



July 17, 2023

Jeffrey Carroll, P.E.
Director of Development Services
City of Boerne
jcarroll@boerne-tx.gov
830-248-1638

Subject: Old San Antonio Road & Menger Creek Low Water Crossing Amendment No. 2

Mr. Carroll:

As requested, Halff (Design Team) submits herewith, Amendment No. 2 to the Original scope and fee for this Project to the City of Boerne (City), which includes required additional work outlined to cover additions to scope with providing unflooded access along Old San Antonio Road through the Menger Creek Crossing and through the Herff Road Intersection. Services include supplemental surveying services, stream and wetland mitigation design, additional water, sewer, drainage utility design, additional Right-of-Way & easement acquisition, architectural assessment, and additional construction phase services for the project.

PROJECT SUMMARY

As Boerne continues to grow, the leadership of the City recognizes roadway improvements within the City, and its jurisdiction will be needed to establish safer roadways for the City. As such, the City wishes to remove the low water crossing at Menger Creek and Old San Antonio Road and replace it with a bridge structure that will allow for 100-year access through this road, hereinafter called amendment. This amendment is for additional Right-of-Way & easement acquisition, additional surveying services, stream and wetland mitigation design, and additional water, sewer, drainage utility design, architectural assessment, and additional construction phase services for the project associated with the Old San Antonio Road and Menger Creek bridge structure and improvements to Herff Road at the Old San Antonio Road intersection. Amendment No. 2 is an amendment to the approved contract (City Council meeting dated July 26, 2022).

Project Assumptions

The scope of services for this amendment was prepared using the following assumptions as a basis for its preparation:

- a. The design team received comments from the client throughout the plan development phases.

Scope of Basic Services

The Basic Supplemental Services to be provided by the Design Team are defined as follows:

TASK 1: Project Management, Survey and Data Collection

The following scope of work will be added to the original approved contract under Task 3. After the development of the 30% schematic design & during the 60% design plans, the client added additional utility design that will require additional project management coordination, survey and data collection at outline below.

- a. **Project Management Coordination** – Additional meetings and project coordination during the development of the 30% schematic design & 60% design plans were encountered to address design constraints and changes in scope. This scope of work will only increase the effort and therefore fee to cover the additional meetings and project coordination.



- b. **Survey and Data Collection** – Additional survey and data collection will be required to cover the additional design outlined in Tasks 3 & 4 below to complete the design. Additionally, due to the increase in Right-of-Way & Easement Acquisition under task 8 outlined below, additional boundary field work will be required to complete the five (5) additional Acquisitions.

TASKS 3 & 4: Design Development Plan Preparation (60%) Construction Document Plan Preparation (90% & 100%) Additional Scope

The following scope of work will be added to the original approved contract under Tasks 3 & 4. After the development of the 30% schematic design & during the 60% design plans, the client added additional design as outlined below.

- a. **Old San Antonio Sewer Line South** - To address the city's future sewer capital improvement project requirements, the limits of the sewer line to be removed and/or replaced and oversized for future developments were increased along Old San Antonio Road south of the Menger Creek crossing after the development of the 30% schematic design. The size of the sewer line was required to be revised after the development of the 60% plans to address ongoing changes in the city's future sewer commitments in the region. The proposed sewer alignment and design in the 60% plans will need to be reviewed to verify if the changes in pipe size will work when developing in the 90% and final plans.
- b. **Barbaras Way Sewer Line** - The size of the sewer line was required to be revised after the development of the 60% plans to address ongoing changes in the city's future sewer commitments in the region. The proposed sewer alignment and design in the 60% plans will need to be reviewed to verify if the changes in pipe size will work when developing the 90% and final plans.
- c. **Menger Creek Sewer Line** – When developing the 60% plans, the limits of the sewer line to be removed and relocated increased upstream of the existing Old San Antonio low water crossing to accommodate the channel grading design. The development of 90% and final plans will need to be reviewed to verify that sewer line design will work to accommodate the potential for the wetland design and/or full bank channel design.
- d. **South Old San Antonio Storm Sewer System** - The channel design was converted to a closed storm sewer system after the 30% schematic design and extended along Old San Antonio Road south of the Herff intersection to the southernmost limits of the project to address issues with future maintenance on a concrete channel and provide future capacity for widening Old San Antonio beyond the project limits.
- e. **North Old San Antonio Storm Sewer System** – The channel design was converted to a closed storm sewer system after the 60% design plans and extended along Old San Antonio Road north of the Herff intersection to the northernmost limits of the project to address issues with future maintenance at the request of the city. The development of the 90% and final plans will need to be re-designed to incorporate the closed storm sewer system.
- f. **Herff Road Water Line** – When developing the 30% schematic plans additional water line was added to the project to address the city's future water needs along Herff road for the 60% plans. The development of the 90% and final plans will need to be re-designed to incorporate the water line.
- g. **North Old San Antonio Water Line** – Due to the changes from a channel design to a closed storm sewer system at the 60% plans the water line along old San Antonio Road north of the Herff intersection will require modifications to accommodate storm inlet laterals and the storm sewer system. The development of the 90% and final plans will need to be re-designed to incorporate the water line.

