DOWNRIVER UTILITY WASTEWATER AUTHORITY
FIFTH YEAR IN REVIEW

CALENDAR YEAR 2023

OHM
Advancing Communities®

INTRODUCTION

DUWA has now completed its fifth full year of ownership since taking over the Downriver Wastewater Treatment Facility (DWTF) and Downriver Sewage Disposal System (DSDS) from Wayne County. These annual reports provide an opportunity to reflect on the accomplishments over the past year and to look forward towards upcoming challenges. Year 5 is most notable for DUWA's advancement of Strategic Planning efforts as well as DUWA's award of a $10M grant from the State of Michigan to support funding of the Ultraviolet Disinfection Replacement Project.

DUWA MEMBER COMMUNITY	PRIMARY COMMISSIONER	ALTERNATE COMMISSIONER
City of Allen Park	Gail McLeod, Mayor	Felice (Tony) Lalli, Mayor Pro Tem
City of Belleville	Kerreen Conley, Mayor	Rick Rutherford, DPW Director
Township of Brownstown	Justin Danosky, DPW Director	Patrick Killian, Twp. Trustee; Roxie Fairchild, DPW Office Administrator
City of Dearborn Heights	Bill Bazzi, Mayor	Ali Dib, City Engineer
City of Ecorse	Tim Sadowski, City Controller	Eugene Anderson, DPW Director
City of Lincoln Park	James Krizan, City Manager	Lisa Griggs, Director of Finance & Operations
City of River Rouge	William Campbell, Mayor	David Bower, City Attorney
City of Riverview	Jeff Dobek, Assistant City Manager	Dean Workman, Council Member
City of Romulus	Roberto Scappaticci, DPW Director	Robert McCraight, Mayor
City of Southgate	Joseph Kuspa, Mayor	Dan Marsh, City Administrator
City of Taylor	Tim Woolley, Mayor	Ralph Richard, DPW Director
Township of Van Buren	Kevin McNamara, Twp. Supervisor	Kevin Lawrence, Director of Water and Sewer Dept.
City of Wyandotte	Todd Drysdale, City Administrator	Greg Mayhew, City Engineer

