

**FINAL**

**environmental impact statement  
wastewater collection  
and  
treatment facilities**

**for:  
tisbury, oak bluffs, and west tisbury, massachusetts**



**United States  
Environmental  
Protection Agency  
Region 1**



FINAL  
ENVIRONMENTAL IMPACT STATEMENT

WASTEWATER COLLECTION AND TREATMENT FACILITIES  
TISBURY, WEST TISBURY, AND OAK BLUFFS, MASSACHUSETTS

This Final Environmental Impact Statement recommends a proposed program for structural and non-structural solutions to the wastewater problems and needs of Tisbury, West Tisbury and Oak Bluffs.

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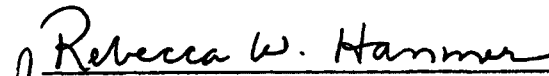
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Final Date by Which  
Comments on the Draft  
Must be Received

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## CHAPTER 1

### FINAL EIS SUMMARY

This chapter summarizes the EIS process and documents the recommendations of the Final EIS.

## 1.1 OVERVIEW

This Final Environmental Impact Statement for wastewater collection and treatment facilities serving the Towns of Tisbury, Oak Bluffs and West Tisbury recommends the following:

### 1.1.1 Town of Tisbury

- A three phased program to provide wastewater collection facilities (sewers) to the developed areas of Vineyard Haven.
- Immediate implementation of Phase 1 to serve the downtown commercial and waterfront area.
- Implementation of Phases 2 and 3 only if further problems develop.
- Construction of a small 85,000 gallons per day secondary wastewater treatment/nightsoil composting facility on Site 1 located between downtown Tisbury and Lake Tashmoo.
- Immediate initiation of a strong program of septic system maintenance measures to preclude future problems.

### 1.1.2 Town of Oak Bluffs

- Investigate nightsoil disposal options as part of proposed facilities plan.
- Initiation of further studies to develop solutions to problems in the Circuit Avenue, Clinton Avenue, Pennacock Avenue and Campgrounds area.
- Implementation of non-structural measures similar to those proposed for Tisbury and as recommended in the "Water Quality Management Plan" for Martha's Vineyard".

### 1.1.3 Town of West Tisbury

- Disposal of nightsoil at the Tisbury, Treatment facility.
- Implementation of non-structural measures as proposed for Tisbury and Oak Bluffs.

## 1.2

### DRAFT AND SUPPLEMENT TO DRAFT EIS

During the past several years a number of studies and reports have focused on the wastewater needs of the Towns of Tisbury, Oak Bluffs and West Tisbury. The first efforts were initiated in 1974 and have continued to this date.

In 1975 an engineering report entitled "Tisbury, Massachusetts, Sanitary Sewerage Study, Volume II" recommended:

- A regional wastewater collection and treatment system to serve Tisbury and Oak Bluffs.
- A regional nightsoil (septage) treatment facility, as part of the wastewater treatment plant, to serve Tisbury, Oak Bluffs and West Tisbury.

The Town of Oak Bluffs decided not to participate in the regional system after the report was issued.

The Town of Tisbury, however, at a Town Meeting on July 13, 1976, voted to pursue the design of a wastewater collection and treatment system to serve the Vineyard Haven section of town.

Subsequent to Town Meeting approval, Tisbury submitted applications to the Commonwealth and EPA for grants to assist in the final design and construction of the proposed facilities.

During EPA's review of the grant application, it was determined that because of local controversy, potentials for significant environmental impacts, and concerns about groundwater degradation at the proposed treatment and land application site, it would be necessary to have an environmental impact statement prepared.

#### 1.2.1 Draft Environmental Impact Statement

Federal agencies such as EPA may order the preparation of an environmental impact statement in situations where the projects they may fund have a potential for significant environmental impacts. The impact statements are prepared pursuant to various Federal regulations for implementing the National Environmental Policy Act (NEPA).

Tisbury's proposed wastewater collection and treatment facilities plan falls under NEPA due to the Town's wish to utilize Federal grants. Under the provisions of the Federal Water Pollution Control Act, EPA can provide a grant of up to 75 per cent of the cost to cover major eligible portions of the proposed wastewater system.

EPA, with the assistance of Anderson-Nichols, initiated the preparation of a draft environmental impact statement (DEIS) in the Fall of 1976. Pursuant to Federal guidelines the impact statement process has included two steps - a DEIS followed by a final environmental impact statement (EIS).

#### 1.2.1.1 DEIS Process in Tisbury

The DEIS process for Tisbury and the adjoining towns included several features not typical for similar wastewater impact statements. These included:

- A detailed evaluation of wastewater needs due to present or anticipated inadequacies of on-site systems.
- Extensive surface and groundwater water quality investigations.
- Modeling of the potentials for groundwater pollution due to land application of treated effluent at several candidate sites.
- The development of four potential alternatives and the evaluation of four potential treatment plant sites.
- The conduct of an on-going public participation process including several workshops and the issuance of a newsletter prior to the completion of the DEIS.

#### 1.2.1.2 Recommendations of DEIS

The four alternatives developed as part of the DEIS process were carefully evaluated in terms of their capacity for adverse or beneficial impacts on the natural and man-made environment of Martha's Vineyard.

These alternatives and their major impacts are summarized below:

Alternative 1 - No Action - continuation of present policies.

There are no beneficial impacts associated with this alternative. The adverse impacts are that wastewater collection and treatment needs, which are documented in the DEIS would not be addressed. The continuation of unsafe and unsanitary disposal of untreated nightsoil is an additional adverse impact of no action.

Alternative 2 - Construction of nightsoil treatment facility.

This alternative would have the beneficial effects of providing a safe and proper method of nightsoil disposal and creation of a nightsoil by-product that would be useful as an agricultural resource. The adverse impact of Alternative 2 is that it does not address documented wastewater collection and treatment needs in sections of Oak Bluffs and Tisbury.

Alternative 3 - Construction of small scale wastewater collection and treatment system.

Alternative 3 would have the beneficial impacts of accommodating the wastewater collection needs of Oak Bluffs, West Tisbury, and Tisbury. It would provide an environmentally sound means for the disposal of wastewater and a composted sludge by-product that would be useful as an agricultural resource. Adverse impacts associated with the alternative include short-term construction noise and permanent development of a presently open site for the wastewater treatment facility.

Alternative 4 - Construction of centralized wastewater collection and treatment system as proposed in 1975 engineering report.

This alternative would have the beneficial impact of accommodating the wastewater collection and treatment needs of Tisbury and West Tisbury. It would have the adverse impacts of not addressing



the wastewater collection and treatment needs of Oak Bluffs. Additional adverse impacts include short-term construction noise and permanent development of a presently open site for the wastewater treatment facility.

The DEIS did not include a recommendation for a preferred solution or alternative.

#### 1.2.1.3 Public Comments on DEIS

The DEIS was published on September 12, 1977. Public comments were received as follows:

- At a workshop on October 1, 1977.
- At a public hearing on October 26, 1977.
- Through memoranda and letters received during the review period which extended to November 14, 1977.
- Through a letter with a number of comments from the Martha's Vineyard Water Quality Advisory Committee which was received after November 14, 1977.

Many of the comments raised significant concerns about the alternatives under consideration. In lieu of proceeding at once to the preparation of a final EIS, EPA determined that many of the issues should be addressed in a supplement to the DEIS.

#### 1.2.2 Supplement to Draft Environmental Impact Statement

The Supplement to the Draft Environmental Impact Statement (SDEIS) was prepared during 1978 and published on August 11, 1978. In addition to responding to the issues mentioned above, the SDEIS evaluated the feasibility of less than secondary treatment prior to land application. EPA regulations adopted after the completion of the DEIS required such an investigation.

##### 1.2.2.1 SDEIS Process

The SDEIS process placed major emphasis on the dominant issue raised about the DEIS. "Is a system of wastewater collection and treatment

the most environmentally sound and cost-effective means of solving the problems in Tisbury's downtown commercial area?"

EPA's review was assisted by an independent study of the Special Sanitary Control District (the area with a moratorium on new on-lot wastewater systems) prepared by the Martha's Vineyard Commission in cooperation with Tisbury's Board of Health and Planning Board. The study's evaluation of the 220 lots in the District noted the nature of problems such as high water usage, lack of room on small lots for on-site system rehabilitation or reconstruction, and a high water table in the Main Street to waterfront area. The major concentration of problems was found to include portions of Main Street, Union Street, Beach Street and Lagoon Pond Road.

EPA concluded that the existing site constraints in the above mentioned four street downtown/waterfront area were such that sewerage would be required.

The second step in the SDEIS was to screen out those alternatives not responsive to the identified needs for a small scale treatment and collection system. Accordingly, Alternatives 1, 2 and 4 were eliminated from further consideration.

#### 1.2.2.2 Recommendations of SDEIS

The recommendations of the SDEIS are essentially those presented in Section 1.1 above. Under Alternative 3 two sites for a treatment facility were evaluated and the feasibility of less than secondary treatment was investigated.

Less than secondary treatment was eliminated from further consideration due to the possibility of odor problems.

The two candidate sites, identified as 1 and 3 in the DEIS, were evaluated as to the level of treatment required. At Site 1 it was found that the land application of effluent treated to secondary levels would not have any adverse impacts on groundwater resources. Effluent applied at Site 3, however, could contaminate the Oak Bluffs water supply. This impact only could be mitigated by advanced wastewater treatment.

A cost-effective analysis revealed that the use of Site 1 would be the least expensive option.

The SDEIS included an extensive discussion of non-structural measures the Town of Tisbury might take to preclude further on-site wastewater problems in Phase 2 and 3 areas as well as throughout the Town. These recommendations have equal application to Oak Bluffs and West Tisbury.

#### 1.2.2.3 Public Comments on SDEIS

A public hearing on the SDEIS was held on October 12, 1978. Responses to the hearing comments as well as the one written communication are included in Chapter 2 of this final EIS.

### 1.3 NEED FOR FACILITY

At the SDEIS public hearing October 12, 1978, the issue of documenting the need for a sewerage system in downtown Tisbury persisted. The Tisbury Board of Health handed out Newsletters No. 1 and 2 at the hearing (See Appendix A). These had been prepared with the assistance of the Martha's Vineyard Commission.

The Newsletters summarized the results of the study of the Special Sanitary Control District mentioned in 1.2.2.1 above. Cost estimates were provided for three options generally coinciding with Alternatives 2, 3 and 4 of the DEIS. Initiation of a strong septic system maintenance system was recommended.

The basic thrust of the Newsletters as well as the testimony given by several speakers was that the sewerage of the downtown area could be avoided.

#### 1.3.1 EPA/State Review

EPA has recognized, in spite of original Town Meeting action in 1976 to authorize design of a substantial wastewater collection and treatment system, there has been a change in the mood of Tisbury. The local desire now is to avoid an expensive sewerage system if possible or build the minimum system necessary to meet present needs.

In consideration of Tisbury's concerns EPA convened a joint meeting in December 1978 attended by representatives of EPA, Anderson-Nichols, the Massachusetts Division of Water Pollution Control, and the Massachusetts Department of Environmental Quality Engineering. The meeting included a detailed review of all available information on the wastewater problems in downtown Tisbury.

On January 2, 1979, a letter summarizing the consensus of the meeting was forwarded to the Tisbury Board of Selectmen by the Massachusetts Division of Water Pollution Control. (See Appendix A) EPA, in a companion letter dated January 5, 1979, concurred in the conclusions expressed by the State (See Appendix A).

The joint conclusions were as follows:

- Holding tanks are not acceptable to the Department of Environmental Quality Engineering as a long range solution.
- The requirements of Title V of the State Environmental Code must be met on all problem sites. Only minor variances from the code, on a case by case basis, will be allowed.
- Some of the cost estimates for on-site rehabilitation appeared to be low and the definition of problem areas required further clarification.
- Continuing problems will persist due to the projected failure rate.
- A rehabilitation program for the downtown area of Tisbury does not appear to be a viable, environmentally sound, long-term solution for solving wastewater disposal problems.

#### 1.3.2 Tisbury/Martha's Vineyard Response

There were three responses to the January 5th letter from the State. These are reproduced in Appendix A and noted below.

- 16 January 1979 from the Chairman of the Tisbury Board of Health.
- 17 January 1979 from the Chairman of the Tisbury Waste Committee.
- 12 January 1979 from the Executive Director of the Martha's Vineyard Commission (addressed to EPA).

Although there was no unanimity of opinion expressed, the general response was that the problem area is relatively small and the final decision on what steps should be taken lie with the Town of Tisbury.

#### 1.3.3 EPA Conclusions

EPA has concluded that the multiple problems of high water table, small lots, high water usage, Title V requirements and DEQE regulations preclude satisfactory rehabilitation of on-site systems and require the construction of a limited wastewater collection system in downtown Tisbury.

Extensions beyond the limited service area, identified as Phase 1, will be dependent upon the Town's capacity to institute a combined program of water conservation and septic system maintenance.

EPA's conclusion is consistent with the recommendations of the "Final Plan/EIS Water Quality Plan for Martha's Vineyard" dated April 1978. The plan states for Tisbury and Oak Bluffs:

- "In areas where rehabilitation of failing sewage disposal systems cannot solve the problem, provide a limited sewage collection system"

#### 1.4 RECOMMENDED ALTERNATIVE

The recommended alternative as described in Section 1.1 above and in the SDEIS includes the following elements:

##### 1.4.1 { Service Areas

Three service areas are proposed and illustrated in Figure 1 on the following page.



( Phase 1 includes the area covered by the Tisbury Sanitary Control District and possibly several adjoining properties near the waterfront where there is a combination of high water usage and a high water table.

Phase 2 includes the service area proposed under Alternative 3 of the DEIS.

Phase 3 covers the area recommended in the 1975 Sanitary Sewerage Study prepared by Tighe and Bond.

As previously noted, the need to extend sewers to Phase 2 and 3 areas will be dependent on the effectiveness of the maintenance program discussed below in Section 1.4.3.

#### 1.4.2 Treatment Facility

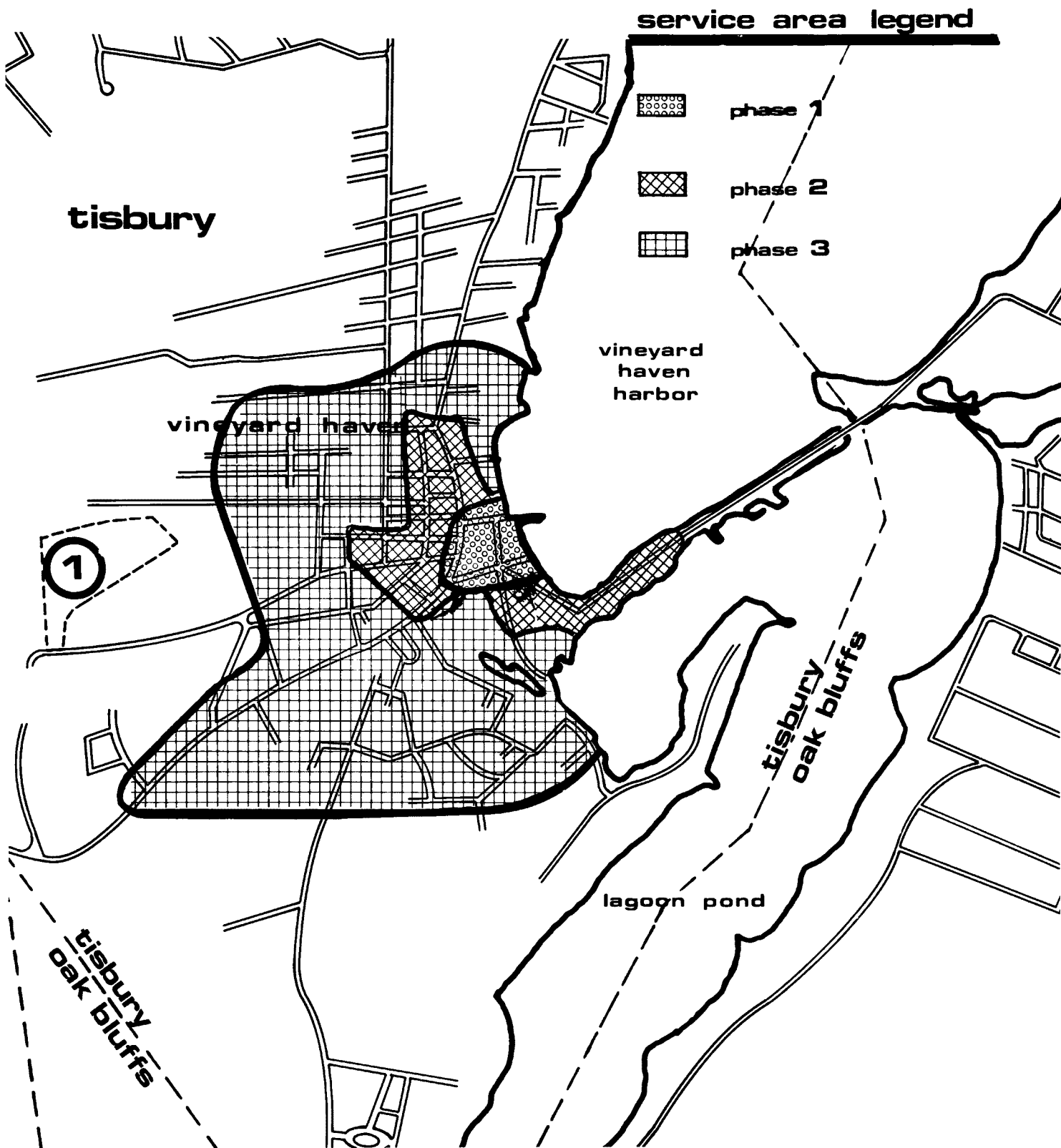
A combined wastewater and nightsoil treatment facility is proposed at Site 1 (a 20 acre site to the west of the service area). The plant would have an initial average daily wastewater flow under Phase 1 of approximately 70,000 gallons per day. There would be an additional 14,800 gallons per day (summer average flow) of nightsoil from Tisbury and West Tisbury. This nightsoil flow is made up of 4300 gallons per day of septage (2700 from Tisbury and 1600 from West Tisbury) and 10,500 gallons per day of holding tank wastes (6700 from Tisbury and 3800 from West Tisbury). See Table 1.

A secondary treatment plant using rotating biological discs is proposed. This type of process, although higher in initial cost, is:

- More amenable to variations in flow than other systems (an important consideration in a resort and recreation area).
- Easier to operate.
- Has lower energy requirements.

For septage treatment, a bar rack, an aerated holding tank, chemical rapid mix tank, and sedimentation basin will be provided. The liquid will then be pumped to the biological discs.

The plant could be expanded to handle Phase 2 and Phase 3 flows from the sewer service area, if necessary. Further, with minor modifications the plant could handle an additional 3,000 gallons per day of nightsoil from Chilmark and Gay Head.



# **tisbury · wastewater collection/treatment facilities**

**final environmental impact statement**

**environmental protection agency**

**technical consultant - anderson-nichols & co., inc.**

**scale:**

0 200 400 600 meters

**february 1979**

0 1000 2000 feet

**figure 1**

TABLE 1  
NIGHTSOIL FLOWS  
Year 2000  
Summer Average Design Conditions  
(Gallons per Day)

	<u>Septage*</u>	<u>Holding Tank**</u>	<u>Total Nightsoil***</u>
West Tisbury	1600	3800	5400
Tisbury	<u>2700</u>	<u>6700</u>	<u>9400</u>
Subtotal:	4300	10,500	14,800
 Oak Bluffs	 <u>3900</u>	 <u>9600</u>	 <u>13,500</u>
Total:	8200	20,100	28,300

\*Septage flows based on peak summer population; 1000 gallon septic tank pumped once every two years; 3.3 people per septic tank; 365 days per year. Estimated design suspended solids concentration 35,000 mg/l.

\*\*Holding tank flows based on peak summer population; one per cent of systems in a failure mode at any given time; 100 gallons per capita per day. Estimated design suspended solids concentration 200 mg/l.

\*\*\*These estimates assume a strong program of septic system maintenance measures in Phase 2 and 3 areas as well as the balance of the Towns of Tisbury and West Tisbury.

All sludge remaining after settling and dewatering will be composted. The final product of composting can be recycled for use as a soil conditioner subject to approval of the Massachusetts Department of Environmental Quality Engineering.

#### 1.4.3 Non-Structural Measures

The SDEIS in accordance with the request of the Martha's Vineyard Water Quality Advisory Committee included an extensive discussion on non-structural measures - (systems other than those requiring extensive wastewater collection and treatment). The topics covered included: operation of on-lot systems; maintenance of on-lot systems, rehabilitation of on-lot systems, replacement of on-lot systems; holding tanks; cluster and multiuser systems; dry toilet applications; regulatory controls; wastewater generation (conservation); and Government support and funding.

The "Final Plan/EIS Water Quality Management Plan for Martha's Vineyard" also includes an exhaustive description of various inspection, operation and maintenance programs to prevent on-site system failures.

All of the elements of a successful program have been presented to the Town of Tisbury, Oak Bluffs and West Tisbury. One point is evident - a successful program requires experienced and well trained personnel. It can not be done on a volunteer basis by well intended Boards of Health.

The "Water Quality Management Plan for Martha's Vineyard" has recommended the creation of the position of regional sanitary engineer. The sanitary engineer would work with local Boards of Health and their staff in a management program of:

- Septic system inspection
- Septic system maintenance
- Septic system pumping
- Septic system rehabilitation
- New septic system evaluation

It is recommended that each of three towns institute an aggressive management system which, in the case of both Tisbury and Oak Bluffs, may preclude future sewerage beyond initial phases, and in the case of all three towns will assure that surface and ground-water resources are adequately protected.

Due to the limited population on Martha's Vineyard, the concept of a regional sanitary engineer working in concert with local Boards of Health and their inspectors has considerable merit.

## 1.5 ESTIMATED COSTS

The total cost of the proposed Phase 1 collection and treatment system, as summarized in the DEIS, would be approximately \$2,197,000. Of this amount the Federal share is estimated to be \$1,097,250, the State share \$219,450 and Tisbury's share \$880,300.

Table 2 presents the estimated annual costs of sewerage for a typical single family home assessed for \$20,000 under several financing options during Phase 1.

All options assume that 100% of the Town's share of constructing the treatment plant (not including any septage handling facilities) and interceptor sewer will be applied as an ad valorem tax against all property in the Town. For a \$20,000 property the tax will amount to \$6.00 assuming a \$.30 tax increase.

All options meet the EPA requirement that all of the operation and maintenance (O&M) costs for the sewerage system will be charged against properties connected to the system. These charges would be computed on the basis of equivalent dwelling units. An equivalent dwelling unit has an average daily flow of about 240 gallons for a typical home. Under Phase 1 this would amount to an annual O&M charge of \$158 for our typical single family unit. For any properties with flows exceeding 240 gallons the charges would be proportionately higher (for example, a business with flows of 1000 gallons would pay approximately four times as much).

Debt service charges covering the construction of the collector sewers would vary depending on the extent to which these charges were covered by user charges or apportioned against all properties in the community. Table 1 shows three options including total payment by users,



TABLE 2  
TISBURY WASTEWATER FACILITIES  
ANNUAL CHARGE TO TYPICAL HOUSEHOLD  
PHASE 1

Portion of Collection System Cost Recovered Through Taxes	0%	50%	100%
Tax Increase Due to Interceptor and Treatment Plant Debt Service	\$0.30	\$0.30	\$0.30
<u>Phase 1 Annual Charges</u>			
3850' of Collector Sewer - \$173,200 Tax Increase	\$0.00	\$0.13	\$0.26
Debt Service Per Connected EDU*	\$55.70	\$27.85	\$0.00
O&M Charge Per Connected EDU	\$158.00	\$158.00	\$158.00
Tax Bill Increases for Typical Home Assessed at \$20,000	\$6.00	\$8.60	\$11.20
Total Annual Charge for Typical Home:			
Connected	\$219.70	\$194.45	\$169.20
Not Connected (plus cost of septic system maintenance)	\$6.00	\$8.60	\$11.20

\*Equivalent Dwelling Unit. (240 gallons/day)

NOTE: In addition, each user will pay a one time tie-in cost of approximately \$300.

50% payment by users and 100% payment by all property owners. As in the case of O&M charges any charge to cover the debt service would be based on the number of equivalent dwelling units.

As summarized in Table 2 the typical home connected to the sewer system would have an annual charge ranging from \$219 to \$169 in Phase 1.

The costs to all property owners in the community would vary in accordance with the financing method finally selected by the community. The ad valorem tax against a \$20,000 home not connected to the sewer would range from \$6.00 to \$11.20 during Phase 1. The above costs do not include the additional charges for periodic septic system pumping for properties not on a sewer system. In Tisbury the average annual cost of biennial pumping is about \$25.00 for a single family home.

The extension of sewers to the Phase 2 areas would reduce total annual charges for a typical connected home to a range of \$193 to \$123. Typical annual charges to a home not connected would range from \$6.00 to \$23.00 depending on the method of financing.

## 1.6 ENVIRONMENTAL IMPACTS

The environmental impacts of the proposed alternative have been evaluated in the DEIS and the SDEIS. Additional discussion of some of the impacts is contained in Chapter 2 of this Final EIS.

The proposed project will have both beneficial and adverse environmental impacts. None of the adverse environmental impacts are considered to be of a significant nature.

The major impacts are as follows:

### 1.6.1 Hydrologic/Water Quality

Groundwater quality in the vicinity of Site 1 would be affected. This would have no impact on the quality of public water supply because public well points and groundwater withdrawal zones are outside of the groundwater area affected by Site 1.

Existing sources of private water supply would be affected. However, prior to the time this effect would be noticed all water users within the affected area will be included in the public water supply system, in accordance with existing plans. The eventual inclusion of these water users within the public water supply system will be necessary.

No detectable effects will be felt in Lake Tashmoo, Vineyard Haven Harbor or any other surface water body.

#### 1.6.2 Odors

The release of odors by wastewater treatment plants is a major consideration regardless of level of treatment. This is especially true in populated areas where residences and businesses could be affected by treatment plant odor.

The potential of odor generation under conditions of secondary treatment at Site 1 are detailed in Section V.F. of the DEIS and are summarized below.

Wastewater treatment (secondary) and nightsoil composting at Site 1 can be operated under odor free conditions. This assertion is based on the assumption that, 1) facilities will be properly maintained and, 2) transfer of nightsoil from trucks to the processing facility will be made by direct connection without exposure to the air.

The impact of odors generated by potential upset conditions of faulty maintenance at Site 1 will not be adverse. The potential worst case odor condition could occur during the summer months when prevailing winds are from the southwest. The closest home along the southwest to northeast axis is located more than 1200 feet from the treatment and composting process. Since odors tend to dissipate rapidly, the chance of odor detection at any residence in the area is extremely slight.

#### 1.6.2 Neighborhood Impacts

Neighborhood impacts include effects on aesthetics, real estate values and land use.

Site 1 is heavily vegetated. All treatment facilities and mechanical apparatus will be isolated by the natural buffer of existing and planted vegetation. From the standpoint of nearby residents, the facilities at Site 1 will not cause noise, be unsightly or be the source of adverse odor impacts. Accordingly, the facilities at Site 1 will not adversely effect area aesthetics, real estate values or land use.

There will be slight increases in traffic due to the movement of septic pumping trucks to and from the treatment facility.

#### 1.6.3 Community Growth and Development

The DEIS includes a detailed discussion of the growth impacts of sewerage portions of Tisbury.

The Phase 1 sewerage includes portions of Main Street, Union Street, Beach Street and Lagoon Pond Road. This is an intensely developed area with limited opportunity for the growth that could be induced by a sewer. A review of Map 10 in the DEIS will confirm this.

The potentials for inducing additional growth will expand if Phase 2 and 3 areas are sewerage. These impacts too are discussed in the DEIS.

The extent to which the Town opens up opportunities for Phase 2 and 3 sewerage largely rests with the Town itself. The non-structural measures discussed in 1.4.3 above are seen as one way the Town can control its growth destiny. A lax system of septic system maintenance and inspection, on the other hand, could lead to further wastewater problems and a need for structural solutions such as sewers.

#### 1.7 STATUS AS STEP 1 FACILITY PLAN

EPA has determined that this Final EIS will meet all the requirements for Step 1 facilities planning. If the Town of Tisbury accepts the recommendations of this EIS, it will be authorized to submit a Step 2 grant. See EPA letter of December 18, 1978, to Tisbury Waste Committee.

CHAPTER 2  
COMMENTS AND RESPONSES

This chapter summarizes EPA's responses to:

- Written comments on the Draft Environmental Impact Statement dated September 12, 1977.
- Verbal statements presented at the public hearing on the Draft Environmental Impact Statement held on October 26, 1977.
- Written comments on the Supplement to Draft Environmental Impact Statement dated August 11, 1978.
- Verbal statements presented at the public hearing on the Supplement to Draft Environmental Impact Statement dated October 12, 1978.



## 2.1 INTRODUCTION

The Draft Environmental Impact Statement (DEIS) was published on September 12, 1977. During the period allowed for public comments, September 12, 1977 to November 14, 1977, EPA received 20 written statements. These are numbered W-1 to W-20 and are reproduced in Appendix B.

At the public hearing held on October 26, 1977, statements on the DEIS were made by 14 speakers. The various speakers are identified as H-1 to H-14. Appendix C includes a listing of the speakers.

On August 11, 1978, EPA issued a Supplement to the Draft Environmental Impact Statement (SDEIS). The public commenting period was reopened for 45 additional days. One written statement, identified as SW-1, was received. It is reproduced in Appendix D.

A second public hearing was held on October 12, 1978. The eleven speakers are identified as SH-1 and SH-11. Appendix E includes a transcript of the public hearing and a listing of the speakers.

### 2.1.1 Comment Matrix

The oral and written statements fall into a number of fairly well defined categories or issues. These may be summarized as follows:

- Need for sewerage system
- Location of treatment facility
- Community growth and development
- Historic/archaeologic resources
- Open space preservation
- Use of treatment residuals
- Prejudicial evaluation of alternatives
- Costs
- Odors
- Miscellaneous
- Corrections

Table 3 summarizes, in terms of source, the number of comments that focused on the above-listed categories during the review period on the DEIS.

Table 4 summarizes, in terms of source, the number of comments during the review period on the SDEIS.

It is important to note the following:

- Many of the speakers and writers had similar comments on certain issues.
- Many speakers and writers covered more than one subject.
- A number of the questions raised about the DEIS were responded to in the additional documentation included in the SDEIS.

#### 2.1.2 Response Procedure

In the sections that follow, EPA has prepared responses to all of the comments received. Since a number of commenters have raised the same issues or questions, an effort has been made to provide one response wherever possible.

Each general category or issue is introduced by an overview of the major concerns of the commenters. This is followed by a concise summary of the comment or comments relative to the issue. The summary includes an identification of the individual and/or agency making the written or public hearing comments. As noted above in 2.1 the identity of the commenter is included in Appendices A-D.

The responses are provided in two major sections. The first section covers the DEIS. The second section covers the SDEIS.

One of the functions of the SDEIS was to provide answers to some of the comments on the DEIS. Where the SDEIS has provided such an answer, EPA directs the reader to the appropriate section of the SDEIS.

TABLE 3

COMMENT/RESPONSE MATRIX - DEIS

Written Responses from	Issue										
	Need	Facility Location	Growth	Historic/Archaeologic	Open Space	Treatment Residual	Prejudicial Evaluation of Alternatives	Cost	Odors	Miscellaneous	Correction
Federal Agencies	0	0	0	1	2	0	0	0	0	0	1
State Agencies	0	0	1	1	0	0	0	0	0	1	0
Regional Agencies	4	0	14	0	1	0	2	0	0	0	9
Local Agencies	1	0	0	0	0	0	0	0	0	0	0
Organizations	2	2	0	0	0	1	0	1	0	1	1
Individuals	1	6	1	0	0	2	2	1	1	0	1
Hearing	12	4	7	0	0	8	6	4	1	14	2

TABLE 4

COMMENT/RESPONSE MATRIX - SDEIS

Written Responses from	Issue										
	Need	Facility Location	Growth	Histroic/Archaeologic	Open Space	Treatment Residual	Prejudicial Evaluation of Alternatives	Cost	Odors	Miscellaneous	Correction
Federal Agencies					1						
State Agencies											
Regional Agencies											
Local Agencies											
Organizations											
Individuals											
Hearing	2	1	1	0	0	2	1	3	0	8	2

## 2.2 RESPONSES TO DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS

### 2.2.1 Need for Sewerage System

Many respondents wanted further evidence of the need for wastewater collection facilities in Tisbury. Some expressed doubts that the problems were as extensive as the DEIS suggested. Others expressed the concern that a door to door survey of problems was not undertaken and that conclusions were improperly derived from a mailed questionnaire. The DEIS, according to some of the respondents lacked the proof required by Federal regulators to justify a wastewater collection system.

Other comments in this section dealt with the proper evaluation of alternatives which would be appropriate for small communities. A number of respondents held the belief that solutions other than wastewater collection would effectively alleviate these problems.

#### 2.2.1.1 Detailed Problem Evaluation

##### 2.2.1.1.1 Comment: (W8, W10, W12, W19, H2, H4, H5, H6, H8, H9, H14)

The problems of on-lot disposal are not adequately documented to support a wastewater collection system.

Response: The DEIS conclusions on need for wastewater collection facilities are based on considerations of soil, land use, records of problems, a questionnaire, site inspections and water quality sampling. The scope of the needs investigation is limited by budgeting constraints but is consistent with Federal requirements.

The door to door survey of needs performed by Martha's Vineyard Water Quality Program after the issuance of the DEIS, goes beyond the scope of the DEIS. Its conclusions and recommendations are incorporated in the Supplement to the DEIS.

Based on the findings of the door to door survey, recommendations for wastewater collection facilities in Tisbury are changed. A three-phased system is now recommended. As detailed in the SDEIS, an initial collection system, to be restricted to the central part of Tisbury is recommended for

immediate construction. Phase 2 would encompass the service area of DEIS Alternative 3 and would be implemented in the future by the Town, if needed. Likewise, Phase 3, which extends to the limits of the initial facilities plan service area, would only be implemented, if needed.

The implementation of Phase 2 will be dependent upon the Town's ability to institute a strong management program for on-site systems.

Phase 3 may not be needed if the Town pursues all recommended non-structural procedures. However, allowances are made in the capacity of collection and treatment facilities so that these may either accommodate or be expanded to accommodate Phase 3 flows.

2.2.1.1.2 Comment: (W10, H2)

Conditions of water pollution in Tisbury are inadequately documented and the results of water quality sampling are inconclusive.

Response:

Water quality conditions in Tisbury are adequately documented with conclusive results from a comprehensive water quality sampling program.

The DEIS does not document water pollution conditions. Except for sporadic incidences where localized contamination of the aquifer, resulting from individual septic systems, exist, the generalized ground and surface water quality is regarded as good.

The DEIS water quality sampling program does not document the needs for a townwide wastewater collection facilities.

2.2.1.1.3 Comment: (W8)

Conclusions based on the needs questionnaire are too far reaching given the sample size and distribution of responses.

Response:

Conclusions on the need for wastewater collection facilities are not based on the questionnaire alone. There are many other

important items which factor in the decision, namely, existing records on pumping of septic systems. The questionnaire is but one component of a larger and more comprehensive analysis program.

The rate of response to questionnaires mailed by EPA to Tisbury was disappointing. The citizen's response to questionnaires received by EPA does not, in and of itself justify the construction of wastewater collection facilities.

#### 2.2.1.2 Alternatives Appropriate to Small Communities

##### 2.2.1.2.1 Comment: (W8, W19, H5, H6, H9)

Non-structural solutions should be discussed in greater depth.

Response: The DEIS not only discusses non-structural solutions but recommends them as part of Alternatives 2 and 3.

The Supplement to the DEIS discusses the non-structural solutions in greater depth as well as their costs and application on Martha's Vineyard.

##### 2.2.1.2.2 Comment: (W10, H2, H5, H7)

The DEIS should provide a detailed feasibility study on upgrading individual on-lot systems in problem areas.

Response: The DEIS and SDEIS determined the feasibility and cost-effectiveness of upgrading individual on-lot systems in problem areas. Information is also available on the number and location of on-lot systems which cannot be rehabilitated. The conclusions of EPA and DEQE as reported in Section 1.3 are that rehabilitation in conformance with Title V is not possible in the downtown area of Tisbury.

2.2.1.2.3 Comment: (W19)

The evaluation of alternatives is not consistent with EPA's guidelines related to wastewater systems in small communities.

Response:

The DEIS recommends non-structural systems as part of Alternatives 2 and 3 but does not provide details on the application of non-structural systems in Tisbury. This information is provided in the SDEIS. The Supplement and DEIS are consistent with all EPA guidelines.

2.2.1.2.4 Comment: (W8)

A night soil treatment plant is all that is definitely needed to alleviate problems. The State Forest would be the best location for this facility. The DEIS evaluation of potential night soil treatment sites, is inadequate and an insufficient number of sites are presented for evaluation.

Response:

At an absolute minimum, a night soil treatment plant is necessary. However, the need for wastewater collection facilities in central portions of Tisbury has been adequately documented.

A comprehensive site evaluation for both wastewater and night soil treatment facilities was conducted. This included 26 potential sites but did not include the State Forest.

2.2.2 Location of Treatment Facility

The comments primarily related to Sites 1 and 3.

Property owners in the neighborhood of Site 1 have expressed concerns about the impact of a wastewater treatment facility near their homes or property.

The existence of a suspected gravel lens under Site 3 is claimed to pose a groundwater contamination risk if the site is used for a wastewater facility.



2.2.2.1 Comment: (W13, W14, W15, W16, W17)

A wastewater facility on Site 1 will have an adverse influence on the neighborhood.

Response:

See Sections IVB and IVC of SDEIS which discuss odors and neighborhood impacts of Site 1.

2.2.2.2 Comment: (W18)

A wastewater facility on Site 3 may pose a considerable risk to groundwater contamination due to a gravel lens under the site.

Response:

The SDEIS in Section IVA acknowledges the potential for impacts on groundwater resources downgradient from Site 3. Pursuant to this determination, the SDEIS has recommended advanced wastewater treatment if Site 3 were to be used. Consequently there would be no adverse impact on existing or future groundwater resources.

EPA has no evidence of a gravel lens other than the documentation submitted by the writer. Since the preferred alternative does not call for the use of Site 3, further confirmation of its existence is not warranted as part of the EIS process.

2.2.2.3 Comment: (W11, W12, H1, H2, H6)

There is an immediate need for a night soil treatment facility site.

Response: The need for such a facility is acknowledged. After considering a number of night soil treatment alternatives in the EIS process, including: a facility in the State Forest and use of the Edgartown facility, the SDEIS recommends a combined wastewater/septage treatment/disposal facility at Site 1.

### 2.2.3 Community Growth and Development

A common concern was the extent of development which would be induced by any of the alternatives.

#### 2.2.3.1 Comment: (W7, W8, W9, W19, H5, H6, H7, H11, H12)

The type and magnitude of growth requires further explanation.

Response: Chapter V, Section A, of the DEIS includes a detailed discussion of the development impacts of the several alternatives.

Under the SDEIS a three phase wastewater collection area is proposed. The first phase, proposed for immediate implementation, includes portions of Main Street, Union Street, Beach Road and Lagoon Pond Road. This is an intensively developed area with limited opportunities for induced growth. A review of Map 10 in the DEIS will confirm this.

The extent to which the town will be required to extend the wastewater collection area beyond Phase 1 largely rests with the town itself. Strong health code maintenance and enforcement programs could preclude the need for Phase 2 and 3 sewer extension into adjoining areas where there is a greater potential (see Map 10) to induce development of vacant land or bring about a conversion of under-utilized properties to more intensive use.

Also, please refer to Response to Comment Number 4 on Page B31 of the SDEIS.

### 2.2.4 Historic/Archaeologic Resources

Both the Massachusetts Historical Commission and the Advisory Council on Historic Preservation call for full compliance with Section 106 of the National Historic Preservation Act of 1966.

2.2.4.1 Comment: (W6)

The DEIS does not adequately evaluate the eligibility of historic properties in the project area for listing in the National Register.

Response: The Massachusetts Historical Commission notes that the Ritter House on Beach Street, Tisbury, has been voted eligible for the National Register and the Williams Street Historic District and the Oak Bluffs Methodist Campgrounds District are eligible for the National Register.

The Vineyard Haven commercial area along Main Street has architectural qualities which could make it eligible for listing on the National Register. This area presently is being inventoried.

2.2.4.2 Comment: (W5, W6)

The impact of the project on properties eligible for listing on the National Register requires a more thorough evaluation.

Response: The SDEIS proposes a limited Phase 1 service area which would serve the Vineyard Haven commercial district along Main Street as well as Beach Street.

The only possible long range impact on historic properties would be the potential for additional development in accordance with existing zoning regulations.

To maintain the area's unique scale and architectural qualities, it may be appropriate to establish a Main Street Local Historic District similar to or as an extension of the adjacent William Street Local Historic District.

The alternative of not sewerage this congested area could lead to solutions for on-site mounding systems or holding tanks which would not be appropriate for an historic area.

