STATE OF VERMONT
Environmental Board
10 V.S.A., Chapter 151

Re: Howard and Louise Leach
Route 105
Enosburg Falls, VT 05450

Findings of Fact,
Conclusions of Law,
and Order
Land Use Permit
Application #6F0316-EB

This decision pertains to an appeal filed with the Environmental Board ("the Board") on August 15, 1985 by Howard and Louise Leach, and cross-appeals filed on September 5 and 6 by the Town of Enosburg ("the Town"), the Village of Enosburg Falls ("the Village"), and the Enosburg Falls Water and Light Department ("the Department"), in reference to the July 19, 1985 decision of the District #6 Environmental Commission ("the Commission") denying Land Use Permit Application #6F0316-EB. That Application sought approval under 10 V.S.A., Chapter 151 (Act 250) for the installation and operation of a sanitary landfill on lands owned by the Leaches adjacent to Vermont Route 105 in Enosburg Falls, Vermont.

Prehearing conferences were convened in this matter on September 6 and October 4, 1985 and Prehearing Orders were issued on September 10 and October 7. The public hearing in these appeals was convened on September 18 and was reconvened on October 16, October 30, October 31, November 13, January 15, February 18, and March 19, 1986. The following participated as parties in the hearing:

Applicants Leach by Richard A. Spokes, Esq.
The Town by Stephen A. Reynes, Esq.
The Village by Michael Rose, Esq.
The Village of Enosburg Falls Planning Commission ("the Planning Commission") by Marjorie Jacobs.
The Department by Richard Gadbois, Esq.
The Enosburg Economic Development Corporation ("EEDC") by Pauline Loiselle.
The Agency of Environmental Conservation ("AEC") by Stephen Sease, Esq. and Gordon Gebauer, Esq.
Mary Sylvester.
Miles Symons.
Robert Martin.

The hearing was recessed on March 19, pending the filing of proposed findings and memoranda of law by the parties, a review of the record for completeness and deliberation by the Board. Proposed findings were filed by Miles Symons and the Village of Enosburg Falls Planning Commission on April 16, by the Town of Enosburg, the Village of Enosburg Falls, the Enosburg Falls Water and Light Department, Mary E. Sylvester, and Applicants Leach on April 17. On April 28, the Town of

Enosburg, the Village of Enosburg Falls and the Enosburg Falls Water and Light Department filed corrected findings. On May 23 the Board completed its review of the record in this case, 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 exclusively upon the record developed at the hearing. To the extent that we agreed with and found necessary any findings proposed by the parties, they have been incorporated herein; otherwise, any such requests to find are hereby denied.

I. PARTY STATUS

While the Applicants initially raised certain party status objections/l/, those objections were withdrawn during the October 16 hearing in this matter. Therefore, the Town, the Village, the Planning Commission and the Department participated as "statutory parties" on all criteria at issue in these appeals. See 10 V.S.A. § 6085(c)./2/ EEDC was denied party status by the Commission but, for reasons stated in the First Prehearing Order, was granted the right to participate under Criterion' 9(A) --Impact of Growth--pursuant to Environmental Board Rule 14(B). Finally, three adjoining property owners were permitted to continue their participation as authorized by the Commission:

Mary Sylvester--Criteria 1 (air pollution), l(B), and 8 (aesthetics and necessary wildlife habitat).

Miles Symons--Criteria 1 (air), l(A), l(B), and 8 (aesthetics and necessary wildlife habitat).

Robert Martin--Criteria 1 (air), l(A), l(B), and 5.

II. MOTION TO DISMISS APPEAL

The Village and the Department filed a Motion to Dismiss the Applicants' appeal arguing that the Commission was not properly constituted when it reviewed the Leach Application and that the Commission decision was not issued in the manner required by law. At the outset of the October 16 hearing, the Board orally denied the motion for the following reasons.

/1/The First Prehearing Conference Order issued September 10 summarizes the Applicants' objections.

/2/The Applicants having waived their objections, we do not reach the issue of whether the Department fulfills the automatic party status requirements of 10 V.S.A. §§ 6084(a) and 6085(c).

The facts pertinent to this issue are as set forth in the Board's June 3, 1985 Memorandum of Decision denying the Village and Department's Motion for Interlocutory Appeal filed while the Commission proceedings were still pending. The parties do not dispute the statement of facts contained in that Decision and we hereby incorporate findings set forth in that Decision as if fully set forth herein. The only additional information relevant to these motions adduced at the October 16 hearing is that the Commission's July 19, 1985 decision was signed by Joseph Lockhart, a member of the Commission but not its Chairman. The Commission designated Mr. Lockhart to serve as Acting Chairman to preside during the Leach proceedings and sign the final decision once approved by the Commission. Robert Fitts and Tim Murphy (appointed by the Governor to serve as Chairman of the District #6 Commission after the Leach proceedings had commenced) were the other two members participating in the July 19 decision.

For reasons similar to those stated in our June 3 Decision, we conclude that the Commission was constituted as required by law and was, therefore, able to conduct a review of the Leach Application as required by 10 V.S.A. § 6086. As we concluded on June 3, Mr. Fitts and Mr. Lockhart were present for all Commission hearings on the application, establishing a quorum throughout. Only the participation of Mr. Murphy remains an issue in view of the fact that he was not physically present for the first three hearings. We conclude based upon Lewandoski v. State Colleges, 142 Vt. 446 (1983), that the Commission was properly constituted in that a quorum was present throughout the proceedings and Mr. Murphy had ample opportunity to familiarize himself with the record by reviewing exhibits, listening to tape recordings of prior proceedings, visiting the project site, and asking clarifying questions of the parties during subsequent hearings.

We also conclude that In re Buttolph, 141 Vt. 601 (1984), does not require a conclusion that the Commission's decision was improperly issued. Subsequent to the Buttolph decision, 3 V.S.A. § 813(b) was amended to authorize a chairman or vice chairman to sign a final decision on behalf of all three members when a decision has been approved for issuance by the whole body. We have found that, consistent with Environmental Board Rule 18(C), the Commission selected Mr. Lockhart to act as Chairman in this matter. This selection appears reasonable in that, having been appointed to the Commission as its Chairman in the midst of the Leach proceedings, Mr. Murphy may have had some difficulty effectively managing a case already in progress. The Commission complied with the decision issuing requirements of § 812(b) by having Mr. Lockhart sign its order as acting chairman.

Even were we to conclude that the Commission committed error as suggested by the Village and the Department, any such error is harmless for several reasons:

1) The Commission granted the very relief requested by the moving parties: the Application was denied;

2) The decision having been unanimous, Mr. Murphy's participation has resulted in no prejudice to the Village or Department; and

3) The Village and Department were afforded a de novo review on all issues by this Board, vitiating any procedural error committed by the Commission.

We, therefore, affirm the preliminary ruling issued by the Board's Chairman on these issues as set forth in the Second Prehearing Order.

III. SUBSTANTIVE ISSUES IN THE APPEALS

The appeals raise substantive issues with regard to the following 10 V.S.A. § 6086(a) criteria:

Criterion l/Air Pollution--parties are concerned about the impact of dust generated by vehicles travelling to and from the landfill site on ambient air quality.

Criterion l/Water Pollution (1, l(A), 1(B), l(E))--concerns were raised regarding the impact on groundwater, surface water and drinking water supplies of waste materials deposited at the landfill.