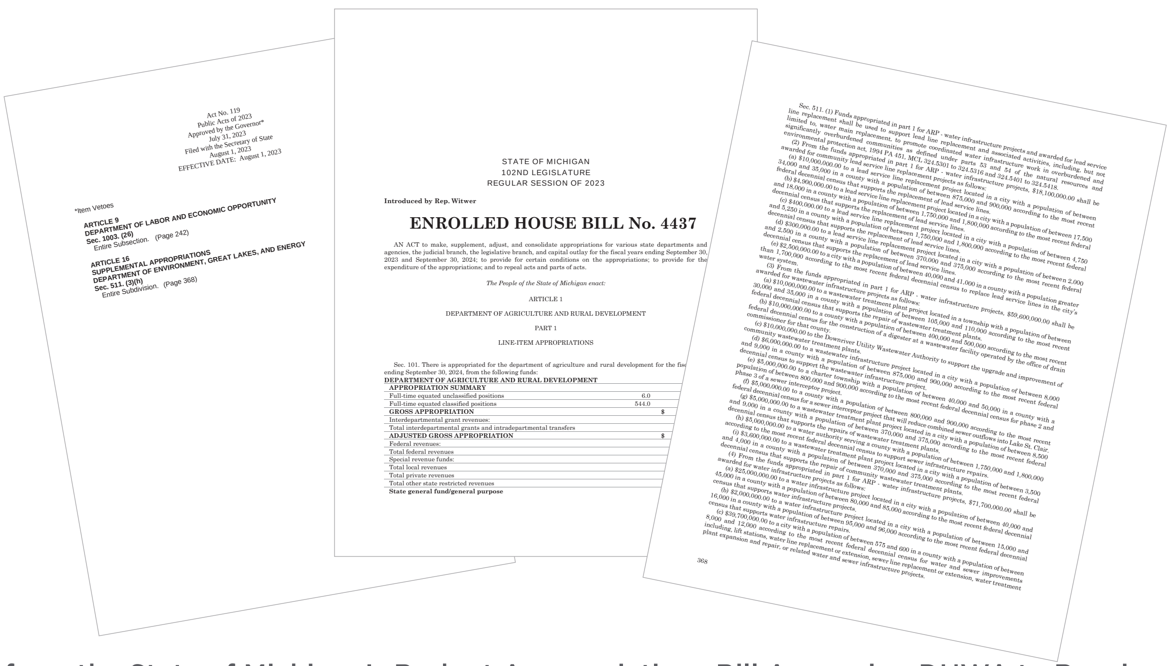
FIFTH YEAR MAJOR HIGHLIGHTS

1. Blending Reduction Control Measure A, implemented in 2021, added 10% additional secondary treatment capacity by optimizing the existing facilities. This improvement resulted in zero blending (secondary bypass) events in 2022 and 2023. A maximum flow through the plant of 137.5 MGD, equal to the secondary treatment capacity, was reached during a wet weather event in 2023, but a blending event did not occur. This is viewed as favorable by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), the State regulatory agency, who desires to see continued reductions in the number of annual blending events. DUWA's permit currently establishes a goal of limiting the number of blending events to six per year.

2. DUWA received a draft National Pollutant Discharge Elimination System (NPDES) renewal permit from EGLE in November of 2023. The permit was reviewed by DUWA's Professionals, Technical Committee, and Board Commissioners, and comments were compiled into a response letter that was sent to EGLE. DUWA awaits EGLE's response to the response letter in anticipation of receiving its NPDES permit renewal.

3. The ultraviolet (UV) disinfection system at the Downriver Wastewater Treatment Facility (DWTF) was state-of-the-art when it was installed in the 1990s. Unfortunately, the equipment is now obsolete as the manufacturer no longer provides technical support nor manufactures spare parts. Replacement of the existing UV system is critical to maintaining compliance with DUWA's NPDES permit requirements for effluent discharge. An engineering firm was engaged to perform the detailed design of the new UV disinfection system. DUWA's Board Commissioners reached out to State Representatives and Senators advocating for DUWA to receive funding through the American Rescue Plan Act (ARPA). As a result of these efforts, DUWA was awarded a $10M earmark through State Senator Erika Geiss' office. The $10M earmark was included in the State's approved FY2024 budget. The $10M grant will be used to fund a portion of the UV project. DUWA also initiated efforts to pursue municipal bonding to fund the remaining portion of the UV project.

4. In early 2023, DUWA engaged the Southeast Michigan Council of Governments (SEMCOG) to assist with DUWA's Strategic Planning



Act No. 119
Public Acts of 2023
Approved by the Governor*
July 31, 2023
Filed with the Secretary of State
August 1, 2023
EFFECTIVE DATE: August 1, 2023

*Item Vetoes

ARTICLE 9
DEPARTMENT OF LABOR AND ECONOMIC OPPORTUNITY
Sec. 1003. (26)
Entire Subsection. (Page 242)

ARTICLE 16
SUPPLEMENTAL APPROPRIATIONS
DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
Sec. 511. (3)(h)
Entire Subdivision. (Page 368)

STATE OF MICHIGAN
102ND LEGISLATURE
REGULAR SESSION OF 2023

Introduced by Rep. Witwer

ENROLLED HOUSE BILL No. 4437

AN ACT to make, supplement, adjust, and consolidate appropriations for various state departments and agencies, the judicial branch, the legislative branch, and capital outlay for the fiscal years ending September 30, 2023 and September 30, 2024; to provide for certain conditions on the appropriations; to provide for the expenditure of the appropriations; and to repeal acts and parts of acts.

The People of the State of Michigan enact:

ARTICLE 1

DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT

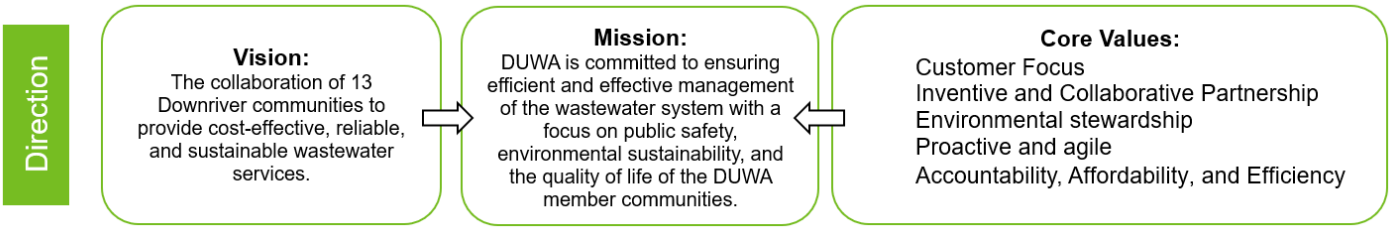
PART 1

LINE-ITEM APPROPRIATIONS

Sec. 101. There is appropriated for the department of agriculture and rural development for the fis[cal year] ending September 30, 2024, from the following funds:

DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT		
APPROPRIATION SUMMARY		
Full-time equated unclassified positions	6.0	
Full-time equated classified positions	544.0	
GROSS APPROPRIATION		$
Interdepartmental grant revenues:		
Total interdepartmental grants and intradepartmental transfers		
ADJUSTED GROSS APPROPRIATION		$
Federal revenues:		
Total federal revenues		
Special revenue funds:		
Total local revenues		
Total private revenues		
Total other state restricted revenues		
State general fund/general purpose		

3 – Pages from the State of Michigan's Budget Appropriations Bill Approving DUWA to Receive a $10M Grant for Replacement of the UV Disinfection System at the DWTF.



4 – Strategic Planning Efforts

efforts. SEMCOG hosted a workshop in April with DUWA's Professionals and Board Commissioners during which DUWA's vision, mission, core values, marks of distinction, and HICOPs (hurdles, issues, challenges, obstacles, and problems) were identified. SEMCOG hosted a follow-up workshop in September to identify and prioritize target areas and action steps to address the HICOPs identified during the first workshop. Strategic Planning efforts, including prioritizing and advancing upon select target areas, are planned to continue in 2024.

5. The difficult task of developing a new Rate Methodology was completed in 2022 and subsequently adopted by the Board to be phased in beginning in FY2023. The existing methodology was developed many years ago and there was no historical information available on the reasoning for the details in these procedures (from previous system Owners). The existing methodology was evaluated and suggestions for revised procedures were provided by Raftelis, DUWA's rate consultant. The new methodology makes much better use of the flow metering data that was already being collected by DUWA as there is now less unmetered flow to be allocated amongst the communities. The new methodology improves upon the base flow calculation by utilizing data from the winter period only, and the excess flow is determined by utilizing a weighted combination of length of collection system in miles and number of footing drains. While some communities will experience an increase in their cost share during implementation of the new methodology, these rate methodology improvements will provide a more accurate and equitable methodology that will allow for a continued level of excellence in the operation, maintenance, and management of the collection system and DWTF. The new Rate Methodology will be phased in over a period of five years. Beginning on July 1, 2023, rates were calculated using 20% of the new rate methodology and 80% of the old rate methodology.

6. The following key capital improvement projects were advanced upon in 2023:

   A. DUWA's signature project, the biosolids dryer facility, has continued to experience commissioning delays for a variety of reasons such as pump degradation and condensing tower issues. This project addresses a long-term need for beneficial reuse of the biosolids, addresses the increasingly unavailable option of directly landfilling un-stabilized biosolids, and creates a cost-effective solution that is affordable for DUWA's rate payers. The unique financing using the federal WIFIA program, the first in Michigan and the first for a facility with privatized operations and maintenance, has resulted in a very favorable interest rate (1.730%) that is financed over the life of the project (36 years), minimizing the rate impact.

   B. The ultraviolet (UV) disinfection system was state-of-the-art when it was installed in the 1990s. The equipment is now obsolete as the manufacturer no longer provides technical support nor manufactures spare parts. An engineering firm was engaged to perform the detailed design of the new UV disinfection system. A Named Manufacturer to supply the new equipment was selected as part of a Request for Proposals process. The detailed design is expected to be complete and put out for bid for solicitation of General

FIFTH YEAR MAJOR HIGHLIGHTS - CONTINUED

Contractors in the Spring of 2024 with construction expected to begin in the Summer of 2024.

C. The short-term capital improvement/asset management program (with a budget of about $2 million annually) implemented several critical improvements, including replacement of one of the secondary clarifier towbro arms, improvement to the heating, cooling, and ventilation system in the Administration Building of the DWTF, replacement of a flow meter, purchase of a spare soft starter for the pumps and other pump repairs, and repair of a hole that was located in DUWA's Eureka Interceptor within the collection system.

