

Chapter 3

Regulatory Issues

CHAPTER 3

REGULATORY ISSUES

3.1 INTRODUCTION

This chapter presents the environmental regulations affecting wastewater facilities in the Town of Chatham. Federal, State, Regional, and Town governments have enacted environmental regulations, which relate to the collection, treatment, and discharge of wastewater. The federal regulations are contained in the Code of Federal Regulations (CFR) and are enforced by the United States Environmental Protection Agency (USEPA). The Massachusetts regulations are contained in the Code of Massachusetts Regulations (CMR) and are enforced by the Massachusetts Department of Environmental Protection (DEP). The Cape Cod Commission (Commission) has adopted a Regional Policy Plan, which provides guidance and goals for development and environmental protection on Cape Cod. The Town of Chatham has adopted Board of Health regulations and Town Bylaws to protect the citizens of Chatham. These regulations, Bylaws, and guidance documents are intended to protect public health and the natural environment, and are briefly reviewed in this chapter.

3.2 STATE REGULATORY ISSUES

A. **MEPA Environmental Review.** Chatham's Comprehensive Wastewater Management Planning Study includes an environmental review process that is governed by the Massachusetts Environmental Policy Act (MEPA) and Cape Cod Commission's Development of Regional Impact (DRI) review process. This review process is a joint review process as identified by the Certificate of the Secretary of Environmental Affairs. This certificate and the MEPA comments that were received during the review of the Environmental Notification Form and Development of Regional Impact form are contained in Appendix A.

The MEPA process, as contained in 301 CMR 11.00, establishes thresholds, procedures, and timetables for a multi-level review process. If a project exceeds review thresholds or if state funding is requested for a project, the project proponent begins the review process by preparing and filing an Environmental Notification Form (ENF) with the Secretary of Environmental Affairs (Secretary). A 30-day review period follows, during which the Secretary receives agency and public comments and holds a site visit and consultation session. At the close of the ENF review period, the Secretary determines whether an Environmental Impact Report (EIR) is necessary (see Appendix A). If an EIR is required, it is prepared by the proponent and submitted to the Secretary. The EIR is reviewed at both draft and final stages, by agencies, and the public. After completion of the Secretary's review, state agencies may act on the project.

The Town of Chatham has entered the MEPA process as part of the Comprehensive Wastewater Management Planning Study because state funding is expected to be requested for the project. The State funding is low-interest rate loans provided by Massachusetts DEP State Revolving Fund (SRF) loan Program. An ENF was filed on March 2, 1998, and the certificate dated April 10, 1998 (contained in Appendix A) was issued stating that an EIR is required. The Scope of the Wastewater Management Facilities Planning Study will be used as the Scope of the EIR.

B. On-Site Treatment and Discharge. Title 5 of the Massachusetts State Environmental Code provides minimum standards for the "...protection of public health, safety, welfare and the environment by requiring the proper siting, construction, upgrade, and maintenance of on-site sewage disposal systems and appropriate means for the transport and disposal of septage". The regulations contained in 310 CMR 15.00 come under the jurisdiction of the Massachusetts DEP and are enforced in conjunction with local health departments through permits, inspections, and financial penalties.

As defined by the regulations, an individual sewage disposal system is "... A system or series of systems for the treatment and disposal of sanitary sewage below the ground surface". Systems typically consist of a septic tank, distribution box and a soil absorption system. These systems may also contain a tight tank, shared system or alternative system. The following is a list of design

considerations for Title 5 systems as described by 310 CMR 15.000:

1. No individual sewage disposal system shall be constructed, upgraded or expanded unless it receives less than 10,000 gpd. Exceptions are made for flows greater than 10,000 but less than 15,000 gpd which were approved and permitted for construction prior to March 31, 1995 and are designed according to the 1978 Title 5 Code (15.004(2)).

2. No system shall be used by more than one lot, with the exception of properties, which are divided after system construction or combined into single ownership (15.004(3)).

3. No new system shall be constructed, upgraded, or expanded if access to a local sewer system is available and feasible, except the case of alternative systems which can demonstrate the ability to provide the same or greater treatment level of the sewer, or by variance (15.004(4)).