A survey of Site 1 conducted by archaeologist Dr. Charlotte Thomson revealed no evidence of archaeological sites of any importance.

## 2.2.5 Open Space Preservation

Several comments questioned impacts on wildlife habitat and recreation areas.

### 2.2.5.1 Comment: (W2, W3)

What will be impacts on recreation areas and wildlife habitat areas?

Response: Pursuant to the SDEIS, Site 1 is proposed for a small wastewater/septage treatment facility. There will be no significant impacts on recreation areas or wildlife habitat areas if this site is used.

The nearest recreation area is a school playground at the Tisbury School.

There will be slight increases in traffic due to the movement of night soil haulers to and from the treatment facility.

The closest wildlife habitat area of any consequence is Lake Tashmoo. Section IVA of the SDEIS points out that there will be no detectable effects on Lake Tashmoo resulting from the application of wastewater to Site 1

## 2.2.6 Use of Treatment Residuals

A number of commenters expressed concerns about using the by-products from the wastewater process for agricultural and soil stabilization purposes on the Island.

### 2.2.6.1 Comment: (W11, W19, W20, H5, H9, H10, H12, H13, H14)

Preservation of the Island's soil and the recycling of waste products for agricultural uses should be considered.

Response: Composting of all sludges resulting from the treatment process is proposed in the Supplement. The final product can be recycled for use as a soil conditioner subject to approval of the Massachusetts Department of Environmental Quality Engineering.

Please refer to the various responses to the December 27, 1977 comments from the Martha's Vineyard Water Quality Advisory Committee which are included on Pages B-1 through B-36 of the SDEIS.

#### 2.2.7 Prejudicial Evaluation of Alternatives

Several commenters were of the opinion that EPA's evaluation was prejudiced in its evaluation of certain alternatives at the expense of other possible alternatives.

##### 2.2.7.1 Comment: (W9, W19, W20, H5, H7, H8, H9, H12)

Other alternatives such as non-structural solutions, composting and anaerobic digestion and an island-wide night soil facility should have been given more consideration.

Response: The SDEIS was prepared in partial response to the above criticisms.

Please refer to the various responses to the December 27, 1977 comments from the Martha's Vineyard Water Quality Advisory Committee which are included on Pages B-1 through B-36 of the SDEIS.

#### 2.2.8 Costs

The comments covered a wide range of cost concerns ranging from those directly related to the proposed cost of alternatives to the cost implications of not using our waste resources to aid agricultural production in the United States.

##### 2.2.8.1 Comment: (W11)

EPA should fund a pilot night soil composting project in Edgartown.

Response: Such funding is not the concern of this EIS and should be handled by the Town of Edgartown or the Martha's Vineyard Commission.

##### 2.2.8.2 Comment: (W19)

The EIS ignores considerations of food scarcity and cost implications of composting.

Response: Please refer to the response to Comment Number 5 on Page B-31 of the SDEIS.

2.2.8.3 Comment: (H5)

The cost estimates included in the DEIS were not complete and not figured at a consistent and comparable base.

Response: The SDEIS provides a clear discussion of the anticipated costs of the preferred alternative.

2.2.8.4 Comment: (H8)

No low cost, easy, technological solutions were examined or documented.

Response: As noted in the response to 2.2.1 above, sewerage is the only solution to the problems of the central commercial area.

The extent to which the Town allows problems to develop in adjoining areas which could lead to expensive sewer system expansion largely rests with the town itself. Without doubt the low cost solution in Tisbury is to administer local health and development codes in a manner which will preclude future problems.

This is the responsibility of the Town of Tisbury.

2.2.9 Odors

2.2.9.1 Comment: (W20, H9)

Odors are non-existent in a properly operated anaerobic digestion system.

Response: As the commenter notes, digesters operated by microbiologists have no odor problems. Realistically, any plant in Tisbury will be operated by trained wastewater treatment plant engineers - not microbiologists.

Given the skills available, problems of odor would be a much greater potential problem if anaerobic digesters are used.

2.2.10 Miscellaneous

A number of comments are not easily categorized as above. These miscellaneous comments are discussed in this section.

2.2.10.1 Comment: (W7)

The implications of the high nitrate levels at Wells 3, 4, and 10 are not included in the discussions of water quality problems.

Response: Well 3 conditions are indicative of the problems found in the center of town.

At Well 4, it is believed that the well inadvertently intercepted the leachate plume from the Tisbury School and is not truly indicative of prevailing conditions in the area.

At Well 10, the elevated reading occurred at one test only. Since subsequent testing revealed much lower readings the first reading should be discounted.

2.2.10.2 Comment: (W7)

The Cape Cod and Island Sanctuary Act rather than SA classification prohibits new municipal wastewater discharges.

Response: We concur in this.

2.2.10.3 Comment: (W7)

The EIS should include a discussion of the secondary impacts associated with running a force main to Sites 3 and 4.

Response: Pursuant to the SDEIS, Site 4 is no longer under consideration.

Site 3 is not recommended due to the expense associated with advanced wastewater treatment at that site.

2.2.10.4 Comment: (W11)

The threat of groundwater pollution should be eliminated by using "tertiary" treatment in the form of spring irrigation.

Response: As proposed in the SDEIS, rapid bed infiltration following secondary treatment has been found to be both cost-effective and environmentally sound. "Tertiary" treatment is not required to prevent groundwater pollution at Site 1.

2.2.11 Corrections/Clarifications

A number of corrections in the DEIS were recommended. EPA generally concurs with these corrections.

2.2.11.1 Comment: (W4)

The mercury standard for shellfish should be 0.5 ppm.

Response: We concur in this change

2.2.11.2 Comment: (W9)

The Martha's Vineyard Commission has recommended corrections or clarifications on the following pages and paragraphs (48-1) (67-5) (69-3) (69-4) (69-5) (69-6) (70-1) (70-2) (70-3) (71-72 Table 12) (72-2) (72-2) (75-4) (76-2) (76-3) (76-4) (147-5) and Table of Contents.

Response: We concur in the changes and clarifications for the above pages.

2.2.11.3 Comment: (W9)

Define high density and industrial on maps on Pages 59 and 77.

Response: High density represents housing development with more than two units per acre. Commercial and industrial are included under the same use category for the Land Use Map on Page 59.

The densities on the Zoning Map on Page 77 are as provided in the zoning regulations of the several towns.



2.2.11.4 Comment: (W9)

Define urban as used in Table 11.

Response: Urban includes densities of 1.5 person per acre or higher as well as commercial, industrial and public uses such as schools.

2.2.11.5 Comment: (W9)

Detail borings in service area as to soil type, depth to water and "suitability" for wastewater disposal.

Response: Borings were not taken in the service area.

2.2.11.6 Comment: (W9)

A map showing well locations in Appendix B is required.

Response: See Figure 3 on Page 19 of DEIS

2.2.11.7 Comment: (W11, H7)

Corrections in flora and fauna listings on Pages 30 and 31 are required.

Response: We concur in the corrections.

2.2.11.8 Comment: (W19)

Change interpretation of public sentiment of Workshop #2 as recorded on Page 187.

Response: We agree with the change.

2.2.11.9 Comment: (W19)

Changes in wording are suggested on Pages 31, 176, 177-178 and 31.

Response: We concur with the proposed changes and additions.

## 2.3 RESPONSES TO SUPPLEMENT TO DRAFT ENVIRONMENTAL IMPACT STATEMENT COMMENTS

At a hearing held on October 12, 1978, comments were received from ten speakers. As a unique feature of this hearing, the Deputy Regional Administrator of Region 1 of EPA encouraged responses by representatives from EPA, the Massachusetts Division of Water Pollution Control and Anderson-Nichols. The responses are incorporated in the transcripts of the public hearing which has been reproduced as Appendix E. The comments below pertain to items not fully covered in the verbal responses or not answered under Section 2.2 above. In addition, a response is included for questions raised in the one written document received from EPA.

### 2.3.1 Need for Sewerage System (SH1, SH2)

There is a continuing concern that the small Phase 1 collection and treatment system is not necessary.

The responses to these comments have been covered in Section 2.2 above and in Chapter 1.

### 2.3.2 Location of Treatment Facility (SH5)

This was not a major issue of the hearing although it was mentioned that there still is a local concern with Site 1.

The previous responses in 2.2 above cover this subject.

### 2.3.3 Community Growth and Development (SH11)

Several speakers mentioned growth in general and growth necessary to support a wastewater facility as not consistent with local goals.

Please refer to Chapter 1 and Section 2.2.3 above for a discussion of growth issues.

### 2.3.4 Historic/Archaeologic Resources

There were no comments on this topic.

### 2.3.5 Open Space Preservation

The one written submission had general application to this subject area.

2.3.5.1 Comment: (SW1)

What will be the impact on recreation areas and wildlife habitat.

Response: See response to 2.2.5 above.

No threatened or endangered wildlife or plants will be affected by this project. Two species, out of fifteen, present on a list compiled by the Massachusetts Division of Fisheries and Wildlife, may be visitors to the area, but the site is not critical habitat. They are the Bald Eagle (*Haliaeetus leucocephalus*) and Peregrine Falcon (*Falco peregrinus*). The Bald Eagle also appears in the Federal Register Volume 42, Number 135, pertaining to "Endangered and Threatened Wildlife and Plants".

The major impact of the project as it relates to fish and wildlife is positive. Sewering of the commercial area will preclude any pollution of the harbor from land based wastewater sources.

Site 1 is wooded and contains a small open field. It has no unique characteristics which would suggest it be preserved for wildlife.

2.3.6 Treatment Residual (SH3)

The composting product from a holistic composting system is said to have a much higher value than the compost from a wastewater treatment plant.

EPA does not disagree.

2.3.7 Prejudicial Evaluation of Alternatives (SH-3)

There was a continuing claim that EPA had not given an equal level of effort to other treatment processes as required by EIS regulations.

Please refer to Section 2.2.7 above.

2.3.8 Costs

The questions were in two major areas as discussed below.

2.3.8.1 Comment: (SH-3, SH-4)

Clarify cost effective analysis and for whom it is done.

Response:

EPA is concerned with the alternative which provides a solution to a problem, is environmentally sound and is most efficient in its use of Federal, State, Local and individual funds. The analysis is done for the benefit of the community.

The limits of time and funds preclude an exhaustive analysis of every possible secondary cost.

2.3.8.2 Comment: (SH-1)

If the Town of Tisbury only wants a night-soil facility but the EIS recommends a collection and treatment system, will EPA fund only a nightsoil facility?

Response:

EPA would approve such a facility only upon the submission of convincing evidence that the analysis reported in 1.3.1 and the conclusions presented in 1.3.3 above are incorrect.

2.3.9 Odors

There were no comments on this topic.

2.3.10 Miscellaneous

A number of miscellaneous comments or questions are reported below.

2.3.10.1 Comment: (SH-3, SH-10, SH-1)

Clarify decision-making process.

Response:

Essentially the decision-making process included a determination of needs; the review and screening out of alternatives

not responsive to the needs; an evaluation of treatment methods and sites; an analysis of environmental impacts; and a cost-effective analysis.

The alternative selected was determined to be responsive to local needs, in accordance with EPA and Commonwealth regulations, environmentally sound and cost-effective.

Chapter 1 of this EIS provides a summary of the decision making process. The screening process did not eliminate recommendations for non-structural measures.

2.3.10.2 Comment: (SH-6)

Draft EIS does not evaluate less than secondary treatment.

Response:

An evaluation of less than secondary treatment is contained in the SDEIS.

2.3.10.3 Comment: (SH-8)

Water conservation program is urged.

Response:

Water conservation is encouraged as one of the non-structural measures of both this EIS and the "Water Quality Management Plan for Martha's Vineyard."

The SDEIS offers a number of water conservation proposals.

2.3.11 Corrections/Clarifications

Several corrections and proposed changes were noted as follows.

2.3.11.1 Comment: (SH-1)

On Page 3 of the SDEIS there is a quotation from the "Draft Water Quality Management Plan for Martha's Vineyard". The

quote is obsolete and the Final Plan states: "Avoid need for sewerage through rehabilitation or replacement of failing septic systems".

Response:

The change is acknowledged.

2.3.11.2 Comment: (SH-1)

The SDEIS included several incorrect interpretations of the Survey and Report on the Special Sanitary Control District. These are on Pages 8 and 13.

Response:

We concur in the revised interpretations.

2.3.11.3 Comment: (SH-1)

The Survey and Report on the Special Sanitary Control District recommended the inclusion of the residential area along Lagoon Pond Road if a sewage collection system is proposed.

Response:

As discussed in 1.4.1 of this EIS, inclusion of this area is recommended.

2.3.11.4 Comment: (SH-1)

Commercial flows may average 3,000 gallons per day but are probably much higher during the peak summer months.

Response:

We agree.

2.3.11.5 Comment: (SH-3)

The SDEIS has conflicting times on the period of operation of the Fort Devens rapid infiltration facility.

Response:

The correct time period is 30 years.

## APPENDIX A

This Appendix Includes:

- Tisbury Board of Health Newsletter #1
- Tisbury Board of Health Newsletter #2
- Division of Water Pollution Control Letter to Tisbury Board of Selectmen - January 2, 1979
- EPA Letter to Tisbury Board of Selectmen January 5, 1979
- Martha's Vineyard Commission to EPA January 12, 1979
- Tisbury Waste Committee Letter to Division of Water Pollution Control - January 17, 1979
- Tisbury Board of Health Letter to Division of Water Pollution Control - January 16, 1979
- Tisbury Waste Committee Letter to EPA - December 6, 1978
- EPA Letter to Tisbury Waste Committee - December 18, 1978

# TISBURY BOARD OF HEALTH NEWSLETTER #1

## DEFINITION OF THE WASTEWATER PROBLEM

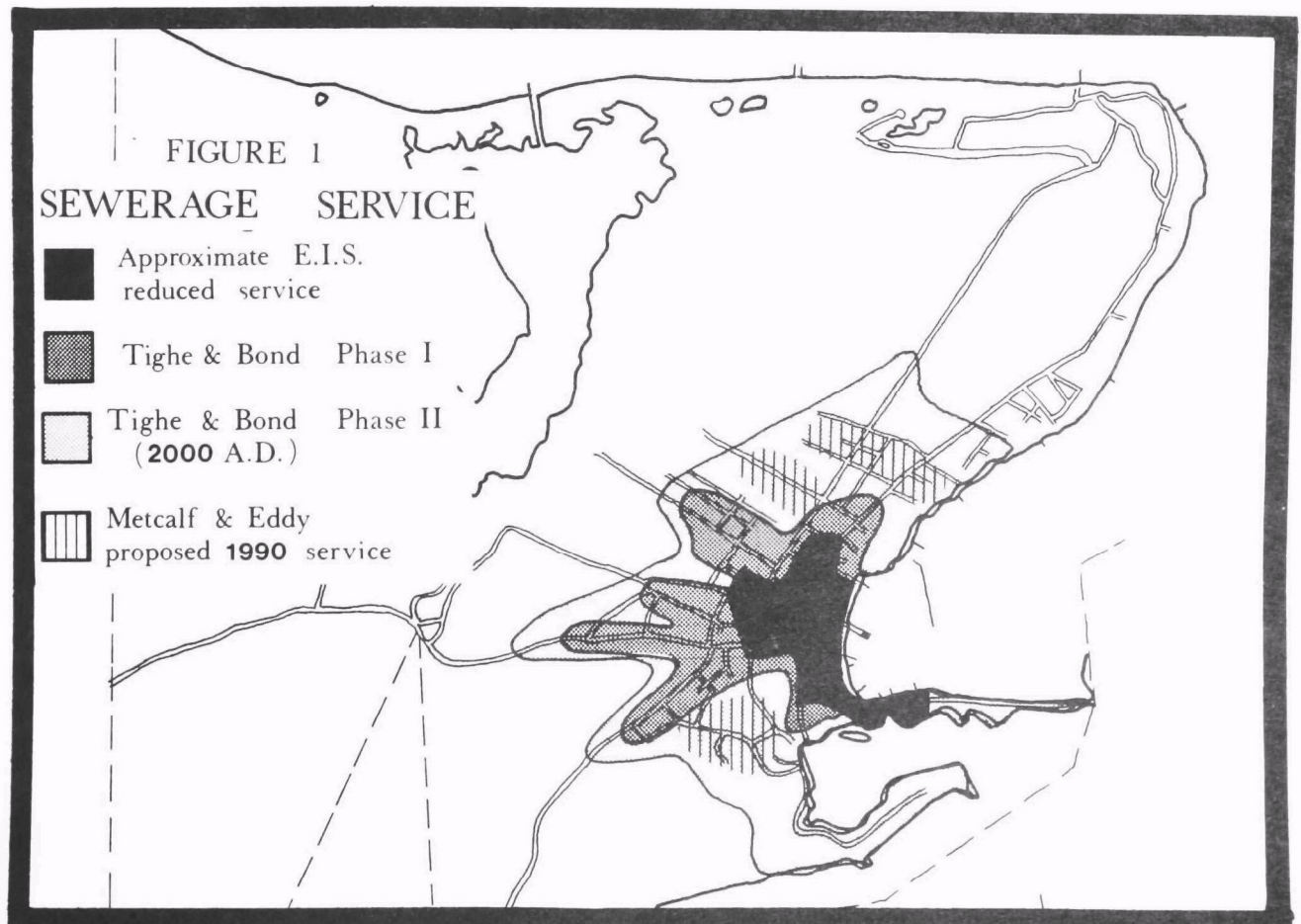
PLEASE SAVE FOR FUTURE SPECIAL TOWN MEETING

### FOREWORD

Soon there will be a special town meeting to select a solution to correct the sewage disposal problems in the Town. In order to help you make the appropriate choice, over the next few months the Board of Health will publish a series of fact sheets to familiarize you with the issues. This newsletter describes the problem. Subsequent letters will summarize the solutions available, their costs and impacts on the Town. Copies of a more detailed study of the problem are available at no cost at the Town Hall.

### HISTORY

In 1973 the Town of Tisbury initiated an engineering study of the need for a sewer service. The study recommended a sewerage collection system which was to service a large portion of the Town (see figure 1 - Tighe and Bond Phase I Service Area). An Environmental Impact Statement (EIS) on this proposal was required by the Environmental Protection Agency (EPA). The results of the EIS were presented in September 1977, recommending a smaller sewerage service area (see figure 1). At this time the Board of Health and the Planning Board and the Martha's Vineyard Commission initiated a lot by lot survey to define the number and location of problem sewage systems and the potential for taking remedial action short of sewerage.

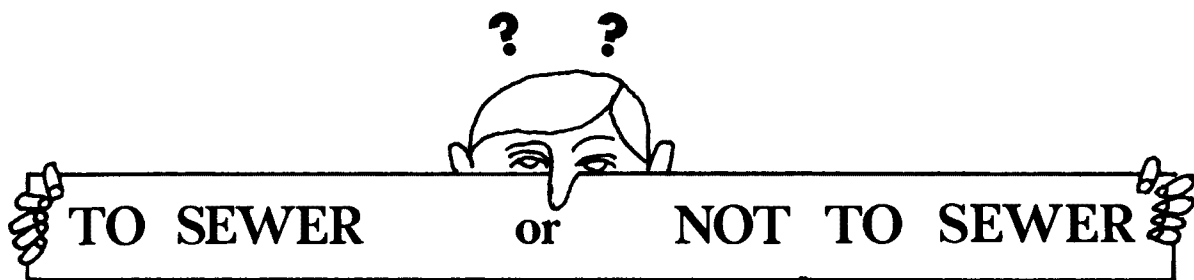




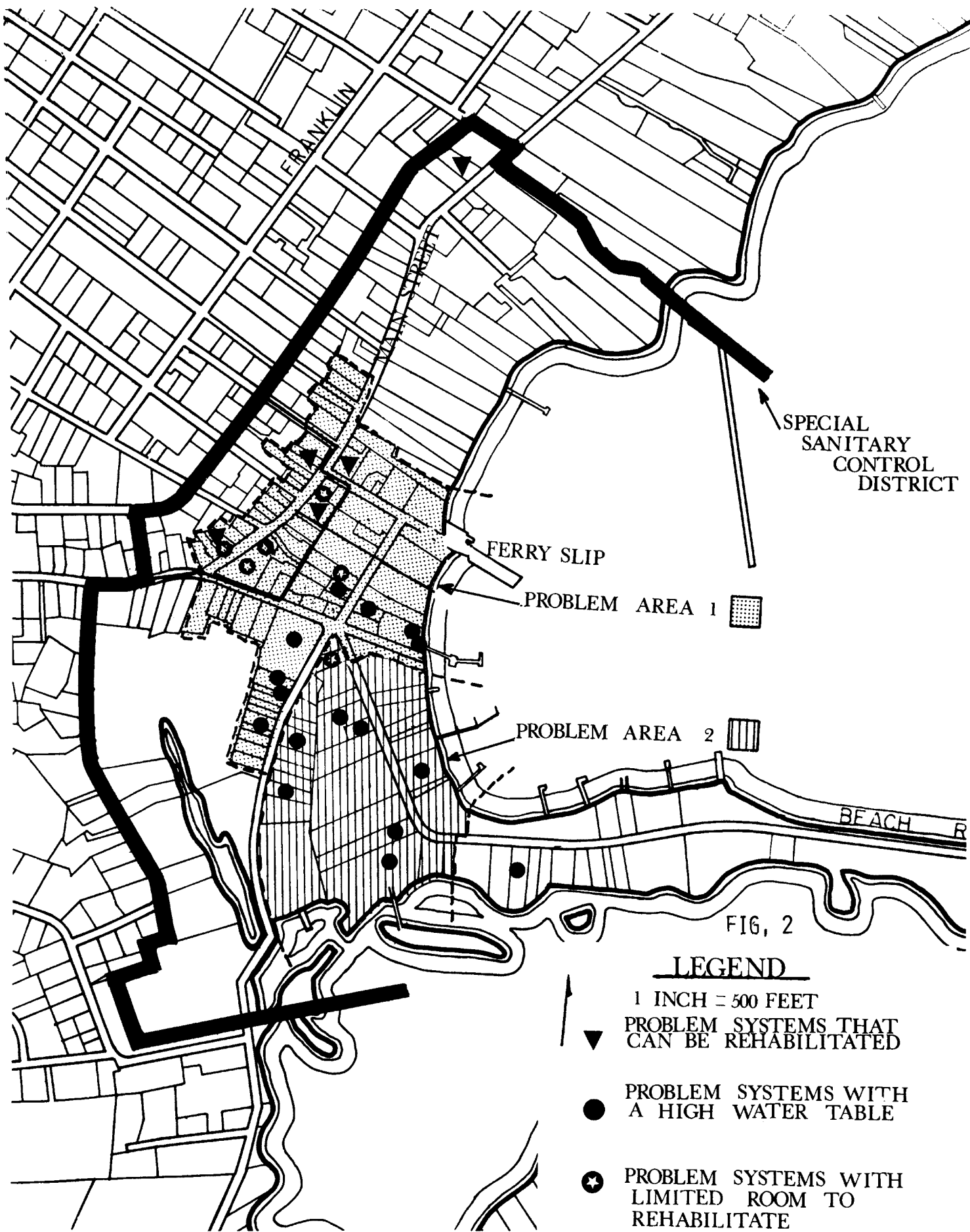
## THE PROBLEM

In the intensely built up and used parts of downtown, many existing sewage disposal systems are inadequate to handle the sewage they receive each day. Problems are caused by the volume of sewage which must be disposed, the near surface water table, the small lot sizes or the age and condition of the systems. This leads to a continual need for nightsoil pumpouts, with no acceptable means of disposal. The information available from the 160 lots surveyed and the nightsoil pumpers records indicates there are 27 problems systems which require corrective action. At least 4 of these can be corrected by conventional means. If the Town desired to use an alternative solution to sewers involving the construction of mounded sewage disposal systems, all but 7 problems could be corrected. The majority of the problem systems occur in two areas (see attached figure 2). In Area 1, including Main Street, the problems are both the intensity of use and the lack of room for rehabilitation. In Area 2, the problem is primarily the near surface water table. Some ground water contamination is indicated in both areas, however, there are no threats to drinking water supplies because the Town Water Company serves the entire area with water drawn from wells which are outside the downtown area. Harbor water quality has also not yet shown significant deterioration. Some of the seasonal contamination may be from the many boats which use the Harbor.

Currently these problem areas are within a Special Sanitary Control District designated by the Board of Health in November, 1977 (see figure 2). In this area, no new sewage generating uses and no increase in existing uses are allowed in order to control the problem until a solution is worked out. The impacts of the solutions available will be discussed in a later fact sheet.



- |                                   |                                 |
|-----------------------------------|---------------------------------|
| — Downtown revitalization         | — Loss of downtown businesses   |
| — Initial costs + increased taxes | — Savings to Town               |
| — Induced growth                  | — Limited growth                |
| - increased traffic               | - kiteshops & bookstores        |
| - hotels & restaurants            | — Possible harbor contamination |



## FACTS WITH WHICH TO MAKE A CHOICE

Results of a door to door survey on sewage problems conducted by the Tisbury Planning and Health Boards and the Martha's Vineyard Commission. The data collected has been verified in June 1978, and what follows is the most up to date information available.

LOTS REGULATED BY THE SPECIAL SANITARY CONTROL DISTRICT. . . . .220  
 LOTS SURVEYED. . . . .161  
 SYSTEMS WITH A PROBLEM . . . . .27  
 USES WHICH HAVE A SEWAGE DISPOSAL PROBLEM:

STORES. . . . .7  
 STORES WITH AT LEAST ONE APARTMENT. . . .4  
 RESIDENCES. . . . .5  
 APARTMENTS. . . . .1  
 RESTAURANTS . . . . .6  
 HOTELS/MOTELS . . . . .2  
 GATHERING SPOTS (THEATRES, ETC.). . . .2

NUMBER OF PROBLEM SYSTEMS WHICH CANNOT BE REHABILITATED. . . . .6

NUMBER OF PROBLEM SYSTEMS WHICH CAN BE REHABILITATED BY  
 CONVENTIONAL MEANS . . . . .4

NUMBER OF PROBLEM SYSTEMS WHICH CANNOT BE REHABILITATED BY  
 CONVENTIONAL MEANS (BUT COULD BE REPAIRED WITH ADDED COSTS  
 WITHOUT SEWERING). . . . .16

PROBLEM SYSTEMS WHICH COULD BE REHABILITATED WITH ALTERNA-  
 TIVE SYSTEMS TO OVERCOME HIGH WATER TABLES . . . . . 21 OUT OF 27

## OTHER FACTS TO CONSIDER

COST OF MOUNDED SYSTEMS. . . . . \$3000 - \$20000

## INDIVIDUAL RESIDENCES

Except for four systems most residences in town have room to re-  
 place a failing system. We have not yet done an exhaustive survey  
 of the room available on residential lots.

## FUTURE FAILURES

IN THE FUTURE WE EXPECT THAT ADDITIONAL SYSTEMS WILL DEVELOP  
 PROBLEMS AT A RATE BETWEEN 1 AND 7 PER YEAR.

## FUTURE FACT SHEETS:

- \*\* POSSIBLE SOLUTIONS TO THE PROBLEM INCLUDING COSTS
- \*\* SOCIAL, POLITICAL AND ECONOMIC IMPACTS ON THE TOWN OF THE OPTIONS

This newsletter was produced by the Tisbury Board of Health with the  
 assistance of William M. Wilcox of the Martha's Vineyard Commission.

\*\*\* PLEASE SAVE FOR TOWN MEETING \*\*\*

# OPTIONS AVAILABLE TO SOLVE THE SEWAGE DISPOSAL PROBLEM AND THEIR COSTS

## FOREWORD:

This is the second in a series of newsletters to inform Tisbury residents of the sewage disposal problems in their Town, the remedies available and the costs. A future newsletter will discuss impacts. Copies of more detailed studies of these problems are available at the Town Hall and the Library. If you have not received Newsletter 1, copies are available at the Board of Health Office, Town Hall Annex.

## THE PROBLEM:

In the first newsletter it was pointed out that there is a sewage disposal problem in downtown Tisbury caused by intense summertime use and near-surface water tables. Of 161 lots surveyed in the Main Street - Beach Road area, 27 had a problem and 7 of these could not be corrected without a combination of solutions involving holding tanks and decreased use. Some of the 20 which can be rehabilitated would require the use of costly innovative systems. The Town could expect an increasing rate of system failures in the future.

Taking no action at all is not recommended. There is a demonstrated health threat associated with continuing current practices because there is no facility to treat the nightsoil pumped from both failing and functioning septic systems. Nightsoil disposal will always be required and a solution to the nightsoil disposal problem requires priority attention.

## OPTIONS AND COSTS:

OPTION 1. To Construct a Nightsoil Treatment Plant and Develop a Septic System Maintenance Program for All Individual Residences and Commercial Establishments

This maintenance program would include:

- Regular pumping of all sewage disposal systems as a preventive measure when indicated;
- Water usage controls especially in problem areas;
- Continued correction of failing septic systems.

COSTS: There are Two Potential Nightsoil Treatment Facilities

### Tisbury Facility\*

Total Project:	\$531,250
Town's Share:	\$70,000
Annual Operation Costs:	\$27,500

### Multi-Town Facility\*

Total Project Cost:	\$605,000-\$1,212,500
Tisbury's Share:	\$49,680-\$61,884
Annual Operation Costs:	\$17,500
(Tisbury's Share)	

\*Costs for Option 1 are from Tighe & Bond (1975) and are updated based on 1978 costs. These figures are only estimates and are not interchangeable.

Regardless of which facility is selected there will be added costs to rehabilitate each failing septic system. These costs are now eligible for 75% federal funding.

Main Street - Beach Road Area	\$3,000-\$20,000/system
Most Residences	\$500-\$2,500/system

This newsletter was produced by the Tisbury Board of Health with the assistance of William Wilcox of the Martha's Vineyard Commission and Commission Members.

### OPTION 2. To Construct a Limited Sewage Collection System

This program would include:

- Installation of pipes to collect sewage from the downtown area with or without Beach Road;
- Sewage to be piped to a treatment plant;
- Septage (nightsoil) from the rest of the Town to be treated;
- Approximately 370 systems connected;
- Consideration would be given to a variety of innovative treatment systems including composting and spray irrigation.

#### COSTS:

Total Project:	\$2,000,000*
Town's Share:	\$889,000
Town Debt Service:	\$84,000 per year
Operation Costs:	\$55,000 per year
Average Annual Users Fee	\$150-\$250
For Residence:	
Initial Hook-up Cost:	\$300 per unit

### OPTION 3. To Construct a Large Sewage Collection System

This program would include:

- Service to downtown area as well as surrounding residential areas;
- Sewage piped to a treatment plant;
- Septage (nightsoil) from remaining portions of Town would be treated at this plant;
- Approximately 770 systems connected.

#### COSTS:

Total Project:	\$5,720,000*
Town's Share:	\$2,264,000
Town Debt Service:	\$214,000 per year
Operation Costs:	\$87,000-\$103,000
Average Annual Users Fee:	\$400
Initial Hook-up Cost:	\$300 per unit

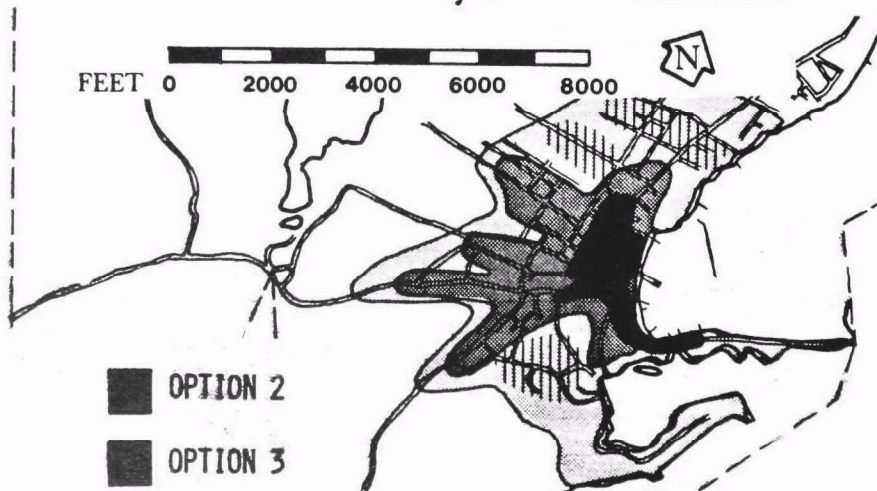
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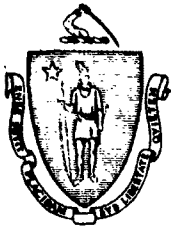
\*Costs from Anderson Nichols (1977) EPA Impact Statement. These costs are only estimates and are not interchangeable. The actual number of connections will have the greatest influence on user costs.

-----

An Environmental Protection Agency Public Hearing will be held on October 12 at the Tisbury School at 7:30 p.m. Those interested in participating and presenting their views are encouraged to attend. This is not a Town Meeting and no votes will be taken.

## Town of Tisbury, Massachusetts





OFFICE OF THE DIRECTOR

# *The Commonwealth of Massachusetts*

## *Water Resources Commission Division of Water Pollution Control 110 Tremont Street, Boston 02108*

January 2, 1979

Board of Selectmen  
Town Hall  
Tisbury, Massachusetts

Re: Tisbury  
Rehabilitation Program  
for Downtown Tisbury

Gentlemen:

On October 12, 1978 an Environmental Impact Statement (EIS) Hearing was held in Tisbury to present the findings and receive comments on the Supplement to the draft E.I.S. At the time of the hearing, Mr. Costa, Board of Health Agent, and Mr. Wilcox, Martha's Vineyard Planning Commission, jointly presented on behalf of the Town an additional option to the two alternatives recommended in the E.I.S. The purpose of this letter is to present the results and conclusions of our review as they relate to this option.

Before proceeding further, however, we would like to take this opportunity to applaud the efforts of your Board of Health and the Martha's Vineyard Planning Commission in conducting extensive field investigations and compiling said data. It was obvious in a review that a considerable effort was expended in completing these tasks.

The basic concept of this option is to avoid the sewerage of downtown Tisbury through a program of on-lot rehabilitation of subsurface disposal systems coupled with a septic system maintenance program, water conservation, and the construction of an In-town or Multi-town septage treatment facility. Under the rehabilitation phase of this program, 20 of the 27 known problem sites in the downtown area would be corrected through the use of mound systems (16) and conventional upgrading (4). The remaining 7 problem sites could not be corrected by conventional means and would require a combination of solutions including holding tanks and decreased water usage.

In an effort to evaluate the acceptability of this option, a detailed review was conducted together with Paul T. Anderson, D.E.Q.E., and EPA/State personnel. Our joint comments are as follows:

- 1.) Holding tanks are not an acceptable long-range solution to DEQE.
- 2.) The requirements of Title V of the State Environmental Code must be met, even with existing problem sites. Minor variances such as setbacks from property lines, depth to groundwater (if groundwater is already polluted), etc. may be made on a case-by-case basis. However, installation of systems in fill or unsuitable material will not be allowed, nor will requirements for reserve area or provision for reconstruction be waived.

- 3.) The estimated costs for septage treatment are understated. The treatment facility as proposed by Tighe and Bond in 1975 cannot handle the amount of septage associated with a septic system maintenance program.
- 4.) Of the 46 questionnaires submitted, 37 of them indicated problems but only 27 of those have been defined as problem areas. Please clarify.
- 5.) The proposed option forecasts an additional 1 to 7 new failures per year. Using a median value of 4 and a period of 5 years, this could result in 75% more problems arising than presently exist. This would not appear to be in the best interests of a long-term solution for your community.

In light of the aforementioned facts, it is the opinion of EPA and the State that the option of a rehabilitation program for the downtown area of Tisbury does not appear to be a viable, environmentally sound, long-term solution for solving your wastewater disposal problems. Unless additional information is submitted in support of this option by January 17, 1979, the EIS will be completed taking this option into account but not as a viable alternative.

Should you wish to discuss any of the items contained in this letter, please feel free to contact us.

Very truly yours,

Thomas C. McMahon  
Director

TCM/BLJ/rew

cc: Board of Health, Town Hall, Tisbury  
Department of Environmental Quality Engineering, Lakeville State Hospital,  
Middleboro  
Department of Environmental Quality Engineering, 100 Cambridge Street,  
Boston 02202  
Tisbury Planning Board, Town Hall, Tisbury  
Martha's Vineyard Planning Commission (P.O. Box 1447, Oak Bluffs 02557)  
Anderson Nichols, Inc., 150 Causeway Street, Boston 02114  
Environmental Protection Agency, Municipal Facilities Branch, John F.  
Kennedy Building, Boston 02203  
Environmental Protection Agency, Environmental & Economic Impact Office,  
John F. Kennedy Building, Boston 02203

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

Vineyard Haven, Massachusetts 02568

Dear People:

We were pleased to participate in the review of the comments on the Supplement to the Draft EIS which were submitted jointly by the Tisbury Board of Health and the Martha's Vineyard Planning Commission. We were joined, in this review, by our Municipal Facilities Branch, the Massachusetts Division of Water Pollution Control and Paul Anderson of Mass. DEQE. This is to state our concurrence with the conclusions expressed in a letter being prepared by the State.

In order to assure complete understanding in this matter, and to provide assistance in submitting further information, if that is the desire of the Town, this office will contact you by telephone early next week.

Please accept my appreciation for the efforts which have been extended by your townspeople.

Sincerely yours,

Wallace E. Stickney, P.E.  
Director, Environmental & Economic  
Impact Office

cc: Board of Health, Town Hall, Tisbury  
Department of Environmental Quality Engineering,  
Lakeville State Hospital, Middleboro  
Department of Environmental Quality Engineering,  
100 Cambridge Street, Boston 02202  
Tisbury Planning Board, Town Hall, Tisbury  
Martha's Vineyard Planning Commission  
(P.O. Box 1447, Oak Bluffs 02557)  
Anderson Nichols, Inc., 150 Causeway Street  
Boston 02114  
Environmental Protection Agency, Municipal  
Facilities Branch, J.F.K. Bldg., Boston 02203  
Division of Water Pollution Control



# THE MARTHA'S VINEYARD COMMISSION

BOX 1447  
OAK BLUFFS  
MASSACHUSETTS  
02557  
617-693-3453

January 12, 1979

Wallace E. Stickney, P.E.  
Director, Environmental & Economic  
Impact Office  
U.S. Environmental Protection  
Agency - Region 1  
JFK Federal Building  
Boston, Massachusetts 02203

RE: ENVIRONMENTAL IMPACT STATEMENT - WASTEWATER COLLECTION AND  
TREATMENT FACILITIES TISBURY, WEST TISBURY AND OAK BLUFFS,  
MASSACHUSETTS

Dear Mr. Stickney:

This is response to your letters of January 2, 1979 and  
January 5, 1979, and comments pertaining to the survey conducted  
by the Martha's Vineyard Commission.

The Martha's Vineyard Commission did not submit an additional  
option for inclusion in the Final EIS. The Commission, at the  
request of the Town of Tisbury, conducted an exploratory study to  
find and evaluate the facts of waste disposal more fully. The  
survey objectives were to better define the nature, density, and  
magnitude of the wastewater disposal problem in this area.

We would like to suggest that the solution (or solutions)  
selected is up to the Town of Tisbury as are such real concerns  
for the alleviation of growth impacts.

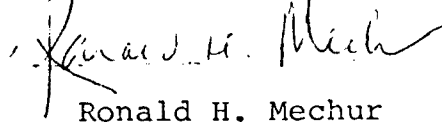
The Commission, in its role of A-95 Clearinghouse will review  
facilities proposals with regard to the community's characteris-  
tics, wishes, and needs.

The Tisbury Boards of Selectmen, Health, and Planning, to  
whom the letters were addressed and/or distributed, will no doubt  
advise you directly of their views. Considering, however, the

past and present participation of the Martha's Vineyard Commission, we feel that the Commission views and role should be made clear.

Thank you for your consideration.

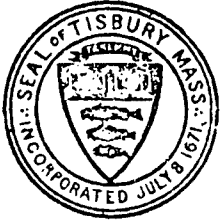
Sincerely,

A handwritten signature in dark ink, appearing to read "Ronald H. Mechur", written over a horizontal line.

Ronald H. Mechur  
Executive Director

RHM/jr

cc: Board of Health, Town Hall, Tisbury 02568  
Department of Environmental Quality Engineering,  
Lakeville State Hospital, Middleboro 02346  
Department of Environmental Quality Engineering,  
100 Cambridge Street, Boston 02202  
Tisbury Planning Board, Town Hall, Tisbury 02568  
Anderson Nichols, Inc., 150 Causeway Street,  
Boston 02114  
Environmental Protection Agency, Municipal  
Facilities Branch, JFK Building, Boston 02203  
Board of Selectmen, Town Hall, Tisbury 02568  
Division of Water Pollution Control,  
110 Tremont Street, Boston 02108



# TOWN OF TISBURY

VINEYARD HAVEN, MASSACHUSETTS 02568

## TELEPHONE

Town Offices 693-4200  
Police Dept. 693-0474  
Library 693-9721  
Boards of Health, Planning, Conservation  
(Annex) 693-4205  
Council on Aging 693-3032

17 January 1979

Thomas C. McMahon, Director  
Division of Water Pollution Control  
Water Resource Commission  
110 Tremont Street  
Boston, Massachusetts  
02108

Dear Mr. McMahon:

In response to your letter of 2 January 1979, the Waste Committee met and after discussion, it was determined that the additional study done by the Planning Board in conjunction with the Board of Health and eventually submitted to EPA was to have been considered additional information for consideration.

