



July 16, 2019

City of Keller
Attn: Cody Maberry,
Director of Community Services
1100 Bear Creek Pkwy
Keller TX 76248

**RE: BEAR CREEK PEDESTRIAN BRIDGE
PRELIMINARY FINDINGS
KELLER, TEXAS
BHB PROJECT 2019.013.043**

Dear Mr. Maberry,

We understand that the City is considering the possibility of placing another Pedestrian Bridge over Big Bear Creek at Bear Creek Park. There is an existing pedestrian bridge (BR08C) currently located approximately 100 feet south of Bear Creek Parkway and just east of Apache Trail. There is a second pedestrian bridge (BR08B) located approximately 900 feet south of (the first bridge) BR08C. We understand the City would like to construct a third bridge approximately midway between these two. Since all three bridges will be within a FEMA designated Floodway, it is a federal requirement that the impact of such construction be analyzed by a licensed engineer prior to commencing. The results of such a study will need to confirm no change to the width or elevation of the floodway. If a change is proposed, proper documentation will need to be submitted to and approved by FEMA prior to beginning construction.

During our Preliminary Analysis we obtained the current models used by FEMA for delineating the floodplain and floodway. We also obtained from the City's record drawings for the improvements constructed as "Bear Creek Park Renovations-2015". Our first task was to add the third pedestrian bridge to the existing model to determine if it could be done without impacting the floodway. Adding a pedestrian bridge approximately 350 feet downstream of BR08C increased the water surface by about 3 inches. These are very rough numbers since no survey work or design has been accomplished at this time. We then looked at simply spanning the floodplain in this area and determined it would require a bridge approximately 375 feet long. If this was the only work done, it appears it could be done without impacting the floodplain.

Our next task was to review the record drawings to determine if there had been any fill placed in the floodplain. Any work within the floodplain since the last model update would need to be included with this study. The last model update for this area appears to be 2010 or prior. Since the 2015 improvements were accomplished by the City and after the last model update, those improvements will need to be submitted to FEMA as well. If those improvements have caused an increase or change to the floodway, mitigation for those improvements will also need to be considered.

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Our current engagement was to determine scope for any studies necessary to allow the City to proceed with design and installation of the third pedestrian bridge. With that in mind, it's our opinion that a topographical survey as well as a hydraulic study are both warranted to determine the impact of the 2015 improvements as well as any mitigation required to reduce those impacts and further offset any additional flooding that might be caused from the third Pedestrian Bridge. We would anticipate the survey work and study could be done for approximately \$25,000.

We appreciate the opportunity to assist you with this project. If you want to proceed with a fee proposal or if you have any questions, please don't hesitate to call.

Sincerely:

BAIRD, HAMPTON & BROWN



Kevin B. Miller, P.E.
Senior Associate