Criteria 2 and 3/Water Supplies and Criterion 7/ Governmental Services--the use of water for firefighting and dust control purposes raised concerns regarding adequacy of and impact on existing water supplies. The need to provide fire fighting protection for the project introduced the possibility of burdens on local fire services.

Criterion I/Soil Erosion--parties raised an is-sue concerning stabilization of exposed areas of the site.

Criterion S/Traffic--traffic congestion and safety, principally within the Village, was raised under this Criterion.

Criterion 8/Aesthetics--the project's visibility from the south and the presence of rodents and blowing debris were raised as aesthetic concerns./3/

/3/ While Mr. Symons and Mrs. Sylvester suggested that a wildlife habitat issue would be raised, they failed to identify any such habitat affected by this project and offered no evidence on this issue. Therefore, we deem the habitat issue to have been waived.

Criterion 9(A)/Impact of Growth--the impact of the landfill on the economic viability and growth of Enosburg was addressed under this criterion.

Criterion 9(B)/Primary Agricultural Soils--the project's impact on agricultural soils and adjacent farming operations was evaluated under this criterion.

Criterion 9(K)/Public Investments--the need to provide adequate protection to the Town, Village and Department through financial surety was presented under this Criterion.

Criterion lo/Regional Plan--opponents argue that the landfill operation is a use incompatible with the purposes of the "urban service area" within which it lies. They further argue that the project will contaminate a "favorable groundwater area" as designated and protected by the Regional Plan.

IV. APPLICABILITY OF THE GROUNDWATER PROTECTION ACT

The Town, Village and Department argue that the Vermont Groundwater Protection Act (Act. No. 53 of 1985, codified as 10 V.S.A., Chapter 48) should be applied by the Board in evaluating the Leach project under Criterion 1, water pollution. We decline this invitation for the following reasons.

We are required by Criterion 1 to find that a project will not result in undue water pollution before a land use permit may issue. 10 V.S.A. § 6086(a)(l) further states:

> In making this determination, [the Board] shall at least consider: . . . the applicable health and water resources and environmental engineering department regulations.

Criterion l(B) requires a specific finding of compliance with any such regulations. Beyond this mandatory application of water resources department regulations, we have the discretion to consider virtually any relevant standard in ascertaining whether "undue water pollution" will result from the construction of any given project.

Based upon a goal of protecting "groundwater resources to maintain high quality drinking water" by limiting "human activities that present unreasonable risks to the use classifications of groundwater in the vicinities of such activities," (10 V.S.A. § 1390) the Groundwater Protection Act establishes four groundwater classifications:

Class I: Suitable for public water supply with no exposure to activities that pose a risk to water supply use.

Class II. Suitable for public water supply but exposed to activities which present a risk to water supply use.

Class III: Suitable for individual domestic, irrigation, agricultural, industrial and commercial use.

Class IV: Not suitable as a source for potable water but suitable for agricultural, commercial and industrial use.

The statute classifies all groundwater as Class III until such time as this classification is changed by the AEC secretary through administrative rulemaking. 10 V.S.A. § 1394(b). In addition to empowering the Secretary to initiate reclassification, the Act requires the Secretary to adopt rules to define "activities which pose risks to Class I aquifers and which activities shall be prohibited in Class I aquifers." 10 V.S.A. § 1394(f). Finally, the Secretary is authorized by the Act to adopt rules that establish technical standards for the classification of groundwater and management of activities which pose a risk to groundwater. 10 V.S.A. § 1394(h).

The Act itself is not self-effectuating; rather, it relies upon the Secretary to initiate rulemaking to classify, establish groundwater standards, and to regulate risk producing activities. The Act does not contain any substantive restrictions but instead leaves such regulatory limitations to the rulemaking process. The Secretary has not adopted any rules to date which alter the statutory classification of groundwater, nor have any rules been adopted which establish standards or regulate activities deemed likely to adversely affect the use of aquifers for drinking water purposes. The Town, Village and Department infer that an area which includes the landfill site is appropriate for designation as a Class I or Class II aquifer and, in view of the directive that Class I aquifers be permanently protected (10 V.S.A. § 1394(f)), these parties argue that the Act should be construed as requiring a denial of the Leach land use permit application under Criterion 1. However, no rulemaking has been initiated with respect to this aquifer, nor have protective standards been established by the Secretary.

We agree that the Groundwater Protection Act is relevant to our Criterion 1 review of the project. We also conclude that any classification assigned by the Secretary and any protective standards and regulations adopted by the Secretary must be considered "applicable water resources department regulations" and must be evaluated under Criterion l(B). However, until such regulations and classifications have been

promulgated, the Groundwater Protection Act introduces no substantive standards which we are empowered to apply to the pending application under Criterion 1.

V. FINDINGS OF FACT

A. Project Description

1. Land Use Permit Application #6F0316 seeks approval for the construction and operation of a sanitary landfill on a 12.5 acre portion of a 1,000 acre parcel now used by Howard and Louise Leach for farming purposes./4/ The landfill has been designed for a service population of 35,000 people and has an estimated life of 12 years. The landfill disposal area measures 400' x 1360' and will accept primarily domestic refuse.

2. The landfill site is relatively level, rising gently from a low elevation of 990' at the southern end to elevation 1025' at the northern extremity. The southern half of the site is now used as a hay field while the northerly portion consists of mixed hard and softwood forest. Exhibit #31.

3. Residences occupied by Green, Bernour, Symons and Sylvester adjoin the Leach farmland on the south and Vermont Route 105 also forms a portion of the site's southerly boundary. Trout Brook, a tributary of the Missisquoi River, lies approximately 2100' west of the landfill area and flows in a southerly direction. The Missisquoi lies on the south side of Route 105, approximately 4200' south of the landfill area.

4. Portions of the Leach family farm lie in the Town, the Village and the Town of Berkshire; the landfill area bridges the boundary line between the Town and Berkshire. Exhibit #22. The site is approximately two miles east of the Village and vehicular access is provided by an existing dirt road running north from Route 105.

5. Two abandoned landfills lie on the Leach lands. "Green Landfill #1" was apparently first used for gravel extraction purposes and subsequently used for the disposal of waste materials. Green #1 has not been reclaimed. "Green Landfill #2" was used for the disposal of domestic sanitary waste; the site has been reclaimed and is now used as a hay field.

/4/ The application originally sought approval for the disposal of paper sludge, however, this aspect of the application was withdrawn before the Board.

6. Two wells which serve as the source for the Village water system lie approximately 3750' north of the landfill area. The water main which delivers water to the Village runs in a southerly direction, crossing Trout Brook twice and comes within 2400' west of the landfill area at its closest point. Exhibit #18. The main is old and in need of replacement.

7. The landfilling operation will proceed in three phases, beginning in the southeast corner of the landfill area and ending in the northwest corner. Waste will be applied in 50' wide lifts compacted with heavy machinery to a depth of 8'. The top surface of each lift will slope 5% to the west and will be covered with 1' of soil. Each Phase involves the stacking of six lifts of compacted waste until final elevation is reached at which time final cover will be applied, together with seeding and mulching.

8. Throughout the landfilling process, excavation of areas to the north will take place to establish a landfill base which ranges between 986' at the south end to 1010' at the northerly end (i.e., between 5' and 35' of existing material will be removed before waste material is deposited). Excavated material will be used for a variety of purposes: application of a 6" cover layer at the end of each working day, application of the 1' soil layer upon completion of each lift, application of a 2' cover layer and a 6" layer of topsoil as a "cap" once final elevation is reached.

