Proposal to Complete Dune Restoration

Captiva Erosion Prevention District

Project Focus Areas

Final Beach Access Design – Andy Rosse Lane & Alison Hagerup
Public Dune Protection Measures (Ropes, Bollards, Signage, Accessibility)
Supplemental Dune Vegetation & Landscaping
Survey and Analysis of Dune Crossovers
Long-Term Dune Stability & Coastal Resilience

Prepared For:
Board of Commissioners
Captiva Erosion Prevention District

Prepared By:
District Staff
Captiva Erosion Prevention District

January 2026

Protecting Captiva's Shoreline Through Science-Based Coastal Management

Proposal to Complete Dune Restoration

Introduction

This document presents a comprehensive proposal to complete dune restoration efforts on Captiva Island following recent dune construction and initial sea oat installation. The purpose of this proposal is to address remaining access, planting, and protection elements necessary to ensure the long-term stability, functionality, and resilience of the dune system. The recommendations from District staff outlined herein are intended to balance public access, emergency response needs, legal and property considerations, and environmental stewardship, while protecting the District's investment in dune restoration.

The proposal identifies a series of coordinated actions, including finalizing beach access configurations, improving accessibility, protecting newly planted vegetation, correcting and formalizing dune crossover locations, and implementing supplemental planting to enhance dune stability and ecological diversity. Collectively, these measures are designed to support effective dune performance during storm events, reduce ongoing maintenance challenges, and advance the District's long-term coastal protection and management objectives.

1. Determine Final Beach Access Design for Andy Rosse Lane

At Andy Rosse Lane, the currently constructed beach access is functional and usable for the Captiva Fire Department, YOLO Watersports, Inc., and pedestrians. There are no known legal concerns associated with the existing access configuration. In the event of a tropical system impacting the island, a contingency plan can be implemented to fully sandbag the access path. Installing a substantial sandbag barrier within the access would help prevent the formation of an ebb or surge channel during storm conditions.

The alternative access alignments that have been staked present legal and property concerns. The southern alternative traverses a protected mitigation area owned by Sunset Captiva. We have been contacted by Lee County and legal counsel representing Sunset Captiva, who have strongly advised that this alternative not be pursued. The northern alternative crosses concrete pavers and goes through property owned by the Mucky Duck, which is currently engaged in litigation against CEPD related to the dune construction.

Based on the operational functionality, absence of legal constraints, and the availability of effective storm-response measures, District staff recommends that the existing beach access at Andy Rosse Lane remain as the permanent access configuration. Maintaining the current alignment avoids encroachment onto adjacent private or protected properties, minimizes legal risk, and provides reliable access for emergency services, commercial

operators, and the public. Retaining the existing access also allows CEPD to focus resources on long-term dune stabilization and coastal resilience objectives while preserving flexibility to implement additional protective measures, such as sandbagging, during major storm events.

2. Determine Final Beach Access Design for Alison Hagerup

For the same operational, legal, and public safety reasons supporting the permanent retention of the Andy Rosse Lane access as constructed, District staff recommends that the Alison Hagerup beach access likewise remain in its current configuration. The existing alignment provides reliable access for emergency services, permitted operators, and the public, while avoiding encroachment onto adjacent private properties. Maintaining the access as constructed also minimizes legal exposure, supports long-term dune protection objectives, and allows for the implementation of emergency storm-response measures, such as sandbagging, when necessary.

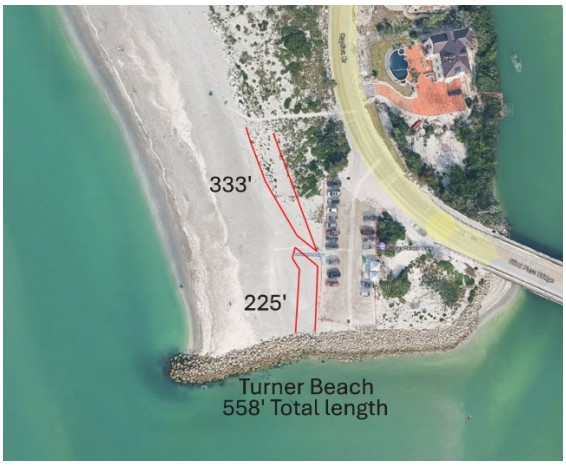
Historically, a Mobi-Mat was installed at the Alison Hagerup dune crossover to improve accessibility; however, it was destroyed or lost during a storm event. Mobi-Mats significantly enhance access for all users, and are particularly important for individuals with disabilities, families with strollers, and those with mobility limitations. District staff recommends replacing the lost Mobi-Mat with a new mat system extending fully across the dune. The cost for a Mobi-Mat is approximately $4,400 per 100-foot by 5-foot section, and it is anticipated that two sections will be required to adequately span the dune crossover. The Mobi-Mat is a completely reimbursable expense through our existing agreement with TDC.