- h. **Removal of Barbaras Roadway and 60% Plans** - When developing the 60% plans Barbaras Road tie into Old San Antonio Road was removed to address safety concerns and H&H modeling constraints. The finalization of the 60% plans incorporated a revised roadway plans and updated H&H modeling reflecting the changes.
- i. **Preliminary Channel Grading & Additional H&H Modeling** – When developing the 60% plans, significant channel grading was encountered due to the rapid change in topography adjacent to the proposed bridge crossing. It was anticipated that the project wouldn't require channel grading due to the selection of the bridge length that was intended to span the channel. To mitigate rises in the channel and accommodate the project parameters, several different channel grading options were required and incorporated into the development of the 60% plans.
- j. **Wetland Design for 60%, 90% and Final Plans**
 - a. **Site Visit**

Halff will conduct a field reconnaissance within the project area to obtain existing channel morphology, stream profile, thalweg, degradation/aggradation along the channel, channel cross section at key locations, terrace locations, etc. The data will also include photos, channel sketches, notes and other detail information to define the existing channel upstream and downstream to determine the appropriate profile for design. No additional field survey will be collected.
 - b. **Bankfull Determination**

Halff will use Regional Curves and site visit information staff to determine bankfull sizing of Menger Creek. At the time of writing, we are aware of the San Antonio River Authority's regional assessment of bankfull size in the area. The determination of bankfull will guide the creek profile, location of storm drain outfalls and floodplain overbank elevations. Halff will also evaluate USGS Regional Regression equations as a method to establish bankfull flow for the project site.

Deliverables:

 - i. Detailed H&H modeling of proposed bankfull conditions
 - ii. Stream restoration and wetland mitigation analysis.
 - c. **Design Services**

Halff will develop additional plans, specifications, and estimate (PS&E) to be incorporated into overall project construction documents for use in bidding and constructing the project by City staff.
 - d. **60% Design Submittal**

Stream Restoration and Floodplain Preliminary Grading Plan & Profile – Provide the preliminary grading plan for the expanded floodplain areas and stream along with the vertical profile showing the stream restoration design.

 - i. Preliminary Stream Restoration Plan, Profile and Cross-sections
 - ii. Streambank Stabilization layout
 - iii. Outfall energy dissipation calculations and grading to be included in stream restoration design.
 - e. **90% and Final Design Submittal**



Upon City's formal approval of the 60% Design Submittal, Halff will proceed with 90% & Final Design Submittals. The final specifications and a finalized probable construction cost estimate of the Final design submittal will be provided along with the plans which may include:

- i. Stream Restoration Plan detailed grading
- ii. Stream profile, location of grade control features
- iii. Streambank stabilization layout
- iv. Typical Cross Sections
- v. Details
- vi. Wetland mitigation design

Deliverables:

- i. 90% plans and opinion of probable construction cost.
- ii. Final plans, specification, and opinion of probable construction cost.

TASK 6: Construction Phase Services Additional Scope

The following scope of work will be added to the original approved contract under Task 6. After developing the 60% Development Plans and with additional required scope included in this amendment, the design team anticipates construction taking two years. Under the approved contract, one year was negotiated; therefore, the design team is adjusting the initially approved budget amount to cover the additional time and effort for the scope of work outlined under Task 6 of the original contract. This scope of work will only increase the fee since the additional elements will cause the construction to take longer.

TASK 7: Environmental Services Additional Scope

The following scope of work will be added to the original approved contract under Task 7. When processing of the environmental scope work Halff is currently under contract to deliver it was indicated that an Architectural Assessment would be needed to comply with the Antiquities Code of Texas and Section 106 of the National Historic Preservation Act. Below is a scope of services for the additional Architectural Assessment.

Halff will conduct an architectural assessment of the historic-age properties within and adjacent to the proposed project area described as the project. For purposes of this proposed architectural resources eligibility recommendation and assessment of direct and indirect effects, the architectural assessment area (or Area of Potential Effect – APE) is assumed to be the project area and parcels (including the district boundaries of the Herff-Rozelle Farm National Register of Historic Places (NRHP) listed district adjacent to the project area, be included in the proposed project scope.

a. Archival Research and Agency Coordination

- i. Perform basic archival research at the Texas Historical Commission (THC), the General Land Office (GLO), the National Park Service's (NPS) online National Register Information System (NRIS), and/or other relevant archives for information on previous cultural resources investigations conducted in the vicinity of the project area and historic properties within and in the vicinity of the project area. Desktop archival studies will examine a 1.0-mile radius surrounding the project area.
- ii. Review the abovementioned archives; historical, topographic, Central Appraisal District data and aerial photographs prior to initiating fieldwork to evaluate the potential for encountering historic-age (defined 45 years or older) within the APE.

