection to be designed by subconsultants under contract to the Bridge Designer. The Bridge Designer shall provide peer and QA/QC review of the hydraulic model and documentation slated for submittal to Federal Emergency Management Agency (FEMA) for Letter of Map Revision purposes.

4) Site Development Permitting, Parks Department, Lower Colorado River Authority (LCRA), and Balcones Canyonland Conservation Plan (BCCP) Permit - The Bridge Designer shall submit site development documents and develop site plan applications. The Bridge Designer shall develop presentation materials for the Parks Chapter 26 process, as well as develop the environmental clearances required for site development permitting.

5) Civil – These design activities shall be conducted by the Bridge Designer and shall be coordinated so that the bridge approach ties in with the adjoining roads.

   a. Bridge Designer shall provide a typical section consistent with the approach roadways.

   b. Bridge Designer shall provide a drainage design to carry storm water off of the bridge.

6) Subcontract Preparation

   a. Subconsultants shall be under contract to the Bridge Designer, and the Bridge Designer shall prepare subcontracts.

7) Contract/Subcontract Management

   a. Monthly contract and subcontract management.

8) Invoice Preparation and Review

   a. Bridge Designer shall prepare and review monthly invoices internal to The Bridge Design Team.

9) Bi-Weekly or Monthly Project Meetings as appropriate per design phase, approximately (40)

   a. The City anticipates bi-weekly Design Team meetings that will include the City and the Bridge Designer design team. Design team members that are out of town shall join via conference call as needed.

10) Bi-Weekly or Monthly Bridge Design Team Design Team Meetings as appropriate per design phase, approximately (40)

    a. Bridge Designer shall hold internal design team meetings on a bi-weekly basis. Design team members that are out of town shall join via conference call.

11) Monthly review of the project schedule.

12) Project Design Coordination Workshops (6)

    a. One day kick-off workshop (2).

    b. Select structure type and Specific Design Elements (2)

    c. 60% design coordination workshop for comment resolution (2).

IX. Parks and Recreation Mitigation & Connection Planning

The Barton Springs Road Bridge over Barton Creek is immediately over Parks facilities, including pedestrian and bicycle trails, and the Parks railroad. The new structure will need to accommodate access to these facilities similar to the existing structure, as well as accommodate bicycle and pedestrian facilities on the deck. The Redbud Trail Bridge over Lady Bird Lake shall accommodate bicycles and pedestrians on the bridge deck.

X. Mandatory Standards

The following is a list of Mandatory Standards that shall be followed for all design and construction activities. They are listed in hierarchical order, with the most important appearing at the top of the list. This is not a comprehensive list; other applicable standards may be required to complete the design and construction. If the Design Team becomes aware of any ambiguities or conflicts relating in any way to the Mandatory Standards, notify the City immediately, so that the City's Project Manager may resolve them. If a publication date is shown, that version of the publication shall be used for this Project. If no date is shown, the current version of the publication (including the supplemental interim revisions) as of the RFQ publication date shall be used.

- AASHTO Standard Specifications for Highway Bridges, 17th Edition, 2002.
- AASHTO Guide Specifications for LRFD Seismic Bridge Design.
- AASHTO LRFD Bridge Design Specifications.
- AASHTO Guide Design Specifications for Bridge Temporary Works.
- AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges.
- AASHTO LRFD Bridge Construction Specifications.
- AASHTO Guide Specifications for Design and Construction of Segmental Concrete Bridges

