

AMENDMENT NO. 1 TO AGREEMENT

Project: Parks and Recreation Bridge Improvements
Project No. PR18-2406

Background Data: Date of Agreement: October 25, 2017
Owner: City of Rapid City
Consultant: TSP, Inc.

Nature of Amendment: Hydraulic Analysis – No Rise in Floodplain Certificate

Current Contract Amount: \$24,980.00

Change Requested: \$5,946.00

New Contract Amount: \$30,926.00

Owner and Consultant/Contractor hereby agree to modify the above referenced Agreement as set forth in this Amendment. All provisions of the Agreement not modified by this or previous Amendments remain in full force and effect. The effective date of this Amendment is: December 18, 2017.

CITY OF RAPID CITY:

By: _____
Mayor

Date Signed: _____

ATTEST:

By: _____
Finance Officer

Date Signed: _____

REVIEWED BY:

Keith Johnson 11/28/17
Keith Johnson, Project Manager

CONSULTANT:

By: Robert Moulton
TSP, Inc.

Date Signed: 11/28/2017

Exhibit A – Amendment 1

PEDESTRIAN BRIDGE REPAIRS

City of Rapid City Project No. PR18-2406

Pedestrian Bridges 52-389-311 (East end Hole #6, Meadowbrook Golf Course)

and 52-389-312 (Between Hole #4 and #5, Meadowbrook Golf Course)

SCOPE OF SERVICES TO BE PROVIDED 11/22/2017

Professional Services consist of two tasks as follows:

Task #1: Preliminary Design Services

Task #2: Final Design Services

TASK 1 – PRELIMINARY DESIGN SERVICES

This task consists of all services necessary to complete the preliminary analysis, and may include the following itemized services

- 1.2 Meetings with City to determine procedure needed for bridge analysis, existing conditions and possible interaction with Arrowhead Creek, review preliminary analysis and review final analysis.
- 1.3 Ordering data from FEMA. Review existing FIRM map and ordering data for Effective FIS from FEMA. (Estimated fee for ordering data from FEMA will be \$486 and is included under Design Reimbursable Expenses in EXHIBIT B.)

TASK 2 – FINAL DESIGN SERVICES

This task consists of all services necessary to complete the final analysis, and may include the following itemized services.

- 2.10 Downloading Effective FIS data into HEC-RAS. Transfer flow, profile and cross-section data from data supplied by FEMA into HEC-RAS for use in modeling existing conditions. Data will be from downstream of Park Drive to approximate 1 mile downstream of the downstream proposed bridge. This assumes the existence of a digital file that can be opened up in HEC-RAS and not having to re-enter every piece of data by reading it from a PDF and entering it into HEC-RAS.
- 2.11 Calibrating/Correcting Effective Data Model. Running effective data in HEC-RAS to determine if results match the Effective FIS results. Making corrections as needed to match Effective FIS results.
- 2.12 Add new bridge/survey data to model. Add survey data on both sides of bridge and proposed bridge design information into model and run HEC-RAS to determine if rise occurs.

- 2.13 Refine grading to achieve no-rise condition. Refine grading on both ends of new bridges as needed in the model to achieve the no-rise condition in the floodplain/floodway.
- 2.14 Create drawing showing location of new bridges on FIRM map. Superimpose the new bridges and sections on the existing FIRM map as required for the no-rise certification.
- 2.15 Compile information for No-rise Package Submittal. Compile all HEC-RAS input and output data, as well as the drawing and signed Certificate, on a CD for submittal to the City for review.

This proposal assumes that an analysis will not have to be done for the Arrowhead drainage. The Arrowhead Flood Insurance Study was ordered to confirm this, but it is not anticipated that this will be needed for this project.

This proposal also assumes that the City surveyor will perform cross-section surveying up and down stream of the proposed bridges.

EXHIBIT B - AMENDMENT 1

DATE:11/22/2017

RE: City of Rapid City
 Parks and Recreation Bridge Improvements
 Hydraulic Analysis - No Rise Certificate

Project #PR18-2406

ESTIMATED MANHOURS

PREPARED BY: TSP, INC.
 TSP #P3171228

Item	DESCRIPTION	Total Fee
	Tasks 1 and 2 - Preliminary and Final Design Services	
	Pedestrian Bridge Repairs - Bridge 52-389-311 (East End Hole #6, Meadowbrook Golf Course) and 52-389-312 (Between Hole #4 and #5 Meadowbrook Golf Course)	
1.2	Meetings with City	\$495.00
1.3	Ordering Data from FEMA	\$330.00
2.10	Downloading Effective FIS data into HEC-RAS	\$990.00
2.11	Calibrating/Correcting Existing Data Model	\$330.00
2.12	Add New Bridge/Survey Data to Model	\$990.00
2.13	Refine Grading to Achieve No-rise Condition	\$990.00
2.14	Create Drawing Showing Location of Bridges on FIRM Map	\$330.00
2.15	Compiling Information for No-rise Package Submittal	\$990.00
	Total Hours	
	Design Fees	\$5,445.00

Design Reimbursable Expenses	
FEMA FIS Order Request	\$486.00
Printing	\$10.00
Miscellaneous (Phone, etc.)	\$5.00
Total	\$501.00

GRAND TOTAL FEES LABOR AND EXPENSES TASKS #1 \$5,946.00

- Notes: 1. This proposal fee assumes analysis will not be required for the Arrowhead Drainage.
 2. This proposal assumes section surveying up and down stream of the proposed bridges will be done by the City Surveyor.