

# ERIE COUNTY WATER AUTHORITY COMPREHENSIVE STRATEGIC PLAN

September 2019

Revised June 2023

This Strategic Plan of the Erie County Water Authority has been created pursuant to Policy No. 17 – Duties and Responsibilities of the Board of Commissioners, as a road map for the significant priorities of the Authority for the next twenty years and beyond. It supports the Mission Statement of the Authority which reads:

*The mission of the Erie County Water Authority is to provide all of its customers a plentiful supply of safe, high quality and affordable drinking water through a reliable infrastructure.*

Four overarching goals articulated by the Board and leadership staff are incorporated throughout the Plan: ***Expansion, Redundancy, Automation/Cyber Security, and Investment.***

Each initiative, listed below with equal importance, has specific objectives and measurable actions with implementation dates where applicable. This Plan will be reviewed at a minimum on an annual basis in advance of the start of the budget planning process, and our success in completing the seven strategic initiatives will be measured.

## **Strategic Initiative 1 – Resiliency of ECWA Infrastructure and Assets**

**Core Principals:** Evaluate and maintain ECWA’s infrastructure to reliably meet the service needs of our present and future customers in a cost-effective manner. Focus on the redundancy and resiliency of key ECWA assets through replacement, expansion, shared resources, and inter-community cooperation. Embrace the principles of environmental, social, and economic sustainability and strive to make the best use of our water resources promoting conservation of water, energy, and other natural resources. Maintain a strategic financial model to predict short- and long-term cash flows to facilitate financial planning.

### **Objectives:**

- Identify critical projects and prioritize the implementation of capital improvements to efficiently utilize funding and employee resources. Review the project list and prioritization on an annual basis.
- Maintain the comprehensive asset inventory database via CityWorks to optimize the maintenance of assets to maximize their useful life.
- Annually review federal and state grant funding opportunities. Improve ECWA’s position for funding through the proactive preparation of accurate, “shovel ready” construction documents to allow ECWA to quickly respond to all grant opportunities.

- Develop, fund, and execute a 20-year Capital Improvement Plan (CIP) including a 5-year near term forecast and commit to investment to ensure ECWA’s infrastructure will meet the operational demands of present and future customers. Complete an annual desktop study of all key components of the treatment, storage, pumping, and transmission/distribution main system. Review the CIP annually to coincide with the budget process and desktop study results. The 5-year forecast shall be updated annually during the budget process. The 5-year to 20-year update shall be reviewed annually and modified based upon the desktop study results and revenue projections. The objective of this process is to strike a balance between regulatory requirements and the Core Principals listed above.
- Develop a program to establish an acceptable level of service (LOS) for watermain break rates (breaks/mile/year) based on a likelihood of failure (LOF) for each pipe. The LOS determination effort will use best practices for similarly sized utilities as well as information obtained from the American Water Works Association (AWWA) and other industry resources. Once the LOS is established, develop a renewal and replacement (R&R) program by June 2024 utilizing advanced analytics and machine learning software to predict what level of watermain replacement is required to maintain this LOS annually. Once a target R&R level is established to maintain the identified LOS, the goal of the program will be to target an annual replacement rate of approximately 0.75% of our direct service area. The results of this program will be shared with our Lease Managed partners. This will help them manage their assets proactively and provide the level of investment that is required in their systems to maintain a similar LOS.
- Minimize System wide water losses by implementing water loss controls. This will be accomplished by implementing several hardware and software solutions including the ECWA’s updated and calibrated hydraulic model in addition to the water audit method developed jointly by the International Water Association and AWWA. Develop a proactive leak detection program by increasing our pressure monitoring capability throughout the distribution system, procure and deploy proactive leak detection hardware and software to find non surfacing leaks and utilize advanced analytics and machine learning software in conjunction with our SCADA system to monitor for leaks in our distribution system.
- Planning, design and construction of a new operations and business center to meet the current and future needs looking 30 years into the future. The first phase of is project to be completed by the end of 2025.