- AASHTO Guide Specifications for Thermal Effects on Concrete Bridge Superstructures
- AASHTO Guide for the Development of Bicycle Facilities
- AASHTO Guide Specification for Highway Bridge Fabrication with HPS70W (HPS 485W) Steel
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.
- AASHTO Guide Specifications for Structural Design of Sound Barriers.
- City of Austin Transportation Criteria Manual (TCM) Bridge Minimum Standards
- City of Austin Transportation Criteria Manual (TCM) Railing Minimum Standards
- TXDOT Bridge Design Manual (BDM)
- TXDOT Plans Specifications & Estimates Manual (PS&E)
- IBC 2012 International Building Code (except where amended by municipal statute)
- Bridge Welding Code: ANSI/AASHTO/AWS D1.5M/D1.5 : 2008
- Structural Welding Code – Reinforcing Steel: AWS D1.4/D1.4M
- Structural Welding Code: ANSI/AWS D1.1/D1.1M
- HEC-RAS
- HEC 18 “Evaluating Scour at Bridges”
- HEC 23 “Bridge Scour and Stream Instability Countermeasures”
- ACI Building Code Requirements for Structural Concrete (ACI 318-11) and Commentary
- ACI Mass Concrete 207
- ASTM American Society of Testing Materials
- AISC Steel Construction Manual
- SSPC Society of Protective Coatings
- City of Austin Utilities Criteria Manual
- City of Austin, Texas Standards
- City of Austin, Texas Standard Specifications
- City of Austin Disinfection Plan
- City of Austin Standard Products List
- American Water Works Association

XI. Functionality

The Designer shall design all bridges and structures as necessary so when constructed they provide a complete, functional roadway system.

XII. Design Life and Design for Durability

The Bridge Designer shall design a permanent bridge and structures to achieve the required Design Life as stated herein. The Bridge Designer must consider the effects of aging, deterioration, and corrosion, either by their selection of materials with reduced corrosion potential, by selecting materials and details which resist degradation, or by other means acceptable to the City. The service life of the primary structure and its components shall be one hundred (100) years except as outlined in the following tables.

Project shall include an Operations and Maintenance Manual if there are any special needs based on the selection of an atypical structural type or its components. The maintenance regime included with the Operations and Maintenance Manual must provide for achieving the designated service life.

Minimum Service Life for Non-Replaceable Components

Non-Replaceable Components	Minimum Service Life (years)
Towers, piles, pile caps, piers, pier caps, deck and superstructure	100

Minimum Service Life for Replaceable Components

Replaceable Components	Minimum Service Life (years)
Stay cables and tie-down cables	60
External post-tensioning cables	60
Bridge bearings	50
Expansion joints	30
Concrete bridge and approach barrier	60
Bridge rail / approach guide rail	30
Dampers (cylinder)	50
Dampers (other movable parts)	30
Separate bridge deck wearing surface	30
Overhead sign structures	40
Drainage system	75
Access (towers and piers): Internal access ladders, Platforms etc. (galvanized and coated)	60
Inspection: stay-cable and arch hanger gantry	60

Inspection: under-deck and arch travelers	60
Stay cable dampers	40
Dehumidification system	30
Coating system for structural steel	20
Access: electrical and mechanical parts	30
Other proposed components	As negotiated

XIII. Roadway Requirements

The recommended minimum bridge vertical under-clearance is 24.0 feet. A minimum of 20.0 feet may be allowed with serious constraints and a justification submitted to and approved by Street & Bridge Operations. The absolute minimum required vertical under-clearance at all times during construction is 16.5 feet for all new bridges over roadways and driveways.

XIV. Bridge Inspection and Maintenance Access

The Bridge Designer shall design and detail all bridge superstructures, joints and bearings to be accessible for inspection and maintenance, and to allow for replacement of joints and bearings. All bearing locations shall be designed with jacking points and adequate clearances to facilitate future bearing replacement. Jacking points shall be designed to support two-hundred (200) percent of the calculated lifting load.

Girder-type superstructures (exterior face and between girders) and exterior surfaces of box girders shall be accessible by a ladder or a “snooper” (under-bridge inspection) truck.

All box girders with an inside depth of four feet or more shall be accessible for interior inspection during and after construction. Access doors shall be lockable, shall swing into the box girders, and shall be placed at locations that do not impact traffic. Lock box latches shall be installed on all access doors accessible from ground level. Box girders containing any drainage facilities, traffic control facilities, electrical facilities or utilities shall be accessible for interior inspection and maintenance.