4. System design flows shall be based upon design flow criteria listed in 310 CMR 15.203. Actual water meter data shall not be substituted for the design flow criteria except in the case of school or university systems (15.203).

5. System design flows for facilities not listed in 310 CMR 15.203 shall be established by actual meter readings based on 200 percent of average water meter reading, subject to approval by DEP and the BOH (15.203 (6)).

6. Setbacks for septic tanks and soil absorption systems are laid out in 310 CMR 15.211, with setbacks from water bodies measured from the bank or most landward boundary.

7. Four feet of vertical separation is required between the bottom of the soil absorption system and the groundwater for percolation rates more than two minutes per inch, and five feet of separation for percolation rates of two minutes per inch or less (15.212).

8. No septic tanks can be constructed in a Velocity Zone (V-Zone) unless to replace one already in existence before March 31, 1995, where placement of the tank outside the V-Zones is not feasible either horizontally or vertically (15.213 (1)). A V-Zone is an area designated by the Federal Emergency Management Authority (FEMA) that will periodically be flooded and have high velocity wave action that could cause damage to property.

9. No soil absorption system can be constructed in a V-Zone unless to serve a building in existence before March 31, 1995. If the system existed prior to March 31, 1995, it can remain in a V-Zone only if there is no increase in design flow from such buildings, no sewer connection available, no other available sites, no septic tank or humus/composting toilet located in the V-Zone, or the system has the required separation from high groundwater (15.213 (2)).

10. No system in nitrogen sensitive areas shall be designed to receive more than 440 gallons of design flow per day per acre except for enhanced nitrogen removal systems (15.214).

11. Soil absorption systems must be located in areas where there is four feet of naturally occurring materials above the groundwater, and which contain no impervious layers occurring within the four feet (15.240).

12. Effluent from any component of an on-site system requires a permit to be discharged to a surface water or groundwater if the discharge is over 10,000 gpd (15.240 (2)).

13. Use of garbage grinders requires an additional 50 percent in leaching area (15.240 (4)).

14. Effluent loading rates are dependent on soil class and percolation rates (15.242).

15. Leaching trenches are the preferred method of effluent disposal, but other methods may be used including (but not limited to) leaching pits, fields, and chambers (15.240 (6)).

16. Use of alternative systems is subject to approval by DEP and the town BOH.

The regulations summarized above are generally enforced by local health departments. The local Board of Health, due to specific problems or concerns, can and may impose more stringent requirements.

In order for an individual or community to receive a variance from state requirements, it must be the written opinion of the Board of Health that: (1) the enforcement thereof would do manifest injustice; and (2) the applicant has proved that the same degree of environmental protection required under Title 5 can be achieved without strict application of the particular provision (310 CMR 15.10). For new construction, Title 5 does not allow variances to the requirement of four feet of naturally occurring material below the soil absorption system (15.415(1)). For repairs and upgrades to existing systems, a variance may be allowed providing the owner demonstrates that resiting the system or connecting to a sewer are not feasible alternatives.

C. Privately Owned Sewage Treatment Facilities and Publicly Owned Treatment Works.

Privately owned sewage treatment facilities (PSTFs) are the private version of the Publicly Owned Treatment Works (POTWs). POTWs are defined in 314 CMR 12.02, as "... any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial waste of a liquid nature which is owned by a public entity. A POTW can include any sewers, pipes, or other conveyances if they convey wastewater to a POTW providing treatment." In Massachusetts, there are detailed requirements at the state level, which apply stringent requirements on the siting and operation of PSTFs.

Current DEP regulations require the use of a PSTF or POTW for any residential or commercial discharge greater than 10,000 gallons per day (gpd). DEP reviews the performance of these facilities under its Groundwater Discharge Permit Program (314 CMR 5.00). The Town of Chatham's Water Pollution Control Facility (WPCF) is a POTW. Chatham currently has no PSTF though one is planned for Chatham Bars Inn.

D. **Effluent Discharge at an Ocean Outfall.** The Massachusetts Ocean Sanctuaries Act (M.G.L. c132A) regulations establish state environmental policy to be enforced in the five Massachusetts Ocean Sanctuary areas including the Cape Cod Ocean Sanctuary, the Cape Cod Bay Sanctuary, the Cape and Islands Ocean Sanctuary, the North Shore Ocean Sanctuary, and the South Essex Ocean Sanctuary. These areas, as designated by the Massachusetts Department of Environmental Management (DEM), are special resources and it is the DEM's responsibility to protect them from any exploitation, development, or activity that would seriously alter or otherwise endanger their ecology or appearance".