## **Strategic Initiative 2 – Water Quality**

**Core Principals:** Provide high quality drinking water through effective management and operation of our treatment and distribution system. Continue to meet and surpass all water quality standards. Anticipate and comply with regulatory and environmental changes to ensure ECWA preparedness to continue to provide high quality drinking water.

## Objectives:

- ECWA is utilizing machine learning to establish an order of magnitude of the approximate number of lead services in our distribution system. Once a number is determined, a replacement rate will be established that will make the removal of lead service lines a priority. Both funding and contractor availability and productivity will play significant roles in establishing the replacement rate, in conjunction with any specific USEPA and/or New York State Department of Health replacement rate requirements.
- Investigate and implement appropriate technologies for future water treatment challenges including emerging contaminants and changing source water quality.
- Annually access the chemical, energy, and process water usage at each treatment plant and make improvements where possible. Engage with National Grid and Fluent Energy to better understand ECWA billing structure and discuss energy consumption at ECWA's treatment plants and pumping stations. Ensure optimization of all facets of the operation of the treatment and distribution systems.
- Evaluate and implement distribution system improvements for water quality including water storage tank operation and maintenance, chlorination booster stations, and waterline flushing. Review related Standard Operating Procedures annually. Utilize real-time monitoring through the SCADA system to effectively manage water age throughout the distribution system to reduce disinfection byproduct formation and enhance water quality.
- Use the ECWA's hydraulic model to include a water quality component, with the potential for use with identifying water age, modeling chlorine residual decay, and predicting disinfection byproducts formation. Modify location/frequency of flushing as appropriate to improve WQ.
- Actively engage with the public through ECWA website and social media outlets. Provide educational materials on relevant water quality regulations and how ECWA is preparing for potential water quality challenges such as lead service lines and harmful algal blooms. Actively engage with the public on upcoming regulatory challenges and planned ECWA capital improvements. Engagement must include public events where ECWA can engage face to face with the community.

## **Strategic Initiative 3 – Expand ECWA's Regional Presence**

Core Principals: Plan collaboratively to provide infrastructure to meet the needs of the Western New York Community. Expand ECWA's service area through cooperative projects that lead to either consolidation of local water systems within Erie County or the creation of new bulk water sale customers.

## Objectives:

- Coordinate with representatives of potential bulk water customers, including the Village of Alden, and the City of North Tonawanda to determine their water supply needs, whether

on a daily or emergency supply basis. Re-engage with Genesee County for possible future needs. Analyze our treatment and distribution systems and identify required capital improvements and associated financial responsibility.

- Identify opportunities where consolidation/conversion of bulk and/or lease managed system to direct service is feasible for the municipality and the ECWA.
- Actively engage regional water utilities and collaborate where appropriate on common water treatment and supply water issues. Identify opportunities for shared resources including interconnection of distribution systems as emergency source of supply. Host/attend quarterly meetings with representatives of the adjoining City of Buffalo and Town of Tonawanda water systems.
- Communicate with regional utilities and proactively identify and coordinate waterline betterment opportunities on regional highways or infrastructure projects in the areas in which we provide direct water service.

#### **Strategic Initiative 4 – Promote Technology**

Core Principals: Maximize ECWA’s information technology infrastructure assets to assure reliability. Seek innovative opportunities in the overall production of water and service to our customers. Maintain a utility that is equipped and trained in the use of appropriate and advanced technology to enhance service, efficiency, and effectiveness.

Objectives:

- Continue with the modernization of ECWA’s Supervisory Control and Data Acquisition (SCADA) system. Provide an optimized, consistent platform across the treatment and distribution systems.
- Install a real-time monitoring system consisting of pressure, flow, and water quality information stations at multiple locations in the distribution system. Coordinate the operational data collected during the initial phase and integrate this information into the Hydraulic model.
- Cybersecurity processes will continue to progress as IT works with external agencies to ensure that our network adapts to evolving threats. Incident Response and Disaster recovery plans will be tested and updated semi-annually. Implement new security audit processes.
- Further develop our water quality and hydraulic models of the treatment plants and distribution system. Integrate each model with the appropriate features of our SCADA, asset management, and work order software platforms.
- Implement the consultant prepared IT Master Plan based upon current conditions. Implementation schedule will be developed to meet the end of 2024 deadline.

