



EASTERN WATERSHED IMPROVEMENT PROJECT

Reduces Flooding. Improves Water Quality. Restores Ecosystems.



AFTER



Elks Cane Slough STA

BEFORE

WHAT IS EWIP?

The Eastern Watershed Improvement Project (EWIP) is a stormwater management (flood control), water quality and environmental restoration project intended to protect residents and property within Port St. Lucie. It also enhances the City's recreational amenities, natural resources and quality of life – for current and future generations.

ABOUT THE PROJECT

Heavy flooding in eastern Port St. Lucie — particularly after Tropical Storm Fay in 2008 when 14 inches of rain fell in a 48-hour period — prompted this project. This level of rainfall exceeded the maximum capacity of the previously existing stormwater drainage system and caused flooding of streets, homes and businesses, making a clear urgent need for improvements.

The project began in 2009 after an extensive drainage study identified specific needs and recommended construction of such improvements. The Eastern Watershed Improvement Project was completed in 2012.

UNDERSTANDING STORMWATER PONDS

Stormwater ponds are man-made bodies of water that are designed to mimic the ecological function of naturally occurring ponds and wetlands. Likewise, EWIP ponds were designed to manage water volume, remove a substantial amount of sediment along with other non-point source pollutants, such as nitrogen and phosphorus, from stormwater before releasing it into the St. Lucie River. Stormwater ponds are designed to capture the water from typical storms. When we experience greater rain events, these ponds discharge into another water body, like a ditch, and ultimately, in most places in PSL, into the St. Lucie River. As a result, they help keep pollutants out of the River.



Lennard Square STA

BEFORE



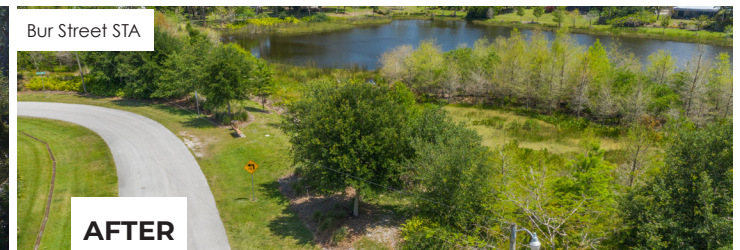
Lennard Square STA

AFTER



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Bur Street STA

AFTER



EWIP PROJECT COMPONENTS INCLUDED:

- 8 Stormwater Treatment Areas (STA)
- REPLACEMENT/INSTALLATION OF ASSORTED DRAINAGE PIPING AND BOX CULVERTS
- UPGRADES TO TWO EXISTING DRAINAGE PUMPING STATIONS
- INSTALLATION OF BYPASS PIPING
- PROCUREMENT OF A LARGE SCALE, MOBILE BACK-UP DRAINAGE PUMP
- WIDENING OF PUMP STATION INTAKE CHANNEL
- REMOVAL OF EXOTIC VEGETATION FROM DRAINAGE CANALS AND FLOW-WAYS

COST & FUNDING

The project cost was proposed at \$34M for property acquisition, design, permitting, construction and public education. The project was financed through special revenue bonds that will be repaid by the stormwater utility fee. The stormwater bonds are expected to be paid off in 2039. An additional \$978,000 was provided through a grant from the St. Lucie River's Issue Team and \$1M through a water quality grant from Florida Department of Environmental Protection.

OUTCOMES

The additional static storage volume added by the EWIP improvements is approximately 330 acre-feet and the dynamic volume is an additional 152 acre-feet, for a total of 482 acre-feet. EWIP benefits include: reduced flooding in neighborhoods east of US-1 and improved water quality and water that flows into the St. Lucie River. Other results included flourishing vegetation and increased wildlife activity; recreational opportunities; and beautiful neighborhoods.

FUTURE PLANS

The City of Port St. Lucie is currently in the process of studying other drainage areas within the City borders and intends to utilize the EWIP program as a model for future stormwater/water quality projects.

Howard Creek Exotic Vegetation Removal and Channel Cleaning



Everything was constructed with varying levels of landscaping from larger trees to shrubs and flowering plants. Additionally, a significant number of aquatic plantings were provided within the STAs as part of the water quality improvements.