

Southwestern Illinois Flood
Prevention District Council

Annual Report 2020-2021



August 18, 2021



**Southwestern
Illinois
Flood Prevention
District Council**

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August 18, 2021

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Charles M. Etwert
Chief Supervisor of
Construction and the Works

Chairmen Kern, Prenzler, and Koerber:

Transmitted herewith is the 2020-2021 Annual Report of the Southwestern Illinois Flood Prevention District Council. The submission of this report is in satisfaction of the requirement of our authorizing statute (70 ILCS 750/40).

The Council has adopted two primary goals: to assure accreditation by the Federal Emergency Management Agency (FEMA) of area levee systems (limiting any economic damage to the region during the period during which accreditation is being sought) and achieving the Authorized Level of Protection to the extent possible with the funds available. The Council continued to make progress toward achieving both goals during the last year.

We will enter FY 2022 with FEMA accreditation being achieved for the Prairie Du Pont Levee and Drainage District & Fish Lake Drainage and Levee System, the Wood River East & West Fork Levee System, the Lower Wood River Levee System, and the Upper Wood River Levee System.

The Council is currently working with FEMA regarding accreditation of the East

a regional partnership to rebuild Mississippi River flood protection

Louis/MESD Levee System, which was deemed as structurally sound by FEMA on April 29, 2019, with the intent of achieving accreditation in FY 2022. All accreditations were achieved using only revenue from the dedicated FPD sales tax.

The intent is to work closely with FEMA to ensure the new maps reflect the 100-Year improvements. The Council now anticipates FEMA issuing new maps in 2022 or 2023.

The Council continues to work with the Corps of Engineers regarding the Council's design and building of the 500-Year Authorized Level of Protection Projects, building the most cost effective and highest priority flood protection projects throughout the Counties of Madison, Monroe, and St. Clair, Illinois to restore the federally Authorized Level of flood protection in the Metro-East.

The Corps of Engineers will provide oversight on the design and construction of these projects, to ensure that funds expended by the Council, where applicable, will be eligible for future Work In-Kind Credit.

Amended Project Partnership Agreements for the Design Deficiency Corrections for East St. Louis, Illinois Flood Protection Project and the Wood River Levee Systems have been executed, allowing for the utilization of \$12,415,405.70 of Work In-Kind Credit in the East St. Louis and \$16,041,496 of Work In-Kind Credit in the Wood River System earned to date. Additional Work In-Kind Credit will be submitted as work is completed.

The Council's FY 2022 budget focuses on the continued design of Authorized Level projects, and the start of construction on Authorized Level Bid Package #11.

The March/July 2019 100-Year flood event (the second highest event on record at 46.02 ft., and the longest flood event on record at 126 days), tested the seventy-five million dollars of flood protection improvements the Council has built. However, all improvements performed as designed and the Metro East American Bottom Levees handled the event much better than ever before.

Fortunately, there have been no major flood events the last two years. This follows three major flood events in the previous four years.

The projected twenty-five percent reduction in the Council's sales tax receipts due to COVID-19 did not occur. Receipts for FY 2021 appear to be on the positive side with an increase over FY 2020 receipts projected to be greater than ten percent. Future sales tax revenues will determine the ability to issue additional bonds generating more funds or the ability to utilize a pay-as-u-go approach to satisfy the current projected fund shortage of just over nine million dollars.

After all funds held by the Council (\$18,829,215) are expended, the three County FPD sales tax funds will be utilized for the 500-Year Authorized Level Projects. Requests to each County are now anticipated to occur in April 2023 and October 2023. There is currently \$40,643,736 in the County sales tax funds.

In summary, I am pleased to report on behalf of our Board of Directors, we continue to make progress in building and financing significant improvements to the flood protection systems in the Metro-East.

Thank you for your continued support of our efforts throughout the year.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles M. Etwert". The signature is written in a cursive style with a large initial "C" and "M".

Charles M. Etwert
Chief Supervisor of Construction and the Works

I. Introduction

On August 15, 2007, the Federal Emergency Management Agency announced their intention to “de-accredit” the Mississippi River levee systems protecting a 174 square mile area in three Illinois counties known as the American Bottom. The practical effect of this action would be to cripple the area economically and put an enormous financial burden on businesses and residents in this area. The threat of this action by FEMA prompted a chain of events that is without precedent in the area. The result is a cooperative regional effort to improve flood protection and secure FEMA accreditation for the levee system protecting the American Bottom from flooding.

The American Bottom is an area of incalculable economic value and historical significance. It is home to over 156,000 residents. Businesses in the area employ over 56,000 people. Some of the nation’s most prestigious companies have major manufacturing facilities having national significance in the area. Additionally, the area is rich in multimodal transportation assets that make it well positioned as a future center of commerce and industry.

The region’s leadership recognized that extraordinary measures were necessary to protect this economic asset and the homes and livelihoods of a large portion of the region’s population. A new revenue source was created in 2008 and a regional organization was formed to carry out an ambitious plan to maintain a level of flood protection that has been in place for some 75 years.

Acting on a plan to improve flood protection, even one that may be subject to adjustment from time to time, is an essential ingredient in helping businesses and citizens prepare for the future, to restore investor confidence in the area, and to assure taxpayers that their money is being spent effectively. The unpredictability of the Mississippi River serves as constant reminder that we need to demonstrate real progress in carrying out that plan.

The purpose of this report is to outline the activities of the Southwestern Illinois Flood Prevention District Council in 2020-2021 towards achieving the continuance of FEMA 100-Year Level of Protection accreditation and the design & construction of 500-Year Level of Protection (also known as the Authorized Level) improvements.

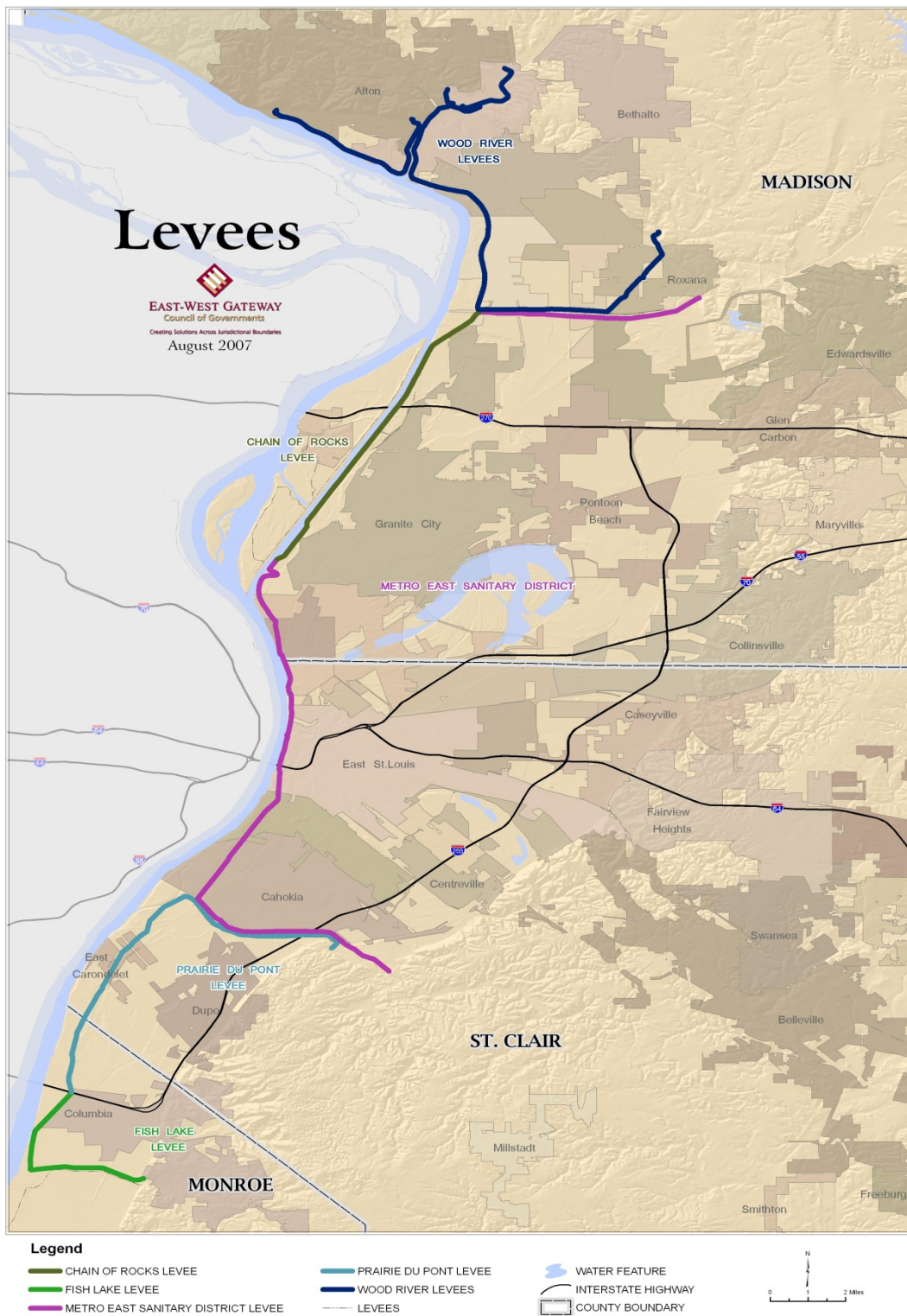
II. Background

A system of 65 miles of mainline and wing levees protects an area called the American Bottom in Southwestern Illinois from flooding by the Mississippi River. The American Bottom is an area of 174 square miles that is home to over 156,000 people and more than 56,000 jobs. The levee system was authorized by Congress, and designed and built by the U.S. Army Corps of Engineers to provide protection from a flood event on the Mississippi River of 54 feet on the St. Louis gauge. The American Bottom has not been flooded by the Mississippi River in the 76 years since the flood protection system was initially built, including during the flood of record in 1993, reportedly as much as a 380-year event.

Mississippi River flood protection consists of five “federal” levees (see Figure 1), i.e. levees designed and built by the federal government and whose owners participate in the Corps of Engineers Public Law 84-99 emergency assistance program. Federal law authorized the construction of the following five (5) levees:

- **Wood River Levee** - Operated and maintained by the Wood River Drainage and Levee District. Construction authorized under Section 4 of the Flood Control Act of 1938, Pub. L. 75-761, with subsequent improvement was authorized under Section 1001(20) of the Water Resources Development Act of 2007, Pub. L. 110-114 (“WRDA 2007”)
- **Chain of Rocks Canal, Levee, and Locks** - Operated and maintained by the Army Corps of Engineers. Construction authorized under the River & Harbors Act of 1945, Pub. L. 79-114
- **East St. Louis Levee** - Operated and maintained by the Metro East Sanitary District. The Flood Control Act of 1936, Pub., authorized construction. Law 74-738, as modified by the Flood Control Act of 1965, Pub. L. 89-298, and the Water Resources Development Act of 1976, Pub. L. 94-587. Subsequent improvement authorized under the Energy and Water Development Appropriations Act of 1988, Pub. L. 100-202
- **Prairie DuPont Levee** - Operated and maintained by the Prairie DuPont Levee and Sanitary District. Construction was authorized under the Federal Flood Control Act of 1936. Subsequent improvement was authorized under Section 102(8) of the Water Resources Development Act of 2000, Pub. L. 106-541 (“WRDA 2000”) and Section 5070 of the WRDA 2007
- **Fish Lake Levee** - Operated and maintained by the Fish Lake Drainage and Levee District. The Flood Control Act of 1954 authorized construction. Subsequent improvement was authorized under Section 102(8) of WRDA 2000 and Section 5070 of WRDA 2007

The Metro-East Sanitary District (formerly the East Side Levee and Sanitary District, originally formed in 1910) is authorized by the Metro-East Sanitary District Act of 1974, 70 ILCS 2905/. The Wood River and Fish Lake Districts were authorized by the Illinois Drainage Code, 70 ILCS 605/. The Prairie DuPont District was authorized by the Sanitary District Act of 1907, 70 ILCS 2205/. The Levee Districts own and have primary responsibility for maintaining the levee systems (with the exception of the Chain of Rocks Levee, which is owned and maintained by the Corps of Engineers).



**Figure 1 –
 Levee Systems**

The Southwestern Illinois Flood Prevention District Council was formed in 2009 through an Intergovernmental Agreement between the Flood Prevention Districts of Madison, St. Clair and Monroe counties as authorized by the Illinois Flood Prevention District Act of 2008, 70 ILCS 750/. The primary responsibility of the FPD Council is to plan, finance, design, and build capital improvements to the levee system. The Council's interim goal is to assure accreditation by FEMA in accordance with criteria described in 44 CFR 65.10 – Mapping of Areas Protected by Levee Systems. The Council's long-term goal is to achieve the Authorized Level of Protection, as defined by the Corps of Engineers.

In 2007, the Corps indicated that the agency had “reduced confidence” that the levee system could protect against a flood that has a 1% chance of being equaled or exceeded in any single year (commonly referred to as a 100-year flood or a base flood) without flood fighting. FEMA's announced decision to deaccredit the levee systems in our area, which is the industrial core of the St. Louis region, was based on this assertion by the Corps. In July 2009, FEMA issued preliminary flood insurance rate maps for the area that showed the American Bottom as a flood hazard area with no protection from flooding. Appeals of those maps were submitted by a number of local governments during the 90-day period provided by law; all of those appeals were denied in September 2010.

The region's leadership did not agree with the decision by FEMA to deaccredit the levee system. A number of area governments, businesses and citizens joined to file a lawsuit challenging this decision based, in part, on the lack of any documentation of levee system deficiencies. With the lawsuit and complaints about the mapping process across the country, FEMA agreed to revamp its mapping process and has not yet issued any new flood insurance rate maps for the area.

While the Corps built the levee systems in this area generally in the 1940s and 1950s using design standards in place at the time for a high level of flood protection, the current “design deficiencies” are measured relative to current engineering standards. The issue is not a failure of adequate maintenance by local levee districts, or any dramatic change in the condition of the levees, but primarily a change in engineering standards and in the procedures for measuring risk. The levee systems have consistently been determined to be in *acceptable* or *marginally acceptable* condition by annual and more thorough 3-year periodic inspections by the Corps.

According to its own preliminary evaluations and cost estimates, the Corps suggested that it could cost hundreds of millions of dollars to restore and maintain the authorized (54 feet flood elevation) level of flood protection. Further, the schedule to make these investments would essentially be open-ended, dependent entirely on the pace of federal appropriations. Making assumptions consistent with typical levels of federal appropriations, the project could take decades to complete. While the federal government could pay as much as 65% of the cost, it could take decades for those funds to be authorized and appropriated, so there would be significant uncertainty about the cost and schedule of the project. That continued uncertainty would impose very high costs on residents and businesses in the area, and, more importantly, would subject the area to increased flood risk.

Because of the uncertainty of federal funding and the complexity and time-consuming nature of the USACE project development process, levee improvements will be primarily locally funded. The three affected counties have imposed a ¼% sales tax to pay for the restoration of the levee system and formed a new organization, the Southwestern Illinois Flood Prevention District Council, to carry out the levee improvement project. The tax has been collected since January 2009 and will generate over thirteen million dollars in 2021.

III. FPD Council Activities

The following describes the work of the Council over its twelve-year existence. Work done this year continues to bring the Council closer to meeting its objectives. The Project Timeline since the announcement of de-accreditation by FEMA is shown in Figure 2.

In the early years, the greatest challenge and source of doubt about the project has been the continued involvement of the Corps of Engineers in granting permission for most of the improvements to the levee system that the Council has proposed. The Corps is an institution that moves very deliberately, is governed by elaborate and extensive guidelines and procedures, most of which apply to federally funded projects but are being applied to our locally funded project. This process caused significant early delays in the design process. Most of that is now behind us, with the Council and the Corps of Engineers working together to complete all construction as soon as possible.

The FPD Council began operations in July 2009. Since that time, the organization has:

- Completed a comprehensive inspection of the levee system
- Performed an economic analysis of the costs of mandatory flood insurance
- Provided support to local governments to appeal preliminary flood insurance rate maps,
- Conducted a design competition to determine the most cost-effective approach to assuring compliance with FEMA standards for levee system accreditation
- Sold \$94 million in bonds to pay for levee improvements.
- Completed the design of levee system improvements that will meet FEMA standards
- Developed a budget to complete the 100-Year Level of Protection solely with the proceeds from the FPD sales tax
- Received all required permits from state and federal agencies to proceed with construction
- Awarded contracts on the ten construction packages required to complete the 100-Year Level of Protection
- Completed all construction needed to achieve FEMA accreditation and submitted required certification packages to FEMA for review and approval
- Committed to restore the federally Authorized Level of Mississippi Flood River Protection in the Metro-East, designing and building the most critical and cost effective projects
- Sold an additional \$83.8 million in bonds for 500-Year Authorized Level Protection Projects
- Initiated the design and construction of 500-Year Authorized Level Protection Projects in Madison, Monroe, and St. Clair Counties.
- Received FEMA's acceptance of the MESD Levee System as structurally sound in April 2019.
- Received FEMA's letter of continued accreditation for the Prairie Du Pont/Fish Lake Levee System in November 2019
- Refunded the 2010 Series Bonds, saving \$13.2 million dollars in debt service cost over the life of the bonds
- Received FEMA's letter of continued accreditation for the Wood River East & West Fork Levee System in March 2021

- Received FEMA’s letter of continued accreditation for the Lower Wood River Levee System in March 2021
- Received FEMA’s letter of continued accreditation for the Upper Wood River Levee System in March 2021

The Council’s general goals have been to:

- assure compliance with FEMA accreditation standards with currently available revenue sources by late 2021 (originally projected at the end of 2015), but extended due to obtainment of easements, several high river stage events, construction alternatives & additions, construction delays, and lengthy reviews by multiple agencies); and
- build as many critical and cost effective Authorized Level Protection Projects, with the funds available, to achieve 500-Year flood level protection.

