

Cypress Creek Watershed

2020 at a Glance

Overview

Despite a global pandemic, the Harris County Flood Control District continued to move flood risk reduction projects forward safely and efficiently across the Cypress Creek watershed during 2020. Below are highlights of the organization’s progress in Cypress Creek, with additional details included later in the document.

Active Projects

All 12 projects in the Cypress Creek watershed from the 2018 Bond Program are initiated, active or completed. Other projects and programs funded by the Flood Control District’s Capital Improvement Program, as well as grants or other funding sources, are also underway.

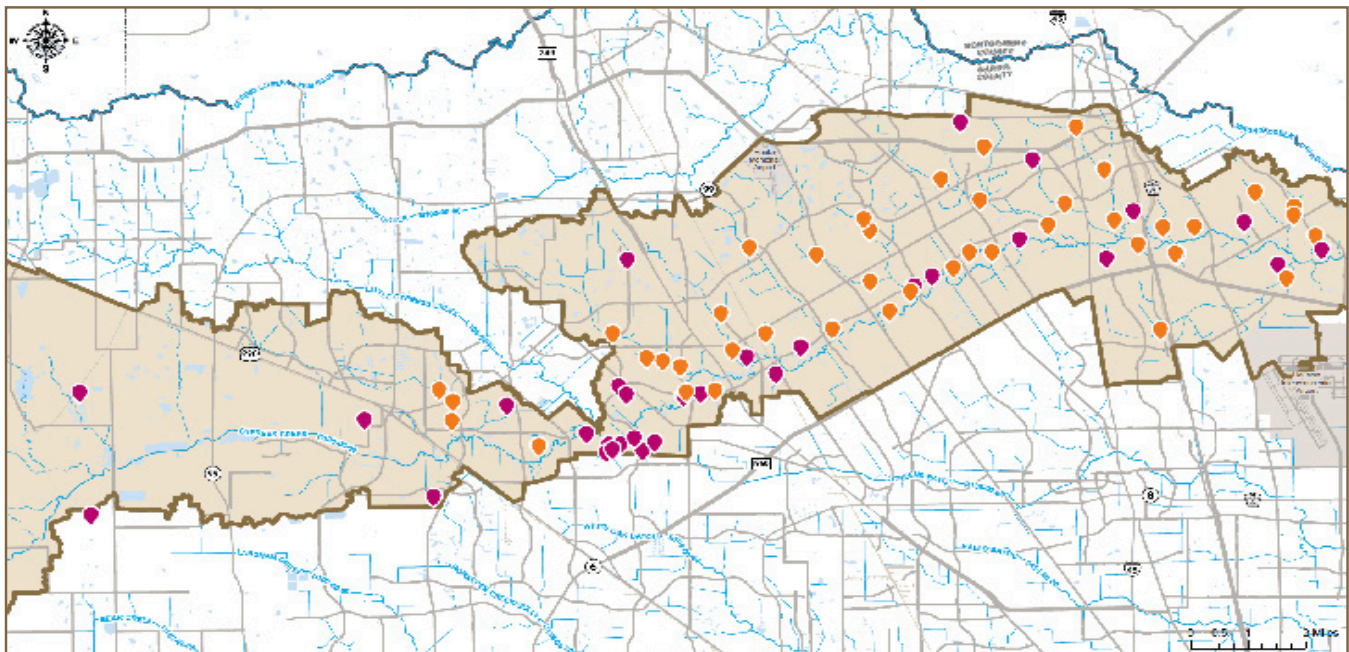
Floodplain Preservation & Property Acquisition

Throughout 2020, the Flood Control District acquired more than 300 additional acres of property across the Cypress Creek watershed through approximately 60 transactions totaling more than \$33 million.

Awards

In July 2020, the Flood Control District received the 2019 Environmental Impact Award from the North Houston Association for “insurmountable efforts in preserving and protecting the north Harris / Montgomery County region’s environment,” specifically in the Cypress Creek watershed.

Cypress Creek Watershed: Active Construction & Major Maintenance Projects



Note: Map shows active projects as of December 31, 2020

-  Roads
-  Channels
-  Cypress Creek Watershed
-  Major Maintenance Projects
-  CIP Projects

Completed Projects

Four bond-funded projects in the Cypress Creek watershed were completed in 2020, including studies to inform future projects in the watershed and major maintenance efforts to repair tributaries. These projects include:

Update to 2003 Texas Water Development Board Cypress Creek Tributary Study and Investigate Expanding Stormwater Detention Basins in Cypress Creek Watershed (Bond ID: CI-035)

The results of this study confirm the need for over 50,000 acre-feet of stormwater detention volume in the watershed to achieve a pre-Atlas 14, one-percent (100-year) storm event level of protection. As funding allows, individual recommendations from this study will proceed to right-of-way acquisition, environmental investigations, and preliminary engineering.

