

## **Bayside Improvement / Bay Creek Community Development District (“District”) a.k.a. Pelican Landing**

### ***Introduction:***

The Bayside Improvement / Bay Creek water management system (a.k.a. Pelican Landing) serves over 800 acres of residential communities. While the system has functioned satisfactorily on a daily basis for well over two decades, there are two recorded instances of near building inundation. Water surface elevations in the Heron Marsh area of the system were of concern to residents and the District in 2001. At that time the system was analyzed by Stantec, Inc. (formerly WilsonMiller). Improvements to the system were discussed but no action was taken. Several years later Barraco and Associates, Inc. (BAI) assumed the role of District Engineer for both the Bayside Improvement and Bay Creek Community Development Districts. In September of 2013 the Heron Marsh area of the system again experienced unnerving high water elevations. At the time of concern additional extreme weather was forecasted for the area which seriously threatened homes in the Heron Marsh area. BAI, as the District Engineer, received verbal approval from the SFWMD to immediately introduce pumps in order to recover storage in the Heron Marsh system prior to the event. All pumping was restricted to the internal system and remained behind the systems main outfall structure. While water flowed across paved roads there was no building damage recorded.

In order to prepare for future extreme weather conditions, the District ordered BAI to analyze the system and prepare a plan which will protect residents within the system in extreme weather events. BAI has prepared a manual stormwater gate system in order to recover storage within the system prior to forecasted extreme events in cases where water surface elevations within the system are above control elevations. The following Stormwater Gate Operation Rules and Procedure is established to protect habitable structures within the system while maintaining integrity within the system as originally designed, permitted and constructed. The District Manager shall be responsible for monitoring the weather forecast, the status of the stormwater management system, and the operation of the gates.

### ***Stormwater Management Gate Operation Rules:***

1. All stormwater gates are to be fitted with a lock and chain. All locks to be keyed alike. Only the District Manager and District Engineer shall maintain possession of a key.
2. All stormwater gates to be inspected and maintained annually. The District Manager shall maintain a written inspection log. Annual inspections shall be made on or about May 1<sup>st</sup> of each year.
3. The District Manager shall maintain a full written log of all inspections and precautions (open stormwater gates) in accordance with established stormwater gate operation procedures.
4. The District Manager shall submit the written log of each stormwater gate opening event to the South Florida Water Manager District (SFWMD) within 30 days of the stormwater gate operation.
5. If the site is subject to a tropical storm, hurricane watch, or in the event the water surface elevation exceeds 0.2' above control elevation in Herons Marsh North, Herons Marsh South, or Lake C3 and weather forecasts suggest rainfall exceeding 1.5" in any 24 hour period, the gates may be opened by the District Manager without written authorization from SFWMD.
6. The District Manager shall monitor stages in all affected basins and while the stormwater gates are in operation.
7. Stormwater gates shall be opened from downstream to upstream.
8. Stormwater gates shall be closed once the basins of concern have recovered to within 0.2' above their respective control elevation (see Table 1) and the rainfall threat has subsided.
9. The sluice gates are intended for emergency situations and should not be opened for an extended period of time such that they negatively impact adjacent groundwater.
10. Proximity to dry season should be considered prior to operating emergency sluice gates or lowering water surface elevations below control.

### ***Stormwater Gate Operation Procedures:***

1. The District Manager may open stormwater gates as needed, downstream to upstream, in order to lower all lake elevations to their respective control elevation when the development is subject to a tropical storm, hurricane watch or water surface elevations exceeding 0.2' above control elevation in Herons Marsh North, Herons Marsh South, or Lake C3 and weather forecasts suggest rainfall exceeding 1.5" in any 24 hour period.
2. The District Manager may, if deemed warranted by a tropical storm, hurricane watch, or forecasted significant rainfall event, lower the water surface elevation below the control elevation of a basin, to the elevation listed in Table 1, if this basin is determined to have limited vertical storage available. Written

permission from SFWMD must be provided prior to lowering water surface elevations below their respective control elevations (Table 1). Stormwater gates shall be closed once the rainfall threat has subsided.

3. The District Manager shall maintain a written log of the beginning water surface elevation, times of stormwater gate operation (open and closed) including information which documents the elevation at which each stormwater gate was closed. The District Manager shall record elevations at all staff gauges immediately following the forecasted event. Such information shall be included in the event log.
4. The District Manager shall submit all written logs of each event in which a stormwater gate was operated to the SFWMD within 30 days of the closing of the stormwater gates.
5. The District Manager shall perform a post-event inspection of all structures and conveyances and document requirements for any maintenance work needed.

<b>TABLE 1: EMERGENCY SLUICE GATE ELEVATIONS</b>			
<b>SLUICE GATE LOCATION NO.</b>	<b>STRUCTURE</b>	<b>CONTROL EL.</b>	<b>SLUICE GATE WEIR EL.</b>
1	CS-49	14.95'	14.95'
2	CS-14	14.85'	13.85'
3	CS-59	14.30'	13.30'
4	CS-60	12.00'	11.00'
6	CS-80	11.00'	10.00'
7	CS-56	11.00'	10.00'
8	CS-53	12.60'	11.60'
10	CS-54	14.85'	14.35'