3. Install Ropes and Bollards at Public Entrances

To protect the recently planted sea oats and support successful dune establishment, District staff recommends that ropes and bollards be installed immediately in the vicinity of the Village portion of Captiva, which generally experiences higher levels of pedestrian activity compared to other areas of the island. District staff recommends that ropes and bollards be installed throughout the Village area with dune crossings at public entrances, as illustrated by the red lines on the three images below. The southern extent of the recommended installation area is defined by the S-curve near Jensen's, and the northern extent extends to just north of the Alison Hagerup public parking lot. The dunes west of Turner Beach public parking lot also should have ropes and bollards installed. Installing them within these high-traffic corridors will help guide pedestrian movement, protect newly planted dune vegetation, and support the long-term stability of the dune system.

The ropes and bollards should be installed as soon as practicable. Incident No. 26-011129 was recently reported to District staff by the Lee County Sheriff's Office and involved a golf cart being driven on the beach and dunes. This activity could likely have been prevented through the presence of a rope and bollard system accompanied by appropriate signage.

Bob Johnson of Back Bay Property Services has confirmed that all required materials are currently on hand and that his team is prepared to mobilize and begin installation immediately upon receiving authorization. Proceeding promptly will allow protective measures to be implemented without delay, helping to safeguard newly planted vegetation during this critical establishment period.



4. Contract Landscaping Company to Install Vegetation Around Public Beach Entrances

District staff recommends contracting with a local landscaping firm to enhance vegetative plantings in the vicinity of public beach entrances. Supplemental planting in these high-visibility and high-traffic areas will improve overall aesthetics, reinforce dune stability, and support the successful establishment of native vegetation. Engaging a local contractor will allow for timely installation, familiarity with site conditions, and continued coordination with ongoing dune management and restoration efforts.

District staff has received verbal indications from Commissioners that funding for supplemental dune plantings was intended to be included within the project budget; however, upon extensive review, the only related allocation identified was an assumption that $200,000 of the invasive species removal grant could be applied toward dune vegetation replanting. District staff has since confirmed that the invasive species removal grant cannot be used for this purpose. It is also important to note that D.E.P. grants will not cover supplemental planting because it is not required by any permits. Accordingly, staff recommends that the Commissioners formally establish an appropriate budget allocation for installing vegetation around public entrances. Clear budget direction will enable staff to solicit proposals, coordinate scheduling, and proceed efficiently with the recommended enhancements, while ensuring expenditures remain consistent with District priorities and sound fiscal planning.

An invoice for a proposal has been received from Coastal Vista to prepare planting design renderings for the Village area of the island, including four public beach access locations: Andy Rosse Lane, Wightman Lane, Laika Lane, and the Alison Hagerup Parking Lot. The Turner Beach entrance was not included in the proposal; however, it should be strongly considered for inclusion as an additional location for supplemental plantings.

The cost for the initial design phase is $10,500. The total cost of the proposal to develop "Enhanced Dune Vegetation Plans" for the village region of the island is $24,750. This proposal includes design services only and does not include the cost of plant materials or installation.

With Board approval, District staff may proceed with initiating payment of the first invoice and advancing the design effort. The proposed design includes areas beyond public beach entrances, and feedback received to date indicates that some residents may have concerns regarding potential impacts to views from additional vegetation. While the District may have the authority to implement supplemental vegetation plantings on private property, careful consideration should be given to whether this approach is appropriate and consistent with community expectations and broader project objectives.

