



**EAST-WEST GATEWAY
Council of Governments**

Creating Solutions Across Jurisdictional Boundaries

**AGENDA
WATER RESOURCES ADVISORY COMMITTEE
Tuesday, February 28, 2023
10:30 AM – 12:00 PM
East-West Gateway Board Room and Virtual**

The East-West Gateway Offices are now open to the public. You are welcome to attend this meeting in person or virtually on the GoToMeeting platform.

You can listen, talk, and/or view the meeting via:

Computer - <https://meet.goto.com/946261181>

Access code: 946-261-181

Or Phone - [+1 \(312\) 757-3121](tel:+13127573121)

1. CALL TO ORDER - Carol Lawrence, Chair, East-West Gateway Council of Governments
2. DISCUSSION ITEMS
 - A. **Frontenac’s Timber Trail to Briar Ridge Streambank Restoration Project**
 - Len Maladon, EDM Inc.
 - Jeff Wappelhorst, City of Frontenac
 - B. **Municipal Stormwater Management Planning Efforts**
 - Eric Karch, Rietz & Jens
 - Josiah Holst, HR Green
 - C. **Caulks Creek Watershed Study in Wildwood**
 - Paul Rydlund, Central Midwest Water Census - USGS

3. OTHER BUSINESS/ANNOUNCEMENTS

4. ADJOURNMENT

Chair

Mark A. Kern
Chairman, St. Clair County Board

Vice Chair

Tishaura Jones
Mayor
City of St. Louis

2nd Vice Chair

Tim Brinker
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Franklin County

Executive Committee

Steve Ehlmann
County Executive, St. Charles County

Dennis Gannon
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Dr. Sam Page
County Executive, St. Louis County

Kurt Prenzler
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Madison County Board

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Darlene Bell
President
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Honorable Rita Heard Days
Councilwoman, 1st Council District
St. Louis County

Robert Eastern III
Mayor, City of East St. Louis

Mike Elam
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Megan Green
President, Board of Aldermen
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Mark Kupsky
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Council of Mayors

Roy Mosley
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Metropolitan & Regional
Planning Commission

Seth Speiser
Vice President, Southwestern Illinois
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Donald R. Summers, Jr.
St. Louis County

Brad Zobrist
Franklin County

Regional Citizens

Barbara Geisman
C. William Grogan
John A. Laker
Ron Williams

Non-voting Members

Holly Bieneman
Illinois Department of Transportation

Vacant
Illinois Department of Commerce
and Economic Opportunity

Patrick McKenna
Missouri Department of Transportation

Taulby Roach
Bi-State Development

Aaron Willard
Missouri Office of Administration

Executive Director

James M. Wild

Gateway Tower
One Memorial Drive, Suite 1600
St. Louis, MO 63102-2451

314-421-4220
618-274-2750
Fax 314-231-6120

webmaster@ewgateway.org
www.ewgateway.org

Minutes

Regional Water Resources Advisory Committee

Tuesday, November 8, 2022

10:30 am – 12:00 pm

Virtual & In Person Meeting - East-West Gateway Council of Governments

Attendees:

Carol Lawrence – East-West Gateway Council of Governments

Christine Favilla – Piasa Palisades Sierra Club

Gary Moore – Washington University

Robert Stout - MITICO

Jason Peterein – Metropolitan St. Louis Sewer District

Rob Pulliam – The Nature Conservancy

Gene Rovak – Horner & Shifrin

John Johnson – Missouri Department of Natural Resources

Sarah Wright – Missouri Department of Natural Resources

Warren Grace – America’s Confluence

Tom Schweiss – Great Rivers Greenway

Gabrielle Reed – Madison County Stormwater Management

Josiah Holst – HR Green

Kaleena Menke – Menke Consulting

Bonnie Harper – Open Space Council

Matt Kuelker – City of St. Peters

Shawn Sullivan – U.S. Army Corps of Engineers

Roland Biehl – Metropolitan St. Louis Sewer District

If you attended this meeting, please let us know and we will update the minutes.

Staff:

Mary Grace Lewandowski, Jennifer Vuitel, Aaron Young, James Fister, Maureen McCarthy

1. CALL TO ORDER

The meeting of the Regional Water Resources Advisory Committee (WRC) was called to order by Maureen McCarthy, East-West Gateway Council of Governments (EWG). Those attending introduced themselves.

