



# Town of Dauphin Island, Alabama

## SURVEY & SITE PLAN CHECKLIST for DUNE PROTECTION OVERLAY DISTRICT

*All surveys and site plans must include the following required elements to be considered for site plan review by the DPOD Site Plan Review Committee and the Dauphin Island Planning Commission.*

- Surveys shall be prepared, signed, and sealed by a surveyor or an engineer, currently licensed in the State of Alabama.
- All Site Plans shall be prepared, signed, and sealed by a surveyor or licensed professional engineer, currently licensed in the State of Alabama.
- All Site Plans must be drawn to a scale of not smaller than 1 inch = 20 feet.
- All sites must be staked using metal stakes.

### *Survey*

- 1) \_\_\_\_\_Property Address;
- 2) \_\_\_\_\_Name, address, and contact information of property owner or authorized agent;
- 3) \_\_\_\_\_Name and contact information of surveyor or engineer, (including current license numbers);
- 4) \_\_\_\_\_Date of survey;
- 5) \_\_\_\_\_Location map;
- 6) \_\_\_\_\_Scale and north arrow (pointing north);
- 7) \_\_\_\_\_Parcel number of each lot;
- 8) \_\_\_\_\_Size in square feet of parcel(s);
- 9) \_\_\_\_\_Flood zone designation;
- 10) \_\_\_\_\_Front, side, rear, and waterside yard setbacks, if applicable;
- 11) \_\_\_\_\_USGS - MSL – Elevation contours at 5 ft. intervals for slopes of 15° or greater;
- 12) \_\_\_\_\_Adjacent properties, streets, service roads, curbs and dimensions of same;
- 13) \_\_\_\_\_Means of ingress and egress to and from the property, to include traffic flow diagrams;
- 14) \_\_\_\_\_All trees 4" DBH or larger identified by size species and location.

### *Site Plan*

- 15) \_\_\_\_\_Zoning classification(s) of site;
- 16) \_\_\_\_\_Existing and proposed buildings, location, position on lot, size and dimensions of each;
- 17) \_\_\_\_\_Proposed use of buildings;
- 18) \_\_\_\_\_Number of dwelling units, commercial units and density of units per lot;
- 19) \_\_\_\_\_Distance, in feet of proposed structure(s) from all property lines (front, rear, sides, and waterside);
- 20) \_\_\_\_\_Stormwater management including runoff during construction (i.e., pile jetting water);

- ✓ 21) \_\_\_\_\_ Erosion and sedimentation plan (during and after construction), to include protection measures to be employed to protect man-made and natural drainage ways and adjacent properties;
- 22) \_\_\_\_\_ Number of required off-street parking spaces (including handicapped), location, and size of each;
- 23) \_\_\_\_\_ Off-street loading and unloading areas (non-residential only);
- 24) \_\_\_\_\_ Location and specifications of all utilities. Utility and right-of-way easements;
- 25) \_\_\_\_\_ Landscaping plan showing required Dune Protection Overlay District landscaping;
- 26) \_\_\_\_\_ Location, dimension, and number of all on-premise signs;
- 27) \_\_\_\_\_ Location of lighting on property not attached to a structure;
- ✓ 28) \_\_\_\_\_ Location of garbage disposal facilities and screening (if applicable);
- ✓ 29) \_\_\_\_\_ Location of required buffers or fences (if applicable); Details on any proposed fencing and/or retaining walls to be constructed, both temporary and permanent;
- 30) \_\_\_\_\_ Required thirty percent (30%) minimum of the total area of the lot is retained native vegetation that is to remain on the property;
- 31) \_\_\_\_\_ Details on proposed property enhancements such as dune walkovers, sidewalks, trails, walkways, open space, etc.;
- 32) \_\_\_\_\_ Location of required signage, if applicable;
- ✓ 33) \_\_\_\_\_ Signed statement of Best Management Practices used in design and construction plans by Professional Engineer/Licensed Architect;
- 34) \_\_\_\_\_ Construction and design details of all proposed and/or altered buildings and structures including:
- Building orientation
  - Floor plan
  - Roof plan and overhangs
  - Yard setbacks, encroachments and/or projections
  - Height of building
  - Foundations - Type, size, and location of pilings, as well as the installation method must be specified in the construction plans by a Licensed Professional Engineer.
  - Elevation view of the property being developed, to include the first-floor elevations of the proposed structure(s).
  - Exterior design details, including specific materials existing/planned for use on buildings and structures, with their locations indicated on the elevations;
- 35) \_\_\_\_\_ Tree Removal Plan inclusive of mitigation details;
- 36) \_\_\_\_\_ Approval by the Dauphin Island Water and Sewer Authority as to availability and capacity of services to site;
- 37) \_\_\_\_\_ Signature block for all required signatures.



