

**THE FAIRFAX DRAINAGE DISTRICT OF  
WYANDOTTE COUNTY, KANSAS  
1620 Fairfax Trafficway  
Kansas City, Kansas 66115  
913-321-2260  
FAX# 913-321-1129**

January 2023

**Board of Directors:**  
**Martin L. Quinn, President**  
**Kevin S. Brown, Vice President**  
**Philip A. Kostelac, Secretary/Treasurer**

**TO: Fairfax Industrial District Businesses and Property Owners**

**FROM: Andrew J. Dailey, P.E., General Manager**  
**Stephen P. Dailey, P.E., General Manager**  
**Fairfax Drainage District**

**FAIRFAX DRAINAGE DISTRICT UPDATE**

**INTRODUCTION**

In an effort to continue keeping the taxpayers of The Fairfax Drainage District informed of the flood protection improvements and operations, we are forwarding herewith a brief summary of the major events occurring over the past year and highlighting upcoming projects.

The total precipitation at the KCMO downtown airport for 2022 was 22.96 inches as compared to a normal rainfall of 38.13 inches (15.17 inches below normal). The 2022 precipitation compares to a 2021 precipitation of 25.26 inches, 2020 precipitation of 26.31 inches, and a 2019 precipitation of 43.80 inches.

The highest river stage recorded in 2022 was on June 1<sup>st</sup> with a Hannibal Bridge gauge reading of 20.2 ft. This stage compares to a high reading of 22.2 ft in 2021, 25.7 ft. in 2020, 36.6 ft. in 2019, and to the record stage set on July 27, 1993 of 48.9 ft. The levee crown corresponds to a river stage of 53.9 ft. As can be seen from the 2022 Missouri River hydrograph for Kansas City (shown in Figure 1), the monthly high river stages remained below normal high river stages throughout the year.

The Corps of Engineers has reported that the runoff above Sioux City, IA from winter snow melt and precipitation in the upper basin during 2022 was 19.3 MAF (million acre-ft) which compares to 15.2 MAF in 2021, 31.1 MAF in 2020, and 60.4 MAF in 2019. The 2022 runoff represents approximately 75% of normal (25.7 MAF). The 2023 calendar year runoff forecast for the upper Missouri Basin above Sioux City, IA, is 20.8 MAF (81% of average).

Two (2) days of pump station operation (all unmanned) were required during calendar year 2022 as compared to 4 days of pump station operation in 2021, 10 days in 2020, 274 days in 2019, 77 days in 2018, and an annual average of 45 days since 1993.

Automation of pump station operation has saved FDD taxpayers \$1,663,453 (2022 Dollars) since 1997.

## **SEWER LINE MAINTENANCE & RELATED ISSUES**

The FDD has identified various sewer line segments adjacent to buildings and crossing beneath railroad tracks and has prioritized rehabilitation of these lines as a proactive approach to ensure reliable pipe integrity for the foreseeable future. As mentioned in last year's report, approximately 350' of twin 66" Fiberglass Road sewers from Stanley Rd. to the main Fairfax collector sewer were identified for rehabilitation via CIPP (cured-in-place pipe) lining technology. This project was completed in 2022 at a cost of \$527,160 by Insituform Technologies USA, LLC.

196' of 36" sewer from the intersection of Quindaro Blvd. and Fairfax Trafficway to the 9' x 9' twin RCB (reinforced concrete box) has also been identified for rehabilitation. This segment crosses beneath railroad tracks and is scheduled for CIPP lining installation in January 2023. Insituform Technologies USA, LLC was awarded this project for the total cost of \$168,500.

FDD plans to contract a project in 2023 for CIPP lining a 205' sewer segment aligned with Esplanade St. east of 10<sup>th</sup> street. This sewer segment is aligned with one set of tracks and crosses beneath another. Engineering of the rehabilitation work will be completed by Alfred Benesch & Co. (estimated cost is \$15,300). The cost of the CIPP lining project is estimated at \$250,000.

A sewer cleaning project comprised of approximately 6,000 feet of various interior district sewers was completed by HydroKlean in 2022 at a cost of \$42,810. A sewer cleaning project of various pipe segments along the levee is expected to wrap up in early 2023. HydroKlean is contracted to complete the levee line cleaning work at a cost of \$38,393.