Cypress Creek Tributary K129-00-00 Major Maintenance (Bond ID: F-21)

This major maintenance project replaced the concrete lining of a Cypress Creek tributary formally identified as Unit K129-00-00 in the Ponderosa Forest area of northwest Harris County. Regular maintenance on this portion of the channel will continue.

Investigation of Additional Detention Volume at K500-01-00 Stormwater Detention Basin (Bond ID: CI-36)

This project involved an investigation of the potential benefit of expanding the Cypress Park Stormwater Detention Basin, HCFCD Unit K500-01-00, which is located on North Eldridge Parkway near the confluence of Little Cypress Creek and Cypress Creek. The study recommends a major expansion of this detention basin. As funding allows, the Flood Control District will complete right-of-way acquisition, environmental investigations and preliminary engineering.

Investigation of Potential Detention Sites Around Cypress Creek & Stuebner Airline (Bond ID: CI-020)

This project investigated the potential benefit of stormwater detention sites near Cypress Creek and Stuebner Airline Road. The study recommends a stormwater detention basin in this area. As funding allows, the Flood Control District will complete right-of-way acquisition, environmental investigations and preliminary engineering.

Ongoing Efforts

Projects continue across the watershed, with significant progress in 2020. Ongoing efforts include:

Cypress Creek Watershed Implementation Program

The Flood Control District is taking a watershed-wide approach to executing flood risk reduction projects in the Cypress Creek watershed. The Cypress Creek Implementation Program enables teams to deliver projects strategically and efficiently in a heavily developed area. Projects will include stormwater detention basins, channel improvements on various tributaries and right-of-way acquisition for floodplain preservation.

- **2020 Progress:** Engineering teams from the Flood Control District and our engineering consultant Jones Carter are currently developing a watershed-wide implementation plan for Cypress Creek. This involves analyzing potential projects, sequencing, and potential benefits for the area.
- **Next Steps:** The Cypress Creek Watershed Implementation Plan is expected to be complete in Summer 2021, at which time the Flood Control District will share more information with the public. Projects continue on Flood Control District-owned property in the interim.

T.C. Jester Stormwater Detention Basin – West (Project ID: K500-23-00-E001)

This project will develop a stormwater detention basin compartment on the west side of T.C. Jester Boulevard, which will work in conjunction with a similar compartment on the east side of the property (listed below). The goal of these projects is to construct stormwater detention on the main stem of Cypress Creek, which will work to reduce flooding risks and damages during heavy rain events by safely storing excess stormwater and slowly releasing it back to the creek when the threat of flooding has passed.

- **2020 Progress:** The property west of T.C. Jester is in construction under an excavation and removal (E&R) contract. The E&R contractor removes a set amount of soil, which helps expedite the construction of the detention basin and keep costs down. The E&R contract lasts up to three years, and the majority of the site will be closed to the public for the duration of the contract for the safety of residents and construction crews.
- **Next Steps:** Access to the property will continue to be restricted as the E&R contract continues.

T.C. Jester Stormwater Detention Basin – East (Project ID: K500-23-00-E002)

This project will develop a stormwater detention basin compartment on the east side of T.C. Jester Boulevard, which will work in conjunction with a similar compartment on the west side of the property (listed above). The goal of these projects is to construct stormwater detention on the main stem of Cypress Creek, which will work to reduce flooding risks and damages during heavy rain events by safely storing excess stormwater and slowly releasing it back to the creek when the threat of flooding has passed.

- **2020 Progress:** The property east of T.C. Jester is currently in the preliminary engineering stage of the project lifecycle. During this time, multiple detention basin alternatives will be developed and considered. Additionally, the Flood Control District applied for federal grant money to help fund the construction of a portion of the stormwater detention basin and held a public information session on September 22 to discuss the grant application.
- **Next Steps:** The alternatives developed during the preliminary engineering phase will be presented to the community for comment during a Bond Program Community Engagement Meeting, which is expected to be held in Spring 2021. Federal funds for this project are not guaranteed, but if selected, the grant could be awarded in Spring / Summer 2021.

