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USACE Galveston District
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Re: Request for an Extension of the Comment Period to December 31, 2020 and Comments on the Buffalo Bayou and Tributaries Resiliency Study Interim Report (Interim Report)

Dear COL Vail and Ms. Willey:

Buffalo Bayou Partnership (BBP), a non-profit organization charged by the city of Houston and Harris County with revitalizing Buffalo Bayou from Shepherd Drive to the Turning Basin, respectfully requests that the U.S. Army Corps of Engineers ("USACE") extend the public comment period on the Interim Report to December 31, 2020. This will provide a total of ninety (90) days for public comment on the Interim Report, released on October 2, 2020. BBP also requests the release of all models and data that USACE used or relied on to analyze the different alternatives and form the conclusions in the Interim Report.

BBP also requests that USACE set at least two meetings with the stakeholder group that it engaged earlier in the scoping process and any other stakeholders subsequently identified. A dialogue with stakeholders is critical to obtain substantive feedback before USACE closes public comment. Because of the proposed impacts of the Interim's Report Alternative 6 to parks and other public facilities that BBP is responsible for improving, maintaining and operating, BBP also requests that BBP be added to the stakeholder group.

Our detailed comments concerning the Interim Report are:

- BBP's focus is from Shepherd Drive to the Turning Basin, and it will limit its comments accordingly although it shares with other environmental organizations grave concerns about Alternative 6's negative environmental, socioeconomic, floodplain and erosion impacts on Buffalo Bayou throughout its watershed.
- BBP supports USACE's general goal of relieving flooding throughout the Buffalo Bayou, Addicks and Barker watersheds; however, a viable strategy must be cost effective and equitable for areas upstream and downstream of Addicks and Barker Reservoirs.
- The Interim Report (on the 7th page of the Executive Summary in the Problem Statement and Planning Objectives section) defines Problem Statement 3 as: "Pool releases from Addicks and Barker reservoirs combine with downstream inflows to pose risks to health and human safety, public infrastructure and private property." The Interim Report does not clearly provide a floodplain hydraulic design objective within the Buffalo Bayou reach downstream of Addicks and

Barker reservoirs. As such, it isn't possible to assess the appropriateness of any solution on the above listed Problem 3 risks in any segment downstream of the reservoirs.

- The Alternative 6 (Buffalo Bayou Channel Improvements) study area starts 1500 feet east of Studemont Street as stated on page 84. This location exists within Buffalo Bayou Park (between Shepherd Drive and Sabine Street) where BBP, the city and HCFCO recently made \$75 million of improvements to augment the park's pre-existing improvements and valuable natural features. Because the study starts at the defined location, it isn't possible to adequately determine the full extent of impacts from any of the recommended alternatives. Furthermore, Alternative 6 proposes to radically increase the volume of water in the channel to 15,000 CFS but seems to assume that the channel downstream of Alternative 6 requires no modification to handle that volume of water. Pages 103-104 address the North Canal at White Oak Bayou, which is near Allen's Landing, but there is no discussion about the 11,000 feet of channel between the North Canal and the start of Alternative 6. BBP questions the implied assumption that these two miles of highly constrained channel can accommodate 15,000 CFS without flooding, and if the modifications required to increase capacity in this area had been included, the cost of Alternative 6 would be even higher because of the high cost and negative impacts of modifying the channel in the downtown area. It is important to note that flooding in this area of downtown has caused very expensive damage to the City Hall Complex, Harris County Complex and Theater District. We recommend that the study area extend at least to Allen's Landing at or near Main Street.
- BBP is concerned regarding the resultant floodplain, in and around Buffalo Bayou Park (between Shepherd Drive and Sabine Street). The Interim Report does not provide sufficient detailed information to assess the hydraulic flow regime of any alternatives downstream of the reservoirs.
- The Interim Report is silent on the impact of Alternative 6 on public parks, including multiple city parks maintained and operated by BBP between Shepherd Drive and Allen's Landing. Note that a 230-foot-wide channel that is deepened by almost 12 feet will have major impacts on Buffalo Bayou Park and other parks in the downtown area if the Alternative 6 study area is extended further downstream, and construction of this channel will have additional impacts. BBP considers Alternative 6 construction impacts within the Buffalo Bayou Park and other parks to be a socioeconomic damage.
- Alternative 6 is described as a "trapezoidal channel" on pages 84-85 with a typical section on page 86 showing articulated concrete blocks throughout the channel section. This approach is completely unacceptable. On page 112 (Section 4.8.1 FRM Alternative Plans beginning on page 109), the Alternative 6 carried forward for further reevaluation is described to include (i) "terracing the bayou to create benches that would support riparian vegetation commensurate with the hydrologic frequency of that bench;" (ii) "a low flow channel would be maintained which would mimic as closely as possible the depths and bank slopes (from below

