COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

March 15, 2001

In the Matter of

DEBORAH M. STANLEY AND DONALD D. STANLEY

Docket No. 99-033
File No. 65-333
Salisbury

RECOMMENDED FINAL DECISION

Summary

After a hearing, Recommended Final Decision[1] finds that a proposed two family dwelling to be placed on pilings on a coastal dune will not disturb the vegetative cover so as to destabilize the coastal dune or interfere with the landward or lateral movement of the dune.

Paul J. Gagliardi, Esq. (Healey, Deshaies & Gagliardi, P.C.), Amesbury, for the applicant.

Arthur M. Khoury, Esq., Lawrence, for the petitioner Eileen M. Khoury.

Dorothy S. Montouris, Esq., Senior Counsel, for the Department.

Introduction

This is an appeal under the Wetlands Protection Act, M.G.L. ch. 131, sec. 40, and the Department's implementing regulations, 310 CMR 10.00 (the Regulations). An abutter challenges

[1] On December 27, 2000 I issued this decision as a tentative final decision under 310 CMR 1.01(14)(a) because it would approve a final order of conditions different from the superseding order of conditions issued by the Department. In that decision I required the applicant to revise the Plans (to eliminate a latticework skirt) and the Department to prepare a proposed final order of conditions (reflecting the revised plans and requiring that the Rosa rugosa in the vegetation plan be of nursery stock). I allowed the petitioner and applicant to comment on that proposed final order. I received no comments, and therefore this Recommended Final Decision is substantially identical to that tentative decision.

the Department's issuance of a Superseding Order of Conditions (SOC) approving the construction of a residential dwelling on Salisbury Beach in Salisbury. At issue in the hearing was whether the project conformed to the regulatory performance standards for work on a coastal dune, specifically, whether it would disturb the vegetative cover so as to destabilize the dune and whether it would interfere with landward or lateral dune movement. See 310 CMR 10.28(3)(b) and (d). Following a hearing, I conclude that the project, as now revised in accordance with the Tentative Final Decision I issued on December 27, 2000, conforms to the applicable performance standards.

Background and Procedural History

In August 1998 Stephen Daniels and James Devlin, the trustees of Sandy Shoes Realty Trust, filed a notice of intent to develop a 10,000 square foot lot at 132 North End Boulevard (the Lot). The Lot is located on a coastal dune. At present it contains three residential structures comprising nine dwelling units. One of the buildings has a solid foundation; the other two are on pilings with latticework skirts around their foundations. The applicant proposed to remove those structures, as well as the existing concrete sidewalks and retaining walls, and to build in their place a six unit residential structure on pilings, along with twelve parking spaces, a boardwalk and a privacy fence. The Salisbury Conservation Commission approved the project, and Eileen Khoury, the abutter to the north, requested a superseding order of conditions from the Department. After the Department approved that project on February 26, 1999, Ms. Khoury filed this appeal.

On March 24, 1999, following a prehearing conference, Administrative Law Judge Bonney Cashin issued a scheduling order in which she identified, as issues for a hearing, (1)

"[w]hether the project as proposed and conditioned in the [SOC] ... adversely affects Land Subject to Coastal Storm Flowage ... and complies with the performance standard for Barrier Beach .... (a) in particular, are the grading and erosion control measures adequate?" And (2) "[w]hether the proposed project satisfies the standards set forth in the Department's Stormwater Management Policy?" The matter was then assigned to me for hearing.