Major Maintenance of Cypress Creek and Tributaries (Bond ID: CI-012)

This project involves major maintenance along Cypress Creek and its tributaries to restore channel conveyance capacity. It may include right-of-way acquisition, design, and construction along tributaries. This project will be constructed in 6-8 batches of multiple individual project sites in need of repair.

- **2020 Progress:** Engineering design teams completed design efforts for Batches 1 and 2 of the major maintenance efforts.
- **Next Steps:** Batch 1 design is complete. Currently scheduled for bidding in Winter / Spring of 2021, with construction to follow after a contractor is secured. Batch 2 design is nearing completion and is scheduled for bidding in 2021, with construction to follow later in the year.

Westador Stormwater Detention Basin (Bond ID: F-88)

The purpose of this project is to construct a stormwater detention basin on the main stem of Cypress Creek. Stormwater detention basins reduce flooding risks and damages during heavy rain events by safely storing excess stormwater and slowly releasing it back to the creek when the flooding has passed. Tentatively, the Westador Stormwater Detention Basin will store approximately 1,100 acre-feet (more than 358 million gallons) of stormwater.

- **2020 Progress:** The Flood Control District worked with the Westador Municipal Utility District to develop a partnership project for this stormwater detention basin and received approval from Harris County Commissioners Court to proceed. The Flood Control District applied for federal grant money to help fund a portion of the project lifecycle for this stormwater detention basin and held a public information session on September 22.
- **Next Steps:** The project lifecycle will continue to move forward with a multi-phased engineering, design and construction approach beginning in 2021. Federal funds for this project are not guaranteed, but if selected, the grant could be awarded in Spring / Summer 2021.

Mercer Stormwater Detention Basin (Project ID: K500-21-00)

This project will develop a stormwater detention basin on approximately 38 acres of undeveloped land located south of Cypress Creek, east of the Hardy Toll Road, and north of FM 1960. The goal of the project is to maximize the storage capacity of the Mercer Stormwater Detention Basin.

- **2020 Progress:** This project is pending approval of a Community Development Block Grant for Disaster Recovery (CDBG-DR) funding application.
- **Next Steps:** Federal funds for this project are not guaranteed, but if selected, the grant could be awarded as soon as Spring / Summer 2021.

Champions Stormwater Detention Basin (Project ID: K500-24-00)

This proposed project would construct a stormwater detention basin along Cypresswood Drive to reduce flooding risks in the Cypress Creek watershed. Project specifics have not been determined.

- **2020 Progress:** On January 30, 2020, the Flood Control District closed on the purchase of 27.6 acres of land, including the Raveneaux Clubhouse grounds. In February, the Flood Control District began

discussions with the Cypress Forest Public Utility District regarding an agreement to acquire the remaining acreage that primarily makes up the golf course.

- **Next Steps:** Negotiations around the potential additional acquisitions continue.

Cypress Creek Tributary K163-00-00 Conveyance Improvements (Bond ID: F-23)

This project is designed to improve channel conveyance and repair erosion along a Cypress Creek tributary formally identified as K163-00-00. The project will replace a portion of the existing earthen channel with 4,750 linear feet of boxed culverts, including inlets, junction boxes and tie-ins with subdivision outfalls. The project also includes the installation of approximately 1,200 linear feet of erosion control measures for the channel downstream near the confluence with Cypress Creek. Other construction activities include fencing to protect wetlands and removal of encroachments from public rights-of-way.

- **2020 Progress:** This project went out for bid in February 2020 and construction began in July 2020.
- **Next Steps:** Construction is expected to be complete in Winter 2021 / 2022.

Katy Hockley Wetlands Mitigation Bank K700-01-00 (Bond ID: F-24)

This project will establish and enhance prairie wetlands at the Katy Hockley Mitigation Bank, a permanently protected, approximately 152-acre property located near Katy Hockley and House & Haul roads in northwest Harris County. The increase of wetlands may be used in the future to offset unavoidable wetland impacts caused by other federally permitted Flood Control District projects.

- **2020 Progress:** The Flood Control District authorized construction phase engineering services in support of this project. Construction began in November 2020.
- **Next Steps:** Construction is expected to be complete in Spring 2021.

Restore Channel Conveyance Capacity on Pillot Gully (Bond ID: F-22)

This effort is a major maintenance project that will repair a structure failure and integrate environmental enhancements by way of natural stable channel design techniques. The goal of this project is to restore the channel conveyance capacity of K140-00-00 between Vintage Preserve Parkway and Cypress Creek.

- **2020 Progress:** This project is currently in construction.
- **Next Steps:** Construction is expected to be complete in Spring / Summer 2021.