2. DISCUSSION ITEMS

A. MS4 Plan Effectiveness Evaluation Report

- Roland Biehl, Metropolitan St. Louis Sewer District

The Metropolitan St. Louis Sewer District (MSD) addresses both stormwater and sanitary issues in their service area. The service area is 535 sq. miles which covers 93 municipalities and 1.3 million people. There are 3,000 miles of storm sewers and 4,800 miles of sanitary sewers with 1,800 miles combined. There are seven waste water treatment plants and 278 pump stations in the area. MSD is working to address stormwater pollutants and their impact on water quality in

the region. Stormwater pollutants include sediment, bacteria, chloride, and trash amongst others. An increase in impervious areas such as parking lots and driveways have contributed to an increase in stormwater pollutants.

The Clean Water Act was amended in 1987 to address stormwater issues because the Environmental Protection Agency (EPA) recognized the growing number of problems with pollutants. The amendment was instituted first in large cities in 1990 and second in small cities in 1999. MSD was issued its first stormwater management permit in 2003 with its 61 co-permittees. The five year permit, or Stormwater Management Plan (SWMP), contained six minimum control measures: public education and outreach on stormwater impacts; public involvement and participation; illicit discharge detection and elimination; construction site stormwater runoff control; post-construction stormwater management in new development and redevelopment; and pollution prevention and good housekeeping for municipal operations.

The current SWMP was approved by the Missouri Department of Natural Resources (MoDNR) in August 2021 and goes through 2026. The 61 co-permittees will share the compliance responsibilities and 69 Best Management Practices (BMPs) across the six minimum control measures. The plan is formatted with two key elements: the Narrative and the Table. The Table addresses all of the minimum control measures and necessary tasks and who, what, why, when, and how they will be done over the five year permit term. The plan excludes the City of St. Louis because the city has a combined sanitary and stormwater system and the plan is only addressing stormwater.

In 2018 MSD was awarded the Missouri Stream Team Benefactor Award. In 2022 MSD received an award from the Water Environment Federation for best program management. They also received the Management Innovation Award from the St. Louis branch of the American Public Works Association.

There is a requirement in the plan that the effectiveness of the plan be evaluated. In order to do this MSD researched the BMP evaluation work around the country and utilized an evaluation fact sheet produced by the EPA. All of the SWMP BMPs were evaluated in three key areas: program operations, by analyzing metrics for trends; social indicators, by examining public survey reports for behavior changes; and water quality, by comparing stream sampling results to illicit discharge findings and 303(d) list monitoring. The MSD 2021 MS4 Annual Report can be found online.

Each BMP has been implemented with success and there have been positive indicators in social attitudes and behaviors. There were several waterways that were removed from the 2020 303(d) list of impaired waters. Two examples are Kiefer Creek being delisted for its chloride impairment and Williams Creek being delisted for its *E. coli* impairment for Secondary Contact Recreation. The BMPs include such actions as: posting pet waste signs in parks, clean up events, distributing educational materials to food establishments, inlet labeling and mapping, surveying all channels annually, distributing yard waste related door hangers, tracking construction waste, and tracking salt application rates. The operations for all of the programs for each BMP have been completed, trends and indicators have been identified, and data has been reviewed.

B. Kiefer Creek Septic Feasibility Study

- Jennifer Vuitel, East-West Gateway Council of Governments

Kiefer Creek has been on the 303(d) list for *E. coli* since 2012. In 2014 septic systems were called out as the primary contributor to high *E. coli* levels. A potential project for septic systems was outlined in Chapter 3 of the 2017 Lower Meramec Watershed Management Plan, the Kiefer Creek Nine Element Plan for Bacteria. In 2020 EWG received a 604b grant from MoDNR to study the feasibility of a repair, replace, connect program in the watershed.