The complete impact of an on-lot maintenance program in this area can only be realized by setting up a tentative program and projecting cost for a qualified inspector and plant for disposal of septage.

The cost factors mentioned were not identified, therefore, no comment can be made regarding this item.

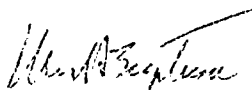
Further anticipation is that a fairly long range program will evolve and that any regulations forthcoming from the Federal Insurance Administration may have to be incorporated regarding installations, etc.

Probably the most important thing that has to be done now is to reemphasize the total program to the residents of the town and to be cognizant of the fact that many have fixed incomes - but the need for growth and the development of the town is also important.

Hopefully we can move along fairly rapidly after the EIS has been published.

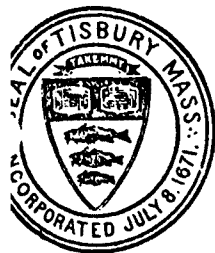
cc: Board of Health, Tisbury  
Department of Environmental Quality  
Engineering, Middleboro & Boston  
Planning Board, Tisbury  
Martha's Vineyard Planning  
Commission  
✓ Anderson Nichols, Inc  
Environmental Protection Agency  
Division of Water Pollution Control

Very truly yours,

  
M. A. Bergstrom, Chairman  
Waste Committee

mab/bad





# TOWN OF TISBURY

Office of

## THE BOARD OF HEALTH

P. O. BOX 1239

VINEYARD HAVEN, MASSACHUSETTS 02568

693-9229

January 16, 1979

Thomas C. McMahon, Director  
Division of Water Pollution Control  
Water Resources Commission  
110 Tremont Street  
Boston, Massachusetts 02108

RE: ENVIRONMENTAL IMPACT STATEMENT - WASTEWATER COLLECTION AND TREATMENT FACILITIES  
TISBURY, WEST TISBURY, AND OAK BLUFFS, MASSACHUSETTS

Dear Mr. McMahon:

This is in response to the copy of your letter of January 2, 1979 which we received on January 11, 1979, and your comments regarding the data from the survey of the downtown area of Tisbury conducted for the Board of Health by the Planning Board and the Martha's Vineyard Commission.

First we wish to inform you that there is no Mr. Costa connected with the Tisbury Board of Health nor do we have a health agent.

The information supplied you by Mr. William Wilcox of the Martha's Vineyard Commission was for your use in evaluating the situation in Tisbury and assessing the magnitude of the problem of disposal of wastewater. Never was this intended to be an "option" or an "alternative" and was not presented as such.

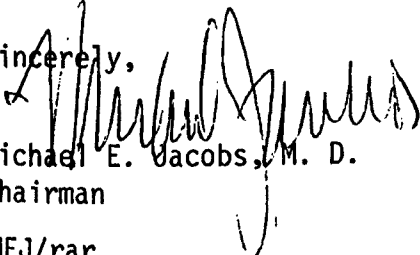
In item three of your letter you state "estimated costs for septage treatment are understated". We are not aware of what costs you are referring to as we have done no detailed analysis of such costs.

We could go into a lengthy discussion of problems with septic systems indicated by the questionnaires, versus the results of actual on site inspections, but the main point resulting from this survey we feel was that the number of problems are few, falling between 25 and 50 and are confined to a limited area.

Again, the Board of Health did not intend this information to be used as an "option" or "alternative", only to indicate the size of the problem and its location.

Thank you for your attention to these matters.

Sincerely,

  
Michael E. Jacobs, M. D.  
Chairman

MEJ/rar

CC: Department of Environmental Quality Engineering, Lakeville State Hospital,  
Lakeville, MA 02346  
, Department of Environmental Quality Engineering, 100 Cambridge Street, Boston,  
MA 02202  
Tisbury Planning Board , Box 1239, Vineyard Haven, MA 02568  
Martha's Vineyard Commission, Box 1447, Oak Bluffs, MA 02557  
Anderson Nichols, Inc., 150 Causeway Street, Boston MA 02114  
Environmental Protection Agency, Municipal Facilities Branch, John F. Kennedy  
Building, Boston, MA 02203  
Environmental Protection Agency, Environmental & Economic Import Office,  
John F. Kennedy Building, Boston, MA 02203  
Tisbury Selectmen



# TOWN OF TISBURY

VINEYARD HAVEN, MASSACHUSETTS 02567

TELEPHONE  
02567-0100  
Police 02567-0074  
Tisbury 02567-0101  
Board of Health 02567-0000  
Tisbury 02567-0101  
Tisbury 02567-0101

6 December 1978

Mr. Kenneth Wood  
U.S. Environmental Protection Agency  
Region I  
John F. Kennedy Federal Building  
Boston, Massachusetts 02203

Dear Mr. Wood:

Since I talked with you on 1 December, our Waste Committee has met and we would like to have several questions answered, which are primarily administrative. I should have taken them to the conference at Brewster yesterday ---

I would expect that the Impact statement will summarized pretty much as the following:

1. There is a need for a collection and treatment system to serve portions of the downtown area of Tisbury.
2. To minimize the extent of sewerage expansions in the town, a determined effort must be made by Tisbury to monitor, convert and/or rehabilitate on-lot sewage disposal facilities in the town.
3. There still exist site selection problems.
4. And that the construction of a sewage collection and treatment system in the town will not have any adverse long-term environmental effect on Tisbury.

However, as the time grows nearer, hopefully for a decision, there are a couple of questions to be answered which will assist in decision making.

1. Is the Completed Environmental Impact Statement actually a facility plan for the Town of Tisbury or must the town update its 1974 Engineering Report or start all over in light of the numerous guideline changes that have been published since 1974?

Dec 11 1978



2. If the Environmental Impact Statement is a Facility Plan, will it be approved by the Massachusetts Division of Water Pollution Control and the Environmental Protection Agency ? Since the E.I.S. was accomplished by a division of the EPA which does not control the planning and construction grants which are available for Water Pollution Control is the E.I.S., as a Facility Plan worthless unless the grants people accept its finding ?

3. If the E.I.S. is not a Facility Plan, will there be state and federal funding for the 1974 Engineering report as well as any new work that is required? Also in the same line, can or will the town recover some of it incurred expenses so that additional work can take place ?

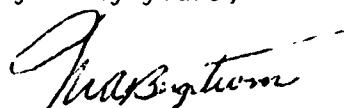
A point relative to question # 3 our records show that the Town of Tisbury has spent \$37,129.20 on the water pollution control program of which \$29,715.49 is eligible for state and federal reimbursement - so that when the town does take positive action towards implementation of a water pollution control program it should recover \$26,743.94 of the money spent.

When the final E.I.S. is ready I would like to have sufficient copies for our Waste Committee - 16 - also, if an executive summary is to be forthcoming would like same number for individual distribution - I am most anxious to get this information disseminated and have sufficient time to consider alternatives and the fiscal long term impacts. (other routine copies for distribution will be above this 16).

Also at the Waste Committee meeting, the Board of Health stated they desired to keep the moratorium in place until a final decision and action takes place. Do you see any foreseeable problem with this as long as the problem is actively being pursued?

Thank you for your assistance.

Very truly yours,

  
M. A. Bergstrom  
Chairman Waste Committee

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

December 18, 1978

N. A. Bergstrom, Chairman  
Waste Committee  
Town Hall  
Vineyard Haven, MA 02568

Dear Ms. Bergstrom:

This is in reply to your letter of December 6, 1978. Your analysis of what the Final EIS will contain is almost completely accurate. Your third observation that "There still exist site selection problems" may be in a vague area. We recognize that there are concerns, locally, with our recommendation of site #1, the "Tashmo" site, as our preferred alternative, but this site answers the requirements of NEPA in that it is the most cost-effective and environmentally sound of all the sites under consideration. The development of any other site would be significantly more expensive, and the funding eligibility could be questionable.

In response to your questions, let me take them in order:

1. If the Town accepts the recommendation of the Final EIS, no further facilities planning will be necessary, as all Step 1 requirements will have been satisfied. As you recall, the guideline changes and new program requirements that you referred to were among the reasons for the delay in the completion of the EIS, and all were answered in a satisfactory manner.

2. The Massachusetts Division of Water Pollution Control and EPA's Municipal Facilities Branch have worked closely with this office throughout the EIS study period. The Division has indicated to EPA that it would support the recommendations of the EIS, and our Grants people have assisted us in the preparation of the document. Unless there are some sudden changes in policy, we are assured of the approval of the EIS by both agencies.

3. As stated previously, the Final EIS will meet all requirements for facilities planning. If the Town accepts the recommendations of the EIS, it can submit an application for a Step 2 grant, and the eligible costs of the Tighe and Bond report will be immediately reimbursable.

If the Town does not accept the recommendation of the EIS, and decides to do more facilities planning, ~~it will be at~~ <sup>it will be at</sup> Tisbury's expense. The

100	cost of the Tighe and Bond report can only be reimbursed if a grant offer for Step 2 is made to the Town prior to the April 1, 1980 deadline.
-----	---



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

M. A. Bergstrom  
Page Two  
December 18, 1978

Executive Summaries will be distributed with the Final EIS, and there will be no problem in providing individual copies for the Waste Committee.

As to the status of the moratorium, I can only refer to the legal opinion expressed by our Assistant Regional Council. For your convenience, I have enclosed a copy.

Thank you for your letter, and I hope that I have been able to clarify some of your questions. If there are more, please keep in touch.

Sincerely,

Kenneth H. Wood  
Environmental Protection Specialist  
Environmental & Economic Impact Office

Enclosure

APPENDIX B

WRITTEN COMMENTS ON DRAFT  
ENVIRONMENTAL IMPACT STATEMENT

LIST OF WRITTEN COMMENTS ON  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

<u>Comment No.</u>	<u>Source</u>	<u>Date</u>
	<u>FEDERAL AGENCIES</u>	
W1	Department of Housing and Urban Development	10/18/77
W2	Department of Agriculture Forest Service	11/14/77
W3	Department of the Interior	11/18/77
W4	Department of Health, Education and Welfare	11/23/77
W5	Advisory Council on Historic Preservation	12/8/77
	<u>STATE AGENCIES</u>	
W6	Massachusetts Historical Commission	9/30/77
W7	Executive Office of Environmental Affairs, Coastal Zone Management	10/27/77
	<u>REGIONAL AGENCIES</u>	
W8	Martha's Vineyard Commission Water Quality Program	10/26/77
W9	Martha's Vineyard Commission Executive Director	10/27/77
	<u>LOCAL AGENCIES</u>	
W10	Town of Tisbury Board of Health	10/26/77

List of Written Comments on Draft Environmental Impact Statement  
(continued)

<u>Comment No.</u>	<u>Source</u>	<u>Date</u>
	<u>ORGANIZATIONS</u>	
W11	Vineyard Conservation Society	10/27/77
W12	Town of Tisbury The Waste Committee	10/28/77
	<u>INDIVIDUALS</u>	
W13	Virginia Oliveira	10/24/77
W14	F. M. Silvia and Joseph E. King	10/25/77
W15	Rose Marie King	10/26/77
W16	Louise K. Whitney	10/26/77
W17	Richard Flanders	10/26/77
W18	J. Gordon Ogden, III	11/7/77
W19	Michael Scully	11/14/77
W20	Ed Pachico	12/5/77



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
BOSTON AREA OFFICE  
BULFINCH BUILDING, 15 NEW CHARDON STREET  
BOSTON, MASSACHUSETTS 02114

John F. Kennedy Federal Building  
Boston, Massachusetts 02203

OCT 18 1977

IN REPLY REFER TO:

1.1SE

OCT 19 1977

U.S. Environmental Protection Agency  
Environmental and Economic Impact Office  
John F. Kennedy Federal Building - Room 2203  
Boston, Massachusetts 02203

Subject: Wastewater Collection and Treatment Facilities  
Tisbury, West Tisbury, Oak Bluffs, Mass.  
Environmental Impact Statement

Dear Mr. Adams:

The Draft EIS submitted to Region I Office of HUD was sent to the Boston Area Office of HUD for review and comment.

This office has reviewed the proposed Wastewater Treatment Facilities within its area of expertise and finds no conflicts with HUD objectives.

Thank you for giving this office the opportunity to review and comment on the above statement.

  
DEPUTY Area Office Director

W-2

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
NORTHEASTERN AREA, STATE AND PRIVATE FORESTRY  
6816 MARKET STREET, UPPER DARBY PA. 19082  
(215) 596-1671

8430

November 14, 1977



Mr. William R. Adams, Jr.  
Regional Administrator  
U.S. Environmental Protection Agency  
Region 1  
JFK Federal Building  
Boston, MA 02203

Refer to: Draft Environmental  
Statement, Wastewater Collection  
and Treatment, Martha's Vineyard, MA

Dear Mr. Adams:

According to Section C3, Terrestrial Ecosystems, the greatest impact on woodland would be at Site 4. Appendix F-3 states that this site is "eliminated from further consideration because of a new development". Displacement of vegetation and wildlife habitat will occur because of this development. This illustrates the interrelationships among all actions involving land use in their effect on natural resources.

Section H.1 refers to common construction precautions to minimize soil erosion. We should like the final statement to show how revegetation with grass, shrubs, and trees is used for that purpose and to improve appearance of the construction area.

Thank you for the opportunity to review this draft statement.

Sincerely,

DALE O. VANDENBURG  
Staff Director  
Environmental Quality Evaluation

NOV 18 1977



ER-77/888

# United States Department of the Interior

OFFICE OF THE SECRETARY  
 Northeast Regional Office  
 15 State Street  
 Boston, Massachusetts 02109

NOV 21 1977

November 18, 1977

Dear Sir:

This is in response to the letter of September 15 from Mr. Adams, requesting review of the draft environmental statement for wastewater collection and treatment facilities in Dukes County, Massachusetts.

We find the draft statement to be inadequate in its consideration of outdoor recreation and suggest that a map of any recreation areas located near the project site be included in the statement along with a description of any impacts the proposed project will have on those recreation areas.

Movement and chemical quality of leachate derived from the town's sanitary landfill (p. 51, par. 4) should be monitored for any adverse effects on the water quality of streams and wetlands.

The final statement should include a water-table map or prevailing ground-water gradients should be added to one of the present maps. Representation of the prevailing directions of ground water flow is needed because the text makes so many references to effects of ground-water movement that the direction and magnitude of the many ground-water gradients are highly important in impact evaluation.

We find the discussion of environmentally sensitive areas (shellfish resources and wetlands) to be adequate. However, if the site for the treatment plant and the interceptor alignments are identified before the final environmental statement is prepared, their potential impacts should be included in that document. This would allow us to state our most probable position on any necessary permits. That position could be made known in our review comments on the final environmental statement. Obviously, any intrusion into wetland or shellfish areas will present complications in the review of a permit application.

We also note that the document lacks any indication that the presence or absence of endangered species has been researched. This should be addressed.

Thank you for the opportunity to offer these comments for your consideration.

Sincerely,

*William Patterson*  
 William Patterson  
 Regional Environmental Officer

# MEMORANDUM

W-4  
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE  
FOOD AND DRUG ADMINISTRATION

TO : Mr. Donald Branum  
Regional Environmental Officer  
Region I, HEW

THRU : Dr. Norman Tufts - *NT* 11.28.77

FROM : Regional Shellfish Specialist  
Region I, BOS-FO

SUBJECT: EIS - Wastewater Collection and Treatment Facilities - Tisbury, Mass.

DATE: November 23, 1977

1. We have reviewed the Draft EIS, "Wastewater Collection and Treatment Facilities, Tisbury, Oak Bluffs, and West Tisbury, Ma.", in conjunction with our obligations under the NSSP on the classification of shellfish growing areas. The purpose of the EIS was to assess the environmental impacts of various proposed alternatives for treating sewage from named towns.
2. All of the proposed treatment facilities and approaches include the application of any waste effluents to the ground either by surface application or sand filter infiltration. There is no proposal for any direct discharge of a treated sewage effluent to Estuarine waters.
3. The EIS seems well prepared with the protection of shellfish growing areas being a principal consideration. It was noted, however, that on page 26 under Marine and Estuarine Ecosystems that the mercury standard for shellfish is incorrectly stated as being 1.0 ppm. The correct standard is 0.5 ppm.

*Darrell J. Schwalm*  
Darrell J. Schwalm  
Regional Shellfish Specialist  
Region I, BOS-FO



Advisory Council on  
Historic Preservation  
1522 K Street N.W.  
Washington, D.C. 20005

December 8, 1977

Mr. William R. Adams  
Regional Administrator  
U.S. Environmental Protection Agency  
Region I  
JFK Federal Building, Room 2203  
Boston, Massachusetts 02203

DEC 19 1977

Dear Mr. Adams:

Thank you for your request for comments on the draft environmental statement for the Wastewater Collection and Treatment Facilities, in Tisbury, West Tisbury, and Oak Bluffs, Massachusetts. Pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969 and the Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800), we have determined that your draft environmental statement appears adequate concerning areas of historic interest.

However, the draft environmental statement mentions properties of archeological significance and we need more information in order to evaluate the effects of the undertaking on these resources. Please furnish additional data indicating: compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f, as amended, 90 Stat. 1320).

The environmental statement must demonstrate that either of the following conditions exists:

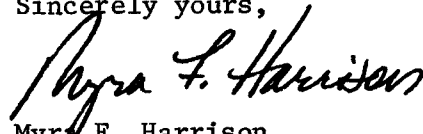
1. No properties that may be eligible for inclusion in the National Register of Historic Places are located within the area of environmental impact, and the undertaking will not affect any such property. In making this determination, the Council requires evidence of an effort to ensure the identification of properties eligible for inclusion in the National Register, including evidence of contact with the State Historic Preservation Officer, whose comments should be included in the final environmental statement. The State Historic Preservation Officer for Massachusetts is Elizabeth Amadon.

RECEIVED  
DEC 16 1977  
REGIONAL  
ADMINISTRATOR

2. Properties that may be eligible for inclusion in the National Register of Historic Places are located within the area of environmental impact, and the undertaking will or will not affect any such property. In cases where there will be an effect, the final environmental impact statement should contain evidence of compliance with Section 106 of the National Historic Preservation Act through the Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800).

Should you have any questions, please call Sharon Conway at (202) 254-3967.

Sincerely yours,

A handwritten signature in cursive script that reads "Myra F. Harrison". The signature is written in dark ink and is positioned above the typed name.

Myra F. Harrison  
Acting Director  
Office of Review and  
Compliance



PAUL GUZZI

*The Commonwealth of Massachusetts*  
*Office of the Secretary*

*Massachusetts Historical Commission*

*Secretary of the Commonwealth*    *294 Washington Street*    *Boston, Massachusetts 02108*  
*(617) 727-8470*

September 30, 1977

Mr. Williams R. Adams, Jr.  
 Regional Administrator  
 U.S. Environmental Protection Agency  
 JFK Federal Building  
 Boston, Mass. 02203

Re: Wastewater Collection and Treatment  
 Draft EIS, Tisbury, Oak Bluffs and West Tisbury, MA

Dear Mr. Adams:

The Massachusetts Historical Commission has reviewed the Draft EIS for the above project pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969.

The Draft EIS does not evidence compliance with Section 106 of the National Historic Preservation Act or 36 CFR Part 800. The discussion of historic and archeological resources (p. 32-36) identifies a number of historic properties in the project area, but does not adequately evaluate their eligibility for the National Register. Omitted is the Ritter House on Beach Street, Tisbury, which has been voted eligible for the National Register. The Williams Street Historic District and the Oak Bluffs Methodist Campgrounds District are eligible for the National Register. The National Register criteria (36 CFR 800.10) must be applied for the other historic properties which have been identified and for any other historic properties such as in the downtown commercial area.

The effects on eligible National Register properties discussed on page 164 are not particularly accurate. The effect of inducing additional residential development in the William Street Local Historic District would not necessarily be adverse as the local design review board established under the provisions of Chapter 40C, MGL, would provide architectural controls and design review. A more thorough evaluation of the significance of the commercial area and the extent of effects on it needs to be done.

**OCT 4 1977**

page two

Mr. William Adams  
September 30, 1977

Since no professional archeological investigations have been completed for the proposed sites, we are unable to comment on possible effects on significant archeological resources. Professional investigations meeting the standards of 36 CFR 66, App. B should be conducted and the survey reports submitted to our office for review before a determination of effect on archeological resources is made.

EPA or its consultant should contact our office directly to provide us the additional information requested and to carry out the required Section 106 Review.

Sincerely yours,

A handwritten signature in cursive script that reads "Elizabeth Reed Amador".

Elizabeth Reed Amador  
Executive Director  
Massachusetts Historical Commission  
State Historic Preservation Officer

ERA/MW/ed

NOV 3 1977

W-7



COASTAL ZONE  
MANAGEMENT

*The Commonwealth of Massachusetts*  
*Executive Office of Environmental Affairs*  
*100 Cambridge Street*  
*Boston, Massachusetts 02202*

M E M O R A N D U M

TO: U.S. Environmental Protection Agency,  
Environmental and Economic Impact Office  
MEPA Unit,  
Executive Office of Environmental Affairs

FROM: Eric E. Van Loon, *AW* Director, Coastal Zone Management

DATE: October 27, 1977

SUBJECT: DEIS, Wastewater Treatment Facilities - Tisbury,  
West Tisbury, Oak Bluffs, Massachusetts

---

Staff of the Massachusetts Coastal Zone Management Program have reviewed the above referenced document insofar as it relates to the policies and criteria of the CZM Plan. In general, we find the report's step by step analysis of alternatives and impacts to be well researched and set forth. Specific comments on the text follow.

pp. 97- The documentation of water quality problems is good.  
108 However, no mention is made of the sampling results cited earlier in the report (e.g., the high nitrate levels at wells 3,4, and 10) and the implications of those findings relative to the findings presented in this section.

✓ p. 116 We believe the statement that SA classification prohibits municipal discharges is incorrect. (see Mass. Water Quality Standards) The Cape Cod and Islands Ocean Sanctuary Act, MGLA Chapter 132, Section 15, however, does prohibit new municipal wastewater discharges.

p. 145 CZM concurs with the report's statement that the alternative service areas are consistent with the State's Growth Policy, as well as with CZM Policy 35 (CZM Program, Volume I, March 1977) The alternative 3 service areas appear to be most consistent with the recommendations of the draft 208 plan for Martha's Vineyard.

October 27, 1977  
Page 2

- p. 158 Design of collection facilities in flood hazard areas should ensure the risks of damage are minimized and existing hazards are not exacerbated (CZM Policy 9).
- p. 162 CZM concurs with the report's finding that some form of local design review or architectural controls should be investigated by the town to protect visual character.
- p. 181 The report should include a discussion of the secondary impacts which may result from running a force main to sites 3 and 4 and mitigating measures that can be used should either of these sites be selected for a waste treatment facility.

.....

mc

cc: Madeline Snow, DEQE  
Dan Calano, CZM

## THE MARTHA'S VINEYARD COMMISSION

BOX 1447  
OAK BLUFFS  
MASSACHUSETTS  
02557  
617-693-3453

26 October 1977

TO: Environmental Protection Agency  
Environmental Impact Office

FROM: Water Quality Program, Martha's Vineyard Commission

SUBJECT: Draft Environmental Impact Statement  
Wastewater Collection and Treatment Facilities for  
Tisbury, Oak Bluffs and West Tisbury  
STATEMENT FOR OCTOBER 26 PUBLIC HEARING

-----  
This statement is entered into the record by the staff of the  
Water Quality Program.

Nightsoil Treatment and Disposal

1. A safe nightsoil treatment and disposal facility is needed for Tisbury, Oak Bluffs and West Tisbury and, in fact, such a facility is needed for all Island towns. Regardless of the implementation of any sewage collection and treatment alternatives there will always remain the need for an adequate and appropriate method of nightsoil treatment.
2. It is recommended that a single nightsoil treatment facility serve the needs of all Island towns. The only site discussed in the EIS which might be suitable is site number 4. A better site might well involve the disposal of the effluent in the State Forest. It is felt that the site analysis data is insufficient and the exploration of alternative sites inadequate to allow the selection of an appropriate site.

Wastewater Collection

1. There are no requirements for a municipal facility in West Tisbury. Large lots, low densities and a minimum of problems support this observation.
- 2a. Tisbury and Oak Bluffs have experienced significant problems in the safe containment and disposal of wastewater. This situation is indicated by the frequent pumpouts and occasional overflows of private sewage disposal systems. The most serious problems occur in a few relatively limited areas rather than throughout the towns.

2b. Information presented in the EIS does not provide an adequate definition of the problem. The survey of wastewater problems in the towns does not provide adequate data nor does the non-random sampling approach used justify the conclusions reached.

2c. As indicated in the EPA memorandum for regional administrators regarding funding of sewage collection projects, a thorough evaluation of cost-effective alternatives is now required for 201 funds. The possible use of non-structural solutions in the towns to limit the need for sewage collection systems must be explored in greater depth.

2d. Limited collection systems and small package treatment plants could effectively meet the needs of the localized problem areas so far defined. More thorough and conclusive data is needed to determine the optimum size of the service area and type of treatment system required.

2e. Any sewage collection system will have significant and difficult to predict induced growth impacts. This is of great concern to the towns and should be more fully explored as to type of growth, magnitude, locations and interpreted as to the town's ability to cope with it.

#### Program Recommendations

The 208 program recommends that an Island-wide nightsoil treatment facility be immediately planned, funded and constructed. The systems considered must be readily convertible to an agriculturally beneficial process such as composting. Such a facility should be conveniently located so that travel times from all towns are minimized and so that a future Island solid waste disposal program can be combined with the nightsoil treatment process. Site 4 as described in the EIS meets many important criteria: it is centrally located; it is adjacent to the State Forest where effluent might be beneficially utilized; it has adequate depth to groundwater and is isolated from groundwater supply wells.

The 208 program feels that two scenarios deserve more thorough attention in the Final EIS. First, a program of non-structural solutions to eliminate if possible the need for sewage collection systems in both Tisbury and Oak Bluffs should be more fully explored in the Final EIS. There is an immediate need to initiate this kind of program in both towns now. Any collection systems recommended should be limited in area to those portions of town which clearly cannot be handled by a non-structural approach. This program feels that the Final EIS should address the costs and benefits as well as the added responsibilities of such an approach. In what portions of the towns could improved septic systems, reduced water consumption and a regular pumpout and system maintenance program provide the answer? The 208 program fully supports the town of Tisbury's effort to obtain more detailed information to answer this question.



Second, if it is conclusively demonstrated that limited collection systems are required, they should be confined to the area of need. Areas where steps can be taken to further reduce the Alternative 3 service areas should be thoroughly identified and described. The use of compact, package treatment plants to handle limited collection systems should be carefully considered. The appearance, dimensions, operation and maintenance costs of package systems should be detailed in the Final EIS. Potential in town locations for these systems include Ocean Park in Oak Bluffs and Legion Park in Tisbury.

William M. Wilcox

William M. Wilcox  
Water Quality Program Manager

## THE MARTHA'S VINEYARD COMMISSION

NOV 1 1977

BOX 1447  
OAK BLUFFS  
MASSACHUSETTS  
02557  
617-693-3453

27 October 1977

TO: William R. Adams, Jr.  
Regional Administrator, EPA, Region I

FROM: Ronald H. Mechur, Executive Director, MVC

RE: Comments on Draft EIS, Wastewater Collection and  
Treatment Facilities - Oak Bluffs, Tisbury and West  
Tisbury

-----

I submit the following for public record on the above referred matter:

<u>page</u>	<u>paragraph</u>	<u>comment</u>
48	1	the 3 towns do not all have growth policies; the MVC has a draft growth policy and rate
48-49	all	enclosed please find MVC 208 population forecasts
59,77	maps	high density/industrial codes need number clarification; what are the densities referred to?
63	Table 11	define urban; inconsistent with Table 10 which identifies only residential types (not urban, suburban etc.); identify seasonal population fluctuations
67	5	there are many other state agencies which have responsibility for state planning, in conjunction with wastewater collection and its impacts
69	3	the traditional planning powers of municipalities are reduced (or enhanced) in that local communities cannot grant development permits except upon approval by the MVC with or without conditions, for referred DRI's
69	4	MVC planning work is now under the Executive Office of Environmental Affairs (EOEA), not Office of State Planning (OSP)

NOV 3 1977

<u>page</u>	<u>paragraph</u>	<u>comment</u>
69	5	the growth policy report has been completed, only West Tisbury submitted a draft; the MVC has Draft Policies for Large Scale Residential Development and a summary checklist for commercial developments; the State presently has a draft of all policies in the state
69	6	DCPC's are not nominated by a town, but by a board of selectmen, planning board, board of health, or the conservation commission
70	1	the MVC considers a nomination based upon the following qualifications: -drinking water -fishing resource -farming resource -wildlife, natural, scientific, or ecological resource -cultural or historic resource -economic or development resource -major public investment -hazardous district
70	2	MVC may adopt (impose is not the language of C. 637) regulations, or amend and adopt regulations; towns may come forth with amended regulations
70	2	towns may adopt regulations, not must adopt
70	3	MVC designates districts, not adopts
71-72	Table 12	the MVC has designated (not adopted) and regulated 7 districts: -Coastal -6 towns -Island Road -6 towns -Special Places -6 towns -Sengekontacket Pond -Oak Bluffs -Tiasquam River -Chilmark -Dr. Fisher Mill -West Tisbury -Dr. Fisher Road -West Tisbury & Edgartown  The Draft EIS in its present form maybe identifying areas within the Districts.
72	2	both the DCPC and DRI processes focus on the characteristics of the land and water resources
72	2	type of development; rather than kind of development

<u>page</u>	<u>paragraph</u>	<u>comment</u>
73	3	the comment of induced impacts is sound; however, this needs much more detailed discussion on scope, magnitude and location
75	4	plans of development - the Open Space Plan and Master Plan Processes are proceeding in Oak Bluffs
76	2	plans for subdivision of land into two or more parcels are <u>normally</u> (?) submitted for approval to the Town Planning Board or <u>Board of Selectmen</u> (?)
76	3	Commonwealth does not have enabling legislation in the sense of the DEIS; reference should be to C. 41, the Subdivision Control Law; towns have cluster
76	4	the town of Oak Bluffs has enhanced sanitary provisions in section 13, Coastal Regulations, existing flood plain regulations, and in the regulations adopted by the MVC (Tisbury as well)
91	2	more in-depth discussion of where these non-structural alternatives might be effective and what options might be used
100	2	the location and density of these failures is of vital concern in sizing the service area
103	3	if over 60% favored the use of the Edgartown facility this alternative should be examined in detail in the Final EIS
108	2	please detail the borings in the service area as to soil type, depth to water and "suitability" for waste water disposal
115	3	the favored nightsoil treatment process, composting, should be greatly elaborated in the Final EIS; is it feasible to start out with composting or should a more conventional technique which is adaptable to composting be initiated and what is required in terms of equipment, manpower...?
123	2	A single nightsoil treatment plant should be looked into. Would the savings on a single plant warrant the added travel times as a trade off for less manpower and equipment...?

<u>page</u>	<u>paragraph</u>	<u>comment</u>
137	2	it must be pointed out that zoning can be changed and what role sewerage might play in this change
147	5	past coliform data has revealed occasional counts which are much higher than the 60/100 ml cited
B-19-22		site location maps are needed for these sampling sites
other		table of contents not properly numbered  detailed maps showing collection system, by street required

  
\_\_\_\_\_  
Ronald H. Mechur  
Executive Director

cc: Oak Bluffs, Tisbury, West Tisbury Board of Health  
dsj

#### 4.0 The Island's Human History, Population and Land Use

One of the most important elements in the creation of a water quality management plan for Martha's Vineyard is the analysis of past, present and future population and land use. These considerations are vital to assure that the plan is consistent with the nature of the community and its' needs.

##### 4.1 History

There are several theories available to account for the Island's name. According to one, Leif Ericson discovered the Island and the name was derived from "Vinland the Good". Others say, however, that Bartholomew Gosnold, an English navigator, discovered Martha's Vineyard in 1602. First settlements were made in 1646. During the 19th Century, Martha's Vineyard was famous as a whaling port. The towns of Tisbury and Edgartown have many of the large white whaling captains homes each facing the sea, not the road. After petroleum was discovered in the 1850's the whaling industry declined. Since then, the chief Island industry has been summer tourist trade and associated second home building. There is some fishing and some lobstering, but the beaches and the boating draw most of the income. The Vineyard has six separate townships each supporting its own social history as well as its own individual aesthetic character. From west to east, these include: Gay Head, Chilmark, West Tisbury, Tisbury, Oak Bluffs, and Edgartown.

##### 4.12 Population

The major demands which are put on our resources come from population growth which requires water for drinking and disposal of waste. One of the most important determinants of water, population, varies tremendously with the seasons and so too does the water quality and quantity. Unfortunately, the greatest demand for water supply comes at that time of the year when the least amount of water is available for consumption. The winter period of low demand for water allows soils to recover and ground water supplies to recharge. In the future, increasing conversion of seasonal homes to year-round use may lead to water-related problems.

##### 4.21 Present Population

An analysis of Steamship Authority (SSA), other private ferry, and air traffic statistics has lead to the conclusion that the peak summer day population for 1975 was 55,000 to 60,000 and the winter minimum was 7,900. The summer figures include an estimated 15 to 25 percent day-trippers which are not part of the overnight population. Figure 5 indicates the

seasonal variations in population based on this study. Each curve represents the net population when the item indicated is added on. The curve reaches a peak in August of some 47,000 people including the year-round population. A study of the statistics available from the Steamship Authority however indicated this to be low. The figures available sometimes did not reflect weekend peaks in travellers. They also do not include private boats and planes. Corrections were made which resulted in the 55,000 to 60,000 peak estimate. A simple check of space available for peak population can be used to substantiate these estimates.

It is estimated that there are presently 7,500 dwelling units on the Island of which roughly 40 percent or 3,000 are year-round and 60 percent or 4,500 are seasonal. If we assume 6 people per seasonal house and 4.5 people per year-round house during this peak day, we have a total of 37,800 people. Hotels can accomodate 4,500 people and boats moored in our harbors 2,500 people. Campers may add another 1,500 people for a total of 46,300 people when the year-round residents are included. Ten thousand day-trippers from the Steamship Authority, airlines and other boat lines would account for 56,300 people. The two estimates agree closely on 50-60,000.

#### 4.22 Population Projections

Projections of future year-round and summer overnight populations are included below. Given the large uncertainties in the driving forces and limiting factors in the Island's population, two distinct projections were made.

Table 3 Population Projections

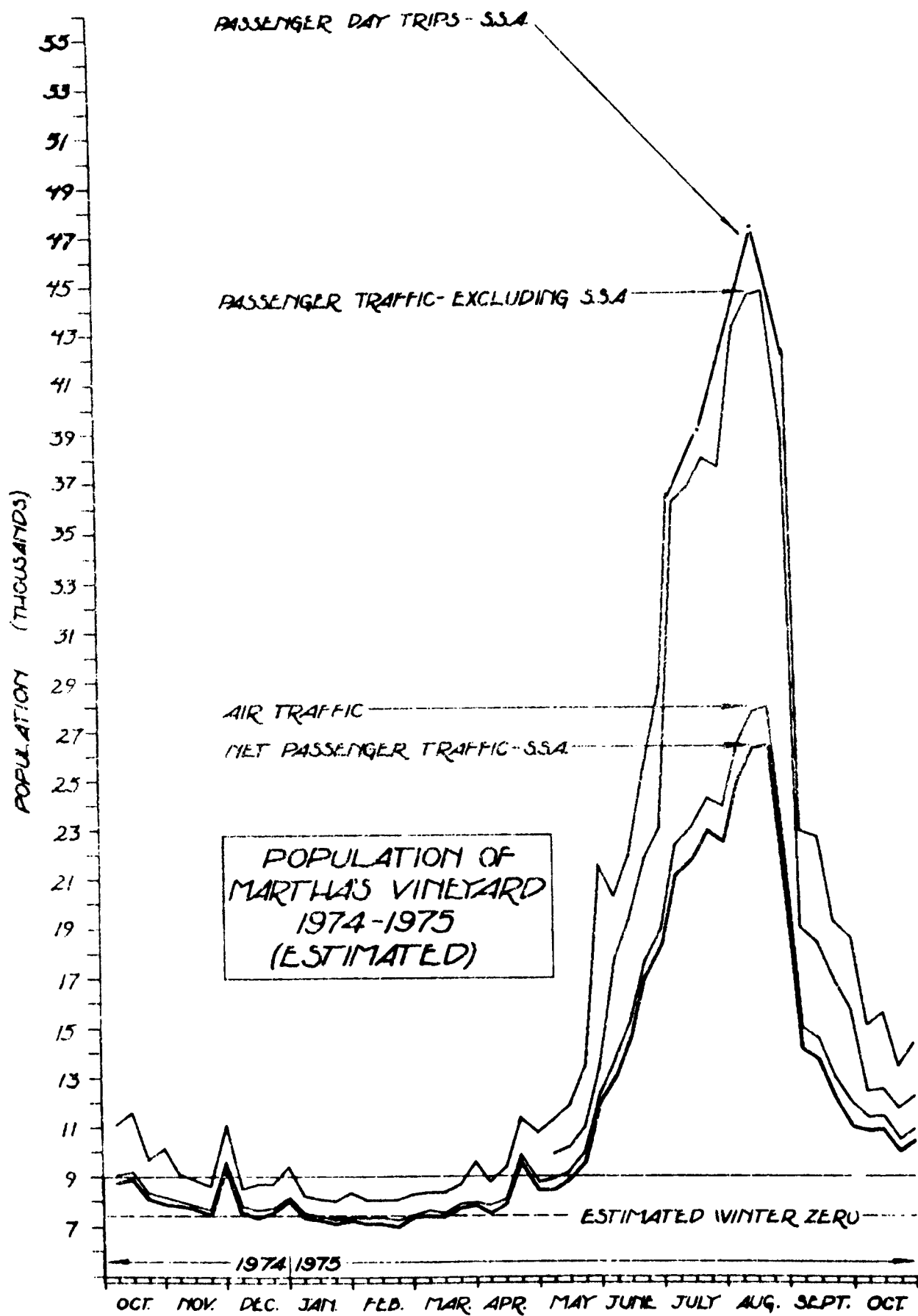
	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>
year-round						
low	7,900	9,000	9,800	9,400	9,400	9,400
high	7,900	9,600	10,900	11,800	12,400	12,800
summer	45,000	50,400	60,400	63,000	65,000	70,000

The 25 year growth in year round population is projected at 1500 under the low growth scenario and 4,900 under the high growth scenario. Growth in both year round and seasonal population depends on whether the Island continues to be attractive for recreation/second home/retirement and whether competing localities might become more attractive or convenient. The most volatile factor is the proportion of the feeder population - eastern Massachusetts and the New York City area - which wishes to recreate or retire here. Since these factors can not be accurately assessed at this time, these projections are considered approximate. Figure 6 clearly demonstrates a decided increase in rate of year-round growth. The overnight seasonal figures in Table 3 based on a maximum projected growth in housing. See figure 9 for high & low housing projections.