Bridge design shall consider the following:

1. Interior of steel box girders requiring interior access shall be painted white or a light color to facilitate visibility and inspection and shall provide inspection lighting and electrical power. Lighting fixtures, light switches and duplex receptacles shall be located inside the steel box girders to facilitate routine girder inspections.
2. Girder penetrations greater than one inch in diameter through the exterior shall be designed with wire mesh screen to prevent vermin and birds from accessing the interior of the box girders.
3. Constructor must strip and remove all falsework and formwork from bridges, including the interior of box girder cells.

4. Design must accommodate appropriate features for ventilation and humidity control for any interior spaces created.
5. Adequate access must be provided for utility service and replacement for any utilities contained within the structure, utility chases, or conduits attached to the structure.

XV. Construction Phase Services Scope of Work

City of Austin Construction Inspection Division (CID) will provide the daily inspection services for this project. The Bridge Designer shall work closely with City Staff to provide the following:

1. The Bridge Designer shall not be involved in the contractor selection process.
2. The Bridge Designer shall attend the preconstruction conference.
3. The Bridge Designer shall provide site visits to the site two times per week to observe the progress and general conformance to the plans and specifications. The Bridge Designer shall be responsible for completing and complying with the "Statement of Special Inspections per IBC 2012 Chapter 17." The City will be responsible for routine materials testing and certifications either through CID or the sub-consultant.
4. The Bridge Designer Bridge Engineer shall visit the site for key inspections depending on structure type selected.
5. The Bridge Designer Bridge Architect shall visit the site as needed depending on aesthetic details and design.
6. Bridge Designer shall only attend the weekly contractor progress meetings on an as-needed basis.

XVI. Post-Construction Phase Services Scope of Work

City's CID will provide the daily inspection services for this project. The Bridge Designer shall work together with City Staff to provide the following:

1. Bridge Designer shall provide Record Documents based on site visit observations and the contractor's markups. The contractor shall keep the record drawings up-to-date and the Bridge Designer shall seal the Record Documents if a seal is required.
2. Bridge Designer shall attend a one-year warranty walkthrough no less than thirty (30) days before the one-year anniversary of substantial completion.
3. The Bridge Designer shall produce a Maintenance Manual to be used as a roadmap for later inspection and maintenance.

Assumptions and Miscellaneous Requirements

1. Bridge Designer shall develop design of bridge and approaches within the right-of-way (ROW) identified.
2. The City will issue a separate Request for Qualifications for the Peer Review of Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek Contract project. The bridge designer selected for the bridge design shall be expected to work cooperatively and collaborate with the selected peer reviewer. The peer reviewer shall review all project deliverable phase documents from the bridge designer and may request items not specifically called out in the bridge designer RFQ.
3. Ingress and Egress to the Ullrich Water Treatment Plant shall be maintained along Redbud Trail throughout the entirety of the construction phase.
4. Existing water and wastewater lines shall remain in service throughout the entirety of the construction phase.
5. Borings and geotechnical/soils borings, laboratory analysis, related design information and recommendations, needed to support bridge foundation and wall design shall be conducted by the Bridge Designer's geotechnical consultant. The Bridge Designer's geotechnical engineer shall provide the Bridge Designer with design inputs required for the foundation and wall structural designs.
6. Surveying/Subsurface Utility Engineer (SUE) to provide required bridge design information and record of actual utility information shall be conducted by the Bridge Designer's subconsultant.
7. The Bridge Designer shall take the lead in City Site Development Permitting, including Chapter 26 Parks process, and any other permitting necessary to build the project. This will include supplying any required reports/investigations associated with environmental, tree protection, natural resources, historical/archeological, etc., and developing presentations and presenting before City of Austin Boards and Commissions.
8. There is no reason to believe there are contamination issues, such that the site is clear and there is no need to perform investigations.
9. The Bridge Designer shall provide the Environmental Report.
10. The Bridge Designer shall develop the following: a) horizontal and vertical alignments for the bridge; b) Erosion/Sediment/Tree Protection and SWPPP; c) civil site, drainage, and demolition drawings; d) Traffic/ Traffic Control Plan (TCP)/Right-of-way Management (ROWMAN)/signalization approvals; and e) striping/signage plans.
11. Permitting fees shall be reimbursable by the City.
12. For Utility Coordination, the Bridge Designer shall:
    a. Develop drawings and attend Austin Utility Location and Coordination Committee (AULCC) meetings.
    b. Coordinate and obtain drawings from utility providers.