Notwithstanding the Council’s strong disagreements with FEMA’s decision to deaccredit the Metro-East levees and the agency’s continuing efforts to overturn that decision, every effort is being made to remove all doubt about compliance with FEMA accreditation criteria. In October 2010, the Council engaged a team of engineering consultants led by AMEC Environment & Infrastructure, Inc. (now Wood Environment & Infrastructure Solutions, Inc.) to design and manage construction of improvements to the levee system.

Today, after years of design work, multiple levee system inspections, drilling over 2000 borings along the entire length of the levee system, and submitting thousands of pages and many gigabytes of electronic files of design documentation to the Corps of Engineers, the Council has completed the 100-Year construction. The Council has built the project, using only funds from the dedicated sales tax and has significant funds to utilize towards the 500-Year Authorized Level of Protection.

The Council has worked to comply with all relevant environmental laws and regulations. The Illinois Environmental Protection Agency has granted approval for the project under Sec. 401 of the Clean Water Act to certify that the project will not discharging pollutants into any bodies of water. Similarly, the Corps of Engineers has granted conditional approval under Sec. 404 of the Clean Water Act for mitigating the project’s impact on wetlands.

The Council continues to work closely with our congressional delegation to help expedite the project and to advance legislation that would streamline future design approvals and would enable future funding of improvements to the levee system. All of the members continue to be supportive of the project and are working on our behalf to advance our interests with the Corps, with FEMA, and in Congress.

The general design features of the Proposed FEMA Certification Levee System Improvements are provided in Appendix I to this report.

In December 2015, the Council was successful with the issuance of additional sales tax revenue bonds which will generate a net \$77.5 million for the 500-Year Authorized Level of Protection Projects. It is the intent, to use these funds, to build the most cost effective and highest priority flood protection projects throughout the Counties of Madison, Monroe, and St. Clair, Illinois.

The Corps of Engineers is providing oversight on the design and construction of these projects, to ensure that funds expended by the Council will be eligible for future Work In-Kind Credit.

The Council has accepted Authorized Level Project Summary Reports for the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System, and the Prairie DuPont/Fish Lake Levee System.

The Council has adopted policies that emphasize the use of our local workforce on the construction of the project. It is the Council's policy that all contractors working on the project use a Project Labor Agreement (PLA) and comply with Illinois law regarding the use of prevailing wages. The Council also implemented a minority business and workforce utilization policy. The Council remains committed to employing local labor and local firms to the maximum extent possible on the project, and to paying fair wages and providing good working conditions for everyone working on the project.

The Council is going to maximize Work In-Kind Credit work as much as possible, satisfy the 5% cash requirement by providing the Corps funds for oversight on design and construction, and construct projects 100% where the Corps' benefit cost ratio is low and Corps funds are not anticipated.

Between 2016 and 2018, there were five significant events that have impacted the 100-Year and 500-Year Levee System Improvements affecting certification, design and construction.

In December 2016, the Corps of Engineers informed the Council the Wood River Levee System amended Project Partnership Agreement, originally scheduled to be approved in January 2017, would not be approved for at least two years. This delay was due to additional field information obtained during the design and construction of the 100-Year Projects and the design of the 500-Year Projects. This information indicated that the estimated cost of the Wood River Levee Systems projects would exceed the amount identified in the Wood River Levee System Reevaluation Report for Design Deficiency Corrections approved in 2011 by more than twenty percent, which required a new decision document be approved.

A new decision document required that a Risk Assessment and a Supplemental Report be completed, which takes at least twenty-four months. The amended Project Partnership Agreement for the Wood River Levee System was executed on July 26, 2019. During this time delay, the Council accumulated \$16,041,496 of Work In-Kind Credit which will be utilized on the Wood River Levee System.

In the spring of 2017, at the end of April and the beginning of May, the Metro East area experienced its second record flood event in the last three years. The April/May flood event was the sixth highest elevation ever recorded, following the third highest flood event which occurred December/January 2016.

All of the Council's projects performed as designed and no problems were experienced, which reflects the design and construction management provided by Wood Environment & Infrastructure Solutions, Inc. and the performance of the Council's contractors. The April/May 2017 flood event was a good test of the improvements that had been constructed to date.

Unfortunately, the flood event delayed construction that needed to be completed, such as the East St. Louis 126 Inch Sewer Rehabilitation, the MESD clay cap project, and the four remaining relief wells in the Wood River Levee System. However, all of these projects were finally completed during FY 2018.

In May 2017, the Corps of Engineers received notification of FY 2017 Work Plan Funding and FY 2018 President's Budget Funding. The Corps received FY 2017 Work Plan Funding of \$31.7 million for the Wood River Levee System and zero dollars for the MESD Levee System. Due to the Risk Assessment and Supplemental Report mentioned earlier, the Corps of Engineers only had the ability to use about fifty percent of the \$31.7 million dollars in the Wood River area on the second phase of the Wood River Deep Cutoff Wall Project.

Therefore, the Council and the Corps of Engineers' St. Louis District both requested a portion of the funds be reprogrammed to the MESD Levee System, where the Corps of Engineers had a project (Cahokia Relief Wells) designed and ready to build. Unfortunately, after waiting almost a year, the Council was informed, with the approval of the 2018 appropriations bill, new baseline and updated reprogramming limits, the request to reprogram the Wood River funds to East St. Louis would have to be updated and resubmitted.

The Corps suggested, the Council wait until the Corps was informed of FY 2018 Work Plan Funding for the MESD Levee System. Unfortunately, the Corps didn't receive any FY 2018 Work Plan Funds. However, in November 2018 the Corps did receive \$95.2 million dollars for the MESD Levee System, eliminating the need to transfer funds from the Wood River Levee System. The Corps will spend the Wood River funds on Wood River Levee System, utilizing a Council design and also designing and constructing other Authorized Level Projects.

In June 2017, the Corps of Engineers informed the Council that it would be utilizing a Risk Informed Design Process for the East St. Louis Design Deficiency Project for the Metro East Sanitary District (MESD) Levee System. The Risk Informed Design Process determines which projects (based on vulnerability and effect) should be completed first, to achieve the most effective use of available funds. In the past the Corps looked at a system in general when accessing a risk factor, now they will be providing a risk factor for individual hazards or segments. The determination of individual project risk factors changes project priorities and design responsibilities between the Corps of Engineers and Wood.

All of these events impacted the 100-Year and 500-Year Levee System Improvements affecting certification, design and construction.

Another significant event occurred in 2019, but had no effect on certification, design, or construction. On June 8, 2019, the Mississippi River at St. Louis reached a flood elevation of 46.02 ft., the second

highest elevation ever recorded. It was a 100-Year Flood event and the river remained above flood stage for a record length of time of 126 days.

All of the improvements built by the Council performed as designed without any problems. Three record flood events, in less than four years, confirm the need for the work the Council completed for the 100-Year accreditation and will complete for the 500-Year Authorized Level.

Last year another significant event, COVID-19 Pandemic, occurred and changed the way the Council met. Fortunately, COVID didn't affect the sales tax revenues which funds the Council's projects. Instead of a projected twenty-five percent reduction, the Council revenues will increase by ten percent for 2021.

Current design and construction for FY 2022 includes 1) the Council implementing construction of MESD Bid Package #11, 2) Wood designing MESD Bid Packages #14B & #14C, and 3) Wood completing the design of a portion of the Prairie DuPont/Fish Lake Bid Packages #15/16/17.

The general design features of the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System and the Prairie DuPont/Fish Lake Levee System Authorized Level Projects are provided in Section VI and Appendix IV of this report.

In summary, progress continues in building and financing significant improvements to the flood protection systems in the Metro-East. The Council remains committed to achieving total accreditation in FY 2022. With the continued support of the area's leadership and cooperation from the Corps of Engineers and FEMA, the Council will be able to meet any remaining challenges to completion of the 100-Year Accreditation Project and make great strides towards achieving the Authorized Level of Protection.

Figure 2

Project Timeline

2007

August - FEMA Announce De-accreditation

2008

May - Legislation Becomes Law to Enable Sales Tax and Flood Prevention Districts

July – County Flood Prevention Districts Formed by Counties

July/September – Tax Approved by County Boards

September – Counties Advance Funding for Project Development Work

2009

January – Tax Collection Begins

June – Intergovernmental Agreement Signed

June – First Meeting of FPD Council

July – FPD Council Staff Hired

August - FPD Council Authorizes Challenges of FIRMS

September – Financial Advisor Selected

September - Project Strategy Adopted

December – Begin Levee Inspection

December – Select Consultant for Design Competition

2010

February - Issue RFP for Design Competition

June – Design Consultants Selected

October – Begin Design and Pre-Construction Testing

November – 2010 Series Bonds Issued

Figure 2
Project Timeline

2011

March – Progress Drawings Submitted
May – 30% Design Drawings Submitted
June – Project Implementation Plan
September – 60% Design Drawings Submitted

2012

January/December – Design of 100 –Year Projects

2013

January/December – Design of 100-Year Projects Continues
September – USACE Permits Approved
September – Construction Begins

2014

April – Design of 100-Year Projects Completed
August – All 100-Year Construction Contracts Awarded

2015

February – 500-Year Authorized Level Resolution Approved (Appendix III)
July – Design of 500-Year Projects Begins
August/September – USACE Proposes New Cost Saving Alternative Reducing
Costs by \$50M and Extending Construction Schedule
October – East St. Louis 126-Inch Sewer Rehabilitation Project Required for
Accreditation
December – 2015 Series Bonds for 500-Year Authorized Level Projects Issued
December – Third Highest Flood Event on record Delays Construction

Figure 2

Project Timeline

2016

April – Council Completes Wood River Deep Cutoff Wall Project – Eligible for \$14M Work In-Kind Credit (WIK)

December – Corps Informs Council of Two Year Delay for Wood River PPA Approval Delaying Utilization of WIK

December – Wood River East & West Forks Accreditation Package to FEMA

2017

March – Upper Wood River Accreditation Package to FEMA

April/May – Sixth Highest Flood Event on Record Delays Construction Again

June – Corps Informs Council of Utilization of Risk Informed Design Process in MESD Changing Priorities

July – Prairie Du Pont/Fish Lake Accreditation Package to FEMA

October – Lower Wood River Accreditation Package to FEMA

2018

February – Completion of 100-Year FEMA Certification Levee System Improvements

May – East St. Louis Work In-Kind Credit Receives Preliminary Approval

August – East St. Louis (MESD) Accreditation Package to FEMA

November – Corps receives \$95.2 M Work Plan Funds for East St. Louis Design Deficiency Corrections

2019

February – Corps gives Preliminary Approval for \$16M of Work In-Kind Credit for the Wood River Levee System

April – East St. Louis Design Deficiency Project Partnership Agreement Executed

Figure 2

Project Timeline

2019

- April – FEMA accepts East St. Louis /MESD Levee System as structurally sound
- May – Corps Approves \$12M of Work In-Kind Credit for East St. Louis Flood Protection Project
- July – Wood River Design Deficiencies Corrections Project Partnership Agreement Executed
- March/July – 100-Year Flood Event on Mississippi River, Second Highest Ever 46.02 FT., Lasting a Record 126 Days. All 100-Year Improvements Operate as Designed
- November – FEMA issues letter of continued accreditation for the Prairie Du Pont/Fish Lake Levee System
- December – Award of first Authorized Level construction contract BP #18

2020

- January – Council refunds 2010 Series Bonds saving over \$13.2 million in debt service costs
- January - Award of second Authorized Level construction contract BP #14A

2021

- March - FEMA issues letter of continued accreditation for the Wood River East & West Fork Levee System
 - FEMA issues letter of continued accreditation for the Lower Wood River Levee System
 - FEMA issues letter of continued accreditation for the Upper Wood River Levee System

2022

Total FEMA Accreditation Achieved FY 2022

- Authorized Level Projects Design Continues
- Authorized Level Projects Construction Continues

IV. Financing and Budget

Revenue from a dedicated sales tax is used to support the Council's ongoing design and construction activities. Sales tax revenue showed substantial growth 2009 thru 2011 coming out of the recession. Growth was slowed in 2012, declined in 2013, but reached new highs in 2014 thru 2018. In May 2019, the Illinois Department of Revenue's audit department approved a large claim for a credit to a taxpayer in Madison County for taxes paid in February. This resulted in taxes collected in 2019 being slightly lower than in 2018, falling from \$12,348,606 to \$12,266,878. (See Figure 3, which reflects monthly receipts for various years).

Based on the total amount of sales tax collected in 2018 and 2019, the average annual percent increase for 2018 and 2019 was approximately 1.52%, much lower than the annual increase of 4.16% in 2017. With the COVID-19 Pandemic, a twenty-five percent decrease in sales tax receipts was anticipated in 2020. Fortunately, the decrease was only slightly over one percent. Receipts are expected to increase by ten percent in 2021.

The Council issued bonds for \$94,195,000 in November 2010. After setting aside funds for a debt service reserve and costs of issuance, \$87 million was available to fund construction of the FEMA Certification Levee System Improvements.

In December 2015, additional bonds were issued providing \$77.5 million in funds for the 500-Year Authorized Level of Protection Projects.

In the Fall of 2019, with interest rates at a historic low level, the Council started the process of refunding the 2010 Series Bonds. The results, completed in early 2020, exceeded projections, with the refunding providing the Council \$13.2 million dollars in debt service savings through the life of the bonds.

Table 1 is a financial summary of the Council's activities through September 30, 2020, prepared by Scheffel Boyle.

Figure 3

Flood Prevention District Sales Tax Trends 2009-2020

Monthly Receipts 2009-2013-2017-2019-2020



Table 1

**SOUTHWESTERN ILLINOIS FLOOD PREVENTION DISTRICT COUNCIL
STATEMENT OF REVENUES, EXPENDITURES, AND
CHANGES IN FUND BALANCES - GOVERNMENTAL FUND
FOR THE YEAR ENDED SEPTEMBER 30, 2020**

| | |
|---|-----------------------------|
| REVENUES: | |
| District Sales Tax | \$ 12,068,248 |
| Less: Return of Excess Sales Tax to Districts | (3,527,145) |
| Reimbursement – East St. Louis | 76,890 |
| Interest Income | <u>782,444</u> |
| Total Revenues | \$ <u>9,400,437</u> |
| EXPENDITURES: | |
| Current: | |
| General and Administrative | \$ 271,003 |
| Design and Construction | 7,876,789 |
| Professional Services | 191,188 |
| Debt Service: | |
| Principal | 73,480,000 |
| Interest | 7,785,567 |
| Bond Issuance Costa | 367,262 |
| Less: Federal Interest Subsidy | (259,311) |
| Total Expenditures | \$ <u>89,712,498</u> |
| DEFICIENCY OF REVENUES OVER EXPENDITURES | \$ (80,312,061) |
| OTHER FINANCING SOURCES (USES): | |
| Refunding Bond Issuance, Par Value | \$ 60,970,000 |
| Refunding Bond Discount | (211,497) |
| Refunding Bond Premium | 10,917,528 |
| Total Other Financing Sources (Uses) | \$ <u>71,676,031</u> |
| NET CHANGE IN FUND BALANCE | \$ (8,636,030) |
| FUND BALANCE: | |
| Beginning of Year | \$ 49,150,261 |
| End of Year | <u>\$ 40,514,231</u> |

Table 2 provides project expenditures for design, construction management, and construction proposed in FY 2022.

Table 3 compares the Estimated Authorized Level Funding Needed for FY 2022 thru FY 2024 to the Estimated Available Authorized Level Funding FY 2022 thru FY 2024, indicating an anticipated funding shortage slightly over nine million dollars. Possible issuance of a third bond issue or pay-as-u-go funding could cover this shortage.

Table 2
Estimated Project Expenditures 10.1.2021 -9.30.2022

| Design & Construction Management | FY 2022 |
|--|---------------------|
| Engineering Design | |
| <i>W. O. #1 Program Mgmt.</i> | \$150,000 |
| <i>W. O. #3 Preconstruction Activities</i> | \$30,000 |
| <i>W. O. #3 Flood Activities</i> | \$25,000 |
| Authorized Level Work Orders | |
| <i>W.O. #13 Wood River Field & Design BP #8, BP #9, & BP #10</i> | \$200,000 |
| <i>W.O. #14 MESD Field & Design</i> | \$500,000 |
| <i>W.O. #16 Prairie Du Pont/Fish Lake Field & Design</i> | \$3,000,000 |
| <i>W.O. #18 MESD Deep Cutoff Wall Utility/Easement Assistance</i> | \$200,000 |
| <i>W.O. #19 Wood River LERRD's</i> | \$40,000 |
| <i>PDP/FL LERRD'S</i> | \$150,000 |
| <i>Illinois DNR Fees</i> | \$3,000 |
| Construction Management. | |
| <i>W. O. #? Construction Management BP #14, BP #15/16/17 & BP#18</i> | \$900,000 |
| TOTAL ENGINEERING DESIGN & CONSTRUCTION MGMT. | \$5,198,000 |
| Construction | |
| <i>Bid Package #11 - MESD</i> | \$7,047,000 |
| <i>Contingency (10% FPD Construction)</i> | \$704,700 |
| <i>Utilities</i> | \$200,000 |
| <i>Property Acquisition Authorized Level - Wood River</i> | \$200,000 |
| <i>Property Acquisition Authorized Level - East St. Louis</i> | \$1,500,000 |
| <i>Property Acquisition Authorized Level - Prairie Du Pont/Fish Lake</i> | \$500,000 |
| <i>Wetland Mitigation</i> | \$600,000 |
| <i>HazMat Mitigation</i> | \$1,500,000 |
| <i>Legal</i> | \$350,000 |
| <i>Corps of Engineers Authorized Level Costs</i> | \$500,000 |
| TOTAL CONSTRUCTION | \$13,101,700 |
| TOTAL ENGINEERING DESIGN & CONSTRUCTION | \$18,299,700 |
| REFUND OF SURPLUS FUNDS TO COUNTY FPD ACCOUNTS | \$1,000,000 |

| Operations & Financing | |
|-------------------------------------|---------------------|
| <i>General & Administrative</i> | \$325,000 |
| <i>Debt Service</i> | \$9,474,781 |
| <i>Professional Services</i> | |
| <i>Legal</i> | \$190,000 |
| <i>Financial Advisor</i> | \$65,000 |
| <i>Bond Trustee</i> | \$12,000 |
| TOTAL OPERATIONS | \$10,066,781 |
| TOTAL EXPENSES | \$29,366,481 |