Chatham is located in the Cape and Islands Ocean Sanctuary and the Cape Cod Ocean Sanctuary. Municipal wastewater discharges into ocean sanctuaries are specifically precluded under these regulations, unless the discharge is approved and licensed prior to December 1971. A variance from these policies would require the Secretary of Environmental Affairs, DEM, and the Division of Water Pollution Control (DWPC) to agree that a special variance was needed to protect the public health due to a limited number of feasible wastewater discharge alternatives.

E. **Groundwater Quality Standards.** The Groundwater Quality Standards of 314 CMR 6.00 define three groundwater classes and their designated uses, and specify the minimum groundwater quality criteria for each class. Class I groundwaters are fresh groundwaters designated as a potential source of potable water. Class II groundwaters are saline waters and are designated as a potential source of potable mineral waters. Class III groundwaters are fresh or saline waters and are designated for uses other than potable water. At a minimum, Class III groundwaters can be used as a potential source of non-potable water and are suitable for human contact but not ingestion. Chatham's groundwaters are classified as Class I, and any permitted discharges to the groundwater must meet the following requirements:

1. Pathogenic organisms shall not render the groundwater detrimental to public health or impair the groundwater for use as a source of potable water.
2. Coliform bacteria shall not exceed maximum contaminant levels, as stated in National

Interim Primary Drinking Water Standards. The current limits are 20 fecal coliform per 100 ml and 100 total coliform per 100 ml.

3. Nitrate nitrogen shall not exceed 10 mg/l.
4. Total trihalomethanes shall not exceed 0.1 mg/l.

Discharges to groundwater of 10,000 gpd or greater must meet requirements of the Groundwater Quality Standards, as well as the Groundwater Discharge Permitting Program described below.

F. **Groundwater Discharge Permitting.** The Massachusetts Groundwater Discharge Permit Program is contained in 314 CMR 5.00, and is the regulation which governs wastewater discharges of 10,000 gpd or greater. Facilities designed or constructed prior to March 1995 are allowed to discharge up to 15,000 gpd without a discharge permit.

The Chatham Water Pollution Control Facility (WPCF) was governed by Subsurface Discharge Permit #0-44, dated April 1982, which expired on August 1987. On November 1987, DEP issued Administrative Consent Order Docket #700, which required that the Chatham WPCF be limited to an average flow of 100,000 gallons per day and begin wastewater planning and design to upgrade the WPCF. On October 1996, The Town completed modifications at the Chatham WPCF to remove nitrogen from the treated effluent to meet the Class I groundwater standard of 10 mg/l nitrate nitrogen. The Administrative Consent Order was revised in September 1998 to allow an average discharge flow of 150,000 gallons per day and to allow a new schedule for wastewater planning and design to upgrade the WPCF. The latest Administrative Consent Order is included in this report as Appendix B.

The groundwater discharge regulations cover several types of discharge to groundwater, including discharges through infiltration beds (such as the ones at the Chatham WPCF), percolation fields, lagoons, or injection wells. Permitted discharges must meet the requirements for the groundwater class. These requirements are quite strict and cannot be met with a typical on-site septic system.

Advanced wastewater treatment plants are used to meet the requirements. Application for a discharge permit requires a hydrogeologic evaluation, as well as an engineered design for the treatment and discharge facility.

G. **Reclaimed Water Use.** The use of reclaimed water must meet interim guidelines developed by DEP (Draft 6 – October 1998) in addition to the requirements of the Groundwater Discharge Permitting Program. Reclaimed water use includes use of treated wastewater for irrigation at a golf course, and discharges into approved Zone II areas.

H. **Surface Water Quality Standards.** In addition to the limitations on ocean disposal of wastewater imposed by the Ocean Sanctuary regulations, the Massachusetts Surface Water Quality Standards define the activities which are prohibited in various class-designated surface water bodies. The water in Pleasant Bay and its tributaries are designated SA and Outstanding Resource Water, the highest State designations for ocean water. The water in Nantucket Sound is also designated SA. Any actions which would prevent swimming, fishing, or other recreational activities in these waters are strictly prohibited.

