



Metropolitan Water Reclamation District of Greater Chicago

President's Annual Message 2022: A Year in Review



Our 133-year history at the Metropolitan Water Reclamation District of Greater Chicago (MWRD) has served us and the health and environment of our region well. But it is our present work that will command a healthier tomorrow. In 2022, we celebrated many of these past contributions and reflected on how we will continue to maintain a tradition of excellent service and clean water innovations.

We entered the second year of our ambitious Strategic Plan in 2022 and the third year of a global pandemic. Through all the adversity, triumph, change and resolve of the year, we celebrated many major milestones. This year we marked the 100th anniversary of our Calumet Water Reclamation Plant and the Cal-Sag Channel, the 50th anniversary of our illustrious Tunnel and Reservoir Plan (TARP), and the 50th anniversary of the landmark Clean Water Act.

We paused to commemorate these milestones throughout the year, but they are not merely anniversaries. These achievements highlight a continuation of what we are striving to accomplish today. The year allowed us the opportunity to evaluate the impact these chapters have made on our work and the difference each has made on the quality of life for our citizens. These pivotal moments influenced our work and remain a hallmark of our daily mission to protect and improve our water environment and serve the more than 5 million residents of Cook County. We have improved our water resources to a point not imagined a century ago, and now we have set out a new legacy of protecting our water environment for another century.

A handwritten signature in black ink that reads 'Kari K. Steele'.

Kari K. Steele
President of the Board of Commissioners

Achieving highest standards

Despite a pandemic, climate change, torrential rainstorms, pollution, urban runoff and more than 400 billion gallons of wastewater each year, our staff continue to meet our mission -- and stringent federal permits. All seven of our Water Reclamation Plants (WRP) met 100 percent compliance of National Pollutant Discharge Elimination System (NPDES) permits to earn Platinum Peak Performance Awards from the National Association of Clean Water Agencies. Calumet WRP extended its streak of full compliance to 30 consecutive years.

Focusing on Maintenance and Operations

Our seven water reclamation plants are the backbone of our organization. In 2022, we upgraded air mains, installed new tanks and diffusers on aeration tanks, built railroad tracks, enhanced lighting systems, constructed odor control facilities, introduced an experimental algae pilot reactor, and researched sidestream enhanced biological phosphorus removal. Each of these elements allows our plants to operate more efficiently and effectively to achieve greater outcomes.

Protecting the Calumet Region for 100 Years

We recognized this century of service, innovation and ingenuity during our 10th Annual Sustainability Summit held at the Ford Calumet Environmental Center at Big Marsh Park on October 21 where we highlighted the 100th Anniversary of the Calumet WRP and Cal-Sag Channel and blazed a new trail of history by installing our first Community Partnership Council (CPC). The Calumet CPC will engage with nearby communities to provide feedback on our efforts to be a good neighbor. The Sustainability Summit was held in person for the first time in three years, growing the MWRD's network of community leaders, water professionals and environmental experts to educate and engage partners and stakeholders on how they can sustainably manage water and recover resources effectively. We honored the Village of Alsip and the Chicago Region Trees Initiative for revitalizing an asphalt lot into a fertile and attractive space using MWRD EQ Biosolids Compost. We also honored the Village of Elmwood Park and the Village of Brookfield with Sustainable Landscaping Awards for green infrastructure installations that help manage stormwater while improving public spaces.

Awards earned

Our staff earned their share of awards in 2022. The American Society of Civil Engineers Illinois Section honored us with the 2022 Sustainability in Civil Engineering Achievement Award for the Buffalo Creek Reservoir expansion project. Peoples Gas honored us at its 2022

Energy Forum with an Energy Efficiency Award for our \$26-million heat exchanger system upgrade at the Calumet WRP digester complex. By exploring and embracing new and innovative water reclamation systems, we are taking control of our energy future and moving towards our next technological adventure as the utility of the future. We removed six boilers and replaced them with new energy-efficient heat exchangers and piping infrastructure. This will allow staff to manage the heat process more efficiently, reduce our carbon footprint and save taxpayer money by cutting down maintenance and energy costs. In June, the Friends of the Chicago River honored us with the Chicago River Blue Award for our work on the Natalie Creek Flood Control Project, where we reduced flooding for more than 200 structures and protected residents of Midlothian and Oak Forest from rising waters.

In March, the Illinois Association for Floodplain and Stormwater Management (IAFSM) selected the MWRD to receive the 2022 award for Stormwater Management during its annual conference. The award recognizes floodplain managers, individuals, groups, consultants, or agencies who improved stormwater management or reduced urban flood risks through creative engineering, regulatory measures, or other approaches. I congratulate all staff associated with these awards and thank them for their dedicated service to the Metropolitan Water Reclamation District of Greater Chicago.