c. Provide inclusive utility information onto a drawing for utility locations to be used in the bridge design.

d. Collect existing utility data.

e. Identify utility providers utilizing the bridge crossing. Collect proposed utility data that could impact bridge design, including the size, type, materials, and space requirements for the crossing.

f. Meet and coordinate with the utility companies for the proposed bridge utility requirements, utility accommodations, and design requirements.

g. Identify procedures for design and coordination of the bridge utilities to include the tie-in from bridge to approach and the tie-in from approach to utilities design endpoint. The origination and destination locations for all utilities shall be coordinated with the bridge structural system.

h. Coordinate proposed utility use and crossings with AULCC.

i. Prepare exhibits in MicroStation for existing utilities and proposed/future utilities.

j. Obtain clearances from AULCC for permitting.

13. Bridge Designer shall provide monthly review of Contractor schedules.

14. Bridge construction duration shall be approximately one year. The expected project duration is eighteen (18) months including mobilization and de-mobilization.

15. The portions of the Site Development Permit application related to the bridge structure shall include, but not be limited to the following:

    a. Bridge general plan/profile/elevations;

    b. Plans showing surface water drainage and storm drains;

    c. Any drawings showing conveyance of stormwater;

    d. Drawings showing bank stabilization/restoration;

    e. Geotechnical Report;

    f. Retaining walls/abutments;

    g. Planting/landscaping/vegetation; and

    h. Abutments, foundations, and similar drawings that identify structures/ improvements in contact with or impacting soil (and show in relation to floodplain).

16. The Contractor shall be responsible for the design of Temporary Works. The Bridge Designer shall review Temporary Works to ensure they conform to the Contract Documents and produce no detrimental effects to the Permanent Works.

SELECTION OF CONSULTANT

The Request for Qualifications for the Peer Review of Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek (CLMP149) will run concurrently with the RFQ associated with this scope of services (Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge project (CLMP148)). 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 firm for the Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek will occur first. The recommendation of a firm for the Peer Review - Redbud Trail Bridge over Lady Bird Lake and Barton Springs Road Bridge over Barton Creek will occur afterwards.

PROPOSED SCHEDULE:

Anticipated duration for both bridges, Phases 1-6 combined, is 26 months. Selected Consultant (Bridge Designer) shall begin work on the Redbud Trail Bridge first. The selected Bridge designer shall submit a deliverable schedule for each bridge that incorporates all phases within the allotted duration of 26 months for both bridges combined.

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

COST ESTIMATE:

The estimated total cost for professional services is $3,650,000 and the estimated total construction cost is $15,200,000.

Red Bud Trail Bridge

1. Preliminary Engineering and Design - $2,496,000
2. Construction - $12,480,000

Barton Springs Road Bridge

1. Preliminary Engineering and Design - $835,000
2. Construction - $3,360,000

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
Architect
Civil Engineer
Geotechnical Engineer
Environmental Engineer
Utility (pipeline) Engineer
Engineer Geologist
Urban/Landscape Architect
Electrical Engineer
Land Surveyor

Other Scopes of Work

Subsurface Utility Engineering Services

Notes:

- **Deadlines for questions** - 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 on this rotation list. These services will be preformed in-house or under a separate contract, if needed, and will be determined when project assignment is made.