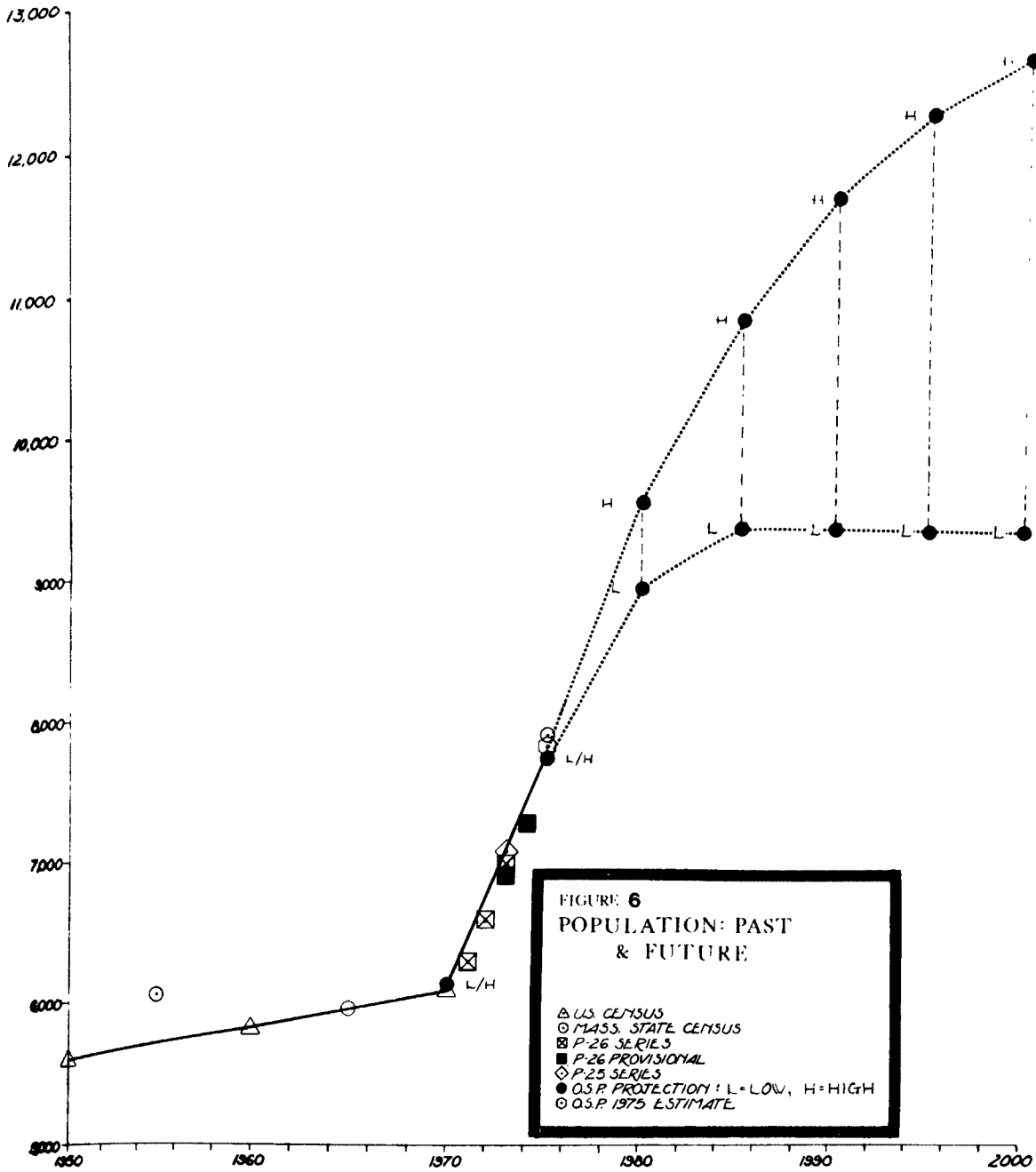
Growth in population has serious water quality implications. Each person added to our population requires 45 to 75 gallons of water per day. This is mainly used for human waste disposal or combined with the waste in our disposal systems. It is par-

Figure 5

POPULATION OF MARTHA'S VINEYARD 1974-1975  
(ESTIMATED)







tially treated and released to percolate in to the ground water or piped to a sewage treatment plant as in Edgartown only.

The 1,500 additional year-round people projected for 1995 would release an additional 140,000 pounds of waste into the environment each year. If there were 6,000 total new houses with an estimated 5 persons per household during the summer, there could be 750,000 total pounds of waste to deal with. This waste would be disposed with a total of 122 to 203 million gallons of water which must be supplied from our aquifers. In addition the added seasonal visitors associated with the 6000 new dwellings could produce some 7000 tons of solid waste which must be landfilled each year. Obviously there is a limit to the waste which can be absorbed by our land and waters. As we approach that limit, more and more contamination problems will occur. It is one aim of this program to define these problems and outline a program to mitigate them.

#### 4.3 Economy

Of the total Martha's Vineyard economy, over 95% of the area's base economy, as indicated by total receipts, is related, either directly or indirectly, to the resort industry, vacation services and sales or second-home construction and attendant services. The resort industry, and thus the bulk of Martha's Vineyard's economy, is dependent on two major factors: the state of the nation's economy and the attractiveness of Martha's Vineyard as a resort community.

While the economy of the Island each year is becoming more tourist-based (Massachusetts Division of Employment Security, 1977, Table 4) in spite of a 20 million dollar per year input, tourism, when combined with off-Island purchases, may cause a net economic loss to the Island through establishing unfavorable trade arrangements with other areas. Instead of Islanders providing goods and services for each other, the Island provides tourist services for outsiders and then uses that income for purchasing goods and services from the outside.

During the 1976 tourist season, for example, about 1,100 to 1,200 jobs were held by non-residents earning 5.5 million dollars, most of which left the Island when the non-residents went home (Massachusetts Division of Employment Security, 1977). Unemployment for residents averages 8.4% year-round (1976). How much the Island has to spend on tourist infrastructure--roads, sewers, landfills and police; who benefits and who pays for services and what the social impacts of a tourist based economy are must be much better understood before large capital improvement programs are embarked upon.

For example, between 1950 and 1970 the Islands population grew by 8%. The MacConnell aerial survey indicated a growth in land uses by a constant 3 to 4% each year. In the period 1971-1976, the Islands

# TOWN OF TISBURY

VINEYARD HAVEN, MASSACHUSETTS 02568

Board of Health  
October 26, 1977

Telephone  
693-4200

693 9229

*Draft*

To: United States Environmental Protection Agency, Region 1  
John F. Kennedy Federal Building  
Government Center  
Boston, Massachusetts 02203

From: Tisbury Board of Health  
Box 1328  
Vineyard Haven, MA 02568

Subject: Draft Environmental Impact Statement,  
Wastewater Collection and Treatment Facilities

Reference: October 26, 1977 Public Hearing on Draft EIS

The Tisbury Board of Health feels the extent of the problem of pollution of the water and ground was inadequately documented in the Draft Environmental Impact Statement. We feel the data presented on harbor and ground water contamination was inconclusive.

At present the plans of the Board of Health and the Planning Board are to conduct a door to door survey of Business District I, Business District II - east, Industrial District and some adjacent areas to determine the type of septic systems, amount of usage and past and present problems; The results of this survey will be available to the Waste Committee and other interested parties.

In 1975 the Town of Tisbury Board of Health instituted a moratorium on new septic system installations or enlargement of existing systems in the critical areas.

Based on our review of the Draft EIS Wastewater Collection and Treatment Facilities and the Water Quality Management Plan for Martha's Vineyard "208" data, combined with our current knowledge of the status of the problem, we feel the following recommendations would be the most appropriate:

1. CONTAIN the problem and PREVENT its future enlargement by stringent enforcement of the moratorium, pending implementation of items #3, #4, #5. *which I'll read below*
2. REDUCE and CONTROL the size of the problem; monitoring of individual systems regarding adequacy and possible renovation or rebuilding.

3. PROVIDE a "NIGHTSOIL TREATMENT PLANT" at an appropriate site, possibly in the State Forest.
4. EVALUATE the minimum necessary LIMITED COLLECTION SYSTEM and a small "PACKAGE TREATMENT PLANT", based on our findings of the survey <sup>which is going</sup> to be conducted imminently.
5. SECURE the services of an INDEPENDENT SANITARY ENGINEER to assist in proposal evaluation which would provide a new and objective view based on all pertinent data.

We feel this plan would be feasible through implementation of existing rules and regulations and development of such additional ones as are deemed necessary to attain these solutions by the Board of Health and the Planning Board. Controlling the problem would decrease its magnitude and thereby the costs to the taxpayer.

Alfred F. Ferro, Chairman

Evelyn Thomas

Michael Jacobs

STATEMENT OF ROBERT E. WOODRUFF ON BEHALF OF  
VINEYARD CONSERVATION SOCIETY  
BEFORE E.P.A. HEARING HELD AT CORNELL HALL, VINEYARD HAVEN, MASS.  
October 27, 1977  
on draft EIS Wastewater Collection and Treatment Facilities for  
Tisbury, Oak Bluffs and West Tisbury

First, a general comment:

Overall we feel that the E.I.S. has generated a large amount of useful data and has responded to the major questions and issues raised at the public meetings. However, we feel the information has been presented in a very confusing format which does not readily lend itself to an intelligent comparison of alternatives.

Our specific recommendations are as follows:

- We are in full agreement with the several points made in the Water Quality Advisory Statement of the 208 Committee.

- We concur with the E.I.S. finding that composting of nightsoil is a feasible alternative to the pressing problem facing Island Boards of Health and we urge that E.P.A. funding be made available immediately through the E.I.S. process for a pilot nightsoil composting project to be located at the Edgartown Wastewater treatment facility. The location of this at the Edgartown facility will enable the dewatering of nightsoil prior to composting, which effectively eliminates the only major drawback to the composting method.

- We emphasize the need for more detailed study of the feasibility of upgrading individual on site disposal systems in problem areas. This should include costs, environmental impacts and effects on growth in the area as contrasted with costs, environmental impacts and growth impacts generated by a wastewater collection system. This data should be presented in straight-forward tabular form for easy comparison by the residents of Tisbury.

- While a collection system may ultimately be found necessary for Beach Road, we feel that the feasibility of upgrading individual systems in this area ought to have more detailed study before a decision is made to launch into an expensive collection system.

- Should a wastewater collection system be built, we feel it should be limited to those areas which clearly cannot be served by any other alternatives.

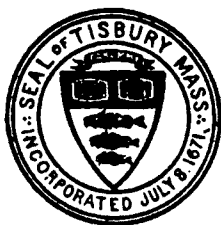
- In order to eliminate the threat of groundwater pollution, any "secondary" treatment facility built should incorporate a "tertiary" treatment system as well in the form of spray irrigation. As you know, this method is being used successfully in many areas including Otis Air Force Base to remove nitrates and phosphates, and its use here would enable consideration of sites which have been found unfeasible because of possible contamination of the groundwater.

Specific corrections to the E.I.S.:

P.30. Flora. Several oak species are mentioned, but the two principal tree species which occur on the Island have been omitted. These are Black Oak and White Oak.

P. 31. Fauna. Opossum, Shorttail weasel, Mink, Red Fox, Woodchuck, Snowshoe Hare, Red Squirrel and Beaver should be omitted. While all of them occur in Southeastern Massachusetts, none have occurred here in recent times.

NOV 7 1977



# TOWN OF TISBURY

VINEYARD HAVEN, MASSACHUSETTS 02568

## TELEPHONE

Town Offices 693-4200  
Police Dept. 693-0474  
Library 693-9721  
Boards of Health, Planning, Conservation  
(Annex) 693-4205  
Council on Aging 693-3032

28 October 1977

TO: Environmental Protection Agency  
Environmental Impact Office

FROM: The Waste Committee      M.A. Bergstrom  
Town of Tisbury      Executive Secretary, Chairman, Waste  
Committee

The Waste Committee reflects its opinion to this point as being in a position of evaluating the Environmental Impact Statement and at least at this time has a consensus that Alternate 3 be considered, with provision of Alternate 2 or combination of both.

The Board of Health members of the Committee have indicated rather strongly that a more detailed survey be done in the business and industrial area. Also, that the scope of solution be, if indicated, a limited collection system and a contained treatment plant located in the confines of the problem area.

The site for a night soil treatment plant, however, is the prevailing problem so that the disposal of waste water from pumpings can be processed. The location of such will still be influenced by the source of supply.

The Waste Committee would still not consider the Site III "dead" at this time.

A more detailed report of recommendations necessarily will be forthcoming as the final E.I.S. is presented at the beginning of the year.

Site location is still a prevailing problem.

Very truly yours,

For the Waste Committee

*M.A. Bergstrom*  
M.A. Bergstrom  
Executive Secretary

MAB:eav



33 Weaver Street  
New Bedford, MA 02740  
October 24, 1977

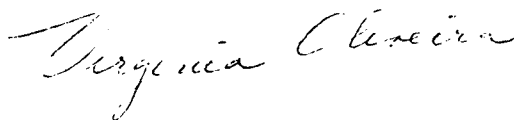
Chairman, Waste Committee  
Town of Tisbury  
Vineyard Haven, MA 02568

Dear Sir:

I am definitely opposed to the proposed sewerage treatment plant being located on Site I--between Lake and West Spring Streets. I have been looking forward to building a home on the property I own on Lake Street but this news is most discouraging. A plant of this type will certainly not enhance the property in this area.

I feel it is very unfair of your Committee to even suggest such a location and I believe that if more thought and consideration were given to this matter, you could come up with a site more acceptable.

Very truly yours,

A handwritten signature in cursive script that reads "Virginia Oliveira".

Virginia Oliveira

Oct. 25, 1977

Dear Miss Bergstrom:

As abutters of property on West Spring St. we certainly are not in favor of this sewerage problem being located near our property as we would have a problem selling any of it, therefore we certainly are not in favor of it.

Yours Truly  
 Thom M. Alvin  
 Joseph E. King

Abutter to S. 1/2 2.



Dear Mr Bergstrom:

Regarding your letter of Oct 14, regarding Proposed site for Waste Treatment Plant I do strongly Object to the Proposed site. I hope someday to build a home on my property and as to possibly sell part of the land for home sites I feel if this project should pass it would make my land worthless. Who would buy land to build next

to a sewage Treatment Plant? Last summer driving by the Edgartown plant the odor from the plant could be smelled from about a 2 mile radius.

I do understand, and sympathize with your problem but surely there must be another site not so near my property also the other abuttees that would suffer from such a project.

Sincerely

Miss Rose Marie King

Tashua Ave  
Vineyard Haven  
Mass

Chairman West Committee,  
Dear Sir,

In my mind the property owned by Lorna Flannery, the old Hancock place is too near house, and Tashnoo Lake, and I do not want it so near to my property on account of the drinking water.

The houses here on West Spring street are on lower land and that is bad.

Please don't put it up there.

Sincerely

Louis H Whitney

Richard Flanders: Haven't met site yet because:

- 1) Too close to Tushnet panel! -
- 2) H2O supply station not that far from. -
- 3) If we can collect water we want it.

Richard B. Flanders

Owner of Property Site I.



DALHOUSIE UNIVERSITY  
HALIFAX, NOVA SCOTIA  
CANADA

DEPARTMENT OF BIOLOGY

November 7, 1977

U. S. Environmental Protection Agency  
Region 1  
J.F.Kennedy Federal Building, Room 2203  
Boston, Mass 02203

Gentlemen:

In response to your invitation to comment on the Draft Environmental Impact Statement for Wastewater Treatment Facilities--Tisbury, West Tisbury, and Oak Bluffs, I appreciate the opportunity to express grave reservations about the suitability of site 3 (Manter site) for a wastewater treatment facility.

As I am sure you are aware the Lagoon-Duarte's Valley-Tashmoo axis is a former pre-glacial drainage channel which marks the interlobate area between the western or Vineyard lobe of the late Wisconsin ice, and the eastern or Cape Cod-Nantucket lobe of the same ice. Down wasting and retreat of this ice produced the outwash plain which begins south of the Valley and which is broadly exposed at Goodale's off the Vineyard Haven-Edgartown road. On the north side of the Valley most basement excavations showed till, whose drainage characteristics are probable suited for wastewater treatment and disposal. Nevertheless some basements, as well as well logs in the area, suggest the presense of gravel lenses and kame deposits similar to those flanking the east and south sides of the Valley. The soils map (1925) indicates loamy soils of similar composition on both sides of the Valley, including the area chosen as site 3.

I consider it highly probable that a considerable risk of groundwater contamination could occur from this site. An additional concern is the slow flushing rate of both Lake Tashmoo and the Lagoon. I have completed some studies (as yet unpublished) of the Lagoon and find that tidal prism segments in the Lagoon indicate 7 to 9 days residence time of water in the upper end of the Lagoon, an area already experiencing eutrophication problems.

With a system volume of about  $250 \times 10^6$  cu.ft. and a tidal prism of about  $47 \times 10^6$  cu.ft. (18 inch tide), system volume is roughly 6.3 times the tidal prism. It therefore follows that the Lagoon is a very

. . . 2.

NOV 11 1977

sensitive area. Although I have not completed calculations for Lake Tashmoo, I anticipate the problem to be equally acute, since the drainage area for Lake Tashmoo is smaller than that of the Lagoon.

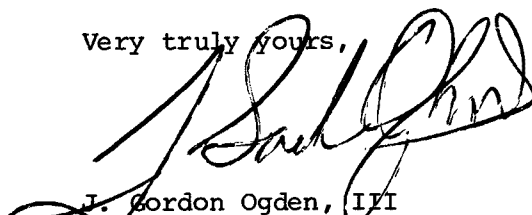
I am including a copy of a short paper on Vineyard groundwater which I prepared for the Felix Neck Naturalist as well as some water quality measurements I completed a few years ago.

As a consultant to the Nova Scotia Department of the Environment, I have completed a study recommending the spray disposal of treated effluent in forested areas. I strongly support the concept of a treatment plant in the State Forest, with spray disposal of effluent in the forest on the outwash plain. Not only does this permit waste water renovation by the "living filter" mechanism, but also ground water flow is directed toward the south shore and away from municipal well heads.

Studies in Nova Scotia indicate that renovation continues even in winter months, when tree root growth continues. Winter conditions are generally milder on Martha's Vineyard than they are in Nova Scotia, so that storage problems as a result of icing are minimized. I recognize that additional force mains and piping would have to be installed to a site in the State Forest, but it is my strong contention that the long-term benefits outweigh both the cost and the risk involved in more central locations.

If I can supply any additional information, please do not hesitate to contact me at the above address.

Very truly yours,



J. Gordon Ogden, III  
Professor of Biology

JGO/ds

# IONIC CONTENT OF RAIN AND GROUND WATER IN THE OAK BLUFFS WATER SUPPLY WATERSHED

(Values in mg/liter)

Source	Date	Sodium	Potassium	Calcium	Magnesium	Chloride	Sulfate
Precipitation	30 Aug. 1974 <sup>a</sup>	1.05	.19	.36	.23	1.70	9.22
	30 Aug. 1974	.66	.19	.16	.15	1.17	5.28
25.4 mm ppt <sup>b</sup>	30 July 1975	.76	.58	.14	.18	2.05	2.30
65.8 mm	8 Aug. 1975	.52	.34	.14	.14	1.13	4.22
38.4 mm	30 Aug. 1975	.63	1.06	.32	.21	-	-
Scotsman's Spring	1 Sept. 1973	7.48	.67	1.09	.93	12.04	5.86
	5 Aug. 1974	7.63	.51	1.26	1.22	11.33	4.99
	30 July 1975	7.1	.61	1.23	1.16	12.39	5.18
	9 Aug. 1975	6.5	.63	1.34	1.31	11.97	5.57
	30 Aug. 1975	5.5	.66	1.16	.88	-	-
Kame Pipe	1 Sept. 1973	6.93	.64	.93	.86	11.33	6.05
	5 Aug. 1974	8.54	.55	1.53	1.04	10.19	6.14
	30 Aug. 1974	7.30	.69	1.88	.97	11.12	7.10
	20 July 1975	8.30	.71	1.45	.94	11.82	5.76
	9 Aug. 1975	7.70	.78	1.45	.92	11.54	5.38
	30 Aug. 1975	5.80	.73	1.46	.82	-	-
O. B. Tap Water <sup>c</sup>	30 Aug. 1974	6.45	.59	2.34	.88	10.19	4.61
Duarte's Pond	18 Aug. 1974	5.61	1.02	.73	.77	10.05	4.99
O. B. Reservoir <sup>d</sup>	30 Aug. 1974	33.0	1.59	3.60	4.10	56.1	15.4
O. B. Reservoir <sup>e</sup>	30 Aug. 1974	682.	25.0	30.7	74.0	1249.	169.
Crystal Lake <sup>f</sup>	18 Aug. 1974	100.9	3.9	5.5	11.1	165.3	26.4

Notes: a - 1974 precipitation samples include first 30 min rain after 2 wk drought, second sample coll. 2 hr after storm began.  
b - Continuous exposure and collection from 17 July  
c - coll. from tap near head of Lagoon  
d - coll. near head dam, S end of reservoir, Head of Lagoon.  
e - coll. near causeway, N end of reservoir, Head of Lagoon.  
f - loc. East Chop drive, 1 km W of E. Chop lighthouse

## GOOD TO THE LAST DROP?

by J. Gordon Ogden, III

*A common sense guide to the care and  
feeding of Vineyard ground water.*

Everyone knows the basic water cycle, or hydrologic cycle, if you want to get technical about it. Water falls as rain, is stuffed into pipes or wells, appears at the tap in clear (usually) form, and disappears down the drain when you flush the toilet. It then goes somewhere and evaporates to form vapor, which condenses into clouds from which rain again comes, and you're back where you started.

Because of the more or less circular path that water takes in the hydrologic cycle, it is regarded as a "renewable resource." Somehow, between the time it disappears down the drain and reappears as rain, it gets "purified." What goes down the drain is bad, and what appears at your tap is good, and obviously, something has happened in between. This set of observations has led us to think of water as something excellent to get rid of things in, such as domestic waste, pulp mill effluents, and all sorts of soluble and insoluble garbage.

My thesis, in the following paragraphs, is that water is neither as renewable a resource, nor as inexhaustible, as you may once have thought. Let's begin by recognizing the uniqueness of this period in time, of this particular moment. The earth has never before tried to support 3.5 billion people, with one billion added since 1950. The Vineyard's resident population of approximately 7000 and a growing summer visitor population or more than 40,000 represents an added burden on physically limited resources.

The day you were born, you started screaming in a voice that insurance companies tell us is likely to be heard for about 70 years, for 2,500,000 gallons of water for yourself, to drink, bathe, and cook in. The products which you will require during your life span will consume another 50,000,000 gallons of water in processing. Last week's issue of the Gazette, for example, required about 1000 pounds of newsprint. It required about 20,000 gallons of water to process the 13 or 14 trees from which the pulp used to make the newsprint was derived. You can convert those figures into a Sunday Press run for the New York Times.

But let's return to the requirements that your existence implies: you will consume more than 10,000 pounds of meat, 2100 gallons of milk and dairy products, about 22,000 eggs, 9000 pounds of wheat and lots of other goodies, including more than 200 pounds of peanuts. You expect 21,000 gallons of gasoline and about \$10,000 worth of school construction in your personal behalf. A 40 oz. loaf of bread requires more than 4000 gallons of water

to grow the grain and process the flour. Similarly, 1 pound of hamburger requires about 2,000 gallons of water for the grass and the animal's thirst.

Your existence has already committed a substantial chunk of landscape to provide you with food and fibre. About 50-60 square feet of Martha's Vineyard has to be set aside just to provide you with the oxygen you breathe each day. You have committed the earth to receiving about 4 pounds of solid waste and up to 3 pounds of air pollution for you each day, and finding a place for the 250 cans and 135 bottles or jars that you throw away each year. And just since 1950, you have acquired one billion friends who are screaming for exactly the same things.

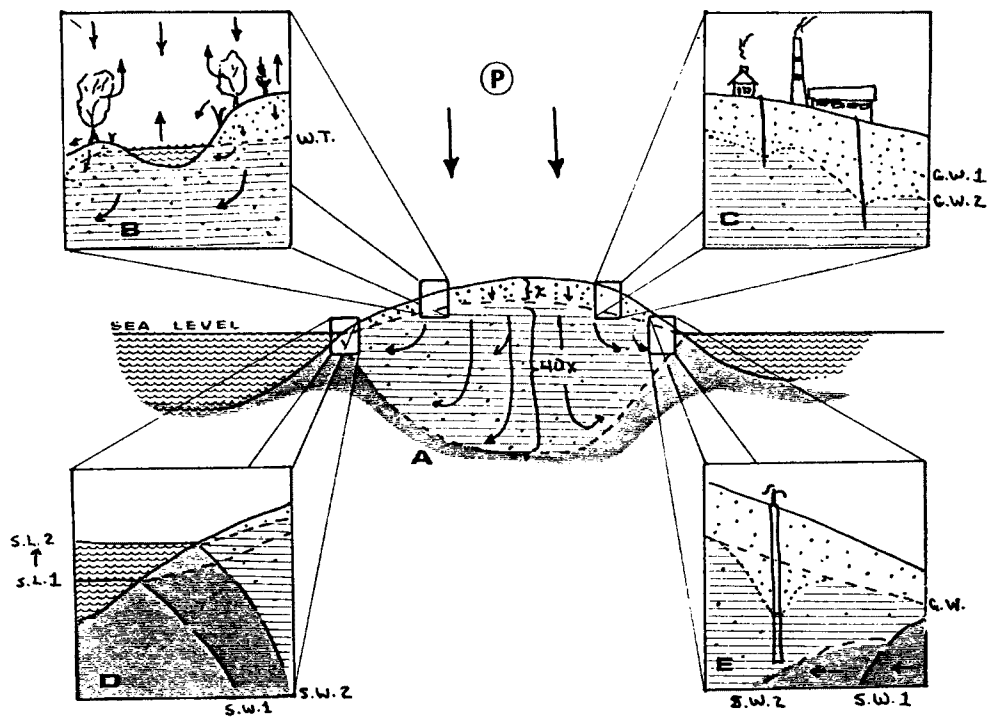
The Vineyard is blessed with a remarkably pure and high quality water supply. The quality of that water was not established by act of any board of selectmen. Continued quality of the water, however, is very much in the hands of each board of selectmen, and one wrong decision on their part can irretrievably wipe out centuries of high quality water.

The only source of the ground water on Martha's Vineyard that is "mined" for our water supplies is precipitation. There are no magical "underground rivers" providing inexhaustible supplies of sparkling clear fresh water. An Island is an Island in a ground water sense just as fully as it is in a topographic or land sense. Salt water is heavier than fresh water. As shown in Fig. 1, this means that fresh water floats on salt water. It also means that if you are going to keep salt water from creeping in from the shoreline, you must have an hydraulic "head" or gradient to balance the density difference between salt and fresh water. In point of fact, it takes a "head" of about 40 feet of fresh water to displace one foot of salt water. While the hydraulics of this problem are beyond the scope of our discussion, we should recognize that in coastal situations, where the ground water level is near sea level, overpumping of wells may result in irreversible salt water intrusion.

Let's take a look at the Oak Bluffs water supply watershed. A watershed is defined as that area within which precipitation falling on the ground has a preferred surface or subsurface gradient to some point. That point can be defined as either a surface stream, a lake, or the water level of a drilled well.

If we take the surface contours of Martha's Vineyard as a point of departure, we can define the surface watershed of the Oak Bluffs Lagoon system to be approximately 1220 acres. Subsurface topography is not quite the same, but for our purposes, it is close enough to use. The Vineyard receives about 40 inches of rain per year. Since there are a little more than 27,000 gallons of water per acre-inch, it follows that the total system supply is about  $1325 \times 10^6$  gallons of water. What happens to this water? In the first place, not all of it gets into the ground. Some of it evaporates before it ever has a chance to get below the surface of the ground. Because of the porosity of Vineyard soils, this value is relatively small, on the order of 2 acre-inches per year. The soil itself is capable of holding water, rather like a sponge. Various estimates place this value at about 4 acre-inches.





Ground Water regime on Martha's Vineyard. (A) Precipitation (P) is the source of ground water. Depth of ground water is approximately 40 times the height of the water table above sea level datum. (B) generalized hydrologic cycle showing input (Precipitation), losses due to evaporation, transpiration, runoff, and seepage. W.T. = Water Table. (C) Domestic or industrial withdrawal may lower regional ground water table (G.W. 1 = natural ground water level; G.W. 2 = lowered water table due to overwithdrawal). (D) Loss of ground water reserves due to rising sea level (SL-1 to SL-2 permits salt water invasion from S.W. 1 to S.W. 2). (E) Overwithdrawal by pumping coastal wells can cause salt water intrusion (S.W. 1 to S.W. 2).

The largest loss, however, is due to the consumptive use of water by plants. Although unquestionably greatest during the summer (when, incidentally, the municipal requirement for water is at a maximum), many plants continue to consume water throughout the year. A single corn plant, for example, requires about 50 gallons of water from germination to maturity in a 100-day growing season. This averages out to slightly more than 2 quarts a day through the growing season. An acre of corn plants, at a modest planting density of 10,000 plants per acre requires 500,000 gallons of water, or about 18 acre-inches of water! A single oak tree 30 feet tall, will require in excess of 200 gallons of water a day during the growing season.

On the Vineyard, a combined figure of about 25 inches for evaporation/transpiration is not unreasonable (evaporation is the loss of water as vapor from an unconfined surface, such as a lake, and transpiration is the water loss from plants) (Fig. 1B). One other factor must enter our equation, the loss of water to deep seepage. On the Vineyard, because our water supply is essentially confined by the salt water around us, loss to deep seepage is minimal, because most of it appears as fresh water springs in the coastal area. As an estimate, I would propose about 2-4 inches per year to this source. Parenthetically, I might mention, that where a coastal spring fails, or becomes saline, this is *prima facie* evidence of over-withdrawal of ground water upslope from the spring (Fig. 1E).

Let us now add up all of the losses to the system. From an initial "reservoir" of about 40 inches of precipitation, we may deduct about 2 inches for immediate evaporation, and about 4 inches for soil storage. Since we attributed two inches to evaporation, a figure of approximately 23 inches for transpiration may be subtracted. Finally, we can expect at least two inches lost to seepage. Our total system losses then are about 31 inches of the original 40 inches of precipitation. In other words, more than 75% of the precipitation falling on the watershed may be unavailable. A little 5th grade arithmetic tells us that of the original supply of  $1325 \times 10^6$  gallons of water from precipitation, only about  $330 \times 10^6$  gallons may be available for ground water recharge to this system.

In 1971, total pumpage from the Town of Oak Bluffs Water Supply was  $136.6 \times 10^6$  gallons, which is slightly more than 40% of the water theoretically available. It would be a comforting thought that we could more than double our withdrawal of water from this system were it not for some uncomfortable facts, so far not considered. The availability of water depends upon the rate at which it moves through ground water strata to the well head. Excessive withdrawal of water during periods of reduced precipitation (as in summer, when water demands are highest) can result in salt water intrusion of coastal well fields, a consequence that is virtually irreversible because of the greater density of salt water. (Note: During the dry summer of 1971, pumpage values in excess of 750,000 gallons per day were recorded, a pumping rate greater than 80% of the theoretical supply during this period.

As water demand on the Vineyard grows (at 60 gallons per person per day), the threat of salt water intrusion into coastal water supplies will increase. We must also recognize, that in placing increasing demands on ground water, we are also requiring it to move faster through the system. Unfortunately, this can mean that things put into ground water can also move faster, or be removed from areas of deposition, such as septic tank wastes and road salt.

Recognition of the increasing problem of road salt has prompted the Massachusetts legislature to pass laws to curb oversalting of roads. While public health recommendations permit 250 ppm of Chloride in water supplies, no mention or standards have been set for the content of Sodium in potable water. Yet medical authorities recommend less than 20 ppm of Sodium in water for people with heart disease, hypertension, and fluid retention.

At present, only one major road (Vineyard Haven-Edgartown) crosses the main Oak Bluffs watershed lands. There is very little development, with not more than 10 families in the 1,220 acre watershed. Development in the axis of the Lagoon valley, which is a major part of this watershed, is quite likely to degrade the remarkable water quality that history and geography have made the responsibility of the present town fathers.

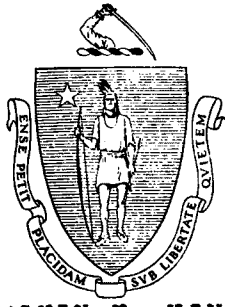
Water is not the only substance to participate in the hydrologic cycle. Studies in Nova Scotia show that the bulk of forest nutrients come from the atmosphere. On Martha's Vineyard, there is little reason to doubt that our sandy soils are replenished primarily by the same mechanism. While 0.19 ppm (milligrams per liter) of Potassium (an essential plant nutrient) does not sound like much, it amounts to nearly 2 pounds per acre per year. Since more or less than these amounts have been falling on Vineyard soils ever since the last glacier ice melted, it follows that plants need merely to trap some fraction of the incoming nutrients from the 2000 pounds or more per acre that have fallen over the past 12-15,000 years.

It is important to note that plants do not have a significant requirement for either Sodium or Chloride, and since Sodium is only weakly held by clay minerals (and Chloride not at all), the ratio of various minerals in input and output is a fair measure of the ability of an ecosystem to sequester and retain nutrients.

Input values from a single storm (30 Aug., 1974, Table 1) are not sufficient to provide firm generalizations for the annual atmospheric nutrient input to the Vineyard. More complete data from Nova Scotia indicate a far higher input of Sodium and Chloride in coastal environments. Nevertheless, we can observe that some substances are selectively stripped from input precipitation. Table 2 shows that concentrations of sodium and chloride are 7-9 times higher in ground water output than incoming precipitation. The lower ratios for Potassium, Calcium, and Magnesium (all essential plant nutrients) imply that these ions are selectively retained in vegetation and soil. Sulfur is not considered here because of the numerous chemical forms which sulfur may take, and only one form, sulfate, was measured.

The principal point in this argument is that Vineyard ground water is only slightly concentrated rainwater, and is in a remarkably pure state. For example, Oak Bluffs tap water (table 1) contains less than one-third the maximum amount of Sodium recommended by the American Medical Association. Development activity in watershed lands is virtually guaranteed to increase Sodium and Chloride levels in ground water. In the Halifax area, ground water concentrations as high as 3000 parts per million of Chloride have been measured, largely as a result of ice and dust control programs on streets and sidewalks.

There is a standard engineering answer to such problems. It usually runs, "tell me what quality you want, and I'll design a system to produce it." It is appropriate to ask whether high-voltage treatment technology, producing polished, treated, and filtered tap-juice is an improvement on a natural protected system. Development of a major community at the Head of the Lagoon promises severe encroachment on the Oak Bluffs Watershed lands, just as development at the other end of the valley on the Vineyard Haven-West Tisbury Road threatens that water supply. All of us have a stake in the decisions that elected representatives must make. They have been given responsibility for a resource they did not create, but whose continued quality is solely theirs.



# The Commonwealth of Massachusetts

## House of Representatives

State House, Boston

MELVIN H. KING  
Representative  
Committee on Natural  
Resources & Agriculture

MICHAEL SCULLY  
Legislative Assistant  
home:  
Box 1333 (State Road)  
Vineyard Haven, 02568

TO: Environmental Protection Agency  
Environmental Impact Office

FROM: Michael Scully *M. Scully*

RE: Draft Environmental Impact Statement (D-EIS):  
"Wastewater Collection and Treatment Facilities for  
Tisbury, Oak Bluffs, and Tisbury, Massachusetts."

DATE: November 14, 1977 (hand delivered)

The following is hereby placed into the record of written comments regarding the above D-EIS. These written comments are intended to clarify, refine, and expand upon my very general spoken comments at the October 26 E.P.A. hearing in Tisbury.

Please be advised that while I do not now speak officially herein for this Committee on Natural Resources, the concerns raised here could well become a direct matter of concern to this Committee in the coming months, particularly as relates to state funding.

I urge the E.P.A. and its consultants to redraft the D-EIS before a final EIS is written. Although I didn't call for this at the October 26 hearing, the more I read the September D-EIS, the more its gross inconsistencies and grave omissions become obvious. Many of these inconsistencies and omissions are in direct violation of E.P.A. Directives and regulations, and have denied the people of our Towns their right to fully weigh all of their sewage and nightsoil options. Because of the extensive nature of the D-EIS's omissions and misrepresentations, it will be inadequate to merely make adjustments in a final EIS, after the end of the decision-making process. The D-EIS should be redrafted entirely, and accordingly, E.P.A. ought to keep the period for written comments on the September D-EIS open indefinitely.

I address the September D-EIS under two general categories: Collection, and Treatment.

NOV 14 1977

## COLLECTION of NIGHTSOIL (& Wastewater)

The "need" for a \$2 million collection system in Tisbury, as favored by the D-EIS, has not been established. I need not elaborate on this to much detail much beyond pointing to the unanimous consensus of our townspeople as expressed at the October 26 hearing. But a few general observations are in order.

I greatly welcome our Board of Health's willingness to conduct a door-to-door survey to establish the exact magnitude of the sewage problem. This is something that E.P.A.'s consulting firm should have done months ago.

How did Anderson-Nichols (E.P.A.'s consulting firm) come to the conclusion that such a small town as Tisbury ought to have such an enormous sewer system? This conclusion is based mostly on their random mail survey: over 1,000 questionnaires were mailed out, only 163 were returned, and of these, only 22 unit owners said they have any sewage problems. This is hardly adequate justification of a massive \$2 million sewerage of the Town. It is indeed a sorry spectacle to see the Town Board of Health have to do a survey which this firm should have done, considering the latter's \$100,000 E.P.A. contract.

While the D-EIS fails to provide adequate documentation of the real scope of nightsoil problems, it also fails to explore certain non-structural alternatives to sewerage, including: new or improved on-lot septic tanks, clustering small problem areas with holding tanks and more frequent pumpouts, prohibition of garbage grinders, and reduced water consumption (as a means of reducing the wastewater "problem"). Pursuant to E.P.A. Directives and regulations, a redrafted D-EIS must explore these potentials individually and in combinations. The redrafted D-EIS must do so in at least as much detail as the September D-EIS discusses the "merits" of sewerage.

A redrafted D-EIS must also thoroughly explore the longterm consequences of induced population and development growth that sewerage would bring to the Town. Sudden new development usually means that more services must be provided by the Town, which means higher local taxes. The redrafted D-EIS must address these questions thoroughly.

The whole basic approach to wastewater and collection should be thus: if we have a problem, let's deal with it in least capital-intensive and energy-intensive ways -- ways that minimize undesirable growth, development, and disruption impacts upon the community. This consensus was expressed time after time at your workshops, before the release of the D-EIS. Nevertheless, the D-EIS seems intent on selling an oversized system to the Town.

I urge a redrafted D-EIS to focus particular attention upon the potentials of water conservation as a means of reducing the wastewater problem. This is especially important if all wastewater problems cannot be solved with on-lot solutions, and we have to resort to having a few multiunit cluster pipes with holding tanks. By adopting a strict program of water conservation in those clustered units, we would be able to: minimize the required size of the holding tank(s); reduce the frequencies of pumpouts; reduce the required size of a wastewater treatment facility or spray-irrigator; reduce the amount of wastewater to be treated; and better ensure a proper water/solid/nightsoil Ratio for a quality by-product. In the event that any wastewater is included at a treatment facility, water conservation will have to be required.

Finally, one specific "line item" correction to the D-EIS: p.187, last paragraph, bottom sentence. In reporting on public workshop #2, you conclude, "...the participants agreed that the wastewater treatment facility should be expandable to accommodate unanticipated future needs, and that it should yield a by-product usable for agricultural purposes."

You should strike out the first half of this sentence completely. I recall that very few citizens agreed that there should be a wastewater treatment facility at all, let alone that it "should be expandable." You could say that most folks favored having nightsoil treatment that must yield a usable by-product for local food production.

#### TREATMENT of NIGHTSOIL and OTHER "WASTES"

In my letter to you of April 1977, I indicated a number of critical criteria that must be included while evaluating various treatment options. Besides water quality, these holistic criteria include: whether the Towns can recover some of the money they're spending by marketing a final product (compost, fuel, or fertilizer); which type of treatment is most contributive to the Island's longrange overall economy (jobs, food savings and farm revitalization, new energy sources, etc.); and which treatment will most support the Island's ability to feed itself more through the next 10 - 20 years, in an age of greater scarcity (via a local "energy self-sufficient agriculture which is free from reliance upon dwindling petrochemical fertilizers", because we return wastes to the soil.).

The D-EIS largely ignores addressing these critical longrange considerations to the Island's economic and food security, in its approaches to the treatment of wastes. By ignoring many of these centrally vital concerns, the D-EIS has also failed to fulfill a number of EIS-procedural rules as specified in various Administrative Directives, E.P.A. regulations, and federal laws. First and foremost, the redrafted D-EIS must take a holistic approach to nightsoil and waste treatment.

The D-EIS's failure to take a holistic approach is especially demonstrated by the D-EIS's focusing greatest attention and detail upon Alternative #3 (for conventionally synthetic wastewater treatment) without giving nearly as much detail to other options. The D-EIS is legally required to give equal attention to other options, including composting and anaerobic digestion as potentially initial treatment stages of the wastes.

Though the D-EIS claims not to recommend any one Alternative over another, its more favorable presentation of Alternative 3 is tantamount to making such a recommendation. This is probably due to Anderson-Nichol's greatest familiarity with conventional (overdesigned) resource-throwaway technologies; technologies which inherently take a tubular rather than holistic approach.

When the D-EIS deals with composting at all, it relegates it as being something that you might do with sludge after you've chemicalized, Purifaxed, or RBD'ed the very best micro-organisms and nutrients to death. This assumption shows that the writers of the D-EIS lack a basic understanding of what microbial/biological composting processes are actually all about.

Well, the general idea is this: we want to treat our nightsoil in the most economical and resource-efficient ways. This means maximizing the natural microbic activities through renewable inputs, while minimizing nonrenewable and synthetic inputs. The value of compost primarily exists in its ability to become living humus, and break down properly in farm soil. The less that the beneficial elements are removed from the waste matter (N,P,K, and the equally important "trace elements"), the more will be available for soil and plants.

The quality of a compost product is of essential importance. I will defer to Mr. Edward Pachico's statement of October 26 as a more detailed biological explanation of this centrally vital concern. But suffice it to say that the D-EIS has not fulfilled its public and legal responsibility to present the composting process in its proper, most microbiologically-efficient states.

Likewise, from what I have seen of successful anaerobic digestors, the D-EIS grossly misrepresents (negatively) the promising potentials of anaerobic digesting. Again, this seems due to the consultant's lack of competence in microbiological processes. The redrafted D-EIS must deal with anaerobic digesting in a more balanced, objective, and equitable manner.