## SECTION 9 SUGGESTED BEST MANAGEMENT PRACTICES

All construction must incorporate Best Management Practices (BMPs). A site can be planned and a home can be designed so that the natural setting is superbly preserved only to have the site significantly and unnecessarily damaged by poor construction practices and methods.

The structure and access to the structure must be in accordance with site plans and certifications prepared and sealed by a registered, certified Professional Engineer licensed in the State of Alabama. *A signed statement of Best Management Practices used in design and construction plans by a Professional Engineer and/or Architect licensed in the State of Alabama must accompany the Site Plan.* Site plans and certifications for any proposed structures must meet all local, state and federal regulatory agency guidelines and procedures.

The following suggested techniques described in detail below were taken from the following sources: Federal Emergency Management Agency's (FEMA) Local Officials Guide for Coastal Construction: Design Considerations, Regulatory Guidance, and Best Practices for Coastal Communities FEMA P-762 / February 2009; Alabama Department of Environmental Management's (ADEM) Section 8 Standards For Dune Walkover Construction; and The Dune Protection and Improvement Manual of the Texas General Land Office.

### **A. General Provisions:**

The dune system must not be mined, excavated, or altered such that the erosion and storm surge protection and ecological and aesthetic values afforded by them are diminished. Within the area of the dune system:

- The dune crest shall not be reduced in elevation.
- Excavation of dunes must be properly reviewed and permitted, and minimized to the greatest practicable extent.
- Vegetation removal must be properly reviewed and permitted, and minimized to the greatest practicable extent.

Minimization will include alternative site plans designed to avoid direct or indirect destabilization of the dunes, including the location and configuration of habitable structures, stormwater conveyance, bulkheads, driveways, and appurtenances. Suspension of required Zoning Ordinance setbacks will be considered in some cases within the Dune Overlay District in an effort to reduce adverse impacts to the dune system.

Any pre-approved construction-stage, temporary alteration of the dune or dune vegetation must be repaired after completion. If re-vegetation is necessary, the dune must be re-stabilized with native dune plants. These requirements must be completed, inspected and approved prior to the issuance of a Certificate of Occupancy.

### **B. Building Design**

1. The house and other structures should have as small a footprint as possible, thus leaving as much of the native environment undisturbed as possible. Use multiple floors. Smaller

footprints also mean smaller impervious areas and thus pose less of a threat of erosion from rainwater runoff while preserving more of the

2. Acquire adequate land for the proposed structure. To avoid destroying the beauty that draws one to the dunes, be careful to not build "more house" than can be accommodated comfortably on the site.
3. "Think out of the box". For example, a roof deck can provide greater views without additional disturbance to the site.

### **C. Stabilization of Slopes**

Development in critical dune areas often requires slope stabilization to minimize impacts and avoid creation of erodible soils. The use of retaining walls for slope stability allows for increased elevations within a short distance; however the design and use must provide resistance to the lateral pressure of the soil. Additional wall support may be achieved through use of mechanical anchors. Protect and mitigate all impacts to slopes during construction, and stabilize slopes following completion of all activities. Soil stabilization and soil erosion techniques are utilized to minimize soil movement at the source and limit sedimentation issues. Appropriately designed and installed techniques can eliminate soil erosion, reduce sediment pollution, minimize future impacts to slopes. Long-term stabilization in the form of plantings, wattles and fencing are strongly encouraged and, in some cases, required.