9. The final surface of the completed landfill will have the following characteristics: side slopes will have a one-on-two grade; the top surface will slope 5% to the west and will have maximum elevations of 1015' at the south end and 1045' at the northerly end; the top surface will extend no more than 22' above existing grade (although, because the site will be excavated to establish a base which is below existing grade, landfilled material will be approximately 45' thick); and a vegetated cover will be established through seeding and mulching as soon as final grade is established during each landfilling phase.

10. Each day's operation will involve the placement of 300 cubic yards of uncompacted material against the working face of the landfill. A large bulldozer or steel wheeler compactor will compress the material into 8' lifts. Six inches of cover material will be applied at the end of each working day, or one foot of material if a lift has been completed. No more than two or three acres will undergo landfilling at any one time and no more than 150 compacted yards of trash will be exposed before being covered at the end of each working day.

B. Air Pollution--Criterion 1

11. Open burning will be prohibited at the landfill and the only process emissions involved in the project will be truck and equipment exhaust. Similarly, odor and noise will not be a significant source of potential air pollution because neighboring residences are all 2,000' or more from the landfill area and will be protected to some extent because the operation will take place beyond the brow of the hill to the north of these residences.

12. Vehicles travelling to and from the site will produce dust as they move along the existing dirt-surfaced access road. The distance from the 15' to 18' wide, 3,000' long access road to adjacent residences is: Green--100', Bernour--350', Symons--800', and Sylvester--1400'. Because prevailing winds are from the west and northwest, these residences lying east of the access road may be affected by dust.

13. The Applicants expect 19 truck round-trips on an average operating day, each truck being a 10 to 20 yard, two-axle compactor truck. Passenger cars and pickup trucks will be permitted access to the landfill, but the Applicants plan to discourage this traffic. The Applicants' dust control plan consists of the following components:

a. Routine, daily evaluation of dust conditions by the operator of the landfill;

b. If inspection reveals dust travelling more than 20' from the roadway, water will be spread on the road from a 500 gallon tank mounted on the rear of a truck, using a spreader bar;

c. If water is not an effective dust suppressant, Applicants will apply a light asphaltic top coat to the road.

d. Alternatively, the Applicants have offered to pave the initial 300' of the access road.

14. During the operation of Green Landfill #2, vehicles using the access road generated substantial amounts of dust which was conveyed in the direction of the Symons' residence by wind blowing from the top of the hill northeast of this home. Dust inhibited the use of outdoor areas surrounding the home and water applied to the road was of little help.

15. Water has not proved to be a successful dust suppressant at other area landfills because it rapidly evaporates. Calcium chloride, commonly used to reduce dust on dirt roads, is not an appropriate method for the landfill

because the chemical could interfere with the operation of monitoring wells to be installed for evaluating the landfill's impact on groundwater.

16. Based upon the above findings, we find that dust generated by vehicles travelling the access road will cause undue air pollution, imposing a significant burden on those residing near the road. The burden would be especially severe on the Symons' chicken operation (see Findings 66 and 67, below) because dust would likely be drawn into the chicken barn by the existing ventilation system. We will, therefore, require that the access road be paved to the top of the initial grade (the first 1,000') and with this paving, the impact of dust on surrounding land uses will be substantially eliminated.

C. Water Pollution/Waste Disposal--Criteria 1, l(A), l(B) and l(E)

17. Whether or not the landfill operation poses a risk to ground and surface waters in the area is a function of several factors:

a. surficial geology: the nature of surface and subsurface soils in the landfill area;

b. bedrock geology: the nature of bedrock and its topography;

c. the perched groundwater, especially its flow direction; and

d. the bedrock aquifer and the nature of any connection between this aquifer and groundwater.

18. The bedrock geology underlying the landfill site consists of the "Pinnacle Formation" which may or may not include bedrock fractures. The surface of this formation is not uniform but, rather, consists of undulations. In the area of the landfill, a bedrock highland lies to the north of the site and a prominent bedrock ridge lies to the west and northwest. Exhibit #18. The presence of bedrock and its contours was verified by the Applicants through a series of borings and is further verified by the location of bedrock outcropping.

19. The bedrock is overlain by a layer of glacial till. The component of this till layer closest to the bedrock consists of a relatively impervious blue or gray basal till. It is likely that this basal till is continuous throughout the site but some fractures in the layer may exist. The contours of the till layer mirror those of the underlying bedrock. See Exhibit #18.

20. Surface soils in the area include sand and gravel deposits which lie in a kame morraine directly west of the landfill area. The landfill itself has a surface layer of topsoil covering a layer of silty loam and sandy gravel over a layer of fine to medium sand and the glacial till. These soils are relatively pervious in character. Groundwater lies at depths varying between 20' and 40' below surface grade.

21. Because of the bedrock highland to the north and the bedrock ridge to the northwest, the perched groundwater beneath the site flows in a west, southwest direction. Groundwater flow may include a small component of southerly flow in the direction of the Green and Bernour Springs. However, the major flow direction is to the west, with "Railroad Spring," located 1,500' feet southwest of the site, being the likely location for a major surfacing of groundwatcr for the groundwater drainage basin which includes the Leach landfill site. Exhibit #23.

22. Springs serving the Symons and Sylvester residences are probably outside the landfill's zone of influence because of the predominantly westerly groundwater flow. However, these springs may be influenced because:

a. there may be a slight southerly flow in the southern-most 200' of the proposed landfill area;

b. high groundwater flow volumes in the spring time may increase the southerly flow component;

c. operation of the landfill may cause a slight "mounding" of groundwater beneath the site, causing some southerly groundwater flow.

23. Applicants conducted testing using cluster piezometers in an effort to determine whether or not there was any vertical movement of groundwater into the bedrock aquifer beneath the site. The existence of bedrock fractures accompanied by a vertically downward groundwater flow would suggest the possible contamination of the bedrock aquifer during the landfill's operation. However, piezometer testing revealed no measurable downward flow suggesting that leakage from the surface into the bedrock aquifer is only a remote possibility.

24. The Leach landfill, like most such operations, will generate "leachate" -- liquid material containing contaminants which will gradually move through the soils beneath the site, ultimately reaching the groundwater. Leachate generated by a landfill which receives domestic waste typically contains dissolved metals, nitrate, low pH, sodium, calcium, volatile organics, carbonic acid, and chlorides.

25. The volume of leachate generated by a landfill is a function of how much moisture enters the landfill area before it is capped with a soil cover layer. Leachate continues to be generated after landfill closure, reaching a peak approximately 10 years after deposition of material and falling to zero 20 years after closure.

26. The Applicant will install a surface water diversion system to channel surface runoff around and away from the landfill site. Proper compacting of material, application of daily cover material and soil layers between each lift, and placement of final cover as soon as final landfill grades are reached will help reduce the amount of moisture coming into contact with solid waste, thereby reducing the volume of leachate generated.

27. Therefore, proper operation of the landfill is crucial to the prevention of undue water pollution. AEC inspects all landfills in the state between 6 and 12 times each year. Furthermore, the adequacy of each operation is evaluated at five year intervals before solid waste certifications are renewed (see Finding #30, below). However, AEC does not require any special education, training or experience for landfill operators, nor do the Applicants propose any such qualifications for the operator they will select.