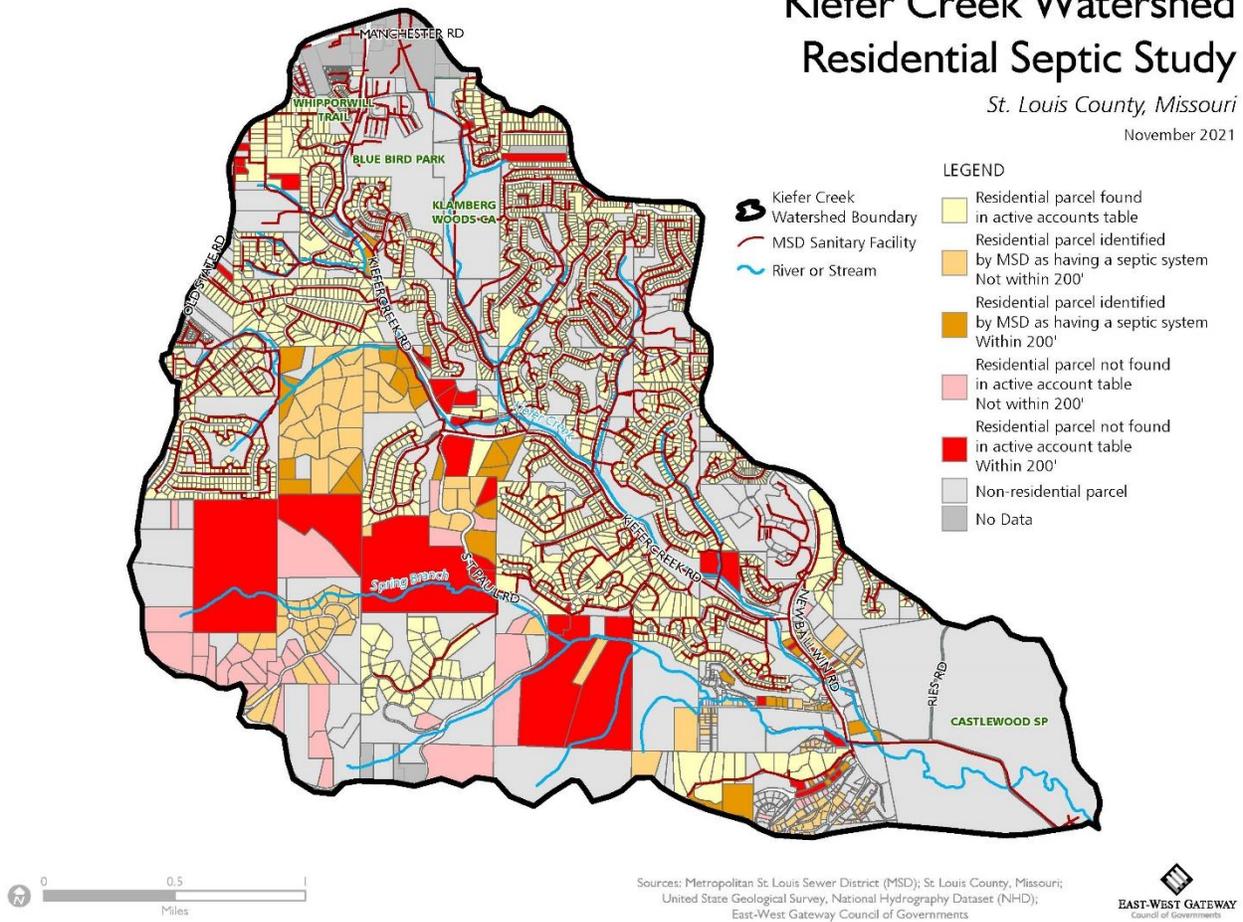
The main assumption was that high *E. coli* numbers were mostly due to individual septic systems. The older homes on small lots were suspected to be significant contributors but all homes with a septic system should be examined. It was thought that a repair, replace, connect program would be able to provide funding to homeowners who were financially unable to correct the issue of their failing septic systems.

The sources of information for this project include MSD, Missouri American Water, St. Louis County, EPA's EnviroAtlas, the U.S. Geological Survey (USGS), MoDNR, Zillow, septic companies, and the residents of the watershed. MSD provided their sewer billing data as well as Missouri American Water billing data. It was assumed that if someone had a water bill but no sewer bill then they were likely on septic. County parcel data was used to look for homes or structures. Multi-family and commercial properties were discarded. Another source from St. Louis County was their Acella data which was reviewed to look for permit information so the homes with completed permits for sewer could be taken off the list. Septic companies were contacted to gather information on the cost of their services. The American Community Survey provided data on the census block groups that made up the population of the watershed. Census data collected were income, age, college degrees, demographics, median home value, and social vulnerability index (SOVI) information. Research was done to look for potential funding sources for a repair, replace, connect program. Kiefer residents with septic systems were surveyed about their systems and their interest in aspects of a repair, replace, connect program.

