

VERMONT ENVIRONMENTAL BOARD
10 V.S.A., Chapter 151

RE: Fairfield Associates, Ltd.
144 Island Brook Avenue
Bridgeport, CT 06606

Memorandum of Decision:
Motion to Alter Decision
Land Use Permit #4C0570-EB

On August 29, 1984, the Environmental Board ("the Board") issued Land Use Permit #4C0570-EB to Fairfield Associates. On September 13, the Permittee filed a motion to reconsider and on January 23, 1985, the Board issued a memorandum of decision denying the reconsideration request. However, the Board indicated that it would entertain a request to amend the Fairfield proposal, eliminating a stormwater detention basin which the Permittee proposed to construct within a wetland area.

On January 30, 1985, the Permittee filed a revised plan eliminating the stormwater detention basin and the Board treated this filing as a Motion to Alter Decision pursuant to Board Rule 31(A). In response to comments received from other parties in regard to the Applicant's filing, the Board convened hearings on February 27 and March 6, 1985, to take evidence under Criteria 1(B) - waste disposal, 1(E) - streams, 1(F) - shorelines, and 8 - natural areas. The following participated at the hearings:

Applicant Fairfield Associates by Stephen R. Crampton, Esq. ;
State Agency of Environmental Conservation ("AEC") by Stephen B. Sease, Esq. ;
Sunset Cliff, Inc. ("SCI") by Arthur R. Hogan, Jr. ;
Appletree Point Association ("APA") by Roland J. Delfausse, Sr.

The hearing was recessed on March 6, pending a review of the record and deliberation by the Board. On March 27, the Board determined the record complete and adjourned the hearing. This matter is now ready for decision. The following findings of fact and conclusions of law are based upon the record developed at the hearing. These findings and conclusions supplement those contained in our August 29, 1984 decision.

I. PRELIMINARY PROCEDURAL MATTERS

A. Party Status

APA has not previously participated in proceedings before the Board on this appeal. APA is an association consisting of property owners whose lands lie adjacent to and south of, the development and fronting on Appletree Bay. Because of the close association between APA members' property interests and water quality in Lake Champlain, the members readily qualify as adjoining property owners. A failure to participate to date is at least partially explained by APA's general support of the project as first proposed by the Applicant with a stormwater detention basin. Because the presence of a basin was a key precondition to APA's support of the project, because current

proceedings pertain to the elimination of the basin, and because no party objected to **APA's** participation at this juncture, the Association was admitted as a representative of adjoining property owners whose interests are directly affected under the criteria at issue in this proceeding.

B. Motion to Dismiss

On March 6, 1985, **SCI** filed a Motion to Dismiss which, in essence argues:

- 1) Because the Permittee has not eliminated the use of the wetland "basin," its redesign is not responsive to the Board's January 23 Order.
- 2) Any redesign of the stormwater treatment system is more appropriately reviewed in the first instance by the District #4 Environmental Commission.

SCI misinterprets our intent in using the phrase "... proposal which eliminates the basin." In the several decisions issued previously by the Board in this case, the term "basin" has been used as a short-hand reference to the stormwater detention and flow attenuation system, consisting of berms to be located within the wetland area. It is in this vein that we used the term "basin" in the January 23 Order, not as a reference to the wetland area itself. In this light, the Permittee's proposal is responsive to our Order.

No remand of this proposal for review by the Commission is required. The revised plan calls for substantially less in the way of construction of improvements than was previously proposed and the issues implicated by the changed plan are cognizable under Criteria already at issue in the pending appeal. Therefore, no remand is legally required, nor would that action serve any useful purpose but to further delay proceedings in this already lengthy matter. See In re Juster Associates, 136 Vt. 577 (1978) and Re: Windsor Improvement Corporation, Application #2S0455-EB, issued March 27, 1980.

C. Applicable Regulations

Criterion 1(B) requires us to determine that the project "will meet any applicable health and water resources department regulations." **SCI** argues that the regulations applicable to stormwater discharges were amended effective January 7, 1985 ("new regulations"), and that even though AEC has reviewed the Permittee's revised stormwater system under the new regulations, we should review the project under prior regulations. **SCI** has not referred us to what it regards as the applicable regulations but the January 7, 1985 Vermont water Quality Standards superseded Standards adopted effective March 7, 1978 ("old regulations").

The old regulations provided minimal standards for the review of stormwater discharges. As applicable to this project, they required only that stormwater and sanitary sewer systems be separated and that any stormwater discharge after December 20, 1973, receive such treatment as is necessary to maintain the quality and the classification of the receiving waters. In contrast, the new regulations contain five specific requirements applicable to stormwater discharges (see Finding #3, below). Because the Permittee has stipulated to the applicability of the new regulations and because those regulations provide more substantive protection than the old regulations, we will apply the 1985 Water Quality Standards.