28. The toxic qualities of leachate are reduced somewhat over time through the process of dilution in groundwater and attenuation in soil. The soils directly beneath the landfill site store some leachate components, binding them to soil particles. Attenuation will occur in the soil through cation exchange, chemical precipitation, oxidization-reduction, microbial degradation, and absorption of organics. Further, some volatilization will occur when leachate is exposed to the air. Finally, materials which are not attenuated as they move through dry soil will be diluted when they reach groundwater.

29. One relevant example of the attenuation/dilution process is Green Landfill #2 which was last operated in 1981. Samples taken from Green Spring, Symons Spring, Sylvester Spring, Trout Brook and Railroad Spring show no evidence of influence from the Green #2 operation. Exhibits #55 and #56.

30. AEC has issued a Disposal Facility Certification for the Leach landfill, attesting to the project's compliance with the Agency's regulations pertaining to landfill operations. Exhibit #15. The certification approves the operation, subject to specified conditions, for a period of five years. The project can be recertified for an additional five year period in accordance with a protocol set forth in the certification. The AEC certification was issued after visits to the site, evaluation of the Applicants' engineering and operations plan, a review of the area's geology and soils characteristics, and an analysis of water samples from area water supplies.

31. The soils found within the landfill area are more permeable than recommended by AEC's Guidelines for Landfill Disposal of Solid Waste. See Exhibit #58, page 39. However, the guidelines identify suggested practices and do not constitute regulations promulgated by AEC. Further, the Applicants have doubled the recommended isolation distance between the landfill base and the seasonal high groundwater table in an effort to compensate for soil permeability.

32. "Slug permeability" tests conducted at the site at the Board's request indicated a soil permeability of 33.8' per day. Therefore, any leachate generated by the landfill would reach groundwater beneath the site in less than two days. Depending upon the hydraulic gradient of the groundwater (i.e. its slope), it will take between .78 year and 3.97 years for leachate to travel to Railroad Spring, some 1,500 feet away. Exhibit #57.

33. The Applicants are required to maintain a groundwater monitoring regimen during the operation of the landfill as described in the landfill certification. Exhibit #15, pages 4-6. Prior.to operation of the landfill, representative "background" samples must be taken and analyzed from seven monitoring wells installed by the Applicants as well as from Green Spring, Railroad Spring, the Leach Trout Pond, and Trout Brook. After operation begins, samples must be taken and analyzed from each one of the above locations twice each year. In view of the potential (although remote) for impact on springs located to the south of the project, we find that a reasonable water sampling regimen would also include installation of additional groundwater monitoring wells south and east of the landfill area and the taking of samples from the Symons, Sylvester and Bernour Springs.

34. This semi-annual sampling protocol will establish an early warning system, allowing AEC and the Applicants to take necessary remedial action before landfill operations impact area water quality. Such remedial steps could include: changes in the amount or quality of cover material applied between lifts or as a final cap, installation of a synthetic liner as a barrier to water movement, or closure of the landfill.

35. We find virtually no possibility that operation of the landfill in a proper manner will result in contamination of the Village Wells. Those wells are located a substantial distance from the landfill area, approximately 3,750' feet away. For leachate to travel to the wells it would have to move against the prevailing groundwater flow regimen which is directed to the west and southwest. Furthermore, leachate would have to in some fashion traverse the substantial bedrock ridge located to the northwest of the site. Finally, movement

of leachate into the bedrock aquifer is unlikely because the cluster piezometer testing has revealed no vertically downward connection between groundwater and the aquifer.

36. We further find that the landfill is not likely to have any impact upon the quality of wells located to the south which are used as drinking water supplies for residences. Leachate is likely to move to the west and southwest, consistent with the prevailing groundwater flow regimen, away from these wells. Any flow to the south is likely to be small in volume and will be subject to the processes of attenuation and dilution referred to above. To minimize the possibility of impact on these wells, we will require the Applicants' to implement the suggestion of their consulting hydrogeologist that the southerly-most 200' of the landfill area be eliminated.

37. We also find that the landfill operation will not have a measurable impact on the quality of water in Trout Brook or on groundwater within the aquifer soils surrounding the Brook. The Brook is a substantial distance (more than 2,000') away from the disposal area. The processes of attenuation and dilution should reduce contaminants within the groundwater to unmeasurable levels once leachate has travelled this distance.

38. We therefore find that the project will not result in undue water pollution, that the project complies with applicable Health and Water Resources Department regulations, that the project will not involve the injection of waste materials or any harmful or toxic substances into groundwater or wells, that the project will maintain the natural condition of Trout Brook, and that the project will not endanger the health, safety or welfare of the public or adjoining landowners. However, these findings are based upon the Applicants' compliance with the conditions we will impose with regard to:

a. Installation of additional monitoring wells and extension of the water quality testing regimen to springs located south of the landfill site;

b. Selection of a landfill operator who has appropriate education, training and experience in landfill operation, and continuing maintenance of training standards.

c. Identification of replacement water sources in the event area springs are contaminated and creation of an escrow fund to support the cost of replacing these water sources;

d. Creation of an escrow fund of sufficient size to cover the expense of corrective measures should they become necessary.

e. Operation under the limitations of the disposal facility certification and any recertifications issued by AEC.

D. Water Supplies and Governmental Services--Criteria 2, 3 and 7

39. Applicants proposed to suppress dust on the access road through the application of water drawn from the Leach Trout Pond. The pond has an estimated capacity of one million gallons which is more than adequate to serve the estimated 500 to 1,000 gallon daily demand for dust suppression. Because we will require that the initial 1,000' of the access road be paved, we need not evaluate whether or not the pond would be a sufficient water source or would be unreasonably burdened by dust suppression activities.

40. While the outbreak of fire is a possibility associated with landfill operation, fires occur only rarely. Fire potential increases when a landfill is improperly operated: a failure to adequately compact fill material (leaving air pockets) and a failure to apply intermediate cover material separating fill material into cells increase the possibility of fire and its severity if fire does occur. Therefore, proper operator training is essential.

41. Fires can be caused in several ways: uncontrolled open burning, deposition of live ashes, vandalism, and spontaneous combustion. Open burning will be prohibited at the Leach landfill; vandalism is not likely because a security gate will be installed and the landfill is a long distance from Route 105; and the likelihood of spontaneous combustion is low if the landfill is properly operated.

42. The preferred practice for suppression of landfill fires is smothering through application of dirt cover. A substantial stockpile of cover material will be available for this purpose throughout the project's life and equipment will be available on site to apply a dirt cover should a fire occur.

43. Water should be applied to a landfill fire only as a last resort: the more water infiltrates a landfill, the more leachate is generated. Because the landfill is more than 2,000' from the nearest building and because the intermediate area is open land, fire at the landfill presents little risk of personal injury or property damage. However, should a fire occur which cannot be managed by smothering with dirt, the Enosburg Falls Village Fire Department is equipped with a pump and a tank truck which is capable of transporting water from the Leach Trout Pond to the landfill.

44. In view of the low likelihood of fire occurring, together with the isolated character of the site and the preference for smothering fires with stockpiled dirt, we find that the project will not place an unreasonable burden on the municipal fire services. Should Trout Pond be needed as a firefighting water source, the pond has sufficient water to serve this limited need and the pond will not be unreasonably burdened by this limited use.