In addition to the designations of the marine waters identified above, fresh water ponds in Chatham have been designated as Class B waters according to 314 CMR 4.00. This is the highest ranking for a freshwater not used as a potable water supply. Dissolved oxygen, temperature, pH, fecal coliform, solids, color, turbidity, oil, grease, taste and odor are all regulated and can not exceed levels which degrade these waters as set by 314 CMR 4.05 (3b and 4a).

I. **Surface Water Discharge Permitting.** The Massachusetts Surface Water Discharge Permit Program described in 314 CMR 3.00 regulates all discharges of pollutants to surface waters located in Massachusetts. These include point sources for public and privately owned treatment works and stormwater discharges.

Discharge of treated wastewater to surface waters in Chatham would not be allowed due to the Ocean Sanctuaries Act, the Outstanding Resource Water designation of Pleasant Bay and the Class B designation of Chatham's ponds.

J. **Wetlands Protection.** The Wetland Protection Act (M.G.L. ch. 131, s. 40) and parallel State regulations (310 CMR 10.00) were enacted to safeguard wetlands, associated resource areas, and floodplains from over development.

The Wetland Protection Act covers any wet area where the groundwater level is at or near the surface of the ground for a long enough period during the year to support a community of wetland-type vegetation. Wet areas include any salt or fresh-water marsh, meadow, swamp, or bog.

Areas subject to protection under the Wetlands Protection Act include banks, dunes, beaches and flats. All of these protected areas are referred to as resource areas. Resource areas are protected by a surrounding 100-foot buffer zone in which landscape alterations are regulated. The Wetlands Protection Act also covers construction on land subject to flooding as well as land subject to coastal storm flowage. Generally, the regulations apply to two types of floodplain: those lands bordering directly on bodies of water, and those lands subject to flooding (called "Isolated Land Subject to Flooding") which do not border bodies of water.

The state regulates activities that involve filling, dredging, or excavating in or near a wetland or water body. The regulations govern additional construction activities, including site preparation, the removal of trees or bushes, vista pruning, and the changing of land contours.

A Notice of Intent must be filed for work in any resource area. This Notice requires a detailed description of the planned activity, and the applicant must show that if the resource area will be altered, the benefits will outweigh the damage. For work outside the resource areas but within a 100-foot buffer zone around a bordering vegetated wetland, bank, dune, or beach, the owner has the option of filing a "Request for Determination" in order to show that the work will not alter a resource area. If the Conservation Commission agrees, it will issue a "Negative Determination,"

permitting the work as presented. If the Conservation Commission decides that the work will alter a resource area, it will issue a "Positive Determination" and require a full hearing and the filing of a Notice of Intent.

K. Governor Kings Executive Order No. 181 on Barrier Beach Areas. This Executive Order defines barrier beach areas and sets several State policies to restrict and discourage development in these areas. One policy states that no State funds and Federal grants for construction projects shall be used to encourage growth and development in hazard-prone barrier beach areas. This policy has been used by the State to restrict government-funded projects in hazard-prone areas such as Velocity Zones.

Discussion with members of Massachusetts Coastal Zone Management indicate that the State will discourage development in a Velocity Zone and withhold State funding for such a project. This development would include the construction of a treatment facility or collection system in a Velocity Zone. This policy could affect Chatham if a sewer is proposed to collect wastewater in southern areas of the Town that have Velocity Zones.

L. Toxic/Incompatible Discharges to Wastewater Collection Systems. In the early 1980s, the USEPA established nation wide industrial pretreatment standards contained in 40 CFR 403, General Pretreatment Regulations, to regulate the discharge of industrial pollutants to publicly owned treatment works (POTWs). The general goals of this program are to limit those toxic/incompatible discharges, which could:

- Pass through a plant inadequately treated.
- Harm a plant's treatment processes, thereby preventing the plant from complying with its permit.
- Accumulate in the plant's sludge in concentrations, which would limit sludge disposal options.

- Cause a risk to the health and safety of treatment plant workers or the general public.