### **D. Temporary Slope Stabilization During Construction**

1. Install geotextile fabric fence (silt fence) parallel to contours in areas with 15 degree (15°) slopes and ensure appropriate installation distance at a minimum of two (2) feet from the toe of a 15 degree (15°) rise.
2. Install plywood sheeting parallel to contours in areas with 30 degree (30°) slopes and ensure a minimum installation distance of no less than three (3) feet from toe of a (30°) rise.

### **E. Permanent Slope Stabilization**

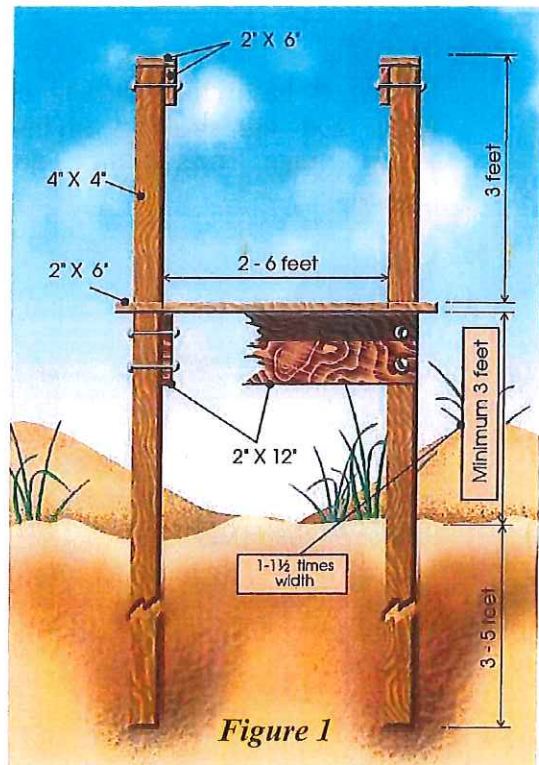
1. Minimize erosion from rainwater run-off. Avoid use of single point of discharge (e.g., a downspout or an area drain discharge pipe). A concentrated source can easily deliver water faster than the ground can absorb it and cause erosion. A sheet of water draining from a roof or large paved area is also likely to cause erosion. In both cases, it is necessary to disperse the flow over a wide, flat area so that the water is slowed and a portion absorbed. Or use rain barrels to safely collect runoff.
2. Utilize the construction of dune walkovers for stabilization of dune slopes where pedestrian traffic will take place. Where the intent of the property owner is not to cross the dunes in any manner whatsoever, sand fencing is required at the property/dune interface and, a provision to prevent pedestrian traffic must be employed. A sign stating that no crossing of the dunes is allowed will be given to each property owner and must be posted.
3. Utilize wattles made of straw and wood as an erosion and sediment control device.



4. Utilize appropriate retaining wall structure with tiebacks to inhibit wall failure, slumping, and soil seepage.
5. Install all slope stabilization structures (temporary and permanent) prior to beginning other construction activities onsite to protect slopes from incidental damage.

**F. Dune Walkover Construction**

1. To prevent damage to dunes, all developments will be required to provide a beach access walkover that adopts ADEM Section 8 standards.
2. All habitable structures may, with proper permitting, share a dune walkover with adjoining neighbors, pending review of a proposal for the shared walkover by the Town of Dauphin Island Planning Commission. Where the intent of the property owner is not to cross the dunes in any manner whatsoever, sand fencing is required at the property/dune interface and, a provision to prevent pedestrian traffic must be employed, e.g., signage stating that no crossing of the dunes is allowed, etc.
3. A walkover should begin landward of the foredune and extend no farther seaward than the most landward point of the public beach where it will not interfere with public use of the beach at normal high tide. The structure should be oriented at an angle to the prevailing wind direction. Otherwise, wind blowing directly up the path of the walkover may impede the growth of vegetation beneath it, erode sand from the seaward end, and increase the possibility of washout or blowout occurrences.
4. Construction Material- Wood is the preferred construction material for walkovers because it is less expensive than metal, does not collect and retain heat as metal does, and is readily adapted to a number of designs. Although there are a few walkovers made from polyvinyl plastic, treated lumber and galvanized nuts and bolts may be used.
5. Size- The width of a walkover should be based on the expected volume of pedestrian traffic. If a walkover will be infrequently used, a width of two feet should be sufficient. Walkovers intended for two-way passage should be wider, perhaps three or four feet. A width of six feet may be appropriate for a walkover subject to heavy use. The structure's height should be at least one to one and a half times its width (three feet minimum) to allow sunlight to reach vegetation underneath. In any case, the deck of the walkover must be of sufficient elevation to accommodate the expected increase in dune height. Basic structural guidelines for walkovers are detailed in *Figure 1*.