5. Survey and Analysis of Crossovers Along the Entire Dune System

During dune construction and planting, the sea oat installation crew was not provided with specific direction regarding the precise locations where dune crossovers should remain unplanted. As a result, several access paths were left in incorrect locations, while other expected crossovers were omitted entirely. To address this issue in a systematic and defensible manner, District staff recommends that a comprehensive survey of the entire dune system be conducted by a qualified coastal engineering firm to identify all existing unplanted dune crossovers. APTIM is preparing a proposal.

Once identified, each unplanted crossover location can be evaluated to determine whether it is appropriately sited or should be relocated to better align with property boundaries, access needs, and design intent. District staff has received complaints from homeowners indicating that some existing paths are angled in a manner that causes them to cross property lines and encroach onto neighboring properties, and that some historic paths are missing. It is anticipated that additional crossovers may need to be established by selectively removing a four-foot-wide section of sea oats at a dogleg alignment over the dune, consistent with the configuration of existing unplanted crossovers. The misaligned crossovers will likely require adjustment to ensure that access paths are properly situated within individual properties and consistent with long-term dune management objectives.

6. Establish Final Crossover Locations

Once the analysis of existing and proposed dune crossover locations is complete, final crossover alignments can be formally established and documented. These finalized dune crossovers will then be mapped and compiled in a Geographic Information System (GIS) format and provided to Lee County, consistent with the County's request. Providing an accurate GIS dataset will support coordination with County staff, improve long-term

management and maintenance planning, and ensure that future access locations are clearly defined and consistently applied across the dune system.

7. Supplemental Vegetative Plantings of Dunes

After the final dune crossover locations have been determined and established, replanting of sea oats may be necessary in areas where access paths have been shifted or removed to restore continuity of the dune vegetation. In addition, staff recommends that the Board consider establishing a budget for supplemental dune planting to further enhance stability, resilience, and ecological diversity. This supplemental planting could include woody species, such as sea grapes and native palms, along the landward side of the dune, as well as a more diverse mix of native herbaceous species along the seaward side. Providing budget direction will allow staff to develop a coordinated planting plan that supports long-term dune performance and environmental objectives.

Staff further recommends considering a more broad, island-wide approach to supplemental dune planting beyond the public entrances. This effort could be implemented as a blanket planting program across the dune system or, alternatively, on a site-specific basis at the request of individual homeowners seeking additional vegetation along their respective sections of the dune. Either approach would allow flexibility to address varying site conditions, homeowner preferences, and resource availability while supporting the District's overall goals of enhancing dune stability, ecological function, and long-term resilience.

In an effort to secure funding for supplemental dune plantings, District staff has completed and submitted local funding initiative requests and appropriations project attestations to the Florida House of Representatives and Senate through the District's lobbyist, Nick Matthews. The request seeks $500,000 to support dune revegetation and biodiversification efforts. This request is in the early stages of the appropriations process, and it is not yet known whether funding will be allocated to CEPD.

8. Determine Signage Implementation

The Board should consider providing clear direction to District staff on signage implementation by either reaffirming previously discussed recommendations or evaluating new concepts brought forward for consideration. At a minimum, the Board's guidance should include establishing an appropriate budget that authorizes District staff to move forward with the design, procurement, and installation of signage. Providing this clarity will allow staff to implement consistent, effective signage in a timely manner while ensuring that expenditures align with the Board's priorities and fiscal oversight responsibilities.

Conclusion

In conclusion, this proposal outlines a comprehensive and coordinated approach to completing dune restoration on Captiva Island that prioritizes public safety, legal defensibility, environmental protection, and long-term coastal resilience. By retaining the existing beach access configurations at Andy Rosse Lane and Alison Hagerup, implementing targeted protective measures such as ropes, bollards, signage, accessible Mobi-Mats, and enhancing vegetation at high-use public entrances, the District can protect recent investments while maintaining reliable access for emergency services and the public. Further, conducting a systemwide survey and formalizing final crossover locations will resolve existing access conflicts, improve coordination with Lee County, and support consistent long-term management. Finally, establishing clear budget direction and pursuing supplemental funding will enable strategic revegetation and biodiversification efforts that strengthen dune stability, ecological function, and storm resilience across the island. Collectively, these actions provide a practical, fiscally responsible framework for completing dune restoration while advancing the District's broader coastal protection and stewardship objectives.