In July 1999 a snow fence was installed along the northern property line to prevent erosion of the northeast corner of the dune from foot traffic. Subsequently, the Lot was sold to Donald D. Stanley and Deborah M. Stanley, who redesigned the project.[2] The revised project consists of a two-family residential building, comprising 2,891 square feet, approximately 105 feet long and 35 feet wide, with a 410 square foot deck (the Building), a 2,278 square foot parking area with six parking spaces, a walkway on each side of the Building, a boardwalk in front of the Building, and a vegetation plan (the Project). The Building will be located approximately 62 feet seaward of the existing structures and partially in a previously undisturbed area of the coastal dune. The Building will cover approximately 37% of the Lot and will be elevated upon pilings a minimum of three feet above the existing dune height. The parking area is located at the west end of the Lot along North End Boulevard, in an area where the buildings now sit. The parking area will consist of a "geoblock pavement system," a pervious surface of washed crushed stone. The walkways and boardwalk will be made of removable "Trex" mats and will be installed seasonally during high foot traffic periods in an effort to direct foot traffic and minimize dune impacts.

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[2] Because the redesigned project would result in less impact upon wetlands resource areas than the original project would have caused, it was not necessary for the applicant to file a new order

Beachgrass will be removed from the dune area within the Building footprint and transplanted to less vegetated areas on the eastern portion of the Lot. Specifically, approximately 1,260 plants will be moved from the area under the Building and walkways to the eastern unvegetated areas closer to the water (shown as Areas B and C on the Plans), where 130 new plants will also be added. In addition, 350 new plants will be added to Area A on the southeastern corner of the lot. Finally, 10 Rosa rugosa bushes will be planted in the northeast corner of the Lot near the Building, shown in Area D on the Plans.[3] As proposed, this planting will create a new vegetated area of approximately 1,200 square feet east of the proposed structure and will increase the density of the vegetation along the southeast corner of the Site.

This redesigned project was shown on revised project plans dated July 12, 2000. These plans also showed a recent increase in both the vegetation and elevation in the eastern portion of the Lot. The revised plans were reviewed and accepted by the Department. The plans were further revised on August 12, 2000 to eliminate the drywells and the privacy fence. These August 12, 2000 plans[4] were the plans of record for the hearing (the Plans).

The petitioner prefiled the direct and rebuttal testimony of Stanley M. Humphries, senior coastal geologist at ENSR Consulting and Engineering Corporation, and Robert Prokop, wetland scientist/wildlife biologist at Wetland Consulting Services, a company of which he is the principal and owner. The Department and applicant also submitted prefiled testimony. Ralph W.

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of conditions with the Conservation Commission. See Wetlands and Waterways Policy for Review of Project Plan Changes (DWW Policy 91-1).

[3] Area D on the Plans runs along the northern portion of the Lot. It includes the northeast corner and the area where the Building will be located.

[4] The plans are entitled Stanley Beach House (formerly Sandy Shoes) prepared by Fulcrum, Inc. Architects, dated June 10, 2000, July 4, 2000, revised July 12, 2000 and August 12, 2000, and consist of sheets A-3, A-4, and A-5.

Perkins, an environmental analyst in the Department's Northeast Regional Office, provided testimony for the Department. Christoper J. Leahy, P.E., of Millenium Engineering, Ronald N. Laffely, an architect with Fulchrum Inc., Architects, and William Decie, a wetland scientist at Kairos Environmental Services, testified for the applicant.

I held a hearing on October 11, 2000. Prior to the hearing, I told the parties that the testimony showed that only the project's compliance with performance standards prohibiting a project from disturbing the vegetative cover so as to destabilize a coastal dune and interfering with landward and lateral dune movement remained to be adjudicated.[5] The parties agreed, and the hearing was confined to these issues. Subsequently, the applicant wrote a letter informing me that it had decided to eliminate the latticework skirt detail that was to surround the perimeter of the Building six inches above grade. The parties filed closing briefs on November 6, 2000, and I took a view of the site on November 9, 2000.