Table 3

Estimated Authorized Level Funding Needed FY 2022 to FY2024

| | |
|---|---------------------|
| <i>Bid Package #11- MESD</i> | \$8,100,000 |
| <i>Bid Package #14B- MESD</i> | \$3,000,000 |
| <i>Bid Package #14C- MESD</i> | \$6,000,000 |
| <i>Bid Package #18A- MESD</i> | \$4,000,000 |
| <i>Bid Package #9 - WOOD RIVER</i> | \$2,000,000 |
| <i>Bid Package #15 - PDP/FL</i> | \$17,115,000 |
| <i>Bid Package #16 - PDP/FL</i> | \$7,140,000 |
| <i>Bid Package #17 - PDP/FL</i> | \$9,828,000 |
| <i>Engineering Design & Construction Management</i> | \$13,478,074 |
| <i>Construction Contingencies, Utilities, Property Acquisitions, Etc.</i> | \$15,020,375 |
| <i>General & Administrative and Professional Services</i> | \$1,881,000 |
| CURRENT ESTIMATED AUTHORIZED FUNDING NEEDED | \$87,562,449 |

Estimated Available Authorized Level Funding FY2022 to FY2024

| | |
|--|---------------------|
| <i>Cash & 2015 Bond Project Funds (9/30/2021)</i> | \$26,478,729 |
| <i>County FPD Tax Funds (9/30/2021)</i> | \$40,643,736 |
| <i>Additional Sales Tax Revenue After Debt Service</i> | \$15,157,946 |
| <i>Interest</i> | \$98,000 |
| Available Funding | \$82,378,411 |
| Current Estimated Shortage FY2022-FY2024 | \$5,184,038 |
| FY2025 Costs | \$3,939,929 |
| Estimated Total Shortage | \$9,123,967 |

V. FEMA Certification Construction Costs

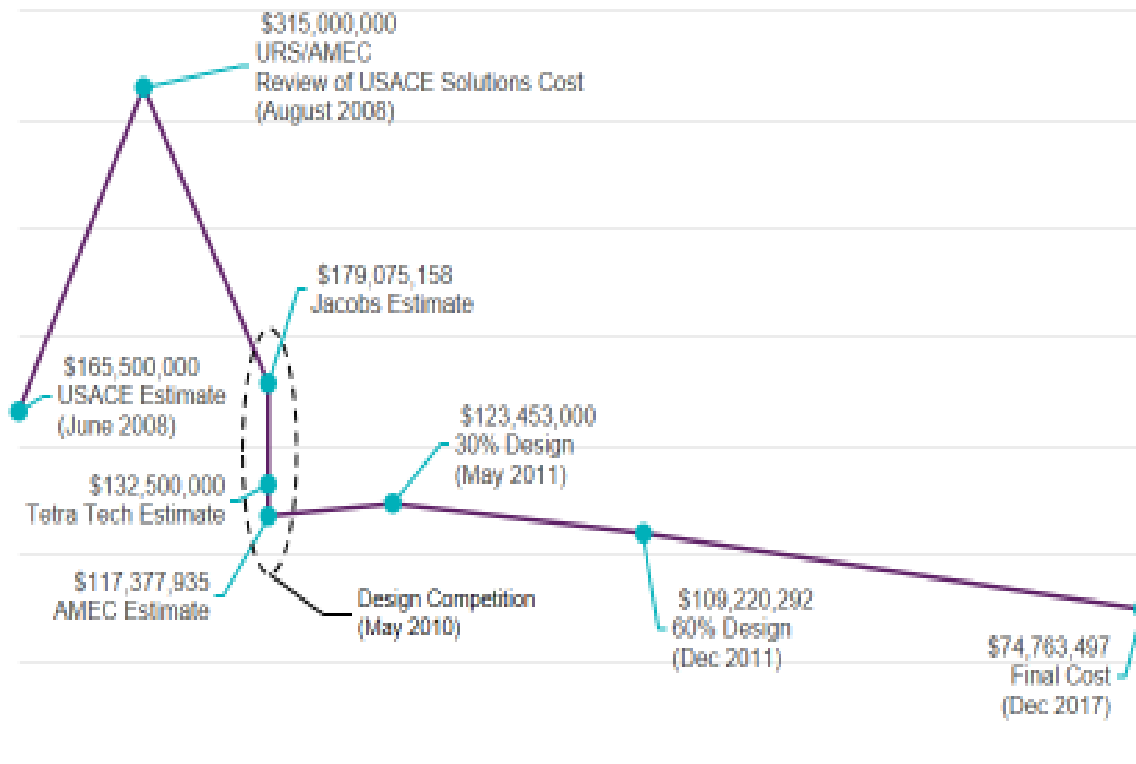
Southwestern Illinois Flood Prevention District Council FEMA Certification Levee Improvement Projects

| BID PACKAGE | LOCATION/PROJECT | CONTRACTOR | CONSTRUCTION COST |
|-------------|--|--------------------------|------------------------|
| 1 | Gravity Drain & Toe Rehabilitation | Noeth Excavating | \$133,641.00 |
| 2A | Fish Lake 1 Pump Station | Korte & Luitjohan | \$797,599.53 |
| 2B | Prairie DuPont, MESD, and Wood River 5 Pump Stations | Korte & Luitjohan | \$5,346,710.92 |
| 2C | MESD Site 12 Force Mains | Haier Plumbing | \$311,692.00 |
| 3 | Wood River Blanket Drains, Earth Fill, Relief Wells, Seepage Berms, Piping, Weirs | Keller Construction | \$12,922,903.94 |
| 4 | MESD 1 Pump Station, Clay Cap, Piping, RWs | Haier Plumbing | \$6,398,834.40 |
| 5 | MESD Clay Cap, Earth Fill, Piping, Relief Wells Rip Rap, Sluice Gate Rehabs | Keller Construction | \$14,420,883.71 |
| 6 | Prairie DuPont & Fish Lake Clay Cap, Seepage Berms, Piping, Relief Wells, Sluice Gate Rehabs | Lane Construction | \$15,436,257.14 |
| 7A | Upper Wood River Shallow Cutoff Wall | Kamadulski Excavating | \$3,375,350.25 |
| 7B | Lower Wood River Deep Cutoff Wall | TREVIICOS | \$14,919,724.29 |
| 5A | East St. Louis 126 Inch Sewer Repair | SAK Construction | \$699,900.00 |
| | | TOTAL | \$74,763,497.18 |

FEMA Certification



History of Construction Cost Estimates



7

Exceptional design and construction management by Wood Environment & Infrastructure Solutions, Inc. (formerly Amec Foster Wheeler Environment and Infrastructure Inc.) and excellent bids and construction by the contractors utilized has allowed the Council to complete the 100-Year Levee System Improvements under estimated costs and have significant funds available for the 500-Year Levee System Improvements.

VI. Authorized Level Levee Improvement Projects

The Board of Directors has approved the design of Authorized Level Projects in the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System, and the Prairie DuPont/Fish Lake Levee System. Wood is continuously working with the Corps of Engineers regarding the design and construction of the following Bid Packages

Wood River Levee System

Bid Package 8: Includes the design and construction of a new 15,000-gpm pump station at Canal Road, approximately 22 relief wells, conveyance systems, and grading work. This package spans the Lower Wood River Levee from station 431+00 to 455+00. The Corps of Engineers has requested that the Corps build this bid package. Currently, Wood has completed the design. The Council has acquired all necessary real estate. The Corps advertised this project in July 2021.

Estimated Construction Cost \$ 6,000,000.

Bid Package 9: Formerly this package spanned the Lower Wood River Levee from station 493+35 to 480+15 and included the design and construction of a new pump station and 18 relief wells. Bid package 9, if needed to satisfy the 35% non-federal sponsor local cost share, will be a relief well abandonment package.

Estimated Construction Cost \$2,000,000 (+/- as needed to satisfy cost share)

Metro East Sanitary District (MESD) Levee System

Bid Package 11: Spans the MESD Levee from Station 774+00 to 889+00. This package currently includes the design and construction of 50 relief wells, abandonment of old wood stave relief wells, conveyance system improvements, and modifications to the existing G.C.E.D. #1X pump station to increase its capacity as well as modifications to the Madison Pump Station to modify the conveyance of relief well discharge into the pump station.

Estimated Construction Cost \$ 8,100,000

Bid Package 14B: Spans the MESD Levee from station 961+00 to 977+00 and includes the design and construction of a landside filter blanket. It is anticipated to be advertised for bid at the completion of construction of the USACE-designed and constructed MESD deep cutoff wall project (estimated to be late 2021). Land acquisition from the Wiggins Ferry Company is underway.

Estimated Construction Cost \$ 3,000,000

Bid Package 14C: Spans the MESD Levee from station 41+00 to 244+00 and includes the design and construction of underseepage berms. This bid package will be completed contingent on remaining funds within the MESD project. It is anticipated to be advertised for bid after Bid Packages 11 and 18A.

Estimated Construction Cost \$ 6,000,000

Bid Package 18A: Pump station and relief well pipe conveyance system improvements in Cahokia, Illinois. Scope is currently being developed and will be coordinated with the Corps of Engineers. Currently scheduled for construction Winter 2022.

Estimated Construction Cost \$ 4,000,000

Prairie DuPont/ Fish Lake Levee System

Bid Packages 15: Spans the Prairie DuPont Levee System from station 167+65 to 308+50 and includes the abandonment of existing relief wells, construction of new seepage berms, new relief wells, and the construction of a new pump levee station at station 209+13. Subsurface investigations for this project are underway and design has recently begun. The project is estimated to be awarded in late 2022.

Estimated Construction Cost \$ 17,115,000.

Bid Package 16: Spans the Prairie DuPont Levee System from station 308+50 to 550+00 and includes the abandonment of existing wells, construction of new seepage berms, and new relief wells. This package is currently on hold pending necessary subsurface investigations scheduled for Winter 2021/2022.

Estimated Construction Cost \$ 7,140,000

Bid Package 17: Spans the Fish Levee System from station 550+00 to 809+35 and includes the abandonment of relief wells, construction of new seepage berms, new relief wells and the construction of a larger pump station at levee station 691+00. This package is currently on hold pending necessary subsurface investigations scheduled for Winter 2021/2022.

Estimated Construction Cost \$ 9,828,000

VII. Authorized Level Construction

Southwestern Illinois Flood Prevention District Council Authorized Level Under Construction or Completed

| BID PACKAGE | LOCATION/PROJECT | CONTRACTOR | CONSTRUCTION COST |
|----------------|------------------|------------|----------------------|
| | | | |

| | | | |
|-----|--|---------------------|-----------------|
| 14A | MESD Underseepage Improvements – Cutoff Trench, Riverside Blankets/Berms, Piezometers, & Placement of Fill | Keller Construction | \$950,746.86 |
| | | | |
| 18 | MESD Relief Wells, Conveyance Systems, Sluice Gates, & Modifications to Cahokia Pump Station & Pump Station Forebay | Keller Construction | \$4,756,130.37* |

| | | | |
|--|--|--------------|-----------------------|
| | | TOTAL | \$5,706,877.23 |
|--|--|--------------|-----------------------|

- 92% Complete as of 6/30/2021

VIII. FEMA Certification and Mapping

Certification reports were submitted to FEMA as each levee system was completed. Wood prepared reports for Wood River East/West Fork, Prairie DuPont/Fish Lake, and Lower Wood River.

The USACE submitted a National Flood Insurance Program (NFIP) Levee System Evaluation Reports (LSER) for the Upper Wood River Levee System, which includes the Mel Price uncontrolled underseepage area and for East St. Louis (MESD) Levee System, including the Chain of Rocks Levee.

All levee improvements leading to certification were completed by February 8, 2018.

There was concern about the timeline for the Corps of Engineers making necessary improvements to a critical stretch of levee in the Wood River area in the vicinity of the Mel Price Lock and Dam. FEMA agreed to accept the Corps' certification of that portion of the system with the Corps utilizing an interim operations plan until funding of final improvements was available. In March 2019, the Corps of Engineers received \$24,087,000 in the FY20 President's Budget for construction of the needed improvements. The Corps of Engineers is currently awarding a contract for Reach 1 Relief Wells and will award a contract for Reach 2 Relief Wells in June 2022. The project is anticipated to be closed out in FY 2024.

100-Year Certification Packages Status

East & West Fork Levee Systems

Originally submitted by Wood on December 5, 2016

FEMA issued a letter of continued accreditation on March 25, 2021.

Prairie DuPont & Fish Lake Levee Systems

Originally submitted by Wood on July 6, 2017

FEMA issued a letter of continued accreditation on November 14, 2019.

Lower Wood River Levee System

Originally submitted by Wood on October 17, 2017

FEMA issued a letter of continued accreditation March 25, 2021.

Upper Wood River Levee System

Originally submitted by Corps of Engineers on March 10, 2017

FEMA issued a letter of continued accreditation March 29, 2021

MESD Levee System

Corps of Engineers submitted to FEMA on August 31, 2018

FEMA accepts MESD Levee System as structurally sound on April 29, 2019.

Council is currently working with the FEMA regarding the additional documentation needed to obtain a letter of accreditation.

Copies of all accreditation letters are provided in Appendix II

With improvements and accreditations being completed and received, FEMA will begin the process of issuing new maps. The intent is to work closely with FEMA to ensure the new maps when issued, reflect the levee improvements. It is currently anticipated that FEMA will be issuing new maps in 2022 or 2023.

IX. Work In-Kind Credit

The Council continues to work with the Corps of Engineers to ensure the work the Council does on the 500-Year Authorized Level of Protection Projects is eligible for future Work In-Kind Credit.

This is an elaborate and multi tasked process, taking up to two years before a project is guaranteed to be eligible for Work In-Kind Credit. A project is only guaranteed to be eligible if there is a properly executed Project Partnership Agreement (PPA) for the Levee System.

The Council first operated under Memorandums of Understanding, which allowed work to be considered for Work In-Kind Credit prior to the execution of an amended Project Partnership Agreement. The credit is only good towards the non-Federal contribution of funds for a project, and it will not be considered for the five percent cash requirement.

Next, an Integral Determination Report (IDR) that identified the work the Council intended to perform as In-Kind contributions in a Levee System had to be approved.

Finally, the amendments to the PPAs had to be finalized and submitted to the Corps' Mississippi Valley Division (MVD). After approval by the MVD, they were forwarded to headquarters in Washington, D.C. for approval.

On April 1, 2019, the amended Project Partnership Agreement between the Council, the Corps of Engineers, and the Metro East Sanitary District was executed. This made \$12,415,405 of work, the Council had completed, eligible for Work In-Kind Credit towards the Design Deficiency Corrections for East St. Louis, Illinois Flood Protection Project.

On July 26, 2019, the amended Project Partnership Agreement between the Council, the Corps of Engineers, and the Wood River Drainage and levee District was also executed. This made \$16,041,496 of work, the Council had completed, eligible for Work In-Kind Credit towards the Supplemental Design Deficiency Corrections for the Wood River Levee System.

In the Prairie DuPont/Fish Lake Levee System, the Council will operate under the Memorandum of Understanding signed in 2015 and under Section 408 authorization, which allows the Council to provide funds to the Corps of Engineers for design and construction oversight. A Project Partnership Agreement cannot be utilized, since the Corps of Engineers has determined the Prairies DuPont/Fish Lake Levee System Design Deficiency Project has a low benefit cost ratio, which prevents the Corps from obtaining funds.

The Corps of Engineers has completed a Risk Assessment Review, is trying to obtain funding for a risk informed design, and continues to look for ways to improve the benefit cost ratio.

Even if a funding alternative allowing federal funding in conjunction with non-federal funding were determined, it would take years before funding would be available. Until federal funds would possibly become available, the Council is proceeding paying all project costs in the Prairie DuPont/Fish Lake Levee Systems to reduce flood risks.

The Council started the 500-Year Authorized Level design process prior to having the amended Project Partnership Agreements with the Work In-Kind Credit provision. This had a slight risk, but the risk was low, since the Council was working with the Corps and was designing and constructing projects the Corps had identified as part of the Authorized Level of Protection.

Starting the design, prior to having the Project Partnership Agreements, allowed project construction two years earlier and provided additional flood protection to the Metro-East area sooner. The first two Authorized Level Projects awarded will be completed in 2021.

The Council has satisfied the Corps' five percent cash requirement for the East St. Louis and Wood River Design Deficiency Corrections Projects. Funds continue to be budgeted for the Corps of Engineers' oversight of the Prairie Du Pont/Fish Lake design and construction, if needed.

X. Conclusions, Issues and Next Steps

Much progress has been made in the twelve years that the Council has been in existence towards the regional goal of maintaining a high level of flood protection for the American Bottom area. Doing so is a regional priority and the Council has acted with a great sense of urgency, commitment, and cooperation in conceiving major improvements to the flood protection system. That process reached important milestones in February 2018 with the completion of all of the 100-Year Level of Protection Projects and the submittals of all of the certification packages.

With the interim goal of achieving FEMA accreditations, the process of achieving the long-term goal of 500-Year Authorized Level of Protection is well on its way. The Council's intent has been expressed by resolution (Appendix III); action has been initiated by the authorization of the design of Authorized Level Projects in the Wood River Levee System, the Metro East Sanitary District (MESD) Levee System, and the Prairie DuPont/Fish Lake Levee System and a successful bond sale generating an additional \$77.5 million in construction funds.

There are a number of critical next steps as we continue to move forward:

- Achieve total FEMA certification in FY 2022
- Continue to work with levee districts to establish sufficient funding for ongoing maintenance of improvements, FEMA Level Improvements – Wood has prepared Life Cycle Costs for each of the Levee Systems. Currently, working with the Wood River Drainage & Levee District and the Prairie Du Pont Levee & Sanitary District
- Continue to identify the most cost effective and high priority projects in the Wood River and MESD Levee Systems as the Corps of Engineers completes its Risk Assessment & Supplemental Report for Wood River and utilizes the Risk Informed Design Process for the East St. Louis Design Deficiency Project
- Prioritize the Authorized Level Projects in the Prairie Du Pont/Fish Lake Levee System
- Complete the design of the 500-Year Authorized Level of Protection Projects that can be built either by the FPD or the Corps of Engineers
- Construct as many cost effective and high priority Authorized Level of Protection Projects, which qualify for Work In-Kind Credit, as possible
- Secure the additional funding to complete the Authorized Level of Protection Projects

Mississippi River flood stages in December 2015/January 2016 (fourth highest elevation recorded) and April/May 2017 (seventh highest elevation record) delayed construction completion and pushed accreditation back.