When these regulations were established, all communities with POTW flows greater than 5 mgd were required to establish local industrial pretreatment programs. Because flow at the Town of Chatham's WPCF is less than 5 mgd, no pretreatment program was required at that time.

Massachusetts' pretreatment regulations (314 CMR 12.00) parallel the federal regulations. Paragraph 12.09.2 of the Massachusetts regulation states that the Director of the DEP may require a POTW with a design flow of 5 mgd or less to establish a pretreatment program in order to meet the goals listed above.

M. Regulations for the Land Application of Sludge and Septage. The land application of sludge and septage, as well as the distribution of compost material made from WPCF sludge, are regulated by DEP in 310 CRM 32 and the March 1993 federal standards contained in 40CFR Part 503. The State regulations are more stringent.

Under the DEP regulations, sludges, septage, and compost (collectively called "material") are classified as Type I, II, or III, depending upon chemical, pathogen, organic content, and sludge stabilization processes used. The sludge classification determines how the material is ultimately used or disposed. Type I material can be used on any site and requires no further DEP regulations; while Type II and III materials require additional regulation on the ultimate use, the application site, and allowable application rates. A compost must be classified as Type I to be sold or otherwise distributed to the public.

N. Water Resources, Treatment and Supply of Potable Water. The Safe Drinking Water Act (SDWA) of 1974 is federal legislation, which dictates the regulation of potable water in the United States. Major amendments were made to the SDWA in 1986, and mandate that 25 additional contaminants come under regulation every three years. This legislation is incorporated into the regulations of 40 CFR 141, 142, and 143, which are maintained and enforced by USEPA.

Massachusetts is a primacy state for the regulation of potable water, which means that Massachusetts DEP is the primary agency for maintaining and enforcing the drinking water regulations. Massachusetts' regulations contained in 310 CMR 27.00 closely parallel the federal regulations and establish the maximum contaminant level (MCL) of the regulated contaminants in drinking water. The groundwater quality standards discussed in a previous section and contained in 314 CMR 6.00 have been determined by the drinking water MCLs.

The SDWA provides guidelines on the establishment of wellhead protection programs, which Massachusetts has established in Section 310 CMR 22.21. The program delineates three zones around each public water supply. The Zone I delineation is the area immediately around the well or wellfield which must be owned by, or in the control of, the water purveyor. The Zone I for a well producing 100,000 gpd or greater has a minimum diameter of 800 feet. The Zone II delineation is the area of an aquifer which contributes water to a well under the "...most severe pumping and recharge conditions that can be realistically anticipated". The regulations define these conditions as 180 days of pumping at safe yield with no recharge from precipitation. Zone II areas are typically determined by a hydrogeological study involving particle-transport computer modeling. The Zone II is bounded by the groundwater divide and by the contact of the aquifer with less permeable material. The Zone III delineation is the area beyond the Zone II from which surface water and groundwater drain into Zone II.

The allowed land use within each zone is regulated by the wellhead protection program. Land use activities within Zone I areas must be related to the water supply or have no significant adverse impact on water quality. The following land uses are prohibited from being sited in a Zone II area.

- Landfills or open dumps.
- Landfilling of sludge or septage.
- Automobile grave yards and junk yards.
- Stockpiling of contaminated snow or ice.
- Individual sewage disposal systems designed to receive more than 110 gallons of sewage per quarter acre under ownership per day.

- Wastewater treatment plants that are required to obtain groundwater discharge permits.
- Facilities that generate, treat, store, or dispose of hazardous materials.

There are exceptions to the prohibition of wastewater treatment plants listed as No. 6 above. These exceptions are reviewed by DEP on a case-by-case basis.

3.3 REGIONAL REGULATORY ISSUES

A. Development of Regional Impact (DRI) Review Process. In accordance with the Cape Cod Commission Act, Chapter 716, the Cape Cod Commission (Commission) has the authority to review and regulate Developments of Regional Impact (DRIs). This review is carried out by the Commissioners and the Commission staff, in accordance with Administrative and Enabling regulations.

As stated earlier, Chatham's Comprehensive Wastewater Management Planning Study includes an environmental review process that is governed by the Massachusetts Environmental Policy Act (MEPA) and the Commission's DRI procedures. This review process is a joint review process as identified by the Certificate of the Secretary of Environmental Affairs. This Certificate and the MEPA comments that were received during the review of the Environmental Notification Form and DRI form are contained in Appendix A.