Applicable Regulations

The Act and Regulations identify functions, referred to as "interests protected by the Act," that wetland resource areas perform. See 310 CMR 10.01(2). In the case of barrier beaches and coastal dunes, these include storm damage prevention and flood control. To ensure that these

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[5] This was because (1) the petitioner's prefiled testimony did not address the stormwater management policy, (2) as discussed in this decision, the performance standard for barrier beaches is subsumed under the standard for coastal dunes, and (3) there is no separate performance standard for work on land subject to coastal storm flowage, defined at 310 CMR 10.04, and, in any event, the standards for coastal dunes protect the same interests of flood control and storm damage prevention served by land subject to coastal storm flowage. Finally, the petitioner's prefiled testimony addressed only two of the performance standards for coastal dunes -- those concerned with vegetative cover and lateral and landward dune movement, listed as standards (b) and (d) at 310 CMR 10.28(3).

interests are protected, the Regulations establish performance standards that any activity that will "remove, fill, dredge, or alter" the particular wetland must meet.

The parties agree that the site is a barrier beach, as that term is defined at 310 CMR 10.29(2). Barrier beaches consist generally of coastal beaches and coastal dunes. Id. When a barrier beach is determined to be significant to storm damage prevention and flood control, the performance standards for coastal beaches and coastal dunes apply to the coastal beaches and coastal dunes that make up the barrier beach. 310 CMR 10.29(3).

In this case, the activities are proposed on a coastal dune. The performance standards for coastal dune are set forth at 310 CMR 10.28(3) through (6). As relevant here, work in a coastal dune must not have an adverse effect on the coastal dune by disturbing the vegetative cover so as to destabilize the dune (310 CMR 10.28(3)b), or by interfering with the landward or lateral movement of the dune (310 CMR 10.28(3)d). "Adverse effect means a greater than negligible change in the resource area or one of its characteristics or factors that diminishes the value of the resource area to one or more of the specific interests of M.G.L. c. 131, sec 40, as determined by the issuing authority. Negligible means small enough to be disregarded." 310 CMR 10.23.

The Testimony

I. The Petitioner's Testimony

Mr. Humphries testified that "[t]he removal of existing beachgrass and the inability for future beachgrass to grow within a 1,900 square foot area, as a result of the new construction footprint, will destabilize the dune by reducing it to a simple pile of sand. The root and rhizome system of beachgrass will no longer be available to strengthen the internal structure of the dune and

reduce the effects of future wave erosion. Dune erosion will occur at a faster rate and more sand will be moved landward during storm overwash events." On cross examination, Mr. Humphries explained that the beachgrass plays an important role in stabilizing the dune. Not only do the above-ground blades trap the sand and increase its volume, but the internal root and rhizome system strengthens the dune below ground, allowing the sands below the ground to "interlock." He maintained that transplanting the beachgrass eastwardly to the front line, or toe, of the dune, as the applicant's vegetation plan proposes, will not offset beachgrass loss where it now grows. Although Mr. Humphries recognized that the sand would be trapped closer to the ocean if the beachgrass were moved farther east, he emphasized that the Regulations do not place a higher value on the portion of a dune that is located closer to the ocean than an area farther away. He views the vegetation plan as enhancing the eastern portion of the dune but destabilizing and reducing the function of the more western portion. He stated further that the beachgrass currently in Area A and D would migrate into Areas B and C in any event if foot traffic were controlled, and he observed that in fact there has been an increase in dune elevation and vegetation over the past two years.

Mr. Humphries was also asked about the Project's impact on the landward and lateral movement of the dune. In his view, a latticework skirt acts like a solid foundation and prevents the movement of wind-driven sand. On the other hand, he agreed that sand movement due to water or wave action can occur through a latticework skirt. However, it is his opinion that the Project would not represent an overall improvement in the coastal dune's ability to move, since the latticework skirt would inhibit wind-driven sand. Mr. Humphries also noted that, if one included the proposed parking area, the Project would increase the footprint of the area of the Lot that is disturbed.

Mr. Humphries testified that the vertical movement of the dune will be limited by the Building. While he acknowledged that the Regulations do not address vertical movement, in his view vertical movement is a necessary component of landward and lateral movement. Because beaches move both landward and upward, if a dune cannot move vertically at the same time it is moving landward and laterally there will be a loss of function. He did admit, however, that localized characteristics affect a dune's ability to grow vertically and that existing factors in the Salisbury Beach environment might well limit the height of the dune.

