Sand Dune Construction and Foredune Management Policies

1. The City shall prohibit residential development and commercial and industrial buildings on beaches, active foredunes, on other foredunes which are conditionally stable and are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding. Permitted uses in these areas shall be those which are of very low intensity (such as raised wooden walkways), uses which do not cause the removal of sand or vegetation, and which could be easily removed in the event of ocean flooding, erosion or other hazard.

2. Before a building permit is issued for construction involving the removal of vegetation in areas with sand soils, a satisfactory wind erosion prevention plan will be submitted which provides for temporary and permanent sand stabilization and maintenance of new and existing vegetation. The vegetation program shall return the area to its original level of stability.

3. Removal of vegetation during construction in any sand area shall be kept to the minimum required for building placement or other valid purpose. Removal of vegetation should not occur more than 30 days prior to construction. Permanent revegetation shall be started on the site as soon as practical after construction, final grading or utility placement. Storage of sand or other materials should not suffocate vegetation.

4. Site specific investigations by a registered geologist shall be required prior to issuance of building permits in open sand areas, on hillsides in sand areas regardless of the type of dune or its present stability, and on those conditionally stable dunes not subject to ocean hazard, but which in the view of the Building Official have potential for wind erosion or other damage. Site reports shall be paid for by the developer and the City may submit the reports to State and Federal agencies for evaluation.

5. The developer or party initiating action in sand areas shall be responsible for preventing adverse impacts from wind erosion on adjacent property, City streets, or utilities. Where necessary, the City may cause such impacts to be corrected at the expense of the developer. The project manager shall be responsible for the expenses to correct any adverse impacts from dune scraping activity.

6. Wells in dune areas shall not be permitted, in order to prevent the drawdown of groundwater and possible destruction of vegetation. Mowing of vegetation in dune areas shall not be permitted.

7. The City, through its Zoning Ordinance, shall regulate sand movement or alteration and vegetation control on City-owned lands.

8. Foredune Management: Foredunes shall be breached only on a temporary basis in an emergency, e.g. fire control, cleaning up oil spills, and alleviating flood hazard. Restoration after breaching shall reestablish, to the maximum extent feasible, the contours and vegetative cover existing on the site prior to the breaching.

9. Foredune Management: Grading or sand movement necessary to maintain views or to prevent sand inundation may be allowed for structures in foredune areas only if the area is committed to development or is within an acknowledged urban growth boundary; and only as part of an overall plan for managing foredune grading. The City’s foredune management plan covers all foredunes, from the south city limits to the north city limits. The plan allows grading
to maintain views in the Presidential Streets sand management area, and in the Breakers Point sand management area, as shown on the maps with these names. Grading to maintain views outside of these two areas may be allowed subject to a Comprehensive Plan amendment.

10. Foredune Management: A foredune grading plan must be adopted as a Comprehensive Plan Amendment prior to permitting foredune grading outside of the Breakers Point sand management area or the Presidential Streets sand management area. The foredune grading plan shall include the following elements based on consideration of factors affecting the stability of the shoreline to be managed including sources of sand, ocean flooding, and patterns of accretion and erosion (including wind erosion), and effects of beachfront protective structures and jetties. The plan shall:

a. Cover an entire beach and foredune area subject to an accretion problem, including adjacent areas potentially affected by changes in flooding, erosion, or accretion as a result of dune grading; 

b. Specify minimum dune height and width requirements to be maintained for protection from flooding and erosion. The minimum height for flood protection is 4 feet above the 100 year flood elevation, plus one additional foot to account for predicted sea level rise. The minimum cross-sectional area. The minimum cross-sectional area for flood protection is 1,100 square feet of cross-sectional area above the predicted stillwater flood elevation.