B. Cape Cod Commission Regional Policy Plan. The Original Regional Policy Plan (RPP) was adopted by the Cape Cod Commission and approved by the Barnstable County Assembly of Delegates on July 31, 1991, and the Barnstable County Commissioners on August 7, 1991. The Cape Cod Commission Act for the RPP states that this plan must be revised every 5 years, and a new Regional Policy Plan was published in late 1996. This policy plan sets forth a set of goals and policies, as well as minimum performance standards to be applied to growth and development.

The minimum performance standards and other development review policies of the RPP are intended to be used by both the Commission and local regulatory authorities once they have adopted a LCP and it has been certified by the Commission.

The following is a brief list of selected goals and minimum performance standards for water resources and coastal resources, which pertain to wastewater treatment and disposal in Chatham. The reader is directed to the Regional Policy Plan document for additional detail.

1. **Water Resources.**

a. **Goal:** To maintain the overall quality and quantity of Cape Cod's groundwater to ensure a sustainable supply of untreated high quality drinking water and to preserve and restore the ecological integrity of marine and fresh surface waters. The following selected minimum performance standards are indicated:

- The maximum loading standard for Nitrate Nitrogen impact on groundwater shall be 5 ppm.
- In order to limit Phosphorus inputs, no subsurface disposal systems shall be permitted within 300 feet of mean high water of fresh water ponds.
- Development and redevelopment shall not exceed identified critical Nitrate Nitrogen loading standards for Nitrogen impact on marine ecosystems.
- Conversion from seasonal to year-round uses in FEMA flood zones or within 100 feet of wetlands shall not be permitted unless the proponent installs a DEP approved alternative system with enhanced Nitrogen removal.

- New direct discharge of untreated stormwater, parking lot runoff and/or wastewater into marine and freshwater surface water and wetland shall not be permitted. Development and redevelopment shall use best management practices such as vegetated swales to runoff and maximize water quality treatment.

b. **Goal:** To encourage the use of public and private sewage treatment facilities in appropriate areas where they provide environmental or other public benefits and where they can be adequately managed and maintained. The following selected minimum performance standards are indicated:

- Private treatment facilities may be constructed only if there are no feasible public treatment facility options available or planned.
- All public and private sewage treatment facilities shall be designed to achieve tertiary treatment with denitrification that meets a maximum 5 ppm total Nitrogen discharge standard in the groundwater at the down gradient property line.
- The construction of private sewage treatment facilities shall not allow development to occur at a higher density than would be allowed by local zoning.
- The construction of private sewage treatment facilities shall be consistent with municipal capital facilities plans where they exist. Municipalities shall have the opportunity to assume ownership and maintenance responsibilities for such facilities where desired by the municipality.

- Private sewage treatment facilities shall not be constructed in FEMA V-Zones and floodways, Areas of Critical Environmental Concern, wetlands and buffer areas, barrier beaches, coastal dunes or critical wildlife habitat. Private sewage treatment facilities may be constructed in FEMA A-Zones only to remediate water quality problems from existing development within such A-Zones and consistent with other sections of the Regional Policy Plan.
- The long-term ownership, operation, maintenance and replacement of private sewage treatment facilities shall be secured as a condition of approval in accordance with Commission, State and local guidelines.
- Applications for approval of public and private sewage treatment facilities shall include a plan for sludge disposal.

2. Coastal Resources.

a. **Goal:** To protect the public interests in the coast and rights for fishing, fowling, and navigation, to preserve and manage coastal areas so as to safeguard and perpetuate their biological, economic, historic, maritime, and aesthetic values, and to preserve and where appropriate expand public access to the shoreline.

b. **Goal:** To limit development in areas subject to coastal storm flowage, particularly high hazard areas in order to minimize the loss of life and structures and the environmental damage resulting from storms, flooding, erosion and relative sea level rise. The following selected minimum performance standards are indicated:

- No development or redevelopment shall be permitted within FEMA V-Zones. Existing structures may be reconstructed or renovated provided

there is no increase in floor area or intensity of use. As an exception, where there is no feasible alternative, water-dependent structures and uses may be permitted subject to the approval of all permitting authorities.