- An in-place upgrade of the existing ERP System (including HR, Customer Service, Purchasing, A/P, Asset Management, etc.) making the systems more accessible by providing browser-based access, a more modern web-based user interface, and an overall improved user experience that will drive increased efficiency.
- Implement an Enterprise Document Management System and a print management solution to help track and reduce paper usage.
- Take advantage of industry best practices using advanced analytics and machine learning to establish a long term, repeatable and reliable distribution main R&R program for the Direct Service and Lease Manage distribution systems.

### **Strategic Initiative 5 – Enhance Customer Service**

**Core Principals:** Provide exceptional service to our customers and community partners by being understanding, supportive and responsive to our user’s needs and priorities. Promote customer confidence in ECWA through financial responsibility, professional character, and ethical behavior. Engage our customers to understand their expectations to further build and maintain their trust. Educate and increase public awareness of the innovative technologies ECWA applies each day.

Objectives:

- Investigate the use of Automatic Meter Reading (AMR), Advanced Metering Infrastructure (AMI) and software technology to identify individual locations of non-typical water use to aid in the overall reduction of non-revenue water. This will be developed as results are brought forward from the IWA/AWWA Water Audit (Strategic Initiative: 1)
- Establish customer service standards for response times utilizing reporting and monitoring tools included in state-of-the-art phone system. Continually review data to improve customer interaction with ECWA.
- Expand Customer Service hours to better accommodate our customers. New centralized Service Center will allow for greater efficiency and flexible scheduling.
- Enhance website access to allow for online application processing and service requests. This objective will continue to be assessed in conjunction with IT.

### **Strategic Initiative 6 – Employee Focus**

**Core Principals:** Provide a work environment where employees are valued, empowered, and informed. Recruit, develop, and retain a highly skilled and knowledgeable workforce and provide them with the resources to meet customer and ECWA needs and expectations. Mentor and encourage employees and reinforce succession planning through training, education, and promotion opportunities.

Objectives:

- Annually assess staffing requirements to anticipate and address retirements, promotions, and departures. Provide a staffing level consistent with the needs of the implementation of the Capital Improvement Plan.
- Develop and implement a succession plan for all critical positions across the organization. Project potential future critical vacancies with an emphasis on key positions. Employ an operational and institutional knowledge transfer strategy.
- Lock Out/Tag Out procedures have been advancing significantly across ECWA facilities. This is an ongoing effort as new projects are completed, and new equipment is installed.
- Reinforce our continued commitment to safety training and awareness for all employees.
- Continue to provide Hands Only CPR and AED training across the entire organization.
- Continue to implement mandated state training for workplace violence and sexual harassment. Develop and implement additional Cyber Security training and add annual reoccurring training.
- Job site training will continue on a regular basis for both current employees as well as new employees.
- Continue to explore new and innovative safety and training plans for our employees, ensuring we provide the safest work environment for ECWA employees.

**Strategic Initiative 7 – Emergency Preparedness**

Core Principals: Verify the ECWA’s preparedness to meet the needs of our customers in the event of a local or regional emergency event.

Objectives:

- Conduct regular testing of all backup power and communication systems.
- Continue coordination with local emergency responders and participate in regional emergency response exercises biennially. Review and update ECWA’s Emergency Response Plan (ERP) with lessons learned from training.
- In accordance with USEPA regulations, complete Risk and Resiliency Assessment as required.
- Perform training exercises related to operating key components of the water treatment and distribution systems in the event of the loss of automated monitoring and control capabilities. These measures will be implemented on a biannual basis.

- Review cyber security awareness and plan for operation in the event of corruption/attack of our key IT systems. Continue to perform cyber infrastructure and security audits to identify areas requiring upgrades and modifications.