E. Soil Erosion--Criterion 4

45. The potential for soil erosion at the landfill will be limited because only two to four acres will be exposed at any one time and the nearest surface waters are a substantial distance from the site. The Applicants' erosion control plan (Exhibits #31 and #90) contains several protective elements:

-- surface water diversion ditches around the perimeter of the site.

-- a hay bale dam system.

-- a wide buffer area of vegetative cover around the site.

-- a requirement that all intermediate areas, final graded areas and stockpiles be seeded and mulched.

-- a diversion ditch along the landfill's west side to prevent erosion of Green Landfill #1's steep banks.

46. In view of the measures incorporated into the Applicants' erosion control plan and the project's isolation from adjacent properties and surface waters, we find that the project will not cause unreasonable soil erosion or any reduction in the capacity of the land to hold water, resulting in a dangerous or unhealthy condition.

F. Traffic Safety and Congestion--Criterion 5

47. Franklin County trash haulers within the Leach Landfill's catchment area currently generate 74 truckloads each week. Assuming a 25% increase in this rate due to the closer proximity of the Leach landfill to this service area, Applicants project that they will receive approximately 93 loads each week, or 19 round-trips during a five-day week. Alternatively, based upon an analysis of garbage likely to be generated by the population contained within the Landfill's service area, Applicants estimate that 15 round trips will be generated each day. Exhibit #84.

48. The landfill will be open for operation from 6:00 a.m. to 5:00 p.m. Monday through Friday, and 6:00 a.m. to noon on Saturday. While the Applicants will discourage use of the landfill by noncommercial vehicles, no estimate was provided concerning the volume of noncommercial vehicles expected at the site.

49. 1984 average daily traffic volumes in the Village of Enosburg Falls ranged between 2,475 and 5,979, depending on the location within the Village. Trucks (not including pick-up trucks) constitute almost 12% of this existing vehicle traffic. The 38 additional truck trips to be generated each day by the landfill will result in a 1.1% increase in overall traffic flowing through the Village and a 9.4% increase in the number of trucks passing through the Village. Exhibit #84.

50. The lack of adequate parking in the Village has caused an unsafe and congested traffic situation. Parking is now provided on both sides of Main Street and is mixed parallel and angled in nature. Angle-parked cars have difficulty backing into Main Street'traffic and delivery vehicles often park on Main Street, reducing through traffic to a single travel lane. These existing circumstances make it difficult for cars to enter Main Street from side streets, cause traffic to slow, and present a safety problem for pedestrians, especially school children attempting to cross Main Street. There are no readily available truck routes around the Village because surrounding residential streets have been posted against truck traffic to preserve the residential nature of these streets and for safety reasons.

51. The congestion and safety problem on Main Street exists independent of traffic to be generated by the landfill; the problem requires redress whether or not the landfill is approved. While the landfill will generate additional traffic, its contribution to the problem will be negligible: traffic will increase only 1.1% over existing conditions. Further, the safety and congestion problem is caused not by the volume of traffic flowing through the Village but, rather by the current parking configuration and the unavailability of off-street parking in the Village. We, therefore, find that the project will not cause an unreasonable burden or unsafe conditions with respect to highway traffic within the Village.

52. The State vehicle weight limit on Route 105 is 55,000 lbs. for a three-axle vehicle and 60,000 lbs. for a four-axle vehicle. These limits are extended to 60,000 lbs. and 69,000 lbs., respectively, if a special permit has been secured from the Agency of Transportation. Garbage trucks destined for the landfill will weigh as much as 55,000 lbs. loaded (40 cubic yard tractor-trailer truck). Exhibit #87. Therefore, trucks will not exceed the Route 105 legal load limit.

53. Vehicles entering Route 105 from the access road will have adequate visibility to the east where the sight distance exceeds 550'. While visibility to the west does not now reach this minimum Agency of Transportation standard, regrading of the bank on the north side of Route 105 for a distance of 40' would establish adequate visibility to the west.

54. No evidence was provided with respect to the volume of noncommercial traffic expected at the landfill. While we are able to find that commercial truck traffic will not impose unsafe or congested conditions on the Village, we are unable to reach the same conclusion with regard to noncommercial vehicles, at least during weekdays when existing parking and pedestrian problems are most severe. We will, therefore, prohibit access by noncommercial traffic into the landfill during weekdays.

G. Aesthetics--Criterion 8

55. Because the nearest residence is more than 2,000' away and because the site is approximately 300' to the north of a knoll, the landfill will not be readily visible from Route 105 or the residences along that road. While earthen berms along the south end of the site may be visible from some locations, the berms will be seeded and the resulting vegetation will mitigate any aesthetic intrusion.

56. Because prevailing winds are from the west and northwest, blowing papers, plastic and similar debris could present an aesthetic intrusion on this rural residential area if left uncontrolled. While the Applicants indicate that they will deny access to uncovered garbage trucks and will require the landfill operator to regularly police the area for blowing material, we do not believe these efforts (or the proposed "chicken-wire backstop") provide sufficient protection against blowing litter. We will, therefore, require the installation of an eight foot high wire mesh fence along the entire southerly landfill limits and the southerly-most 100' of the easterly landfill limits. In an effort to screen the debris which will inevitably be caught by the fence, the Applicants will be required to plant white pines, six feet on-center and no less than six feet in height at the time of planting, along the length of the wire mesh fence.

57. We have previously found that, because of distance from adjacent residences, odor and noise will not be a significant problem arising from the landfill operation. While the finished elevation of the site will be approximately 25' higher than existing grade, this change will not be aesthetically significant because, once vegetation has been reestablished, the site will once again have the appearance of pasture land similar in nature to the reclaimed Green Landfill #2.

58. Based upon these findings and subject to Applicants' installation of a fence screened by white pines, we find that the project will not have an undue adverse impact on the aesthetics of the area.

H. Impact on Growth--Criterion 9(A)

59. Operation of the Leach landfill will have no measurable impact on property values in Enosburg nor will it discourage businesses or residents from remaining in or coming to Enosburg. We have found that the project will not have an impact on the Village water supply and have imposed a series of conditions to ensure this conclusion.

60. Opponents to the project presented no evidence quantifying growth expected to be generated by the landfill project nor did they submit evidence concerning the impact of that growth on the town or region's financial capacity to provide the services enumerated in 10 V.S.A. § 6086(a) (9)(A).

I. Primary Agricultural Soils--Criterion 9(B).

61. Three of the 13 Leach acres to be allocated to the landfill operation are currently used for pasture land/5/, while the remainder is now mixed hard and softwood forest. These three acres now contribute to the Leach family farm operations. 5.5 of the 13 acres consist of soils classified by the U.S. Department of Agriculture Soils Conservation Service as having "high" or "good" potential for growing food or forage crops.

62. With the exception of the question of whether the 5.5 acres are of a sufficient size to support or contribute to an economic agricultural operation, the parties stipulated that the soils constitute "primary agricultural soils" as defined by 10 V.S.A. § 6001(15). We find that, because three of the 5.5 acres are now in fact contributing to the economically viable Leach family farm, they satisfy the size requirement of § 6001(15).