- In order to accommodate possible relative sea level rise and possible increased storm intensity, ensure human health and safety, and protect the integrity of coastal landforms and natural resources, all new buildings, including replacements, or substantial improvements to existing structures within FEMA A-Zones shall be designed to accommodate the documented relative sea level rise rate in Massachusetts of at least one foot per 100 years, and in V-Zones shall be designed to accommodate a relative sea level rise rate of two feet per 100 years.
- No new public infrastructure or expansion of existing infrastructure shall be made in flood hazard zones (FEMA A and V Zones) unless it is shown that there is an overriding public benefit provided, and provided that such infrastructure will not promote new growth and development in flood hazard areas.

c. **Goal:** To maintain and improve coastal water quality to allow shell fishing and/or swimming in all coastal ecosystems, which support shellfish and finfish habitat. The following selected minimum performance standards are indicated.

- Within FEMA zones, new mounded septic systems shall be prohibited except to upgrade existing substandard septic systems where such systems pose a demonstrated threat to public health, water quality or natural resources. Unless otherwise demonstrated, if feasible, solid components of the septic system shall be elevated above the 100-year

flood level.

- No new direct, untreated stormwater discharges shall be permitted into any coastal waters or wetlands, including discharges above or below the mean high water level.
- The design and construction of stormwater management systems proposed in V-Zones shall incorporate the historic rate of relative sea level rise in Massachusetts of two feet per 100 years. For systems proposed in A-Zones, the historic rate of relative sea level rise in Massachusetts of one foot per 100 years shall be incorporated into the project design and construction.

The Town of Chatham is currently preparing its LCP to be consistent with the RPP. The LCP will be structured in accordance with the "Guidelines" adopted by the Cape Cod Commission. The LCP planning process is described in the following section.

3.4 FEDERAL REGULATORY ISSUES

A. **NEPA.** The National Environmental Policy Act of 1970 (NEPA) provides the basis for the protection of the environment. This act ensures that environmental information is provided to the public for use in the decision making process for projects which might affect the environment. According to regulations the "...NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences; and take actions that protect, restore, and enhance the environment". This policy has been established to eliminate redundancy and combine NEPA requirements with other concerned agency's requirements. The NEPA process is the forerunner of similar environmental review processes adopted by State and regional agencies; it allows for the assessment and identification of alternatives for projects concerning the

environment. The Town of Chatham is not expected to enter into the NEPA process as the Comprehensive Wastewater Management Planning Study is regulated by the Massachusetts Environmental Policy Act (MEPA) and the Cape Cod Commission's Development of Regional Impact (DRI) review process as described in earlier sections.

B. Stormwater Discharges. Certain stormwater discharges to surface waters are regulated by the USEPA through the Stormwater Rule contained in 40 CFR 122. These regulations specify the types of facilities and the types of stormwater discharges that require stormwater discharge permits. Industrial facilities are required to file permit applications with USEPA depending on their Standard Industrial Classification code. Small municipalities with populations less than 100,000 are not required to file permit applications, except for municipally owned or operated "industrial activities" such as landfills, power plants, and airports. Small municipalities may need to file a permit application if a stormwater discharge causes or contributes to a water quality violation in surface waters. Because Chatham has a population less than 100,000, it has not been required to file a permit application.

A second phase of the federal stormwater program has been proposed by USEPA as part of the Reauthorization of the Clean Water Act. The exclusion limit for small municipalities is expected to drop from a population of 100,000 to a lower value of 10,000, not to exceed a population density of 1,000 people per square mile. The Town of Chatham may be required to file a stormwater permit in the future.

C. Groundwater Disinfection. The Safe Drinking Water Act Amendments of 1996 contained language stating that all water supplies would need to be disinfected by August 1999. Because most surface water supplies are already disinfected, this new rule mainly affects groundwater supplies. If this rule is implemented, Chatham would be required to disinfect its public water supply.

This rule would have a large impact on many water purveyors (municipal and private) and could have a large impact on the Town of Chatham. There has been much discussion on this new regulation. USEPA conducted three workshops around the country in the first half of 1998 to receive

input from involved parties. The following list summarizes the most recent information on this rule as obtained from one of the workshop meetings.