b. Architectural Survey Fieldwork

- i. In lieu of conduction fieldwork, the architectural historian will use photographs and any available documentation provided by Halff to prepare descriptions and assessments of all resources within



the project APE (described as all historic-age resources within the project area and adjacent parcels to the project area).

c. Technical Report

- i. Assess the significance of any historic-age (those 45-years or older) cultural resources within the APE in terms of their potential eligibility for inclusion in the National Register of Historic Places and/or for designation as State Antiquities Landmarks, as appropriate.
- ii. Develop a draft technical letter report detailing the project background and cultural setting of the project area, description of the historic-age resources, recommendations for historic-age resources documented during the survey and a bibliography of references cited suitable for review by the THC and any other applicable regulatory agencies.
- iii. Submit a draft letter report describing the results of the survey to the client for review. Following approval of the draft report by the city, the design team will address comments and prepare a final report.
- iv. Respond to comments on the draft report offered by the THC and any other applicable regulatory agencies and produce a final report.
- v. Submit the final report to City, and/or the U.S. Army Corps of Engineers and THC.

TASK 8: Right-of-Way & Easement Acquisition Additional Scope

The following scope of work will be added to the original approved contract under Task 8. After the development of the 60% Plans, additional parcels were identified that would need Right-of-Way & Easement Acquisition to deliver the project and accommodate the change in scope of work noted in this amendment. The original scope of work included only six (6) parcels, and yet eleven (11) parcels were identified after developing the 60% plans. This scope of work will follow the original scope of work and will only increase the fee to cover the additional five (5) parcels identified after the 60% plans.



Exclusions

Our proposal excludes the following services:

- Evaluation of the development of recommendations for infrastructure not associated with the proposed project
- No Foundation/Structural design is included for the power poles. Should Foundation/Structural design for the power poles be needed a separate proposal would be prepared and submitted.
- Creation of design standards or details
- Additional site visits except as noted herein
- Meetings or presentations not specified herein; additional meetings will require an additional fee
- Full-time construction inspection
- Quality control and material testing services during construction
- Design of telephone, or other utility improvements except as noted herein
- Construction staking except as noted herein
- City or County permit and review fees and taxes
- Revisions to plans requested by the Owner after the plans are approved
- Permit fees, filing fees, pro-rated fees, impact fees, and taxes
- Design of off-site facilities except as noted herein
- SW3P Plan or Report / Narrative
- This proposal does not include any other agency coordination or consultation services beyond what is explicitly stated.
- This proposal does not include any additional studies or deliverables beyond those already outlined. Should additional studies and deliverables be required, a separate proposal would be prepared and submitted.
- The fees associated with these scopes of work are valid for three months from the date of the proposal.



Fee

Below is a summary of the lump-sum fee for professional services by task:

**Old San Antonio Road Improvements City of Boerne
Level of Effort - Fee Estimate
Design, Bid, and Construction Phase Services
AMENDMENT NO. 2**