the water to the surface) that is currently inundated with permanent flows and maintaining at a minimum existing aquatic habitat quality;" and (iii) "in areas of high erosion, the channel bottom and sides would be articulated concrete block mats. In areas of reduced erosion, the channel bottom and sides would be modified with stepped vegetation;" and (iv) "in-stream structures and riffle complexes would be constructed to modify the overall stream structure and function more similar to unmodified streams, thereby increasing overall aquatic habitat quality and diversity." In both cases, USACE is proposing a 230-foot-wide channel with a 70'-wide channel bottom that is 11.6 feet deeper than today. BBP considers the the 230'-wide x 11.6'-deeper channel described on page 112 of the Interim Report as damaging to Buffalo Bayou Park due to the additional excavation and enlargement required to create the proposed channel section.

- The Interim Report Executive Summary Table 7 states that Alternative 6 has an estimated Benefit Cost Ratio (BCR) of 0.3, meaning costs are three times greater than projected benefits. Including the costs due to impacts on city parks (Buffalo Bayou Park and Memorial Park being the two largest) and modifications to the channel in the downtown area, the BCR is likely to be even lower. It is very unclear how USACE intends to comply with the Flood Control Act of 1936, which requires that a project's benefits be greater than its costs (page 20). This lack of clarity is of concern because a project that is value-engineered to reduce costs in order to improve the BCR would likely have even worse negative impacts on Buffalo Bayou and its surrounding parks and communities. BBP requests that all of the appropriate damages (environmental, socioeconomic, health and human safety, etc.) be included within any damages assessment performed on the reach in and around Buffalo Bayou Park. Page 169 states that a local sponsor's cost share will be 35% of the project's \$3.1 - \$4.1 billion cost or at least \$1 billion, an enormous sum for only one of Harris County's 22 watersheds.
- Per Table 39 on page 115, Alternative 3 Reservoir Excavation (15% within Addicks and Barker reservoirs) was eliminated because, "This plan only provides localized benefits." The First Cost of this reservoir excavation alternative is virtually the same as for the Alternative 6 Channelization alternative. If reservoir excavation occurred and was coupled with a revised Gate Operations Plan, which provided for reduced releases after major rain events over a longer period of time, the resultant downstream flooding would be reduced, while also achieving the desired upstream protections adjacent to the Government Owned Land. Additionally, the amount of proposed excavation within the existing reservoirs is approximately equivalent to the impoundment capacity of the proposed Cypress Creek Reservoir. BBP also suspects that the environmental impacts associated with excavating the existing reservoirs would be commiserate to the environmental impacts associated with constructing a new Cypress Creek reservoir. As such, BBP does not agree that the Reservoir Excavation (Alternative 3) should be omitted from consideration at this time.
- USACE should continue to analyze Alternative 4's River and Reservoir Tunnels described on page 111 in cooperation with HCFCD. Its studies indicate the cost will be far lower than the Interim Report's projections, and when combined with

other measures such as excavation in the reservoirs, the required conveyance capacity will not be as large. Their conveyance capacity could be reduced further by determining Buffalo Bayou's post-Harvey conveyance capacity for inclusion in the analysis. The much lower environmental and social impacts of tunnel(s) also will generate more community support as compared to Alternative 6.

- Mitigation requirements for Alternative 6 of 3093 acres of riparian habitat as described on page 120 are unattainable. In-kind compensatory mitigation for riparian corridor damages along Buffalo Bayou cannot be created. The mitigation would have to be sought well outside of the Hydrologic Unit Code (HUC), which is counter to Corps permitting guidance.
- In addition to flooding, Buffalo Bayou is challenged by a very high sediment load. The resulting massive silt deposits are a major problem for downstream parks and the Houston Ship Channel. The operation of the two dams contributes to the problem. Continuous releases of water from the dams after any rain event can occur over many days and weeks multiple times per year. The high turbidity of the water chokes off sunlight to plants on the lower banks, killing them and making those banks more vulnerable to erosion because they are no longer reinforced by those plants and their root systems. BBP is asking that USACE consider this problem as it develops new operating plans for water releases from the dams. Specifically, BBP is requesting that these releases from more routine rain events be variable (ranging from lower to higher levels than allowed today so the rate of release over time is not reduced) so that these plants can receive sunlight periodically during these releases. We understand that after extreme events such as Hurricane Harvey, continuous releases may be necessary.
- The Waugh Street bridge in Buffalo Bayou Park (and Congress Bridge in downtown) support robust bat colonies. If reconstruction of these bridges is required, such reconstruction will have severe impacts on the bat species and their survivability. The economic value of healthy habitat that supports these important mammals, which in turn supports public health through control of the mosquito population, has not been discussed or incorporated into the channel modification assessment.

Sincerely,



Jeff Taylor
Board Chair



Anne Olson
President