63. However, in view of the following elements, we find that the project will not significantly reduce the agricultural potential of these soils:

/5/ One of the three agricultural acres will be left untouched by the landfill operation in view of the condition we will impose requiring that the southerly-most 200' segment of the landfill site be eliminated from the project area for water quality purposes,

a. The project has been confined to only 12 acres of a 1,000 acre farm;

b. The top 12" to 18" of soil will be removed, stockpiled and returned to the site upon completion of landfilling;

c. Finished grades on the site will be such that mechanized farming equipment can operate on the reclaimed site which will be returned to pasture:

d. With removal of trees from two acres of the prime agricultural soils involved in landfilling, more land will be available for agricultural use after the landfill is completed than is now available to the Leaches.

64. If dust and rodents are generated by the landfill operation, the project could well interfere with and jeopardize the Sylvester chicken farming operation on adjoining lands. We have required with regard to Criterion l/Air Pollution that the first 1,000' of the access road be paved to eliminate dust impacts on adjoining properties. Rodents were regularly observed during the course of the Green Landfill #2 operation, including rats and skunks. The Sylvester chicken barn is not impervious to access by rodents. Should rodents be attracted by the landfill operation, the impact on the Sylvester chicken farm could be substantial: rodents can contaminate water and grain, kill chicks, eat eggs, and so disturb hens that blood spotting in eggs could result. The Sylvesters do not now experience any rodent problems. By permit condition, we will reserve jurisdiction to evaluate the Applicants' efforts to control rodents. We may, in the future, impose conditions with respect to this issue if control efforts are unsuccessful.

J. Impact on Public Investments and Governmental Services: Financial Surety--Criteria 9(K) and 7.

65. We have found that the project is not likely to have any impact on the Village Water system. However, we have also found that leachate will be generated by the project, that the leachate is likely to travel some distance from the site, and that there is a small possibility of impact on private water systems.

66. In response to the remote possibility of groundwater and surface water contamination, we have required the installation of a more extensive groundwater monitoring system designed to provide an early warning prior to water supply impact. Should this early warning system reveal unexpected levels of contaminants, remedial steps will be required of the Applicants ranging from improved operation, to alterations in the cover regimen, to closure of the landfill.

67. These remedial steps can be quite expensive:

-- closure of the landfill by regrading and application of cover material would cost between $5,000 and $10,000

-- doubling the depth of cover material would cost $10,000

-- installation of a synthetic liner would cost $10,000 to $15,000 per acre

-- installation of a replacement well to serve the residences south of the landfill could cost $10,000 or more.

More extensive remedial steps would be more expensive: the cost of installing a groundwater diversion trench or a groundwater treatment system would be far more expensive than the steps identified above.

68. The Town and Village may be legally responsible for abating any pollution problem which presents a risk to public health. See 18 V.S.A., Chapter 11 - Local Health Officials. Therefore, in the event a pollution problem results from the Leach operation and the Applicants are either not available or are unable to correct the problem, the Town and Village could face a significant financial burden in abating a health threat.

69. The Applicants' landfill certification requires the Applicants to provide "evidence of financial responsibility in the amount of $10,000 to assure that funds are available for remedial action if necessary." Exhibit #15, page 10. More recent landfill certifications issued by AEC require financial security in the amount of $50,000. The surety required of the Applicants in this case is not sufficient to assure that required remedial steps can be taken and, because the surety required by AEC may take the form of a performance bond, the limited surety required by AEC may not be readily available in the event quick action is necessary.

70. To protect the Town and Village in the event they are required to abate a public health hazard caused by the landfill and to protect residents who rely on water systems located south of the project site, we will require the Applicants to establish an escrow account with the following characteristics:

-- $10,000 shall be deposited into an escrow account prior to the opening of the landfill.

-- 20% of the landfill's gross receipts shall be deposited into the escrow account each year until such time as the balance reaches $125,000.

-- the account shall be interest bearing with all accrued interest remaining in the account.

-- the escrow account shall be governed by the terms of an escrow agreement, approved as to form by the Environmental Board; parties to the agreement shall be the Applicants, the Environmental Board, and an independent escrow agent.

K. Conformance with the Regional Plan--Criterion 10

71. The Town of Enosburg does not have a duly adopted local plan but the Franklin-Grand Isle Regional Planning Commission has adopted a regional plan applicable to this project. Exhibit #92. The project is located within a variety of zones identified on land use maps contained within the regional plan. The site is within a "prime industrial site," it is within an "urban service area," it is within a "villages and hamlets area" (a sub-area within the urban service area surrounding Enosburg Falls), and the site is within a "favorable groundwater area."

72. The landfill use is compatible with the land use classification for the zone within which it lies: the urban service area is defined as the appropriate location for most commercial and industrial activity and for most public facilities. The landfill will be a quasi-public facility operated as a commercial venture. No other land use classification described in the regional plan is better suited for the location of a landfill: agricultural land areas and rural land areas discourage commercial and industrial activity.

73. The regional plan expresses a clear purpose of protecting areas which could serve as future water sources. The plan identifies an area of "aquifer soils" which include the Village wells and the Leach site. We find that the project conforms with the regional plan's goal of not endangering "favorable groundwater areas":

a. We have found that contamination of the groundwater west and north of the project site is highly unlikely;

b. The southern end of the "favorable groundwater area" has been previously compromised by the operation of Green Landfills #1 and #2 and is not, therefore, a wholly unimpaired aquifer area;

c. If the Leach landfill discharges to the aquifer at all, it will do so to the extreme south end of the designated area and groundwater flow will be in a

southerly direction; therefore, the "favorable ground water area" near the landfill will not be compromised by the Leach operation.

74. We, therefore, find that the project is in conformance with the Franklin-Grand Isle Regional Plan.

VI. CONCLUSIONS OF LAW

A. Air Pollution

Several potential air pollution problems have been eliminated in the design of the Leach project: open burning will be prohibited, no process emissions will be generated by the project (other than the negligible emissions from compacting equipment) and, in view of the substantial distance to the nearest residence (in excess of 2,000'), noise and odor will have no impact on surrounding land uses.

Dust caused by vehicles using the entrance road is the only significant air pollution source associated with the project. We have found that during past landfill operations on the Leach lands that dust was regularly generated and had an adverse impact on adjoining land uses, particularly the Symons chicken operation. In view of the 38 daily truck trips (and untold number of noncommercial vehicle trips) expected on the access road and the fact that prevailing wind in the area is normally from the west and northwest, we can expect dust to be a problem when the Leach landfill opens. Further, based upon the history of other landfill operations, the Applicants' method of dust control--application of water to the road--will not be an effective method of dust control. Based upon these findings, we conclude that undue air pollution will result unless the access road is paved to the crest of the hill (the initial 1,000' of the road). We will impose this requirement by permit condition.

B. Water Pollution

Like all landfills, the Leach operation will generate leachate which may be composed of a variety of toxic substances. Should the leachate reach bodies of water in significant quantities, pollution could result. The quantity of leachate generated by the landfill is largely a function of operation: if fill material is properly compacted and covered, intrusion of moisture will be minimized and the volume of leachate generated will be reduced. However, because domestic solid waste has a high moisture content, some leachate will inevitably be generated.

Leachate will also inevitably reach the groundwater beneath the landfill. Through the process of attenuation, some contaminants may be removed from the leachate before it enters groundwater and through dilution, the toxic effect of the leachate will be reduced. Based upon the analysis of Criterion 1 found in In re: Zoning Permit of Patch, 140 Vt. 158, 168-9 (1981), we conclude that discharge of leachate to groundwater alone-does not cause undue water pollution. Our concern is directed to potential impacts on the Village wells, private water sources located south of the project, and Trout Brook and the "Trout Brook Aquifer."