*Figure 1*

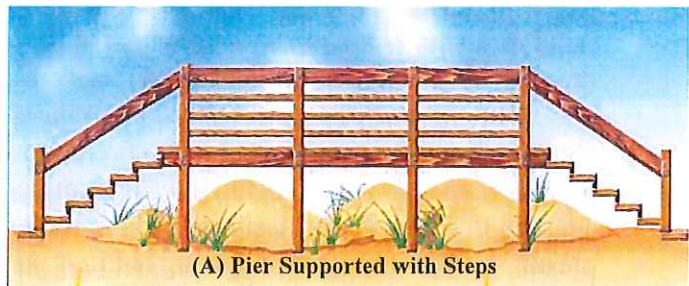
6. Construction Guidelines- Space the slats forming the deck of the walkover 1/2 inch apart so that sunlight and rainfall can penetrate to plants below and so that sand will not accumulate on the deck.

7. Place the supporting piers as far apart as possible along the length of the structure. A distance of at least six feet between pairs of piers is recommended. Implant the piers at least three feet in the ground to ensure stability. A depth of five feet or more is advisable to allow for erosion around the piers during storms. Install the piers with a hand auger or posthole digger rather than with a tractor. Walkover piers should not be set with cement. Repair damage to the dune area as soon as possible.
8. Providing handrails on both sides of the walkover is recommended as a safety measure and to discourage people from jumping off into the dunes. Railings are particularly advisable on public walkovers and those that are high above the ground. Railings should be at least three feet high.
9. To enable wheelchair use on a walkover, inclined ramps with a 20 percent slope (a one-foot rise for every five feet in length) may be built at each end of the structure. Ramps are recommended for any large public walkover.

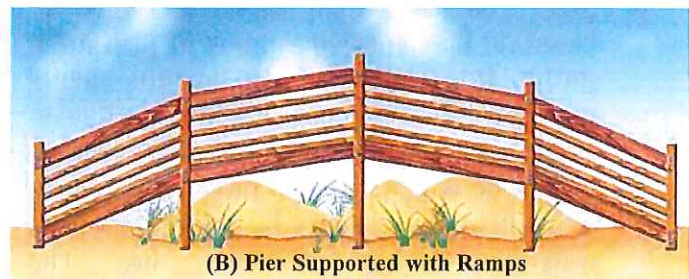
10. Design- See Dune Walkover Designs in Figure 2.

**Figure 2: Dune Walkover Design**

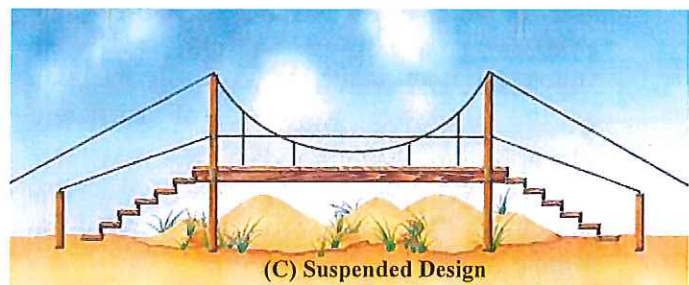
Design A has a flat deck with steps at each end.



Design B has ramps instead of steps, and the deck is arched where dune formations are highest.



Design C may be adapted to suspend for access over areas that cannot be disturbed.



*Source: Dune Protection and Improvement Manual Texas Land Office*