## **WELL MAINTENANCE**

The Fairfax Drainage District invested in well testing equipment several years ago and established a program to test each of the 127 levee relief wells every four (4) years. From test results collected over the last two years, eight (8) wells were identified for treatment and scheduled for cleaning in 2022 in an effort to restore lost production and avoid having to drill replacement wells. Conventional treatment at four (4) wells was completed in 2022 by Layne Christensen, Inc. at a cost of \$73,990. Enhanced treatment at four (4) additional wells, each with a history of production falloff over time, is scheduled for completion in early 2023 by Layne Christensen at a cost of \$93,115.

In 2021, the FDD began a program to install stainless-steel liners inside of the aging carbon steel upper casings of the (48 total) vintage 1986 wells constructed along the levee toe. Stainless-steel liners were installed at 12 wells in 2022 by Water Well Solutions, Inc. at a total cost of \$375,421.

FDD has contracted installation of stainless-steel liners at an additional six (6) wells in 2023 with Water Well Solutions. The estimated cost to complete this work is \$243,135.

## **RIPRAP**

In 1996 the FDD completed a comprehensive analysis of the stone slope protection (riprap) on the levee foreshore and determined there were four (4) areas needing additional riprap as the original material was showing signs of deterioration. Beginning in late 1998 and continuing into 2001, the FDD began placing a 15" cover of new riprap on the areas identified in the 1996 study. Since then, the remaining four (4) areas on the river side levee slope have shown signs of deterioration as well. The FDD is pleased to report that new riprap overlay at the remaining deteriorated areas is in progress and scheduled for completion in early 2023. FDD has contracted with ESI for furnishing and hauling riprap material at a cost of \$1.325 million. FDD has contracted with L.G. Barcus for placement of the new riprap material at a cost of \$97,000.

## **LEVEE SEEPAGE COLLECTOR LINES**

As mentioned in last year's report, the FDD undertook a project to construct (2) prototype access manholes in an effort to determine the structural integrity of the perforated collector lines (collector line access manholes are necessary because the Corps of Engineers omitted them at the time the collector lines were originally constructed). Subsequent inspection of the collector lines revealed that they appear to be in satisfactory condition. In order to facilitate construction of some 75 additional manholes, the FDD has worked with congressional offices and the Corps of Engineers to solicit federal funding for this project. The FDD was recently notified that federal funding (\$4 million) for this project was included in the Water Resources Development Act of 2022 (signed into law on December 23, 2022). FDD anticipates working with the Corps of Engineers in the coming months to advance this project forward.

## **MIL LEVY RATE & MISC.**

The total mil levy rate for 2022 was 19.567. The 2023 mil levy rate was slightly increased to 19.683 although the 2022 Ad Valorem Tax was slightly reduced from 2021. Over the years the FDD has striven to maintain consistency with its annual budgets while continuing to meet the demands of an aging flood control and interior drainage system. It is fortunate that several large projects have been undertaken in recent years without the need to sell bonds. While it is not the intent of the board to raise capital by selling bonds in the foreseeable future, subsequent budgets may include maintaining the mil levy rates near the current level (or slightly higher) in order to meet several needs such as replacement or relining of additional deteriorating corrugated metal pipe or vitrified clay pipe sewers (mentioned above), sewer cleaning, continued installation of collector line access manholes (mentioned above) if not funded by the federal government, replacing pump station roofs, relining the 1986 carbon steel pressure relief well casings, and building an emergency fund to meet unforeseen expenses associated with infrastructure failures.

In addition to the projects summarized in the preceding paragraphs, additional work completed in 2022 includes contracting a new motor control center and transformer project at the Jersey Creek Pump Station at \$803,261 (to be completed in early 2023 by Superior Electric); testing of flood pumps in Pump Stations F-4 & F-7 (FDD); reroofing Pump Stations F-1 and F-12 and completing various masonry improvements at F-12 at \$186,217 (Delta Innovative Services, Inc.).

The FDD General Manager transition is nearing completion as Mr. Steve Dailey will be retiring at the end of February 2023. Mr. Andrew Dailey was hired as General Manager beginning January 2022 and will serve the FDD constituents in this role for 2023 and beyond.

## **FAIRFAX DRAINAGE DISTRICT FACILITIES & REGULATIONS**

It should be stressed that, for security and liability concerns, the Fairfax Levee is not open to the general public. The FDD recently adopted its Floodplain Management Plan which stipulates that public access to the Fairfax Levee for recreational hiking and biking is not permitted -- as doing so would expose the FDD's flood protection system, adjacent property owners and all Fairfax businesses to increased levels of risk. If, however, you have an interest in touring our flood protection facilities, we would be more than happy to give you a personalized tour. Some pictures from the 1993 flood event are also available for viewing.

