

# TOWN OF PALM BEACH

Information for Town Council Meeting on: May 13, 2025

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TO: Mayor and Town Council

VIA: Kirk W. Blouin, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: Sustainable Dune Construction Program Reach 8

DATE: April 29, 2025

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## **STAFF RECOMMENDATION**

Staff recommend Town Council provides direction on options as outlined below for a sustainable, long-term dune construction program in Reach 8 for shore protection.

## **GENERAL INFORMATION**

The Town's Beach Management Agreement allows periodic dune restoration for shoreline protection in Reach 8 from R-129 to R-134 to an elevation of +10 feet NAVD with a 1V:3H dune slope to the existing beach berm. Based on current conditions, the beach template can accept approximately 20,000 cubic yards of sand in Reach 8 and 10,000 cubic yards in Reach 9 (South Palm Beach). The current coastal management program plans for placement of sand for dunes in Reach 8 approximately every four years, timed to occur in conjunction with larger nourishment projects at Phipps Ocean Park or Mid-Town. Dune sand placement has occurred in 2006, 2011, 2015 and 2021 in Reach 8. Trucking access to Reach 8 has previously been through 3360 South Ocean Boulevard (2011, 2015, and 2021) and 3200 South Ocean Boulevard (2006).

This year, the Town planned to place sand for dunes in conjunction with the Phipps Ocean Park nourishment but has been challenged with finding construction access to the beach. The Phipps nourishment project has been successfully completed, and a stockpile of sand for dune placement is available between Phipps Ocean Park and the Par 3 Golf Course. Reach 8 includes the portion of the Town located south of the City of Lake Worth Beach's public beach access, consisting of 17 oceanfront condominiums. The area lacks dedicated access for dune construction. To remain contiguous, the Town's municipal boundary includes a ten-foot strip of land that runs parallel to the mean high water line underneath the Lake Worth Beach pier, connecting Reaches 7 and 8.

Physical monitoring data from 1990 to 2024 shows a minor landward recession of the shoreline in Reach 8 of 9.2 feet. The annual average shoreline loss for Reach 8 in 2024 was 5.2 feet. The long-term pattern of monitoring data shows that the shoreline generally remains stable, with a 0.3 feet per year average annual recession, indicating that the Town's management program and dune placement projects have prevented a long-term significant change in the shoreline position for over 30 years in Reach 8. The volumetric change (measured from the upper beach to a depth of 26.2 feet) from 2023 to 2024 shows that Reach 8 gained 80,715 cubic yards of sand. However, it experienced a loss of 21,084 cubic yards of sand from the upper profile region. The largest gains were seen in the offshore region, suggesting benefits from long-shore drift from Phipps Ocean Park restoration projects to the north. If dune placement projects were to cease in Reach 8, gains from the migration of sand from the Phipps Ocean Park project into the area are likely to continue,

however, the upper profile and shoreline may continue to recede. A negative trend in the upper beach would limit the footprint available to place dunes, and the opportunity for sand placement above the mean high water line would decrease. Sand would continue to move south from the Phipps Ocean Park project and would eventually make its way onto the upper profile, providing some protection. As observed during a site visit in April 2025, the dunes in Reach 8 appear to be largely stable with increasing vegetation. This condition, however, could change significantly if the area experiences a major storm event.

In order to maintain the dune placement project in Reach 8, a reliable construction access is required. Public Works staff have identified options for access outlined as follows:

#### Lake Worth Beach Interlocal Agreement

Town Council had approved an agreement with Lake Worth Beach to utilize the south end of the Lake Worth Public Beach as an access for hauling sand to Reaches 8 and 9. The Lake Worth Beach City Commission approved the agreement at their December 3, 2024 Commission meeting. Subsequently, Lake Worth Beach has rescinded this approval due to their Ordinance No. 2009-19 prohibiting dredge and fill beach renourishment projects and ingress/egress for beach renourishment projects within their city. Town staff would continue to coordinate with the City of Lake Worth Beach to explore the possibility of using this access, emphasizing the difference between beach renourishment projects and dune restoration projects.