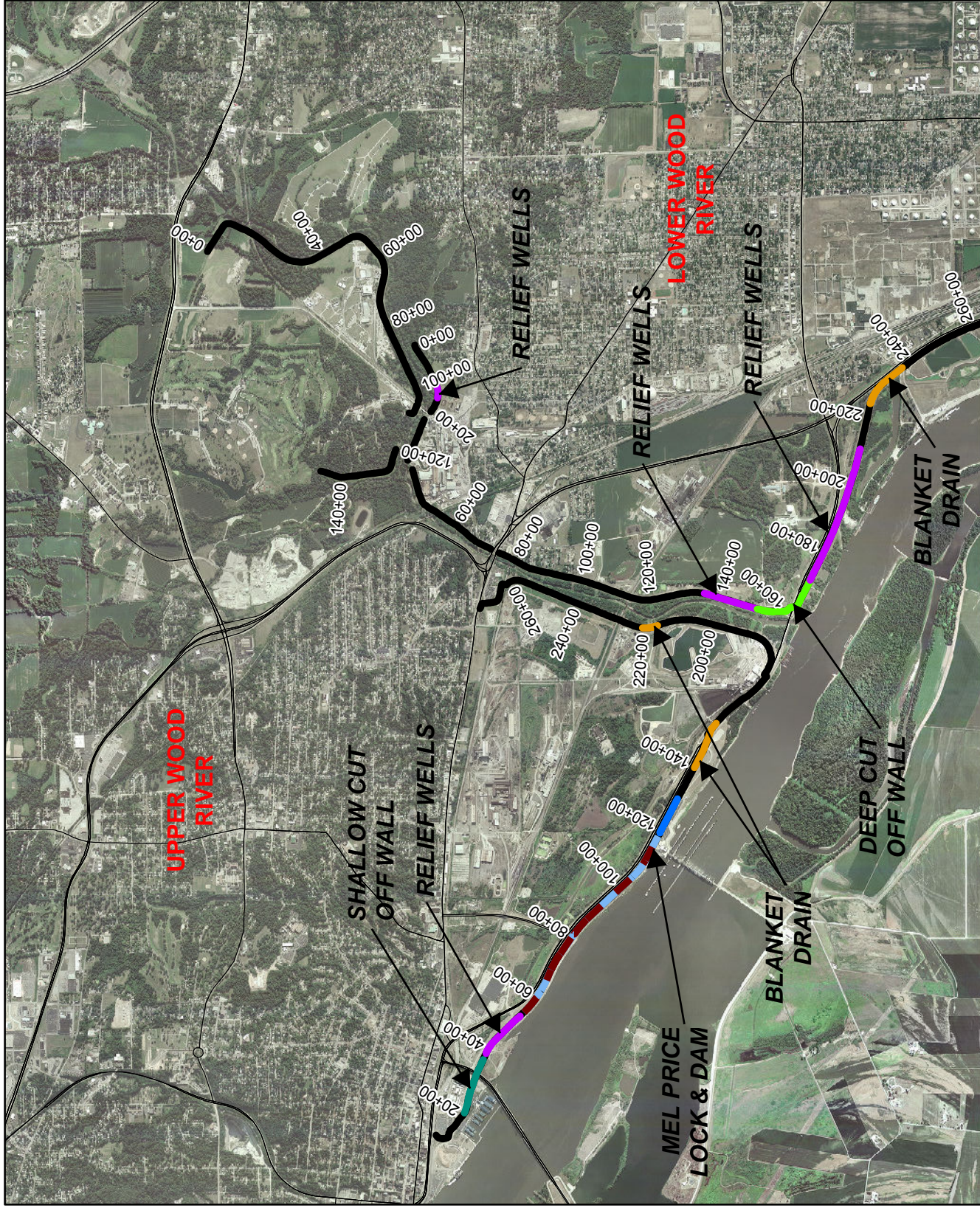
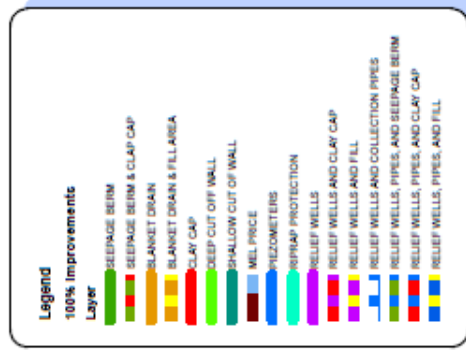
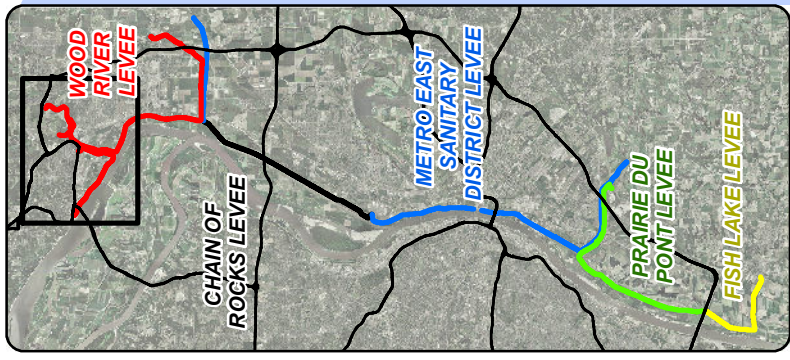
The March/July 100-Year flood event (the second highest event on record at 46.02 ft., and the longest flood event on record at 126 days), tested the seventy-five million dollars of flood protection improvements the Council has built. However, all improvements performed as designed and the Metro East American Bottom Levees handled the event much better than ever before.

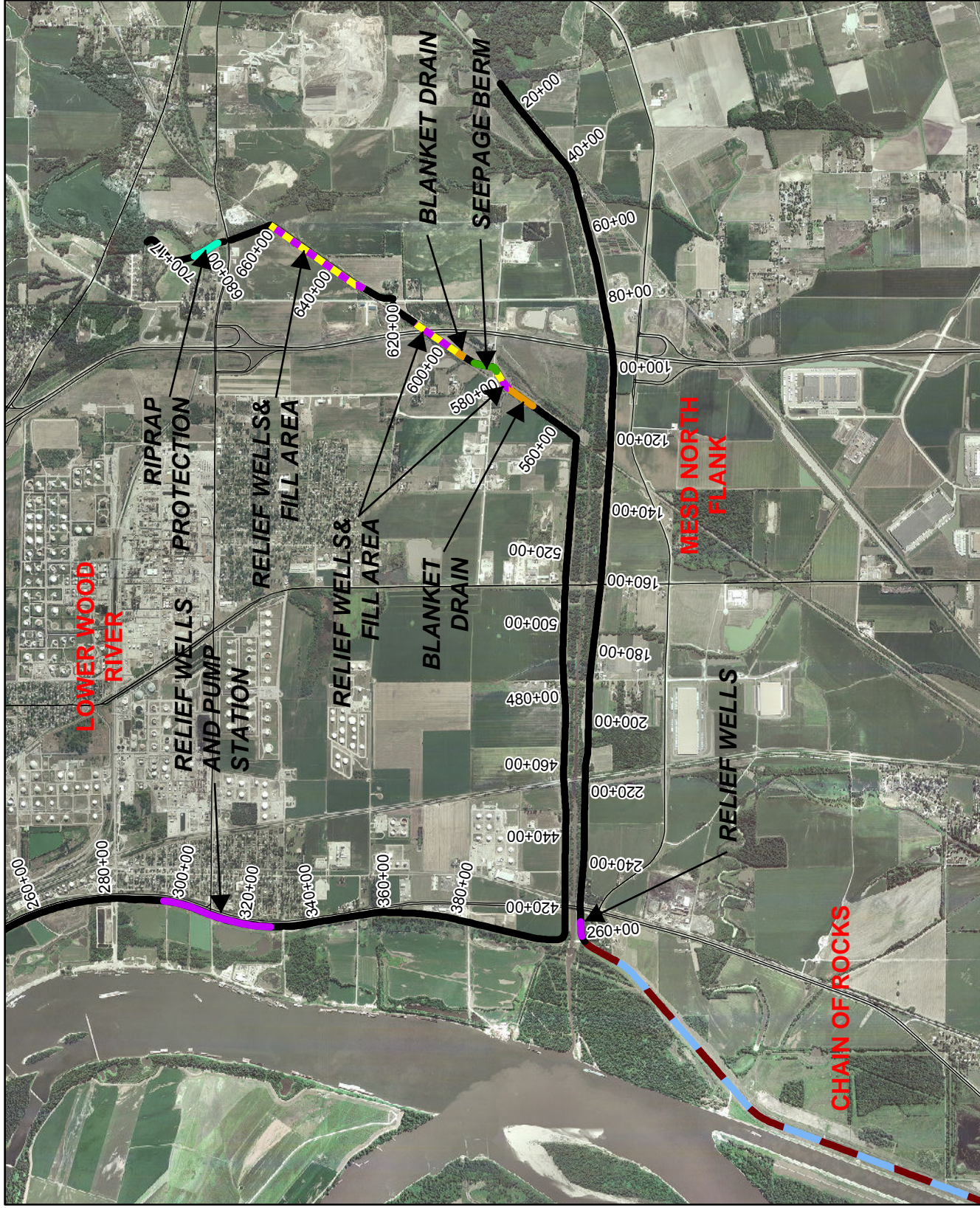
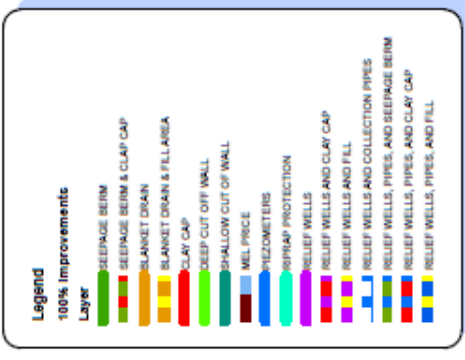
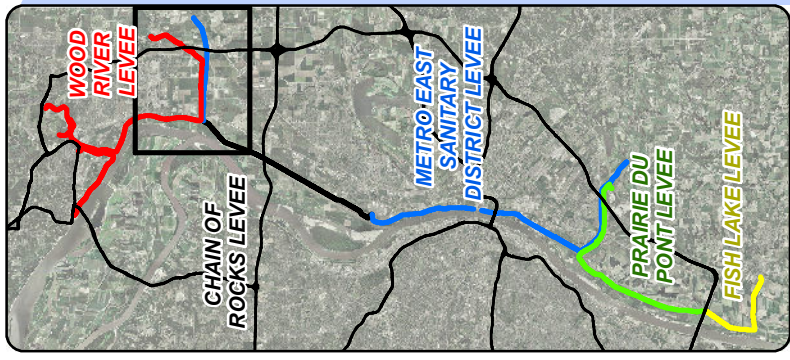
Three record flood events, in the last six years, confirm the need for the work the Council completed for the 100-Year accreditation and will ultimately complete for the 500-Year Authorized Level of Protection.

The COVID-19 Pandemic has not affected the Council's revenues as projected; instead, revenues are currently increasing should allow the Council to achieve its ultimate goal of providing the Authorized Level of Protection to the Metro-East area almost twenty years sooner than original projected.

Appendix I

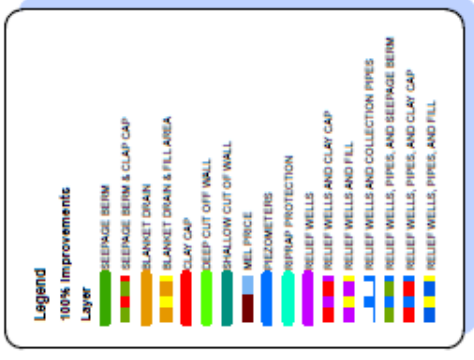
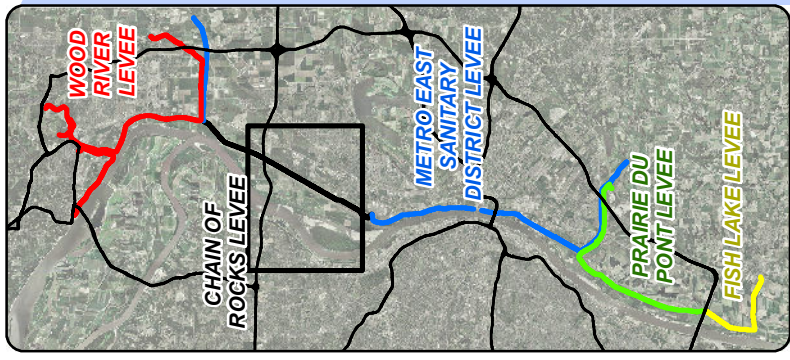
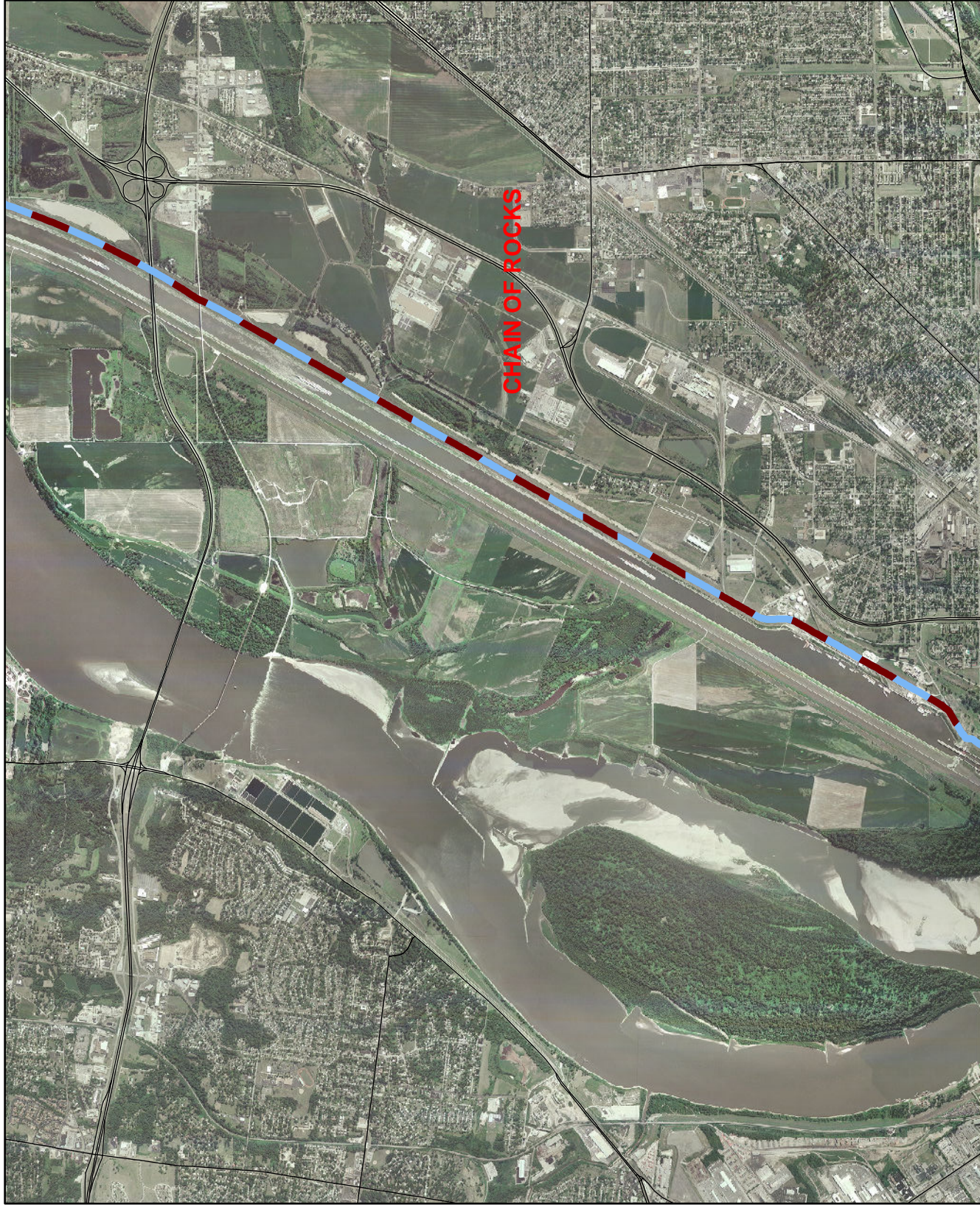
FEMA Certification Levee System Improvements

