GOAL 2: Resilient Water System

Invest in and maintain a resilient water system through effective infrastructure management and planning.

The District's network of water infrastructure spans challenging topography and consists of over 900 miles of pipeline, 130 water storage tanks, 97 pump stations, 7 reservoirs and dams, and 3 water treatment plants. Collectively, these infrastructure components work together 24/7 to allow the District to capture, transport, store, and deliver water to more than 191,000 customers within our service area. System resilience is achieved through continual investments in infrastructure and also in the employees who operate the systems and must be equipped with the skills and training needed to effectively respond to and recover from catastrophic emergencies that may threaten the District ability to provide water service.

Maintaining and modernizing this infrastructure – some of it nearing 100 years in service – is core to ensuring system resilience through day-to-day demand and through drought, and natural and manmade disasters. Marin Water must catch up on its infrastructure renewal/replacement and implement system modernizations using an adaptive management approach to identify and prioritize project needs and focus system investments for the benefit of both current and future generations of Marin Water customers. The four-year rate increase approved in 2023 supports the District's ability to do this work and additional infrastructure projects above the Districts baseline capital budget, ensuring that we are able to continue to provide safe, reliable water to customers. The District's Capital Steering Committee will have an essential role in guiding prioritization of this work.

While the District implements projects that strengthen the system's ability to withstand earthquakes, fires, floods, and other unknowns, the District's workforce must also stand ready to respond when a disaster strikes. Instilling the latest best-practice emergency response and recovery methods into team procedures, and in coordination with local and regional partners, will ensure the District is prepared to safeguard the community's water supply under the most challenging of conditions.

Five-Year Objectives

Objective 1 - Infrastructure Condition Assessment
The District will enhance its infrastructure risk assessment process to systematically prioritize investments in the replacement, rehabilitation, and/or repair of its infrastructure to ensure that we are delivering high quality drinking water.

- Complete above ground facility condition assessment,
    - Pump station assessment: 30 pump station have been completed, 67 remain.
    - Tank assessments: 99 tanks have been evaluated to date, 31 remain.
- Enhance the ongoing prioritization process of pipeline replacement jobs through criteria, including assessment of age, leak history, probability and consequence of failure and material type.
- Perform condition assessments for large infrastructure such as dams and treatment plants.
- Complete Facilities Master Plan assessing workplace infrastructure to identify short, medium and long term facilities needs to be incorporated into the capital planning effort.

- Identify above-ground infrastructure hardening opportunities that provide a greater level of protection against wildfire to be incorporated into the capital planning and prioritizations efforts.
- Identify single points of failure throughout the water system to be incorporated into the capital planning and prioritization efforts.
- Review industry standard security measures across the water system and identify opportunities for improvement to be incorporated into the capital planning and prioritization efforts.
- Complete the Water System Master Plan and utilize the information to identify opportunities to simplify our system by potentially reducing the number of tanks and pump stations.

Objective 2 - Capital Planning

The District will collaborate with the Capital Steering Committee to identify infrastructure projects evaluated through the condition assessment process and establish an associated timeline to implement the projects based on the projected capital budget.

- Incorporate the data from "Objective 1 – Infrastructure Condition Assessment" to lead a District-wide effort to develop robust capital planning investment scenarios for a 10- and 30- year horizon.
- Work with the Grants and Finance teams to identify grant opportunities to offset costs borne by ratepayers.
- Evaluate bond funding opportunities for large capital projects that provide generational value.

Objective 3 - Capital Project Delivery

T*he District will incorporate innovative processes and staffing solutions into its execution of future infrastructure projects to make efficient use of staff time, reduce costs, and streamline implementation of an increased capital project workload.*

- Conduct staffing resource analysis to determine staff workloads and establish future resource needs, including leveraging District staff with support from external engineering consultant firms.
- Establish on-call contract(s) to provide expedited repairs on projects too large for District crews but too small for standard design, bid, and build workflows.
- Execute on-call contracts with engineering firms to streamline consulting work without having to execute multiple contracts for the same type of work, i.e., geotechnical and electrical engineering.
- Review and update necessary sections of the District's contract specifications to the most current industry standards.
- Explore the opportunity for innovative approaches to project implementation, including design-build options for larger capital projects.
- Continue working with local municipalities to strive for more cost effective solutions to paving restoration requirements.

Objective 4 - Operations and Maintenance

The District will evaluate its operations and maintenance program to ensure that staff has the knowledge and skill sets to efficiently operate and maintain our system.

- In recognition of a significant staff turnover in Operations, develop a focused training plan for the Division.
- Establish standard operating procedures to support training and provide for transfer of institutional knowledge to the newer District staff.

- Encourage staff's involvement in industry associations to provide for learning opportunities from others.
- Review the organizational structure of Operations, including classifications, to ensure the most effective utilization of District resources.
- Identify opportunities to implement technological advancements in equipment to improve efficiencies.

Objective 5 - Energy Planning

The District will seek opportunities to reduce its carbon footprint and energy costs through infrastructure projects and planning.

- Evaluate pump station rehabilitation projects to determine the feasibility of supplementing prime power with alternative energy and compare it with system efficiency upgrades to determine life-cycle cost savings.
- Participate in regulatory meetings regarding fleet vehicle regulatory changes and evaluate the expansion of the District's fleet to electric vehicles and needed EV charging stations where applicable.
- Continue participation in Marin Clean Energy Deep Green 100% renewable energy program.
- Review and evaluate the application of micro-turbine technology where applicable as an energy recovery and cost-savings option.
- Evaluate renewable power opportunities throughout the District.

Objective 6 - Emergency Response Readiness

The District will plan and prepare for emergencies to ensure it is able to maintain critical operations through fire, floods, earthquakes, and other catastrophic events and effectively manage the disaster recovery process.

- Update the District's emergency response plan to reflect current needs, priorities and threats.
- Conduct yearly reviews of the District's dam Emergency Action Plans (EAP) for each of the seven dams and coordinate tabletop exercises with Marin County Office of Emergency Services and other stakeholders every five years to ensure District and local first responders are familiar with the dam EAPs.
- Participate in emergency preparedness trainings with Marin County Office of Emergency Services on countywide emergency response scenarios.
- Establish FEMA-compliant contracts for engineering and construction services that are ready to be executed following an emergency.