c. Identify and set priorities for low and narrow dune areas which need to be built up; 

d. Prescribe standards for redistribution of sand and temporary and permanent stabilization measures including the timing of these activities; 

e. Prohibit removal of sand from the beach foredune system. For purposes of this policy, the “beach foredune system” means land in the Oceanfront Management Overlay zone within the Cannon Beach Urban Growth Boundary.

f. Address potential hazards to life, public and private property, and the natural environment which may be caused by foredune grading.

g. Identify appropriate measures for stabilization of graded areas and areas of deposition, including use of fire-resistant vegetation.

h. Avoid or minimize grading or deposition which would adversely affect surrounding properties by changing wind, ocean erosion or flooding patterns.

i. Identify appropriate sites for public and emergency beach access within and adjacent to the area covered by the plan.

Before construction or grading, the foredune management plan must be adopted as an amendment to the Comprehensive Plan.

11. Foredune Management: Maintaining a stable, vegetated dune system is essential in those areas where coastal properties have been built either on or immediately landward of the dune.

12. Foredune Management: The City’s foredune management program seeks a balance between the five objectives listed in policy 14. Foredune grading shall not be allowed if this balance cannot be achieved.
13. **Foredune Management:** Due to our uncertainty in the processes that enable and contribute toward dune formation, including their periodic destruction, managing a dynamic dune system at a range of spatial and temporal scales requires an adaptive management approach that is based on sound scientific knowledge of coastal dune processes and grounded by systematic, accurate monitoring.

14. **Foredune Management:** Foredune management is founded on five important objectives. First, to ensure the dunes sustain an adequate sand volume in order to withstand the erosional effects of (an) extreme storm(s) and to minimize any potential for wave overtopping and inundation (flooding) of backshore. Second, to strengthen weak points in the dune system (e.g., adjacent to trails), by repairing areas subject to localized blowouts from wind or waves in order to prevent the dune buffer from weakening and potentially being breached during a storm. Third, to maintain valuable habitat for a wide range of plants and animals, such as shellfish, including razor clams, and in some cases rare species. Fourth, to maintain the integrity and natural beauty of the dunes. Fifth, to maintain dunes at a particular height by via dune scraping in order to retain views of the ocean and to minimize sand blowing inland among properties where it can become an expensive nuisance.

A balance must be struck between these competing objectives. **Foredune grading shall not be allowed if this balance cannot be achieved.**

15. **Foredune Management:** To ensure that an adequate sand volume remains to withstand erosional effects of extreme storms and to minimize any potential for wave overtopping and inundation of the backshore, foredune grading shall not be allowed (a) below the base flood elevation on the current adopted FEMA Flood Insurance Rate Map, plus a four-foot vertical safety factor, plus an additional one foot vertical safety factor to account for predicted sea level rise; and (b) unless a minimum 1,100 square foot cross-sectional area is maintained.

16. **Foredune Management:** Graded sand must be retained within the littoral system. Priorities for sand disposal are (a) place sand along the seaward face of the dune and out on the beach in late spring/mid-summer, specifically April through June; (b) physically remove the sand from one location and transport it to another area that is currently starved of sand within the same management unit; (c) a combination of these two approaches.

17. **Foredune Management:** Revegetation of graded areas is mandatory. This can be accomplished with a combination of (a) European Beach grass (*A. arenaria*); (b) the non-native American dune grass (*A. breviligulata*); or (c) the PNW native dune grass (*E. mollis*); or (d) another revegetation plan approved by the Planning Commission. **Graded areas shall be stabilized immediately after grading.** Where immediate revegetation is not practical, possible, or where revegetation fails, temporary erosion control measures may be substituted until revegetation can be completed. Fire-resistant species are the preferred stabilizing vegetation within twenty-five feet of existing dwellings or structures, but fire-resistant vegetation shall only be planted when the foreslope and crest of the dune are adequately stabilized to prevent significant accumulation of windblown sand.