#### Reach 7 to Reach 8 Conveyor System

Town staff would evaluate the feasibility of conveying sand from Reach 7 to Reach 8 utilizing the Town's jurisdictional ten-foot strip of land along the mean high water line, running equipment underneath the Lake Worth Beach pier. The Town has considered trucking sand within this strip of land, but due to the success of long-shore drift of sand from the Phipps Ocean Park projects, elevations underneath the pier do not allow enough clearance for trucks to pass through. Sand would be trucked from the stockpile in Reach 7 to a conveyor belt north of Lake Worth Beach's boundary, within the Town's ten-foot strip of land, approximately 1,400 feet south, east of Bellaria. Trucks would then be used to move the sand south and place sand in the dune template. Trucks would need to get onto the beach in Reach 8 through an access south of the pier, such as through Lantana Beach Park or north of the Boynton Inlet Pier. This methodology for conveying sand has successfully been utilized for U.S. Army Corps of Engineers Sunny Isles Beach Renourishment Project in 2017 (<https://www.youtube.com/watch?v=yqmXcG3n0VM>).

#### Reach 8 Condominium Cooperative

An alternative long-term plan is proposed to provide a sustainable solution for access within the Town's jurisdiction. This plan includes utilizing conveyor belts within condominium properties in Reach 8 and rotating between identified feasible properties to minimize disruption. The Town would request that each participating condo sign a long-term easement. Public Works staff and engineering consultants have identified eight feasible properties for conveying sand onto the beach in Reach 8:

1. 3170 South Ocean Boulevard, Enclave
2. 3200 South Ocean Boulevard, 3200 Condominium
3. 3230 South Ocean Boulevard, La Renaissance
4. 3300 South Ocean Boulevard, Meridian
5. 3400 South Ocean Boulevard, Atriums
6. 3450 South Ocean Boulevard, Patrician
7. 3456 & 3460 South Ocean Boulevard, Claridges
8. 3475 South Ocean Boulevard, La Bonne Vie

A system of conveyor belts could be utilized at each of these properties to transport sand west to east and would stockpile sand on the beach waterward of the property and existing dune. Trucks

would need to get onto the beach in Reach 8 through an access south of the pier. (Example: Limited access conveyor system, <https://www.youtube.com/watch?v=LeoViesmSII&t=48s>)

Another option for access that was explored and was not considered to be feasible at this time included trucking through Lantana Beach Park at the south end of Reach 9. Although Lantana has a potential vehicle access point directly onto the beach, this option is not viable because of the limited size of the beach and available clearance at 4500 South Ocean Boulevard for trucks to pass by. There is not sufficient room to stockpile and transport sand above mean high water to the project area north. The Town has also previously considered access through South Palm Beach at 3500 South Ocean Boulevard; however, the access is privately owned, and homeowners have been opposed to the project.

Prior to starting work for dune placement, an Individual Project Approval (IPA) is required from FDEP. The application and issuance of this approval is anticipated to take approximately 45 – 90 days. Construction may take place starting November 1 and must be completed prior to May 1. If trucking sand for placement, the project is expected to take 2-3 weeks. If conveyor belts are used, the project is expected to take 5-6 weeks.

### **FUNDING/FISCAL IMPACT**

Lake Worth Beach Interlocal Agreement: In addition to the baseline construction cost to truck sand from the stockpile, a financial contribution of \$80,000 was planned to be donated to the City of Lake Worth Beach to fund improvements to their public beach access since they support the Town's access to recreational public beaches.

Reach 7 to Reach 8 Conveyor System: Additional cost is expected for the use of conveyor belts, but it is not expected to exceed the existing total contract cost. The City of Lake Worth Beach is expected to be strongly opposed to this methodology since their access to the ocean would temporarily be severed. Risks of litigation, claims of impacts, and public opposition and law enforcement could be expected.

Reach 8 Condominium Cooperative: Additional cost is expected for the use of conveyor belts, but it is not expected to exceed the existing total contract cost.

If the project is not able to be completed during the 2026 fiscal year, the stockpiled sand from the Phipps Ocean Park project may no longer be available due to erosion over time, and sand would need to be trucked from an upland mine. Additional cost for trucking sand is anticipated to be on the order of \$50 per cubic yard (\$1,000,000 for Reach 8, \$500,000 for Reach 9).

### **Attachments**

Reach 8 Project Plans

Option 1 Lake Worth Beach Interlocal Access Plans

Option 2 Approximate Town Boundary Aerial

Option 3 Condominium Cooperative Feasible Property Aerials

cc: Jason Debrincat, P.E., Assistant Director of Public Works  
Patricia Strayer, P.E., Town Engineer  
Julie Parham, P.E., Deputy Town Engineer  
Sara Gutekunst, Coastal Coordinator  
Joanne O'Connor, Town Attorney, Jones Foster  
Shore Protection Board