The taxpayers of these Towns will be paying for years to come for the operation of a treatment facility. They are fully entitled to be presented with all the facts relative to less costly and revenue-generating forms of treatment. This is directly pertinent to any projection of costs.



Because such data is not included in the D-EIS, the taxpayers have been denied clearer information which might have led them to support one form of treatment over another. Back in April, I called for you to conduct a market survey to determine different demand (and possible prices) for different types of compost products. I also requested you to look at other towns and cities throughout the country who are successfully recovering some taxpayer's money by recovering their wastes as fertilizers. The D-EIS has utterly ignored these requests.

The failure of the D-EIS to address holistic concerns is further demonstrated by its ignoring the promising potential of treating solid wastes along with nightsoil. The D-EIS states on page 173: "It is not possible to estimate the quantity of refuse that will be used for this purpose (composting)..." There is little excuse for the D-EIS's omitting a list of available components for treatment: the 208 Water Quality D-EIS lists many, and you only needed to copy these figures. I hasten to remind you, that Public Law 92-500 requires that the 201 D-EIS fully consider the potentials of combining such solid wastes as woodchips, fish wastes, garbage, and refuse, along with nightsoil and wastewater for treatment.

One of the gravest omissions from the 201 D-EIS was that of soil stability and soil erosion consequences and concerns. Certainly if you are going to talk about "Environmental Consequences of Alternative Approaches" as you start to in Chapter V, you have got to discuss how various forms of treated by-products will help the Island's soil stability. A D-EIS must take into account the continuing depletion of our precious topsoils that will result if no compost product is made available, causing our topsoils to be increasingly subjected to petrochemicals. Similarly, the D-EIS must account for groundwater pollution caused by additional petrochemical applications, if a substitute by-product is not rendered from nightsoil treatment.

Nor has the D-EIS adequately explored the possibility of an Island-wide nightsoil treatment facility (including or excluding Edgartown). Such a facility could probably offer greater economies of scale, could more efficiently manage any solid waste inputs, and by increasing the amount of available nightsoil would render a greater volume of reusable compost or gas. The 201 Water Quality staff as well as the State Department of Environmental Quality Engineering have called for Islandwide nightsoil treatment. The redrafted D-EIS must thoroughly explore this possibility.

I am extremely disappointed in the D-EIS's near complete avoidance of successful tertiary treatments in the form of spray irrigation, to dispose of wastewater. This practice at Otis Air Base and other places is inexpensive, meets federal and state standards, and causes good crops to be yielded from otherwise idle lands. I must question your projection on p.117 (D-EIS) that spray irrigation would require 100 acres each for Tisbury and Oak Bluffs. (Does this same figure hold if we enact maximum on-lot upgrading and water conservation, for instance?) A new D-EIS must evaluate the potentials of spray irrigating.

Now, a few specific corrections and expansions in the D-EIS are suggested, regarding treatment:

On p. 31, the figures for Island farm acreage which you chose to use are actually misleading. While it is true that from 1951 - 1971 agricultural lands were reduced from 14% to 9%, the total agricultural land acreage has risen steadily since 1965 on the Island. These latter figures give a more accurate idea of a growing demand for a composted humus/fertilizer product. I urge the redrafted D-EIS to use these figures instead (Martha's Vineyard Commission survey, by Robert Woodruff, 1976).

On p. 192 (under subsection VI.E: "Irreversible and Irretrievable Commitments of Resources") you should add to that list: "Reductions of available and future energy sources and agricultural inputs, which could have impacts on the Island's overall economy."

Similarly, on pp. 177-178 (under V.H.5: "Economic Impacts") the last paragraph needs expansion. Here you haven't accounted for such secondary beneficial impacts from resource-recovery as: Towns marketing the compost or fuel by-product; having a new major factor to discourage any Island farm closings (which translates into our 10 - 20 year food security); and longrange consumer savings on food and fuel needs, as imported nonrenewable energy sources become more scarce in coming years.

On p. 176 (under V.H.4: "Environmental Consequences...Energy"): you should replace the last sentence in the third paragraph entirely by the following: "There will be positive secondary energy impacts associated with Alternative 2 and unassociated with growth. These come especially in longterm petrochemical substitution which can enhance food and fuel supplies on the Island, while enhancing more stable consumer costs for these items."

Finally, the D-EIS has not justified sewerage and/or wastewater treatment in real life-cycle costing terms. Nor has it defined how close such facilities can come to paying for their own replacement costs. The taxpayers are entitled to see such comparative figures in a holistic format. And when we begin to life-cycle cost treatment options, we will have a clearer idea of how so-called "waste" can become an opportunity, instead of a problem.

All in all, you've got a large amount of changes, additions, and research to make in redrafting the D-EIS. We are hopeful that you will be responsive in doing so.

MJS:lh

cc's: (public)

# Memorandum

W-20

DEC 15 1977

Anderson-Nichols

1000 Massachusetts Avenue, N.E.  
Washington, D.C. 20002  
(202) 541-4100

To	Ken Wood	Date	13 December 1977
Copies for	Burk Ketcham	Client	EPA
From	Peter Murphy	Division	Planning
Subject	Comment on DEIS Martha's Vineyard	Job Number	2923-06

---

The attached comments on the Draft EIS were received by ANCo this morning. We have Xeroxed a copy of this for our files and are submitting the original to you.

ANCo has not received any other comments on the Draft EIS submitted directly from the public.

PVM:nfg  
Enclosure

Dec. 5, 1977

Dear Peter,

Enclosed is my <sup>written</sup> statement. Sorry it's so late. However, I hope the <sup>oral</sup> transcript taken at the Oct. 26<sup>th</sup> hearing was used since this didn't make it on time. The deadline for comments may be extended indefinitely if meetings with EPA prove fruitful. If the deadline is extended please include my <sup>written</sup> statement.

I hope that in your future public hearings (perhaps Orleans?); you will make the distinction between "comments" and "statements" clearer, so the public realizes the different ways in which their views are treated in the Final EIS. There seemed to be confusion on the part of many of the townspeople (myself included) because we thought "comments" and "statement" were synonymous. However, legally speaking, we found we were incorrect in our assumption. Thank you.

Sincerely yours,  
Ed Pacheco

# STATEMENT

Comments relating to the Draft Environmental Impact Statement (EIS) released Sept. 12, 1977

## INTRODUCTION

The Final Regulations for Preparation of Environmental Impact Statements; Vol. 40, Number 72, published Monday April 14, 1975, in the Federal Register outlines the procedures and considerations to be taken by the Environmental Protection Agency (EPA) in preparing an EIS. There are many inconsistencies within the Draft EIS Wastewater Collection and Treatment Facilities for Tisbury, Oak Bluffs, and West Tisbury, Massachusetts; and the aforementioned Federal Guidelines. These inconsistencies are so pervasive that the Draft EIS should be redrafted before the Final EIS is written. An alternative to rewriting the whole EIS would be to print an appendix that outlines the more environmentally sound alternatives that were not given proper consideration during the Draft EIS process. The reason for a request to redraft is due to the fact that many environmental values were not identified and weighed from the outset. Simply accommodating these adjustments at the end of the decision-making process will not give proper consideration to these environmental influences and will not allow adequate public scrutiny before the Final EIS is issued. This consideration of all environmental influences from the outset is required by the National Environmental Policy Act (NEPA).

## LEVEL OF DETAIL

The Draft EIS in the Executive Summary: Section 7. Conclusion states: "The Draft EIS does not present a preferred solution to the problem of water resource pollution from among the several alternatives." Chapter VI Identification of Environmentally Sound and Cost Effective Alternatives also states that: "Public participation, which is the foundation of the decision-making process in this EIS, has not produced a definite community preference for any one alternative. Accordingly, this Draft EIS cannot recommend a specific course of action." In addition, it was reiterated many times at the Fourth Public Participation Workshop that no decision had been made by EPA and the Draft EIS was only to allow the public to weigh all the options.

However, after reading the Draft EIS it is clear that Alternative 3 is given the greatest detail, while composting and anaerobic digestion are only briefly mentioned. In Section 6.304 Body of EIS <sup>(1)</sup> (a) Background and description of the proposed action states: "When a decision has been made not to favor an alternative until public comments on a proposed action have been received, the draft EIS may treat all feasible alternatives at similar levels of detail...." This treatment of alternatives at similar levels of detail is not at all done in the draft EIS. Much more detail is given to Alternative 3 than any other treatment system. This does not allow an informed choice by the public. Instead, this seems like an attempt to force one choice on the public, whether they want it or not. This level of detail in assessing Alternative 3 is probably due to the familiarity of conventional wastewater treatment facilities to EPA and Anderson-Nichols. These conventional wastewater treatment facilities were originally designed with only one thought in mind, destruction of the

(1) EPA Final Regulations Preparation of Environmental Impact Statements. Monday April 14, 1975 Federal Register Vol 40 # 72.

waste materials at any cost. When these plants were originally designed no need for waste recovery was thought of. The reason for this approach is due to septage and wastewater being seen as wastes and not potential resources.

#### ANAEROBIC DIGESTION

On page 115 and D-13, in the description of an anaerobic/aerobic treatment system the EIS states: "the operation of this process could result in an odor and disease vector problem." (page 115); and "odor is a prime concern." (D-13). It should be noted that odor is non-existent in an anaerobic digestion system provided that the proper carbon/nitrogen (C/N) ratio and pH are maintained. In any system of waste treatment odor is a prime concern when improper operations are carried out. The Edgartown Treatment Plant should be noted here as an Alternative 3 type system that is plagued with odor problems. Should we fund another "Rube Goldberg" like that for Tisbury and Oak Bluffs? Why odor is singled out as a problem only in the anaerobic system and none of the other systems is not known. Odor concern may be due to previous improper operations and handling of anaerobic digesters by sanitary engineers with very little knowledge of microbial processes. All digesters that I have seen operated by engineers were plagued by odor problems because of improper consideration of the biological constraints of microbial processes (eg. C/N ratio and pH). Digesters that I have seen operated by microbiologists have had no odor problems. We must remember that in all secondary treatment plants, composting and anaerobic digestion we are working with microbial systems, yet the engineers who design and operate these systems have very little knowledge of microorganisms. This is like asking a plumber to repair or design a Swiss watch.

The biochemical transformations that occur in the breakdown of septage and solid waste can be diverted from preferred paths so that the digested material may not be in the ideal form for soil incorporation. The final quality of the effluent is completely controlled by the environment (eg. temperature, light, aeration, etc.); types and quantities of microbes present; biological succession of the decomposing material; original parent material; C/N ratio; and pH. Under adverse biological conditions, the parent material may be decomposed into a toxic recalcitrant molecule that is detrimental to the growth of plants, even though the original material was non-toxic and highly degradable. An example of this is an amino acid or polypeptide containing a sulfur phenolic ring that in "whole form" is biologically important in the sustenance of life. Under degradation by an organism in the presence of nitrogen, the sulfur ring compound could become a sulfonamide or sulfanilamide with biocidal properties. This process could occur by an amide of a carboxylic acid breaking down in the presence of ammonia and then combining with available water to form a sulfanilamide. Farmers who use ammonia in the more concentrated form, eg. anhydrous ammonia or ammonium nitrate are creating these antibiotic compounds which kill life within the soil. This causes a shift within the microbial populations which favors the development of phytopathogenic organisms instead of beneficial organisms.

Likewise, materials under constant forced aeration, such as found in a secondary treatment plant, can be broken down into oxides of different molecules. The sulfur groups present

are transformed into sulfur oxides, the nitrogens into nitrogen oxides, and the heavy metals into metallic oxides of different valences.<sup>(2)</sup> In this oxide form the metals are more biologically active in plant nutrition and due to their increased availability tend to become incorporated into the plant's living tissue in toxic concentrations. During the traditional mineralization process in conventional treatment plants all of the soil-building value of the materials are destroyed. To further compost these sludges would reduce the volume of materials available for agricultural uses. The reason for the lost value is again due to the original thinking of wastewater engineers, which concerned itself with the greatest destruction and reduction of the material to the smallest volume. "Waste products" were considered of no practical benefit. Based on this destroy at any cost mentality, we have evolved a system of waste "recycling" of sewage and sludge that is not at all beneficial to the soil. In fact, all of our previous "recycling" of sewage and sludge has not been to incorporate the material back into the soil, but to isolate the material from the prime agricultural lands by either dumping it in sanitary landfills or burning it in incineration units.

In a composting or anaerobic digestion system, the materials never get mineralized to the oxidized form found in conventional aerobic wastewater treatment plants, hence there is never the problem of heavy metals. The composted or anaerobically digested material contains a higher humus content, than the mineralized "dirt" from a WWTP, and the humus chelates the heavy metals so they are not as available and active.<sup>(3)</sup> As this composted or digested material is introduced back into the soil, the humus slowly breaks down and releases the metals in low concentrations over a period of time, unlike WWTP residues which have metals available immediately.

Metals are required by biological systems in extremely low concentrations for the proper functioning of enzymes in plants, animals, and humans. Humus by slowly decomposing releases the metals slowly in nearly the exact levels required for adequate plant nutrition.

The quality of the finished materials is therefore of extreme importance. The quality of the material should not be measured by Nitrogen(N), Phosphorous(P), and Potassium(K) ash-analysis only. The biological form in which the N,P,K occurs is just as important in plant nutrition.<sup>(4)</sup> Large amounts of low quality residue will not have as positive an effect on plant growth as small amounts of high quality residues. By reducing the amount of material needed per acre for stimulating plant growth, we can allow greater access to the limited amounts of materials and reduce the heavy metals problem at the same time. Other important considerations in finished materials are: percent humus and organic matter; cation exchange capacity; percent saturation of Calcium, Magnesium, Potassium, Sodium, trace elements, and hydrogen ions; types and amounts of microorganisms present; percent stabilization; and pH.

(2) For an idea as to the levels of heavy metals within WWTP's, see Testing of Certain Heavy Metals Within the Westfield WWTP, a report submitted to Richard Cavagnero; NPDES Permits Division, Region I. Report was prepared by the author of these comments.

(3) Donald Epstein- USDA soil physicist, private conversation at Seventh Annual Composting Conference held at UMass on May 5-7, 1977.

(4) See Humus by Selman A. Waksman.

In addition, proper composting and especially anaerobic digestion residues contain large amounts of mycolytic organisms, unlike conventional WWTP residues. These mycolytic organisms destroy phytopathogenic organisms such as nematodes, Verticillium, and Fusarium, reducing the amount of fungicides and nematocides needed by farmers, as well as reducing crop loss due to these harmful organisms.<sup>(5)</sup> This will increase the farmer's net profits because less disease will occur, giving greater marketable yields, and less money will be spent on these synthetic biocides. Therefore the cost per acre will decrease, while the yields will increase giving the farmer a higher rate of return on investment per acre. The use of these well composted or digested materials will also have a tertiary effect of less demand for synthetic materials, reducing oil and natural gas consumption; and will decrease the use of toxic compounds which affect all life, not just those organisms selected for by the biocide.

This increase of quality fertilizers and resultant reduction of costs to farmers will help increase farming on the Vineyard. The Vineyard Conservation Society reports that out of the entire state of Massachusetts only Dukes County increased its agricultural production from 1965 to 1976; this was incorrectly stated in the Draft EIS, which noted that agricultural productivity had declined. This increased agricultural production has many side effects not commonly associated with farming.

At the present time, Massachusetts imports 85% of its food from out of state, and 65% of this imported food comes from California. By increasing local agricultural productivity we will decrease the amount of imported food needed by the Vineyard, reducing air, truck, and ferry transportation costs and saving many barrels of oil. In addition, local produce needs to be neither processed, preserved nor packaged; reducing oil consumption and decreasing solid waste on the Vineyard.

It is estimated that before the year 2000, California will have no food to export outside its state boundaries.<sup>(6)</sup> Dust bowls reminiscent of the 1930's will also strike the Midwest according to meteorologists, within the next 10 years. At the present time, Massachusetts as a whole has only 1-3 weeks of food on hand at any one time. Any disruptions in the chain of events that delivers food to the Northeast could cause food shortages in the near future. Indications of this problem are already surfacing with the California drought problem.

Massachusetts' residents pay \$ 3 billion dollars per year for their imported food and nearly \$ 300 million dollars (10%) is for transportation costs alone. Massachusetts and the Northeast pays 10%-15% higher food prices than the rest of the nation. By using the Vineyard as a model of increased food self-sufficiency, as stated in the Policy for Food and Agriculture in Massachusetts, other areas can adapt our solutions to their own situations. This increased food self-sufficiency will help "recycle" some of the \$ 3 billion dollars presently leaving the state, as well as provide increased jobs and an increased awareness of the present problems in our food and agricultural industry.

(5) Sanitation of Soil by Microorganisms by N.A. Krasilnikov, from Ecology of Soil Bacteria

(6) Massachusetts Department of Food and Agriculture.



This increase in productive food land on the Vineyard will help maintain and renew the Vineyard's previous history of food self-sufficiency. At one point in time the Vineyard even exported food to the Cape and Boston. It would seem that by increasing the quality of the residues produced by waste treatment we will not only maintain but enhance the quality of the Vineyard environment, as well as solve many of our pressing food and unemployment problems. NEPA's goals are to not only preserve but to also enhance the natural environment.

The goal of a high quality effluent or residual product, also seems the most consistent with the intents and goals of NEPA and P.L. 92-500. In fact, the production of a high quality waste product as outlined above, has so many beneficial side-effects that to consider a conventional wastewater treatment plant for the Vineyard would be totally inconsistent with the aforementioned Acts. Federal and state funding for a conventional treatment plant would be a waste of taxpayer's money and would tend to deteriorate the Vineyard ecology as well as leave the Island open to disruptions in its food supply.

To attempt to separate the problem of water quality from food production and the other environmental effects in the Draft EIS, is extremely short-sighted and narrow-minded. The goals of NEPA to consider all environmental effects of a planned action, are being side-tracked by the conventional "destroy at any cost" mentality of the EPA and the consulting engineering firm. Anderson-Nichols' approach to the problem of water quality on the Vineyard is a blatant example of decision-making before all environmental aspects are considered, and is totally at odds with the NEPA process. The remark of Peter Murphy that this is a wastewater problem and is therefore not concerned with food production is as narrow-minded as Gary Saxton's previous workshop comment that we can always import ammonium fertilizers from Texas and therefore we should not concern ourselves with the fertilizer value of the residue.

Yet a letter dated July 8, 1977 from Peter Murphy to Micheal Scully states: "Your(Micheal's) interest in the agricultural productivity of Martha's Vineyard and energy conservation are very pertinent to the Environmental Impact Statement." Mr. Murphy further states: "You should be assured that the evaluation of composting in the EIS will be entirely objective and that no one alternative will receive preference." The letter was also sent to Ken Wood and Robert Mendoza of EPA. As previously noted, the Draft EIS is extremely biased and does not detail all of the alternatives

to the same degree. Mr. Scully's letter is a matter of public record as part of the EIS process. However, after comparing the Draft EIS with NEPA regulations and re-usable by-product requests such as Mr. Scully's, the Alternative Energy Group, other interested residents and myself; I find that the Draft EIS falls far short of its expectations and requirements. I feel that in order to do justice to the alternatives, a comparison has to be made in equal depth, along the same parameters, so that a direct comparison and accounting of the costs, benefits, agricultural by-products, jobs, etc. can be made by the public.

Conventional linear engineering approaches to unconventional cyclical ecological problems has no place in the overall decision-making process. If these conventional approaches continue to be presented in the Final EIS, many of the citizens of Martha's Vineyard will be forced to file suit against EPA and Anderson-Nichols for failure to follow Federal and state regulations in regard to the EIS process. In addition, copies of this and other sets of remarks will be forwarded to CEQ and the EPA administrator to insure that NEPA will be followed.

#### EIS and the LAW

Many federal laws pertain to the sewage and solid waste problems of Martha's Vineyard. Public Law 92-500 Section 201(a) through(g) encourages systems which treat all wastes generated within an area, which are revenue producing in excess of capital and maintenance costs, and which recycle potential sewage pollutants through agricultural production. The anaerobic digestion and composting proposals are more consistent with this law than a conventional sewage treatment plant. Many sections of P.L. 94-580(Resource Conservation and Recovery Act), and P.L. 89-272(Solid Waste Disposal Act) also apply to the Martha's Vineyard waste treatment process. Hopefully these Acts will be taken into account when a final decision is made within the Final EIS. Only those treatment systems that are the most consistent with the laws should be considered for funding.

*Edward A. Pacheco*  
*Nov. 8, 1977*

APPENDIX C

PUBLIC HEARING ON DRAFT  
ENVIRONMENTAL IMPACT STATEMENT

PUBLIC HEARING ON DRAFT ENVIRONMENTAL IMPACT STATEMENT

On October 26, 1977, a public hearing on the Draft Environmental Impact Statement was held at the Town Hall, Tisbury, Massachusetts.

A transcript of the public hearing was prepared by EPA and is available for review at the following locations:

Environmental Protection Agency  
Environmental and Economic Impact Office  
J. F. Kennedy Federal Building  
Boston, Massachusetts 02203

Selectmen's Office  
Town Hall  
Tisbury, Massachusetts

The transcript has not been reproduced in this document because many of the questions raised at the hearing were covered by the publication of the SDEIS. Nevertheless, all pertinent comments raised at the hearing are responded to in Section 2.2 of Chapter 2 of this document.

A list of those speaking at the public hearing may be found on Page C-4.

LIST OF PUBLIC HEARING SPEAKERS - DRAFT  
ENVIRONMENTAL IMPACT STATEMENT

<u>Comment No.</u>	<u>Source</u>
H1	Marguerite Bergstrom
H2	Michael Jaccobs
H3	Susan Costes
H4	Robert Douglas
H5	Walter Renear
H6	Laura Brecht
H7	Robert Woodruff
H8	Lyle Brecht
H9	Edward Pachico
H10	Matthew Tobin
H11	Ron Mechur
H12	Michael Scully
H13	Charles Laws
H14	From the Floor

APPENDIX D

WRITTEN COMMENTS ON SUPPLEMENT TO THE  
DRAFT ENVIRONMENTAL IMPACT STATEMENT



# United States Department of the Interior OCT 17 1978

OFFICE OF THE SECRETARY  
Northeast Region  
15 State Street  
Boston, Massachusetts 02109

ER-78/878

October 17, 1978

U.S. Environmental Protection Agency  
Environmental and Economic Impact Office  
John F. Kennedy Federal Building, Room 2203  
Boston, Massachusetts 02203

Dear Sir:

We have reviewed the supplemental draft environmental statement for wastewater collection and treatment facilities for Tisbury, West Tisbury, and Oak Bluffs in Dukes County, Massachusetts, as requested in the letter of September 5 from Mr. Adams.

We find that our comments of November 18, 1977, on the draft environmental statement regarding outdoor recreation have not been addressed in the supplement. We suggest that a map of any recreation areas located near the project site be included in the final statement, along with a description of any impacts the proposed project will have on those recreation areas.

In regard to biota, the supplement simply states that the alternative sites are wooded (p. 7). This information is not sufficient to facilitate an adequate environmental review. The final statement should describe the vegetative cover at each site and the wildlife resources known or suspected to inhabit the sites, and note the presence or absence of any endangered species which have been listed or are proposed for listing.

Although chapter IV summarizes the environmental impacts expected to result from the project and addresses what steps can be taken to avoid adverse impacts, it fails to discuss

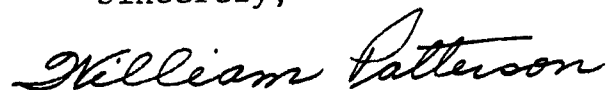


*Save Energy and You Serve America!*

impacts to fish and wildlife and their associated habitat.  
Such a discussion should be included in the final statement.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in cursive script that reads "William Patterson". The signature is fluid and elegant, with a large initial 'W' and a long, sweeping tail on the 'n'.

William Patterson  
Regional Environmental Officer



APPENDIX E

PUBLIC HEARING ON SUPPLEMENT TO THE  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

LIST OF PUBLIC HEARING SPEAKERS  
SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

<u>COMMENT</u>	<u>SOURCE</u>
SH-1	Bill Wilcox
SH-2	John Allen
SH-3	Edward Pachico
SH-4	Myron Thomas
SH-5	Jim Norton
SH-6	Cora Madeiras
SH-7	Isabelle West
SH-8	Robert Douglas
SH-9	Harry Jones
SH-10	Michael Jacobs
SH-11	Ann Crosby

PUBLIC HEARING TRANSCRIPT

UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

REGION I

A PUBLIC HEARING on the Supplement to the Draft EIS on  
Wastewater Treatment and Collection  
Facilities for Tisbury, West Tisbury,  
and Oak Bluffs, Massachusetts, held at  
Tisbury Regional School, Tisbury,  
Martha's Vineyard, Massachusetts on  
Thursday, October 12, 1978 commencing  
at 7:00 P.M. before:

Rebecca Hanmer  
Deputy Regional Administrator  
Region I  
Environmental Protection Agency  
JFK Federal Building  
Boston, Massachusetts



1 to thank you very much for this facility, for providing  
2 us with the necessary place to have this public hearing.

3 The subject of tonight's hearing, again as you  
4 all know, is the supplement to the draft EIS on waste-  
5 water treatment and collection facilities for Tisbury,  
6 West Tisbury and Oak Bluffs, Massachusetts. I was  
7 thinking this afternoon that this might become an annual  
8 event since we -- or at least my predecessors -- were  
9 here a year ago last October.

10 This supplement to the draft EIS is EPA's response  
11 to the requirements of the National Environmental Policy  
12 Act which directs federal agencies such as EPA to pre-  
13 pare Environmental Impact statements prior to commencing  
14 any federal action which may have a significant impact  
15 on the environment.

16 More specifically, this supplement to the draft  
17 EIS was prepared to respond to the following issues:

18 In November, 1977, last November, EPA Headquarters issued

19 ① a policy memorandum on land application of municipal  
20 wastewater which required that the agency consider less  
21 than secondary treatment prior to a land discharge,  
22 so that was something that we had to reconsider after  
23 our draft Environmental Impact statement had come out.

24 Also, EPA received very significant comments from  
25 the local agencies regarding the projected wastewater

1 flows and deliniation of the wastewater collection service  
2 area. The draft EIS published in October of 1977 did  
3 not recommend a specific alternative for treatment.  
4 It evaluated several alternatives without recommending  
5 a proposed action.

6 The supplement contains a recommendation. It is  
7 EPA's conclusion as to the most cost effective and  
8 environmentally acceptable solution for Tisbury. The  
9 supplement to the draft EIS was made available to the  
10 public on September 5th and was filed officially with  
11 the Council on Environmental Quality on September 8th,  
12 1978. The forty-five day comment period on the supple-  
13 ment draft impact statement ends October 30th, 1978,  
14 and the record of this hearing will be kept open until  
15 that date to receive statements from anyone who cares  
16 to make them.

17 Copies of the draft supplement were mailed to  
18 everyone that we thought would be interested. Additional  
19 copies are available at the Board of Health and the  
20 Environmental Protection Agency Office in Boston. It  
21 looks like that -- that's what it looks like.

22 Our agenda for this evening is to ask Peter Murphy  
23 of Anderson-Nichols to summarize for us the principal  
24 conclusions of the draft supplement. I will then ask  
25 any state or local elected officials who care to speak

1 to do so and then we'll move on to public comments.

2 To help the stenographer, I would ask that you give  
3 your name before you make your statement when you come  
4 up to the microphone.

5 We are going to try tonight to answer any questions  
6 you have here and now. Any questions that we can't  
7 answer tonight will be answered in the final Environmental  
8 Impact statement. Also, Bob or some of the other people  
9 here with me might want to ask you a question to get a  
10 clarification of some comment you're making. I'm looking  
11 forward to this and I thank you very much for coming, and  
12 now I'd like to ask Peter Murphy to summarize for us  
13 the conclusions of the supplemental draft EIS.

14 MR. MURPHY. Thank you. From a group of viable  
15 alternatives presented to you in the draft Environmental  
16 Impact Statement, the Environmental Protection Agency  
17 has, with your assistance, selected a recommended course  
18 of action. This course of action consists of a limited  
19 three-phase wastewater collection system in Tisbury,  
20 and a wastewater and night soil treatment facility to  
21 be situated at a location referred to as site one in  
22 the draft Environmental Impact Statement.

23 By selecting a course of action, EPA does not  
24 dictate to the municipality which project may or may not  
25 be constructed. Rather the decision of EPA is to select



1 from several viable alternatives the most environmentally  
2 sound and cost effective alternative which will be  
3 eligible for federal funding.

4 Federal funding eligibility will extend to waste-  
5 water collection and treatment facilities, night soil  
6 facilities, and individual or grouped individual waste-  
7 water disposal systems. In selecting a course of action  
8 which is most appropriate to a small community, EPA  
9 calls for the aggressive application of non-structural  
10 measures to optimize the performance of septic systems  
11 and an absolute minimum reliance on costly hardware.

12 The supplement to the draft Environmental Impact  
13 Statement describes how EPA arrived at its recommended  
14 course of action. It begins with a premise that present  
15 wastewater disposal practices are unacceptable. At a  
16 minimum it sees the necessity of providing safe and  
17 sanitary night soil disposal.

18 It also evaluates the need for wastewater collection  
19 facilities in Tisbury to alleviate existing adverse  
20 public health and sanitary conditions and to protect  
21 against future water quality degradation.

22 The need for collection facilities was determined  
23 from two important sources. The water quality and  
24 sanitary information compiled in the draft Environmental  
25 Impact Statement, and the survey of sanitary conditions

1 in Tisbury performed by the Martha's Vineyard Water  
2 Quality Program.

3 EPA determines that an area needs wastewater  
4 collection facilities when it is proven that there is  
5 no feasible alternative, such as facilitating the opera-  
6 tion septic systems. The draft Environmental Impact  
7 Statement concluded that a need for collection facilities  
8 was established in this area of Tisbury now being out-  
9 lined. The implications of this conclusion were that  
10 there were no feasible alternatives to the construction  
11 of collection facilities in the area.

12 Last November, after the draft EIS had been  
13 released, the Martha's Vineyard Water Quality Program  
14 understood a survey in sanitary conditions in Central  
15 Tisbury. This survey, which involved house and business  
16 unit interviews, went far beyond the normal EIS scope  
17 of work.

18 It proved that the need for collection facilities  
19 is limited to a smaller area of Central Tisbury, also  
20 being outlined. This is where immediate phase one  
21 construction is being recommended.

22 Future collection needs are addressed in the  
23 supplement. The construction of a phase two collection  
24 system should be initiated in the future not at the  
25 direction of EPA, but as the Town sees fit. The limits

1 of the phase two collection area are the same as the  
2 recommended collection area in the draft EIS.

3 A phase three collection area is also planned  
4 which coincides with the collection area recommended in  
5 the facilities planned.

6 Let's outline the phase two collection area and  
7 the phase three. Okay, this is the phase two collection  
8 area, and this is the phase three collection area.  
9 (Indicating.)

10 With a reasonable effort to maximize the perform-  
11 ance of septic systems, phase three will probably never  
12 be needed. However, all facilities are to be designed  
13 to accommodate or at least to be expandible to accom-  
14 modate flows from phase three.

15 The draft EIS presented two viable siting options  
16 for the Tisbury wastewater and septige treatment plant.  
17 This are shown as site one and three.

18 Site one is now being recommended by EPA. Its  
19 advantages over site three are several. By being  
20 situated closer to the collection area, force main  
21 length and cost will be reduced. Pumping costs will  
22 also be less. Capital and operating costs will be  
23 less for site one because a lesser level of treatment  
24 is required.

25 Site three was the potential of contaminating

1 ground water resources which are important to Oak Bluffs  
2 water supply. An advance level of wastewater treatment,  
3 which is expensive to build and operate, is necessary to  
4 avoid ground water contamination. The extra cost  
5 associated with site three makes site one more advan-  
6 tageous.

7 EPA recognizes the community's concerns about the  
8 impacts of the treatment facility on nearby residential  
9 areas. Site one is situated in closer proximity to  
10 residential areas than site three. The environmental  
11 evaluation of site one focused on water quality concerns,  
12 possible odor impacts, and aesthetic effects. The  
13 evaluation was based on many years of experience in  
14 observing the operation of facilities of the proposed  
15 type.

16 It is the conclusion of EPA that a treatment  
17 facility on site one will not cause adverse water quality  
18 impacts, adverse odor conditions or unsightly conditions.

19 The total estimated cost of the phase one project  
20 is approximately 1.8 million dollars. Federal and state  
21 funds will absorb 1.3 million dollars of the total.  
22 The balance of 500 thousand dollars will be Tisbury's  
23 cost. A detailed breakdown of these costs and the annual  
24 charges to a typical household are summarized in tables  
25 51 and 52 of the supplement.

1            Depending on the method of allocating costs  
2 between users and the taxpayers in general, the annual  
3 charge to a typical sewered household would range from  
4 \$170 to \$220, and the annual cost of a typical unsewered  
5 household would range from \$6 to \$11 per year. The  
6 recommended course of action is response to the majority  
7 of citizens that will continue to rely upon septic  
8 systems.

9            The supplement to the draft EIS describes non-  
10 structural measures to optimize the performance of septic  
11 systems and details the application of these on Martha's  
12 Vineyard. It recommends a rigorous application of non-  
13 structural measures particularly in unsewered portions  
14 of Tisbury Center. The recommended course of action  
15 calls for treatment of night soil in the wastewater  
16 treatment facility and composting of the night soil and  
17 sledge by-product.

18           The facility will be capable of handling all of  
19 Tisbury's and West Tisbury's night soil. This will  
20 eliminate the present unacceptable night soil disposal  
21 practices. Oak Bluffs will be able to treat its own  
22 night soil. Tisbury's wastewater and night soil treat-  
23 ment facility will produce a composted material useful  
24 to agriculture which will help minimize reliance on  
25 petro-chemical fertilizers imported to the Island.

1           Before concluding, it would be well to describe  
2           the options which are open to Tisbury beyond the recom-  
3           mendations of the EIS.

4           First, EPA re-emphasizes that the town can choose  
5           to restrict the collection system to phase one without  
6           ever building phases two or three provided that non-  
7           structural measures prove to be effective.

8           Second, variations in the delineation of phase one  
9           will be permitted, since variations could constitute  
10          inclusions and exclusions based on future detailed  
11          determinations.

12          Third, in recognition of advanced and progressive  
13          technologies EPA will reconsider its elimination of  
14          site three if it can be proved that a new treatment  
15          technology would be environmentally sound and the total  
16          cost -- excuse me -- and the total system more cost  
17          effective than site one recommendation.

18          Fourth, the town may take any other reasonable  
19          alternative without federal funding.

20          EPA will evaluate the testimony of this public  
21          hearing, will respond to all comments on the draft EIS,  
22          and supplement to the draft EIS, and will then finalize  
23          its recommendations in the final EIS.

24          The closing dates for receiving any written comments  
25          is October 30, 1978. Thank you.

1 MS. HANMER. Do we have any state or local elected  
2 officials who would care to make a statement at this  
3 time?

4 Okay then, we will receive comment from those of  
5 you here who would care to make one.

6 MR. WILCOX. I'm Bill Wilcox from the Martha's  
7 Vineyard Commission Staff. I'd like to read a letter  
8 addressed to the EPA Environmental Impact and Economic  
9 Impact Office, dated October 5.

10 This letter and its contents were adopted at a  
11 Commission meeting on October 5th:

12 "Dear Sirs: The Martha's Vineyard Commission  
13 requests that the following comments be entered into  
14 the public record regarding the "Supplement to Draft  
15 Environmental Impact Statement - Waste-Water Collection  
16 and Treatment Facilities - Tisbury, West Tisbury, and  
17 Oak Bluffs, Massachusetts".

18 First, we would like to comment on the Supplement  
19 format. The selection of a single solution for detailed  
20 discussion (the limited sewer service area option) and  
21 the relegation of the maintenance program to the appendix  
22 does not -- "

23 MS. HANMER. Excuse me. You can't hear him?  
24 I was afraid of that. Could you stand a little closer?

25 MR. WILCOX. Sure. Okay.

1           "First, we would like to comment on the Supplement  
2       format. The selection of a single solution for detailed  
3       discussion (the limited sewer service area option)  
4       and the relegation of the maintenance program to the  
5       appendix does not allow easy comparision of the two  
6       alternatives. By discussing the sewage system maintenance  
7       option in a "response to comment" fashion, the overall  
8       program concept is disjointed and not presented in a  
9       manner which makes that option clear. While we appre-  
10      ciate the Supplement making a definite recommendation,  
11      we feel that the considerations involved in eliminating  
12      the maintenance program must be more fully explained.

13           Second, the Commission feels that the maintenance  
14      program alternative has not been effectively eliminated  
15      as an option. We feel that the data collected in the  
16      door to door survey conducted by the Planning and  
17      Health Boards and the Commission could have been more  
18      effectively used to either rule out or clearly spell out  
19      the consequences of a maintenance program solution. The  
20      voters of the town must be educated to the possibility  
21      of a solution short of sewerling and the effects of that  
22      choice on the town.

23           Third, the Commission recognizes that while site 1  
24      is most attractive from the cost and pollution standpoints,  
25      there is some strong opposition to the siting of a



1 treatment facility in the proposed area.

2 Finally, we would like to offer the following  
3 detailed comments by page.

4 Page 3. The supplement quotes a Draft 208 Water  
5 Quality Report which has been substantially revised.  
6 At the time of writing of the Draft, from the data  
7 available, a sewer system was recommended. Since  
8 then additional information lead to the following  
9 recommendation in the Final Report:

10 "Avoid need for sewerage through rehabilitation  
11 or replacement of failing septic systems."

12 Page 6. The ruling out of alternative 2 (the  
13 maintenance program solution) was completed by an  
14 unidentified screening process. The presentation  
15 of this process, its conclusions and considerations  
16 is of vital importance.

17 Page 8. (last paragraph) The Survey and Report  
18 on the door to door survey of sewerage needs recom-  
19 mended a maintenance program as the highest  
20 priority. A reduced sewage collection system was  
21 the second priority.

22 Figure 1, Page 11. The Survey and Report also  
23 recommended the inclusion of the residential area  
24 along Lagoon Pond Road in a sewage collection system,  
25 if one is selected.

1           Page 13. (third paragraph) While the Survey and  
2           Report does conclude "... that wastewater collection  
3           facilities are feasible in this area.", it also  
4           recommends a maintenance and rehabilitation program  
5           as a first priority. The statement in this para-  
6           graph is taken out of context.

7           Page 15. Flows from some commerical establishments  
8           range up to an average of 3,000 gallons per day  
9           and are probably much higher during the peak summer  
10          months.

11           While the Martha's Vineyard Commission feels that  
12          a sewer system can be an important addition to the town,  
13          we feel that it is the responsibility of the EPA to  
14          carefully explore the benefits and consequences of all  
15          options. The staff of the Commission will be glad to  
16          discuss these comments in detail prior to the issuance  
17          of the Final EIS. We feel that an adequate response  
18          will assist the local officials in guiding their town  
19          to the best solution."

20           Maybe I could just offer a few quick comments.  
21          I just want to make sure that it's clear that the Com-  
22          mission really -- and the staff, I guess -- really doesn't  
23          feel that a maintenance program is what has to be done.  
24          I think what we really would like to see is the main-  
25          tenance program explored in sufficient detail so that the

1 town, come town meeting time, would be able to see very  
2 clearly what the consequences of taking that choice would  
3 be, and that they will understand the ramifications as  
4 far as Board of Health responsibilities, as far as impacts  
5 on future growth and use of the downtown area and that  
6 sort of thing.

7 I would like to see them a little bit more clearly  
8 spelled out in the final.

9 MS. HANMER. Do any of you have any questions or  
10 comments that you want to make?

11 MR. MENDOZA. Bill, I have a copy of the final  
12 Environmental Impact Statement on the 208 plan.

13 MR. WILCOX. Yes.

14 MR. MENDOZA. And on page 156 of that document  
15 there are two recommendations essentially for Tisbury.

16 One recommendation is what you had suggested in  
17 terms of rehabilitation. The other recommendation and  
18 I quote:

19 "States to provide a limited collection system  
20 to collection sewerage and transport it to a small  
21 treatment plant. For a thorough discussion of survey  
22 techniques and their results, see survey and report  
23 wastewater and sewerage disposal in Tisbury."

24 The question I have, Bill, is I'm not really sure  
25 I understand what recommendation the 208 agency is

1 suggesting in terms of implementation for Tisbury.

2 Could you elaborate on that?

3 MR. WILCOX. Yes. I would say that at the time of  
4 issuing the final 208 statement, we felt that every effort  
5 should be made to minimize the size of the serviced area  
6 necessary to take care of the town. At that time we  
7 felt that a maintenance program and the small service  
8 area sewer system were -- had equal potential in terms  
9 of remedying the problems that existed in the town.

10 I think that it's really a political decision for  
11 the town to make, and we try to hedge a little bit on  
12 that, quite frankly. I think either option is reasonable,  
13 but I think the town really has to understand the con-  
14 sequences of both and the effects of both.

15 MR. MENDOZA. I have another question. You sug-  
16 gested that the supplemental draft Environmental Impact  
17 Statement was fragmented in terms of its approach to  
18 recommendations of both on-site rehabilitation or main-  
19 tenance controls and a limited collection system.