We conclude that the Village Wells will not be contaminated by the Leach operation and, therefore, the project will not cause undue pollution of the wells. A substantial bedrock ridge located north and northwest of the project forms a hydrogeologic barrier to the movement of leachate in the direction of the Village Wells. Further, this bedrock ridge is overlain with a layer of impervious blue-gray basal till which acts to "seal" the bedrock. The groundwater regimen in the area consists of flows in a west, southwest direction, with no identifiable northerly or northwesterly component. Finally, even if the impervious soil layer has "holes" and the bedrock contains fractures which, in theory, could provide a means for leachate to travel in a northerly direction, cluster piezometer testing reveals no vertically downward component of flow, eliminating this potential travel route.

Similarly, we conclude that the project will not cause undue pollution of the private springs located south of the project. The prevailing groundwater flow regimen suggests a strong flow in a westerly direction toward Railroad Spring, with very little possibility of flow to the south. This small possibility will be further reduced because we will require the Applicants to adhere to their hydrogeologist's recommendation that the southerly-most 200' segment of the landfill be eliminated. To afford residents additional protection we will impose the following permit conditions:

1) an expanded groundwater monitoring and testing regimen including additional monitors south and west of the site;

2) a requirement that the Applicants identify and secure the rights to an alternative water source to serve these residents should they have to be replaced;

3) the escrow account discussed in detail below will be available as security against loss of private water sources.

Trout Brook is more than 2,000' from the project site. Through the processes of attenuation and dilution, we conclude that leachate generated by the landfill will have no measurable impact on Trout Brook or on "Trout Brook Aquifer." Again, we will require a more substantial groundwater monitoring system to establish an effective early warning system as a precaution against contamination of Trout Brook.

Based upon the above findings and conclusions, we further conclude that the project complies with all applicable Health and Water Resources Department regulations and will not cause undue water pollution. We also conclude, using the analysis of Patch, that the project will not involve the injection of waste materials or any harmful or toxic substances into groundwater or wells.

Although we have reached affirmative conclusions concerning waste disposal and water quality issues, the importance of the natural resources at stake in these proceedings requires us to exercise special caution in establishing reasonable operational conditions pursuant to 10 V.S.A. § 6086(c). While the project may well inure to the benefit of Franklin County residents by providing a quasi-public service, this benefit cannot prevail over the more localized interest of Enosburg residents in the preservation of existing water resources. We will, therefore, demand that the project be operated in rigorous conformance with the operations plan and AEC permits, we will require an improved "early warning system" of water quality testing, and we will require more substantial financial security. With these goals in mind, and to assure the continued viability of these conclusions throughout the term of the permit we now issue, we will impose the following requirements:

1) The Applicants must submit for our approval an expanded water quality monitoring and testing regimen prepared by Dr. Philip Wagner, which regimen will establish an effective mechanism for the early detection of leachate movement with reference to protecting the Village Wells, the private water sources, and Trout Brook and its aquifer. The regimen must identify monitor and sampling locations (in map form), the frequency of sampling, and the testing parameters, together with a listing of minimum parameter thresholds which, if reached, would be indicative of potential adverse impacts on the water bodies listed above (i.e., with regard to each parameter, what level should trigger corrective action?).

2) The landfill operator must receive specialized training in landfill operation from a recognized professional training organization approved in advance

by AEC and the Board. Training shall include education in leachate management and landfill firefighting techniques, as well as specific knowledge of the operations manual prepared for the Leach landfill.

3) Replacement water sources must be identified for residents south of the project as discussed above.

4) An escrow fund must be established as discussed in detail below.

C. Water Supplies and Governmental Services

The adequacy of Trout Pond as a source of water for dust suppression purposes is no longer an issue because we will require the initial 1,000' of the access road to be paved.

We conclude that the potential of fire at the landfill will not place an unreasonable burden on the Village Fire Department nor will it impose a burden on the Village water supply. If the landfill is properly operated, fire is unlikely to occur; if material is properly compacted and covered, and the Applicants' comply with the prohibition against open burning, fire should not occur. In the unlikely event a fire does occur, the preferred extinguishing method is to smother the fire with dirt. Because material will be stockpiled on a regular basis to assure availability of cover material, the landfill will have a constant supply of dirt for use in firefighting. The isolation of the site from surrounding structures significantly reduces the threat of property damage or personal injury from the spread of a landfill fire. Finally, Trout Pond has sufficient capacity to provide water for firefighting purposes should the smothering method not be successful. The Village Fire Department does have a pump and tank truck available to transport water and, in view of the unlikelihood of fire, the project will not unduly burden the Fire Department. As mentioned above, we will require the landfill operator to be trained in fighting landfill fires.

D. Soil Erosion

Due to the isolation of the site from surrounding surface waters, soil erosion is not a significant problem for this project. Nonetheless, we will require the Applicants to adhere to the erosion control plan (Exhibits #31 and #90) prepared for the project. That plan calls for installation of surface water diversion ditches, a hay bale dam system, maintenance of a vegetated buffer surrounding the site, and timely seeding and mulching of areas not actively worked. With the implementation of this plan, we conclude that the project will not cause unreasonable soil erosion and will not reduce the capacity of the land to hold water, resulting in a dangerous or unhealthy condition.

E. Traffic Safety and Congestion

In an effort to assure adequate sight distances at the intersection of the access road and Route 105, we will require that the Applicants grade the bank on the north side of Route 105, west of the access road. With this change, we conclude that the intersection will operate safely at the traffic level projected by the Applicants. We also conclude that no safety problem is suggested by the weight of trucks which will travel to the landfill; vehicles will not exceed Route 105's legal weight limit.

The Applicants project that an average of 19 garbage truck round trips will be generated by the landfill each day. This traffic will increase average daily volume in Enosburg Falls Village 1.1% and will increase the volume of trucks travellinq through the Village by 9.4%. While Main Street has the physical capacity to handle this additional volume, the Village now experiences severe traffic congestion and pedestrian safety problems attributable to the lack of parking. A lack of off-street parking combined with the parallel and angled parking pattern on Main Street causes traffic to slow to a crawl during busy periods. The problem is especially acute when delivery trucks block a travel lane, reducing flow to one lane. Available detours travel through residential areas and are not appropriate for truck traffic.

However, this congestion and safety problem exists independent of the Leach landfill and will continue unabated whether or not the landfill is approved. The problem will be resolved if and when an alternate route is created or off-street parking is implemented. We conclude that the 38 trucks added to Main Street by the Leach project will not contribute significantly to the traffic problem, nor will they cause unreasonable congestion or unsafe conditions with respect to Main Street in the Village.

However, the Applicants have not provided data concerning the number of expected noncommercial trips to the landfill. Without this information we are unable to evaluate the Criterion 5 impact of this traffic. Therefore, because the focus of safety and congestion concerns is weekday traffic in the Village, we will permit noncommercial traffic to enter the landfill only on weekends.

F. Aesthetics

While both Mrs. Sylvester and Mr. Symons were admitted on appeal with reference to the issue of wildlife habitat, no such habitat was identified on our site visit, during the Applicants' project description or during the presentation of Mrs. Sylvester's or Mr. Symons' cases. We, therefore, conclude that this issue has been waived.