Finally, Mr. Humphries testified that over 2300 square feet of parking area will require maintenance in the form of regular sand sweeping and front-end loader removal of overwash following major storms. In his view, this maintenance does not allow for dune migration and therefore interferes with the landward or lateral movement of the dune.

Mr. Prokop testified that "constructing the proposed structure over existing vegetated dune would disturb the vegetative cover and destabilize the dune" since all the dune grass under and around the new structure would be destroyed during and after construction. It is his view that, if left alone, the size and volume of the dune could be maintained on the eastern half of the dune where the Building is to be located "since approximately 100 feet of vegetated dune remains which provides favorable habitat for sand deposition and potential development of a larger dune." As for the proposal to transplant existing dune grass and provide other enhancements, Mr. Prokop testified that it is "questionable" whether the 10 Rosa rugosa shrubs will survive. However, he agreed that the revised plans showed the shrubs closer to the Building than they were on the original plans and he thought they now had a better chance of survival. Mr. Prokop also agreed that adding new grass and transplanting the grass from under the Building would be a "slight enhancement" so long as it

were properly transplanted and did not kill the existing vegetation. He also saw benefits in the proposed placement of the walkways and control of foot traffic and the fact that the vegetation will occur earlier than if the Project were not undertaken. Nevertheless, he remains of the opinion that any benefits from placing the Building on pilings will be offset by its seaward location and by the removal of the existing beachgrass.

Mr. Prokop testified further that "[i]f the proposed structure were indeed to be constructed a minimum of 3 feet to 6 feet above existing grade, the dune might still be allowed to move landward. However, it appears that the structure would only be a minimum of 2 feet above existing grade in places." In his rebuttal testimony he recognizes that the "proposed plan would construct the structure on pilings elevating the Building 4 [feet] to 7 [feet] above the existing grade of the dune" but opines that the latticework skirt will create a "dead air" zone under the structure that will prevent sand from flowing "freely." Mr. Prokop also testified that, even without the latticework skirt, the dune height will be restricted under the Building, thereby interfering with the landward movement of the dune. He recognized, however, that the existing conditions limit the dune's landward movement "since by their very presence the structures prevent the further landward movement of the dune."

However, Mr. Prokop admitted that the ground floor of the Building was now designed to be an additional foot or above the dune. If that were the case, and the latticework skirt were deleted, he agreed that lateral movement would be allowed. However, he added, it would be "somewhat of a judgment call" whether without the latticework skirt the Project would represent an improvement over existing conditions.

Finally, Mr. Prokop testified that there will be only "an approximately 5 foot wide opening [separating] the proposed structure from the Khoury residence to the north while a 10 foot wide opening will separate the new structure from the abutter to the south. This congestion of buildings leaves no potential for sand to accumulate along the sides of the structure and, with little or no vegetation remaining along the northern and southern sides of the Building, these areas will function largely as 'wind tunnels.'" On cross examination he admitted that the Project would allow for some sand deposition and lateral dune movement, and that his opinion was based on the assumption that any sand that did accumulate would be swept away because the areas will be used as walkways.

II. The Department's Testimony

Mr. Perkins testified that by requiring the Building to be 2 to 6 feet above grade and by requiring "Geoblocks and "Trex" artificial lumber for the flexible boardwalk, the dune will be able to erode and otherwise shift position. It is his opinion that the Project will not interfere with dune movement. He testified further that the net area of vegetation will be unchanged because the 'lost' plants will be relocated to an existing bare or very sparsely vegetated area on the dune just east of the proposed building. Additionally, the shrub Rosa rugosa, which will be placed in the northeastern part of the dune (the direction from which severe wind and waves are most likely to approach), and the northerly edges of the three existing buildings to be removed, will provide 133.5 square feet for vegetation. Snow fencing will also supplement and protect the vegetation. For these reasons, it is his opinion that the Project will not destabilize the vegetative cover.