The Kiefer Creek Watershed Residential Septic Study map on the next page highlights the proximity to sewer lines and shows the parcels with septic and those connected to sewer. There were 262 homes identified as having septic systems and that 31 percent of homes on septic are within 200 feet of a sewer line.

Kiefer Creek Watershed Residential Septic Study

St. Louis County, Missouri
November 2021



Even with the numerous planned sources of data it was found that additional sources would be needed. Gaps in the county parcel data were researched on Zillow. Zillow was able to provide better lot size estimates for some of the parcels. In addition there were several issues encountered during data collection due to the research being done during the height of the COVID pandemic. For example, calling septic companies from home or personal phones created the perception that the pricing inquiries was actually competitor research. The County Health Department oversees the septic systems and they were unavailable for inquiries due to their resources being focused on COVID.

With the unexpected issues there were also unexpected benefits discovered during this process. St. Louis County’s Acella portal provided better septic cost numbers for repairs, replacements, and sewer connections than the septic company surveys. Comparing MSD data and county property records gave a more accurate septic count. County parcel data was from 2019 and Zillow was able to provide more current sales data. Also, online survey tools and a septic information web page were developed and can be used for future septic research.

The results of this research found that Kiefer Creek does have an *E. coli* problem, but it does not appear to be consistent and is not increasing. For the six water samples with *E. coli* levels at or above 390 most probable number (MPN), each had a rain event on the day of or within 72 hours

prior to the sample collection. Of the 262 homes with septic systems, 13 of them were built before 1920. The decades that saw the greatest number of homes built include the 1920s, 70s, 80s, and 90s. It was found that 16 percent of the homes with septic systems are less than 1,000 square feet and 85 percent of homes sit on ¼ acre or more. The demographic and social vulnerability index data can be found in the following tables.

Kiefer Creek Watershed Demographics						
Region	Total Population	Percent White	Percent Black	Percent Asian	Percent Hispanic	Percent Other
Kiefer*	10,854	83%	1%	8%	3%	5%
STL County	996,179	65%	24%	4%	3%	4%
EWG Region	2,587,799	71%	19%	3%	3%	3%

*Total watershed

Source: American Community Survey 5-Year Estimates (2016-2020)

Kiefer Creek Social Vulnerability Index			
Region	Percent 65 and over	Percent of households with no car	Percent of households with limited English proficiency
Kiefer	18.4%	0.0%	1.2%
STL County	18.1%	6.2%	1.3%
EWG Region	16.5%	7.2%	0.9%

Source: American Community Survey 5-Year Estimates (2016-2020); disability data unavailable

A short on-line survey was developed along with a flyer with a QR code, web address, and phone number. The flyer was mailed to the 262 homes identified as having septic systems. The survey asked for the age of the septic system, how often it was pumped out and the cost. Survey also asked if repairs had been made and their cost, the financial challenges of pump outs and repairs, household income, and whether financial assistance for septic system maintenance would be welcome. There were 12 respondents, 11 of which had a septic system and all but one of the respondents was the homeowner. Septic system ages varied from six to forty plus years and pump outs were most commonly done every two to three years. The cost of pump outs ranged from \$100 - \$600. Six of the respondents listed their income as greater than \$100,000. Five indicated that no financial assistance was necessary while the others were in favor of vouchers or other assistance. In the open response section of the survey multiple people indicated a preference to be connected to sewer.

The cost of septic systems was determined using county permit information, responding septic companies, and responding homeowners. Installation of drip irrigation systems ranges from \$12,000 - \$25,000 due to the size of the home, type of soil, and amount of tree clearance that needs to be done. Having the filters cleaned costs \$300 a year, pump outs average \$250, and

repairs range from \$400 - \$800. Sewer connection can cost between \$3,000 and \$12,000 due to variables such as proximity to the sewer line, elevation, and the underground geology.

Two possible funding sources were identified: a 319 grant and the State Revolving Loan Fund. 319 grants are used in a handful of Missouri regions to fund a voucher program for pump outs. It is a small-scale program that offers 10 – 20 \$50 vouchers a year. These are only applicable to pump outs and there is a 40 percent match requirement. This grant may not allow for a county-wide program. The State Revolving Loan Fund (SRLF) could be used by St. Louis County or the cities of Wildwood, Ballwin, or Ellisville to construct sewer lines to unsewered parcels. Individuals can not directly access these funds and it is a loan, not a grant.