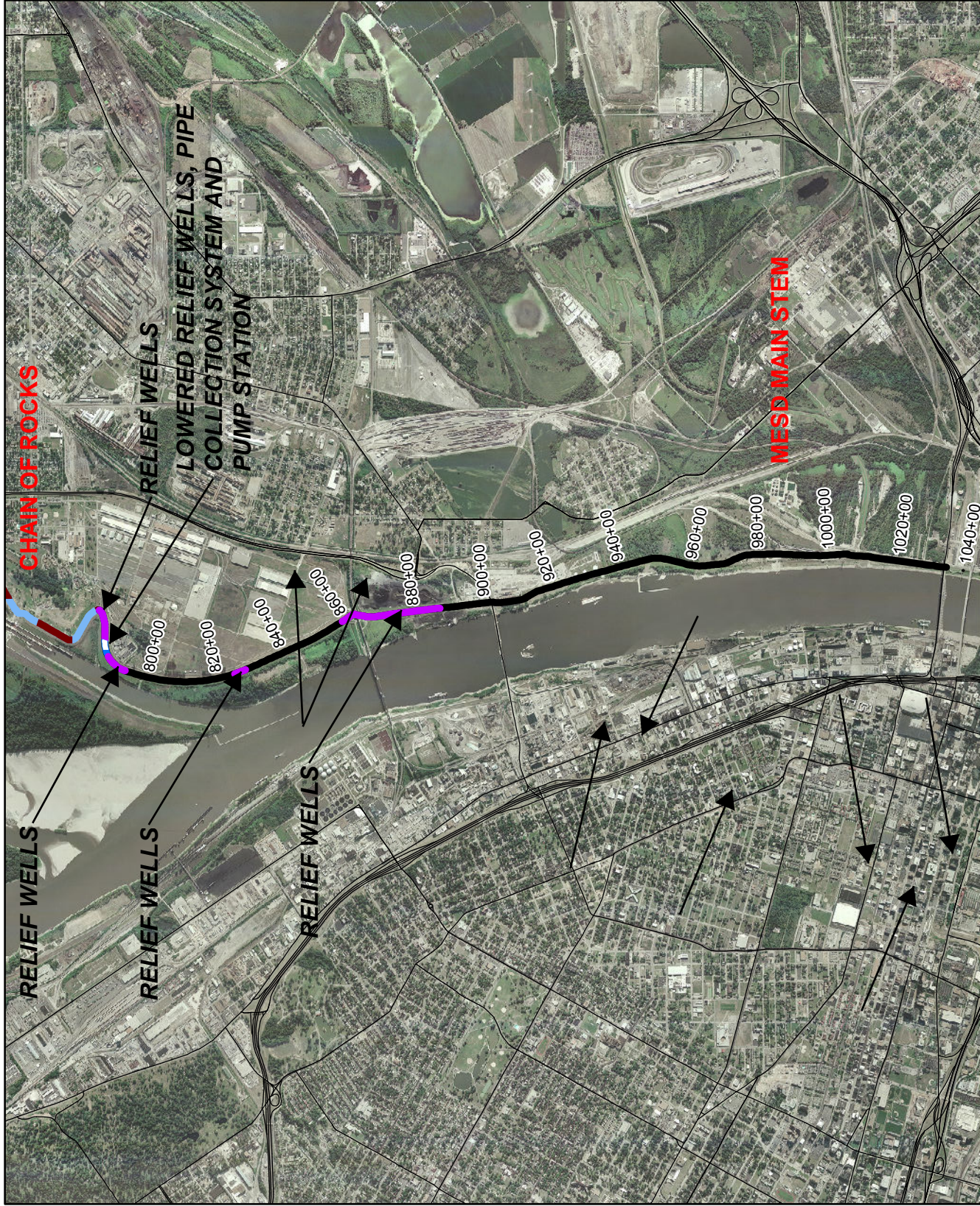
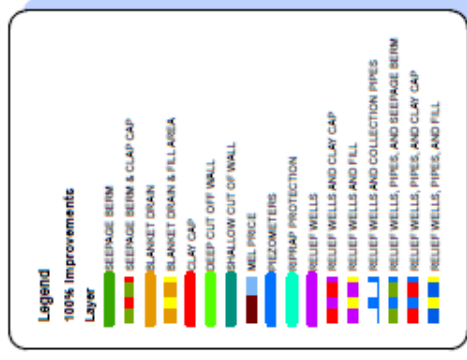
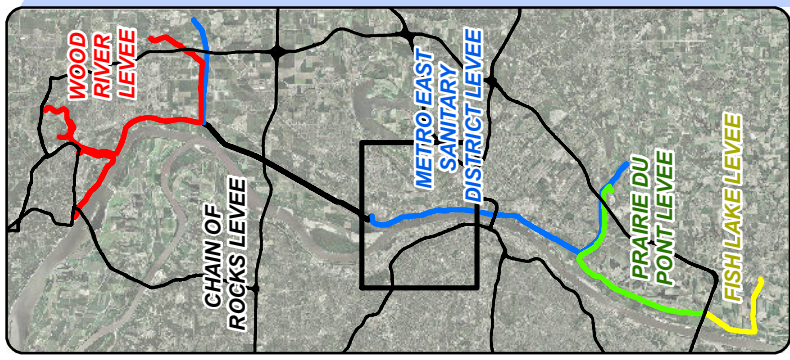


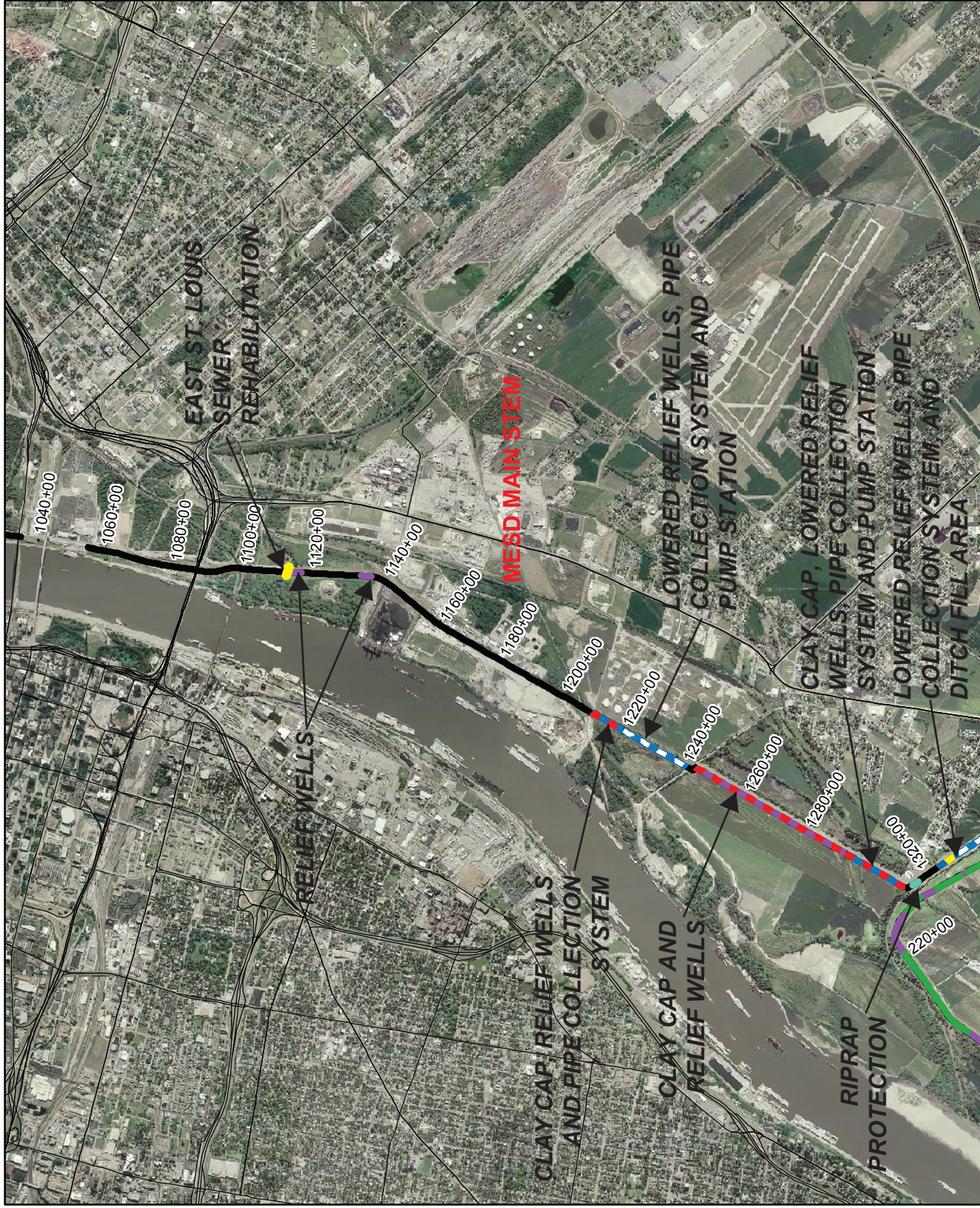
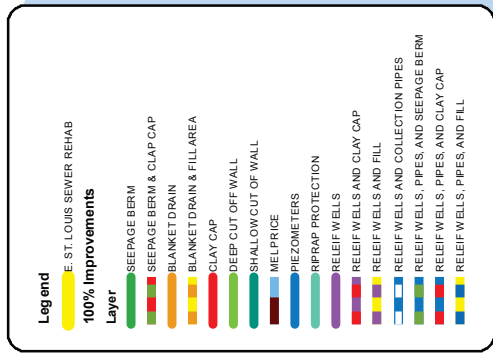
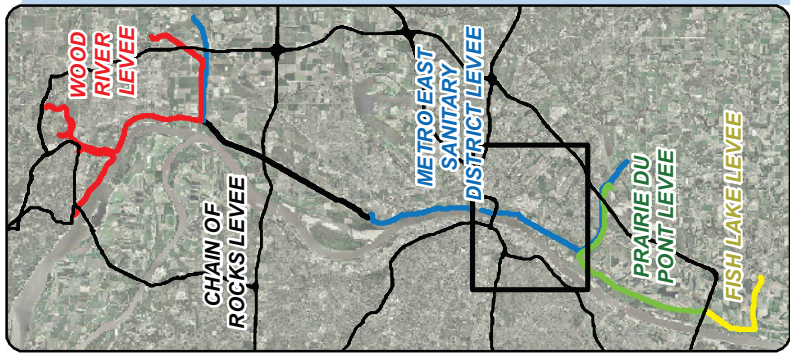


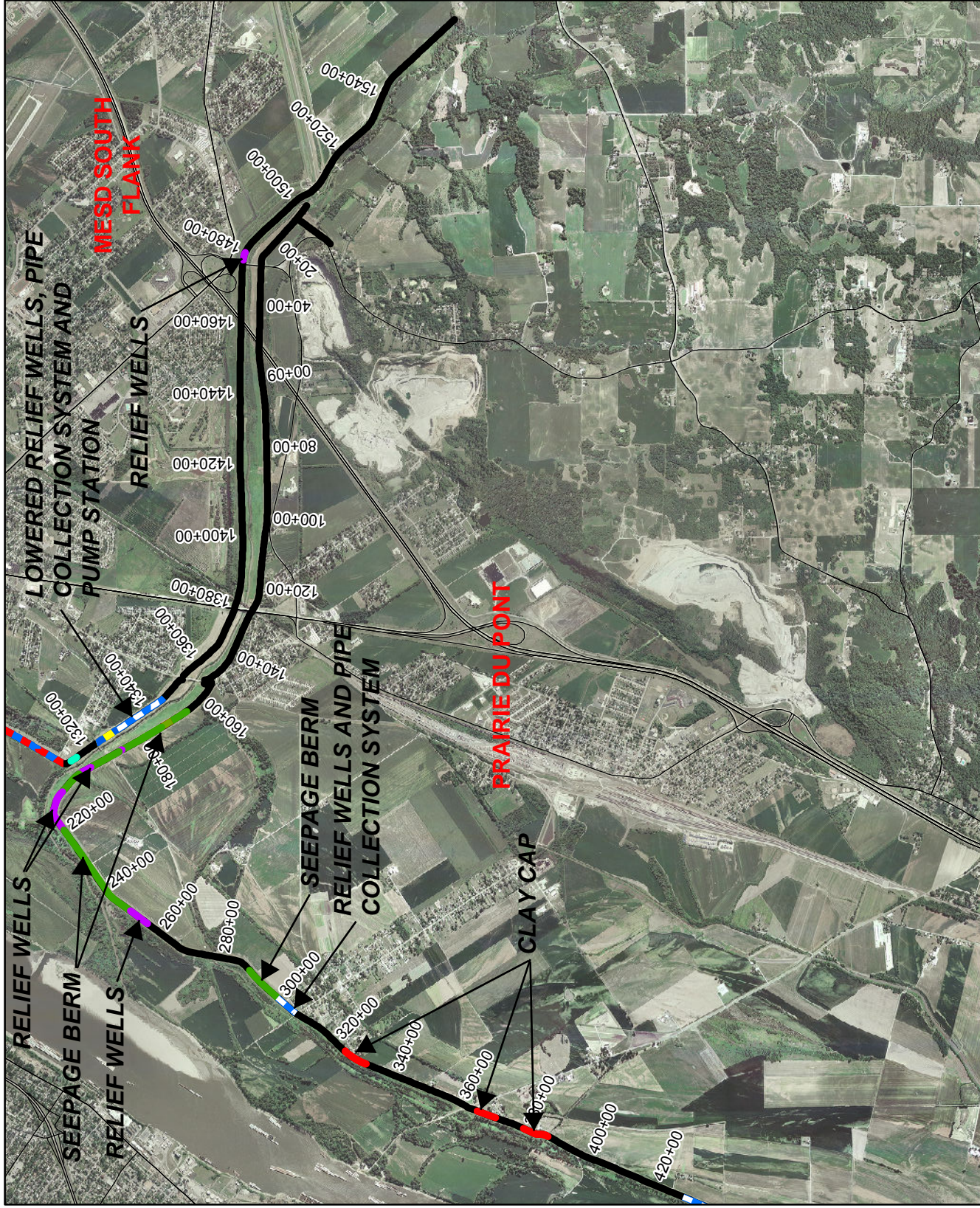
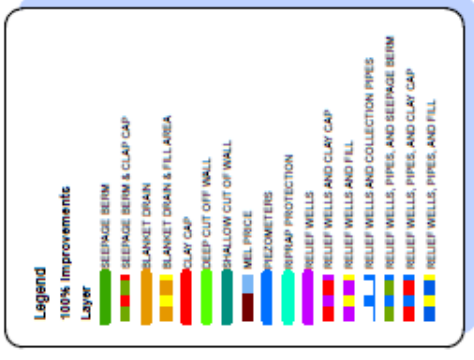
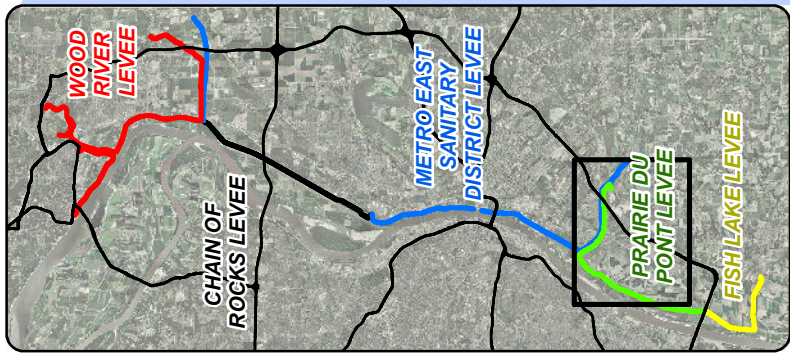
FEMA CERTIFICATION DESIGN - 100% SOLUTIONS

WOOD RIVER (WR) & METRO EAST SANITARY DISTRICT (MESSD) LEVEES



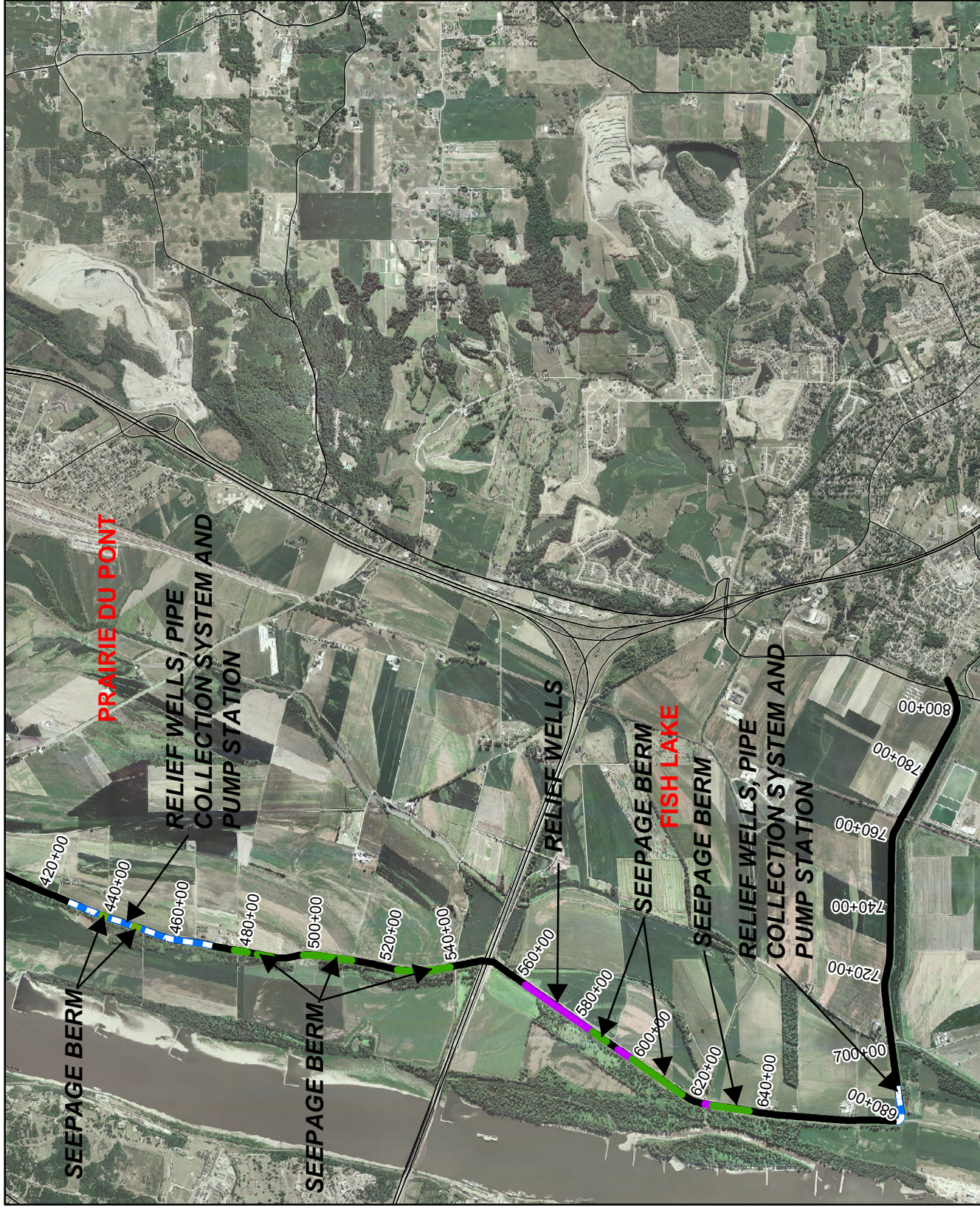
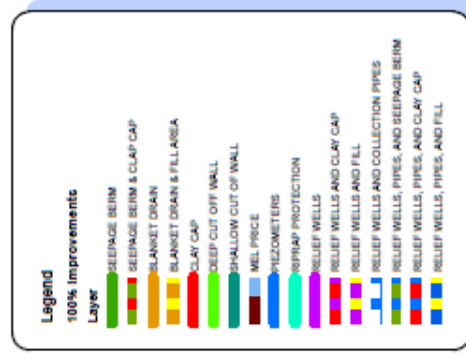
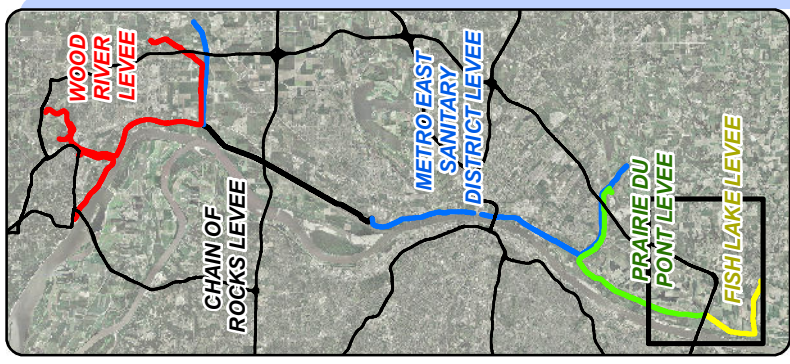