During the hearing, Mr. Perkins acknowledged that he had some concerns about whether the Rosa rugosa plantings would succeed. He thought that if seedlings were planted they might not

be able to survive but that "perhaps larger plants can." He was asked whether the beachgrass would move into the areas even without any enhancement, and he replied that he believed that the recent growth was due to the snow fencing in the northeast corner and that it was possible that the effect from that may have already been realized. As a result that there may not be any further increase in beachgrass unless the vegetation plan were implemented. Likewise, because the shore area is subject to dynamic forces and might be eroding rather than accreting, Mr. Perkins declined to speculate whether there would be further growth in the dune or any increase in beachgrass. In sum, he felt that it was just as likely that there would be less growth, rather than more, depending on the conditions.

In Mr. Perkins' opinion, removing the beachgrass and replanting it farther seaward will not result in a destabilization of the dune. This is because, in his view, the portion of the dune closest to the ocean will be better able to withstand the movement of sand from wave action and provide protection from storm damage. The increased vegetation will have a stabilizing effect on the dune since a more densely vegetated dune will be better able to absorb the energy of the waves, one of the functions of a dune. He explained that "it is important to have a densely vegetated area, not just a vegetated area," since a bare or sparsely planted area does not absorb as much energy from the incoming waves as does a more densely planted area with an extensive root system. In sum, he believes that transplanting vegetation to Areas A, B and C, and partially D, will increase the quality of the vegetation and balance the loss of existing vegetation that will occur when the Building is constructed over the vegetated area further landward. It is his view that although the net vegetated area may be reduced, the quality of the vegetation will be increased and the "net effect of the vegetation will be unchanged."

As to the dune's lateral and landward movement, Mr. Perkins testified that the Building would have a positive effect because it will be placed on pilings and therefore will allow lateral movement. He stated that the dune could move landward now to only "a very minor extent" because the existing buildings represent a solid wall. On the other hand, the Building would be on pilings, and allow the sand to go under it by either wave or water action, and there will be a 3 to 7 foot distance between the bottom of the Building and the dune. He acknowledged that the latticework skirt might diminish wind-generated energy. In sum, it is his view that the increased density of the beachgrass and the use of pilings result in an improvement over existing conditions.

III. The Applicant's Testimony

Mr. Decie testified that the Building is proposed to be located a minimum of three feet above existing elevations. He stated also that the existing structures within the proposed parking area prevent the dune from moving forward at present, but that the Project will allow sand to travel approximately 140 feet landward to the parking area.[6] In his view, even with the latticework skirt, the Project would create more area for the sand to move than is the case now. Therefore, even if the sand that accumulates in the parking area is removed, the Project will increase the dune's movement because it will be able to move farther to the west than it can now.

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[6] He provided a revised notice of intent reflecting the changes that had been made to the Project. In it he notes that "the dwellings lying north and south of the [Building] presently interfere with lateral dune movement with both buildings lying seaward of those on [the Lot]. In addition, the property to the north contains three structures that in general overlap each other such that the lateral movement of sand from the north appears negligible. Lateral movement of sand from the south is minimal, if existent, due to the presence of a fence bordering the property. Present landward sand movement on the [Lot] is limited to a position approximately 100 feet west of the eastern property line to the skirted foundation of the easternmost building. On the completion of

On cross examination, Mr. Decie recognized that the height of the dune and the amount of beachgrass has increased over the past two years, but it is his view that this is due to the new snow fencing in the northeast corner of the Lot. He pointed out that presently the dune cannot move laterally, because the property to the south is completely fenced off and to the north there are three houses in a row.