20 What suggestions do you have for tying the two  
21 elements together?

22 MR. WILCOX. I would like to see something in the  
23 final which would describe in some detail what kind of  
24 a program the town could put together. Who would  
25 participate? What kind of cost; what kind of people

1 would be necessary to carry out the inspections necessary  
2 to have a maintenance program be effective?

3 What kind of solutions might be tried in different  
4 areas in the downtown area to remedy the existing prob-  
5 lems? I think it's important to present it in the  
6 fashion that is not sort of -- that's down to earth,  
7 that is meaningful to the town. Who would be involved?  
8 Where would the money come from to implement it? What  
9 options are available to do that? What types of solu-  
10 tions might be tried?

11 MR. MENDOZA. You're suggesting that the draft  
12 Environmental Impact Statement design an operation and  
13 maintenance program specifically for Tisbury, is what  
14 you're asking.

15 MR. WILCOX. Well, that would be ideal, but I  
16 don't think we can expect you to go that far.

17 MR. MENDOZA. I'm trying to, in my own mind,  
18 differentiate between how far the impact statement should  
19 go versus how far the 208 program should go in terms  
20 of these types of recommendations.

21 MR. WILCOX. Well, as you know, the 208 program  
22 has now in process as our third year funding program,  
23 an engineer whose primary goal is to work with the  
24 towns to develop a maintenance program.

25 But I think it's not going to be developed before

1 town meeting time, I have a feeling, and I think whatever  
2 the final can do -- the final EIS can do -- to just  
3 describe that process in an understandable fashion, in  
4 a meaningful fashion, would really help in either select-  
5 ing it or eliminating it at the town meeting.

6 MS. HANMER. When is the town meeting going to take  
7 place? Can somebody tell me?

8 MR. WILCOX. The second week in May.

9 MR. MURPHY. I would like to re-emphasize that  
10 what the supplement to the draft EIS is doing in making  
11 a recommendation is simply to establish the cost effec-  
12 tiveness and the environmental soundness; that is, the  
13 feasibility of constructing a limited wastewater col-  
14 lection system and showing that this is more feasible  
15 than depending upon on-site systems and doing it to the  
16 extent that the federal government is satisfied and can  
17 determine its grant eligibility.

18 As far as the implementation of the project is  
19 concerned, this of course is a town meeting matter.

20 As far as the supplement to the draft EIS appearing  
21 to be fragmented, some of that is unavoidable. We had  
22 to aim at rather disparate concerns. One was an evalua-  
23 tion of less than secondary treatment. Another was the  
24 inclusion of additional material on needs. Still another  
25 was the consideration of questions from people that were

1 transmitted to EPA that could not be adequately dealt  
2 with in the final EIS. So it's not a document that  
3 could be perfectly tied together as some may be.

4 MS. HANMER. I think it's safe to say on that  
5 last request for information that we will go as far as  
6 we can in the Environmental Impact Statement with the  
7 information that we're going to have. We're going to  
8 try to get the final Environmental Impact Statement out  
9 in plenty of time, I'm hoping around the first of the year.

10 Anyone else like to make a comment?

11 I guess we're going to talk tonight. That is not  
12 an amplifying microphone, so you'll just have to speak  
13 up.

14 MR. JEANS. Brian Jeans, State Division of Water  
15 Pollution Control.

16 In the recommendations, as far as rehabilitation  
17 of on-lot systems, it's indicated in here that some of  
18 them will be -- four or so -- could be taken care of  
19 by more or less conventional on-lot means.

20 In some of the other areas, though, we're getting  
21 into recommendations which -- and I've worked quite  
22 closely with Paul Anderson in the Lakeville Office over  
23 the years, and I know as far as a mound system, although  
24 it is approvable, you know, the wide spread utilization  
25 of it to solve problems is not looked upon all that

1 favorably. One question specifically -- Are the soils  
2 adequate in the areas where a mound system is being  
3 recommended?

4 MR. WILCOX. The soils in the area are primarily  
5 beach deposits and fill material, so they have a very  
6 high perk rate. The primary problem is the high water  
7 table and after you get down about four feet or so  
8 you run into peat and that can be a problem. But I would  
9 think that if you mounded the system up, there wouldn't  
10 be -- I don't think there would be very much difference  
11 in perk rate between the mound, the fill material brought  
12 in for the mound and the existing old fill material that's  
13 there. I don't think you'd have trouble with breakout on  
14 the sides.

15 MR. JEANS. In looking at these various rehabili-  
16 tation techniques, did you have a chance to go over some  
17 of these mounding alternatives, et cetera, with the  
18 Lakeville Office?

19 MR. WILCOX. No, we didn't. What we tried to do  
20 in the survey was to look at the lot size and, as much  
21 as possible, the configuration of the lot, where problems  
22 existed to figure out if there was a solution short of  
23 sewerage, and it's my understanding that if the town  
24 developed a program which they would sponsor, they really  
25 wouldn't have to meet Title 5 requirements. I don't



1 know whether I've got that exactly right or not.

2 MR. JEANS. As far as Title 5, I'm not within  
3 DEQE of the Regional Office, et cetera. I do not  
4 administer Title 5.

5 Let's be honest. We don't want solutions that  
6 are going to take us through a year, two years, five  
7 years -- We want a long range solution. We want to  
8 be able to come out and have recommendations that the  
9 town can live with, we can live with, and are going to  
10 be implementable, are going to be cost effective, some-  
11 thing that -- you know, I don't want to come back in  
12 five years and, say, have the breakout of mounds systems,  
13 et cetera, that's why I'm very concerned with this  
14 mounding aspect because it is used very cautiously.

15 It's only used in situations particularly where  
16 you have good soils, you have adequate land area avail-  
17 able, it's just that the ground water table is high.  
18 If there are any impervial soils down below, then those  
19 have to be excavated out. Okay, that's enough on  
20 mounds.

21 One other question I have -- What about the lots  
22 which cannot be rectified or it indicated that there  
23 are some problems there?

24 MR. WILCOX. Those seven or so lots, I think the  
25 only option would be to either install a holding tank

1 or continue with the existing system and let it turn into  
2 a holding tank and pump them very frequently. I think  
3 on some of them if they did install holding tanks there,  
4 we looked at them and there would be somewhere between  
5 forty and fifty pumpings a month during the summer and  
6 these kinds of things have to be pointed out.

7 If we are going to continue with our existing  
8 water use levels and we're going to try and install hold-  
9 ing tanks for some of the bigger water users, it's going  
10 to create problems in terms of just the cesspool pumper  
11 truck traffic in the downtown area. Those are the kind  
12 of things that I think would be really helpful to the  
13 town in selecting an alternative.

14 MR. JEANS. It's just that I'm very much concerned  
15 as far as the recommendations on rehabilitation of  
16 existing systems where we are cognizant of severe con-  
17 straints in terms of area availability, soils, high  
18 ground water, very congested areas -- I'm just thinking  
19 in my own mind -- could we be having difficulties if  
20 some of these were implemented a relatively short distance  
21 down the road, timewise, and if any coordination had  
22 taken place before these recommendations were made  
23 with the State Department of Public Health of DEQE.  
24 I think it's very important.

25 MR. WILCOX. I would agree with you. In the

1 newsletter that you have in front of you, I don't think  
2 that we're trying to advocate a maintenance program.  
3 That was intended to just get opinions --

4 MR. JEANS. But my own opinion, not division  
5 opinion, you know, I read it as this appears the way to  
6 go, it's listed as option one. You get into the green  
7 sheet --

8 MR. WILCOX. Well, the facts really indicate that  
9 there's a limited number of systems that have problems.  
10 There's twenty-seven out of one hundred sixty-one that  
11 we surveyed and that's --

12 MR. JEANS. What percentage of the flow does that  
13 represent in the problem area? Isn't it about seventy-  
14 five percent?

15 MR. WILCOX. That's a good question. I think --

16 MR. JEANS. I think it's a significant portion  
17 of the flow.

18 MR. WILCOX. I think it probably is, too.

19 MR. JEANS. I would like to make one general  
20 comment. EPA has included for eligibility, rehabilita-  
21 tion of on-lot systems. There are some provisos. It has  
22 to meet certain requirements as far as being consistent  
23 with state codes, et cetera. It is considered eligible.  
24 Now there are a lot of things that are considered  
25 eligible within the EPA program, but one specific thing

1 that comes to mind is that of lateral sewers.

2 Now, although they are eligible, they do not  
3 have sufficiently high priority to be able to reach them  
4 for funding. Although your referencing at the bottom  
5 on the Newsletter No. 2 assuming costs for rehabilitation  
6 of those systems, this is not hard and fast, okay?

7 We are working in this direction. We have ruled -- are  
8 passing on -- We've got a limited amount of money, and  
9 we have to prioritize the various elements of a water  
10 pollution control program. I know there's a lot of  
11 institutional arrangements and difficulties as far as  
12 funding on-lot systems. I just don't think we could take  
13 that as gospel, because at this point in time we don't  
14 have everything in place and it is questionable how long  
15 down the road it might be before we could participate.

16 MR. WILCOX. We ought to let him write a section  
17 of the final report. That's the kind of information  
18 that I think would really help the town make a decision.

19 If it's questionable as to whether or not the  
20 maintenance program would be fundable and if it's  
21 questionable whether or not it would be fundable five  
22 years from now, I think that's a really important con-  
23 sideration.

24 MR. JEANS. I'm not throwing a damper. I mean, this  
25 whole 92500 was modified under 95217 last December.

1 There were a lot of amendments that came out. EPA is  
2 in the process right now of writing regulations with  
3 which -- well, actually, they've been more or less  
4 finalized -- with which to implement the intent of that  
5 legislation.

6 Right now the states are trying to gear their  
7 program to modify our program sufficiently so that we're  
8 both in a parallel activity.

9 I'm not throwing a damper as far as the division  
10 not participating in the 75 percent rehabilitation  
11 program. What I am saying is that there are some legal  
12 and institutional problems that have to be overcome and  
13 that the division is trying to keep its mind open as far  
14 as being compatible with EPA's program, but I don't think  
15 you can take it as a given fact that there will be  
16 participation. Thank you, Bill.

17 MR. PINAULT. I would like to make some comments  
18 in general. Brian and I both cover the southeastern  
19 portion of Massachusetts. Brian at the state level, and  
20 myself at the federal level, and we've run up against  
21 this problem many times in other communities where we've  
22 discussed this aspect with DEQE, with towns that want  
23 to go to rehabilitating on-site systems.

24 In all cases the indications are that there would  
25 be no waivers from Title 5 and that any rehabilitation

1 must be in conformance with Title 5.

2 Just to give you an example. A typical home which  
3 has a good perk rate but the water table is less than  
4 four feet below the surface, the only thing mounding does  
5 is raise the bottom of the system up to minimum of four  
6 feet above the natural ground water level. In that case,  
7 like I say if you did have good perking soil which Bill  
8 says you do in this area -- for a typical home with  
9 300 gallons a day, you might need 300 square feet of  
10 leaching area which would be about approximately a 20 foot  
11 by 20 foot area.

12 Title 5 says that when you get into a mounding  
13 condition, you must fill 25 feet around that in all  
14 directions. So, therefore, you would have an area of  
15 approximately 70 feet by 70 feet and that's for a typical  
16 single family home. I know in the downtown area they  
17 have a lot of those systems and are for a large water  
18 user and that the areas will have to be much larger.

19 I also know that the amount of land available on  
20 these sites is relatively small so I don't know which  
21 ones -- you're questioning about mounding, but I would  
22 have to go through each and every one of them and look  
23 at that as far as land size, amount of flow coming from  
24 it, and applied that to Title 5. But I just feel from  
25 what I know about the area in the last couple of years,

1 that most of them could not satisfy Title 5.

2 Even if funds are available at the state and local  
3 level to rehabilitate septic systems, they must meet  
4 all federal and state regulations so, therefore, if you  
5 couldn't satisfy Title 5 even if funds were available,  
6 we would not be able to participate in the cost for that.  
7 That's one point I'd like to make.

8 The second point is -- Bill said that the EIS  
9 should expand more on the septic system maintenance  
10 program. The EIS has recommended a very limited sewer  
11 system. Phase one is about thirty-odd connections,  
12 phase two is up to 370, but that still leaves a large  
13 portion of the Town of Tisbury on on-site systems. The  
14 EIS goes on to recommend that in hand with this that  
15 the town must implement a septic tank maintenance program.

16 In Appendix B, I think it's pages B17 through  
17 B20, we summarize in a general way, and we extract from  
18 the MAPC 208 study which was typical of different options  
19 that a town could implement to develop a septic system  
20 maintenance program. I think at the time we didn't  
21 want to be too specific. We felt that it was a local  
22 home-rule type decision. We tried to give you three  
23 or four options -- that you could go out and contract  
24 with the local company where they could do the inspect-  
25 ions for you and do the pumpings for you and you could

1 do it all on a local level with municipal people or a  
2 combination of the two. It goes on and on. So I think  
3 what Bill's asking for is probably a more specific type  
4 of thing and when we approached it, we wanted it to be  
5 general. If we can be of any help on -- say, for instance,  
6 a town would like to pursue one of the three alternatives  
7 we point out for septic system maintenance program.  
8 We'd all be glad to sit down with you to try to get into  
9 more detail on that, but at the time we issued the  
10 supplement, we didn't feel we should do that, that we  
11 could be criticized for taking one of the three alter-  
12 natives and going along with that when the local people  
13 might feel, for instance, that they should do with town  
14 forces instead of contracting it out to a private company.

15 So, with that, we will be glad to work with you  
16 in the next month or so in wrapping up this EIS to help  
17 you define one of those alternatives or just further  
18 discussing the ones that we have pointed out in the  
19 draft. Thank you.

20 MR. MURPHY. We have really tried to delineate the  
21 phase one service area to be limited to only those systems  
22 that absolutely require sewers. We firmly believe that  
23 we have taken care of every unit, be it residence or  
24 business that could be rehabilitated in accordance with  
25 Title 5, but we feel that that's the key and probably



1 the difference between what appears to be the conclusion  
2 of the 208 report and what we're recommending here, and  
3 in accordance with regulations that I understand we have  
4 to live by, there's no other conclusion that we can make.

5 MS. HANMER. Looks like we're doing all the  
6 statement-making.

7 Would anyone else like to make a comment or ask  
8 some questions?

9 MR. ALLEN. I would like to ask a question.  
10 I certainly don't want to make a comment.

11 MS. HANMER. Okay. Would you give us your name?

12 MR. ALLEN. My name is John Allen. I just live here.  
13 As I understand it, and believe me I don't, we are  
14 talking about two possibilities. A maintenance system  
15 or a collection system, or possibly a combination of the  
16 two. Is this correct?

17 MS. HANMER. Essentially, yes.

18 MR. ALLEN. These are primarily to serve downtown  
19 business establishments. Is that correct?

20 MR. MURPHY. More specifically, we're definitely  
21 talking about a limited wastewater sewer system for the  
22 core portion of the downtown. We're definitely talking  
23 about on-site system maintenance not just for the down-  
24 town problem area, but as it may apply to the town as  
25 a whole.

1 MR. ALLEN. All right. I understand.

2 MR. MURPHY. So we're definitely talking about  
3 a combination of the two elements that you referenced.

4 MR. ALLEN. So, if I can use my own stupid terms,  
5 we need a night soil treatment plant. Is that correct?

6 MR. MURPHY. Yes.

7 MR. ALLEN. All right. Now, to get back -- so we  
8 need the night soil treatment plant for all of the  
9 people of Tisbury. Basically speaking, you've got to  
10 pump out your cesspool or your system every several  
11 years, so that is a requirement. Not a requirement,  
12 but it's well advised.

13 Now, to get back down to the downtown area, I ask  
14 if there may not be a third alternative, recognizing  
15 that a night soil treatment is advisable.

16 Is it not a third alternative that the Board of  
17 Health, selectmen, whoever it may fall to as being within  
18 the purview of their authority and responsibility, that  
19 they can go to these downtown businessmen, all of whom  
20 are intelligent, making money, and say, Mr. Downtown  
21 Businessman, you are in a position where the possibility  
22 of your polluting is imminent, and you must, therefore,  
23 clear up your own act, and you do that by whatever  
24 system is approved by EPA and the state sanitary code,  
25 and it will not then become something in which the

1 taxpayers are involved or participating.

2 I think what I'm saying is why should a taxpayer,  
3 who will never be connected to a collection system, sub-  
4 sidize a profit-making entrepreneur. Can that question  
5 be answered by EPA? Will the town have the authority  
6 to say that to an entrepreneur?

7 MR. ZENESKI. My name is Joe Zeneski from Anderson-  
8 Nichols. I think I can respond in part to that question  
9 by reviewing with you this table from the draft or the  
10 supplement to the draft EIS.

11 You'll notice here for phase one, which as Peter  
12 pointed out, would cost about two million dollars total,  
13 and the town's share would be some 500 thousand. We have  
14 a number of alternatives here within the alternatives  
15 presented in the table and they are portion of collection  
16 system cost recovered through taxes. When you talk of  
17 the question of tax subsidy to the businessman, this is  
18 the meat issue here. How much of that will be paid for  
19 by the taxpayer in general, and as a result, there are  
20 different tax bills associated with each of those alter-  
21 natives and they vary according to the percent of the  
22 taxes taking on the total cost.

23 The point is then that this is the town's decision  
24 to make. The town decides whether the businessman,  
25 as you say, will pay for the entire project himself or

1 if the town will subsidize him to a degree by perhaps  
2 paying half of the cost or whether the town will take it  
3 upon themselves to pay for the total cost.

4 It's not for EPA or Anderson-Nichols to say. It is  
5 up to the town to make that decision.

6 MR. MURPHY. In answer to the first part of your  
7 question, sir, yes, it is an alternative to pump each  
8 of the systems in the downtown area on a more frequent  
9 basis in order to prevent against the future possibility  
10 of water pollution.

11 We have established that this is not a cost effec-  
12 tive way of going about the problem, and that it would  
13 be more feasible to build a collection system, and that  
14 this would be a more efficient and cost effective way  
15 of carrying the wastewater away, and also more environ-  
16 mentally sound way of handling it as well.

17 MR. MENDOZA. I think in trying to respond to one  
18 portion of your comment, I think we've taken a real  
19 hard look as close as we possibly can in terms of what  
20 can we do with those particular areas downtown that are  
21 having problems. Can we, in fact, rehabilitate those  
22 areas in that they meet Title 5 requirements, and this  
23 is what we were talking about earlier.

24 If the Board of Health were to place responsibility  
25 back on the businessman or the owner to correct his

1 problem, what are his options? Can he, in fact, correct  
2 the problem so that it is consistent with the Title 5  
3 requirements? I think that is where we have a difficult  
4 problem because of constraints with the lot sizes,  
5 density of the area, ground water problems, and some of  
6 the other constraints that preclude on-site rehabilitation  
7 or the use of on-site systems.

8 I think it's good to put the responsibility in a  
9 sense back on the businessman, but what alternatives does  
10 he have? That's a question.

11 MR. PACHECO. My name is Edward Pacheco. I'm a  
12 citizen in the Town of Tisbury, and I would just like to  
13 make a comment in response to Peter Murphy's comment that  
14 pumping was found not to be as cost effective as con-  
15 struction of a wastewater treatment plant.

16 That was a decision that, by reading the supplement,  
17 has just been arbitrarily made. Nowhere in the supple-  
18 ment or in the draft EIS were cost figures presented  
19 in which the townspeople could make their own comparisons  
20 of these systems.

21 Instead, we are just told that such a system is  
22 not as cost effective, and this is also in regards to  
23 what Bill Wilcox was saying that these kinds of cost  
24 comparisons are things that the townspeople need in order  
25 to make a decision for themselves, and to arbitrarily

1 eliminate things without any rationale or any method that  
2 we can also follow your same decision-making process  
3 doesn't tell us anything. It just tells us what you  
4 want us to believe and doesn't allow us to make decisions  
5 for ourselves.

6 Until these things are presented in a readable  
7 form where direct comparisons can be made, we're just  
8 going to be as lost as we have been since the first draft  
9 Environmental Impact Statement was written.

10 So if this can be somehow corrected in the final  
11 EIS, it would be greatly appreciated. This has been  
12 called for since some of the original workshops. They  
13 were covered in one workshop, and a lot of people felt  
14 that the draft supplement was going to clear up some of  
15 these questions and instead it seems to present more  
16 problems and not answers or possible solutions.

17 MR. MURPHY. We have not provided all of the  
18 figures, all of our calculations and worksheets in the  
19 determination of cost effectiveness, and we don't think  
20 that that's appropriate to do so. All of this infor-  
21 mation is part of the public record and is available  
22 for inspection.

23 In terms of comments that we received that the  
24 document is not provided in a readable format that's  
25 not specific enough for us to respond to. We've had it

1 before on the draft EIS and we've prepared a supplement.  
2 I don't find it to be a helpful comment personally be-  
3 cause I just don't know an effective way of responding  
4 to it in order to make the document more readable or  
5 more understandable so that you or anyone else could  
6 differentiate between the two service area alternatives  
7 in question.

8 MR. PACHECO. But that seems to be what the regu-  
9 lations require that you present all the alternatives  
10 and allow the citizens to make their own decisions and  
11 that you also can come up with a recommendation.

12 Right now we just can't do that.

13 MR. MENDOZA. Ed, I think we do have information  
14 with respect to the costs on pumping. I do believe that  
15 was taken into the consideration of the cost effective  
16 analysis.

17 Joe, do you have any information offhand. If we  
18 don't have it here tonight, I know we do have it in the  
19 office.

20 MR. ZENESKI. I'll just check to see if it was  
21 in the draft EIS or not. I can't say at this time.

22 MR. MENDOZA. Because we were talking about that  
23 issue prior to the release of the supplement, and we  
24 were very concerned in terms of the cost relationship  
25 of the user fees for the people in the downtown area

1 versus how much they are now paying with respect to the  
2 pumping particularly in the summertime which is a key  
3 point in the year.

4 But I will indicate to you now that that informa-  
5 tion will be included. We do have it and I don't see  
6 why it can't be included in the final impact statement.

7 MR. PACHECO. Even a simple footnote at the end  
8 of that statement in the supplement referring to the  
9 set of figures that you had collected would have been  
10 more helpful.

11 MR. THOMAS. My name is Myron Thomas.

12 You speak of being cost effective. Cost effective  
13 for whom? I mean, according to the figures you give us  
14 your cheapest alternative is going to cost the town  
15 \$135,700 a year.

16 Right now as far as I know, we're not paying any-  
17 thing for this collection system and the stuff is being  
18 collected. When you say cost effective, do you mean  
19 for the town, the citizens or the people that are having  
20 their sewers pumped?

21 MS. HANMER. The cost effectiveness requirement  
22 relates to the participation of federal funding. One of  
23 the alternatives that Peter mentioned that you have  
24 available to you was to implement any system that seemed  
25 reasonable without federal funding. We make our cost



1 effectiveness evaluation based on the reasonable alter-  
2 natives that will meet the state and federal requirements  
3 then we take what appears in the aggregate to be the most  
4 cost effective solution and that is the one that we can  
5 participate in as far as federal funding is concerned.

6 There are some exceptions to that based on the  
7 severity of environmental impact or between one alter-  
8 native and another or based on new requirements under  
9 the law that would allow us to pay a certain premium for  
10 innovative and alternative technologies, but by and large  
11 the cost effectiveness analysis is simply tied to the  
12 participation of federal funding.

13 Do you want to speak?

14 MR. NORTON. I'm Jim Norton. I'm a resident of  
15 the Town of Tisbury.

16 I seem to be hearing, and I share this feeling  
17 that -- from my neighbors and myself -- that if we could  
18 get away with alternative 2, in other words, if it would  
19 be possible to provide a night soil facility and to  
20 service that, that we would not want to leave any stone  
21 unturned to assure ourselves that that is the -- is not  
22 possible or is not effective for us to pursue, and I  
23 think, as I say, I share that concern, but my main con-  
24 cern and I think the thing that has brought me to these  
25 hearings and to some very early meetings is the concern

1 with ground water and I think that I do want to express  
2 some questions and concerns in this area.

3 Let me simply quote by way of -- as background  
4 to this -- two sentences from a report on an international  
5 conference on water resources that was held two years  
6 ago. The statement says that the cost -- this was a  
7 conclusion that was arrived at at that particular con-  
8 ference -- the cost of effectively solving the world's  
9 fresh water supply problems from now until 1990 is  
10 estimated at about 80 billion dollars.

11 It goes on to say -- no one can say realistically  
12 where this money is going to come from.

13 Water is a valuable resource for us and as we  
14 don't have access to any handy icebergs, I think that  
15 we are going to have to spend a good deal of time just  
16 seeing what the impact, what the effect of anything  
17 we do is on our ground water.

18 In light of that, I would like to raise a question.  
19 Specifically, this is just by way of gathering informa-  
20 tion. It's on page 189 of the draft impact statement.  
21 I have a question about site 2.

22 The question is why hasn't an alternative which  
23 would call for the removal of the Tisbury public water  
24 supply wells to site 3 or any other spot, for that  
25 matter, and development of a wastewater treatment

1 facility on the sanitary land-fill site been addressed?

2 It's the present dump.

3 Now, my questions with the response, this alter-  
4 native is evaluated in the Environmental Impact Statement  
5 it is not recommended because land application of treated  
6 wastewater affluent would result in the probable con-  
7 tamination of private water supplies. In addition,  
8 due to the complexity of the ground water hydrologic  
9 environment, Environmental Impact's could not be stated  
10 with confidence.

11 Now, my question -- it's really a kind of series,  
12 that it's my understanding in reading both the supplement  
13 and the original draft that there is going to be an  
14 adverse effect on the ground water no matter where a  
15 sanitary or a wastewater treatment facility is put, and  
16 the question is -- Who or where is public water supply  
17 going to be provided and able to overcome that?

18 In other words, in site 1 that is made acceptable  
19 because the potential wells in that area or the private  
20 water supplies in that area will or are planned to be  
21 put onto a public system. Presumably, those in the area  
22 that are still in private wells in the area of the dump,  
23 it being the closest to the water tower, would presumably  
24 also be cost effectively put on the public water supply  
25 system.

1           The same is true of the site 3 that there is  
2 potential contamination for any development in that area,  
3 and therefore, that is not acceptable for a primary or  
4 a secondary treatment.

5           If that is correct, plus the long range and fairly  
6 well documented impact of any wastewater treatment  
7 facility on site 3 for the water sheds primarily of the  
8 lagoon but also of Tashmoo in terms of the ground  
9 water flow at that particular time, would an advanced  
10 treatment facility at site 2 overcome or make that as  
11 acceptable as site 3 would be acceptable in terms of its  
12 environmental impact -- certainly it would be much more  
13 cost effective and would the problem of site 2 in that  
14 sense be overcome by replacing the same requirement on  
15 it as on site 3?

16           The question, I guess, that precedes that is where  
17 in the top of our water table, is the top of our water  
18 table closer to site 2 or site 3, and the basic assumption  
19 or basic question behind all of that is why are we talking  
20 about putting any adverse polluted land treated material  
21 into the top of our water table or at the highest point  
22 of our ground water rather than at some lower point?

23           MR. MURPHY. Let me see if I can remember them all.  
24 First of all, we say that hydrologic impacts on site  
25 or beneath site 2 cannot be stated with certainty because

1 from our examination of the hydro-geology, we find that  
2 we cannot define the direction of slope of the water  
3 table with as great a certainty as site 1 or site 3.

4 Now, concerning your question of whether we could  
5 implement advanced wastewater treatment on site 2 as  
6 well as site 3, probably yes. I cannot say with cer-  
7 tainty and I do not remember -- Excuse me.

8 I'm saying probably now. I can't say with cer-  
9 tainty how far beneath the surface the water table is  
10 beneath site 2. I've got it in my records, and it is  
11 not in my head, but I do think that that depth is fairly  
12 substantial.

13 We did not evaluate the environmental impacts in  
14 detail as we did with site 3, but in comparison to the  
15 recommended alternative where a lesser degree of treatment  
16 is required, it's obviously more cost effective to  
17 implement the lesser degree of treatment provided that  
18 it will not result in environmental harm, and what we're  
19 saying with a fair amount of certainty now is that if  
20 we input wastewater onto site 1, then it will flow in  
21 the direction of Lake Tashmoo by the time it reaches the  
22 interface and actually affects Lake Tashmoo, it will be  
23 at a concentration so low that we couldn't measure it  
24 with our laboratories instruments, and we studied the  
25 oceanographic regime of Lake Tashmoo and we find that

1 the further mixing that would occur would certainly mean  
2 that there would be no adverse impact.

3 In terms of whether we have any business accepting  
4 a pollutant into the environment and then assimilating  
5 it, such as we're doing at site 1, you may call that  
6 a legitimate use of the environment or not and that's  
7 a value judgment.

8 What we're saying is that we are not contaminating  
9 any ground water resource that is presently or may in  
10 the future -- that's the key phrase, may in the future --  
11 may one day be used as a public or private water supply.

12 Now, did I miss anything, Jim?

13 MR. NORTON. Well, my mind was actually following  
14 along with this idea of in the future and of the poten-  
15 tial. One of the problems I see us caught in -- and just  
16 sort of make this as on the side -- I do serve on the  
17 school committee, and I had a conversation with a col-  
18 league of mine from Edgartown on the school committee,  
19 who was expressing some relief -- a strange kind of  
20 relief to me, I guess -- that thank goodness the heat's  
21 off the school now because the sewer system costs more  
22 than the school does, and it's taking up a larger portion  
23 of the real estate tax.

24 I would not hope for that for Tisbury. I think  
25 what I see happening is that if we do have the kind of

1 cost commitment that what we are talking about requires,  
2 we are going to have to develop all of the square inches  
3 in the Town of Tisbury in order to get the tax base to  
4 pay for it, and that no matter where we put it and  
5 particularly in that part of town that is going to have  
6 to have some kind of use in order to provide the income  
7 that we need in order to pay for the system we have, and  
8 I think Edgartown's example is a very timely and appro-  
9 priate one here.

10 Does that make sense?

11 MR. MURPHY. Well, do you mean that by implementing  
12 a facility on site 1, we would preclude the possibility  
13 for development downgrading it?

14 MR. NORTON. No. I'm saying that by putting it,  
15 well really, in any clear potentially developal space  
16 in town, that we're going to need that space as developed  
17 in order to pay for it.

18 MR. MURPHY. That's an irretrievable commitment  
19 of a resource.

20 MR. NORTON. Right, that's if we can avoid that,  
21 if we can anticipate that, which is again I guess why  
22 I think that alternative two is probably the one that  
23 we will be nagging at and pulling at as long as we  
24 possibly can, that any trace of suspicion that that might  
25 work is going to continue to happen.

1           It's my hope that when we suddenly decide that  
2           it's not going to happen that we don't turn around at  
3           that point and do something that is going to not go to  
4           site 1 but go somewhere else which is going to adversely  
5           effect our drinking water.

6           MS. HANMER. Would anyone else care to make a  
7           statement or ask some questions?

8           MR. PACHECO. I stated earlier that my name was  
9           Edward Pacheco. I'm a citizen of the Town of Tisbury.

10          The statement relating to the draft supplement  
11          EIS -- The draft supplement EIS was prepared and cir-  
12          culated for two basic reasons.

13          One, federal policy now requires that additional  
14          treatment alternatives be considered and evaluated and,  
15          two, significant comments on the draft EIS were raised  
16          at the October 1 Workshop, October 26th Hearing, and  
17          within the written comments on the draft EIS.

18          These comments were so extensive that "EPA's  
19          response to these comments should be subject to public  
20          review and thus cannot be part of a final EIS." However,  
21          within the summary, the draft summary states, "The  
22          supplement responds to comments by the Martha's Vineyard  
23          Water Quality Advisory Committee. All other comments  
24          will be addressed in the final EIS."

25          Direct contradiction between page 1 and page 3



1 of the draft supplement. This is just one example of the  
2 many contradictions and inconsistencies with federal and  
3 state law that the draft supplement contains as well as  
4 the draft Environmental Impact Statement contained  
5 initially.

6 The purpose of the draft supplement was to respond  
7 to the comments, questions, and differences of opinion  
8 between citizens and the EPA and to attempt to clear  
9 them up. However, the draft supplement raises so many  
10 more questions that it is almost necessary to write  
11 a draft supplement supplement to answer these new  
12 questions raised as well as finally answer the original  
13 questions left unanswered from the workshops, the public  
14 hearings and the written comments.

15 The draft supplement continues to recommend sewerage  
16 although significantly scaled down from Tighe and Bond's  
17 original engineering Rube Goldberg of an environ-  
18 mental unsoundness. The attitude of EPA and Anderson-  
19 Nichols has been that citizens cannot make decisions  
20 for themselves on any issue with permanent ramifications  
21 on the environment and tax rate of Tisbury and the  
22 Vineyard as a whole.

23 Since the first workshop, citizens have requested  
24 information, technical data, and an explanation of the  
25 rationale of EPA and Anderson-Nichols decision-making

1 process in choosing a waste treatment system. Instead  
2 EPA and Anderson-Nichols have chosen not to provide the  
3 necessary information and technical data, and decision-  
4 making process necessary to allow the citizens to make  
5 an informed logical choice.

6 EPA and Anderson-Nichols have arbitrarily eliminated  
7 all alternatives that were considered that did not result  
8 in the construction of a wastewater treatment plant.

9 In addition, many alternatives such as composting  
10 and digestion received little or no mention  
11 and were inadequately evaluated and again arbitrarily  
12 eliminated. This almost should be expected in light  
13 of the quote unquote sweetheart relationship that exists  
14 between EPA and Anderson-Nichols; wherein, the original  
15 EPA contracts with one firm to provide environmental  
16 impact statements for the region and in return Anderson-  
17 Nichols, of course, hopes to pick up the contracts for  
18 construction of the recommended treatment facilities.

19 In the past such a relationship was called graft.  
20 Today it is called contracting out.

21 On the need for sewerage -- On Martha's Vineyard  
22 the needs for sewerage has not been fully established.  
23 On the basis of a questionable wind-chill survey and  
24 a mail-in survey with few respondents, the draft EIS  
25 attempted to show the need for sewerage. This resulted

1 in a smaller area than that originally designated by  
2 Tighe and Bond as needing sewerage.

3 The more in-depth survey by the Tisbury Planning  
4 and Health boards and the Martha's Vineyard Commission  
5 showed that of the 161 lots surveyed, 42 had problems,  
6 and of those 42 problem systems, all but 9 could be  
7 repaired by either conventional means or by some repair  
8 work at added expense to the homeowner. Again, we're  
9 not sure whether or not some of this added expense to  
10 the homeowner will be reimbursable by EPA.

11 If neighboring systems with problems could build  
12 holding tanks to prevent further harbor pollution coupled  
13 with water conservation measures and periodic pumpings,  
14 these systems could possibly be eligible for funding  
15 by EPA negating the need for a sewer system and the  
16 construction of a secondary wastewater treatment plant.

17 However, the septic still has to be disposed of  
18 in an environmentally sound manner which has been the  
19 problem up until now. One solution to the problem is  
20 the composting of the septage solid waste and a bulking  
21 agent such as wood chips which was mentioned in passing  
22 in the draft supplement. The system as stated in the  
23 draft supplement has been used in Beltsville, Maryland,  
24 Durham, New Hampshire, and Bangor, Maine.

25 Septage could be held within holding tank until

1 needed for the composting operation preventing odors  
2 by direct hook-up of the pumping truck to the tank.  
3 The pile were maintained by drawing air  
4 through the piles and into small scrubber pile which  
5 effectively removes all odors.

6 The pile is covered with either an insulating  
7 material of screened compost or a layer of wood chips.  
8 The piles can also be windrowed without the forced air  
9 ventilation system but will require turning once every  
10 two weeks with the finished compost being ready in one  
11 month.

12 The machine necessary to turn this compost can be  
13 attached to a front-end loader and costs approximately  
14 \$50,000, much less than a secondary sewage treatment  
15 plant. Comparing the cost of septage, solid waste  
16 composting -- wait a minute. Comparing the cost of  
17 a septage, solid waste composting operation, including  
18 the cost of a holding tank versus the construction of  
19 a wastewater treatment plant, we find that a holistic  
20 composting system costs less than one-half the cost of  
21 the wastewater treatment plant as stated on page 21 in  
22 the draft supplement.

23 In addition, the quality of the finished holistic  
24 composting system will be of much higher value than the  
25 compost from a wastewater treatment plant. This is very

1 important -- the quality differences between sledges from  
2 a wastewater treatment plant and those produced in this  
3 holistic environment -- in this more holistic manner.

4 So for less than half the cost of a wastewater  
5 treatment plant, Tisbury can prevent further harbor  
6 pollution, treat their septage in an environmentally  
7 sound manner, reduce the volume of the materials entering  
8 the sanitary land fill by treating the solid waste, and  
9 produce a larger volume of agriculturally useful by-  
10 products of a higher quality.

11 The higher quality holistic compost versus the  
12 compost of a wastewater treatment plant will mean that  
13 a greater volume of useable materials will be available  
14 for agriculturally useage on the Vineyard. If this  
15 system is combined with water conservation measures and  
16 recycling of metals and glass, the life of our present  
17 sanitary land fill will be extended by many years.

18 The technical details of this composting operation  
19 would consume too much time to thoroughly discuss here  
20 now, but other knowledgeable townspeople, consultants and  
21 myself are willing to meet with EPA and Anderson-Nichols  
22 to fully detail and document the process.

23 It should be noted that such a holistic composting  
24 system is more in line with current federal regulations  
25 concerning treatment of waste within designated 208

1 areas and with the federal regulations concerning the  
2 preparation of Environmental Impact Statements.

3 This document here which was sent to me by EPA.  
4 (Indicating.)

5 This holistic composting system along with other  
6 environmentally sound systems has not been given adequate  
7 analysis or consideration within either the draft  
8 Environmental Impact Statement or the draft supplement  
9 Environmental Impact Statement as request by citizens  
10 at the October 1 Workshop, the public hearing and within  
11 the written comments.

12 EPA's response to comments indicates that some  
13 thought has been entertained, but that the system --  
14 their composting system proposed is highly technological  
15 with excess uses of energy and materials to accomplish  
16 the same ends in the more simplistic holistic composting  
17 system.

18 Night soil has basically the same characteristics  
19 with primary treated materials without the need for  
20 primary sedimentation or the construction of sewers.  
21 The addition of lime to compost, as recommended in the  
22 draft supplement to increase flocculation increases  
23 the amount of ammonium formation within the composting  
24 products, increases the odors of the compost, and de-  
25 creases the nitrogen content of the final end product

1 resulting in a greater need for more wastewater treatment  
2 plant soil conditioners to produce results equivalent  
3 to the lesser amounts of the more holistic compost.

4 It has also been shown that the wastewater treat-  
5 ment plant fails to kill many pathogenic organisms  
6 within the sledges and may increase their concentration  
7 within the treatment plant up to and over ten times.  
8 This documentation is from the report by the Organic  
9 Recycling Commission dated March, '77 entitled, "Feasi-  
10 bility of Application of Municipal Sewage Sledge on  
11 Agricultural Land in Massachusetts."

12 The report continues to -- The report states  
13 "On the effect of sewage treatment, ova of intestinal  
14 parasites are apparently not effected by the activated  
15 sledge process, and, in fact the literature indicates  
16 that activated sledge mixed liquor provides an excellent  
17 hatching medium for the eggs.

18 Trickling filters, on the other hand, reduced  
19 ova concentrations 62 to 76 percent but may produce  
20 larva in the affluent when the filters slough off growth.  
21 In general, activated sledge appears to be ineffective  
22 in removal of both cysts and ova and while trickling  
23 filters are somewhat more efficient, they still pass  
24 significant portions of the in-coming pathogens out the  
25 affluent."

1           Similar results are found with respect to salmonella  
2 shagella and tubercle bacilli. Wastewater treatment is,  
3 therefore, not without faults of its own in terms of  
4 efficient, environmentally sound treatment.

5           The final regulations for preparation of Environ-  
6 mental Impact Statements here, volume 40 no. 72 published  
7 Monday, April 14, '75 and the federal register outlines  
8 the procedures and considerations to be taken by the  
9 EPA in preparing an Environmental Impact Statement.

10          Within the draft Environmental Impact -- oh,  
11 wait a minute. Sorry.

12          Simply accommodating adjustments at the end of  
13 your decision-making process will not give proper con-  
14 sideration to these environmental alternatives which  
15 have yet to be considered and will not allow adequate  
16 public scrutiny before the final EIS is issued.

17          This consideration of all environmental influences  
18 from the outset is required by the National Environmental  
19 Policy Act, NEPA.

20          Now, getting into some of the specifics within  
21 here, this has been documented once before at the last  
22 October hearing since that time, again according to the  
23 supplement, nothing's been done on this. Section 6.304  
24 Odd-Even Environmental Impact Statement.

25          Background and description of the proposed action



1 states that "When a decision has been made not to favor  
2 an alternative until public comments on a proposed action  
3 have been received, the draft EIS should treat all  
4 feasible alternatives at similar levels of detail."