7. Increased operation and maintenance costs and chemical costs continue to be experienced due to the lingering effects of the COVID-19 pandemic on the supply chain markets as well as high inflation. In consideration of these increased costs, several efforts to minimize costs were implemented and included the following:

A. DUWA worked with its Financial Consultant and Bond Counsel to initiate efforts to pursue municipal bonding to fund the remaining portion of the UV project not covered by the $10M grant from the State. However, with the favorable construction bid, the Finance team is considering options to finance the remaining option with cash reserves. A final determination of funding source for the remaining portion of the project is expected to be complete by July 2024.

B. DUWA worked with Wayne County to amend the remaining $3.5M bond payment related to the system transfer that was originally due in full to Wayne County in September 2023. The bond amendment allows DUWA to instead pay the $3.5M bond payment in increments of $700k over the next five years at an interest rate of 4%. The amended bond payment schedule will help support DUWA's cash flow to fund near-term critical projects.

6B – UV Disinfection System to be Replaced

6C – Hole in the Eureka Sewer Interceptor

6C – Secondary Clarifier Towbro Arm Assembly

FIFTH YEAR MAJOR HIGHLIGHTS - CONTINUED

C. Wyandotte Municipal Services, DUWA's electrical provider, offers an incentive program that rewards installation of energy efficient equipment. The new UV system will utilize energy efficient lightbulbs that will have a reduced electrical demand compared to the existing UV system. The UV project was submitted to Wyandotte Municipal Services' Energy Smart program for consideration to be eligible to receive up to $20,000 in green incentives.

D. Surcharge rates charged to industrial users were increased to align with increased plant operating costs.

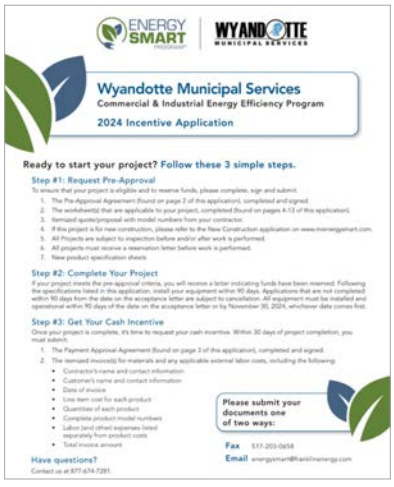
E. DUWA had originally budgeted a natural gas demand based on the expectation that the biosolids dryer facility would be operational in early 2022. Since the biosolids dryers have not been continuously online at their design capacities, DUWA has continued to sell a portion of the unused natural gas back to the market on a monthly basis based on the estimated demand for each month until the dryers are continuously online.

8. A number of programmatic updates and engineering studies were completed. Although the results are not as dramatic as seeing completion of a new construction project, these tasks can be very impactful in making sure the system is performing optimally. Examples are as follows:

A. DUWA contracted an as-needed engineer to perform an assessment of the Allen Park Tunnel Spur Flushing Gate. This gate was intended to be used to flush the tunnel system. The engineering firm performed a physical condition assessment of the gate to identify components needing repair or replacement. A final report detailing the repairs necessary to restore the gate's functionality will be provided in early 2024.

B. The three existing Programmable Logic Controllers (PLC-5s) within the Solids Handling Building at the DWTF are in critical need of replacement. These PLC-5s are critical to the operation of the solids handling equipment, as the equipment cannot be operated manually and must be run via the PLC-5s. One of DUWA's three as-needed engineers was authorized to perform the engineering design to replace the PLC-5s using a conversion kit approach, which will allow the field wiring to remain in place and will minimize downtime. The design and construction of the PLC-5 replacements are expected to be complete in 2024.

C. DUWA is required by EGLE to develop PFAS local limits to control pollutants that may adversely affect the quality of the wastewater effluent discharged by the DWTF. EGLE has published Water Quality Values for five PFAS compounds, two of which were recently established in October 2023. DUWA's previous local limit sampling effort, which was


ENERGY SMART | WYANDOTTE MUNICIPAL SERVICES

Wyandotte Municipal Services
Commercial & Industrial Energy Efficiency Program
2024 Incentive Application

Ready to start your project? Follow these 3 simple steps.

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Step #2: Complete Your Project

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Please submit your documents one of two ways:

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Email energysmart@franklinenergy.com

Have questions?