Mr. Decie also stated that there will be three feet of open space between the finished ground elevation and the underside of the Building's floor beams. On cross examination he pointed out that the first floor will be at elevation 21. With regard to the suggestion that this would interfere with the dune's ability to grow vertically, he stated that that might be the case if the dune grew to elevation 22, but that was not likely since the numerous existing houses on the face of the beach effectively control the dune height. He knows of no other place on Salisbury Beach where dunes are that high. In his view, the vegetation will stabilize the beach, and will be put in place sooner with the Project than if it were left to grow on its own. Thus, the vegetation plan will have a positive effect on the portion of the dune that is subject to the most wind, and possibly wave, action.

Mr. Leahy's prefiled direct testimony contained specific comparisons of the square footage of the existing conditions and those of the Project, as well as characterization of various components as "pervious" or "impervious."[7] He concluded that the Project had less impervious surfaces than is the case at present. Mr. Leahy expressed the view that the lateral movement of sand would be possible over both pervious and impervious surfaces.

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construction, sand will be able to move a distance of 140 feet+ westerly before reaching the proposed parking area which is presently completely occupied by structures."

[7] On cross-examination, Mr. Leahy stated that his testimony had been intended in large part to address the storm water management issues that were eliminated after the petitioner did not address them in her testimony.

Mr. Laffely has been involved in this project since its inception. He is an architect by profession, but he is also a member of the Salisbury Beach Management Plan Committee, a group that meets regularly to discuss the protection of the coastal resources in the area. In that capacity, Mr. Laffely has been working with a small group of Salisbury residents and professionals from Coastal Zone Management and the Department of Environmental Protection to educate Salisbury residents on the importance of protecting the dune and its vegetation. Mr. Laffely described the Project as a multi-faceted approach to that goal. In addition to the vegetation plan, the pathway will be defined with snow fencing and a boardwalk that will be removed seasonally, preventing foot traffic and allowing vegetation to grow into the area. Mr. Laffely also pointed out that the planting must be maintained for two growing seasons and that the construction schedule calls for a barrier to protect the planting along the east and north property lines. When asked whether there would be any loss of vegetation as a result of the Project, he stated that there would not because the beachgrass is being relocated. Further, it is his view that while the vegetation in the northeast corner, which is now protected by snow fencing, will continue to grow and vegetate, Areas B and C and parts of Area A will be impacted every year because of foot traffic to the beach. The goal of the Project is to nourish those areas as well, and in his view that will not happen under existing conditions. On cross-examination, Mr. Laffely admitted that he has not yet contacted Dan McHugh of Great Meadow Farm in Rowley, the individual identified as the supplier/planter for the vegetation plan. He said that Mr. McHugh had been described to him as someone experienced in wetlands vegetation.

Mr. Laffely also confirmed that the bottom of the first floor of the Building will be located at elevation 21. This will allow 3 feet of open space between finish grade and the bottom of the

Building. He agreed with the petitioner that sand blows in and accumulates in the area to the side of and in between the buildings now, but he stated that he expected that it would continue to do so when the Building was on pilings. He also pointed out, as had Mr. Decie and Mr. Perkins, that the existing buildings prevent lateral dune movement because there are two lines of buildings, both on the Lot and on the property to the north and very little movement takes place.

Discussion

Adverse Effect. In her closing brief, the petitioner points to the regulatory definition of "adverse effect" and argues that the construction of a new 2,891 square foot building, 62 feet closer to the ocean than what is presently on the Site and on an undeveloped portion of the dune, is a "greater than negligible change" from existing conditions. She misconstrues the definition of "adverse effect." First, a project is evaluated for "adverse effect" based on its impact on a resource area's ability to function for the specified purposes, not in comparison to structures presently on a site. Thus, even assuming that the Project would increase the footprint of developed area of the Lot by 20 percent, as the petitioner maintains, that is not the focus of the inquiry. Second, even if the Project will have a more than negligible effect on the dune's ability to provide storm damage prevention and flood control, the Regulations require that any change not be an adverse one. The "change" must "diminish[] the value of the resource area" in performing those functions. That is the standard that I apply here in evaluating the Project and the two relevant performance standards.