5 This treatment of alternatives at similar levels  
6 of detail is not at all done in the draft EIS nor within  
7 the supplement. Much more detail is given to alternative  
8 three than any other treatment system. This does not  
9 allow an informed choice by the public. Instead, this  
10 seems like an attempt to force one choice on the public  
11 whether they want it or not.

12 This level of detail in assessing alternative 3  
13 is probably due to the familiarity of conventional waste-  
14 water treatment facilities to EPA and Anderson-Nichols.  
15 These conventional wastewater treatment facilities were  
16 originally designed with only one thought in mind, des-  
17 truction of the waste materials at any cost.

18 When these plans were originally designed, no need  
19 for waste recovery was thought of. The reason for this  
20 approach is due to septage and wastewater being seen as  
21 waste and not as potential resources.

22 Other sections within this final regulations on  
23 preparation of Environmental Impact Statements, which I  
24 feel has not been adequately done by EPA either in the  
25 draft EIS or in the supplement, are section 6.304 Body

1 of EIS, it states under the section b, Alternatives to  
2 the proposed action. The EIS shall develop, describe,  
3 and objectively weight feasible alternatives to any  
4 proposed action including the options for taking no action  
5 or postponing action.

6 The analysis should be detailed enough to show  
7 EPA's comparative evaluation of the Environmental Impacts  
8 commitments of resources, costs, and risks of the proposed  
9 action in each feasible alternative.

10 For projects involving construction, alternative  
11 sites must be analyzed in enough detail for reviewers  
12 independently to judge the relative desirability of  
13 each site. Again, as stated earlier, many of these  
14 alternatives were just simply thrown out the window at  
15 the beginning of the process.

16 "Primary attention should be given to those factors  
17 must evidently effected by the proposed action. The  
18 factors shall include, where appropriate, the proposed  
19 actions, effects on the resource base including land,  
20 water quality and quantity, air quality, public services,  
21 and energy supply. The EIS shall describe primary and  
22 secondary environmental impacts both beneficial and  
23 adverse anticipated from the action.

24 The description shall include short-term and long-  
25 term impacts on both the natural and human environments.

1 These also, I feel, have not been adequately documented  
2 in either the draft EIS or the draft supplement. Many  
3 times, especially in the draft EIS, certain things were  
4 singled out within the alternative systems which were  
5 not singled out in the wastewater treatment plant system.

6 One of these, of course, being odor which was  
7 hardly ever mentioned in the draft EIS but later in the  
8 draft supplement, it was of major concern.

9 It is also important to look at, as Mr. Murphy  
10 stated earlier, irreversible and irretrievable commitments  
11 of resources to the proposed action should it be imple-  
12 mented, and that you can look up in your own things, but  
13 there are many irretrievable resources which would be  
14 committed in the building of a wastewater treatment plant  
15 that do not necessarily have to be committed in a com-  
16 posting process.

17 Also, there's the question of the effect on prime  
18 agricultural land and agricultural operations on the land.  
19 This is something that stated in here is very important.  
20 This has not been done and yet should a composting product  
21 be available to farmers within the area, there are cer-  
22 tain soil management techniques which, using the compost  
23 and other mineral fertilizers, can significantly reduce  
24 the amount of synthetic fertilizers, pesticides, and  
25 other biocides necessary to farm here on the Vineyard

1 and would also reduce the input costs as well as the  
2 natural resources costs in terms of oil, petroleum, other  
3 non-renewable resources.

4 This, by the way, has been done -- This type of  
5 soil management systems has been done by myself as well  
6 as Matthew Tobin now of Tilane Nursery, and we have found  
7 over the past seven years that these systems do work.  
8 We've been doing this for the past seven years, and we  
9 have been able to do things agriculturally, both on  
10 gardening and landscaping, without the use of synthetic  
11 fertilizers, pesticides, or other biocides and still  
12 getting excellent results, quality results, results we  
13 can put a guarantee behind in writing.

14 And, finally, under Scope of EIS, it is the regional  
15 administrator's responsibility to determine the scope  
16 of the EIS. He should determine if an EIS should be  
17 prepared on a facility's plan or section 208 plan and  
18 which environmental area should be discussed in greatest  
19 detail in the EIS. Once an EIS has been prepared for  
20 the designated section 208 area, another need not be  
21 prepared unless the significant impacts of the individual  
22 facilities or other plan elements were not adequately  
23 treated in the EIS.

24 The regional administrator should document his  
25 decision not to prepare an EIS on an individual facility.

1           Again, I feel, that there are many omissions and  
2           missing details that have not been brought up in the  
3           draft EIS or the draft supplement which should have been  
4           brought up and, therefore in my opinion, the whole  
5           feasibility and the documentation is pretty inadequate.

6           In summary, I would just like to say that the price  
7           of food keeps going up, the ground water pollution keeps  
8           increasing, and these two problems here on the Vineyard  
9           can be solved by a composting operation in which we in-  
10          crease the quality of the soil, increase the exchange  
11          capacity of the soil, and hence increase its filtering  
12          ability so that pollutants do not enter the ground water.

13          To attempt to separate the problem of water quality  
14          from food production and other environmental effects in  
15          the draft EIS is extremely shortsighted and narrow-  
16          minded. The goals of the National Environmental Policy  
17          Act to consider all environmental effects of a planned  
18          action are being side-tracked by the conventional destroy  
19          at any cost mentality of EPA and Anderson-Nichols.

20          Anderson-Nichols' approach to the problem of water  
21          quality in the Vineyard is a blatant example of decision-  
22          making before all environmental aspects are considered  
23          and is totally at odds with the National Environmental  
24          Policy Act process.

25          I'd also just like to state that when private

1 conversations with Mr. Murphy, Mr. Mendoza, other people,  
2 we have always been assured that evaluation of composting  
3 and other alternatives will be entirely objective and that  
4 no one alternative will receive preference.

5 After reading the draft EIS and the draft supple-  
6 ment, we can see that these promises were fulfilled.  
7 Also, nowhere in the draft supplement or in the draft  
8 Environmental Impact Statement have -- again, have costs  
9 been put out for some of these alternatives which were  
10 arbitrarily eliminated in which townspeople could take  
11 a look at these and compare them next to each other and  
12 be able to get some kind of a decision.

13 Hopefully, these rules and regulations, as well as  
14 some of the rules and regulations in public law 92-500  
15 with respect to Title 2 construction grants funds will  
16 be taken into account when a final decision is made  
17 within the final EIS.

18 And I only can say that I hope that those treat-  
19 ment systems that are the most consistent with the laws  
20 should be those considered for funding.

21 Thank you.

22 MS. HANMER. I'm sure that we have some specific  
23 comments that Peter would like to make to that statement.

24 I'd like to make one general one and perhaps I'm  
25 presuming as an outsider, since I've only been here

1 a year and I wasn't here when the Environmental Impact  
2 Statement process began, but as I understand it, the  
3 Environmental Impact Statement process began in response  
4 to a facilities plan adopted here. This was evaluated  
5 and formed the basis, the starting point, for our analysis.

6 Our analysis was not started by the general  
7 proposition of doing facilities planning for this area.  
8 We are going to try to be as informative, as fair as  
9 possible, and as clear as possible in the information  
10 that we give you for making your decision. However,  
11 there's a limit of detail which crosses over from the  
12 Environmental Impact Statement process, which is a  
13 federal process, into the facilities planning process,  
14 which is one for which federal funding is available  
15 but is essentially a local responsibility and a local  
16 cost-sharing responsibility.

17 So I think that what you will see as lack of  
18 details result from this fuzzy line. It's not always  
19 clear to us as well. When we get into a situation in  
20 which we are evaluating a proposal, how far do you go in  
21 picking up all the possible alternatives and how much  
22 detail do you give to the study of all of those possible  
23 alternatives, is a matter for a lot of judgment -- It is  
24 not cut and dry.

25 So, as I said, we will try to do as good a job as

1 we can of presenting the information that we have. You  
2 have given us some comments and other people have, too,  
3 on the information that they don't think was presented  
4 well enough, but we're not going to satisfy, I think,  
5 all the facilities planning goals that you all might  
6 have. Peter?

7 MR. MURPHY. Thank you.

8 The comment on EPA's relationship with Anderson-  
9 Nichols, I think, is irresponsible and shows total lack  
10 of knowledge of the federal contracting procedures and  
11 regulations on conflict of interest.

12 Anderson-Nichols is one of many EPA contractors.  
13 Anderson-Nichols is restricted from performing an  
14 Environmental Impact Statement on its own project and  
15 if one of its own facilities planning projects do come  
16 up, it's obvious and we declare conflict of interest --  
17 EPA declares it and another contractor will do an  
18 Environmental Impact Statement on it.

19 Anderson-Nichols is constrained in its partici-  
20 pation on any project for which it has prepared an  
21 Environmental Impact Statement. Anderson-Nichols --

22 MR. MENDOZA. What, a regulation?

23 MR. MURPHY. By contract -- by contract with a  
24 consultant. I take that to be a regulation.

25 Anderson-Nichols interest is focused exclusively



1 on the Environmental Impact Statement. It has no financial  
2 interest in step one, planning. It has no financial  
3 in step two, engineering, and I see these comments as  
4 being totally groundless.

5 With regard to the comment or citation of federal  
6 rules, regulations, and guide lines, we can only respond  
7 that some consideration must be made of state and federal  
8 sanitary requirements and what can be practically accom-  
9 plished in an environmentally sound manner. The recom-  
10 mended alternative is practical, environmentally sound,  
11 meets all sanitary requirements and all federal require-  
12 ments for evaluation of alternatives.

13 Finally, I don't know whether the commentor has  
14 understood from the supplement to the draft EIS, and the  
15 draft EIS, itself, that composting as a process is  
16 recommended. We are recommending that as part of this  
17 Environmental Impact Statement.

18 MR. PACHECO. In addition to the construction of  
19 the wastewater treatment plant, correct?

20 MR. MURPHY. That's correct.

21 MR. PACHECO. What I am saying is that there is  
22 no need to build a wastewater treatment plan, that com-  
23 posting is, by definition, a secondary form of treatment  
24 and that it is a biological form of treatment, and that  
25 we don't need a wastewater treatment plant. We can

1 compost this material just as easily without going  
2 through the construction of sewers and a wastewater  
3 treatment plant, and at much less cost than a wastewater  
4 treatment plant.

5 MR. MURPHY. And EPA is saying that you have to  
6 collect the wastewater before you can compost it.

7 MR. PACHECO. And, as mentioned earlier, in a  
8 holding tank system in the downtown area to prevent  
9 harbor pollution and that this would then be done in  
10 basically the same manner as in the supplement where the  
11 truck would pull up to a holding tank, there would be  
12 a direct connection made, and that from there on, your  
13 composting process as outlined in the supplement, so  
14 that you would still have a collection system in a sense,  
15 but it would be a truck and a holding tank.

16 MR. MENDOZA. Ed, I have a couple of questions.

17 As a person within EPA who is responsible for  
18 completing the EIS process, I'd like to ask that in your  
19 comments, and I assume that you will be sending us a  
20 copy of your comments, that you be somewhat more specific  
21 -- it will help us if you would be somewhat more specific  
22 in terms of identifying exactly what are the contra-  
23 dictions that appear within the supplement.

24 By simply making a statement that the draft  
25 supplement consists of many contradictions doesn't help

1 us with a decision trying to resolve that.

2 The other statement which you made relative to  
3 the draft supplement raises a number of additional  
4 questions -- if you could be more specific in terms of  
5 telling us what exactly are those questions so that we  
6 can try to deal with that in the final.

7 I wanted to just make a statement with regard to  
8 our relationship with Anderson-Nichols from EPA's side.  
9 Anderson-Nichols has competed with a number of different  
10 firms and are in the contract to us to prepare Environ-  
11 mental Impact Statements. They are one firm of many firms  
12 who have the capability of preparing impact statements.

13 The responsibility for preparing an impact state-  
14 ment is a federal responsibility. Anderson-Nichols are  
15 acting as our staff in this relationship. There is  
16 specific language within the contract that deals with  
17 conflict of interest issues, such as being involved in  
18 a community that they have done previous facilities  
19 planning as well as any involvement that they may have  
20 in a community after an impact statement is completed,  
21 and I want to say that for the record because that's a  
22 very key issue here and a concern that we have in our  
23 office.

24 If you in your statements could be a little more  
25 specific and tell us where the problems are, where the

1 conflicts are, where the questions are, I think that  
2 would be very helpful to us.

3 MR. PACHECO. I have a question on the process  
4 between EPA and Anderson-Nichols. How many other firms  
5 at the present time are preparing Environmental Impact  
6 Statements for EPA for the current year?

7 MR. MENDOZA. Okay, there were two other firms,  
8 one has just recently completed an impact statement and  
9 there is another firm that's in the process of working  
10 on a completion of an impact statement in addition to  
11 Anderson-Nichols, just in region one.

12 MS. HANMER. Would you come up to the mike and give  
13 us your name?

14 MS. MADEIRAS. Cora Madeiras, a citizen in the  
15 Town of Tisbury.

16 If I could read a couple of excerpts from the  
17 letter that was sent -- It says, "The new guide lines  
18 specify that a full evaluation of less than secondary  
19 treatment plants processes is required. The draft EIS  
20 does not address less than secondary treatments."

21 Then it says here that a public hearing on this  
22 supplement will be held during the month of October,  
23 1978. The final EIS will be issued during the month  
24 of November, 1978.

25 My question is -- In a recent conversation with

1 Mr. Adams, he stated that the guide lines haven't even  
2 come out of Washington for the secondary treatment plant,  
3 so I was curious as to how a final EIS draft could be  
4 made without these guide lines?

5 MR. PINAULT. I think you're talking about two  
6 separate things.

7 When the hearing was held last October on the  
8 draft EIS, after it was typed, on October 3rd to be  
9 exact, EPA issued a policy memo on the land application.  
10 All that said, basically, was that it re-emphasized our  
11 policy and said that before you can write-off a land  
12 application system, you must show that less than secondary  
13 treatment could possibly be acceptable. That was done  
14 in this case and the conclusions were that primary  
15 treatment or secondary treatment at site one would be  
16 equivalent in that the impacts on ground water quality  
17 would be the same.

18 The final decision on what degree of treatment  
19 would be necessary at site one was based upon above-ground  
20 impacts and that being if you had a secondary treatment  
21 plant at site one, you would have a less potential for  
22 creating odors when you applied the affluents to the  
23 sand beds. If you had a primary treatment, you would  
24 have more solids in the affluent and when it went on to  
25 sand beds, you could have a higher potential to create

1 odors, so, therefore, our evaluation was complete.

2 It's true that the final what we call PRM, Program  
3 Requirement Memorandum, has still not been issued. It's  
4 been published in draft form on April 20th. All of our  
5 analyses and everything that we've done to date are in  
6 conformance with that draft. The people in Washington,  
7 who have written the draft, evaluated the analysis by  
8 Anderson-Nichols, and it was approved by them.

9 All this PRM that's going to be coming out shortly  
10 is going to do is more or less just establish a detailed  
11 step-by-step process on how this should be evaluated  
12 and it doesn't effect that impact statement whatsoever.

13 I hope I've answered your question.

14 While I'm here I'd like to make one comment on  
15 Mr. Pacheco's comments and that has to do with the sep-  
16 tage compost. I'm quite familiar with facilities that  
17 he has discussed, Beltsville, Bangor, Maine, and I've  
18 not been able, unfortunately, to get to either one, but  
19 I've talked to a number of people who have been there  
20 and this has been discussed in a number of projects as  
21 an alternative, and I do know after reading all of the  
22 reports and talking to these people who had the first-  
23 hand knowledge that in each case these facilities were  
24 run under very tightly controlled conditions. In other  
25 words, when a load of septage came in, it was analyzed

1 and it was truly septage, it wasn't for instance holding  
2 tank waste.

3 In cases where holding tank waste came in, it was  
4 not allowed to go into the facility, because they wanted  
5 to try to control their operation.

6 In the case of Tisbury or any town on the island  
7 that might be receiving septage at this facility, you  
8 would be receiving some holding tank waste and, I think,  
9 when you really look into the practicality of applying  
10 one of those systems here or in any town on a large  
11 scale system, it's going to be very hard to do that be-  
12 cause if you get a tank of septage, truly septage that's  
13 been in the ground maybe say six, seven years in a septic  
14 tank, it's going to be very concentrated, or on the other  
15 hand, if you get holding tank waste which is coming from  
16 a restaurant or a laundromat which pumps out very fre-  
17 quently, the concentration is going to be completely  
18 different. It might have one-hundredth the concentration.

19 If you dump this into your facility, it would re-  
20 quire ten, twenty, thirty times and amount of bulking  
21 agent, and it does cause problems, so I agree that com-  
22 posting is a viable alternative in certain locations but  
23 as far as Tisbury is concerned, I question that.

24 The other thing you were talking about was patho-  
25 gens, and you noted that a typical, conventional treat-

1       ment system does not destroy all pathogens. The same  
2       holds true to compost.

3               At these facilities where the composting occurred,  
4       like I say it was very controlled, they took temperature  
5       measurements throughout the pile at different levels,  
6       and even under those conditions they found that the  
7       optimum thermophilic levels were only reached in the  
8       center of the piles, and there was stratification  
9       throughout the piles, and there was definitely not  
10      total kill of pathogens, et cetera.

11             I just want to point that out that composting  
12      does not kill all of these things.

13             The next problem that leads to is if you have this  
14      mass distribution of this composting material, you're  
15      distributing material which could have an adverse impact  
16      to public health, and I think you would have a lot of  
17      trouble satisfying state regulations to sell this  
18      material.

19             All I'm trying to do -- You pointed out all the  
20      good parts of composting, I'm just trying to point out  
21      that there are a lot of side effects also which you  
22      didn't mention that when the final analysis is made,  
23      all of these things have to be taken into account.

24             MR. PACHECO. The stratification that you mention  
25      is true, however, that was one of the reasons in the



1 draft supplement why you recommended turning the pile  
2 upwards of ten times within the first week or something?

3 MR. PINAULT. I forget the exact number.

4 MR. PACHECO. But to help make sure that all  
5 sections of the compost were at this thermophilic level--

6 MR. PINAULT. But even when that is done, it takes  
7 much more manpower and it's very labor-intensive and  
8 the costs just go up.

9 MR. PACHECO. For turning the pile?

10 MR. PINAULT. Turning the pile --

11 MR. PACHECO. This machine can turn 150 tons of  
12 compost per hour for \$50,000, so compare that to --

13 MR. PINAULT. I'm not here to argue. My only point  
14 is that there is a lot involved in this type of thing.  
15 A lot of the studies you refer to were done under ideal  
16 conditions, very controlled, but when you get to the real  
17 world and try to apply these new technologies, you could  
18 run into a lot of problems.

19 MR. PACHECO. That's why I suggested meeting with  
20 EPA and Anderson-Nichols to discuss this in further  
21 detail.

22 MS. HANMER. I'd like to give everybody here 'a  
23 chance to speak first before we move to seconds.

24 Yes, ma'am. Your name, please?

25 MS. WEST. Isabelle West. I live in Tisbury.

1           In the beginning we were told that there was funding  
2           available if we cooperated with other towns and now that  
3           we seem to be going on our own, I'd like to know what  
4           kind of funding might be available?

5           MR. MENDOZA. The question was -- What kind of  
6           funding might be available with the recommendation of the  
7           town to construct the facilities recommended?

8           MR. JEANS. Without the other towns?

9           MR. MENDOZA. You are referring to the construct--  
10          the funding that might be available for the construction  
11          of the facilities that are recommended in the supple-  
12          mental draft EIS?

13          MR. JEANS. The Division of Water Pollution Control  
14          issued its draft priority list for fiscal year 1979.  
15          On that priority list the Town of Tisbury was included  
16          with information, you know, relative information not  
17          definitive down to the penny -- monies were associated  
18          for the Town of Tisbury on the main fundable portion of  
19          the priority list, predicated upon the information which  
20          had been developed in the supplemental draft to the  
21          facilities plan, EIS.

22          The Division, before it could act on funding of  
23          any work for the Town of Tisbury, would have to have  
24          a completed application for, say, the step 2 or step 2/3  
25          work. It will require a Town Meeting action and

1 acceptance of the project by the town, and then the  
2 submittal of the application with a myriad of other  
3 paperwork that goes along with it, but basically, it's  
4 going to be a town decision.

5 The Division is not going to take the EIS and give  
6 a grant to the Town of Tisbury. It's going to be the  
7 town that's going to take the EIS, digest it -- there's  
8 a lot of information in there -- go to Town Meeting,  
9 because the townspeople are the ones that are going to  
10 decide which way they're going to go. It's not going to  
11 be EPA or ourselves.

12 As far as the compatibility of having other towns  
13 tie in, what the Division and EPA would be looking for  
14 would be to have those other communities enter into  
15 contractual agreements with the Town of Tisbury should  
16 they so desire.

17 Now if some of these other communities do not  
18 enter into it -- they don't want to, or they say, we  
19 don't want anything to do with you, if it's a hands-off  
20 type arrangement, we do not intend to punish the Town of  
21 Tisbury because these other communities do not want to  
22 come in. I think you are referring to this newsletter  
23 with a reference -- Tisbury with other communities,  
24 something like that -- No, we would not punish Tisbury  
25 on that.

1 MR. PACHECO. Would that preclude labor if perhaps  
2 the Town of Oak Bluffs going after funds of its own for  
3 construction of some sort of a waste treatment facility  
4 separate from Tisbury?

5 MR. JEANS. I think it's going to depend on how,  
6 for example, the Town of Oak Bluffs would respond.  
7 The Town of Oak Bluffs may want to come in -- Let's  
8 hypothesize for a moment. Let's say Tisbury moves  
9 forward on A Project -- I'm not even defining what it is  
10 -- Maybe five years down the road Oak Bluffs may want  
11 to come in with them. I think that would have to be  
12 some mutual agreement at some point in the future that  
13 would have to be worked out between the two communities.

14 It would not necessarily be slamming the door  
15 closed, but if it appeared at this point in time to be  
16 cost effective, then yes, they may have some trouble  
17 five years down the road wanting to build their own  
18 facility.

19 You can get off of the pie just so many times.

20 MR. DOUGLAS. My name is Robert Douglas, and I  
21 live in Vineyard Haven.

22 I have attended all of these meetings and the  
23 workshops, minus one workshop, so I'm somewhat conversant  
24 with what we're talking about, and although it's a great  
25 pile of information and decisions, I look at one

1 particularly important problem and it bothers me.

2 This hearing indicates the sort of involvement  
3 Vineyard Haven has with this problem -- they think it's  
4 being taken care of for them. They think the Board of  
5 Health is doing their job. They think EPA is doing their  
6 job, the Environmental Protection Agency -- it sounds  
7 good, I like this name, too.

8 Then I look at what has happened in this interven-  
9 ing year's time, and without making a very complicated  
10 and long rerun of history, we've started out with a  
11 system that Tighe and Bond envisioned, in good faith  
12 it was put in front of the voters of the town, as that  
13 is what we had to have -- It's gone considerably down-  
14 hill from there -- Six million, seven million dollars  
15 it was going to cost to begin with, and most of the town  
16 would be sewered, and now we are seven systems that are  
17 in trouble.

18 Each time we've taken a look at it, it's come down  
19 to a smaller and smaller involvement and a smaller  
20 collection system and smaller amount of money involved.  
21 That's a very strange history to have our townspeople  
22 sitting at home watching their televisions and thinking  
23 that everything is going along fine, because I'm worried.

24 I've asked I don't know how many times as I haven't  
25 kept very good track of this sort of thing, specifically,

1 what sort of steps can us townspeople make in the way  
2 of reducing our water consumption?

3 Page 20 or whatever it is here -- B21, it goes  
4 about water and goes on -- and it just mentions that  
5 they would be expensive or that it would be high cost  
6 and doesn't talk about it very much, and I happen to  
7 have been interested in this situation, and I've bought  
8 two Aquafor tiolets and installed them. They reduce  
9 the consumption of water by 90 percent.

10 I've put this low flow high pinpoint shower heads  
11 on and this reduces the water flow by 75 percent.  
12 I've taken care of the problem I had at the installation  
13 I have down on the waterfront which is the marina in  
14 operation.

15 We've talked about the cost, I've talked to Mr.  
16 Murphy here one time, I asked him what did he think it  
17 was going to cost the government to put up this total  
18 impact statement, and he thought maybe two hundred thousand  
19 dollars. Our planning board funded, I think, the study  
20 that Mr. Wilcox helped in and I think he said they  
21 spent something under five hundred dollars.

22 I think you just mentioned this evening that the  
23 information that this study produced was more involved  
24 than we usually get into. Just last spring, I think it  
25 was, the last hearing in the Catherine Cornell Theatre

1       you gentlemen took a lot of flack. I think there were  
2       ten people who got up with very solid statements that  
3       asked a lot of questions that hadn't been satisfactorily  
4       answered.

5               And mine was again at that time that I want to  
6       see an alternative reducing the water flow. We've got  
7       to put -- I think it's been mentioned rather clearly  
8       by a gentleman here this evening that the amount of  
9       water we're putting in the ground is still going to be  
10      dirty, no matter whether it's been treated or not or it's  
11      been removed from an area that may be more sensitive  
12      than the place we're going to land it in.

13             I want to know, for instance, these seven systems  
14      in the town that are not susceptible to ordinary modi-  
15      fication, what happens if you reduce their water flow  
16      by half, or seventy-five percent? It's never been told  
17      to me what the situation is.

18             When we had this sort of -- the windshield inspec-  
19      tions and the sewers flowing in the streets interpreta-  
20      tions -- those five little black dots near the front of  
21      the Impact Statement which almost blow my mind, this was  
22      the foundation for deciding to spend six million dollars  
23      on the town. This is the beginning and now it's gone  
24      down and down and down.

25             I'm not satisfied yet. I have serious reservations

1 as to whether this town, in fact, has got to go the  
2 sewers route. I haven't seen the fact yet. I think  
3 Mr. Wilcox has gone further than anybody has -- I'm  
4 not completely clear as to what the final detail was.

5 We talked about 21, there's 40 -- how many are  
6 there? Well, just down to a handlable figure and the  
7 one other thing that's at the top of my page, this is  
8 what our Board of Health has produced for us townspeople  
9 to look at.

10 If we go the limited sewer system, I trust their  
11 figures are somewhat in line with what you've been talk-  
12 ing about, we are going to require 370 systems to be  
13 connected. We are not reducing water flow in the town,  
14 are we?

15 Edgartown doesn't work well enough because not  
16 enough people are hook up to it yet. I want to know  
17 what seven systems are in trouble and how can they be  
18 handled? How much water -- What's their problem, and  
19 if you cut their water use by half or seventy-five or  
20 eighty percent would that handle it.

21 I remember talking to someone and saying, gee,  
22 we might have solved the whole problem of Vineyard Haven  
23 if we'd given everybody with a problem an Aquafor  
24 tiolet and not spent the 200 thousand dollars of Anderson-  
25 Nichols' study for our town.



1           Now, those are specifics -- I think that's the  
2           major problem. People in our town are happy that you  
3           are working for us, they're happy that our Board of  
4           Health is handling the problem, and most people aren't  
5           here, but I don't think we're handling the problem.

6           I'd like to specifically know if we -- What the  
7           picture will be if we take a massive water reduction  
8           handle on downtown Vineyard Haven? Has that been  
9           handled? Has that been looked at?

10          I've asked that question before and I've never  
11          gotten any answer, and I can't find an answer in here.

12          MR. MURPHY. I can try.

13          MR. DOUGLAS. I've asked that lots of times.

14          MR. MURPHY. First of all, EPA has spent a lot  
15          less than 200 thousand dollars.

16          MR. DOUGLAS. You said a hundred up to where it was  
17          at the town.

18          MR. MURPHY. I thought you just said two hundred  
19          thousand.

20          MR. DOUGLAS. Well, the total you said was going  
21          to go two hundred thousand.

22          MR. MURPHY. I honestly don't remember ever saying  
23          that.

24          MR. DOUGLAS. You said they've already spent a  
25          hundred.

1 MR. MURPHY. As of this time, EPA has spent a lot  
2 less than that, and I anticipate unless something drastic  
3 happens that EPA will never come near spending that  
4 amount of money on this project.

5 MR. DOUGLAS. What have you spent, roughly speaking?

6 MR. MURPHY. Excuse me?

7 MR. DOUGLAS. What has EPA spent on the study  
8 to date?

9 MR. MURPHY. I don't know exactly.

10 MR. DOUGLAS. Roughly?

11 MS. HANMER. Roughly 120 thousand Bob says.

12 MR. MENDOZA. I guarantee it won't go more than  
13 that.

14 MR. MURPHY. Now, with respect to water conser-  
15 vation, first of all, the seven units in town that can-  
16 not be rehabilitated is not EPA's number. That's the  
17 number that was arrived at by the Martha's Vineyard  
18 Water Quality Program which performed the survey.

19 EPA's number would be much larger because we  
20 would have to consider the implications of the state  
21 sanitary code when we talked about the grant eligibility  
22 of improving on-site systems. So if that cannot be  
23 done in accordance with minimum sanitary standards  
24 such as -- Let's say that we have a lot that's so small  
25 that we can't mound it up to a point that there'd be a

1 minimum of four feet, then even with water conservation  
2 you'd still have a potential sanitary problem because  
3 you wouldn't be getting the renovation of the wastewater,  
4 in fact, the sanitary waste that would be emanating from  
5 the house would be diluted less. So, water conservation  
6 is critically important in the non-structural scheme  
7 of things but as far as attenuating pollution is con-  
8 cerned or sanitary conditions within the constrained and  
9 highly developed area, that's not going to be the be-all  
10 and the end-all.

11 It's just one important component.

12 MR. DOUGLAS. My specifics of reduction of water  
13 use instead of putting 370 people on when you say seven,  
14 or maybe ten, or you've got more than they've got but  
15 your study of the town was minimal -- Would you buy that  
16 compared to one that was produced here by the Board of  
17 Health?

18 MR. MENDOZA. Let me respond to that. In just  
19 about every workshop that I've attended or a hearing,  
20 I recall that you have made some reference to the cost  
21 of this study, and how much it has cost to prepare this  
22 Environmental Impact Statement. Let me just say to you  
23 that the majority of the cost that has gone into this  
24 impact statement are not related to the identification  
25 of water quality problems, but more towards the evaluation

1 of ground water impacts as a result of the application  
2 of the wastewater onto the land.

3 A number of wells have been installed. A number  
4 of soil samples have been taken. A number of ground  
5 water samples have been taken, and as you know from  
6 living on the island, the installation of wells, the  
7 evaluation of soil conditions, analysis of ground water  
8 samples, surface water samples is a very expensive  
9 operation.

10 A great deal of the funds that have gone into  
11 this Impact Statement have gone for that purpose, in  
12 addition to establishing a ground water model to evalu-  
13 ate the transportation of any pollutants as they enter  
14 into the interface of the ground water and what the  
15 effect might be.

16 I'd like to throw the question back out to you  
17 as a citizen of the town and any other local elected  
18 officials here and to Bill Wilcox -- How does the town  
19 perceive the idea of implementing a water conservation  
20 program within the community? I mean, these really come  
21 down to local decisions that the town would have to  
22 make.

23 Bill, you've probably had some discussion with  
24 the town with respect to water conservation. This was  
25 an element of 208. What feeling do you have? Is this

1 a real possibility?

2 MR. WILCOX. Boy, that's a good question. I think  
3 the Tisbury Business Association was interested in the  
4 possibilities of a solution short of sewerage, so I think  
5 they're interested at least. They'd like to know what  
6 they're getting themselves into though, and I think that  
7 is the kind of information that would help make the  
8 decision.

9 MR. DOUGLAS. The stand that the EP makes is going  
10 to be important, obviously. All you've been saying  
11 right along and now it's we're going for and all the  
12 reasons, and there are some reasons that you don't give  
13 because they are too complicated, but you've come out  
14 for the limited collection system, and for a lot of  
15 people who aren't going to be interested in going into  
16 the nitty-gritty and are going to take your expertise,  
17 that's going to be important to them. Obviously, it  
18 will carry a lot of weight and this is why if we don't  
19 have the full details brought out in the open as I think  
20 it's been suggested, well, I'm for one am not happy at  
21 this point.

22 MR. MURPHY. By and large in the phase one col-  
23 lection area, water conservation is not going to solve  
24 the problem and the reasons for that are the elevation  
25 of the ground water -- it is so close to the surface

1       that the problem is that rather than the capability  
2       of the soil. Now if we were in a different kind of  
3       surfacial geologic situation where the soils had a  
4       limited capability to perk away the waste water, then  
5       water conservation would be most more critical.

6               But, in this case, we're talking about water con-  
7       servation as an important component, but probably not  
8       one that we think can solve the problem.

9               MR. DOUGLAS. Why couldn't you carry -- If you  
10      could pinpoint the guys that have the problems, put them  
11      a holding tank on top of the fact that they have water  
12      conservation policy measures in their enterprise, those  
13      fellows could carry the cost of doing business in that  
14      area and not landing it on the whole community. We're  
15      not talking about all the little items, about the cost  
16      to the town, of the traffic in that area that you can't  
17      get through now, et cetera, et cetera, but just for  
18      itemizing the problem and taking care of the problem  
19      and not passing the cost onto the whole community with  
20      all the spinoff --

21              MR. MURPHY. Well, that can be done but then the  
22      town would not be enforcing minimum sanitary codes and  
23      so we would have to consider that not to be environ-  
24      mentally sound.

25              MR. DOUGLAS. If there were only seven people

1       that you could handle by pumping, against going for  
2       two million dollars?

3               MR. MURPHY. Well, we don't buy the number of  
4       seven.

5               MR. DOUGLAS. There's the specifics that we are  
6       talking about. This is the crowd that's been interested,  
7       the Board of Health and the Commission have been very  
8       interested in pinpointing the problems and these are  
9       the facts that they've come up with, and they were dis-  
10      satisfied with Anderson-Nichols' rendition of the  
11      problem area. That's the basic core problem right there.

12              MR. MURPHY. Well, again, we are dealing with  
13      two different kinds of definitions. One, we have  
14      identified seven units which cannot be rehabilitated  
15      under any reasonable circumstances and we're using a  
16      different definition and saying, what are the units that  
17      cannot be rehabilitated in accordance with sanitary  
18      codes, and so you see our area has to be larger because  
19      we're using the more conservative set of criteria.

20              MR. DOUGLAS. For instance, the Vineyard Villa  
21      Motel on the waterfront, there's pumping every day up  
22      until the spring. Does that look like a situation that  
23      didn't have a recourse because they have so little area.  
24      It's right in the middle of the U-shaped building.

25              They hired a firm who came down here, got inside

1 and cleaned the place up, cleaned it all out with high-  
2 pressure hoses or something or other, and they're back  
3 in operation, and operating, I guess, with the full  
4 compliance of the Board of Health.

5 Well, I mean I would like to see specifics where  
6 these guys can't be straightened out, or these guys are  
7 in violation of the state laws.

8 MR. MURPHY. I think they can be straightened out.  
9 I mean, you're obviously describing a successful situation  
10 from someone --

11 MR. DOUGLAS. Well, that looked to me like one that  
12 was impossible, because there was no room to expand.

13 MR. JONES. I'm Harry Jones, a resident of Tisbury.

14 We seem to have our same can of worms that we've  
15 had right from the beginning. It's some sort of a com-  
16 munication problem. It's interesting to me listening  
17 to you and to Bob talk. I listen to his side and I  
18 understand it, and I listen to your side and I understand  
19 it, but you're talking on two different subjects.

20 You're not talking to each other, you're talking  
21 about one subject and he's talking about another. You've  
22 got a communication problem. You, the general you,  
23 whoever it is that is trying to help us get some in-  
24 formation to solve a problem which the government says  
25 we have. In other words, we've got to become legal



1 I gather is the whole problem. We can't go on as we are.

2 I don't know whether it's the EPA or who it is,  
3 but you out there somewhere are trying to get us some  
4 information so that we can make a decision that you say  
5 we have to make. Fine, good.

6 I kind of suggest that the stuff that's on this  
7 green and this pink sheet that our Board of Health has  
8 put out is a good starting point. There are simple,  
9 meaty information here. There are some basic comparisons.  
10 There is not reams and reams of more data. We don't  
11 want your scratchings, you know, that you mentioned a  
12 little while ago, that you didn't see the point of giving  
13 us. Darn right there's no point in giving us -- We don't  
14 want all your engineering calculations, all the reasons  
15 why you came up with the decision.

16 But, on the other hand, in reacting to an idea  
17 such as what about composting, we have a little trouble  
18 when you say, well, we're afraid of that, and essentially,  
19 period.

20 MR. MURPHY. We recommended composting.

21 MR. JONES. Oh brother, did you ever do it with  
22 your left hand though. As I read it, I didn't think it  
23 was fairly done. When I read it, I felt, boy, I can see  
24 what they felt. It didn't come across fairly to me.

25 I'm just looking for an answer. I don't know any-

1        thing about this business, but your task is not easy.  
2        Boy, I can recognize that. It's one of communication.  
3        It's one of judgment, of trying to decide now what  
4        factors are we going to mention because if we try to  
5        mention everything, you'll boggle everybody's mind, and  
6        nobody will take in anything -- much less, they probably  
7        won't even read it.

8                So, you've got to keep it brief, but somehow you've  
9        got to set out this information so we can compare it.  
10       I think everybody who has spoken around here has said  
11       give us something to make a decision with, or let us  
12       compare, tell us a little bit about what is good and what  
13       is bad about composting.

14               As fair as you can, let somebody write who is into  
15       composting a little bit not against it. Then, let some-  
16       body else write a thing who's for some other part of it.  
17       There aren't all that many systems that really boil down  
18       as possible candidates.

19               There are many systems, but I think we can throw  
20       out a lot right in the beginning. I was delighted when  
21       these came around. I thought, oh boy, here are some  
22       of the figures that we have come to one workshop after  
23       another and asked for. It's only a few of them, maybe  
24       it's some of the big ones, maybe twenty percent or  
25       twenty-five percent, maybe something like that, but boy

1       that's a start. Give us a few more of this kind of thing.

2               That's my comment.

3               MR. JACOBS. Michael Jacobs from the Tisbury  
4       Board of Health.

5               I apologize for being late. I was dealing with  
6       similar problems at the hospital this evening. I think  
7       we ought to get Blue Cross and Blue Shield to pay for  
8       our sewers that's the only solution.

9               I'm speaking now for the Board of Health, but you  
10      will receive in writing a formal letter. I'll be very  
11      brief and to the point.

12              We, with the Martha's Vineyard Commission, have  
13      spent enumerable hours gathering the data for fact sheet  
14      number one, which we forwarded to you, and together with  
15      Bill Wilcox have spent enumerable hours preparing the  
16      two fact sheets.

17              The reason we did this is we felt that most  
18      citizens would neither have the time nor perhaps the  
19      interest to wade through both statements that have come  
20      out so far. That's not a criticism of your statement,  
21      we just wanted to streamline some of the options.

22              The first one, as you are well aware of, we wanted  
23      to at least get the facts and define the problem. What  
24      I'm confronted with tonight in reading the supplement  
25      is that I don't think it helps me to now make a decision

1 based on the first fact sheet. It doesn't help me at  
2 all, and I'll be honest with you and I don't mean to make  
3 -- I don't want you to feel defensive. I do want you  
4 to see how you can help the citizen with these fact  
5 sheets which have, basically, the options that you have  
6 --- All three of them, large scale sewer and small  
7 scale, night soil treatment and small scale sewerage  
8 and night soil treatment plant with maintenance system  
9 only, and what you need to do, I think, is to address  
10 the fact sheet and say these are the facts that are  
11 presented, okay, and we've reviewed them, and then you  
12 have to address it and help the citizen with this fact  
13 sheet go back and say -- he's going to go back to this  
14 and say, now what are the experts going to say about  
15 this.

16 So far I can find only two pages, pages 6 and 13,  
17 which refer to the report and they say -- and you said  
18 that the finders of the survey and the report conclude  
19 that wastewater collection facilities are feasible in  
20 this area. We tried not to conclude anything. We were  
21 a little surprised with our facts, and I think it's  
22 public knowledge that the Board of Health is not trying  
23 to push the town one way or another. I certainly am  
24 not and the rest of the Board is not.

25 I think it would be a misuse of our jobs to be

1 going that and, frankly, I don't know the answer, and  
2 if I don't know the answer, I don't know how Joe Citizen  
3 is going to know the answer because I've been reading  
4 more than the average person. So, I went to your supple-  
5 ment and I said, well, what are they going to do? Have  
6 they looked our facts and have they verified them?

7 There should be some statement in here as to the  
8 220 lots and do you agree with the results of our survey.  
9 We made that survey effectively twice. Before we looked  
10 and counted a problem, we went back to each individual  
11 spot, so we've effectively done it twice. We came out  
12 with 27 problems, and sitting down with Bill Wilcox  
13 he suggested together with the Commission and the facts  
14 that we knew that perhaps 21 of them could be corrected  
15 by conventional means.

16 All right, there are two facts with which you have  
17 to work right there and address that in the report.  
18 Is our data incorrect? Are there many more problems  
19 than we cited?

20 And the second point is, are we wrong in assuming  
21 that 21 out of 27 can be corrected with some innovated  
22 system?

