



6 October 2022

Mayor Brian Henry
Town of Pawleys Island
323 Myrtle Avenue
Pawleys Island SC 29585

RE: Pawleys Island Post Ian Assessment

Dear Mayor Henry:

Following passage of Hurricane Ian, CSE completed a visual assessment of the Pawleys Island beach on Saturday, 1 October 2022 and again on Thursday, 6 October 2022. The storm made landfall near DeBordieu Beach on 30 September as a Category 1 hurricane, with the maximum impact falling just after high tide. The location, direction of travel, and timing with the tide was a near worst-case scenario for a Category 1 storm at Pawleys Island.

The assessment showed varying levels of damage from the storm across the beach. Generally, areas with wider berm widths and taller dunes performed better than areas with narrower berms or lower dunes. The area between the pier and just north of 2nd Ave was the most severely impacted, with most the area losing the entire primary dune, and several walkovers and porches having damage. North of 3rd Ave, the seaward dune eroded; however, there is still a wide dune field present. A breach was present in the dune at the very north end of the island, likely formed from water draining from swales in the dune field. The majority of the beach between Hazard St and the pier performed well during the storm; however, where high dunes were present, there is a large escarpment. Most of the beach south of Hazard St saw overtopping of the dune, and where the dune was lower, breaches in the dune formed. CSE noted that the majority of these breaches occurred under walkovers, where the sand elevation was lower. These low spots were the most vulnerable areas for inundation prior to the storm and were the first to breach during the storm. Once the dune is breached and channelized flow occurs, the breach can widen quickly and deposit sand into yards, under houses, or onto the street. Multiple properties near the south end had the dune completely eroded and a significant portion washed landward of the dune.

While the damage noted above is significant, CSE believes the 2020 nourishment project served its purpose to protect homes and limit structural damage during this storm event. Without a project, CSE believes many homes along the south end would have been severely damaged or collapsed, damage to the road surface of Springs Ave may have been severe, and damage would have been much greater along all areas of the island.

Following a major storm event, beaches naturally recover much of the dune area under normal weather conditions. Sand that was moved offshore during the high wave energy conditions of the storm is worked back to a more typical shape over time. The dry sand berm re-establishes and allows wind-blown sand to feed the dunes. This process can take a year or more to complete.



OCRM has issued emergency orders allowing for certain measures to improve damaged areas, and CSE recommends the Town consider the following efforts:

- Remove debris along the beach and dune area, including damage sand fence sections.
- Scrape sand to rebuild a protective dune along the ~2,500 of eroded area from ~200 ft south of the pier, to a point ~500 ft north of 2nd Ave. Sand should be scraped from seaward of the high tide line and placed in a dune 6 ft high and ~20 ft wide in accordance with the OCRM emergency order.
- Support homeowners' efforts to return sand from yards and under houses to the dune area in a manner that creates a continuous dune.
- Encourage homeowners to fill areas under walkovers to improve resiliency for future storm events and reduce the likelihood of breaches occurring.
- Assess the beach recovery in late winter or early spring 2023 and consider installing sand fence and/or vegetation prior to sea turtle season.

CSE is happy to assist the Town or homeowners in coordinating any restoration efforts. The efforts outlined above will be beneficial in jump-starting the recovery of the beach and dune system. Please let us know if you have any questions on this assessment or recommendations.

Sincerely,

Steven Traynum
Vice President

Coastal Science & Engineering (CSE)