Investigation of Stormwater Detention/ Retention in Upper Cypress & Addicks Watersheds (Bond ID: F-56)

This project produced a feasibility study that determined that multiple shallow stormwater detention and retention areas on private agricultural or open property in the upper Cypress and Addicks Reservoir watersheds could reduce flooding risks in the Addicks Reservoir and upper Cypress Creek watersheds.

- **2020 Progress:** The Flood Control District completed a feasibility investigation in connection with this Bond Project.
- **Next Steps:** Continue with potential property acquisition, design and construction.

Stormwater Detention along Faulkey Gully K142-00-00 (Bond ID: Z-02)

This project is one of multiple projects in Harris County under Bond ID: Z-02. This Cypress Creek watershed project will investigate potential stormwater detention along Faulkey Gully, K142-00-00.

- **2020 Progress:** The Flood Control District was authorized to begin negotiations with Hewlett Packard Enterprise Company for a future partnership project in connection with this project.
- **Next Steps:** Continue negotiations.

Cypress Extreme Rainfall Event Swales

This project will construct extreme rainfall event swales in vacant buyout lots in the watershed. These are shallow, gently sloping channels that help direct stormwater that collects inside neighborhoods during heavy rain events to the channel, providing a way to reduce street ponding and other flooding risks.

- **2020 Progress:** Construction began in late December 2020. The Flood Control District examined 348 potential sites for swales in the Cypress Creek watershed and narrowed the list to six vacant buyout lots. All sites flow into a tributary of Cypress Creek.
- **Next Steps:** Complete construction by mid- to late-January 2021.

Major Maintenance Activity

In addition, major maintenance projects continued to make progress across the watershed. Efforts include:

Countywide General Repairs (Z100-00-00-X259)

This countywide project included multiple sites in Cypress Creek and was nearing completion at the end of 2020. It included erosion and other types of repairs on a section of Senger Gully (K120-01-00). Repairs continue on a section of Cypress Creek K100-00-00-X078.

General Drainage System Repairs North (Z100-00-00-X280)

This project included multiple repair sites in north Harris County and was nearing completion at the end of 2020. It included erosion repairs completed on Cypress Creek near Collins Park, tributary K137-00-00, and a stormwater detention basin near Wimbledon Champions Parks (K531-03-00). Repairs continue on tributary K134-00-00.

