

**ATTACHMENT A-1
PROJECT WORK PLAN
CITY OF KEY WEST
LP44030**

Project Title: Florida Keys Wastewater Improvements – City of Key West

Project Location: Key West, Monroe County, Florida

- Pump Station A – 203 Amelia Street
- Pump Station B – 631 Greene Street
- Pump Station C – 699 Palm Avenue
- Pump Station D – 1329 Seminary Street
- Pump Station DA – 1391 Atlantic Boulevard
- City of Key West Wastewater Treatment Plant (Richard A. Heyman Environmental Pollution Control Facility) -Trumbo Point Annex, Fleming Key
- Fleming Key Bridge – Trumbo Point Annex, Fleming Key

Project Background: The project consists of two parts, as follow:

1. Variable Frequency Drive (VFD) Upgrades – The Grantee will add Variable Frequency Drives to the drive units at Pump Stations A, B, C, D and DA, which will allow the pumps to operate more efficiently, minimize the number of start and stops, and decrease damage to the impellers and motors caused by cavitation and excessive vibration. The additions of VFDs will allow the pumps to operate when the flows to the pump stations are minimal by operating at a lower speed. Also, during storms events the pumps will be able to operate at the maximum speed to accommodate higher flows. With the addition of the VFDs, the pumps will operate towards the mid-levels, where the pumps are most efficient.
2. Concrete Repairs -The Grantee will perform concrete repairs to its wastewater treatment plant (WWTP), locally known as the Richard A. Heyman Environmental Pollution Control Facility, and to the Fleming Key Bridge, which is used to access the wastewater treatment plant.
 - a. WWTP Concrete Repairs: A preliminary field inspection of the entire facility was conducted in 2010 to identify areas where the concrete had failed and/or was failing and identified areas that needed concrete repairs to prolong the life of the facility. Since 2010, additional areas within the WWTP have begun to fail. One area was severe enough to require closure due to the potential for overhead injuries from falling concrete.
 - b. Fleming Key Bridge Concrete Repairs: A preliminary design memorandum was prepared in 2012, which determined that one of the fifteen piles is in serious condition and needs to be repaired. This pile was struck by a boat in the mid-1990s and sustained structural damage. The memorandum also determined that three of the seven pile caps will need some minor repairs to extend the service life of these pile caps.

The Grantee is requesting an extension for the project due to delays with obtaining parts and the manufacturing necessary to complete pump station VFD upgrades.

Project Description:**Task 1: Variable Frequency Drive (VFD) Upgrades**

The Grantee will construction and install an electrical building at each of the 5 pump station sites to contain the electrical controls for the VFDs, for the upgrades of the remote telemetry units (RTU), currently in use, and for the telemetry control units (TCU) for each pump station.

- **Budget Information:** Contractual – \$2,022,768 (DEP Funding in the amount of \$1,367,414)
- **Deliverable:** Copy of construction contracts (including bid tabulation), contractor's schedule of values, pay applications, pictures of the completed work.
- **Timeline for Completion:** September 30, 2017
- **Performance Standard:** The DEP Grant Manager will review the deliverables to ensure they were approved in scope and acceptable.

Task 2: Concrete Repairs – WWTP and Fleming Key Bridge

The Grantee will perform concrete repairs to areas at the WWTP and Fleming Key Bridge, identified in the contract documents. Areas to be repaired will be categorized by severity using a 1, 2, and 3 grading scale. Category 1 repairs will be the most severely deteriorated areas representing spalling greater than ½ inch in depth, visible rebar and/ or possible structural integrity issues. Category 2 represents areas with spalling less than ½ inch deep and may or may not have exposed rebar but will not have structural integrity implications. Category 3 areas will consist of minor cracking and will mainly consist of cosmetic type repairs.

- **Budget Information:** Contractual - \$1,800,000 (DEP Funding in the amount of \$1,632,586)
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- **Deliverable:** Copy of construction contracts (including bid tabulation), contractor's schedule of values, pay applications, pictures of the completed work.
- **Timeline for Completion:** September 30, 2017
- **Performance Standard:** The DEP Grant Manager will review the deliverables to ensure They were approved in scope and acceptable.

Total Budget by Task:

Tasks		DEP Funding	Local Funds and Source	
			Local Funds	Source of Funds
1	Construction - VFD Upgrades	\$1,367,414	\$655,354	City
2	Construction – Concrete Repairs	\$1,632,586	\$167,414	City
Total:		\$3,000,000	\$882,768	
Project Total:			\$3,882,768	

The FY2014-15 GAA did not require a match for these projects