Disturbing the vegetative cover so as to destabilize the dune. The witnesses do not disagree that the placement of the Buildings on pilings over an undisturbed portion of the eastern part of the dune

will have a negative effect on the beachgrass in that area. Where they disagree is whether the vegetation plan will compensate for that effect, with the result that the Project will not have an adverse effect on the dune by disturbing the vegetative cover so as to destabilize it.

Mr. Humphries, a coastal geologist, testified without contradiction on the important role beachgrass plays in stabilizing a coastal dune. Under cross examination he steadfastly maintained that moving the beachgrass from its existing location on the western area of the dune and placing it on another, even to the toe or front line of the dune, would have an adverse effect since every portion of the dune is equally valued and the benefit to the eastern portion would be outweighed by the detrimental and destabilizing effect on the western portion. He did not explain why, if every portion of the dune is of equal value, the benefit to the eastern portion would in fact be "outweighed," although I infer that this was because, in his view, the Project would impact a larger area of the Site than at present.

I would find Mr. Humphries' testimony more persuasive if he had addressed a number of factors about the Project that may well have had an effect on his opinion had he considered them. He did not take into consideration the fact that at present foot traffic is not generally controlled, and the area that has shown an increase in dune elevation and vegetation is an area that has in fact been made inaccessible by snow fencing. Nor did he address the fact that the Project actually adds beachgrass and Rosa rugosa or Mr. Perkins' opinion as to the importance of a densely vegetated dune in absorbing the energy of the waves.

While none of the other witnesses are coastal geologists, both Mr. Perkins and Mr. Decie have over twenty years of experience in wetlands science and permitting. I therefore find their testimony both credible and reliable as to the effect the vegetation plan will have in stabilizing the

dune. Mr. Perkins did not share the opinion of some of the other witnesses that the vegetation would increase if left on its own, and he provided thoughtful reasons for his view. He also testified thoughtfully and persuasively about the advantage gained by increasing the density of the vegetation and thereby enhancing the dune's ability to absorb wave action. Although Mr. Laffely is an architect rather than a wetlands or coastal scientist, he has a long familiarity with the Salisbury Beach area and demonstrated a thorough knowledge of the vegetation on the Lot, the efforts to increase it over the past few years, the specific elements of the vegetation plan and the reasons behind them, and the benefits that he believed would inure from implementing it. Although he does not qualify as an expert on coastal processes or methods of dune protection, I nevertheless found him to be a credible witness. Nor do I find him to be any less reliable a witness because he has not yet contacted the nursery with regard to the specifics of planting, a concern that he indicated he would address when the Project was ready to move forward. Finally, and perhaps most importantly, Mr. Prokop, the petitioner's own witness and a qualified wetlands scientist, acknowledged on cross examination that the vegetation plan would result in a slight enhancement so long as it were carried out properly.

Based on the testimony, I find that as a result of the transplantation of beachgrass from Area D to Areas A, B and C, the use of a boardwalk and "Trex" mats to control foot traffic to the beach, the addition of beachgrass to Areas A, B and C, the requirement that the plantings be maintained for two growing seasons, and provision for placement of a protective barrier, the Project will not have an adverse effect on the vegetative cover of the dune so as to destabilize the dune. No testimony was submitted that addressed the significance of the Rosa rugosa to stabilizing the dune. However, because it is depicted as part of the vegetation plan and because both Mr. Perkins and Mr. Prokop

expressed concerns about whether it would survive, the final order clarifies that the Rosa rugosa shall be of nursery stock rather than seedlings.

Interfering with lateral and landward dune movement. I am not persuaded that the Project will have an adverse effect on the ability of the dune to move landward and laterally. The latticework skirt, which, according to the petitioner's experts, would have created a "dead zone" and limited the dune's ability to move by wind action, has been eliminated. The Building will be on pilings and will not have any skirting around it. Thus, it is undisputed that both wind and water driven forces will be able to move the dune area under the Building.