In conclusion, home age and lot size do not appear to correlate to likely bacteria sources from old and/or malfunctioning septic systems. Only 14.5 percent of homes in the watershed sit on .25 acres or less. Almost 70 percent of homes have been sold in the last 12 years, which would have triggered inspections, and septic awareness on the part of the new homeowner. The Kiefer watershed is small and not an impoverished area which makes even a voucher program a challenging argument. No entity is stepping forward to install sewer lines. Kiefer Creek is not an ideal location to pilot a repair, replace, connect program. While Kiefer Creek is not an ideal location for this type of program, the feasibility study provides an excellent starting point to address septic issues not just in the Kiefer Watershed, but in the EWG region as a whole.

Questions and comments can be sent to Jennifer Vuitel at Jennifer.vuitel@ewgateway.org
The report is available at www.ewgateway.org/septicinfo

C. Connected 2050, Long Range Transportation Plan Update

- James Fister, East-West Gateway Council of Governments

In October 2022, the EWG Executive Advisory Committee and Board of Directors approved the twelve new guiding principles for the long range planning process. Right now EWG is finishing the transportation equity analysis which is a deep look at how our transportation system is serving all different populations in our region and where access is more challenging than other areas. There are four main parts to the equity analysis: the historical analysis, current conditions analysis, analysis of Transportation Improvement Program (TIP) spending, and recommendations. The first two are complete and the last two are nearing completion. The historical analysis covers the long view of transportation policy and investments in our region. The current conditions analysis looks at what barriers to access exist. The TIP spending analysis looks at the past 15 years of projects. Finally, EWG's recommendations are for how to improve transportation equity within our region moving forward. EWG staff developed several maps showing the historical impact of the expansion of the interstate highway system. The maps show parcel maps from 1950 layered over current transportation network. These maps reveal how past transportation decisions and policies have had negative effects on communities and lasting impacts. While the highway system is important to our region, it is important to know what was lost when it was being expanded to make sure we don't make similar mistakes in the future.

For the current conditions analysis EWG is measuring levels of access for different populations. The populations include persons with disabilities, low-income communities, seniors, minorities,

households without vehicles, and those with limited English proficiency. Findings show that if you don't live within the urban core of the region it is hard to get where you need to go if you are relying on public transit. Transit equity populations are more likely to live near high volume roadways which causes health and safety issues. Communities that are majority black have the disproportionate share of roadway fatalities and it was found that fatalities in the rural areas are disproportionately occurring on non-interstate roadways.

The TIP analysis looks at the amount of money from projects over the last 15 years as well as the types of projects, the sponsors, and where the projects were taking place. The goal was to identify any gaps or trends. This analysis allows for the development of some interesting maps that make us think a bit more about those transit equity populations and where projects are taking place. Some preliminary findings show that local match funding has been an issue, particularly for smaller and less wealthy communities. This analysis needs to continue year in and out to make sure the right types of projects are being funded in the right areas of our region to boost equity and connectivity.

EWG has put out a call for projects for the long range plan. Because the guiding principles have been updated it has completely reshaped how projects will be solicited and evaluated. We are asking our regional partners to consider equity more when putting project proposals together. EWG is not just here to say a project is good or bad, but to include our partners in the process of making the transportation system more equitable. There is a lot of work going on right now including writing the plan. EWG staff is also working on the State of the System report between now and June 2023. There will likely be few updates between now and March 2023. The draft is to be released in March and the final plan in June. If there are questions or comments you can contact James Fister at James.fister@ewgateway.org

3. OTHERBUSINESS/ ANNOUNCEMENTS

A. The National Climate Assessment

- John Posey, East-West Gateway

The National Climate Assessment is a report mandated by federal law every four years. It is put out by the U.S. Global Change Research Program with support from the National Academies. The draft of the fifth National Climate Assessment was just released for public comment. It will be published in 2023.

B. 303(d) List

Bonnie Harper has requested that there be a discussion on the 303(d) list and what it means for our region and specifically our watersheds. Possibly someone from MoDNR could give a presentation on it. It would be good to have a discussion on how our region is or isn't improving and what the data is actually saying.

4. ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting of the Water Resources Advisory Committee will be on February 28, 2023.