II. FINDINGS OF FACT

1. In lieu of the stormwater collection system previously proposed (see Exhibit #19), the Permittee proposes to channel water into the wetland area on the south side of Appletree Point road through three culverts: a culvert that will convey water from storm sewers, a culvert that will convey water from the grassed swale stormwater collection system, and a culvert which will act as a substitute for an existing culvert which conveys streamwater from the so-called duck pond watershed to the wetland. The three culverts will pass under the reconstructed road and discharge water into a "sediment area" which will be lined by a rip-rap apron designed to disperse flow throughout the wetland and away from the existing channel. Exhibits #20 and #22.
2. Aside from the outfall rock apron, the only improvement near the wetland will be a berm/walkway running north-south along the westerly boundary of the Permittee's shoreline lots. The berm's maximum height will be 5' at its northerly end and, at its southerly end, the berm will merge with the existing grade at the dune area. The berm's top, walkway surface will be at a uniform elevation of 104.25. The berm will serve two functions: it will prevent the movement of flood or stormwater from the wetland area into the properties adjoining the shoreline lots to the west and it will provide a walkway for access to the beachfront.
3. The AEC Department of Water Resources has issued a draft temporary pollution permit approving the redesigned stormwater system pursuant to 10 V.S.A. § 1265. Exhibits #24 and #25. The proposed stormwater treatment regimen complies with the January 7, 1985 Vermont Water Quality Standards as they apply to stormwater (see Section 2-05) in that:
 - a) the Permittee's overland flow system making extensive use of grassy swales constitutes maximum use of soil infiltration;

- b) there are no erosion control measures (other than those to be implemented during project construction) associated with the stormwater system;
 - c) as we find below, installation of the rip-rap apron at the stormwater outfall will prevent scouring and will disperse silt which will then be biologically processed by the wetland; peak stormwater discharge will not have an undue adverse effect on Lake water quality;
 - d) because the wetland will treat any salt, sediment or oil reaching the wetland, and because the velocity of water passing to the Lake will not alter the natural condition of the wetland, the stream or the Lake, the discharge will not have an adverse effect on the existing uses of those waters;
 - e) as we find below, the discharge of stormwater will not have an adverse effect on the aquatic habitat.
4. We reconfirm our previous findings in respect to the stormwater collection system:
- a) the project will take maximum advantage of overland flow and the use of grassy swales to convey and filter stormwater from much of the project area;
 - b) stormwater flowing from areas not susceptible to swale treatment (principally roadways) will be deposited in hooded catch basins which, if properly maintained, will retain 95% of all floatable and settleable solids and oils.
- See Findings #10 and 11 of our August, 1984 decision and Finding #1 of our January, 1985 decision.
5. Any sediment which is not removed prior to reaching the wetland will either be deposited in the "sediment area" at the culvert outfall (and be removed through regular maintenance activities) or will be dispersed throughout the wetland which, through self-cleansing action, is capable of accommodating this limited deposition without adverse impact. The small amount of oil reaching the wetland can be biologically reduced by the wetland's natural processes.
6. A qualified biologist has conducted an inventory of plant species within the wetland in respect to the impact of salt deposition. Based upon the inventory, we find that plant species at the site are not salt sensitive and, therefore, will not be adversely affected by the limited discharge of dissolved roadsalt into the wetland area.

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7. Because the elevation from the stormwater outfall to the southerly edge of the dune area drops only approximately .3' and because the rock apron will disperse flow out of the existing channel, stormwater passing through the wetland will not develop any significant velocity. Therefore, there should be no scouring of the wetland caused by flowing stormwater.
 - a. The existing stream has, over the years, developed a channel through the dunes at the south end of the shoreline lots, which flows across the beach and into Lake Champlain. The channel through the dunes has stabilized over time and is somewhat protected by vegetation growing on its banks.
 9. The Permittee conducted computer modeling in an effort to project, in respect to a variety of storms, the total volume of water which would be discharged to the wetland, the average and peak hourly water discharge, and the average and peak velocity of water passing through a "control section" located at the edge of the dune area where the stream channel begins its descent to the Lake. Exhibits #21 and #27. The modeling, which was developed by the U.S. Department of Agriculture, Soil Conservation Service, was performed using two alternative scenarios regarding the degree of ground saturation before occurrence of storms ("antecedent moisture conditions" - AMC).
 10. The Permittee's watershed computer simulation was field-checked against existing conditions on the site and in relation to Champlain Valley flow gauges maintained by the U.S. Geological Survey. This comparison revealed that the model overpredicts flow velocity and volume. Therefore, it is likely that stormwater conditions after build-out of the project will lie somewhere between AMC 1 and AMC 2 as projected by the watershed simulation. As a result, flows are not likely to exceed a peak volume of 30 cubic feet per second ("cfs") at the control section during the worst storm event (a 50-year storm of two to three hours in duration).
 11. The channel through the dunes is approximately four feet wide. The channel is capable of carrying the maximum 30 cfs stormwater flow which should not exceed a velocity of 2.5 feet per second, without further erosion of the channel banks or disturbance of vegetation.
 12. The stream has historically eroded the beachfront during major storms as water travels to the Lake. This beach erosion now is periodically repaired by natural wave action and the scouring produced by the movement of sand on the beach during periods of highwater. The beach will continue to periodically erode after completion of the project but this activity will be consistent with historic natural occurrences and will be repaired periodically by natural wave action.