FDD constituents are reminded that there are certain regulations in place as they relate to **all** subsurface work in Fairfax and that businesses (or their hired consultants and contractors) are required to submit plans and specifications to the Drainage District for planned excavations, sewer connections, well installations, subsurface structure abandonment, utility installations, etc. **prior** to beginning the project(s) so that we can verify all Corps of Engineer requirements are met and that the flood protection facilities and storm sewer infrastructure are not compromised. Your cooperation in this regard is appreciated by the FDD and all of the businesses in Fairfax.

### River Stages by Month 2022 Compared to Normal and Record High

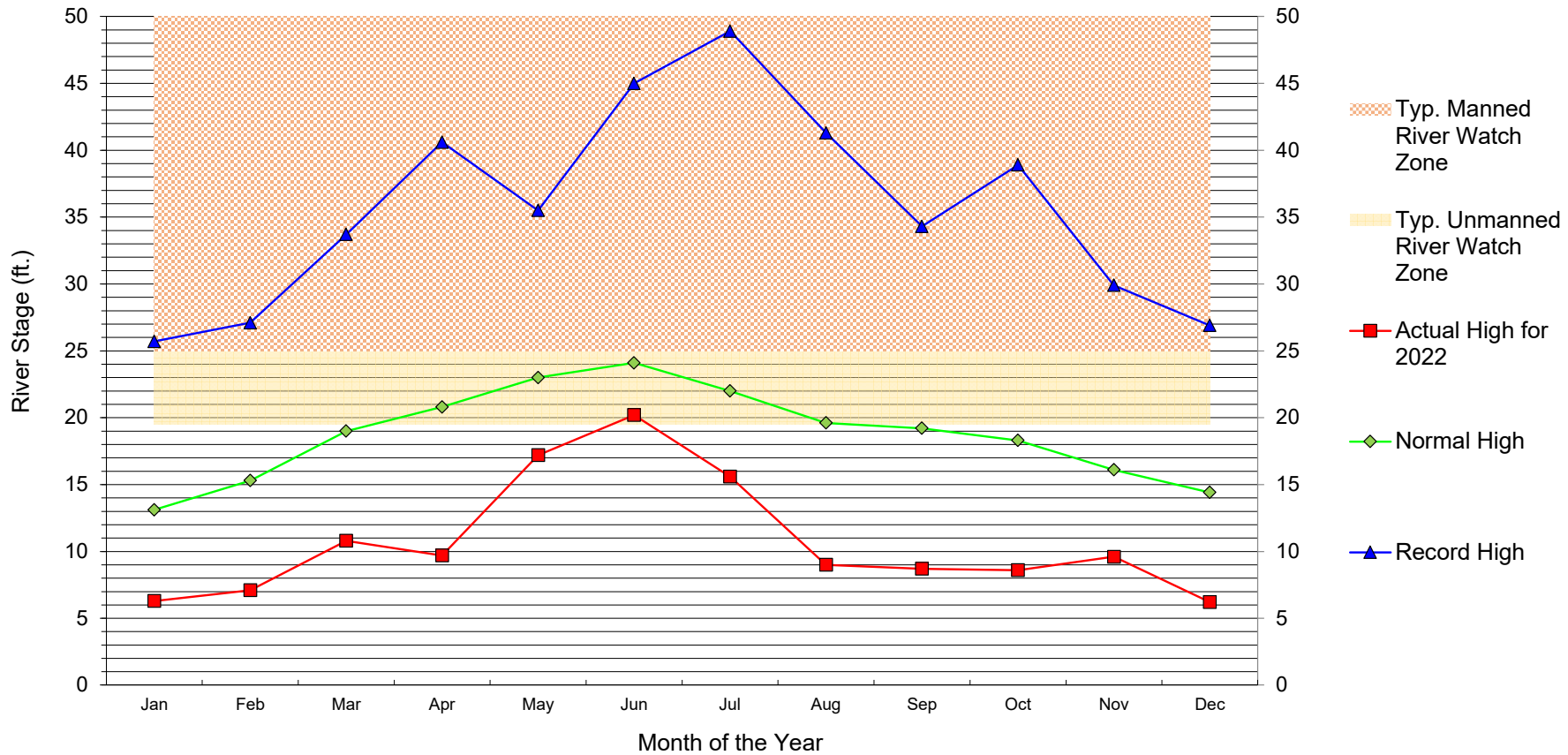


Figure 1