7C – Wyandotte Municipal Services Energy Smart Program

8A – Inspection of Vault for Consideration of Repairs

FIFTH YEAR MAJOR HIGHLIGHTS - CONTINUED

conducted in 2021, did not require analysis of all five of these PFAS compounds that are now required to be analyzed, so a second round of local limit sampling to include these compounds is now required. Veolia (the System Operator) was authorized to perform the sampling, data analysis, and development of the PFAS local limits. Sampling is expected to commence in early 2024.

D. In response to localized odors, Veolia commissioned a hydrogen peroxide dosing system to assist with odor control. One of DUWA's as-needed engineers was authorized to assist with preparing the EGLE permit application necessary to commission the hydrogen peroxide dosing system as well as to perform a siting analysis of the chemical tank. Odors continue to be tracked and monitored for communication with EGLE. Veolia also continues to dose a small amount of Ferric Chloride to assist with odor mitigation.

E. GIS software licenses were renewed to allow Veolia to continue to maintain and update DUWA's GIS database which contains all the information related to the regional collection system assets.

9. It is also important that DUWA gets the message out about what is going on in the system and to transfer our "lessons learned" to others. A few actions in 2023 were as follows:

A. OHM and Veolia presented at the Michigan Water Environment Association (MWEA; the wastewater professionals' org) conferences in May and June 2023 to discuss plant sustainability and how DUWA has improved the management of its regional collection system assets.

B. DUWA received an award from MWEA for Premier Utility Management Performance (PUMP) that recognizes excellence in Water Resource Recovery Facilities. DUWA was nominated in the following categories: product quality, employee and leadership development, operational optimization,

8B – Programmable Logic Controllers (PLC-5s) in Need of Replacement

8C – Chemist Suited up for PFAS Sampling

8D – Hydrogen Peroxide Storage Tank for Odor Control

FIFTH YEAR MAJOR HIGHLIGHTS - CONTINUED

financial viability, infrastructure strategy and performance, and stakeholder understanding and support. The award was presented to DUWA at MWEA's conference in January 2023.

C. As part of DUWA's Strategic Planning efforts in 2023, one of DUWA's target areas is to improve upon its public outreach and marketing efforts to educate community leaders and residents on the value that DUWA provides.

D. OHM developed this annual summary report, which provides information about some of the system highlights and upcoming challenges.

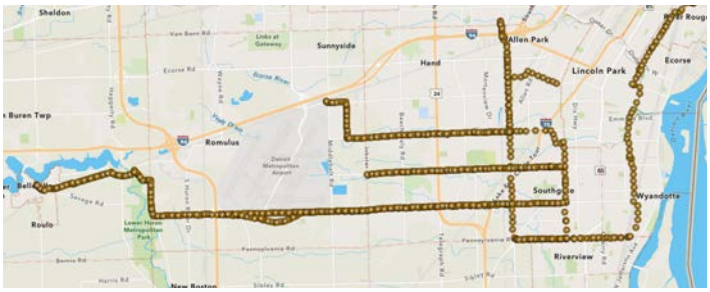
FUTURE CHALLENGES

In looking to the future, here are a few challenges we expect to address:

I. The biosolids dryer facility project is expected to be complete in 2024. This will provide for alternative biosolids disposal options such as beneficial reuse. Identifying and securing backup outlets, including landfills, will continue to be explored in addition to land application. DUWA is in the process of updating its Residuals Management Plan in anticipation of land applying its dried solids. DUWA will continue to investigate long-term strategies at the best economic price.

II. As a result of DUWA's Strategic Planning efforts in 2023, DUWA plans to address its HICOPs by advancing upon its high-priority target areas, some of which include updating its Capital Improvement Plan, developing public outreach and marketing materials, and supporting local community efforts in reducing their inflow and infiltration into their local sewers.

III. EGLE, the State regulatory agency, wants to see continued reductions in the number of annual blending events. The next stage of improvements will likely involve reducing the flows in the local community sewer systems through a program labelled CMOM (Capacity, Management, Operations, and Maintenance). This may require regional incentives for the local communities.



8E – DUWA GIS Mapping Database

9A – Veolia Presented at MWEA Conference

9B – DUWA Received MWEA PUMP Award

Future Challenge 1 – The biosolids dryer project is nearing completion. Securing disposal outlets, in addition to land application, will continue to be explored.