III. CONCLUSIONS OF LAW

We conclude that implementation of the revised stormwater disposal regimen will comply with applicable Water Resources Department regulations and will not result in undue water pollution. We have found that the project complies with the five components of Section 2-05 of the 1985 Vermont Water Quality Standards. We have further found that catch basins, drainage swales and wetland microbial action will process foreign substances carried by the stormwater collection system.

We further conclude that the project will maintain the natural condition of the existing stream and will not endanger the health, safety or welfare of the public or adjoining landowners. The rip-rap dispersal apron will reduce the velocity of water at the outfall, preventing scouring of the wetland stream channel. Further, the channel as it passes through the dune area should remain in its current, stable condition even during extreme storm events. The Permittee's current proposal is a substantial improvement over the previous plan in that the stream will no longer be carried within a culvert from Appletree Point Road to the Lake but will, instead remain within the existing natural channel. Any foreign materials not collected by hooded catch basins will be naturally processed by the wetland, maintaining the stream's natural condition to the greatest feasible extent.

The redesigned stormwater regimen removes development from the shoreline area; the Permittee no longer proposes to install the large shoreline berm with its rip-rap face. The historic pattern of periodic beach erosion followed by corrective wave action will continue to occur. Therefore, the development will, to the full extent possible and reasonable, retain the shoreline's natural condition. Lake water quality will not be significantly altered in that the minimal amount of sand, sediment or oil not collected by catch basins will be spread throughout the wetland and should be rendered harmless by the natural processes of the wetland. Installation of the walkway berm along the westerly property line will allow access to the Lake. We previously found that the project is adequately screened from the Lake by vegetation. See Finding #28 of our August, 1984 decision. Finally, because the beachfront erosion/correction process has naturally occurred during the area's history, it is not necessary to now introduce lakefront erosion protection techniques.

We are now able to conclude that the project will not have an undue adverse effect on the wetland natural area. The three-sided berm installation within the wetland proper has been eliminated. The rip-rap apron at the edge of Appletree Point is an insignificant intrusion on the wetland area and will serve the positive function of spreading water throughout the area. We now know that vegetation found in the wetland are not salt sensitive species and the minimal amount of foreign material

introduced to the area can be naturally accommodated and decomposed by the wetland.

The Applicant's redesign has affirmatively addressed all concerns which previously were the basis for negative findings. The wetland will remain undisturbed by construction and the stream will remain in its natural condition. Our concerns about the impact of salt and siltation have been resolved. Interruption of the natural flood/dry-out cycle of the wetland will be preserved and periodic inundation by Lake flooding will not be impeded. Stormwater treatment system operational problems associated with the location of the basin in the wetland and on the lakeshore have been eliminated and the system is no longer located in the floodway or floodway fringe. Finally, the lakeshore will be left in a natural state, free from construction activity. We, therefore, conclude that the revised stormwater regimen will not be detrimental to the public health, safety or general welfare under Criteria 1 and 8 of 10 V.S.A. § 6086(a).

However, these conclusions are dependent upon compliance with conditions we will attach to the revised permit we now issue in respect to the following:

1. Because the Commission's second finding of fact in respect to Criterion 4 suggests a reliance upon the now-superseded detention basin as a component of the Permittee's erosion control plan, and because Condition #13 of Land Use Permit #4C0570 reflects this scenario, the Permittee will be required to revise its erosion plans as appropriate to eliminate the wetland detention basin and the revised plans will require Commission approval.
2. The extent to which foreign materials are removed from stormwater before it is discharged to the wetland is largely a function of the frequency and quality of stormwater system maintenance by the permittee and its successors. Therefore, Condition #20 of Land Use Permit #4C0570 will be altered to assure proper on-going maintenance in accordance with Exhibit #18.
3. AEC has issued only a proposed Temporary Pollution Permit for the stormwater system. Our Permit will be conditioned upon securing a final Temporary Pollution Permit.
4. Our conclusions in respect to the system's impact upon the wetland, the stream, and ultimately, the Lake are dependent upon post-development stormwater quality, volume and velocity characteristics being consistent with evidence submitted during our hearings. Therefore, we will require that the Permittee submit to the Board for its approval, a stormwater monitoring program designed to periodically assure that actual discharge can be assimilated by the wetland.

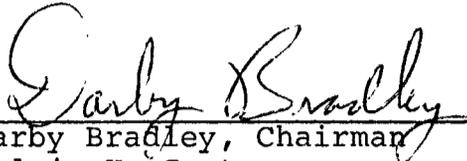
IV. ORDER

The Permittee's Motion to Alter Decision and request to amend are granted. Land Use Permit #4C0570-EB will be revised accordingly.

Dated at Montpelier, Vermont this 29th day of March, 1985.

VERMONT ENVIRONMENTAL BOARD

By:



Darby Bradley, Chairman

Melvin H. Carter

Donald B. Sargent

Warren M. Cone

Ferdinand Bongartz

Lawrence H. Bruce, Jr.