



CITY OF MARCO ISLAND

To: Representative Bob Rommel, District 81, Chair

From: Marco Island City Council

Date: December 6, 2022

Re: 2022 Collier County Legislative Delegation Meeting: General Presentation

Background

On September 28, 2022 Southwest Florida was hit by a Category 4 hurricane. As a result of the City's response during Hurricane Ian, several potential funding requests have been identified. Additionally, water quality continues to be a top priority for Marco Island City Council members and residents.

Water Quality Funding Requests:

1. Canal/Channel Aeration Pilot Study

The waters in and around Marco Island have been placed on the State's Verified List of Impaired Waters. Many of the City's canals are oxygen deficient. Dissolved Oxygen (DO) is essential for the survival of fish and other aquatic organisms. When dissolved oxygen becomes too low, fish and other aquatic organisms cannot survive.

Many City residents are concerned as the aquatic life in their canals is disappearing. Adding aeration in the City's canals will increase the DO, restore, and prolong the life in the City's waterways. Furthermore, aeration will help move water in low circulation areas, and facilitate mixing throughout the canal. This pilot channel aeration study will be conducted to establish a base-line assessment of existing conditions, develop the basis of design for the pilot study, install the pilot equipment, monitor the water quality for a period of time and compare results to establish a model to be adopted for other channels. In general, a site (conceivably more than 1 location) will be selected for the

channel aeration pilot study that is the best location to represent the channel system and with the greatest likelihood of demonstrating effects of channel aeration.

A final report summarizing the activities, data collected, field observations obtained during the pilot study and addressing specific goals established at the onset of the pilot trial will provide the answers to the following questions:

1. Was the channel aeration system capable of improving low DO conditions within the channels?
2. Did the channel aeration system reduce the occurrence of nutrient cycling that contributes to transfer of nitrogen from sediments to the waters of the channel?
3. Did the conditions afforded by the installation and operation of the pilot aeration system have an impact on the ecosystem at the bottom of the channels?
4. Would the observed changes likely have benefit to water quality of the channel and/or to the City and our community?

Estimated cost of the Canal/Channel Aeration Pilot Study: \$550,000. The State funding request is \$300,000 with a City match of \$250,000.

2. San Marco Rd. Dead End Canal Interconnect

Marco Island has numerous dead-end canals with impaired stagnant oxygen-depleted salt water with diminishing marine life. Several interconnecting large-diameter culverts will be needed to connect the canal waters north and south of San Marco Rd. which bisects the island. Construction of the interconnecting culverts will allow tidal flushing to eliminate the dead ends and restore the water quality. This request is to partially fund the completion of one of the interconnecting culverts near 1150 San Marco Rd. This project will include culvert and inlet construction and seawall modifications.

The project cost is expected to be \$1,000,000, however, the city is seeking \$400,000 of state funding assistance.

Emergency Management Funding Requests:

3. Portable Emergency Generator Storage

The City acquired 60 portable emergency power generators through a FEMA grant in 2019. These generators were used during Hurricane Ian to power sanitary sewer lift stations and groundwater wells allowing the City to maintain water and sewer service. However, these generators are temporarily stored at the North Water Treatment Plant and they need a permanent home at the Source Water Facility at 7130 Collier Blvd in Collier County. **This new facility is currently in design and is expected to cost**

\$1,200,000. The State funding request would be \$600,000 with a City match of \$600,000.

4. High Water Vehicles for Fire/Police Emergency Operations and Fire Suppression:

During Hurricane Ian, the Fire Rescue Department rescued 40+ people from their flooded homes on Goodland and Marco Island. Due to the quickly rising waters, no police or fire vehicles were able to traverse the roads, other than one Fire Rescue high-water vehicle and a brush truck. The high-water vehicle is the only vehicle that can hold multiple people. Stranded residents were forced to wait for extended periods of time because there was only one rescue vehicle available through the fire department. Conditions during the storm were extremely dangerous and there was a constant threat that additional storm surges would create even more of a precarious environment. In situations like this, time is of the essence. The Police Department had more than 20 trained rescue personnel available to assist with the operation, however, without a vehicle that can traverse the high waters, they were forced to stand in place, preventing them from participating in the life saving efforts.

Marco Island's geographical location exposes it to potential hurricane and tropical storm hazards on an annual basis. FEMA's website indicates in the future Marco Island is certain to be the subject of flooding, storm surge, and harsh weather conditions. To adequately respond to these types of emergencies the Police Departments is in urgent need of additional high-water vehicles. The estimated cost for a high-water vehicle is \$175,000.

Additionally, Fire Rescue is in need of one high-water vehicle with fire suppression capabilities. During Hurricane Ian, the Fire Rescue Department responded to several fires during the storm and in storm surge flooded waters that only a high clearance brush truck could reach. Estimated cost for a high-water vehicle with fire suppression is \$250,000.

The total cost for two high water vehicles is \$425,000. The State funding request is \$212,500 with a City match of \$212,500.

5. 4,000 Gallon Fuel Truck

A failure in the power grid leads to a surge in emergency power generator usage and fuel demand. During a storm event, such as a hurricane the normal supply lines for fuel are severed and fuel deliveries become infrequent. The City has several buildings with emergency power generators, which include drinking water and wastewater treatment facilities. Along with the stationary emergency power generators at the facilities, the city has over 60 portable emergency power generators for the remote water supply and wastewater pumping systems. During the Hurricane Ian event, the need to have a

larger portable fuel supply was recognized. **The cost of a 4,000 gallon fuel truck is estimated to cost \$205,000. The State request would be \$100,000 with a City match of \$105,000 from the General Fund.**