18. **Foredune Management:** Because of uncertainty in the forces that both sustain and erode beaches and dunes on the Oregon coast, especially over longer time scales (10 to 30 years), an adaptive management approach based on a sound knowledge of beach and dune processes, guided by systematic monitoring and evaluation of the system as a whole, is essential. The
Planning Commission shall evaluate its dune management program two and five years after adoption, and make changes to the management regime in response to the results of monitoring and other available information.

19. Foredune Management: Monitoring of foredune grading permits is mandatory. Monitoring shall be the responsibility of the permit holder applicant. An annual monitoring report is required for five years after the foredune grading project is begun, with the first monitoring report due 12 months after the foredune grading project begins. The monitoring report shall be submitted to the City, and shall address:

   a. the area, volume, and location of grading;
   b. the area(s) where graded sand was deposited;
   c. erosion control measures;
   d. revegetation measures;
   d. impacts on wildlife habitat, including razor clam habitat; and
   e. any other requirements of the approved sand management plan; and
   f. any conditions of approval imposed by the Planning Commission.

The City shall retain the services of independent outside experts to review monitoring report and to make recommendations to the City for corrective actions or for future grading, disposition, and revegetation activities. Failure to submit the required monitoring reports will result in a penalty and will prevent future grading permits to be issued for the area for a period of five years beginning after the monitoring reports are brought up to date. Inadequate or incomplete monitoring reports shall be a basis for denying future foredune grading permit requests until monitoring reports are complete and up-to-date.

20. Foredune Management: Placement of sand on the beach may be permitted as part of a foredune grading plan if sand deposition does not exceed a depth of 24 cm. Placement of sand along the seaward face of the dune may be permitted as part of a foredune grading plan if the resulting slope is no steeper than 25-33 percent.

21. Foredune Management: Maintenance activities may include:

   • additional plantings or fertilizer application in areas where plantings performed poorly,
   • grading or sand removal to maintain access routes where accretion has occurred,
   • foreslope shaping, and
   • maintenance grading on the foredune crest as needed.

Maintenance activities during the first two years after foredune grading will generally consist of regular repair planting and fertilization. Monitoring and maintenance of dune and vegetation management projects are the responsibility of and are required of the applicant as a condition of permit approval.

22. Foredune Management: The City shall complete a Plan Monitoring Report after the second and fifth year following adoption and approval of the Management Plan. The Plan Monitoring Report shall include the following components:
23. Remedial Dune Grading: “Remedial grading” is the clearing of sand necessary to maintain the function of a structure. Removal of sand that has built up against exterior walls, doors, or windows and that blocks access to a residential or commercial structure or may cause damage to these structures qualifies as remedial grading. Permits for remedial grading may be approved subject to the following requirements:

a. Rear yard sand may be removed to the level of the top sill of the foundation within 20 feet of the structure. From the 10-foot line, the graded area shall slope upward to the elevation of the fronting foredune. This slope shall not exceed 50%.

b. Side yard sand that is landward of the structure may be removed to the top of the sill of the foundations, provided grading in this area does not create a slope in excess of 50% with adjacent properties.

c. Where the front yard is seaward of the structure, sand may be removed to the level of the top sill of the foundation within 20 feet of the structure. From the 10-foot line, the graded area shall slope upward of the elevation of the fronting foredune. This slope shall not exceed 50%.

d. Grading shall not lower the front yard below the level of adjacent streets or roads, except to clear sidewalks or driveways.

Areas graded more than three feet in height shall be immediately replanted and fertilized. All graded sand must remain within the management area. Graded sand should be used to fill low dune areas within individual management units. Graded sand may also be used to nourish identified areas as needed. The height of the foredune shall not be lowered. Fire-resistant species are the preferred stabilizing vegetation within twenty-five feet of existing dwellings or structures. Fire-resistant vegetation shall only be planted when the foreslope and crest of the dune are adequately stabilized to prevent significant accumulation of windblown sand.
Attachment C:\ Draft Comprehensive Plan Policy Amendments (4412/203/2018)