Spreading Resiliency across Cook County

We have utilized a wide range of strategies to address stormwater and flooding through proper watershed regulations, watershed planning and both local and regional projects. These projects have included massive flood control reservoirs, miles of stream improvements, underground detention, permeable parking lots, alleys, and schoolyards, and the removal of thousands of yards of debris from local streams. Between regional flood control projects and local stormwater partnerships, the MWRD has developed a capital improvement plan resulting in 229 projects worth \$758 million in stormwater management investments aimed at flood reduction to protect more than 17,000 structures. We have completed 12 more green infrastructure projects this year, bringing the total green infrastructure projects completed to 54 since I became President in 2019. These green infrastructure projects will have the capacity to retain more than 8.2 million gallons of stormwater volume per rain event.

Groundbreakings & Ribbon-cuttings

We started and completed many stormwater projects throughout Cook County. In 2022, we completed the Arrowhead Lake Flood Control project in the Forest Preserves of Cook County to protect Palos Heights residents. We joined our partners from Mount Prospect and the River Trails Park District to unveil our second park improvement project designed to address stormwater management and mitigate local flooding, this time at Aspen Trails Park. This park is now home to a new playground and park amenities above new relief sewers and an underground storage system that accommodates about 5.5 million gallons of water.

We constructed streambank stabilization projects on Melvina Ditch in Oak Lawn and Chicago Ridge and along the Calumet Union Drainage Ditch. We broke ground on the Crestwood Flood Control Project, 1st Avenue Flood Control Project between Roosevelt and Cermak Roads in Proviso Township, and a new diversion channel in Robbins as part of the highly anticipated Robbins Stormwater Park and Midlothian Creek Restoration projects that will remove 94 structures from the floodplain. Funding for the Robbins project was made possible by securing \$12 million from the Army Corps of Engineers as reimbursement for Thornton Reservoir work.

Work neared completion on the Melvina Ditch Reservoir and Addison Creek Reservoir, and we are set to begin phase two of the project with Addison Creek Channel improvements to benefit six communities from flooding. In July, we joined project partners and local leaders in Buffalo Grove and Wheeling to cut the ribbon on the Buffalo Creek Reservoir Expansion in the Lake County Forest Preserve District (LCFPD). This project stores an additional 58.6 million gallons of water and provides more than 2,000 structures along Buffalo Creek and the main stem of the Des Plaines River with some form of flood reduction benefit. This also incorporated LCFPD's planned improvements and other aesthetic and environmental enhancements.

We selected seven new green infrastructure projects to pursue while completing new green alleys, green intersections and four new permeable schoolyards through our Space to Grow® partnership. This brings our grand total to 34 schoolyard transformations across the Chicago Public Schools since 2014, retaining 6.5 million gallons of water per rain event. We are currently looking for partners to bring a similar program to our surrounding suburban school districts.

Strong Finances

We could not manage this amount of wastewater, stormwater, and associated projects without a clean bill of fiscal health. In August, S&P Global (S&P) upgraded our credit rating from AA to AA+ with a stable outlook. S&P's upgraded rating reflects our comprehensive operational management policies, extremely strong liquidity, and affordable rates that provide ample rate capacity for our capital improvement program. Moody's Investor Service in October also affirmed its rating on MWRD bonds at Aa2 with a stable outlook. In May, the Government Finance Officers Association of the United States and Canada (GFOA) awarded the MWRD with the Distinguished Budget Presentation Award for the 2021 Budget and Certificates of Achievement for Excellence in Financial Reporting to the MWRD, the MWRD Retirement Fund and the MWRD Retiree Health Care Trust for the Fiscal Year 2020 Annual Reports. We have received the Distinguished Budget Presentation Award for 37 consecutive years and the Certificate of Achievement for Excellence in Financial Reporting for 46 consecutive years, placing the MWRD in the top two percent of governments receiving a consecutive award.

Promoting Diversity, Equity, and Inclusion

In 2022, we completed a disparity study that will guide our Affirmative Action Ordinance and diversity goals. Once adopted, the revised ordinance will better serve minority-owned and women-owned enterprises to participate as vendors with the MWRD. This year we created and staffed two dedicated environmental justice positions. We held both in-person and virtual vendor outreach fairs and hosted business roundtables for the African American, LatinX and LGBTQIA+ communities. In June, we held our inaugural Juneteenth holiday celebration at Stickney WRP to celebrate the occasion and educate MWRD employees on its history and purpose, while also promoting our work in diversity and inclusion. For the first time, Juneteenth became a full-paid and federal holiday. Promoting diversity in our workforce has always been a primary goal for me since coming to the Metropolitan Water Reclamation District. I am proud to say that in the last 12 months minority applicants received 46 percent of our new appointments and 46 percent of our promotional opportunities. Additionally, as a result of the 2021-2025 Strategic Plan, the MWRD's core values were expanded to include the values of equity and diversity in addition to excellence, respect, innovation, safety, and accountability.