FEMA CERTIFICATION DESIGN - 100% SOLUTIONS

METRO EAST SANITARY DISTRICT (MESD) & PRAIRIE DU PONT LEVEES



FEMA CERTIFICATION DESIGN - 100% SOLUTIONS

PRAIRIE DU PONT & FISH LAKE LEVEES



15933 CLAYTON ROAD, SUITE 215
BALLWIN, MO 63011



Appendix II

Southwestern Illinois Flood Prevention District Council

FEMA Letters of Accreditation

U.S. Department of Homeland Security
FEMA Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605



FEMA

November 14, 2019

Michael L. Sullivan
President, Prairie Du Pont Levee and Sanitary District
1327 Davis St Ferry Road
East Carondelet, IL 62240

Gary A. Stumpf
Chief Executive Officer, Fish Lake Drainage and Levee District
10702 Levee Road
Columbia, IL 62236

RE: St. Clair and Monroe County, Illinois, Prairie du Pont and Fish Lake,
Illinois Flood Protection Project Certification Documents

Dear Mr. Sullivan and Mr. Stumpf:

This letter is in reference to documents and certifications submitted to the Federal Emergency Management Agency (FEMA) by Wood Environment & Infrastructure Solutions, Inc. (Wood) to demonstrate that the Prairie du Pont and Fish Lake Flood Protection Project complies with minimum requirements of the National Flood Insurance Program (NFIP) for purposes of showing flood protection against Base (one-percent annual chance) Flood Elevations of the Mississippi River and relevant tributaries. Applicable regulations are found at Title 44 of the Code of Federal Regulations (CFR), Section 65.10 (44 CFR Section 65.10). The documents and certifications were submitted by Wood under various cover dated July 6, 2017, June 29, 2018, July 5, 2018, April 16, 2019, and July 24, 2019. This letter serves to provide notice that the submitted documentation and data have been reviewed for completeness and have been determined to meet the minimum certification criteria outlined in 44 CFR Section 65.10

Documentation and certifications from Wood per the above-referenced dates were submitted on behalf of the Prairie du Pont Levee and Sanitary District and Fish Lake Drainage and Levee District, agencies created by Illinois state law for oversight of operations and maintenance of the Prairie Du Pont Levee and Sanitary District & Fish Lake Drainage and Levee District (PDP-FL) levee system. Materials submitted by Wood substantiate that operations and maintenance plans have been adopted by the Prairie du Pont Levee and Sanitary District and Fish Lake Drainage and Levee District as required to support levee accreditation under provisions of 44 CFR Section 65.10.

These submissions, provided under the direction of the Southwestern Illinois Flood Protection District Council, were received in response to FEMA's ongoing actions to update Flood Insurance Rate Maps (FIRMs) for communities in the Counties of St. Clair and Monroe. FEMA retains the right to have conversations with the levee owner about the status of the system as an accredited levee. We also ask that you advise this office should new or updated information become available regarding loading conditions or other design or operational considerations.

While levees can help reduce the risk of flooding, it is important to remember that they do not eliminate the risk. For those living or working near levees, it is important to understand the risk, learn the facts, and be aware of steps that can be taken to reduce the risk to their families, businesses, and communities from the threat of flooding. For these reasons, FEMA encourages community leaders to continue their risk communications to help everyone understand their risk. The NFIP was created to reduce flood damages by identifying flood risks, encouraging sound community floodplain management practices, and providing flood insurance to lessen the financial impact of flood damage. Through the NFIP, property owners in participating communities are able to insure against flood losses.

The FEMA lead for this project is Ken Hinterlong. Mr. Hinterlong may be contacted by phone at (312) 408-5529, or by email at ken.hinterlong@fema.dhs.gov. Please do not hesitate to contact the Region V office if you have any questions.

Sincerely,



Mary Beth Caruso
Director, Mitigation Division
FEMA Region V

cc: Mr. Curtis McCall Jr., Mayor, Village of Cahokia
Mr. Kevin Hutchinson, Mayor, City of Columbia
Mr. Jerald Wilson, President, Village of Dupo
Mr. Herbert Simmons, President, Village of East Carondelet
Mr. Mike Fausz, Floodplain Coordinator, Monroe County
Ms. Anne Markezich, NFIP Coordinator, St. Clair County
Mr. Charles Etwert, Chief Supervisor, Southwestern Illinois Flood Prevention District Council
Mr. Randy Cook Jr., Senior Civil Engineer, Wood Environment & Infrastructure Solutions, Inc.
Mr. David Busse, Levee Safety Officer, Chief, Eng. and Construction Division, USACE, St. Louis District
Ms. Rachel Lopez, Levee Safety Program Manager, USACE, St. Louis District
Mr. Paul Osman, NFIP State Coordinator, Illinois Department of Natural Resources
Mr. Dan Shulman, External Affairs, FEMA Region V



FEMA

March 25, 2021

Kevin Williams
Executive Director, Wood River Drainage & Levee District
543 West Madison Street
Wood River, IL 62095

Dear Mr. Williams:

This letter is written pursuant to the compliance review performed by U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) of various levee certification documents received for the Wood River Flood Protection Project, East and West Fork Levee System in the Madison County, Illinois. These documents were prepared by Wood Environment & Infrastructure Solutions, Inc. (Wood) and include submissions dated December 5, 2016, June 29, 2018, and December 15, 2020.

Documents submitted to FEMA included data and certifications to support accreditation of the Wood River Flood Protection Project, East and West Fork Levee System.

FEMA performed a compliance review of all data and certifications submitted and a final Certification Submission Comments sheet is enclosed. Based on FEMA's compliance review, all applicable requirements to reflect full accreditation have been met for the Wood River Flood Protection Project, East and West Fork Levee System. In response, FEMA plans to recognize the Wood River Flood Protection Project, East and West Fork Levee System as accredited on the future *Preliminary* FIRM. The flood hazard areas landward of this system will be mapped as shaded Zone X and Special Flood Hazard Area for interior drainage areas. An updated levee system accreditation note will be placed in that area of the FIRM panel. FEMA accreditation of a levee system does not guarantee that the levee will provide flood hazard reduction to properties from flooding; therefore, FEMA has included a note on related FIRM panels that overtopping, or failure of an accredited levee system is possible.

FEMA retains the right to revise these designations upon indication of changing condition of the flood hazard or the infrastructure itself. Future map updates will require the levee system to be evaluated at such time; design, construction, operation, and/or maintenance documents may be requested at any time; and deviations from this documentation could result in the levee system no longer being mapped as accredited on a future FIRM.

It is important to note that levee systems are only designed to provide a specific level of flood risk reduction. They can be overtopped or fail in larger flood events. When levee systems do fail, the consequence of failure can be catastrophic. Also, levee systems require regular maintenance and periodic upgrades to retain their level of flood risk reduction. For these reasons, FEMA

Wood River Flood Protection Project
East and West Fork Levee System
March 25, 2021

encourages communities that rely on levee infrastructure to be especially proactive in making property owners aware of residual risk and steps available for mitigation.

The NFIP was created to reduce flood damages by identifying flood risks, encouraging sound community floodplain management practices, and providing flood insurance to lessen the financial impact of flood damage. Through the NFIP, property owners in participating communities are able to insure against flood losses.

The FEMA lead for this Madison County map update is John Wethington. Mr. Wethington may be contacted by phone at (312) 485-5485, or by email at john.wethington@fema.dhs.gov. Please do not hesitate to contact the Region V office if you have any questions.

Sincerely,



Mary Beth Caruso
Director, Mitigation Division
FEMA Region V

Enclosure

All "cc" communications delivered by electronic correspondence.

cc: Mr. Joe Silkwood, Mayor, Village of East Alton
Mr. Brant Walker, Mayor, City of Alton
Mr. Gary Cranmer, Director of Building and Zoning, Village of East Alton
Mr. Vince Warlick, Director of Building and Zoning, City of Alton
Mr. Steve Brendel, Stormwater Coordinator, Madison County
Mr. Charles Etwert, Chief Supervisor, Southwestern Illinois Flood Prevention District Council
Mr. Randy Cook Jr., Senior Civil Engineer, Wood Environment & Infrastructure Solutions, Inc.
Mr. David Busse, Levee Safety Officer, Chief, Eng. and Construction Division, USACE, St. Louis District
Ms. Rachel Lopez, Levee Safety Program Manager, USACE, St. Louis District
Mr. Jeremy Eck, Acting Levee Safety Program Manager, USACE, St. Louis District
Mr. Hal Graef, Project Manager, USACE, St. Louis District
Ms. Marilyn Sucoe, Acting NFIP State Coordinator, Illinois Department of Natural Resources
Mr. Dan Shulman, External Affairs, FEMA Region V



FEMA

March 25, 2021

Kevin Williams
Executive Director, Wood River Drainage & Levee District
543 West Madison Street
Wood River, IL 62095

Dear Mr. Williams:

This letter is written pursuant to the compliance review performed by U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) of various levee certification documents received for the Wood River Flood Protection Project, Lower Wood River Levee System in the Madison County, Illinois. These documents were prepared by Wood Environment & Infrastructure Solutions, Inc. (Wood) and include submissions dated October 17, 2017, July 13, 2018, and December 15, 2020.

Documents submitted to FEMA included data and certifications to support accreditation of the Wood River Flood Protection Project, Lower Wood River Levee System.

FEMA performed a compliance review of all data and certifications submitted and a final Certification Submission Comments sheet is enclosed. Based on FEMA's compliance review, all applicable requirements to reflect full accreditation have been met for the Wood River Flood Protection Project, Lower Wood River Levee System. In response, FEMA plans to recognize the Wood River Flood Protection Project, Lower Wood River Levee System as accredited on the future *Preliminary* FIRM. The flood hazard areas landward of this system will be mapped as shaded Zone X and Special Flood Hazard Area for interior drainage areas. An updated levee system accreditation note will be placed in that area of the FIRM panel. FEMA accreditation of a levee system does not guarantee that the levee will provide flood hazard reduction to properties from flooding; therefore, FEMA has included a note on related FIRM panels that overtopping, or failure of an accredited levee system is possible.

FEMA retains the right to revise these designations upon indication of changing condition of the flood hazard or the infrastructure itself. Future map updates will require the levee system to be evaluated at such time; design, construction, operation, and/or maintenance documents may be requested at any time; and deviations from this documentation could result in the levee system no longer being mapped as accredited on a future FIRM.

It is important to note that levee systems are only designed to provide a specific level of flood risk reduction. They can be overtopped or fail in larger flood events. When levee systems do fail, the consequence of failure can be catastrophic. Also, levee systems require regular maintenance and periodic upgrades to retain their level of flood risk reduction. For these reasons, FEMA

Wood River Flood Protection Project
Lower Wood River Levee System
March 25, 2021

encourages communities that rely on levee infrastructure to be especially proactive in making property owners aware of residual risk and steps available for mitigation.

The NFIP was created to reduce flood damages by identifying flood risks, encouraging sound community floodplain management practices, and providing flood insurance to lessen the financial impact of flood damage. Through the NFIP, property owners in participating communities are able to insure against flood losses.

The FEMA lead for this Madison County map update is John Wethington. Mr. Wethington may be contacted by phone at (312) 485-5485, or by email at john.wethington@fema.dhs.gov. Please do not hesitate to contact the Region V office if you have any questions.

Sincerely,



Mary Beth Caruso
Director, Mitigation Division
FEMA Region V

Enclosure

All "cc" communications delivered by electronic correspondence.

cc: Ms. Cheryl Maguire, Mayor, City of Wood River
Mr. Joe Silkwood, Mayor, Village of East Alton
Mr. James Hickerson, Mayor, Village of Hartford
Mr. Marty Reynolds, President, Village of Roxana
Ms. Barbara Overton, Mayor, Village of South Roxana
Mr. Steve Brendel, Stormwater Coordinator, Madison County
Mr. Charles Etwert, Chief Supervisor, Southwestern Illinois Flood Prevention District Council
Mr. Randy Cook Jr., Senior Civil Engineer, Wood Environment & Infrastructure Solutions, Inc.
Mr. David Busse, Levee Safety Officer, Chief, Eng. and Construction Division, USACE, St. Louis District
Ms. Rachel Lopez, Levee Safety Program Manager, USACE, St. Louis District
Mr. Jeremy Eck, Acting Levee Safety Program Manager, USACE, St. Louis District
Mr. Hal Graef, Project Manager, USACE, St. Louis District
Ms. Marilyn Sucoe, Acting NFIP State Coordinator, Illinois Department of Natural Resources
Mr. Dan Shulman, External Affairs, FEMA Region V



FEMA

March 29, 2021

David Busse
Levee Safety Officer, Chief, Engineering and Construction Division
U.S. Army Corps of Engineers, St. Louis District
1222 Spruce Street
St. Louis, MO 63103

RE: Wood River Flood Protection Project
Upper Wood River Levee System
Madison County, Illinois

Dear Mr. Busse:

This letter is written pursuant to the compliance review performed by U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) of the National Flood Insurance Program (NFIP) Levee System Evaluation Report (LSER) for the Wood River Flood Protection Project, Upper Levee System in the Madison County, Illinois. These documents were submitted by the St. Louis District of U.S. Army Corps of Engineers (USACE) and include submissions dated March 10, 2017 June 18, 2018, November 18, 2018, and February 9, 2021.

Documents submitted to FEMA included data and documentation to support accreditation of the Wood River Flood Protection Project, Upper Levee System.

FEMA performed a compliance review of all data and certifications submitted. Based on FEMA's compliance review, all applicable requirements to reflect full accreditation have been met for the Wood River Flood Protection Project, Upper Levee System. In response, FEMA plans to recognize the Wood River Flood Protection Project, Upper Levee System as accredited on the future *Preliminary* FIRM. The flood hazard areas landward of this system will be mapped as shaded Zone X and Special Flood Hazard Area for interior drainage areas. An updated levee system accreditation note will be placed in that area of the FIRM panel. FEMA accreditation of a levee system does not guarantee that the levee will provide flood hazard reduction to properties from flooding; therefore, FEMA has included a note on related FIRM panels that overtopping, or failure of an accredited levee system is possible.

FEMA recognizes the dedication of USACE and other levee stakeholders to address, understand, and effectively communicate the risks associated with living and working landward of the Wood River Flood Protection Project and looks forward to our continued partnership. Please be advised that if the risk associated with this levee system changes or is updated, FEMA should be notified and may update the hazard associated with this levee system.

Wood River Flood Protection Project
Upper Levee System
March 29, 2021

The FEMA lead for this Madison County map update is John Wethington. Mr. Wethington may be contacted by phone at (312) 408-5485, or by email at john.wethington@fema.dhs.gov. Please do not hesitate to contact the Region V office if you have any questions.

Sincerely,



Mary Beth Caruso
Director, Mitigation Division
FEMA Region V

All "cc" communications delivered by electronic correspondence.

cc: Mr. Kevin Williams, Wood River Drainage & Levee District
Mr. Joe Silkwood, Mayor, Village of East Alton
Mr. Brant Walker, Mayor, City of Alton
Mr. Gary Cranmer, Director of Building and Zoning, Village of East Alton
Mr. Vince Warlick, Director of Building and Zoning, City of Alton
Mr. Steve Brendel, Stormwater Coordinator, Madison County
Mr. Charles Etwert, Chief Supervisor, Southwestern Illinois Flood Prevention District Council
Mr. David Busse, Levee Safety Officer, Chief, Eng. and Construction Division, USACE, St. Louis District
Ms. Rachel Lopez, Levee Safety Program Manager, USACE, St. Louis District
Mr. Jeremy Eck, Acting Levee Safety Program Manager, USACE, St. Louis District
Mr. Hal Graef, Project Manager, USACE, St. Louis District
Ms. Tracey Kelsey, Project Manager, USACE, St. Louis District
Ms. Marilyn Sucoe, Acting NFIP State Coordinator, Illinois Department of Natural Resources
Mr. Dan Shulman, External Affairs, FEMA Region V

U.S. Department of Homeland Security
FEMA Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605



FEMA

April 29, 2019

Mr. David Busse
Levee Safety Officer, Chief, Engineering and Construction Division
U.S. Army Corps of Engineers, St. Louis District
1222 Spruce Street
St. Louis, MO 63103

RE: East St. Louis and Vicinity Flood Protection Project
Mississippi River, East St. Louis, Illinois
Quantitative Risk Assessment

Dear Mr. Busse:

On March 18, 2019, St. Louis District U.S. Army Corps of Engineers (USACE) submitted materials in support of a Quantitative Risk Analysis for the East St. Louis and Vicinity Flood Protection Project to U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA). The submitted materials recommend accreditation of the East St. Louis and Vicinity Flood Protection Project with respect to the National Flood Insurance Program (NFIP) regulations (per Code of Federal Regulations (CFR), Title 44, Chapter 1, Section 65.10 (44 CFR Section 65.10), Subsection (e).