The witnesses agreed that the bottom of the Building will be at least 3 feet above the elevation of the dune. Mr. Prokop, the petitioner's own expert, testified that a 2 foot difference between the Building and the dune elevation would allow for dune movement. This leaves the petitioner with Mr. Humphries' contention that it is important to protect a dune's ability to move vertically as well as horizontally.[8] Although there may well be a relationship between vertical and landward dune movement, the Regulations do not protect vertical movement per se, and I decline to read such a provision into them. In any event, Mr. Humphries himself recognized that the local characteristics of Salisbury Beach would in all likelihood limit the height the dune could reach, and he stopped short of opining that in this particular case the location of the building at least three feet

[8] Mr. Perkins did not address this point.

above the elevation of the dune would actually inhibit the dune's ability to grow vertically. I find that with the elimination of the latticework skirt, the placement of the Building no less than 3 feet above the elevation of the dune will not adversely affect the dune's ability to move laterally and landward.

Nor do I find persuasive Mr. Humphries' contention that the anticipated maintenance of the parking area will prevent dune movement because sand will be unable to accumulate there. None of the other witnesses specifically addressed anticipated maintenance of the parking area, which will consist of a pervious surface of washed crushed stone. Thus, Mr. Humphries' concern is not based on a specific component of the Project itself, but rather on his speculation about one aspect of future use. Moreover, Mr. Prokop testified, as did Mr. Perkins, Mr. Decie, and Mr. Laffely, that under existing conditions the landward movement of the dune is controlled by existing structures, two of which are within the footprint of the future parking area. Implicit in Mr. Humphries' concern that sand will blow into the new parking area and be removed is his recognition that the dune will have a capacity to move landward that it does not now have. As Mr. Decie testified, with the existing structures removed and the Building on pilings, sand will be able to move 140 feet before it reaches the parking area. Thus, even assuming that the owners of the Lot routinely remove sand from the parking area, the dune's ability to move landward will have been enhanced by the Project.

Likewise, I do not find persuasive Mr. Prokop's projection that the Project will create wind tunnels along the side of the Building, preventing sand from accumulating in those areas and interfering with the dune's ability to move landward. Both Mr. Perkins and Mr. Decie testified that

placing the Building on pilings will allow for lateral and landward movement that does not now exist. According to the Plans, the Building does not extend further into the side lot lines than do the buildings there now. Mr. Decie, Mr. Perkins and Mr. Laffely all testified that at present the dune's movement on the Lot is controlled because of the structures to the north, west and south of it. Mr. Laffely recognized that sand accumulates in those areas now, but he is of the opinion that it would continue to do so once the Project was completed. On cross examination, Mr. Prokop himself stated that he expected that sand would accumulate there but that it would be swept away. Mr. Humphries does not address this. Thus the witnesses agree that sand will continue to accumulate in those areas at least to the extent it does currently.

I find that the Project will not cause an adverse effect on the landward or lateral movement of the dune.

Disposition

The Department's Final Order of Conditions (File No. 65-333) is approved.

NOTICE

This decision is a recommended final decision of the Administrative Law Judge. It has been transmitted to the Commissioner for her final decision in this matter. This decision is therefore not a final decision subject to reconsideration under 310 CMR 1.01(14)(d), and may not be appealed to the Superior Court pursuant to M.G.L. c. 30A. The Commissioner's final decision is subject to rights of reconsideration and court appeal and will contain a notice to that effect. Because this matter has now been transmitted to the

Commissioner, no party shall file a motion to renew or reargue this recommended final decision or any portion of it, and no party shall communicate with the Commissioner's office regarding this decision unless the Commissioner, in her sole discretion, directs otherwise.

Edna H. Travis
Administrative Law Judge