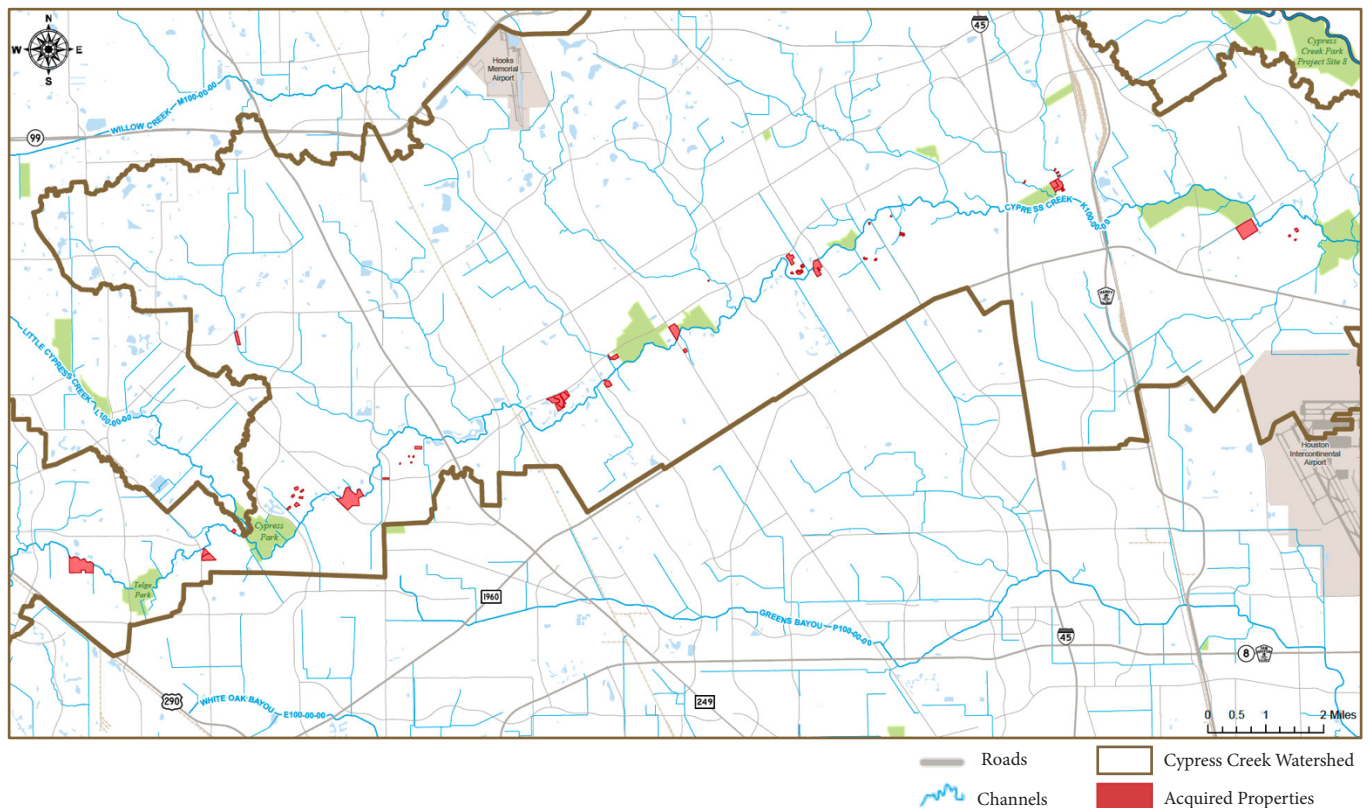
Harvey Repairs

Approximately \$86.5 million in countywide repairs following Hurricane Harvey in 2017 were complete by the end of 2020, including approximately \$21 million across 30 sites in the Cypress Creek watershed. Harvey repair work in 2020 included sections of Faulkey Gully (K142-00-00), Turkey Creek (K111-00-00), Senger Gully (K120-01-00), Dry Creek (K145-00-00) and others. Repairs continue on tributary K139-00-00.

Floodplain Preservation & Property Acquisition

The Flood Control District acquires property across Harris County for projects, floodplain preservation and buyouts. By preserving the floodplain from development, floodwaters can spread out safely without structures that can flood. Additionally, it is important to note that Cypress Creek is one of several watersheds with a dedicated Bond ID (F-20) for right-of-way acquisition and floodplain preservation.

Acquisitions in 2020 included the properties shown on the map below. A full table of acquisitions completed in the Cypress Creek watershed in 2020 is included on the final page of this document for reference.



Visit [HCFCFD.ORG/CypressCreek](https://www.hcfcfd.org/CypressCreek) to learn more about activities across the Cypress Creek watershed.

Property Acquisitions in Cypress Creek (2020)

This list includes the best available data as of December 31, 2020. A complete audit of all transactions has not yet been conducted.

Acreage	Street
56.9	North Freeway
43.8	Jarvis Road
43.3	Grant Road
34.4	Treschwig Road
27.3	Cypresswood Drive (4 tracts)
13.5	Kuykendahl Road
13.5	Stuebner Airline Road
9.2	Huffmeister Road
6.5	East Strack Drive
5.3	Spring Cypress Road
5.0	Champion Forest Drive
4.3	Rifleman Trail
4.2	Cypresswood Drive
3.0	Cypress Forest Drive
1.9	Deep Woods Drive
1.8	Cypresswood Drive
1.6	Maxwell Road
1.5	Hickory Hill Lane
1.4	Stuebner Airline Road
1.4	Carisbrook Lane
1.2	Strack Drive
1.0	Pine Belt Drive
0.9	Hickory Hill Lane
0.8	Deep Woods Drive
0.8	Meadowview Drive
0.7	Cypresswood Drive
0.7	Strack Drive
0.7	Strack Drive
0.7	Strack Drive
0.7	Strack Drive
0.7	Casper Drive
0.7	Casper Drive
0.6	Strack Drive
0.6	Spiller Road
0.5	Forest Glade Drive
0.5	Cypresswood Drive
0.5	Butte Creek Road
0.5	Casper Drive
0.4	Bambriar Drive
0.4	Forest Glade Drive
0.4	Casper Drive
0.3	Sweet Grass Trail
0.3	Casper Drive
0.3	Normont Drive
0.3	Zagar Lane
0.3	Zagar Lane
0.3	Cypresswood Drive
0.3	Maranon Lane
0.3	Maranon Lane
0.2	Moorcreek Drive
0.2	Tigris Lane
0.2	Beaver Creek Drive
0.2	Sweet Grass Trail
0.2	Moorcreek Drive
0.2	Normont Drive
0.2	Zagar Lane
0.2	Wimbledon Champions Drive