

MEMORANDUM

FOR: SLFPA-W Commissioners and Stakeholders
FROM: Nicholas Cali, SLFPA-W Chief of Operations
SUBJECT: Annual Assessment of SLFPA-W Flood Protection System
DATE: May 23, 2018

1. The purpose of this memorandum is to provide an assessment of operational condition of the SLFPA-W Hurricane and Storm Damage Risk Reduction System (HSDRRS). A summary of the inspection, reporting and maintenance activities conducted on the Hurricane and Storm Damage Risk Reduction System (HSDRRS) throughout the year 2017 is also incorporated into this report.
2. The system is inspected quarterly by staff from the Coastal Protection and Restoration Authority (CPRA) and SLFPA-W, as well as annually by CPRA, SLFPA-W and the U.S. Army Corps of Engineers (USACE). A report of any inspection findings, deficiencies or repairs is generated at the conclusion of each inspection. Additionally, SLFPA-W, in conjunction with CPRA compiles a Semi-Annual Report (SAR) delivered to USACE twice a year, detailing all maintenance activities that have been conducted in the reporting period and verifying that all work has been completed in accordance with the relevant Operations, Maintenance, Repair, Rehabilitation and Replacement (OMRR&R) manuals. These OMRR&R manuals were developed by USACE in conjunction with state and local partners and set forth detailed guidelines for the operation, maintenance, inspections and certifications for the SLFPA-W flood protection system.

In addition to these routinely scheduled multi-agency inspections, SLFPA-W independently conducts more frequent system inspections in advance of forecast storms or other high water events.

3. The system is well maintained, and all features have been maintained in accordance with the established USACE standards. There are no issues that would prevent the individual features or system as a whole from performing as designed during a 100 year storm event. A summary of the inspection items, any significant deficiencies and status of corrective actions are detailed in this document.

In addition to routine maintenance, SLFPA-W has approximately \$12 million in ongoing levee lifts throughout the system. The purpose of these lifts is to ensure that the levees remain at or above their design height and provide the benefits of both flood protection and contribute to low flood insurance rates through the National Flood Insurance Program.

4. Levee Embankments

The grass along the levee embankments is mowed once every 3 to 4 weeks depending upon weather and the sod cover is generally in good condition.

Some locations experience minor rutting or depressions which are corrected in the course of normal O&M operations. These areas are addressed based on severity of impact to flood protection. Currently, there are no areas that prevent routine mowing or threaten the performance of the system.

There have been no unexpected settlement or stability issues identified during the inspection cycle,

and no obvious deviations or deficiencies in elevation have been identified.

5. Floodwalls and Floodgates

- a. Multiple transition areas have minor cracking and settlement, all are within tolerances of the OMRR&R manual and accepted engineering practice. SLFPA-W is monitoring and will make necessary repairs if the transitions deteriorate to the point where they are out of tolerance.
- b. All Floodgates are operational and in good repair, gate sills and gate seals are intact and free of damage or obstructions. All gates are stored and secured correctly in their default position.
- c. Maintenance and exercise activity was conducted from January 23-30, 2017 and all HSDRRS floodgates were closed in anticipation of HURRICANE NATE.

6. Interior Drainage Systems

- a. Drainage systems are in good operating condition for protection features at this time. There is no damage or blockage of the culverts that would prevent proper operation.
- b. The culverts and discharge pipes require a video inspection every 5 years to verify that they remain in good working order.

7. Pump Stations and Sector Gates

a. Bayou Segnette Sector Gate and Pump Station

The Bayou Segnette Sector Gate is exercised and inspected weekly, with greasing on a monthly basis. Exercise occurs on Thursdays at 9am to coincide with the bi-weekly pump station exercises. The Bayou Segnette Pump Station is exercised bi-weekly, in accordance with the OMRR&R Manual. Below are significant maintenance items that have been identified and their status:

- During routine inspection, it was discovered that the Hagglund motor mounting bolts were not tightened to the proper torque specification. SLFPA-W personnel subsequently tightened all mounting bolts in accordance with the OMRR&R manual on 4/30/17. Issue has been resolved.
- SLFPA-W had to operate the sector gate and pump station on 5/4/17 for a non-tropical event associated with a Coastal Flood Advisory and again on 6/21-6/22/17 for TS CINDY. Some roof leaks were identified, but no issues that would impact the function of the station. The roof leaks have since been repaired.
- East Side Access stair for the Bayou Segnette Sector Gate has shifted several inches in both vertical and longitudinal directions, presumably due to uneven settlement of supports. The supports continue to show signs of movement. Currently, there are no access issues to the gate house and no safety concerns with tripping hazards. SLFPA-W will continue to monitor for excess separation from floodwall for safety. No further action is warranted at this time.

b. West Closure Complex (WCC)

The WCC Sector Gate is exercised and inspected bi-monthly, with greasing on a monthly basis. Exercises occur on Thursdays at 9am to coincide with the bi-monthly pump station exercises, and the backup generators are exercised bi-monthly on the Wednesday prior to the Pump Station Exercise.

The WCC Pump Station is exercised bi-monthly at a reduced capacity, and run at full capacity once a year prior to the beginning of hurricane season, in accordance with the OMRR&R Manual. Below are significant maintenance items that have been identified and their status:

- During one post exercise inspection, a retaining bar for Climber Screen #10 moved out of position causing a fault and preventing the screen from operating in either a forward or reverse direction. Repairs have been made and the equipment is fully operational.
- At approximately 9:07am on 6/8/17, a barge heading south down the Intracoastal Canal started drifting toward the east side of the Western Closure Complex during bi-weekly operation of the pump station. As the barge drew closer, SLFPA-W employees immediately shut down the six engines of the pump station that were running, and the owner of the tug (Big Eddie) was contacted via marine radio. Being unable to correct its path, the barge struck the east dolphin of the pump station, resulting in minimal damage. The barge then veered toward the west sector gate leaf, possibly grazing the gate. After inspection by SLFPA-W, damage to the west gate remains negligible. After acknowledging the incident via marine radio, the tug continued south down the canal. SLFPA-W immediately contacted Coast Guard officials and proceeded with damage investigation after the incident.
- The surge protector at the fuel farm indicated a fault, and it is suspected that this was due to a possible lighting strike. The component was replaced in-kind by SLFPA-W personnel, and there was no damage to any systems or further issues as a result.
- During routine testing on 8/30/17, Generator #1 experienced low fuel pressure and water in the fuel filter. Filters were changed, fuel lines were inspected and pressure tested and a small air leak was discovered in the suction line. Repairs have been made and generator was tested with no issues.
- When re-opening the sluice gates after TS CINDY, the south gate experienced a bearing failure and would not re-open. The gate was manually closed, and upon disassembly it was discovered that the roller bearing inside the gearbox had failed and damaged the gearbox. The gearbox was replaced and installed by SLFPA-W employees and has been tested. The sluice gate is now functioning properly, no further issues.