Because the project is located north of a knoll some 2,000' from the nearest residence, the landfill will not be readily visible from Route 105 or adjacent properties. This conclusion is reaffirmed by our requirement that the Applicants eliminate the southerly-most 200' segment of the landfill for water quality reasons.

Blowing trash does raise aesthetic concerns: in view of the rural agricultural appearance of the area, blowing paper and plastic strewn along the hillside would be an obvious visual intrusion incompatible with the pastoral nature of the area. However, we will require the Applicants to implement a reasonable mitigation step: an eight foot high wire mesh fence must be installed along the entire southerly project limits and the southerly-most 100' segment of the westerly project limits and the fence must be screened with 6' high white pines planted six feet on-center. With this mitigative measure, we conclude that the project will not have an undue adverse impact on the scenic and natural beauty of the area, or on aesthetics.

G. Impact on Growth

Under the rubric of Criterion 9(A), opponents sought to argue that, because the landfill presents an imminent threat to the integrity of the Village water system, the project will cause Village property values to plummet, resulting in a negative impact on Village growth.

Evidence of record simply does not support this conclusion for two reasons:

1) We have found that contamination of the Village water supply by the Leach landfill is a highly unlikely possibility;

2) We found the testimony of Thomas Vickery persuasive and, based upon that testimony conclude that while the value of property immediately adjacent to the landfill could experience a drop should the landfill become a pollution problem, it is not likely that such a problem would have an impact on Village property values.

Furthermore, opponents' argument misconstrues Criterion 9(A). That Criterion places the burden on opponents/6/ to establish that the "proposed development will significantly

/6/ Irrespective of the allocation of burdens found in 10 V.S.A. § 6088, the burden under Criterion 9(A) is upon opponents when, as here, the municipality does not have a duly adopted capital improvement program.

affect existing or potential financial capacity of the town and region to accommodate growth" caused by the landfill. The Criterion focuses our attention on the cost of municipal services identified in Criterion 9(A) such as education, highways, water supply, sewage disposal and police and fire service. In view of this statutory scheme, we must evaluate development-generated growth's impact on specified municipal services. We cannot entertain a generalized argument that the value of all public and private property in a town will be adversely affected by the landfill.

We, therefore, conclude that the opponents have not carried their burden with regard to Criterion 9(A).

H. Primary Agricultural Soils

The parties have stipulated that, with the exception of the size of the parcel involved in this project, the soils associated with the Leach landfill constitute "primary agricultural soils" as that term is defined by 10 V.S.A. § 6001(15). We have found that 5.5 of the 13 acres directly involved in the project are primary agricultural in character. While a parcel of this size may not be sufficient to support an economic agricultural operation standing alone, this land is now contributing to the economically viable Leach family farm. The elements of § 6001(15) are satisfied in regard to 5.5 of the project acres.

However, we conclude that the project as designed will not significantly reduce the agricultural potential of the primary agricultural soils for the following reasons:

a) the project is confined to 12 acres of a 1,000 acre farm;

b) the top 12" to 18" of soil will be removed, stockpiled and returned to the site as the top cover layer of the reclaimed landfill;

c) the site will be used for pasture land upon completion of the project and finished grades will be such that mechanized farm equipment can traverse the site;

d) the project will involve removal of large trees from two acres of prime agricultural soils, permitting the economic farming use of more soil than is now under cultivation.

We are concerned about the potential rodent problem associated with operation of a landfill. We have found that rodents were periodically a problem associated with operation of the Green Landfill. An infestation of rodents could have a

catastrophic impact on the near-by Sylvester chicken farm: water and feed could be contaminated, animals could be killed and the quantity and quality of egg production could suffer. We will maintain continuing jurisdiction to impose additional conditions if the Applicants are unable to control rodents.

I. Conformance with the Regional Plan

We have found that the project is compatible with the land use designations of the Franklin-Grand Isle Regional Plan applicable to the project site. No zone appears more appropriate for this commercial, quasi-municipal use than the urban service area within which it lies. The regional plan has also designated certain "favorable groundwater areas" for special protection from incompatible land uses. While the plan does not discuss with specificity any standards designed to discourage incompatible land uses, we conclude that the project does not conflict with the goal of preserving groundwater resources. We have found that contamination of groundwater west and north of the project site is unlikely. We have also found that the southern end of the "favorable groundwater area" encompassing the Leach site has previously been compromised by the two Green Landfills. Finally, should the Leach landfill discharge to the "Trout River Aquifer" it will do so at the extreme southern end where flow is to the south; the major part of the aquifer to the north will not be affected.

Based upon our conclusions that the landfill will not compromise the "favorable groundwater area," we conclude that the project conforms with the Franklin-Grand Isle Regional Plan.

J. Financial Surety

We have found that the project raises a remote possibility of contamination to private water sources south of the project and an even less likely possibility of impact on the Village Wells. In the event that the landfill does not perform as represented by Applicants, and in the event they are unable or unwilling to take remedial action, the Town, Village and area residents may be required to assume such responsibility by default. Such responsibility would involve substantial financial costs if closure and clean-up action is required. To assure that undue burdens are not imposed on Village and Town services, we will require the Applicants to establish an escrow account subject to the limitations described in Finding #71, above. With the creation of this account, we conclude that the project fulfills the requirements of Criteria 7 and 9(K) with reference to potential burdens on municipal services.

K. Issuance of Land Use Permit

In accordance with the above findings of fact and conclusions of law, we will issue Land Use Permit #6F0316-EB. The Board hereby incorporates by reference as if fully set forth and adopts as its own, the findings of fact and conclusions of law reached by the Commission which were not appealed and which are not affected by our decision. The Permit now issued approves the project subject to conditions which are reflected in the Commission's July 19, 1985 Decision (i.e., conditions which the Commission would have imposed had Criteria l(A), l(B) and 10 not been an obstacle to the issuance of a permit.)

Based upon the foregoing findings of fact and conclusions of law, it is the conclusion of the Board that the project described in Land Use Permit Application #6F0316 (as amended on appeal), if completed and maintained in accordance with all the terms and conditions of that application, the exhibits presented to the Commission and the Board, and the conditions set forth in Land Use Permit #6F0316-EB, will not cause or result in a detriment to the public health, safety or general welfare under the Criteria set forth in 10 V.S.A. Section 6086(a).

VII. ORDER

Land Use Permit #6F0316-EB is hereby issued consistent with the above Findings of Fact and Conclusions of Law. Jurisdiction is returned to the District #6 Environmental Commission except as otherwise provided in the Land Use Permit.

Dated at Montpelier, Vermont this 11th day of June, 1986.

VERMONT ENVIRONMENTAL BOARD

Darby Bradley

Darby Bradley, Chairman
Ferdinand Bongartz
Dwight E. Burnham, Sr./7/
Elizabeth Courtney
Jan S. Eastman
Samuel Lloyd
Roger N. Miller
Donald B. Sargent

Dissenting:
Lawrence H. Bruce, Jr./8/

/7/ Member Burnham was not present for hearings held on October 16, 1985, and February 18 and March 19, 1986, but Mr. Burnham reviewed tape recordings of the proceedings on those dates.

/8/ While Member Bruce agrees with the majority that the record shows little likelihood of adverse impact on water quality, he would impose a more exacting standard on the Applicants in view of the significance of the water resources at stake in this proceeding. Mr. Bruce concludes that the Applicants have not met this high standard.