Improving Potable Water Delivery

Initiative Summary Statement:

Improve the capability of potable water delivery infrastructure and distribution systems.

Initiative Description:

Objective: **Enhance the resilience of potable water infrastructure in Lee County to provide reliable and safe drinking water to the community in non-disaster times and during and after catastrophic events and meet the demand of a growing population**. In addition to the expansion and hardening of potable water infrastructure to withstand future disasters, resilient and redundant potable systems for essential facilities are critical.

Need: **In the aftermath of Hurricane Ian, a badly damaged water system affected a large portion of the County population, forcing community members to search for water using creative solutions.** Improving potable water services, including the construction and installation of resilient water delivery and distribution systems and redundant systems is necessary to provide safe drinking water to the community. Instead of relying on outside sources and conservation of potable water, especially during a disaster, it is necessary to shore up the existing infrastructure and harden it for future events. Considering a focus on service continuity and enhanced maintenance standards for residents could be beneficial to harden the existing infrastructure instead of funding a resilient and redundant system.

Regional Approach: **Coordination of resilient actions to improve system reliability and continuity of service include a variety of necessary actions for the Lee County region.** Constructing redundancy by creating backup systems and pathways, raw water wells, and sufficient water storage should be built and maintained to provide adequate, reliable, and safe drinking water for residents. The interconnection between various regional water utilities should be seamless, efficient, redundant, and coordinated by enabling mutual support and resource sharing when needed. In addition to required backup generator power, other considerations for improving potable water infrastructure include the enhancement of system monitoring, consolidation of boil water notices, and efficient water sampling. Field power backup for wellfields including backup generators is also necessary so water can be drawn into the system. However, because typical generators cannot run 24 hours a day, resilient and redundant power sources are important. Lee County has a system for remote monitoring in place, but since it does not cover the entire county, updated system monitoring to isolate and identify issues in the entire system should be implemented. By pursuing these measures, a potable water infrastructure system that

remains resilient and capable of providing uninterrupted access to safe drinking water for communities will be established, even in the aftermath of catastrophic events.

Impact: **Resilient systems for potable water delivery require actions by specific jurisdictions to create redundant systems and this is further complicated by the ownership of existing infrastructure by multiple government, nonprofit, and for-profit entities.** Coordination of resilient regional actions to improve system reliability and capacity includes expansion of existing potable water systems, increasing capacity to keep up with growing service demand, preserving and hardening facilities to protect from hazards, integrating resilient and redundant systems at critical facilities, and interconnecting systems. Water challenges throughout the County were experienced in a multitude of different ways including potable water availability for residents. Conservation of water and reliance on outside sources for potable water are short-term solutions during disasters that only continue to exacerbate the bigger issue of developing resilient infrastructure to assist the community with self-sustaining resources. Interconnects are also important to provide resilient and redundant potable water systems, so evaluation of current interconnects and addition of more interconnects in the County is crucial to achieve redundancy. It is vital to harden the current potable water systems to provide water quality sources to the community before, during, and after disasters.

Key Considerations:

- Create a comprehensive list of current potable water infrastructure and key stakeholders.
- Utilize the completed study and assessment to identify current and future potable water infrastructure needs and prioritize potable water projects based on the assessment, keeping the community engaged with feedback opportunities.
- Focus on service continuity and standard of maintenance to maximize reimbursements.
- Expand and harden potable water production and delivery system, focusing on completion of a resilient and redundant potable water system.
- Reference Logistical Resources to enhance fuel capacity to keep generators running during catastrophic events.

Co-Sponsoring Branches:

Infrastructure, Cultural Resources

Stakeholders:

- Utility providers
- County departmental experts on public works and utilities

- Municipal departmental experts on public works and utilities
- Community development districts and other special districts providing utility services.

Potential Funding Sources:

- United States Environmental Protection Agency
- United States Department of Agriculture
- Centers for Disease Control and Prevention
- The Administration for Children and Families
- Florida Rural Water Association
- Florida Department of Environmental Protection
- Protecting Florida Together
- South Florida Water Management District