2021-2025 Strategic Plan

Since the Strategic Plan was adopted in June 2021, staff have been collecting data to measure progress and are pursuing established goals. A data hub was added to

our website, EQ Biosolids Compost utilization was expanded, a Calumet Water Reclamation Plant Community Partnership Council was implemented and legislative authority to issue up to \$600 million of pension obligation bonds was received. We have accomplished much and look forward to achieving more successful measures.

TARP at 50

Fifty years ago in October, the MWRD formally adopted the Tunnel and Reservoir Plan (TARP) to reduce the worsening flooding and pollution problem caused by combined sewer overflows, and in the process, protect regional waterways and Lake Michigan. After 50 years of service and protection, we estimate that the 110 miles of tunnels and three reservoirs have captured more than 1 trillion gallons of combined sewage. The monumental scale of TARP illustrates our commitment to protecting the water environment and communities in the Chicago region. Yet, we have more work to accomplish. In 2022, excavation continued on Stage 2 of the McCook Reservoir. We also completed the Des Plaines Inflow Tunnel and Thorn Creek Connection tunnel, ending our lease at the Thornton Transitional Reservoir to now divert Thorn Creek overbank flooding to the Thornton Composite Reservoir to protect communities in the south suburbs.

Nutrient Loss Reduction

Our clean water initiatives are not confined to our service area. Thanks to a collaboration to capture nutrients led by the Illinois Nutrient Loss Reduction Strategy, we are contributing to cleaner waterways in the Illinois River, Upper Mississippi River and Gulf of Mexico. Scientists with the National Oceanic and Atmospheric Administration reported in 2022 that the “dead zone,” or hypoxic zone, in the Gulf of Mexico decreased in size. The MWRD has implemented various nutrient removal activities at our WRPs, such as advancing biological phosphorus removal, building the world’s largest nutrient recovery facility at the Stickney WRP, and studying how growing and harvesting algae can also help recover nutrients. As a result, the MWRD has lowered its nutrient discharge to local waterways allowing all seven of our Water Reclamation Plants to meet 100% compliance of National Pollutant Discharge Elimination System permits to earn Platinum Peak Performance Awards from the National Association of Clean Water Agencies. In June, we joined the Illinois Farm Bureau, Fulton County Farm Bureau and Cook County Farm Bureau to continue our tradition of hosting an annual Field Day in Fulton County, collaborating with farmers on how to capture, recycle and reduce nutrients.

COVID-19 Sewage Surveillance

For the third year, we continued to play a key role in research to address the COVID-19 pandemic through wastewater-based epidemiology and sewage surveillance. We provided raw sewage samples for the Illinois Department of Public Health and Chicago Department of Public Health to our research partners at the Discovery Partners Institute each week from all seven of our WRPs. We also contributed twice weekly sampling from Egan and Kirie WRP as part of the U.S. Centers for Disease Control and Prevention National Wastewater Surveillance System. The samples are studied for virus particles and variants and shed new light on how COVID-19 spread in communities might be detected in sewers. In 2022, we transitioned from creating the foundation and methods through academic research to the implementation of programs through our local public health departments. This critical sampling, analysis and research is giving our public health departments new tools to address COVID-19 and opens the door to the potential of sewage surveillance that can also aid in our knowledge of influenza, monkeypox, opioids, polio, and other viruses.

Departure of Three Commissioners

As we close 2022, we say farewell and job well done to integral members of our MWRD family. Vice President Barbara J. McGowan and Commissioner Josina Morita participated in their last Board of Commissioners meeting on November 17 while Commissioner Chakena D. Perry’s last Board meeting was December 1. Vice President McGowan closes out 24 years of dedicated service as a Commissioner and eight years as a Commissioner’s Aide for a total of 33 years. She was the first African American Vice President at the MWRD; she served as the first interim African American female President in December 2012 and December 2014; and she is the third longest serving Commissioner in the MWRD’s history. We owe much to her for her guidance and trailblazing determination to make the MWRD what it is today - a diverse, resilient, committed and thriving workplace. All three have made a lasting imprint on the MWRD, and the Board of Commissioners and the MWRD will not be the same without them.

Conclusion

As we remain diligent, focused, and determined in our efforts to protect our waterways, I must stress that there is no end to the impact of our essential work. Entering another year removed from the height of the COVID-19 pandemic, we look forward with confidence in continuing to build a legacy of sustained protection for our water environment in 2023. Thank you to the residents of Cook County who have entrusted me, our Board of Commissioners, and our staff to carry out this extremely important work on their behalf. I am honored to serve and appreciate the confidence of our Board of Commissioners and staff.