23 The third thing that we need to know is maybe the  
24 data that we have is correct now, but our prediction of  
25 future failures is way off and maybe you know that

1       whatever small number of problems that we have now,  
2       in five years ten more will fail each year, and we will  
3       have thirty new problems. That's real data that I think  
4       we need from you.

5               I don't want you to rubber stamp this. I really  
6       don't. I'd be delighted if you'd prove me wrong if  
7       that's the fact because I would hate the town to vote  
8       on erroneous data. I really think then that it's  
9       important that the supplement address the fact sheet or  
10      address the survey that we handed you, and say we accept  
11      this data in which case one conclusion would be that  
12      for the few systems that cannot be renovated, the  
13      probability is that there will be very few future  
14      failures; therefore, close them down and don't worry,  
15      or something's wrong in your judgment, you're going to  
16      have many more or the rehabilitated systems will fail  
17      anyway.

18             Give us the hard data. I think we both want some  
19      kind of cost effective environmentally sound solution,  
20      and we have no one particular program that we would  
21      favor more than the other, but I honestly don't feel  
22      after reading this that based on this fact sheet and  
23      the options, that you have guided me with your expertise  
24      into making a decision.

25             That's all I wanted to say.

1 MR. MENDOZA. I think we'd like to respond to at  
2 least one comment that you raised with respect to the  
3 utilization of the data generated by the survey con-  
4 ducted by Bill in the latter part of last year.

5 Joe, could you quickly summarize what we did in  
6 terms of utilization of that information and how we  
7 applied it to the recommendations that are in the supple-  
8 mental draft?

9 MR. ZENESKI. Quite basically, we used the data  
10 to modify the phase one, the initial sewer service area  
11 to include those problem areas and those individual  
12 problems.

13 What is being requested here, I think, is a level  
14 of detail beyond the scope of an EIS, that is, specifically,  
15 verification of a survey done in town by the town, comment  
16 on whether we are going to accept the data and use it,  
17 and it's just -- I think it's expecting too much.

18 MR. JACOBS. Let's assume that the data is reason-  
19 ably correct. You need to say something about whether  
20 we're way off base in thinking that 21 out of 27 can be  
21 rehabilitated. Maybe that's where the point of contention  
22 is, and you need to say something about what the antici-  
23 pated failure rate is, because if we're left with seven  
24 problems that cannot be rehabilitated, then the town,  
25 reasonably, I doubt, will vote for a sewer system.

1           If this data is wrong, you need to express it in  
2       some way.

3           MR. MURPHY. You're asking us to verify your data.

4           MR. JACOBS. No. Accept the data. Let's assume  
5       that it's probably ninety percent correct, then we're  
6       saying -- we're concluding from those that we've pin-  
7       pointed 21 out of 27 systems that could be rehabilitated,  
8       are we right or wrong?

9           MR. MURPHY. How do I answer that question without  
10      going out and conducting my own survey?

11          MR. JACOBS. We have the data. How can you come  
12      to a seven million dollar conclusion without defining  
13      the problem? I can't realize how you can go all the way  
14      without looking at the basic data base. It doesn't make  
15      sense to me.

16          You can get any theoretical conclusion that you  
17      want, but I'm not asking you to do your own survey,  
18      we were glad to do that, but look at the data. We have  
19      every bit of the ground water levels, you saw the  
20      questions. We have the size of the establishment, the  
21      users, the system, the ground water table -- we have  
22      every bit of information and if you assume that it's  
23      ninety percent accurate, what you need to do is say,  
24      yes, you can rehabilitate those systems or you can't,  
25      or it's pie in the sky. Bill Wilcox and the Board of



1 Health and the Commission really are having much greatly  
2 expectations.

3 No one can accept anything until you at least work  
4 with the data that we have. The whole reason it was done  
5 was to define the scope of the problem before looking  
6 for a solution.

7 It seems so obvious to me that I don't know how  
8 to express myself any other way.

9 MR. JEANS. I had made a couple of comments earlier  
10 in the evening in regard to some of the alternatives and  
11 some of the recommendations that were included in your  
12 fact sheets.

13 One of the questions that I had asked was that of  
14 coordination with Lakeville, you know Paul Anderson or  
15 Roland Dusso or some of the other fellows up there,  
16 the reason being that I've worked with them on and off  
17 over a period of the last ten years, and I know some of  
18 the concerns that they have.

19 For example, on mound systems, on holding tanks,  
20 on these types of approaches, they view very, very  
21 dimly the concept of a holding tank as a last ditch  
22 effort when you've got nothing else left as far as  
23 alternatives.

24 If you go in the wintertime, you can have a holding  
25 -- holding tanks are not cheap.

1 MR. JACOBS. We only talked about mounded systems.

2 MR. JEANS. Well, I had asked Bill. I said, you  
3 know there are four or three or there's X number of  
4 systems that you can't mound, you can't do this, you  
5 can't do that -- What are you going to do with them?

6 The response was, we'll have to go with some form  
7 of a holding tank .

8 MR. JACOBS. Forget it. We'll get rid of those  
9 that we can't rehabilitate. No town is going to vote  
10 for a sewer system for seven establishments -- that's  
11 not the issue.

12 MR. JEANS. No, let me go through the various  
13 things that I'm concerned about as far as those recom-  
14 mendations.

15 As far as the recommendations on the rehabilitation  
16 of systems, one of them was mounding. Now, the intent  
17 of mounding is when you have an area that has good soils,  
18 you have got sufficient land area, but the damn water  
19 table is too high. Okay? This is the applicability  
20 on a mound system. All those other requirements have  
21 to be complied with in addition to towing the thing  
22 out twenty-five feet around it.

23 Now, that can give you some fairly large --  
24 Let me just finish --

25 MR. JACOBS. I just want to interrupt you because

1 it's late for everyone.

2 You don't have to go through everything with me  
3 now. What I'm saying is the statement should address  
4 what's wrong with -- or saying that there's 21 of the 27  
5 can be --

6 MR. JEANS. I'm accepting that. Okay?  
7 What I'm saying is that I'm accepting that there are  
8 problems. You have found 27 problems, and what I'm  
9 saying is whether the number is 10 or 100 if we've got  
10 27 problems, how do we get at a solution for those  
11 27 problems?

12 MR. JACOBS. And we have said that possibly 21 can  
13 be corrected by some kind of innovative system without  
14 sewerage.

15 You should come back to us and say that's impracti-  
16 cal for the following reasons or that's a good idea or  
17 you can say that's practical do it, but you are -- no one  
18 has said what the failure rate is going to be.

19 You need to address the facts of it, and I don't  
20 want to hear about systems tonight. You can write it  
21 in your report.

22 MR. JEANS. The key element is this -- Anything  
23 that is to be funded must be approved by DEQE, Okay?  
24 It has to meet the state requirements, and all I'm  
25 indicating is that there has to be coordination with

1 DEQE as far as mound systems and let's try to take this  
2 the next step further and if you don't mind what I would  
3 like to do is within the next couple of days I will for-  
4 ward a copy of this and just ask DEQE's opinions on a  
5 conceptual basis, not knowing all the numbers.

6 MR. JACOBS. That's what we're asking the EPA  
7 to do, that's what we're asking your engineers to do.  
8 That's exactly what we're asking.

9 MR. JEANS. I can see some problems because I've  
10 worked with Paul on holding tank systems where they  
11 have been involved in facilities planning work and also  
12 on mounding systems, and I'm just raising that point,  
13 and if you don't mind, I would just like to forward that  
14 to them.

15 MR. MENDOZA. We will take the information that  
16 you have provided us this evening and newsletter number  
17 two, and both EPA and the state will evaluate this and  
18 we will look at it and consider it in the final Environ-  
19 mental Impact Statement.

20 I do want to ask you one question and I think  
21 maybe Bill Wilcox is the person to answer it.

22 In phase one where we're talking about a float  
23 projection of 70,000 gallons it's indicated in this  
24 newsletter that 21 out of 27 systems could possibly be  
25 rehabilitated on site. Now the six or seven remaining

1 systems, Bill, can you tell me what that means in terms  
2 of flow? Is that fifty percent of the 70,000? Is it  
3 less? What is the relationship of flow projection to  
4 the number of units that could not rehabilitated on site?

5 MR. WILCOX. I'd say it's somewhere between a third  
6 and a half, maybe.

7 MR. MENDOZA. A third and a half?

8 MR. WILCOX. That's a ballpark figure.

9 MS. HANMER. I thought you said three-quarters  
10 earlier. I believe I heard that the seven represented  
11 three-quarters. Now, I don't know where I heard that.

12 MR. MENDOZA. I agree that there is a need for  
13 further discussion on this, and I think it's important  
14 for us, both EPA and the state, to sit down with you  
15 and anyone else who might be interested, and try to  
16 discuss these numbers in terms of what exactly do these  
17 rehabilitations mean and what are we talking about in  
18 terms of flow projections for those who cannot be  
19 rehabilitated on site.

20 MR. JACOBS. And then comment on that data so  
21 that someone can pick up the supplement or the final  
22 statement and thumb through it to make a decision and  
23 that's your objective.

24 MS. HANMER. Let me say something again as a  
25 general thing. We are talking at cross purposes to a

1 certain extent because we're trying to do two different  
2 things.

3 EPA is trying to decide and advise you on what we  
4 could do in the way of federal funding for what kinds  
5 of projects. We cannot make up your minds for you, nor  
6 can we do your facilities planning for you. We can give  
7 you our best judgments. We can make available informa-  
8 tion that we have. We can tell you what we think about  
9 things and we can get charges back that we're prejudiced  
10 about things.

11 We will share everything that we have with you.  
12 Again, I think that you are not going to be -- if you  
13 expect this Environmental Impact Statement to give you  
14 all the answers about the future decision you should  
15 make, I am terribly afraid that you are going to be  
16 disappointed. You already are disappointed.

17 MR. JACOBS. No, I don't think we expect that.

18 MS. HANMER. Well, the point we've just been  
19 discussing is a case in point. In order for us to give  
20 you a truly technical judgment, we'd probably have to  
21 go in and do a survey ourselves, so what we're going to  
22 give you is an opinion.

23 MR. JACOBS. I'm sorry. If you didn't do it  
24 initially, then you couldn't have thought it important  
25 enough to make your decisions on. I don't see how you

1 can start --

2 MS. HANMER. The decision for us is not -- Are we  
3 going to force you to sewer. If our decision were to  
4 force you to sewer --

5 MR. JACOBS. No, the issue is whether we need it.

6 MS. HANMER. May I finish. Our decision is whether  
7 or not it's reasonable and we can participate in it from  
8 a federal standpoint, and that is a slightly different  
9 decision.

10 MR. JACOBS. But you first have to determine need.

11 MS. HANMER. Yes, you do.

12 MR. JACOBS. You have to agree that there is a  
13 need, that's all.

14 MS. HANMER. Within the realm of reasonability,  
15 that's right. But you all have got to make a choice.

16 MR. MURPHY. Mike, I think we're dealing with two  
17 different base finds, and I know all of you -- everyone  
18 else here has heard this -- but, what we are considering  
19 to be a problem is on-lot improvements that can be made  
20 to allivate a sanitary problem that may not be in accord  
21 with sanitary codes and so that's why if I'm looking at  
22 that kind of base and you're looking at the other base,  
23 which is much more restrictive, then the number you are  
24 getting has to be smaller than the number that we're  
25 getting, but there is a rational criteria for evaluation

1 of need and I think we're skimming over that a little  
2 bit. I know we're not doing facilities planning, but  
3 we have done a lot of work here and part of that has  
4 been to examine all of the data that has been made  
5 available to us including that of the water quality  
6 program which makes this a better Environmental Impact  
7 Statement.

8 MR. NORTON. I just have a very specific question  
9 that, I hope, will at least be clarified for me.

10 This is Jim Norton speaking.

11 It's really the meaning of the words advance  
12 treatment in combination with environmentally sound, and  
13 the question that I was specifically concerned about  
14 is, Can I combine those or can we, as a town, combine  
15 those to say that if advance treatment is done on the  
16 present dump site, site number two, that that would be  
17 environmentally sound, as is stated in site three, if  
18 advance treatment is done there that is environmentally  
19 sound? Is that transferable from one site to another?

20 MR. MURPHY. I can't say that it is. I think that  
21 it may be. It seems reasonable that it would be if,  
22 in fact, given the depth we have to ground water, and  
23 the characteristics of advanced wastewater treatment  
24 that you actually have changed the affluent into some-  
25 thing of drinking water quality, then you probably would



1 not have an adverse impact at site two even though your  
2 sites are located in close proximity to the land disposal  
3 operation. But then if we were to go into that, then  
4 we'd have to also consider the cost effectiveness of  
5 moving the wells and EPA still has to go back on this  
6 concern for the federal policy of that is they will not  
7 participate in a project that will contaminate existing  
8 public water supplies which it clearly is.

9 MR. NORTON. For site three as well as for site two,  
10 meaning in both instances we're talking about contamina-  
11 tion?

12 MR. MENDOZA. Jim, one of the concerns that's been  
13 raised here this evening is cost and the economics and  
14 I think you all realize that if we start talking about  
15 an advanced waste treatment plant on site two from a  
16 cost effective point of view, we're talking about a more  
17 costly capital investment as well as a more costly  
18 operational investment in relationship to what we have  
19 proposed in terms of site one. You recognize that?

20 MR. NORTON. Yes, I do. I was just trying to get  
21 some definition. Thank you.

22 MR. DOUGLAS. Specifically, here's my problem --  
23 If you could reduce the water flow into X cesspool, so  
24 that you didn't have any overflowing down the street,  
25 we wouldn't have any particular problem because the

1 whole town is taken care of by cesspool or leeching  
2 fields, all right?

3 I had an operation whereby it could stand so much  
4 water so I'd shut off the washing machine or shut off  
5 the shower. I put showerheads and toilets in and I  
6 solved the problem.

7 Why can't we take a look at that as a solution?  
8 Say there's 20 or 30 places in town where there are  
9 problems, find out what the water flow is and if we  
10 could cut it in half, could the systems handle it then?

11 We haven't asked that question yet.

12 MR. MURPHY. Well, we have examined water con-  
13 servation and we have considered the feasibility of  
14 substantial reductions in water use and I know you've  
15 gone a long way with the installation of that toilet and  
16 other measures.

17 MR. DOUGLAS. It's only \$1200, that's all it costs.

18 MR. MURPHY. Yes, but still that's going a long  
19 way and so we have examined the impact of that being  
20 done on a wide scale without substantially changing  
21 people's lifestyle, but still conserving a lot of water,  
22 and what I'm saying again -- I've said it before --  
23 We've found that this will not totally solve the problem,  
24 that it can make an important contribution, but in this  
25 very small core area, it will not solve the problem, and

1 other non-structural measures will not solve the problem  
2 either.

3 MR. JACOBS. Because you've looked at all the  
4 specifics that tell you if you cut the water use by  
5 fifty or sixty percent that wouldn't handle the problem.

6 MR. MURPHY. I don't remember what the percentage  
7 cut-off point is, but there is some point, there is  
8 reasonable water that has to be used for subsistence  
9 for domestic and business purposes. I don't remember  
10 exactly what it is, but if a person is using seventy  
11 gallons per day maybe if he cut down to thirty-five  
12 gallons per day, he'd really be drastically altering  
13 his lifestyle, or maybe the kind of toilet you used is  
14 not acceptable to him, or maybe he just does not have  
15 the same level of environmental consciousness as you have.

16 We're trying to come up with something reasonable,  
17 realistic.

18 MR. DOUGLAS. You don't think that kind of toilet  
19 is reasonable or realistic?

20 MR. MURPHY. Oh, I think it's completely reason-  
21 able. If I were in the situation where water conserva-  
22 tion was very important, I'd go to this, I really  
23 would, but that's personal observation and we've found  
24 in other studies in Environmental Impact Statements that  
25 we've had a great deal of adverse reaction to anything

1 but the typical American Standard fixture in the bath-  
2 room.

3 MR. DOUGLAS. If we could have a study -- If this  
4 impact statement could include this alternate in this  
5 whole area, as to everybody uses this sort of a toilet  
6 in that area, every kind of a showerhead in this area.

7 MR. MURPHY. We have concluded that for this central  
8 core area. What we are saying is that water conservation  
9 and a rigorous application of non-structural measures  
10 can possibly make the construction of phase two and  
11 phase three unnecessary, but we think that phase one  
12 is necessary immediately.

13 MR. DOUGLAS. But so many of the factors were  
14 erroneous. The major, biggest circle on the chart as  
15 to even the Wilcox job showed the certain place which  
16 I'm involved with as being pumped and so many gallons  
17 a day were being pumped because somebody who was in-  
18 volved with the management of it had the pumping man  
19 come and pump the whole thing, every truckload he could  
20 take was designed to be pumped once a month for the  
21 holding tank, the grease trap, we haven't pumped it  
22 all summer long because it doesn't need it, and that  
23 was the biggest, single gallonage pumped in Vineyard  
24 Haven, and that was erroneous. Two other items down  
25 there have now been changed because, these are also

1 little circles on that chart, all three of them are not  
2 properly included.

3 I'm just using this as a basis in fact relationship  
4 -- this is the problem and these are three specifics  
5 I know of that aren't the problem.

6 MR. MURPHY. I don't deny that there might be some--

7 MR. DOUGLAS. We should do a more careful job in  
8 that area, that's the center core area we're talking  
9 about.

10 Get the flows on every one. We still don't have  
11 a handle on it.

12 MS. CROSBY. My name is Ann Crosby. I am a member  
13 of the Martha's Vineyard Commission from Oak Bluffs,  
14 and Mr. Douglas's comment kind of raised a question in  
15 my own mind about another one of those little dots, or  
16 large dots on the map that I happen to see that Mr.  
17 Wilcox devised, and that is also the Tisbury Inn.

18 You mentioned earlier the facts and figures about  
19 home use -- water use -- but do you have any facts or  
20 figures about a large, a fairly large hotel that also  
21 encompasses a swimming pool, the only indoor pool in the  
22 island, which also is part of a health club where there  
23 are many, many showers that are used continuously.

24 I would also add that I am a former aquatics  
25 director at that particular place so I have a great

1 source of information that possibly I could share with  
2 you concerning the cesspool systems there and the back-  
3 up and the number of times they have to be pumped through-  
4 out a year, and what times of the year might possibly  
5 need it much more than other times, but I think the  
6 suggestion that Mr. Douglas made of possibly just changing  
7 in that place alone, just the showerheads not even con-  
8 sidering toilet use, but simply showerheads in the hotel  
9 and the health club area may, in fact, go a long way to  
10 solving the problem there which would be another little  
11 dot that could be crossed off the list.

12 Do you happen to have figures on hotel use?  
13 As far as water use in a cesspool?

14 Well, anyway, I think Mr. Douglas has a valid  
15 point and I think all of this information tonight is  
16 bringing up other points that we really maybe should just  
17 start pooling information and coming up with solutions  
18 to the problems that we have. Thank you.

19 MR. WILCOX. I just have one last quick question.

20 If the final EIS recommends a limited sewer  
21 service area and a sewage collection system secondary  
22 treatment plant, but the town decides that they only want  
23 to go with a night soil treatment plant, will that be  
24 fundable or will that be eligible for funding?

25 MR. MENDOZA. I know what I want to say, but I'm

1 not sure I represent EPA construction grants.

2 MR. PINAULT. At this point in time I can't give  
3 you a definite answer. All I could say is that if the  
4 town did go ahead with the recommendations of the EIS  
5 as Brian mentioned, they are on the priority list and  
6 it appears we could fund that without any problem.

7 You say what happens if the town decides just to  
8 build a septage treatment facility? To my knowledge,  
9 and I've read the Tighe and Bond's study, and I've been  
10 involved in this for the last couple of years, no one  
11 has ever fully evaluated constructing a septage treat-  
12 ment facility only, and at this point in time I would  
13 like to make some brief comments on your newsletter or  
14 fact sheet.

15 A number of people have criticized EPA for a number  
16 of things. On option one, that you show on this which  
17 is the construction of a night soil treatment facility  
18 only, I'd like to make a few comments, because I don't  
19 think you have -- these aren't facts, at least I don't  
20 think they are.

21 First of all, under option one, item A, you recom-  
22 mend regular pumping of all sewage disposal systems as  
23 a preventive measure when indicated. Then you go on  
24 on your cost presentation and these numbers are taken  
25 from the Tighe and Bond study and updated to present cost.

1 First of all, the Tighe and Bond proposal wasn't  
2 designed to handle the amount of septage that would be  
3 coming out of the system if you had a septic system  
4 maintenance program where you would have much more septage  
5 being involved, so therefore, this total capital cost  
6 figure, I think, is way on the low side; it's going  
7 to be much more.

8 Second of all, when Tighe and Bond did that study  
9 they were recommending to put the septage facility --  
10 I believe it was a bio-disc treatment facility which  
11 this cost represents on the Manta property or site 3,  
12 and that's one of the reasons we decided to do the EIS  
13 anyway, because neither the septage disposal facility  
14 or even the proposed wastewater treatment facility  
15 for Vineyard Haven, which was supposedly to be sited  
16 at site 3 was properly evaluated as far as impacts on  
17 ground water quality and from memory reading that report,  
18 the average concentration of biodegradable suspended cells  
19 of the septage was about five thousand milligrams per  
20 liter and with ninety percent removal, the effluent  
21 coming out of that system was in the range of five hundred  
22 milligrams per liter, which was twice as concentrated  
23 as raw wastewater and we've concluded in the EIS on the  
24 full evaluation of the Manta property, site 3, that even  
25 if you had advance wastewater treatment and you were



1 putting out one-one hundredth of that concentration,  
2 you would be causing a problem downgrading it with the  
3 water supplies in Oak Bluffs. So, I'd like to point out  
4 a couple of things:

5 Number one, you present these costs here -- I don't  
6 think it's a true cost comparison. I think Mr. Jacobs'  
7 comment that we try and go through and discuss what you  
8 have put down here is a valid one. Unfortunately, this  
9 was just handed to me as I walked in tonight, and like  
10 I say, these are just comments that came out of my head  
11 in a quick review.

12 So, between now and the time that the final EIS  
13 is prepared, we will be sitting down closely, going back  
14 to the Tighe and Bond report, seeing what was put into  
15 that, and try to come up with some critique of this  
16 information.

17 Again, like I say, nobody has fully evaluated  
18 a septage treatment facility only. The closest thing to  
19 it was probably the Tighe and Bond study, and I just told  
20 you a few reasons why that wouldn't be acceptable.

21 So before EPA or the state could find only a  
22 septage disposal facility a lot more work would have to  
23 be done, and that is truly facilities planning, and  
24 something that EIS would not do.

25 MR. WILCOX.

So that your answer to my

1 question about the eligibility of a septage treatment  
2 plant only is that you're not really sure at this point.

3 MR. PINAULT. At this point in time I'm saying  
4 that there's no way I can say -- I would say that we  
5 would not preclude it at this time, you know, all I'm  
6 saying is we don't have anything before us which we  
7 could say yes, definitely, we would fund that, because  
8 it hasn't been properly studied to my knowledge.

9 MR. MENDOZA. Bill, as far as the impact statement  
10 is concerned, and the process of developing the draft,  
11 when we began to recognize that there was in fact a need  
12 for a limited collection facility, I think the emphasis  
13 of the draft statement was directed more towards a  
14 solution which could accommodate both the limited waste-  
15 water as well as the night soil facility. I think we  
16 still believe that today. I think we still feel that  
17 there is a need for a limited collection system. We  
18 will be evaluating this additional information.

19 How that effects eligibility as Paul has indicated  
20 further work would have to be done on a septage facility  
21 site specific analysis would have to be done on the  
22 location of the septage facility. We would be getting  
23 into some of geo-hydrologic type work that we did as  
24 part of the impact statement when we were looking at  
25 land disposal of AWT or secondary or primary treatment.

1 MR. WILCOX. One thing on the cost for the Tisbury  
2 only facility, I used the Tighe and Bond cost figure  
3 simply because the cost figure that you had in EIS was  
4 so low for the composting facility that I felt that it  
5 really wouldn't be a kind of valid comparison.

6 I think the project cost under the composting  
7 facility was \$133,000, and I was a little fearful of  
8 putting a number in there that was that small because  
9 I thought that I'd be kind of giving a false impression  
10 in the newsletter. So I took a higher cost figure.  
11 I figured if they went to a composting facility and with  
12 that half million dollars they could probably put to-  
13 gether a pretty good one.

14 MR. JEANS. I'd like to make two comments.

15 One of them as far as on the cost, we do have  
16 some facilities planning work about to be ongoing and  
17 there is some preliminary work that has already been  
18 done, specifically on septage composting in southeast  
19 Mass. Preliminary cost estimates are six to eight  
20 hundred thousand dollars.

21 FROM THE AUDIENCE. What kind of flow rate?

22 MR. JEANS. I think on the order of twenty to  
23 twenty-five thousand gallons a day. Now this is just  
24 preliminary design but that's the order of magnitude  
25 that I think is important here.

1           One other comment you said could a septage facility  
2 be funded? With the information that's been presented  
3 to date if a step two application were to come into the  
4 Division tomorrow, the answer would be no. There is a  
5 lot of facilities planning work, additional work that  
6 would have to be done as far as pursuing it on the septage  
7 composting basis.

8           I think what's really important to the town is  
9 rather than getting too far involved with composting or  
10 septage treatment, whatever mode it happens to be, is  
11 to coordinate with Public Health, and I will be at least  
12 kicking the ball off in that regard, because I think  
13 we're all looking for something that we can live with.

14           I think that one of the other things that hasn't  
15 been brought up is that it's expected that there's going  
16 to be future failures, you know, one to seven a year,  
17 or that could be over a five year period, you know,  
18 five to thirty-five, so I mean let's get things balanced  
19 out and try to give as good a presentation as we can.

20           We've tried to give the costs and the EIS as  
21 accurately as possible and the ramification, and let's  
22 do the same on this other thing. Let's see -- Well,  
23 those are my comments on that.

24           FROM THE AUDIENCE. I think that costs that we  
25 put in here were done as accurately as possible.

1 MR. JEANS. I'm just saying the level of effort,  
2 I mean you couldn't spend many, many man-weeks just  
3 doing that -- you've got a lot of other job duties to  
4 do.

5 FROM THE AUDIENCE. I took these costs from previous  
6 documents, they were based on Tighe and Bond --

7 MR. JEANS. But, you know, different flows, dif-  
8 ferent times, you know.

9 FROM THE AUDIENCE. One other question.

10 I got the impression somewhere, and I can't put  
11 my finger on where, that if the town applied on behalf  
12 of a problem system, if they applied for funding from  
13 EPA to remedy that system using an innovative approach,  
14 using a mounding system, that because the town was  
15 applying, because the town was sponsoring it, because  
16 the town was going to be responsible for maintaining it,  
17 that Title 5 really didn't become a limiting factor.

18 Do you know where I got that impression from  
19 because I know that I read it somewhere?

20 MR. JEANS. I have attended several meetings with  
21 Commissioner Stanley of late, and specifically, variances  
22 and deviations from Title 5 that question was raised,,  
23 and the answer was basically no. It would have to  
24 be in compliance.

25 MR. WILCOX. Well, that's good to know now.

1 MS. CROSBY. Ann Crosby, again.

2 I'd like to maybe just make one comment, and I'd like  
3 you to try to keep this in mind if you make any more  
4 comments in writing.

5 It's that I couldn't help but be struck by some  
6 of your, I guess maybe the attitude that I kind of got  
7 from you concerning not so much alternatives to sewerage  
8 but what might, I guess it's off-island values when it  
9 comes to lifestyle, how we happen to deal with something  
10 as basic as septage, sewerage, this kind of thing.

11 Martha's Vineyard, obviously, is different because  
12 we're an island, but we are different in other ways, too,  
13 and I think the basic difference whether we live in  
14 Edgartown or Oak Bluffs, or anywhere else on this island,  
15 is the fact that we're here for a reason because we  
16 have a particular type of lifestyle that we really  
17 enjoy living.

18 We're not in Boston, we're not in Washington, D.C.,  
19 we're not elsewhere for that main reason, and I think  
20 when it comes to offering us alternatives that are  
21 going to automatically expect us to develop or allow us  
22 to develop homes, many, many more homes than we really  
23 need to have here, businesses that we have many, many  
24 more than we really need to have here except that that  
25 kind of takes care of itself anyway because we are an

1 island, but I really want you to keep in mind that we  
2 are not -- we don't really necessarily want to grow that  
3 much, okay? And when it comes to expanding facilities  
4 I for one don't really want to see that happening too  
5 terribly much here on the island, and I think Edgartown  
6 is learning, hopefully is learning, from that kind of  
7 decision that they made, and it's indicated to me even  
8 though I don't live in Tisbury but I like this place  
9 very much, that I don't really think that we need it  
10 here. I don't think that Tisbury needs a full blown  
11 sewer system. I think we can probably handle the situa-  
12 tions that occur not only now, but in the future because  
13 we want to keep it fairly well organized, or at least  
14 the numbers of people in the town and on the island  
15 fairly well organized, and we really don't want to expand  
16 too terribly much.

17 So, I know I would appreciate figures that address  
18 more the other end of the spectrum.

19 MR. JEANS. I do have -- I'm responsible for the  
20 southeast area of Massachusetts, okay?

21 One of my projects has a service population of  
22 sixty-seven people, so I can appreciate economy scale.

23 I'll be honest with you, we have to -- we have  
24 a limited amount of money. Now, \$133 million dollars  
25 a year, that may sound like an awful lot of money, but

1       you project that out over the next five years, so it's  
2       about \$600 million dollars. We have requests into us  
3       for well over a billion dollars. We have maybe three  
4       fold times the number of requests as we have money  
5       available so we have to try to be as selective as  
6       possible.

7               The whole concept of needs and documenting the  
8       needs for systems is one of the reasons that we have  
9       through the EIS process, we have scaled down on the  
10      project. We do not want to build sewers unless they  
11      are necessary.

12             By the same token though we want the solutions  
13      that are finally implemented to be those which you can  
14      live with and not just for a year from now, but for  
15      five and for whatever the planning period is for this  
16      project.

17             We don't want to be coming back here in five years.  
18      I have other projects in my area where we are talking  
19      basically looking at septage disposal and septage  
20      treatment. They are not looking at major expansive  
21      treatment systems. There's other facilities plans  
22      that are on-going that sewers are not recommended, that  
23      will probably be going along with so -- I try not to  
24      -- I go from a New Bedford to               in the scale,  
25      and you have to try to develop some common ground to a



1 certain degree as far as basically establishing need.

2 You've got to establish need whether it's  
3 whether it's Tisbury, Oak Bluffs, Yarmouth, whatever,  
4 or if it's Fall River, Boston. You have to establish  
5 the need first, and then you build from there, and I  
6 think that's when the individuality of a municipality  
7 starts to come into play as far as alternatives that are  
8 acceptable to them.

9 MS. CROSBY. Okay, correct me if I'm wrong.  
10 I thought you said that as far as -- in response to  
11 Bill Wilcox's comments about your question about whether  
12 or not a septage treatment plant would possibly be  
13 -- could be funded, and your answer to me, particularly  
14 coming from Mr. Stanley --

15 MR. JEANS. We're talking two different things.  
16 Now, the septage treatment or is it Title 5? Which  
17 are you referring to?

18 MS. CROSBY. I guess it's simply septage treatment  
19 as far as being eligible for funding, okay. Now, is  
20 that Title 5?

21 MR. JEANS. Well, the only reason I say that is  
22 because everything that has been documented has been  
23 presented, okay? It is not solely on the septage  
24 treatment issue alone.

25 In other words, you'd have to go back and do all

1 the facilities planning work, the way the proposal would  
2 be, say, solely a septage treatment facility, no waste-  
3 water at all, but I think before we even get into all  
4 those alternatives, let's coordinate and let's see if  
5 we can get some answers through State Public Health and  
6 these other agencies.

7 They're going to have to approve it or you're not  
8 going to get it, so I think that's first base.

9 MS. CROSBY. Okay.

10 MR. JEANS. As far as Commissioner Stanley and  
11 variances from Title 5, no, that's another issue and  
12 basically that's the story on that.

13 MS. CROSBY. Okay, thank you.

14 MS. HANMER. We are going to lose -- I'm willing  
15 to stay here all night, but everybody that's helping  
16 me answer questions has got a plane that's leaving at  
17 11 p.m., so I think perhaps we can have about five more  
18 minutes, but that will be it.

19 MR. PACHECO. I have two very brief comments.

20 One, as I pointed out earlier, is the apparent  
21 contradiction between what is stated in section 2 here,  
22 that these comments cannot be part of EIS.

23 In addition, section A1, you talk about Fort  
24 Devens Project which is supposedly on page A1 is 30 years  
25 in operation, but on page A3, is only 6 years of operation.

1 Now that's a contradiction in itself.

2 And page B4, yeast and bacteria preparation would  
3 be flushed down the toilet -- these are generally not  
4 considered effective.

5 Mr. Douglas mentioned the Vineyard Villa Motel  
6 which had a problem and the way they solved that was to  
7 use a bacterial preparation which stabilizes septage  
8 in there and was later pumped out.

9 There have been other reports in the literature  
10 of yeast and bacteria preparation as being very effective.

11 The other thing is that the waste flows on page  
12 13, which we talked about earlier -- the 70,000 gallon  
13 figure is based on the fact that 35 commercial units  
14 and 145 residential units would be connected to the  
15 sewer systems. What happens if not that many people  
16 are connected? What happens if wastewater flows are  
17 reduced through water conservation measures? Does  
18 sewerage for the phase one area then become cost  
19 effective? If not that many people tied in, you wouldn't  
20 have as much water coming down the tubes.

21 There will be more and more clear ones in my  
22 written comments -- more details.

23 MS. HANMER. Thank you very much.

24 MR. PACHECO. You haven't said who we can write  
25 our comments to -- You said we could write comments.

1        Could you give the address?

2                MS. HANMER.    Yes, you can send your comments to  
3        Bob Mendoza, Room 2203, John F. Kennedy Federal Building,  
4        that's U. S. Environmental Protection Agency, Boston,  
5        Massachusetts 02203.

6                (Whereupon, the hearing adjourned.)  
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C E R T I F I C A T E

UNITED STATES OF AMERICA

ENVIRONMENTAL PROTECTION AGENCY

This is to certify that the attached proceedings held at the Tisbury Regional School, Tisbury, Martha's Vineyard, Massachusetts on Thursday, October 12, 1978 consisting of pages 1 through 122 was held as herein appears and that this is the original transcript thereof for the file of the Environmental Protection Agency.

Stephen E. Perkins

APPENDIX F

ARCHAEOLOGICAL INVESTIGATION

## ARCHAEOLOGICAL INVESTIGATION

A copy of the Preliminary Archaeological Study for the proposed treatment plant site on West Spring Street is reproduced on the following pages.

During Step 2 a "Determination of Effect" in accordance with the National Advisory Council on Historic Preservation procedures will be made by EPA.

PRELIMINARY ARCHAEOLOGICAL STUDY  
SEWAGE TREATMENT PLANT SITE  
WEST SPRING STREET  
TISBURY, MARTHA'S VINEYARD, MASSACHUSETTS

ENVIRONMENTAL IMPACT STATEMENT  
TO BE PREPARED BY  
ANDERSON-NICHOLS, TECHNICAL CONSULTANT,  
FOR E.P.A. REGION I

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FEBRUARY 2, 1979



PRELIMINARY ARCHAEOLOGICAL STUDY  
SEWAGE TREATMENT PLANT SITE  
WEST SPRING STREET  
TISBURY, MARTHA'S VINEYARD, MASSACHUSETTS

## I. PROJECT

Archaeological research was done on the proposed sewage treatment plant site in Tisbury, Massachusetts shown on the plan "Schematic Site Plan, Primary Wastewater Treatment Plant, Alternative Site no. 1" by Anderson-Nichols dated February 16, 1978.

Lake and Spring streets lie to the north and south of the site. Pine Street lies to the east and Lake Tashmoo, to the west. The precise bounds can be seen in the above-mentioned plan, and on a sketch on the Vineyard Haven U.S.G.S. sheet attached hereto (Map 1).

## II. SETTING

The proposed sewage treatment plant site lies within the area covered in the Pleistocene by the Martha's Vineyard moraine (C.A. Kaye 1966, 1977). The soil is sandy till overlaying gray clays and fine to medium clean sands.

That the ice retreat was rapid around Lake Tashmoo is documented by numerous kettle holes. These were formed by blocks of stagnant ice that became isolated from the receding glacier and were partially or completely buried in till or outwash. When these blocks of ice finally melted, they left the pits or depressions called kettles that pock the land around Lake Tashmoo.

In the immediate project area, none of the kettles appears to have held water

in recent times.

The sewage treatment plant site is partly in pasture, and partly covered by secondary growth of pine and oak.

### III. HISTORIC LAND USE PATTERNS

The large neck of land between Lake Tashmoo and Vineyard Haven harbor was originally purchased by Isaac Chase, who died in 1728. It was then divided into nine strips running East and West, which were the property of Chase's heirs (J. H. K. Norton).

Original development was on the main north-south street running parallel to the shore, and into the period of the 1790's, no buildings stood west of the hilly land in the middle of the peninsula, the western extremities of the lots being pasture or wood lots.

In the 1930's much of the Chase land was subdivided.

Thus no historic buildings would be found on the property under consideration for the sewage treatment plant site.

### IV. KNOWN AND EXPECTED PREHISTORIC SITES

The archaeology of Martha's Vineyard is relatively well-documented. Excavations have produced a cultural sequence extending from the Late Archaic to the Woodland Period (Byers and Johnson 1940, Huntington 1959, Ritchie 1969 and others).

Most of the Martha's Vineyard sites are coastal shellheaps or middens; but

other sites lie above the coast in the moraine, near streams or swamps (Richard Burt).

If the American Indians inhabited Martha's Vineyard before Late Archaic times (3,000 - 500 B.C.), their sites may be 'drowned' sites offshore, habitation areas inundated by the rising seas of the post-Pleistocene era.

The site proposed for the sewage treatment plant lies between fifty and sixty feet above Lake Tashmoo. Formerly a fresh-water lake surrounded by marsh grass and cat tails, Tashmoo was opened to the sea by the 1938 hurricane which tore away the barrier beach. Subsequent dredging operations in 1941 kept the lake open to the sea (Craig Kingsbury).

Farther in the past, Lake Tashmoo was salt. Dredging operations in Tashmoo in the 'thirties showed that the fresh water marsh and cat tails grew on white sand. Seven feet down was a layer of paired clamshells, upright, indicating a natural clam flat that had died and been covered by the white sand.

Thus the food resources to be gained at Lake Tashmoo would have been different in the past, depending on the presence or absence of sea water: season runs of spawning fish when the Lake was fresh, and clam flats (mya arenaria) and possibly oysters when the lake was open to the sea.

These food resources certainly would have attracted the native Americans to Lake Tashmoo. In addition, springs on the western side of Tashmoo would have provided a pure water source. (Sheet seep, or seeping springs on the east side

would have been less attractive to the Indians.)

Thus it is no surprise that Indian sites have been found at Lake Tashmoo. Massachusetts Historical Commission files show a site numbered "9" at Kuffies Point. The site records are incomplete and no further information is given. This may be the site known to locals as the one "near where Mia Farrow lives."

Local sources also mention a site at the mouth or inlet of Lake Tashmoo. This site would have been at least partially destroyed during dredging operations. Apparently it was a stratified midden with Mya arenaria in abundance and a few oyster shells in the lower levels. In the upper, more recent levels there was fish and duck bone, but no clam, implying that the Lake was fresh water (Craig Kingsbury).

The specific site under study lies some 1300 feet to the east of Lake Tashmoo, at elevations of fifty to sixty feet. This distance limits the expectation of finding a site or midden, for the sewage treatment plant site is too far from the water to be a likely habitation site.

That the site might have been utilized as a cemetery remains a possibility.

## V. CONCLUSIONS

No historic sites would be expected in the area under study for a sewage treatment plant in Tisbury.

There is minimal potential for archaeological sites because of the absence of fresh water; and because locations at nearby Lake Tashmoo provided not only

abundant food resources, but also spring water.

No known site eligible for the National Register of Historic Places is present on the sewage treatment plant site. It is therefore expected that the proposed sewage treatment plant in Tisbury would not have an impact on prehistoric or historic archaeological sites.

*Charlotte W. Thomson*

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## LOCAL RESIDENTS INTERVIEWED

Margaret Bergstrom, Executive Secretary, Board of Selectmen, Tisbury.

William Wilcox, Agricultural Agent, Dukes County and Nantucket, USSCS-Cooperative Extension Service.

Nembhard Culin, President, William Street Historic Society.

Dukes County Historical Society.

Priscilla Webb, resident, Pine Street, Tisbury.

Rod Backus, Landscape Gardener, Pine Street, Tisbury.

Ruth Redding, Collector and Excavator of Indian Artifacts, Barnes Road, Oak Bluffs.

Craig Kingsbury, Chairman, Board of Selectmen; Former Shellfish Warden.

James H.K. Norton, William Street Historic District, Study Committee.

Richard Burt, President, Martha's Vineyard Archaeological Society.

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