FEMA acknowledges receipt of the Quantitative Risk Assessment and as-built plans from USACE submitted under 44 CFR Subsection 65.10 (e) in lieu of the structural requirements of 44 CFR Section 65.10 Subsection (b). The submitted documentation and data have been reviewed for completeness, and based on receipt of this information, the minimum criteria outlined in the structural requirements of 44 CFR Section 65.10(b)(1) – (b)(5), have been met for the East St. Louis and Vicinity Flood Protection Project.

FEMA also acknowledges receipt of the Interior Drainage Analysis Certification (prepared by Wood Environment & Infrastructure Solutions, Inc.), Operations and Maintenance Manuals, and an Emergency Action Plan from USACE. The submitted documentation and data have been reviewed for completeness, and based on receipt of this information, additional coordination is required with levee stakeholders and impacted communities to obtain documentation to address 44 CFR Section 65.10(b)(6) *Interior drainage*, 44 CFR Section 65.10(c) *Operation plans and criteria*, and 44 CFR Section 65.10(d) *Maintenance plans and criteria* for the East St. Louis and Vicinity Flood Protection Project. FEMA will coordinate with USACE regarding this future outreach.

FEMA recognizes the dedication of USACE and other levee stakeholders to address, understand, and communicate the risks associated with living and working landward of East St. Louis and Vicinity Flood Protection Project and we look forward to our continued partnership. Please be advised that if the risk associated with this levee system changes in the future, FEMA should be notified and may update the flood hazards associated with this levee system, as appropriate.

The FEMA lead for this project is Ken Hinterlong. Mr. Hinterlong may be contacted by phone at (312) 408-5529, or by email at Ken.Hinterlong@fema.dhs.gov. Please do not hesitate to contact the Region V office if you have any questions.

Sincerely,



Mary Beth Caruso
Director, Mitigation Division
FEMA Region V

cc: Ms. Rachel Lopez, USACE, St. Louis District Levee Safety Program Manager
Mr. Stephen Adler, Metro East Sanitary District, Executive Director
Mr. Charles Brinza, Metro East Sanitary District, President
Mr. Charles Etwert, Southwestern Illinois Flood Prevention District Council, Chief Supervisor
Mr. Steve Brendel, Madison County, NFIP Coordinator
Ms. Anne Markezich, St. Clair County, NFIP Coordinator
Mr. Paul Osman, Illinois, IDNR, NFIP State Coordinator
Ms. Suzanne Vermeer, FEMA Headquarters, Civil Engineer
Mr. Dan Shulman, FEMA Region V, External Affairs
Mr. Duane Castaldi, FEMA Region V, Acting Branch Chief, Risk Analysis Branch
Mr. Ken Hinterlong, FEMA Region V, Senior Engineer, Risk Analysis Branch
Mr. Roger Denick, FEMA Region V Regional Service Center, Lead

Appendix III

Southwestern Illinois Flood Prevention District Council

**Resolution Expressing the Official Intent To
Restore the Federally Authorized Level of Mississippi
Flood River Protection in the Metro-East**

Southwestern Illinois Flood Prevention District Council

RESOLUTION Expressing the Official Intent To Restore the Federally Authorized Level of Mississippi Flood River Protection in the Metro-East

WHEREAS, the Southwestern Illinois Flood Prevention District Council has made great progress towards meeting its goal of fully protecting the Metro-East from a 100-year flood by the end of 2015; and,

WHEREAS, the threat from the Federal Emergency Management Agency to classify the area as prone to flooding will be averted, along with the terrible economic consequences of the action; and

WHEREAS, the Council has demonstrated that the most expeditious and cost-effective approach to improve flood protection over the last several years is to use local funds to undertake critical flood protection projects; and

WHEREAS, the Council cannot continue to delay needed improvements to flood protection because of the lengthy, unpredictable, and costly design and construction process conducted by the U.S. Army Corps of Engineers; and

WHEREAS, the Corps of Engineers is unwilling to comply with local workforce policies; and

WHEREAS, dramatic progress can be made when the pace and cost of construction is determined locally; and

WHEREAS, the design and construction of projects by the FPD can move ahead rapidly and at a far lower cost than by delegating this work to the Corps of Engineers; and

WHEREAS, the FPD has available funds and availability of future federal funding is unknown; and

WHEREAS, the design and construction of projects built by the FPD using local funds may be considered for future Work In-Kind Credit by the Corps of Engineers as allowed by the use of Memoranda of Understanding, the inclusion in Integral Determination Reports, and the amendment of Project Partnership Agreements; and

WHEREAS, economic growth can be expected if the authorized level of protection is being pursued; and

WHEREAS, now is the time to initiate the restoration of the federally authorized level of flood protection in the Metro-East providing the region with a higher level of flood protection, while simultaneously completing the 100-year level projects; and

WHEREAS, the long-term goal of the FPD is to fully restore the federally authorized level of flood protection (Mississippi River elevation of 54 feet on the St. Louis gauge -- also known as the 500-Year flood).

NOW, THEREFORE, It Is Hereby Resolved by the Board of Directors of the Southwestern Illinois Flood Prevention District Council that it is the intent to restore the federally authorized 500-year level of Mississippi River flood protection through the following actions:

1. *Design.* Immediately begin the design of the most critical and cost-effective projects to restore the federally authorized level of flood protection; and

2. *Funding Strategy.* Take immediate steps to implement a funding strategy with the FPD being totally responsible for the design and the construction of flood protection (authorized level) projects. This includes using current surplus funds and judicious borrowing to maximize the available funding for capital expenditures on flood protection through the year 2020 (\$94,500,000 is currently estimated to be available), building the most cost effective and highest priority projects throughout the Counties of Madison, Monroe, and St. Clair, Illinois; and


3. *Workforce Policies.* Comply with all current FPD workforce policies to ensure fair wages and working conditions for project workers, encourage the use of local workers, and avoid any work stoppages that could delay projection completion; and

4. *Levee Districts Participation.* Seek the financial participation of each Levee District to generate additional funds to supplement FPD funding and enable additional construction; and

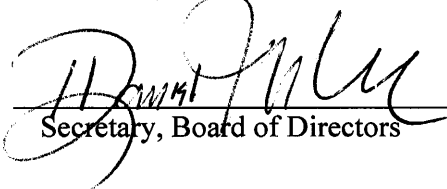
5. *Corps of Engineers Participation.* Notify the Corps of Engineers of the FPD's strategy and request that the Corps expedite projects that are 100% federally funded, such as the emergency design deficiency correction at the Melvin Price Locks and Dam, a project-that was identified as an emergency need six years ago, but still lacks a federally sanctioned permanent design solution and any funding for construction..

If any section, paragraph or provision of this Resolution shall be held to be invalid or unenforceable for any reason, the invalidity or unenforceability of such section, paragraph or provision shall not affect any of the remaining provisions of this Resolution.

This resolution was approved February 18, 2015.



President, Board of Directors



Secretary, Board of Directors

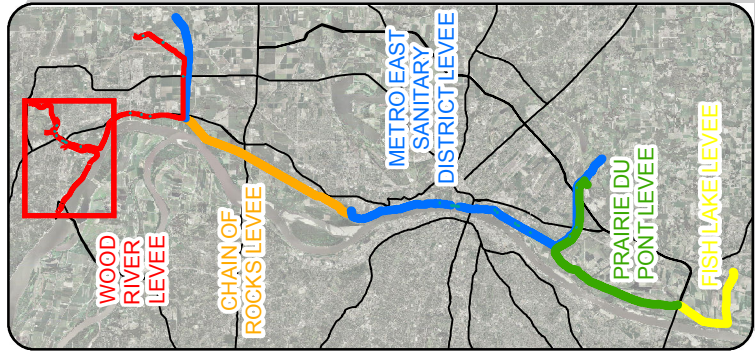
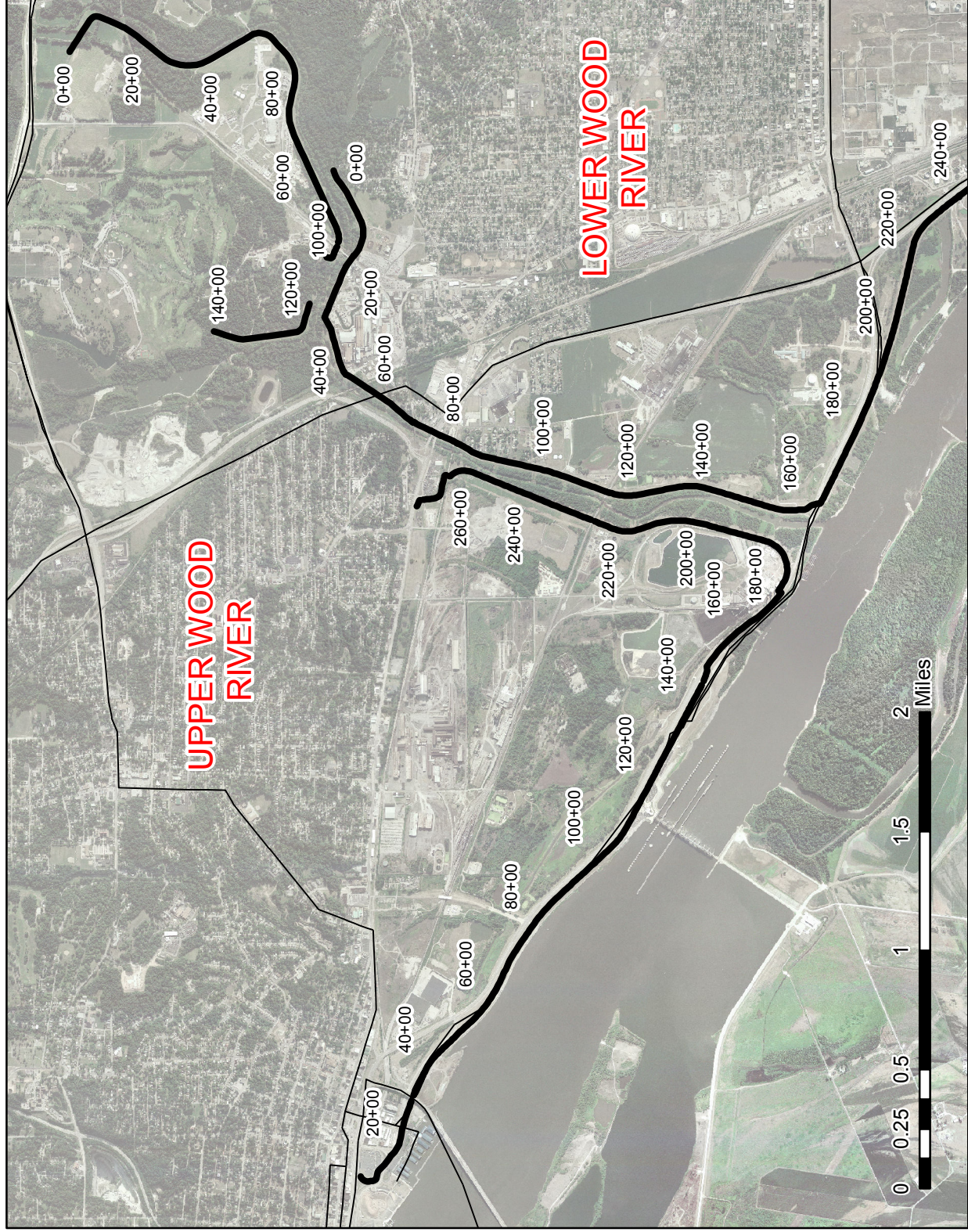
Appendix IV

Proposed 500-Year Authorized Level Levee System Improvements

Wood River Levee System

Metro East Sanitary District (MESD) Levee System

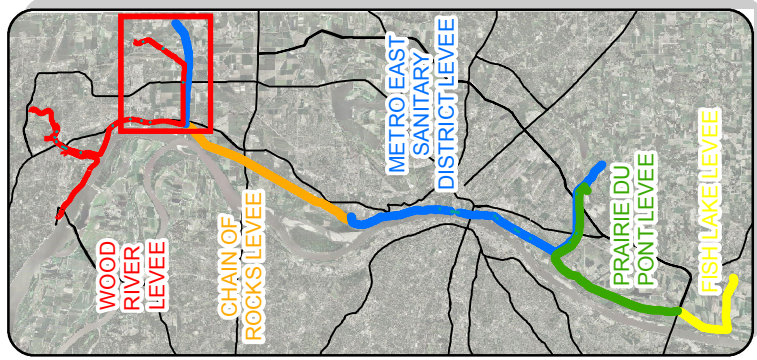
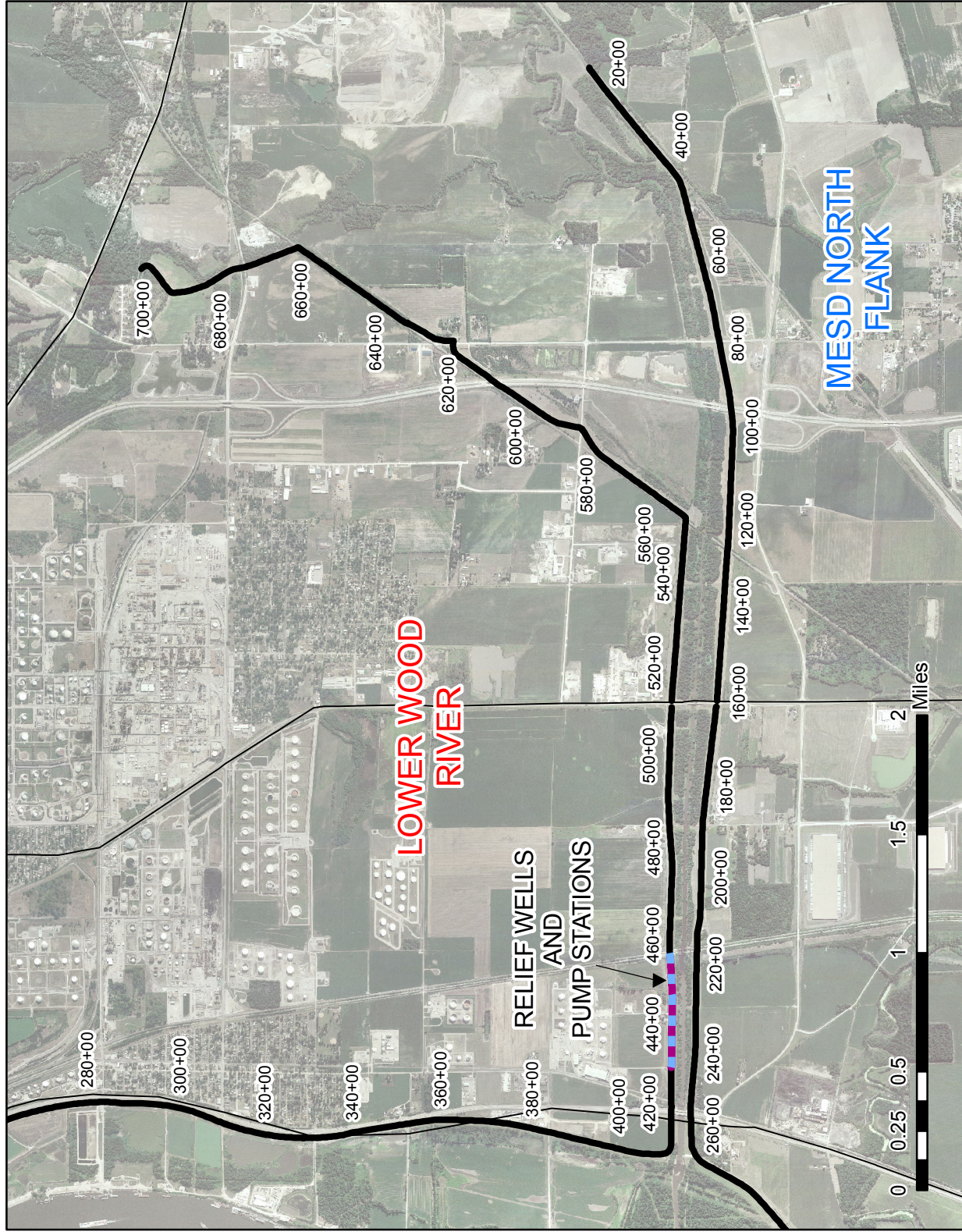
Prairie DuPont/Fish Lake Levee System