- The rule is now being called the Groundwater Policy Rule.
- The concept of across-the-board required disinfection was not popular and probably will not be required.
- The rule will increase requirements on well construction, distribution procedures, and other construction requirements.
- The rule will require a review of past coliform violations and other operating dates.
- A revised draft rule is scheduled for release in the fall of 1998. After public comment, the final rule is scheduled for spring of 1999 with implementation in fall 1999.

If Chatham needed to disinfect its waste supplies, it would probably be by the addition of hypochlorite, and a chlorine residual will be maintained in the distribution system. This chlorine residual will have minimal or no impact on the wastewater treatment plant that could treat this water after it has been used. The chlorination of drinking water may produce trihalomethane (THM) in low concentrations in the effluent. Trihalomethanes have been proven to be carcinogenic in laboratory animals, and the Class I Groundwater Standards has set a THM limit of 0.1 mg/l. The THM levels produced would be similar to the levels produced from chlorinated surface waters and are not expected to exceed 0.1 mg/l.

3.5 TOWN OF CHATHAM REGULATIONS AND BYLAWS

The Code of Massachusetts Regulations (CMR) allows for local authorities (mainly the local board of health) to establish stricter interpretations of the Title 5 regulations, with Title 5 being the

minimum requirements allowed by the State. The Town of Chatham has adopted the following regulations that pertain to treatment and discharge of sanitary wastewater.

A. BOH-88-2: Interim Sewer Moratorium Regulations, Subsurface Disposal of Sanitary Sewer. This regulation states that a property located in the sewered area of Town may apply for a subsurface disposal (on-site system) permit only through a variance procedure. The variance would require that the property must connect to the sewer after the sewer connection moratorium is lifted by DEP.

B. BOH-4-88: Sewage Discharge Permit for Wastewater Flows greater than 2,000 gpd. All proposed wastewater flows (subdivisions comprised of single family house lots are exempt) greater than 2,000 gpd must receive a Sewage Discharge Permit which requires that the discharge will not cause the groundwater to exceed 5 mg/l total nitrogen at the down gradient property limit, 0.05 mg/l total phosphorus at the down gradient lakes and ponds, or 0.5 mg/l total nitrogen in estuaries and salt ponds.

C. Town of Chatham Minimum Requirements for the Subsurface Disposal of Sanitary Sewage. These requirements identify several provisions that are stricter than the revised Title 5 (March 31, 1995) and are in effect in Chatham. They cover the following main issues:

- connection to the sanitary sewer
- construction in fill
- construction of a sewage disposal system in the flood plain zone
- requirements of septic tanks, dosing tanks, pumps, distribution boxes, leaching facilities, and humus toilets.

D. BOH-89-2: Interim Nitrogen Loading Regulations. These regulations establish a

procedure for new development to calculate and demonstrate that discharges from on-site wastewater disposal facilities will not create a nitrogen loading that exceeds ten parts per million to the groundwater system. The regulations were first established to apply to, and protect, the Town's Water Resource Protection District. In early 1999, they were revised to apply to all properties in Town. The revised regulations are currently (April 13, 1999) being considered for adoption.

E. BOH-91-1: Design, Operation, and Maintenance of Small Wastewater Treatment Plants. These regulations govern the design, operation and maintenance of small wastewater treatment plants (SWWTP) in Chatham. Currently, no SWWTP exists in Chatham though one is planned for Chatham Bars Inn.

F. BOH Advisory Letter #20, May 1992. This Letter requires that all cesspools be upgraded to systems allowed by the Title 5 regulations at the time of property transfer.

G. BOH-95-1: Monitoring Requirements of Alternative Septic Technologies. This regulation gives the BOH the right to impose conditions or monitoring requirements (in addition to the conditions or requirements required by the Title 5 regulations) to ensure the safe performance of any alternative septic system.

H. Rules and Regulations Governing the Use of Private and Public Sewers passed March 15, 1972. These rules and regulations govern the public use of the Town's wastewater collection and treatment system.

I. Local Comprehensive Plan. The Town of Chatham is currently developing its Local Comprehensive Plan, and a draft plan is scheduled for Cape Cod Commission review in summer 1998.