



9900 Northwest Freeway  
Houston, Texas 77092  
713-684-4000  
www.hcfc.org

April 2, 2019

Ms. Guiping Tian, P.E.  
Binkley & Barfield, Inc.  
1710 Seamist Dr  
Houston, TX 77008  
sgt@binkleybarfield.com

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RE: Project No. 1902190049  
Hydraulic Analysis for River Oaks Country Club Channel Slope Repair  
HCFCU Unit W100-00-00; Key Map 492-K; Pct. 4

Dear Ms. Tian:

The referenced report has been reviewed pursuant to the HCFCU Policy, Criteria, and Procedure Manual and Section 3.02 of the *"Regulations of Harris County, Texas for the Approval and Acceptance of Infrastructure."* The goals of the review are to provide technical support to the Harris County Floodplain Administrator and to apply HCFCU policy and criteria where appropriate.

This review addresses issues regarding hydraulic and hydrologic drainage design criteria only. Design criteria regarding the site layout of the proposed development and drainage facilities will be reviewed upon submittal of site plans.

Our understanding of the report is described below. Please see the response contained within the *"Hydrologic & Hydraulic Technical Review"* section.

### **HCFCU Jurisdiction**

The project meets at least one of the following conditions; HCFCU criteria apply:

- The project directly affects HCFCU Infrastructure.
- The project proposes infrastructure to be maintained by HCFCU.
- The project is located within a watershed where HCFCU has a regional project adopted by Harris County Commissioners Court.
- A technical review has been requested by Harris County.

### **Submittal Information**

#### **Submitted Report**

Hydraulic Analysis for River Oaks Country  
Club Channel Slope Repair  
March 19, 2019

#### **Consulting Engineer**

Binkley & Barfield, Inc.  
1710 Seamist Dr  
Houston, TX 77008  
TBPE Registration No. F-257  
Guiping Tian, P.E.  
TX P.E. # 116102

### **Project Summary**

The River Oaks Country Club (ROCC) proposes repairing the severely eroded and collapsed channel slopes along Buffalo Bayou (HCFCD Unit No. W100-00-00) near its golf course fairway Hole Nos. 3, 4, 14, 15. The total length of the three sections for repairing is approximately 1,650 feet. All channel slope repair work will be on the ROCC's properties.

### **Detention Summary**

Not applicable

### **Floodplain Related Information**

According to FEMA FIRM Panel No. 48201C0515M, effective on June 9, 2014, the Project is completely within the FEMA regulatory floodplain.

**Please also note that The city of Houston is the Floodplain Administrator for the receiving waterways. All issues regarding local floodplain regulations must be coordinated through The city of Houston.**

### **Report Findings**

The report states, *"In conclusion, the proposed Project will not cause adverse impacts to the Buffalo Bayou (HCFCD Unit No. W100-00-00) and the adjacent properties for the storm events up to and including the 1% AEP storm event, if constructed as proposed."*

### **Hydrologic & Hydraulic Technical Review**

HCFCD offers the following:

The report includes statements that the project will cause no adverse impact to the receiving waterways in storm events up to and including the 100-year event. The documentation within the report generally supports the conclusions stated by the engineer. Based on the stated conclusions, HCFCD interposes no objection to the referenced report. Please note, this acceptance does not necessarily mean that the entire report, including all supporting data and calculations, has been completely checked and verified. However, the report is signed, dated, and sealed by a Professional Engineer licensed to practice in the State of Texas, which therefore conveys the licensed engineer's responsibility and accountability.

### **Additional HCFCD Criteria**

Site plans must be submitted to HCFCD for review and signature.

All work proposed within existing and future HCFCD right-of-way must be designed and constructed in accordance with the HCFCD Policy, Criteria, and Procedure Manual.

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### **Environmental Review & Permitting**

The Harris County Flood Control District's Regulatory Compliance Department requires that proposed projects impacting regulated waters of the U.S. obtain and document the required U.S. Army Corps of Engineers permit(s) for any portions of the project located within any existing or proposed HCFCD right-of-way. The type of permit required (if any) must be stated on the site plans even if written permit authorization from the Corps of Engineers is not required. If written permit authorization is required, copies of approved Corps of Engineers permits must be submitted with the HCFCD *Notification of Construction in Right-of-Way* and submitted to the HCFCD Development Coordination and Inspection Department at least 48 hours prior to construction along with the *48-hour Pre-Construction Notification*.

Thank you for coordinating this project with the Flood Control District. If you have any questions regarding the technical comments, please contact Ms. Ana Arana, P.E. via email at [Ana.Arana@hcfcd.org](mailto:Ana.Arana@hcfcd.org). For any other questions, you may contact me at [mike.vandewater@hcfcd.org](mailto:mike.vandewater@hcfcd.org).

Sincerely,

Mike Vandewater, P.E.  
Watershed Coordinator

MCV:ag