02 AUG 2021

AUTHORIZED LEVEL DESIGN
WOOD RIVER LEVEE





02 AUG 2021

AUTHORIZED LEVEL DESIGN
WOOD RIVER LEVEE



AUTHORIZED LEVEL DESIGN

METRO EAST SANITARY DISTRICT LEVEE

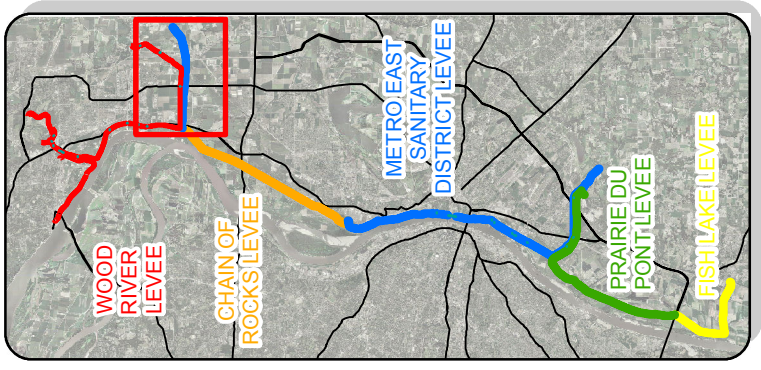
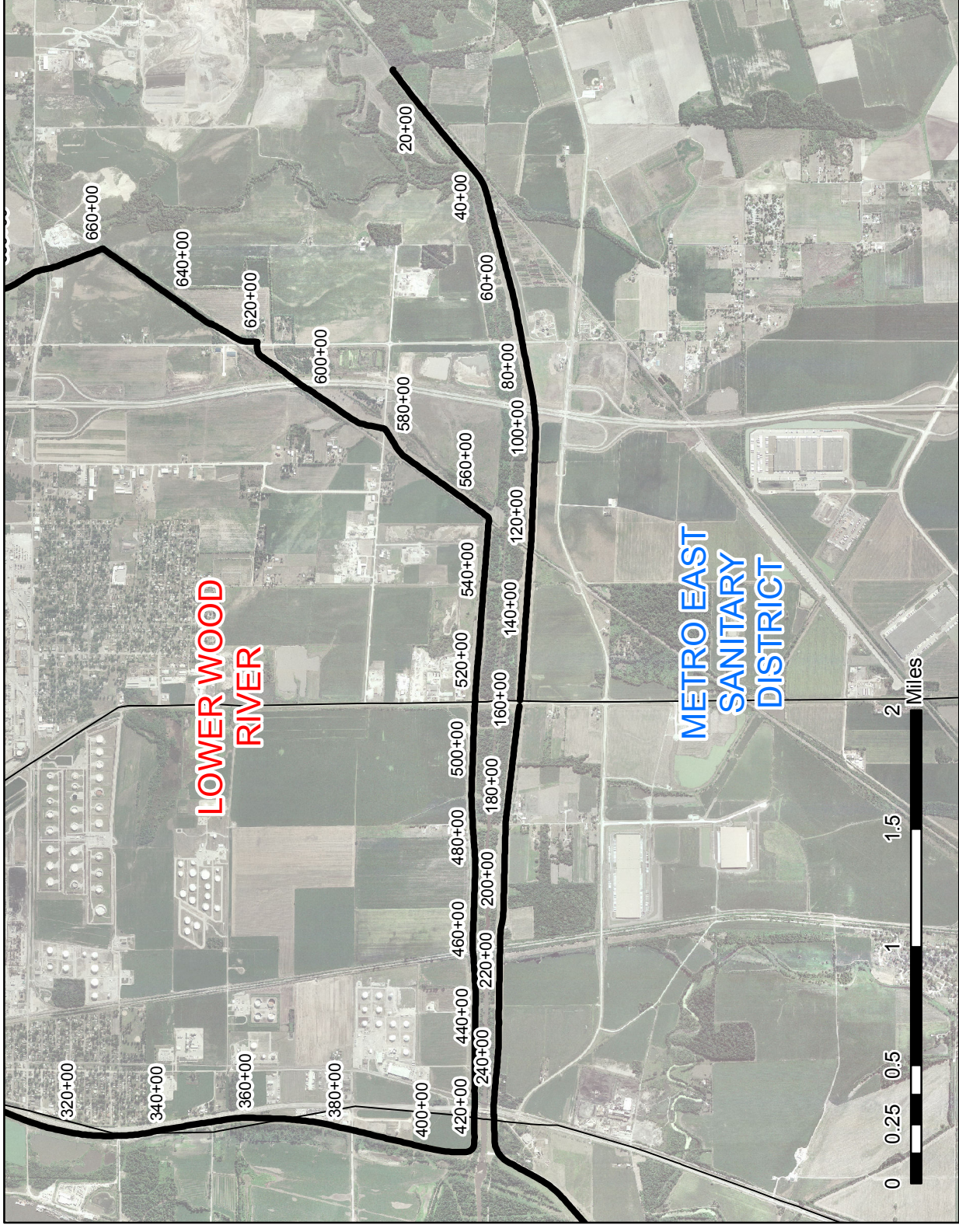
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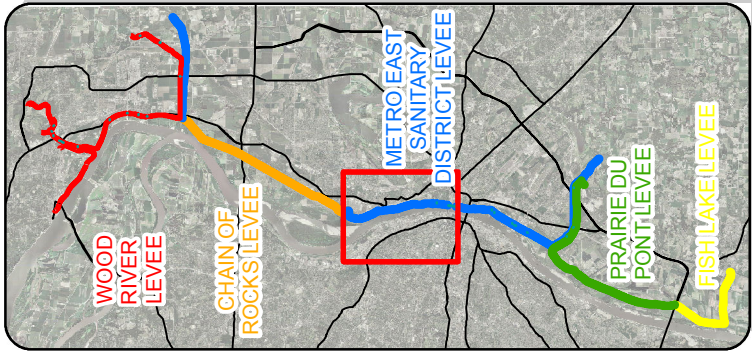
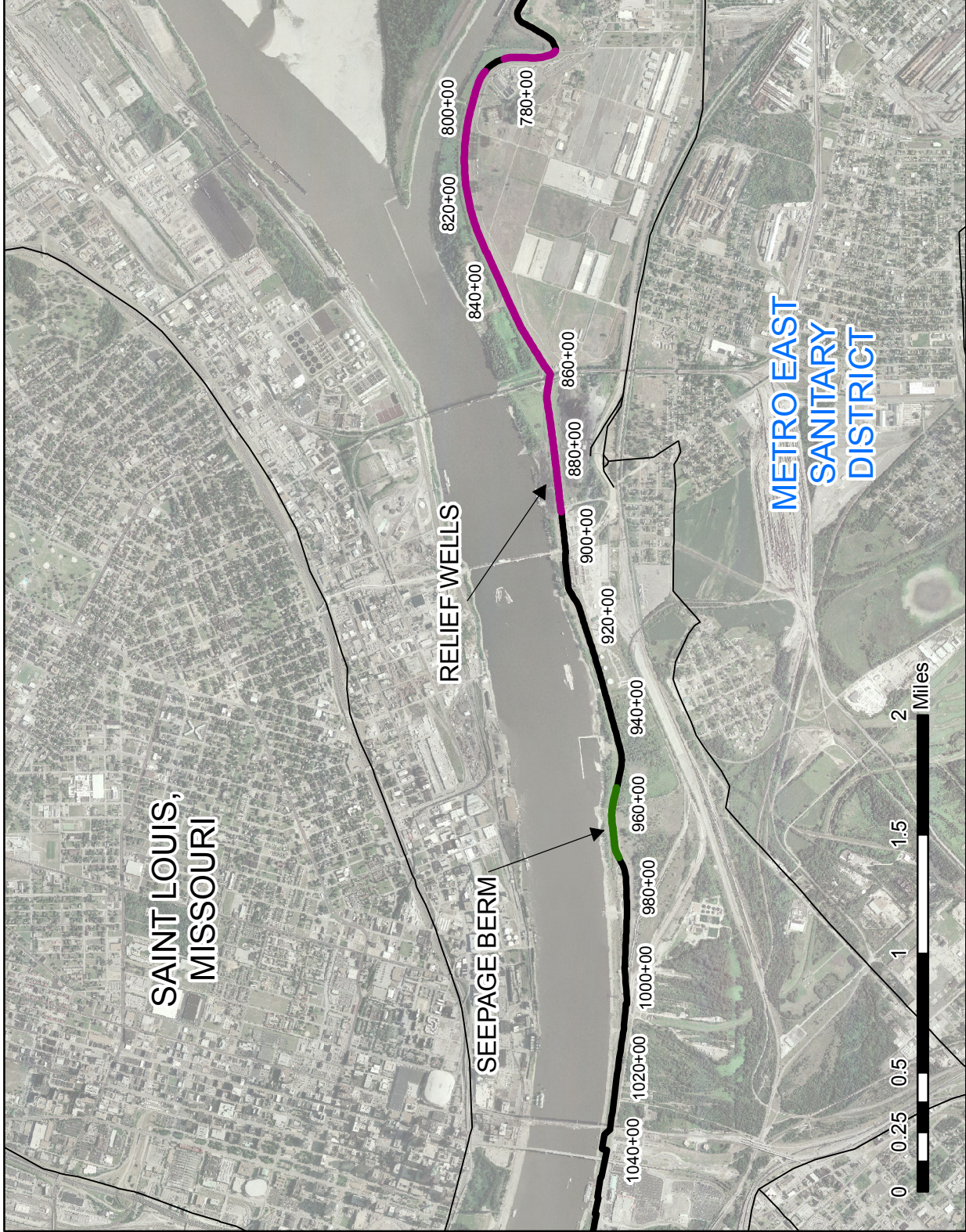


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- █ LEVEE CENTERLINE



02 AUG 2021

AUTHORIZED LEVEL DESIGN

METRO EAST SANITARY DISTRICT LEVEE

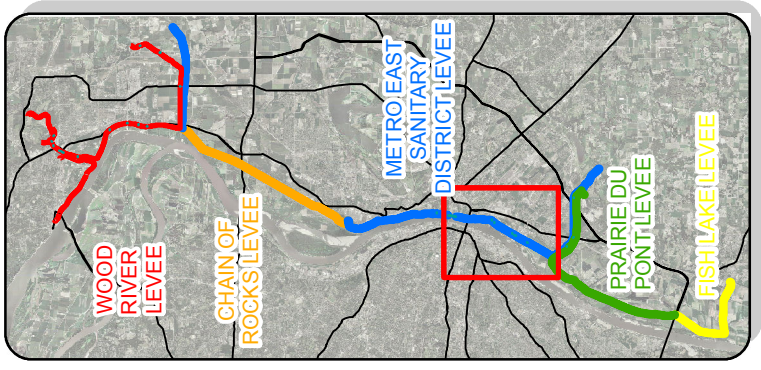
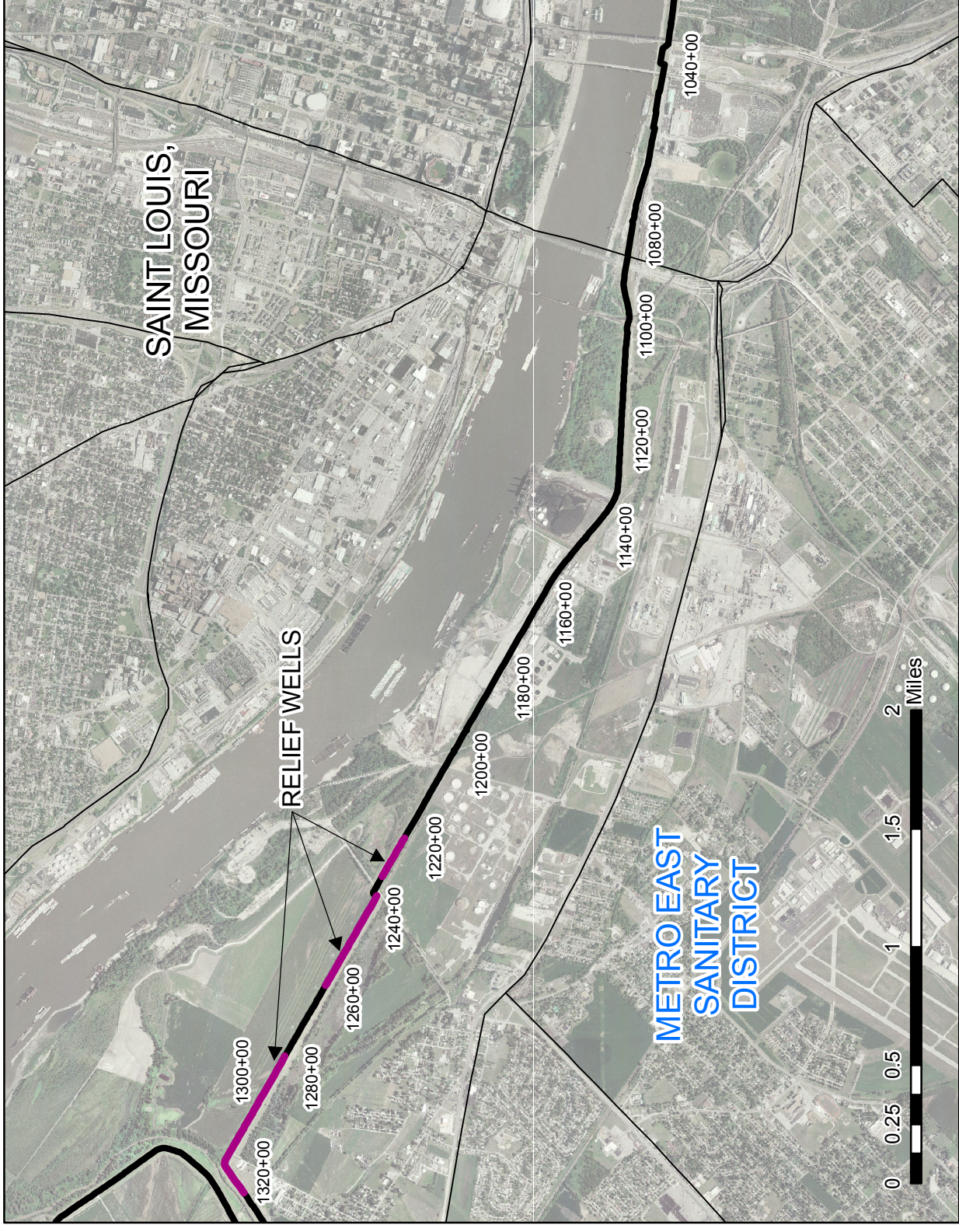
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AUTHORIZED LEVEL DESIGN

METRO EAST SANITARY DISTRICT LEVEE

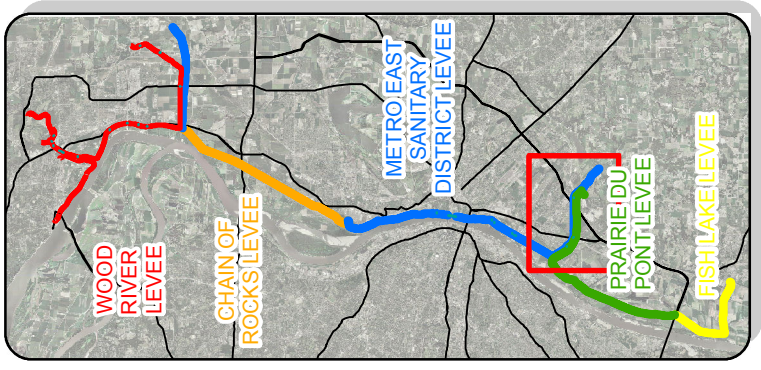
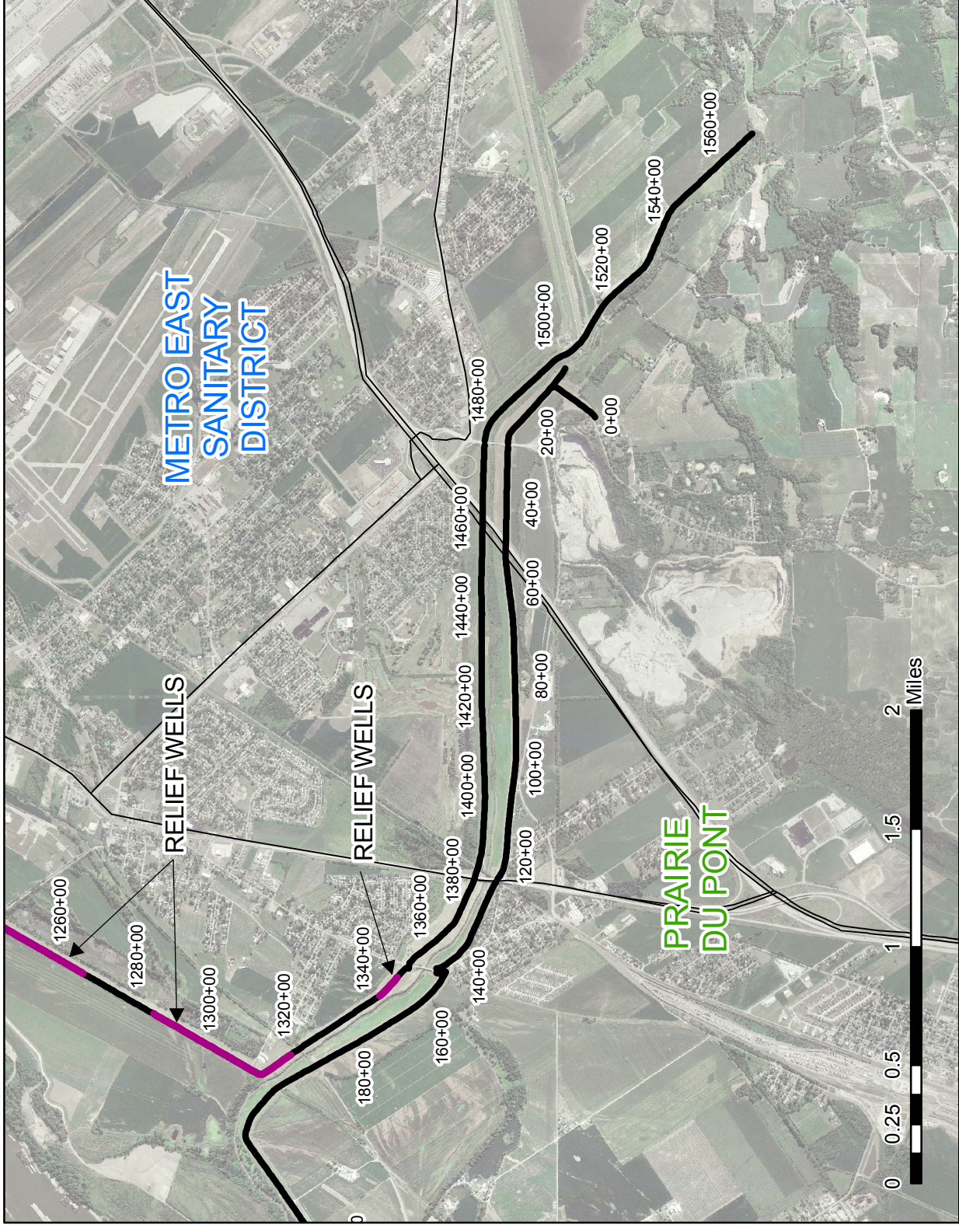
02 AUG 2021



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AUTHORIZED LEVEL DESIGN PRAIRIE DU PONT/FISH LAKE LEVEE

02 AUG 2021