SUMMARY OF FEE BY TASK

TASK 1:	PROJECT MANAGEMENT, SURVEYING, DATA COLLECTION, AND DESIGN ANALYSIS	Original Contract	Amendment No 2	Original Contract & Amend. No. 1 & 2
	Project Administration	\$ 63,700	\$ 13,000	\$ 76,700
	Surveying	\$ 31,100	\$ 24,900	\$ 56,000
	PROJECT MANAGEMENT, SURVEYING, DATA COLLECTION, AND DESIGN ANALYSIS SUBTOTAL	\$ 94,800	\$ 37,900	\$ 132,700
TASK 2:	<u>SCHEMATIC DESIGN PLAN PREPARATION (30%)</u>			
	Engineering			
	Roadway	\$ 49,100		
	Bridge	\$ 28,400		
	Utility Coordination	\$ 10,300		
	Utility Design	\$ 23,200		
	H&H Analysis/Drainage	\$ 31,300		
	SCHEMATIC DESIGN PLAN PREPARATION (30%) SUBTOTAL	\$ 142,300	No change	No change
TASK 3:	<u>DESIGN DEVELOPMENT PLAN PREPARATION (60%)</u>			
	Engineering			
	Roadway	\$ 66,500	\$ 4,500	\$ 71,000
	Bridge	\$ 44,100		
	Utility Coordination	\$ 19,877		
	Utility Design	\$ 27,500	\$ 21,500	\$ 49,000
	H&H Analysis/Drainage	\$ 43,700		
	Traffic Control	\$ 10,600		
	Channel Grading (Amendment No. 2)		\$ 15,000	\$ 15,000
	DESIGN DEVELOPMENT PLAN PREPARATION (60%) SUBTOTAL	\$ 212,277	\$ 41,000	\$ 253,277
TASK 4:	<u>CONSTRUCTION DOCUMENTS PLAN PREPARATION (90% & 100%)</u>			
	Engineering			
	Roadway	\$ 70,100		
	Bridge	\$ 21,100		
	Utility Coordination	\$ 9,500		
	Utility Design	\$ 35,500	\$ 24,000	\$ 59,500
	H&H Analysis/Drainage	\$ 25,700		
	Traffic Control	\$ 6,800		
	Wetland Design (Amendment No. 2)		\$ 30,300	\$ 30,300
	CONSTRUCTION DOCUMENTS PLAN PREPARATION (90% & 100%)	\$ 168,700	\$ 54,300	\$ 223,000
TASK 5:	<u>BID PHASE SERVICES</u>			
		\$ 22,170		
	BID PHASE SERVICES SUBTOTAL	\$ 22,170	No change	No change
TASK 6:	<u>CONSTRUCTION PHASE SERVICES</u>			
		\$ 82,615	\$ 57,600	\$ 140,215
	CONSTRUCTION PHASE SERVICES SUBTOTAL	\$ 82,615	\$ 57,600	\$ 140,215
TASK 7:	<u>ENVIRONMENTAL SERVICES</u>			
	Section 404 of the Clean Water Act Compliance	\$ 15,455		
	Threatened & Endangered Species Habitat Assessment	\$ 5,478		
	Geologic Assessment (LGRPZ Compliance)	\$ 11,132		
	Cultural resources Services	\$ 23,102		
	Architectural Assessment (Amendment No 2)		\$ 6,500	\$ 6,500
	ENVIRONMENTAL SERVICES SUBTOTAL	\$ 55,167	\$ 6,500	\$ 61,667
TASK 8:	<u>RIGHT-OF-WAY & EASEMENT ACQUISITION</u>			
	ROW & Easement Acquisition (Six Parcels)	\$ 61,000	\$ 50,830 ⁽¹⁾	\$ 111,830
	Appraisal services (Six Parcels)	\$ 25,800	\$ 21,500 ⁽¹⁾	\$ 47,300
	Metes and Bounds for ROW (Six Parcels)	\$ 13,100	\$ 10,915 ⁽¹⁾	\$ 24,015
	RIGHT-OF-WAY & EASEMENT ACQUISITION SUBTOTAL	\$ 99,900	\$ 83,245	\$ 183,145
TASK 9:	<u>TRAFFIC SIGNAL DESIGN</u>	\$ 30,543	No Change	No Change
TASK 10:	<u>SUBSURFACE UTILITY ENGINEERING</u>			
	Subsurface Utility Engineering (SUE) (Quality Level A)(5 Test Holes)	\$ - ⁽²⁾		
	SUE (Quality Level B)	\$ 22,500		
	SUBSURFACE UTILITY ENGINEERING SUBTOTAL	\$ 22,500		
TASK 11:	<u>GEOTECHNICAL INVESTIGATION (incl 3 days traffic control)</u>	\$ 28,400	No Change	No Change
TASK 12:	<u>TDLR REVIEW / INSPECTION</u>	\$ 8,100	No Change	No Change



		Original Contract	Amendment No 2	Original Contract & Amend. No. 1 & 2
SPECIFIED ADDITIONAL SERVICES				
TASK 13:	Additional Public Meeting	\$ 6,700		
TASK 14:	Section 404 Nationwide Permit Pre-Construction Notification	\$ 16,519		
TASK 15:	Construction Survey Staking For Proposed Power Poles	\$ 8,200 ⁽²⁾		
TASK 16:	Overhead Power Relocation Design	\$ 19,800 ⁽²⁾		
	SPECIFIED ADDITIONAL SERVICES SUBTOTAL	\$ 51,219	No Change	No Change
	GRAND TOTAL	\$ 1,018,691	\$ 280,545	\$ 1,299,236

Notes:
 (1) The following fee represents the five additional parcels that will need Right-Of-Way & Easement Acquisition.
 (2) The following tasks were modified under Amendment No. 1. See Amendment No. 1 for additional information.

This work will be performed in accordance with the general conditions of the prime contract documents. We hope the scope of services and fees provided above are acceptable to you and we are prepared to begin these tasks upon notification. If you have any questions or need additional information, please feel free to contact myself at (210) 704-1355 or email at marcus.garcia@halff.com.

Respectfully,
 Halff

Marcus Eli Garcia, PE,
 Project Manager

CC: Josh Logan, PE, CFM
 Bobby Balli, PE, PWLF

ACCEPTED BY:
 CITY OF BOERNE

BY: _____

TITLE: _____

DATE: _____

Exhibit A-1



Note: The project limits are shown in red.